

Resonance properties of metallic conical nanoantennas



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6. Cone apex-angle dependence



Local mode concept: valid for not too big angles.

Conclusion: we have developed a direct method for the determination of the spectral position of the radial resonances of a metallic nanocone. The validity of the model was confirmed through the comparison with numerical simulations.

[1] Effective Wavelength Scaling for Optical Antennas, L. Novotny, Phys. Rev. Lett. 98, 266802 (2007).

[2] Optical nanorod antennas as dispersive one-dimensional Fabry–Pérot resonators for surface plasmons, E. Cubukcu and A. F. Capasso, App. Phys. Lett. 95, 201101 (2009). [3] Direct determination of the resonance properties of metallic conical nanoantennas, S.Tuccio, L. Razzari, A. Alabastri, A. Toma, C. Liberale, F. De Angelis, P. Candeloro, G. Das, A. Giugni, E. Di Fabrizio and R. Proietti Zaccaria, Opt. Lett. 39, 571 (2014).