

Abstract Submitted
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Heat capacity measurements of solid ^4He confined in porous Vycor¹ Z. G. CHENG, X. LIN, J. T. WEST, M. H. W. CHAN, The Pennsylvania State University — Non-classical rotational inertia (NCRI), a possible indication of a supersolid state, has been observed in solid ^4He in bulk samples and in samples confined within porous media. In addition to the expected Debye- T^3 term, a heat capacity peak has been observed in bulk solid ^4He . The peak temperature of ~ 60 mK is in the vicinity of the onset of NCRI. The heat capacity peak also shows similar dependence on sample preparation to the NCRI signals. Many of the theories regarding supersolid behavior involve extended defects in the bulk crystal. These theories break down when considering solids confined within porous media. We will present preliminary heat capacity measurements of solid ^4He confined in Vycor glass with a characteristic pore size of 70 angstroms.

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