

A Holonomic Robot for Rescue Applications

R. Edlinger¹, M. Zauner², W. Rokitansky²

¹ FH OÖ Forschungs & Entwicklungs GmbH, A-4600 Wels, Stelzhamerstraße 23

² FH OÖ Studienbetriebs GmbH, A-4600 Wels, Stelzhamerstraße 23
{raimund.edlinger, michael.zauner, walter.rokitansky}@fh-wels.at

Abstract

For autonomous mobile robots it is important to have the capability to plan and reach a defined goal. In this article, we present a novel mobile robot for urban search and rescue, capable of achieving a high level of locomotion. The preliminary aim is to build rescue robots which are able to drive in an unstructured environment and search for victims. Mobile robots have been an essential element in search and rescue scenarios and especially in space exploration to perform science on lunar and planetary objects. With advancements in research and technology many mobile robots have been developed with different configurations, geometries, sizes and flexibility of locomotion. These systems share different performance qualities under certain operational conditions. A new mechanism is developed to drive sideways which could be helpful especially in difficult curved staircase or uneven terrain.