

GFA - PSD Accelerator Seminar

European XFEL – a Status Report

Monday, 5 November 2018, 16.00 h, WBGB/019

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European XFEL***

European XFEL is a hard X-ray free electron laser and provides a very powerful X-ray beam for research. The facility encompasses a 3.5 km long tunnel from DESY in Hamburg/Bahrenfeld to Schenefeld in Schleswig-Holstein where the experimental hall is placed. The tunnel encloses a 2 km long superconducting accelerator operated by DESY and undulator radiation sources that produce an extremely powerful and ultra-short X-ray beam. The beam is guided through the about 900 m long photon transport system into the experimental hall. The facility was taken into user operation in September last year after an exceptionally short commissioning time.

The first two experimental stations have now been doing experiments for about one year. One instrument is the SPB/SFX (Single Particle Bio imaging/Serial Femtosecond Crystallography) instrument for structural biology. The other instrument is FXE (Femto Second experiment). Both instruments are located on the SASE 1 undulator radiation sources. In total six instrumental stations will be operating in 2019, first user experiments are expected on the instruments on SASE 3 end of this year. The remaining two instruments will go in user operation in the first half of 2019.

In the talk the basic principles of the European X-FEL will be discussed, experiences from the first commissioning and user experiments will be given and results of some of the first experiments will be shown. Further, the plans for the upcoming years will be discussed.

For more details contact Luc Patthey, 4562