

Abstract Submitted
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**Simulating localized surface plasmon resonance of gold nano
spheres and nano rods for application in all-optical switching devices¹**

JOHN HARVEY PAREDES, University of California, Merced — Spherical and rod-like gold nanoparticles possess distinctive optical characteristics due to their plasmon resonance, which is the collective oscillation of the free electrons of the nanoparticles in resonance with an electromagnetic wave. By using the NanoHub's DDSCAT* software package, we simulate the scattered electric field generated by arrays of nanoparticles by using the discrete dipole approximation method. We vary the orientation and local order of the nanoparticles in an effort to optimize the array design that would allow us to develop the most efficient plasmonic switches.
*<https://nanohub.org/resources/dda>

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