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^{11}B NMR Study of Vortex Motion in MgB_2 MOOHEE LEE, KYUHONG LEE, K. H. KANG, B. J. MEAN, Konkuk University, Seoul 143-701, Korea, J. S. RHEE, B. K. CHO, KJ-IST 500-712, Korea — We have performed ^{11}B nuclear magnetic resonance(NMR) measurements to investigate vortex dynamics in the polycrystalline superconductor MgB_2. ^{11}B NMR spectrum, shift, transverse relaxation rate $1/T_2$ were measured down to 4.3 K at 1.8 T. The spectrum below T_c exhibits a typical local field distribution for a vortex lattice under magnetic field. The peak point of the spectrum shifts toward low magnetic field due to imperfect field penetration. $1/T_2$ data, probing the slow motion of vortices, shows a single peak with a small change of the rate, contrary to the results of nickel borocarbides. Also, the relaxation profile changes from a Lorentzian decay below T_c to Gaussian decay at lower temperature. It strongly suggests that thermal fluctuation of vortices is reduced at low temperature and the vortex motion is much weaker compared with nickel borocarbides.

Moohee Lee Lee
Konkuk University

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