

Technical Meeting

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28 Apr 2017

- Routine operation with 1 bunch, 100 pC, 10 -12 GeV compressed to 5 kA
- These parameters are to be used to look for lasing
- Interlock in XTD2/4 reset after access on Thursday
- XTD10 also interlocked now
 - SASE3 beam line no longer available for work
- Authorisation to operate XTDs North received on Wednesday
- Put beam into XTD2 now!

Accelerator Plans for next days

27/04 Th A	Beam operation to TLD 10 GeV, 1 bunches, 0.1 nC, 1 Hz; interlock set XTD2-XTD4
27/04 Th N	Beam operation to TLD 10 GeV, 1 bunches, 0.1 nC, 1 Hz, EOD shift
28/04 Fr M	Beam operation to T4D 10 GeV, 1 bunches, 0.1 nC, 1 Hz
28/04 Fr A	Beam operation to T4D 10 GeV, 1 bunches, 0.1 nC, 1 Hz
28/04 Fr N	Beam operation to T4D 10 GeV, 1 bunches, 0.1 nC, 1 Hz
29/04 Sa M	Beam operation to T4D 10 GeV, 1 bunches, 0.1 nC, 1 Hz
29/04 Sa A	Beam operation to T4D 10 GeV, 1 bunches, 0.1 nC, 1 Hz
29/04 Sa N	Beam operation to T4D 10 GeV, 1 bunches, 0.1 nC, 1 Hz
30/04 Su M	Beam operation to T4D 10 GeV, 1 bunches, 0.1 nC, 1 Hz
30/04 Su A	Beam operation to T4D 10 GeV, 1 bunches, 0.1 nC, 1 Hz
30/04 Su N	Beam operation to T4D 10 GeV, 1 bunches, 0.1 nC, 1 Hz
01/05 Mo M	Beam operation to T4D 10 GeV, 1 bunches, 0.1 nC, 1 Hz
01/05 Mo A	Beam operation to T4D 10 GeV, 1 bunches, 0.1 nC, 1 Hz
01/05 Mo N	Beam operation to T4D 10 GeV, 1 bunches, 0.1 nC, 1 Hz

Beam Permission in XTDs



/svn/user/jaegju/mps/XFEL_MPS_overview_main_v5.xml XFEL.DIAG/MPS/TIME1/

Send to eLog

Beam Vetoes

Operation Modes / Laser & Shutter & LLRF inhibits / Beam Modes / Section Availability



Ctrl Inj1 L1 L2 L3-RF L3-DI SA1 SA3 SA2

Show also "green" release signs:

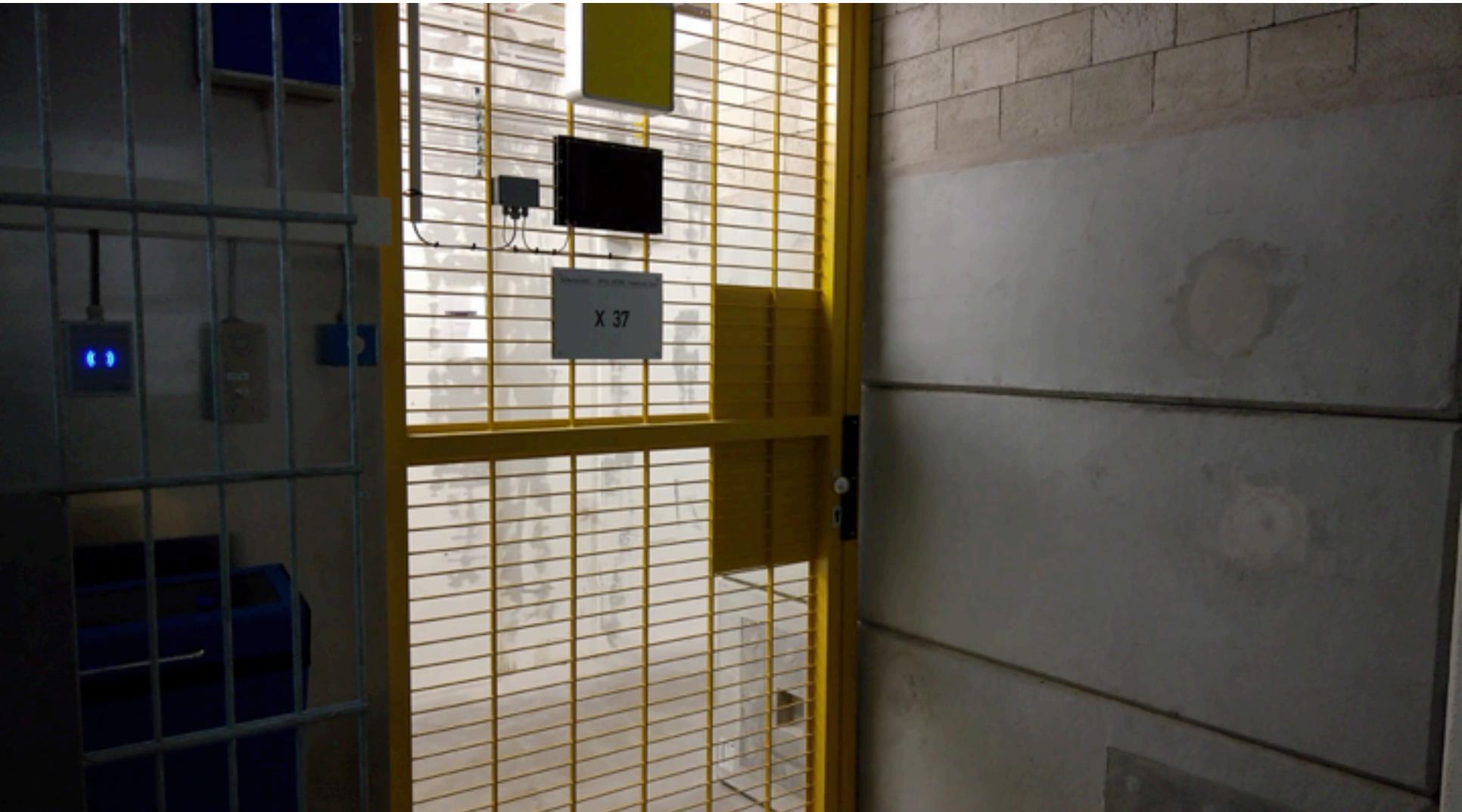
Injector Assessment

House-keeping:	Server:	Info:	Position:	Z [m]:	Laser-inhibits:	RF-inhibit:	Beam Mode:
	LLGUN1	LLRF Inj1 Gun	XTIN_I1.S1_R06.5	33.0			
	LLAH1I1	LLRF Inj1 AH1	XTIN_I1.S1_R06.8	35.0			
	LLGUN1KLM	LLRF Inj1 Gun KLM	XTIN_I1.S1_R06.9	35.0			RF
	LLA1KLM	LLRF Inj1 A1 KLM	XTIN_I1.S1_R06.9	35.0			
	DI30I1.0	3 BLM, Screens, 2 TPS	XTIN_I1.S1_R06.1	29.0			
	DI30I1.1	Condenser Inj1	XTIN_I1.S1_R06.1	29.0			
	DI55I1.0	14 BLM, 4 OTR, TPS	XTIN_I1.S1_R32.1	55.0	STOP		DIAG
	DI55I1.1	BPM, BHM, OTR, TPS	XTIN_I1.S1_R32.1	55.0			

PCCell Shut LLRF Inj1

- XTD2 photon systems are (more or less) prepared for beam
 - Vacuum
 - XGM
 - Screens/Imagers
 - Interlocks
 - EPS
- In XTD9 there is more work to be done but the remaining time appears sufficient.
- In parallel, commissioning work restarted on the SASE1 instruments which are in the focus now.
- SASE3 will require one months of uninterrupted work to finish

Interlock Search





- SASE1:
 - Radiation Interlock Installation
 - FXE Commissioning Beckhoff Loop 1
 - SPB Commissioning Tunnel Loop
- SASE3:
 - Infrastructure Installation is ongoing
- SASE2:
 - Infrastructure Installation is ongoing
 - HED Grouting and Support installation

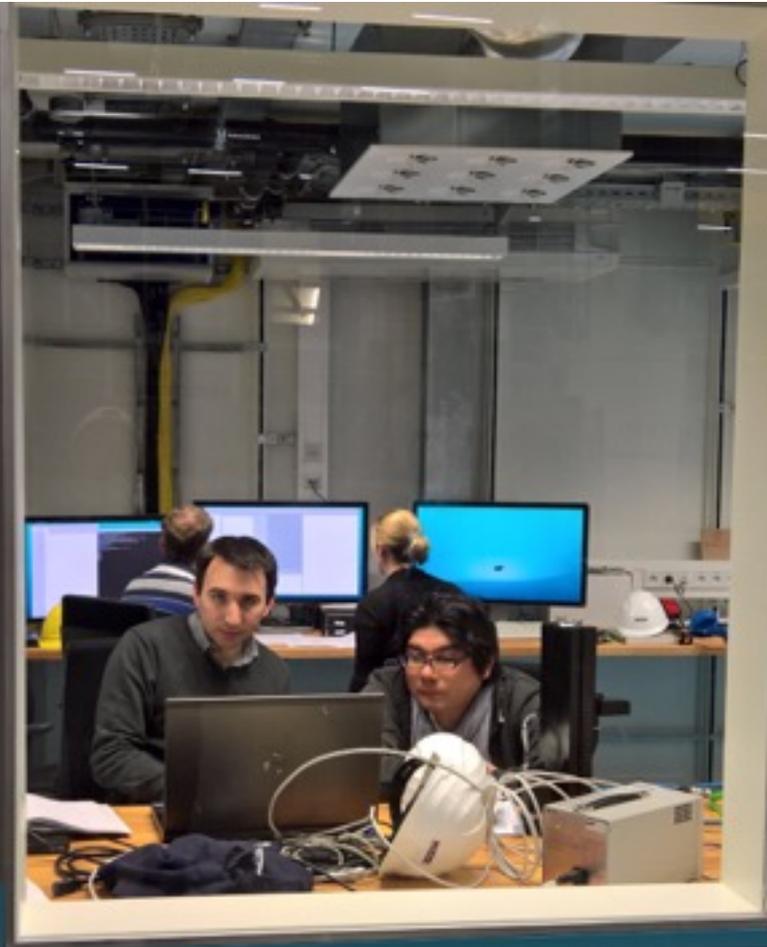
Radiation Interlock Installation SASE1



Wall Connection Boxes SASE1



Instrument Commissioning SASE1/SPB



KB Mirror Focusing Optics at SPB/SFX

Richard Steen, for the SPB/SFX Instrument Group

Two independent KB mirror systems to generate 1 micron and 100 nm scale beams at the upstream interaction region of the SPB/SFX instrument

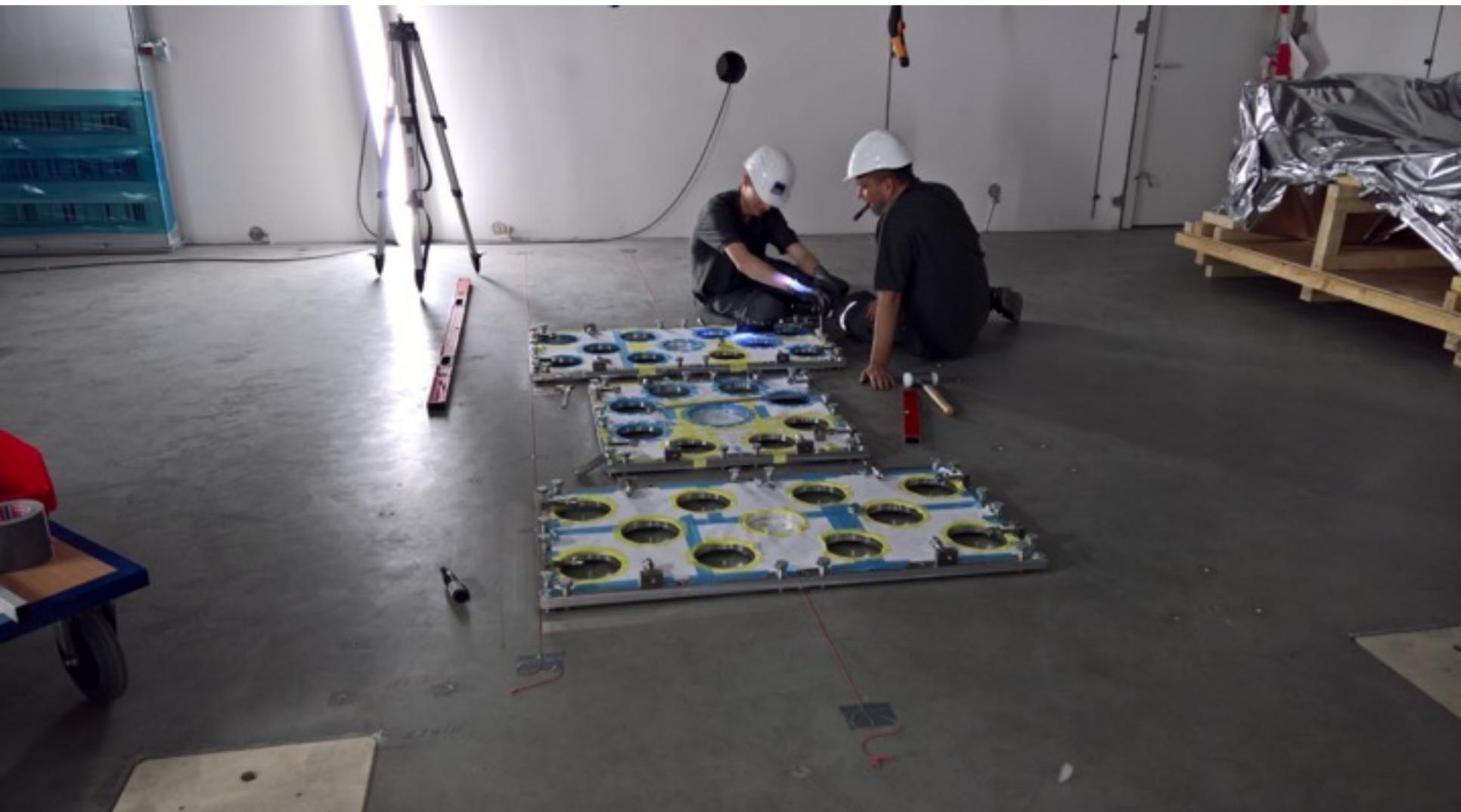
Design of the mirror optical systems for coherent diffraction imaging at the SPB/SFX instrument of the European XFEL

FMB Oxford

300 m source-to-optic propagation length results in large beam sizes and requires long optics even at high incidence angles to preserve clear aperture

Optics arranged in plane mirror and 100 nm foci at a common focal plane

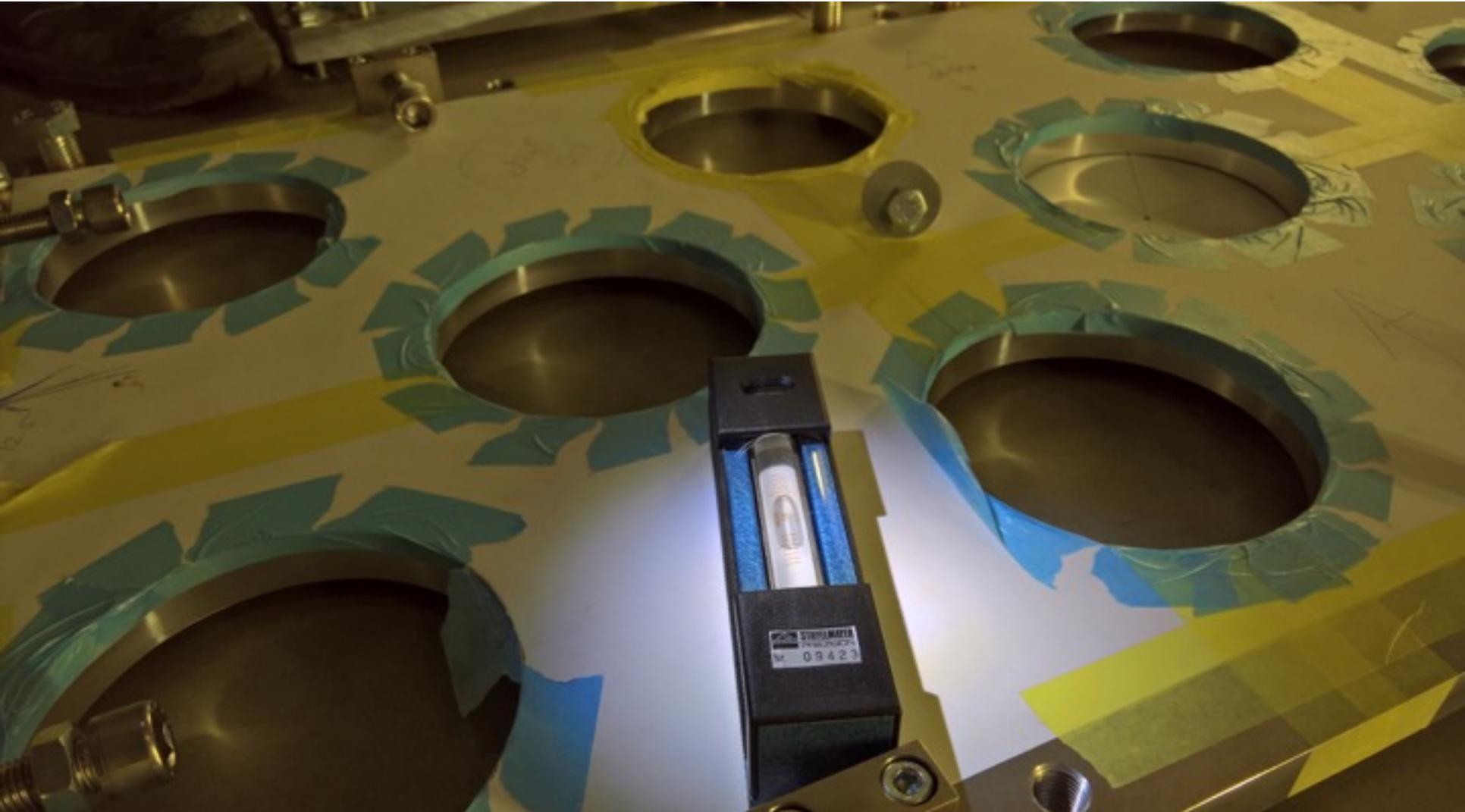
Grouting HED



HED Granites



HED Leveling



Next Meetings

- SASE 1 Readiness: Today 09:00
- XHEXP1 Coordination: 5 May 08:30