

Contents

Ion Tracks in Materials Research and Microtechnology By R. Spohr (With 16 Figures)	1
Rare Gases in Metals – Influence on the Formation and Nucleation of Cavities By R. Schumacher and R. Vianden (With 5 Figures)	13
Plasma-Wall Interaction in Controlled Thermonuclear Fusion Research By R. Behrisch (With 4 Figures)	25
Novel Applications of Narrow Nuclear Resonances By C. Rolfs (With 5 Figures)	36
Molecular Dynamics Simulation of Cluster-Ion Impacts By T.A. Tombrello (With 5 Figures)	44
Channeling: A Marriage of Atomic Collision Physics and Materials Science By S. Datz (With 14 Figures)	57
The Frankfurt ECR-RFQ Ion-Beam Facility for Slow Highly Charged Ions By H. Schmidt-Böcking, A. Schempp, and K.E. Stiebing (With 5 Figures)	71
Role of Ion Beams in Superconductor Research By O. Meyer (With 13 Figures)	84
Slow Particle-Induced Electron Emission from Above and Below Metal Surfaces By H. Winter (With 10 Figures)	105
Electrons Captured and Emitted by Highly Charged Ions near Surfaces By R. Morgenstern, L. Folkerts, and J. Das (With 9 Figures)	118
Semiconductor Detectors for Nuclear Radiation – A Review By S. Kalbitzer (With 12 Figures)	128
Index of Contributors	145