

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging tudorda1 Planet 2

Friday 19th May, 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 is continuous and does not repeat itself frequently. An excerpt of the transmission is shown below:

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1110001111111011100111111010111010101011101100010000011111111111  
111111000111100101000001101000000000000100101001101010101011110  
00010111100000000101100010011110001100000101011001011111110110  
1101100110010111101001100011001101010101111011110000110101000001  
0011101100000110011110110000001000111000000100110101000010000110
```

This signal was first noticed at UTC 2076-08-02/18:07.

Parameters of the candidate planet of origin and its host star

Spectral Type	G
Stellar Luminosity (Solar Units)	0.809
Stellar Mass (Solar Masses)	0.948
Distance to Star (lightyears)	11.1
Planet Mass (Earth masses)	0.5
Atmospheric Pressure (atm)	17.0

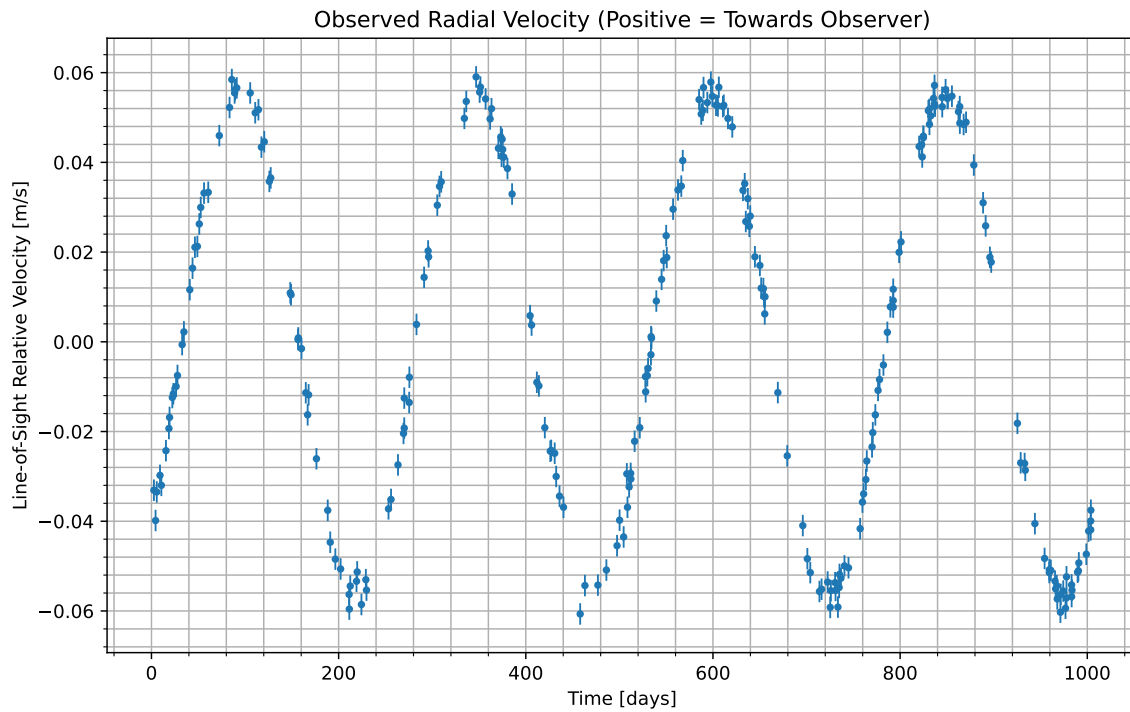


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2076-08-05/16:57. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	17.6
CO_2	75.4
H_2O	7.05

Gas Abundance (percent by volume)

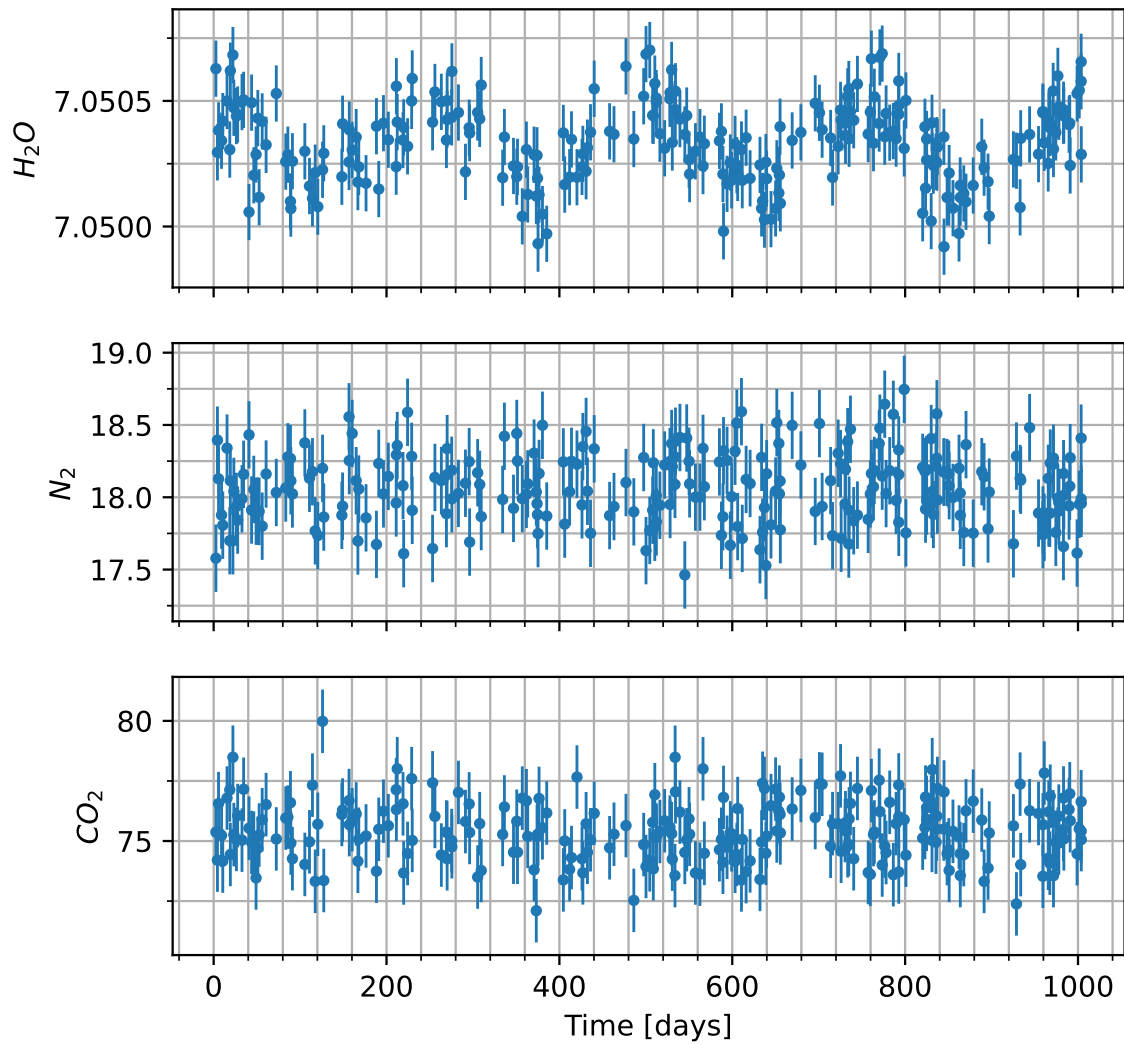


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

T=305.4 Days



T=611.6 Days



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.