

Closest Earth-like exoplanet found

Scientists have found clear evidence of an Earth-like planet around Proxima Centauri – the nearest star to our sun. The rocky world, named Proxima b, lies within its star's habitable zone, meaning liquid water could exist on its surface

HOW EXOPLANET WAS DISCOVERED

Exoplanet orbit

Stellar motion

Host star

Exoplanet

3 Duration and extent of spectral shift allows exoplanet's mass and orbit to be determined

1 Gravitational pull from exoplanet causes its host star to make slight elliptical motion. When viewed from Earth, this motion affects star's normal light spectrum

2 Star emits light with shorter blue wavelength as it comes closer to observer, and longer red wavelength as it moves away

Earth

Proxima Centauri

Habitable zone

Proxima b
Orbit: 11 days
Mass: 1.3 times that of Earth

CLOSEST STARS

Proxima Centauri

4.25 light years away – would take 80,000 years to get there with conventional propulsion*

Alpha Centauri

4.37 light years (pair of stars)

6 light years

4 light years

2 light years

Sun

● Red dwarf ● Sun-like

Barnard's Star

Oort cloud

Theoretical region of icy objects at furthest reaches of solar system

Stars and planets enlarged for clarity

*Unmanned probes using experimental propulsion methods currently under development could possibly make journey to Alpha Centauri system in about 20 years