EUROPEAN PLASMA RESEARCH ACCELERATOR WITH EXCELLENCE IN APPLICATIONS

EuPRAXIA

Working Package 11
FEL pilot Applications

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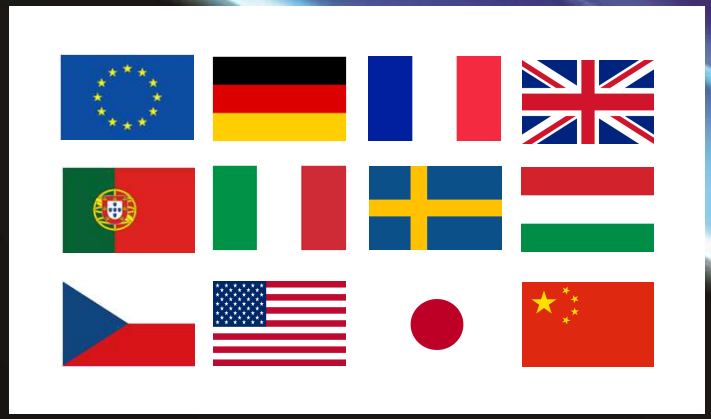

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Review of scientific work

SOLEIL-LOA activities :

- Transport line installed
- Electron beam has been transported.
- Diagnostics under commissioning.
- Run 2 is achieved since November 2016: results are under analysis.

Hamburg University Activity

- First electrons generated in June 2016
- Continuous gas-flow target operational
- Current upgrading diagnostics

Hiring and personnel

1 post-doc : F. Massimo has been hired for 24 months (CNRS/LOA), working on numerical simulations of Laser Plasma Accelerators for FEL applications

1 post-doc : Start early 2017 for simulations and undulator development (University of Hambourg)

Events and publications

Events: Participations at

- EuroNNAC and EuPRAXIA Workshop on a European Plasma Accelerator, 29th June - 1st July 2016, Pisa, Italy
- Erice School-Workshop "Trends in Free Electron Laser Physics", 17-23 May 2016, Erice, Italy
- Daresbury workshop « Designing Future X-ray FELS », 31/08-02/09 (2016)

Publications:

"Comparisons of time explicit hybrid kinetic-fluid code Architect for Plasma Wakefield Acceleration with a full PIC code", by F. Massimo, S. Atzeni and A. Marocchino, to be published in Journal of Computational Physics

« Real time monitoring via second-harmonic interferometry of a flow gas cell for laser wakefield acceleration », by F. Brandi, F. Giammanco, F. Conti, G. Lambert, and L. A. Gizzi, Review of Scientific Instruments 87, 086103 (2016)

Outlook & AOB

- Preparation of the next runs in the different laboratories

- Detailed numerical studies of injection mechanisms