Magnetic-Field Dependence of the Spinon Velocity in the $S = 1/2$ Linear-Chain Heisenberg Antiferromagnet Copper Pyrazine Dinitrate

K.E. MARINO, Pennsylvania State University, C.P. AOYAMA, University of Florida, M.M. TURNBULL, C.P. LANDEE, Clark University, Y. TAKANO, University of Florida — We have measured the specific heat of fully deuterated copper pyrazine dinitrate (CuPzN), a spin-1/2 antiferromagnetic chain compound, at temperatures down to 0.12 K in magnetic fields up to 14 T. This was done to reduce nuclear heat contributions by using deuterated CuPzN and to better define the magnetic heat capacity by taking measurements beyond the saturation field. The results are in good agreement with previous data taken by Hammar et al. in fields up to 9 T. The spinon velocity obtained from the specific heat is compared to theoretical predictions as a function of magnetic field.

This work was supported in part by the University of Florida Physics REU program under NSF grant DMR-1156737.