

SwissFEL Workshop 2: Scattering and diffraction experiments



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Terahertz Streak Camera as Arrival Time Monitor for SwissFEL

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The SwissFEL design expects to provide users with X-ray pulses of few-femtosecond duration, which will be synchronized to a pump / probe laser. At present, no device exists to measure the relative arrival time and the X-ray pulse length with the required precision. We propose here the development of a Terahertz streak camera as photon arrival time and pulse length monitor (PALM). The efforts will be based on existing skills and capabilities in the GFA Diagnostics Section and the SwissFEL Laser Group. Commissioning and calibration of the PAM will be performed at the seed laser in the SwissFEL Injector Test Facility. The successful execution of this research proposal will enable the applicants to design a photon arrival time and pulse length monitor for SwissFEL.

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