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Eiji Ueki, Executive Vice President, NTT DATA

▼Overview

Eiji Ueki, NTT DATA Executive Vice President, believes in the importance of strengthening global brand power by developing trustworthy relationships with clients and providing new value with an eye to their future. We asked Mr. Ueki how NTT DATA plans to face the challenges ahead.

Front-line Researchers

Tomohiro Nakatani, Senior Distinguished Researcher, NTT Communication Science Laboratories

▼Overview

Interfaces using speech recognition have become common practice these days. However, commonly used technologies for this purpose can suffer a drop in recognition performance in noisy environments or when the microphone is too far from the speaker. There is therefore a growing need for technologies that can provide more robust and accurate speech recognition. We asked Dr. Tomohiro Nakatani, Senior Distinguished Researcher at NTT Communication Science Laboratories, whose technology last year achieved the world's highest performance for speech recognition in noisy environments, to tell us about his recent research results and his approach to research.

Feature Articles
Basic Research Envisioning Future Communication

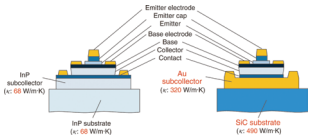
From Information Transmission to Mutual Understanding: Paradigm Shift in the Age of Data

▼Abstract

The paradigm shift from information transmission to communication is taking place amid technological advancements in artificial intelligence (AI) and their attendant expectations. Against this background, I introduce NTT's AI-related research and development strategy and the research currently being pursued by NTT Communication Science Laboratories. I also examine the role played by communication science and present a vision of its future.

Regular Articles

Indium Phosphide-based Heterojunction Bipolar Transistors with Metal Subcollector Fabricated Using Substrate-transfer Technique



▼Abstract

We fabricated indium phosphide (InP)-based heterojunction bipolar transistors (HBTs) with a highly thermal conductive gold (Au) subcollector on a silicon carbide substrate using a substrate-transfer technique. The fabricated HBTs show good electrical characteristics without any degradation caused by the transfer process. In addition, they exhibit about a 50% reduction in thermal resistance (R_{th}) compared with conventional HBTs on an InP substrate. The reduced R_{th} enables us to increase collector current density without a rise in the junction temperature of HBTs, which improves the HBT high-frequency performance. The fabricated Au-subcollector HBTs have great potential for boosting the operation speed of future telecommunications integrated circuits.