Abstract Submitted
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Linear magnetoresistance in non-degenerately doped $SrTiO_3$[1]
ANAND BHATTACHARYA, Materials Science Division and Center for Nanoscale Materials, Argonne National Laboratory — I will present transport measurements on non-degenerately doped $n-SrTiO_3$ single crystals. The samples were doped by annealing at high temperatures in vacuum. The resistance decreases monotonically down to the lowest temperatures, for carrier densities as low as 3.85 x $10^{15}/cm^3$. The magnetoresistance (MR) is found to be positive and linear at high fields, with R(9 T)/R(0 T) $>$ 28 at 2 K for the lowest doping levels measured. The magnitude of the MR decreases with increasing temperature, and with increased doping. I will discuss the data in light of various mechanisms for linear magnetoresistance in the context of $n-SrTiO_3$.

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