Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Specific heat of liquid He-4 near the superfluid transition and confined in cylindrical channels[1] TAHAR AOUAROUN, GUENTER AHLERS, UCSB — We present new measurements of the specific heat near the lambda transition of liquid He-4 at saturated vapor pressure and confined in micro-channel plates containing cylindrical holes. We investigated two channels diameters: 1μm and 2μm. Our results for the scaling function near the specific-heat maximum are in reasonably good agreement with previous measurements on channels with a 1 μm $\times$ 1 μm square cross section[2] and on cylindrical channels with a 0.26μm diameter[3]. They also are consistent with the scaling function derived from Monte Carlo calculations.[4] However, they suggest a size- dependent systematic departure from a unique scaling function that is consistent with earlier measurements[3] on cylindrical channels of 8μm diameter.

[1]Work supported by NASA Grant NAG 3 2872
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Date submitted: 05 Dec 2005 Electronic form version 1.4