

AAPPS-DPP 2023

7th Asia-Pacific Conference on Plasma Physics



Program



November 12-17, 2023
Nagoya JAPAN

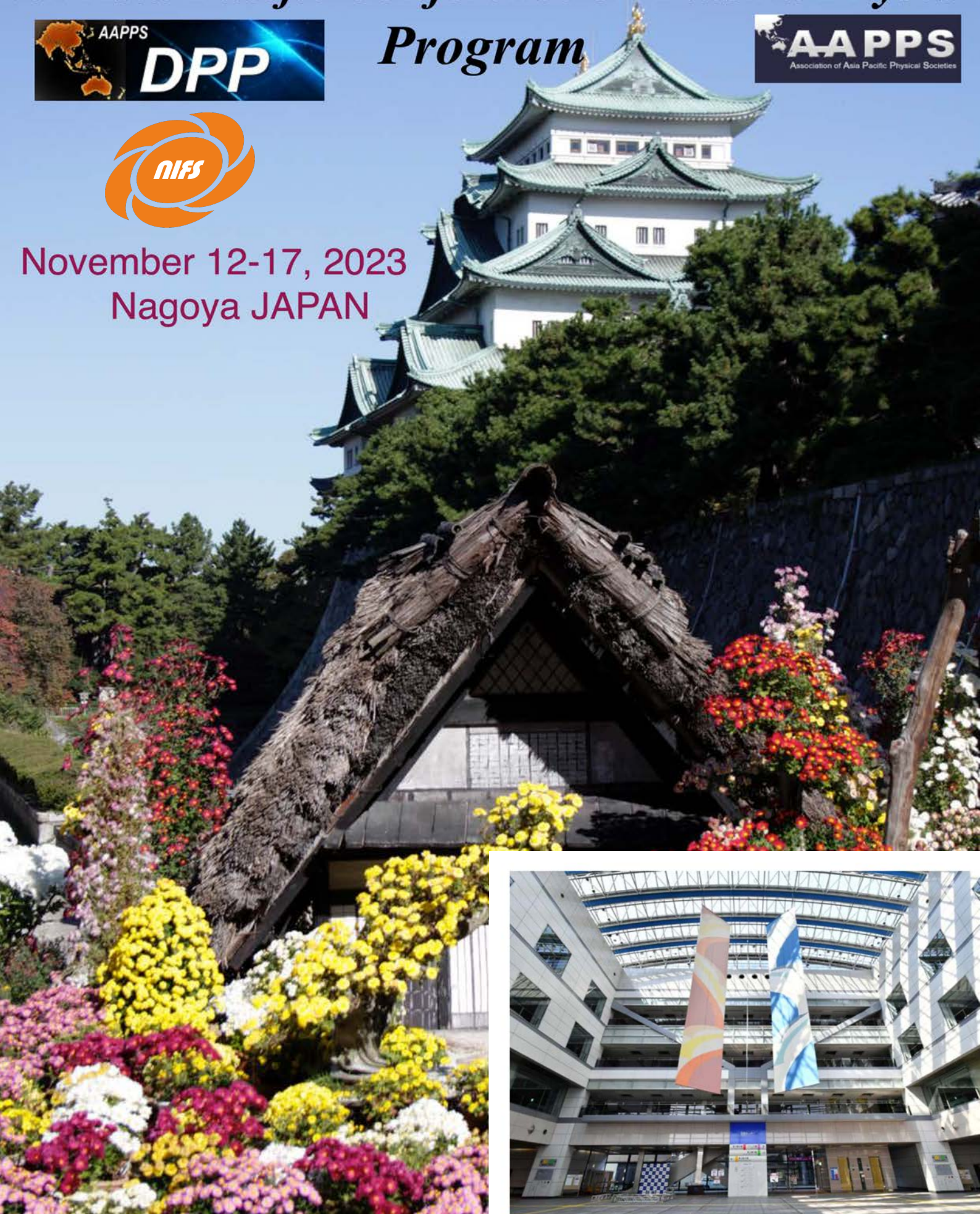


Photo Courtesy:
NAGOYA convention & visitors bureau

Main Hall, Portmesse Nagoya

Electronic Program Book



7th Asia-Pacific Conference on Plasma Physics

(AAPS-DPP 2023) November 12-17, 2023

<http://aapsdpp.org/DPP2023/index.html>

Port Messe Nagoya, Japan

Organized by AAPS-DPP

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(AAPS-DPP 2023) November 12-17, 2023

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Port Messe Nagoya, Japan

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Issued on 10 Nov, 2023

The Division of Plasma Physics of the Association of Asia Pacific Physics Societies (AAPS-DPP) has been successfully organizing annual conferences on plasma physics in the Asia Pacific region for the past 6 years. The 1st Asia-Pacific Conference on Plasma Physics (AAPS-DPP2017) was held during September 18-23, 2017 in Chengdu, China (<http://aappsdp.org/DPP2017rogramlatest/index.html>) followed by AAPS-DPP2018 during November 12-17, 2018 in Kanazawa, Japan (<http://aappsdp.org/DPP2018/index.html>) and AAPS-DPP2019 during November 4-8, 2019 in Hefei, China (<http://aappsdp.org/DPP2019/index.html>).

The subsequent three conferences AAPS-DPP2020 (<http://aappsdp.org/DPP2020/index.html>), AAPS-DPP2021 (<http://aappsdp.org/DPP2021/index.html>) and AAPS-DPP2022 (<http://aappsdp.org/DPP2022/index.html>) were held as online conferences using the Zoom platform. We now return to an in-person format this year to hold the 7th Asia-Pacific Conference on Plasma Physics (AAPS-DPP2023) during Nov. 12-17, 2023 in Port Messe Nagoya, Japan.

[1] Scope of the AAPS-DPP2023: AAPS-DPP2023 is a plasma physics conference under the authority of AAPS-DPP for scientific discussions on plasma physics. This conference should be physics oriented and provide interdisciplinary and in-depth discussions among and in various fields of plasma physics and application.

[2] Organization:

AAPS-DPP (<http://aappsdp.org/AAPSPDPF/>) is organizing body of this conference.

NIFS (DG: Z. Yoshida, <https://www.nifs.ac.jp/en/about/director.html>) co-organize this conference.

Disclaimer

The attendance of AAPS-DPP2023 conference is at own risk. While the organizers will make every effort to conduct this conference according to the announced schedule, unlikely, unforeseen circumstances may result in change of the schedule or cancellation of the conference. These changes will be posted at the conference website. No liability is assumed for inaccuracy, misdescription, delay, damage, and loss.

[3] Date: November 12(Sunday) -17(Friday), 2023

Version 2023.11.06

7th Asia-Pacific Conference on Plasma Physics (AAPS-DPP 2023) Port Messe Nagoya

| Sunday (2023.11.12) | Monday (2023.11.13) | Tuesday (11.14) | Wednesday (11.15) | Thursday (11.16) | Friday (11.17) |
|---|---|---|---|---|--|
| | Registration: 8:00~ | Registration : 8:00~ | Registration : 8:00~ | Registration : 8:00~ | Registration : 8:00~ |
| | 8:30-10:00: Opening (Chair: K. Nagaoka) 1. Zenho Yoshida(NIFS) (10min) 2. Akijit Sen (DPP chair) (5min) 3. Mitsuru Kikuchi (DPP CEO) (5min) 4. Kazuki Mima U30 ceremony (15min) 5. Kazumasa Ida U40 ceremony (15min) 6. Rapsley Ranaiv PIP Ceremony (15min) 7. R. Ganesh Chandrasekhar Ceremony (15min) 8. Ton Teoh Young (MDP) DPP2024 (10min) | 8:30-10:30: Plenary2 Chairs: R. Matsumoto, TH Watanabe, P. Diamond, PJ Morrison 8:30-9:00: PL-6 Feng Yuan(SA) 9:00-9:30: PL-7 Kohji Yoshikawa(B) 9:30-10:00: PL-8 Rahul Pandit(CD) 10:00-10:30: PL-9 Adelle Wright(F) | 8:30-10:30: Plenary4 Chairs: M. Shiratani, Y. Omura, W. Heidbrink, H. Suk 8:30-9:00: PL-14 Masaru Hori (A) 9:00-9:30: PL-15 Quanqi Shi (SG) 9:30-10:00: PL-16 D. Orlov (OS) 10:00-10:30: PL-17 C. H. Nam (L) | 8:30-10:30: Plenary 6 Chairs: JI Han, W. Wang, P. Yoon, Rui Ding 8:30-9:00: PL-22 Dongsu Ryu(SA) 9:00-9:30: PL-23 Yutong Li(L) 9:30-10:00: PL-24 Satyavir Singh(SG) 10:00-10:30: PL-25 Jayhyum Kim(MF) | 8:30-10:30: Plenary 8 Chairs: Y. Omura, A. Murphy, C. Sung, I. Murakami 8:30-9:00: PL-30 R. S. Matsukeya(SG) 9:00-9:30: PL-31 Yi Wu(A) 9:30-10:00: PL-32 A. Knies(OS) 10:00-10:30: PL-33 Yuri Ralchenko(B) |
| | 10:00-10:40: Photo Break 10:30-13:00: Plenary1 Chairs: R. Ganesh, R. Rawat, Y. Fen, K. Mima, JM Kwon 10:40-11:10: PL-1 K. Ida(Chandra) 11:10-11:40: PL-2 T. Watanabe(PIP) 11:40-12:10: PL-3 Lin J(B) 12:10-12:40: PL-4 M. Campbell(L) 12:40-13:10: PL-5 Bin Zhang (MF) | 10:30-11:00: Coffee break 11:00-13:00: Plenary3 Chairs: K. Nagaoka, T. Yamada, F. Waelbroeck, P. Yoon 11:00-11:30: PL-10 G. Giruzzi(OS) 11:30-12:00: PL-11 Quynh Nue(B) 12:00-12:30: PL-12A. Matsuyama(MF) 12:30-13:00: PL-13 Iver Cairns(SG) | 10:30-11:00: Coffee break 11:00-13:00: Plenary5 Chairs: H. Yamada, B. Schneider, W. Choe, MJ Choi 11:00-11:30: PL-18 F. Scotti(MF) 11:30-12:00: PL-19 S. Toriumi(SA) 12:00-12:30: PL-20 Xiaolei Fan(A) 12:30-13:00: PL-21 Y. Andreu(CD) | 10:30-11:00: Coffee break 11:00-13:00: Plenary7 Chairs: TS Hahn, A. Chian, T. Shao, YD Yoon 11:00-11:30: PL-26 S. Takehiro(CD) 11:30-12:00: PL-27 F. Ebrahimi(F) 12:00-12:30: PL-28S. Bhattacharjee(A) 12:30-13:00: PL-29 Tracy Carter(OS) | 10:30-11:00: Coffee break 11:00-13:00: Plenary9 Chairs: K. Itoh, S. Fujioka, RI Dewar, JI Han 11:00-11:30: PL-34 Nobu Yokoi(CD) 11:30-12:00: PL-35 Jerome Faure(L) 12:00-12:30: PL-36 P. Morrison(F) 12:30-13:00: PL-37 Huihong Yan(SA) |
| | 13:10-14:00: Lunch 14:00-16:10: Topical 1 CD-1(Room6-1) F-1(Hall B1,2) B-1(Hall A1) A-1(Room 4) L-1(Room1) SG-1(Room7-1) SA-1(Hall B3,4) MF-1(Main Hall) MF-10(Room3) OS-1(Room7-2) 16:10-16:30: Coffee Break 16:30-18:40: Topical 2 CD-2(Room6-1): No session F-2 (Hall B1,2) B-2(Hall A1) A-2(Room 4) A-10(Room 6.2) L-2(Room1) SG-2(Room7-1) SA-2(Hall B3,4) MF-2(Main Hall) MF-11(Room3) OS-2(Room7-2) 19:00-21:00: EV-1 (Room 3) : Mini-workshop for Women in Plasma Physics (Main Hall) : Fusion private sector | 13:00-16:00 13:00-14:00: Lunch 14:00-16:10: Topical 3 CD-3(Room6-1) F-3 (Hall B1,2) B-3(Hall A1) A-3(Room 4) L-3(Room1) SG-3(Room7-1) SA-3(Hall B3,4) MF-3(Main Hall) MF-12(Room3) OS-3(Room7-2) 16:10-16:30: Coffee Break 16:30-18:40: Topical 4 CD-4(Room6-1) F-4 (Hall B1,2) B-4(Hall A1) A-4(Room 4) A-11(Room 6.2) L-4(Room1) SG-4(Room7-1) SA-4(Hall B3,4) MF-4(Main Hall) MF-13(Room3) OS-4(Room7-2) 19:00-20:00: EV-2 (Main Hall) 6th General Assembly | 13:00-16:00 13:00-14:00: Lunch 14:00-16:10: Topical 5 CD-5(Room6-1) F-5 (Hall B1,2) B-5(Hall A1) A-5(Room 4) L-5(Room1) SG-5(Room7-1) SA-5(Hall B3,4) MF-5(Main Hall) MF-14(Room3) OS-5(Room7-2) 16:10-16:30: Coffee Break 16:30-18:40: Topical 6 CD-6(Room6-1) F-6 (Hall B1,2) B-6(Hall A1) A-6(Room 4) A-12(Room 6.2) L-6(Room1) SG-6(Room7-1) SA-6(Hall B3,4) MF-6(Main Hall) MF-15(Room3) OS-6(Room7-2) 18:30-21:00: Welcome party at Super Conducting MAGLEV and RailWay Park (Free drink & food, attractions) | 13:00-16:00 13:00-14:00: Lunch 14:00-16:10: Topical 7 CD-7(Room6-1) F-7 (Hall B1,2) B-7(Hall A1) A-7(Room 4) L-7(Room1) SG-7(Room7-1) SA-7(Hall B3,4) MF-7(Main Hall) MF-16(Room3) OS-7(Room7-2) 16:10-16:30: Coffee Break 16:10-18:20: Topical 8 CD-8(Room6-1) F-8 (Hall B1,2) B-8(Hall A1) A-8(Room 4) A-13(Room 6.2) : No session L-8(Room1) SG-8(Room7-1) SA-8(Hall B3,4) MF-8(Main Hall) MF-17(Room3) OS-8(Room7-2) 19:45-22:00: Conference Dinner Hilton Nagoya | 13:00-16:00 13:00-14:00: Lunch 14:00-16:10: Topical 9 CD-9 : no session F-9 (Hall B1,2) B-9 (Hall A1) A-9 (Room 4) L-9 (Room1) SG-9 (Room7-1) SA-9 (Hall B3,4) MF-9 (Main Hall) MF-18 (Room3) OS-9 (Room 7.2) 16:10-16:30: Coffee Break 16:30-18:30: Plenary10 Chairs: R. Pandit, K. Nagasaki, A. Sen, M. Kikuchi 16:30-17:00: PL-38 Hideki Miura(F) 17:00-17:30: PL-39 J. Garcia(MF) 17:30-18:00: PL-40 R. Sydra (Poster prize) 18:00-18:30: PL-41 R. Rawat(Closing) |
| 18:00-21:00: Reception and 17:30-21:00: Registration at Cafe & Bar Bonn Reine https://bonneine.owst.jp/en/ | | | | | |

[4] Sponsors

AAPPS-DPP2023 is financially supported by following organizations.

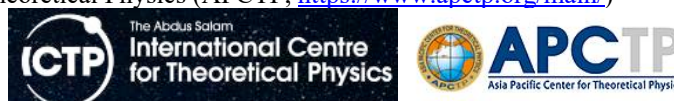
4.1 Sponsor for AAPPS-DPP Awards

1. Larsen & Toubro Ltd (Sponsor for 2023 S. Chandrasekhar Prize) <https://www.larsentoubro.com>
2. INOX CVA(Sponsor for 2023 Plasma Innovation Prize) <https://inoxcva.com>
3. YUKWAI (Partial sponsor for 2023 Young Researcher Award) <https://yu-kwai.jp/>
4. IFE Forum (Sponsor for 2023 U30 Award) <https://www.ilt.or.jp/ife-forum/>
5. Springer (Poster Prize gift books), <https://www.springer.com/jp>
6. Plasma Science Society of India (Chandrasekhar Medal) <http://www.pssi.in/>



4.2 Sponsor on Air flight support for presenters from developing countries and retired

1. International Center for Theoretical Physics (ICTP, <https://www.ictp.it>)
2. Asia Pacific Center for Theoretical Physics (APCTP, <https://www.apctp.org/main/>)



4.3 Sponsors for AAPPS-DDPP2023 conference

1. Nagoya convention & visitors bureau <https://www.nagoya-info.jp/ncvb/>
2. Mitsubishi Electric (三菱電気) https://www.mitsubishielectric.co.jp/corporate/randd/laboratory/advanced_technology/index.html
3. ENN Science and Technology Development Co., Ltd. <http://en.ennresearch.com>
4. Helical Fusion(Sponsor, poster advertisement) <https://www.helicalfusion.com>
5. Nihon Air Conditioning Services Co. Ltd(日本空調サービス株式会社) <https://www.nikku.co.jp/ja/index.html>
6. Future Energy Research Association (未来エネルギー研究協会) <http://www.mirai-energy-research-association.com/mirai/mirai.html>



4.4 Company Exhibition

1. EX-Fusion(Exhibition, poster advertisement) <https://www.ex-fusion.com/>
2. Springer, <https://www.springer.com/jp>
3. ARISE technology, <https://arise-tec.com/>
4. High power Laser Science and engineering, <https://www.researching.cn/hpl>
5. National institute for Fusion Science Aurora Observation Project, <https://projects.nifs.ac.jp/aurora/en/>



4.5 Poster and Program Advertisement

1. EX-Fusion(Poster advertisement) <https://www.ex-fusion.com/>
2. Helical Fusion(Poster advertisement) <https://www.helicalfusion.com>
3. Springer Nature (Poster advertisement), <https://www.springernature.com/gp>
4. National Institute for Fusion Science(Poster advertisement), <https://www.nifs.ac.jp>
5. Hamamatsu photonics KK(Program advertisement) <https://www.hamamatsu.com/jp/ja/>
6. Plasma - an Open Access Journal by MDPI (Program advertisement) <https://www.mdpi.com/journal/Plasma>



4.6 Room Sponsor

IOP Publishing <https://iopublishing.org/> MF(Room 3)



[5] Conference Venue:

Conference will be held in-person at Main Hall, Event Hall and Convention Hall in Port Messe Nagoya in Japan (<https://portmesse.com/en>).



Main Hall,

Event Hall,

Convention Hall

5.1 Plenary Talks

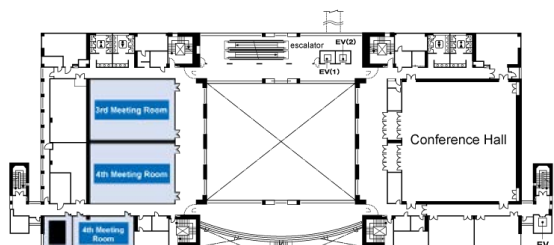
All plenary talks will be given at the Conference Hall in Main Hall building.



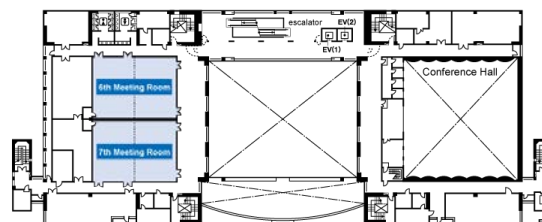
5.2 Parallel Sessions, Poster/Exhibition Sessions

There will be 9 parallel sessions in Main Hall, Event Hall, and Convention Hall.

1) Parallel session rooms in Main Hall

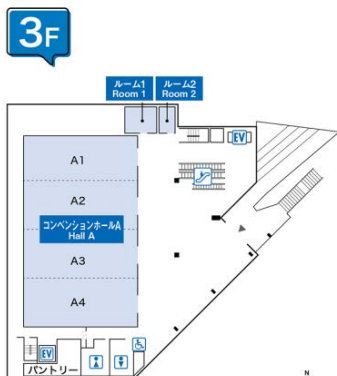


Room 3,4 (108seats each), Room5(30seats)

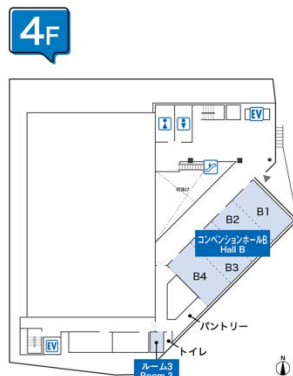


Room6-1,6-2,7-1,7-2 (54seats each)

2) Parallel session rooms in Convention Hall

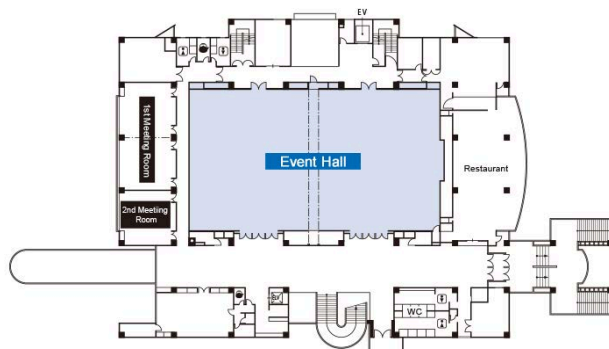


Hall A1(150seats)



Hall B1,2, B3,4 (60seats each)

3) Parallel session rooms in Event Hall



Room1(60seats) and Event Hall (Exhibition and Poster)



Poster and Exhibition session (Event Hall)

5.3 Room Arrangement

Conference will run from Sunday (12 Nov.) to Friday (17 Nov.). Sunday program is satellite WS, NIFS tour and reception. From Monday, morning sessions will be plenary sessions (no parallel session) at the main conference hall.

Conference covers following sub-disciplines of plasma physics.

CD. Cross-disciplinary, F. Fundamental plasma, B. Basic plasma, A. Applied plasma, L. Laser plasma, SG. Space / Geomagnetism plasma, SA. Solar / Astro plasma, MF. Magnetic Fusion plasma (Core & Edge), OS. Organized session

| | | Seats | 11.12 Sun | 11.13 Mon | 11.14 Tues | 11.15 Wed | 11.16 Thurs | 11.17 Fri |
|--------------------------|--------------------|-------------------|------------------|-----------------------------------|------------------------------|------------------------------|--------------------|-------------------|
| Main Hall Building | Main Hall | 300/500 | | Plenary&MF(1)/ Fusion private Sec | Plenary&MF(1) / G. Assembly | Plenary &MF(1) | Plenary &MF(1) | Plenary &MF(1) |
| | Room3 | 108 | Space WS | MF(2) WIPP(19h-21h) | MF(2) | MF(2) | MF(2) | MF(2) |
| | Room4 | 108 | | Applied(1) | Applied(1) | Applied(1) | Applied(1) | Applied(1) |
| | Room5 | 30 | | LOC/DPP | L (KR-JP) 13h-15h | L (KR-JP) 11h-13h | LOC/DPP | LOC/DPP |
| | Room6-1 | 54 | | Cross Disciplinary | Cross Disciplinary | Cross Disciplinary | Cross Disciplinary | |
| | Room6-2 | 54 | | Applied(2) | L (KR-JP) 13h-15h Applied(2) | L (KR-JP) 11h-13h Applied(2) | Applied(2) | |
| | Room 7-1 | 54 | | Space/Geomag | Space/Geomag | Space/Geomag | Space/Geomag | Space/Geomag |
| | Room7-2 | 54 | | Organized Session | Organized Session | Organized Session | Organized Session | Organized Session |
| | Waiting room2 | 16 | | LOC | LOC | LOC | LOC | LOC |
| Service center A | 63.6m ² | | Registration/LOC | Registration/LOC | Registration/LOC | Registration/LOC | Registration/LOC | |
| Event Hall Building | Room1 | 60 | | Laser | Laser | Laser | Laser | Laser |
| | Room2 | 30 | | LOC/DPP | DPP BoD(13h-14h) | LOC/DPP | LOC/DPP | LOC/DPP |
| | Event Hall | 725m ² | | Poster&Exhibit | Poster&Exhibit | Poster&Exhibit | Poster&Exhibit | |
| Convention Hall Building | Hall A1 | 150 | | Basic | Basic | Basic | Basic | Basic |
| | Hall B1,2 | 60 | | Fundamental | Fundamental | Fundamental | Fundamental | Fundamental |
| | Hall B3,4 | 60 | | Solar/Astro | Solar/Astro | Solar/Astro | Solar/Astro | Solar/Astro |

[6] Registration Fee

6.1 Registration fee

Registration fee should be paid on-line before the conference.

Conference registration site is https://www.gakkai-web.net/p/aappsdpp_reg/new1.php

In case participant can't come, paid fee will be reimbursed with some cost. At the conference site, there will be minimum peoples in charge. We will not accept payment in cash and ask on-line payment in case you have not paid on-line before so that you have to bring your valid credit card.

Member fee is applied to AAPS-DPP members and participants join DPP (no membership fee is required). Registration fee includes 1) Admission to all conference sessions and 2) Conference Materials. Coffee break and welcome reception are free of charge. All participants are also invited to welcome party on Wednesday evening at superconducting SCMAGLEV and Railway Park (<https://museum.jr-central.co.jp/en/>) with free drink, food and performance.

Registration fee increased from Oct. 1.

| | Before Sept. 30, 2023 | From Oct. 1, 2023 |
|--------------------------|-----------------------|-----------------------|
| Member/Join DPP | 60, 000 JPY (~450USD) | 70, 000 JPY (~500USD) |
| Member(Retired)/Join DPP | 26, 000 JPY (~200USD) | 35, 000 JPY (~250USD) |
| Member(Student)/Join DPP | 20, 000 JPY (~150USD) | 26, 000 JPY (~200USD) |
| Non-member | 80, 000 JPY (~600USD) | 90, 000 JPY (~650USD) |

1) No tax is levied on members , For non-members, the price includes consumption tax.

6.2 On-site Registration

Conference bag including name tag, lunch ticket, dinner ticket, etc. will be given at the on-site registration desk at three places: (A) **Port Messe Nagoya**, (B) **Welcome Reception** and (C) **NIFS** (only for NIFS tour participants).

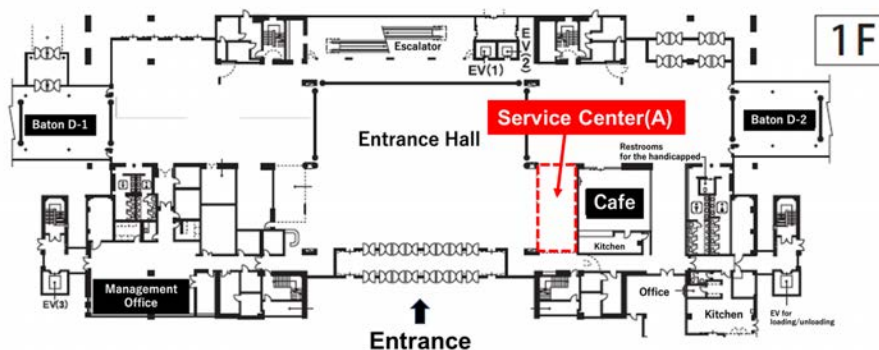
(A) **Port Messe Nagoya** On Sunday (Nov.12), 13:00-15:00 (*strongly recommended!*). From Monday(Nov.13) to Friday(Nov.17) 8:00-16:30 at the **service center A** of 1st floor of Main Hall Building.

(B) **Welcome Reception** ; see [14]

(C) **NIFS** (only for NIFS tour participants); see [22]



Main hall entrance



Plan view of main hall 1st floor (Service center A)

[7] Coffee, water, snack location

Coffee, water bottle, snacks are available at 3rd floor of main hall building, event hall, and 3rd floor of convention center as shown below.



[8] Conference Dinner

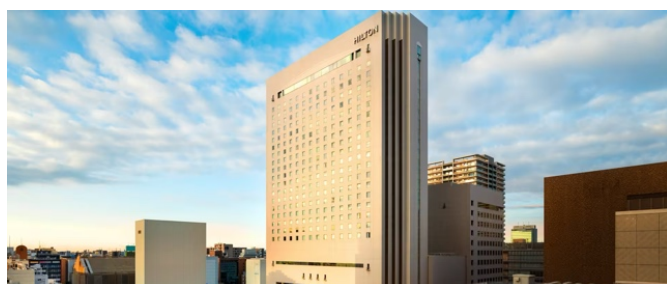
1) **Date and Time:** Thursday, November 16th, from 19:45 to 22:00

2) **Location:** Hilton Nagoya, Ohgi-no-ma(扇の間), 5th Floor

<https://www.hilton.com/en/hotels/naghitw-hilton-nagoya/hotel-location/>

3) **Conference dinner fee:** 8,000 JPY for a participant and 16,000JPY for a participant with spouse who paid during registration. Please bring banquet ticket in your conference bag to join the banquet.

4) **Transportation:** A chartered bus will be provided from Port Messe Nagoya to Hilton Nagoya, with a scheduled departure from the first floor of the Convention Hall at 18:30.



[9] How to Reach Port Messe Nagoya

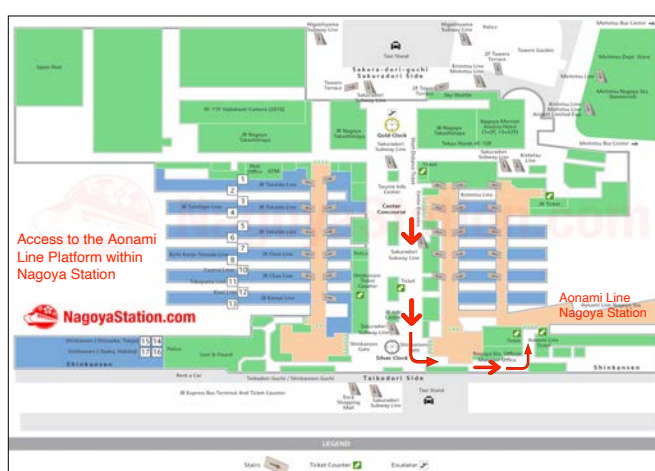
Access to Nagoya Station from airports:

If you arrive at Chubu Centrair International Airport, take Airport Express Train "μ-SKY" to Nagoya Station. <https://portmesse.com/en/access-en>. If you arrive at other Airport in Japan and no good connection to Chubu Centrair International Airport, take Shinkansen to Nagoya station.

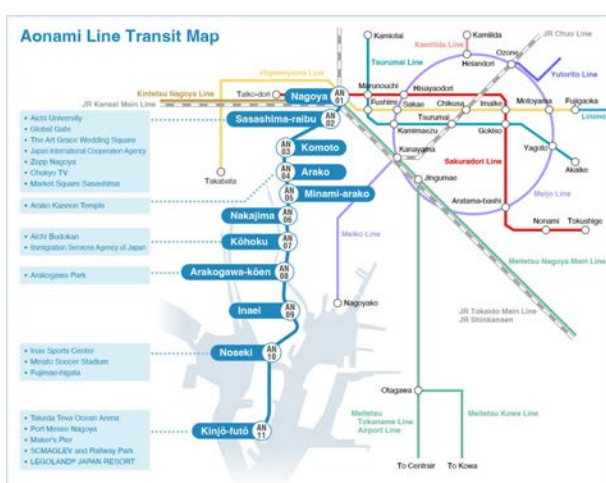
Access to Port Messe Nagoya from Nagoya Station: Take Aonami Line to reach Kinjyo-Futo Station, which takes 24 minutes. Train runs every 10 minutes between 7am to 9 am with one way fee of 360JPY. Port Messe Nagoya is 5 minutes by walk from Kinjyo-Futo Station. See also

<http://aapsdpp.org/DPP2023/html/1/about/venue.html>

From Airport



Access to the Aonami Line Platform within Nagoya Station



Aonami Line Transit Map

[10] Financial assistance : DPP supported limited number of presenters using the resource given by APCTP and ICTP. Application is closed on May 31. <http://aapsdpp.org/DPP2023/html/2/join/financial.html> Reimbursement will be made directly by the funding agency (APCTP, ICTP) for awarded participants after the conference and not on site. DPP also supported accommodation and waived registration fee for a limited number of presenters especially from developing countries and retired scientists.

[11] Contributed and Post-deadline Submissions

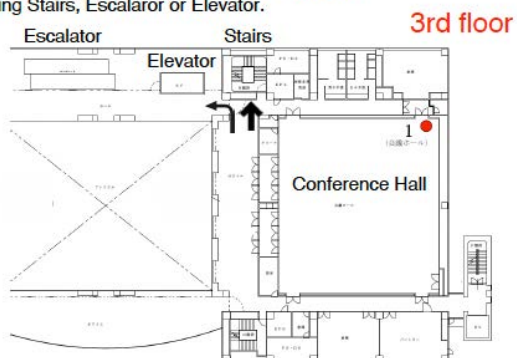
Contributed abstract submission is closed on June 15. Post deadline abstract submission is extended to September 30 at <https://www.gakkai-web.net/gakkai/aapsdpp/>. All accepted post deadline submissions are poster presentation unless oral vacancy is available.

We have "one-oral rule" so that plenary or invited or oral speakers can't give another oral talk but can give additional poster presentation either same or different contents. All poster presentations can be candidates of poster prize.

[12] Box Lunch:

Box Lunch of 1,200JPY can be reserved for Nov. 13-17 through registration homepage. Box Lunch (Yaohiko, 1,200JPY): contents changes every day (circulate 3 types).

Going down from the 3rd floor to the 2nd floor using Stairs, Escalator or Elevator.



Delivery of Box Lunches and Lunch Place on the 2nd floor of the Main Hall



[13] Restaurants near the conference venue

There are not many restaurants near the conference venue. Here is list of lunch spots near the Legoland Japan. Those are 6-7 minutes by walk from Port Messe Nagoya.

Lunch Spots near Port Messe Nagoya



Guide Map of Maker's Pier

Maker's Pier Restaurant Information

Check the website (<https://www.makerspier.com/en/shop/>) before visiting each restaurant. Please note that not all restaurants are open every day.

14 B's Cafe



32 Sure Cha



35 Sagami



42 Derauma Factory



17 Curry house CoCo Ichibanya



33 Maker's GRIDDLE



38 Gottie's beef



44 Fujiyama 55



[14] Welcome Reception and Welcome Party

14.1 Welcome Reception and Registration Desk:

Date: Sunday, November 12th, 2023

Time (Registration Desk): 17:30-21:00

Time (Welcome Reception): 18:00-21:00

Venue: Cafe & Bar Bon Reine (Web page: <https://bonreine.owst.jp/en/>)

※Due to circumstances, the venue has been changed from the first announcement.

A registration desk will be opened at the 2nd floor of the restaurant. A standing buffet-style dinner and beverage service will be provided.

Access: 8 min. walk from Sakura-dori Side of Nagoya Station



14.2 Free Welcome Party and Tour to SCMAGLEV and Railway Park:

Date: Wednesday, November 15th, 2023

Time (Registration): 18:00-18:30

Time (Tour): 18:30-20:30

Time (Party): 19:00-20:30

Venue: SCMAGLEV and Railway Park (Web page:

<https://museum.jr-central.co.jp/en/>)

Access: 5 min. walk from the conference venue, Port Messe Nagoya

※**Advance registration is required from the participation registration site, <https://forms.office.com/r/rEdsvMGX3H>.**

We expect the number of participants to be around 300, but please note that if the number of applications exceeds the planned number, we may not be able to accommodate your request. This welcome party and tour will be held as a demonstration of Pre and Post convention programs by Japan Tourism Agency(JTA).

How to get to the Venue of the Welcome Party



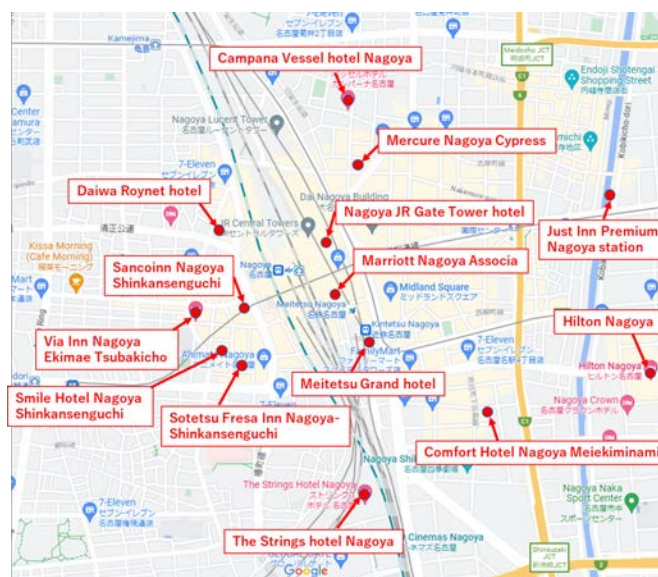
Snacks served at the welcome party



[15] Hotel List near Nagoya station (within ~1km)

For reservation, please go directly to the hotel's online reservation page or agent site. If you have any trouble of reserving your hotel, please contact LOC.

| |
|---|
| Marriott Nagoya Associa https://www.associa.com/nma/multi-lingual/?wovn=en |
| Nagoya JR Gate Tower hotel https://www.associa.com/ngh/multi-lingual/?wovn=en |
| The Strings hotel Nagoya https://www.strings-hotel.jp/nagoya/en/ |
| Hilton Nagoya https://www.hilton.com/en/hotels/naghitw-hilton-nagoya/ |
| Meitetsu Grand hotel https://www.meitetsu-gh.co.jp/en/ |
| Campana Vessel hotel Nagoya https://www.vessel-hotel.jp/campana/nagoya/ |
| Comfort Hotel Nagoya Meiekiminami https://www.choicehotels.com/japan/nagoya-city/comfort-inn-hotels/jp103 |
| Via Inn Nagoya Ekimae Tsubakicho https://www.viainn.com/en/nagoya-t/ |
| Sotetsu Fresa Inn Nagoya-Shinkansenguchi https://sotetsu-hotels.com/en/fresa-inn/nagoya-shinkansenguchi/ |
| Sancoinn Nagoya Shinkansenguchi https://www.sanco-inn.co.jp/nagoya/en/ |
| Daiwa Roynet hotel https://www.daiwaroynet.jp/en/nagoya-shinkansenguchi/ |
| Mercure Nagoya Cypress https://all.accor.com/hotel/5300/index.en.shtml |
| Just Inn Premium Nagoya station https://www.just-inn.jp/nagoyaeki/en/ |
| Smile Hotel Nagoya Shinkansenguchi https://smile-hotels.com/hotels/show/nagoyashinkansenguchi |



Plenary Sessions

Note: Further change will be reflected on Web program






















| Opening | | Chair: Kenichi Nagaoka, Nov. 13 8:30-10:00 [Main Hall] |
|----------------|--|--|
| 1 |  | 8:30-8:40: Zensho Yoshida Opening address from NIFS DG |
| 2 |  | 8:40-8:45 Abhijit Sen Opening address from AAPPS-DPP Chair |
| 3 |  | 8:45-8:50 Mitsuru Kikuchi Opening address from AAPPS-DPP CEO |
| 4 |  | 8:50-9:05 Kunioki Mima U30 award ceremony |
| 5 |  | 9:05-9:20 Katsumi Ida U40 award ceremony |
| 6 |  | 9:20-9:35 Rajdeep Rawat PIP prize ceremony |
| 7 |  | 9:35-9:50 Rajaraman Ganesh Chandrasekhar prize ceremony |
| 8 |  | 9:50-10:00 TechYong Tou (President of Malaysian Institute of Physics) Invitation to AAPPS-DPP2024 |

Photo break [LOC]

| Plenary 1 | | Chair: R. Ganesh, R. Rawat, Y. Feng, K. Mima, JM. Kwon, Nov. 13 10:40-13:10 [Main Hall] |
|------------------|---|---|
| PL-1 |  | Katsumi Ida (National Institute for Fusion Science, Chandrasekhar Laureate) Experimental discoveries of a variety of turbulent states of magnetic fusion plasma |
| PL-2 |  | Takayuki Watanabe (Kyushu University, Plasma Innovation Laureate) Thermal Plasma Generation for Innovative Materials Processing |
| PL-3 (B) |  | Lin I (National Central University) Multi-scale cooperative micro-motion and structural rearrangements in cold dusty plasma liquids |
| PL-4 (L) |  | Michael Campbell presented by John Edword (University of Rochester) 40 years of science on ICF: Conception to Scientific Breakeven on the NIF |
| PL-5 (MF) |  | Bin Zhang (Institute of Plasma Physics, Chinese Academy of Science) Long-Pulse High Performance Plasmas towards ITER and CFETR Steady-State Operation in EAST |





| | | |
|------------------|---|--|
| Plenary 2 | | Chair: R. Matsumoto, T-H Watanabe, P. Diamond, K. Mima, PJ Morrison , Nov. 14 8:30-10:30 [Main Hall] |
| PL-6 (SA) |  | Feng Yuan (Shanghai Astronomical Observatory) Outflow from black hole accretion flows |
| PL-7 (B) |  | Kohji Yoshikawa (University of Tsukuba) Vlasov simulation in 6-dimensional phase space for cosmological neutrinos and its application to astrophysical magnetized plasma |
| PL-8 (CD) |  | Rahul Pandit (Indian Institute of Science, Bangalore) Elastic and Binary-fluid Turbulence: An overview |
| PL-9 (F) |  | Adelle Wright (Princeton Plasma Physics Laboratory) Innovations in high-fidelity magnetohydrodynamic modelling for advanced stellarators |





Coffee break

| | | |
|------------------|---|--|
| Plenary 3 | | Chair: K. Nagaoka, T. Yamada, F. Waelbloek, P. Yoon, Nov. 14 11:00-13:00 [Main Hall] |
| PL-10 (OS) |  | Gerardo Giruzz (CEA) Non-Maxwellian electron distribution functions in magnetized fusion plasmas |
| PL-11 (B) |  | Qiuyue Nie (Harbin Institute of Technology) Introduction to SESRI-SPERF, Fundamental Design and Research |
| PL-12 (MF) |  | Akinobu Matsuyama (Kyoto University) Mixed hydrogen-neon pellet injection in toroidal plasmas – theory and observation |
| PL-13 (SG) |  | Iver Cairns (University of Sydney) A New Ion beam Instability and Radio Emission Driven by Shocks |





| | | |
|------------------|---|--|
| Plenary 4 | | Chair: M. Shiratani, Y. Omura, W. Heidbrink, H. Suk, Nov. 15 8:30-10:30 [Main Hall] |
| PL-14 (A) |  | Masaru Hori (Nagoya University) Booming Low-temperature Plasma Sciences for a Creation of New Value |
| PL-15 (SG) |  | Quanqi Shi (Shandong University) The lunar tide observed in Earth's magnetosphere |
| PL-16 (OS) |  | Dmitri Orlov (UCSD) Crossover of Space Exploration and Fusion Research: Spacecraft Heat Shields and Meteoroids in the DIII-D tokamak |
| PL-17 (L) |  | Chang Hee Nam (IBS&GIST) Nonlinear Compton Scattering between a Laser-Accelerated multi-GeV Electron Beam and an Ultrahigh Intensity Laser |

Coffee break





| | | |
|------------------|---|--|
| Plenary 5 | | Chair: H. Yamada, B. Schmieder, Wonho Choe, MJ. Choi, Nov. 15 11:00-13:00 [Main Hall] |
| PL-18 (MF) |  | Filippo Scotti (Lawrence Livermore National Laboratory) Detachment and scrape-off layer radial transport characterization in Negative Triangularity discharges in DIII-D |
| PL-19 (SA) |  | Shin Toriumi (Japan Aerospace Exploration Agency) Understanding the universal heating mechanism of solar and stellar atmospheres |
| PL-20 (A) |  | Xiaolei Fan (University of Manchester) A reflection on rational design of catalysts for non-thermal plasma (NTP) catalysis |
| PL-21 (CD) |  | Yasmin Andrew (Imperial College in London) Information Geometry Analysis of H-mode transitions |

| | | |
|------------------|---|--|
| Plenary 6 | | Chair: JL. Han, W. Wang, P. Yoon, R. Ding, Nov. 16 8:30-10:30 [Main Hall] |
| PL-22 (SA) |  | Dongsu Ryu (Ulsan National Institute of Science and Technology) Shock Waves in the Hot Plasma of Galaxy Clusters |
| PL-23 (L) |  | Yutong Li (Institute of Physics, Chinese Academy of Sciences) Femtosecond time-resolved dynamics of fast electrons in relativistic laser-foil interactions |
| PL-24 (SG) |  | Satyavir Singh (Indian Institute of Geomagnetism, Navi Mumbai) Generation of Kinetic Alfvén Waves in the magnetosphere |
| PL-25 (MF) |  | Jayhyun Kim (KFE) Overview of KSTAR research towards DEMO |





Coffee break





| | | |
|------------------|---|---|
| Plenary 7 | | Chair: TS. Hahm, A. Chian, Tao Shao, YD Yoon, Nov. 16 11:00-13:00 [Main Hall] |
| PL-26 (CD) |  | Shin-ichi Takehiro (Kyoto University) Band structure formation in rotating systems |
| PL-27 (F) |  | Fatima Ebrahimi (Princeton Plasma Physics Laboratory) Magnetic reconnection: From compact fusion to plasma propulsion |
| PL-28 (A) |  | Sudeep Bhattacharjee (Indian Institute of Technology, Kanpur) Plasma potential fluctuations in cold micro-plasma jets : interactive surface feedback effects on reactive species generation |
| PL-29 (OS) |  | Troy Carter (UCLA) Fusion Science and Technology Studies on the Basic Plasma Science Facility |

PL-29: cancelled

| | | |
|------------------|---|--|
| Plenary 8 | | Chair: Y. Omura, T. Shao, C. Sung, I. Murakami, Nov. 17 8:30-10:30 [Main Hall] |
| PL-30 (SG) |  | Shuichi Matsukiyo (Kyushu University) Effects of heliospheric boundary in the behaviors of galactic and anomalous cosmic rays |
| PL-31 (A) |  | Yi Wu (Xi'an Jiaotong University) Electrical arc behavior, controlling and their applications in switchgear |
| PL-32 (OS) |  | Alexander Knieps (Forschungszentrum Jülich GmbH) Stochastization effects in magnetized 3D plasmas |
| PL-33 (B) |  | Yuri Ralchenko (National Institute of Standards and Technology) Collisional-radiative modeling for plasma population kinetics and spectroscopy |

Coffee break

| | | |
|------------------|---|---|
| Plenary 9 | | Chair: K. Itoh, S. Fujioka, R. Dewar, JL. Han, Nov. 17 11:00-13:00 [Main Hall] |
| PL-34 (CD) |  | Nobu Yokoi (The University of Tokyo) Non-equilibrium Turbulence Effect on Plumes |
| PL-35 (L) |  | Jerome Faure (Ecole Polytechnique) Observation of carrier-envelope phase effects in a high-repetition rate laser-plasma accelerator |
| PL-36 (F) |  | Philip Morrison (University of Texas at Austin) The metriplectic 4-bracket: An inclusive framework for consistently joining Hamiltonian and dissipative systems |
| PL-37 (SA) |  | Huirong Yan (Universität Potsdam) Compressible MHD turbulence and Cosmic Ray transport |

| | | |
|-------------------|---|--|
| Plenary 10 | | Chair: R.Pandit, F. Zonca, A. Sen, M. Kikuchi, Nov. 17 16:30-18:30 [Main Hall] |
| PL-38 (F) |  | Hideaki Miura (NIFS) Statistical and structural properties of Hall MHD turbulence |
| PL-39 (M F) |  | Jeronimo Garcia (CEA) JT-60SA Status and advances towards the initial operational phases |
| PL-40 (F) |  | Richard Sydra (University of Alberta) Poster Prize |
| PL-41 |  | Rajdeep Singh Rawat (Nanyang Technological University) Closing |

Topical Sessions

Note: Further change will be reflected on Web program

Cross Disciplinary Session

Cross Disciplinary Program Committee

P.H. Diamond (Chair, UCSD), Eunjin Kim(Vice chair, Coventry U.), T.S. Hahm(Vice chair, SNU), Xavier Garbet(CEA), Steve Tobias(U. Leeds), Zhibin Guo(PKU), Amita Das(IIT, Delhi), Yusuke Kosuga(Kyushu Univ.), Lu Wang(HUST)

CD-1 Mesoscale Dynamics [Chair: Gyungjin Choi] 14:00-16:00, Nov. 13 [Room6-1]

| | |
|--------------------------|--|
| CD-1-TP1 40min | Minjun Choi (Korea Institute of Fusion Energy) Characterization of fluctuation and transport in KSTAR edge plasmas using the information-theoretic methodology |
| CD-1-TP2 40min | Patrick Diamond(UC San Diego) Elucidating Mesoscopic Dynamics Thru Simple Systems |
| CD-1-TP3 40min | Ting Long(Southwestern Institute of Physics) Turbulence spreading and flow shearing dynamics in high density operation |

CD-3 Zonal Flow Dynamics [Chair: Lei Qi] 14:00-15:55, Nov. 14 [Room6-1]

| | |
|-------------------------|--|
| CD-3-I1 25min | Taik Soo Hahm(Seoul National University) Zonal flow generation in the presence of fast ions |
| CD-3-I2 25min | Weixin Guo(Huazhong University of Science and Technology) Effects of α particles on plasma confinement and the removal of helium ash in the burning plasmas |
| CD-3-I3 25min | Qinghao Yan(Southwestern Institute of Physics) Saturation mechanism for energetic particle induced zonal structure |
| CD-3-I4 25min | Cong Meng(Southwestern Institute of Physics) Vorticity wave interaction and exceptional points in shear flow instabilities |
| CD-3-O1 15min | Laila Kahlon(Forman Christian College (a Chartered University)) Zonal flow generation by small-scale drift- ion-acoustic waves in electron-positron-ion plasmas |

CD-4 Noise [Chair:Yusuke Kosuga] 16:30-18:10, Nov. 14 [Room6-1]

| | |
|-------------------------|--|
| CD-4-I1 25min | Eun-jin Kim(Coventry University) Effects of Stochastic Noises on Limit-Cycle Oscillations and Power Losses in Magnetically confined Plasmas and Information Theory |
| CD-4-I2 25min | Geert Verdoolaege (Ghent University) An intrinsically probabilistic approach to analyzing stochasticity and uncertainty in fusion plasmas using information geometry |
| CD-4-I3 25min | Patrick Fuller (University of Warwick) Stochastic prey-predator theory of the L-H transition in fusion plasmas -- time-dependent statistical analysis and information theory |
| CD-4-I4 25min | Yohei Masada (Fukuoka University) Modeling Convection and Transport in the Sun |

CD-5 Magnetic Island-Turbulence Interaction [Chair:M.J. Choi] 14:00-16:05, Nov. 15 [Room6-1]

| | |
|-------------------------|--|
| CD-5-I1 25min | Min Jiang (Southwestern Institute of Physics) Interaction between magnetic island and turbulence and its impact in facilitating plasma disruption |
| CD-5-I2 25min | Gyungjin Choi (Seoul National University) On time evolution of self-generated vortex flows in a tokamak magnetic island |
| CD-5-I3 25min | Mingyun Cao (University of California, San Diego) Ballooning Mode in a Stochastic Magnetic Field---A Quasi-mode Model |
| CD-5-I4 25min | Yi Zhang (Southwestern Institute of Physics, U30 winner) Bifurcation of coherent vortex flow in a magnetic island through nonlinear parity instability |
| CD-5-I5 25min | Zhangsheng Huang (Huazhong University of Science and Technology) The effects of three-dimensional magnetic perturbations and finite beta on collisionless trapped electron mode and ion temperature gradient mode instabilities in tokamak plasmas |

CD-6 (Dynamical Processes) [Chair: Ting Long] 16:30-18:30, Nov. 15 [Room6-1]

| | |
|-------------------------|---|
| CD-6-I1 25min | Xiaobo Li (Peking University) Formation, Propagation and Conversion of Transport Barriers Triggered by Dynamical Critical Gradient in Tokamak Plasmas |
| CD-6-I2 25min | Shogo Isayama (Kyushu University) Relativistic particle acceleration in two-dimensional Alfvén wave turbulence |
| CD-6-I3 25min | Takumi Onchi (Kyushu University) Measuring permutation entropy and statistical complexity in plasma |
| CD-6-O1 15min | Jianfu Liu (Kyoto University) Impact of Safety Factor Curvature on Mode Characteristics and Transport in Reversed Shear Plasmas with Internal Transport Barrier |
| CD-6-O2 15min | Thomas Ashton-Key (Imperial College London) Magnetic Behaviour and Information Geometry Across the L-H Transition |
| CD-6-O3 15min | Joerg Buechner (Max-Planck-Institute for Solar System Research) Current sheet formation and reconnection in collisionless turbulent plasmas |

CD-7 Gyrokinetics (joint with MF) [Chair: Wei-Xin Guo] 14:00-16:15, Nov. 16 [Room6-1]

| | |
|--------------------------|--|
| CD-7-TP1 40min | Zhihong Lin (University of California, Irvine) Role of cross-scale coupling in energetic particle transport |
| CD-7-I1 25min | Shinya Maeyama (Nagoya University, U40 winner) Cross-scale interactions between trapped electron mode and electron-temperature-gradient-driven turbulence |
| CD-7-I2 25min | Lei Qi (Korea Institute of Fusion Energy) Role of isotopes in microturbulence from linear to saturated Ohmic confinement regimes |
| CD-7-O1 15min | Kotaro Fuji (Nagoya University) Oscillatory behavior of low-frequency fluctuations in gyrokinetic simulations |
| CD-7-O2 15min | Tetsuji Kato (The University of Tokyo) Comparison of collisional and turbulent energy exchanges between ions and electrons in tokamak plasmas |
| CD-7-O3 15min | Yifei Liu (Institute of Plasma Physics, Chinese Academy of Sciences) Gyro-Landau-fluid simulations of impurity effects on ion temperature gradient driven turbulence transport |

CD-8 (Fusion-relevant Physics) [Chair: Eun-jin Kim] 16:15-18:00, Nov. 16 [Room6-1]

| | |
|-------------------------|--|
| CD-8-I1 25min | Wenjing Tian(Tsinghua University) The Influence of Cross-Phase on Turbulent Transport of Toroidal Momentum |
| CD-8-I2 25min | Di Hu(Beihang University) Drift surface solver for runaway electron current dominant equilibria |
| CD-8-I3 15min | Tong Liu(Dalian University of Technology) Enhancement of ECCD by current condensation effect for stabilizing large magnetic islands caused by neoclassical tearing mode in tokamak plasmas |
| CD-8-O1 15min | Rui Zhao(Kyoto University) Characteristics of global micro-instabilities in L-mode states consistent with JT-60U reversed magnetic shear plasmas |
| CD-8-O2 15min | Wenqing Hu(SOKENDAI) Non-linear analyses for phase coupling between density and magnetic fluctuations on H-mode plasma in LHD |

Fundamental Plasma Physics

“Fundamental” covers 1. Mathematical plasma physics, 2. MHD and Reconnection, 3. Kinetic MHD, 4. Plasma turbulence, 5. Gyro kinetic, 6. NC transport, 7. Turbulent transport, 8. Current Drive, 9. Relativistic plasma physics, etc.

Fundamental Program Committee:

Robert Dewar (Chair, ANU), P.J. Morrison (Vice chair, U. Texas at Austin), Susanna Cappello (Consorzio RFX), Fatima Ebrahimi (PPPL), Zhisong Qu (NTU), Anna Tenerani (U. Texas at Austin), Naoki Sato (U. Tokyo), Abraham Chian (U. Adelaide), Hogun Jhang (KFE), Ding Li (IOP-CAS), Hideo Sugama (NIFS), Arnab Rai Choudhuri (IISc)

F-1 Quasilinear and wave-particle transport [Chair: Richard Sydra] 14:00-16:10, Nov. 13 [Hall B1,2]

| | |
|------------------------|--|
| F-1-I1 25min | Alain Brizard (Saint Michael's College) Hamiltonian formulations of quasilinear theory for magnetized plasmas |
| F-1-I2 25min | Vinicius Duarte (Princeton Plasma Physics Laboratory) Formulation of a self-consistent reduced transport theory for discrete plasma waves near their instability threshold |
| F-1-I3 25min | Daniel Crews (Zap Energy, Inc.) Quasilinear and nonlinear simulation of the electron bump-on-tail instability |
| F-1-I4 25min | Fabio Sattin (Consorzio RFX) Thresholdless stochastic particle heating by a single wave: Theory and application to RFP ion heating during magnetic reconnections |
| F-1-O1 15min | Zhisong Qu (Nanyang Technological University) Frequency chirping in the early stage of a near-threshold bump-on-tail instability |
| F-1-O2 15min | Hogun Jhang (Korea Institute of Fusion Energy) An extended form of the gyro-averaging operator in the presence of finite magnetic field variation |

F-2 Reconnection [Chair: Fatima Ebrahimi] 16:30-18:40, Nov. 13 [Hall B1,2]

| | |
|------------------------|---|
| F-2-I1 25min | Yasushi Ono (University of Tokyo) Merging of Two Tokamak Plasmas for High-Power Ion Heating, Magnetic Helicity Injection and Plasma Flow-Drive |
| F-2-I2 25min | Moe Akimitsu (National Institutes for Quantum Science and Technology (QST)) Multiple Blob Formation in Current Sheet of Merging Tokamak Plasmas |
| F-2-I3 25min | Tara Ahmadi (The University of Tokyo) Intermittent Merging Operation of Spherical Tokamak Plasmas |
| F-2-I4 25min | Hiroshi Tanabe (University of Tokyo) Asymmetric fine structure formation of guide field reconnection in merging spherical tokamak formation experiments |
| F-2-O1 15min | Ritoku Horiuchi (National Institute for Fusion Science) Profile relaxation by merging of two spherical-tokamak-type plasmoids |
| F-2-O2 15min | Ryo Someya (University of Tokyo) Reconnection Outflow Measurement in Tokamak Merging Experiment |

F-3 Turbulence & chaos [Chair: Yohei Kawazura] 14:00-16:10, Nov. 14 [Hall B1,2]

| | |
|------------------------|--|
| F-3-I1 25min | Hongxuan Zhu (Princeton Plasma Physics Laboratory) Intrinsic toroidal rotation in tokamaks from global total-f gyrokinetic simulations |
| F-3-I2 25min | Michael Leconte (Korea Institute of Fusion Energy) Island-induced transport barrier due to turbulence-driven Vortex-Flow |
| F-3-I3 25min | Punit Kumar (University of Lucknow) Turbulence and chaos in quantum plasma |
| F-3-I4 25min | Takeshi Matsumoto (Kyoto University) Linear response function and its time scale |
| F-3-O1 15min | Yao-Li Liu (National Cheng Kung University) The power-law electron acceleration by Levy jumps in turbulent wakefield |
| F-3-O2 15min | Hideo Sugama (National Institute for Fusion Science) Local Momentum Balance in Electromagnetic Gyrokinetic Turbulence |

F-4 Particle & hybrid approaches [Chair: Phillip Morrison] 16:30-18:25, Nov. 14 [Hall B1,2]

| | |
|------------------------|--|
| F-4-I1 25min | Ding Li (Institute of Physics, Chinese Academy of Sciences) Impact of magnetic field on the parallel resistivity |
| F-4-I2 25min | Maria Elena Innocenti (Ruhr-Universität Bochum) Heat flux regulation by kinetic instabilities |
| F-4-I3 25min | Dimitrios Kaltsas (International Hellenic University) Construction of chaotic and integrable equilibria for a hybrid Vlasov-Maxwell system |
| F-4-I4 25min | Madhurjya P Bora (Gauhati University) Response of a complex plasma to external charge perturbations |
| F-4-O1 15min | Haotian Chen (Southwestern Institute of Physics) On Gyrokinetic-Fluid Model for Electromagnetic Fluctuations in Magnetized Plasmas |

F-5 Fluid theory including relativistic [Chair: Masaru Furukawa] 14:00-15:55, Nov. 15 [Hall B1,2]

| | |
|------------------------|---|
| F-5-I1 25min | Yohei Kawazura (Tohoku University) Hall magnetohydrodynamics in relativistically strong mean magnetic field |
| F-5-I2 25min | Makoto Hirota (Tohoku University) Extended magnetohydrodynamic approach to plasma-vacuum interface |
| F-5-I3 25min | Naoki Sato (The University of Tokyo) On the Grad conjecture in anisotropic MHD |
| F-5-I4 25min | Robert Dewar (Australian National University) Lagrange Multiplier Formulation of Ideal Magnetohydrodynamics (IMHD) |
| F-5-O1 15min | Peifeng Fan (Anhui University) High-order field theory and weak Euler-Lagrange-Barut equation for classical relativistic particle-field systems |

F-6 Astro & Space [Chair: Francesco Pegoraro] 16:30-18:00, Nov. 15 [Hall B1,2]

| | |
|------------------------|---|
| F-6-I1 25min | Ben Snow (University of Exeter) Shock Identification and classification in magnetohydrodynamic (MHD) Turbulence |
| F-6-I3 25min | Shunsuke Usami (National Institute for Fusion Science) Pseudo-Maxwellian and Ring Velocity Distributions in Magnetic Reconnection |
| F-6-I4 25min | Keiichiro Nunotani (The University of Tokyo) Clebsch representation and generalized enstrophy for relativistic plasma |
| F-6-O1 15min | Charles Arrowsmith (University of Oxford) Astrophysically relevant pair plasma experiments at CERN |

F-7 Zonal flow, wave-wave & wave-particle interaction [Chair: Zhisong Qu] 14:00-15:55, Nov. 16 [Hall B1,2]

| | |
|------------------------|---|
| F-7-I1 25min | Kiori Obuse (Okayama University) Formation of zonal flow and Rossby wave nonlinear interactions in two-dimensional turbulence on a rotating sphere |
| F-7-I2 25min | Byungjun Kang (National Institute for Fusion Science) Gyrokinetic studies of electrostatic drift instability driven by fast ion precession in burning plasmas |
| F-7-I3 25min | Xingquan Wu (Institute of Plasma Physics, Chinese Academy of Sciences) Drift-kinetic perturbed Lagrangian for low-frequency nonideal MHD applications |
| F-7-I4 25min | Liu Chen (Zhejiang University) On Nonlinear Scatterings between Drift Waves and Toroidal Alfvén Eigenmodes in Tokamak Plasmas |
| F-7-O1 15min | Stephen Vincena (University of California, Los Angeles) Production of small cross-field structures via three-wave coupling of shear Alfvén waves and kink waves |

F-8 Novel simulation methods [Chair: Vinicius Duarte] 14:10-17:50, Nov. 16 [Hall B1,2]

| | |
|------------------------|---|
| F-8-I1 25min | William Barham (University of Texas at Austin) A Hamiltonian model and its structure preserving discretization of the ponderomotive force in 1D |
| F-8-I2 25min | Francesco Pegoraro (University of Pisa) Kinetic closure with a charged disk model |
| F-8-I3 25min | Seiki Saito (Yamagata university) Emission of high rovibrational molecules from tungsten divertor |
| F-8-I4 15min | Richard Sydora (University of Alberta) Gyrokinetic simulation of chaotic cross-field electron transport in high wavenumber shear Alfvén wave fields and comparison with experiments |

F-9 Relaxation toward equilibrium & AI [Chair: Naoki Sato] 14:00-15:30, Nov. 17 [Hall B1,2]

| | |
|------------------------|--|
| F-9-I1 25min | Takayoshi Sano (Osaka University) Richtmyer-Meshkov Instability in Magnetized Plasmas |
| F-9-I3 25min | Young Dae Yoon (Asia Pacific Center for Theoretical Physics) Relaxation process of fundamental magnetized plasma structures |
| F-9-I4 25min | Jagannath Mahapatra (Institute for Plasma Research) Force-free magnetic island coalescence instability and Shear flow effects |
| F-9-O1 15min | Masaru Furukawa (Tottori University) Change of relaxation path by inclusion of Hamiltonian dynamics to simulated annealing of reduced magnetohydrodynamics |

Basic Plasma Physics

“Basic” covers 1. Plasma Simulation, 2. Strongly-coupled& Dusty& Quantum plasmas, 3. Atomic& Molecular in plasma for astro/solar/space, laser, low temp and fusion applications, 4. Plasma Diagnostics, 5. Non-neutral plasma, 7. Plasma propulsion, 8. Plasma source and plasma heating system, etc. Basic will have focused sessions on 1. Massive computational plasma physics, 2. Strongly-coupled, and 3. Atomic& Molecular in plasma

Basic Program Committee:

Sudeep Bhattacharjee(Chair, IIT-Kanpur), Takuma Yamada (Vice chair, Kyushu U.), Zhibin Guo (PKU), Fernando Haas (Vice chair, UFRGS), Tito Mendonca(U. Lisbon), Yan Feng(Vice chair, Soochow U.), R. Ganesh (IPR), T-H Watanabe(Vice chair, Nagoya U.), Xueqiao Xu(LLNL), Izumi Murakami(Vice chair, NIFS),Cormac Corr (ANU), M. Nishiura(Vice, NIFS), Choongki Sung(KAIST), Kazunori Takahashi (Vice, Tohoku U.), Debaprasad Sahu (IIT-Delhi)

B-1 Dusty Plasma [Chair:Sudeep Bhattacharjee, Yan Feng] 14:00-16:10, Nov. 13 [Hall A1]

| | |
|------------------------|--|
| B-1-I1 25min | Yan Feng (Soochow University) Dynamical crossover from liquid to gas-like state in dusty plasmas |
| B-1-I2 25min | Sanat Tiwari (Indian Institute of Technology Jammu) Kinetic modelling of Rayleigh-Taylor instability and turbulent mixing in strongly coupled dusty plasmas |
| B-1-I3 25min | Fernando Haas(Federal University of Rio Grande do Sul) Compton Scattering in Quantum Plasmas |
| B-1-I4 25min | Swarnima Singh (Institute for Plasma Research, U30 winner) Breaking the Hexagonal Lattice Barrier: Experimental Achievement of Square Lattice Formation in 2D Dusty Plasma Crystal |
| B-1-O1 15min | Saba Majeed Gondal(University of Engineering and Technology) Multiscale self-organized triple Beltrami states in four-component dusty plasmas |
| B-1-O2 15min | Samiran Das(Central Institute of Technology Kokrajhar) Role of magnetic field in propagation of Dust-Ion Acoustic (DIA) solitary waves in a multi-species dusty plasma with Cairn’s distributed electrons and quantum effect in inertia less electrons |

B-2 Basic Plasma Experiments [Chair:Takuma Yamada, Zhibin Guo] 16:30-18:40, Nov. 13 [Hall A1]

| | |
|------------------------|--|
| B-2-I1 25min | Yuichi Kawachi (Kyoto Institute of Technology) Observation of spatiotemporal dynamics of high wavenumber turbulence in a linear magnetized plasma |
| B-2-I2 25min | Mikhail Shneider (Princeton University) Dynamic Plasma Contraction of the Weakly Ionized Non-Equilibrium Molecular Flow |
| B-2-I3 25min | Chengxun Yuan (Harbin Institute of Technology) The nonlinear dynamic behaviors in an undriven direct current glow discharge: bifurcation-remerging process, intermittency and hysteresis |
| B-2-I4 25min | Aohua Mao (Harbin Institute of Technology) Three-dimensional reconnection studies for SPERF-AREX experiments |
| B-2-O1 15min | Kazuma Emoto (Himachal Pradesh University) Effects of high-energy electrons on the low- and high-temperature plasma expansion in the divergent magnetic fields |
| B-2-O2 15min | Hao Liu (Southwestern Institute of Physics) Inward particle transport driven by low-frequency modes in cylindrical magnetized plasma |

B-3 Plasma Sources and Plasma Simulation [Chair: Kazunori Takahashi, Debaprasad Sahu] 14:00-16:10, Nov. 14 [Hall A1]

| | |
|------------------------|---|
| B-3-I1 25min | Taisei Motomura (National Institute of Advanced Industrial Science and Technology (AIST)) Suppression of substrate temperature by balanced magnetron plasma sputtering source |
| B-3-I2 25min | Atsushi Okamoto (Nagoya University) Volumetric recombination of high density plasma in converging field following an ECR plasma source |
| B-3-I3 25min | Ramesh Narayanan (Indian Institute of Technology, Delhi) The effect of magnetic field configurations in ion beam generation using a Compact ECR plasma source |
| B-3-I4 25min | Haruhisa Nakano (National Institute for Fusion Science) Basic research on negative ion source for fusion using FA, RF and hybrid ion sources |
| B-3-O1 15min | Liang Xu (Soochow University) Particle-based simulations of rotating spokes in radio frequency magnetron discharges |
| B-3-O2 15min | Shinji Koide (Kumamoto University) Formation of intermediate shock in nonlinear Alfvén wave and plasma heating |

B-4 Plasma Diagnostics and Plasma Theory [Chair: Masaki Nishiura, Sudeep Bhattacharjee] 16:30-18:40, Nov. 14 [Hall A1]

| | |
|------------------------|---|
| B-4-I1 25min | Koichi Kan (National Institutes for Quantum Science and Technology (QST)) Ultrafast observation of the Lorentz transformation around a relativistic electron beam |
| B-4-I2 25min | Zhang Ling (Institute of Plasma Physics, Chinese Academy of Sciences) Recent progress on high-Z impurity diagnostics development and tungsten transport study on EAST tokamak |
| B-4-I3 25min | Akio Sanpei (Kyoto Institute of Technology) Estimation of three-dimensional emissivity distribution with multi-imaging technique |
| B-4-I4 25min | Yong Un Nam (Korea Institute of Fusion Energy) Interferometer Systems on KSTAR |
| B-4-O1 15min | Haibao Zhang(Beijing Institute of Graphic Communication, also BP-6) Blue core phenomena in nonuniform helicon plasma |
| B-4-O2 15min | Jingfeng Yao (Harbin Institute of Technology) Study of low pressure gas discharge plasma by using nonlocal approximation |

B-5 Plasma Simulation [Chair:Tomo-Hiko Watanabe/Xueqiao Xu, Shinya Maeyama] 14:00-16:10, Nov. 15 [Hall A1]

| | |
|------------------------|--|
| B-5-I1 25min | Weixing Wang (Princeton Plasma Physics Laboratory) On plasma self-driven current in the context of tokamak steady state operation |
| B-5-I2 25min | Nami Li (Lawrence Livermore National Laboratory) SOL Width Expansion driven by Fluctuation Energy Intensity Flux |
| B-5-I3 25min | Rei Kawashima (Shibaura Institute of Technology) Numerical Analysis of the Gradient Drift Instability and its Control in Hall Thruster Plasmas |
| B-5-I4 25min | Yutaro Nakajima (Kyoto Institute of Technology) Numerical analysis of time-evolution starting from equilibrium states of electrically non-neutral two-fluid plasmas by 2D3V PIC simulation |
| B-5-O1 15min | Swapnali Khamaru(Institute for Plasma Research) Ion-driven electron cloud dynamics in a non-axisymmetric torus: A 3D3V Particle-in-Cell study |
| B-5-O2 15min | Takayuki Umeda (Nagoya University) Recent advances in numerical schemes for plasma particle-in-cell simulations |

B-6 Basic Plasma Experiments [Chair:Zhibin Guo, Takuma Yamada] 16:30-18:40, Nov. 15 [Hall A1]

| | |
|------------------------|--|
| B-6-I1 25min | Tianchao Xu (Peking University) Investigation of inward particle flux formation in the PKU Plasma Test (PPT) device |
| B-6-I2 25min | Cormac Corr (Australian National University) Research Activities at the Magnetised Plasma Interaction Experimental Facility |
| B-6-I3 25min | Hong Yu Chu(National Chung Cheng University) A 10-cm long atmospheric pressure filamentary discharge produced in helium spiral vortex |
| B-6-I4 25min | Subir Biswas(Institute of Advanced Study in Science and Technology) Investigation of Ionization Instability in a Linear Plasma Device |
| B-6-O1 15min | Ayesha Nanda(Indian Institute of Technology Kanpur, also BP-26) Energy exchange in a compact dipole plasma: thermodynamical investigations through measurements and modeling |
| B-6-O2 15min | Bryan Teo (Australian National University) Investigating the temperature dependence of helium bubble dynamics in plasma exposed tungsten via in-situ TEM annealing |

B-7 Atomic and Molecular Physics and Plasma Wall Interaction [Chair: Izumi Murakami, Cormac Corr] 14:00-16:10, Nov. 16 [Hall A1]

| | |
|------------------------|---|
| B-7-I1 25min | Masaomi Tanaka (Tohoku University) Heavy element atomic data for multi-messenger observations of neutron star mergers |
| B-7-I2 25min | Mayur Kakati (Centre of Plasma Physics-IPR, Sonapur) Studies on the retarded recrystallization of tungsten in the CPP-IPR CIRCLE-PSI device |
| B-7-I4 25min | Maryna Bilokur (Australian National University) High entropy alloys in advanced nuclear applications |
| B-7-O1 15min | Yun-Xuan Zhang (National Central University) Screw dislocation dynamics in the transient relaxation of confined Yukawa liquids after quenching |
| B-7-O2 15min | Mamta Yadav(Indian Institute of Technology, Delhi) Formation and dynamics of structures in strongly coupled medium driven by electrostatic interactions |

B-8 Quantum Plasma and Plasma Theory [Chair: Rajaraman Ganesh, Jose Tito Mendonca] 16:10-17:40, Nov. 16 [Hall A1]

| | |
|------------------------|---|
| B-8-I2 25min | Rozina Chaudhary(Lahore College of Women University) Signatures of quantum effects on the nonlinear Landau damping of transverse electromagnetic waves in degenerate plasma |
| B-8-I3 25min | Supratik Banerjee(Indian Institute of Technology, Kanpur) A new universal mechanism for the turbulent relaxation in incompressible fluids and plasmas |
| B-8-I4 25min | Rajaraman Ganesh (Institute for Plasma Research) Dynamical Phase Transitions in Active Complex Plasma |
| B-8-O1 15min | Subhasish Bag(Indian Institute of Technology Delhi, also BP-7) One dimensional studies of electrostatic modes in microplasma |

B-9 Dusty Plasma and Plasma Sources [Chair: Sudeep Bhattacharjee, Rajaraman Ganesh] 14:00-16:10, Nov. 17 [Hall A1]

| | |
|------------------------|---|
| B-9-I1 25min | Suruj Jyoti Kalita (Institute for Plasma Research) 3D Molecular Dynamics Simulation of Dust Charge Dynamics in a Coulomb Screened Plasmas |
| B-9-I2 25min | Ankit Dhaka (Institute for Plasma Research, India) Spontaneous Fluctuations of Densities in Strongly Coupled Complex Plasma |
| B-9-I3 25min | Gohar Abbas (Government College University Lahore) Kinetic dispersion theory of linear dispersion relations in anisotropic plasmas: An alternative approach |
| B-9-I4 25min | Naomichi Ezumi (University of Tsukuba) Development of High Density and Large Diameter Plasma Sources in Superconducting mirror device Pilot GAMMA PDX-SC |
| B-9-O1 15min | Krishan Kumar (Institute for plasma research) Trapping of wave in a flowing dusty plasma |
| B-9-O2 15min | Aman Singh Katariya (Indian Institute of Technology, Delhi) Diffusive transport of magnetized dusty plasma |

Applied Plasma Physics

Applied Program Committee:

Tao Shao(Chair, IEE-CAS), Haixing Wang(Beihang U.), Hyun-Ha Kim(Vice chair, AIST), Douyan Wang(Kumamoto U.), Dae Hoon Lee(Vice, KIMM), Sooseok Choi(Jeju Nat. U.), Srikumar Ghorui(Vice chair, HBNI), Alphonsa Joseph(IPR), Shuyan Xu(Vice chair, NTU), Anne Mai-Prochnow(Vice chair, U. Sydney), Michael Keidar(Vice chair, George Washington U.), Allen Garner(Purdue U.), Xin Tu(U. Liverpool), Giichiro Uchida(Meijo U.), Hiroshi Akatsuka(TI Tech), Kazunori Koga(Kyushu U.),

A-1 Plasma source technology [Chair: Yi Wu] 14:00-16:10, Nov. 13 [Room4]

| | |
|-----------------|---|
| A-1-I1 20min | He-Ping Li (Tsinghua University) Applications of the “Energy Tree” Concept in Active Control of Key Parameters in Collision-Dominated Low-Temperature Plasmas |
| A-1-I2 20min | Su-Rong Sun (Beihang University) Investigation of aerothermodynamic characteristics based on flowfield-radiative transfer coupled model |
| A-1-I3 20min | Kotaro Yamasaki (Hiroshima University) Development of large channel diameter plasma window using indirectly heated hollow cathode |
| A-1-I4 20min | Yang Cao (Technion - Israel Institute of Technology) Ionization-assisted self-compression of an ultra-intense, ultra-short microwave pulse in a gas-filled waveguide |
| A-1-I5 20min | Kai Zhao (Dalian University of Technology) Effects of low-frequency voltage on nonlinear standing wave excitation and ion dynamics in dual-frequency asymmetric capacitive discharges |
| A-1-O1 15min | Zhuo Huang (South-Central Minzu University) Role of rotation in the field penetration threshold in magnetized plasma |
| A-1-O2 15min | Anthony B. Murphy(CSIRO Manufacturing) Coupled computational models of the arc plasma and the metal in wire-arc additive manufacturing |

A-2 Plasma material synthesis [Chair: Masaru Hori] 16:30-18:20, Nov. 13 [Room4]

| | |
|-----------------|--|
| A-2-I1 20min | Yasunori Tanaka (Kanazawa University) High-Rate Production of Nanomaterials using Modulated Induction Thermal Plasmas and its Optimization by Machine Learning |
| A-2-I2 20min | Qing Zhang (Shanghai Jiao Tong University) Cancer-Targeting Carbon Quantum Dots Synthesized by Plasma Electrochemical Method for Red Light Activated Photodynamic Therapy |
| A-2-I3 20min | Shaojun Xu (Hefei University of Technology) Non thermal plasma with metal-organic frameworks (MOFs) for challenging catalytic processes |
| A-2-I4 20min | Magdaleno Vasquez(University of the Philippines Diliman) Deposition of transparent conducting oxide thin films using pressed powder targets |
| A-2-O1 15min | Suresh C. Sharma(Delhi Technological University) Analysis of Cylindrical Double Gate Junction less Carbon Nanotube Field Effect Transistor (JL-CNTFET) for Sensing Applications |
| A-2-O2 15min | Abhishek Sharma(JECRC University Jaipur) Investigation of structural, optical and electrical properties of Zinc Oxide (ZnO) thin film on Silicon (Si) substrate using RF Magnetron sputtering approach |

A-3 Plasma energy conversion [Chair: Xiaolei Fan] 14:00-16:10, Nov. 14 [Room4]

| | |
|-----------------|--|
| A-3-I1 20min | Tomohiro Nozaki (Tokyo Institute of Technology) Elucidating plasma-surface interaction mechanism for CO ₂ conversion toward decentralized low carbon technology |
| A-3-I2 20min | Jungmi Hong (The University of Sydney) Green chemical pathway of N ₂ fixation: Perspectives from plasma modelling |
| A-3-I3 20min | Shinji Kambara (Gifu University) Plasma membrane packed bed reactor for hydrogen production from ammonia |
| A-3-I4 20min | Yuan Gao(Institute of Electrical Engineering, Chinese Academy of Sciences) Investigation of synergic response on low temperature plasma catalytic C ₁ conversion for the production of platform chemicals |
| A-3-I5 20min | Hao Zhang (Zhejiang University) Gliding arc plasma-assisted CO ₂ conversion: Unlocking the efficiency |
| A-3-O2 15min | Yuxuan Xu(Institute of Electrical Engineering, Chinese Academy of Sciences) A compact portable power supply-driven dielectric barrier discharge and spark discharge plasma-assisted CO ₂ conversion |

A-4 Discharge mechanism and simulation research [Chair: Anbang Sun] 16:30-18:25, Nov. 14 [Room4]

| | |
|-----------------|---|
| A-4-I1 20min | Yangyang Fu (Tsinghua University) Microplasma interacting with complex surfaces |
| A-4-I2 20min | Weizong Wang presented by Yifei Li (Beihang University) Particle modelling of a miniature neutralizer-free radio-frequency ion thruster for small satellite applications: revealing the mechanism of plasma generation, ion acceleration and plume neutralization |
| A-4-I3 20min | Kazunori Takahashi (Tohoku University) Magnetic nozzle rf plasma thruster: performance improvement and electron detachment |
| A-4-I4 20min | Shinya Kumagai (Meijo University) Non-Thermal Atmospheric Pressure Plasma for Controlling Cell Fate |
| A-4-I5 20min | Linlin Zhong (Southeast University) Application prospect of AI-driven differentiable plasma modeling |
| A-4-O1 15min | Chen-Pin Chang(National Central University) Numerical Study of Dusty Particle Motion in Plasmas with Considering Charging Processes |

A-5 Plasma medicine [Chair: Sudeep Bhattacharjee] 14:00-15:30, Nov. 15 [Room4]

| | |
|-----------------|---|
| A-5-I3 20min | Mohammad I Hasan (University of Liverpool) Transport processes in Plasma Activated Droplets |
| A-5-I4 20min | Lin Li (George Washington University) Multi-scale mapping between the control parameter space and a cold atmospheric plasma chemical space |
| A-5-I5 20min | Pankaj Attri (Kyushu University, U40 winner) Catalase enzyme inhibition's effects on plasma medicine |
| A-5-O1 15min | Abhijit Mishra (Indian Institute of Technology Jodhpur) Surface Analysis of White Grapes treated using Argon Cold Atmospheric Pressure Plasma Jet |
| A-5-O2 15min | Sushil Kumar KC (University of South Australia) Testing the capabilities of a commercial economical power supply in plasma medicine |

A-6 Plasma deposition and surface modification [Chair: Shinichi Tashiro] 16:30-18:35, Nov. 15 [Room4]

| | |
|-----------------|--|
| A-6-I1 20min | Rajdeep Singh Rawat (Nanyang Technological University) Low temperature plasma based anti-fogging and anti-fingerprinting coatings |
| A-6-I3 20min | Wenfu Wei (Southwest Jiaotong University) Improving the carbon-matrix composites performance by self-assembly of plasma-modified carbon fiber with graphene oxide |
| A-6-I4 20min | Anne Mai-Prochnow (University of Sydney) The importance of cold plasma-generated short-lived reactive species, especially superoxide anion radicals, in anti-biofilm activities |
| A-6-I5 20min | Wenjun Ning (Sichuan University) Atmospheric pressure plasma jet for surface treatment: a simulation perspective |
| A-6-O1 15min | Hao Yuan (Dalian University of Technology) Atmospheric pressure discharge plasma - atomic emission spectroscopy used for elemental analysis |
| A-6-O2 15min | Anisa Qamar (University of Peshawar) Plasma Treated Vertically Aligned Tellurium Nanorods Enhances Field Emission and Photoluminescent |
| A-6-O3 15min | Hongli Wang (Dalian University of Technology) Porous, highly concentrated amino zeolites prepared by nanosecond pulse discharge-amino co-functionalization for efficient Ni(II) wastewater treatment |

A-7 Plasma pollutant degradation [Chair: Xuekai Pei] 14:00-16:10, Nov. 16 [Room4]

| | |
|-----------------|---|
| A-7-I1 20min | Xiaoxing Zhang (Hubei University of Technology) Study on the effects of active gas on the degradation of SF ₆ by dielectric barrier discharge |
| A-7-I2 20min | De-Zheng Yang (Dalian University of Technology) Degradation of high salinity organic wastewater by plasma Synergistic catalysis |
| A-7-I3 20min | Yu Zheng (Wuhan University) Insulation characteristics of eco-friendly insulating gas with potential to replace SF ₆ at equivalent pressure |
| A-7-I4 20min | Boya Zhang (Xi'an Jiaotong University) Electron Swarm Parameters and Electron-Neutral Collision Cross-sections of Eco-friendly SF ₆ Alternative Gases |
| A-7-I5 20min | Jiushan Cheng (Beijing Institute of Graphic Communication) The degradation of perfluorooctanoic acid by Non-thermal plasma at atmospheric pressure |
| A-7-O1 15min | David Alam (The University of Sydney) Removal kinetics of PFAS utilising bubble flotation and non-thermal plasma |
| A-7-O2 15min | Yao Li (Dalian University of Technology) High efficiency NO _x synthesis and regulation using dielectric barrier discharge in the needle array packed bed reactor |

A-8 Basic discharge process [Chair: Fu Yangyang] 16:10-17:45, Nov. 16 [Room4]

| | |
|-----------------|--|
| A-8-I1 20min | Toshiro Kaneko (Tohoku University) Gas-liquid interfacial plasmas: Controlled generation of short-lived reactive species and its applications |
| A-8-I2 20min | Qing Yang (Chongqing University) Discharge mechanism and mathematical physical model of AC air arc plasma |
| A-8-I3 20min | Yifei Wu (Xi'an Jiaotong University) Vacuum arc erosion behavior in hybrid DC interruption |
| A-8-I5 20min | Quan-Zhi Zhang (Dalian University of technology) Simulations of magnetized rf discharge based on 1D/2D PIC models |
| A-8-O1 15min | Jie Bai (Beijing Institute of Technology) Study on breakdown mechanisms and hydrodynamic effects in pulsed discharge across gas-liquid interface |
| A-8-O2 15min | Huihui Wang (Tsinghua University) Similarity rule for inductively radio frequency plasma with thermo-hydrodynamic coupling effects |

A-9 Plasma jet application [Chair: Weizong Wang] 14:00-14:20, Nov. 17 [Room4]

| | |
|-----------------|--|
| A-9-I5 20min | Xiaolong Huang (Sichuan University) Anode Jet in High Current Vacuum Arc |
|-----------------|--|

A-10 Plasma material processing-1 [Chair: Rajdeep Singh Rawat] 16:30-18:20, Nov. 13 [Room6-2]

| | |
|------------------|---|
| A-10-11 20min | Naho Itagaki (Kyushu University) Fabrication of ZnO based transparent conducting oxides by sputtering combined with solid phase crystallization : a way to meet the future demand for transparent electrodes |
| A-10-13 20min | Shinichi Tashiro (Osaka University) Elucidation of arc coupling mechanism in plasma-MIG hybrid welding process through spectroscopic measurement of 3D distributions of plasma temperature and iron vapor concentration |
| A-10-14 20min | Thi-Thuy-Nga Nguyen (Nagoya University) Wet-like plasma for the next generation of atomic layer etching |
| A-10-15 20min | Hom Baniya (Tribhuvan University) Generation and Characterization of Cold Atmospheric Pressure Plasma Jet and Its Applications |
| A-10-01 15min | Kathrina Lois Taaca (University of the Philippines Diliman) Biofunctionalization of Chitosan-Acrylic Acid Hydrogel through Atmospheric Pressure Plasma-initiated Polymerization |
| A-10-02 15min | Jian Ping Liang (Dalian University of Technology) Study on the application of atmospheric pressure gas-liquid discharge plasma in the degradation of antibiotics in multiphase environmental wastewater |

A-11 Plasma material processing-2 [Chair: Yasunori Tanaka] 16:30-18:05, Nov. 14 [Room6-2]

| | |
|------------------|---|
| A-11-11 20min | Uros Cvelbar (Jozef Stefan Institute) Design of advanced nanoplasmonic sensors |
| A-11-13 20min | Kunihiro Kamataki (Kyushu University) Development of Predictions of Optimal Plasma Processing Experimental Conditions via Machine Learning Method |
| A-11-14 20min | Qiang Chen(Xiamen University) Synthesis of metal nanoparticles from DC discharge plasmas insider a solution |
| A-11-15 20min | Ye qiang Deng(Wuhan University) Characteristics of corona discharge on blade tip and its impact on streamer - leader conversion under thunderstorm and high speed airflow |
| A-11-02 15min | Mark Ilasin (University of the Philippines) Deposition of Diamond-like Carbon Thin Films on Silicon and Silicon Nitride |

A-12 Plasma agriculture [Chair: Anthony B. Murphy] 16:30-17:45, Nov. 15 [Room6-2]

| | |
|------------------|---|
| A-12-11 20min | Xuekai Pei (Wuhan University) Warm air plasma jet for nitrogen fixation coupled with heterogeneous catalysis |
| A-12-13 20min | Ram Prakash (Indian Institute of Technology, Jodhpur) Non-equilibrium cold plasma technologies for health and agricultural applications |
| A-12-14 20min | Takamasa Okumura (Kyushu University) Impact of plasma irradiation on plant seeds metabolism |
| A-12-01 15min | Bryndell Alcantara(University of the Philippines Diliman) Surface Treatment of Bambusa Blumeana using an Atmospheric Pressure Plasma System |

Laser Plasma Physics

Laser Program Committee

Hyyong Suk(Chair, GIST), Min Chen(Vice chair, SJTU), Shinsuke Fujioka(Vice chair, Osaka U.), Kitae Lee(Vice chair, KAERI), Prashant Kumar Singh(Vice chair, TIFR), Yoshitaka Mori(GPI), Takuo Okuchi(Kyoto U.), Mamiko Nishiuchi(QST), Byoung-ick Cho (GIST), Jaehoon Kim(KERI), Minsup Hur(UNIST), Zheng-Ming Sheng(SJTU), Jian Zheng(USTC), Yongtao Zhao(XJTU), Bin Qiao(PKU), Mrityunjay Kundu(IPR), Bhuvanesh Ramakrishna(IIT-Hyderabad), Tae Moon Jeong(ELI), Kei Nakamura (LBL), Anand Moorti (RRCAT), Weimin Zhou (CAEP)

L-1 Laser Fusion [Chair: Yutong Li] 14:00-16:10, Nov. 13 [Room1]

| | |
|-----------------|--|
| L-1-I1 25min | Shinsuke Fujioka (Osaka University) Recent progress of experimental studies on fast-ignition inertial fusion energy |
| L-1-I2 25min | Woosuk Bang (Gwangju Institute of Science and Technology (GIST)) Laser fusion study at GIST |
| L-1-I3 25min | Tao Tao (University of Science and Technology of China) Machine learning assisted pulse shaping for double cone ignition implosions |
| L-1-I4 25min | Kohei Yamanoi (Osaka University) Fabrication of copper containing deuterated material target for laser plasma diagnostics |
| L-1-O1 15min | Yu Dai (Institute of Physics, Chinese Academy of Sciences) Experimental investigation of laser ablated hydrodynamic instability at late driving period |
| L-1-O2 15min | Yihang Zhang (Institute of Physics, Chinese Academy of Sciences) Enhanced proton-boron fusion Mendoncain laser-modulated plasma |

L-2 Electron/Ion Acceleration I [Chair: MinSup Hur] 16:30-18:40, Nov. 13 [Room1]

| | |
|-----------------|--|
| L-2-I1 25min | Igor Andriyash (Laboratoire Optique Appliquee) Laser-Plasma Acceleration Beyond the Diffraction and Dephasing Limits |
| L-2-I2 25min | Nobuhiko Nakanii (National Institutes for Quantum Science and Technology (QST)) Beam stabilization and control of laser wakefield acceleration by laser near field shaping |
| L-2-I3 25min | Minseok Kim (Pohang Accelerator Laboratory (PAL)) Laser-plasma accelerator research at PAL |
| L-2-I4 25min | Vishwa Bandhu Pathak (Vellore Institute of Science and Technology) All-optical control on acceleration length to optimize laser wakefield acceleration |
| L-2-O1 15min | Yang Wan (Zhengzhou University) Femtosecond electron microscopy of laser-plasma wakefield dynamics |
| L-2-O2 15min | Animesh Sharma (Indian Institute of Technology, Delhi) Short Pulse Interaction with Droplet Generated Microplasmas |

L-3 Ion and Neutron Generation I [Chair: Yuichi Sakawa] 14:00-16:05, Nov. 14 [Room1]

| | |
|-----------------|--|
| L-3-I1 25min | Hui Zhang (Shanghai Institute of Optics and Fine Mechanics) SULF laser-driven proton acceleration |
| L-3-I2 25min | Ha-Na Kim (Korea Atomic Energy Research Institute) Generation of nonthermal ion beams from layered targets irradiated by an ultraintense laser pulse |
| L-3-I3 25min | Vikrant Saxena (Indian Institute of Technology Delhi) Proton acceleration using laser irradiation of micro-structured targets |
| L-3-I4 25min | Yuki Abe (Osaka University) A multi-channel scintillation counter for GeV-scale multi-species ion spectroscopy in laser-driven particle acceleration experiments |
| L-3-I5 25min | Kazumasa Takahashi (Nagaoka University of Technology) Effect of applying solenoidal magnetic field on laser ion source |

L-4 Intense Laser/beam-Matter Interactions I [Chair: Woosuk Bang] 16:30-18:40, Nov. 14 [Room1]

| | |
|-----------------|--|
| L-4-I1 25min | Weimin Wang (Renmin University of China) QED-induced opacity and dense polarized positrons and electrons generation in laser-solid interaction |
| L-4-I2 25min | Kaoru Sugimoto (Kyoto University) Numerical modeling of GeV positron generation in relativistic laser-plasma interaction |
| L-4-I3 25min | Zhi-Meng Zhang (Laser Fusion Research Center) Experimental studies on the electron acceleration and positron generation in the interaction of Petawatt femtosecond lasers with gas targets |
| L-4-I4 25min | Hyyong Suk(Gwangju Institute of Science and Technology) Plasma generation and diagnostics for plasma-based laser pulse compression |
| L-4-O1 15min | Jianui Bin (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences) Transverse instabilities induced periodic modulation in laser driven proton beams |
| L-4-O2 15min | Laxman Prasad Goswami (Indian Institute of Technology Delhi) Diamagnetic drift induced laser energy absorption in hot magnetized plasma observed by Particle – In – Cell simulations |

L-5 Electron/Ion Acceleration II [Chair: Vishwa Pathak] 14:00-16:10, Nov. 15 [Room1]

| | |
|-----------------|--|
| L-5-I1 25min | Kyungnam Kim (Korea Electrotechnology Research Institute) Medical application of high energy electron beams by laser wakefield accelerator |
| L-5-I2 25min | Ming Zeng (Institute of High Energy Physics, Chinese Academy of Sciences) Recent progresses of plasma wakefield acceleration studies at IHEP |
| L-5-I3 25min | Devki Nandan Gupta (University of Delhi) Controlled and Optimized Electron Bunch Generation from Laser Wakefield Accelerators |
| L-5-I4 25min | MinSup Hur (UNIST) Study of Plasma Oscillator as a Radiation Source for Compact Electron Accelerators |
| L-5-O1 15min | Ming-Wei Lin (National Tsing Hua University) Enhanced pointing and charge stabilities for electron beams from few-TW laser wakefield acceleration with a shaped sub-mm gas jet |
| L-5-O3 15min | Wenpeng Wang (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences) Collimated proton acceleration driven by intense Laguerre-Gauss laser |

L-6 Fundamental Laser Plasma [Chair: Nobuhiko Nakanii] 16:30-18:40, Nov. 15 [Room1]

| | |
|-----------------|---|
| L-6-I1 25min | Yin Shi (University of Science and Technology of China) Efficient generation of axial magnetic field by multiple laser beams with twisted pointing directions |
| L-6-I2 25min | Yongli Ping (Beijing Normal University) Turbulent magnetic reconnection generated by intense lasers and electron acceleration |
| L-6-I3 25min | Aurelien Houard (Ecole Polytechnique) Laser-guided lightning using kHz filamentation at 1030 nm |
| L-6-I4 25min | Kentaro Tomita (Hokkaido University) Measurements of electron density, electron temperature, and velocity field in laser-produced EUV source plasmas using collective Thomson scattering |
| L-6-O1 15min | Rohit Juneja (Indian Institute of Technology, Delhi) Laser Energy Absorption by Ions in a magnetized plasma |
| L-6-O2 15min | Trishul Dhalia (Indian Institute of Technology, Delhi) Two dimensional simulations showing localized resonance absorption of a high-power microwave energy in plasma aided by inhomogeneous external magnetic field |

L-7 Ion and Neutron Generation II [Chair: Yuki Abe] 14:00-16:10, Nov. 16 [Room1]

| | |
|-----------------|--|
| L-7-I1 25min | Youichi Sakawa (Osaka University) Ion acceleration in a high-intensity laser-driven collisionless shock |
| L-7-I2 25min | Masayasu Hata (National Institutes for Quantum Science and Technology (QST)) Estimation of laser parameters for generating enough number of energetic heavy ions for applying as the injector of the next generation heavy ion synchrotron accelerator |
| L-7-I3 25min | Wei Qi (Laser Fusion Research Center) Experiment research progress of the short-pulse laser driven neutron source at the Laser Fusion Research Center |
| L-7-I4 25min | Zechen Lan (Osaka University) Neutron resonance spectroscopy using a single pulse of laser-driven neutrons |
| L-7-O1 15min | Meng-Hock Koh (Universiti Teknologi Malaysia) Radioisotope production yield using ejectiles generated from high intensity laser simulation |
| L-7-O2 15min | Meng Liu (Institute of Physics, Chinese Academy of Sciences) Steady Radiation Pressure Acceleration Driven by 10-100 PW Laser with Foil Thickness Adjustable within Micrometers |

L-8 Intense Laser/beam-Matter Interactions II [Chair: Wei-Min Wang] 16:10-17:40, Nov. 16 [Room1]

| | |
|-----------------|---|
| L-8-I1 25min | Shuta Tanaka (Aoyama Gakuin University) Proof-of-principle experiment of induced Compton scattering: a laser-plasma interaction around extreme astrophysical objects |
| L-8-I2 25min | Masato Ota (National Institute for Fusion Science, U30 winner) Observing the birth of relativistic Coulomb fields |
| L-8-I3 25min | Shunsuke Yamada (National Institutes for Quantum Science and Technology (QST)) First-principles calculations for ultrafast and nonlinear dynamics of light pulses and electrons |
| L-8-O1 15min | Zheng-Mao Sheng (Zhejiang University) Quantum Effects on Nuclear Fusion in Plasma Target Irrigated by Energetic Ion Beam |

L-9 Radiation Sources and Laser [Chair: Igor Andriyash] 14:00-15:30, Nov. 17 [Room1]

| | |
|-----------------|--|
| L-9-I1 25min | Jiahao Wang (Hiroshima University) Development of laser-produced Au plasma for water window x-ray radiation sources |
| L-9-I2 25min | Qing Jia (University of Science and Technology of China) Plasma-based generation and application of intense vector beams |
| L-9-I4 25min | Yasuhiro Miyasaka (National Institutes for Quantum Science and Technology (QST)) Optically parametric chirped-pulse amplification pumped by optically synchronized sub-nanosecond Nd:YAG laser |
| L-9-O1 15min | Ying Shan Chen (National Central University) Numerical Simulation of Ion-Based Water-Window Harmonic Generation in Laser-Irradiated Gases |

Space and Geomagnetism Plasma Physics

Space/ Geomagnetism Program Committee:

Yoshiharu Omura(Chair, Kyoto U.), Peter Yoon(Vice chair, U. Maryland), QuanMing Lu(Vice chair, USTC), Tohru Hada(Kyushu U.), Lin-Ni Hau(NCU), Dong-Hun Lee(Kyung Hee U.), Abraham Chia(U. Adelaide), Gurbax Lakhina(IIG), Nazish Rubab(UCP), David Ruffolo(Mahidol U), Meng Zhou(Nanchang U.), Yasuhito Narita(TU Braunschweig), Kanako Seki(U. Tokyo), Masahiro Hoshino(U. Tokyo)

SG-1 Wave-Particle Interaction 1 [Chair: Satyavir Singh] 14:00-15:45, Nov. 13 [Room7-1]

| | |
|------------------|---|
| SG-1-I1 25min | Yangguang Ke (University of Science and Technology of China) Effects of density modulation on nonlinear interactions between radiation belt electrons and whistler mode waves |
| SG-1-I2 25min | Yi-Kai Hsieh (Kyoto University) Energetic Electron Precipitation induced by lower-band chorus emissions |
| SG-1-I3 25min | Rongxin Tang (Nanchang University) Modeling of hiss wave distribution in the inner magnetosphere and its evolution to exohiss |
| SG-1-I4 25min | Peter Yoon (University of Maryland) Upper-hybrid waves and fluctuations in space plasma |
| SG-1-O1 15min | Yoshiharu Omura (Kyoto University) Upstream Shift of Generation Region of Rising-Tone Emissions Triggered by Whistler-mode Waves in the Magnetosphere |
| SG-1-O2 15min | Zhi-Yang Liu(Peking University, U30 winner) Cross-scale Wave-particle Interaction: A New Mechanism for Cross-scale Energy Transfer |

SG-2(OS joint with MF) Laboratory Space Physics wave-particle interactions in laboratory and space plasma [Chair: Yuto Katoh] 16:30-18:40, Nov. 13 [Room7-1]

| | |
|------------------|--|
| SG-2-I1 30min | Ryuya Ikezoe (Kyushu University) Diagnosing fast electrons interacted with kinetic waves on spherical tokamak |
| SG-2-I2 30min | Kazushi Asamura (ISAS/JAXA) Direct measurement of energy transfer from magnetosonic waves to electromagnetic ion cyclotron waves through heating of cold ions in space |
| SG-2-I3 30min | Naritoshi Kitamura (ISEE, Nagoya University) Direct observations of energy transfer from resonant electrons to whistler-mode waves in magnetosheath of Earth |
| SG-2-I4 30min | Makoto Sasaki (Nihon University) Roles of phase space turbulence related to zonal flows in magnetically confined plasmas |

SG-3 Wave-Particle Interaction 2 [Chair: Yi-Kai Hsieh] 14:00-15:45, Nov. 14 [Room7-1]

| | |
|------------------|---|
| SG-3-I1 25min | Jicheng Sun (Polar Research Institute of China) Excitation of magnetosonic waves in the Earth's dipole magnetic field: 3D PIC simulation |
| SG-3-I2 25min | Remya Bhanu (Indian Institute of Geomagnetism) Understanding storm time dynamics of Electromagnetic Ion Cyclotron (EMIC) waves in the Earth's magnetosphere |
| SG-3-I3 25min | M. N. S. Qureshi (GC University) Low frequency electromagnetic waves and corresponding ion velocity distributions from space plasmas |
| SG-3-O1 15min | Xin Tao (University of Science and Technology of China) Frequency Chirping of Electromagnetic Ion Cyclotron Waves in Earth's Magnetosphere |
| SG-3-O3 15min | Daniel Schmid (Space Research Institute Graz) Magnetohydrodynamic shocks revisited: magnetically constraining the upstream solar wind condition |

SG-4 (OS joint with MF) Magnetosphere in laboratory plasma [Chair: Yoshizumi Miyoshi] 16:30-18:40, Nov. 14 [Room7-1]

| | |
|------------------|--|
| SG-4-I1 40min | Kazuo Yoshioka (University of Tokyo) The radial plasma transports in Jupiter's inner magnetosphere seen by spectroscopic observation |
| SG-4-I3 40min | Xiaoyi Yang (Harbin Institute of Technology) Introduction to the experimental capabilities of the SPERF-DREX device in China |
| SG-4-I4 40min | Haruhiko Saito (The University of Tokyo) Injection and trapping of pulsed positrons in dipole magnetic field toward pair-plasma creation |

SG-5 M-I Coupling and Space Weather [Chair: Li Li] 14:00-15:30, Nov. 15 [Room7-1]

| | |
|------------------|---|
| SG-5-I1 25min | Rajkumar Hajra (University of Science and Technology of China) High-intensity long-duration continuous auroral electrojet (AE) activity (HILDCAA) events and associated space weather impacts |
| SG-5-I2 25min | Tomotsugu Yamakawa (University of Tokyo) Global drift kinetic simulations of internally driven ULF waves in the Earth's inner magnetosphere |
| SG-5-I3 25min | Tomo-Hiko Watanabe (Nagoya University) Simulation of auroral turbulence driven in feedback M-I coupling system |
| SG-5-O1 15min | Zhaojin Rong (Institute of Geology and Geophysics, Chinese Academy of Sciences) Reestimate Mercury's dipole moment by employing a new technique |

SG-6 Ionosphere and Instruments [Chair: Quanqi Shi] 16:30-18:25, Nov. 15 [Room7-1]

| | |
|-------------------------|---|
| SG-6-I1 25min | Ajeet Maurya (Babasaheb Bhimrao Ambedkar University) Ionospheric total electron content variation along the annularity path during June 21, 2020 annular solar eclipse |
| SG-6-I2 25min | Zheng Wang (National Space Science Center, Chinese Academy of Sciences) Relative Factors of Ionospheric Plasma Irregularities Corresponding to Different Spread F Types over Hainan |
| SG-6-I3 25min | Narayan Chapagain (Tribhuvan University) Ionospheric Plasma Anomaly Using GPS TEC Measurements Over Nepal |
| SG-6-I4 25min | Chun-Sung Jao (National Cheng Kung University) Simulating Multi-Needle Langmuir Probe Instrument Performance for Improved Design |

SG-7 Reconnection 1 [Chair: Masahiro Hoshino] 14:00-16:10, Nov. 16 [Room7-1]

| | |
|-------------------------|---|
| SG-7-I1 25min | Lei Wang (Institute of Geology and Geophysics, Chinese Academy of Sciences) Magnetic reconnection and flux rope in the Martian magnetotail current sheet |
| SG-7-I2 25min | Abraham Chian (National Institute for Space Research (INPE)) Magnetic reconnection driven by merging of magnetic flux ropes/tubes in space plasma turbulence |
| SG-7-I3 25min | Kai Huang (University of Science and Technology of China) Auroral spiral structure formation through magnetic reconnection in the auroral acceleration region |
| SG-7-I4 25min | Rongsheng Wang (University of Science and Technology of China) Turbulent magnetic reconnection in the solar wind |
| SG-7-O1 15min | Qingmei Xiao (Harbin Institute of Technology) Diagnostics design for three-dimensional magnetic field measurements in SPERF experiments |
| SG-7-O2 15min | Jun Zhong (Institute of Geology and Geophysics, Chinese Academy of Sciences) MESSENGER Observations of Reconnection in Mercury's Magnetotail Under Strong IMF Forcing |

SG-8 Reconnection 2 [Chair: Abraham Chian] 16:10-18:10, Nov. 16 [Room7-1]

| | |
|-------------------------|---|
| SG-8-I1 25min | Andrew Hillier presented by Shinsuke Takasao (University of Exeter) Theory and observation of plasmoid-modulated magnetic reconnection |
| SG-8-I2 25min | David Pontin (University of Newcastle) Magnetic reconnection: Theory and modelling for space and astrophysical plasmas |
| SG-8-I3 25min | Lianghai Xie (National Space Science Center, Chinese Academy of Sciences) Multi-fluid MHD studies of the magnetic flux ropes in un-magnetized ionospheres |
| SG-8-O1 15min | Shiyong Huang (Wuhan University, U40 winner) Energy Dissipation in the Turbulent Outflow during Magnetic Reconnection |
| SG-8-O2 15min | Yumeng Fan (Kyushu University) Microscale fluctuations in a magnetic island in collisionless reconnection |
| SG-8-O3 15min | Yasuhito Narita (Technische Universität Braunschweig) Microscale fluctuations in a magnetic island in collisionless reconnection |

SG-9 Turbulence in Solar Wind [Chair: Yasuhito Narita] 14:00-15:55, Nov. 17 [Room7-1]

| | |
|-------------------------|--|
| SG-9-I1 25min | Kostas Tziotziou (National Observatory of Athens) Small-scale vortices in solar plasmas and their dynamics |
| SG-9-I2 25min | Tianran Sun (National Space Science Center, Chinese Academy of Sciences) Solar Wind Charge Exchange Soft X-Ray Emissions in the Magnetosphere during an Interplanetary Coronal Mass Ejection Compared to Its Driven Sheath |
| SG-9-I3 25min | Honghong Wu (Wuhan University) Scaling features in the two inertial subranges of solar wind turbulence |
| SG-9-I5 25min | Owen Roberts (Space Research Institute) Compressive nature of space plasma turbulence: state-of-the-art |
| SG-9-O1 15min | Sadia Zaheer (Forman Christian College) Modeling of Proton Mirror and Cyclotron Instabilities in the Solar Wind by Kappa distribution |

Solar and Astro Plasma Physics

Solar and Astro Program Committee:

P. F. Chen (Chair, Nanjing U.), Ryoji Matsumoto (Co-chair, Chiba U.), Jungyeon Cho (Co-chair, Chungnam Nat. U.), Hantao Ji (PPPL), Jin Lin Han (NAO-CAS), Kyungsuk Cho (KASI), Patrick Antolin (Northumbria U), Brigitte Schmieder (KU Leuven), Durgesh Tripathi (IUCAA), Shu-ichiro Inutsuka (Nagoya U.), Hui Li (LANL), Takaaki Yokoyama (Kyoto U.), Takeru Suzuki (U. Tokyo), Lou C. Lee (Academia Sinica), Fulai Guo (SHAO), Rony Keppens (KU Leuven)

SA-1 Solar magnetic activity [Chair: Brigitte Schmieder] 14:00-15:30, Nov. 13 [Hall B3,4]

| | |
|------------------|---|
| SA-1-I1 25min | Xiaoshuai Zhu (National Space Science Center, Chinese Academy of Sciences) Extrapolating the solar magnetic field as a magnetohydrostatic equilibrium |
| SA-1-I2 25min | Xiaohong Li (KU Leuven) Coronal rain: plasma circulation in the solar corona |
| SA-1-I3 25min | Guiping Ruan (Shandong University) Observational study of intermittent solar jets with the Good Solar telescope |
| SA-1-O1 15min | Ting Li (National Astronomical Observatories, Chinese Academy of Sciences, U40 winner) New Magnetic Parameter of Active Regions Distinguishing Large Eruptive and Confined Solar Flares |

SA-2 Solar flare & reconnection [Chair: Chun Xia] 16:30-18:45 Nov. 13 [Hall B3,4]

| | |
|------------------|--|
| SA-2-I1 25min | Ying Li (Purple Mountain Observatory, Chinese Academy of Sciences) A white-light solar flare heated by a comprehensive mechanism |
| SA-2-I2 25min | Dong Li (Purple Mountain Observatory, Chinese Academy of Sciences) Flare quasi-periodic pulsations detected in multiple wavelengths |
| SA-2-I4 25min | Wenzhi Ruan (KU Leuven) MHD turbulence formation in solar flares: 3D simulation and synthetic observations |
| SA-2-O1 15min | Jie Hong (Nanjing University) Radiative Losses in a Flaring Chromosphere: Approximations and Applications |
| SA-2-O2 15min | Yajie Chen (Max Planck Institute for Solar System Research, U30 winner) Investigating transition region explosive events in a quiet-Sun model |
| SA-2-O3 15min | Junchao Hong (Yunnan Observatories, Chinese Academy of Sciences) Mapping Solar X-Ray Images from SDO/AIA EUV Images by Deep Learning |
| SA-2-O4 15min | Yi Bi (Yunnan Observatories, Chinese Academy of Sciences) On the coronal energy release in the same order of magnitude as the nanoflare based on the multi-wavelength observations |

SA-3 Waves [Chair: Brigitte Schmieder] 14:00-15:45, Nov. 14 [Hall B3,4]

| | |
|------------------|--|
| SA-3-I1 25min | Ramesh Chandra (University of Kumaun) Solar coronal mass ejections related to Extreme-Ultraviolet Wave and loop Oscillations |
| SA-3-I2 25min | Yuandeng Shen (Yunnan Observatories, Chinese Academy of Sciences) Advances on the Study of Coronal Extreme Ultraviolet Waves |
| SA-3-I3 25min | Ruisheng Zheng (Shandong University) Why "solar tsunamis" rarely leave their imprints in the chromosphere |
| SA-3-O1 15min | Yi-Wei Ni (Nanjing University) Local Enhancement of a Moreton Wave in the quiet Sun |
| SA-3-O2 15min | Masaru Nakanotani (University of Alabama in Huntsville) Pickup Ion-Mediated Magnetic Reconnection in the Outer Heliosphere |

SA-4 Space weather [Chair: Yuandeng Shen] 16:30-18:40, Nov. 14 [Hall B3,4]

| | |
|------------------|--|
| SA-4-I1 25min | Luis Linan (KU Leuven) Advanced flux-rope CME models in EUHFORIA |
| SA-1-I2 25min | Brigitte Schmieder (KU Leuven) Understanding filament eruptions, and coronal mass ejections with data-driven MHD numerical simulations |
| SA-1-I3 25min | Lingling Zhao (University of Alabama in Huntsville) Single and Multispacecraft Observations of Solar Wind Turbulence: Identification of Waves and Structures |
| SA-1-I4 25min | Wei Su (Sun Yat-sen University) The Impact of Solar – Terrestrial Plasma and Magnetic Field on the Detection of Gravitational Waves |
| SA-1-O1 15min | Yuhao Zhou (KU Leuven) MHD simulations on solar prominence oscillation and eruption by evaporation—condensation mechanism |
| SA-1-O2 15min | Chun Xia (Yunnan University) Origin of a Hot Channel in a Simulated Solar Eruption |

SA-5 Galaxies & ISM [Chair: Hui Li] 14:00-15:45, Nov. 15 [Hall B3,4]

| | |
|------------------|--|
| SA-5-I1 25min | Michel Koenig (Laboratoire LULI, Ecole Polytechnique) Magnetized Radiative shocks: their role in global evolution of interstellar medium |
| SA-5-I2 25min | JinLin Han (National Astronomical Observatories, Chinese Academy of Sciences) New details of interstellar medium revealed by the FAST Galactic Plane Snapshot survey |
| SA-5-I3 25min | LiGang Hou (National Astronomical Observatories, Chinese Academy of Sciences) Peering into the Milky Way by FAST: Ionized gas in the Galactic disk revealed by the piggyback line observations of the FAST GPPS survey |
| SA-5-I4 25min | Jiro Shimoda (The University of Tokyo) On the Long-Term Evolution of Our Galaxy: Importance of the Diffuse X-ray Emitting Plasma |

SA-6 Accretion & Dynamo [Chair: Ryoji Matsumoto] 16:30-18:15, Nov. 15 [Hall B3,4]

| | |
|------------------|---|
| SA-6-I1 25min | Hui Li (Los Alamos National Laboratory) Mergers of Stellar Mass Binary Black Holes in Disks around Supermassive Black Holes as LIGO Sources |
| SA-6-I2 25min | Daisei Abe (Nagoya University) Growth of Massive Molecular Filament by Accretion Flows: Origin of Constant Width |
| SA-6-I4 25min | Yuta Asahina (University of Tsukuba) Global Radiation Magnetohydrodynamic Simulations of Precessing Disk around a Spinning Black Hole |
| SA-6-O1 15min | Taichi Igarashi (National Astronomical Observatories of Japan) Radiation MHD model of Changing Look AGNs |
| SA-6-O2 15min | Akihiro Inoue (University of Tsukuba) General Relativistic Radiation MHD simulations of Super-Eddington accretion flows around a magnetized neutron star; modeling of the ULX Pulsars |

SA-7 Cosmic Rays [Chair: Daniela Grasso] 14:00-15:45, Nov. 16 [Hall B3,4]

| | |
|------------------|--|
| SA-1-I1 25min | Siming Liu (Southwest Jiaotong University) Status and Latest Results from LHAASO |
| SA-1-I2 25min | Kengo Tomida (Tohoku University) Cosmic rays in star and disk formation processes |
| SA-1-I3 25min | Peera Pongkitiwanchakul (Kasetsart University) PIC Simulations of Perpendicular and Parallel Piston-Driven Shock Dynamics in a Magnetized Plasma |
| SA-1-O1 15min | Linghua Wang (Peking University) Energy Spectrum of Solar Energetic Electron Events Over 25 Years |
| SA-1-O2 15min | Shota Yokoyama (The University of Tokyo) Heating of the Intergalactic Medium Induced by Streaming Cosmic Rays |

SA-8 Shocks & turbulence [Chair: Siming Liu] 16:10-17:40, Nov. 16 [Hall B3,4]

| | |
|------------------|--|
| SA-8-I1 25min | Jin Matsumoto (Keio University) Dependence of the magnetic field and rotation on the explosion mechanism of core-collapse supernovae |
| SA-8-I2 25min | Daniela Grasso (CNR-Institute for Complex Systems and Politecnico of Turin) Current and vorticity sheets disruption in collisionless plasma turbulence |
| SA-8-I3 25min | Sara Tomita (Tohoku University) Magnetic Field Amplification Driven by Relativistic Shock-Clump Interaction |
| SA-8-O1 15min | Kanji Morikawa (University of Tokyo) Particle acceleration by a relativistic shock interacting with an inhomogeneous medium |

SA-9 Sun-star connection [Chair: Kengo Tomida] 14:00-15:30, Nov. 17 [Hall B3,4]

| | |
|------------------|--|
| SA-9-I1 25min | Hechao Chen (Yunnan University) Detection of Flare-induced Plasma Flows in the Corona of a dMe star EV Lac with X-Ray Spectroscopy |
| SA-9-I3 25min | Simon Daley-Yates (University of St Andrews) Stellar Prominences and the Mass-Loss of Cool Stars |
| SA-9-I4 25min | Takato Tokuno (The University of Tokyo) Transition of latitudinal differential rotation as a possible cause of weakened magnetic braking of solar-type stars |
| SA-9-O1 15min | Haruka Washinoue (Osaka University) Time-varying model of X-ray emission in pre-main sequence stars and its impact on disk evolution |

Magnetic Fusion Plasma Physics (Core & Edge)

MF (Core&Edge) Program Committee:

Jae-Min Kwon(Chair, KFE), Min Xu(Vice chair, SWIP), Emi Narita(Vice chair, Kyoto U.), Yong-Su Na(Vice chair, SNU), Indranil Bandyopadhyay(IPR), Won-Ha Ko(KFE), Choongki Sung(KAIST), Masaru Furukawa(Tottori U.), Tokihiko Tokuzawa(NIFS), Joelle Mailloux(UKAEA), Andrea Garofalo(GA), Liang Wang(ASIPP), Wulv Zhong(SWIP)

MF-1 Major & Private [Chair: Choongki Sung] 14:00-16:10, Nov. 13 [Main Hall]

| | |
|------------------|---|
| MF-1-I1 20min | Juan Ayllon-Guerola (University of Sevilla) European machine enhancements for the JT-60SA Tokamak |
| MF-1-I3 20min | Hyun-Seok Kim (Korea Institute of Fusion Energy) Development of High-performance Long-pulse Scenario and Investigation of Performance Degradation over Long-time Scale in KSTAR |
| MF-1-I4 20min | Hiroshi Gota (TAE Technologies, Inc.) TAE Technologies' Fusion Program Overview |
| MF-1-I5 20min | Mikhail Gryaznevich (Tokamak Energy Ltd) Spherical Tokamak path to Fusion – History and the Next Step |
| MF-1-I6 20min | Yueng-Kay Martin Peng (ENN Science and Technology Development Co., Ltd) Physics Basis for Spherical Torus p-11B Fusion as an Open Entropy System |
| MF-1-O1 15min | Wei Shen (Institute of Plasma Physics, Chinese Academy of Science) Investigation of alpha particle transport induced by Alfvén eigenmodes in CFETR |
| MF-1-O2 15min | Linjin Zheng(University of Texas) Recent progress on the equilibrium and stability properties of NT tokamaks |

MF-2 Impurity [Chair: Rui Ding] 16:30-18:10, Nov. 13 [Main Hall]

| | |
|------------------|--|
| MF-2-I1 20min | Shuyu Dai presented by Bing Liu (Dalian University of Technology) Evaluation of edge transport and core accumulation of tungsten for CFETR with EMC3-EIRENE and STRAHL |
| MF-2-I2 20min | Mingkun Han (Southwestern Institute of Physics) Turbulent transport of impurity ions with hollow density profiles in tokamak devices |
| MF-2-I3 20min | Federico Nespola (Princeton Plasma Physics Laboratory) Improved plasma performance via low-Z powder injection in the Large Helical Device |
| MF-2-I4 20min | Hongming Zhang (Institute of Plasma Physics, Chinese Academy of Sciences) Study of tungsten transport and suppression in EAST Tokamak |
| MF-2-I5 20min | Jianyuan Xiao (University of Science and Technology of China) Structure preserving Particle-in-Cell scheme and its applications on toroidal plasma simulations |

MF-3 Disruption & Runaway Electron [Chair: Zhiwei Ma] 14:00-16:10, Nov. 14 [Main Hall]

| | |
|------------------|---|
| MF-3-I1 20min | Chang Liu (Princeton Plasma Physics Laboratory) Simulation of Compressional Alfvén Eigenmodes in Tokamak Disruptions and Impact on Runaway Electron Transport |
| MF-3-I2 20min | Zongyu Yang (Southwestern Institute of Physics) PFNN: Less data and better performance on disruption prediction via physics-informed deep learning |
| MF-3-I3 20min | Shiyong Zeng (University of Science and Technology of China) Impurity modulations of plasma current spike and poloidal rotation during tokamak disruption |
| MF-3-I4 20min | John Berkery (Princeton Plasma Physics Laboratory, Princeton University) Density Limits as Disruption Forecasters for Spherical Tokamaks |
| MF-3-I5 20min | Long Zeng (Tsinghua University) Dynamics of Runaway Electron Generation and Loss in Tokamaks |
| MF-3-O1 15min | Jun Li (University of Science and Technology of China) Staged cooling of a fusion-grade plasma in a tokamak thermal quench |
| MF-3-O2 15min | Tian Tang (Institute of plasma physics, Chinese Academy of Science) Enhanced Production of Runaway Electrons via the Preexistent Suprathermal Electrons in EAST Disruptions |

MF-4 MHD [Chair: M. Furukawa] 16:30-18:40, Nov. 14 [Main Hall]

| | |
|------------------|---|
| MF-4-I1 20min | Ming Xu (Institute of Plasma Physics, Chinese Academy of Sciences) MHD and energetic ions instabilities related to the formation of ITBs in EAST reversed shear plasmas with $q_{min} \approx 2$ |
| MF-4-I2 20min | Linzi Liu (Southwestern Institute of Physics) Identification of core ion cyclotron instabilities on HL-2A |
| MF-4-I3 20min | Yuki Takemura (National Institute for Fusion Science) Parity transition of MHD fluctuations in helical plasmas |
| MF-4-I4 20min | Lunan Liu (Institute of Plasma Physics, Chinese Academy of Sciences) First observation of ion cyclotron emission during low hybrid waves and electron cyclotron resonance heating in EAST Tokamak |
| MF-4-I5 20min | Evdokiya Kostadinova (Auburn University) Anomalous electron diffusion in magnetized plasma with magnetic islands and field stochasticity |
| MF-4-O1 15min | Yao Zhou (Shanghai Jiao Tong University) Nonlinear MHD modeling of sawtooth-like crashes and ballooning modes in W7-X |
| MF-4-O2 15min | Zhiwei Ma (Zhejiang University) Interaction of dynamic magnetic island with bootstrap current in toroidal plasma |

MF-5 DIV-SOL [Chair: Joelle Mailoux] 14:00-15:50, Nov. 15 [Main Hall]

| | |
|-------------------------|---|
| MF-5-I1 20min | Kevin Verhaegh (United Kingdom Atomic Energy Authority) Improved understanding and performance of power exhaust of alternative divertor discharges on MAST Upgrade |
| MF-5-I2 20min | Gen Motojima (National Institute for Fusion Science) High neutral particle pressure in the divertor section by low temperature mode in LHD |
| MF-5-I3 20min | Annika Ekedahl (CEA) First results from operating an ITER-grade divertor in the full tungsten actively cooled tokamak WEST |
| MF-5-I4 20min | Sophie Gorno (Ecole Polytechnique Federale de Lausanne) Experimental study and interpretative modelling of the power exhaust in configurations with multiple divertor X-points in TCV |
| MF-5-O1 15min | Xueqiao Xu (Lawrence Livermore National Laboratory) Controlling Divertor Plasma Detachment: The Role of Fluctuation Energy Intensity Flux and Broadening the SOL Width |
| MF-5-O2 15min | Masayuki Yoshikawa (University of Tsukuba) Effect of high-particle flux produced by pellet fueling in the core plasma to the divertor simulation module plasma in GAMMA 10/PDX |

MF-6 DIV-SOL [Chair: Linzi Liu] 16:30-18:25, Nov. 15 [Main Hall]

| | |
|-------------------------|---|
| MF-6-I1 20min | Kiyofumi Mukai (National Institute for Fusion Science) Characteristics of toroidally asymmetric behavior of divertor heat load related to three-dimensionally localized radiation structure in impurity seeded plasmas on LHD |
| MF-6-I2 20min | Rui Ding (Institute of Plasma Physics, Chinese Academy of Sciences, U40 winner) Tungsten impurity screening and its control using different gas injection on EAST with full tungsten divertor |
| MF-6-I3 20min | Manni Jia (Institute of Plasma Physics, Chinese Academy of Sciences) Demonstration of divertor stationary heat flux control during RMP ELM suppression in EAST |
| MF-6-I4 20min | Mate Lampert (Princeton Plasma Physics Lab) Evolution of intermittent filaments in the scrape-off layer of NSTX |
| MF-6-I5 20min | Fuqiong Wang (Donghua University) SOLPS-ITER modeling of edge plasma and impurity transport in EAST |
| MF-6-O2 15min | You Li (Institute of Plasma Physics, Chinese Academy of Sciences) Characterization of SOL profiles and turbulence in ICRF-heated plasmas in EAST |

MF-7 Transport [Chair: Xueqiao Xu] 14:00-16:10, Nov. 16 [Main Hall]

| | |
|-------------------------|---|
| MF-7-I1 20min | Pengjun Sun (Institute of Plasma Physics, Chinese Academy of Sciences) Study of Multi-Scale Turbulence in the Core of Electron-Heating-Dominant H-mode Plasmas on EAST |
| MF-7-I2 20min | Toshiki Kinoshita (Kyushu University) Turbulence transition in magnetically confined hydrogen-deuterium plasmas |
| MF-7-I3 20min | Jianwen Liu (Institute of Plasma Physics, Chinese Academy of Sciences) Breaking of ion temperature clamping in EAST electron-heated H-mode plasmas by applying neutral beam injections |
| MF-7-I4 20min | Anders Henry Nielsen (Technical University of Denmark) Numerical investigation of isotope transport scaling and its relation to L2H power threshold |
| MF-7-I5 20min | Choongki Sung (KAIST) Cross-Verification Study of Gyrokinetic Codes for the L-mode discharge in KSTAR |
| MF-7-O1 15min | Letian Li (Institute of Plasma Physics, Chinese Academy of Sciences) Development of 2D spatial displacement estimation method for turbulence velocimetry of gas puff imaging system on EAST |
| MF-7-O2 15min | Yifei Jin (Institute of Plasma Physics, Chinese Academy of Sciences) Studies of Radio Frequencies-induced intrinsic rotations at EAST |

MF-8 Transport [Chair: Yong Xiao] 16:10-18:20, Nov. 16 [Main Hall]

| | |
|-------------------------|--|
| MF-8-I1 20min | Naoki Kenmochi (National Institute for Fusion Science) Fast response of turbulence and heat pulses to thermal perturbations |
| MF-8-I2 20min | Wei Wang (Southwestern Institute of Physics) Long Time-scale dynamics of E×B staircase in flux-driven gyro-kinetic simulations under various heating conditions |
| MF-8-I3 20min | Shaocheng Liu (Institute of Plasma Physics, Chinese Academy of Sciences) Edge plasma transport in three-dimensional magnetic topology |
| MF-8-I4 20min | Li Li (Donghua University) Linear and quasi-linear toroidal modeling of resonant magnetic perturbations in preparation for eight ITER H-mode scenarios |
| MF-8-I5 20min | Neng Zhang (Southwestern Institute of Physics) Toroidal modeling of plasma flow damping and density pump-out by RMP during ELM mitigation in HL-2A |
| MF-8-O1 15min | Hua Yang (Institute of plasma physics, Chinese Academy of Sciences) Nonlinear transition of divertor heat flux distribution during n=4 RMP suppressing ELM in EAST |
| MF-8-O2 15min | Ning Yan (Institute of plasma physics, Chinese Academy of Sciences) Study on H-mode density limit in EAST |

MF-9 NT, RFP, ST [Chair: Tokihiko Tokuzawa] 14:00-15:40, Nov. 17 [Main Hall]

| | |
|-------------------------|---|
| MF-9-I1 20min | Justin Ball (Ecole Polytechnique Federale de Lausanne) Insights into a negative triangularity reactor from EUROfusion's TSVV 2 |
| MF-9-I2 20min | Jesús Domínguez-Palacios (University of Seville) First MHD stability analysis of the SMall Aspect Ratio Tokamak (SMART) |
| MF-9-O1 15min | Guoliang Xia (UKAEA) Control of resistive wall mode in STEP |
| MF-9-O2 15min | Martin Storey (Meranti Research Laboratories) Parker's Effect and its Relevance to Magnetic Confinement Fusion |
| MF-9-O3 15min | Takeru Inoue (Department of Electronics, Kyoto Institute of Technology) Variation of magnetic fluctuations of low aspect ratio tokamak and RFP plasmas in RELAX |
| MF-1-O4 15min | Xiumin Zhang (Donghua University) Infernal mode stability in negative-triangularity plasmas |

MF-10 EP [Chair: Fulvio Zonca] 14:00-15:55, Nov. 13 [Room3]

| | |
|--------------------------|---|
| MF-10-I1 20min | Liming Yu (Southwestern Institute of Physics) Experimental Observation of Low-frequency MHD Instabilities Driven by Energetic Electrons in LHCD Plasmas |
| MF-10-I2 20min | Jacobo Varela (Universidad Carlos III de Madrid) Shear flows induced by AE / EPM in LHD plasma |
| MF-10-I3 20min | Xiaodi Du (General Atomics, U40 winner) Visualization of fast ion phase-space flow in plasmas below, near, and above the Alfvén eigenmode stability threshold |
| MF-10-I4 20min | Ryosuke Seki (National Institute for Fusion Science, NINS) Orbit-following simulations of fast-ion transport and losses due to the Alfvén eigenmode burst in the Large Helical Device |
| MF-10-I6 20min | Ruirui Ma (Southwestern Institute of Physics) Theoretical studies of low-frequency Shear Alfvén waves in reversed shear tokamak plasmas |
| MF-10-O2 15min | Yunpeng Zou (Southwestern Institute of Physics) Energetic Particle Marginal Stability Profile for HL-2M Integrated Simulation based on Neural Network Module |

MF-11 Transport, Scenario [Chair: Emi Narita] 16:30-18:30, Nov. 13 [Room3]

| | |
|--------------------------|--|
| MF-11-O1 15min | Shinsuke Satake (National Institute for Fusion Science) Impurity neoclassical transport analysis in LHD Plasma |
| MF-11-O2 15min | Guanqun Xue (Dalian University of Technology) Observation of diffusion and convection balanced impurity distribution at the tokamak edge plasma caused by localized turbulence |
| MF-11-O3 15min | Fulvio Zonca (ENEA) On the self-consistent evolution of the zonal state |
| MF-11-O4 15min | Guillermo Suarez Lopez (ITER Organization) Integrated modeling of ITER scenarios using the ITER High-Fidelity Plasma Simulator |
| MF-11-O5 15min | Lei Xue (Southwestern Institute of Physics) Integrated prediction of HL-2M baseline scenario for supporting ITER |
| MF-11-O6 15min | Xiaoyue Dai (The University of Tokyo) Characterization of solid hydrogen-pellet penetration in fusion plasmas of the large helical device |
| MF-11-O7 15min | Yuki Hayashi (National Institute for Fusion Science) Influence of dynamic pressure induced by transient recycled neutral flux on reduction of pulsed particle load in the linear plasma device Magnum-PSI |
| MF-11-O8 15min | Shivam Gupta (National Institute for Fusion Science) Progress of EUV impurity lines spectral diagnostics of highly charged Xe ions measured in Large Helical Device |

MF-12 EP [Chair: Ruirui Ma] 14:00-16:15, Nov. 14 [Room3]

| | |
|--------------------------|--|
| MF-12-I1 20min | Chenxi Luo (Institute of Plasma Physics, Chinese Academy of Sciences) Study of beta-induced Alfvén eigenmode driven by runaway electrons in EAST tokamak |
| MF-12-I2 20min | Shuji Kamio (University of California, Irvine) Observation of fast ion profile stiffness due to the Alfvén eigenmode |
| MF-12-I3 20min | Jeff Lestz (General Atomics) Linear stability analysis of high frequency Alfvén eigenmodes in MAST and predictions for MAST-U |
| MF-12-I4 20min | Guanqi Dong (Southwestern Institute of Physics) Toroidal modelling of interactions between internal kink instability and energetic ions in HL-2M |
| MF-12-I5 20min | Hao Wang (National Institute for Fusion Science) Nonlinear excitation of energetic-particle-driven geodesic acoustic mode by Alfvén eigenmode |
| MF-12-I6 15min | Guangzhou Hao (Southwestern Institute of Physics) Effect of global field perturbations on fast ion redistribution and losses in toroidal plasmas |
| MF-12-O1 15min | Juan Ruiz Ruiz (University of Oxford) Observation of fast-ion driven Alfvén-eigenmodes in JET and their effect on turbulence and thermal transport |

MF-13 EP, MHD, PED [Chair: Gyungjin Choi] 16:30-18:30, Nov. 14 [Room3]

| | |
|--------------------------|--|
| MF-13-O1 20min | Hanzheng Li (The University of Tokyo) Kinetic-magnetohydrodynamic hybrid simulation study of energetic-particle driven off-axis fishbone instability in tokamak plasmas |
| MF-13-O2 20min | Yifeng Zheng (Institute of Plasma Physics, Chinese Academy of Sciences) 3D simulation of fast ion loss and heat load on the limiter effected by the MHD perturbation field in EAST |
| MF-13-O3 20min | Guoqiang Li (Institute of Plasma Physics, Chinese Academy of Sciences) Effect of density profiles on the pedestal performance |
| MF-13-O4 20min | Yangbo Li (Huazhong University of Science and Technology) Design of External Rotational Transform coils and preliminary experimental results on J-TEXT |
| MF-13-O5 20min | Chao Dong (Institute of Physics, Chinese Academy of Sciences) Simulation study of particle transport by weakly coherent mode in the Alcator C-Mod tokamak |
| MF-13-O6 15min | Guoyong Fu (Zhejiang University) Development of the Gyrokinetic-MHD Hybrid Code GMEC |
| MF-13-O7 15min | Joshua Doak (Australian National University) Equilibrium Constraint Choices for Anisotropic Ballooning Mode Stability Scans |
| MF-13-O8 15min | Katsuji Ichiguchi (National Institute for Fusion Science) MHD numerical analysis of global flow in 3D magnetic configurations |

MF-14 Diagnostic & Virtual [Chair: Jayhyun Kim] 14:00-15:55, Nov. 15 [Room3]

| | |
|--------------------------|---|
| MF-14-I1 20min | Jae-Min Kwon (Korea Institute of Fusion Energy) Development of Digital Twin Technologies for Fusion Research |
| MF-14-I2 20min | Ryo Yasuhara (National Institute for Fusion Science) The fast Thomson scattering system for a transient electron temperature and density measurement in LHD |
| MF-14-I3 20min | Takashi Nishizawa (Kyushu University) Estimation of parameter profiles and their derivatives from arbitrary linear observations by using Gaussian processes |
| MF-14-I4 20min | Valerian Hall-Chen (A*STAR (Agency for Science, Technology and Research)) Feasibility study on using Doppler backscattering measurements to infer the magnetic pitch angle |
| MF-14-I5 20min | Oleg Krutkin (EPFL-SPC) Validation of short pulse reflectometry diagnostic turbulence measurements in the TCV tokamak with synthetic diagnostic based on gyrokinetic modeling |
| MF-14-O2 15min | Yuqi Shen (Southwestern Institute of Physics) Plasma position measurements of tokamak plasmas by dual-polarization reflectometry system |

MF-15 Edge-PED [Chair: Hao Wang] 16:30-18:40, Nov. 15 [Room3]

| | |
|--------------------------|---|
| MF-15-I1 20min | Youngmu Jeon (Korea Institute of Fusion Energy) First Demonstration of Stationary I-Mode Operation with Hot-Ion Core in KSTAR |
| MF-15-I2 20min | Jason Parisi (Princeton Plasma Physics Laboratory) A gyrokinetic model for pedestal width-height scaling across aspect ratio |
| MF-15-I3 20min | Anshu Liang (Southwestern Institute of Physics) Role of $E \times B$ velocity shear for triggering the I-mode and ion ITB on the HL-2A tokamak |
| MF-15-I4 20min | Yiren Zhu (Southwestern Institute of Physics) Simulations on edge localized modes mitigation with impurity seeding in the HL-2A tokamak |
| MF-15-I5 20min | Volodymyr Mykhaylenko (Pusan National University) Kinetic theory of the non-diffusive convective flows, generated in the tokamak edge plasma by the parametric inhomogeneous ion cyclotron turbulence in the fast wave heating regime |
| MF-15-O1 15min | Yongliang Li (Institute of Plasma Physics, Chinese Academy of Sciences) Effect of edge ECRH power deposition on the Edge-Localized-modes (ELMs) eruption in EAST |
| MF-15-O2 15min | Ran Chen (Institute of Plasma Physics, Chinese Academy Of Sciences) On pedestal fluctuations in H-modes without large ELMs during the transition to a detached tungsten divertor in EAST |

MF-16 Heating & CD [Chair: Justin Ball] 14:00-16:10, Nov. 16 [Room3]

| | |
|--------------------------|--|
| MF-16-I1 20min | Alvaro Sánchez-Villar (Princeton Plasma Physics Laboratory) Real-time predictions of ICRF power absorption profiles via machine learning |
| MF-16-I2 20min | Jozef Ongena (Ecole Royale Militaire) Overview of the design and first experimental results of the ICRH system for the large optimized stellarator Wendelstein 7-X |
| MF-16-I3 20min | Massimo Nocente (University of Milano-Bicocca) First-time demonstration of the three-ion scheme for radio-frequency heating in deuterium-tritium plasmas at the Joint European Torus |
| MF-16-I4 20min | Wei Zhang (Institute of Plasma Physics, Chinese Academy of Sciences) Experimental and numerical investigation of ICRF induced turbulence reduction across the scrape-off layer on the EAST tokamak |
| MF-16-I5 20min | Naoto Tsujii (The University of Tokyo) Studies of non-inductive tokamak plasma start-up with various lower hybrid current drive scenarios |
| MF-16-O1 15min | Zhihao Su (Tsinghua University) Numerical Analysis of Parametric Instability in Lower Hybrid Current Drive in Tokamak |
| MF-16-O2 15min | Xueyun Wang (ENN Science and Technology Development Co., Ltd.) Micro-instabilities and transport simulations of hot-ion mode on EHL-2 |

MF-17 DIV-SOL, RMP [Chair: YoungMu Jeon] 16:10-17:40, Nov. 16 [Room3]

| | |
|--------------------------|---|
| MF-17-O1 15min | Jiaxing Liu (Huazhong University of Science and Technology) Validation of the plasma-wall self-organization model for density limit in ECRH-assisted start-up of Ohmic discharges on J-TEXT |
| MF-17-O2 15min | Dongmei Fan (Southwestern Institute of Physics) Studies of power load with localised neon injection in HL-2M |
| MF-17-O3 15min | Yugo Isobe (The University of Tokyo) Characterization of transition to detachment of magnetic confinement plasmas via data-driven approach |
| MF-17-O4 15min | Ting Wu (Southwestern Institute of Physics) X-point radiator and better confinement after detachment in HL-2A L mode plasma |
| MF-17-O7 15min | Tengfei Sun (Southwestern Institute of Physics) ELM Mitigation Through Magnetic Perturbation generated by Divertor Biasing Current on the HL-2A Tokamak |
| MF-17-O8 15min | Chaofeng Sang (Dalian University of Technology) Effects of drift on the tungsten impurity accumulation in the core of tokamak during insert gas seeding |

MF-18 PD session [Chair: Choongki Sung] 14:00-15:15, Nov. 17 [Room3]

| | |
|--------------------------|---|
| MF-18-O1 15min | Hongwei Yang (Zhejiang University) Towards Understanding the Mechanism of Heat and Particle Transport Decoupling in I-mode Edge Plasmas |
| MF-18-O2 15min | Yashshri Patil(Institute for Plasma Research) Characteristics of APPEL device long magnetized plasma column produced using hollow cathode plasma source |
| MF-18-O3 15min | Kishore Mishra(Institute for Plasma Research) ECR assisted ICRF plasma production in ADITYA-U tokamak. |
| MF-18-O4 15min | Kimitaka Itoh(Chubu University) Reconsideration of ELMs |
| MF-18-O5 15min | Yong Xiao (Zhejiang University) Disappearance of Dimits Shift in Realistic Fusion Reactor Plasmas with Negative Magnetic Shear |

Organized Session

Organized Session

Katsumi Ida (Chair, NIFS), Yunfeng Liang (Vice chair, IEK-4), Choong-ki Sung (Vice, KAIST), Kenichi Nagaoka (NIFS), Yuto Katoh (Tohoku U.), Akihide Fujisawa (Kyushu U.), Xiang Gao (ASIPP), Li Li (PKU), Young Dae Yoon (APCTP), Kyung Sun Park (Chungbuk Nat. U.), Hantao Ji (PPPL), George McKee (U. Wisconsin)

OS-1(MF) Experimental and theoretical challenges on phase-space turbulence detection

[Chair: Katsumi Ida] 14:00-16:10, Nov. 13 [Room7-2]

| | |
|------------------|---|
| OS-1-I1 40min | Yusuke Kosuga (Kyushu University) A review of phase space turbulence: Why it is important |
| OS-1-I3 40min | Guilhem Dif-Pradalier (CEA Cadarache) Radial electric fields in core & edge flux-driven turbulence |
| OS-1-I4 40min | Tatsuya Kobayashi (National Institute for Fusion Science) Phase-space tomography for charge exchange recombination spectroscopy |

OS-2 (MF) Highly charged ion studies [Chair: Motoshi Goto] 16:30-18:40, Nov. 13 [Room7-2]

| | |
|------------------|---|
| OS-2-I1 30min | Nobuyuki Nakamura (The University of Electro-Communications) Spectroscopy of highly charged ions with two complementary electron beam ion traps in Tokyo |
| OS-2-I2 30min | Kyounghun Yoo (Institute for Basic Science) EBIS charge breeder producing highly charged ions for RAON facility |
| OS-2-I3 30min | Yang Yang (Fudan University) Laboratory measurement of FeX MIT effect for coronal magnetic field diagnosis and very high accuracy calibration of visible light wavelengths in an EBIT |
| OS-2-I5 30min | Izumi Murakami (National Institute for Fusion Science) Spectroscopic study of tungsten ions in LHD |

OS-3(MF) Toward a universal understanding of plasma, light-matter interaction in nuclear fusion

[Chair: Masahiro Kobayashi] 14:00-16:10, Nov. 14 [Room7-2]

| | |
|------------------|--|
| OS-3-I1 25min | Haewon Shin (Korea Atomic Energy Research Institute) Experimental study of divertor detachment during RMP ELM control |
| OS-3-I2 25min | Hiroaki Nakamura (National Institute for Fusion Science) Molecular dynamics simulations of interactions with various materials starting with plasma-wall interaction studies |
| OS-3-I3 25min | Yu Xu (Donghua University) Deposition and Modification of Semiconductor Thin Films Through Atmospheric Pressure Plasma |
| OS-3-I4 25min | Itsuki Sakon (Tokyo University) Understanding of the properties of cosmic organic dust based on combined approaches among astronomical observations, experiments and numerical simulations |
| OS-3-I5 25min | Koichi Matsuo (Hiroshima University) Synchrotron Radiation Circular Dichroism Spectroscopy to Characterize the Structures of Chiral Materials |

OS-4(MF) Laser-Assisted Plasma Spectroscopy [Chair: Motoshi Goto] 16:30-18:40, Nov. 14 [Room7-2]

| | |
|------------------|--|
| OS-4-I1 25min | Koichi Sasaki (Hokkaido University) Laser-induced breakdown spectroscopy based on thermodynamic equilibrium and corona equilibrium for estimating atomic composition in powdered milk |
| OS-4-I2 25min | Cong Li (Dalian University of Technology) Laser ablation plasma and its application for elemental analysis |
| OS-4-I3 25min | Sanghoo Park (Korea Advanced Institute of Science and Technology) The nonlinear effect of gas flow on metastable helium in a kHz-driven plasma jet |
| OS-4-I4 25min | Shusuke Nishiyama (Japan Healthcare University) Evaluation of population density distribution of atomic hydrogen n=2 states by laser absorption spectroscopy and saturation spectroscopy |
| OS-4-I5 25min | Shinji Yoshimura (National Institute for Fusion Science) Exploiting laser-induced fluorescence method with a single optical path to multidimensional flow-velocity measurements |

OS-5(MF) Magnetic reconnection and its related events in magnetized plasmas
[Chair: Yuki Takemura] 14:00-16:10, Nov. 15 [Room7-2]

| | |
|-------------------------|---|
| OS-5-I1 25min | Hiroshi Hasegawa (Institute of Space and Astronautical Science, JAXA) Identification and analysis of in-situ observations of magnetic reconnection in the magnetosphere |
| OS-5-I2 25min | Shinsuke Imada (The University of Tokyo) Magnetic Reconnection in the Solar Atmosphere: Future Plans for Solar Observations |
| OS-5-I3 25min | Michiaki Inomoto (The University of Tokyo) Transformation of energy conversion by active control of in-plane electric field in high-guide-field magnetic reconnection |
| OS-5-I4 25min | Jong Yoon Park (Seoul National University) Ion heating during non-inductive plasma startup and sustainment in VEST |
| OS-5-I5 25min | Feiyue Mao (Huazhong University of Science and Technology) Role of the multiple mode interaction on the excitation of 2/1 tearing mode by resonant magnetic perturbations on J-TEXT |

OS-6(MF&SG) Similarities of Alfvén eigenmodes and magnetospheric ULF waves [Chair:Yuto Kato] 16:30-18:40, Nov. 15 [Room7-2]

| | |
|-------------------------|--|
| OS-6-I1 30min | Yasushi Todo (National Institute for Fusion Science) Simulations of energetic-particle driven Alfvén eigenmodes in magnetically confined plasmas |
| OS-6-I2 30min | Kazuhiro Yamamoto (University of Tokyo) Excitation of ULF waves and transport of plasma through wave-particle interaction in the Earth's magnetosphere |
| OS-6-I3 30min | William Heidbrink (University of California Irvine) Alfvén eigenmodes in toroidal laboratory plasmas |
| OS-6-I4 30min | Li Li (Peking University) Nonlinear Drift Bounce Resonance Between Charged Particles and Ultralow Frequency Waves |

OS-7(MF) Microwave or radio observations on heliospheric, magnetosheath, ionospheric, and fusion plasma
[Chair: Tokihiko Tokuzawa] 14:00-16:10, Nov. 16 [Room7-2]

| | |
|-------------------------|---|
| OS-7-I1 40min | Siqi Zhao (Deutsches Elektronen Synchrotron DESY) Multi-spacecraft Observations of the Alfvénic Transition from Weak to Strong Magnetohydrodynamic Turbulence |
| OS-7-I2 40min | Yuichi Otsuka (Nagoya University) GNSS observations of traveling ionospheric disturbances in the ionosphere |
| OS-7-I3 40min | Hiroe Igami (National Institute for Fusion Science) Observation of non-thermal emissions between ion cyclotron and electron cyclotron frequencies during external heating in magnetically confined experimental plasmas |

OS-8(MF&SA) Anisotropy in Plasma [Chair: Motoshi Goto] 16:10-18:20, Nov. 16 [Room7-2]

| | |
|-------------------------|---|
| OS-8-I1 30min | Yoshizumi Miyoshi (Nagoya University) In-situ observations of plasma/particle distribution function and plasma waves by the Arase satellite |
| OS-8-I2 30min | Jaehong Park (Korea Institute for Advanced Study) Probing the Epoch of Reionization through the cosmic 21-cm signal |
| OS-8-I3 30min | Donguk Song (Korea Astronomy and Space Science Institute) Overview and observation results of the CLASP2 suborbital space mission for measuring chromospheric magnetic fields |
| OS-8-I4 30min | Motoshi Goto (National Institute for Fusion Science) Electron temperature anisotropy in magnetically confined fusion plasma |

OS-9(MF) Impacts of machine learning (ML)/AI in magnetic fusion research [Chair: Masayuki Yokoyama] 14:00-16:10, Nov. 17 [Room7-2]

| | |
|-------------------------|---|
| OS-1-I1 30min | Michael Churchill (Princeton Plasma Physics Laboratory) Review of AI/ML for fusion systems |
| OS-1-I2 30min | Bingjia Xiao (Institute of Plasma Physics, Chinese Academy of Sciences) AI application on EAST for plasma control |
| OS-1-I3 30min | Emi Narita (Kyoto University) Convolutional neural network models for forecasting heat fluxes calculated by nonlinear gyrokinetic simulations |
| OS-1-I4 30min | Jaemin Seo (Chung-Ang University, U30 winner) A novel tokamak plasma control method using reinforcement learning |

Poster Session

Poster size is 1200mm (width) x 1800mm (vertical). We will prepare push pin to set your posters on the poster board. Please set poster during lunch break and keep till 16:00 at poster board with your poster number.

Note: Further change will be reflected on Web program

Poster Session 1 13:10-16:00, Nov. 13, Event Hall

| | |
|-------|--|
| FP-1 | Taiju Suzuki (The University of Tokyo) Enhancement of Downstream Charged Particle Acceleration in Reconnection with High Guide Field during Spherical Tokamak Merging Start-up |
| FP-2 | Wei-Shuo Lo (National Central University) Percolating transition from order to disorder in two-dimensional Yukawa system |
| FP-3 | Lang Yang(SOKENDAI) Study of neoclassical transport characteristics by Monte Carlo method in the CFQS quasi-axisymmetric stellarator |
| FP-4 | Koki Maekaku (The University of Tokyo) Analysis of the Distribution Function in the Landau Damping Process |
| FP-5 | Dongheyu Zhang (Tsinghua University) Unraveling the Physics of Laser-Sustained Plasma: Insights into the Influence of Laser Conditions |
| FP-6 | Jinbao Liu (Tsinghua University) Insight into the formation of the multi-core structure in laser-sustained plasmas |
| FP-7 | Mieko Toida (National Institute for Fusion Science) Simulation study of nonlinear development of lower-hybrid wave instabilities: energetic-ion mass dependence |
| FP-8 | Takeo Muramatsu (Nagoya University) Electro-Convective Turbulence Experiment -transport phenomenon at stability boundary- |
| FP-9 | Punit Kumar (University of Lucknow) Electron waves coupling and spiky solitons in piezoelectric semiconductor quantum plasma |
| FP-10 | Shinjiro Takeda (The University of Tokyo) Multi-view Imaging of Energetic Electron during High-Guide Field Magnetic Reconnection in Tokamak Merging Experiment |
| FP-12 | Jungkyun Kim (The University of Tokyo) Development of Two Dimensional Thomson Scattering Measurement System Using the Time Of Flight of Nd:YAG Laser |
| FP-14 | Charles Arrowsmith (University of Oxford) Beam-plasma instabilities in a laboratory analogue of blazar-induced pair jets at CERN |

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|-------|--|
| LP-1 | Kairi Mizushima (Hiroshima university) Generation of high-order harmonics radiations around 13.5 nm by using a T-shaped He gas tube |
| LP-2 | Imran Khan (Indian Institute of Technology Delhi) Ion acceleration by the interaction of two-oblique-colliding laser pulses with micron-size structured target |
| LP-3 | Zhehao Lin (Nagaoka University of Technology) Application of CIP-Soroban method to implosion process of heavy-ion-beam driven inertial confinement fusion |
| LP-4 | Dinkar Mishra (University of Lucknow) Simulation study on impact of laser pulses on particle defocusing and acceleration gradients |
| LP-5 | Shang Tan(Hunan University) Rescattering of stimulated Raman sidescattering in nonuniform plasma |
| LP-6 | Chiwan Song(Gwangju Institute of Science and Technology) Temporal evolution of the temperature of solid-density gold and diamond samples heated by a laser-driven ion beam |
| LP-7 | Shih-Hung Chen (National Central University) Simulation Study of Laser Proton Acceleration in a Gas Target |
| LP-8 | Trishul Dhalia (Indian institute of technology Delhi) Two dimensional simulations showing localized resonance absorption of a high-power microwave energy in plasma aided by inhomogeneous external magnetic field |
| LP-9 | Laxman Prasad Goswami(Indian Institute of Technology, Delhi) Parametric processes for laser interacting with magnetized plasma in R-L mode configuration. |
| LP-10 | Rohit Juneja (Indian Institute of Technology, Delhi) Laser Energy Absorption by Ions in a magnetized plasma |

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|-------|--|
| SGP-1 | Harune Sekido (Nagoya University) Reduction of Anisotropy in Numerical Dispersion in the Explicit Finite-Difference Time-Domain Method with Laplacian |
| SGP-2 | Keiji Fujita (Nagoya university) A nonlinear gyrokinetic model of the magnetosphere-ionosphere coupling system |
| SGP-3 | Jinhye Park (Kyung Hee University) Observation and simulation study on the response of the Earth's magnetosphere and ionosphere at the occurrences of the GLE events |
| SGP-4 | Kirolosse Girgis (Kyushu University) Inner Radiation Belt Simulation during the Geomagnetic Storm Event of February 2022 |

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|--------|--|
| SGP-5 | Rodrigo Miranda(University of Brasilia) Coherent Structures and Complexity-Entropy in Intermittent Plasma Turbulence |
| SGP-7 | Kenichi Nagaoka (National Institute for Fusion Science) Challenges to control the nonlinear wave-particle interactions using laboratory plasmas |
| SGP-9 | Koki Tachi (Tohoku University) Duct propagation of whistler-mode chorus emissions under the presence of ULF waves |
| SGP-10 | Hao Luo (Institute of Geology and Geophysics, Chinese Academy of Sciences) Spring-Autumnal asymmetry in the geomagnetic activity and its origin over the last 140 years |
| SGP-11 | Lin Tian (Institute of Geology and Geophysics, Chinese Academy of Sciences) A comparison of the ionospheric dynamo current of Mars above the landing sites of InSight and Zhurong: modeling and observations |
| SGP-12 | Xianglei He (Harbin Institute of Technology) Hall field structure analysis of three-dimensional magnetic reconnection in SPERF-AREX for simulated magnetopause events |

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|-------|--|
| SAP-1 | Himawan Winarto (Princeton University) Reconnection and Resistivity in Collisionless High-Beta Plasmas |
| SAP-2 | Siqi Zhao (Deutsches Elektronen Synchrotron DESY) Multi-spacecraft Observations of the Alfvénic Transition from Weak to Strong Magnetohydrodynamic Turbulence |
| SAP-3 | Kostas Tziotziou (National Observatory of Athens) Improving the REleASE solar proton forecasting capabilities with evidence of particle escape from the Sun: HESPERIA REleASE and beyond |

Poster Session 2 13:00-16:00, Nov. 14, Event Hall

| | |
|-------|--|
| FP-11 | Linjin Zheng (The University of Texas at Austin) Modification of Lie transform for the system with a fast-varying coordinate |
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|-------|---|
| BP-1 | Saba Majeed Gondal (University of Engineering and Technology, Lahore) Multiscale self-organized triple Beltrami states in four-component dusty plasmas |
| BP-2 | Pawandeep Kaur presented by Jagannath Mahapatra (Institute for Plasma Research) A Fluid Dynamic Study of Coulomb Acoustic mode in High Density Dusty Plasmas |
| BP-6 | Haibao Zhang(Beijing Institute of Graphic Communication) Blue core phenomena in nonuniform helicon plasma |
| BP-7 | Subhasish Bag(Indian Institute of Technology Delhi) One dimensional studies of electrostatic modes in microplasma |
| BP-10 | Samiran Das(Central Institute of Technology Kokrajhar) Comparative study of Dust-Ion-Acoustic modified Korteweg-de Vries solitons in a dusty plasma with cubic and quartic nonlinearity |
| BP-11 | Hiroshi Akatsuka(Tokyo Institute of Technology) Reexamination of the hydrogen-molecular spectral constants relevant to the Fulcher- α band observed in H ₂ discharge plasma |
| BP-12 | Takumi Seto(University of Tsukuba) Current Status of Development of High-Density Radio Frequency Plasma Source with Flat Loop Antennas for Pilot GAMMA PDX-SC |
| BP-13 | Soya Sumikawa(Tohoku University) Demonstrating a thrust generation by electrons in a magnetic nozzle rf plasma thruster |
| BP-14 | Huan Chen(Huazhong University of Science and Technology) Study on the characteristics of long-distance negative corona ionic wind by needle to mesh electrodes |
| BP-15 | Takashi Kikuchi(Nagaoka University of Technology) Numerical Analysis on Relaxation Process after Electron Injected into Malmberg-Penning Trap |
| BP-44 | Young-Dae Jung(Hanyang University) Occurrence scattering time in nonextensive plasmas |
| BP-46 | Masahiro Kobayashi (National Institute for Fusion Science) Photoionization experiments in UVSOR-III for study of divertor plasmas in a nuclear fusion reactor and of interstellar plasmas in a context of astrobology |
| BP-47 | Longyong Liao (SOKENDAI) Progress in the development of a compact D-T neutron spectrometer based on a single-crystal chemical vapor deposition diamond stack for fusion plasma diagnostic |
| BP-48 | Chihiro Suzuki (National Institute for Fusion Science) Experimental identification of new soft X-ray spectral lines of highly charged heavy ions through Z-dependence analysis |
| BP-49 | Takuma Yamada (Kyushu University) Wave number analysis of meso-scale structures in linear plasmas |
| BP-50 | Kosuke Okuda (Hiroshima University) Absorption length dependence of He I resonance line in He arcjet plasma |

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| AP-2 | Sota Shimizu(Tohoku University) |
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| | Operating a magnetron sputtering electric propulsion device with a pulsed gaseous water propellant |
| AP-4 | Jang Sejung(Tokyo Institute of Technology) Prediction of the plasma vertical instabilities using BERT |
| AP-5 | Rikizo Hatakeyama(Tohoku University) On-Insulator Growth of Nanocarbons Ranging from 1D to 3D Morphology through Catalyst- and Seed-Free Plasma Chemical Vapor Deposition |

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| LP-11 | Animesh Sharma (Indian Institute of Technology, Delhi) Short Pulse Interaction with Droplet Generated Microplasmas |
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| MFP-2 | Zhi Li (ENN Science and Technology Development Co., Ltd.) Plans of p-11B fusion study on an ENN spherical torus |
| MFP-3 | Sora Yabumoto (SOKENDAI) Prediction of Plasma Confinement Indexes by Gaussian Process Regression |
| MFP-4 | Anna Krupka(École Polytechnique) Scaling law of the plasma rotation in visco-resistive magnetohydrodynamic systems |
| MFP-5 | Xinchen Jiang (ENN Science and Technology Development Co., Ltd) Preliminary Heating & Current Drive design on EHL-2 spherical torus |
| MFP-7 | Nagato Yanagi (National Institute for Fusion Science) Engineering optimization of heliotron configuration for larger blanket space |
| MFP-8 | Tsukasa Sugiyama (The Graduate University for Advanced Studies) Study of asymmetry in heat and particle loads on divertor tiles in LHD |
| MFP-9 | Xiang Gu (ENN Science and Technology Development Co., Ltd.) Equilibrium and Divertor Design of the EHL-2 Spherical Torus |
| MFP-10 | Zhongyong Chen (Huazhong University of Science and Technology) Electromagnetic Pellet Injector for disruption mitigation on J-TEXT tokamak |
| MFP-11 | William Heidbrink (University of California, Irvine) A research program to measure spin polarized fusion reactions |
| MFP-13 | Shinichiro Toda(National Institute for Fusion Science) Research of turbulent transport for trapped electron mode by gyrokinetic analyses in collisional plasmas for tokamak devices |
| MFP-14 | Ao Wang(Southwestern Institute of Physics) Development of bismuth metallic Hall sensors for the HL-2A tokamak magnetic measurements |

Poster Session 3 13:00-16:00, Nov. 15, Event Hall

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| BP-16 | Shuai Yang(Huazhong University of Science and Technology) Real-time Diagnosis of Plasma Molecular Temperature Based on Visible Image Regression Analysis |
| BP-17 | Farida Batool(Indian Institute of Technology Jammu) Nonlinear Dispersion Relation for Dust Acoustic Wave based on Korteweg-de Vries model |
| BP-18 | Daichi Kobayashi(Nihon University) Comparison of Internal Magnetic Structure during Field-Reversed Configuration Merging Process with Resistive MHD Simulation |
| BP-19 | Andreas Bierwage(QST) On gyroaveraging in drift-kinetic simulations of fast particle dynamics |
| BP-20 | Reiji Hayata(Nihon University) Visible-Light Imaging of Merging Formed FRCs by Wide-View Tomography Camera |
| BP-22 | Ryunosuke Kikuchi (Nihon University) Simultaneous 3-view measurement of toroidal flow using IDS system in the FAT-CM device |
| BP-23 | Yugo Nakahama (Tohoku University) Effect of a cusp magnetic field provided by a permanent magnet array on a magnetic nozzle plasma thruster performance |
| BP-25 | Francois Waelbroeck (Univ. Texas at Ausitn) Compressible theory of unmagnetized islands in inhomogeneous plasma |

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| AP-3 | Masafumi Yoshida (National Institute of Technology, Ube College) Simulation of Cs layer on plasma grid in ITER-scaled negative ion source for long-term operation |
| AP-6 | Deepika Behmani presented by Sudeep Bhattacharjee (Indian Institute of Technology Kanpur) Spatio-temporal behavior of electric field fluctuations in a cold microplasma jet: modeling and experiments |
| AP-7 | Ma. Romina Rogem Ramos (University of the Philippines Diliman) Comparative Analysis of Si-based SERS Substrates Developed via Dry and Wet Etching Methods |
| AP-8 | Kosuke Shimokata (Meijo University) Generation of large volume, uniform plasma with a single energy source |
| AP-9 | Laika Jayne Montefalcon (University of the Philippines Diliman) Fabrication of Silver-Decorated of Titanium Dioxide Nanocolumnar Thin Films as Visible Light-Active Photocatalysts |
| AP-10 | Susumu Fujiwara(Kyoto Institute of Technology) Molecular dynamics study of DNA damage induced by hydroxyl radicals |
| AP-11 | Eunice Ramirez(University of the Philippines) |

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| | Effect of Dielectric Barrier Discharge Plasma on Rice (<i>Oryza sativa</i> L.) Seed Priming |
| AP-12 | Arantxa Danielle Montallana(Doshisha University) Near surface Langmuir probe characterization of silver reduction via plasma irradiation |
| AP-13 | Jingqian Peng(Kanazawa University) Numerical Study for Influence of Different Gap Length on Nanoparticles Synthesis by Tandem-Modulated Induction Thermal Plasma |
| AP-14 | Yamato Hosoi(Kanazawa University) Numerical Investigation on Ar/CH ₄ /H ₂ Induction Thermal Plasma Field with Arbitrary Power Modulation at Reduced Pressures for Diamond Film Growth |
| AP-15 | Bhargavi Sharma(Gautam Buddha University) Simulation Analysis for Detection of various Biomolecules in a Double Gate Plasma-Assisted Carbon Nanotube Field Effect Transistor (DG-PACNTFET) |
| AP-16 | Rio Okano(Kanazawa University) Numerical Study of Nanoparticle Synthesis in Tandem-PMITP+TCFF Method with Variation of Modulation Period |
| AP-19 | Shuangwei Zhao(College of Electrical Engineering Sichuan University) Research on Transport Characteristics of Vacuum Arc Plasma with Super Large Length-to-Diameter Ratio |
| AP-20 | Liguang Dou presented by Yuxuan Xu (Institute of Electrical Engineering, Chinese Academy of Sciences) Coupling nanosecond pulsed plasma with nanocatalysts for efficient CO ₂ conversion into liquid Chemicals |

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| MFP-15 | Yongqin Wang (Southwestern Institute of Physics) Effects of fishbone-like mode on energetic particle transport and loss in tokamak plasmas |
| MFP-16 | Shivam Gupta (National Institute for Fusion Science) Study of EUV spectrum from Kr ²⁵⁺ ion in Kr gas puffing experiment at the large helical device using a collisional radiative plasma model |
| MFP-17 | Xiaoyue Dai (The University of Tokyo) Characterization of solid hydrogen-pellet penetration in fusion plasmas of the large helical device |
| MFP-18 | Yusai Masamoto (Tottori University) Density dependence of tokamak equilibria with consistent bootstrap current and steady-state temperature profile including burning and radiation loss effects |
| MFP-19 | Shabbir Ahmad Khan (National Centre for Physics) Two-dimensional full wave analysis of O-X-B mode conversion of electron cyclotron waves in tokamak plasmas |
| MFP-20 | Tomohide Suetsugu (Kyushu University) Calibration of a Heavy Ion Beam Probe on the PLATO tokamak. |
| MFP-21 | Atsushi Fukuyama (Kyoto University) Integro-differential analysis of ion cyclotron waves in tokamak plasmas |
| MFP-22 | Cole Stephens (University of Texas at Austin) Quasilinear Gyrokinetic Modeling of Reduced Transport in the Presence of High Impurity Content, Large Gradients, and Large Geometric Alpha |
| MFP-23 | Shu Nishimoto (Nagoya University) Geodesic Curvature Dependence of Zonal Flow in the LHD |
| MFP-24 | Martin Storey (Meranti Research Laboratories) Experimental Verification of Parker's Effect and Applications in Magnetic Confinement Fusion |
| MFP-25 | Masayuki Yokoyama (National Institute for Fusion Science) Plausible model creation by means of data assimilation |
| MFP-26 | Kento Miyamae (The University of Tokyo) Numerical simulation of fuel isotope transport during DEMO start-up phase |
| MFP-27 | Jingting Wang (Tokyo Institute of Technology) Study on Stability Analysis of Non-axisymmetric Tokamak Plasma Equilibrium by 3-D Multi-layers Method |
| MFP-28 | Linge Zang (Southwestern Institute of Physics) Effect of the long-lived mode on the formation of ion internal transport barrier in HL-2A tokamak |
| MFP-55 | Shunsuke Morizawa (Nagoya University) Effect of Local Helical Coil Field on Vertical Position Displacement Caused by Uniform Horizontal Field in TOKASTAR-2 |
| MFP-56 | Ryoma Yanai (National Institute for Fusion Science) Full-wave Analysis for Estimation of Microwave Beam Broadening by Turbulent Density Fluctuations in LHD |
| MFP-57 | Hiroyuki Yamaguchi (National Institute for Fusion Science) Quasi-axisymmetric magnetic configurations with magnetic well and improved symmetry at low aspect ratio |
| MFP-58 | Masaki Uchida (Kyoto University) Estimation of current distribution using flux loops in the low aspect ratio torus experiment device (LATE) |
| MFP-60 | Xiandong Zeng (Harbin Institute of Technology) Preliminary study on the phase space instability of fusion reactors |

Poster Session 4 13:00-16:00, Nov. 16, Event Hall

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| BP-26 | Ayesha Nanda(Indian Institute of Technology Kanpur) Energy exchange in a compact dipole plasma: thermodynamical investigations through measurements and modeling |
| BP-28 | Sushanta Barman presented by Sudeep Bhattacharjee (Indian Institute of Technology, Kanpur) |

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| | Experimental and Numerical Investigation of Plasma Sheath Electric Field Penetration Through a Micro-aperture |
| BP-30 | Swati Swagatika Mishra presented by Sudeep Bhattacharjee (Indian Institute of Technology Kanpur) Molecular level mechanisms in microplasmas at cryogenic temperatures |
| BP-31 | Reina Miyauchi (University of Tsukuba) Evaluation of Electrode Potential and Heat Load of a Cascade Arc Discharge for Realization of High Density Hydrogen Plasma Discharge |
| BP-32 | Hiroki Hasegawa (National Institute for Fusion Science) Effects of End Plates and Kinetic Dynamics on Filamentary Plasma Structure Formations |
| BP-33 | Kazunori Takahashi (Tohoku University) Experimental demonstration of diamagnetism enhanced by energetic electrons in a magnetic nozzle plasma |
| BP-35 | Yifei Li (Beihang University) Acceleration method for solving Poisson's equation in particle-in-cell method: investigation on acceleration efficiency and optimal acceleration parameters under different methods |
| BP-36 | Debaprasad Sahu (Indian Institute of Technology Delhi) Parametric Study of Degree of Dissociation in a Low Pressure ECR based Hydrogen Plasma Source |
| BP-37 | Nobuaki Ohno (University of Hyogo) Virtual Reality Visualization of the Large Helical Device Simulation with Head Mounted Display |
| BP-38 | Yunxuan Wang (Huazhong University of Science and Technology) Plasma Discharge Patterns Recognition Base on Improved DenseNet |
| BP-39 | Yume Teranishi (Tohoku University) Characterization of a linear helicon plasma device in convergent magnetic fields |
| BP-40 | Li-chung Liu (National Taiwan University) On electromagnetic wave ignited sparks in aqueous dimers |

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| MFP-31 | Mamoru Shoji(National Institute for Fusion Science) Fast-framing camera observations of the trajectory and the ablation position of dust particles injected by the multi-species impurity powder dropper in the Large Helical Device |
| MFP-32 | Yuanyun Zhong presented by Yuqi Shen (Southwestern Institute of Physics) Validation of the plasma equilibrium configuration designed by FEEQS in the HL-2M experiment |
| MFP-33 | Kristel Crombe(Royal Military Academy) Characterisation of plasma properties for wall conditioning studies on the TOMAS device |
| MFP-34 | Keishi Homma(University of Tsukuba) Study of ion kinetic effects on plasma distributions by anisotropic-ion-pressure plasma fluid simulation |
| MFP-35 | Hirofumi Kanno(Kobe University) Measurement of heat quantity incident into a bias-type calorimeter for divertor thermal load reduction by direct energy conversion |
| MFP-36 | Yugo Isobe(The University of Tokyo) Characterization of transition to detachment of magnetic confinement plasmas via data-driven approach |
| MFP-37 | Kyung Sun Park(Chungbuk National University) Investigation of plasma processes by global MHD simulations |
| MFP-38 | Heng Lan(Southwest Jiaotong University) A new electromagnetic probe array diagnostic system for analyzing electrostatic and magnetic fluctuations on EAST |
| MFP-39 | Naonori Okada(Tokai University) Effect of ion temperature on detached plasma formation using a linear divertor simulator TPD sheet-U |
| MFP-41 | Zhe Chen(University of Science and Technology of China) On the energetic particle-induced geodesic acoustic modes with finite-orbit-width effects |
| MFP-42 | Lulu Zhang(Zhejiang University) M3D-K simulations of instabilities excited by energetic particles on KSTAR |
| MFP-43 | Xin Xu(Huazhong University of Science and Technology) Investigation the impact of carbon impurity radiation on density limit in limiter and divertor configurations on J-TEXT |
| MFP-44 | Shengyang Xiao(Huazhong University of Science and Technology) Thermal transport induced by stochastic magnetic fields during fast thermal quench in tokamak plasmas |
| MFP-46 | Shuji Kamio(University of California, Irvine) Study of the fast-ion acceleration by beam-driven wave in C-2W |
| MFP-47 | Motoyasu Sato(Chubu University) Low Power Fusion Driven -Subcritical Thorium Fission Reactor Concept |
| MFP-48 | Ryota Matoike(National Institutes for Quantum Science and Technology) Conductive and convective transport in the Scrape-Off Layer of JT-60U |
| MFP-49 | Ryota Nishimura(Tohoku University) Observation of tungsten UTA spectra in the EUV wavelength range around 200 Å in the Large Helical Device |
| MFP-50 | Yuya Suzuki(SOKENDAI) Prediction of radiative collapse by analyzing videos of plasma discharge with Convolutional Neural Network in LHD |
| MFP-52 | Tetsutarou Oishi(Tohoku University) Line emission spectra of tungsten impurity ions across visible, VUV, EUV, and X-ray wavelength ranges observed in a magnetically confined high-temperature plasma experiment |
| MFP-53 | Atsushi Ito(National Institute for Fusion Science) Comparison between the generalized Grad-Shafranov equation for MHD equilibrium with flow and its reduced models |
| MFP-54 | Sota Takemoto(Nagoya University) Study on impurity transport model based on JT-60U experimental data |

[17] Satellite Workshop/Symposium

- 1) Women in Plasma Physics Workshop: November 13 (Monday) 19:00-20:00 at Room 3
- 2) Space WS on November 12 (Sun) 13:00-16:00 at Room 3
- 3) Fusion Private Sector: November 13 (Monday) 19:00-20:00 at Mail Hall

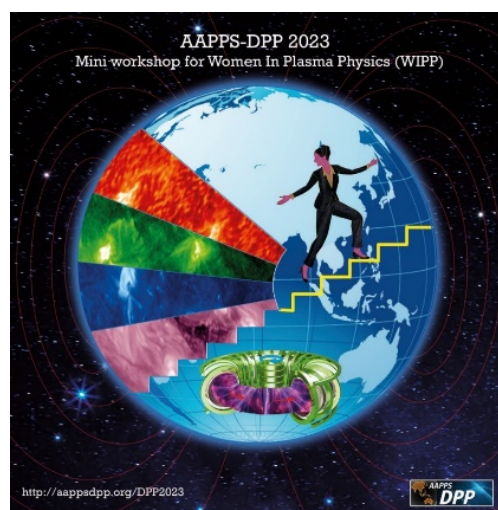
*Presentation at satellite WS do not apply “one-oral” rule.

Mini-Workshop for Women in Plasma Physics (WIPP)

A Mini Workshop for Women in Plasma Physics (WIPP) will be held as part of the Association of Asia Pacific Physical Societies - Division of Plasma Physics (AAPPS-DPP) international conference at Port Messe Nagoya, Japan on Monday 13th of November 2023.

Women are excellent contributors to diverse fields of Plasma Physics, but they often face different challenges. The Mini-Workshop WIPP-AAPPS-DPP provides a platform for women scientists to discuss and share their journey. The workshop aims to understand the issues that women scientists and researchers face while pursuing their careers. It will discuss women's obstacles and problems, how they are overcome, and what can be done to motivate their participation in research, conferences, and workshops.

The workshop is open to everyone, but we encourage women participants of AAPPS-DPP to actively contribute as presenters/speakers or discussion participants. It will be a great networking event. Please submit your interest here: <https://protect-au.mimecast.com/s/zPrxCYW8NocDprVj1u0-fzJ?domain=forms.gle>



Date and Time: Monday 13th November 2023, Time 19:00–21:00, Room 3

WIPP committee chair: Dr Anne Mai-Prochnow

Contact: anne.mai-prochnow@sydney.edu.au

Program

- 7 pm: Welcome & Introduction Dr Anne Mai-Prochnow, WIPP Committee Chairperson Overall scenario related to women in plasma physics (or in research) based on current statistics/reports etc [15 minutes]:
- 7.15 pm: **Prof. Setsuko Tajima** Vice Chair of AAPPS working group for Women In Physics (WIP): "The current status of AAPPS Working Group of Women in Physics". [15 minutes]
- 7.30 pm: **Dr Mamiko Sasao** "Physics Education and Unconscious Gender Bias" [15 minutes]
- 7.45 pm: **Dr Daniela Grasso** "Is it possible organize a gender balanced conference?" [10 minutes]
- 7.55 pm: **Dr Surabhi Jaiswal**, video [5 minutes]
- 8.00 pm: **Prof. Anisa Qamar** "Problems of Pakistani Women to Adopt Physics as a Career" [10 minutes]
- 8.10 pm: **Dr Aneeqa Khan**, Title TBC [10 minutes]
- 8.20 pm: **Dr Weixin Guo**, Title TBC [10 minutes]
- 8.30 pm: Open Discussion led by WIPP committee member [25 minutes]
- 8.55 pm: Concluding remarks and Vote of Thanks by WIPP Committee member: Based on Data collected through Google form/oral presentations/experiences shared through video etc. [5 minutes]

Mini-workshop on probing, controlling, and understanding wave-particle interactions in space and laboratory plasmas

Organizer's name: Yuto Katoh (Tohoku Univ., Japan)

Preferred date and time: November 12 (Sun) 14:00-17:00

Number of participants: <50

Purpose: This workshop aims to understand similarities/differences of (i) wave-particle interactions occurring in space and laboratory plasmas (WPIs), (ii) particle acceleration/heating in plasmas through WPIs, and (iii) artificial control method of WPIs. The latest issues related to WPIs in space and laboratory plasmas will be shared through oral presentations (given by invited speakers) and discussions with workshop participants.

Program

14:00-14:05 Introduction

14:05-14:55 Keynote talk (30 min talk + discussion)

Speaker: Prof. Yoshiharu Omura (RISH, Kyoto University)

Title: Relativistic Electron Precipitation by EMIC Waves

14:55-15:45 Keynote talk (30 min talk + discussion)

Speaker: Prof. William Heidbrink (University of California, Irvine)

Title: Whistler-mode waves driven by runaway electrons

15:45-15:55 break

15:55-16:45 Keynote talk (30 min talk + discussion)

Speaker: Prof. Yasushi Todo (NIFS)

Title: Interaction between energetic particles and Alfvén eigenmodes in magnetically confined plasmas

16:45-17:00 Summary

- Introduction to the project PCUBE (Probing, controlling, and understanding of radiation belt environments)
- Discussion for probing, controlling, and understanding wave-particle interactions in space and laboratory plasmas

Fusion Private Sector Session

Date: Monday, November 13, from 19:00 to 21:00

Venue: Main Hall, Port Messe Nagoya

Background and Purpose:

Fusion energy start-ups have been emerging rapidly worldwide in recent years. These companies, including yours, are setting the stage for fusion power generation, possibly as early as the late 2020s or 2030. However, there needs to be more opportunities for fusion start-ups worldwide to discuss the industrialization of fusion as an energy source. In this session, their respective fusion reactor development plans will be discussed. Researchers, engineers, or managers from some fusion start-ups will join the session as panelists. The discussion will significantly benefit research institutions, academia, and companies in improving their R&D plans. Key points of discussion include:

1. How to monetize fusion power generation?
2. What impact could your company's fusion power plant, once demonstrated or realized, have on global energy issues?
3. Are there alternatives (plan B) to your ambitious development plans?

Each company will have a 10-minute presentation. In the remaining time, a panel discussion will follow the presentations and involve a 20-minute dialogue with the audience.

Program:

19:00 -19:05: Opening Remarks

19:05 -19:15: H. Ozaki (Kobe Univ.) "A brief review on the fusion power industry" (tentative title)

19:15 -20:15: 10-minute presentations of the fusion start-ups

Participating start-ups: Helical Fusion, Tokamak Energy, EX-Fusion, Kyoto Fusioneering, ENN Science and Technology Development

A short Q&A may follow each presentation in a few minutes.

20:15-21:00: Panel Discussion (Facilitator: H. Ozaki)

[18] AAPPS-DPP Prizes

18.1 2023 Subrahmanyan Chandrasekhar Prize of Plasma Physics

Press Release

Sept. 15 2023

Association of Asia-Pacific Physical Societies (AAPPS)
Division of Plasma Physics (AAPPS-DPP)

Subrahmanyan Chandrasekhar Prize of Plasma Physics

– Professor Katsumi Ida is selected as 10th (2023) Laureate –

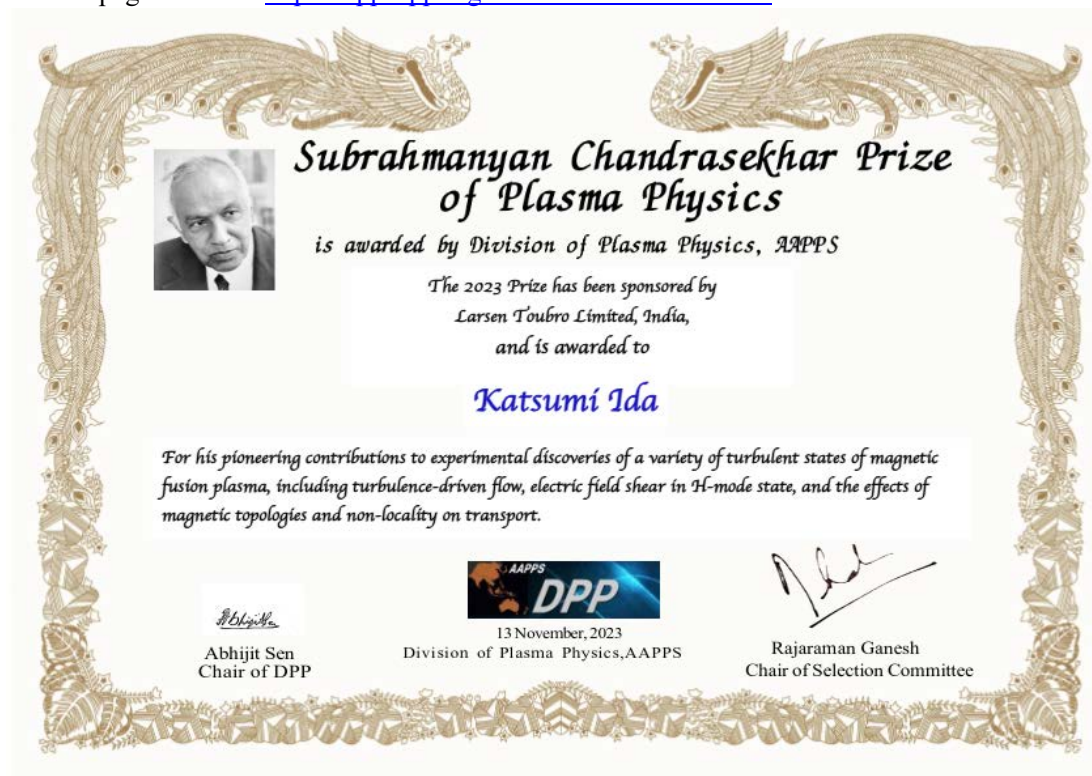
The Division of Plasma Physics (CEO: Mitsuru Kikuchi, Chair: Abhijit Sen) under the Association of Asia Pacific Physical Societies (President: Hyoungh Joon Choi) has selected Professor Katsumi Ida of the National Institute of Fusion Science, NINS) as the 10th (2023) Laureate of S. Chandrasekhar Prize of Plasma Physics, which is awarded to scientist who have made seminal / pioneering contributions in the field of plasma physics. Citation:

Katsumi Ida: *For his pioneering contributions to experimental discoveries of a variety of turbulent states of magnetic fusion plasma, including turbulence-driven flow, electric field shear in H-mode state, and the effects of magnetic topologies and non-locality on transport.*

Contact points:

AAPPS-DPP Association Inc. : Representative Director and CEO, Mitsuru Kikuchi, TEL: +81-80-1115-3482

AAPPS-DPP Homepage Address: <http://aappsdp.org/AAPPSDPPF/index.html>



Certificates of 2023 S. Chandrasekhar Prize of Plasma Physics

Certificate, medal and cash prize will be given at the 7th Asia-Pacific Conference on Plasma Physics (AAPPS-DPP2023) Nov. 12-17, 2023 at Port Messe Nagoya.

AAPPS-DPP Plasma Innovation Prize

– Professor Takayuki Watanabe is selected as Fifth Laureate (2023) –

The Division of Plasma Physics (CEO: Mitsuru Kikuchi, Chair: Abhijit Sen) under the Association of Asia Pacific Physical Societies (President: Hyoung Joon Choi) selected Professor Takayuki Watanabe of Kyushu University as the 5th Laureate of AAPPS-DPP Plasma Innovation Prize, which is awarded to scientists who have made seminal / pioneering contributions in the field of plasma applications, focusing on impacts on industry.

Citations:

Takayuki Watanabe: *For his outstanding contributions to applications of thermal plasma processing, in particular, for nanomaterials synthesis based on sophisticated modeling and experimental investigation; for invention and commercialization of plasma waste treatment by water thermal plasma; and for invention of multiphase AC arc which led to successful industrial application of glass melting technology.*



AAPPS-DPP Innovation Prize

is awarded by Division of Plasma Physics, AAPPS
for outstanding contribution to the field of Plasma Applications.

The 2023 Prize sponsored by INOX India Ltd,

is awarded to

Takayuki Watanabe

For his outstanding contributions to applications of thermal plasma processing, in particular, for nanomaterials synthesis based on sophisticated modeling and experimental investigation; for invention and commercialization of plasma waste treatment by water thermal plasma; and for invention of multiphase AC arc which led to successful industrial application of glass melting technology.



Abhijit Sen
Chair of DPP



Rajdeep Singh Rawat
Chair of Selection
Committee

13 November, 2023

Certificates of 2023 Plasma Innovation Prize

Certificate, medal and cash prize will be given at the 7th Asia-Pacific Conference on Plasma Physics (AAPPS-DPP2023) Nov. 12-17, 2023 at Port Messe Nagoya.

Contact points:

AAPPS-DPP Association Inc. : Representative Director and CEO, Mitsuru Kikuchi, TEL:
+81-80-1115-3482

AAPPS-DPP Homepage Address : <http://aappsdp.org/AAPPSDPPF/index.html>








18.3 AAPS-DPP Young Researcher (U40) Award 2023

Press Release

The Division of Plasma Physics (CEO: Mitsuru Kikuchi, Chair: Abhijit Sen) under the Association of Asia Pacific Physical Societies (President: Hyoung Joon Choi) selected **7 scientists under 40** for **AAPS-DPP Young Researcher (U40) Award**.

AAPS-DPP recognizes young research scientists who made a significant research contribution(s) to plasma physics at AAPS affiliation not more than 40 by AAPS-DPP young researcher award since 2016. Past recipients (2016-2022) can be found at <http://aappsdp.org/AAPSDPPF/youngawardtable.html>

This year(2023), 31 candidates are nominated from AAPS-DPP members, who published papers in leading journals. Selection committee are formed by members from India, China, Australia, Japan, Korea, US, Europe and selected 7 winners including 1 women by rigorous evaluation.

| U40 Winner | Field, Name and Affiliation | Citation |
|---|--|--|
|  | [Fundamental] Shinya Maeyama National Institute for Fusion Science | <i>For his pioneering work on multi-scale gyrokinetic simulation of drift wave turbulence and transport in magnetically confined plasma, revealing cross-scale interactions of plasma turbulence and zonal flows. The achievements contributed to quantitative evaluation of the anomalous transport in fusion plasma experiments.</i> |
|  | [Applied] Pankaj Attri Kyushu University | <i>For outstanding research in low-temperature plasmas, including understanding the mechanisms of reactive species generation in the gas and liquid phases, and their applications in agriculture and medicine.</i> |
|  | [Laser] Yang Wan [万阳] Zhengzhou University | <i>For his significant contributions to exploring the key physics of laser-plasma ion acceleration and developing advanced diagnostics for revealing the key processes involved in laser-plasma wake-field acceleration.</i> |
|  | [Space/Geomagnetism] Shiyong Huang [黄狮勇] Wuhan University | <i>For his significant contributions to the understanding of magnetic structures and plasma waves during magnetic reconnection, the properties of plasma turbulence spanning from MHD to electron scales, and the interplay between magnetic reconnection and plasma turbulence.</i> |
|  | [Solar/Astro] Ting Li [李婷] National Astronomical Observatory, CAS | <i>For her important contributions to scientific advances in the 3D evolution and triggering mechanism of solar eruptive activities, including the discovery of observational evidence for 3D reconnection models of solar flares.</i> |
|  | [Magnetic Fusion] Rui Ding [丁锐] Institute of Plasma Physics, CAS | <i>For his outstanding contributions towards understanding of plasma-wall interaction processes via development of material erosion and migration models and dedicated experiments in various tokamaks, and effective divertor physics solutions for fusion reactors.</i> |
|  | [Magnetic Fusion] Xiaodi Du [杜晓第] General Atomics | <i>For the discovery of the energetic particle driven resistive interchange mode and for the development of an imaging neutral particle analyzer diagnostic with unprecedented phase-space resolution</i> |

2023 U40 Selection committee:

Chairman: Prof. Amita Das (Indian Institute of Technology-Delhi, IN)

Members: Prof. G. Ravindra Kumar (Tata Institute of Fundamental Research, IN)

Prof. Katsumi Ida (National Institute for Fusion Science, JP)

Prof. Tohru Hada (Kyushu University, JP)

Prof. Lu Wang (Huazhong University of Science and Technology, CN)

Prof. Yunfen Liang (Forschungszentrum Jülich GmbH, DE/ Institute of Plasma Physics-CAS, CN)

Prof. Jungyeon Cho (Chungnam National University, KR)

Prof. Anthony B. Murphy (CSIRO, AU)

Prof. Troy Carter (UCLA, US)

Prof. Dominique Escande (Aix-Marseille Université, CNRS, Consorzio RFX, FR)







18.4 AAPPS-DPP U30 Doctoral Scientist / Student Award 2023

Press Release

The Division of Plasma Physics (CEO: Mitsuru Kikuchi, Chair: Abhijit Sen) under the Association of Asia Pacific Physical Societies (President: Hyoung Joon Choi) selected 6 scientists under 30 for **U30 Doctoral Scientist / Student Award**.

AAPPS-DPP recognizes exceptional U30 (under 30 years old) scientists/ students who have performed original work of outstanding scientific quality and achievement in the area of plasma physics with current institution or nationality is required to be in the AAPPS region since 2018 sponsored by IFE Forum. Past recipients (2018-2022) can be found at <http://aappsdp.org/AAPPSDPPF/U30awardtable.html>

This year(2023), 20 candidates are nominated from AAPPS-DPP members, who published papers in leading journals. Selection committee are formed by members from India, China, Korea, Japan and selected 6 winners including 1 women by rigorous evaluation.

| U30 Winner | Field, Name, Affiliation | Citation |
|---|--|---|
|  | [Basic] Swarnima Singh Institute for Plasma Research | <i>For the significant contribution on “Demonstrating formation of square lattice in a monodisperse complex plasma”</i> Main paper: Swarnima Singh, et al, Square Lattice Formation in a Monodisperse Complex Plasma, Phys. Rev. Lett. 2022 |
|  | [Laser] Masato Ota National Institute for Fusion Science | <i>For the significant contribution on “Ultra-fast visualization of electric fields around a relativistic electron bunch”</i> Main paper: Masato Ota, et al., Ultrafast visualization of an electric field under the Lorentz transformation, Nature Physics (2022) |
|  | [Space] Zhi-Yang Liu [刘志扬] Peking University | <i>For the significant contribution on “New findings on multiscale wave-ion interaction in near-earth space plasmas”</i> Main paper: Z.-Y. Liu ,et al., Simultaneous macroscale and microscale wave-ion interaction in near-earth space plasmas, Nature com (2022) |
|  | [Solar&Astro] Yajie Chen [陈亚杰] MPS/Peking University | <i>For the significant contribution to “the understanding of small-scale reconnection events in the solar atmosphere”</i> Main paper: Yajie Chen, et al, Transient small-scale brightenings in the quiet solar corona: A model for campfires observed with Solar Orbiter, Astronomy & Astrophysics (2021) |
|  | [Magnetic Fusion] Yi Zhang [张毅] Southwestern Institute of Physics | <i>For the significant contribution on “Finding effects of curvature of radial electric field on edge magnetohydrodynamics mode in toroidal plasmas”</i> Main paper: Y. Zhang, et al., Curvature of Radial Electric Field Aggravates Edge Magnetohydrodynamics Mode in Toroidally Confined Plasmas, Phys. Rev. Lett. (2020) |
|  | [Magnetic Fusion] Jaemin Seo Chung-Ang University | <i>For the significant contribution on “Finding a new-type of self-generated current in magnetized plasmas”</i> Main paper: Yong-Su Na, Jaemin Seo, et al, Observation of a new type of self-generated current in magnetized plasmas, Nature com (2022) |

2023 U30 Selection committee:

Chairman: Em. Prof. Kunioki Mima (Osaka University, JP)

Members: Prof. Ryoji Matsumoto (Chiba University, JP)

Prof. Joydeep Ghosh (Institute for Plasma Research, IN)

Prof. Liming Chen (Shanghai Jiaotong University, CN)

Prof. Xuening Bai (Tsinghua University, CN)

Prof. Jong-Kyu Park (Seoul National University, KR)

18.5 AAPPS-DPP Poster Prize 2023

DPP is recognizing significant poster presentation at the annual conference as AAPPS-DPP Poster Prize since 2018 for both students and young/senior researchers. Selection committee will select number of significant posters. Winner will receive a certificate and a book gift (only limited number is available). Selection committee chair is Dr Richard Sydra (Canada).

[19] Publication

AAPPS-DPP encourage publication of plenary and invited talks to our official journal Reviews of Modern Plasma Physics (RMPP) <https://www.springer.com/journal/41614> . Article types are general "Review", "Special Topics" focused on your/group works, "Tutorial" for introduction, "History", "Chandrasekhar Lecture", "Plasma Innovation Lecture". Contact RMPP chair (M. Kikuchi) for any question. RMPP is a hybrid journal with subscription access and open access options. No Publishing fee is required for subscription option while open access option requires publication charge.

According to Exaly, RMPP is high impact factor (=5.5) journal as of 2021.

(<https://exaly.com/journal/40760/reviews-of-modern-plasma-physics/?from=1970&to=2021>), RMPP is now accepted in the Scopus index collection.

For original article, PFR(<http://aappsdp.org/DPP2023/html/6publications/publications.html>) welcome submission.

[20] Fraud attempt to participants: There were some phone calls and follow-up emails asking for credit card information for hotel accommodations to the speakers of past in-person conferences. Do not respond and ignore in case. It is fraud attempt.

[21] Committees

International Organizing committee

IOC chair: Abhijit Sen (IN), IOC Co-chairs: Mitsuru Kikuchi (JP), Rajdeep S. Rawat (SG), Wonho Choe (KR), Yutong Li (CN),
Plasma societies: Karl Krushelnick (APS-DPP), Kristel Cromb  (EPS-DPP), Ge Zhuang(CPS-DPP), Yasuhiko Sentoku (JPS-plasma), Dong-o JEON(KPS-DPP), Prabal K. Chattopadhyay (PSSI), Satoshi Yamamoto (ASJ), Yipeng Jing (CAS), GC Anupama (ASI), Yasuharu Omura (SGEPSS), Ji Wu (CSSR), Kazuo Kyuma (LSJ), Jie Zhang (CPS-DHEDP), Mineo Hiramatsu (JSAP-DPE), Yuan-Hong Song(DPP-CSTAM), Jing Zhang (DPP-CSTAM), Yasuhiko Takeiri (JSPF), Sor Saw Heo (AAAPT), Matthew J. Hole (Australian ITER Forum), Sooseok Choi(PDD-KVS), Narayan P. Chapagain (NPS), Kuru Ratnavelu (MIP),
DPP Prize Laureates: Don Melrose (AU), Lou-Chuang Lee (TW), Chio Zong Cheng (TW), Toshiki Tajima (JP/US), Liu Chen (CN), Kazunari Shibata (JP), Hyeon Park (KR), Masaru Hori (JP), TS Hahm(KR), Arnab Rai Choudhuri (IN)
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Fundamental: Akira Hasegawa (JP), R.L. Dewar (AU), Chuan Sheng Liu (US), Zensho Yoshida (JP), Hideo Sugama (JP),Akihide Fujisawa (JP),Yasushi Ono (JP), Guoyang Fu (CN), Shaojie Wang (CN) , F. Zonca (IT), Dominique Escande (FR), Xavier Garbet (FR), George Tynan(US), James Drake (US), Ding Li (CN), Phillip Morrison (US), Yasushi Todo (JP), Hui Li(US), Tomo-Hiko Watanabe (JP),
Basic: Lin I (TW),Chio-w-San Wong (MY), Rajaraman Ganesh (IN), Michel Bonitz (DE), Giovanni Manfredi (FR), Amar Misra (IN), Osamu Ishihara (JP), Guru Ganguli (US), Troy Carter (US), Mike Mauel (US), Cary Forrest (US), Shunjiro Shinohara (JP), Hiroshi Akatsuka (JP), Yaming Zou (CN), Kwo Ray Chu (TW), Yoshiharu Uesugi (JP), Igor Levchenko (SG), Katia Bazaka (AU), Shin-Hung Chen (TW), Avinash Khare (IN), Yasuhiro Idomura (JP), Haruhiko Himura(JP), Frank Jenko (US), Zhihong Lin (US), Fredrick Skiff (US), Cormac Corr (AU), Heremba Bailung (IN),Sudeep Bhattacharjee(IN), A A Mamun (BG),Yan Feng (CN), Kenji Tanaka (JP), Choong-Seock Chang (US),Kazunori Takahashi (JP),Gunsu Yun (KR), Takuma Yamada(JP), Fernando Haas(BR), Izumi Murakami(JP), M. Nishiura(JP),
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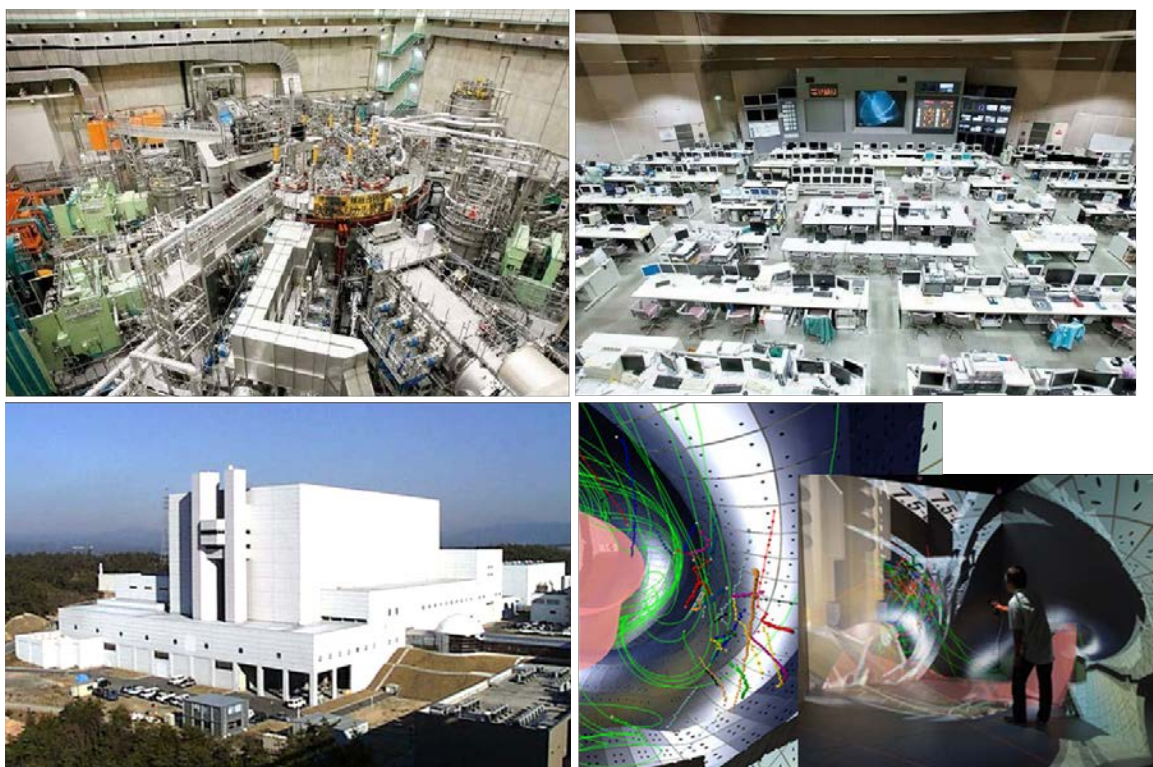
L (Laser); Hyyong Suk(Chair), Min Chen(Vice), Shinsuke Fujioka(Vice), Kitae Lee(Vice), Prashant Kumar Singh(Vice), Yoshitaka Mori, Takuo Okuchi, Mamiko Nishiuchi, Byoung-ick Cho, Jaehoon Kim, Minsup Hur, Zheng-Ming Sheng, Jian Zheng, Yongtao Zhao, Bin Qiao, Mrityunjay Kundu, Bhuvanesh Ramakrishna, Tae Moon Jeong, Kei Nakamura, Anand Moorti, Weimin Zhou,
SG (Space/ Geomagnetism); Yoshiharu Omura(Chair), Peter Yoon(Vice), QuanMing Lu(Vice), Tohru Hada, Lin-Ni Hau, Dong-Hun Lee, Abraham Chia, Gurbax Lakhina, Nazish Rubab, David Ruffolo, Meng Zhou, Yasuhito Narita, Kanako Seki, Masahiro Hoshino,
SA (Solar/Astro); P. F. Chen (Chair), Ryoji Matsumoto (Co), Jungyeon Cho(Co), Hantao Ji, Jin Lin Han, Kyungsuk Cho, Patrick Antolin, Brigitte Schmieder, Durgesh Tripathi, Shu-ichiro Inutsuka, Hui Li, Takaaki Yokoyama, Takeru Suzuki, Lou Lee, Fulai Guo, Rony Keppens,
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Local Organizing Committee

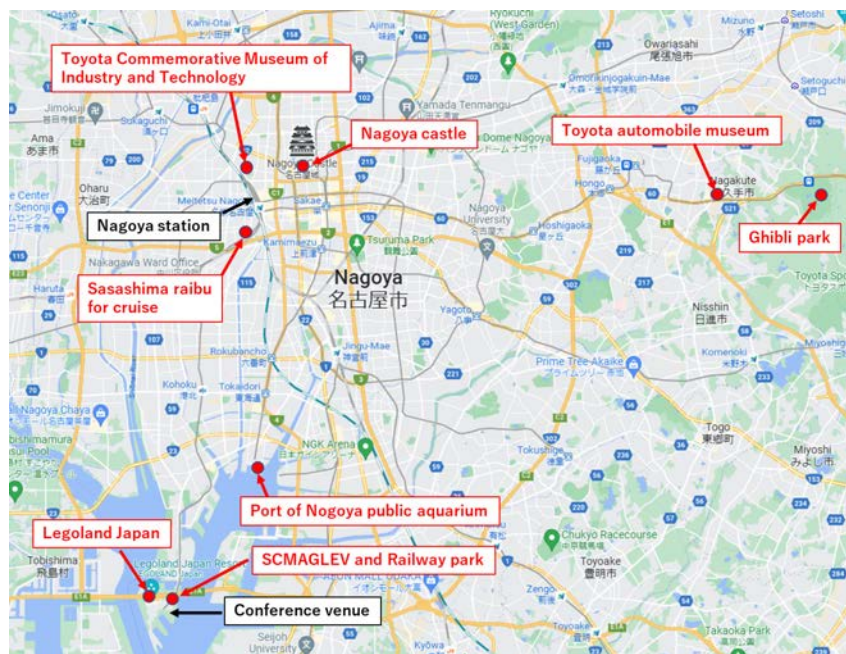
LOC Chair: Kenichi Nagaoka, **LOC secretary:** Naoki Kenmochi, **LOC members:** Gen Motojima, Hao Wang, Kiyofumi Mukai, Masahiro Kobayashi, Mikiro Yoshinuma, Noriyasu Ohno, Ryoma Yanai, Ryo Yasuhara, Shin Kubo, Shunsuke Usami, Takayoshi Tsutsumi, Tatsuya Kobayashi, Tomohiko Watanabe, Tomoko Kawate, Yasuko Kawamoto, Yuki Takemura

[22] NIFS Tour

The tour will be held on 12 Nov. Sunday and take you to NIFS to visit the experimental hall of LHD, the control room, CompleXcope (virtual reality), the supercomputer, and NIFS Units presentations. The detailed information will be sent to the participants of the tour.



[23] Sightseeing places



1. Toyota Commemorative Museum of Industry and Technology <https://www.tcm.it.org/english/>



Access: It is located near Nagoya station. At Meitetsu Nagoya station, take Meitetsu Inuyama Line bounds for Iwakura → Get off at Sako station. 3 minutes walk from Sako Station.

2. Toyota automobile museum <https://toyota-automobile-museum.jp/en/>



Access: At subway Nagoya station, Take Higashiyama line bounds for Hujigaoka → Get off at Hujigaoka station, change to Linimo Tobu-Kyuryo Line bound for Yakusa → Get off at Geidai-dori Station. A five-minute walk from Exit 1 to west.

3. Ghibli park <https://ghibli-park.jp/en/>



Access: Subway Nagoya station, Take Higashiyama line bounds for Hujigaoka → Get off at Hujigaoka station, change to Linimo Tobu-Kyuryo Line bound for Yakusa → Get off at Ai-Chikyu haku kinen kouen Station.

Ticket: A ticket has to be purchased prior to visit through the web site. The tickets for November are sold from 10 August at the web site.

4. Nagoya castle <https://www.nagoyajo.city.nagoya.jp/en/>



Access: Take Sakura-dori subway line at Nagoya station bound for Hisaya-odori. Change the train at Hisaya-odori and take Meijo subway line clockwise. Get off at Nagoyajo.

5. Port of Nagoya public aquarium <https://nagoyaaqua.jp/english/>



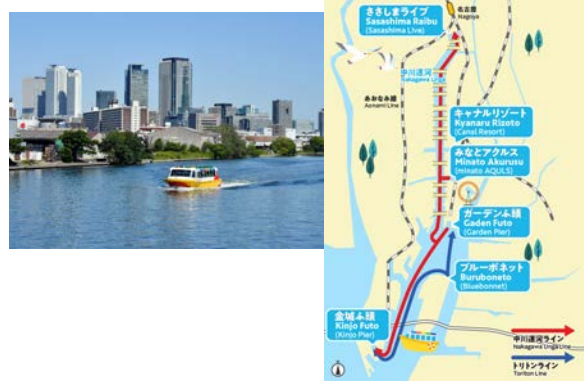
Access: Take Higashiyama subway line at Nagoya station bound for Hujigaoka. Change trains at Sakae Station and Take Meijo Line (counterclockwise) bound for Kanayama. Get off at the last stop Nagoyako Station. It's a 5-minute walk from exit 3. Or Take JR Line at Nagoya station bound for Kozoji or Toyohashi. Get off at Kanayama Station, change to the Meiko Subway Line bound for Nagoyako Station. Get off at the last stop Nagoyako Station and it's a 5-minute walk from exit 3.

6. Legoland Japan

<https://www.legoland.jp/en/>



Access: Near the conference venue.



7. SCMAGLEV and Railway park

<https://museum.jr-central.co.jp/en/>



Access: Near the conference venue.

8. Nagoya Marine Rider

<https://www.shachi-bus.com/marine/>



Amphibious buses take you from Sakae to Nagoya port, and visit the Port of Nagoya public aquarium. You can take a subway Meijo line to return to Nagoya station.

Access to Sakae bus station: Take Sakura-dori subway line at Nagoya station bound for Hisaya-odori. Get off at the Hisaya-odori station. 5 minute walk from exit 5A or 23.

9. Cruise Nagoya

(Operates on Saturdays and Sundays only)

<https://cruise-nagoya.jp/en/>

Cruise Nagoya connects the most popular sightseeing spots in Nagoya. It takes about 75 min. You can take a tour from Sasashima-raibu station to Kinjo Pier by the boat, and return to Nagoya station by train (Aonami line).

Boat embarkation stations:

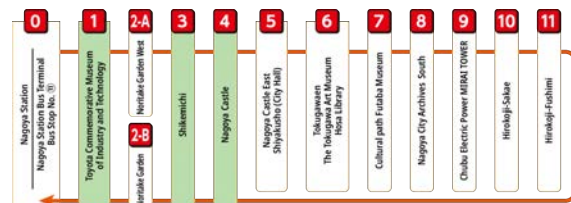
- Sasashima Live (Take Aonami line bound for Kinjo-futo at Nagoya station. Get off at Sasashima-raibu. 3 minute walk to the boat.)
- Canal Resort
- Minato AQUUS
- Garden Pier
- Bluebonnet
- Kinjo Pier (near the conference venue)

10. Nagoya Sightseeing Route Bus Me~guru

<https://www.nagoya-info.jp/en/feature/detail/2/>



Ona can take a bus tour for sightseeing in Nagoya city. The bus will take you around sightseeing spots such as Toyota Commemorative Museum of Industry and Technology, Shikemichi, Nagoya castle, Tokugawa-en, Cultural path Futaba Museum etc.






[24] Oral Presentation

Oral presenters will make a presentation with their own PC. The presenters can connect your PC to the Projector with an HDMI cable. All presenters should be in the front row. You can use the laser pointer we have provided for your lecture. An aspect ratio of the Projector with the default format is summarized below,

| | Room | session | Projector Aspect ratio |
|--------------------------|------------|-------------------|------------------------|
| Convention Hall Building | Hall B1,2 | Fundamental | 16:10 |
| | Hall B3,4 | Laser | 16:10 |
| | Hall A1 | Basic | 16:10 |
| Main Hall Building | Main Hall | Plenary & MF1 (1) | 16:10 |
| | Room 3 | MF1 (2) | 4:3 |
| | Room 4 | Applied (1) | 4:3 |
| | Room 5 | LOC/DPP | — |
| | Room 6-1 | CD | 16:10 |
| | Room 6-2 | Applied (2) | 16:10 |
| | Room 7-1 | SG | 4:3 |
| | Room 7-2 | MF2 | 4:3 |
| Event Hall Building | Event Hall | Poster& Ex | |
| | Room 1 | Solar | 4:3 |
| | Room 2 | | — |

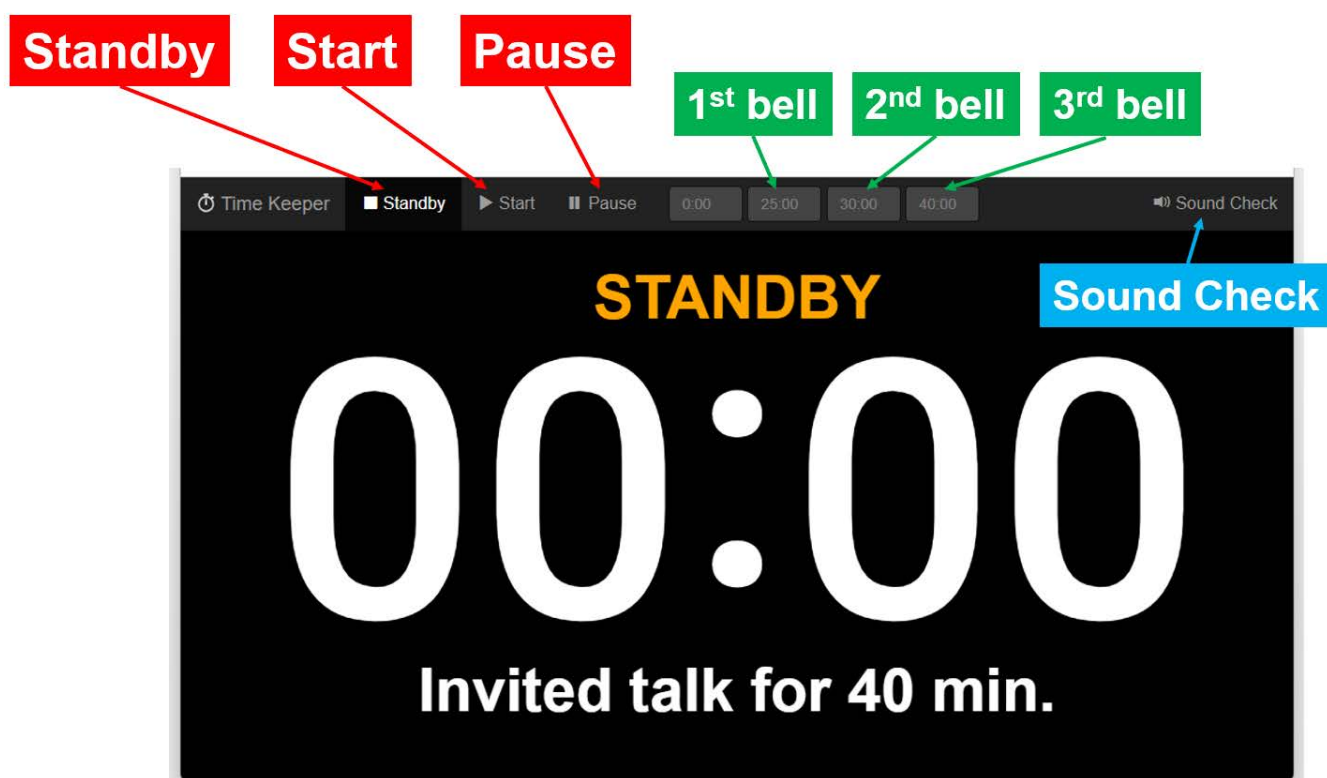
[25] Manual for the parallel session chairs

1. Chairs should come to the session room 5 min before the session starts.
2. Please check all presenters in the session stay in the room when the session starts.
3. Please introduce the speaker' name and title of the presentation before every talk.
4. Please control the time of talk and discussions using web appl. Please click the link in the last column with your PC, tablet, mobile phone after the **Wi-Fi connection** (SSID: AAPS-wifi, PW: plasma-nagoya). Please **turn ON** the speaker on your PC and set the sound level to **MAXIMUM**
5. If you need support, please get in touch with the LOC staff in the room. When no LOC staff is in the room, please call telephone number of LOC office (090-2777-8832 / +81-90-2777-8832).
6. Spare dry batteries for the Laser Pointer are on the desk for chairs.

| allocated time | talk | discussions | 1st bell | 2nd bell | 3rd bell | link of WEB appl. | |
|----------------|------|-------------|----------|----------|----------|------------------------------|---|
| 40 | 30 | 10 | 25 | 30 | 40 | link 40 min. |  |
| 30 | 25 | 5 | 20 | 25 | 30 | link 30 min. |  |
| 25 | 20 | 5 | 15 | 20 | 25 | link 25 min. |  |

| | | | | | | | |
|----|----|---|----|----|----|------------------------------|--|
| 20 | 16 | 4 | 12 | 16 | 20 | link 20 min. | |
| 15 | 12 | 3 | 9 | 12 | 15 | link 15 min. | |

The instruction of the WEB application (“Timekeeper”);



* For Plenary sessions, LOC staffs will provide a timekeeper service. The chairs at the Plenary Session will introduce each speaker.

[26] Poster Presentation

Poster size is 1200mm (width) x 1800mm (vertical). We will prepare push pins to set your posters on the poster board. Please attach your poster to the board with a piece of paper indicating your poster number during lunch break and keep it till 16:00 on the poster board with your poster number. You can check your poster No. at

<https://aappsdp.org/DPP2023/html/3contents/poster.html>



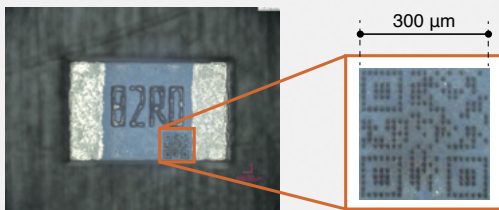
Shape the beam with high efficiency



LCOS-SLM X15213 series

Processing example

2D code marking on chip resistance



Features

- High diffraction efficiency
- High light utilization efficiency
- High power handling capability
- Covers various wavelength ranges (400 nm to 2050 nm)

Applications

- Laser processing
- Laser marking
- Optical tweezers
- Pulse shaping

The LCOS-SLM X15213 series is a reflective liquid crystal device that can control the wavefront of light with high efficiency and high precision by phase modulation. Unlike conventional intensity modulation techniques using masks to block out light to form a desired optical pattern, the LCOS-SLM redistributes the light to generate light patterns efficiently by using phase holograms.



plasma

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Journal Scope

- atmospheric-pressure plasma
- electron, ion and plasma sources
- dusty plasma
- low-temperature plasma and its applications
- plasma diagnostics
- electric discharges in gases, liquids and solids
- plasma dynamics
- plasma electrical properties
- plasma theory and modelling
- plasma–surface interaction
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National Institute for Fusion Science

A warm welcome to new members of
our research units.

Units

Meta-hierarchy Dynamics
Structure Formation and Sustainability
Phase Space Turbulence
Plasma Quantum Processes
Transports in Plasma Multi-phase Matter System
Sensing and Intellectualizing Technology
Plasma Apparatus
Complex Global Simulation
Ultrahigh-flux Concentrating Materials
Applied Superconductivity and Cryogenics

Let's expand and accelerate
fusion science together!

Position Opening Announcement



Professor, Associate Professor or Assistant Professor
in an interdisciplinary fusion science field. For a few
positions we plan to seek one woman or more.

