

Abstract Submitted
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Scattering of light from periodic conducting structures WESLEY MILLS, Utah State University, CHRISTIAN LANGE, Purdue University, T.-C. SHEN, Utah State University — Light scattered from periodic structures generates numerous fascinating phenomena from the diffraction patterns to the black patches on some butterfly wings. The simple scalar wave formulation based on Huygens principle can account for many diffraction and radiation patterns at far field. However, when the structure dimensions are smaller than the wavelength, light polarization and structure details become important, the vector formulation based on Maxwell's equations is necessary. We will present an analytic calculation and a numerical simulation on light scattering from two-dimensional conducting grids to model the reflectance from butterfly wings and broadband absorption structures made from carbon nanotube forests.

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