

## Microelectronics Processing: Inorganic Materials Characterization

Edited by Lawrence Casper

(American Chemical Society, 1986)

This book, Volume 295 of the American Chemical Society Symposium Series, is a collection of 25 short papers describing the characterization techniques most commonly used in the microelectronics industry. Reviews of specific analytical techniques are given as well as results of studies using these techniques. The book was designed for rapid publication of recent information by using author-prepared manuscripts.

The articles generally give good basic introductions to most semiconductor characterization techniques, including electrical

techniques (SRP, FTIR), surface chemical techniques (AES, SIMS, XPS), bulk chemical techniques (NAA, SSMS, ICPMS), and optical techniques. In most cases, examples demonstrate the application of techniques to analytical problems—for example, the use of AES to solve a device failure. The review articles give similar depth of coverage, and there are numerous comparisons among related techniques. Most articles draw on literature published prior to 1983, so some information may now be outdated. This book can be recommended as a source of readily available information that will enable choosing the analytical technique best suited for a particular problem.

Several articles give recent results of studies on semiconductor related materials, including surface contamination, anal-

ysis of particles, bulk impurity determinations, and growth issues. Materials studied include silicon, gallium arsenide, device metallization materials, and passivation coatings. In general, these articles should be viewed as demonstrations of the respective analytical techniques rather than in-depth reviews of the materials issues they represent.

This book's major value is that it provides an introduction to a specific topic's literature which may interest a reader working in a related topic.

Reviewers: Charles A. Evans Jr. is co-founder and president of Charles Evans & Associates, an analytical laboratory specializing in state-of-the-art surface and thin-film microanalysis primarily for the semiconductor industry. Steven W. Novak is a staff analyst/SIMS at Charles Evans & Associates.

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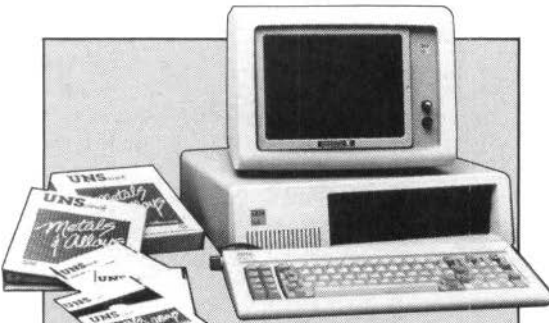
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