

The Sub-Piconsecond Photon Source: An ultrafast x-ray experiment at SLAC

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The Sub-Piconsecond Photon Source (SPPS) experiment is a collaboration of laboratories and universities from around the world. The goal of the collaboration is to exploit subpicosecond x-ray pulses that can be generated utilizing extremely short, intense, low-emittance electron pulses from the high-energy linear accelerator at the Stanford Linear Accelerator Center. The x-rays produced will feature unprecedented peak fluxes and short pulse lengths tunable over an energy range of 8- 16 keV.

Construction will begin in June 2002 and the SPPS will be operational until the start of LCLS construction stops operations of the FFTB. The SPPS experiment will provide the opportunity to address important scientific questions ranging from atomic physics through chemistry and biology to materials science. The design study for the SPPS is available, SLAC-Pub-8950.