

## Year 2018

### Peer Reviewed Journals

Y. Zheng, U. Sauter, R. Moos:

Oxygen transport paths in screen-printed Pt-Al<sub>2</sub>O<sub>3</sub> composite model electrodes on YSZ

*Solid State Ionics*, **316**, 53-58 (2018), doi: [10.1016/j.ssi.2017.12.026](https://doi.org/10.1016/j.ssi.2017.12.026)

M. Bektas, T. Stöcker, G. Hagen, R. Moos:

On the defect chemistry of BaFe<sub>0.89</sub>Al<sub>0.01</sub>Ta<sub>0.1</sub>O<sub>3-δ</sub>, a material for temperature independent resistive and thermoelectric oxygen sensors

*Solid State Ionics*, **316**, 1-8 (2018), doi: [10.1016/j.ssi.2017.12.017](https://doi.org/10.1016/j.ssi.2017.12.017)

M. Schubert, C. Münch, S. Schuurman, V. Poulain, J. Kita, R. Moos:

Characterization of Nickel Manganite NTC thermistor films prepared by Aerosol Deposition at room temperature

*Journal of the European Ceramic Society*, **38**, 613-619 (2018), doi: [10.1016/j.jeurceramsoc.2017.09.005](https://doi.org/10.1016/j.jeurceramsoc.2017.09.005)

T. Ritter, G. Hagen, J. Lattus, R. Moos:

Solid state mixed potential sensors as direct conversion sensors for automotive catalysts

*Sensors and Actuators B: Chemical*, **255**, 3025-3032 (2018) doi: [10.1016/j.snb.2017.09.126](https://doi.org/10.1016/j.snb.2017.09.126)

## Year 2017

### Peer Reviewed Journals

M. Schubert, J. Kita, C. Münch, R. Moos:

Analysis of the characteristics of thick-film NTC thermistor devices manufactured by screen-printing and firing technique and by room temperature aerosol deposition method (ADM)

*Functional Materials Letters*, **10**, 1750073 (2017), doi: [10.1142/S1793604717500734](https://doi.org/10.1142/S1793604717500734)

T. Ritter, S. Wiegärtner, G. Hagen, R. Moos:

Simulation of a thermoelectric gas sensor that determines hydrocarbon concentrations in exhausts and the light-off temperature of catalyst materials

**open access - free** *Journal of Sensors and Sensor Systems*, **6**, 395-405 (2017), doi: [10.5194/jsss-6-395-2017](https://doi.org/10.5194/jsss-6-395-2017)

M. Dietrich, G. Hagen, W. Reitmeier, K. Burger, M. Hien, P. Grass, D. Kubinski, J. Visser, R. Moos:

Radio-Frequency-Controlled Urea Dosing for NH<sub>3</sub>-SCR Catalysts: NH<sub>3</sub> Storage Influence to Catalyst Performance under Transient Conditions

**open access - free** *Sensors*, **17**, 2746 (2017), doi: [10.3390/s17122746](https://doi.org/10.3390/s17122746)

A. Bogner, C. Steiner, S. Walter, J. Kita, G. Hagen, R. Moos:

Planar Microstrip Ring Resonators for Microwave-Based Gas Sensing: Design Aspects and Initial Transducers for Humidity and Ammonia Sensing

**open access - free** *Sensors*, **17**, 2422 (2017), doi: [10.3390/s17102422](https://doi.org/10.3390/s17102422)

M. Dietrich, C. Steiner, G. Hagen, R. Moos:

Radio-Frequency-Based Urea Dosing Control for Diesel Engines with Ammonia SCR Catalysts

*SAE International Journal of Engines*, **10**, 1638-1645 (2017), doi: [10.4271/2017-01-0945](https://doi.org/10.4271/2017-01-0945)

M. Daab, P. Loch, W. Milius, D. Schönauer-Kamin, M. Schubert, A. Wunder, R. Moos, F.E Wagner, J. Brey:

Single-Crystal Structure and Electronic Conductivity of Melt Synthesized Fe-rich, near End-Member Ferro-Kinoshitalite

*Zeitschrift für anorganische und allgemeine Chemie*, **643**, 1661-1667 (2017) doi: [10.1002/zaac.201700265](https://doi.org/10.1002/zaac.201700265)

M.-L. Anke, M. Hämmerle, J. Gerchau, R. Moos, A. Jess:

Radio Frequency-Based in situ Determination of the Mass Loss of Supported Ionic Liquids

*Chemical Engineering and Technology*, **40**, 1660-1665 (2017), doi: [10.1002/ceat.201700190](https://doi.org/10.1002/ceat.201700190)

M. Schubert, M. Hahn, J. Exner, J. Kita, R. Moos:

Effect of substrate hardness and surface roughness on the film formation of aerosol-deposited ceramic films

*Functional Materials Letters*, **10**, 1750045 (2017), doi: [10.1142/S179360471750045X](https://doi.org/10.1142/S179360471750045X)

J. Exner, G. Albrecht, D. Schönauer-Kamin, J. Kita, R. Moos:

Pulsed Polarization-Based NO<sub>x</sub> Sensors of YSZ Films Produced by the Aerosol Deposition Method and by Screen-Printing

**open access - free** *Sensors*, **17**, 1715 (2017), doi: [10.3390/s17081715](https://doi.org/10.3390/s17081715)

M. Dietrich, G. Hagen, W. Reitmeier, K. Burger, M. Hien, P. Grass, D. Kubinski, J. Visser, R. Moos:

Radio-Frequency-Based NH<sub>3</sub>-Selective Catalytic Reduction Catalyst Control: Studies on Temperature Dependency and Humidity Influences

**open access - free** *Sensors*, **17**, 1615 (2017), doi: [10.3390/s17071615](https://doi.org/10.3390/s17071615)

O. Isakin, R. Schneider, M. Ringl, O. Struck, T. Gerdes, M. Willert-Porada, R. Moos:

High-yield synthesis of ZnO nanoparticles homogeneously coated on exfoliated graphite and simplified method to determine the surface coverage

*Surface and Coatings Technology*, **325**, 445-453 (2017), doi: [10.1016/j.surfcoat.2017.07.002](https://doi.org/10.1016/j.surfcoat.2017.07.002)

D. Hanft, J. Exner, R. Moos:

Thick-films of garnet-type lithium ion conductor prepared by the Aerosol Deposition Method: The role of morphology and annealing treatment on the ionic conductivity

*Journal of Power Sources*, **361**, 61-69 (2017), doi: [10.1016/j.jpowsour.2017.06.061](https://doi.org/10.1016/j.jpowsour.2017.06.061)

T. Ritter, G. Hagen, J. Kita, S. Wiegärtner, F. Schubert, R. Moos:

Self-Heated HTCC-based Ceramic Disc for Mixed Potential Sensors and for Direct Conversion Sensors for Automotive Catalysts  
*Sensors and Actuators B: Chemical*, **248**, 793-802 (2017), doi: [10.1016/j.snb.2016.11.079](https://doi.org/10.1016/j.snb.2016.11.079)

I. Marr, R. Moos:

Resistive NO<sub>x</sub> dosimeter to detect very low NO<sub>x</sub> concentrations – Proof-of-principle and comparison with classical sensing devices  
*Sensors and Actuators B: Chemical*, **248**, 848-855 (2017), doi: [10.1016/j.snb.2016.12.112](https://doi.org/10.1016/j.snb.2016.12.112)

M. Schütt, M. Gallinger, R. Moos:

Particulate Filter Substrates with SCR-Functionality Manufactured by Co-extrusion of Ceramic Substrate and SCR Active Material  
*Topics in Catalysis*, **60**, 204-208 (2017), doi: [10.1007/s11244-016-0598-7](https://doi.org/10.1007/s11244-016-0598-7)

D. Rauch, M. Dietrich, T. Simons, U. Simon, A. Porch, R. Moos:

Microwave Cavity Perturbation Studies on H-form and Cu Ion-Exchanged SCR Catalyst Materials: Correlation of Ammonia Storage and Dielectric Properties  
*Topics in Catalysis*, **60**, 243-249 (2017), doi: [10.1007/s11244-016-0605-z](https://doi.org/10.1007/s11244-016-0605-z)

G. Hagen, N. Leupold, S. Wiegärtner, R. Moos:

Sensor Tool for Fast Catalyst Material Characterization  
*Topics in Catalysis*, **60**, 312-317 (2017), doi: [10.1007/s11244-016-0617-8](https://doi.org/10.1007/s11244-016-0617-8)

M. Feulner, F. Seufert, A. Müller, G. Hagen R. Moos:

Influencing Parameters on the Microwave-Based Soot Load Determination of Diesel Particulate Filters  
*Topics in Catalysis*, **60**, 374-380 (2017), doi: [10.1007/s11244-016-0626-7](https://doi.org/10.1007/s11244-016-0626-7)

S. Kauffmann-Weiss, W. Hässler, E. Guenther, J. Scheiter, S. Danneler, P. Glosse, T. Berthold, M. Oomen, T. Arndt, T. Stöcker, D. Hanft, R. Moos, M. Weiss, F. Weis, B. Holzapfel:

Superconducting properties of thick films on Hastelloy prepared by the Aerosol Deposition Method with ex-situ MgB<sub>2</sub> powder  
*IEEE Transactions on Applied Superconductivity*, **27**, 6200904 (2017), doi: [10.1109/TASC.2017.2669479](https://doi.org/10.1109/TASC.2017.2669479)

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  
**open access - free** *Sensors*, **17**, 400 (2017), doi: [10.3390/s17020400](https://doi.org/10.3390/s17020400)

A. Engelbrecht, M. Hämmerle, R. Moos, M. Fleischer, G. Schmid:

Improvement of the selectivity of the electrochemical conversion of CO<sub>2</sub> to hydrocarbons using cupreous electrodes with in-situ oxidation by oxygen  
*Electrochimica Acta*, **224**, 642-648 (2017), doi: [10.1016/j.electacta.2016.12.059](https://doi.org/10.1016/j.electacta.2016.12.059)

## Doctoral Theses

D. Rauch:

Mikrowellengestützte Untersuchung des NH<sub>3</sub>-Speicherverhaltens von SCR-Katalysatormaterialien  
(Microwave-based Characterization of the Ammonia Loading of SCR Catalysts Materials)

In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Sensorik und Messtechnik, Bd. 20, Shaker-Verlag, Aachen (2017), ISBN: [978-3-8440-5081-3](https://doi.org/978-3-8440-5081-3)

I. Marr:

Materialien für dosimeterartige Gassensoren zur Detektion im ppm- und Sub-ppm-Bereich  
(Materials for dosimeter-type gas sensors for ppm- and sub-ppm-detection)

In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Sensorik und Messtechnik, Bd. 19, Shaker-Verlag, Aachen (2017), ISBN: [978-3-8440-5022-6](https://doi.org/978-3-8440-5022-6)

G. Beulertz:

Anwendung der hochfrequenzgestützten Zustandsdiagnose für Dreiwegekatalysatoren  
(Application of the microwave-based state diagnosis for three way catalysts)

In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Sensorik und Messtechnik, Bd. 18, Shaker-Verlag, Aachen (2017), ISBN: [978-3-8440-4988-6](https://doi.org/978-3-8440-4988-6)

## Year 2016

### Peer Reviewed Journals

P. Chen, R. Moos, U. Simon:

Metal Loading Affects the Proton Transport Properties and the Reaction Monitoring Performance of Fe-ZSM-5 and Cu-ZSM-5 in NH<sub>3</sub>-SCR  
*Journal of Physical Chemistry C*, **120**, 25361-25370 (2016), doi: [10.1021/acs.jpcc.6b07353](https://doi.org/10.1021/acs.jpcc.6b07353)

F. Schubert, M. Gollner, J. Kita, F. Linseis, R. Moos:

Optimization of a sensor for a Tian-Calvet calorimeter with LTCC-based sensor discs  
**open access - free** *Journal of Sensors and Sensors Systems*, **5**, 381-388 (2016), doi: [10.5194/jsss-5-381-2016](https://doi.org/10.5194/jsss-5-381-2016)

P. Chen, M. Jabłońska, P. Weide, T. Caumanns, T. Weirich, M. Muhler, R. Moos, R. Palkovits, U. Simon:

Formation and Effect of  $\text{NH}_4^+$  Intermediates in  $\text{NH}_3$ -SCR over Fe-ZSM-5 Zeolite Catalysts  
*ACS Catalysis*, **6**, 7696-7700 (2016), doi: [10.1021/acscatal.6b02496](https://doi.org/10.1021/acscatal.6b02496)

G. Hagen, M. Feulner, R. Werner, M. Schubert, A. Müller, G. Rieß, D. Brüggemann, R. Moos:  
Capacitive soot sensor for diesel exhausts  
*Sensors and Actuators B: Chemical*, **236**, 1020-1027 (2016), doi: [10.1016/j.snb.2016.05.006](https://doi.org/10.1016/j.snb.2016.05.006)

P. Chen, J. Simböck, S. Schönebaum, D. Rauch, T. Simons, R. Palkovits, R. Moos, U. Simon:  
Monitoring  $\text{NH}_3$  storage and conversion in Cu-ZSM-5 and Cu-SAPO-34 catalysts for  $\text{NH}_3$ -SCR by simultaneous impedance and DRIFT spectroscopy  
*Sensors and Actuators B: Chemical*, **236**, 1075-1082 (2016), doi: [10.1016/j.snb.2016.05.164](https://doi.org/10.1016/j.snb.2016.05.164)

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](https://doi.org/10.1007/s11244-016-0575-1)

F. Panzer, S. Baderschneider, T. Gujar, T. Unger, S. Bagnich, H. Bässler, M. Jakoby, S. Hüttner, J. Köhler, R. Moos, M. Thelakkat, R. Hildner, A. Köhler:  
Reversible Laser Induced Amplified Spontaneous Emission from Coexisting Tetragonal and Orthorhombic Phases in Hybrid Lead Halide Perovskites  
*Advanced Optical Materials*, **4**, 917-928 (2016), doi: [10.1002/adom.201500765](https://doi.org/10.1002/adom.201500765)

F. Schubert, M. Gollner, J. Kita, F. Linseis, R. Moos:  
First steps to develop a sensor for a Tian-Calvet calorimeter with increased sensitivity  
**open access - free** *Journal of Sensors and Sensor Systems*, **5**, 205-212 (2016), doi: [10.5194/jsss-5-205-2016](https://doi.org/10.5194/jsss-5-205-2016)

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](https://doi.org/10.1149/2.1081608jes)

P. Chen, D. Rauch, P. Weide, S. Schönebaum, T. Simons, M. Muhler, R. Moos, U. Simon:  
The effect of Cu and Fe cations on  $\text{NH}_3$ -supported proton transport in  $\text{DeNO}_x$ -SCR zeolite catalysts  
*Catalysis Science & Technology*, **6**, 3362-3366 (2016), doi: [10.1039/C6CY00452K](https://doi.org/10.1039/C6CY00452K)

F. Panzer, D. Hanft, T.P. Gujar, F.-J. Kahle, M. Thelakkat, A. Köhler, R. Moos:  
Compact Layers of Hybrid Halide Perovskites Fabricated via the Aerosol Deposition Process – Uncoupling Material Synthesis and Layer Formation  
**open access - free** *Materials*, **9**, 277 (2016), doi: [10.3390/ma9040277](https://doi.org/10.3390/ma9040277)

T. Stöcker, J. Exner, M. Schubert, M. Streibl, R. Moos:  
Influence of Oxygen Partial Pressure during Processing on the Thermoelectric Properties of Aerosol-Deposited  $\text{CuFeO}_2$   
**open access - free** *Materials*, **9**, 227 (2016), doi: [10.3390/ma9040227](https://doi.org/10.3390/ma9040227)

J. Exner, M. Schubert, D. Hanft, T. Stöcker, P. Fuierer, R. Moos:  
Tuning of the electrical conductivity of  $\text{Sr}(\text{Ti},\text{Fe})\text{O}_3$  oxygen sensing films by aerosol co-deposition with  $\text{Al}_2\text{O}_3$   
*Sensors and Actuators B: Chemical*, **230**, 427-433 (2016), doi: [10.1016/j.snb.2016.02.033](https://doi.org/10.1016/j.snb.2016.02.033)

A. Brandenburg, E. Wappler, J. Kita, R. Moos:  
Miniaturized ceramic DSC device with strain gauge-based mass detection - First steps to realize a fully integrated DSC/TGA device  
*Sensors and Actuators A: Physical*, **241**, 145-151 (2016), doi: [10.1016/j.sna.2016.02.011](https://doi.org/10.1016/j.sna.2016.02.011)

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  
**open access - free** *Journal of Sensors and Sensor Systems*, **5**, 25-32 (2016), doi: [10.5194/jsss-5-25-2016](https://doi.org/10.5194/jsss-5-25-2016)

D. Ortolino, J. Kita, K. Beart, R. Wurm, S. Kleinewig, A. Pletsch, R. Moos:  
Failure of electrical vias manufactured in thick-film technology when loaded with short high current pulses  
*Microelectronics Reliability*, **56**, 121-128 (2016), doi: [10.1016/j.microrel.2015.10.011](https://doi.org/10.1016/j.microrel.2015.10.011)

I. Pricha, W. Rossner, R. Moos:  
Layered Ceramic Phosphors Based on  $\text{CaAlSiN}_3$ :Eu and YAG:Ce for White Light-Emitting Diodes  
*Journal of the American Ceramic Society*, **99**, 211-217 (2016), doi: [10.1111/jace.13948](https://doi.org/10.1111/jace.13948)

T. Simons, P. Chen, D. Rauch, R. Moos, U. Simon:  
Sensing catalytic conversion: Simultaneous DRIFT and impedance spectroscopy for *in situ* monitoring of  $\text{NH}_3$ -SCR on zeolites  
*Sensors and Actuators B: Chemical*, **224**, 492-499 (2016), doi: [10.1016/j.snb.2015.10.069](https://doi.org/10.1016/j.snb.2015.10.069)

#### Book contributions

P. Fuierer, K. Ring, J. Exner, R. Moos:  
BICU(TI)VOX as a Low/Intermediate Temperature SOFC Electrolyte: Another Look  
In: T. Pfeifer, J. Matyáš, P. Balaya, D. Singh, J. Wei (Eds.): *Ceramics for Energy Conversion, Storage, and Distribution Systems: Ceramic Transactions*, Volume 255, John Wiley & Sons, Inc., Hoboken, New Jersey, USA, (2016), p. 29-40, ISBN: 978-1-119-23448-7 (print), ISSN: 1042-1122, doi: [10.1002/9781119234531.ch3](https://doi.org/10.1002/9781119234531.ch3)

R. Moos:  
Mikrowellengestützte Systeme zur Zustandserkennung von Abgaskatalysatoren und Abgasfiltern im Überblick

In: T. Tille (Hrsg.), *Automobil-Sensorik - Ausgewählte Sensorprinzipien und deren automobile Anwendung*, Springer-Verlag, Heidelberg (2016), p. 115-132, ISBN 978-3-662-48943-7 (gedruckt), ISBN 978-3-662-48944-4 (online), doi: [10.1007/978-3-662-48944-4\\_6](https://doi.org/10.1007/978-3-662-48944-4_6)

#### Doctoral Theses

S. Fischer:

Neuartiges Sensorprinzip basierend auf einer Spannungs-Puls-Methode zur Detektion von Stickoxiden an Zirkondioxid  
(Novel zirconia sensor principle based on a voltage pulse method to detect nitrogen oxides)

In: R. Moos, G. Fischerauer (Hrsg.), *Bayreuther Beiträge zur Sensorik und Messtechnik*, Bd. 17, Shaker-Verlag, Aachen (2016), ISBN: [978-3-8440-4478-2](https://doi.org/978-3-8440-4478-2)

A. Groß:

Einfluss von NO<sub>x</sub> auf die elektrische Leitfähigkeit von NO<sub>x</sub>-Speichermaterialien und die Anwendung dieser Materialien für neuartige NO<sub>x</sub>-Dosimeter  
(The effect of NO<sub>x</sub> on the electrical conductivity of NO<sub>x</sub> storage materials and the application of these materials for novel NO<sub>x</sub> dosimeters)

In: R. Moos, G. Fischerauer (Hrsg.), *Bayreuther Beiträge zur Sensorik und Messtechnik*, Bd. 16, Shaker-Verlag, Aachen (2016), ISBN: [978-3-8440-4217-7](https://doi.org/978-3-8440-4217-7)

W. Missal:

Miniaturisiertes Dynamisches Differenzkalorimeter in Mehrlagenkeramiktechnologie  
(Miniaturized dynamic differential scanning calorimeter manufactured in low temperature co-fired ceramic multilayer technology)

In: R. Moos, G. Fischerauer (Hrsg.), *Bayreuther Beiträge zur Sensorik und Messtechnik*, Bd. 15, Shaker-Verlag, Aachen (2016), ISBN: [978-3-8440-4182-8](https://doi.org/978-3-8440-4182-8)

## Year 2015

#### Peer Reviewed Journals

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

**open access - free** *Journal of Sensors and Sensor Systems*, **4**, 321-329 (2015), doi: [10.5194/jsss-4-321-2015](https://doi.org/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

**open access - free** *Sensors*, **15**, 28915-28941 (2015), doi: [10.3390/s151128915](https://doi.org/10.3390/s151128915)

M. Feulner, G. Hagen, A. Müller, A. Schott, C. Zöllner, D. Brüggemann, R. Moos:

Conductometric Sensor for Soot Mass Flow Detection in Exhausts of Internal Combustion Engines

**open access - free** *Sensors*, **15**, 28796-28806 (2015), doi: [10.3390/s151128796](https://doi.org/10.3390/s151128796)

D. Hanft, J. Exner, M. Schubert, T. Stöcker, P. Fuierer, R. Moos:

An Overview of the Aerosol Deposition Method: Process Fundamentals and New Trends in Materials Applications

**open access - free** *Journal of Ceramic Science and Technology*, **6**, 147-182 (2015), doi: [10.4416/JCST2015-00018](https://doi.org/10.4416/JCST2015-00018)

M. Dietrich, D. Rauch, U. Simon, A. Porch, R. Moos:

Ammonia Storage Studies on H-ZSM-5 Zeolites by Microwave Cavity Perturbation: Correlation of Dielectric Properties with Ammonia Storage

**open access - free** *Journal of Sensors and Sensor Systems*, **4**, 263-269 (2015), doi: [10.5194/jsss-4-263-2015](https://doi.org/10.5194/jsss-4-263-2015)

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

**open access - free** *Sensors*, **15**, 27021-27034 (2015), doi: [10.3390/s151027021](https://doi.org/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

**open access - free** *Sensors*, **15**, 21971-21988 (2015), doi: [10.3390/s150921971](https://doi.org/10.3390/s150921971)

G. Beulertz, M. Votsmeier, R. Moos:

In operando Detection of Three-Way Catalyst Aging by a Microwave-Based Method: Initial Studies

**open access - free** *Applied Sciences*, **5**, 174-186 (2015), doi: [10.3390/app5030174](https://doi.org/10.3390/app5030174)

J. Exner, M. Hahn, M. Schubert, D. Hanft, P. Fuierer, R. Moos:

Powder requirements for aerosol deposition of alumina films

*Advanced Powder Technology*, **26**, 1143-1151 (2015), doi: [10.1016/j.apt.2015.05.016](https://doi.org/10.1016/j.apt.2015.05.016)

R. Moos:

Microwave-Based Catalyst State Diagnosis - State of the Art and Future Perspectives

*SAE International Journal of Engines*, **8**, 1240-1245 (2015) doi: [10.4271/2015-01-1042](https://doi.org/10.4271/2015-01-1042)

D. Rauch, D. Kubinski, G. Cavataio, D. Upadhyay, R. Moos:

Ammonia Loading Detection of Zeolite SCR Catalysts using a Radio Frequency based Method

*SAE International Journal of Engines*, **8**, 1126-1135 (2015), doi: [10.4271/2015-01-0986](https://doi.org/10.4271/2015-01-0986)

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](https://doi.org/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](https://doi.org/10.1016/j.snb.2015.02.083)

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

J. Kita, A. Engelbrecht, F. Schubert, A. Groß, F. Rettig, R. Moos:  
Some practical points to consider with respect to thermal conductivity and electrical resistivity of ceramic substrates for high-temperature gas sensors  
*Sensors and Actuators B: Chemical*, **213**, 541-546 (2015), doi: [10.1016/j.snb.2015.01.041](https://doi.org/10.1016/j.snb.2015.01.041)

I. Pricha, W. Rossner, R. Moos:  
Pressureless sintering of luminescent CaAlSiN<sub>3</sub>:Eu ceramics  
*Journal of Ceramic Science and Technology*, **6**, 63-68 (2015), doi: [10.4416/JCST2014-00047](https://doi.org/10.4416/JCST2014-00047)

J. Exner, P. Fuierer, R. Moos:  
Aerosol Codeposition of Ceramics: Mixtures of Bi<sub>2</sub>O<sub>3</sub>-TiO<sub>2</sub> and Bi<sub>2</sub>O<sub>3</sub>-V<sub>2</sub>O<sub>5</sub>  
*Journal of the American Ceramic Society*, **98**, 717-723 (2015), doi: [10.1111/jace.13364](https://doi.org/10.1111/jace.13364)

R. Moos, G. Fischerauer:  
Automotive Catalyst State Diagnosis Using Microwaves  
**open access - free** *Oil & Gas Science and Technology*, **70**, 55-65 (2015), doi: [10.2516/ogst/2013203](https://doi.org/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](https://doi.org/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  
*Applied Catalysis B: Environmental*, **165**, 36-42 (2015), doi: [10.1016/j.apcatb.2014.09.059](https://doi.org/10.1016/j.apcatb.2014.09.059)

#### Doctoral Theses

D. Ortolino:  
Hochstromdurchkontaktierungen für die Hybridtechnik  
(Electrical high load vias in hybrid thick-film technology)  
In: R. Moos u. G. Fischerauer (Hrsg.), Bayreuther Beiträge zu Materialien und Prozessen, Bd. 6, Shaker-Verlag, Aachen (2015), ISBN: [978-3-8440-4089-0](https://doi.org/978-3-8440-4089-0)

P. Fremerey:  
In-situ-Sensorik zur Bestimmung der Schwefel- und Koksbeladung auf Festbettkatalysatoren  
(In situ sensor to determine sulfur and coke loading on fixed bed catalyst)  
In: R. Moos u. G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Sensorik und Messtechnik, Bd. 14, Shaker-Verlag, Aachen (2015), ISBN: [978-3-8440-3473-8](https://doi.org/978-3-8440-3473-8)

Irene Pricha:  
Vollkeramische Leuchtstoffkomposite für weißemittierende Leuchtdioden  
(Ceramic Composite Phosphors for White Light Emitting Diodes)  
In: R. Moos u. G. Fischerauer (Hrsg.), Bayreuther Beiträge zu Materialien und Prozessen, Bd. 5, Shaker-Verlag, Aachen (2015), ISBN: [978-3-8440-3409-7](https://doi.org/978-3-8440-3409-7)

D. Schönauer-Kamin:  
Neuartiger Mischpotentialsensor zur Detektion von Ammoniak in Abgasen  
(Novel Mixed Potential Sensor for the Detection of Ammonia in Exhaust Gases)  
In: R. Moos u. G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Sensorik und Messtechnik, Bd. 13, Shaker-Verlag, Aachen (2015), ISBN: [978-3-8440-3346-5](https://doi.org/978-3-8440-3346-5)

## Year 2014

#### Peer Reviewed Journals

D. Ortolino, A. Engelbrecht, H. Lauterbach, M. Bräu, J. Kita, R. Moos:  
Effect of Repeated Firing on the Resistance of Screen-Printed Thick Film Conductors  
**open access - free** *Journal of Ceramic Science and Technology*, **5**, 317-326 (2014), doi: [10.4416/JCST2014-00029](https://doi.org/10.4416/JCST2014-00029)

J. Exner, P. Fuierer, R. Moos:  
Aerosol Deposition of (Cu,Ti) substituted Bismuth Vanadate Films  
*Thin Solid Films*, **573**, 185-190 (2014), doi: [10.1016/j.tsf.2014.11.037](https://doi.org/10.1016/j.tsf.2014.11.037)

S. Schödel, R. Moos, M. Votsmeier, G. Fischerauer:  
SI-Engine Control With Microwave-Assisted Direct Observation of Oxygen Storage Level in Three-Way Catalysts  
*IEEE Transactions on Control Systems Technology*, **22**, 2346-2353 (2014), doi: [10.1109/TCST.2014.2305576](https://doi.org/10.1109/TCST.2014.2305576)

M. Bektas, D. Hanft, D. Schönauer-Kamin, T. Stöcker, G. Hagen, R. Moos:

Aerosol-deposited  $\text{BaFe}_{0.7}\text{Ta}_{0.3}\text{O}_{3-\delta}$  for nitrogen monoxide and temperature-independent oxygen sensing  
**open access - free** *Journal of Sensors and Sensor Systems*, **3**, 223-229 (2014), doi: [10.5194/jsss-3-223-2014](https://doi.org/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](https://doi.org/10.1063/1.4896847)

M. Dietrich, D. Rauch, A. Porch, R. Moos:

A laboratory test setup for in situ measurements of the dielectric properties of catalyst powder samples under reaction conditions by microwave cavity perturbation: set up and initial tests  
**open access - free** *Sensors*, **14**, 16856-16868 (2014), doi: [10.3390/s140916856](https://doi.org/10.3390/s140916856)

M. Schubert, J. Exner, R. Moos:

Influence of carrier gas composition on the stress of  $\text{Al}_2\text{O}_3$  coatings prepared by the Aerosol Deposition Method  
**open access - free** *Materials*, **7**, 5633-5642 (2014), doi: [10.3390/ma7085633](https://doi.org/10.3390/ma7085633)

D. Rauch, D. Kubinski, U. Simon, R. Moos:

Detection of the ammonia loading of a Cu Chabazite SCR catalyst by a radio frequency-based method  
*Sensors and Actuators B: Chemical*, **205**, 88-93 (2014), doi: [10.1016/j.snb.2014.08.019](https://doi.org/10.1016/j.snb.2014.08.019)

D. Schönauer-Kamin, M. Fleischer, R. Moos:

Influence of the  $\text{V}_2\text{O}_5$  content of the catalyst layer of a non-Nernstian  $\text{NH}_3$  sensor  
*Solid State Ionics*, **262**, 270-273 (2014), doi: [10.1016/j.ssi.2013.08.035](https://doi.org/10.1016/j.ssi.2013.08.035)

S. Fischer, R. Pohle, E. Magori, M. Fleischer, R. Moos:

Detection of NO by Pulsed Polarization of Pt | YSZ  
*Solid State Ionics*, **262**, 288-291 (2014), doi: [10.1016/j.ssi.2014.01.022](https://doi.org/10.1016/j.ssi.2014.01.022)

D. Chen, A. Groß, D.C. Bono, J. Kita, R. Moos, H.L. Tuller:

Electrical conductivity relaxation measurements: Application of low thermal mass heater stick  
*Solid State Ionics*, **262**, 914-917 (2014), doi: [10.1016/j.ssi.2014.01.023](https://doi.org/10.1016/j.ssi.2014.01.023)

J.C. Brendel, M.M. Schmidt, G. Hagen, R. Moos, M. Thelakkat:

Controlled Synthesis of Water-Soluble Conjugated Polyelectrolytes Leading to Excellent Hole Transport Mobility  
*Chemistry of Materials*, **26**, 1992-1998 (2014), doi: [10.1021/cm500500t](https://doi.org/10.1021/cm500500t)

T. Tesfamichael, M. Ahsan, M. Notarianni, A. Groß, G. Hagen, R. Moos, M. Ionescu, J. Bell:

Gas Sensing of Ruthenium Implanted Tungsten Oxide Thin Films  
*Thin Solid Films*, **558**, 416-422 (2014), doi: [10.1016/j.tsf.2014.02.084](https://doi.org/10.1016/j.tsf.2014.02.084)

I. Marr, A. Groß, R. Moos:

Overview on Conductometric Solid-State Gas Dosimeters  
**open access - free** *Journal of Sensors and Sensor Systems*, **3**, 29-46 (2014), doi: [10.5194/jsss-3-29-2014](https://doi.org/10.5194/jsss-3-29-2014)

B. Plochmann, S. Lang, R. Rüger, R. Moos:

Optimization of thermoelectric properties of metal-oxide based polymer composites  
*Journal of Applied Polymer Science*, **131**, 40038 (2014), doi: [10.1002/app.40038](https://doi.org/10.1002/app.40038)

P. Fuierer, M. Maier, J. Exner, R. Moos:

Anisotropy and thermal stability of hot-forged BICUTIVOX oxygen ion conducting ceramics  
*Journal of the European Ceramic Society*, **34**, 943-951 (2014), doi: [10.1016/j.jeurceramsoc.2013.10.016](https://doi.org/10.1016/j.jeurceramsoc.2013.10.016)

M. Bektas, D. Schönauer-Kamin, G. Hagen, A. Mergner, C. Bojer, S. Lippert, W. Milius, J. Breu, R. Moos:

$\text{BaFe}_{1-x}\text{Ta}_x\text{O}_{3-\delta}$  - A material for temperature independent resistive oxygen sensors  
*Sensors and Actuators B: Chemical*, **190**, 208-213 (2014), doi: [10.1016/j.snb.2013.07.106](https://doi.org/10.1016/j.snb.2013.07.106)

#### Doctoral Theses

B. Plochmann:

Polymer-Oxid-Verbundwerkstoffe für neuartige thermoelektrische Generatoren mit großer Designfreiheit (Polymer-Oxide-Composites for Novel Thermoelectric Generators with a Large Degree of Design Freedom)  
In: R. Moos u. G. Fischerauer (Hrsg.), Bayreuther Beiträge zu Materialien und Prozessen, Bd. 4, Shaker-Verlag, Aachen (2014), ISBN: [978-3-8440-3033-4](https://doi.org/978-3-8440-3033-4)

P. Bartscherer:

Entwicklung einer elektrisch leitfähigen keramischen Funktionsschicht für Abgassensoren (Development of a Conductive Ceramic Functional Layer for Exhaust Gas Sensors)  
In: R. Moos u. G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Sensorik und Messtechnik, Bd. 11, Shaker-Verlag, Aachen (2014), ISBN: [978-3-8440-2912-3](https://doi.org/978-3-8440-2912-3)

#### Book contributions

F. Rettig, R. Moos:

Semiconducting direct thermoelectric gas sensors

In: R. Jaaniso, O.K. Tan (eds.), *Semiconductor gas sensors*, Woodhead Publishing Ltd., Cambridge, UK (2013), p. 261-296, ISBN 978-0-85709-236-6 (print), ISBN 978-0-85709-866-5 (online), doi: [10.1533/9780857098665.2.261](https://doi.org/10.1533/9780857098665.2.261)

## Year 2013

### Peer Reviewed Journals - Awards

**The Best Paper Award 2013:** Details: *Sensors*, **13**, 2113-2116 (2013), doi: [10.3390/s130202113](https://doi.org/10.3390/s130202113)

S. Achmann, G. Hagen, J. Kita, I.M. Malkowsky, C. Kiener, R. Moos:  
Metal-Organic Frameworks for Sensing Applications in the Gas Phase  
*Sensors*, **9**, 1574-1589 (2009)  
**open access - free** doi: [10.3390/s90301574](https://doi.org/10.3390/s90301574)

### Peer Reviewed Journals

S. Fischer, D. Schönauer-Kamin, R. Pohle, M. Fleischer, R. Moos:  
NO Detection by Pulsed Polarization of Lambda Probes - Influence of the Reference Atmosphere  
**open access - free** *Sensors*, **13**, 16051-16064 (2013), doi: [10.3390/s131216051](https://doi.org/10.3390/s131216051)

J. Kita, W. Missal, E. Wappler, F. Bechtold, R. Moos:  
Development of a Miniaturized Ceramic Differential Calorimeter Device in LTCC Technology  
*Journal of Ceramic Science and Technology*, **4**, 137-144 (2014), doi: [10.4416/JCST2013-00008](https://doi.org/10.4416/JCST2013-00008)

A. Brandenburg, J. Kita, A. Groß, R. Moos:  
Novel tube-type LTCC transducers with buried heaters and inner interdigitated electrodes as a platform for gas sensing at various high temperatures  
*Sensors and Actuators B: Chemical*, **189**, 80-88 (2013), doi: [10.1016/j.snb.2012.12.119](https://doi.org/10.1016/j.snb.2012.12.119)

N. Izu, G. Hagen, F. Schubert, D. Schönauer-Kamin, R. Moos:  
Effect of a porous Pt/alumina cover layer for V<sub>2</sub>O<sub>5</sub>/WO<sub>3</sub>/TiO<sub>2</sub> resistive SO<sub>2</sub> sensing materials  
**open access - free** *Journal of the Ceramic Society of Japan*, **121**, 734-737 (2013), doi: [10.2109/jcersj2.121.734](https://doi.org/10.2109/jcersj2.121.734)

P. Bartscherer, R. Moos:  
Improvement of the sensitivity of a conductometric soot sensor by adding a conductive cover layer  
**open access - free** *Journal of Sensors and Sensor Systems*, **2**, 95-102 (2013), doi: [10.5194/jsss-2-95-2013](https://doi.org/10.5194/jsss-2-95-2013)

D. Schönauer-Kamin, M. Fleischer, R. Moos:  
Half-cell potential analysis of an ammonia sensor with the electrochemical cell Au | YSZ | Au, VWT  
**open access - free** *Sensors*, **13**, 4760-4780 (2013), doi: [10.3390/s130404760](https://doi.org/10.3390/s130404760)

A. Groß, M. Kremling, I. Marr, D.J. Kubinski, J.H. Visser, H.L. Tuller, R. Moos:  
Dosimeter-type NO<sub>x</sub> sensing properties of KMnO<sub>4</sub> and its electrical conductivity during temperature programmed desorption  
**open access - free** *Sensors*, **13**, 4428-4449 (2013), doi: [10.3390/s130404428](https://doi.org/10.3390/s130404428)

D. Rauch, P. Fremerey, A. Jess, R. Moos:  
In situ detection of coke deposits on fixed-bed catalysts by a radio frequency-based method  
*Sensors and Actuators B: Chemical*, **181**, 681-689 (2013), doi: [10.1016/j.snb.2013.01.022](https://doi.org/10.1016/j.snb.2013.01.022)

R. Moos, G. Beulertz, S. Reiß, G. Hagen, G. Fischerauer, M. Votsmeier, J. Gieshoff:  
Overview: Status of the microwave-based automotive catalyst state diagnosis  
*Topics in Catalysis*, **56**, 358-364 (2013), doi: [10.1007/s11244-013-9980-x](https://doi.org/10.1007/s11244-013-9980-x)

M. Feulner, G. Hagen, A. Piontkowski, A. Müller, G. Fischerauer, D. Brüggemann, R. Moos:  
In-Operation Monitoring of the Soot Load of Diesel Particulate Filters - Initial Tests  
*Topics in Catalysis*, **56**, 483-488 (2013), doi: [10.1007/s11244-013-0002-9](https://doi.org/10.1007/s11244-013-0002-9)

G. Beulertz, M. Fritsch, G. Fischerauer, F. Herbst, J. Gieshoff, M. Votsmeier, G. Hagen, R. Moos:  
Microwave Cavity Perturbation as a Tool for Laboratory In Situ Measurement of the Oxidation State of Three Way Catalysts  
*Topics in Catalysis*, **56**, 405-409 (2013), [10.1007/s11244-013-9987-3](https://doi.org/10.1007/s11244-013-9987-3)

R. Moos:  
Preface to the special issue IMCS 2012, in Nuremberg, Germany  
*Sensors and Actuators B: Chemical*, **187**, 1 (2013), doi: [10.1016/j.snb.2013.03.027](https://doi.org/10.1016/j.snb.2013.03.027)

G. Hagen, J. Kita, N. Izu, U. Röder-Roith, D. Schönauer-Kamin, R. Moos:  
Planar platform for temperature dependent four-wire impedance spectroscopy – a novel tool for the characterization of functional materials  
*Sensors and Actuators B: Chemical*, **187**, 174-183 (2013), doi: [10.1016/j.snb.2012.10.068](https://doi.org/10.1016/j.snb.2012.10.068)

A. Groß, D. Hanft, G. Beulertz, I. Marr, D. Kubinski, J. Visser, R. Moos:  
The Effect of SO<sub>2</sub> on the Sensitive Layer of a NO<sub>x</sub> Dosimeter  
*Sensors and Actuators B: Chemical*, **187**, 153-161 (2013), doi: [10.1016/j.snb.2012.10.039](https://doi.org/10.1016/j.snb.2012.10.039)

M.Z. Ahmad, A.Z. Sadek, K. Latham, J. Kita, R. Moos, W. Wlodarski:  
Chemically synthesized one-dimensional zinc oxide nanorods for ethanol sensing  
*Sensors and Actuators B: Chemical*, **187**, 295-300 (2013), doi: [10.1016/j.snb.2012.11.042](https://doi.org/10.1016/j.snb.2012.11.042)

A. Groß, T. Weller, H.L. Tuller, R. Moos:  
Electrical Conductivity Study of NO<sub>x</sub> Trap Materials BaCO<sub>3</sub> and K<sub>2</sub>CO<sub>3</sub>/La-Al<sub>2</sub>O<sub>3</sub> during NO<sub>x</sub> Exposure  
*Sensors and Actuators B: Chemical*, **187**, 461-470 (2013), doi: [10.1016/j.snb.2013.01.083](https://doi.org/10.1016/j.snb.2013.01.083)

## Year 2012

### Peer Reviewed Journals

G. Beulertz, A. Groß, R. Moos, D.J. Kubinski, J.H. Visser:  
Determining the Total Amount of NO<sub>x</sub> in a Gas Stream - Advances in the Accumulating Gas Sensor Principle  
*Sensors and Actuators B: Chemical*, **175**, 157-162 (2012), doi: [10.1016/j.snb.2012.02.017](https://doi.org/10.1016/j.snb.2012.02.017)

A. Groß, S.R. Bishop, D.J. Yang, H.L. Tuller, R. Moos:  
The Electrical Properties of NO<sub>x</sub>-storing Carbonates during NO<sub>x</sub> exposure  
*Solid State Ionics*, **225**, 317-323 (2012), doi: [10.1016/j.ssi.2012.05.009](https://doi.org/10.1016/j.ssi.2012.05.009)

S. Fischer, R. Pohle, E. Magori, D. Schönauer-Kamin, M. Fleischer, R. Moos:  
Pulsed Polarization of Platinum Electrodes on YSZ  
*Solid State Ionics*, **225**, 371-375 (2012), doi: [10.1016/j.ssi.2012.03.020](https://doi.org/10.1016/j.ssi.2012.03.020)

C. Schlangen, M. Hämmerle, R. Moos:  
Amperometric enzyme electrodes for the determination of volatile alcohols in the headspace above fruit and vegetable juices  
*Microchimica Acta*, **179**, 115-121 (2012), doi: [10.1007/s00604-012-0867-5](https://doi.org/10.1007/s00604-012-0867-5)

A. Groß, M. Richter, D.J. Kubinski, J.H. Visser, R. Moos:  
The Effect of the Thickness of the Sensitive Layer on the Performance of the Accumulating NO<sub>x</sub> Sensor  
**open access - free** *Sensors*, **12**, 12329-12346 (2012), doi: [10.3390/s120912329](https://doi.org/10.3390/s120912329)

W. Missal, J. Kita, E. Wappler, F. Bechtold, R. Moos:  
Calorimetric Sensitivity and Thermal Resolution of a Novel Miniaturized Ceramic DSC Chip in LTCC Technology  
*Thermochimica Acta*, **543**, 142-149 (2012), doi: [10.1016/j.tca.2012.05.019](https://doi.org/10.1016/j.tca.2012.05.019)

S. Denneler, C. Schuh, K. Benkert, R. Moos:  
Influence of sintering conditions on doped PZT ceramics for base-metal electrode multilayer actuators  
*Functional Materials Letters*, **5**, 1250022 (2012), doi: [10.1142/S1793604712500221](https://doi.org/10.1142/S1793604712500221)

T. Stöcker, A. Köhler, R. Moos:  
Why does the electrical conductivity in PEDOT: PSS decrease with PSS content? A study combining thermoelectric measurements with impedance spectroscopy  
*Journal of Polymer Science Part B: Polymer Physics*, **50**, 976-983 (2012), doi: [10.1002/polb.23089](https://doi.org/10.1002/polb.23089)

A. Groß, G. Beulertz, I. Marr, D.J. Kubinski, J.H. Visser, R. Moos:  
Dual Mode NO<sub>x</sub> Sensor: Measuring Both the Accumulated Amount and Instantaneous Level at Low Concentrations  
**open access - free** *Sensors*, **12**, 2831-2850 (2012), doi: [10.3390/s120302831](https://doi.org/10.3390/s120302831)

### Doctoral Theses

U. Röder-Roith:  
Elektrochemische Entstickung von Abgasen und direkte thermoelektrische Gassensoren: Beispiele für neuartige Anwendungen von Feststoff-Ionenleitern (Electrochemical Removal of NO<sub>x</sub> from Exhausts and Direct Thermoelectric Gas Sensors: Examples for Novel Applications of Solid Ion Conductors)  
In: R. Moos u. G. Fischerauer (Hrsg.), Bayreuther Beiträge zu Materialien und Prozessen, Bd. 3, Shaker-Verlag, Aachen (2012), ISBN: [978-3-8440-1003-9](https://doi.org/978-3-8440-1003-9)

S. Reiß:  
Direkte Zustandssensorik von Automobilabgaskatalysatoren (Direct diagnosis of automotive exhaust gas catalysts)  
In: R. Moos u. G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Sensorik und Messtechnik, Bd. 9, Shaker-Verlag, Aachen (2012), ISBN: [978-3-8440-0841-8](https://doi.org/978-3-8440-0841-8)

S. Denneler:  
Piezoelektrische Vielschichtaktoren mit kupferbasierten Innenelektroden (Piezoelectric multilayer actuators with copper-based internal electrodes)  
In: R. Moos u. G. Fischerauer (Hrsg.), Bayreuther Beiträge zu Materialien und Prozessen, Bd. 2, Shaker-Verlag, Aachen (2012), ISBN: [978-3-8440-0747-3](https://doi.org/978-3-8440-0747-3)  
doi: [10.2370/9783844007473](https://doi.org/10.2370/9783844007473)

### Open Access Conference Contributions

J. Kita, A. Brandenburg, A. Groß, R. Moos:  
Novel tube-type LTCC transducers with buried heaters and inner electrodes for high-temperatures gas sensors



Eurosensors XXVI, September 9 - 12, 2012, Cracow, Poland, *Procedia Engineering*, **47**, 60-63 (2012), doi: [10.1016/j.proeng.2012.09.084](https://doi.org/10.1016/j.proeng.2012.09.084)  
**open access - free** doi: [10.1016/j.proeng.2012.09.084](https://doi.org/10.1016/j.proeng.2012.09.084)

## Year 2011

### Peer Reviewed Journals

W. Missal, J. Kita, E. Wappler, F. Gora, A. Kipka, T. Bartnitzek, F. Bechtold, D. Schabbel, B. Pawlowski, R. Moos:  
Miniaturized Ceramic Differential Scanning Calorimeter with Integrated Oven and Crucible in LTCC Technology  
*Sensors and Actuators A: Physical*, **172**, 21-26 (2011), doi: [10.1016/j.sna.2011.01.025](https://doi.org/10.1016/j.sna.2011.01.025)

N. Izu, G. Hagen, D. Schönauer, U. Röder-Roith, R. Moos:  
Planar potentiometric SO<sub>2</sub> gas sensor for high temperatures using NASICON electrolyte combined with V<sub>2</sub>O<sub>5</sub>/WO<sub>3</sub>/TiO<sub>2</sub> + Au or Pt electrode  
**free** *Journal of the Ceramic Society of Japan*, **119**, 687-691 (2011), doi: [10.2109/jcersj2.119.687](https://doi.org/10.2109/jcersj2.119.687)

P. Fremerey, S. Reiß, A. Geupel, G. Fischerauer, R. Moos:  
Determination of the NO<sub>x</sub> Loading of an Automotive Lean NO<sub>x</sub> Trap by Directly Monitoring the Electrical Properties of the Catalyst Material Itself  
**open access - free** *Sensors*, **11**, 8261-8280 (2011), doi: [10.3390/s110908261](https://doi.org/10.3390/s110908261)

N. Müller, S. Reiß, P. Fremerey, A. Jess, R. Moos:  
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*Chemical Engineering and Processing*, **50**, 729-731 (2011), doi: [10.1016/j.cep.2011.07.002](https://doi.org/10.1016/j.cep.2011.07.002)

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(\*) Work was conducted (mostly between 1995 and 2001) at DaimlerChrysler AG, Research and Technology, Friedrichshafen, Germany

(\*\*) Work was conducted between 1990 and 1995 at Institut für Technologie der Elektrotechnik (head Prof. K.H. Härdtl; now Institut für Werkstoffe der Elektrotechnik, head Prof. Ellen Ivers-Tiffée), Universität Karlsruhe (TH), Germany