

Abstract Submitted
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Differential heat capacity studies of $\text{Nd}_{2-x}\text{Ce}_x\text{CuO}_4$ ¹ JOHN COOPER, JAMES STOREY, EDWARD CAVANNA, JOHN LORAM, Cavendish Laboratory, University of Cambridge, CB3 0HE, U.K — The electronic heat capacity of several *hole*-doped cuprate systems has been determined accurately over a wide temperature range using a unique differential calorimeter. It gives important thermodynamic information about the electronic excitations and the pseudogap [1] that is difficult to obtain in other ways, so it is clearly of interest to extend these studies to some *electron*-doped materials. Here we report progress in measuring the specific heat capacity of a series of polycrystalline $\text{Nd}_{2-x}\text{Ce}_x\text{CuO}_4$ samples with x varying from 0.14 to 0.18 in steps of 0.01, between 2K and 100K, in magnetic fields from 0 – 13T and complementary magnetic and transport data. The aims of this work are to look for possible signatures of the pseudogap and to compare our results with recent quantum oscillation studies [2].

[1] For example, J. W. Loram *et al.*, J. Phys. Chem. Solids **62**, 59 (2001).

[2] T. Helm *et al.*, Phys. Rev. Lett. **103**, 157002 (2009).

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