

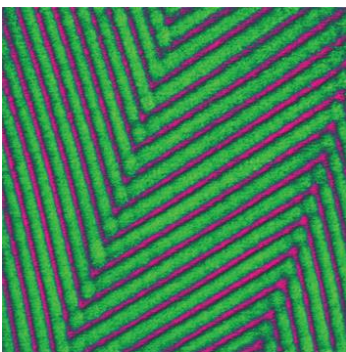
ADVANTAGES OF POLYSILICON CANTILEVERS

- **Lifetime is 2x longer than standard probes** – The Etalon chip has a lever from each side, which means you are getting two cantilevers in one, and both cantilevers can be used during the lifetime of the probe.
- **Unbeatable price** – Our innovative manufacturing technology enables us to produce Etalon probes much more efficiently, allowing us to offer you high-quality probes at an attractive price.
- **Precise cantilever performance** – The cantilevers are manufactured with very tight dimensional tolerances and highly specified resonance frequency and force constant accuracies.
- **Sharp tip** – The Etalon's conical tip with a curvature radius less than 10 nm and 30° cone angle will result in high quality AFM scans.
- **Custom coating options available** – The Etalon probes have more than 30 different metal and alloy coating options such as PtSi, W2C, CoFe, Ni, Co, Mo, Cr, V, Pt, Au, Al, Cu, Ta, Re, Fe, C, Ag, W, Ti, In2O3, SiO2, BeO, CoCr, FeCo, AlSi, etc.

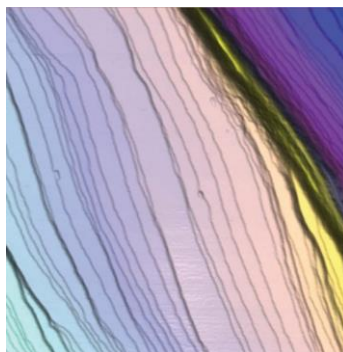
ETALON VS. STANDARD SILICON

Parameters	Etalon Probes	Standard Si Cantilevers
Thickness dispersion of the cantilever	± 0.12 μm	± 0.5 μm
Length dispersion of the cantilever	± 3 μm	± 10 μm
Resonant frequency dispersion	± 10%	± 100%

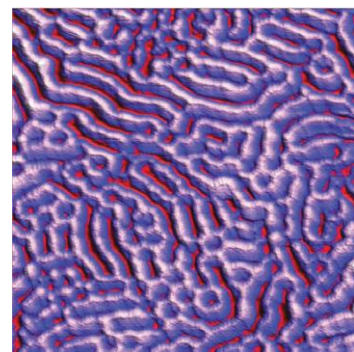
SCANS



Topography of F14H20 molecular chains on HOPG
 AFM cantilever: HA_NC
 XY scale range: 100x100 nm
 Z scale range: 1.2 nm
 Image courtesy: **Sergei Magonov**



Atomic planes of NaCl crystal
 AFM cantilever: HA_FM
 XY scale: 2x2 μm
 Z scale: 100 nm
 Image courtesy: **Ivan Vdovin**



Topography of TiO2 nanowires placed vertically on Molybdenum substrate
 AFM cantilever: HA_NC
 XY scale: 2x2 μm
 Z scale: 100 nm
 Image courtesy: **Sergey Nesterov**

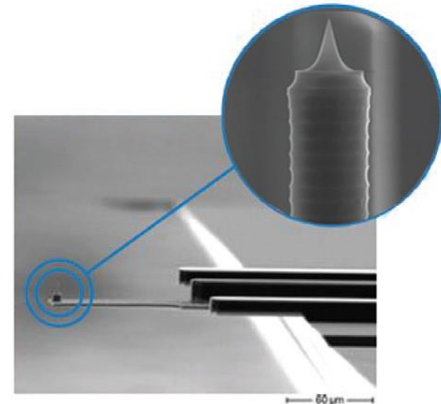
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SPECIFICATIONS

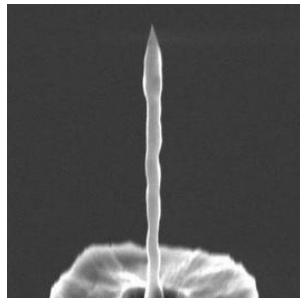
SKU		Cantilever length, ± 2 , μm	Cantilever width, $w \pm 3$, μm	Cantilever thickness, ± 0.15 , μm	Resonant frequency, $\pm 10\%$, kHz	Force constant, $\pm 20\%$, N/m
HA_HR	A	93	34	3	380	34
	B	123	34	3	230	17
HA_NC	A	94	34	1.85	235	12
	B	124	34	1.85	140	3.5
HA_CNC	A	224	34	1.85	46	1.0
	B	184	34	1.85	66	1.5
HA_C	A	264	34	1.85	37	0.65
	B	364	34	1.85	19	0.26
HA_FM	A	223	34	3	77	3.5
	B	183	34	3	114	6

Tip material	Polysilicon lever, monocrystal silicon tip
Chip size	3.6 x 1.6 x 0.4 mm
Cantilever number	2
Tip shape	Octahedral at the base, conic on the last 200nm
Tip cone angle φ	30 degrees on the last 200nm
Full tip height	$\geq 10 \mu\text{m}$
Pedestal/tip ratio	1:1
Tip curvature radius	Less than 10nm



ETALON PREMIUM

Etalon Premium is the new generation of polysilicon Etalon probes with high reproducible parameters and pencil-shape narrow tips for high quality AFM imaging.



- Conical apex of 5-8 nm typical curvature radius and cone angle $< 30^\circ$ suits well for imaging of small objects and nanoparticles.
- Narrow cylindrical body with diameter of 300 - 700 nm allows getting detailed images of high objects, making Etalon Premium probes similar to high aspect ratio probes' models.

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