

HASO

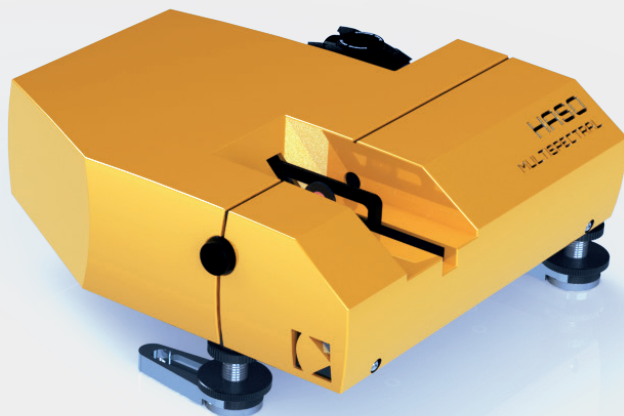
MULTISPECTRAL

**SPATIO-TEMPORAL
CHARACTERIZATION**

**EASY & FAST
TO USE**

**SHACK-HARTMANN
BASED**

**550 - 1000 NM
SPECTRAL RANGE**



Direct spectrally-resolved wavefront measurement,
ideal tool for compressor alignment

A UNIQUE SET OF ADVANTAGES

- Based on Shack-Hartmann technology, a well-known reference
- Nanometric spectral resolution
- $\lambda/100$ RMS wavefront accuracy
- Can deal with very short laser pulses down to ~ 5 fs
- Precise measurement of spatial chirp, chromatic curvature, ...
- Compatible with lowest repetition rates, ex. 0.1 Hz
- Fast measurement and direct post-processing
- Compatible with compressed or stretched pulses
- Multispectral View: our laptop-friendly software
- Removable HASO4 Broadband for standalone use



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HASO MULTISPECTRAL

HASO Multispectral is the first-ever wavefront sensor on the market that has the ability to resolve the frequency on a broad 550 - 1000 nm spectral range. Coupled to our standard HASO4 Broadband, it enables full characterization of TW and PW class lasers in the goal of optimizing peak intensity on target.

This new device is perfectly suited for compressor alignment, characterization of compressed or stretched beams, complex broadband system alignment, and understanding of science of spatio-temporal couplings.

Direct and robust measurement

Nothing is more efficient than characterizing spatio-temporal couplings (STC) with a direct measurement, and our solution based on Shack-Hartmann technology allows to measure STCs with very few laser shots.

As a result, only two shots could be needed to measure spatial chirp, and a couple more for having chromatic curvature information. In general, 10 different wavelengths are already efficient for tuning and fast characterization. For a more complete characterization, a nanometrical spectral resolution could be more suited, and can be set by the user.

Simplicity of use

HASO Multispectral is made for being easy to set up and align. Only an attenuated 5mm-collimated beam is needed as an input. Any NA can be managed by adding an optional module.

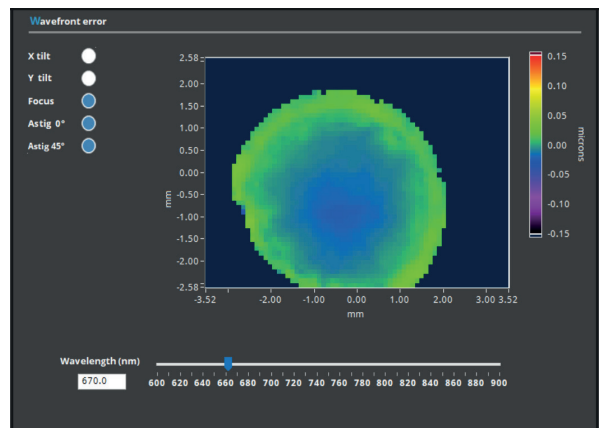
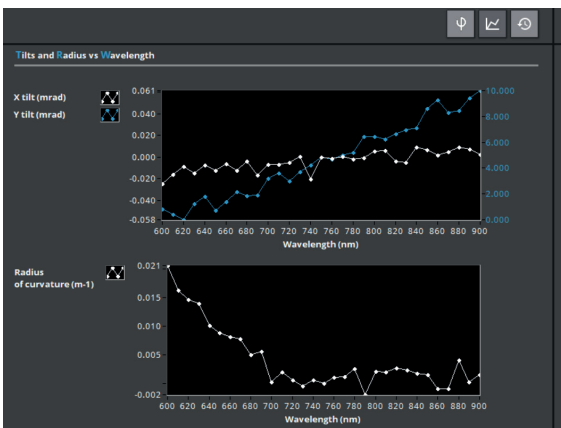
Thanks to its magnetic auto-aligned mount, HASO4 WFS can be easily used as a standalone sensor for diagnostic, or to monitor an adaptive optic loop. Once repositioned on the Multispectral platform, it is directly realigned with SpotTracker.

SOFTWARE

MultispectralView is our dedicated software for Spatio-Temporal Couplings analysis. It enables the alignment of the device and a complete and direct characterization of the beam.

SPECIFICATIONS

Aperture dimension	Up to 5 x 5 mm ²
Spatial sampling points	50 x 68
Absolute wavefront accuracy	$\lambda/100$ RMS
Spectral range	550 - 1000nm
Spectral resolution	1nm
Spatial sampling	105 μ m
Input beam	Collimated (default) Any F/# (option)
Maximum acquisition freq.	20Hz
Signal interface	USB 3.0 or GigE
Dimension / Weight	262 x 280 x 80 mm ³ / 4 kg
External trigger	Yes



Multispectral
View