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Nuclear Magnetic Resonance Studies of Bulk States of Bi2Se3 D.M. NISSON, A.P. DIOGUARDI, P. KLAVINS, C.H. LIN, K. SHIRER, A. SHOCKLEY, J. CROCKER, N.J. CURRO, University of California, Davis, Department of Physics, N. J. CURRO NMR GROUP TEAM — We present <sup>209</sup>Bi nuclear magnetic resonance (NMR) spectra and relaxation rate data on single crystals of Bi<sub>2</sub>Se<sub>3</sub> grown under various conditions, whose carrier concentrations, resistivities, and Shubnikov-de Haas (SdH) frequencies have been measured. Our NMR data reveal properties of the bulk states, which are influenced by the presence of intrinsic carriers. We find that both the Knight shift and the electric field gradient of the Bi is correlated with carrier concentration, and atypical spectral profiles. Surprisingly, spin-lattice relaxation is not strongly temperature dependent.

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