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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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RENDEZVOUS MISSION: FROM ISS TO LUNAR SPACE STATION

Abstract

There is a lot of experience gained in rendezvous missions of different vehicles in LEO during the years of human space exploration. For the Apollo program when the astronauts landed on the surface of the Moon the rendezvous of the Lunar Module launched from the Moon surface to the Apollo Command Module was successfully implemented in the Moon orbit. Presently many space agencies consider return to the Moon. It is necessary to solve the new problem of rendezvous the spacecraft launched from the Earth to the long-term Lunar space station taking into account specific constraints. Based on the ISS experience the author proposes a number of rendezvous mission strategies that provide for the rendezvous to the Lunar space station with minimum fuel consumption. A qualitative analysis of the rendezvous mission strategies is presented.