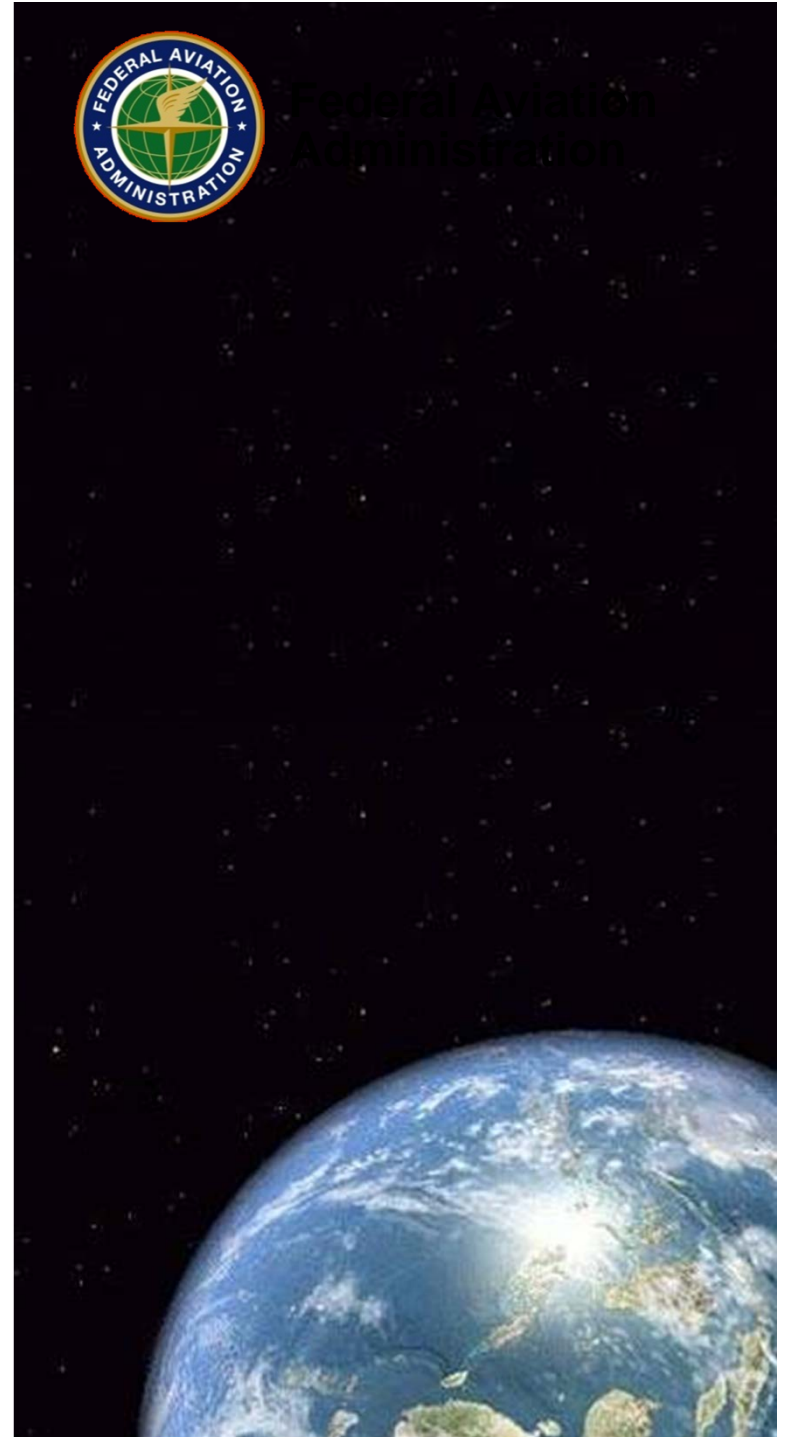


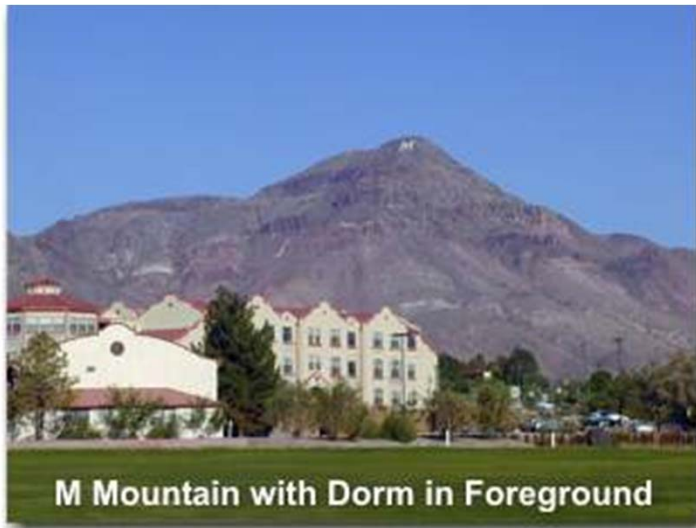
# FAA COE-CST Overview

A. K. Miller, W. J. Ostergren, D. Westpfahl

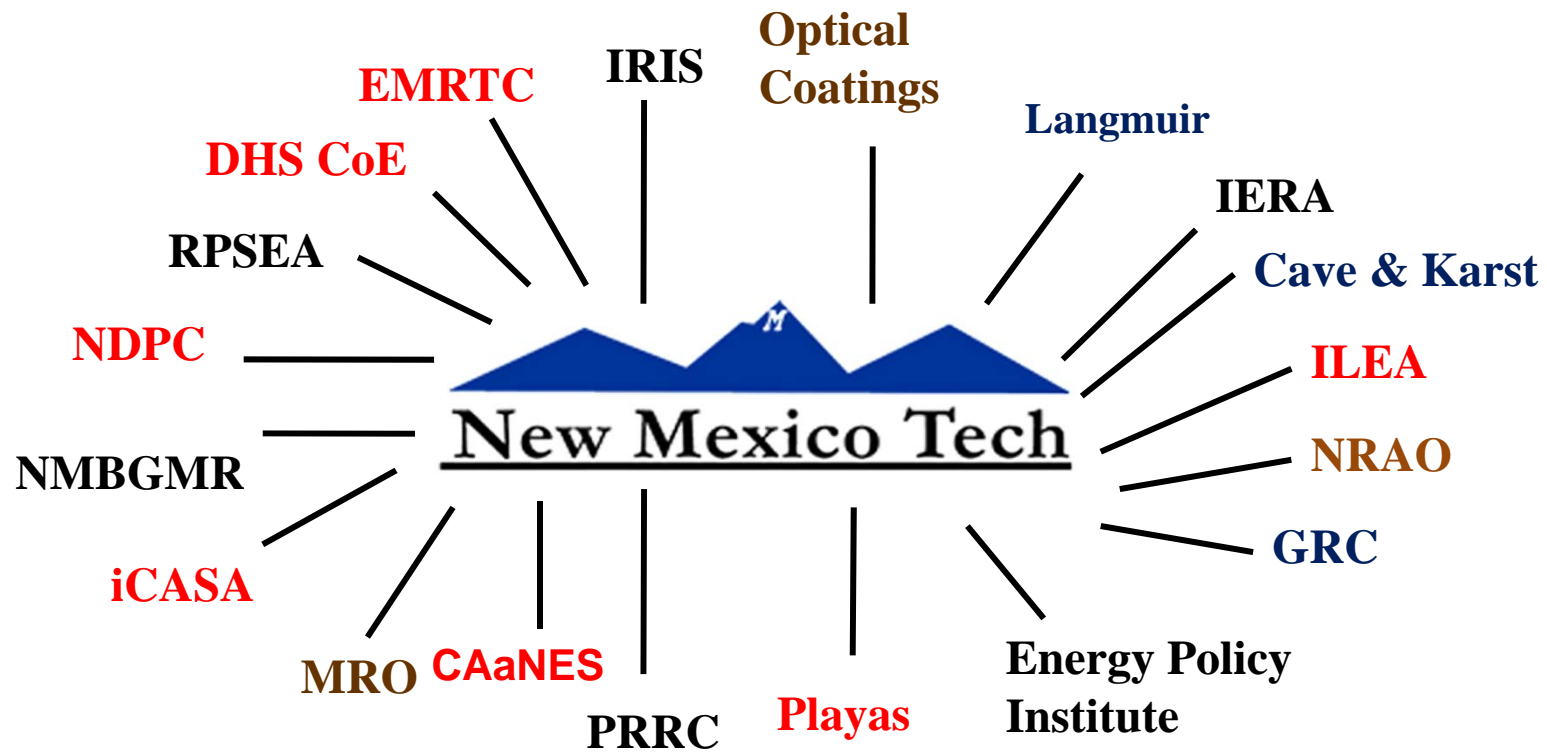
*9 November 2011*



# New Mexico Tech

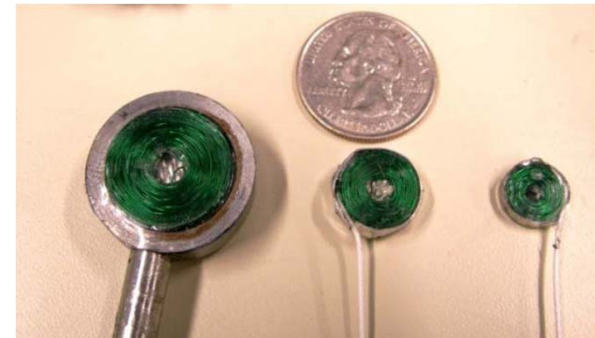
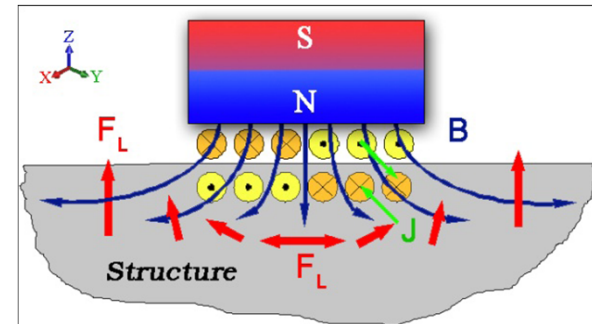


# Research Entities



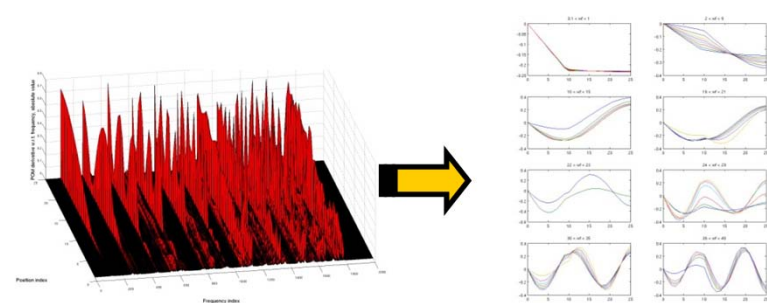
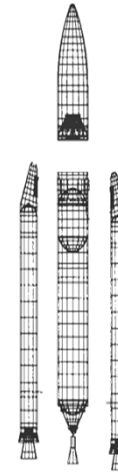
# In Process - Magneto-Elastic Sensing for Structural Health Monitoring – Dr. Andrei Zagrai (PI)

- Develop innovative sensing technologies for diagnosis of structural damage in space vehicles
- Determine joint opening and cracking
- Conduct sensor development and test



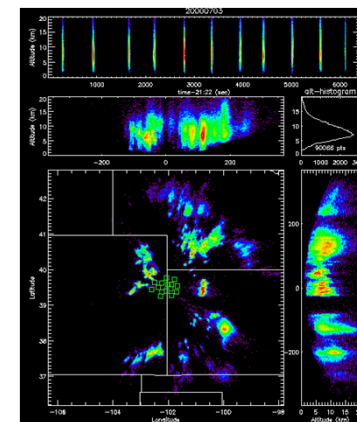
# Proposed - Reduced-Order Non-Linear Dynamic System Models – Dr. A. Keith Miller (PI)

- Develop improved modeling capability of commercial space vehicles
- Improve prediction of non-linear effects
- Reduce model size and complexity
- Match experimental data



# Potential - Lightning Protection of Launch Vehicles – Dr. Richard Sonnenfeld (PI)

- Langmuir Laboratory conducts lightning research at an altitude of 10,000 feet
- Thunderstorms studied using balloons, rockets, Doppler radar, aircraft, lightning instruments and ground-based electric field mills
- Technology available to help protect launch vehicles



# Potential – Tracking of Launch Vehicles – Dr. Eileen Ryan (PI)

- The Magdalena Ridge Observatory (MRO) houses a single 2.4-Meter telescope
  - 10,600 ft. elevation
- Studies a range of astrophysical issues which require high angular resolution
- Available for tracking launch vehicles



Optical/infrared  
interferometer  
(baselines 7.4 to 340 m)

# Summary

- **New Mexico Tech committed to FAA-COE for commercial space transportation**
- **In the second year of our program**
- **One research task underway**
- **Second research task proposed**
- **Third and fourth research tasks in planning stages**



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