



AOSOC 2000



**Applied
Superconductivity
Conference**

Technology for the 21st Century

Pre-Conference
Booklet

September 17 - 22, 2000

Pavilion Convention Center • Virginia Beach, Virginia USA

SUPPORT

ASC 2000 thanks the following organizations for their generous support of the conference.

Air Force Office of Scientific Research

IEEE Council on Superconductivity

Division of High Energy Physics
Department of Energy

Superconductivity Program for Electric Systems
Department of Energy

Educational Institute for Superconductivity
(formerly IISSC)

Office of Naval Research

Naval Research Laboratory

ACKNOWLEDGEMENTS

The ASC is one of the largest professional meetings anywhere that is organized by an all-volunteer team of individuals. There isn't a single paid person, excluding those non-scientists we hire *ad hoc* for various managerial duties, e.g., registration, exhibits, Website and editing. The ASC Board of Directors, the program committee, the technical editors, session chairs and manuscript referees all donate anywhere from a few hours to several hundred hours each of their time to help make the ASC and the publication of its proceedings a successful reality. To each and every person who has contributed time and effort to this monumental task, I offer my sincere gratitude.

While I hesitate to single out only a few individuals for special recognition for fear of appearing to slight so many others who have and are working so diligently, I nevertheless would like to cite the following 3 key people:

Mike Osofsky, who as Program Chair had the most challenging and time-consuming job of all, and who carried out that difficult assignment with imagination, common sense and good humor;

Bruce Strauss, while his title is that of Treasurer, he serves selflessly as the corporate memory and conscience of the ASC, and without whose wise counsel I could not have functioned as effectively;

Wendy Lozano, as an employee of SAI she has been directly responsible for creation and maintenance of the ASC Website; her responsiveness to our every suggestion and request has been nothing short of spectacular, and her calm demeanor in the face of many crises has been most reassuring.

Last, but far from least, I extend my appreciation to all the exhibitors, registrants and presenters at the ASC 2000, because without your continued support, there would be no ASC.

Harold Weinstock
Chairman, ASC 2000

GREETINGS FROM THE CHAIRMAN

It is a pleasure to welcome you to the Applied Superconductivity Conference, ASC 2000, and to Virginia Beach. While this biennial conference has a distinguished history of over 3 decades and is the world's largest meeting in superconductivity, the organizers are proud to offer several innovations as we hold our first ASC of the 21st century.

On Sunday, September 17, we have organized a set of 3 short-course tutorials (Electronics Applications, HTS Power Applications and Cryogenic Systems), and we are pleased with your preliminary response to these offerings. Other new features include an employment service via the ASC Web site, a morning of lecture demonstrations for area high-school students, and an evening program of public lectures by Paul Chu and Paul Grant designed primarily to attract the local community. However, these lectures are certainly open to ASC registrants and their families as well.

For the first time, in cooperation with the IEEE Council on Superconductivity, the ASC has offered the award of complimentary full registration to over 40 student authors. Also sponsored by this same IEEE Council, a set of distinguished service awards in applied superconductivity has just been established. We hope you will join the award ceremony to help honor some of our most distinguished colleagues at 8 pm on Sunday, September 17, during the welcome reception at the Cavalier Hotel.

We meet at an exciting time in the history of applied superconductivity. It is a time of progress for applications in every segment of our community, and this progress is reflected in the conference theme – **Technology for the 21st Century**. Beyond this main theme is the recurring one, namely that every 2 years the entire applied superconductivity community comes together for a **CELEBRATION OF SUPERCONDUCTIVITY**. It is a time not only to hear current R&D results, but also the best time for attendees to commune informally, to hold both planned and impromptu informal discussions and to get the latest “buzz” in the field. So please join us starting September 17, 2000 for an exciting week of science and technology, for communion with your peers from around the world, for recreation in a beautiful and historic part of the United States, for musical interludes, and most of all, for a **CELEBRATION OF SUPERCONDUCTIVITY**.

Harold Weinstock
Chairman, ASC 2000

CONFERENCE ORGANIZATION

ASC 2000 Officers

Harold Weinstock, President
and Chairman
AFOSR

Bruce Strauss, Treasurer
Department of Energy

John Talvacchio, Secretary
Northrop Grumman

Mike Osofsky, Program
Chairman
Naval Research Laboratory

CONFERENCE VENUE

Registration Hours

Sunday **9/17/2000** *Location: Pavilion Convention Center*
3:00pm - 7:00pm CONFERENCE REGISTRATION

Monday **9/18/2000** *Location: Pavilion Convention Center*
7:00am - 5:00pm CONFERENCE REGISTRATION

Tuesday **9/19/2000** *Location: Pavilion Convention Center*
7:00am - 5:00pm CONFERENCE REGISTRATION

Wednesday **9/20/2000** *Location: Pavilion Convention Center*
1:00pm - 6:00pm CONFERENCE REGISTRATION

Thursday **9/21/2000** *Location: Pavilion Convention Center*
7:30am - 4:00pm CONFERENCE REGISTRATION

Friday **9/22/2000** *Location: Pavilion Convention Center*
7:30am - 12:00pm CONFERENCE REGISTRATION

Badge Information

Attendees are required to wear their badges at all times to gain access to oral and poster sessions, as well as the exhibit hall. If you lose your badge you may purchase another one at Registration Desk. The fee for a lost badge replacement is \$25.00.

Message Center

We encourage you to receive your messages at your individual hotels. Message boards will be located at the Pavilion Convention Center for attendees to leave messages for one another while attending the conference.

Purchase of ASC'00, ASC'98, and ASC'96 Proceedings

A limited number of proceedings of ASC'98 (at \$40 each) and ASC'96 (at \$30 each) are available for purchase at the ASC Registration Desk on a cash-and-carry basis.

Copies of ASC'00 proceedings, in addition to the one you may receive with normal (but not student or retiree) registration, may be ordered for future shipment. The cost of these proceedings will be \$140 for shipment within the USA and \$180 for foreign shipment. Payment may be made at the ASC Registration Desk.

SOCIAL EVENTS

Opening Reception – Sunday, September 17th

Welcome to ASC 2000! Reacquaint yourselves with friends and colleagues at the Sunday evening Opening Reception from **7:00p.m. - 9:00p.m.** The IEEE Awards Ceremony will take place between **8:00p.m. - 8:15p.m.** Stand on the deck of the historic **Beach Club** at the **Cavalier Hotel**, while listening to live entertainment and enjoying views of the Atlantic Ocean. *Badge required.*

Exhibitor Reception, - Wednesday, September 20th

Refresh yourself prior to the evening Poster Session at the Exhibitor Reception. **Wednesday, 6:00pm. – 8:00p.m.**, in **Exhibit Hall at the Pavilion Convention Center.** While enjoying a casual atmosphere with food and drink, learn about the latest in technology. This is your last chance to see the exhibits before the exhibitors fold their tents and steal into the night. *Badge required.*

Conference Social Event – Thursday, September 21st

The **ASC 2000 Social Event** will be held at the **Virginia Marine Science Museum (VMSM)**. Don't miss the opportunity to enjoy food and drinks while touring the newly renovated 120,000 square feet of space and over 800,000 gallons of aquarium and live habitat. Attendees will also have the opportunity to see the featured IMAX Film and see first-hand the four different habitats of the Virginia marine environment. Tickets are included in the price of a Full Registration. Additional tickets may be purchased on-site at the Conference Registration Desk in the Convention Center. *Social Event Ticket Required.*

Session Chair Breakfast

Session Chair Breakfast will be held in Section C of the Exhibit Hall located off the Galleria. The Breakfast will begin promptly at 7:30am. It is imperative that all Session Chairs attend their designated breakfast to receive instructions, updates to the program and necessary forms. The schedule is as follows:

Monday Breakfast – Monday Session Chairs

Tuesday Breakfast – Tuesday AND Wednesday Session Chairs

Thursday Breakfast – Thursday AND Friday Chairs

Spouse/Guest Breakfast – Monday, September 18th

Gather with old and new friends first thing Monday morning. Learn all you can to plan your stay in Virginia Beach. Presentations by the Virginia Beach Convention and Visitors Bureau and Phillips Travel will be made at 8:30a.m. at the DoubleTree Hotel.

Tours

Tour information will be posted at the Registration Desk.

Coffee Breaks

Coffee Breaks will be located in the Exhibit Hall Monday, Tuesday, Thursday and Friday at 10:00am. and 3:00pm. and Wednesday at 3:00pm.

Lunch Concession Stands

In order to provide as much convenience as possible, attendees will be able to purchase lunch at the Pavilion Convention Center. The Concession Stands will be open during the lunch break inside the Exhibit Hall.

Dinner Concession Stands

As a convenience to registrants wishing to attend the Tuesday evening, September 19, public lectures by Paul Chu and Paul Grant, the Concession Stands in the Exhibit Hall will be open from 6:30 to 7:30 PM that evening only.

IEEE/CSC Awards

Professor Moises Levy, Chairman of the IEEE Council on Superconductivity (IEEE/CSC), and Dr. Harold Weinstock, Chairman of the Applied Superconductivity Conference (ASC), are proud to announce the first recipients of the IEEE/CSC Awards for Significant and Continuing Contributions to Applied Superconductivity. Chosen by a committee of their peers, the honorees have each contributed significantly and consistently to applied superconductivity over at least a period of twenty years and are still actively engaged in the field. It is intended that these awards be made at every succeeding Applied Superconductivity Conference.

Professor David Larbalestier

Affiliation: University of Wisconsin

Citation:

For significant and continuing contributions in the field of superconductive materials: leading to the identification of microstructural features that resulted in dramatic increases in the superconducting critical current density; in particular, for the identification and optimization of magnetic flux pinning centers and the identification and minimization of deleterious defects in superconducting wires and tapes.

Dr. Arnold H. Silver

Affiliation: TRW (Retired)

Citation:

For significant and continuing contributions in the field of superconductive electronics, both as a researcher and as an R&D manager, including the invention of the superconductive Quantum Interference Device (SQUID) which resulted in the development of ultra-sensitive magnetic sensors and is the basis building block for superconductive digital technology, for inventing numerous other superconducting analog and digital circuits and subsystems, and for outstanding insight in promoting the use of superconducting electronics in scientific, military and commercial applications.

Dr. Z. J. J. (John) Stekly

Affiliations: Avco-Everett Research Laboratory

Fermi National Accelerator Laboratory

Magnetic Corporation of America

Intermagnetics General Corporation

Citation:

For significant and continuing contributions in the field of superconducting magnet systems, and devices, in particular the pioneering work in understanding, quantifying, and applying the engineering thermal stability requirements of superconducting magnets operating in boiling liquid helium, which is commonly known as the "Stekly Criterion."

Professor K. Tachikawa:

Affiliation: Tokai University

Citation:

For significant and continuing contributions in the field of superconductive materials: in particular, the pioneering research in innovative materials processing techniques for the formation of superconducting wires and tapes, leading to the development of wires and tapes that incorporate intermetallic compounds requiring complex solid state reactions.

Professor Theodore VanDuzer

Affiliations: University of California at Berkeley
Conductus, Inc.

Citation:

For significant and continuing contributions to superconductive electronics as a researcher, educator and mentor, in particular for directing numerous innovative research projects in superconductive device and circuit concepts, for mentoring many students who have become the core of the US activity in superconductive electronics, for his co-authorship of the standard textbook on superconductive devices, for serving as the founding Editor-in-Chief of the *IEEE Transactions on Applied Superconductivity*, and for his enthusiastic support to the establishing, and frequently chairing, various conferences, workshops and study groups promoting the growth of the superconductive electronics technology.

Dr. Martin Wilson

Affiliations: Rutherford High Energy Laboratory
Oxford Instruments, Inc.

Citation:

For significant and continuing contributions in the field of large scale superconductive applications, in particular, the pioneering research leading to the fundamental principles of superconducting magnet design and execution, for his documentation and explanation of these concepts and calculations pertaining to, for example, magnetization, minimum quench energy, quench development, etc., concisely presented in his book on superconducting magnets, and in recognition of his leadership of outstanding forefront scientific and engineering teams involved in applied superconductivity in industrial and research laboratories.

HOTEL INFORMATION

Quality Inn Pavilion
716 21st Street
Va. Beach, VA 23451
Phone: 1 (800) 631-3916 or (757) 422-3617
Fax: (757) 428-7434

Sheraton Oceanfront Hotel
36th & Atlantic Avenue
Va Beach, VA 23451
Phone: (757) 425-9000, or 1-800-325-3535

Doubletree Virginia Beach
1900 Pavilion Drive
Va. Beach, VA 23451
Phone: 1 (800) 222-TREE or (757) 422-8900
Fax: (757) 425-8460

Cavalier Hotels
42nd and Atlantic Avenue
Virginia Beach, Virginia 23451
Phone: 1.(800).446-8199 or (757) 425-8555

Holiday Inn Sunspree Resort
39th Street & Atlantic
Virginia Beach, Virginia 23451
Phone: 1 (800) 942-3224 or (757) 428-1711

Shuttle Schedule

Shuttle service will be provided between the conference hotels and the Pavilion Convention Center during scheduled hours of the conference program and social events. Shuttle schedules will be posted in the Lobby of each of the Conference Hotels and in the Lobby of the Pavilion Convention Center. The buses will have an "ASC 2000" sign in the front window. Please note that on Thursday evening buses will be leaving directly from the Convention Center to the ASC 2000 Social Event at the Virginia Marine Science Museum. Shuttle service will then return attendees to hotels at the end of the event.

VIRGINIA BEACH MAP



PUBLICATIONS OFFICE

The Publications Office will be located at the Pavilion Convention Center in Rooms 101 – 103.

Hours:

Monday 9/18/2000 *Location: Pavilion Convention Center*

7:45am - 11:30am Publications Office Open

1:00pm - 5:00pm Publications Office Open

Tuesday 9/19/2000 *Location: Pavilion Convention Center*

7:45am - 2:00pm Publications Office Open

ALL MANUSCRIPTS DUE BY 2:00 PM

Wednesday 9/20/2000 *Location: Pavilion Convention Center*

CLOSED

Thursday 9/21/2000 *Location: Pavilion Convention Center*

7:45am - 11:30am Publications Office Open

Reviewer packet pickup and completed review drop off

1:00pm - 5:00pm Publications Office Open

Reviewer packet pickup and completed review drop off

Friday 9/22/2000 *Location: Pavilion Convention Center*

7:45am - 2:00pm Publications Office Open

Reviewer packet pickup and completed review drop off

Speaker Practice Room

The Speaker Practice Room will be located at the Pavilion Convention Center in the Green Room. Speakers are welcome to practice their presentations between the hours of 7:00am. and 6:30pm. Monday through Friday.

Poster Sessions

Poster Sessions will be located in the Exhibit Hall. Poster Presenters may place their posters up one half hour prior to start of their session. Presenters must take down their posters immediately following their session. If posters are remaining prior to the set up of the next session they will be disposed of accordingly. Push pins will be provided by the Conference. However, we ask that you leave the push pins on the boards so that your colleagues to follow will share the same benefit.

This year Poster Presenters will not be required to remain standing at their poster for the full two hours. In turn, Poster Presenters are **REQUIRED** to complete the **PRESENTER AVAILABILITY FORM** which will be located at your assigned poster board. Session Chairs will be checking to see if you are available at the times indicated on your form. Presenters should be "on duty" for at least one hour.

Future Conferences

ASC 2002
Houston, Texas
Paul Chu, Chairman
August 4 - 9, 2002

ASC 2004
Jacksonville, Florida
Justin Schwartz, Chairman
October 3-9, 2004

ASC 2006
Seattle, Washington
Al Zeller, Chairman
August 27 - September 1, 2006

EXHIBITION

Exhibits Hall Hours

Monday 10:00am - 4:00pm	9/18/2000	<i>Location: Pavilion Convention Center</i>
Tuesday 10:00am - 4:00pm	9/19/2000	<i>Location: Pavilion Convention Center</i>
Wednesday 2:00pm - 4:00pm 6:00pm - 8:00pm	9/20/2000	<i>Location: Pavilion Convention Center</i> EXHIBITOR RECEPTION

EXHIBITOR DIRECTORY

ACCEL Instruments GmbH

Booth #138

Friedrich-Ebert-Str. 1

Bergisch Gladbach, NRW 51429 GERMANY

Phone: 49 22 04 84 40 51 // Fax: 49-22 04 84 25 01

www.accel.de

ACCEL Instruments GmbH is a specialized engineering and manufacturing company for custom designed research and industrial equipment. Products & Services: RF Accelerating Units, Superconducting Magnets, Cryogenics, Insertion Devices, Beamlines, UHV-Devices, Advanced Components Manufacturing, Turn-Key Systems, Project Management, Engineering and Manufacturing Services. ACCEL's technical strength is based on its experienced staff and the successful completion of numerous challenging development and manufacturing contracts with national and international universities and research institutions during the last 20 years.

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Booth #122

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Allentown, PA 18103 USA

Phone: 610-439-8022 // Fax: 610-439-1184

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www.alstom.com

Alstom develops superconducting Wires and Cables with high critical current capacity for world-wide projects of colliders (LHC), tokamaks, and it also manufactures wires for Magnetic Resonance Imaging magnets, as well as, for Magnetic Resonance Spectroscopy magnets and for various custom made applications.

American Magnetics, Inc.

Booth #104

P.O. Box 2509

Oak Ridge, TN 37831-2509 USA

Phone: 423-482-1056 // Fax: 423-482-5472

www.americanmagnetics.com

With over 30 years of experience, AMI offers superconducting magnetic solutions to meet almost any requirement. AMI's booth will feature the new 420 Digital Power Supply Programmer, Energy Absorber, and Four Quadrant Power Supply. In addition, AMI offers a full line of cryogenic level instruments. Our worldwide network of sales engineers provide local service and innovative solutions.

American Superconductor

Booth #147

2 Technology Drive

Westborough, MA 01581 USA

Phone: 508-621-4179 // Fax: 508-366-4106

www.amsuper.com

American Superconductor is the market leader in developing commercial applications for superconductor technology for the electric power industry. American Superconductor's HTS wire, the common building block for these applications, will be the focus of this year's exhibit. Also on display will be American Superconductor's full line of HTS current leads, along with information about HTS motor, cable and transformer programs.

Australian Superconductors

Booth #178

Engineering and Innovation Education

Centre, Miller Steet

Coniston NSW Australia 2500

Phone: 61-2-422-65331 // Fax: 61-2-422-66997

www.superconductors.com.au

Australian Superconductors is a supplier of BSCCO HTS tapes with a range of properties including high mechanical strength, low ac loss and low thermal loss characteristics in lengths up to 1000m. AS also supplies HTS coils and other tape based components such as current leads.

BICCGeneral Superconductors

Booth #156

Oak Road

Wrexham LL13 9XP UK

Phone: 44-1978-662-612 // Fax: 44-1978-662-464

www.bicc-sc.com

BICCGeneral Superconductors is a supplier and developer of HTS conductors and current leads. Their product range includes Bi-2223 Cryobicc™ tapes, Econex™ current leads for cryofree applications and high current prototype leads for CERN.

CAN SUPERCONDUCTORS

Booth #161

Cukrovarnicka 10

Prague 6 16200 Czech Republic

Phone: 420-2-2431-5705 // Fax: 420-2-2225-4329

www.can.cz

CAN SUPERCONDUCTORS supplies large scale of HTS products including current leads, magnetic shields, current limiters, seeded melt grown single domain YBCO, targets, powders, superconducting demonstration kits, and many others. All those items can be supplied as our standard products or designed to fit specific needs of the customers.

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www.idealgraphics.com/cryofab

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www.cryomagnetics.com

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Syracuse, NY 13211 USA

Phone: 315-455-2555 // Fax: 315-455-2544

www.cryomech.com

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Crystal GmbH

Booth #132

Ostendstr 1-14

Berlin D-12459 GERMANY

Phone: 4930-5388-1713 // Fax: 4930-535-0436

www.crystal-gmbh.com

Crystal GmbH manufactures substrates and wafers for film deposition with standard specifications or according to customer's requirements and offers crystal processing services such as (re) polishing, dicing, cutting and orienting of crystals.

CrysTec GmbH

Booth #144

Kopenicker Str. 325

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Phone: 49-30-6575-2806 // Fax: 49-30-6576-2808

www.crystec.de

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Booth #164

Bahnhofstrasse 18a

Ismaning 85737 Germany

Phone: 49-89-962-524-0 // Fax: 49-89-962-524-99

www.csp-munich.com

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DuPont Superconductivity

Booth #154

DuPont Experimental Station, Box 80304

Wilmington, DE 19880 USA

Phone: 302-695-4256 // Fax: 302-695-2721

Dupont produces superconducting receivers for applications in wireless communications and superconducting magnet separation units for use in

kaolin clay and other mineral purification. In addition, DuPont fabricates a range of superconducting components, devices, and subassemblies, including microwave resonators, amplifiers, oscillators, filters, delay lines, splitters, combiners, and antennas.

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Sumitomo Electric Hightechs presents high Tc SQUIDS, their driving circuits and other SQUID related products such as SQUID microscopes and dewars. We have two types of driving circuits. One is PC operational direct read-out type, which has response frequency up to 1MHz. The other is modulation type, up to 1kHz.

IGC-APD Cryogenics Inc.**Booth #133****1833 Vultee St.****Allentown, PA 18103 USA****Phone: 610-796-6700 // Fax: 610-791-6795**www.apdcryogenics.com

IGC-APD Cryogenics Inc. provides a wide range of cryogenic equipment, which provides solutions in superior products enabling your application to exceed their performance goals. IGC-APD Cryogenics products include: Liquid Nitrogen Alternatives, Water Vapor Pumps, Cryogenic High Vacuum Pumps, Detector Coolers, and Cryogen Conservation Systems.

IGC-SuperPower, LLC**Booth #134****450 Duane Ave****Schenectady, NY 12304 USA****Phone: 518-346-1414 // Fax: 518-346-6080**www.igc.com

IGC-SuperPower, LLC, a subsidiary of Intermagnetics General Corp., manufactures a line of HTS products for the electric power industry. These include power transformers, fault current

controllers and transmission cables that offer increased efficiency and capacity, compactness, enhanced safety, reliability and power quality, and are environmentally friendly.

International Cryogenics, Inc.**Booth #148****4040 Championship Dr.****Indianapolis, IN 46268 USA****Phone: 317-297-4777 // Fax: 317-297-7988**www.intlcryo.com

Manufacturer, Repair service and custom fabrication and design of Cryogenic and related equipment. Products such as LHe container, LN₂/LHe Cryostats, Transfer lines, and laboratory storage dewar systems will be on display.

Janis Research Company, Inc.**Booth #179****2 Jewel Drive P.O. Box 696****Wilmington, MA 01887 USA****Phone: 978-657-8750 // Fax: 978-658-8750**www.janis.com

Janis, a 1998 R&D 100 Award Recipient, offers a variety of cryogenic systems for cooling and characterizing superconducting materials, including: closed-cycle refrigerators, 4 K refrigerators, continuous flow and variable temperature cryostats, superconducting magnet systems, detector cooling dewars, dilution refrigerators, helium-3 cryostats, and custom designs to meet any specific requirements.

Research Center Juelich**Booth #151****Lankenstrasse 29****Juelich 52428 GERMANY****Phone: 49-2461-61-4085 // Fax: 49-2461-61-2630**www.jsquid.com

Research Center Juelich develops and offers customized HTS SQUIDS and SQUID systems for non-destructive evaluation, biomagnetism and geomagnetic applications. These are commercially available via Tristan Technologies (www.tristantech.com), JSQ (www.jsquid.com) or directly from Research Center Juelich (www.fz-juelich.de).

Kluwer Academic/Plenum Publishers**Booth #180****101 Philip Drive****Norwell, MA 02061 USA****Phone: 781-871-6600 // Fax: 781-871-6528**www.wkap.nl

KLUWER ACADEMIC PUBLISHERS, a leading publisher of scientific books and

journals, invites you to visit our booth and receive a 20% discount on all books on display. Free samples of our journals are available to attendees. Visit our on-line catalog at <http://www.wkap.nl>

Lake Shore Cryotronics, Inc.

Booth #163

575 McCorkle Blvd.

Westerville, OH 43082 USA

Phone: 614-891-2243 // Fax: 614-818-1600

www.lakeshore.com

Lake Shore Cryotronics, Inc., is a world leader in innovative measurement and control. We are pleased to introduce the Model 331 Temperature Controller that supports diodes, thermocouples, and NTC/PTC RTDs including Cernox™, the leading cryogenic sensor for magnetic field use; and the new DT-600, the silicon diode sensor with the fastest thermal response time to date.

Leybold Cryogenics North America

Booth #157

25 Sagamore Park Road

Hudson, NH 03051 USA

Phone: 603-595-3286 // Fax: 603-595-3280

www.leyboldvac.de

Offers a full range of closed cycle cryogenic cooler products. These product offerings include a single stage 6W @ 77K Stirling cooler, single and two-stage Gifford-McMahon coolers, and a variety of 4.2K cryocoolers with capacities of 0.25W, 0.5W and 1.0W.

Meyer Tool & MFG., Inc.

Booth #149

4601 W. Southwest Highway

Oak Lawn, IL 60453 USA

Phone: 708-425-9080 // Fax: 708-425-2612

Meyer Tool & MFG., Inc. is a leader in the design and manufacture of cryogenic, high vacuum and precision equipment for basic science, research development and industrial applications. This includes prototype and production, as well as, unique, one-of-a-kind systems, subsystems and components.

Neocera, Inc.

Booth #168

10000 Virginia Manor Road

Beltsville, MD 20705 USA

Phone: 301-210-1010 // Fax: 301-210-1042

www.neocera.com

Neocera, Inc. is a microelectronics and sensor-based technology company with leading edge materials

expertise in thin film development and production. Neocera products include pulsed laser deposition systems, metal oxide thin films and thin film devices, cryogenic temperature controllers, cryogenic temperature sensors and HTS SQUID microscopy and microwave microscopy systems.

New England Electric Wire Corporation

Booth #167

130 North Main Street

Lisbon, NH 03585 USA

Phone: 603-838-6624 // Fax: 603-838-5236

www.neewcweb.com

NEEWC is a specialty manufacturer of bare and insulated wire and cable. Specific markets include flexible industrial cables, miniature sensor cables, instrument cables, and medical and automotive cables. NEEWC manufactures superconducting cables and insulates superconducting wire and cable to meet our customers' special and demanding needs.

Nove Technologies, Inc.

Booth #135

134 Holmes Ave.

Darien, CT 06820 USA

Phone: 203-324-2433 // Fax: 313-557-4138

Nove Technologies, Inc. headquartered in El Segundo, California, develops and produces superconducting nanocomposites for use in flexible wire and other superconductive devices, at both high and low temperatures. Their patented composite technology allows the fabrication of flexible conductors from ceramic superconductors without significant loss of current density.

NST

Booth #128 & 129

Prioparken 685

Broendby 2605 DENMARK

Phone: 45-43-48-2500 // Fax: 45-43-48-2501

www.nst.com

NST Nordic Superconductor Technologies of Denmark is a global leader in developing and manufacturing commercial high temperature superconducting BSCCO-2223 tapes for use in magnets, motors, current leads, transformers and cables for temperatures up to 77K. Come and receive free samples of Zerome Hercules HTS tape, reinforced and insulated.

Outokumpu Poricopper Oy**Booth #176**

Kuparitie 5

Pori 28330 Finland

Phone: 358-2-626-6377 // Fax: 358-2-626-5337

www.outokumpu.com

Outokumpu Poricopper Oy manufactures and sells low temperature superconducting wires and cables.

Oxford Instruments America Inc.**Booth #153**

130A Baker Avenue Ext

Concord, MA 01742 USA

Phone: 978-369-9933 // Fax: 978-369-8287

www.oxford-instruments.com

The recently announced successful operation and data acquisition from the 21.1 Tesla, 900MHz NMR magnet reinforces Oxford Instruments' position as a world leader in the design and manufacture of superconducting magnets. The new 900MHz magnet is the result of a two year development program that encompassed the latest in magnet design and materials technology. Visit our booth or www.oxford-instruments.com for further information regarding this exciting development and details of our complete range of products.

Oxford Instruments, Superconducting Technology**Booth # 152**

600 Milik Street

Carteret, NJ 07008 USA

Phone: 732-541-1300 // Fax: 732/541-7769

www.oxford-instruments.com

Oxford Instruments, Superconducting Technology manufactures niobium titanium and niobium tin superconducting wire and cable, and maintains an active development program in first and second generation HTS materials.

PHPK Technologies Inc.**Booth #123**

535 Enterprise Drive

Westerville, OH 43081 USA

Phone: 614-436-9114 // Fax: 614-436-5816

www.PHPK.com

PHPK manufactures and develops components, turn-key engineered systems and machinery for the cryogenic and high vacuum industry based upon "state of the art" designs, materials, and manufacturing technology. These developments include a complete line of off-the shelf valves (1/2" through 10"), bayonets, filters, vacuum seal-off valves, and other updated components. PHPK Vacuum Jacketed Piping is engineered and designed

to provide custom cryogenic transfer systems using standard components and technology. All PHPK components are vertically integrated into custom engineered systems such as LOX and LH2 densifier heat exchangers, helium refrigerators, compressor systems and superconductor cable applications. PHPK offers two customer support facilities located in Columbus, Ohio and Costa Mesa, California.

Precision Cryogenic Systems, Inc.**Booth #116**

7804 Rockville Road

Indianapolis, IN 46214 USA

Phone: 317-273-2800 // Fax: 317-273-2802

www.precisioncryo.com

Designs and manufactures a complete line of custom cryostats for research, experimentation and testing at cryogenic temperatures. Types of cryostats include: superinsulated helium dewars, liquid nitrogen shielded dewars, variable temperature cryostats for superconducting magnets, magnet support/insert assembly, infrared detector cryostats, liquid nitrogen transfer lines.

Quantum Design**Booth #142**

11578 Sorrento Valley Rd.

San Diego, CA 92121 USA

Phone: 858-481-4400 // Fax: 858-481-7410

www.qdusa.com

Quantum Design is a leading manufacturer of automated small sample characterization systems-the Magnetic Property Measurement System (MPMS) and Physical Property Measurement System (PPMS). The MPMS SQUID magnetometer is the industry standard for ultra-sensitive magnetic measurements. The PPMS is an innovative device designed to provide fully automated magnetometry (AC, DC and Torque), electrotransport, micro-calorimetry and Helium-3 measurement capabilities. Measurements can be performed at magnetic fields up to 14 tesla and temperatures from 0.4 to 800 K.

Scientific Instrument, Inc.**Booth #125**

4400 W. Tiffany Dr.

West Palm Beach, FL 33407 USA

Phone: 561-881-8500 // Fax: 561-881-8556

www.scientificinstruments.com

Scientific Instruments, Inc. will feature the interchangeable RO600 and RO105 Ruthenium Oxide temperature sensors. These miniature devices operate from 0.05K to 273.0K in varying magnetic fields. Information on temperature controllers and temperature indicators will be available.

Star Cryoelectronics**Booth #155****862 Estates Drive****Los Alamos, NM 87544-2781****Phone: 505-661-6481 // Fax: 505-661-4287**www.starcryo.com

STAR Cryoelectronics offers advanced dc SQUIDS and SQUID sensors, pcSQUID™ the easy-to-use and high-performance PC-based SQUID readout electronics, the popular Mr. SQUID® Educational Demonstration System, cryogenic dewars, and custom SQUID design and development services. STAR Cryoelectronics produces pcSQUID™ and Mr. SQUID® under license from Conductus, Inc.

Stirling Cryogenics & Refrigeration B.V.**Booth #136****Science Park Eindhoven 5003****Son 5692EB THE NETHERLANDS****Phone: 31-40-267-7300 // Fax: 31-40-267-7301**www.stirling.nl

Stirling Cryogenics & Refrigeration B.V. designs and builds stand alone refrigerators for superconductive devices in the temperature range from 20-40K (50-100W) and from 65-77K (500-6000W). These refrigerators are based on the stirling cycle and are optimised to the specific requirements of the superconductive device to be cooled.

Supercon, Inc.**Booth #150****830 Boston Turnpike****Shrewsbury, MA 01545 USA****Phone: 508-842-0174 // Fax: 508-842-0847**www.supercon-wire.com

Supercon, Inc. manufactures low temperature superconducting wires and cables. Standard conductor designs will be on display including: NbTi, Nb3Sn; copper and copper-nickel matrix; round and shaped wires; strand and cables. Custom conductor designs are also available. Product Engineers will be in our booth to discuss your specific requirements.

Superconductive Components, Inc.**Booth #127****1145 Chesapeake Avenue****Columbus, OH 43212 USA****Phone: 614-486-0261 // Fax: 614-486-0912**www.superconductivecomp.com

Superconductive Components, Inc. manufactures submicron HTS powders of YBCO, BSCCO and other ceramics, Levitators™, sputtering targets and laser ablation sources, evaporation materials, substrates and educational kits. The company is

developing applications in sensors, continuous powder processing, HTS wires, frictionless bearings, fault current limiters, energy storage, and RF filters.

THEVA GmbH**Booth #143****Hauptst. 1b, 85386****Eching-Dietersheim 85386 GERMANY****Phone: 49-89-329-29176 // Fax: 49-89-329-29177**www.theva.com

THEVA is specialized in HTS film issues covering the range from film deposition by evaporation, patterning after customer layouts and characterization. Main products are YBCO films on every kind of substrate material and the Cryoscan jc-scanner for non-destructive jc-characterization of large area films at liquid nitrogen temperature.

Tristan Technologies, Inc.**Booth #103****6350 Nancy Ridge Dr. Suite 102****San Diego, CA 92121 USA****Phone: 858-550-2700 // Fax: 858-550-2799**www.tristantech.com

Tristan Technologies has the widest selection of SQUID systems and instrumentation available for laboratory, biomedical, geophysical and non-destructive test and evaluation (NDE) applications. Tristan will exhibit its iMAG® line of SQUID instrumentation and SQUID sensors (both LTS and HTS) along with a number of cryogenic dewars. New products that will be introduced are the RLM ac impedance bridge and the CryoSTREAM spray cooler.

Vacuumschmelze GmbH**Booth #145****Gruener Weg 37****Hanau 63450 GERMANY****Phone: 49-61-813-82629 // Fax: 49-61-813-882629**www.vacuumschmelze.de

VAC is a world leader in the production of special magnetic materials and further processed products. With roughly 2400 employees the company is represented in 40 countries and has a turnover of appr. DM 520m. Metallic superconductors are part of our product range of well over 100 special alloys since more than 30 years. Ceramic, HTSC being in our program for about 10 years now. The superconductor production of VAC covers many applications like MRI, NMR, fine filament conductors for LHC, and Al co-extruded cables especially for detectors e.g. ATLAS.

Vector Fields Inc.

Booth #106

1700 N. Farnsworth Avenue Suite 10

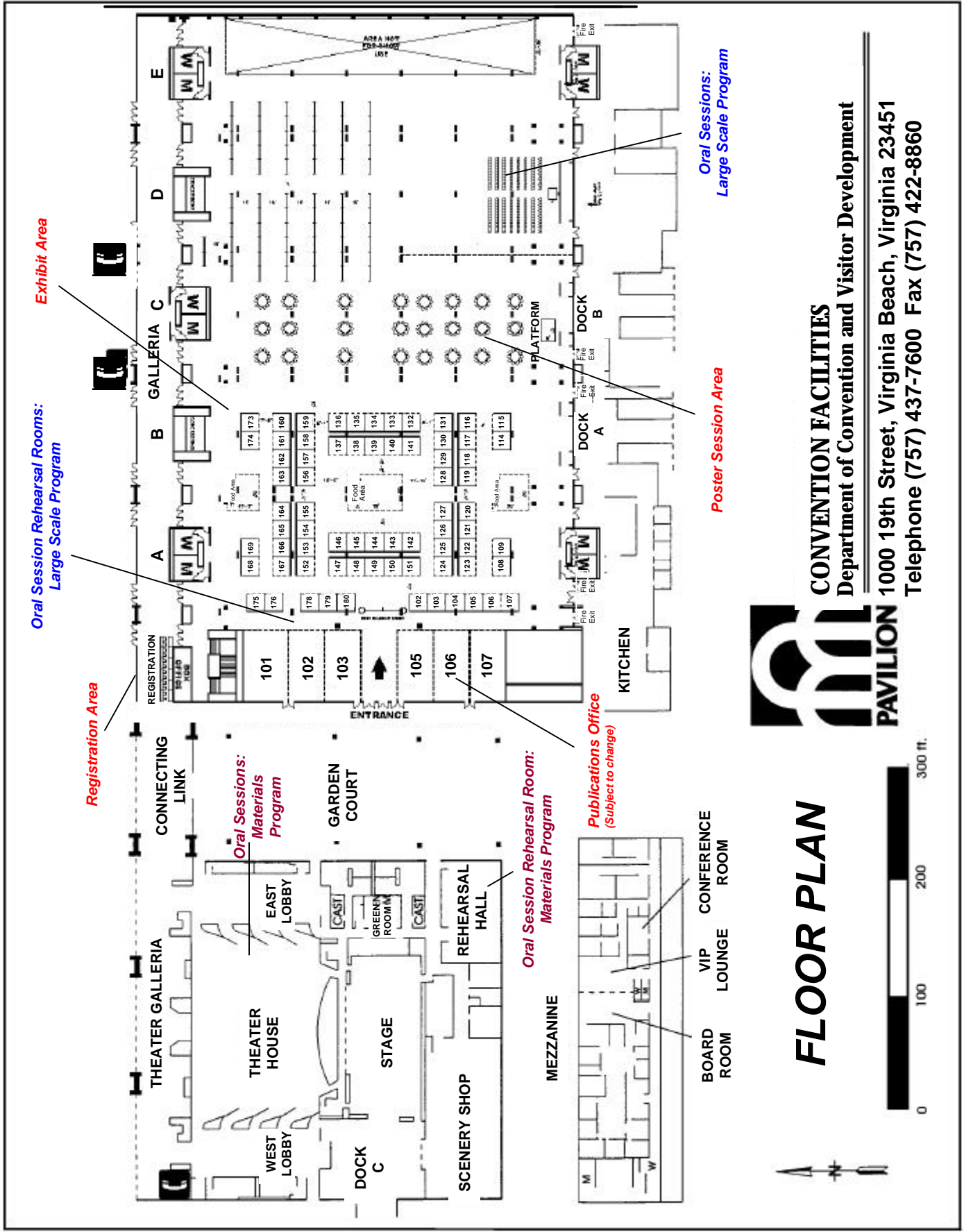
Aurora, IL 60505 USA

Phone: 630-851-1734 // Fax: 630-851-2106

www.vectorfields.com

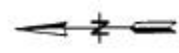
OPERA software provides user friendly design and analysis tools for electrostatic, magnetostatic and

time varying electromagnetic devices and systems. A wide frequency range (including resonant cavity calculations) and transient effects may be modeled. Particle Beam modeling (including space charge effects) may be analyzed. Comprehensive user support is always provided.



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Oral Sessions: Materials Program

Oral Sessions: Large Scale Program

Poster Session Area

Oral Sessions: Large Scale Program

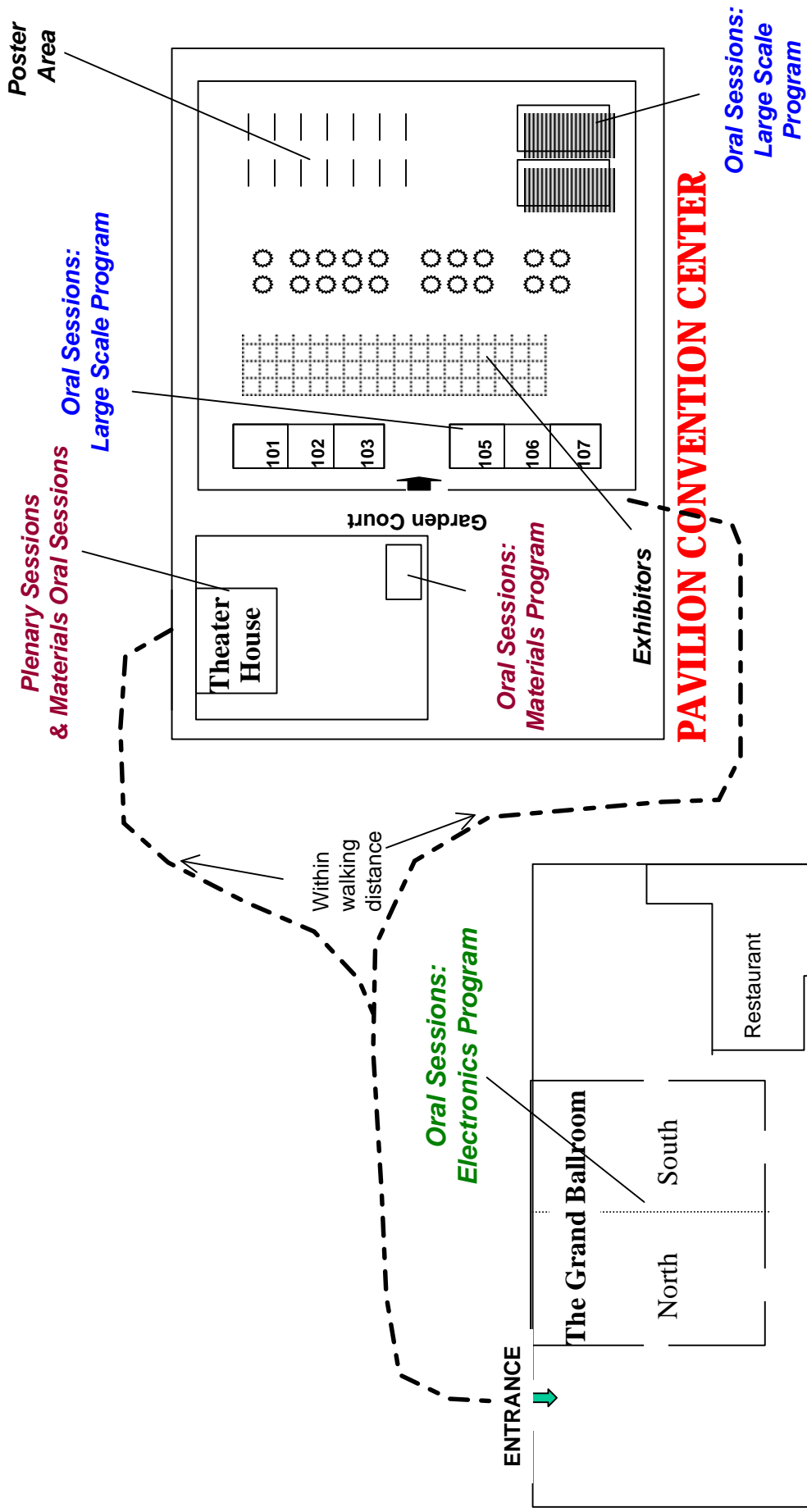
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Publications Office (Subject to change)

Oral Sessions: Large Scale Program

MEETING ROOM FLOORPLANS

THE PAVILION CONVENTION CENTER & THE DOUBLETREE HOTEL



DOUBLETREE HOTEL - LOBBY LEVEL

TECHNICAL PROGRAM

Please note that the Electronics Oral Sessions will be taking place at the DoubleTree Hotel located next door to the Convention Center (see map on previous page). All other presentations (Oral and Poster) will be held at the Pavilion Convention Center (see map).

A listing of all conference papers by session and time, as of 21 August, 2000.

The first digit of the program number, 1, 2, 3, 4, or 5, denotes the day of the conference, Monday, Tuesday, Wednesday, Thursday, and Friday, respectively. The second digit, E, L, or M, signifies Electronics, Large Scale, or Materials sessions, respectively. Lastly, the ending number designates the order of which the your paper will be presented within the session.

2000 Applied Superconductivity Conference Program

Electronics Sessions

Monday Plenary Session (Pavilion Convention Center) 8:30am - 10:00am

Welcome

Harold Weinstock, ASC Chairman, AFOSR; and Hermann Grunder, Director, Thomas Jefferson National Accelerator Facility

1AP1 Superconductivity: Star Technology for the 21st Century

C.H. Rosner, Intermagnetics General Corporation.

Monday Poster Session (Pavilion Convention Center) 10:00am - 12:00pm

1EA LTS Josephson Junctions

1EA01 NbN Multilayer Technology on R-plane Sapphire Combining RSFQ Gates and Fast Photodetectors

J-C. Villegier, N. Hadacek, S. Monso, B. Delaet, CEA-G; A. Roussy, P. Febvre, LAHC.

1EA02 Overdamped NbN Junctions with Nb/AlO_x/Nb Multilayered Barriers

H. Akaiki, T. Iwai, Y. Ninomiya, K. Nakamura, A. Fujimaki, H. Hayakawa, Nagoya Univ..

1EA03 Fabrication of Nb/AL-Nx/NbTiN Junctions for SIS Mixer Applications

B. Bumble, H.G. LeDuc, J.A. Stern, K.G. Megerian, JPL.

1EA04 Low-loss Epitaxial NbN/MgO/NbN Trilayers for THz Applications

Akira Kawakami, Zhen Wang, Communications Research Laboratory; Shigehito Miki, Kobe University.

1EA05 1/f Noise in High Current Density NbN/AlN/NbN Tunnel Junctions

Zhen Wang, Akira Kawakami, Communications Research Laboratory; Atsushi Saito, Katsuyoshi Hamasaki, Nagaoka University of Technology.

1EA06 NbN internally shunted Josephson junctions grown using PLD with a TaN barrier for nonlatching logic applications

Anupama Bhat-Kaul, Theodore Van Duzer, UC Berkeley.

1EA07 A Hybrid Nb/CMOS Integration Process for Superconducting Tunnel Junction Color Imaging Arrays

Andre Wong, Xiaofan Meng, Ted Van Duzer, Dept. of EECS, University of California, Berkeley.

1EA08 Use of a Focused Ion Beam for Characterizing SIS Circuits

W.W. Clark IV, R.B. Bass, J.Z. Zhang, A.W. Lichtenberger, University of Virginia, Superconducting Device Laboratory, Department of Electrical Engineering.

1EA09 LTC Josephson Devices for Low Noise Applications

C. Granata, A. Monaco, A. Naddeo, M. Russo, Istituto di Cibernetica del CNR.

1EA10 Barrier structure related properties of shot-like voltage noise in Nb-AlO_x-Nb Josephson tunnel junctions

Rosario Di Leo, Angela Nigro, Paola Romano, Bonaventura Savo, Dipartimento di Fisica and INFM, Universita di Salerno.

1EA11 Radiation induced branch imbalance effect in superconducting Josephson junctions

Giuseppe Ammendola, Giovanni Piero Pepe, Giuseppe Peluso, Antonio Barone, Dipartimento Scienze Fisiche, Università di Napoli Federico II;

Loredana Parlato, I.N.F.M., UdR Napoli; Boris Ivlev, Instituto de Fisica Manuel Sandoval Vallarta, Universidad Autonoma de Potosi; Eugenio Monticone, Mauro Rajteri, Istituto Elettrotecnico Nazionale "G. Ferraris".

1EA12 Resonances, solitons, and flux-flow in Josephson junctions

V. Merlo, M. Cirillo, R. Russo, Dipartimento di Fisica and Unita` INFM, Universita` di Roma "Tor Vergata", 00133 Roma ,Italy; P. Cickmacks, Institute of Solid State Physics, University of Latvia, Riga,Latvia.

1EB Microwave Antennas and Microwave Nonlinearities

1EB01 Ultrafast optical response of a GaAs/YBCO layered structure

T. Kiwa, M. Hangyo, Osaka Univ.; M. Tonouchi, Osaka Univ. & CREST,JST.

1EB02 Superconducting Slot Antenna with Broadband Impedance Matching Circuit

K. Yoshida, T. Takahashi, H. Kanaya, Kyushu University; T. Uchiyama, Z. Wang, CRL.

1EB03 Broadband HTS microstrip antennas for the satellite communication

Dong-Chul Chung, Division of Information, Communication and Computer Eng., Woosuk University, Wanju, Chonbuk, 565-701, Korea.

1EB04 Miniaturized cooling systems for HTS antennas

K. Ehata, K. Sato, M. Kusunoki, M. Mukaida, S. Ohshima, Yamagata University; Y. Suzuki, K. Kanao, Sumitomo Heavy Industries, Ltd..

1EB05 Design, Fabrication, and Characterization of New High-Tc Superconductive Micro-Antennae

Shapur Sahba, Columbia University, IEEE member, U.S. Army, CECOM-RDEC; Erzhen Gao, Q.Y. Ma, Electrical Engineering Department, Columbia University, New York, N.Y.

1EB06 Normal- and superconducting coplanar wave guides with submicron line widths

S. Wuensch, G. Benz, M. Neuhaus, T. A. Scherer, W. Jutzi, University of Karlsruhe.

1EB07 Characterization of X-Band Filter of Double-Sided YBCO Film on MgO Substrate

Katsumi Suzuki, Norio Hasegawa, Hajime Nakada, Takeo Suzuki, Youichi Enomoto, Superconductivity Research Laboratory, ISTEC.

1EB08 Local microwave surface resistance variations of the YBaCuO thin films patterned by selective laser irradiation and plasma fluorination

Y.J. Feng, L. Liu, L.Y. Wu, Q.G. Liu, Z.L. Fu, L.X. You, L. Kang, S.Z. Yang, P.H. Wu, Department of Electronic Science and Engineering, University of Nanjing, Nanjing, 210093, P.R.China.

1EB09 Electrical and Thermal Modulation of the Propagation Time in YBCO Spiral Lines by Optoelectronic Techniques

S. Cho, Department of Optical Engineering, Silla University; C. Lee, Department of Electrical Engineering, Inha University.

1EB10 Third-order local nonlinear microwave response of YBa₂Cu₃O₇ and Nb thin films

Evgeny E. Pestov, Vladislav V. Kurin, Yury N. Nozdrin, Institute for Physics of Microstructures, RAS, 603600, Nizhny Novgorod, GSP-105, Russia.

1EB11 Nonlinear Analysis of Disk Resonators. Application to Material Characterization and Filter Design

Jordi Mateu, Carlos Collado, Juan O'Callaghan, Universitat Politècnica de Catalunya (UPC).

1EB12 Temperature dependence of nonlinear microwave effects in superconducting microstrip resonators based on YBCO thin films

M. Boutboul, H. Kokabi, S. Sautrot, M. Fourrier, Laboratoire de Dispositifs Infrarouge et Micro-ondes, Université Paris 6; A. Degardin, A. Kreisler, Laboratoire de Génie Électrique des Universités Paris 6 & Paris 11, UMR8507 CNRS.

1EB13 Temperature dependence of quality factor and intermodulation product at superconducting niobium and YBCO coplanar waveguide resonators

G. Benz, W. Wuensch, T. A. Scherer, M. Neuhaus, W. Jutzi, University of Karlsruhe.

1EC Interface Engineered Junctions

1EC01 The Role of Interfaces in C-axis Microbridges

P.J. Hirst, R.G. Humphreys, M.J. Wooliscroft, J.S. Satchell, DERA.

1EC02 Effect of base electrode doping and thermal treatment on interface engineered junctions

W. K. Park, H. J. Lee, S. H. Moon, S.-M. Lee, B. Oh, LG Corporate Institute of Technology.

1EC03 Fabrication of interface-controlled junctions on the ground plane for SFQ circuit applications

Gun Yong Sung, Seok Kil Han, Jeong-Dae Suh, Kwang-Yong Kang, ETRI.

1EC04 Fabrication and Properties of YBa₂Cu₃O_{7-x}/YBa₂Cu₃O_{7-x} Ramp-Edge Junctions without and with Grandplane

U. Kawabe, K. Toma, H. Tano, Chiba Institute of Technology, Chiba; K. Tanabe, T. Makita, T. Utagawa, Y. Li, SRL,ISTEC, Tokyo.

1EC05 Fabrication and characterization of NBCO and YBCO ramp-edge junctions with an interface modified barrier

T. Makita, K. Toma, H. Tano, K. Ishikawa, H. Zama, T. Utagawa, K. Tanabe, SRL-ISTEC.

1EC06 Preparation of Ramp-edge Interface Modified Junctions for HTS SFQ Circuits

Horibe Masahiro, Ito Takuma, Inagaki Yoshiyuki, Ohnishi Kazuyuki, Matsuda ichiro, Hayashi Noriyoshi, Maruyama Michitaka, Fujimaki Akira, Hayakawa Hisao, Department of Quantum Engineering, Nagoya University.

1EC07 Interface Engineered Josephson Junctions Optimized for High-Jc

H. Shimakage, R. H. Ono, L. R. Vale, NIST.

1EC08 Far-infrared response of interface-engineered YBCO Josephson junctions

Yuri Divin, IFF-IMF, Forschungszentrum Juelich GmbH, Juelich, Germany; Oleg Volkov, IRE, Moscow, Russia; Victor Glyantsev, Conductus Inc..

1EC09 Investigation of ramp-edge Josephson junctions with a surface-modified barrier

Y. Soutome, T. Fukazawa, A. Tsukamoto, Y. Tarutani, K. Takagi, Advanced Research Laboratory, Hitachi Ltd..

1ED Mixers I

1ED01 Fabrication of Nb/AlOx/Nb Mixers for 200-300 GHz and 602-720 GHz Bands by Planarized Process

Sergey K. Tolpygo, Wei Chen, Vijay Patel, James E. Lukens, Dept. of Physics and Astronomy, State University of New York at Stony Brook, Stony Brook, NY 11794; Anthony R. Kerr, Shing-Kuo Pan, National Radio Astronomy Observatory, Charlottesville, VA 22903.

1ED02 Nb-Based SIS Mixer at 800 GHz Band

Takashi Noguchi, Nobeyama Radio Observatory, Nobeyama, Nagano, Japan; Hiroyuki Maezawa, Satoshi Yamamoto, Tokyo University, Tokyo, Japan; ShengCai Shi, Purple Mountain Observatory, Nanjing, China.

1ED03 Precision Techniques for Whole Wafer Dicing and Thinning of Mixer Circuits

W.B. Bishop, A.W. Lichtenberger, University of Virginia, Superconducting Device Laboratory, Department of Electrical Engineering; D.M. Summers, Apiezon Products Ltd, P.O. Box 136, Manchester, UK, M601AN.

1ED04 A new structure of phonon-cooled HEB mixer for improving the quality of NbN thin films.

Shigehito Miki, Kobe University; Yoshinori Uzawa, Akira Kawakami, Zhen Wang, Communication Research Laboratory.

1ED05 A Self-Consistent Model for the IF Bandwidth of NbN-Hot Electron Bolometric Mixers

H. Merkel, P. Khosropanah, S. Cherednichenko, E. Kollberg, CTH.

1ED06 Performance of all-NbN quasi-optical SIS mixers for the terahertz band

Yoshinori Uzawa, Akira Kawakami, Zhen Wang, Kansai Advanced Research Center, CRL; Shigehito Miki, Kobe University.

1ED07 Bias Dependence of the Thermal Time Constant in Diffusion-Cooled Hot Electron Bolometer Mixers

Danny Wilms Floet, Delft University of Technology; J.R. Gao, P.A.J. de Korte, Space Research Organisation of the Netherlands; T.M. Klapwijk, Delft University of Technology.

1ED08 Low-voltage negative-resistance mixers of nano-meter SNS junctions

Toshiaki Matsui, Hiroshi Ohta, Communications Research Lab., Ministry of Posts & Telecomm..

1ED09 Frequency Dependent Noise Temperature of the Lattice-Cooled Hot-Electron Mixer

A. Semenov, H.-W. Huebers, J. Schubert, DLR Institute of Space Sensor Technology, Berlin, Germany; G. Gol, B. Voronov, E. Gershenzon, State Pedagogical University of Moscow, Russia.

Monday Oral Session (Doubletree Hotel) 12:00pm - 1:00pm

1EE HTS A/D Converter

1EE01 Delta-sigma converter in HTS ramp edge technology (12:00pm)

A.H. Sonnenberg, G.J. Gerritsma, H. Rogalla, University of Twente.

1EF Quantum Computing

1EF01 SQUID systems for Macroscopic Quantum Coherence and Quantum Computing (12:00pm)

P. Carelli, F. Chiarello, INFN; M. G. Castellano, R. Leoni, G. Torrioli, IESS-CNR; C. Cosmelli, INFN.

1EF02 The Superconducting Persistent Current Qubit (12:30pm)

T.P. Orlando, L. Tian, D.S. Crankshaw, D. Nakada, S. Lloyd, J.J. Mazo, MIT; J.E. Mooij, C.H. van der Wal, C.J.P.M. Harmans, A.C. Wallast, Delft University of Technology.

Monday Lunch / Hot Topic Talk (Pavilion Convention Center) 1:00pm - 2:00pm

Hot Topic Lunch Session: Doping-Induced Enhancement of Grain Boundary Critical Currents

G. Hammerl, A. Schmehl, R.R. Schulz, B. Goetz, H. Bielefeldt, C.W. Schneider, J. Mannhart, University of Augsburg; H. Hilgenkamp, University of Augsburg (present address: Twente University)

Monday Poster Sessions (Pavilion Convention Center) 2:00pm - 4:00pm

1EG SQUID Microscopy

1EG01 A Scanning Magnetic Microscope with SQUID detection.

Matteo Ameri, Antonino Manco, Renzo Vaccarone, I.N.F.N. - Sezione di Genova; Renzo Mattered, Pasquale Ottonello, Dipartimento di Fisica - Universita.

1EG02 Imaging Defects in Cu-clad NbTi Wire Using a high-Tc SQUID Microscope

F. Wellstood, E. Fleet, S. Chatrathorn, Department of Physics, University of Maryland, College Park; N. Tralshawala, NASA-Goddard Space Flight Center; H. Weinstock, Air Force Office of Scientific Research.

1EG03 Magnetic flux guide for high resolution SQUID-microscope

S. Gudoshnikov, Yu. Deryuzhkina, P. Rudenchik, Yu. Sitnov, IZMIRAN, Troitsk 142092, Russia; S. Bondarenko, A. Shablo, P. Pavlov, Special Research & Development Bureau for Cryogenic Technologies, 310164, Kharkov, Ukraine; O. Snigirev, A. Kalabukhov, Department of Physics Moscow State University, Moscow 119899, Russia; P. Seidel, Institut für Festkörperphysik, Friedrich-Schiller-Universität Jena, Germany.

1EG04 Scanning SQUID microscope for magnetic structure visualisation in GMI elements

S. Gudoshnikov, P. Rudenchik, L. Matveets, IZMIRAN, Troitsk, 142092, Russia; O. Snigirev, A. Kalabukhov, N. Perov, E. Gan, Department of Physics MSU, Moscow 119899, Russia; A. Antonov, APE-Center Moscow 127412, Russia; A. D. M. Sedova, APE Center, Moscow 127412, Russia.

1EG05 A scanning SQUID microscope with high spatial resolution for room temperature samples

M. Mück, J. Dechert, F. Gruhl, M.v. Kreuzbruck, C. Heiden, University of Giessen, Germany.

1EG06 High Tc SQUID microscope head for room temperature sample

Tatsuoki Nagaishi, Hideo Itozaki, Sumitomo Electric Hightechs Co., Ltd..

1EG07 Study of the trapped flux in a superconducting thin film - observation by scanning SQUID microscope and simulation

K. Tanaka, T. Morooka, A. Odawara, S. Nakayama, A. Nagata, M. Ikeda, K. Chinone, Seiko Instruments Inc.; Y. Mawatari, M. Koyanagi, Electrotechnical Laboratory.

1EG08 Noise and Spatial Resolution in SQUID Microscope

S. Chatrathorn, E. F. Fleet, F. C. Wellstood, Center for Superconductivity Research, Department of Physics, University of Maryland; L. A. Knauss, Neocera, Inc..

1EG09 Investigation of magnetic flux trapping in HTS thin films by scanning SQUID microscope

K. Suzuki, JST; Y. Li, Y. Honami, Y. Tano, T. Utogawa, K. Tanabe, SRL-ISTEC.

1EH Novel Electronic Devices

1EH01 Microcalorimeter Detector for Organic Mass Spectrometry

M. W. Rabin, G. C. Hilton, John M. Martinis, NIST.

1EH02 Fluxon dynamics induced by a control current in YBaCuO7-d grain boundary Josephson devices

F. Lombardi, INFN and University of Napoli, 80125 Napoli, Italy; U. Scotti, INFN and University of Napoli, 80125 Napoli, Italy; Z. Ivanov, T. Claeson, Chalmers University of Technology and Goteborg University, 41296 Goteborg, Sweden; M. Cirillo, INFN and University of Roma Tor Vergata, 00133 Roma, Italy.

1EH03 A Novel Superconducting RF Device with Switchable Impedance

Shu-Ang ZHOU, Ericsson Radio Systems AB.

1EH04 Field effect in perovskite type manganite/high-Tc superconductor bilayered films

J. Sakai, A. Kitagawa, K. Terai, K. Tamada, M. Sakai, T. Hirao, S. Imai, JAIST.

1EH05 Development of a two axis spinning rock magnetometer for use in a geophysical laboratory.

K.E. Leslie, R.A. Binks, C.J. Lewis, M.D. Scott, D.L. Tilbrook, J. Du, CSIRO.

1EH06 Discharge measurements using a HTS-SQUID based amplifier system.

Thomas Eriksson, ABB Corporate Research; Jakob Blomgren, Dag Winkler, Chalmers University of Technology.

1EH07 A new superconducting device with transistor-like properties

Giovanni Piero Pepe, Giuseppe Ammendola, Giuseppe Peluso, Antonio Barone, Dipartimento Scienze Fisiche, Università di Napoli Federico II; Loredana Parlato, I.N.F.M., UdR di Napoli, Naples, Italy; Norman Booth, Department of Physics, University of Oxford; Emanuela Esposito, Istituto di Cibernetica del C.N.R., Arco Felice, Naples.

1EH08 Current switching properties of a Nb-permalloy thin film device

Luca Callegaro, Istituto Elettrotecnico Nazionale Galileo Ferraris; Simona Ricci, INFN - Dipartimento di Fisica del Politecnico di Milano.

1EH09 Bloch Oscillating Transistor (BOT)

Juha Hassel, Heikki Seppä, VTT Automation/Measurement Technology.

1EI Simulation and Test of Digital Circuits I

1EI01 A Cell-Based Design Approach for RSFQ Circuits Based on Binary Decision Diagram

Junichi Koshiyama, Nobuyuki Yoshikawa, Yokohama National University.

1EI02 High-Tc superconductor sampler system for over 10 GHz digital signal waveform measurement

Mutsuo Hidaka, Tetsuro Satoh, Shuichi Tahara, NEC; Masayuki Kimishima, Mituzi Takayama, Advantest.

1EI03 Accuracy of Programmable Josephson Voltage Standard in the Presence of Junction Non-Uniformity and Current Bias Fluctuations

Kyu-Tae Kim, Jinhee Kim, Yang Sup Song, Yong Ki Park, KRISS.

1EI04 Analog-to-Digital Converter Testing Method Based on Segmented Correlations

J.F. Bulzacchelli, H.-S. Lee, MIT; J.A. Misewich, M.B. Ketchen, IBM Research.

1EI05 A General Approach for Determining the Switching Probability in Rapid Single Flux Quantum Logic Circuits

Th. Ortlepp, H. Toepfer, F.H. Uhlmann, Univ. of Technology Ilmenau.

1E106 Dynamics and ultimate time resolution of Josephson comparators

Iman Askerzade, Institute of Physics Azerbaijan Academy of Sciences.

1E107 On Chip High Frequency Diagnostic of NbN RSFQ Logic Cells

P. Febvre, J.-W. Tao, A. Roussy, G. Angenieux, LAHC; N. Hadacek, J.-C. Villegier, CEA-G.

1E108 RSFQ Real-Time Pattern Analyzer

V. Kaplunenko, V. Borzenets, Conductus Inc..

1E109 Monte-Carlo based algorithm for extraction of timing parameters of RSFQ circuits

Pavel Rott, University of Rochester; Marc Feldman, University of Rochester.

1EJ HTS Junctions and Fabrication Techniques**1EJ01 YBCO ion-beam fabricated junctions: influence of uniform modification**

U. Barkow, D. Menzel, Institut fuer Halbleiterphysik und Optik, TU Braunschweig, Germany; S.S. Tinchev, Institute of Electronics, Bulgarian Academy of Sciences.

1EJ02 Reusable stencil mask for HTS resistor fabrication

R.S. Speaks, W.E. Booij, M.G. Blamire, Cambridge University, Materials Science Dept, CB2 3QZ, UK; N. Peng, SCRIBA, University of Surrey, Guildford GU2 5XH, UK.

1EJ03 Sub-micron patterning of the YBCO Josephson junctions using carbon masks made by laser ablation technique.

I.A. Volkov, A.S. Kalabukhov, O.V. Snigirev, Department of Physics Moscow State University, Moscow 119899, Russia; A.N. Zherikhin, Scientific Research Center for Technological Lasers, RAS, Troitsk 117971, Russia.

1EJ04 Proximal probe-based anodic oxidation of sub-micrometer structures in YBaCuO thin films with an atomic force microscope

Y.J. Feng, L.X. You, L. Kang, S.Z. Yang, P.H. Wu, Department of Electronic Science and Engineering, University of Nanjing, Nanjing, 210093, P.R.China; G.X. Chen, M. Wang, National Lab of Solid State Microstructure, University of Nanjing, Nanjing, 210093, P.R.China.

1EJ05 The annealing effects of a step-edge on SrTiO₃, MgO, and LaAlO₃ single crystal substrates for YBCO Josephson junction

Yunseok Hwang, Jong-Rok Ahn, Soon-Gul Lee, Korea Univ.; Jin-Tae Kim, Yong Ki Park, Jong-Chul Park, KRISS; Heeseok Choi, DongHoon Lee, Paichai Univ..

1EJ06 Uniformity of critical current of YBa₂Cu₃O₇ step-edge Josephson junctions

Soon-Gul Lee, Sunkyung Moon, Korea University; Yunseok Hwang, Korea University, Korea Research Institute of Standards and Science; Gun Yong Sung, Electronics and Telecommunications Research Institute.

1EJ07 Josephson phenomenology of different types of YBaCuO c-axis tilt grain boundaries obtained through the biepitaxial technique

Franco Carillo, Lombardi, Miletto Granozio, Ricci, Scotti, INFN-Dip. di Fisica, Universita; Testa, Ettore Sarnelli, 2 Istituto di Cibernetica del CNR, Arco Felice (NA) Italy; Francesco Tafuri, Dip. Ingegneria dell.

1EJ08 SIS-like Weak Link for Step-edge YBCO Josephson Junctions

H.E. Horng, S.Y. Yang, J.T. Jeng, Y.C. Liu, Department of Physics, National Taiwan Normal University; H.C. Yang, Department of Physics, National Taiwan University.

1EJ09 HTS ramp-edge contact formed on thick ground plane

Y. Enomoto, H. Suzuki, M. Iiyama, S. Hoshi, T. Izumi, Y. Shiohara, ISTECSRL.

1EJ10 In-plane magnetic field dependence of intrinsic Josephson junctions in Tl-Ba-Ca-Cu-O thin films

P.A. Warburton, O.S. Chana, A.R. Kuzhakhmetov, Kings College London, UK; D.M.C. Hyland, D. Dew-Hughes, C.R.M. Grovenor, University of Oxford, UK; R.J. Kinsey, W.E. Booij, M.G. Blamire, University of Cambridge, UK; P. Mueller, Universitaet Erlangen-Nuernberg.

1EJ11 Random Telegraph Voltage Noise in a Bi₂Sr₂CaCu₂O_{8+x} Intrinsic Josephson Junction

A. Saito, K. Hamasaki, Nagaoka University of Technology; A. Irie, G. Oya, Utsunomiya University.

1EJ12 Coherent phase locking of high-Tc YBa₂Cu₃O_y Josephson junctions

C.-H. Chen, H.C. Yang, T.S. Wu, M.J. Chen, N.L. Chou, J.H. Chen, H.E. Horng, Department of Physics, National Taiwan University; H.W. Yu, J.T. Jeng, Department of Physics, National Taiwan Normal University.

Monday Oral Sessions ((Doubletree Hotel) 4:00pm - 6:30pm**1EK Digital Systems****1EK01 10 K NbN DSP Module for IR Sensor Applications (4:00pm)**

A.G. Sun, B. Dalrymple, D.J. Durand, M.W. Johnson, J.A. Luine, TRW; A. Spooner, Sierra Monolithics.

1EK02 Broad Band Software-Defined Radio Receivers Based on Superconductive Devices (4:15pm)

A. Fujimaki, H. Hasegawa, T. Sato, A. Akahori, N. Takeuchi, F. Furuta, M. Katayama, H. Hayakawa, Nagoya Univ..

1EK03 SFQ standard cell-based circuit design of an internal link speeded-up Batcher-Banyan packet switch (4:30pm)

Yoshio Kameda, Shinichi Yorozu, Shuichi Tahara, NEC.

1EK04 FLUX Chip: Design of a 20-GHz 16-bit Ultrapipelined Processor Prototype Based on 1.75-um LTS RSFQ Technology (4:45pm)

Mikhail Dorojevets, Paul Bunyk, Dmitry Zinoviev, Konstantin Likharev, SUNY at Stony Brook, NY, 11794 USA.

1EK05 A New Concept for Ultra-Low Power and Ultra-High Clock Rate Circuits (5:15pm)

Arnold H. Silver, Consultant; Quentin P. Herr, TRW Space & Electronics Group.

1EK06 Demonstration of chip-to-chip propagation of single flux quantum pulses (5:30pm)

M. Maezawa, H. Yamamori, A. Shoji, Electrotechnical Laboratory.

1EK07 Interface Circuit Using JTL as A Control Line of The JI Array (5:45pm)

Y. Tarutani, K. Saitoh, K. Takagi, Advanced Research Laboratory, Hitachi, Ltd..

1EK08 A Hybrid Data-Link for High Speed Digital Superconducting Electronics (6:00pm)

Michael Leung, Kevin Kobayashi, Benjamin Tang, TRW.

1EK09 Modeling superconducting components based on the fabrication process and layout dimensions (6:15pm)

Willem Perold, Coenrad Fourie, University of Stellenbosch.

1EL HTS Filter Technology**1EL01 Next Generation HTS Filters (4:00pm)**

Heinz Chaloupka, University of Wuppertal .

1EL02 Highly Miniature HTS Microwave Filters (4:30pm)

H.T Su, F Huang, M.J Lancaster, University of Birmingham.

1EL03 A Compact HTS Filter Subsystem (4:45pm)

Kyohei Murayama, Yoshifumi Maeda, Fumikazu Imai, Yoshikatsu Hiratsuka, Yoon-Myung Kang, MEC Laboratory, DAIKIN INDUSTRIES,LTD..

1EL04 Superconducting Filters with Magnetic Tuning (5:00pm)

Daniel Oates, Alfredo Anderson, Gerrald Dionne, MIT Lincoln Laboratory.

1EL05 Adjustable Multilayer HTS Filters (5:15pm)

K. Chen, Materials Research Laboratories, Industrial Technology Research Institute; R. J. Lin, Industrial Technology Research Institute; M. J. Chen, H. W. Yu, N. L. Chiu, H. C. Yang, Department of Physics, National Taiwan University, Taipei 106, Taiwan; L. M. Wang, Department of Electrical Engineering, Da-Yeh University, Chang-Hwa 515, Taiwan; C. Y. Huang, Center for Condensed Matter Science, National Taiwan University, Taipei, Taiwan.

1EL06 Active Tuning of High Frequency HTS Resonator and Filter (5:30pm)

Hui Xu, EE, Columbia University; Erzhen Gao, Q.Y. Ma, EE, Columbia .

1EL08 Narrow-band 10-pole YBCO filter on sapphire substrate (6:00pm)

I. Vendik, A. Deleniv, A. Svishchev, M. Goubina, St.-Petersburg Electrotechnical University, St.-Petersburg, 197 376, Russia; A. Zaitsev, R. Schneider, J. Geerk, R. Aidam, Research Center Karlsruhe, Institute of Solid State Physics, Karlsruhe, D-76021, Germany.

Tuesday Plenary Sessions (Pavilion Convention Center) 8:30am - 10:00am**2AP2 Critical Currents: Just How Critical Are They?**

David C. Larbalestier, Applied Superconductivity Center, Department of Materials Science and Engineering and Department of Physics, University of Wisconsin, Madison WI 53706 USA.

2AP3 Superconductivity, An Enabling Technology for 21st Century Power Systems?

William Hassenzehl, Advanced Energy Analysis, 3756 Grand Avenue #404, Oakland, CA 94611.

Tuesday Poster Sessions (Pavilion Convention Center) 10:00am - 12:00pm**2EA Advanced LTS JJ Technology II****2EA01 Micron and Submicron Nb/Al-AIOx-Al/Nb Tunnel Junctions with High Critical Current Densities**

Xiaofan Meng, Andre Wong, Theodore Van Duzer, Dept. of EECS, University of California at Berkeley.

2EA02 SFQ pulses from deep-submicron Josephson junctions

Songtao Xu, Cesar A. Mancini, Alan M. Kadin, Marc J. Feldman, University of Rochester Department of Electrical and Computer Engineering.

2EA03 Retargeting RSFQ Cells to a Sub-micron Fabrication Process

Darren Brock, Alex Kirichenko, Oleg Mukhanov, HYPRES; Dmitry Zinoviev, Paul Bunyk, James Lukens, SUNY Stony Brook; Mark Bocko, Marc Feldman, U. Rochester; Steve Whiteley, Whiteley Research, Inc..

2EA04 Fabrication of Sub-Micron Josephson Junctions for 100 GHz Digital Circuit

John Przybysz, Donald Miller, Northrop Grumman STC.

2EA05 Fabrication of ultra-small tunnel junctions by direct electron beam writing

Thomas Wagner, Detlef Born, Wolfram Krech, Uwe Huebner, FSU Jena; Ludwig Fritzsche, IPHT Jena.

2EA06 Fabrication of SIS Junctions for FIRST-HIFI-Channel 1 using Negative Resist E-beam Lithography

I. Péron, DEMIRM-IRAM; P. Pasturel, K.-F. Schuster, IRAM.

2EA07 Precise patterning technique for Nb junctions using optical proximity correction method

Masahiro Aoyagi, Hiroshi Nakagawa, Hiroshi Sato, Hiroshi Akoh, Electrotechnical Laboratory, Tsukuba, Ibaraki, Japan.

2EB Microwave Filters (excluding wireless)**2EB01 YBa₂Cu₃O₇ on Y-Stabilized ZrO₂ buffered (100) Si -- T Resonator Microwave Characteristics**

Yu. A. Vlasov, J. M. Vargas, P. Brown, G. L. Jr. Larkins, Florida International University.

2EB02 HTS microstrip bandpass filters using H-type resonators

Dong-Chul Chung, Han Byoung-Sung, Division of Information, Communication and Computer Eng., Woosuk University, Wanju, Chonbuk, 565-701, Korea; Lim Hae-Ryong, Dept. of Physics, Young-Nam University.

2EB03 Superconducting Half-Wave Microwave Resonator on YSZ Buffered Si(100)

Jorge Vargas, Philip Brown, Tasharruf Khan, Yazan Hijazi, Yuri Vlasov, Grover Larkins, Florida International University.

2EB04 Fixed-Frequency and Frequency Agile HTS Microstrip Bandstop Filters for L-Band Applications

Felix A. Miranda, NASA GRC, Cleveland,OH; Guru Subramanayam, University of Dayton, Dayton, OH ; Fred W. Van Keuls, Robert R. Romanofsky, NASA GRC, Cleveland, OH.

2EB05 Phase Shifter Made of YBCO Striplines on 3 Inch LaAlO₃ Wafers

G. Koren, N. Levy, E. Polturak, Technion; Y. Koral, Elisra.

2EB06 A General Electromagnetic Simulation Tool to Predict the Microwave Nonlinear Response of Planar, Arbitrarily-Shaped HTS Structures

Josep Parron, Carlos Collado, Jordi Mateu, Juan Manuel Rius, Nuria Duffo, Juan O'Callaghan, Universitat Politècnica de Catalunya (UPC).

2EB07 Model analysis of HTS Spiral MRI Coils

Erzhen Gao, Q.Y. Ma, Columbia University.

2EB08 Design, Fabrication, and Characterization of Multi-Layer HTS RF Filters

Shapur Sahba, Columbia University, IEEE member, U.S. Army, CECOM-RDEC; Erzhen Gao, Q.Y. Ma, Electrical Engineering Department, Columbia University, New York, N.Y.

2EB09 Fabrication of HTS Hairpin Type Filter with the Center Frequency of 22 GHz.

Cheol-Su Kim, Seok Cheon Song, Sang Yeol Lee, Department of Electrical Engineering, Yonsei University.

2EB10 High Temperature Superconductive Microwave Filters for Space Applications

Jagdish P. Shivhare, P.P. Vaidya, S. Shrinivasulu, C.N. Lal, D. Balasubramanyam, A.D. Dave, O.P. Kaushik, Space Application Center, ISRO..

2EB11 Further Development of a Future ESM Channeliser with High Temperature Superconducting Filters

R.F. Jeffries, R.B. Greed, D.C. Voyce, BAE SYSTEMS, Marconi Research Centre; G. Nudd, MAv, Stanmore, Middlesex; R.G. Humphreys, S.W. Goodyear, DERA, Malvern, Worcester.

2EB12 A Ka-band microstrip band-pass filter using double-sided YBCO films

T. Yoshitake, W. Hattori, S. Murakami, S. Suzuki, NEC Corporation.

2EC Bi Crystal and Junction Physics

2EC01 Theory of Resonant Tunneling in NSmD Structures with 2D-electron transport in Sm layer.

Igor Devyatov, Denis Goncharov, Mikhail Kupriyanov, Moscow State University, Institute of Nuclear Physics.

2EC02 YBCO Josephson junctions on bicrystal sapphire substrates for submm wave applications

K. Y. Constantinian, G. A. Ovsyannikov, I. V. Borisenko, A. D. Mashtakov, Institute of Radio Engineering and Electronics RAS; N. G. Pogosyan, A. A. Hakhoumian, Institute of Radiophysics and Electronics Armenian NAS; J. Mygind, N. F. Pedersen, Department of Physics, Technical University of Denmark.

2EC04 Controlled adjustments of High-Tc Josephson Junctions by Doping their Electrodes

C.W. Schneider, G. Hammerl, R.R. Schulz, B. Goetz, A. Schmehl, H. Bielefeldt, J. Mannhart, University of Augsburg; H. Hilgenkamp, University of Twente.

2EC05 Superconducting current - phase dependence in Josephson YBCO bicrystal junctions on sapphire

I. V. Borisenko, G. A. Ovsyannikov, K. Y. Constantinian, A. D. Mashtakov, Institute of Radio Engineering and Electronics, Russian Academy of Sciences, Moscow .

2EC06 Effect of grain boundary angle on noise correlation in grain boundary junctions

P. Mikheenko, S. Corner, F. Wellhofer, R. Chakalov, M.S. Colclough, C.M. Muirhead, School of Physics, University of Birmingham, UK.

2EC07 Faceting of grain-boundary and spread of critical currents in thin-film YBCO bicrystal junctions.

P. Shadrin, Institute of Radioengineering and Electronics, Russian Academy of Sciences, Moscow, 103907, Russia; Y. Divin, IFF-IMF, Forschungszentrum Juelich GmbH, Juelich, D-52425, Germany.

2EC08 Spin injection into HTS materials and grain boundary junctions

P. Mikheenko, J. Ireland, M. Allsworth, C. Severac, F. Wellhofer, R. Chakalov, C.M. Muirhead, M.S. Colclough, School of Physics, University of Birmingham, UK.

2EC09 Capacitance as a probe of high angle grain boundary transport in oxide superconductors

Edward Tarte, Philip McBrien, James Ransley, Frank Kahlmann, Jan Evetts, IRC in Superconductivity, Madingley Road, Cambridge, CB3 0HE UK; Edward Romans, Colin Pegrum, Department of Physics and Applied Physics, Strathclyde University, Glasgow, G4 0NG, UK.

2EC10 Manifestation of interface bound states in current-phase relationship of HTS Josephson junctions

A.A. Golubov, H. Rogalla, University of Twente, Dept. of Applied Physics, P.O. Box 217, 7500 AE Enschede, The Netherlands; E. Il, H.E. Hoenig, H.-G. Meyer, IPHT Jena, P.O. Box 100239, D-07702 Jena, Germany; M.Yu. Kupriyanov, Moscow State University, Moscow, Russia; M. Siegel, ISI KFA Juelich, Germany.

2EC11 Inelastic Resonant Tunneling Effects in Conductivity and Microwave Response of YBaCuO Josephson Junctions formed on Bicrystal Boundary

Aleksandr Verevkin, Yale University; Andrej Lipatov, Denis Meledin, Vadim Ilyin, MSPU.

2EC12 Andreev reflection in layered structures: implications for high critical temperature grain boundary Josephson junctions

Alexander Golubov, University of Twente; Francesco Tafuri, INFN - Seconda Universita.

2EC13 Two-states complementary behavior of an all high Tc dc pi-SQUID

B. Chesca, R. Schulz, B. Goetz, C. Schneider, H. Hilgenkamp, J. Mannhart, University of Augsburg.

2EC14 YBa2Cu3O7 Bicrystal Grain Boundary Junction Microstructure

Jerome A. Luine, TRW; Alexander M. Klushin, Forschungszentrum Jülich GmbH, Institut für Schicht-und Ionentechnik; Vladimir Z. Kresin, Lawrence Berkeley Laboratory.

2ED Tunable Microwave Devices

2ED01 Laser Trimming for Tuning HTS Microwave filters

Simon Goodyear, Nick Parker, Richard Humphreys, DERA Malvern.

2ED02 High Temperature Superconducting Ferrite Phase Shifter with New Latching Structure

K.S.K. Yeo, M.J. Lancaster, University of Birmingham.

2ED03 Tuning Properties of 2GHz Superconducting Microstrip-line Filters

H. Fuke, Y. Terashima, H. Kayano, M. Yamazaki, F. Aiga, H. Yoshino, Y. Suzuki, R. Katoh, Toshiba Corporation.

2ED04 Frequency Agile Microwave Filters Based on YBCO/STO Heterostructure on LAO Substrate

B. Marcilhac, Y. Lemaitre, D. Mansart, J.C. Mage, THOMSON-CSF; P. Woodall, K. Bouzehouane, J.P. Contour, CNRS.

2ED05 Effect of Varying Dielectrics on YBCO for use in MEMS Capacitive Switches

Alfredo Corrales, Florida International University (FIU); James Reid, John Derov, AFRL; Grover Larkins, Yuri Vlasov, FIU.

2ED06 1/2 wave YBa2Cu3O7 on LaAlO3 Resonators with Tunable BaTiO3 and SrTiO3 coupling capacitors

G.L. Larkins, Jr., Yu.A. Vlasov, P. Brown, J.M. Vargas, Florida International University.

2ED07 Broadband and Low Driving-Voltage LiNbO3 Optical Modulator with High Tc Superconducting Transmissionline

K. Yoshida, H. Takeuchi, H. Morita, H. Kanya, Kyushu University; Y. Kanda, Fukuoka Institute of Technology; T. Uchiyama, Z. Wang, CRL.

2ED08 An Integrated HTS and Schottky Barrier Diode Circuit for Bandwidth Modulation.

Dr. M. W. Hosking, University of Portsmouth.

2ED09 Transmission characteristics of HTS microstrip resonators with a ferrite component

T. Nurgaliev, Institute of Electronics BAS, Bulgaria ; S. Miteva, Institute of Electronics BAS, Bulgaria; A. Jenkins, D. Dew-Hughes, University of Oxford, UK.

2ED10 Strontium titanate thin films for tunable YBCO microwave filters

Brian Moeckly, Yongming Zhang, Conductus, Inc..

2ED11 Enhanced Microwave Power from Triangular Arrays of Josephson Junctions

Pasqualina Caputo, Alexey V. Ustinov, Physikalisches Institut III, Universitaet Erlangen-Nuernberg; Stan Yukon, Air Force Research Laboratory, SNHE Hanscom AFB, MA 01731-5000; Nathaniel Lin, ARCON Corporation, 260 Bear Hill Road, Waltham, MA 02154.

2ED12 Phase Shifting in a Josephson Junction Active Antenna Array

Stanford Yukon, Air Force Research Laboratory/SNHE, Hanscom AFB; Freeman Lin, ARCON Corporation.

Tuesday Oral Sessions (Doubletree Hotel) 12:00pm - 1:00pm

2EE Advances in Low-Tc Digital Electronics

2EE01 Superconducting digital electronics (12:00pm)

Shuichi Tahara, NEC Corporation, Fundamental Research Laboratories, 34 Miyukigaoka, Tsukuba 305-8501, Japan.

2EE02 TBD (12:30pm)

T. Sterling, JPL/Cal Tech..

2EF Bolometric Detectors

2EF01 Micromachined Arrays of Transition Edge Sensor Microcalorimeters (12:00pm)

S. Deiker, G. C. Hilton, K. D. Irwin, J. M. Martinis, S. W. Nam, D. A. Wollman, NIST.

2EF02 Hot-Electron Microbolometer with Capacitive Coupling to the Antenna by Tunnel Junctions. Experimental Results (12:15pm)

L. Kuzmin, B. Choi, D. Chouvaev, M. Tarasov, Chalmers University.

2EF03 Superconducting Detectors using Quasiparticle Trapping and Transition-Edge Sensors to Search for Dark Matter WIMPs (12:30pm)

Blas Cabrera, Stanford University for the CDMS Collaboration.

Tuesday Poster Sessions (Pavilion Convention Center) 2:00pm - 4:00pm

2EG HTS Filters for Telecommunications Applications

2EG01 A superconducting planar filter using dual-mode cross-slotted square resonators

A. Cassinese, F. Palomba, G. Pica, A. Andreone, G. Panariello, F. Schettino, Universita.

2EG02 Design of High-Temperature Superconducting Low-Pass Filter for Broad-Band Harmonic Rejection

Min Hwan Kwak, Sang Hyun Kim, Gyeongsang National Univ., Rep. of Korea; Jun-Seok Park, Dal Ahn, Soonchunhyang Univ., Rep. of Korea; Seok Kil Han, Kwang Yong Kang, Electronics and Telecommunications Research and Institute, Rep. of Korea.

2EG03 The influence of packaging losses on the unloaded quality factor of HTS microstrip resonators

Michael Reppel, University of Wuppertal, Germany.

2EG04 Narrow-band YBCO filter with quasi-elliptic characteristic

I. Vendik, A. Deleniv, V. Sherman, A. Svishchev, V. Kondratiev, D. Kholodniak, P. Yudin, St.-Petersburg Electrotechnical University, St.-Petersburg, 197 376, Russia; B.-C. Min, Y.H. Choi, B. Oh, LG Corporate Institute of Technology, Seoul, 137-724, Korea.

2EG05 High power microstrip HTS filter on sapphire substrate for microwave application

V. Kondratiev, E. Jakku, S. Leppaeuori, University of Oulu, Finland; I. Vendik, Electrotechnical University, St. Petersburg, Russia; A. Zaitsev, R. Schneider, J. Geerk, IFP, Forschungszentrum Karlsruhe, Germany.

2EG06 Design and Fabrication of Multilayer Dual Temperature Filters

K. Chen, Materials Research Laboratories, Industrial Technology Research Institute, Hsinchu 310, Taiwan; H. W. Yu, M. J. Chen, J. H. Chen, N. L. Chiu, H. C. Yang, Department of Physics, National Taiwan University, Taipei 106, Taiwan; L. M. Wang, Department of Electrical Engineering, Da-Yeh University, Chang-Hwa 515, Taiwan; C. Y. Huang, Center for Condensed Matter Science, National Taiwan University, Taipei 106, Taiwan.

2EG07 Miniaturized HTS Coplanar Waveguide Bandpass Filters with Highly Packed Meanderlines

K. Yoshida, T. Shinto, T. Nakamura, H. Kanaya, Kyushu University; T. Uchiyama, Z. Wang, CRL.

2EG08 Bandpass filter using Bi2223 thick films on Ba(Sn,Mg,Ta)O3 ceramics

N. Matsui, Y. Kintaka, T. Tatekawa, J. Hattori, H. Tamura, Y. Ishikawa, Murata Manufacturing Co., Ltd.; A. Oota, Toyohashi University of Technology.

2EG09 Fabrication of cross-coupled band-pass filter using HTS microstrip resonators

B. -C. Min, Y. H. Choi, S. K. Kim, B. Oh, LG Corporate Institute of Technology.

2EG10 A Superconducting Based Front End Receiver for GSM1800 Base Stations

G. Pica, A. Andreone, A. Cassinese, M. Iavarone, P. Orgiani, F. Palomba, M. Salluzzo, R. Vaglio, Università di Napoli; R. Monaco, Università di Salerno; R. Russo, Università di Roma.

2EG11 An HTS hairpin microstrip filter for IMT-2000 base stations with steep attenuation

Wataru Hattori, Tsutomu Yoshitake, Yoshihiro Kitagawa, Hisako Iwata, Kumiharu Takahashi, NEC Corporation.

2EG12 High-Q Cryogenic Dielectric Resonator Filters of C-band and Ku-band

H. R. Yi, N. Klein, Institut für Schicht- und Ionentechnik (ISI), Forschungszentrum Jülich (FZJ).

2EG13 High Performance Cryogenic Packaging for Microwave Applications of High Temperature Superconductors

R. B. Greed, R. F. Jeffries, D. C. Voyce, A. J. Barkway, Marconi Research Centre.

2EH Ramp-Type and Trilayers

2EH01 High Tc superconducting Josephson junctions with a continually graded YPrBaCuO barrier

J. Gao, J.L. Sun, Department of Physics, The University of Hong Kong.

2EH02 High-Tc ramp-type junctions with doped superconducting electrodes

I. Oomen, G.J. Gerritsma, H. Hilgenkamp, H. Rogalla, University of Twente.

2EH04 High-Tc Ramp-Type Josephson Junctions with ferromagnetic barriers

M. Q. Huang, Z. G. Ivanov, P. V. Komissinski, T. Claeson, Department of Microelectronics and Nanoscience, Chalmers University of Technology.

2EH05 YBa2Cu3O7-d / Au / Nb ramp-type Josephson junctions

H.J.H. Smilde, H. Hilgenkamp, G.J. Gerritsma, D.H.A. Blank, H. Rogalla, University of Twente.

2EH06 Strength Problems of HTS Josephson Junctions Based on the SIS Configuration*

I.A. Parinov, Mechanics and Applied Mathematics Research Institute, Rostov-on-Don 344090, Russia; E.V. Rozhkov, Mechanics and Applied Mathematics Research Institute, Rostov-on-Don 344090, Russia.

2EH07 YBaCuO/PrBaCuO/YBaCuO Trilayer Junctions on Vicinal Substrate

Ken Kuroda, Tetsuya Takami, Kazuhisa Nishi, Tatsuo Ozeki, Mitsubishi Electric Corporation.

2EH08 Properties of trilayers SIS junction with YBa₂Cu₃O_{7-y}

You-Song Jiang, Masataka Moriya, Tadayuki Kobayashi, Toshinari Goto, The University of Electro-Communications, 1-5-1, ChofugaoKa, Chofu-shi, Tokyo, Japan.

2EH09 Fabrication of c-axis oriented YBaCuO trilayer junctions with Ar plasma treatment

H. Sato, H. Akoh, Electrotechnical Laboratory; A. Kaneko, K. Hohkawa, Kanagawa Institute of Technology; T. Kaneda, H. Yamamoto, Nihon University.

2EI Digital Components I

2EI01 A Prescaler Circuit for a Superconductive Time-to-Digital Converter*

S. B. Kaplan, A. F. Kirichenko, O. A. Mukhanov, S. Sarwana, HYPRES, Elmsford NY, USA.

2EI02 Superconducting Low Phase Noise 100 GHz Clock

R.D. Sandell, J.L. Luine, A.G. Sun, M.S. Wire, TRW.

2EI03 Design of Superconducting Single Flux Quantum Decimation Filters

H. Hasegawa, T. Hashimoto, S. Nagasawa, H. Suzuki, K. Miyahara, Y. Enomoto, Superconductivity Research Laboratory, International Superconductivity Technology Center.

2EI04 Demonstration of 17GHz operation of M-code generator based on SFQ with Resettable Latch

Akira Akahori, Nobuo Takeuchi, Naoko Mori, Yasutoshi Suzuki, Futoshi Furuta, Akira Fujimaki, Hisao Hayakawa, Department of Quantum Engineering, Nagoya University, Japan.

2EI05 9 K operation of RSFQ logic cells fabricated by NbN integrated circuit technology

Hirota Terai, Zhen Wang, Kansai Advanced Research Center, Communications Research Laboratory.

2EI06 Experimental Verification of the 64-bit Integer Adder Critical Path

Paul Bunyk, SUNY.

2EI07 16-Kbit Superconducting Latching/SFQ Hybrid RAM

Shuichi Nagasawa, Haruhiro Hasegawa, Tatsunori Hashimoto, Hideo Suzuki, Kazunori Miyahara, Youichi Enomoto, Superconductivity Research Laboratory, ISTEK.

2EI08 Pipelined DC-Powered SFQ RAM

Alex Kirichenko, Oleg Mukhanov, Darren Brock, Saad Sarwana, HYPRES.

2EI09 A Single-Rail asynchronous SFQ adder

Mititada Morisue, Kazuhiro Ueda, Masahiro Sakamoto, Hisato Fujisaka, Hiroshima City Univ..

2EI10 Phase-mode pipelined parallel multiplier

Kiyoshi Yanagisawa, Seki Masashi, Takeshi Onomi, Koji Nakajima, R.I.E.C., Tohoku Univ..

2EI11 Evaluation of an RSFQ Multiplexer and Demultiplexer Designed for 50 GHz Operation

L. Zheng, X. Meng, A. Wong, S. Whiteley, T. Van Duzer, Department of Electrical Engineering and Computer Sciences, University of California, Berkeley

2EI12 Encoders and Decimation Filters for Superconductor Oversampling ADCs

Timur Filippov, Sergey Pflyuk, Vasili Semenov, SUNY, Stony Brook, NY 11794-3800 USA; Erland Wikborg, Ericsson MIC, Stockholm, 16481 Sweden.

2EI13 Flux Multiplier and Its Metrology Applications

V.K. Semenov, Yu. A. Polyakov, SUNY at Stony Brook, NY 11794-3800, USA. Erland Wikborg, Ericsson MIC, Stockholm, 16481 Sweden.

2EI14 Superconducting Second-Order Sigma-Delta Modulators Utilizing Multi-Flux-Quantum Generators

Tatsunori Hashimoto, Haruhiro Hasegawa, Shuichi Nagasawa, Hideo Suzuki, Kazunori Miyahara, Youichi Enomoto, Superconductivity Research Laboratory, International Superconductivity Technology Center.

2EI15 HTS integrated technology for RSFQ circuits

M.Q. Huang, P.V. Komissinski, A.Yu. Kidiyarova-Shevchenko, Z.G. Ivanov, T. Claeson, Chalmers University of Technology.

2EJ Bolometers and Non SIS Detectors

2EJ01 Design and Fabrication of Array-Compatible Voltage-Biased Superconducting Bolometers

J.M. Gildemeister, Adrian T. Lee, P.L. Richards, UC Berkeley.

2EJ02 An Ideal Integrating Bolometer Based on the Superconducting Penetration Depth

Michael DiPirro, Alan Kogut, Peter Shirron, Christine Allen, David Franz, NASA/Goddard; Charles Yeager, Lakeshore Cryotronics.

2EJ03 Fabrication and Characterisation of Hot Electron Bolometers for THz Applications

M. Frommberger, M. Schicke, K.F. Schuster, IRAM; F. Schäfer, MPIfR.

2EJ04 A waveguide hot-electron bolometer mixer using NbN film deposited on sapphire

C.Y.E. Tong, R. Blundell, Harvard-Smithsonian Center for Astrophysics; J. Kawamura, California Institute of Technology; D.C. Papa, T.R. Hunter, Harvard-Smithsonian center for Astrophysics; G. Gol, E. Gershenzon, Moscow State Pedagogical University.

2EJ05 Superconducting 2.5 THz Nb Hot Electron Bolometer Mixers Using Microstriplines

W.F.M. Ganzevles, T.M. Klapwijk, Dept. of Applied Physics, Delft University of Technology, Delft, The Netherlands; J.R. Gao, P.A.J. de Korte, Space Research Organization of the Netherlands, Utrecht, The Netherlands.

2EJ06 Antenna-coupled HiTc transition edge bolometers for mm-wave radiation

Mikko Kiviranta, Heikki Seppä, VTT Automation, Measurement Technology; Johanna Meltaus, Helsinki University of Technology, Material Physics Laboratory; Timo Kajava, Mikko Tuohiniemi, Antti Hakola, Martti Salomaa, Helsinki University of Technology, Material Physics Laboratory; Matti Lindström, Tomi Pietari, Toivo Katila, Helsinki University of Technology, Laboratory of Biomedical Engineering.

2EJ07 Ultrafast NbN Hot-Electron Single Photon Photodetector

A. Lipatov, C. Williams, R. Sobolewski, University of Rochester, Rochester, NY 14627, USA; O. Okunev, G. Chulkova, K. Smirnov, B. Voronov, A. Dzardanov, A. Semenov, Gregory Gol, Moscow State Pedagogical University, Moscow 119435, Russia.

2EJ08 Ultrafast Y-Ba-Cu-O Photodetector Based on the Nonequilibrium Kinetic Inductive Effect

Carlo Williams, Qitao Xie, Roman Adam, Roman Sobolewski, University of Rochester, Rochester, NY, 14627-0231; Oliver Harnack, Marian Darula, Research Center Juelich, D-52425 Juelich, Germany.

2EJ09 Terahertz spectral analysis by ac Josephson effect in high-Tc bicrystal junctions

Y. Y. Divin, U. Poppe, K. Urban, IFF-IMF, Forschungszentrum Juelich GmbH, Juelich, D-52425, Germany; O. Y. Volkov, V. V. Pavlovskii, Institute of Radioengineering and Electronics, Russian Academy of Sciences, Moscow, 103907, Russia.

2EJ10 Measurement of Terahertz Radiation Spectra from a Quasiparticle-Injected YBa₂Cu₃O_{7-y} Superconductor by a high-Tc Josephson Junction

Eiji Kume, Hirokazu Takahashi, Ienari Iguchi, Tokyo Inst. of Tech. and CREST-JST.

2EJ11 THz-Spectroscopy with YBa₂Cu₃O₇-Josephson junctions on LaAlO₃-Bicrystals

F. Ludwig, A. Kaestner, M. Volk, M. Schilling, Universität Hamburg.

2EJ12 Fabrication and Characterization of a Cryogenic AC-DC Converter

E. Monticone, U. Pogliano, Istituto Elettrotecnico Nazionale "G. Ferraris", Strada delle Cacce 91, I-10135, Torino, Italy.

2EJ13 Position Sensing Transition Edge Sensors as High Resolution X-ray Imaging Spectrometers

E. Figueroa-Feliciano, C. K. Stahle, R. P. Brekosky, J. D. Gygax, R. L. Kelly, M. Li, F. S. Porter, C. M. Stahle, N. Tralshawala, NASA Goddard Space Flight Center.

2EJ14 Radiometry at Submillimeter Wavelengths using a Transition Edge Sensor Array

J. A. Chervenak, E. N. Grossman, K. D. Irwin, C. D. Reintsema, NIST, Boulder; C. A. Allen, S. H. Moseley, NASA - Goddard Space Flight Center.

2EJ15 Operation of superconducting Nb/Al microstrips as radiation detectors

Sabino Maggi, Vincenzo Lacquaniti, IEN "G. Ferraris", Torino; Michela Greco, Ezio Menichetti, Giuseppina Rinaudo, Dipartimento di Fisica Sperimentale, Università.

Tuesday Oral Sessions (Doubletree Hotel) 4:00pm - 6:30pm

2EK Digital Components II

2EK01 Superconductive High Resolution ADC (4:00pm)

Oleg Mukhanov, Alex Kirichenko, Darren Brock, Wenquan Li, Deepnarayan Gupta, Hypres, Inc.; Johannes Vogt, Vasily Semenov, Timur Filippov, SUNY at Stony Brook.

2EK02 Performance of a Sigma-Delta Analog-to-Digital Converter Sampled at 2 GHz (4:15pm)

Donald Miller, Eric Dean, John Przybysz, Hodge Worsham, Northrop Grumman STC.

2EK03 Wide Bandwidth Oscillator/Counter A/D Converters (4:30pm)

Mark W. Johnson, Bruce J. Dalrymple, Dale J. Durand, TRW, Inc..

2EK04 Josephson Arbitrary Waveform Synthesizer for AC & DC Voltage Synthesis (4:45pm)

Samuel Benz, Charles Burroughs, Paul Dresselhaus, NIST.

2EK05 50 GHz RSFQ Pseudo-Random Number Generator Design (5:15pm)

Xingxiang Zhou, Songtao Xu, Pavel Rott, Cesar A. Mancini, Marc J. Feldman, Electrical and Computer Engineering Department, University of Rochester.

2EK06 60 Gbps Throughput Demonstration of An Asynchronous SFQ-pulse Arbitration circuit (5:30pm)

Shinichi Yorozu, Yoshio Kameda, Shuichi Tahara, NEC Corporation.

2EK07 Single-flux-quantum 4-stage Shift Register Based on YBCO Bicrystal Josephson Junction (5:45pm)

Jong-Hyeog Park, Taek-Sang Hahn, Young-Hwan Kim, Sang-Sam Choi, KIST; Joonhee Kang, Tae-Bong Jung, University of Incheon.

2EK08 Errors in Single-Flux-Quantum Circuits (6:00pm)

Marc J. Feldman, University of Rochester; Kris Gaj, George Mason University; Quentin P. Herr, TRW.

2EK09 Experiments and Simulations of Subpicosecond SFQ Pulse Propagation in Y-Ba-Cu-O Josephson Transmission Lines (6:15pm)

R Adam, C Williams, R Sobolewski, University of Rochester, Rochester, NY 14627; M Darula, Research Center Jülich, D-52425 Juelich, Germany.

2EL Detectors: DC to X-ray

2EL01 Highly Sensitive Uncooled Magnetometers : State Of The Art. Superconducting-Magnetic Hybrid Magnetometers, an alternative to SQUIDS (4:00pm)

Didier Robbes, Christophe Dolabdjian, Sébastien Saez, Yves Monfort, GREYC-UPRESA 6072, Caen, France; Gunter Kaiser, ILK, Dresden, Germany;

Petru Ciereanu, Ecole Polytechnique, Montreal, Canada .

2EL02 Design and performance of a high-temperature-superconductor current comparator for charged-particle-beam measurements (4:30pm)

L. Hao, D.A. Peden, J.C. Gallop, National Physical Laboratory, Teddington, TW11 0LW, UK; J.C. Macfarlane, C. Carr, University of Strathclyde, Glasgow G4 0NG, UK.

2EL03 A Solid-State Microrefrigerator for Operating Sensors Near 100 mK (4:45pm)

J.N. Ullom, M.L. van den Berg, S.E. Labov, Lawrence Livermore National Laboratory.

2EL04 Aluminum Hot-Electron Bolometer Mixers for Terahertz Frequencies (5:00pm)

Anders Skalare, William McGrath, Pierre Echemach, Henry LeDuc, Jet Propulsion Laboratory; Irfan Siddiqi, Aleksandr Verevkin, Daniel Prober, Yale University.

2EL05 Optical/UV Single Photon Imaging Spectrometers Using Superconducting Tunnel Junctions (5:15pm)

CM Wilson, L Frunzio, L Li, K Segall, DE Prober, Yale University; B Mazin, D Schiminovich, C Martin, California Institute of Technology; R Vasquez, NASA Jet Propulsion Laboratory.

2EL06 Anomalous Pumped and Unpumped I-V Characteristics of Nb SIS Terahertz mixers with NbTiN Striplines (5:30pm)

B. Leone, University of Groningen; B.D. Jackson, W.M. Laauwen, G. de Lange, Space Research Organization of the Netherlands; J.R. Gao, T.M Klapwijk, N.N. Iosad, Delft University of Technology.

2EL07 1 THz SIS Mixers with NbTiN/Al Tuning Circuits (5:45pm)

B. D. Jackson, G. de Lange, W. M. Laauwen, J. R. Gao, Space Research Organization of the Netherlands, Groningen, The Netherlands; N. N. Iosad, T. M. Klapwijk, Delft University of Technology, Department of Applied Physics (DIMES), Delft, The Netherlands.

Tuesday Public Lectures (Pavilion Convention Center) 8:00pm - 10:00pm

The Race for High Temperature Superconductivity

Paul (C.W.) Chu, University of Houston

Bringing Power to the People -- The Coming Age of Superconductivity

Paul Grant, Electric Power Research Institute (EPRI)

Wednesday Poster Sessions (Pavilion Convention Center) 2:00pm - 4:00pm

Welcome

Harold Weinstock, ASC Chairman, AFOSR; and Hermann Grunder, Director, Thomas Jefferson National Accelerator Facility

3EA SQUIDS for Biomagnetism

3EA01 Whole-head SQUID system of nano-meter SNS junctions in a superconducting magnetic shield

Hiroshi Ohta, Toshiaki Matsui, Communications Research Laboratory; Yoshinori Uchikawa, Tokyo Denki University.

3EA02 Low-noise biomagnetic measurements with a multichannel SQUID-System at 77 K

H.-J. Barthelmeß, M. Halverscheid, M. Schilling, Universitaet Hamburg.

3EA03 On the sensor head of a HTc SQUID-based fetal heart monitor

A.P. Rijpmma, H.J.M. ter Brake, E. de Vries, H.J. Holland, H. Rogalla, Department of Applied Physics, University of Twente, PO Box 217, 7500 AE Enschede, The Netherlands.

3EA04 Application of High Tc SQUID Magnetometer to Biological Immunoassays

Keiji Enpuku, Tadashi Minotani, Masahiro Hotta, Atsushi Nakahodo, Department of Electronics, Kyushu University.

3EA05 Application of High Tc SQUID Magnetometer for Sentinel-Lymph Node Biopsy

S. Tanaka, A. Hirata, Y. Saito, Toyohashi Univ. of Technology; Y. Tamaki, I. Sakita, M. Monden, Graduate School of Medicine, Osaka Univ..

3EA06 Reduction of Non-periodical Extramural Magnetic Noises in MEG Measurement by Continuously Adjusted Least Squares Method

Y. Adachi, M. Shimogawara, M. Higuchi, Kanazawa Institute of Technology; Y. Haruta, Yokogawa Electric Corp.; M. Ochiai, Keio University.

3EA07 16 channel operation of high Tc SQUID magnetometers for magnetocardiogram

H. C. Kwon, I. S. Kim, Y. H. Lee, J. M. Kim, Y.K. Park, Korea Research Institute of Standards and Science.

3EA08 HTS SQUID Gradiometry for Magnetocardiography Using Different Noise Cancellation Techniques

M. Bick, G. Panaitov, Y. Zhang, H.-J. Krause, FZJ, Germany; K. Sternickel, A. Effern, ISKP, Universitaet Bonn, Germany.

3EA09 Improvement of a Technique for Localization of Steel Needles in Humans Using a SQUID Magnetometer

C. Hall Barbosa, E. Costa Monteiro, E. Andrade Lima, P. Costa Ribeiro, Catholic University of Rio de Janeiro.

3EA10 High-Tc Superconducting rf Receiver Coils for Magnetic Resonance Imaging of Small Animals

Jaroslav Wosik, Feinian Wang, Mikhail Strikovski, Lei-Ming Xie, John H. Miller Jr., Texas Center for Superconductivity at University of Houston; Krzysztof Nesteruk, Polish Academy of Sciences, Warszawa, Poland; Mehmet Bilgen, Ponnada A. Narayana, Radiology Dept., University of Texas-Houston Medical School.

3EA11 High Temperature Superconducting RF Coils for MRI Application

Q.Y. Ma, E. Gao, The Jockey Club MRI Engineering Center, University of Hong Kong, Columbia University; K.C. Chan, J. Fang, M.S. Chow, K.K. Wong, E.S. Yang, The Jockey Club MRI Engineering Center, University of Hong Kong; H. Xu, E.X. Wu, Columbia University; D.F. Kacher, G.S. Young, F.A. Jolesz, Brigham and Women's Hospital, Harvard Medical School.

3EB Detectors II

3EB01 Single Photon 1-D Imaging X-ray Spectrometers

L. Li, K. Segall, C. Wilson, L. Frunzio, D. Prober, Department of Applied Physics, Yale University; A. Szymkowiak, S. Moseley, NASA Goddard Space Flight Center.

3EB02 Development of Submillimeter-wave Camera for Atacama Submillimeter Telescope Experiment

Hiroshi Matsuo, National Astronomical Observatory of Japan; Seiichirou Ariyoshi, Tohoku University; Hiromichi Akahori, Shinshu University; Masanori Takeda, Takashi Noguchi, Nobeyama Radio Observatory.

3EB03 RF Single Electron Transistor Readout Amplifiers for Superconducting Astronomical Detectors for X-ray to sub-mm Wavelengths

Thomas Stevenson, Orbital & NASA/GSFC; Abdelhanin Aassime, Per Delsing, Chalmers University; Luigi Frunzio, Liqun Li, Daniel Prober, Robert Schoelkopf, Ken Segall, Chris Wilson, Yale University; Carl Stahle, NASA/GSFC.

3EB04 Spatially resolved study of superconducting tunnel junction x-ray detectors by Low Temperature Scanning Synchrotron Microscopy

Harald Pressler, Masataka Ohkubo, Masaki Koike, Tatsuya Zama, Naoto Kobayashi, Electrotechnical Laboratory; Daiji Fukuda, University of Tokyo.

3EB05 A Microstrip-coil Integration on Superconducting Tunnel Junctions for X-ray Detector

T. Taino, H. Nakagawa, M. Aoyagi, H. Sato, H. Akoh, Electrotechnical Laboratory; K. Maehata, K. Ishibashi, Kyushu University; H. Sato, T. Ikeda, H.M. Shimizu, Riken.

3EB06 A High-resolution X-ray Detection System using STJ and SQUID Amplifier

Tokihiko Ikeda, H. Sato, H. Kato, K. Kawai, H. Miyasaka, T. Oku, W. Ootani, C. Otani, H. M. Shimizu, Y. Takizawa, H. Watanabe, Riken; H. Nakagawa, H. Akoh, M. Aoyagi, Electrotechnical Laboratory; T. Taino, Kyushu University.

3EB07 Spectral Features of Substrate Phonon Events Obtained with Superconducting Tunnel Junctions by Illuminating with X-rays

C. Otani, T. Ikeda, H. Kato, K. Kawai, H. Miyasaka, T. Oku, W. Ootani, H. Sato, H.M. Shimizu, Y. Takizawa, H. Watanabe, Riken; H. Nakagawa, H. Akoh, M. Aoyagi, T. Taino, ETL.

3EB08 Detection of Heavy Ions using Nb-based Superconducting Tunnel Junction

Hiromi Sato, Hirohiko M. Shimizu, Yoshiyuki Takizawa, Wataru Ootani, Fuyuki Tokanai, Koji Morimoto, Isao Tanihata, Riken; Hiroshi Akoh, Hiroshi Nakagawa, Masahiro Aoyagi, Electrotechnical Laboratory.

3EB09 Imaging sub-millimeter waves in planar cryoelectronic circuits by low temperature scanning laser microscopy

D. Abramov, A. V. Ustinov, Physics Institute III, University of Erlangen-Nuremberg, Germany; S. V. Shitov, Institute of Radio Engineering and Electronics, Moscow, Russia.

3EB10 Development of superconducting tunnel junctions for ultra soft x-ray detectors

Y. Takizawa, T. Ikeda, W. Ootani, C. Otani, T. Oku, H. Kato, K. Kawai, H. Sato, H.M. Shimizu, H. Miyasaka, H. Watanabe, Riken; H. Nakagawa, H. Akoh, M. Aoyagi, ETL; T. Taino, Kyusyu University.

3EB11 The Radio Frequency Single-Electron Transistor: towards the quantum limit

A. Aassime, P. Delsing, Department of Microelectronics and Nanoscience, Chalmers University of Technology and Goteborg University, S-412 96 Goteborg, Sweden; R.J. Schoelkopf, Department of Applied Physics, Yale University, 15 Prospect St., New Haven, CT 06520-8284.

3EC I/O and Mixed Signal Components

3EC01 Fabrication of an RSFQ-based voltage multiplier using magnetic coupling

M. Maezawa, S. Kiryu, F. Hirayama, H. Sasaki, A. Shoji, Electrotechnical laboratory.

3EC02 Magneto-Optical Modulator for Superconducting Digital Output Interface

Qitao Xie, Jung-Rae Park, Roman Sobolewski, University of Rochester, Rochester, NY 14627.

3EC03 A Multi-Pin, Multi-GHz, Flip-Chip System Suitable for Superconducting Circuit Testing

M. S. Wire, TRW; D. J. Durand, M. K. Wagner, TRW; A. H. Silver, Consultant; C. A. Hamilton, NIST, Boulder.

3EC04 Cryogenic packaging for a 10 Teraflops superconductor electronics computer

T. S. Tighe, L. A. Abelson, M. Leung, Q. P. Herr, TRW, Redondo Beach, CA, USA.

3EC05 High-Speed Interchip Data Transmission Technology for Superconducting Multi-chip Modules

Deepnarayan Gupta, Wenquan Li, Steven Kaplan, HYPRES Inc..

3EC06 Component Development for a 16 Gb/s RSFQ - CMOS Interface System

N. Yoshikawa, T. Abe, Y. Kato, H. Hoshina, Yokohama National University.

3ED Bolometers and Microcalorimeters

3ED01 Microfabricated Transition-Edge X-ray Detectors

G. C. Hilton, John M. Martinis, K. D. Irwin, N. F. Bergren, D. A. Wollman, S. Deiker, S. W. Nam, NIST, Boulder.

3ED02 Performance of a Small Array of Superconducting Transition Edge Sensor Spectrophotometers for Astronomical Applications

Sae Woo Nam, John Martinis, NIST; Aaron Miller, Blas Cabrera, Roger Romani, Stanford University.

3ED03 A Study of Different Types of Superconducting Absorbers Coupled to Transition Edge Sensors for Hard X-Ray and Soft Gamma-ray Spectrometry

Marcel L. van den Berg, Daniel T. Chow, Mark F. Cunningham, Alex Loshak, Troy W. Barbee Jr., Simon E. Labov, Lawrence Livermore National Laboratory, P.O. Box 808 L-418, Livermore CA 94550, USA.

3ED04 Gamma-ray Spectrometers using Bulk Absorbers coupled to Mo/Cu Multilayer Superconducting Transition Edge Sensors with External Active Feedback Bias

Daniel Chow, Mark Cunningham, Lawrence Livermore National Lab/U.C. Davis; Marcel van den Berg, Troy Barbee, Jr., Matthias Frank, Simon Labov, Lawrence Livermore National Lab.

3ED05 Performance analysis of X-ray microcalorimeters for astrophysics

P.A.J. de Korte, W.M. Bergman Tiest, M.P. Buijrn, H.F.C. Hoevers, J. van der Kuur, W.A. Mels, M. Larbalestier, Space Research Organisation Netherlands.

3ED06 Fabrication and characterization of superconducting X-ray calorimeters with transition edge sensors

T. Morooka, K. Tanaka, S. Nakayama, A. Nagata, K. Chinone, Seiko Instruments Inc.; M. Ukibe, M. Ohkubo, M. Koyanagi, Electrotechnical Laboratory.

3ED07 Towards Development of Microcalorimeter Arrays of Mo/Au Transition-Edge Sensors with Bismuth Absorbers

Nilesh Tralshawala, Mary Li, Raytheon ITSS and NASA-Goddard Space Flight Center, Greenbelt, MD, USA; Regis Brekosky, Swales Aerospace and NASA-Goddard Space Flight Center, Greenbelt, MD, USA; Enectali Figueroa-Feliciano, Stanford University, CA, and NASA-Goddard Space Flight Center, Greenbelt, MD, USA; Carl Stahle, Caroline Stahle, NASA-Goddard Space Flight Center, Greenbelt, MD, USA.

3ED08 Energy resolution of the superconducting transition edge micro-calorimeter operated in a resistive and in an inductive mode

Heikki Seppä, VTT Automation.

3ED09 IR bolometer on chemically-etched sapphire substrate.

Brook Lakew, John.C. Brasunas, NASA.

3ED10 Small area, thin films of YBCO on Si for applications of hot-electron bolometers

Leila Vale, Hisashi Shimakage, Ron Ono, National Institute of Standards and Technology.

3ED11 YBCO Mid-Infrared Bolometers: Substrate Influence on Inter-Pixel Crosstalk

Alain Gaugue, Johan Delerue, Anthony De Luca, Alain Kreisler, Laboratoire de Génie Electrique des Universités Paris 6 et Paris 11, UMR 8507 CNRS, Supélec; Fabrice Voisin, Geoffroy Klisnick, Michel Redon, Laboratoire des Instruments et Systèmes, Université Pierre et Marie Curie (Paris 6).

3ED12 New Bolometric Function of HTS Based on Microwave Absorption

Ki Itoh, A. Hashizume, V. V. Srinivasu, M. Tada, J. Yamada, H. Kohmoto, T. Endo, Faculty of Engineering, Mie University.

Wednesday Oral Sessions (Doubletree Hotel) 4:00pm - 6:30pm

3EE HTS Junctions

3EE01 High-temperature superconducting edge-type Josephson junctions with modified interface barriers (4:00pm)

T. Sato, M. Hidaka, S. Tahara, NEC; J. G. Wen, N. Koshizuka, S. Tanaka, ISTEC.

3EE02 a-axis YBa₂Cu₃O_{7-x} biepitaxial grain boundary junctions and dc-SQUIDS (4:30pm)

E. Sarnelli, G. Testa, Istituto di Cibernetica del CNR, Arco Felice I-80072 ITALY; F. Carillo, INFN Dipartimento Scienze Fische Università di Napoli Federico II, Napoli I-80125 ITALY; F. Tafuri, Dipartimento Ingegneria dell Seconda Università di Napoli.

3EE03 High-Tc dc pi-SQUIDS (4:45pm)

H. Hilgenkamp, R.R. Schulz, B. Goetz, C.W. Schneider, B. Chesca, H. Bielefeldt, J. Mannhart, Augsburg University.

3EE04 Nanometer scale masked ion damage barriers in YBCO (5:00pm)

W.E. Booij, F. Kahlmann, R. Speaks, E.J. Tarte, D.F. Moore, M.G. Blamire, IRC in Superconductivity, University of Cambridge, Madingley Road, Cambridge CB3 0HE, United Kingdom; N.H. Peng, R. Webb, C. Jeynes, SCRIBA, University of Surrey, Guildford GU2 5XH, England.

3EE05 D-wave scenario for the current-phase relationship of HTS Josephson junctions - expectations and experiment (5:15pm)

Evgeni Il, Rob Ijsselstein, Vyacheslav Zakosarenko, Hoenig Meyer Hans, Institute for Physical High Technology, Dept. of Cryoelectronics, P.O.B. 100 239, Jena, Germany.

3EE06 Analysis of IC Spreads in Interface Engineered Junctions (5:30pm)

J. Yoshida, S. Inoue, H. Sugiyama, T. Nagano, Advanced Materials & Devices Laboratory, Toshiba R&D Center.

3EE07 Study on Fabrication Conditions of the Interface-Treated Trilayer Junctions (5:45pm)

M. Maruyama, K. Yoshida, T. Kito, T. Furutani, Y. Yoshinaga, M. Horibe, M. Inoue, A. Fujimaki, H. Hayakawa, Nagoya Univ..

3EE08 Characterization of an HTS SFQ circuit using interface engineered Josephson junctions (6:00pm)

K. Saitoh, Y. Soutome, T. Fukazawa, Y. Tarutani, K. Takagi, ARL HITACHI.

3EE09 Influence of La-Doping of YBa2Cu3O7 on Transport Properties of Interface-Engineered Ramp-Edge Junctions (6:15pm)

J.-K. Heinsohn, J. Rodriguez, R. Debusmann, R. Dittmann, A.M. Klushin, M. Siegel, Institut für Schicht- und Ionentechnik, Forschungszentrum Juelich GmbH, Germany; C.L. Jia, Institut für Festkörperphysik, Forschungszentrum Juelich GmbH, Germany.

3EF Space and Terrestrial Systems and Applications

3EF01 On-Orbit Status of the High Temperature Superconductivity Space Experiment (HTSSE-II) (4:00pm)

M. Nisenoff, M. Nisenoff Associates, Kensington MD 20896-2748; W. J. Meyers, Honeywell, Camp Springs MD 20746.

3EF02 Development of Space-Qualifiable HTS Communication Subsystems (4:30pm)

R. R. Mansour, T. Romano, G. Thomson, S. Ye, S. Peik, B. Jolley, COM DEV, 155 Sheldon Drive, Cambridge, Ontario, N1R 7H6 Canada; T. Nast, D. Enlow, Lockheed Martin; C. Wilker, DuPont; J. Warner, NASA.

3EF03 The Technion HTSC Space Experiment- Status Report (5:00pm)

Emil Polturak, Physics Department, Technion, Haifa 32000, Israel; Gad Koren, same; Moshe Guelman, Asher Space Institute, Technion, Haifa 32000, Israel.

3EF04 Progress in Low Noise Cooling Performance of a Pulse-Tube Cooler for HT-SQUID Operation (5:15pm)

C. Lienerth, G. Thummes, C. Heiden, IAP, University of Giessen, 35392 Giessen, Germany; R. Hohmann, ISI, Forschungszentrum Juelich, 52425 Juelich, Germany.

3EF05 Applications of SQUID Microscopy in Bio-Magnetism (5:30pm)

F. Baudenbacher, N.T. Peters, J.P. Wikswo, Living State Physics, Vanderbilt University, Nashville, TN; M. Radparvar, HYPRES, Inc., 175 Clearbrook Rd., Elmsford, NY.

3EF06 Magnetic-field dependence of low-frequency flux noise and spatial distribution of vortices in YBCO dc SQUIDS (6:00pm)

D. Koelle, R. Gross, Universität zu Köln; R. Straub, S. Keil, R. Kleiner, Universität Tübingen.

Thursday Plenary Sessions (Pavilion Convention Center) 8:30am - 10:00am

Welcome

Harold Weinstock, ASC Chairman, AFOSR; and Hermann Grunder, Director, Thomas Jefferson National Accelerator Facility

4AP4 SQUID Magnetocardiography: Status and Perspectives

Hans Koch, Physikalisch-Technische Bundesanstalt (PTB).

4AP5 Atomic-Layer Engineering of Superconducting Oxides: yesterday, today, tomorrow

Ivan Bozovic, OXXEL, Bremen, Germany.

Thursday Poster Sessions (Pavilion Convention Center) 10:00am - 12:00pm

4EA Detectors III

4EA01 Integrated Superconducting Receiver: fabrication and yield*

L.V. Filippenko, S.V. Shitov, P.N. Dmitriev, A.B. Ermakov, V.P. Koshelets, Institute of Radio Engineering and Electronics, Russian Academy of Sciences, Moscow, Russia; J.-R. Gao, SRON and Dep. of Applied Physics and Materials Science Center, Univ. of Groningen, the Netherlands.

4EA02 Energy and time resolved imaging with superconducting tunneling devices

Ph. Lerch, E.C. Kirk, A. Zehnder, Paul Scherrer Institute, CH-5232 Villigen PSI, Switzerland; H.R. Ott, Laboratorium fuer Festkörperphysik, ETH-Hoenggerberg, 8093 Zuerich.

4EA03 Submillimeter-Wave Photon-Counting Detectors Using SET Readouts

K. Segall, R.J. Schoelkopf, Yale University; T.R. Stevenson, Orbital and NASA/GSFC; C.M. Stahle, S.H. Moseley, NASA/GSFC; P. Wahlgren, A. Aassime, P. Delsing, Chalmers University of Technology.

4EA04 SIS Receivers for millimeter and submillimeter-wave detection

D. Andreone, L. Brunetti, V. Lacquaniti, R. Steni, J.R. Thorpe, IEN "Galileo Ferraris".

4EA05 Superconducting Tunnel Junctions for Near IR Photon Counting

B. Delaët, LAOG, CEA; P. Feautrier, LAOG; J-C. Villegier, CEA Grenoble; A. Benoit, CRTBT.

4EA06 The Soft X-ray Performance of Ta-based Superconducting Tunnel Junctions

P. Verhoeve, R. den Hartog, N. Rando, A. Peacock, G. Brammertz, D. Martin, Space Science Department of ESA, ESTEC, Noordwijk, The Netherlands; D.J. Goldie, Oxford Instruments Scientific Research Division, Cambridge, England.

4EA07 Superconducting Integrated Receiver: design principle and numerical analysis*

Sergey Shitov, Institute of Radio Engineering and Electronics (IREE RAS), Russian Academy of Sciences.

4EA08 Integrated Superconducting Receiver as 400-600 GHz Tester For Coolable Devices*

S.V. Shitov, V.P. Koshelets, G.V. Prokopenko, L.V. Filippenko, A.B. Ermakov, Institute of Radio Engineering and Electronics, Russian Academy of Sciences, Moscow, Russia; A.M. Shtanyuk, Institute of Applied Physics, Russian Academy of Sciences, Nizhny Novgorod, Russia; M. Levitchev, H. Kohlstedt, Institute of Thin Film and Ion Technology, Research Center Juelich, Germany; A.V. Veretennikov, Institute of Solid State Physics, Russian Academy of Sciences, Chernogolovka, Russia; A.V. Ustinov, Physics Institute III, University of Erlangen-Nuremberg, Erlangen, Germany.

4EA09 High Resolution Superconducting Tunnel Junction X-Ray Detector

S. Friedrich, O. Drury, M. Frank, S.E. Labov, Lawrence Livermore National Laboratory; S.P. Cramer, Lawrence Berkeley National Laboratory.

4EA10 A data acquisition system for test and control of superconducting integrated receivers

A. B. Ermakov, V. P. Koshelets, S. V. Shitov, Institute of Radio Engineering and Electronics, Moscow, Russia; A. M. Baryshev, W. Luinge, SRON-Groningen, Groningen, the Netherlands.

4EA11 Digital Readout Electronics For Arrays Of Superconducting Transition Edge Sensors

Sae Woo Nam, Gene Hilton, Dave Wollman, Jay Chervenak, Kent Irwin, Steve Deiker, John Martinis, NIST.

4EA12 A 200-300 GHz single sideband SIS mixer for radio telescope receivers

Alexandre Karpov, Caltech, USA ; Jacques Blondel, Dominique Billon-Pierron, Karl-Heinz Gundlach, IRAM, France.

4EB Miscellaneous Electronics

4EB01 Heat Sources in Electronic Refrigerators

Bostjan Jug, Zvonko Trontelj, Faculty of Mathematics and Physics, University of Ljubljana.

4EB02 Advanced Stirling cryogenic unit for cooling of a highly sensitive HTS/Hall-magnetometer used in a system for non-destructive evaluation

G. Kaiser, A. Binneberg, Institut für Luft- und Kältetechnik, Fachbereich Kryotechnik; S. Linzen, P. Seidel, Institut für Festkörperphysik, Friedrich-Schiller-Universität Jena.

4EB03 Sidelobe Suppression in Normal distribution-shaped Superconducting Tunnel Junctions

Katsuya Kikuchi, Takeshi Iizuka, Hiroaki Myoren, Susumu Takada, Faculty of Engineering, Saitama University.

4EB04 Self-radiation of Josephson junctions with the log-periodic antenna of high-temperature superconducting films

Kwang-Yong Kang, Jeong-Dae Suh, Seok-Kil Han, Ho-Young Kim, Electronics and Telecommunications Research Institute; Min-Hwan Kwak, KyungSang University.

4EB05 Quantum Roulette Noise Thermometer: Progress and Prospects

R. A. M. Lee, L. Hao, D. A. Peden, J. C. Gallop, National Physical Laboratory, Teddington, TW11 0LW; J. C. Macfarlane, E. J. Romans, University of Strathclyde, Glasgow, G4 0NG.

4EC Other SQUID Applications

4EC01 SQUID Detection of Magnetic Fields Produced by Chemical Reactions

James Claycomb, Wanda LeGrand, John H. Miller, Jr., University of Houston, Department of Physics and Texas Center for Superconductivity; Mikael Nerseyan, James Ritchie, Dan Luss, University of Houston, Department of Chemical Engineering.

4EC02 SQUID-Detected Nuclear Quadrupole Resonance

Robert McDermott, John Clarke, UCB Physics and LBNL.

4EC03 The High-TC RF-SQUID Magnetometer With a Copper Flux Transformer

Nicolai I. Firsov, Ilya L. Novikov, Radmir F. Khusnutdinov, Sergei B. Kvasov, Novosibirsk State Technical University.

4EC04 Integrated Cryogenic Current Comparators with dc SQUID readout for SET amplification

E. Bartolome, J. Flokstra, H. Rogalla, Low Temperature Division, Dep. Applied Physics, Univ. Twente, The Netherlands; A. Canon, C. Rillo, J. Sese, ICMA, CSIC-Univ. Zaragoza, Spain; G. Rietveld, NMI Van Swinden Lab., Dep. Electricity and Magnetism, The Netherlands.

4EC05 High Tc SQUID Gradiometer for Mobile Magnetic Anomaly Detection

T. Clem, D. Overway, J. Purpura, Naval Surface Warfare Center; R. Koch, G. Keefe, IBM ; J. Rozen, IBM.

4EC06 Electronic Gradiometer Using HTS SQUIDS with Very Fast Feedback Electronics

A. N. Matlashov, M. A. Espy, R. H. Jr. Kraus, Los Alamos National Laboratory, Los Alamos, NM 87545 ; K. R. Ganther, L. D. Snapp, Honeywell Federal Manufacturing & Technologies, Kansas City, MO 64141.

4EC07 Improved direct-coupled SQUID read-out electronics with automatic bias voltage tuning

D. Drung, S. Bechstein, K.-P. Franke, M. Scheiner, Th. Schurig, Physikalisch-Technische Bundesanstalt, 10587 Berlin, Germany.

4EC08 Magnetic Detection of a Surface Ship Using an Airborne LTS SQUID MAD

Megumi Hirota, Takashi Furuse, Kazunori Ebana, Hiroshi Kubo, Kouhaku Tsushima, TRDI, Japan Defense Agency; Takayuki Inaba, Akihiro Shima, Masakatsu Fujinuma, Naoyuki Tojyo, Kamakura Works, Mitsubishi Electric Co..

4EC09 Peculiarities of the HTS SQUID Magnetometer Application in Geophysical TEM Measurements.

G. Panaitov, M. Bick, Y. Zhang, FZI, Germany.

4EC10 Gigahertz band HTS SQUID amplifier

A.S. Kalabukhov, O.V. Snigirev, Physics Department, Moscow State University, 119899 Moscow, Russia; M.A. Tarasov, Z.G. Ivanov, Chalmers University of Technology, Department of Microelectronics, SE-412 96 Goteborg, Sweden; S.I. Krasnovobodtsev, Lebedev Institute of Physics, Russian Academy of Sciences, 117924 Moscow, Russia; E.A. Stepanov, Institute of Crystallography, Russian Academy of Sciences, 117333 Moscow, Russia.

4EC11 A HTS SQUID Picovoltmeter with Improved Noise Immunity

Jakob Blomgren, Dag Winkler, Chalmers University of Technology; Thomas Eriksson, ABB Corporate Research.

4EC12 HTS dc SQUID systems for geomagnetic prospection

V. Zakosarenko, A. Chwala, J. Ramos, R. Stoltz, V. Schultze, H.-G. Meyer, IPHT Jena, Dept. of Cryoelectronics, P.O.Box 217, D-07702 Jena, Germany; D. Kretzschmar, T. Radic, Technical University Berlin.

4EC13 Microwave induced steps in RF-Field-Driven dc SQUID and its potential applications

T. Kondo, Sendai National College of Technology and CREST JST; Y. Mizugaki, J. Chen, K. Nakajima, RIEC Tohoku University and CREST JST; K. Saito, RIEC Tohoku University; T. Yamashita, NICHe Tohoku University and CREST JST.

4EC14 Active Supercurrent Control in Superconductor/Ferromagnet Heterostructures.

R J Kinsey, G Burnell, M G Blamire, IRC in Superconductivity, University of Cambridge, UK.

4ED HTS SQUID and Junction Noise: Thermal and I/F

4ED01 Analysis of asymmetric dc SQUID configurations

G. Testa, S. Pagano, M. Russo, E. Sarnelli, C. R. Calidonna, M. Mango Furnari, Istituto di Cibernetica del CNR, I-80072 Arco Felice, ITALY.

4ED02 Voltage-flux-characteristics of asymmetric dc SQUIDs

J. Müller, A. Sterck, D. Koelle, Universität zu Köln, FZ Jülich; S. Weiss, R. Gross, Universität zu Köln; R. Kleiner, Universität Tübingen.

4ED03 The performance of high-Tc dc SQUID magnetometers with resistively shunted inductances compared to unshunted devices

F. Kahlmann, W. E. Booij, M. G. Blamire, P. F. McBrien, E. J. Tarte, IRC in Superconductivity, University of Cambridge, Cambridge CB3 0HE, UK; N. H. Peng, C. Jeynes, Surrey Centre for Research into Ion Beam Applications, University of Surrey, Guildford GU2 5XH, UK; E. J. Romans, C. M. Pegrum, Department of Physics and Applied Physics, University of Strathclyde, Glasgow G4 0NG, UK.

4ED04 Study of HTS DC SQUID devices with resistively shunted inductance

Y.Q. Shen, T. Holst, NKT Research Center A/S, Priorparken 878, Broendby, DK-2605, Denmark; P.R.E Petersen, Department of Clinical Neurophysiology, Rigshospitalet.

4ED05 Direct detection of vortex motion in high-Tc grain boundary junctions

S. Hirano, S. Kuriki, Hokkaido Univ; M. Matsuda, Muroran Institute of Technology; T. Morooka, S. Nakayama, Seiko Instruments Inc..

4ED06 Noise analysis of the dc SQUIDs

Heikki Seppä, VTT Automation, Otakaari 7B, Finland 02150.

Thursday Oral Sessions (Doubletree Hotel) 12:00pm - 1:00pm

4EE Quantum Computing II

4EE01 Title to be provided (12:00pm)

Y. Nakamura, NEC Fundamental Research Labs, Tsukuba, Japan.

4EE02 Demonstration of coherent superposition of states of a SQUID qubit (12:30pm)

J. Lukens, SUNY Stony Brook.

4EF HTS SQUID

4EF01 Improving the performance of single-layer gradiometers for unshielded operation (12:00pm)

C.M. Pegrum, A.J. Millar, E.J. Romans, C. Carr, A. Eulenburg, P. Maas, G.B. Donaldson, University of Strathclyde.

4EF02 Multilayer High-Tc SQUID Magnetometers Operating with Low 1/f Noise in 50mT Magnetic Fields (12:30pm)

M.S. DiIorio, K-Y. Yang, S. Yoshizumi, S. Haupt, D. Haran, MagnesSensors, Inc. San Diego; H-M. Cho, TeSUH Houston TX; Y. Andresen, John Clarke, UC Berkeley and LBNL Berkeley CA.

4EF03 Low-frequency noise reduction in YBCO SQUIDs by artificial defects (12:45pm)

Peter Selders, Roger Woerdenweber, Institute of Thin Film and Ion Technology, Research Centre Juelich.

Thursday Poster Sessions (Pavilion Convention Center) 2:00pm - 4:00pm

4EG HTS Circuits

4EG01 Design and Fabrication of SFQ RS Flip-Flop Utilizing YBCO Interface-Engineered Ramp-edge Junctions with a Ground Plane

Jong-Hyeog Park, Chang-Hoon Kim, Ku-rak Jung, Young-Hwan Kim, Taek-Sang Hahn, KIST; Joonhee Kang, University of Incheon.

4EG02 A Latching-Type Driver Circuit Using Capacitively-Shunted HTS Ramp-Edge-Type Junctions

T. Hato, N. Harada, Y. Ishimaru, A. Yoshida, N. Yokoyama, Fujitsu Limited.

4EG03 Quasi-particle injection device for the interface between superconductor and semiconductor

Hidehiro Shiga, Yoichi Okabe, RCAST, University of Tokyo.

4EG04 Frequency Locking of Josephson Junctions in Surface Wave Resonator

A. M. Klushin, E. Goldobin, M. Siegel, Forschungszentrum Juelich GmbH, ISI, Juelich, Germany; G.A. Melkov, O.M. Ivanyuta, Y.V. Egorov, Department of Radiophysics Kiev Taras Shevchenko University, Kiev, Ukraine.

4EG05 Reproducibility of HTS Edge Junctions*

*J. Talvacchio, B.D. Hunt**, M.G. Forrester, R.M. Young, S.V. Krishnaswamy, Northrop Grumman.*

4EG07 Ultra-small and long intrinsic Josephson junction devices from a lateral focused-electron-beam (FIB) etching method

Sang-Jae Kim, CREST-JST and RIEC, Tohoku Univ.; Yu. I. Latyshev, IREE RAS and CREST-JST; Tsutomu Yamashita, NICHE, Tohoku Univ. and CREST-JST; Naoki Sato, Fac. of Eng. Tottori Univ.; Satoru Kishida, Fac. of Eng., Tottori Univ..

4EH Mixers

4EH01 Terahertz-frequency waveguide NbN hot-electron bolometer mixer receiver

J. Kawamura, Caltech; E. Tong, R. Blundell, D. C. Papa, T. Hunter, Smithsonian Astrophysical Observatory; F. Patt, University of Arizona; G. Gol, E. Gershenzon, Moscow State Pedagogical University.

4EH02 Progress with Focused-Ion Beam (FIB) Fabrication of Hot-Electron Bolometer (HEB) Mixers

Aaron M. Datesman, Jian Z. Zhang, Arthur W. Lichtenberger, University of Virginia; Christopher K. Walker, University of Arizona.

4EH03 Dynamic range of frequency-selective response of high-Tc Josephson detector to millimeter-wave radiation.

Vadim Shirotov, Yuri Divin, Knut Urban, IFF-IMF, Forschungszentrum Juelich GmbH, Juelich.

4EH04 Noise and Conversion Efficiency of Aluminum Superconducting Hot-Electron Bolometer Mixer

Irfan Siddiqi, Aleksandr Verevkin, Daniel Prober, Yale University; Anders Skalare, Boris Karasik, William McGrath, Pierre Echtermach, Henry LeDuc, Jet Propulsion Laboratory.

4EH05 Terahertz heterodyne receiver based on a NbN hot-electron bolometric mixer

Serguei Cherednichenko, Matthias Kroug, Harald Merkel, Erik Kollberg, Chalmers University of Technology; Gregory Goltsman, Boris Voronov, Moscow State Pedagogical University.

4EH06 Study of the Phonon Relaxation in HTS Hot-Electron Bolometer Mixers

O. Harnack, K. Ilin, M. Siegel, Forschungszentrum Juelich GmbH; B. S. Karasik, W. R. McGrath, Center for Space Microelectronics Technology, Jet Propulsion Laboratory, Pasadena, USA; G. de Lange, Space Research Organization of the Netherlands, Groningen, The Netherlands.

4EH07 Mixer properties of YBCO operating in the kinetic inductive mode

Fredrik Rönning, Dag Winkler, Dept. of Microelectronics and Nanoscience, Chalmers University of Technology.

4EH08 Ka-Band High-Tc Superconductor and III-V Semiconductor Hybrid Balanced Mixer

Seok Kil Han, Jeong-Dae Suh, Gun Yong Sung, Su Jae Lee, Kwang-Yong Kang, ETRI.

4EH09 Noise Properties of HTS Josephson Mixers at 345 GHz and Operating Temperatures at 20 K

J. Scherbel, Institut für Schicht- und Ionentechnik (ISI), Forschungszentrum Jülich GmbH, 52425 Jülich, Germany; M. Darula, O. Harnack, M. Siegel, ISI; D. Diehl, Radiometer Physics GmbH (RPG), 53340 Meckenheim, Germany; P. Zimmerman, RPG.

4EI Novel Digital Design Concepts and Demos

4EI01 Design and Demonstration of Fundamental Logic Circuits Based on Single-Flux-Quantum logic with Resettable Latch (SFQ-RL)

Nobuo Takeuchi, Akira Akahori, Naoko Mori, Yasutoshi Suzuki, Futoshi Furuta, Akira Fujimaki, Hisao Hayakawa, Nagoya University.

4EI02 New BSFQ circuits with wide margins

Chen Kong Teh, Manabu Kitagawa, Yoichi Okabe, Research Center for Advanced Science and Technology, University of Tokyo.

4EI03 Improved BSFQ Gates and a 3-bit Decoder

Tetsu Hosoki, Shinya Sonoda, Manabu Kitagawa, Yoichi Okabe, Research Center for Advanced Science and Technology, University of Tokyo.

4EI04 A Novel Circuit for Sending Single Flux Quanta into a Long Josephson Junction

Y. M. Zhang, V. K. Kaplunenko, Conductus, Inc.; D. Gupta, HYPRES.

4EI05 A ternary full adder using chaotic oscillations in SQUID

Mititada Morisue, Yukiyasu Nakamura, Masahiro Sakamoto, Shinichirou Kobayashi, Hisato Fujisaka, Hiroshima City Univ..

4EI06 New phase-mode logic gates with large operating regions of circuit parameters

Takeshi Onomi, Kiyoshi Yanagisawa, Koji Nakajima, R.I.E.C., Tohoku Univ..

4EJa Digital Systems

4EJa01 RSFQ Time Digitizing System

Alex Kirichenko, Oleg Mukhanov, Johannes Vogt, Igor Vernik, Saad Sarwana, HYPRES.

4EJa02 Spread Spectrum Data Transfer from Dewar to Dewar at 2 Gigachips per Second

John X. Przybysz, Paul D. Dresselhaus, Eric J. Dean, A. Hodge Worsham, Donald L. Miller, Northrop Grumman Science & Technology Center; Stas V. Polonsky, RSFQ Consulting Inc..

4EJa03 Metrology Applications utilizing 1 Volt DC Programmable Voltage Standards

C.J. Burroughs, S.P. Benz, T.E. Harvey, NIST.

4EJa04 High-resolution current measurement system using a high-Tc superconductor sampler

Mutsuo Hidaka, Noriaki Ando, Tetsuro Satoh, Shuichi Tahara, NEC.

4EJb Quantum Coherence and Computation

4EJb01 An hysteretic dc SQUID for Non Invasive Measurements of the flux states of an rf SQUID

C. Cosmelli, Dip. di Fisica, Univ. di Roma 1, INFN sez. di Roma, Italy; M.G. Castellano, F. Chiarello, G. Torrioli, IESS-CNR, Roma, Italy; P. Carelli, Dip. En. Elettrica, Univ. de L; A. Intelisano, N. Milanese, Dip. Di Fisica, Univ. di Roma 1, Italy.

4EJb02 Macroscopic Quantum Coherence in a rf Squid by Adiabatic Inversion

C. Granata, V. Corato, E. Esposito, B. Ruggiero, M. Russo, P. Silvestrini, Istituto di Cibernetica del CNR, I-80072 Arco Felice, Italy; L. Stodolsky, Max Planck Institut für Physik, D-80805 München, Germany.

4EJb03 Design for Effective Thermalization of MQT Junctions

Roberto Ramos, Andrew Berkley, Mark Gubrud, James R. Anderson, Christopher Lobb, Frederick Wellstood, Center for Superconductivity, University of Maryland.

4EJb04 Measurement of Sub-Gap Leakage in Nb/AlOx/Nb and Al/AlOx/Al Josephson Junctions

M. A. Gubrud, R. Ramos, C. J. Lobb, J. R. Anderson, A. J. Dragt, F. C. Wellstood, Department of Physics, University of Maryland College Park; M. Ejrnaes, Technical University of Denmark.

4EJb05 Measurement of leakage in Nb/AlOx/Nb- and Al/AlOx/Al-Josephson Junctions

Mikkel Ejrnaes, Mark Gubrud, Andrew Berkley, Insik Jin, Roberto C. Ramos Jr., Christopher J. Lobb, Frederick C. Wellstood, Center for Superconductivity Research, University of Maryland.

4EJb06 Estimation of feasibility of flux state quantum bit

H. Tanaka, H. Takayanagi, NTT Basic Research Labs..

4EJb07 Small inductance effects on the Superconducting Persistent Current Qubit

D.S. Crankshaw, L. Tian, T.P. Orlando, MIT; C.H. van der Wal, J.E. Mooij, Delft University of Technology.

4EJb08 Characterization of macroscopic quantum behavior using RSFQ circuitry.

Pavel Rott, Marc Feldman, University of Rochester.

4EJb09 Design of an RSFQ control circuit to observe MQC in an rf-SQUID

Roberto C. Rey-de-Castro, Mark F. Bocko, Andrea M. Herr, Cesar A. Mancini, Marc J. Feldman, University of Rochester.

4EJb10 A Tipping Pulse scheme for rf-SQUID qubits

Xingxiang Zhou, Jonathan L. Habif, Mark F. Bocko, Marc J. Feldman, Electrical and Computer Engineering Department, University of Rochester.

4EJb11 Linear microwave response of a single charge-type qubit

Wolfram Krech, Thomas Wagner, FSU Jena; Hans-Georg Meyer, IPHT Jena.

Thursday Oral Sessions (Doubletree Hotel) 4:00pm - 6:30pm

4EK Zimmerman Memorial SQUID Session

4EK01 The First SQUIDs (4:00pm)

Arnold Silver, Rancho Palos Verdes, CA 90275.

4EK02 The Microstrip SQUID Amplifier (4:30pm)

John Clarke, Michael Mück, Marc-Olivier André, Department of Physics, University of California, Berkeley, CA 94720-7300 and Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA 94720; Jost Gail, Christoph Heiden, Institut für Angewandte Physik der Justus Liebig Universität Gießen, Germany.

4EK03 Jim Zimmerman and SQUIDS at NIST (5:00pm)

Richard Kautz, NIST, Boulder, Colorado.

4EK04 Defect Detection and Classification Using a SQUID Based Multiple Frequency Eddy Current NDE System (5:30pm)

M.v. Kreutzbruck, K. Allweins, T. Rühl, M. Mück, C. Heiden, University of Giessen, Germany; H.-J. Krause, Forschungszentrum Juelich, Germany; R. Hohmann, Forschungszentrum Juelich, Germany.

4EK05 Bringing SQUIDS to Market (5:50pm)

L. Knauss, Neocera, Inc..

4EK06 The Evolution of HTS rf SQUIDS (6:10pm)

Y. Zhang, Institut fuer Schicht- und Ionentechnik (ISI), Forschungszentrum Juelich GmbH D-52425 Juelich, Germany.

4EL Advanced LTS JJ Technology I**4EL01 High Performance Nb Josephson Devices for Petaflops Computing (4:00pm)**

Alan Kleinsasser, Caltech JPL.

4EL02 Can RSFQ Logic Circuits Be Scaled to Deep-Submicron Junctions? (4:30pm)

Alan M. Kadin, Cesar A. Mancini, Marc J. Feldman, Department of Electrical and Computer Engineering, University of Rochester..

4EL03 Physics of high-j_c Josephson junctions and prospects of their RSFQ VLSI applications (5:00pm)

Yehuda Naveh, Dmitri Averin, Konstantin Likharev, SUNY at Stony Brook.

4EL04 A High Density 4 kA/cm² Nb Integrated Circuit Process (5:15pm)

G. Kerber, L. Abelson, M. Sergeant, TRW.

4EL05 A T-Flip-Flop Operating at 160 GHz Using Optically Defined Submicron Nb/AlO_x/Al/Nb Josephson Junctions (5:30pm)

Karl Berggren, Michael O. David Feld, Earle Macedo, Terence Weir, M.I.T. Lincoln Laboratory.

4EL06 Submicron SNS junctions on Nb-Ti base (5:45pm)

L. Fritzsche, M. Schubert, H. Elsner, G. Wende, H.-G. Meyer, IPHT Jena, Dept. of Cryoelectronics, P.O.Box 100239, D-07702 Jena, Germany.

4EL07 SINIS process development for integrated circuits with characteristic voltages exceeding 250 μ V (6:00pm)

D. Balashov, M. Khabipov, F.-Im. Buchholz, J. Niemeyer, Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Germany.

4EL08 High-frequency performance of RSFQ circuits realized in SINIS technology (6:15pm)

M. Khabipov, D. Balashov, F.-Im. Buchholz, J. Niemeyer, Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Germany.

Friday Poster Sessions (Pavilion Convention Center) 8:00am - 10:00am**5EA Simulation and Test of Digital Circuits II****5EA01 Improved Methods for Yield-Optimization of Digital Logic**

Quentin Herr, Mark Johnson, TRW Space and Electronics Group.

5EA02 High-clock frequency operation of JTL ring oscillator with a passive transmission line

H. Suzuki, S. Nagasawa, H. Hasegawa, T. Hashimoto, K. Miyahara, Y. Enomoto, ISTE.

5EA03 Measurement of jitter in a long Josephson junction soliton oscillator clock source

Jonathan L. Habif, Cesar A. Mancini, Mark F. Bocko, University of Rochester.

5EA04 3D-MLSI: Software package for inductance calculation in multilayer superconducting integrated circuits.

Mikhail Khapae, Moscow State University; Anna Kidiyarova-Shevchenko, Chalmers University of Technology; Mikhail Kupriyanov, Moscow State University.

5EA05 Inductance measurement of the HTS strip line using bicrystal dc-SQUIDS

Masayuki Matsushita, Yoichi Okabe, RCAST, University of Tokyo.

5EA06 Bit Error Probabilities in High Temperature Superconductor Logic.

Ian Atkin, Julian Satchell, DERA (Malvern), St. Andrews Rd., Malvern, Worcs., WR14 3PS, United Kingdom.

5EA07 Bit error rate measurement of a high-speed small-voltage signal using a superconducting transmission line

K. Shimaoka, I. Yoshida, Tsukuba Research Center, SANYO Electric Co., Ltd..

5EA08 Top-Down RSFQ Logic Design Based on a Binary Decision Diagram

Nobuyuki Yoshikawa, Junichi Koshiyama, Yokohama National University.

5EA09 Analysis of Electromagnetic Coupling Effects in Integrated Josephson Junction Logic Devices by the FDTD Technique

F.H. Uhlmann, B. Dimov, H. Toepfer, Univ. of Technology Ilmenau.

5EA10 Accounting for Timing Uncertainty in the Behavioral Modeling of SFQ Logic

Mark W. Johnson, Quentin P. Herr, Dale J. Durand, TRW, Inc..

5EB HTS SQUID: Design and Performance**5EB01 Dual bias current operation of 2-SQUID direct-coupled magnetometers**

A. Tsukamoto, Y. Soutome, T. Fukazawa, K. Takagi, ARL, Hitachi.

5EB02 Effects of Modulation Schemes on the Performance of Directly Coupled High-Tc dc SQUID Magnetometers

Jau-Han Chen, Kuen-Lin Chen, Hong-Chang Yang, National Taiwan University, Department of Physics; Jen-Tzong Jeng, Hereng-Er Horng, National Taiwan Normal University, Department of Physics.

5EB03 Junction and Noise Characteristics of Asymmetric Multi-Junction YBCO rf-SQUID Magnetometers and Gradiometers on Bi-crystal SrTiO₃ Substrates

M. Fardmanesh, Bilkent University, Ankara, Turkey; K. Barthel, J. Schubert, Forschungszentrum Jülich GmbH, Germany.

5EB04 Peculiarities of rf SQUID response with a finite amplitude of the second harmonic in the current-phase relationship.

E. Il, R. Ijsselstein, V. Schultze, H.E. Hoenig, H.-G. Meyer, IPHT Jena, Dept. of Cryoelectronics, P.O.Box 100239, D-07702 Jena, Germany.

5EB05 Mutual inductance and noise of high-Tc SQUIDS with flip-chip and integrated input coils

J. Ramos, V. Zakosarenko, R. Ijsselstein, V. Schultze, H.-G. Meyer, IPHT Jena, Dept. of Cryoelectronics, P.O.Box 100239, D-07702 Jena, Germany.

5EB06 Characterisation of the balance in a planar, directly coupled HTS gradiometer.

T. Greibe, J. Bindslev Hansen, Department of Physics, Technical University of Denmark, DK-2800 Lyngby, Denmark; P.R.E. Petersen, Department of Clinical Neurophysiology, Rigshospitalet, Blegdamsvej 9, DK-2100 Copenhagen, Denmark; T. Holst, Y.Q. Shen, NKT Research, Priorparken 878, DK-2605 Brøndby, Denmark.

5EB08 Versatile High Performance Digital SQUID Electronics

Christoph Ludwig, Christoph Kessler, Adrianus Johannes Steinfurt, Wolfgang Ludwig, STL Systemtechnik Ludwig GmbH.

5EB09 High-Tc YBCO rf SQUID with a bicrystal Josephson junction

S.Z. Wang, P. Ma, T. Yang, F.X. Xie, R.J. Nie, L.Y. Liu, S.G. Wang, Y.D. Dai, Department of Physics and Mesoscopic Physics National Laboratory Peking University, Beijing 100871, .

5EC Advanced Josephson Junction Techniques II

5EC01 Nanoscale Nb-Cu SNS Junction Fabrication in Superconductor-Normal Metal Bilayers

Robert Hadfield, Wilfred Booij, Gavin Burnell, Mark Blamire, University of Cambridge, U.K..

5EC02 Fabrication and Characterization of SNS Josephson Junctions with an Aluminum Barrier

Vincenzo Lacquaniti, Sabino Maggi, Albino Polcari, Raffaella Steni, Domenico Andreone, Istituto Elettrotecnico Nazionale.

5EC03 Development of sub-micron SNS ramp-type Josephson junctions

D. Hagedorn, R. Dolata, R. Poepel, F.-Im. Buchholz, J. Niemeyer, Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Germany.

5EC04 Lumped SNS Josephson Arrays for AC Voltage Metrology

Paul Dresselhaus, Sam Benz, Charles Burroughs, NIST.

5EC05 Coherent vs. incoherent electron transport across the double-barrier SINIS junctions

Serhii Shafranuk, NASU Institute of Magnetism, Kyiv, Ukraine; Ivan Nevirkovets, John Ketterson, Northwestern University, Dept. of Physics and Astronomy, Evanston, IL.

5EC06 Investigation of the double-barrier Nb/Al-AlOx-Al-AlOx-(Al)/Nb junctions under high-frequency irradiation

I.P. Nevirkovets, Northwestern University, Evanston IL; Inst. of Metal Physics, Kyiv, Ukraine; J.B. Ketterson, Northwestern University, Evanston IL; M. Siegel, Institute of Thin Film and Ion Technology, Forschungszentrum Juelich, Juelich, Germany.

5EC07 Current-Phase Relation in a Nb/Al/AlOx/Al/AlOx/Al/Nb-Based SINIS-type Josephson Junction between 4.2K and its Critical

Temperature

M. Goetz, V. Khanin, H. Schulze, A.B. Zorin, J. Niemeyer, Physikalisch-Technische Bundesanstalt (PTB), Projekt 2.401, Bundesallee 100, Braunschweig, Lower Saxony, D - 38116, Germany; E. Il, H.E. Hoenig, H.-G. Meyer, Institute for Physical High Technology (IPHT), Jena, Germany.

5EC08 Programmable Josephson Voltage Standards Using SINIS Junctions

Holger Schulze, Ralf Behr, Johannes Kohlmann, Franz Mueller, Juergen Niemeyer, Physikalisch-Technische Bundesanstalt.

5EC09 Double barrier Josephson junctions: theory and experiment

A. Brinkman, A.A. Golubov, H. Rogalla, Department of Applied Physics, University of Twente, Enschede, The Netherlands; M.Yu. Kupriyanov, Nuclear Physics Institute, Moscow State University, Russia; M. Siegel, Forschungszentrum Juelich GmbH, Institut fuer Schicht- und Ionentechnik, Germany.

5ED Tunable Microwave Materials and Measurement Techniques

5ED01 Epitaxial YBa₂Cu₃O₇/SrTiO₃ heterostructures grown by pulsed laser deposition for voltage agile microwave filter applications

K. Bouzehouane, P. Woodall, J.P. Contour, CNRS; B. Marcilhac, Y. Lemaitre, J.C. Mage, Thomson-CSF.

5ED02 Fabrication and Investigation of HTS/Ferroelectric/Ferromagnetic Structures for Electrically and Magnetically Tunable Superconducting Microwave Devices

S. Hontsu, T. Sakatani, H. Nakai, H. Nishikawa, Kinki Univ.; M. Nakamori, Kumano Tech. College; H. Tabata, T. Kawai, Osaka Univ..

5ED03 Anisotropy in the transparency of HTS films at mm and submm waves

Michael Tarasov, Evgueni Stepanov, Tobias Lindström, Zdravko Ivanov, Chalmers University of Technology; Hongqui Chen, Lars-Gunnar Johansson, Göteborg University.

5ED04 Ferroelectric characterisation using Josephson junctions

P.F. McBrien, W.E. Booij, G. Burnell, F. Kahlmann, M.G. Blamire, E. J. Tarte, University of Cambridge; E. J. Romans, C. M. Pegrum, University of Strathclyde.

5ED05 Electric and Magnetic Properties of Pr_{1-x}CaxMnO₃ Thin Films for Superconducting Tunable Microwave Devices.

T. Sakatani, H. Nakai, S. Hontsu, H. Nishikawa, Kinki Univ.; M. Nakamori, Kumano T.C.; H. Tabata, T. Kawai, Osaka Univ..

5ED06 Magnetically Tunable Superconducting Resonators Using Ferromagnetic Perovskites

M. Kamel, L.-M. Xie, J. Wosik, M. Strikovski, S.A. Long, University of Houston; P. Przyslupski, Polish Academy of Sciences.

Friday Oral Sessions (Doubletree Hotel) 10:00am - 11:30am

5EE Applications of SQUIDS I

5EE01 SQUID-Photoscanning: An imaging technique for NDE of semiconductor wafers and devices based on photo-magnetic detection (10:00am)

J. Beyer, Th. Schurig, PTB Berlin.

5EE02 Multiplexed SQUID Array for Non-Destructive Evaluation of Aircraft Structures (10:30am)

H.-J. Krause, S. Gärtner, N. Wolters, R. Hohmann, W. Wolf, J. Schubert, W. Zander, Y. Zhang, ISI, Forschungszentrum Jülich; M. v. Kreuzbruck, M. Mück, IAP, University of Giessen.

5EE03 Analysis of low-energy impact delamination damages in reinforced carbon fiber composites by HTS-SQUID magnetometers (10:45am)

Massimo Valentino, Adele Ruosi, Giovanni Piero Pepe, Giuseppe Peluso, Istituto Nazionale della Fisica della Materia INFM Naples Italy.

5EE04 Improvement of spatial and field resolution in NDE systems using superconducting sensors (11:00am)

P. Seidel, S. Wunderlich, F. Schmidl, L. Dörrer, S. Linzen, F. Schmidt, Friedrich-Schiller-Universität Jena, Germany; S. Lösche, PolyOptik GmbH Bad Blankenburg, Germany; S. A. Gudochnikov, IZMIRAN Troitsk, Russia; Olaf Hesse, IMG GmbH Nordhausen, Germany.

5EE05 Determination of Magnetic Properties Using a Room-Temperature Scanning SQUID Microscope (11:15am)

E. F. Fleet, S. Chatrathorn, F. C. Wellstood, Center for Superconductivity Research, Dept. of Physics, Univ. of Maryland; C. Eylem, Lynntech, Inc..

5EF Josephson Microwave Sources**5EF01 Two-dimensional Josephson junctions arrays coupled through a high-Q cavity (10:00am)**

Giovanni Filatrella, Unita; Niels Falsig Pedersen, Department of Electric Power Engineering, The Technical University of Denmark; Kurt Wiesenfeld, School of Physics, Georgia Institute of Technology.

5EF02 Analysis of coherent microwave radiation from underdamped Josephson-junction arrays biased on constant-voltage resonant steps (10:15am)

B. Vasilic, P. Barbara, S. V. Shitov, C. J. Lobb, Department of Physics, University of Maryland, College Park, MD 20742-4111.

5EF03 FIR Response of Intrinsic Josephson Junctions (10:30am)

S. Rother, Y. Koval, P. Mueller, Physikalisches Institut III, Universitaet Erlangen-Nuernberg, Erlangen, Germany; R. Kleiner, Lehrstuhl fuer Experimentalphysik II, Universitaet Tuebingen, Tuebingen, Germany; Y. Kasai, Electrotechnical Laboratory, Tsukuba-shi, Ibaraki, Japan; K. Nakajima, Research Institute of Electrical Communication, Tohoku University, Sendai, Japan; M. Darula, Institut fuer Schicht- und Ionentechnik, Forschungszentrum Juelich, Germany.

5EF04 Spectral characteristics of mm wave radiation emitted by HTSC Josephson-junction arrays (10:45am)

Ovsyannikov G. A., Mashtakov A. D., Constantinian K. Y., Kornev V. K., Institute of Radio Engineering and Electronics RAS, Moscow; Arzumanov A. V., Shcherbakov N. A., Moscow State University, Moscow, Russia; Darula M., Institute fur Schicht-und Ionentechnik, Forschungszentrum, Juelish GmbH, Germany; Mygind J., Pedersen N. F., Department of Physics, Technical University of Denmark, DK-2400, Lyngby, Denmark.

5EF05 Cherenkov Flux-Flow Oscillator Linewidth Measurements (11:00am)

A.M. Baryshev, Groningen Space Research Laboratory, Groningen, the Netherlands; A.V. Yulin, V.V. Kurin, Institute for Physics of Microstructures, RAS, Nizhny Novgorod, Russia; V.P. Koshelets, A.B. Ermakov, P.N. Dmitriev, L.V. Filippenko, Institute of Radio Engineering and Electronics RAS, Moscow, Russia.

5EF06 Cryogenic high-Q microwave resonators for stable oscillators (11:15am)

S. Vitusevich, M. Winter, N. Klein, Forschungszentrum Juelich, ISI, D-52425 Juelich, Germany.

Friday Plenary Sessions (Pavilion Convention Center) 11:30am - 1:00pm**5AP6 Status and plans for superconductivity at LHC**

C. Wyss, CERN, Geneva - Switzerland.

5AP7 HTS Filter Subsystems for Wireless Telecommunications

Balam Willemsen, Superconductor Technologies Inc..

Friday Poster Sessions (Pavilion Convention Center) 2:30pm - 4:00pm**5EG Josephson and Other Microwave Oscillators****5EG01 Microwave responses of an insular intrinsic Josephson junction stack fabricated from Bi-Sr-Ca-Cu-O single crystal**

H.B. Wang, CREST, JST, Kawaguchi, Japan; J. Chen, K. Nakajima, RIEC, Tohoku University, Sendai 980-8577, Japan; T. Yamashita, NiChe, Tohoku University, Sendai, Japan; P.H. Wu, Department of Electronic Science & Engineering, University of Nanjing, Nanjing 210093, China.

5EG02 Prediction of half harmonic generation in BSCCO single crystals

N.F. Pedersen, Department of electric Power Engineering, Technical University of Denmark, DK-2800 Lyngby, Denmark; Shigeki Sakai, Electrotechnical Laboratory, Umezono, Tsukuba, Ibaraki 305-8568, Japan.

5EG03 Microwave emission from two-stacked arrays of long Josephson junctions.

Giovanni Carapella, Giovanni Costabile, Rossella Latempa, INFN Research Unit and Department of Physics, University of Salerno, I-84081 Baronissi, Italy; Nicolai Herholdt-Rasmussen, Jesper Mygind, Department of Physics, B309, The Technical University of Denmark, DK-2800 Lyngby, Denmark.

5EG04 Long Josephson junctions embedded into a high-Tc resonator: fluxon dynamics and tunability.

Edward Goldobin, Alexander Klushin, Michael Siegel, Norbert Klein, Institut fuer Schicht- und Ionentechnik, Forschungszentrum Juelich GmbH, Juelich, Germany.

5EG05 Resonant Cherenkov radiation in Josephson flux flow oscillators with integrated meander-shaped transmission line

A. Yulin, Institute for Physics of Microstructures of RAS, GSP-105, Nizhny Novgorod, Russia; J. Mygind, Department of Physics, Technical University of Denmark, DK-2800 Lyngby, Denmark.

5EG06 Superfine Resonant Structure on IVC of Long Josephson Junctions and Its Influence on Flux Flow Oscillator Linewidth

V.P. Koshelets, A.B. Ermakov, S.V. Shitov, P.N. Dmitriev, L.V. Filippenko, Institute of Radio Engineering and Electronics, Moscow, Russia.; A.M. Baryshev, W. Luinge, SRON-Groningen, the Netherlands; J. Mygind, Department of Physics, Technical University of Denmark, Lyngby, Denmark; V.L. Vaks, Institute for Physics of Microstructure, Nizhny Novgorod, Russia; D.G. Pavel'ev, Nizhny Novgorod State University, Nizhny Novgorod, Russia.

5EG07 Temperature Dependence of Josephson Linewidth for Resistively Shunted Double Junction HTS SQUIDS

D. A. Peden, L. Hao, R. A. M. Lee, J. C. Gallop, National Physical Laboratory, Teddington, TW11 0LW, UK.; J. C. Macfarlane, University of Strathclyde, Glasgow, G4 0NG, UK..

5EG08 Ultra Low Noise Oscillator Incorporating a High Temperature Superconducting Disk Resonator

R. B. Greed, G. Pells, Marconi Research Centre, West Hanningfield Road, Great Baddow, Chelmsford, Essex, CM2 8HN United Kingdom.

5EG09 Some Properties of Dynamical States in 2D Josephson Underdamped Josephson Junctions Arrays

Cinzia De Leo, Giacomo Rotoli, University of L Aquila, Italy.

5EG10 Tunable Power Output of a Parallel Array of Overdamped Josephson Junctions

Donald Crankshaw, Enrique Trias, Terry Orlando, MIT.

5EG11 Arrays of Josephson Junctions Coupled by Distributed Circuit

V.K. Kornev, N.A. Shcherbakov, Physics Department, Moscow State University, Moscow, Russia; P.B. Mozhaev, A.D. Mashtakov, K.Y. Constantinian, G.A. Ovsyannikov, Institute of Radio Engineering and Electronics RAS, Moscow, Russia .

5EH Low- Tc SQUID's

5EH01 Superconducting electronics requirements for single-photon, energy resolving detectors

A.M. Gulian, G.G. Fritz, K.S. Wood, P.L. Hertz, D. VanVechten, NRL.

5EH02 Fast ULT SQUID Multiplexer with Cold Preamplifiers

V. Polushkin, J. Lumley, Oxford Instruments, Newton House, Cambridge Business Park, Cambridge, CB4 0WZ United Kingdom.

5EH03 Fast Digital Double Relaxation Oscillation SQUID

M. Podt, A.J. Mieog, J. Flokstra, H. Rogalla, Low Temperature Div., Dept. of Applied Physics, University of Twente, Enschede, The Netherlands.

5EH04 Low-noise S-band DC SQUID Amplifier

G.V. Prokopenko, S.V. Shitov, D.V. Balashov, P.N. Dmitriev, V.P. Koshelets, Institute of Radio Engineering and Electronics RAS, Moscow, Russia; J. Mygind, Department of Physics, Technical University of Denmark, Lyngby, Denmark.

5EH05 Niobium-Copper Superconductor-Normal Metal-Superconductor Asymmetry Modulated SQUIDS

G. Burnell, F. Kahlmann, W.E. Booij, E.J. Tarte, M.G. Blamire, IRC in Superconductivity, University of Cambridge.

5EH06 Analysis of the damping of the signal coil resonances in dc SQUIDS

Mikko Kiviranta, Heikki Seppä, VTT Automation, Measurement Technology, Otakaari 7 B, Espoo, FIN-02110, Finland.

5EH07 Multi-loop Relaxation Oscillation SQUID Magnetometers with Large Flux-to-Voltage Transfer Functions

Jun Kawai, G. Uehara, M. Higuchi, H. Ogata, H. Kado, Applied Electronics Laboratory, Kanazawa Institute of Technology.

5EH08 DC SQUID Series Array Amplifiers with 120 MHz Bandwidth

P. A. Neil, M. E. Huber, R. G. Benson, D. A. Burns, A. M. Corey, C. S. Flynn, Y. Kitaygorodskaya, O. Massihzadeh, University of Colorado at Denver; G. C. Hilton, J. M. Martinis, National Institute of Standards and Technology.

5EH09 Long Baseline Thin Film SQUID Gradiometer

R. Stolz, V. Zakosarenko, L. Fritzsche, H.-G. Meyer, IPHT Jena, Dept. of Cryoelectronics, P.O.Box 100239, D-07702 Jena, Germany.

5EH10 Subranging Digital SQUID Ammeter

Deepnarayan Gupta, Masoud Radparvar, HYPRES Inc..

5EH11 SQUID Operational Amplifier

K. D. Irwin, National Institute of Standards and Technology, Boulder, Co.; Martin E. Huber, University of Colorado at Denver, Co..

5EH12 The Microstrip DC SQUID Amplifier

Michael Mück, Marc-Olivier André, John Clarke, Department of Physics, University of California, Berkeley, CA 94720-7300, U.S.A..

5EH13 Superconducting Multiple Loop Quantum Interferometers

Christoph Haeussler, Joerg Oppenlaender, Nils Schopohl, Thomas Traeuble, University of Tuebingen, Institute for Theoretical Physics, Auf der Morgenstelle 14, Tuebingen, D-72076 Germany.

5EH14 LC-resonant voltage response of superconducting multi-loop quantum interference filters

Christoph Haeussler, Joerg Oppenlaender, Nils Schopohl, University of Tuebingen, Institute for Theoretical Physics, Auf der Morgenstelle 14, Tuebingen, D-72076 Germany.

5EIa NDE Using SQUID's

5EIa01 Aircraft Wheel Testing with Remote Eddy Current Technique using a SQUID Magnetometer

R. Hohmann, D. Lomparski, H.-J. Krause, ISI, Forschungszentrum Jülich; M. v. Kreutzbruck, IAP, University of Giessen; W. Becker, Lufthansa Technik AG, Frankfurt.

5EIa02 Hybrid Double-D Sheet-Inducer for SQUID-based Nondestructive Testing of conducting materials

Jose A. Lobera-Serrano, James R. Claycomb, John H. Miller, Jr., Kamel Salama, Texas Center for Superconductivity, University of Houston, Texas.

5EIa03 Electromagnetic Microscope Eddy current probe patterned in YBCO for Nondestructive Evaluation of Airframes

Walter Podney, Marcio de Andrade, SQM Technology, Inc.; James Murduck, TRW, Inc..

5EIa04 Non Destructive Testing using the High Tc SQUID

Hideaki Nakane, Muroran Institute of Technology, 27-1 Mizumoto-cho, Muroran, Hokkaido, 050-8585 Japan.

5EIa05 Detection of Deep Flaws by Using The SQUID-based Nondestructive Evaluation System

J.T. Jeng, Y.C. Liu, S.Y. Yang, H.E. Horng, Department of Physics, National Taiwan Normal University; H.C. Yang, Department of Physics, National Taiwan University.

5EIa06 Improving the Detection of Flaws in Steel Pipes Using SQUID Planar Gradiometers

E. Andrade Lima, A. C. Bruno, Pontificia Univ. Catolica do Rio de Janeiro, 22453-900 Brazil.

5EIa07 A Linear Array of 10 HTS SQUIDS for Non-Destructive Evaluation

M. A. Espy, A. N. Matlashov, R. H. Jr. Kraus, Los Alamos National Laboratory.

5EIa08 High Tc SQUID Microscope Study of Mechanical Stress Induced Changes in Magnetic Behavior of Ferromagnetic Steels*

N.F. Heinig, J.W. Chan, T.J. Shaw, R. McDermott, J.W. Jr. Morris, John Clarke, UC Berkeley & LBNL.

5EIa09 Development of NDE Method Using SQUID for Reconstruction of Defect Shape

Yoshimi Hatsukade, Naoko Kasai, Hiroshi Takashima, Fumio Kojima, Ryosuke Kawai, Atsushi Ishiyama, Electrotechnical Laboratory, 1-1-4 Umezono, Tsukuba, Ibaraki, 305-8568 Japan.

5EIB HTS SQUID: Operation in Magnetic Fields

5EIB01 Effect of Large Magnetic Field Variations on the Performance of Directly Coupled High-Tc SQUID Magnetometers

John W. Purpura, NSW Coastal Systems Station.

5EIB02 Low-frequency noise of optimized direct-coupled high-Tc SQUID magnetometers exposed to environmental fields

F. Ludwig, D. Drung, Th. Schurig, Physikalisch-Technische Bundesanstalt, 10587 Berlin, Germany; A.B.M. Jansman, J. Flokstra, University of Twente, 7500 AE Enschede, The Netherlands.

5EIB03 HTS dc SQUID behavior in external magnetic fields

V. Schultze, A. Chwala, R. Stolz, V. Zakosarenko, R. IJsselsteijn, J. Ramos, L. Fritzsche, H.-G. Meyer, IPHT Jena, Dept. of Cryoelectronics, P.O.Box 100239, D-07702 Jena, Germany.

5E1b04 High-Tc SQUID magnetometers for use in moderate magnetically-shielded room

M. Matsuda, S. Ono, K. Kato, Muroran Inst. of Tech.; H. Oyama, A. Hayashi, Y. Hirata, S. Kuriki, Research Inst. for Electronic Sci., Hokkaido Univ.; S. Hirano, Research Inst. for Electronic Sci., Hokkaido Univ.; K. Yokosawa, Central Research Lab., Hitachi Ltd.

5E1b05 Integrated multi-layer high-Tc SQUID magnetometers with slotted washer and flux dam.

H. J. Lee, W. K. Park, S. -M. Lee, S. H. Moon, B. Oh, LG Corporate Institute of Technology, 16 Woomyeon-Dong, Seocho-Gu, Seoul, 137-724 Korea.

5E1b06 Effects of flux dam on the low frequency noise in high-Tc SQUID magnetometer

Hiroshi Oyama, Shinya Kuriki, Hokkaido University; Mizushi Matsuda, Muroran Institute for Technology.

5E1b07 Effect of static magnetic field on a slotted high-Tc SQUID magnetometer without a flux dam

K. Yokosawa, D. Suzuki, K. Tsukada, Hitachi, Ltd.; H. Oyama, S. Kuriki, Hokkaido Univ.; M. Matsuda, Muroran Institute of Technology.

5E1b08 Magnetic Field Behaviour of YBCO-rf-SQUIDS and Coplanar Resonators

M. Bick, J. Schubert, G. Panaitov, M. Banzet, W. Zander, Y. Zhang, H.-J. Krause, FZJ, Germany; M. Fardmanesh, On leave from Bilkent University, Turkey.

5E1b09 Balancing of the single-layer second-order high-Tc SQUID gradiometer

Yunseok Hwang, Jongrok Ahn, Soon-Gul Lee, Korea University; In-Seon Kim, Jin-Tae Kim, Yong Ki Park, Korea Research Institute of Standards and Science.

5EJ HTS SQUID: Fabrication

5EJ01 NdBa₂Cu₃O₇ bicrystal Josephson junctions and SQUIDS operating at 77K

E.J. Romans, A. Eulenburg, A.J. Millar, C. Carr, G.B. Donaldson, C.M. Pegrum, University of Strathclyde.

5EJ02 Step-edge Josephson junctions for use in High-Tc single-layer gradiometers

A.J. Millar, C. Carr, A. Eulenburg, E.J. Romans, G.B. Donaldson, C.M. Pegrum, University of Strathclyde.

5EJ03 DC SQUID directly-coupled Magnetometers on MgO with step-edge junctions.

D.L. Tilbrook, J. Du, C.P. Foley, R.A. Binks, CSIRO, Bradfield Rd, PO Box 218, Lindfield, Sydney, NSW, 2070 Australia.

5EJ04 Optimization of junction parameters for High-Tc YBa₂Cu₃O_y SQUIDS

M.J. Chen, T.S. Wu, N.L. Chou, J.H. Chen, H.W. Yu, H.C. Yang, Department of Physics, National Taiwan University; J.T. Jeng, H.E. Horng, Department of Physics, National Taiwan Normal University.

5EJ06 Noise properties of YBa₂Cu₃O₇ step-edge junction dc SQUID magnetometers prepared on sapphire substrates

H.-R. Lim, Korea Research Institute of Standards and Science and Yeungnam Univ.; I.-S. Kim, Y. K. Park, Korea Research Institute of Standards and Science, Yusong PO Box 102, Taejon, 305-600 Korea; D. H. Kim, Yeungnam Univ..

5EJ07 Preparation and characterization of single-layer YBa₂Cu₃O₇ SQUID gradiometers

I.-S. Kim, H. R. Lim, Y. K. Park, Korea Research Institute of Standards and Science, Yusong PO Box 102, Taejon, 305-600 Korea.

5EJ08 Characterization of high-Tc dc SQUID magnetometer

L. M. Wang, H. H. Sung, Department of Electrical Engineering, Da-Yeh University, Chang-Hwa 515, Taiwan, R. O. C.; H. C. Yang, H. W. Yu, M. J. Chen, Department of Physics, Taiwan University, Taipei 106, Taiwan, R. O. C.; H. E. Horng, Department of Physics, Taiwan Normal University, Taipei 117, Taiwan, R. O. C..

5EJ09 Metallization and Interconnection of HTS Devices and Circuits

J. Du, S.K.H. Lam, D.L. Tilbrook, K.E. Leslie, C.P. Foley, CSIRO TIP, P.O. Box 218, Lindfield, NSW, 2070 Australia.

5EJ10 Fabrication of the YBCO/STO/YBCO multilayer structure using Chemical Mechanical Planarization (CMP)

Hiroshi Takashima, Naoko Kasai, 1-1-4 Umezono, Tsukuba, Ibaraki, 305-8568 Japan.

5EJ11 1/f Noise Characteristics of SEJ YBCO rf-SQUIDS on LaAlO₃ Substrate and the Step Structure, Film, and Temperature Dependence

J. Schubert, M. Banzet, W. Zander, Y. Zhang, Forschungszentrum Jülich GmbH, Germany; M. Fardmanesh, Bilkent University, Turkey; M. Schilling, H. Burkhardt, Universität Hamburg, Germany.

5EJ12 High-Tc single-layer gradiometers: parasitic effective area compensation and system balance

C. Carr, E.J. Romans, A.J. Millar, A. Eulenburg, G.B. Donaldson, C.M. Pegrum, University of Strathclyde.

Friday Oral Sessions (Doubletree Hotel) 4:00pm - 5:30pm

5EK Applications of SQUID's II

5EK01 SQUID Detection of Magnetically-Tagged Microorganisms (4:00pm)

H.L. Grossman, Y.R. Chemla, John Clarke, Y. Poon, R. Stevens, M. Alper, UC Berkeley and LBNL.

5EK02 Low Tc SQUID-Measurement system for Magnetic Immunoassay Detection in Unshielded Environment (4:15pm)

Andreas Haller, Stefan Hartwig, Thomas Kerberger, Heiko Atzpadin, Dietmar Drung, Lutz Trahms, Physikalisch-Technische Bundesanstalt Berlin; Hartmut Matz, Institut für Diagnostikforschung, Berlin.

5EK03 Report on a Trial of a New Tool for Geophysical Exploration using Magnetic Gradiometry based on HTS SQUIDS (4:30pm)

C.P. Foley, D.L. Tilbrook, K.E. Leslie, R.A. Binks, J. Du, S. Lam, CSIRO TIP; G.B. Donaldson, University of Strathclyde; P. Schmidt, D. Clark, CSIRO EM.

5EK04 Testing Einstein's Equivalence Principle at Bremen Drop Tower using LTS SQUID technique (4:45pm)

W. Vodel, H. Koch, S. Nietzsche, J. v. Zameck Glyscinski, R. Neubert, Institute of Solid State Physics, Jena University, Max-Wien-Platz 1, 07743 Jena, Germany; H. Dittus, Center of Applied Space Technology and Microgravity, Bremen Univ. Am Fallturm, 28359 Bremen, Germany.

5EK05 Low noise HTS dc-SQUID flip-chip magnetometers and gradiometers (5:00pm)

M.I. Faley, U. Poppe, K. Urban, IMF-IFF FZ-Julich GmbH, Julich, NRW, 52425 Germany; D.N. Paulson, T. Starr, R.L. Fagaly, Tristan Technologies Inc..

5EL Microwave Non Linearities

5EL01 Determination of Limits on Nonlinear Response in HTS Microwave Devices (4:00pm)

James C. Booth, L.R. Vale, R.H. Ono, NIST; J.H. Claassen, NRL.

5EL02 Vortex Motion and Nonlinear Inductance of High-Tc Superconducting Microwave Resonators (4:15pm)

Thomas Dahm, Joerg Oppenlaender, University of Tuebingen.

5EL03 Imaging of Microwave Intermodulation Fields in a Superconducting Microstrip Resonator (4:30pm)

Steven M. Anlage, Wensheng Hu, B. Johan Feenstra, Ashfaq S. Thanawalla, F. C. Wellstood, University of Maryland.

5EL04 Nonlinear Simulation and Characterization of HTS Devices Using Harmonic Balance Algorithms (4:45pm)
Carlos Collado, Jordi Mateu, **Juan O'Callaghan**, Universitat Politècnica de Catalunya (UPC).

Large Scale Sessions

Monday Plenary Session (Pavilion Convention Center) 8:30am - 10:00am

Welcome

Harold Weinstock, ASC Chairman, AFOSR; and Hermann Grunder, Director, Thomas Jefferson National Accelerator Facility

1AP1 Superconductivity: Star Technology for the 21st Century

C.H. Rosner, Intermagnetics General Corporation.

Monday Poster Session (Pavilion Convention Center) 10:00am - 12:00pm

1LA Stability and Magnet Protection (LTS) I

1LA01 Analysis of the Behaviour of Superconducting Windings with Short-Circuited Turns.

V. Keilin, Kurchatov Institute; L. Lugansky, Kapitza Institute for Physical Problems.

1LA02 Heat Generation in Partially Plastic Conductors of Thin-Walled Solenoidal Windings

E.A. Deviatkin, Institute of Problems in Mechanics RAS.

1LA03 Study on Relation between Stabilities of Rotor Windings of a Superconducting Generator in Static and Rotating Condition

M. Furuse, O. Tsukamoto, Faculty of Eng., Yokohama National University; S. Torii, S. Akita, CRIEPI; M. Shibuya, Super-GM.

1LA04 A qualitative model to understand the stability of a superconducting cable

Seog-Whan Kim, Fermilab; Rob Wolf, CERN.

1LA05 Monte Carlo Calculation of Strand Position in CIC Conductor to Analyze Current Imbalance

Shigehiro Nishijima, Tomoki Sasaki, I.S.I.R. Osaka-Univ.

1LA06 Relation between Impedance Distribution and Current Imbalance in an Insulated Multi-strand Superconducting Cable Conductor

A. Ninomiya, T. Ishigohka, Seikei Univ.; S. Yamaguchi, NIFS; T. Sato, Nagoya Univ.; S. Hanai, Toshiba Corp.; Y. Hasegawa, Ion Engineering; H. Okumura, Matsusaka Univ.; S. Takayama, Gifu Prefectural Institute for Ceramics Research and Technology; R. Shimada, Tokyo Institute of Technology.

1LA07 Stability of Superconducting Multifilamentary Composite Wires in Helium Environment

B. Baudouy, A. Devred, F.P. Juster, F. Trillaud, CEA.

1LA08 Analysis of wire motion in a superconducting magnet by Monte Carlo method.

Hideki Ogata, Shigehiro Nishijima, I.S.I.R. Osaka-Univ.

1LA09 Wire dynamics simulation of impregnated superconducting magnet in external magnetic field

Shinichiro Ohira, Shigehiro Nishijima, I.S.I.R. Osaka-Univ.

1LB Transformers I

1LB01 Study of superconducting transformer for Shinkansen rolling stock

Hiroshi Hata, Hiroki Kamijo, Hiroyuki Fujimoto, RTRI.

1LB02 Design and Testing of a Laboratory-Prototype Superconducting Transformer

M.B. Srinivas, A.K. Bhatnagar, University of Hyderabad; K.S. Hebbar, Electromagnetic Devices Ltd..

1LB03 Electric field-transport current relation in sections of solenoidal and pancake model windings for superconducting transformer

M. Polak, P. Usak, J. Pitel, Z. Timoransky, Institute of Electrical Engineering; F. Zizek, Skoda Research; H. Piel, University of Wuppertal.

1LB04 Ac loss properties of a 1MVA single-phase HTS power transformer

M. Iwakuma, K. Funaki, Y. Fukuda, Kyushu University; T. Bohno, S. Nose, M. Konno, Y. Yagi, Fuji Electric Co.,Ltd; H. Maruyama, T. Ogata, Kyushu Trans. Co.,Ltd.; K. Tsutsumi, Kyushu Electric Power Co., Inc..

1LB05 Test and Characteristic Analysis of an HTS Power Transformer

Kyeong Dal Choi, Korea Polytechnic Univ.; Woo Seok Kim, Song Yop Hahn, Seoul National Univ.; Hee Joon Lee, Guesoo Cha, Soonchunhyang Univ.; Ji Kwang Lee, Woosuk Univ.; Kyung Woo Ryu, Chonnam National Univ..

1LB06 High Voltage Conductor Insulation of High Temperature Superconductors for Cryogenic Applications

A. Godeke, H.J.G. Krooshoop, O.A. Shevchenko, H.H.J. ten Kate, University of Twente, Faculty of Applied Physics, P.O. Box 217, 7500 AE Enschede, The Netherlands; A. Scholten, P. Klein Schiphorst, SMI Wire B.V., Nijmegen, The Netherlands.

1LB07 Magnetic Field and Electromagnetic Force Analysis of 3-Phase Air-Core Superconducting Power Transformer

T. Kataoka, H. Matsuoka, T. Mouri, S. Nishikata, Tokyo Denki Univ.; H. Yamaguchi, Electrotechnical Lab.; Y. Sato, Tokyo Inst. of Tech..

1LB08 Superconducting Power Control Demonstrator Unit

Malcolm McCulloch, Mark Childs, David Dew-Hughes, Oxford University.

1LB09 Superconducting Power Control Demonstrator Unit

Malcolm McCulloch, Mark Childs, David Dew-Hughes, Oxford University.

1LB10 The Superconducting Transformer of the Samsung Superconductor Test Facility (SSTF)

Victor Keilin, Ivan Kovalev, Sergei Kruglov, Vladimir Shcherbakov, Igor Shugaev, Mikhail Surin, Kurchatov Institute; Sungkeun Baang, Hyungjung Choi, Keeman Kim, Yongjin Kim, Samsung Advanced Institute of Technology.

1LB11 Considerations about superconducting transformers

Guillaume Donnier-Valentin, Pascal Tixador, Emmanuel Vinot, CNRS/CRTBT-LEG.

ILC Accelerator Magnets I

ILC01 Superconducting Quadrupoles for the Heavy Ion Fusion Integrated Research Experiment (IRE) & High Current Experiment (HCX)

J.H. Schultz, A. Radovinsky, B. Smith, C. Gung, R.J. Thome, R. Camille, MIT Plasma Science and Fusion Center, Cambridge MA; R.L. Myatt, Myatt Consulting Inc., Norfolk, MA ; R. Meinke, Advanced Magnet Laboratory, Palm Bay, FL; R.O. Bangerter, A. Faltens, Lawrence Berkeley Nat'l Laboratory, CA.

ILC02 Magnet and Cryostat Configurations For a Multi-port Quadrupole Array

M. A. Green, R. O. Bangerter, Lawrence Berkeley National Laboratory.

ILC03 Focusing Magnets for HIF based on racetracks

N. Martovetsky, R. Manahan, LLNL.

ILC04 Superconducting Bending Magnets for the Superconducting Ring Cyclotron

Shiro Fujishima, Toshiharu Tominaka, Takeo Kawaguchi, Masahiro Okamura, Akira Goto, Jong-Wong Kim, Junichi Ohnishi, Yasushige Yano, RIKEN.

ILC05 Superconducting Magnetic System of the Fast Cycling Intermediate Energy Ion Synchrotron

N.N. Agapov, H.G. Khodzhibagiyev, A.D. Kovalenko, V.A. Mikhailov, A.A. Smirnov, A.Yu. Starikov, Joint Institute for Nuclear Research.

ILC06 HERA Luminosity Upgrade Superconducting Magnet Production at BNL*

B. Parker, M. Anerella, J. Escallier, A. Ghosh, A. Jain, A. Marone, J. Muratore, A. Prodell, P. Thompson, P. Wanderer, BNL.

ILC07 Cost Scaling Analysis of Large Warm-Bore Superconducting Quadrupoles

Joe Waynert Waynert, Los Alamos National Laboratory.

ILC08 Mechanical structure analysis of a compact 6T cryogen-free superconducting wavelength shifter

Feng-Zone Hsiao, Ching-Shiang Hwang, Cheng-Hsiang Chang, Synchrotron Radiation Research Center.

ILD Fusion Magnets I

ILD01 Experimental Verification of the Temperature and Strain Dependence of the Critical Properties in Nb3Sn Wires

A. Godeke, H.J.G. Krooshoop, B. ten Haken, H.H.J. ten Kate, University of Twente, Faculty of Applied Physics, P.O. Box 217, 7500 AE Enschede, The Netherlands.

ILD02 Thermal-Hydraulic Analysis of the Central Solenoid Insert Coil

Laura Savoldi, Luca Guazzotto, Roberto Zanino, Dipartimento di Energetica.

ILD03 Validation of the CEA Electrical Network Model for the ITER Coils

D. Ciazynski, J.L. Duchateau, Association Euratom-CEA, CEA/Cadarache, France.

ILD04 Eddy current and thermal analysis of the TF Model Coil during safety discharges

P. Hertout, J.L. Duchateau, A. Martinez, Association Euratom-CEA.

ILD05 Current Distribution and Strain Influence on the Electromagnetic Performance of the Central Solenoid Model Coil

V. Galindo, D. Ciazynski, J.L. Duchateau, A. Martinez, Association EURATOM-CEA; G. Nishijima, N. Koizumi, Y. Takahashi, T. Ando, JAERI, NAKA, JAPAN.

ILD06 Stability in a long length NbTi CICC

P. Bellucci, University of Rome ; S. Chiarelli, M. Ciotti, A. Della Corte, E. Di Ferdinando, P. Gislou, L. Muzzi, M. V. Ricci, M. Spadoni, S. Turtù, Associazione Euratom-Enea sulla fusione, C.E. Frascati, 00044-Frascati (Rome), Italy.

ILD07 AC Loss Measurement of 46kA-13T Nb3Sn Conductor for ITER

Yoshikazu Takahashi, Kumihiro Matsui, Kenji Nishii, Yoshihiko Nunoya, Noriaki Koizumi, Takaaki Isono, Toshinari Ando, Hiroshi Tsuji, Japan Atomic Energy Research Institute; Satoru Murase, Susumu Shimamoto, Tohoku University.

ILD08 Conductors of the ITER Magnets

D. Bessette, N. Mitchell, E. Zapretina, H. Takigami, ITER JCT Naka Japan.

Monday Oral Session (Pavilion Convention Center) 12:00pm - 1:00pm

ILE Accelerator Magnets II

ILE01 Performance of the LHC Final Design Full Scale Superconducting Dipole Prototypes (12:00pm)

Luca Bottura, Pierre Pognat, Andrzej Siemko, Jos Vloegaert, Carlo Wyss, CERN.

ILE02 Status of the LHC Inner Triplet Quadrupole Program at Fermilab (12:15pm)

J. Kerby, J. Carson, M. Lamm, T. Nicol, A. Nobrega, T. Peterson, P. Schlabach, J. Strait, A.V. Zlobin, Fermi National Accelerator Laboratory; R. Scanlan, Lawrence Berkeley National Laboratory.

ILE03 Progress of LHC Low-Beta Quadrupole Magnet at KEK (12:30pm)

T. Shintomi, Y. Ajima, E. Burkhardt, N. Higashi, N. Kimura, T. Nakamoto, T. Ogitsu, N. Ohuchi, K. Tsuchiya, A. Yamamoto, High Energy Accelerator Research Organization - KEK.

ILE04 Field Quality in Fermilab-built Models of Quadrupole Magnets for the LHC Interaction Region (12:45pm)

P. Schlabach, N. Andreev, T. Arkan, P. Bauer, R. Bossert, J. Brandt, D. Chichili, J. Carson, J. DiMarco, Fermilab; S. Caspi, Lawrence Berkeley National Laboratory.

ILF Transformers II

ILF01 Construction and Test of a 1 MVA-Class High-Tc Resonator Coil (12:00pm)

A. Godeke, O.A. Shevchenko, J.J. Rabbers, B. ten Haken, H.H.J. ten Kate, University of Twente, Faculty of Applied Physics, P.O. Box 217, 7500 AE Enschede, The Netherlands; C.J.G. Spoorenberg, SMIT Transformers B.V., Nijmegen, The Netherlands; P. Klein Schiphorst, SMIT Wire B.V., Nijmegen, The Netherlands; G.C. Damstra, University of Eindhoven, Eindhoven, The Netherlands.

ILF02 Optimization of high-temperature superconducting power transformers (12:15pm)

Emmanuel Sissimatos, Gerd Harms, Bernd R. Oswald, University of Hanover - Institut für Elektrische Energieversorgung.

ILF03 Progress In The Design of a 5-10 MVA Class HTS Transformer (12:30pm)

S.P. Mehta, N. Aversa, Waukesha Electric Systems, Waukesha, WI 53186-5937, USA; M.S. Walker, D.W. Hazelton, E.K. Moser, M.T. Gardner, Intermagnetics General Corporation, Latham, NY 12110-0461, USA; R.H. Jones, Rochester Gas and Electric Company, Rochester, NY 14649-0001, USA; B.W. McConnell, S.W. Schwenterly, Oak Ridge National Laboratory, Oak Ridge, TN 37831-6070, USA.

1LF04 Development of a 22kV/6.9kV single-phase model for a 3MVA HTS power transformer cooled by liquid nitrogen (12:45pm)
K. Funaki, M. Iwakuma, K. Kajikawa, Kyushu Univ.; T. Bohno, S. Nose, M. Konno, J. Kuwayama, Fuji Electric Co., Ltd.; H. Maruyama, T. Ogata, Kyushu Trans. Co. Ltd.; K. Tsutsumi, Kyushu Electric Power Co..

Monday Lunch / Hot Topic Talk (Pavilion Convention Center) 1:00pm - 2:00pm

Hot Topic Lunch Session: Doping-Induced Enhancement of Grain Boundary Critical Currents

G. Hammerl, A. Schmehl, R.R. Schulz, B. Goetz, H. Bielefeldt, C.W. Schneider, J. Mannhart, University of Augsburg; H. Hilgenkamp, University of Augsburg (present address: Twente University)

Monday Poster Sessions (Pavilion Convention Center) 2:00pm - 4:00pm

1LG Detector Magnets

1LG01 The B00 Model Coil Test in the ATLAS Magnet Test Facility

A.V. Dudarev, H.H.J. ten Kate, CERN; E.W. Boxman, Twente University; O.P. Anashkin, V.E. Keilin, V.V. Lysenko, RRC Kurchatov Institute.

1LG02 Mechanical characteristics of the ATLAS central superconducting solenoid magnet

Hiroshi Yamaoka, Akira Yamamoto, Yasuhiro Makida, Yoshikuni Doi, Kenichi Tanaka, Takahiko Kondo, High energy Accelerator Research Organization (KEK); Shoichi Mizumaki, Susumu Mine, Toshiba corporation.

1LG03 The Proximity Cryogenics System for the ATLAS Central Solenoid

Yasuhiro Makida, Yoshikuni Doi, Akira Yamamoto, Yoshinari Kondo, Tomiyoshi Haruyama, Takahiko Kondo, High Energy Accelerator Research Organization (KEK); Yoshihiro Wachi, Susumu Mine, Toshiba Co.; Friedrich Haug, Nicolas Delruelle, European Organization for Nuclear Research.

1LG04 Superconducting Septum Magnet design for Jefferson Lab Hall A

P. Brindza, S. Lassiter, J. LeRose, A. Gavalya, JeffersonLab; E. Cisabni, S. Frullani, F. Garibaldi, M. Iodice, G. Urciuoli, INFN; M. Nilles, BWX Technologies Inc..

1LG05 Construction of the ATLAS B0 Model Coil

Antoine Daël, Romain Berthier, Christophe Mayri, Yves Pabot, Jean-Michel Rey, Hubert Van Hille, Cea-Saclay; E. Acerbi, F. Alessandria, F. Broggi, M. Sorbi, INFN-LASA.

1LG06 Superconducting Quadrupoles for Proton Radiography

J.H. Schultz, A. Radovinsky, B. Smith, C. Gung, R.J. Thome, R. Camille, MIT Plasma Science and Fusion Center, Cambridge MA; R.L. Myatt, R.L. Myatt, Myatt Consulting Inc., Norfolk, MA; P. Walstrom, Los Alamos National Laboratory, NM.

1LG07 A Dual 6T Persistent-Mode SC Solenoid Ion-Optical System for Radioactive Nuclear Beam Research

Fred Becchetti, MuYoung Lee, University of Michigan; J.J. Kolata, University of Notre Dame.

1LH Accelerator Magnets III

1LH01 Measurements of Magnetic Field Pattern in a Short LHC Dipole Model

Luca Bottura, Michael Schneider, CERN; Marco Breschi, Università di Bologna.

1LH02 Interaction between Current Imbalance and Magnetisation in LHC cables

M. Haverkamp, 1)CERN-LHC-MTA CH-1211 Geneva 23, 2)Twente University TN/LT Postbus 217 NL-7500 AE Enschede; L. Bottura, 1; B.ten Haken, A. Kuijper, 2.

1LH03 Development and Study of Busbar for the LHC Interaction Region Quadrupoles

P. Bauer, L. Chiesa, S. Feher, J. Kerby, M. Lamm, D. Orris, C. Sylvester, A. Zlobin, FERMILAB.

1LH04 Quench Protection of the LHC Inner Triplet Quadrupoles Built at Fermilab

M. Lamm, P. Bauer, R. Bossert, L. Chiesa, S. Feher, A. Nobrega, D. Orris, J.C. Tompkins, A.V. Zlobin, Fermi National Accelerator Laboratory; A.D. McInturff, Lawrence Berkeley National Laboratory.

1LH05 Quench Protection Heater Studies for the 3rd 1-m Model Magnet for the KEK Low-Beta Quadrupoles for LHC

E. E. Burkhardt, A. Yamamoto, T. Nakamoto, T. Ogitsu, T. Shintomi, K. Tsuchiya, KEK.

1LH06 Thermal Studies of a High Gradient Quadrupole Magnet Cooled with Pressurized, Stagnant Superfluid

T. Peterson, L. Chiesa, S. Feher, J. Kerby, M. Lamm, D. Orris, J. Ozelis, M. Tartaglia, A. V. Zlobin, Fermi National Accelerator Laboratory.

1LH07 Experimental Investigations of He II Heat Transfer across a Short Section of LHC Inner Triplet Quadrupole Heat Exchanger

Christine Darve, Yuenian Huang, Thomas Nicol, Thomas Peterson, Fermilab.

1LH08 Quench and Mechanical Performance of Fermilab Quadrupole Models for the LHC Inner Triplets

S. Feher, R. Bossert, J. Kerby, M.J. Lamm, A. Nobrega, J.P. Ozelis, J. Strait, M. Tartaglia, J.C. Tompkins, A.V. Zlobin, Fermilab.

1LH09 Quench performance and mechanical behaviour of 1-m model magnets for the LHC low-beta quadrupoles at KEK

T. Nakamoto, A. Yamamoto, K. Tsuchiya, E. Burkhardt, N. Higashi, N. Kimura, T. Ogitsu, N. Ohuchi, T. Shintomi, A. Terashima, KEK.

1LH10 Performance of the 1-m Model of the 70-mm Bore Twin Aperture Superconducting Quadrupole for the LHC Insertions

L. Bottura, G. Kirby, R. Ostojic, S. Sanfilippo, A. Siemko, CERN.

1LH11 Performance of the Single and Twin-Aperture Models of the 6 kA Superconducting Quadrupole for the LHC Insertions

L. Bottura, H. Dariol, J. Lucas, R. Ostojic, S. Sanfilippo, A. Siemko, D. Tommasini, I. Vanenkov, CERN, LHC Division, Geneva, Switzerland; R. Bussjaeger, A. Hobl, D. Krischel, M. Schillo, ACCEL Instruments, Bergisch-Gladbach, Germany.

1LI Bulk (HTS) Motors and Bearings Flywheels I

1LI01 Study on High Temperature Superconducting Magnetic Bearing for 10kWh Flywheel Energy Storage System

Shigeo Nagaya, Naoji Kashima, Chubu Electric Power Co., Inc.; Masaharu Minami, Hiroshi Kawashima, Shigeru Unisuga, Mitsubishi Heavy Industries, Ltd..

1LI02 Numerical analysis of rotation loss of superconducting magnetic bearing

Kazuyuki Demachi, Akira Miura, Tetsuya Uchimoto, Kenzo Miya, The University of Tokyo; Hiromasa Higasa, Shikoku Research Institute; Ryoichi Takahata, Koyo Seiko Co., Ltd..

1LI03 A New Flywheel Energy System Using Hybrid Superconducting Magnetic Bearing System

Jiarong Fang, Liangzhen Lin, Luguang Yan, Liye Xiao, Institute of Electrical Engineering.

1LI04 Operational Effects of Pulsating and Rotating Magnetic Fields in Energy Storage HTS Flywheels

Tamas Porjesz, Eotvos University, Hungary; Istvan Vajda, Attila Gyore, Budapest University of Technology and Economics; Andras Szalay, S-Metalltech Ltd, Hungary; Vladimir Sokolovsky, Victor Meerovich Meerovich, Ben Gurion University, Israel; Wolfgang Gawalek, IPHT Jena, Germany.

1LI05 Drag Torque in High Tc Superconductor Magnet Bearings with Multi-piece Superconductors in Low Speed High Load Applications

Hong Ye, Yevgeniy Postrekhin, Ki Ma, Wei-Kan Chu, Texas Center for Superconductivity, University of Houston.

1LI06 Magnetic Interaction Force between High-Tc Superconductor-Ring and Magnet

Ki Ma, Yevgeniy Postrekhin, Hong Ye, Wei-Kan Chu, Texas Center for Superconductivity, University of Houston.

1LI07 Magnetic Bearings using Bulk Superconductors as a Field Shaping Material

Hiroyuki Ohsaki, Graduate School of Frontier Sciences, The University of Tokyo; Natsuki Nozawa, Yoji Kubo, School of Engineering, The University of Tokyo.

1LI08 Analysis of magnetic forces and rotational losses of high-Tc superconducting magnetic bearings by Preisach

Shoichi Yokoyama, Shiro Nakamura, Mitsubishi Electric Corporation; Makoto Hirose, Hitotoshi Nasu, Shikoku Research Institute Inc..

1LI09 Improvement and evaluation of magnetic stiffness in high Tc superconducting magnetic bearing

Mochimitsu Komori, Taku Hamasaki, Dept. of Mechanical System Engineering, Kyushu Institute of Technology, Japan.

1LI10 A.C. Losses and Parasitic Resonances in Contactless Bearings

A.A. Kordyuk, E.A. Laptev, V.V. Nemoshkalenko, A.I. Plyushchay, Institute of Metal Physics, Kyiv, Ukraine; G. Krabbes, IFW Dresden, Germany.

1LJ Stability and Magnet Protection (LTS) II

1LJ01 Study of the back quench in the superconducting coils of the Barrel Toroid of ATLAS and in the B0 model coil

Massimo Sorbi, INFN Sez. di Milano, LASA Lab.; Emilio Acerbi, INFN Sez. di Milano, LASA Lab. and University of Milan.

1LJ02 Analysis of Normal Zone Propagation in Pancake-shaped Superconducting Magnet

Qiuliang Wang, Cheon Seog Yoon, Keeman Kim, Samsung Advanced Institute of Technology.

1LJ03 Experimental investigation to overcome the ramp-rate limitation

Sangkwon Jeong, Seokho Kim, KAIST; Tae Ko, Yonsei University.

1LJ04 Quench Modeling of the ATLAS Superconducting Toroids

A.V. Dudarev, H.J.J. ten Kate, CERN, Geneva, Switzerland; A.V. Gavrilin, NHMFL of FSU, Florida, USA.

1LJ05 Analysis of the Impact of Strand Breakage and Copper Location on the Current Distribution and Stability in Cable-in-Conduit Conductors

N. Mitchell, ITER JCT.

1LJ06 Influence of compressive damages at room and cryogenic temperatures on degradation of superconductors

Toshiyuki Mori, Tomoaki Takao, Yutaka Takahashi, Takahiko Syoji, Kazuya Nakamura, Sophia Univ.; Arata Nishimura, Toshiyuki Mito, Kazuya Takahata, National Institute for Fusion Science.

1LJ07 Influence of thermal expansion and winding tension on quench characteristics of superconducting coils

Tomoaki Takao, Takamasa Suzuki, Naoki Sekine, Hayato Taniguchi, Kazuya Nakamura, Sophia Univ.; Toshihiro Kashima, Atsuhiko Yamanaka, Toyobo; Masakatsu Takeo, Seiki Sato, Kyushu Univ.; Satoshi Fukui, Niigata Univ..

1LJ08 Coil bobbin composed with high strength polyethylene fiber reinforced plastics for stable high field superconducting magnet.

Atsuhiko Yamanaka, Toshihiro Kashima, Research Center, Toyobo Co., Ltd.; Kenji Hosoyama, High Energy Accelerator Research Organization.

1LJ09 Specific Heats of Superconducting Wires for Accelerator Magnets

K. Tsuchiya, T. Kobayashi, KEK High Energy Accelerator Research Organization; T. Numazawa, Tsukuba Magnet Laboratory NRIM; O. Arai, Tokyo Institute of Technology.

1LJ10 Acoustic emission induced from alternating current superconducting coils resulting from vibration of windings

Kazuaki Arai, Hiroshi Yamaguchi, Katsuyuki Kaiho, Electrotechnical Laboratory; Akira Ninomiya, Takeshi Ishigohka, Seikei University; Hiroshi Fuji, Takashi Saitoh, Fujikura Ltd..

1LJ11 Statistical Diagnosis Method of Conductor Motion in Superconducting Magnets to Predict the Quench Performance

Boris Khomenko, Pierre Pugnât, Adriaan Rijllart, Stéphane Sanfilippo, Andrzej Siemko, CERN.

Monday Oral Sessions (Pavilion Convention Center) 4:00pm - 6:30pm

1LK Detector Magnets and Other Applications and Devices: New and Unusual Applications

1LK01 Status report of the CMS Superconducting Coil Project (4:00pm)

Domenico Campi, Alain Herve, CERN; Pasquale Fabbriatore, INFN/Genova; Steve Horvath, ETH/Zurich; Francois Kircher, CEA/Saclay.

1LK02 The ATLAS Superconducting Magnet System (4:30pm)

H.H.J. Ten Kate, CERN.

1LK03 Status and Commissioning of the ATLAS Magnet Test Facility at CERN (5:00pm)

Paola Miele, Fernando Cataneo, Alexey Dudarev, Friedrich Haug, Herman ten Kate, Edo Sbrissa, Peter Schilly, Harri Tyrvaenen, CERN; Augusto Leone, INFN-LASA.

1LK04 Pre-industrialization activities related to CMS coil winding (5:15pm)

P. Fabbriatore, S. Farinon, R. Musenich, C. Priano, INFN Genova; A. Calvo, CERN; B. Levesy, F. Rondeux, CEN Saclay; M. Perrella, C.D., ANSALDO ENERGIA.

1LK05 Structural Design and Analysis of a Compact Sweeper Magnet for Nuclear Physics (5:30pm)

S. Prestemon, M.D. Bird, D.G. Crook, Y.M. Eyssa, National High Magnetic Field Lab, Florida State University, Tallahassee, FL 32310 USA; J.C. DeKamp, L. Morris, M. Thoennessen, National Superconducting Cyclotron Lab, Michigan State University, E. Lansing, MI 48824 USA.

1LK06 Construction and Testing of Superferric Dipoles for the A1900 Fragment Separator (5:45pm)

A. F. Zeller, J. C. DeKamp, J. Wagner, D. Capelli, NSCL/MSU.

1LL Bulk (HTS) Motors, Flywheels, Maglev Transport, and Bearings

1LL01 Prototype of levitated liquid hydrogen cryotank for automotive applications (4:00pm)

M. Baecker, J. Bock, Alcatel High Temperature Superconductors; M. Kesten, H. Fieseler, Messer; W. R. Canders, H. May, S. O. Siems, IMAB TU-BS; H. C. Freyhardt, A. Leenders, H. Walter, ZfW Goettingen.

1LL02 Tests Results of 2-kWh Flywheel Using Passive PM and HTS Bearings (4:30pm)

T. M. Mulcahy, J. R. Hull, K. L. Uherka, Argonne National Laboratory, Argonne, IL, USA; R. A. Abboud, J. Juna, UNICOM, Chicago, IL, USA.

1LL03 Dynamic stability of a hybrid bearing system with a thrust superconducting magnetic bearing and a double radial active magnetic bearing (4:45pm)

R. Nicolisky, Instituto de Física, UFRJ, Cx. P. 68528, Rio de Janeiro 21945-970, Brazil; D. F. B. David, J. A. Santisteban, Engenharia/UFF, Rua Passo da Pátria 156, Niterói 24210-240, Brazil; A. Ripper, PEM/COPPE/UFRJ, Cx. P. 68504, Rio de Janeiro 21945-970 Brazil; R. de Andrade, Jr., DEE/EE/UFRJ, Cx. P. 68515, Rio de Janeiro 21945-970, Brazil; R. M. Stephan, PEE/COPPE/UFRJ, Cx. P. 68504, Rio de Janeiro 21945-970, Brazil.

1LL04 A prototype of flywheel energy storage system suppressed by hybrid magnetic bearings with H-infinity controller (5:00pm)

M. Komori, N. Akinaga, Dept. of Mechanical System Engineering, Kyushu Institute of Technology, Japan.

1LL05 Laser Beam Deflection Polygon Scanner using HTS Bearings (5:15pm)

Frank N. Werfel, Uta Floegel-Delor, Rolf Rothfeld, Dieter Wippich, Adelwitz Technologiezentrum GmbH (ATZ), Germany.

1LL06 Optimization of Levitation Forces (5:30pm)

Matthias Zeisberger, Tobias Habisreuther, Doris Litzkendorf, Oleksiy Surzhenko, Robert Mueller, Wolfgang Gawalek, IPHT Jena, Germany.

1LL07 Calculation of Magnetic Levitation/Suspension Force of Single Grained YBCO Superconductors (5:45pm)

In-Gann Chen, Chin-Chen Kuo, National Cheng Kung Univ.; M.K. Wu, National Tsing-Hwa Univ..

1LL08 Superconducting Magnets for Maglifter Launch Assist Sleds (6:00pm)

J.H. Schultz, J.V. Minervini, A. Radovinsky, B. Smith, R.J. Thome, MIT Plasma Science and Fusion Center, Cambridge MA; R.L. Myatt, Myatt Consulting Inc., Norfolk, MA; R. Meinke, M. Senti, Advanced Magnet Laboratory, Palm Bay, FL.

Tuesday Plenary Sessions (Pavilion Convention Center) 8:30am - 10:00am**2AP2 Critical Currents: Just How Critical Are They?**

David C. Larbalestier, Applied Superconductivity Center, Department of Materials Science and Engineering and Department of Physics, University of Wisconsin, Madison WI 53706 USA.

2AP3 Superconductivity, An Enabling Technology for 21st Century Power Systems?

William Hassenzahl, Advanced Energy Analysis, 3756 Grand Avenue #404, Oakland, CA 94611.

Tuesday Poster Sessions (Pavilion Convention Center) 10:00am - 12:00pm**2LA Mini and Micro SMES****2LA01 Fabrication and Test of the Model Coil for a μ SMES Magnet**

H.J. Kim, K.C. Seong, J.W. Cho, Y.K. Kwon, K.S. Ryu, Korea Electrotechnology Research Institute; K. Ryu, Chonnam National Univ..

2LA02 Universal Power Quality Controller Using Micro-SuperSMES

Toshifumi Ise, Quan Changyu, Sadatoshi Kumagai, Osaka University.

2LA03 Power System Stabilizing Control and Current Limiting by the SMES with Series Phase Compensator

Duangkamol Kamolyabuttra, Yasunori Mitani, Kiichiro Tsuji, Osaka University.

2LA04 Feasibility of Nb₃Sn in a Micro SMES Concept

Risto Mikkonen, Aki Korpela, Jorma Lehtonen, Tampere University of Technology.

2LA05 Design of a 150 kJ High Temperature Superconducting SMES (HSMES)

Heinrich Salbert, Achim Hobl, Detlef Krischel, Michael Schillo, ACCEL Instruments GmbH; Alfons Knop, AEG SVS Power Supplies; Klaus Dütsch, Energieversorgung Oberfranken; Rainer Harke, EUS GmbH.

2LA06 Study on High-Tc Superconducting Magnet made with Bi-2212/Ag Rutherford Cable

Shigeo Nagaya, Naoki Hirano, Chubu Electric Power Co., Inc.; Masaharu Minami, Toshihide Nakano, Mitsubishi Heavy Industries, Ltd..

2LA07 On-line Evaluation of Power System Stability by use of SMES

Yasuyuki Shirai, Takahiro Tsuchiya, Kyoto Univ.; Tanzo Nitta, Satoru Mohri, The Univ. of Tokyo; Hidetoshi Nishigaito, KEPCO.

2LA08 Research and Development of Toroidal SMES

E.P. Polulyakh, SRC RF TRINITY; A.E. Poltanov, SRC RF TRINITY; E.Yu. Klimenko, S.I. Novikov, RRC.

2LA09 Design of ferromagnetic core for SMES

Alexander Friedman, Moshe Zarudi, Noam Shaked, Moshe Sinvani, Yoshua Wolfus, Yosi Yeshurun, Institute of Superconductivity, Department of Physics, Bar-Ilan University.

2LA10 SMES system for study of utility and custom power applications

Xiaohua Jiang, Xu Chu, Xuezhong Wu, Wei Liu, Jinfeng Tian, Hong Yang, Xin Geng, Dept. of Electrical Engineering, Tsinghua Univ., Beijing 100084, China; Yingming Dai, Heli Lan, Inst. of Electrical Engineering, Chinese Academy of Sciences, Beijing 100080, China.

2LA11 Control strategies of SMES for custom power conditioning

Xu Chu, Xiaohua Jiang, Xuezhong Wu, Xin Mo, Jianguo Jiang, Dept. of Electrical Engineering, Tsinghua Univ., Beijing 100084, China.

2LB S/C Cables I**2LB01 The Relationship among AC Surface Spark-over Voltage, Specific Capacitance of Solid Insulator and Bubbles in LN₂ and LHe**

Tanzo Nitta, Masakuni Chiba, Hisashi Uematsu, The University of Tokyo.

2LB02 Electrically and Thermally Insulated Joint for Liquid Nitrogen Transfer

Carsten Rasmussen, Chresten Traeholt, Ole Toennesen, Technical University of Denmark; Claus N. Rasmussen, Dag Willén, NKT Research Center.

2LB03 Determination of the heat transfer between a 10 meter long cryostat and its surroundings

Ole Toennesen, Chresten Traeholt, Erling Veje, Department of Electric Power Engineering, Technical University of Denmark, DK-2800 Lyngby, Denmark.

2LB04 Calorimetric measurements of losses in HTS cables

Chresten Traeholt, Søren Krüger Olsen, Carsten Rasmussen, Erling Veje, Ole Tønnenes, Technical University of Denmark.

2LB05 Low temperature assessment of dielectric materials

Paola Caracino, Marco Nassi, Fabio Ombello, Pirelli Cavi e Sistemi SpA; Giancarlo Montanari, Universita.

2LB06 Thermal conductivity of ppl insulation at cryogenic temperatures

L. Gherardi, P. Caracino, Pirelli Cavi ; P. Anelli, consultant.

2LB07 Overcurrent experiments on HTS tape and cable conductor

Kim Hoej Jensen, Chresten Traeholt, Erling Veje, Ole Toennesen, Department of Electric Power Engineering, Technical University of Denmark, DK-2800 Lyngby, Denmark; Manfred Daumling, Claus Nygaard Rasmussen, Dag Willen, NKT Research Center, Priorparken 878, DK-2605 Brøndby, Denmark.

2LB08 Fault Current Tests of HTS Cable and Tapes

J. W. Lue, ORNL; G. C. Barber, J. A. Demko, M. J. Gouge, J. P. Stovall, Oak Ridge National Laboratory; R. L. Hughey, U. K. Sinha, H. Butler, Southwire Co..

2LB09 Practical AC Loss and Thermal Considerations for HTS Power Transmission Cable Systems

J. A. Demko, J. W. Lue, M. J. Gouge, J. P. Stovall, Oak Ridge National Laboratory; R. L. Hughey, U. Sinha, Southwire Co.; J. Fesmire, NASA Kennedy Space Center; S. D. Augustynowicz, Dynacs Co. Kennedy Space Center.

2LC Maglev Transport and Bearings

2LC01 Homogenisation of the magnetic field course in the Air-gap of a Permanent Magnet - Superconductor Bearing

H.W. Lorenzen, R. Zickermann, Department of Electrical Machines - Technische Universität München - Germany; D. Schafer, ABB-Alstom Power CH 5242 BIRR (Switzerland).

2LC02 Characteristics of lift and restoring force in HTS bulk

Y. Sanagawa, M. Tsuda, A. Ishiyama, Waseda University; S. Kohayashi, S. Haseyama, Dowa Mining Co.ltd.

2LC03 Levitation force of a YBaCuO bulk high temperature superconductor over a NdFeB railway

J.S. Wang, S.Y. Wang, Z.Y. Ren, M. Zhu, H. Jiang, Q.X. Tang, Applied Superconductivity Laboratory, Southwest Jiaotong University, Chengdu, Sichuan, 610031, China.

2LC04 Levitation Force in YBCO/Nd-Fe-B Permanent Magnet System,

Haigun Lee, Yukikazu Iwasa, M.I.T.

2LC05 Combination levitation force of multi-block YBaCuO bulk high temperature superconductors

S.Y. Wang, J.S. Wang, Z.Y. Ren, H. Jiang, M. Zhu, Q.X. Tang, Applied Superconductivity Laboratory, Southwest Jiaotong University, Chengdu, Sichuan, 610031, China.

2LC06 Three Dimensional Vibration of the HTSC-Permanent Magnet Bearing System in the Mechanical Resonance State

Shunsuke Ohashi, Hidenori Tanaka, Yoshihisa Hirane, Kansai University.

2LC07 The Free Solid Dynamics Model with Super Conductive Rings Currents Interaction

Vasyl Kozoriz, Kyiv State Maritime Academy, Prof.; Genadij Slavko, Kremenchuk State Polytechnic Institute.

2LC08 Magnetic Potential Well as a New Levitation Phenomenon

Vasyl Kozoriz, Kyiv Polytechnic Insitute.

2LC09 Magnetic Force Lines Field Picture of Super Conductive Coils

A. Kozoriz, Kyiv Polytechnic Insitute .

2LC10 Lost of Superconductivity as a Result of Magnetic Levitation Gaps Changes

Mykhaylo Demyanenko, Space Research Institute; Svjatoslav Ischenko, Kyiv Polytechnic Insitute.

2LC11 Repeated pulsed-field magnetization with temperature control in a high-Tc bulk superconductor

Hiroki Kamijo, Hiroyuki Fujimoto, Railway Technical Research Institute.

2LD Stability and Magnet Protection (HTS)

2LD01 Contact Resistance and Normal Zone Propagation in YBCO Coated Conductors

R.C. Duckworth, J.M. Pfothenhauer, University of Wisconsin - Madison; J.W. Lu, Oak Ridge National Lab.

2LD02 Normal zone propagation in a 2-section BSCCO-2223 coil

Benjamin J. Haid, Yukikazu Iwasa, MIT Francis Bitter Magnet Laboratory; Akira Sugawara, MIT Francis Bitter Magnet Laboratory and Department of Electrical and Electronic Engineering, Niigata University

2LD03 Quench Development Analysis in HTSC Coils by Use of the Universal Scaling Theory

V.S. Vysotsky, Yu.A. Ilyin, Institute of Superconductivity and Solid State Physics of RRC "Kurchatov Institute", Moscow, Russia.; A.L. Rakhmanov, SCAPE of Russian Academy of Science, Moscow, Russia; M. Takeo, Kyushu University, Fukuoka, Japan.

2LD04 Fabrication of Bi-2223 HTS magnet with a superconducting switch

Sang-Soo Oh, Hong-Soo Ha, Dong-Woo Ha, Young-Kil Kwon, Kang-Sik Ryu, Korea Electrotechnology Research Institute; Benjamin Haid, Haigun Lee, Yukikazu Iwasa, Francis Bitter Magnet Laboratory, MIT.

2LD05 Stability Criterion for Cryocooler-cooled HTS Coils

Hiroki Asai, Atsushi Ishiyama, Waseda University.

2LD06 Analytical studies of the thermal stability of a HTS superconducting tube

Jean Leveque, Denis Netter, Abderrezak Rezzoug, GREEN.

2LD07 Limiting Length in Cooling Design of HTS Magnets

Yuri Lvovsky, Intermagnetics General Corporation, Magnet Business Group.

2LD08 Transport Current Properties of YBCO Tapes over Critical Current Region

Shinji Torii, Shirabe Akita, CRIEPI; Yasuhiro Iijima, Takashi Saitoh, Fujikura Ltd..

2LD09 Transient electrical and thermal responses of a 2-section BSCCO-2223 coil under overcurrent pulses

Akira Sugawara, MIT Francis Bitter Magnet Laboratory, Department of Electrical and Electronic Engineering, Niigata University; Hisashi Isogami, Karl W. Kowallis, Yukikazu Iwasa, MIT Francis Bitter Magnet Laboratory of Physics and Technology

2LD10 Thermal Behavior of a Solid Nitrogen Impregnated High-Temperature Superconducting Pancake Test Coil under Transient Heating

Hisashi Isogami, MIT Francis Bitter Magnet Laboratory and Mechanical Engineering Research Laboratory, Hitachi, Ltd.; Benjamin J. Haid, Yukikazu Iwasa, MIT Francis Bitter Magnet Laboratory

Tuesday Oral Sessions (Pavilion Convention Center) 12:00pm - 1:00pm

2LE Mini and Micro SMES and Medium to Large SMES

2LE01 Utility Applications of SMES---Today (12:00pm)

Robert Schwall, American Superconductor Corporation.

2LE03 Power Converter for SMES by use of ICB Energy Transfer Circuit (12:45pm)

Junpei Baba, Tanzo Nitta, Yukio Hayashi, The University of Tokyo; Yasuyuki Shirai, Yoshihiro Kobayashi, Kyoto University; Shirabe Akita, Central Research Institute of Electric Power Industry.

2LE04 A mechanism causing an additional AC loss in a large CIC coil (1:00pm)

T. Hamajima, M. Yoshida, H. Shimomura, N. Harada, M. Tsuda, Yamaguchi University; S. Hanai, Toshiba Corporation; T. Satow, National Institute for Fusion Science.

2LF Superconducting RF (SRF) Cavities and Components

2LF01 Progress of Superconducting RF Development for Accelerator Production of Tritium in Los Alamos (12:00pm)

K. C. D. Chan, R. C. Gentzlinger, W. B. Haynes, F. L. Krawczyk, B. M. Campbell, J. A. Waynert, E. N. Schmierer, C. Gautier, J. P. Kelley, LANL; J. Mammosser, TJNAF.

2LF02 High Field Performance of Niobium-Coated Superconducting RF Cavities (12:30pm)

C. Benvenuti, S. Calatroni, H. Neupert, M. Prada Vazquez, A.-M. Valente, CERN.

2LF03 Electric Surface Resistance RE (T, f, E) at Nb/Nb2O5 and YBCO/STO-Interfaces and Q-drop (12:45pm)

J. Halbritter, IMF I.

Tuesday Poster Sessions (Pavilion Convention Center) 2:00pm - 4:00pm

2LG Fusion Magnets II

2LG01 Design, Fabrication and Test of the React and Wind, Nb3Sn, LDX Floating Coil Conductor

B.A. Smith, P.C. Michael, J.V. Minervini, M. Takayasu, J.H. Schultz, MIT PSFC; E. Gregory, T. Pyon, IGC ASI; W.B. Sampson, A. Ghosh, BNL; R. Scanlan, LBNL.

2LG02 Charging Magnet for the Floating Coil of the Levitated Dipole Experiment (LDX)

A. Zhukovsky, B. Smith, J. Schultz, A. Radovinsky, MIT Plasma Science and Fusion Center, Cambridge, MA; D. Garnier, Columbia University, New York, NY; O. Filatov, S. Egorov, V. Kuchinsky, V. Korsunsky, V.D.Efremov Scientific Research Institute of Electrophysical Apparatus, St. Petersburg, Russia; V. Sytnikov, SC All-Russia Scientific Research Institute for Cabling Industry, Moscow, Russia.

2LG03 Mechanical pre-loading of the Central Solenoid Model Coil

P.C. Michael, R. Vieira, MIT Plasma Science and Fusion Center, Cambridge, MA, USA; R.V. Jayakumar, LLNL, Livermore, CA, USA; T. Kato, H. Nakajima, M. Sugimoto, Japan Atomic Energy Research Institute, Naka-machi, Ibaraki-ken, JAPAN.

2LG04 Instrumentation of the Central Solenoid Model Coil and the CS Insert

C.Y. Gung, P.C. Michael, MIT - PSFC, Cambridge, MA, USA; N.N. Martovetsky, LLNL, Livermore, CA, USA**; T. Isono, Y. Nunoya, T. Ando, JAERI, Naka-machi, Ibaraki-ken, JAPAN; K. Okuno, ITER JCT, Naka-machi, Ibaraki-ken, JAPAN.*

2LG05 Development of High Cu Ratio Nb3Al Strands for Fusion Magnets

F. Hosono, G. Iwaki, Hitachi Cable; K. Kikuchi, Hitachi cable; T. Ando, S. Ishida, JAERI.

2LG06 Excitation properties and cryogenic stability of helical coils for the LHD

S. Imagawa, N. Yanagi, T. Mito, H. Chikaraishi, S. Hamaguchi, H. Sekiguchi, S. Yamada, T. Satow, Y. Nakamura, O. Motojima, National Institute for Fusion Science.

2LG07 Contact Resistance Distribution at the Terminations of Cable-in-Conduit Conductors

P. Bruzzone, EPFL-CRPP.

2LG08 Control of Contact Resistance by Strand Surface Coating in Sub-size NbTi CICC’s

A. Nijhuis, E.J. Morsink, H.H.J. ten Kate, University of Twente; J.L. Duchateau, P. Decool, CEA Cadarache.

2LH Medium to Large SMES

2LH01 Compensation of Load Power Fluctuation and Three-Phase Unbalance from High Speed Railway Loads Using SMES

Toshifumi Ise, Takeshi Yoshida, Yuuki Kobayashi, Sadatoshi Kumagai, Osaka University.

2LH02 Studies on Power Conditioning System for SMES in ITER

Toshifumi Ise, Osaka University.

2LH03 Using a Superconducting Magnetic Energy Storage Coil to Improve Efficiency of a Gas Turbine Powered High Speed Rail Locomotive

B.K. Johnson, J.D. Law, University of Idaho.

2LH04 Connecting tests of a Superconducting Persistent-Current-Switch in a Type of Transformer to 1kWh SMES system

Hidemi Hayashi, Tsuneo Sannomiya, Hironobu Kimura, Katsuya Tsutsumi, Kyushu Electric Power Co.,Inc.; Ryusuke Kuboyama, Yukio Yamashita, Seiki Sato, Masakatsu Takeo, Kyushu University; Sadayuki Okada, Katsuhiko Asano, Hitachi Ltd..

2LH05 Test results of Compensation for Load Fluctuation with a Fuzzy Control Applied to a 1kWh/1MW SMES

Tsuneo Sannomiya, Hidemi Hayashi, Hironobu Kimura, Katsuya Tsutsumi, Kyushu Electric Power Co.,Inc.; Toshinori Ishii, West Japan Engineering Consultants,Inc.; Ryuji Ikeda, Fukuoka Denki Keiki Co.,Inc..

2LH06 Experimental and Analytical Studies on Mechanical Behavior of Superconducting Coil for SMES

Kazuhiko Shimada, Satoshi Hanai, Luna Kushida, Kenichi Hirabayashi, Takaji Kobayashi, Toshiba Corporation; Hidemi Hayashi, Katsuya Tsutsumi, Fujio Irie, Kyushu Electric Power Co.,Inc.; Yoko Horiuchi, Tadao Ezaki, Oita University.

2LH08 New SMES Structures Analysis

Olivier Vincent-Viry, Pr. Alain Mailfert, GREEN.

2LH09 Design Considerations for Force-Balanced Coil Applied to SMES

Shinichi Nomura, Naruaki Watanabe, Yasuhiro Komatsu, Etsuko Koizumi, Hiroaki Tsutsui, Shunji Tsuji-Iio, Ryuichi Shimada, Research Laboratory for Nuclear Reactors, Tokyo Institute of Technology.

2LH10 Experimental Study on On-line Grasp of Operating Condition of Longitudinal Power System by use of SMES

Tanzo Nitta, Satoru Mohri, The Univ. of Tokyo; Yasuyuki Shirai, Kyoto University; Haruhito Taniguchi, Yoshihito Kitauchi, CRIEPI; Yasuo Morioka, Kenichi Kawada, KEPCO.

2LI Fault Current Limiters and Other Power Gear I

2LI01 Design Performance of a Superconducting Power Link

J. Paasi, J. Lehtonen, Tampere University of Technology, Finland; T. Verhaege, P.F. Herrmann, Alcatel, France.

2LI02 Reduction of Inductance and Current Rating of the Coil and Enhancement of Fault Current Limiting Capability of a Rectifier Type Superconducting Fault Current Limiter

Toshifumi Ise, Nguyen Hong Nguyen, Sadatoshi Kumagai, Osaka University.

2LI03 Study of the quench conditions in superconducting current limiters

Vladimir Sokolovsky, Victor Meerovich, Shaul Goren, Physics Department, Ben Gurion University; Istvan Vajda, Department of Electrical Machines and Drives, Budapest University of Technology and Economics.

2LI04 Feasibility Study on Superconducting Fault Current Limiting Transformer (SFCLT)

Naoki Hayakawa, Shunji Chigusa, Hitoshi Okubo, Nagoya University; Naoji Kashima, Shigeo Nagaya, Chubu Electric Power Co., Inc..

2LI05 Nonlinear Current-Voltage Characteristic of HTS Conductor and the Operation of Fault Current Limiter

Yu Wang, Wei Wang, Chuanyi Li, Daole Yin, Department of Physics, Peking University; Liye Xiao, Liangzhen Lin, Naihao Song, The Institute of Electrical Engineering, Chinese Academy of Sciences.

2LI06 DC Reactance Effect on Bridge Type HTS Fault Current Limiter During Load Increasing

Tsutomu Hoshino, Khosru Mohammad Salim, Massanori Nishikawa, Itsuya Muta, Taketsune Nakamura, Kyoto University.

2LI07 Resistance Rise in Bi2223 Superconducting Bulk due to Overcurrent after Normal Transition

Hirota Shimizu, Kiyotaka Kato, Yasunobu Yokomizu, Toshiro Matsumura, Nagoya University; Norimitsu Murayama, National Industrial Research Institute of Nagoya.

2LI08 YBCO-thin films as active high power switches

A. Heinrich, J. Mueller, K. Numssen, H. Kinder, Technische Universitaet Muenchen, Germany; W. Weck, A. Mueller, H. Schoelderle, Magnet Motor, Germany.

2LI09 Design Guideline of Flux-Lock Type HTS Fault Current Limiter for Power System Application

Toshiro Matsumura, Hirota Shimizu, Yasunobu Yokomizu, Nagoya University.

2LI10 Investigation of high-Tc bulk material for its use in resistive superconducting fault current limiters

M. Noe, K.-P. Juengst, Forschungszentrum Karlsruhe; J. Bock, Alcatel High Temperature Superconductors; F. Werfel, Adelwitz Technologiezentrum.

2LJ Bulk (HTS) Motors and Bearings Flywheels II

2LJ01 Fundamental Experiments of Axial-Type BSCCO-Bulk Superconducting Motor Model

Itsuya Muta, Takeshi Konishi, Tomohiro Hirata, Taketsune Nakamura, Tsutomu Hoshino, Kyoto University.

2LJ02 The design and analysis of a trapped-field synchronous motor with HTS stator and rotor

Gary Barnes, Malcolm McCulloch, David Dew-Hughes, University of Oxford.

2LJ03 Analysis and Test of HTS Induction Generator

Sung-Hoon Kim, Woo-Seok Kim, Gueeso Cha, Song-yop Hahn, Seoul National University.

2LJ04 Improvement of a magnetically-levitated stepping motor using high Tc bulk superconductor

Mochimitsu Komori, Shinichi Nomura, Dept. of Mechanical System Engineering, Kyushu Institute of Technology, Japan.

2LJ05 Trial production and experiments of linear actuator with bulk HTS secondary

Ryo Muramatsu, Shungo Sadakata, Makoto Tsuda, Atsushi Ishiyama, Waseda university.

2LJ06 The flux trapping characteristics of YBCO bulks using pulse magnetization

Takeshi Ishigohka, Hiroyuki Ichikawa, Akira Ninomiya, Seikei University; Hiroyuki Fujimoto, Hiroki Kamijo, Railway Technical Research Institute.

2LJ07 Dynamics and Relaxation of Magnetic Stress between Magnet and Superconductor in a Levitation System

Yevgeniy Postrekhin, Ki Ma, Hong Ye, Wei-Kan Chu, Texas Center for Superconductivity, University of Houston.

2LJ08 Trapped Field Characteristics of YBCO Bulk in Time-varying External Magnetic Field

Toshiaki Ohyama, Makoto Tsuda, Atsushi Ishiyama, Waseda University; Shuichi Kohayashi, Shuetsu Haseyama, Dowa Mining Co., Ltd..

2LJ09 Two-dimensional Stresses Evaluation of A Trapped Field Magnet during Field-cooled Magnetization

Masanori Tsuchimoto, Hokkaido Institute of Technology; Hideyoshi Takashima, Toshitada Ohnishi, Hokkaido University.

2LJ10 3-D field analysis of HTS bulk magnet

Seung-Yong Hahn, Ji Hoon Kim, Song-yop Hahn, Seoul National University.

2LJ11 Finite Element Analysis of Magnetic Fields in High Temperature Bulk Superconductor

Yon-Do Chun, Youn-Hyun Kim, Ju Lee, Dept. of Electrical Engineering, Hanyang University; Jung-Pyo Hong, Dept. of Electrical Engineering, Changwon Nat; Jong-Woo Lee, Korea Railroad Research Institute.

Tuesday Oral Sessions (Pavilion Convention Center) 4:00pm - 6:30pm

2LK Fusion Magnets

2LK01 High Temperature Superconducting Levitation Coil for the Levitating Dipole Experiment (4:00pm)

J.H. Schultz, B.A. Smith, M. Takayasu, A. Radovinsky, J.V. Minervini, J. Kesner, MIT Plasma Science and Fusion Center, Cambridge, MA; D. Garnier, M. Mauel, Columbia University, New York, NY; G. Snitchler, G. Driscoll, American Superconductor Corporation, Westborough, MA.

2LK02 Design, Fabrication and Test of the React and Wind, Nb3Sn, LDX Floating Coil (4:30pm)

B.A. Smith, J.H. Schultz, A. Zhukovsky, A. Radovinsky, J.V. Minervini, J. Kesner, MIT-PSFC; D. Garnier, M. Mauel, Columbia University; G. Naumovich, R. Kocher, Everson Electric.

2LK03 Production of NbTi CICC (4:45pm)

F. Hosono, S. Inaba, K. Hiroshima, K. Chida, M. Watahiki, G. Iwaki, K. Kikuchi, K. Kamata, Hitachi Cable; Subrata Pradhan, Y. C. Saxena, IPR.

2LK04 Test Results of SeCRETS, a Stability Experiment about Segregated Copper in Cable-in-Conduit Conductors (5:00pm)

P. Bruzzone, A.M. Fuchs, G. Vecsey, EPFL-CRPP.

2LK05 Facility status and results on ITER full-size conductor tests in SULTAN (5:15pm)

Albert Mario Fuchs, Pierluigi Bruzzone, Georg Vecsey, Martin Vogel, EPFL/CRPP-FT; Bertrand Blau, ETHZ-IHP.

2LK06 Electromagnetic evaluation of the collective behaviour of 720 twisted strands for the TF model coil experiment (5:30pm)

J-L Duchateau, _ Hertout, Association Euratom-CEA; _ Ciazynski, Association EURATOM CEA; Spadoni, ENEA Frascati; _ Specking, Forschungszentrum Karlsruhe.

2LK07 Central Solenoid Model Coil (CSMC) and CS Insert Coil Test Results (5:45pm)

N.N. Martovetsky, LLNL; P.C. Michael, M. Takayasu, MIT PSFC; T. Ando, T. Isono, H. Nakajima, JAERI; K. Okuno, N. Mitchell, D. Bessette, ITER JCT, Naka.

2LL Fault Current Limiters and Other Power Gear II

2LL01 Development of a Resistive Fault Current Limiter of the 1-MVA-Class(4:00pm)

W. Schmidt, B. Gromoll, H.-P. Kraemer, R. Nies, G. Ries, B. Seebacher, B. Utz, H.-W. Neumueller, Siemens AG, Corporate Technology, Erlangen and Munich, Germany; S. Fischer, R.-R. Volkmar, Siemens AG, Power Transmission and Distribution, Berlin, Germany.

2LL02 Fault Current Limitation with Bulk YBCO (4:30pm)

Pascal Tixador, Laureline Porcar, Didier Buzon, CNRS/CRTBT-LEG; Eric Floch, Schneider Electric; Robert Tournier, Daniel Bourgault, Dirk Isfort, Eric Beaugnon, CNRS/Lab. Crist.; Xavier Chaud, CNRS/CRETA.

2LL03 Current Limiting Performance by Single Grained YBCO Superconductor Rings (4:45pm)

In-Gann Chen, Jyh-Ming Lin, National Cheng Kung Univ..

2LL04 Economical and Technical Impacts on a Power System by Introducing an FCL (5:00pm)

Mårten Sjöström, EPF Lausanne; Diego Politano, ETH Zürich.

2LL05 HTS in Power Systems (5:15pm)

Diego Politano, ETH Zürich; Mårten Sjöström, EPF Lausanne; Gilbert Schnyder, ABB Sécheron SA, Geneva; Jakob Rhyner, ABB, Corporate Research Ltd., Baden.

2LL06 Properties of YBCO strip lines at high current densities: implications for fault current limiters (5:45pm)

M. Decroux, L. Antognazza, N. Musolino, E. de Chambrier, S. Reymond, J.-M. Triscone, O. Fischer, DPMC, university of Geneva, Switzerland; W. Paul, M. Chen, ABB, Corporate Research, Switzerland.

2LL07 Behavior of a BSCCO Shielded-Core Reactor (6:00pm)

M.G. Ennis, T.J. Tobin, S&C Electric Company; Y.S. Cha, J. Hull, Argonne National Laboratory.

Tuesday Public Lectures (Pavilion Convention Center) 8:00pm - 10:00pm

The Race for High Temperature Superconductivity

Paul (C.W.) Chu, University of Houston

Bringing Power to the People -- The Coming Age of Superconductivity

Paul Grant, Electric Power Research Institute (EPRI)

Wednesday Poster Sessions (Pavilion Convention Center) 2:00pm - 4:00pm

3LA Accelerator Magnets IV

3LA01 Magnet Design Issues for the Next Generation Collider

S. Gourlay, G. Sabbi, LBNL.

3LA02 Design and Considerations on Long Nb3Sn High Field Magnets for Hadron Colliders

Ryuji Yamada, Seog-Whan Kim, Robert Wands, Fermilab; Masayoshi Wake, KEK.

3LA03 Correction of the Persistent Current Effect in Nb3Sn Accelerator Magnets

V.V. Kashikhin, A.V. Zlobin, Fermilab.

3LA04 Conceptual design of high-field Nb3Sn accelerator magnets wound from monolithic conductors

Andries den Ouden, Bennie ten Haken, Herman ten Kate, University of Twente, Enschede, The Netherlands.

3LA05 Components and Characterization of a Common Coil Prototype

B. Benjegerdes, S. Caspi, S. Gourlay, R. Hafalia, R. Hannaford, A. Lietzke, A. McInturff, G. Millos, J. O'Neill, R. Scanlan, LBNL.

3LA06 Quench Protection of Fermilab High-Field Dipoles for VLHC

P. Bauer, _ AMBROSIO, _ SABBI, _ ZLOBIN, FERMILAB.

3LB Fusion Magnets III

3LB01 Helium and Current Feeder System of KSTAR

C. H. Choi, Y. K. Oh, Y. S. Kim, Y. M. Park, H.-C. Ri, D.L. Kim, D.K. Lee, H.G. Jhang, K.I. You, J.Y. Kim, M. Kwon, G.S. Lee, Korea Basic Science Institute, Taejeon, Korea; C.S. Yoon, Y.J. Kim, S.K. Baang, K.M. Kim, Samsung Advanced Institute of Technology, Taejeon, Korea; D.P. Ivanov, RRC Kurchatov Institute, Moscow, Russia.

3LB02 KSTAR Magnet Structure Design

Y. K. Oh, C. H. Choi, K.-I. You, D. K. Lee, J. Y. Kim, J. W. Sa, M. Kwon, G. S. Lee, Korea Basic Science Institute, Taejeon, Korea; Y. J. Kim, K. M. Kim, Samsung Advanced Institute of Technology, Taejeon, Korea.

3LB03 Parametric Study for Conductor Design and Optimization of KSTAR PF coils

Cheon S. Yoon, Qiuliang Wang, Keeman Kim, Samsung Advanced Institute of Technology; Dong-Ryul Lee, Catholic University of Taegu-Hyosung.

3LB04 Thermal-Hydraulic Simulation on Cable-in-Conduit-Conductor with Moving Mesh Finite Element Method For KSTAR Tokamak

Qiuliang Wang, Cheon Seog Yoon, Keeman Kim, KSTAR Superconducting Magnet Team, Samsung Advanced Institute of Technology.

3LB05 Analysis of Induced Voltage in Main Background Magnet System for SSTF

Qiuliang Wang, Cheon Seong Yoon, Sungkeun Baang, Samsung Advanced Institute of Technology; Sangbo Kim, Hyunki Park, Keeman Kim, Samsung Advanced Institute of Technology.

3LB06 Current Control of Magnetically Coupled Superconducting Coils for Large Helical Device Using H-infinity Control Scheme

Toshifumi Ise, Yoshikazu Taizawa, Sadatoshi Kumagai, Osaka University; Hitotaka Chikaraishi, National Institute for Fusion Science (NIFS).

3LB07 The Background Magnets of the Samsung Superconductor Test Facility (SSTF)

Oleg Anashkin, Victor Keilin, Valery Lysenko, Sergei Miklyaev, Vladimir Shcherbakov, Sergei Shevchenko, Igor Shugaev, Mikhail Surin, Kurchatov Institute; Sungkeun Baang, Keeman Kim, Samsung Advanced Institute of Technology.

3LC Fault Current Limiters and Other Power Gear III

3LC01 Study on Recovery Time of Superconducting Fault Current Limiter with Adjustable Trigger Current Level

Yasuyuki Shirai, Kazuhiro Fujikawa, Masahiro Shiotsu, Takashi Ikejiri, Kyoto Univ.; Tanzo Nitta, Hiroyuki Hatta, The Univ. of Tokyo.

3LC02 One dc reactor type fault current limiter for 6.6kV power system

Takahiro Nomura, Mitsugi Yamaguchi, Satoshi Fukui, Niigata University.

3LC03 Increase in Transient Resistance of Bi2223 Superconducting Bulk by Applying External Magnetic Field

Kiyotaka Kato, Takeshi Noda, Hirotaka Shimizu, Yasunobu Yokomizu, Toshiro Matsumura, Nagoya University; Norimitsu Murayama, National Industrial Research Institute of Nagoya.

3LC04 The Stability Analysis of Power System Installed Superconducting Fault Current Limiter

Seung-Je Lee, Chanjoo Lee, Tae Kuk Ko, Dept. of Electrical and Computer Eng., Yonsei Univ; Okbae Hyun, Power System Lab., KEPRI.

3LC05 Design of High-Tc Superconducting Fault Current Limiter through Electromagnetic Analysis

Chanjoo Lee, Seunje Lee, Mihye Jang, Tae Kuk Ko, Dept. of Electrical and Computer Eng., Yonsei Univ; Sang Jin Lee, Dept. of Electrical Eng., Uiduk University; Okbae Hyun, Power System Lab., KEPRI.

3LC06 An Application of One DC Reactor Type Fault Current Limiter as a Power Source

Kazuya Yokoyama, Niigata University; Mitsugi Yamaguchi, Satoshi Fukui, Takao Sato, Niigata University.

3LC07 Study of the quench conditions in superconducting current limiters

V. Sokolovsky, V. Meerovich, S. Goren, Ben-Gurion University of the Negev, Israel; I. Vajda, Technical University of Budapest, Hungary.

3LC08 Thermal Design and Performance Tests of a Current Limiter with a Conduction Cooled Nb3Sn Screen

T. Onishi, N. Aizawa, A. Yamagata, A. Nii, Hokkaido University; M. Shibuya, Super-GM.

3LC09 Quench development and ultimate normal zone propagation velocity in superconductors under fast current change

V.S. Vysotsky, Yu.A. Ilyin, ISSSP of RRC "Kurchatov Institute", Russia; A.L. Rakhmanov, SCAPE of RAS, Russia; K. Funaki, M. Takeo, Kyushu University, Japan; K. Shimohata, S. Nakamura, Advanced Technology R&D Center, Mitsubishi Electric Corp., Japan; M. Yamada, K. Hasegawa, The Kansai Electric Power Company Inc., Japan.

3LC10 Application of Resistor Based Superconducting Fault Current Limiter to Enhancement of Power System Transient Stability

Masaki Tsuda, Yasunori Mitani, Kiichiro Tsuji, Osaka University; Kunihiko Kakihana, Kansai Electric Power Co..

3LC11 One dc reactor type fault current limiting interrupter for three-phase power system

K. Usui, T. Satoh, M. Yamaguchi, S. Fukui, K. Yokoyama, Niigata University; T. Nagasawa, Niitsu Technical High School.

3LD S/C Cables II

3LD01 Experimental Characterization of Resistive Joints for use inside ATLAS Toroids.

Giovanni Volpini, INFN-LASA.

3LD02 Current Redistribution of LHC Superconducting Cables near the Resistive Transition

Arjan Verweij, Laurent Buchsbaum, CERN.

3LD03 Strand Critical Current Degradation in Nb3Sn Rutherford Cables

E. Barzi, A. V. Zlobin, Fermilab.

3LD04 A Continuum Model for Current Distribution in Rutherford Cables

A. Akhmetov, L. Bottura, CERN, LHC Division, Geneva, Switzerland; M. Breschi, P.L. Ribani, Department of Electrical Engineering, University of Bologna, Italy.

3LD05 A strain-tolerant Bi-2212 cable

Rainer Soika, Nikolai Diaczenko, Timothy Elliott, Peter McIntyre, Mustafa Yavuz, TAMU; Leszek Motowidlo, IGC-AS; Gan Liang, SHSU.

3LD06 Layer-current Distribution dependent on Structure Parameters

LEE Jian, Institute of Electrical Engineering, Academia Sinica; LIN Liangzhen, Institute of Electrical Engineering, Academia Sinica.

3LD07 Different time constants in flat superconducting cables

S. Takacs, M. Iwakuma, K. Funaki, Grad. School of Info. Sci.&Electr. Eng., Kyushu University, 812-8581 Fukuoka, Japan.

3LD08 Electromagnetic behaviour of a superconducting power cable

Manfred Däumling, NKT Research Center, DK-2605 Broendby, Denmark.

3LG AC Losses (HTS) II

3LG01 Analysis and Measurement of AC loss in BSCCO Tape Carrying Transport Current in External Magnetic Field

S. Fukui, K. Yokoyama, T. Satoh, M. Yamaguchi, Niigata University; T. Takao, Sophia University.

3LG02 Measurements of AC Losses in a BSCCO/Ag Tape Carrying AC Transport Currents in AC Magnetic Fields Applied in Different Orientations

Anna Wolfbrandt, University of Mälardalen; Sven Hörnfeldt, ABB Corporate Research.

3LG03 Analysis of AC Losses in jointed BSCCO tapes by transport technique

Hyoungku Kang, Ho-Min Kim, Mihye Jang, Tae Kuk Ko, Dept. of Electrical and computer Eng., Yonsei Univ.; Jung Ho Kim, School of Metallurgical and Materials Science Eng., SungKyunKwan Univ.; Hoon Hwangbo, Wansoo Nah, Dept. of Electrical & Computer Eng., SungKyunKwan Univ.; S.S. Oh, Korea Electrotechnology Research Institute.

3LG04 AC Losses of a BSCCO/Ag Tape in Reduced Self-field

N. Magnusson, N. Schönborg, Royal Institute of Technology, Electric Power Engineering, Stockholm, Sweden; S. Hörnfeldt, ABB Corporate Research, Västerås, Sweden.

3LG05 Effect of the Neighboring tape's AC currents on Transport Current Loss of a Bi-2223 Tape

K. Ryu, K.B. Park, chonnam national university; G. Cha, Soonchunhyang university.

3LG06 Comparison of AC Loss Measurements Using Susceptibility and Hall Sensor Techniques

Stephan Rupp, Michael Staines, Industrial Research Ltd., PO Box 31-310, Lower Hutt, New Zealand; Dingan Yu, Steven Fleshler, American Superconductor Corporation, 2 Technology Drive, Westborough, MA 10581, USA.

3LG07 Experimental result of transport current loss in bifilar winding solenoid type HTS coil

Ji-kwang Lee, Woosuk University; Ji Hoon Kim, Woo-Seok Kim, Song-yop Hahn, Seoul National University; Gueesoo Cha, Soonchunhyang University.

3LG08 Numerical analysis of hysteretic losses on high temperature superconducting coils

L. Bigoni, E. Cereda, V. Ottoboni, ENEL-SRI - Milano; P. La Cascia, F. Negrini, P.L. Ribani, University of Bologna.

3LG09 Dependence of Spatial Distribution of Shielding Current Density in HTS Plate on Applied Magnetic Field Profile

Takafumi Yokono, University of Tsukuba; Kyoko Hasegawa, Atsushi Kamitani, Yamagata University.

3LG10 Numerical simulation for AC losses of HTS tapes in combined alternating transport current and external AC magnetic field with phase difference

K. Kajikawa, A. Takenaka, K. Kawasaki, M. Iwakuma, K. Funaki, Kyushu University.

Wednesday Oral Sessions (Pavilion Convention Center) 4:00pm - 6:45pm**3LE Other Accelerator Magnets****3LE01 Nb3Sn Conductor Development for High Energy Physics--Plans and Status (4:00pm)**

Ronald M. Scanlan, Lawrence Berkeley National Lab; for the Conductor Development Group, DOE.

3LE02 Persistent Current Effects In BSCCO Common Coil Dipoles (4:30pm)

W. Sampson, J. Cozzolino, A. Ghosh, M. Harrison, P. Wanderer, BNL.

3LE03 Construction and testing of a NbTi block-coil dipole (4:45pm)

Nic Diaezenko, T Elliott, E Hill, M Johnson, P McIntyre, A Sattarov, D Wind, Texas A&M University; R Gaedke, Trinity University; W Henchel, Texas A&M University.

3LE04 Fabrication and Testing of the Nb3Sn Dipole Magnet at Fermilab (5:00pm)

N. Andreev, D.R. Chichili, V.V. Kashikhin, P.J. Limon, I. Terechkine, S. Yadav, A.V. Zlobin, FNAL; S. Caspi, R. Scanlan, LBNL; M. Wake, KEK.

3LE05 Fabrication and Test of Nb3Sn Racetrack Coils at High Field (5:15pm)

S. Gourlay, B. Benjegerdes, P. Bish, D. Byford, S. Caspi, K. Chow, D. Dietderich, R. Gupta, R. Hafalia, R. Hannaford, LBNL.

3LE06 Common Coil Magnet Program at BNL (5:30pm)

R. Gupta, M. Anerella, J. Cozzolino, J. Escallier, G. Ganetis, A. Ghosh, M. Harrison, G. Morgan, B. Parker, W. Sampson, P. Wanderer, E. Willen, Brookhaven National Laboratory.

3LE07 Development of a React & Wind Common Coil Dipole for VLHC (5:45pm)

G. Ambrosio, N. Andreev, E. Barzi, P. Bauer, S.W. Kim, P. Limon, I. Novitski, J. Ozelis, G. Sabbi, Fermilab; R. Scanlan, LBNL.

3LE08 Magnetic Designs of Fermilab 2-in-1 Nb3Sn Dipole Magnets for VLHC (6:00pm)

A.V. Zlobin, V.V. Kashikhin, Fermilab.

3LE09 A Thin Superconducting Solenoid for Use in a Phase Rotation Induction Linac (6:15pm)

M. A. Green, R. E. Lefever, D. L. Vanecek, S. S Yu, Lawrence Berkeley National Laboratory.

3LE10 Design of a Nb3Sn Quadrupole Magnet Model (6:30pm)

A. Devred, M. Durante, C. Gourdin, F.P. Juster, M. Peyrot, J.M. Rifflet, P. Vedrine, CEA/Saclay.

3LF AC Losses (HTS) I**3LF01 Multiphase ac Loss Mechanisms in Prototype Multistrand Conductors (4:00pm)**

J.O. Willis, D.E. Daney, M.P. Maley, H.J. Boenig, Los Alamos National Laboratory; R. Mele, G. Coletta, M. Nassi, Pirelli Cavi e Sistemi; J.R. Clem, Iowa State University.

3LF02 AC Loss Measurements with a Cryocooled Sample (4:15pm)

S. W. Schwenterly, J. A. Demko, J. W. Lue, ORNL; M.S. Walker, C.M. Trautwein, D.W. Hazelton, M.T. Gardner, JGC.

3LF03 AC Losses of HTS Power Transmission Cables Using Bi2223 Tapes with Twisted Filaments (4:30pm)

S. Mukoyama, K. Miyoshi, H. Tsubouchi, A. Takagi, M. Mimura, S. Meguro, The Furukawa Electric Co., Ltd.; K. Matsuo, S. Honjo, T. Mimura, Y. Takahashi, Tokyo Electric Power Company.

3LF04 Low loss Bi-2223 conductors for power applications (4:45pm)

C.M. Friend, D.M. Spiller, Y.B. Huang, BICC General Superconductors; E. Martinez, University of Southampton.

3LF05 Local calorimetry to measure the ac losses in structures of HTS conductors (5:00pm)

S.P. Ashworth, M. Suenaga, Brookhaven National Laboratory.

3LF06 V-I curves of 100-kVA class high-Tc resonator coil (5:15pm)

Herman H. J. ten Kate, Faculty of Applied Physics, University of Twente, P.O. Box 217, 7500 AE Enschede, Netherlands.

3LF07 Origins of errors in AC transport current loss measurements of HTS tapes and studied methods to suppress errors (5:30pm)

O. Tsukamoto, M. Cizek, D. Miyagi, I. Okazaki, Faculty of Eng., Yokohama National University; S. Fukui, Faculty of Eng., Niigata University.

3LF08 Longitudinal magnetic field AC loss in multifilamentary HTS wires (5:45pm)

Naoyuki Amemiya, Yokohama National University.

3LF09 Losses in a High-Temperature Superconductor Exposed to AC and DC Transport Currents and Magnetic Fields 6:00pm)

N. Schönborg, N. Magnusson, Royal Institute of Technology, Electric Power Engineering, SE-100 44 Stockholm, Sweden; S. Hörnfeldt, ABB Corporate Research, SE-721 78 Västerås, Sweden.

3LF10 AC losses in superconducting coils (6:15pm)

E. Vinot, G. Donnier-Valentin, P. Tixador, LEG/CRTBT; G. Meunier, LEG.

Thursday Plenary Sessions (Pavilion Convention Center) 8:30am - 10:00am

4AP4 SQUID Magnetocardiography: Status and Perspectives

Hans Koch, Physikalisch-Technische Bundesanstalt (PTB).

4AP5 Atomic-Layer Engineering of Superconducting Oxides: yesterday, today, tomorrow

Ivan Bozovic, OXXEL, Bremen, Germany.

Thursday Poster Sessions (Pavilion Convention Center) 10:00am - 12:00pm

4LA New and Unusual Applications

4LA01 Analysis of the HTS-Cable / Cryo-Silicon Transformer System

Otward Mueller, Eduard Mueller, LTE.

4LA02 Analysis Method for Estimating Future Markets for HTS Devices

Thomas Sheahen, SAIC; Joseph Mulholland, Dept of Energy.

4LA03 Portable Solid Nitrogen Cooled Permanent

Benjamin Haid, Yukikazu Iwasa, MIT, Francis Bitter Magnet Laboratory, MA; Haigun Lee, MIT, Francis Bitter Magnet Laboratory, MA and American Magnetics, Inc., Oak Ridge, TN; Sang-Soo Oh, Hong-Soo Ha, Young-Kil Kwon, and Kang-Sik Ryu, Korea Electrotechnology Research Institute, Changwon, Korea.

4LA04 Magnetic field concentration: comparison between several shapes of superconducting shields

Philippe Masson, Denis Netter, Jean Leveque, Abderrezak Rezzoug, GREEN.

4LA05 Development of a Superconducting Magnet for Protein Crystal Growth

H.B. Jin, Y.K. Kwon, K.S. Ryu, Korea Electrotechnology Research Institute.

4LA06 Design Study of Superconducting Magnets for Uniform and High Magnetic Force Field Generation

Osamu Ozaki, Tsukasa Kiyoshi, Shinji Matsumoto, Kei Koyanagi, Jun-ichi Fujihira, Hiroyuki Nakayama, Hitoshi Wada, National Research Institute for Metals.

4LA07 Influence of B-Dependence of Critical Current Density on Magnetic Shielding Performance of MPMG-YBCO Plate

A. Kamitani, K. Hasegawa, S. Ohshima, Yamagata University; T. Yokono, University of Tsukuba.

4LA08 Experimental Study on High-TC Trapped Field Magnets

H.M. Wen, L.Z. Lin, L.Y. Xiao, Y. Guan, Institute of Electrical Engineering, Chinese Academy of Sciences, P.O. Box 2703, Beijing 100080; L. Xiao, M.H. Zheng, H.T. Ren, General Research Institute for Non-ferrous Metals (GRINM), Beijing 100088.

4LA09 Testing of the World's Largest HTS Experimental Magnet with Ag Sheathed Bi-2223 Tapes for Si single Crystal Growth Applications - Test Results of Pulse Operations-

Yukihiro Sumiyoshi, Kenji Tasaki, Shunji Nomura, Hideaki Maeda, Toshiba Corporation; Takeshi Hikata, Kazuhiko Hayashi, Hiromi Takei, Kenichi Sato, Sumitomo Electric Industries Ltd.; Masanori Kimura, Tsumoru Masui, Shin-Etsu Handotai Co., Ltd..

4LA10 Testing of the World's Largest Cryocooler-Cooled HTS Magnet with Ag-Sheathed Bi2223 Tapes for Si Single-Crystal Growth Applications & #8211; Electrical & Mechanical performance -

Michitaka Ono, Tooru Kuriyama, Yoshikazu Dozono, Hideaki Maeda, Toshiba Corporation; Takeshi Hikata, Kazuhiko Hayashi, Hiromi Takei, Kenichi Sato, Sumitomo Electric Industries Ltd.; Masanori Kimura, Tsumoru Masui, Shin-Etsu Handotai Co., Ltd..

4LB Accelerator Magnets V

4LB01 Construction of a 13 Tesla hybrid block-coil dipole for future hadron colliders

Nicholai Diaczenco, Tim Elliott, William Henchel, Ed Hill, Mark Johnson, Peter McIntyre, Akhdior Sattarov, Derek Wind, Texas A&M University; Rudolph Gaedke, Trinity University.

4LB02 Progress in the development of an 88 mm bore 10 T Nb3Sn model dipole magnet

Andries den Ouden, Sander Wessel, Herman ten Kate, University of Twente, Enschede, The Netherlands; Glyn Kirby, Tom Taylor, Norbert Siegel, CERN, Geneva, Switzerland; Hans Boschman, HMA Power Systems, Ridderkerk, The Netherlands.

4LB03 The Use of Pressurized Bladders for Stress Control of Superconducting Magnets.

S. Caspi, S. Gourlay, R. Hafalia, A. Lietzke, A. McInturff, J. O'Neill, C. Taylor, LBNL.

4LB04 Mechanical Analysis of a Common Coil Dipole for VLHC

Giorgio Ambrosio, Nikolai Andreev, Pierre Bauer, Igor Novitski, Fermilab.

4LB05 Mechanical and Magnetic Design of Field Shaping Coils for Racetrack Dipole Magnets

G. Sabbi, S. Caspi, S. Gourlay, R. Hafalia, LBNL.

4LB06 Coil Design Issues for the High Field Dipole at Fermilab

Sumil Yadav, Deepak R. Chichili, Iouri Terechkine, Fermilab.

4LB07 Mechanical Design and Analysis of Fermilab 2-in-1 High Field Dipole Models

Deepak Chichili, Vadim Kashikhin, Alexander Zlobin, Fermilab.

4LB08 Scaling Laws for Modeling Large Superconducting Solenoids for the Neutrino, Factory

M. A. Green, Lawrence Berkeley National Laboratory, Berkeley CA, USA.

4LB09 A Test of a Superconducting Solenoid for the MUCOOL RF Experiment

M. A. Green, Lawrence Berkeley National Laboratory; J. Y. Chen, S. T. Wang, Wang NMR Inc..

4LB10 Bent Superconducting Solenoids With Superimposed Dipole Fields

R.B. Meinke, Advanced Magnet Lab, Inc., Palm Bay FL; C.L. Goodzeit, Brookhaven National Laboratory (Ret.), DeSoto, TX.

4LC Very High Magnetic Field Including Hybrid LTS-HTS Magnets

4LC01 Investigation of Bi-HTS Tapes for High Field Insert Coils

Frank Hornung, Astrid Rimikis, Rainer Kimmich, Theo Schneider, Forschungszentrum Karlsruhe, Institut fuer Technische Physik, P.O. Box 3640, D-76021 Karlsruhe.

4LC02 An Optimal Design Method for High-Temperature Superconducting Magnets

So Noguchi, Hideo Yamashita, Hiroshima University; Atsushi Ishiyama, Waseda University.

4LC03 Development of a hybrid LTS-HTS solenoid magnet for future intense muon beam lines

Yoshitaka Kuno, Takeichiro Yokoi, Akira Yamamoto, High Energy Accelerator Research Laboratory (KEK); Tsutomu Shimonosono, Kazuhiko Shimada, Yukihiko Sumiyoshi, Toshiba Corporation.

4LC04 Proofing tests of a fiber-reinforced type of Niobium-Tin superconductor by small coil experiments

H. Tateishi, J. Kondoh, M. Umeda, K. Arai, K. Agatsuma, Electrotechnical Laboratory; K. Gotoh, T. Saitoh, Fujikura, Co. Ltd..

4LC05 New Concept of a Semi-Superconducting Magnet

Kazuo Watanabe, Mitsuhiro Motokawa, Institute for Materials Research, Tohoku University.

4LC07 Development of HTS Magnets

D. Ryan, R. Scharnweber, P. Noonan, Oxford Instruments Superconductivity; K. Marken, J. Parrell, Oxford Instruments Superconducting Technology.

4LC08 Analysis of Observations during Operation of the NHMFL 45-T Hybrid Magnet System

A. Gavrilin, Y.M. Eyssa, J.R. Miller, NHMFL, Tallahassee, FL., USA.

4LC09 The Superconducting Outsert for the NHMFL 45-T Hybrid Magnet System

J.R. Miller, NHMFL, Tallahassee, FL., USA.

4LC10 Optimization of winding geometry of Bi(2223)Ag coils with respect to external magnetic field

Jozef Pitel, Pavol Kovac, Tibor Melisek, Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, Slovakia; Andrea Kaszler, Hans Kirchmayr, Institute for Experimental Physics, University of Technology, Vienna, Austria.

4LC11 Bi-Sr-CaCu-O magnets at high stress-strain levels

H. Weijers, Y. Viouchkov, NHMFL, Tallahassee USA; P. Vase, Nordic Superconductor technologies Brondby danmark; J.M. Yoo, Korea Institute of Machinery and Materials Kyungnam Korea; B. ten Haken, U. of Twente, The Netherlands; J. Schwartz, NHMFL and Dep. of M.E. FAMU/FSU Coll. of Engineering, Tallahassee Florida.

4LD Motors and Generators (Wire) I

4LD01 Superconducting Vibrator for Low Frequency Emission*

V. A. Mal, I. H. Nemyrnov, M.V. Sidorov, A. M. Vaculenko, S. G. Deryagin, P.N. Lebedev Physical Institute, Moscow.

4LD02 Normalization Of 2D Magnetic Field Analysis Using 3D Finite Element Analysis In AC Superconducting Generator

Young-Sik Jo, Jung-Pyo Hong, Changwon National University; Ju Lee, Hanyang University; Young-Kil Kwon, Kang-Sik Ryu, Korea Electrotechnology Research Institute.

4LD03 A Practical Superconducting Homopolar Motor for U.S. Navy Ship Propulsion

Mike Heiberger, Will Creedon, General Atomics; Alan Langhorn, Startech Inc.

4LD04 Improvement of Superconducting Cylindrical Linear Induction Motor

Takayuki Kikuma, Hidehito Shimizu, Yasuyuki Teranishi, Atsushi Ishiyama, Waseda University.

4LD05 Output Power Limit of 200MW Class Brushless Superconducting Generator Excited With Magnetic Flux-Pump

Hiroshi Tsukiji, Saga University; Itsuya Muta, Tsutomu Hoshino, Kyoto University.

4LD06 Analysis of the Operational Characteristics of Discrete-Sheet Typed Superconducting Power Supply

Yong Chu, Ho Min Kim, Yong-Soo Yoon, Tae Kuk Ko, Dept. of Electrical and Computer Eng., Yonsei University; Tae-Su Han, National Institute of Technology and Quality.

4LD07 Application of High Temperature Superconductors in Rotation of High Speed Turbines

Hambir Singh, IRS.B590.

4LD08 A HTS Micro Power Supply for Space Micro Electromechanical Systems

Eunjeong Lee, Thomas Wilson, NASA JSC.

Thursday Oral Sessions (Pavilion Convention Center) 12:00pm - 1:00pm

4LE Motors and Generators (Wire) II

4LE01 Development Status of a 1000 HP HTS Synchronous Motor (12:00pm)

David Driscoll, Burt Zhang, Rockwell Automation.

4LE02 Transient Analysis of Superconducting AC Generator Considering the Load by Transmission Lines (12:15pm)

Yon-Do Chun, Ju Lee, Dept. of Electrical Engineering, Hanyang University; Jung-Pyo Hong, Dept. of Electrical Engineering, Changwon Nat.

4LE03 Experimental Study on Sudden-short-circuit characteristic of Synchronous Generator with SCFCL (12:30pm)

Hiroyuki Hatta, Tanzo Nitta, Shiniti Muroya, The University of Tokyo; Yasuyuki Shirai, Tomoyuki Kitagawa, Kyoto University.

4LE04 Loss Minimization in YBCO Coated Conductors with Fully Penetrated AC Magnetic Fields (12:45pm)

C.E. Oberly, G.L. Rhoads, AFRL; L. Long, Heston Consulting Co.; W.J. Jr Carr, Consultant.

4LF Very High Magnetic Field Including Hybrid LTS-HTS Magnets

4LF01 Title to be provided (12:00pm)

John Miller, NHMFL.

4LF02 Development and Operation of Superconducting NMR Magnet beyond 900 MHz (12:30pm)

T. Kiyoshi, S. Matsumoto, O. Ozaki, A. Sato, H. Wada, TML, National Research Institute for Metals; M. Yoshikawa, S. Itoh, M. Hamada, S. Hayashi, Y. Kawate, Kobe Steel, Ltd..

4LF03 The Superconducting Magnet System for the 40-T Hybrid Magnet for the Grenoble High Magnetic Field Laboratory (12:45pm)

Alessandro Bonito Oliva, Brian Adams, Mike Birtcliffe, Fulvio Corrado, Bob Fisk, Ron Mackay, Graham Harding, Martin C. Wilson, Oxford Instruments Superconductivity; Guy Aubert, Walter Joss, Grenoble High Magnetic Field Laboratory.

Thursday Poster Sessions (Pavilion Convention Center) 2:00pm - 4:00pm

4LGA S/C Cables III

4LGA01 Technical and Economical Aspects of HTS Cables Use in Power Transmission and Low Voltage Applications.

Maciej Chorowski, Wroclaw University of Technology; Krzysztof Meissner, Warsaw University.

4LGA02 Development and Testing of HTS Cables and Terminations at ORNL*

M. J. Gouge, J. A. Demko, P. W. Fisher, C. A. Foster, J. W. Lue, J. Stovall, ORNL; U. Sinha, R. L. Hughey, Southwire.

4LGA03 Qualification Results of a 50 m - 115 kV Warm Dielectric Cable System

Nathan Kelley, Pirelli Cables and Systems; Marco Nassi, Pierluigi Ladie, Pietro Corsaro, Pirelli Cavi e Sistemi.

4LGA04 Progress in Manufacturing of HTS Power Transmission Cable

S. Spreafico, P. Caracino, M. Nassi, Pirelli Cavi e Sistemi.

4LGA05 Design and Production of HTS Power Transmission Cable

Kazutomi Miyoshi, Shin-ichi Mukoyama, Hirokazu Tsubouchi, Toshiro Yoshida, Akira Takagi, Shin-ichiro Meguro, The Furukawa Electric Co., Ltd.;

Kimiyoshi Matsuo, Shoichi Honjo, Tomoo Mimura, Yoshihisa Takahashi, Tokyo Electric Power Company.

4LGA06 A Feasibility Study of HTS Power Transmission Cable in KOREA

K.C. Seong, J.W. Cho, Y.K. Kwon, K.S. Ryu, Korea Electrotechnology Research Institute; B.T. Kim, I.K. Yu, Changwon National Univ..

4LGA07 Fabrication and Tests of Prototype HTS Power Transmission Cables

J.W. Cho, H.S. Ha, K.C. Seong, Y.K. Kwon, K.S. Ryu, Korea Electrotechnology Research Institute; T.K. Ko, Yonsei University.

4LGA08 Development of a 2000 A HTS Transmission Power Cable

Y.B. Lin, L.Z. Lin, Z.Y. Gao, H.M. Wen, L. Xu, L.Y. Xiao, J. Li, Institute of Electrical Engineering, Chinese Academy of Sciences.

4LGA09 AC Losses in HTS Prototype Multistrand Conductors for Superconducting Power Transmission Lines

R. Mele, D. Uglietti, G. Coletta, M. Nassi, Pirelli Cavi e Sistemi, Milano, Italy; J. O. Willis, D. E. Daney, M. P. Maley, H. J. Boenig, Los Alamos National Laboratory, Los Alamos, NM, USA .

4LGA10 Energy losses of HTS power transmission cables in the grid

J. Oestergaard, S. Salvin, S. Hansen, J. Okholm, K. Lomholdt, S.D. Mikkelsen, P. Jørgensen, O. Tonnesen, DEFU, P.O.Box 259, Building 325/DTU, DK-2800 Lyndby, Denmark.

4LGB Instrumentation and Sensors

4LGB01 The New Principles of Creation of Gravimetric Devices. O.Cheborin, S.Zhivilo, M.Demyanenko.Space Research Institute

Oleg Cheborin, Svyetlana Zhivilo, Mykhaylo Demyanenko, Space Research Institute.

4LGB02 The property of Fiberoptic Sensor In Cable in Conduit Conductor of KSTAR Magnet System

Seung-je Lee, Yong Chu, Tae Kuk Ko, Dept. of Electrical and Computer Eng., Yonsei University; Kee Man Kim, Samsung Advanced Institute of Technology.

4LGB03 A procedure for the determination of the current distribution inside superconducting cables by means of magnetic field probe signals

F. Bellina, P. Bettini, F. Trevisan, Università di Udine.

4LGB04 Highly sensitive magnetic sensor by using a superconducting YBCO thick film

Kazuto Yamagata, Atsushi Omura, Mineo Itoh, Interdisci. Grad. School of Sci. and Engi., Kinki Univ.; Masahiro Ishidoh, Takumi Minemoto, Div. of System Science, Kobe Univ..

4LGB05 Evaluation of the magnetic field within the superposition of a multi-layered soft-iron cylinder over a BPSCCO cylinder by using an HTS dc-SQU

Mineo Itoh, Yoshinori Horikawa, Atsushi Omura, Interdisci. Grad. School of Sci. and Engi., Kinki Univ.; Kazuya Mori, R&D Unit, Tokin Corp. Co. Ltd..

4LGB06 Quench Detection of Bi-2223 HTS Coil by Partial Active Power Detecting Method

Nozomu Nanato, Masahiro Yanagishita, Koichi Nakamura, Nagoya Institute of Technology.

4LGB07 RF magnetic shielding effect of a bottomed HTS cylinde

M. Itoh, K. Itoh, Y. Horikawa, Interdisci. Grad. School of Sci. and Engi., Kinki Univ.; H. Altenburg, W. Jaszczuk, N. Munser, Univ. of Applied Science-Muenster; J. Plewa, Steinfurter Ini. für Materialforschung e. V.; Y. Hotta, EMC Tech. Center, Tokin EMC Eng. Co. Ltd..

4LH Fault Current Limiters and Other Power Gear IV

4LH01 Three-phase Fault Current Limiter with One DC S/N Transition Element

T. Sato, M. Yamaguchi, S. Fukui, Niigata University; K. Kaiho, Electrotechnical Laboratory; T. Matsumura, H. Shimizu, Nagoya University; N. Murayama, National Industrial Research Institute of Nagoya.

4LH02 A.c. transport properties of HTS bulk elements for resistive fault current limiters

Osuke Miura, Daisuke Ito, Tokyo Metropolitan University; Mitsuru Morita, Nippon Steel Corporation.

4LH03 Thermal and Magnetic Characteristics of Bulk Superconductor and Performance Analysis of Magnetic Shielding Type Superconducting Fault Current Limiter

Hiroshi Ueda, Atsushi Ishiyama, Waseda University; Hiroyuki Kado, Michiharu Ichikawa, Central Research Institute of Electric Power Industry.

4LH04 A Current Limiter with Superconducting Coil for Magnetic Field Shielding

Katsuyuki Kaiho, Hiroshi Yamaguchi, Kazuaki Arai, Junji Kondoh, Masaichi Umeda, Electrotechnical Laboratory; Mitsugi Yamaguchi, Niigata Univ.; Teruo Kataoka, Tokyo Denki Univ..

4LH05 Quench Behavior of the switching elements of a Hybrid HTSC Current Limiter

Xavier Granados, Teresa Puig, Ernest Mendoza, Xavier Obradors, ICMAB-CSIC.

4LH06 Study on Degradation of Trigger Current Level of Superconducting Fault Current Limiter of Transformer Type

Kazuhiro Fujikawa, Yasuyuki Shirai, Masahiro Shiotsu, Kyoto Univ.; Tanzo Nitta, Hiroyuki Hatta, The Univ. of Tokyo.

4LH07 Initial Quench Development in YBCO Thin Films.

Hye-Rim Kim, Hyo-Sang Choi, Ok-Bae Hyun, Korea Electric Power Research Institute; Hae-Ryong Lim, In-Seon Kim, Korea Research Institute of Standards and Science.

4LH08 Degradation of a YBCO film by overpowered quenches for a resistive superconducting fault current limiter

Hyo-Sang Choi, Ok-Bae Hyun, Hye-Rim Kim, Si-Dole Hwang, Sang-Joon Kim, Korea Electric Power Research Institute.

4LH09 Investigating Thick Film Bi-2212 for use in Fault Current Limiters

Malcolm McCulloch, Rana Nawas, David Dew-Hughes, Chris Grovenor, Oxford University.

4LH10 Quenching of Bi2212 thick film in magnetic shielding type fault current limiter

Michiharu Ichikawa, Hiroyuki Kado, Central Reseach Institute of Electric Power Industry.

4LI MHD Magnetic Separation and MRI NMR

4LI01 Development of a compact low field MRI prototype using thick film YBCO RF coils

Stuart Penn, Darko Bracanovic, Neil McN. Alford, Ashraf Esmail, EEIE, South Bank University, London.

4LI02 Development and Testing of Superfluid-cooled Cryostat for 1 GHz NM

Akio Sato, Takashi Miki, Tsukasa Kiyoshi, Hitoshi Wada, National Research Institute for Metals; Satoshi Ito, Masatoshi Yoshikawa, Yoshio Kawate, Kobe Steel, Ltd.; Shigeo Fukui, Cryovac Co..

4LI03 Development of an Optimal Magnet Design Program for Homogeneous Field with Two Commonly Used Softwares-OPERA-2d and IMSL
Sang-Jin Lee, Dept. of Electrical Eng., Uiduk Univ., Kyongju, Korea; Kideok Sim, Joonhan Bae, Youngkil Kwon, Kangsik Ryu, Korea Electrotechnology Research Institute, Changwon, Korea.

4LI04 Design and estimation of persistent current switch for 1.0T actively shielded MRI superconducting magnet

R. K. Ko, J. H. Bae, K. D. Sim, E. Y. Lee, D. W. Ha, Y. K. Kwon, K. S. Ryu, Korea Electrotechnology Research Institute.

4LI05 Development of 600 Mhz Wide Bore(89MM) NMR System Using Internal Tin Wires

Weijun Shen, Michael Coffey, Wayne McGhee, Cryomagnetics, Inc..

4LI06 Development of A Superconducting Magnet Excited with Thermoelectric Conversion Element for Persistent-Mode Magnets

Michitaka Ono, Yukihiko Sumiyoshi, Hideaki Maeda, Toshiba Corporation.

4LI07 Superconducting separator-analyzer with a high gradient of magnetic field for feebly magnetic compounds and biological objects

Vladimir Yuferov, Yuriy Kholod, Oleg Chernyi, Evgeniy Skibenko, Leonid Sorokovoy, Nikolay Kosik, Vera Ilichova, Evgeniy Mufel, National Science Center "Kharkov Institute of Physics and Technology".

4LI08 Simulation of High Gradient Magnetic Separation By Computer Fluid Dynamics

Hidehiko Okada, Iwate Techno Foundation; Tomohiro Tada, Akihiko Chiba, Iwate University; Takeshi Ohara, ElectroTechnical Laboratory / National Research Institute for Metals; Hitoshi Wada, National Research Institute for Metals.

4LJ AC Losses (HTS) I

4LJ01 AC loss in Ag sheathed PbBi2223 tapes with twisted filaments and Al2O3/MgO barrier layers in the presence of an applied AC magnetic field.

F. Darmann, G. McCaughey, M. Apperley, T. Beales, Australian Superconductors; R. Zeng, T. Hughes, ISEM, University of Wollongong.

4LJ02 AC loss measurements of twisted multifilamentary BPSCCO-2223 tapes with different configurations

Javier Tundidor, Edward Young, Elena Martinez, Yifeng Yang, Carlo Beduz, University of Southampton.

4LJ03 AC loss calculation of a multi-layer HTS transmission cable using improved monoblock model considering the twist of each layer

ji-kwang Lee, Woosuk University; Gueesoo Cha, Soonchunhyang University; Song-yop Hahn, Seoul National University.

4LJ04 The AC characteristic analysis of the Ag/Bi-2223 Tape with respect to the twisted pitch through computer simulation applying F.E.M

Myung-Kon Song, Tae Kuk Ko, Dept. of Electrical and Computer Eng., Yonsei University; Sang-Jin Lee, Dept. of Electrical Eng., Uiduk University.

4LJ05 Reduction of filaments coupling of multifilamentary Bi2223 tapes by twisting and inter-filament resistive barrier

Naoyuki Amemiya, Osami Tsukamoto, Marian Ciszek, Yokohama National University; Naoki Ayai, Kazuhiko Hayashi, Sumitomo Electric Industries.

4LJ06 Results of AC Loss Tests on Twisted and Untwisted HTSC Tape Exposed to an External Field

Tri Hardono, Christopher Cook, University of Wollongong.

4LJ07 Frequency dependence of AC losses of AgAu/PbBi-2223 tapes with twisted filaments under perpendicular AC fields

Y. Yang, E. Martínez, C. Beduz, School of Engineering Sciences, University of Southampton, UK; Y.B. Huang, BICC General Superconductors, Wrexham LL13 9XP, UK.

4LJ08 AC losses in transport current regime in applied AC magnetic field: experimental analysis and modeling

S. Zannella, L. Montelatici, Edison SpA; R. Mele, F. Zanovello, G. Coletta, Pirelli Cavi e Sistemi SpA; L. Jansak, Inst. Electr. Eng., Slovak Academy of Sciences.

4LJ09 Numerical Analysis on the Hysteresis Losses in High Temperature Bulk Superconductor

Yon-Do Chun, Jong-Chan Lee, Ju Lee, Dept. of Electrical Engineering, Hanyang University; Jung-Pyo Hong, Dept. of Electrical Engineering, Changwon Nat.

4LJ10 Coupling losses of a round HTS wire with stacked filaments and radial filaments

Jungwook Sim, Gueesoo Cha, Soonchunhyang University; Ji-kwang Lee, Woosuk University; Song-yop Hahn, Seoul National University.

4LJ11 Study on frequency dependence of AC transport current losses on HTS tapes in DC back ground field

O. Tsukamoto, D. Miyagi, M. Ciszek, Faculty of Eng., Yokohama National University.

4LJ12 Current distributions and AC transport losses under self-field for simple parallel conductor composed of Ag-sheathed (Bi, Pb)-2223 multifilamentary tapes

R. Inada, A. Oota, Toyohashi University of Technology; T. Fukunaga, Gifu National College of Technology; H. Fujimoto, Railway Technical Research Institute.

Thursday Oral Sessions (Pavilion Convention Center) 4:00pm - 6:30pm

4LK S/C Cables IV

4LK01 Fabrication and testing of Rutherford-type cables for react and wind accelerator magnets (4:00pm)

Ronald Scanlan, Daniel Dieterich, Hugh Hixley, Lawrence Berkeley National Lab; Giorgio Ambrosio, Emanuela Barzi, Pierre Bauer, Weog-Whan Kim, Joe Ozelis, GianLuca Sabbi, Fermilab.

4LK03 Field Demonstration of a 24kV Warm Dielectric HTS Cable System (4:30pm)

Nathan Kelley, Marco Nassi, Pierluigi Ladie, Chris Wakefield, Pirelli; Don Von Dollen, EPRI; Jon Jipping, Detroit Edison.

4LK04 Installation And Operation Of The Southwire 30-Meter High-Temperature Superconducting Power Cable (5:00pm)

J. P. Stovall, J. A. Demko, P. W. Fisher, M. J. Gouge, J. W. Lue, Oak Ridge National Laboratory; U. K. Sinha, J. W. Armstrong, RL Hughey, D. Lindsay, J. C. Tolbert, Southwire Company.

4LK05 Test results of full-scale HTS cable models and plans for a 36 kV, 2 kArms utility demonstration (5:30pm)

D.W.A. Willen, F. Hansen, C.N. Rasmussen, M. Däumling, NKT Research Center; O.E. Schuppach, B.S. Hansen, NKT Cables; C. Træholt, S.K. Olsen, C. Rasmussen, E. Veje, DTU-Eltek.

4LK06 Cold-Dielectric (CD) High-Temperature Superconducting Cable Systems: Design, Development and Evaluation of the effects on power systems (5:45pm)

Marco Nassi, Stephen Norman, Pierluigi Ladie, Pirelli Cavi e Sistemi; Giorgio Tontini, ENEL; Michel Coevoet, Pierre Manuel, Michele Dhaussy, EDF; Claudio Serracane, Sergio Zannella, Edison; Luciano Martini, CESI.

4LK07 Technical and economical assessment of HTS cables (6:00pm)

Diego Politano, ETZ Zürich; Märten Sjöström, EPF Lausanne; Gilbert Schnyder, ABB Sécheron SA, Geneva; Jakob Rhyner, ABB Corporate Research Ltd. Baden.

4LK08 Homogeneous Current Distribution in a Coaxial Superconductor with and without Return Current Path (6:15pm)

A. K. M. Alamgir, Y. Itoh, N. Harada, M. Tsuda, T. Hamajima, Yamaguchi University; M. Ono, H. Takano, Toshiba corporation.

4LL Current Limiters and Other Power Gear V

4LL01 Transient Characteristics of a High-Tc Superconductor Tube Subjected to Internal and External Magnetic Fields (4:00pm)

Y. S. Cha, Argonne National Laboratory; T. R. Askew, Kalamazoo College.

4LL02 FCL Location Selection in Large-Scale Power System (4:15pm)

Masaki Nagata, Kazuyuki Tanaka, Haruhito Taniguchi, CRIEPI.

4LL03 Quenching Behaviour of Superconductors in An Inductive Fault Current Limiter(4:30pm)

Y.C. Tan, P.D. Evans, The Univ. of Birmingham.

4LL04 Performance Verification of a Practical Fault Current Limiter using YBCO Thin Film (4:45pm)

Masahiro Takasaki, Shinji Torii, Haruhito Taniguchi, CRIEPI; Hiroshi Kubota, Hisashi Yoshino, Toshiba Corp.; Hidehiro Nagamura, Masatoyo Shibuya, Super-GM.

4LL05 HTS materials for a.c current transport and fault current limitation (5:00pm)

T. Verhaege, Herrmann, Alcatel; Bock, Cowey, AHTS; Moulart, Laborelec; Usoskin, ZFW Gottingen; Paasi, Tampere university; Collet, Alstom.

4LL06 Current voltage characteristics in the flux flow regime of MCP BSCCO 2212 bulk material at 65 K (5:15pm)

Steffen Elschner, FH Mannheim, Windeckstraße 110, D 68163 Mannheim, Germany; Joachim Bock, Lisa Cowey, Frank Skotzylas, Alcatel High Temperature Superconductors, Chemiepark, D 50351 Hürth, Germany.

4LL07 Design and Test Results of 6.6 kV High-Tc Superconducting Fault Current Limiter (5:30pm)

Takashi Yazawa, Eriko Yoneda, Jun Matsuzaki, Mamoru Shimada, Toru Kuriyama, Shunji Nomura, Toshiba Corporation; Takeshi Ohkuma, Yoshibumi Sato, Yoshihisa Takahashi, Tokyo Electric Power Company.

4LL08 Three Phase Inductive Fault Current Limiter for the Protection of a 12 kVA Synchronous Generator (5:45pm)

Istvan Vajda, Sandor Semperegger, Budapest University of Technology and Economics; Tamas Porjesz, Eotvos University, Hungary; Andras Szalay, S-Metalltech Ltd, Hungary; Victor Meerovich, Vladimir Sokolovsky, Ben Gurion University, Israel.

Friday Poster Sessions (Pavilion Convention Center) 8:00am - 10:00am

5LA Conduction Cooled Magnets

5LA01 Conduction Cooled Bi-2212/Ag Solenoid Magnet System Generating 10T in 50mm RT Bore (I); Design Overview, Conductor Performance, and Preliminary Test

H. Kitaguchi, H. Kumakura, K. Togano, K. Itoh, H. Wada, National Research Institute for Metals; M. Okada, H. Morita, K. Tanaka, Hitachi Ltd.; J. Sato, Hitachi Cable Ltd..

5LA02 Development of Bi-2223 conduction cooled magnet for magnetic separation

H. Kumakura, T. Ohara, H. Kitaguchi, K. Togano, H. Wada, National Research Institute for Metals; H. Mukai, K. Ohmatsu, H. Takei, Sumitomo Electric Industries, Ltd..

5LA03 A Cryogen Free 7 Tesla NbTi Superconducting Magnet System

N.H. Song, Z.Y. Gao, L.Y. Xiao, L.Z. Lin, Institute of Electrical Engineering, Chinese Academy of Sciences.

5LA04 10T Conduction Cooled Bi-2212/Ag HTS Solenoid Magnet System

H. Morita, M. Okada, K. Tanaka, Hitachi Research Lab. Hitachi Ltd.; J. Sato, Hitachi Cable Ltd.; H. Kitaguchi, H. Kumakura, K. Togano, K. Itoh, H. Wada, National Research Institute for Metals.

5LA05 Test Results of a Demonstration HTS Magnet for Minesweeping

O.O. Ige, D. Aized, A. Curda, D. Johnson, American Superconductor Corporation, Westborough, MA, USA; E.M. Golda, Naval Surface Warfare Center, Carderock Division, Philadelphia, PA, USA.

5LA06 Cryogenic Viewpoints of a Conduction Cooled Nb3Sn SMES System

Risto Mikkonen, Tapio Kalliohaka, Aki Korpela, Jorma Lehtonen, Johannes Vuorinen, Tampere University of Technology.

5LA07 ALS Superbend Magnet System Design

J. DeVries, J. Hinkson, E. Hoyer, S. Marks, P. Pipersky, R. Schlueter, C.E. Taylor, J. Zbasnik, LBL; J.Y. Chen, Wang NMR, Inc; S.T. Wang, Wang NMR, Inc..

5LB Current Leads

5LB01 Design of a 60-kA HTS Current Lead for Fusion Magnets and its R&D

Toshinari Ando, Takaaki Isono, Gen Nishijima, Hiroshi Tsuji, Japan Atomic Energy Research Institute; Akira Tomioka, Takaaki Bohno, Yukio Yasukawa, Masayuki Konno, Fuji Electric Co., Ltd.

5LB02 HTS Current Lead Project at Fermilab

S. Feher, J. Brandt, P.J. Limon, T. Peterson, C. Sylvester, M. Tartaglia, J.C. Tompkins, Fermilab.

5LB03 AMI-MIT 1-kA Leads With High-Temperature Superconducting Sections---Performance Data

Haigun Lee, MIT, Francis Bitter Magnet Laboratory & American Magnetics; Paul Arakawa, Kenneth R. Efferson, Robert Fielden, American Magnetics; Yukikazu Iwasa, MIT Francis Bitter Magnet Laboratory.

5LB04 Design, Fabrication and Tests of a 600A HTc Current Lead for LHC Corrector Magnets

L. Garcia-Tabares, J. Calero, P. Abramian, F. Toral, Laboratorio Conjunto de Superconductividad CEDEX-CIEMAT. Alfonso XII, 3. 28014 Madrid. Spain; L.A. Angurel, J.C. Diez, R. Burriel, E. Natividad, ICMA (CSIC-Universidad de Zaragoza). CPS. Maria de Luna, 3. 50015. Zaragoza. Spain.; R. Iurbe, J. Etxeandia, ANTEC. Ramon y Cajal, 74. 48920 Portugalete. Vizcaya. Spain..

5LB05 1.5 kA Bi-2223 HTS Current Leads for SMES Magnets

H. M. Jang, S. S. Oh, H. S. Ha, J. W. Cho, D. W. Ha, K. C. Seong, Y. K. Kwon, K. S. Ryu, Korea Electrotechnology Research Institute; S. H. Kim, Gyeongsang National University.

5LB06 Performance Analysis and Evaluation of HTS Current Lead

Seyong Choi, Wansoo Nah, School of Electrical and Computer Engineering, Sungkyunkwan University; Jinho Joo, School of Metallurgical and Materials Engineering, Sungkyunkwan University; Jaimeo Yoo, Department of Materials Processing, Korea Institute of Machinery and Materials.

5LB07 Influence of deformation rate and post annealing on critical current density of textured Bi-2223 current leads

X. K. Fu, Y. C. Guo, H. K. Liu, S. X. Dou, Univrsity of Wollongong.

5LB08 Transport Performance of Bi-2212 Current Leads Prepared by a Diffusion Process

Y. Yamada, M. Takiguchi, O. Suzuki, K. Tachikawa, Tokai Univ.; A. Iwamoto, T. Mito, NIFS.

5LB09 Coaxial configuration of Bi-2212 textured ceramics. A possibility for improved current leads

E. Natividad, M. Mora, J.C. Diez, J.I. Peña, M. García, L.A. Angurel, R. Navarro, Instituto de Ciencia de Materiales de Aragón, CSIC-Universidad de Zaragoza, Spain.

5LB10 Suppression of Current Imbalance between Superconductor strands by Magnetic Core Method

Keiji Nakamura, Ryosuke Matsuoka, Chubu University; Shuichi Yamada, Sataro Yamaguchi, National Institute of Fusion Science; Akira Ninomiya, Seikei University; Sadatsugu Takayama, Gifu Prefectural Research Institute of Manufacturing Information technology; Toshikazu Sato, Nagoya University; Yasuhiro Hasegawa, Ion Engineering Research Institute Corporation; Ryuichi Shimada, Tokyo Institute of Technology.

5LB11 Evaluation of Superconducting Current Feeder System for the Large Helical Device(LHD)

Toshio Uede, Hisaaki Hiue, Ikuo Itoh, Fuji Electric Co.,Ltd; Shuichi Yamada, Toshiyuki Mito, Osamu Motojima, National Institute For Fusion Scienc.

5LC AC Losses (LTS)

5LC01 Magnetization (Hysteretic or Persistent Current) and deff for Nb3Sn, Nb3Al, Bi:2212, and Bi:2223 Type Multifilamentary Strands

Edward Collings, Mike Sumption, MSE, The Ohio State University.

5LC02 AC loss in NbTi based Rutherford Cables with Cores of Various Widths

M.D. Sumption, E.W. Collings, MSE, The Ohio State University; R.M. Scanlan, Lawrence Berkeley National Lab; A. Nijhuis, The University of Twente.

5LC03 AC Loss Measurements of sub-sized Nb3Sn CICC cable with transport current

T. D. Alvey, M. Takayasu, J. V. Minervini, MIT, PSFC, Cambridge, MA.

5LC04 Required Accuracy of Inductance Measurement for Current Imbalance Phenomena

Sadatsugu Takayama, Gifu Prefectural Institute for Ceramics Research and Technology; Akira Ninomiya, Seikei Univ.; Haruhiko Okumura, Matsusaka Univ.; Sakutarou Yamaguchi, National Institut for Fusion Science; Yasuhiro Hasegawa, Ion Engineering Research Institute Corporation.

5LC05 Coupling Losses in a New Type Rutherford Cable with Low Losses and High Stability

Akifumi Kawagoe, Takaaki Fukunaga, Fumio Sumiyoshi, Kagoshima University; Teruko Kawashima, Fukuoka Jo Gakuin University; Toshiyuki Mito, National Institute for Fusion Science; Naoki Hirano, Chubu Electric Power Co., Inc..

5LD Stability and Magnet Protection (LTS) III

5LD01 Analysis of current distribution after normal transition in multi-strand cable using distributed model circuit

N. Koizumi, Y. Takahashi, H. Tsuji, JAERI; S. Shimamoto, Tohoku University.

5LD02 Numerical Investigation of the Current Distribution in Cable-in-Conduit Conductors Using Lumped Network Models

Carsten Meinecke, Amir M. Miri, University of Karlsruhe.

5LD03 Protection Heater Performance on Nb3Sn Epoxy Impregnated Superconducting Solenoids

Iain Dixon, Denis Markiewicz, National High Magnetic Field Laboratory.

5LD04 Analysis of the ATLAS Barrel Toroid and End Cap Toroids discharge with different configurations of the protection circuit

Massimo Sorbi, Francesco Broggi, Giovanni Volpini, INFN Sez. di Milano, LASA Lab.; Emilio Acerbi, INFN Sez. di Milano, LASA Lab. and University of Milan.

5LD05 Protection of a Conduction Cooled Nb3Sn SMES Coil

Aki Korpela, Tampere University of Technology (TUT); Jorma Lehtonen, Risto Mikkonen, Jaakko Paasi, TUT.

5LD06 Stability of a Superconducting Magnet to the large electoro-magnetic pulse disturbance for MAGLEV vehicles

yoosinao sanada, tomohisa yamasita, hiroyuki nakao, mutuhiko yamaji, motoaki terai, toshiba corporation; motohiro igarashi, central japan railway company; mitsugu yamaguchi, niigata univesity.

5LD07 A diagnosis method for the properties of superconducting magnets using fast current discharge

Kazuhiro Takeuchi, Power & Industrial Systems R & D Laboratory, Hitachi, Ltd.; Fujio Irie, Kyushu Electric Power Co., Inc.; Hidemi Hayashi, Research Laboratory, Kyushu Electric Power Co., Inc.; Katsuhiko Asano, Nuclear Systems Division, Hitachi, Ltd..

5LD08 Modeling of Electromagnetic and Thermal Diffusion in a Large Pure Aluminum Stabilized Superconductor under Quench

Andrew Gavrilin, Yehia Eyssa, National High Magnetic Field Lab of FSU, FL, USA.

5LD09 Current diffusion in Aluminium stabilised superconducting cables

E.W. Boxman, Twente University; A.V. Dudarev, H.H.J. ten Kate, CERN.

Friday Oral Sessions (Pavilion Convention Center) 10:00am - 11:30am

5LE Conduction Cooled Magnets and Current Leads

5LE01 Design Optimisation of 600A - 13kA Current leads for the Large Hadron Collider project at CERN (10:00am)

Darren M Spiller, C Friend, BICC General Superconductors; C. Beduz, M.K. Al-Mosawi, University of Southampton; A Ballardino, CERN.

5LE02 Test Results of a 20 kA Current Lead using Ag/Au stabilized Bi-2223 Tapes (10:15am)

R. Heller, G. Friesinger, M. Tascia, Forschungszentrum Karlsruhe, Institut für Technische Physik, D-76021 Karlsruhe, Germany; T. Mito, K. Takahata, S. Yamada, A. Nishimura, S. Satoh, National Institute for Fusion Science (NIFS), Toki City, Gifu Prefecture 509-5292, Japan.

5LE03 Quench Propagation for AFM BSCCO-2223 Multilayered Conductors for Current Lead Applications (10:30am)

Luciano Martini, Franco Barberis, Renza Berti, Luigi Bigoni, Franco Curcio, CESI; Giovanni Volpini, INFN-LASA.

5LE04 Development of high-temperature superconducting current feeders for a large-scale superconducting experimental fusion system (10:45am)

T. Mito, A. Iwamoto, R. Maekawa, K. Takahata, S. Yamada, National Institute for Fusion Science (NIFS); K. Maehata, K. Ishibashi, Kyushu University; Y. Yamada, K. Tachikawa, Tokai University; R. Heller, Forschungszentrum Karlsruhe (FZK).

5LE05 The Effect of Low Temperature Cryocoolers on the Development of Low Temperature Superconducting Magnets (11:00am)

M. A. Green, Lawrence Berkeley National Laboratory.

5LE06 Development of 9.5 T NbTi Cryogen-Free Magnet (11:15am)

Weijun Shen, Michael Coffey, Wayne McGhee, Cryomagnetics, Inc.

5LF AC Losses (HTS) II

5LF01 An engineering approach to describe the AC loss of BSCCO/Ag tape (10:15am)

Jan-Jaap Rabbers, Bennie ten Haken, Oleg Shevchenko, Herman ten Kate, University of Twente, Faculty of Applied Physics, Low Temperature Division.

5LF02 Effect of the geometry of HTS tapes on AC loss by using FEM simulation and B-dependent E-J power law (10:30am)

Nadia Nibbio, Svetlomidir Stavrev, Bertrand Dutoit, Swiss Federal Institute of Technology - Lausanne.

5LF03 FEM simulation of AC loss in HTS tapes with B-dependent E-J power law (10:45am)

Nadia Nibbio, Svetlomidir Stavrev, Swiss Federal Institute of Technology - Lausanne.

5LF04 The effective matrix resistance and the coupling criteria for multifilamentary superconducting tapes (11:00am)

M.P. Oomen, Siemens & Univ. of Twente; M. Leghissa, Siemens; B. ten Haken, H.H.J. ten Kate, Univ. of Twente.

Friday Plenary Sessions (Pavilion Convention Center) 11:30am - 1:00pm

5AP6 Status and plans for superconductivity at LHC

C. Wyss, CERN, Geneva - Switzerland.

5AP7 HTS Filter Subsystems for Wireless Telecommunications

Balam Willemsen, Superconductor Technologies Inc..

Materials Sessions

Monday Plenary Session (Pavilion Convention Center) 8:30am - 10:00am

Welcome

Harold Weinstock, ASC Chairman, AFOSR; and Hermann Grunder, Director, Thomas Jefferson National Accelerator Facility

1AP1 Superconductivity: Star Technology for the 21st Century

C.H. Rosner, Intermagnetics General Corporation.

Monday Poster Session (Pavilion Convention Center) 10:00am - 12:00pm

1MA HTS Films I

1MA01 Study on the Growth Mechanism of the Ribbon-like Thin Films of Bi-2212

S. Arisawa, K Togano, NRI, JST-CREST; H. Miao, JST-CREST; Y. Takano, A. Ishii, T. Mochiku, T. Hatano, NRI; Y. Satho, Univ. Tsukuba.

1MA02 Anisotropic properties of BSCCO(2212) films deposited on tilted substrates

M. Moriya, T. Sudoh, K. Usami, T. Goto, T. Kobayashi, Dept. of Electronic Engineering, The University of Electro-Communications.

1MA03 Fabrication of Bi2212 films and intrinsic Josephson junctions

Sudershan Y S, August Yurgens, Dag Winkler, Microelectronics & Nanoscience, Physics & Engineering Physics, Chalmers Univ. of Technology, Sweden.

1MA04 Superconducting Properties of BSCCO (2212) Ultra Thin Films

L. Navarrete, A. Marino, H. Sanchez, Universidad Nacional de Colombia.

1MA05 Photoemission Study of Electronic Structure of Pb-3212 Films

N. Terada, Kagoshima University and Electrotechnical Laboratory & CREST; S. Ikegawa, Y. Motoi, Advanced Materials & Devices Lab., Corporate R & D Center, Toshiba Corp.; K. Obara, Kagoshima University; H. Ihara, Electrotechnical Laboratory & CREST.

1MA06 Measurement of the thermodynamic anisotropy in Tl-2212 thin films using the intrinsic Josephson effect

O.S. Chana, A.R. Kuzhakhmetov, P.A. Warburton, Kings College London, UK; D.M.C. Hyland, D. Dew-Hughes, C.R.M. Grovenor, University of Oxford, UK; R.J. Kinsey, W.E. Booij, M.G. Blamire, University of Cambridge, UK; P. Mueller, Universitaet Erlangen-Nuernberg, Germany.

1MB REBCO Coated Conductors and Tapes I

1MB01 Transport and Anisotropic Properties of Coated Conductors deposited by LPE on Single Crystalline Substrates

A. Vostner, H.W. Weber, Atominstitut der Österreichischen Universitäten, A-1020 Vienna, Austria; T. Aichele, P. Görmert, INNOVENT e. V., D-07745 Jena, Germany; Y.S. Cheng, Department of Materials Science and Metallurgy, University of Cambridge, Cambridge CB2 3QZ, UK; A. Kursumovic, J.E. Evetts, IRC in Superconductivity, University of Cambridge, Cambridge CB3 0HE, UK.

1MB02 The Effect of Substrate Characteristics on HTSC Y1Ba2Cu3O(7-#)Thin Films Produced by Pulsed Laser Depositi

Jeff McKinnon, Mihail Ionescu, S.X. Dou, ISEM University of Wollongong.

1MB03 Characterizations of CeO2 and BaTiO3 double buffer layer for the growth of Y1Ba2Cu3O7-x superconducting thin film

Sung-Min Kim, Sang Yeol Lee, Department of Electrical Engineering, Yonsei University.

1MB04 Enhanced thin film quality of Y-Ba-Cu-O by using Eu-Cu-O buffer

W.H. Tang, C.Y. Yau, J. Gao, Department of Physics, The University of Hong Kong, Pokfulam Road, Hong Kong.

1MB05 TEM Structure Characterization of Si/YSZ/YBCO High-Temperature Superconductor Thin Film Heterostructures

F. Yang, P. Brown, T. Khan, Yu. Vlasov, K.H. Wu, G.L. Larkins, Jr., Florida International University.

1MB06 Modelling of Orientation Relations in 2-D Percolative Systems of Buffered Metallic Substrates for Coated Conductors

Noel Rutter, Bartek Glowacki, Department of Materials Science, Pembroke Street, Cambridge, CB2 3QZ, UK.

1MB07 The effect of lattice matching between buffer layer and YBa₂Cu₃O_{7-d} thin film on in-plane alignment of c-axis oriented thin films

Kazuaki Chiba, Sayoko Makino, Masashi Mukaida, Masanobu Kusunoki, Shigetoshi Ohshima, Faculty of engineering, Yamagata University.

1MB08 The Characterization of Thermal Cycling Behavior of Si/YSZ/YBCO High-Temperature Superconductor Thin Films

F. Yang, K.H. Wu, G.L. Larkins, Jr., Florida International University.

1MB09 Determination of Growth and Microstructural Factors which Influence Superconducting Properties of Ultrasonically Spray Pyrolysed YBCO Films.

A. Ferreri, Centre for High Temperature Superconductivity, Imperial College; J.L. Mac Manus-Driscoll, Dept. Materials, Imperial College; A.D. Caplin, Dept. Physics, Imperial College.

1MB10 Growth and characterization of Eu-Cu-O thin films on YSZ (100) substrates

J. Gao, W.H. Tang, C.Y. Yau, Department of Physics, The University of Hong Kong, Pokfulam Road, Hong Kong.

1MC Low Frequency AC Losses - HTS I**1MC01 current density distribution and AC losses in Bi-2223 tapes in overload conditions**

Giacomo Coletta, Davide Uglietti, Renata Mele, Pirelli Cavi & Sistemi; Flavio Zanovello, Politecnico di Milano, Dipartimento di Energetica; Riccardo Tebano, Università di Milano-Bicocca, Dipartimento di Scienza dei Materiali.

1MC02 Power Dissipation in Composite Ag/Bi-2223 Tapes with Reduced Interconnections Between Filaments

M. Ciszek, O. Tsukamoto, N. Amemiya, J. Ogawa, Yokohama National University; K. Hayashi, M. Ueyama, N. Ayai, Sumitomo Electric Industries .

1MC03 Eddy current loss in Ag-sheathed BSCCO tapes in the ac-current transport regime

Riccardo Tebano, INFN, Dipartimento di Scienza dei Materiali dell'Università; Alberto Melini, Università degli Studi di Milano, Dipartimento di Fisica; Renata Mele, Pirelli Cavi e Sistemi.

1MC04 Interstrand and AC Loss Measurements on Rutherford-Type Cables for Accelerator Magnet Applications

Rachid Omani, Alstom / MSA; Arnaud Devred, CEA Saclay; Pascal Tixador, CNRS-CRTBT.

1MC05 AC-Losses of Nb-Ti wire with Cu-Si alloy matrix

H. Kasahara, S. Torii, S. Akita, CRIEPI; H. Yumura, Sumitomo Electric Industry; K. Tachikawa, Tokai University.

1MC06 AC Susceptibilities in NbTi Multifilamentary Wires with Cu and CuMn Matrices

Tadahiro Akune, Rikiya Maeda, Nobuyoshi Sakamoto, Kyushu Sangyo University; Kazuo Funaki, Kyushu University.

1MC07 Time constant measurements and effective permeability of a stack of High-Tc tapes

H. Eckelmann, C. Schmidt, Forschungszentrum Karlsruhe, ITP; L. Krempasky, Institute of Electrical Engineering of S.A.S., Bratislava, Slovakia.

1MC08 Low-Frequency AC Susceptibility due to the Interplay of Various Loss Mechanisms in HTS

Wei Wang, Yu Wang, Chuanyi Li, Kaixuan Chen, Guo Lu, Daole Yin, Department of Physics, Peking University; Liye Xiao, Liangzhen Lin, Naihao Song, The Institute of Electrical Engineering, Chinese Academy of Sciences.

1MC09 AC losses in multifilamentary tapes exposed to transverse AC magnetic fields

Stefania Farinon, Pasquale Fabricatore, Stefania Innocenti, INFN Genova; Fedor Gomory, IEE Bratislava.

1MD Low Frequency AC Losses - HTS Wire II**1MD01 AC Loss Measurement and Analysis of Ag-sheathed Bi-2223 Conductors with respect to Twist Pitch Lengths**

Mihye Jang, Yong Chu, Tae Kuk Ko, Hyoung Gu Kang, Dept. of Electrical and Computer Eng., Yonsei University; Jun Hyung Lim, Jin Ho Joo, Dept. of Metallurgical Eng., Sung Kyun Kwan University.

1MD02 Modelling of the influence of magnetic screening on minimisation of transport ac losses in multifilamentary superconductors.

Milan Majoros, IRC in Superconductivity, on leave from Institute of Electrical Engineering, SAS, Bratislava, SK; Bartolomej Glowacki, IRC in Superconductivity and Department of Materials Science and Metallurgy; Archie Campbell, IRC in Superconductivity.

1MD03 Fabrication and A.C. loss behavior of (Bi,P)-2223 multifilamentary tapes with resistive barriers

P.X. Zhang, R. Inada, T. Uno, Y. Takatori, A. Oota, Toyohashi University of Technology, Tempku-cho, Toyohashi, Aichi 441-8580, Japan; H. Fujimoto, Railway Technical Research Institute, 2-8-38 Hikari-cho, Kokubunji, Tokyo 185-8540, Japan; P. Ji, Z.Z. Duan, C.S. Li, L. Zhou, Northwest Institute for Nonferrous Metal Research, P.O.Box 51, Xi.

1MD04 AC Loss Measurement and Analysis of Twist Pitched Bi-2223 Conductors with various Factor by FEM Method

Mihye Jang, Yong Chu, Myung Gon Song, Tae Kuk Ko, Dept. of Electrical and Computer Eng., Yonsei University; Sang Jin Lee, Dept. of Electrical Eng., Uiduk University.

1MD05 Conductor architecture, filamentary interconnections and current distribution in BiSCCO-2223-based tape conductors.

Y. Bugoslavsky, G. Perkins, P. Buscemi, A.D. Caplin, Blackett Laboratory, Imperial College, London SW7 2BZ, UK; Martino Leghissa, Marijn P. Oomen, Siemens AG, PO Box 3220, 91050 Erlangen, Germany.

1MD06 BSSCO tapes losses characterization by numerical analysis; measurement of magnetization cycles and higher harmonic of ac susceptibility

Daniele Di Gioacchino, Umberto Gambardella, Francesco Celani, INFN-LNF; Paolo Tripodi, INFN-LNF & SRI International.

1MD07 Transverse resistivity in Bi2223/Ag tapes

Joseph Horvat, Timothy Hughes, Shi Dou, University of Wollongong; Edward Collings, Ohio State University; Frank Darmann, Australian Superconductors .

1MD08 Reduction of transport current losses in high temperature superconducting wires with transposed filaments

Fumio Sumiyoshi, Kohjiro Yamashita, Kagoshima University; Hidemi Hayashi, Fujio Irie, Kyushu Electric Power Co., Inc..

1MD09 Fabrication and characterization of microstructural evolution and properties of twisted Bi-2223 superconductor tape

Jun Hyung Lim, Jinho Joo, Wansoo Nah, Sungkyunkwan University; Mihye Jang, Taekuk Ko, Yonsei University; Sang-Jin Lee, Uiduk University; Hong-Soo Ha, Sang-Soo Oh, Korea Electrotechnology Research Institute.

Monday Oral Session (Pavilion Convention Center) 12:00pm - 1:00pm

1ME Microwave Properties of Thin Films I

1ME01 Observation of Individual Josephson Vortices in YBCO Bicrystal Grain-Boundary Junctions (12:00pm)

D. E. Oates, G. Dresselhaus, M. S. Dresselhaus, MIT Lincoln Lab; H. Xin, MIT and AFRL.

1ME02 Nonlinear microwave response of YBaCuO films of varying oxygen content before and after patterning (12:15pm)

M Hein, A Porch, A Velichko, Univ. Birmingham; RG Humphreys, PJ Hirst, DERA Malvern; DE Oates, MIT Lincoln Lab.

1ME03 Power handling capabilities of YBCO-wafers subsequently structured for microstrip resonators (12:30pm)

E. Gaganidze, R. Schwab, J. Halbritter, R. Heidinger, Forschungszentrum Karlsruhe, IMF I; R. Aidam, R. Schneider, Forschungszentrum Karlsruhe, IFP.

1ME04 Power Handling Capability and Intermodulation Distortion in YBCO films with artificial defects (12:45pm)

Peter Lahl, Jan Einfeld, Roger Würdenweber, ISI/FZ-Jülich.

1MF REBCO Coated Conductors & Tapes II

1MF01 Real to Real Continuous Formation of Y-123 Coated Conductors By IBAD and PLD Method (12:00pm)

Yasuhiro Iijima, Kazuomi Kakimoto, Mariko Kimura, Kaoru Takeda, Takashi Saitoh, Fujikura Ltd..

1MF02 Analysis and Performance of IBAD MgO Template Films used for Second Generation YBCO Coated Conductors (12:30pm)

JR Groves, PN Arendt, SR Foltyn, QX Jia, RF DePaula, PC Dowden, H Kung, TG Holesinger, JF Smith, EJ Peterson, LANL.

1MF03 Inclined Substrate Deposition of MgO Buffer Layers for YBCO Coated Conductors (12:45pm)

R. Metzger, M. Bauer, K. Numssen, R. Semerad, P. Berberich, H. Kinder, Technische Universität München.

Monday Lunch / Hot Topic Talk (Pavilion Convention Center) 1:00pm - 2:00pm

Hot Topic Lunch Session: Doping-Induced Enhancement of Grain Boundary Critical Currents

G. Hammerl, A. Schmehl, R.R. Schulz, B. Goetz, H. Bielefeldt, C.W. Schneider, J. Mannhart, University of Augsburg; H. Hilgenkamp, University of Augsburg (present address: Twente University)

Monday Poster Sessions (Pavilion Convention Center) 2:00pm - 4:00pm

1MG Bulk Cuprates I

1MG01 Processing of large BiPbSrCaCuO-2223 discs by sintering and by hot forging

Sybille Pavard, Daniel Bourgault, Robert Tournier, CNRS/CRETA - Lab. de Cristallographie; Nathalient Caillault, Laurent Carbone, Michel Barrault, Schneider Electric Industrie S.A..

1MG02 Metallic Cu Coating on HTS Surfaces using Electrochemical Preparation

Uta Floegel-Delor, Dieter Wippich, Rolf Rothfeld, Thomas Riedel, Frank.N Werfel, Adelwitz Technologiezentrum GmbH (ATZ), Germany.

1MG03 Synthesis and Superconductivity of FeSr₂RECu₂O_y

T. Hinouchi, J. Shimoyama, K. Otzchi, K. Kishio, Department of Superconductivity, University of Tokyo.

1MG04 Effect of magnesium additions on Bi-2212 thermal conductivity in the temperature range 4.2-300 K.

N.A. Prytkova, Zh.M. Tomilo, Institute of Solid State and Semiconductor Physics, National Academy of Science of Belarus.

1MG05 Oriented Crystal Growth in Bi(Pb)₂223 Bulks Prepared with a Magnetic Melt Processing

W.P. Chen, K. Watanabe, M. Motokawa, Institute for Materials Research, Tohoku University, Japan; H. Maeda, Kitami Institute of Technology, Japan.

1MG06 Development of synthesis technique and characterization of BSCCO 2212 whiskers

Takeshi Hatano, Yoshihiko Takano, Shunichi Arisawa, Akira Ishii, Kazumasa Togano, National Research Institute for Metals.

1MG07 Fabrication and characterization of Bi₂212 whiskers

Y. Takano, S. Arisawa, A. Ishii, T. Hatano, K. Togano, National Research Institute for Metals.

1MG08 Nanopowders as precursors for the fabrication of bulk High-Tc superconducting materials

Gennadi A. Emelchenko, Institute of Solid State Physics RAS; Igor G. Naumenko, Alexander V. Kosenko, Salavat S. Khasanov, Irina I. Zverkova, Alexander S. Aronin, Ljudmila S. Uspenskaya, ISSP RAS; Yuri V. Bugoslavsky, General Physics Institute RAS, 117942, Moscow, Vavilov 38, Russia ; A. David Caplin, Imperial College, London SW7 2BZ, UK.

1MH Bulk Cuprates II

1MH01 The preparation of doped precursor powders for the fabrication of large grain high temperature superconductors.

Patrick Smith, David Cardwell, Nadendla Hari-Babu, Makoto Kambara, Yun-Hua Shi, University of Cambridge.

1MH02 Preparation of La_{1.29}Ca_{0.43}Ba_{1.29}Cu₃O_y superconducting powder with different polyprotic acids

Huey-Chuen I. Kao, Jyh-Terng Shy, Chi-Ming Wang, Tamkang University.

1MH03 Photo-Assisted Processing of Nano-Particles for the Fabrication of High Performance YBCO Large Grain Materials

H.F. Lu, H. Fang, W. Lo, K. Ravi-Chandar, University of Houston.

1MH04 Restitution of Superconductivity due to hole doping by Ca in La-2125 cuprate superconductor.

D.G. Kuberkar, N.A. Shah, B.T Savalia, C.M. Thaker, R.S. Thampi, R.G. Kulkarni, Department Of Physics,Saurashtra University,Rajkot 360 005,INDIA.

1MH05 XRD Rietveld-Analysis of PBSCCO-2223 Precursor Powders used in OPIT Processing

Sebastian R ath, Wolfgang Schmahl, Institut f ur Geologie, Mineralogie und Geophysik, Ruhr-Universit at Bochum; Lee Woodall, Merck KGaA, Darmstadt.

1MH06 Magnetic Field Induced Texture in High-Tc Materials

P.V.P.S.S. Sastry, Y. Viouchkov, U.P. Trociewitz, National High Magnetic Field Laboratory, Tallahassee, Florida 32310, USA; Y. Yamada, National High Magnetic Field Laboratory, Tallahassee, Florida 32310, USA &Tokai University, Japan; J. Schwartz, National High Magnetic Field Laboratory & FAMU-FSU College of Engineering, Tallahassee, FL 32310, USA.

1MH07 Effect of Doping Ba, Y, V, Zn and Sn on BSCCO Superconducting Ceramics

S.B. Mohamed, H. Azhan, OK; S.A. Halim, Ok.

1MI REBCO Coated Conductors and Tapes III

1MI01 Post Annealing of YBCO thick films grown at high rates by ultrasonic spray pyrolysis.

J. A. G. Nelstrop, J. L. MacManus-Driscoll, Dept. of Materials, Imperial College, Prince Consort Rd., London, SW7 2BP, U.K.; A. Ferreri, Dept. of Physics, Imperial College, Prince Consort Rd., London, SW7 2AZ, U.K..

1MI02 Epitaxial Growth of YBCO Thin Film on a Single-Domain YBCO Substrate for rf Component Development

Donglu Shi, Jongli Xu, David Qu, Hong Sang Rho, Relva Buchanan, Altan Ferendeci, University of Cincinnati.

1MI03 Fabrication of YBa₂Cu₃O_{7-x} films on various buffered substrates by MOD method using trifluoroacetate salts

T. Araki, K. Yamagiwa, Y. Takahashi, S.B. Kim, I. Hirabayashi, Superconductivity Research Laboratory.

1MI04 Solution Deposition and Processing of YBCO for Coated Conductors

J.T. Dawley, P.G. Clem, M.P. Siegal, D.L. Overmyer, J.A. Voigt, E.L. Venturini, Sandia National Laboratories, Albuquerque, NM.

1MI05 Fabrication of Yb-123 Tapes

S. Athur, K. Salama, TCSUH; U. Balachandran, ANL.

1MI06 Synthesis by aerosol process of superconducting films and buffer layer materials

A. Sin, P. Odier, L. Ortega, Laboratoire de Cristallographie-CNRS; Z. Supardi, F. Weiss, Laboratoire des Matériaux et du Génie Physique-INPG; M. Núñez-Regueiro, Centre de Recherche sur les Très Basses Températures-CNRS.

1MI07 Electrical Characterization of Ceramic Insulation Coatings for Magnet Technology

E. Celik, I.H. Mutlu, H. Okuyucu, Y. S. Hascicek, National High Magnetic Field Laboratory, Tallahassee, FL, 32310, USA.

1MI08 Properties of coated conductors with the nickel tapes textured in single crystalline qualities

Jaewon Yoo, Hosup Kim, Kookchae Jung, Byoungsu Lee, Dojun Youm, KAIST.

1MI09 Growth of Gd₂O₃/CeO₂ buffer layer on rolled-Ni substrates by Pulse Laser Deposition

Dongqi Shi, Mihail Ionescu, Shixue Dou, Institute for Superconducting and Electronic Materials, University of Wollongong ; Jian Yang, General Research Institute for Non-ferrous Metals, Beijing .

1MI10 YBCO - deposition on metal tape substrates

R. Semerad, J. Knauf, W. Prusseit, THEVA GmbH; B. DeBoer, J. Eickemeyer, IFW Dresden.

1MI11 YBCO Coated Conductor Development by Continuous Sol-Gel Process

I.H. Mutlu, H. Okuyucu, E. Celik, Y. S. Hascicek, National High Magnetic Field Laboratory, Tallahassee, FL, 32310, USA.

1MJ REBCO Coated Conductors and Tapes IV

1MJ01 Deposition of biaxially aligned YSZ layers on metal tape by modified magnetron sputtering

Griet De Winter, Roger De Gryse, Ghent University; Jurgen Denul, Centre for Vacuum and Materials Science.

1MJ02 Solubility and LPE growth of mixed REBCO

Xiaoding Qi, Judith L. MacManus-Driscoll, Dept of Materials, Imperial College, London, UK.

1MJ03 High Performance Superconducting YBCO Tapes Produced by Oxidation of Metallic Precursors

N.J. Long, R.G. Buckley, D. Pringle, Industrial Research Limited, PO Box 31-310, Lower Hutt, New Zealand; A. Otto, American Superconductor Corporation, Two Technology Drive, Westborough, MA.

1MJ04 Effects of Metallic Substrate Imperfections on Superconducting Properties of YBCO Films

Gregory Kozlowski, Kenneth Hix, WSU; Rand Biggers, Donald Dorsey, Noah Boss, John Jones, AFRL; Iman Maartense, John McDaniel, UDRI; Mike Tomsic, Eurus Technologies, Inc.; Rama Nekkanti, UES, Inc..

1MJ05 YBCO deposition by MOCVD on metallic substrates: a comparative study on buffer layers

C. Jimenez, F. Weiss, J.P. Sénateur, LMGP-ENSPG, BP 46, 38402 Saint Martin d; A. Abrutis, Vilnius University, 2006 Vilnius, LITHUANIA; M. Krellmann, D. Selbmann, J. Eickemeyer, IFW Postfach 270016, D-01171 Dresden GERMANY; O. Stadel, G. Walh, IOPW- Bienroder Weg 53, 38108 Braunschweig GERMANY.

1MJ06 Growth conditions and superconductive properties of a-axis oriented YBa₂Cu₃O₇ films on LaSrGaO₄ substrates

Toshinari Goto, Satoshi Takekawa, Lan Zhang, Masataka Moriya, Tadayuki Kobayashi, The University of Electro-Communications.

1MJ07 Pulsed DC Magnetron Sputtering of YSZ Buffer Layers on Si (100)

P. Brown, T. Khan, S. Sayed, Yu. Vlasov, G.L. Larkins, Florida International University; P. Stampe, R. Kennedy, Florida A&M University.

1MJ08 Microstructure of CeO₂ Buffer Layer on the YSZ and Sapphire deposited by PLD

Dongqi Shi, Mihail Ionescu, Shixue Dou, Institute for Superconducting and Electronic Materials, University of Wollongong .

1MJ09 Dependence of surface morphology, structures and microwave properties on the thickness of YBCO films grown on post-annealed CeO₂-buffered sapphire

W. I. Yang, J. H. Lee, Sang Young Lee, Konkuk University; V. A. Komashko, Konkuk University .

1MJ10 YBCO sputter deposition from rotatable targets : a scalable approach for YBCO coated conductors

Jurgen Denul, Centre for Vacuum and Materials Science; Griet De Winter, Roger De Gryse, Ghent University.

1MJ11 YBCO film growth on Y₂O₃ buffered and non-buffered SrTiO₃ single crystals using precursor films including fluoride

Ataru Ichinose, Shirabe Akita, Central Research Institute of Electric Power Industry; Akihiro Kikuchi, National Research Institute of Metals; Kyoji Tachikawa, Tokai University.

Monday Oral Sessions (Pavilion Convention Center) 4:00pm - 6:30pm

1MK REBCO Coated Conductors & Tapes V

1MK01 High-Jc, YBCO Tapes by Epitaxial Deposition of YBCO on Rolling Assisted Biaxially Textured Substrates (RABiTS) (4:00pm)

A. Goyal, R. Feenstra, E.D. Specht, F.A. List, D.F. Lee, M. Paranthaman, D.P. Verebelyi, B.W. Kang, C. Cui, T. Chirayil, D.M. Kroeger, D.K. Christen, P.M. Martin, Oak Ridge National Laboratory, PO Box 2008, MS 6116, Oak Ridge, TN 37831..

1MK02 Coated Conductor of RE-Ba-Cu-O Thick Film on Metal Tapes Fabricated by Liquid Phase Epitaxy Process (4:30pm)

Teruo Izumi, Natsuro Hobara, Kazuomi Kakimoto, Toru Izumi, Katsuya Hasegawa, Tetsuji Honjo, Xin Yao, Yuichi Nakamura, Yuh Shiohara, SRL-ISTEC.

1MK03 Texture development in Ag alloy substrates (5:00pm)

J.C. Moore, R. Goodall, T.A. Gladstone, S. Speller, C.R.M Grovenor, Dept. of Materials, University of Oxford, Oxford U.K.; V. Boffa, ENEA-Frascati, Frascati, Rome, Italy.

1MK04 Low Cost YBCO Coated Conductors (5:15pm)

M.W. Rupich, Q. Li, S. Annavarapu, C. Thieme, American Superconductor; V. Prunier, Electricite de France.

1MK05 YBCO thick films fabricated by a two step spray/ process on Ag alloy substrate (5:30pm)

Ruling Meng, Due Pham, Irene Rusakova, Jared Cmaidalka, C.W. Chu, Texas Center for Superconductivity at The University of Houston.

1MK06 YBa₂Cu₃O_{7-d} Thick Films Continuously Fabricated on Textured Metal Substrates by Liquid-Phase Epitaxy Processing (5:45pm)

T. Maeda, T. Suga, S.-B. Kim, Y. Yamada, I. Hirabayashi, Superconductivity Research Laboratory, ISTE; H. Yoshino, M. Yamazaki, T.D. Thanh, Toshiba Corp.; T. Watanabe, K. Matsumoto, Furukawa Electric Co., Ltd..

1MK07 Application of Solution Deposition to Fabricate Y123 Coated Conductor (6:00pm)

Srivatsan Sathyamurthy, Kamel Salama, Texas Center for Superconductivity.

1MK08 Ex-situ post-deposition processing for large area YBCO films and coated tapes (6:15pm)

V. F. Solovoyov, H. J. Wiesmann, L.-J. Wu, Y. Zhu, M. Suenaga, Brookhaven National Laboratory.

1ML Low Frequency AC Losses - HTS Wire III**1ML01 Development and AC Characterization of Bi2223 Conductors for HTS Transformer Applications (4:00pm)**

M. Leghissa, J. Rieger, R. Nanke, T. Berthold, H.-W. Neumueller, Siemens AG, Corporate Technology, Erlangen and Munich, Germany; B. Fischer, J. Gierl, Vacuumschmelze GmbH, Hanau, Germany; W. Haessler, M. Schubert, V. Haas, IFW Dresden, Germany.

1ML02 Properties of internally stranded RBB (ring bundle barrier) low AC loss BSCCO tapes made by PITAR route (4:15pm)

W Goldacker, J Krelaus, R Nast, H Eckelmann, Forschungszentrum Karlsruhe.

1ML03 Microstructure and electrical properties of BSCCO tapes with ceramic barriers (4:30pm)

Wolfgang Hässler, Margitta Schubert, Christian Rodig, Volker Haas, Claus Fischer, IFW Dresden; Thomas Berthold, Siemens AG München; Martino Leghissa, Siemens AG Erlangen.

1ML04 AC losses in DCMB (dip coated mixed barrier) and internally stranded RBB (ring bundle barrier) multifilamentary BSCCO(2223) tapes with resistive barriers (4:45pm)

H Eckelmann, J Krelaus, R Nast, W Goldacker, Forschungszentrum Karlsruhe.

1ML05 Effect of Barrier Configuration on the Superconducting Properties of Bi2223 Multifilamentary Tapes with Sr-V-O Oxide Barriers (5:00pm)

Hiroshi Maeda, Tomoyuki Inaba, Mitsunori Sato, Kitami Institute of Technology; Ping-Xiang Zhang, Toyohashi University of Technology; Hiroaki Kumakura, National Research Institute for Metals.

1ML07 Analysis of Eddy Current AC Loss for Several Types of Superconducting Composites with Various Aspect Ratios (5:30pm)

M.D. Sumption, E. Lee, E.W. Collings, MSE, The Ohio State University.

1ML09 Partitioning of transport AC loss in a superconducting tape into magnetic and resistive components (6:00pm)

Fedor Gömöry, Frantisek Strycek, Lubomir Frolek, Andrej Laudis, Imrich Husek, Pavol Kovac, Institute of Electrical Engineering, Slovak Academy of Sciences.

Tuesday Plenary Sessions (Pavilion Convention Center) 8:30am - 10:00am**2AP2 Critical Currents: Just How Critical Are They?**

David C. Larbalestier, Applied Superconductivity Center, Department of Materials Science and Engineering and Department of Physics, University of Wisconsin, Madison WI 53706 USA.

2AP3 Superconductivity, An Enabling Technology for 21st Century Power Systems?

William Hassenzehl, Advanced Energy Analysis, 3756 Grand Avenue #404, Oakland, CA 94611.

Tuesday Poster Sessions (Pavilion Convention Center) 10:00am - 12:00pm**2MA BSCCO Wires and Tapes I****2MA01 Bi-2223/Ag Tapes Prepared by High Temperature Sintering Followed by Slow Cooling**

S. K. Xia, M. B. Lisboa, CEPEL-Centro de Pesquisas de Energia Elétrica; E. T. Serra, CEPEL-Centro de Pesquisas de Energia Elétrica; F. Rizzo, Pontificia Universidade Católica, PUC-Rio.

2MA02 Possible Mechanism of Critical Current Diminution in Monocore Bi-2223/Ag Tape During Annealing Connected With Pore Transformations*

I.A. Parinov, Mechanics and Applied Mathematics Research Institute, Rostov-on-Don 344090, Russia.

2MA04 Ag/Ceramic Composites - A Study of the Superconducting Properties

Dayse dos Santos, Fernanda de Souza, Moacir de Souza Filho, Universidade Estadual Paulista - Campus Bauru.

2MA05 Sheet-like composite HTSC materials: processing, properties and possible applications

A.K. Shikov, I.I. Akimov, A.V. Rejukanov, D.N. Rakov, SSC RF Bochvar Research Institute of Inorganic Materials; L.K. Kovalev, K.V. Ilushin, Moscow Aviation Institute.

2MA06 Effect of Precursor-Powders on Magnetic and Electrical Transport Properties of (Bi,Pb)-2223-Tapes

B. Säiler, F. Schwaigerer, K. Gibson, H.-J. Meyer, University of Tuebingen, Institute of Inorganic Chemistry, Auf der Morgenstelle 18, D72076 Tuebingen; M. Lehmann, L. Woodall, Merck KGaA Darmstadt, D-64271 Darmstadt, Germany.

2MA07 Ic/temperature characteristics for BiPb2223 composites sintered in a temperature gradient with 7.5 percent O₂ and air

E.A. Young, Y. Yang, C. Beduz, University of Southampton.

2MA08 Engineering critical current density improvement in Ag-Bi-2223 tapes

Wei Guo Wang, Jean-Claude Grivel, Peder Skov-Hansen, Hengning Wu, Per Vase, Nordic Superconductor Technologies A/S; Yi-Lin Liu, Risoe.

2MA09 Electromagnetic Characterization of Ag/Bi2223 Multifilamentary Tapes through the Manufacturing Process

Louis Schwartzkopf, Davina Ethridge, Minnesota State U., Mankato; Xue Yu Cai, Jianyi Jiang, Daniel Apodaca, David Larbalestier, University of Wisconsin.

2MA10 Texture development analysis during the phase formation process in multifilamentary Bi(2223)/Ag tapes.

Cimberle Maria Roberta, CNR ; Ferdeghini Carlo, INFN ; Grasso Gianni, Guasconi Patrizia, Malagoli Andrea, INFN; Putti Marina, Università di Genova .

2MA11 Through-Process Observation of Phase Development in Bi-2223 Multifilamentary Tapes by Analytical Electron Microscopy

Terry Holesinger, John Bingert, Los Alamos National Laboratory, Los Alamos NM 87545; Ronald Parrella, Qi Li, Martin Rupich, Gilbert Riley, Jr., American Superconductor, Westborough MA 01581.

2MA12 High critical current density BSCCO-2212 tapes formed by a modified powder-in-tube method

R. J. Soulen, T. L. Francavilla, Naval Research Laboratory, Washington, DC 20375; D.-W Yuan, Concurrent Technologies Corporation, Johnstown, PA 15904.

2MB BSCCO Wires and Tapes II

2MB01 Superconducting Joint of Reacted Bi-2223/Ag Multi-Filamentary Tapes

Sang-Soo Oh, Hong-Soo Ha, Dong-Woo Ha, Hyun-Man Jang, Young-Kil Kwon, Kang-Sik Ryu, Korea Electrotechnology Research Institute.

2MB02 Measurement of Joint Resistance of Bi-2223/Ag tapes using One-turn Shorted Coil

Kazufumi Tanaka, Akira Ninomiya, Takeshi Ishigohka, Seikei University; Kiyoshi Kurahashi, Kansai Electric Power Co..

2MB03 Critical persistent current for a loop formed by a Bi-2223 Ag-sheathed superconducting tape

Lance Hornig, Department of Physics, National Changhua University of Education, Changhua 50058, Taiwan..

2MB04 Properties of resistive- and superconducting-joint of Bi-2223 superconductor tape

Jung Ho Kim, Jun Hyung Lim, Jinho Joo, Wansoo Nah, Sungkyunkwan University.

2MB05 Critical Current Degradation in Jointed Area of Ag-Sheathed BSCCO Tapes

Hoon Hwangbo, Seyong Choi, Wansoo Nah, School of Electrical and Computer Engineering, Sungkyunkwan University; Jung Ho Kim, Jinho Joo, School of Metallurgical and Materials Engineering, Sungkyunkwan University.

2MB06 Engineering the precompression of Bi,Pb(2223) : the influence of the nature and geometry of the metallic matrix on the mechanical properties of tapes.

Reynald Passerini, Marc Dhallé, Grégoire Witz, Simone Lavanga, Bernd Seeber, Enrico Giannini, Marc Lomello, René Flükiger, DPMC, University of Geneva.

2MB07 The development and application of a novel method for measuring the strain dependence of critical current in BSCCO 2212 tapes for use in superconducting magnet insert coils at 4.2K.

R.A. Dudley, M.K. Al-Mosawi, Y. Yang, C. Beduz, University Of Southampton, UK; D. Ryan, Oxford Instruments Superconductivity, UK.

2MB08 Influence of Dynamic and Static Stresses to Mechanical and Transport Properties of Ag/Bi2223 Composite Superconductors.

Michio Sugano, Kozo Osamura, Department of Materials Science and Engineering, Kyoto University; Shojiro Ochiai, Mesoscopic Materials Research Center, Kyoto University.

2MB09 Mechanical properties and Finite Element Modeling of BSCCO tapes

D. Bracanovic, O.O. Oduleye, S.J. Penn, N McN Alford, EEIE, South Bank University, 103 Borough Road, London SE1 0AA, UK.

2MC BSCCO Wires and Tapes III

2MC01 A Study of Microstructure and Superconducting Properties of Bi-2212 Silver and Silver Alloy Sheathed Conductors

Wen Zhu, Dan Watson, Julian Cave, IREQ, Hydro-Québec.

2MC02 Effect of the Chemical and Physical Nature of Insulation on the Leaking and Shorting During Melt-Processing of Ag- and AgMg-clad Bi2Sr2Ca1Cu2Oy Coils

P.V.P.S.S. Sastry, National High Magnetic Field Laboratory, Tallahassee, Florida 32310, USA ; E. Celik, I. Mutlu, U.P. Trociewitz, Y. Viouchkov, H.W. Weijers, Y.S. Hascicek, National High Magnetic Field Laboratory, Tallahassee, Florida 32310, USA; J.A. Parrell, K. Marken, Oxford Superconducting Technology, Carteret, NJ, USA; J. Schwartz, National High Magnetic Field Laboratory & FAMU-FSU College of Engineering, Tallahassee FL32310, USA.

2MC03 Improvement of superconducting properties of Bi-2212 round wire and primary test results of large capacity Rutherford cable

Yuji Aoki, Nozomu Ohtani, Tutomu Koizumi, Takayo Hasegawa, Showa Electric Wire & Cable Co., Ltd.; Leszek Motowidlo, Robert S. Sokolowski, IGC Advanced Superconductors; Ronald M. Scanlan, Lawrence Berkeley National Laboratory; Shigeo Nagaya, Cyubu Electric Power Co., Inc..

2MC04 Isothermal melt processing of multifilament 2212 BSCCO wire

A.O. Komarov, A.I. Sazonov, MISA; N.A. Chernoplekov, V.S. Kruglov, RRC "Kurchatov Inst."; I.I. Akimov, VNIINM.

2MC05 Critical currents under magnetic field of Bi2Sr2Ca1Cu2O8/Ag tapes synthesised by electroplating and heat treatments

Gaëlle Villard, Fabrice Legendre, CEA Saclay; Gilles Poullain, CRISMAT Caen; Pierre Regnier, Giovanni Giunchi, EDISON S.p.a..

2MC06 Fabrication of Heavily Pb-Doped Bi2212 Tapes

Keita Murakami, Keisuke Sugita, Jun-ichi Shimoyama, Shigeru Horii, Kenji Otszchi, Kohji Kishio, Department of Superconductivity, University of Tokyo.

2MC07 Formation and Growth Mechanisms of Bi-2212 /Ag Composite Tapes

A. Matsumoto, H. Kitaguchi, H. Kumakura, K. Togano, National Research Institute for Metals.

2MC08 Effect of Pb-, La- and Ti-Substitutions on the Microstructure and Superconducting Properties of Bi-2212/Ag Composite Tapes

Hiroki Fujii, Hiroaki Kumakura, Kazumasa Togano, NRIM.

2MC09 Influence of Pre-annealing Conditions on Critical Current Density of Bi2212 Multilayer Tapes by PAIR Process

T. Koizumi, N. Ohtani, T. Hasegawa, Showa Electric Wire & Cable Co. Ltd.; H. Kitaguchi, H. Kumakura, K. Togano, National Research Institute for Metals; H. Miao, CREST, Japan Science and Technology Corporation.

2MC10 Microstructural Development and Superconducting Properties of Ba-added Bi2Sr2CaCu2O8+x

U.P. Trociewitz, NHMFL, Tallahassee, FL 32310, USA & RWTH Aachen, D-52056 Aachen, GERMANY; P.R. Sahm, RWTH Aachen, D-52056 Aachen, GERMANY; R.E. Koritala, Energy Technology Division, Argonne National Laboratory, Argonne, IL 60439, USA; L.P.M. Brandao, Inst. Militar de Eng., Dept. de Eng. Mecanica e de Materiais, 222270-290 Rio de Janeiro RJ, BRAZIL; C. Bacalichuk, NHMFL, Tallahassee, FL 32310, USA; J. Schwartz, NHMFL & Dept. of Mech. Eng., FAMU-FSU College of Eng., Tallahassee FL 32310, USA.

2MC11 Microstructural Development in Bi-2212 Tapes by Conventional and Isothermal Melt Processing

Terry Holesinger, Los Alamos National Laboratory, Los Alamos, NM 87545; Kenneth Marken, Jeffrey Parrell, Oxford Superconducting Technology, Carteret, NJ 07008-0429.

2MD Measurement and Characterization I

2MD01 Strain Effect in Bi-based Oxide/Ag Superconducting Tapes

H. Kitaguchi, K. Itoh, K. Kumakura, T. Takeuchi, K. Togano, H. Wada, National Research Institute for Metals.

2MD02 Compressive stress-strain-Ic properties of Bi2223 superconducting tapes

Y. Viouchkov, H.W. Weijers, National High Magnetic Field Laboratory; J. Schwartz, National High Magnetic Field Laboratory and FAMU-FSU College of Engineering.

2MD03 Characterization of the Thermal and Mechanical Behaviors of Stacks of Insulated Cables Representative of Accelerator Magnet Coil Assemblies

Magali Reytier, Philippe Bredy, Arnaud Devred, Maria Durante, Cedric Gourdin, Pierre Vedrine, CEA Saclay.

2MD04 The Effect of Longitudinal Compression on High-Temperature Superconducting Wires and Coils

J. P. Voccio, S. O. Ige, S. J. Young, ASC; C. C. Duchaine, Vermont Technical College.

2MD05 Precision and accuracy of the surface resistance measurement with the dielectric resonator method

Haruhiko Obara, Shin Kosaka, Akihito Sawa, Hirofumi Yamasaki, Electrotechnical Laboratory.

2MD06 New Surface Resistance Measurement Technique of High-Temperature Superconductors Using a Probe Coupling Microstrip Line Resonator

Daisuke Okai, Masanobu Kusunoki, Masashi Mukaida, Shigetoshi Ohshima, Faculty of Engineering, Yamagata University.

2MD07 A microwave broadband measurement technique of complex resistivity of HTS thin films

N. Tosoratti, R. Fastampa, V. Lenzi, S. Sarti, Dipartimento di Fisica and Unità INFN, Università "La Sapienza" Roma, Italy; E. Silva, Dipartimento di Fisica "E. Amaldi" and Unità INFN, Università "Roma Tre" Roma, Italy.

2MD08 Test Station for Magnetization Measurements on Large Quantities of Superconducting Strands

Sandrine Le Naour, Jacques Billan, Jacques Genest, Rob Wolf, CERN.

2MD09 Current and Temperature Controlled Variable Kinetic Inductance in YBCO Microstrip Lines

S. Cho, Department of Optical Engineering, Silla University; J. C. Park, Department of Chemistry, Silla University; C. Lee, Department of Electrical Engineering, Inha University.

2MD10 Indirect Measurement of Current Distributions in Bi-2223 Tapes by Pickup Coil Method

Shuma Kawabata, Kohji Miyata, Kagoshima University.

2MD11 Measurement of nonlinear properties of YBCO films

Alexey E. Parafin, Alexey S. Pavlov, Alexandr N. Panin, Evgeny A. Vopilkin, IPM RAS.

Tuesday Oral Sessions (Pavilion Convention Center) 12:00pm - 1:00pm

2ME Hg and Tl Cuprates I

2ME01 Epitaxy of Hg-Based HTS Films on Oxides and Metals Using Cation-Exchange Process (12:00pm)

J. Wu, S.L. Yan, Y.Y. Xie, T. Aytug, U. of Kansas; R. Aga, U. of Kansas; D. Christen, D. T. Verebelyi, M. Paranthaman, A. Goyal, ORNL; D. Oats, MIT Lincoln Lab.

2ME02 Fabrication and Characterization of (HgX)Ba₂Ca₂Cu₃O_y Thin Film Superconductors by Pulsed Laser Deposition for Coated Conductors (12:30pm)

P.V.P.S.S. Sastry, National High Magnetic Field Laboratory, Florida State University, Tallahassee, Florida, USA; S.L. Atwell, S.M. Durbin, FAMU-FSU College of Engineering, Tallahassee, Florida, USA; J. Schwartz, National High Magnetic Field Laboratory & FAMU-FSU College of Engineering, Tallahassee, Florida, USA.

2ME03 Electrodeposition Process for the Preparation of Superconducting Thallium Oxide Films (12:45pm)

R. N. Bhattacharya, NREL; Golden, Colorado; M. Feldmann, University of Wisconsin; Madison; Y.-T. Wang, R. D. Blaugher, NREL, Golden, Colorado; H. L. Wu, Z. F. Ren, Boston College, MA; D. Larbalestier, Wisconsin; Madison.

2ME04 2212 Tl-Ba-Ca-Cu-O films on 3" sapphire wafers for high frequency filters (1:00pm)

H. Schneidewind, M. Manzel, K. Kirsch, IPHT Jena.

2MF HTS Films II

2MF01 Correlations between Structural Inhomogeneities and Electrical Properties of YBCO Thin Films (12:00pm)

A. K. Vorobiev, Y. N. Drozdov, S. A. Gusev, V. L. Mironov, V. V. Talanov, N. V. Vostokov, E. B. Klunov, S. V. Gaponov, IPM RAS.

2MF02 High-quality HTS films for Josephson junction (JJ) devices: critical review on present achievements and future perspectives. (12:15pm)

Christine Klemenz, Hans J. Scheel, Swiss Federal Institute of Technology Lausanne EPFL.

2MF03 Morphology of YBCO thin films prepared by vacuum evaporation (12:30pm)

I. Lapsker, A. Verdyan, J. Azoulay, Holon Academic Institute of Technology.

2MF04 The Mechanisms behind the Formation of Pin-holes in YBCO Thin Film Growth (12:45pm)

G. Gibson, J.H. Durrell, Z.H. Barber, Dept. of Materials Science and Metallurgy and Interdisciplinary Research Centre in Superconductivity.

Tuesday Poster Sessions (Pavilion Convention Center) 2:00pm - 4:00pm

2MG Hg and Tl Cuprates II

2MG02 Fabrication of (HgRe)Ba₂Ca₂Cu₃O_y Fibers for Current Lead Applications

P.V.P.S.S. Sastry, Y. Viouchkov, National High Magnetic Field Laboratory, Tallahassee, Florida 32310, USA; R.L. Hodges, EURUS Technologies, Tallahassee, Florida, USA; J. Radovinsky, National High Magnetic Field Laboratory, FAMU-FSU College of Eng. EURUS Tech., Tallahassee, FL USA.

2MG03 Magnetic Susceptibility and AC Loss in HgPb₁₂₂₃ Ceramic Superconductors

Nobuyoshi Sakamoto, Shoichiro Noguchi, Katsunori Mawatari, Tadahiro Akune, Kyushu Sangyo University; H.R. Kahn, FEM; K. Lueders, FU Berlin.

2MG04 Effect of Hg-substitution on the phase stabilisation and Tc in Bi-2212 cuprate

R.S. Thampi, S. Rayaprol, C.M. Thakker, D.G. Kuberkar, R.G. Kulkarni, Saurashtra University, Rajkot 360 005, India; M.R. Gonal, Ram Prasad, Metallurgy, Division, B.A.R.C. Mumbai.

2MG05 Coated Conductors of (HgPb)Ba₂Ca₂Cu₃O_x and (HgRe)Ba₂Ca₂Cu₃O_x on Ni/YSZ substrates

Jianhua Su, Justin Schwartz, NHMFL & Dept. of Mechanical Engineering, FAMU-FSU College of Engineering, Tallahassee, FL 32310; P.V.P.S.S. Sastry, NHMFL, Tallahassee, FL 32310.

2MG06 Electrodeposition of biaxially aligned Tl-based superconductors on Ag tapes

E. Bellingeri, H. Suo, J.-Y. Genoud, M. Schindl, E. Walker, R. Flükiger, DPMC, Université de Genève.

2MG07 Photoemission Study of (Cu, Tl)-1223 and Tl-1223 with Tc above 130 K

N. Terada, Kagoshima University and Electrotechnical Laboratory & CREST; K. Obara, Kagoshima University; A. Iyo, Y. Tanaka, H. Ihara, Electrotechnical Laboratory and CREST.

2MH REBCO Coated Conductors & Tapes VI

2MH01 Biaxially Oriented NdBa₂Cu₃O₇ Films Prepared on {100}<001> Textured Ag Tapes without Any Buffer Layer

Toshiya Doi, Yoshinori Hakuraku, Kagoshima University; Kazutoshi Higashiyama, Hiroyuki Akata, Hitachi Research Laboratory; Kozo Osamura, Kyoto University; Naoki Kashima, Shigeo Nagaya, Chubu Electric Power Co..

2MH02 Continuous Deposition of Y-BAF₂-Cu Precursor Films on Epitaxial Oxide Buffered Ni Tapes by Electron Beam Evaporation

Xingtian Sky Cui, F.A. List, D.M. Kroeger, D.F. Lee, M. Paranthaman, A. Goyal, B.W. Kang, E.D. Specht, S. Lu, P.M. Martin, Oak Ridge National Laboratory.

2MH03 Surface-Oxidation Epitaxy Of Ni-Clad Ni-20wt%Cr And Ni-Clad Austenitic Stainless Steel Tapes For YBCO Coated Conductors

Tomonori Watanabe, Kaname Matsumoto, Toru Tanigawa, The Furukawa Electric Co., Ltd.; Toshihiko Maeda, Izumi Hirabayashi, Superconductivity Research Laboratory, ISTEK.

2MH04 Long-Length YBCO Coated Conductors Produced By Surface-Oxidation Epitaxy (SOE) Method

Kaname Matsumoto, Tomonori Watanabe, Toru Tanigawa, The Furukawa Electric Co., Ltd.; Toshihiko Maeda, SeokBeom Kim, Izumi Hirabayashi, Superconductivity Research Laboratory, ISTEK.

2MH05 Properties of Ag-Cu alloy substrate for YBCO superconducting tape

H. Kubota, M. Yamazaki, T. D. Thanh, Y. Kudo, H. Yoshino, Corporate R & D Center, Toshiba Corporation.

2MH06 Fabrication of Long Lengths of YBCO Coated Conductors Using a Continuous Reel-to-Reel DIP-Coating Unit

M. Paranthaman, T.G. Chirayil, D.B. Beach, F.A. List, A. Goyal, D.F. Lee, X. Cui, E.D. Specht, R. Feenstra, D.M. Kroeger, ORNL.

2MH07 Superconducting property of Y1Ba₂Cu₃O_x films formed on silver substrates by continuous chemical vapor deposition technique

Kazunori Onabe, Takashi Saitoh, Fujikura Ltd.; Hiroyuki Akata, Kazutoshi Higashiyama, Hitachi Ltd.; Shigeo Nagaya, Chubu Electric Power Co..

2MH08 Fabrication of Biaxially-Textured Ni Substrates for YBCO Coated Conductor by Electrodeposition

Jaimoo Yoo, Jaewoong Ko, Haidoo Kim, Materials Engineering Dept., Korea Institute of Machinery & Materials; Kyuhwan Lee, Surface Engineering Dept., Korea Institute of Machinery & Materials; Hyungsik Chung, Dept. of Molecular Science and Technology, Ajou University.

2MH09 The influence of film thickness on the critical current of YBa₂Cu₃O_x thick films on Ni-V biaxially textured substrate.

Vincenzo Boffa, Carmela Annino, Giuseppe Celentano, Marco Damasceni, Fabio Fabbri, Valentina Galluzzi, Umberto Gamberdella, Gaia Grimaldi, Antonella Mancini, Traian Petrisor, ENEA Frascati Research Centre.

2MH10 Textured La₂Zr₂O₇ and Er₂O₃ Buffer Layers for a Long Length YBCO Coated Conductors by Non-Vacuum Process

E. Celik, H. Okuyucu, H. I. Mutlu, 1) National High Magnetic Field Laboratory, Tallahassee, FL, 32310, USA; M. Tomsic, 2) Eurus Technologies, Inc., Tallahassee, FL, 32310, USA; J. Schwartz, Y. S. Hascicek, 1) National High Magnetic Field Laboratory, Tallahassee, FL, 32310, USA 2) Eurus Technologies, Inc.; M. Paranthaman, D.M. Kroeger, _ Howsey, 3) Oak Ridge National Laboratory, Oak Ridge, TN, 37996, USA.

2MI Measurement and Characterization II

2MI01 Microscopy of HTS Composite Conductors

T.G. Holesinger, Los Alamos National Laboratory, Los Alamos, NM 87545.

2MI02 THz Beam Generation from YBCO Thin Films Using a 1.55 micro-m Femtosecond Laser

T. Kondo, M. Hangyo, Osaka Univ.; M. Tonouchi, Osaka Univ. & CREST/IST.

2MI03 Emission of Optically Excited Subpicosecond Electromagnetic Pulses from YPBCO Dipole Antennas

H. Wald, P. Seidel, FSU Jena; T. Kiwa, S. Nashima, M. Hangyo, Osaka Univ.; M. Tonouchi, Osaka Univ. & CREST, JST.

2MI04 Low-temperature scanning laser microscopy of individual filaments extracted from (Bi,Pb)₂Sr₂Ca₂Cu₃O_(10+x)/Ag tapes

A. G. Sivakov, A. V. Lukashenko, Institute for Low Temperature Physics and Engineering, Ukraine; D. Abrahimov, M. V. Fistul, P. Mueller, A. V. Ustinov, Physics Institute III, University of Erlangen-Nuremberg, Germany.

2MI05 High resolution magneto-optical imaging of superconducting thin films and devices

S. Flament, W. Warsito, D. Bloyet, GREYC-ISMRA.

2MI06 Magneto-optical investigations of large transport currents in YBCO-thin films

M. Kuhn, B. Schey, W. Biegel, B. Stritzker, Universitaet Augsburg, Institut fuer Physik, D-86135 Augsburg, Germany; A. Heinrich, K. Numsen, H. Kinder, Technische Universitaet Muenchen, Physik Department E10, D-85748 Garching.

2MI07 Studies into the Phase Transformation of Bi-2223 Precursor Powders using X-Ray Diffraction and SQUID Susceptibility Measurements.

L. Woodall, M. Gerards, Merck KGaA, Darmstadt, Germany; R.S. Liu, S.C. Chang, R. Gundakaram, National Taiwan University, Taipei, Taiwan .

2MI08 High Field Scanning Hall Probe Imaging of High Temperature Superconductors

G.K. Perkins, Yu.V. Bugoslavsky, A.D. Caplin, Imperial College.

2MI09 High current superconducting conductor test station at Saclay.

C. Berriaud, _ Regnaud, _ Vieillard, CEA.

2MI10 A method for measuring three parameters (resistivity, magnetic penetration depth and mean free path) of Oxide Superconductors by the SRPM Method

Akira Taguchi, Hiroshi Nakane, Sadao Yamazaki, Kogakuin University; Shuetsu Haseyama, Dowa Mining Co., Ltd.; Shuji Yoshizawa, Meisei University.

2MI11 Magneto-optical testing of the superconducting properties of large-area high-Tc superconducting films. Degradation of Y-Ba-Cu-O films beneath silver coatings.

Alla I. Belyayeva, Valery P. Yuriyev, Institute for Low Temperature Physics & Eng.; Alexey A. Galuzza, System Analysis & Control Dept., Kharkov State Polytechnical University.

2MJ HTS Films III

2MJ01 Re/Ba interchange in the ReBCO thin films and oxygenation after deposition.

P.B. Mozhaev, G.A. Ovsyannikov, Institute of Radio Engineering and Electronics RAS; P.V. Komissinskii, Z.G. Ivanov, T. Claeson, Chalmers University of Technology and University of Gothenburg; I.K. Bdikin, Institute of Solid State Physics RAS.

2MJ02 Epitaxial growth of YBCO films by liquid injection MOCVD

N. Savvides, A. Molodyk, J. Herrmann, A. Katsaros, S. Gnanarajan, A. Thorley, CSIRO Telecommunications and Industrial Physics.

2MJ03 Behavior of sputtering induced oxygen plasma toward recovery of EuBa₂Cu₃O_x films

Osamu Michikami, Hironori Wakana, Takeo Hashimoto, Iwate Univ..

2MJ04 Electron transport in c-axis and tilted c-axis YBa₂Cu₃O_x/normal metal contacts

Philippe Komissinski, Zdravko Ivanov, Chalmers University of Technology, Gothenburg, Sweden; Igor Bdilin, Institute of Solid State Physics, Chernogolovka, Russia; Peter Mozhaev, Gennady Ovsyannikov, Institute of Radio Engineering and Electronics RAS, Moscow, Russia.

2MJ05 DC and low frequency noise properties of ReBaCuO (Re=Nd,Sm) superconducting thin films

Rosario Di Leo, Angela Nigro, Paola Romano, Bonaventura Savo, Dipartimento di Fisica and INFN, Università.

2MJ06 Superconducting properties of Y₁Nd_{1+x}Ba_{2-x}Cu₃O_{7-δ} and Nd_{1+x}Ba_{2-x}Cu₃O_{7-δ} thin films deposited by dc sputtering

M. S Alluzzo, M. Iavarone, A. Andreone, A. Cassinese, G. Pica, R. Vaglio, INFN and Dipartimento of Physics University of Naples.

2MJ07 Correlation between Cu deficiency and changes in the structural and electrical properties of YBCO films

Wataru Hattori, Tsutomu Yoshitake, Shuichi Tahara, NEC Corporation.

2MJ08 Highly reproducible double-sided 3-inch diameter YBCO and YBCO / SrTiO₃ / YBCO thin films for microwave applications by PLD

M. Lorenz, H. Hochmuth, M. Kusunoki, D. Natusch, University of Leipzig, Germany.

2MJ09 Manipulating the Nucleation and Growth of REBaCuO; towards controlled layer growth for use in planar high T_c junctions

Guus Rijnders, Hans Hilgenkamp, Dave Blank, Horst Rogalla, University of Twente; Sara Bals, University of Antwerp; Gustaf van Tendeloo, University of Antwerp.

2MJ11 Buffer layer technology for crystalline axis control of YBa₂Cu₃O_{7-d} thin films

Jun-ichi Sugimoto, Kazuaki Chiba, Masanobu Kusunoki, Shigetoshi Ohshima, Yamgata University, Japan.

Tuesday Oral Sessions (Pavilion Convention Center) 4:00pm - 6:30pm

2MK Measurement and Characterization III

2MK01 Accuracy Issues in Surface Resistance Measurements of High Temperature Superconductors Using Dielectric Resonators (4:00pm)

Janina Mazierska, James Cook University; Charles Wilker, DuPont Superconductivity.

2MK02 Superconducting Niobium Split-Post Sapphire Resonator for Characterization of Dielectrics and Single- and Double-Sided HTS Thin Films (4:15pm)

Jaroslav Wosik, Texas Center for Superconductivity and ECE Dept., University of Houston; Jerzy Krupka, EIT Dept., Warsaw University of Technology, Poland.

2MK03 Dielectric Resonators for High Temperature Superconducting Thin Film Characterization (4:30pm)

R.H. Ono, J.A. Beall, J.C. Booth, L.R. Vale, NIST.

2MK04 AC Magnetic Field Scanner of High-T_c Superconductors (4:45pm)

H. Richard Kerchner, D. K. Christen, Oak Ridge National Laboratory.

2MK05 Local Characterization of YBaCuO Thin Films (5:00pm)

Pavel Shadrin, Institute of Radioengineering and Electronics of Russian Academy of Sciences; Konstantin Korolev, Robert Hughes, John Nam, John Preston, Brockhouse Institute for Materials Research, McMaster University.

2MK06 Terahertz Radiation Imaging of Vortices Penetrated into YBCO Thin Films (5:15pm)

M. Tonouchi, Osaka Univ. & PRESTO, JST; A. Moto, M. Yamashita, M. Hangyo, Osaka Univ..

2MK07 Magnetic Hysteresis in Variable-Temperature Critical-Current Measurements (5:30pm)

L. F. Goodrich, T. C. Stauffer, NIST.

2MK08 Transverse Mechanical Properties of BSSCO/Ag Multifilamentary Tapes (5:45pm)

Ronald Holtz, Naval Research Laboratory.

2MK09 HTS Bulks Investigation with Levitation Techniques (6:00pm)

A.A. Kordyuk, V.V. Nemoshkalenko, R.V. Vizinchenko, Institute of Metal Physics, Kyiv, Ukraine; W. Gawalek, Institut für Physikalische Hochtechnologie, Jena, Germany.

2MK10 Magneto-optical investigations as a tool to improve quality of (Pb,Bi)-2223 tapes (6:15pm)

M.R. Koblischka, NST, Condensed Matter Physics and Chemistry Dep., Risø National Laboratory, Denmark; B. Larsen, N.H. Andersen, Condensed Matter Physics and Chemistry Dep., Risø National Laboratory, Denmark; P. Skov-Hansen, H. Wu, M. Bentzon, P. Vase, NST.

2ML BSCCO Wires and Tapes IV

2ML01 Fabrication of low cost Bi-2212 superconductors using Ag/Ni clad tape (4:00pm)

Yoshihiro Nemoto, University of Tsukuba; Hiroki Fujii, Hanpion Miao, Hitoshi Kitaguchi, Hiroaki Kumakura, Kazumasa Togano, National Research Institute for Metals; Kunihiko Shima, Tanaka Kikinzoku Kogyo K.K..

2ML02 Processing Issues for High Critical Current Density in Long BSCCO-2212 Composites (4:30pm)

K. Marken, J. Parrell, J. Sowa, S. Hong, Oxford Instruments.

2ML03 Long Length Manufacturing of High Performance BSCCO-2223 Tape for the Detroit Edison Power Cable Demonstration Project (4:45pm)

Lawrence Masur, Eric Podtburg, Michael Tanner, David Buczek, Donald Parker, John Scudiere, American Superconductor; Marco Nassi, Paola Caracino, Sergio Spreafico, Steve Norman, Pirelli Cables and Systems.

2ML04 BiSrCaCuO/Ag Composite Tapes for Various Large-scale Applications (5:15pm)

Zhenghe Han, Jesper Goul, Michael Bentzon, Per Vase, Nordic Superconductor Technologies A/S.

2ML05 Fabrication of Bi-2223 tapes (5:30pm)

Thomas J. Arndt, Vacuumschmelze GmbH; Bernhard Fischer, Juergen Gierl, Helmut Krauth, Martin Munz, Andreas Szulczyk, Vacuumschmelze GmbH, Hanau; Martino Leghissa, Heinz-Werner Neumueller, Siemens AG, Erlangen.

2ML06 Spatial variation of the local critical current density in Bi-2223 superconducting tapes (5:45pm)

Olaf van der Meer, Hans van Eck, Bennie ten Haken, Herman ten Kate, University of Twente, Faculty of Applied Physics, Low Temperature Division.

2ML07 Properties of a Bi-2223 Based Composite Conductor for Fault Current Limiting Applications (6:00pm)

Steven Flesher, Robert Diehl, Ralph Mason, Craig Christopherson, Kenneth DeMoranville, Richard Harnois, American Superconductor Corporation, Westborough, MA; Etienne Serres, Electricité de France, R & D division, Clamart, France; Jeffrey Willis, Josef Schillig, Heinrich Boenig, Superconductivity Technology Center, Los Alamos National Laboratory, Los Alamos NM.

2ML08 Examination of current limiting mechanisms in monocoil Ag/BSCCO tapes with high critical current density (6:15pm)

A Polyanski, M Feldmann, J Jiang, X Cai, D Apodaca, D Larbalestier, UW-Madison WI; K DeMoranville, D Yu, R Parrella, ASC Westborough MA.

Tuesday Public Lectures (Pavilion Convention Center) 8:00pm - 10:00pm

The Race for High Temperature Superconductivity

Paul (C.W.) Chu, University of Houston

Bringing Power to the People -- The Coming Age of Superconductivity

Paul Grant, Electric Power Research Institute (EPRI)

Wednesday Poster Sessions (Pavilion Convention Center) 2:00pm - 4:00pm

3MA BSCCO Wires and Tapes V

3MA01 Influence of Insulation Process on the Properties of React-and-Wind (BiPb)₂Sr₂Ca₂Cu₃O_y Conductor

P.V.P.S.S. Sastry, E. Celik, I. Mutlu, U.P. Trociewitz, Y. Viouchkov, H.W. Weijers, Y.S. Hascicek, National High Magnetic Field Laboratory, Florida State University, Tallahassee, Florida, USA; J. Schwartz, National High Magnetic Field Laboratory & FAMU-FSU College of Engineering, Tallahassee, Florida, USA.

3MA02 Internally Oxidized Ag/1.2 at.percent Mg Sheaths for Bi-2223 Tapes

B. C. Prorok, J.-H. Park, K. C. Goretta, U. Balachandran, Argonne National Laboratory, Argonne, IL; M. J. McNallan, University of Illinois, Chicago, IL.

3MA03 Characterization of thermal conductivity and mechanical property of sheath alloy materials for Bi-2223 superconductor tape

Hyung Sang Park, Bong Ki Ji, Jun Hyung Lim, Jinho Joo, Wansoo Nah, Sungkyunkwan University; Jaimoo Yoo, Korea Institute of Machinery and Materials.

3MA04 Development of Ag-Sheathed Bi₂₂₂₃ Superconducting Wires and Their Applications

Kazuhiko Hayashi, Takeshi Hikata, Tetsuyuki Kaneko, Munetsugu Ueyama, Akira Mikumo, Naoki Ayai, Shin-ichi Kobayashi, Hiromi Takei, Ken-ichi Sato, Sumitomo Electric Industries, LTD.

3MA05 Alloy sheathed Bi-2223 tapes with engineered properties

M. H. Apperley, F. Darmann, G. McCaughey, T. P. Beales, Australian Superconductors; R. Zeng, ISEM, University of Wollongong.

3MA06 Study of Bi(2223) tapes with low thermal conductivity

Putti Marina, INFN, Physic Department, Via Dodecaneso 33, 16146, Genova; Ferdeghini Carlo, Grasso Gianni, INFN, Via Dodecaneso 33, 16146, Genova; Wilfried Goldaker, Forschungszentrum Karlsruhe, ITP, PO Box 3640, 76021 Karlsruhe.

3MA07 Characteristics of Tapes on Basis Bi-2223 for Current Leads and Accelerator Magnets.

P.A. Shcherbakov, I.V. Bogdanov, S.S. Kozub, A.A. Olyunin, Institute for High Energy Physics, Protvino, Russia; I.I. Akimov, N.I. Kozlenkova, A.K. Shikov, Bocharov's Scientific Research Institute of Inorganic Materials, Moscow, Russia.

3MA08 Chemical analysis of superconducting cross sections of HTS tapes and wires

M. Baecker, A. Wolf, J. Bock, S. Hardenberg, Alcatel High Temperature Superconductors.

3MB Multilayer Thin Films

3MB01 Proposal and Mechanism of Aurora PLD Technique Suitable for HTS SQUID Preparation

Takeshi Kobayashi, Takeshi Hosomi, Hideki Akiyoshi, Osaka University.

3MB02 Preparation of Sr₂AlTaO₆ thin films by metalorganic chemical vapor deposition

Y Takahashi, H Zama, T Utagawa, T Morishita, K Tanabe, SRL-ISTEC.

3MB03 (Ba,Lu)CuO₂/CaCuO₂ superconducting superlattices: new high T_c superconductors with low anisotropy

Daniele Marré, INFN- Research Unit of Genoa; Valeria Braccini, Alessandro Mollica, Antonio Siri, Physics Department University of Genoa.

3MB04 Preparation of Superconductive YBCO/Bi-2212 Heteroepitaxial Thin Films by Nd:YAG Laser Ablation

Tetsuji Uchiyama, Zhen Wang, Kansai Advanced Research Center, Communications Research Laboratory, MPT.

3MB05 The effects of fluorination treatment on the microstructure of La₂CuO₄ thin films on SrTiO₃

G. Kong, School of Metallurgy and Materials, the University of Birmingham, UK; M. O. Jones, P. P. Edwards, School of Chemistry, the University of Birmingham, UK; M. Aindow, Dept. of Metallurgy and Materials Engineering, University of Connecticut, USA; I. P. Jones, J. S. Abell, School of Metallurgy and Materials, the University of Birmingham, UK.

3MB06 Superconductivity and Hall effect of YBa₂Cu₃O_y /La_{0.7}Ca_{0.3}MnO₃ multilayers

H.C. Yang, National Taiwan University ; G. J. Jeng, National Taiwan University; L.M. Wang, Da-Yeh University; H.E. Horng, National Taiwan Normal University.

3MB07 Development of Low Cost (Sr,Ca)₃Al₂O₆ Dielectrics for BSCCO Applications

T. Haugan, L. Cook, W. Wong-Ng, NIST, Ceramics Division; H. Brown, NIST, Metallurgy Division ; L. Swartzendruber, NIST, Metallurgy Division; R. Geyer, NIST, RF Technology Division; S. Mixture, NYS College of Ceramics; J. Kaduk, BP Amoco plc.

3MB08 Grain Boundaries Affecting Dielectric Properties of Superconductor/Ferroelectric Heterostructures

Yu.A Boikov, Physics Department, Chalmers University of Technology, S-41296 Goteborg, Sweden.

3MB09 Multilayer technology including ramp-edge junctions and YBCO liquid-phase-epitaxy film as a groundplane

K. Tanabe, T. Makita, Y. Li, M. Becht, T. Utagawa, Y. Takahashi, S. Hoshi, K. Nomura, T. Izumi, J.-G. Wen, SRL-ISTEC.

3MC REBCO Coated Conductors and Tapes VII

3MC01 Growth and Superconducting Properties of YBa₂Cu₃O_{7-d} Films on Conductive SrRuO₃ and SrRuO₃/LaNiO₃ RABiTS Structures for Coated Conductor Applications

C. Cantoni, D.T. Verebelyi, D.K. Christen, M. Paranthaman, E.D. Specht, D.P. Norton, Oak Ridge National Laboratory; T. Aytug, Oak Ridge Associated Universities.

3MC02 Scaleable Routes for YBCO Films on Textured Substrates

Trevor Shields, Stuart Abell, Tim Button, School of Metallurgy and Materials, University of Birmingham, B15 2TT, UK; Wolfgang Haessler, Jorg Eickemeyer, IFW Dresden Institute of Solid State and Materials Research, D-01171 Dresden, Germany.

3MC03 Epitaxial growth of biaxially aligned superconducting cuprates on textured {110} Ag ribbons obtained by spray pyrolysis

M. Schindl, J.-Y. Genoud, H.L. Suo, M. Dhallé, E. Walker, R. Flükiger, DPMC, University of Geneva, Switzerland.

3MC04 Fabrication of NdGaO₃ buffer layer on textured Ni tape for long length coated conductor

S.B. Kim, SRL, ISTEK; T. Maeda, T. Machi, N. Koshizuka, I. Hirabayashi, SRL, ISTEK; T. Watanabe, The Furukawa Electric Co., Ltd.; K. Matsumoto, T. Tamigawa, The Furukawa Electric Co., Ltd.

3MC05 Development of Nickel Alloy Substrates for YBCO Coated Conductor Applications

R. Nekkanti, V. Seetharaman, L. Brunke, UES, Inc.; I. Maartense, D. Dempsey, UDRI; G. Kozłowski, Wright State University; D. Tomich, R. Biggers, T. Peterson, P. Barnes, C. Oberly, AFRL.

3MC06 Study of Thermal Oxidation of NIO Buffers on Pure NI and NI-10%CR Tapes for Superconductor Substrates

Zainovia Lockman, Judith MacManus-Driscoll, Department of Materials, Imperial College, Prince Consort Rd. London, SW7 2BP, U.K.; Wilfried Goldacker, Rainer Nast, Forschungszentrum Karlsruhe, Technik und Umwelt, Hermann von Helmholtz Platz 1, D-76344 Eggenstein-Leo.

3MC07 Plume Emission Spectra, Plume Imaging, and YBCO Raman Backscattering for Improved Real-Time Process Control of PLD of YBCO on Nickel Tapes

Rand Biggers, Noah Boss, David Dempsey, Iman Maartense, Richard Kleismit, Materials & Manufacturing Directorate (AFRL/MLPO); John Jones, John Busbee, Donald Dorsey, Materials & Manufacturing Directorate (AFRL/MLMR); Gregory Kozłowski, Physics Dept., Wright State Univ.; Rama Nekkanti, Propulsion Directorate (AFRL/PRPR).

3MC08 Non-magnetic substrates for low cost YBCO Coated Conductors

Cornelis Thieme, American Superconductor; Suresh Annavarapu, Leslie Fritzscheier, Qi Li, Marty Rupich, Wei Zhang, American Superconductor; Valerie Prunier, Electricite de France.

3MC09 Direct Deposition of CeO₂ Films on Ni Metal Substrate by Chemical Vapor Deposition

Hee-Gyoun Lee, Choong-Hwan Jung, Gye-Won Hong, Korea Atomic Energy Research Institute; Young-Min Lee, Chonbuk University.

3MD BSCCO Wires and Tapes VI

3MD01 Effects of local variations in critical current density on the performance of long Bi-2223 tapes

Mike Fee, Industrial Research Limited; Alex Malozemoff, Steve Flesher, Alex Otto, American Superconductor Corporation.

3MD02 Homogeneity and current transport distribution in Ag-sheathed Bi-2223 multifilamentary tapes

Rong Zeng, H.K. Liu, T.P. Beales, S.X. Dou, UOW.

3MD03 The effect of external magnetic field on the resistance of Bi-2223 tape in 'wire' and 'bifilar' configurations

Noam Shaked, Alexander Friedman, Moshe Sinvani, Imad Al-Omari, Yoshua Wolfus, Avner Shaulov, Yosi Yeshurun, Institute of Superconductivity, Department of Physics, Bar-Ilan University.

3MD04 Transmission Electron Microscopy Investigation of BSCCO/Ag Tapes

L. Gottschalck Andersen, H.F. Poulsen, Y.L. Liu, Materials Research Department, Risø National Laboratory, DK-4000 Roskilde; S. Bals, G. Van Tendeloo, EMAT, University of Antwerp (RUCA), Groenenborgerlaan 171, B-2020 Antwerp.

3MD05 Influence of Magnetic Field and Magnetic Anisotropy on the Quench Characteristics of Bi-2223/Ag Multifilamentary Tapes

Taketsune Nakamura, Shingo Tsuchiya, Akihisa Fujio, Takahiro Yamamoto, Tsutomu Hoshino, Itsuya Muta, Kyoto University.

3MD06 Properties of the Bi-Based Tapes Near Critical Temperature Under Magnetic Field and Gamma Irradiation

Tarek Kayed, Husnu Ozkan, Nizami Gasanly, Physics Department, METU, 06531 Ankara, Turkey; Ismail Ercan, ANAEM, 06100 Ankara, Turkey.

3MD07 Temperature and magnetic field dependence of the critical current of Bi₂Sr₂Ca₂Cu₃O_x single filaments and tape conductors

D.C. van der Laan, Univ. of Twente, Enschede, The Netherlands & NHMFL, Tallahassee, FL 32310, USA; H.J.N. van Eck, B. ten Haken, H.H.J. ten Kate, Univ. of Twente, Enschede, The Netherlands; J. Schwartz, NHMFL, Tallahassee, FL 32310, USA & FAMU-FSU College of Eng., Tallahassee, FL 32310, USA.

3MD08 High Critical Current Bi-2223 Superconducting Tapes

M. Lelovic, R. Koritala, B. Fisher, U. Balachandran, Argonne National Laboratory, Argonne, IL 60439; N. Vo, V. Selvamanickam, P. Haldar, Intermagnetics General Corporation, Latham, NY 12110.

3MD09 Current carrying capability and texture of Ag/Bi-2223 multifilamentary tapes determined from remanent magnetization measurements

V. Hussenmether, O. Waldmann, P. Mueller, Physikalisches Institut III, Universitaet Erlangen-Nuernberg, Germany; M. Leghissa, H.-W. Neumueller, Siemens AG, Corporate Technology, Erlangen, Germany.

3MD10 Electromagnetic experiments with filaments extracted from multifilamentary Bi-2223/Ag tapes

Andrea Kasztler, Hans Kirchmayr, Institute of Experimental Physics, University of Technology Vienna; Milan Polak, Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava.

3MD11 Finite Element Calculations of Current Distribution in Anisotropic Superconductors in External and Self Magnetic Field

B. Zeimet, R. P. Baranowski, J. E. Evetts, Department of Materials Science and Interdisciplinary Research Centre, Cambridge University.

Wednesday Oral Sessions (Pavilion Convention Center) 4:00pm - 6:30pm

3ME REBCO Coated Conductors & Tapes VIII

3ME01 Microstructural Development in YBa₂Cu₃O_y Coated Conductors Based on Ion-Beam-Assisted Deposition of YSZ Buffer Layers (4:00pm)

T.G. Holesinger, S.R. Foltyn, P.N. Arendt, Q.X. Jia, J.S. Smith, P.C. Dowden, R.F. DePaula, J.R. Groves, Los Alamos National Laboratory, Los Alamos, NM 87545.

3ME02 Development of YBCO Tape by using Inclined Substrate Deposition (4:30pm)

Y. Sato, K. Matsuo, Y. Takahashi, Power Engineering R&D Center, Tokyo Electric Power Company; K. Muranaka, K. Fujino, S. Hahakura, K. Ohmatsu, H. Takei, Electric Power System Technology Research Laboratories, Sumitomo Electric Industries, Ltd..

3ME03 Preparation of {110} textured Ag ribbons by biaxially aligned superconducting tapes (5:00pm)

J.-Y. Genoud, H.L. Suo, M. Schindl, E. Bellingeri, T. Tybell, E. Walker, R. Flükiger, DPMC, University of Geneva, Switzerland.

3ME04 In Situ High Rate Growth of High Temperature Superconductor Tapes (5:15pm)

Luke S.-J. Peng, Weizhi Wang, Robert H. Hammond, William Jo, Malcolm R. Beasley, Edward L. Ginzton Lab, Stanford University.

3ME05 YBCO Coated Conductor Fabrication using IBAD & MOCVD (5:30pm)

V. Selvamanickam, G. Carota, N. Vo, C. Trautwein, P. Haldar, Intermagnetics; U. Balachandran, M. Chudzik, Argonne National Lab; P. Arendt, J. Y. Coulter, B. Newnam, Los Alamos National Lab.

3ME06 YBCO film with CeO₂/MgO buffer on Ni substrate (5:45pm)

Guansen Yuan, Jian Yang, GU Hongwei, General Research Institute for Nonferrous Metals, Beijing, China.

3ME07 Large-area HTS-coated stainless steel tapes with high critical currents (6:00pm)

A. Usoskin, J. Knoke, F. Garcia-Moreno, Zentrum fuer Funktionswerkstoffe GmbH; J. Dzick, S. Sievers, H.C. Freyhardt, Institut fuer Materialphysik, Universitaet Goettingen.

3ME08 Transverse Stress and Fatigue Effects in YBCO-Coated IBAD and RABiTS Tape (6:15pm)

S. L. Bray, J. W. Ekin, National Institute of Standards and Technology.

3MF Phase Equilibria and Kinetics I

3MF01 Phase Formation in Bi,Pb(2223) Tapes (4:00pm)

R. Flükiger, E. Walker, M. Lomello-Tafin, E. Giannini, G. Witz, University of Geneva.

3MF02 Formation and Ordering of 2201 Intergrowths in Melt-Processed Bi2212/Ag Tapes (4:30pm)

Mark O. Rikel, Eric E. Hellstrom, Applied Superconductivity Center, University of Wisconsin-Madison.

3MF03 Investigation of the Bi-2223 Phase Formation in Bi-2223/Ag Superconductors by in-situ High Temperature Synchrotron and Neutron Diffraction Techniques (4:45pm)

Torsten Fahr, Peter Trinks, Volker Haas, Klaus Fischer, Institute for Solid State and Materials Research Dresden; Norbert Schell, Research Centre Rossendorf; Rainer Schneider, Hahn-Meitner-Institute Berlin.

3MF04 A New Metastable Phase with T_c of 32K in La₂CuO₄+ δ System (5:00pm)

Ling Chen, Cheng Dong, Guan-can Che, Fang Zhou, Yu-zhen Huang, Zhong-xian Zhao, National Lab. for Superconductivity, Institute of Physics, CAS.

3MF05 Phase diagram studies in the system Bi₂O₃-PbO-SrO-CaO-CuO-Ag with emphasis on Bi2223 tape processing (5:15pm)

Peter J. Majewski, Andre Aubele, Fritz Aldinger, Max-Planck-Institut f. Metallforschung.

3MF06 Oxygen Nonstoichiometry and Superconducting Properties of Nd_{1+x}Ba_{2-x}Cu₃O_y (x=0~0.5) (5:45pm)

J. Shimoyama, T. Kagiya, S. Horii, K. Otzsch, K. Kishio, Department of Superconductivity, University of Tokyo.

3MF07 Macro-thermogravimetric investigations of the O₂ exchange during phase formation in BSCCO(2223) tapes with Ag, AgMg sheath and SrCO₃ barriers (6:00pm)

J Krelaus, R Nast, W Goldacker, Forschungszentrum Karlsruhe.

3MF08 Investigation of the liquid phase in YBCO TSMG samples (6:15pm)

J.D. Riches, W. Gawalek, Institut für Physikalische Hochtechnologie e.V..

Wednesday Poster Sessions (Pavilion Convention Center) 8:00pm - 10:00pm

3MG Microwave Properties of Thin Films II

3MG01 Non-linear Microwave Response of HTS Thin Films: a Comparison of Intermodulation and Time-Domain Measurements

Ling Hao, John Gallop, NPL; Adrian Purnell, Lesley Cohen, Imperial College.

3MG02 Temperature dependence of the penetration depth for Ba_{1-x}K_xBiO₃ and YBCO superconductors

Hyun-Tak Kim, Kwang-Yong Kang, Telecom. Basic Research Lab., ETRI; Min-Hwan Kwak, Dept. of Electrical Eng., GyeongSang National University.

3MG03 Microwave properties of YBaCuO films on r-cut sapphire buffered with post-annealed CeO₂ layer

W. I. Yang, J. H. Lee, J. M. Jang, J. S. Ryu, Jung Hur, Sang Young Lee, Konkuk University.

3MG04 Effect of a Au contact layer on the microwave performance of YBCO thin films

A. Zaitsev, R. Schneider, R. Aidam, G. Linker, F. Ratzel, H. Reiner, R. Smithy, J. Geerk, Institut für Festkörperphysik, Forschungszentrum Karlsruhe, Germany.

3MG05 Radio-frequency electromagnetic field influence on critical behavior of thin granular YBCO films

Sergey Harutyunyan, Ashot Gyulamiryan, Institute Physics Research.

3MG06 Non-Linear Response of BSCCO Single Crystals at Microwave Frequencies

G.I. Leviev, V.M. Genkin, V.V. Bolginov, L.V. Ovchinnikova, ISSP RAS.

3MG07 Modeling thermal destruction of superconductivity caused by structure defects in HTS film and dielectric substrate

E. Vernoslova, K. Titkov, M. Sitnikova, I. Vendik, St.-Petersburg Electrotechnical University, St.-Petersburg, 197 376, Russia.

3MG08 Nonlinear microwave response of Nb₃Sn films: a case study of granular superconductors

M. Hein, M. Perpeet, G. Mueller, University of Wuppertal.

3MH Phase Equilibria and Kinetics II

3MH01 High Pressure Thermodynamic Investigations on the BiSCCO system

M. Lomello-Tafin, E. Giannini, E. Walker, B. Seeber, M. Dhallé, R. Flükiger, DPMC University of Geneva.

3MH02 Crystal growth of the melt-textured Nd₁₂₃ under 1% oxygen partial pressure atmosphere

Makoto Kambara, Haribabu Nadendla, Shi Yunhua, David Cardwell, University of Cambridge.

3MH03 Effect of simultaneous K and F additions on formation of high-T_c phase and physical properties of (Bi,Pb)-Sr-Ca-Cu-O superconductors

V.V. Petrashko, B.V. Novysh, N.A. Prytkova, N.D. Zhygadlo, Institute of Solid State and Semiconductor Physics, National Academy of Science of Belarus.

3MH04 Effect of Ag and Oxygen Partial Pressure on Melting of the Pb-Doped 2223 High T_c Superconductor

Lawrence Cook, Winnie Wong-Ng, Ceramics Division, NIST.

3MH05 Crystal Chemistry, Structure and Property Investigation of the High Tc Superconductor Solid Solution Phase, Ba_{2-x}(Nd,Yb)_{1+x}Cu₃O_{6+z} In Air and 0.1% O₂.

Winnie Wong-Ng, Lawrence Cook, Brian Toby, NIST; James Kaduk, BP-Amoco; Jeremy Dillingham, Rachel Coutts, Julia Suh, U. Maryland; Terry Holesinger, Dean Peterson, LANL.

3MH06 Solid Solubility Limit of Bi-Pb-Sr-Ca-Mn-O in Bi-Pb-Sr-Ca-Cu-O Superconductors.

Mustafa Yavuz, Peter McIntyre, Esad Ozmetin, Rainer Soika, Ted Hartwig, Donald Naugle, Abraham Clearfield, TAMU.

3MH07 Effect of heat treatment regimes on phase composition and properties of Bi_{1.6}Pb_{0.4}Sr_{1.98}K_{0.02}Ca₂Cu₃F_{0.8}O_y superconductors

V.V. Petrashko, B.V. Novysh, N.A. Prytkova, N.D. Zhygadlo, Institute of Solid State and Semiconductor Physics, National Academy of Science of Belarus.

3MH08 Study About the Stability of Superconductors

Hambir Singh, IRS.B590.

3MI REBCO Coated Conductors and Tapes IX

3MI01 YBCO coating of metal tapes by high pressure dc sputtering

B.E. Moenter, M. Getta, S. Kreiskott, M. Perpeet, H. Piel, J. Pouryamout, Cryoelectra; B. Lehdorff, Berg. Universitaet Wuppertal.

3MI02 Features of the YBCO thin films

E.M Kaidashev, K.G Abdulyakhidov, M.F. Kupriyanov, Rostov State University.

3MI03 Uniform sized YBCO particles by laser ablation and post-annealing

P. Paturi, H. Huhtinen, R. Laiho, J. Raittila, Wihuri Physical Laboratory, Department of Physics, University of Turku, FIN-20014 Turku, Finland.

3MI04 Growth mechanism of YBCO thin films on the metallic tapes by MOCVD

Yutaka Yoshida, Yoshiaki Takai, Department of Energy Engineering and Science, Nagoya University; Izumi Hirabayashi, Haruhiko Kurosaki, Superconductivity Research Laboratory, ISTE; Hiroyuki Akata, Kazutoshi Higashiyama, Hitachi Ltd..

3MI05 X-ray Investigations of the Buffer Layer Architecture Pd-CeO₂-YSZ-CeO₂ on Ni

U. Wozniak, M. Merz, G. Linker, J. Geerk, FZK-IFP.

3MI06 Ion Beam Assisted Growth of Fluorite Type Oxide Template Films for Biaxially Textured HTSC Coated Conductors

Yasuhiro Iijima, Kazuomi Kakimoto, Kaoru Takeda, Fujikura Ltd..

3MI07 Epitaxial growth of YBa₂Cu₃O_x/CeO₂/NdGaO₃ heterostructures at different substrate orientations.

I.K. Bdikin, Institute of Solid State Physics RAS; I.M. Kotelyanskii, E.K. Raksha, A.D. Mashtakov, P.B. Mozhaev, P.V. Komissinskii, G.A. Ovsyannikov, Institute of Radio Engineering and Electronics RAS.

3MI08 Strain Relaxation of YBCO films grown on STO and LAO

Hong-Ying Zhai, Texas Center for Superconductivity at the University of Houston (TcSUH); Irene Rusakova, Wei-Kan Chu, TcSUH.

3MI09 Bi-epitaxial planar structures of oxide films induced by selective growth on eutectic substrates

J. Santiso, V. Laukhin, G. Garcia, A. Figueras, ICMA Barcelona; L.A. Angurel, R.I. Merino, J.I. Peña, M.L. Sanjuán, V.M. Orera, ICMA Zaragoza.

3MI10 Longitudinal and transverse magnetizations in micron-thick YBCO films in nearly parallel magnetic fields

A. Rastogi, H. Yamasaki, A. Sawa, Electrotechnical Laboratory, Japan.

3MJ REBCO Coated Conductors and Tapes X

3MJ01 Mechanism and Processing Dependence of Biaxial Texture Development in Magnesium Oxide Thin Films Grown by Inclined-Substrate Deposition

M. P. Chudzik, R. E. Koritala, Z. P. Luo, D. J. Miller, U. Balachandran, Argonne National Laboratory; C. R. Kannewurf, Northwestern University.

3MJ02 TEM Investigation of Texture Development of Magnesium Oxide Buffer Layers

R. E. Koritala, M. P. Chudzik, Z. P. Luo, D. J. Miller, U. Balachandran, Argonne National Laboratory; C. R. Kannewurf, Northwestern University.

3MJ03 Inclined substrate deposition of MgO on non-magnetic metallic substrates for YBa₂Cu₃O_x tapes fabrication

Traian Petrisor, Antonella Mancini, Vincenzo Boffa, Giuseppe Celentano, Fabio Fabbri, ENEA Frascati Research Centre; Giovanni Giunchi, Sergio Ceresara, EDISON S.p.A. .

3MJ04 Biaxially textured Ni-alloy tapes as substrates for buffer and YBCO film growth

Bernd de Boer, Norman Reger, Laura Fernandez G.-R., Joerg Eickemeyer, Bernhard Holzapfel, Ludwig Schultz, IFW Dresden; Paul Berberich, TU Munich; Werner Prusseit, THEVA GmbH.

3MJ05 In-plane Aligned YBCO Tapes Fabricated by Inclined Substrate Deposition

Koji Muranaka, Koso Fujino, Syuji Hahakura, Kazuya Ohmatsu, Hiromi Takei, Electric Power System Technology Research Laboratories, Sumitomo Electric Industries Ltd.; yoshibumi Sato, Kimiyoshi Matsuo, Yoshihisa Takahashi, Power Engineering R&D Center, Tokyo Electric Power Company.

3MJ06 LPE Growth of RE123 crystals from the NiO-saturated solution

Toru Izumi, Yao Xin, Kazuomi Kakimoto, Natsuro Hobara, Katsuya Hasegawa, Yuichi Nakamura, Teruo Izumi, Yuh Shiohara, SRL-ISTEC.

3MJ07 Critical Current Density of YBCO Coated Tapes

J. Herrmann, S. Gnanarajan, A. Katsaros, A. Thorley, A. Molodyk, N. Savvides, CSIRO Telecommunications & Industrial Physics, Sydney, Australia.

3MJ08 Ion Beam Energy and Divergence Dependence of Biaxial Texture in Cubic-Stabilized Zirconia Thin Films Grown by Ion-Beam-Assisted Deposition*

M. P. Chudzik, R. A. Erck, U. Balachandran, Argonne National Laboratory; C. R. Kannewurf, Northwestern University.

3MJ09 Effects of Ion-Beam Parameters on In-Plane Texture of Yttria-Stabilized Zirconia Thin Films

T. G. Truchan, M. P. Chudzik, R. A. Erck, B. L. Fisher, K. C. Goretta, U. Balachandran, Argonne National Laboratory, Argonne, IL.

3MJ10 Superconducting YBCO films on polycrystalline yttrium-iron-garnet by using IBAD-YSZ as a template

Q. X. Jia, P. N. Arendt, S. R. Foltyn, T. G. Holesinger, R. F. DePaula, Los Alamos National Lab.

Thursday Plenary Sessions (Pavilion Convention Center) 8:30am - 10:00am

4AP4 SQUID Magnetocardiography: Status and Perspectives

Hans Koch, Physikalisch-Technische Bundesanstalt (PTB).

4AP5 Atomic-Layer Engineering of Superconducting Oxides: yesterday, today, tomorrow

Ivan Bozovic, OXXEL, Bremen, Germany.

Thursday Poster Sessions (Pavilion Convention Center) 10:00am - 12:00pm

4MA Surface Resistance I

4MA01 Relationship between the surface resistance and crystal orientation of YBCO film

S. Ohshima, M. Mukaida, M. Kusunoki, K. Chiba, T. Suzuki, M. Inadomaru, Yamagata Univ.; Y. Takano, Tohoku Seiki LTD.

4MA02 Dimensional Effects in the AC Vortex Response in Superconducting Thin Films and Plates

Alexander Kasatkin, Dmitrii Luzhbin, Vladimir Pan, Institute of Metal Physics, NASU, Kiev, Ukraine.

4MA03 Pulse-laser deposited YBCO films with low microwave surface resistance

O. P. Karasevska, V. S. Flis, V. I. Matsui, I. I. Peshko, V. L. Svetchnikov, V. M. Pan, Institute for Metal Physics, Kiev 03142, Ukraine; M. Lorenz, Institute for Experimental Physics II, University of Leipzig, D-04103 Leipzig, Germany; A. N. Ivanyuta, G. A. Melkov, Taras Shevchenko National university, 01030 Kiev, Ukraine.

4MA04 Microstructure and surface resistance study of YBCO films grown by LPE

S.N. Barilo, V.V. Fedotova, A.I. Ignatenko, Institute of Solid State & Semiconductor Physics, Minsk; V.M. Pan, Institute of Metal Physics, Kiev; H.W. Zandbergen, Delft University of Technology.

4MA05 Surface resistance measurement of a YBCO film using two modes in an image-type dielectric resonator.

Yoshio Kobayashi, Yasuhiko Nomiya, Hiromichi Yoshikawa, Toru Hashimoto, Saitama Univ..

4MA06 Surface Resistance of the Y-Ba-Cu-O Thin Films at Sub-MM Wave Frequencies

Arsen Hakhoumian, Nubar Pogosyan, Tigran Zakaryan, Institute of Radiophysics and Electronics, Armenian Ac. Sci.; Gennady Ovsyannikov, Karen Constantinian, Institute of Radio Engineering and Electronics RAS.

4MA07 Anomalous Features in Surface Impedance of YBaCuO Thin Films: Dependence on Frequency, RF and DC Fields.

Anton Velichko, Adrian Porch, University of Birmingham, Birmingham, UK; Richard Humphreys, DERA, Malvern, UK.

4MB Melt Textured REBCO I

4MB01 Requirements on Melt-textured YBCO for the Use in Magnetic Bearings or Electric Motors

T. Habisreuther, D. Litzkendorf, R. Mueller, J. Riches, J. Dellith, O. Surzhenko, M. Zeisberger, W. Gawalek, IPHT Jena.

4MB02 Growth and microstructure of a seeded single, large YBCO grains through infiltration and growth process

N. Hari Babu, M. Kambara, P. J. Smith, D. A. Cardwell, Y. Shi, IRC in Superconductivity, University of Cambridge, Madingley Road, Cambridge, CB3 0HE, UK.

4MB03 Nucleation and domain growth in isothermal solidification of Y1.8Ba2.4Cu3.4Oy/Ag system

C. Cai, H. Fujimoto, Railway Technical Research Institute.

4MB04 Magnetic field and current distributions in melt-textured YBa2Cu3O7-x with an artificial grain boundary

K. Kawano, J S Abell, School of Metallurgy and Materials, University of Birmingham; A D Bradley, W. Lo, A Campbell, IRC in Superconductivity, University of Cambridge.

4MB05 E-J characteristics and distribution of local Jc for YBCO bulks melt-grown under high magnetic field

Satoshi Awaji, Kazuo Watanabe, Mitsuhiro Motokawa, Akira Kuramochi, Tetsuo Fukase, Institute for Materials Research, Tohoku University; Keiichi Kimura, Nippon Steel co ltd..

4MB06 Effect of the seed and the cooling rate on the morphology of YBCO bulk

Z.M. Yu, X.D. Tang, W.M. Yang, J.R. Wang, F. Yong, L. Zhou, X.Z. Wu, P.X. Zhang, Northwest Institute of Nonferrous Metal Research, P.O. Box 51, Xi.

4MB07 Fabrication of Melt-Processed RE123 Bulk Superconductors with high densities

N. Sakai, D. Ishihara, K. Ogasawara, K. Inoue, M. Murakami, SRL-ISTEC.

4MC Melt Textured REBCO II

4MC01 Relation between texture and critical current density of melt textured YBa2Cu3Ox.

B. H. Larsen, A. B. Abrahamsen, H. F. Poulsen, N. H. Andersen, Risø National Laboratory, Denmark; J. G. Larsen, J. Christiansen, Haldor Topsøe A/S, Nymøllevej 55, DK-2800 Lyngby, Denmark.

4MC02 Computer Simulation of Microstructure and Fracture Resistance of Melt-Textured YBCO

I.A. Parinov, E.V. Rozhkov, Mechanics and Applied Mathematics Research Institute, Rostov, Russia; L.I. Parinova, Vassil, Rostov State University, Russia.

4MC03 Study of morphological and structural properties of multi-seeded NdBaCuO samples

Marcello Gombos, Sandro Pace, Patrizia Tedesco, Umberto Gambardella, Antonio Vecchione, I.N.F.M. Unita.

4MC04 Fabrication of Ca-doped large, grain Y-Ba-Cu-O superconductors

N. Hari Babu, M. Kambara, D. A. Cardwell, J. E. McCrone, J. R. Cooper, IRC in Superconductivity, University of Cambridge, Madingley Road, Cambridge, CB3 0HE, UK; J. L. Tallon, New Zealand Institute for Industrial Research, P. O. Box 31310, Lower Hutt, New Zealand..

4MC05 Surface Columnar Defects on Melt Textured YBCO

L. Gozzelino, E. Mezzetti, B. Minetti, INFN, INFN, Politecnico di Torino, Italy; K. Krabbes, IFW Dresden Germany; A. Rovelli, INFN-LNS Catania Italy.

4MC06 Refinement of Nd-422 particles in Nd-Ba-Cu-O bulk superconductor

Kazumasa Iida, Junko Yoshioka, Masato Murakami, ISTEC-SRL.

4MC07 Magnetothermal instabilities in cylindrical melt-textured YBCO

Ch. Wenger, A. Gladun, Institut fuer Tieftemperaturphysik, TU Dresden, D-01062 Dresden; G. Krabbes, G. Fuchs, Institut fuer Festkoerper- und Werkstofforschung, D-01171 Dresden.

Thursday Oral Sessions (Pavilion Convention Center) 12:00pm - 1:00pm

4ME Surface Resistance II

4ME01 Surface impedance of TBCCO films at THz-frequencies (12:00pm)

Maxim Khazan, Ingrid Wilke, Universitaet Hamburg; Christopher Steven, Oxford University.

4ME02 Power Dependencies of the surface impedance $Z(T,f,Hrf)$ by weak links in YBCO (12:15pm)

K. Numssen, TU Muenchen, Physik-Department E10; E. Gaganidze, J. Halbritter, Forschungszentrum Karlsruhe, IMF I.

4ME03 Sensitivity of Surface Resistance Measurement of High-Tc Superconductors by three prime resonant techniques: Cavity Resonator, Dielectric Resonator and Microstrip Resonator (12:30pm)

N. D. Kataria, Mukul Misra, National Physical Laboratory, New Delhi, India; R. Pinto, Tata Institute of Fundamental Research, Mumbai, India.

4ME04 Phenomenological model of the microwave surface impedance of high-Tc superconducting films (12:45pm)

I. Vendik, St.-Petersburg Electrotechnical University, 197376, Russia.

4MF BSCCO Wires & Tapes VII

4MF01 Effects of lead content and particle size of precursor powders on formation rate, grain growth and critical current density of BSCCO 2223 tapes (12:00pm)

Jaimoo Yoo, Jaewoong Ko, Haidoo Kim, Materials Engineering Dept., Korea Institute of Machinery & Materials; Hyungsik Chung, Dept. of Molecular Science and Technology, Ajou University.

4MF02 Texture and formation of (Bi,Pb)-2223 phase after partial-melting and solidification in high magnetic fields (12:15pm)

X.Y. Lu, A. Nagata, D. Kamio, K. Sugawara, S. Kamada, Faculty of Engineering and Resource Science, Akita University, Akita 010-8502 Japan; K. Watanabe, Institute for Materials Research, Tohoku University, Sendai 980-8577 Japan.

4MF03 The formation mechanism of Bi,Pb(2223) outgrowths in multifilamentary tapes (12:30pm)

Marc Dhalle, Reynald Passerini, Enrico Giannini, Gregoire Witz, Simone Lavanga, Frank Marti, Yibing Huang, Rene Flukiger, Geneva University.

4MF04 Correlation of density, porosity and J_c in Ag-Clad Bi-2223 Tapes (12:45pm)

J. Jiang, X. Y. Cai, D. Apodaca, J. G. Chandler, A. Polyanskii, D. C. Larbalestier, Applied Superconductivity Center, University of Wisconsin, Madison WI 53706, USA; R. D. Parrella, D. Yu, Q. Li, M.W. Rupich, G. N. Riley Jr., American Superconductor Corporation, Westborough MA 01581, USA.

Thursday Poster Sessions (Pavilion Convention Center) 2:00pm - 4:00pm

4MG Nb3Sn Wire and Cable Properties

4MG01 Multifilamentary Nb3Sn Wires Reacted in Hydrogen Gas Environment

M. Takayasu, J. V. Minervini, R. G. Ballinger, MIT, PSFC, Cambridge, MA; R. B. Goldfarb, NIST, Boulder, CO; A. A. Squitieri, P. J. Lee, D. C. Larbalestier, UW-Madison, ASC, Madison, WI.

4MG02 Influence of Ge addition on phase formation and electromagnetic properties in internal tin processed Nb3Sn wires

Dong-woo Ha, Sang-soo Oh, Hong-soo Ha, Nam-jin Lee, Young-kil Kwon, Kang-sik Ryu, Korea Electrotechnology Research Institute; Hong-koo Baek, Yonsei University.

4MG03 Effect of wire diameters on mechanical properties and microstructure of internal tin processed Nb3Sn wires

Dong-woo Ha, Hong-soo Ha, Sang-soo Oh, Namjin Lee, Young-kil Kwon, Kang-sik Ryu, Korea Electrotechnology Research Institute; Hong-koo Baek, Yonsei University.

4MG04 Influence of Intermediate Heat Treatment Temperature and Phase State on the Superconducting Properties of Internal Sn Nb3Sn Conductors

M. Naus, P. Lee, D. Larbalestier, Applied Superconductivity Center, University of Wisconsin, Madison WI 53706 USA.

4MG05 Heat Treatment Optimization of Internal Tin Nb3Sn Strands

E. Barzi, Fermilab; E. Gregory, T. Pyon, IGC-AS.

4MG06 Critical Current Variation as a function of Transverse Stress of Bi-2212 and Nb3Sn Rutherford Cable

Daniel Dietderich, Ronald Scanlan, LBNL.

4MG07 Fabricating Multifilamentary A15 Wires by Using Composite Cables As Starting Stock

Shahin Pourrahimi, SUPERCONDUCTING SYSTEMS, INC..

4MG08 Development of a Nb3Sn Conductor Containing Ga and Mg Dopants

Mark Rudziak, Terence Wong, Supercon, Inc..

4MG09 Ti and Ta Additions to Nb3Sn Conductors by the Powder in Tube Process

Terence Wong, Charles Renaud, Supercon Inc.

4MG10 Study of Nb3Sn strand with enhanced characteristics for ITER

A. Vorobieva, A. Shikov, A. Silaev, E. Dergunova, V. Lomaev, K. Mareev, SSC RF Bochvar Research Institute of Inorganic Materials.

4MG11 Superconducting properties of internal-tin Nb3Sn wire with enhanced current capacity

V. Pansyrnyi, A. Shikov, A. Vorobieva, A. Silaev, S. Soudiev, N. Kozlenkova, N. Beliakov, SSC RF Bochvar Research Institute of Inorganic Materials.

4MG12 Study of Nb3Sn Strands for Fermilab's High Field Dipole Models

E. Barzi, P. J. Limon, R. Yamada, A. V. Zlobin, Fermilab.

4MH LTS Bulk and Nb3Al

4MH01 The Critical Current Density in High Magnetic Fields of Hot Isostatically Pressed Bulk Lead-Molybdenum-Sulphide Doped with Europium.

N. A. Morley, N. R. Leigh, D. P. Hampshire, University of Durham.

4MH02 Superconductivity of ScNi2B2C borocarbides annealing in range 400-800 C.

Zh.M. Tomilo, S.N. Ustinovich, P.V. Molchan, A.S. Shestak, V.M. Finskaya, N.A. Prytkova, Institute of Solid State and Semiconductor Physics, National Academy of Science of Belarus .

4MH03 The physical properties of Y(1-x)ZrxNi2B2C borocarbides

Zh.M. Tomilo, P.V. Molchan, N.A. Prytkova, S.N. Ustinovich, V.M. Finskaya, A.S. Shestak, Institute of Solid State and Semiconductor Physics, National Academy of Science of Belarus .

4MH04 Thermal Conductivity of RNi₂B₂C (R=Y, Gd, Dy, Ho, Er, Tm, and Lu) Systems

Shixun Cao, Shuji Sakai, Katsuhiko Nishimura, Katsunori Mori, Faculty of Engineering, Toyama University, 3190 Gofuku, Toyama 930-8555, Japan.

4MH05 The effect of thermal and mechanical stresses on Tc in alloys of system Ti-Al-V and ceramics YBaCuO

V.I. Eremin, E.F. Yeryomina, Inst. for Low Temp. Phys. & Eng. NAS of Ukraine.

4MH06 Upper Critical Field of Borocarbide Superconductors

M.D. Lan, J.C. Chang, K.T. Lu, C.Y. Lee, H.Y. Shih, G.Y. Jeng, NCHU.

4MH07 Superconducting properties in transformed Jelly-roll Nb₃Al multifilamentary wires with controlled maximum temperature

Naoyuki Harada, Takataro Hamajima, Yamaguchi University; F. Buta, E. Lee, M.D. Sumption, E.W. Collings, Ohio State University; Kazuhiko Nakagawa, Hitachi Cable, Ltd.; Takao Takeuchi, Hitoshi Wada, NRIM; Kazuo Watanabe, Tohoku University.

4MH08 Development of Nb₃Al Superconducting Wire for Accelerator Magnets

K. Tsuchiya, T. Shintomi, A. Yamamoto, KEK High Energy Accelerator Research Organization; K. Nakagawa, H. Moriai, Hitachi Cable Ltd..

4MH09 Microstructures of Rapidly-Heated/Quenched and Transformed Nb₃Al Multifilamentary Superconducting Wires

A. Kikuchi, Y. Iijima, K. Inoue, National Research Institute for Metals.

4MH10 Reacting Nb₃Al Precursor Wires At Up To 1500C

Shahin Pourrahimi, SUPERCONDUCTING SYSTEMS, INC..

4MH11 The Superconducting Properties of Hot Isostatically Pressed Polycrystalline (Pb_{1-x}Cu_{1.8x})Mo₆S₈ In High Magnetic Fields

H.J. Niu, D.P. Hampshire, Superconductivity Group, Dept. of Physics, University of Durham, South Road, Durham. DH1 3LE. Englan.

4MI Nb₃Sn: Strength and Stress

4MI01 Development of CuNb Reinforced and Stabilized Nb₃Sn Coil for Cryocooled Superconducting Magnet System

Kenji Goto, Shoji Iwasaki, Nobuyuki Sadakata, Takashi Saitoh, Fujikura Ltd.; Satoshi Awaji, Kazuo Watanabe, Tohoku University; Kazunori Jikihara, Yoshiyuki Sugizaki, Junji Sakuraba, Sumitomo Heavy Industries Ltd..

4MI02 Normal Zone Propagation Characteristics of Nb₃Sn Wires with Jelly-Roll Processed and In-Situ Processed CuNb Reinforcements

Satoru Murase, Tomoyuki Murakami, Toshiyuki Seto, Susumu Shimamoto, Graduate School of Engineering, Tohoku University; Satoshi Awaji, Kazuo Watanabe, Institute for Materials Research, Tohoku University; Genzo Iwaki, Hitachi Cable, Ltd.; Takashi Saito, Fujikura, Ltd..

4MI03 Strain Effects of High Strength Nb₃Sn Wire Reinforced by Jelly-rolled Nb/Cu Composite and Modification of the Reinforcement

Genzo Iwaki, Junichi Sato, Hitachi Cable, Ltd.; Kazumune Katagiri, Iwate University; Kazuo Watanabe, Tohoku University.

4MI04 Mechanical Properties of a Niobium-Tin Superconductor Reinforced by Tantalum Core

J. Kondoh, H. Tateishi, M. Umeda, K. Arai, K. Agatsuma, Electrotechnical Laboratory; K. Gotoh, T. Saitoh, Fujikura, Co. Ltd..

4MI05 Some Opportunities of Improving the Properties of Cu-Nb₃Sn Composites

Jaroslav Starodubov, Michael Tikhonovsky, Marina Lazareva, V Sverdlov, Vladimir Sokolenko, L Chirkina, A Kondratov, NSC KIPT.

4MI06 Experimental Investigation of Internal Stresses in Multifilamentary Cu-Nb₃Sn Composites

Michael Tikhonovsky, NSC KIPT.

4MJ Flux Pinning I

4MJ01 Effect of oxygen content on flux pinning in NdBCO single crystals

Y. Feng, A.K. Pradhan, S. Shibata, N. Koshizuka, SRL-ISTEC.

4MJ02 Systematic variation of flux pinning in Bi,Pb(2212) crystals with Pb doping

Marc Dhalle, Simone Lavanga, Eric Walker, Rene Flukiger, Geneva University; Marco Cantoni, Philippe Buffat, EPFL Lausanne.

4MJ03 Texture and Vortex Channeling in YBCO Films

B. Minetti, INFN INFN Politecnico Torino Italy; C. Camerlingo, IC CNR NA Italy; A. Chiodoni, R. Gerbaldo, G. Ghigo, L. Gozzelino, E. Mezzetti, INFN INFN Politecnico TO I; C. Giannini, PASTIS CNRSM BR Italy.

4MJ05 Current distribution and flow in magnetic fields for Ag-sheathed Bi₂223 monocoresh tapes

K. Kawano, University of Birmingham; A. Ohtake, A. Oota, Toyohashi University of Technology.

4MJ06 Current blockage by planar defects in superconductors.

A. Gurevich, M. Friesen, University of Wisconsin, Applied Superconductivity Center.

4MJ07 The origin of resistance peak in high-temperature superconductors - apparent T_c anisotropy due to J_c anisotropy

Cristina Buzea, Tohoku University, RIEC, Sendai 980-8577, Japan; Takashi Tachiki, Depart. of Electronic Eng., National Defence Academy, Yokosuka, 239-8686; Kensuke Najkajima, Tohoku University, RIEC, Sendai 980-8577, Japan and CREST Japan Science and Technology Corporation (; Tsutomu Yamashita, RIEC, Tohoku University, Sendai 980-8577, Japan; CREST Japan Science and Technology Corporation (JST).

4MJ08 Directional dependence of vortex pinning in crossed-defect YBCO single crystals

D.H. Kim, Yeungnam University; S.Y. Shim, Korea Basic Science Institute; J.T. Kim, Korea Research Institute of Standards and Science.

4MJ09 The study of the fishtail effect in single crystalline Ba_{0.63}K_{0.37}BiO₃ thick film

A.Yu. Galkin, V.M. Pan, Department of Superconductivity, Institute for Metal Physics, Kiev 252 142, Vernadsky Blvd 36, Ukraine; Y. Kopelevich, P. Esquinazi, A. Setzer, 2Department of Superconductivity and Magnetism, Institute for Experimental Physics II, University of Leipzig, Linnestr. 5, D-04103, Germany; S.N. Barilo, Institute of Physics of Solids and Semiconductors, Academy of Science, Minsk 220072, Belarus.

Thursday Oral Sessions (Pavilion Convention Center) 4:00pm - 6:30pm

4MK Microstructure and Properties of Nb₃Sn

4MK01 High-Field Performance and Structure of (Nb,Ta)₃Sn Superconductors Produced by Ta-Sn Core (4:00pm)

K. Tachikawa, T. Yokoyama, T. Kato, H. Matsumoto, Tokai University; T. Takeuchi, National Research Institute for Metals.

4MK02 Development of (Nb,Ta)₃Sn Multifilamentary Superconductors using Osprey Bronze with high Tin Content (4:15pm)

Vital Abächerli, Bernd Seeber, René Flukiger, Groupe de Physique Appliquée, University of Geneva, Switzerland; Wolfgang Thiele, Swissmetal, 4143 Dornach, Switzerland.

4MK03 Compositional and Microstructural Profiles across Nb₃Sn Filaments (4:30pm)

P. J. Lee, C. D. Hawes, M. T. Naus, A. A. Squitieri, D. C. Larbalestier, Applied Superconductivity Center, University of Wisconsin-Madison.

4MK04 Microstructure and Current-Voltage Characteristics of Bronze Processed Niobium Tin Composites (4:45pm)

Rainer Kimmich, Frank Hornung, Astrid Rimikis, Theo Schneider, Forschungszentrum Karlsruhe.

4MK05 Suppression of Flux Jumps in Marginally Stable Niobium-Tin Superconductors (5:00pm)

Ron Goldfarb, Loren Goodrich, National Institute of Standards and Technology; Tae Pyon, Eric Gregory, IGC Advanced Superconductors.

4MK06 A High Current Density Low Cost Niobium3 Tin Conductor Scalable To Modern Niobium Titanium Production Economics (5:15pm)

Bruce A. Zeitlin, Supergenics LLC; Eric Gregory, Taeyoung Pyon, IGC Advanced Superconductors.

4MK07 Nb3Sn Conductors for High Energy Physics and Fusion Application (5:30pm)

Tae Pyon, Eric Gregory, IGC Advanced Superconductors.

4MK08 Progress with Nb3Sn Conductors at OST (5:45pm)

Michael Field, Robert Hentges, Youzhou Zhang, Seung Hong, Oxford Instruments, Superconducting Technology.

4MK09 Pinning characteristics of (Nb,Ta)3Sn superconductors produced by Nb/Ta-Sn composite process (6:00pm)

N. Banno, T. Takeuchi, K. Itoh, H. Wada, National Research Institute for Metals, TML; H. Matsumoto, T. Kato, K. Tachikawa, Tokai Univ..

4MK10 Determination of the Critical Temperature and Composition Distributions in Nb3Sn Conductors Using Heat Capacity, Inductive Critical Temperature, and Electron Microscopy Measurements (6:15pm)

C.D. Hawes, A. Gurevich, P.J. Lee, D.C. Larbalestier, University of Wisconsin-Madison / Applied Superconductivity Center.

4ML Melt Textured REBCO III

4ML01 Enhancing Superconducting Properties in RE-YBCO Large Grains by Solute Doping (4:00pm)

Wai Lo, Kamel Salama, University of Houston.

4ML02 Flux pinning in melt-processed ternary (Nd-Eu-Gd) and Nd-based superconductors (4:30pm)

A.K. Pradhan, M. Muralidhar, M. Murakami, N. Koshizuka, SRL/ISTEC, 1-10-13 Shinonome, Koto-ku, Tokyo 135.

4ML03 Fabrication of Large Grain Nd-Ba-Cu-O by Self-seeded Melt Growth (5:00pm)

David Cardwell, Makoto Kambara, Nadendla Hari Babu, Patrick Smith, Yun-Hua Shi, IRC in Superconductivity, University of Cambridge.

4ML04 Melt-Processed RE-Ba-Cu-O (RE=Sm, Nd) Bulk-Superconductors for Quasi-Permanent Magnets (5:15pm)

H. Ikuta, K. Tazoe, H. Ishihara, U. Mizutani, Nagoya University; M. Yoshikawa, Y. Yanagi, Y. Itoh, T. Oka, IMRA MATERIAL.

4ML05 Trapped fields beyond 14 Tesla in bulk YBCO (5:30pm)

Günter Fuchs, Gernot Krabbes, Stefan Gruss, Peter Verges, Karl-Hartmut Müller, Jörg Fink, Ludwig Schultz, IFW Dresden.

4ML06 Growth of Rare Earth Doped YBa2Cu3O7-X Single Crystals for Flux Trap Magnet Applications (5:45pm)

F. Dogan, W. C. Hicks, S. Sofie, University of Washington; M. Strasik, A. C. Day, K. E. McCrary, Boeing Phantom Works.

4ML07 High- quality HTS tiles designed for the application in magnetic bearings of cryotanks and flywheels (6:00pm)

A. Leenders, H.C. Freyhardt, ZFW gGmbH Goettingen, Germany, IFM Universität Goettingen, Germany; H. Walter, ZFW gGmbH Goettingen, Germany; B. Bringman, Ch. Jooss, M.P. Delamare, IFM Universität Goettingen, Germany.

4ML08 Pulsed Magnetization Processes for HTS Bulk Parts (6:15pm)

M. Sander, U. Sutter, T. Rusli, M. Klaeser, Research Centre Karlsruhe; R. Koch, Univ.Stuttgart.

Friday Poster Sessions (Pavilion Convention Center) 8:00am - 10:00am

5MA BSCCO Wires and Tapes VIII

5MA01 Fast Healing the Deformation-Induced Damage in Ag/Bi-2223 Tapes

V.M. Beilin, A. Goldgirsh, E. Yashchin, M. Roth, Hebrew University of Jerusalem; A. Polyanskii, David C. Larbalestier, University of Wisconsin, Applied Superconductivity.

5MA02 The effect of applied intermediate pressing techniques in the OPIT fabrication on the current paths and the current carrying capability of multifilamentary Bi-2223 tapes

P. Skov-Hansen, M. R. Koblishka, P. Vase, NST; A. Polyanskii, D. Larbalestier, University of Wisconsin; P. Kovac, Slovak Academy of Sciences; F. Marti, R. Flukiger, University of Geneva.

5MA03 Deformation of Bi,Pb(2223) tapes with two-axial rolling under longitudinal tension: influence on microstructure

G. Witz, R. Passerini, GAP-S, University of Geneva; E. Walker, M. Dhallé, S. Lavanga, F. Marti, R. Flukiger, DPMC, University of Geneva.

5MA04 The effects of drawing parameters on sausaging and critical current density of Bi-2223 /Ag HTS wires

Hong-Soo Ha, Sang-Soo Oh, Dong-Woo Ha, Young-Kil Kwon, Kang-Sik Ryu, Korea Electrotechnology Research Institute.

5MA05 Comparative studies on sandwich rolling and flat rolling in processing Ag/Bi-2223 tapes

W. M. Chen, Y. C. Guo, G. McCaughey, H. K. Liu, S. X. Dou, Institute for superconducting and electronic materials; A. Polyanskii, D. Larbalestier, Applied Superconductivity Center; M. Appley, Australian Superconductors.

5MA06 3D Numerical Simulation of the Flat Rolling Deformation Process

Morten Eriksen, Jakob Ilsted Bech, Behrouz Seifi, Niels Bay, Technical University of Denmark, Dept. of Manufacturing Engineering.

5MA07 Plastic Properties of BSCCO-2212 Powder

Jakob Ilsted Bech, Morten Eriksen, Niels Bay, Technical Univ. of Denmark, Dept. of Manufacturing Engineering; Franck Toussaint, Pierre Doremus, Institut National Polytechnique de Grenoble, Laboratoire Sols Solides Structures.

5MA08 Plastic deformation processing parameters in silver and silver alloy Bi(Pb)-2223 composite wires and tapes

M.K. Hassan, R. Navarro, Instituto de Ciencia de Materiales de Aragón, CSIC-Universidad de Zaragoza.

5MA09 The main properties of Bi(2223)/Ag tapes made by tape-in-rectangular tube (TIRT) technique

Pavol Kovac, Imrich Husek, Tibor Melisek, Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, Slovakia.

5MA10 Interface irregularity and texture evolution of Bi-Sr-Ca-Cu-O superconductor tape processed by PIT method

Bong Ki Ji, Hyung Sang Park, Seung Jin Oh, Jinho Joo, Wansoo Nah, Sungkyunkwan University; N. J. Park, KumhoUniversity of Technology; Gye-Won Hong, Korea Atomic Research Institute.

5MA11 Magneto-optical imaging for Ag/Bi-2223 tapes processed by using various processes

H.K. Liu, R. Zhen, W.M. Chen, Y.C. Guo, G. MacCaughey, S.X. Dou, University of Wollongong; A. Polyanskii, University of Wisconsin; M. Apperley, Australian Superconductors Ltd.

5MB Grain Boundaries and Interfaces I

5MB01 Influence of process conditions on the inter and intragrain transport properties of low angle thin film Ca-doped and not doped YBCO bicrystals

G. Daniels, A. Gurevich, D. C. Larbalestier, University of Wisconsin.

5MB02 Properties of YBa₂Cu₃O₇ Thin-Films Deposited on (001) SrTiO₃ Substrates and Bicrystals with Vicinal Offset

U. Poppe, Y.Y. Divin, M.I. Faley, C.L. Jia, J.S. Wu, K. Urban, IFF-IMF, Forschungszentrum Juelich GmbH.

5MB03 Characterization of Small Systems of Grain Boundaries in High-Jc YBCO Coated Conductor Tapes

D.M. Feldmann, J.L. Reeves, A.A. Polyanskii, S.E. Babcock, D.C. Larbalestier, University of Wisconsin; A. Goyal, R. Feenstra, M. Paranthaman, D.M. Kroeger, D.K. Christen, Oak Ridge National Laboratory.

5MB04 Critical Current Hysteresis in Low Angle YBCO BICrystals

Vincenzo Boffa, Giuseppe Celentano, Traian Petrisor, ENEA Frascati; Umberto Gambardella, Gaia Grimaldi, Sandro Pace, INFM Salerno.

5MB05 Effect of Ca-doping on grain boundaries and superconducting properties of YBCO.

A.V. Berenov, R. Marriott, J.L. MacManus-Driscoll, Dept. of Materials, Imperial College, Prince Consort Rd., SW7 2BP, UK.

5MB06 Transport properties of bicrystal junctions with large single facet grain boundaries in YBCO films grown by liquid phase epitaxy

Yu. Eltsev, K. Nakao, Y. Yamada, Y. Takahashi, J.G. Wen, I. Hirabayashi, Y. Enomoto, N. Koshizuka, SRL/ISTEC.

5MB07 Natural and artificial low angle grain boundaries with high current - carrying capabilities

M.P. Delamare, Ch. Jooss, B. Bringman, IfM, Universitaet Goettingen, Germany; H. Walter, ZFW gGmbH Goettingen, Germany; F. Garcia Moreno, A. Leenders, H.C. Freyhardt, ZFW gGmbH Goettingen & Germany, IfM, Universitaet Goettingen, Germany.

5MC Nb-Ti Alloys

5MC01 Studying the Structure - Phase Transformation of the Nb-Ti Alloy During Annealing After Low-Temperature (77 K) Deformation

Oleg Volchok, Vladimir Okovit, Yakov Starodubov, Oleg Chernyi, Lidia Chirkina, National Science Center “Kharkov Institute of Physics and Technology”.

5MC02 Using The Low-Temperature Deformation to Reduce the Critical Current Degradation Under Loading in Nb-Ti Alloys

Marina Lazareva, Oleg Volchok, Yakov Starodubov, Oleg Chernyi, Lidia Chirkina, National Science Centre "Kharkov Institute of Physics and Technology".

5MC03 Upper critical field anisotropy in Nb-Ti tapes

Lance Cooley, Anand Patel, Applied Superconductivity Center, University of Wisconsin.

5MC04 Development of NbTi strand for PF coils of ITER magnet system.

Anatolyi Nikulin, Gennadyi Vedernikov, Alexander Shikov, Ludmila Potanina, Eduard Plashkin, Igor Gubkin, Eugenyi Nikulenkov, Nikolay Salunin, Vladimir Korpusov, SSC RF Bochar Research Institute of Inorganic Materials.

5MC05 Filament Structure in NbTi and NbTiTa Superconductors After the First and the Last Heat Treatment

L.V. Potanina, G.P. Vedernikov, Yu.G. Kostjuk, A.K. Shikov, S.V. Sherbakov, SSC RF Bochar Research Institute of Inorganic Materials.

5MC06 Current characteristics and microstructure in a multifilamentary Nb-37Ti-22Ta superconductor

Oleg Chernyi, Gennadyi Storozhilov, Vera Ilicheva, Yakov Starodubov, Marina Lazareva, Natalya Andrievskaya, National Science Center "Kharkov Institute of Physics and Technology".

5MC07 Thermodynamics of the Nb-Ti-Ta Ternary Superconducting System

Li Na, W. H. Warnes, Oregon State University.

5MC08 Flux Pinning in Nb-Ti based Nanoscale Superconducting Multilayers

Hidetaka Oguma, Kozo Osamura, Department of Materials Science and Engineering, Kyoto University; Akira Sakai, Mesoscopic Materials Research Center, Kyoto University; Hiroaki Otsuka, Ikuo Ito, Advanced Technology Research Center, Nippon Steel Corp..

5MC09 Characteristics of Superconducting Artificial Pins in Nb-Ti Multifilamentary Composites

Y. Zhu, O. Miura, D. Ito, Graduate school of Engineering, Tokyo Metropolitan University; S. Endo, Superconducting Products Dept., The Furukawa Electric Co., Ltd.

5MC10 High field flux pinning properties and upper critical fields in multifilamentary Nb-Ti composites with different artificial pin materials

Osuke Miura, Yun Zhu, Kazumi Hayakawa, Daisuke Ito, Tokyo Metropolitan University; Sakaru Endo, The Furukawa Electric Co. Ltd..

5MC11 Flux pinning in NbTi composite superconductors having artificial normal pins with different coherence length

K. Hayakawa, O. Miura, Y. Zhu, D. Ito, Faculty of Engineering, Tokyo Metropolitan University; S. Endo, The Furukawa Electric Co.

5MC12 Periodic Micron-size Flux Pinning Centers on Superconducting Nb Films by the Lithographic Techniques

H. Yamada, T. Iwamoto, N. Harada, T. Hamajima, Yamaguchi University.

5MD LTS Thin Films

5MD01 Preparation of Nb₃Sn thin films by sputter deposition of Nb onto hot recrystallized bronze tapes

Lance Cooley, Bill Starch, Peter Lee, Applied Superconductivity Center, University of Wisconsin.

5MD02 Nb₃Al Thin Films Made by a Single Sputtering Target

Koh Agatsuma, Hiroshi Hateishi, Kazuaki Arai, Seiichi Umeda, Electrotechnical Laboratory; Takashi Saitoh, Naohiro Futaki, Fujikura Ltd..

5MD03 Effects of Geometry and Hardware on the Stress of Nb Thin Films

W.W. Clark IV, J.M. Beatrice, J.Z. Zhang, A.W. Lichtenberger, Superconducting Device Laboratory, .

5MD04 Properties of NbTiN Thin Films Prepared by Reactive DC Magnetron Sputtering

Hiroaki Myoren, Takayuki Shimizu, Takeshi Iizuka, Susumu Takada, Department of Electrical and Electronic Systems, Faculty of Engineering, Saitama University.

5MD05 Superconducting Transition Metal Nitride Films for THz SIS Mixers

N. N. Iosad, T.M. Klapwijk, Delft University of Technology, Department of Applied Physics (DIMES); B. D. Jackson, J.R. Gao, Space Research Organization of the Netherlands; V. V. Roddatis, Institute of Crystallography Russian Academy of Sciences; S. N. Polyakov, Institute of Nuclear Physics, Moscow State University.

5MD06 Investigation and optimization of the superconducting properties of NbN films

John Bulman, Loyola Marymount University; Eric Ladizinsky, TRW.

5MD07 Resistive NbN thin films for application in integrated circuits at low temperatures and anodic oxidation for thickness measurements of superconducting NbN thin films

M. Schicke, P. Sabon, K. H. Gundlach, K.-F. Schuster, IRAM - Institut de RadioAstronomie Millimétrique; K. Mizuno, CRL - Matsushita Electric Industrial Co. Ltd..

5MD08 Nature of the critical current and coherent phenomena in granular Mo-N thin films

V. G. Prokhorov, Institute of Metal Physics, 36 Vernadsky Blvd., Kiev, 03142, Ukraine; Y. P. Lee, Department of Physics, Sunmoon University, Asan, 336-840 Korea; I. I. Kravchenko, Department of Physics, University of Florida, Gainesville, FL 32611, USA.

5MD09 Structural and superconducting properties of RENi₂B₂C (RE-Y, Ho) thin films

Kerstin Haese, Bernhard Holzappel, Dieter Eckert, Ludwig Schultz, IFW Dresden.

5MD10 Towards epitaxial growth of borocarbides thin films: a systematic study of LuNi₂B₂C deposition on different substrates.

Giuseppe Grassano, Daniele Marrè, Ilaria Pallecchi, Carlo Ferdeghini, INFN-Unità di Genova/Dipartimento di Fisica- Università.

5MD11 Parallel and Perpendicular Field Dependence of J_c of NbTi-Cu Multilayer Films

Minoru Takeda, Kazu Nishigaki, Kobe University of Mercantile Marine.

Friday Oral Sessions (Pavilion Convention Center) 10:00am - 11:30am

5ME Large Area Films

5ME01 Growth of Large Area YBa₂Cu₃O_{7-x} Thin Film by Cylindrical Hollow Cathode Discharge Sputtering (10:00am)

Jeong-Dae Suh, Kwang-Yong Kang, Electronics and Telecommunications Research Institute.

5ME02 Deposition of Large Area YBCO Thin Films by a New Laser Beam Scanning Technique (10:15am)

M. Fukutomi, K. Komori, K. Kawagishi, K. Togano, National Research Institute for Metals.

5ME03 Production of Double-Sided Large-Area High-T_c Wafers by MBE (10:30am)

M. Naito, S. Karimoto, H. Yamamoto, NTT Basic Research Laboratories; H. Nakada, K. Suzuki, SRL- ISTECH.

5ME04 Three Simple Methods to Obtain Large Area Thin Films by Pulsed Laser Deposition (10:45am)

Armen Kuzanyan, Institute Physics Research; Georgi Badalyan, Volodya Karapetyan, Ashot Gyulamiryan, the same; Armen Gulian, NRL, Washington, DC.

5ME05 A 3-Chamber Deposition System for the Simultaneous Double-Sided Coating of 5-inch Wafers (11:00am)

J. Geerk, A. Zaitsev, G. Linker, R. Aidam, R. Schneider, F. Ratzel, B. Scheerer, Institut für Festkörperphysik, Forschungszentrum Karlsruhe, Germany; H. Reiner, Institut für Technische Physik, Forschungszentrum Karlsruhe; E. Gaganidze, R. Schwab, Institut für Materialforschung, Forschungszentrum Karlsruhe.

5ME06 Some peculiarities of pulsed laser deposition of the large area thin films (11:15am)

Armen Kuzanyan, Georgi Badalyan, Vahan Nikoghosyan, Institute Physics Research; Armen Gulian, NRL, Washington, DC, USA.

5MF Grain Boundaries and Interfaces II

5MF01 Influence of the Substrate Grain Structure on the Structure and Properties of YBCO Coated Conductors (10:00am)

J.L. Reeves, D.M. Feldman, S.E. Babcock, D.C. Larbalestier, Applied Superconductivity Center, University of Wisconsin Madison; G. Kozłowski, R.R. Biggers, R.M. Nekkanti, I. Maartense, P. Barnes, C.E. Oberly, T.L. Peterson, Air Force Laboratory, Wright Patterson Air Force Base; M. Tomsic, Eurus Technologies Inc..

5MF02 Grain boundary transport properties in YBa₂Cu₃O_x coated conductors (10:30am)

D.J. Miller, P. Berghuis, K.E. Gray, R.T. Kampwirth, Argonne National Laboratory; R. Feenstra, D.K. Christen, Oak Ridge National Laboratory.

5MF03 Grain Boundary Networks in Y123 Coated Conductors: Formation, Properties and Simulation (10:45am)

B. Holzappel, F. Schindler, B. de Boer, L. Fernandez, J. Eickemeyer, L. Schultz, IFW Dresden; P. Berberich, TU Muenchen; W. Prusseit, THEVA.

5MF04 Superconducting and Microstructural Properties of YBCO Thick Film Grain Boundaries on SrTiO₃ and Textured Ni-Substrate (11:00am)

Qiang Li, V. F. Solovyov, H. J. Wiesmann, Y. Zhu, M. Suenaga, Brookhaven National Lab.

5MF05 The variation of J_{cgb} as function of GB misorientation and inclination measured using the Scanning SQUID Microscope (11:15am)

Jack Tsai, Siu Wai Chan, Materials Science Program, Columbia University; John Kirtley, Watson Research Center, IBM; Steve Tidrow, Army Research Lab.; Qu Jiang, Texas Superconducting center, Univ of Houston.

Friday Plenary Sessions (Pavilion Convention Center) 11:30am - 1:00pm

5AP6 Status and plans for superconductivity at LHC

C. Wyss, CERN, Geneva - Switzerland.

5AP7 HTS Filter Subsystems for Wireless Telecommunications

Balam Willemsen, Superconductor Technologies Inc..

5MG Flux Pinning II

5MG01 A model for the dependence of J_c upon the microstructure in a granular A-15 superconductor

Jason McDonald, Vector Fields Inc.; Emanuela Barzi, Fermilab National Accelerator Laboratory.

5MG02 Transport properties in multifilamentary Ag-sheathed Bi-2223 tapes under the influence of strain

Takanobu Kiss, Dept. of Electrical and Electronic Systems Engineering, Kyushu University; Hans van Eck, Bennie ten Haken, Harman H.J. ten Kate, Low Temperature Division, University of Twente.

5MG03 Critical currents in BKBO thick films prepared by LPE technique

V. I. Gatal'skaya, S. N. Barilo, S. V. Shiryarv, Institute of Solid State and Semiconductor Physics, NAS of Belarus, Minsk; H. Szymczak, R. Szymczak, M. Baran, Institute of Physics, Polish Academy of Sciences, Warsaw.

5MG04 Critical State of Layered Superconductors: Flux Lines on Surface Parallel to External Magnetic Field

Yu.N. Shvachko, Institute of Metal Physics, Ekaterinburg, Russia; H.H. Wang, J.M. Williams, Argonne National Laboratory, Argonne, IL 60439.

5MG05 Influence of vortex disorder on the critical current in Nb/NbO multilayers.

A.N. Lykov, A.Yu. Tsvetkov, Yu.V. Vishniakov, P.N. Lebedev Physical Institute of RAS.

5MG06 Silver Effect on the Energy Barrier in HTS Cylinders

Naser S. Alzayed, King Saud University.

5MG07 Interrelation of Critical Current Density and Dislocation Arrays Structure in Pulse Laser Deposited YBCO Thin Films

V. S. Flis, O. P. Karasevska, A. V. Pronin, V. I. Matsui, V. M. Pan, Institute for Metal Physics, Kiev 03142, Ukraine; V. L. Svetchnikov, H. W. Zandbergen, National Centre for HREM, TU Delft, AL Delft 2628, The Netherlands.

5MG08 Field dependence of J_c for filamentary ReBCO superconductors prepared by a solution spinning method

Tomoko Goto, Nagoya Institute of Technology; Kazuo Watanabe, Tohoku University.

5MG09 Effects of Uranium Doping and Thermal Neutron Irradiation on Ag/Bi-2223 Tapes

Damian Marinaro, Shi Xue Dou, Josip Horvat, John Boldeman, Institute for Superconducting and Electronic Materials, University of Wollongong; Roy Weinstein, Institute of Beam Particles, University of Houston.

5MH Flux Pinning III

5MH01 Anisotropic current transport properties and their scaling in multifilamentary Bi-2223 Ag-sheathed tapes

Takanobu Kiss, Kyushu University, Fukuoka 812-8581, Japan; Hiroshi Okamoto, Fujio Irie, Kyushu Electric Power Co, Inc., Fukuoka 815-8520, Japan; David Larbalestier, University of Wisconsin, Madison, WI53706, USA.

5MH02 The Upper Critical Field H_{c2} of Ag/Bi-2223 Tapes

W. M. Chen, S. S. Jiang, National Laboratory of Solid State Microstructures, Nanjing University, Nanjing 210093, P. R. China; H. K. Liu, S. X. Dou, Institute for Superconducting and Electronic Materials, University of Wollongong, .

5MH03 Improved in-field transport behaviour of uranium doped BiSCCO-tapes by enhanced flux pinning

S. Tönies, H.W. Weber, D. Miliken, Y.C. Guo, S.X. Dou, A. Gandini, R. Sawh, Y. Ren, R. Weinstein, Atomic Institute of the Austrian Universities, Stadionallee 2, A-1020 Vienna, Austria.

5MH04 Thickness Dependence of Critical Current Density of YBa₂Cu₃O_{7-d} on Rolling Assisted Biaxially Textured Substrates

B.W. Kang, A. Goyal, D.F. Lee, M. Paranthaman, F.A. List, C. Park, D.M. Kroeger, P.M. Martin, Oak Ridge National Laboratory, Oak Ridge, TN.

5MH05 Flux-pinning mechanism in heavily Pb-doped Bi2212 single crystals

Yuri Nakayama, Teruki Motohashi, Kenji Otzchi, Jun-ichi Shimoyama, Kohji Kishio, Department of Superconductivity, University of Tokyo.

5MH06 Numerical Calculation of Critical Current in HTS Stacked Tapes

Joonsun Kang, Seyong Choi, Wansoo Nah, Il-Han Park, School of Electrical and Computer Engineering, Sungkyunkwan University; Jinho Joo, School of Metallurgical and Materials Engineering, Sungkyunkwan University; Young-Kil Kwon, Sang-Soo Oh, Kang-Sik Ryu, Applied Superconductivity Lab., Korea Electrotechnology Research Institute; Jaakko Paasi, Jorma Lehtonen, Laboratory of Electromagnetics, Tampere University of Technology.

5MH07 The MgO effect on the critical current density in Bi2212 single crystals and Pb substituted Bi2212 Crystals

Hiroki Sasakura, Ayumu Hirashima, Osuke Miura, Daisuke Ito, Tokyo Metropolitan University.

5MH08 Microstructure and J_c performance on BPSCCO-2223 bulks composed with Ag wires

Yoshimitsu Hishinuma, Ryukun Yamamoto, Isamu Tezuka, Shuji Yoshizawa, AMRC, Meisei University; Koji Matsunaga, Shikoku Research Institute Inc.; Arata Nishimura, National Institute for Fusion Science.

5MH09 Preparation Factors to Enhance J_c of Bi2223 Sintered Bulk

Shuji Yoshizawa, Isamu Tezuka, Yoshimitsu Hishinuma, Ryukun Yamamoto, Toshihisa Yamaguchi, AMRC, Meisei University; Shuetsu Haseyama, Dowa Mining Co., Ltd; Hiroshi Nakane, Kogakuin University.

5MI Flux Dynamics I

5MI01 Flux Pinning in Pb_{0.9}Bi_{0.1}/Ag Multilayer Films with Antidot Lattices

H.H. Sung, L.M. Wang, Department of Electrical Engineering, Da-Yeh University.

5MI02 Flux pinning of YBa₂Cu₃O_y films with antidots

H.C. Yang, M.J. Chen, J.H. Chen, Department of Physics, National Taiwan University; C.D. Chen, Institute of Physics, Academia Sinica; K. Chen, Material Research Laboratories, Industrial Technology Research Institute; H.E. Hornig, Department of Physics, National Taiwan Normal University.

5MI03 Frequency dependencies of ac harmonic susceptibilities in the Kim - Anderson and collective pinning-vortex glass models

Daniele Di Gioacchino, Paolo Tripodi, Francesco Celani, INFN-LNF, Via Enrico Fermi 40, 00044 Frascati, Italy; Alberto Testa, # I.C.M.A.T - CNR, Area della Ricerca di Montelibretti, (Rome) Italy; Sandro Pace, I.N.F.M. - Dept. of Physics, Univ. of Salerno, (Salerno), Italy.

5MI04 New Topological Excitations in Superconductors - Knots of Vortices

Dmitri Ledenyov, Oleg Ledenyov, NSC KIPT, ledenyov@univer.kharkov.ua; Viktor Ledenyov, University of Toronto.

5MI05 Effects of light ion irradiation on the flux dynamics of YBa₂Cu₃O₇ thin films

Z. Sefrioui, D. Arias, J. Santamaría, Departamento de Física Aplicada III. F. Física. UCM; E.M. Gonzalez, J. E. Villegas, J. L. Vicent, Departamento de Física de Materiales. F. Física. UCM.

5MI06 Determination of the Material Parameters in Small Volume HTS by an OFC Magnetometer

S. Gevorgyan, T. Kiss, H. Katsube, T. Ohyama, M. Takeo, T. Matsushita, K. Funaki, Kyushu University, Japan; A. Movsisyan, H. Shirinyan, National Academy of Sciences, Armenia.

5MI07 Effects of Different Pinning Distributions on the Vortex Dynamics

Sahin Aktas, Marmara University.

5MI08 Flux Dynamics in Superconductors with High Anisotropic Pinning

E.Yu. Klimentko, S.V. Shavkin, A.L. Yershov, RRC "Kurchatov Institute", Moscow, Russia.

5MI09 Columnar Defect Implantation Toward Large Scale Applications

E. Mezzetti, INFN INFN Politecnico Torino, Italy; P. Caracino, Pirelli Cavi spa I; R. Cherubini, INFN-LNL I; R. Gerbaldo, INFN INFN Politecnico TO I; A. Rovelli, INFN-LNS I; S. Zannella, Edison spa I.

5MI10 Current-Voltage Characteristics in a Superconducting Bi-2223 Tape in the Range of Very Low Electric Field

T. Matsushita, T. Kodama, M. Fukuda, E. S. Otabe, Kyushu Institute of Technology; K. Itho, National Research Institute for Metals.

5MJ Flux Dynamics II

5MJ01 Optical Control of Magnetic Flux Quanta in YBCO Thin Film Loops by Selected Femtosecond Laser Pulses

M. Tonouchi, Osaka Univ. & PRESTO, JST; K. Shikita, M. Morimoto, M. Hangyo, Osaka Univ..

5MJ02 Magnetic structure of Josephson vortices in bulk and film superconductors

Yasunori Mawatari, Iowa State University, Electrotechnical Laboratory; John R. Clem, Vladimir G. Kogan, Ames Lab. and Dept. of Physics and Astronomy, Iowa State University; R. G. Mints, Physics Dept., Tel Aviv University.

5MJ03 Different nature of vortex-phase transformations in zero field cooled and field cooled magnetisation of polycrystalline Bi-2212

A.K. Ghosh, A. N. Basu, CMPRC, Department of Physics, Jadavpur University, Calcutta 32.

5MJ04 Flux jumping instability in stepwise varying magnetic field

Roman G. Mints, Physics Department, Tel Aviv University; Ernst Helmut Brandt, Institut für Physik, Max-Planck-Institut für Metallforschung.

5MJ05 Determining vortex velocity laws for thin film superconductors from V-I data and mean field models.

Andrew D Grief, S J Chapman, S D Howison, OCIAM, Mathematical Institute, Oxford University; M D McCulloch, Department of Engineering Science, Oxford University.

5MJ06 Numerical Analysis of Higher Harmonics AC Susceptibility

Tiziana Di Matteo, Massimiliano Polichetti, Sandro Pace, Department of Physics, University of Salerno - Italy; Alberto M. Testa, Consiglio Nazionale delle Ricerche - Italy.

5MJ07 Transient Response of 50 kA YBCO Rings and Ring Pairs to Pulsed Fields

T.R. Askew, Kalamazoo College and Argonne Nat. Lab.; Y.S. Cha, Argonne Nat. Lab..

5MJ08 Thermal and Flux-Flow Properties of Thin YBaCuO and HgReBaCaCuO Layers in a Microbridge Spectrometer

J-C. Villegier, S. Misat, CEA-G; M. Pauly, G. Fillion, A. Sin-Xicola, CNRS-G.

Friday Oral Sessions (Pavilion Convention Center) 4:00pm - 5:30pm**5MK Flux Pinning IV****5MK01 Pressure Dependence of the Irreversibility Line in BSCCO (4:00pm)**

Marc Raphael, Chris Kendziora, Naval Research Laboratory; Mark Reeves, Earl Skelton, George Washington University.

5MK02 Critical currents in Bi-Sr-CaCu-O superconductors up to 45 T at 4.2 K (4:30pm)

H. Weijers, J. Schwartz, NHMFL; B. ten Haken, U. of Twente.

5MK03 Linear Defects in Epitaxially-Grown YBa₂Cu₃O_{7-d} Films: Their Role in Anisotropic Vortex Pinning and Surface Resistance (4:45pm)

V. M. Pan, V. S. Flis, O. P. Karasevska, V. A. Komashko, A. V. Pronin, Institute for Metal Physics, Kiev 03142, Ukraine; V. L. Svetchnikov, H. W. Zandbergen, National Centre for HREM, TU Delft, AL Delft 2628, The Netherlands; M. Lorenz, Institute for Experimental Physics II, University of Leipzig, D-04103 Leipzig, Germany.

5MK04 Flux pinning in thick YBa₂Cu₃O₇ films by the BaF₂ Process (5:00pm)

M. Suenaga, L.-J. Wu, V. F. Solovyov, H. J. Wiesmann, Y. Zhu, Q. Li, Brookhaven National Laboratory.

5MK05 Grain connectivity and flux pinning in Ag/Bi-2223 tapes (5:15pm)

S.-X. Dou, Institute for Superconducting & Electronic Materials.

5ML Nb₃Al**5ML01 Nb₃Al Conductor fabricated by DRHQ (Double Rapidly-Heating/Quenching) Process (4:00pm)**

A. Kikuchi, Y. Iijima, K. Inoue, National Research Institute for Metals.

5ML02 Stabilization and Coil Performance of Rapid-Heating, Quenching and Transformation Processed Nb₃Al Conductors (4:15pm)

T. Takeuchi, K. Tagawa, N. Banno, T. Kiyoshi, S. Matsumoto, H. Wada, TML, National Research Institute for Metals; K. Aihara, Y. Wadayama, M. Okada, Hitachi Research Laboratory, Hitachi, Ltd.; K. Nakagawa, Hitachi Cable, Ltd..

5ML03 Cu-added Nb₃Al multifilamentary superconductors having high J_c in high fields (4:30pm)

Y. Iijima, A. Kikuchi, K. Inoue, M. Yuyama, National Research Institute for Metals.

5ML04 Optimization studies for processing Nb₃Al using a rapid ohmic-heating and quenching method (4:45pm)

F. Buta, M. D. Sumption, E. W. Collings, The Ohio State University, Department of Materials Science and Engineering, Columbus, OH 43210, USA; M. Tomsic, Eurus Technologies Inc., Tallahassee, FL 32306, USA.

5ML05 Nb₃(Al,Ge) Multifilamentary Wires Made by the Rapidly-Heating/Quenching Process (5:00pm)

A. Kikuchi, Y. Iijima, K. Inoue, M. Kosuge, K. Itoh, National Research Institute for Metals.

5ML06 Fabrication and Testing of Mechanically Alloyed, CTFF Nb₃Al Strands and the addition of External Stabilizer (5:15pm)

M. Sumption, X. Peng, E. Lee, F. Buta, E.W. Collings, MSE, The Ohio State University; M. Tomsic, EURUS