

as of August 10, 2023

Functional Materials related papers

(other than sensor papers, ceramic microsystems related papers, battery-related papers and aerosol deposition papers)

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*, in press, doi: 10.1002/solr.202300261, <https://doi.org/10.1002/solr.202300261>

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)

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)

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)

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)

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)

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)

H. Wulfmeier, D. Kohlmann, T. Defferriere, C. Steiner, R. Moos, H.L. Tuller, 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)

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

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

open access - free *Journal of the American Ceramic Society*, **105**, 2140-2149 (2022), doi: [10.1111/jace.18235](https://doi.org/10.1111/jace.18235)

P. Ramming, N. Leupold, K. Schötz, A. Köhler, R. Moos, H. Grüninger, F. Panzer:

Suppressed ion migration in powder-based perovskite thick films using an ionic liquid

open access - free *Journal of Materials Chemistry C*, **9**, 11827-11837 (2021), doi: [10.1039/D1TC01554K](https://doi.org/10.1039/D1TC01554K)

I. Kogut, C. Steiner, H. Wulfmeier, A. Wollbrink, G. Hagen, R. Moos, H. Fritze:

Comparison of the electrical conductivity of bulk and film Ce_{1-x}Zr_xO_{2-δ} in oxygen-depleted atmospheres at high temperatures

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N. Leupold, A.L. Seibel, R. Moos, F. Panzer:

Electrical Conductivity of Halide Perovskites Follows Expectations from Classical Defect Chemistry

open access - free *European Journal of Inorganic Chemistry*, **2021**, 2882-2889 (2021), doi: [10.1002/ejic.202100381](https://doi.org/10.1002/ejic.202100381)

N. Leupold, F. Panzer:

Recent Advances and Perspectives on Powder-Based Halide Perovskite Film Processing

open access - free *Advanced Functional Materials*, **31**, 2007350 (2021), doi: [10.1002/adfm.202007350](https://doi.org/10.1002/adfm.202007350)

R. Wang, R. Moos:

Electrical conductivity determination of semiconductors by utilizing photography, finite element simulation and resistance measurement

open access - free *Journal of Materials Science*, **56**, 10449-10457 (2021), doi: [10.1007/s10853-021-05949-4](https://doi.org/10.1007/s10853-021-05949-4)

I. Kogut, A. Wollbrink, C. Steiner, F.-E. El Azzouzi, R. Moos, H. Fritze:

Linking the Electrical Conductivity and Non-Stoichiometry of Thin Film $Ce_{1-x}Zr_xO_{2-\delta}$ by a Resonant Nanobalance Approach
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Microscopic (Dis)order and Dynamics of Cations in Mixed FA/MA Lead Halide Perovskites
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Influence of pressure and dwell time on pressure-assisted sintering of calcium cobaltite
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open access - free *Electrochemistry Communications*, **121**, 106861 (2020), doi: [10.1016/j.elecom.2020.106861](https://doi.org/10.1016/j.elecom.2020.106861)

C. Witt, A. Schmid, N. Leupold, M. Schultz, J. Höcker, A. Baumann, R. Moos, F. Panzer:
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
IEEE Transactions on Dielectrics and Electrical Insulation, **27**, 468-475 (2020), doi: [10.1109/TDEI.2019.008521](https://doi.org/10.1109/TDEI.2019.008521)

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A Glass Platelet Coating on Battery Electrodes and Its Use as a Separator for Lithium-Ion Batteries
Journal of Electrochemical Conversion and Storage, **17**, 034502 (2020), doi: [10.1115/1.4045783](https://doi.org/10.1115/1.4045783)

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Influence of Ambient Conditions on Electrical Partial Discharge Resistance of Epoxy Anhydride Based Polymers Using IEC 60343 Method
IEEE Transactions on Dielectrics and Electrical Insulation, **26**, 1463-1470 (2019), doi: [10.1109/TDEI.2019.008070](https://doi.org/10.1109/TDEI.2019.008070)

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Optimization of thermoelectric properties of metal-oxide based polymer composites
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