

Radio Research Institute

Organizational Structure

<https://rri.nict.go.jp/en/>



The Radio Research Institute consists of five laboratories conducting research and development on electromagnetic waves, including radio and optical waves. Three of these laboratories are organized as a research center responsible for providing public services.

General Planning Office

The General Planning Office oversees institute-wide administrative operations, public relations, event support, and overall coordination. Management Groups support efficient operations across the Institute, including its regional sites and radio observation facilities.

- Management Operations Group
- Okinawa Management Operations Group

 Remote Sensing Laboratory

 Digital Optics Laboratory

Electromagnetic Advanced and Infrastructure Research Center

The Electromagnetic Advanced and Infrastructure Research Center promotes integrated research and development in electromagnetic waves, from fundamental studies to advanced technologies, together with public services including Space Weather Forecast, Calibration Service, and Japan Standard Time. The Center contributes to the establishment and social implementation of reliable foundational technologies that support social infrastructure today and into the future.

 Space Environment Laboratory
- Space Weather Forecast Service Group

 Electromagnetic Compatibility Laboratory
- Calibration Service Group

 Space-Time Standards Laboratory
- Japan Standard Time Service Group

Okinawa Electromagnetic Technology Center

With the reversion of Okinawa to Japan in May 1972, the Okinawa Electromagnetic Technology Center was established as the Okinawa Radio Observatory of the Radio Research Laboratory, Ministry of Posts and Telecommunications (currently the NICT), taking over the ionospheric observation facilities of the U.S. National Oceanic and Atmospheric Administration (NOAA) in Chatan Town. Currently, the center has moved to Onna Village on the west coast in the central part of the main island of Okinawa, and is continuing its research and observation activities related to electromagnetic technology and the space and global environments.

Sites and Locations



4-2-1, Nukuikitamachi, Koganei-shi, Tokyo 184-8795, Japan
URL : <https://www.nict.go.jp/en/>

Radio Research Institute
URL : <https://rri.nict.go.jp/en/>

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National Institute of Information and Communications Technology

Radio Research Institute



Five Laboratories Driving Innovation for Safe and Secure Social Infrastructure through Electromagnetic Waves

The Radio Research Institute conducts research and development related to electromagnetic waves, including radio and optical waves, and provides public services.

To support these activities, we conduct fundamental research and development for high-precision observation and advanced data acquisition using electromagnetic waves, and develop technologies that enable accurate monitoring and understanding of weather, natural disasters, and the space environment. We also establish standards and references related to electromagnetic waves that are essential for scientific and technological progress and the maintenance of modern social infrastructure.

Furthermore, we promote exploratory research utilizing electromagnetic waves, advance the practical application of electromagnetic technologies, and strengthen international and interdisciplinary collaboration.

Through these efforts, we contribute to the creation of a resilient, safe, and reliable social infrastructure.



Radio Research Institute
Director General

Kanako Wake

Radio Research Institute

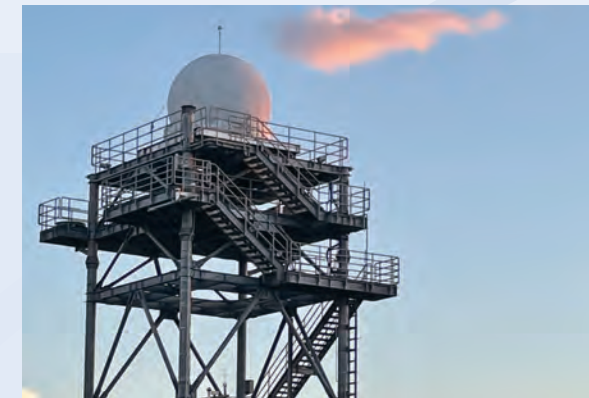
Laboratories

Observing the Earth's Atmosphere and Surface Using Radio and Optical Waves



Remote Sensing Laboratory

The Remote Sensing Laboratory conducts research and development on remote sensing technologies using electromagnetic waves to understand the state of the Earth's atmosphere and surface, and to analyze and forecast environmental conditions based on the collected information. Through these activities, we contribute to addressing societal challenges, including disaster prevention and mitigation.

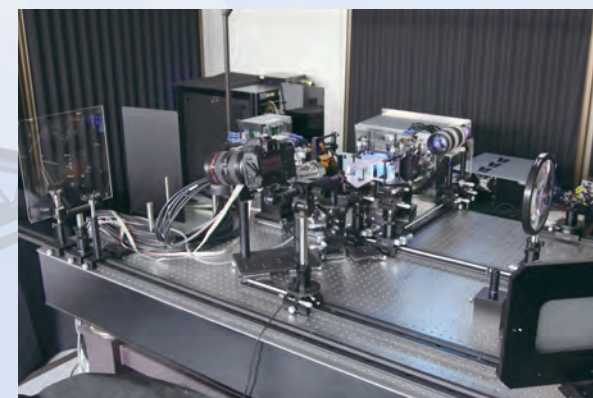


Promoting the Social Implementation and Broader Use of Electromagnetic Technologies



Digital Optics Laboratory

The Digital Optics Laboratory conducts research and development on the fabrication of diffractive optical elements using hologram printing technology (HOPTEC) and on precision optical measurement techniques for real-world environments based on digital holography. The technologies developed through this research are being translated into industrial applications.

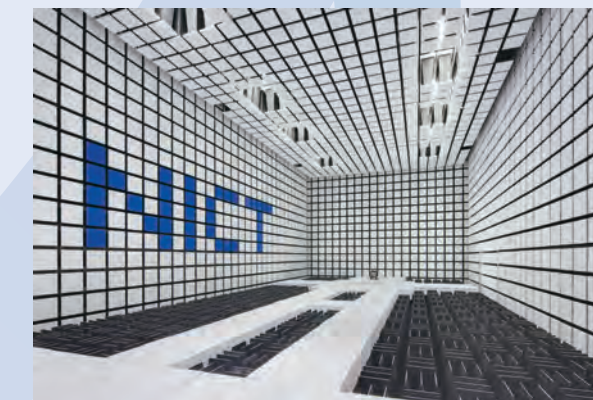


Ensuring Trust and Confidence in the Invisible Radio Environment



Electromagnetic Compatibility Laboratory

The Electromagnetic Compatibility Laboratory conducts research on EMC to support the safe, reliable, and interoperable use of advanced wireless and electronic technologies.



Calibration Service Group

The Calibration Services Group provides calibration services for radio measurement instruments under the Radio Act, including frequency standards and high-frequency power meters under the Measurement Act.

NICT Calibration Service (in Japanese) <https://cal.nict.go.jp>

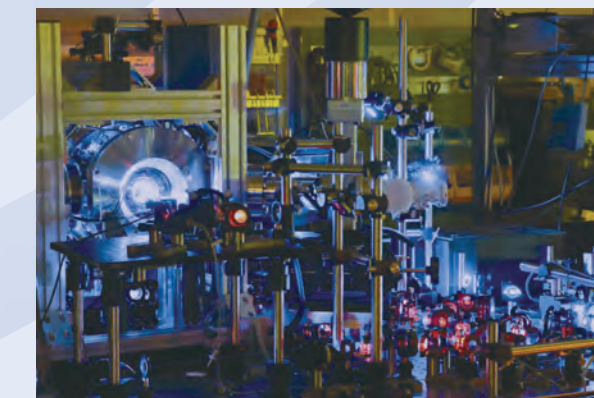


Japan Standard Time - Generating, Maintaining, and Disseminating Accurate Time



Space-Time Standards Laboratory

The Space-Time Standards Laboratory develops cutting-edge atomic clock technologies, including optical lattice clocks, to generate and maintain Japan Standard Time with high accuracy. The Laboratory also conducts research on spatial measurement technologies that utilize the phase and propagation time of electromagnetic waves.



Japan Standard Time Service Group

The Japan Standard Time Service Group is responsible for Japan Standard Time operations, which include determining standard frequency, transmitting standard time and frequency radio waves, and disseminating standard time.

Japan Standard Time Service <https://jty.nict.go.jp/index-e.html>



Understanding Space Weather through Observations, Models, and AI



Space Environment Laboratory

The Laboratory contributes to the stable use of radio waves that support critical social infrastructure, including communications, positioning, aviation, and satellite operations, as well as space utilization, through advanced monitoring, forecasting, and warning technologies for the space environment.



Space Weather Forecast Service Group

The Group conducts space weather forecast operations, including observations of radio wave propagation and issuance of forecasts and warnings.

Space Weather Forecast <https://swc.nict.go.jp/en/>



Electromagnetic Advanced and Infrastructure Research Center

Taking advantage of its location as the NICT site in Japan closest to the equatorial region, the Okinawa Electromagnetic Technology Center conducts research and observations related to electromagnetic technology and the space and global environments.



The NICT Site Closest to the Equatorial Region

Okinawa Electromagnetic Technology Center