

Physic & Space Sciences Department Colloquium

Seeing Through the Clouds: The Atmospheres of Super Earths and Sub Neptunes



Dr. Caroline Morley

Harvard University

Friday March 24, 2017

4:00—5:00 PM

OPS, Room 140

One of the great mysteries revealed by the Kepler Space Telescope is the existence of vast numbers of planets between Earth and Neptune in size. While they are among the most numerous types of planets in the galaxy, no planets of this size exist in our own solar system. Understanding their properties will shed light on how planets form and the differences between our own solar system and extrasolar planetary systems. Astronomers are currently using space telescopes like the Hubble Space Telescope and Spitzer Space Telescope to reveal the atmospheres of some of these planets. I will discuss the challenges of detecting these super Earths and sub Neptunes, including the presence of exotic species that form clouds of rocks, salts, and soot that obscure the features we are trying to measure. I will present work that predicts how we will continue to learn about these planets with the launch of NASA's new flagship telescope, the James Webb Space Telescope.

Light Refreshments will be served