

Abstract Submitted
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Ba NMR studies of the triangular lattice antiferromagnets $\text{Ba}_3\text{MSb}_2\text{O}_9$ (M=Co, Ni) T. ZHOU, UCLA, G. KOUTROULAKIS, Los Alamos National Laboratory, S.E. BROWN, UCLA, H.D. ZHOU, University of Tennessee, J.G. CHENG, Texas Materials Institute, University of Texas at Austin, J.S. BROOKS, National High Magnetic Field Laboratory — $\text{Ba}_3\text{MSb}_2\text{O}_9$, with M=Co, Ni are triangular lattice magnetic systems with near-neighbor antiferromagnetic exchange. For M=Co ($S=1/2$), the ground state is ordered and there are field-induced changes to the symmetry, whereas for the Ni ($S=1$) system there is no evidence for a phase transition to a lower-symmetry phase. Here we report on Ba nuclear magnetic resonance (NMR) spectroscopy and spin-lattice relaxation measurements for both systems. For example, the temperature dependence of the relaxation rate is independent of temperature for the Ni-based compound, and is similar to what is observed for the high-symmetry phase of the Co compound. The spin structures for the ordered phases of the Co material are also explored.

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