



ASF. Single-Shot Autocorrelator for Femtosecond and Picosecond Pulses

- Possible wavelength range from 400 nm to 2200 nm
- 5 fs to 20 ps possible pulse duration measurement
- USB interface with Windows PC software and LabView drivers in a standard package
- CCD 2D detector for precise data acquisition with lowest error
- 1 uJ single-shot sensitivity



The ASF-5 turn-key single-shot autocorrelator

Product overview

The ASF single-shot autocorrelator is designed for monitoring the pulse duration of ultrafast oscillators and amplifiers, as well as for real-time amplifier systems tuning. The CCD camera registers the transverse section of the non-collinear generation of the second harmonic of the input radiation (the SH is generated in a non-linear crystal). PC USB interface and Windows acquisition software provide for smooth and easy data transition and registration, while additional LabView-compatible drivers offer extended flexibility and on-line control in complex multi-stage experimental setups.

There are five basic models of the ASF family covering a broad possible operating wavelength range.

The ASF-5 system allows measurements of few-cycle pulses with pulse duration as short as 5 fs. The system is based on non-dispersive beam splitting technique providing best accuracy for few-cycle pulse measurement.

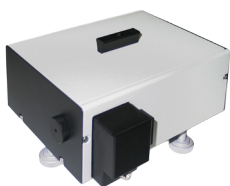
The ASF-15 and the ASF-30 systems are compact units for routine characterization of low-repetition-rate ultrafast amplifier output as well as seed oscillator output in the range of 15 fs to 1 ps.

The ASF-50 and the ASF-200 units offer extended longer pulse duration measurement limit for ultrashort-pulse amplifier development and tuning. The ASF-200 unit is also used for precise control of pulse duration at the output of commercial laser systems with a tunable compressor unit.

Please feel free to enquire about custom pulse durations and wavelength ranges.

ASF technical specifications

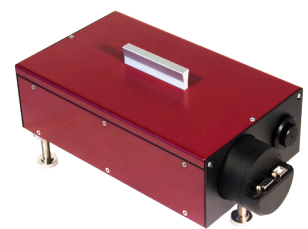
	ASF-5	ASF-15	ASF-30	ASF-50	ASF-200
Possible wavelength range*	400-2200 nm	450-2200 nm	700-2100 nm	450-2200 nm	
Input pulse duration range	5-200 fs	15-200 fs	30 fs - 1 ps	50 fs - 2 ps	200 fs - 10** ps
Required pulse energy	single-shot mode: from 1 uJ at <200 fs; up to 100 uJ at 10 ps; multiple-shot mode: from 1.2 nJ at <100 fs, 80-100 MHz (~100 mW average power)				
Input pulse repetition rate	single-shot...150 MHz; single-shot mode (registration of single pulses): from single-shot to 50 kHz; multiple-shot mode (averaging of 2 or more pulses): >50 kHz				
Input polarization	linear, horizontal (vertical upon request)				
Data interface	USB with Windows PC acquisition and analysis software (included in the standard package)				
Dimensions (LxWxH)	248x54x54 mm	156x120x70 mm	105x100x57 mm	215x120x70 mm	430x240x80 mm
Input beam height range (customized on request)	47/67/87/107 mm (fixed, select one value)	56...180 mm (select at order)	29...180 mm (select at order)	64...180 mm (select at order)	64...180 mm (select at order)
* - exact wavelength range is quoted based on each customer's requirements;					
** - up to 20 ps on request; combined ranges from 100 fs may also be possible upon request for some cases.					



The ASF-15 single-shot autocorrelator



The ASF-200 single-shot autocorrelator



The ASF-50 single-shot autocorrelator

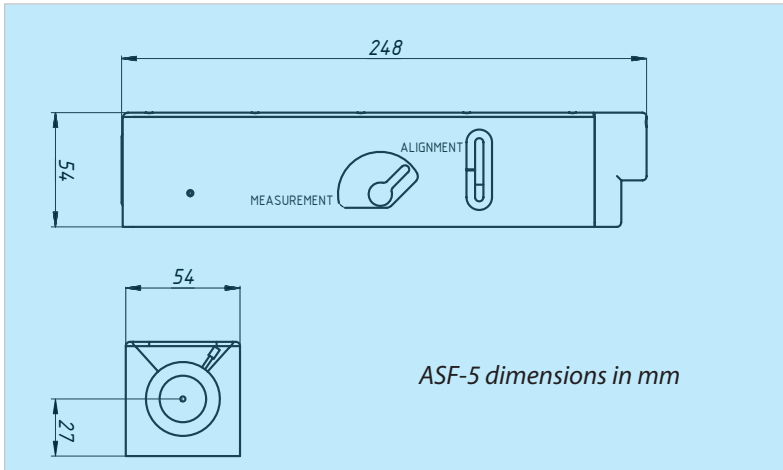


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LASERS AND OPTICAL SYSTEMS

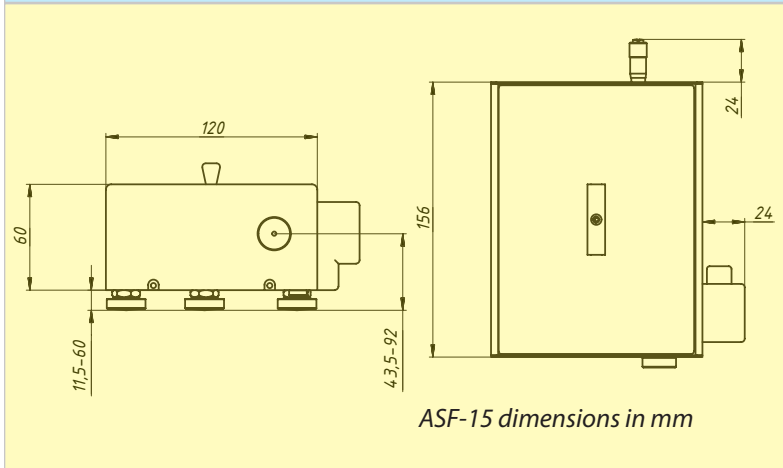


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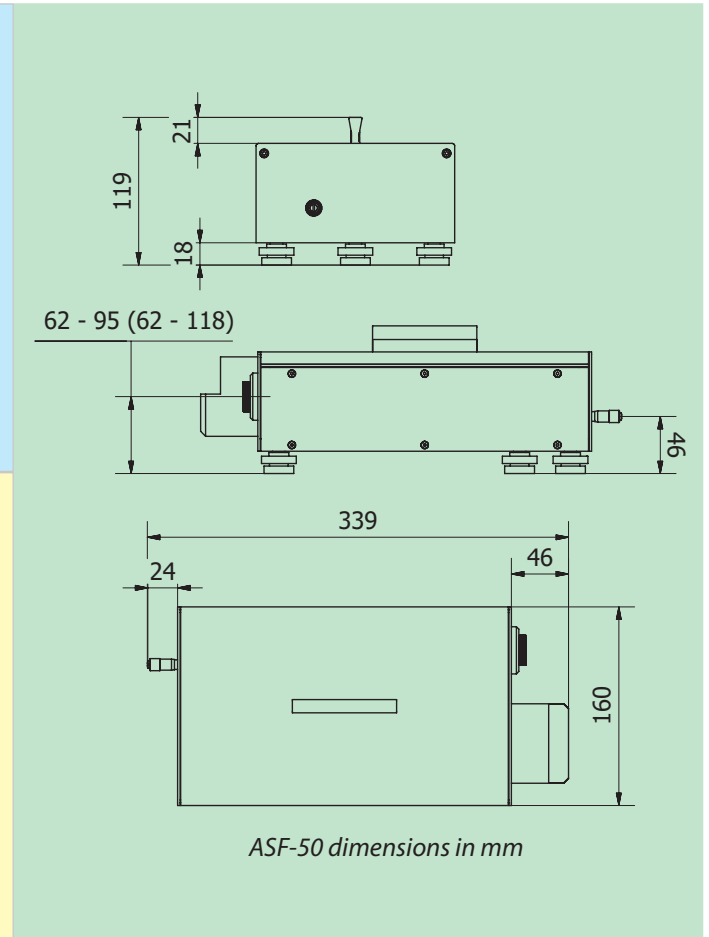
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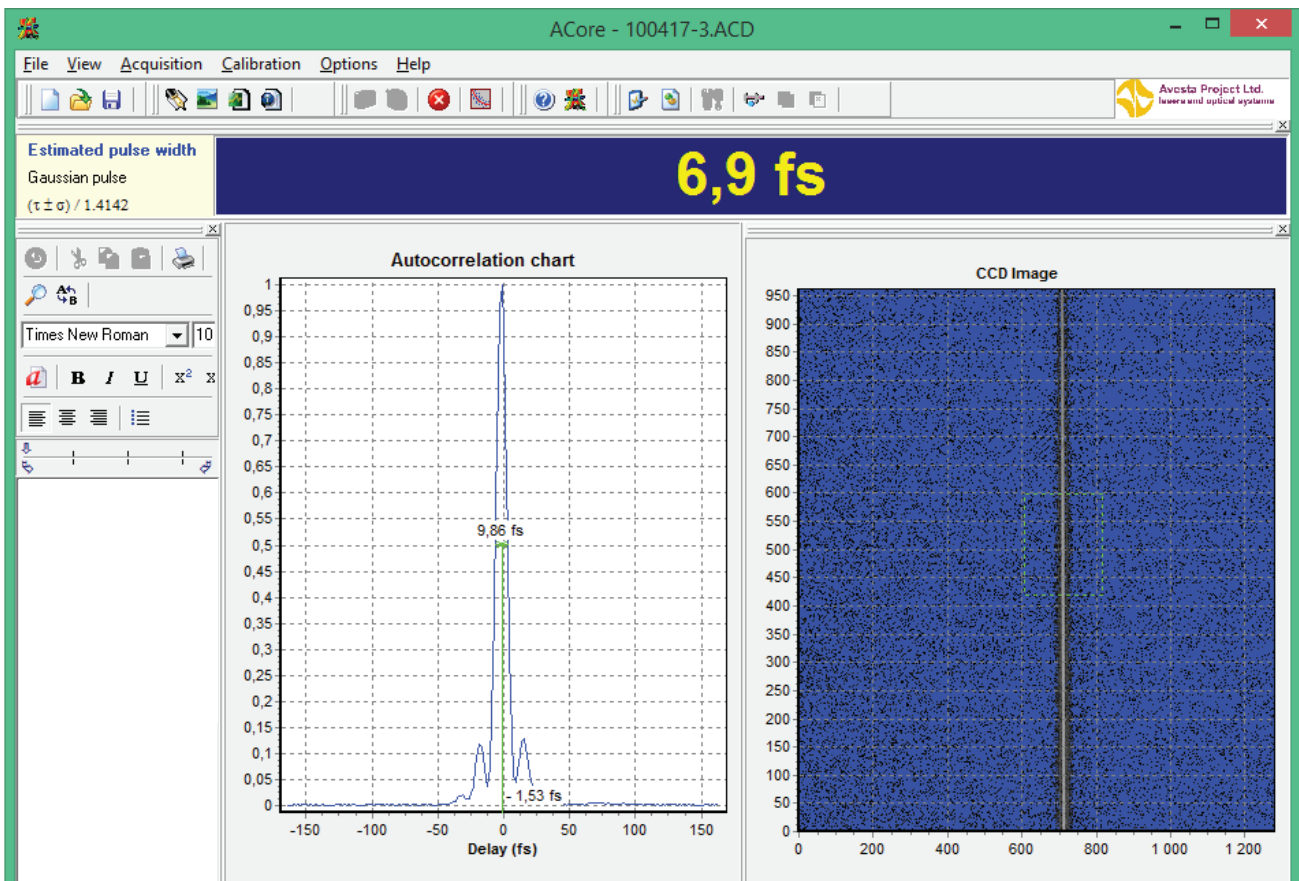
ASF-5 dimensions in mm



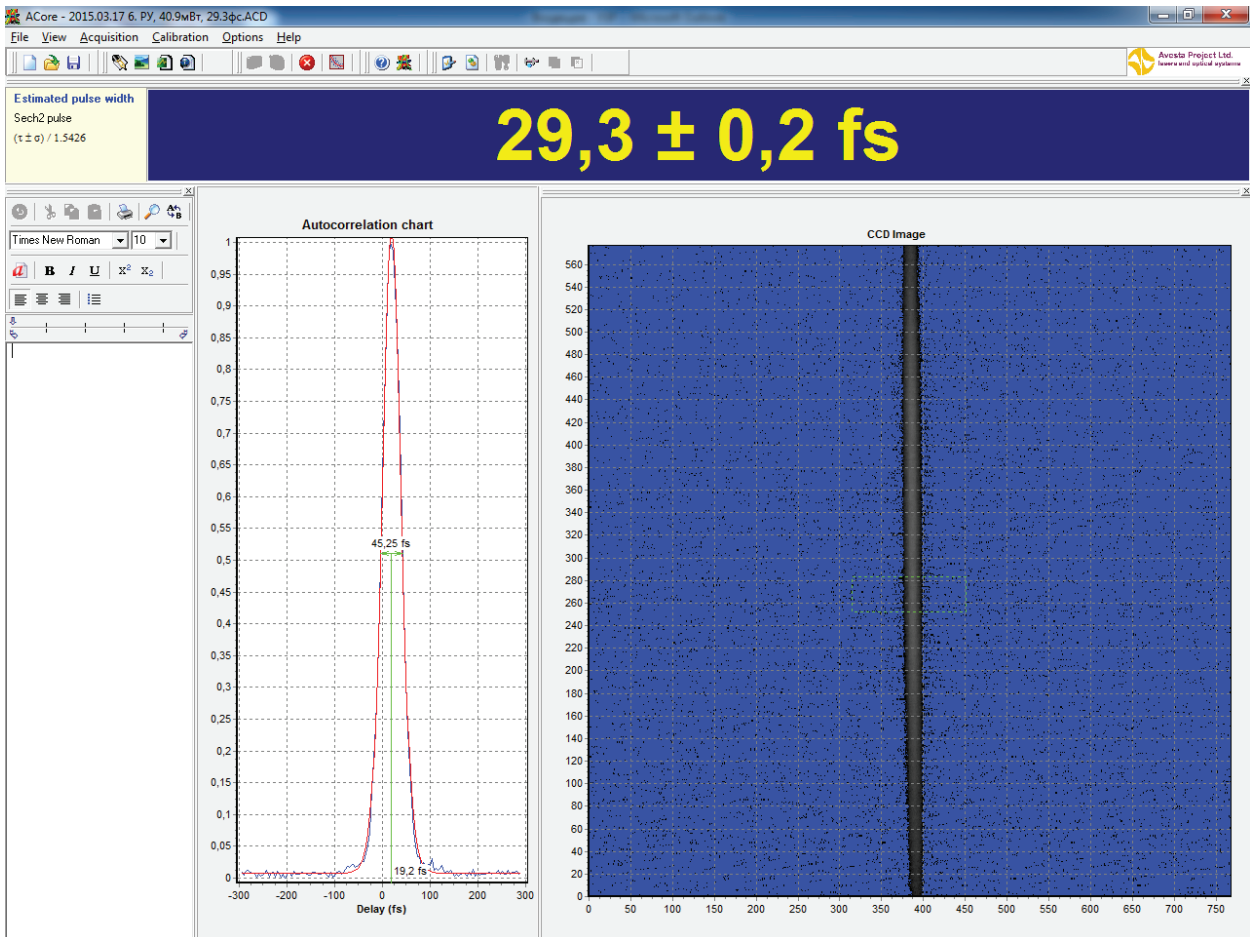
ASF-15 dimensions in mm



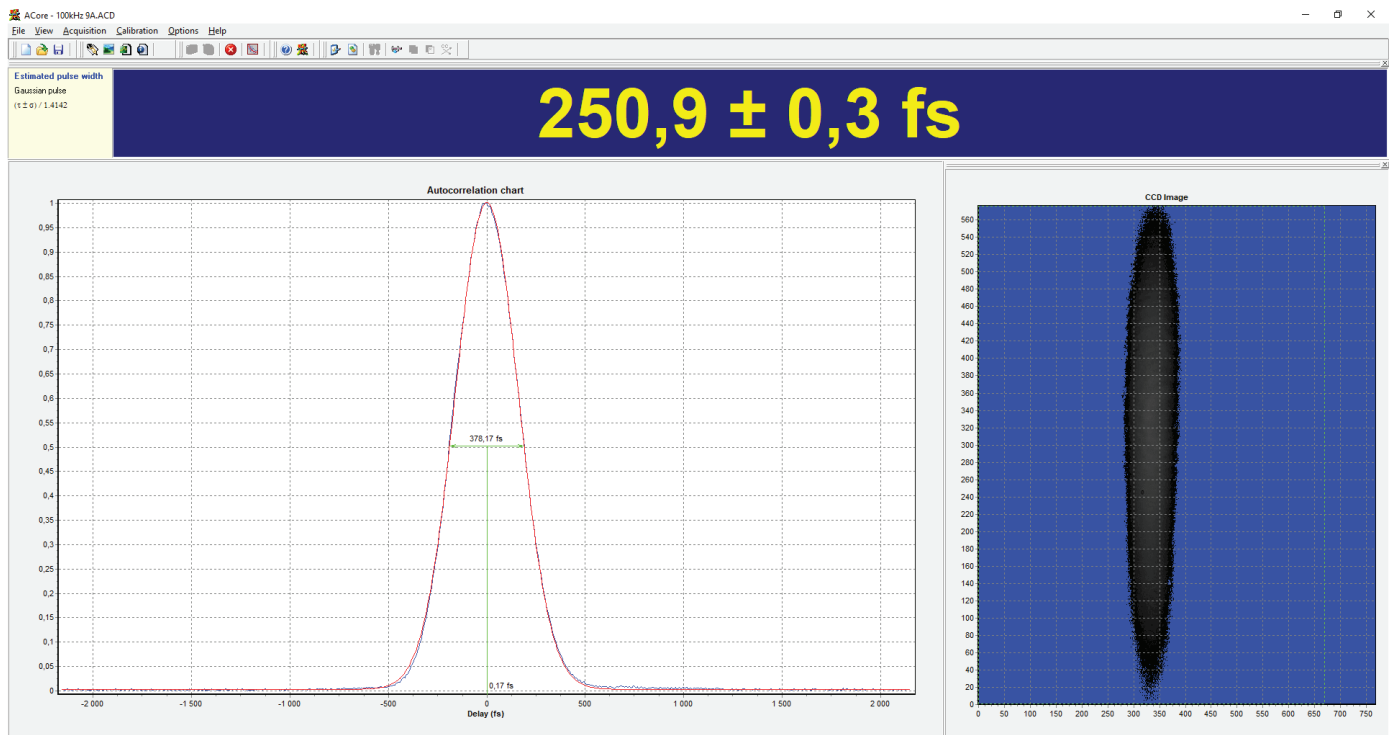
ASF-50 dimensions in mm



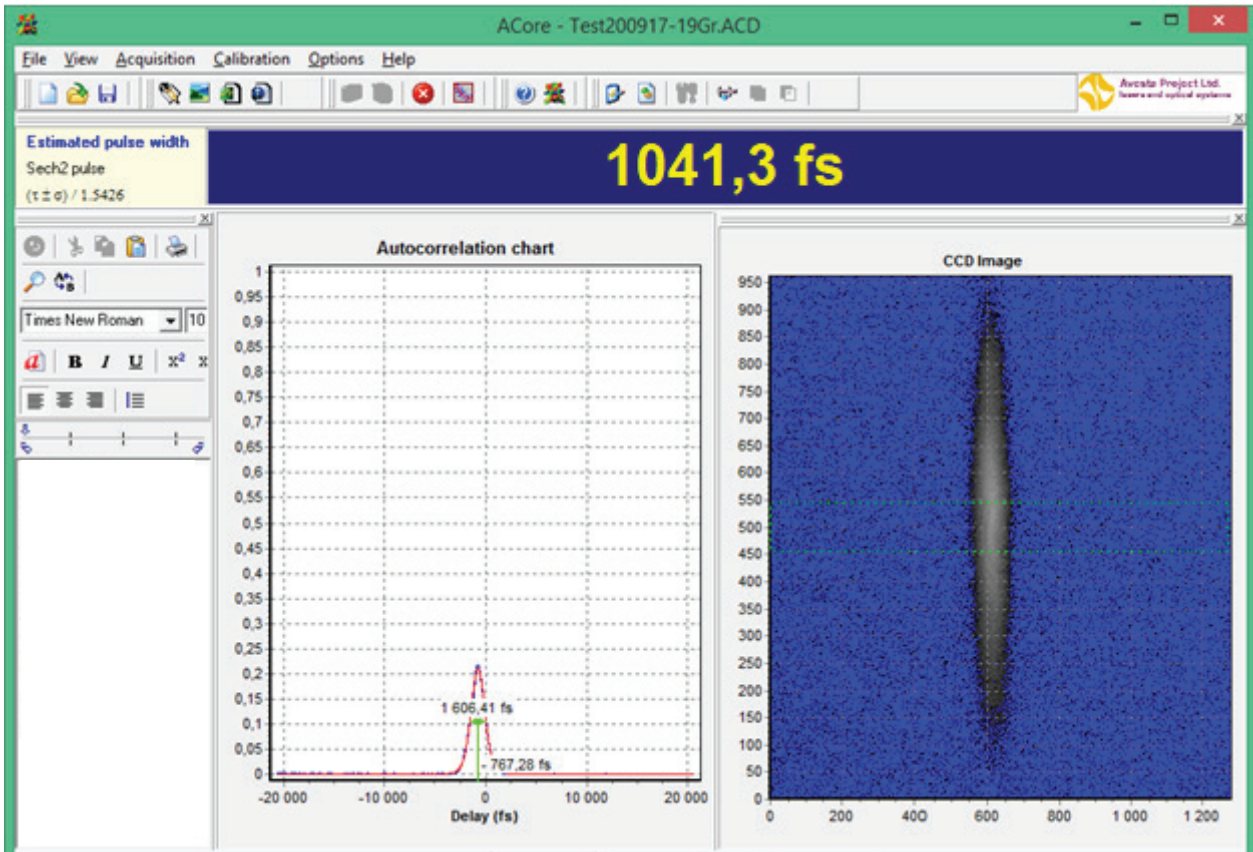
ASF Windows PC software with sample measurement result by the ASF-5 unit (Compulse-800 hollow-fiber compressor output)



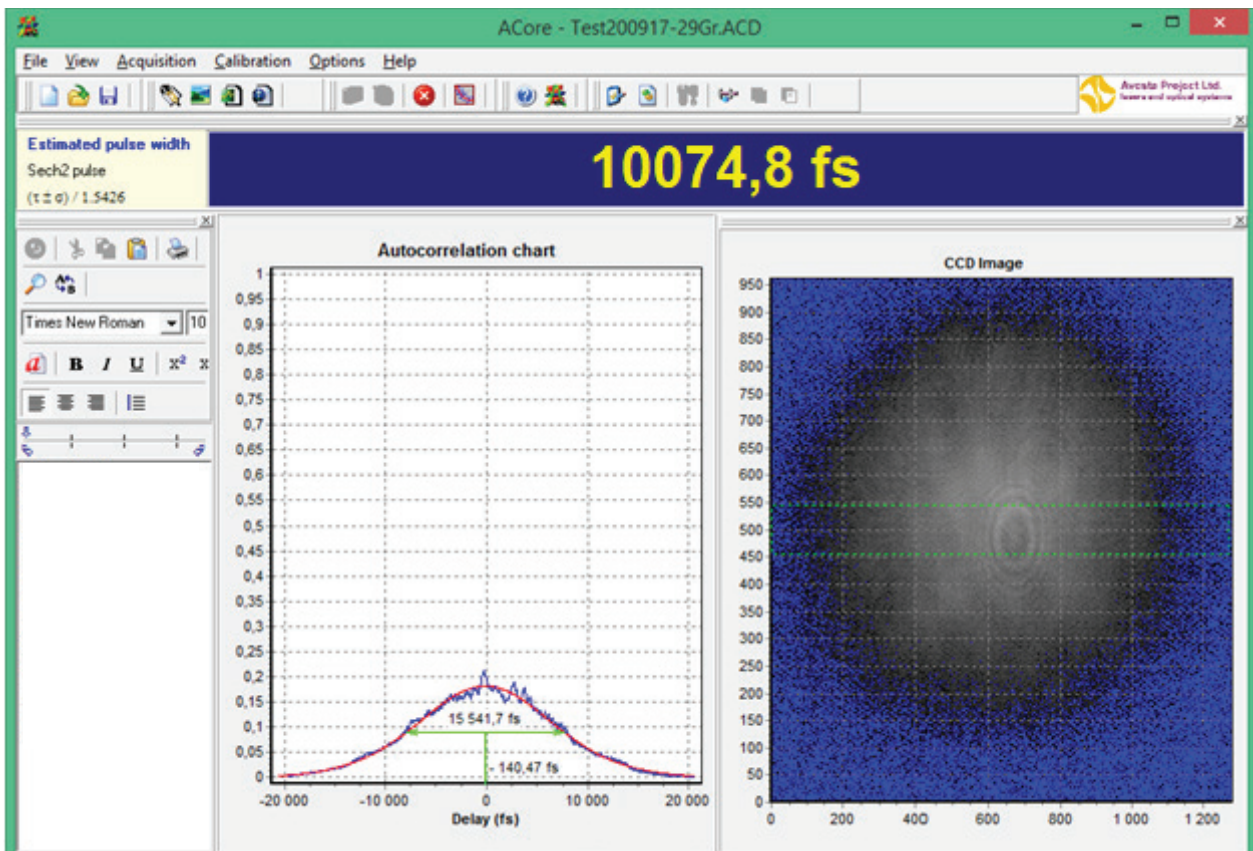
ASF Windows PC software with sample measurement result by the ASF-15 unit (REUS-3m1k Ti:S femtosecond amplifier output)



ASF Windows PC software with sample measurement result by the ASF-50 unit (TETA Yb femtosecond amplifier output, near TL)



ASF Windows PC software with sample measurement result by the ASF-200 unit
(TETA-6/200 Yb-doped laser system with tunable pulse duration output, positive chirp)



ASF Windows PC software with sample measurement result by the ASF-200 unit
(TETA-6/200 Yb-doped laser system with tunable pulse duration output, positive chirp)