

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging changem4 Planet 3

Wednesday 8th October, 2098

We have identified what may be an indication of extraterrestrial intelligence, as well as the planet where it may have originated. This document summarizes the information gathered so far about the candidate message and its candidate planet of origin.

Potential evidence for extraterrestrial intelligence

Astronomers have detected a broadband microwave transmission that appears to have originated from this planet's solar system. The transmission is believed to contain an image and is displayed below with the most likely aspect ratio. The transmission is continuous and does not repeat itself frequently. An excerpt of the transmission is shown below:

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01110101011000001110101100101010001010011100101100  
11001110010001101001111100111110000110001100000100  
1001010100001100101101010110000100001100111111101  
00101010010011000100101011000011100111101011110011  
01011001001111101101111110101100001000100010010100  
01000010001000000111110010101010001101010110000110  
10011101100101111010011000011000100011011101010111  
10111011100011000101011110011011101100101111000010
```

This signal was first noticed at UTC 2098-04-11/20:00.

Parameters of the candidate planet of origin and its host star

Spectral Type	K
Stellar Luminosity (Solar Units)	0.0973
Stellar Mass (Solar Masses)	0.558
Distance to Star (lightyears)	59.2
Planet Mass (Earth masses)	0.9
Atmospheric Pressure (atm)	2.6

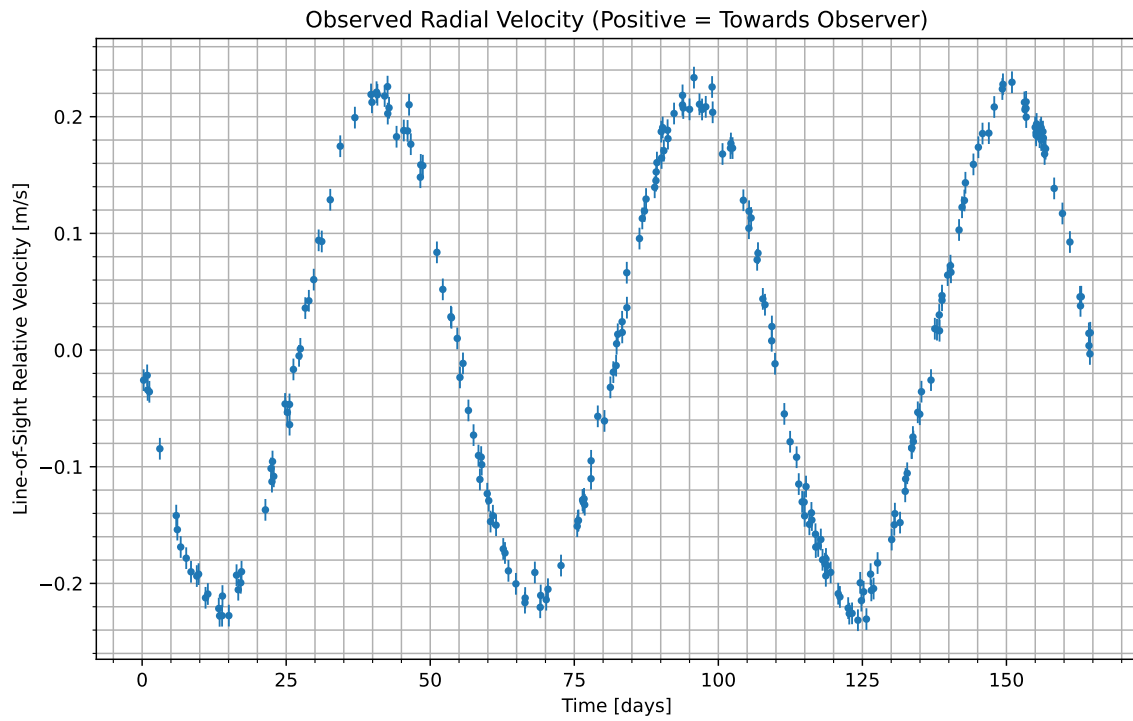


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2098-04-13/03:02. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	31.5
CO_2	58.3
H_2O	10.2

Gas Abundance (percent by volume)

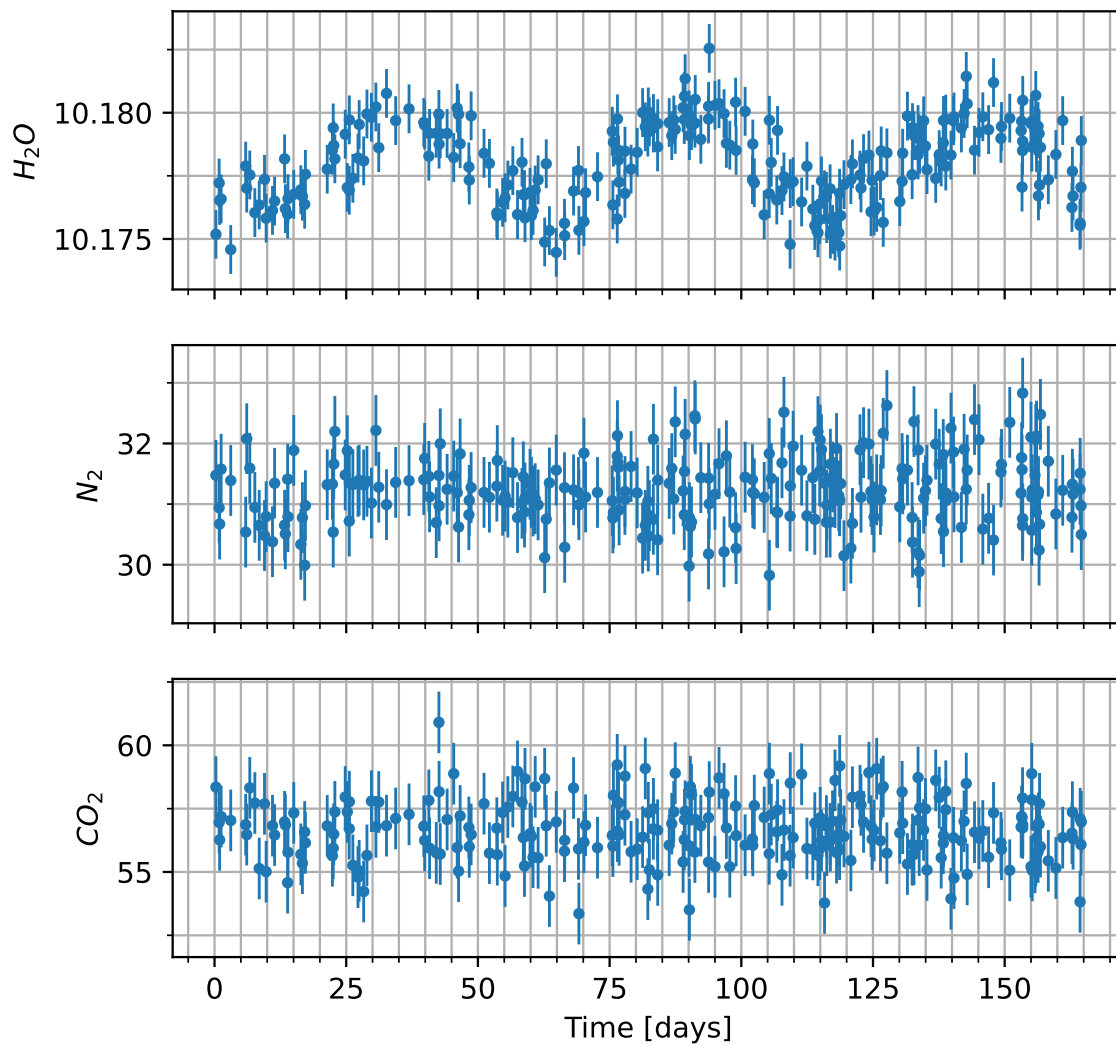


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

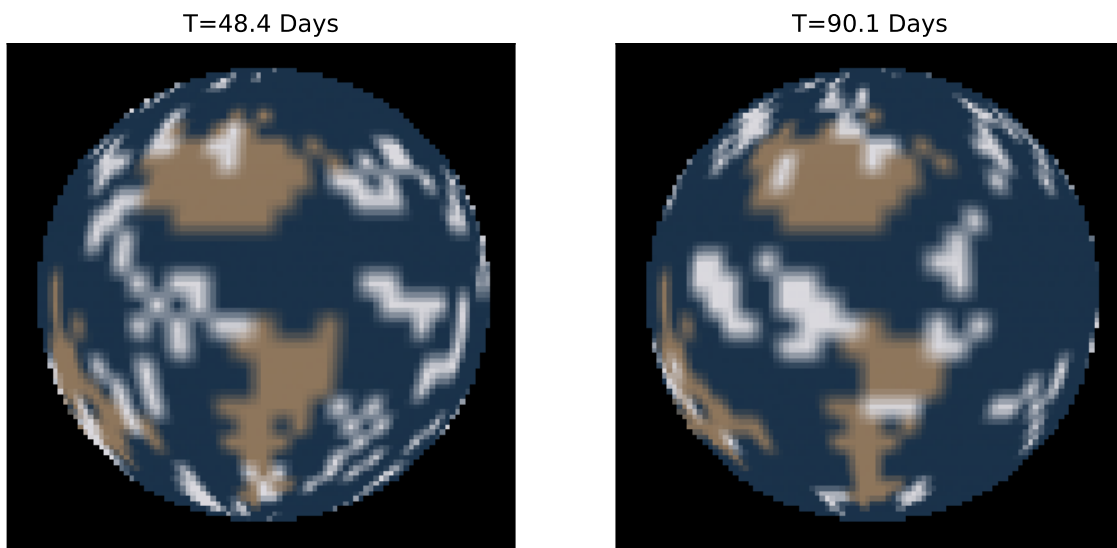


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to be liquid regions of some kind. Other colors present reflect the visible color as best as we are able to measure.