

Optimization of Robot Motion Planning Using Biogeography Based Optimization (Bbo)

Authors : Jaber Nikpour, Arsalan Amralizadeh

Abstract : In robotics manipulators, the trajectory should be optimum, thus the torque of the robot can be minimized in order to save power. This paper includes an optimal path planning scheme for a robotic manipulator. Recently, techniques based on metaheuristics of natural computing, mainly evolutionary algorithms (EA), have been successfully applied to a large number of robotic applications. In this paper, the improved BBO algorithm is used to minimize the objective function in the presence of different obstacles. The simulation represents that the proposed optimal path planning method has satisfactory performance.

Keywords : biogeography-based optimization, path planning, obstacle detection, robotic manipulator

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020