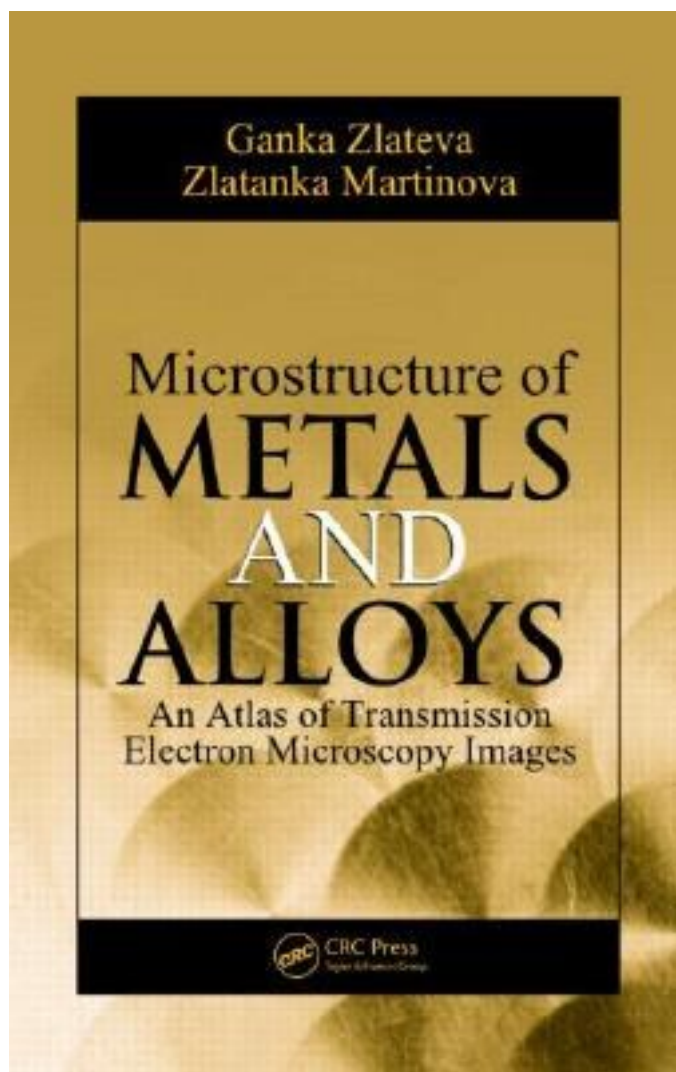


Microstructure of Metals and Alloys



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A teaching tool intended to complement existing books on the theory of materials science, metallurgy, and electron microscopy, this text focuses on metals and alloys. It visualizes key structural elements common to crystalline materials, including crystal lattice imperfections, along with the principles and steps involved in the microstructure development in metallic materials under external influences.

Designed as an atlas, Microstructure of Metals and Alloys contains a collection of carefully selected original transmission electron microscope (TEM) micrographs taken by the authors. These images demonstrate typical crystal lattice defects, elements of the microstructure of metals and alloys, and the basic processes occurring to the crystal structure during plastic deformation, polygonization, recrystallization, and rapid solidification.

The book is organized into six chapters. Each deals with a particular problem in the field of physical metallurgy, and begins with a description of the basic concept and terms. These descriptions enable readers to achieve a better understanding of the essential issues relevant to specific challenges. Providing comprehensive, illustrative coverage of the basic topics in materials science, this important work emphasizes fundamental principles over specific materials, in a manner that is fully consistent with the contemporary tendency in materials science teaching.

作者介绍:

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标签

英语

工程科学

评论

虽然不涉及TEM的原理，确是一本非常好的TEM入门的书

书评

虽然没有涉及任何TEM本身的原理，却是做任何金属合金的TEM的初学者的很赞的入门书。
书里面都是低倍的明场像，有位错，有孪晶，有析出相，有马氏体相变。唯一的美中不足就是没有配套的衍射。TEM里，图像会有假象，而衍射才是王道！