



# “Evidence for Neutrino Oscillations”

**Abstract:** Physicists have spent significant resources researching neutrinos. They are interesting because they provide an explanation for why matter exists in the universe, but are difficult to study because they interact only with the weak force. One property of neutrinos is that they exist in three different flavors and oscillate between them spontaneously. This talk will explore the reason for the existence of neutrinos, their discovery and how neutrino oscillation solves the mystery behind the solar neutrino problem.

Jordon Potter '19

**Senior Capstone Talks in Physics**  
**FRIDAY, FEBRUARY 15, 2019 - 12:10 PM**

**Hayes Hall 211/213**

**Lunch will be served from 11:50 am to 12:10 pm**

## “Low-Thrust Orbital Transfer And Phasing Maneuvers”

**Abstract:** Satellites are in everyday use in today’s world of ever-expanding technology. In orbit around the earth and other planets, satellites must maneuver within orbits and transfer from one orbit to another in order to perform different functions. Hohmann transfer orbits can be used to move satellites from one orbit to another with as little fuel expenditure as possible. Also, maneuvers can be performed to take a satellite out of phase with another satellite or structure and place it in phase with each other. We seek to apply these ideas specifically to low-thrust satellites in orbit to better understand how to maximize efficiency of these processes.

Derek Martin '19

