

Abstract Submitted  
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**Heat capacity study of BaFe<sub>2</sub>As<sub>2</sub>**<sup>1</sup> COSTEL R. ROTUNDU, Lawrence Berkeley National Laboratory, NORMAN E. PHILLIPS, Department of Chemistry, University of California, Berkeley and Lawrence Berkeley National Laboratory, STEPHEN D. WILSON, Lawrence Berkeley National Laboratory, AHRAM KIM, GIOVANNI PINUELLAS, BYRON K. FREELON, Department of Physics, University of California, Berkeley, EDITH BOURRET-COURCHESNE, Lawrence Berkeley National Laboratory, ROBERT J. BIRGENEAU, Lawrence Berkeley National Laboratory, Department of Physics and Department of Materials Science and Engineering, University of California, Berkeley — We report heat capacity measurements on high quality single crystalline BaFe<sub>2</sub>As<sub>2</sub> between 2 and 300 K in magnetic fields to 14 T. The sample, synthesized by a modified self-flux Bridgman method, shows no evidence of magnetic impurities. The low-temperature heat-capacity data give the electron density of states. The relation of the heat-capacity data to resistivity and magnetization measurements near the 140 K magnetic and structural phase transitions of both as-grown and annealed samples are discussed.

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