

Femtosecond Ti:sapphire Laser



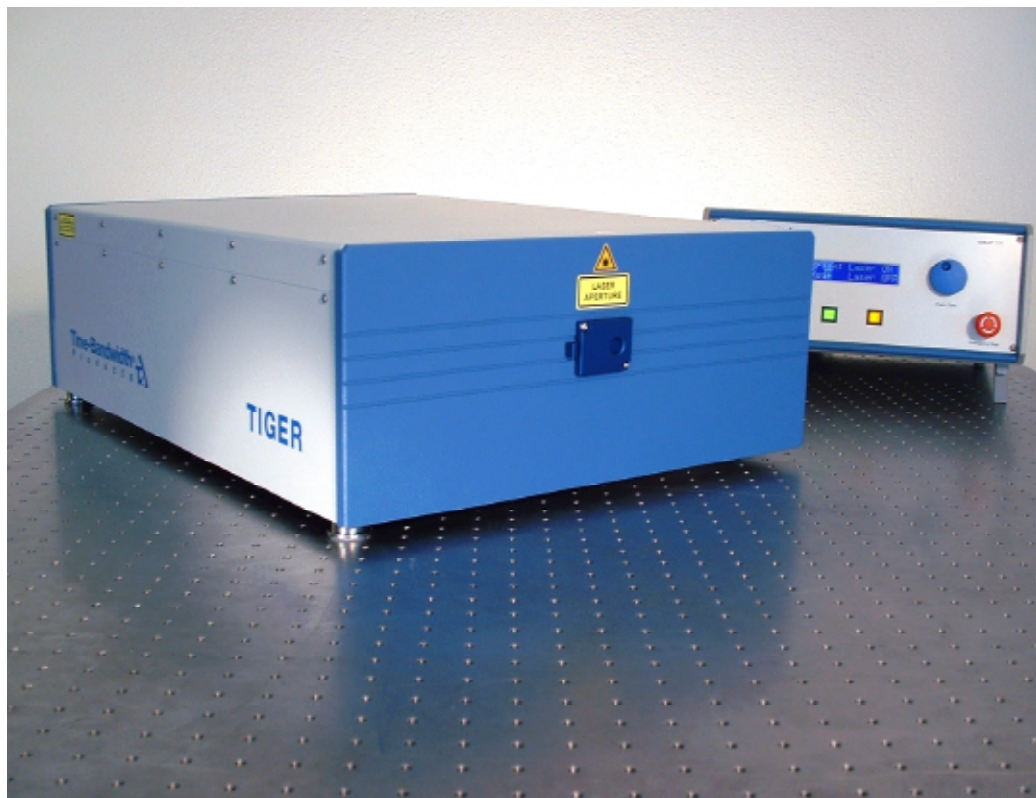
SESAM[®] Technology
Customizable

Applications

- Seeding amplifiers
- Two-photon microscopy
- SHG on nanoparticles
- Pump-probe experiments
- Electro-optic sampling
- Opto-electronic testing
- Nonlinear optics

Features

- Passively mode-locked DPSSL
- Integrated pump laser
- Turn-key operation
- Customizable design
- Low maintenance

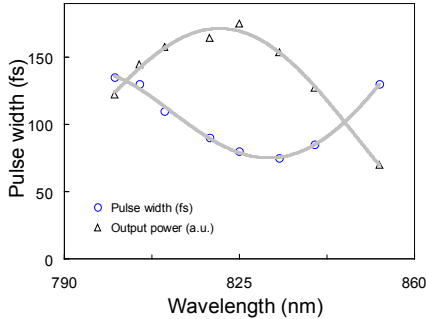


Options

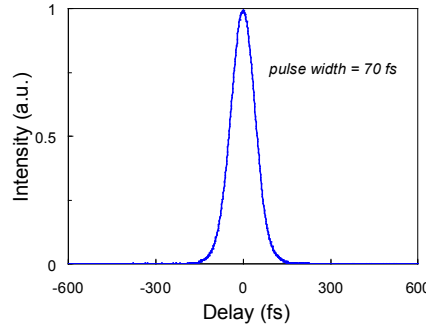
- Cavity dumping
- Clock synchronization
- Extended pulse widths
- Second harmonic generation
- Switchable repetition rates
- Long-term power stabilization
- Remote control
- RS-232

	<100 fs	pulse width
	780 nm – 860 nm	wavelength
	50 MHz – 200 MHz	repetition rate
	800 mW	output power
	1%/°C	power stability
	TEM ₀₀	spatial mode
	1.1	M ²

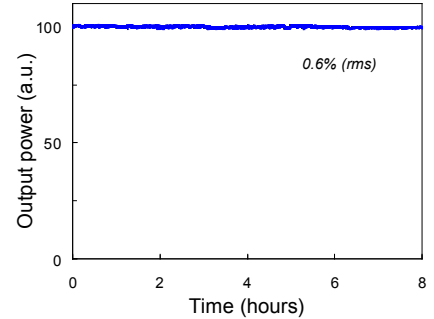
The TIGER laser combines “soliton mode-locking” - a balance between self-phase modulation (SPM) and dispersion in the laser cavity - with Time-Bandwidth Products’ patented SESAM® device for improved pulse stability and reliable self-starting, with a compact all-solid-state green pump laser integrated into the laser head. The laser has no moving parts and requires no RF drive electronics for modelocking.



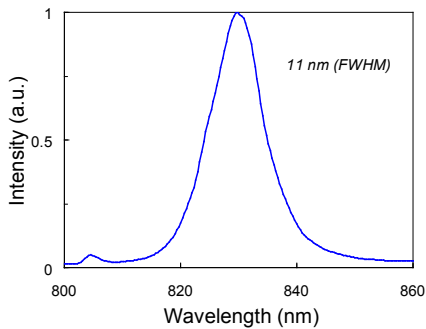
Pulse width (FWHM) and average laser output power (a.u.) versus wavelength



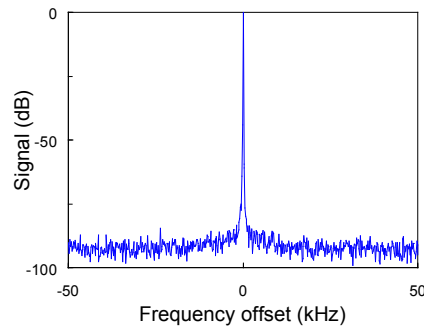
Typical non-interferometric autocorrelation trace of the TIGER laser pulses



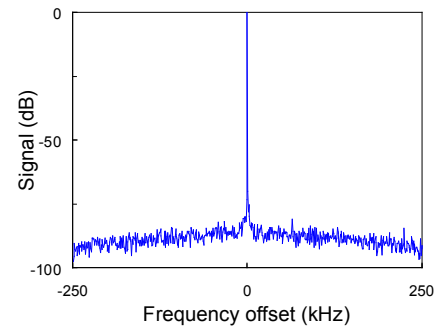
Average laser output power (long term)



Optical spectrum of the TIGER laser pulses at the center wavelength (resolution: 0.1 nm)



Typical microwave spectrum of the pulse train, centered at the laser repetition rate (span: 100 kHz, resolution: 30 Hz, vertical scale in dB)



Typical microwave spectrum of the pulse train, centered at the laser repetition rate (span: 500 kHz, resolution: 100 Hz, vertical scale in dB)

SESAM® passive mode-locking means higher stability, reliable self-starting with no pulse drop-outs, no complicated or noisy high frequency electronics, and a robust solid-state pump laser. The design freedom provided by the SESAM® device allows for a laser system customizable in repetition rate, wavelength, and pulse widths from femtoseconds to picoseconds. Additionally, these lasers are less sensitive to the pump laser parameters than other approaches. A cavity-dumped version for higher pulse energies and user-selectable repetition rates from single-shot up to 4.1 MHz is also available (see separate data sheet for TIGER-CD).

Additional specifications	TIGER
tunability	ca 30 nm (manual)
turn-on time	10 min
power stability (>1kHz)	0.5% rms
voltage	100 VAC – 240 VAC
frequency	50 Hz – 60 Hz
input power (single phase)	1350 VA
laser head (size, weight)	460 mm x 190 mm x 632 mm, 50 kg
power supply (size, weight)	360 mm x 160 mm x 380 mm, 13.5 kg
chiller (size, weight)	220 mm x 390 mm x 280 mm, 9.5 kg



Does the TIGER laser system match your requirements? Please let us know the specifications of the laser you are looking for. A superior technology and a strong team enable us to tailor our products to your special needs.

All specifications are subject to change without notice. All numbers given in this datasheet are typical values and may depend on the specific laser configuration. SESAM is a registered trademark in the following countries: USA, Switzerland, United Kingdom, Germany, Austria, Netherlands, Belgium, Luxembourg, France, Italy, Russia, China, Liechtenstein, Estonia, and Lithuania. This product is protected by one or several of the following patents: US6,538,298, US6,466,604, US5,987,049, EP1084527