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Laser-Based Seeding of SwissFEL Athos

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In the scope of the HERO ERC project, we are implementing a laser-based seeding scheme at the SwissFEL soft X-ray Athos beamline to generate fully coherent X-ray FEL pulses. With this perspective, we designed and built a new laser facility. It consists of a terawatt-class, femtosecond laser system based on Titanium Sapphire technology with wavelength tuning capability, an optical transfer line as well as a launching optical setup and diagnostics to spatially and temporally overlap the laser and the electron bunch inside the modulator, where the seeding process occurs. We present an overview of the facility with details of the laser performance as well as first commissioning results with the electron beam.

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Yes

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