

Abstract Submitted  
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**Observation of glassy dynamics in high quality GaAs two-dimensional hole systems using transport and RF reflectometry** A.R. HAMILTON, L.J. TASKINEN, A.P. MICOLICH, M.Y. SIMMONS, University of New South Wales, Australia, D.A. RITCHIE, M. PEPPER, University of Cambridge, UK — We have used standard low frequency ac transport measurements, as well as large bandwidth rf reflectometry measurements, to study the non-equilibrium relaxation of the resistance of strongly interacting, high quality 2D GaAs hole systems at milliKelvin temperatures. We observe logarithmic relaxation of the resistance over 7 orders of magnitude in time (from 1ms to 10,000s) following a discontinuous step in the gate voltage. This is characteristic of glassy behaviour, and may be evidence for the formation of a Coulomb glass. A comparison of the logarithmic behaviour observed in different samples provides clues as to the origins of these slow glassy dynamics.

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