Optical extinction of Au–Ag spherical nanoalloy

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Abstract

In this paper, optical properties of Au–Ag spherical nanoalloy are investigated by means of Generalized Lorenz–Mie Theory (GLMT) when this nanoparticle is embedded into water. Scattering, extinction and absorption cross-sections of this nanoalloy into water are calculated by changes of incident wavelengths in visible and near infra-red region. Moreover, changes of height and wavelengths of extinction and scattering cross-sections peaks (due to Particle Plasmon Resonances (PPR)) versus alloy percentage for Au–Ag spherical nanoalloy are considered.

Keywords: Au – Ag Nanoalloy, generalized Lorenz- Mie theory, extinction cross-section, particle plasmon

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