

title	Development of an Ion Thruster for Space Propulsion
name	Dianne J. DeTurrís
phone	756-1515
email	ddeturri@calpoly.edu
additional	
department	Aerospace Engineering
proj_desc	The Aerospace Engineering Department has facilities available for research in electric propulsion. We have been working with researchers at NASA JPL who have donated parts and expertise toward studying optimization of ion thrusters for satellite stationkeeping. Several small thrusters have already been tested, and a new small scale thruster is now in development for future stationkeeping missions. The specific project for this year is to design, build and test a new thruster using an analytical model and experimental results from previous graduate student thesis projects. One graduate student is already working on this area and needs help with setting up the test chamber and the new thruster for testing.
inter_desc	Ion thrusters have an aerospace application, but require knowledge of plasma physics and electrical engineering to develop. In addition, knowledge of materials and mechanical systems is important for design and fabrication. Any technically oriented student could make a contribution to this project. Students will learn about how an ion thruster works and how testing is done in a space environment simulating high vacuum chamber. In addition, students will learn what power supplies are needed to operate the thruster and how to collect data using LabView.
links	
students	2
majors	ENGR, PHYS, MATH
date_added	2007-11-21 16:05:40