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Author: Dr. Salvatore Pignataro
Italian Space Agency (ASI), Italy

ITALIAN SPACE AGENCY. THE NATIONAL UTILIZATION OF THE INTERNATIONAL SPACE STATION: 2001-2009 AND BEYOND

Abstract

Per effect of the MPLM Memorandum of Understanding between the NASA and Italian Space Agency, Italy has benefitted since 2001 from a share of ISS utilization resources. Those resources have been allocated to a series of experiment mainly in the field of the Life Science. Starting with the ESA payload APCF, ASI has used its share to accommodate seven payloads and to conducts experiments adding up to about 90 hours of astronauts crew time.

Purpose of this study, methodology and results: Purpose of the paper is to present the utilization experience carried out by the Italian Space Agency developing and integrating the three ISS payloads currently on board: HPA, ALTEA, Elite-S2. Scientific outcomes from the experiments performed with the three payloads will be described too. The Esperia Mission is presented, as together with the Italian astronauts Paolo Nespoli, two Italian payloads (FRTL-5, SPORE) were integrated and carried on-board the STS 120 flight. Moreover, P. Nespoli performed on-board ISS a further run of the HPA experiment. A further section presents ASI experience of developing and preparing for launch the Mice Drawer System (MDS), the first automated rodent payload for long duration experiments in history. An overview is provided on the Italian Space Agency plan for future utilization of its resources on the ISS.

Area for discussion: A national experience on ISS utilization and the strategy for the future.

Novelty and originality: The paper represents the first attempt to make a balance of the ASI investment in the ISS and the returns attained.

Authors certify that the paper content was not presented at a previous meeting, the financing and attendance of an author at the respective IAC at Daejeon to present the paper is assured.