
FOREWORD

Special Section on Superconducting Electronics for Quantum Information Technologies

It is our great pleasure to have a Special Section entitled “Superconducting Electronics for Quantum Information Technologies” in IEICE Transactions on Electronics. The quantum information technology is strongly expected to develop in the fields of quantum computing, quantum communication, and quantum measurement. The superconducting electronics plays a number of important roles in these fields. In this Special Section, four invited papers, which describe superconducting quantum computers, digital electronics for controlling the quantum computers, and the quantum information processing by superconducting nanowire single-photon detectors and superconducting transition edge sensors, explained current states and future prospects in their fields. We hope the Special Section enhances the progress of related research fields and opens a new academic research area. Finally, I would like to appreciate this opportunity to the secretary and the guest associate editors for their dedicated activities to complete the Special Section.

Editorial Committee of the Special Section on Superconducting Electronics for Quantum Information Technologies

Secretary:

Taro Yamashita (Nagoya Univ.)

Guest Associate Editors:

Yuki Yamanashi (Yokohama National Univ.)

Hiroataka Terai (NICT)

Masaaki Maezawa (SIMIT, China)

Masamitsu Tanaka (Nagoya Univ.)

Yoshinao Mizugaki (Univ. of Electro-Communication)

Takeshi Onomi (Fukuoka Inst. of Technology)

Michitaka Maruyama (AIST)

Mutsuo Hidaka, Guest Editor-in-Chief

Mutsuo Hidaka (*Member*) received his M.S. in applied physics from Kyushu University in 1982. He also received his Ph.D. in electronics engineering from the University of Tokyo. He joined NEC Corporation in 1982. He was at Arizona State University as a visiting scientist from 1990 to 1991. In 2002, he temporary transferred to ISTECC. Since 2013, he has been working at AIST, where he has been engaged in development of fabrication process for superconducting integration circuits.

