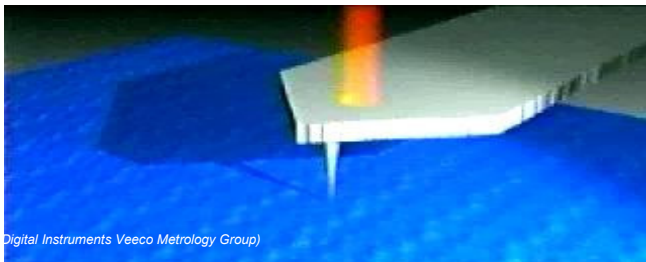


Materials and Failure Analysis Atomic Force Microscopy (AFM)

High resolution characterisation of diverse surfaces from the micrometre into the nanometre scale. Qualitative and quantitative characterisation and evaluation of the surface topography of metals, ceramics, polymers and composites, etc.



How an AFM works

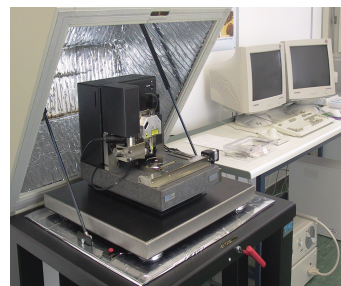
In atomic force microscopy, a fine tip attached to the end of a cantilever with an extremely low spring constant, is brought into contact with a surface and scanned gently across it. A laser detects the vertical and lateral position of the tip. This information is used to form a 3-D image of the surface. The data can also be evaluated quantitatively as height profiles, roughness values and area ratios of different phases etc.

Advantages of the method

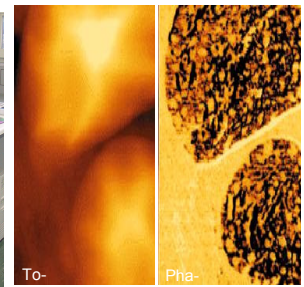
In addition to providing detailed topographic data, the method allows local differences in materials' properties to be detected and analysed. It is applicable to all types of materials and requires only simple sample preparation.

Examples of applications

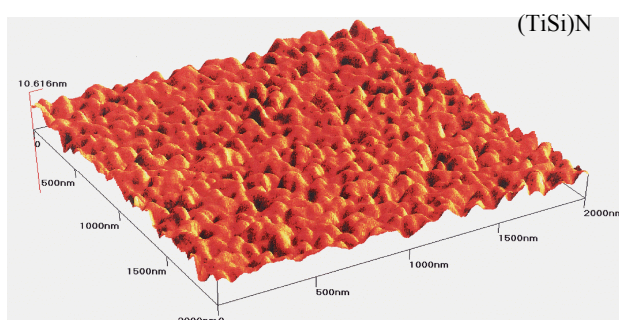
- Characterisation of coatings (Metallic, non-metallic, organic, inorganic)
- Roughness measurements on the nanometre scale
- Tribological studies
- Characterisation of polymers



Our AFM



Characterisation of a composite material in phase contrast mode

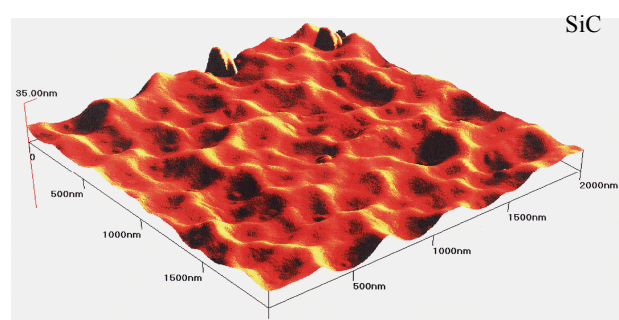


Characterisation of PVD-coatings

The AFM provides access to a variety of information hidden in a surface.

Delivery

AFM investigations can normally be completed within 2 -3 working days.



Sulzer Markets and Technology Ltd.

Sulzer Innotec
8404 Winterthur, Switzerland
Phone +41 52 262 21 21
Fax +41 52 262 00 15
www.sulzerinnotec.com