

**AFOSR Grant F49620-97-1-0398 [CIT 61051]**

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

**AASERT Grant**

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Progress Report  
**1 June 1997 to 31 July 1997**

## **1 Objectives**

The objective of this research is to develop real-time algorithms for generation of feasible trajectories for mechanical systems that respect the input constraints (actuator magnitude and rate limits). This differs from the original effort, which was more theoretically oriented, due to the interests and strengths of the US student who is working on this.

## **2 Status of Effort**

This is a new AASERT award which started in June, 1997. In the first two months of this project, we have begun work on algorithms for real-time trajectory generation for Lagrangian systems in the presence of actuator constraints.

## **3 Accomplishments**

The first two months of this effort have been spent building up an experimental platform which will be used to test the algorithms that are being developed. This experiment provides an important testbed for real-time algorithms and is intended to represent the longitudinal dynamics of a high performance aircraft.

## **4 Personnel Supported**

Mark Milam, Caltech graduate student (4th year).

## **5 Publications**

None.