Post lecture quiz 8 - Exoplanet Demographics   ✕

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Written Apr 10, 2024 10:59 PM - Apr 10, 2024 11:22 PM • Attempt 1 of 1

Attempt Score **5.75 / 13 - 44.23 %**

Overall Grade (Highest Attempt) **5.75 / 13 - 44.23 %**

Question 1   **0 / 1 point**

Which detection method is best-suited to detecting a true Earth analog (i.e. 1 Earth radius with an orbital period of 365 days)?

✖ ⚪ Transits

⚪ Radial velocity

➡ ⚪ Microlensing

○ Direct imaging

Question 2   1 / 1 point

Recall that the geometric transit probability is $R*/a$, where $R*$ is the stellar radius and a is the planet's semi-major axis.

In a transit survey that is searching for Earth analogs around Sun-like stars, what is the geometric transit probability of a true Earth analog?

○ 0.27%

✓ ○ 0.47%

○ 2.7%

○ 4.7%

Question 3   0 / 1 point

Let's say that the aforementioned transit survey observes 10,000 stars with a detection sensitivity to Earth-analogs of 15%. If two Earth-analog planets are detected in this survey, what is the inferred occurrence rate of Earth-analogs