4th International Workshop on the Sustainable Actions for “Year by Year Aging” under Reliability Investigations in Photovoltaic Modules, 2019

SAYURI-PV 2019

Agenda

Date: November 18 – 19, 2019

Venue: Conference Room (11F), AIST Tokyo Waterfront Annex Bldg.  
https://www.aist.go.jp/waterfront/en/access/

Organizing Committee

Chair: Koji Matsubara   Atsushi Masuda   Keiichiro Sakurai
Yasuo Chiba
Tadanori Tanahashi

Program Committee

Yasu Chiba, Takahisa Ishihara, Tetsuyuki Ishii,
Yasuaki Ishikawa, Kentaro Iwami, Mitsuyoshi Maekawa,
Atsushi Masuda, Tadashi Obayashi, Fumitaka Ohashi,
Keisuke Ohdaira, Keiichiro Sakurai, Tsuyoshi Shioda,
Tadanori Tanahashi, Kazufumi Tanaka, Yuzuru Ueda,
Kenji Utsunomiya, Masaaki Yamamichi, Isao Yoshida

Host

Research Center for Photovoltaics (RCPV)  
in National Institute of Advanced Industrial Science  
and Technology (AIST)  
https://unit.aist.go.jp/rcpv/cie/
[Day 1] November 18

9:30 - Registration (AIST Tokyo Waterfront Annex Building: 1F)

10:00 - General Introduction
Tadanori Tanahashi (AIST)

10:10 - Welcome Address <O-01>
Koji Matsubara (AIST)

Session I: Keynote
Chair: Keiichiro Sakurai (AIST)

10:30 - Recent Understanding and Remaining Reliability Issues on Photovoltaic Cells and Modules <O-02>
Atsushi Masuda (AIST)

11:00 - Annual Degradation Rates of High-Efficiency Crystalline Silicon Photovoltaic Technologies Estimated from Indoor and Outdoor Measurements <O-03>
Tetsuyuki Ishii1,2, Sungwoo Choi1, Ritsuko Sato1, Yasuo Chiba1, and Atsushi Masuda1 (1CRIEPI, 2AIST)

11:30 - Field Inspection Methods to Quantify PV Module Degradation <O-03>
Werner Herrmann (TÜV Rheinland Energy GmbH)

12:00 - Lunch [Self Pay]

Session II: Materials
Chair: Tadanori Tanahashi (AIST)

13:30 - A Unique Behavior of Ethylene Ionomers on Moisture Diffusion <O-04>
Kei Nagayama1, Jane Kapur1, Barry Morris1, and Motoaki Isokawa1 (1The Dow Chemical Company, 2Dow-Mitsui Polychemicals Company, Ltd.)

14:00 - Accelerated Stress Testing of Flexible Polymeric Frontsheet Films <O-05>
Michael Kempe (NREL)

14:30 - Characterization of Low Temperature Solder Reliability for PV Applications <O-06>
Laura Spinella (NREL)

15:00 - Break (30 min)

Session III: Mechanical Stress
Chair: Yasuo Chiba (AIST)

15:30 - Standardization Research on Non-Uniform Wind Load Testing <O-07>
Hung-Sen Wu, Shu-Tsung Hsu, and Wei-You Lin (ITRI)

16:00 - Evaluation of Performance Degradation due to Non-Uniform Wind Loading <O-08>
Tadanori Tanahashi1 and Shu-Tsung Hsu2 (1AIST, 2ITRI)

16:30 - End of 1st Day

18:00 - Network Meeting (Ticket Required)

[Day 2] November 19

9:00 - Registration

Session IV: Degradation I
Chair: Atsushi Masuda (AIST)

9:30 - Exploring the Effect of Light on PID Testing of CIGS Modules <O-10>
Keiichiro Sakurai1, Hiroshi Tomita2, Shuji Tokuda2, Darshan Schmitz1, Jiro Nishinaga1, Hajime Shibata1, and Atsushi Masuda1 (1AIST, 2Solar Frontier K.K.)

10:00 - Diode Ideality Factor “n” as an Indicator of the Output Performance of PV Cells and Modules <O-11>
Takashi Fuyuki1, Tadashi Obayashi2, Keizo Asaoka2, Yasunori Uchida2, Hiroshi Taniguchi2, and Yoshiteru Nitta2 (1Active Solar Innovation, 2JET)

10:30 - Break (15 min)

Session V: Degradation II
Chair: Takashi Ishihara (Mitsubishi Electric Corp.)

10:45 - Corrosion-induced AC Impedance Elevation in Crystalline Silicon Photovoltaic Cells/Modules <O-12>
Tadanori Tanahashi (AIST)

11:15 - Lifetime Prediction under UV -Hygrothermal Stress for Developing Long-Term Reliable Crystalline Si PV Modules <O-13>
Yuji Ino1, Tomonari Sakamoto 2, Kouichirou Niira 2, Takuya Kurose2, Shinsuke Uchida2, Shinji Yada2, Kyosuke Fujiwara2, Shunsuke Heito2, Yuusuke Wakisaka2, Tomohiko Murao2, Shirou Inoue2, Shuichi Asao1, Katsuhiko Shirasawa1, and Hidetaka Takato1 (1AIST, 2Kyocera Corp.)

11:45 - Corrosion Mechanisms of the Front-Side Metallization on Crystalline Si PV Module in a High-Temperature High-Humidity Test <O-14>
Taeko Semba (NAMICS Corp.)

GENERAL DISCUSSION
12:15 - General Discussion  All Participants Chaired by Tadanori Tanahashi (AIST)

12:45 - Adjourn

Workshop Venue (AIST Tokyo Waterfront Annex Building, 11F)