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Quantum critical behavior in the 1D Heisenberg linear chain system $\text{Rb}_2\text{PbCu}(\text{NO}_2)_6$ ¹ MICHAEL HOCH, JIN JUNG KWEON, LIANYANG DONG, TIGLET BESARA, ARNEIL REYES, PHILLIP KUHNS, National High Magnetic Field Laboratory, THEO SIEGRIST, Chemical and Biomedical Engineering, Florida State University — The quantum critical region of the phase diagram of the 1D spin Heisenberg linear chain system $\text{Rb}_2\text{PbCu}(\text{NO}_2)_6$ has been investigated using ^{87}Rb NMR measurements on a polycrystalline sample. The low J value (2.6 K) leads to a low value for the saturation field. The ^{87}Rb frequency shifts and spin-lattice relaxation rates, determined as a function of temperature and applied field, provide information on the transition to the Tomonaga-Luttinger-liquid phase. Scaling behavior in accordance with quantum criticality is examined.

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