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Magnetic moment of ^{23}Ne M. MIHARA, K. MATSUTA, R. MATSUMIYA, T. NAGATOMO, M. FUKUDA, Osaka University, T. MINAMISONO, Fukui University of Technology, S. MOMOTA, Y. NOJIRI, Kochi University of Technology, T. OHTSUBO, T. IZUMIKAWA, Niigata University, A. KITAGAWA, M. TORIKOSHI, M. KANAZAWA, S. SATO, National Institute of Radiological Sciences, J.R. ALONSO, G.F. KREBS, T.J.M. SYMONS, Lawrence Berkeley Laboratory — The magnetic moment of the β-emitting nucleus ^{23}Ne ($I^\pi = 5/2^+$, $T_{1/2} =$ 37.2 s) has been remeasured by means of the β-NMR method. The ^{23}Ne nuclei were produced in the single neutron pickup and the projectile fragmentation processes using 100A-MeV ^{22}Ne and ^{26}Mg beams, respectively, impinged on a Be target at NIRS-HIMAC, and were separated by the fragment separator. After selection of the reaction angle and the momentum to obtain polarization, the ^{23}Ne nuclei were implanted into a NaF single crystal at 15 K. The magnitude of polarization of $\sim$3% for ^{23}Ne in NaF obtained in the pickup process was much larger than that in the fragmentation process. From the NMR spectra, we obtained the magnetic moment $|\mu(^{23}\mathrm{Ne})|_{uncorrected} = (1.081 \pm 0.001)\mu_N$ as the preliminary result.

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