

# **APOLLO-T** *Optical Parametric Amplifier*

*Optimized for  
Time-Resolved  
Spectrometry*

*For Ultrafast Ti:Sapphire  
Amplifiers*

*Fully Automated*



The **APOLLO-T** OPA is designed to extend the tuning range of a kHz Ti:Sapphire amplifier from the UV to the Mid-IR. It is optimized to work with Ultrafast Systems' [spectrometers](#). High stability and high efficiency are achieved through two step amplification of a white-light supercontinuum, and nonlinear crystal tuning, optical delay compensation, and wavelength separation is fully computer controlled.

This OPA has been designed as a capable yet easy to use light source with the spectroscopist in mind. Its layout has been optimized to fit neatly alongside new or existing spectrometry systems, minimizing the amount of table space required. Inclusion of multiple frequency conversion schemes allows for computer- controlled tuning of the output wavelength, while collinear output from a single port reduces the need for external beam routing optics. The timing of the pulse output remains consistent across the whole wavelength tuning range. Optional integrated stages for generation of the second and third harmonics of the fundamental laser wavelength further reduce the need for external routing optics and a harmonics generator.

*Tuning Range*  
**267, 400 nm**  
**240 – 10 000 nm**

*Single Output Port  
For All Wavelengths*  
**Fully Automated**

*Optimized For*  
**HELIOS, EOS**  
**HALCYONE**



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## Features

- Designed for amplified [Ti:Sapphire lasers](#)
- 36cm x 97cm (14" x 38") footprint
- Optimized for use with Ultrafast Systems' [delay lines](#) and [spectrometers](#)
- Single port output across the entire tuning range
- Consistent output pulse timing across the entire tuning range
- Fully tunable **from 240 nm to 10 000 nm** with built-in **SHF (400 nm) / THF (267 nm)** option

## Specifications

Mode	Range (nm)	Energy (uJ) at peak*	Polarization
SH SF	240 - 295	> 2	H
FH Signal	300 - 400	> 5	V
FH Idler	400 - 480	> 6	H
SF Signal	480 - 540	> 120	V
SF Idler	540 - 600	> 80	V
SH Signal	600 - 800	> 50	H
SH Idler	800 - 1150	> 30	V
Signal	1150 - 1600	> 160	V
Idler	1600 - 2600	> 70	H
DFG	2400 - 10000	> 40	V, H

\* measured with 100 fs, 1 mJ pump input

## Pump Laser Requirements

Wavelength	~ 800 nm
Pulse duration	60 - 150 fs
Pulse energy	≥ 0.5 mJ
Beam diameter	≤ 12 mm
Stability	< 2% (pulse-pulse)