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Selection of papers in the field of chemical sensors

(mainly selected peer reviewed articles and book contributions)

M. Feulner, G. Hagen, K. Hottner, S. Redel, A. Müller, R. Moos:
Comparative Study of Different Methods for Soot Sensing and Filter Monitoring in Diesel Exhausts
Sensors, **17**, 400 (2017), doi: 10.3390/s17020400

R. Moos, D. Rauch, M. Votsmeier, D. Kubinski:
Review on Radio Frequency Based Monitoring of SCR and Three Way Catalysts
Topics in Catalysis, **59**, 961-969 (2016), doi: 10.1007/s11244-016-0575-1

Y. Zheng, U. Sauter, R. Moos:
Investigation of Oxygen Transport Paths in Geometrically Defined Thick-Film Composite Pt Electrodes on YSZ
Journal of the Electrochemical Society, **163**, F877-F884 (2016), doi: 10.1149/2.1081608jes

J. Exner, M. Schubert, D. Hanft, T. Stöcker, P. Fuierer, R. Moos:
Tuning of the electrical conductivity of $Sr(Ti,Fe)O_3$ oxygen sensing films by aerosol co-deposition with Al_2O_3
Sensors and Actuators B: Chemical, **230**, 427-433 (2016), doi: 10.1016/j.snb.2016.02.033

F. Schubert, S. Wollenhaupt, J. Kita, G. Hagen, R. Moos:
Platform to develop exhaust gas sensors manufactured by glass-solder-supported joining of sintered yttria-stabilized zirconia
Journal of Sensors and Sensor Systems, **5**, 25-32 (2016), doi: 10.5194/jsss-5-25-2016

T. Simons, P. Chen, D. Rauch, R. Moos, U. Simon:
Sensing Catalytic Conversion: Simultaneous DRIFT and Impedance Spectroscopy for *in situ* Monitoring of $DeNO_x$-SCR on Zeolites
Sensors and Actuators B: Chemical, **224**, 492-499 (2016), doi: 10.1016/j.snb.2015.10.069

S. Fischer, D. Schönauer-Kamin, R. Pohle, M. Fleischer, R. Moos:
Influence of operation temperature variations on NO measurements in low concentrations when applying the pulsed polarization technique to thimble-type lambda probes
Journal of Sensors and Sensor Systems, **4**, 321-329 (2015), doi: 10.5194/jsss-4-321-2015

P. Chen, S. Schönebaum, T. Simons, D. Rauch, M. Dietrich, R. Moos, U. Simon:
Correlating the Integral Sensing Properties of Zeolites with Molecular Processes by Combining Broadband Impedance and DRIFT Spectroscopy—A New Approach for Bridging the Scales
Sensors, **15**, 28915-28941 (2015), doi: 10.3390/s151128915

P. Fremerey, A. Jess, R. Moos:
Why does the Conductivity of a Nickel Catalyst Increase during Sulfidation? An Exemplary Study Using an *In Operando* Sensor Device
Sensors, **15**, 27021-27034 (2015), doi: 10.3390/s151027021

M. Dietrich, C. Jahn, P. Lanzerath, R. Moos:
Microwave-Based Oxidation State and Soot Loading Determination on Gasoline Particulate Filters with Three-Way Catalyst Coating for Homogenously Operated Gasoline Engines
Sensors, **15**, 21971-21988 (2015), doi: 10.3390/s150921971

G. Beulertz, M. Votsmeier, R. Moos:
In operando Detection of Three-Way Catalyst Aging by a Microwave-Based Method: Initial Studies
*Applied Sciences, **5**, 174-186 (2015), doi: 10.3390/app5030174*

P. Fremerey, A. Jess, R. Moos:
Is it possible to detect in situ the sulfur loading of a fixed bed catalysts with a sensor?
Journal of Sensors and Sensor Systems, **4**, 143-149 (2015), doi: 10.5194/jsss-4-143-2015

R. Moos, G. Fischerauer:
Automotive Catalyst State Diagnosis Using Microwaves
Oil & Gas Science and Technology, **70**, 55-65 (2015), doi: 10.2516/ogst/2013203

G. Beulertz, M. Votsmeier, R. Moos:
Effect of propene, propane, and methane on conversion and oxidation state of three-way catalysts: A microwave cavity perturbation study
Applied Catalysis B: Environmental, **165**, 369-377 (2015), doi: 10.1016/j.apcatb.2014.09.068

D. Rauch, G. Albrecht, D. Kubinski, R. Moos:
A microwave-based method to monitor the ammonia loading of a vanadia-based SCR catalyst
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R. Moos:
Applications for Aerosol Deposition in the field of gas sensing
PACRIM 11, The 11th Pacific Rim Conference of Ceramic Societies, Jeju, Korea, 30.8.-4.9.2015, p. 396, WeD2-2

J. Exner, G. Albrecht, P. Fuierer, R. Moos:
NO_2 Detection by Pulsed Polarization of Doped Bismuth Vanadate films prepared by the Aerosol Deposition Method
7th International Conference on Electroceramics (ICE2015), State College, PA, USA, 13.5.-16.5.2015, p. 3-O-02

G. Hagen, K. Burger, S. Wiegärtner, D. Schönauer-Kamin, R. Moos:
A mixed potential based sensor that measures directly catalyst conversion - A novel approach for catalyst on-board diagnostics
Sensors and Actuators B: Chemical, **217**, 158-164 (2015), doi: 10.1016/j.snb.2014.10.004

S. Wiegärtner, G. Hagen, J. Kita, W. Reitmeier, M. Hien, P. Grass, R. Moos:
Thermoelectric hydrocarbon sensor in thick-film technology for on-board-diagnostics of a diesel oxidation catalyst
Sensors and Actuators B: Chemical, **214**, 234-240 (2015), doi: 10.1016/j.snb.2015.02.083

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Journal of Sensors and Sensor Systems, **4**, 143-149 (2015), doi: 10.5194/jsss-4-143-2015

G. Hagen, N. Leupold, S. Wiegärtner, H. Wittmann, R. Moos:
Temperature Modulated Thermoelectric Gas Sensors
Sensor 2015, Proceedings of the 17th International Conference on Sensors and Measurement Technology, 19.-21. May 2015, Nürnberg, p. 704 - 707
doi: 10.5162/sensor2015/E7.2

M. Bektas, D. Hanft, D. Schönauer-Kamin, T. Stöcker, G. Hagen, R. Moos:
Aerosol-deposited $BaFe_{0.7}Ta_{0.3}O_{3-\delta}$ for nitrogen monoxide and temperature-independent oxygen sensing
Journal of Sensors and Sensor Systems, **3**, 223-229 (2014), doi: 10.5194/jsss-3-223-2014

I. Marr, K. Neumann, M. Thelakkat, R. Moos:
Undoped and Doped Poly(tetraphenylbenzidine) as Sensitive Material for an Impedimetric Nitrogen Dioxide Gas Dosimeter
Applied Physics Letters, **105**, 133301 (2014), doi: 10.1063/1.4896847

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Influence of the V_2O_5 content of the catalyst layer of a non-Nernstian NH_3 sensor
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Gas Sensing of Ruthenium Implanted Tungsten Oxide Thin Films
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NO Detection by Pulsed Polarization of Lambda Probes - Influence of the Reference Atmosphere
Sensors, **13**, 16051-16064 (2013), doi: 10.3390/s131216051

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The Effect of SO_2 on the Sensitive Layer of a NO_x Dosimeter
Sensors and Actuators B: Chemical, **187**, 153-161 (2013), doi: 10.1016/j.snb.2012.10.039

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Preface to the special issue IMCS 2012, in Nuremberg, Germany
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N. Izu, G. Hagen, F. Schubert, D. Schönauer-Kamin, R. Moos:
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A. Groß, S.R. Bishop, D.J. Yang, H.L. Tuller, R. Moos:
The Electrical Properties of NO_x-storing Carbonates during NO_x exposure
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Dual Mode NO_x Sensor: Measuring Both the Accumulated Amount and Instantaneous Level at Low Concentrations
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In: M. Lehmann, M. Fleischer (eds.), Solid State Gas Sensors: Industrial Application, Springer, Berlin (2012), p. 173-188, ISBN 978-3-642-28092-4,
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U. Röder-Roith, F. Rettig, K. Sahner, T. Röder, J. Janek, R. Moos:
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Vanadia doped tungsten-titania SCR catalysts as functional materials for exhaust gas sensor applications
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Chemical sensors based on zeolites.
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