

## Selection of automotive-related papers

- 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  
*Sensors*, **17**, 400 (2017), doi: 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
- P. Chen, J. Simböck, S. Schönebaum, D. Rauch, T. Simons, R. Palkovits, R. Moos, U. Simon:  
Monitoring NH<sub>3</sub> storage and conversion in Cu-ZSM-5 and Cu-SAPO-34 catalysts for NH<sub>3</sub>-SCR by simultaneous impedance and DRIFT spectroscopy  
*Sensors and Actuators B: Chemical*, **236**, 1075–1082 (2016), doi: 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
- 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  
Sensoren und Messsysteme 2016, 10.5.-11.5.2016, Nürnberg, p. 126-129, doi: 10.5162/sensoren2016/2.2.3
- G. Hagen, R. Werner, M. Feulner, A. Müller, R. Moos:  
Grundlegende Betrachtungen zu kapazitiven Rußsensoren  
Sensoren und Messsysteme 2016, 10.5.-11.5.2016, Nürnberg, p. 173-176, doi: 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 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
- T. Simons, P. Chen, D. Rauch, R. Moos, U. Simon:  
Sensing Catalytic Conversion: Simultaneous DRIFT and Impedance Spectroscopy for *in situ* Monitoring of DeNO<sub>x</sub>-SCR on Zeolites  
*Sensors and Actuators B: Chemical*, **224**, 492-499 (2016), doi: 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  
*Journal of Sensors and Sensor Systems*, **4**, 321-329 (2015), doi: 10.5194/jsss-4-321-2015
- 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  
*Sensors*, **15**, 28796-28806 (2015), doi: 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 Homogeneously Operated Gasoline Engines  
*Sensors*, **15**, 21971-21988 (2015), doi: 10.3390/s150921971
- G. Hagen, G. Rieß, M. Schubert, M. Feulner, A. Müller, D. Brüggemann, R. Moos:  
Capacitive Soot Sensor  
*EuroSensors XXIX*, September 6 - 9, 2015, Freiburg, Germany, BS08-3  
*Procedia Engineering*, **120**, 241-244 (2015), doi: 10.1016/j.proeng.2015.08.590
- M. Dietrich, D. Rauch, U. Simon, A. Pösch, R. Moos:  
Ammonia Storage Studies on H-ZSM-5 Zeolites by Microwave Cavity Perturbation: Correlation of Dielectric Properties with Ammonia Storage  
*Journal of Sensors and Sensor Systems*, **4**, 263-269 (2015), doi: 10.5194/jsss-4-263-2015
- G. Beulertz, M. Votsmeier, R. Moos:  
In operando Detection of Three-Way Catalyst Aging by a Microwave-Based Method: Initial Studies  
*Applied Sciences*, **5**, 174-186 (2015), doi: 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  
*Sensor 2015*, Proceedings of the 17<sup>th</sup> International Conference on Sensors and Measurement Technology, 19.-21. May 2015, Nürnberg, p. 842 - 844  
doi: 10.5162/sensor2015/E8.4
- R. Moos:  
Microwave-Based Catalyst State Diagnosis - State of the Art and Future Perspectives  
*2015 SAE World Congress*, April 21-23, 2015, Detroit, Michigan, USA, *SAE paper* 2015-01-1042  
*SAE International Journal of Engines*, **8**, 1240-1245 (2015), doi: 10.4271/2015-01-1042

- D. Rauch, D. Kubinski, G. Cavataio, D. Upadhyay, R. Moos:  
Ammonia Loading Detection of Zeolite SCR Catalysts using a Radio Frequency based Method  
*2015 SAE World Congress*, April 21-23, 2015, Detroit, Michigan, USA, *SAE paper* 2015-01-0986  
*SAE International Journal of Engines*, **8**, 1126-1135 (2015), doi: 10.4271/2015-01-0986
- M. Dietrich, D. Rauch, U. Simon, A. Porch, R. Moos:  
Correlation of Ammonia Storage and Dielectric Properties of SCR Catalyst Materials by Microwave Cavity Perturbation  
*Sensor 2015*, Proceedings of the 17<sup>th</sup> International Conference on Sensors and Measurement Technology, 19.-21. May 2015, Nürnberg, p. 683 - 687  
doi: 10.5162/sensor2015/E6.2
- 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
- R. Moos, G. Fischerauer:  
Automotive Catalyst State Diagnosis Using Microwaves  
*Oil & Gas Science and Technology*, **70**, 55-65 (2015), doi: 10.2516/ogst/2013203
- G. Hagen, K. Burger, S. Wiegärtner, D. Schönauer-Kamin, R. Moos:  
A mixed potential based sensor that measures directly catalyst conversion - A novel approach for catalyst on-board diagnostics  
*Sensors and Actuators B: Chemical*, **217**, 158-164 (2015), doi: 10.1016/j.snb.2014.10.004
- G. Beulertz, M. Votsmeier, R. Moos:  
Effect of propene, propane, and methane on conversion and oxidation state of three-way catalysts: A microwave cavity perturbation study  
*Applied Catalysis B: Environmental*, **165**, 369-377 (2015), doi: 10.1016/j.apcatb.2014.09.068
- D. Rauch, G. Albrecht, D. Kubinski, R. Moos:  
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
- S. Schödel, R. Moos, M. Votsmeier, G. Fischerauer:  
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
- R. Moos:  
Überblick über den Stand der Abgassensorik  
*Sensoren im Automobil*, 7.4.-8.4.2013, München, Germany, in: T. Tille et al.: *Sensoren im Automobil V*, expert Verlag 2014, p. 1 - 14,  
ISBN 978-3-8169-3207-9
- R. Moos:  
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)  
*Beiträge, 8. Internationales Forum Abgas- und Partikelemissionen / Proceedings, 8<sup>th</sup> International Exhaust Gas and Particulate Emissions Forum*, Ludwigsburg, Germany, 1.-2.4.2014, ISBN 978-3-00-039634-2, p. 71-79
- S. Fischer, D. Schönauer-Kamin, R. Pohle, M. Fleischer, R. Moos:  
NO Detection by Pulsed Polarization of Lambda Probes - Influence of the Reference Atmosphere  
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- A. Groß, T. Weller, H.L. Tuller, R. Moos:  
Electrical Conductivity Study of NO<sub>x</sub> Trap Materials BaCO<sub>3</sub> and K<sub>2</sub>CO<sub>3</sub>/La-Al<sub>2</sub>O<sub>3</sub> during NO<sub>x</sub> Exposure  
*Sensors and Actuators B: Chemical*, **187**, 461-470 (2013), doi: 10.1016/j.snb.2013.01.083
- P. Bartscherer, R. Moos:  
Improvement of the sensitivity of a conductometric soot sensor by adding a conductive cover layer  
*Journal of Sensors and Sensor Systems*, **2**, 95-102 (2013), doi: 10.5194/jsss-2-95-2013
- R. Moos, G. Beulertz, S. Reiß, G. Hagen, G. Fischerauer, M. Votsmeier, J. Gieshoff:  
Overview: Status of the microwave-based automotive catalyst state diagnosis  
*Topics in Catalysis*, **56**, 358-364 (2013), doi: 10.1007/s11244-013-9980-x
- G. Beulertz, M. Fritsch, G. Fischerauer, F. Herbst, J. Gieshoff, M. Votsmeier, G. Hagen, R. Moos:  
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- M. Feulner, G. Hagen, A. Piontkowski, A. Müller, G. Fischerauer, D. Brüggemann, R. Moos:  
In-Operation Monitoring of the Soot Load of Diesel Particulate Filters - Initial Tests  
*Topics in Catalysis*, **56**, 483-488 (2013), doi: 10.1007/s11244-013-0002-9
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Determination of the NO<sub>x</sub> Loading of an Automotive Lean NO<sub>x</sub> Trap by Directly Monitoring the Electrical Properties of the Catalyst Material Itself  
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Effects of H<sub>2</sub>O, CO<sub>2</sub>, CO, and flow rates on the RF-based monitoring of three-way catalysts  
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Integrating NO<sub>x</sub> Sensor for Automotive Exhausts - a Novel Concept  
*Sensor Letters*, **9**, 311-315 (2011), doi:10.1166/sl.2011.1471
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*Sensors*, **10**, 6773-6787 (2010), doi: 10.3390/s100706773
- D. Schönauer, R. Moos:  
Detection of water droplets on exhaust gas sensors  
*Sensors and Actuators B: Chemical*, **148**, 624-629 (2010), doi: 10.1016/j.snb.2010.05.060
- S. Fischer, R. Pohle, B. Farber, R. Proch, J. Kaniuk, M. Fleischer, R. Moos:  
Method for detection of NO<sub>x</sub> in exhaust gases by pulsed discharge measurements using standard zirconia-based lambda sensors  
*Sensors and Actuators B: Chemical*, **147**, 780-785 (2010), doi:10.1016/j.snb.2010.03.092
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