Particles and nanovoids for plasmonics

Sierra-Martin, B.
Fernandez-Barbero, A.

Abstract
This article reviews and compares the optical properties of metallic nanoparticles and nanovoids, which have received great attention due to their ability to generate and control plasmon resonances. These systems are capable of concentrating and manipulating the fields at nanometer scale, being very attractive as building blocks for emerging applications. Metal particles and nanovoids present different plasmonics modes, strongly dependent on the size, shape and nature of the metal and dielectric. Specific geometrical features, as the presence of rims, make the nanovoids very promising structures to design exotic band spectra because of the coupling between different resonant modes.

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