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Modification of electric and magnetic dipole emission near plasmonic metal DAVID KEENE, Georgia Southern University, GA, RABIA HUSSAIN, NATALIA NOGINOVA, Norfolk State University, VA, MAXIM DURACH, Georgia Southern University, GA — Strongly different behavior of magnetic and electric dipole spontaneous emission is observed near plasmonic metal at wavelengths close to the plasmon resonance range. Results are related to different coupling of the dipoles with plasmonic modes, and can be used to study and map modifications of local optical fields in plasmonic systems. We visualize the effects using a simple microscope setup and provide a theoretical description of the effects observed in a planar geometry, based on the dyadic Green's function approach for a layered medium.

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