

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging screato2 Planet 2

Thursday 6th December, 2074

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 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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1001010100100010110010101000011110001110000010011000101101  
0111010000111101111001010111000111100111100111110001010001  
1010100110001110001111100100101010001100110101111000010000  
1001000000011000010001001011110100110011110101110010110000  
0110011011011110100110001101110011111010101100111000011001  
0011110110011000100101111010000010110011000100100010011001  
0111101111110001101000001100000010001000100100111100001101  
1100001010101011100110011000001010010010110111010100101100  
0110010100000000100010010010010000101010000101110110100011  
1111101101100011000001010110000101111011010011111001011010
```

This signal was first noticed at UTC 2069-07-08/18:16.

Parameters of the candidate planet of origin and its host star

Spectral Type	F
Stellar Luminosity (Solar Units)	2.56
Stellar Mass (Solar Masses)	1.26
Distance to Star (lightyears)	127.3
Planet Mass (Earth masses)	4.1
Atmospheric Pressure (atm)	0.6

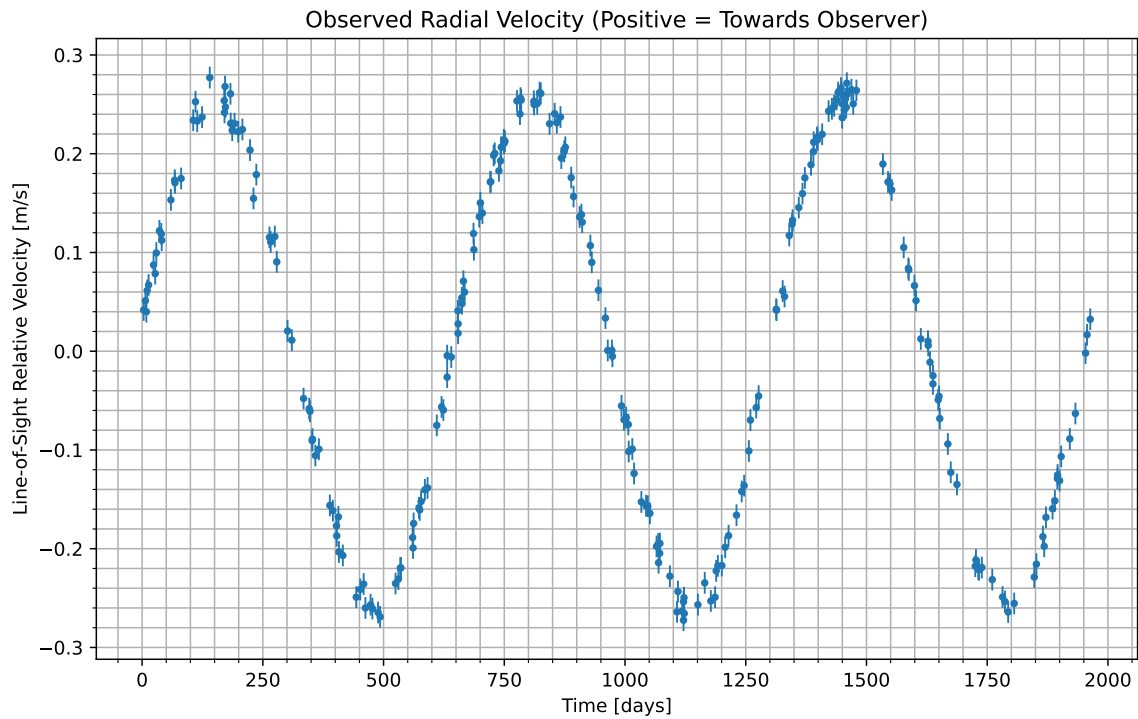


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2069-07-09/19:22. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	20.3
CO_2	74.2
H_2O	5.5

Gas Abundance (percent by volume)

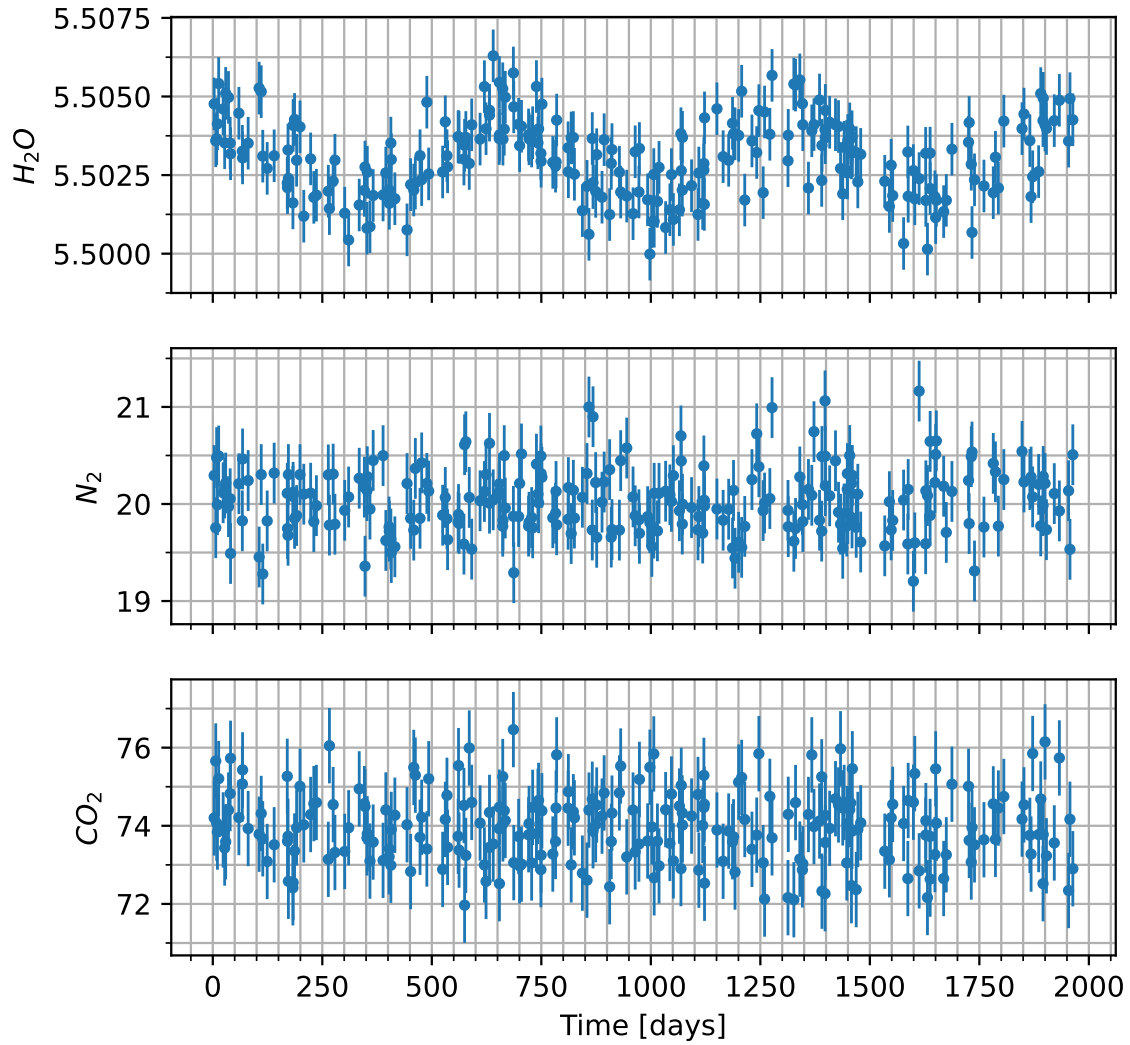


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

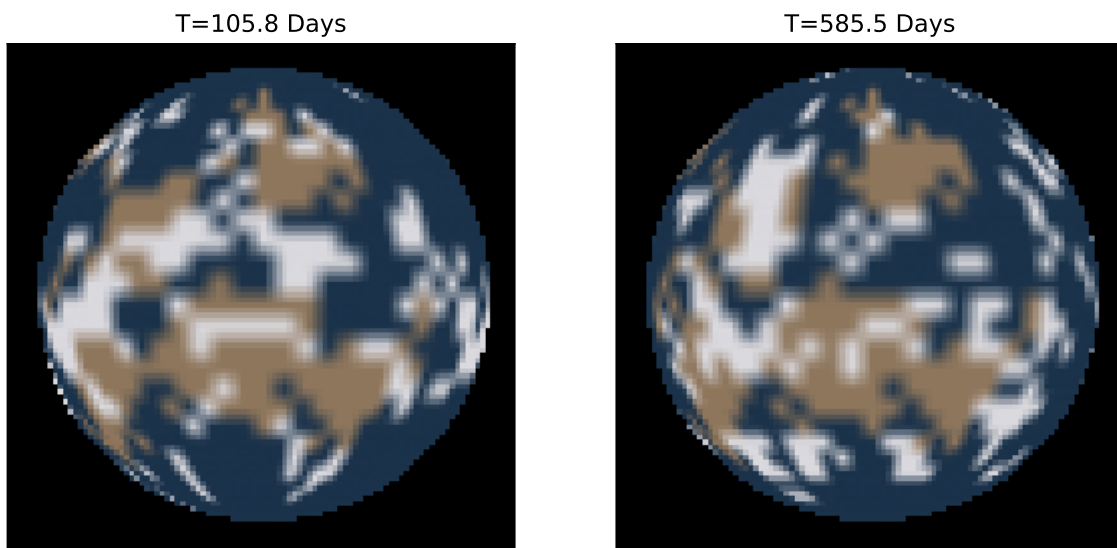


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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