

Simulation of nonholonomic trajectory for a car-like mobile platform using dubins shortest path model

Abstract

Vehicles that move autonomously have received a good deal of attention where various top agencies have been the major sponsor of research in this field. Natural disaster such as earthquake, typhoon and tsunami would be extremely dangerous for search and rescue operation. Autonomous vehicle would be a great piece of equipment which could response effectively to the incidence. Dubins curve is implemented in the study to obtain the shortest path for navigation on car-like mobile platform. Integrating the path planning feature into autonomous vehicle can optimize the vehicles performance especially when the power source is limited.

Keywords — Dubins model, mobile platform, Reeds-Shepp model, shortest path.