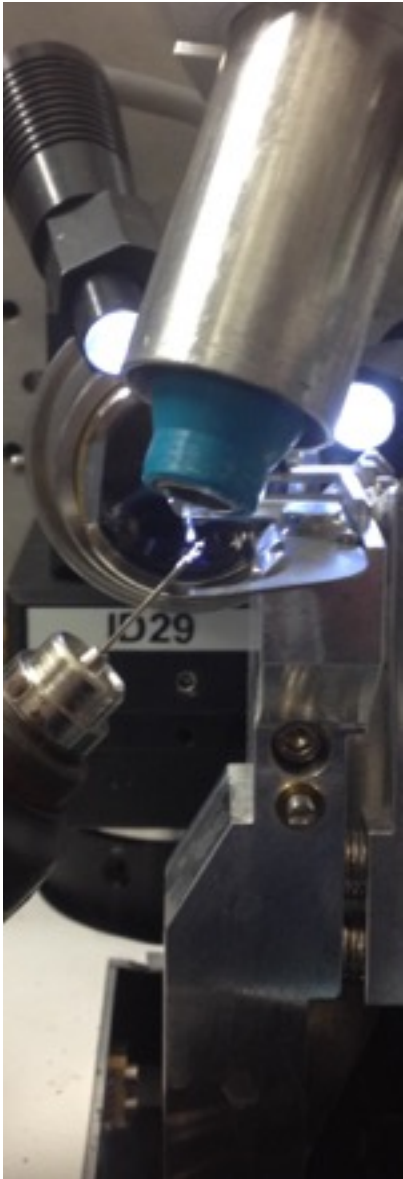




# ID29

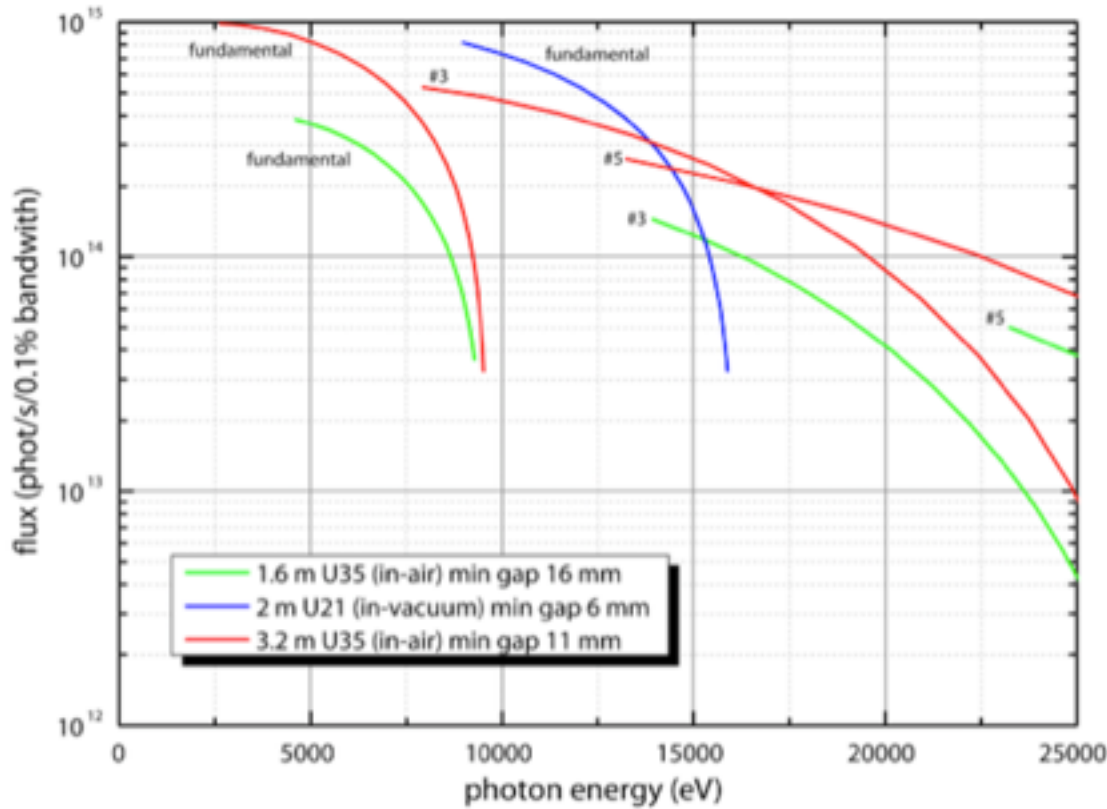
## BAG meeting 2017

Daniele de Sanctis

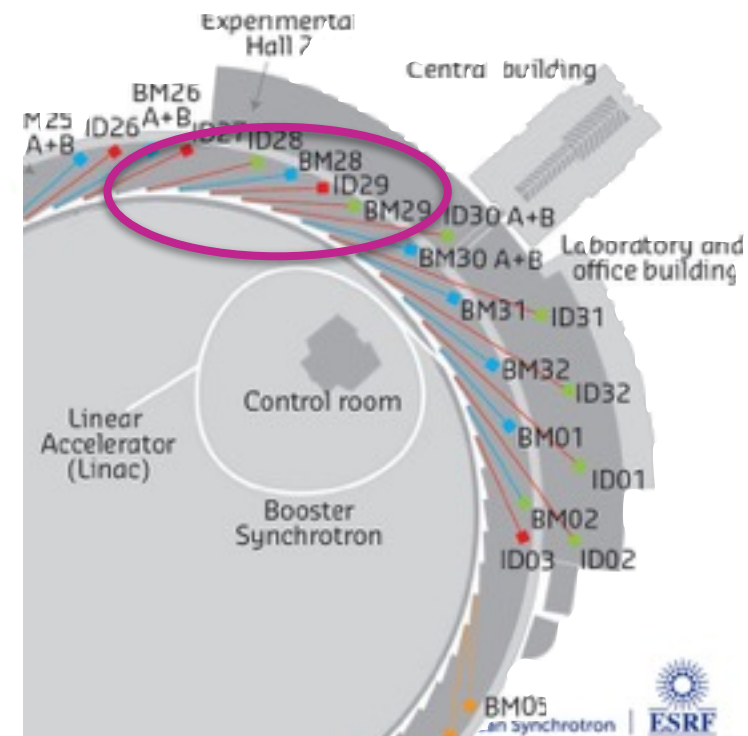


- Overview of ID29
  - Layout
  - New Software
  - New Experimental setup
  - Special setup

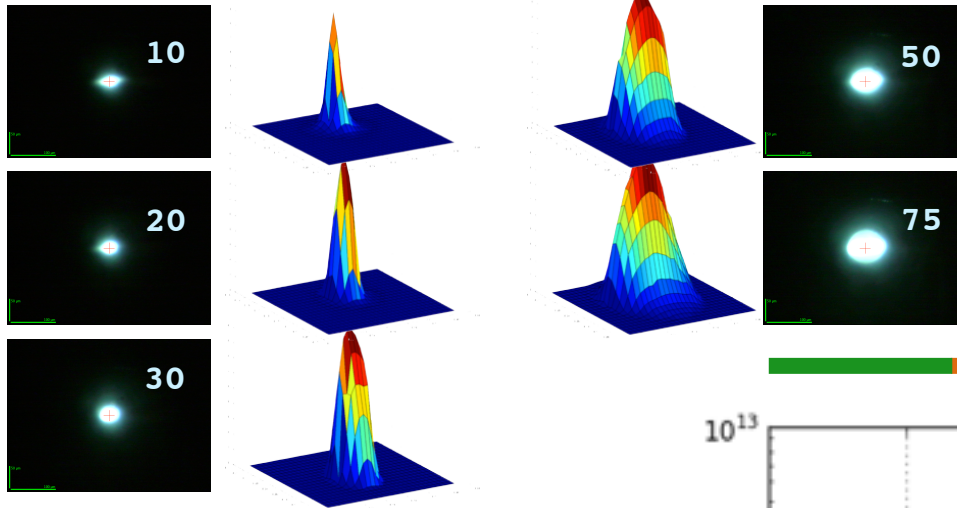
# SOURCE



ID29 is located on a low beta straight section, equipped with two undulators (U21 and U35) that permit to deliver a high brilliance over a wide energy range

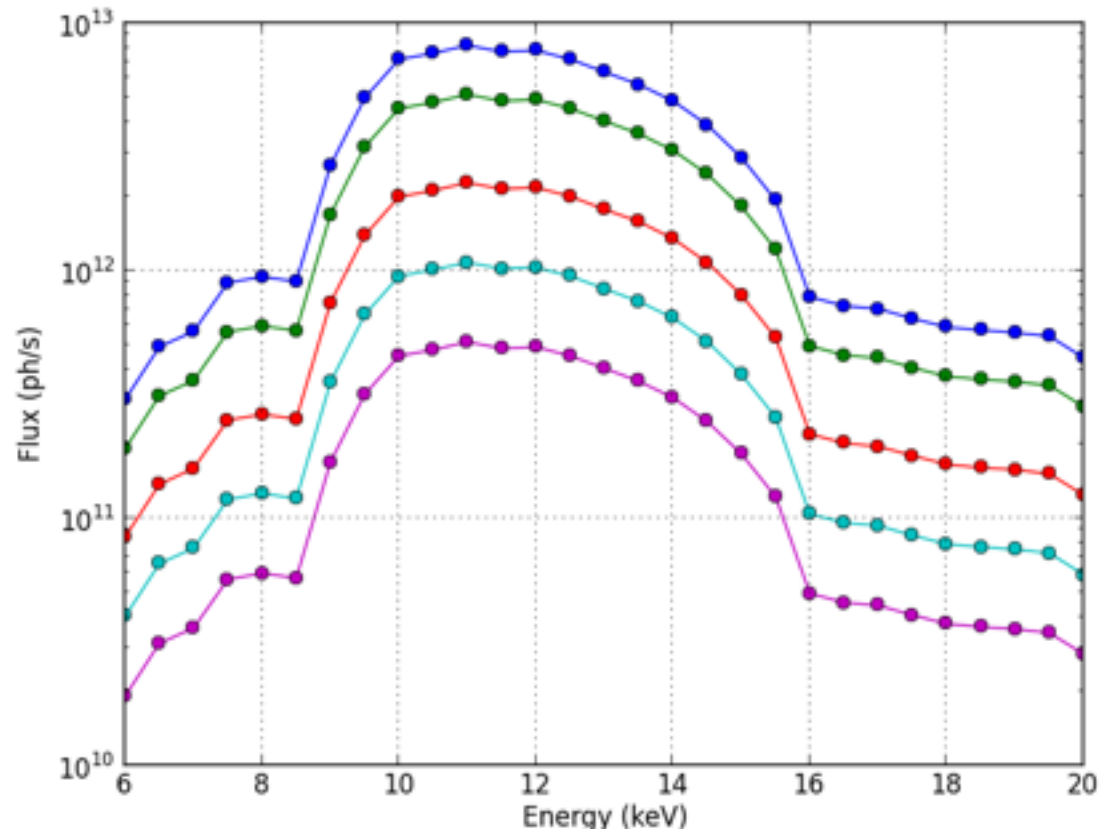


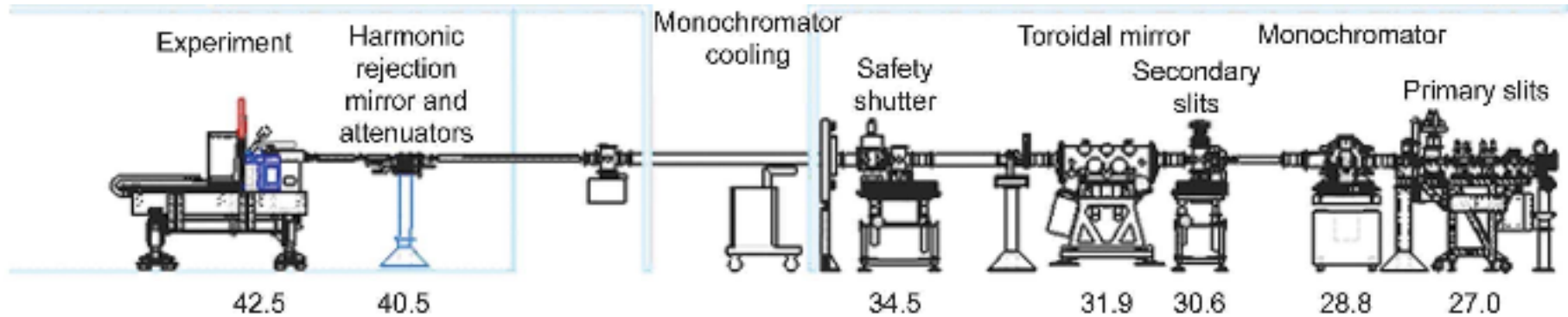
Source size is  $59 \mu\text{m} \times 8.3 \mu\text{m}$  with a divergence of  $90 \mu\text{rad} \times 3 \mu\text{rad}$



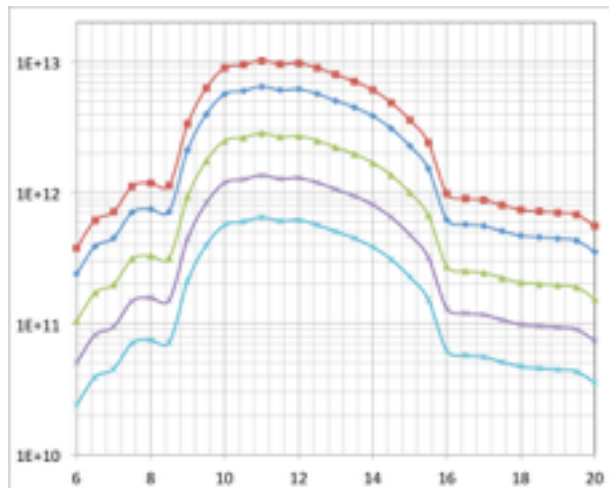
Beam focused at 50x30  $\mu\text{m}$   
 Resizable beam-size with apertures

Microbeam applications  
 Fast meshes  
 Helical  
 microXtallography





- Focus demagnification 3:1
- Theoretical focal spot at sample pos 40x30  $\mu\text{m}$
- $\sim 10^{13}$ ph/s in a fixed focusing
- Two ChannelCut monos (Si111, Si311)
- Cylindrical grazing incidence mirror (3 mrad), bent to toroidal curvature (Si with Rh coating)
- Mirror height adjusted to monochromator exit angle at energy changes
- Reliability of operation depends on mechanics and efficient beam diagnostics



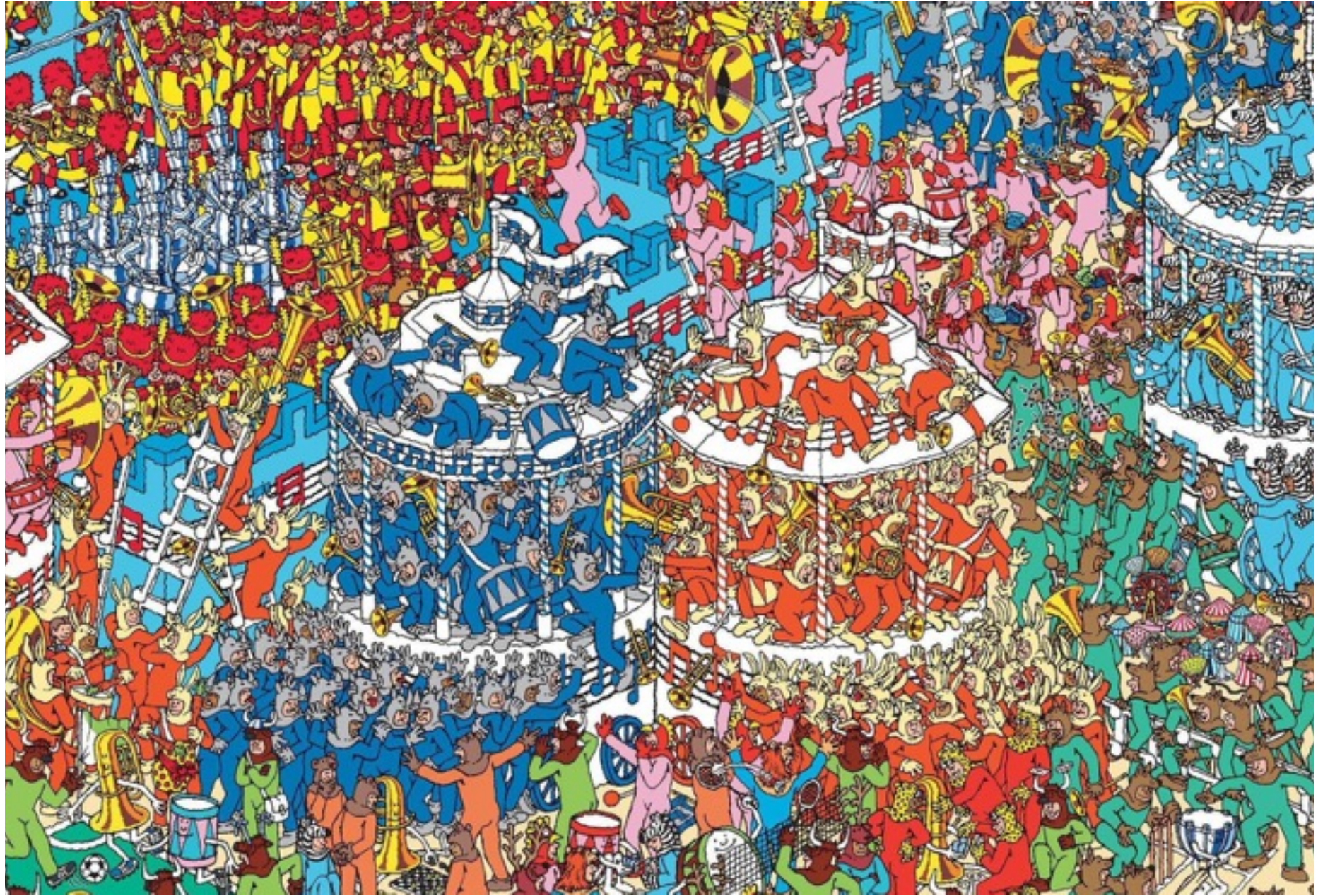
- May2016 - Upgrade Omega axis CPU
- Aug2016 - New IcePAPs electronic drivers for OH motors
- Aug2016 - Replacement of Experimental table
- Jan2017 - Installation of FlexHCD
  
- Upgrade to new control software for motors in EH and OH
  - No more *spec* (blue and pink windows)
  - Bliss - in principle needed only by staff

# UPGRADE OMEGA ROTATION DRIVER

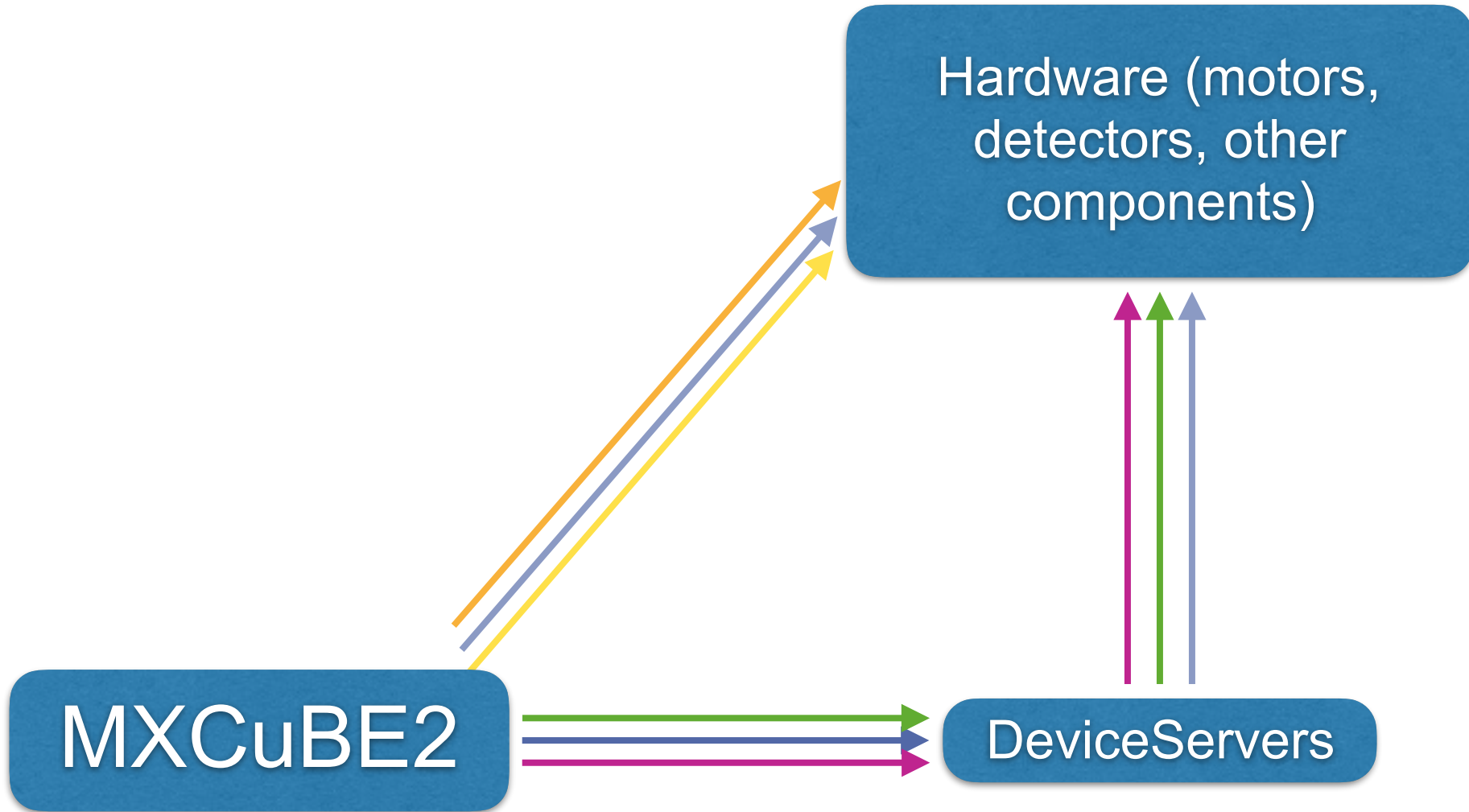
Angular speed (deg/s)	Following error (mdeg)
1	0.18
10	0.23
20	0.33
45	0.36
60	0.45
100	0.65
360	1.16
720	1.44

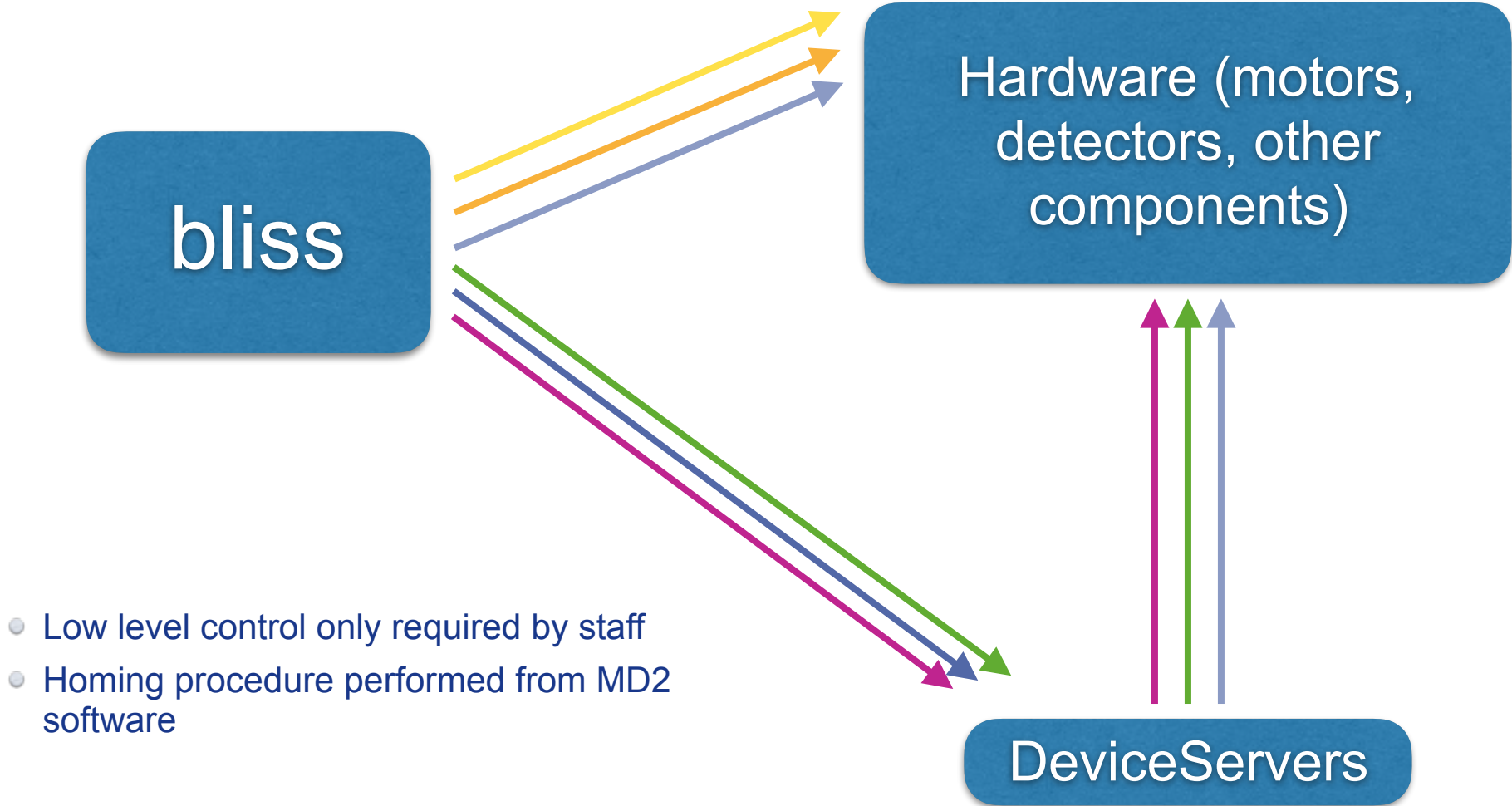


# WHERE IS SPEC?





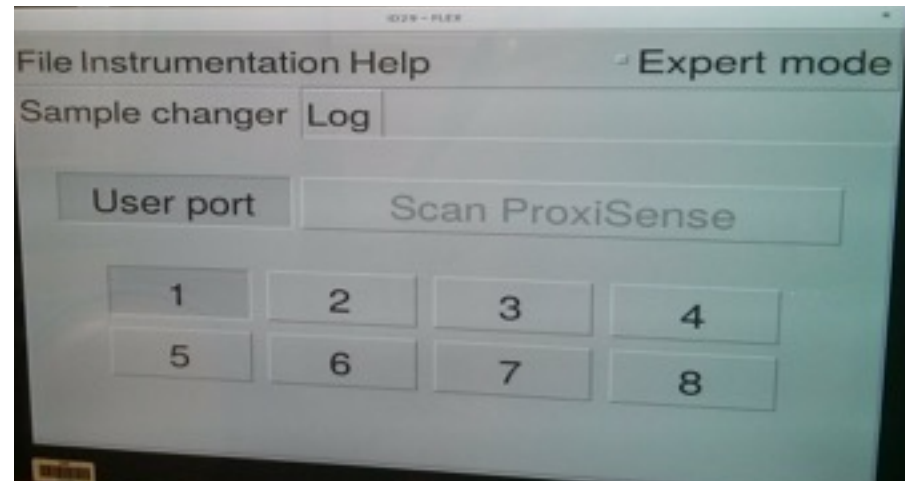


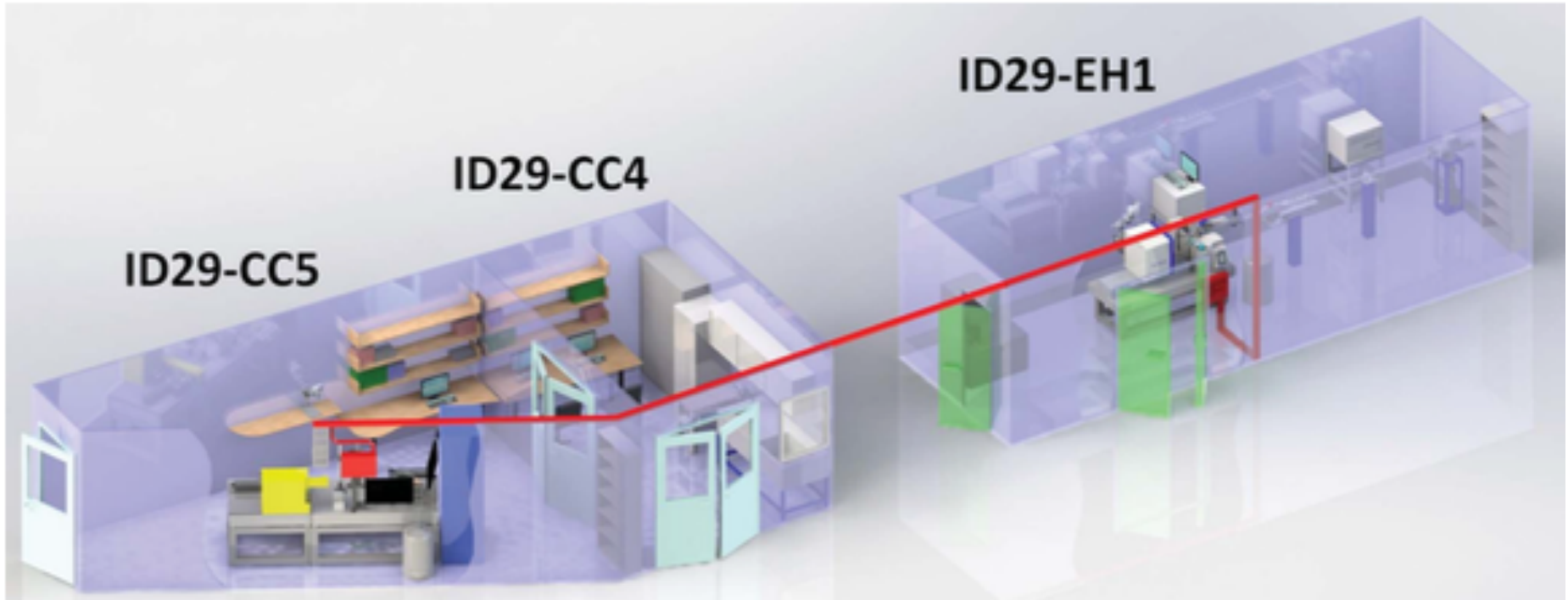




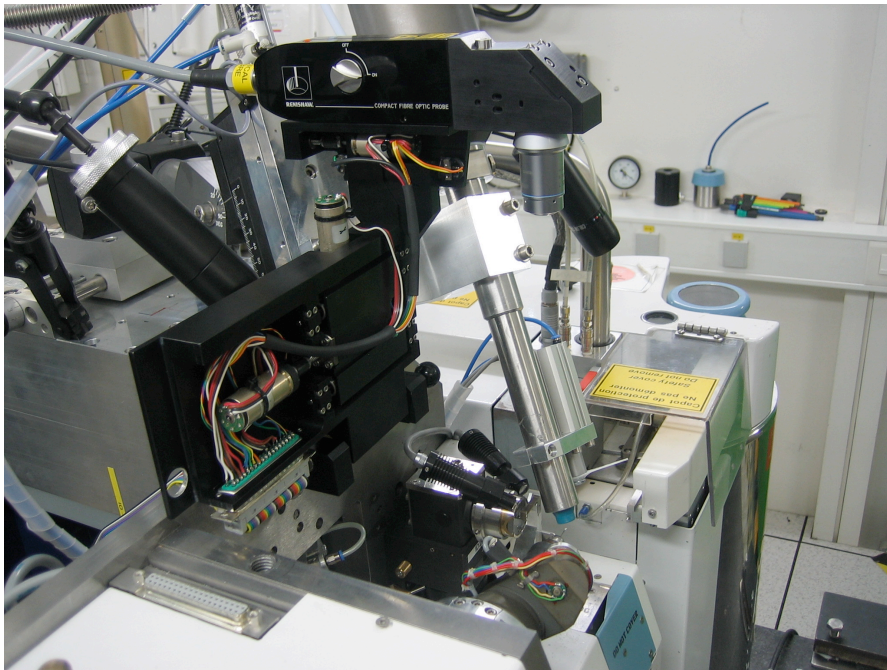


- Experimental setup include a MD2 and a FlexHCD sample changer
- 12 Spine pucks + 11 Unipucks + 1 bin
- Controlled by MXCuBE2

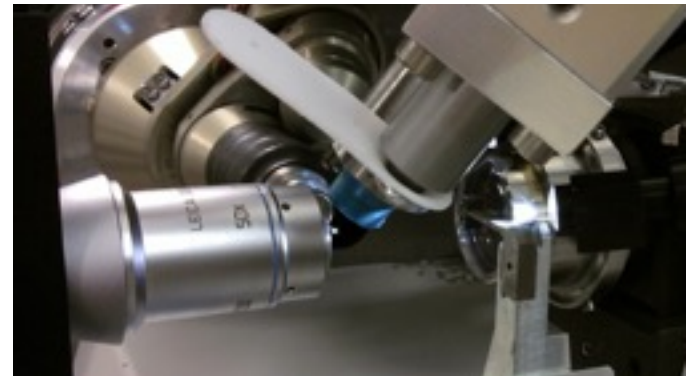
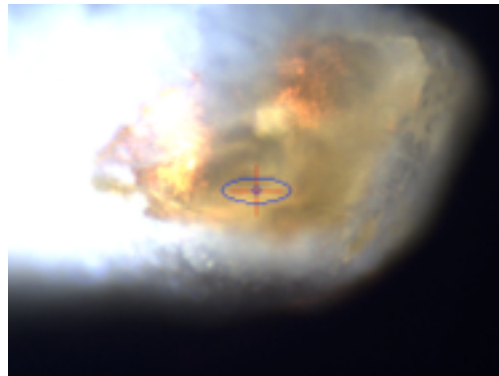
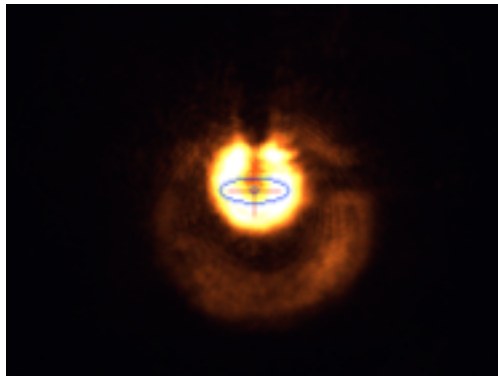
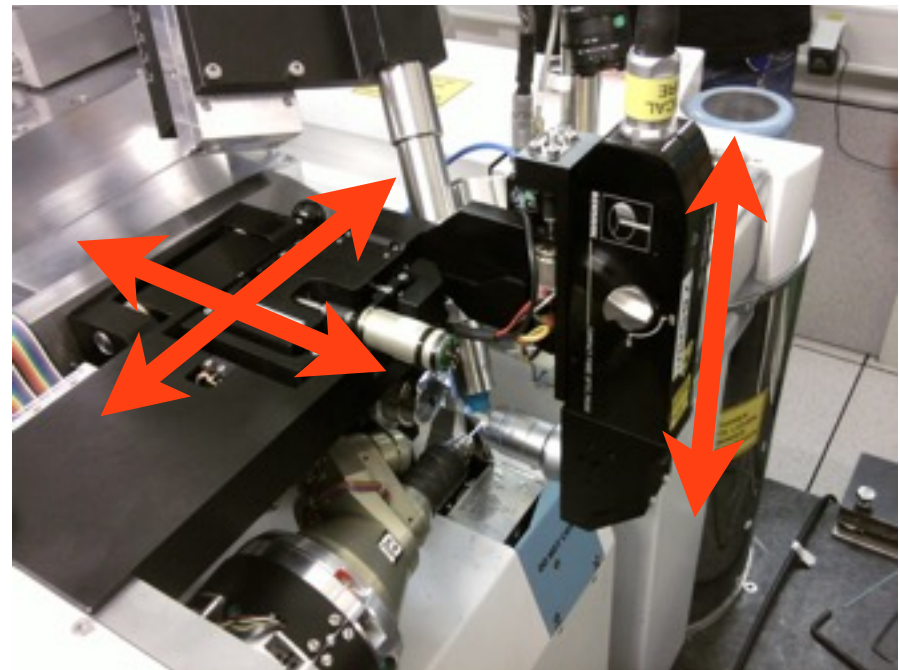




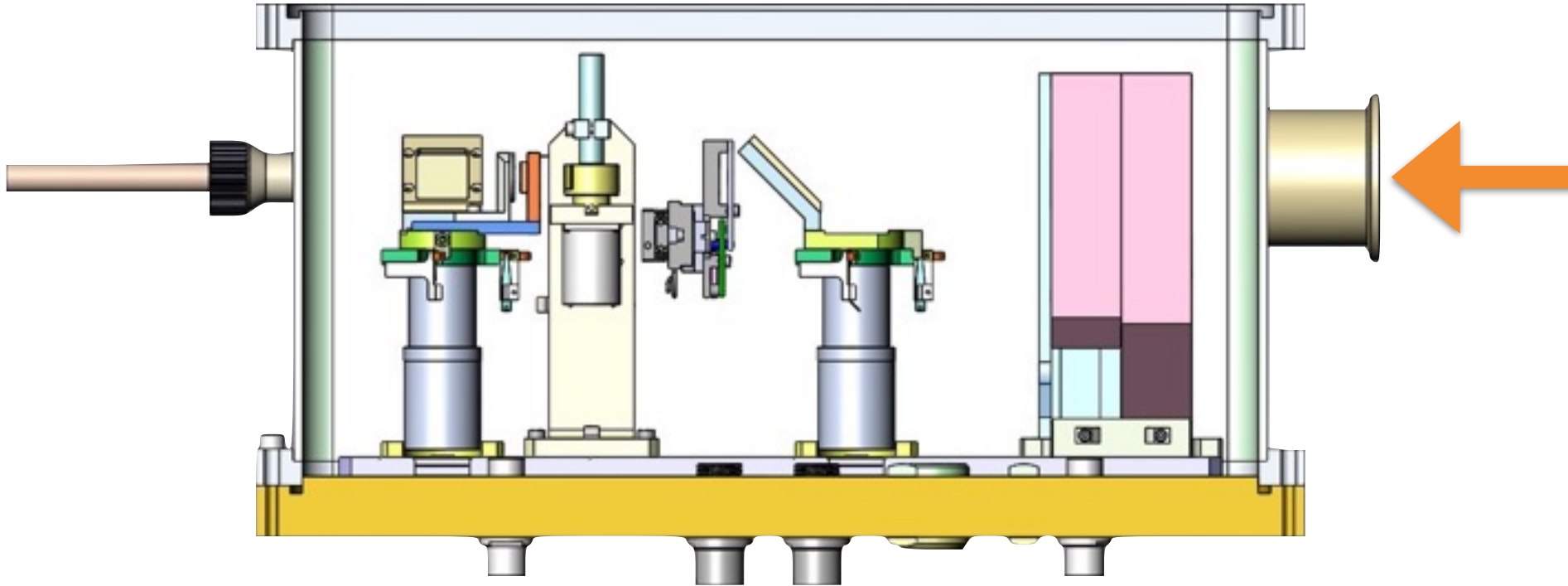
## Probe out - Diffraction data collection



## Probe in - Record Raman spectra



# SHORT TERM PLAN - LONG WAVELENGTH OPTIMIZATION



**YAG**

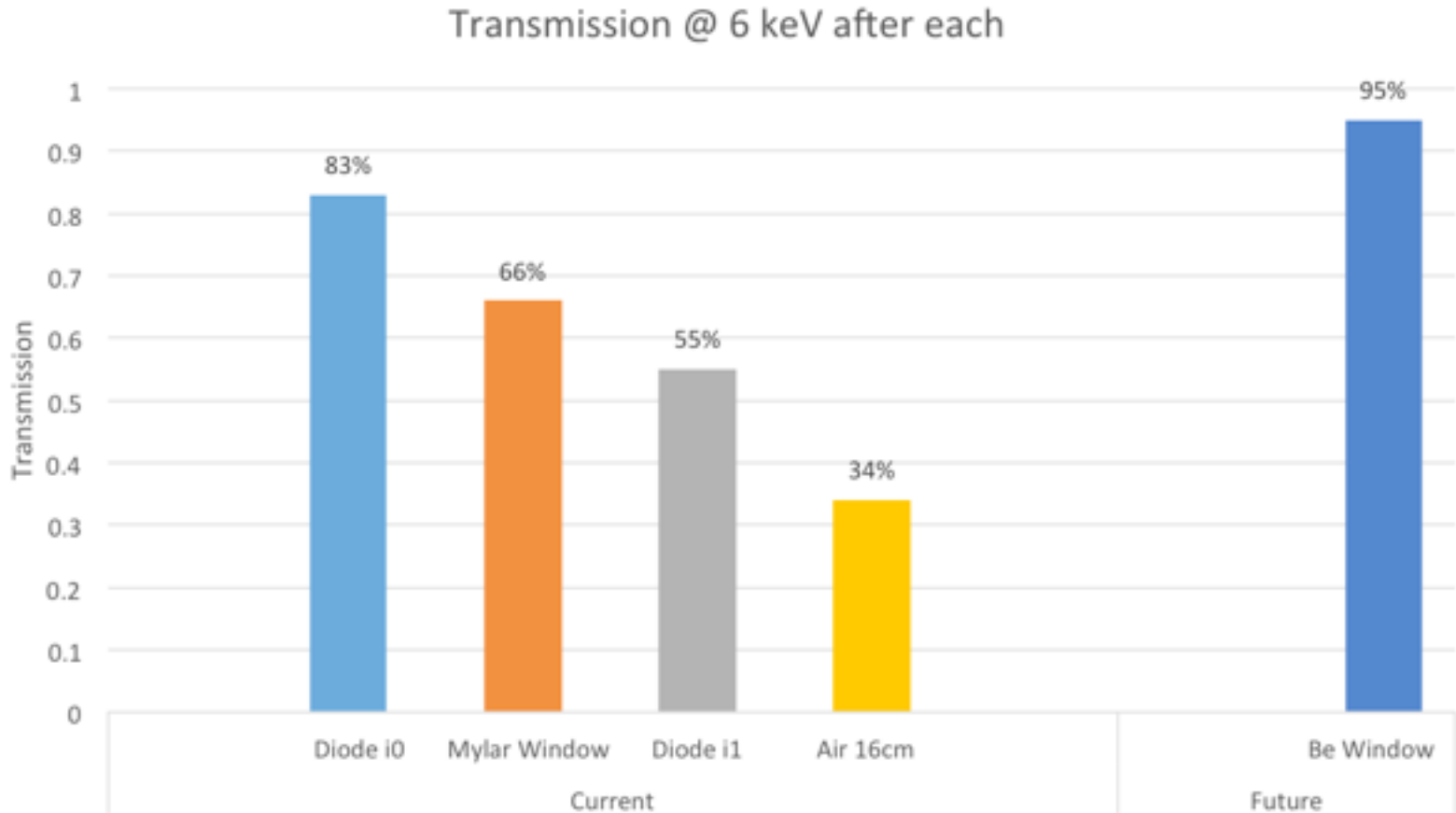
**XBPM**

**YAG**

**Slits**

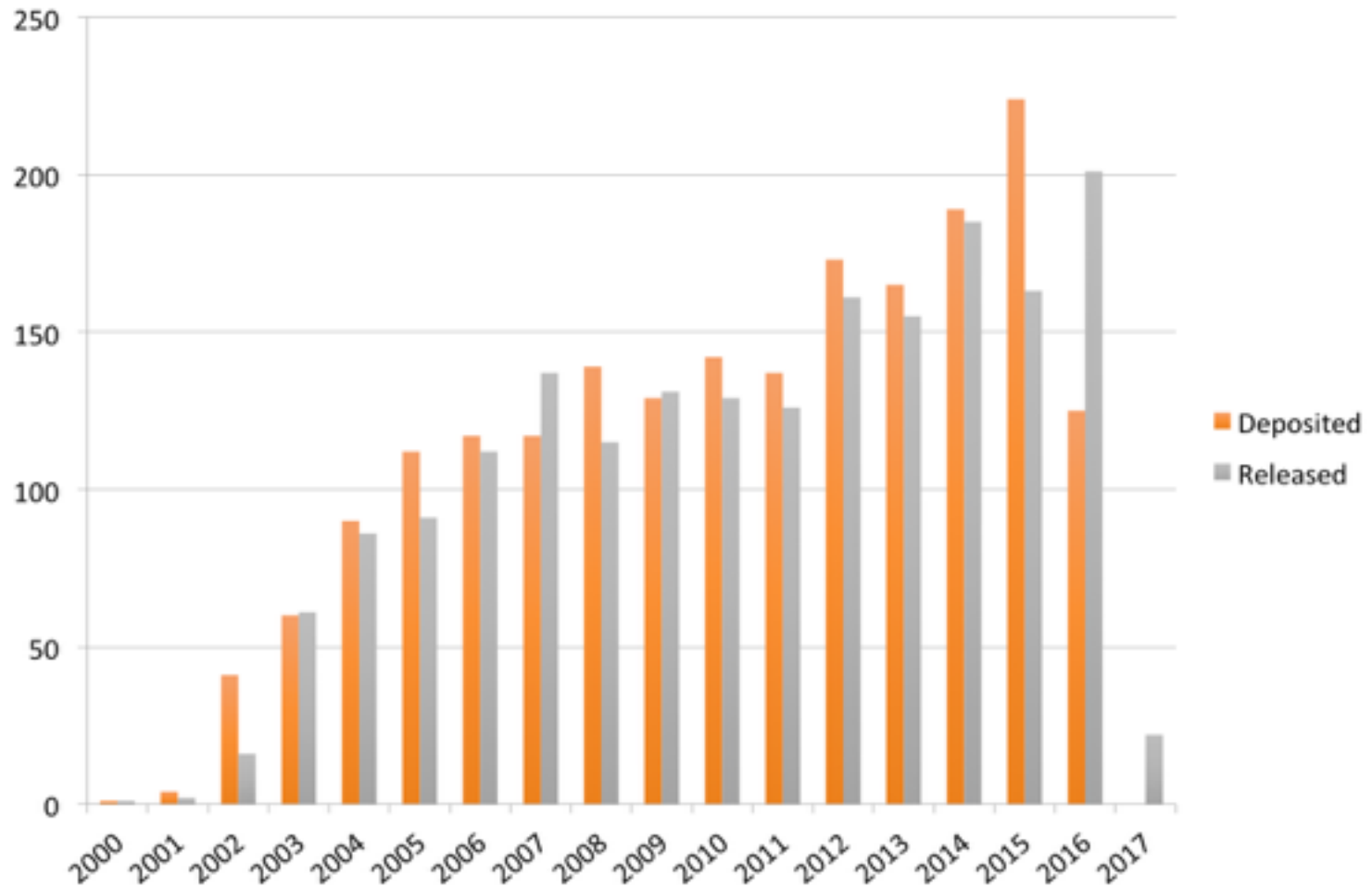
**Shutter**

# SHORT TERM PLAN - LONG WAVELENGTH OPTIMIZATION





2000	1
2001	4
2002	41
2003	60
2004	90
2005	112
2006	117
2007	117
2008	139
2009	129
2010	142
2011	138
2012	173
2013	166
2014	193
2015	224
2016	125
2017	0
<b>1,971</b>	



7/12/99

Test with beam and alignment of Brechtrohling  
200 mA sp 35mm.



Brechtrohling block too high  
15 mm centre to centre

Adjust block down by 3mm



height now correct  
25mm on scale of linear  
feedthroughs  
  
12mm between beam centre and  
hole in Tungsten.

Thank you