

# Verzeichnis der Veröffentlichungen – Prof. K. Rudion

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## 2025

- [1] SCHNEE, L., MILLER, M., RUDION, K., SCHMID, P., HECK, M.: *Einsatz von kurativer Netzführung zur Erhöhung der Strombelastbarkeit von Freileitungen im Normalbetrieb*. ETG Kongress 2025, 21.-22. Mai 2025, Kassel, S. 63-70.
- [2] FISCHER, N.-L., RUDION, K.: *Impact of shifting electric passenger car charging to public infrastructure on aggregated load profiles*. 28th International Conference and Exhibition on Electricity Distribution (CIRED) 2025, Geneva, Switzerland, June 16-19, Paper No 56.
- [3] KRATZ, K., BITTEROLF, L., KARTENBERG, J., RUDION, K., KREIMEIER, M.: *Probabilistic charging management of electric vehicles with stochastic optimization and flexibility analysis under consideration of uncertainties*. 28th International Conference and Exhibition on Electricity Distribution (CIRED 2025), Geneva, Switzerland, June 16-19, 2025, Paper No. 1079, pp. 2933-2937.
- [4] FISCHER, N.-L., ESCHMANN, L., RUDION, K.: *Regionalization of the Location-Dependent Charging Demand of Electric Passenger Cars at the Grid Square Level Using an Agent-Based Mobility Simulation*. *Energies* 2025, 18, 1544, <https://doi.org/10.3390/en18061544>.
- [5] BECK, J., FISCHER, N.-L., RUDION, K.: *Site-Specific Load Profile Simulation of Public EV Charging Points Based on Land Use Classification*. IEEE PES Innovative Smart Grid Technologies (ISGT) Europe 2025, Valetta, Malta, October 20-23, Paper No 391.
- [6] FISCHER, N.-L., RUDION, K.: *Forecasting the Aggregated Flexibility Potential of Electric Passenger Cars at the Grid Square Level Using an Agent-Based Bottom-Up Simulation*. IEEE PES Innovative Smart Grid Technologies (ISGT) Europe 2025, Valetta, Malta, October 20-23, Paper No 243.
- [7] WISSEL, H., SPANCA, N., RUDION, K.: *Real-Time Forecasting of Electricity Prices in Day-Ahead and Intraday-Auction Markets Using Statistical and Machine Learning Approaches*. IEEE PES Innovative Smart Grid Technologies (ISGT) Europe 2025, Valetta, Malta, October 20-23, Paper No 155.
- [8] SCHNEE, L., MILLER, M., RUDION, K., SCHMID, P., HECK, M.: *Impact of Short-Circuits on Overhead Line Temperature in Curative Grid Operation of 110 kV Distribution Grids*. IET International Conference on Powering Net Zero 2025, Glasgow, Großbritannien, November 25-26, 2025, Paper No 017.
- [9] HAUTZ, N., RUDION, K.: *Experimental Analysis of Voltage Distortion Caused by Distributed Energy Systems in a Low-Voltage Grid Node using Power-Hardware-in-the-Loop*. PNZ Global 2025 - IET International Conference on Powering Net Zero, Glasgow, Großbritannien, November 25-26, 2025.

- [10] WAGNER, C., RUDION, K.: *Modeling energy demand and load profiles of electric truck fleets in urban transport - a case study from Stuttgart*. IET Conference Proceedings 2025 (14), 2250–2254.

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- [11] LONDONO, A. F., RUDION, K.: *Modeling and Assessment of Unidirectional Charging Strategies for Electric Vans in Last-Mile Parcel Delivery Operations*. The Sixteenth Annual IEEE Green Technologies (GreenTech) Conference April 3 – 5, 2024, Springdale, Arkansas, USA.
- [12] FISCHER, N., WALZ, K., RUDION, K.: *Combined Modelling of Different Electric Vehicle Fleets for Estimation of Grid Impact and Flexibility Potential*. CIRED Workshop 2024, Vienna, Austria, June 19-20, pp. 91-95, doi: 10.1049/icp.2024.1886.
- [13] WISSEL, H., MÜLLER, S., RUDION, K.: *Evaluation of the Flexibility Provision Behaviour of Different Charging Strategies for Electric Vehicles*. CIRED Workshop 2024, Vienna, Austria, June 19-20, pp. 316-319, doi: 10.1049/icp.2024.2035.
- [14] MÜLLER, S., KRATZ, K., RUDION, K., FRANKENBACH, M.-A., SURMANN, B.: *Influence of Uncertainty in Predictive Congestion Management for the Ancillary Service Provision by Active Distribution Networks*. 18th International Conference on Probabilistic Methods Applied to Power Systems (PMAPS), Auckland, New Zealand, June 24 -26, 2024.
- [15] LONDONO, A. F., RUDION, K.: *Quantifying the Impact of Bidirectional Charging on the Degradation of LiFePO<sub>4</sub> Electric Van Batteries in LMD Operations*. Conference on Sustainable Energy Supply and Energy Storage Systems (NEIS 2024), September 16 – 17, 2024, Hamburg, Germany.
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- [17] DEEPAK, D., RUDION, K., JOHN, C., ABELE, H.: *Improved Accuracy in Calculation of Initial Fault Current in Converter-based Power Systems*. 2024 IEEE PES Innovative Smart Grid Technologies Europe (ISGT EUROPE), Dubrovnik, Croatia, October 14-17, 2024.

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- [18] PFLEGER, C., WAGNER, C., SCHULZ, R., RUDION, K.: *Elektrifizierung des Stückgutverkehrs – Vorgehensweise zur virtuellen Elektrifizierung in einer Großstadt*. Tagungsband zum 15. Wissenschaftsforum Mobilität in Duisburg, “Towards the New Normal in Mobility” (H. Proff). Springer Fachmedien Wiesbaden. May 11, 2023. <https://doi.org/10.1007/978-3-658-39438-7>.

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- [20] BURKHARDT, P., RUDION, K., FRANK, A.: *Blindleistungssteuerung von dezentralen Erzeugungsanlagen zur Verlustreduktion in 110 kV-Netzen mittels linearer Optimierung*. ETG Kongress 2023, 25.-26. Mai 2023, Kassel, S. 267-272.
- [21] WALZ, K., RUDION, R.: *Zeitreihenbasierte Modellierung des Ladebedarfs batterie-elektrischer Lkw für die probabilistische Netzplanung*. ETG Kongress 2023, 25.-26. Mai 2023, Kassel, S. 969-976.
- [22] DEEPAK, D., RUDION, K., JOHN, C., ABELE, H.: *Investigation of the Short-Circuit Power Significance in Converterbased Power Systems*. ETG Kongress 2023, 25.-26. May 2023, Kassel, Germany, S. 1-8.
- [23] BURKHARDT, P., RUDION, K., FRANK, A., PROBST, A.: *Evaluation of Transit Power Flows in High Voltage Distribution Grids using Fuzzy Logic*. 27th International Conference on Electricity Distribution (CIRED 2023), Rome, Italy, June 12-15, 2023.
- [24] MÜLLER, S., RUDION, K., FRANKENBACH, M.A., EXNER, C.: *Evaluation of Quota-Based Predictive Congestion Management in Active Distribution Networks*. 27th International Conference on Electricity Distribution (CIRED 2023), Rome, Italy, June 12-15, 2023.
- [25] WAGNER, C., WALZ, K., RUDION, K., BURGHOF, D., MAUSER, I.: *Vehicle-to-home or battery energy storage systems - a comparison of the potential usage in smart homes*. 27th International Conference on Electricity Distribution (CIRED 2023), Rome, Italy, June 12-15, 2023, pp. 1204-1208, doi: 10.1049/icp.2023.0679.
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- [27] DEEPAK, D., BUCHNER, M., RUDION, K., JOHN, C., ABELE, H.: *Short-circuit currents characterization for future converter-based power systems*. 27th International Conference on Electricity Distribution (CIRED 2023), Rome, Italy, June 12-15, 2023, Paper No. 10824. S.2175-2179.
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- [29] FISCHER, N., RUDION, K.: *Forecasting the Flexibility Potential of Electric Vehicles Limited by Individual Charging Targets*. 2023 IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe), Grenoble, France, October 23-26, 2023.
- [30] BECK, J., FISCHER, N., RUDION, K.: *Modeling High Power Chargers at Highway Rest Stops Using Data on Real Usage Behavior*. PESS 2023 – Power and Energy Student Summit, Bielefeld, Germany, November 15-17, 2023, pp. 19-24.

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- [31] STREUBEL, T., KATTMANN, C., EISENMANN, A., RUDION, K.: *Characterization of Supraharmonic Emission from Three Different Electric Vehicle Charging Infrastructures in Time and Frequency Domain*. *Energies* 2022, 15(2), 394, January 2022, DOI: 10.3390/en15020394.
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- [39] MILLER, M., RUDION, K., NÄGELE, H., SCHNAARS, J.: *A Grid Reinforcement Approach for an optimized Planning of High-Voltage Distribution Grids under Consideration of Line Loading Indicators*. *IET Renewable Power Generation*. 16, p. 1841-1852, 2022. <https://doi.org/10.1049/rpg2.12442>.
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and *Optimal Grid Utilization*. Electric Power Systems Research, Volume 212, November 2022, 108380, ISSN 0378-7796, DOI:10.1016/j.epsr.2022.108380.

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- [43] BUCHNER, M., RUDION, K.: *Identification of Grid Impedance by Broadband Signals in Power Systems with High Harmonics*. Energies 2021, Vol. 14, 7398, <https://doi.org/10.3390/en14217398>.
- [44] BUCHNER, M., RUDION, K.: *Investigation of the Effect of Different Boundary Conditions on the Islanding of Microgrids*. The 9th International Conference on Renewable Power Generation - IET RPG, Dublin, Online, March 1 – 2, 2021, <https://doi.org/10.1049/icp.2021.1403>.
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