

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging

musta171

Planet 3

Thursday 22nd June, 2084

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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10101011110111111000100011000110001101110011001000001000001000110000100101111
100011110010100010111101001000011001101111100111000001011100110010011010111100
0001011110001000011011000100101110111110100100110101001111100110000010010111
000011011000111001110100010111011011011000110110000111100101000111101101001111
010111011011001011100100010010111101111000011111010110001010011011101100011001
001100100010101001101011011111010101001000101000100001001110111010110001111101
110111001001000111110011010100100111011100000000001101100100011110001000011000
10010110010001011011111100011111010001010111011101111000000110111110100110110
101100101111100111011100111110100101111101001010010010010000111101100001110010010
```

This signal was first noticed at UTC 2080-03-06/02:38.

Parameters of the candidate planet of origin and its host star

Spectral Type	F
Stellar Luminosity (Solar Units)	1.62
Stellar Mass (Solar Masses)	1.13
Distance to Star (lightyears)	959.5
Planet Mass (Earth masses)	3.5
Atmospheric Pressure (atm)	9.5

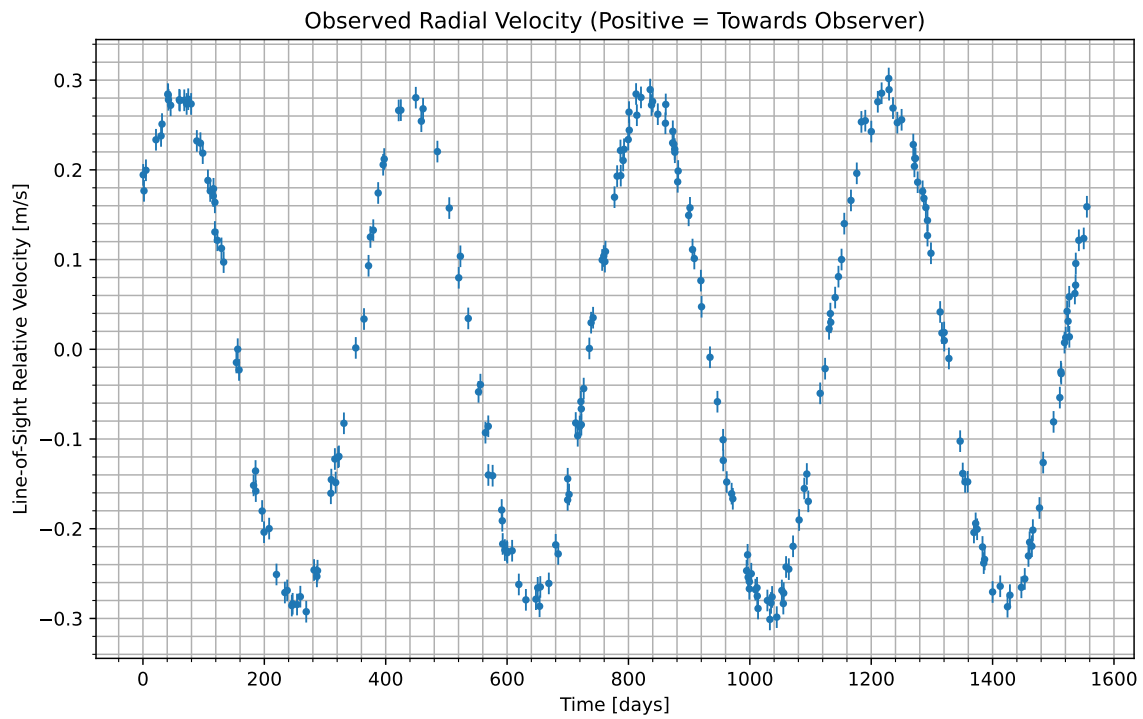


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2080-03-06/10:05. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	55.2
CO_2	25.1
H_2O	19.7

Gas Abundance (percent by volume)

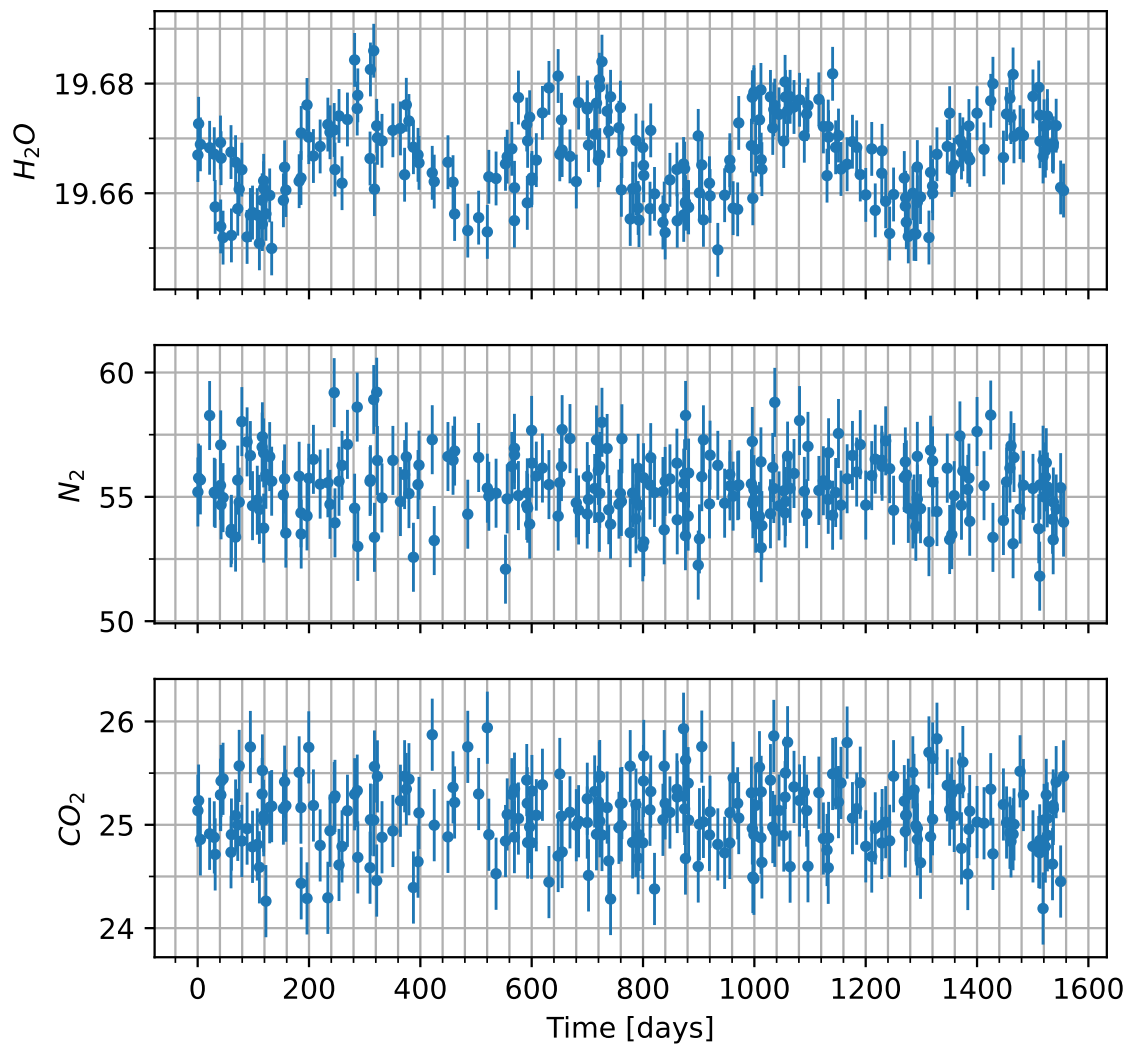


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

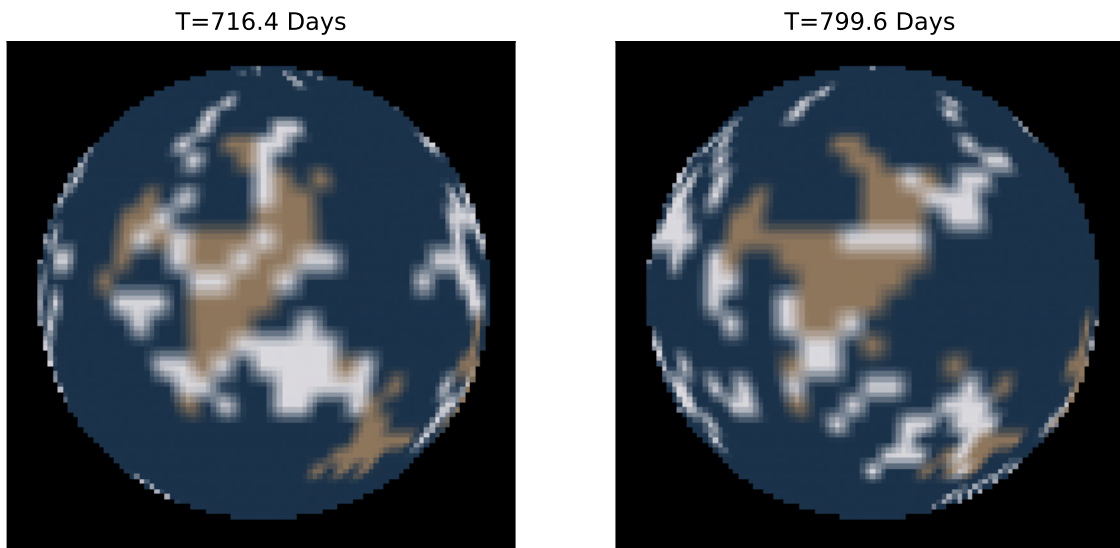


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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