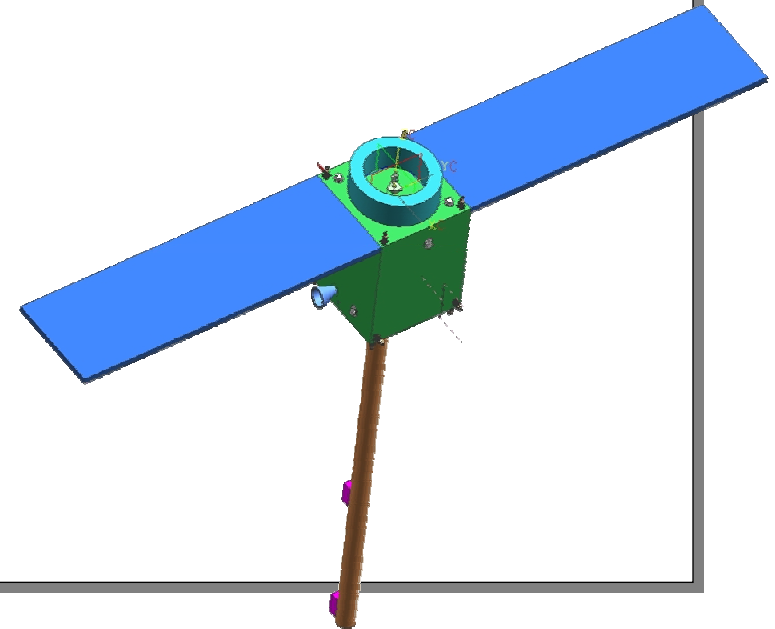
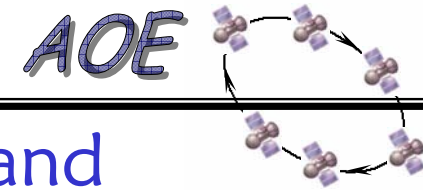


MIMIC: Magnetic field Investigation of Mars by Interacting Consortia

- The goal of this project is to develop an alternative, simpler design for the MIMIC mission than the spacecraft designed by a multi-university team at JPL over the past summer
- Graduate student Mischa Kim will be involved in this project
- The current design includes a fairly complicated propulsion system
- Goal is to design a spacecraft that can accomplish a similar mission, and to characterize the performance degradation

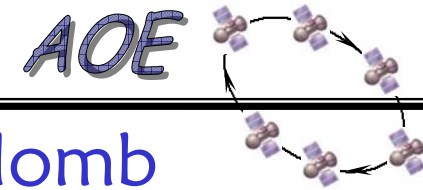




Mission to Rendezvous with and Divert an Incoming Asteroid

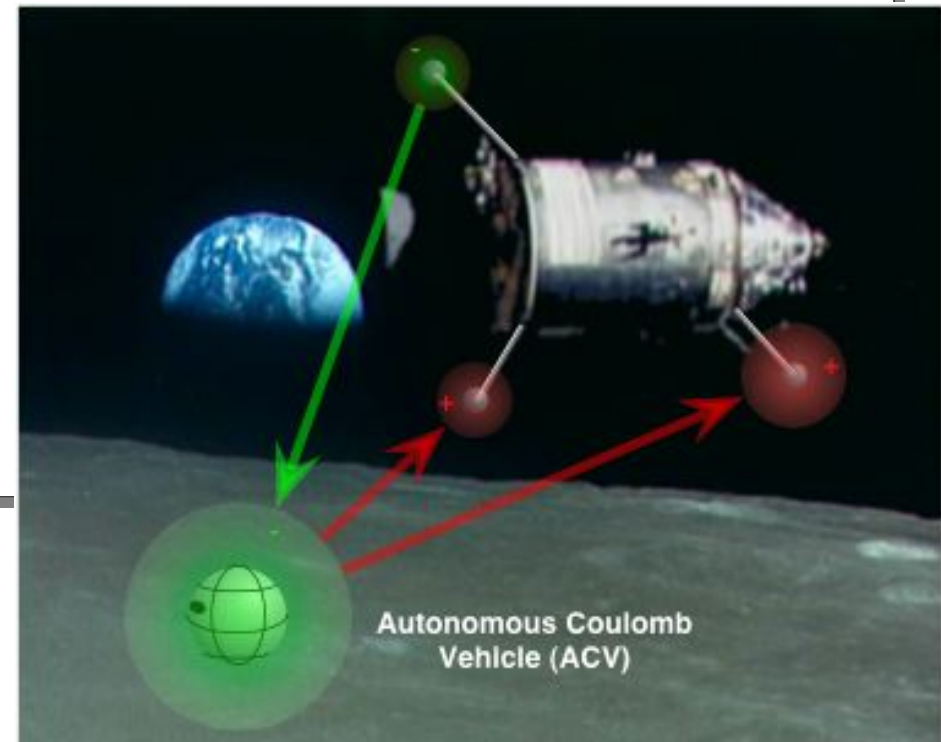
- This is an AIAA Design Competition
- Evidently there is a 95% probability that Asteroid 2004WR will impact the Earth on January 14, 2015
- Mission must travel to the asteroid, inspect it, and either change its trajectory or otherwise mitigate the threat

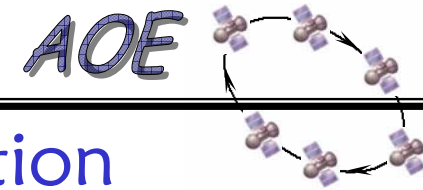




Design of An Autonomous Coulomb Vehicle for Interplanetary Missions

- The Autonomous Coulomb Vehicle uses a novel propulsion concept involving spacecraft charging
- The goal here is to design a vehicle using the ACV concept for the specific mission of inspection of a “mother” ship during a flight to Mars
- The ACV must be able to deploy from and be retrieved by the host vehicle





A Two-Dimensional Mass Motion Spacecraft Simulator

- The relative motion of a spacecraft formation can be precisely controlled by controlling the motion of internal masses
- This concept has not been used in any space mission
- This project will design a two-dimensional testbed, compatible with the system in the Space Systems Simulation Lab (Hancock
- We are currently seeking funding to build a system

