Plasma Processing and Synthesis of Materials III
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Preface

This is the third in the series of MRS Symposia that we had the privilege to organize in the field of plasma processing; the first was held in Boston in 1983 and the second in Anaheim in 1987. On reflecting on the contents of these volumes, it is of interest to trace the development or perhaps more appropriately, the explosive growth of this field, both in terms of the applications and the sophistication of the techniques that are being employed.

In 1983, a key function of the symposium was tutorial, with the aim to acquaint the materials community with the basic concepts of plasma phenomena and to stress the potential utility of plasmas as an exciting tool in materials processing. The second volume in 1987 has provided impressive evidence of widespread plasma use, particularly in the preparation of coatings and in the processing of electronic materials together with significant growth in our understanding of fundamental phenomena relating to plasma systems.

The present volume is a further impressive testimony to the growth and development of the plasma processing field, with particular emphasis on the processing of composite materials, plasma synthesis, the surface modification of materials—all greatly aided by much more sophisticated diagnostic techniques and mathematical analysis.

We are indebted to our session chairs: Dan Backman (GE); Ron Smith (Drexel University); Steve Reichman (Wyman-Gordon); and John Haggerty (MIT) for their contributions, both in organizing their particular sessions and in reviewing the manuscripts. We acknowledge with appreciation their cooperation, assistance, and arduous efforts.

Lastly, we thank the MRS staff who are the best! Without their efforts and assistance there is no way we could have put all this together.

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