



Flash-Heating a Roasted Planet: JWST Watches an Extreme Exoplanet Heat Up

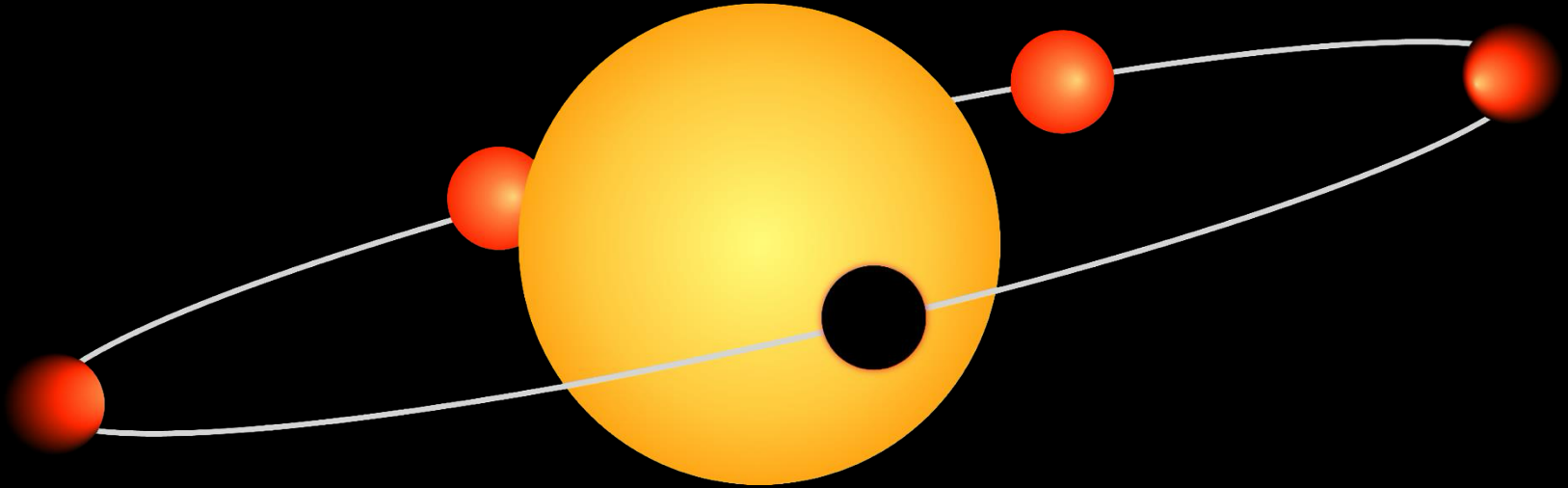
Dr. Tiffany Kataria

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June 16, 2026

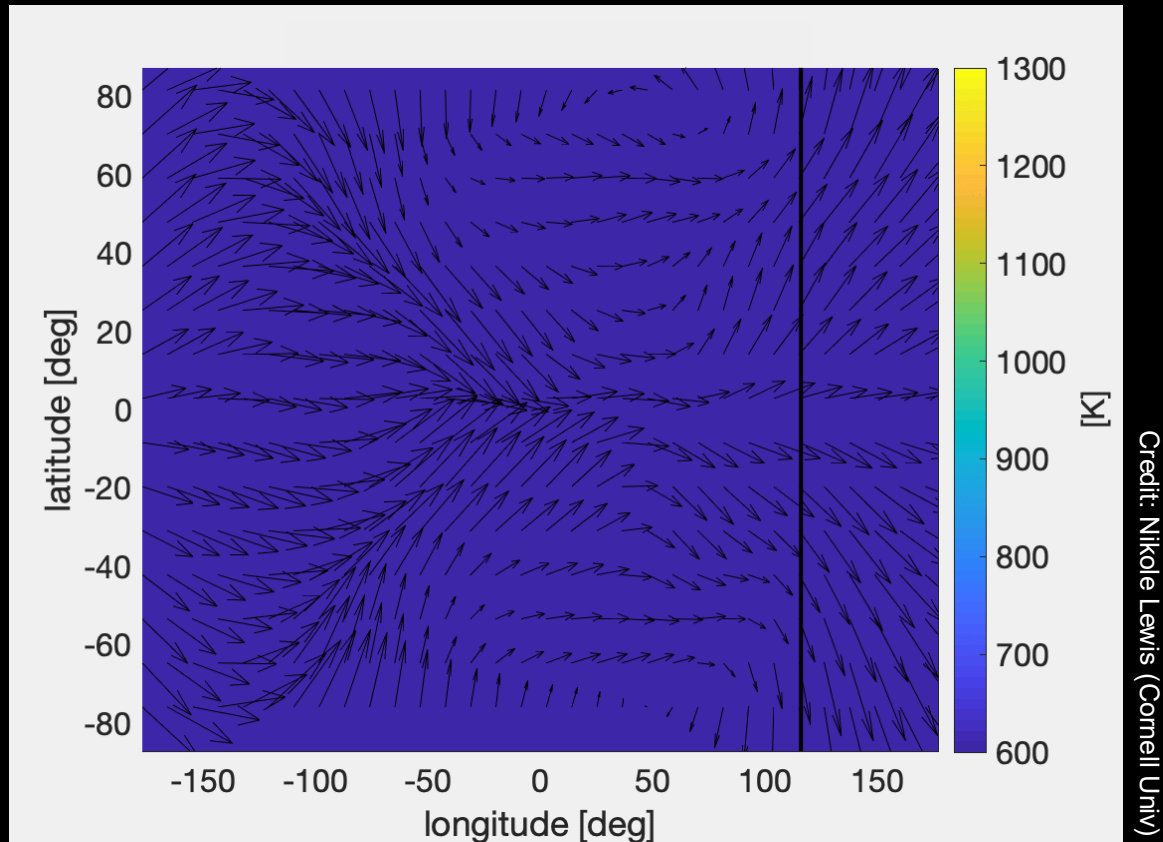
Co-authors: Laura Mayorga (JHU/APL); Ryan Challener (Cornell Univ), Julie Inglis (UCSD), Nikole Lewis (Cornell Univ), Charles Beichman (JPL/Caltech), Thomas Greene (Caltech/IPAC), Mark Marley (Univ. of Arizona), Malena Rice (Yale Univ.).

Exoplanet Phase Curves



Credit: Hannah Wakeford (Univ. of Bristol)

Eccentric Exoplanets – A ‘one-stop’ shop



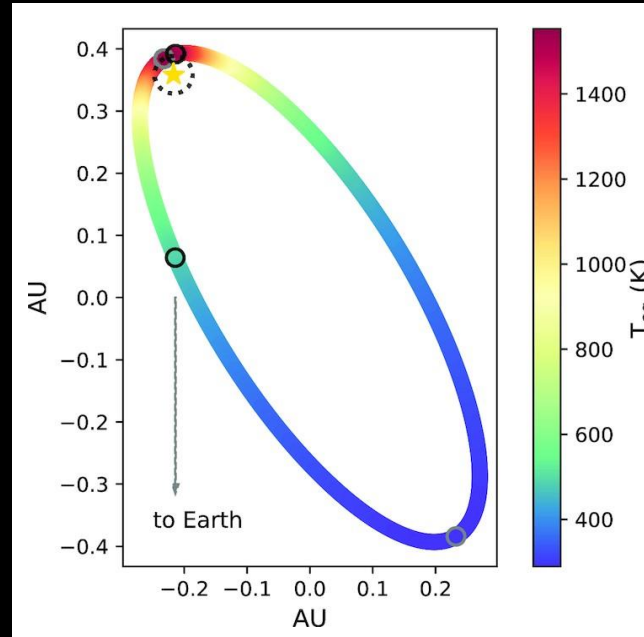
HD 80606b: The Roasted Planet

Planet:

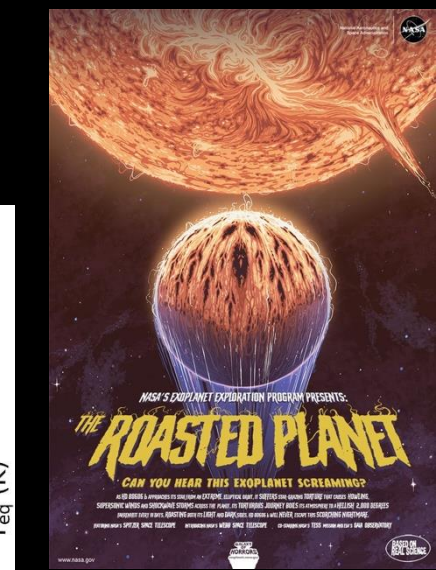
- 1 Jupiter radius
- 4.1 Jupiter masses
- $\sim 9.5 \times$ Earth's gravity
- eccentricity = ~ 0.93
- Orbital period = 111 Earth days

Parent Star:

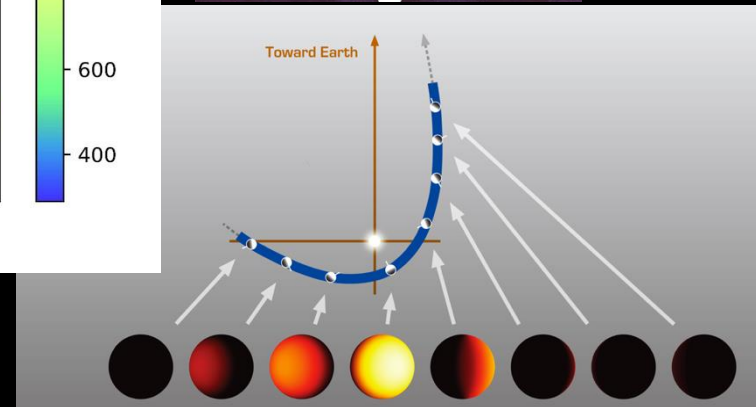
- Solar type (G5)



Tsai et al. 2023



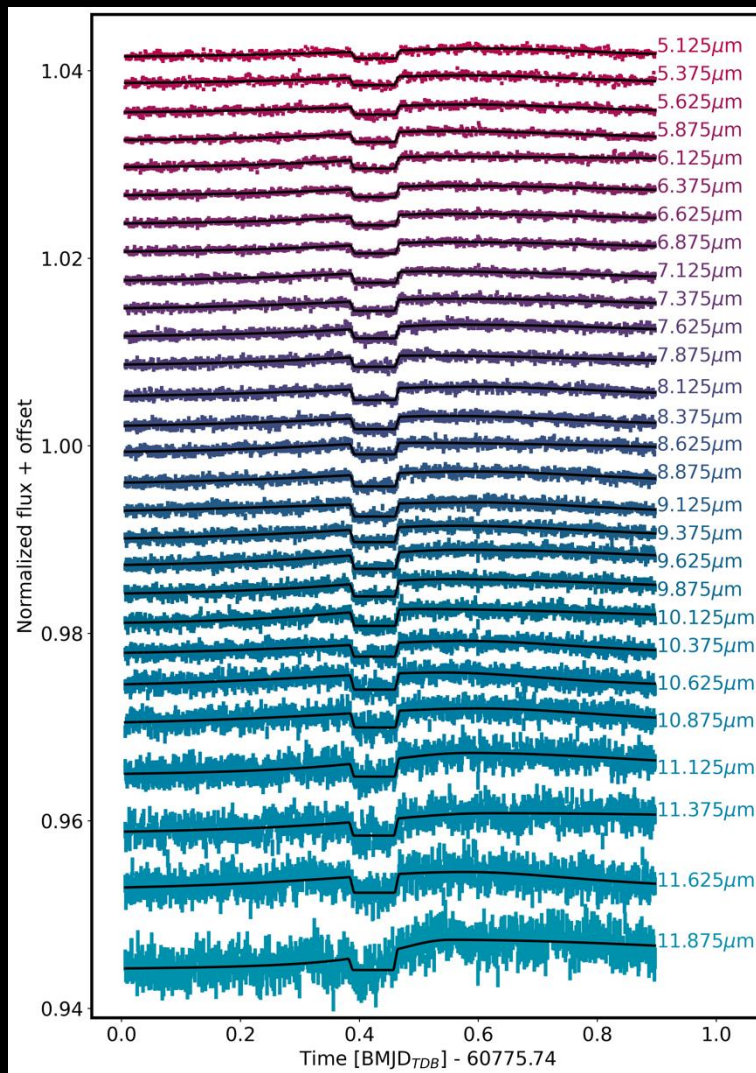
Credit: nasa.gov



NASA/JPL-Caltech/J. de Wit

Temperature increases by 1100°F over its orbit!

JWST MIRI LRS Observations of HD 80606b



Kataria et al., in prep



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