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PRELIMINARY RESEARCH OF MARS LOCAL NAVIGATION CONSTELLATION

**Abstract**

Mars Landing exploration becomes one of the central themes for the future deep space exploration. It demands more communication and navigation requirements. Mars local navigation constellation is the effective way to support Mars explorers. Base on the principles of designing constellations for local navigation and communication systems, several example configurations for Mars local navigation constellation are proposed and estimated from cost, mean response time, coverage area, navigation accuracy, etc. This study may serve as a reference for designing and establishing Mars local navigation constellation in the future.