APOLLO-T Optical Parametric Amplifier



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' <u>spectrometers</u>. 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 Wavelenghts **Fully Automated** Optimized For HELIOS, EOS HALCYONE



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Features

- Designed for amplified <u>Ti:Sapphire lasers</u>
- Single enclosure design 36cm x 97cm (14" x 38")
- Optimized for use with Ultrafast Systems' <u>delay lines</u> and <u>spectrometers</u>
- Single port output across the entire tuning range of each option (UV-VIS and mid-IR)
- Fully automated operation no manual action required for changing the output wavelength
- Fully tunable from 240 nm to 10 μm with an option of built-in SHG (400 nm) / THG (267 nm)
- Diagnostic output port (signal and idler check)
- Alternate input and output ports for increased table layout flexibility

Specifications

Mode	Range (nm)	Energy (uJ) at peak*	Polarization
SH SF	240 - 295	> 15	н
FH Signal	300 - 400	> 20	V
FH Idler	400 - 480	> 10	Н
SF Signal	480 - 540	> 70	V
SF Idler	540 - 600	> 40	V
SH Signal	600 - 800	> 60	н
SH Idler	800 - 1150	> 30	V
Signal	1150 - 1600	> 120	V
Idler	1600 - 2600	> 60	Н
DFG	2400 - 10000	> 10	V , H

* measured with 100 fs, 1 mJ pump input

Pump Laser Requirments

Wavelength	~ 800 nm	
Pulse duration	35 - 150 fs	
Pulse energy	≥ 0.5 mJ	
Beam diameter	≤ 12 mm (1/e2)	
Stability	< 2% (pulse-pulse)	



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