Kemijski inštitut
Ljubljana
Slovenija

National
Institute of Chemistry
Slovenia

http://www.ki.si

Vabilo na Forum40 / Invitation to the Forum40

dr. Maxim Zabilskiy

D-05, Department for Environmental Sciences and Engineering

Četrtek / thursday, 15.9.2016 ob / at 13:00

Velika predavalnica Kemijskega inštituta/ Lecture hall, National Institute of Chemistry; Hajdrihova 19, Ljubljana

Nanoshaped CuO/CeO_2 solids for catalytic degradation of N_2O emissions: Insight into reaction mechanism by *ex situ*, *in situ* and *operando* techniques

Nitrous oxide (N_2O) is considered to be one of the strongest greenhouse gases. Thus, its destruction is a challenging task in chemical and environmental engineering. Activity of CuO/CeO_2 materials in catalytic N_2O decomposition depends on both shape induced activity of CeO_2 ({100} and {110} facets are more reactive) and its BET surface area. 4 wt. % Cu was found as the most advantageous metal loading, whereas higher Cu content resulted in lower dispersion and formation of significantly less active, segregated bulk CuO phase. By using surface-sensitive *operando* techniques, the mechanism of studied reaction over CuO/CeO_2 catalyst as well as inhibiting action of NO and H_2O was determined.

Vljudno vabljeni / Kindly invited