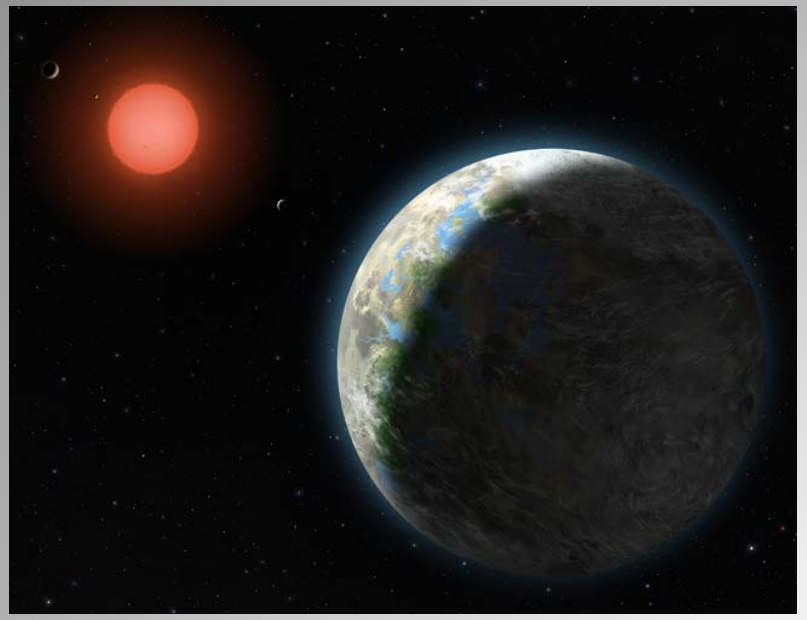
A Guide to Exoplanets

By Winston Wright

Introduction

- Exoplanet – planetary body outside of the known solar system.
- More than 800 have been classified as actual exoplanets.



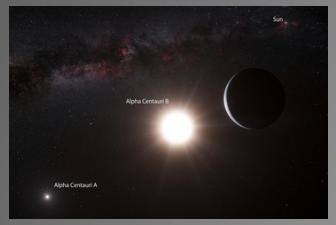
Significance

- Studying exoplanets could give scientist better understanding of Earth.
- Exploration and potential human colonization of planets.

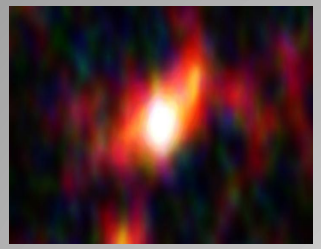
Popular Exoplanets (Solar Systems)

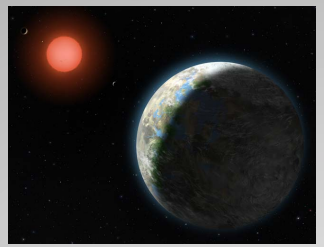
- Alpha Centauri - About 4.2 light years
- Gliese 581 – 20.22 light years

Alpha Centauri

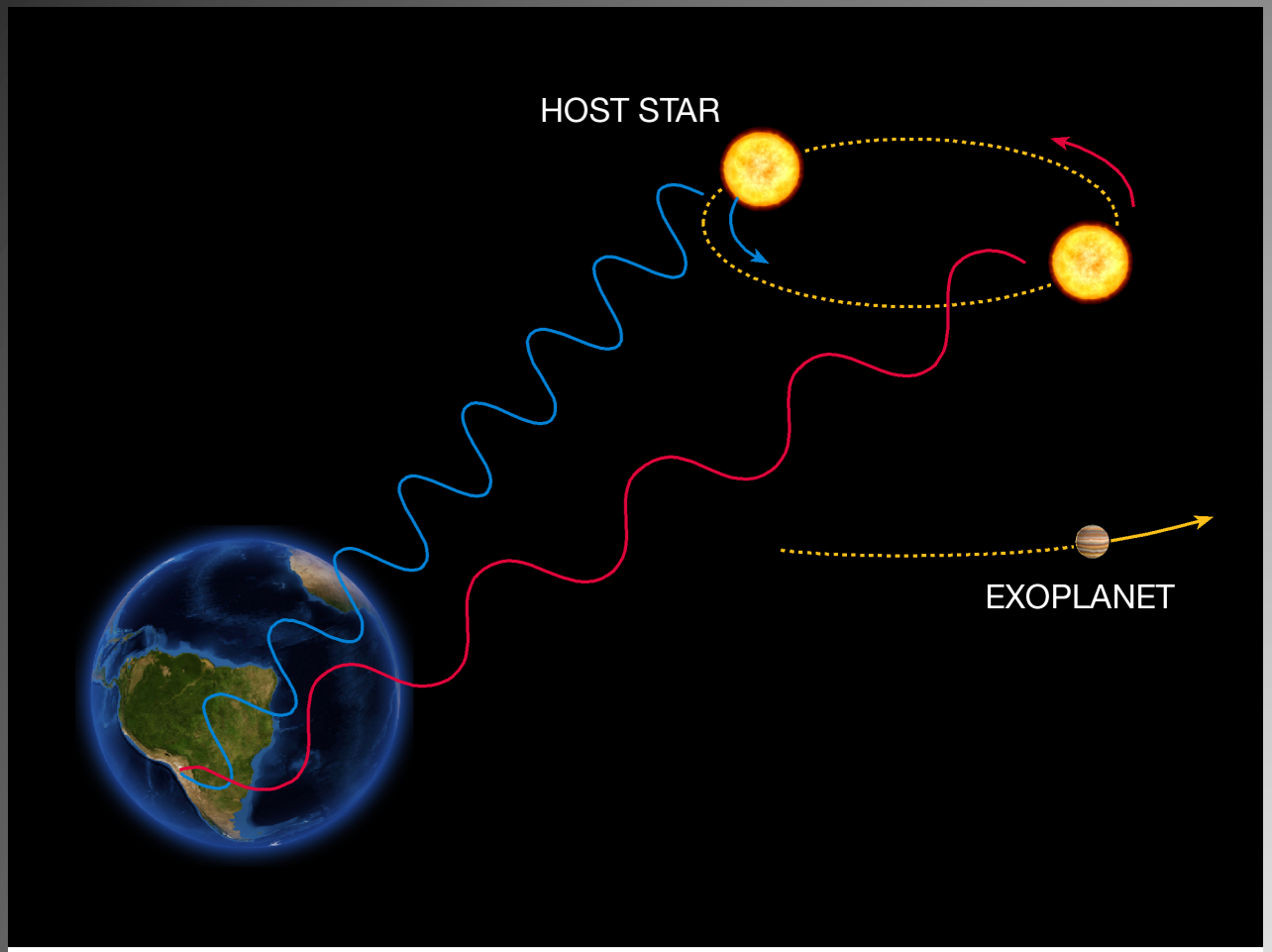


Gliese 581





Detecting Exoplanets



The Radial Velocity Method

ESO Press Photo 22e/07 (25 April 2007)

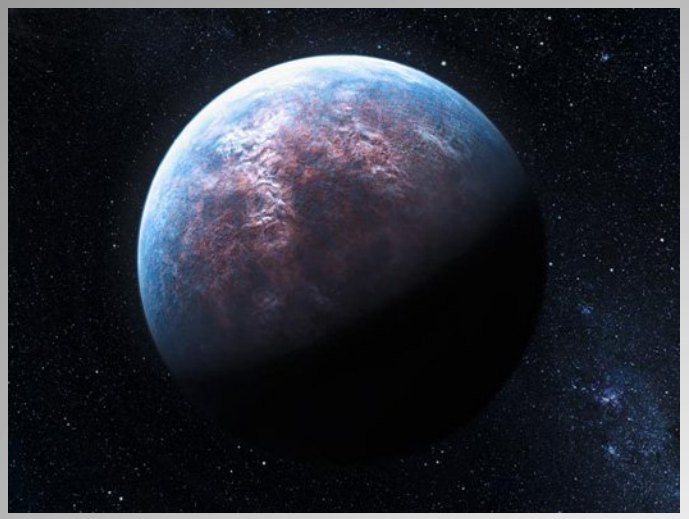
Data on Exoplanets

- Record data about the different solar system
- Prepare experiments for future probes to different exoplanets.

Habitable Zone

- Search for “Earth Like” exoplanets.
- Rocky land formation and vast amounts of water.

Colored image of surface of Titan

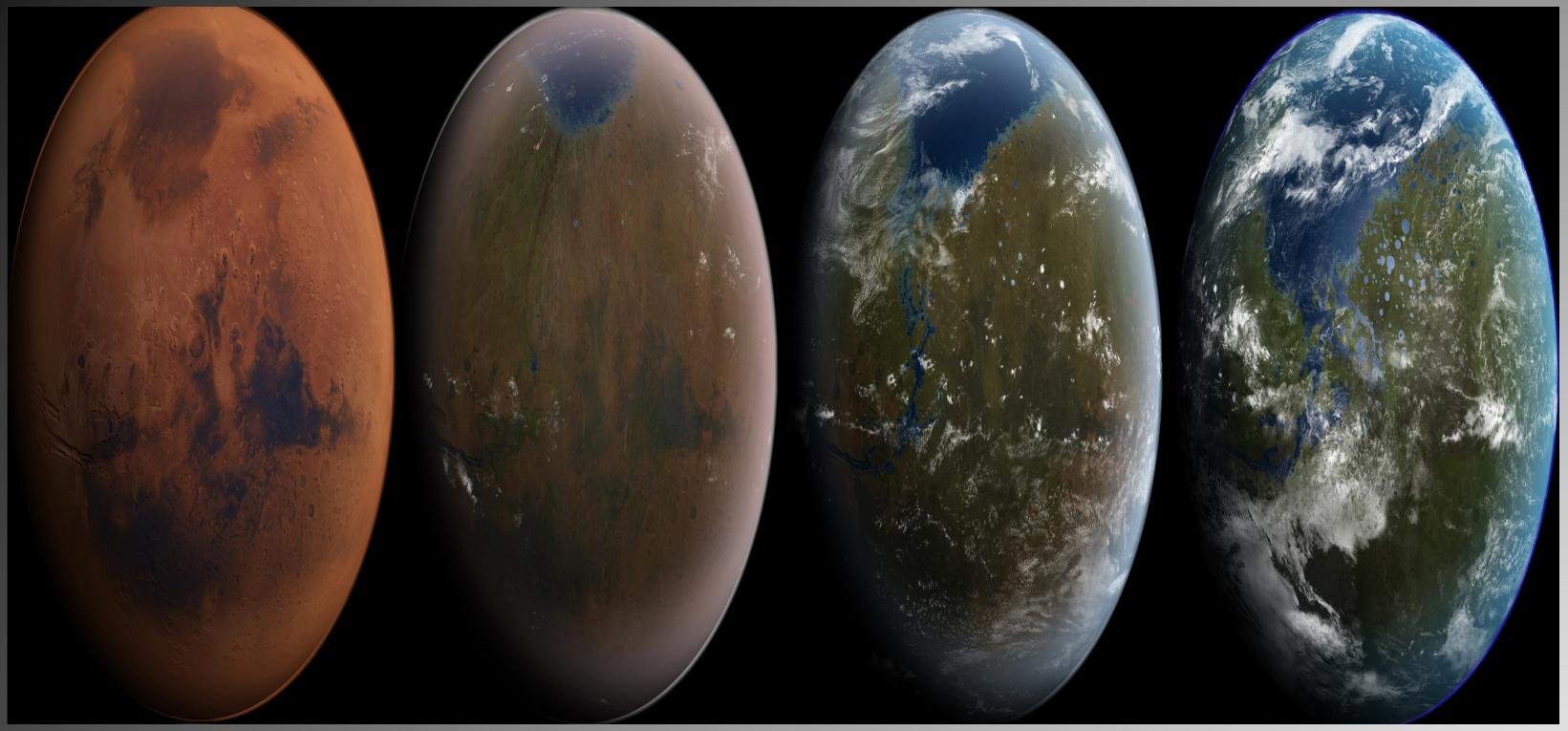


Artist depiction of Earth Like planet

Terraformation

- Artificially recreate Earths environment and atmosphere on another planet.
- Multiple theoretical approaches have been considered.

Terraformation cont.



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Activity

- A privatized aerospace company has assigned two groups of scientist with the task of picking an exoplanet to send a probe to in the next decade.

- The two planetary candidates are :

Gliese 581

Alpha Centauri

- Use what you have learned today (and further research) to determine which of the two planetary systems would be best to send a probe to in the next decade.
- 10 minute presentation/conversation