



1
00:00:00,000 --> 00:00:05,670
(Music)

2
00:00:05,690 --> 00:00:11,810
NASA's Kepler Mission has made the first detection of a planet orbiting two stars.

3
00:00:11,830 --> 00:00:20,730
About 200 light years away from our solar system, the planet Kepler-16b orbits two of the 150,000 stars

4
00:00:20,750 --> 00:00:26,470
that the spacecraft is monitoring between the constellations of Cygnus and Lyra.

5
00:00:26,490 --> 00:00:31,520
Kepler detected the planet directly through what is known as a planetary transit,

6
00:00:31,540 --> 00:00:37,840
an event where the brightness of a star dims as a result of a planet crossing in front of it.

7
00:00:37,860 --> 00:00:44,380
Planets orbiting double stars have been a favorite of science fiction writers for a long time,

8
00:00:44,400 --> 00:00:50,820
the most famous of which is from the 1977 movie "Star Wars," which showed a double sunset

9
00:00:50,840 --> 00:00:53,950
viewed from the fictional planet of Tatooine.

10
00:00:53,970 --> 00:00:59,430
Until now, astronomers did not know if such planetary systems could actually exist.

11
00:00:59,450 --> 00:01:06,490
Because of Kepler-16, astronomers have confirmed that the double sunset seen by Luke Skywalker is possible

12
00:01:06,510 --> 00:01:11,200
(Music)

13
00:01:11,220 --> 00:01:16,940

The planet Kepler-16b is cold, gaseous and about the size of Saturn.

14

00:01:16,960 --> 00:01:23,790

Its stars are both smaller than the Sun and about 2 billion years younger than our Solar System.

15

00:01:23,810 --> 00:01:31,540

They orbit around each other, so from our vantage point they take turns eclipsing each other about every 41 da

16

00:01:31,560 --> 00:01:37,610

The planet Kepler-16b orbits around both stars every 229 days.

17

00:01:37,630 --> 00:01:43,090

It is outside of the habitable zone of the stars, which is the region where temperatures are right

18

00:01:43,110 --> 00:01:47,350

for liquid water to exist on the surface of the planet.

19

00:01:47,370 --> 00:01:53,940

Since it is made of gas, Kepler-16b may not harbor life, but there is evidence

20

00:01:53,960 --> 00:01:59,300

that rocky planets with double sunsets are common in our galaxy.