Poster Session (P)
Poster Lunch (1)

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THE STUDY OF MARTIAN ROVER INCHING LOCOMOTION FOR DEEP SINKAGE CLIMBING UP

Abstract

There is soft terrain on Martian surface, which cases the sinking problem of wheels, even makes the rover impossible to move. In order to solve the problem of climbing up from deep sinkage , Martian rover of China has been designed with active articulateness on the base of rocker-bogie suspension, using inching locomotion to climb up from deep sinkage. Bekker's method has been used on analyze of force of positive locomotion and inching locomotion on deep sinkage soft Martian surface, and simulation analyze of climbing up deep sinkage has been done. The simulation result implies that, positive locomotion can climb up sinkage depth of 0.6 wheel radius, while inching locomotion can climbing up sinkage depth of one wheel radius, which indicates that inching locomotion has obvious superiority comparing to positive locomotion on climbing up from deep sinkage.