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Type: **Invited Talk**

A laser technology roadmap for plasma accelerators

Friday, 18 April 2025 09:00 (33 minutes)

The talk will provide an overview of the technology roadmap for high power “drivers” for Laser-Plasma accelerators developed in the framework of the Innovation Fostering in Accelerator Science and Technology (IFAST) project, as part of EURONNAC.

A brief intro on short pulse ultraintense lasers will be given, followed by a summary of key properties of amplifying solid state media for short pulse amplification. Scaling of available laser technology to drive future large accelerator systems will be discussed, highlighting potentials and limits of existing Ti:Sa technology, followed by a review of other approaches for high rep-rate and high wall-plug efficiency. Finally, an overview of ongoing research projects and initial results related to the implementation of this roadmap, including laser development for EuPRAXIA and other user infrastructures will also be given.

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