Complex Metallic Alloys: Fundamentals and Applications
Jean-Marie Dubois (Editor), Esther Belin-Ferré (Editor), Knut Urban (Foreword by)

E-Book 978-3-527-63304-3 December 2010 $154.99
Hardcover 978-3-527-32523-8 January 2011 $193.50
O-Book 978-3-527-63271-8 December 2010 Available on Wiley Online Library

DESCRIPTION

Covering fundamental research as well as real-world applications, this first book on CMAs at an introductory level treats everything from atomistic details to surface processing. Comprehensive, self-contained chapters provide readers with the latest knowledge on the most salient features of the topic, selected in terms of their relevance to potential technological applications. Edited by one of the most distinguished authorities on quasicrystals and this most important of their subclasses, the contributions elucidate aspects of CMAs from a particular viewpoint: physical and chemical characteristics in the sub-nanometer regime, mesoscale phenomena, preparation and processing of thin films, and large-scale engineering properties. The whole is rounded off by a look at the commercial potential of CMA-based applications.

For PhD students and lecturers alike.

ABOUT THE AUTHOR

Jean-Marie Dubois heads the institute "Jean Lamour" at the University of Nancy, France. He is a Distinguished Research Director at the National Center of Scientific Research (CNRS) in Paris, permanent invited professor of Dalian University of Technology, China, and acting coordinator of the Complex Metallic Alloys Network of Excellence of the European Union. His research interests focus at the interplay between structural complexity in metals and alloys, electronic structure, bulk and surface properties and
potential for technology. In recognition of his lifetime achievements in the field of quasicrystals he received, among others, the 2007 Mehl award from the Minerals, Metals & Materials Society.

Esther Belin-Ferré was a Research Director at the CNRS from where she officially retired in 2005. She currently works at the Laboratory of Physical Chemistry - Materials and Radiation, in Paris. Her research is dedicated to the investigation of the electronic structure of solids, prominently quasicrystals and complex alloys, using a variety of spectroscopy techniques. She has authored more than 200 scientific publications and edited three books.

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