

Monday August 21st, 2023: Salon C

Passive Thermal Presentation Session #1

09:00 to 09:30: Intermediate Temperature Oscillating Heat Pipe Radiators for Lunar Fission Surface Power

09:30 to 10:00: Methane Cryogenic Oscillating Heat Pipe Thermal Strap

Passive Thermal Presentation Session #2

10:15 to 10:45: Novel Methods for Modeling Thermochromic Variable Emissivity Surfaces

10:45 to 11:15: Enhancing Heat Transfer for Thermal Management Via Electrostatic Resonance

11:15 to 11:45: Design and Qualification of a High Temperature Multi-Layer Insulation Blanket for the Europa Clipper Mission

11:45 to 12:15: TARDIS: Accelerating TVAC Transitions

Passive Thermal Presentation Session #3

13:30 to 14:00: Advances in Thermal Technologies Using Pyrolytic Graphite Sheet

14:00 to 14:30: Thermal Interface Material Selection for Large Electronics Boxes

14:30 to 15:00: Experimental Comparison of Two-Phase Heat Spreaders for Space Modular Electronics

15:00 to 15:30: CFD Analysis and Optimization of CH₄ Pyrolysis in Commercial Hot Wall Chemical Vapor Deposition Reactor

Passive Thermal Presentation Session #4

15:45 to 16:15: Design and Testing of Thermal Ground Support Equipment for Calibration of HARP2

16:15 to 16:45: DAVINCI EDU Descent Sphere Thermal Insulation Test Results and Model Correlation

16:45 to 17:15: Development of Flight Demonstration Hot Reservoir Variable Conductance Heat Pipes for Microgravity Testing and Future Lunar Landers and Surface Systems

Monday August 21st, 2023: Salon D

Interdisciplinary Presentation Session #1

- 09:00 to 09:30: From Manual to Automated: Optimizing Spacecraft Thermal Modelling Processes with AI
- 09:30 to 10:00: Fast GPU based ray tracing methods for radiation calculations: Applications to thermal analysis for space systems

Interdisciplinary Presentation Session #2

- 10:15 to 10:45: MSR-ERO Thermal design and analysis using SYSTEMA
- 10:45 to 11:15: Thermal Simulation integrations with Other Disciplines
- 11:15 to 11:45: Penumbra Heating using Thermal Software System (TSS) v17
- 11:45 to 12:15: Thermomechanical deformation analysis of a tubular solid oxide steam electrolysis cell

Interdisciplinary Presentation Session #3

- 13:30 to 14:00: Experimental and numerical investigation of a passive filtration device for spacecraft pumped fluid loops
- 14:00 to 14:30: Ionization of Sublimated Water Vapor for Lunar Cold Trap
- 14:30 to 15:00: Component Technology Challenges and Development Required for Lunar Regenerative Fuel Cell Systems
- 15:00 to 15:30: Multi-physics modeling of 3D bioprinting of PCL scaffolds for in-Space additive manufacturing

Interdisciplinary Presentation Session #4

- 15:45 to 16:15: Thermal Challenges from GSFC Planetary Missions
- 16:15 to 16:45: Lunar Environment Monitoring Station TRL-6 Thermal Vacuum Test and Results