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Autore	Mayergoyz I. D
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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