**Scanning Probe microscope**

**Equipment:** Scanning Probe Microscope (SPM) NTEGRA NT-MDT

**No. of Equipment: UPOL6**

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**Equipment Description**

Scanning Probe Microscope (SPM) NTEGRA NT-MDT

Mausuring in different modes:

* Atomic force microscopy (AFM)
* Magnetic force microscopy (MFM)
* Scanning tunneling microscopy (STM)

**Specification of expertise relevant to NanoEnviCz workpackages:**

**WP3**a,c-h **WP4**a,b **WP5**c, **WP6**a,e,f **WP7**a-c,h,i

**Detailed description of expertise**

**Please, specify the main research topics connected with equipment**:

 **Measuring of topography using atomic force microscopy (AFM)**

* imaging of sample surfaces with vertical resolution under 1 nm
* maximum measurable height difference of 10 µm
* evaluation of surface roughness

 **Micro- and nanoobjects analysis**

* height profiles of studied materials
* assessment of their lateral dimensions and morphology

**Please, specify the secondary research topics connected with equipment**:

 **Measuring of magnetic properties (MFM)**

* domain structure of recording media
* identification of magnetic domain in metal materials

**Measuring of electric properties using scanning tunneling microscopy (STM)**

**Keywords describing research area:**

Atomic force microscopy (AFM), magnetic force microscopy (MFM), scanning tunneling microscopy (STM), surface topography

**Competence**

**Relevance for applied and industrial research:**

Microscopic measurement of the surface of materials (particles and industrial parts), high profiles of thin films

**Relevance for fundamental studies:**

The identification of particular layers of graphenes, size and shape of the nanoparticles, height profiles