

Abstract Submitted
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Photoconductivity for an Array of Nanowires and Dots¹ PAULA FEKETE, GODFREY GUMBS, Hunter College, CUNY — We present a model calculation for the photoconductivity of a two-dimensional electron gas in an ambient perpendicular magnetic field. An electrostatic modulation which produces quantum wires or dots is also applied. The system is then subjected to a weak radiation field. The Landau eigenstates in the periodically modulated system are first obtained numerically and then used in the Kubo formula to obtain the conductivity. We analyze the frequency-dependent transport coefficients for their dependence on frequency and strength of modulation. The calculation is restricted to the low-frequency regime where the system is assumed to be in or close to equilibrium.

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