Second Harmonic Generation FROG

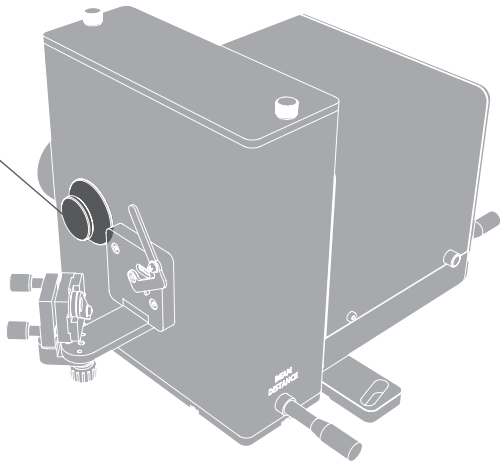
Complete Pulse Characterization with pulseCheck and FROG Option

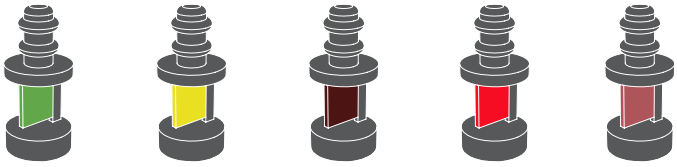
- Second Harmonic Generation FROG is the most popular spectrometer-less Frequency Resolved Optical Gating method. The pulseCheck autocorrelators by APE optionally integrate FROG, giving access to complete pulse characterization. The addition of a special nonlinear crystal module and dedicated software opens the door to complete spectral and temporal pulse characterization.

Crystal Module

FROG Setup:

1. Crystal Module within pulseCheck
2. Replacement Focus Mirror
3. FROG Software Upgrade





VIS I	VIS II	NIR	IR I	IR II
420-550	550-700	700-900	900-1200	1200-1600

Different crystal modules for various wavelength ranges.*

- Complete pulse characterization with Second Harmonic Generation FROG
- Different crystal modules available to cover wavelengths from 420 – 1600 nm
- FROG trace data processing and visualization with included software
- Pulse width ranges from as low as 20 fs up to 6 ps
- High spectral resolution up to 0.1 nm
- Available for the pulseCheck autocorrelator series**

* See appendix for configuration details
** Except for pulseCheck SM models; Required laser rep. rate >10 kHz

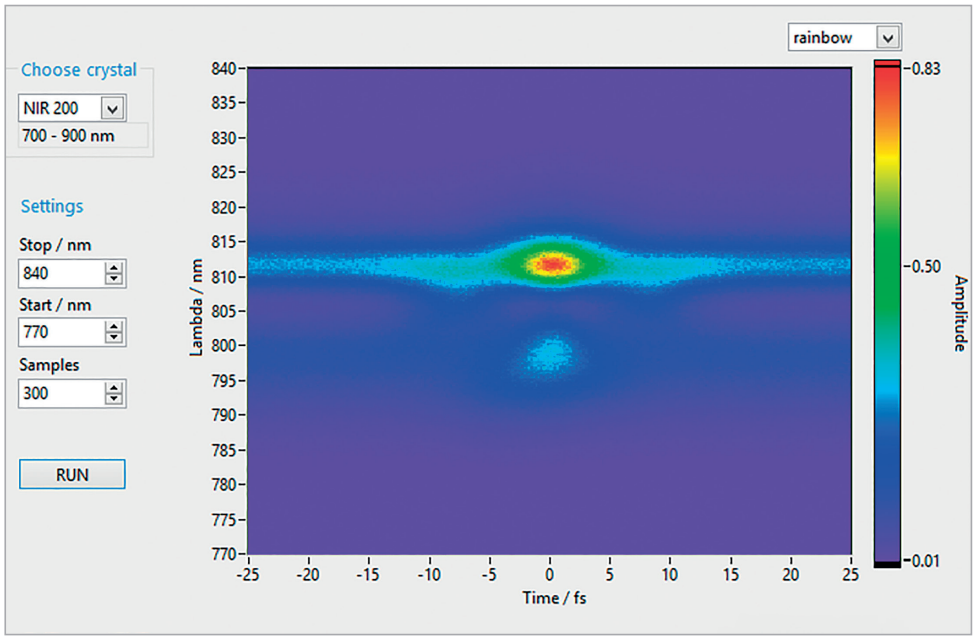
... FROG Pulse Characterization Software

FROG Trace

- The software provides the laser pulse intensity as a function of time and frequency (wavelength). This is visualized in form of the common FROG trace diagram.
- With the implemented phase matching routine from pulseCheck, it only is a matter of seconds to automatically find the required phase matching tuning angle.

Wavelength and Pulse Coverage

- The various crystals available guarantee coverage of wavelengths from 420 nm right up to 1600 nm, of pulse widths from 20 fs to 6 ps, and a spectral resolution starting as high as 0.1 nm.
- The FROG option is designed for laser repetition rates above 10 kHz and is available for the pulseCheck autocorrelator series (except for SM models).



Software interface FROG for pulseCheck

Appendix FROG Crystals

FROG Crystal	Wavelength Range	Pulse Width Range	Spectral Resolution
VIS-I-200	420 ... 550 nm	200 ... 6000 fs	0.1 nm
VIS-I-50	420 ... 550 nm	50 ... 200 fs	0.3 nm
VIS-I-20	420 ... 550 nm	20 ... 70 fs	1 nm
VIS-II-150	550 ... 700 nm	150 ... 2000 fs	0.1 nm
VIS-II-50	550 ... 700 nm	50 ... 200 fs	0.3 nm
VIS-II-20	550 ... 700 nm	20 ... 60 fs	2 nm
NIR-200	700 ... 900 nm	200 ... 5000 fs	0.1 nm
NIR-50	700 ... 900 nm	50 ... 500 fs	0.2 nm
NIR-20	700 ... 900 nm	20 ... 50 fs	3 nm
IR-I-150	900 ... 1200 nm	150 ... 900 fs	0.2 nm
IR-I-60	900 ... 1200 nm	60 ... 200 fs	1 nm
IR-I-30	900 ... 1200 nm	30 ... 60 fs	5 nm
IR-II-100	1200 ... 1600 nm	100 ... 700 fs	0.5 nm
IR-II-50	1200 ... 1600 nm	50 ... 100 fs	2 nm
IR-II-30	1200 ... 1600 nm	30 ... 50 fs	9 nm

Similar Products

Mini TPA - Compact and tuning-free
Mini PD - Routine tasks with a fixed wavelength range
Carpe - First choice for multiphoton microscopy
Spider - Complete pulse characterization
waveScan - High resolution spectrometer
peakDetect - Pulse quality monitoring

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