

IAF SPACE EXPLORATION SYMPOSIUM (A3)
Small Bodies Missions and Technologies (Part 1) (4A)

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DESIGN ROUNDUP OF MARTIAN MOONS EXPLORATION (MMX)

Abstract

Martian Moons eXploration (MMX) is a mission under development in JAXA in cooperation with NASA, CNES, ESA, and DLR to be launched in 2024. This paper introduces the result of its design activities and the latest status of the MMX program. MMX aims to reveal the origin of the Martian moons and then to make progress in our understanding of planetary system formation and primordial material transport in the early solar system. Furthermore, the mission is to survey two Martian moons and return samples from Phobos. Add to MMX's contribution to the planetary science field mentioned above, MMX's contribution to future human Mars exploration is also considered an essential aspect of the program. Following the papers presented in recent years, this paper provides a design roundup of MMX following the design activities concluded last year. This paper puts weight on the design of the spacecraft bus system and ground system. The program is now in Phase D, incorporating flight model manufacturing and tests. The latest status of the program will also be reported.