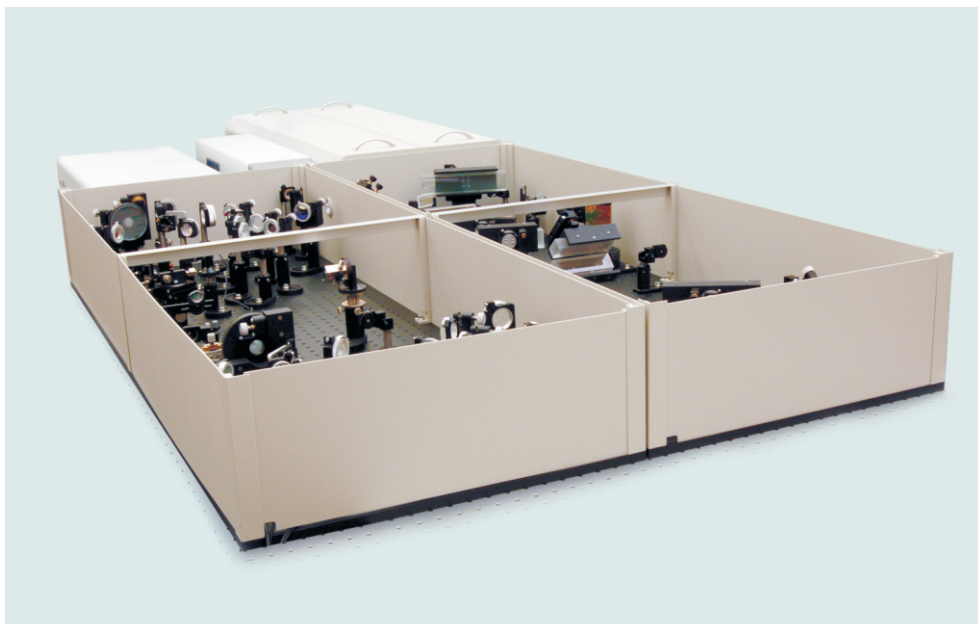


Wedge-XL

Femtosecond Two-Stage Ti: Sapphire Amplifier System



Wedge-XL is a table top terawatt Ti: sapphire amplifier system. It gives up to 200 mJ energy of the stretched pulse and further compression with 65% efficiency. A standard air compressor can be placed into a custom vacuum chamber.

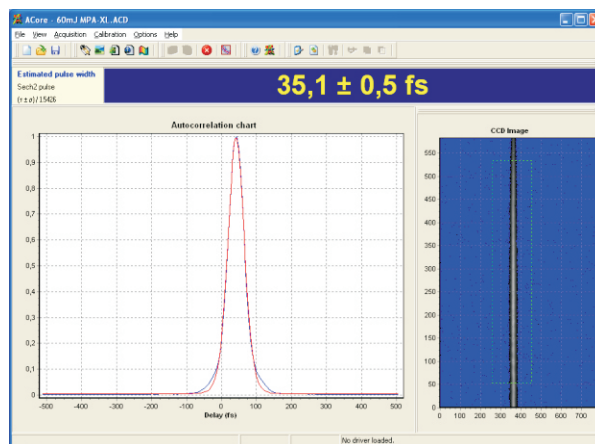
Wedge-XL is an ideal tool for investigation of femtosecond filamentation in atmosphere and for further amplification in a third-stage amplifier

Specifications:

- Pulse repetition rate: 10 Hz
- Maximum pulse energy of amplified stretched pulses: 200 mJ
- Output pulse wavelength: 800 nm - 820 nm (fixed)
- Output spectral bandwidth: >30 nm
- Output beam diameter: 15 mm
- Output beam quality: $M^2 < 2$
- Contrast: $> 10^6$ for ns time scale
- Compressor efficiency: 65%
- Pulse width after compressor: <50 fs
- Output beam polarization: horizontal

System configuration:

- Trestles 50 femtosecond Ti: sapphire seed oscillator with built-in pump laser
- Femtosecond stretcher
- Wedge 50 first stage amplifier with pump laser
- 4-pass second stage amplifier with pump laser
- Femtosecond air compressor (custom vacuum compressor chamber optionally)
- Reef single shot autocorrelator
- Total system dimensions: 2.5 m x 1.2 m



Correlation function of 60 mJ compressed pulse received with the Reef single shot autocorrelator

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