

μ SR Study of $\text{SrCu}_2(\text{BO}_3)_2$

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$\text{SrCu}_2(\text{BO}_3)_2$ is a quasi-two dimensional spin system with a spin-singlet ground state. This system has attracted much interest recently due to its relevance to the two-dimensional Shastry-Sutherland model. We have performed μ SR studies on single crystals of $\text{SrCu}_2(\text{BO}_3)_2$. We observe two different muon sites which we associate with muons located adjacent to the two inequivalent O sites in the system. One site, presumed to be located in the Cu-O-Cu superexchange path, exhibits a large temperature-dependent frequency shift indicating that the muon has locally broken the singlet bond. To illustrate this, we will present ZF, LF, and TF μ SR data for this system.