
DESIGNING A CONTROLLER ON THE BASIS OF A FUZZY OUTPUT SYSTEM FOR GUIDING A LINK OF A ROBOTIC MANIPULATOR ARM

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Abstract

As an applied science, fuzzy logic boasts a wide range of applications and helps to solve a large number of control-related problems. In control engineering, fuzzy simulation makes it possible to obtain more relevant results as compared to those based on traditional control algorithms. We suggest a way to design a control system for the elbow joint of a robotic arm, based on fuzzy logic. We list the advantages of this method, its fundamentals and a specific application example. In order to assess the performance of the method, we present the results of simulating a robotic arm in the SimMechanics library before and after introducing a fuzzy controller.

Keywords

Simulation, fuzzy logic, drive, rules, controller, control system, robotic manipulator arm, fuzzification

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