# NMX Project Status Overview

LSS STAP

2025-10-22

**Esko Oksanen**

Lead Scientist NMX

# Outline – project status

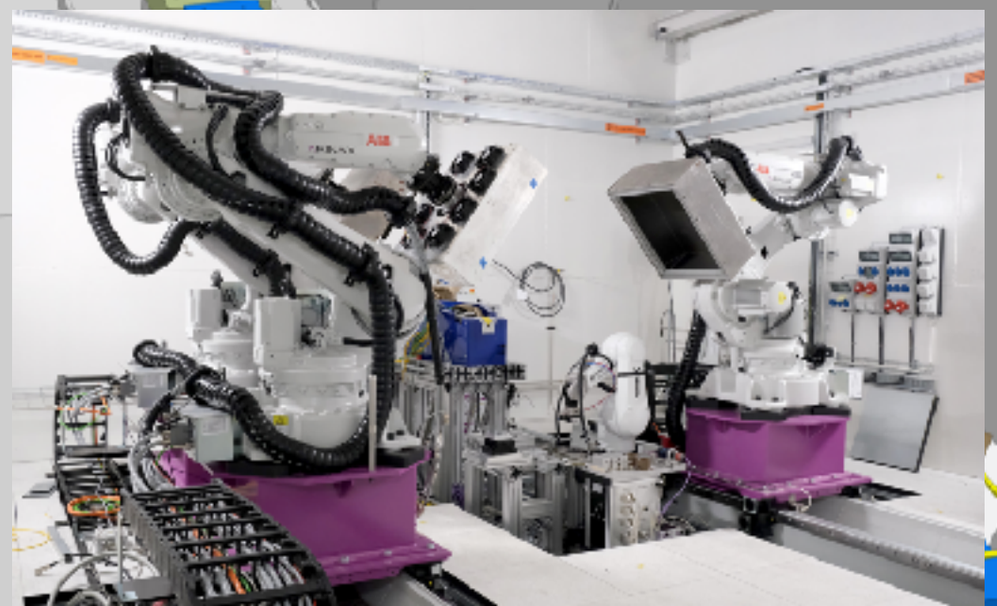
1.Personnel

2.Beam transport system (optics & choppers)

3.Shielding (guide shielding & experimental cave)

4.Endstation (collimation, goniometer & detector positioners)

5.Detectors



6.Utilities

7.Software

# Personnel – NMX operations team in place

- Lead Scientist Esko Oksanen (Lund University, Swedish in-kind)

- Justin Bergmann Instrument Scientist (with IOE responsibilities)

- Swati Aggarwal Commissioning Scientist (Lund University, Swedish in-kind)

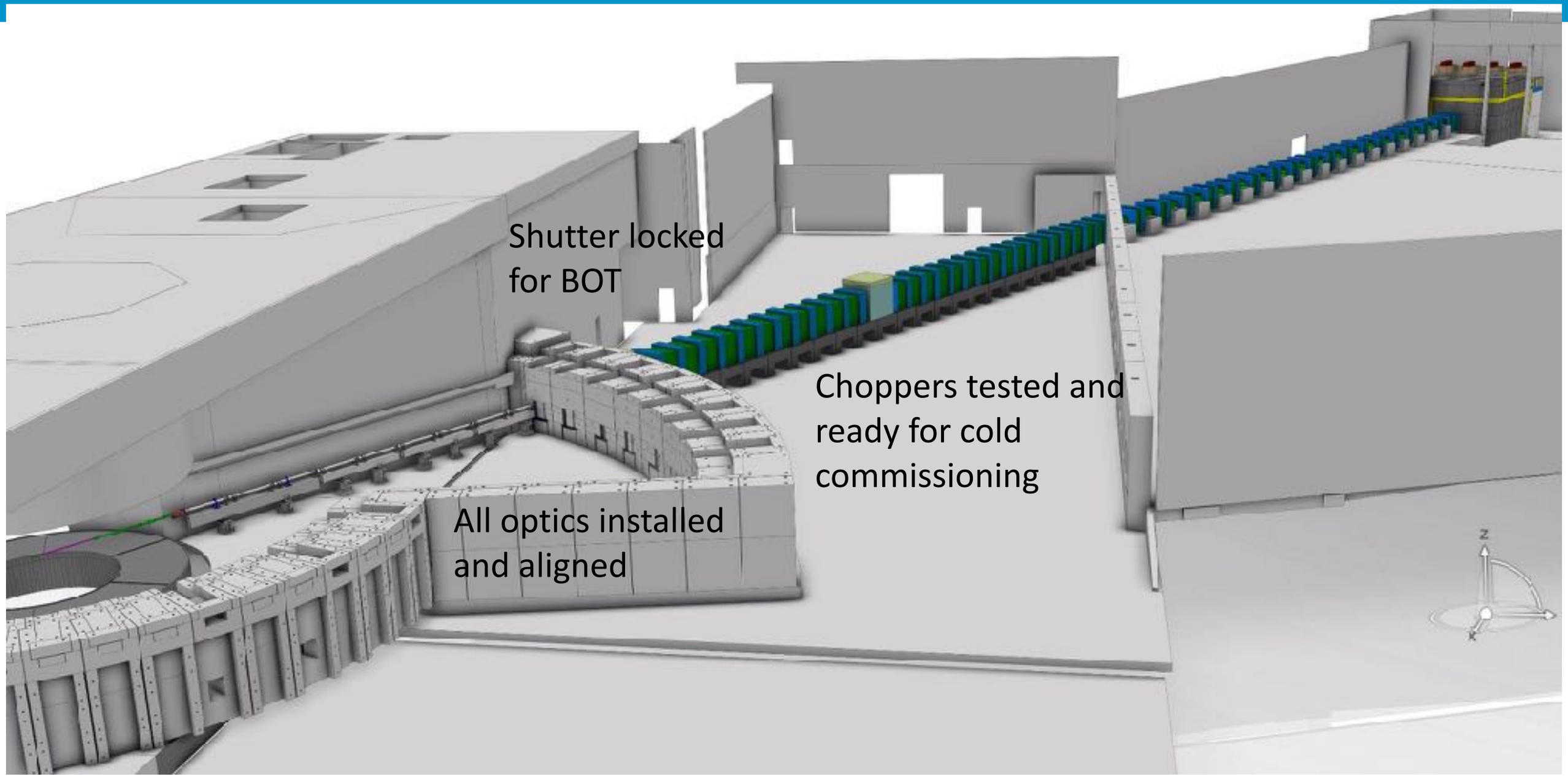
- Aaron Finke Instrument Data Scientist (DMSC)

- Zoë Fisher (DEMAX) also available to support NMX commissioning

# Personnel – NMX project team

- Daniel Lundström Lead Instrument Engineer
- Jerome Samarati dedicated to NMX detector in Detector Group
- Laïs Pessine dedicated to NMX in ECDC – MXCuBE & NICOS

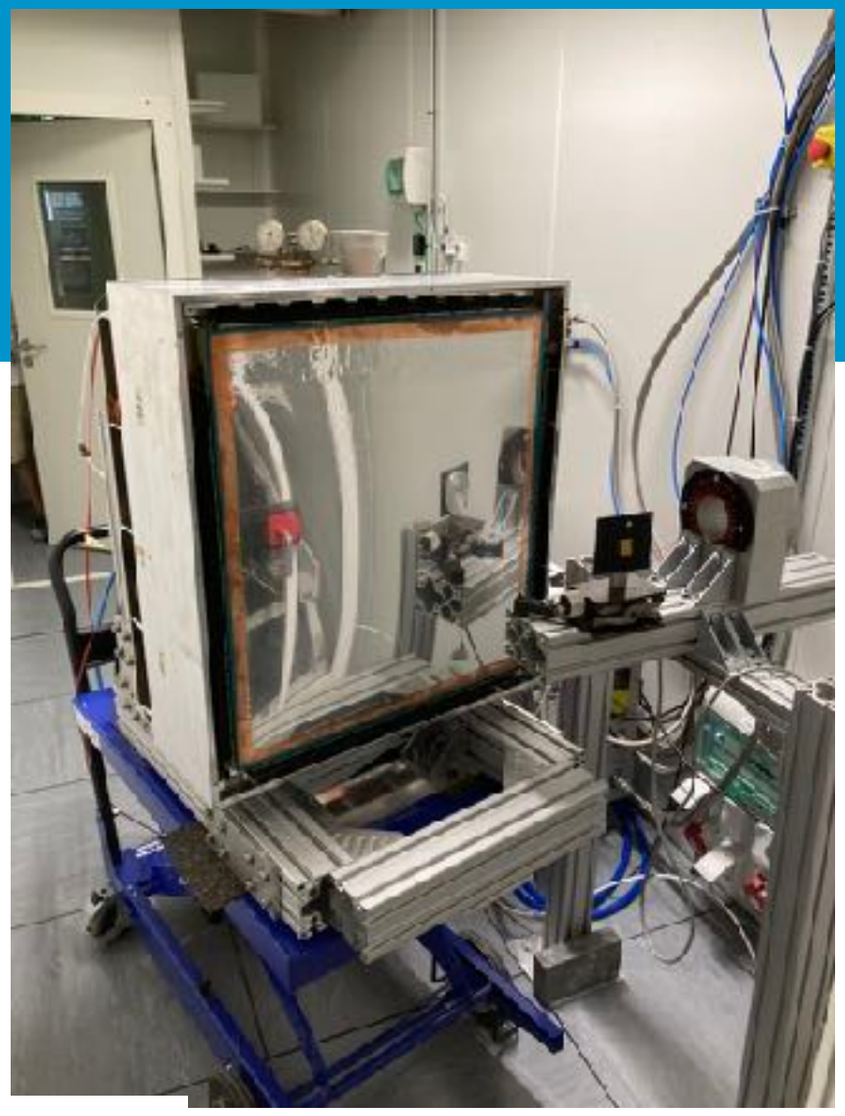
# Beam transport system



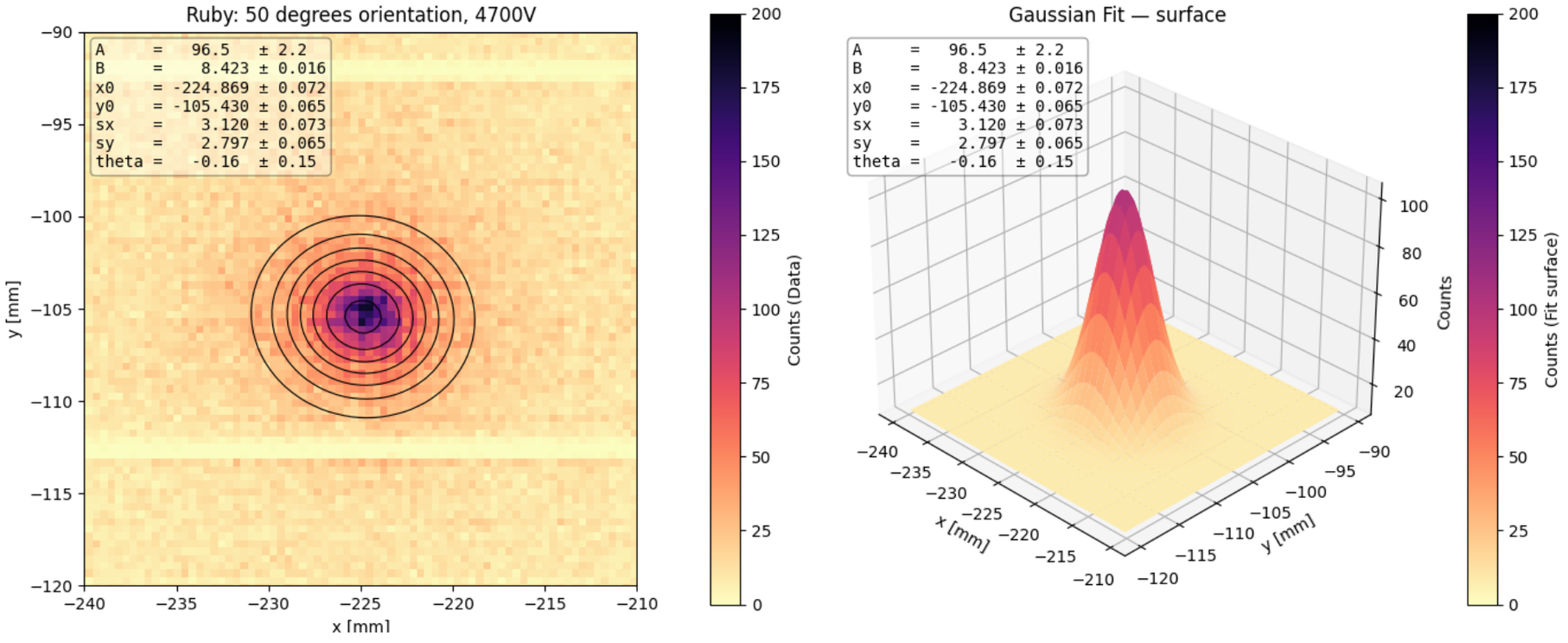
# Endstation – Robotics

- Robotics installation complete
- Pending electrical permit for SAT
- Three dummies mounted – one with correct weight and cables
- Collimation system installed and aligned
- Pinhole exchanger waiting for installation after robotics SAT

# Detectors



- Module 0 (Day 1 scope) detector mounted on a trolley
- Was tested at DALI, ILL in Aug 2025
- ~6 mm FWHM for ruby reflections
- Efficiency will be characterised at BRR in Oct 2025




Jerome Samarati
Dorothea Pfeiffer

# Electrical & Utilities

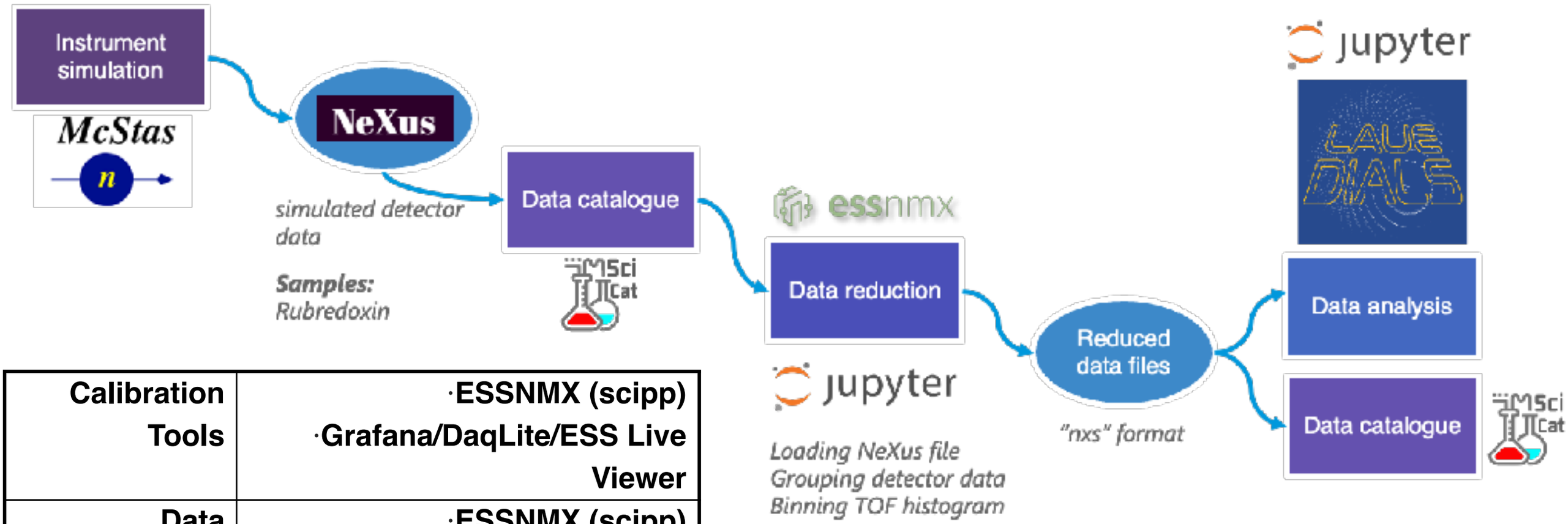
- All electrical and utilities installations are complete and energised expect cooling water manifold
- Ventilation and temperature control cannot yet be commissioned

# Sample preparation area

- Sample preparation area fully operational
- Crystallisation robot, microscopes, incubators etc. in place
- We have mounted crystals for tests at BioMAX

# Software status

## NMX Workflow complete, just waiting for equipment to arrive




| | |
|---|---|
| **Calibration Tools** | **·ESSNMX (scipp)**<br>**·Grafana/DaqLite/ESS Live Viewer** |
| **Data reduction Tools** | **·ESSNMX (scipp)**<br>**·DIALS**<br>**·Daresbury Laue Suite** |
| **Data Analysis Tools** | **·DIALS**<br>**·CCP4**<br>**·Phenix** |

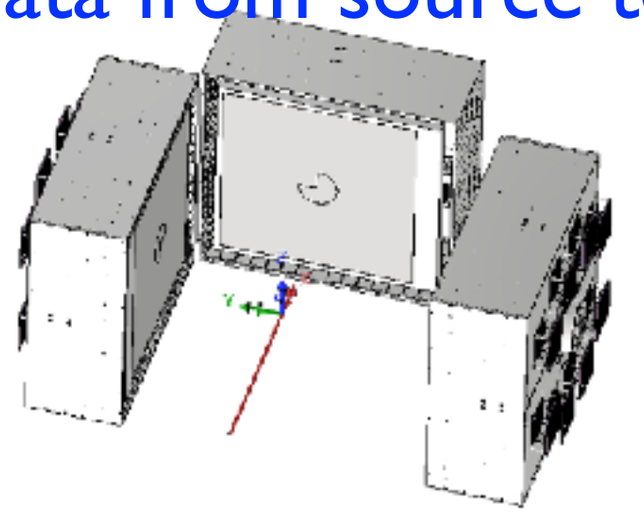
Aaron Finke

# Realistic simulations of NMX Data

EUROPEAN SPALLATION SOURCE

## McStas simulations of neutron MX data from source to detectors

Simulation of rubredoxin diffraction with detector Configuration 2, binned by time-of-flight



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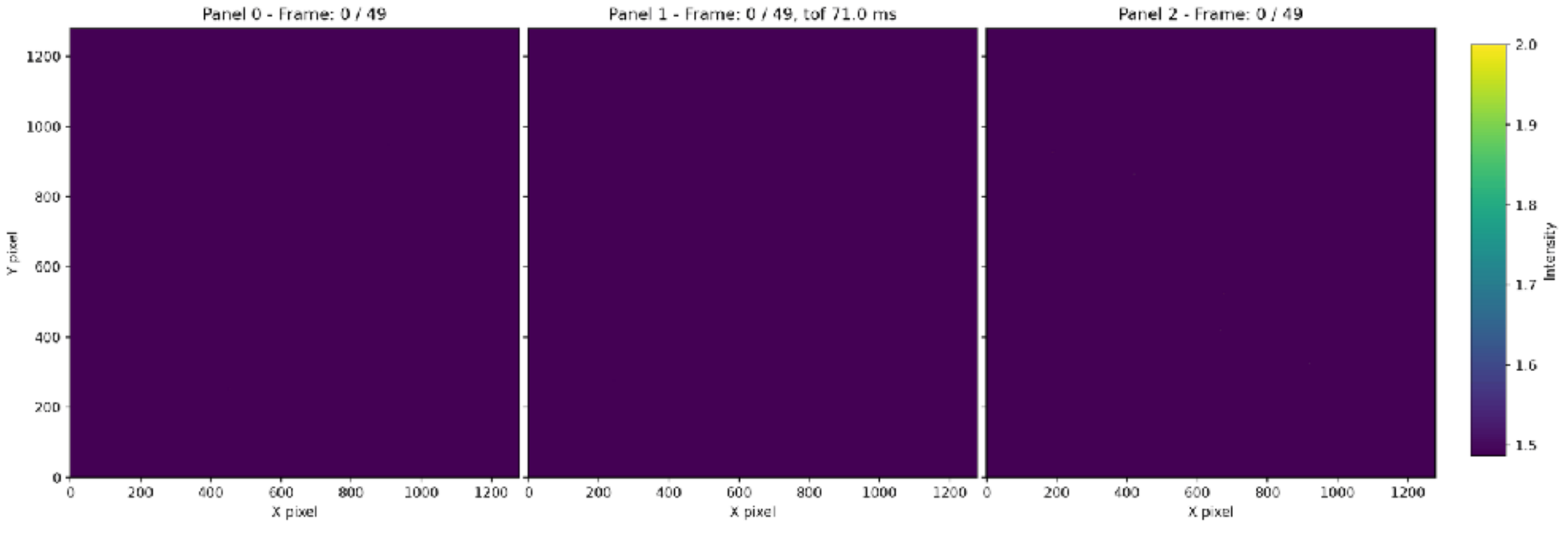

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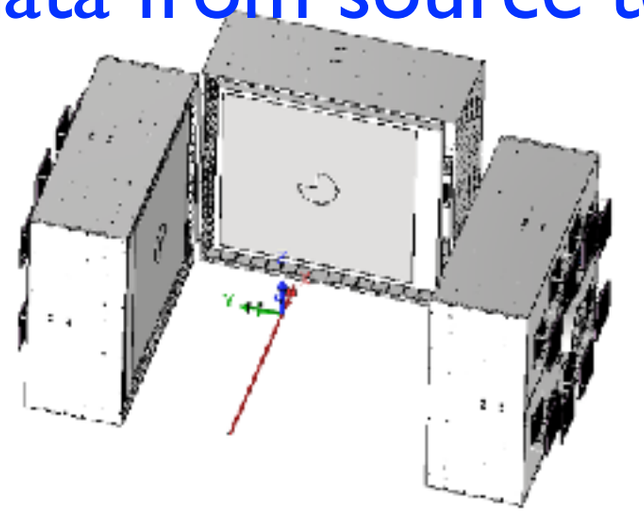

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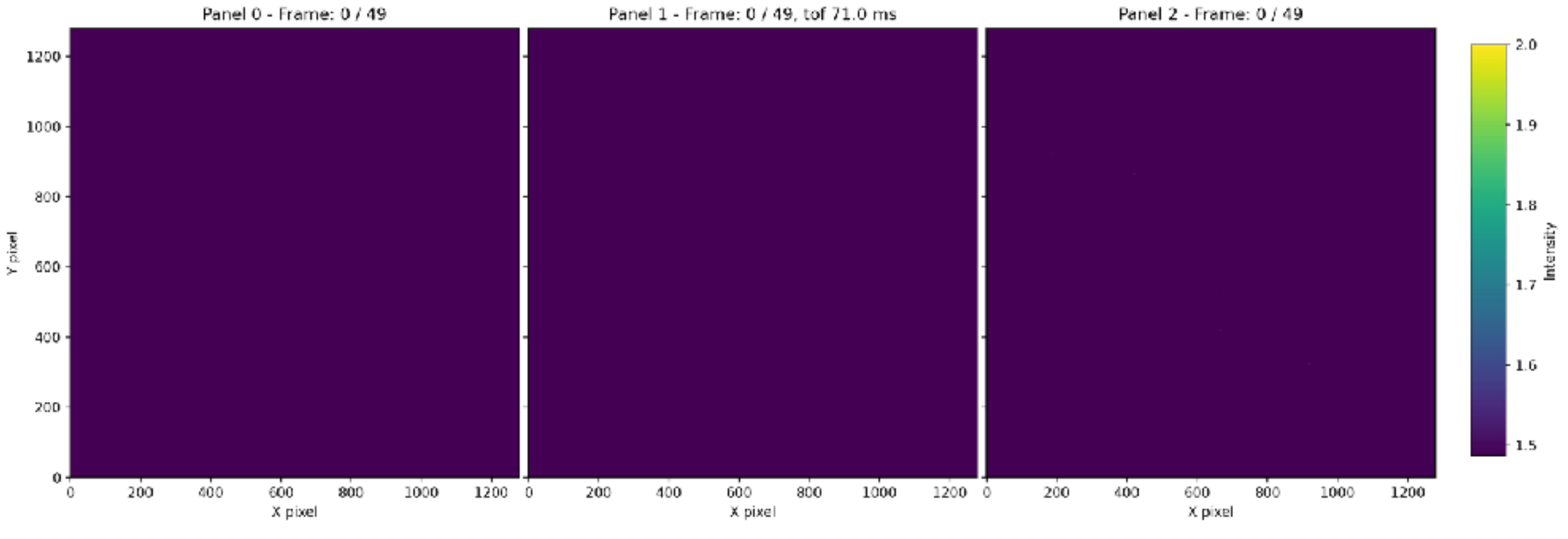

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# Questions?

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