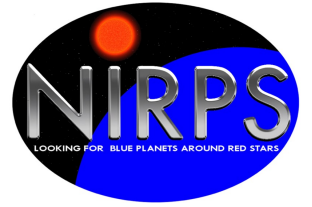


High Resolution Transit Spectroscopy of Hot Jupiters and Neptunes with NIRPS

Frédéric Genest, PhD student at Université de Montréal

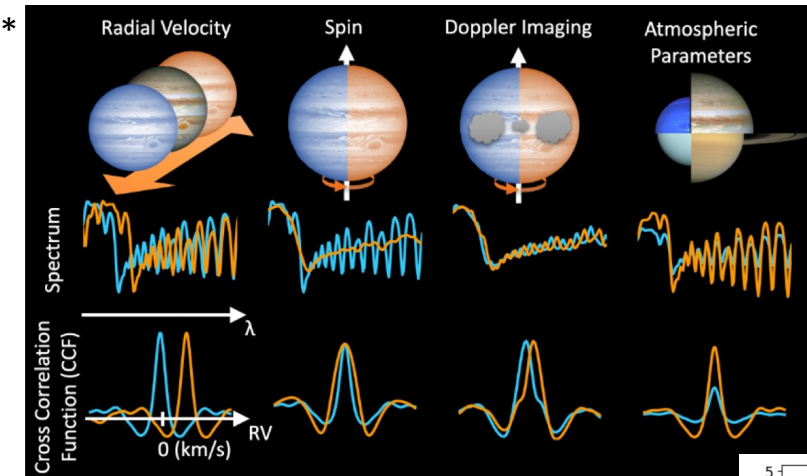
With David Lafrenière, Antoine Darveau-Bernier, Romain Allart and the NIRPS team



What is NIRPS?

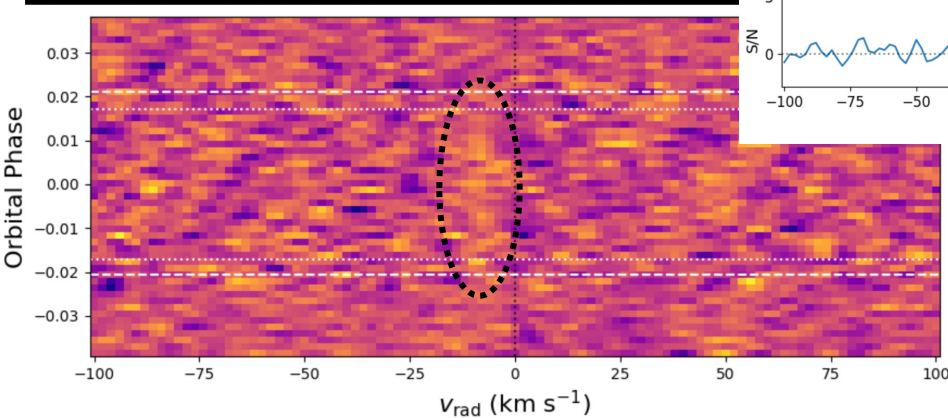
Near infrared spectrograph: 0.95 - 1.98 μm
High resolution: $R \sim 80000$
Installed at the ESO 3.6 m Telescope, Chile

High Resolution Transmission Spectroscopy



Methods:

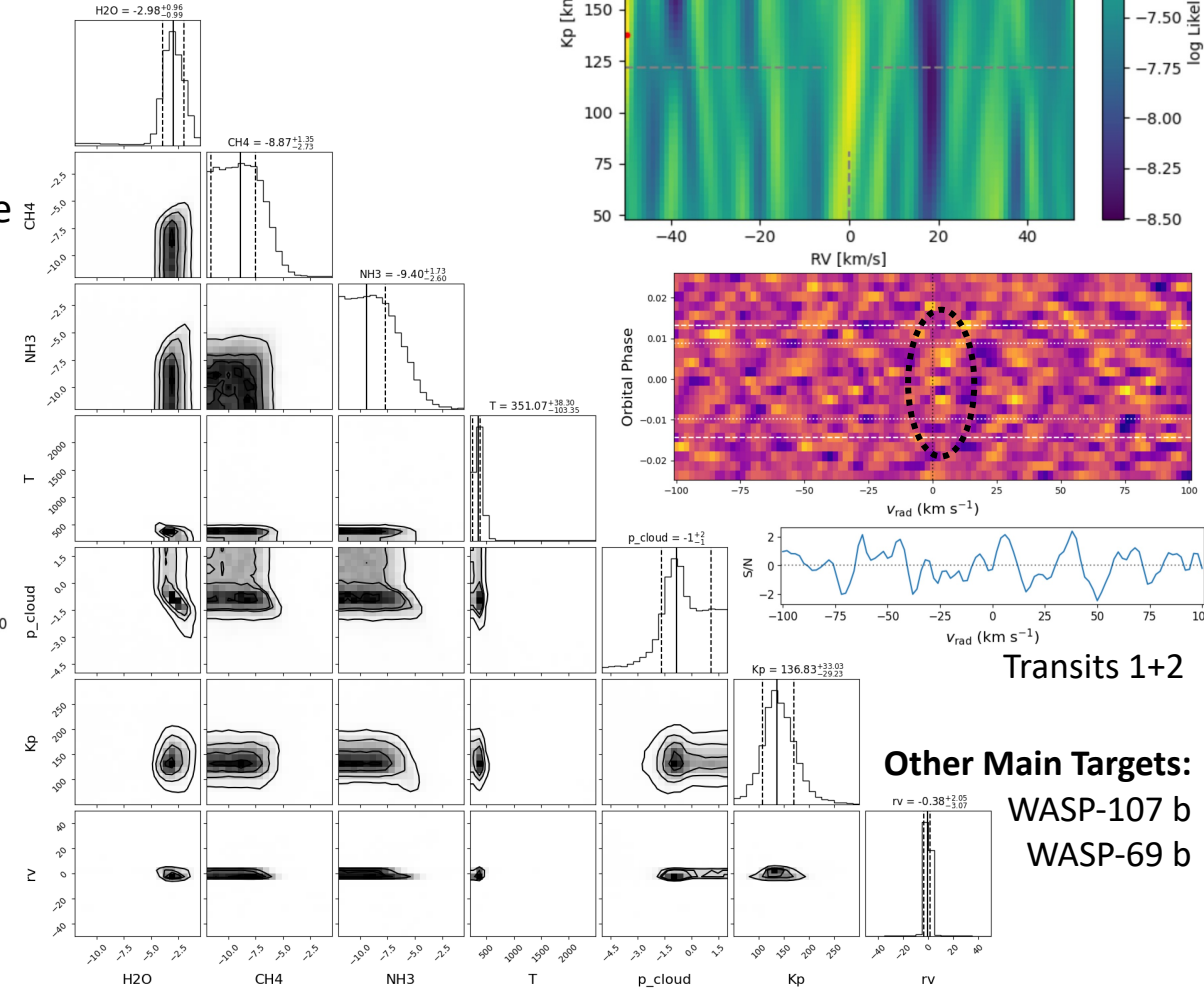
starships analysis code
petitRADTRANS atmosphere models
Cross correlations
Retrievals (MCMC)



Example 1D CCFs for 2 stacked NIRPS transits of WASP-127 b (Planet rest frame)

Preliminary Results

Hot Jupiter WASP-80 b
Water detection in initial retrieval with 2 transits



* Image credit: TMT International Observatory <https://www.tmt.org/news/582>