



THE HIGH-PERFORMANCE TOOL FOR MASTERING
YOUR HOLLOW-FIBER COMPRESSOR DOWN TO
SINGLE-CYCLE PULSES

d·cycle



sphere
ULTRAFAST PHOTONICS

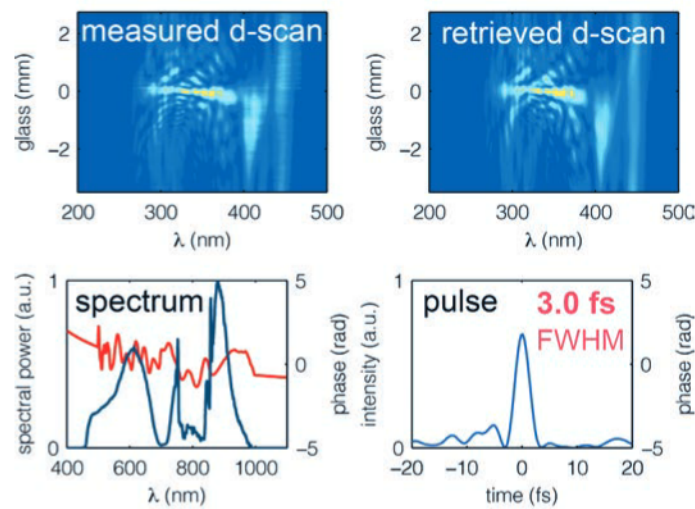
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The d-cycle is the system of choice for fast and accurate measurement of even the most demanding ultrafast pulses, down to ultra-broad-band spectra and single-cycle durations - the shortest for any commercially available device. Its versatile and standalone architecture handles a variety of state-of-the-art ultrashort pulse sources, from broadband laser oscillators, amplifiers and OPAs to hollow-core fiber compressors. The d-cycle's compact footprint packs a dispersion-calibrated system that measures your

pulses exactly as they are, without any ambiguities. Coupling your beam into the d-cycle is easily achieved in less than one minute and a full measurement takes less than 10 seconds. The intuitiveness of the d-scan trace provides instant visual feedback for optimisation and control of your source via d-cycle's unique graphical user interface - the Virtual Logbook™ - and the proprietary d-cycle algorithm provides fast and accurate retrieval of the complete temporal profile of the pulses.



Characterization of the output from a hollow-core fiber compressor. (Top) Measured and retrieved d-cycle traces. (left) Measured spectrum (black) and retrieved spectral phase (red). (right) Retrieved temporal profile of the compressed 3.0 fs pulses.

The d-cycle is a compact and robust device for fast and accurate measurement of even the most demanding laser pulses. Single-cycle? No problem!

TECHNICAL SPECIFICATIONS

	d-cycle B ^{a)}	d-cycle R ^{b)}	d-cycle NIR ^{c)}	d-cycle 1.5
Wavelength range	450-1000nm 500-1050nm	600-1100nm	700-1400nm	1500-1700nm
Pulse duration (FTL)	2.5fs to 10fs	sub 5fs to 20 fs	2.5fs to 60fs	60fs to 200fs
Chirp range	±160 fs ²	±720 fs ²	±600 fs ²	±4000 fs ²
Repetition rate	1 kHz and above ^{d)}			
Input polarization	Linear			
Max beam diameter	10 mm			
Required input energy	>100 pJ @ 80 MHz >1 QJ @ 1 kHz			
Compression module dimensions (WxLxH)	250 x 250 x 100 mm			

(a) Optimized for hollow fiber compressors

(b) Optimized for Ti:sapphire oscillators and OPCPAs

(c) Optimized for OPCPA

(d) Lower repetition rates possible with external synch option

* Vacuum compatible systems available on request



Talk to us for different wavelength range, chirp range, input aperture, and other