

Virtual Hard X-Ray Collaboration Seminar Series

Date: Thursday 27 October 2022

Title: Time-resolved X-ray Absorption Spectroscopy with Tender X-ray

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Abstract:

PAL-XFEL is one of the unique facilities which can provide tender X-ray FEL (typically from 2.3 ~ 5 keV). Tender X-ray is important for the x-ray absorption spectroscopy or x-ray resonant scattering for studying 4d elements which have L-edge absorption at tender x-ray regime and studying the third-row elements (S, P) which have K-edge absorption at tender x-ray regime.

Since 2017, PAL-XFEL has started the user service for tender X-ray experiments, time-resolved X-ray absorption spectroscopy (TR-XAS). Reliable operation of tender X-ray absorption spectroscopy experiment was challenging. The most difficult problems are XFEL flux loss during transporting XFEL to the sample by inline diagnostic tools and different X-ray pathlength inside DCM which cause X-ray arrival time on the sample.

Here we will introduce the status of time-resolved tender X-ray absorption spectroscopy at PAL-XFEL with some experiment results.