

Table of Contents

Preface

Introduction to the Nanoworld

M. Wautelet 1

Behind the Quantum and Size Effects: Broken-Bond-Induced Local Strain and Skin-Depth

Densified Quantum Trapping of Charge and Energy

L.K. Pan, M.X. Gu, G. Ouyang and C.Q. Sun 17

Size Effect and Shape Stability of Nanoparticles

J.L. Rodríguez-López, J.M. Montejano-Carrizales, J.P. Palomares-Báez, H. Barrón-Escobar, J.J. Velázquez-Salazar, J.M. Cabrera-Trujillo and M. José-Yacamán 47

a_{Shape} , Birth of one Universal Parameter?

G. Guisbiers 69

Size Effects in Amorphous Nanosolids

D. Ganguli 81

The Synthesis of Nanostructured and Nanometer-Sized Systems

F. Delogu, E. Arca and I.V. Shvets 99

Size Dependence of Optical Properties in Semiconductor Nanocrystals

C.C. Yang and S. Li 133

Size Effects in Electroformed Nanomaterials

U. Erb 163

Size Effect on Thermal Properties in Low-Dimensional Materials

M. Zhao and Q. Jiang 189

Direct White Light Nanophosphors

K.K. Nanda 219

Nanostructured Solar Cells

E. Vigil 229