

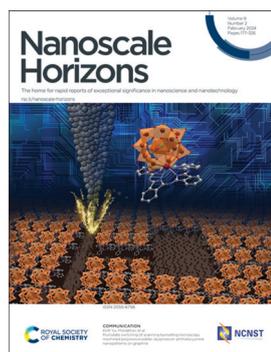
Nanoscale Horizons

The home for rapid reports of exceptional significance in nanoscience and nanotechnology
rsc.li/nanoscale-horizons

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 2055-6756 CODEN NHAOAW 9(2) 177-326 (2024)



Cover

See Kirill Yu. Monakhov *et al.*, pp. 233–237.
Image reproduced by permission of Kirill Monakhov from *Nanoscale Horiz.*, 2024, 9, 233.

EDITORIAL

184

Nanoscale Horizons Emerging Investigator Series:
Dr Shalini Singh, University of Limerick, Ireland

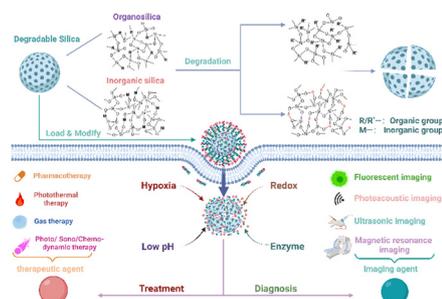


REVIEW

186

Tumor microenvironment-responsive degradable silica nanoparticles: design principles and precision theranostic applications

Junjie Zhang,* Kaiyuan Tang, Zilu Liu, Zhijing Zhang, Shufan Duan, Hui Wang, Hui Yang, Dongliang Yang* and Wenpei Fan*



Environmental Science: Atmospheres

GOLD
OPEN
ACCESS

Connecting communities and inspiring new ideas

rsc.li/submittoEA

Fundamental questions
Elemental answers

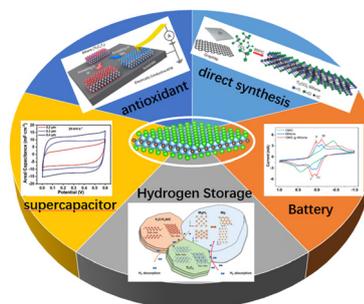


MINIREVIEW

215

Recent progress of MXene as an energy storage material

Yuqiang Wu and Mengtao Sun*

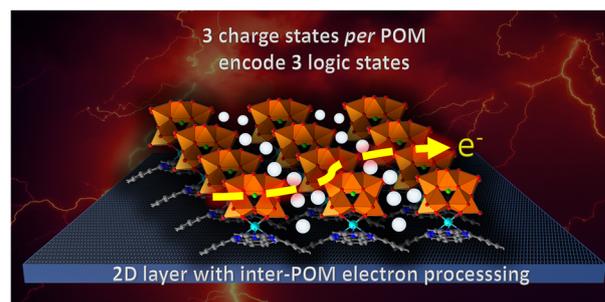


COMMUNICATIONS

233

Multistate switching of scanning tunnelling microscopy machined polyoxovanadate–dysprosium–phthalocyanine nanopatterns on graphite

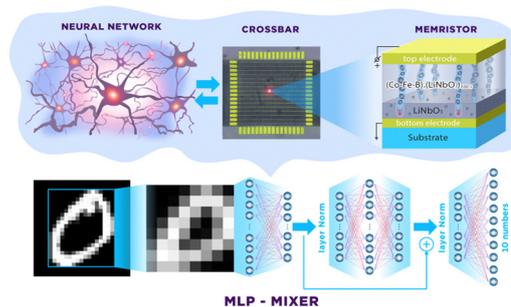
Marco Moors, Irina Werner, Jens Bauer, Jonas Lorenz and Kirill Yu. Monakhov*



238

Adapted MLP-Mixer network based on crossbar arrays of fast and multilevel switching $(\text{Co-Fe-B})_x(\text{LiNbO}_3)_{100-x}$ nanocomposite memristors

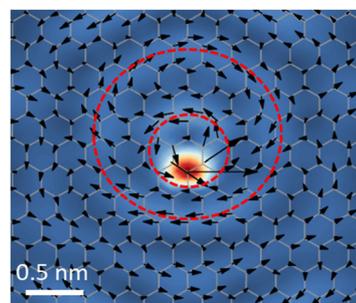
Aleksandr I. Iliasov, Anna N. Matsukatova, Andrey V. Emelyanov,* Pavel S. Slepov, Kristina E. Nikiryu and Vladimir V. Rylkov



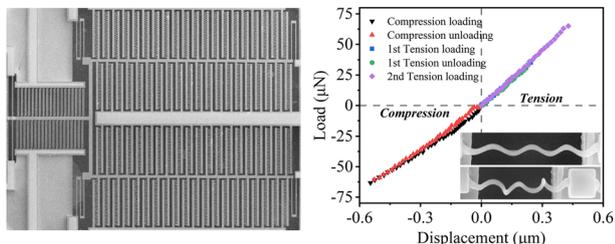
248

Phonon vortices at heavy impurities in two-dimensional materials

De-Liang Bao, Mingquan Xu, Ao-Wen Li, Gang Su, Wu Zhou and Sokrates T. Pantelides*



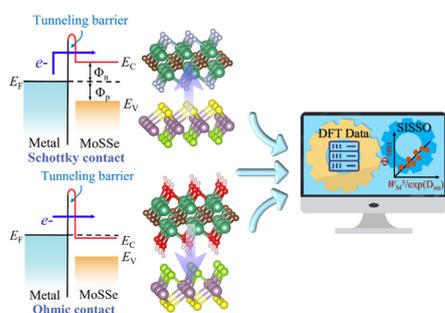
254



Microelectromechanical system for *in situ* quantitative testing of tension–compression asymmetry in nanostructures

Yuheng Huang, Kuibo Yin,* Binghui Li, Anqi Zheng, Bozhi Wu, Litao Sun and Meng Nie*

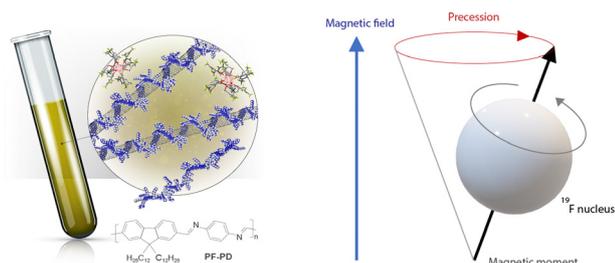
264



Contact engineering for 2D Janus MoSSe/metal junctions

Yu Shu, Ting Li, Naihua Miao, Jian Gou, Xiaochun Huang,* Zhou Cui, Rui Xiong, Cuilian Wen, Jian Zhou, Baisheng Sa* and Zhimei Sun*

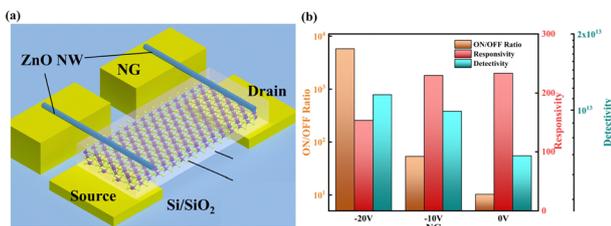
278



Carrier density and delocalization signatures in doped carbon nanotubes from quantitative magnetic resonance

M. Alejandra Hermosilla-Palacios, Marissa Martinez, Evan A. Doud, Tobias Hertel, Alexander M. Spokoyny, Sofie Cambré, Wim Wenseleers, Yong-Hyun Kim, Andrew J. Ferguson and Jeffrey L. Blackburn*

285



Local modulation of Au/MoS₂ Schottky barriers using a top ZnO nanowire gate for high-performance photodetection

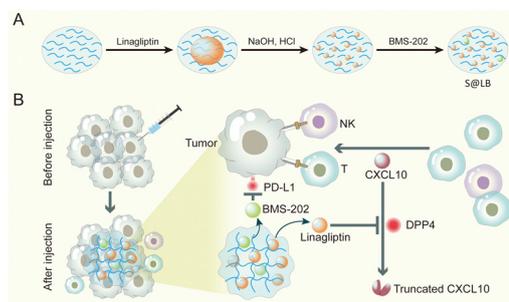
Yu Xiao, Guisheng Zou, Jinpeng Huo, Tianming Sun, Jin Peng, Zehua Li, Daozhi Shen and Lei Liu*



295

Hydrogel-mediated tumor T cell infiltration and immune evasion to reinforce cancer immunotherapy

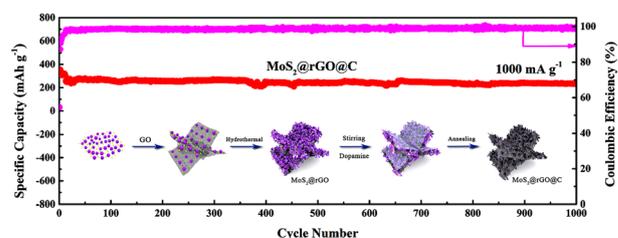
Guixiang Xu, Kai Liu, Xiangwu Chen, Yang Lin, Cancan Yu, Xinxin Nie, Wenxiu He,* Nathan Karin and Yuxia Luan*



305

Dual carbon engineering enabling 1T/2H MoS₂ with ultrastable potassium ion storage performance

Rong Hu, Yanqi Tong, Jinling Yin, Junxiong Wu,* Jing Zhao, Dianxue Cao, Guiling Wang* and Kai Zhu*



317

Magnetic field-responsive graphene oxide photonic liquids

Yi-Tao Xu, Amanda J. Ackroyd, Arash Momeni, Mohamed Oudah and Mark J. MacLachlan*

