Abstract Submitted
for the DFD14 Meeting of
The American Physical Society

Acoustics of the Lambda Transition in Superfluid Helium PETER MEGSON, DAVID MEICHLE, DANIEL LATHROP, Univ of Maryland-College Park — Liquid Helium undergoes a phase transition and becomes a quantum superfluid when cooled below the Lambda transition temperature of 2.17 Kelvin. The superfluid, which is a partial Bose Einstein Condensate, exhibits unique macroscopic properties such as flow without viscosity and ballistic temperature propagation. We have recorded striking audio-frequency sounds using a micro electromechanical microphone (MEMS) present as the Helium goes through the Lambda transition. Characterization of this sound, as well as its relevance to theories of the Lambda transition will be presented.

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Date submitted: 01 Aug 2014 Electronic form version 1.4