

Poster Session (P)
Poster Lunch (1)

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RESEARCH ON NEW MODE OF MANNED LUNAR MISSION BASED ON IN-SITU RESOURCE UTILIZATION

Abstract

Many resources are contained in the moon and Mars, so that the lunar base or Martian base is needed to be built for human exploiting resources deeply on moon or Mars. The In-Situ Resource Utilization is very important for the base operation to reduce the cost of transporting supplies and propulsion from the earth. The working mechanism and primary scheme of oxygen and water production for In-Situ Resource Utilization on the moon are introduced. The effect on lunar base scheme and manned lunar landing mode of providing habitation abilities for 4 persons/8 persons /10 persons30 days/60 days /90 days is analyzed, including the effect on flight scheme, mass of the vehicle and system scheme. The value of In-Situ Resource Utilization is analyzed through comparison and analysis of the data. Moreover, a primary scheme of making new technology test platform for landing Mars with lunar In-Situ Resource Utilization is presented, which provides a reference for discussion of manned deep space exploration.