

Preface

This issue of Research Report of Laboratory of Nuclear Science reports research activities of the LNS performed in the 2005 academic/fiscal year (April 2005-March 2006). Major research activities are based on the electron accelerator complex consisting of the 300-MeV LINAC and the 1.2-GeV STB ring. The accelerators have altogether provided a beam time of about 2,200 hours for various experiments through the year.

The (γ, η) and (γ, π^0) measurements performed with the SCISSORS II spectrometer at the GeV- γ experimental hall 2 are finished in this year, and a construction of a 4π spectrometer called FOREST has been planned. In the experimental hall 2, a construction of a larger spectrometer called New NKS spectrometer has started: A dipole magnet which was a main part of the cyclotron at the Cyclotron Radio Isotope Center was brought in and placed on the gamma-ray beam line. In this occasion, the vacuum chamber of the STB Tagger 1 was improved to reduce materials for recoil electrons to pass through. Experiments on coherent radiation were performed by using pulsed electron beams from the LINAC. Various radioactive isotopes were produced by using high intensity beams below 50 MeV at the experimental hall 1. They were served for element analyses as well as for detailed study of decay properties.

We hope that this Report will serve as a quick overview of the present LNS activities over a variety of nuclear research fields.

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