Laser-Plasma Accelerators Workshop



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ELI NP status and challenges for the LPAW community

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The dual 10 PW lasers at ELI NP, surrounded by well-equipped experimental areas, provide the user community with privileged access to a versatile laser system capable of delivering up to 250 J of energy over 25 fs or longer pulse durations. This enables target intensities of approximately $10^{23} \, \text{W/cm}^2$, with a repetition rate of one shot per minute. This unique European facility has been designed to support groundbreaking discoveries in nuclear physics, high-field physics, and plasma science, as well as applications in medicine, biology, and security.

I will briefly present the current status of ELI NP, detailing its transition from the commissioning of the laser and experimental areas to its opening to the user community. I will highlight the recent breakthroughs it has enabled, with particular emphasis on its contributions to the laser wakefield community. This will be followed by a discussion of the scientific direction for the next two years, focusing on new opportunities in particle acceleration and the exploration of strong-field quantum electrodynamics (SF QED).

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