

Publikationsliste

- Reliability of silicon battery technology and power electronics based energy conversion, **S. Hansen**, F. Hahn, H. Krüger, F. Hoffmann, M. Placzek, M. Andreasen, R. Adelung, M. Liserre, IEEE (invited paper), submitted, 2021
- Temperature-Dependent Vapor Infiltration of Sulfur into Highly Porous Hierarchical Three-Dimensional Conductive Carbon Networks for Lithium Ion Battery Applications, H. Cavers, H. Krüger, O. Polonskyi, F. Schütt, R. Adelung, **S. Hansen**, ASC Omega, 5, 43, 28196–28203, 2020
- Surface functionalization of ZnO: Ag columnar thin films with AgAu and AgPt bimetallic alloy nanoparticles as an efficient pathway for highly sensitive gas discrimination and early hazard detection in batteries, A. Vahl, O. Lupan, D. Santos-Carballal, V. Postica, **S Hansen**, H. Cavers, N. Wolff, M.-I. Terasa, M. Hoppe, A. C.-Essadek, T. Dankwort, L. Kienle, N. H de Leeuw, R. Adelung, F. Faupel, J. Mater. Chem. A, 8, 16246-16264, 2020
- Single CuO/Cu₂O/Cu Microwire Covered by a Nanowire Network as a Gas Sensor for the Detection of Battery Hazards, O. Lupan, N. Ababii, A. K. Mishra, O. Gronenberg, A. Vahl, U. Schürmann, V. Duppel, H. Krüger, L. Chow, L. Kienle, F. Faupel, R. Adelung, N. H de Leeuw, **S Hansen**, ACS Applied Materials & Interfaces, 12, 42248–42263, 2020
- Necklace-like Nitrogen Doped Tubular Carbon 3D Frameworks for Electrochemical Energy Storage, R Yuksel, O Buyukcakir, PK Panda, SH Lee, Y Jiang, D Singh, **S Hansen**, R Adelung, Y K Mishra, R Ahuja, R S Ruoff, Advanced Functional Materials, 1909725, 2020,
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- Hochleistungsakkus: Weiter kommen mit Silicium, **S Hansen**, J Carstensen, L Kienle, R Adelung, Nachrichten aus der Chemie 66 (1), 24-26, 2018,
- Corset-like solid electrolyte interface for fast charging of silicon wire anodes, **S Hansen**, S Shree, G Neubüser, J Carstensen, L Kienle, R Adelung, Journal of Power Sources 381, 8-17, 2018,
- Si Microwire Anode with Enhanced Conductivity through Decoration with Cu Nanoparticles, E Quiroga-González, **S Hansen**, Journal of Materials Science Research and Reviews, 1-6, 2018,
- Size-dependent physicochemical and mechanical interactions in battery paste anodes of Si-microwires revealed by Fast-Fourier-Transform Impedance Spectroscopy, **S Hansen**, E Quiroga-González, J Carstensen, R Adelung, H Föll, Journal of Power Sources 349, 1-10, 5, 2017,
- (Re-) crystallization mechanism of highly oriented Si-microwire arrays by TEM analysis, G Neubüser, **S Hansen**, V Duppel, R Adelung, L Kienle, Journal of Solid State Electrochemistry 21 (12), 3421-3427, 3, 2017,
- Size-dependent cyclic voltammetry study of silicon microwire anodes for lithium ion batteries, **S Hansen**, E Quiroga-González, J Carstensen, H Föll, Electrochimica Acta 217, 283-291, 16, 2016,

- Electrochemical fabrication and characterization of silicon microwire anodes for Li ion batteries, **S Nöhren**, E Quiroga-González, J Carstensen, H Föll, Journal of The Electrochemical Society 163 (3), A373-A379, 13, **2016**,
- Local transmittance measurements as large area diagnostic tool for the optimization of porous Si foils for Li-Ion battery anodes, **S Hansen**, A Schütt, J Carstensen, R Adelung, Journal of The Electrochemical Society 163 (14), A3036, 4, **2016**,
- Method for producing surface discharge electrodes and semifinished product for carrying out the method, **S Nöhren**, J Bahr, J Carstensen, International Patent, WIPO, WO 2016/037610 A1, **2016**.
- Fabrication and characterization of silicon microwire anodes by electrochemical etching techniques, **S Nöhren**, E Quiroga-González, J Carstensen, H Föll, ECS Transactions 66 (6), 27, 3, **2015**,
- Dependence of the lithiation/delithiation potentials of silicon microwire anodes on their state of charge and sizes, **S Nöhren**, E Quiroga-González, H Föll, ECS Transactions 64 (23), 1, **2015**,

Gutachter

Gutachter für “peer-review” Zeitschriften: ACS Sustainable Chemistry & Engineering, Journal on Electrochemical Society, Energy Storage, Journal of Physical Chemistry, Materials Research Letters, ChemElectroChem, Nano Energy...

Nicht-wissenschaftliche Veröffentlichungen

- Energiedichte im Akku vervielfacht, 11/2018, S. 40, c't, 2018,
- Neuer Silizium-Akku verzehnfacht die mögliche Energiedichte, Heise online, 04/2018
- Wirtschaftsland SH, Januar 2021, Homestory und Coverfoto

Outreach Projekte

- Hannover Messe 2018, 2019 (exhibitions, press conferences and panel discussions),
- Kieler Woche 2019,
- Night of Science 2019,
- BNE Kongress 2020 in Kiel,
- Pint of science in Kiel 2021, digital
- Ringvorlesung “Nanotechnologie für den Unterricht“ – Diffusion in einer Batterie – 14.01.2021 - digital