Laser Facility

Program
"Ultrashort laser pulses: generation, manipulation y applications".

Monday (25th).

Lecture. (8:30 a.m., class to be confirmed).

1. Introduction
2. General introduction.
3. Generation of ultrashort pulses.

Lab Practices

1. Ultra-short pulse generation (demonstration)
2. Michelson interferometer.

Tuesday (26th).

Lecture. (8:30 a.m., class to be confirmed).

4. Ultra-short pulse manipulation.
4.1. Control of the puse phase.
4.2. Amplification.
4.3. Wavelength tuning.

Lab Practices

2. Second Harmonic.
3. Supercontinuum Generation. Third Harmonic Generation in gases.
4. Design and construction of an ultra-short pulse compressor.

Wednesday (27th).

Lecture. (8:30 a.m., class to be confirmed).

5. Diagnosis of ultrashort pulses.
5.1. Autocorrelation and cross-correlation.
5.2. FROG (frequency resolved optical gating).

Lab Practices

5. Construction of an ultra-short pulse autocorrelator

Thursday (28th).

Lecture. (8:30 a.m., class to be confirmed).

6. Applications.

Lab Practices

6. Microprocessing / Time resolved spectroscopy / TPA.
7. Lab Tour.

Friday (29th).

Lab Practices (from 8:30 a.m. to 1:00 p.m.).

Day reserved for unfinished practices (practice No. 4 will be held on Friday very likely).

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