

# Astrophysics & Space Physics Seminar

Thursday, October 22, 2015

## Why Solar Physics needs a 4m-class solar-telescope?

### The Daniel K. Inouye Solar Telescope and its capabilities

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*National Solar Telescope*

#### Abstract:

Magnetic fields are responsible for a variety of energetic processes that dominate the outer atmosphere of the Sun. These processes ultimately control how our planet is connected to our star. Energy release occurs at a spectrum of spatial scales that our present telescopes barely glimpse. Detecting the magnetic fields at the required temporal cadence and with sufficient sensitivity has proven challenging with existing technologies. The push for better spatial resolution and sensitivity has resulted in Solar Physics requiring telescopes at the 4m-class aperture: Solar observations are photon starved. In this talk, we will put into context these demands for improved capabilities and introduce the first telescope of this class, the Daniel K. Inouye Solar Telescope being built at the summit of Haleakala under the auspices of the NSF. A status report and a summary of its capabilities will be presented.

**3:30 pm**

Refreshments  
CAS Room 500

**4:00 pm**

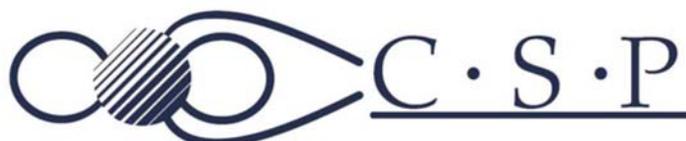
Seminar  
CAS Room 502

#### Next Week

- Jeff Morgenthaler  
*Planetary Science  
Institute*
- Volcanoes, Atmospheres, and Magnetospheres, Oh My!



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