Record Nr. UNINA9910298460703321 Size Effects in Nanostructures: Basics and Applications / / edited by Titolo Victor Kuncser, Lucica Miu Berlin, Heidelberg:,: Springer Berlin Heidelberg:,: Imprint: Springer, Pubbl/distr/stampa , 2014 **ISBN** 3-662-44479-8 Edizione [1st ed. 2014.] Descrizione fisica 1 online resource (331 p.) Collana Springer Series in Materials Science, , 0933-033X ; ; 205 Disciplina 620.11 620.11295 620.11297 620.5 620115 621 Soggetti Optical materials Electronic materials Nanoscale science Nanoscience **Nanostructures** Nanotechnology **Physics** Structural materials Optical and Electronic Materials Nanoscale Science and Technology Nanotechnology and Microengineering Applied and Technical Physics Structural Materials Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Size effects in semiconductor nanostructures for optoelectronic and photoelectric applications -- Size effects in functional materials for

various applications -- Size effects and magnetic behavior.

## Sommario/riassunto

The influence of size effects on the properties of nanostructures is subject of this book. Size and interfacial effects in oxides, semiconductors, magnetic and superconducting nanostructures, from very simple to very complex, are considered. The most general meaning is assumed for size effects, including not only the influence of a reduced dimension/dimensionality, but also specific interfacial effects. Preparation and characterization tools are explained for various nanostructures. The specific applications are discussed with respect to size-related properties. A logic implication of type phenomenon-property-material-application is envisaged throughout this work.