

Astro 105 – Exoplanet Lab

Lab objectives

- 1) Learn about different techniques to detect exoplanets
- 2) Learn about some strange new worlds
- 3) Learn about some scary new worlds

1) Exoplanet Detection Techniques

Detecting exoplanets poses a huge challenge because the central stars are typically billions of times brighter than the starlight reflected off the exoplanet. Astronomers have developed many techniques to detect exoplanets, orbiting their stars, without directly seeing them.

Open a web browser and go to the exoplanets.nasa.gov/interactable/11/ to learn about the **5 ways to find an Exoplanet**. Click on each method and describe them in the table below.

Name of Detection Method	Description of the Observing Technique	Planets Discovered

2) Strange New Worlds

Go to exoplanets.nasa.gov/alien-worlds/strange-new-worlds/ to explore some **Strange New Worlds**. Click on each exoplanet and the related links to find the information to fill in the table. To determine if the exoplanet is found within the habitable zone, click on the *SYSTEM* link to display the exoplanet orbit and the location of the bluish habitable zone. You can also zoom in and out of the exoplanet system by using the cursor.

Exoplanet	Planet Type	Orbital Period (Days)	Detection Method	In Habitable Zone (Yes/No)
Kepler-16 b				
	Interesting feature:			
OGLE 2005 BLG-39OLB				
	Interesting feature:			
Kepler-452 b				
	Interesting feature:			
Kepler-22 b				
	Interesting feature:			
55 Cancri e				
	Interesting feature:			
Kepler-7 b				
	Interesting feature:			

3) Scary New Worlds

Go to exoplanets.nasa.gov/alien-worlds/galaxy-of-horrors/ to explore some ***Galax of Horrors***.

Click on each exoplanet and the related links to find the information to fill in the table.

Exoplanet	Planet Type	Orbital Period (Days)	Detection Method	In Habitable Zone (Yes/No)
TrEs-2b				
	Scary feature:			
55 Cancri e				
	Scary feature:			
HD 189733b				
	Scary feature:			
PSR B1257+12c				
	Scary feature:			
Kepler-70 b				
	Scary feature:			
Wasp 12b				
	Scary feature:			