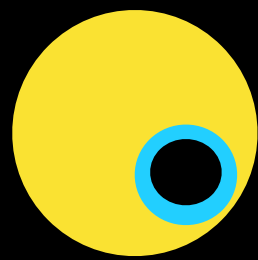


# A cloud-free atmosphere for WASP-62b: the only giant planet in the *JWST* Continuous Viewing Zone

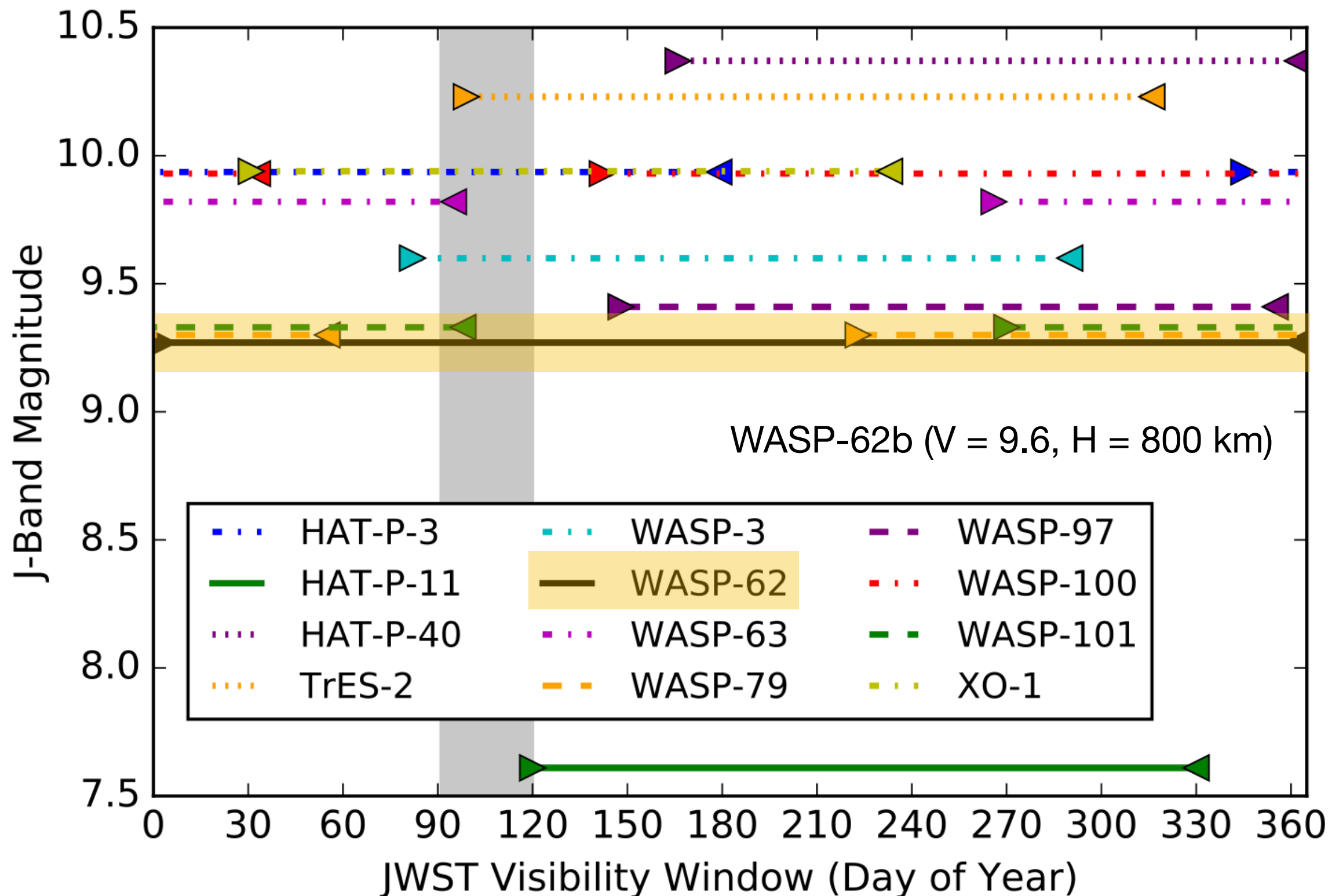
**Munazza K. Alam**, Harvard University  
Exo-Webbinar Summer Series | July 8, 2020

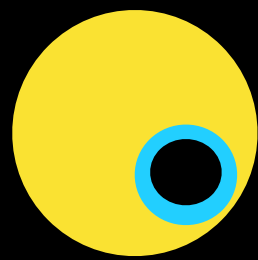


Image Credit: MPIA



# WASP-62b is currently the only known transiting giant planet in the *JWST* CVZ

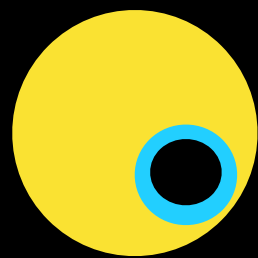




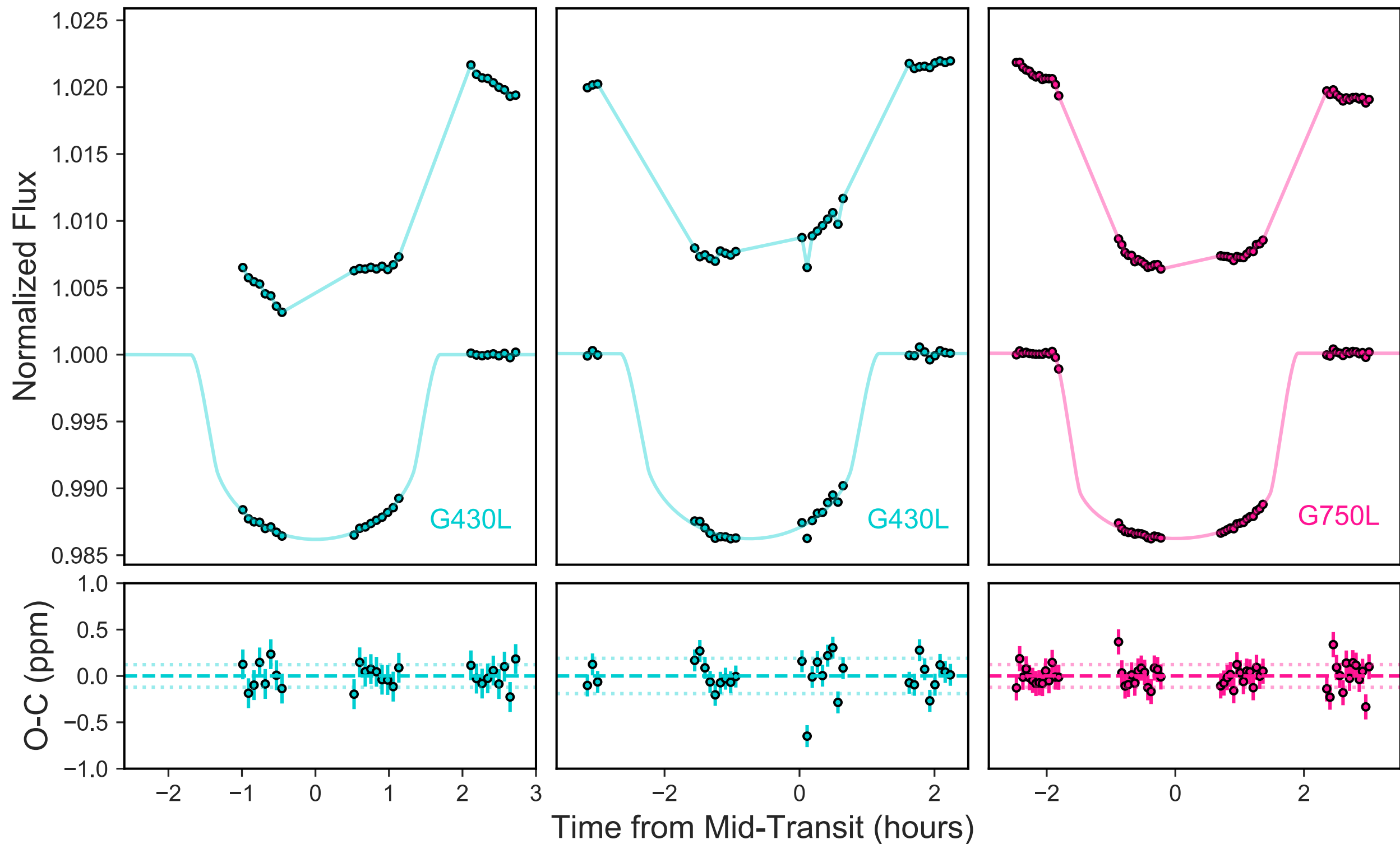
# *HST*/PanCET

(**P**anchromatic **C**omparative **E**xoplanetology  
**T**reasury)

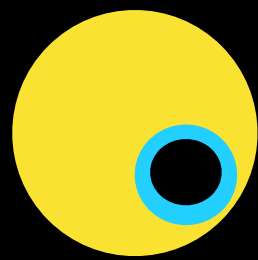
- awarded 498 orbits on *HST* to observe 20 giant exoplanet atmospheres in the UVOIR (GO: 14767)
- goal: assemble a statistically significant legacy sample of transmission spectra for *JWST* follow-up



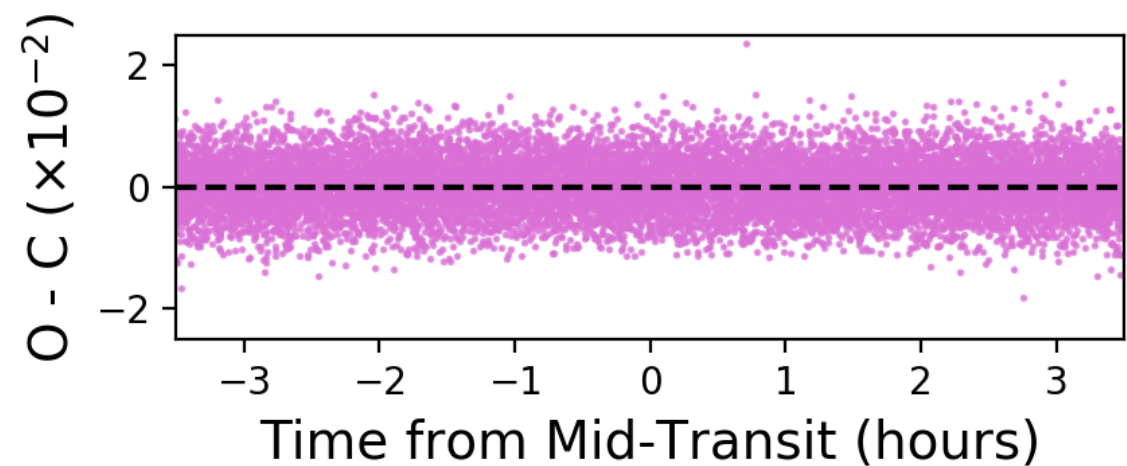
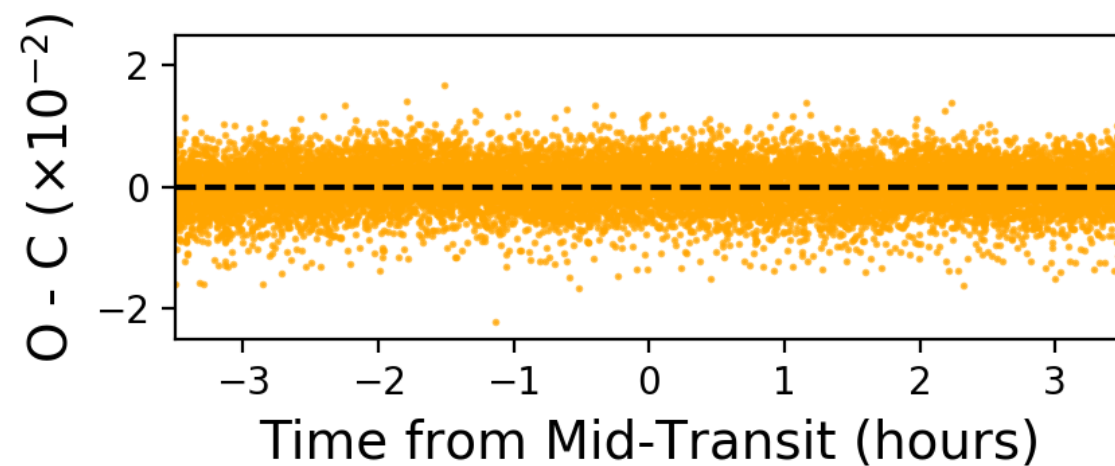
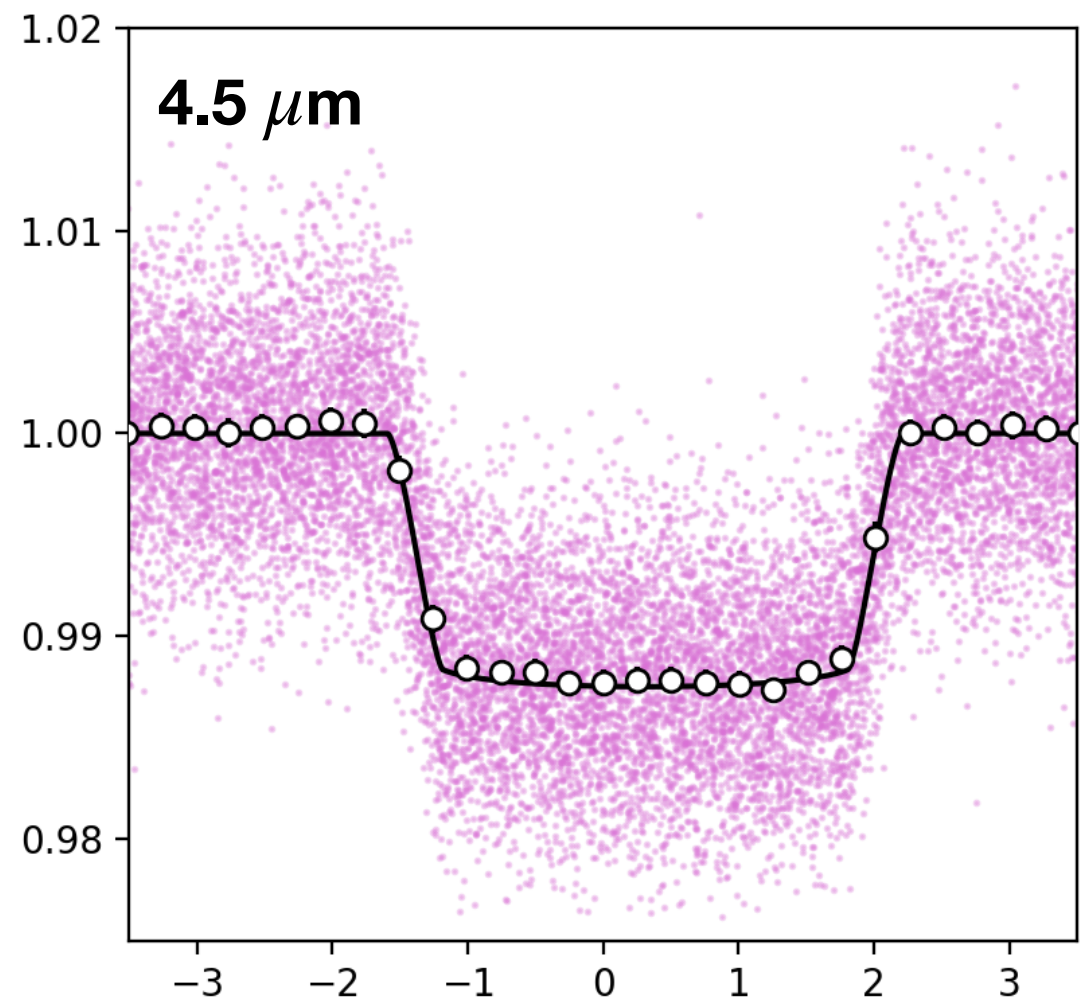
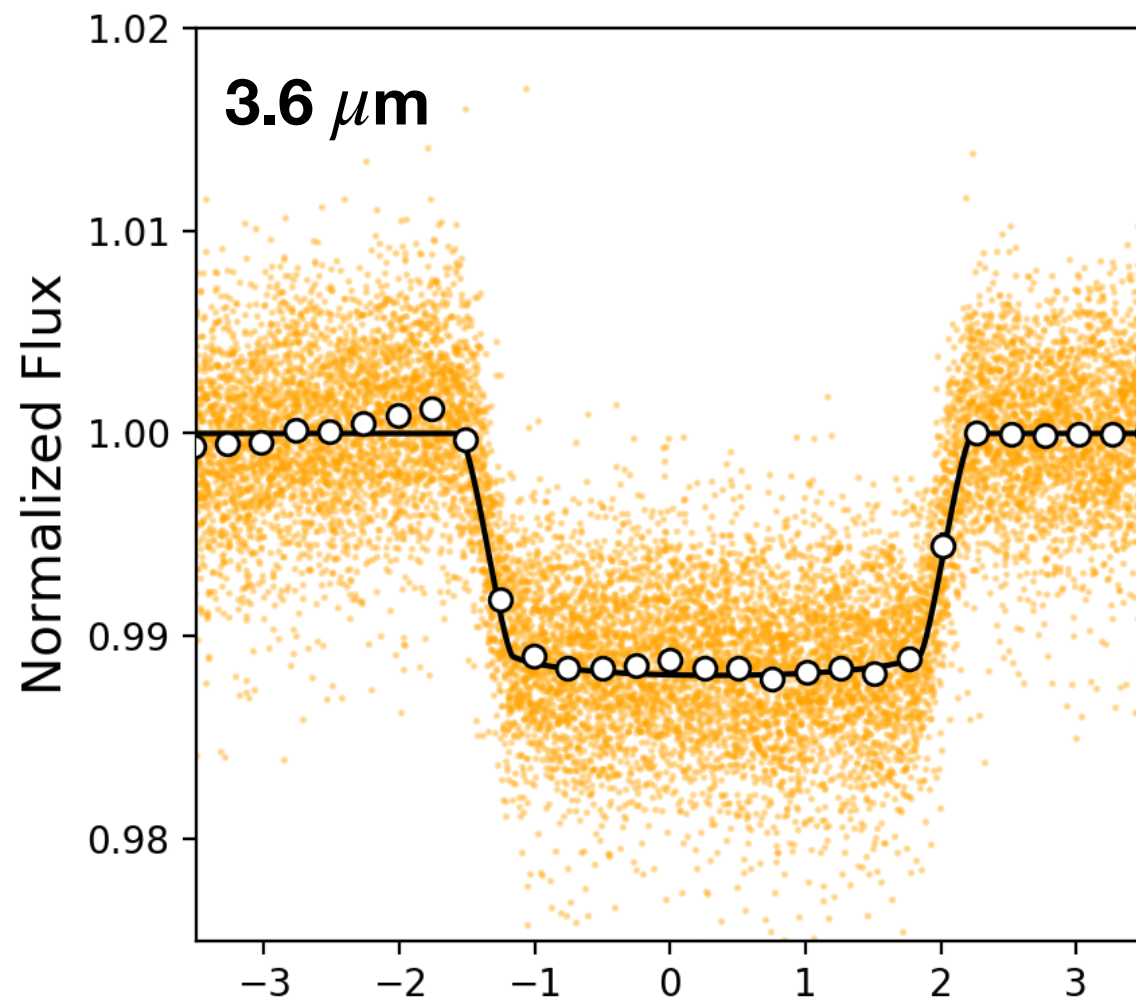
# HST/STIS transits of WASP-62b

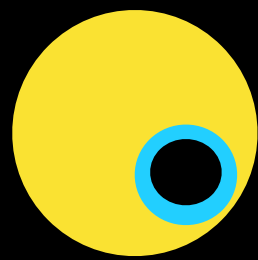




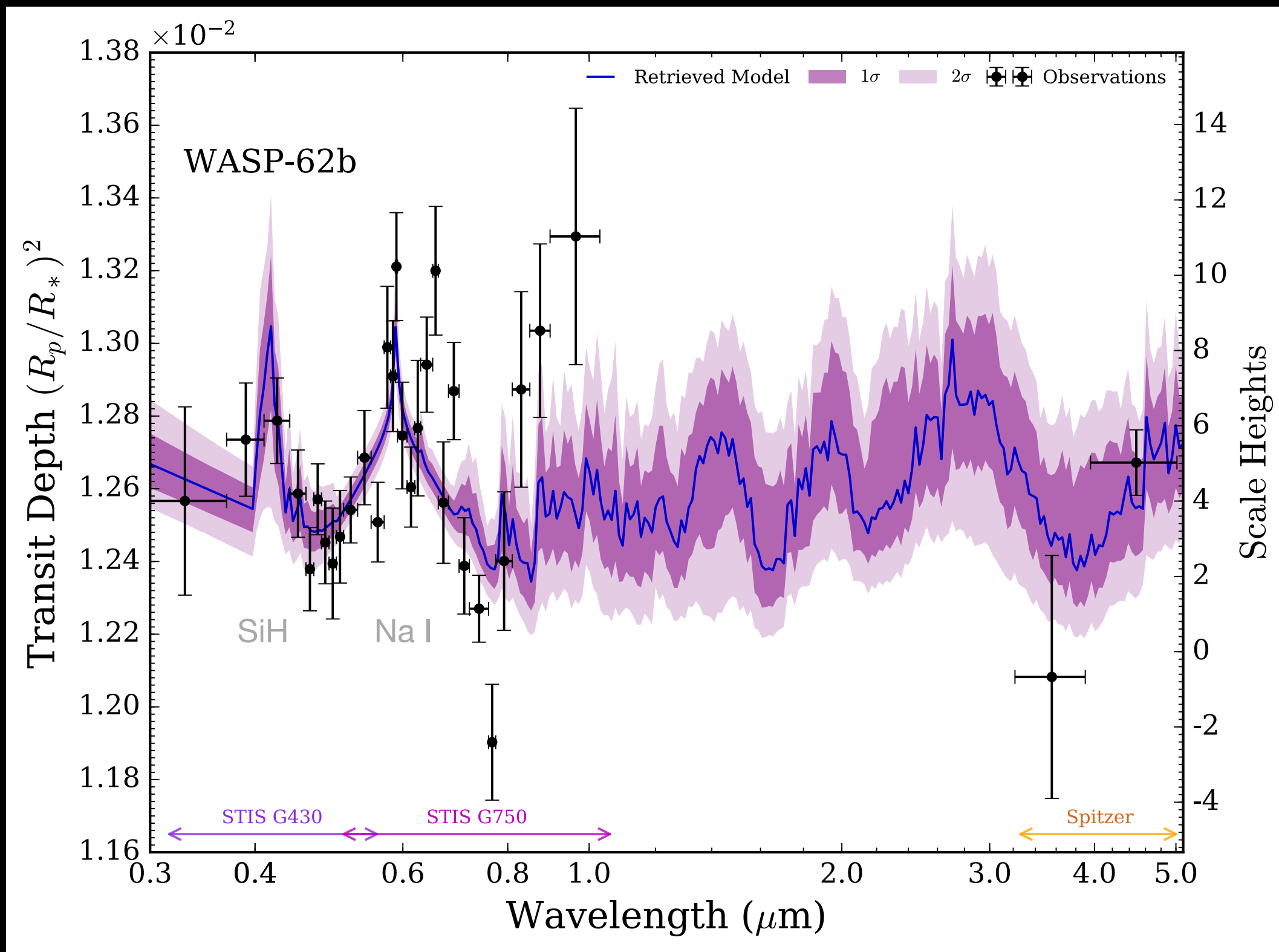


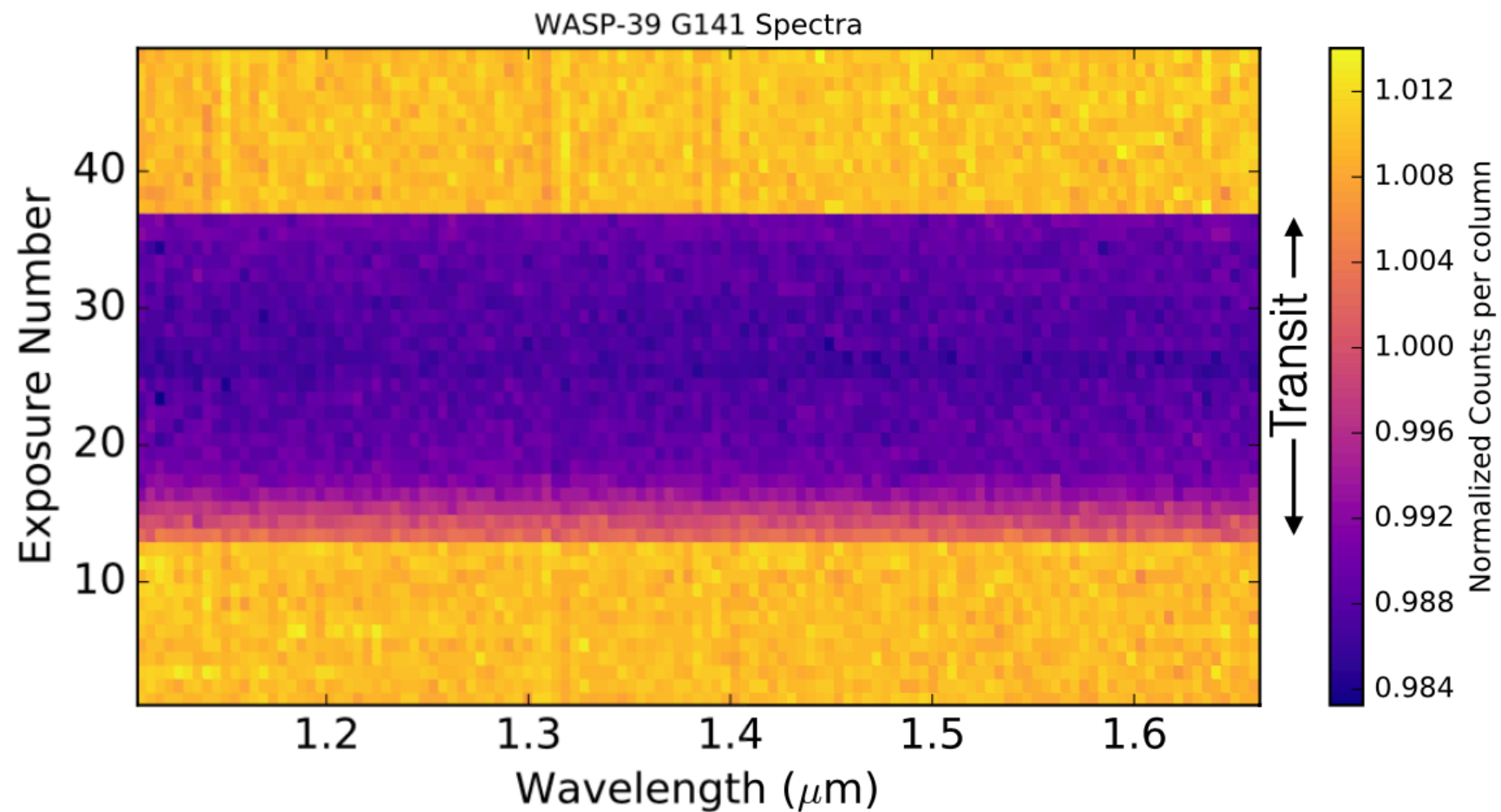
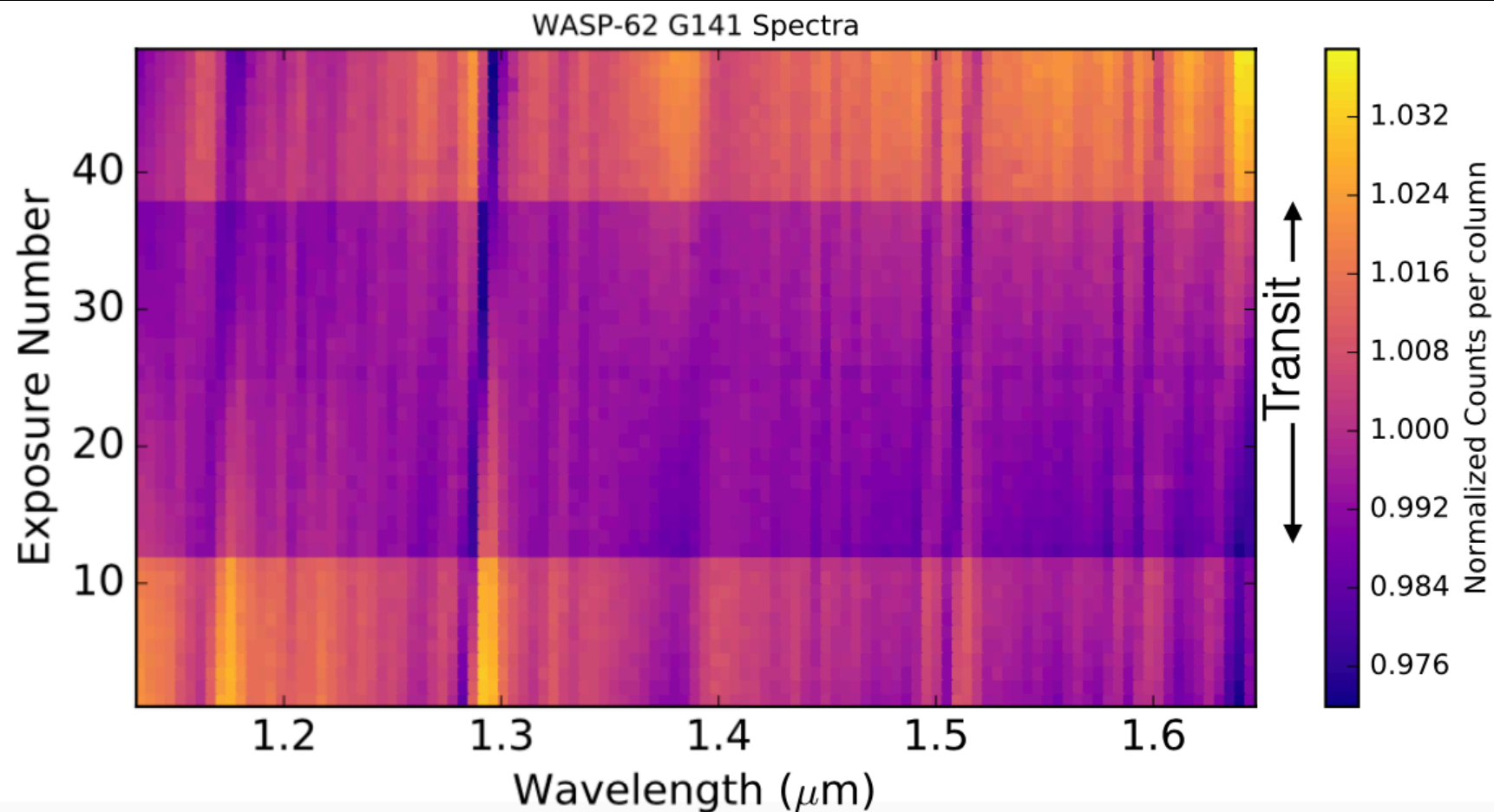
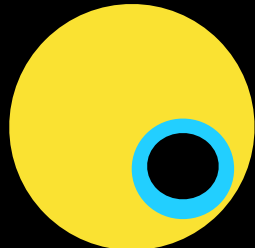
# Spitzer photometry

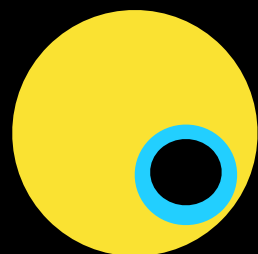




# The STIS+Spitzer transmission spectrum of WASP-62b suggests a cloud-free atmosphere





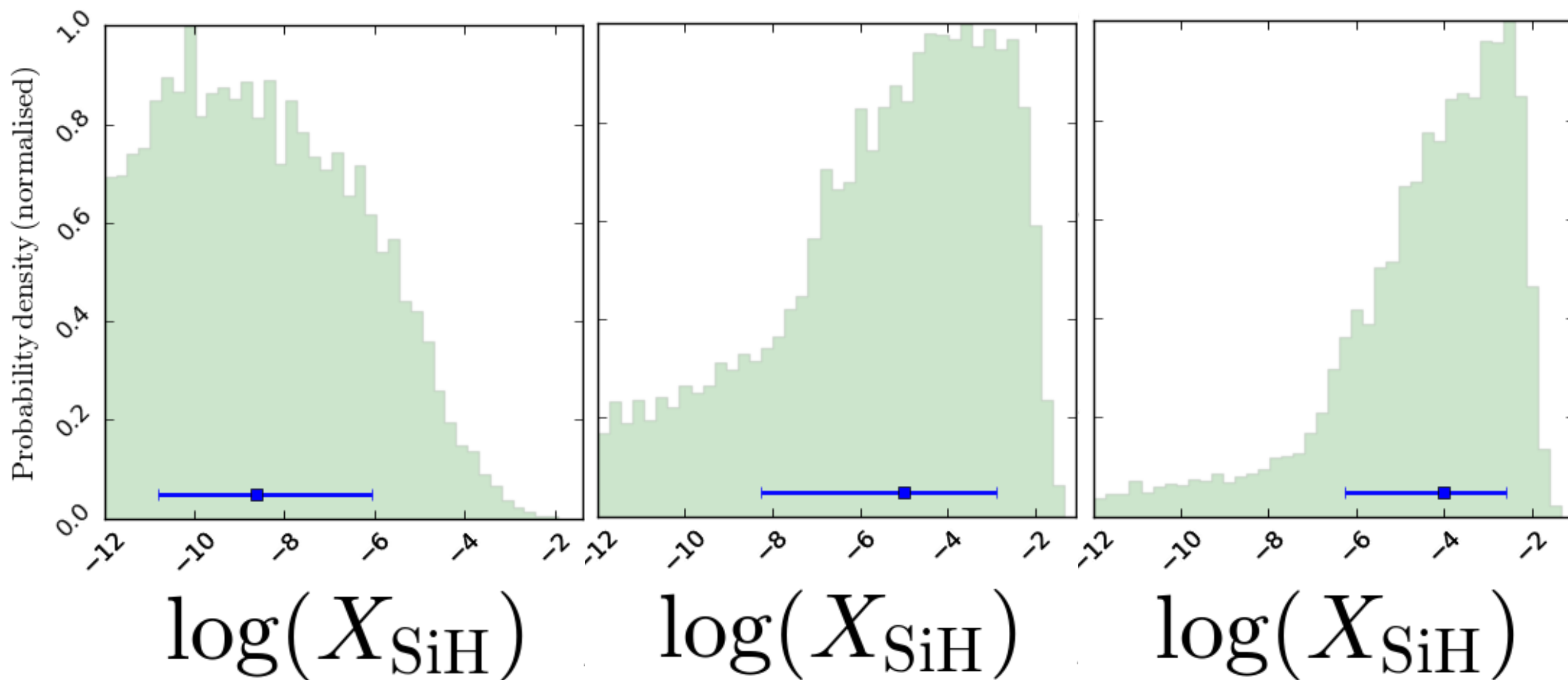


# A tentative detection of SiH?

G430L visit 57

G430L visit 58

G430L weighted mean





# Strong SiH features at 3 $\mu\text{m}$ & 5 $\mu\text{m}$

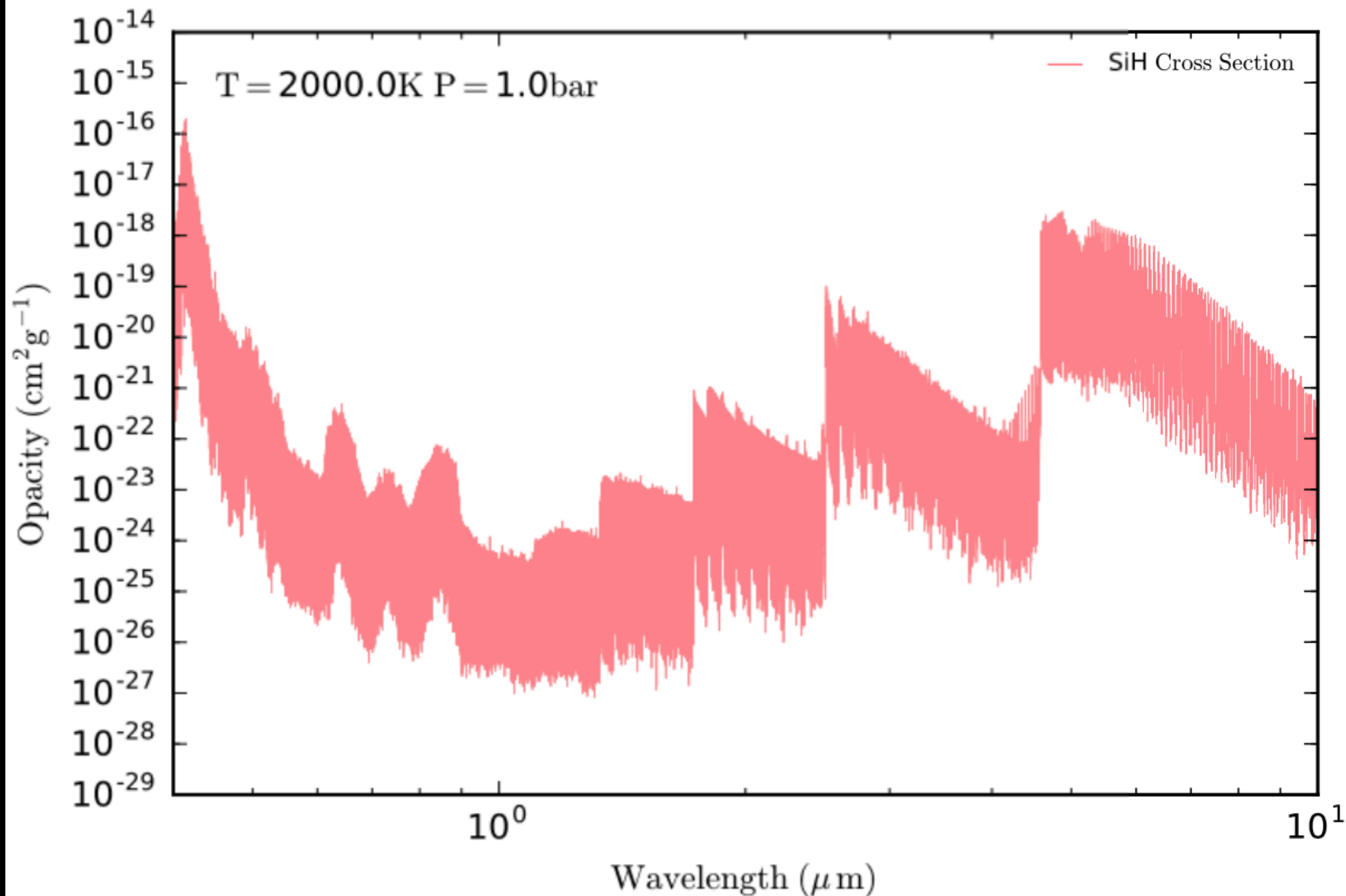
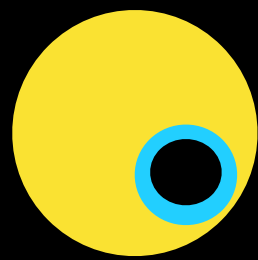
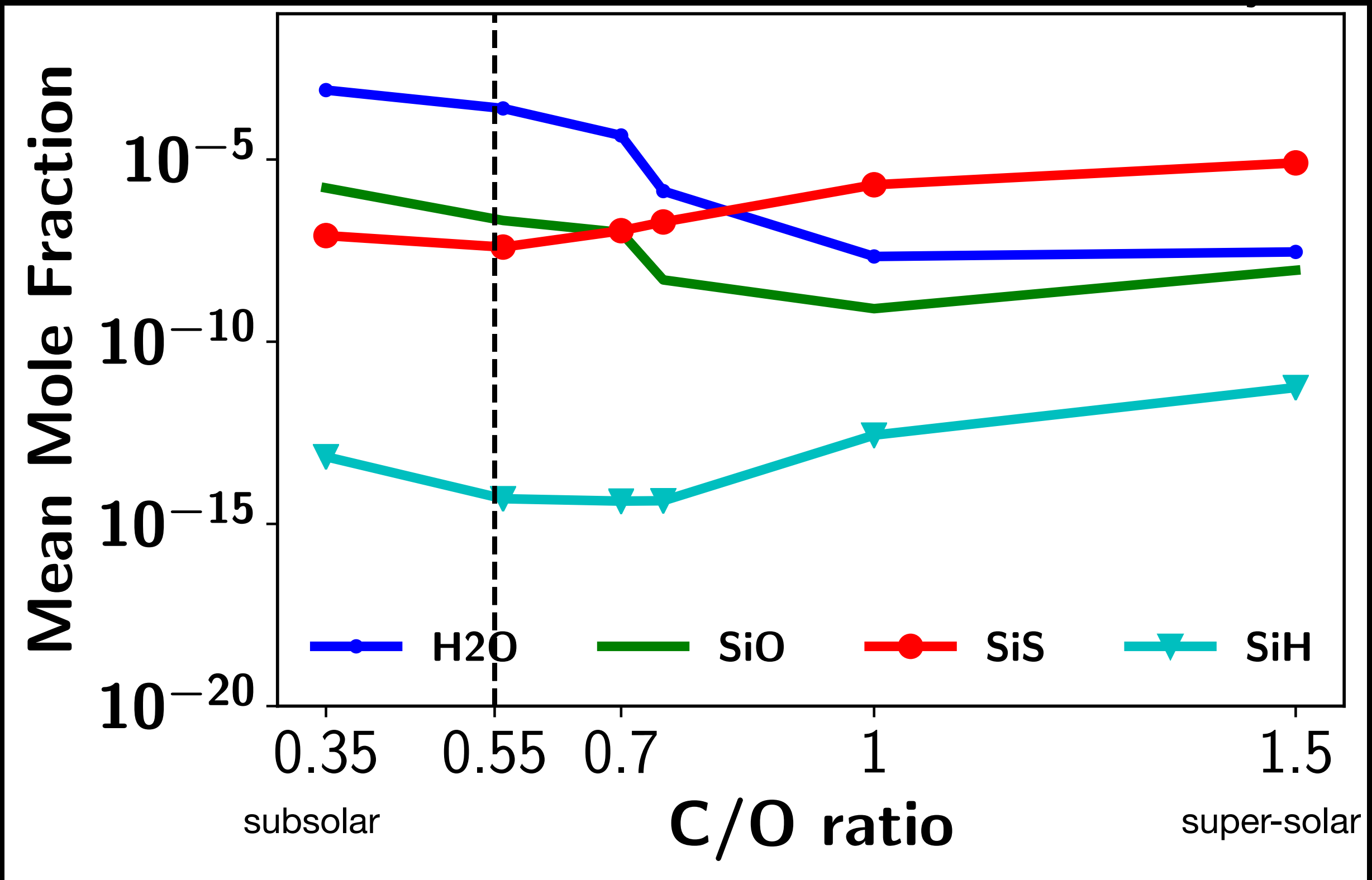
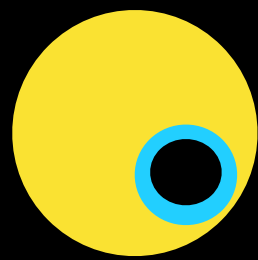


Figure courtesy of R. MacDonald

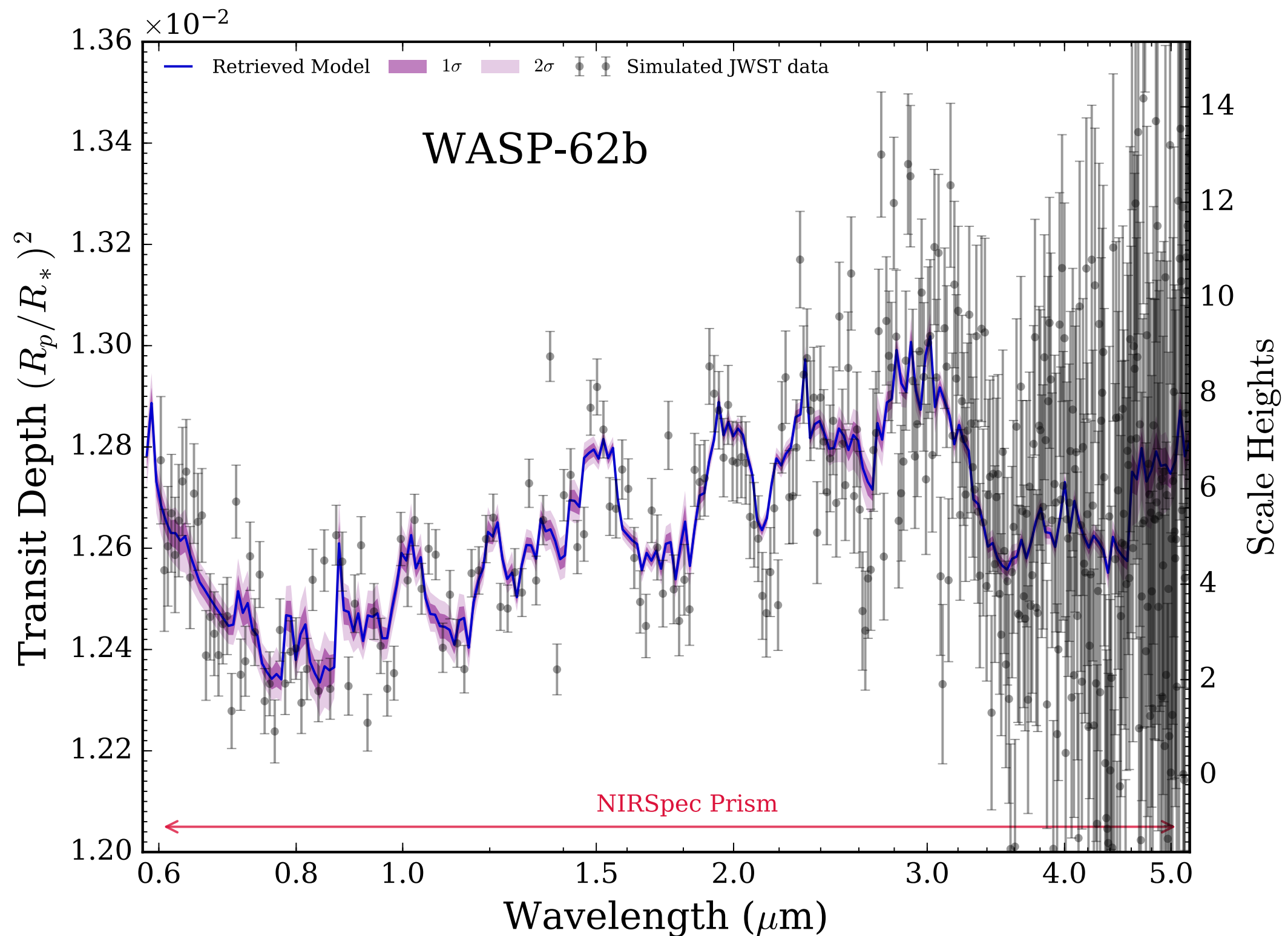


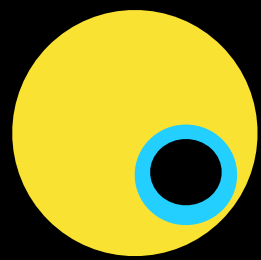
# Comparing abundances for Si-bearing species





# We performed simulated retrievals for *JWST* NIRSpec Prism





# Summary

- STIS+Spitzer observations of WASP-62 suggest a clear atmosphere
- Simulated retrievals provide a testable prediction for IR observations
- This target located in the *JWST* CVZ could be a potential benchmark cloud-free planet