

# Poster Program

Tuesday 14 December 2021

19:00 - 21:00

*This program is current as of 12 November 2021*

Paper ID	Paper Title	Submitting Author	Theme/SubTheme
3	Industrially P-type TOPCon Solar Cells with Rear Emitter	Mr Chaihung Tsai	Area 1: Silicon PV + Silicon tandems
5	Quantitative measurement of active dopant density distribution in black silicon solar cell using scanning nonlinear dielectric microscopy	Prof Yasuo Cho	Area 1: Silicon PV + Silicon tandems
15	Fully air-processed all-inorganic perovskite solar approaching ~20% cells: New strategies for making cesium-lead halides	Dr Sawanta Mali	Area 5: Perovskite solar cells & modules
16	Record-efficiency GaAs//CuIn1-yGaySe2 3-junction solar cells with 28.06% fabricated using smart stack technology	Dr Kikuo Makita	Area 3: III-V compound semiconductor, concentrator & space technologies
19	Efficient Perovskite Solar Cells based on High Quality (MA0.5FA0.5)PbI3 Perovskite Thin Films by Thioacetamide Additive	Dr Jyoti Patil	Area 5: Perovskite solar cells & modules
22	Comparison of annual power generation characteristics of Cu(InGa)Se2 modules installed on the north, south, east and west planes	Prof Makoto Konagai	Area 7: Performance & reliability of PV modules
23	Evaluation of BIPV applicability based on four-terminal perovskite/silicon tandem cells under realistic environmental conditions	Dr C. Dong NGUYEN	Area 1: Silicon PV + Silicon tandems
24	Design and Fabrication of Rib Silicon Heterojunction Solar Cells	Prof Yukimi Ichikawa	Area 1: Silicon PV + Silicon tandems
25	Investigating the Gettering Rate of Polysilicon/oxide Passivating Contact Structures	Mr Zhongshu Yang	Area 1: Silicon PV + Silicon tandems
32	Fabrication and characterization of BaSi2 films on glass substrates by RF co-sputtering of BaSi2 and Ba targets	Mr Ryota Koitabashi	Area 6: Advanced concepts & new emerging materials for future PV power conversion
36	Crystalline silicon solar cells at elevated temperatures: thinner is better?	Dr Hitoshi Sai	Area 1: Silicon PV + Silicon tandems
40	A comparative study of blistering suppression in PECVD Si films by C, N, or O incorporation for application in SiOx-based passivating contacts for Si solar cells	Mr Rajiv Sharma	Area 1: Silicon PV + Silicon tandems
42	Titanium Oxide Thin Film Formed by Sputtering with Argon/Hydrogen Gas mixtures for n-type front emitters of Crystalline Silicon Solar Cells	Mr Takanori Shinozaki	Area 1: Silicon PV + Silicon tandems
45	Revealing the Dynamics of Thermal Reaction Between Cu and Mixed Halide Perovskite Solar Cells	Mr Jihoo Lim	Area 5: Perovskite solar cells & modules
50	Solar Deployment and Perceptions in the Social Work Sector - A Case Study of a Net Zero Home for the Aged	Miss Natasha Wu	Area 10: PV deployment, industry, market & policy

51	Optical Guide Substrate for Bifacial Multi-Junction Amorphous Silicon Solar Cells Working with Single-Sided Light Illumination	Prof Kimihiko Saito	Area 1: Silicon PV + Silicon tandems
53	Investigation of PV system application for mobile telecommunication base station.	Mr Phasapon Manosukritkul	Area 7: Performance & reliability of PV modules
54	Enhanced Hole-Carrier Selectivity in Wide Bandgap Halide Perovskite PV Devices for Indoor IoT Applications	Mr Minwoo Lee	Area 5: Perovskite solar cells & modules
57	Proposal of a Model Reproducing the I-V Characteristics of Photovoltaic System with BPD Open Failure	Mr Kumpei Yamamoto	Area 8: PV systems including BOS components
58	Accelerating photovoltaics material discovery and information extraction driven by machine learning and text mining	Mr Tong Xie	Area 1: Silicon PV + Silicon tandems
59	An accuracy improvement of single-diode modeling for photovoltaic system output prediction	Miss sasiwimon songtraï	Area 7: Performance & reliability of PV modules
60	Verification model of One Diode and Five Parameters (1D5P)-Based PV Models.	Miss sasiwimon songtraï	Area 7: Performance & reliability of PV modules
61	Suppression of Residual Saw Marks After Etching on Silicon Wafers by High-precision Slicing	Mr Yutaka Hara	Area 1: Silicon PV + Silicon tandems
62	Understanding the Electrical Performance of Black Silicon for High-Efficiency Solar Cell Applications	Mr Shaozhou Wang	Area 1: Silicon PV + Silicon tandems
63	Long-Distance Optical Wireless Power Transmission over 100 m using GaInP Solar Cell under 609 nm Laser Irradiation	Mr YiuLeung Wong	Area 3: III-V compound semiconductor, concentrator & space technologies
64	Evaluation of negative impact of PV power forecasting error on JEPX spot market price prediction by the simplified merit order model	Mr Kota Kikuchi	Area 9: PV system integration including smart grid & storage
65	JUMP2Excel Endeavour	Dr Vibhu Jately	Area 10: PV deployment, industry, market & policy
69	Elucidation of voltage loss in various structures, how charge accumulation can affect voltage loss?	Ms Naeimeh Mozaffari	Area 5: Perovskite solar cells & modules
72	Energy yield simulation of silicon-based tandem solar cells: impact of spectral variations calculated using reference climatic datasets	Dr Takeshi Tayagaki	Area 1: Silicon PV + Silicon tandems
76	Fabrication of silicon heterojunction solar cell with sputtered emitter structure	Mr Yuta Shiratori	Area 1: Silicon PV + Silicon tandems
78	DLTS analysis on RPD induced recombination-active defects	Mr Tomohiko Hara	Area 1: Silicon PV + Silicon tandems
79	Effects of defects generated by ITO reactive plasma deposition on minority carrier lifetime in silicon crystal	Mr Yuto Ifuji	Area 1: Silicon PV + Silicon tandems
81	Development of Si Hetero-junction Solar Cell Suitable for Bottom Cell of Tandem Solar Cell	Dr Kyotaro Nakamura	Area 1: Silicon PV + Silicon tandems
82	Demand Response Method Using Both Batteries of Base Transceiver Stations and Residences with PVs	Mr Daisuke Ohsaki	Area 9: PV system integration including smart grid & storage

83	Fabrication of all-solid-state semiconductor battery using TiOx:Nb for energy storage	Mr Kenta Watanabe	Area 9: PV system integration including smart grid & storage
85	Optimization of the recombination junction for perovskite-silicon tandem solar cells	Mr Calum McDonald	Area 1: Silicon PV + Silicon tandems
87	Impact of combination of intrinsic and doped amorphous silicon layers on passivation of n-type silicon wafers	Dr Sourav Mandal	Area 1: Silicon PV + Silicon tandems
88	Determining the minimum sample of reference PV systems for estimating aggregate distributed PV generation	Ms Phoebe Heywood	Area 10: PV deployment, industry, market & policy
90	Limited effectiveness of laser doping using AlOx as a dopant for silicon solar cells	Dr Ran CHEN	Area 1: Silicon PV + Silicon tandems
96	Influence of Dislocation Density on Light-Induced Degradation in PERC Cells: A Cast-Mono Ingot Study	Dr Brendan Wright	Area 1: Silicon PV + Silicon tandems
97	2-Terminal perovskite-carrier selective contact silicon tandem solar cells using molybdenum oxide hole selective layer	Mr Changhyun Lee	Area 1: Silicon PV + Silicon tandems
98	Evaluation of the Momentary Partial Shading Effect on Vehicle Integrated Photovoltaics Using Equivalent Circuit Model	Mr Kento Hirata	Area 1: Silicon PV + Silicon tandems
99	Advanced Hydrogen Passivation on SixGe1-x Solar Cells Grown on Silicon Substrate	Mr Fukun Lei	Area 1: Silicon PV + Silicon tandems
101	Investigation of Laser Wireless Power Transmission using InGaP/InGaAs/Ge 3-junction Solar Cells and Fly-eye Lenses	Mr Nozomi Matsuoka	Area 3: III-V compound semiconductor, concentrator & space technologies
102	Deposition of n-type SnSe thin films doped with Bi	A/Prof Yoshitaro Nose	Area 2: Thin-Film compound semiconductors
104	Improvement of InGaAs solar cell characteristics with a distributed Bragg reflector under 1550 nm laser irradiation	Mr Ryota Warigaya	Area 3: III-V compound semiconductor, concentrator & space technologies
106	Continuous variation of fixed charge from strongly negative to strongly positive in AlPxOy dielectric passivation layers on silicon	Dr Lachlan Black	Area 1: Silicon PV + Silicon tandems
108	Evaluation of damage in crystalline silicon substrate induced by plasma enhanced chemical vapor deposition of amorphous silicon films	Mr Haruki Kojima	Area 1: Silicon PV + Silicon tandems
115	The guideline for control of grain boundary configuration to suppress carrier recombination in multicrystalline silicon	Mr YUSUKE FUKUDA	Area 1: Silicon PV + Silicon tandems
117	Design and fabrication of nanoimprinted optical confinement structure specialized for near-infrared light	Mr Yuto Kimata	Area 1: Silicon PV + Silicon tandems
122	Performance Evaluation of CPV System Installed in Thailand.	Miss sasiwimon songtraï	Area 7: Performance & reliability of PV modules
123	Comparison of output variability from distributed PV fleets across different climate and solar variability zones in Australia	Dr Kanyawee Keeratimahat	Area 10: PV deployment, industry, market & policy

124	Investigation of carrier selective contact using two dimensional materials for solar cells	Mr Taiga Tsukushi	Area 1: Silicon PV + Silicon tandems
125	Application of In <sub>2</sub> O <sub>3</sub> :H as the front contact in Cu(In,Ga)(S,Se) <sub>2</sub> mini-modules	Dr Pablo Reyes-Figueroa	Area 2: Thin-Film compound semiconductors
127	Modeling Dynamic Response of Commercial-scale FPV rigid-type structure installed in Windy Near-Shore Conditions; Sihwa Lake	Dr Charles Lawrence Waithiru	Area 8: PV systems including BOS components
132	Simulation of collection efficiency of back junction silicon solar cells	Dr Sieu Pheng Phang	Area 1: Silicon PV + Silicon tandems
136	Life cycle assessment of thin-film, flexible solar modules in the Netherlands	Dr Gianluca Limodio	Area 10: PV deployment, industry, market & policy
137	Impact of light soaking on SHJ solar modules under 2000 h illumination	Dr Jian Yu	Area 7: Performance & reliability of PV modules
142	Microwave processing techniques for silicon solar cells	Dr Binesh Veetil	Area 1: Silicon PV + Silicon tandems
147	A Deep Segmentation Framework To Calculate City-Scale Solar Energy Output Using Satellite Imagery	Mr DADAJON BOYKUZU UGLI JURAKUZIEV	Area 10: PV deployment, industry, market & policy
148	Spectroscopic study of hot carrier recombination and thermalization in III-V multi-quantum wells	Mr Muhammad Hanif	Area 3: III-V compound semiconductor, concentrator & space technologies
150	Improved photovoltaic properties of Ti- and La-doped BiFeO <sub>3</sub> films for efficient inorganic perovskite solar cells	Dr Sergey Kozlov	Area 6: Advanced concepts & new emerging materials for future PV power conversion
151	Insights into thermal oxidation of ultra-thin SiO <sub>x</sub> tunnel layers for passivated contacts	Dr Jingnan (Taffy) Tong	Area 1: Silicon PV + Silicon tandems
157	Quantifying the Environmental Impacts of EoL PV Module Transportation in Australia	Mr Shaun Falzarano	Area 10: PV deployment, industry, market & policy
158	Temperature correction formula of maximum output power P <sub>max</sub> : Assessment of Applicability and Precision	Dr Yoshihiro Hishikawa	Area 7: Performance & reliability of PV modules
161	Near-Infrared Light Management in Silicon Heterojunction Solar Cells	Prof Hyunju Lee	Area 1: Silicon PV + Silicon tandems
162	Bulk Lifetime Changes in Cz-Si Due to Intermediate Temperature Cell Processing Treatments	Mr Vincenzo LaSalvia	Area 1: Silicon PV + Silicon tandems
166	Synthesis and Characterization of Cu <sub>3</sub> BiS <sub>3</sub> Particles	Dr Yasuhiro SHIRAHATA	Area 6: Advanced concepts & new emerging materials for future PV power conversion
167	Facile synthesis of novel CuO-NiO-ZrO <sub>2</sub> nanocomposite for enhanced photocatalytic hydrogen production	Dr Karthik Kannan	Area 2: Thin-Film compound semiconductors
170	Mechanical fatigue life analysis of Solar Panels under cyclic load conditions for design improvement	Mr Matheus de Assis Rabelo	Area 7: Performance & reliability of PV modules
172	Very low saturation current densities (J <sub>0</sub> ) of PECVD passivated boron doped emitter for industrial bifacial monoPoly™ solar cell applications	Dr Donny Lai	Area 1: Silicon PV + Silicon tandems
174	Ozone-assisted Atomic Layer Deposition on Large-size Silicon Wafer Achieved by an Industrial Batch Type Tube System	Mr Xinyuan Wu	Area 1: Silicon PV + Silicon tandems

177	Energy performance of detached houses in Ulaanbaatar city	Dr Bat-Erdene Bayandelger	Area 9: PV system integration including smart grid & storage
180	ALD recipe optimisation of HfON layer for singlet fission sensitised silicon solar cell	Mr Alvin Mo	Area 1: Silicon PV + Silicon tandems
182	Modeling and Economic Optimization of PV Module Assembly Supply Chain in a Global Market	Mr Mohammad Dehghanimadvar	Area 10: PV deployment, industry, market & policy
183	Binary Organic Cation (TMS)x(FA)1-xPbI3 Perovskite Solar Cells using aprotic Trimethylsulfonium Iodide	Mr Sanjay Sandhu	Area 5: Perovskite solar cells & modules
185	Passivation for Crystalline Silicon in Passivation Contacts by Catalytically Generated Hydrogen	Mr Yuli Wen	Area 1: Silicon PV + Silicon tandems
189	Potassium effects on the microstructure of CsPbI <sub>2</sub> Br <sub>2</sub> all-inorganic perovskite	Mr Qianying Guo	Area 5: Perovskite solar cells & modules
194	Simulation of Perovskite Solar Cells with Doped a-Si as a Carrier Transport Layer	Mr Kuan LIU	Area 5: Perovskite solar cells & modules
195	Cat-CVD SiNx /ultrathin SiO <sub>x</sub> passivation stacks for high-efficiency crystalline Si solar cells	Mr Hiroki Nakajima	Area 1: Silicon PV + Silicon tandems
196	Defect Reduction in Polycrystalline Silicon Films Formed by Flash Lamp Annealing	Mr Yudai Yanagi	Area 1: Silicon PV + Silicon tandems
197	Fire-through Ag contact formation for c-Si solar cells with Cat-CVD SiNx	Mr Toshiki Itasaka	Area 1: Silicon PV + Silicon tandems
198	Effect of prior reverse bias application on the potential-induced degradation of n-type front-emitter crystalline Si photovoltaic modules	Mr Deqin Wu	Area 7: Performance & reliability of PV modules
199	Numerical simulations of optimizing Eg-grading profiles under various carrier diffusion lengths of CH <sub>3</sub> NH <sub>3</sub> (Sn <sub>x</sub> Pb <sub>1-x</sub> )(I <sub>1-y</sub> Br <sub>y</sub> ) <sub>3</sub> perovskite absorbers	Dr Yu Kawano	Area 5: Perovskite solar cells & modules
201	Formation of n-poly-Si films on textured glass substrates by the flash lamp annealing of hydrogenated n-a-Si films	Mr WANG Zheng	Area 2: Thin-Film compound semiconductors
202	III-V solar cells with AlInGaP window layer grown by low-cost hydride vapor phase epitaxy	Dr Yasushi Shoji	Area 3: III-V compound semiconductor, concentrator & space technologies
203	EFFECT OF OVERNIGHT OXIDATION ON THE PERFORMANCE OF CO(III) DOPED SPIRO-OMeTAD BASED PEROVSKITE SOLAR CELLS	Ms Laxmi Nakka	Area 5: Perovskite solar cells & modules
204	Glare Analysis of Solar Rooftop in Airport, the First Project in Thailand	Miss sasiwimon songtra	Area 7: Performance & reliability of PV modules
205	Silicon Heterojunction Solar Cells with a Counter-Doped n-a-Si Film Treated by Flash Lamp Annealing	Mr Yujia LIU	Area 1: Silicon PV + Silicon tandems
206	Graphene oxide passivation films on passivated emitter and localized diffused silicon solar cells	Dr Michelle Vaqueiro-Contreras	Area 6: Advanced concepts & new emerging materials for future PV power conversion
207	The corrosion of the metallization using Pb-free glass frits in c-Si PV modules	Dr Taeko Semba	Area 7: Performance & reliability of PV modules

208	Tuning the crystalline and optical properties of sputtered polysilicon carbide contacts	Dr Ning Song	Area 1: Silicon PV + Silicon tandems
212	Determination of the Rear Irradiance driven Power Gain Yield on Bifacial n-Type Silicon Module.	Mrs Sirirat Tonsue	Area 1: Silicon PV + Silicon tandems
214	Dust accumulation profiles and its effect on PV performance in rice field and cassava farm environment	Miss Nattakarn Sakarapunthip	Area 7: Performance & reliability of PV modules
215	Impact of the 2019-20 Australian Bushfires on Photovoltaic Energy Production	Mr Ethan Ford	Area 10: PV deployment, industry, market & policy
220	In situ monitoring of monoclinic Cu <sub>2</sub> SnS <sub>3</sub> formation using Raman spectroscopy	Prof Hideaki Araki	Area 2: Thin-Film compound semiconductors
221	Enhanced hydrogenation for analysis of LeTID : explaining the hydrogen distribution in silicon wafer	Mr Sim MyeongSeob	Area 1: Silicon PV + Silicon tandems
223	ON THE APPLICATIONS OF ARTIFICIAL INTELLIGENCE ALGORITHMS FOR FABRICATION OF HIGH PERFORMANCE PEROVSKITE SOLAR CELLS	Dr Chandu DS	Area 5: Perovskite solar cells & modules
225	In-Silico Design of Low-Cost Transparent Semiconductors for Photocatalysis and Carrier Selective Contacts	Ms Ina Oestroem	Area 6: Advanced concepts & new emerging materials for future PV power conversion
226	Effect of fluorine implantation on passivation of poly-Si/SiO <sub>2</sub> /Si structures	Dr Katsuto Tanahashi	Area 1: Silicon PV + Silicon tandems
227	An Analysis of the Degradation in Emerging Non-Fluoropolymer-Based Co-Extruded PV Backsheets	Dr Naila Al Hasan	Area 7: Performance & reliability of PV modules
229	AZO/Ag/AZO transparent conducting oxide films for solar cell application	Dr bidyut barman	Area 6: Advanced concepts & new emerging materials for future PV power conversion
230	Effect of Moisture Out-gassing from Encapsulant Materials on the Lifetime of Perovskite Solar Cells	Mr Luke Sutherland	Area 5: Perovskite solar cells & modules
233	Fabrication of durable double-layer anti-reflection coatings for encapsulant solar glass of PV modules	Dr Yiyu Zeng	Area 6: Advanced concepts & new emerging materials for future PV power conversion