



# AIUB DSpace Publication Details

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## Abstract:

In this paper we have proposed the robust control scheme for an inverted pendulum. Normally for the case of 2 degree of freedom inverted pendulums, the system is not considered much stable with variations in the parameters. Our goal of this paper is to present the robust control, with which it is possible to get more desired stability in worst case scenarios. For our case we have focused on the mathematical model and also designed the control system with variable pendulum masses and other parameters. We have compared the system with LQR (Linear Quadratic Regulator), for a proper understanding of the differences we have found. In the last part we tried to relate our mathematical model with Kharitonov Theorem to find the stability of our proposed model with variations of different parameters.