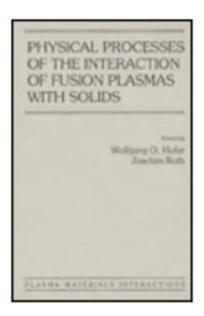


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Physical Processes Of The Interaction Of Fusion Plasmas With Solids (Plasma-Materials Interactions)





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 plasmadevices 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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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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