Abstract

This paper presents the modelling of three links rigid manipulator (TRLM) deriving its dynamic equations depending on Lagrange/Euler (L-E) method, the manipulator design and implementation has a complexity, uncertainty and instability dynamic features which lead to a non-linear characteristics, so controlling the manipulator means controlling multi-body multi-input multi-output (MIMO) non-linear and coupled system, the second part of this paper introduce a precise modified Proportional Integral Derivative (PID) controller to control the manipulator under applying different scenarios for the reference signal according to manipulator applications.

References


Index Terms

Computer Science  Circuits and Systems
Dynamic Modelling with a Modified PID Controller of a Three Link Rigid Manipulator

Keywords

Dynamic modelling, Three link rigid manipulator, Lagrange-Euler, PID controller, Differential evolution