

QuickPRO™ Products for Precision Metrology

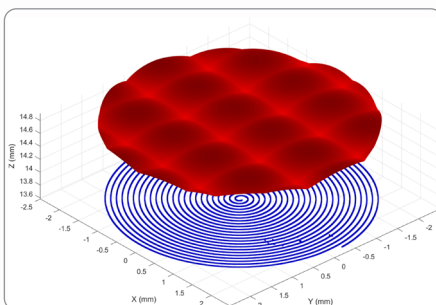
High-Speed Surface Inspection for Precision Machining, PCBs, ASICs, & Optics (Spherical, Aspheric, Diffractive, Microlens, Injection-Molded, Thin-Film)

OATI's QuickPRO™ metrology systems utilize up to two opposing chromatic confocal optical sensors to provide non-contact z-axis measurement accuracies below 50-nm, and spatial data sampling down to 2- μ m. In addition, for the most sensitive applications in surface metrology, we also offer an interferometric version (QuickPRO™ OCT) for hypersensitive (<5-nm) applications.

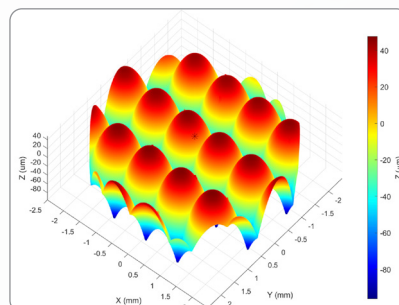
Our single-sensor platforms (QuickPRO™ RPS and QuickPRO™ 3D) provide you with a simple, reliable, strategic baseline for high-accuracy surface metrology, while our dual-sensor platforms (QuickPRO™ CUBE-Mini and QuickPRO™ CUBE-100) allow dual-surface characterization without requiring movement of the unit-under-test—the advantage being the added ability to measure wedge and surface decentration.

Features

- Compact, bench-top units with integrated enclosures and vibration-isolated operation
- Nanometer precision linear motor stages for customized scanning routines covering up to 150-mm (200-mm scanning capability in development)
- AI/robotics-compatible control software to enable full automation capability
- Point-cloud analysis routines for identification of surface variations with hypersensitive data visualization
- High dynamic range detection routines for characterizing surfaces of up to 45-deg from normal



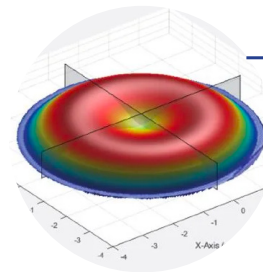
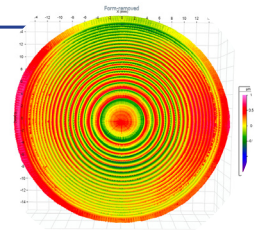
Top/Bottom



Top (Zoomed)

Diffractive Aspheres

- Measure surface deviations in zone diameter, depth, and transition gap.
- Identify localized slope errors.

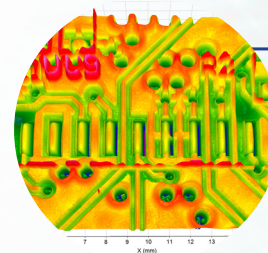
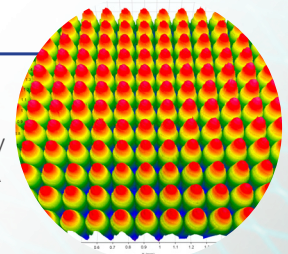


Aspheric Surfaces

- Measure tip/tilt of lens
- Verify P-V and SAG
- Identify deviation from the specified lens

Micro-Lens Arrays

- Inspect single point diamond turned (SPDT) mold geometry as pre-production QA
- Measure micro-lens height and profile
- Identify local punctures or other structural aberrations made by the forming process

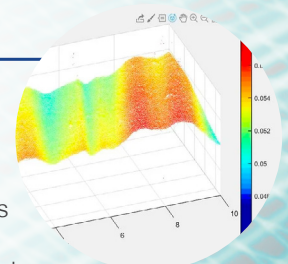


PCB Substrates

- Inspect line width and feature spacing
- Scan for warpage
- Measure via size, depth and position

Transparent Film

- Measure top and bottom surfaces of transparent films to identify any critical deviations in thickness
- Use generated plot to pinpoint and implement process improvements to eliminate potential failure zones



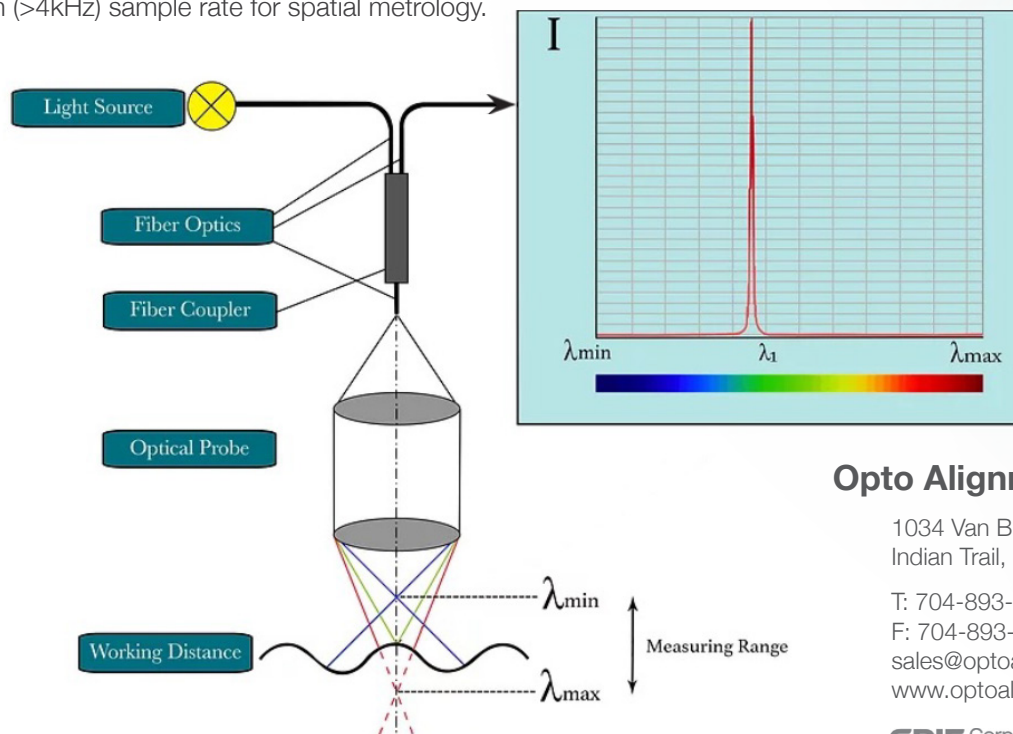
QuickPRO™ Products



	QuickPRO-CUBE	QuickPRO-RPS	QuickPRO-3D	QuickPRO-OCT
Profilometry	Dual Surface	Single Surface Rotary Scan	Single Surface	Thickness Mapping
Scan Range	50 x 50 x 35 mm 100 x 100 x 50 mm	Ø150 mm x 50 mm	100 x 100 x 50 mm	100 x 100 x 50 mm
Technology	Chromatic Confocal Point Sensor	Chromatic Confocal Point Sensor	Chromatic Confocal Point or Line Sensor	Low-Coherence Interferometry
Resolution	<ul style="list-style-type: none"> Lateral ≤ 2µm Axial ≤ 50nm 	<ul style="list-style-type: none"> Lateral ≤ 2µm Axial ≤ 50nm 	<ul style="list-style-type: none"> Lateral ≤ 2µm Axial ≤ 50nm 	<ul style="list-style-type: none"> Lateral ≤ 5µm Axial ≤ 5nm
Accuracy	<ul style="list-style-type: none"> XYZ < 1µm 	<ul style="list-style-type: none"> XYZ < 1µm 	<ul style="list-style-type: none"> XYZ < 1µm 	<ul style="list-style-type: none"> XY < 1µm; Z < 0.1µm
Measurands	<ul style="list-style-type: none"> ROC/Thickness Decenter/Wedge 	<ul style="list-style-type: none"> Surface profile Alignment to datums 	<ul style="list-style-type: none"> Surface profile 	<ul style="list-style-type: none"> Thickness and profile of thick films (>1µm) Wafer bow/warp

Chromatic Confocal Microscopy

- Extensive chromatic aberration maps color to distance through spectroscopy.
- Spectral peak measurement provides extensive dynamic range for variations in surface reflectivity.
- High (>4kHz) sample rate for spatial metrology.



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