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Electrically Based Microstructural Characterization II

Editors: Rosario A. Gerhardt, Mohammad A. Alim and S. Ray Taylor

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**MATERIALS RESEARCH SOCIETY
SYMPOSIUM PROCEEDINGS VOLUME 500**

Electrically Based Microstructural Characterization II

Symposium held December 1–4, 1997, Boston, Massachusetts, U.S.A.

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PREFACE

This volume includes many of the papers that were presented at the symposium entitled "Electrically Based Microstructural Characterization II," which was held at the 1997 MRS Fall Meeting in Boston, Massachusetts, December 1–4, 1997. This was the second symposium sponsored by MRS which covered the application of electrical measurements for the detection of microstructural features at all length scales (atomic to macroscopic). In addition to the topics covered in the first symposium (dc and ac resistivity measurements, immittance (impedance/admittance) analysis, multiplane analysis and various other methods such as electron energy loss spectroscopy, ellipsometry, and capacitance voltage measurements), there were several papers which combined electrical measurements with STM, AFM, NSOM and electroluminescence techniques so that more localized information may be obtainable. The papers in this volume cover all classes of materials including semiconductors, electroceramics, biological materials, polymers, metals, geomaterials and a variety of composites. This book has been arranged much like the symposium program where papers were presented according to material types and applications.

The organizers wish to thank all of the symposium participants, in particular our invited speakers, for excellent presentations and after-hours discussions. We would also like to acknowledge the careful work of our many reviewers and the promptness with which authors made requested changes. Dr. Julie R. Kokan of the Georgia Institute of Technology deserves special recognition for her instrumental help in the book preparation. Finally, we would like to thank the MRS staff for their efforts, and all of our financial sponsors for their support.

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