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Magnetic Correlations in Yb₄LiGe₄: A μ SR and ⁷Li NMR Study¹ S. DISSELER, M.J. GRAF, Boston College, P. CARRETTA, University of Pavia, S. PETER, Northwestern University, N. SVENSSON, Boston College, S.R. GIBLIN, Rutherford Appleton Lab, A. AMATO, C. BAINES, Paul Scherrer Institute — We present results from zero and longitudinal μ SR and ⁷Li NMR together along with magnetization and dynamic susceptibility on the multivalent, intermetallic compound Yb₄LiGe₄. A magnetic transition at 1.4K in dynamic susceptibility is observed, corresponding to a rapid increase in the quasi-static relaxation component of the ZF MuSR spectra. The strong magnetic field dependence exhibited in these measurements demonstrates a non-trivial criticality, and suggests a close relation to the quantum critical phenomenon observed in other Yb and Ce based systems. Based on support from NMR spectra, we discuss the potential of competing low temperature phases, and the importance of the spin fluctuations in describing the observed phenomena.

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