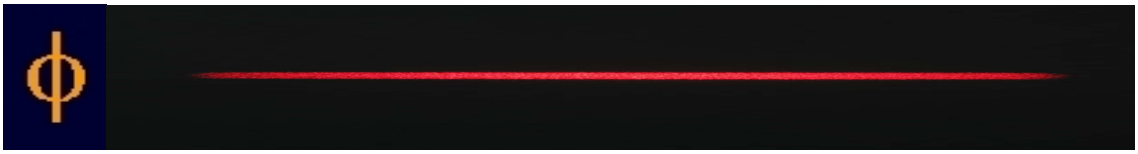
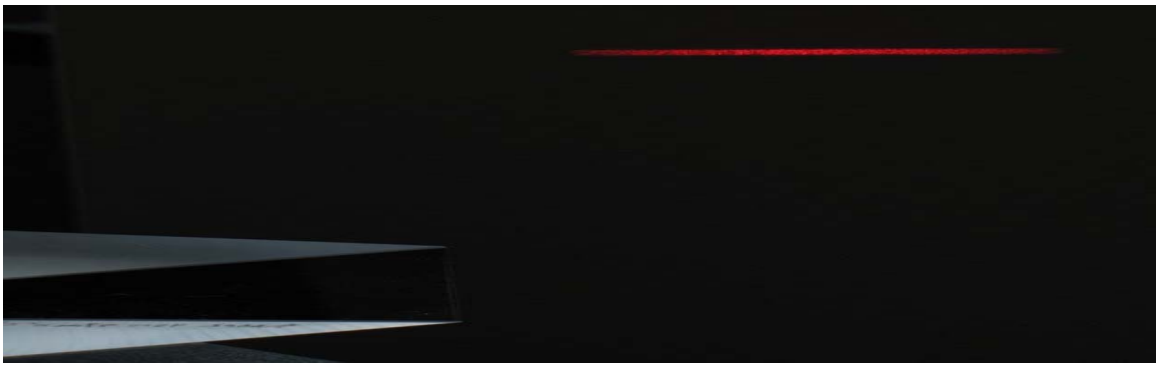


N-Slit Laser Interferometer

Interferometric Optics introduces its *N*-Slit Laser Interferometer (*N*SLI) applicable to:

- Assessment of transmission gratings and optical surfaces
- Interferometric imaging
- Interferometric microdensitometry
- Interferometric microscopy
- *N*-slit interference
- *N*-slit interferometry

Based on multiple-prism beam expansion and digital detection the *N*-slit interferometer allows for the rapid interferometric characterization of *transmission optical surfaces in general*. A significant advance over traditional point-by-point incoherent microdensitometers and point-by-point incoherent microscopes.



Extremely elongated Gaussian beam (with a 30 μm height, at its center, and a 60 mm width) used as illumination source in the *N*SLI. The last stage in the multiple-prism beam expansion array is shown at the lower left. Note: the beam in this image appears much higher due to saturation in the detector array capturing the image.

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Specific applications include the *rapid characterization* of:

Arrays of micro holes and/or micro nozzles
Biomedical and organic molecular arrays
Crystalline surfaces
Molecular, and digital, imaging surfaces
Optical surfaces
Textiles
Transmission gratings

*N*SLI Specifications

Model	Wavelength†	Beam dimensions†	Approximate nominal resolution††	S/N
*N*SLI-543-1	543 nm	30 ×25000 μm	10 μm	$\sim 10^7$
*N*SLI-543-2	543 nm	30 ×50000 μm	10 μm	$\sim 10^7$
*N*SLI-594-1	594 nm	30 ×25000 μm	10 μm	$\sim 10^7$
*N*SLI-594-2	594 nm	30 ×50000 μm	10 μm	$\sim 10^7$
*N*SLI-632-1	632 nm	30 ×25000 μm	10 μm	$\sim 10^7$
*N*SLI-632-2	632 nm	30 ×50000 μm	10 μm	$\sim 10^7$

† Approximate value. The wider dimension is along the plane of propagation.
†† Quoted along the plane of propagation. Allows for the use of several pixels to resolve a given feature in the near field. As explained in the references, resolution can be enhanced, via quantum interferometric calculations, into the submicrometer or nanometer regime thus transitioning from microscope to nanoscope.

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Applications note released on 2008/04/21
Applications note updated on 2011/02/22

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