AFT SHG FROG models for ~800nm pulses
the most powerful ultrashort-laser-pulse measurement device

An **AFT(Advanced Femto Technology) SHG FROG** yields the **complete pulse intensity and phase vs. time and spectrum and spectral phase vs. wavelength** with great accuracy and reliability, **making no assumptions about the pulse.**

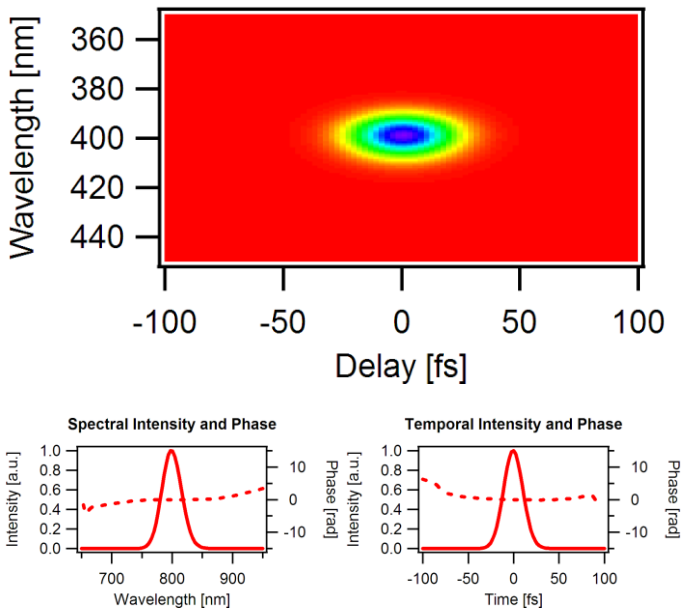
With accompanying the AFT pulse-retrieval software, it does all this in **real time!**

Two **AFT SHG FROG** models measure pulses with wavelengths from **700nm to 1100nm.**

An **AFT SHG FROG** can measure pulses from a wide variety of sources, from the lowest-energy **oscillator** to the highest-intensity **amplifier**.

AFT SHG FROGs employ a **single shot geometry**, and so they can give some idea about the other pulse distortions such as **pulse-front tilt, spatial chirp**, and etc.

The model of AFT-800LPS is available to use a fiber coupler (**FC/PC) connector** which can carry the beam to the devices directly from a fiber laser system.



It shows a typical FROG trace. After retrieving it, the program shows the temporal intensity and phase, and the spectral intensity and phase

- **The pulse intensity and phase vs. time**
- **The pulse spectrum and spectral phase vs. wavelength**
- **The beam spatial profile**
- **The first order Spatial Chirp**
- **The first order Pulse-Front Tilt**
- **The autocorrelation**
- **No assumptions of pulse shape**
- **High sensitivity**
- **Real-time pulse monitoring**
- **Fast Retrieval Algorithm**
- **User-friendly interface**
- **Laptop-friendly**
- **Just connect the USB cable and go!**
- **Fiber connector available (FC/PC)**
- **Very easy to align**
- **Compact and light**
- **Solid Packaging**

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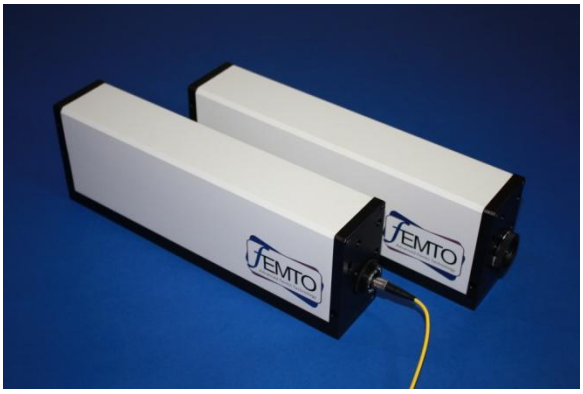
Devices for measuring pulses in near IR

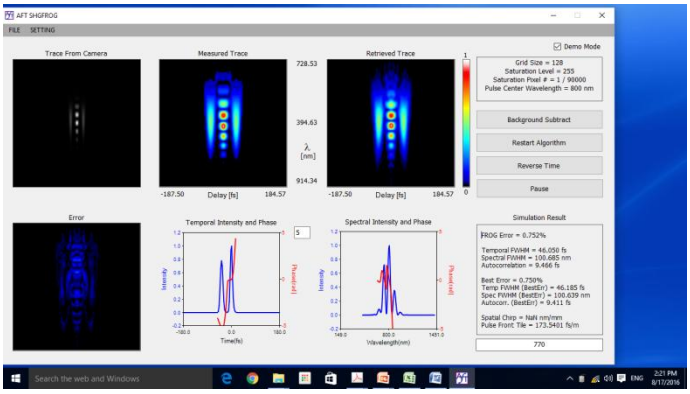
The models use a single-shot FROG geometry and so they can measure pulses from a laser system with any rep. rate frequency, from ~Hz to ~GHz. Comparison of the retrieved and measured traces confirms the measurement. Background subtraction is very important to measure pulses accurately and can be performed in the FROG retrieval-software. The models use USB camera. Just connect to your computer's USB port; no power supply needed.

Models and Specifications for ~800nm pulses

Model:	AFT-800SFS	AFT-800LPS
Wavelength range:	700 – 1100 nm	700-900nm
Pulse-length range @ 800 nm:	~70fs – ~1000 fs	~200fs – ~3 ps
Delay increment[1]:	3.1 fs/pixel	6.5 fs/pixel
Temporal range[2]:	~3 ps	~9 ps
Spectral resolution @ 800 nm:	0.7 nm	0.1 nm
Spectral range @ 800 nm[3]:	50 nm	16 nm
Pulse complexity:	Time-bandwidth product < ~10	
Intensity accuracy:	2%	
Phase accuracy:	0.01 rad (intensity-weighted phase error)	
Sensitivity for single-shot:	1μJ	
Sensitivity at 1 kHz rep:	100 μW (100nJ)	
Sensitivity at 100 MHz rep:	10 mW (100pJ)	
Required input polarization:	Horizontal or vertical polarization	
Required input-beam diameter:	2 – 4 mm (collimated)	
Dimensions (L x W x H):	37 cm x 10 cm x 16.5 cm	
Weight:	2.5 kg	

1. A temporal step for a pixel in the camera , which is ~ the temporal resolution of the device.
2. 'Temporal range' is the full-scale range. Typically, the device can measure 1/3 of the range, ~ FWHM pulse.
3. 'Spectral range' is the full-scale range. Typically, the device can measure 1/3 of the range, ~ FWHM pulse.





On the left, the model AFT 800SFS and AFT 800LPS are shown. The fiber coupler is an option for the model AFT-800LPS. On the right, the picture shows retrieving a double pulse by AFT SHG FROG software. Even though the pulse is complicated, the results are good.

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AFT SHG FROG models for ~1064nm pulses
the most powerful ultrashort-laser-pulse measurement device

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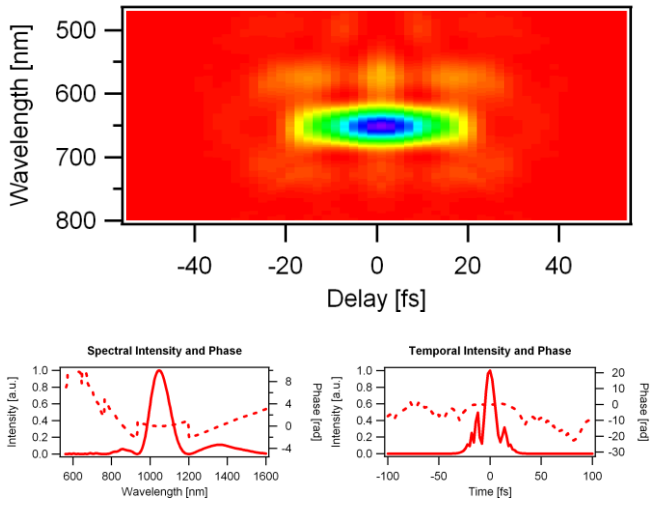
Two **AFT SHG FROG** models measure pulses with wavelengths from **900nm to 1100nm.**

An **AFT SHG FROG** can measure pulses from a wide variety of sources, from the lowest-energy **oscillator** to the highest-intensity **amplifier**.

AFT SHG FROGs employ a **single shot geometry**, and so they can give some idea about the other pulse distortions such as **pulse-front tilt, spatial chirp**, and etc.

The models of AFT-1064LPS and AFT-1064SFS are available to use a fiber coupler (**FC/PC) connector** which can carry the beam to the devices directly from a fiber laser system.



It shows a typical FROG trace. The pulse is from a fiber laser and the center wavelength is 1050nm. The pulse is suffering from a couple of chirp. After retrieving it, the program shows the temporal intensity and phase, and the spectral intensity and phase.

- **The pulse intensity and phase vs. time**
- **The pulse spectrum and spectral phase vs. wavelength**
- **The beam spatial profile**
- **The first order Spatial Chirp**
- **The first order Pulse-Front Tilt**
- **The autocorrelation**
- **No assumptions of pulse shape**
- **High sensitivity**
- **Real-time pulse monitoring**
- **Fast Retrieval Algorithm**
- **User-friendly interface**
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Devices for measuring pulses in IR range

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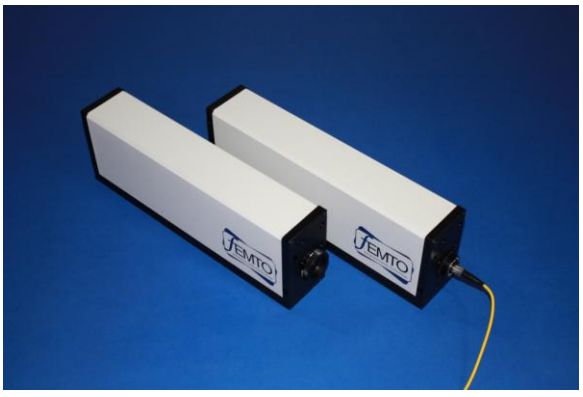
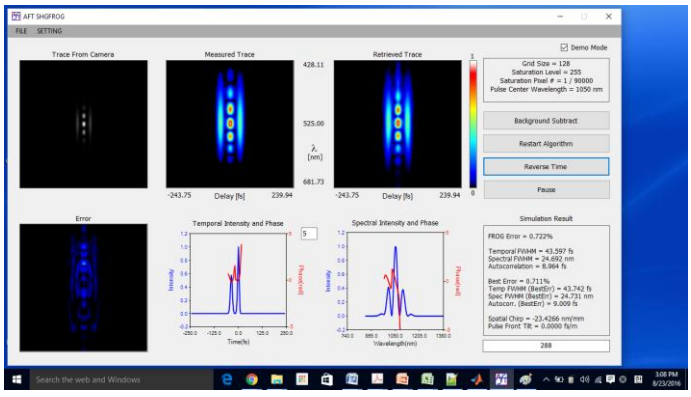
Models and Specifications for ~1064nm pulses

model:	AFT-1064SFS	AFT-1064LPS
Wavelength range:	**900 – 1100 nm**	
Pulse-length range @ 1064 nm:	**~70fs – ~1000 fs**	**~200fs – ~3 ps**
Delay increment[1]:	**~2.5 fs/pixel**	**6.5 fs/pixel**
Temporal range[2]:	**~3 ps**	**~9 ps**
Spectral resolution @ 1064 nm:	**0.45 nm**	**0.17 nm**
Spectral range @ 1064 nm[3]:	**70 nm**	**25 nm**
Pulse complexity:	**Time-bandwidth product < ~10**	
Intensity accuracy:	**2%**	
Phase accuracy:	**0.01 rad (intensity-weighted phase error)**	
Sensitivity for single-shot:	**1μJ**	
Sensitivity at 1 kHz rep:	**100 μW (100nJ)**	
Sensitivity at 100 MHz rep:	**10 mW (100pJ)**	
Required input polarization:	**Horizontal or vertical polarization**	
Required input-beam diameter:	**2 – 4 mm (collimated)**	
Dimensions (L x W x H):	**37 cm x 10 cm x 16.5 cm**	
Weight:	**2.5 kg**	

1. A temporal step for a pixel in the camera , which is ~ the temporal resolution of the device.
2. 'Temporal range' is the full-scale range. Typically, the device can measure 1/3 of the range, ~ FWHM pulse.
3. 'Spectral range' is the full-scale range. Typically, the device can measure 1/3 of the range, ~ FWHM pulse.





On the left, the model AFT-1064SFS and AFT-1064LPS are shown. The fiber coupler is an option for both models. On the right, the picture shows retrieving a double pulse by AFT SHG FROG software. Even though the pulse is complicated, the results are good. The center wavelength is 1050nm.

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AFT SHG FROG models for ~1550nm pulses
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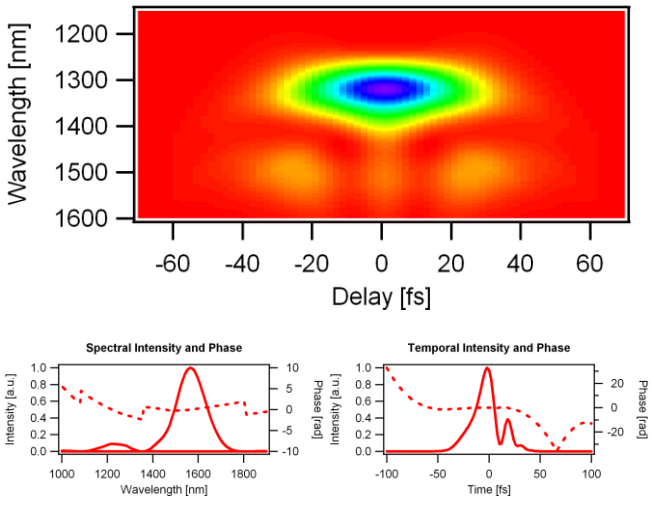
All the models are available to use a fiber coupler (**FC/PC) connector** which can carry the beam to the devices directly from a fiber laser system.



It shows a typical FROG trace. The pulse is from a fiber laser and the center wavelength is 1550nm. The pulse is suffering from a couple of chirp. After retrieving it, the program shows the temporal intensity and phase, and the spectral intensity and phase.

- **The pulse intensity and phase vs. time**
- **The pulse spectrum and spectral phase vs. wavelength**
- **The beam spatial profile**
- **The first order Spatial Chirp**
- **The first order Pulse-Front Tilt**
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Devices for measuring pulses in IR range

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Models and Specifications for ~1550nm pulses

model:	AFT-1550SFS	AFT-1550LPS
Wavelength range:	1500 – 1600 nm	
Pulse-length range @ 1550 nm:	~70fs – ~1000 fs	~200fs – ~3 ps
Delay increment[1]:	2.4 fs/pixel	6.5 fs/pixel
Temporal range[2]:	~3 ps	~9 ps
Spectral resolution @ 1550 nm:	3.5 nm	1.1 nm
Spectral range @ 1550 nm[3]:	150 nm	45 nm
Pulse complexity:	Time-bandwidth product < ~10	
Intensity accuracy:	2%	
Phase accuracy:	0.01 rad (intensity-weighted phase error)	
Sensitivity for single-shot:	1μJ	
Sensitivity at 1 kHz rep:	100 μW (100nJ)	
Sensitivity at 100 MHz rep:	10 mW (100pJ)	
Required input polarization:	Horizontal or vertical polarization	
Required input-beam diameter:	2 – 4 mm (collimated)	
Dimensions (L x W x H):	37 cm x 10 cm x 16.5 cm	
Weight:	2.5 kg	

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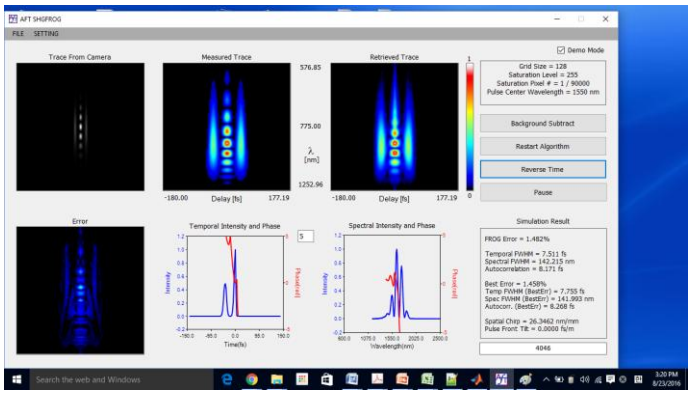

On the left, the model AFT-1550SFS is shown. The fiber coupler is an option for any model in the wavelength. On the right, the picture shows retrieving a double pulse by AFT SHG FROG software. Even though the pulse is complicated, the results are good. The center wavelength is 1550nm.

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