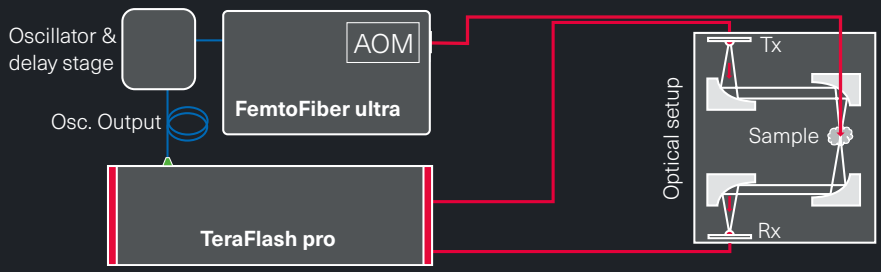
customized.

Innovative laser systems tailored by our experts to advance your research!

Laser system for time-resolved THz time-domain spectroscopy



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TOPTICA

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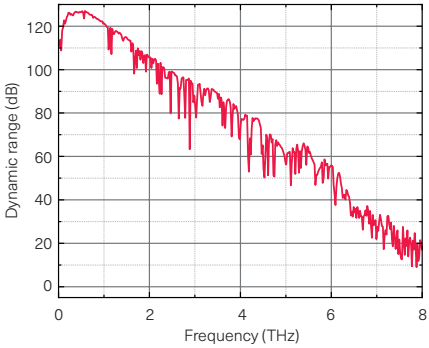
Optical-Pump THz-Probe Systems

DANGER – VISIBLE AND INVISIBLE LASER RADIATION, AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION, CLASS 4 LASER PRODUCT, EN60825-1:2014

Pump Laser*	Ultra 390	Ultra 460	Ultra 525	Ultra 780	Ultra 920	Ultra 1050	Ultra 1550	Smart 1560
Wavelength	390 nm	460 nm	525 nm	780 nm	920 nm	1050 nm	1550 nm	1560 nm
Average power	> 100 mW	> 100 mW	> 1 W	> 1 W	> 1.5 W	> 5 W	> 2 W	> 250 mW
Pulse duration	< 200 fs	< 200 fs	< 150 fs	< 100 fs	< 100 fs	< 100 fs	< 200 fs	< 100 fs
Dispersion control	N.A.	N.A.	N.A.	Integrated	Integrated	Integrated	N.A.	N.A.
Power modulation	N.A.	N.A.	N.A.	Optional AOM > 1 MHz modulation bandwidth			N.A.	N.A.

TeraFlash pro dual*	
Components	One femtosecond laser at 1.5 µm 2.5 m SM/PM fiber umbilicals (alternatively 4.0 m) 2 mechanical delay stages, one stationary, one moving 2 InGaAs photoconductive switches 2 connectors for additional TX and RX antennas Electronics for data acquisition
Spectral range / Wavelength	0.1 – 6.5 THz
THz Power	Up to 300 µW
Time-domain dynamic range	Up to 120 dB
Pulse duration	500 fs typ.
Repetition rate	80 MHz, optically synchronized via common laser oscillator with pump laser
Relative timing control (optional)	Integrated delay line to adjust the relative timing between optical pump and THz probe pulses, 500 ps total scan range

*Specifications are subject to change without further notice



Terahertz spectrum of air, measured with the TeraFlash pro and a high-power emitter. The bandwidth exceeds 6 THz and the dynamic range is greater than 120 dB.