

as of August 10, 2023

## Selection of ceramic microsystems-related papers

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)

J. Distler, T. Wöhl, 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)

R. Werner, J.S. Matejka, D. Schönauer-Kamin, R. Moos:

From Thermoelectric Powder Directly to Thermoelectric Generators: Flexible Bi<sub>2</sub>Te<sub>3</sub> 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)

R. Wagner, D. Schönauer-Kamin, W. Bäther, R. Moos:

Concept study with experimental proof for a new type of detector for gas chromatography

*Sensors and Actuators B: Chemical*, **346**, 130490 (2021), doi: [10.1016/j.snb.2021.130490](https://doi.org/10.1016/j.snb.2021.130490)

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

Novel, low-cost device to simultaneously measure the electrical conductivity and the Hall coefficient from room temperature up to 600 °C

**open access - free** *Journal of Sensors and Sensor Systems*, **10**, 71-81 (2021), doi: [10.5194/jsss-10-71-2021](https://doi.org/10.5194/jsss-10-71-2021)

S. Bresch, B. Mieller, D. Schönauer-Kamin, R. Moos, T. Reimann, F. Giovannelli, T. Rabe:

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

**open access - free** *Journal of the American Ceramic Society*, **104**, 917-927 (2021), doi: [10.1111/jace.17541](https://doi.org/10.1111/jace.17541)

S. Bresch, B. Mieller, D. Schönauer-Kamin, R. Moos, F. Giovannelli, T. Rabe:

Influence of pressure assisted sintering and reaction sintering on microstructure and thermoelectric properties of bi-doped and undoped calcium cobaltite

*Journal of Applied Physics*, **126**, 075102 (2019), doi: [10.1063/1.5107476](https://doi.org/10.1063/1.5107476)

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

Investigation of the in situ calcination of aerosol co-deposited NiO-Mn<sub>2</sub>O<sub>3</sub> films

*Functional Materials Letters*, **12**, 1950039 (2019), doi: [10.1142/S1793604719500395](https://doi.org/10.1142/S1793604719500395)

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

Novel Method for NTC Thermistor Production by Aerosol Co-Deposition and Combined Sintering

**open access - free** *Sensors*, **19**, 1632 (2019), doi: [10.3390/s19071632](https://doi.org/10.3390/s19071632)

S. Walter, A. Bogner, G. Hagen, R. Moos:

Novel radio-frequency-based gas sensor with integrated heater

**open access - free** *Journal of Sensors and Sensor Systems*, **8**, 49-56 (2019), doi: [10.5194/jsss-8-49-2019](https://doi.org/10.5194/jsss-8-49-2019)

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)

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)

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)

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)

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)

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

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

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

F. Schubert, M. Gollner, J. Kita, F. Linseis, R. Moos:  
Optimization of a sensor for a Tian-Calvet calorimeter with LTCC-based sensor discs  
*Journal of Sensors and Sensors Systems*, **5**, 381-388 (2016), doi: 10.5194/jsss-5-381-2016

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

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

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

F. Schubert, M. Gollner, J. Kita, F. Linseis, R. Moos:  
Optimierung eines neuentwickelten Sensorkopfes für ein Tian-Calvet-Kalorimeter  
Sensoren und Messsysteme 2016, 10.5.-11.5.2016, Nürnberg, p. 50-52, doi: 10.5162/sensoren2016/1.2.2

F. Schubert, J. Kita, M. Gollner, F. Linseis, R. Moos:  
Sensor Stack for Tian-Calvet Calorimeter made in LTCC-Technology  
*IMAPS/ACerS 12<sup>th</sup> International Conference and Exhibition on Ceramic Interconnect and Ceramic Microsystems Technologies (CICMT 2016)*, Denver, April 19-21, 2016, p. 19-23

J. Kita, S. Wiegärtner, A. Prince, P. Weigand, R. Moos:  
Evaluation of screen-printable type S (Pt-PtRh) thermocouples on different ceramic substrates  
*IMAPS/ACerS 12<sup>th</sup> International Conference and Exhibition on Ceramic Interconnect and Ceramic Microsystems Technologies (CICMT 2016)*, Denver, April 19-21, 2016, p. 53-57

F. Schubert, M. Gollner, J. Kita, F. Linseis, R. Moos:  
Neuentwicklung eines Sensorkopfes für ein Tian-Calvet-Kalorimeter  
G. Gerlach, A. Schütze (Hrsg.), *12. Dresdner Sensor-Symposium*, 7.-9. Dezember 2015, Dresden, p. 222-226, doi: 10.5162/12dss2015/P7.2

G. Hagen, N. Leupold, S. Wiegärtner, J. Kita, R. Moos:  
Neuartige Sensoranwendung zur Katalysator-Materialcharakterisierung  
G. Gerlach, A. Schütze (Hrsg.), *12. Dresdner Sensor-Symposium*, 7.-9. Dezember 2015, Dresden, p. 230-233, doi: 10.5162/12dss2015/P7.5

J. Exner, R. Moos:  
Ermittlung spezifischer Materialkennwerte von Schichten mittels Interdigital-Elektroden  
G. Gerlach, A. Schütze (Hrsg.), *12. Dresdner Sensor-Symposium*, 7.-9. Dezember 2015, Dresden, p. 256-259, doi: 10.5162/12dss2015/P7.10

J. Kita, S. Wiegärtner, R. Moos, P. Weigand, A. Pliscott, M.H. LaBranche, H.D. Glicksman:  
Screen-printable type S thermocouple for thick-film technology  
*EuroSensors XXIX*, September 6 - 9, 2015, Freiburg, Germany, MP-K03  
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A. Brandenburg, E. Wappler, J. Kita, R. Moos:  
First approaches to integrate a strain gauge-based mass detection system into a miniaturized DSC-device  
*EuroSensors XXIX*, September 6 - 9, 2015, Freiburg, Germany, BS02-3  
*Procedia Engineering*, **120**, 116-119 (2015), doi: 10.1016/j.proeng.2015.08.579

F. Schubert, S. Wollenhaupt, J. Kita, G. Hagen, R. Moos:  
Lessons learned during the development of a manufacturing process for switching-type lambda sensors as a basis for new exhaust gas sensors  
*90. DKG Jahrestagung / Symposium Hochleistungskeramik 2015*, Bayreuth, 15.3.-19.3.2015, p. 167

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

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  
*Journal of Ceramic Science and Technology*, **5**, 317-326 (2014), doi: 10.4416/JCST2014-00029

J. Kita, A. Brandenburg, I. Sudina, R. Moos:  
High-Temperature Miniaturized Furnace manufactured in HTCC-Technology  
38<sup>th</sup> International Microelectronics and Packaging IMAPS Conference, Rzeszów-Czarna, Poland, 21. - 24.09.2014

A. Brandenburg, E. Wappler, R. Moos, J. Kita:

Development and optimization of a novel miniaturized ceramic differential scanning calorimeter  
*Thermal Analysis and Calorimetry in Industry and Research - 40 Years of GEFTA*, Berlin, Germany, September 16 - 19, 2014, p. E2

A. Brandenburg, J. Kita, E. Wappler, R. Moos:  
Optimierung eines LTCC-basierten miniaturisierten dynamischen Wärmestromdifferenzkalorimeters  
*Sensoren und Messsysteme 2014*, 3.6.-4.6.2014, Nürnberg, ISBN 978-3-8007-3622-5

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

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

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

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

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

D. Ortolino, J. Kita, R. Moos, R. Wurm, A. Pletsch, K. Beart:  
Modeling the Failure Mechanism of Electrical Vias Manufactured in Thick-Film Technology  
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D. Ortolino, J. Kita, R. Wurm, E. Blum, K. Beart, R. Moos:  
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*Microelectronics Reliability*, **34**, 1257-263 (2011), doi: 10.1016/j.microrel.2011.02.025

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Investigation of non-symmetric contacting and voids in electrical vias produced in hybrid thick-film technology  
*35<sup>th</sup> International Microelectronics and Packaging IMAPS Conference*, Gdansk, Poland 21. - 24.09.2011, p. 289-292

M. Hrovat, D. Belavič, J. Kita, J. Holc, J. Cilenšek, S. Drnovšek:  
Thick-film NTC thermistors and LTCC materials: The dependence of the electrical and microstructural characteristics on the firing temperature  
*Journal of the European Ceramic Society*, **29**, 3265–3271 (2009), doi:10.1016/j.jeurceramsoc.2009.05.019

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D. Nowak, E. Miś, A. Dziedzic, J. Kita:  
Fabrication and electrical properties of laser-shaped thick-film and LTCC microresistors  
*Microelectronics Reliability*, **49**, 600-606 (2009), doi: 10.1016/j.microrel.2009.02.019

D. Biskupski, A. Geupel, K. Wiesner, M. Fleischer, R. Moos:  
Platform for a hydrocarbon exhaust gas sensor utilizing a pumping cell and a conductometric sensor  
*Sensors*, **9**, 7498-7508 (2009), doi:10.3390/s90907498

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J. Kita, R. Moos:  
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*XXXIII Int'l Conference of International Microelectronics and Packaging Society IMAPS Poland*, Gliwice – Pszczyna, September 21-24, 2009, p. 183-189

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*XXXIII Int'l Conference of International Microelectronics and Packaging Society IMAPS Poland*, Gliwice – Pszczyna, September 21-24, 2009, p. 273-276

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Thick-Film Pressure / Force Sensors on Different LTCC Substrates; a Characterization and Evaluation  
*Proc. of 2009 IMAPS/ACerS, 5<sup>th</sup> Intern. Conf. on Ceramic Interconnect and Ceramic Microsystems Technologies (CICMT)*, Denver, Colorado, 21.4-23.4.2009

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Automotive Exhaust Gas Sensor Based on a Combination of an Electrochemical Pumping Cell and a Resistive Gas Sensor  
*Sensor Letters*, **6**, 803-807 (2008), doi: 10.1166/sl.2008.505

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*Informacije MIDEEM - Journal of Microelectronics Electronic Components and Materials*, **38**, 219-224 (2008)

S. Achmann, M. Hämmerle, J. Kita, R. Moos:

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*Sensors and Actuators B: Chemical*, **135**, 89-95 (2008), doi: 10.1016/j.snb.2008.07.024

E. Miś, A. Dziedzic, T. Piasecki, J. Kita, R. Moos:

Geometrical, electrical and stability properties of thick-film and LTCC microcapacitors

*Microelectronics International*, **25**, 37-41 (2008), doi: 10.1108/13565360810875994

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An Investigation of Thick-film Materials for Temperature and Pressure Sensors on Self-constrained LTCC Substrates

2<sup>nd</sup> Electronic System-Integration Technology Conference, ESTC 2008, London, 1<sup>st</sup> - 4<sup>th</sup> September 2008, ISBN 978-1-4244-2814-4, p. 339-346,  
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Laser Processing of Materials for MCM-C Applications

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Chosen electrical and stability properties of laser-shaped thick-film and LTCC inductors

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J. Kita, R. Moos:

Heaters for LTCC-Sensors Made of Resinate Pastes

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