

## Femtosecond Characterization Tools

### \_ Interferometric Autocorrelator

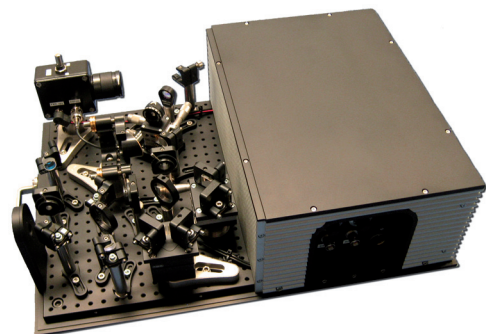
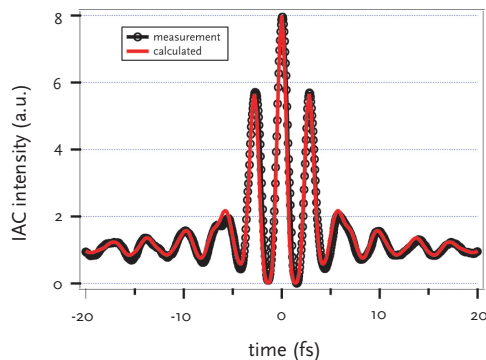
- ▶ The VENTEON | PULSE : FOUR interferometric autocorrelator is a stand-alone tool for precise measurements of pulse durations down to 5 fs - the shortest pulse durations commercially available. The use of a high-performance piezo-driven translation stage and Nanolayers NANEО ultrabroadband optics guarantee for highly accurate measurements with a dispersion-compensated setup, dispersion balanced interferometer arms and several hundred nanometer optical bandwidth.
- ▶ Very compact, robust and user-friendly optical setup for direct use with our VENTEON | PULSE : ONE laser family or any other short pulse laser system.
- ▶ The fully computer-controlled data acquisition and pulse analysis software displays the spectrum, autocorrelation and pulse duration on a single user interface (optional).

#### ▶ PULSE : FOUR | IAC - Interferometric Autocorrelator

##### ▶ Specifications



- Characterization range: 5 - 50 fs
- High-dynamic input range
- Built-up with NANEО broadband optics
- Dispersion-compensated setup
- Dispersion-balanced interferometer
- Suitable for oscillator and amplifier characterization
- High-resolution piezo-stage with capacitive measurement system
- Basic reconstruction software
- Dimensions 300 x 420 x 120 mm<sup>3</sup>
- Weight ~10 kg (~22 lbs)



- ▶ The diagram above shows a measured and calculated autocorrelation with perfect 1:8 ratio of a 5-fs pulse. Due to the high precision of the setup, measurement and reconstruction data fit perfectly.
- ▶ Picture showing the VENTEON | PULSE : FOUR interferometric autocorrelator with partly opened enclosure revealing the optical setup. All the required control electronics are located within the enclosed right-hand side.

- The high-dynamic input-level range due to the use of a sensitive photomultiplier detector allows for using full oscillator power as well as some percent as input signal.
- A high-precision piezo-stage with internal capacitive measurement system gives an accurate piezo movement and delay calibration. The positioning signal can be externally accessed directly from the device.
- The characterization range can be extended up to 300 fs upon request.
- The compact size includes all optics and control-electronics such as piezo-amplifier, power supply and frequency generator. There is no need for additional equipment despite an oscilloscope and spectrometer.
- Our optional analysis package includes an USB oscilloscope, spectrometer and complete data-acquisition and pulse characterization software pre-installed on a laptop computer.