

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

Saturday 16th January, 2083

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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0010100010001100111010001010100001011101011100000001001010001111000110010100011  
0101110101110101001001100100111010110111011110010001011101010111101000110100111  
0100100001100001011101101110110100101101101100111110000100010000100001010010100  
1100100101100100010110001100010010011010000111011101001011110100010110101001010  
0111000000001110110101111011000100111010000110011110000010111101010010111010011  
000000000110010101110011001000101000101011001010011100110110001011011111101001
```

This signal was first noticed at UTC 2081-01-21/14:06.

Parameters of the candidate planet of origin and its host star

Spectral Type	G
Stellar Luminosity (Solar Units)	0.573
Stellar Mass (Solar Masses)	0.87
Distance to Star (lightyears)	16.1
Planet Mass (Earth masses)	0.5
Atmospheric Pressure (atm)	4.2

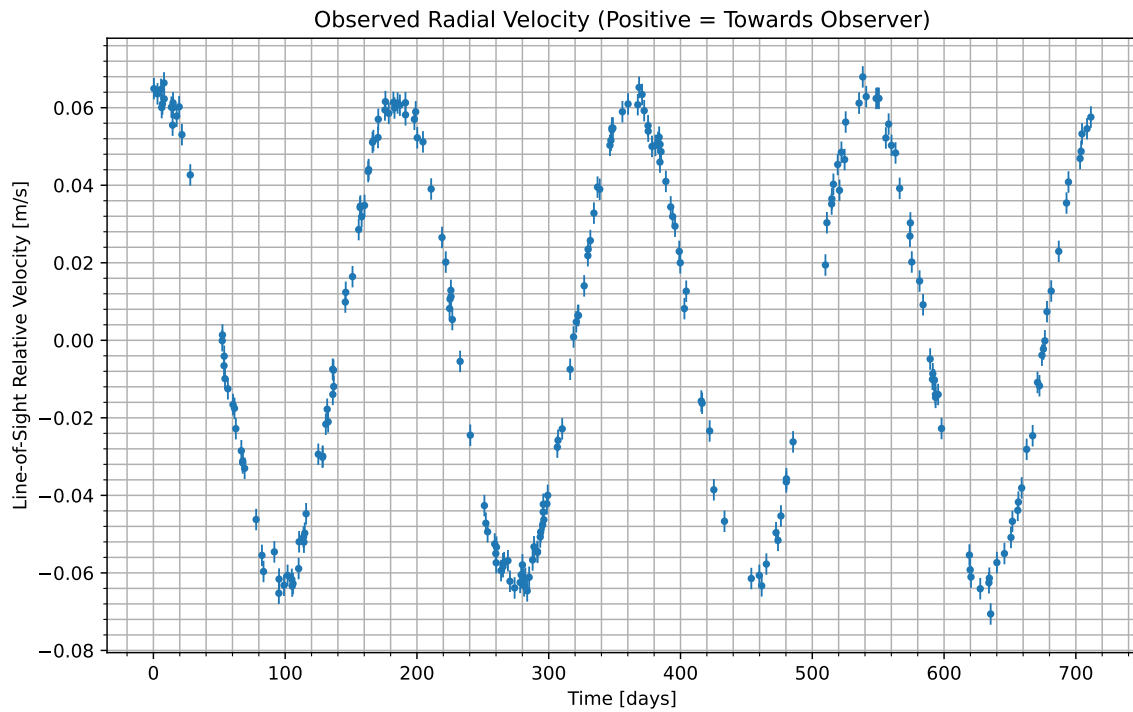


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2081-01-24/01:26. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	38.9
CO_2	54.5
H_2O	6.56

Gas Abundance (percent by volume)

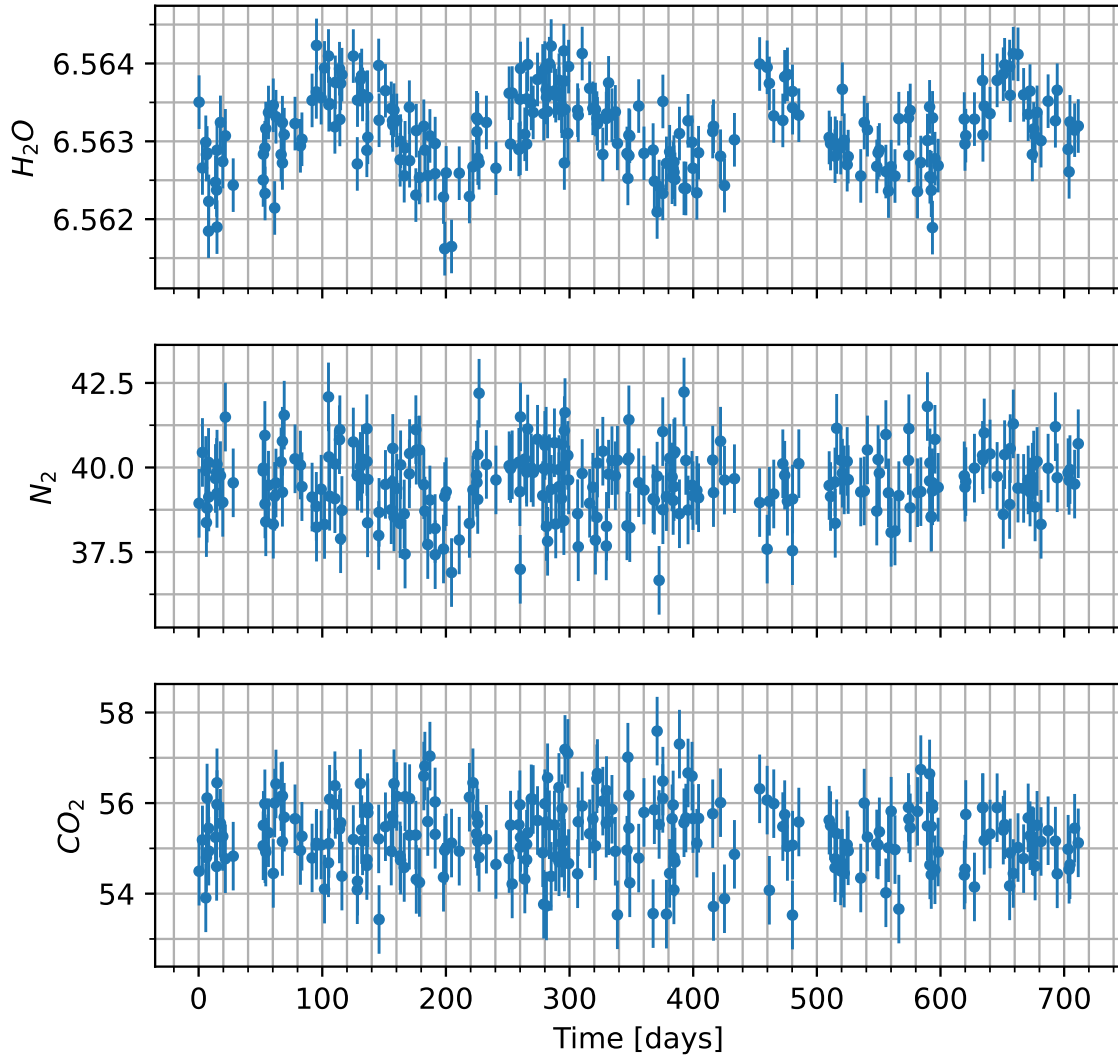


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

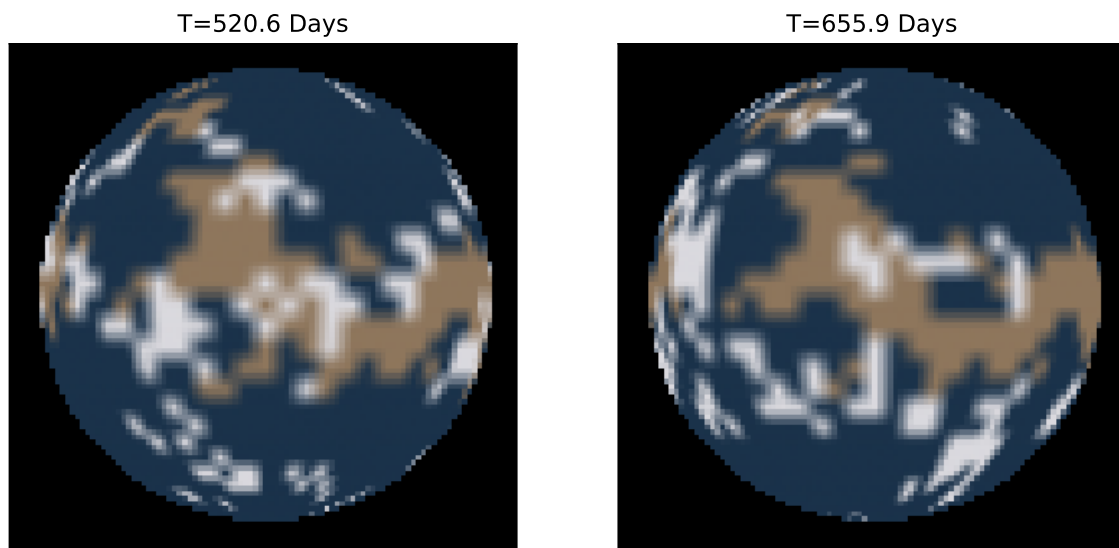


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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