

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging abbottcy Planet 2

Sunday 10th June, 2085

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 narrowband radio 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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00110000110101111100000111111011101101110101011100010100000010100011001010  
10001100101000011000000011101001101100111111001110111001010111001110010011  
0100010110100010110110100000111110110000001011110101000111010101100111011  
10101000010110101001001100111011110000011111001101101001100110010011011100  
11100100001010100101001000111010110110101100010100000100000110000100010101  
11101000110101110100111100010001101100101010101000010000010101010010010111  
1010011001101011011111011111011010001110011001001000111111010111001110000  
00111011110111010011001011000010001000000001101110100001010101010001101011
```

This signal was first noticed at UTC 2085-03-21/08:20.

Parameters of the candidate planet of origin and its host star

Spectral Type	M
Stellar Luminosity (Solar Units)	0.000706
Stellar Mass (Solar Masses)	0.128
Distance to Star (lightyears)	272.4
Planet Mass (Earth masses)	0.7
Atmospheric Pressure (atm)	1.1

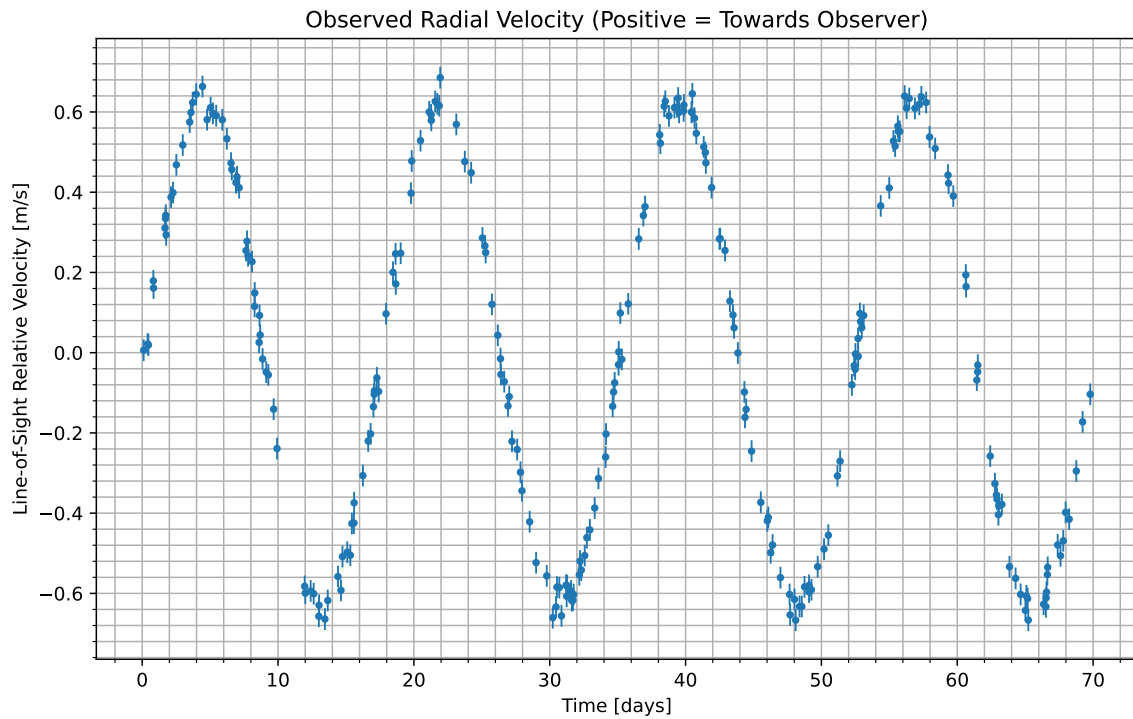


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2085-03-23/21:58. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	31
CO_2	56.5
H_2O	12.5

Gas Abundance (percent by volume)

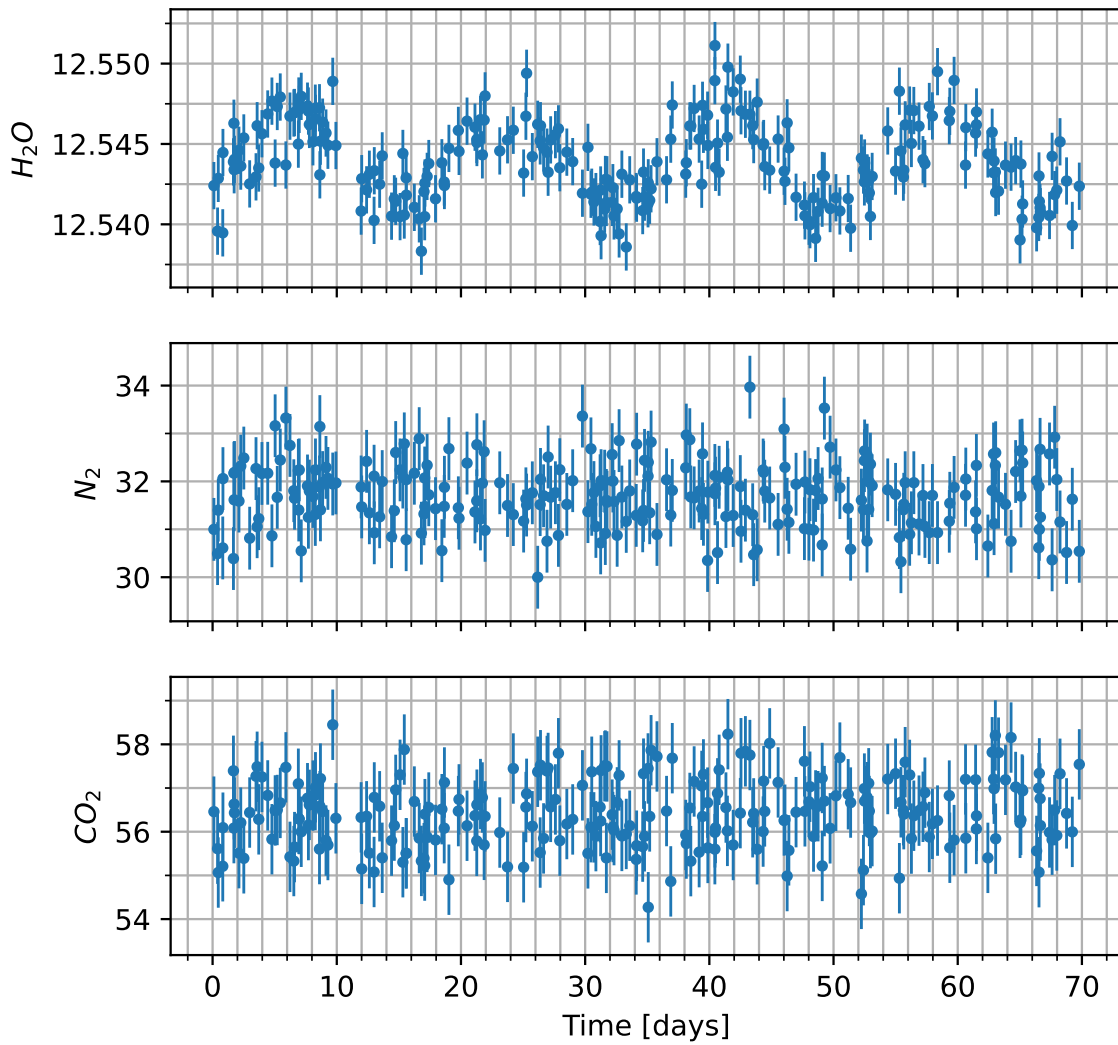


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

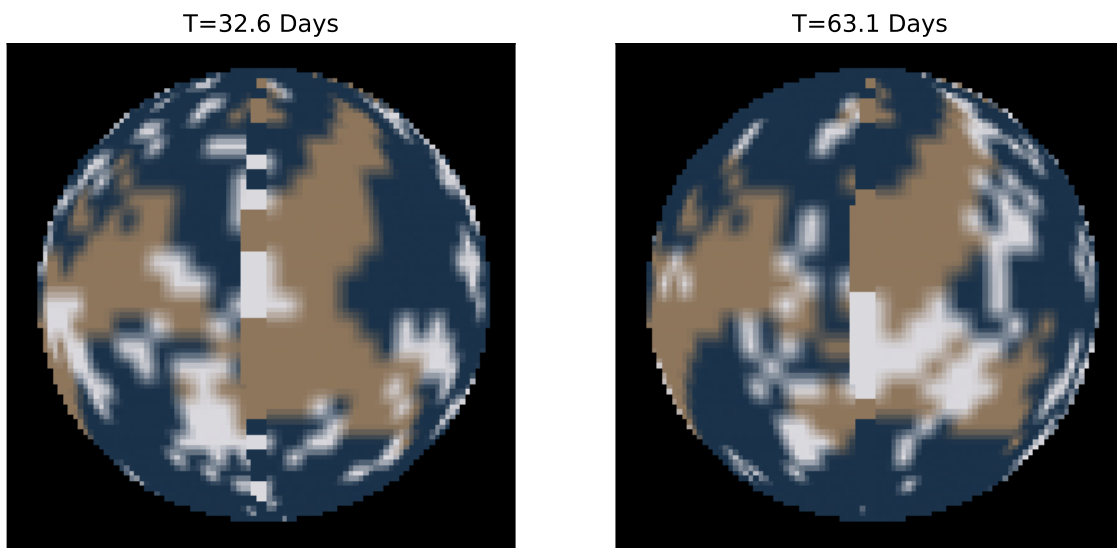


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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