13C NMR Study of Single-Walled Carbon Nanotubes MOOHEE LEE, KYUHONG LEE, B. J. MEAN, Konkuk University, Seoul 143-701, Korea, JAE-KAP JUNG, KWON-SANG RYU, Electric and Magnetism Group, KRISS, Deajeon 305-600, Korea, KONKUK UNIVERSITY TEAM, KRISS TEAM — We have performed 13C nuclear magnetic resonance (NMR) measurements on single-walled carbon nanotubes. Spectrum, shift, linewidth, and $T_1$ have been measured as a function of temperature from 4 K to 200 K under the magnetic field of 4.7 T. Spectrum shows a narrow lineshape for the 13C nucleus. Shift is very small and shows no significant change in the whole temperature range. The linewidth becomes broader with decreasing temperature from 13 kHz at 200 K to 21 kHz at 4.6 K. The spin-lattice relaxation recovery is found to exhibit three types of relaxation channels; the fastest rate comes from magnetic impurities on the surface and the other two are due to metallic and non-metallic parts of the nanotubes.