SPACE EXPLORATION SYMPOSIUM (A3)
Mars Exploration – Part 2 (3B)

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INSPIRATION MARS 2021 – FIRST STEPS TO MARS

Abstract

The Global Exploration Roadmap which has been endorsed by the international space community has identified a human mission to the surface of Mars as our unified long term goal. The Inspiration Mars foundation has been working for the past two years to define a potential mission that could be used to kick-start these efforts toward Mars and inspire a new generation of engineers. This mission takes advantage of a rare trajectory opportunity for a fly-by of both Venus and Mars. We will provide an overview of the mission and describe the challenges that must be overcome to make it happen.

Many different systems will be needed to enable a human landing on Mars. Some of these systems will be used to support the crew during their in-space journey from Earth to Mars and back. The Inspiration Mars 2021 mission will feature an environmental control and life support system (ECLSS) that will provide a relevant prototype for later missions with larger crews. We will describe how the IM2021 mission fits into the larger campaign for landing humans on Mars.