Ion Beam Processing of Advanced Electronic Materials

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Ion Beam Processing of Advanced Electronic Materials

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Preface

The Symposium on Ion Beam Processing of Advanced Electronic Materials was held on April 25–27, 1989, in San Diego, California, U.S.A., as Symposium C of the 1989 Spring Meeting of the Materials Research Society. The purpose of the symposium was to explore the physical and technological basis for future ion beam processing of semiconductor devices. More than 60 papers from 11 countries were presented on fundamental and applied aspects of ion implantation and irradiation of electronic materials. The present symposium follows a similar symposium on this topic held at the 1985 Spring Meeting of the Materials Research Society and published as Volume 45 in the MRS Symposium Proceedings Series.

The symposium included sessions on Shallow Implantation and Solid-Phase Epitaxy, Damage Effects, Focused Ion Beams, MeV Implantation, High-Dose Implantation, Implantation of III-V Compounds and Multilayers, and Implantation in Electronic Materials. Significant progress has been made in the understanding and application of ion implantation at both very low and high energies, in the control and utilization of damage effects in ion beam processing, and in the use of ion beams to fabricate buried layers and submicron structures. The 54 papers included in this proceedings illustrate both the present state of knowledge in ion beam processing of electronic materials and the thrust of current research in the field.

The editors thank invited and contributing authors, session chairmen, reviewers, and MRS staff and program officials for their help in organizing the symposium and publishing this volume. We are particularly indebted to K. C. Brunson and L. W. Hinton of Oak Ridge National Laboratory for their administrative support over the past year.

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