

Adaptive Control by MRAC Method

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Abstract: Abstract: This paper describes the design of a multi input multi output (MIMO) non-linear Model Reference Adaptive controller (MRAC) system for the digital servo motor. The complete design is developed determining the rate of gradient adaptation to MRAC in this paper. The MIT rule is used in the original MRAC. The main goal is to follow the desired position set as square wave. The important role of computer aided-design tools is illustrated using MATLAB and associated toolboxes. The control algorithm is implemented using a pentium computer running the lab-tech notebook control program. The adaptive controlled system satisfactorily controls set point changes in velocity and position. The material presented in the paper is used in a senior level course in control at the University of Isfahan.