

Reactivity of Surface Species in Heterogeneous Catalysts Probed by In Situ X-ray Absorption Techniques

Silvia Bordiga,[†] Elena Groppo,[†] Giovanni Agostini,[†] Jeroen A. van Bokhoven,^{‡,§} and Carlo Lamberti^{*,†}

[†]Department of Chemistry and NIS Centre of Excellence, Università di Torino and INSTM Reference Center, Via P. Giuria 7, 10125 Torino, Italy

[‡]ETH Zurich, Institute for Chemical and Bioengineering, HCI E127 8093 Zurich, Switzerland

[§]Laboratory for Catalysis and Sustainable Chemistry (LSK) Swiss Light Source, Paul Scherrer Instituteaul Scherrer Institute, Villigen, Switzerland



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1. INTRODUCTION

Acronym List

References

Starting from the late seventies, the progressively increased availability of synchrotron light sources allowed the execution of experiments requiring a high X-ray flux in a continuous interval.¹⁻⁶ Among them, X-ray absorption spectroscopy (XAS, also known as X-ray absorption fine-structure, XAFS),7-12 in both near (XANES) and post (EXAFS) edge regions, has become a powerful characterization technique in all the fields of materials science, $^{12-35}$ and in particular in cataly-sis. $^{13,16,22,23,25,30,31,36-40}$ After a slow start in the 1980s, mainly because of the difficulties in performing in situ experiments at the synchrotrons, the progressive development of more sophisticated and better performing experimental set-ups that allow the catalyst's state to be monitored under reactive

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