Abstract Submitted
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^{63,65}Cu NMR Spectrum and Spin Lattice Relaxation in the Two-dimensional Antiferromagnet Pr_2CuO_{4-y}[1] G. GAIDOS, W.G. CLARK, UCLA Physics and Astronomy, R.L. GREENE, B. LIANG, U. of Maryland Physics — The ^{63,65}Cu NMR spectra and spin lattice relaxation rate ($1/T_1$) are reported for a single crystal of the two-dimensional antiferromagnet Pr_2CuO_{4-y} as a function of the applied magnetic field ($\boldsymbol{B}_0$) over the temperature (T) range 3 - 20 K. When $\boldsymbol{B}_0 = 0$, the NMR spectrum has six lines, which correspond to the quadrupolar spectrum (central transition and two satellites) of both Cu isotopes in an antiferromagnetic (AF) internal field of 9.626 T. This value is 0.75 T less than that of the related compound Nd_2CuO_{4-y}[1]. The spectra as a function of $\boldsymbol{B}_0$ are consistent with the noncollinear structure of the AF ordered Cu^{2+} spins seen in neutron diffraction studies [2]. The values of $1/T_1$ over the range 5 K $\leq T \leq$ 20 K follow the power law $1/T_1 \propto T^2$, which may indicate $1/T_1$ is dominated by two-dimensional AF spin waves [3]. [1] Y. Yosinari *et al.*, J. Phys. Soc. Jpn. **59**, 36 (1990). [2] I. Sumarlin *et al.*, Phys Rev B, **51**, 5824 (1995). [3] S. Chakravarty *et al.*, Phys Rev B **43**, 2796 (1991).

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