

Selection of automotive-related papers

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)

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)

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

Radio-Frequency-Based Urea Dosing Control for Diesel Engines with Ammonia SCR Catalysts
2017 SAE World Congress, April 4-6, 2017, Detroit, Michigan, USA, *SAE paper* 2017-01-0945 (2017), doi: 10.4271/2017-01-0945
SAE International Journal of Engines, **10**, 1638-1645 (2017), doi: [10.4271/2017-01-0945](https://doi.org/10.4271/2017-01-0945)

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)

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)

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)

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)

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)

S. Wiegärtner, G. Hagen, J. Kita, D. Schönauer-Kamin, W. Reitmeier, K. Burger, P. Grass, M. Kaspar, H.-P. Rabl, A. Prince, P. Weigand, R. Moos:

Thermoelektrischer Kohlenwasserstoffsensoren in Dickschichttechnik mit Pt|PtRh Thermopile zur On-Board-Diagnose eines Diesel-Oxidations-Katalysators
open access - free *Sensoren und Messsysteme* 2016, 10.5.-11.5.2016, Nürnberg, p. 126-129, doi: [10.5162/sensoren2016/2.2.3](https://doi.org/10.5162/sensoren2016/2.2.3)

G. Hagen, R. Werner, M. Feulner, A. Müller, R. Moos:

Grundlegende Betrachtungen zu kapazitiven Rußsensoren
open access - free *Sensoren und Messsysteme* 2016, 10.5.-11.5.2016, Nürnberg, p. 173-176, doi: [10.5162/sensoren2016/3.2.2](https://doi.org/10.5162/sensoren2016/3.2.2)

R. Moos:

Mikrowellengestützte Systeme zur Zustandserkennung von Abgaskatalysatoren und Abgasfiltern im Überblick

In: T. Tille (Hrsg.), *Automobil-Sensorik - Ausgewählte Sensorprinzipien und deren automobile 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)

T. Simons, P. Chen, D. Rauch, R. Moos, U. Simon:

Sensing Catalytic Conversion: Simultaneous DRIFT and Impedance Spectroscopy for *in situ* Monitoring of DeNO_x-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)

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

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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)

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 Homogenously Operated Gasoline Engines

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G. Hagen, G. Rieß, M. Schubert, M. Feulner, A. Müller, D. Brüggemann, R. Moos:

Capacitive Soot Sensor

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Ammonia Storage Studies on H-ZSM-5 Zeolites by Microwave Cavity Perturbation: Correlation of Dielectric Properties with Ammonia Storage

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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)

F. Schubert, S. Wollenhaupt, J. Kita, G. Hagen, R. Moos:

Switching-Type Lambda Sensor Manufactured by Joining of Sintered Zirconia via Glass Solder Paste

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Microwave-Based Catalyst State Diagnosis - State of the Art and Future Perspectives

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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)

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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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Effect of propene, propane, and methane on conversion and oxidation state of three-way catalysts: A microwave cavity perturbation study

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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)

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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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Überblick über den Stand der Abgassensorik
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Mikrowellenbasierte Beladungserkennung von Abgasnachbehandlungssystemen – ein Überblick über den Stand der Entwicklung / *Microwave-based monitoring of exhaust gas aftertreatment systems – an overview* (in German and English)
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Improvement of the sensitivity of a conductometric soot sensor by adding a conductive cover layer
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