

Scanning probe microscopy techniques – versatile methods for nanoscale research

dr. sc. Marko Kralj

Nastupno predavanje

Sažetak:

The pillars of nanoscience and nanotechnology lie in microscopy techniques that are able to resolve the atomic structure of surfaces. An understanding of the atomic arrangement is crucial to understand the physical and chemical properties of nanomaterials. In this lecture, we will explain the two major scanning probe (SPM) techniques: scanning tunneling microscopy (STM) and atomic force microscopy (AFM). Both techniques are based on the close physical proximity of sharp probing tips over the investigated surface but the operating principles and detection signals are different. We will elucidate these differences and explain how it is possible to obtain the atomic resolution.