

Summary Table

Field	Notes
Device Name	FRS Ion Catcher
Document Version	V1
PID:	10.15120/GSI-2024-00534
Author(s)	Timo Dickel ORCID (https://orcid.org/0000-0002-5965-8689)
Collaboration	Mainly, but not exclusively Super-FRS EC
Host Laboratory/Laboratories	GSI: https://ror.org/02k8cbn47
Responsible departments	FRS/SFRS Experimente
Years active	2010/01 - present
Stations(s) of device during primary usage	FRS – HFS (S4)
Linked infrastructure	FRS, SIS18
Device URL/Webpage	https://www-windows.gsi.de/frs-ion-catcher/
References	W.R. Plass et al. NIMB 317, 457-462 (2013)
3rd Party Funding	

FRS Ion Catcher

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Author:

Timo Dickel [ORCID (<https://orcid.org/0000-0002-5965-8689>)]

Collaboration:

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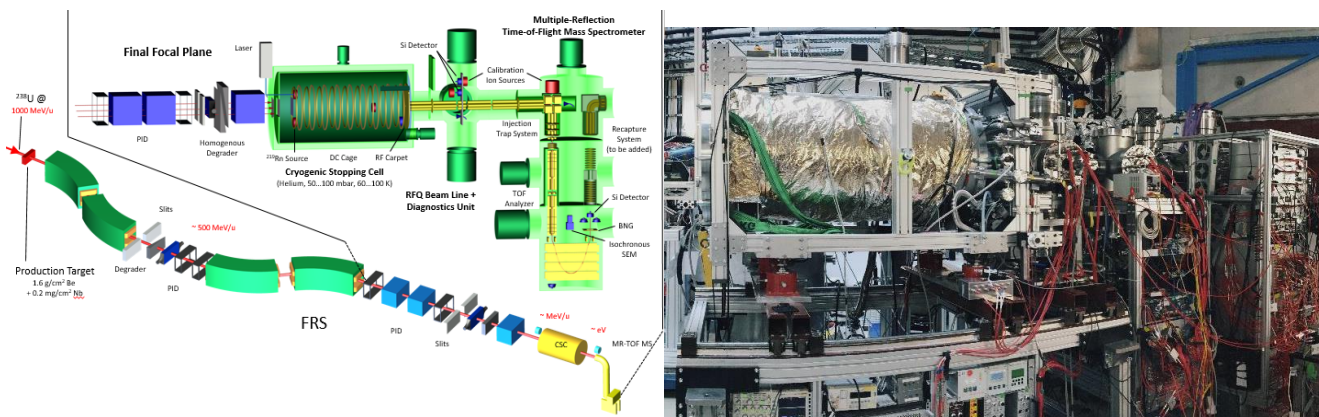
Host Laboratory/Laboratories:

GSI Helmholtz Centre for Heavy Ion Research [ROR: <https://ror.org/02k8cbn47>]

Years active:

2010 – present

Diagram/Photo/CAD:



Left: schematic of the setup. Right: Photograph of system at the final focal plane of the FRS, in the photo degrader system and downstream detectors before the CSC are missing, they also belong to the setup.

Station(s) of device during primary usage:

FRS HFS S4

Linked infrastructure:

SIS18, FRS

Device Webpage:

<https://www-windows.gsi.de/frs-ion-catcher/>

Description:

The FRS Ion Catcher is a set up which slows down exotic nuclei produced with high energies to perform high precision measurements almost at rest. The properties of the exotic isotopes help to study the structure of the nuclei or the origin of the elements in the universe. The setup is located at the fragment separator (FRS) of the GSI Helmholtz Centre for Heavy Ion Research in Darmstadt, Germany. The setup has been designed in collaboration with international partners, e.g. KVI-CART Groningen, Justus-Liebig-University Giessen, Germany. The FRS Ion Catcher consist in a cryogenic stopping cell, an RFQ based beamline with improved capabilities and a Multiple-Reflection time-of-flight Mass Spectrometer (MR-TOF-MS). More details can be found in [1, 2].

1. [W.R. Plass et al. NIMB 317, 457-462 \(2013\)](#)
2. <https://www-windows.gsi.de/frs-ion-catcher/>