FOXSI
Functional Oxide Surfaces and Interfaces

EINLADUNG

zum Vortrag
von

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Near ambient pressure X-ray photoelectron spectroscopy in heterogeneous catalysis and electrochemistry: status and outlook

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Abstract:

In this lecture I will demonstrate that catalyst surfaces are very dynamic under reaction conditions. They change when the applied chemical potential given by the phase gas and temperature is changed. The reply of the surface to the changed reactions conditions can be followed in situ by near ambient pressure X-ray photoelectron spectroscopy. The method is used to study the electronic structure of the active solid-gas phase interface. The state of silver surfaces during the formation of ethylene epoxide has been investigated extensively by this method. It was shown, that several different oxygen species are present on the active surface. Another example presented here is the study of Pt electrodes in the oxygen evolution reaction (OER). These experiments were performed in water vapor. An approach to study the OER in liquid water will be discussed.

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