

Poster Session (P)
Poster Lunch (1)

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STUDY ON RANDOM EXPLORATION PLAN USING GYROPLANE BASED ON MARS
ATMOSPHERIC CIRCULATION

Abstract

Mars is the most important target in deep space exploration. Taking thin air and seasonal atmospheric circulation on Mars into consideration, a random exploration plan based on gyroplane is put forward to realize large area exploration and search for sign of life such as water. First, principle and superiority of gyroplane were analyzed, then the overall configuration of Mars gyroplane was designed. When the stream velocity is not less than 50 m/s, the lift force provided by rotor will be 17.4 kg at least on Mars, which is larger than mass of the gyroplane on Mars. So the gyroplane can take off and fly to the front with Mars storm. This research can be applied to further Mars exploration.