



The Conception of an Autonomous Traveling Manual Wheelchair and a Study on its Localization

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Abstract. In a care facility, it is one of the factors that the burden of a caregiver is increasing by guiding many cared persons in a wheelchair before and after a meal. Although many autonomous electric wheelchairs have been researched and developed, it is not reasonable to introduce them for the entire care receivers in a nursing home from the viewpoint of cost, time and trouble of maintenance. We are developing a detachable robot that makes a manual wheelchair run autonomously. This paper describes the basic concept, target specifications and design conditions of the experimental machines and feasibility study about the localization by using the optical flow sensor. In the future, we will proceed with the implementation of the autonomous driving function.

Keywords: Wheelchair, Nursing home, Automatic traveling