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Ansættelse

Adjunkt

Institut for Grøn Teknologi (IGT)
Syddansk Universitet
Odense M
15. jan. 2020 → 31. mar. 2023

Adjunkt

SDU Chemical Engineering
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14. jan. 2020 → 31. mar. 2023

Publikationer

Gram-size Pt/C catalyst synthesized using Pt compound directly recovered from an end-of-life PEM fuel cell stack
Chourashiya, M., Sharma, R., Gyergyek, S. & Andersen, S. M., 15. jan. 2022, I: *Materials Chemistry and Physics*. 276, 9 s., 125439.

Publikation: Bidrag til tidsskrift › Tidsskriftartikel › Forskning › peer review

Microwave-Assisted Scalable Synthesis of Pt/C: Impact of the Microwave Irradiation and Carrier Solution Polarity on Nanoparticle Formation and Aging of the Support Carbon

Sharma, R., Gyergyek, S. & Andersen, S. M., 4. jan. 2022, (E-pub ahead of print) I: *ACS Applied Energy Materials*.

Publikation: Bidrag til tidsskrift › Tidsskriftartikel › Forskning › peer review

Degradation mechanisms of electrochemical activity of Pt/C during the accelerated stress test focused on catalyst support corrosion

Sharma, R. & Andersen, S. M., sep. 2021.

Publikation: Konferencebidrag uden forlag/tidsskrift › Konferenceabstrakt til konference › Forskning

Recovery of Pt and Ru from Spent Low-Temperature Polymer Electrolyte Membrane Fuel Cell Electrodes and Recycling of Pt by Direct Redeposition of the Dissolved Precursor on Carbon

Sharma, R., Gyergyek, S., Lund, P. B. & Andersen, S. M., 26. jul. 2021, I: *ACS Applied Energy Materials*. 4, 7, s. 6842–6852

Publikation: Bidrag til tidsskrift › Tidsskriftartikel › Forskning › peer review

Synthesis of Pt/C from (NH₄)₂PtCl₆ through Microwave-Assisted Synthesis: A particle size-controlled growth

Sharma, R., Wang, Y., Li, F., Chamier, J. & Andersen, S. M., jul. 2021, s. 129. 322 s.

Publikation: Konferencebidrag uden forlag/tidsskrift › Konferenceabstrakt til konference › Forskning

Circular use of Pt/C through Pt dissolution from spent PEMFC cathode and direct reproduction of new catalyst with microwave synthesis

Sharma, R. & Andersen, S. M., 1. jun. 2021, I: *Materials Chemistry and Physics*. 265, 9 s., 124472.

Publikation: Bidrag til tidsskrift › Tidsskriftartikel › Forskning › peer review

Pt/C Electrocatalyst Durability Enhancement by Inhibition of Pt Nanoparticle Growth Through Microwave Pretreatment of Carbon Support

Sharma, R., Gyergyek, S., Chamier, J., Morgen, P. & Andersen, S. M., 12. mar. 2021, I: ChemElectroChem. 8, 6, s. 1183-1195

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Crystalline Disorder, Surface Chemistry, and Their Effects on the Oxygen Evolution Reaction (OER) Activity of Mass-Produced Nanostructured Iridium Oxides

Sharma, R., Karlsen, M., Morgen, P., Chamier, J., Ravnsbæk, D. B. & Andersen, S. M., feb. 2021, I: ACS Applied Energy Materials. 4, 3, s. 2552-2562

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Spent fuel cell electrocatalyst recycling through potentiodynamic dissolution of platinum

Sharma, R. & Andersen, S. M., 4. okt. 2020.

Publikation: Konferencebidrag uden forlag/tidsskrift > Poster > Forskning

Electrochemical Dissolution of PtRu Nanoparticles: Electrocatalyst Stability During Operation and Recycling of Spent Catalysts

Sharma, R., Gyergyek, S., Morgen, P. & Andersen, S. M., 30. aug. 2020. 1 s.

Publikation: Konferencebidrag uden forlag/tidsskrift > Poster > Forskning

Platinum recycling through electroless dissolution under mild conditions using a surface activation assisted Pt-complexing approach

Sharma, R., Morgen, P. & Andersen, S. M., 17. jun. 2020, I: Physical chemistry chemical physics : PCCP. 22, 23, s. 13030-13040

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

On the Electrochemical Stability of PtRu Alloy Electrodes in Aqueous Acidic Baths: A Strategy for Recycling Pt and Ru

Sharma, R., Gyergyek, S., Morgen, P. & Andersen, S. M., 5. feb. 2020, I: Journal of The Electrochemical Society. 167, 2, 9 s., 024521.

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Method for dissolving precious metals

Andersen, S. M. & Sharma, R., 7. nov. 2019, IPC nr. C22B3/00, C25C5/02, Patentnr. WO2019211318 (A1), 1. maj 2019, Prioritetsdato 2. maj 2018, Prioritetsnr. EP20180170312 20180502

Publikation: Patent

Inhibition of Ostwald ripening through surface switching species during potentiodynamic dissolution of platinum nanoparticles as an efficient strategy for platinum group metal (PGM) recovery

Sharma, R., Simonsen, S. B., Morgen, P. & Andersen, S. M., 20. okt. 2019, I: Electrochimica Acta. 321, 11 s., 134662.

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Particle Size-Controlled Growth of Carbon-Supported Platinum Nanoparticles (Pt/C) through Water-Assisted Polyol Synthesis

Sharma, R., Wang, Y., Li, F., Chamier, J. & Andersen, S. M., 24. sep. 2019, I: ACS Omega. 4, 13, s. 15711-15720

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Synthesis of Pt/C electrocatalyst from a user-friendly Pt precursor - ammonium hexachloroplatinate through microwave-assisted polyol synthesis

Sharma, R., Wang, Y., Li, F., Chamier, J. & Andersen, S. M., 23. sep. 2019, I: ACS Applied Energy Materials. 2, 9, s. 6875-6882

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Sustainable platinum recycling through electrochemical dissolution of platinum nanoparticles from fuel cell electrodes

Sharma, R., Rode Nielsen, K., Lund, P. B., Simonsen, S. B., Grahl-Madsen, L. & Andersen, S. M., 2. sep. 2019, I: ChemElectroChem. 6, 17, s. 4471-4482

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Pt/C Electrocatalyst Synthesis from Recycling of the Spent PEMFC Membrane Electrode Assembly: A Closed Loop Circular Economy

Sharma, R., Andreasen, S. J., Chamier, J. & Andersen, S. M., 22. aug. 2019, I: Journal of The Electrochemical Society. 166, 13, s. F963-F970 8 s.

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Evolution of the degradation mechanisms with the number of stress cycles during an accelerated stress test of carbon supported platinum nanoparticles

Sharma, R., Gyergyek, S., Li, Q. & Andersen, S. M., 1. apr. 2019, I: Journal of Electroanalytical Chemistry. 838, s. 82-88

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Influence of dispersion media on Nafion® ionomer distribution in proton exchange membrane fuel cell catalyst carbon support

Sharma, R., Grahl-Madsen, L. & Andersen, S. M., 15. mar. 2019, I: Materials Chemistry and Physics. 226, s. 66-72

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Accurate Determination of Catalyst Loading on Glassy Carbon Disk and Its Impact on Thin Film Rotating Disk Electrode for Oxygen Reduction Reaction

Chourashiya, M., Sharma, R. & Andersen, S. M., 18. dec. 2018, I: Analytical Chemistry. 90, 24, s. 14181-14187

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

An opinion on catalyst degradation mechanisms during catalyst support focused accelerated stress test (AST) for proton exchange membrane fuel cells (PEMFCs)

Sharma, R. & Andersen, S. M., dec. 2018, I: Applied Catalysis B: Environmental. 239, s. 636-643

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Environmentally and industrially friendly recycling of platinum nanoparticles through electrochemical dissolution-electrodeposition in acid-free/dilute acidic electrolytes

Sharma, R., Gyergyek, S. & Andersen, S. M., 11. sep. 2018, I: ChemSusChem (Print). 11, 21, s. 3742-3750

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Accurate determination of catalyst loading on glassy carbon disk and its impact on thin film rotating disk electrode for oxygen reduction reaction.

Chourashiya, M., Sharma, R. & Andersen, S. M., 18. jul. 2018.

Publikation: Konferencebidrag uden forlag/tidsskrift > Poster > Forskning > peer review

Probing the electrolyte/electrode interface of half-cells using electrochemical impedance spectroscopy

MEDINA, J., Chourashiya, M., Sharma, R. & Andersen, S. M., 2018, s. 32. 32 s.

Publikation: Konferencebidrag uden forlag/tidsskrift > Poster > Forskning > peer review

Quantification on Degradation Mechanisms of Polymer Electrolyte Membrane Fuel Cell Catalyst Layers during an Accelerated Stress Test

Sharma, R. & Andersen, S. M., 2018, I: ACS Catalysis. 8, 4, s. 3424-3434

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Zoom in catalyst/ionomer interface in polymer electrolyte membrane fuel cell electrodes: Impact of catalyst/ionomer dispersion media/solvent

Sharma, R. & Andersen, S. M., 2018, I: A C S Applied Materials and Interfaces. 10, 44, s. 38125-38133

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Effects of Ni doping induced band modification and Ni₃Se₂ nano-inclusion on thermoelectric properties of PbSe

Gayner, C., Sharma, R., Das, M. K. & Kar, K. K., 2017, I: Journal of Alloys and Compounds. 699, s. 679-689

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Functionally graded elastomeric composites as microwave shielding media

Sharma, R., Ahankari, S. S., Kar, K. K., Biswas, A. & Srivastav, K. V., 2017, I: Journal of Elastomers and Plastics. 49, 1, s. 37-46

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Structural and ion transport properties of $[(AgI)_x(AgBr)_{0.4-x}](LiPO_3)_{0.6}$ and $(AgBr)_x(LiPO_3)_{(1-x)}$ solid electrolytes

Kumar, A., Sharma, R., Gayner, C., Rao, S. N., Singh, D. P., Das, M. K. & Kar, K. K., 2017, I: International Journal of Applied Glass Science. 8, 1, s. 97-104

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Structural and ion transport properties of lithium triflate/poly(vinylidene fluoride-co-hexafluoropropylene)-based polymer electrolytes

Kumar, A., Sharma, R., Suresh, M., Das, M. K. & Kar, K. K., 2017, I: Journal of Elastomers and Plastics. 49, 6, s. 513-526

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Synthesis and Characterization of Layered Double Hydroxides Containing Optically Active Transition Metal Ion

Tyagi, S. B., Kharkwal, A., Nitu, Kharkwal, M. & Sharma, R., 2017, I: Solid State Sciences. 63, s. 93-102

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Effects of surface microstructure and chemical state of featherfiber-derived multidoped carbon fibers on the adsorption of organic water pollutants

Benjwal, P., Sharma, R. & Kar, K. K., 15. nov. 2016, I: Materials and Design. 110, s. 762-774

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Boost in room temperature thermoelectric performance of $PbSe: Al_x$ through band modification and low densification

Gayner, C., Sharma, R., Das, M. K. & Kar, K. K., 21. okt. 2016, I: Journal of Applied Physics. 120, 15, 155106.

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Impacts of ceramic filler and the crystallite size of polymer matrix on the ionic transport properties of lithium triflate/poly(vinylidene fluoride-co-hexafluoropropene) based polymer electrolytes

Kumar, A., Sharma, R., Das, M. K., Gajbhiye, P. & Kar, K. K., 10. okt. 2016, I: Electrochimica Acta. 215, s. 1-11

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Helically coiled carbon nanotube electrodes for flexible supercapacitors

Cherusseri, J., Sharma, R. & Kar, K. K., 1. aug. 2016, I: Carbon. 105, s. 113-125

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Exploring the doping effects of copper on thermoelectric properties of lead selenide

Gayner, C., Sharma, R., Mallik, I., Das, M. K. & Kar, K. K., 21. jun. 2016, I: Journal of Physics D: Applied Physics. 49, 28, 285104.

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Li-ion transport, structural and thermal studies on lithium triflate and barium titanate incorporated poly(vinylidene fluoride-co-hexafluoropropene) based polymer electrolyte

Kumar, A., Logapperumal, S., Sharma, R., Das, M. K. & Kar, K. K., 1. jun. 2016, I: Solid State Ionics. 289, s. 150-158

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Effects of Surface Roughness and N-content on Oxygen Reduction Reaction Activity for the Carbon-based Catalyst Derived from Poultry Featherfiber

Sharma, R. & Kar, K. K., 10. feb. 2016, I: Electrochimica Acta. 191, s. 876-886

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Advanced carbon-carbon composites: Processing properties and applications

Sharma, R., Ravikumar, N. L., Dasgupta, K., Chakravarty, J. K. & Kar, K. K., 1. jan. 2016, *Composite Materials: Processing, Applications, Characterizations*. Springer Science+Business Media, s. 315-367

Publikation: Kapitel i bog/rapport/konference-proceeding > Kapitel i bog > Forskning > peer review

Carbon nanotube-/graphene-reinforced ceramic composites

Sharma, R. & Kar, K. K., 1. jan. 2016, *Composite Materials: Processing, Applications, Characterizations*. Springer Science+Business Media, s. 599-625

Publikation: Kapitel i bog/rapport/konference-proceeding > Kapitel i bog > Forskning > peer review

Effect of concentration gradient on the magnetic properties of functionally graded styrene butadiene rubber composites

Sharma, R., Ahankari, S. S. & Kar, K. K., 1. jan. 2016, *Composite Materials: Processing, Applications, Characterizations*. Springer Science+Business Media, s. 413-432

Publikation: Kapitel i bog/rapport/konference-proceeding > Kapitel i bog > Forskning > peer review

Mangifera indica, Ficus religiosa and Polyalthia longifolia leaf extract-assisted green synthesis of graphene for transparent highly conductive film

Chamoli, P., Sharma, R., Das, M. K. & Kar, K. K., 1. jan. 2016, I: *RSC Advances*. 6, 98, s. 96355-96366

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Nanocomposites based on carbon nanomaterials and electrically nonconducting polymers

Banerjee, S., Sharma, R. & Kar, K. K., 1. jan. 2016, *Composite Materials: Processing, Applications, Characterizations*. Springer Science+Business Media, s. 251-280

Publikation: Kapitel i bog/rapport/konference-proceeding > Kapitel i bog > Forskning > peer review

Short carbon fiber-reinforced polycarbonate composites

Sharma, R., Kar, K. K., Das, M. K., Gupta, G. K. & Kumar, S., 1. jan. 2016, *Composite Materials: Processing, Applications, Characterizations*. Springer Science+Business Media, s. 199-221

Publikation: Kapitel i bog/rapport/konference-proceeding > Kapitel i bog > Forskning > peer review

Superhydrophobic and superoleophobic surfaces in composite materials

Manna, O., Das, S. K., Sharma, R. & Kar, K. K., 1. jan. 2016, *Composite Materials: Processing, Applications, Characterizations*. Springer Science+Business Media, s. 647-686

Publikation: Kapitel i bog/rapport/konference-proceeding > Kapitel i bog > Forskning > peer review

Oxygen reduction reaction activity of nitrogen, oxygen and sulphur containing carbon derived from low-temperature pyrolysis of poultry featherfiber

Sharma, R. & Kar, K. K., 11. aug. 2015, I: *Electrochimica Acta*. 176, s. 1054-1064 11 s., 25390.

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Hierarchically structured catalyst layer for the oxygen reduction reaction fabricated by electrodeposition of platinum on carbon nanotube coated carbon fiber

Sharma, R. & Kar, K. K., 24. jul. 2015, I: *RSC Advances*. 5, 82, s. 66518-66527 10 s.

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Effects of structural disorder and nitrogen content on the oxygen reduction activity of polyvinylpyrrolidone-derived multi-doped carbon

Sharma, R. & Kar, K. K., 14. jun. 2015, I: *Journal of Materials Chemistry A*. 3, 22, s. 11948-11959 12 s.

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Particle size and crystallographic orientation controlled electrodeposition of platinum nanoparticles on carbon nanotubes

Sharma, R. & Kar, K. K., 20. feb. 2015, I: *Electrochimica Acta*. 156, s. 199-206 8 s.

Publikation: Bidrag til tidsskrift > Tidsskriftartikel > Forskning > peer review

Nanotechnology advancements on carbon nanotube/polypyrrole composite electrodes for supercapacitors

Cherusseri, J., Sharma, R. & Kar, K. K., 1. jan. 2015, *Handbook of Polymer Nanocomposites. Processing, Performance and Application: Volume B: Carbon Nanotube Based Polymer Composites*. Springer Science+Business Media, s. 479-510 32 s.

Publikation: Kapitel i bog/rapport/konference-proceeding > Kapitel i bog > Forskning > peer review

Polymer electrolyte membrane fuel cells: Role of carbon nanotubes/graphene in cathode catalysis

Sharma, R., Cherusseri, J. & Kar, K. K., 1. jan. 2015, *Handbook of Polymer Nanocomposites. Processing, Performance and Application: Volume B: Carbon Nanotube Based Polymer Composites*. Springer Science+Business Media, s. 361-390 30 s.

Publikation: Kapitel i bog/rapport/konference-proceeding › Kapitel i bog › Forskning › peer review

Viscoelastic properties of coil carbon nanotube-coated carbon fiber-reinforced polymer nanocomposites

Sharma, R., Yadav, A. K., Panwar, V. & Kar, K. K., 1. jan. 2015, I: *Journal of Reinforced Plastics and Composites*. 34, 12, s. 941-950

Publikation: Bidrag til tidsskrift › Tidsskriftartikel › Forskning › peer review

Carbon nanotube coated carbon fiber based composite filaments for luminescent bulbs

Sharma, R. & Kar, K. K., 15. dec. 2014, I: *Materials Letters*. 137, s. 150-152 3 s.

Publikation: Bidrag til tidsskrift › Tidsskriftartikel › Forskning › peer review

INCANDESCENT LAMP

Kar, K. K., Sharma, R., Rahman, A. & Agarwal, S., 1. mar. 2012

Publikation: Patent

Aktiviteter

Study of the catalyst/ionomer interface in PEMFC electrodes through quantification of the degradation mechanisms during an accelerated stress test

Raghunandan Sharma (Oplægsholder) & Shuang Ma Andersen (Andet)

31. okt. 2019 → 1. nov. 2019

Hahn-Meitner-Institut, Berlin, Germany

Raghunandan Sharma (Gæsteforsker)

2. jul. 2018 → 5. jul. 2018

Hahn-Meitner-Institut, Berlin, Germany

Raghunandan Sharma (Gæsteforsker)

11. jun. 2018 → 16. jun. 2018

Electrochemistry and Battery testing Workshop

Raghunandan Sharma (Deltager)

30. maj 2018

Danish IP Fair 2018

Raghunandan Sharma (Deltager)

29. maj 2018

Neutron and Synchrotron Sample Environment Workshop

Raghunandan Sharma (Deltager)

2. maj 2018 → 3. maj 2018

Quantification on degradation mechanisms of polymer electrolyte membrane fuel cell catalyst layers during accelerated stress test

Raghunandan Sharma (Oplægsholder)

25. apr. 2018 → 27. apr. 2018

Den danske brint- og brændselscelledag 2017

Raghunandan Sharma (Deltager)

28. nov. 2017

Probing the ionomer/catalyst layer interface at PEMFC cathode

Raghunandan Sharma (Oplægsholder)

2. nov. 2017 → 3. nov. 2018

Danscatt Annual Meeting 2017

Raghunandan Sharma (Deltager)

1. jun. 2017 → 2. jun. 2018