

Mobile robot navigation by using fuzzy information of moving two-wheeled motion features

Abstract

The purpose of indoor and outdoor mobile robot navigation is to move the mobile robot toward target with stable target navigation. In this study, motion information from the movements of the two-wheeled mobile robot is used as an input to the Fuzzy membership function (MF), which is designed in the preliminary experiments. The probability value outputted from the MF is used to move the forward velocity of the mobile robot called AHMAD-R toward target. The experimental results show that the proposed fuzzy approach has the stable target navigation and could be used to navigate the mobile robot in the indoor environment.

Keywords — Fuzzy information, mobile robot, navigation, stable target