Operando VII – Poster list

Monday, 8 May 17.40 - 19.30

Tuesday, 9 May 18.00 - 19.00

#5 – V. De Coster, Modulation engineering: Rational stimulation design for enhanced frequency content in modulation-excitation experiments

#7 – D.H. Kim, In situ spectroscopic studies of the water effect on the redox cycle of Cu ions in Cu-SSZ-13 during selective catalytic reduction of NO_x

#15 – P. Hemberger, New mechanistic insights into catalytic processes by detection of highly reactive intermediates

#18 – S. Obst, Combining operando NMR and FTIR for a look below the surface: deactivation mechanisms of molecular catalysts revised

#21 – R. Edla, Synchrotron-based soft x-ray spectroscopy for operando studies of gaseous interactions in metal-organic frameworks

#22 – D. Bonavia, Local structure of PdO/Al_2O_3 catalysts during reduction and hydrogenation reactions in liquid phase

#23 – A.E.M. Melcherts, Understanding Ni-support interactions in the catalytic CO_2 hydrogenation with operando spectroscopic monitoring of active species

#24 – F. Schrenk, Combining lab-based NAP-XPS with impedance spectroscopy: Characterizing novel catalysts for carbon dioxide activation

#25 – B. Barata, Monitoring of the impregnation and drying of $CoMoP/Al_2O_3$ HDS catalysts by in situ hyperspectral XAS imaging and ex situ Raman microspectroscopy

#26 – J. Weiss, Operando DRIFT and in situ Raman spectroscopic studies on aspects of CO_2 Fischer-Tropsch synthesis over iron oxide catalysts

#27 – S.K. Das, In-situ XRS and XES to follow $Ni/MgFeAlO_4$ restructuring upon high-temperature redox treatment and methane dry reforming

#28 – W. Wang, Componential perturbation induced transient evolution of CO oxidation studied by time resolved APXPS

#29 – Z. Asadi, A combined apparatus for operando EPR and MCPT investigations on a Cu/ZnO:Al catalyst

#30 – S. Rojas, Spectroscopic evidences of the Ce^{3+} role in DMC synthesis from CO_2

#33 – N. Genz, An operando laboratory-based multi-edge X-ray absorption near edge spectroscopy setup for advanced catalyst characterization

#34 – N. Phongprueksathat, Decisive roles of peripheral promoters in promoting methanol selectivity of CO_2 hydrogenation over Cu-based catalysts

#35 – V. Briois, Understanding of the Ethanol Steam Reforming activity boost for regenerated NiCu ex-hydrotalcite catalysts by Full Field hyperspectral XAS imaging and environmental microscopy

#41 – A. McCullagh, Insight into the origin of high selectivity aniline synthesis catalysis: An in-situ infrared spectroscopic study

#42 – D. Doronkin, Structure-activity relationships in different layouts of composite ammonia slip catalysts identified by operando QEXAFS during realistic driving cycles

#49 – A. Klyushin, Photocatalytic set-up for in-situ and operando ambient pressure X-ray photoelectron spectroscopy at the MAX IV laboratory

#52 – A. Tampieri, In situ and operando studies of the aldol condensation of furanic aldehydes with acetone

#54 – D. Ryaboshapka, Ultradispersed MoS_x species with high hydrodesulfurization activity: Operando QXAS study

#58 – I. Hatoum, Investigation of hysteresis phenomena on supported PGM during CO oxidation: SSITKA-IR study.

#59 – B. Mosevitzky Lis, Paradigm shift in the nature of the active surface of the bulk bismuth molybdate catalyst during the selective oxidation of propylene

#60 – N. Marcella, Theory-guided operando experimentation via AI-accelerated ab initio molecular dynamics and XAFS

#62 – L. Weinhardt, In situ soft X-ray spectroscopy of reactant, intermediate, and product species for nitrogen oxide selective catalytic reduction on Cu-SSZ-13

#64 – T. Kentri, Distinct mono-oxo configurations of $V(V)O_x$ sites dispersed on titania. Temperature and coverage effects

#65 – D.N. Maaskant, Shining new light on photo-assisted catalytic carbon dioxide hydrogenation

#66 – R. Vogel, Operando time-gated Raman spectroscopy for the study of the formation of carbon deposits on light alkane dehydrogenation catalysts

#67 – S. Gericke, Towards CO_2 hydrogenation: A combined (NAP-)XPS and DFT study on $In_2O_3(111)$ model catalysts

#71 – J. Fischer, Methane to methanol conversion over Cu-CHA studied by Operando EPR and UV-Vis Spectroscopy

#72 – M. Muniz da Silva, Operando time-resolved XAS study of shape-controlled nanoparticles used for CO oxidation reaction

#75 – G. Giannakakis, Mechanistic and electronic insights into a working NiAu single-atom alloy ethanol dehydrogenation catalyst

#76 – L. Kang, Unravelling the nitridation and deactivation mechanism of surface Fe/Co species in ammonia decomposition reaction: a combined in situ AP-XPS & AP-NEXAFS study

#77 – A. Ricchebuono, Surface morphology evolution of Pd nanoparticles under CO atmosphere

#78 – Q. Pessemesse, Exploring the structure and spectroscopic signatures of group X Metal-Gallium nanoparticles with metadynamics

#83 – A. Hoffman, Development of the multi-modal, quick-scanning, dynamic catalyst operando characterization beamline 10-2ES2 at the Stanford Synchrotron Radiation Lightsource

#84 – A.S. Traore, Direct insight into the activation mechanism of Fe and Sb catalysts by operando TEM and XAS techniques

#86 – S. Svelle, In situ and operando X-ray diffraction as a tool to monitor zeolite catalyst deactivation

#87 – J. Simons, Operando methods reveal the origin of particle size effects in CO_2 hydrogenation reactions on Ni

#90 – R. Shadkam, Reactivity and advanced electron microscopy of CeO_2 supported mass-selected Pt clusters for CO oxidation catalysis

#92 – C. Kubis, $MoO_xC_yH_z$ phases in metal molybdate catalysts for gas phase hydrodeoxygenation

#95 – A. Zimina, Combined operando XAS studies of deactivation processes of Cu-based methanol synthesis catalysts

#96 – S. Alizadehfanaloo, Operando XAS tomography for rapid 3D characterization of Mo-catalysts for oxidative dehydrogenation of ethane

#98 – J. Hayden, Mid-infrared quantum cascade laser dual comb spectroscopy with μs time resolution

#101 – L. Maggiulli, Active carbenium species direct olefins selectivity in the methanol-to-olefins process

#102 – P. Bazin, Development of operando IR spectroscopic tools for a better understanding of reaction mechanisms

#105 – D. Gashnikova, Tracking the evolution of highly dispersed noble metal species on CeO_2 during CO oxidation by operando XAS and DRIFTS

#106 – R. Khalegi Abasabadi, Effect of the Si/Al ratio on SO_2 poisoning of Cu-CHA zeolites studied by in situ DR UV-Vis spectroscopy

#109 – G. Deplano, Cu(I) quantification and its interaction with CO in Cu-zeolites employing XAS and IR spectroscopy

#111 – P. Dolcet, Exploiting atomic dispersion of Platinum and its dynamics in Pt/CeO_2 catalysts for improved emission control

#113 – S. Struzek, Reactor designs for operando XAS characterization of Pt and Pd based catalysts for emission control close to industrial reaction conditions

#114 – L. Allen, Understanding the specific structure-activity relationship of supported PdO nanoparticles during catalytic oxidation using operando studies

#117 – S. Chen, Use of in situ DRIFTS in the research on structural effect of Ni/CeO_2 catalyst in CO_2 methanation

#121 – A. Wach, Capturing transformations of Au-Pd active sites during photocatalytic conversion of methane to methanol by in situ X-ray absorption spectroscopy

#122 – L. Jiang, Differential evolution driven algorithm transform demodulated signal from modulation excitation experiments back to time domain

#123 – M. Cavallo, In-situ ATR-IR study of Layered Double Hydroxides as potential electrocatalysts for CO_2 reduction reaction

#124 – L. Bugarin, Influence of the iron substitution level in Pt-$CaTi_{1-x}Fe_xO_{3-\delta}$ perovskite catalyst for room-temperature CO oxidation reaction by X-ray absorption and emission spectroscopy.

#126 – H. Dong, Machine-learning-based high throughput analysis of operando chemical imaging data

#127 – S. Bare, Identifying the active site in catalysis: What is the future for X-ray absorption spectroscopy?

#128 – R. Horn, Isopotential spectroscopy – A new concept for operando studies of catalysts in catalytic reactors

#130 – O. Korup, Catalytic profile reactor for multimodal operando measurements with and without periodic operation

#132 – C. Legens, Supported (oxy)sulfides phases for Hydrogen Evolution Reaction: a XAS operando study to understand the stability of the active phases

#133 – L. Artiglia, Spectroscopic identification of platinum species involved in the water-gas shift reaction

#135 – L. Rämisch, Combined operando characterisation of catalytic materials with fluorescence imaging, optical microscopy and infrared spectroscopy

#136 – N. Zyser, Strain as an activity descriptor in the electrooxidation of urea over Nickel

#137 – W. van Beek, BM31 SNBL at ESRF, the combined XRD-PDF-XAFS beamline dedicated for operando studies

#138 – M. Winzely, An electrochemical cell for operando grazing-incidence X-ray absorption spectroscopic studies of low-loaded electrodes

#139 – A.H. Clark, The new Debye beamline at SLS: a versatile platform for operando X-ray chemical and structural analysis

#140 – A. Aguirre, Identification of key reaction intermediates during toluene combustion on a Pd/CeO_2 catalyst using operando modulated DRIFT spectroscopy

#142 – S. Barth, Understanding the formation of HCN emissions during SCR of NO_x with NH_3 and its impact on reaction pathways

#144 – K. Föttinger, Operando and in situ studies of Co and Ni ferrites: structure and reactivity insights

#149 – E. Tusini, Operando XAS and XRD Studies on Ni-based Methane Steam Reforming Catalysts

#151 – C. Kubis, Investigations on mechanistic and kinetic aspects of phosphite-modified rhodium catalyzed alkene hydroformylation by in-situ/operando FTIR and NMR spectroscopy

#154 – S. Pollitt, Bimetallic catalyst design and evolution in bio-oil deoxygenation

#160 – S.R. Collins, Oxygen activation on ultra-disperse CeO_x clusters deposited on MgO hexagonal plates

#161 – L. Maggiulli, A transient operando DRIFTS methodology to study the methanol-to-olefins process

#163 – I. Kochetygov, Understanding the mechanism of preparative green MOF-74 syntheses using operando ATR-FTIR spectroscopy

#166 – O.V. Safonova, Pt-Fe^{+2}O sites catalyze preferential carbon monoxide oxidation at ambient temperature: operando XAS study

#167 – O.V. Safonova, The synergetic activity of supported VO_x species and redox active supports involved in the selective oxidation of alcohols uncovered by operando XAS

#168 – C. Koolen, Scalable synthesis of Cu(Ag) oxide clusters via spark ablation for the highly selective electrochemical conversion of CO_2 to C_2 products

#169 – M. Cattelan, Fe ultra-thin layers visualized by in-operando EC-STM in HER conditions

#170 – F. Cambiè, NIR spectroscopy for online monitoring of chemical processes and phase transitions

#171 – M. Filez, Interrogating metal nanocatalyst sintering at complementary length scales

#173 – S. Phadke, In situ high-pressure GI-XAS cell for structural studies of physically deposited nanoparticles under CO_2 hydrogenation conditions

#174 – J. Palomo, Operando thermal analysis and kinetic modelling of oxidative coupling of methane on MgO catalyst

#175 – Z. Zhang, Unraveling radical and oxygenate cycles in the oxidative dehydrogenation of propane over Boron nitride

#176 – T. Pinheiro Araújo, Oxygen vacancy dynamics in catalysts based on reducible oxides for CO_2 hydrogenation to methanol

#179 – G.L. Bezemer, Oxidation, sintering and carbidisation: the multi-facetted story of deactivation of supported Cobalt Fischer-Tropsch catalysts studied with Mössbauer spectroscopy

#181 – N. Ramanan, A multi-capillary reactor for operando catalysis experiments at Diamond Light Source, UK

#182 – T.A. Kathyola, Operando studies of high-temperature Fischer-Tropsch synthesis using combined X-ray spectroscopy, scattering, and imaging

#183 - L. Braglia, The role of configuration entropy in $Mg_{0.2}Co_{0.2}Ni_{0.2}Cu_{0.2}Zn_{0.2}O$ during CO oxidation: an operando ambient pressure NEXAFS spectroscopy study

#184 – F. Bassato, An ambient pressure NEXAFS experiment to investigate the surface reactivity of A site-doped $SrTiO_3$

#185 – M.L. Rivera Salazar, Low temperature CO oxidation on lanthanum-iron doped strontium titanate (LFSTO): A perspective with operando ambient pressure NEXAFS spectroscopy

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