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Advancing plasma accelerator science: insights from the EuPRAXIA Doctoral Network

Tuesday 3 June 2025 16:00 (2 hours)

The EuPRAXIA Doctoral Network (EuPRAXIA-DN) aims at training the next generation of scientists in plasma-based accelerator technologies, addressing challenges in laser-plasma interactions, advanced beam diagnostics, and novel applications. This contribution highlights progress made across a number of research projects, including the optimization of X-band low-level radio frequency (LLRF) systems for femtosecond synchronization, studies into laser-driven undulator coherent radiation sources for compact free-electron lasers (FELs), and the exploration of high-repetition-rate laser-plasma interactions for electron beam stabilization and quality enhancement. The innovative training elements within the network, such as the EuPRAXIA School on Plasma Accelerators held in Rome in April 2024 and the upcoming EuPRAXIA Camps, will also be discussed. It will be shown how these foster knowledge exchange and skill development for both, the network's fellows and the wider community.

Footnotes

Paper preparation format

Word

Region represented

Europe

Funding Agency

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