

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging yangyim7 Planet 1

Friday 3rd February, 2079

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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1110011100010101000100001101010000100101001111000001011001010010  
0111001110010001111110111101001000001000111101100000111100001110  
1000100000000110000000011001011001011110111001101011010101100101  
0011111010100101110110111101000111111000011011101111111101010110  
1101111011111010001010001101100111001001100111110010001010010000  
0100001011001101010100101000101011001100000101010111000100010011  
1110001011110011100010100010001111001101101110100001101101101101  
0000101010001010010100110100110000000111010101000001001100010001  
0001001001110010001111100010101011011011100011101000001010000100  
0101111101010000100100011010101000011110110011101000101010111111
```

This signal was first noticed at UTC 2075-10-03/00:49.

Parameters of the candidate planet of origin and its host star

Spectral Type	F
Stellar Luminosity (Solar Units)	1.38
Stellar Mass (Solar Masses)	1.08
Distance to Star (lightyears)	15.9
Planet Mass (Earth masses)	1.3
Atmospheric Pressure (atm)	40.0

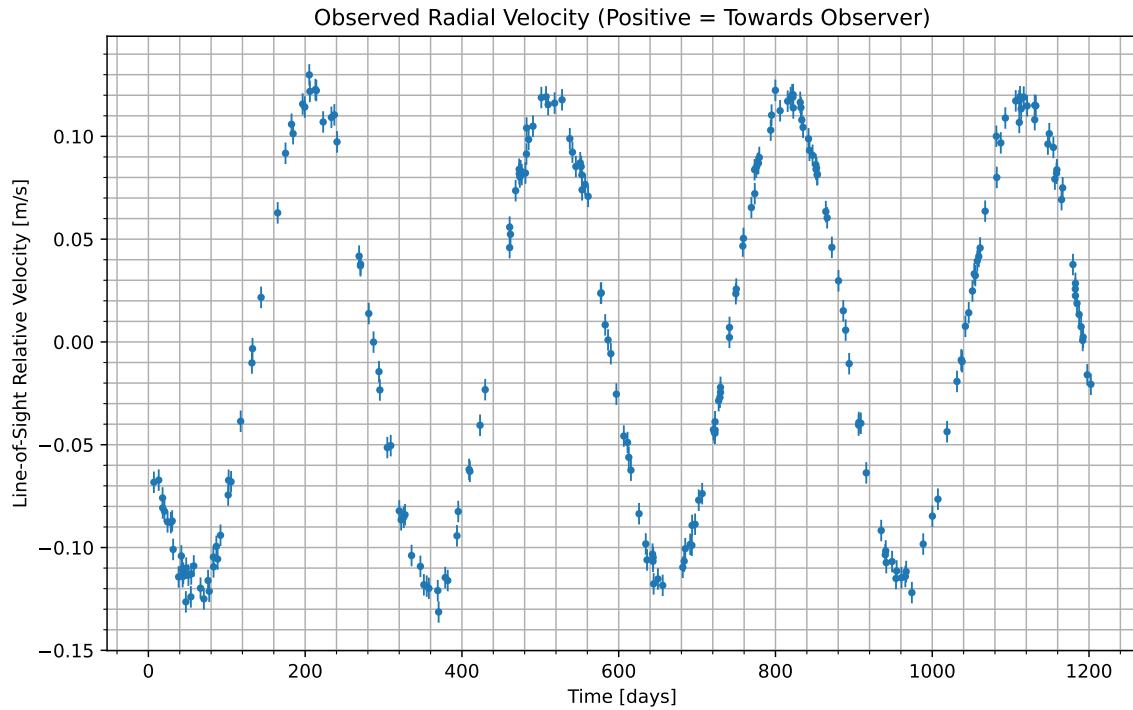


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2075-10-04/16:53. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	37.3
CO_2	43.9
H_2O	18.8

Gas Abundance (percent by volume)

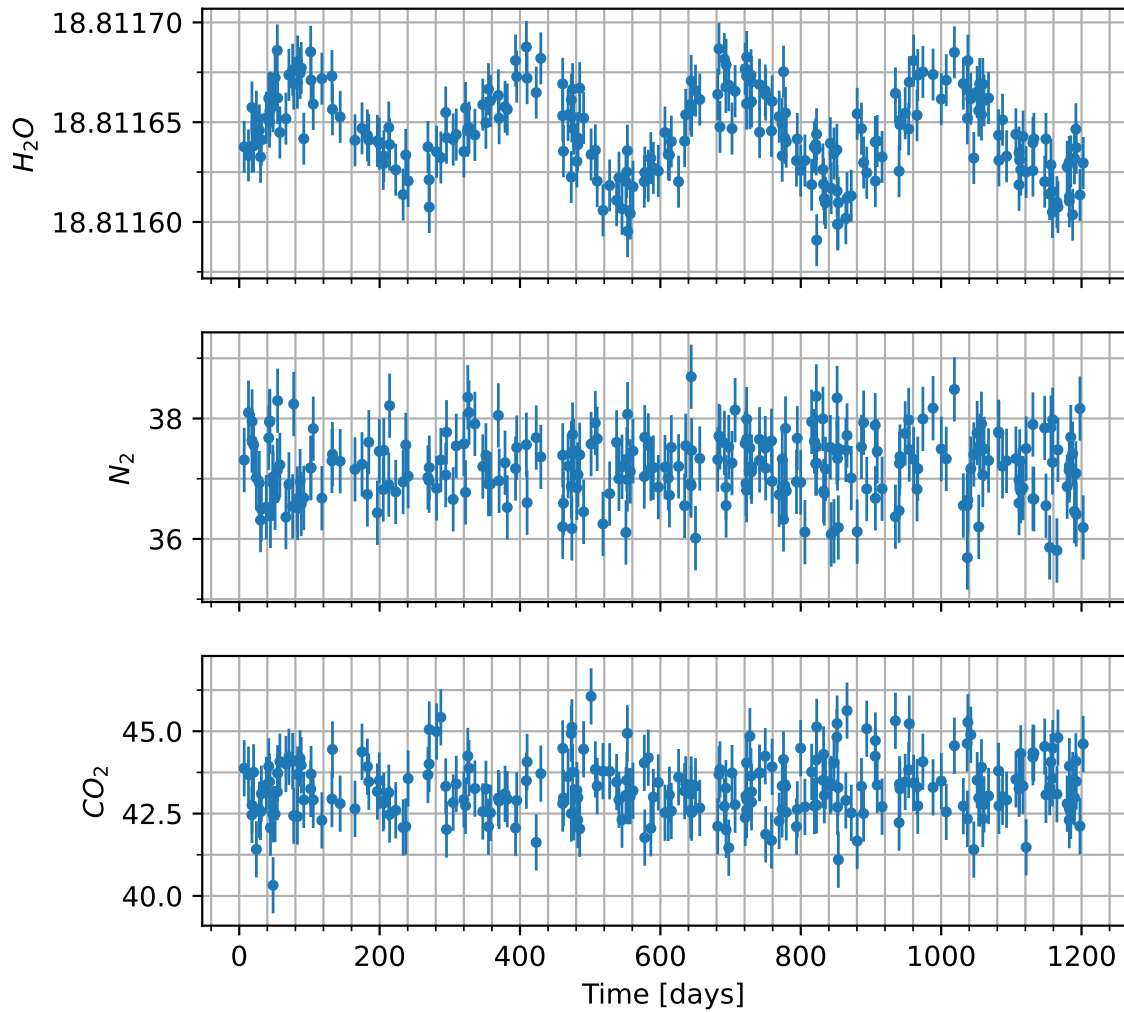


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

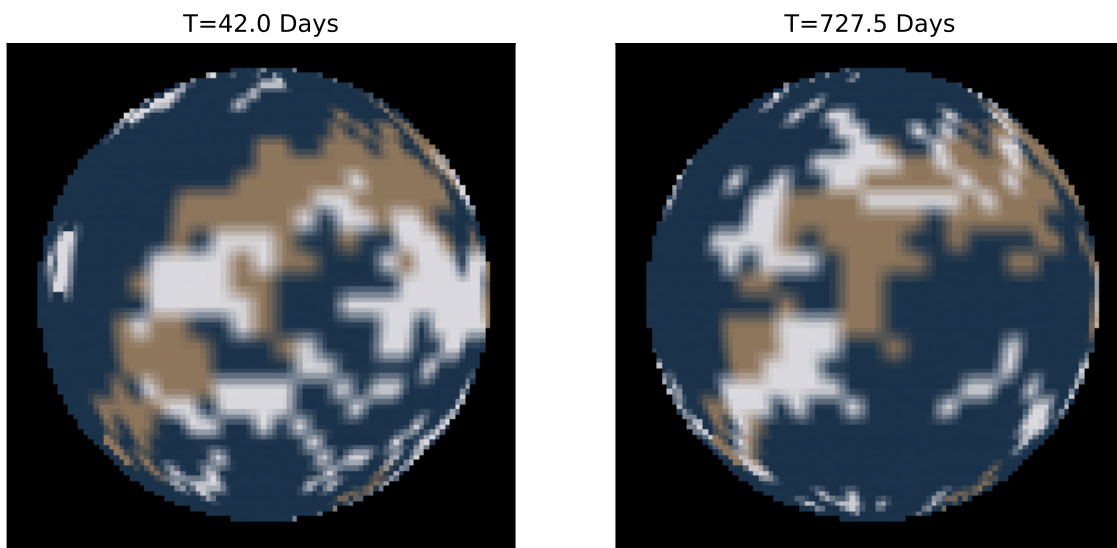


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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