

Update on WP4 (Laser)

- “100³” configuration is under scrutiny in view of requirements from other WPs;
- Industrial quality vs. outstanding performances: energy per pulse vs rep-rate is critical;
- Main (acceleration) beam, injector beam, photocathode beam, aux guiding beam ...;
- Rep-rate of laser will drive technology down-selection
- Stabilization can be achieved independently (CW alignment laser);
- Injector and accelerator will require different laser specs (<100 fs vs. >100fs): Ti:Sa?;
- Indirect pumping – DPSSL Yb:YAG? Ceramics?
- Laser development strategy awaiting decision of full parameters list, including physics and user driven specifications.

Contributions from CNRS, CNR, INFN, RAL, Amplitude, Thales

Laser Design and Optimization (LDO)

Task 4.1 : Management and system engineering, **Gizzi, Mathieu**

Task 4.2 : Laser design study

Task 4.2.1 : Benchmarking, **Toci, Pattathil, Laux,**

Task 4.2.2 : Front-end, **Mathieu, Falcoz, Anania, Bisesto, Laux**

Task 4.2.3 : Power amplification section, **Mathieu, Falcoz, Vannini, Anania, Bisesto, Patrizi, Laux**

Task 4.2.4 : Stretching, compression and Transport, **Mathieu, Ertel?, Anania, Bisesto, Laux**

Task 4.2.5 : Diagnostics, **Falcoz, Giove, Galimberti(?), Galletti(?)**

Task 4.3 : Transverse functions,

Alignment control, active stabilization, synchronisation, **Mathieu, Gizzi, Pattathil, Anania, Gallo(?), Bisesto, Laux**

Task 4.4 : Laser control system, **Giove, Falcoz, Laux**