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Low temperature transport properties of semiconducting nanocrystal arrays ANDREAS GLATZ, IGOR BELOBORODOV, VALERII VINOKUR, Argonne National Lab — We study the electron transport in semiconducting nanocrystal arrays at temperatures $T \ll E_c$, where E_c is the charging energy for a single grain. In this temperature range the electron transport is dominated by co-tunneling processes. We discuss both elastic and inelastic co-tunneling and show that for semiconducting nanocrystal arrays the inelastic contribution is strongly suppressed at low temperatures. We also compare our results with available experimental data.

Andreas Glatz
Argonne National Lab

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