WP11: FEL application prototype (CNRS-LOA)

Goal: Optimization of FEL application

People involved: A. Lifschitz (CNRS-LOA), V. Malka (CNRS-LOA) and F. Massimo (postdoc Eupraxia from January 2016)

Deliverables:

D11.1, M32: report on best candidate LP accelerator for FEL (close to D6.2)

D11.2, M42: report on laser-plasma based FEL feasibility

WP11: FEL application prototype

Ongoing work:

1) Numerical study of the optimization of LPA for FEL:

- Simulations using CalderCirc of LPA for ionization injection and shock injection in progress
- Initial target figures: 1 GeV, one stage, energy spread<1%, divergence<1 mrad, charge~100 pC

2) Experiment of a LPA based FEL (ERC X-FIVE +ERC COXINELLE):

- Beam optics first undulator (2 m long) installed at Salle Jaune (LOA)
- First shots next week