

IAA/IAF SPACE LIFE SCIENCES SYMPOSIUM (A1)
Interactive Presentations (IP)

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THE RESULTS OF EXPEDIENCE ANALYSIS OF HUMAN PRESENCE IN SPACE IN LOW-EARTH
ORBIT

Abstract

The authors analyze a necessity of continuous human presence in low-earth orbit. The International space station and ground-based infrastructure support a continuous human presence in space more than 15 years. During this time 376 people have visited the station. There is a problem in evaluation of the human performance in space in reference to investments because results of manned spaceflights to ISS are complicated to formalize and evaluate.

The authors proposed a method of this problem formalization based on the analysis of the time that human used by in order to achieve target goals. Using the proposed method they carried out a review of time utilization efficiency by cosmonauts at the Russian ISS segment.

This paper presents the prospects of further human presence in low-earth orbit, the options of a reasonable balance of distribution between tasks performed by robots without human participation and tasks requiring a physical human presence in space.