

Hardware commissioning 2020 (new tests and equipment for this year)

- Polarity and electrical checks for all the quads at the ISOLDE low energy beamlines.
- New BI grids, Faraday cups and scanners electronics.
- New tape station installed to replace the old one.
- New beam gate system and beam gate timings.

- New EBIS electron gun new design and new timing structure (pulsed electron beam).
- Additional new beam diagnostics boxes and steerers in the REX-LINAC.
- Additional silicon detectors in HEBT lines
- New x-ray monitors for each cryomodule
- Superconducting and normal conducting cavities RF conditioning.
- Validation of the cryomodule 4 repairs after intervention at SM18.
- HIE-ISOLDE cryomodules tests (RF, cryogenics...).

Stable beam availability for tests

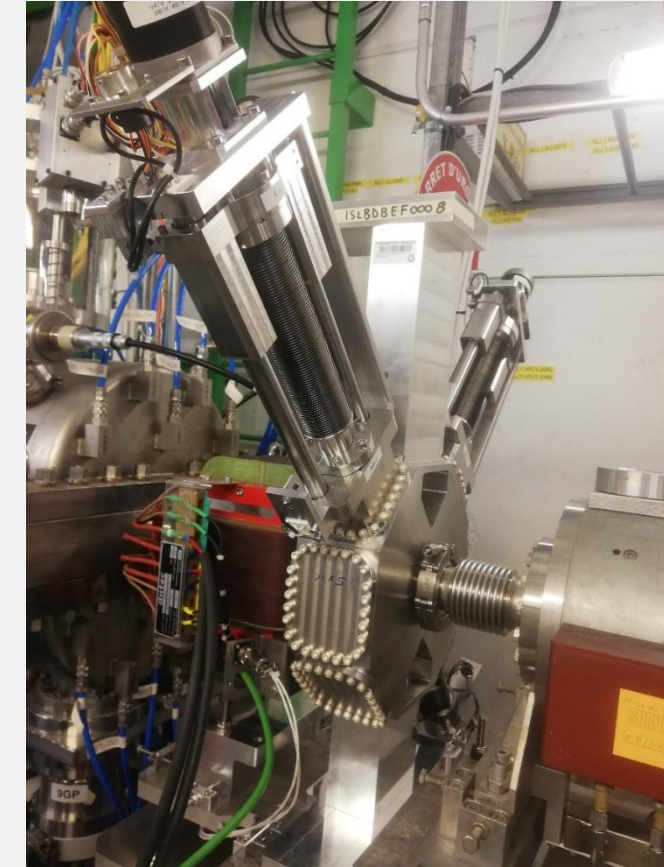
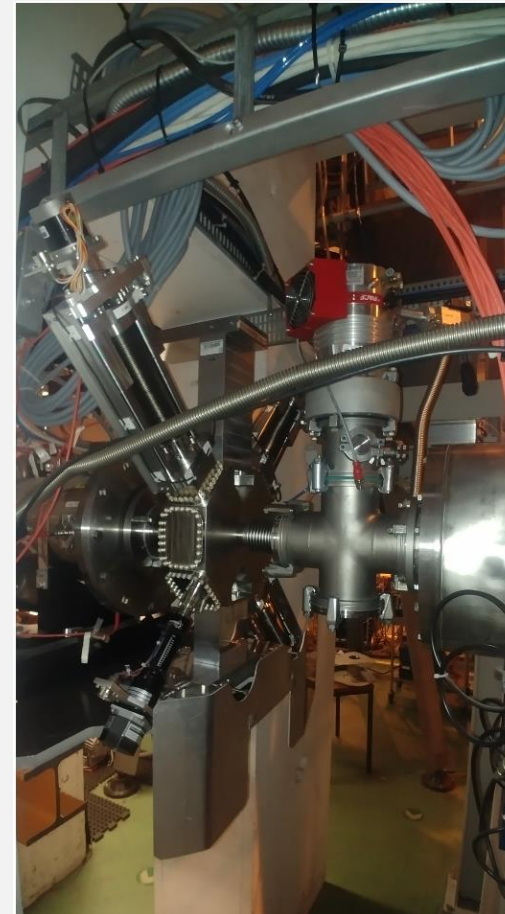
- From REXTRAP local ion source: Currently available
- From EBIS charge breeder: Mid-September 2020
- From FE10 (GPS): November 2020
- From FE11 (HRS): April 2021

New beam diagnostics boxes in the REX-LINAC.

Example of one of the three new diagnostic boxes installed along the low energy part of the REX-LINAC.

They contain Faraday cups, beam attenuators, beam collimators, scanning slits and silicon detectors.

The objective is to understand the reduced transmission along the Linac and also provide valuable data for a better characterization of the beam.



Quads polarity and electrical checks

Testing all ISOLDE low energy electrostatic quads for:

1. Isolation to ground for each quad plate.
2. Capacitance between quad's plates.
3. Voltage applied to the plate for low and high voltage CCVs.
4. Quads polarity structure along the beam lines.
5. Identify hardware problems due to ageing of cables/connectors.



Isolde electrostatic quadrupole doublet

