



PVSEC-35

35th International
Photovoltaic Science and
Engineering Conference

Nov. 10-15, 2024

Conference Report

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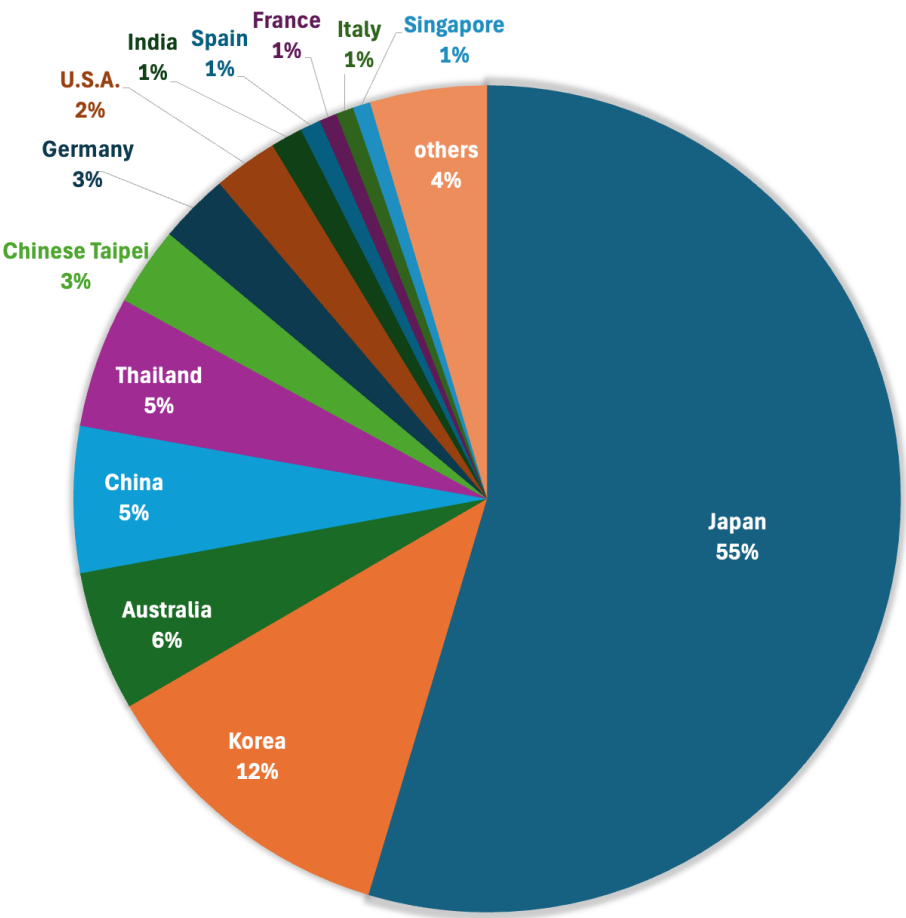


Numazu City

917 participants (incl. 42 sponsors)

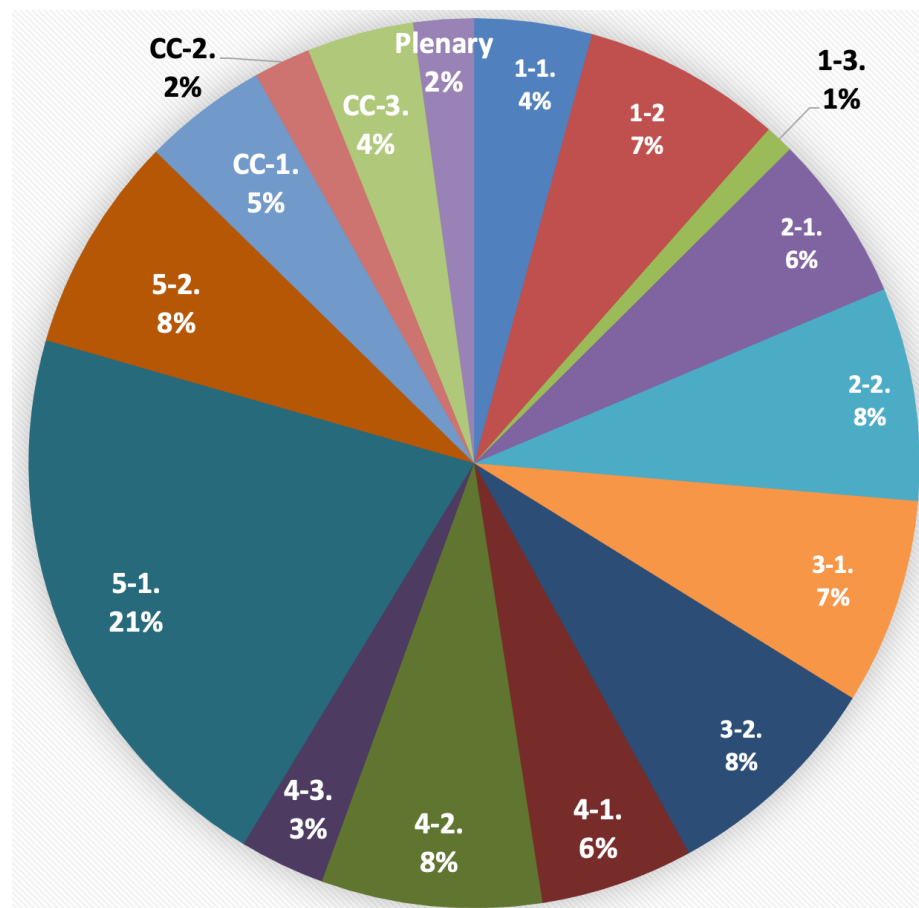
Country	#	Country	#	Country	#	Country	#
Japan	478	Spain	7	Israel	2	Philippines	1
Korea	105	France	6	Romania	2	Poland	1
Australia	50	Italy	6	Saudi Arabia	2	Portugal	1
China	48	Singapore	6	Sweden	2	Switzerland	1
Thailand	45	Belgium	5	Austria	1	Turkey	1
Chinese Taipei	27	Netherlands	5	Hong Kong	1	United Arab Emirates	1
Germany	24	UK	4	Luxembourg	1		
U.S.A.	22	Canada	3	Norway	1		
India	11	Qatar	3	Pakistan	1		

33 countries and region



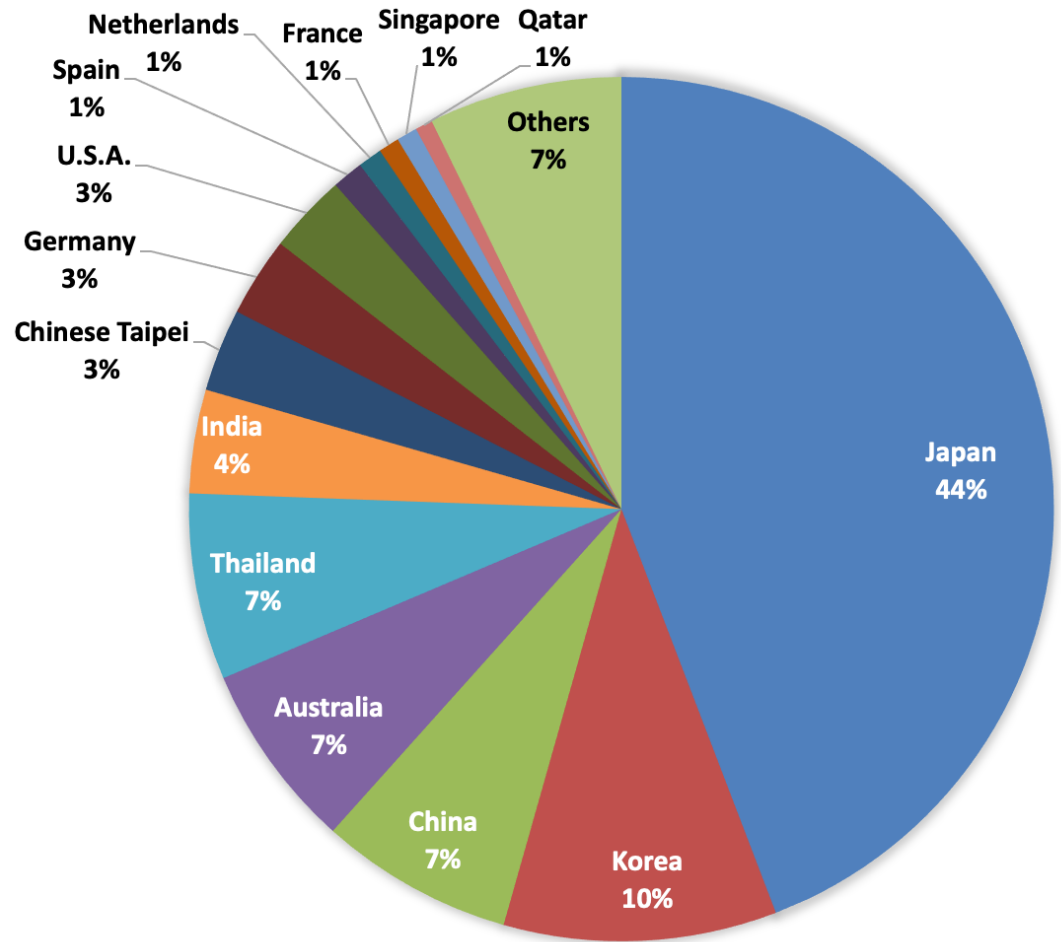
774 accepted abstracts

Area	#
1-1: Policy, Market, Finance and Deployment	33
1-2: Grid Integration and Energy Management	56
1-3: Green Energy Carriers and Storage	8
2-1: Integrated PV and Advanced Applications of Photovoltaics	47
2-2: Field Performance of Photovoltaic Systems	60
3-1: Materials, Processes, Fundamentals	58
3-2: Cells and Modules	63
4-1: Organic and Inorganic Photovoltaics	43
4-2: Compound Thin-film Photovoltaics	62
4-3: III-V High-efficiency Devices	24
5-1: Perovskite Photovoltaics	161
5-2: Emerging Materials and New Concepts	61
CC-1: Perovskite Tandems	35
CC-2: Artificial Intelligence in PV Development	16
CC-3: Solar to X; Sciences, Materials and Devices	30
Plenary Talk	17



774 accepted abstracts

Country	#	Country	#	Country	#
Japan	342	Spain	9	UK	4
Korea	79	Netherlands	7	Canada	3
China	56	France	6	Sweden	3
Australia	54	Singapore	6	Austria	2
Thailand	54	Qatar	5	Luxembourg	2
India	30	Belgium	4	Morocco	2
Chinese Taipei	24	Italy	4	Romania	2
Germany	23	Saudi Arabia	4	Yemen	2
U.S.A.	23	Switzerland	4	Others	20



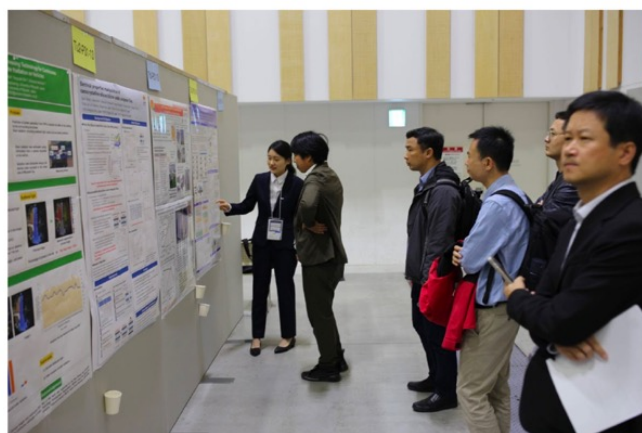
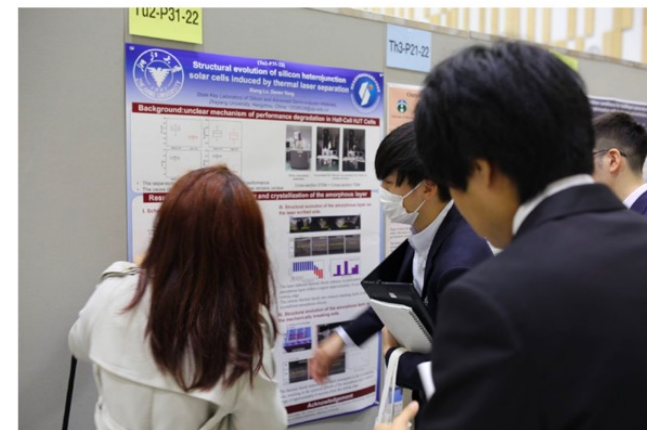
Opening and Plenary Talks



Award Ceremony



Technical Sessions



Tutorial and Satellite Events, Special Event



Poster Awards

Mohamed M. Shehata, Daniel H. Macdonald, Lachlan E. Black

Outstanding Surface Passivation of Textured Si Surfaces by Chlorinated Thin Films

Maysa Sarsour, Fiacre Rougieux¹, Alison Ciesla, Chukwuka Madumelu, Martin Green, NJ Ekins-Daukes, Jessica Yajie Jiang

Lifetime Enhancement of Nano-Crystalline SHJ Cells Using Heat and Light Treatments

Mohammed Dahesh, Mohammed Al-Matwakel, Marwan Dhamrin, Kazuma Ito, Atsushi Masuda

Degradation analysis of 38-year-old PV modules under the weather conditions of Sana'a –Yemen

Yuya Honishi, Naoyuki Nakagawa, Soichiro Shibasaki, Yukitami Mizuno, Atsushi Wada, Sara Yoshio, Motohiro Toyota, Kodai Wakamatsu, Takashi Yamamoto, Junji Sano, Kanta Sugimoto, Kazushige Yamamoto

Doping technology for High-efficiency Transparent Cu₂O Top cells

Yukiko Kamikawa, Marco Nardone, Jiro Nishinaga, Shogo Ishizuka

Investigating the multiple effects of Al₂O₃ interface passivation in CIGS solar cells

SHI GUOZHENG, ZEKE LIU, QING SHEN, WANLI MA

Overcoming the efficiency and cost barrier for large-area quantum dot photovoltaics enabled by stable semiconductive inks

Yuta Suetugu, Katsuhiko Saito, Qixin Guo, Tooru Tanaka

Effect of n-type window layer materials on two-step photon absorption current in ZnTeO-based intermediate band solar cells

Hanae Yamazaki, Hiromu Homma, Takeshi Gotanda, Hiroto Ohwada, Kazuhiro Gotoh, Atsushi Masuda

Fabrication of perovskite/silicon tandem photovoltaic modules using silicone encapsulants

Yuya Makino, Yusuke Oteki, Yoshitaka Okada, Tomah Sogabe

Non-adiabatic Molecular Dynamics Calculations Combined with Time Series Machine Learning Methods for Analysis of Intermediate Level Carrier Dynamics in Er-doped GaAs

Kei Morishita, Takeharu Murakami, Takeshi Matsumoto, Kazuki koiike, Katsushi Fujii, Takayo Ogawa, Satoshi Wada

Effect for CO₂ reduction of zero-gap reactor by adding formic acid to low concentration alkali metal bicarbonate anolyte

Anouluck Norasing, Naoya Abe

Scenario Analysis of Electricity Demand Growth in Rural Areas for the Evaluation of the Reliability and Sustainability of an Off-grid System: A Case Study in Lao PDR

Jindan Cui, Xue Fang, Takashi Oozeki, Yuzuru Ueda

Development of Error Absorption Headroom Setting Algorithm Using Bivariate Polynomial Surface to Create Reserve Power in A PV Power Plant

Kaiki Matsubayashi, Kenji Araki, Yasuyuki Ota, Kensuke Nishioka

Rapid Generation of Solar Spectrum with Sensor Photodiode Arrays

Shiori Shinozaki, Ken Murasawa, Motonobu Hamagami, Atsuo Tsuzuki, Akihiro Hayakawa, Shigehiro Ueno, Taiki Takayama

Development of flame –retardant polyolefin based encapsulants and application to modules

Tetsuyuki Ishii, Yasuo Chiba, Minoru Akitomi, Ritsuko Sato, Sungwoo Choi, Atsushi Masuda

Annual degradation rates of five PV technologies over 12.5 years in Japan

Hiroki Mori, Seihou Jinnai, Yasushi Hosoda, Yutaka Ie

A Dibenzo[g,p]chrysene-Based Organic Semiconductors with Small Exciton Binding Energy

Masaki Date, Ryuji Oshima, Yasushi Shoji, Hitoshi Sai, Makoto Shimizu, Takeyoshi Sugaya, Shuhei Yagi, Hiroyuki Yaguchi

Enhanced reflectivity of InGaAs solar cells using patterned dielectric back contacts for thermophotovoltaic applications

Takashi Funaki, Masahiro Kashiwazaki, Kohei Yamamoto, Ryusei Emura, Hiroyuki Yaguchi, Takuro N. Murakami

Naphthalenediimide electron transport materials as the self-assembled monolayers for perovskite solar cells

Fuyuki Harata, Tomoya Nakamura, Minh Anh Truong, Richard Murdey, Atsushi Wakamiya

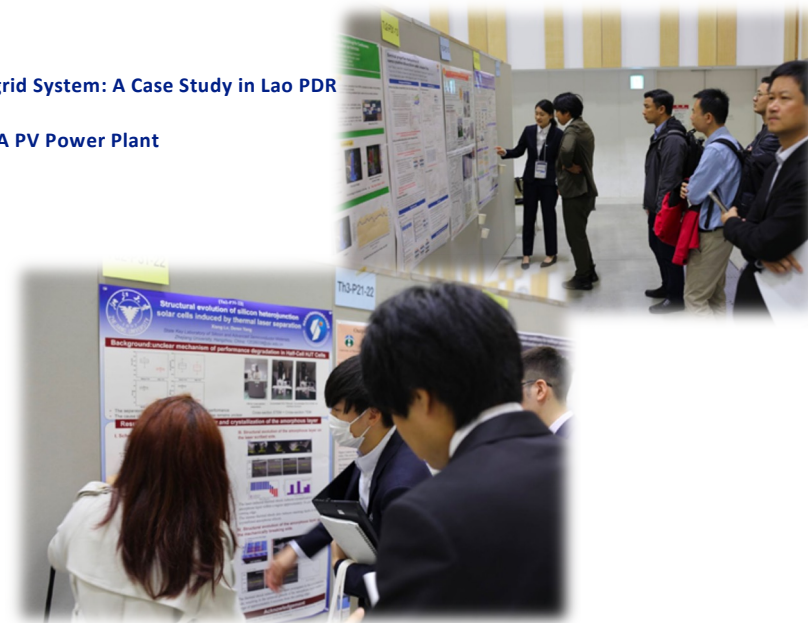
Large-area fabrication of tin halide perovskite films for solar modules by imidazole additives

Chien-Yu Chen, Fuyuki Harata, Tomoya Nakamura, Minh Anh Truong, Richard Murdey, Atsushi Wakamiya

Boosting the performance of tin halide perovskite solar cells with metal halide electron interfacial layers

Ashraf Hossain Howlader, Shahriyar Safat Dipta, Walia Binte Tarqieue, Ashraf Uddin

Surface and bulk defects passivation with mixed fluorenylammonium halides in chlorideiodide perovskite solar cell



Oral Presentation Awards

Yuting Zhuo, Chengsun He, Yansong Shen

Experimental study of effectively separating and extracting valuable metal materials from end-of-life PV modules

Yasuo Matsubara, Hinako Kawakami, Yasuhito Kajita, Yasushi Satoh, Yutaka Amao

A chemical maximum-power-point tracking system for stabilized solar-fuel production

Kenji Araki, Kohei Okada, Naoki Mukai, Shota Matsushita, Seiichi Kiyama, Yasuyuki Ota, Koji Nishiyama, Kensuke Nishioka

PV for HAPS (High Altitude Platform): Tensor-Matrix-based modeling and measurement validation

Amornrat Limmanee, Rangson Pluemkamon, Nuttakarn Udomdachanut, Pratan Kosuwan, Saifon Kotesopa, Suttinan Jaroensathainchok, Aswin Hongsingthong

Degradation behavior of 11-years field aged photovoltaic modules in Thailand science park

Paul Stradins, William Nemeth, Dirk Steyn, Harvey Guthrey, Sumit Agarwal, David L. Young

Nanopinhole-enabled passivated contacts

Kun Gao, Cao Yu, Alison Lennon, Jian Zhou, Xinbo Yang

Industrial-Scale Deposition of Nanocrystalline Silicon Oxide for 26.4%-Efficient Silicon Heterojunction Solar Cells with Copper Electrodes

Hualin Zhan, Klaus Weber, Kylie Catchpole

TRPL analysis of perovskite by physics-based machine learning on desktop computers

Kodai Yamanaka, Masahiko Saito, Tsubasa Mikie, Itaru Osaka

Development of a π -Conjugated Polymer Easily Synthesized Without Column Chromatography Towards Low-Cost Efficient Organic Photovoltaics

Sergio Giraldo, Alex Jimenez-Arguijo, Yuancai Gong, Marcel Placidi, Zacharie Jehl Li-Kao, Edgardo Saucedo

Unlocking the potential of Kesterite solar cells with Li-doping and Ag-alloying and perspectives for technology transfer

Robin Lang, Malte Klitzke, Patrick Schygulla, Gerald Siefer, David Lackner, Frank Dimroth¹, Oliver Höhn

Development of wafer-bonded III-V concentrator solar cells with six junctions

Tomah Sogabe, Yoshitaka Okada

Two-step photon absorption in hematite/silicon photoanode for Z-Scheme water splitting

Youngmin Kim, Wonkyu Lee, Jae-Keun Hwang, Solhee Lee, Dowon Pyun, Ji-Seong Hwang, Jiyeon Nam, Seok-Hyun

Jeong, Sujin Cho, Kyunghwan Kim,

Sangwon Lee, Youngho Choe, Donghwan Kim, Yoonmook Kang, Hae-Seok Lee

The conversion of MACI-treated sputtered PbI₂ to perovskite films by close spaced sublimation

Ryosuke Nishikubo, Yieon Park, Akinori Saeki

Compositional and additive engineering of wide-bandgap perovskite toward improved performance and stability

Yongjie Wang, Gerasimos Konstantatos

Eco-friendly Solution-processed AgBiS₂ Nanocrystal Solar Cells

Jiang Liu, Yongcai He, Lei Ding, Hua Zhang, Xiaohong Zhang, Zhengguo Li, Bo He, Xixiang Xu

Structural and Optoelectronic Analysis on >34% Efficient Perovskite/Silicon Tandem



Student Awards

Mao Iida, Yosuke Kinden, Tomoya Kobayashi, Hiroyuki Fujiwara

Global perspectives on seasonal photovoltaic energy yield adjustment with integrated hydrogen storage systems

Katsumichi Hanzawa, Shinya Kato, Michihiro Kusumoto, Kengo Yamanaka, Taisuke Doi, Yasuyoshi Kurokawa, Noritaka Usami, Takashi Itoh

Evaluation of Thermoelectric Performance of Mg_2Si Synthesized Using Silicon Extracted from Waste PV Modules

Gabriel Bartholazzi, Mohamed Shehata, Christian Samundsett, Daniel Macdonald, Lachlan Black

Fully transparent hole-selective MoOx passivating contact enabling 22.5% efficient silicon solar cells

Sebastian Smits, Yifeng Zhao, Paul Procel Moya, Olindo Isabella

Silicon heterojunction solar cells featuring localized front contacts

Top Archie Dela Peña, Jiaying Wu, Ruijie Ma, Mingjie Li, Gang Li, He Yan

Regulating Molecular Interfaces and Domain Characteristics for Efficient and Green Solvent Processable Organic Solar Cells

Guojun He, Kaiwen Sun, Ao Wang, Chang Yan, Xiaojing Hao

Enhanced bulk and interface quality of high bandgap $(\text{Ag,Cu})(\text{In,Ga})\text{S}_2$ solar cells achieving 960 mV V_{OC} and over 13 % efficiency

Wenbo Fan, Ryuji Oshima, Yasushi Shoji, Takeyoshi Sugaya, Shuhei Yagi, Hiroyuki Yaguchi

Formation of thick germanium-on-nothing structures via inductively coupled plasma reactive ion etching

Kamonthip Singbumrung, Yeamporn Nakaramontri, Chotiros Dokkhan, Pasaree Laokijcharoen, Surawut Chuangchote

Natural Rubber Latex Foam with ZnO Photocatalysts for Antibacterial Efficiency

Alexander Diercks, Julian Petry, Thomas Feeney, Roja Singh, Hang Hu, Ulrich Wilhelm Paetzold, Paul Fassel

Sequential Evaporation Process for Fabrication of Fully Vacuum-Processed Perovskite Solar Cells: Effect of HTL on Morphology and Crystallization

Aruto Akatsuka, Minh Anh Truong, Atsushi Wakamiya, Gaurav Kapil, Shuzi Hayase, Hiroyuki Yoshida

Understanding Energy Level Alignment at Hole Collecting Monolayer/Perovskite Interface Based on Interfacial Electronic Structure of Organic-Inorganic Semiconductor

Jeong-Yeon Lee, Dong-Won Kang

Band gap reducing strategies for ultra narrow band gap (~ 1.2 eV) halide perovskites by compositional engineering

Qilin Zhou, Yi Hou

Rationalizing Perovskite Crystal Growth on Cz Silicon Wafers for Efficient Tandem Solar Cells



News Paper



2024/11/12 静岡新聞



2024/11/12 読売新聞



2024/11/19 静岡新聞



2024/12/15 沼津朝日



2024/12/17 沼津朝日

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