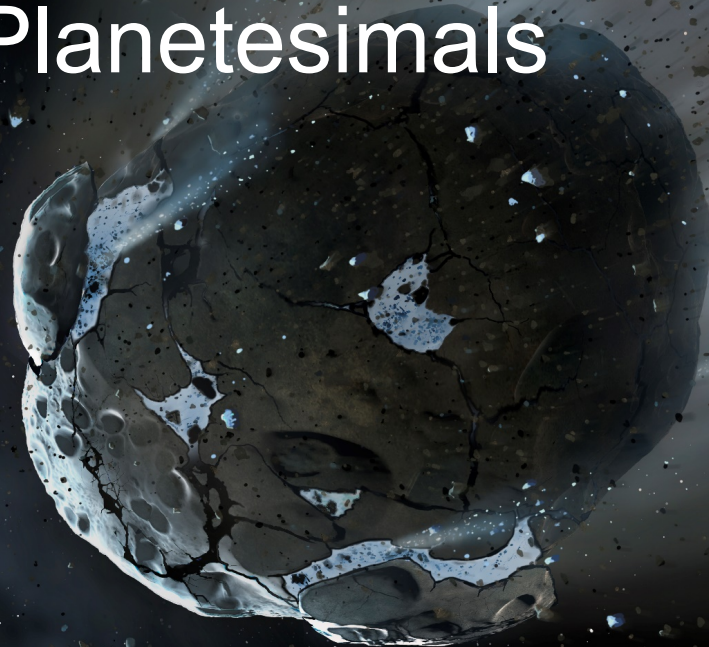


# Chemical Composition Of Extrasolar Planetesimals



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@astrodave2

Image Credit: Mark A. Garlick, space-art.co.uk, University of Warwick  
and University of Cambridge



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**WARWICK**

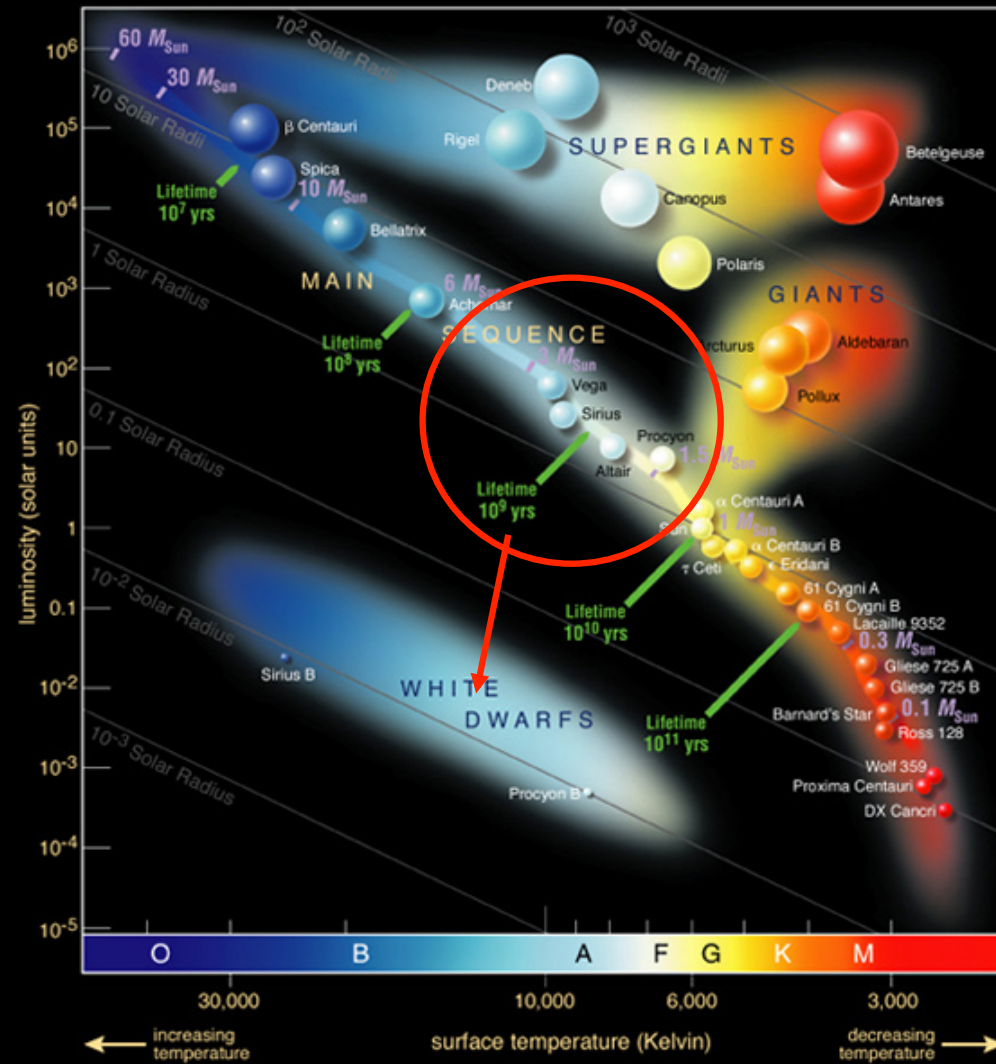


Image Credit: ESO

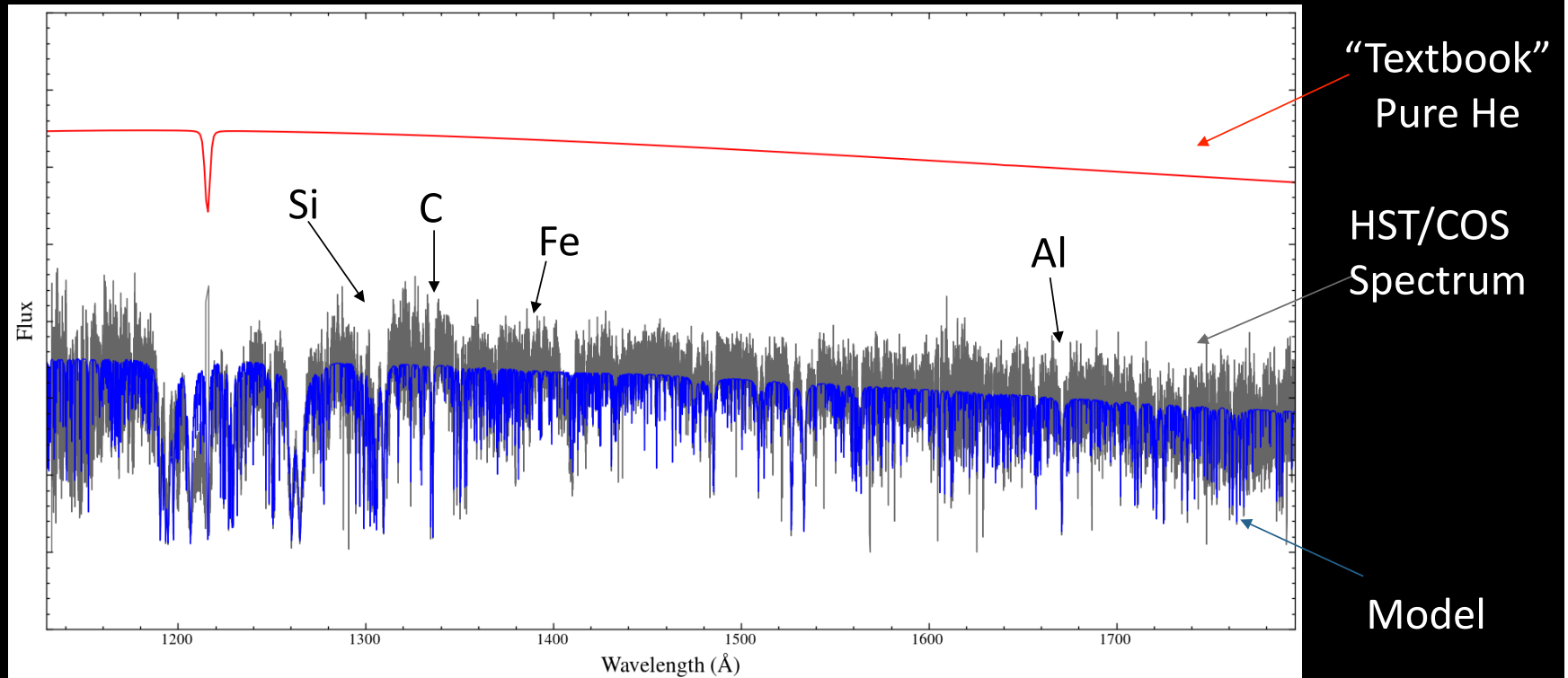
## Planetary Systems At White Dwarfs



- Planets: 0 (1? 2? 3?)
- Dusty debris discs: 35 (Rocchetto et al. 2014)
- Gaseous debris discs: 7 (+2?) (Wilson et al. 2014)
- Metal pollution: 25-50% (Koester et al. 2014)

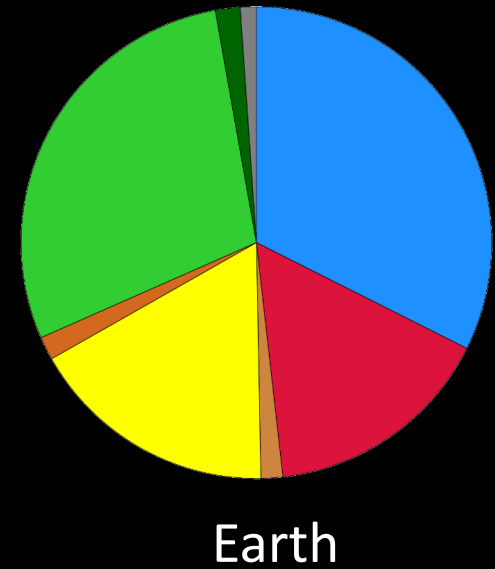
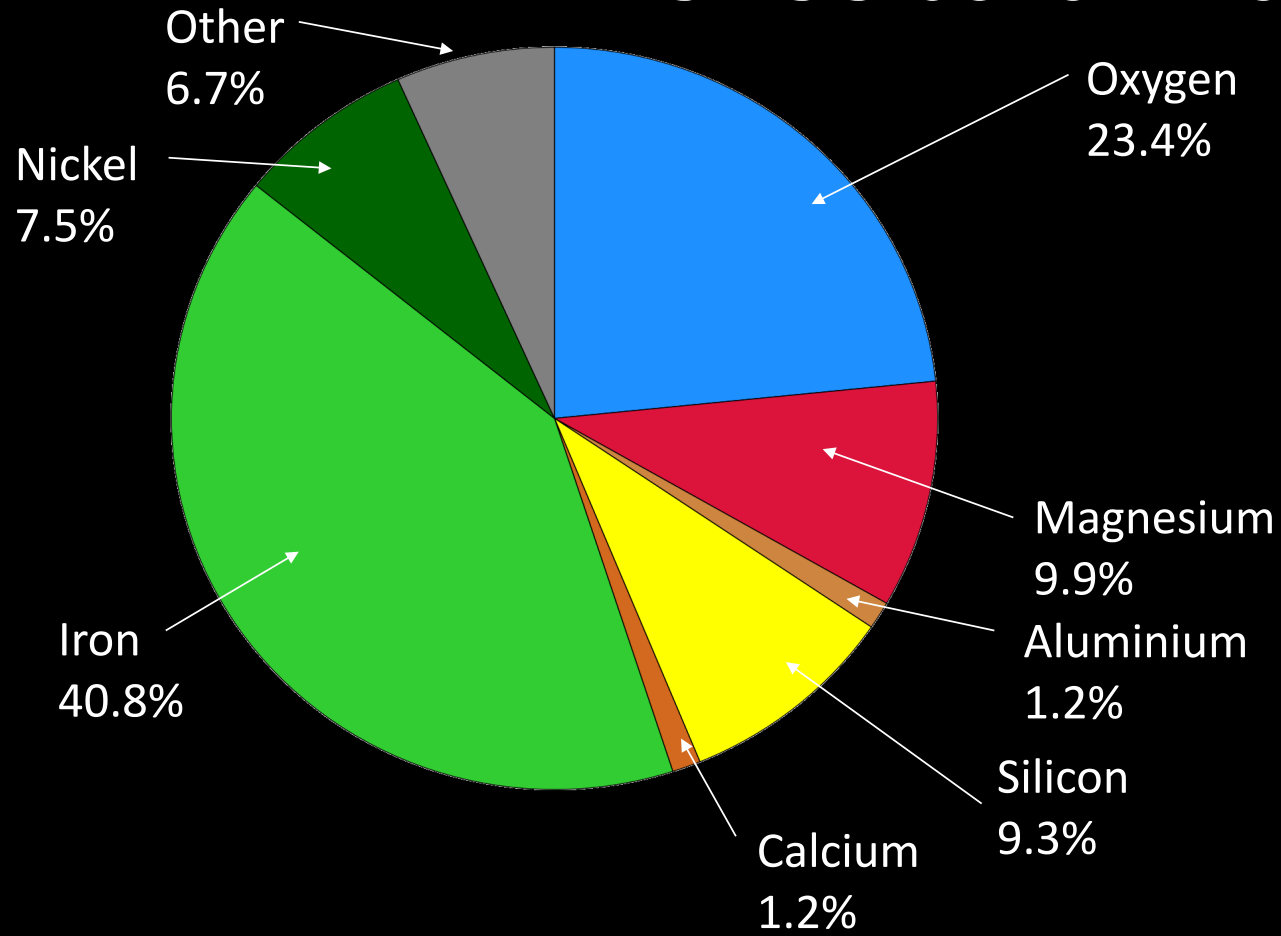
See D. Veras Talk!

# SDSS 0845+2257

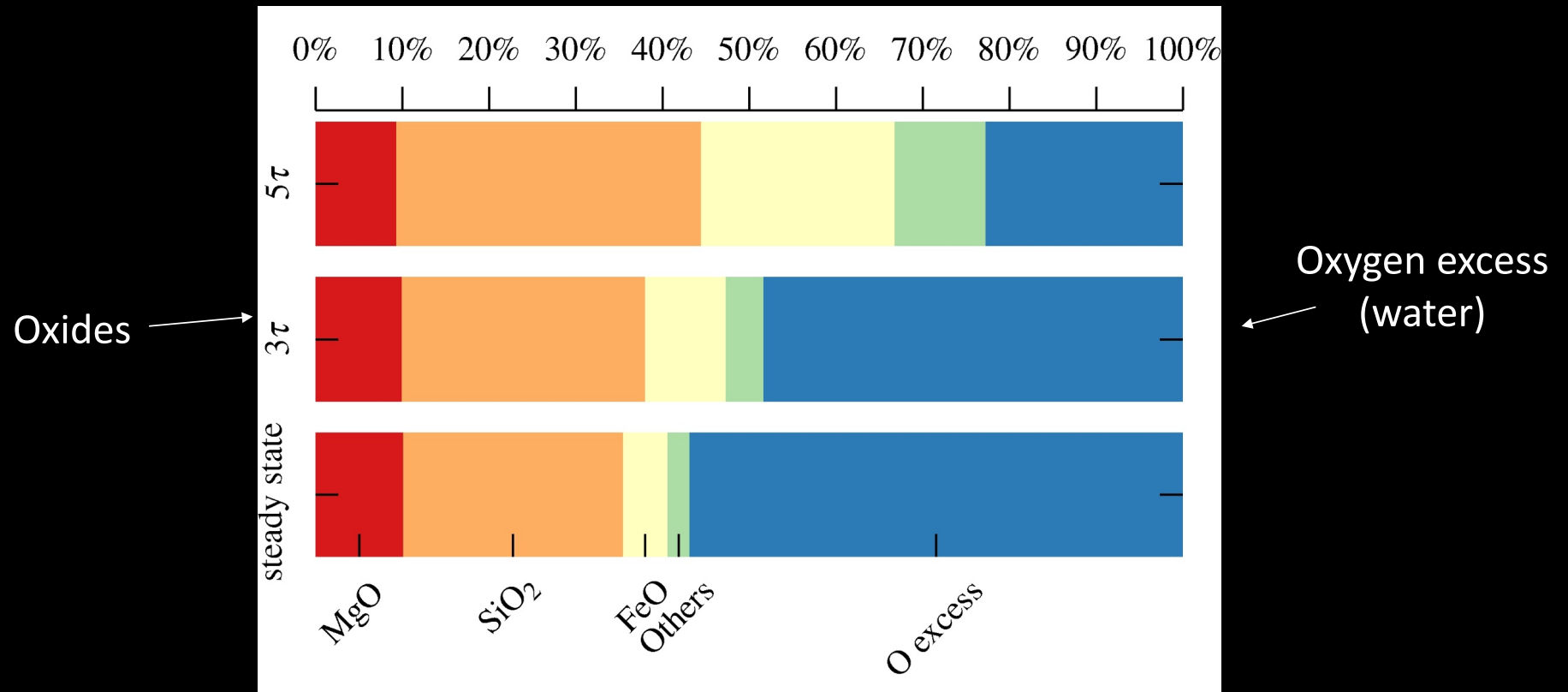


Wilson et al. 2015a (submitted)

# SDSS 0845+2257

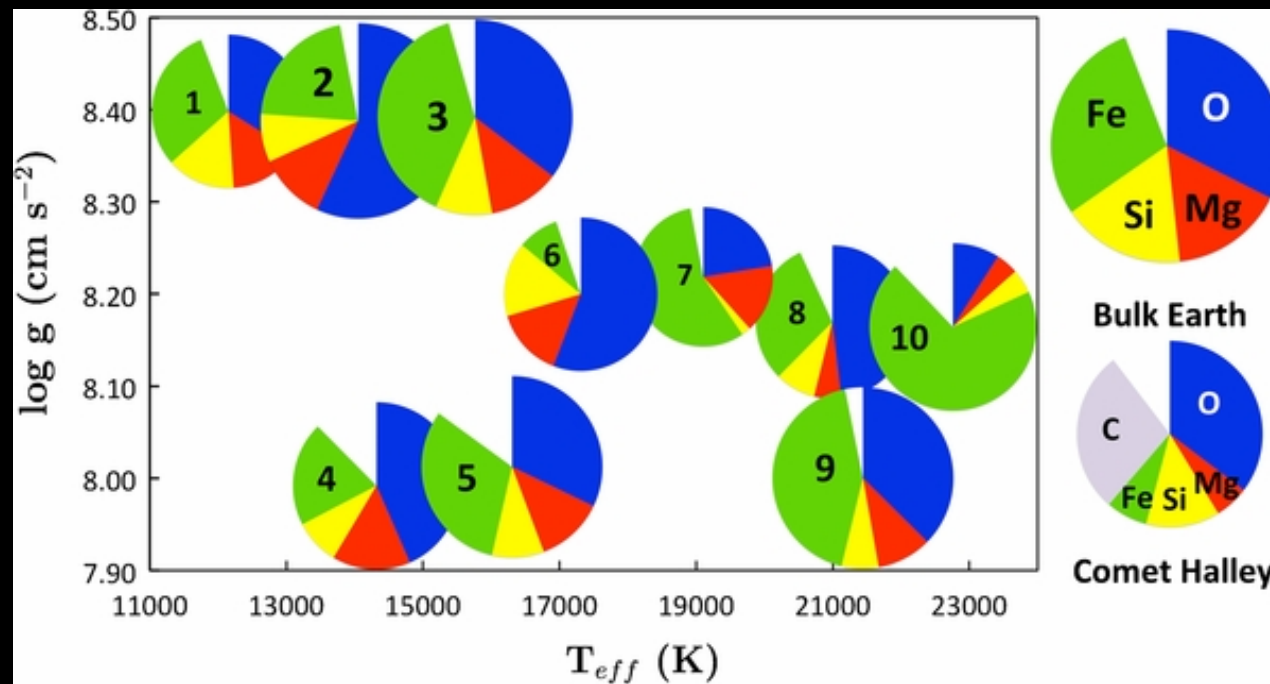


# Water at SDSS J1242

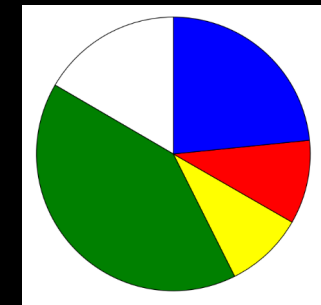


Raddi et al. 2015

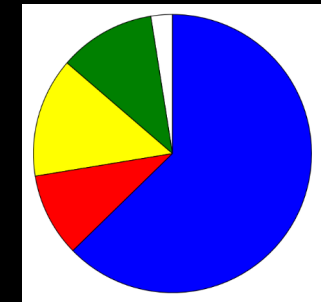
# Bulk Compositions



Xu et al. 2014

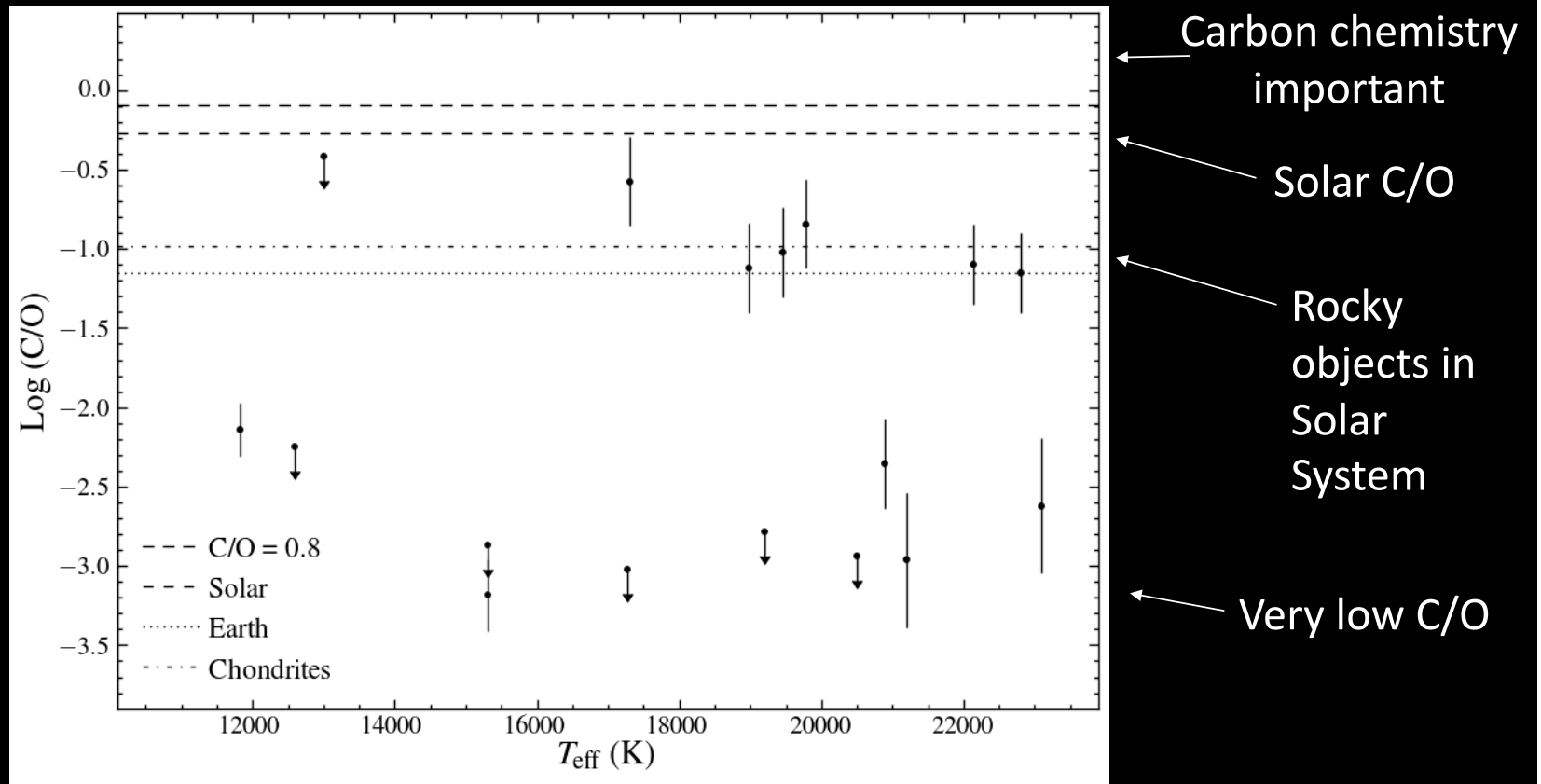


Wilson et al. 2015a (submitted)



Raddi et al. 2015

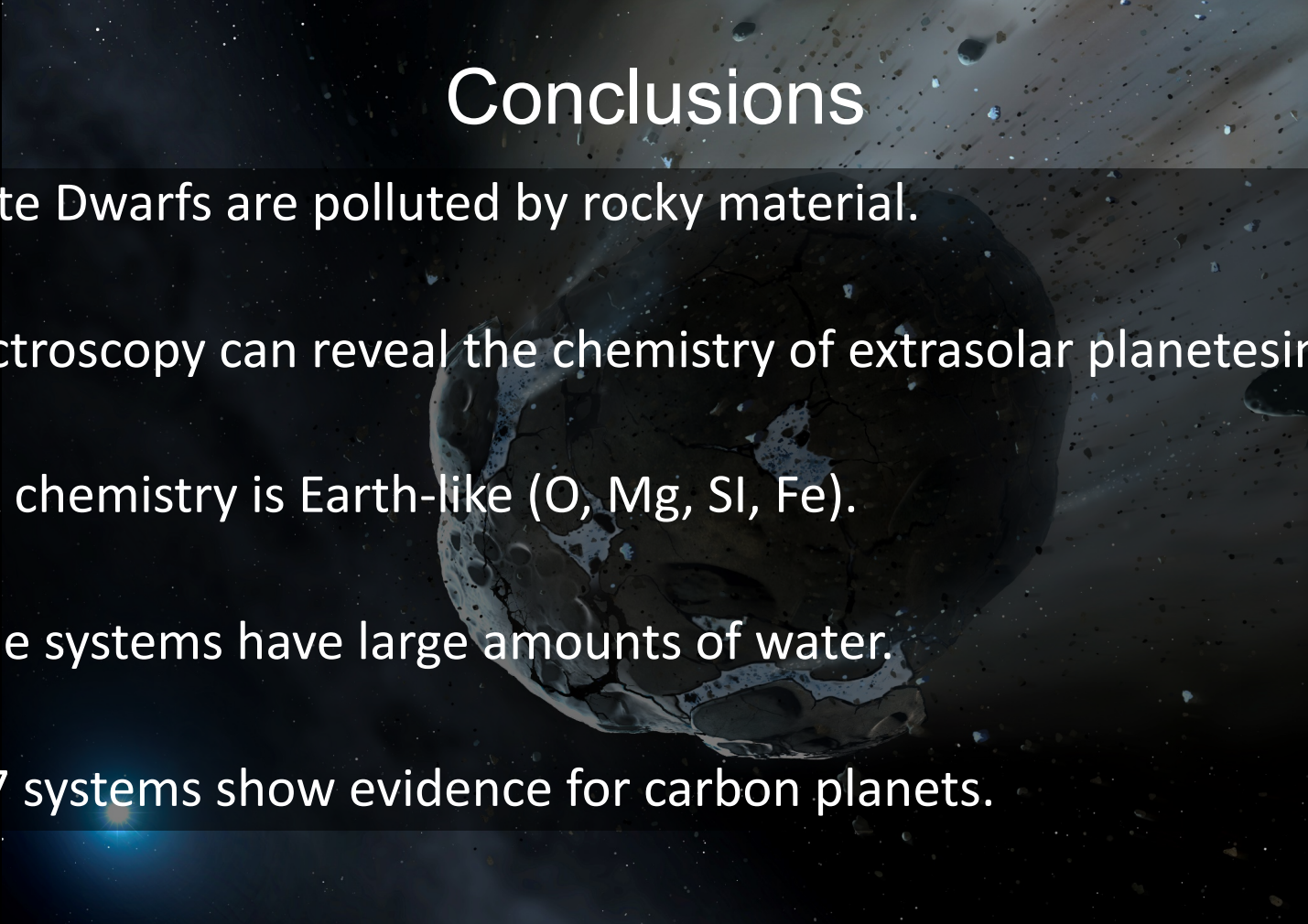
# No Carbon Planets?



Wilson et al. 2015b (in prep)



# Conclusions



- White Dwarfs are polluted by rocky material.
- Spectroscopy can reveal the chemistry of extrasolar planetesimals.
- Bulk chemistry is Earth-like (O, Mg, Si, Fe).
- Some systems have large amounts of water.
- 0/17 systems show evidence for carbon planets.