

Abstract Submitted
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Franz-Keldysh effect in the interband optical absorption of quantum wires HAROLD SPECTOR, Illinois Institute of Technology, CONGXIN XIA, Henan Normal University — We present a theoretical calculation of the effect of an electric field applied either parallel or perpendicular to the axis of a rectangular quantum wire on the interband optical absorption. We find that the application of the electric field decreases the optical absorption coefficient for both the parallel and perpendicular to the axis electric field configurations. The absorption is greater when the electric field is along the direction of carrier confinement than when it is along the axis of the wire. This difference is due to the effect of the field on the overlap of the electron and hole wave functions.

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