Abstract Submitted for the HAW05 Meeting of The American Physical Society

Search for high-spin isomsers using radioactive-isotope ¹⁷N beam Y. WAKABAYASHI, T. TERANISHI, Kyushu Univ., A. ODAHARA, Nishinippon Institute of Technology, T. FUKUCHI, S. KUBONO, H. YAMAGUCHI, A. SAITOH, H. FUJIKAWA, G. AMADIO, J.J. HE, E. IDEGUCHI, S. SHIMOURA, H. BABA, CNS, Tokyo Univ., Y. GONO, S. NISHIMURA, M. NISHIMURA, S. MICHIMASA, T. KISHIDA, RIKEN, S. OTA, Kyoto Univ., J.Y. MOON, Chung-Ang Univ., T. ISHII, JAERI — High spin isomers are known in N=83 isotones systematically. These isomers are considered to be shape isomers caused by sudden shape changes from near spherical to oblate shapes. In order to search for high-spin isomers in other mass regions, we selected N=51 isotones which have one neutron outside a magic 50 core and proton numbers close to semi-magic 40 core. High spin isomers of N=51 isotones can be expected, which have similar mechanism to those of N=83 isotones. An experiment for isomer search in N=51 isotones was performed using a ¹⁷N secondary beam produced by the low-energy radioisotope beam separator(CRIB) of the Center for Nuclear Study(CNS), University of Tokyo. A ⁹Be primary target of 2.3 mg/cm² was bombarded by an ${}^{18}O^{8+}$ primary beam of 126 MeV to obtain a ¹⁷N beam of 104 MeV. A ⁸²Se secondary target of 4.9 mg/cm² was placed at a final focal plane. Two clover Ge detectors were set to measure γ rays emitted from nuclei produced by the secondary fusion reaction. In this experimet, some γ -rays from nuclei, such as ⁹²Nb, produced by the ⁸²Se+¹⁷N reaction were observed. In this talk, I will report the result.

> Yasuo Wakabayashi Kyushu University

Date submitted: 25 May 2005

Electronic form version 1.4