

## **Posters session**

### **#1 to #12 : Contamination**

1. Portable fallout monitoring instrument for particle tracking in space applications, F. Zanetto [et al.]
2. New submicron infrared microspectroscopy for failure and contamination analysis, G. Rioland
3. Contamination detection via fluorophore system, G. Rioland [et al.]
4. A comparative study of the different particle deposition monitoring methods, J. Bossa [et al.]
5. Development of New Calibration Methodology for FT-IR Molecular Organic Contamination (MOC) Determination, R. Szczęśny [et al.]
6. Fluorescence and FTIR portative instruments for contamination analysis, E. Gouisset [et al.]
7. Assessment of MOC contamination behavior of polymeric foil materials regarding long-term storage scenarios – results of a 2 years test campaign, M. Keller [et al.]
8. Materials outgassing: impact of environmental conditions, A. Ghodhbani [et al.]
9. Study of the morphology of contaminant deposits in space environment, A. Zamo [et al.]
10. Photocatalytic activity of MoO<sub>3</sub> using quartz crystal microbalance in vacuum for contamination control of spacecrafts, N. Shimosako [et al.]
11. Laser cleaning of molecular contamination on optical components, F. Wagner [et al.]
12. Cleanliness Challenges on Esprit Refueling Module on Gateway, S. Blanc

### **#13 to #35: Environment Effects on Materials**

13. ESA's "Materials4CubeSats" Open Lab Test Campaign, A. Tighe [et al.]
14. Behaviour of contamination repellent coatings (CRC) under long term UV exposure, F. Meyer [et al.]
15. Charging Effects Mitigation Using Innovative Conductive Materials, B. Sarrion [et al.]
16. Effect of proton irradiation on modern Ga-doped Si heterojunction solar cells, O. Guillot [et al.]
17. Continuation of Solar Absorptivity Degradation of Spacecraft Materials Due to UV and Charged Particles in the Gateway Environment, B. Hoffmann [et al.]
18. Accelerated aging of tapes for spacecraft structures: a comparison of rubber and silicone-based of Pressure Sensitive Adhesives tapes (PSA), T. Henry [et al.] & M. Holynska
19. The performance testing of the ACES SHM vacuum system, Y. Butenko [et al.]
20. Thermal emissivity: temperature dependent measurements, B. Bras [et al.]
21. ~~The Ultraviolet Absorption Edge Characteristics of Silica Glass under Gamma Ray and Vacuum Ultraviolet Radiation, D. Cai [et al.]~~
22. Study of polymer films for stratospheric balloon envelopes, S. Lewandowski [et al.]
23. ~~Automotive Grade Components Up Screening for New Space Missions, J. Bentzen [et al.]~~
24. Mechanical behavior of balloon's envelope materials in stratospheric environment, L. Gevaux [et al.]
25. ESA ESTEC's charging properties measurement facility simulation, G. Deprez [et al.]
26. Lifetime assessment of materials for space environment using Dynamic Mechanical Analyser (DMA), L. D'onofrio [et al.]
27. Material compatibility and accelerated aging study of space relevant polymers, L. Propato [et al.]
28. Examples of laboratory tests to assess formulation changes, S. Rodriguez [et al.]
29. Overview of the European FIAMMA flammability facility for Human Space Missions, A. Simone [et al.]

30. Comparison test result between conventional QCM and advanced cryo-TQCM at liquid nitrogen temperature., H. Kimura [et al.]
31. Flexible Perovskite solar cells employing in-house engineered hole transport material irradiated under atmospheric neutrons, G. Koch [et al.]
- ~~32. Sun Intrusion Testing on materials, R. Martins [et al.]~~
33. PICOMAX : A new experimental platform for the characterization of erosion and contamination induced by space environment and plasma thrusters, T. Paulmier [et al.]
34. The Complex Irradiation Facility (CIF) at DLR Bremen, T. Renger [et al.]
- ~~35. Virtual Lab: the digitalization of qualification testing laboratory., M. López [et al.]~~

*#36 to #40: Flight experiments and data*

36. Contamination flight experiments : detection/trapping and UV radiation exposure, E. Gouisset [et al.]
37. Presentation of EMA CNES samples: an update before flight, S. Perraud [et al.]
38. Secondary Electron Emission Measurements of Black paint for on-orbit demonstration evaluation, K. Nitta [et al.]
- ~~39. LSTM Mission: Performance evaluation of contamination effects in the infra-red, S. Szmolka [et al.]~~
40. Results of MISSE-14 Solar & Drag Sail Material Test, A. Witzke [et al.]

*#41 to #56: Innovative & sustainable materials*

41. Can thin films deposited by ALD reduce the outgassing? A case study by dynamic outgassing on 3D-printed Polyether Ether Ketone (PEEK), T. Henry [et al.] & O. Ergincan
42. Synthesis of self-healing polymers for space applications, M. Du Fraysseix [et al.]
43. Nanostructuring of phenolic matrices by polymeric additives in ablative materials for re-entry space vehicles, R. Bottacchiari [et al.]
44. Development of novel lubricant formulations for application in space environment, F. Schüler [et al.]
45. Black Low Reflectance Inorganic Coating for Metal Additive Manufactured Satellite Lightweight Components, S. Shrestha [et al.]
46. MATREX - MATerial Recording EXperience: Materials database for space application, M. Broutelle
47. Development of a new Silicon Carbide thermal spray coating for space applications., D. Perello-badia [et al.]
- ~~48. Enhancing Space Deployable Structures: Self-Deployable Smart Composites Integrating 3D Graphene Foam with Shape Memory Polymers and Thermal Control Coatings, R. Shivakumar [et al.]~~
49. Normally Closed Valve with Shape Memory Alloy Actuator – A Shape Memory Alloy Application Example, C. Lenz [et al.]
50. Thermoplastic composites for satellite bus structure, G. Maciej
51. Impact of porosity on thermal and mechanical properties of copper parts additively manufactured by material extrusion (MEX), B. Alves [et al.]
52. Active PZT Ceramic Protection on Carbon Related Orbitol Structure for Space Environmental Damage, D. Kim [et al.]
- ~~53. Physical properties of pure transition metal nitrides thin films, M. Cavarroc [et al.]~~
- ~~54. Flexible Lightweight Photoelectronic Materials and Devices for Space Applications, M. Qian [et al.]~~
- ~~55. Physical properties of pure vanadium nitrides thin films, M. Cavarroc [et al.]~~

56. Innovative repairing technique via Additive Manufacturing, A. Di benedetto [et al.]

*#57 to #60 : Atomic Oxygen & LEO/VLEO missions*

57. Design and developing MUSE (Material Usage Space tEsting ) facility, F. Geraci [et al.]

58. Testing of materials for dense atomic oxygen and high drag environments, A. Suliga [et al.]

59. On-ground and in-orbit experiments: new insight to reveal Atomic Oxygen Induced Contamination, R. Yamanaka [et al.]

60. Atomic Oxygen erosion resistance of graphene-reinforced polyimide composites for Low Earth Orbit Satellites., K. Prasad [et al.]

*#61 to #66: Planetary Environment & Lunar Dust Mitigation*

61. Testing with Dust at the DROP lab of ONERA : facilities and approach, J.C. Mateo Velez [et al.]

62. A New Dust Simulant Source with a Dust Flow Plasma Accelerator, J. Kleiman [et al.]

63. Destination Moon! How “Luna” Dust Affects Photovoltaic Modules?, T. Lombard [et al.]

64. Aging and characterization of rigid polyurethane foams containing lunar regolith simulant, T. Répási [et al.]

65. Materials design aspects for a lunar habitation, C. Mooney

66. Effect of plasma treatment on mineral availability in water for space hydroponics, S. Sasi [et al.]

*#67 to #68: Standards and Regulation*

67. The Evolution of the ESA REACH Tool – An Automated Materials Obsolescence Management Tool for the Space Sector, O. Reiff-Musgrove [et al.]

~~68. Augmenting the outgassing screening test with the use of QCMs, M. Helici [et al.]~~