Convection and Waves in the Atmospheres of Venus and Jupiter

Significant Contributions by Jerry Schubert

Credit: UCLA

Dr. David Baker
Austin College

SchubFest May 8, 2026

Scientific Pillars Of Jerry

Explain
Observations

Apply Basic
Physical Principles

Collaborate With
Great People

Venus Superrotation: The Moving Flame

- Schubert and Whitehead (1969)
- Schubert and Young (1970)
- Schubert et al. (1980)
- Schubert (1983)
- Waltersheid et al. (1985)
- Covey et al. (1986)
- Hollingsworth et al. (2007)
- Lebonnois et al. (2012)

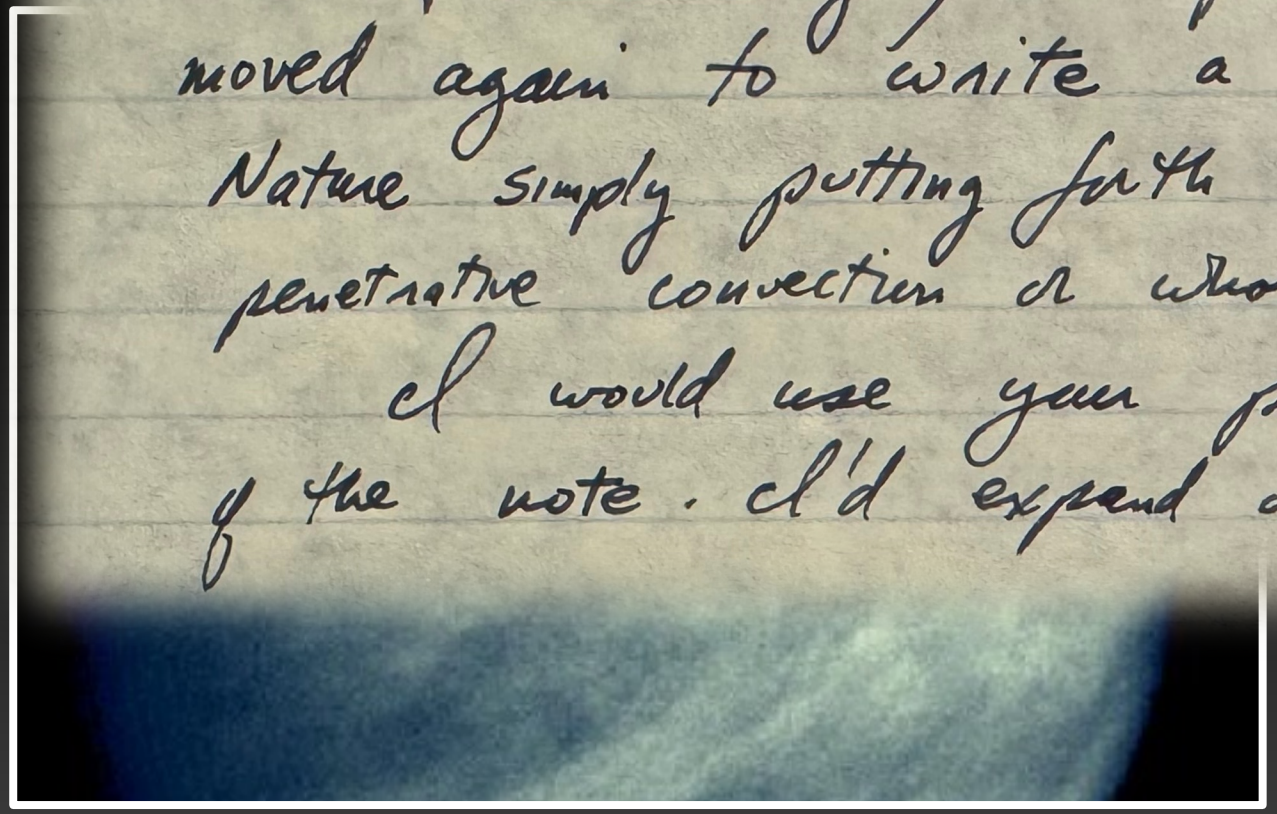
Credit: NASA, Pioneer Venus

Venus Convection

- Covey and Schubert (1981)

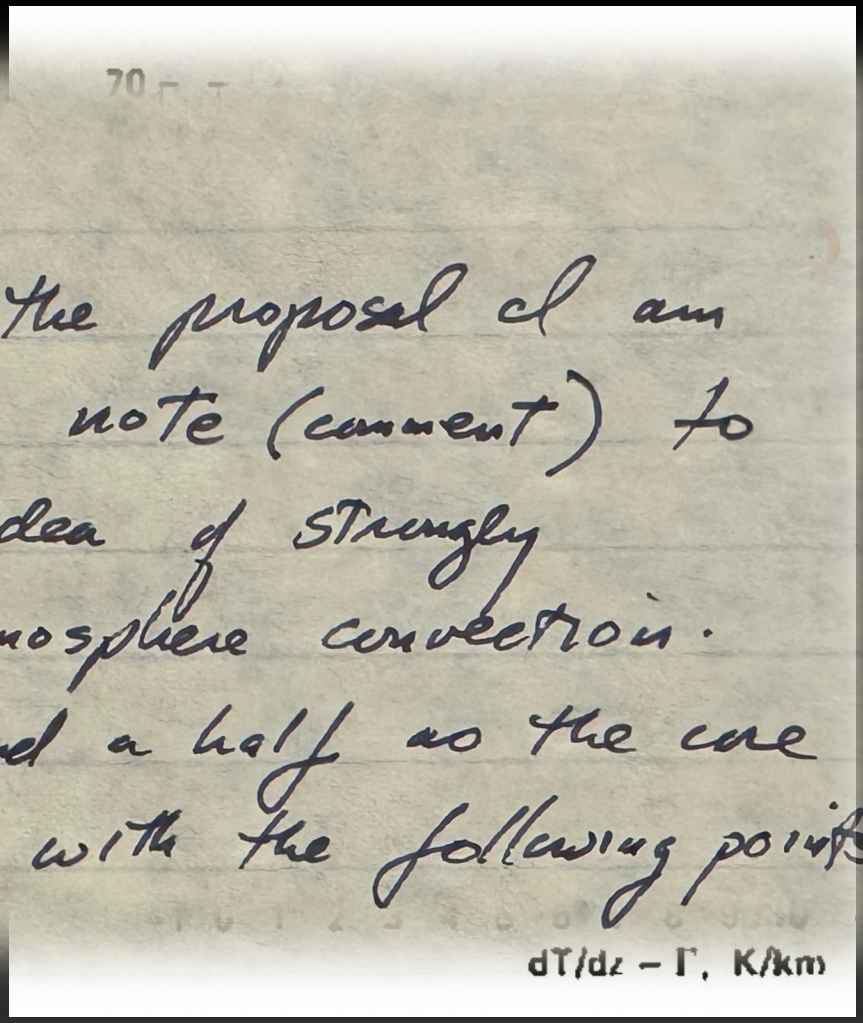
Credit: NASA, Pioneer Venus

Venus Convection



David.

After reading your input to the proposal I am moved again to write a short note (comment) to Nature simply putting forth the idea of strongly penetrative convection in whole atmosphere convection. I would use your page and a half as the core of the note. I'd expand on it with the following points:

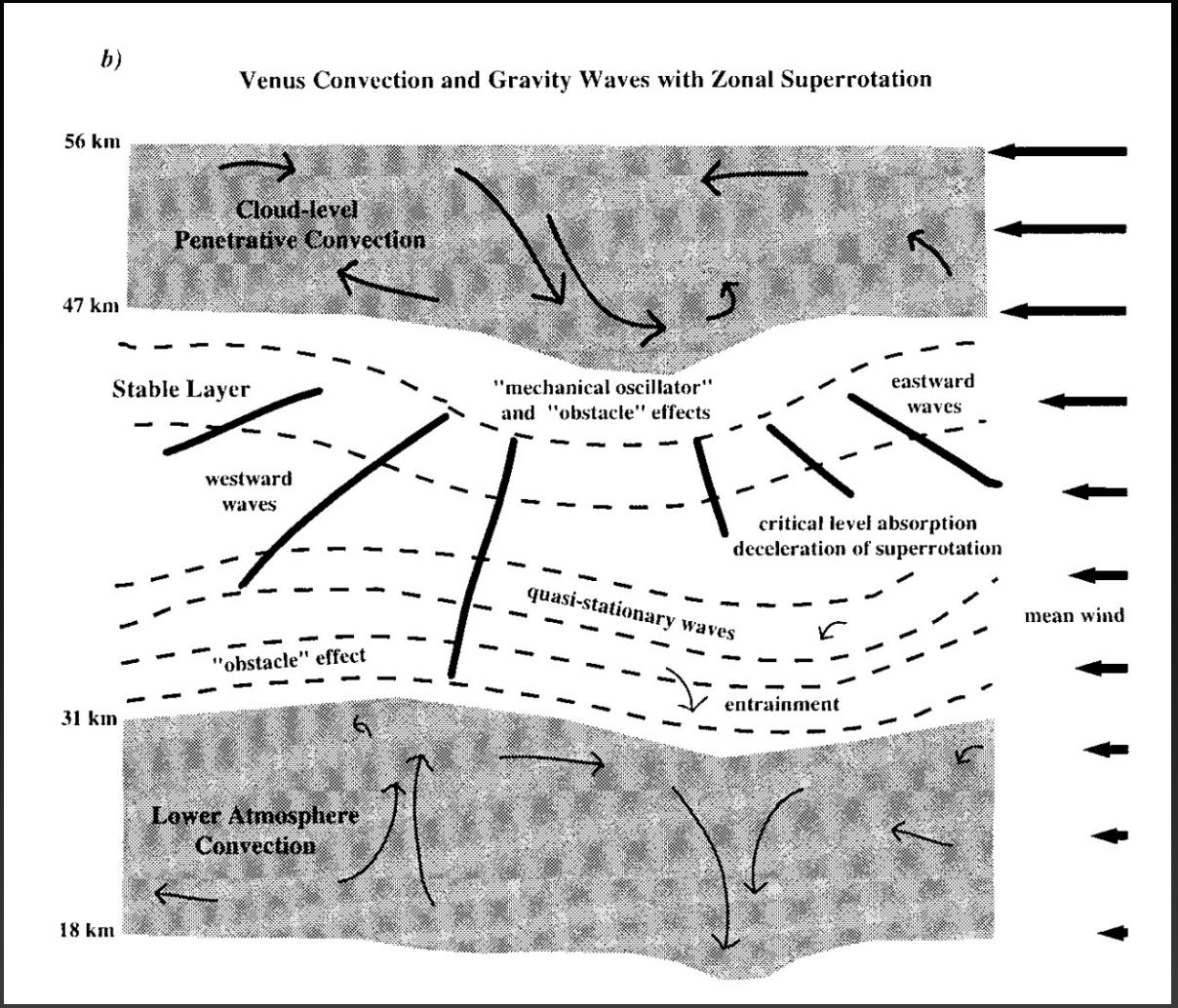


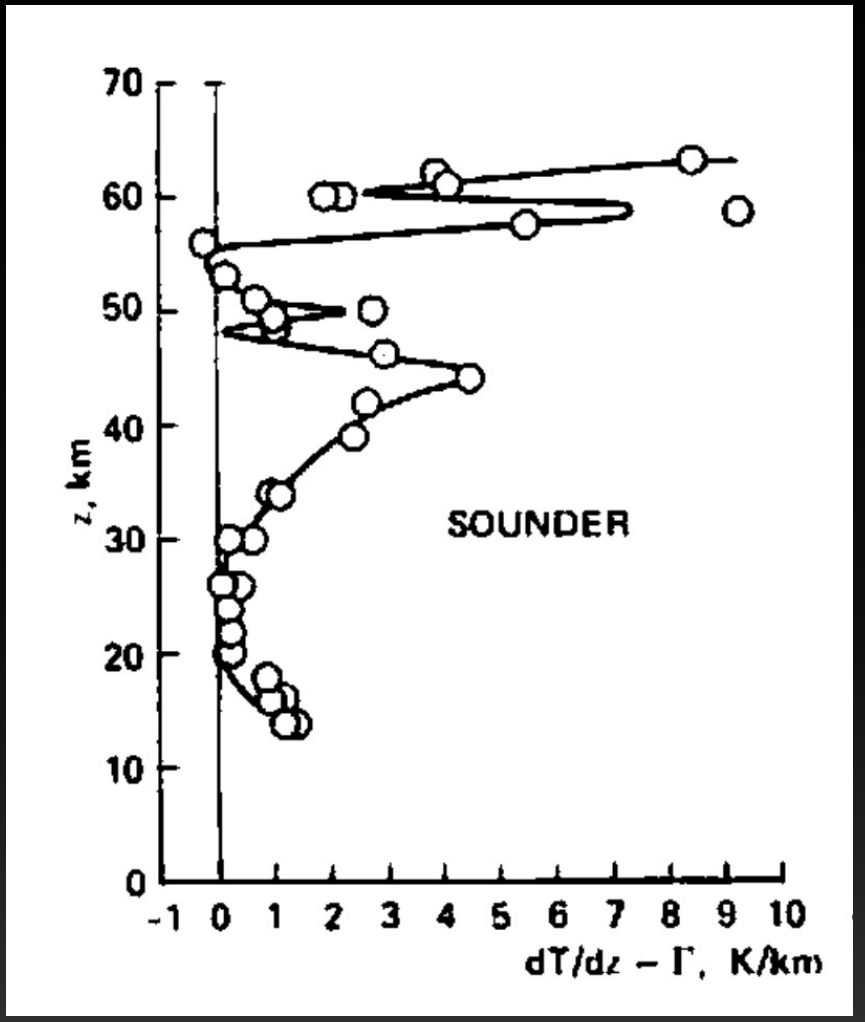
Seiff et al. (1980)

Credit: NASA, Galileo

Venus Gravity Waves

- Baker et al. (2000a, b)

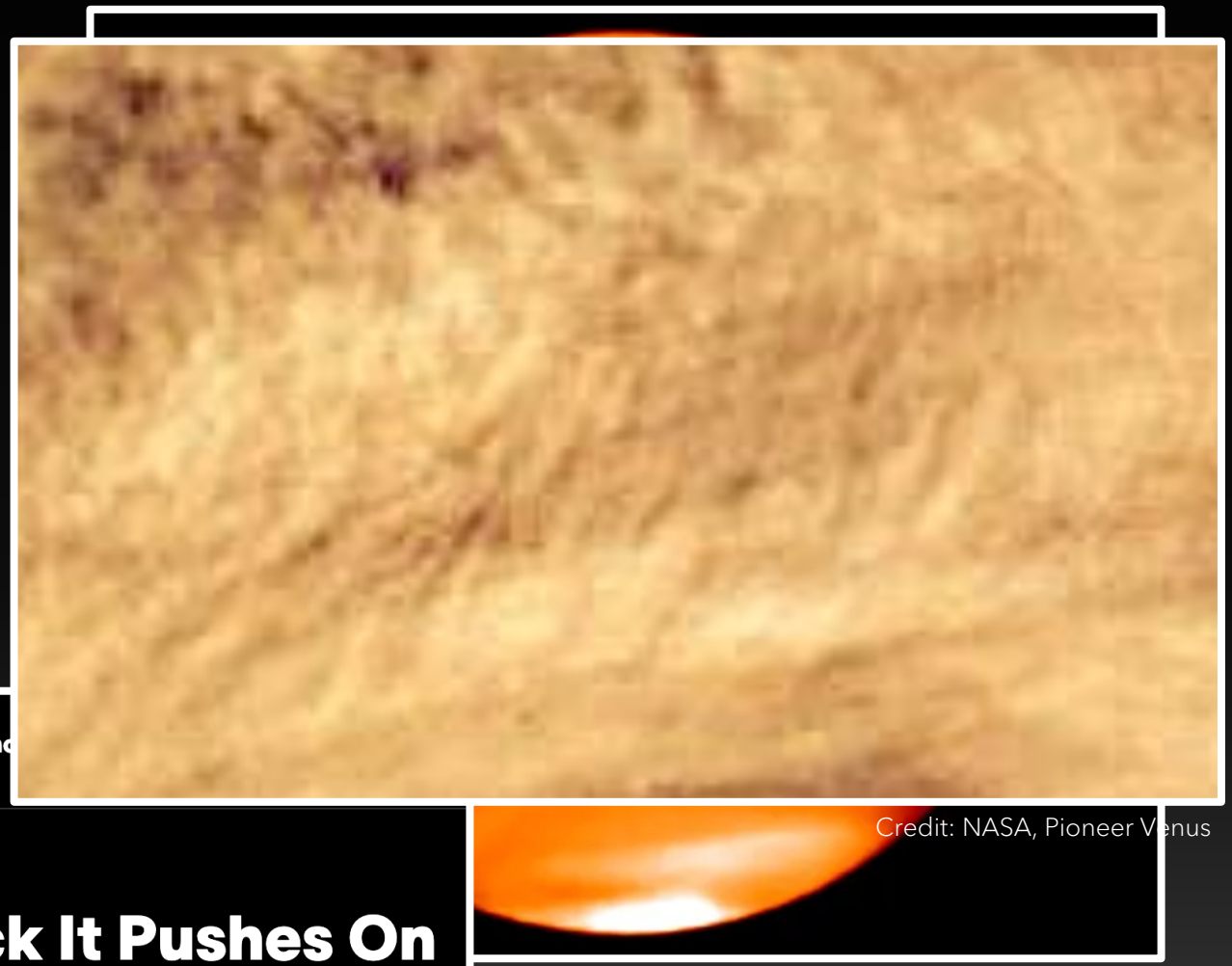




Seiff et al. (1980)

Venus Gravity Waves

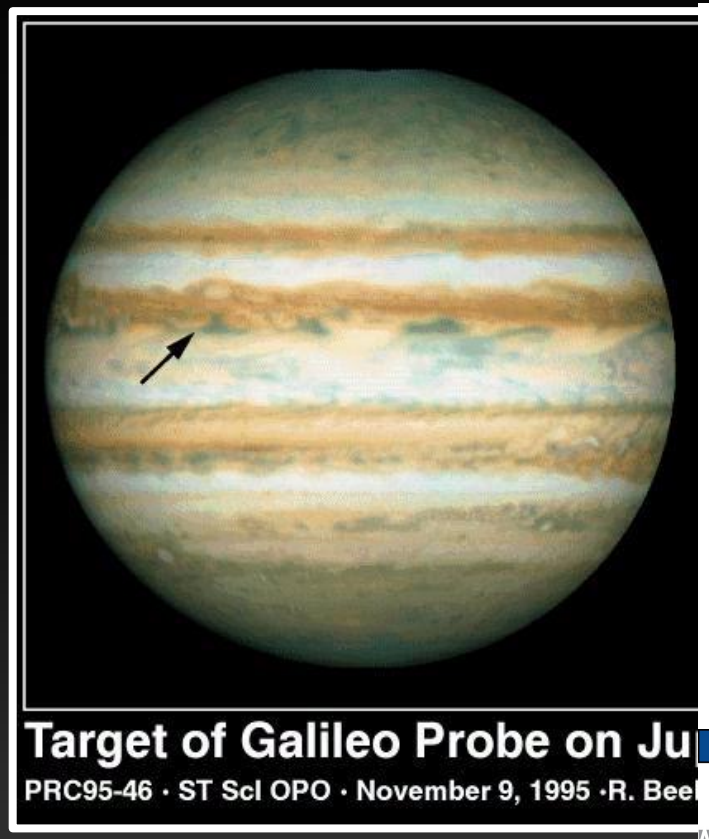
- Baker et al. (2000a, b)
- Del Genio et al. (1979)
- Schubert and Walterscheid (1984)
- Young et al. (1987, 1994)
- Navarro et al. (2018)

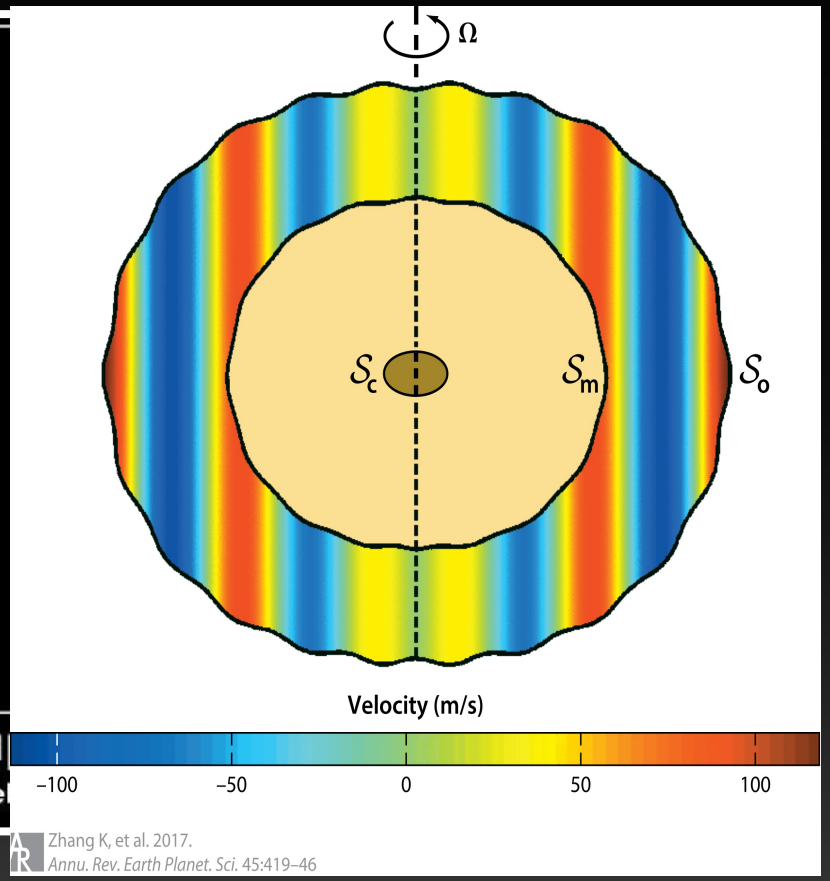


Credit: NASA, Pioneer Venus

Fukuhara et al. (2017)

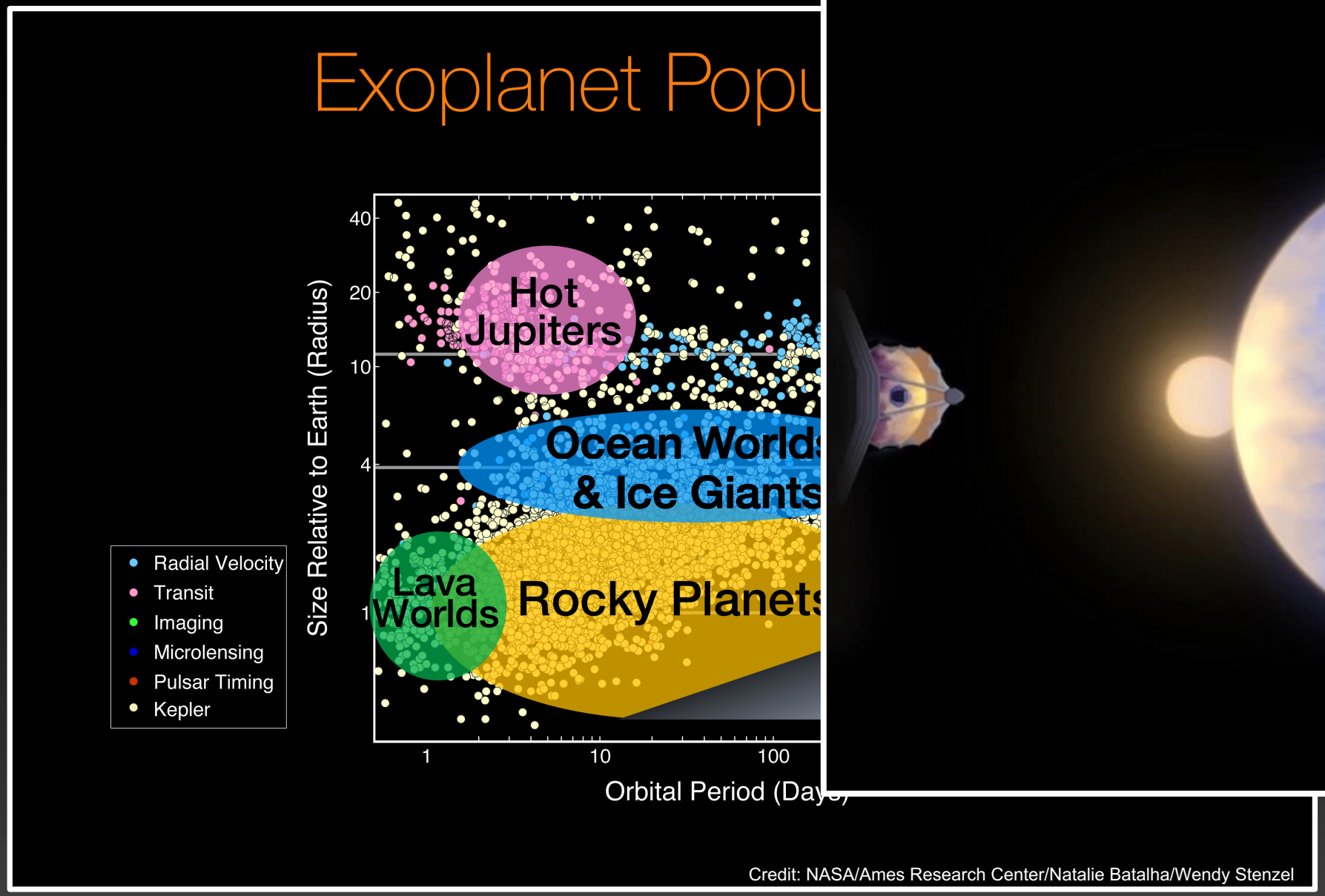
Jupiter Convection: Deep vs. Shallow





- Seiff et al. (1996)
- Baker and Schubert (1998)
- Sun et al. (1993)
- Zhang et al. (1996)
- Zhang et al. (2017)
- Kong et al. (2018)

WWSD: What Would Schubert Do?



Credit: NASA/Ames Research Center/Natalie Batalha/Wendy Stenzel

Credit: Rachel Amaro/University of Arizona

Credit: Jerry Schubert

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