

# ADAPTIVE OUTPUT FEEDBACK TRACKING CONTROL BASED ON DISTURBANCE ATTENUATION AND ISS STABILIZATION OF NONLINEAR SYSTEMS WITH BOTH UNCERTAIN PARAMETERS AND INPUT NOISE

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## TÓM TẮT:

Uncertain nonlinear system in presence of input noise (NSPIN) is model of many plants in practice as robot manipulators, mechanic Tora systems, Lavitat mechatronic systems v.v. The previous studies mentioned most control problem for separate case, parameter uncertainties or input noises. For systems with both uncertain parameters and input noise, the suitable method is sliding mode control, however it causes chattering phenomenon. The paper presents an adaptive output feedback controller for those control problems, which is designed based on ISS and disturbance attenuation techniques. With this controller the tracking errors, without chattering, always tend to an arbitrarily small neighborhood of the origin. The simulations of three DOF robot manipulator in the presence of input noises and unknown mass of the end-effector given in paper has proofed this behavior of designed controller