

A Particle Swarm Optimized Potential Field Method for Obstacle Avoidance and Path Planning of Mobile Robot

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Abstract - Path planning field for autonomous mobile robot is an optimization problem that involves computing a collision free path between initial location and goal location. In this text, we present an improved artificial potential field based regression search method, by analysing the shortcoming of the artificial potential field methods for robot path planning, we propose an obstacle avoidance method based on gravity chain, which can obtain a global sub-optimal/optimal path efficiently without local minima and oscillations in completely known environment information.

Keywords - Path Planning, Robot Path Planning, Artificial potential field, Particle swarm optimization.

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