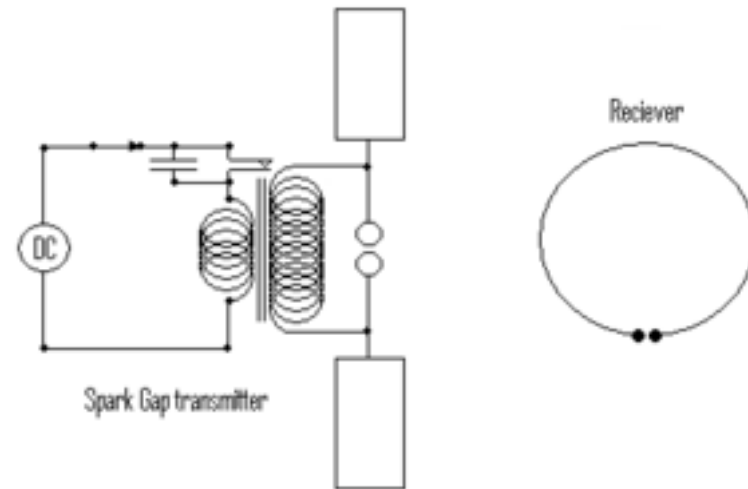


History of Radar

History of RADAR

Heinrich Rudolf Hertz

Germany



1887 experimental setup of Hertz's apparatus

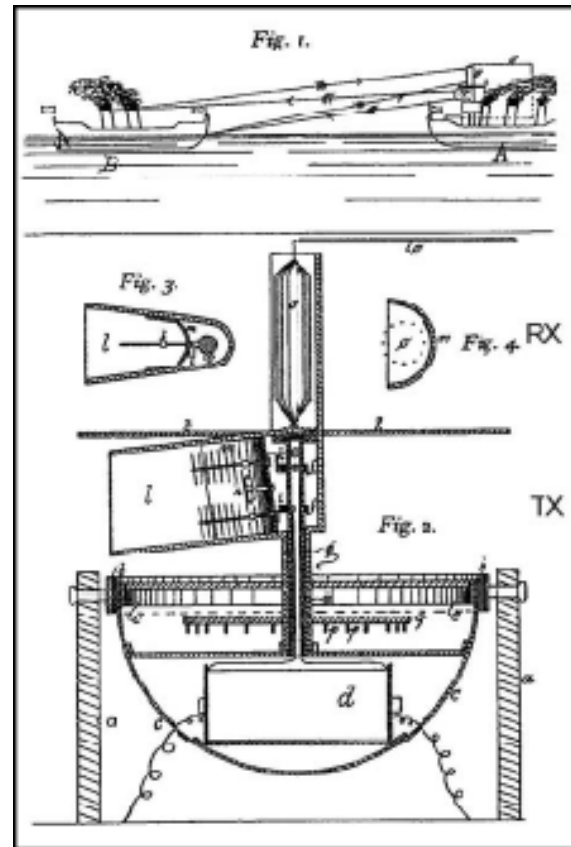
http://en.wikipedia.org/wiki/Heinrich_Rudolf_Hertz

History of RADAR

Germany



[Christian Huelsmeyer](#)



Huelsmeyer's 'Telemobiloscope, 1904

<http://www.design-technology.info/inventors/page28.htm>

History of RADAR

Italy

Guglielmo Marconi



Marconi watching associates raising the kite (a "Levitor" by B.F.S. Baden-Powell^[22]) used to lift the antenna at [St. John's, Newfoundland](#), December 1901



Marconi operating apparatus similar to that used by him to transmit first wireless signal across Atlantic, 1901.

http://en.wikipedia.org/wiki/Guglielmo_Marconi

History of RADAR

England

[Robert Watson Watt](#)



**April, 1935: British Patent for Radar System for Air Defense
Granted to Robert Watson-Watt**

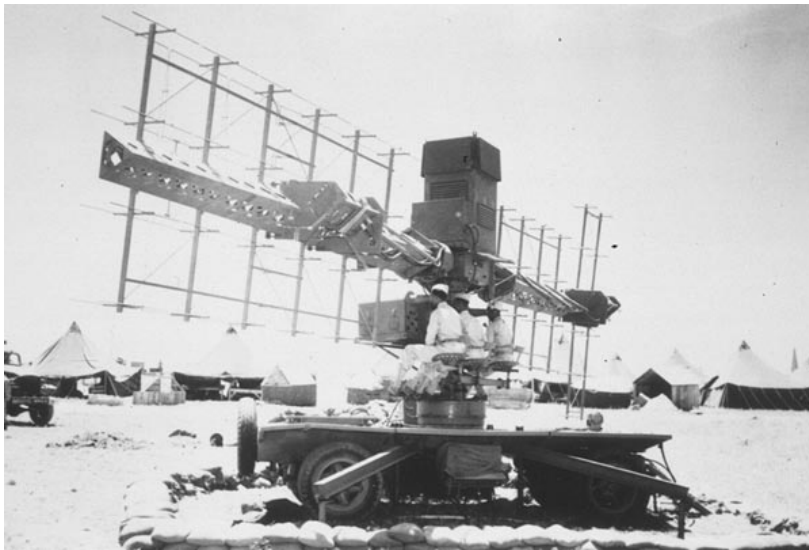


Early military radar system



History of RADAR

England



Battle of Britain, 1940

History of RADAR

USA



First continuous wave (CW) interference detector, 1922.

On 15 March 1934, Dr. Hoyt Taylor, head of the radio division at [Naval Research Laboratory \(NRL\)](#), put into motion a project to develop pulse radar for the detection of ships and aircraft.

Albert Hoyt Taylor (January 1, 1879 in [Chicago, IL](#) – December 11, 1961 in Los Angeles, CA.)

History of RADAR

USA

Pulse radar

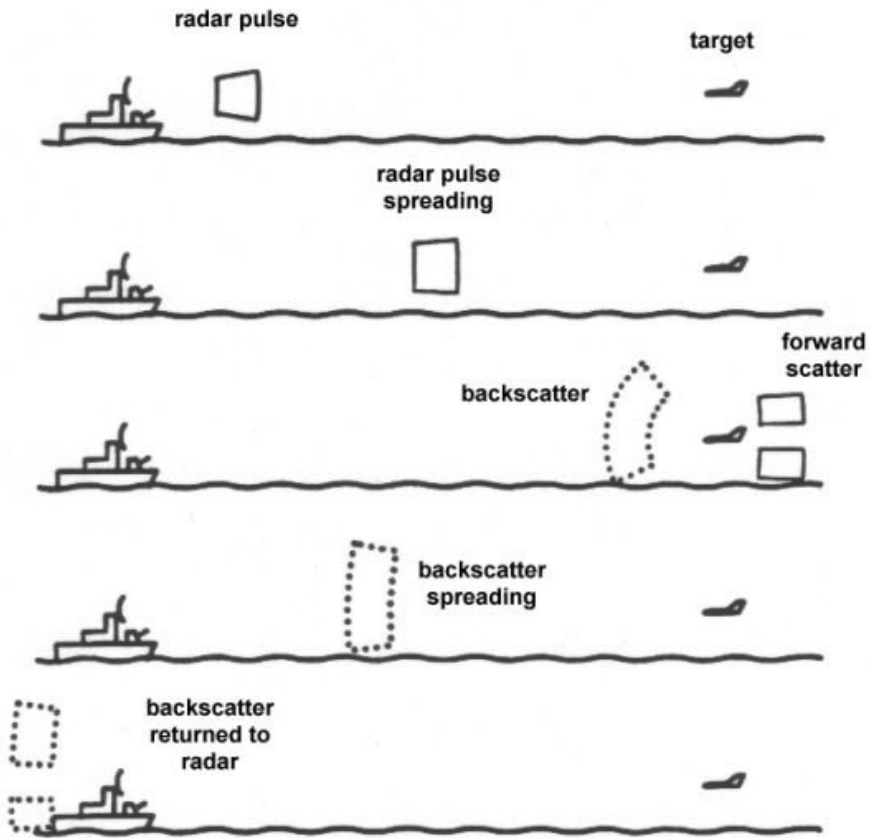


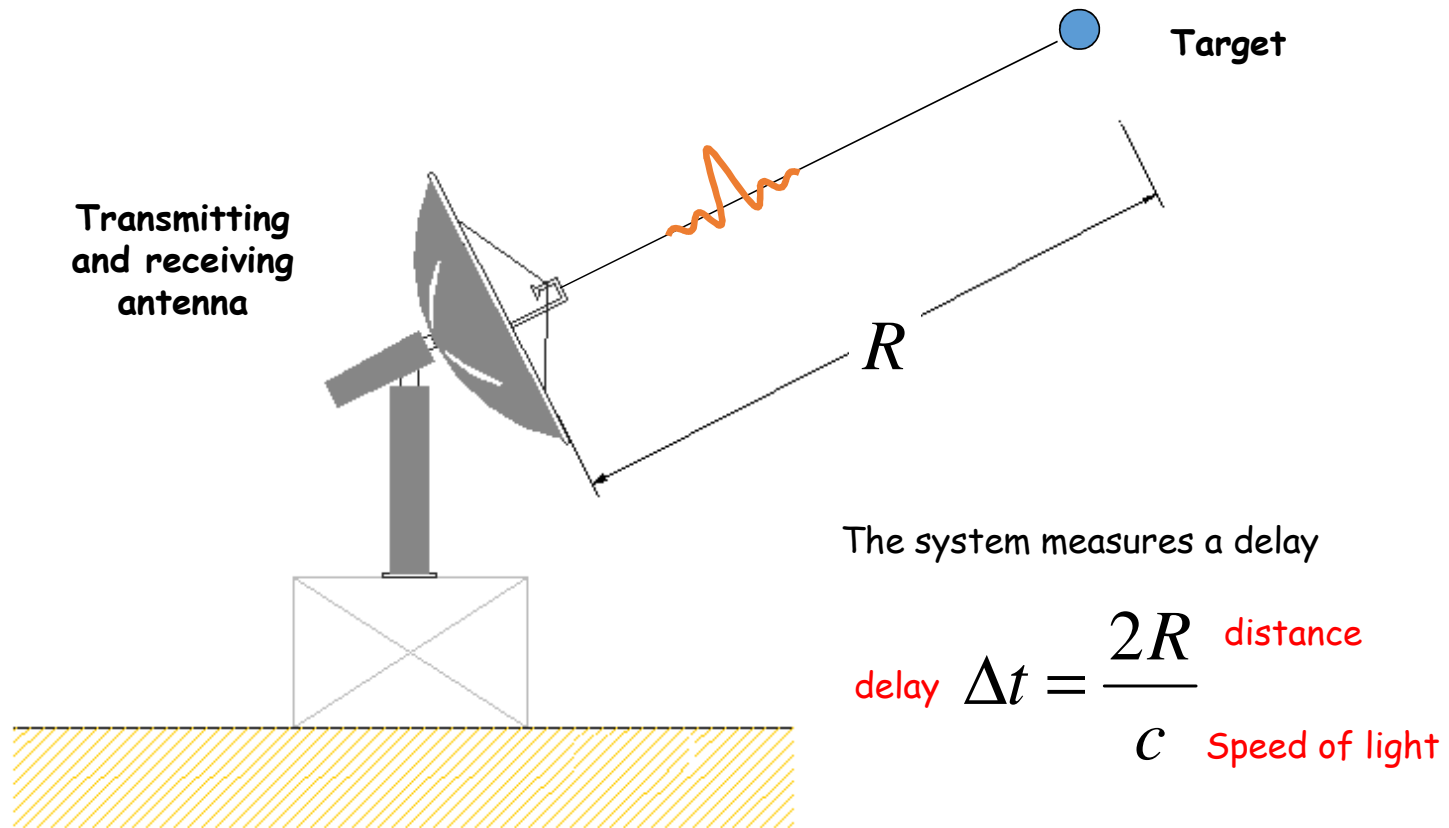
Photo # NH 77350 Prototype XAF radar antenna on USS New York



Notice the large square radar antenna on the USS New York, 1938.

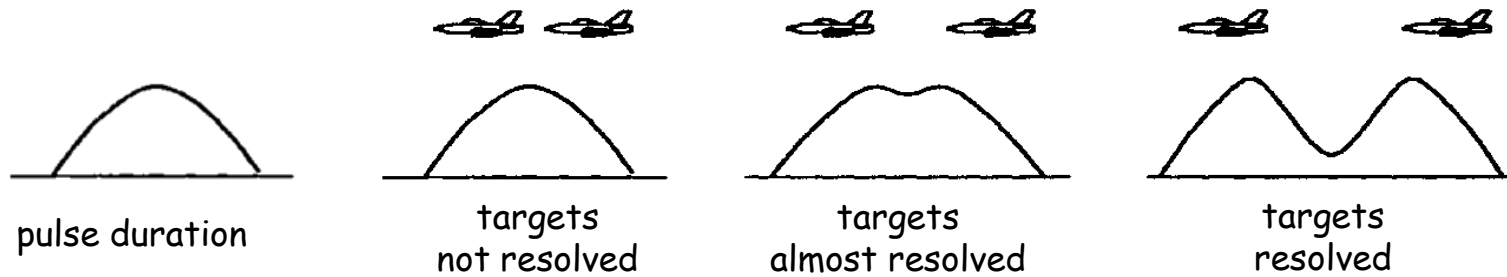
RADAR

RADio Detection And Ranging



RADAR

Range resolution



with shorter pulses, closer targets can be distinguished

technical limitations for generating very short pulses

τ Pulse duration

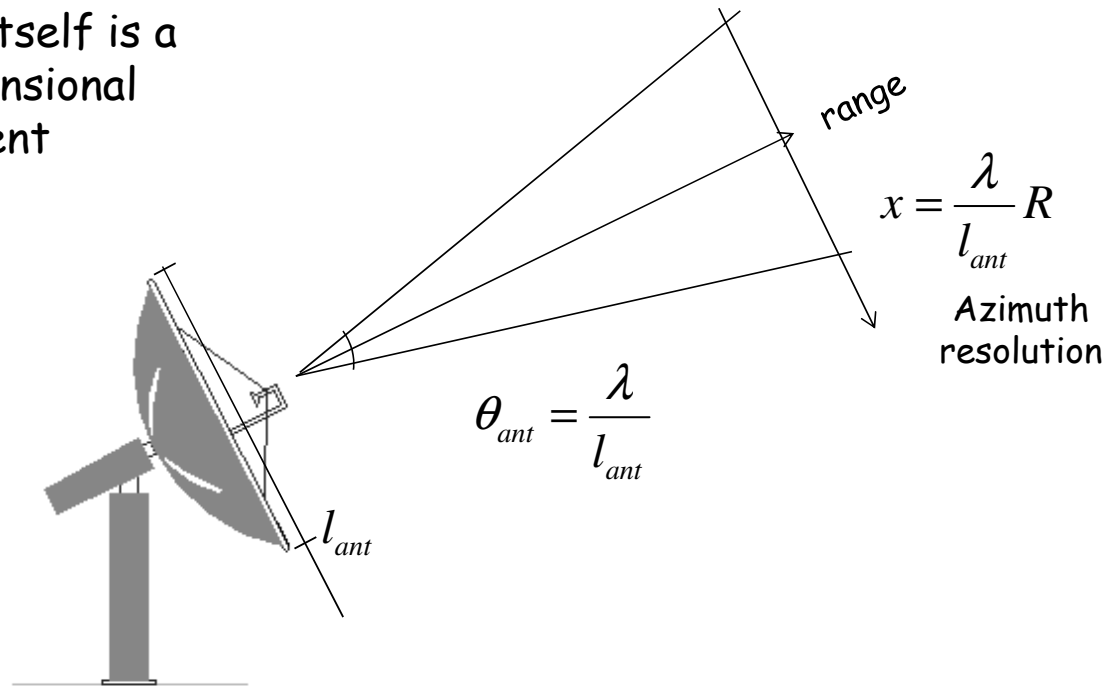
Range resolution

$$r_R = \frac{c\tau}{2}$$

RADAR

Resolution in azimuth

The radar by itself is a
MONO Dimensional
instrument



RADAR

Common screen of a rotating radar

