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^{19}F -NMR in $\text{LaO}_{0.5}\text{F}_{0.5}\text{BiS}_2$: Anomalous Lineshape Behaviour Below 10 Kelvin¹ SHRISHTI YADAV, OSCAR BERNAL, California State University, Los Angeles, DUYGU YAZICI, KEVIN HUANG, LEI SHU, Fudan University, Shanghai, M.B. MAPLE, University of California, San Diego — A recently discovered layered superconductor, $\text{LaO}_{0.5}\text{F}_{0.5}\text{BiS}_2$ is of current interest for its surprising properties. T_c is in the vicinity of 3 K for room-pressure-grown samples, but it reaches 10 K in samples grown under pressure. NMR is a microscopic tool that can probe the static and fluctuating local fields at nuclear sites. In our studies of ^{19}F -NMR in a room-pressure-grown sample, we have found anomalous features in the spectral lineshape and curious behaviour of the spin-lattice relaxation rate as functions of temperature and magnetic field. We report our measurements and discuss some of our results in light of the potential properties predicted by others for the parent as well as the F-doped compounds.

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