



2nd International Workshop on the
Sustainable Actions for “Year by Year Aging” under Reliability
Investigations in Photovoltaic Modules, 2017

SAYURI-PV 2017

Agenda

Date: November 11th – 12th, 2017

Venue: Ryukoku University, Seta Campus (Building 8)
1-5 Yokotani, Seta Oe-cho, Otsu, Shiga 520-2194, JAPAN
<http://www.ryukoku.ac.jp/english2/about/access/seta.html>

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Host

Research Center for Photovoltaics (RCPV)
in National Institute of Advanced Industrial Science and Technology (AIST)

This workshop is held under the auspices of The Japan Electrical Manufacturers’
Association (JEMA).

2nd International Workshop on the Sustainable Actions for “Year by Year Aging” under Reliability Investigations in Photovoltaic Modules, 2017 (SAYURI-PV 2017)			
[Day 1] November 11th			
9:30-	Opening Remarks	Yasuaki Ishikawa	(NAIST)
9:35-	Welcome	Koji Matsubara	(AIST)
9:40-	Welcome	Takahiro Wada	(Ryukoku Univ.)
Session I:	Keynote (Field Experience)	Chair:	Yasuaki Ishikawa (NAIST)
9:45-	Annual degradation rates of recent crystalline silicon PV modules and a study of the energy rating standard for PV modules under subtropical coastal climatic conditions	<u>Tetsuyuki Ishii</u> ¹ and Atsushi Masuda ² (¹ CRIEPI, ² AIST)	
Session II:	Cell (1)	Chairs:	Keiichiro Sakurai (AIST) and Yasuo Chiba (AIST)
10:30-	What is the potential-induced degradation? -Systematic study on various kinds of photovoltaic cells-	<u>Atsushi Masuda</u> ¹ and Keisuke Ohdaira ² (¹ AIST, ² JAIST)	
11:00-	Internal quantum efficiency mapping for evaluation of rear side of solar cells	Toshimitsu Mochizuki (AIST)	
11:30-	Dry heat testing under light irradiation of CIGS solar cells	<u>Jiro Nishinaga</u> and Hajime Shibata (AIST)	
11:50-	Lunch [Self Pay]		
	Cell (2)	Chair:	Hajime Shibata (AIST) and Tadanori Tanahashi (AIST)
13:00-	Integrated measurement of electroluminescence and current-voltage characteristics of photovoltaic modules	<u>Takashi Fuyuki</u> ¹ , Hiroshi Taniguchi ² Yoshiteru Nitta ² , Kohji Masuda ² , Yasunori Uchida ² , and Tadashi Obayashi ² (¹ Active Solar Innovation, ² JET)	
Session III:	Metallization	Chairs:	Tadashi Obayashi (JET) and Tadanori Tanahashi (AIST)
13:30-	Reliability of PERC solar modules from cell metallization prospective	<u>Marwan Dhamrin</u> , Shota Suzuki, Morishita Naoya, Masahiro Nakahara, and Yoshiki Hasizume (Toyo Aluminium)	
14:00-	Degradation behavior of electrical contacts with acetic acid in c-Si PV cells	<u>Tadanori Tanahashi</u> , Yukiko Hara, Norihiko Sakamoto, Hajime Shibata, and Atsushi Masuda (AIST)	
14:30-	Corrosion mechanism on the interfacial glass layer between the metallization and the Si wafer of silicon solar cells by high-temperature high-humidity test	<u>Taeko Semba</u> ¹ · Takeo Shimada ¹ , Kazuyoshi Yamada ¹ , Katsuhiko Shirasawa ² , and Hidetaka Takato ² (¹ Namics, ² AIST)	
15:00-	Break (30 min)		
Session IV:	Polymer (1)	Chairs:	Nick Bosco (NREL) and Atsushi Masuda (AIST)
15:30-	The long-term life expectancy of 30 years of silicon PV module analyzed by laser technique	<u>Yasuaki Ishikawa</u> ¹ , Hirotaka Iida ² , and Hidenari Nakahama ² (¹ NAIST, ² Nisshinbo Mechatronics)	
16:00-	The role of material interactions in PV module reliability	Gernot Oreski (PCCL)	
16:45-	Structural analysis of the degraded EVA encapsulant in crystalline silicon photovoltaic module using positron annihilation lifetime spectroscopy	<u>Hideaki Hagihara</u> , Hiroaki Sato, Yukiko Hara, Sachiko Jonai, and Atsushi Masuda (AIST)	
17:15	End of 1st Day		
18:00-	Network Meeting		

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[Day 2] November 12th			
Session V:	Polymer (2)	Chairs:	Gernot Oreski (PCCL), Takashi Ishihara (Mitsubishi Electric), and Tadanori Tanahashi (AIST)
9:00-	Study on reliability and long-term durability of bifacial module in terms of comparison of transparent backsheet type with glass type	<u>Keita Arihara</u> ¹ , Ryosuke Koyoshi ¹ , Yasuhiro Ishii ¹ , Masaru Kadowaki ¹ , Atsushi Nakahara ¹ , Hitoshi Nishikawa ¹ , Kinichi Ogawa ² , Yasuo Chiba ² , and Atsushi Masuda ² (¹ Dai Nippon Printing, ² AIST)	
9:20-	Impact of backsheet quality on PERC module reliability	<u>Yoshiki Hasizume</u> , Marwan Dhamrin, Sakamoto Hiroyuki, and Maeda Daisuke (Toyo Aluminium)	
9:50-	(PV module field failure in Thailand)	Manit Seapan	(KMUTT)
10:20-	Short-term and long-term field failures related to PV encapsulant in Japan	Tsuyoshi Shioda	(Mitsui Chemicals)
10:50-	Quantifying adhesion in PV modules: A historical survey and degradation processes	Nick Bosco	(NREL)
11:20-	Break (30 min)		
Session VI:	General Discussion	Chair:	Masaaki Yamamichi (RTS Corp.)
11:50-	JP efforts for PV-reliability standardization	Isao Yoshida	(JEMA)
12:05-	GENERAL DISCUSSION: Theme: Feasibility of “service lifetime prediction” (based on “durability / aging of materials”)	Moderators: Yasuaki Ishikawa, Tadanori Tanahashi, and Tsuyoshi Shioda	
12:50-	Closing Remarks	Yasuaki Ishikawa	(NAIST)
13:00	Adjourn		
18:00-	PVSEC-27: Welcome Reception	<i>at Lake Biwa Otsu Prince Hotel</i>	