

# Nonthermal Plasma Chemistry and Physics

In addition to introducing the basics of plasma physics, **Nonthermal Plasma Chemistry and Physics** is a comprehensive presentation of recent developments in the rapidly growing field of nonthermal plasma chemistry. The book offers a detailed discussion of the fundamentals of plasma chemical reactions and modeling, nonthermal plasma sources, relevant diagnostic techniques, and selected applications.

## Features

- Includes a compact introduction in the nonthermal plasma physics and plasma-surface interaction
- Classifies the plasma sources and chemical plasma reactors, and provides important similarity parameters
- Overviews experimental methods in plasma diagnostics and surface (thin film) analysis
- Presents detailed research results with modeling and applications
- Promotes strategies in plasma modeling and provides specific methods, including examples

Elucidating interconnections and trends, the book focuses on basic principles and illustrations across a broad field of applications. Expert contributors address environmental aspects of plasma chemistry. The book also includes selected plasma conditions and specific applications in volume plasma chemistry and treatment of material surfaces such as plasma etching in microelectronics, chemical modification of polymer surfaces and deposition of functional thin films. Designed for students of plasma physics, **Nonthermal Plasma Chemistry and Physics** is a concise resource also for specialists in this and related fields of research.



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