

Mozza

Multi-Octave Spectrum Analyser

Mozza MIR spectrometers are ideal for spectral characterization of IR pulsed laser sources with repetition rates from few Hz to multi-kHz. Without any moving part, Mozza unique design allows high speed scanning, synchronized with the laser. As a result, real time spectrum display is possible even with kHz-rate light sources.

While scanning FTIRs rely on mechanical delay lines, with synchronization issues leading to artefacts with pulsed sources, Mozza MIR spectrometer is based on an acousto-optic interaction, ideally triggered by the laser: For each trigger event, a single acoustic frequency is generated and diffracts a corresponding single optical frequency, which intensity is recorded on a photodiode. The Mozza system then scans the broadband optical spectrum at the laser repetition rate. Measurement speed depends on the source bandwidth characteristics. As an example, a 500cm⁻¹ source bandwidth will be displayed in typically 200ms for a kHz rep rate source. For a 10 kHz source, the same 500cm⁻¹ bandwidth will be displayed in less than 20ms!

This makes the Mozza the ideal tool to characterize low repetition rate pulsed IR sources.



Applications

Scientific:

- > Spectral characterization of
 - > OPA and OPCPA
 - > Supercontinuum
 - > Femtosecond oscillators (Thulium, Chromium)

Key Features

- > Detection range from 1 to 5µm with a single setup
- > Compatible with variable repetition rates, burst sources, etc...
- > Real time data display
- > Superior stability, no moving parts
- > Dynamic range up to 40 dB
- > Advanced detection modes

Specifications

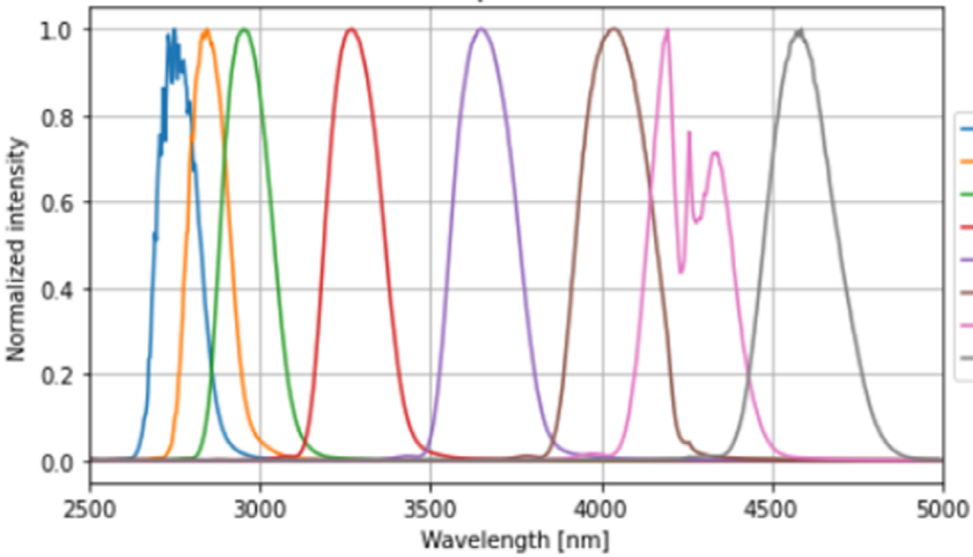
Model	1 - 5
Spectral range (μm) (cm^{-1})	1 - 5 2000 - 10000
Scanning speed	At the laser repetition rate up to 25 kHz
Spectral resolution (cm^{-1})	5
Sensitivity (pJ)	Down to 0.5 per resolution point
dynamic range (dB)	Up to 40

Dimensions

210 x 317.4 x 157 mm³
Adjustable height down to 38.1 mm (1.5")

Requirements

- > Vertical polarization
- > High level TTL trigger input
- > Input beam: focused on entrance slit or collimated
- > PC: Windows 10, 1 USB port, 1 GB RAM



Measurement of DFG output of a fs OPA