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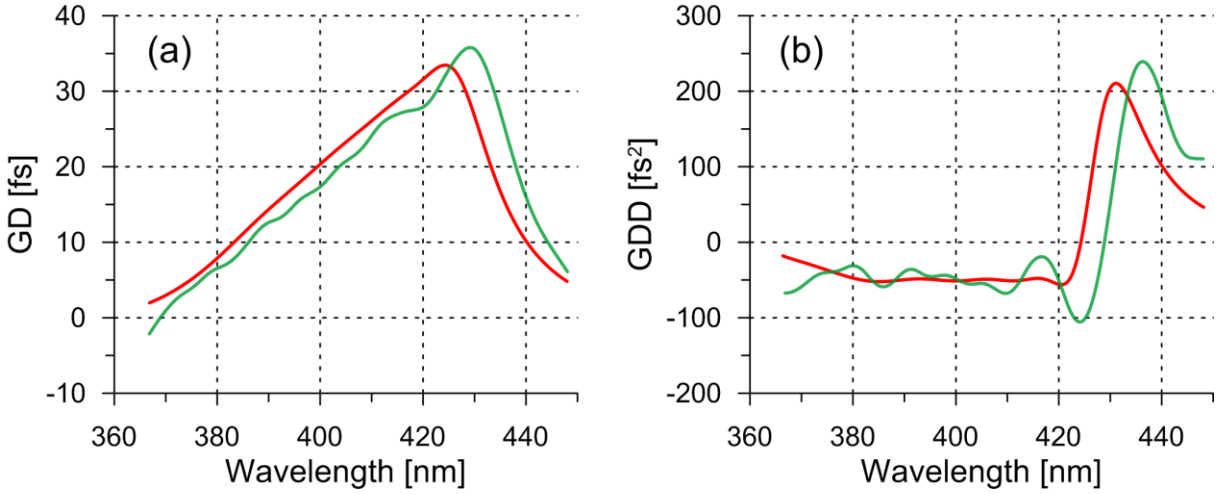
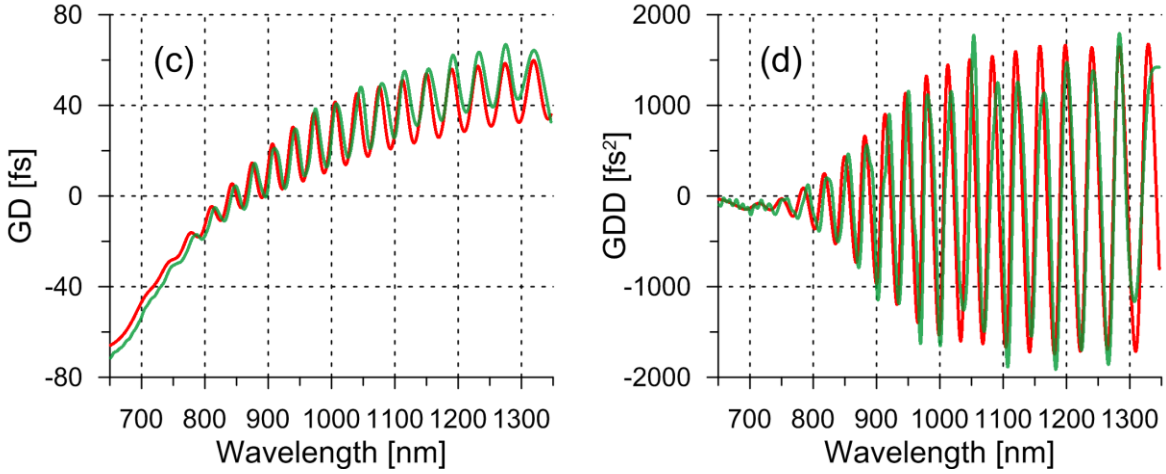
RSI - Resonance Scanning Interferometer for GDD Measurements

Due to inevitable manufacturing errors the produced DMs have GD and GDD characteristics that usually deviate from the theoretical design. This problem cannot be avoided even with most modern layer deposition technologies providing sub-nanometer accuracy, since GD and especially GDD are extremely sensitive to deviations in the layer thicknesses of DM. Therefore accurate measurements of GD and GDD characteristics play crucial role in achieving top performance of ultra-fast optical systems relying on DMs. Additionally, GD and GDD measurements of the produced DMs may provide valuable information for reverse engineering, i.e., feedback to the manufacturing process in order to further increase the accuracy of the production.



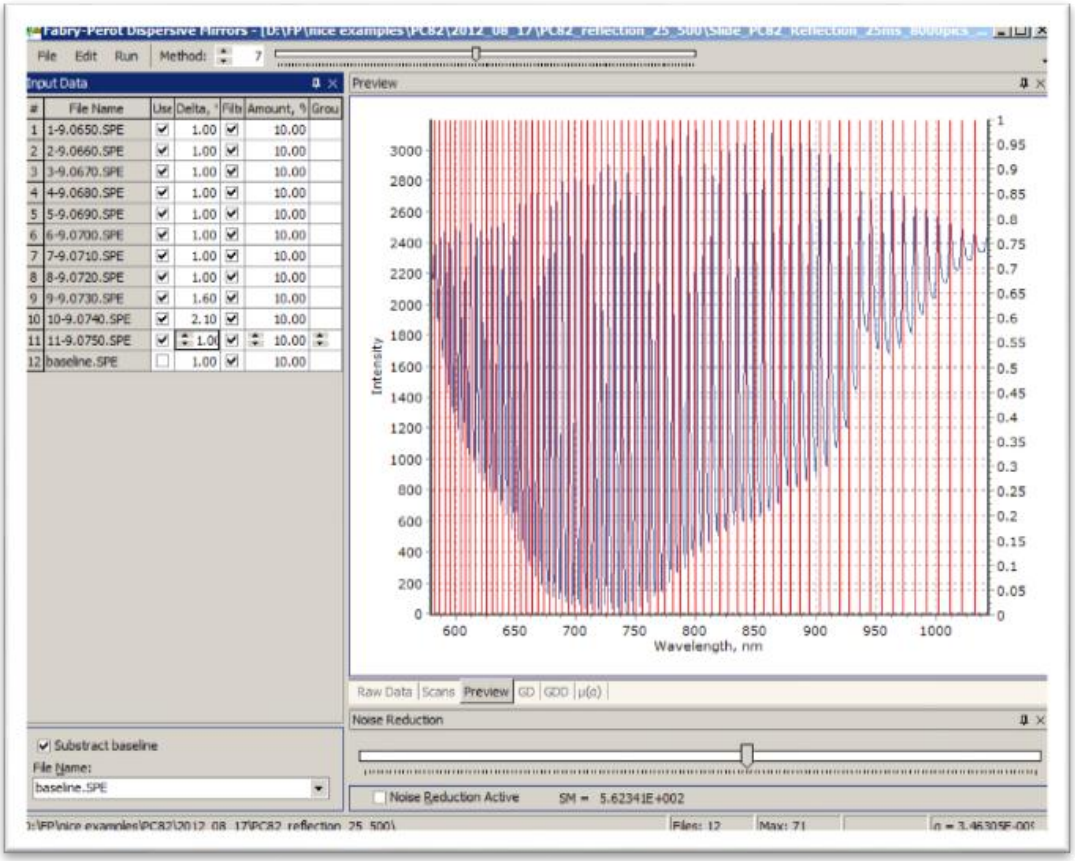
GD (a) and GDD (b) evaluated from reflectance measurements for a mirror working in the ultraviolet (green curves) along with the corresponding theoretical predictions (red lines).



GD (c) and GDD (d) of the ultra-broadband 96-layer mirror (green) and theoretical data (red) for comparison.

Product key features:

- Flexible device for GD and GDD measurements of high-reflecting and broadband dispersive mirrors
- IR, Visible and UV measurements are possible
- Powerful data processing software
- Excellent agreement of measured results with theory
- Fast and simple working principle



Characteristics:

- Spectral bandwidth:
  250 – 1100nm or 900 – 2100nm
- Optical resolution:
  ~1nm (250 – 1100nm) or
  ~2nm (900 – 2100nm)
- Absolute GDD accuracy: 10fs²
- Relative GDD accuracy: 5fs²
- Footprint: 60x60 cm²