

AFOSR Grant F49620-96-1-0207 [CIT 61063]

**Robust Nonlinear Control Theory with
Applications to Aerospace Vehicles**

AASERT Grant

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Progress Report
1 August 1996 to 31 July 1997

1 Objectives

This grant is a subcontract to the University of Minnesota, under the supervision of Prof. Gary Balas. This AASERT subcontract augments the parent subcontract to UMN and is focused on the application of Linear Parameter Varying (LPV) Control to Aerospace Systems.

2 Status of Effort

UMN has continued work on application of LPV to flight control systems, partially funded by this augmentation award and the parent PRET grant. This AASERT award is being used to fund a student who is applying these techniques to control of flutter.

3 Accomplishments

The past year our research at the University of Minnesota under the AFOSR PRET program has focused on applying linear-parameter varying (LPV) H_∞ control design methods to aerospace vehicles. We have developed heuristic approaches, similar to D-K iteration, to include performance and robustness objectives in the linear-parameter varying framework. These results are currently being applied to the control of flutter.

4 Personnel Supported

Jeff Barker, UMN graduate student (3rd year).

5 Publications

None.