Solid-state kinetics from time-resolved in situ XAFS investigations: reduction and oxidation of molybdenum oxides

Ressler T, Jentoft RE, Wienold J, Timpe O
Max-Planck-Gesellschaft, Fritz-Haber-Institut, Faradayweg 4-6, 14195 Berlin-Dahlem

Abstract:
The reduction of MoO$_3$ with hydrogen was studied by in situ X-ray absorption spectroscopy. The experiments performed focused on elucidating phase composition and evolution with time under isothermal reduction conditions. From temperature programmed experiments short-range structural details about the early stage of the reduction were obtained.