

HASOTM NIR

Absolute measurement, unequalled accuracy and speeds up to 30 Hz in the near infrared range!



Our HASOTM NIR Shack-Hartmann wavefront sensor is the ideal tool for customers working in the near infrared spectrum (1.5 – 1.6 μm). Exceptionally easy to integrate, they provide fast, accurate and reliable measurements by taking advantage of the HASO family's standard functionalities that customers have come to rely on, including absolute measurement, unequalled accuracy and insensitivity to vibration at speeds up to 30 Hz.

Our proprietary Dynamic Spot TrackingTM and Auto Spot FinderTM features combined with the exceptional optical quality of our refractive microlenses configuration provide superior accuracy and eliminate crossing spots, without compromising dynamic range. Even more, Imagine Optic's proprietary calibration technology enables you to obtain absolute measurements every time, without the need for a reference beam, and our patented sensor design allows you to measure phase and intensity independently and in real-time.

HASO NIR is the ideal tool for fiber coupling and, more generally, for aligning and characterize optical systems in the NIR (afocal, collimators, lenses, zoom, etc.). When coupled with our HASO v3 software, it enables you to perform both zonal and modal wavefront reconstruction; calculate the PSF, MTF and Strehl ratio; visualize the spot diagram; and obtain the M^2 parameter.

If you would like more information on our products, please visit our website www.imagine-optic.com, call +33 (0)1 64 86 15 60, or e-mail us at contact@imagine-optic.com.

	HASO - NIR
Aperture dimension	3.6 x 4.8 mm ²
Sub-apertures dedicated for analysis ¹	32 x 40
Tilt dynamic range	till $\pm 3^\circ$
Focus dynamic range	$\pm 0,012 \text{ m to } \pm \infty$
Maximum operating aperture (half angle $\sin\alpha$)	0,17 (max)
Repeatability (rms)	$\sim \lambda/70$
Wavefront measurement accuracy in absolute mode (rms) ²	$\sim \lambda/35$
Wavefront measurement accuracy in relative mode (rms) ³	$\sim \lambda/50$
Tilt measurement accuracy (rms)	15 μrad
Focus measurement accuracy (rms)	15.10-3 / m-1
Spatial resolution	$\sim 115 \mu\text{m}$
Acquisition frequency / processing frequency	$\sim 20 \text{ Hz} / \sim 4 \text{ Hz}$
Wavelength	4 – 20 Hz
Calibrated wavelength range	1500 – 1600nm
Working temperature	15 – 30° C/ 5 – 45° C

* : all specifications given with an average operating mode of 10 acquisitions. (1) Central wavelengths: 120 λ for HASO NIR 32, 180 λ for HASO NIR 40.
 (2) Wavefront directly measurement by the wavefront sensor (no added lens). (3) Difference between a referenced wavefront and the measured wavefront, in a range $< 10 \lambda$.



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