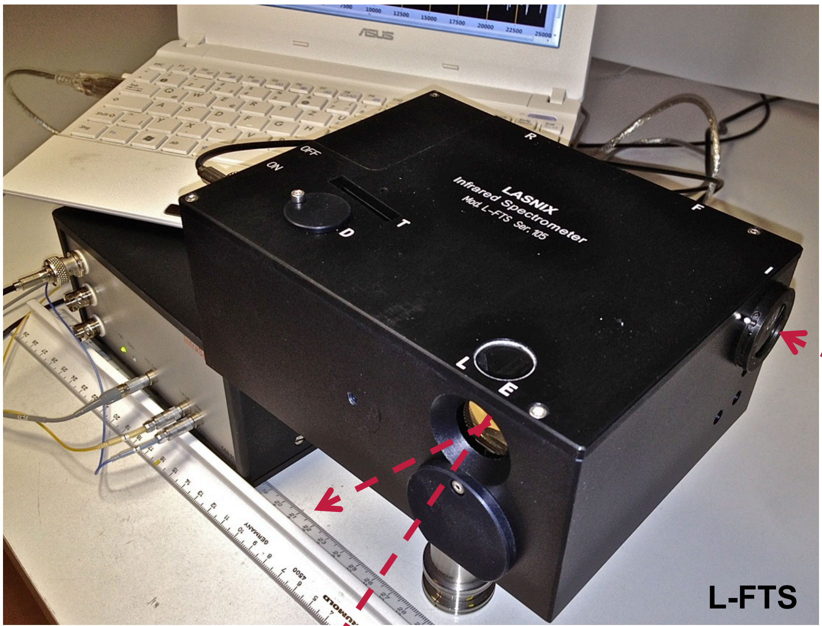
LASNIX

COMPACT LAMELLAR FTIR SPECTROMETER

Far-IR THz Mid-IR Near-IR VIS



light beam spectra
OPO OPA DFG
autocorrelation

lamellar mirror technology

permanently aligned

The spectrometer L-FTS is ideal for continuous spectral monitoring of a collimated light beam, simultaneously from the visible to the far infrared in a single display, requiring no adjustments of its dispersion-free internal beamsplitter-optics-detection system, with a minimal footprint on the optical table.

The L-FTS features a novel permanently aligned lamellar mirror technology, and includes a mini-notebook for online Fourier transformation at up to 2 spectra/s as well as for averaging, ratioing and storing spectra. Internal sample holders enable transmission and reflection measurements with a user-supplied beam.

A user-supplied detector can be attached to the spectrometer. A second optical port allows external access to the interferometer for a user-supplied optical system for, e.g., double-pulse generation or autocorrelation scans to 7 ps.

- **ultra-wide coverage.................. 0.4 – 300 µm**
- **ultra-compact............................ 15x12x7 cm^3**
- **spectral resolution (nom.)......... 6.3 cm^{-1}**
    - **with option R................. 3.4 cm^{-1}**
- **clear aperture............................. 17 mm dia.**
- **intensity limit.............................. 2 W/cm^2**
- **built-in window-less‡ thermal detector:**
    - **power limit...................... 10 mW**
    - **NEP (1Hz)....................... 30 nW**
    - **flat response.................. 1 – 70 µm‡**
    - **reduced response.......... 0.4 – 1 µm**
    - **reduced response.......... 70 – 300 µm‡**

‡A protective KBr window is available at no cost, however, it blocks wavelengths >36 µm.

For ordering write or call

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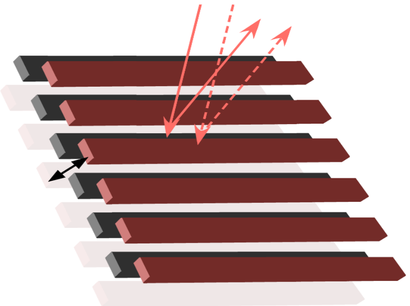
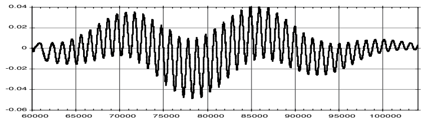


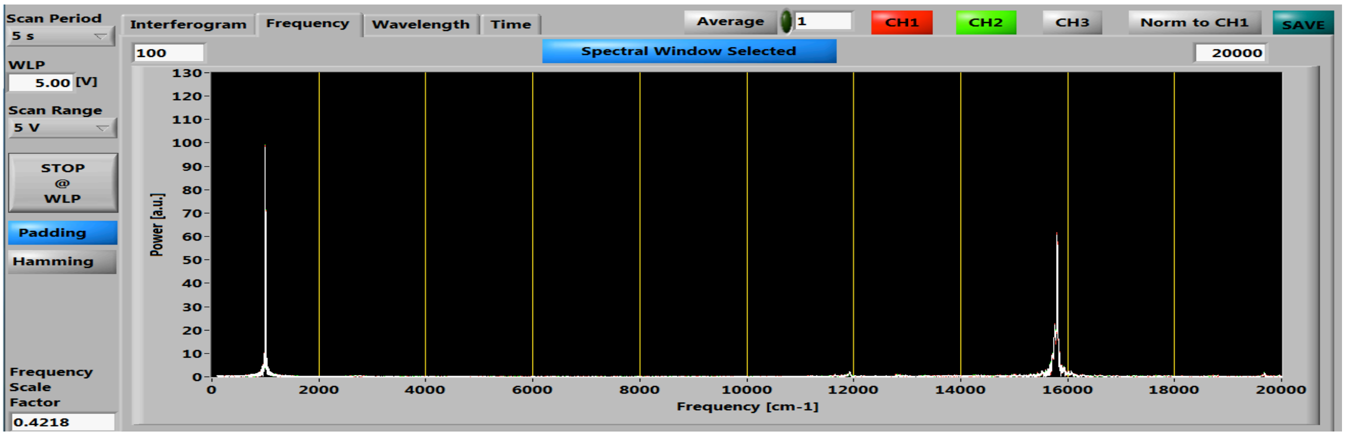
design principle
Au-coated lamellar mirrors (red) move through a second set of Au-coated mirrors (black), resulting in varying phase retardation: a wavefront-division interferometer
+ no interferometer arms, permanently aligned, drift-free
+ no dielectric involved, hence broadband VIS-IR-THz operation

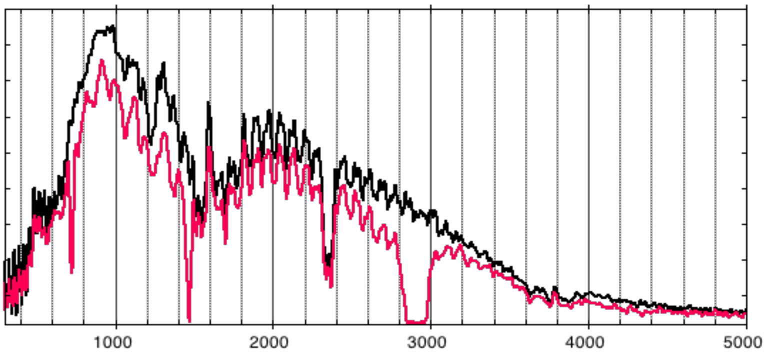
measurement example
HeNe and CO_2 laser beams superimposed

interferogram



screenshot of spectrum pane





application example I
thermal IR from ca. 400°C wire
direct (black): Planck curve with air absorption dips from H_2O and CO_2

same through plastic foil (red): extra fingerprint absorption dips, and F.P. thickness fringes

application example II
tuning supercontinuum spectrum from nonlinear fiber pumped by Er fiber laser @ 1.55 µm