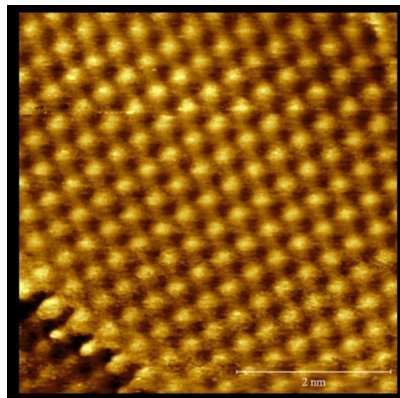


## Calibration patterns and procedures for scanning probe microscopes: the path to the nanoworld

Published by: Adam Żeberkiewicz

The project "Production and characterization of nanostructures for the calibration of scanning probe microscopes" is an innovative initiative aimed at developing precise calibration procedures for atomic force microscopes (AFM) and scanning tunnelling microscopes (STM).



Welcome to the world of nanotechnology, where the most advanced microscopes with scanning probe are used to study and calibrate nanostructures. The project "Production and characterization of nanostructures for the calibration of scanning probe microscopes" is an innovative initiative aimed at developing precise calibration procedures for atomic force microscopes (AFM) and scanning tunnelling microscopes (STM). The image above shows a measurement of a calibration sample of gold using STM, where we can see gold atoms and the termination of the terrace (one of the layers of gold atoms).



As part of this project, the Institute of Physics of the Faculty of Natural Sciences (UJK) in Kielce (coordinator), together with the Institute of Microelectronics and Photonics - Lukaszewicz Research Network in Piaseczno (IMiF) and the Institute of Chemical Sciences of the Faculty of Chemistry (UMCS) in Lublin, will conduct intensive research on materials at the nanoscale, develop advanced calibration procedures, and create new nanostructures with exceptional precision. Through collaboration with the Time and Length Department of GUM, the project will contribute to the optimization of measurement facilities at GUM for characterizing nanomaterials, which will significantly impact the development of metrology in Poland.

We believe that our project will not only enhance the measurement capabilities of the country, but also contribute to the commercialization of the developed procedures and standards.



Ministerstwo Nauki  
i Szkolnictwa Wyższego

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