

## Selection of automotive-related papers

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

Sulfur poisoning of powder aerosol deposited films of  $\text{BaFe}_{0.74}\text{Al}_{0.01}\text{Ta}_{0.25}\text{O}_{3-\delta}$ : 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)

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. Walter, P. Schwanzer, 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. 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. Walter, G. Hagen, D. Koch, A. Geißelmann, R. Moos:

On the Suitability of  $\text{NO}_x$ -Storage-Catalysts for Hydrogen Internal Combustion Engines and a Radio Frequency-Based  $\text{NO}_x$  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)

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 ( $\lambda$ ) and the  $\text{NO}_x$  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. 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)

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)

P. Schwanzer, M. Schillinger, J. Mieslinger, S. Walter, G. Hagen, S. Märkl, G. Haft, M. Dietrich, R. Moos, M. Gaderer, H.-P. Rabl:

A Synthetic Ash-Loading Method for Gasoline Particulate Filters with Active Oil Injection  
*SAE International Journal of Engines*, **14**, 493-505 (2021), doi: [10.4271/03-14-04-0029](https://doi.org/10.4271/03-14-04-0029)

C. Steiner, S. Walter, V. Malashchuk, G. Hagen, I. Kogut, H. Fritze, R. Moos:

Determination of the Dielectric Properties of Storage Materials for Exhaust Gas Aftertreatment Using the Microwave Cavity Perturbation Method  
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S. Walter, P. Schwanzer, G. Hagen, G. Haft, H.-P. Rabl, M. Dietrich, R. Moos:

Modelling the Influence of Different Soot Types on the Radio-Frequency-Based Load Detection of Gasoline Particulate Filters  
**open access - free** *Sensors*, **20**, 2659 (2020), doi: [10.3390/s20092659](https://doi.org/10.3390/s20092659)

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

Hochfrequenzsensorik zur direkten Beladungserkennung von Benzinpartikelfiltern  
In: T. Tille (Hrsg.), *Automobil-Sensorik 3 - Prinzipien, Technologien und Anwendungen*, Springer-Verlag, Heidelberg (2020), p. 185-208, 978-3-662-61259-0 (gedruckt), ISBN 978-3-662-61260-6 (online), doi: [10.1007/978-3-662-61260-6\\_7](https://doi.org/10.1007/978-3-662-61260-6_7)

C. Steiner, V. Malashchuk, D. Kubinski, G. Hagen, R. Moos:

Catalyst State Diagnosis of Three-Way Catalytic Converters Using Different Resonance Parameters—A Microwave Cavity Perturbation Study  
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M. Dietrich, G. Hagen, R. Moos:

Dielectric properties and temperature dependency of automotive catalyst coatings and substrate materials: Experimental results, influences and approximation approach  
*Functional Materials Letters*, **12**, 195024 (2019), doi: [10.1142/S1793604719500243](https://doi.org/10.1142/S1793604719500243)

C. Steiner, A. Gänzler, M. Zehentbauer, G. Hagen, M. Casapu, S. Müller, J.-D. Grunwaldt, R. Moos:

Oxidation State and Dielectric Properties of Ceria-Based Catalysts by Complementary Microwave Cavity Perturbation and X-Ray Absorption Spectroscopy Measurements  
*Topics in Catalysis*, **62**, 227-236 (2019), doi: [10.1007/s11244-018-1110-3](https://doi.org/10.1007/s11244-018-1110-3)

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*Topics in Catalysis*, **62**, 172-178 (2019), doi: [10.1007/s11244-019-01140-x](https://doi.org/10.1007/s11244-019-01140-x)
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A finite element model for mixed potential sensors  
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- P. Chen, V. Rizzotto, A. Khetan, K. Xie, R. Moos, H. Pitsch, D. Ye, U. Simon:  
Mechanistic understanding of Cu-CHA catalyst as sensor for direct NH<sub>3</sub>-SCR monitoring: the role of Cu mobility  
*ACS Applied Materials & Interfaces*, **11**, 8097-8105 (2019), doi: [10.1021/acsami.8b22104](https://doi.org/10.1021/acsami.8b22104)
- 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)
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Conductometric Soot Sensors: Internally Caused Thermophoresis as an Important Undesired Side Effect  
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Combined resistive and thermoelectric oxygen sensor with almost temperature-independent characteristics  
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Radio-Frequency-Controlled Urea Dosing for NH<sub>3</sub>-SCR Catalysts: NH<sub>3</sub> Storage Influence to Catalyst Performance under Transient Conditions  
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