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Front-line Researchers

- ▶ Akira Fujiwara, Senior Distinguished Researcher, NTT Basic Research Laboratories

Rising Researchers

- ▶ Taiji Sakamoto, Distinguished Researcher, NTT Access Network Service Systems Laboratories

NTT IOWN Technology Report

- ▶ Release of NTT IOWN Technology Report 2024

Regular Articles

- ▶ Field Verification of Automated Driving Using Cooperative Infrastructure Platform

Global Standardization Activities

- ▶ Report on ITU-T SG13 Meeting Discussing Future Networks and Emerging Network Technologies

Practical Field Information about Telecommunication Technologies

- ▶ Case Study of Voice Interruption Involving Cordless Telephones Caused by Reflected Waves Due to Installation Environment

Information

- ▶ Event Report: NTT Communication Science Laboratories Open House 2024

Front-line Researchers

Akira Fujiwara, Senior Distinguished Researcher, NTT Basic Research Laboratories

▼ Abstract

In 2019, the definition of the ampere, the unit of electric current in the International System of Units (SI), was changed from the ampere with which it was physically impossible to implement the defined quantity of the unit of measure to the ampere that can be implemented using quantum devices. Researchers worldwide are now researching to establish a quantum current standard on the basis of the new definition of the ampere. We spoke with Akira Fujiwara, a senior distinguished researcher at NTT Basic Research Laboratories, who developed silicon single-electron transfer devices, one of the basic elements for implementing the electric current standard, and is working toward establishing the electric current standard using such devices through international collaboration. He explained his approach to establishing the electric current standard using silicon single-electron transfer devices, the community that is carrying out this approach, and his thoughts on conducting research in the global arena through friendly competition and discussion.



NTT IOWN Technology Report

Release of NTT IOWN Technology Report 2024

▼ Abstract

The IOWN Product Design Center within the NTT IOWN Integrated Innovation Center formulates and drives development and dissemination strategies for the implementation of a fixed-mobile convergence network, which provides seamless and highly experiential end-to-end communications, allowing users access without any requirement that they be aware of the access method or the type of terminal used, whether mobile or fixed. We are also studying how the All-Photonics Network, a key technology in the Innovative Optical and Wireless Network (IOWN) initiative, applies to network services and the creation of new value.



Regular Articles

Field Verification of Automated Driving Using Cooperative Infrastructure Platform

▼ Abstract

This article introduces a field verification of automated driving using the Cooperative Infrastructure Platform being developed by NTT laboratories. The Cooperative Infrastructure Platform aims to ensure stable communication in remote monitoring and improve the safety of automated driving. This platform is also being used as the communication function of the remote control system for automated driving developed by NTT DOCOMO, and field tests are being conducted in collaboration with NTT DOCOMO.

