

Harald Sinn

The Start-up of the European XFEL Facility

The European X-ray Free-Electron Laser (XFEL) came into operation in September 2017 as one of the most powerful x-ray laser facilities worldwide. Located in a 2-km-long underground tunnel in the metropolitan area of Hamburg, Germany, the superconducting XFEL linac can accelerate electrons to a maximum energy of 17.5 GeV. Up to 27,000 electron bunches can be produced per second and distributed to three undulator systems feeding six scientific instruments. According to its final specifications, photon energies between 250 eV and 24 keV can be obtained in the lasing fundamental with energies of 1-10 mJ per pulse and pulse durations of 2-100 femtoseconds. In the hard x-ray regime, up to 10^{16} coherent photons per second will be available. This talk will highlight the activities and results obtained during the intense phase of the facility commissioning in 2017 and the early user program. The current status of the facility will be presented and discussed with respect to its initial goals and future perspectives.

Harald Sinn received his Ph.D. in 1996 from the University of Erlangen, Germany, and then was an Assistant Professor at the University of Rostock. He joined Argonne in 1999, leading the non-resonant high-resolution inelastic x-ray scattering user program at the Advanced Photon Source at Sector 3 and later at Sector 30. In 2007, he joined the European XFEL project in Hamburg and took over responsibility for the x-ray transport systems. As of 2009, he is the leader of the X-ray Optics Group, which focuses on the development of ultra-high precision mirrors and other beamline components that sustain the extreme power loads of the XFEL beam and he leads the photon commissioning activities at the European XFEL.

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