

C-3 Solar Cell

Representative Organizer

Takashi ITOH (Gifu University)

Co-organizers

Noritaka USAMI (Nagoya University)

Tamotsu OKAMOTO (Kisarazu National College of Technology)

Hidetoshi SUZUKI (University of Miyazaki)

Yasuhiko TAKEDA (Toyota Central Research and Development Labs., Inc.)

Takeshi TAYAGAKI (Kyoto University)

Katsunori MIKIHARA (Nagoya University)

Nobuyuki MATSUKI (Gifu University)

Poster Session March 30 (Mon.) 11:15 ~ 12:30

- 11:15 C3-P-01 **Direct Stacking of a-IGZO TFT on IBC Solar Cell as a Single Chip Self-Powered Switch**
¹Yen-Ming Juan, ¹Shoou-Jinn Chang, ²Han-Ting Hsueh, ³Shih-Wei Huang, ³Tseng-Chieh Cheng
1 INSTITUTE OF MICROELECTRONICS AND DEPARTMENT OF ELECTRICAL ENGINEERING, NATIONAL CHENG KUNG UNIVERSITY
2 NATIONAL NANO DEVICE LABORATORIES
3 DEPARTMENT OF MECHANICAL ENGINEERING, NATIONAL KAOHSIUNG UNIVERSITY OF APPLIED SCIENCE
- 11:15 C3-P-02 **Comparative Analysis of Zn and Bi Incorporation on the CuInS₂ Thin Film Solar Cells for Critical Efficiency Studies**
Arun Kumar Sarma, A D Sivagami, Bornali Sarma
SCHOOL OF ADVANCED SCIENCES (SAS), VIT UNIVERSITY CHENNAI
- 11:15 C3-P-03 **Influence of Oxygen Partial Pressure on Optical and Electrical Characteristics of Amorphous InGaZnO Thin Films Fabricated by High Power Impulse Magnetron Sputtering Process**
^{1,2}Chia-Hao Wu, ¹Fu-Chi Yang, ^{1,3}Chi-Lung Chang
1 DEPARTMENT OF MATERIALS AND ENERGY ENGINEERING, MINGDAO UNIVERSITY
2 PHOTOVOLTAICS RESEARCH CENTER, MINGDAO UNIVERSITY
3 SURFACE ENGINEERING RESEARCH CENTER, MINGDAO UNIVERSITY
- 11:15 C3-P-04 **Local Surface Potential on Hydrogenated Microcrystalline Silicon Films**
¹Takashi Itoh, ¹Takashi Sakai, ¹Takanori Itoh, ¹Hiroshi Kuriyama, ²Shuichi Nonomura
1 DEPARTMENT OF ELECTRICAL, ELECTRONIC AND COMPUTER ENGINEERING, GIFU UNIVERSITY
2 ENVIRONMENT RENEWABLE ENERGY SYSTEM DIVISION, GIFU UNIVERSITY
- 11:15 C3-P-05 **Synthesis and Characterization of Phosphor-Doped TiO₂ Nanoparticles on TiO₂ Nanotube for Dye-Sensitized Solar Cells**
¹Jin Soo Lee, ¹Kyung Hwan Kim, ²Chang Seob Kim, ¹Hyung Wook Choi
1 DEPARTMENT OF ELECTRICAL ENGINEERING, GACHON UNIVERSITY
2 DEPARTMENT OF ENERGY IT, GACHON UNIVERSITY
- 11:15 C3-P-06 **Enhancing the Power Conversion Efficiency of Inverted Organic Solar Cells by Doping Silver Nanoparticles in the Hole Transporting Layer**
Guan-Yu Chen, Shui-Hsiang Su, Wen-Kai Lin, Chien-Kai Ma, Jhih-Ong Chen, Meiso Yokoyama
DEPARTMENT OF ELECTRONIC ENGINEERING I-SHOU UNIVERSITY, KAOHSIUNG
- 11:15 C3-P-07 **Enhancing Photoelectrical Performance of Dye-Sensitized Solar Cell by Phosphor Doped TiO₂ Nanowire**
¹Seong Gwan Shin, ¹Kyung Hwan Kim, ²Chang Seob Kim, ¹Hyung Wook Choi
1 DEPARTMENT OF ELECTRICAL ENGINEERING, GACHON UNIVERSITY
2 DEPARTMENT OF ENERGY IT, GACHON UNIVERSITY

- 11:15 C3-P-08 **Crystalline Si Solar Cells with Photonic Nanostructures Formed by Colloidal Lithography on Textured Substrates**
¹Yusuke Hoshi, ²Yuji Hirai, ¹Noritaka Usami
1 GRADUATE SCHOOL OF ENGINEERING, NAGOYA UNIVERSITY
2 DEPARTMENT OF BIO- AND MATERIAL PHOTONICS, CHITOSE INSTITUTE OF SCIENCE AND TECHNOLOGY
- 11:15 C3-P-09 **Device Characteristics of Non-Sulfurized CZTS(Cu₂ZnSnS₄) Thin Film Developed by Chemical Bath Deposition with 2.44% Efficiency**
¹Shih-Mao Lin, ²Ting-Jen Hsueh, ¹Chih-Hung Lin, ¹Siou-Yi Lin, ³Shih-Chih Chen
1 SUSTAINABLE ENVIRONMENT LABORATORY, NATIONAL CHENG KUNG UNIVERSITY
2 NATIONAL NANO DEVICE LABORATORIES
3 GRADUATE SCHOOL OF ELECTRONIC AND OPTOELECTRONIC ENGINEERING, NATIONAL YUNLIN UNIVERSITY OF SCIENCE AND TECHNOLOGY
- 11:15 C3-P-10 **Surface Treatment of Electrophorically Deposited TiO₂ Photoanode Using Heat and Pressure for Dye-Sensitized Solar Cell**
^{1,2,3}Mohammad Shamimul Haque Choudhury, ¹Naoki Kishi, ¹Tetsuo Soga
1 DEPARTMENT OF FRONTIER MATERIAL, NAGOYA INSTITUTE OF TECHNOLOGY
2 INTERNATIONAL ISLAMIC UNIVERSITY CHITTAGONG
3 BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY
- 11:15 C3-P-12 **The Electrical Properties of ITO/P3HT/ CdSe /Al Solar Cell**
^{1,2}Che Rosmani Che Hasan, ³Tetsuo Soga, ¹Mohamad Rusop Mahmood, ²Saifollah Abdullah
1 NANO-SCITECH CENTRE (NST), INSTITUTE OF SCIENCE (IOS)
2 FACULTY OF APPLIED SCIENCES
3 DEPARTMENT OF FRONTIER MATERIALS
- 11:15 C3-P-13 **High-Resistivity SnO₂ Buffer Layers for CdTe Solar Cells by Radio Frequency Reactive Sputtering**
Tamotsu Okamoto, Yohei Ogawa, Aikyo Hosono, Kazuki Itoh, Soma Ishii, Kuniei Ueno, Ayuki Murata, Yasuyoshi Shiina, Ryoji Hayashi
DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING, NATIONAL INSTITUTE OF TECHNOLOGY, KISARAZU COLLEGE
- 11:15 C3-P-14 **Plasmonic Effect of ZnO Nanowires Based Solid-State Sensitized Hybrid Perovskite CH₃NH₃PbI₃ Solar Cell**
¹Md.Mijanur Rahman, ¹Yuta Nakagawa, ¹Fumiyouki Shiba, ¹Yusuke Okawa, ²Naofumi Uekawa, ²Masatoshi Sakai, ²Kazuhiro Kudo, ¹Kazunuki Yamamoto
1 GRADUATE SCHOOL OF ADVANCED INTEGRATION SCIENCE, CHIBA UNIVERSITY
2 GRADUATE SCHOOL OF ENGINEERING, CHIBA UNIVERSITY
- 11:15 C3-P-15 **Performance Enhancement of Inverted Organic Solar Cells by Doping Carbon Nanotubes Into the Active Layer**
Guan-Yu Chen, Shui-Hsiang Su, Wen-Kai Lin, Yang-Chan Huang, Jih-Yung Chen, Meiso Yokoyama
DEPARTMENT OF ELECTRONIC ENGINEERING I-SHOU UNIVERSITY, KAOHSIUNG
- 11:15 C3-P-16 **Effects of Nano-Particles on Properties of Microcrystalline Silicon Thin Films Frabricated Using Multi-Hollow Discharge CVD Plasmas**
¹Yeonwon Kim, ¹Takeaki Matsunaga, ¹Yuji Hashimoto, ²Hyunwoong Seo, ¹Giichiro Uchida, ³Kunihiko Kamataki, ¹Naho Itagaki, ¹Kazunori Kog, ¹Masaharu Shiratani
1 GRADUATE SCHOOL OF INFORMATION SCIENCE AND ELECTRICAL ENGINEERING, KYUSHU UNIVERSITY
2 CENTER OF PLASMA NANO-INTERFACE ENGINEERING GRADUATE SCHOOL OF INFORMATION SCIENCE AND ELECTRICAL ENGINEERING, KYUSHU UNIVERSITY
3 CENTER FOR RESEARCH AND ADVANCEMENT IN HIGHER EDUCATION, KYUSHU UNIVERSITY
- 11:15 C3-P-17 **In-Situ Chemical Deposition of Polypyrrole /AQSA Composite on FTO Glass as a Pt-Free Counter Electrode for Dye-Sensitized Solar Cell**
¹Po-An Pan, ¹Kuei-Fu Chen, ¹Chuen-Horng Tsai, ²Chien- Kuo Hsieh, ¹Fu-Rong Chen
1 DEPARTMENT OF ENGINEERING & SYSTEM SCIENCE, NATIONAL TSING HUA UNIVERSITY
2 DEPARTMENT OF MATERIALS ENGINEERING, MING CHI UNIVERSITY OF TECHNOLOGY

11:15 C3-P-18 **Measurements of Nanoparticle Volume Fraction in Silicon Thin Film Using Quartz Crystal Microbalance**

¹Yeonwon Kim, ¹Kosuke Hatozaki, ¹Yuji Hashimoto, ²Hyunwoong Seo, ¹Giichiro Uchida, ³Kunihiro Kamataki, ¹Naho Itagaki, ¹Kazunori Kog, ¹Masaharu Shiratani

1 GRADUATE SCHOOL OF INFORMATION SCIENCE AND ELECTRICAL ENGINEERING, KYUSHU UNIVERSITY

2 CENTER OF PLASMA NANO-INTERFACE ENGINEERING GRADUATE SCHOOL OF INFORMATION SCIENCE AND ELECTRICAL ENGINEERING, KYUSHU UNIVERSITY

3 CENTER FOR RESEARCH AND ADVANCEMENT IN HIGHER EDUCATION, KYUSHU UNIVERSITY

11:15 C3-P-19L **Silicon Thin-Film Solar Cell Deposited by Using High Working Pressure Plasma-Enhanced Chemical Vapor Deposition System**

Jung-Dae Kwon, Yongsoo Jeong

ADVANCED FUNCTIONAL THIN FILMS DEPT., SURFACE TECHNOLOGY DIVISION, KOREA INSTITUTE OF MATERIALS SCIENCE