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Thermal Conductivity of Solid ^4He in Vycor¹ ZHIGANG CHENG, SAMHITA BANAVAR, STEFAN T. OMELCHENKO, MOSES H.W. CHAN, The Pennsylvania State University — In addition to non-classical rotational inertia (NCRI) observed in torsional oscillator (TO), we have carried out thermal conductivity measurement of solid ^4He embedded in porous Vycor glass to search for possible anomaly related to the onset of NCRI. Because of the high thermal conductivity of bulk solid ^4He , it is difficult to resolve any small ‘extra’ thermal conductivity signal due to the onset of supersolidity. However, when it is confined in porous Vycor, the thermal conductivity of solid ^4He is significantly reduced. This makes it easier to single out possible anomaly. Preliminary measurements show a rounded peak in the thermal conductivity near 0.1 K.

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