

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging whitetr4 Planet 3

Wednesday 10th April, 2075

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 lasted a short duration and then stopped. The transmission is shown below:

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1111100111010010001111110100111011010010101100000101110111101
0011010010111101001001011101001101110101111001000111100101100
0011001110101110001110001100101010101000011010111001100000000
010110101110011001100010111000110111111110010000001101000010
1011110110111101010010010100001100000000000101111000110011011
1101110010110001010100010101100001111101000010110100001001110
```

This signal was first noticed at UTC 2074-11-28/21:54.

Parameters of the candidate planet of origin and its host star

Spectral Type	M
Stellar Luminosity (Solar Units)	0.0295
Stellar Mass (Solar Masses)	0.411
Distance to Star (lightyears)	231.6
Planet Mass (Earth masses)	0.4
Atmospheric Pressure (atm)	1.2

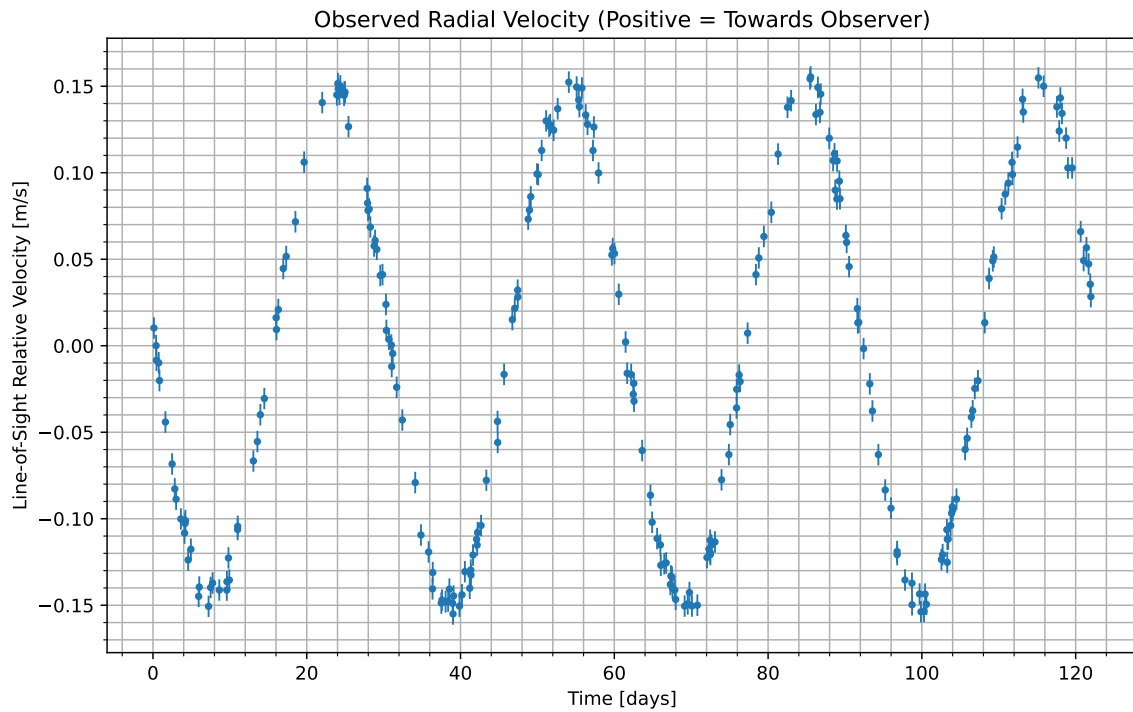


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2074-11-29/12:35. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	21.3
CO_2	45.7
H_2O	33

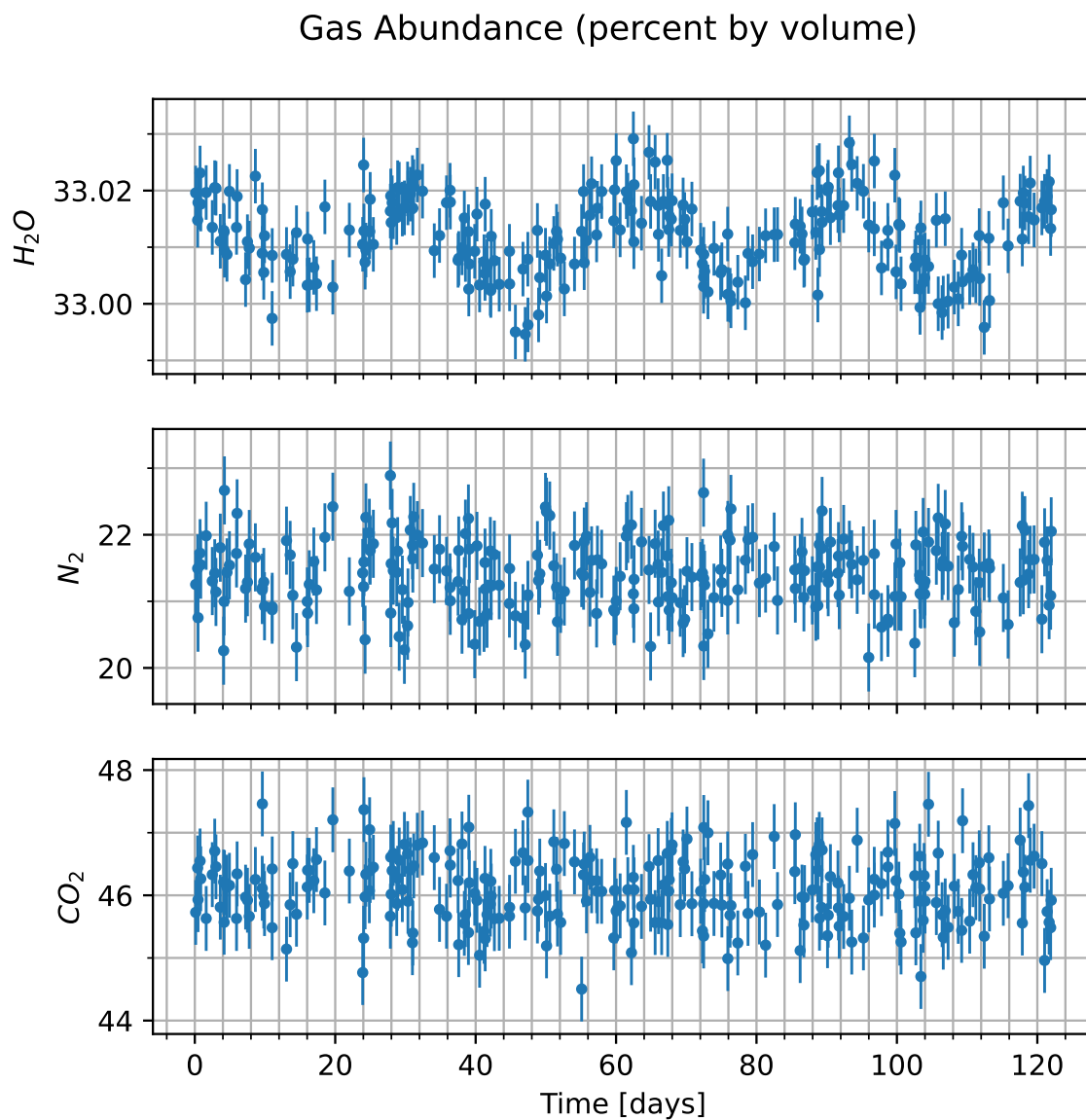


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

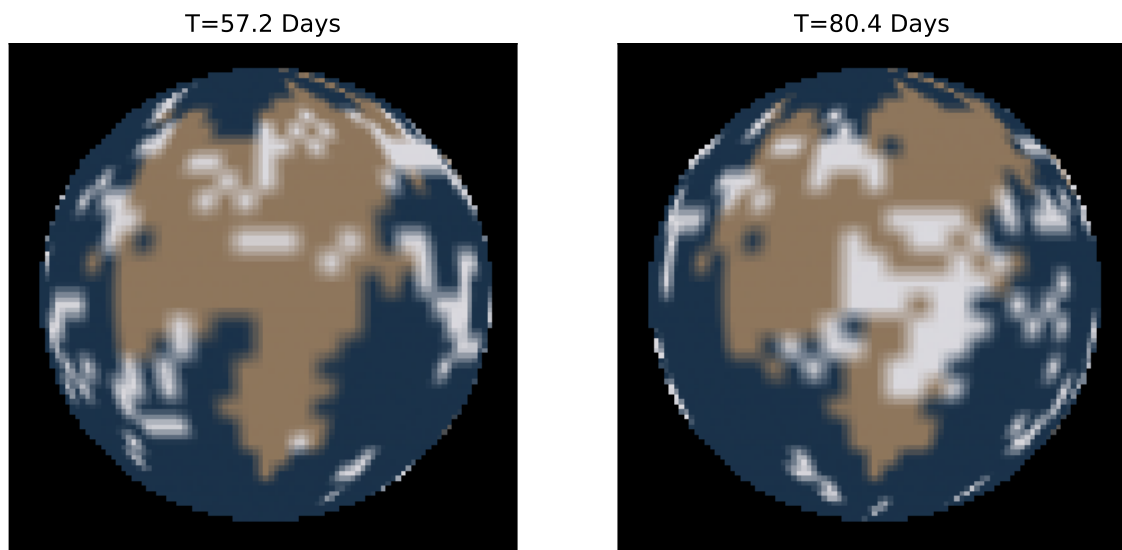


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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