

عنوان مقاله:

Designing an adaptive fuzzy control for robot manipulators using PSO

محل انتشار:

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خلاصه مقاله:

This paper presents a designing an optimal adaptive controller for tracking down the control of robot manipulators based on particle swarm optimization (PSO) algorithm. PSO algorithm has been used to optimize parameters of the controller and hence to minimize the integral square of errors (ISE) as a performance criteria. In this paper, an improved PSO using a logic is proposed to increase the convergence speed. In this case, the performance of PSO algorithms such as an improved PSO (IPSO), an improved PSO using fuzzy logic (F-PSO), a linearly decreasing inertia weight of PSO (LWD-PSO) and a nonlinearly decreasing inertia weight of PSO (NDW-PSO) are with parameter accuracy and convergence speed. As a result, the simulation results show that the F-PSO approach presents a better performance in the tracking down the control of robot manipulators than other algorithms

کلمات کلیدی:

Particle swarm optimization (PSO), robot manipulators, adaptive controller, improved PSO using fuzzy logic (F-PSO), (integral square of errors (ISE

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