KU LEUVEN

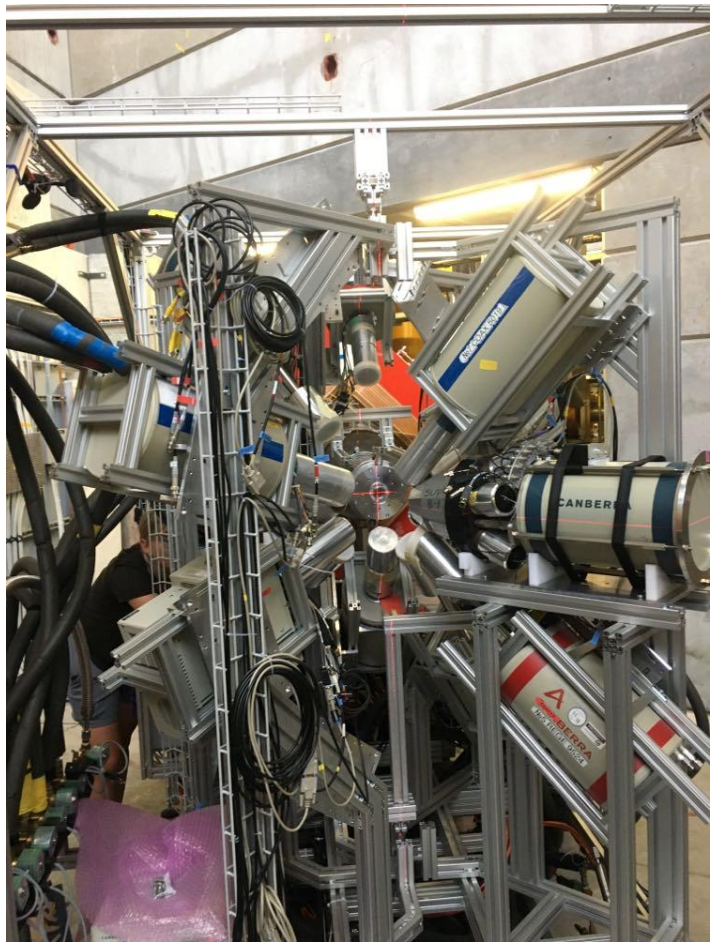
Update muX meeting 12/08

Michael Heines

PSI trip

- Bring detectors to PSI
- Mounting detectors
- Cabling

- To be done for muX:
  - Miniball
  - Remove BGO shields
  - Entrance scintillators
  - Add gas cell
  - Liquid scintillators



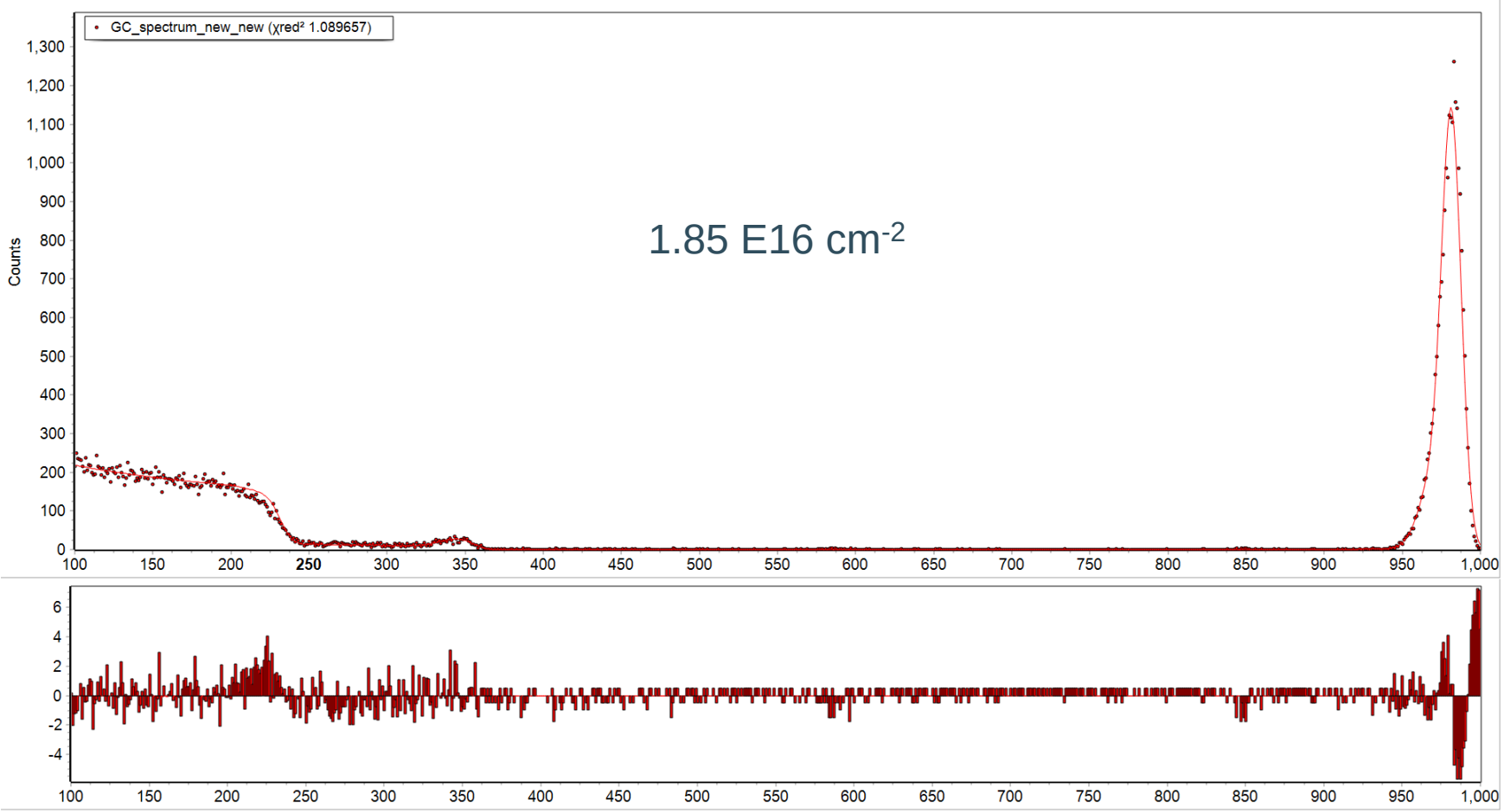
DAQ

- Neutron code on bitbucket branch and DAQ pc
- Compiles but error while running
- Frontend won’t start since 03/08

```
muX@muX-daq:~/mux-daq$ ./build/analyzer/analyzer -Otesting.root online/run00006.mid.gz.gz
Warning in <UnknownClass::SetDisplay>: DISPLAY not set, setting it to 192.33.120.19:0.0
Global data object created
configuration read from /home/muX/mux-daq/analyzer/config/config.json
Registered modules: 8
file[0]: online/run00006.mid.gz.gz
Setting up the analysis!
TMReadEvent: error: short read 0 instead of -950771707
```

```
14:04:23.298 2022/08/03 [VME Frontend,ERROR] [frontend.cpp:189:frontend_init,ERROR] Error on connecting to VME crate: sis1100 device open failed
13:53:14.393 2022/08/03 [VME Frontend,ERROR] [frontend.cpp:189:frontend_init,ERROR] Error on connecting to VME crate: sis1100 device open failed
13:46:49.050 2022/08/03 [VME Frontend,ERROR] [frontend.cpp:189:frontend_init,ERROR] Error on connecting to VME crate: sis1100 device open failed
13:46:27.039 2022/08/03 [VME Frontend,ERROR] [frontend.cpp:189:frontend_init,ERROR] Error on connecting to VME crate: sis1100 device open failed
13:46:27.039 2022/08/03 [VME Frontend,INFO] Deleted entry '/System/Clients/21605' for client 'mhttpd' because it is not connected to ODB
```

RBS


GC_spectrum_new_new (χred² 1.089657)
Counts
1,300
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1,000
1.85 E16 cm-2
6
4
2
0
-2
-4
100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1,000

Planning systematic studies

- Investigate how much we can implant
- Retained amount as a function of fluence
- Not good enough → Other form of carbon?
- Graphite in similar conditions matches extremely well!

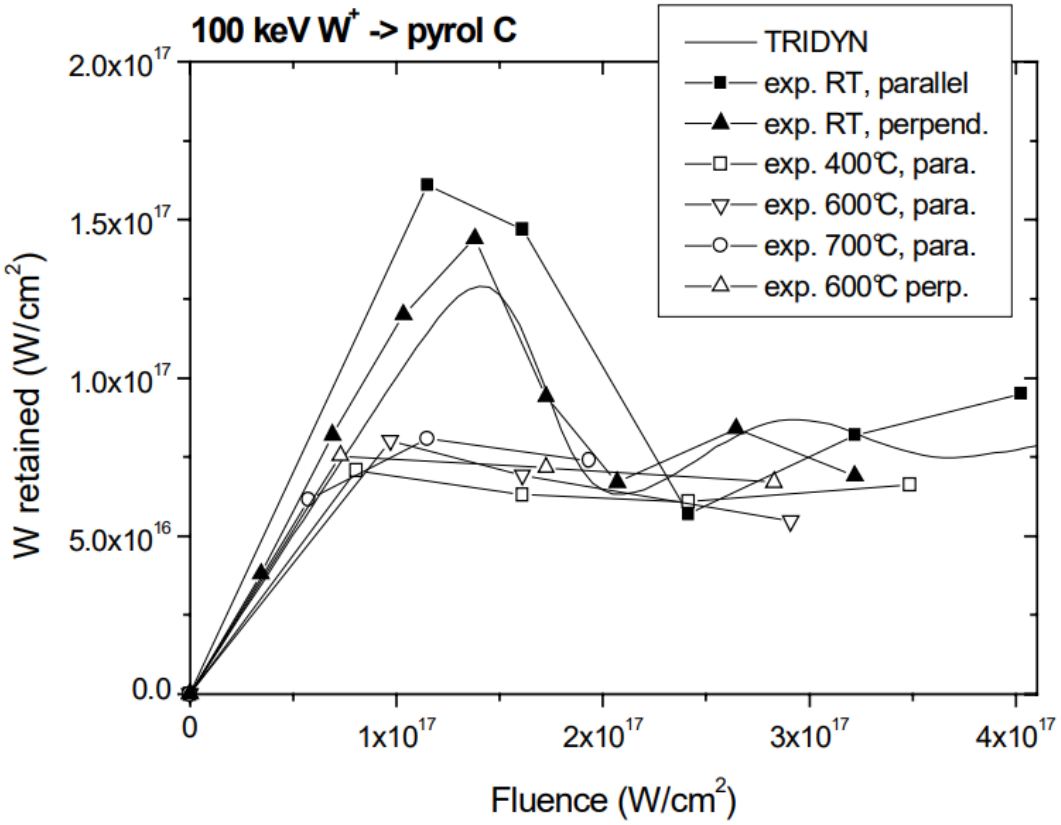


Fig. 1a: Retained W at different target temperatures

Roth, J., et al. "Formation and Erosion of WC under W+ Irradiation of Graphite." *MRS Online Proceedings Library* 658.1 (2000): 5311-5316.

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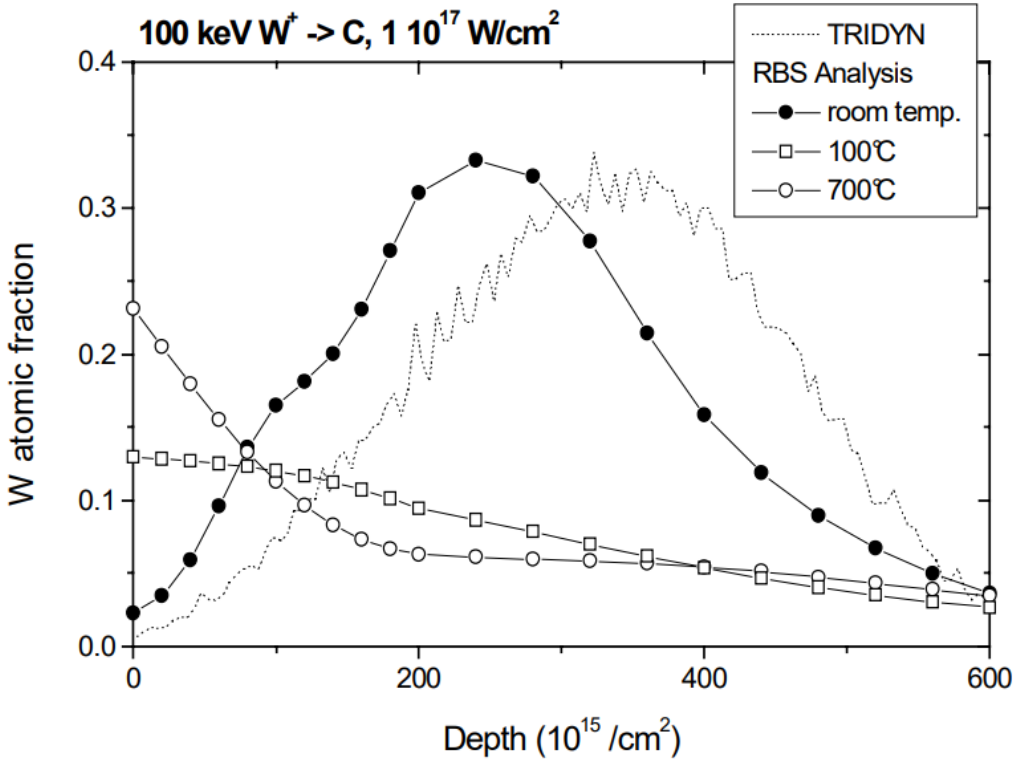

Fig. 1b: W depth profiles at $1x10^{17}$ W/cm^2 for different target temperatures

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