RRL measurements on July 7th and 10th

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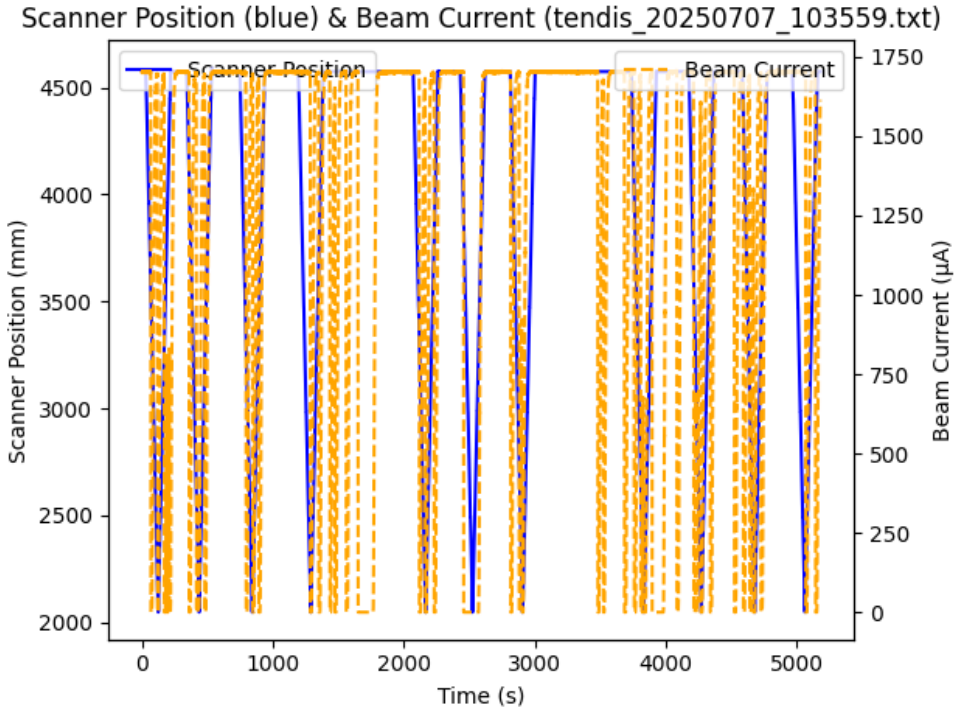
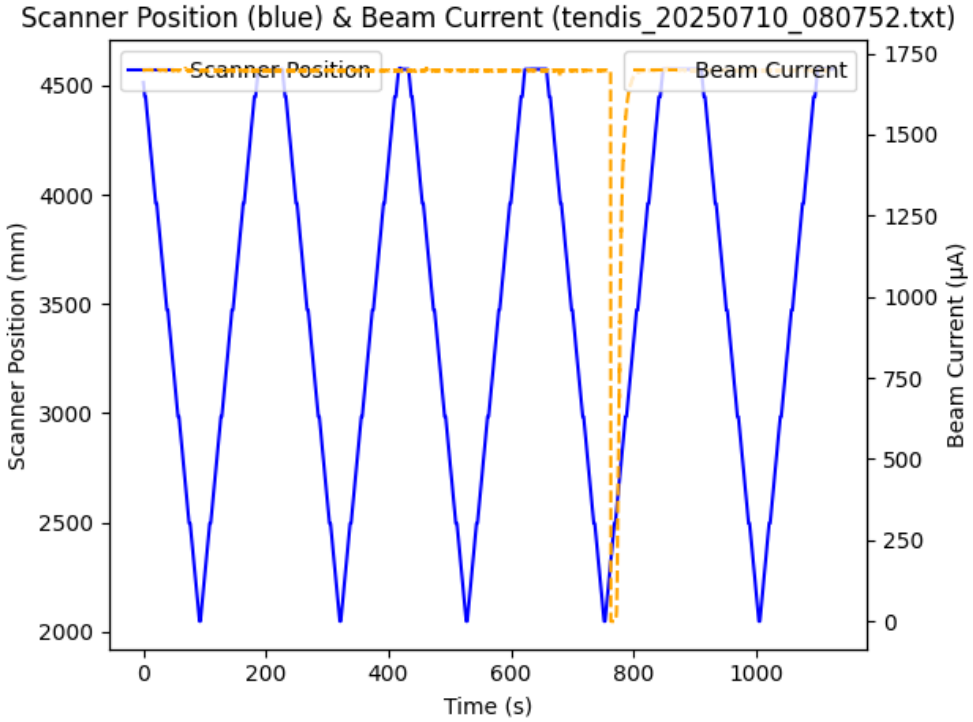
Goals

- Collect missing data points for scans with various bias voltages.
- Investigate efficiency of new RRL cleaning procedure.
- Collect and analyze dust samples.

EIC interlocks

1. RRL is in proximity of injection septum, which is electrostatic element with voltage of ~133 kV.
2. RRL scans provoke sudden jumps in dark current → sparks in EIC → interlocks.
3. Interlock probability depends on the beam intensity → tests done at 1.7 mA.
4. Before cleaning: 3 interlocks/scan (over 11 scans).
5. After cleaning: 0.2 interlocks/scan (over 5 scans).



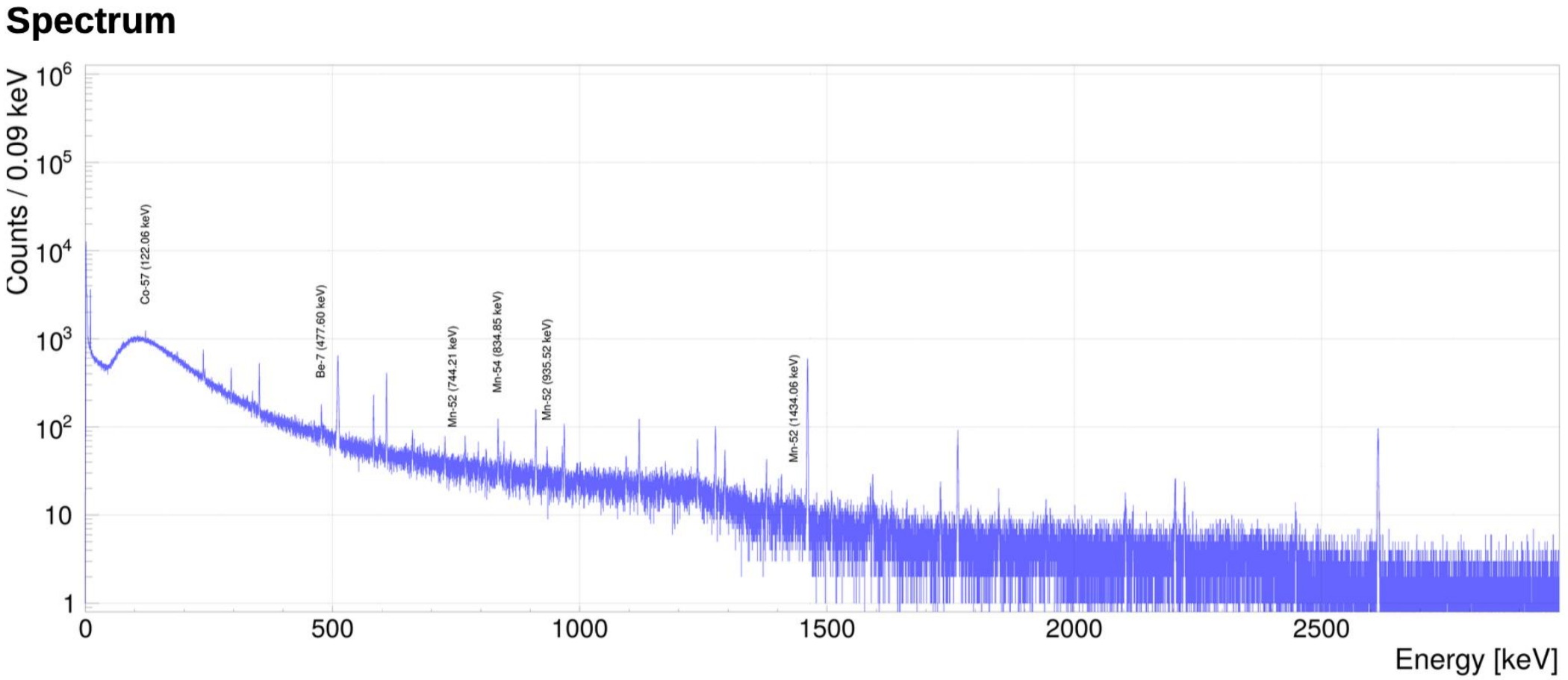


Dust collection

- The transmission belts are very difficult to clean because of a difficult access.
- We have run the scan while keeping the cleaning tissue in one location, this way accessing the whole length of the belt.
- In addition, a build up of metallic dust at the very end of RRL structure was seen and cleaned.

Gamma spectroscopy of the dust sample from belt (Marco and Dominik)

- It looks more like stainless steel (Mn-54, Mn-52, Co-57), NOT aluminum (lack of Na-22, Na-24).
- RRL transmission belt is made of stainless steel.



Conclusions

- It is possible to reduce EIC interlocks generated by RRL by careful cleaning and regular removal of the metallic dust.
- The dust composition suggests that it comes from stainless steel elements, most likely transmission belts.
- The cleaning procedure should be executed regularly, together with servicing the RRL wires.