# December 2024 / Vol. 188 Mitsubishi Electric

# **ADVANCE**

# Advanced Digital Technology (The first part)

#### • Editorial-Chief

Fumitoshi Yoshikawa

#### • Editorial Advisors

Omi Kuriwaki Wakako Matsuo Hiroyuki Teranishi Satoshi Watanabe Yoshiki Ono Kenichiro Kurahashi Asako Iwahashi Yasumasa Yamanaga Takeshi Nambara Takao Ikai Kunihiko Egawa Masami Taniguchi Kenji Okuma Yusuke Hirata Takeshi Yamazaki Yoshihiro Yamaguchi Kohei Miki

### • Vol. 188 Feature Articles Editor

Keisuke Watanabe

#### Editorial Inquiries

Fumitoshi Yoshikawa Corporate Productivity Planning & Engineering Dept. Fax: +81-3-3218-2465

Mitsubishi Electric Advance is published on line quarterly (in March, June, September, and December) by Mitsubishi Electric Corporation. Copyright © 2024 by Mitsubishi Electric Corporation; all rights reserved. Printed in Japan.

The company names and product names described herein are the trademarks or registered trademarks of the respective companies.

#### CONTENTS

## **Overview**

Advanced Digital Technology Contributing to Solution of Social Issues
<b>Technical Reports</b>
Maximization of Sensitivity to Time-series Polarimetric SAR Image
Low Power Design of Real-Time Forward Error Correction Circuit Based on the Characteristics of State-of-the-Art Processes8 by Kenji Ishii, Hideo Yoshida
River Flow Prediction for Low Flow Management Considering Power Plant Discharge
Terahertz Wave Sensing Technology Supporting Safety and Security
by Shusaku Umeda, Ichiro Somada

#### **Precis**

Our aim in the Mitsubishi Electric Group is to be a "Circular Digital-Engineering" company, and we are working to solve increasingly severe and diverse social problems through innovation based on advanced digital technology. In this way, we hope to contribute to the realization of a dynamic, yet relaxed and fulfilling society. For this special feature, we will present specific initiatives in the area of advanced digital technology across two issues: a first part (this issue, ADVANCE Vol. 188, December 2024) and a second part (the next issue, Vol. 189, March 2025).