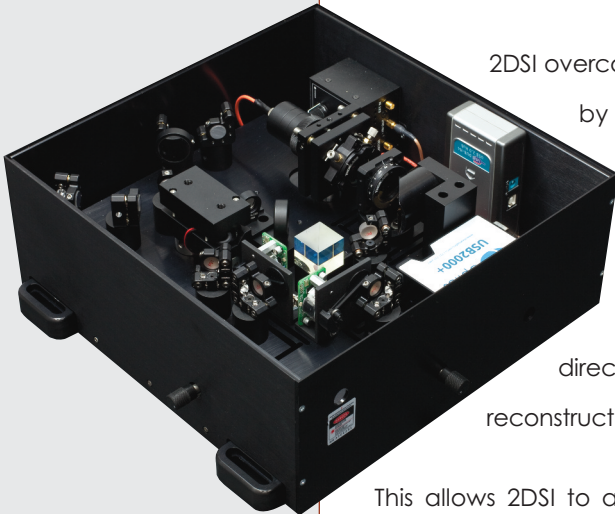


Developed in close collaboration with MIT, Two-Dimensional Spectral Shearing Interferometry (2DSI) is a pulse measurement system that measures an ultrashort pulse envelope by interfering neighboring spectral components.



2DSI overcomes certain disadvantages in other pulse measurement techniques by encoding the spectral group delay in the spectrum of a single nonlinearly transformed pulse, rather than two. This avoids the need to calibrate the delay between two pulses to high precision, a potential complication with other techniques for few-cycle pulses and below. In addition, the interferogram produced by 2DSI is a direct representation of the spectral group delay of the pulse, allowing for reconstruction of the pulse shape without the need for iterative search algorithms.

This allows 2DSI to accurately measure the spectral group delay of pulses with time-bandwidth products in excess of 20, precisely resolving all pulse features, such as weak satellite pulses, which other techniques can miss. The 2DSI geometry also inherently avoids having the pulse pass through any dispersive materials and uses type II up-conversion with a phase-matching bandwidth of nearly an octave.

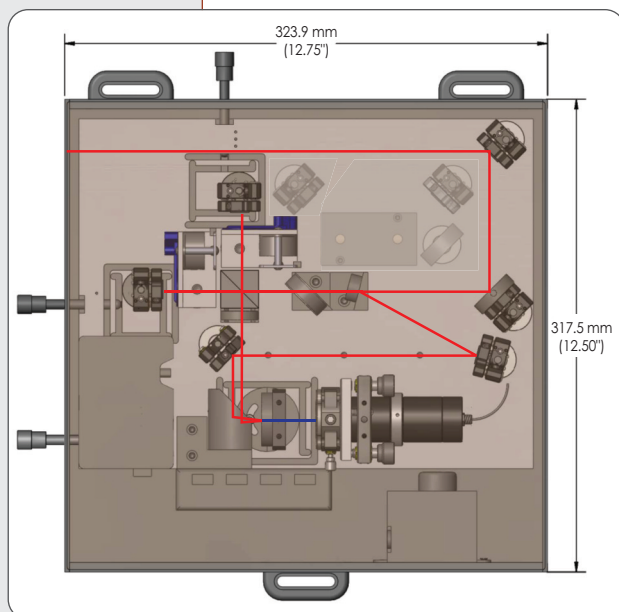
Idesta's 2DSI automates the measurement process so that the only user intervention required is the initial alignment, which is made simple by a green counterpropagating alignment laser. The mechanical setup is based on our proven flexure stage design for all critical components. Long-term hands-off operation was one of the major design goals. A high-quality, high-dynamic-range spectrometer allows for simultaneous measurement of both the 2DSI interferogram and fundamental spectrum.

### Advantages

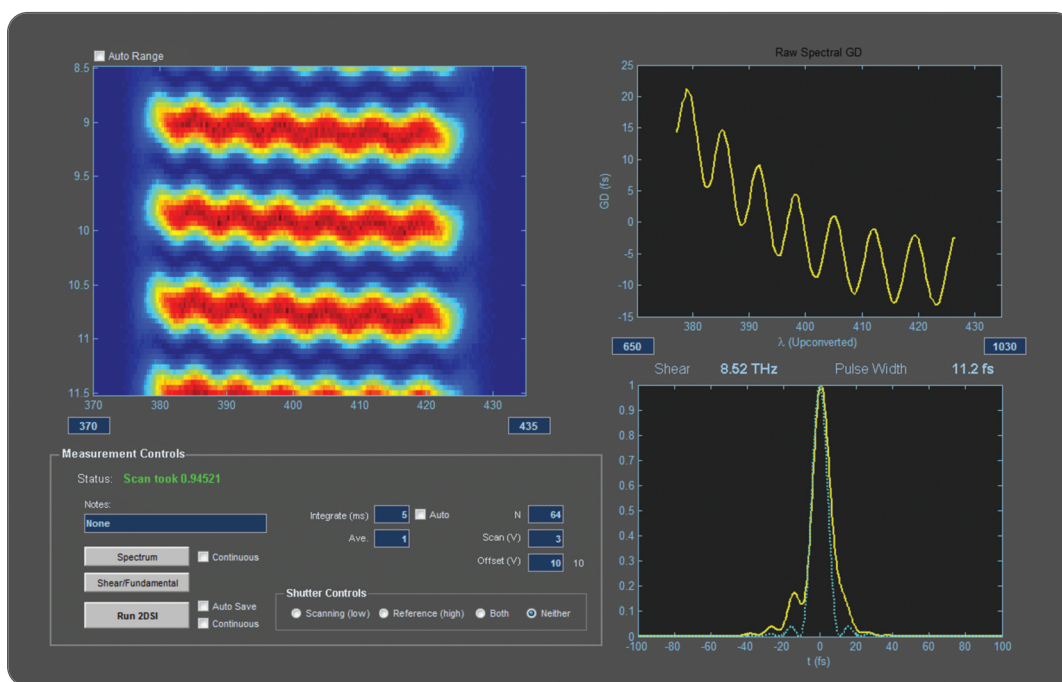
- Avoids Sensitive Calibration
- Direct Reconstruction, No Iterative Search Algorithm Required
- 50 Attosecond Phase Delay Precision
- Dispersion Free
- Octave-Spanning Bandwidth
- Fundamental and Up-Converted Spectrum Measured in Same Device
- Fully Automated
- Guide Laser for Easy Set Up

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quantum electronics



Specifications	2DSI	2DSI-ER
Wavelength	650 – 1000 nm	650 – 1100 nm
Pulse Width	4.5 – 100 fs	
Spectral Phase Precision	50 attoseconds	
Minimum Pulse Energy	0.3 nJ	
Single Shot	no	
Refresh Rate	Up to 10 Hz	
Dimensions	12.75" x 12.6" (324 mm x 318 mm)	



ITEM #	Price
2DSI	\$ 25,000.00
2DSI-ER	\$ 27,500.00

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