THE ULTIMATE MEASUREMENT AND CONTROL TOOL FOR ULTRAFAST LASER OSCILLATORS AND HOLLOW-FIBER COMPRESSORS

d·scan

MEASURE AND COMPRESS
YOUR ULTRAFAST LASER

sphere
ULTRAFAST PHOTONICS

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d-scan

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MEASURE AND COMPRESS YOUR ULTRAFAST LASER

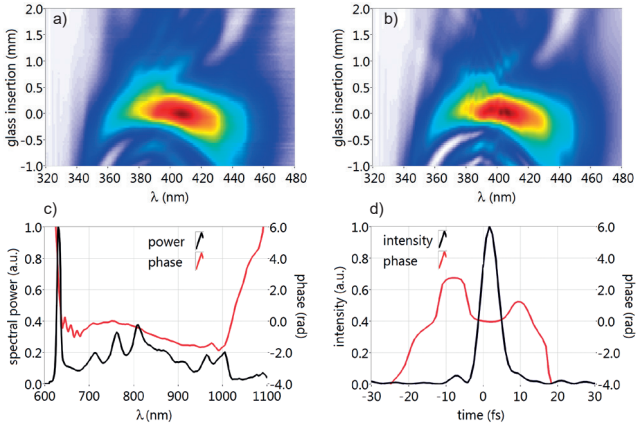
d-scan is an inline, compact and high-performance device for the simultaneous measurement and compression of even the most demanding ultrafast pulses.

d-scan can be used either as a standalone system or integrated with existing optical pulse compressors. It handles broadband oscillators, amplifiers, OPAs and hollow-fiber compressors.

Coupling your beam into the d-scan is easily achieved in less than one minute and a full measurement takes less than 10 seconds.

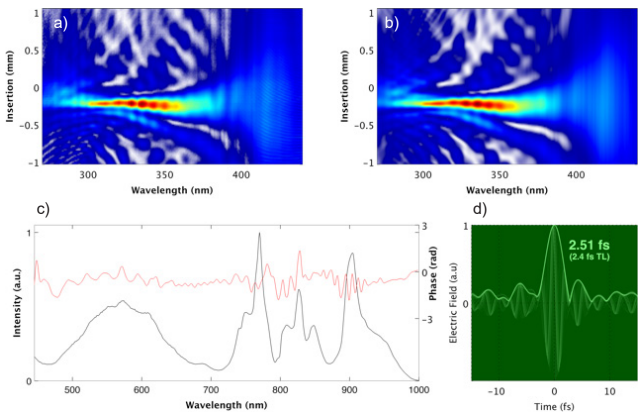
The resulting d-scan traces are very intuitive and a proprietary algorithm provides fast and accurate retrieval of the full electric field of the pulses.

OSCILLATOR



Few-cycle Ti:Sapphire oscillator: Measured (a) and retrieved (b) d-scan traces. (c) Measured spectrum (black) and retrieved spectral phase (red). (d) Retrieved temporal profile (black) and phase (red). Pulse duration is 5.5 ± 0.1 fs (FWHM).

HOLLOW-FIBER COMPRESSOR



Single-cycle hollow-fiber compressor: Measured (a) and retrieved (b) d-scan traces. (c) Measured spectrum (black) and retrieved spectral phase (red). (d) Retrieved temporal profile for the wedge insertion that minimizes the pulse duration, corresponding to 2.5 fs (1.3 cycles at 700 nm).

The standard d-scan comprises a fixed compression/scanning module and a compact measuring head to enable pulse characterization anywhere in your setup.

TECHNICAL SPECIFICATIONS	D-SCAN [a]	D-SCAN BLUE [b]
Wavelength range	600-1050 nm	450-1050 nm
Pulse duration (transform limited)	sub-5 fs to 20 fs	2.5 fs to 10 fs
Chirp range (up to)	750 fs^2	375 fs^2
Repetition rate	1 kHz and above[c]	
Input polarization	Horizontal	
Input aperture diameter	5 mm	10 mm
Input energy	> 100 pJ @ 80 MHz; > 5 µJ @ 1 kHz	
Compression module dimensions (WxLxH)	240 x 200 x 102mm	
Measuring head dimensions (WxLxH)	57 x 57 x 116 mm	

(a) Optimized for oscillators
(b) Optimized for hollow fiber compressors
(c) Lower repetition rates possible with external synch option

Customized d-scan systems available upon request.

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