ODIN DMSC Update

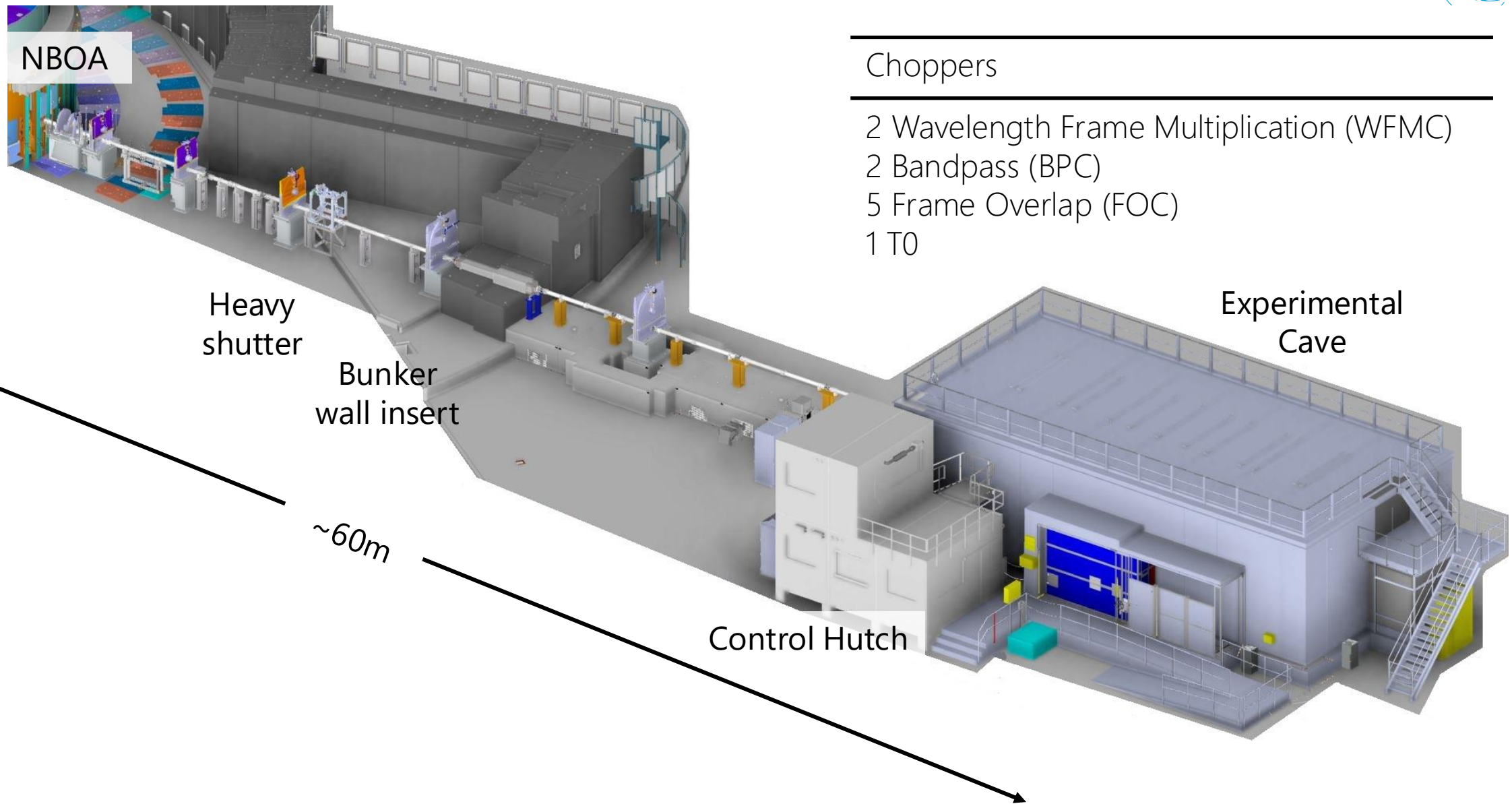
PRESENTED BY SØREN SCHMIDT

2026-04-21

ODIN

Layout

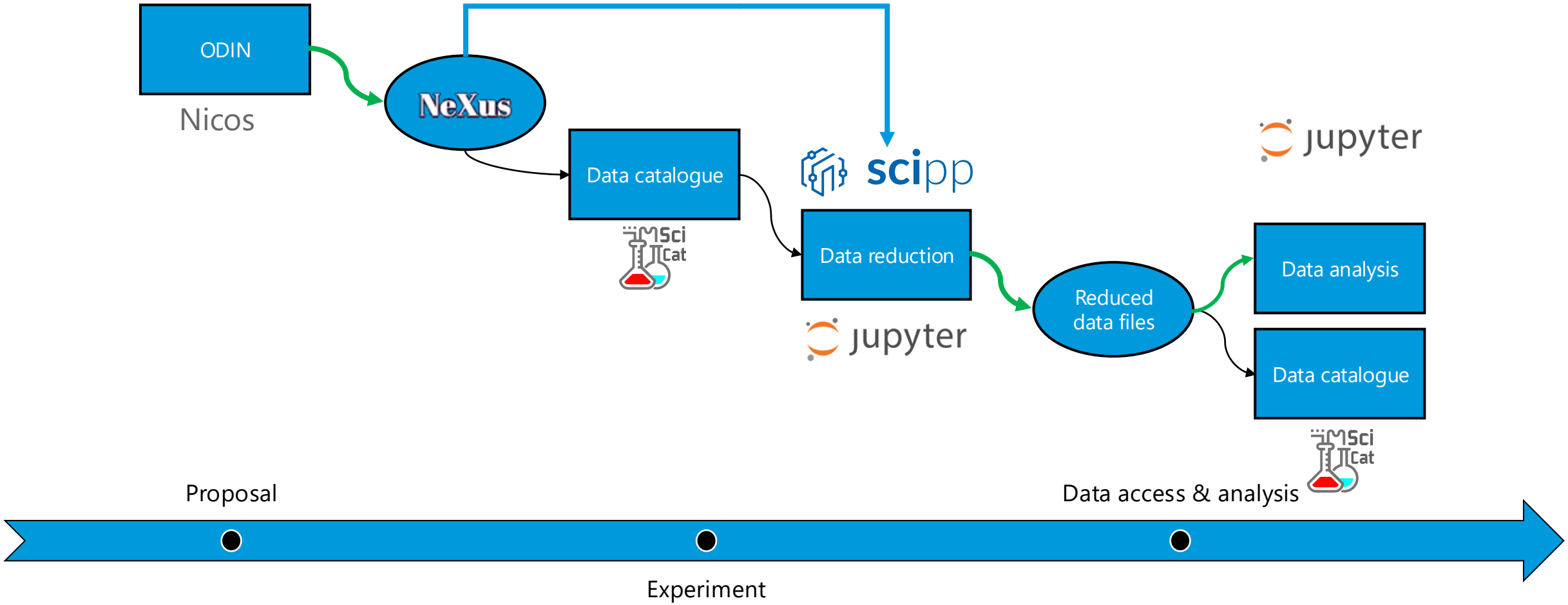
S2



Choppers
2 Wavelength Frame Multiplication (WFMC)
2 Bandpass (BPC)
5 Frame Overlap (FOC)
1 T0

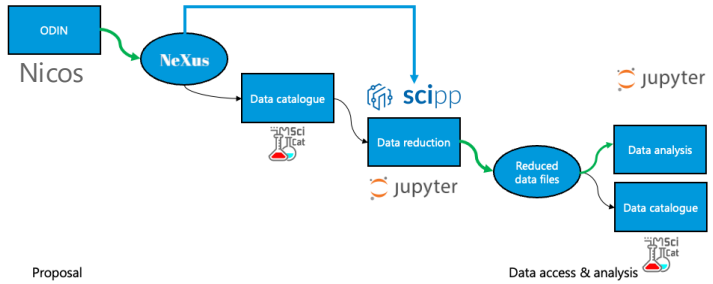
Overview

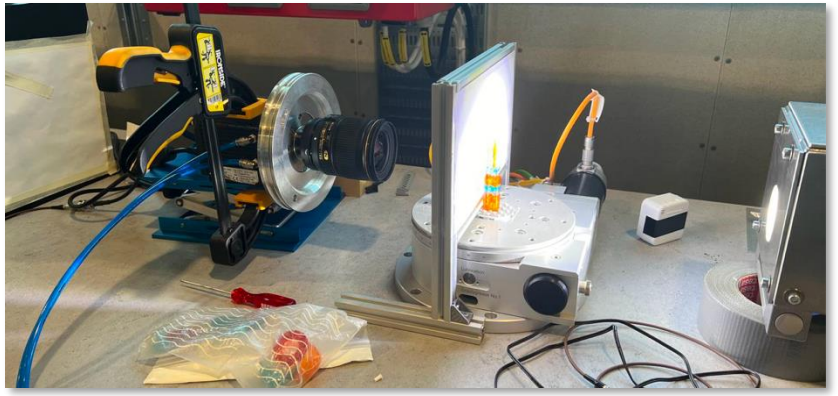
General data pipeline

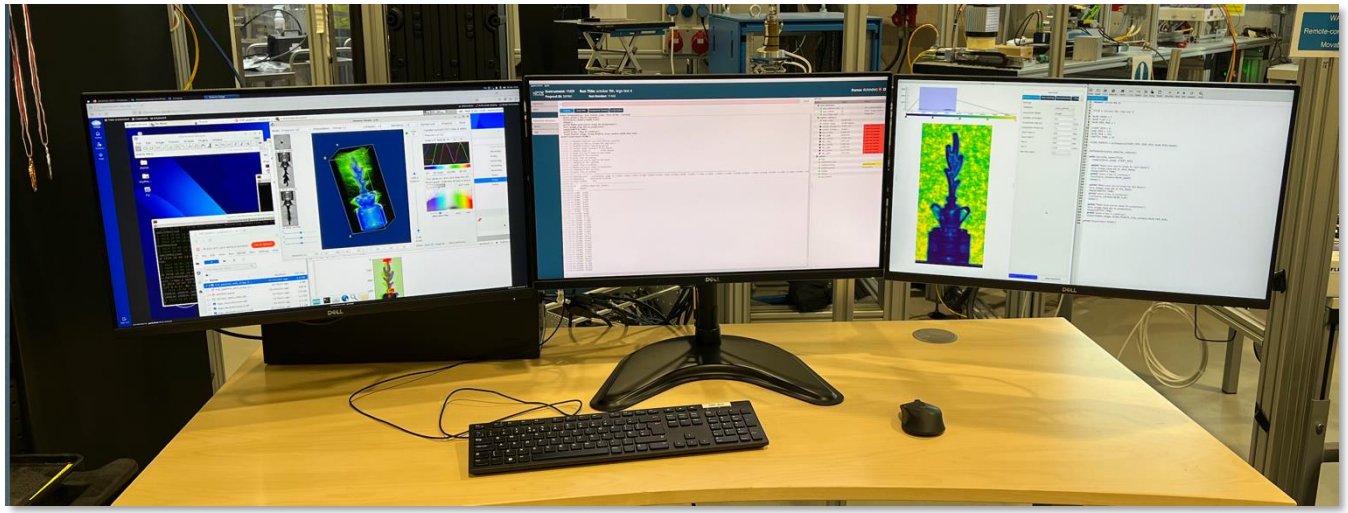


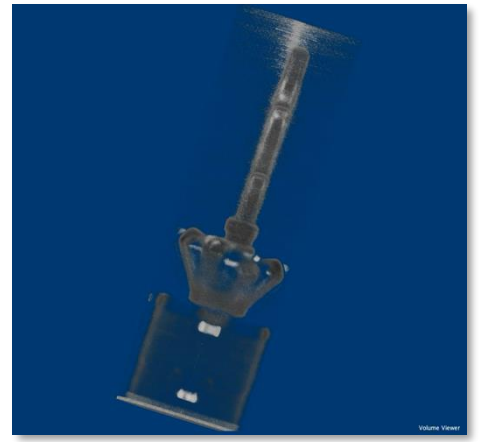
ODIN cold commissioning

YMIR – Light Tomography on LEGO, Oct 2024







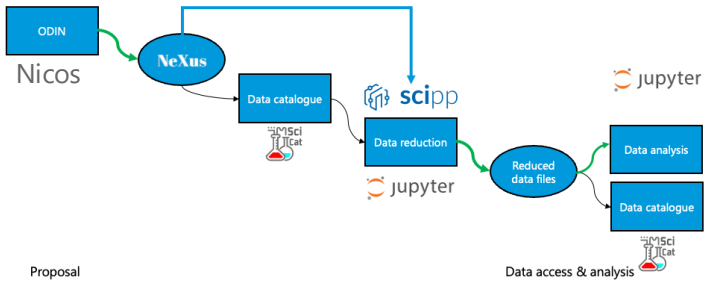


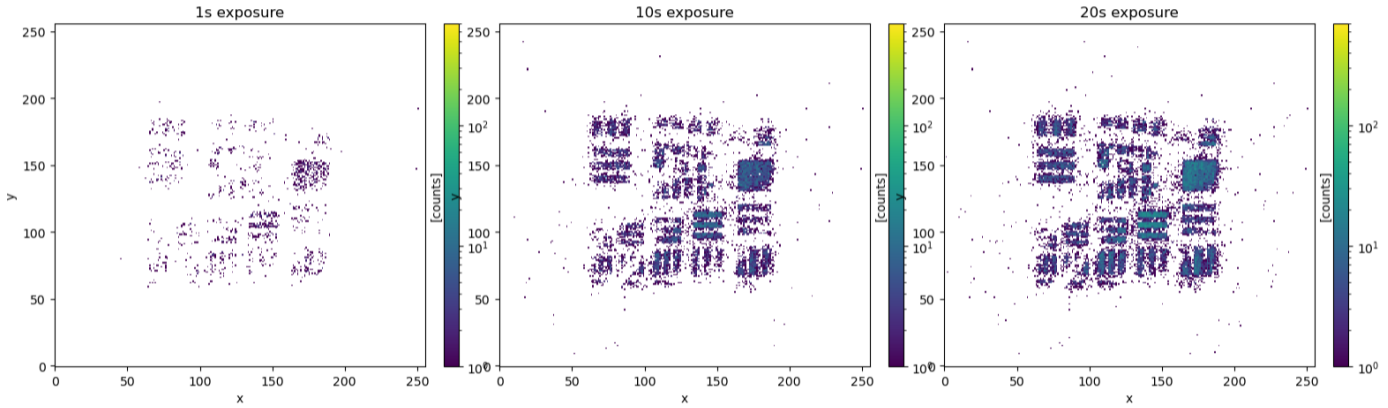
- Data acquisition at YMIR using ORCA & NICOS: OB, DF & Sample
- Data reduction (scipp) & reconstruction in notebook (pymuhrec bindings) on VISA
- Visualization of reconstruction: Fiji (ImageJ) on VISA
- Raw and derived data archived in SciCat

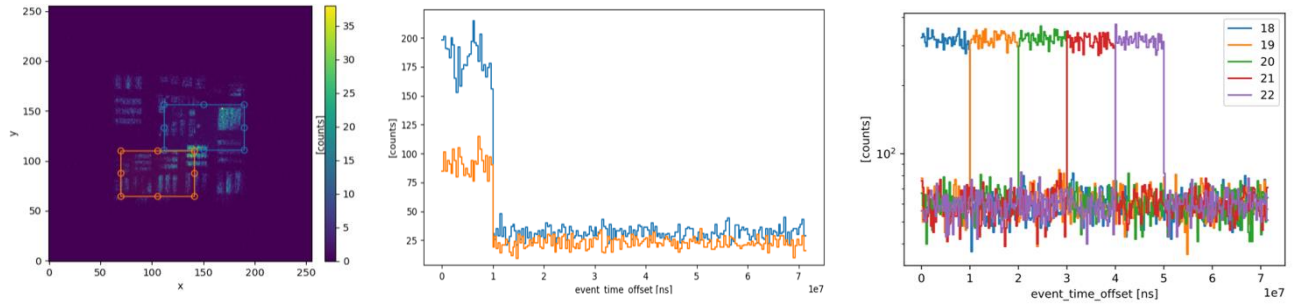
- Data acquired for both step-by-step and continuous sample rotation (automatically handled by scipp)

Lumacam

ESS-5849590

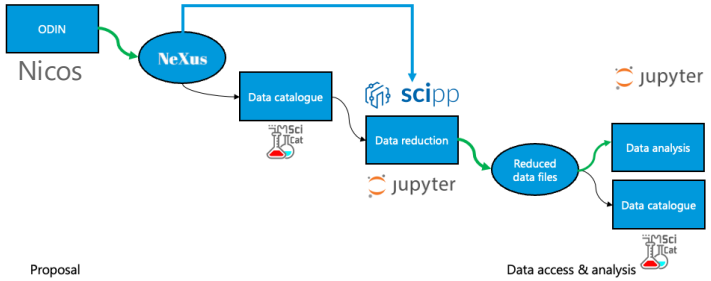




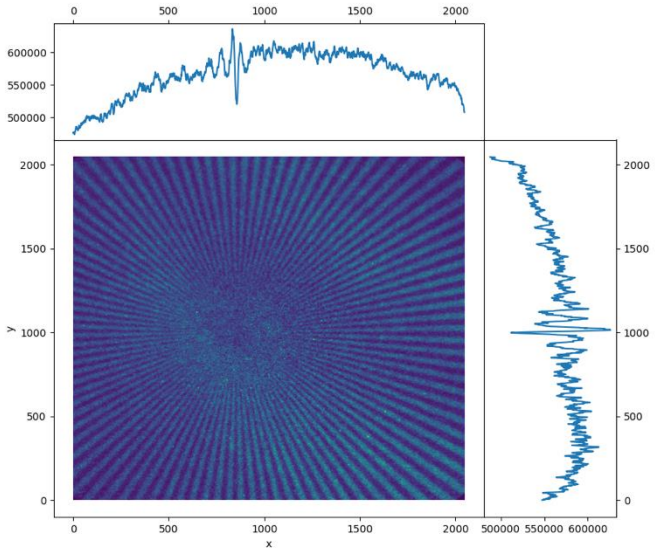


CMOS - ORCA

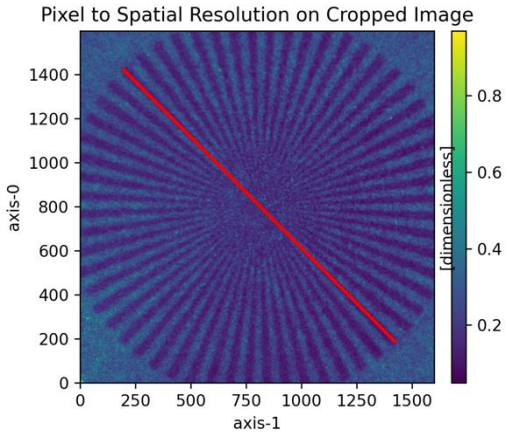
ESS-5849591

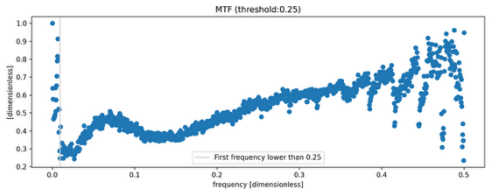


ODIN



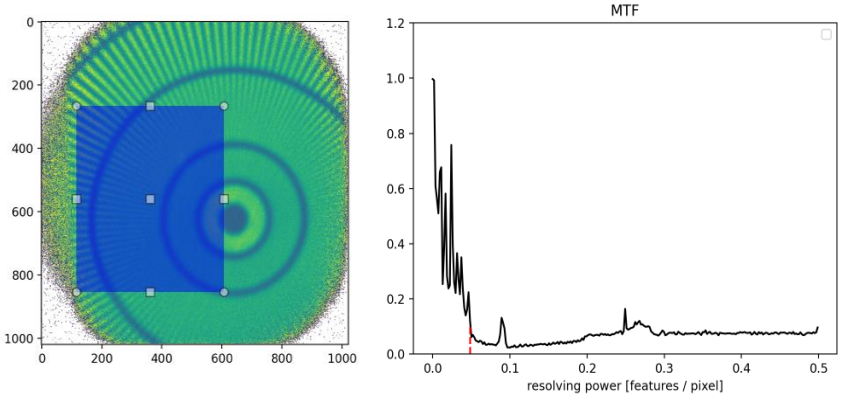
77 mm diameter





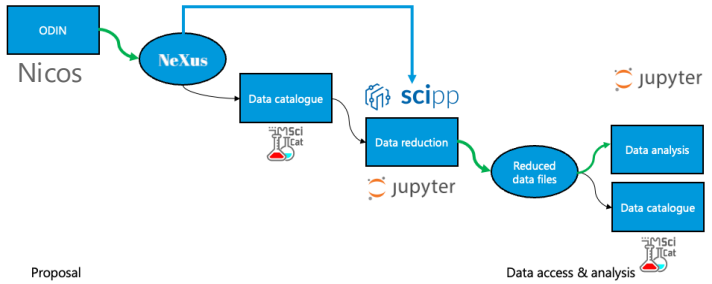
Resolution: 5 mm

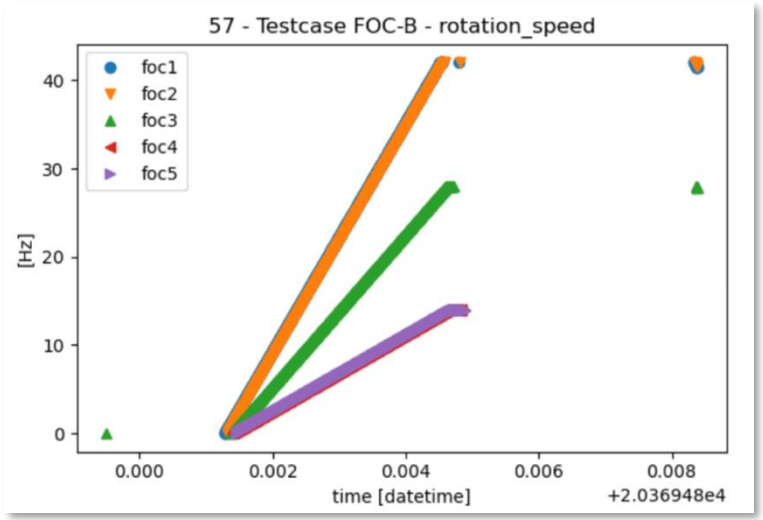
J-PARC SENJU data



ODIN Choppers

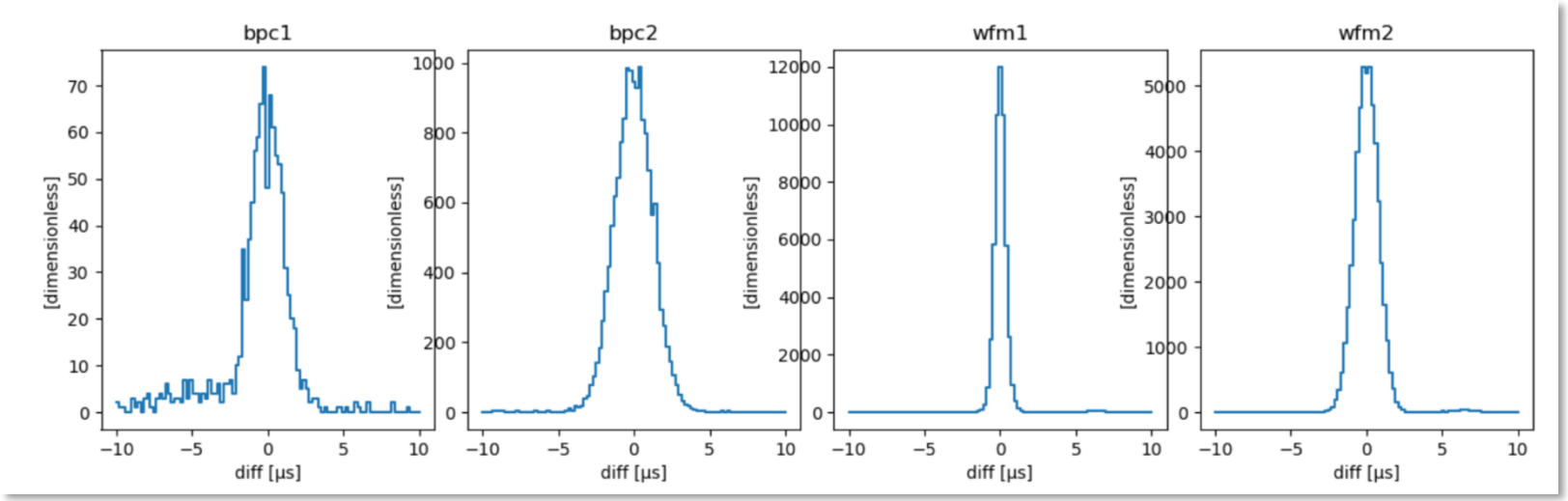
ESS-5849588

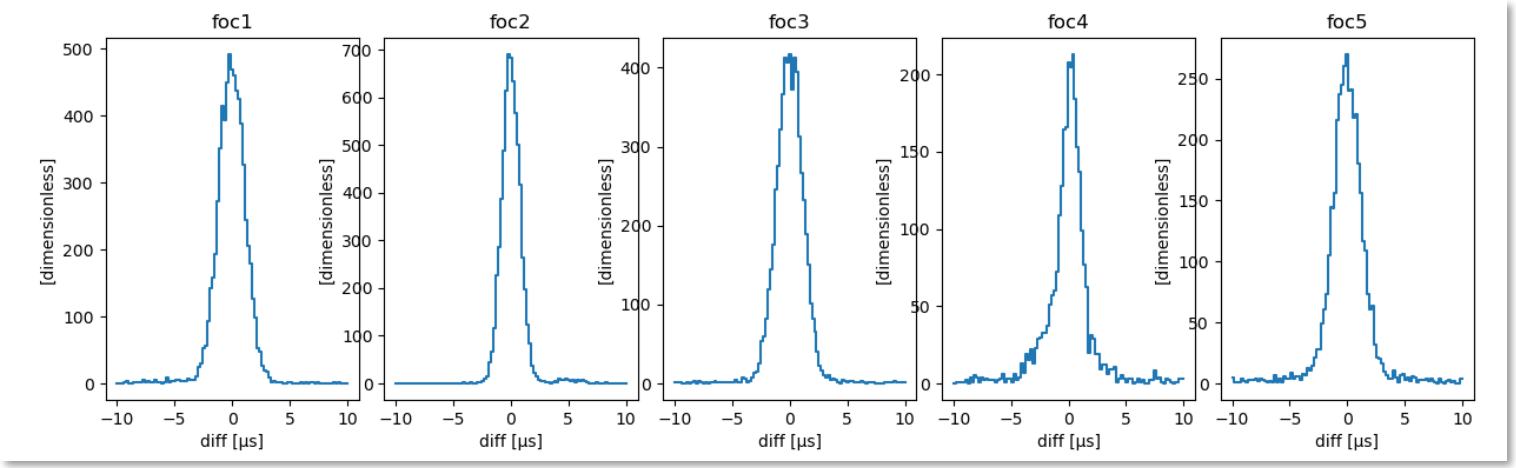




T0 not yet installed

Jitter





ODIN MCA & Beam monitors

Beam filtering system: ESS-5849592

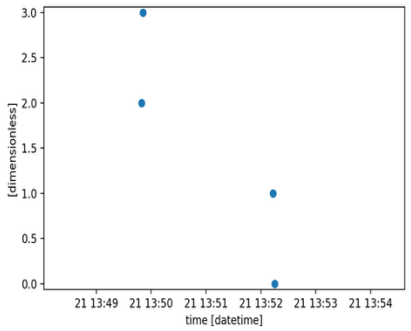
Sample & Camera Pos. System: ESS-5849575

Beam Geometry Conditioning: ESS-5849593

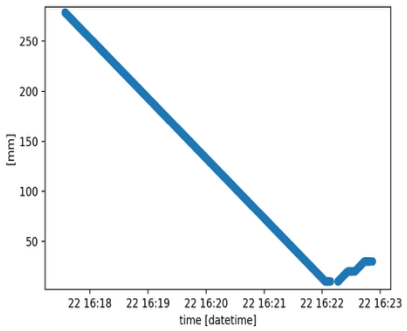
Beam Monitor: ESS-5820250

Examples

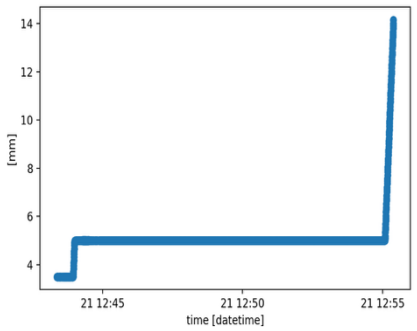
Pinhole filter 1



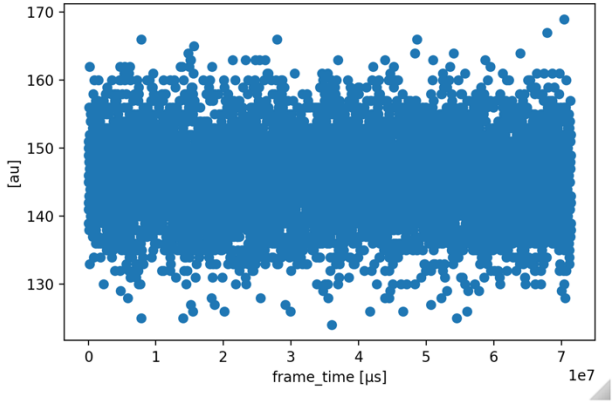
Camera 1 distance

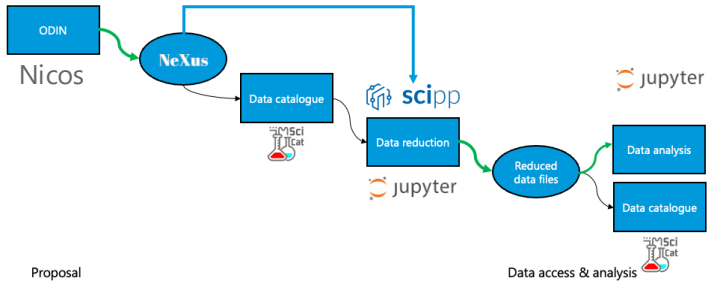


Pinhole hor. gap



Beam monitor 1

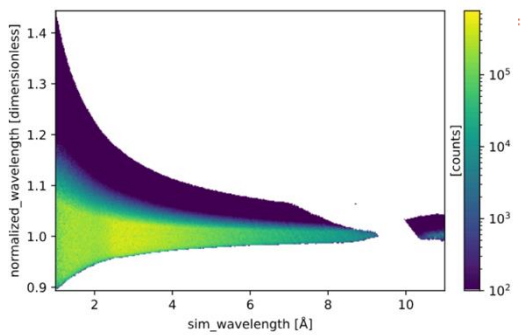


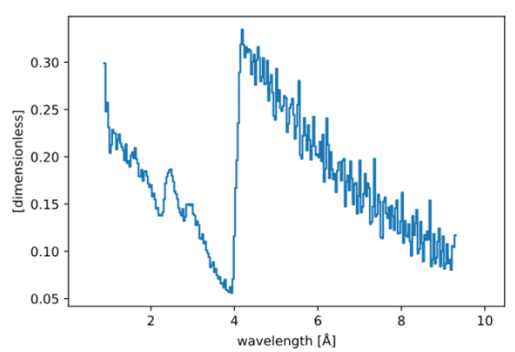


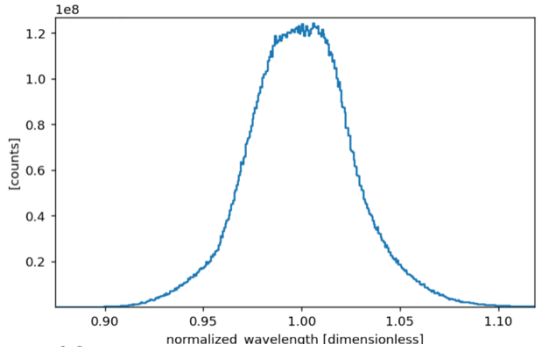
Bragg Edge, Fe, transmission, McStas

Normalized

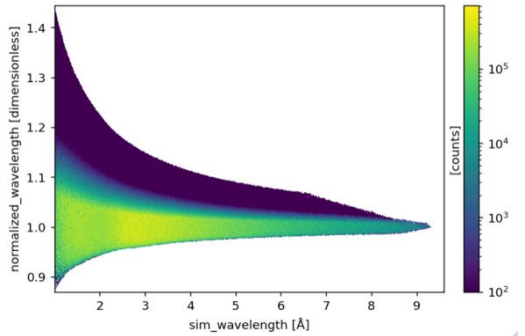
T0

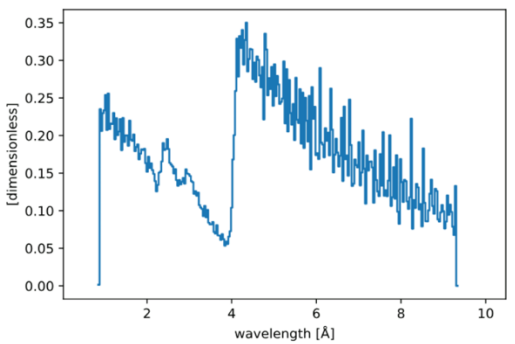


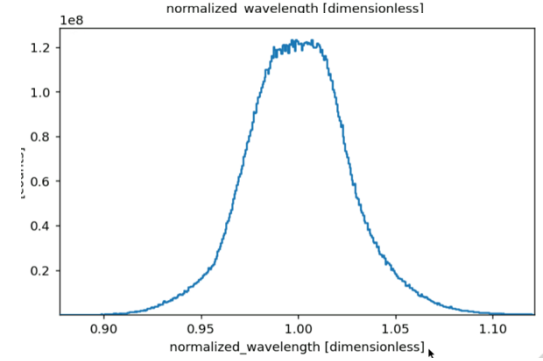




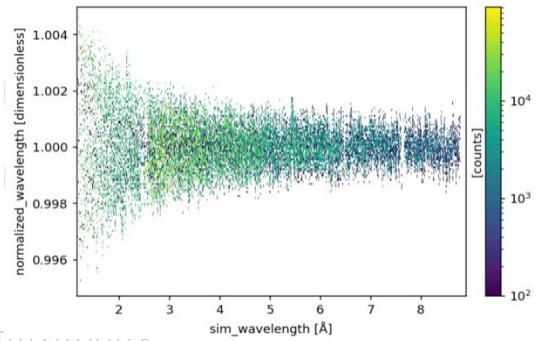
T0+BPC

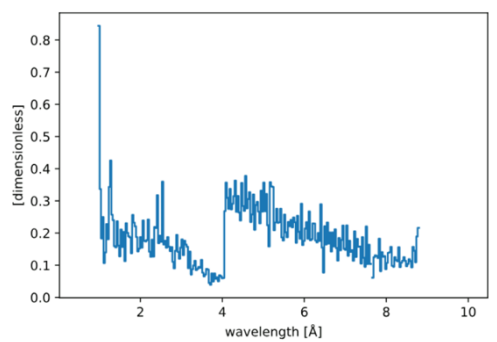


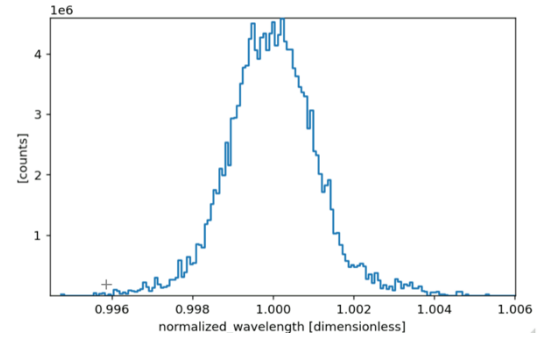




WFM

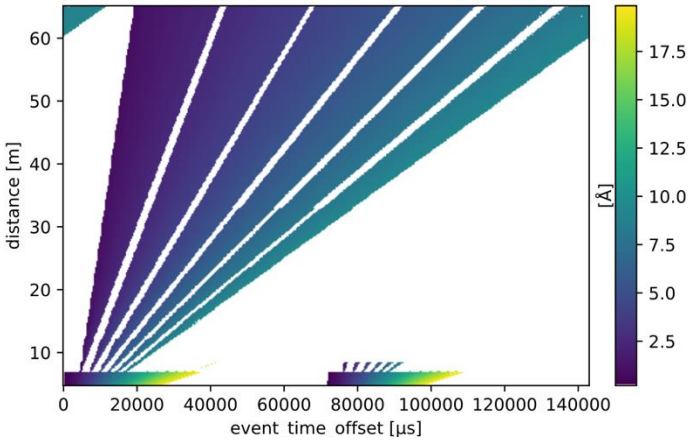




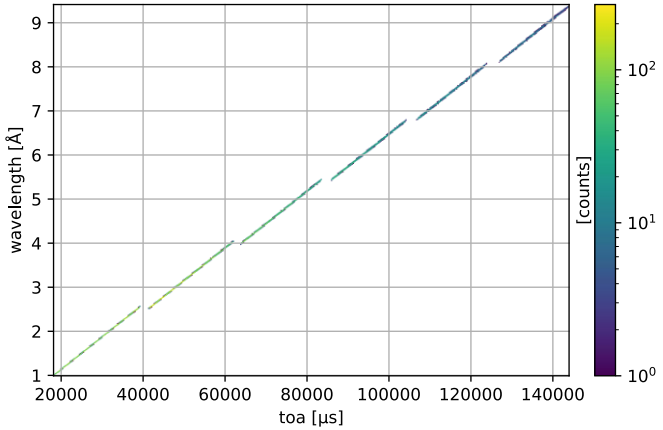


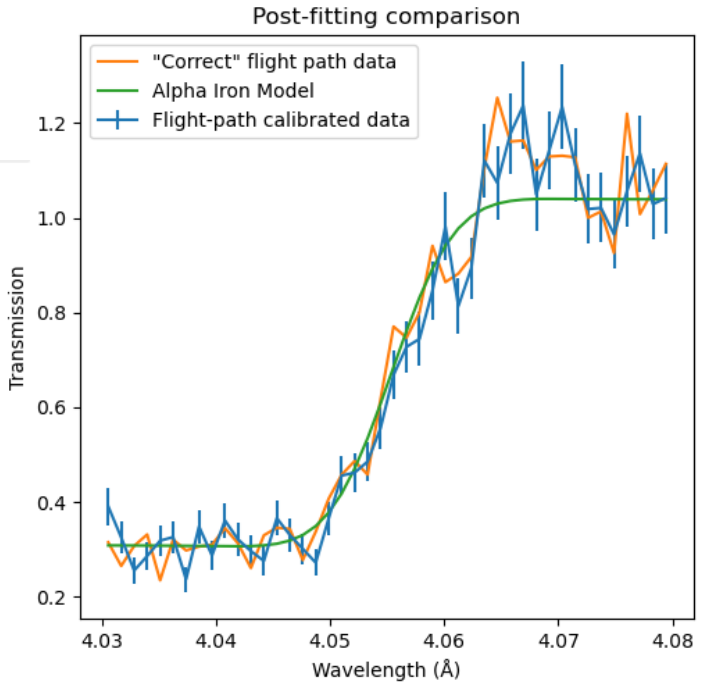
Flightpath calibration with Fe (bcc), WFM

For flightpath calibration



When flightpath calibration is completed

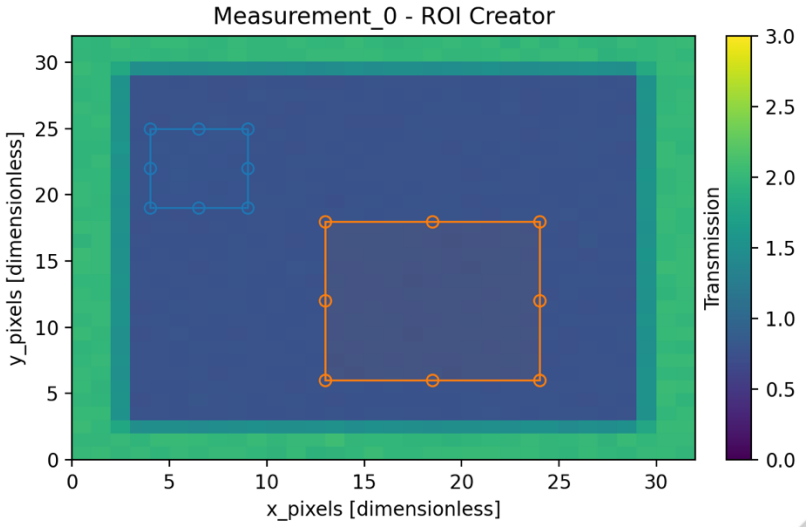


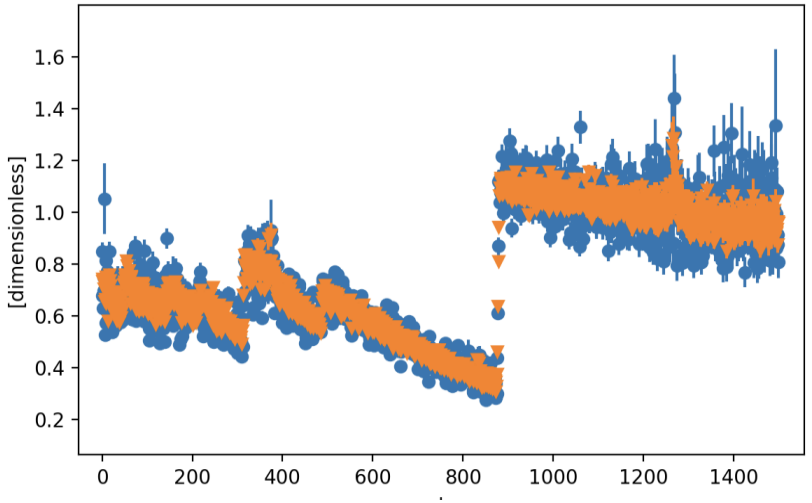


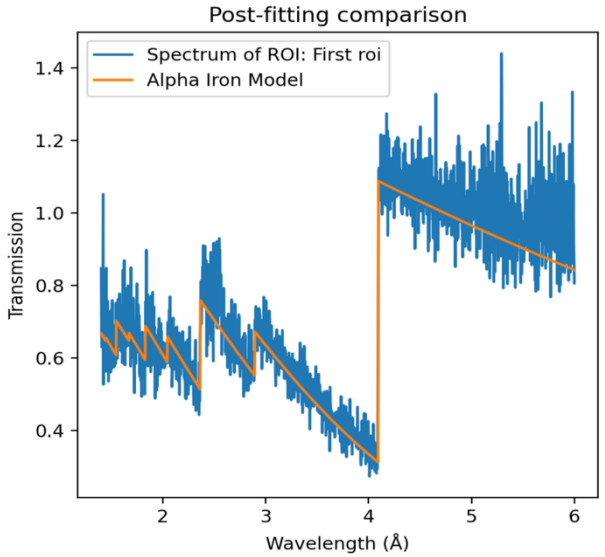
McStas data

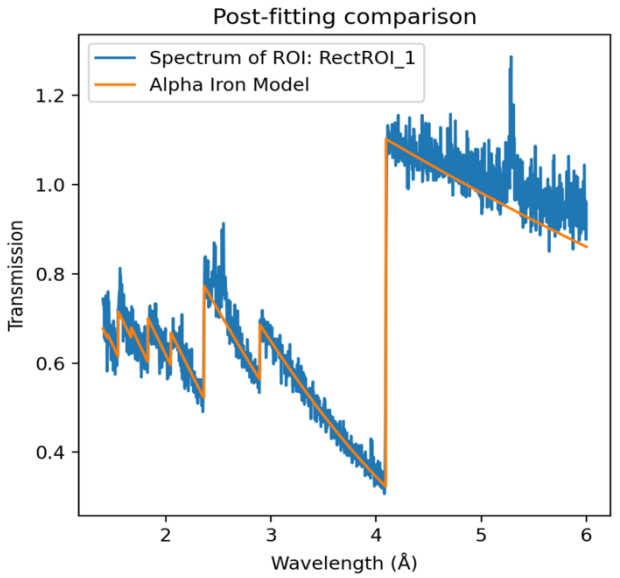
Resolution function (wavelength) is also fitted, especially important for T0+BPC (no WFM)

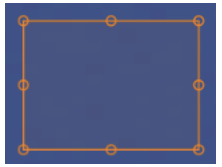
Bragg edge fitting, Fe (bcc)



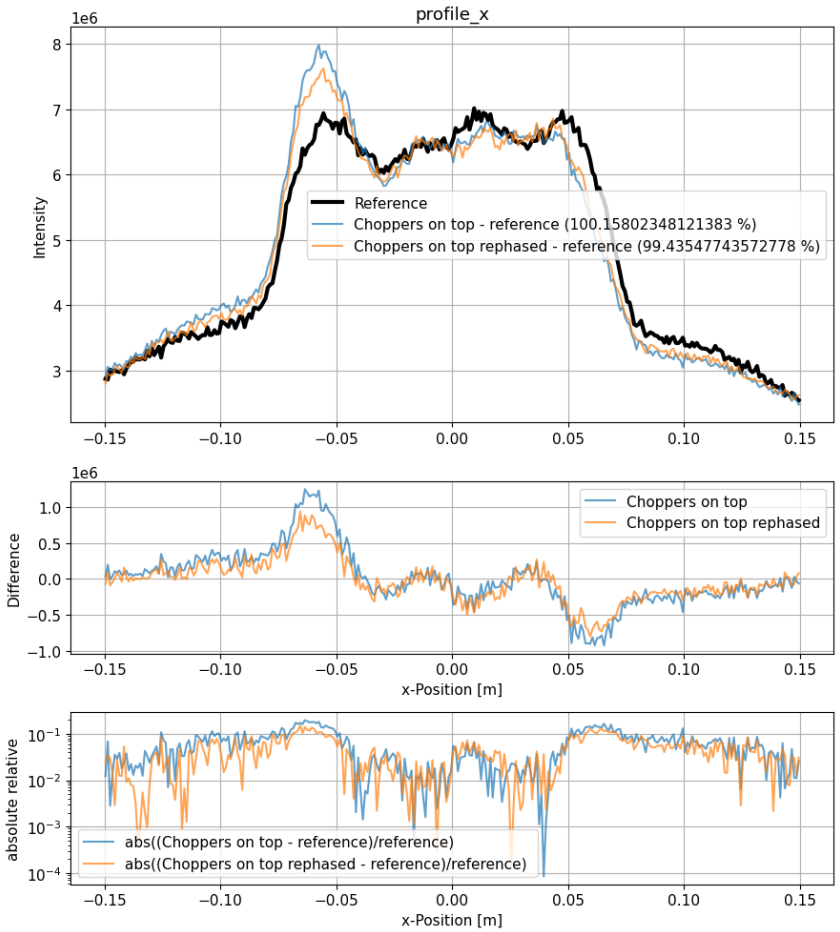


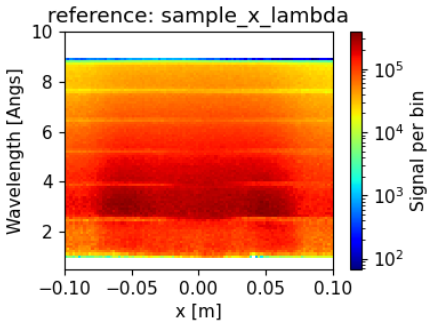


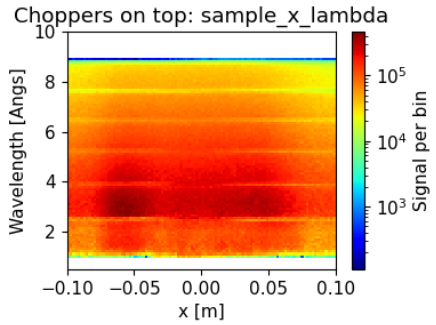


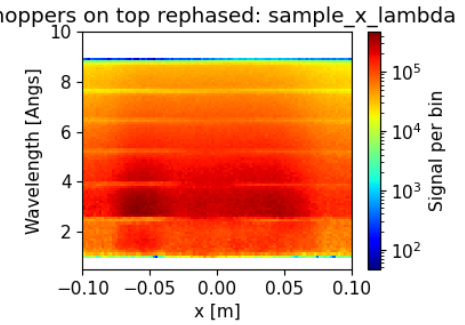


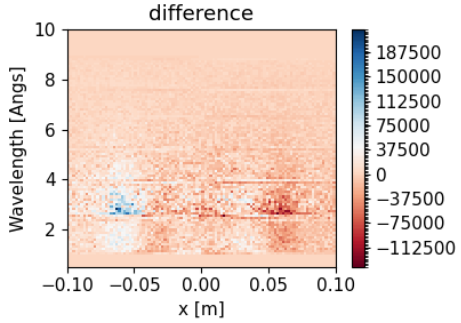
ODIN McStas chopper settings updated

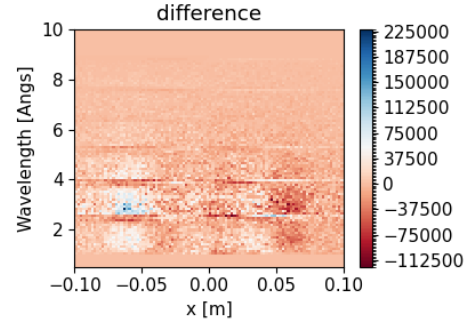












McStas choppers moved from position below the beam to above the beam

Also

DST:

- SPAM on VISA, improved performance (BLAS related)
- Access to GPU on VISA for DragonFly and CIL is currently being worked on

Next:

- Integrate Core Imaging Library (CIL) as pipeline for tomography reconstruction

Thank you for your attention!

2026-04-21