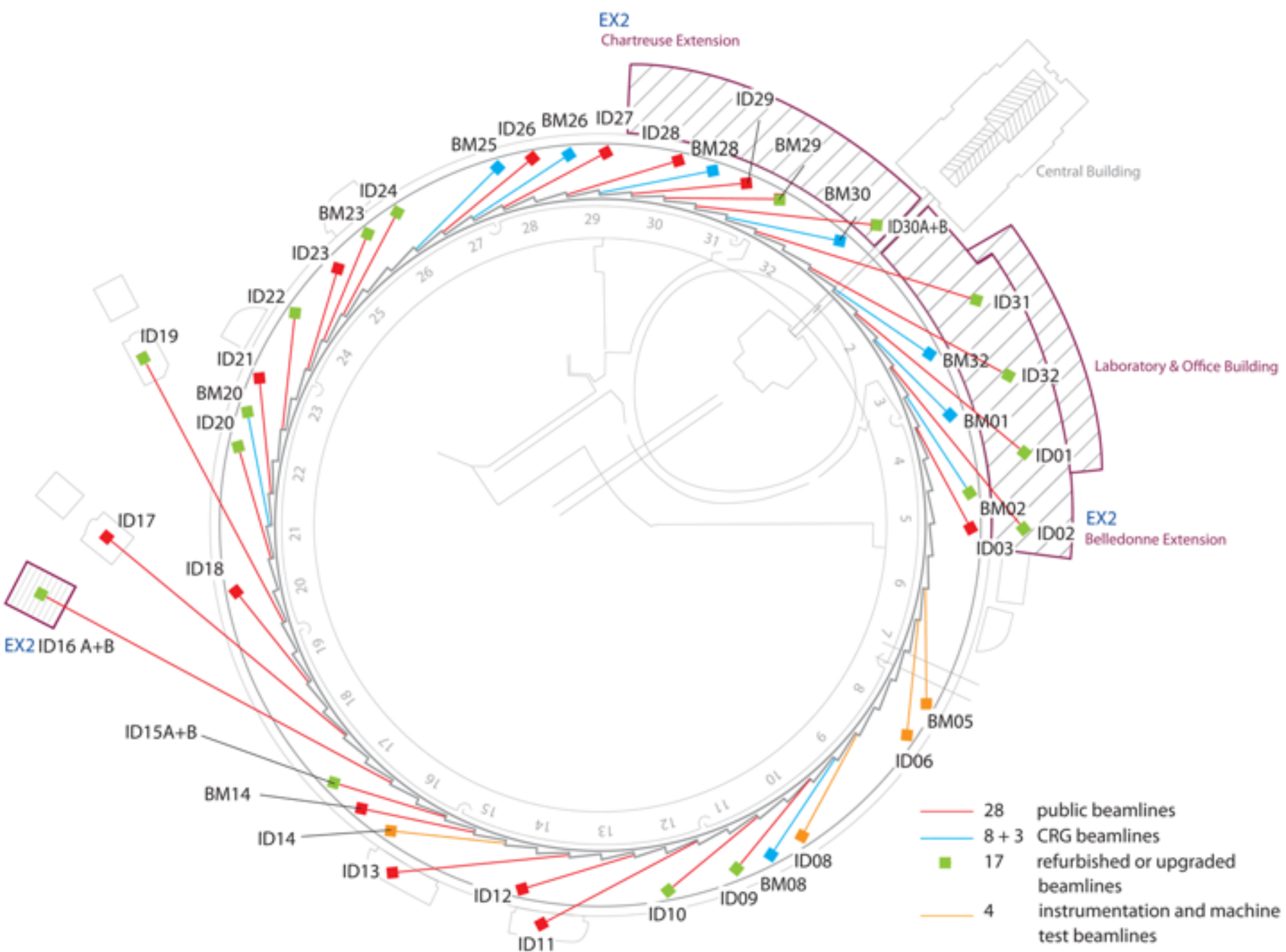


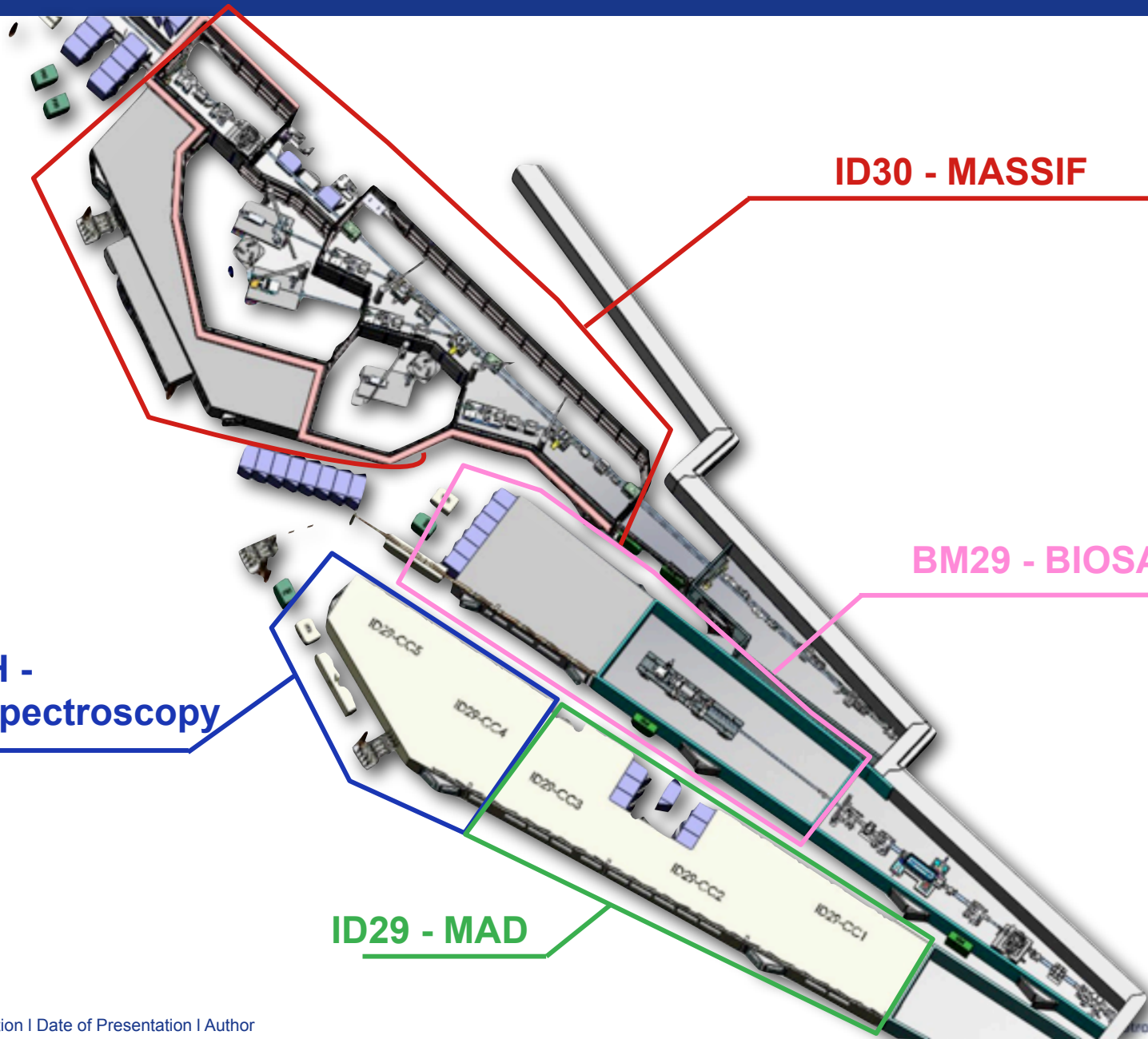


ESRF

| The European Synchrotron

1D29



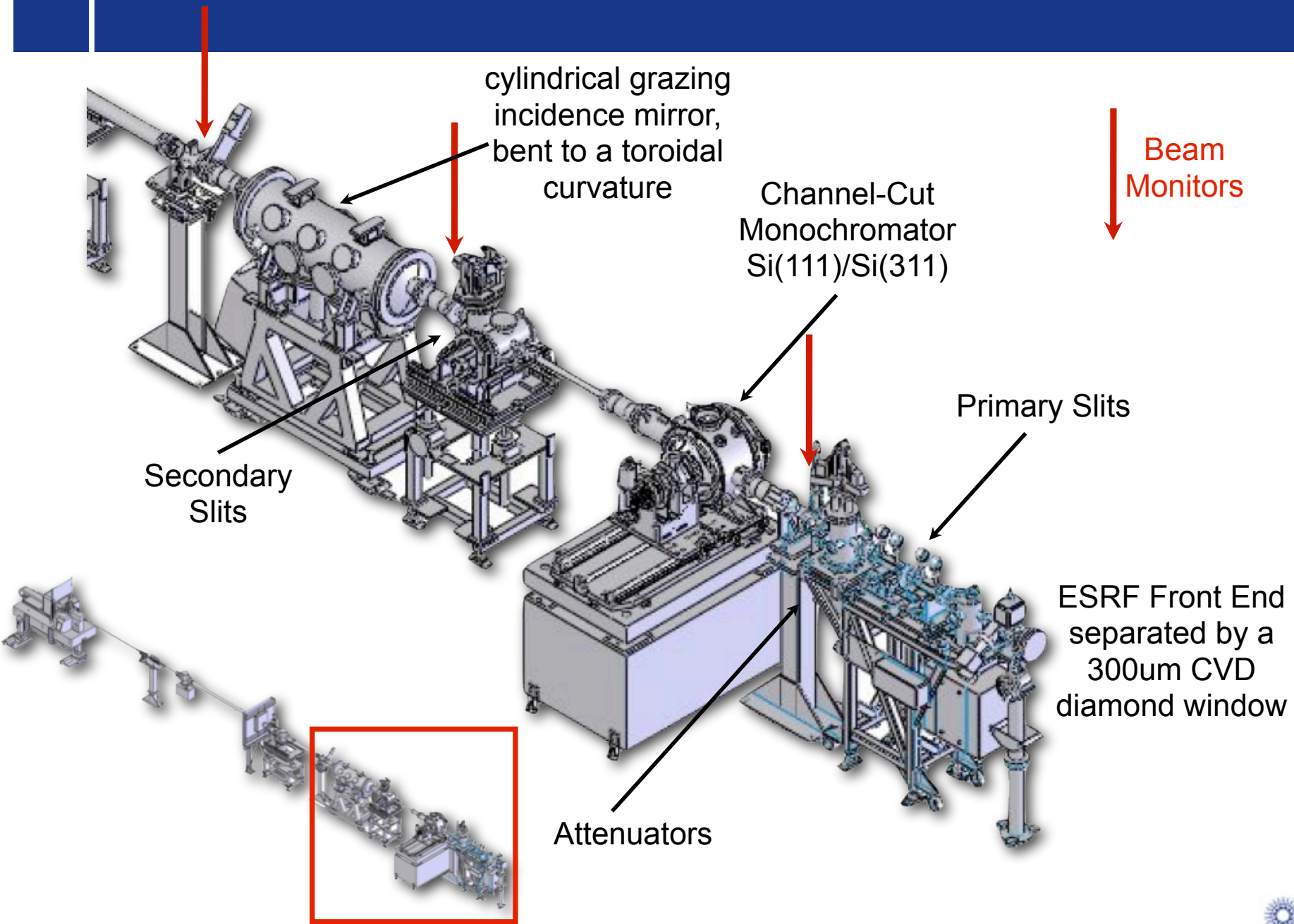


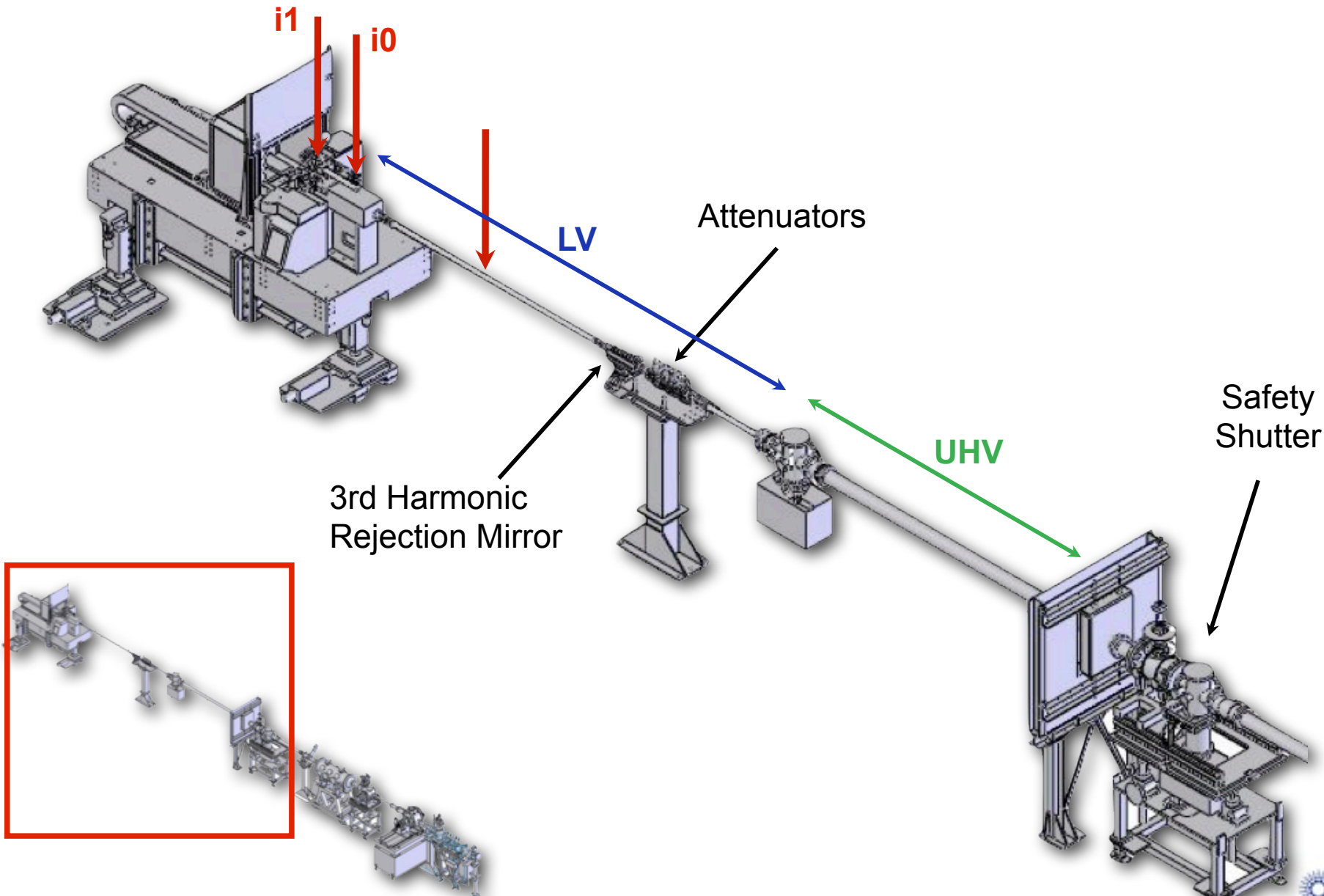
**CRYOBENCH -
in crystallo spectroscopy**

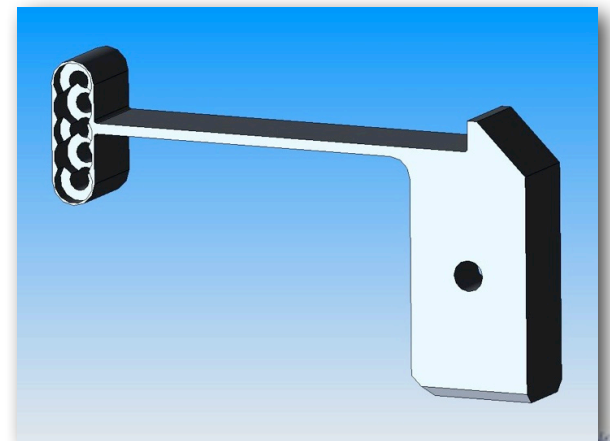
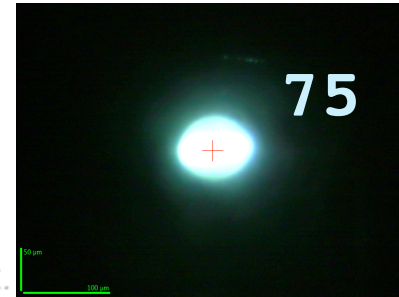
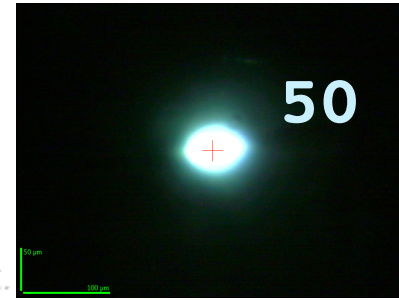
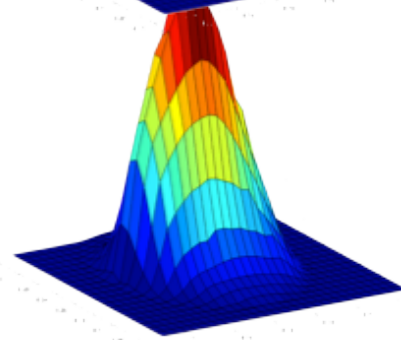
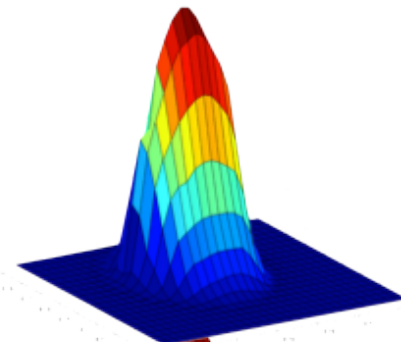
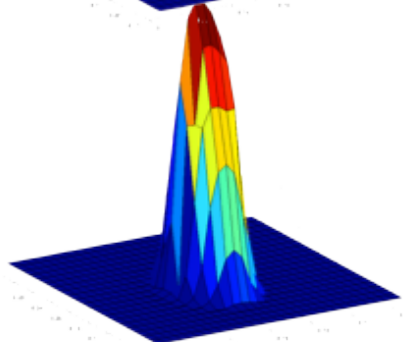
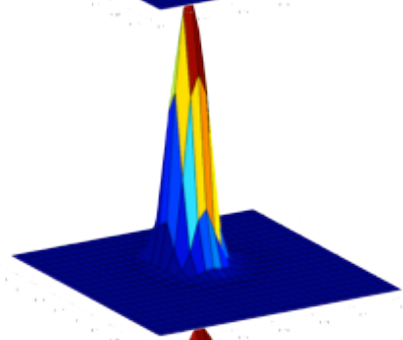
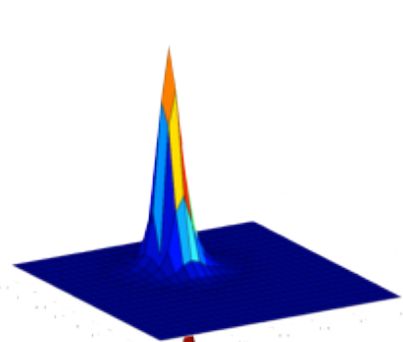
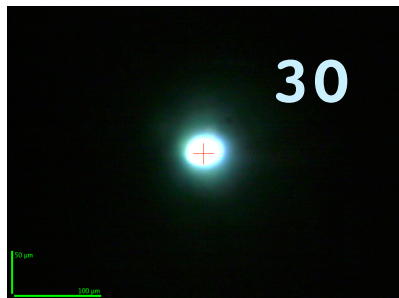
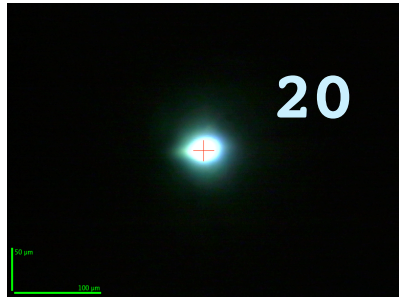
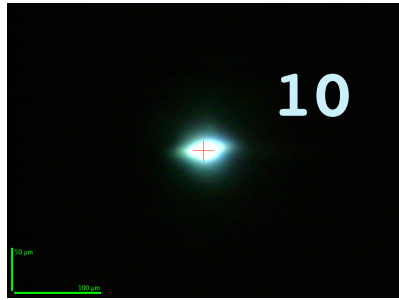
ID30 - MASSIF

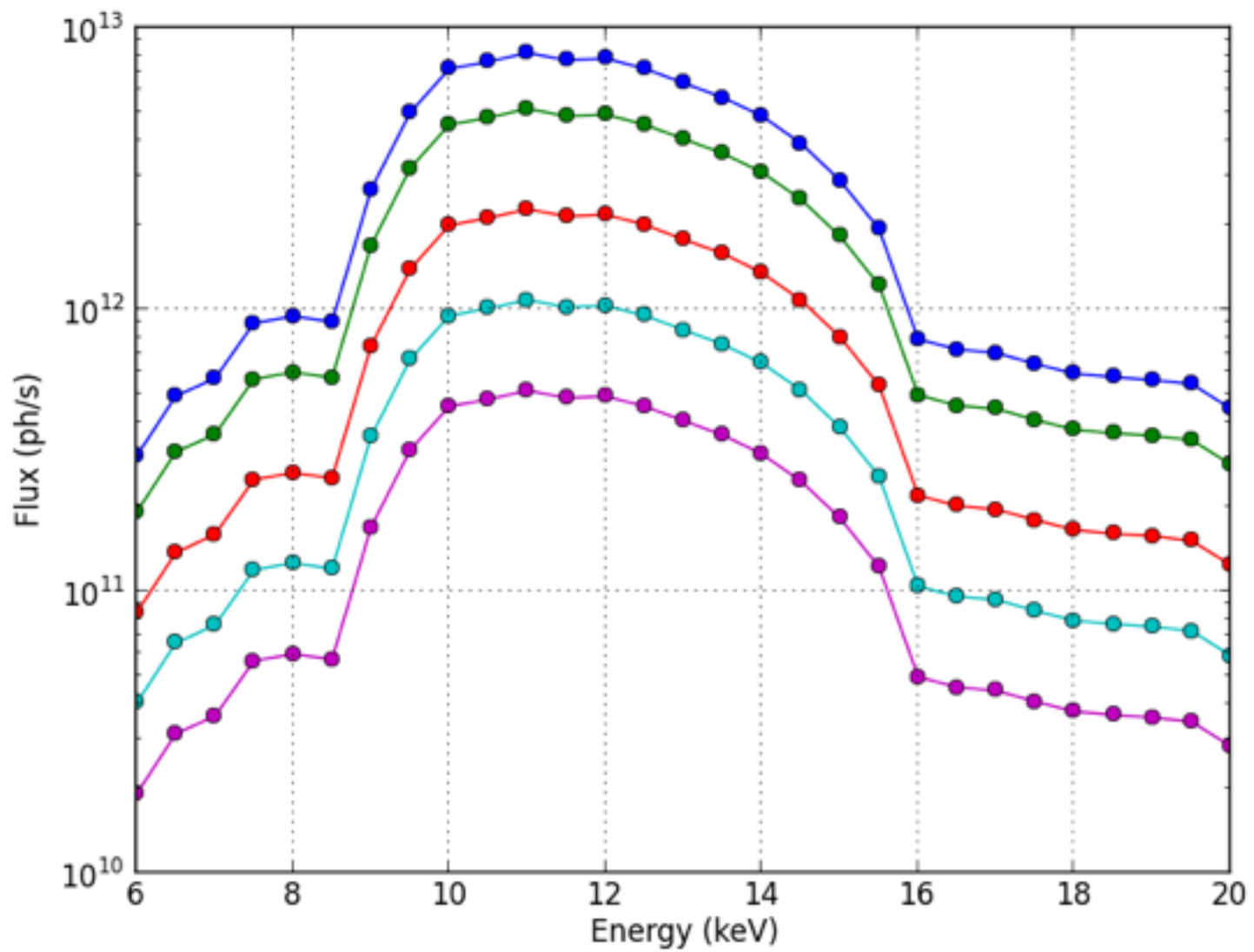
BM29 - BIOSAXS

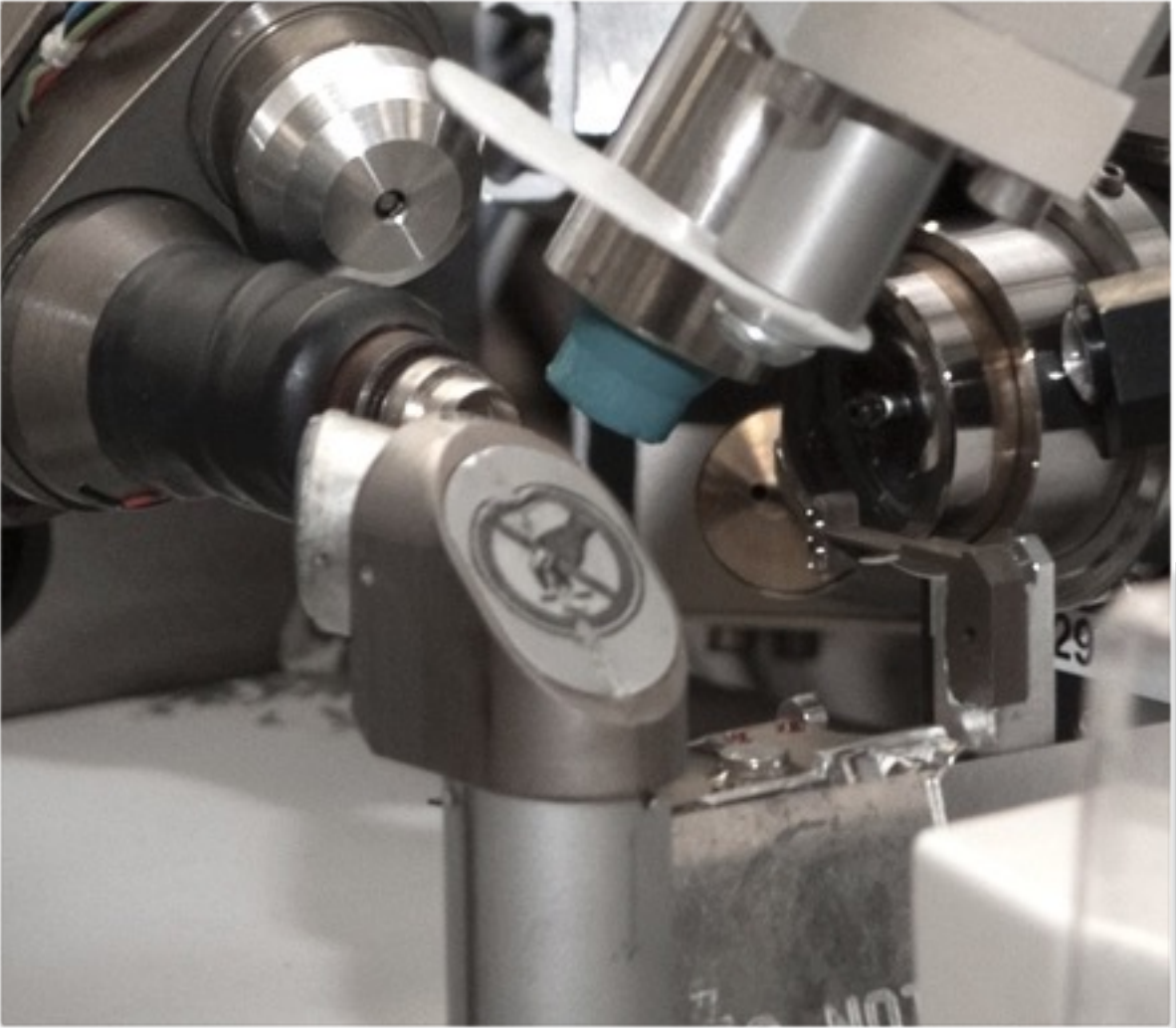
ID29 - MAD



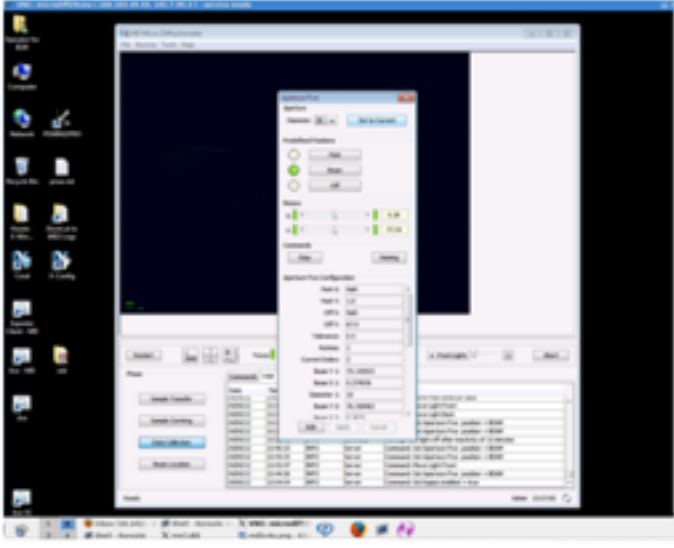


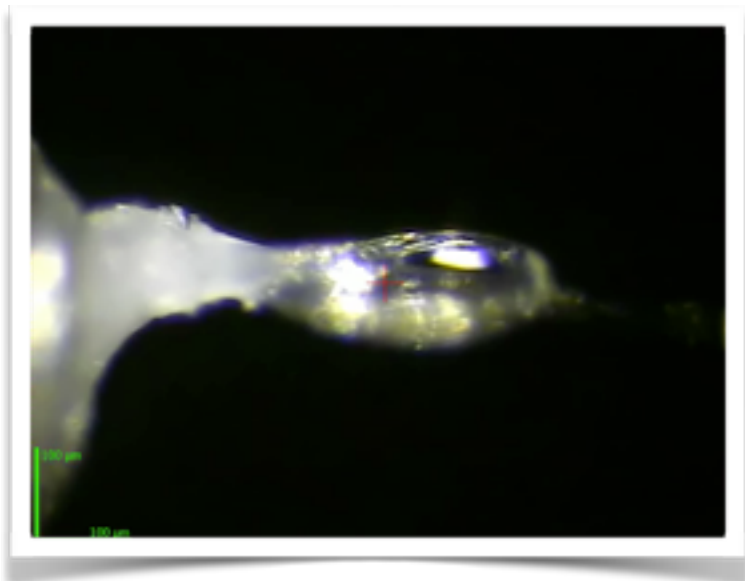




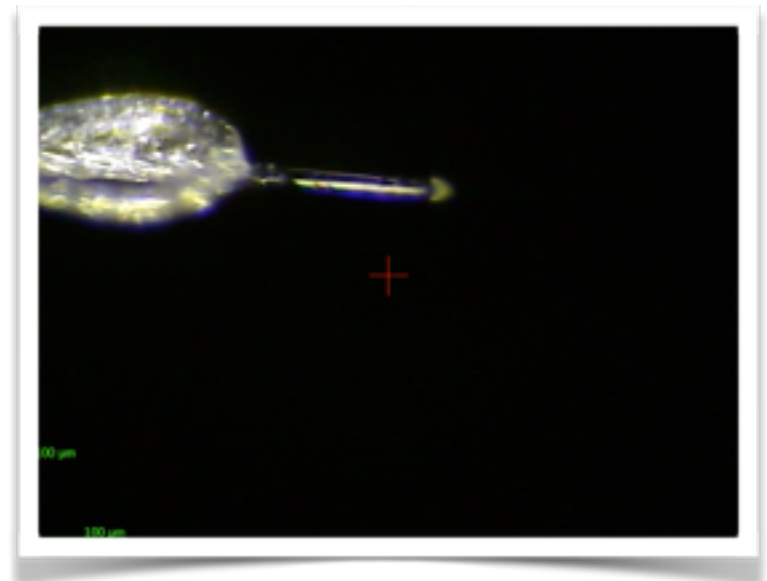


PMAC electronic
Beam defining aperture
OA beam viewer
Direct communication MD2-
SC





4d scan



line scan

Synchronization between rotation, translation
and x,y centering table

Since September 2011

Equipped with a Microdiffractometer (MD2)

Pilatus 6M-F (25hz) (for some time Pilatus3 6M 100hz)

High flux (slightly less 10^{13} ph/s at Pt edge)

Energy range 6-20 keV (5 keV works as well)

MicroMAD

High flux

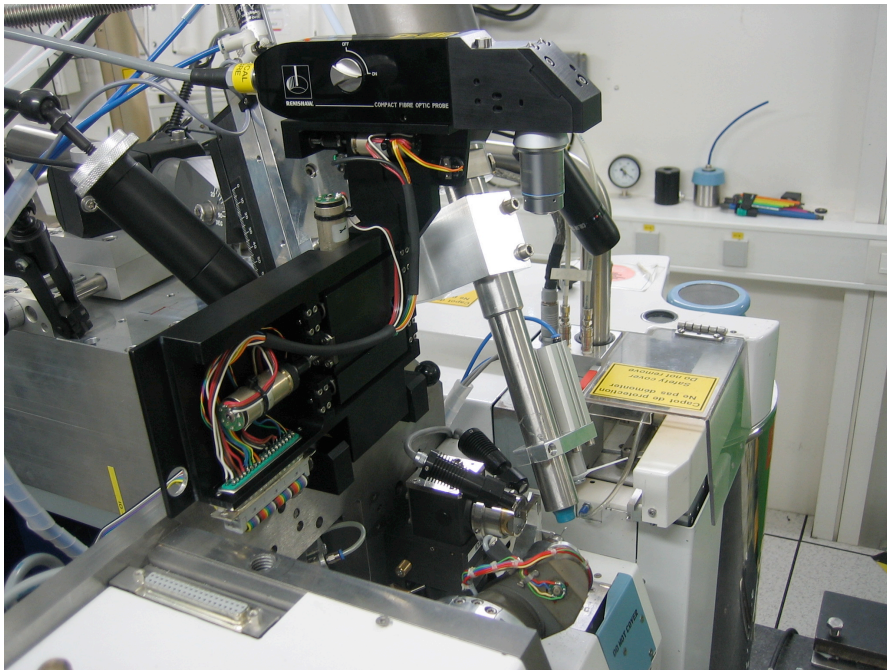
Low energy

Fast Mesh, continuous helical

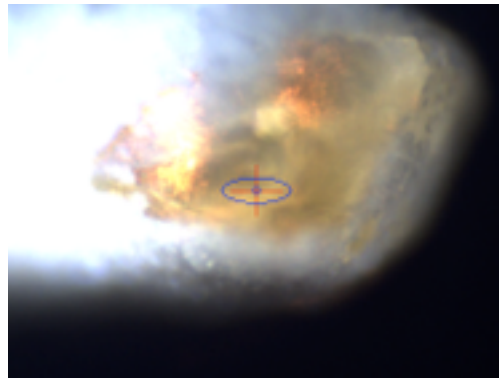
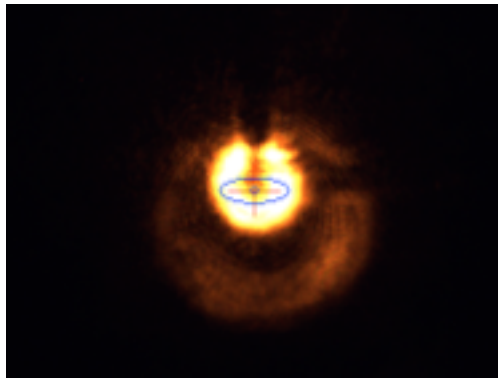
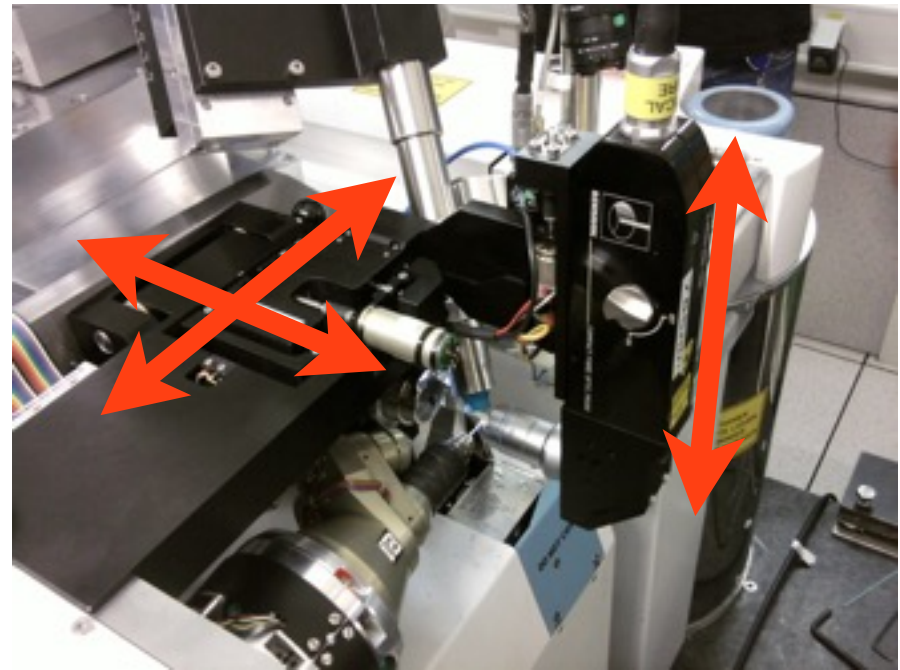
Si(111)/Si(311) - possibility to test narrower bandwidth

RamanOnLine (not only)

Probe out - Diffraction data collection

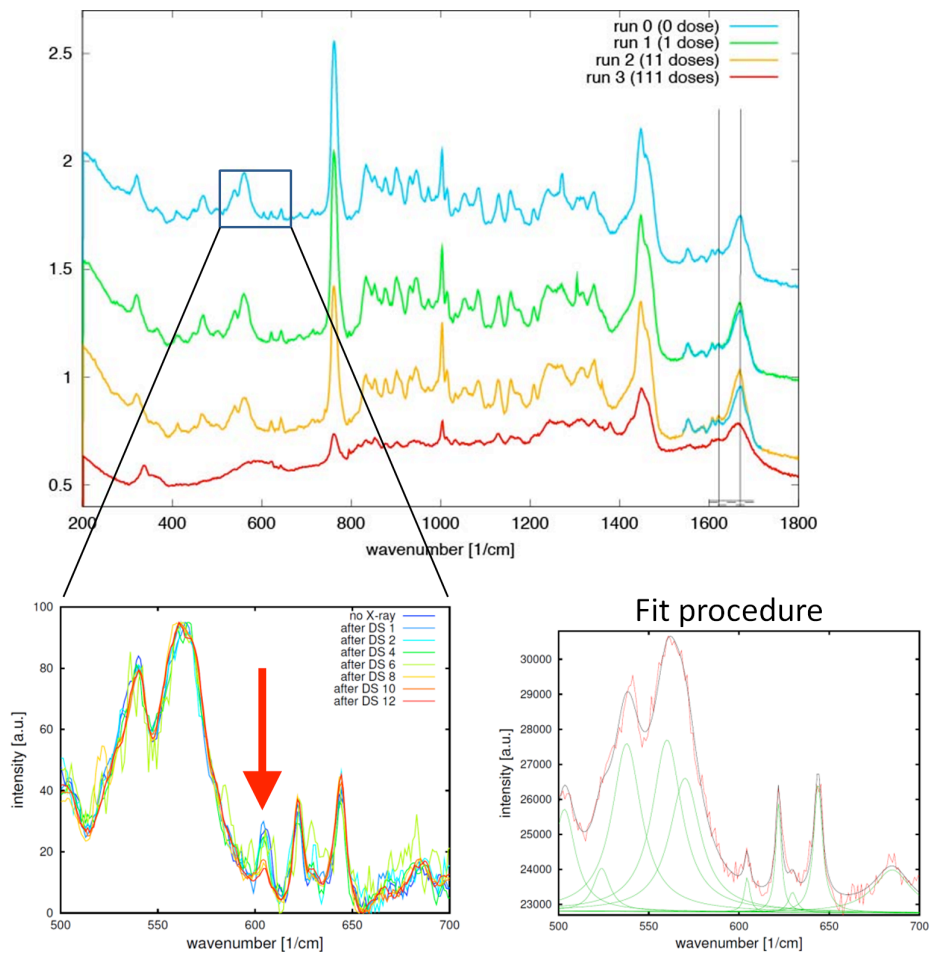


Probe in - Record Raman spectra



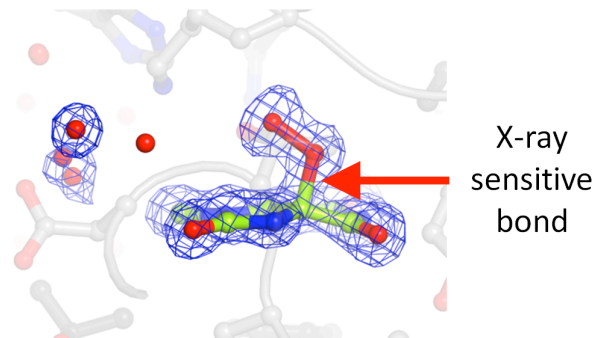
See Antoine's talk for most amazing stuff!

Raman spectra

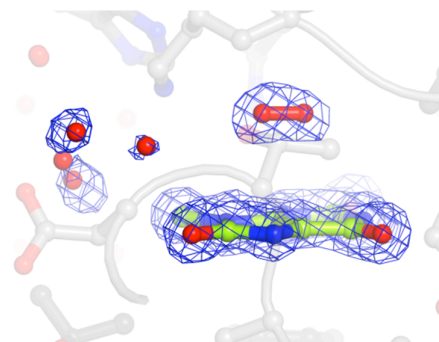


Diffraction data

Low-dose dataset (0.03 MGy)

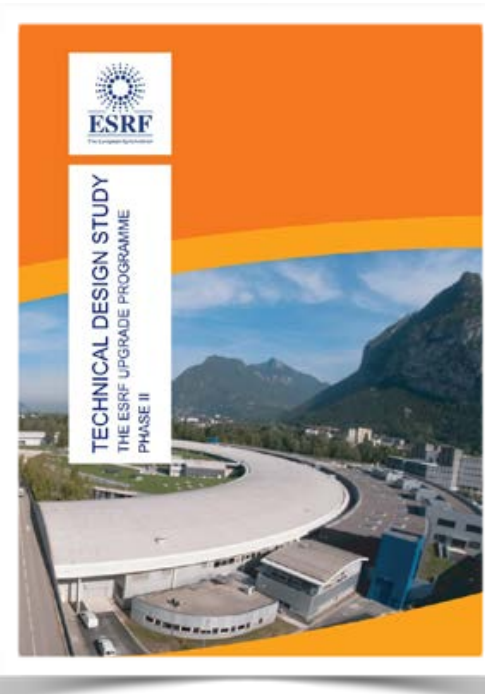


High-dose dataset (4 MGy)



Short term plans:

- MicroMAD beamline:
 - $\sim 10^{13}$ ph/s in $50 \times 30 \text{ um}^2 = 6 \cdot 10^9 \text{ ph/s/um}^2$
 - Resizable beam with collimators
- Improvement under discussion
 - Increase flux density
 - Optics refurbishment
 - Optimize delivery of soft X-ray
 - New generation of sample changer



	Current	New lattice	New lattice (50)
Source size (um ²)	59 x 8.3	27.2 x 3.4	27.2 x 3.4
Divergence (urad ²)	107 x 3	5.2 x 1.4	5.2 x 1.4
Demagnification	3:1	3:1	50:1
Beamsize @ sample (um ²)	50 x 30	8 x 2	0.5 x 0.1
Flux @ sample (ph/s)	1 x 10 ¹³	1 x 10 ¹⁴	1 x 10 ¹⁴
Flux density @ sample (ph/s/um ²)	6.6 x 10 ⁹	8 x 10 ¹²	2 x 10 ¹⁵
Absorbed dose rate (MGy/s)	0.8		
Time to Garman Limit (s)	37.5		

