Abstract Submitted
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Structure and magnetic, thermal, and electronic transport properties of single crystal $EuPd_2Sb_2$[1] S. DAS, K. MCFADDEN, YOGESH SINGH, R. C. NATH, D. C. JOHNSTON, Ames Lab. and Dept. of Phys. and Astron., Iowa State U., Ames, IA 50011, A. ELLERN, Dept. of Chemistry, Iowa State U., Ames, IA 50011 — $EuPd_2Sb_2$ is closely related to the AFe_2As_2 compounds. Single crystal x-ray diffraction studies confirmed that $EuPd_2Sb_2$ crystallizes in the $CaBe_2Ge_2$-type structure. The magnetic susceptibility and heat capacity versus temperature measurements suggest antiferromagnetic ordering at 6.0 K with the easy axis or plane in the crystallographic *ab* plane. An additional transition occurs at 4.5 K that may be a spin reorientation transition. The 4.5 K transition is suppressed below 1.8 K while the 6.0 K transition moves down to 3.5 K in a magnetic field of $H = 8$ T. Resistivity data show metallic behavior down to 1.8 K along with an anomaly at 5.8 K in zero field. The anomaly is suppressed to 2.9 K in an 8 T field. The Hall coefficient measurements indicated that the dominant charge carriers are electrons. The magnetization $M(H)$ isotherms show three field-induced anomalies at 2.75 T, 3.90 T, and 4.2 T magnetic fields parallel to the *ab* plane at 1.8 K.

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