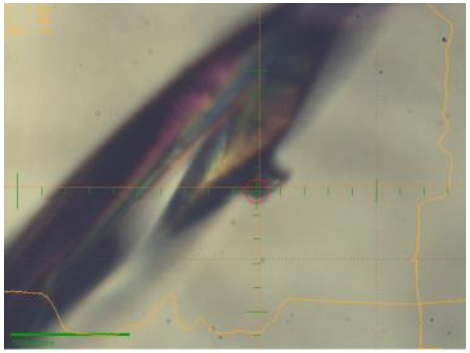
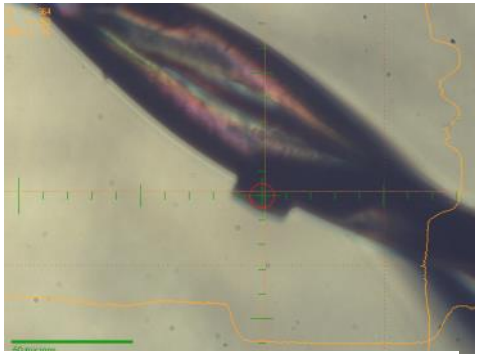
ID23-EH2

Max Nanao

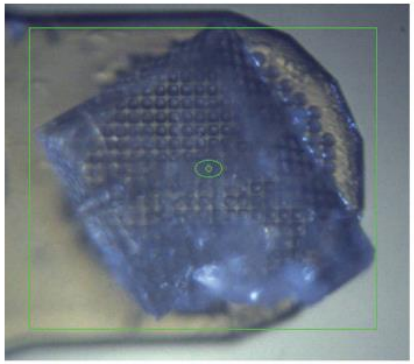
USE CASES FOR SMALL BEAMS IN MX

Smaller crystals

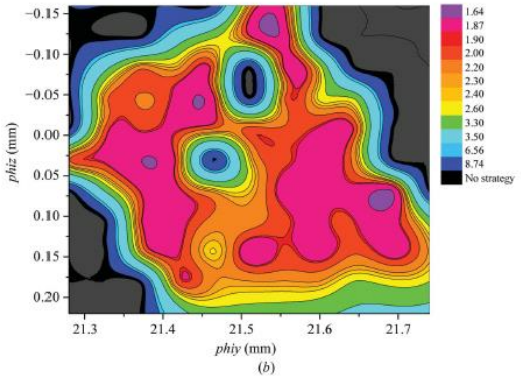




Diffractive mapping

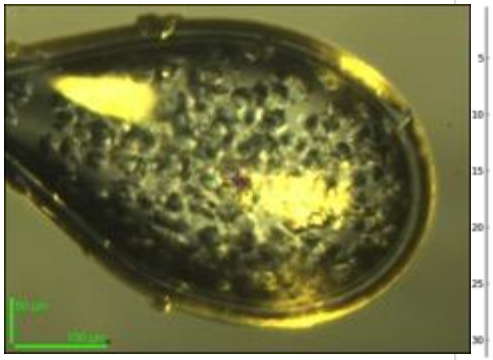


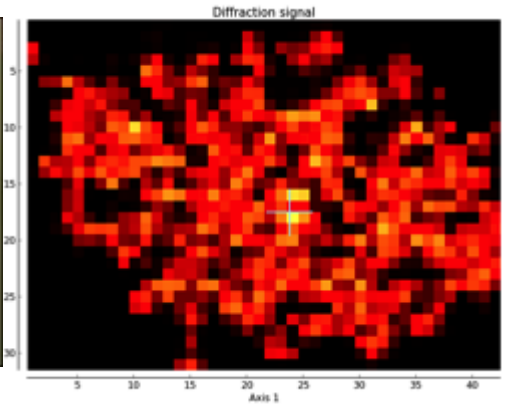
(a)



(b)

Serial crystallography





ID23-2 REBUILD

Almost a complete rebuild! Work began in October 2016, First users July 2017.

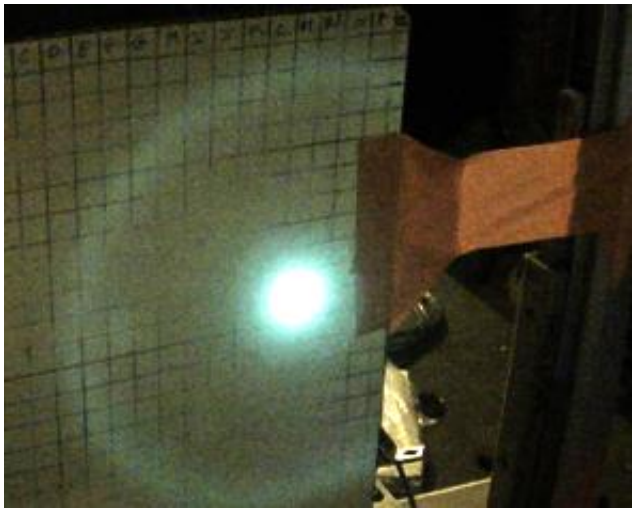
+Improve focus and flux for existing beam size

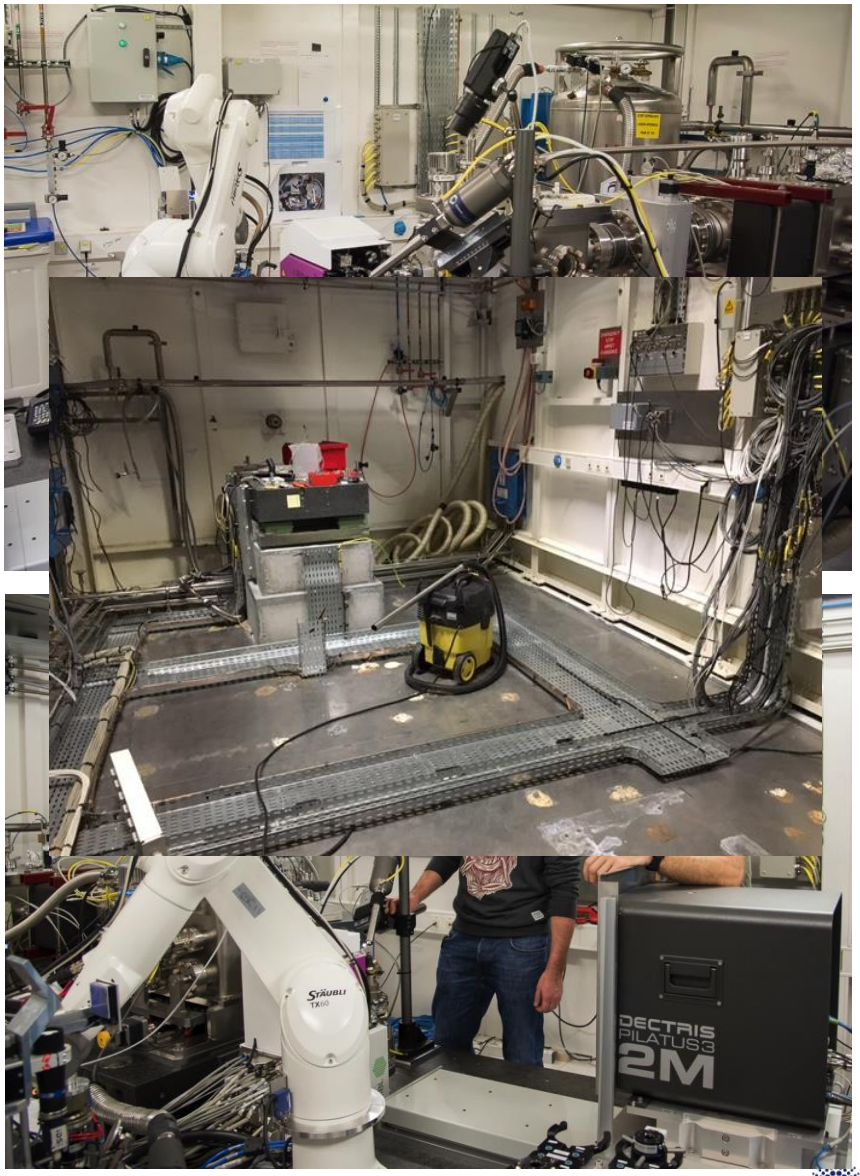
+Install new sample changer

+Install high performance MD

+Add new smaller beam size

+Control software changed to BLISS





ID23-2 SINCE USER MEETING 2017

+2x flux and smaller beam for normal beam size (6x4 FWHM VxH) ~2x10^12 ph/s

+Variable vertical focus

+New MD3Up diffractometer

- +Very fast mesh scans
- +Better OAV
- +Split beamstop
- +Apertures
- +Better beam visualisation
- +Mini Kappa goniometry
- +Plate Gripper

+New FLEX HCD. UNIPUCKS ONLY, double gripper

+Improved thermal stability

+Commissioning smaller beam size (2x2 microns)

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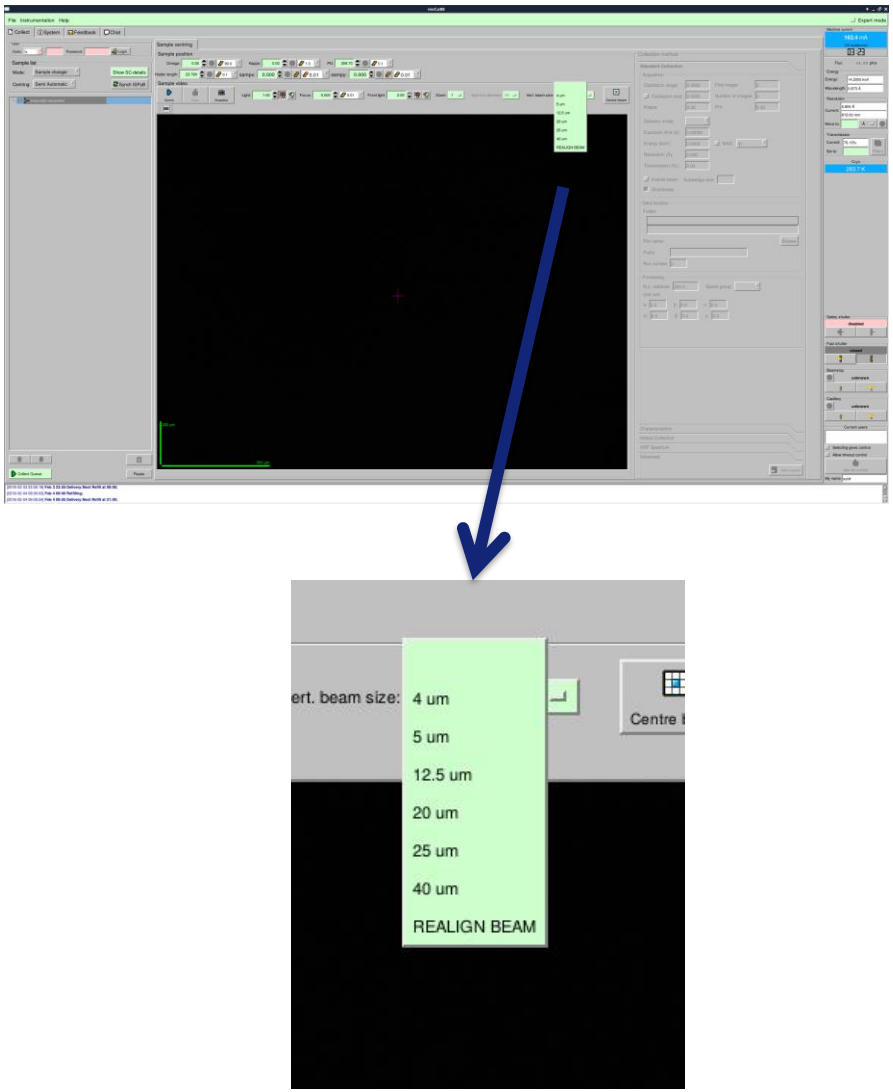

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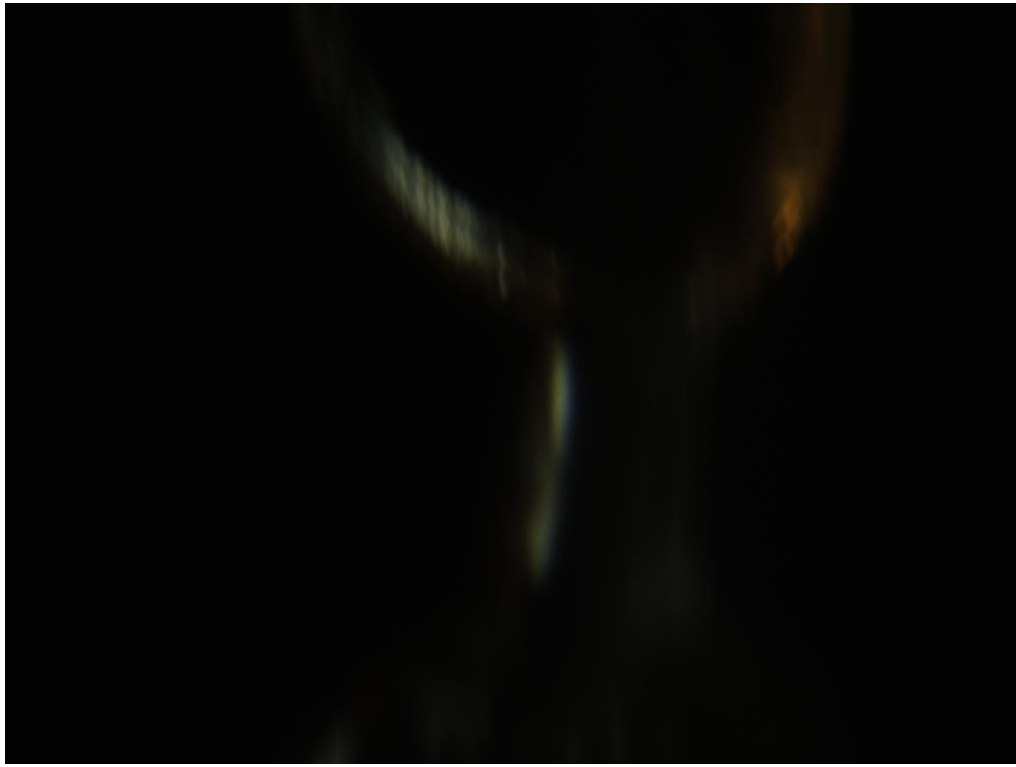

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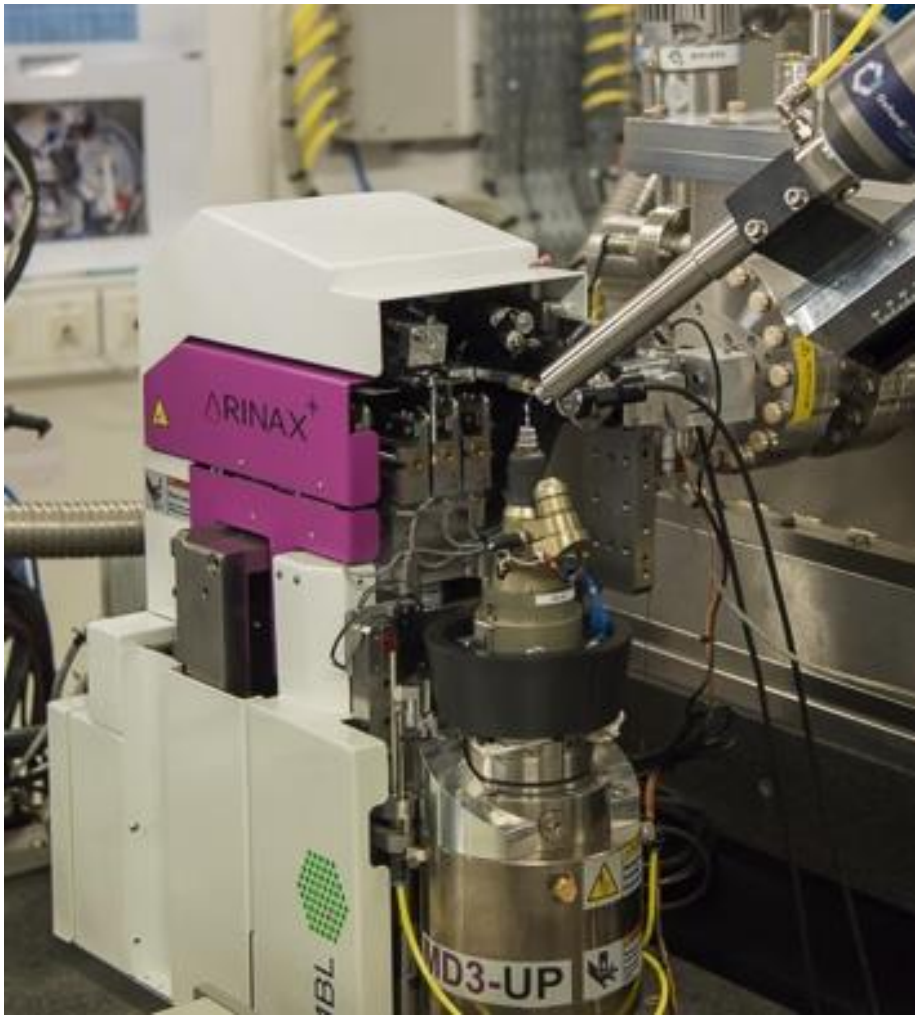

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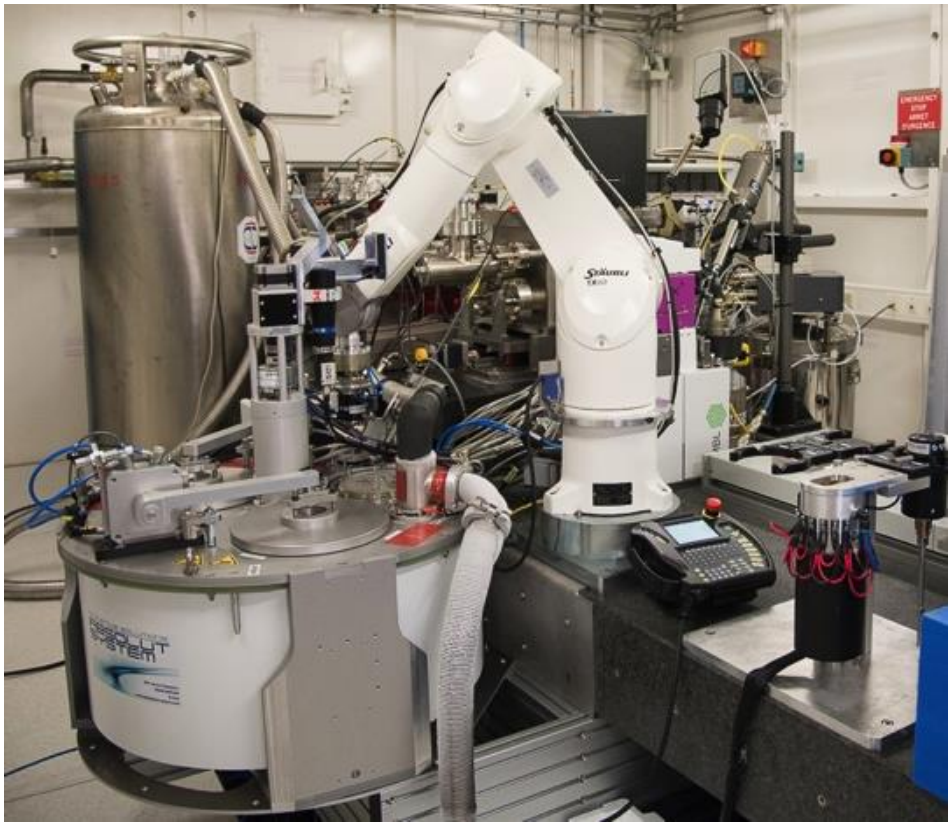

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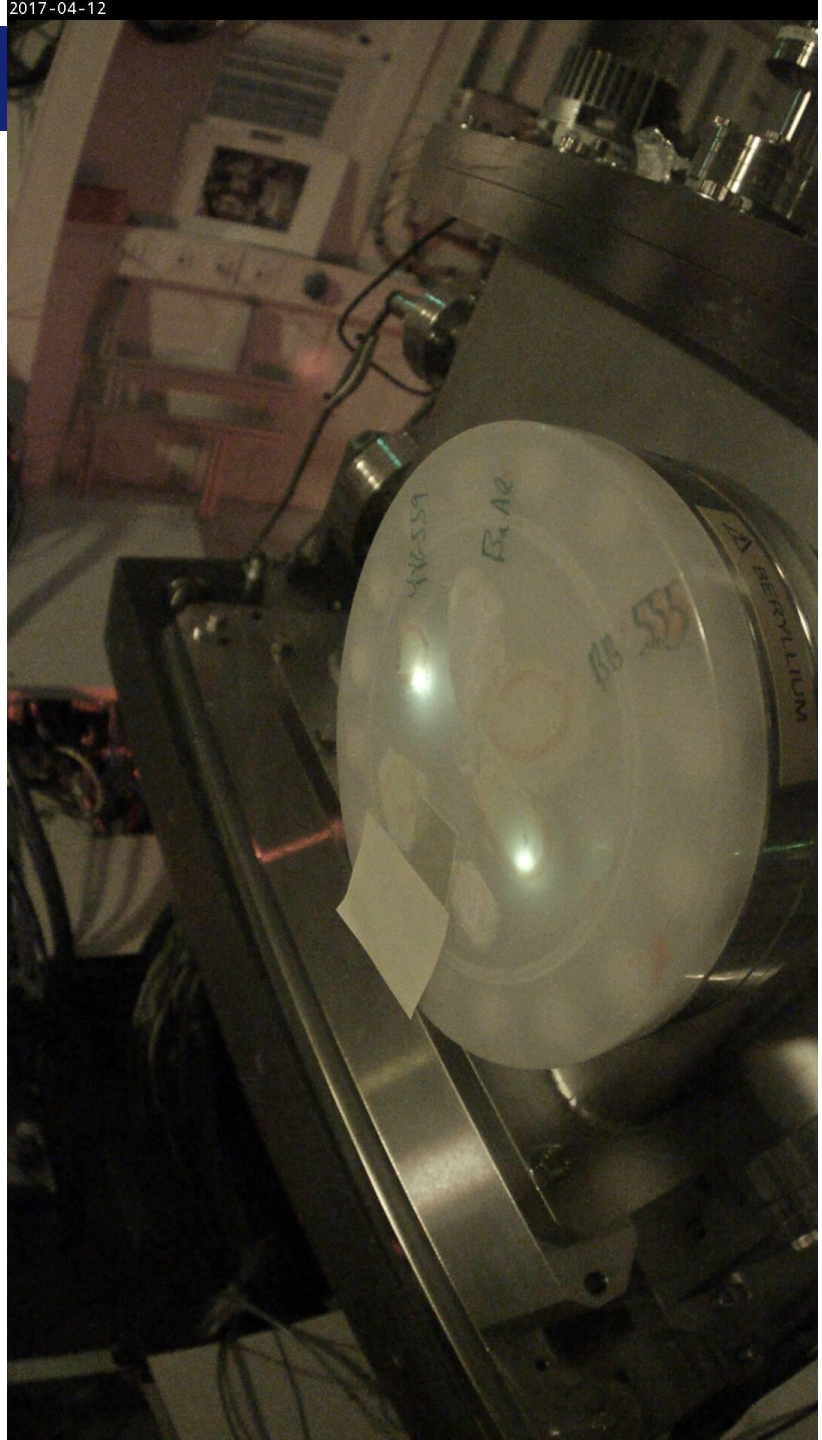
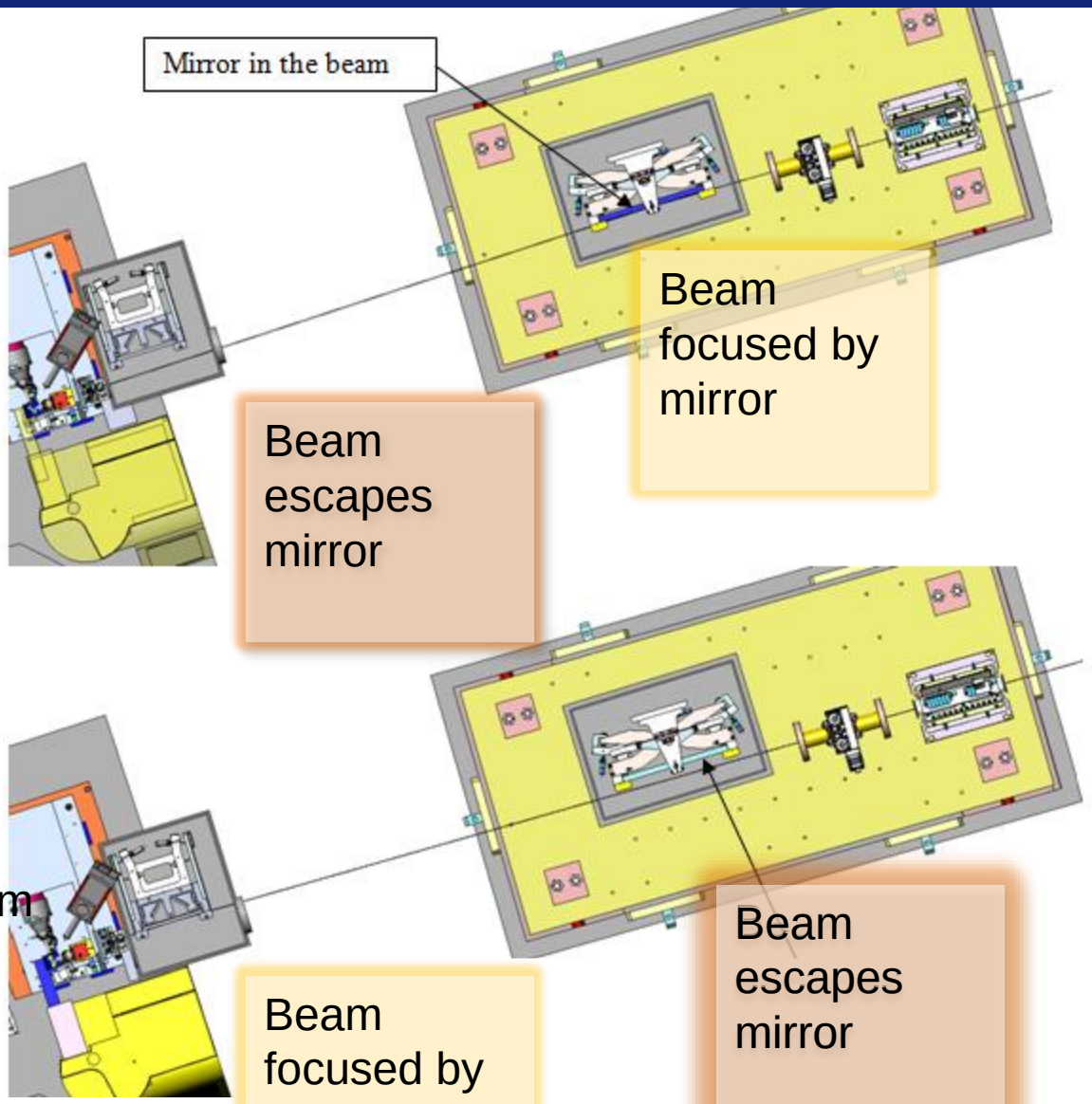


OPTICAL LAYOUT



Optical design:

Vertical focus with transfocators

Horizontal focus with mirrors.

ID23-2 PLANS

Continue small beam comissioning

Install software for MxCube for plate gripper

AUTOPROCESSING

Better ISPyB integration of automatic SAD phasing

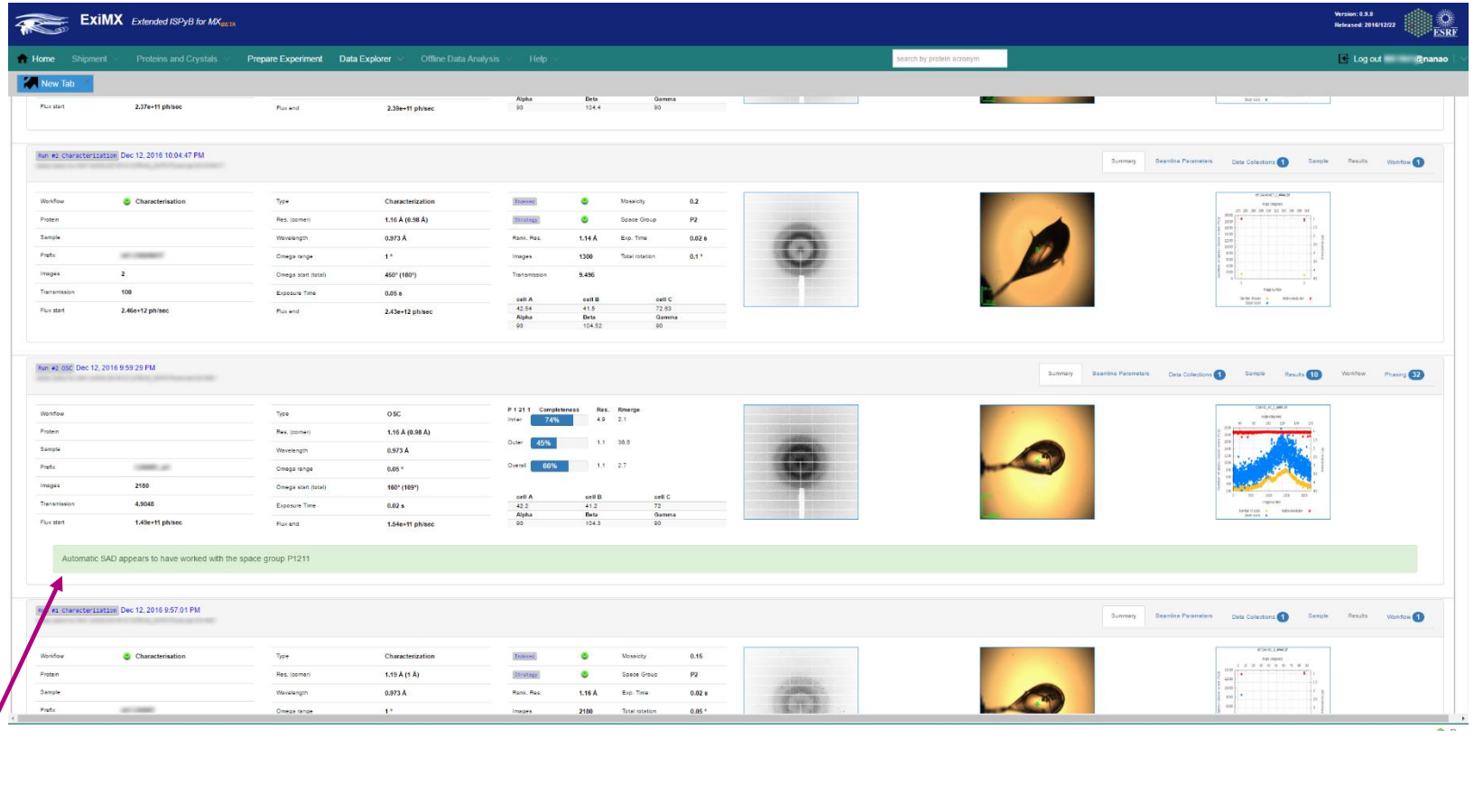
Higher performance – more nodes, improved queuing system

Automatic MR on user supplied PDB

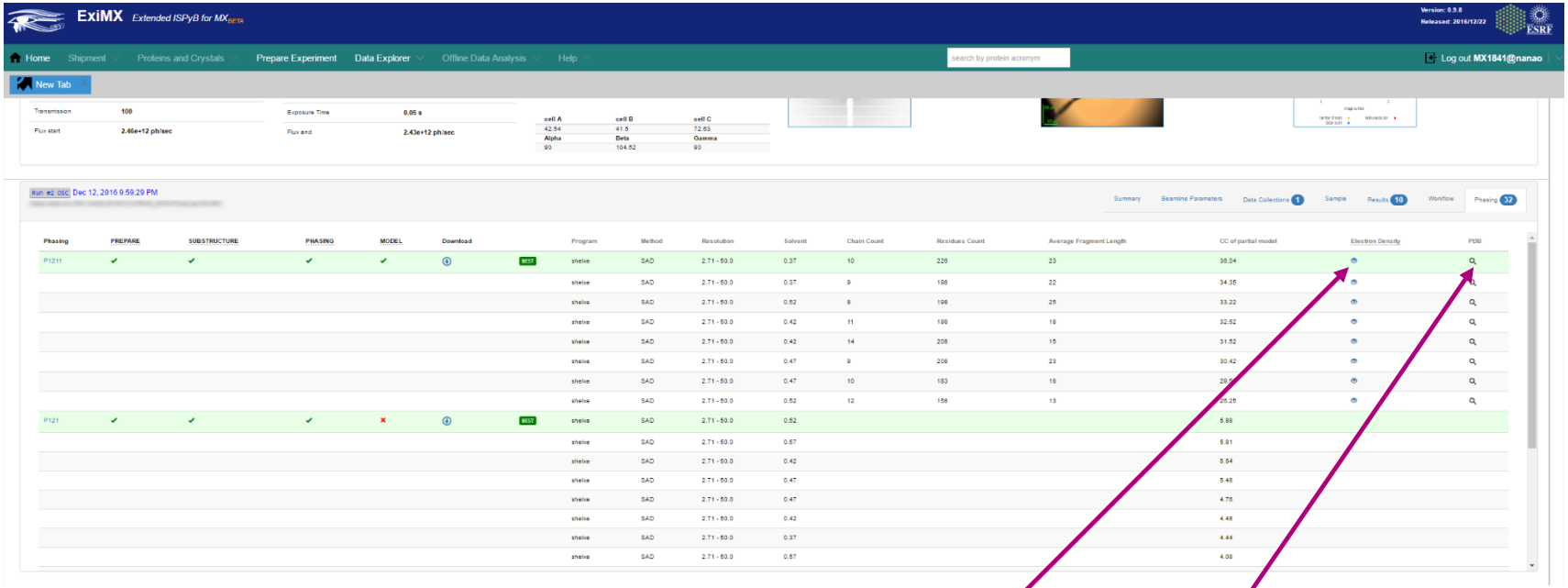
- Ligand fitting of SMILES ligand

Automatic SAD on samples with anomalous signal (even on fixed energy beamlines)

NOTIFICATION THAT PHASING WAS SUCCESSFUL



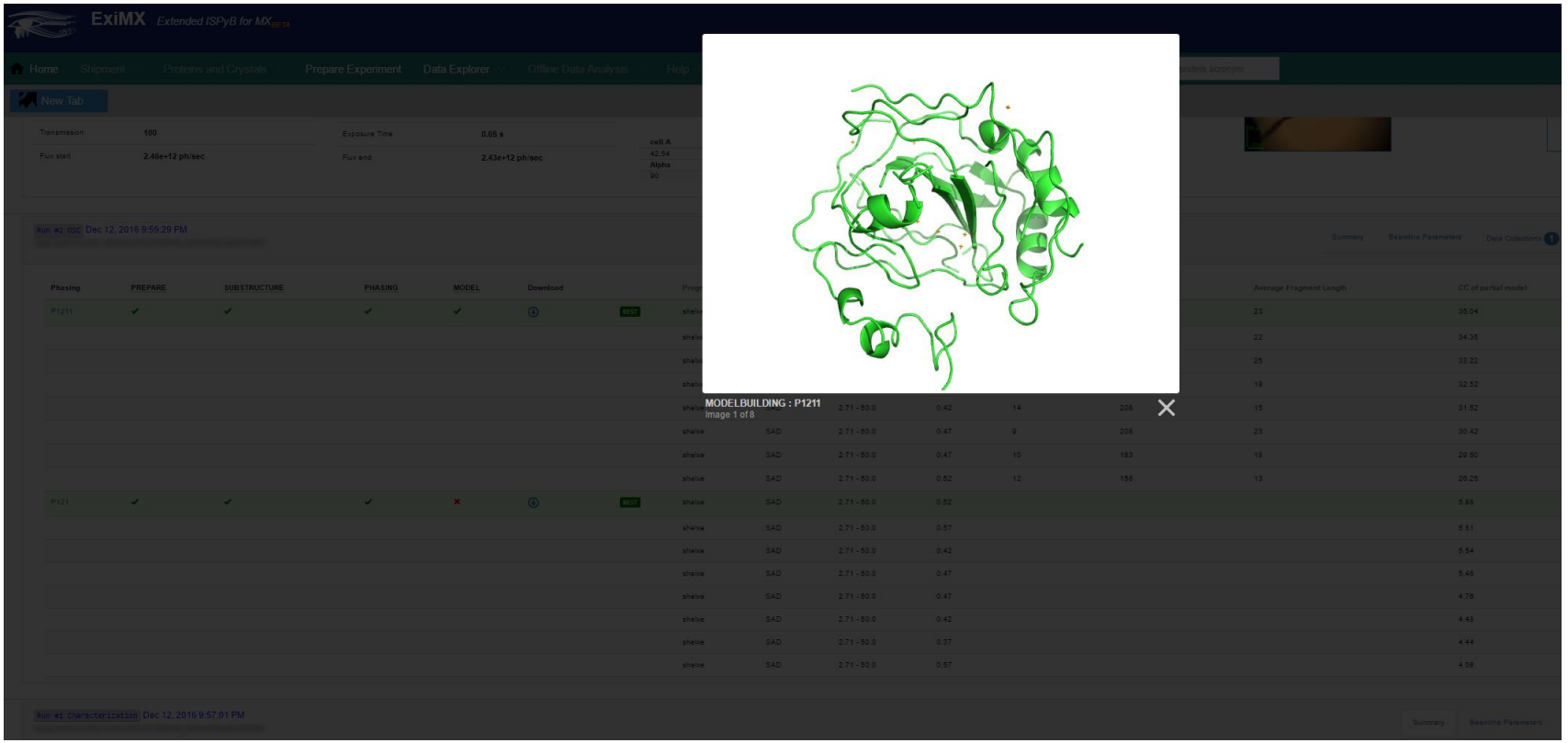
COMPLETE VIEW OF ALL PHASING TRIALS



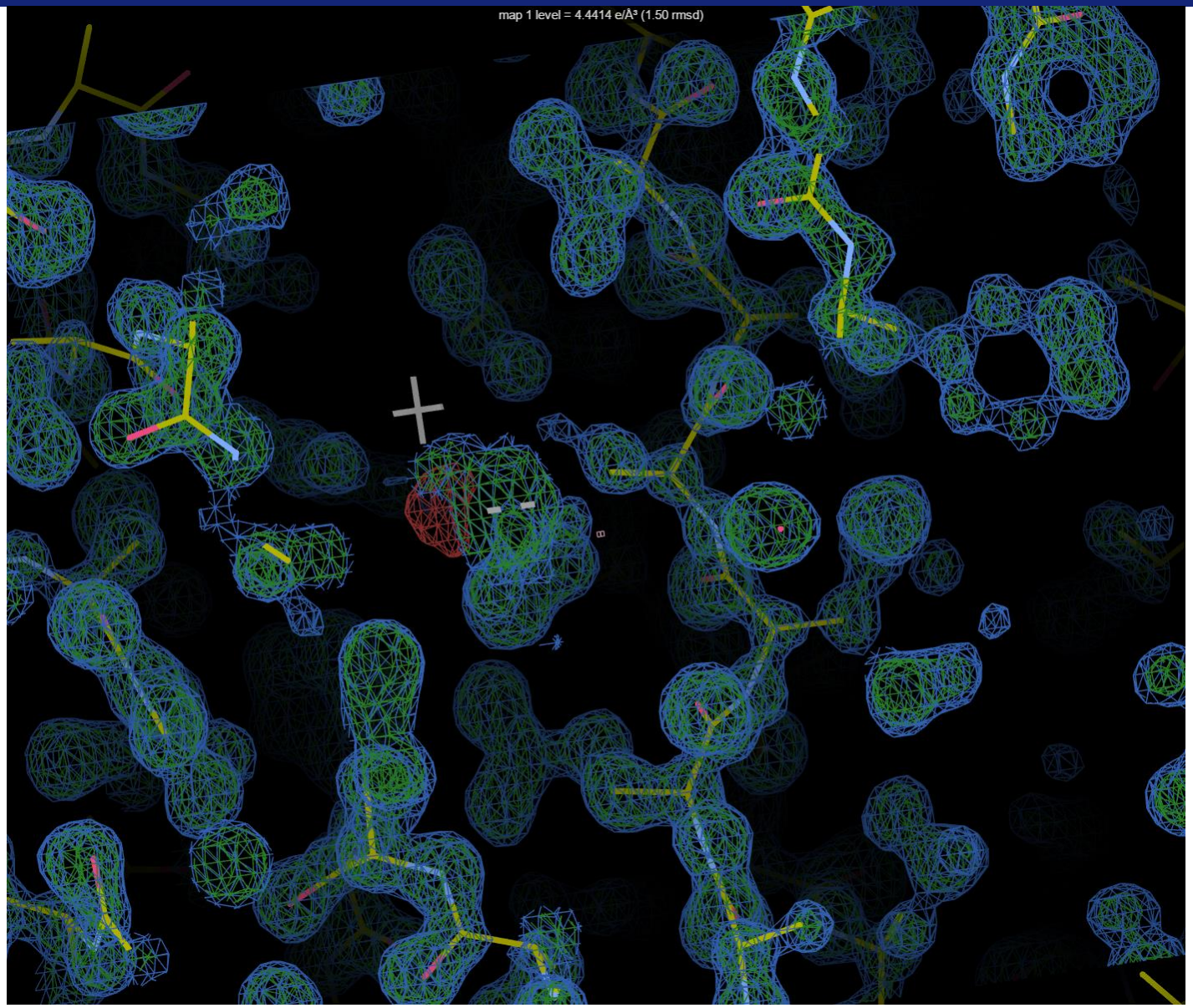
PNG snapshot of PDB

Interactive density viewer (UglyMol)

PNG CARTOON OF SHELXE MODEL



INTERACTIVE ELECTRON DENSITY



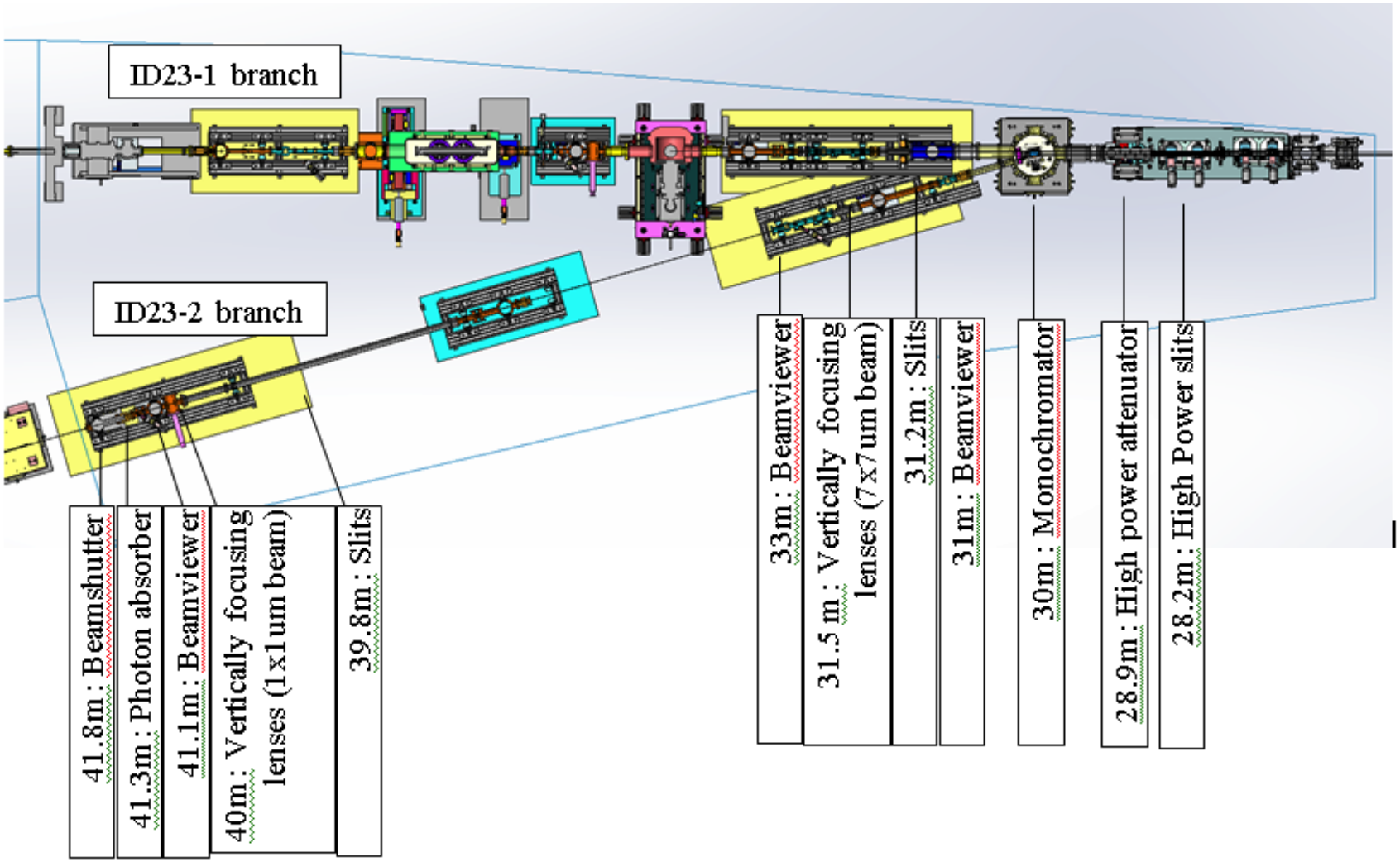
PEOPLE

Olof Svensson
Alejandro de Maria
Daniele de Sanctis
Matias Guijarro
Thomas Boeglin
Stephanie Monaco
Antonia Beteva
Solange Delageniere
Darren Spruce
Marjolaine Bodin
Matthew Bowler
Didier Nurizzo
Gordon Leonard
Andrew McCarthy

Carole Clavel
Ray Barrett
John Surr
Thierry Giraud
Pierre Pinel
Florent Cipriani
Franck Felisaz
Ulrich Zander
Hugo Caserotto
Handling Group
Vacuum Group
Pascal Theveneau
David Flot
Amparo Vivo
Christian Morawe
Fabien Dobias
Francois Torrecillas
Bob Baker
Alexis Van der Kleij

Mario Lentini
October shutdown

OH LAYOUT



Distance from the source for OH1 components, ID23-2 branch