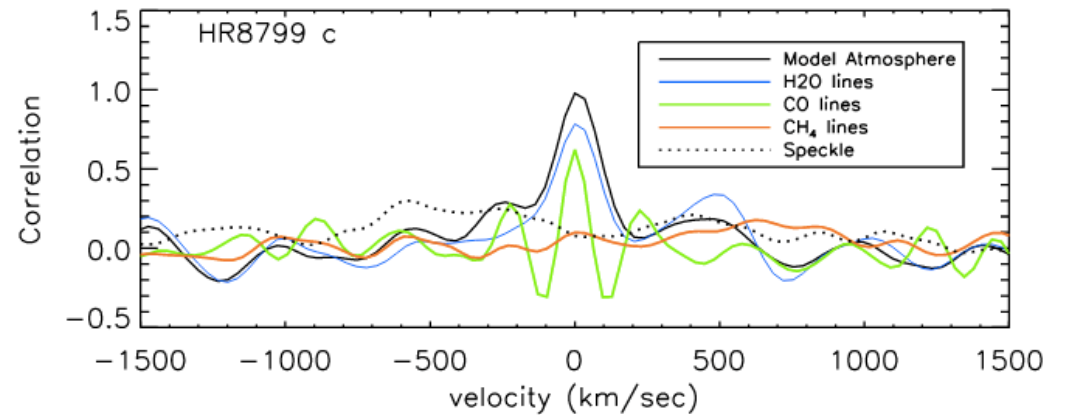
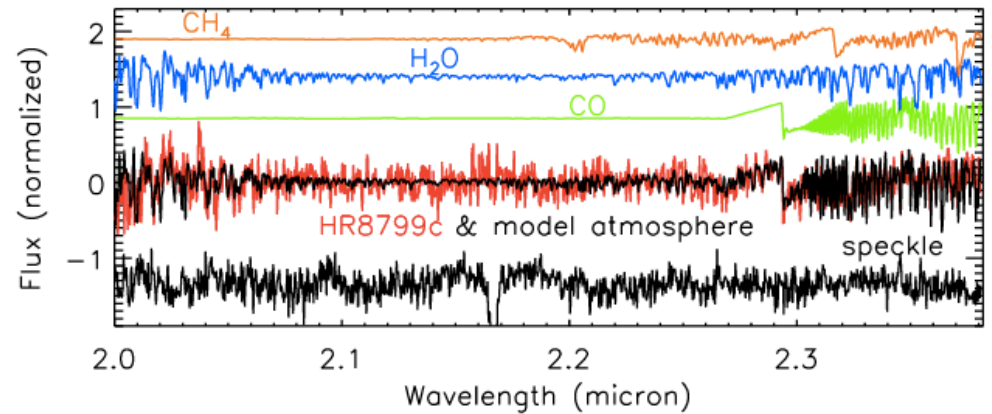
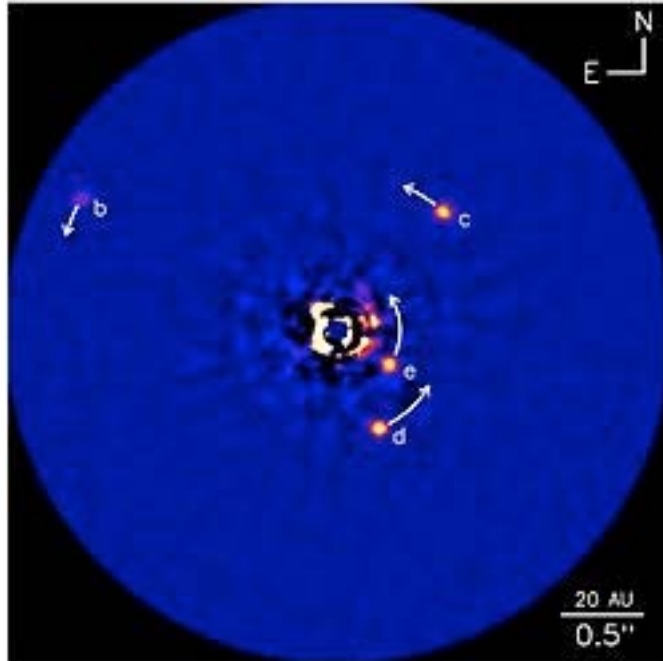


# Reducing AO-Fed High Resolution Spectroscopic Data

Ji Wang

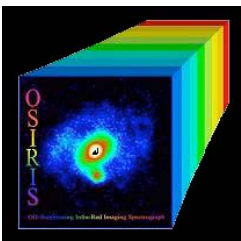
Caltech

# Detection of H<sub>2</sub>O and CO on HR 8799 c



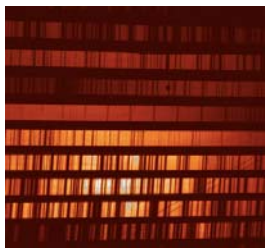
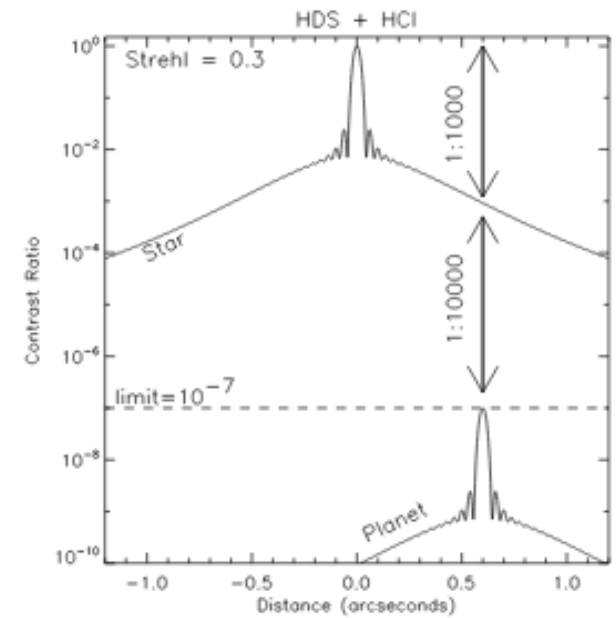
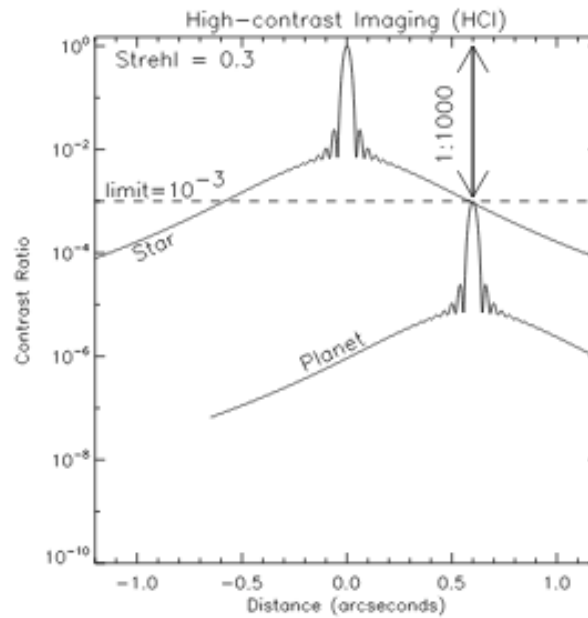
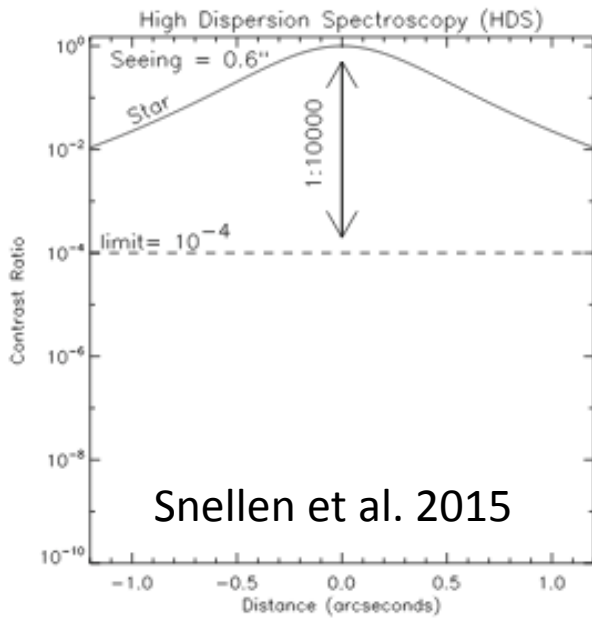
Konopacky et al. 2013

Keck OSIRIS

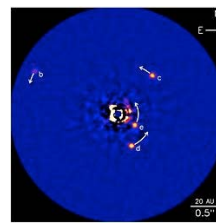
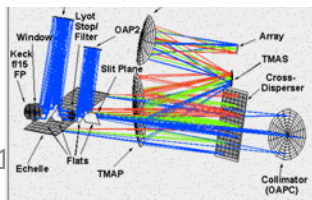


8/24/2016

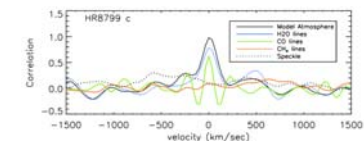
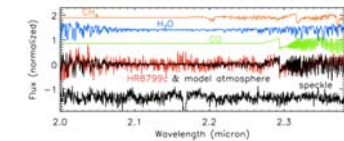
# High-Contrast High-Resolution Spectroscopy



Keck NIRSPEC

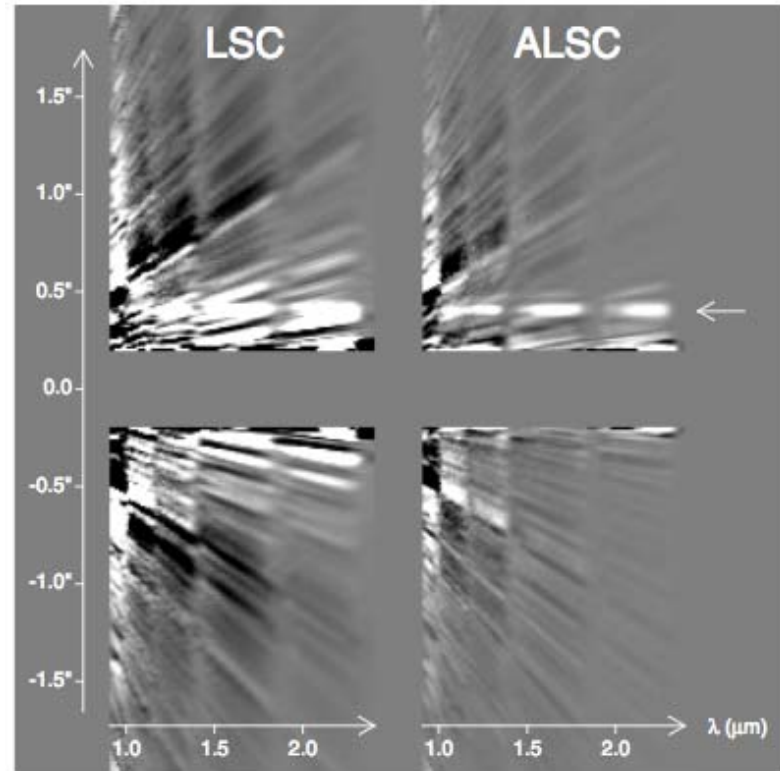
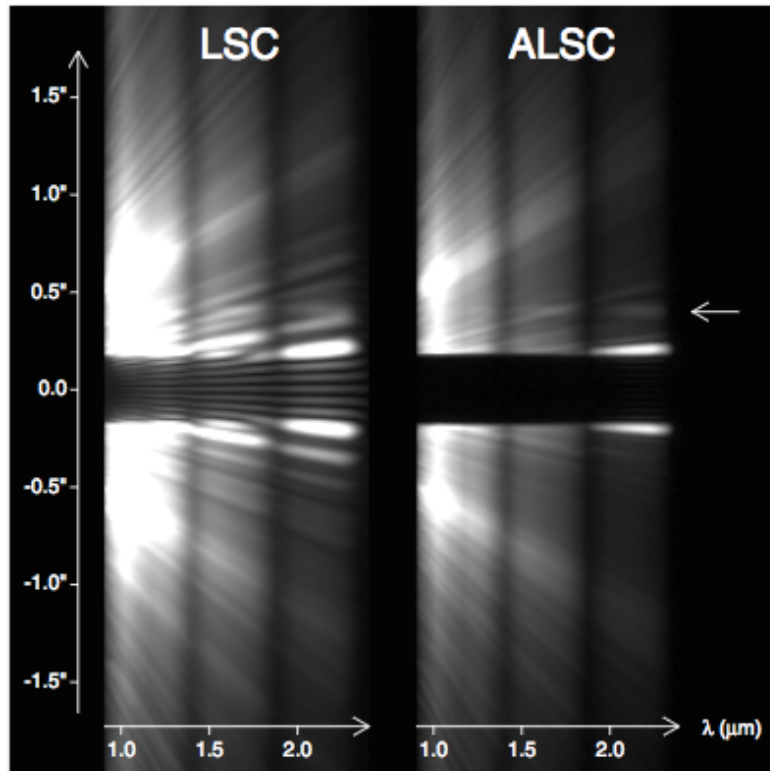


Keck NIRC2 Vortex

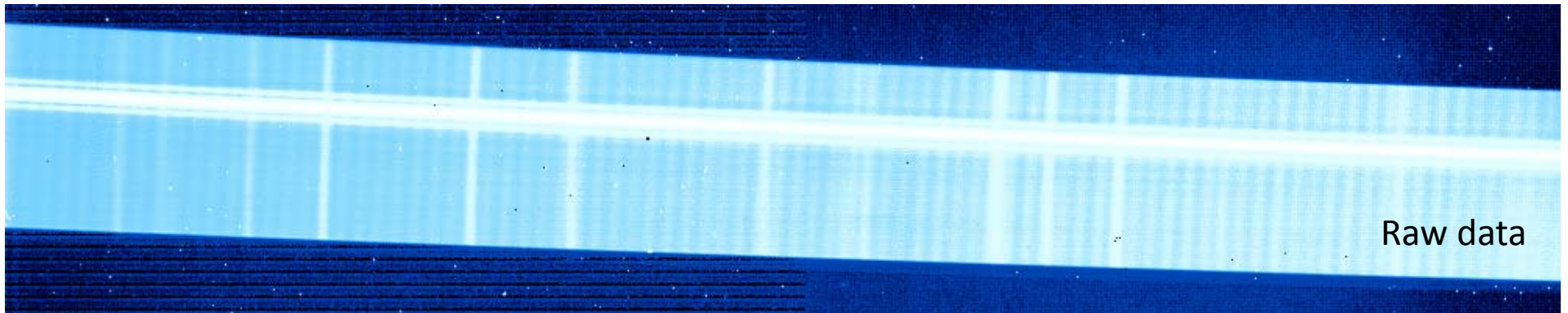



8/24/201

# Method

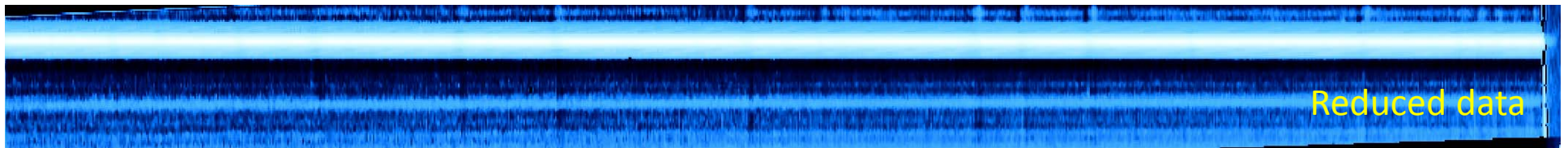


Vigan et al. 2014

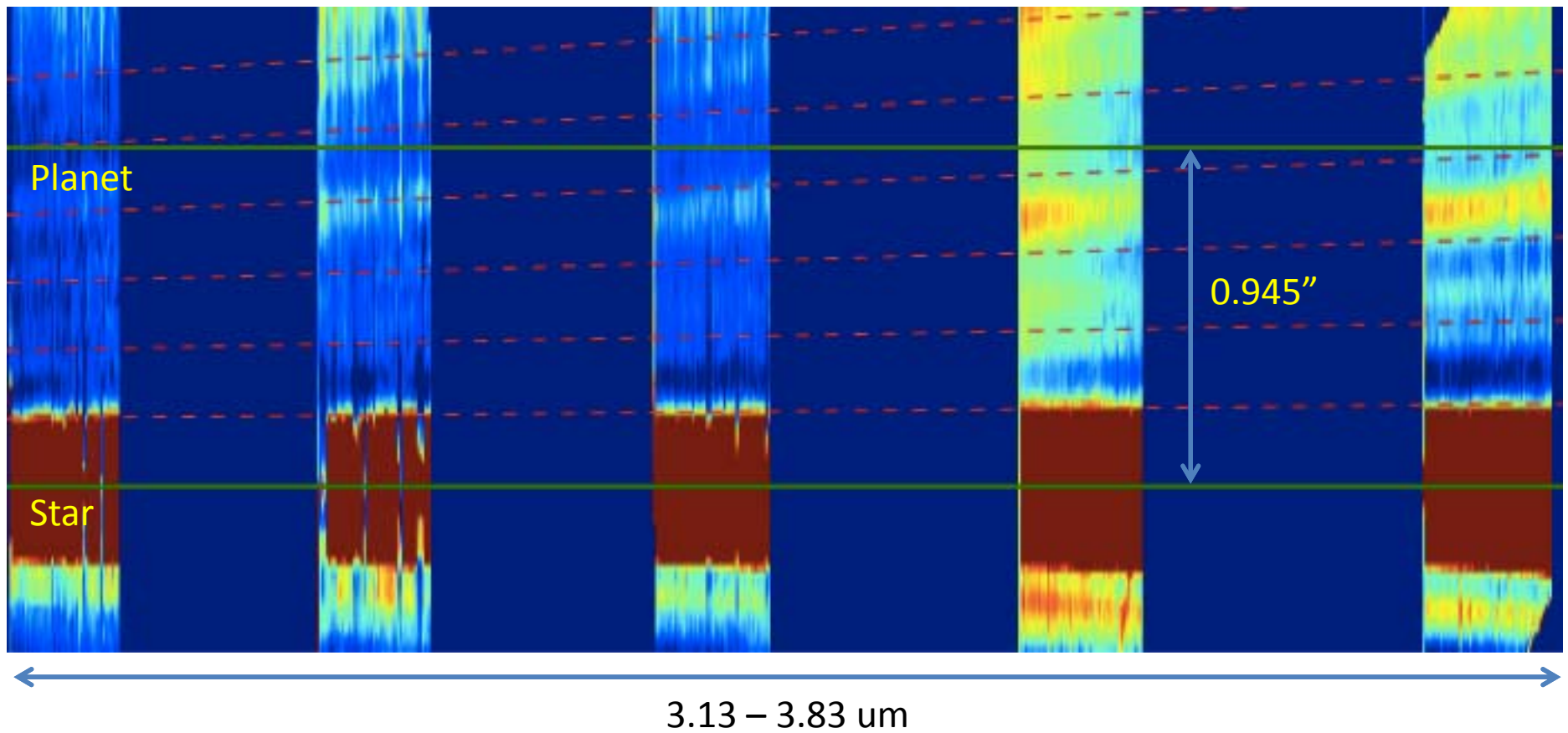


- 
- Detector pattern
  - Tilt correction (x and y)
  - Rectification
  - Sky emission and background removal

Need a non-invasive pipeline to reduce data and reveal planet signal

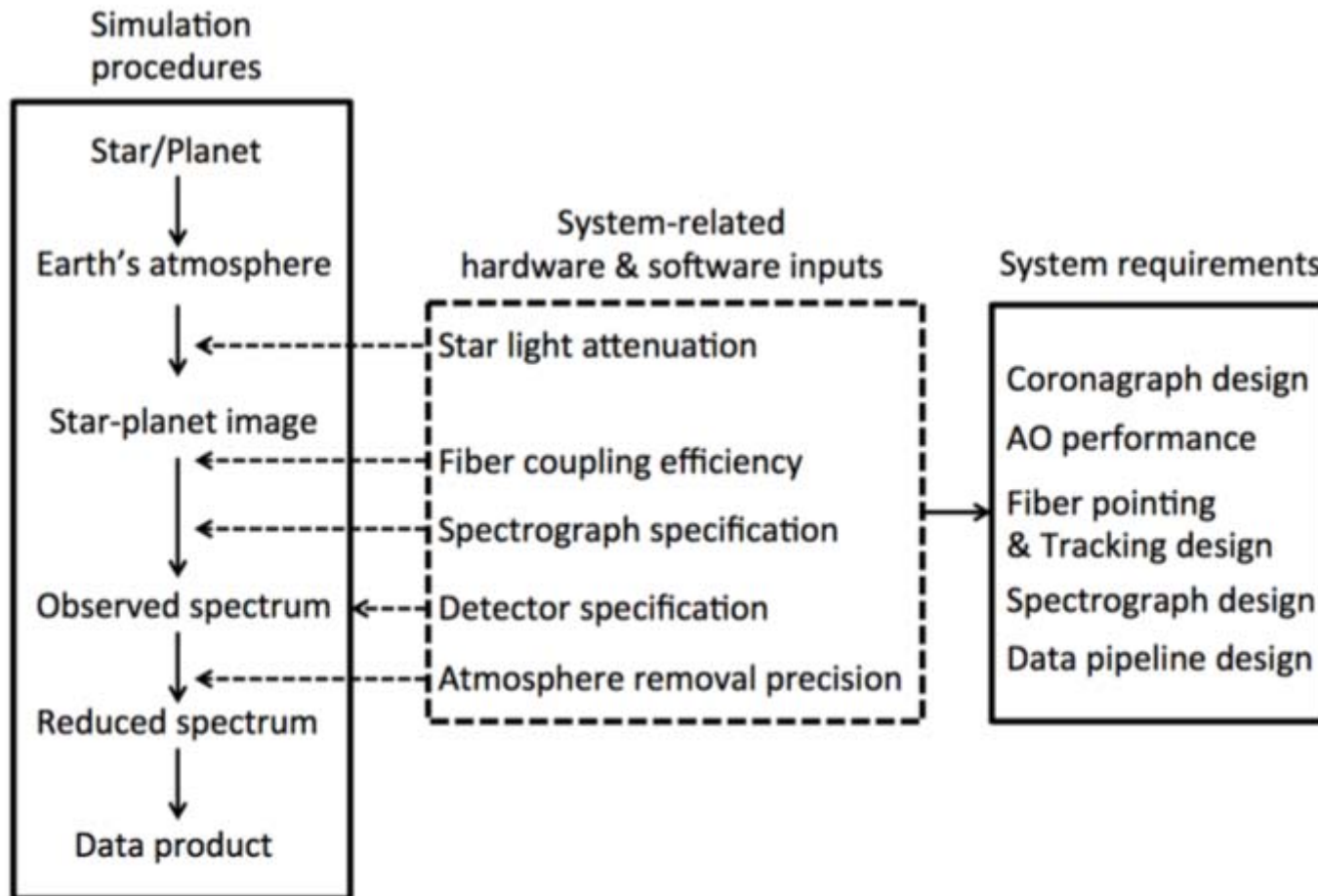


# Reduced data

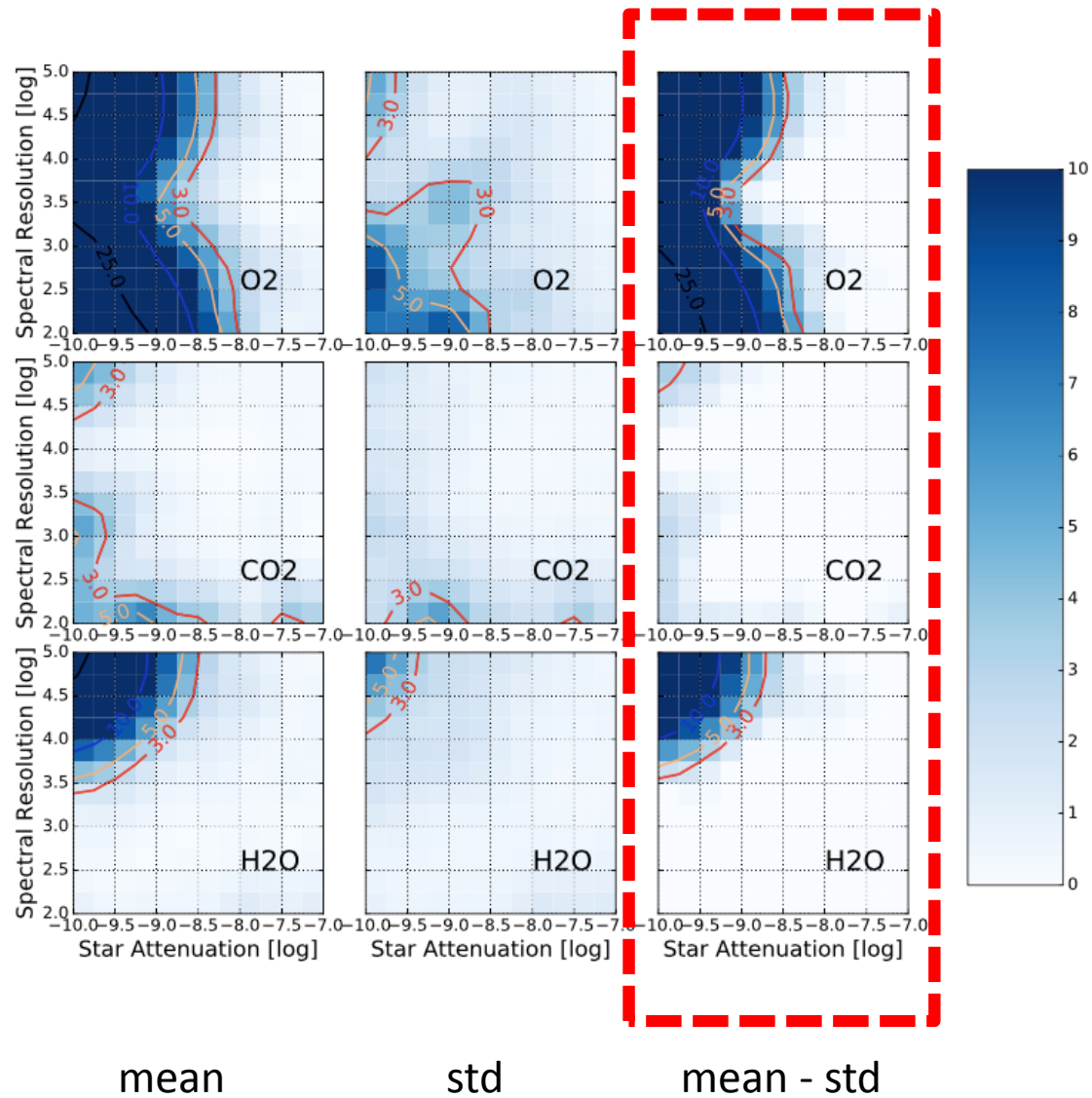




# HCI+HRS Simulation



# 10-m Aperture Space Mission





# The “dip” in mid-resolution

