

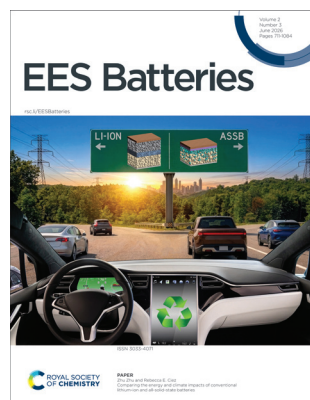
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Cover

See Zhu Zhu and Rebecca E. Ciez, pp. 835–848.

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Inside cover

See Suela Kellici, Muhammad Tariq Sajjad *et al.*, pp. 849–860.

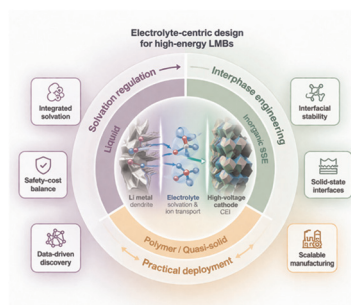
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Electrolyte-centric strategies for high-energy-density lithium metal batteries

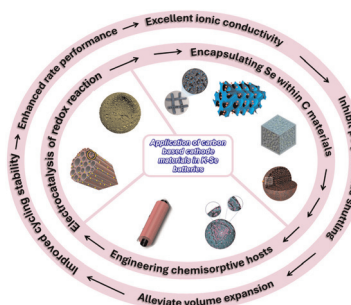
Qidong Ruan, Yong Wu, Yifan Wang, Hao Cheng* and Yingying Lu*



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A review of C-based cathode composites for advanced K–Se batteries

Narasimharao Kitchamsetti,* Sungwook Mhin* and HyukSu Han*



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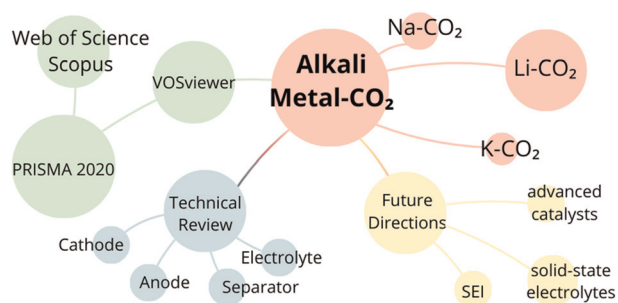
Fundamental questions
Elemental answers

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Recent advances and scientometric insights into alkali metal–CO₂ batteries: materials, performance, and future directions

Camila Stockey Erhardt,* Moyra Freitas Vieira, Darlan Pontin, Chrisminder Dain, Felipe Dalla Vecchia and Victor Hugo Jacks Mendes dos Santos*

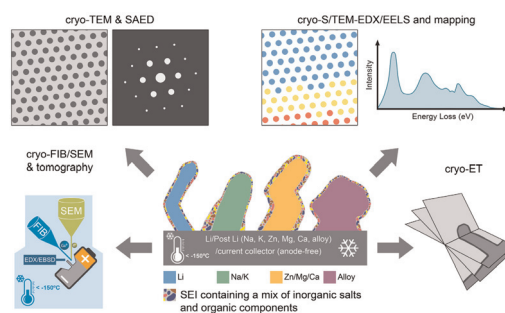


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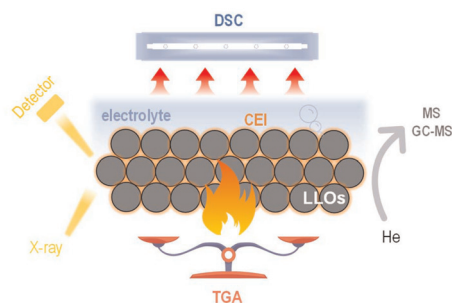
Yaolin Xu, Kang Dong, Zdravko Kochovski, Qingping Wu* and Yan Lu*



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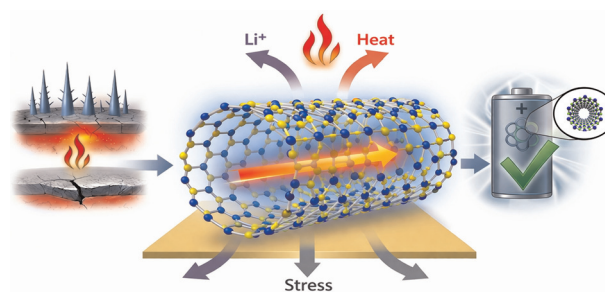
Haitang Zhang, Jian Wang, Lingqiao Wu, Shiqi Liu, Yuan Liang, Shu Zhao and Haijun Yu*



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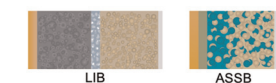
Boron nitride nanotubes for next-generation battery systems

Thang Quoc Huynh* and Tan-Lien Pham*

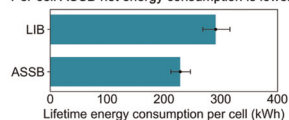


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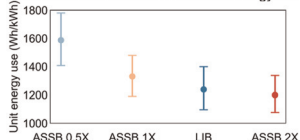
ASSBs are energy dense & reduce material use, but does that translate to environmental benefits?



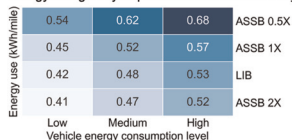
Per-cell ASSB net energy consumption is lower



Shorter ASSB lifetimes increase unit energy use



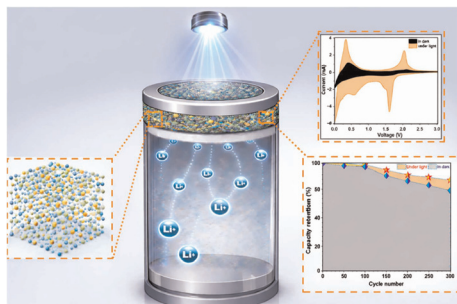
Energy use greatly depends on vehicle efficiency



Comparing the energy and climate impacts of conventional lithium-ion and all-solid-state batteries

Zhu Zhu and Rebecca E. Ciez*

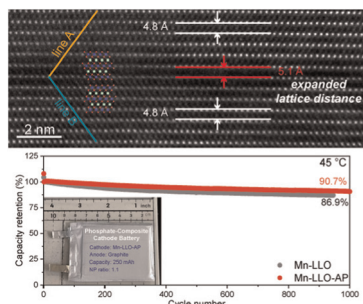
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Interfacial strain engineering induces fatigue-resistant, high-capacity photo-assisted lithium storage

Mudasar Nazir, Kiem G. Nguyen, Richard T. Baker, Matthew E. Berry, Rabia Khatoun, Shumaila Babar, Steven Dunn, Suela Kellici* and Muhammad Tariq Sajjad*

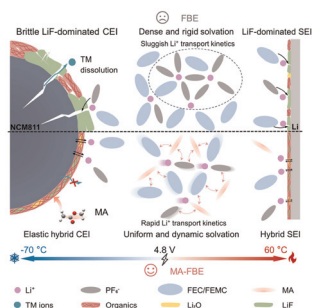
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Dual defect engineering tailored Li⁺ diffusion kinetics for sustainable Mn-based composite-structure cathode materials

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Breaking solvation compactness: methyl acetate cosolvent engineering enables high-voltage lithium metal batteries at low temperatures

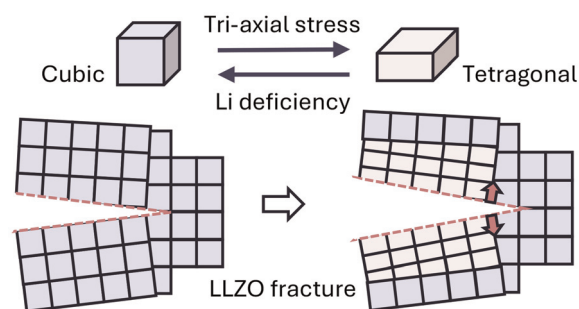
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Phase instability-coupled fracture behavior in garnet LLZO solid electrolytes: a machine learning-enabled atomistic study

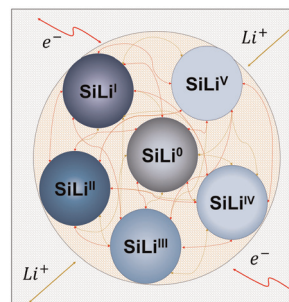
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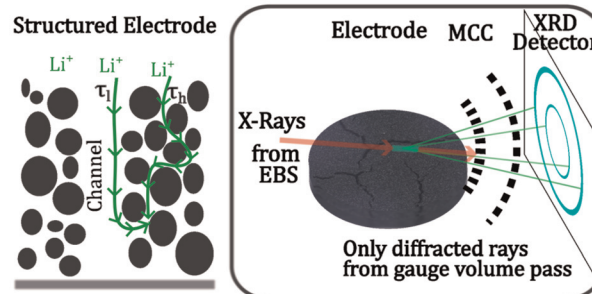
Nikolaos Papadopoulos, Oliver Queisser, Stefanie Arnold, Shubham Dhananjay Bhende, Jonathan E. Mueller, Simon Schwunk and Volker Presser*



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Andrew R. T. Morrison,* Will J. Dawson, Hamish T. Reid, Juntao Li, Isabella Mombri, R. S. Young, Alice V. Llewellyn, Gargi Giri, Partha P. Paul, Adam M. Boyce, Rhodri Jarvis, Thomas S. Miller, James B. Robinson, Emma Kendrick, Philip J. Withers, Marco Di Michiel, Dan J. L. Brett and Paul R. Shearing*

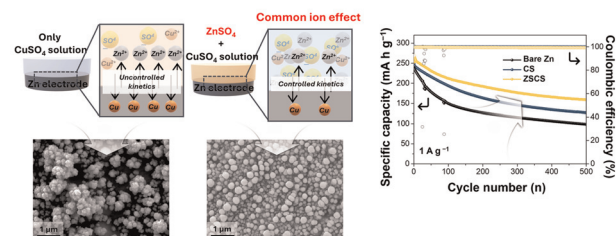


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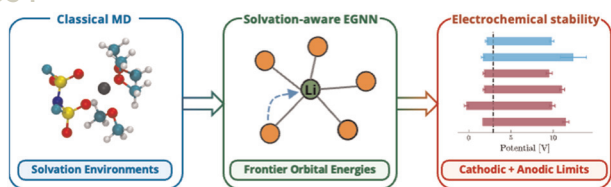
Common-ion driven self-assembly of Cu nanoparticles for interfacial stabilization of Zn anodes

Jooyoung Jang, Yeonwoo Jeong and Changshin Jo*

Self-assembled Cu nanoparticle layer via common-ion mediation



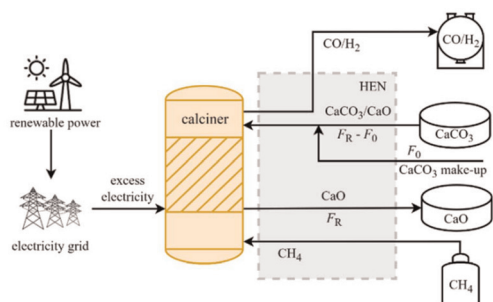
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Integrated machine learning-molecular dynamics framework for electrolyte property prediction

Srikant Sagireddy,* Nikhil Rampal,* Stephen E. Weitzner and Liwen F. Wan*

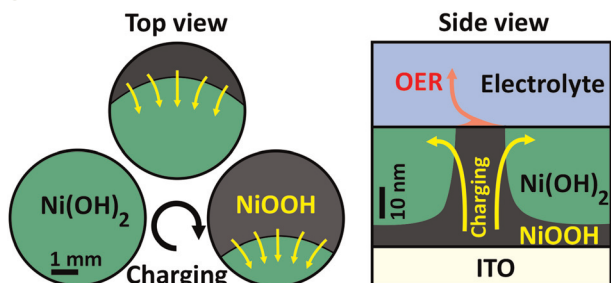
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Hybrid thermochemical Carnot battery with calcium looping, methane dry reforming, and supercritical carbon dioxide cycle: thermodynamic and techno-economic optimization

Jun Shen, Yongqing Zhang, Zihao Sun, Dabiao Wang, Sheng Li, Wei Han, Kezhen Zhang, Xiao Yang, Chenglong Yang and Qianghui Xu*

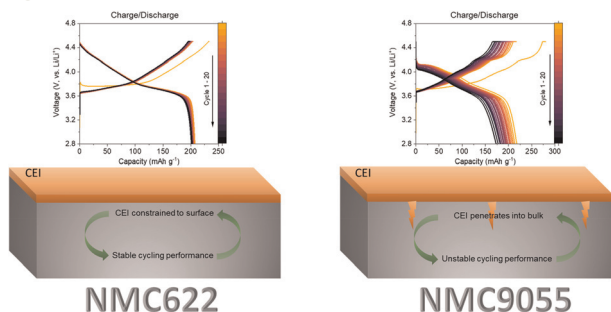
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Nonuniform charging and phase front instability in nickel (oxy)hydroxide thin-film electrodes

Aleksandr Kurilovich, Avihay Ben Shitrit, David S. Ellis, Nadav Port, Nir Gavish, Arik Yochelis* and Avner Rothschild*

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Nickel-dependent interfacial chemistry in layered oxide cathodes: insights from X-ray photoelectron spectroscopy and electrochemical quartz crystal microbalance measurements

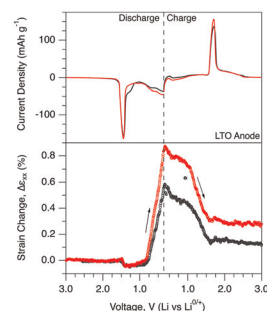
Monica J. Theibault, Dennis Nordlund, Marca Doeff* and Wei Tong*



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Chemo-mechanical deformations in lithium titanate composite electrodes upon over-lithiation

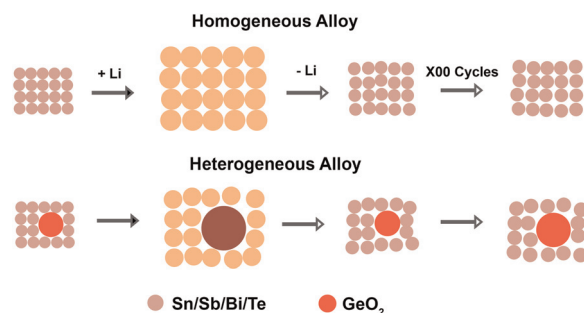
Batuhan Bal,* Bertan Özdoğru,* Marcos Lucero, Bhuvaneshwari M. Sivakumar, Vijayakumar Murugesan, Xiaolin Li and Ömer Özgür Çapraz*



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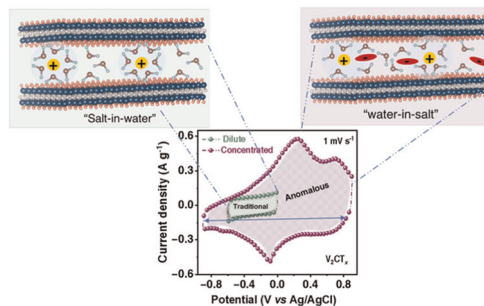
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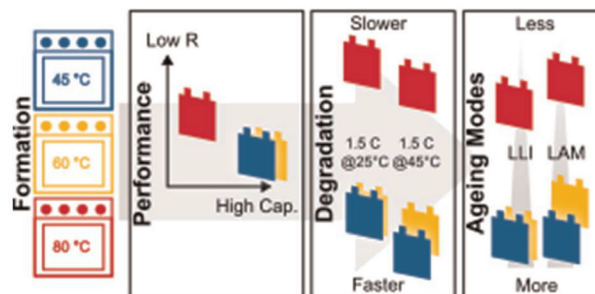
Rituprava Dash, Suman Yadav and Narendra Kurra*



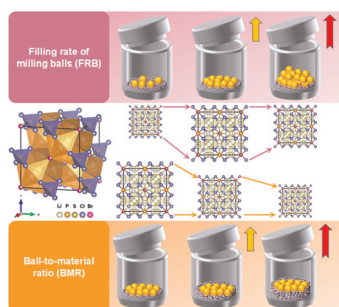
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Sebastian Klick,* Philipp Finster, Karl Martin Graff, Carlos Ziebert, Gereon Stahl, Felix Weber, Egbert Figgemeier and Dirk Uwe Sauer



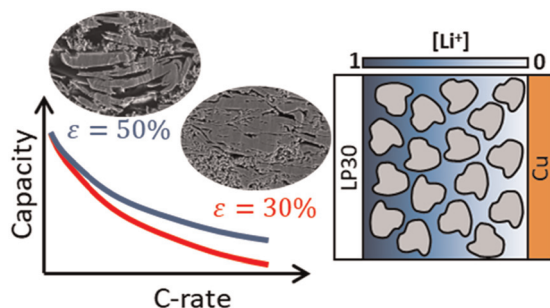
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Dry-milled microstructure-controlled sulfide electrolytes enabling superionic transport and high-capacity all-solid-state batteries

Ziyu Lu, Siwu Li, Lin Li, Ziling Jiang, Long Chen,*
Miao Deng, Chen Liu and Chuang Yu*

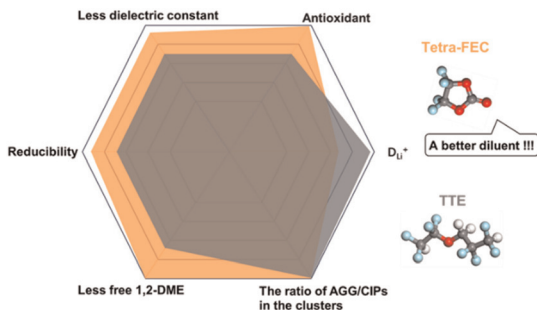
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Corentin Renais, Marta Mirolo, Victor Vanpeene,
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Zhuijun Xu, Tianle Zheng, Ying Yu, Yaozong Gu,
Yinghui Li, Jie Gao, Siqi Shi, Yonggao Xia,*
Ya-Jun Cheng* and Peter Müller-Buschbaum*

