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Optical Imaging Properties of Metal Nanoparticle Chains DAVID CITRIN, Georgia Institute of Technology — Chains of noncontacting noble-metal nanoparticles are known to support coupled plasmonic-electromagnetic modes known as plasmon polaritons, in which those polarized perpendicular to the chain axis exhibit group and phase velocity in opposite directions. This in turn has attracted interest in nanoparticle chains and arrays as left-handed materials for optical applications. In this contribution, I discuss recent work in my group on the imaging properties of nanoparticle chains. In particular, I present work that demonstrates theoretically the focusing properties of nanoparticle chains. I further discuss possible applications in near-field optics.

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