

Abstract Submitted  
for the MAR10 Meeting of  
The American Physical Society

**Heat capacity measurements of solid  $^4\text{He}$  confined in porous Vycor**<sup>1</sup> 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  $^4\text{He}$  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  $^4\text{He}$ . The peak temperature of  $\sim 60$  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  $^4\text{He}$  confined in Vycor glass with a characteristic pore size of 70 angstroms.

<sup>1</sup>The work is supported by NSF Grants No. DMR-0706339.

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Date submitted: 20 Nov 2009

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