

Safety Management Group

1. Abstract

The RIKEN Nishina Center for Accelerator-Based Science possesses one of the largest accelerator facilities in the world, which consists of two heavy-ion linear accelerators and five cyclotrons. This is the only site in Japan where uranium ions are accelerated. The center also has electron accelerators of microtron and synchrotron storage ring. Our function is to keep the radiation level in and around the facility below the allowable limit and to keep the exposure of workers as low as reasonably achievable. We are also involved in the safety management of the Radioisotope Center, where many types of experiments are performed with sealed and unsealed radioisotopes.

2. Major Research Subjects

- (1) Safety management at radiation facilities of Nishina Center for Accelerator-Based Science
- (2) Safety management at Radioisotope Center
- (3) Radiation shielding design and development of accelerator safety systems

3. Summary of Research Activity

Our most important task is to keep the personnel exposure as low as reasonably achievable, and to prevent an accident. Therefore, we daily patrol the facility, measure the ambient dose rates, maintain the survey meters, shield doors and facilities of exhaust air and wastewater, replenish the protective supplies, and manage the radioactive waste. Advice, supervision and assistance at major accelerator maintenance works are also our task.

Minor improvements of the radiation safety systems were also done. The old type of computer system unit for the radiation monitoring system and the old UPS for radiation management system of the RIBF building were replaced. The old exhaust equipment of hotlabo exhaust system in Nishina building was also replaced.

Members

Director

Kanenobu TANAKA

Research/Technical Scientists

Rieko HIGURASHI (Technical Scientist)

Hisao SAKAMOTO (Technical Scientist)

Expert Technician

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Hiroshi YASHIMA (Kyoto Univ.)

Toshiya SANAMI (KEK)

Part-time Workers

Kimie IGARASHI (Administrative Part-time Worker I)

Yukiko SHIODA (Administrative Part-time Worker II)

Satomi IIZUKA (Administrative Part-time Worker II)

Naoko USUDATE (Administrative Part-time Worker II)

Temporary Staffing

Ryuji SUZUKI

Assistant

Tomomi OKAYASU

List of Publications & Presentations

Publications

[Original Papers]

K. Sugihara, N. Shigyo, E. Lee, T. Sanami, and K. Tanaka, "Measurement of thick target neutron yields from 7 MeV/u α incidence on ^{209}Bi ," Nucl. Instrum. Method Phys. Res. B **470** (2020).

[Proceedings]

K. Sugihara, N. Shigyo, A. Akashio, and K. Tanaka, "Measurement of neutron energy spectra of 345 MeV/u ^{238}U incidence on a copper target," JAEA-Conf 2020-001, 143–147.

Presentations**[International Conferences/Workshops]**

K. Sugihara (poster), Y. Ikeda, T. Kobayashi, K. Fujita, N. Shigyo, K. Tanaka, and Y. Otake, "Study on characteristics of neutron and γ -ray fields at compact neutron source RANS-II facility by simulation by the PHITS code," 2020 Symposium on Nuclear Data, RIKEN Wako Campus, November 26–27, 2020.