

EES Solar

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ISSN 3033-4063 CODEN ESEOU 1(6) 889–1186 (2025)



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See Luigi Vaccaro *et al.*, pp. 982–989. Image reproduced by permission of Luigi Vaccaro from *EES Sol.*, 2025, 1, 982.



Inside cover

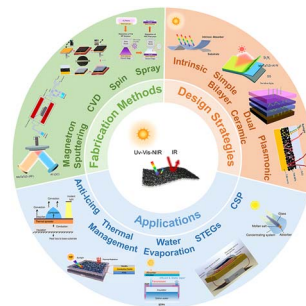
See William Jo, Shi-Joon Sung, Dae-Hwan Kim *et al.*, pp. 990–1003. Image reproduced by permission of Dae-Hwan Kim from *EES Sol.*, 2025, 1, 990.

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From metal nitrides to high-entropy nitrides: advances in spectrally selective absorber coatings

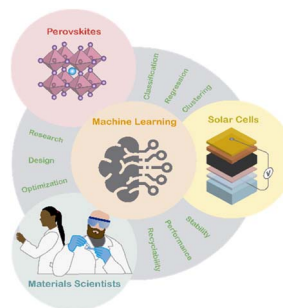
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Machine learning for perovskite solar cells: a comprehensive review on opportunities and challenges for materials scientists

Víctor de la Asunción-Nadal,* Christopher Iliffe Sprague, Bertha Guijarro-Berdiñas, Ute B. Cappel and Alberto García-Fernández*



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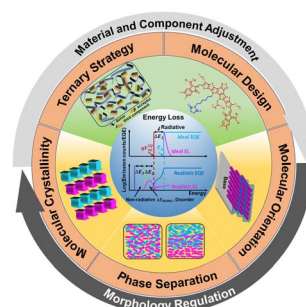
**Fundamental questions
Elemental answers**

REVIEWS

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Minimizing energy losses in organic solar cells: mechanistic insights, material design, and morphological control

Zefeng Liu, Jingming Xin,^{*} Xingpeng Liu, Yutong Zhang, Mingzhi Duan, Yan Zhang, Zhenhui Xu, Junzheng Yan, Qiuju Liang^{*} and Jiangang Liu^{*}

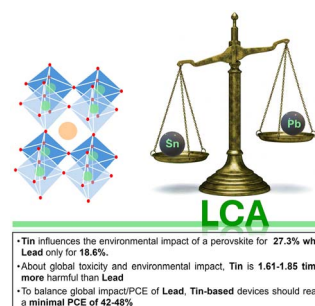


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Lead vs. tin in the preparation of metal halide perovskites: is this the real fight for the future of solar energy?

Filippo Campana, Daniela Lanari, Filippo De Angelis and Luigi Vaccaro^{*}

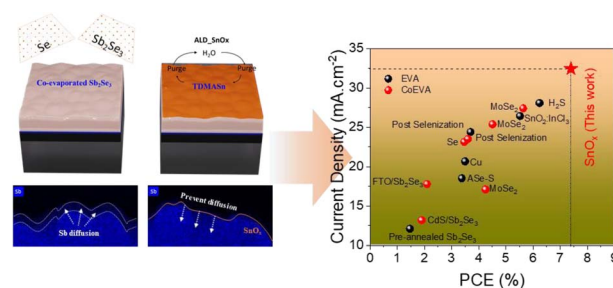


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Interface engineering of co-evaporated Sb_2Se_3 solar cells using an ALD SnO_x interlayer

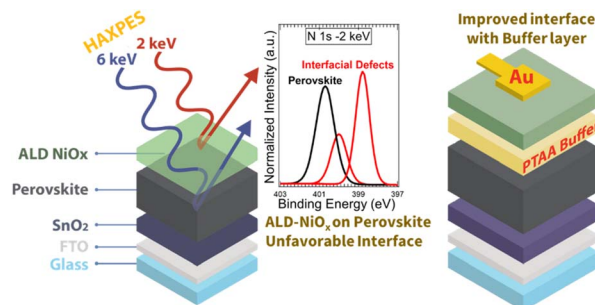
Van-Quy Hoang, Jaebaek Lee, Geumha Lim, Amanat Ali, Bashiru Kadiri-English, Dong-Hwan Jeon, Dae-Ho Son, Hyo Jeong Jo, Dae-Kue Hwang, Kee-Jeong Yang, Eunkyung Cho, Jin-Kyu Kang, William Jo,^{*} Shi-Joon Sung^{*} and Dae-Hwan Kim^{*}



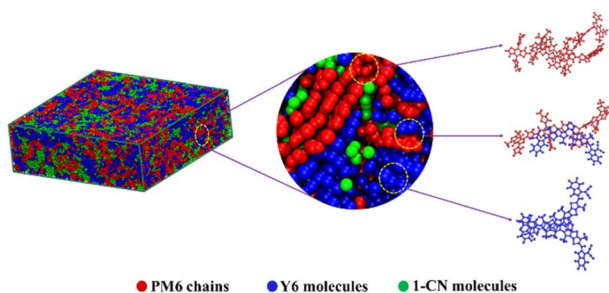
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Interfacial reactions between atomic layer deposited NiO_x hole transport layers and metal halide perovskites in n-i-p perovskite solar cells

Nitin Mallik, Javid Hajhemati, Vincent Dufoulon, Damien Coutancier, Elif Hüsam, Davide Regaldo, Iwan Zimmermann, Karim Medjoubi, Michael A. Anderson, Damien Aureau, Mathieu Frégnaux, Roberto Félix, Regan G. Wilks, Nathanaelle Schneider, Marcus Bär and Philip Schulz^{*}



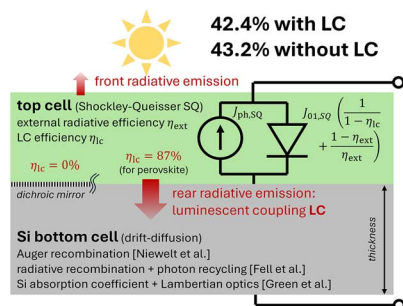
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Organic photovoltaics: determining the impact of the 1-chloronaphthalene additive in the PM6:Y6 blends from multi-scale simulations

Ziwen Yu, Tongrui Zhang, Yizhou Li, Gao-Feng Han, Xing-You Lang, Jean-Luc Brédas,* Tonghui Wang* and Qing Jiang*

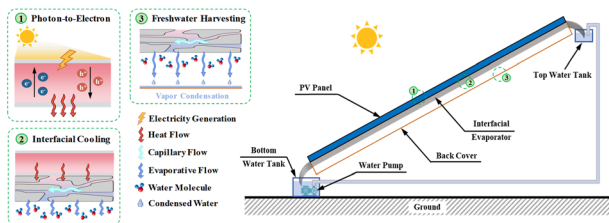
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Elucidating the efficiency limit of silicon-based monolithic tandem cells through the combination of Auger and Shockley–Queisser limits

Andreas Fell,* Oliver Fischer, Martin Bivour, Christoph Messmer, Jonas Schön, Martin C. Schubert and Stefan W. Glunz

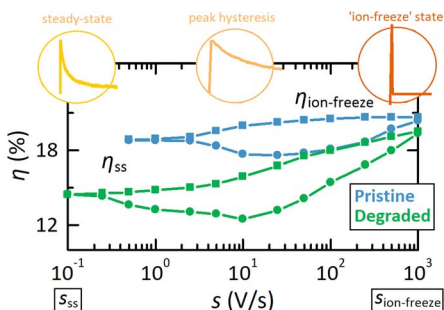
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Self-adaptive interfacial cooling for sustainable energy–water cogeneration in photovoltaics

Yang Zhao, Kaitao Chen, Feng Wang, Chao Cheng, Dan Gao, Heng Zhang,* Jiang Yan and Yuting Wang

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'Ion-freeze' efficiency in perovskite solar cells: time scales for ion immobilization

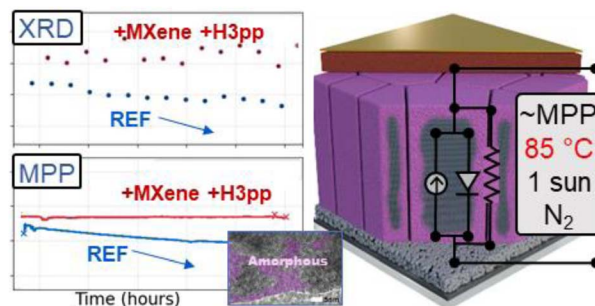
Enrique H. Balaguera,* F. Javier Marinelli Pra, Chittaranjan Das, Lorenzo Torresani, Juan Bisquert and Michael Saliba*



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Stabilizing perovskite solar cells at 85 °C via additive engineering and MXene interlayers

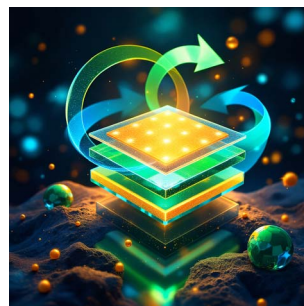
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Comparative analysis of recycling strategies for high-yield fabrication of perovskite solar cells: resolving residual impurity challenges via targeted post-treatment

Dinesh Kumar, Yeshwanth Nayak Guguloth, Jatindra Kumar Rath* and Trilok Singh*

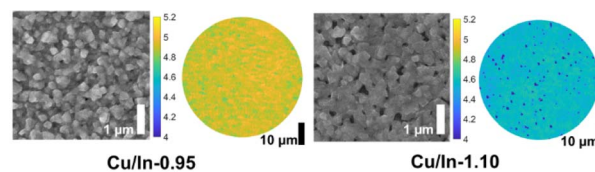


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Mapping the surface electronic landscape of solution-processed CuIn(S,Se)₂ thin-films as a function of the Cu/In ratio

Ye Ma, Alice Sheppard, Jacques D. Kenyon, Jude Laverock, Nada Benhaddou, Valentina Corsetti, Jake W. Bowers and David J. Fermin*

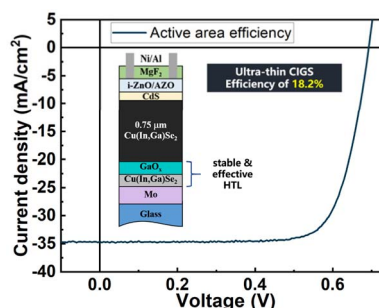
Film Morphology – SEM vs. Work function map – EF-PEEM



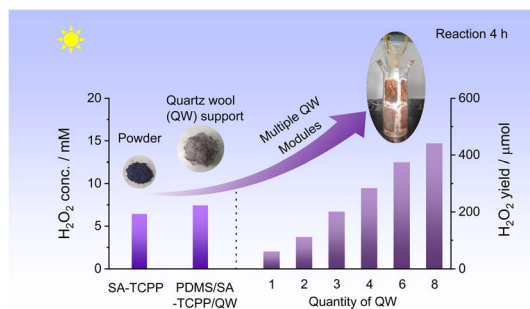
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Sub-micron Cu(In,Ga)Se₂ solar cells with an efficiency of 18.2% enabled by a hole transport layer

Taowen Wang,* Longfei Song, Saeed Bayat, Michele Melchiorre, Nathalie Valle, Adrian-Marie Philippe, Emmanuel Defay, Sebastjan Glinsek and Susanne Siebentritt*



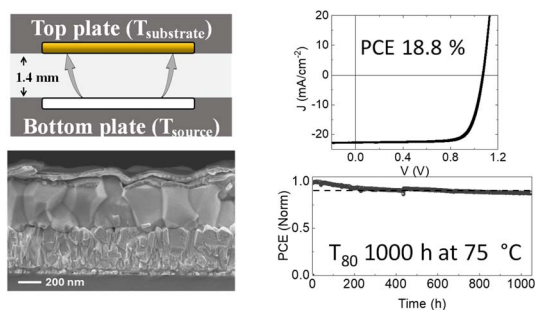
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Quartz wool-supported porphyrin supramolecular photocatalysts for robust and scalable H₂O₂ generation

Ji Liu, Wenting Qiu, Shuai Dou, Hengjun Shang, Yanning Zhang, Jing Xu, Jiawei Zhang, Yang Lou, Ying Zhang, Yongfa Zhu and Chengsi Pan*

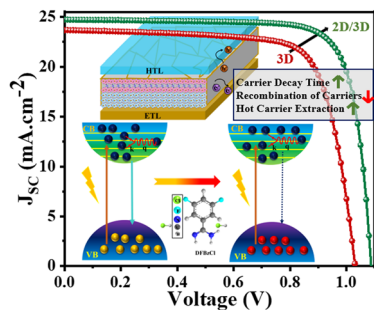
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Large-area close-space sublimation enables the fabrication of efficient and stable perovskite solar cells

Inma Gomar-Fernández, Lidón Gil-Escrig,* Nathan Rodkey, Federico Ventosinos, Maximiliano Senno, Cristina Roldán-Carmona, Vladimir Held, Michele Sessolo and Henk J. Bolink*

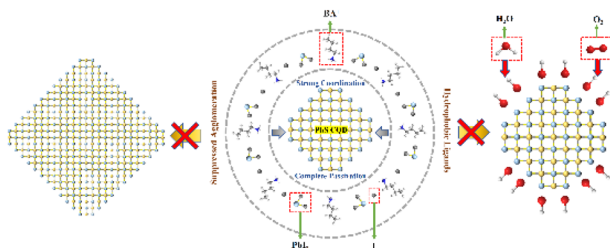
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Molecular interactions and excited-state dynamics in MA free efficient and stable 2D/3D perovskite solar cells

Shivani Choudhary, Naveen Kumar Tailor, Kapil Kumar, Rabindranath Garai, Mohammad Adil Afroz and Soumitra Satapathi*

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In situ 2D-perovskite-like ligands offer versatile passivation of large and small sized PbS quantum dots for infrared photovoltaics

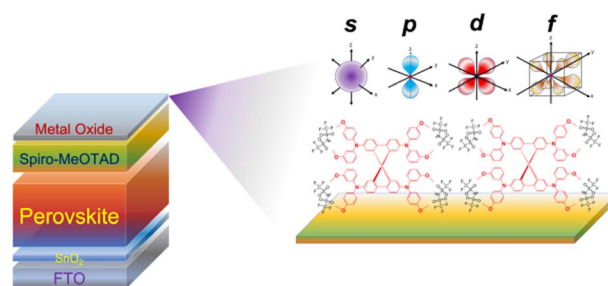
Kai Liao, Beining Dong, Yajie Yan, Xiaoxiao Zhang, Kou Li, Dewei Chu, Long Hu* and Ziqi Liang*



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Protective buffer layer engineering for sputter-resistant transparent perovskite solar cells with improved transmission and efficiency

Abhijit Singha, Ananta Paul, Subir Manna, Chinmaya Kumar Sahoo, Vishnu Kumar, Anil Kottantharayil, Sudhanshu Mallick, K. R. Balasubramaniam* and Dinesh Kabra*



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Evaluating the potential of CsBiSCL₂ as a solar absorber

Eilidh L. Quinn, Hugh Lohan, Elita Tmava, Shiling Dong, Aron Walsh and Robert L. Z. Hoye*

