

Preface

The 12th International Conference on Silicon Carbide and Related Materials (ICSCRM 2007) was held in Otsu, Japan, from October 14 to 19, 2007. The conference provided a scientific forum on the wide bandgap semiconductors for 614 participants from 26 countries (352 from Japan, 96 from USA, 121 from Europe, 29 from Korea, and 16 from others).

The conference involved 370 papers including 29 invited presentations. The scope covers most of the current research efforts on the wide bandgap semiconductor silicon carbide (SiC) and related materials. Advances in wide bandgap semiconductor materials, processing, and device designs have accelerated the progress towards a wide-spread production of wide bandgap semiconductor-based electronic systems and offer great promises for high-voltage, high-temperature, high-frequency, and other applications. In the conference, new developments in the basic science of wide bandgap materials, as well as rapidly maturing device and processing technologies have been presented and discussed.

In these proceedings, the written versions of 303 contributed papers and 23 invited papers are included. Due to the large number of accepted papers, the proceedings are divided into two volumes (part 1 and part 2). These proceedings collect papers in the area of SiC bulk and epitaxial growth, physical properties and characterization of SiC, SiC nanostructures and graphene, processing and electronic devices of SiC, III-nitrides, and other related materials. These proceedings document the most recent results on the latest understanding and developments of SiC and related materials and devices, such as the reduction of defect densities and diameter enlargement of bulk crystals; controlling surface morphology, extended defects and uniformity in SiC epilayers; characterization of fundamental optical and electrical properties; continued discovery and optimization of device processing technologies including ion implantation, oxidation, etching and contacts; and developing, fabricating, and testing innovative device structures and concepts. We wish to thank all of the invited speakers for their outstanding presentations, and also thank all the contributors and participants.

The conference would not have been successful without the labor of many people behind the main scene. First of all, the members of the Technical Program and International Steering Committees organized the attractive technical program in two parallel oral sessions, three poster sessions, three rump sessions, and the industrial session. In order to maintain the high scientific standards of this publication, a number of reviewers carefully looked through the manuscripts and reported their valuable comments during the conference. Also the success of the conference is due to the hard work of the members of the Executive, Local Arrangements, and Sponsor Committees, who made all the arrangements to make sure that the conference ran smoothly and on time. We are also grateful to Ms. Yoriko Ohnaka of Kyoto University and Ms. Yuko Kamikawa and Ms. Ayumi Kawakita of Nara Institute of Science and Technology for their dedicated assistance in preparing these proceedings.

The conference was also indebted to the financial support of many institutes and industries. The generous support of the sponsors listed on a separate sheet enabled us to execute all the organizations and arrangements in a good manner as well as to offer several activities and events. We would like to take this opportunity to thank them again for their sponsorship and support.

The next conference of this series, ICSCRM 2009, will be held in Nürnberg, Germany, from October 11 to 16, 2009 (<http://www.icscrm2009.org>). The conference will be chaired by Dr. Peter Friedrichs (SiCED). We wish the organizers much success.

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