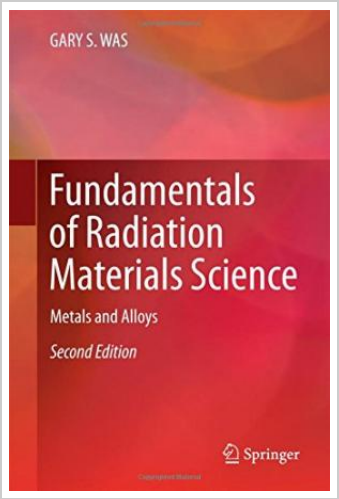

Fundamentals of Radiation Materials Science: Metals and Alloys (Hardback)

By Gary S. Was

Springer-Verlag New York Inc., United States, 2016. Hardback. Condition: New. 2nd ed. 2017. Language: English . Brand New Book. The revised second edition of this established text offers readers a significantly expanded introduction to the effects of radiation on metals and alloys. It describes the various processes that occur when energetic particles strike a solid, inducing changes to the physical and mechanical properties of the material. Specifically it covers particle interaction with the metals and alloys used in nuclear reactor cores and hence subject to intense radiation fields. It describes the basics of particle-atom interaction for a range of particle types, the amount and spatial extent of the resulting radiation damage, the physical effects of irradiation and the changes in mechanical behavior of irradiated metals and alloys.Updated throughout, some major enhancements for the new edition include improved treatment of low- and intermediate-energy elastic collisions and stopping power, expanded sections on molecular dynamics and kinetic Monte Carlo methodologies describing collision cascade evolution, new treatment of the multi-frequency model of diffusion, numerous examples of RIS in austenitic and ferritic-martensitic alloys, expanded treatment of in-cascade defect clustering, cluster evolution, and cluster mobility, new discussion of void behavior near grain boundaries, a new section...

Reviews

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-- ***Ollie Powlowski***