

From Earth Missions to Deep Space Exploration (05)
Cis-Lunar Outposts and other Exploration Missions (5)

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SCIENCE DRIVEN ACTIVITIES IN CIS-LUNAR SPACE

Abstract

This paper will explore the technical and programmatic concepts that could realize a cis-lunar habitation in the near term. NASA and its International Partners are building and/or possess most of the capabilities to deploy a cis-lunar habitation capability in the next 10-15 years. There exist today significant capabilities to expand human operations into cis-lunar space including modest technology demonstration activities planned for the International Space Station and ground facilities, the Space Launch System, Multipurpose Crew Vehicle, and systems and components of the ISS either on-orbit or on the ground.

Among the human tended cis-lunar space missions that humans could significantly and substantially contribute to include the Global Exploration Roadmap scenarios, and the NRC recommended Akin basin lunar sample return missions and the search for life on other planets. Furthermore, a cis-lunar habitation could also be utilized as a waypoint for missions to Near Earth Objects as well as to Mars; and it could also be used as a demonstration platform for deep-space radiation mitigation strategies.