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| | Note generali | Description based upon print version of record. |
| | Nota di bibliografia | Includes bibliographical references and index. |
| | Nota di contenuto | Preface; Contents; 1 Introduction; 1.1 What are Plasmon Resonances?; 1.2 Dispersion Relations; 1.3 Overview of Book Contents; References; 2 Modal Analysis of Plasmon Resonances in Nanoparticles; 2.1 Plasmon Resonances as an Eigenvalue Problem; 2.2 Dual Formulation; 2.3 General Properties of Plasmon Spectrum; 2.4 Plasmon Resonances in Nanoshells; 2.5 Relation to the Riemann Hypothesis; References; 3 Analytical and Numerical Analysis of Plasmon Resonances; 3.1 Some Analytical Solutions for Plasmon Modes; 1. Plasmon modes in nanowires of circular cross sections <br> 2. Plasmon modes in circular cross-section nanotubes3. Plasmon modes in two adjacent circular cross-section nanowires; 4. Plasmon modes in eccentric nanotubes; 5. Plasmon modes in nanowires of elliptical cross sections; 6. Plasmon modes in spherical nanoparticles; 7. Plasmon modes in spherical nanoshells; 8. Plasmon modes in ellipsoidal nanoparticles; 9. Plasmon modes in ellipsoidal nanoshells; 10. Plasmon modes in toroidal nano-rings; 11. Plasmon modes in two adjacent spherical nanoparticles; 12. Plasmon modes in infinite flat structures |

| Sommario/riassunto | This unique volume provides a broad introduction to plasmon resonances in nanoparticles and their novel applications. Here, plasmon resonances are treated as an eigenvalue problem for specific boundary integral equations and general physical properties of plasmon spectrum are studied in detail. The coupling of incident radiation to specific plasmon modes, the time dynamics of their excitation and dephasing are also analytically treated. Finally, the applications of plasmon resonances to SERS, light controllability (gating) of plasmon resonances in semiconductor nanoparticles, the use of plasmo |