

Abstract Submitted
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Temperature dependence of microwave photoresistance in 2D electron systems¹ MICHAEL ZUDOV, ANTHONY HATKE, University of Minnesota, LOREN PFEIFFER, KEN WEST, Bell Labs, Alcatel-Lucent — We report on studies of the temperature dependence of microwave-induced resistance oscillations in a high-mobility two-dimensional electron system. We find that the oscillations decay exponentially with increasing temperature, as $\exp(-\alpha T^2)$, where α scales with the inverse magnetic field. This observation suggests that the temperature dependence originates *primarily* from the modification of the single particle lifetime, likely through electron-electron interaction effects. The relevance of our findings to existing theories will be discussed.

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