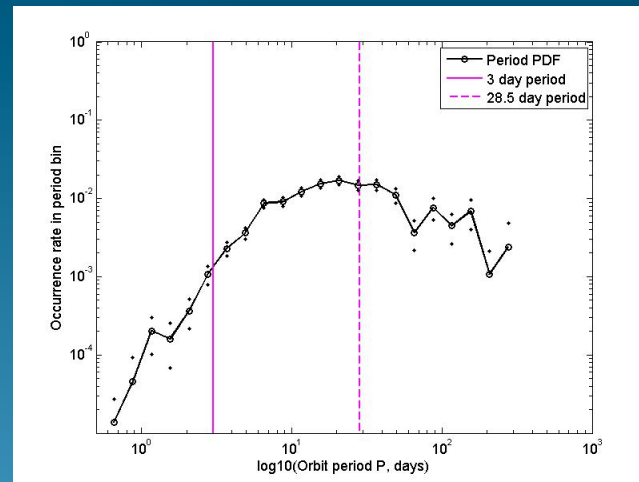
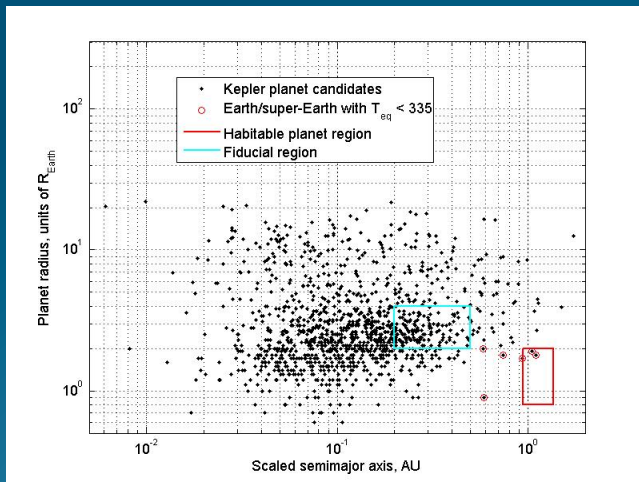




# Occurrence rate of Earth analog planets orbiting Sunlike stars

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A new database of Kepler planet candidates was released in February 2011.



**We estimate that 1% to 3% of Sun-like stars have Earth-like planets.**

☐ Count planets detected in a ‘fiducial’ region of phase space that is complete.

☐ Fit power laws to planet radius and ‘scaled semimajor axis’  $s = \frac{a}{\sqrt{L}}$

☐ Extrapolate from the ‘fiducial region’ (cyan box) to the ‘Earth analog region’ (red box), based on the fitted power laws.

☐ Correct for geometrical alignment

**We find that the period PDF of Kepler super-Earth/Neptune candidates has three regimes.**

☐  $P < 3$  days: PDF increases sharply with increasing  $P$

☐  $3 \text{ days} < P < 30$  days: PDF rises more gradually with increasing  $P$

☐  $30 \text{ days} < P < 132$  days: density drops gradually with increasing period.