

# DOPPLER & POLARIMETRIC OBSERVATIONS OF JUPITER WITH PMODE

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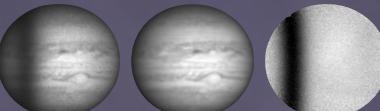
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| (4) California Institute of Technology, Pasadena, CA | (5) Odyssey Systems, Kihei, HI

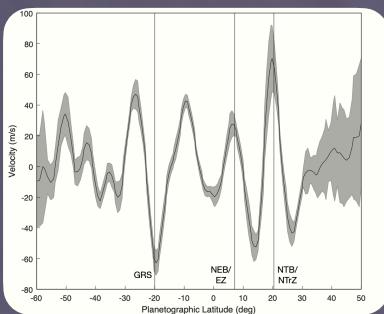


## DOPPLER IMAGER

$$\text{MOF Image} \quad \div \quad \text{Continuum Image} \quad = \quad \text{Doppler-gram}$$

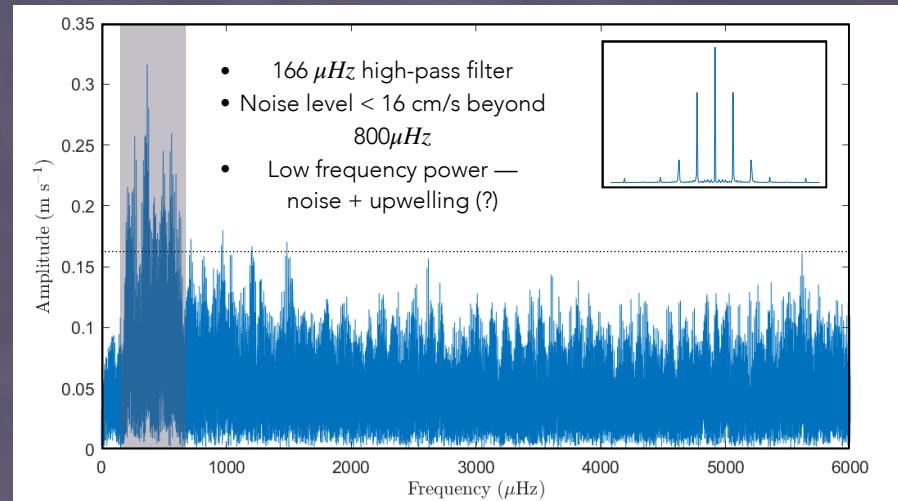


- 2 channels = 2 atmospheric heights:
  - 770 nm Potassium (~0.7 bar)
  - 589 nm Sodium\* (~3 bar)  
\*plagued by artefacts
- Sensitivity only in dark absorption line on left-hand side of disk
- 200 pixels across Jovian disk
- ~12.7 m/s sensitivity per image,
- ~10 m/s sensitivity for entire run
- Doppler measurement of the zonal wind profile

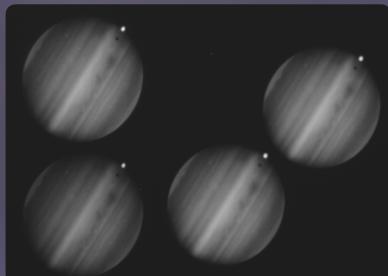


## PRELIMINARY RESULTS

ANALYSIS DOES NOT REVEAL SIGNIFICANT, ORGANIZED POWER ABOVE 800  $\mu\text{Hz}$  IN THE  $Y_m^{\ell} = (1,0)$  SPECTRUM



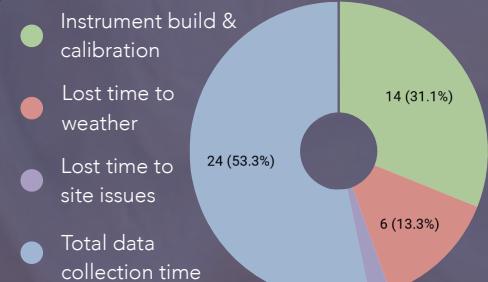
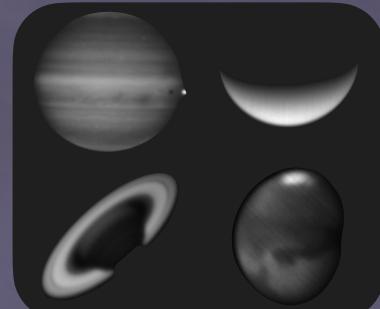
## POLARIMETER



- 1 channel = 1 atmospheric height:
  - 889 nm Methane (~0.2 bar)
- Snapshot collection of Stokes parameters Q & U
- 300 pixels across Jovian disk
- Collect complimentary information on atmospheric particle composition & size
- Possibly useful as a secondary validation for oscillation detection?

## OBSERVING CAMPAIGN:

08.06.20  
—  
08.31.20  
24 nights  
30s cadence



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