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Physical Processes Of The Interaction Of Fusion Plasmas With Solids (Plasma-Materials Interactions)



Synopsis

The recent development of large fusion devices achieving near energy break-even scientifically proves the viability of fusion as an energy source. The challenge now facing fusion researchers is surmounting engineering obstacles to make fusion energy practical. *Physical Processes of the Interaction of Fusion Plasmas with Solids* discusses problems associated with plasma-surface interactions which represent a key issue in achieving engineering as opposed to scientific success. Unlike previous books on the subject, this text is directly related to the broad range of plasma-surface interactions problems encountered in fusion devices. *Physical Processes of the Interaction of Fusion Plasmas with Solids* provides the specialized international fusion community with a resource that covers the interesting new developments that have occurred with the advent of the larger fusion plasma devices that have demonstrated near break-even energy. This book addresses problems that are useful for design and fabrication of such devices. The edge plasma Physical sputtering and radiation-enhanced sublimation Chemical erosion Electron emission from solids Control of plasma-surface interactions by thin films Thermal stability Radiation damage in metallic structural materials Radiation damage in carbon materials

Book Information

Series: Plasma-Materials Interactions

Hardcover: 389 pages

Publisher: Academic Press (February 28, 1996)

Language: English

ISBN-10: 0123515300

ISBN-13: 978-0123515308

Product Dimensions: 1 x 6.2 x 9.2 inches

Shipping Weight: 1.5 pounds (View shipping rates and policies)

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Customer Reviews

For other scientists in fusion, in particular the non-specialists, this book provides a useful survey of the present status of plasma-wall interaction issues and the most important processes involved, a

broad knowledge of which is of growing importance in solving the problems of energy and particle exhaust in fusion devices.--U. Samm in PLASMA PHYSICS AND CONTROLLED FUSION

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