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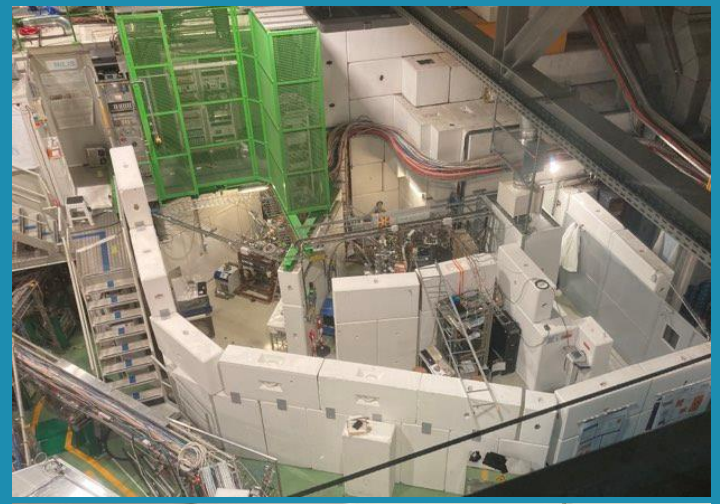
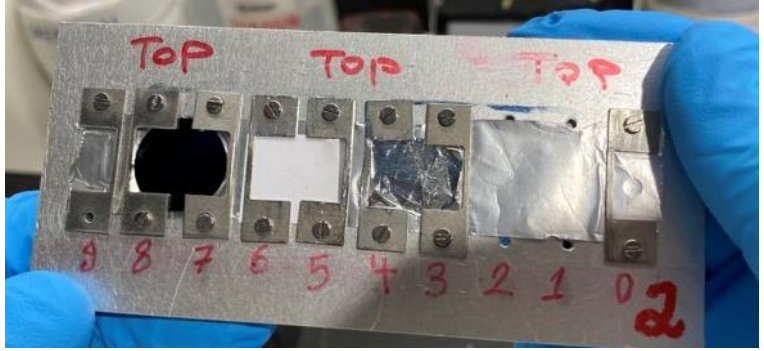
^{110m}Ag beamtime



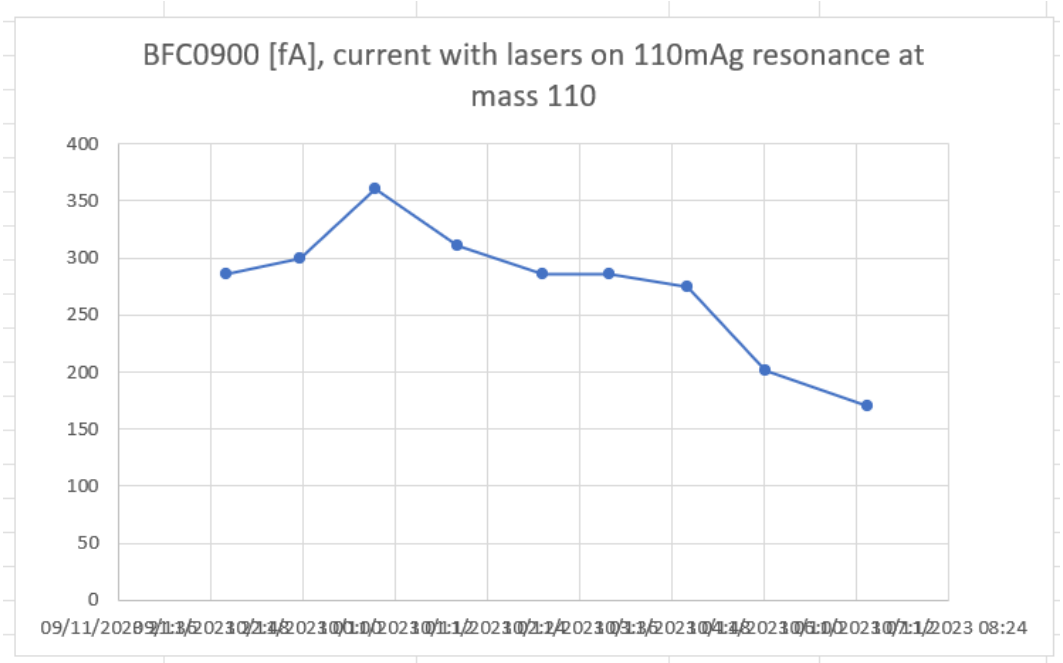


Marie Deseyn

TEST collection



- Lasers on resonance of 110mAg (1a = 15236.15/cm, 1b = 15236.67/cm)
- On mass 110Ag
- Collection started on 9/11 – 20h05



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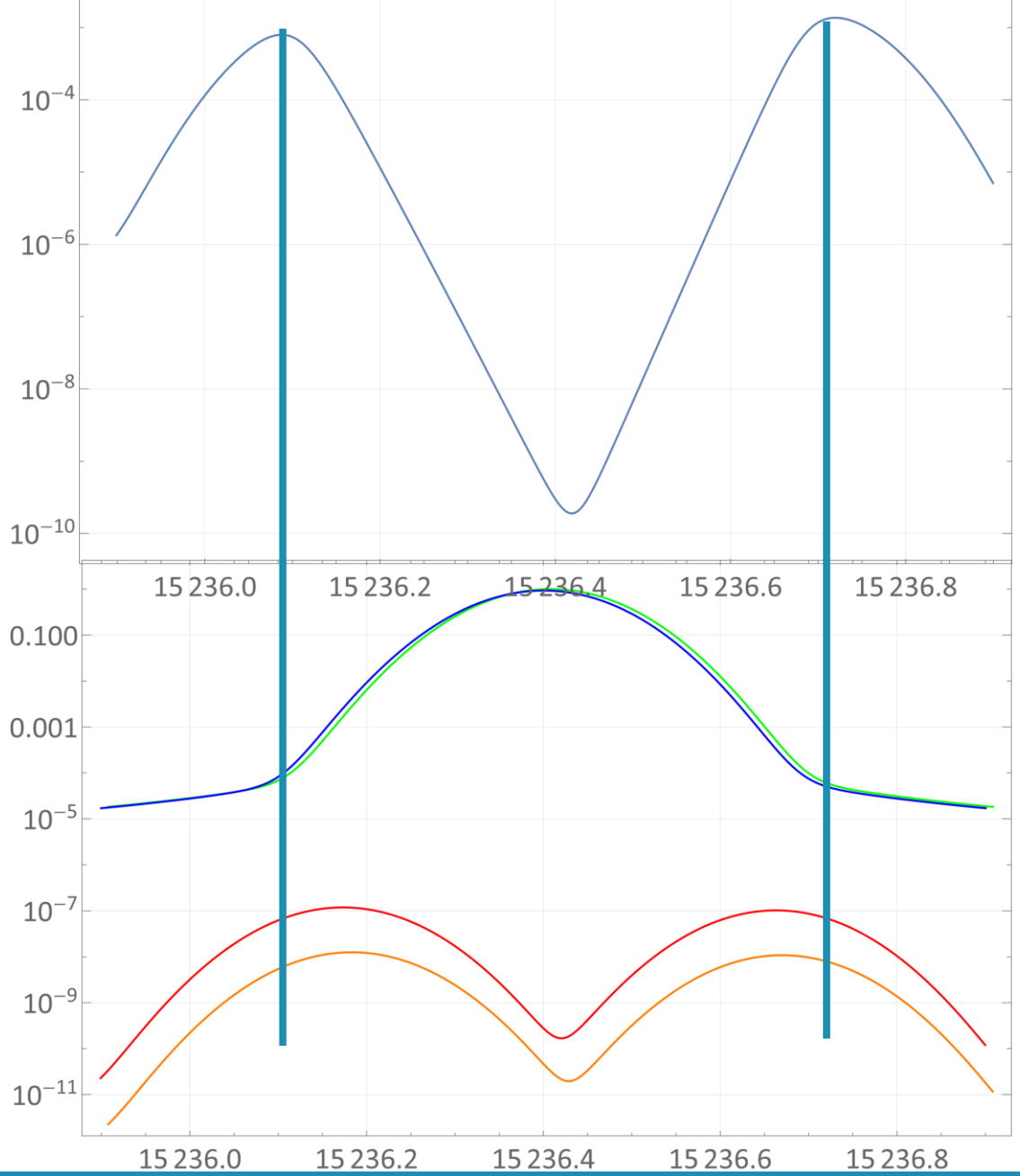
TEST collection

- Number of particles collected
  - According to current integration tool: 6.478*10**10 particles
    → background subtracted: 6.970 *10**10 particles
  - According to FC readings: 7.57(40)*10**10 particles
- Activity measured with HPGe detector: 19.90(49) Bq
- Purity:
  - 0.889(22)% and 0.819(47)%

Laser scan



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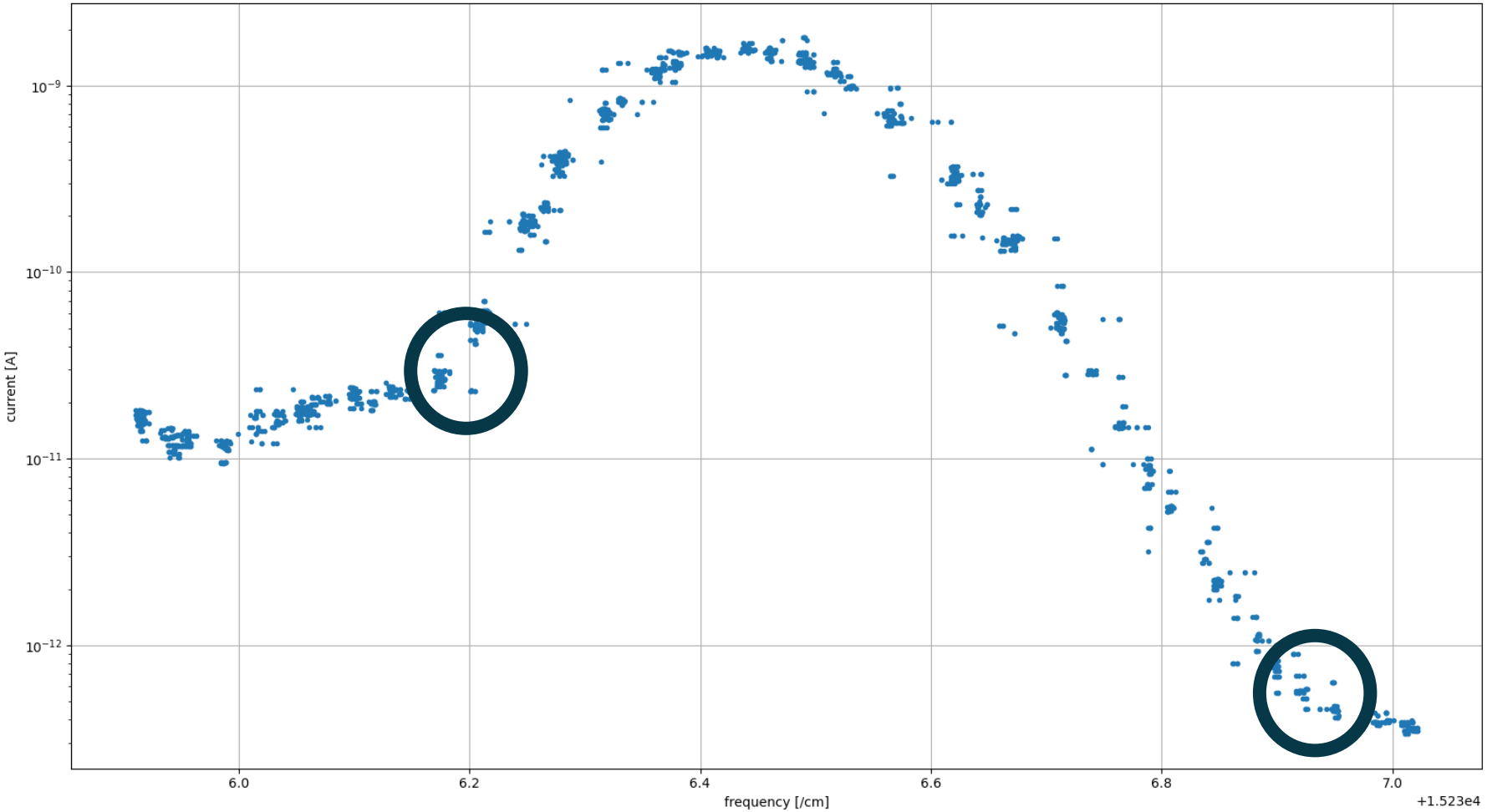
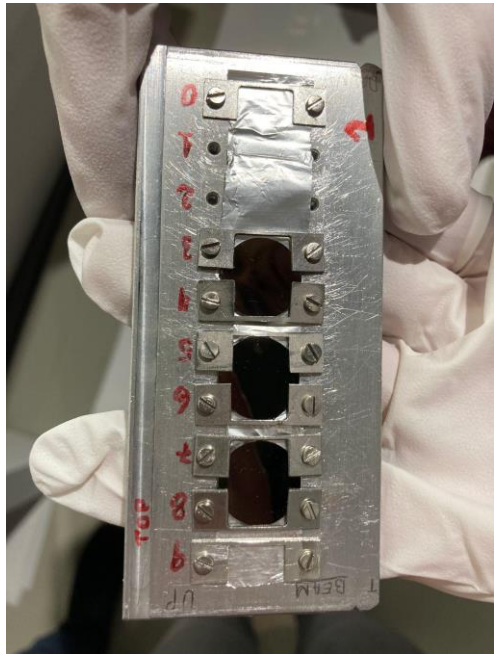
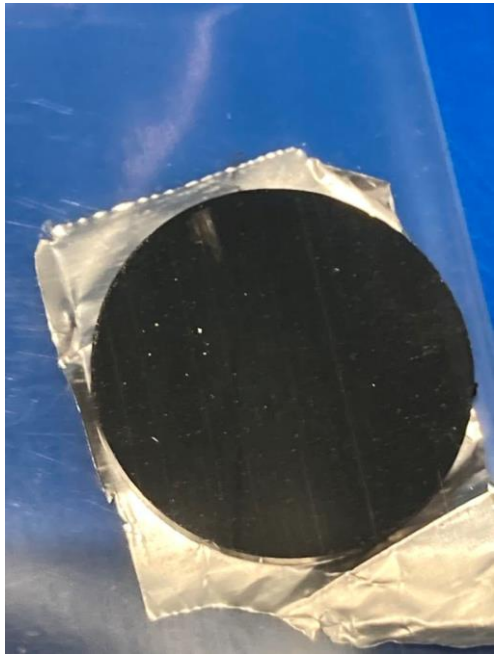
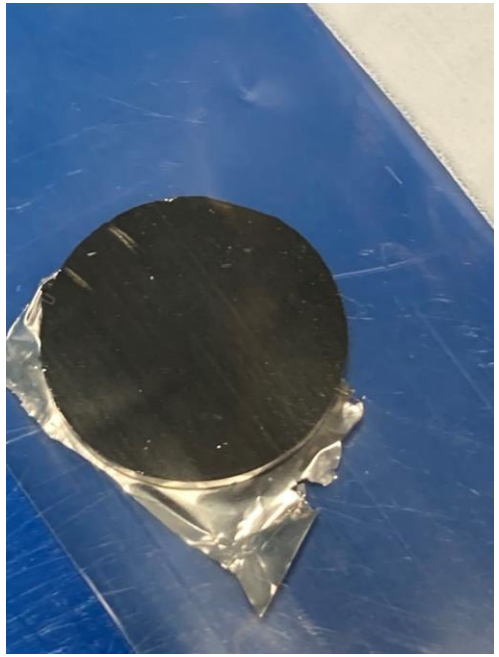
Laser scan



1a) 15236.15/cm
1b) 15236.9/cm

Collection

- Switching between 2 foils on the on-resonance (1a = 15236.15, 1b = 15236.67) and off-resonance (1a = 15236.15, 1b = 15236.9) laser conditions
- Started on 10/11 – 22h35, stopped 11/11 – 23h23

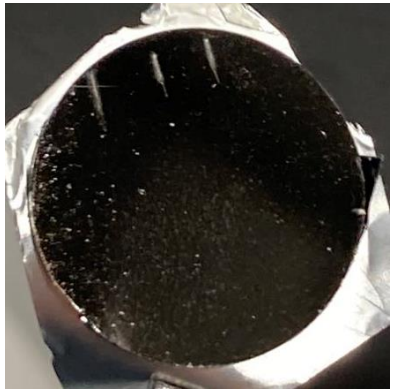




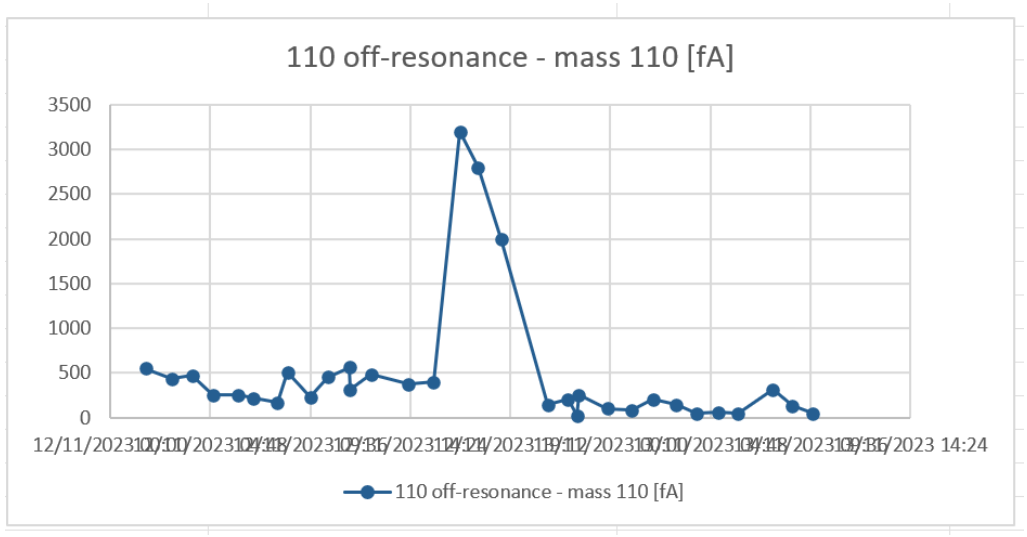
Heat further until depletion for collection on GC3

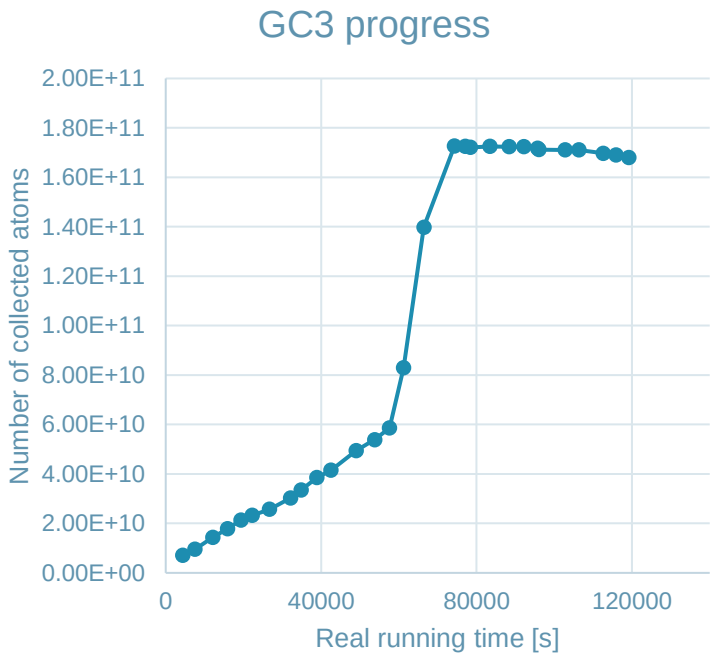
- Start: 12/11 – 00h39
- Stop: 13/11 – 10h34

Activity measurement: 353Bq
→ Purity = 6,092(118)% (integrator tool)
= 4,860(128)% (FC cup)

= ~5*10**5 improvement in purity







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Next steps

- What **total efficiency** did we reach?
- How much **time** do we need to separate at CERN given a purity of the initial target and desired purity
- **Purity** on each of the foils and dependence on the laser frequencies
- **Efficiency** for **GC1 and GC2** compared to the **efficiency**
- Investigation of **depletion effects** and **ion load effects**
- GC3 will be used at IDS