On Study of Climbing Spiral Stairs for a Robot Wheelchair

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ABSTRACT

Since most wheelchairs use wheels to navigate on plane, they are quite restricted to some environments with obstacles such as doorsills stairs, etc. In this thesis, a rotational arm type of robot wheelchair is proposed to overcome the aforementioned obstacles, especially for the spiral stairs. A controller for the robot wheelchair is programmed using the LabView software. The interface for locomotion of the robot wheelchair is also developed. A feedback control is completed through the TCM electronic compass and NI-Motion Card so that the study on the robot wheelchair climbing spiral stairs is conducted.

Keywords : robot wheelchair ; spiral stair

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