

Abstract Submitted
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NMR in Pulsed Magnetic Fields on the Orthogonal Shastry-Sutherland spin system $\text{SrCu}_2(\text{BO}_3)_2$ ¹ RAIVO STERN, NICPB, JONAS KOHLRAUTZ, Uni-Leipzig, HANNES KÜHNE, LIZ GREENE, JOCHEN WOSNITZA, EMFL-HLD, JÜGEN HAASE, Uni-Leipzig — $\text{SrCu}_2(\text{BO}_3)_2$ is a quasi-two-dimensional spin system consisting of Cu^{2+} ions which form orthogonal spin singlet dimers, also known as the Shastry-Sutherland lattice, in the ground state. Though this system has been studied extensively using a variety of techniques to probe the spin triplet excitations, including recent magnetization measurements over 100 T, microscopic techniques, such as nuclear magnetic resonance (NMR), could provide further insight into the spin excitations and spin-coupling mechanisms. We demonstrate the feasibility of performing NMR on real physics system in pulsed magnets. We present ^{11}B NMR spectra measured in pulsed magnetic fields up to 53 T, and compare those with prior results obtained in static magnetic fields. Herewith we prove the efficacy of this technique and then extend to higher fields to fully explore the spin structure of the $1/3$ plateau.

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