Abstract Submitted
for the HAW05 Meeting of
The American Physical Society

Deep hole state in ^{6}He and its cluster structure YOHEI NAKATSUGAWA, HARUTAKA SAKAGUCHI, YUUSUKE YASUDA, SATORU TERASHIMA, SATOSHI KISHI, JUZO ZENIHIRO, Kyoto University, MASARU YOSOI, MAMORU FUJIWARA, KOHSUKE NAKANISHI, KEIGO KAWASE, HISANOBU HASHIMOTO, SHUN OKUMURA, Research Center for Nuclear Physics, Osaka University, TAMIO YAMAGATA, HIDETOSHI AKIMUNE, MAKI KINOSHITA, Konan University, SHINTARO NAKAYAMA, KEN'ICHI FUSHIMI, University of Tokushima, MASAYOSHI TANAKA, Kobe Tokiwa College, HIDENORI TOYOKAWA, Japan Synchrotron Radiation Research Institute, MASATOSHI ITOH, Tohoku University, HIDETOMO YOSHIDA, Kyushu University, MAKOTO UCHIDA, Tokyo Institute of Technology — The deep-hole state in ^{6}He was investigated via the quasifree ^{7}Li(p,2p)^{6}He* reaction with decay coincidence measurements. In general, it is said that light nuclei are described not only by the shell model, but also by the cluster model. In order to investigate their structure, we have measured decay particles from deep-hole states in light nuclei because the direct decay process is dominant and its decay mode gives us imformation on the structure of deep-hole states. In this experiment, Triton decay was found to be dominant for the so-called s-hole state in ^{6}He contrary to the shell model calculation. This result implies the tri-nucleon cluster structure in ^{6}He(s-hole), which is created by knocking out a proton from an α in ^{7}Li(gnd).

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Date submitted: 25 May 2005 Electronic form version 1.4