

RAON User Beam Experiment Procedures Guide

Institute for Rare
Isotope Science



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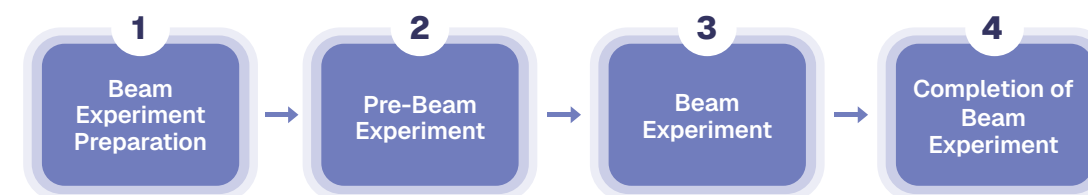


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1. Beam Experiment Procedures and Contact Information

1 Beam Experiment Procedures



2 Contact Information

Details	Person in Charge (Department)	Contact Information
Access to radiation controlled area, submission of documents	Kim *****wook (Safety Team)	042-878-8918, kjw7@ibs.re.kr
Guest House	Guest House Manager	042-878-8705, raonresidence@ibs.re.kr
Vehicle registration and access request (registration)	User Liaison Office	user_support@ibs.re.kr
Computer network and WiFi use request	Jung *****hwa (Facilities Team-IT Security)	042-878-8876, shjung339@ibs.re.kr
Experimental System - KoBRA	Lee *****bok (Experimental System Team)	042-878-8846, kblee@ibs.re.kr
	Kwak *****sik (Experimental System Team)	042-878-8839, mskwag1115@ibs.re.kr
	Kim *****gun (Experimental System Team)	042-878-8906, kdgeon79@ibs.re.kr
	Ham *****min (Experimental System Team)	042-878-8836, cmham@ibs.re.kr
Experimental System - NDPS	Park***** jong (Experimental System Team)	042-878-8750, sjpark@ibs.re.kr
Experimental System - CLaSsy	Mun *****young (RI Development Team)	042-878-8881, jymoon@ibs.re.kr
Experimental System - MMS	Yeon *****heum (RI Development Team)	042-878-8830, yhyeon@ibs.re.kr
Cyclotron	Heo *****Jin (RI Development Team)	042-878-8864, sjheo@ibs.re.kr
ISOL		
Users Liaison Office – User announcement, beam time allocation, etc.	User Liaison Office	user_support@ibs.re.kr



Experiment

- ① Low Energy Experiment Area (KoBRA/NDPS)
- ② ISOL Area (CLaSsy, Cyclotron, ISOL, MMS)

Cafeteria

Headquarters Building 2F

Guest house

1F Fitness Room, 2~3F Rooms

2.

Beam Experiment Preparation

1 User Registration

Access to Institute

All beam experiment participants must be registered as users prior to beginning experiments regarding access to the institute (pass, vehicle) and to the radiation area and must follow instructions

- When visiting the institute using a private vehicle (excluding taxis), visitors must obtain prior approval. They are required to register at the security building on the day of the visit, and access will be granted for one day.
- The registration request can be made until the day before the date of visit (Recommended to schedule three business days prior to the visit)
- For an advance request, the User Liaison Office requests access registration based on the Access Request Form [Attachment 1 and 2] submitted by the user

*(Inquiry and Submission of Documents) User Liaison Office (user_support@ibs.re.kr)

* For visitors who come to the institute without a prior access request, a security guard will speak with an internal staff member (excluding outside staff), fill out the affiliation, purpose of visit, location, consent form for personal information, and other details at the information center, and issue a visitor pass.

* If verification of circumstances, such as an accident occurring while parking, is necessary, the Facilities Team may check vehicle information.

Access to Radiation Controlled Area

Users must submit a form [Attachments 3 to 6] to the Safety Team for radiation worker or frequent visitor registration*

Target All beam experiment users (including spokesperson and participants)

How to Request Registration requests must be submitted through official letters (institutes and domestic companies issue them through the relevant department, colleges and universities through their departments, and overseas institutes through consultations)

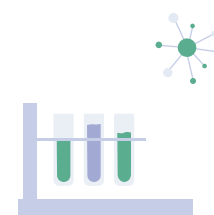
Request Form Application for Radiation Worker Registration [Attachment 3], Personal Information Collection and Use Consent [Attachment 4], and Individual Irradiation Dosimeter Change Request [Attachment 5]

*(Inquiry and Submission of Documents) Safety Team (042-878-8918, kjw7@ibs.re.kr)

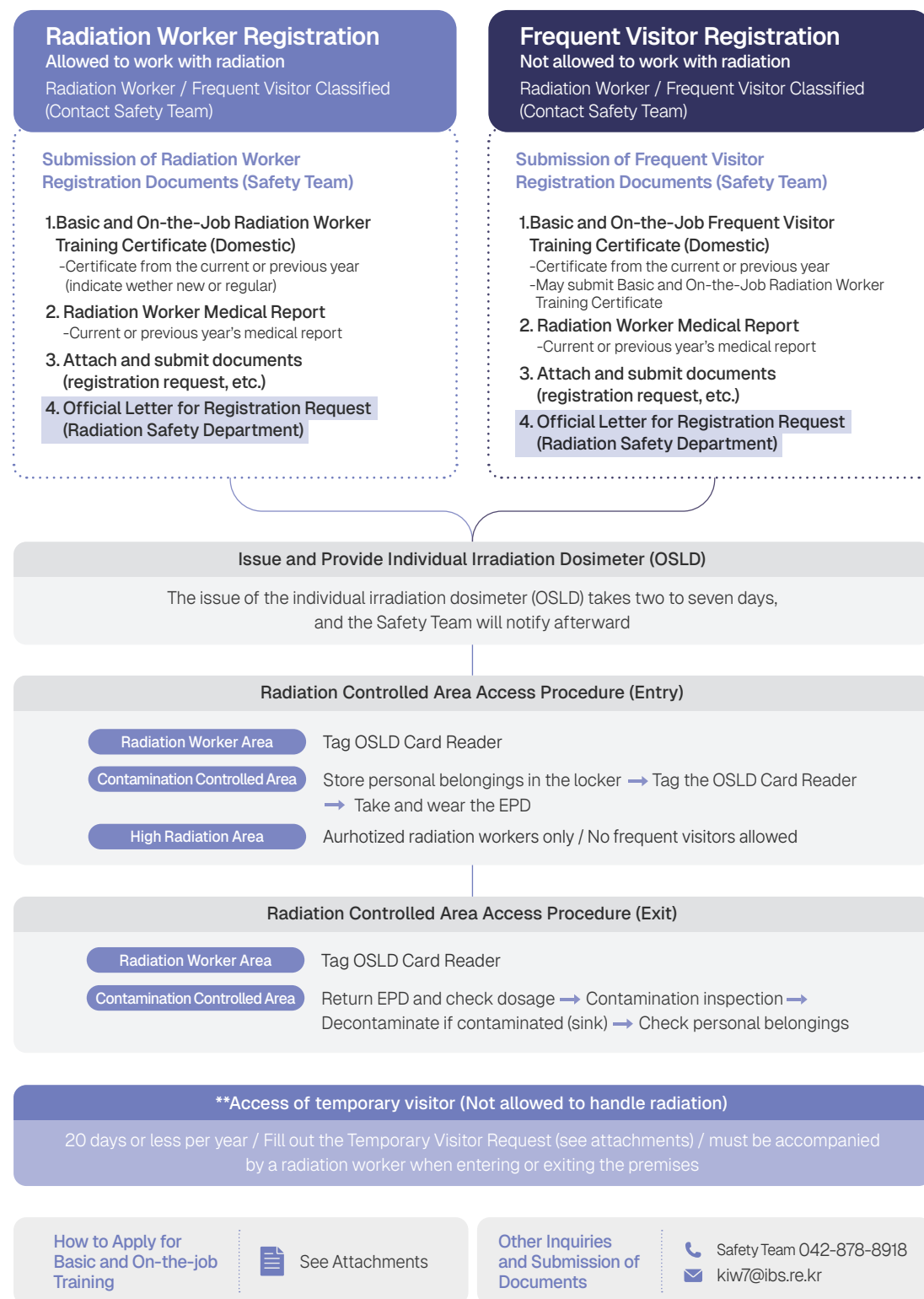
* If there is a registration history, the procedure can be simplified by submitting the relevant certificates

* Institute for Basic Science staff (e.g., Rare Isotope Science Project members) may be registered as radiation workers. Other experiment participants, including the experiment proposer (spokesperson) and research fellows, must be registered as occasional entrants.

* However, temporary and simple participation in experiments may be classified as temporary entrants. In such cases, a temporary access application form must be completed and submitted for each entry. (OSLD badges will not be issued; instead, an electronic personal dosimeter (EPD) must be worn upon entry.) Entry must be made under the guidance (escort) of a registered radiation worker (occasional entrants are not permitted to escort), and access is limited to a maximum of 20 days per year.



2 Guide to Radiation Controlled Area Access Procedure



3 User Training, User Guest House Registration

Facility Safety Training

Radiation Safety Training for First-Time Visitors to the Research Institute

- Trainees** First-Time Entrants to the Research Institute Facilities
* The experiment lead should submit the list of trainees to the Safety Team contact via email
- Training Venue** Designated Research Institute Meeting Room (to be conducted prior to first entry)
- Training Content** * (Training Inquiries) Safety Team (042-878-8918, kiw7@ibs.re.kr)

- IRIS Radiation Controlled Areas and Entry Procedures Overview
- Safety Guidelines for Entering Radiation Controlled Areas
- Entry Procedures for Contamination-Controlled Areas (Radiation Workers and Occasional Entrants) and Contamination Monitoring Methods
- Radiation Exposure Management (Dose Limits) Overview

User Registration

The facility is also available to users living in the Daejeon.

* Procedures

No.	Procedures
1	· Contact the person in charge of the User Residence Hall (Tel: 042-878-8705) · Check for availability / confirm move-in date
2	· Submit documents required for residence application (raonresidence@ibs.re.kr)
3	· Pay the fees for the move-in month - Account No.: Hana Bank 679-910050-59904 (Institute for Basic Science) * When using wire transfer, indicate yourself as: "Resident's Name_Month" (e.g., Hong Gil-dong_March)
4	· Check Room · After moving in, inspect fixtures and fill out a resident card, then scan and send it via e-mail
5	· Pay the monthly fee by the 21 st of each month * For the month including the move-out date, payment can be made until the move-out date is confirmed

* Fees

Division	Guestroom		Due Dates, Etc.		
	Single	Shared	When Moving In	While Living In	When Moving Out
1-14 Nights (per Night)	KRW 30,000	20,000 / Person	Until three days before moving in. Monthly fees shall be paid in the month that includes the day of moving in	Fees for the month shall be paid on the 21 st of each month	Fees for the month shall be paid until the day of moving out
15 Nights or More (Monthly Rate)	450,000	300,000 / Person			

* Provision of Fixtures

Division	Area	Structure	Fixtures
Single	19.14m ²	1 Room 1 Bathroom	(Furniture) Single bed, single mattress, closet, desk, chair, washroom, bedside table, refrigerator
Shared	31.75m ²	2 Rooms 1 Bathroom	(Miscellaneous) Blanket, pillow, mattress cover, waste can, slippers, hangers
Disabled	26.54m ²	1 Room 1 Bathroom	

- * Outside Personnel (Available upon request): Toothbrush, toothpaste, soap, shampoo, conditioner, body wash, towel
- * Wi-Fi Available in All Rooms: Password for each room
- Lounge Wi-Fi Name: raonguesthouse
 - Lounge Wi-Fi Password: raon123456

* (Inquiry and Submission of Documents) User Residence Hall Manager (Administrative Support Team, 042-878-8705, raonresidence@ibs.re.kr)

3.

Beam Experiment Pre-inspection

1 Using Experiment Data and Networks

notice

Accessing the institute's internal network (control network, business network) using an external PC is prohibited. In unavoidable cases, the user shall have their PC reviewed and confirmed in advance (security program installation, inspection, etc.) by the computer manager.

Person in Charge

Jung
**** Hwa,
Facility Team

☎ 042-878-8876
✉ shjung339@ibs.re.kr

Son
**** Wook,
Experimental
System Team

☎ 042-878-8831
✉ scwook@ibs.re.kr

* Control Network, Sharing of Accelerator Operation Status

- Monitor the accelerator operation status in real time using the monitors installed in the control room (KoBRA/NDPS Counting Room) and User Data Room.

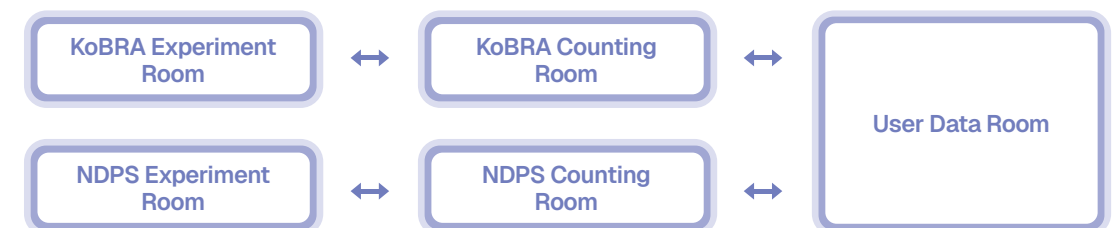
* Business Network, Institute's Detector (KoBRA/NDPS) Data

- Access to the institute's detector system is not allowed.
- Beam status can be checked using the institute's detector through monitors installed in the Counting Room and User Data Room.
- Access to PCs, servers, NAS, etc., on the institute's internal network is not allowed.
- External USB devices, external hard drives, wireless network devices, and similar equipment are now allowed to be connected to the institute's PCs.

* User Network, User Detector Data

- User detectors and PCs are operated through a closed network (user network).
- A closed network is established between the KoBRA/NDPS Experiment Room, the Counting Room, and the User Data Room.
- Users can install their own PCs to control detectors and use them for DAQ.

<Conceptual Diagram of the Closed Network for KoBRA/NDPS Users>



- Type: 1 Gbps Closed Network (User Network)
- Zones: Low-Energy Experiment Areas A and B (KoBRA Experiment Room and Counting Room, NDPS Experiment Room and Counting Room, User Data Room)
- Network: KoBRA and NDPS are configured as separate networks and can be connected in the future, if necessary.



- IP Assignment: Static IP (IP distributed and managed by the Experimental System Team)
- Configuration: Network configuration utilizing wall ports in each room.
 - KoBRA Experiment Room (E1): FY-02
 - KoBRA Counting Room: FY-03
 - NDPS Experiment Room: FY-08
 - NDPS Counting Room: FY-01
 - User Data Room: T-23

* Attention

- Unauthorized changes to network configuration, IP address, or external device connection are considered a security breach.
- If necessary, prior consultation with the IT or experiment staff is required.

notice

- The installation or use of illegally reproduced or unlicensed software on any PC, server, or personal device within the institute is prohibited.
- All legal and financial liabilities, including copyright infringement, legal disputes, and damages resulting from the use of illegally copied software, shall be solely borne by the individual user.
- If the institute confirms the installation or use of illegally reproduced software, it may take necessary actions, including immediate restrictions on usage. [Attachment 9]

* Use of Wi-Fi

- Wi-Fi is available after submitting a separate application for a wireless LAN account (raonWiFi) (see attachment)
- Eduroam account holders from other educational and public institutions can use eduroam.

SSID (Access Name)	User Type	Authentication Method	Place of Use	Remarks
eduroam	Institute staff (eduroam account holder)	eduroam account	All wireless areas	-
raonWifi	Users other than institute staff (Must be applied separately)	Access Password provided separately	All wireless areas	Fill out (Outside User) raonWiFi Use Application [Attachment 12] and request to the person in charge
GuestWifi	Temporary visitors	Inquire separately	Shared area in the Headquarters Building (Grand Conference Room and Auditorium on 1F, Cafeteria on 2F)	Services are subject to change depending on security policies

2 Beam Experiment Coordination Meeting

Consultation on Beam Experiment

Users must consult with the experiment manager or experiment director regarding experiment plans and procedures and also review the safety precautions.

* Users are responsible for any accidents resulting from negligence or matters not discussed in advance.

* Beam Experiment Consultation Details

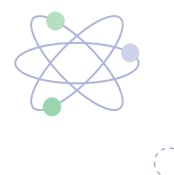
- All experiment preparations (system installation and inspection, utility connections, etc.) must be conducted in advance with the experiment manager and the experiment director.
- Introduction and discussion of the experimental system and beam operation status.
- Consultation on connection/installation plans for the experimental system and user equipment.
- Introduction of user experiment procedures connected to the experimental system.
- Check safety and precautions.
- Review requirements for other users and experiment manager.

Installation and Operation of Experimental System

Users must comply with the instructions for equipment operation and safety management provided by the experiment manager.

* Safety Precautions for Beam Experiment

- To bring in an experimental system, submit the Equipment Entry Request [Attachment 13] to the experiment manager.
- High-risk tasks, such as installing heavy objects with cranes, must be carried out during the day (09:00-18:00) in the presence of institute staff. Only institute staff are authorized to operate cranes within the institute.
- When planning high-risk tasks, the system department must consult with the safety management department in advance.
- No system modifications or installations are allowed without prior consultation.
- Operation of auxiliary systems (power, gas, cooling water, etc.) required for the experiment must be performed in consultation with the experiment manager.
- When using the institute's equipment, consult with the manager first, and return it after use.
- If night work is required, prior consultation with the experiment lead and the supervising manager (team leader) is mandatory. (However, work is not permitted between 10:00 PM and 7:00 AM.)
- If safety regulations are violated or safety measures are required during work/experiment, the supervisor (team leader) may request suspension of the work/experiment.
- When setting up multiple user experiments, simultaneous execution is generally not allowed. However, in unavoidable situations, the spokesperson may proceed after consulting with the experiment manager.



4.

Beam Experiment

Use of Accelerator Beam

09:30 ~ 17:30

The start and end times of beam use might vary depending on accelerator operation conditions and safety inspection results.

Accessing and Analyzing Experiment Data

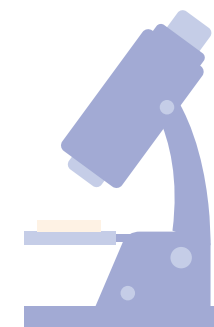
- Users can monitor and analyze experiment data in the Experimental System Counting Room and the User Data Room.
- It is recommended that the Counting Room be occupied by minimal personnel to facilitate smooth experimentation. However, considering the situation of the experiment, use the facility in consultation with the experiment manager or supervisor (team leader).

Experiment Review Meeting

Time and Venue	During the experiment period, at a designated research institute meeting room * The meeting frequency and time will be determined through mutual agreement
Purpose	To share the experiment progress and discuss issues
Attendees	Spokesperson, Experiment Coordinator , Experiment Leaders and related to experimental equipment team leater, Accelerator Division (Director, team leaders), and other necessary participants including interested attendees
Main Content	Sharing experiment progress, discussing issues related to beam experiments, and addressing other matters concerning overall beam experiment coordination

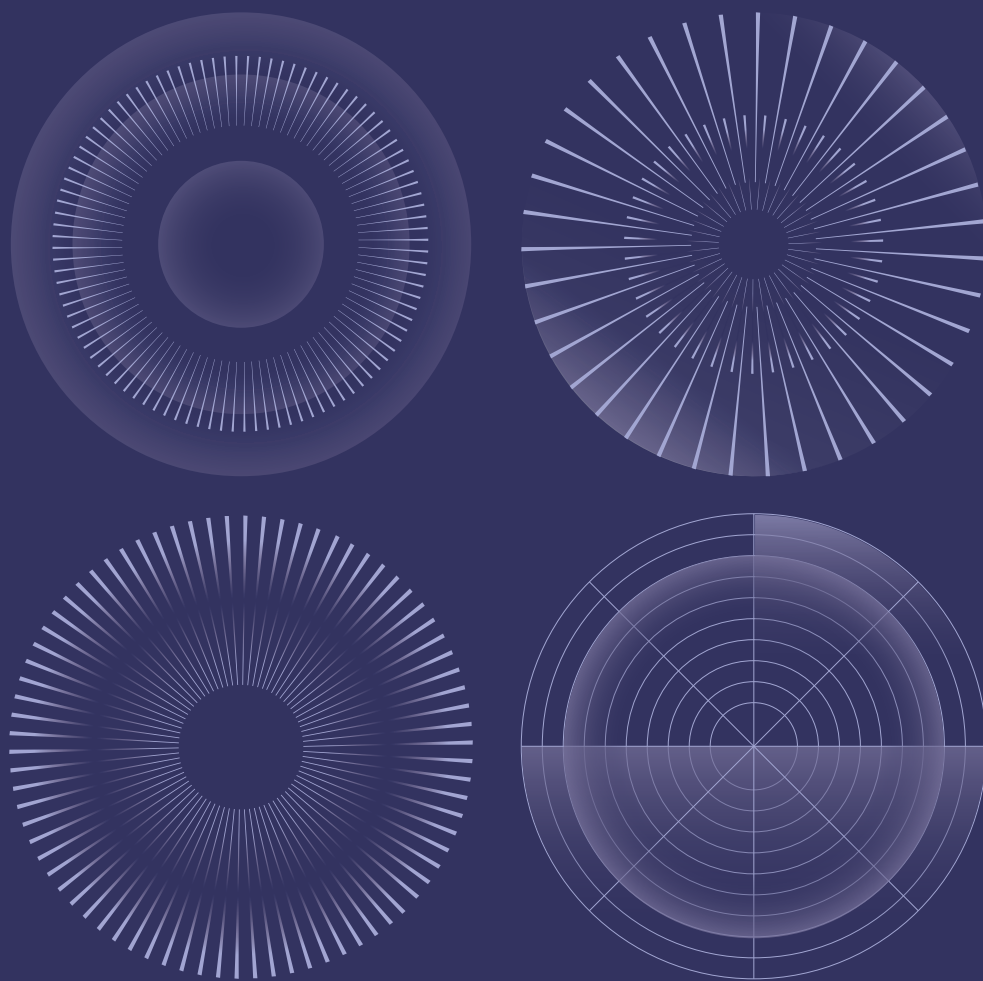
User Cooperation Guidelines

- Food consumption is permitted only in the user lounge in accordance with laboratory management guidelines.
- All waste generated after use must be disposed of at designated locations in accordance with the prescribed procedures.
- Your cooperation is required to maintain a clean and comfortable research environment.



5.

End of Beam Experiment



Data Submission

- After the experiment, the user must submit all experiment data and a copy of the logbook to the institute. The institute will store and manage all beam experiment data at a designated location for a fixed period (either on a removable storage device or by uploading it to a designated URL).
- All data generated during the experiment shall be stored in a designated location by the institute.

Data Management

- After the experiment, the spokesperson may request data from the institute's experiment manager for analysis. The experiment manager will then collect the Application for Experiment Data Export (Attachments 15-16), obtain approval from the experiment director, and provide the data.

* RAON's Criteria for Providing Beam Experiment Results and Research Outcomes Externally

Outside Users If you wish to utilize research outputs (e.g., experimental data) in accordance with the Research Institute's "Beam Experiment Operation Guidelines," please submit a request to the experiment Coordinator.*

* Please complete and submit Application for Experimental Data Export and Confidentiality and Compliance Agreement of the guidelines to the experiment Coordinator.

Experiment Coordinator Once the experiment manager approves the submitted Application for Experiment Data Export, the research outcomes (such as experiment data) shall be provided to outside users with the addition of the phrase "Research Outcomes Produced Using Research Facility."

Data Utilization

- All experiment data generated during beam experiments generally belong to the Institute for Basic Science. However, the results of open project experiments shall belong to both the user and the institute.
- To enable the institute staff to utilize the data (for theses, patents, academic materials, etc.), they must first obtain the consent of the spokesperson. When utilizing the experiment data, users must clearly state, "This work was performed using the RAON facility of IRIS at IBS."

Experimental Equipment Entry/Removal

Experimental systems and materials utilized by users in experiments must be taken out after review and approval by the institute's radiation safety manager in accordance with the 「Radiation Safety Management Regulations」. If radioactive waste needs to be disposed of, a disposal plan must be submitted.

Completion Report Submission

After the beam experiment, a Beam Experiment Completion Report [Attachment 17] must be submitted to the User Liaison Office within one month.

Use Restrictions

- If a user fails to follow the institute's internal regulations and procedures, beam use may be restricted after review by the Machine Time Committee (MTC). The User Liaison Office shall promptly notify users of the results.
- Users may appeal the Institute's actions, and submit explanatory materials for review by the Machine Time Committee (MTC).

6.

Forms

No.	Details	Forms
1	Access to the Institute	IRIS Visitor Application Form
2	Access to the Institute	IRIS Consent for Collection and Use of Personal Data for Visitor Access
3	Access to Radiation Controlled Area	Application for Radiation Worker Registration
4	Access to Radiation Controlled Area	Personal Information Collection and Use Consent and Notice Form for Managing the Safety of Radiation Workers, Etc.
5	Access to Radiation Controlled Area	Individual Irradiation Dosimeter Change Request
6	Access to Radiation Controlled Area	Temporary Entry Application Form
7	Experimental Equipment Entry	Equipment Entry Request
8	Wi-Fi Use (raonWifi)	raonWiFi Use Application and Personal Information Collection and Use Consent Form
9	Prohibition of Illegal Software Use	Pledge on Prohibition of Illegal Software Use
10	User Guest House Request	User Guest House Exit Request
11	User Guest House Request	Resident Pledge for User Guest House Use
12	User Guest House Request	Personal Information Collection and Use Consent Form
13	User Guest House Request	User Guest House Exit Request
14	Experiment Amendment / Cancellation	Experiment Amendment / Cancellation Request
15	Experiment data Export Request	Application for Experiment Data Export
16	Experiment data Export Request	Confidentiality and Compliance Agreement
17	Experiment Completion	Experiment Completion Report

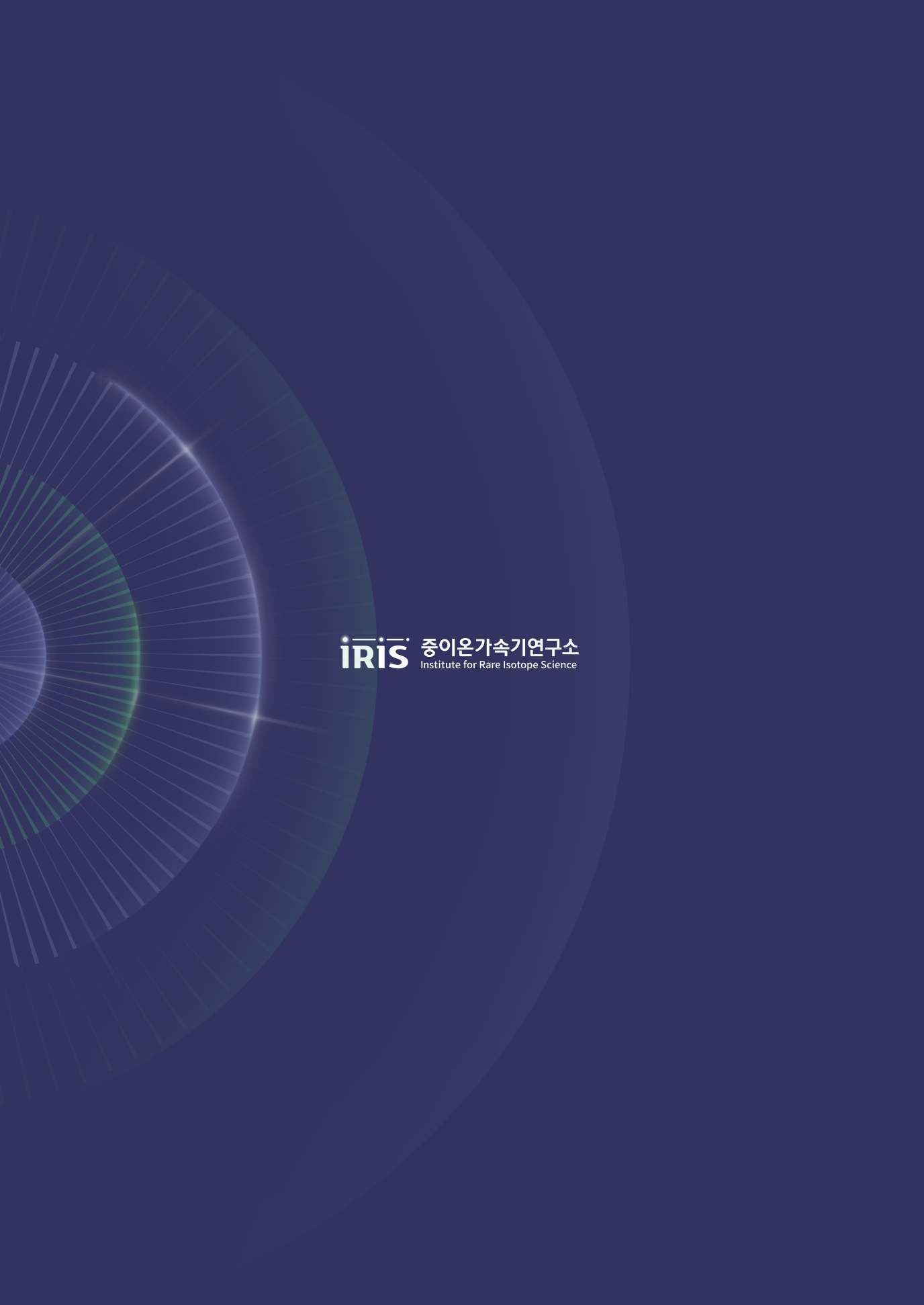


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iRiS 중이온가속기연구소
Institute for Rare Isotope Science