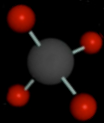


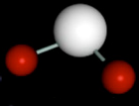
FINESSE Fast Infrared Exoplanet Spectroscopy Survey Explorer

Exploring New Worlds Around Other Stars

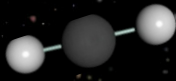
FINESSE is the first mission dedicated to the characterization of the rapidly growing number of newly discovered worlds.



Methane

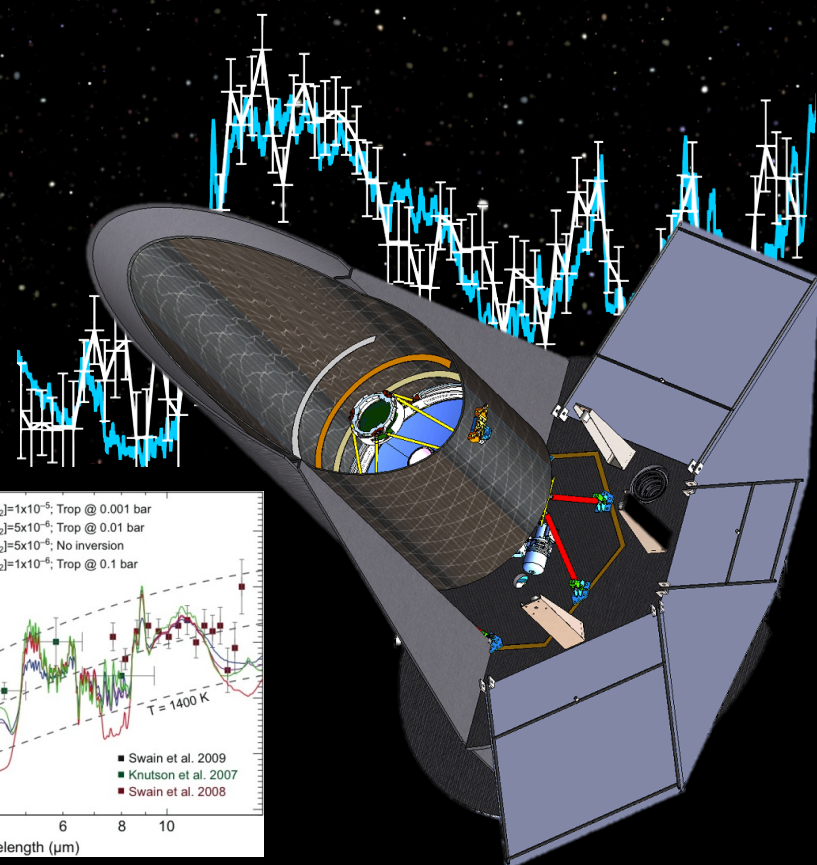
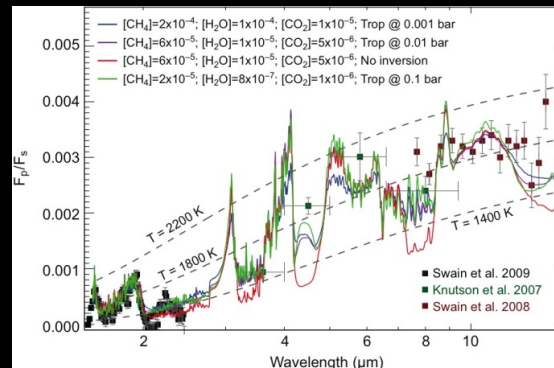


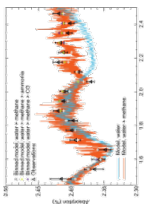
Water



Carbon Dioxide

- Building on the legacy of exoplanet discovery.
- Taking the next step ... characterizing the diverse exoplanet family.



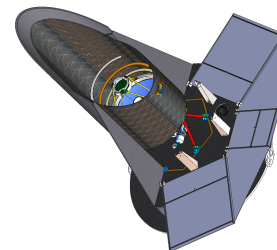
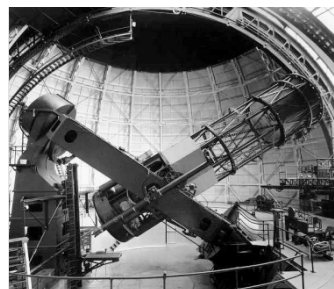
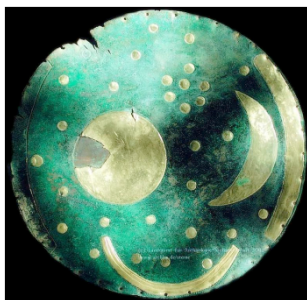
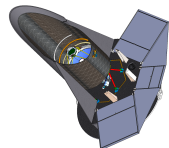
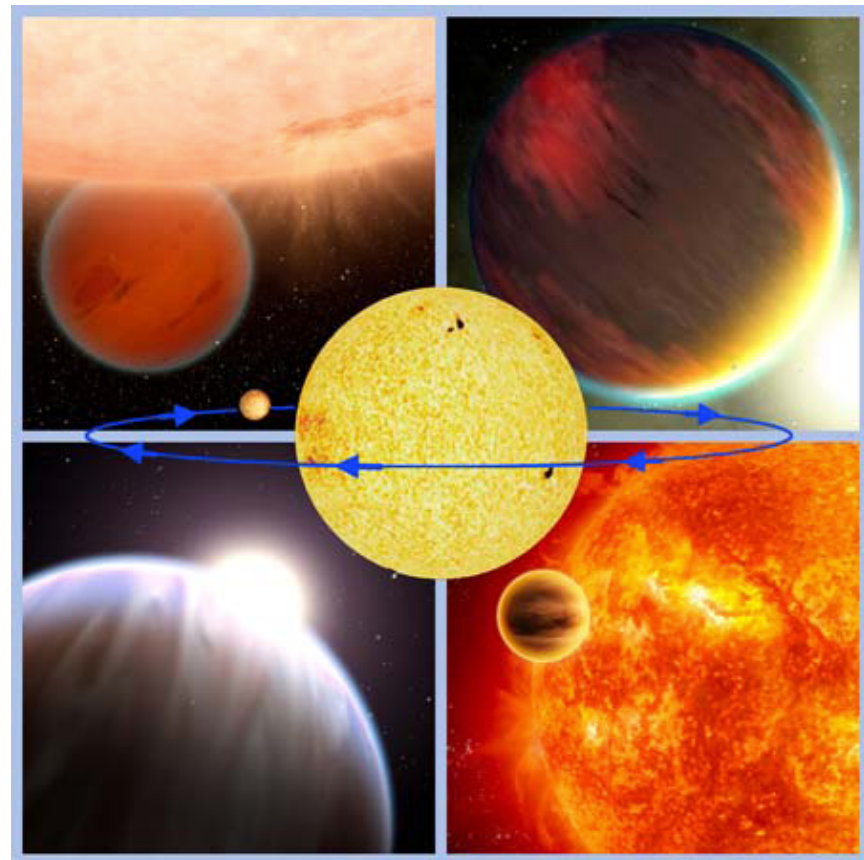


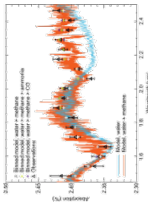
Many Worlds – Many Suns

Today we know that our solar system is part of a much larger family of planets that is both vast and incredibly diverse.

For thousands of years, human kind has pondered our place in the cosmos. By characterizing a large and varied sample of exoplanets, FINESSE will answer a major part of this question by showing us how our own planet, and the planets in our solar system, fit into the vast, and varied, extended family of planets that pervade the galaxy.

FINESSE





➤ Astronomers have discovered hundreds of exoplanets but we know very little about these exciting objects.

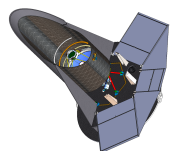
➤ FINESSE will answer two key questions:

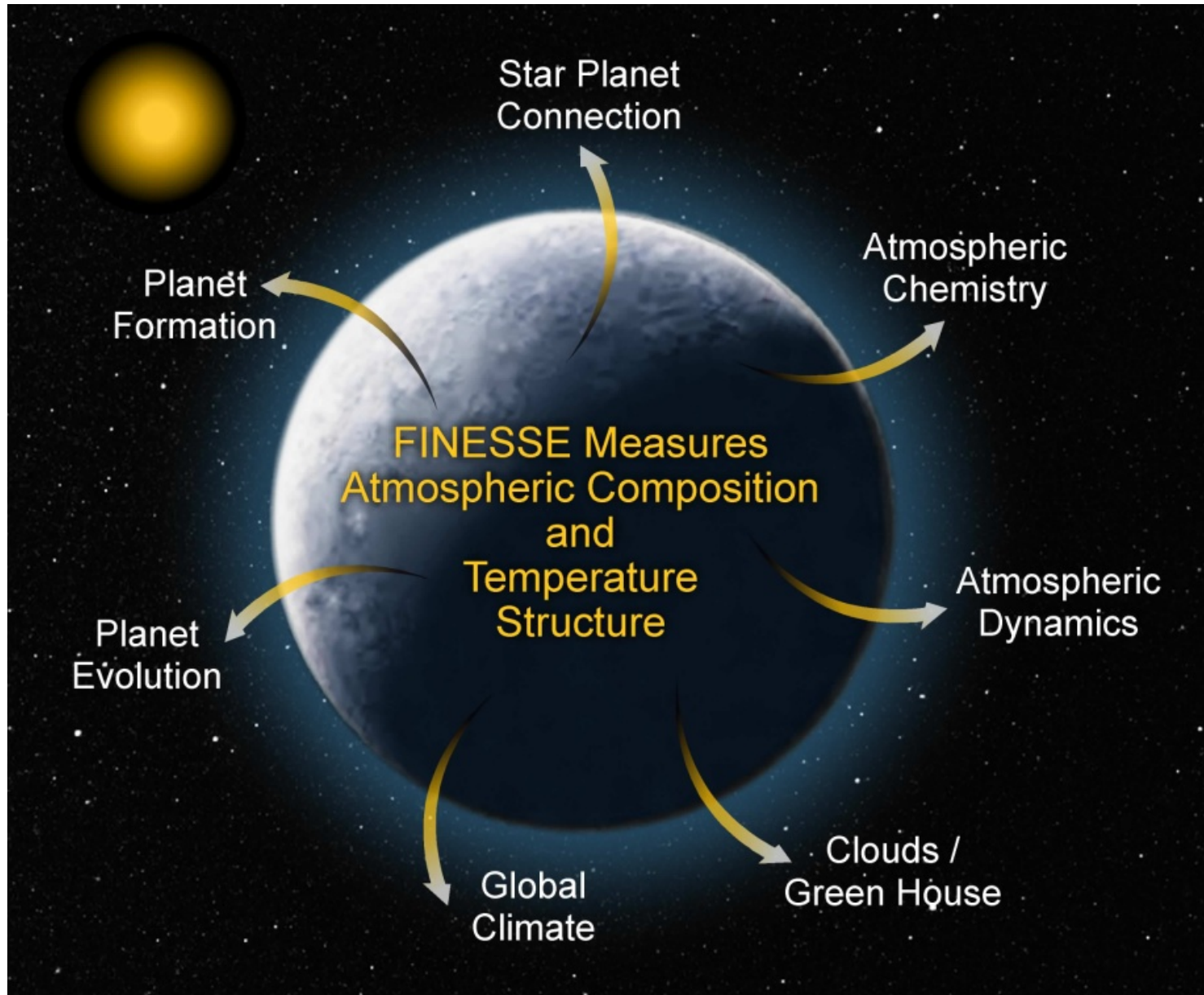
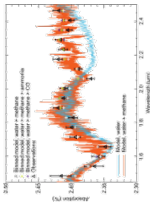
1. *What is the composition and temperature of exoplanet atmospheres?*

2. *How does the composition and temperature change from the dayside to the nightside and with time?*

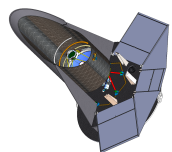
FINESSE does by surveying a large number of exoplanets, with a broad spectral coverage, high-stability spectrograph, to identify the presence and abundance molecules in exoplanet atmospheres.

FINESSE

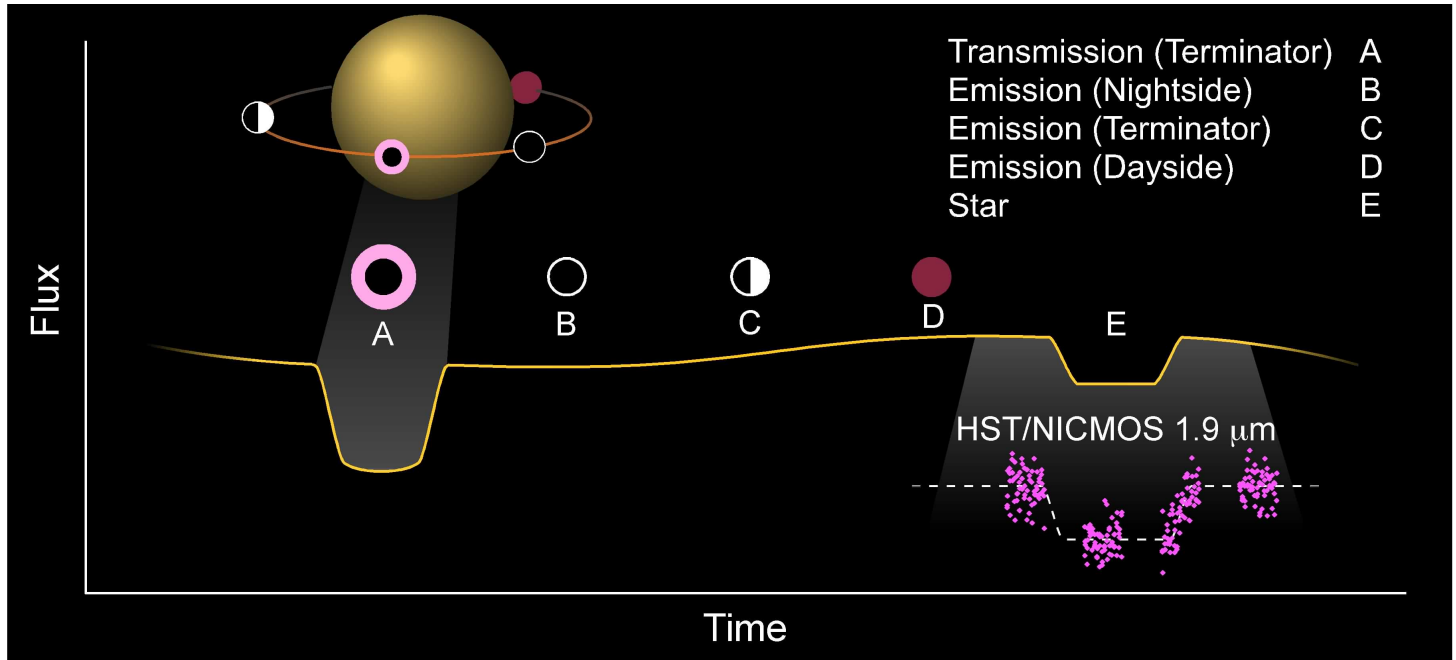
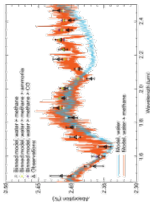




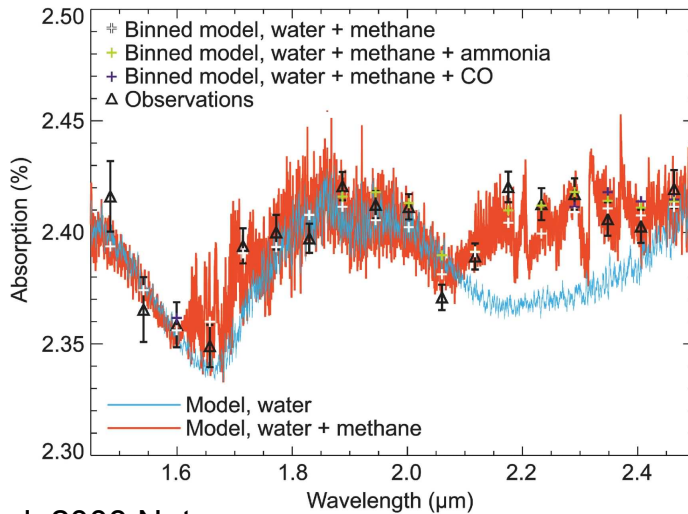
FINESSE



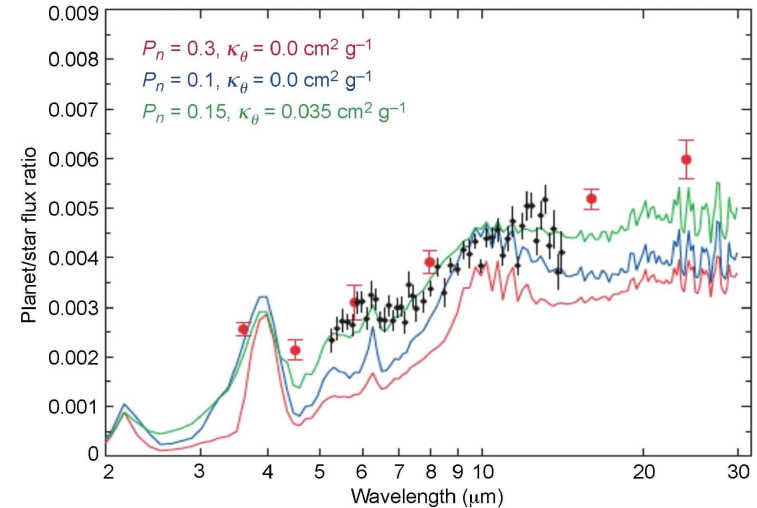
The FINESSE measurement method



FINESSE



Swain et al. 2008 Nature



Grillmair et al. 2008 Nature

