

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

Saturday 20th December, 2081

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 optical 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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1101110011111000001010001010101001110100010010100010100  
0111001101101011000010110000001001010000000111010100101  
0100101110101010101001011110000001100010100110111100100  
0010011100001101110001100011000111101100010011001100010  
1111011010110010001001100001111100101101111010100111001  
110111001010010001101111100111111100100100010001010111  
0110010011111100101011010011001000100110101110101100000  
0110010011100000000011011000111000001110110011001001111  
1100011000111000011010001101110100100011001000101111000
```

This signal was first noticed at UTC 2075-05-21/11:19.

Parameters of the candidate planet of origin and its host star

Spectral Type	F
Stellar Luminosity (Solar Units)	3.66
Stellar Mass (Solar Masses)	1.38
Distance to Star (lightyears)	16.8
Planet Mass (Earth masses)	2.7
Atmospheric Pressure (atm)	1.9

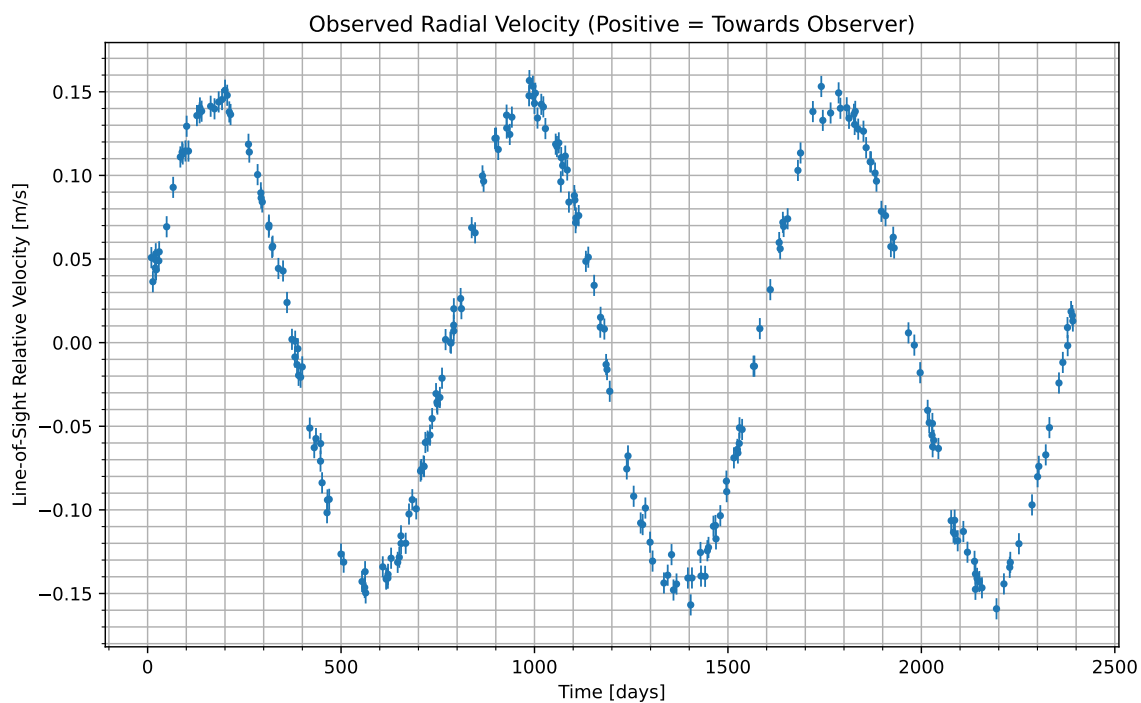


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2075-05-21/14:46. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	40.1
CO_2	36.9
H_2O	23

Gas Abundance (percent by volume)

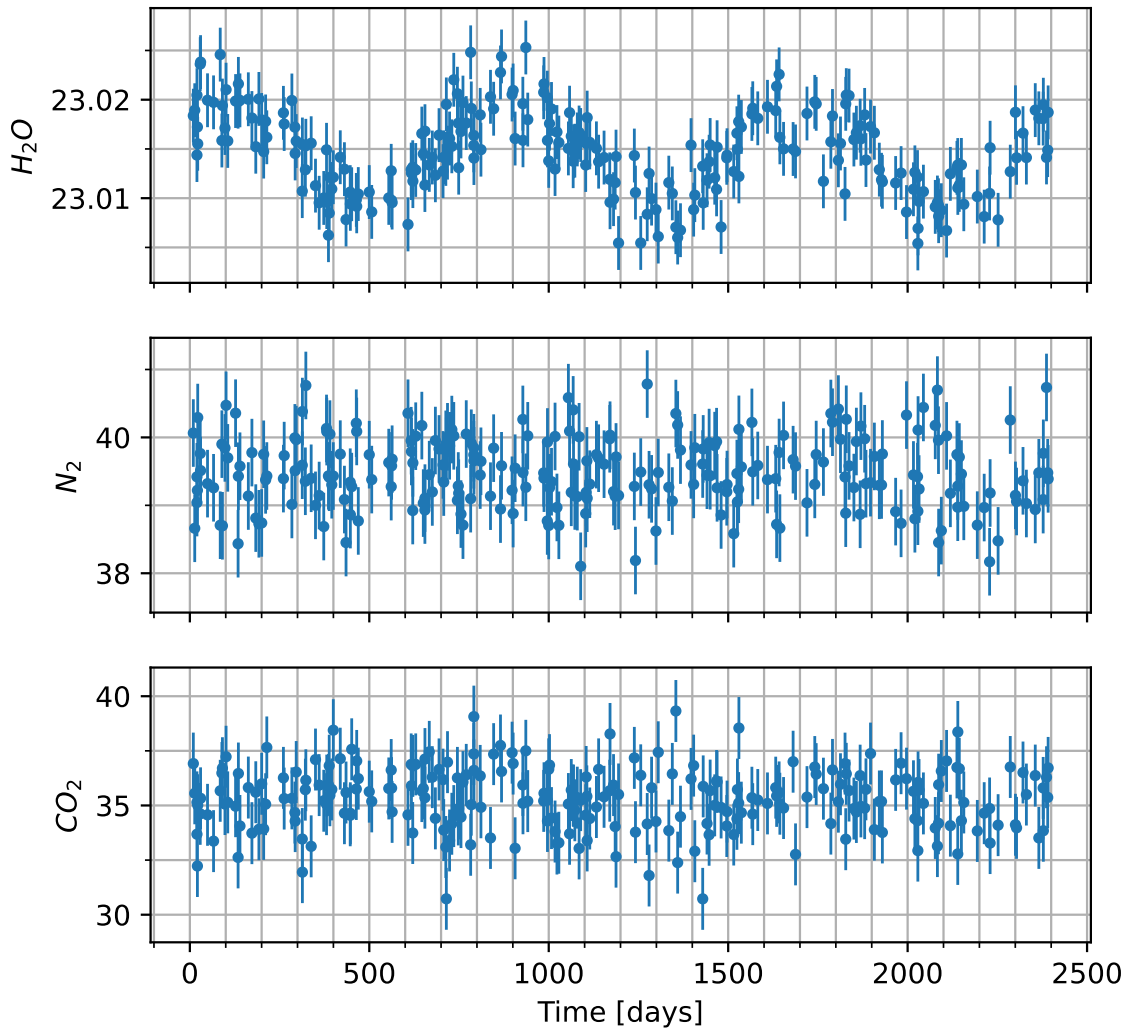


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

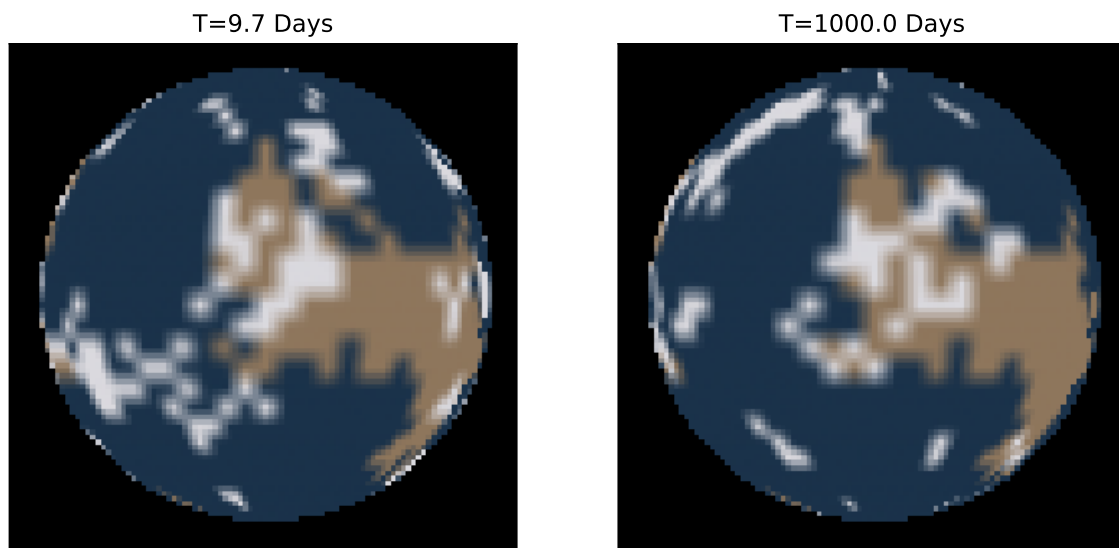


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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