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Measurement of shell energies for ^{40,48}Ca by using $(\vec{p}, 2p)$ reaction YOSHIHIDE MATSUDA, TETSUO NORO, TOMOTSUGU WAKASA, YUKIKO YAMADA, MASANORI DOZONO, MIDORI OKAMOTO, TAKURO SHISHIDO, Kyushu Univ., KICHIJI HATANAKA, HIROYUKI OKAMURA, HARUTAKA SAKAGUCHI, ATSUSHI TAMII, YUSUKE YASUDA, RCNP, Osaka Univ. — The binding energies and the spectroscopic factors of the proton orbits in ^{40}Ca and ^{48}Ca nuclei were measured by using ($\vec{p}$,2p) reaction at 200MeV. The aim of this experiment is to investigate the neutron-number dependence of the shell energies, which is motivated by a recent theoretical work [1] on the monopole effect of the tensor force. Since the ($\vec{p}$,2p) reaction shows clear j-dependence at this energy, unambiguous j-assignment is expected. The experiment was performed at RCNP using a two-arm spectrometer system. The energy resolution achieved was better than 200keV FWHM. In the presentation, comparison of the present result with a previous ($\vec{d}$,^{3}He) result [2] will be also given.

[1] T. Otsuka *etal.*, Phys. Rev. Lett. **95** (2005) 232502.
[2] S. M. Banks *etal.*, Nucl. Phys. **A437** (1985) 381.

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