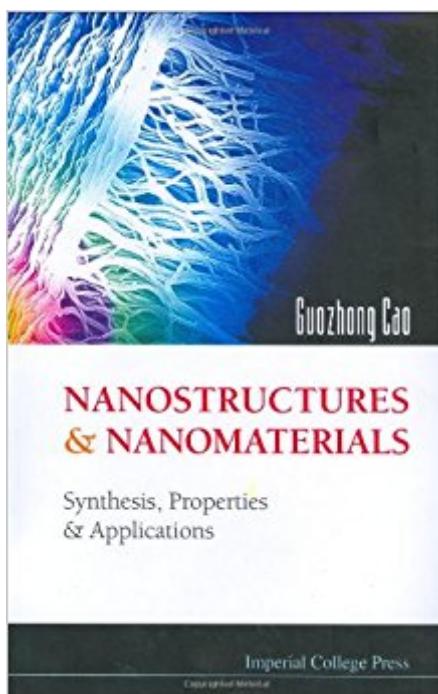


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# Nanostructures & Nanomaterials: Synthesis, Properties & Applications



## **Synopsis**

This important book focuses on the synthesis and fabrication of nanostructures and nanomaterials, but also includes properties and applications of nanostructures and nanomaterials, particularly inorganic nanomaterials. It provides balanced and comprehensive coverage of the fundamentals and processing techniques with regard to synthesis, characterization, properties, and applications of nanostructures and nanomaterials. Both chemical processing and lithographic techniques are presented in a systematic and coherent manner for the synthesis and fabrication of 0-D, 1-D, and 2-D nanostructures, as well as special nanomaterials such as carbon nanotubes and ordered mesoporous oxides. The book will serve as a general introduction to nanomaterials and nanotechnology for teaching and self-study purposes.

## **Book Information**

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## **Customer Reviews**

"This book can be recommended to both students and researchers. It gives the basic information on fabrication and properties of nanostructures in a coherent way ... The relatively large number of figures makes the understanding of the subject easier. The reader has to appreciate also extended list of references for each chapter ..." ... gives the basic information on fabrication and properties of nanostructures in a coherent way ? makes understanding of the subject easier.

This is the 2nd edition of the original "Nanostructures and Nanomaterials" written by Guozhong Cao and published by Imperial College Press in 2004. This important book focuses not only on the

synthesis and fabrication of nanostructures and nanomaterials, but also includes properties and applications of nanostructures and nanomaterials, particularly inorganic nanomaterials. It provides balanced and comprehensive coverage of the fundamentals and processing techniques with regard to synthesis, characterization, properties, and applications of nanostructures and nanomaterials. Both chemical processing and lithographic techniques are presented in a systematic and coherent manner for the synthesis and fabrication of 0-D, 1-D, and 2-D nanostructures, as well as special nanomaterials such as carbon nanotubes and ordered mesoporous oxides. The book will serve as a general introduction to nanomaterials and nanotechnology for teaching and self-study purposes.

--This text refers to the Hardcover edition.

Many books in this area are too concerned with the nano hype and less focused on the science behind it. Others present several chapters, each written by a specific set of authors, that are not necessarily correlated and seem more like a collection of review papers instead of a book. In this context, in my opinion, this book is one of the best books covering the subject (together with ozin's nano chemistry). It covers the real fundamentals and the science that drives the field together with current relevant advances and applications. The only negative aspect of the book is the illustrations, that could be colored and more eye-catching....I was hoping for that in this new edition...Even then, I will give it 5 stars...

There are so many typos in this book. It's clear the authors are not native English speakers and that the book never got edited by anyone (or if it did, they did a terrible job). However, it does provide a great overview of nanomaterials (like how they are synthesized and characterized) and is an easy read.

Product as described

This book is intended to give an overview to those entering the field on how to fabricate nanostructures and their underlying chemistry. The main focus is on the fundamentals such as synthesis and fabrication and covers a large range of topics: nanoparticles, nanowires, nanorods, thin films, and carbon nanotubes as well as a diverse range of patterning techniques (AFM, self-assembly through conventional lithographic techniques). The last chapter of about 20 pages on applications is a bit short and only gives a general feel. The book should be suitable to both advanced undergrads or grad. students in chemistry, material science, physics, and EE. I myself

found it quite accessible for self-study. I especially, liked the first ~50 pags explaining the fundamental such as surface chemistry and excellent explanation of surface tension.

Well-organized book that is good for introducing a person to the subject. Not always the most clear writing though. And there were a lot of grammatical mistakes.

Many errors with grammar, convoluted at certain points. Overall used my lecture notes as opposed to this book. Informative at times though, just a major bother to follow.

This book is beneficial for my study in Nanotechnology.

looks like a good book

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