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Magnetic Ordering in Yb_4LiGe_4 J.N. SVENSSON, S. DISSELER, R.C. JOHNSON, M.J. GRAF, Boston College, S. GIBLIN, ISIS Rutherford Appleton Laboratory, P. CARRETTA, Univ. of Pavia, S. PETER, Northwestern University — R_5T_4 compounds (R = rare earth, T = Ge or Si) are interesting because the magnetic properties depend sensitively on changes in the crystalline structure. Yb_5Ge_4 such a compound, with (presumed) AFM order occurring at $T_N = 1.7$ K. We are interested in the effects of substituting Li in place of one Yb atom. Previous measurements of the magnetic properties of polycrystalline Yb_4LiGe_4 using NMR, specific heat, and resistance measurements at temperatures down to 0.5 K and in magnetic fields up to 4 T were made for comparison with the parent compound. The resistance measurements showed a maximum at 1.1 K, which may indicate the onset of magnetic order. Thus we performed μSR measurements on Yb_4LiGe_4 and Yb_5Ge_4, and analysis of the data confirmed magnetic ordering (possibly AFM) at 1.1 K. μSR also revealed a dependence on the magnetic history of the sample. Currently we are studying the pressure dependence of the (presumed) T_N to explore if increased pressure can drive the T_N to 0 K, and results will be discussed.

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