

Ultrashort Pulse Characterization

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Intended Audience:

This course is intended for scientists and engineers, from academia, industry or other sectors, interested in learning about how to measure ultrashort laser pulses, with theoretical background and practical perspectives.

Benefits and learning objectives:

Upon completion of this course, the student should have an understanding of:

- Physical and mathematical description of ultrashort laser pulses
- Fundamental principles and challenges in ultrashort pulse characterization
- The idea of autocorrelation, its application and limitations
- How does methods like FROG and SPIDER extract the intensity and phase information
- Computational methods accompanying characterization techniques
- Recent trends in pertinent fields
- How to develop diagnostics in certain practical cases such multi-photon microscopy and single-cycle pulse generation