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Visualization of the light injection in one dimensional Photonic Crystals.[1] RAUL ARCHULETA-GARCIA, FELIPE RAMOS-MENDIETA, JESUS MANZANARES-MARTINEZ, Universidad de Sonora — In this work we present time variation simulations of the light injection in one dimension photonic crystals (1D-PC). This phenomenon is due to the coupling of an incoming plane-wave to the discrete vibration modes in finite 1D-PC. In order to present a live animation of the system we proceed in two stages. First, we present the discrete relation dispersion and then we choose the better combination of frequency and wave-vector. Second, for this combination we reconstruct the field amplitudes in each one of the media. This phenomenon has been described in three previous works [1-3] for the case of a metal-dielectric-metal system. In this work we present the simulation of this system and also the extension of the idea for the case of a multilayer system. The visualization of the electromagnetic field gives a better comprehension of the phenomena. [1]R. Garcia-Llamas, J.A. Gaspar-Armenta, F.Ramos-Mendieta, R.F. Haglund, R. Ruiz. *"Design, manufacturing and testing of planar optical waveguide devices",*.), Proceedings of SPIE, vol. 4439, 2001, pp 88-94. [2] F. Villa, T. Lopez-Rios, L.E. Regalado, "*Electromagnetic modes in metal-insulator-metal structures"*, Phys. Rev. B 63 (2001) 165103. [3] A.S. Ramirez-Duverger, R. Garcia-Llamas, "*Light scattering from a multimode waveguide of planar metalic walls"*, Optics Communications, (2003)

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