



**Fath Noor Mihan
Company**

3D optical Nano-Profilometer

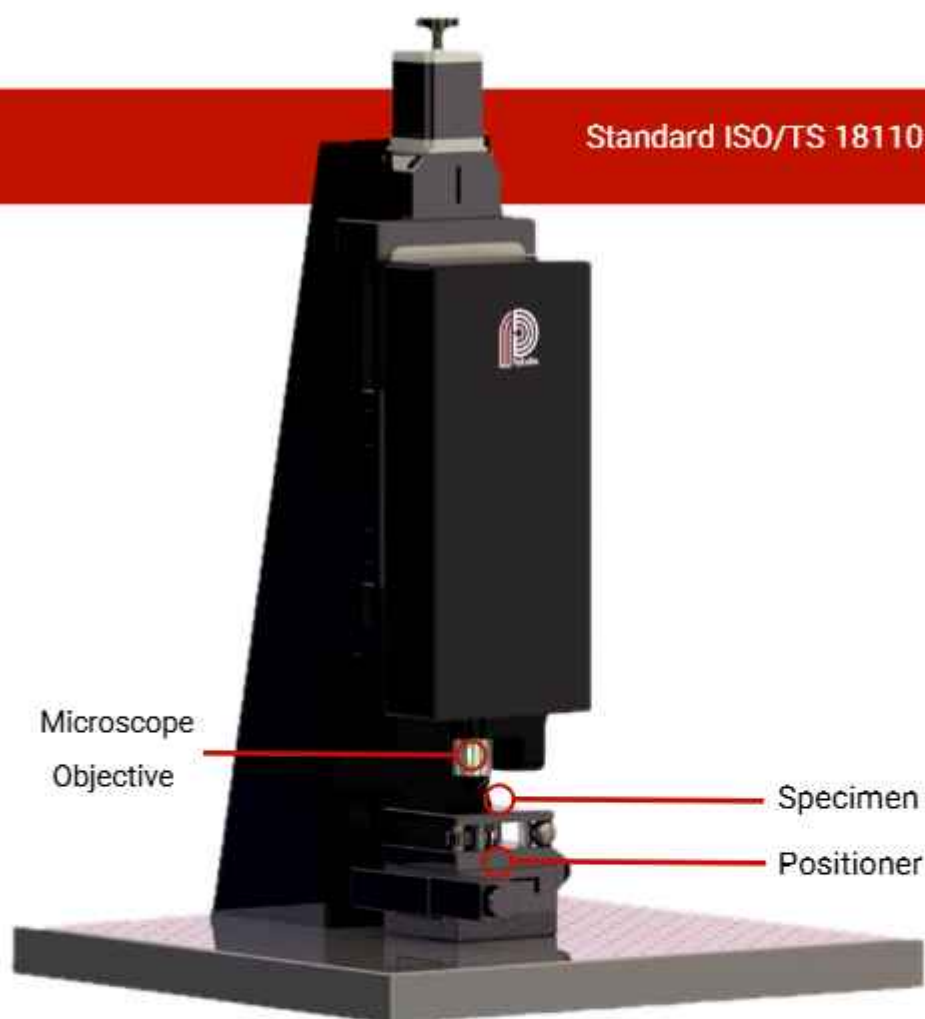
www.phy-labs.com

024-3373-7666

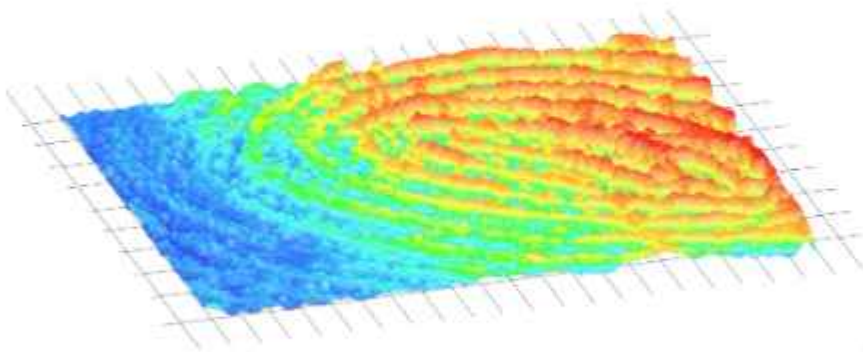
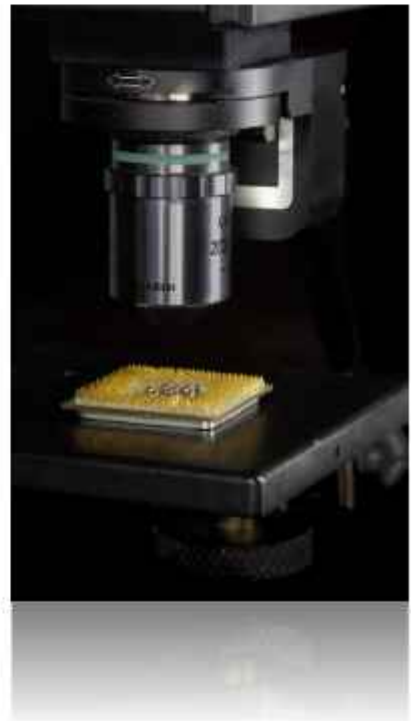
fathoptics@gmail.com

0991-750-2426

- The first and most advanced optical nanometric 3D microscope in Iran
- With depth resolution better than 5 nanometers
- Using a non-contact and non-destructive measurement method

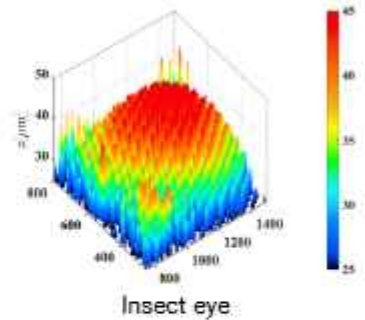


- No need for sample preparation
- Bright-field microscopy
- Suitable for various materials (metals and transparent)
- Repeatable and reliable data
- High-speed data acquisition
- User-friendly software



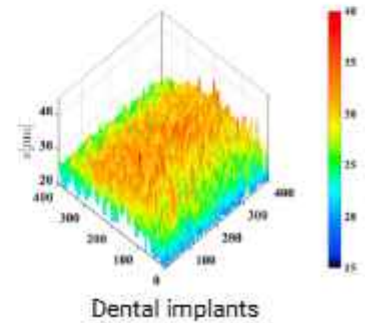
Biomedicine

Utilizing 3D biological data such as insect eyes, the Phylabs nano-profilometer enables the examination of the roughness of biological materials, precise tissue analysis, and the development of innovative drug delivery technologies.



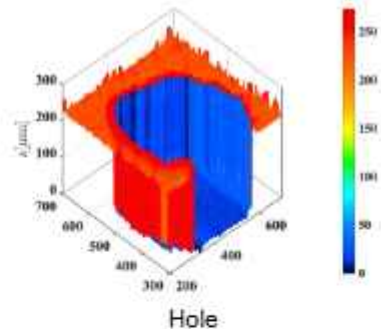
Medical Engineering

With the ability to examine surface topography and texture even in the presence of transparent layers, the Phylabs nano-profilometer helps optimize design, enhance performance, and increase the durability of dental implants.



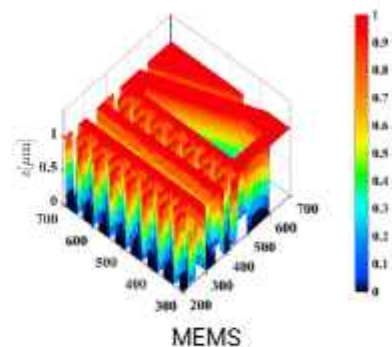
Machining

The demand for precision machining across various industries from aerospace and medical to automotive and technical equipment is growing, and the high standards of accuracy have increased the need for advanced inspection tools. Precise inspection in the production and maintenance of parts prevents additional costs and production halts while ensuring quality.



Electronics

Profilometry, by measuring surface features, roughness, and waviness, improves the quality of electronic components, reduces defects, and optimizes production, resulting in reliable performance of electronic systems.



An ideal choice for all applications

Accurate surface analysis in industry and research plays a key role in ensuring optimal material performance



Coatings

- Hard coatings
- Roughness
- Scratch analysis
- Porosity



Dark and Shiny Surfaces

- Mirror surface
- 3D waviness
- Step height
- Crack analysis



Transparent Materials

- Glasses
- Wafers
- Contact lenses
- Optics elements



Flat and Non-flat Surfaces

- Tooling
- Additive manufacturing
- Topography
- Volumes



2D Materials

- Film Thickness
- Grain size
- Defects
- Microstructure

Capable of precisely measuring various surface profiles in different shapes



Points



Lines



Arc



Angles



Stairs



Surfaces



Sphere



Cylinder



Cone



Incline



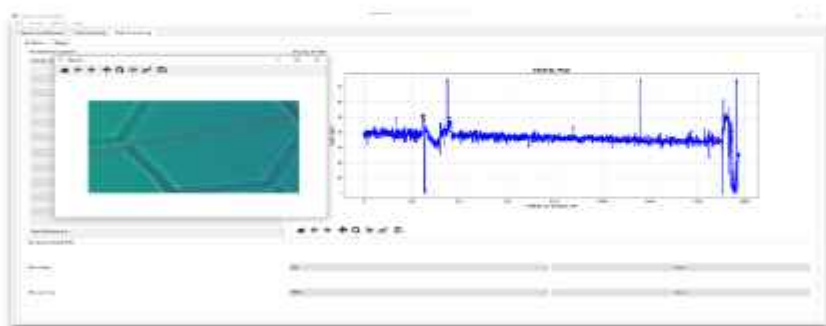
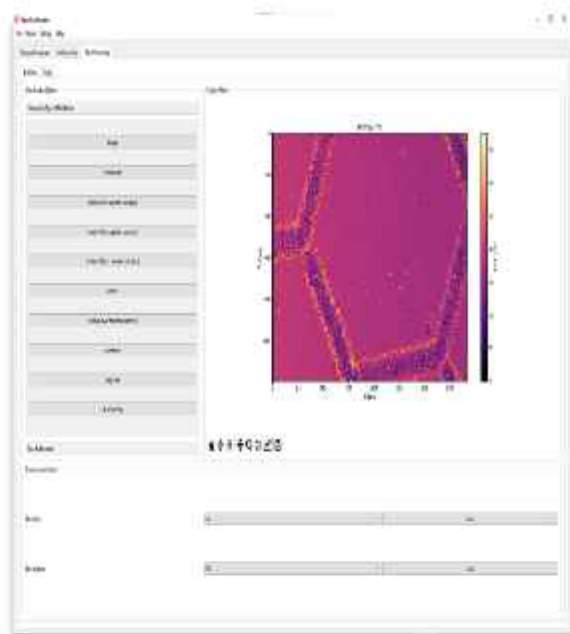
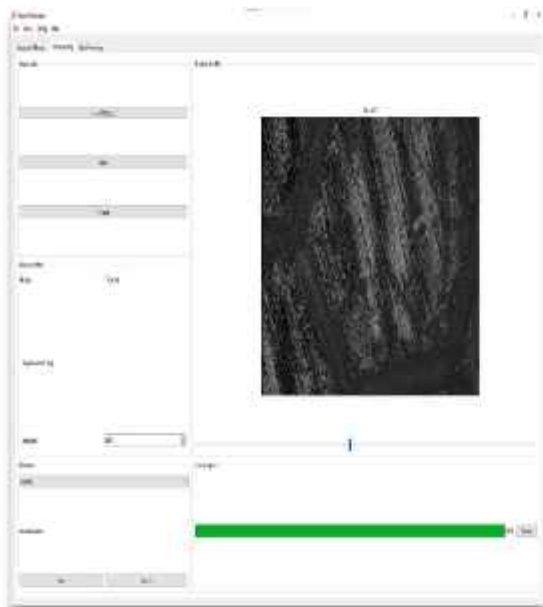
With an easy-to-use and user-friendly interface

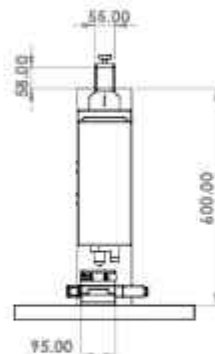
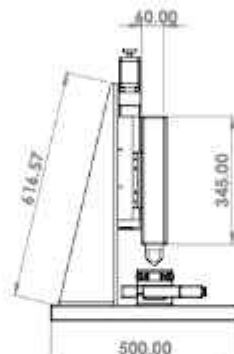
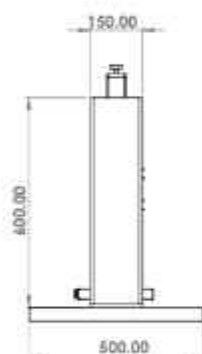
Measurement methods

- White Light Interferometry (WLI)
- Phase-Shifting Interferometry (PSI)
- White Light Phase-Shifting Interferometry (WLPSI)
- Digital Holography Microscopy (DHM)

Image processing

- Larger field of view (tiling)
- Depth profiling (focus and defocus)
- Various masks and filters (FFT, Gaussian, etc.)
- Display of sample parameters in table format





Specification	Description
3D surface measurement method	White Light Interferometry and Phase-Shifting Interferometry
Depth measurement accuracy	< 5 nanometers
Lateral measurement accuracy	< 630 nanometers
Microscope objective lens	Mirau, Linnik 50x, 40x, 20x, 10x (depending on design)
Field of view (10x objective)	1x1 mm ²
Camera	5 megapixels, monochrome
Light source	ELD with adjustable intensity and aperture
Central wavelength of light source	620–650 nanometers
Axial piezo stage movement range	0–100 micrometers
Axial piezo stage step precision	1 nanometer
Axial stage position stability	1 nanometer
Smallest axial movement step	1 nanometer
Sample stage	Motorized
Step precision per axis of sample stage	5 micrometers
Movement range per axis of sample stage	15 millimeters
Control capability	Computer-user (software)
Sample holder	Customizable based on customer requirements





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