

ARES Operations Meeting

Week 50 / 2020

W. Kuropka, on behalf of the ARES shift crew and ACHIP@SINBAD

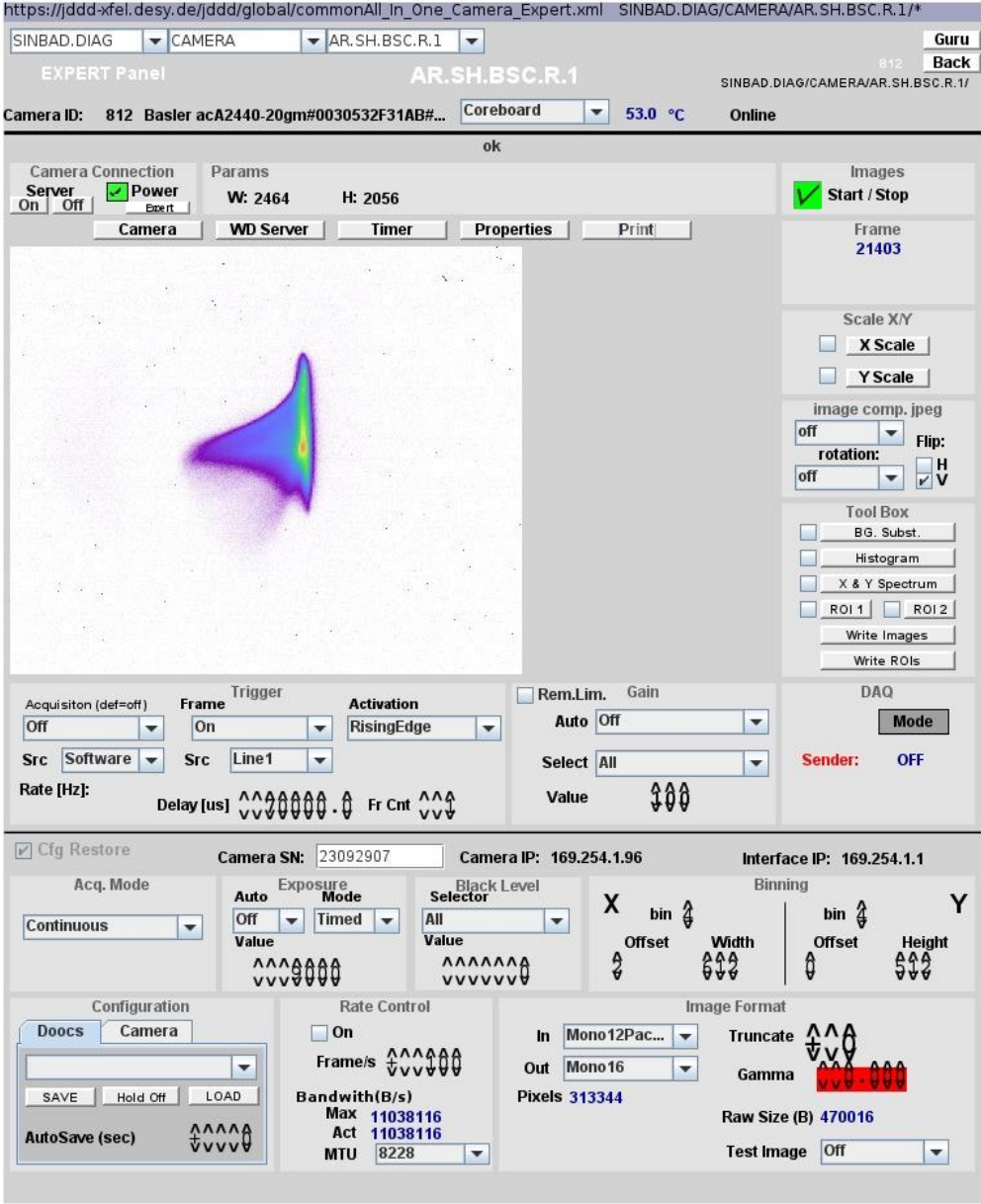
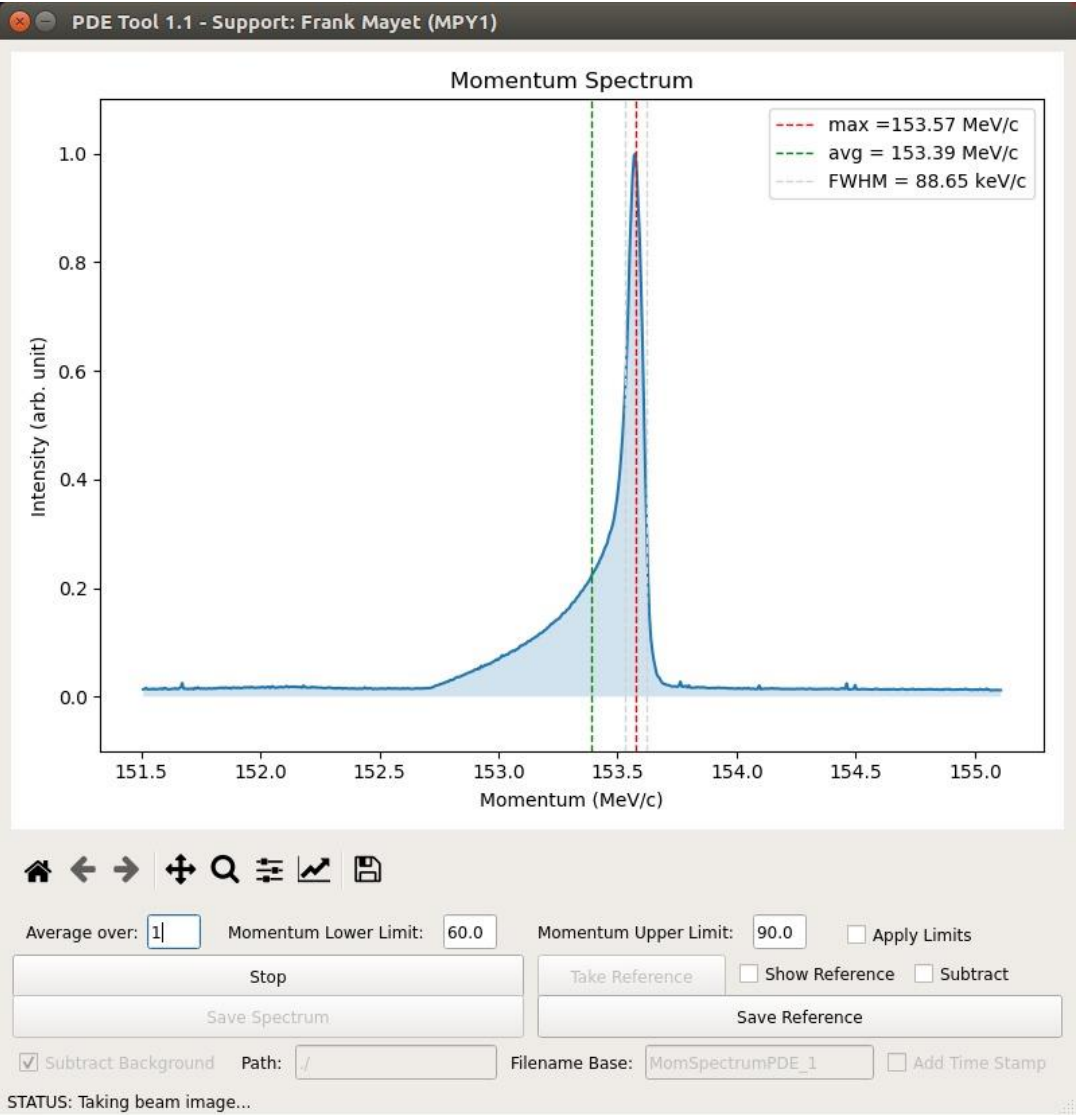
Report from last week, first ACHIP run

- Monday: Transmission of the 2um laser through the EA chamber
- Tuesday: set up working point for electron transmission through DLA, and radiation detection
- Wednesday: still setup for transmission, got the beam on chamber YAG screen
- Thursday: beam easy to find on EA.A1, trying to decrease spotsize, additional camera installed at chamber view port, big thanks to Olaf and MEA
- Friday: observe the glowing DLA via the viewport camera
- Weekend: long term stability measurement using the PDE

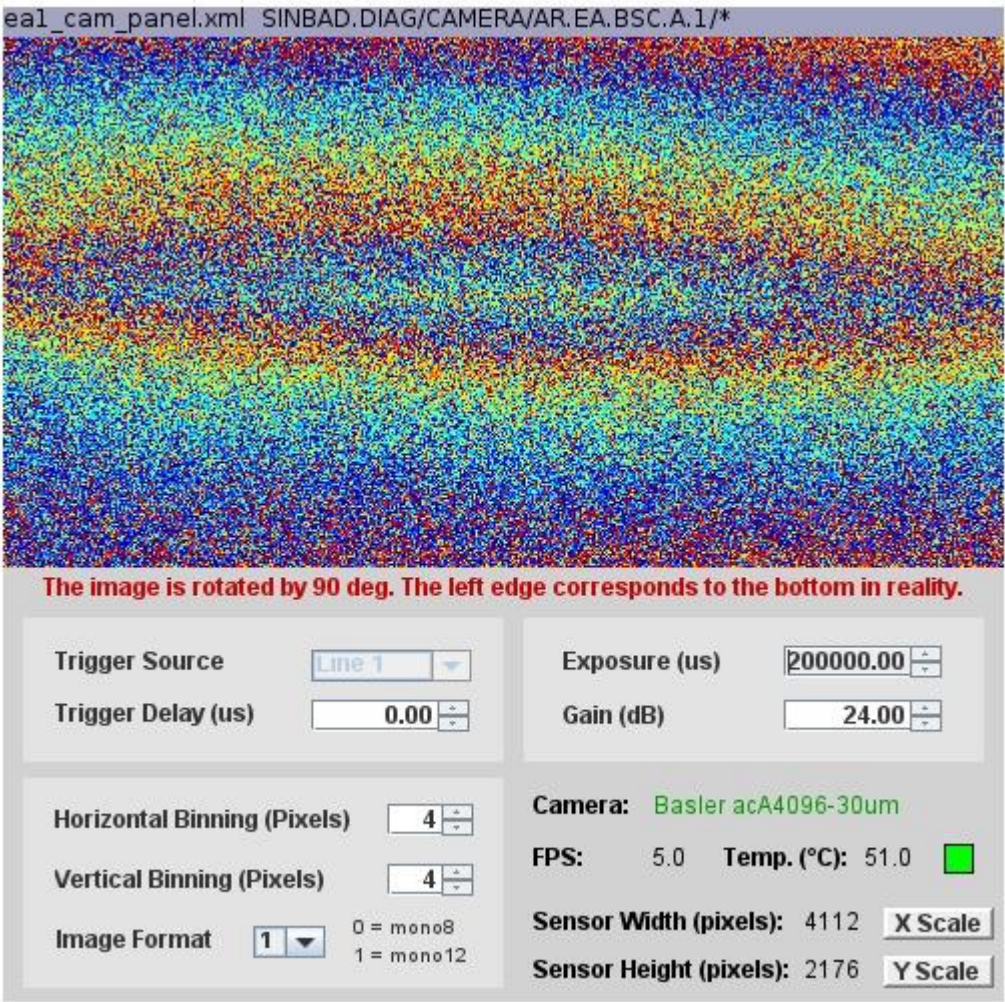
Experimental issues

- *Secondary beam, we still do not know where it is coming from, pulse picking is not the problem*
- *Large energy spread due to secondary beam, focus of the main beam is impossible to find*
- *Missalignment of the EA quads also adds dispersion*
- *Could not detect radiation from the DLA using optical spectrometer, but is visible on the observation camera*
- *Alignment channels in the sample holder are too easy to find...smaller channels would be great*
- *finally...optical fiber of the spectrometer is in the beam path for some hexapod positions*

Experimental issues 1 – secondary beam

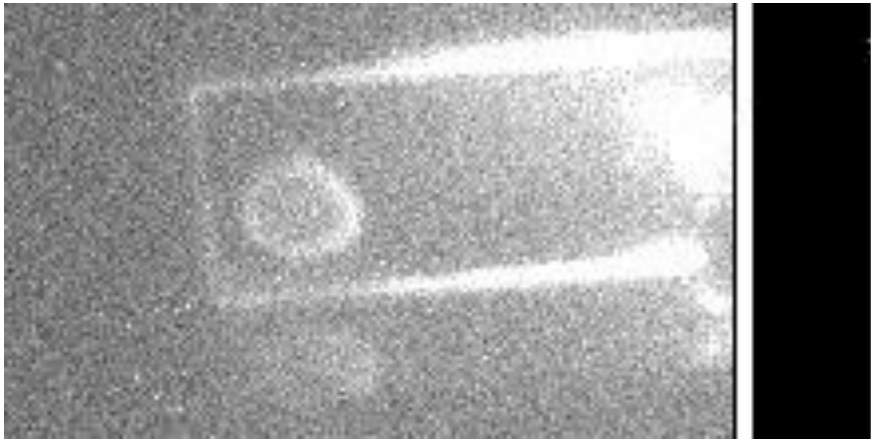


Experimental issues 2 – EA.A1

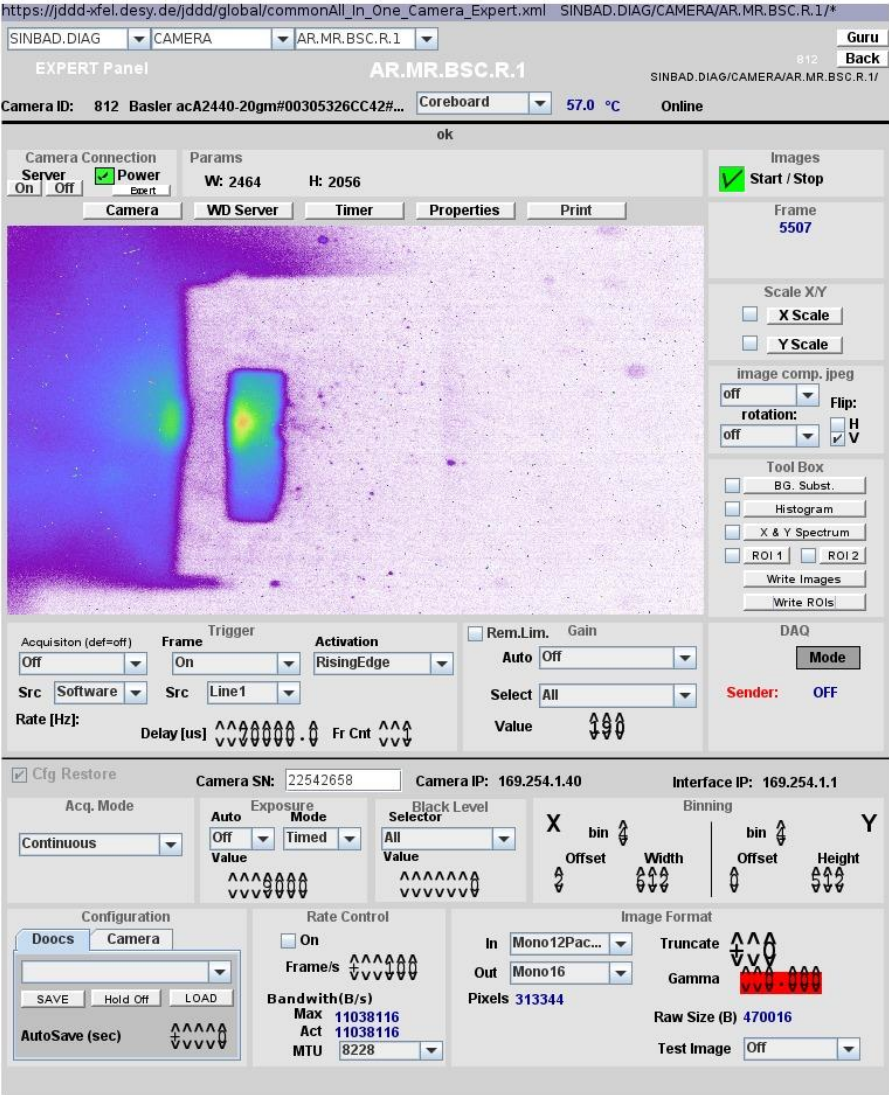


Horizontal beam size: ~58 um, rms

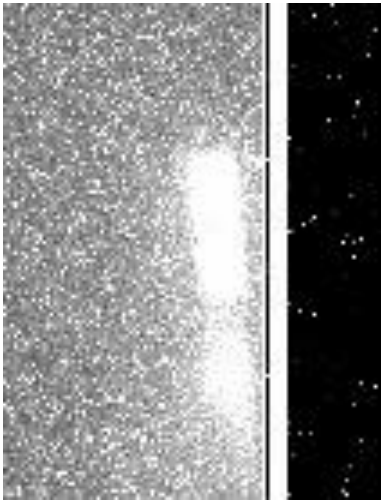
observation camera



Experimental issues 3 – EA chamber spectrometer

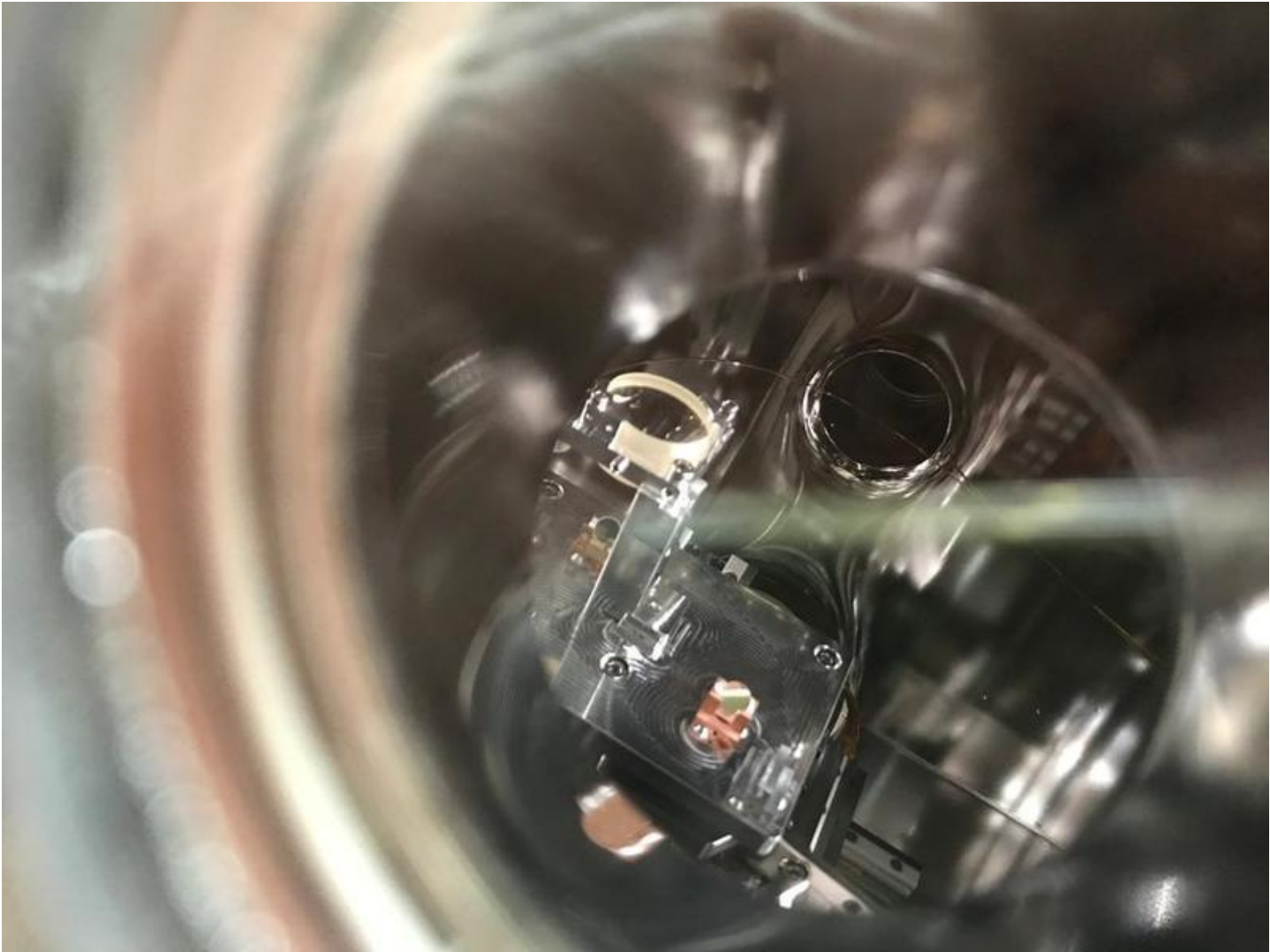


observation camera

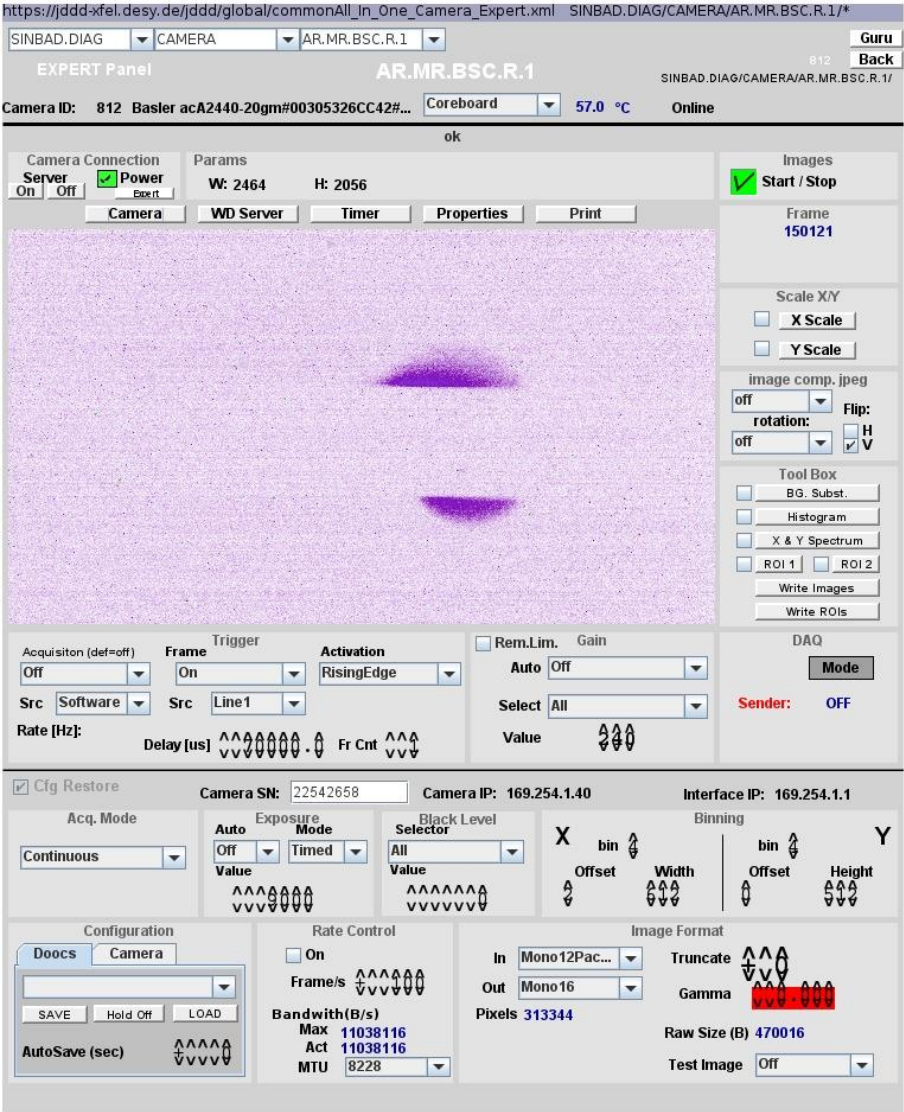


shadow of the sample holder and DLA

Experimental issues 4 – EA chamber fiber



observation camera

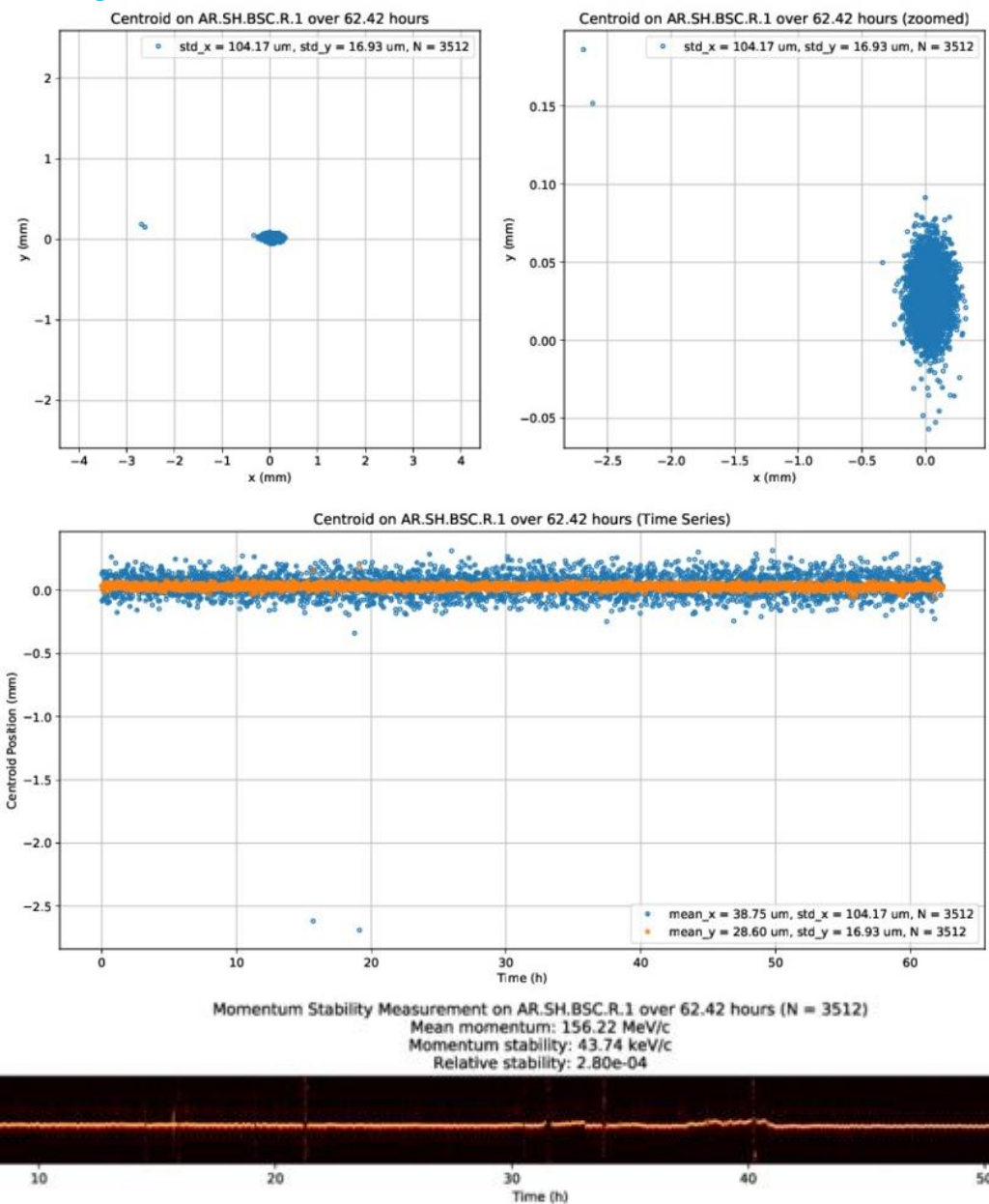


shadow of the fiber

Lots of lessons learned!

- *2um laser setup*
- *2um laser timing synchronization*
- *electron beam setup*
- *Observation camera at EA chamber*
- *YAG screen at EA chamber*
- *Tools for accelerator and chamber diagnostic control*

Longterm stability measurement over the weekend



Technical issues

- *Few magnet hickups*
- *few vacuum events*

Plans for week 51

- Cathode laser investigation by FS-LA
- investigation of EA quad triplet alignment

Schedule

Week 51

Date	Shiftleader
14.12.	Florian
15.12.	Thomas
16.12.	Willi
17.12.	Hannes/Willi
18.12.	Thomas/Hannes

If you want to learn or join the shift: please give the shiftleader a call (2454)