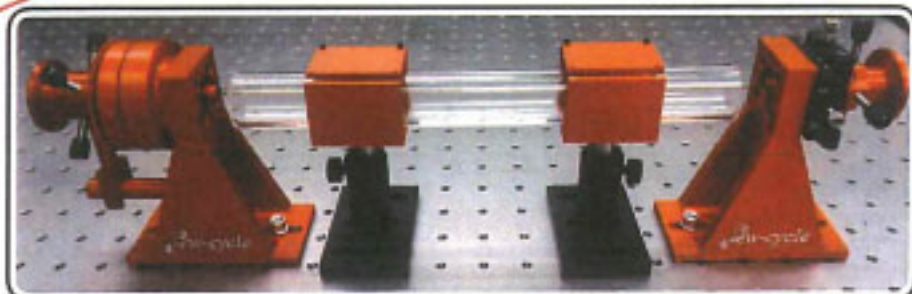


*few-cycle*TM

- different solutions



How can you improve the performance of your fs laser?

The strategy is to combine a long hollow-core fiber with a large core diameter to reduce detrimental nonlinear effects. With one *few-cycle fiber*TM setup, different fiber lengths and diameters can be realized to accommodate a wide range of input energies or wavelengths.

One Setup - many opportunities ...

Shortest Pulses - down to 3fs @ 800nm

Input Energies - from 200μJ to 20mJ

Wavelengths - from UV up to 5μm

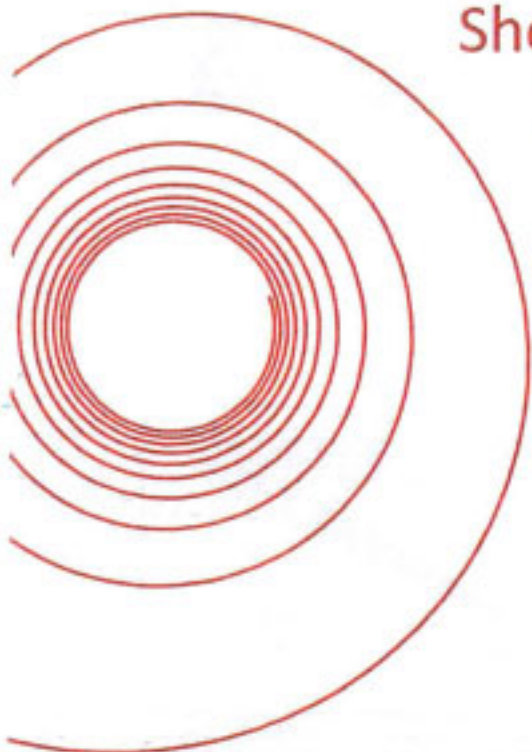
Fiber Length - from 30cm to >3m

Inner Diameter - 50μm to 1mm

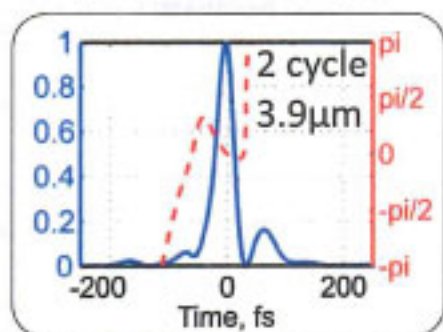
High Transmission >70%

Compression factor > 15 from 185fs to 9fs

Average Power > 30W 6h operation @ 160W
20kHz, 3mJ, 350ps

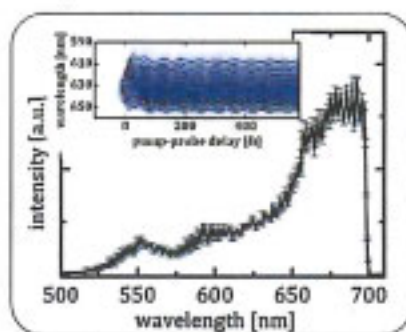


**High Energy
Pulse Compression**
up to 13mJ output



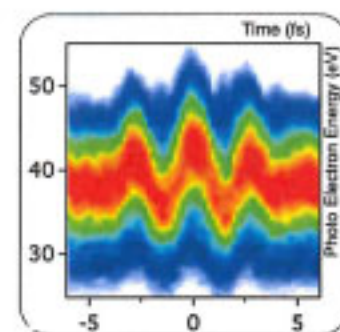
"Hollow-Core-Waveguide Compression of 22-mJ 3.9-μm Pulses", T. Balciunas, ..., A. Baltuška, *AW1A.7 Lasers Congress (2016)*
"Hollow-core-waveguide compression of multi-millijoule CEP-stable 3.2 μm pulses"
G. Fan, ..., A. Baltuška, *Optica* 3, 1308 (2016)

**Femtochemistry &
2D Spectroscopy**
40μJ VIS continuum



"Simple fiber-based solution for coherent multi-dimensional spectroscopy in the visible regime"
H. Seiler, ..., P. Kambhampati, *OL*, 42, 643, (2017)

**Single Cycle Pulses &
Attosecond Science**
down to 3fs @ 800nm



"Polarization-assisted amplitude gating as a route to tunable, high-contrast attosecond pulses"
H. R. Timmers, ..., S. R. Leone, *Optica*, 3, 707 (2016)
"Generating high contrast, near single-cycle waveforms with third order dispersion compensation"
H. R. Timmers, ..., S. R. Leone, *OL*, 42, 811 (2017)

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