



# Single Organic Nanoparticles

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Book Condition: New. Publisher/Verlag: Springer, Berlin | Experts describe advanced techniques for the chemical synthesis of functional organic nanoparticles and propose new methods for the characterization and manipulation of single nanoparticles. Theoretical and experimental studies of the physical and chemical properties of organic particles, semiconductor particles and liquid droplets are reported. The text gives not only scientific details but also general and historical background, applications, and future perspectives. Lucid explanations of technical terms and concepts are included where necessary. | 1 Introduction.- I Preparation of Nanoparticles.- 2 Reprecipitation Method for Organic Nanocrystals.- 3 Laser Ablation Method for Organic Nanoparticles.- 4 Synthesis of Functionalized Polymer Particles.- 5 Synthesis of Photosensitive Dendrimer Molecules.- II Spectroscopy and Manipulation.- 6 Electrodynamical Trap of Single Microparticles.- 7 Lasing Spectroscopy of Single Microspheres.- 8 Microspectroscopy of Single Nanoparticles.- 9 Force Measurement for a Single Nanoparticle.- 10 Laser Manipulation of Single Nanoparticles.- III Theory of Optical Interactions.- 11 Optical Spectrum of a Confined Exciton in a Sphere: A Prototype of Advanced Analyses.- 12 Optical Manipulation of Single Nanoparticles Under a Resonance Condition.- 13 Low-Dimensional Excitons in Aromatic Nanoparticles.- IV Physics and Chemistry of Nanoparticles.- 14 Optical Properties of Polymer Nanocrystals.- 15 Photophysics of Capped Nanocrystals and Molecular...



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