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DATA AND INFORMATION MANAGEMENT OF ISS PAYLOAD AND EXPERIMENT DATA

Abstract

The large variety of experiment data produced on the ISS demands descriptive information in order to enable their proper identification and interpretation and, thus, preserve their worth in the long run. It is the task of knowledge management to provide scientists with data and information on the experiments and the conditions under which they were executed as well as comparison with reference data from ground systems as basis for them to carry out their evaluations. One of the basic requirements for this is information technology to cope with the long-term archiving, with efficient management of the data, search functions and access policies.

This paper introduces the virtual laboratory (VLab), which is designed and implemented to manage project-related documents and experiment data in their logical context and enables their retrieval and utilization. VLab has been developed in cooperation with the Microgravity User Support Center (MUSC) and is a variant of Werum's HyperTest platform which additionally considers the special aspects of scientific working. HyperTest provides data and descriptive information by navigating through logical metadata structures or using specific search functions without the user actually needing to know about the physical storage. Data and information stored in VLab and enriched with metadata can be shared within the scientific community for further exploitation on long timescales. In connection with a dedicated service infrastructure developed via EC projects it is well suited for the valorisation and dissemination of data from space experiments.