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OPCPA as an amplifier technology for high repetition rate 100 TW-class lasers

Wednesday, 21 September 2022 11:40 (20 minutes)

In this talk we present on the role of optical parametric chirped pulse amplification (OPCPA) in high energy laser systems at ELI-Beamlines. OPCPA is an integral part of 3 of the 4 lasers at the ELI-Beamlines laser facility and will be used as the chief amplification technology in the L2-DUHA laser which is currently under development and intended to serve as a driver for laser wakefield acceleration. We discuss the performance and parameters of the L1-Allegria picosecond OPCPA laser (operating at 1 kHz), the Joule-level, 5 Hz front end OPCPA-based front end for the L4-Aton laser, and how these amplification schemes are combined in the L2-DUHA, 50 Hz, 100 TWA OPCPA system.

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Session Classification: Special Topic