

EINLADUNG

zum Vortrag
von

Dr. Davide Ferri
Paul Scherrer Institut,
Switzerland

Pd-based perovskite-type catalysts - Pd in or Pd out?

am

Mittwoch, 09. Dezember 2015 um 16:00 Uhr

Technische Universität Wien
Bauteil BD Hoftrakt, Seminarraum BD 02, 2 OG.
1060 Wien, Getreidemarkt 9

Abstract:

Perovskite-type oxides are excellent oxidation catalysts. Addition of Pd is meant to enhance catalytic activity for a given reaction, as for example methane oxidation in exhaust gas control. However, the state that Pd can adopt in conjunction with a perovskite-type oxide catalyst and its influence on catalytic activity have to be carefully ascertained. Coupled to LaFeO₃, Pd can adopt at least two different oxidation and coordination states, where PdO is well dispersed on LaFeO₃ or Pd occupies the octahedral Fe sites. A combination of characterization tools can provide structure-activity relationships that may reveal essential to develop stable catalysts. Depending on synthesis procedure, thermal treatment and reaction conditions, a mixture of these states may exist. Similarly, depending on perovskite-type formulation and synthesis procedure either state can exist. Consequently, activity will strongly depend on the nature of Pd.

The presentation will try to discuss which state is active for methane oxidation and how the less active state can be activated under reaction conditions closer to three-way catalytic operation.

FWF SFB F45 „Functional Oxide Surfaces and Interfaces (FOXSI)“

Prof. Günther Rupprechter (Speaker), Melanie Schärer (SFB FOXSI Secretary)

Vienna University of Technology, Institute of Materials Chemistry, 1060 Vienna, Getreidemarkt 9, Austria

Tel.: +43-(0)1 58801-165102 - Fax: +43-(0)1 58801-16599

e-mail: grupp@imc.tuwien.ac.at, e-mail: melanie.schaerer@tuwien.ac.at

web: <http://foxsi.tuwien.ac.at/>