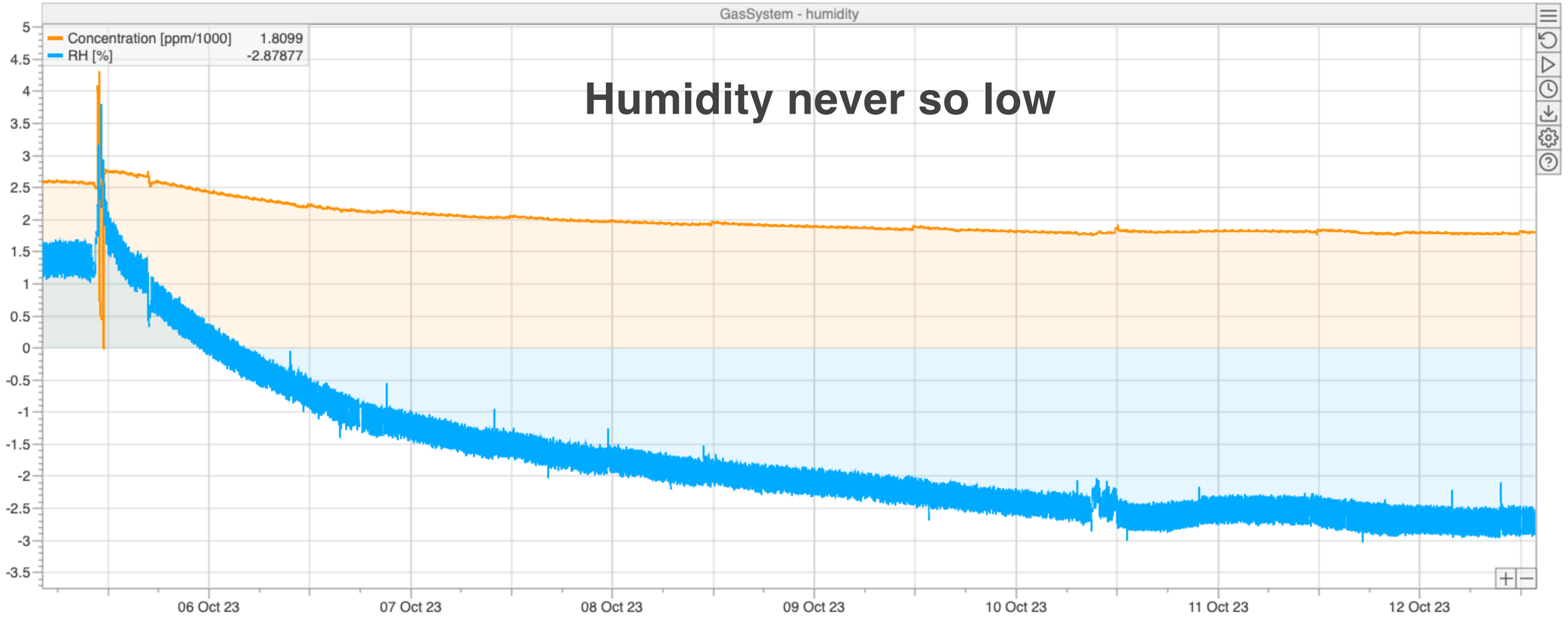
CYGNO status, 12 Oct 2023

LIME: Run3

- After main intervention on the gas system it is working since 3 weeks;
- The filter on line2 was substituted and is now working fine

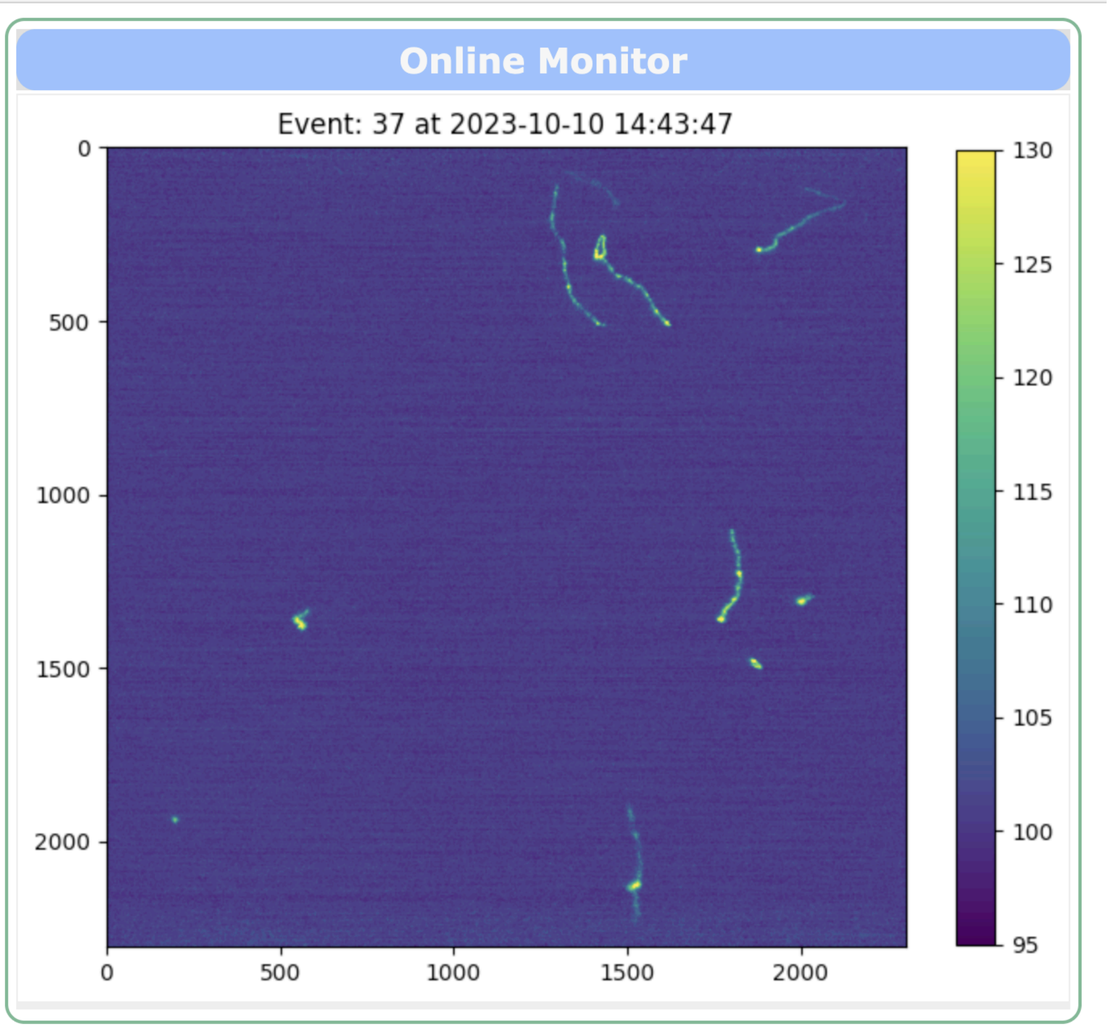


Program for next months

- [x] Tuesday, 26th Turn on HV and start stability tests
- [x] Friday, October 29 start with bkg + daily scan
- [x] Tuesday, October 10 Ba source
- [ ] Tuesday, October 17 Eu source
- [ ] Tuesday, October 24 ^{55}Fe without collimator
- [ ] October 26 start start with bkg + daily scan
- [ ] November 6 end of Run 3
- [ ] Water shielding installed in November
- [ ] Start of Run4 in December

LIME: Run3 - Ba

- To reduce the interaction rate, a copper collimator was used. We should probably have the 8 keV peak in the data (good candle);
- Interaction rate increased and cutest trigger rate is about 100Hz;
- To have less crowded images we decided to shorten the exposure time to 100 ms;
- The large amount of PMT wfm increased the size of DAQ files and is creating issues in the compression and upload to Cloud;

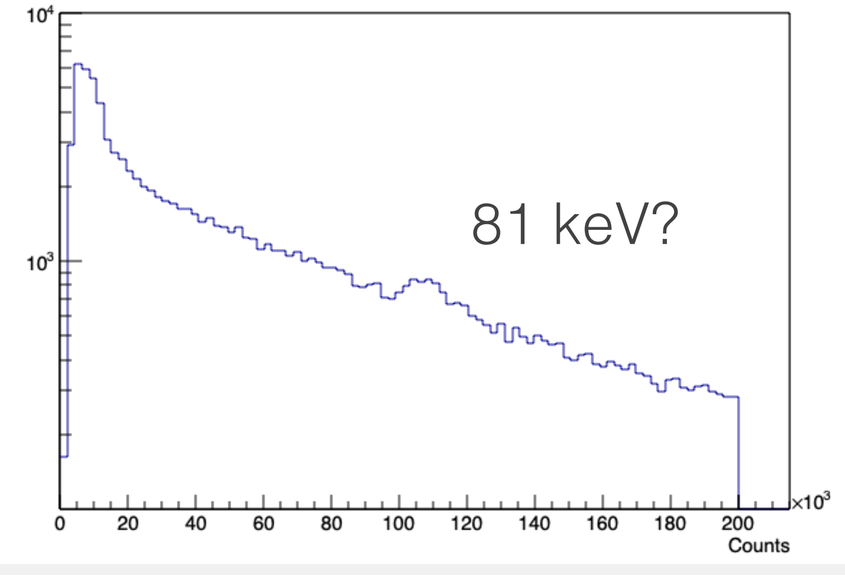


Test with high energy X rays

- First runs are already online;
- Are there volunteers to have a look to them?

Barium	**Eu**
30 keV 95%	40 keV 38%
35 keV 22%	45 keV 15%
81 keV 33%	121 keV 28%
302 keV 18%	244 keV 8%
358 keV 62%	344 keV 26%

Barium Energy



LIME Pubblications

- Before starting the writing of the underground LIME paper, two other papers will be needed:
  - Description of the Monte Carlo methods (already started by Fabrizio et al)
  - Evaluation of the underground radioactivity conditions (based on Flaminia's work)
- Electroluminescence paper under review;
- Negative Ion paper?