



New imaging and spectroscopy tools for the study of materials in equilibrium with atmospheric pressure of gases

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In recent years my laboratory has developed an array of new tools that make possible for the first time to the atomic structure of surfaces in the presence of gases and liquids up to atmospheric pressures. The Scanning Tunneling Microscope, the Scanning Polarization Force Microscope and the Ambient Pressure Photoelectron Spectroscopy are the most sophisticated tools currently available to researchers in the areas of surface science, catalysis, atmospheric and environmental sciences. I will describe with examples the operation of these tools, including chemical reactions, aqueous aerosol compositions and wetting phenomena.