New Super-Earth Planet

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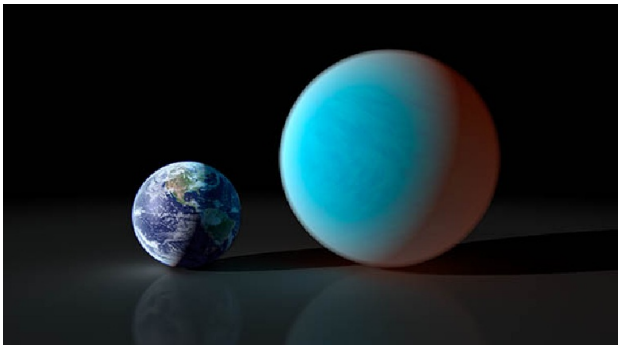
Why in News

Super-Earth planet. extra-solar planetsboth sizes and orbits close to that of Earth. Recently, scientists have discovered a rare new It is among only a handful of that have been detected with

An exoplanet or extrasolar planet is a planet outside the Solar System.



Key Points

- **Mass :**
  - **Host Star:10% the masslower mass of the host star 'year'617 days.** The host star of the Super-Earth's system has about of the Sun. The makes a on the planet of approximately
  - **Super-Earth Planet:mass between the Earth's mass and that of Neptune.** The planet is expected to have a
- **Orbit:**

  With reference to the Solar system, the Super-Earth planet would orbit at a radius anywhere between that of Venus and Earth in our solar system.

- **Planet Discovery:**
  - **gravitational microlensing technique.** The Super-Earth planet has been discovered using the
  - **range from the mass of a planet to the mass of a star,**

    The microlensing effect is rare, with only about one in a million stars in the galaxy being affected at any given time.

    Gravitational microlensing is an astronomical phenomenon due to the gravitational lens effect. It can be used to detect objects that regardless of the light they emit.
  - **does not repeat,at the same time are extremely low.** Furthermore, such type of observation and the probabilities of catching a planet
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    - **Radial Velocity Method: parent star to wobble around in its orbit,** The planet causes the and as the planet moves to and fro, it changes the color of the light we see.
    - **Transit Method:through its atmosphere. colors of this light** When an exoplanet passes in front of its star, some of the starlight passes Scientists can analyze the in order to get valuable clues about its composition.
    - **Direct Image Method :direct image can take pictures of exoplanets** The by removing the glare of the stars they orbit.
    - **Astrometry: series of images of a starcompare the distances between these reference stars** The orbit of the planet can cause a star to wobble around in spaces in relation to nearby stars in the sky. This method is quite similar to the Radial Velocity method. However, here scientists take a and some of the other stars that are near it in the sky. In each picture, they and the star they're checking for exoplanets.

    The other methods for exoplanets discovery include:

Exoplanet

- An exoplanet or extrasolar planet is a planet outside the Solar System. The first confirmation of detection of exoplanets occurred in 1992.
- **hidden by the bright glare of the stars**Exoplanets are very hard to see directly with telescopes. They are they orbit. So, astronomers use other ways to detect and study exoplanets such as looking at the effects these planets have on the stars they orbit.

<u>Source:IE</u>