

Preface

It is a great pleasure for us to publish the KURRI Progress Report 2008. This report contains all of the accomplishments of KURRI, which includes research and investigations performed under the “Joint use program” for Japanese universities during the fiscal year 2008 from April 2008 to March 2009.

In FY2008, that is the final year of an outage period of the Kyoto University research Reactor (KUR), the fuel conversion procedure has been completed from the highly enriched uranium (HEU) of 93% to the low enriched uranium (LEU) of 20% for the reactor operation from 2009. Meanwhile, the Kyoto University Critical Assembly (KUCA) has been operated for 840 hours. In total, we accepted 2,846 man-day researchers and students for their experiments using the research facilities and for scientific meetings held at KURRI. For the use of research reactors other than KUR, in addition, 76 man-day researchers have been sent to the research reactor HANARO in Korea Atomic Energy Research Institute (KAERI) within the framework of the “Project research” in the joint use program at KURRI based on the memorandum of collaboration. The results of these activities are given in this progress report.

In parallel with research and investigations performed under the joint use program, a few special research projects have been performed at KURRI. One was initiated in FY2002, entitled as “Technology development for the accelerator driven subcritical reactor (ADSR) by using a fixed field alternating gradient (FFAG) accelerator”, as a part of the MEXT program aiming at the technology development for innovative nuclear energy systems based on the collaboration among industries, universities and institutions. An FFAG accelerator complex was installed in the accelerator room of a new building named “Innovation research laboratory”, and its proton beam was led to the KUCA for the purpose of executing a feasibility study on the ADSR. In this project, the first ADSR experiment was successfully conducted in March, 2009, by combining the FFAG accelerator complex with the KUCA A-core. Also, another research project for initiating clinical trial of the boron neutron capture therapy (BNCT) was started and a proton cyclotron was installed in the medical area of the same building in 2008. Fruitful results are expected to come soon.

We are pleased to announce that, on the occasion of the 50th anniversary of the Atomic Energy Society of Japan (AESJ), the KUR and KUCA have been awarded with the first prize of the AESJ for their contributions to the history of peaceful uses of atomic energy in Japan based on activities not only in research and investigations but also in education and training. Note that the research and education of nuclear energy in universities is again recognized worldwide to be important for personnel training from the viewpoint of a mid/long term. The greater expectations are thus being placed on the research and education activities using such facilities as the KUR and KUCA with proper performances.

The high standing of the institute in both research and education activities strongly relies on the enthusiasm and dedication of all the participants. Details of their work and achievements during the year are given in the following pages. I am grateful to all of my colleagues who have taken time to prepare this report, and thank them for their continued cooperation. Also, I would like to express my sincere thanks for the continuous support from the national and local governments, scientific communities and residents in the neighborhood of KURRI.

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Director, KURRI
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