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Status and first results of ATLAS-3000 at CALA

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The Center of Advanced Laser Applications (CALA), a new high-intensity laser infrastructure, is nearing completion of commissioning its main laser system ATLAS-3000. The target parameters of the laser are 60J pulse energy in 25 fs at 1 Hz repetition rate. Currently, the laser pulses is serving experiments in two of CALA's target area while its peak power is being ramped up in accordance with the power handling capability of the experiments, currently limited by e.g. the level of EMP suppression. This power is currently approximately 250 – 300 TW in the electron target chamber, and 150 TW in the ion acceleration chamber, and a fast increase is expected in 2020. First results indicate excellent beam quality, with a high-contrast Strehl ratio of >75%, a temporal ASE contrast of >1010 with no significant prepulses and stable laser acceleration performance. Quasi-monoenergetic electron beams with charges of >300 pC at the GeV level and > 1 nC at 350 MeV mark new record figures. We will present the latest commissioning results from both the electron and ion accelerator experiments and well as the latest laser performance figures.

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