

Design, development and qualification of space-borne instrumentation at INAF-IAPS

Yuri Evangelista

INAF – Istituto di Astrofisica e Planetologia Spaziali

IAPS (Institute for Space Astrophysics and Planetology) is one of the 16 institutes of the Italian National Institute of Astrophysics (INAF) and represents the largest INAF institute devoted to Astrophysics and Planetology research from space.

With an intense and continuous collaboration with the Italian Space Agency (ASI) and the most important international Space Agencies (e.g. ESA, NASA, JAXA, CNSA), as well as other national and international research bodies and the main industries in the field, IAPS carries out activities in the areas of design, development, qualification, operation and data analysis of on-board instrumentation for space missions devoted to astrophysical studies and space-weather.

IAPS laboratories are equipped with state-of-the-art instrumentation and environmental test facilities (e.g. clean rooms, vacuum chambers, plasma chambers and irradiation lines) which are capable of reproducing the space environment and therefore allow for the characterization and qualification of innovative materials, devices and instruments. Moreover, in the context of the NanoMicroFab@STESY project, IAPS is developing a cryogenic thermal-vacuum chamber specifically designed to extend the institute test capabilities to extreme temperature ranges, like the one needed for future moon-based instrumentation.