**Solar Cells (2022-2024)**

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1. **Two-Dimensional Materials for Highly Efficient and Stable Perovskite Solar Cells (Review)**

Xiangqian Shen, Xuesong Lin, Yong Peng, Yiqiang Zhang, Fei Long, Qifeng Han, Yanbo Wang & Liyuan Han

Nano-Micro Lett. 16, 201 (2024). <https://doi.org/10.1007/s40820-024-01417-1>

1. **TiO2 Electron Transport Layer with p–n Homojunctions for Efficient and Stable Perovskite Solar Cells (Article)**

Wenhao Zhao, Pengfei Guo, Jiahao Wu, Deyou Lin, Ning Jia, Zhiyu Fang, Chong Liu, Qian Ye, Jijun Zou, Yuanyuan Zhou & Hongqiang Wang

Nano-Micro Lett. 16, 191 (2024). <https://doi.org/10.1007/s40820-024-01407-3>

1. **Efficient and Stable Inverted Perovskite Solar Modules Enabled by Solid–Liquid Two-Step Film Formation (Article)**

Juan Zhang, Xiaofei Ji, Xiaoting Wang, Liujiang Zhang, Leyu Bi, Zhenhuang Su, Xingyu Gao, Wenjun Zhang, Lei Shi, Guoqing Guan, Abuliti Abudula, Xiaogang Hao, Liyou Yang, Qiang Fu, Alex K.-Y. Jen & Linfeng Lu

Nano-Micro Lett. 16, 190 (2024) <https://doi.org/10.1007/s40820-024-01408-2>

1. **Textured Perovskite/Silicon Tandem Solar Cells Achieving Over 30% Efficiency Promoted by 4-Fluorobenzylamine Hydroiodide (Article)**

Jingjing Liu, Biao Shi, Qiaojing Xu, Yucheng Li, Yuxiang Li, Pengfei Liu, Zetong SunLi, Xuejiao Wang, Cong Sun, Wei Han, Diannan Li, Sanlong Wang, Dekun Zhang, Guangwu Li, Xiaona Du, Ying Zhao & Xiaodan Zhang

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1. **Manipulating Crystal Growth and Secondary Phase PbI2 to Enable Efficient and Stable Perovskite Solar Cells with Natural Additives (Article)**

Yirong Wang, Yaohui Cheng, Chunchun Yin, Jinming Zhang, Jingxuan You, Jizheng Wang, Jinfeng Wang & Jun Zhang

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1. **Structurally Flexible 2D Spacer for Suppressing the Electron–Phonon Coupling Induced Non-Radiative Decay in Perovskite Solar Cells (Article)**

Ruikun Cao, Kexuan Sun, Chang Liu, Yuhong Mao, Wei Guo, Ping Ouyang, Yuanyuan Meng, Ruijia Tian, Lisha Xie, Xujie Lü & Ziyi Ge

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1. **Multifunctional MOF@COF Nanoparticles Mediated Perovskite Films Management Toward Sustainable Perovskite Solar Cells (Article)**

Yayu Dong, Jian Zhang, Hongyu Zhang, Wei Wang, Boyuan Hu, Debin Xia, Kaifeng Lin, Lin Geng & Yulin Yang

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1. **Step-by-Step Modulation of Crystalline Features and Exciton Kinetics for 19.2% Efficiency Ortho-Xylene Processed Organic Solar Cells (Article)**

Bosen Zou, Weiwei Wu, Top Archie Dela Peña, Ruijie Ma, Yongmin Luo, Yulong Hai, Xiyun Xie, Mingjie Li, Zhenghui Luo, Jiaying Wu, Chuluo Yang, Gang Li & He Yan

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1. **Green-Solvent Processed Blade-Coating Organic Solar Cells with an Efficiency Approaching 19% Enabled by Alkyl-Tailored Acceptors (Article)**

Hairui Bai, Ruijie Ma, Wenyan Su, Top Archie Dela Peña, Tengfei Li, Lingxiao Tang, Jie Yang, Bin Hu, Yilin Wang, Zhaozhao Bi, Yueling Su, Qi Wei, Qiang Wu, Yuwei Duan, Yuxiang Li, Jiaying Wu, Zicheng Ding, Xunfan Liao, Yinjuan Huang, Chao Gao, Guanghao Lu, Mingjie Li, Weiguo Zhu, Gang Li, Wei Ma

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1. **Progress and Challenges Toward Effective Flexible Perovskite Solar Cells (Review)**

Xiongjie Li, Haixuan Yu, Zhirong Liu, Junyi Huang, Xiaoting Ma, Yuping Liu, Qiang Sun, Letian Dai, Shahzada Ahmad, Yan Shen & Mingkui Wang

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1. **Long-Chain Gemini Surfactant-Assisted Blade Coating Enables Large-Area Carbon-Based Perovskite Solar Modules with Record Performance (Article)**

Yumin Ren, Kai Zhang, Zedong Lin, Xiaozhen Wei, Man Xu, Xianzhen Huang, Haining Chen & Shihe Yang

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1. **Gelation of Hole Transport Layer to Improve the Stability of Perovskite Solar Cells (Article)**

Ying Zhang, Chenxiao Zhou, Lizhi Lin, Fengtao Pei, Mengqi Xiao, Xiaoyan Yang, Guizhou Yuan, Cheng Zhu, Yu Chen & Qi Chen

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1. **Recent Progress in Interfacial Dipole Engineering for Perovskite Solar Cells (Review)**

Yinyi Ma, Jue Gong, Peng Zeng & Mingzhen Liu

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Yuping Gao, Xiyue Dong & Yongsheng Liu

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1. **Ligand Engineering in Tin-Based Perovskite Solar Cells (Review)**

Peizhou Li, Xiangrong Cao, Jingrui Li, Bo Jiao, Xun Hou, Feng Hao, Zhijun Ning, Zuqiang Bian, Jun Xi, Liming Ding, Zhaoxin Wu & Hua Dong

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1. **Crystallization and Orientation Modulation Enable Highly Efficient Doctor-Bladed Perovskite Solar Cells (Article)**

Jianhui Chang, Erming Feng, Hengyue Li, Yang Ding, Caoyu Long, Yuanji Gao, Yingguo Yang, Chenyi Yi, Zijian Zheng & Junliang Yang

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1. **In Situ Iodide Passivation Toward Efficient CsPbI3 Perovskite Quantum Dot Solar Cells (Article)**

Junwei Shi, Ben Cohen-Kleinstein, Xuliang Zhang, Chenyu Zhao, Yong Zhang, Xufeng Ling, Junjun Guo, Doo-Hyun Ko, Baomin Xu, Jianyu Yuan & Wanli Ma

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1. **Synergistic Optimization of Buried Interface by Multifunctional Organic–Inorganic Complexes for Highly Efficient Planar Perovskite Solar Cells (Article)**

Heng Liu, Zhengyu Lu, Weihai Zhang, Hongkang Zhou, Yu Xia, Yueqing Shi, Junwei Wang, Rui Chen, Haiping Xia & Hsing-Lin Wang

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1. **All-Polymer Solar Cells and Photodetectors with Improved Stability Enabled by Terpolymers Containing Antioxidant Side Chains(Article)**

Chunyang Zhang, Ao Song, Qiri Huang, Yunhao Cao, Zuiyi Zhong, Youcai Liang, Kai Zhang, Chunchen Liu, Fei Huang & Yong Cao

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1. **Highly Efficient and Stable FAPbI3 Perovskite Solar Cells and Modules Based on Exposure of the (011) Facet (Article)**

Kai Zhang, Bin Ding, Chenyue Wang, Pengju Shi, Xianfu Zhang, Cheng Liu, Yi Yang, Xingyu Gao, Rui Wang, Li Tao, Keith G. Brooks, Songyuan Dai, Paul J. Dyson, Mohammad Khaja Nazeeruddin & Yong Ding

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1. **Additive Engineering for Stable and Efficient Dion–Jacobson Phase Perovskite Solar Cells (Review)**

Min Liu & Thierry Pauporté

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1. **A Review on Interface Engineering of MXenes for Perovskite Solar Cells (Review)**

Srikanta Palei, G. Murali, Choong-Hee Kim, Insik In, Seul-Yi Lee & Soo-Jin Park

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1. **Hole-Transport Management Enables 23%-Efficient and Stable Inverted Perovskite Solar Cells with 84% Fill Factor (Article)**

Liming Liu, Yajie Ma, Yousheng Wang, Qiaoyan Ma, Zixuan Wang, Zigan Yang, Meixiu Wan, Tahmineh Mahmoudi, Yoon-Bong Hahn & Yaohua Mai

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Pengfei Wu, Shirong Wang, Jin Hyuck Heo, Hongli Liu, Xihan Chen, Xianggao Li & Fei Zhang Nano-Micro Lett. 15, 114 (2023). <https://doi.org/10.1007/s40820-023-01085-7>

1. **Efficient Semi-Transparent Wide-Bandgap Perovskite Solar Cells Enabled by Pure-Chloride 2D-Perovskite Passivation (Article)**

Liu Yang, Yongbin Jin, Zheng Fang, Jinyan Zhang, Ziang Nan, Lingfang Zheng, Huihu Zhuang, Qinghua Zeng, Kaikai Liu, Bingru Deng, Huiping Feng, Yujie Luo, Chengbo Tian, Changcai Cui, Liqiang Xie, Xipeng Xu & Zhanhua Wei

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1. **Antimony Potassium Tartrate Stabilizes Wide-Bandgap Perovskites for Inverted 4-T All-Perovskite Tandem Solar Cells with Efficiencies over 26% (Article)**

Xuzhi Hu, Jiashuai Li, Chen Wang, Hongsen Cui, Yongjie Liu, Shun Zhou, Hongling Guan, Weijun Ke, Chen Tao & Guojia Fang

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1. **Solid Additive-Assisted Layer-by-Layer Processing for 19% Efficiency Binary Organic Solar Cells (Article)**

Guanyu Ding, Tianyi Chen, Mengting Wang, Xinxin Xia, Chengliang He, Xiangjun Zheng, Yaokai Li, Di Zhou, Xinhui Lu, Lijian Zuo, Zhikang Xu & Hongzheng Chen

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1. **Ionic Liquid Assisted Imprint for Efficient and Stable Quasi-2D Perovskite Solar Cells with Controlled Phase Distribution (Article)**

Haibin Peng, Dengxue Li, Zongcai Li, Zhi Xing, Xiaotian Hu, Ting Hu & Yiwang Chen

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Jing Zhuang, Jizheng Wang & Feng Yan

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1. **Recent Advances in Wide-Bandgap Organic–Inorganic Halide Perovskite Solar Cells and Tandem Application (Review)**

Ting Nie, Zhimin Fang, Xiaodong Ren, Yuwei Duan & Shengzhong (Frank) Liu

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1. **Stress and Strain in Perovskite/Silicon Tandem Solar Cells (Highlights)**

Kong Liu, Zhijie Wang, Shengchun Qu & Liming Ding

Nano-Micro Lett. 15, 59 (2023). <https://doi.org/10.1007/s40820-023-01019-3>

1. **One-Step Gas–Solid-Phase Diffusion-Induced Elemental Reaction for Bandgap-Tunable CuaAgm1Bim2In/CuI Thin Film Solar Cells (Article)**

Erchuang Fan, Manying Liu, Kangni Yang, Siyu Jiang, Bingxin Li, Dandan Zhao, Yanru Guo, Yange Zhang, Peng Zhang, Chuantian Zuo, Liming Ding & Zhi Zheng

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1. **4-Terminal Inorganic Perovskite/Organic Tandem Solar Cells Offer 22% Efficiency (Article)**

Ling Liu, Hanrui Xiao, Ke Jin, Zuo Xiao, Xiaoyan Du, Keyou Yan, Feng Hao, Qinye Bao, Chenyi Yi, Fangyang Liu, Wentao Wang, Chuantian Zuo & Liming Ding

Nano-Micro Lett. 15, 23 (2023). <https://doi.org/10.1007/s40820-022-00995-2>

1. **Stabilizing Buried Interface via Synergistic Effect of Fluorine and Sulfonyl Functional Groups Toward Efficient and Stable Perovskite Solar Cells (Article)**

Cheng Gong, Cong Zhang, Qixin Zhuang, Haiyun Li, Hua Yang, Jiangzhao Chen & Zhigang Zang

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1. **Double Layer Composite Electrode Strategy for Efficient Perovskite Solar Cells with Excellent Reverse-Bias Stability (Article)**

Chaofan Jiang, Junjie Zhou, Hang Li, Liguo Tan, Minghao Li, Wolfgang Tress, Liming Ding, Michael Grätzel & Chenyi Yi

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1. **An In-Situ Formed Tunneling Layer Enriches the Options of Anode for Efficient and Stable Regular Perovskite Solar Cells (Article)**

Xuesong Lin, Yanbo Wang, Hongzhen Su, Zhenzhen Qin, Ziyang Zhang, Mengjiong Chen, Min Yang, Yan Zhao, Xiao Liu, Xiangqian Shen & Liyuan Han

Nano-Micro Lett. 15, 10 (2023). <https://doi.org/10.1007/s40820-022-00975-6>

1. **High-Performance Perovskite Quantum Dot Solar Cells Enabled by Incorporation with Dimensionally Engineered Organic Semiconductor (Article)**

Seyeong Lim, Dae Hwan Lee, Hyuntae Choi, Yelim Choi, Dong Geon Lee, Sung Beom Cho, Seonkyung Ko, Jongmin Choi, Younghoon Kim & Taiho Park

Nano-Micro Lett. 14, 204 (2022). <https://doi.org/10.1007/s40820-022-00946-x>

1. **Overcoming Perovskite Corrosion and De-Doping Through Chemical Binding of Halogen Bonds Toward Efficient and Stable Perovskite Solar Cells (Article)**

Guanhua Ren, Wenbin Han, Qiang Zhang, Zhuowei Li, Yanyu Deng, Chunyu Liu & Wenbin Guo

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1. **Resolving Mixed Intermediate Phases in Methylammonium-Free Sn–Pb Alloyed Perovskites for High-Performance Solar Cells (Article)**

Zhanfei Zhang, Jianghu Liang, Jianli Wang, Yiting Zheng, Xueyun Wu, Congcong Tian, Anxin Sun, Zhenhua Chen & Chun-Chao Chen

Nano-Micro Lett. 14, 165 (2022). <https://doi.org/10.1007/s40820-022-00918-1>

1. **Effects of Flexible Conjugation-Break Spacers of Non-Conjugated Polymer Acceptors on Photovoltaic and Mechanical Properties of All-Polymer Solar Cells (Article)**

Qiaonan Chen, Yung Hee Han, Leandro R. Franco, Cleber F. N. Marchiori, Zewdneh Genene, C. Moyses Araujo, Jin-Woo Lee, Tan Ngoc-Lan Phan, Jingnan Wu, Donghong Yu, Dong Jun Kim, Taek-Soo Kim, Lintao Hou, Bumjoon J. Kim & Ergang Wang

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1. **Recent Progress of Electrode Materials for Flexible Perovskite Solar Cells (Review)**

Yumeng Xu, Zhenhua Lin, Wei Wei, Yue Hao, Shengzhong Liu, Jianyong Ouyang & Jingjing Chang

Nano-Micro Lett. 14, 117 (2022). <https://doi.org/10.1007/s40820-022-00859-9>

1. **Surface Passivation and Energetic Modification Suppress Nonradiative Recombination in Perovskite Solar Cells (Article)**

Wei Dong, Wencheng Qiao, Shaobing Xiong, Jianming Yang, Xuelu Wang, Liming Ding, Yefeng Yao & Qinye Bao

Nano-Micro Lett. 14, 108 (2022). <https://doi.org/10.1007/s40820-022-00854-0>

1. **Heterogeneous FASnI3 Absorber with Enhanced Electric Field for High-Performance Lead-Free Perovskite Solar Cells (Article)**

Tianhao Wu, Xiao Liu, Xinhui Luo, Hiroshi Segawa, Guoqing Tong, Yiqiang Zhang, Luis K. Ono, Yabing Qi & Liyuan Han

Nano-Micro Lett. 14, 99 (2022). <https://doi.org/10.1007/s40820-022-00842-4>

1. **Fully Roll-to-Roll Processed Efficient Perovskite Solar Cells via Precise Control on the Morphology of PbI2:CsI Layer (Article)**

Hengyue Li, Chuantian Zuo, Dechan Angmo, Hasitha Weerasinghe, Mei Gao & Junliang Yang

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1. **Unraveling Passivation Mechanism of Imidazolium-Based Ionic Liquids on Inorganic Perovskite to Achieve Near-Record-Efficiency CsPbI2Br Solar Cells (Article)**

Jie Xu, Jian Cui, Shaomin Yang, Yu Han, Xi Guo, Yuhang Che, Dongfang Xu, Chenyang Duan, Wenjing Zhao, Kunpeng Guo, Wanli Ma, Baomin Xu, Jianxi Yao, Zhike Liu & Shengzhong Liu

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