

MS-ROC

MS-ROC stands for Multi-Shot Row Optical Correlator. It has been specially developed for laser sources with low pulse energy. They are all integrated and offer **extended pulse duration range** (4 fs to 80 ps, depending on the version), **increased sensitivity** (ideal for weak laser sources, pJ-level) **super resolution** thanks to the fine-scan mode, and **modularity**, as the wavelength range can easily be changed thanks to swappable crystals and phase matching options. The high scan speed allows real-time operations for measurement and optimization.



Key features

- ◆ Ultra simple alignment (2 min to setup)
- ◆ Large pulse duration measurement range (from 4 fs to 80 ps)
- ◆ High sensitivity (sub-nJ pulse)
- ◆ Broad available spectral range, only 4 crystals to cover 480 - 2150 nm (optional), and no need to change the detector
- ◆ User-friendly and powerful software

Options

- ◆ Fiber input connector
- ◆ Phase matching
- ◆ Additional crystals
- ◆ Few cycle pulse extension
- ◆ Low repetition rate
- ◆ Low energy

Specifications

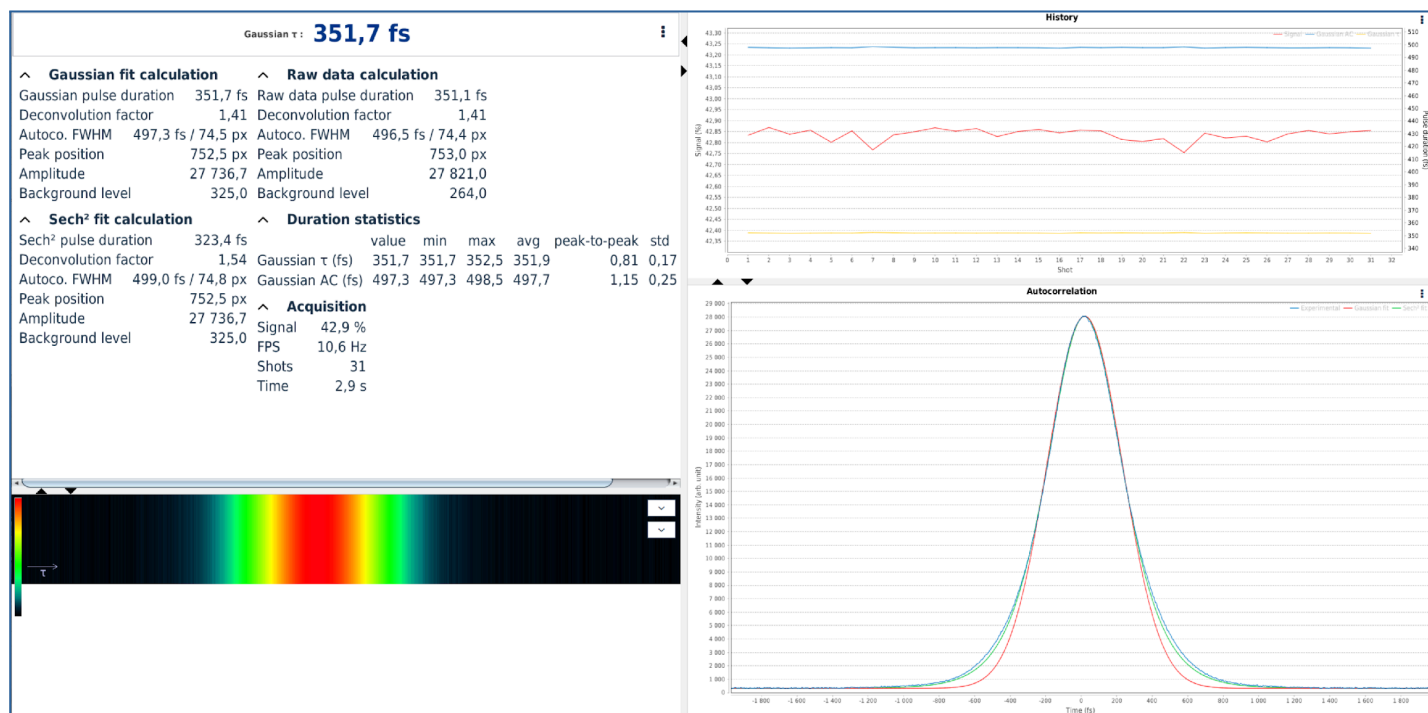
Models		MS-ROC	MS-ROC-LP	MS-ROC-SP	MS-ROC-SLP
Pulse duration range	min	10 fs ¹ - 50 fs	20 fs	4 fs ¹ - 20 fs	4 fs ¹ - 20 fs
	max	40 ps	80 ps	40 ps	80 ps
Fine scan mode range		not applicable	not applicable	4 - 100 fs	4 - 100 fs
Accessible spectral range (nm)		480 - 2150 ²			
Minimum temporal resolution		1 fs	2 fs	standard : 1 fs fine scan : 50 as	standard : 2 fs fine scan : 50 as
Scan speed		> 65 ps/s	> 130 ps/s	standard : > 65 ps/s fine scan : > 400 fs/s	standard : > 130 ps/s fine scan : > 400 fs/s
Input pulse repetition rate		100 Hz to GHz ³			
Min input pulse energy ⁴	1 MHz	5 pJ	5 pJ	1 nJ	1 nJ
	100 MHz	0.5 pJ	0.5 pJ	100 pJ	100 pJ
Polarization		Linear vertical			
Detection		CMOS 12 Bits – 3 Mpx – 72 dB			
PC Interface		USB 3.1			
Beam height (mm)		69 - 148			
Dimensions (mm)		222 x 194 x 129		326 x 194 x 129	

¹ With few cycle pulse extension option

² Effective spectral bandwidth to be defined within the accessible spectral range according to customer's requirements.

³ Low repetition rate available as an option.

⁴ Those values give an order of magnitude, with "low energy" option when applicable. The exact sensitivity depends on many parameters (pulse duration, beam profile, wavelength...)



- ◆ Different calculation methods available for proper pulse estimation (Raw data FWHM, Gaussian fit, sech2...)
- ◆ Enhanced treatment for real time simultaneous data extraction
- ◆ Client / Server interface, allowing remote control through network
- ◆ All data exportable into most common formats