An Approach Using Fuzzy Theory in Adaptive Control for a Robot System

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ABSTRACT

In control system design , one of the most difficulty things is that the mathematical model is hardly to obtain if the plant of the system has the properties of highly coupling and nonlinearity. In order to conquer these difficulties , we propose a mathod that combine fuzzy with adaptive model following control theories on a highly coupling , nonlinearity robot arm system . Under this application , without any mathematical model need to be known , the output of robot arm can follow the reference model The simulation results show that the ideal we proposed is really suitable for highly coupling, nonlineraity and time-varing system . Besides , the implementation of the hardware robot arm with the software controller is also proposed.

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