SatMeet9 - Mapping Other Worlds

Daniel Apai*[1,2,3] and Nicolas Cowan*[4]

[1]Earths in Other Solar Systems Team (EOS) – 933 N Cherry Avenues Tucson, AZ 85721, United States
[2]Lunar and Planetary Laboratory, University of Arizona – United States
[3]Steward Observatory, University of Arizona – 933 N Cherry Avenue University of Arizona Tucson AZ 85721 USA, United States
[4]Amherst College – Amherst, MA 01002, United States

Abstract

Spatial information provides powerful and unique constraints on the physics and chemistry of planetary atmospheres and surfaces, including cloud formation, structure, and evolution; atmospheric dynamics; compositional variations in gas, solid, and liquid phases; as well as inferring surface spectra - including biosignatures - and surface coverage. Recent years have seen exciting progress in this new field, including numerical methods to interpret time-resolved exoplanet data, the first maps of brown dwarfs and transiting exoplanets, and exciting ideas and technique to map habitable zone exo-earths.
In our "Mapping Other Worlds" session we will explore:
1) state-of-the-art observations of spatially resolved ultracool atmospheres;
2) methods to obtain spatially resolved exoplanet data in the future;
3) approaches to deduce spatial information from time-resolved data;
4) science goals that can be achieved through spatially resolved data.
In this talk we will summarize the key results presented in the Mapping Other Worlds satellite session.

*Speaker