

Abstract Submitted
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Interaction between surface plasmon and 2-dimensional nano-defects at metallic surfaces.¹ RAUL GARCIA-LLAMAS, JORGE GASPAR-ARMENTA, JUDITH TNORI-CORDOVA, Universidad de Sonora, MANUEL LEYVA-LUCERO, Universidad Autonoma de Sinaloa — A theoretical study of light diffraction and intensity of near field from two-dimensional nano-defects at metallic surface illuminated with electromagnetic plane waves is presented. Results for one or two Gaussian-shaped sub-wavelength defects at silver surface are shown. The light diffraction patterns shown minima at specific angular directions in the case of two defects separated a distance a_x . These minima are associated to the ration $(\lambda/2a_x)$ and depend on the localization of the defects, being λ the wavelength of the illumination light. The Near-Field intensity, calculated to constant height, shown oscillations associated to the excitation of surface plasmon, which amplitude are grater for smaller width of the Gaussian defect.

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