BioNano Gold Substrates

Phasis BioNano gold substrates are produced using a magnetron sputtering technique in controlled high vacuum deposition systems. The gold films are grown on plasma-cleaned glass microscope slides with a thin titanium adhesion layer. The coatings present very smooth surfaces with very low root mean square (rms) roughness.

Applications

BioNano gold substrates can be advantageously used for
- scanning probe microscopy (SPM) studies.
- surface plasmon resonance (SPR) studies of various organic or inorganic species.
- digital holographic microscope (DHM) studies of various organic or inorganic species.

Specifications	
Au	99.99%
Available Au Thickness	10, 50, 100 nm
Surface roughness (rms)	< 2 nm over 10 x 10 μm^2
Substrate & Dimensions	
Substrate	Borosilicate glass
Dimensions	26 mm x 76 mm x 1 mm
Gold covered region	26 mm x 66 mm
Refractive indices (λ=546.1, 589.3 nm)	1.5255, 1.5230

Surface quality

The surface roughness of the thin films is measured using atomic force microscopy (AFM). A typical 5 µm x 5 µm AFM image has a surface rms roughness (Rq) lower than 1.7 nm and a mean roughness (Ra) lower than 1.4 nm.

Gold size and thickness

The typical gold thicknesses we provide are 10, 50 and 100 nm.
The gold covered region is 26 mm x 66 mm.
A gold-free 26 mm x 10 mm is available for handling purpose.
We can grow films with different thicknesses upon request.

SCHEMATIC

Ultra pure gold thin film free of contaminants deposited using a magnetron sputtering deposition technique. This ensures a precise control of the thickness and the nanometer scale surface roughness of the film.