



Mozza

Multi-Octave Spectrum Analyzer dedicated to pulsed IR laser sources

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.

Principle - Key benefits

- Perfectly suited to broadband pulsed sources

While scanning FTIRs rely on mechanical delay lines, featuring issues (synchronization, artefacts) with broadband pulsed sources, Mozza MIR spectrometer is based on an acousto-optic interaction, ideally suited to triggered sources: 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, at each trigger event, acoustic frequencies and reconstruct the broadband optical spectrum.

The scan speed depends on the source bandwidth characteristics. As an example, a 500cm⁻¹ source bandwidth will be displayed in real time in typically 200ms for a kHz rep rate source. For a 10kHz 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 up to 30kHz rate pulsed IR sources.

- Detection range from 1 to 5μm with a single setup

The acousto-optic device, optics and detectors are factory aligned and calibrated. No need to replace any part when changing the wavelength, the Mozza is a real plug & play MIR spectrometer, aligned within few minutes only.

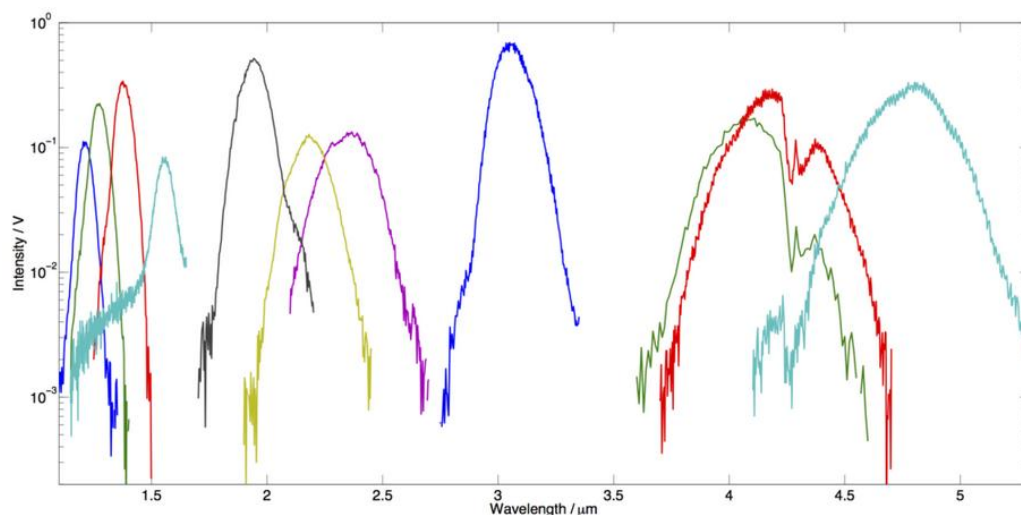
Applications

The unique ability of the Mozza to measure the output spectra of sub-10s of kHz IR sources, makes it an essential tool for the characterization of:

- Femtosecond pumped Optical Parametric Amplifiers (OPA) and subsequent Difference Frequency Generation (DFG) modules
- Optical Parametric Chirped Pulse Amplifiers (OPCPA) such as Fastlite high flux MIR OPCPA
- Super-Continuum sources

Mozza MIR spectrometer is also perfectly adapted to the measurement of femtosecond oscillators (Ytterbium, Thulium, Chromium)

Measurement of signal (1.1-1.6 μm), idler (1.6-2.6 μm) and DFG (above 2.7 μm) output from a TOPAS HE (courtesy of PSI Viligen, Pr. Hauri)



Specifications

Click on the image to download the standard MOZZA specifications.