Giornata Acceleratori



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EuPRAXIA: stato e sviluppi

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It is widely accepted by the international scientific community that a fundamental milestone towards the realization of a plasma driven future Linear Collider (LC) will be the integration of a high gradient accelerating plasma modules in a short wavelength Free Electron Laser (FEL) user facility. To this end the EuPRAXIA project (European Plasma Research Accelerator with eXcellence In Applications) is expected to provide by the end of 2028 the first European Research Infrastructure dedicated to demonstrate usability of plasma accelerators delivering high brightness beams up to 1-5 GeV for users. In its first implementation phase, the EuPRAXIA consortium will construct a beam driven plasma accelerator facility, named EuPRAXIA@SPARC-LAB at INFN-LNF. In its second phase, EuPRAXIA will build a laser driven plasma accelerator facility at a site to be chosen within the next 2 years between several options in Europe.

The EuPRAXIA project has received official government support from Italy, Czech Republic, Portugal, Hungary and UK. Financial support of 118 M€ has been already committed, mainly from Italy as lead country. The EuPRAXIA consortium includes in total 51 institutes from 15 countries. Recently the European Strategy Forum on Research infrastructures (ESFRI) has assessed the maturity of the EuPRAXIA project during the last review of new research infrastructures for Europe, leading to the inclusion of EuPRAXIA in the ESFRI Roadmap 2021.

In this talk we report about the recent progress in the context of the EuPRAXIA collaboration with particular emphasis to the ongoing activities at INFN-LNF related to the EuPRAXIA@SPARC_LAB project.

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