**μSR study of quasi two-dimensional \( S = 1/2 \) triangular antiferromagnet, \( \text{EtMe}_3\text{Sb}[\text{Pd(dmit)}_2]_2 \)**

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Magnetic ground states of quasi-two-dimensional (Q2D) triangular Heisenberg antiferromagnetic (AF) systems are of great interest. Magnetic frustration arising from the triangular exchange network suppresses the AF order. This kind of quantum-spin states without either long-range magnetic order or lattice symmetry breaking is named quantum spin liquid (QSL) state. Although experimentalist have sought real model materials with QSL state for quite some time, only a few candidate materials are known to this date. Recently, we have performed longitudinal field (LF) μSR measurements on a QSL candidate, \( \text{EtMe}_3\text{Sb}[\text{Pd(dmit)}_2]_2 \) which do not show any AF order due to strong spin frustrations[1]. Preliminary analysis suggest that magnetic field \( H_{\text{ext}} \) dependence of muon relaxation rate, \( \lambda \) is proportional to \( H_{\text{ext}}^{-1/2} \) behavior in a field range of \( 0.1 \leq \mu_0 H_{\text{ext}} \leq 100 \text{ mT} \) at low-temperatures. Such a behavior is expected from spins diffusing along a one-dimensional direction (see figure).


![Figure 1: Magnetic-field-dependent \( \lambda \) of \( \text{EtMe}_3\text{Sb}[\text{Pd(dmit)}_2]_2 \) measured at 28 mK. The lines are best-fit curves for 1D(solid) and 2D(dashed) models.](image)