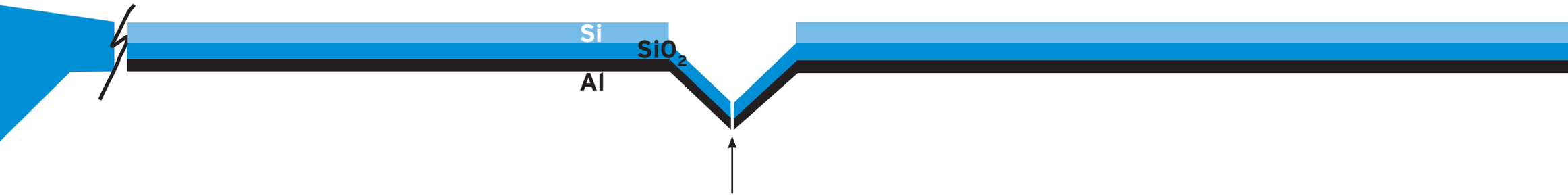
The NMI TT GmbH offers integrated services, from contract research to testing, that complement the range of facilities available at the NMI.

NMI TT Microdevices

NMI TT Microdevices



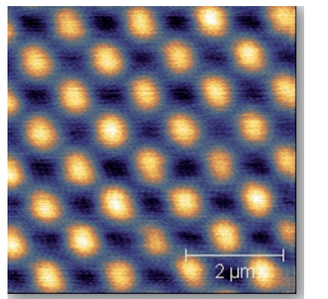
NMI TT GmbH was founded in 2002 as a 100 % affiliate of the NMI. The company is located at the NMI.

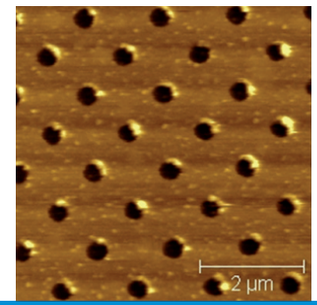
Focal points of the portfolio

- Protein expression and signal transduction analyses for drug development
- Electrophysiological assays for preclinical drug development and safety pharmacology
- Quality control of drugs and auxiliaries
- Testing of medical products and drugs
- Production of microsystems and nanoprobes for applications in the areas of life sciences and nanoanalytics.

This offers a broad service portfolio ranging from research to globally valid licensing tests for medical products, drugs and advanced therapy medicinal products (ATMP).

NSOM / SNOM high precision probes >>





Example of Topography (left image) and Transmission SNOM (right image) made on a photonic crystal By curtesy of A.P.E. Research s.r.l., Trieste, Italy

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Cantilever-based sensors for near-field optical microscopy (NSOM, SNOM)

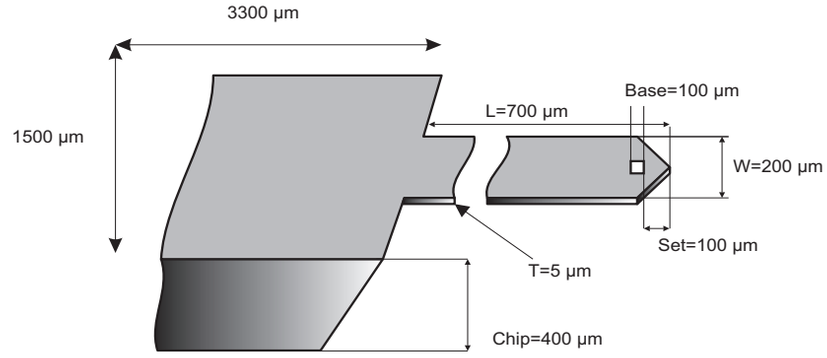
NMI TT Microdevices

Near-field scanning optical microscopy (NSOM, also known as SNOM) allows optical investigations of samples both from life sciences and material sciences with a spatial resolution below the diffraction limit.

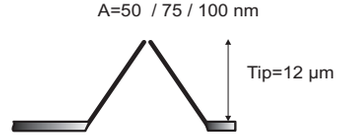
NMI TT's cantilever-based, high precision sensors utilizes a hollow, aluminium-coated, pyramidal tip with a small aperture at the apex to focus the NSOM beam. This design yields an increase in light-transmission by two orders of magnitude over that of traditional fiber probes.

Offered with apertures between 50 nm and 100 nm, our sensors are suited for applications in physics, material sciences, cell biology, molecularbiology, nanoanalytics.

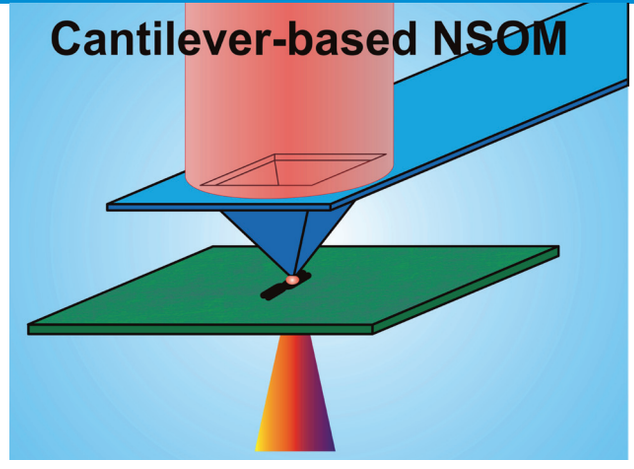
In addition, NMI TT's NSOM probes enable topographical AFM measurements and offer AFM/SPM users the ability to incorporate NSOM measurement into their current systems, without the addition of expensive hardware.

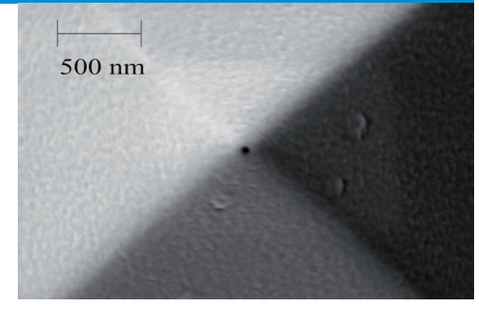


The close-up of the pyramide



Technical Data	Typical Value	Range Comment
Force Constant	3 N/m	1.5 - 6 N/m
Resonance Frequency	20 kHz	14 - 22 kHZ
Length (L)	700 µm	680 - 720 µm
Mean Width (W)	200 µm	195 - 205 µm
Thickness (T)	5 µm	4 - 6 µm
Tip Height (Tip)	13 µm	12 - 14 µm
Chip thickness (Chip)	400 µm	
Base opening for the pyramide (Base)	20 µm	
Setback of the pyramide form the end (Set)	100 µm	
Aperture Size (50)	50 nm	35 - 65 nm
Aperture Size (75)	75 nm	65 - 80 nm
Aperture Size (100)	100 nm	95 - 105 nm
Aperture Size (WAP)	Without Aperture	
Tip Style	Pyramidal	
Coating	Aluminium (tip side)	
Maximum tilt angle during operation	8 degrees	





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