

Year 2018

Peer Reviewed Journals

- A. Engelbrecht, C. Uhlig, O. Stark, M. Hämmerle, G. Schmid, E. Magori, K. Wiesner-Fleischer, M. Fleischer, R. Moos:
On the Electrochemical CO₂ 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 NO₂ gas sensing characteristics
Functional Materials Letters, **11**, 1850087 (2018), doi: [10.1142/S179360471850087X](https://doi.org/10.1142/S179360471850087X)
- D. Hanft, P. Glosse, S. Denneker, 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 Ca₃Co₄O₉
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 Bi₂O₃-Li₂O-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-Al₂O₃ 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_{0.89}Al_{0.01}Ta_{0.1}O_{3-δ}, 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

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://www.isbn-international.org/product/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://www.isbn-international.org/product/978-3-8440-5782-9)

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 NH₃-SCR Catalysts: NH₃ 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_x 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 NH₃-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_x dosimeter to detect very low NO_x 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. Denneker, 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 MgB₂ 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 CO₂ 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 NH₃-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 NH₃-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 NH₄⁺ Intermediates in NH₃-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 NH₃ storage and conversion in Cu-ZSM-5 and Cu-SAPO-34 catalysts for NH₃-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 NH₃-supported proton transport in 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 CuFeO₂
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)O₃ oxygen sensing films by aerosol co-deposition with Al₂O₃
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 CaAlSiN₃: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 NH₃-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 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/10.1007/978-3-8440-4478-2)

A. Groß:

Einfluss von NO_x auf die elektrische Leitfähigkeit von NO_x-Speichermaterialien und die Anwendung dieser Materialien für neuartige NO_x-Dosimeter (The effect of NO_x on the electrical conductivity of NO_x storage materials and the application of these materials for novel NO_x 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/10.1007/978-3-8440-4217-7)

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/10.1007/978-3-8440-4182-8)

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Influence of operation temperature variations on NO measurements in low concentrations when applying the pulsed polarization technique to thimble-type lambda probes

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Correlating the Integral Sensing Properties of Zeolites with Molecular Processes by Combining Broadband Impedance and DRIFT Spectroscopy—A New Approach for Bridging the Scales

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

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

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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)

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Why does the Conductivity of a Nickel Catalyst Increase during Sulfidation? An Exemplary Study Using an *In Operando* Sensor Device

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Microwave-Based Oxidation State and Soot Loading Determination on Gasoline Particulate Filters with Three-Way Catalyst Coating for Homogenously Operated Gasoline Engines

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

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A mixed potential based sensor that measures directly catalyst conversion - A novel approach for catalyst on-board diagnostics
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Thermoelectric hydrocarbon sensor in thick-film technology for on-board-diagnostics of a diesel oxidation catalyst
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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)

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In-situ-Sensorik zur Bestimmung der Schwefel- und Koksbeladung auf Festbettkatalysatoren
(In situ sensor to determine sulfur and coke loading on fixed bed catalyst)
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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)

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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)

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Effect of Repeated Firing on the Resistance of Screen-Printed Thick Film Conductors

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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)

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Aerosol-deposited BaFe_{0.7}Ta_{0.3}O_{3-δ} for nitrogen monoxide and temperature-independent oxygen sensing

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Undoped and Doped Poly(tetraphenylbenzidine) as Sensitive Material for an Impedimetric Nitrogen Dioxide Gas Dosimeter

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Detection of the ammonia loading of a Cu Chabazite SCR catalyst by a radio frequency-based method

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Influence of the V₂O₅ content of the catalyst layer of a non-Nernstian NH₃ 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)

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Detection of NO by Pulsed Polarization of Pt | YSZ

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Electrical conductivity relaxation measurements: Application of low thermal mass heater stick

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Controlled Synthesis of Water-Soluble Conjugated Polyelectrolytes Leading to Excellent Hole Transport Mobility

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Gas Sensing of Ruthenium Implanted Tungsten Oxide Thin Films

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Overview on Conductometric Solid-State Gas Dosimeters

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Optimization of thermoelectric properties of metal-oxide based polymer composites

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Anisotropy and thermal stability of hot-forged BICUTIVOX oxygen ion conducting ceramics

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BaFe_{1-x}Ta_xO_{3-δ} - A material for temperature independent resistive oxygen sensors

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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](#)

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](#)

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Effect of a porous Pt/alumina cover layer for V₂O₅/WO₃/TiO₂ resistive SO₂ sensing materials

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In-Operation Monitoring of the Soot Load of Diesel Particulate Filters - Initial Tests

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Amperometric enzyme electrodes for the determination of volatile alcohols in the headspace above fruit and vegetable juices
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