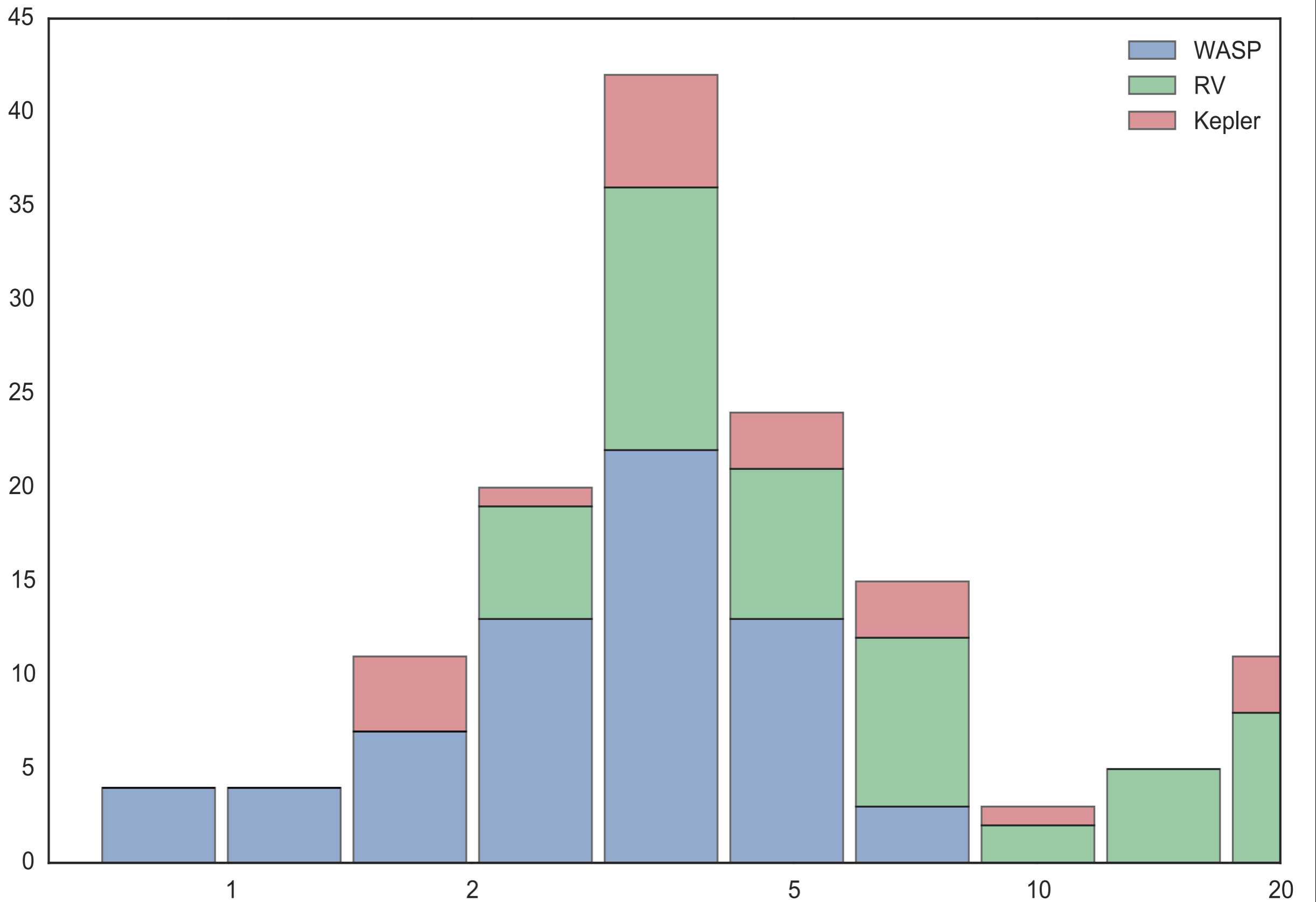




**A CHARACTERISTIC ORBITAL PERIOD
OF HOT JUPITERS
FROM THE WASP SURVEY**

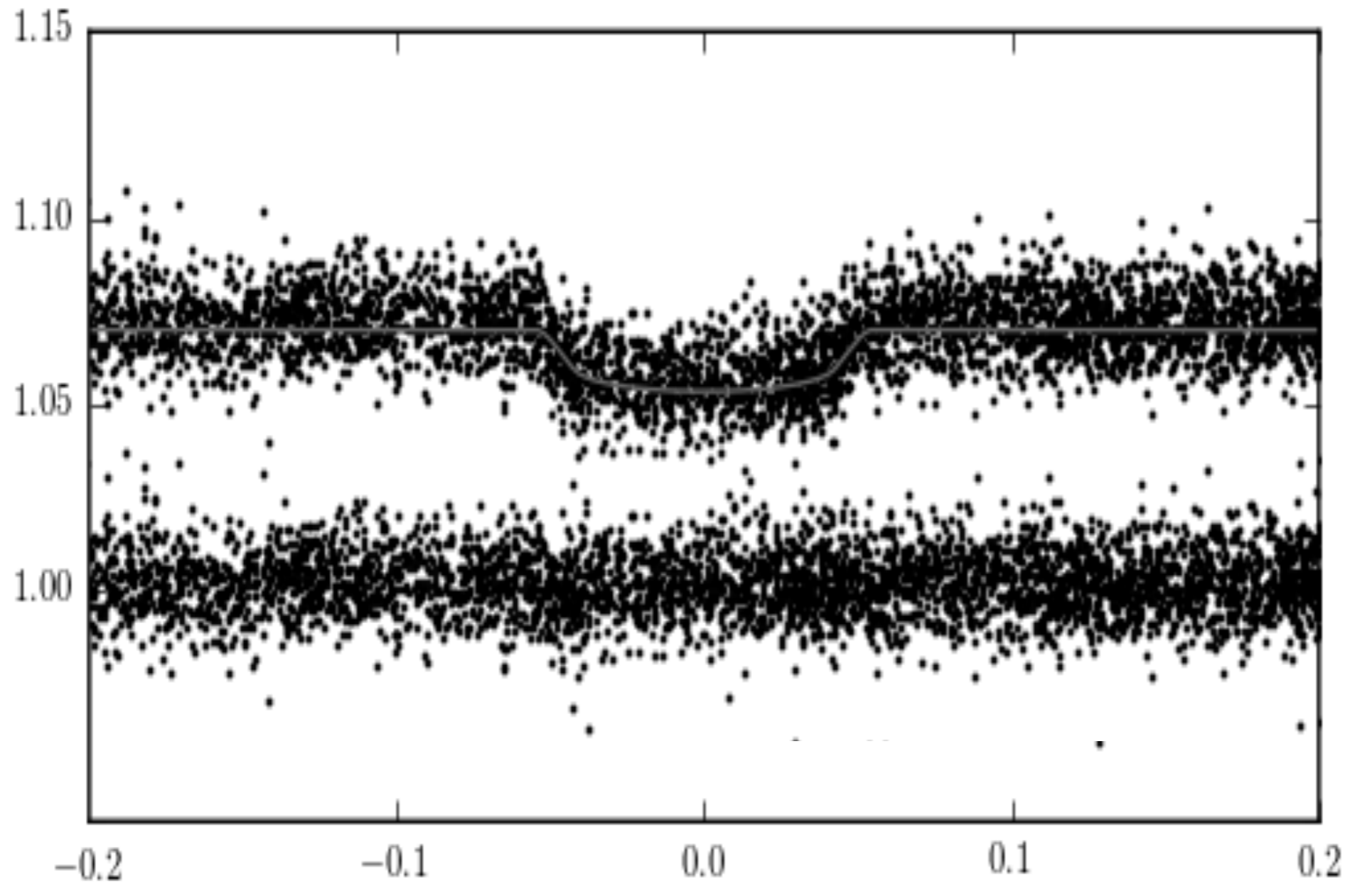
SIMON WALKER

Number of planets



Orbital period

Normalised flux

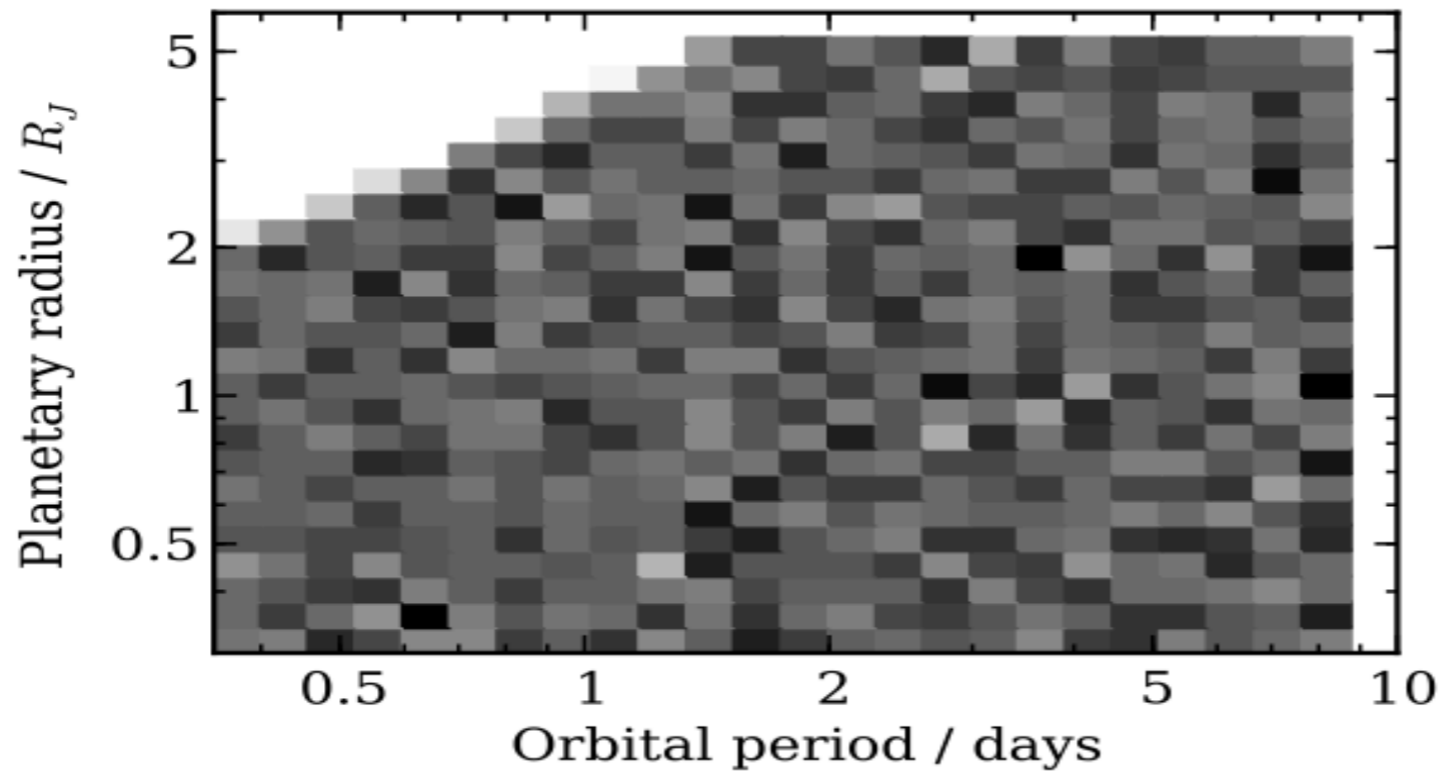


WASP-12 b

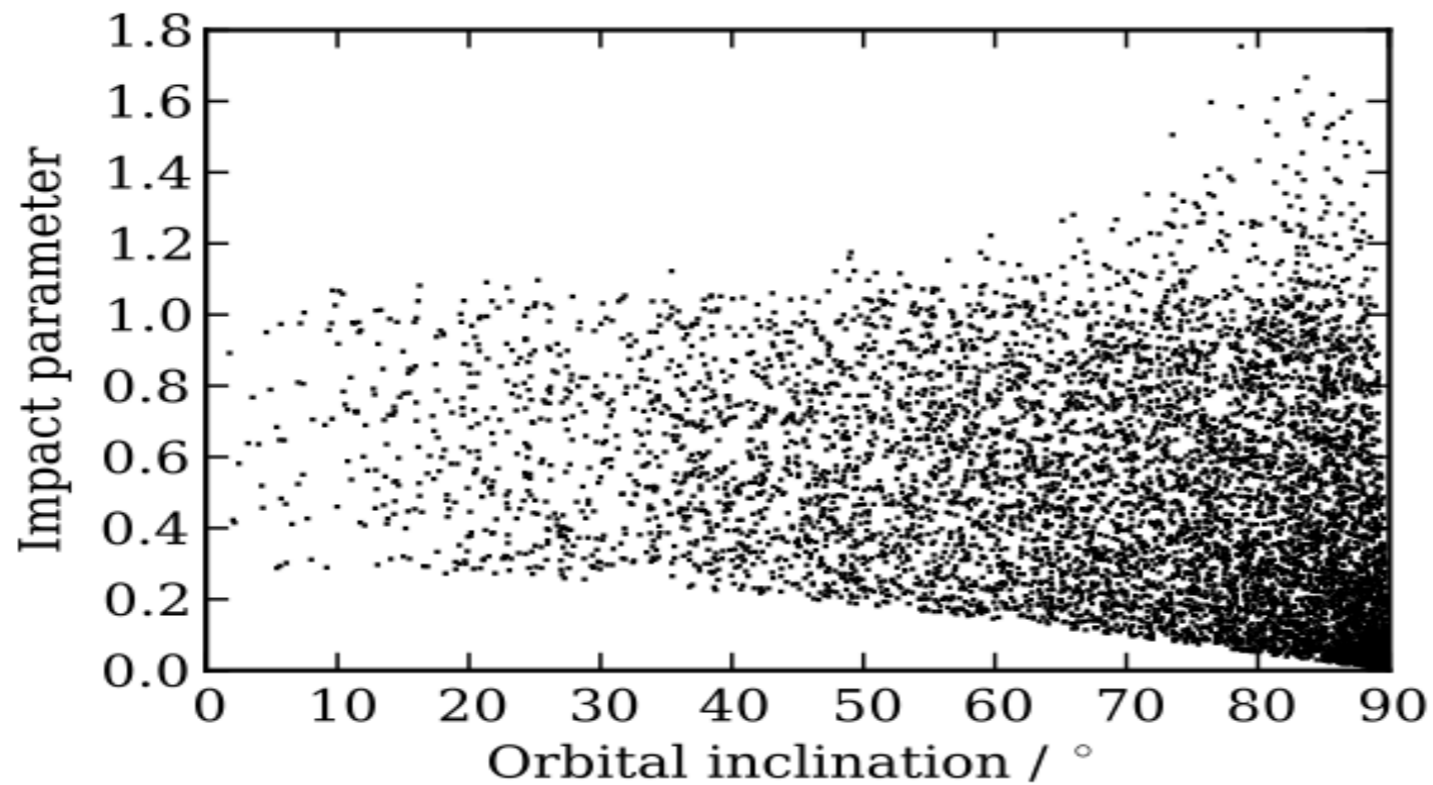
Residuals

Orbital phase

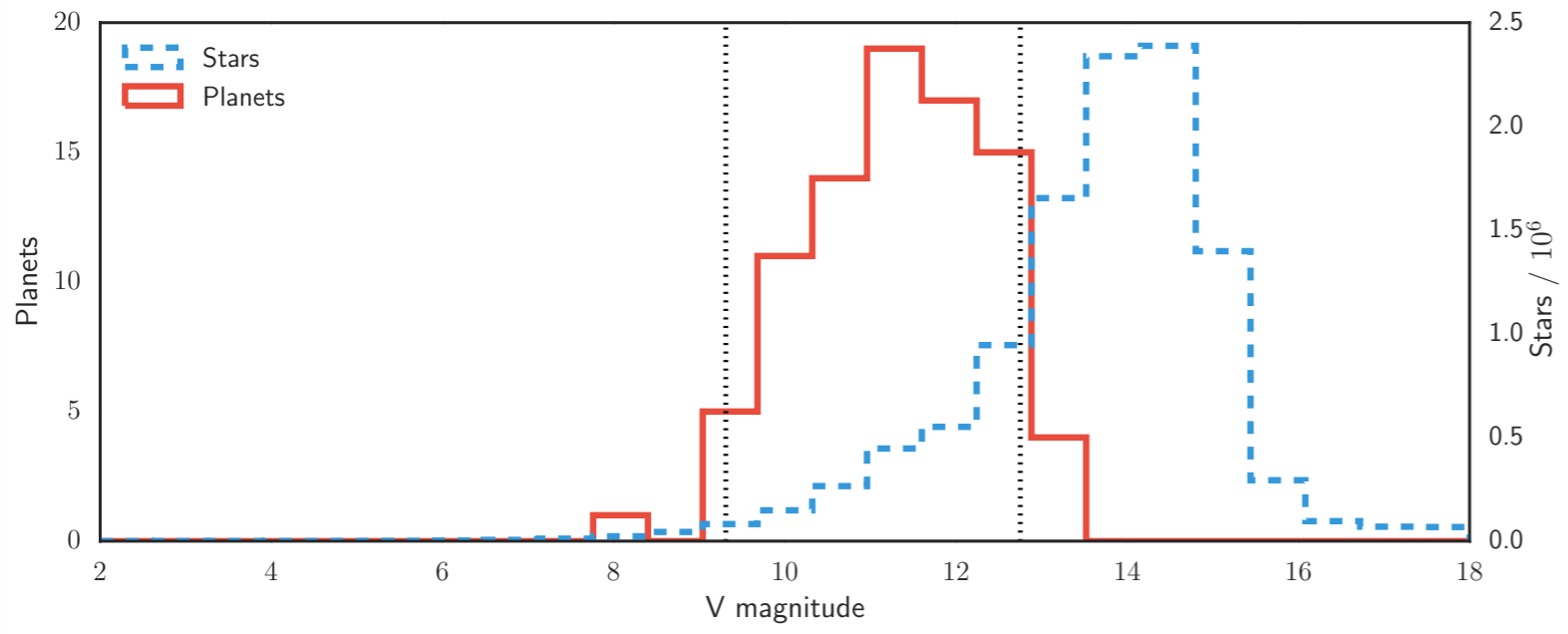
3.4 million transits inserted into the light curves of 125,304 Solar-like stars



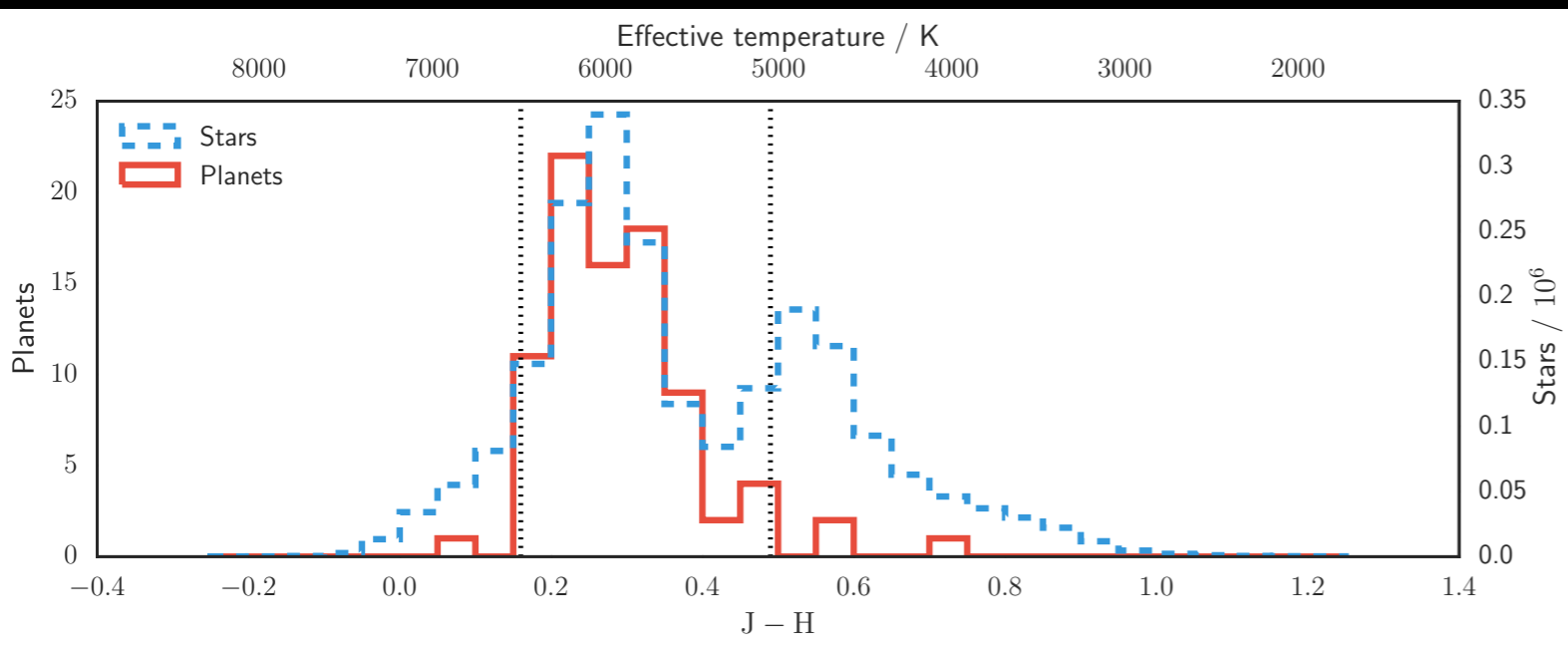
Even
distribution in
radius and
period



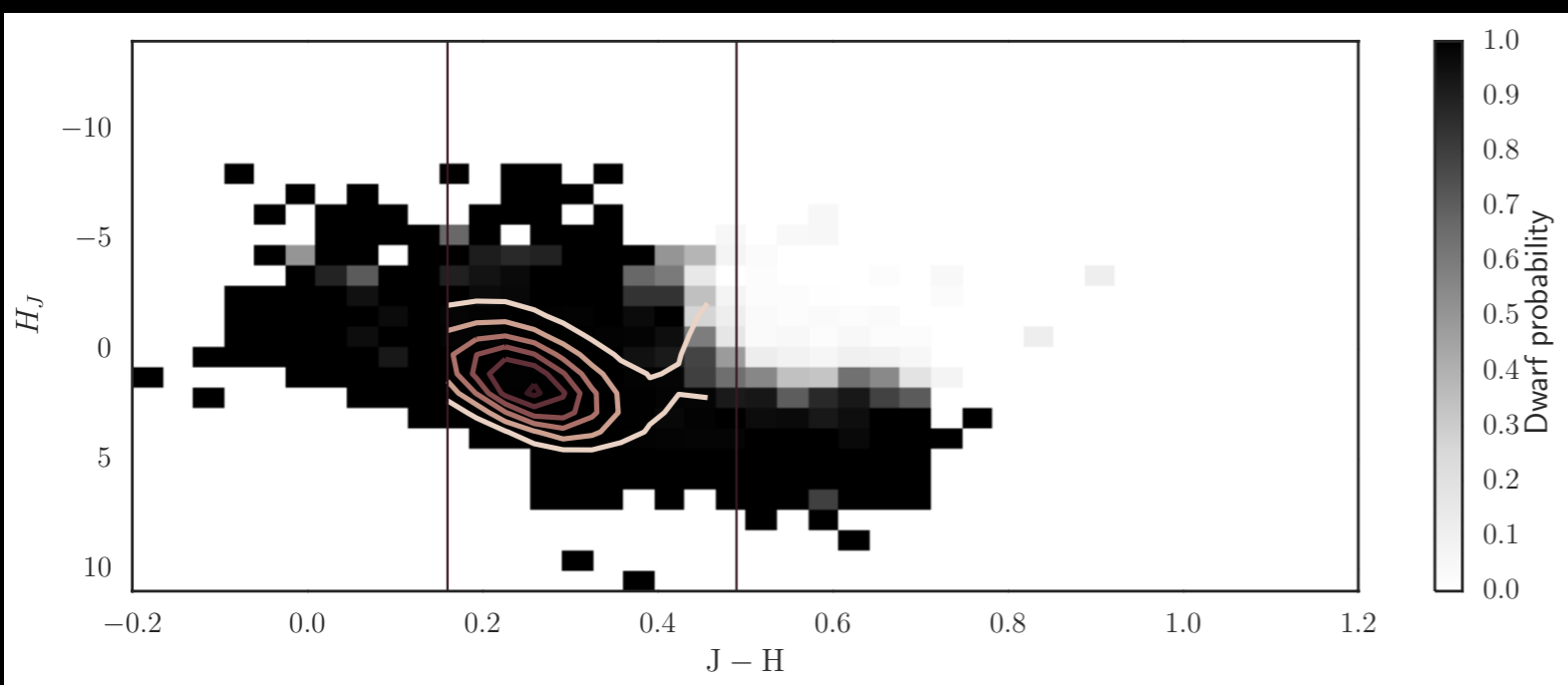
Randomised
transit phase
and inclination



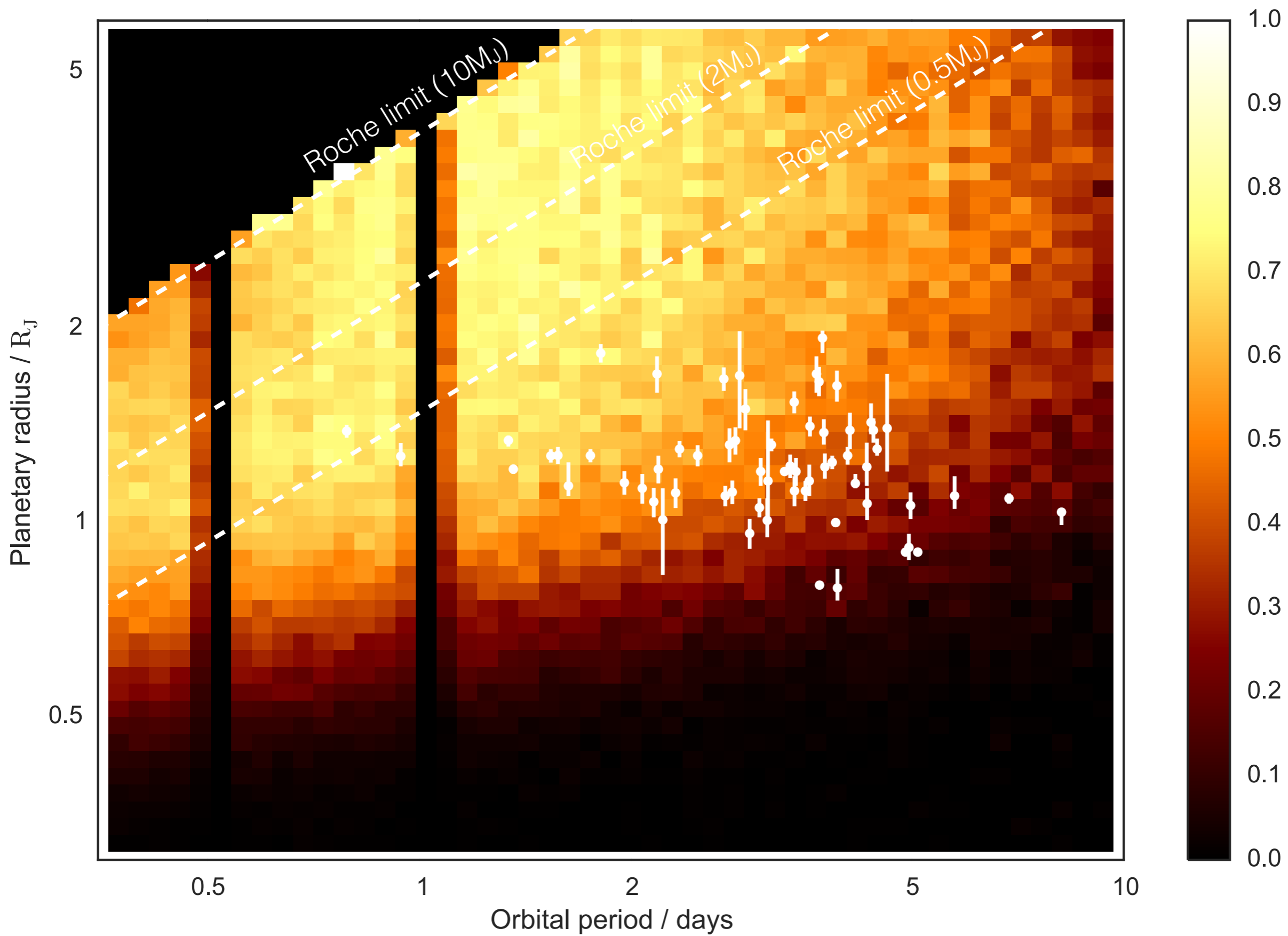
V magnitude
 $9.3 \leq V \leq 12.8$
 1,429,264 stars

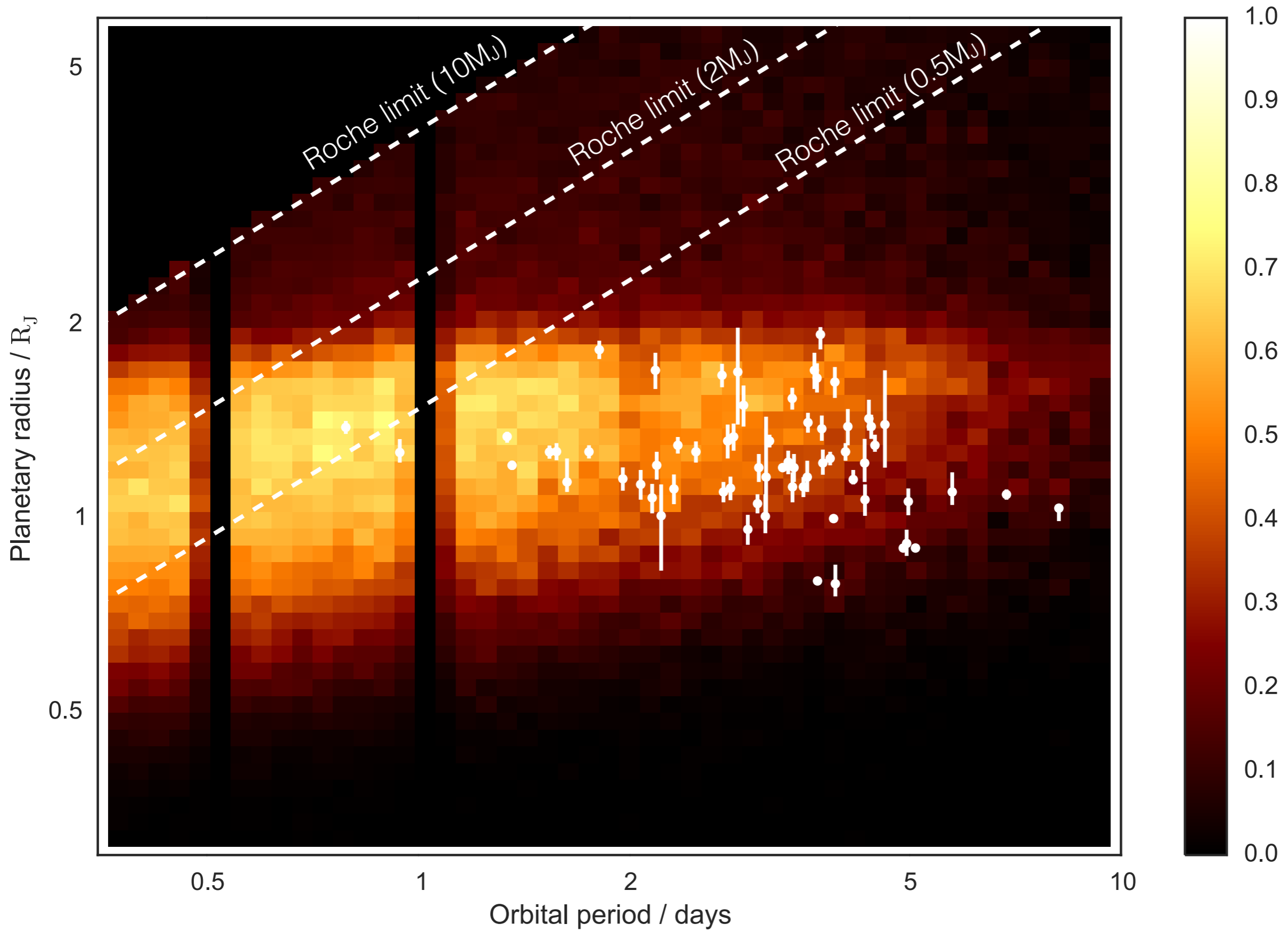


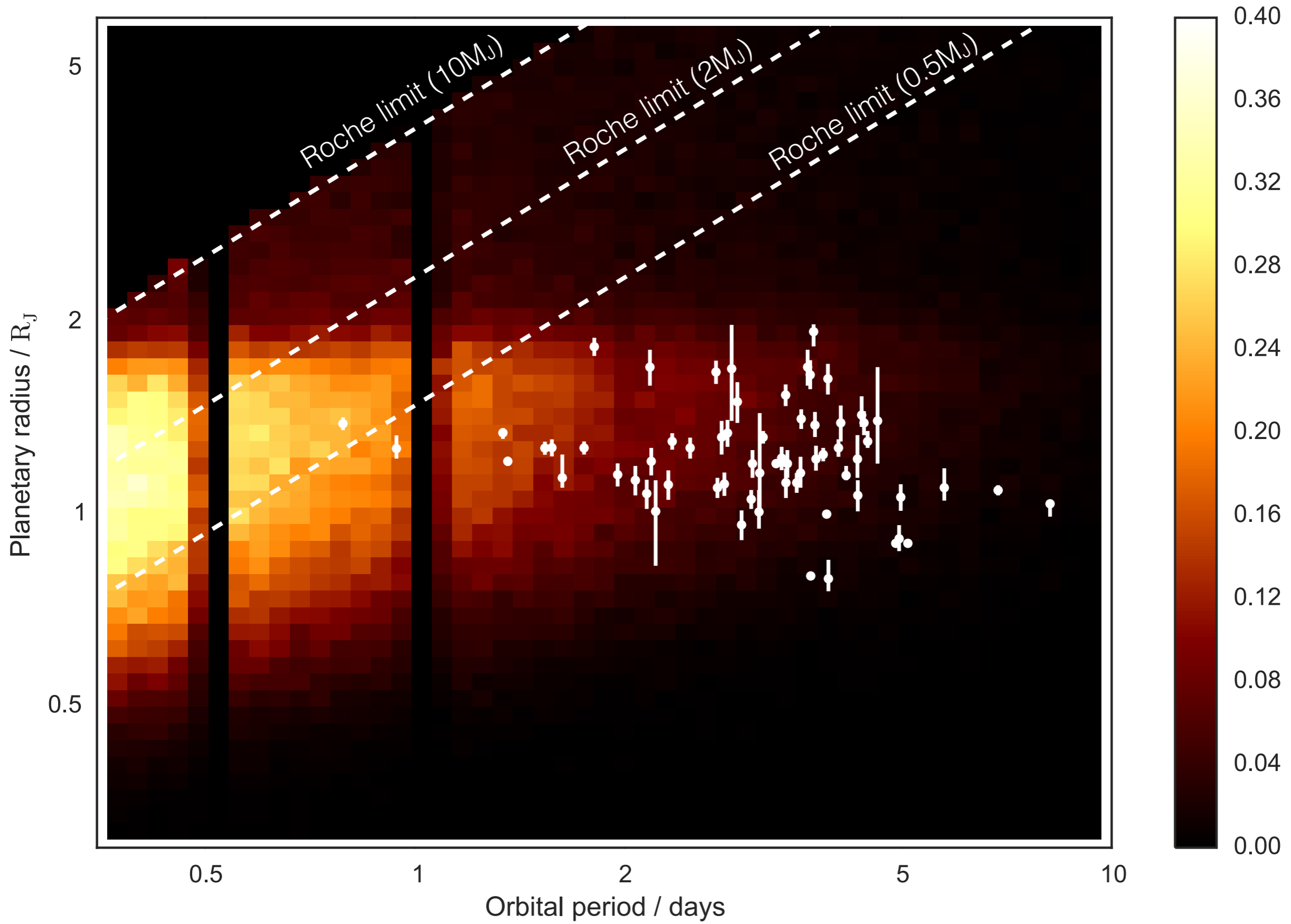
Effective temperature
 $5050 \leq T_{\text{eff}} \leq 6500$
 Mid F to early K
 856,789 stars



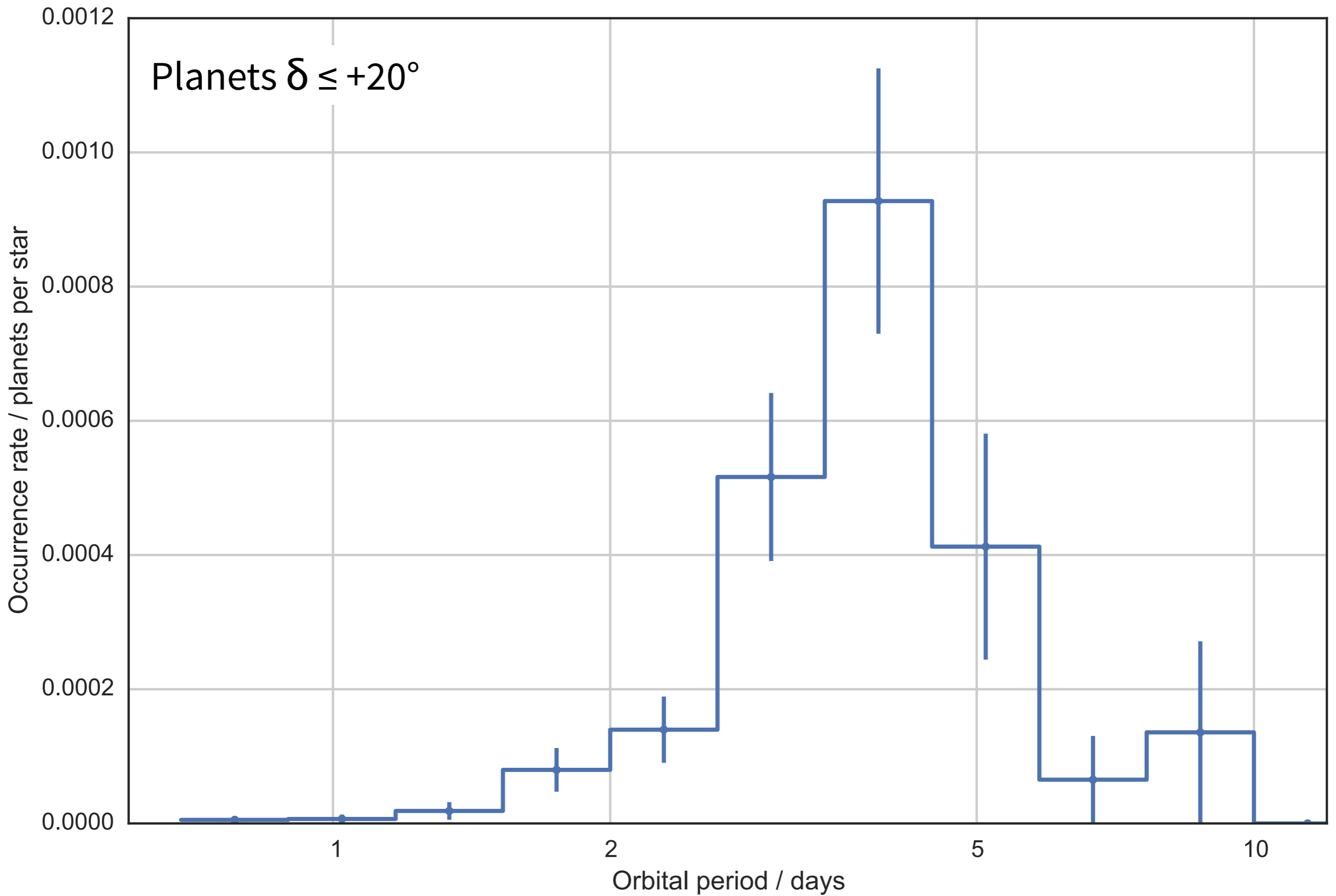
Dwarf probability
 $p \geq 98\%$
751,486 stars

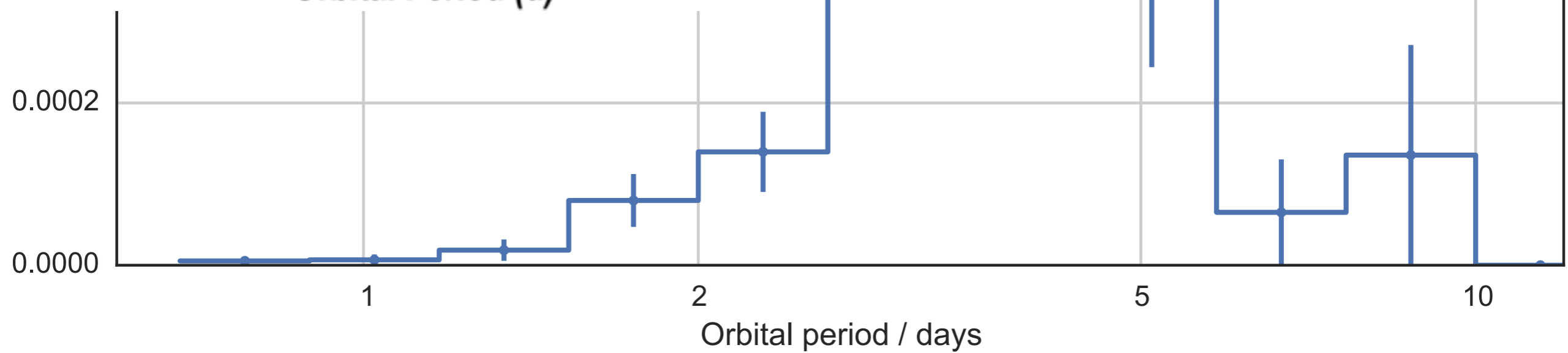
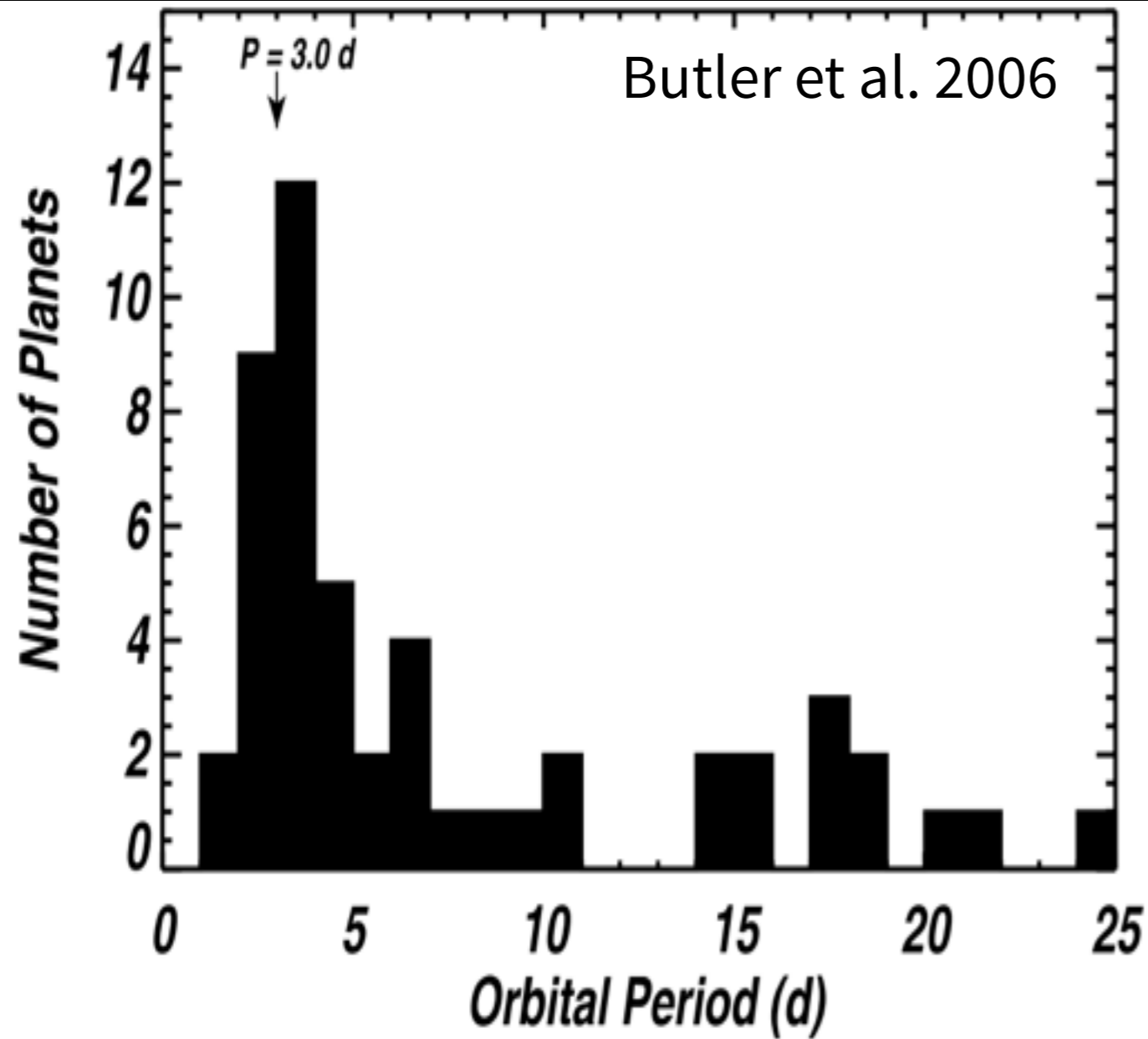


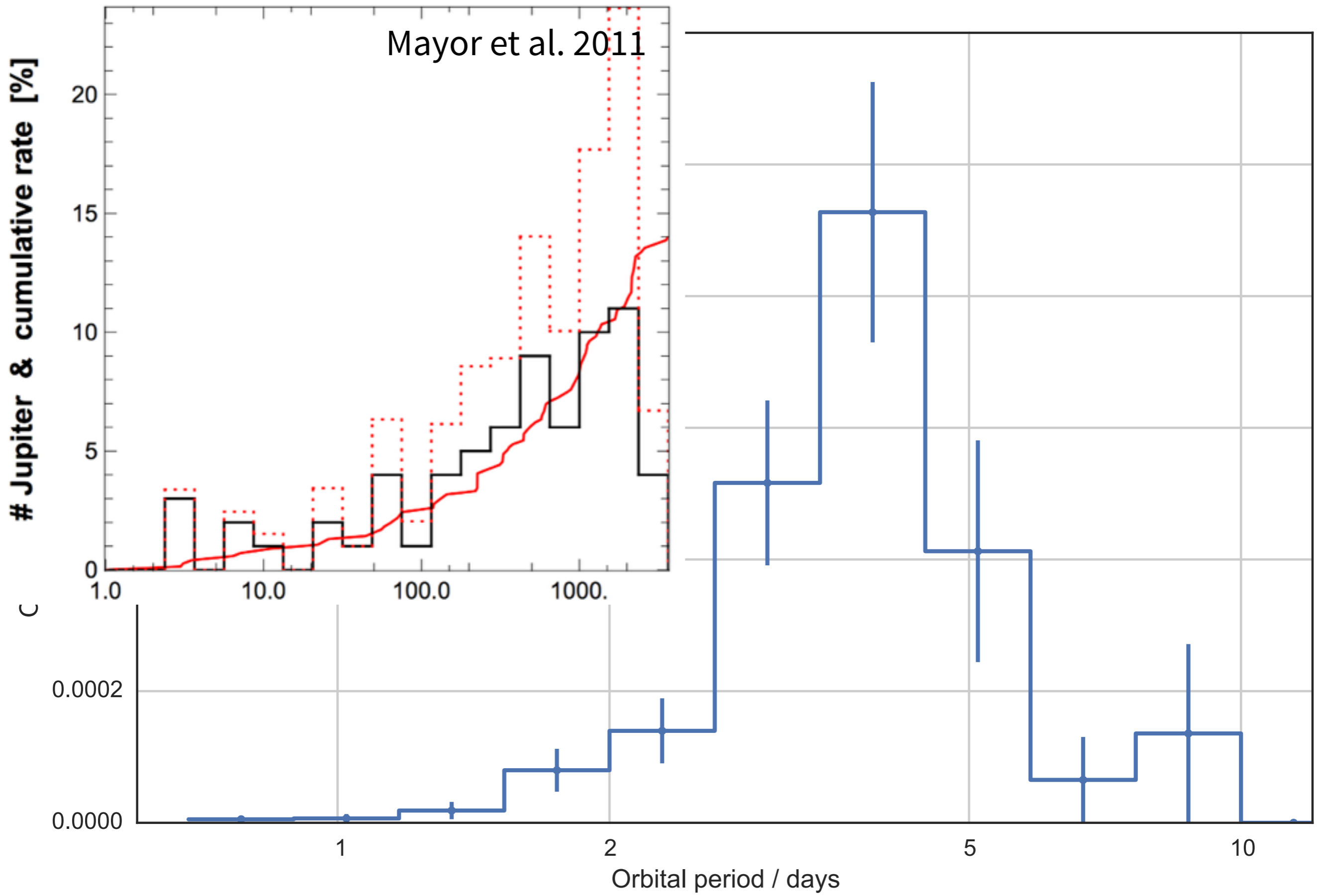




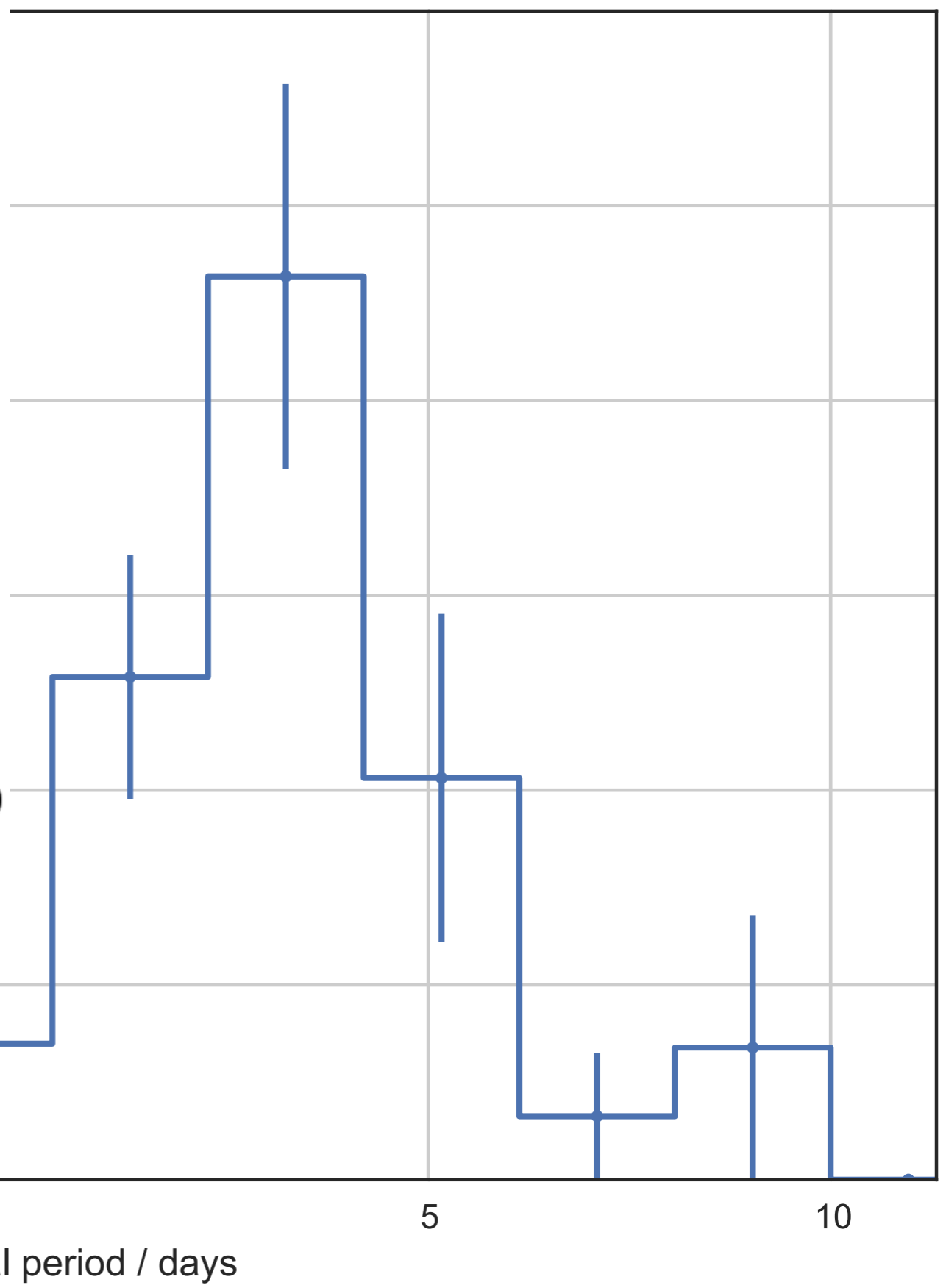
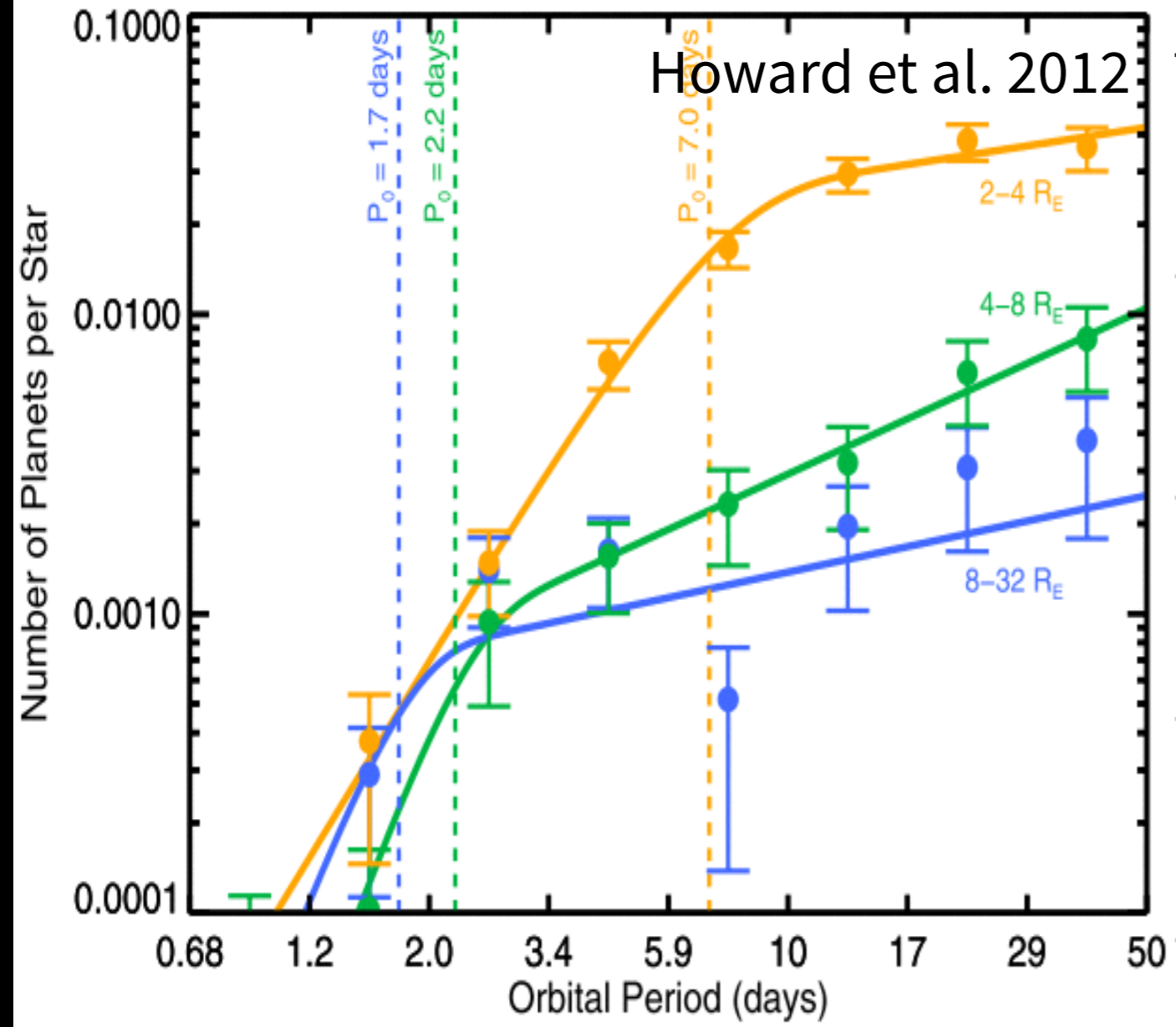
Planets $\delta \leq +20^\circ$



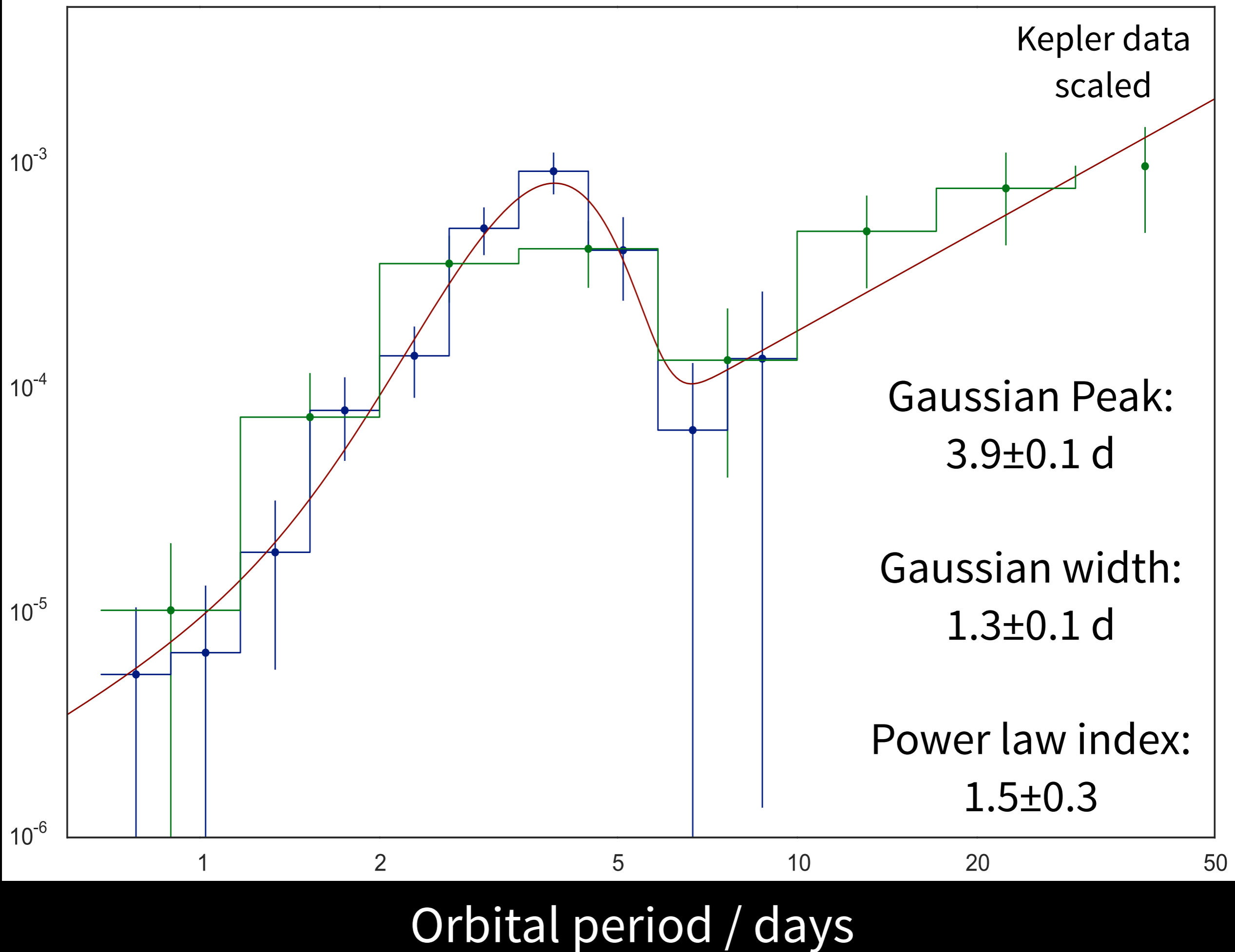




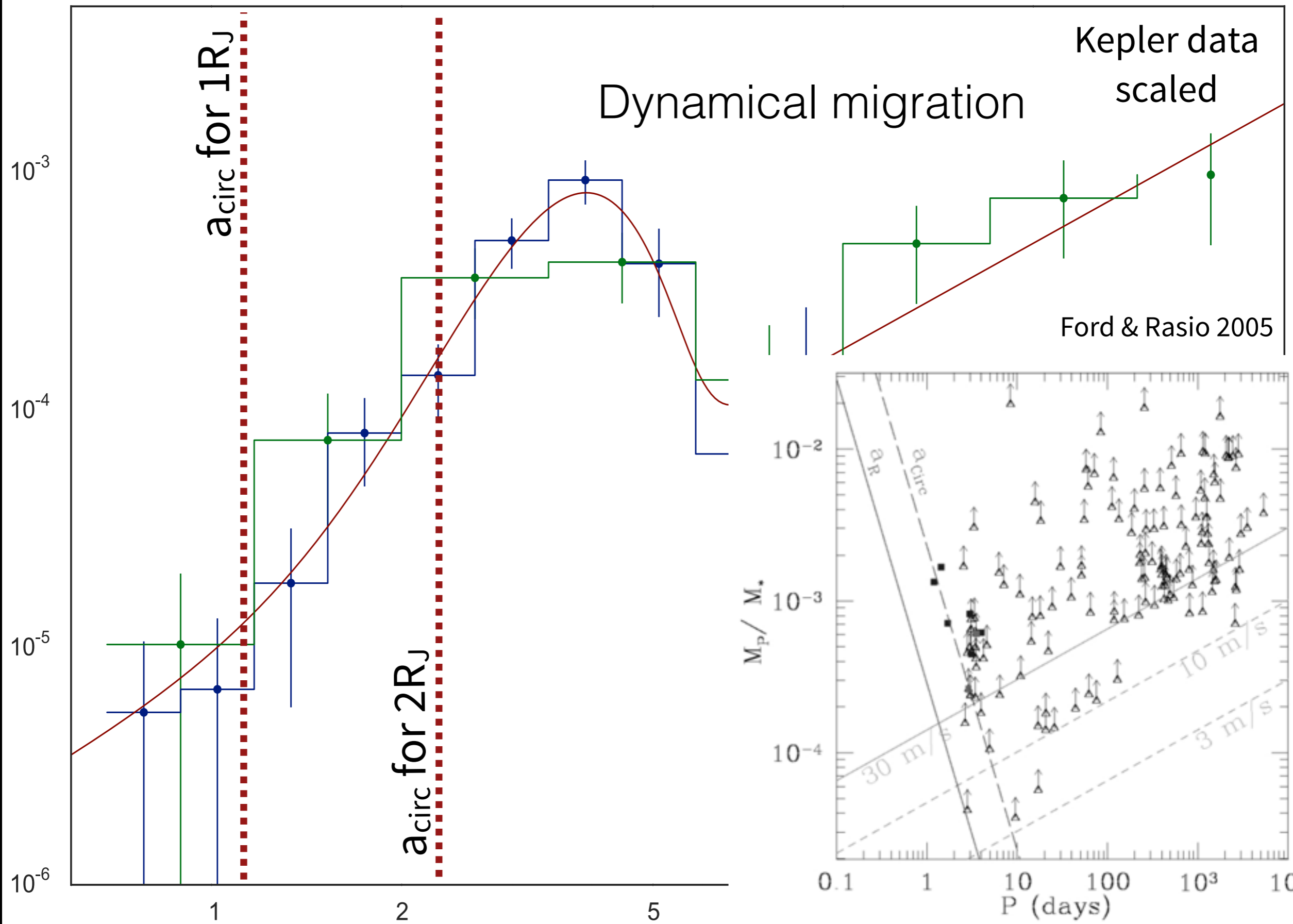
Howard et al. 2012



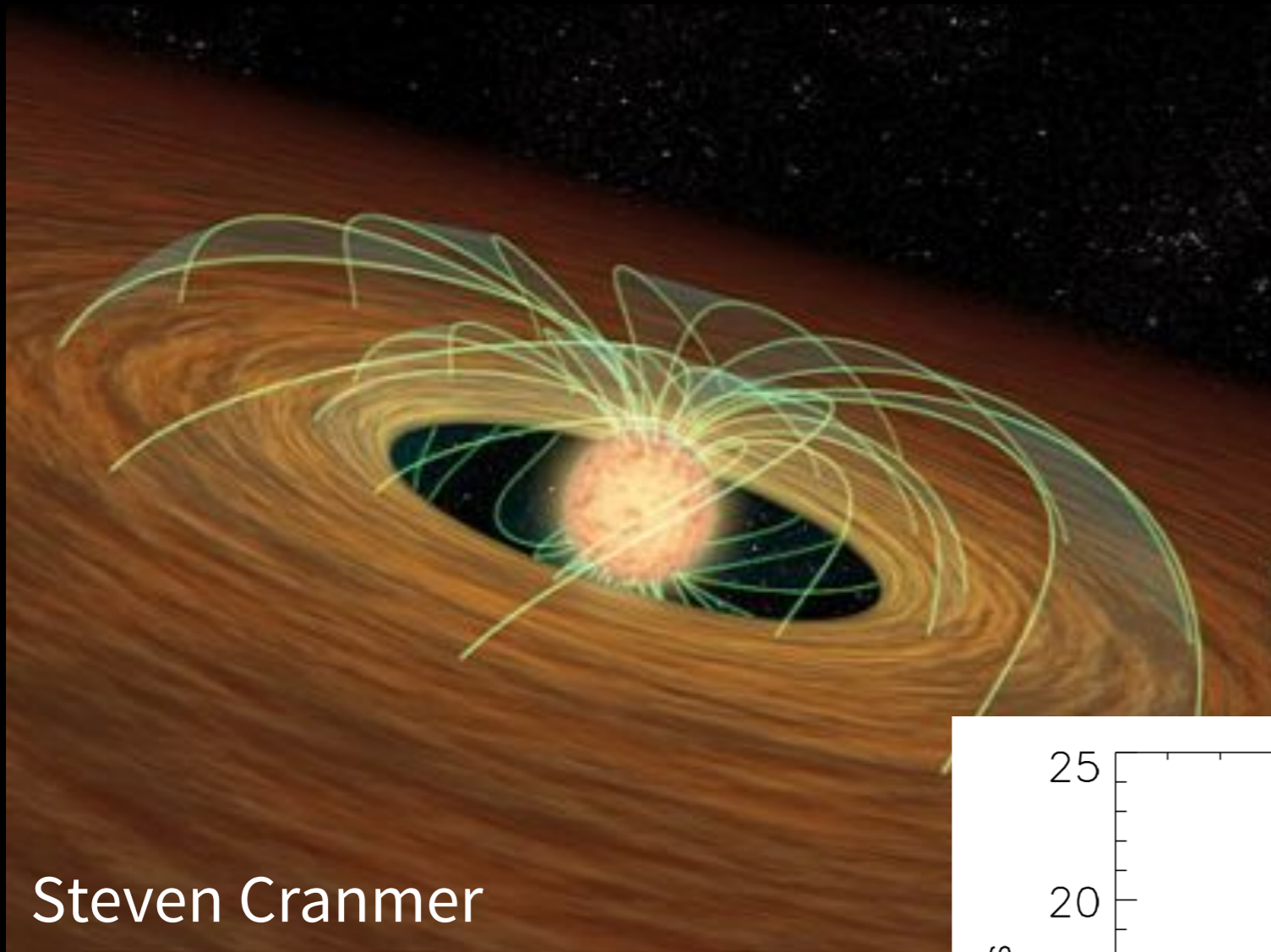
Number of planets per star



Number of planets per star



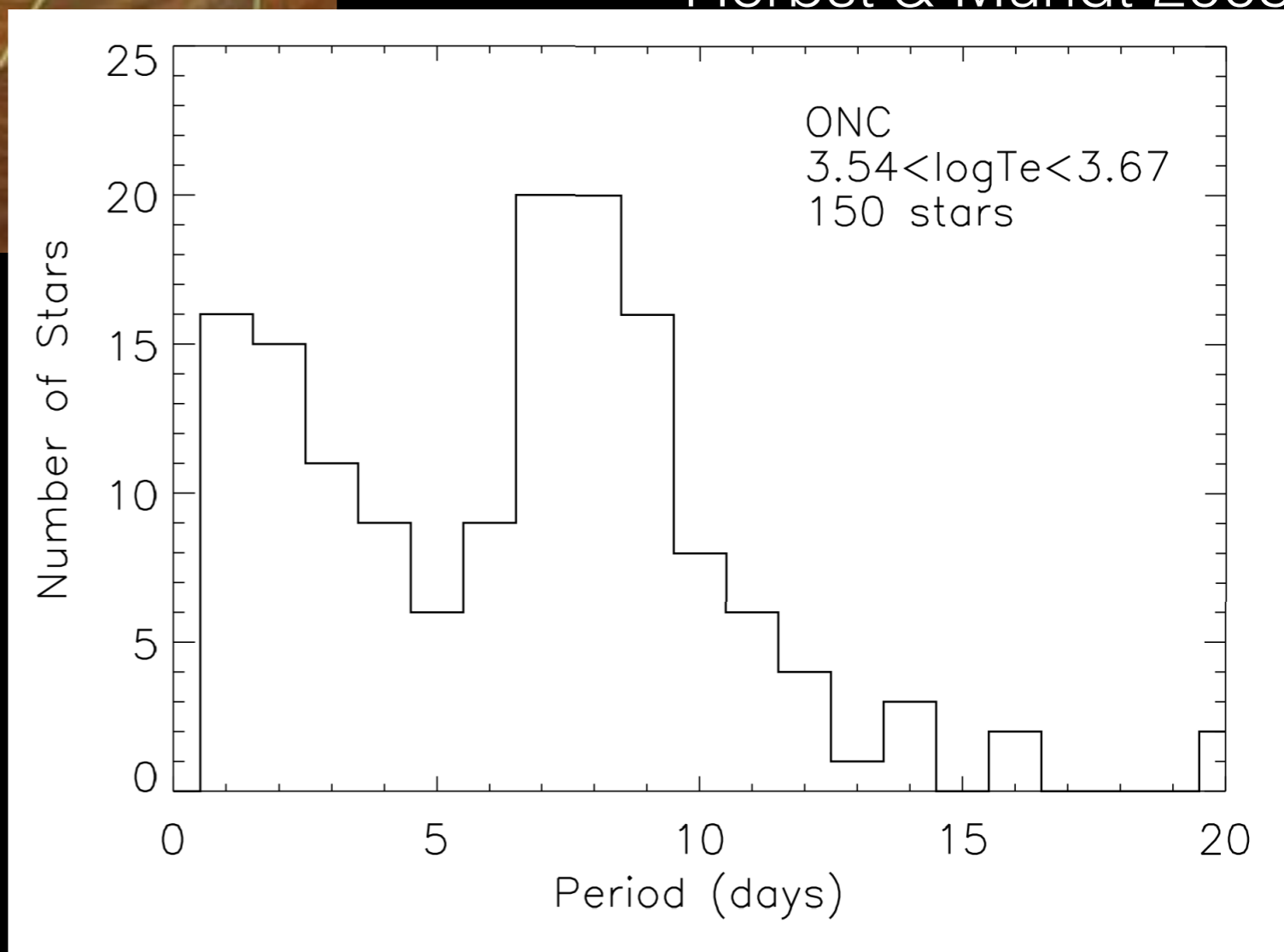
Orbital period / days

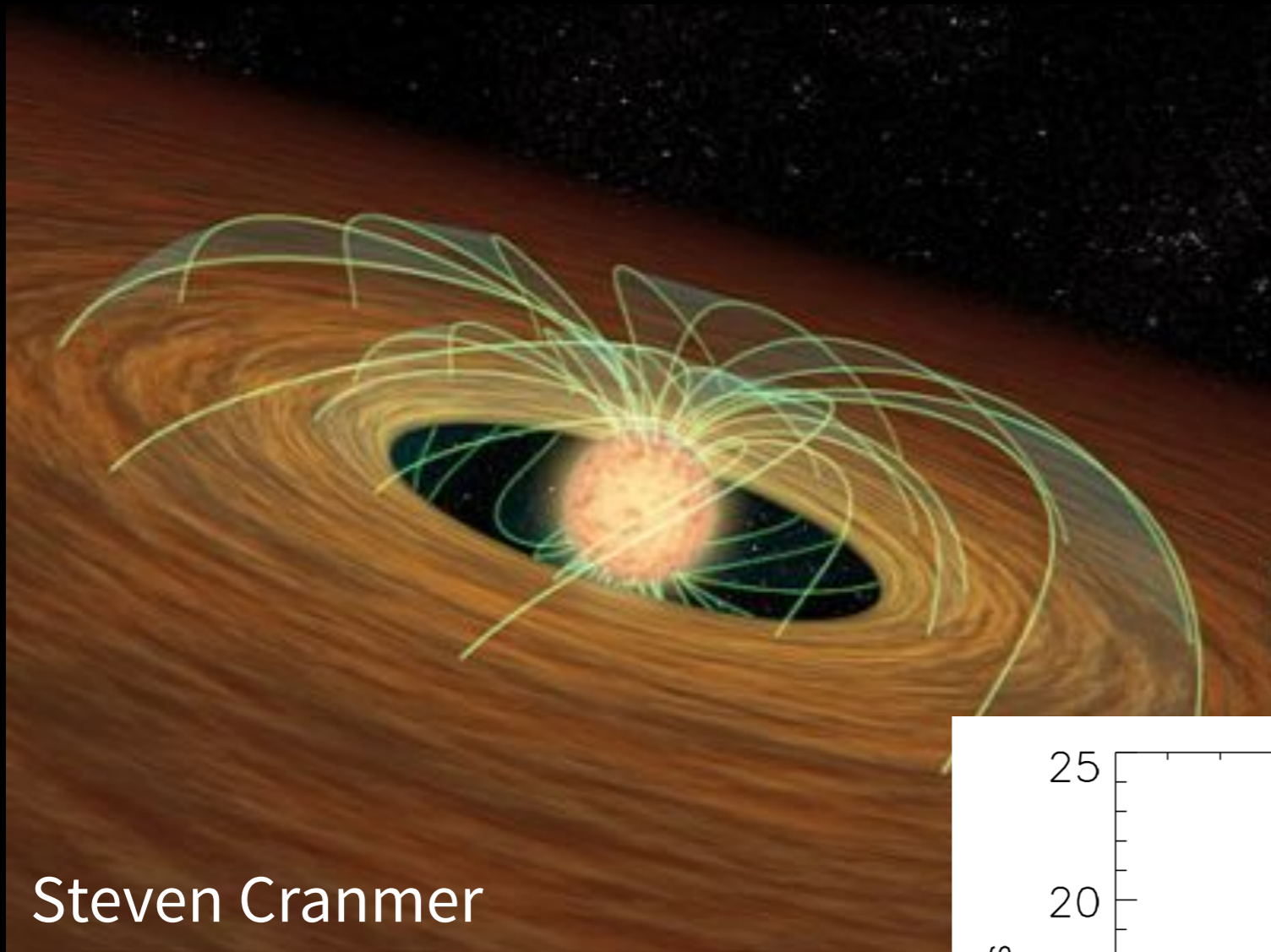


Steven Cranmer

Disc migration

Herbst & Mundt 2005

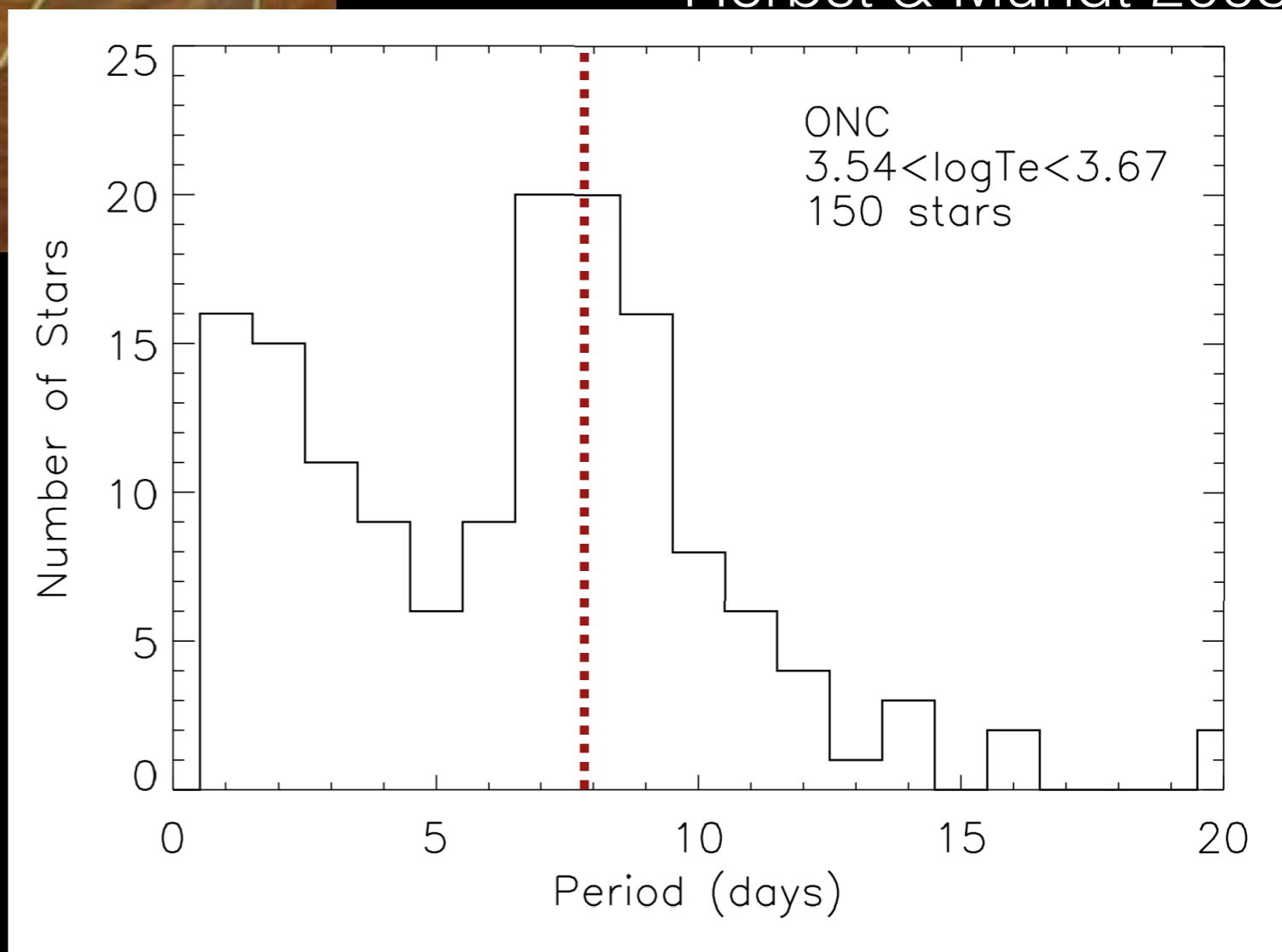




Steven Cranmer

Disc migration

Herbst & Mundt 2005



Summary

- We have measured the selection effects in the WASP survey
- There is a pile up in the underlying distribution of hot Jupiters at 3.9 ± 0.1 days
- This should be a useful constraint on migration models