

Milestones for 2016-2017

SINDI CHAMBER (@injector)

Ready for beam (15/09/2016)

- Permits:
 - o Steering> For SwissFEL beam
 - o WG-Safety> For inserting target on ebeam path
- WG-Exp> Check CCD functionality (31/08/2016)
- WG-Exp> Check beam loss monitor (31/08/2016)
- WG-Exp (Nicole)> Check network availability when no beam is present
- WG-Exp (Nicole)> Provide local terminal to control the stepper motor (touch screen)

Ready for experiments (30/09/2016)

- WG-Exp & Steering> Determine number of shifts required
- WG-Exp> Coordinate with SwissFEL commissioning
- WG-Safety & WG-Ebeam> Check operative charge and energy

Experiments:

- Beam size measurement (15/10/2016)
 - o WG-Ebeam> Emittance optimization
 - o WG-Ebeam> Determine working charge for the experiments
 - o Determine energy at the interaction location
 - o WG-Exp (Nicole)> Software for measuring beam size
- Transmission through Cu holed target (22/10/2016)
 - o WG-Exp> Installation of the targets (before 31/08/2016)
- Damage threshold evaluation (31/10/2016)
 - o WG-Ebeam> Model of ebeam (15/09/2016)
 - Conservative (1 mm mrad) and optimistic (0.4 mm mrad) scenarios
 - Estimate beam size at the interaction location
 - o WG-Struct (Yelong)> Model of the electric field induced by the ebeam
 - Are the fields sufficient for damage?
 - o WG-Exp & Rasmus> Check laser damage results
 - Invite colleagues for a talk
 - o Rasmus> Acquire real samples from collaboration
 - o Rasmus> Invite people from the collaboration
 - WG-Safety> Safety training for collaborators
 - o WG-Exp> Determine measurement procedure
 - WG-Safety & WG-Exp> Before and after irradiation
 - Avoid contamination, check if samples have powder
 - WG-Exp> Measurement of refraction index of the structure
 - WG-Exp> Visual inspection using microscope
 - WG-Exp (Franziska)> Ask for electron microscope
- Beam degradation due to wakefields
 - o WG-Struct> Investigate the possibility to manufacture scaled dimension samples
 - Determine scaling factor for structure (ideally x75 is a nice spot). Depends on the beam size at the interaction region.

SATSY CHAMBER (@switchyard)

Design change request (DCR) for SwissFEL (15/07/2016)

- Planning of laser (location + beam transport)
- Time and synchronization
- Controls

Budget planning (31/08/2016)

- WG-Laser> idea of laser installation. Requirements

Ready for manufacture (30/11/2016)

- Design of the interaction chamber (31/10/2016)
 - o Evaluate stray fields of quadrupole magnets
 - o Required beam distance when not operating

Ready for installation (15/09/2017)

- Pre-assembly (01/06/2017)
- Testing
 - o Motors
- Installation on girder
- Installation of the girder in the switchyard

Ready for beam (30/09/2017)

Experiments (31/12/2017 – 30/06/2018)