

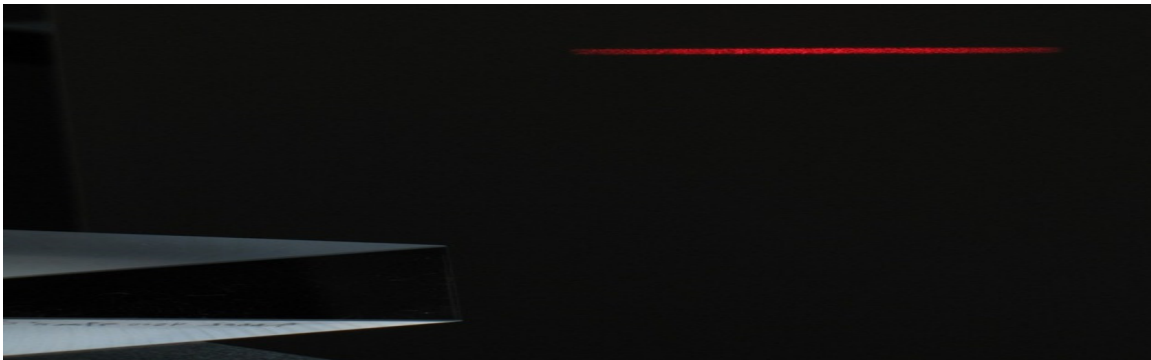


N-Slit Laser Interferometer

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

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

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 NSLI. 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.

Specific applications include the following areas and fields:

Characterization of arrays of micro holes and/or micro nozzles
 Characterization of biomedical and organic molecular arrays
 Characterization of molecular, and digital, imaging surfaces
 Clear air turbulence
 Crystalline surfaces
 Forensic science
 Optical metrology of surfaces and transmission gratings
 Secure interferometric communications
 Textiles

NSLI Specifications

| Model | Wavelength | Beam dimensions [†] | S/N | Price ^{††} |
|------------|------------|------------------------------|------------------|---------------------|
| NSLI-543-1 | 543 nm | 30 × 25000 μm | ~10 ⁷ | US 83 000 |
| NSLI-543-2 | 543 nm | 30 × 50000 μm | ~10 ⁷ | US 93 000 |
| NSLI-594-1 | 594 nm | 30 × 25000 μm | ~10 ⁷ | US 83 000 |
| NSLI-594-2 | 594 nm | 30 × 50000 μm | ~10 ⁷ | US 93 000 |
| NSLI-632-1 | 632 nm | 30 × 25000 μm | ~10 ⁷ | US 83 000 |
| NSLI-632-2 | 632 nm | 30 × 50000 μm | ~10 ⁷ | US 93 000 |

[†] At focal plane. The wider dimension is along the plane of propagation.

^{††} NSLI are manufactured with all US made optical components. Prices apply to laboratory size units. Larger NSLI, with intra interferometric lengths up to 30 m, and additional beam dimensions, available on request.

Literature

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