

عنوان مقاله:

Speed and Torque Control of Induction Motor by Using Robust H_∞ Mixed-Sensitivity Problem Via T-S Fuzzy Model

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خلاصه مقاله:

In this article we investigate on robust mixed-sensitivity H_∞ control for speed and torque control of induction motor (IM). In order to simplify the design procedure the Takagi---Sugeno (T---S) fuzzy approach is introduced to solve the nonlinear model Problem. Loop-shaping methodology and Mixed-sensitivity problem are developed to formulate frequency-domain specifications. Then a regional poleplacement output feedback H_∞ controller by using linear matrix inequalities (LMIs) technique for each linear subsystem of IM T-S fuzzy model is employed. Parallel Distributed Compensation (PDC) is used to design the controller for the overall system. Simulation results are presented to validate the effectiveness of the proposed controller even in the presence of motor parameter variations and unknown load disturbance

کلمات کلیدی:

IM, LMIs, Mixed-Sensitivity Problem, Robust Control, T-S Fuzzy Model

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