



# Handbook of Advanced Plasma Processing Techniques

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## Handbook of Advanced Plasma Processing Techniques From Springer

Pattern transfer by dry etching and plasma-enhanced chemical vapor deposition are two of the cornerstone techniques for modern integrated circuit fabrication. The success of these methods has also sparked interest in their application to other techniques, such as surface-micromachined sensors, read/write heads for data storage and magnetic random access memory (MRAM). The extremely complex chemistry and physics of plasmas and their interactions with the exposed surfaces of semiconductors and other materials is often overlooked at the manufacturing stage. In this case, the process is optimized by an informed "trial-and-error" approach which relies heavily on design-of-experiment techniques and the intuition of the process engineer. The need for regular cleaning of plasma reactors to remove built-up reaction or precursor gas products adds an extra degree of complexity because the interaction of the reactive species in the plasma with the reactor walls can also have a strong effect on the number of these species available for etching or deposition. Since the microelectronics industry depends on having high process yields at each step of the fabrication process, it is imperative that a full understanding of plasma etching and deposition techniques be achieved.

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## **Editorial Review**

From the Back Cover

This volume covers the topic of advanced plasma processing techniques, from the fundamental physics of plasmas to diagnostics, modeling and applications such as etching and deposition for microelectronics. The use of plasmas for patterning on a submicron scale has enabled successive generations of continually smaller transistors, lasers, micromachines, sensors and magnetic read/write heads that have formed the basis of our information age. This volume is the first to give coverage to this broad area of topics in a detailed fashion, especially in the rapidly expanding fields of micro-mechanical machines, photomask fabrication, magnetic data storage and reactor modeling. It provides the reader with a broad array of topics, authored by the leading experts in the field.

## **Users Review**

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**Lisa Maurer:**

Reading a reserve tends to be new life style in this particular era globalization. With looking at you can get a lot of information that will give you benefit in your life. Together with book everyone in this world can easily share their idea. Books can also inspire a lot of people. A great deal of author can inspire all their reader with their story or maybe their experience. Not only the storyline that share in the guides. But also they write about the information about something that you need instance. How to get the good score toefl, or how to teach your young ones, there are many kinds of book which exist now. The authors these days always try to improve their ability in writing, they also doing some exploration before they write to the book. One of them is this Handbook of Advanced Plasma Processing Techniques.

**Diego Mears:**

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