

MarOpto



MarOpto TWI 60

METROLOGY IN THE PRODUCTION OF OPTICS

Tilted wave interferometer for fast and flexible measurement and analysis of aspherical lenses.

This is what we mean by **EXACTLY.**

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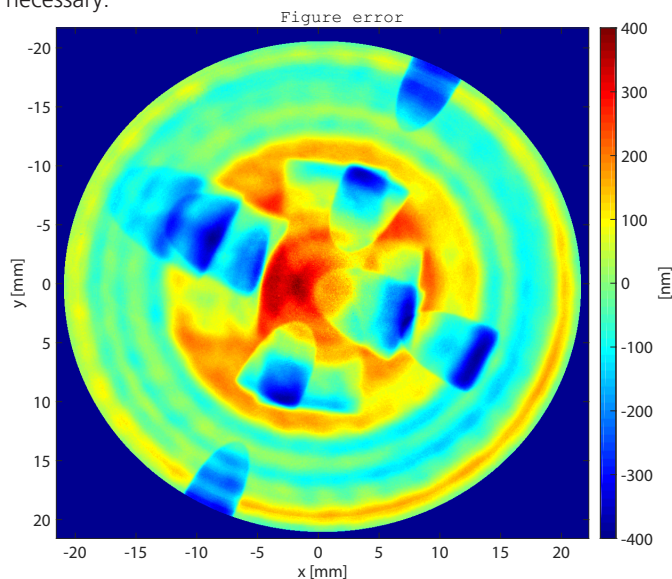
EXACTLY

MAROPTO TWI 60

Description

The Tilted Wave Interferometer (TWI) uses a new, unique technology for very fast and highly flexible measurement of different aspheres. Unlike other form-testing interferometers, the TWI allows for absolute measurements of the surface of the sample. In addition to the form deviation, medium and high-frequency errors as well as coma can be determined.

During the acquisition time of less than 30 seconds, the asphere is measured over its entire surface with a high lateral resolution and low measurement uncertainty. Even during the evaluation, the sample can be changed. Thus, a closed-loop operation with up to four polishing machines is possible. Of particular note is that neither CGH (Computer Generated Hologram) nor lateral or axial stitching is necessary.



The figure shows the measured surface defects as well as the form deviation of an asphere with MRF footprints.

Technical Data

Resolution	
Camera	2048 x 2048 pixels
Reproducibility	
PV	< 20 nm
RMS	< 1 nm
Accuracy	
PVr	< 50 nm
Size of image field	
Max. 65 up to 95 mm, depending on the objective	
Objectives: F/0.74, F/0.9, F/1.19, F/1.86, F/3.15	
Workpiece	
Geometry	aspheric
Diameter	max. 200 mm
Height	max. 100 mm
Reflectivity	2 to 100 %
Weight	max. 15 kg with mount
Mount	hydraulic expansion chuck, Ø 25 mm
Max. gradient	5°
Max. aspheric departure	ca. 1.5 mm
Calibration	4 weeks in 2-shift operation
Acquisition time	< 30 s
Evaluation time	ca. 2 minutes



→ FEATURES

- Flexible interferometric measurement of aspheric lenses without CGH
- Measurement without any need for lateral or axial stitching
- Short data acquisition time approx. 30 s
- Test beam diameter 100 mm
- Allowed aspheric departure from best-fit sphere up to approx. 1.5 mm



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3762716 | 07.05.2018

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