



## HAO Colloquium Series

(Refreshments served)

**Speaker:** Delores Knipp, HAO/NCAR

**Time:** 3:00–4:00 pm

**Date:** Wednesday, June 8, 2011

**Location:** CG1, Room 2126

**Title:** Where It's Hot and Where It's Not: Control of Upper Atmosphere Poynting Flux by the Solar Wind and Magnetosphere

### **Abstract:**

It has long been assumed that most of the large disturbances in the ionosphere-thermosphere-ionosphere (I-T) system derive their energy from this cycling of magnetic flux, during magnetic storms, with most of the energy dissipated in the nightside auroral zone. Recent attempts to follow the flow of storm-time electromagnetic energy using observations from low Earth orbiting satellites and general circulation models suggest that an additional dissipation mechanism operates on the dayside during intervals of large east-west interplanetary magnetic field and fast flow. This mechanism preferentially delivers energy to the dayside I-T system, often with minimal nightside reconnection. Thus, fast interplanetary coronal mass ejections with large northward or east-west fields can be geoeffective even if the geomagnetic indices are at modest levels. I will discuss the types of solar wind structures and sequences that are most conducive to this type of “stealth” energy input and explain why this type of disturbance has eluded detection.