



- 1 Roughness sensor horos.
- 2 Measurement samples.
- 3 Scatter distribution of diamond turned Al-surface.
- 4 Roughness measurements using horos and WLI (1 - Mo/Si-mirror, 2 - Ti-coating 3 - diamond turned Al-surface).

horos

COMPACT OPTICAL ROUGHNESS SENSOR

Motivation

Stringent demand for surface characterization techniques that are non-contact, fast, compact, and applicable to a wide range of surface qualities – from machined components to optical surfaces.

Features

- Roughness parameters, PSD, 3D-scattering distribution, isotropy etc.
- Sensitivity: $R_q < 0,5 \text{ nm}$
- Measurement time: $< 1 \text{ s}$
- Direct link to profilometric techniques

The Sensor

horos (high sensitive optical roughness sensor) is a mobile, light scattering based tool for measuring surface roughness from the micrometer to subnanometer scales.

Applications

- Quality control for
- Plane and complex (freeform) surfaces
 - Optical fabrication (surface-finishing, coating, molding etc.)
 - Mechanical engineering
 - Automotive industry

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