

Abstract Submitted  
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**Light diffraction from a metallic bigrating.**<sup>1</sup> RAUL GARCIA-LLAMAS, Departamento de Investigacion en Fisica. Universidad de Sonora, MANUEL LEYVA-LUCERO, Escuela de Ciencias Fisico-Matematicas. Universidad Autonoma de Sinaloa, JORGE GASPAR-ARMENTA, Departamento de Investigacion en Fisica. Universidad de Sonora — The diffraction of  $\pi$ - and  $\sigma$ - polarized electromagnetic plane waves from metallic bigratings is studied theoretically. The reduced Rayleigh equations are solved using a perturbation approach. The diffracted amplitudes are calculated until second order on the surface height profile. Numerical results of the diffraction orders and Near-Field are obtained using both, two-dimensional sinusoidal and semicircular profiles.

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