1. Record Nr. UNINA9910522937503321 Autore **Dvorsky Richard Titolo** Nanoparticles preparation, properties, interactions and selforganization / / Richard Dvorsky, Ladislav Svoboda, and Jiri Bednar Pubbl/distr/stampa Cham, Switzerland: ,: Springer, , [2022] ©2022 **ISBN** 3-030-89144-5 Descrizione fisica 1 online resource (143 pages) SpringerBriefs in Applied Sciences and Technology Collana **ZPF** Classificazione Disciplina 620.115 Soggetti Surfaces (Technology) **Nanoparticles** Thin films Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Intro -- Preface -- Acknowledgements -- Contents -- Symbols -- List of Figures -- List of Tables -- 1 Nanoparticles-Their Specific Properties and Origin -- 1.1 Nanoparticles and Their Basic Properties -- 1.1.1 Terminology Limit of 100 nm and Its Reasoning -- 1.1.2 Binding Energy and Individual Stability of Nanoparticles -- 1.1.3 Electromagnetic Properties of Nanoparticles -- 1.2 Origin of Nanoparticles -- 1.2.1 Natural Formation of Nanoparticles -- 1.2.2 Anthropogenic Formation of Nanoparticles as Waste -- 1.2.3 Nanotechnological Preparation of Top-Down Nanoparticles -- 1.2.4 Nanotechnology Preparation of Nanoparticles by the Bottom-Up Method -- References -- 2 Interaction Among Nanoparticles -- 2.1 Weak van der Waals Interactions Among Molecules -- 2.2 Adhesion Interactions Between Nanoparticles as a Result of a Collective van der Waals Interaction-Hamaker Microscopic Summation Method --References -- 3 Self-Organization of Nanoparticles -- 3.1 Self-Organization of Nanoparticles -- 3.1.1 GrapheneGraphite -- 3.1.2 FullereneFullerite -- 3.2 Self-Organization of Nanoparticles at the Sublimation Interface -- 3.2.1 Standard Freezing of Liquid

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