Abstract Submitted
for the HAW05 Meeting of
The American Physical Society

Inelastic proton scattering on the neutron rich Cr isotopes ERI TAKESHITA, Department of Physics, Rikkyo University, RIKEN COLLABORATION, UNIVERSITY OF TOKYO COLLABORATION, TOKYO INSTITUTE OF TECHNOLOGY COLLABORATION, CENTER FOR NUCLEAR STUDY COLLABORATION, KEK COLLABORATION — Inelastic proton scattering on the neutron rich Cr isotopes at around $N = 40$ has been investigated. Spectroscopy of these nuclei is of great importance because of the strong deformation suggested by the low excitation energies of the first 2^+ states in ^{60,62}Cr [1]. In the present work, the structures of the neutron rich Cr isotopes were studied by measuring the excitation energies and the (p,p$'$) cross sections to these states. The experiment was performed at RIPS in RIKEN. The Cr isotopes were produced by the fragmentation of 63MeV/nucleon ^{70}Zn and were excited by bombarding a liquid hydrogen target. De-excitation γ rays were detected by the NaI(Tl) array DALI2 in coincidence with the scattered particles. A time of flight spectrometer is newly developed to greatly improve the particle identification resolution for the scattered particles. With the cross sections to the first excited states derived from the γ-ray spectra, the structure of the neutron rich Cr isotopes will be discussed.
Reference: 1. O. Sorlin et al., Eur. Phys. J. A **16**, 55-61 (2003).

Eri Takeshita
Department of Physics, Rikkyo University

Date submitted: 25 May 2005 Electronic form version 1.4