

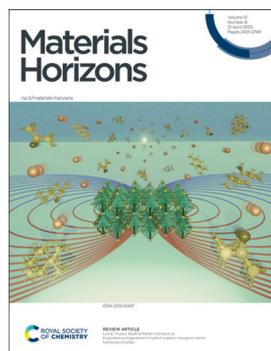
Materials Horizons

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IN THIS ISSUE

ISSN 2051-6347 CODEN MHAOAL 12(8) 2401-2748 (2025)



Cover

See Luis E. Hueso, Beatriz Martín-García *et al.*, pp. 2414–2435. Image reproduced by permission of Yaiza Asensio, Beatriz Martín-García, Luis E. Hueso from *Mater. Horiz.*, 2025, 12, 2414.



Inside cover

See Rodrigo E. Palacios, Miryam Criado-Gonzalez *et al.*, pp. 2524–2534. Image reproduced by permission of Miryam Criado-González from *Mater. Horiz.*, 2025, 12, 2524.

EDITORIAL

2412

Materials Horizons Emerging Investigator Series:
Dr Xiao Liu, South China Normal University, China

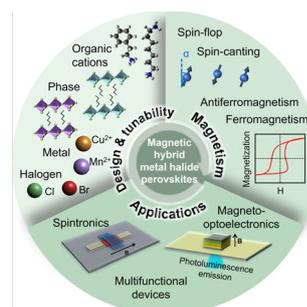


REVIEWS

2414

Engineering magnetism in hybrid organic–inorganic metal halide perovskites

Yaiza Asensio, Lucía Olano-Vegas, Samuele Mattioni, Marco Gobbi, Fèlix Casanova, Luis E. Hueso* and Beatriz Martín-García*



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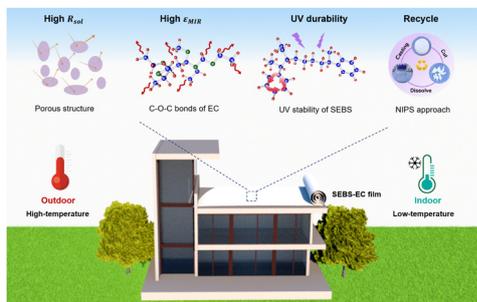
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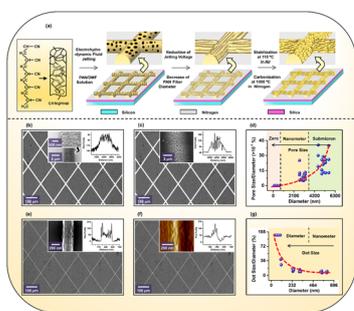
2535



Ultraviolet durable and recyclable radiative cooling covering for efficient building energy saving

Shanshan Song, Congyu Hou, An Yang, Lishi Wei, Hongzhi Liu, Di Xie and Yongming Song*

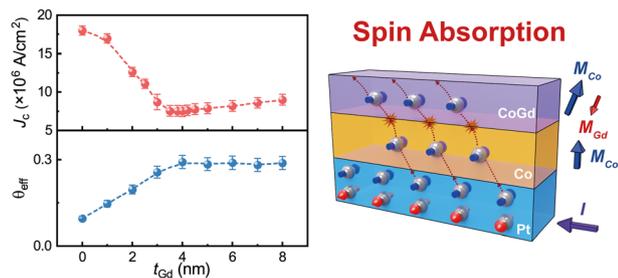
2545



Carbon-dot growth on nanoconvex carbon wires for outstanding optical properties

Jufeng Deng,* Chong Liu* and Marc Madou*

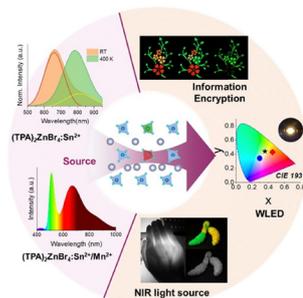
2554



High spin-orbit torque efficiency induced by engineering spin absorption for fully electric-driven magnetization switching

Pengwei Dou, Jingyan Zhang,* Tao Zhu, Peng Kang, Xiao Deng, Yuanbo Wang, Quangao Qiu, Liangyu Feng, Jinhu Hu, Jianxin Shen, Xiao Wang, He Huang, Xinqi Zheng, Shiming Zhou, Baogen Shen and Shouguo Wang*

2564



Multifunctional applications enabled by tunable multi-emission and ultra-broadband VIS-NIR luminescence via energy transfer in Sn²⁺/Mn²⁺-doped lead-free Zn-based metal halides

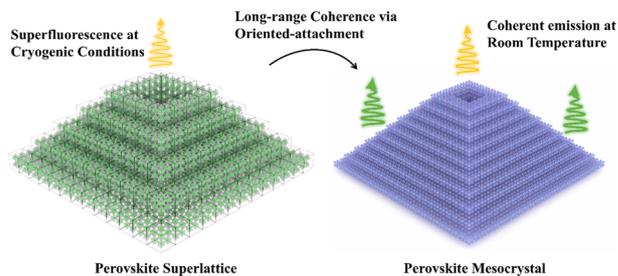
Yongqi Yang, Bao Ke,* Chengzhi Yang, Yang Xue, Kaihuang Huang, Xintong Lu and Bingsuo Zou*



2577

Pyramid-shaped quantum dot superlattice exhibiting tunable room-temperature coherent emission *via* oriented attachment

Zheng Liu, Xiya Chen, Ruizhao Yao, Lihui Li, Huanteng Luo, Guangcan Li* and Xiao Liu*



2587

Highly polarized single-crystal organic light-emitting devices with low turn-on voltage and high brightness

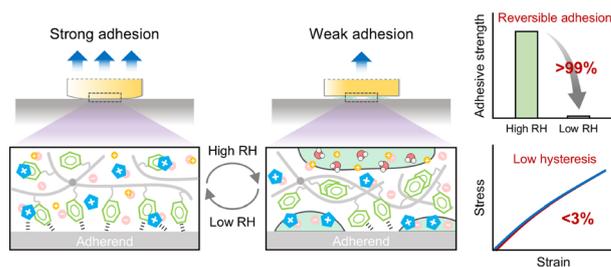
Aijia Pang, Fan Yin, Jianbo De, Cunbin An, Bo Liao,* Chunling Gu,* Qing Liao* and Hongbing Fu*



2592

Moisture-responsive ultralow-hysteresis polymer ionogels for adhesion-switchable strain sensing

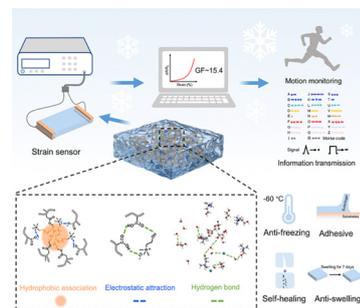
Yichen Zhou, Xing Zhang, Ying Zheng, Junfeng Liu, Yongzhong Bao, Guorong Shan, Chengtao Yu* and Pengju Pan*



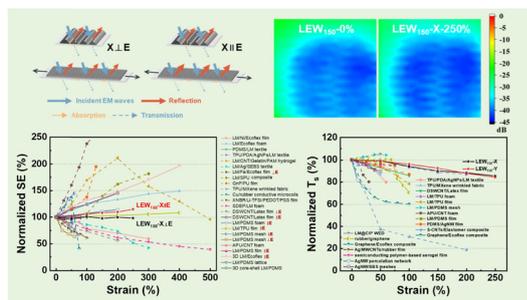
2604

Environmentally tolerant multifunctional eutectogel for highly sensitive wearable sensors

Zhengen Wei, Lianghao Jia, Jinyu Yu, Hanrui Xu, Xing Guo, Tao Xiang* and Shaobing Zhou



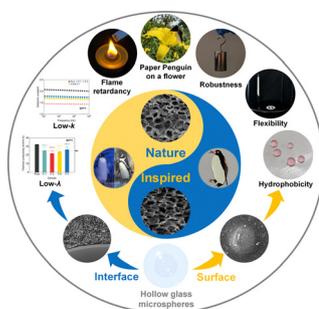
2619



Stretchable wrinkle-structured liquid metal sandwich films enable strain-insensitive electromagnetic shielding and Joule heating

Yiming Ren, Jiali Chen, Jiaheng Yao, Liqiang Shang, Wenge Zheng and Bin Shen*

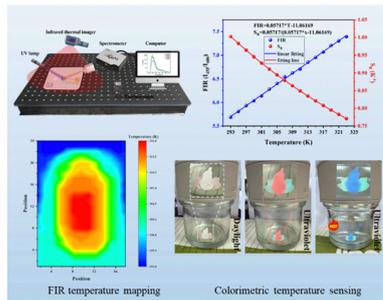
2629



Penguin feather-inspired flexible aerogel composite films featuring ultra-low thermal conductivity and dielectric constant

Rui Yang, Kexing Yu, Xiang Yu,* Wenqi Zhang, Kaixuan Sun, Fangcheng Lv, Yunpeng Liu and Sidi Fan*

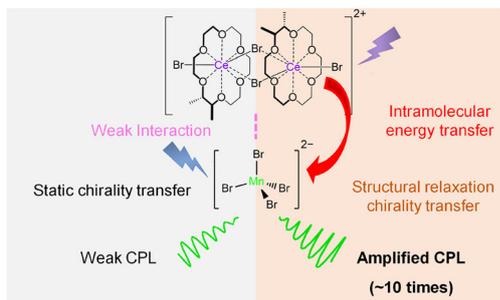
2641



Highly sensitive temperature sensors based on the fluorescence intensity ratio of dual-emissive lead-free metal halides

Jianhui Zhao, Yunsong Di, Yuhang Sheng, Jiaxin Sui, Xingru Yang, Yi Zhang, Ying Wang, Haoyu Wang, Xiaowei Zhang, Liyan Yu, Zhihui Chen and Zhixing Gan*

2650



Structural relaxation chirality transfer enhanced circularly polarized luminescence in heteronuclear $Ce^{III}-Mn^{II}$ complexes

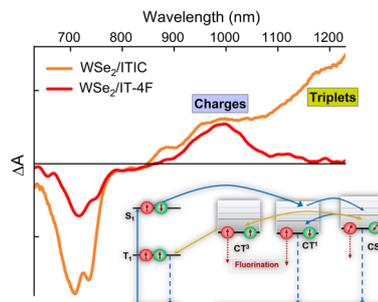
Huanyu Liu, Gang Yu, Peihao Huo, Ruoyao Guo, Yujia Li, Hao Qi, Jiayin Zheng, Tong Jin, Zifeng Zhao, Zuqiang Bian and Zhiwei Liu*



2656

Mitigating triplet loss in 2D WSe₂/non-fullerene heterostructures using halogenated acceptors

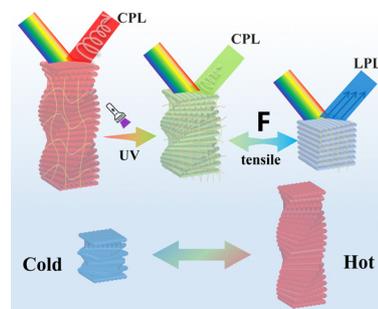
Sreelakshmi Chandrabose,* Ana M. Valencia, Meysam Raoufi, Nisreen Alshehri, Tracey M. Clarke, Frédéric Laquai, Caterina Cocchi and Dieter Neher*



2669

Mechanical and thermal responsive chiral photonic cellulose hydrogels for dynamic anti-counterfeiting and optical skin

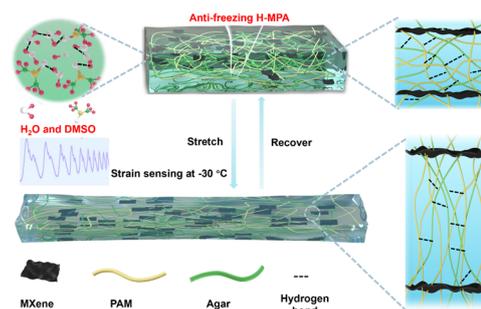
Baoqi Li, Mingcong Xu,* Bang An, Wenye Sun, Rui Teng, Sha Luo, Chunhui Ma, Zhijun Chen, Jian Li, Wei Li* and Shouxin Liu*



2679

Anti-freezing conductive hydrogels with exceptional mechanical properties and stable sensing performance at -30 °C

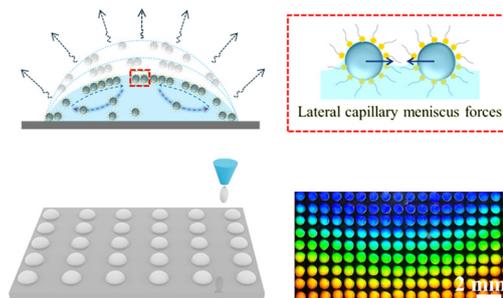
Yunfei Yu, Shuo Wang, Huitao Yu, Xiaojian Liao and Wei Feng*



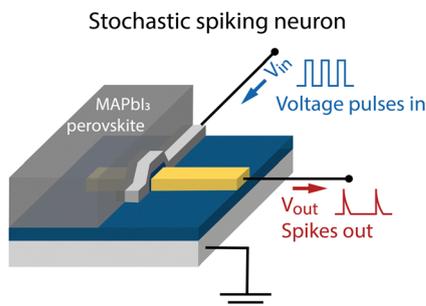
2689

Surfactant-based interface capture towards the development of 2D-printed photonic structures

Appurva Tiwari, Seong Jae Lee and Ashish Kumar Thokchom*



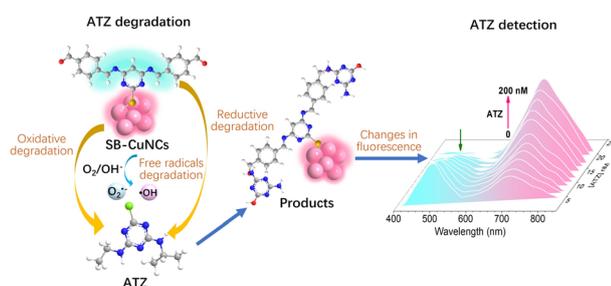
2701



Integrated artificial neurons from metal halide perovskites

Jeroen J. de Boer and Bruno Ehrler*

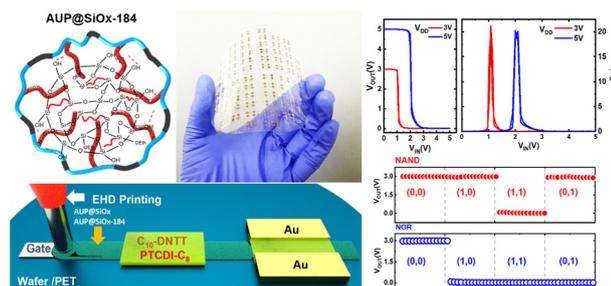
2709



A Schiff-base-modified Cu nanocluster with redox dual-catalytic sites and fluorescence sensing for the degradation and detection of atrazine

Li Wang and Yang Chen*

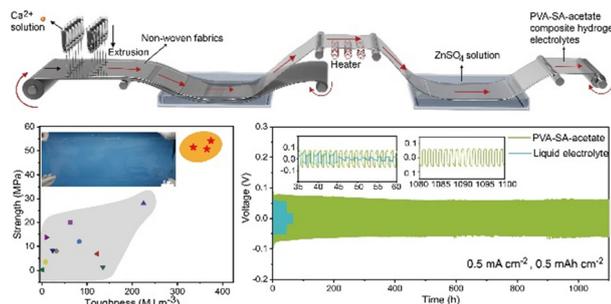
2722



High-*k* organic–inorganic hybrid dielectric material for flexible thin-film transistors and printed logic circuits

Rixuan Wang, Hong Nhung Le, Cheolmin Jung, Hyeok-jin Kwon, Zhijun Li, Hyungdo Kim, Zhi Hong Zhang,* Juyoung Kim,* Se Hyun Kim* and Xiaowu Tang*

2736



Mass production of robust hydrogel electrolytes for high-performance zinc-ion batteries

Linlin Ma, Xiaojing Liu, Jihao Fan, Xiaodong Yu, Longsheng Cao* and Chuangqi Zhao*



CORRECTION

2745

Correction: Self-generating electricity system driven by aqueous humor flow and trabecular meshwork contraction motion activated BKCa for glaucoma intraocular pressure treatment

Ruiqi Wang, Haiying Wei,* Yuying Shi, Cao Wang, Zhenqiang Yu, Yijian Zhang, Yifan Lai, Jingwei Chen, Guangfu Wang and Weiming Tian*

