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Magnetic properties of MnF3 BAEKSOON CHOI, KAIST, CHANG-SOO KIM, KBSI, SEJUN PARK, SOONCHIL LEE, KAIST — MnF3 which is A-type antiferromagnetic material has been reported to show the negative thermal expansion (NTE) below Neel temperature. In this work, the temperature and magnetic field dependence of the magnetization of MnF3 was measured to find the spin order. The M(T) curve measured by NMR fits well with the theory for antiferromagnet with anisotropy, $T^2\ e^{(-\beta_G)}$, and the measured energy gab(E_G) is about 30 K. The M(H) curve shows that a ferromagnetic phase is mixed with the antiferromagnetic phase below the transition temperature. From the comparison of the M(H) curve at 30 K with theory, the relation between K_a and J_1 was obtained which is given by $K_a \sim 1.9\ J_1 + 10.3$ in absolute temperature unit.

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