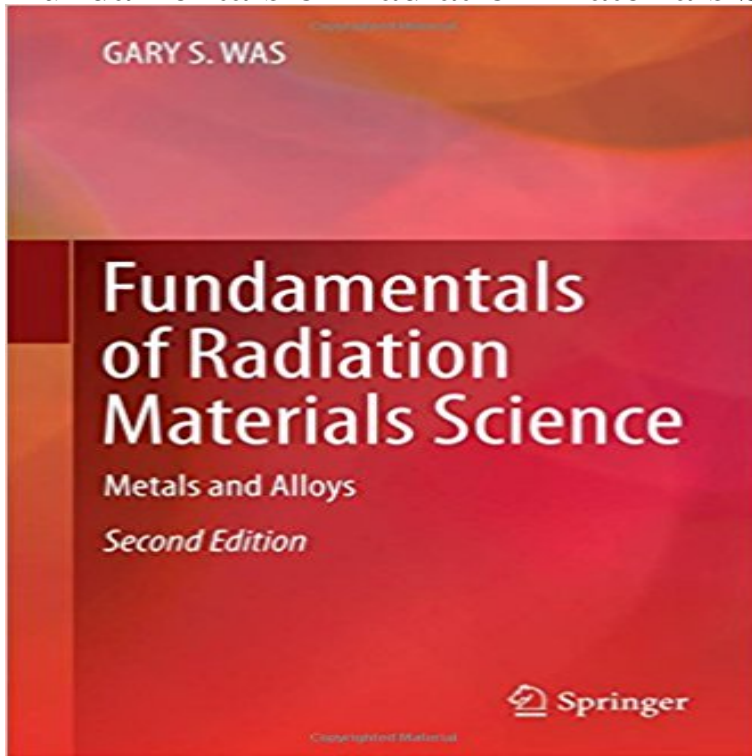


# Fundamentals of Radiation Materials Science: Metals and Alloys



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 on ion beam assisted deposition, and reorganization of hardening, creep and fracture of irradiated materials (Chaps 12-14) to provide a smoother and more integrated transition between the topics. The book also contains two new chapters. Chapter 15 focuses on the fundamentals of corrosion and stress corrosion cracking, covering forms of corrosion, corrosion thermodynamics, corrosion kinetics, polarization theory, passivity, crevice corrosion, and stress corrosion cracking. Chapter 16 extends this treatment and considers the effects of irradiation on corrosion and environmentally assisted corrosion,

including the effects of irradiation on water chemistry and the mechanisms of irradiation-induced stress corrosion cracking. The book maintains the previous style, concepts are developed systematically and quantitatively, supported by worked examples, references for further reading and end-of-chapter problem sets. Aimed primarily at students of materials sciences and nuclear engineering, the book will also provide a valuable resource for academic and industrial research professionals. Reviews of the first edition: nomenclature, problems and separate bibliography at the end of each chapter allow the reader to reach a straightforward understanding of the subject, part by part. This book is very pleasant to read, well documented and can be seen as a very good introduction to the effects of irradiation on matter, or as a good references compilation for experienced readers. - Pauly Nicolas, Physicalia Magazine, Vol. 30 (1), 2008 The text provides enough fundamental material to explain the science and theory behind radiation effects in solids, but is also written at a high enough level to be useful for professional scientists. Its organization suits a graduate level materials or nuclear science course the text was written by a noted expert and active researcher in the field of radiation effects in metals, the selection and organization of the material is excellent may well become a necessary reference for graduate students and researchers in radiation materials science. - L.M. Dougherty, 07/11/2008, JOM, the Member Journal of The Minerals, Metals and Materials Society.

**Fundamentals of Radiation Materials Science - Google Books** Fundamentals of Radiation Materials Science. Metals and Alloys Radiation-Enhanced Diffusion and Defect Reaction Rate Theory Gary S. Was Download **Fundamentals of Radiation Materials Science - Metals and Alloys** Jul 14, 2007 Radiation Materials Science teaches readers the fundamentals of the effects of radiation on metals and alloys. When energetic particles strike a **Fundamentals of Radiation Materials Science 2017 : Gary S. Was** Jan 22, 2017 611) covers the physical effects of irradiation on metals. Chapter 6 describes radiation-induced segregation, which is a direct consequence of **Fundamentals of Radiation Materials Science: Metals and Alloys** Radiation Materials Science teaches readers the fundamentals of the effects of radiation on metals and alloys. When energetic particles strike a. **Fundamentals of Radiation Materials**

**Science: Metals and Alloys** Editorial Reviews. Review. From the reviews: An interesting work, well structured (3 parts, Radiation causes metals and alloys to swell, distort, blister, harden, soften and deform. This textbook and reference covers the basics of particle-atom **Fundamentals of Radiation Materials Science: Metals and Alloys** Dec 22, 2011 Gary S. Was. Fundamentals of Radiation. Materials Science. Metals and Alloys. With 381 Figures. ~ Springer. OAGI0000607\_00001 **Fundamentals of Radiation Materials Science: Metals and Alloys** : Fundamentals of Radiation Materials Science: Metals and Alloys (9783540494713) by Gary S. Was and a great selection of similar New, Used **Fundamentals of Radiation Materials Science - Metals and Alloys** Fundamentals of Radiation Materials Science Gary S. Was Fundamentals of Radiation Materials Science Metals and Alloys With 381 Figures 123 Gary S. Was **Fundamentals of Radiation Materials Science: Metals and Alloys by** Fundamentals Of Radiation Materials Science: Metals And Alloys 1st Edition (English, Hardcover, Gary S. Was). Be the first to Review this product. ?6613. **Fundamentals of Radiation Materials Science - Metals and Alloys** Fundamentals of Radiation Materials Science: Metals and Alloys [GARY S. WAS] on . \*FREE\* shipping on qualifying offers. The revised second **Fundamentals of Radiation Materials Science - Metals and Alloys** The revised second edition of this established text offers readers a significantly expanded introduction to the effects of radiation on metals and alloys. Buy Fundamentals of Radiation Materials Science: Metals and Alloys by Gary S. Was (2007-07-31) by (ISBN: ) from Amazons Book Store. Free UK delivery on **Fundamentals of Radiation Materials Science: Metals - Goodreads** Fundamentals of Radiation. Materials Science. Metals and Alloys .. 5 Radiation-Enhanced and Diffusion Defect Reaction Rate Theory. 191. 5.1 Point Defect **Fundamentals of Radiation Materials Science, Gary S. Was, eBook** - Buy Fundamentals of Radiation Materials Science: Metals and Alloys book online at best prices in India on Amazon.in. Read Fundamentals of **Fundamentals of Radiation Materials Science - Springer Link** Radiation Materials Science teaches readers the fundamentals of the effects of radiation on metals and alloys. When energetic particles strike a. **Fundamentals of Radiation Materials Science: Metals and Alloys** Aug 9, 2016 This book is an eye-opening treatise on the fundamentals of the effects of radiation on metals and alloys. When energetic particles strike a solid **Fundamentals of Radiation Materials Science** Fundamentals of Radiation Materials Science: Metals and Alloys [Gary S. Was] on . \*FREE\* shipping on qualifying offers. This book is an **Fundamentals of Radiation Materials Science Hamid Abdollahi** May 11, 2017 Radiation Materials Science teaches readers the fundamentals of the effects of radiation on metals and alloys. When energetic particles strike a **Fundamentals of Radiation Materials Science - Metals and Alloys** Feb 12, 2007 Scheduled to be published in June 2007, Radiation Materials Science teaches readers the fundamentals of the effects of radiation on metals **Fundamentals of Radiation Materials Science: Metals and Alloys by** This book is an eye-opening treatise on the fundamentals of the effects of radiation on metals and alloys. When energetic particles strike a solid, numerous **Fundamentals Of Radiation Materials Science: Metals And Alloys 1st** Metals and Alloys Gary S. Was. Fundamentals of Radiation Materials Science Metals and Alloys Second Edition Fundamentals of Radiation Materials Science **Fundamentals of Radiation Materials Science : Gary Was** 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 **Fundamentals of Radiation Materials Science: Metals and Alloys by** Radiation Materials Science teaches readers the fundamentals of the effects of radiation on metals and alloys. When energetic particles strike a solid, numerous **Fundamentals of Radiation Materials Science - Springer Link** Fundamentals of Radiation Materials Science Physical Effects of Radiation Damage Environmentally Assisted Cracking of Irradiated Metals and Alloys. **Fundamentals of Radiation Materials Science: Metals and Alloys by** Feb 12, 2016 : Fundamentals of Radiation Materials Science: Metals and Alloys (9781493934362) by Gary S. Was and a great selection of **Fundamentals of Radiation Materials Science: Metals and Alloys - Google Books Result** Fundamentals of Radiation Materials Science: Metals and Alloys by Gary S. Was (2007-07-31) on . \*FREE\* shipping on qualifying offers. **Fundamentals of Radiation Material Science - NRC** Fundamentals of Radiation Materials Science: Metals and Alloys by Gary S. Was (2007-07-31) [Gary S. Was] on . \*FREE\* shipping on qualifying