Abstract Submitted
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Long wavelength limit of the 2D photonic crystal S.T. CHUI, University of Delaware, Z.F. LIN, Fudan University — We solve **analytically** the multiple scattering equations for the two dimensional photonic crystals in the long wavelength limit. Different approximations of the electric and magnetic susceptibilities are presented from a unified pseudopotential point of view. The nature of the so called plasmon-polariton bands are clarified. Its frequency as a function of the wire radius is discussed. The corresponding tunable "magnetic surface plasmon" band is pointed out.

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