

## HUMAN SPACE ENDEAVOURS SYMPOSIUM (B3)

## Human Space Endeavour: Overview (1)

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## CREW ON THE ISS: CREATIVITY OR DETERMINISM?

**Abstract**

Eight years of human missions onboard the International Space Station (ISS) is sufficient period to identify existing structural and organizational trends in the implementation and support of the human space flights based on the accumulated experience of the crews, MCC-M/MCC-H personnel, and technical specialists of the countries-participants of the Program. In the paper we attempt to make such an analysis taking into account the results of 15 years of MIR space station operation, short-term Shuttle flights and work of 17 ISS expedition crews. We need to mention the tendency to increase the level of bureaucratization of the processes associated with a mission support, utilization of the ISS, and crew activities onboard. Specific examples of the ISS flight operation are used to show the tendency to the growth of determinism in flight operations which reduces response flexibility in case of contingency. More creative and free atmosphere of the solutions taken by the crew that was practiced on MIR station made it possible to overcome rather complex mission contingencies. We prove the negative effect of the complete Ground control over the crew, we advocate mission control decentralization: the ISS crew needs to have some authority in making control decisions and technical capabilities to implement them. The conclusion is: human missions to the Moon, Mars and further exploration of the Solar System that are characterized by the crew autonomy will be impossible without the resolution of this task: creativity and determinism should be reasonably balanced.