

Abstract Submitted
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Disappearance of the metal-like behavior in GaAs two-dimensional holes below 30mK.¹ JIAN HUANG, Princeton University, JIAN-SHENG XIA, University of Florida, D. C. TSUI, Princeton University, L.N. PFEIFFER, K.W. WEST, Bell Labs, Lucent Technologies — The T-dependence of the resistivity of two-dimensional holes are observed to exhibit two qualitatively different characteristics for a fixed carrier density at temperatures below 100mK. In this putatively metallic regime of the so-called metal-insulator transition, the sign of the derivative of the resistivity with respect to temperature changes from being positive ($d\rho/dT>0$) to negative ($d\rho/dT<0$) when the temperature is lowered below 30 mK and the resistivity continuously rises with cooling down to 1mK, suggesting a crossover from being metal-like to insulator-like.

¹Disappearance of the metal-like behavior in GaAs two-dimensional holes in GaAs below 30mK

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