

150 Joules in 15 femtoseconds What would you do with a 10-PetaWatt laser ?

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The APOLLON-10P laser system is a Ti:Sa based laser that will deliver 150 J in 15 femtosecond pulses (10 PW); after focusing, intensities up to 2×10^{22} W/cm² will be delivered to the experimentalists. This will allow reaching the so-called “ultra-relativistic regime” where both the electrons and ions are expected to be relativistic and thus allowing for the exploration of novel matter properties. Four beams (10-PW, 1-PW, uncompressed, and a probe) can be directed into the main experimental chamber or the auxiliary chamber for particle beam–laser interactions or long focal length optics experiments. We will operate APOLLON-10P laser as a User’s Facility and we aim to attract new user communities, national and international.

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