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## FOREWORD

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### Special Section on Recent Progress in Electromagnetic Theory and Its Application

The purpose of this special section is to present a collection of original papers that give an overview of recent progress of research and development in electromagnetic theory and its applications, including those related papers presented at the 2020 Symposium on Electromagnetic Theory, held in Tokyo, Japan on November 17th–19th, 2022. Presentations in international symposia and meetings held in 2022 were also considered as possible contributions to this special section. In response to the call-for-papers, we received several potential paper submissions. After careful reviews, 3 papers were accepted in this special section.

The topics of accepted papers are understanding displacement currents with the help of Helmholtz decomposition, radar cross section (RCS) reduction by metasurfaces and fiber-type polarization splitter. We hope that the readers find this special section useful in the research of the electromagnetic theory and its applications. We would like to express our sincere appreciations to all the authors of contributed papers for their efforts in preparing the manuscripts and to all the reviewers for their careful reviews and valuable comments.

We are also indebted to the editorial committee members for their dedicated efforts in organizing this special section. In particular, we would like to express our sincere gratitude to Dr. Shin-ichi Yamamoto of Mitsubishi Electric Corp. and Professor Kenichi Ishida of Kyushu Sangyo Univ., who played important roles in the publication of this special section.

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**Hiroyuki Deguchi** (*Member*) received the B.E., M.E., and D.E. degrees from Doshisha University, Kyoto, Japan, in 1986, 1988, and 1999, respectively. From 1988 to 2000, he was with the Mitsubishi Electric Corporation. Since 2000, he has been with Doshisha University, where he is currently a Professor. His current research activities are concerned with microwave and millimeter-wave aperture antennas and antenna measurements. Prof. Deguchi is a senior member of the Institute of Electronics, Information and Communication Engineers (IEICE), Japan, and a member of the Institute of Electrical Engineers (IEE), Japan. He was the recipient of the 1992 IEICE Young Engineer Award.



**Hideki Kawaguchi** (*Member*) received the B.S., M.S. degrees and Ph.D in Electrical Engineering from Hokkaido University in 1986, 1988 and 1994, respectively. During 1988–1990, he worked for Nippon Telegraph and Telephone Co. and for Hokkaido University during 1991–1998. He now with Muroran Institute of Technology. His research interests include particle accelerator science, portable high-performance computing and electromagnetic field theory. He is a member of the Institute of Electronics, Information and Communication Engineers (IEICE), the Institute of Electrical Engineers (IEE) and the Physical Society of Japan (JPS).

