

AFM PROBES & ACCESSORIES

Selection Guide & Price List

Applications & Selection Guide

The most versatile and commonly utilized probe offered is the **“Golden” Standard Silicon**. This specially designed probe can be used for a wide variety of applications that enables more consistent production and a sharper tip (6nm, typical). Utilizing a polysilicon lever and silicon tip, the **Etalon** probe combines the advantages of a multi-material design. This probe gives its user increased reflectivity, a high aspect ratio (5:1) and tighter controls on cantilever parameters. For the utilization on deep trenches, holes and narrow gaps, a carbon **“Whisper-Type”** probe is grown at the end of a standard tip. These “Whisker” tips have an extremely high aspect ratio (higher than 10:1) and a sharp curvature radius (< 10nm). **Diamond-Like Carbon (DLC)** probes are the sharpest tips we offer. With a tip’s typical curvature radius measuring just 1nm, DLC is useful in gaining images of objects only several nanometers in size. **Silicon Gratings** permit more precise AFM operation and more reliable scans. **Gratings** are commonly used for AFM calibration in x, y, z directions, the detection of angular distortion, hysteresis, creep or cross-coupling effects.

AFM Oxidation Lithography

Local anodic oxidation nano-lithography of a thin Ti film (DCP11 cantilevers)

Image courtesy of Smirnov V.A., Taganrog Technological Institute of Southern Federal University, Russia



SURFACE MODIFICATION

AFM Oxidation Lithography,
AFM Lithography Scratching,
AFM Lithography Dynamic Plowing

DCP20, NSG01, NSG10, NSG30 with Pt, TiN, Au coatings

SNOM Lithography

MF001, MF002, MF003, MF004, MF005

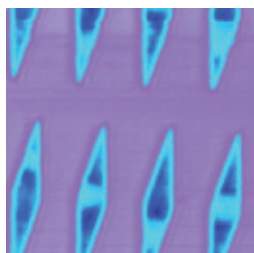
OPTICAL PROPERTIES

Shear Force Microscopy,
Transmission Mode,
Reflection Mode,
Luminescence Mode

MF001, MF002, MF003, MF004, MF005

Transmission Mode

Transmission SNOM image of the special optical grating made with 532.8 nm wavelength diode pump laser



MAGNETIC PROPERTIES

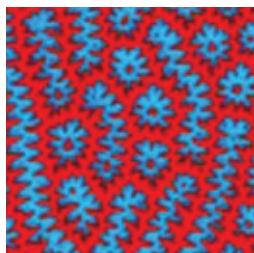
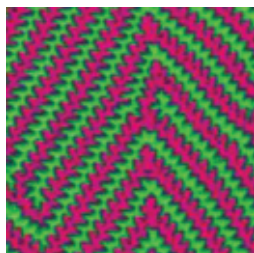
AC/DC Magnetic Force Microscopy

NSG01/Co, FMG01/Co

AC MFM

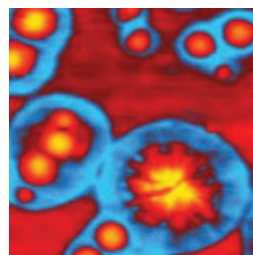
Different surface domain structures of inhomogeneous films of Yttrium Iron Garnet (YIG). YIG film has substantial variation of anisotropy field across the film thickness.

Image courtesy of A.G. Temiryazev and M.P. Tikhomirova, Institute of Radioengineering & Electronics RAS, Fryazino, Russia.



TOPOGRAPHY IMAGING

Contact Mode	CSG01, CSG10, FMG01, CSC05, CSG30
Non-Contact Mode	HA-NC, NSG01, NSG10, NSG30, VIT_P, FMG01, NSG01_DLC, NSG10_DLC, NSC05
Semicontact Mode	HA-NC, NSG01, NSG10, NSG03, NSG30, VIT_P, FMG01, NSG01_DLC, NSG10_DLC, NSC05
High-Resolution Topography Imaging	CSC05, NSC05, NSG01_DLC, NSG10_DLC, CSG01, CSG10, FMG01, HA_NC, NSG01, NSG10, NSG03, NSG30



Contact Error Mode
Surface relief of ferroelectric PZT thin film obtained in contact AFM mode.

Image courtesy of Prof. Vladimir Shur, Laboratory of SPM, Ural State University, Ekaterinburg, Russia.

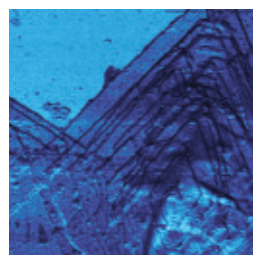


Semicontact Mode
Glass-matrix of high-temperature coating.

Image courtesy of Golubev K.S., Pugatchiov K.E., Efimenko L.P., Institute of Silicate Chemistry RAS, Saint-Petersburg, Russia

ELASTIC PROPERTIES

Phase Imaging	HA-NC, NSG01, NSG10, NSG03, NSG30
Force Modulation, AFAM, Lateral Force Microscopy	FMG01, CSG01, CSG10, CSG30
Chemical Force Microscopy	tipless probes of NSG01, NSG10, NSG03, NSG30, FMG01, CSG01, CSG10
Force Distance Curves	NSG01, NSG10, NSG03, NSG30, FMG01, HA_NC, CSG01, CSG10, CSG30
Adhesion Force Imaging	CSG01, CSG10, CSG30



Atomic Force Acoustic Microscopy (AFAM)
Single crystallites of polyethylene on mica imaged with amplitude detecting AFAM.

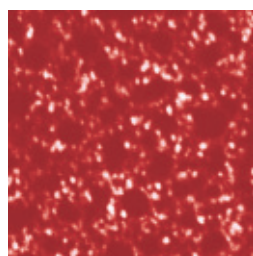
ELECTRIC PROPERTIES

Many-Pass Techniques

Electric Force Microscopy, Kelvin Probe Microscopy, Voltage Modulation, Scanning Capacitance Microscopy	FMG01, NSG01, NSG10, NSG03, NSG30 with Au, Pt, TiN coatings
Force Distance Curves	NSG01, NSG10, NSG03, NSG30, FMG01, HA_NC, CSG01, CSG10, CSG30

Contact Techniques

AcContact Piezoresponce Force Microscopy, Spreading Resistance Imaging	CSG01, CSG10, CSG30 with Au, Pt, TiN coatings
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Spreading Resistance Imaging
Distribution of current on the surface of two semiconducting polymer blend.

Image courtesy of Dr. M. M. Koetse, Dr. J. Loos, Eindhoven University of Technology, The Netherlands.

We take pride in quick and responsive customer service and offer a complete guarantee on the quality of every product. We encourage your group to use our AFM probes, gratings, and accessories as an important part of your research both now and in the future.

Price List

AFM "Golden" Silicon Probes		15 CHIPS	50 CHIPS
CSG01, CSG10, CSG30, NSG01, NSG03, NSG10, NSG30, FMG01	No Tip Coating	\$350	\$910
	Au/Pt/TiN	\$430	\$910
	Tipless	\$310	\$910
	Bare	\$350	\$910
Magnetic Probe			
NSG01, FMG01	Co	\$670	\$1850

Diamond Conductive Probes		15 CHIPS	50 CHIPS
DCP20		\$608	\$1688
SThM Probes		5 CHIPS	
SThM		\$2035	

High Resolution Probes		5 CHIPS	10 CHIPS
AFM "Whisker Type" NSC05 for semicontact/noncontact mode CSC05 for contact mode		\$595	\$1000
		10 CHIPS	50 CHIPS
AFM Super Sharp, Diamond-Like Carbon Tips NSG01_DLC NSG10_DLC		\$890	\$3700

ETALON		15 CHIPS	50 CHIPS
HA_NC		\$310	\$880

Top Visual Probes		15 CHIPS	50 CHIPS
VIT_P		\$490	\$1390

Colloidal Probes		5 CHIPS	
Submicron Sphere on silicon regular tip		\$770	
Micron Sphere on tipless probes		\$910	

Calibration Gratings & Sets		
TGZ1/TGZ2/TGZ3		\$100
TGT1		\$200
TGG1		\$200
TGX1		\$200
TGQ1		\$350
TDG01		\$280
TGS1 TGZ1, TGZ2, TGZ3		\$200
TGSFULL TGS1, TGT1, TGG1, TGX1, TGQ1, TDG01		\$980
TGS2 TGS1, TGT1, TGG1, TGX1		\$500
SNOM Probes		
SNOM Test Grating - SNG01		\$300
Set of 10 SNOM Probes MF001 (400-550nm), MF002 (450-600nm), MF003 (600-680nm), MF004 (780-1050nm), MF005 (980-1600nm)		\$1650
Test Samples		
DNA		\$220
STEPP		\$150
HOPG		
GRAS/1.5		\$205
GRAS/1.2		\$160
GRBS/2.0		\$95
GRBS/1.7		\$80
GRBS/1.2		\$55
GRHS/2.0		\$55
GRHS/1.7		\$45
GRHS/1.2		\$35
SiC/0.75		\$160
SiC/1.5		\$160

www.NTMDTtips.com
1-800-880-0172
sales@NTMDTtips.com



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K-Tek Nanotechnology, LLC
9755 SW Commerce Circle Suite B2
Wilsonville, OR 97070
www.kteknano.com
p: 503-598-9828 | f: 503-598-9721