



# HFLSM User Manual



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# Magnet Time (Machine Time) Application

- Please apply for magnet time via the GIMRT user system <https://gimrt.appli.imr.tohoku.ac.jp/> in accordance with the email from GIMRT announcing the start of magnet time applications.



強磁場課題一覧

申請年度: 全て

申請年度	課題申請者名	課題名	種別	操作
202412-HMKGE-0413	淡路 智	33T無冷媒超伝導磁石のためのロバストREBCOコイル開発 Development of robust REBCO coil for 33T cryogen-free superconducting magnet	一般研究	マグネット利用申請

Scroll right

# Magnet Time (Machine Time) Request



- Dashboard
- Requesting for Magnet use
- Schedule
- Proposal Register

### Magnetic Proposal List

Dashboard / Magnetic Proposal List

Application Year: ALL

Search Reset

Proposal Number	Number of requesting	
<input type="checkbox"/> 202512-HMKGE-0060	1	<input type="button" value="Request"/>
<input type="checkbox"/> 202512-HMKGE-0412	4	<input type="button" value="Request"/>

Scroll right

Link to the "List of Magnet Requests" Screen

- Please read the ATTENTION notes carefully.
- When applying, please specify any days on which you absolutely cannot conduct your experiment as "Inconvenient dates". The magnet time will be assigned to avoid your inconvenient dates, but please be aware that depending on the volume of applications, your magnet time may be scheduled on a date other than your desired period.

## "Magnet Request" Screen

### Magnets Requested

Dashboard / Magnets Requested / List of Magnets Requested

The submission of magnet time request for July-August 2026 is now open.  
Dead line is Fri, May 15th, 2026

**(ATTENTION)**

- [IMPORTANT]** Due to the time required for international travel procedures (such as export control clearance and visas), the deadline for magnet time requests was moved forward by two weeks. The deadline is May 15th for this call.
- [LHe]** Liquid He is out of service from around Aug. 1st to around 19th. All experiments with LHe are not available in the period.
- [Summer break]** Sat, Aug. 8th - Mon, Aug. 17th is a summer break of IMR. The user program will stop in this period in principle.
- [Scheduled power outage]** All magnets are not available on Sun, Aug. 2nd, due to the power outage.
- [SM]** Superconducting magnets (1ST-SM, 18T-SM)  
The 1ST-SM and 18T-SM are available but all SMs are not available during the LHe outage.
- [CSM]** Cryogen-free superconducting magnets (CSM)  
Z5T-CSM, 6T-CSM, 19T-CSM, 10T-CSM, 5T-CSM are available. However, the following periods will be suspended for the maintenance of cryocoolers and power outage.  
- 25T-CSM: Tue, Jul. 21st to Wed, Sep. 30th  
- 10T-CSM: 18T-CSM: Fri, Jul. 24th to Mon, Aug. 17th  
- 6T-CSM, 5T-CSM: Fri, Jul. 31st to Mon, Aug. 17th
- [IMPORTANT]** In case of low temperature experiments using cryogen (LHe and LN2)  
(1) the lecture from the corresponding staff and  
(2) the e-learning, <http://moodle.imr.tohoku.ac.jp/>, about the treatment of cryogen should be required in advance, e-learning system: <http://moodle.imr.tohoku.ac.jp/>

Web site of HFLSM: <http://www.hflsm.imr.tohoku.ac.jp>

Requested month: 2026-09 Application Month

Principal Investigator: Shigro Kimura, IMR, Tohoku University

Abbreviation for place of assignment to 8 characters: up to 8 characters

Proposal Title: 空間反転対称性破綻した半導体中核磁気共鳴装置の構築と応用  
Nonreciprocal linear dichroism in the paramagnet with broken space inversion symmetry

User: Shigro Kimura

Contact information for user: Please enter your phone number

Other experimenters: Select Select

Magnet Name: Select

Details of experiment: [Text area]

Desired period of use: Specify a period Except for some inconvenient days, any day is fine.

Primary: From [ ] To [ ]  
Secondary: From [ ] To [ ]

ATTENTION Notes

Please keep it brief as it will be listed on the machine time schedule

Inconvenient days

From	To
From	To
From	To
From	To
From	To
From	To
From	To
From	To

Specimens: [Text area]

Crystal

Use  Medium gas flow  No  Yes  Other  Don't use

Travel expense category: Note  HFLSM  Other

Note: [Text area]

Confirm



# Visitor Registration (Before Your Visit)

Cryogenic e-learning

## 1. E-learning on Liquid Coolants

When using liquid nitrogen or helium, please complete the [KINKEN e-learning](#) course on cryogenics once a year.

## 2. Collaborative Research Agreement

Please submit the Collaborative Research Agreement Form to the GIMRT user office at least three weeks prior to your first visit of the fiscal year.

Access to the [GIMRT user system](#) → Download the template of the Collaborative Research Agreement Form.

## 3. HFLSM Visitor Registration Form

Please submit a [HFLSM Visitor Registration Form](#) each time before your visit (for visitors from outside the prefecture: at least two weeks before your visit; for visitors within the prefecture and on campus: at least one week before your visit). This also serves as the travel expense procedure. Please email the notification form to your supervising faculty member.

- All visitors must individually complete steps 1 through 3 above
- For details on administrative procedures, please refer to the "Guidebook for collaboration research" on the [GIMRT user system](#)

## Collaborative Research Agreement Form

## HFLSM Visitor Registration Form



# Use of Dormitory (Reservations)

You may use the two dormitories on the Katahira Campus ([Honda Memorial Hall and Katahira Hall](#)) for lodging during your visit.

The maximum stay per visit is 3 to 30 days at the Honda Memorial Hall and up to 30 days at the Katahira Hall.

Both facilities offer single and twin rooms; depending on availability, a twin room may be used by a single occupant.

Reservations can be made starting one month prior to the first day of your stay. If you wish to make a reservation, please provide your dates, the names, affiliations, and email addresses, and assignment numbers; for Katahira Kaikan, please also provide the mobile phone numbers of all occupants to your supervising faculty member .

Please note that reservations may not be available due to limited room availability.

Please note that simply selecting the Honda Memorial Hall or Katahira Hall under “Accommodation” on the HFLSM Visitor Registration Form does not constitute a reservation. Please be **sure to ask your supervising faculty member to make the reservation.**

# Use of Dormitory (Payment and Key Pickup)

- **When Using the Honda Memorial Hall**

If accommodation expenses are covered by joint travel funds, the accommodation costs will be deducted from the travel funds. Please follow the instructions in the reservation confirmation email sent by the Research Cooperation Section and collect them from the lockers in Building 2 of IMR.

If you are covering the cost yourself, please pay in cash at the Accounting Section on the 2nd floor of the Honda Memorial Hall, then pick up your key at the Research Cooperation Section.

If you arrive on a holiday or at night and it is difficult to arrange this, please consult your supervising faculty member.

- **When using the Katahira Hall**

If accommodation expenses are covered by the joint research travel budget, they will be deducted from the travel expenses. Please pick up the key at the Katahira Hall 1st Floor Front Desk between 3:00 PM and 5:00 PM on the first day of your stay.

If you are covering the costs yourself, be sure to pay the accommodation fee at the [Tohoku University Administration Building 8 \(E06\)](#) by 4:00 PM on the first day of your stay,

and then pick up your key at the Katahira Kaikan 1st Floor Front Desk between 3:00 PM and 5:00 PM.

If you arrive on a holiday or at night,

please consult with your supervising faculty member.

# Use of Dormitories (Summary)

	Honda Memorial Hall	Katahira Hall
Maximum Number of Days Per Stay	3 days to 1 month	- 1 month
Reservation Desk	Supervising faculty members *Please note that contact is required separately from the HFLSM Visitor Registration Form	
Reservation Start Date	One month prior to the first day of stay	
Information Required for Reservation (Submit for all guests to the faculty advisor)	<ul style="list-style-type: none"> <li>• Dates of stay</li> <li>• Name, Affiliation</li> <li>• Email address</li> <li>• Assignment Number</li> </ul>	<ul style="list-style-type: none"> <li>• Dates of Stay</li> <li>• Name and Affiliation</li> <li>• Email address</li> <li>• Assignment number</li> <li>• Phone (Mobile) Number</li> </ul>
Payment	<ul style="list-style-type: none"> <li>• Generally deducted from travel expenses</li> <li>• If you pay out of your own pocket, please settle in cash at the Accounting Section on the 2nd floor of the Honda Memorial Hall (9:00 AM–3:00 PM)</li> </ul>	<ul style="list-style-type: none"> <li>• Generally, expenses are deducted from travel expenses</li> <li>• If paying out of pocket, settle the bill at the University Headquarters Asset Management Section on the first day of your stay (9:00 AM–4:00 PM)</li> </ul>
Key Pickup	<ul style="list-style-type: none"> <li>• Deducted from travel expenses → Lockers in Building 2 of IMR</li> <li>• Self-funded → Kinken Research Cooperation Section (9:00 AM–5:00 PM)</li> </ul>	Katahira Hall 1F Front Desk (3:00 PM–5:00 PM)
Cancellation	Please contact the faculty member as soon as possible	



# Visitor Registration (Upon Arrival)

- If Arriving During Weekday Business Hours
  - The entrance to the HFLSM is locked at all times. Please press the intercom on the right side of the entrance to request that the door be unlocked
- If you arrive on a holiday or at night, please refer to the next page
- Safety Shoes
  - Shoes are strictly prohibited inside the HFLSM.  
For your safety, please change into safety shoes at the entrance. Please take a pair of safety shoes in your desired size from the clean box on the left side of the entrance. Please apply masking tape to the heel of the safety shoes, write your name on it, and store them in the shoe rack during your visit. Please use them until the end of your visit.  
When leaving, please remove the tape and return the shoes to the clean box



Apply masking tape and write your name



# Visitor Registration (For Arrivals on Holidays or After Hours)

- If you arrive on a holiday or at night, please follow the instructions below to receive your card key of the HFLSM
  1. Take one temporary access card from Locker No. 12 in Building 2, IMR and enter the HFLSM
  2. Borrow a card key of the HFLSM from the locker in the HFLSM's entrance hall as described on the next page
  3. Immediately return the temporary access card to Locker No. 12 in Building 2, IMR and lock the locker door

\*Please ask a supervising faculty member for the locker combination.

# Visitor Registration (Upon Arrival)

- How to obtain card keys of the HFLSM entrance and keys to the Visiting Researcher Room
  - Card keys of the HFLSM entrance and keys to the visiting researcher rooms are available for loan from the lockers in the entrance hall. Please sign the logbook located above the lockers when borrowing these items. Please ask a center staff member for the locker combination.
- Please read the HFLSM User Guidelines carefully before conducting experiments or other activities.

Lockers



Top left  
the keys  
are located

Card key, Visiting Researcher  
Room key, and loanbook



HFLSM, 1st Floor



# Precautions During Experiments (General)

1. **Identification of Experimenters** : Write the names and mobile phone numbers of all experimenters on the whiteboard at the laboratory entrance. This is for the purpose of confirming everyone's safety in the event of a disaster. Be sure to erase this information when leaving the laboratory.
2. **Magnet Time** : The period during which magnets may be used is from noon on the first day of Magnet Time until noon on the day following the final day. All tasks, including liquid helium refills, returning equipment to its original location, and cleaning, must be completed within this period.
3. **Scope of Magnet and Equipment Operation** : Experiments and equipment operation must be conducted within the safety and work areas designated by the supervising faculty member.
4. **Magnet Operation** : When energizing the magnet, ensure that there are no magnetic tools or items that could be attracted by the magnet in the vicinity. Additionally, record the magnet's operating status in the usage log.
5. **Handling of Liquid Nitrogen** : After drawing liquid nitrogen from the cryostat, fully close the draw-off valve and the pressure relief valve, and leave the vent valve open.
6. **Management of Tools and Equipment** : After using tools, vacuum components, measuring instruments, etc., be sure to return them to their designated locations.
7. **Operating Hours** : Although experiments can be conducted 24 hours a day, staff support hours are generally from 9:00 AM to 7:00 PM on weekdays. Experiment plans must be thoroughly discussed with the supervising faculty member in advance.

# Precautions for Experimentation (SM)

Intended for: Users of the 15T-SM and 18T-SM

## 1. Pre-Excitation Checks

**Ensure that the liquid helium level inside the cryostat is at least 10 cm before generating the magnetic field, and start recording on the recorder before proceeding.** Note that a level below 10 cm is acceptable when the system is not energized.

## 2. Precautions During Magnetic Field Sweeping

**Do not leave the vicinity of the magnet while the magnetic field is being swept. It is strictly prohibited to leave the facility while the magnetic field is still active.**

## 3. Handling of Probes

**Do not insert or remove the measurement probe from the magnet while the magnetic field is active.**

## 4. Liquid Helium Refilling

**Liquid helium refilling must always be performed with the magnet de-energized.**

## 5. Procedures at the End of the Experiment

**On the final day of the experiment, fill the system to the specified liquid helium level.**

**15T-SM: 60 cm, 18T-SM: 560 mm**

## 6. Procedures in Case of Abnormalities

**If any abnormalities are detected in the magnet, contact the staff immediately.**

# Precautions for Experimentation (CSM)

Intended for: Users of the 25T-CSM, 15T-CSM, 10T-CSM, and 6T-CSM

## 1. Pre-Excitation Checks

**Ensure that the magnet is below the specified temperature before applying the magnetic field. Start recording with the recorder.**

## 2. Precautions During Magnetic Field Sweeping

**Do not leave the vicinity of the magnet during magnetic field sweeping. However, leaving your seat or going home is permitted while the magnetic field is held.**

## 3. Handling of Probes

**Do not insert or remove the measurement probe from the magnet while the magnetic field is active.**

## 4. Response to Abnormalities

**If you notice any abnormalities with the magnet, contact staff immediately.**

# After the experiment is complete

- Once all experiments are complete, please restore the room to its original condition. At that time, please sweep the floor and dispose of the contents of the trash cans. Cleaning supplies are located in the hallway in front of the HM実験室 on the first floor of the Main Building, and in the cleaning supply room next to the restroom on the first floor of the HFLSM Annex.
- When leaving the center, please return your card key and other items to the locker, and remove the tape from your safety shoes before returning them to the clean box.

# Experiment Supply Area and Wi-Fi

- Couplings
  - Shelves in the HM実験室
- Flexible Tubing
  - Shelves in the HM実験室
- Kimwipes and Kimtowels
  - Request to a center staff
- Tools
  - Tool storage area in 実験準備室, etc.
- If you need anything else, please ask your supervising faculty member or a center staff.
- Please return items to their original locations after use.
- You can use the Wi-Fi in each room for internet access. For details, please ask your supervising faculty member or a center staff

