SPECIAL PV WORKSHOP

Space Photovoltaics for Energy Conversion in extra-terrestrIAL environment Workshop

PARIS-FRANCE

04/07/2024

Organised by :

MORNING PROGRAM

SESSION 1 | CHALLENGES FOR THE FUTURE

9H30	**DR. Stephen TAYLOR - ESA** Photovoltaic technology for space applications to cope with the needs of the present and the future
10H00	**DR. Loris IBARRART - CNES** Solar cell models and measurements: an overview
10H30 - 10H45	**BREAK**
10H45	**DR. Romain CARIOU - CEA** Towards a robust Si PV technology for space
11H15	**DR. Carmine PELLEGRINO- Fraunhofer ISE** Strategies for cost reduction in III-V space solar cells
11H45	**DR. César DOMINGUEZ - UPM** Micro-concentrators as mission enablers for deep space missions
12H15	**DR. Francesco SOTTILE - LSI** Theoretical approaches for photovoltaics
12H45 - 14H00	**LUNCH**

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SESSION 2 | RADIATION EFFECTS: MICROSCOPIC

14H00	**DR. Antonino ALESSI -LSI** Electron irradiation
14H20	**DR. Gaëlle GUTIERREZ - JANNuS-Saclay** Overview of JANNuS irradiation facility
14H30	**DR. Yana GURIMSKAYA - Solestial** Investigation of Radiation Damage in p-Type Silicon Induced by 1 MeV Electron Irradiation
15H00 - 15H30	**BREAK**
15H30	**DR. Ahmad RASA KIRMANI - RIT** Radiation damage and healing mechanisms in halide perovskites
16H00	**DR. Sophie DUZELLIER / DR. Thierry NUNS - ONERA** Degradation of PhotoVoltaic Assembly in the space environment
16H30	**Océane GUILLOT - CEA** Si Heterojunction radiation hardness
17H00	**DR. Valentin D. MIHAILETCHI - ISC** Silicon Solar Cell Technologies for Space Applications: Degradation and Regeneration Effects
17H30 (19H15)	**Poster session**
17H30	**Lab guided tour - Solar cell set-ups (3 groups)**
19H30 - 23H00	**GALA DINER**

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SESSION 3 | RADIATION EFFECTS: MACROSCOPIC

09H30	**DR. Tatsuya TAKAMOTO - SHARP**	Introduction of Sharp Space solar cell products
10H00	**DR. Carla COSTA - CNES**	Perovskites robustness against space radiations
10H30 - 11H00	**BREAK**	
11H00	**DR. Victor KHORENKO - AZUR SPACE**	Production of radiation hard III-V solar cells
11H30	**Soufian YJJOU - TRAD**	Solar cell radiation-induced degradation simulation tool for space applications
12H00	**DR. Carlos ALGORA - UPM**	Status of III-V flexible solar cells at the Solar Energy Institute of UPM
12H30 - 14H00	**LUNCH**	

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SESSION 4 | NEW EMERGING MATERIALS AND ARCHITECTURE

14H00	**PR. Gavin CONIBEER - UNSW / Extraterrestrial** The revival of Silicon solar cells for space applications
14H30	**DR. Maxime DARNON - LaHC** Micro fabrication of III-V-based solar cells for weight reduction and performance improvement
15H00 - 15H30	**BREAK**
15H30	**DR. Pilar ESPINET GONZALEZ - The Aerospace Corporation** Solar Array Shielding: The Ultra-Light Approach
16H00	**DR. Stéphane COLLIN - CNRS / IPVF** Light trapping for ultrathin III-V & Si solar cells
16H30 17H30	**Round table** “Trends & challenges for next generation robust space photovoltaic solutions" & Final remarks

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POSTER SESSION

1	**Enrique Barrigon et al, Universidad Malaga** "Multijunction nanowire solar cells for space applications: current status and future prospects within ZEUS project"
2	**Perrotin Louis et al, CEA** "Thermomechanical behaviour of silicon interconnections"
3	**Océane Guillot et al, CEA** "Influence of silicon material compositional properties on the electronic quality of electron irradiated Ga-doped wafers"
4	**Antonino Alessi et al, LSI** "Sirius electron accelerator"
5	**Garcia-Sanchez Almudena et al, Universidad Politécnica de Madrid** "Powering deep space missions: design of a low-thickness concentrator photovoltaic system able to achieve high specific power"
6	**Fernández Palacios Pablo et al, Universidad Politécnica de Madrid** "TCAD optimization of lightweight lattice-matched 3J solar cells"
7	**Cano Pérez Aitana et al, IES, Universidad Politécnica de Madrid** "Defect detection in III-V space multijunction solar cells using reverse-bias stress tests"
8	**Courtois Guillaume et al, Umicore Electro-Optic Materials** "Germanium foil lift-off from re-usable mother wafer: sustainable, light-weight substrate for III-V MJ solar cells"

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