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Interferometry is the first optical metrology method when obtaining the surface map with high precision. Difrotec launched a breakthrough innovation in interferometric measurements. A compact, user-friendly, reliable interferometer with accuracy greatly advancing the state-of-the-arts.

World record!

The interferometer D7 provides a world record accuracy 0.6 nm or 6 Ångström with an excellent repeatability

Measurements

Measuring an optics with D7 can be done is 3 simple steps

1 Put the test part on the holder

2 Align the test part using softwar

Specifications

Difrotec tested two lenses for Tartu Observatory, Lens 1 & Lens 2, for space satellite Student Earth Orbiter (ESEO). Department of Space Technology wanted to verify if the lenses were on par with the givep2.hifplic(l)-1e oso as [(twer)18nditeh the

2. Revealing optics machining residue

Optical surfaces are machined tc126Ctain shape by variouicseOpt

Stitching

Over sized optics and aspheres

- Large spherical concave of R# $ 0.9 can be directly measured by putting D7 farther away. "
- Optics with larger aperture require accessories."
- For aspheres and freeform we use high accuracy sub aperture stitching (SAS)
  - D7 has greater accuracy reserve to match " overlays. "
  - Easier to align and no retrace errors preserve accuracy throughout stitching.

Testing the reliability of stitching

DifroMetric is feature rich fringe analysis software made by Difrotec. DifroMetric is OS/ platform independent and can take and produce most of the data formats common in the field of interferometry. Processing steps are automated, which saves time while

Each function contains default and user settings, and offers custom combination of numerous opportunities of interferometric data analysis

Various additional functions including fringe pattern normalization, loading/saving settings, Zernike coefficients and diagrams, tracking actual phase error, et al.

Main Window

Features (base options)

1. Fringe pattern window
2. Phase button — launches phase retrieval procedure
3. Intelligent averaging button — runs system error elimination procedure
4. Image processing options
5. Selection of phase retrieval method
6. Setting mask type and parameters
7. Intelligent averaging parameters
8. Drop-down file menu — allows to open necessary sets of phase shifting frames, open/save retrieved wavefronts and their Zernike fitting

- Surface deviation map
- Cross sections in x and y axes
- Zernike coefficients in *.csv ln *gma.Rimetric ri 1 i /FXE2 gs 3.88889 21.8750TD[(•)]TJResulTm 5t imag