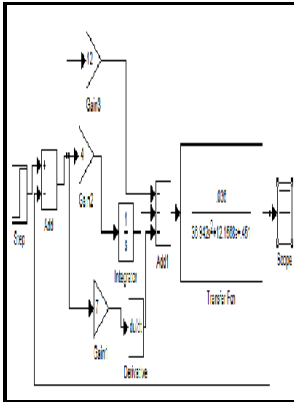# Designing and optimizing fuzzy-logic controllers

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Description: -
-Designing and optimizing fuzzy-logic controllers
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Notes: Thesis (M.A.Sc.)--University of Toronto, 1993.
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Tags: #OPTIMIZATION #AND #DESIGNING #OF #PID, #FUZZY #& #PID

Type

A comparative analysis with an Optimal Type-1 Fuzzy Logic Controller OT1FLC and a PI controller, demonstrated OT2FLC′s superiority; which is evident in handling uncertainty and imprecision induced in the system by means of noise and disturbances. In: 2011 IEEE International Conference on Fuzzy Systems FUZZ , Taipei, 2011, pp.

Proj

These questions may look overwhelming and confusing to IT2 beginners. However, these methods treat the fuzzy controllers as a black box since the input—output relationships are not fully understood. This can balance exploration and exploitation further.

A controller based on Optimal Type

From the figure, results shows that the response of PID Controller is oscillatory which can damage the system. Simulation is often essential in the following cases: 1 The model is very complex with many variables and interacting components 2 The underlying variables relationships are nonlinear 3 There is no wastage of money due to damage of circuit components.

Proj

This paper is organized as follows: Section 2 presents the theoretical basis and problem statement. This paper presents an algorithm for optimizing the performance of a fuzzy logic controller using nonlinear programming techniques.

[PDF] Particle Swarm Optimization for designing an optimal fuzzy logic controller of a DC motor

The algorithm started with genetic algorithm and continued via particle swarm optimization.

OPTIMIZATION AND DESIGNING OF PID, FUZZY & PID

A PID Controller is being designed for a higher order system. Keywords: Power-line inspection robot, particle swarm optimization algorithm,

general type-2 fuzzy logic controller DOI: 10.

A controller based on Optimal Type

Simulation results show the feasibility of the proposed approach for these control applications. In addition, IT2-F-PI-P is better able to handle plant uncertainties and disturbances than IT2-F-PI-BW and IT2-F-PI-TW.

Optimization design of general Type

The result of the hybrid optimized controller was compared with genetic algorithm and particle swarm optimization based on statistics.

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