

## Year 2019

### Peer Reviewed Journals

J. Exner, M. Schubert, D. Hanft, J. Kita, R. Moos:  
How to treat powders for the room temperature aerosol deposition method to avoid porous, low strength ceramic films  
*Journal of the European Ceramic Society*, **39**, 592-600 (2019), doi: [10.1016/j.jeurceramsoc.2018.08.008](https://doi.org/10.1016/j.jeurceramsoc.2018.08.008)

## Year 2018

### Peer Reviewed Journals

M. Schubert, C. Münch, S. Schuurman, V. Poulain, J. Kita, R. Moos:  
Thermal Treatment of Aerosol Deposited NiMn<sub>2</sub>O<sub>4</sub> NTC Thermistors for Improved Aging Stability  
**open access - free** *Sensors*, **18**, 3982 (2018), doi: [10.3390/s18113982](https://doi.org/10.3390/s18113982)

J. Exner, H. Pöpke, F.-M. Fuchs, J. Kita, R. Moos:  
Annealing of Gadolinium-Doped Ceria (GDC) Films Produced by the Aerosol Deposition Method  
**open access - free** *Materials*, **11**, 2072 (2018), doi: [10.3390/ma11112072](https://doi.org/10.3390/ma11112072)

G. Hagen, C. Spannbaauer, M. Feulner, J. Kita, A. Müller, R. Moos:  
Conductometric Soot Sensors: Internally Caused Thermophoresis as an Important Undesired Side Effect  
**open access - free** *Sensors*, **18**, 3531 (2018), doi: [10.3390/s18103531](https://doi.org/10.3390/s18103531)

J. Zimmermann-Ptacek, M. Muggli, S. Wildhack, K. Hintzer, T. Gerdes, M. Willert-Porada, R. Moos:  
Thermal, dielectric, and mechanical properties of h-BN-filled PTFE composites  
*Journal of Applied Polymer Science*, **135**, 46859 (2018), doi: [10.1002/APP.46859](https://doi.org/10.1002/APP.46859)

S. Bresch, B. Mieller, F. Delorme, C. Chen, M. Bektas, R. Moos, T. Rabe:  
Influence of Reaction-Sintering and Calcination Conditions on Thermoelectric Properties of Sm-doped Calcium Manganate CaMnO<sub>3</sub>  
**open access - free** *Journal of Ceramic Science and Technology*, **9**, 289-300 (2018), doi: [10.4416/JCST2018-00017](https://doi.org/10.4416/JCST2018-00017)

T. Stöcker, R. Moos:  
Effect of Oxygen Partial Pressure on the Phase Stability of Copper-Iron Delafossites at Elevated Temperatures  
**open access - free** *Materials*, **11**, 1888 (2018), doi: [10.3390/ma11101888](https://doi.org/10.3390/ma11101888)

A. Engelbrecht, C. Uhlig, O. Stark, M. Hämmerle, G. Schmid, E. Magori, K. Wiesner-Fleischer, M. Fleischer, R. Moos:  
On the Electrochemical CO<sub>2</sub> Reduction at Copper Sheet Electrodes with Enhanced Long-Term Stability by Pulsed Electrolysis  
**open access - free** *Journal of the Electrochemical Society*, **165**, J3059-J3068 (2018), doi: [10.1149/2.0091815jes](https://doi.org/10.1149/2.0091815jes)

L. Vogel, R. Wagner, R. Moos, D. Schönauer-Kamin:  
Investigations on the crystal growth mechanism of one-pot-synthesized Al-doped ZnO and its UV-enhanced room temperature NO<sub>2</sub> gas sensing characteristics  
*Functional Materials Letters*, **11**, 1850087 (2018), doi: [10.1142/S179360471850087X](https://doi.org/10.1142/S179360471850087X)

D. Hanft, P. Glosse, S. Denneler, T. Berthold, M. Oomen, S. Kauffmann-Weiss, F. Weis, W. Häßler, B. Holzapfel, R. Moos:  
The Aerosol Deposition Method: A Modified Aerosol Generation Unit to Improve Coating Quality  
**open access - free** *Materials*, **11**, 1572 (2018), doi: [10.3390/ma11091572](https://doi.org/10.3390/ma11091572)

D. Hanft, M. Bektas, R. Moos:  
Powder pre-treatment for aerosol deposition of tin dioxide coatings for gas sensors  
**open access - free** *Materials*, **11**, 1342 (2018), doi: [10.3390/ma11081342](https://doi.org/10.3390/ma11081342)

M.-L. Anke, M. Hämmerle, A. Jess, R. Moos:  
Radio frequency- and impedance-based sensing of ionic liquids supported on porous carriers and their limitations  
*Sensors and Actuators B: Chemical*, **273**, 1564-1571 (2018), doi: [10.1016/j.snb.2018.07.036](https://doi.org/10.1016/j.snb.2018.07.036)

S. Bresch, B. Mieller, C. Selleng, T. Stöcker, R. Moos, T. Rabe:  
Influence of the calcination procedure on the thermoelectric properties of calcium cobaltite Ca<sub>3</sub>Co<sub>4</sub>O<sub>9</sub>  
*Journal of Electroceramics*, **40**, 225-234 (2018), doi: [10.1007/s10832-018-0124-3](https://doi.org/10.1007/s10832-018-0124-3)

M. Schubert, N. Leupold, J. Exner, J. Kita, R. Moos:  
High-Temperature Electrical Insulation Behavior of Alumina Films Prepared at Room Temperature by Aerosol Deposition and Influence of Annealing Process and Powder Impurities  
*Journal of Thermal Spray Technology*, **27**, 870-879 (2018), doi: [10.1007/s11666-018-0719-x](https://doi.org/10.1007/s11666-018-0719-x)

O. Isakin, S. Hiltl, O. Struck, M. Willert-Porada, R. Moos:  
High-Yield Preparation of ZnO Nanoparticles on Exfoliated Graphite as Anode Material for Lithium Ion Batteries and the Effect of Particle Size as well as of Conductivity on the Electrochemical Performance of Such Composites  
**open access - free** *Batteries*, **4**, 24 (2018), doi: [10.3390/batteries4020024](https://doi.org/10.3390/batteries4020024)

N. Leupold, M. Schubert, J. Kita, R. Moos:

Influence of high temperature annealing on the dielectric properties of alumina films prepared by the aerosol deposition method  
*Functional Materials Letters*, **11**, 1850022 (2018), doi: [10.1142/S1793604718500224](https://doi.org/10.1142/S1793604718500224)

J. Metzner, K. Luckert, K. Lemuth, M. Hämmerle, R. Moos:  
Towards an Electrochemical Immunosensor System with Temperature Control for Cytokine Detection  
**open access - free** *Sensors*, **18**, 1309 (2018), doi: [10.3390/s18051309](https://doi.org/10.3390/s18051309)

U. Schadeck, K. Kyrgyzbaev, H. Zettl, T. Gerdes, R. Moos:  
Flexible, Heat-Resistant, and Flame-Retardant Glass Fiber Nonwoven/Glass Platelet Composite Separator for Lithium-Ion Batteries  
**open access - free** *Energies*, **11**, 999 (2018), doi: [10.3390/en11040999](https://doi.org/10.3390/en11040999)

M. Bektas, T. Stöcker, A. Mergner, G. Hagen, R. Moos:  
Combined resistive and thermoelectric oxygen sensor with almost temperature-independent characteristics  
**open access - free** *Journal of Sensors and Sensor Systems*, **7**, 289-297 (2018), doi: [10.5194/jsss-7-289-2018](https://doi.org/10.5194/jsss-7-289-2018)

S.A. Müller, D. Degler, C. Feldmann, M. Türk, R. Moos, K. Fink, F. Studt, D. Gerthsen, N. Bârsan, J.-D. Grunwaldt:  
Exploiting Synergies in Catalysis and Gas Sensing using Noble Metal-Loaded Oxide Composites  
*ChemCatChem*, **10**, 864-880 (2018), doi: [10.1002/cctc.201701545](https://doi.org/10.1002/cctc.201701545)

T. Michlik, M. Schmid, A. Rosin, T. Gerdes, R. Moos:  
Mechanical Coating of Zinc Particles with Bi<sub>2</sub>O<sub>3</sub>-Li<sub>2</sub>O-ZnO Glasses as Anode Material for Rechargeable Zinc-Based Batteries  
**open access - free** *Batteries*, **4**, 12 (2018), doi: [10.3390/batteries4010012](https://doi.org/10.3390/batteries4010012)

G. Hagen, A. Harsch, R. Moos:  
A pathway to eliminate the gas flow dependency of a hydrocarbon sensor for automotive exhaust applications  
**open access - free** *Journal of Sensors and Sensor Systems*, **7**, 79-84 (2018), doi: [10.5194/jsss-7-79-2018](https://doi.org/10.5194/jsss-7-79-2018)

O. Isakin, S. Hiltl, R. Schneider, J. Bleisteiner, O. Struck, K. Schindler, M. Willert-Porada, R. Moos:  
Ultrasound-assisted one-pot syntheses of ZnO nanoparticles that are homogeneously adsorbed on exfoliated graphite and a simplified method to determine the graphite layer thickness in such composites  
*Journal of Materials Science*, **53**, 6586-6601 (2018), doi: [10.1007/s10853-018-2023-z](https://doi.org/10.1007/s10853-018-2023-z)

U. Schadeck, K. Kyrgyzbaev, T. Gerdes, M. Willert-Porada, R. Moos:  
Porous and non-porous micrometer-sized glass platelets as separators for lithium-ion batteries  
*Journal of Membrane Science*, **550**, 518-525 (2018), doi: [10.1016/j.memsci.2017.10.061](https://doi.org/10.1016/j.memsci.2017.10.061)

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)

#### Doctoral Theses

O. Isakin  
ZnO-Graphit-Komposite als Anodenmaterialien für Lithium-Ionen-Batterien  
(ZnO graphite composites as anode materials for lithium ion batteries)  
In: R. Moos u. G. Fischerauer (Hrsg.), Bayreuther Beiträge zu Materialien und Prozessen, Bd. 7, Shaker-Verlag, Aachen (2018), ISBN: [978-3-8440-6279-3](https://doi.org/978-3-8440-6279-3), doi: [10.2370/9783844062793](https://doi.org/10.2370/9783844062793)

F. Schubert:  
Tian-Calvet-Kalorimeter mit Wärmestromsensoren in keramischer Mehrlagentechnik  
(Tian-Calvet calorimeter with heat flow sensors in ceramic multilayer technology)  
In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Sensorik und Messtechnik, Bd. 24, Shaker-Verlag, Aachen (2018), ISBN: [978-3-8440-6127-7](https://doi.org/978-3-8440-6127-7)

M. Dietrich:  
Anwendung der hochfrequenzgestützten Zustandsdiagnose zur Überwachung und Regelung von SCR-Katalysatoren  
(Application of radio frequency-based techniques for monitoring and control of SCR catalysts)  
In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Sensorik und Messtechnik, Bd. 23, Shaker-Verlag, Aachen (2018), ISBN: [978-3-8440-5782-9](https://doi.org/978-3-8440-5782-9)

#### 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. Breu:  
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. Dennerle, 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 NH<sub>4</sub><sup>+</sup> Intermediates in NH<sub>3</sub>-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 NH<sub>3</sub> storage and conversion in Cu-ZSM-5 and Cu-SAPO-34 catalysts for NH<sub>3</sub>-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 Sensors 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 NH<sub>3</sub>-supported proton transport in DeNO<sub>x</sub>-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 CuFeO<sub>2</sub>  
**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 Sr(Ti,Fe)O<sub>3</sub> oxygen sensing films by aerosol co-deposition with Al<sub>2</sub>O<sub>3</sub>  
*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 CaAlSiN<sub>3</sub>: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 NH<sub>3</sub>-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(Tl)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 automobiler 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 Homogeneously 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://www.isbn-international.org/product/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://www.isbn-international.org/product/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://www.isbn-international.org/product/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://www.isbn-international.org/product/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 BaFe<sub>0.7</sub>Ta<sub>0.3</sub>O<sub>3-δ</sub> 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 Al<sub>2</sub>O<sub>3</sub> 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 V<sub>2</sub>O<sub>5</sub> content of the catalyst layer of a non-Nernstian NH<sub>3</sub> 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:

BaFe<sub>1-x</sub>Ta<sub>x</sub>O<sub>3-δ</sub> - 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  $V_2O_5/WO_3/TiO_2$  resistive  $SO_2$  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  $NO_x$  sensing properties of  $KMnO_4$  and its electrical conductivity during temperature programmed desorption  
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Direkte Bestimmung von Koksdepositen auf Festbettkatalysatoren durch elektrische Sensoren  
(Direct determination of coke deposits on fixed bed catalysts by electrical sensors)

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T. Richter:

Piezoelektrische Einkristalle und texturierte Piezokeramik im System Pb(Mg<sub>1/3</sub>Nb<sub>2/3</sub>)O<sub>3</sub>-PbTiO<sub>3</sub>-PbZrO<sub>3</sub>

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Neuartiger Sensor zur Bestimmung des Zustandes eines NO<sub>x</sub>-Speicher-katalysators (Novel sensor for determining the state of a NO<sub>x</sub> storage catalyst)  
In: R. Moos u. G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Sensorik und Messtechnik, Bd. 2, Shaker-Verlag, Aachen (2007)  
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Effect of electrodes and zeolite cover layer on hydrocarbon sensing with p-type perovskite SrTi<sub>0.8</sub>Fe<sub>0.2</sub>O<sub>3-δ</sub> thick and thin films  
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Magnetization in insulating phases of Ti<sup>4+</sup> doped SrFeO<sub>3-δ</sub>  
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Selective Ammonia Exhaust Gas Sensor for Automotive Applications.  
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A new potentiometric NO sensor based on a NO<sup>+</sup> cation conducting ceramic membrane.  
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