### DESCRIPTION

A new window to local studies of interface phenomena at solid state surfaces has been opened by the development of local probe techniques such as Scanning Tunneling Microscopy (STM) or Atomic Force Microscopy (AFM) and related methods during the past fifteen years. The in-situ application of local probe methods in different systems belongs to modern nanotechnology and has two aspects: an analytical aspect and a preparative aspect.

The first aspect covers the application of the local probe methods to characterize thermodynamic, structural and dynamic properties of solid state surfaces and interfaces and to investigate local surface reactions. Two methods which are still in the beginning of their development represent the second aspect: tip and cantilever. They can be used to form defined nano-objects such as molecular or atomic clusters, quantum dots etc. as well as to structure or modify solid state surfaces in the nanometer range.

This IUPAC monograph is a comprehensive treatment of both aspects and presents the current state of knowledge. It is written for scientists active in the area of nanotechnology.
Wolfgang J. Lorenz and Waldfried Plieth are the authors of Electrochemical Nanotechnology: In-situ Local Probe Techniques at Electrical Interfaces, published by Wiley.

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