

Virtual Hard X-Ray Collaboration Seminar Series

Date: Thursday 28th October 2021

Title: Sidebands, the FEL chirp and new ultrafast applications at European XFEL

Speaker: Daniel Rivas, European XFEL

Abstract:

The Small Quantum Systems instrument at the European XFEL is dedicated to the investigation of soft X-ray interaction with atoms, small molecules and nanostructures in the gas phase. Most of the applications of interest in this field require good understanding and control of the spectral and temporal properties of the FEL pulses, particularly when considering time-resolved dynamics based on pump/probe spectroscopy. In this talk I will present recent advances in our technical capabilities for time-resolved studies involving soft X-ray FEL pulses together with a synchronized optical laser. This will include novel advances on our synchronization system, direct temporal diagnostics based on laser-assisted photoemission, measurement of the X-ray chirp and characterization of the two-color X-ray operation.