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The Crystalline Electric Field Effect of Doped Quaternary Intermetallic Compounds W.C. LEE, Dept. of Phys. Sookmyung Womens' Univ. Seoul 140-742, Korea — The temperature dependent magnetization data have been measured for the (R_x,R'$_{1-x}$)Ni_2B_2C system with the two different applied magnetic fields (H$\|$and $\perp$ c-axis) where R and R' stand for the rare earth elements. Especially from the high temperature region of data, the dominant Stevens parameter B_2^0 of crystalline electric field effect were analyzed for the R = Ho and R' = Dy system. The broad minimum determined from the magnetization anisotropy in Stevens parameters was observed around x $\sim$ 0.3 system where T_c(superconducting critical temperature) and T_N (Nëel temperature) are similar and the deviation from de-Gennes scaling in T_c versus de-Gennes factor of rare earth elements was observed. The minimum and change of B_2^0 will be compared and discussed with the crystalline electric field effects and pair breaking effect by some magnetic excitations.

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