

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging

mart1435

Planet 1

Sunday 18th August, 2080

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 microwave 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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01111111001101110010000000001101110000111010111000011
11101011001010100000111110111000000011101110111001101
00101001010101101111110011011100110110010101010111010
0111110101001001011111110000111011000010001011110001
0101000111110111011111101000010011101100010000001011
11010111010010101010001111100100101001100011010100110
01101110001000001011100110110000100011001011100110100
11101001000011010101100000010010101100011000101011101
11000111101011001010110101100001001010101110100011101
```

This signal was first noticed at UTC 2080-06-10/19:10.

Parameters of the candidate planet of origin and its host star

Spectral Type	M
Stellar Luminosity (Solar Units)	0.0009
Stellar Mass (Solar Masses)	0.138
Distance to Star (lightyears)	139.9
Planet Mass (Earth masses)	0.6
Atmospheric Pressure (atm)	0.5

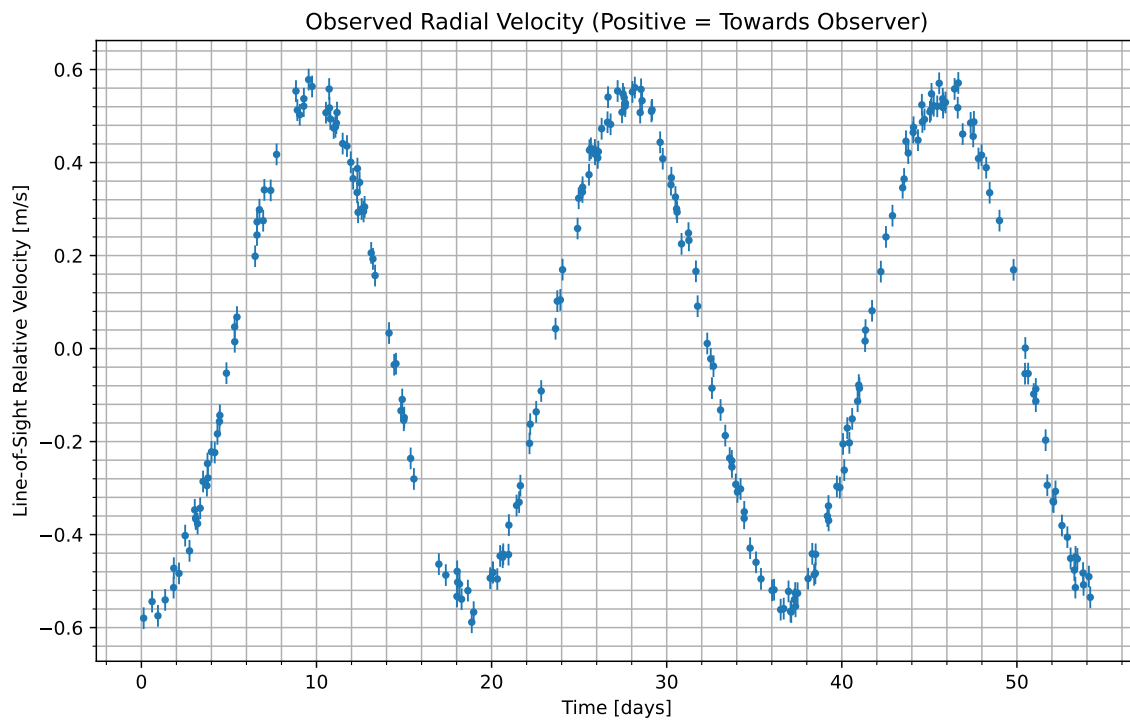


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2080-06-11/01:11. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	21
CO_2	66
H_2O	12.9

Gas Abundance (percent by volume)

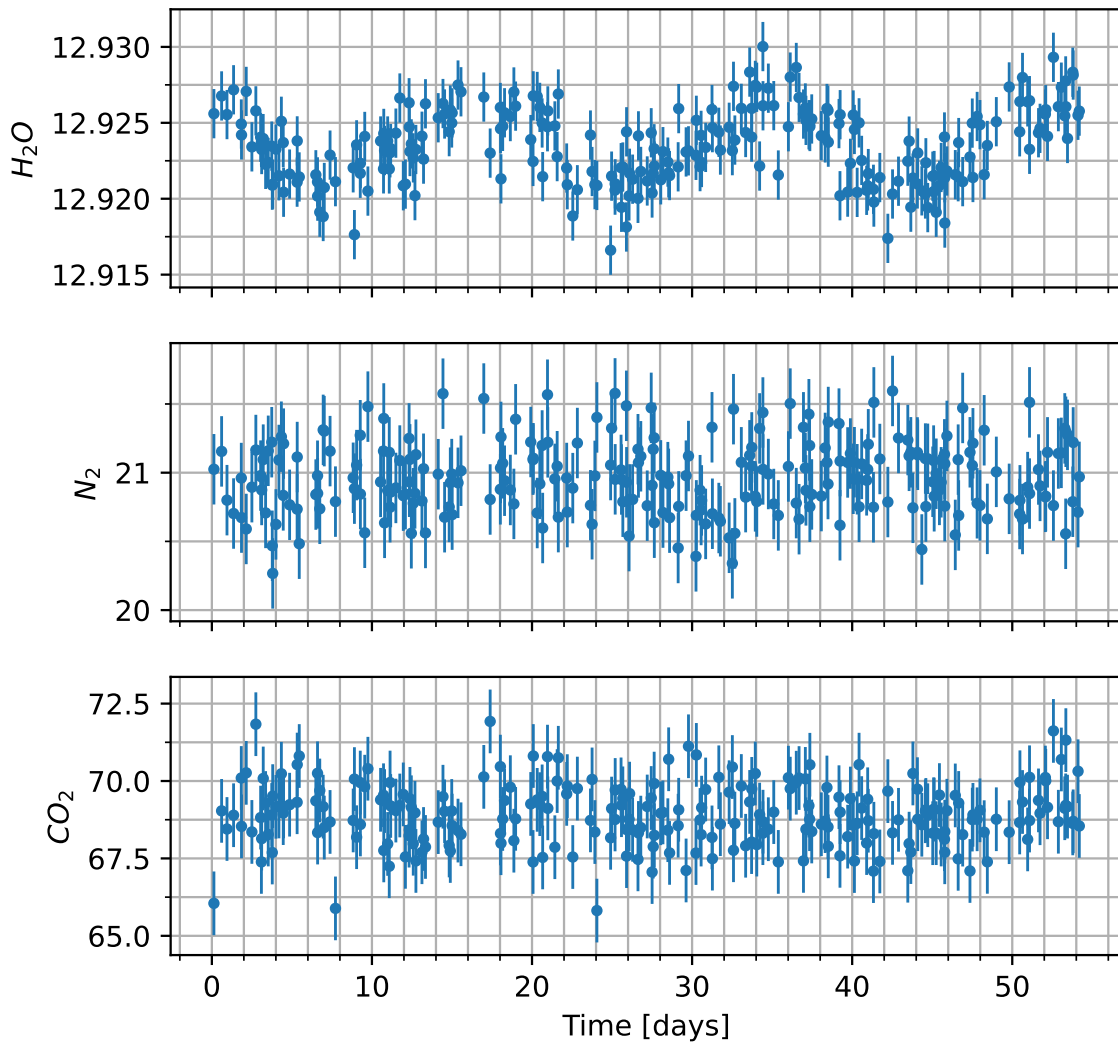


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

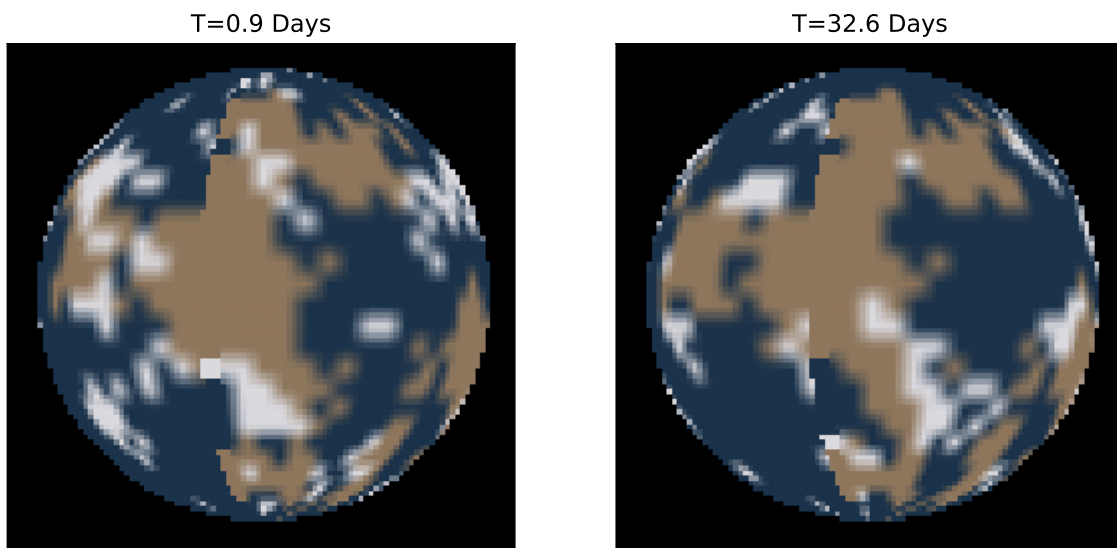


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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