

Robust Control of a Dynamic Model of an F-16 Aircraft with Improved Damping through Linear Matrix Inequalities

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Abstract : This work presents an application of Linear Matrix Inequalities (LMI) for the robust control of an F-16 aircraft through an algorithm ensuring the damping factor to the closed loop system. The results show that the zero and gain settings are sufficient to ensure robust performance and stability with respect to various operating points. The technique used is the pole placement, which aims to put the system in closed loop poles in a specific region of the complex plane. Test results using a dynamic model of the F-16 aircraft are presented and discussed.

Keywords : F-16 aircraft, linear matrix inequalities, pole placement, robust control

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