Ultrafast and intense laser metrology

5 DAYS (35H)

Ref. LSL-18

OBJECTIFS

- Master laser field representation
- Understand the many laser field parameters (energetic, spatial, temporal, spectral, spatio-temporal, ...)
- Review up-to-date laser metrology techniques
- Train on common metrology techniques during hands on sessions
- Interact directly with the many industrial partners in charge with the trainings
- Build a network of users within the European community and exchange knowledge and how-to among the participants. Initiate collaborations.

PUBLIC

- Users or designers of high intensity/high energy/high average power lasers
- Technicians, Engineers, researchers
- Undergraduate and PhD students

ÉVALUATION

- Assessment
- Certificate of completion

INTERVENANTS

- Experts in their field

PROGRAMME

- Basic concepts: Ultrashort and intense laser sources, laser field representation, laser parameters, linear and non-linear optic
- Measurement methods: Energy (Photodiode, pyroelectric, thermopile) ;
  Spectral (wavemeter, Fabry-Perot, monochromator, imaging spectrometer, FTIR, ...)
  Temporal (Autocorrelation, FROG-type, SPIDER-type, D-Scan, Wizzler, CEP, ...)
  Spatial (Knife-edge, CCD, ..., M2, Shack-Hartman, multilateral interferometry, ...)
  Spatio-temporal couplings (Termite, ...)
- Special cases: THz characterization ; XUV/attosecond pulse characterization
- Lab work: Time-frequency duality ; SNLO ; Spatial propagation ; Energy, power, intensity ; Spectral measurements ; Temporal ; Spatial ; Spatio-temporal ; THz

MÉTHODES & MOYENS PÉDAGOGIQUES

- Lectures: 50%
- Hands on training: 50%

+ D'INFOS

- Dates : contact us
- Prerequisite: Degree in lasers and optics
- Registration fee : upon request