Atomic Force Microscope (AFM)

Room No. 027, Ground Floor, Technology Tower
Centre for Nanotechnology Research
Vellore Institute of Technology, Vellore – 632 014.

cnr.consultancy@vit.ac.in

TECHNICAL NOTE

About the instrument | Specifications | Capability | Sample requirement | Sample Limitation | Analysis Cost | Sample Preparation

About the Instrument

	Instrument 1	Instrument 2
Instrument Name	Nanosurf easy scan2	NaioAFM
Manufacture	Nanosurf AG Switzerland	Nanosurf AG Switzerland
Model No	23-06-154	60-14-080

Specifications

Mode of Operation	Contact Mode	Contact / non-contact
Max. scan range / scan height (resolution)	70 µm (1.1 nm) / 14 µm (0.21 nm)	70 µm (1.0 nm) / 14 µm (0.2 nm)
Static / Dynamic RMS Z-noise	0.6 nm (max. 0.8 nm) / -	typ. 0.4 nm (max. 0.8 nm) / typ. 0.3 nm (max. 0.8 nm)
Max. sample size / height	3 cm / 1 cm	12 mm / 3.5 mm
Max. sample stage positioning range	13 mm travel in each direction (6.5 mm from center to all sides)	12 mm travel in each direction (6 mm from center to all sides)

Capability

Imaging type	Topography, Phase image, Roughness, 3D image	Topography, Phase image, Roughness, 3D image

Sample requirement

Sample type	Solid / Thin film	Solid / Thin film
Sample Size (xy)		
Minimum	0.5 cm X 0.5 cm	0.5 cm X 0.5 cm
Maximum	1 cm X 1 cm	1.2 cm x 1.2 cm
Height		
Maximum	5 mm	3.5 mm

Sample Limitations

Liquid, Powder and non-uniform (drop casted) thin films with surface roughness > 12 μm will not be accepted

Analysis cost

Academic	Industry
Rs 1000 / sample	Rs 2000 / Sample

Sample Preparation

1. Solid samples must have flat and smooth surface
2. In case of powder samples, the samples must be dispersed in a suitable dispersive medium and coated on a flat substrate like glass slide, mica sheet, silicon wafer using any thin film coating technique like spin coating, doctor blading, spray pyrolysis, dip coating, etc.