

Energy Advances

rsc.li/energy-advances

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

IN THIS ISSUE

ISSN 2753-1457 CODEN EANDBJ 5(2) 133-242 (2026)



Cover

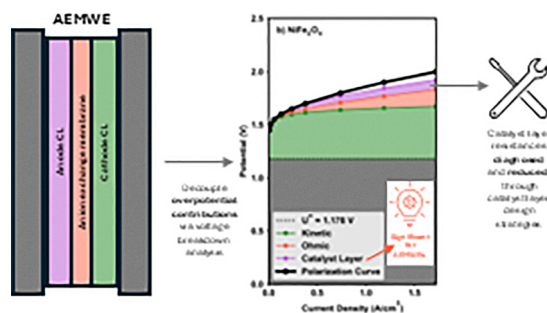
See G. Garnweitner *et al.*, pp. 151–162.
Image reproduced by permission of Dr Georg Garnweitner from *Energy Adv.*, 2026, 5, 151.
Image generated with the assistance of Google Gemini.

PERSPECTIVE

139

Voltage breakdown analyses in anion exchange membrane water electrolysis – the contributions of catalyst layer resistance on overall overpotentials

Emily K. Volk, Elliot Padgett, Melissa E. Kreider, Stephanie Kwon* and Shaun M. Alia*

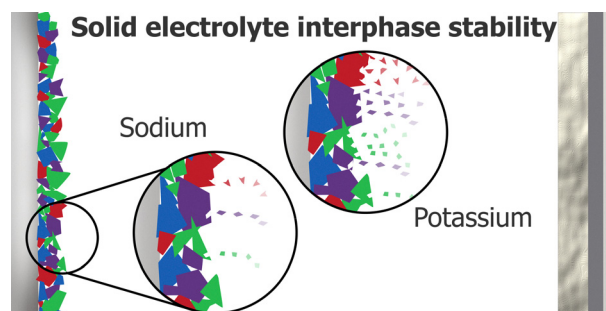


COMMUNICATION

146

Comparative stability of the solid electrolyte interphase in potassium and sodium batteries

Jan Felix Schuster, Le Anh Ma, Christopher A. O'Keefe, Clare P. Grey and Reza Younesi*



EES Catalysis

GOLD
OPEN
ACCESS

Exceptional research on energy and environmental catalysis

Open to everyone. Impactful for all

rsc.li/EESCatalysis

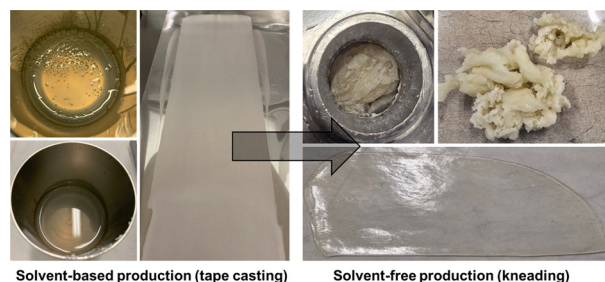
Fundamental questions
Elemental answers



151

Simple and scalable solvent-free PEO based electrolyte fabrication by kneading for all solid state lithium sulfur batteries

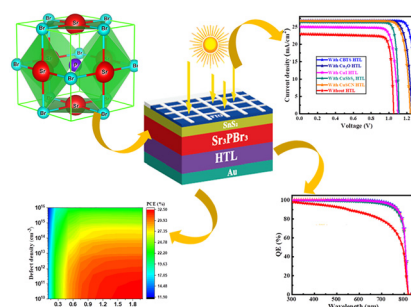
N. L. Grotkopp, M. Hokmabadi, M. Nebelsiek, M. Kurrat, P. Michalowski, A. Jean-Fulcrand and G. Garnweitner*



163

Machine learning-assisted optimization of Cu-based HTLs for lead-free Sr_3PbBr_3 perovskite solar cells achieving over 30% efficiency via SCAPS-1D simulation

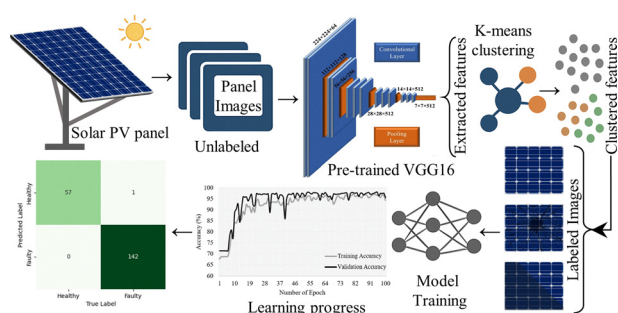
Mahabur Rahman, Md. Faruk Hossain, Mongi Amami, Lamia Ben Farhat, Mutasem Z. Bani-Fwaz and Md. Ferdous Rahman*



180

Advanced fault detection in PV panels using deep neural networks: leveraging transfer learning and electroluminescence image processing

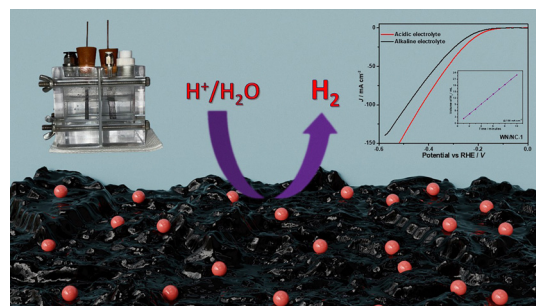
Ihtesham Ibn Malek and Hafiz Imtiaz*



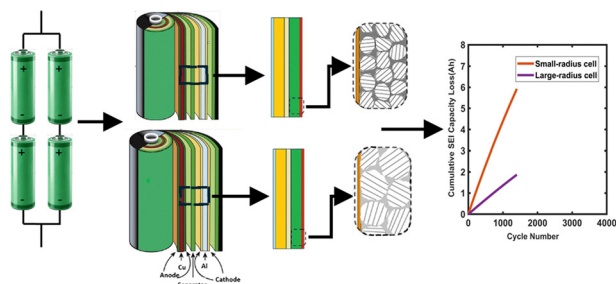
194

Tungsten nitride on a porous carbon support as a highly durable electrocatalyst for the hydrogen evolution reaction

Shankar Baskaran, Gokul Pandiyan Mageswari, J. Anjana and Azhagumuthu Muthukrishnan*



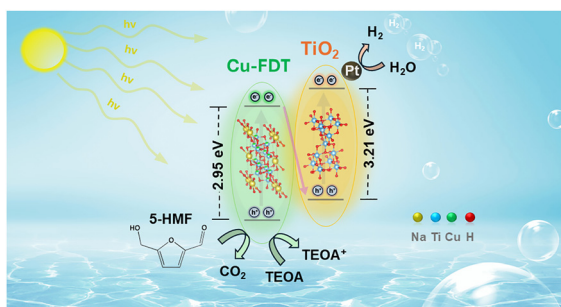
202



Heterogeneous aging in a multi-cell lithium-ion battery system driven by manufacturing-induced variability in electrode microstructure: a physics-based simulation study

Parisa Akhtari Zavareh, Aditya Naveen Matam and Krishna Shah*

224



Highly active Cu-freudenbergite/TiO₂ heterojunction for solar-driven hydrogen evolution and 5-hydroxymethylfurfural oxidation

Panagiotis Tzevelekidis, Elias Sakellis, Loukas Koutsokeras, Olga Martzoukou, Nikos Boukos and Christiana A. Mitsopoulou*

