

Abstract Submitted
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Angular dependence of the transmittance and reflectance of periodic hole arrays¹ DIMITRIOS KOUKIS, DAVID TANNER, ARTHUR HEBARD, Department of physics, University of Florida — We have measured the transmittance and reflectance of several samples consisting of a periodic array of holes in a metal film as a function of the angle of incidence of the light. The spectra cover the visible and infrared range. For our measurements we used two different polarizations, p-polarization (TM wave) and s-polarization (TE wave), defined by the direction of the electric field vector relative to the plane of incidence. The well-known resonant behavior of the hole arrays is seriously affected by the angle of incidence and differs significantly for the two polarizations. The behavior of the observed experimental data will be reviewed using theoretical considerations.

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