
FOREWORD

Special Section on Recent Progress in Physics and Applications of Intrinsic Josephson Junctions

It is our great pleasure to have a Special Section entitled “Recent Progress in Physics and Applications of Intrinsic Josephson Junctions” in IEICE Transactions on Electronics. 30 years have passed since the discovery of the intrinsic Josephson effect, which is derived from the interlayer coupling between CuO_2 planes, in the layered high- T_c cuprates. The transport property in the intrinsic Josephson junctions (IJJs) represents tunneling nature and the IJJ system can be regarded as ideal stacked junctions. So far, various physical properties particular to the intrinsic Josephson junctions different from those of conventional Josephson junctions were found and a lot of interesting and important applications for intrinsic Josephson junctions have been also discussed. In this Special Section, four invited papers describe the recent progress in physics and applications of intrinsic Josephson junctions. The papers are interesting for the readers who are concerned with not only intrinsic Josephson junctions but also superconducting electronics.

Lastly, I would like to express my sincere thanks to all authors for their contributions to the special section. I also appreciate all reviewers and the editorial committee members for their irreplaceable contributions.

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Akinobu Irie (*Member*) received the B.E., the M.E., and the D.E. degrees from Nagaoka University of Technology in 1987, 1989, and 1992, respectively. In 1992, he joined Utsunomiya University and is presently a Professor in the School of Engineering. His research interests include the transport physics, spin effect, Josephson effect, and electronic devices in high temperature superconductors.

