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| 1. Record Nr.           | UNINA9910791967603321  |
| Autore                  | Brodsky Anatol M   |
| Titolo                  | Nanoparticles [[electronic resource] ] : optical and ultrasound characterization / / by Anatol M. Brodsky  |
| Pubbl/distr/stampa      | Berlin ; ; Boston, : De Gruyter, c2012   |
| ISBN                    | 1-68015-209-2<br>3-11-026734-9   |
| Descrizione fisica      | 1 online resource (116 p.)   |
| Classificazione         | VE 9850  |
| Disciplina              | 620/.5   |
| Soggetti                | Nanoparticles  |
| 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       | Frontmatter -- Preface / Brodsky, Anatol M. -- About the Author -- Contents -- 1. Introduction -- 2. Coherence loss in light backscattering by media with nanoscale nonuniformities -- 3. Optical diagnostics based on coherent light transport effects in media with mesoscopic nonuniformities -- 4. Ultrasonic grating diffraction spectroscopy and reflection techniques for characterizing slurry properties -- Index   |
| Sommario/riassunto      | Many objects of physical, biological, and industrial interest include randomly distributed nanoscale nonuniformities, e.g., nanoparticles. Their characterization online in dynamic industrial processes and in situ in biological systems faces serious practical challenges when the rapid formation and distribution of nanoparticles takes place. This book discusses optical sensing techniques - the best tools for nanoparticle monitoring, as they are fast, non-invasive, and provide a broad range of information in real time. It provides a theoretical model for the relation between observed signals and studied system properties. The application of these methods enables the analysis of particle suspensions, colloidal dispersions, and polymer solutions leading to new medical diagnostics and therapies. |