

Using the ISS to Prepare for Exploration (01)
ISS as the Foundation for Exploration (1)

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GOAL-ORIENTED RESEARCH PROGRAMS AS A BASIS FOR FUTURE HUMAN SPACE MISSIONS

Abstract

The 50-year experience of human spaceflights and the International Space Station (ISS) operation has shown the necessity to make stronger specialization of crewmembers, to involve professionals into the process of space exploration and create favorable working conditions for them, first of all for researchers. Cosmonaut-researcher needs in goal-oriented scientific programs in compliance with his/her own scientific interests (a program should be adapted for the researcher, but not a researcher - for the program). Finally he/she will result in high efficiency of investigations. Therefore, it is required to develop goal-oriented research programs, adapted for the executor, who, most likely, will become the only representative of all world science in space for the selected research area. The results obtained will be used as a basis to develop technology and organization, for example, of space production by involving robotic spacecraft. A goal-oriented program should specify not “what can be done” but “what is required to be implemented” instead. It is very important to aim the program at achieving the final result and not at implementation of research in general, like now in the most of cases. This paper explores an ISS crewmember’s creative role in the capacity of a researcher in space, unveils their ability to vitalize a transition from the concept “crewmember as a lab worker” to the concept “crewmember as a researcher” aboard human space complex. This transition is critical for implementation of journeys beyond the low Earth orbit.