RAX Background

- University of Michigan and SRI International Collaboration
- Co-investigators:
  1. Prof. James Cutler, University of Michigan
  2. Dr. Hasan Bahcivan, SRI International
RAX Team Breakdown

Team Breakdown:

30+ students on core Michigan team
+8 students in Michigan project courses

+2 engineers from Space Physics Research Lab (initial design work)
+3 SRI engineers
+1 faculty member
+1 scientist

44 students and professionals working on RAX
RAX Mission Science

RAX Mission Objective:
Study formations and distribution of magnetic field-aligned plasma irregularities (FAI) located in the lower ionosphere.
RAX Status

• Delivery date: ~2/2010
• Current RAX Work
  – Detailed characterization of engineering development units (EDU1 and EDU2)
    • Magnetic noise (attitude determination/control)
    • EMI and receiver noise
    • Attitude sensor calibration
  – Flight component fabrication
  – Software, software, software
RAX Remaining Issues

(These are in no particular order.)

• Launch Date?
  – Rocket is slipping faster than we have.

• Radio licensing
  – Don’t have it, concern level is TBD.

• Maintaining systems knowledge
  – Student schedule and graduation

• Integration and Environmental testing
  – Most of our testing has been under nominal conditions.
  – Stress testing has begun.

• Software
  – Fortunately our hardware developers also write code.

• RAX is allergic to COTS
  – We have removed some COTS parts.
  – The rest were modified.

• Education and Murphy
  – Student training, so mistakes happen.
  – And Murphy takes out the thing needed most (ie Vac Chamber)