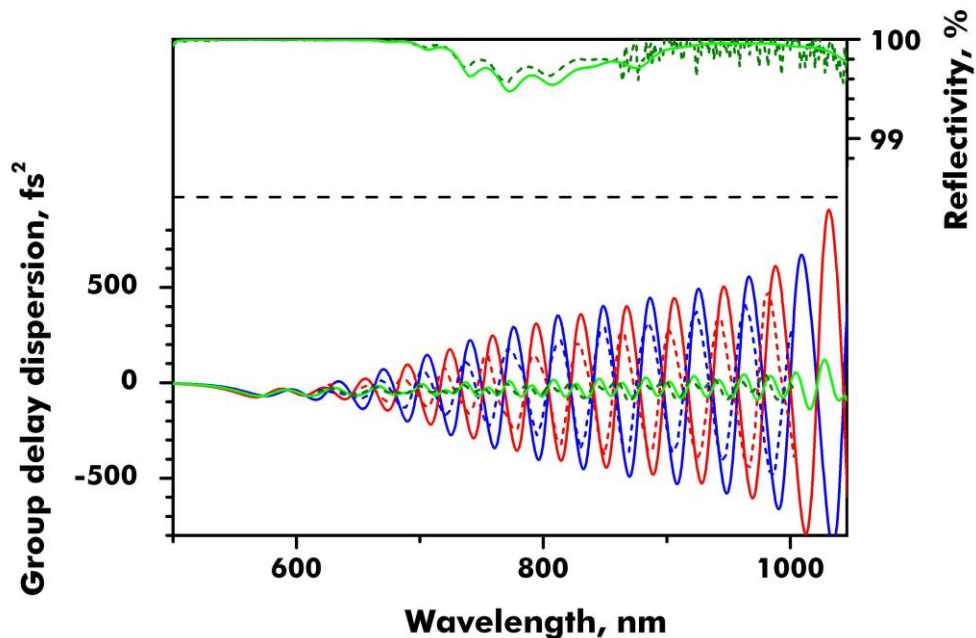


Ultra-broadband compression mirror set, double-angle technology (design PC52)

Specifications

Bandwidth 550-1100nm; p-polarization
Reflectance >99% per bounce
Supported pulse duration <5 fs (with appropriate input spectrum)
Angle of incidence 5°, resp. 20°
Substrates: 1" diameter, FS, surface L/10 at 633 nm

Mirror characterization

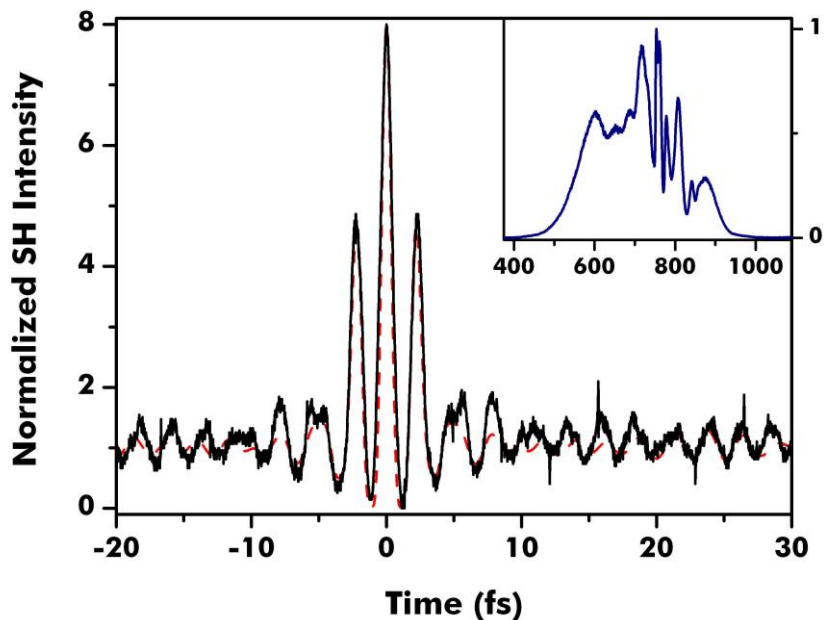
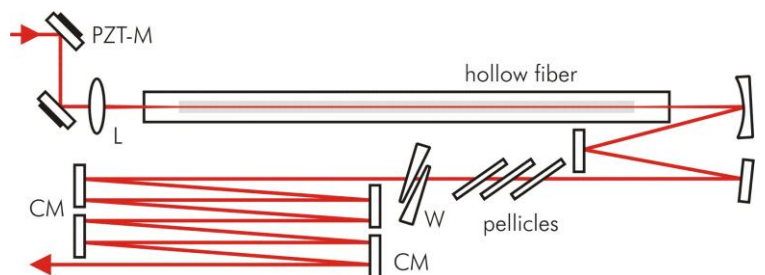


Dispersion (bottom panel) and reflectivity (top panel) properties of the complementary mirror pair. Respective dispersion per bounce (red, blue) and average per pair (green) is shown. Solid lines denote theoretical values, dashed lines denote measured values.

Compression measurement

Setup

- Chirped-pulse amplifier system (Femtolasers Femtopower Compact Pro)
 - 3kHz repetition rate
 - 900μJ pulse energy
 - 25fs pulse duration (FWHM)
- Hollow-core fiber
 - 250μm inner diameter
 - 1m length
 - neon gas
 - 2.0bar background pressure
- Mirror compressor
 - 10 reflections



Measured second-order autocorrelation (black curve). Dotted red curve shows the transform-limited autocorrelation function derived from the input spectrum (see inset). The reconstructed pulse duration is 3.0fs (FWHM). Inset: Supercontinuum spectrum generated in the hollow-core fiber (neon, 2.0 bar background pressure).