

ShapeShifter™ Ultrashort Pulse Nonlinear Spectrometer



- Transient Absorption Spectroscopy (TA)
- Pump-Dump-Probe Spectroscopy
- Coherent Anti-Stokes Raman Spectroscopy (CARS)
- Femtosecond Stimulated Raman Spectroscopy (fsSRS)
- 4-Wave Mixing Spectroscopy
- Surface-Specific Vibrational Sum Frequency Generation Spectroscopy (Vib-SFG)
- Two Photon Fluorescence Spectroscopy (TPF/TPEF)
- Fluorescence Lifetime Imaging Microscopy (FLIM)
- Photoluminescence Spectroscopy
- Second Harmonic Generation Spectroscopy (SHG)
- Third Harmonic Generation Spectroscopy (THG)
- Laser Induced Breakdown Spectroscopy (LIBS)
- Heat-Affected-Zone-Free, Embrittlement-Free Ablation (Micromachining)



ShapeShifter™ is a state-of-the-art research tool that can be configured to perform experiments using many different types of nonlinear processes. It is designed, fabricated and tested using field-proven components **from a single manufacturer, thereby minimizing your technology adoption risk.**

ShapeShifter™ is capable of meeting your current needs while retaining the flexibility to add options¹ that include pulsewidth as short as 15 fs², a large range of pump and probe wavelengths (e.g. sub-200 nm to beyond 10 microns) with decay times ranging from sub-30 femtoseconds to nanoseconds, and at user-selectable repetition rates that are variable from single-shot to multiple kHz. It can be used to explore heat-affected-zone and embrittlement-free structuring in a wide variety of materials using pulse widths that are variable from 30 fs to 10 ps.

¹May require some additional components. Please contact sales@cmxr.com for more information.

²Riedle, M. E. Beutter, S. Lochbrunner, J. Piel, S. Schenkl, S. Spörlein, W. Zinth Appl. Phys. B 71, 457 - 465 (2000) *Generation of 10 to 50 fs pulses tunable through all of the visible and the NIR.*

³Patent #5,530,582

ShapeShifter™ begins with the field-proven Model CPA-series patented, fiber-oscillator-seeded, Ti:Sapphire amplifier³. The output beam of the Model CPA can be split into as many as seven beams to pump as many as seven tunable, non-collinear OPAs (NOPAs). Or you can use one beam to generate multiple continua and/or you can microstructure materials to create features smaller than 1 micron. Clearly, ShapeShifter™ is the ideal tool for a user facility.

Why limit your future options when ShapeShifter™ offers you unmatched flexibility to go where your research takes you?

Only an introduction to ShapeShifter™ can be provided here due to space limitations. Please contact Clark-MXR to find out how ShapeShifter™ can be configured to meet your specific needs.

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For more details, please visit our web site at <http://www.cmxr.com>.



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