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Estimating the intrinsic magnetic susceptibility in the normal state of $LaO_{0.5}F_{0.5}BiS_2$[1] SILVERIO DELGADO, OSCAR BERNAL, Department of Physics and Astronomy, California State University, Los Angeles,90032, DIANRU JIANG, Cal State LA, KEVIN HUANG, LEI SHU, DUYGU YAZICI, Physics, Fudan University, China, M.B. MAPLE, Physics, University of California, San Diego — We present magnetization and magnetic susceptbility data in $LaO_{0.5}F_{0.5}BiS_2$from 2.7 to 250 K tempratures and -4 to +4 T fields. The signal in very low-fields (10 Oe or less) is small and hard to measure accurately above the superconducting transition temperature (T_c ∼3 K). At higher fields, we observe that the high-temperature susceptibility is dominated by a paramagnetic component. Independent chemical analysis suggests that this component might come from Ce impurities contained in the starting materials. By analyzing the behavior of the magnetization as a function of field and temperature under the assumption of impurity contributions, we make an estimate of the intrinsic value of the susceptibility in the normal state of the material.

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