

TWINSTARZZ

Compact and versatile OPA system

With its innovative and ultra-stable design, the twinStarzz delivers short tunable pulses with the highest efficiency in the MIR with an unprecedented simplicity, opening new possibilities for the most demanding applications. The availability of wavelength extensions from 235 nm to 1800 nm makes the twinStarzz the ideal tool for a wide range of spectroscopy experiments, and a unique all-in-one, cost and space-saving OPA solution. Pulses in the MIR are also inherently CEP-stable, and an actuator can be implemented as an option.

The system architecture is optimized for high power SatsumaX and Tangor femtosecond pump lasers, to cover a wide range of energies and repetition rates with unprecedented stability. Housed in a monolithic, compact, purged, temperature-controlled and fully automatized module, the twinStarzz series are designed for hands-off and trouble-free operation, and are the perfect choice for applications requiring the highest performance and reliability.

Applications

Scientific:

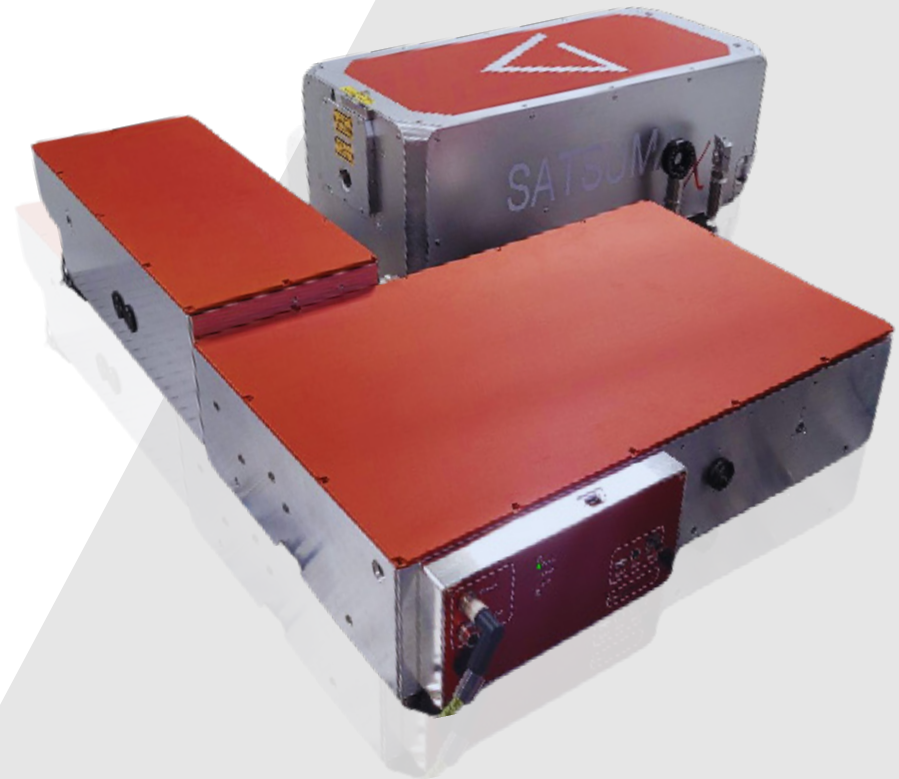
- > Broadband vibrational sum-frequency generation (VSFG) spectroscopy
- > Two-dimensional infrared (2D IR) spectroscopy
- > High-harmonic generation (HHG) in solids

Key Features

- > Highest efficiency in the MIR from 2.5 to 10 μm
- > Up to 50W pump power, up to 500 μJ pump energy
- > Integrated active beam pointing stabilization system and beam diagnostic

Options

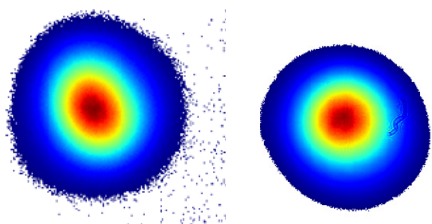
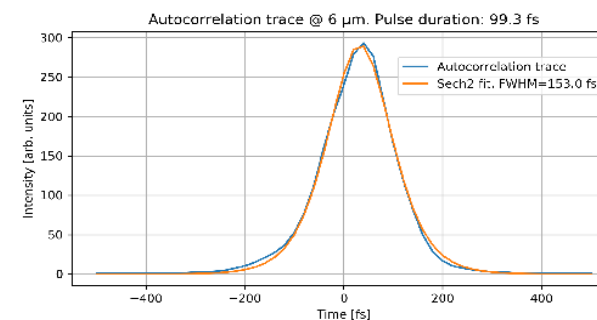
- > CEP actuator
- > Wavelength extensions down to 235 nm
- > Long pulse



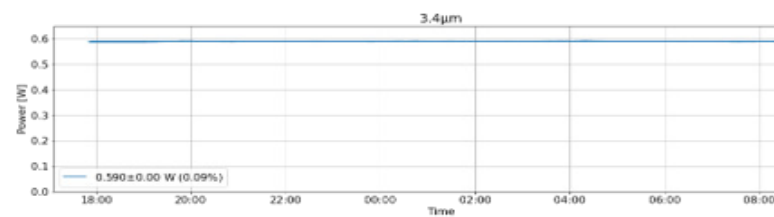
General					
Pump models			SatsumaX or Tangor		
Pump energy (μJ)			140 to 500		
Maximum pump power (W)			50		
Main output (MIR)					
Tuning range (μm)			2.5 to 10		
Efficiency at peak (%) *			Up to 2.5		
Pulse duration FWHM (fs)			<120		
Spectral bandwidth at 1/e2 (cm-1)			>200		
Long term power stability at peak (% rms)			<1.5		
Pulse to pulse stability at peak (% rms)			<1.5		
Wavelength extensions					
SWIR 1 FHG	NIR SHG	SWIR 1 SHG	NIR	SWIR 1	SWIR 2
290-350	350-460	575-700	700-930	1150-1400	1400-1800
Up to 1	Up to 4	Up to 4	Up to 12	Up to 12	Up to 10
< 100	< 50	< 100	< 50	< 100	< 100 **

* Specified as a percentage of total input power

** Only with SatsumaX pump



Near and far-field beam profiles at 6 μm



Long term power stability at 3.4 μm : <0.1% RMS