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HUMAN SPACE ENDEAVOURS SYMPOSIUM (B3)
How Can We Best Apply Our Experience to Future Human Missions? (2)

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AIR REVITALIZATION TECHNOLOGIES FOR MANNED LONG TERM EXPLORATION AIM TO ISS DEMONSTRATION

Abstract

Environmental control and life support systems (ECLSS) provide the basic metabolic needs and environmental conditions necessary to support humans in safe and comfortable environments. As crew-days accumulate, the commodities needing to be supplied to and the wastes that are generated by crewmembers both increase. In order to reduce the mass needing to be resupplied and disposed of, regenerative life support processes can be utilized. Regenerative life support functions that include oxygen recovery from carbon dioxide via the combination of CO2 reduction via a Sabatier process and O2 generative via an electrolysis process. The air revitalization equipment among the various pressurized, habitable elements that are utilized was evaluated. Air re-vitalization system in JAXA is shown in the presentation.