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PALLAS, a laser-plasma injector test facility, development status

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The prototyping accelerator based on laser-plasma technology (PALLAS) project aims to build a laser-plasma injector accelerator (LPI) test facility to deliver within a few years electron beams of 150-250 MeV, >30 pC, <1 mm.mrad emittance beam at 10 Hz with control and stability comparable with RF accelerator. The project is, among others, built in the framework of the technical preparatory phase of the EuPRAXIA [1] project's TDR. The development approach is based on three axes: advanced laser control, plasma target development and electron beam characterization. After a quick overview of the installation, the recent progress and results in plasma targetry and laser-plasma injector modelling will be reported. Advanced laser driver control development implementation for online monitoring will be presented. The recent progress in the electron beam characterization line will be discussed.

Funding Agency

ANR/PIA3-PACIFICS, CNRS/IN2P3, CPER Université Paris-Saclay

Footnotes

[1] - Assmann, R. W. et al. EuPRAXIA Conceptual Design Report. Eur. Phys. J. Spec. Top. 229, 3675–4284 (2020).

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