

Year 2026

In Press

Peer Reviewed Journals

N. Donker, J. Zosel, R. Moos, D. Schönauer-Kamin:

Periodically Pulsed Polarization Gas Sensors Based on Au|YSZ: Mechanism of NO_x Detection

open access - free *Sensors*, **26**, 2280 (2026), doi: [10.3390/s26072280](https://doi.org/10.3390/s26072280)

L. Hennerici, D. Bröse, M. Schamel, S. Lang, P. Ficht, D. Kramer, R. Mönig, M.A. Danzer, R. Moos:

Progress in the Cycling Performance of Oxidic Solid-State Batteries Fabricated at Room Temperature by Powder Aerosol Deposition

open access - free *Journal of The Electrochemical Society*, **173**, 040517 (2026), doi: [10.1149/1945-7111/ae4543](https://doi.org/10.1149/1945-7111/ae4543)

M. Sozak, S. Knies, M. Bianchini, R. Moos:

Room Temperature Fabrication of Binder-Free Na₃V₂(PO₄)₃/C High-Loading Electrode Films via the Powder Aerosol Deposition Method

open access - free *Batteries & Supercaps*, **9**, e202500902 (2026), doi: [10.1002/batt.202500902](https://doi.org/10.1002/batt.202500902)

D. Paulus, M. Linz, A.L. Hansen, S. van Smaalen, R. Moos, A.S. Ulrich, D. Schönauer-Kamin:

Structure matters: A synchrotron study reveals how crystallite structure influences the deposition mechanism for the powder aerosol deposition method

open access - free *Journal of The European Ceramic Society*, **46**, 118127 (2026), doi: [10.1016/j.jeurceramsoc.2026.118127](https://doi.org/10.1016/j.jeurceramsoc.2026.118127)

Doctoral Theses

M. Linz:

Die Pulveraerosol-Deposition kleinster Pulvermengen: Weiterentwicklungen, Mechanismus und Anwendungen

(Powder aerosol deposition of very small powder quantities: further developments, mechanism, and applications)

Dissertation Universität Bayreuth, Fakultät für Ingenieurwissenschaften, 2026

open access - free version available at doi: [10.15495/EPub_UBT_00008799](https://doi.org/10.15495/EPub_UBT_00008799)

Year 2025

Peer Reviewed Journals

A. Groß, D. Paulus, T. Scholz, R. Moos, D. Schönauer-Kamin:

Room temperature preparation of Ti₂AlC MAX-phase films using the powder aerosol deposition method

open access - free *Ceramics International*, **51**, 59777-59788 (2025), doi: [10.1016/j.ceramint.2025.10.205](https://doi.org/10.1016/j.ceramint.2025.10.205)

S. Lang, L. Hennerici, D. Kramer, D. Avadani, S. Mück, M. Linz, J. Kita, R. Moos, R. Mönig:

Formation, Growth, and Shrinkage of Voids in Lithium Metal in Contact With an LLZO Electrolyte

open access - free *ACS Applied Materials & Interfaces*, **17**, 56980-56990 (2025), doi: [10.1021/acsami.5c09594](https://doi.org/10.1021/acsami.5c09594)

T. Wöhrl, M. König, R. Moos, G. Hagen:

Monitoring of Ammonia in Biomass Combustion Flue Gas Using a Zeolite-Based Capacitive Sensor

open access - free *Sensors*, **25**, 5519 (2025), doi: [10.3390/s25175519](https://doi.org/10.3390/s25175519)

T. Wöhrl, R. Moos, G. Hagen:

Analyzing the cross-sensitivities of a zeolite-based ammonia sensor for SCR systems for application in the flue gas of biogenic waste combustion

open access - free *Sensors and Actuators B: Chemical*, **436**, 137727 (2025), doi: [10.1016/j.snb.2025.137727](https://doi.org/10.1016/j.snb.2025.137727)

J. Günther, D. Wycisk, R. Siva Dev, A. Fill, K.P. Birke, R. Moos, J.P. Schmidt, M. Oldenburger:

Determination of the Solid State Diffusion Coefficient of Li-ion Battery Single-Phase Materials Using Thin Model Electrodes

Journal of The Electrochemical Society, **172**, 030525 (2025), doi: [10.1149/1945-7111/adbfc5](https://doi.org/10.1149/1945-7111/adbfc5)

L. Hennerici, P. Ficht, M. Schamel, U. Mansfeld, M. Linz, D. Paulus, J. Kita, M.A. Danzer, R. Moos:

Lithium All-Solid-State Batteries Fabricated at Room Temperature by the Powder Aerosol Deposition Method with Garnet-Type Electrolyte and Graded Composite Cathode

open access - free *Advanced Materials Technologies*, **10**, 2400745 (2025), doi: [10.1002/admt.202400745](https://doi.org/10.1002/admt.202400745)

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

Sulfur poisoning of powder aerosol deposited films of BaFe_{0.74}Al_{0.01}Ta_{0.25}O_{3-δ}: A material for resistive temperature independent oxygen sensors

open access - free *Sensors and Actuators B: Chemical*, **425**, 136984 (2025), doi: [10.1016/j.snb.2024.136984](https://doi.org/10.1016/j.snb.2024.136984)

Doctoral Theses

C. Steiner:

Mikrowellengestützte Analyse der Defektchemie von Cer-Zirkonium-Mischoxiden

(Microwave-based analysis of the defect chemistry of cerium-zirconium mixed oxides)

In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zu Materialien und Prozessen, Bd. 23, Shaker-Verlag, Düren (2025), ISBN [978-3-8440-9771-9](https://doi.org/10.15495/EPub_UBT_00008417)

open access - free version available at doi: [10.15495/EPub_UBT_00008417](https://doi.org/10.15495/EPub_UBT_00008417)

Year 2024

Peer Reviewed Journals

- T. Thathsara, C.J. Harrison, D. Schönauer-Kamin, U. Mansfeld, R. Moos, F.M. Malherbe, R.K. Hocking, M. Shafiei:
Pd Nanoparticles Decorated Hollow TiO₂ Nanospheres for Highly Sensitive and Selective UV-Assisted Hydrogen Gas Sensors
ACS Applied Energy Materials, **7**, 5608-5620 (2024), doi: [10.1021/acsaem.4c01039](https://doi.org/10.1021/acsaem.4c01039)
- D. Paulus, S. Bresch, R. Moos, D. Schönauer-Kamin:
Powder aerosol deposited calcium cobaltite as textured P-type thermoelectric material with power factors approaching single crystal values
open access - free *Journal of the European Ceramic Society*, **44**, 116717 (2024), doi: [10.1016/j.jeurceramsoc.2024.116717](https://doi.org/10.1016/j.jeurceramsoc.2024.116717)
- C. Steiner, V. Malashchuk, D. Kubinski, G. Hagen, R. Moos:
Microwave-Based State Diagnosis of Three-Way Catalysts: Impact Factors and Application Recommendations
open access - free *Sensors*, **24**, 4091 (2024), doi: [10.3390/s24134091](https://doi.org/10.3390/s24134091)
- S. Biberger, M. Spies, K. Schötz, F.-J. Kahle, N. Leupold, R. Moos, H. Grüninger, A. Köhler, F. Panzer:
Reactive spin coating based on real-time *in situ* feedback for improved control of perovskite thin film fabrication
open access - free *Journal of Materials Chemistry C*, **12**, 6415-6422 (2024), doi: [10.1039/D3TC04361D](https://doi.org/10.1039/D3TC04361D)
- S. Walter, J. Baumgärtner, G. Hagen, D. Schönauer-Kamin, J. Kita, R. Moos:
Dielectric Properties of Materials Used for Microwave-Based NO_x Gas Dosimeters
open access - free *Sensors*, **24**, 2951 (2024), doi: [10.3390/s24092951](https://doi.org/10.3390/s24092951)
- S. Walter, P. Schwanzler, G. Hagen, H.-P. Rabl, M. Dietrich, R. Moos:
Combined Ash and Soot Monitoring for Gasoline Particulate Filters Using a Radio-Frequency-Based Sensor
open access - free *Emission Control Science and Technology*, **10**, 1-9 (2024), doi: [10.1007/s40825-023-00235-y](https://doi.org/10.1007/s40825-023-00235-y)
- S. Bresch, P. Stargardt, R. Moos, B. Mieller:
Co-Fired Multilayer Thermoelectric Generators Based on Textured Calcium Cobaltite
open access - free *Advanced Electronic Materials*, **10**, 2300636 (2024), doi: [10.1002/aelm.202300636](https://doi.org/10.1002/aelm.202300636)
- M. Linz, F. Bühner, D. Paulus, L. Hennerici, Y. Guo, V. Mereacre, U. Mansfeld, M. Seipenbusch, J. Kita, R. Moos:
Revealing the Deposition Mechanism of the Powder Aerosol Deposition Method Using Ceramic Oxide Core-Shell Particles
open access - free *Advanced Materials*, **36**, 2308294 (2024), doi: [10.1002/adma.202308294](https://doi.org/10.1002/adma.202308294)
- N. Donker, D. Schönauer-Kamin, R. Moos:
Mixed-Potential Ammonia Sensor Based on a Dense Yttria-Stabilized Zirconia Film Manufactured at Room Temperature by Powder Aerosol Deposition
open access - free *Sensors*, **24**, 811 (2024), doi: [10.3390/s24030811](https://doi.org/10.3390/s24030811)

Doctoral Theses

- R. Werner:
Die Entwicklung eines Hochtemperatur-Kombimesegeräts zur simultanen Bestimmung der elektrischen Leitfähigkeit, der Hall-Konstante und des Seebeck-Koeffizienten
(Development of a high-temperature measuring device for the simultaneous determination of electrical conductivity, Hall constant and Seebeck coefficient)
In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Sensorik und Messtechnik, Bd. 41, Shaker-Verlag, Düren (2024), ISBN: [978-3-8440-9552-4](https://www.isbn-international.org/product/978-3-8440-9552-4)
- N. Leupold:
Aerosolbasierte Kaltabscheidung von Halogenidperowskiten: vom Pulver zur Solarzelle
(Powder aerosol deposition of halide perovskites: from the powder to solar cells)
In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Materialien und Prozessen, Bd. 22, Shaker-Verlag, Düren (2024), ISBN: [978-3-8440-9480-0](https://www.isbn-international.org/product/978-3-8440-9480-0)
open access - free version available at doi: [10.15495/EPub_UBT_00007936](https://doi.org/10.15495/EPub_UBT_00007936)
- S. Walter:
Hochfrequenzgestützte Zustandsdiagnose für die Überwachung von Benzinpartikelfiltern
(Radio frequency-based state diagnosis of gasoline particulate filters)
In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Sensorik und Messtechnik, Bd. 40, Shaker-Verlag, Düren (2024), ISBN: [978-3-8440-9427-5](https://www.isbn-international.org/product/978-3-8440-9427-5)

Year 2023

Peer Reviewed Journals

- C. Greve, P. Ramming, M. Griesbach, N. Leupold, R. Moos, A. Köhler, E. Herzig, F. Panzer, H. Grüninger:
To Stop or to Shuttle Halides? The Role of an Ionic Liquid in Thermal Halide Mixing of Hybrid Perovskites
ACS Energy Letters, **8**, 5041-5049 (2023), doi: [10.1021/acseenergylett.3c01878](https://doi.org/10.1021/acseenergylett.3c01878)
- D. Paulus, J. Kita, R. Moos:
Relaxation behavior of intrinsic compressive stress in powder aerosol co-deposited films: Rethinking PAD films as nanomaterials

Ceramics International, **49**, 38375-38381 (2023), doi: [10.1016/j.ceramint.2023.09.065](https://doi.org/10.1016/j.ceramint.2023.09.065)

S. Walter, P. Schwanzer, G. Hagen, H.-P. Rabl, M. Dietrich, R. Moos:
Soot Monitoring of Gasoline Particulate Filters Using a Radio-Frequency-Based Sensor
open access - free *Sensors*, **23**, 7861 (2023), doi: [10.3390/s23187861](https://doi.org/10.3390/s23187861)

S. Biberger, N. Leupold, C. Witt, C. Greve, P. Markus, P. Ramming, D. Lukas, K. Schötz, F.-J. Kahle, C. Zhu, G. Papastavrou, A. Köhler, E.M. Herzig, R. Moos, F. Panzer:
First of Their Kind: Solar Cells with a Dry-Processed Perovskite Absorber Layer via Powder Aerosol Deposition and Hot-Pressing
open access - free *Solar RRL*, **7**, 2300261 (2023), doi: [10.1002/solr.202300261](https://doi.org/10.1002/solr.202300261)

S. Walter, G. Hagen, D. Koch, A. Geißelmann, R. Moos:
On the Suitability of NO_x-Storage-Catalysts for Hydrogen Internal Combustion Engines and a Radio Frequency-Based NO_x Loading Monitoring
open access - free *Topics in Catalysis*, **66**, 964-972 (2023), doi: [10.1007/s11244-022-01727-x](https://doi.org/10.1007/s11244-022-01727-x)

V. Malashchuk, S. Walter, M. Engler, G. Hagen, G. Link, J. Jelonnek, F. Raß, R. Moos:
Reducing Cold-Start Emissions by Microwave-Based Catalyst Heating: Simulation Studies
open access - free *Topics in Catalysis*, **66**, 1031-1036 (2023), doi: [10.1007/s11244-023-01788-6](https://doi.org/10.1007/s11244-023-01788-6)

T. Wöhrl, J. Kita, R. Moos, G. Hagen:
Capacitive, Highly Selective Zeolite-Based Ammonia Sensor for Flue Gas Applications
open access - free *Chemosensors*, **11**, 413 (2023), doi: [10.3390/chemosensors11070413](https://doi.org/10.3390/chemosensors11070413)

T. Nazarenius, J. Schneider, L. Hennerici, R. Moos, J. Kita:
Energy estimation of the post-treatment process for powder aerosol deposited solid electrolyte films
Functional Materials Letters, **16**, 2350014 (2023), doi: [10.1142/S1793604723500145](https://doi.org/10.1142/S1793604723500145)

T. Wöhrl, J. Herrmann, J. Kita, R. Moos, G. Hagen:
Methods to investigate the temperature distribution of heated ceramic gas sensors for high-temperature applications
open access - free *Journal of Sensors and Sensor Systems*, **12**, 205-214 (2023), doi: [10.5194/jsss-12-205-2023](https://doi.org/10.5194/jsss-12-205-2023)

M. Sozak, T. Nazarenius, J. Exner, J. Kita, R. Moos:
Room temperature manufacture of dense NaSICON solid electrolyte films for all-solid-state-sodium batteries
open access - free *Journal of Materials Science*, **58**, 10108-10119 (2023), doi: [10.1007/s10853-023-08642-w](https://doi.org/10.1007/s10853-023-08642-w)

C. Steiner, T. Wöhrl, M. Steiner, J. Kita, A. Müller, H. Eisazadeh, R. Moos, G. Hagen:
Resistive Multi-Gas Sensor for Simultaneously Measuring the Oxygen Stoichiometry (λ) and the NO_x Concentration in Exhausts: Engine Tests under Dynamic Conditions
open access - free *Sensors*, **23**, 5612 (2023), doi: [10.3390/s23125612](https://doi.org/10.3390/s23125612)

C. Witt, K. Schötz, M. Kuhn, N. Leupold, S. Biberger, P. Ramming, F.-J. Kahle, A. Köhler, R. Moos, E.M. Herzig, F. Panzer:
Orientation and Grain Size in MAPbI₃ Thin Films: Influence on Phase Transition, Disorder, and Defects
The Journal of Physical Chemistry C, **127**, 10563-10573 (2023), doi: [10.1021/acs.jpcc.2c08968](https://doi.org/10.1021/acs.jpcc.2c08968)

S. Müllner, T. Michlik, M. Reichel, T. Held, R. Moos, C. Roth:
Effect of Water-Soluble CMC/SBR Binder Ratios on Si-rGO Composites Using μ m- and nm-Sized Silicon as Anode Materials for Lithium-Ion Batteries
open access - free *Batteries*, **9**, 248 (2023), doi: [10.3390/batteries9050248](https://doi.org/10.3390/batteries9050248)

C. Steiner, S. Püls, M. Bektas, A. Müller, G. Hagen, R. Moos:
Resistive, Temperature-Independent Metal Oxide Gas Sensor for Detecting the Oxygen Stoichiometry (Air-Fuel Ratio) of Lean Engine Exhaust Gases
open access - free *Sensors*, **23**, 3914 (2023), doi: [10.3390/s23083914](https://doi.org/10.3390/s23083914)

H. Hoffmann, M.C. Paulisch-Rinke, M. Gernhard, Y. Jännsch, J. Timm, C. Brandmeir, S. Lechner, R. Marschall, R. Moos, I. Manke, C. Roth:
Multi-scale morphology characterization of hierarchically porous silver foam electrodes for electrochemical CO₂ reduction
open access - free *Communications Chemistry*, **6**, 50 (2023), doi: [10.1038/s42004-023-00847-z](https://doi.org/10.1038/s42004-023-00847-z)

N. Leupold, P. Ramming, I. Bauer, C. Witt, J. Jungklaus, R. Moos, H. Grüninger, F. Panzer:
How Methylammonium Iodide Reactant Size Affects Morphology and Defect Properties of Mechanochemically Synthesized MAPbI₃ Powder
open access - free *European Journal of Inorganic Chemistry*, **26**, e202200736 (2023), doi: [10.1002/ejic.202200736](https://doi.org/10.1002/ejic.202200736)

G. Hagen, J. Herrmann, X. Zhang, H. Kohler, I. Hartmann, R. Moos:
Application of a Robust Thermoelectric Gas Sensor in Firewood Combustion Exhausts
open access - free *Sensors*, **23**, 2930 (2023), doi: [10.3390/s23062930](https://doi.org/10.3390/s23062930)

C. Steiner, G. Hagen, I. Kogut, H. Fritze, R. Moos:
Analysis of defect mechanisms in nonstoichiometric ceria-zirconia by the microwave cavity perturbation method
open access - free *Journal of the American Ceramic Society*, **106**, 2875-2892 (2023), doi: [10.1111/jace.18938](https://doi.org/10.1111/jace.18938)

R. Werner, J. Kita, M. Gollner, F. Linseis, R. Moos:
Gauge to simultaneously determine the electrical conductivity, the Hall constant, and the Seebeck coefficient up to 800 °C
open access - free *Journal of Sensors and Sensor Systems*, **12**, 69-84 (2023), doi: [10.5194/jsss-12-69-2023](https://doi.org/10.5194/jsss-12-69-2023)

K. Fykouras, J. Lahnsteiner, N. Leupold, P. Tinnemans, R. Moos, F. Panzer, G. de Wijs, M. Bokdam, H. Grüninger, A. Kentgens:
Disorder to order: how halide mixing in MAPbI_{3-x}Br_x perovskites restricts MA dynamics

Journal of Materials Chemistry A, **11**, 4587-4597 (2023), doi: [10.1039/D2TA09069D](https://doi.org/10.1039/D2TA09069D)

J. Distler, T. Wöhr, R. Werner, M. Gerlach, M. Gollner, F. Linseis, J. Kita, R. Moos:
Miniaturized differential scanning calorimeter with an integrated mass sensing system: first steps
open access - free *Journal of Sensors and Sensor Systems*, **12**, 9-19 (2023), doi: [10.5194/jsss-12-9-2023](https://doi.org/10.5194/jsss-12-9-2023)

V. Malashchuk, A. Jess, R. Moos:
Operando monitoring of gas drying by adsorption on supported ionic liquids: Determination of velocity of adsorption front by microwaves
Sensors and Actuators B: Chemical, **380**, 133291 (2023), doi: [10.1016/j.snb.2023.133291](https://doi.org/10.1016/j.snb.2023.133291)

D. Kohlmann, H. Wulfmeier, M. Schewe, I. Kogut, C. Steiner, R. Moos, C. Rembe, H. Fritze:
Chemical expansion of CeO_{2-δ} and Ce_{0.8}Zr_{0.2}O_{2-δ} thin films determined by laser Doppler vibrometry at high temperatures and different oxygen partial pressures
open access - free *Journal of Materials Science*, **58**, 1481-1504 (2023), doi: [10.1007/s10853-022-07830-4](https://doi.org/10.1007/s10853-022-07830-4)

Doctoral Theses

T. Nazarenius:
Aerosolbasierte Kaltabscheidung zur industriellen Produktion von oxidkeramischen Festelektrolyten für metallische Lithiumakkumulatoren
(Powder aerosol deposition for the industrial production of oxide ceramic solid electrolytes for metallic lithium accumulators)
In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zu Materialien und Prozessen, Bd. 21, Shaker-Verlag, Düren (2023), ISBN: [978-3-8440-9142-7](https://doi.org/978-3-8440-9142-7)

T. Michlik:
Zink-Glas-Kompositelektroden für wiederaufladbare Zink-Luft-Batterien
(Zinc-glass composite electrodes for rechargeable zinc-air batteries)
In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zu Materialien und Prozessen, Bd. 20, Shaker-Verlag, Düren (2023), ISBN: [978-3-8440-9059-8](https://doi.org/978-3-8440-9059-8)

A. Ruchets:
Application of solid electrolyte gas sensors based on YSZ for dynamic electrochemical measurements
In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Sensorik und Messtechnik, Bd. 39, Shaker-Verlag, Düren (2023), ISBN: [978-3-8440-8889-2](https://doi.org/978-3-8440-8889-2)

Year 2022

Peer Reviewed Journals

U. Eckstein, J. Exner, A. Bencan Golob, K. Ziberna, G. Drazic, H. Ursic, H. Wittkämper, C. Papp, J. Kita, R. Moos, K.G. Webber, N.H. Khansur:
Temperature-dependent dielectric anomalies in powder aerosol deposited ferroelectric ceramic films
open access - free *Journal of Materiomics*, **8**, 1239-1250 (2022), doi: [10.1016/j.jmat.2022.05.001](https://doi.org/10.1016/j.jmat.2022.05.001)

C. Witt, N. Leupold, P. Ramming, K. Schötz, R. Moos, F. Panzer:
How the Microstructure of MAPbI₃ Powder Impacts Pressure-Induced Compaction and Optoelectronic Thick-Film Properties
The Journal of Physical Chemistry C, **126**, 15424-15435 (2022), doi: [10.1021/acs.jpcc.2c03329](https://doi.org/10.1021/acs.jpcc.2c03329)

S. Biberger, K. Schötz, P. Ramming, N. Leupold, R. Moos, A. Köhler, H. Grüninger, F. Panzer:
How the ionic liquid BMIMBF₄ influences the formation and optoelectronic properties of MAPbI₃ thin films
open access - free *Journal of Materials Chemistry A*, **10**, 18038-18049 (2022), doi: [10.1039/d2ta04448j](https://doi.org/10.1039/d2ta04448j)

S. Bresch, B. Mieller, R. Moos, T. Rabe:
Lowering the sintering temperature of calcium manganate for thermoelectric applications
open access - free *AIP Advances*, **12**, 085116 (2022), doi: [10.1063/5.0098015](https://doi.org/10.1063/5.0098015)

Y. Jännsch, M. Hämmerle, E. Simon, M. Fleischer, R. Moos:
Contributions of Pulsed Operation Along with Proper Choice of the Substrate for Stabilizing the Catalyst Performance in Electrochemical Reduction of CO₂ Toward Ethylene in Gas Diffusion Electrode Based Flow Cell Reactors
open access - free *Energy Technology*, **10**, 2200046 (2022), doi: [10.1002/ente.202200046](https://doi.org/10.1002/ente.202200046)

H. Wulfmeier, D. Kohlmann, T. Defferriere, C. Steiner, R. Moos, H.L. Tüller, H. Fritze:
Thin-film chemical expansion of ceria based solid solutions: laser vibrometry study
open access - free *Zeitschrift für Physikalische Chemie*, **236**, 1013-1053 (2022), doi: [10.1515/zpch-2021-3125](https://doi.org/10.1515/zpch-2021-3125)

T. Nazarenius, K. Schlesier, F. Lebeda, M. Retsch, R. Moos:
Microstrain release decouples electronic and thermal conductivity in powder aerosol deposited films
Materials Letters, **322**, 132461 (2022), doi: [10.1016/j.matlet.2022.132461](https://doi.org/10.1016/j.matlet.2022.132461)

R. Werner, J.S. Matejka, D. Schönauer-Kamin, R. Moos:
From Thermoelectric Powder Directly to Thermoelectric Generators: Flexible Bi₂Te₃ Films on Polymer Sheets Prepared by the Powder Aerosol Deposition Method at Room Temperature
open access - free *Energy Technology*, **10**, 2101091 (2022), doi: [10.1002/ente.202101091](https://doi.org/10.1002/ente.202101091)

S. Walter, P. Schwanzer, C. Steiner, G. Hagen, H.-P. Rabl, M. Dietrich, R. Moos:

Mixing Rules for an Exact Determination of the Dielectric Properties of Engine Soot Using the Microwave Cavity Perturbation Method and Its Application in Gasoline Particulate Filters

open access - free *Sensors*, **22**, 3311 (2022), doi: [10.3390/s22093311](https://doi.org/10.3390/s22093311)

M. Linz, J. Exner, T. Nazarenus, J. Kita, R. Moos:

Mobile sealing and repairing of damaged ceramic coatings by powder aerosol deposition at room temperature

open access - free *Open Ceramics*, **10**, 100253 (2022), doi: [10.1016/j.oceram.2022.100253](https://doi.org/10.1016/j.oceram.2022.100253)

T. Nazarenus, K. Schlesier, S. Biberger, J. Exner, J. Kita, A. Köhler, R. Moos:

Posttreatment of powder aerosol deposited oxide ceramic films by high power LED

open access - free *International Journal of Applied Ceramic Technology*, **19**, 1540-1553 (2022), doi: [10.1111/ijac.13977](https://doi.org/10.1111/ijac.13977)

S. Bresch, B. Mieller, P. Mrkwitschka, R. Moos, T. Rabe:

Glass-ceramic composites as insulation material for thermoelectric oxide multilayer generators

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Untersuchung einer voltammetrischen Methode zur pH-Wert-Messung mit protonenleitenden Funktionsschichten

(Investigations on a voltammetric method for pH measurements with proton-conducting functional layers)

In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Sensorik und Messtechnik, Bd. 38, Shaker-Verlag, Düren (2022), ISBN: [978-3-8440-8865-6](https://www.isbn-international.org/product/978-3-8440-8865-6)

S. Bresch:

Oxidkeramische Werkstoffe und Folien für thermoelektrische Multilayergeneratoren

(Oxide ceramic materials and tapes for thermoelectric multilayer generators)

In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zu Materialien und Prozessen, Bd. 19, Shaker-Verlag, Düren (2022), ISBN: [978-3-8440-8802-1](https://www.isbn-international.org/product/978-3-8440-8802-1)

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Elektrochemische CO₂-Reduktion durch gepulste Elektrolyse: Entwicklung und Optimierung eines Ethen-selektiven, langzeitstabilen und skalierbaren Prozesses

(Electrochemical CO₂ reduction by pulsed electrolysis: Development and optimization of an ethene-selective, long-term stable and scalable process)

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CO Gas Detection on Pt|YSZ|Pt Solid Electrolyte Sensors by Methods Based on Dynamic Voltage Variations

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Gas evolution in electrochemical flow cell reactors induces resistance gradients with consequences for the positioning of the reference electrode

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Electrical Conductivity of Halide Perovskites Follows Expectations from Classical Defect Chemistry

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Influence of pressure and dwell time on pressure-assisted sintering of calcium cobaltite

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(Investigations on the partial discharge resistance of polymers)

In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zu Materialien und Prozessen, Bd. 17, Shaker-Verlag, Düren (2021), ISBN: [978-3-8440-8168-8](https://doi.org/978-3-8440-8168-8)

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Zinkoxid als Material zur resistiven Detektion von NO₂ bei Raumtemperatur

(Zinc oxide as a material to detect resistively NO₂ at room temperature)

In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Sensorik und Messtechnik, Bd. 35, Shaker-Verlag, Düren (2021), ISBN: [978-3-8440-8039-1](https://doi.org/978-3-8440-8039-1)

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Impact of Pressure and Temperature on the Compaction Dynamics and Layer Properties of Powder-Pressed Methylammonium Lead Halide Thick Films

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Investigating solid polymer and ceramic electrolytes for lithium-ion batteries by means of an extended Distribution of Relaxation Times analysis

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The Influence of Nanoparticles and their Functionalization on the Dielectric Properties of Biaxially Oriented Polypropylene for Power Capacitors

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Dense Y-doped ion conducting perovskite films of BaZrO₃, BaSnO₃, and BaCeO₃ for SOFC applications produced by powder aerosol deposition at room temperature

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A Glass Platelet Coating on Battery Electrodes and Its Use as a Separator for Lithium-Ion Batteries

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(Polymer dielectrics for power capacitors)

In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zu Materialien und Prozessen, Bd. 16, Shaker-Verlag, Düren (2020), ISBN: [978-3-8440-7564-9](https://doi.org/978-3-8440-7564-9)

M. Bektas:

BaFe_(1-x)-0.01Al_{0.01}Ta_xO_{3-δ}: A material for temperature independent resistive and thermoelectric oxygen sensors

In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Sensorik und Messtechnik, Bd. 31, Shaker-Verlag, Düren (2020), ISBN: [978-3-8440-7459-8](https://doi.org/978-3-8440-7459-8)

U. Schadeck:

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(Development of glass-based separators for lithium-ion batteries)

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Entwicklung einer neuartigen Biosensor-Plattform zur Protein-Detektion

(Development of a novel biosensor platform for protein detection)

In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Sensorik und Messtechnik, Bd. 30, Shaker-Verlag, Düren (2020), ISBN: [978-3-8440-7209-9](https://doi.org/978-3-8440-7209-9)

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How to treat powders for the room temperature aerosol deposition method to avoid porous, low strength ceramic films
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Aerosolbasierte Kaltabscheidung für die Herstellung von schichtbasierten NTC-Thermistorbauteilen
(Powder aerosol deposition for the production of film-type NTC thermistor devices)
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Aerosolbasierte Kaltabscheidung Lithium-Ionen leitender Festelektrolytschichten mit Granatstruktur
(Powder aerosol-based deposition of lithium ion conducting solid electrolyte layers with garnet structure)
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A. Engelbrecht:
Ausgewählte Materialien und Methoden für die elektrochemische Reduktion von CO₂
(Materials and methods for the electrochemical reduction of CO₂)
In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zu Materialien und Prozessen, Bd. 13, Shaker-Verlag, Düren (2019), ISBN: [978-3-8440-7081-1](https://doi.org/978-3-8440-7081-1)

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Methoden der Rußdetektion im Dieselabgas
(Methods for soot detection in diesel exhausts)
In: R. Moos, G. Fischerauer (Hrsg.), Bayreuther Beiträge zur Sensorik und Messtechnik, Bd. 28, Shaker-Verlag, Düren (2019), ISBN: [978-3-8440-6926-6](https://doi.org/978-3-8440-6926-6)

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Untersuchung und Modellierung der elektrochemischen Vorgänge von Elektroden für Mischpotential-Sensoren
(Investigation and modelling of electrochemical processes of electrodes for mixed potential sensors)

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Y. Zheng:

Untersuchung von Sauerstoffreaktionen an Pt-basierten Modellelektroden auf Yttriumoxid-stabilisiertem Zirconiumdioxid
(Investigation of oxygen reactions at Pt-based model electrodes on yttria-stabilized zirconium dioxide)

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(Aerosol deposition of aluminum oxide: process, background, and applications)

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(Delafossites for thermoelectric energy conversion at high temperatures)

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(Determination of the thermal stability of ionic fluids on porous supports and on solid catalysts by electrical sensors)

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Flexible, Heat-Resistant, and Flame-Retardant Glass Fiber Nonwoven/Glass Platelet Composite Separator for Lithium-Ion Batteries

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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

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Oxygen transport paths in screen-printed Pt-Al₂O₃ composite model electrodes on YSZ

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On the defect chemistry of $\text{BaFe}_{0.89}\text{Al}_{0.01}\text{Ta}_{0.1}\text{O}_{3-\delta}$, a material for temperature independent resistive and thermoelectric oxygen sensors
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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)

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Solid state mixed-potential sensors as direct conversion sensors for automotive catalysts
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ZnO-Graphit-Komposite als Anodenmaterialien für Lithium-Ionen-Batterien
(ZnO graphite composites as anode materials for lithium ion batteries)

In: R. Moos, 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)

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R. Moos, M. Dietrich:

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In: T. Tille (Hrsg.), Automobil-Sensorik 2 - Systeme, Technologien und Applikationen, Springer-Verlag, Heidelberg (2018), p. 225-244, ISBN 978-3-662-56309-0 (gedruckt), ISBN 978-3-662-56310-6 (online), doi: [10.1007/978-3-662-56310-6_10](https://doi.org/10.1007/978-3-662-56310-6_10)

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