

Multipole and local-field effects in the nonlinear response of nanoscale metals

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I. Monday, April 12, 2010 at 16h00

Celestijnenlaan 200D, room 05:11

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II. Wednesday, April 14, 2010 at 16h00

Celestijnenlaan 200D, room 05:11

The first part of this presentation (I) reviews the multipole (electric-dipole, magnetic-dipole, and electric-quadrupole) contributions to the second-order nonlinear optical response of materials. The second part (II) discusses second-harmonic generation from arrays of metal nanoparticles and nanodimers, demonstrating the importance of both local-field and multipole effects in the interpretation of the results. The origin of the metal nonlinearity in terms of the multipolar surface and bulk contributions is also demonstrated.

