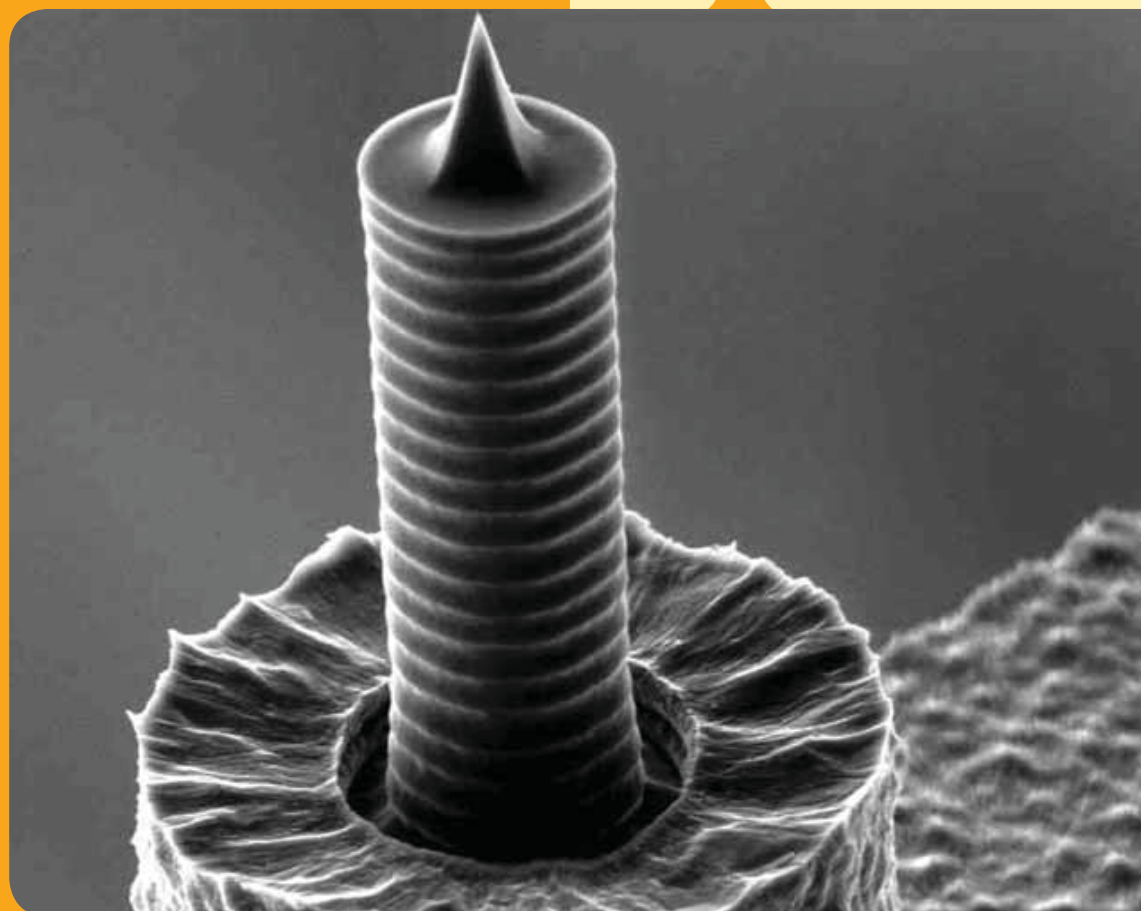




future's
in the making

Accessories for Scanning Probe Microscopes





Ostec Corporate Group produces and offers hi-tech innovative scientific and analytical equipment.

Our mission is to be a company that finds, selects, protects and develops cutting-edge ideas to create new products and technologies and deliver technological progress. That is why the symbol of our company is a growing sprout.

We provide complete solutions for our clients: the best equipment to meet customer's requirements, deep knowledge of customer's applications, qualified and reliable maintenance support.



OUR other products:



Nanomechanical Testers NIOS



Confocal Raman Microscope RAMOS



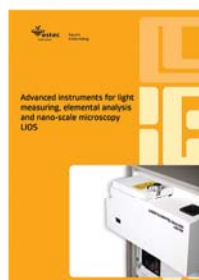
Emission Spectrometer SE05-02



Spectral System: FTIR Spectrometer IROS 01 and IR Microscope IROS M2



Optical components OCOS



Light Measuring, Elemental Analysis and Nanoscale Microscopy Instrument LIOS



Vibration Control Solutions AVOS

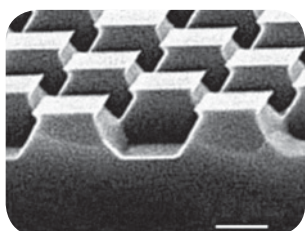
Products

Calibration Gratings

Ostec offers full set of calibration standards for SPM lateral and vertical calibration; lateral non-linearity, hysteresis, creep, and cross-coupling effects detection; tip shape determination.



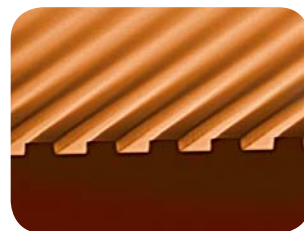
TGQ1



TGX1



TGT1

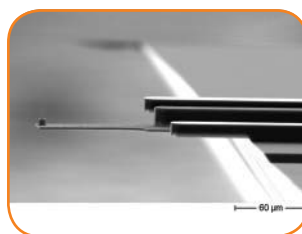
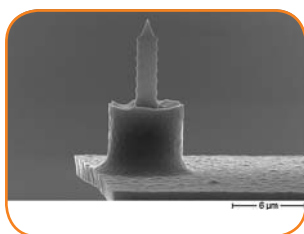
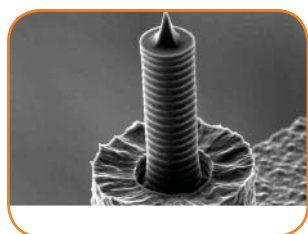


TGS1

AFM probes. ETALON series

Ostec brand new technology combines all critical advantages in one chip:

- Sharp tip (curvature radius <math><10\text{ nm}</math>)
- Resonance frequency with high accuracy ($\pm 10\%$)
- Special chip geometry for convenient operation
- High aspect ratio tip
- Enhanced cantilever back-side reflection

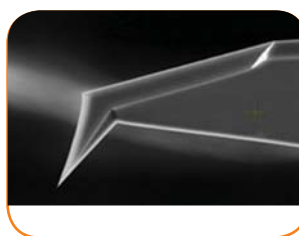


ETALON Series probes have two polysilicon levers with a pedestal and monocrystal silicon tips. Precision technology of polysilicon deposition guarantees the lever thickness control. Special frequency stabilizer is designed to make the resonant frequency and force constant dispersion smaller (due to the lever length control). Therefore ETALON probes are characterized by higher reproducible parameters:

- Typical lever thickness dispersion: $\pm 0.15\ \mu\text{m}$
- Typical lever length dispersion: $\pm 2\ \mu\text{m}$
- Typical probe resonant frequency dispersion: $\pm 10\%$
- Typical force constant dispersion: $\pm 20\%$

Coating for TERS AFM Probes

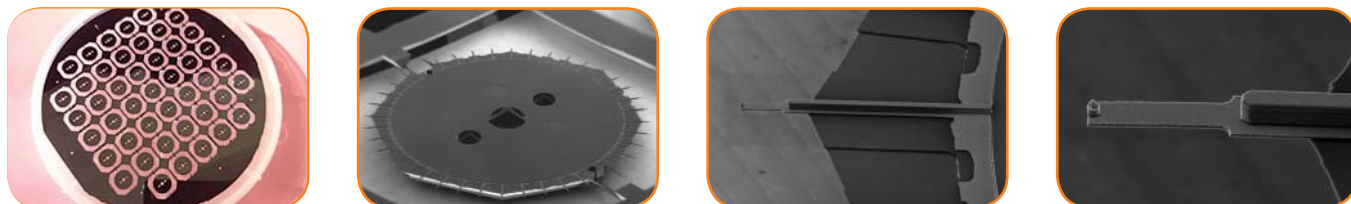
- Enhancement factors: 100x and more
- Lateral resolution in TERS: down to 10 nm
- High speed TERS mapping
- Top-down illumination configuration (opaque samples)
- Based on commercial AFM cantilevers (contact, non-contact): multiple AFM modes, excellent imaging performance



Regular products

Revolution Cartridge

New revolution cartridge with multi-probe technology for automated cantilevers replacement makes a significant breakthrough in AFM:



- 38 tips on cartridge
- Fast tip exchange
- Fully automated operation

Perspective solution for AFM probes

Further development of the polysilicon technology in the field of AFM probes:

- tip-to-base ratio reduction
- base diameter reduction
- ultra-long tips production
- new ultra-sharp AFM probes line production
- different coating materials combining

Ostec has the following Metal targets:

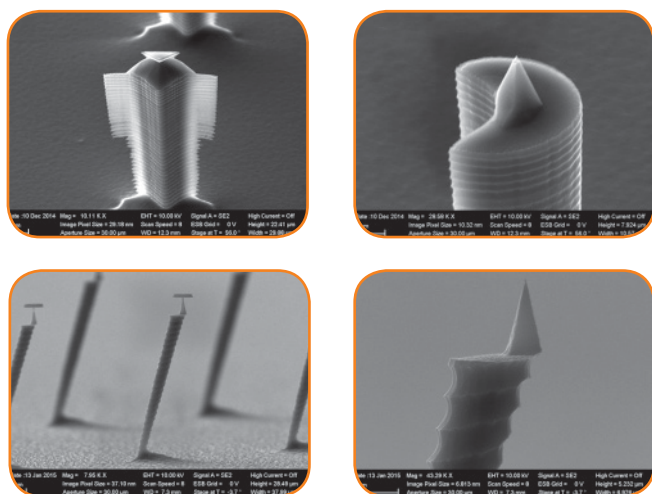
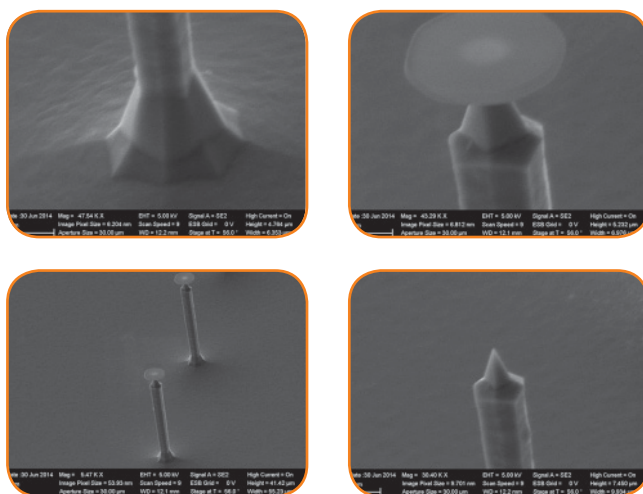
Ni,- Co,- Mo,- Cr,- V,- Pt,- Au,- Al,- Cu,- Ta,- Re,- Fe,- C,- Ag, W,- Ti,- In2O3,- SiO2,- BeO,- W2C

Alloy targets:

NiFe (80/20), - CoCr (50/50), FeCo (50/50), AlSi

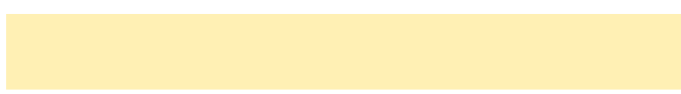
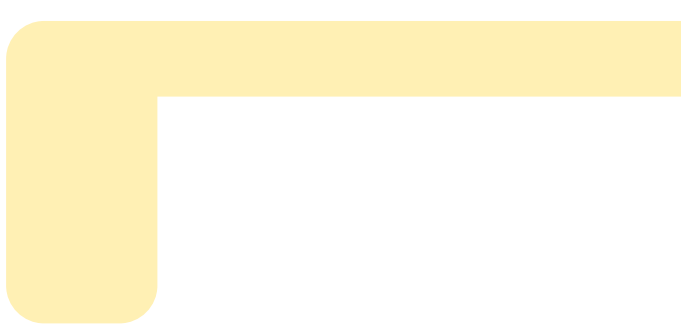
Composite targets:

Me-C, Me-Au-Ag, Me-Pt, Me-Cr, etc.



Ostec offers unique and ambitious solutions in the field of TERS AFM probes:

- construction of nanoantennas for effective plasmon excitation
- modification of the antenna cross section
- implementation of periodic resonant structures with variable periods
- variable tilt angle for enhanced plasmon excitation





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