

18th International School on the Effects of Radiation on Embedded Systems for Space Applications (SERESSA)

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Organizers:



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Introduction to 'Radiation to Materials': methodologies and examples

Thursday 8 December 2022 11:00 (50 minutes)

Despite being sensitive to radiation, polymeric materials such as lubricants, elastomers, insulators, glues are used out of necessity in devices operating in extreme high-radiation conditions. Radiation tolerant materials are fundamental for the development of technological and industrial sectors such as space, particle accelerators, high-power targets, fission and fusion technologies, radioactive waste management. In the talk, concepts of radiation to matter interaction will be recalled and a general overview on radiation effects in materials will be presented, as well as methodologies to perform rigorous irradiation and post-irradiation characterizations. Multi-scales and multidisciplinary approaches to irradiation tests will be correlated to real-life applications.

Presenter: Dr FERRARI, Matteo