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Study of *M1* Quenching in ^{28}Si by a p, p' Measurement at 0 Deg. H. MATSUBARA, A. TAMII, K. FUJITA, H. HASHIMOTO, K. HATANAKA, M. ITOH, K. NAKANISHI, Y. SAKEMI, Y. SHIMBARA, Y. SHIMIZU, Y. TAMESHIGE, RCNP Osaka Univ., T. ADACHI, Y. FUJITA, Osaka Univ. Sci., J. CARTER, Univ. of Witwatersrand, H. FUJITA, F.D. SMIT, iThemba LABS., T. KAWABATA, CNS Univ. of Tokyo, L.A. POPESCU, Gent Univ., H. SAKAGUCHI, M. YOSOI, J. ZENIHIRO, Kyoto Univ. Sci. — The quenching of *Gammow-Teller*(GT) strengths with respect to the sum rule has been discussed as an opened problem. Similarly the $M1$ strengths may have the some quenching problem because the transition includes the same operator "$\sigma\tau$" with the GT one. Since there are two type transitions in $M1$ strengths, $IS(\Delta T{=}0)$ and $IV(\Delta T{=}1)$, another aspect of the quenching can be found from their difference. The experiment was carried out at RCNP by applying both "dispersion-matching technique" and "under-focus mode" for high resolution measurements at 0°. A 295 MeV unpolarized proton beam bombarded natural Si target. After detailed calibrations, an energy resolution of 20 keV and a scattering angle resolution of $0.5 \sim 0.8°$ were achieved. Background events were subtracted reasonably. In order to select 1^+ states, angler distribution of each peak was compared with DWBA calculations. The comparison between the experimental results and theoretical predictions of IS and IV will be discussed.

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