

# How to get AMS data from HZDR for external users

External users have the option to request cost-free accelerator mass spectrometry (AMS) measurements of their samples via a merit-based proposal procedure. The scientific quality of submitted proposals is evaluated and ranked by an external international [User Selection Panel](#).

Users should contact [Prof. Dr. A. Wallner](#) before submitting their proposal via the [HZDR GATE platform](#). This guideline aims to direct the users through the proposal submission system. Further information can be found at “Application for beam time at the [Ion Beam Center \(IBC\)](#)”.

## 1. Register at the [HZDR GATE platform](#)

- **Register** as new user: Create GATE Login (Username, Password - min. 6 characters, case sensitive)
- Type in **Personal information** (Email, Title, Family name, Given name, Birthday, Citizenship, Gender)
- Select **IBC** as **Preferred User Office**
- Select your **scientific preference(s)**: up to 3 out of Chemistry, Earth Sciences & Environment, Energy, Engineering & technology, Humanities, ICT, Life Sciences & Biotech, Material Sciences, Mathematics, Physics, Social Sciences

Fields marked with \* are mandatory.

Account	
Username *	<input type="text"/>
Password *	<input type="password"/> (min. 6 characters, case sensitive)
Password (again) *	<input type="password"/>
Personal information	
Email *	<input type="text"/>
Title	<input type="text"/>
First/given name *	<input type="text"/>
Last/family name *	<input type="text"/>
Birthday *	<input type="text"/> <input type="text"/> <input type="text"/>
Citizenship *	<input type="text"/>
Gender *	<input type="radio"/> male <input type="radio"/> female
Preferred User Office *	<input type="radio"/> ELBE (ELBE: Center for High Power Radiation Sources ) <input type="radio"/> IBC (IBC: Ion Beam Center) <input type="radio"/> ELBE (DRACO: High-power ultrashort pulse LASER Draco) <input type="radio"/> RADIATE (RADIATE: Research And Development with Ion beams – Advancing Technology in Europe) <input type="radio"/> ChETEC-INFRA (ChETEC-INFRA Laboratories: Astronuclear Laboratories (AMS, Reactions with Ion Beams)) <input type="radio"/> ChETEC-INFRA (ChETEC-INFRA HPC: Astronuclear High Performance Computing) <input type="radio"/> ChETEC-INFRA (ChETEC-INFRA Telescopes: Astronuclear Telescopes)
Please choose your scientific preference(s):	*1. <input type="text"/> 2. <input type="text"/> 3. <input type="text"/>

- Type in your **Affiliation** (Organisation/Institute, Department, City, Country,...)
- Decide if you want to receive further **Information/Newsletters**
- Confirm that you have read the [data security issues \(pdf\)](#) and terms and [conditions for user access \(pdf\)](#)
- Wait for the **confirmation email** to finalize your registration. **You have to confirm the registration within 24 hours after receiving the HZDR's user office email!**
- **Attention:** Your account needs to be approved by the user-office prior to submitting proposals. **This may take up to two business days.**

Affiliation (employer)	
Organisation/Institute *	<input type="text"/> <input type="button" value="Select/Search affiliation"/>
Department *	<input type="text"/>
Street	<input type="text"/>
ZIP / City *	<input type="text"/> / <input type="text"/>
ZIP / PO. Box	<input type="text"/> / <input type="text"/>
Country *	<input type="text" value="v"/>
Phone	<input type="text"/>
Fax	<input type="text"/>
Infomail and Newsletter *	
I would like to receive information by email on call for proposals, call for reports, user meetings, ... <input type="radio"/> yes <input type="radio"/> no	
I would like to receive the regular HZDR Synergy newsletter by email <input type="radio"/> yes <input type="radio"/> no	
Acknowledgement *	
<input type="checkbox"/> I have read the <a href="#">declaration of data protection</a> and agree to the storage of my personal data.	
<input type="checkbox"/> I have read the <a href="#">terms and conditions for user access to the experimental facilities</a> and I agree.	
<input type="button" value="register"/>	

## 2. Prepare the Scientific Case and the Experimental Plan for your proposal

- Prepare the **Scientific Case** Document depending on the funding instrument. Use the appropriate templates (docx):
  - [IBC General Access](#)
  - [RADIATE](#)
  - [ChETEC-INFRA](#)
- Prepare the **Experimental Plan** using the [Accelerator mass spectrometry template \(xlsx\)](#)
- Both documents need to be converted into pdf-files (max. size 1 MB each, despite CheTEC-INFRA) for proposal submission.

### 3. Submit a new proposal

- Login to GATE with your **GATE Login**
- Select **New Proposal**
- Choose **Research infrastructure**: ChETEC-INFRA Laboratories, RADIATE or IBC (Contact [Prof. Dr. A. Wallner](#) to discuss the different funding instruments)
- Type in **Title** and **Abstract** (copy of the relevant parts of the proposal, no need to rewrite it) of max. 1000 characters
- Select Proposal type: **Standard**
- Select your **Discipline**: One out of Chemistry, Earth Sciences & Environment, Energy, Engineering & technology, Humanities, ICT, Life Sciences & Biotech, Material Sciences, Mathematics, Physics, Social Sciences
- Select one **Specific discipline**
- Travel funds are not available for AMS/IBC; limited funds are available for RADIATE and ChETEC-INFRA
- **Upload “Scientific Case” document** as pdf (max. 2 pages, 1 MB; for ChETEC-INFRA, max. 10 MB)

New proposal

General proposal data	
Title *	<input type="text"/>
Abstract * max. 1000 characters	<input type="text"/>
Proposal type *	<input type="text" value="Standard"/>
Discipline *	<input type="text"/>
Specific discipline *	<input type="text"/>
Funding	<input type="checkbox"/> Funding requested
Project description <a href="#">template</a>	
Project description (pdf) *	<input type="text" value="Durchsuchen..."/> Keine Datei ausgewählt. Accepted format: *.pdf, max. of 10MB

- Add potential **Co-proposer**, e.g. Anton Wallner, Johannes Lachner, Konstanze Stübner and/or Georg Rugel

#### Co-proposer

Add co-proposer
Each co-proposer must be registered at GATE.
<input type="button" value="Search co-proposer"/>

- Input technical requirements (slightly different for IBC proposals, Radiate and ChETEC-INFRA):
  - Select **Beamline**: accelerator mass spectrometry
  - Select **Preferred local contact**: e.g. Wallner, Anton

- Include **Requested beamtime**: Calculation is done automatically by the Experimental plan document.  
→ 1 nuclide: 1.5 h ; 1 standard and 1 blank every 7 samples, 1.5 h each  
Example:  $^{10}\text{Be}$  in 10 samples:  
 $(10 \times 1.5) \text{ h} + (2 \times 1.5) \text{ h} + (2 \times 1.5) \text{ h} = 21 \text{ h} = 3 \text{ shifts à } 8 \text{ h}$
- Leave **Preferred dates** open or contact us.
- **Upload “Experimental Case” document** as pdf (max. 2 pages, 1 MB)
  - Select **Spokes person** for the proposal
  - Select **Collaborating partner** from HZDR, e.g. Anton Wallner
  - Select **Type of project** (usually “**Standard**”)

IBC - Beamline and beamtime ⓘ Source overview

Beamline \*

Preferred local contact \*

Requested Shifts \*  Shifts (8 hours each)

Preferred dates 1)  -  2)  -

Unavailable dates 1)  -  2)  -

Experimental plan ⓘ template

Experimental plan \*  Keine Datei ausgewählt.  
Accepted format: \*.pdf, max. of 1MBByte

Project consortium

Spokes person for the proposal\*

Characterization of the project

Pilot proposals are limited to max. 2 shifts  
Project type explanation

Type of project\*

Project is essential part of PhD thesis\*  If yes, please give name of PhD student

Project is essential part of reviewed research grant\*  If yes, please specify

This project is

Hazards (specific chemicals, radiation protection etc.)

Sample(s) are radioactive\*

IBC is allowed to handle unsealed radioactive materials for accelerator mass spectrometry only, given that sample activity is significantly below the permitted limit according to StrSchV.  
In case of any questions concerning radiation safety, please contact [ibc-ssb@hzdr.de](mailto:ibc-ssb@hzdr.de).

Complementary remarks

- Specify relation of proposal to **PhD thesis** and **reviewed research grants**
- Select if project is a **new proposal** or **an extension** etc (contact us if you are not sure)
- Specify any **Hazards**;  
Specify if your samples are **radioactive** (please contact the radiation safety officers ([ibc-ssb@hzdr.de](mailto:ibc-ssb@hzdr.de)) or Prof. A. Wallner ([a.wallner@hzdr.de](mailto:a.wallner@hzdr.de)) if you are not sure)
- Press “**Next step**” several times and do not forget to press “**Submit**”
- Wait for evaluation results

## FAQs

- *Is there a proposal deadline?*

No.

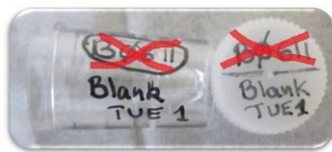
- *How long does the evaluation of the proposal take?*

Between one and a few weeks.

- *How can I send processed samples (e.g. for hands-off projects)?*

Send BeO/Nb (1:4 by weight) and Al<sub>2</sub>O<sub>3</sub>/Ag (1:1 by weight) pressed in "HVEE" Cu cathodes with steel pins.

**Cathodes should NOT be labelled.** They should be placed in containers labelled with your sample name on the cap and on the container leaving space for in-house ID numbers (see picture: red crosses)



Use a **black pen** for <sup>10</sup>Be samples  
and a **blue pen** for <sup>26</sup>Al samples

Send sample information electronically before sending samples:

- **Proposal number**
- **Sample name**
- Expected <sup>10</sup>Be/<sup>9</sup>Be and/or <sup>26</sup>Al/<sup>27</sup>Al **isotope ratio** for each sample
- Amount of **BeO & Nb** and **Al<sub>2</sub>O<sub>3</sub> & Ag** for each sample (all values in mg)
- Put samples in correct **order for measurement**, i.e. **processing blank before the corresponding samples**.  
If you submit more than one batch, indicate **priorities**.
- Mailing address is:  
Prof. Anton Wallner, Helmholtz-Zentrum Dresden-Rossendorf,  
Bautzner Landstr. 400, 01328 Dresden, Germany

- *Can all nuclides be measured at the same time?*

No and yes. We measure ratios of nuclides of one element from chemically prepared samples. For example, we dedicate a full week to measure <sup>10</sup>Be/<sup>9</sup>Be from BeO samples. In a second week, we analyse a different nuclide ratio (e.g., <sup>26</sup>Al/<sup>27</sup>Al from Al<sub>2</sub>O<sub>3</sub> chemically prepared from the same sample raw material). Thus, usually you will receive first results of all of your samples for one nuclide ratio and then have to wait for a few weeks for the results of the other nuclide ratio.

- *Can (in-situ produced) <sup>14</sup>C be measured at DREAMS?*

No, at this stage the 6 MV accelerator of DREAMS will not be used for measuring <sup>14</sup>C. Please, contact e.g. our [RADIATE partner ETH](#) for AMS measurements of in-situ produced <sup>14</sup>C.

- *Can cosmogenic noble gases be measured at DREAMS?*

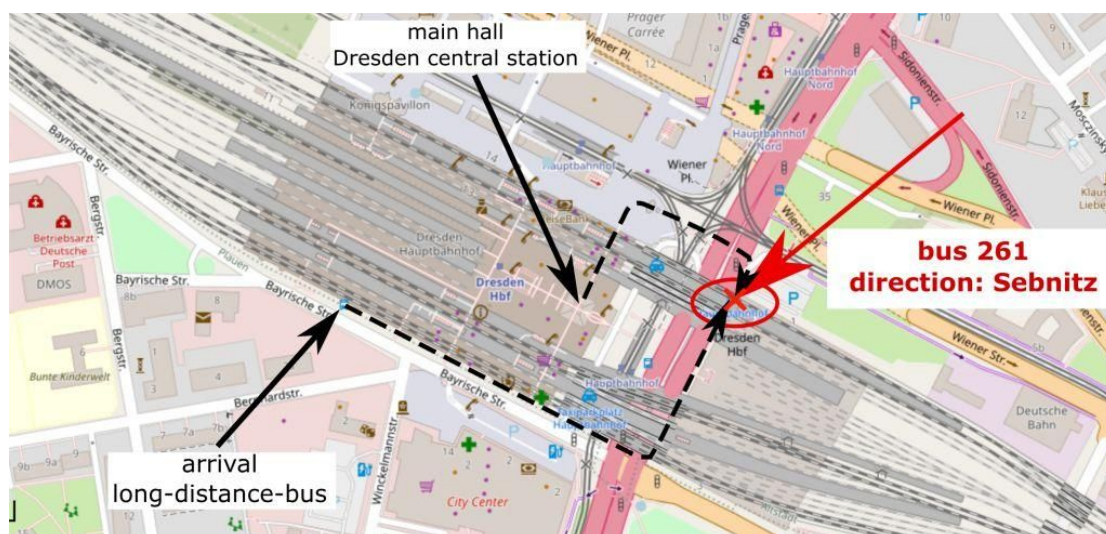
No, the accelerator is not suitable for analysing noble gases by AMS.

## Your proposal is successful: What's next?

1. For a hand-on proposal, contact us to discuss the length and the timing of your stay. There is no need for a special chemistry/safety knowledge or training before arrival.
2. Get www-access via [Eduroam](#) at your home institute before you come.
3. Book the [guest house](#) for sample preparation and AMS measurements (also during night-shifts) on your own costs: [guest house request form \(pdf\)](#). Your HZDR-contact for using the AMS chemistry labs is Konstanze Stübner; for AMS in general Anton Wallner. The infrastructure is DREAMS@IBC.
4. Alternative accommodation is available in the Dresden city centre but is not recommended due to exceptional working hours.

## Additional information for your arrival at HZDR

1. HZDR is located about 10 km north-east from the city centre of Dresden ([How to find us](#)). If you arrive at Dresden Central Station by train (**Hauptbahnhof**) or long-distance bus (**Hauptbahnhof - Bayrische Strasse**) it may be tricky to find the **station for the bus 261** (direction: Sebnitz). Here is a map for detailed instructions:



2. **Important!** If you take the bus 261, do **NOT** get off the bus at "Siedlung Rossendorf". The correct bus stop is called "**Rossendorf Forschungszentrum**". Bus tickets (single ticket = "Einzelfahrschein" or ticket for four trips = "4er-Karte") can be purchased from the bus driver.
3. To enter the HZDR site you need a **passport** or other picture ID. You will get an access card for the duration of your stay.
4. You will get a map indicating **building 712**, where some of our offices (**room 303, phone 2802**) and the AMS control room (phone **2189** during AMS beam time) are located. After 19:00 the entrance to the accelerator building may be closed: call **2189 or 3252** for access. Most of our offices are located in **building 613**.

5. Please bring your **laptop**, if you have one. It can be quite useful when working in the lab and/or during night-shifts.
6. There is no need to bring your own lab coat or safety goggles.
7. Our security staff is on duty 24/7, you can arrive and pick-up your guest house key whenever you want if you have a reservation. However, please be aware of scarcity of public transportation in the evening and on weekends.
8. We have a **canteen** on site, which is open Monday to Friday for breakfast and lunch (until 13:30 h). If you arrive late, there is only minimal food supply at the canteen from a vending machine.
9. The nearest **shopping** possibility is at Dresden-Weissig, which is four bus stops (~ 5.5 km) away from HZDR. There is also the possibility to rent a bike from the guesthouse.