

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging flynnmi2 Planet 1

Saturday 6th January, 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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01111000110010111001100101111001110011111100101101000001111110011000001  
111000101011001001100110101000101011001010100101000100110001001111000111  
1010000100101111001001110111111011111110100000001001011001011110011111  
001100111110011010110111011100111000101100011011101110101110010011011000  
110111101111011101101000101111111011101111011100111010001110110101111  
000101110101011111100111100010011010101001100000001011100001001111110011  
011111001100001110001111101100100000100110010111000001000010010111010101
```

This signal was first noticed at UTC 2084-08-17/07:28.

Parameters of the candidate planet of origin and its host star

Spectral Type	M
Stellar Luminosity (Solar Units)	0.0296
Stellar Mass (Solar Masses)	0.411
Distance to Star (lightyears)	13.3
Planet Mass (Earth masses)	1.6
Atmospheric Pressure (atm)	8.6

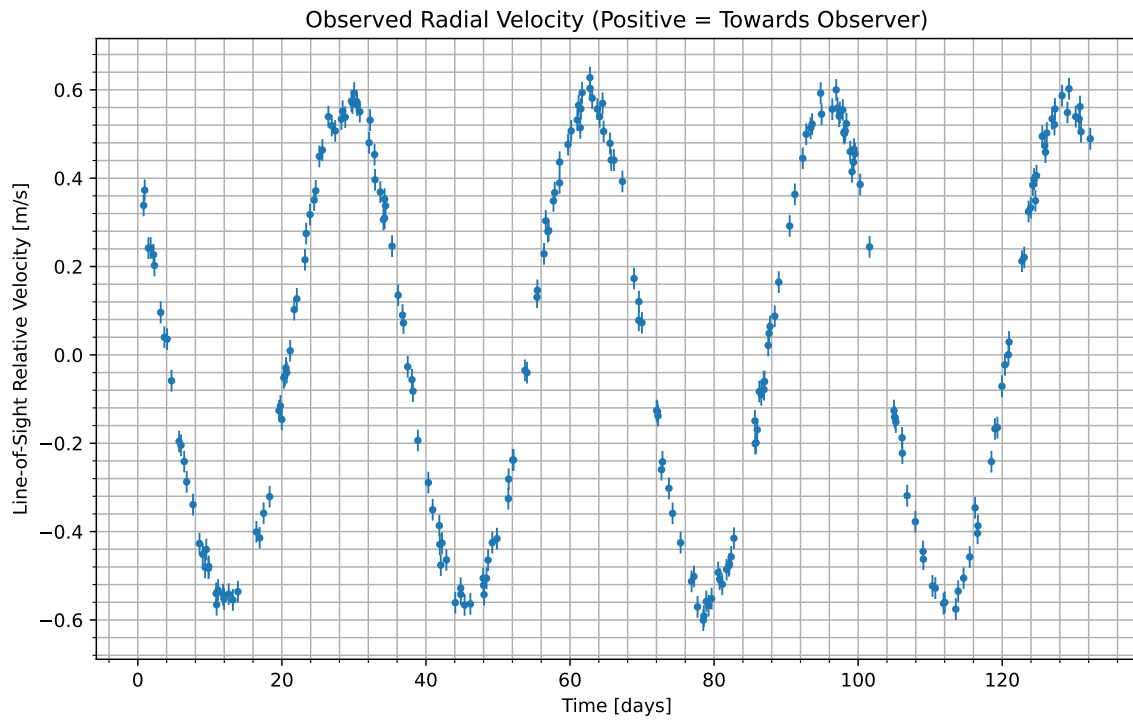


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2084-08-19/07:38. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	22.4
CO_2	44
H_2O	33.6

Gas Abundance (percent by volume)

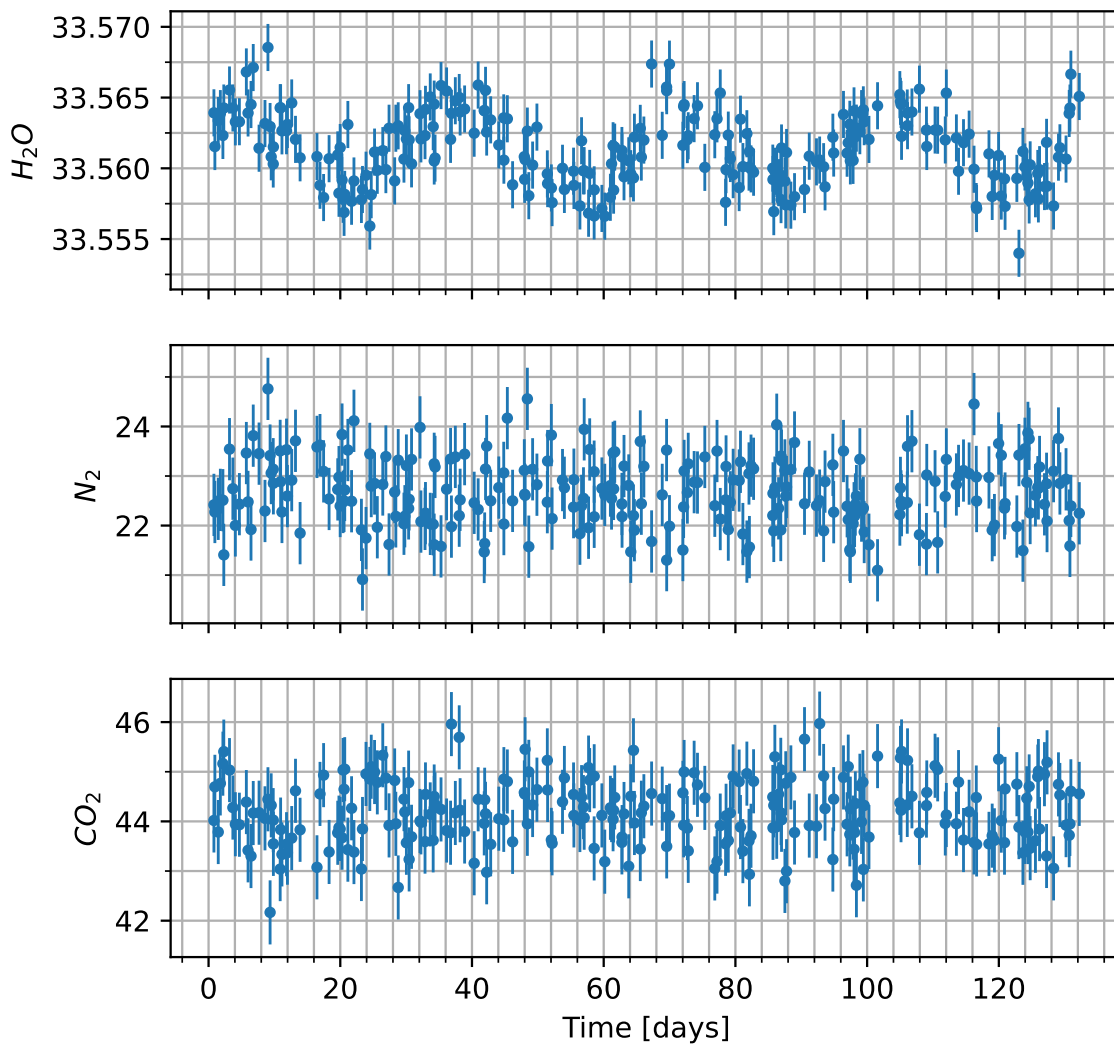


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

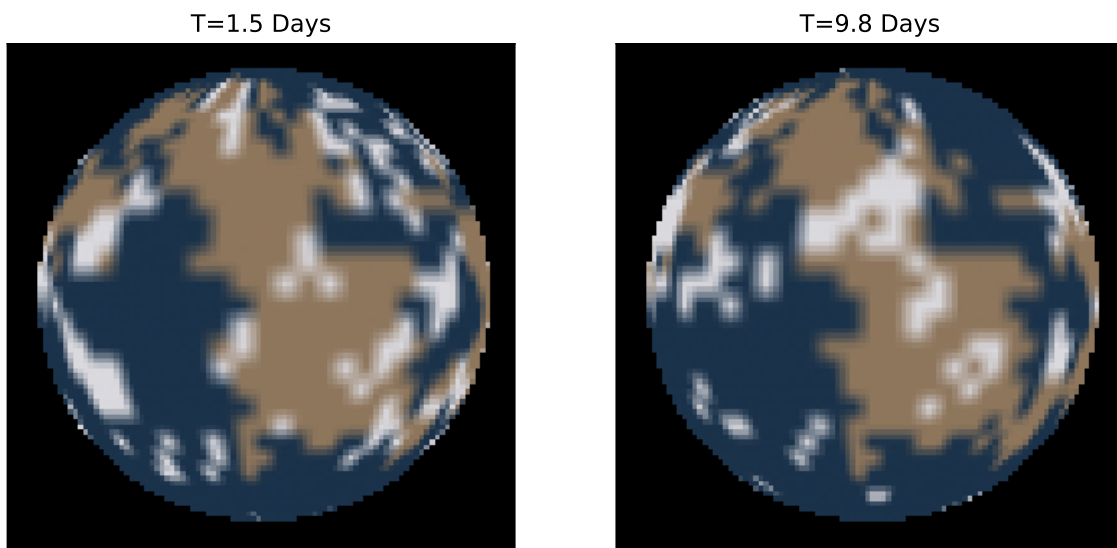


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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