
FOREWORD

Special Section on Fundamentals and Applications of Advanced Semiconductor Devices

The semiconductor devices are facing the paradigm shift to realize future ubiquitous network society, and the demands for high-performance and new-functional devices have been growing especially from the environmental point of view. The objective of the special section is to discuss recent progress of fundamentals and applications of advanced semiconductor devices to meet the demand. This special section covers the entire field of semiconductor devices and materials from fundamental physics to advanced device technologies, and contains 21 papers in total; 16 of them are on Si and related devices and 5 on compound semiconductor and emerging devices.

The guest editor would like to express sincere thank to all the authors for their contributions and to all the reviewers for their help. He is also grateful to the editorial committee members for their dedicated efforts in organizing this special section.

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Tanemasa Asano, Guest Editor

Tanemasa Asano (*Member*) was born in Ibaraki, Japan, in 1953. He received his B.Eng. from Ibaraki University, and M.Eng. and Dr.Eng. degrees from Tokyo Institute of Technology. In 1979, he became a research associate of Tokyo Institute of Technology, where he carried out research on hetero-epitaxial growth of fluoride insulator and semiconductor to produce silicon-on-insulator, germanium-on-insulator and gallium-arsenide-on-insulator on Si wafers. He moved to Kyushu Institute of Technology in 1989 where he extended his research to quasi-single-crystal thin-film transistors, Er-salicyded Schottky MOSFET, and field emission micro-devices. In 2006, he joined with Faculty of Information Science and Electrical Engineering, Kyushu University where he added 3D integration technology to his major research themes. He served chairman of the Technical Committee of Silicon Devices and Materials (SDM) of IEICE from 2007 to 2008.

