



1  
00:00:00,000 --> 00:00:03,962

■  
Narrator: NASA's TESS and Spitzer observatories  
have found a long-sought world

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00:00:03,962 --> 00:00:08,216  
orbiting the star AU Microscopii, or AU Mic for short.

3  
00:00:08,216 --> 00:00:10,468  
Located about 32 light-years away,

4  
00:00:10,468 --> 00:00:15,724  
the system will be a touchstone for understanding planetary evolution  
for decades to come.

5  
00:00:15,724 --> 00:00:20,979  
AU Mic is a red dwarf star  
at least 150 times younger than our Sun.

6  
00:00:20,979 --> 00:00:25,650  
It's so young that a vast disk  
of dust and icy grains still surrounds it.

7  
00:00:25,650 --> 00:00:27,819  
The planet, AU Mic b,

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00:00:27,819 --> 00:00:32,782  
orbits very close to its star within a central zone  
where the disk material is cleared away.

9  
00:00:32,782 --> 00:00:40,457  
TESS data show the newly discovered planet is about  
8% larger than Neptune, with no more than about 3.4 times its mass.

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00:00:40,457 --> 00:00:46,921  
TESS finds worlds like AU Mic b by catching  
tiny, regular dips in starlight called transits.

11  
00:00:46,921 --> 00:00:53,094

Spitzer, now decommissioned,  
confirmed the transits during its final year of operations.

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00:00:53,094 --> 00:00:56,306

The planet's host star is very young.

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00:00:56,306 --> 00:01:01,728

Flares and other phenomena also alter its brightness,  
which complicated the search.

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00:01:01,728 --> 00:01:06,775

In order to find AU Mic b, the science team  
had to remove these effects from the data.

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00:01:06,775 --> 00:01:11,112



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00:01:11,112 --> 00:01:16,659

AU Mic is a nearby laboratory for studying  
how stars and planets form and evolve.

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00:01:16,659 --> 00:01:23,875

Studying AU Mic b with future missions will also tell us more  
about the development and evolution of planetary atmospheres.

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00:01:23,875 --> 00:01:27,712

Until then, TESS will continue to hunt for more mysterious worlds...

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00:01:27,712 --> 00:01:31,633

...including possibly others orbiting AU Mic.