

PAUL SCHERRER INSTITUT



Alvra Commissioning days

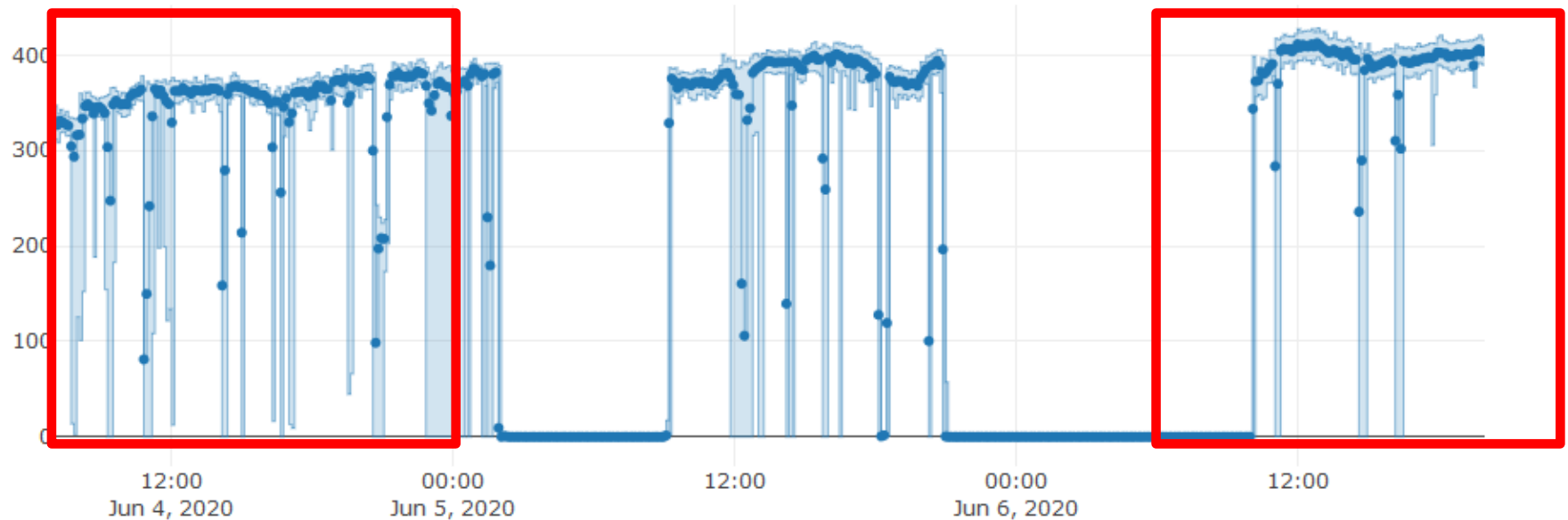
June 4th & 6th, 2020



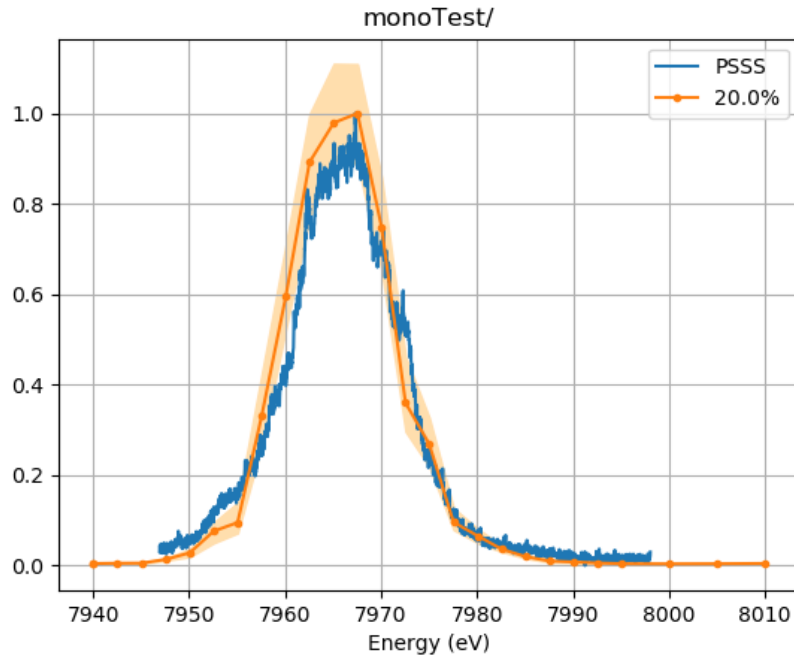
Schedule KW23

23	Mon 1	SD	SD	SD	Pfingstmontag
	Tue 2	MS	MS	MS	Startup 8.0 keV
	Wed 3	PC	PC	PC	contr. / bl
	Thu 4	AC	AC	AC	
	Fri 5	BC	BC	BC	
	Sat 6	AC	AC	AC	
	Sun 7	BC	BC	BC	

- Machine good and stable at ~ 400 μJ / 8 keV
- Motion issues (homing of OATT120, PBPS117, PBPS122, weird behavior of XOTA128 table)
- Controller power cycle & IOC reboot for OOMV108



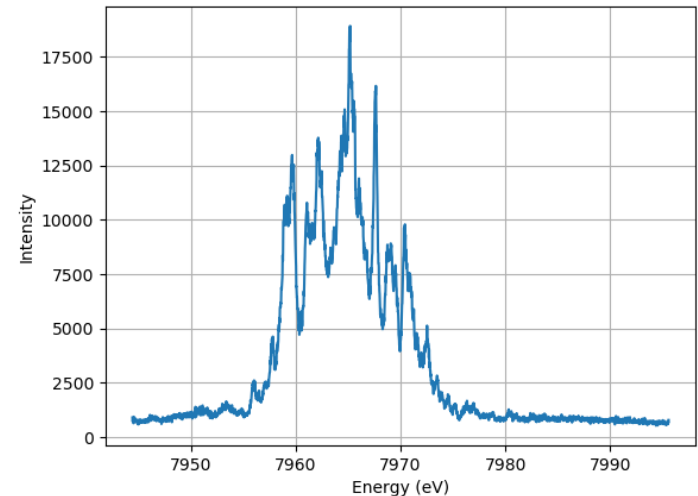
Comparison PSSS vs mono



Comparison between averaged PSSS spectra and monochromator scan:

- Bandwidth and shape well reproduced
- 2.5 eV shift (mono underestimating)
- Shot-to-shot background subtraction for PSSS did not work

Single shot PSSS spectrum

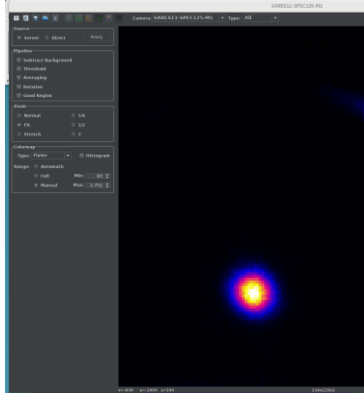


grid type	100nm(6.2-13kV)b	<input type="checkbox"/>	Grid->Mot	Probe motor	free	<input type="checkbox"/>	Homing
energy (calc)	7970		Engy->Mot	energy spectrum roi ymin	600		done
cristal type	Si(220)R145 8-10.25 keV	<input type="checkbox"/>	Mot.>Engy	energy spectrum roi ymax	1600		Background

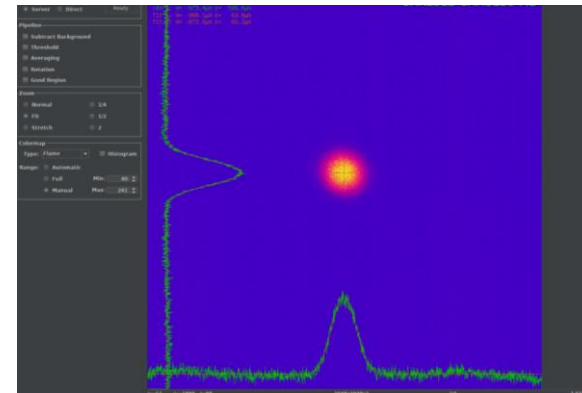
Raw Energy Spectrum

Acquisition of cameras at 50 Hz

SARES11-SPEC125-M1



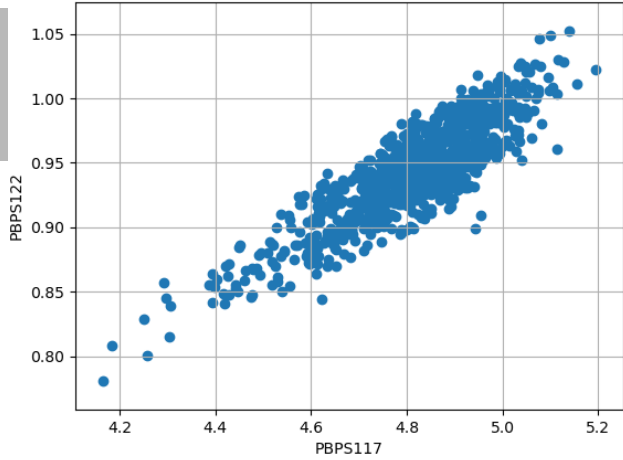
SARES12-CAMS128-M1



- Full ROIs 2 (2048x2048 pixels) camera acquisition @ 50 Hz
- Image processing pipeline (ROIs selection + projections) running for both
- Missing shots:
 - Processing parameters: 912 / 1000 (with beam) – 905 / 1000 (w/o beam)
 - Pictures: 908 / 1000 (with beam) – 908 / 1000 (w/o beam)
 - Processing parameters: 931 / 1000 (with beam) – 905 / 1000 (w/o beam)
 - Pictures: 928 / 1000 (with beam) – 908 / 1000 (w/o beam)
- 9-10% missed shots, much worst statistics that during the control tests.

Intensity monitors correlation

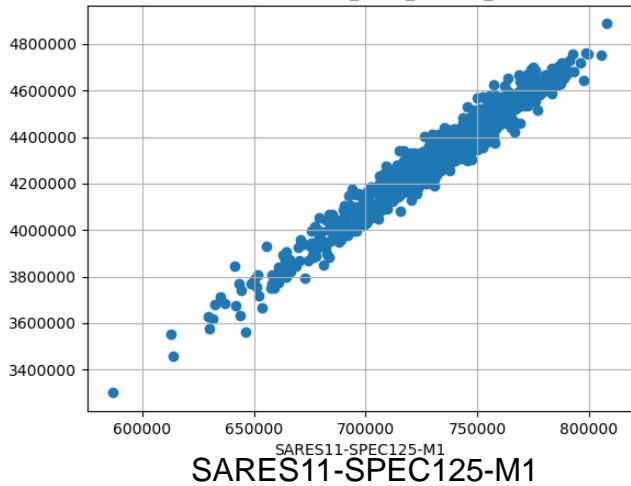
/sf/alvra/data/p18390/raw/2PCOs_50Hz_ROI/run_000040.BSREAD.h5



Cameras intensity correlation

/sf/alvra/data/p18390/raw/2PCOs_50Hz_ROI/run_000040.BSREAD.h5

SARES12-CAMS128-M1



Cameras vs Izero correlation

/sf/alvra/data/p18390/raw/2PCOs_50Hz_ROI/run_000040.BSREAD.h5

SARES12-CAMS128-M1

