

# **THE UNIVERSITY OF DENVER**

## **Department of Physics & Astronomy**

Presents

### **Satellite Orbit Perturbations, Geopotential Models, And Satellite Orbit Decay**

**Wednesday, January 4, 2012**

**4:00 PM**

**F.W. Olin Hall Room 105**

**2190 E. Iliff Avenue**

*Presented by*

**Dr. Caleb Mitchell**

Northrop Grumman

Kepler's and Newton's laws for satellite orbit geometry are derived based on the assumption of a spherically symmetric Earth mass distribution and do not take into account a non-spherical Earth mass distribution, non-gravitational forces due to the space environment, or the gravity of other space bodies. Consequently, real satellite orbits never follow Kepler's/Newton's laws precisely, although at times they come very close. This colloquium discussion will explore how the non-spherical Earth mass distribution, solar radiation pressure, and atmospheric drag affect earth orbiting satellites.

**HOST: Dr. Mark Siemens, (303) 871-3541, [Mark.Siemens@du.edu](mailto:Mark.Siemens@du.edu)**

**Join us for refreshments & follow-up discussions in Physics Building Room 116, 5:00-6:00 PM**