

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging liuxi283 Planet 2

Thursday 16th October, 2070

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 lasted a short duration and then stopped. The transmission is shown below:

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111001000100111100001111010000100100110110111001010011001
111011011011111011000100001011001100100101010100101000110
010001100010111001111011000110011111101101011001100000101
010000011110110110101101110101100110010110000101001111110
10011100100110111111110101001011000011010101000101110011
111110111011100111101001100100100111010011101011010111101
001011110111101000101000000101100000010100000011011111011
000001111000101001110000011010100100001010000100100100011
010100000110000110100011110111010110100110000111000111000
```

This signal was first noticed at UTC 2067-06-20/16:29.

Parameters of the candidate planet of origin and its host star

Spectral Type	F
Stellar Luminosity (Solar Units)	1.92
Stellar Mass (Solar Masses)	1.18
Distance to Star (lightyears)	99.4
Planet Mass (Earth masses)	0.8
Atmospheric Pressure (atm)	4.0

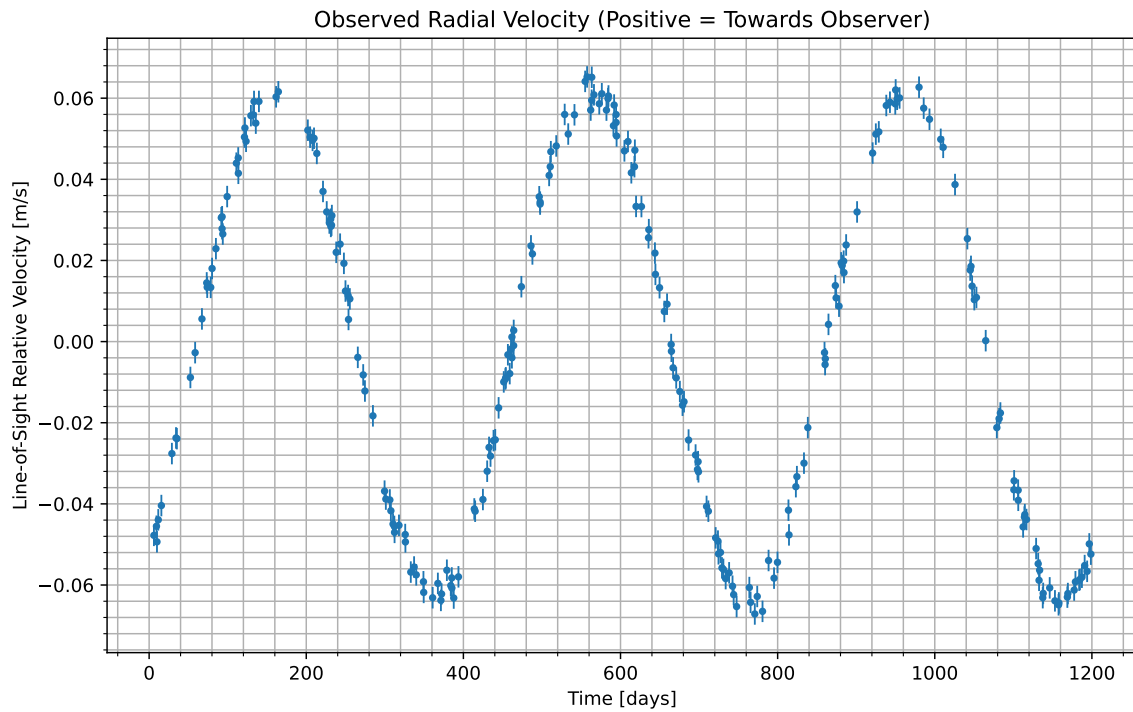


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2067-06-22/06:00. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	43.5
CO_2	33
H_2O	23.5

Gas Abundance (percent by volume)

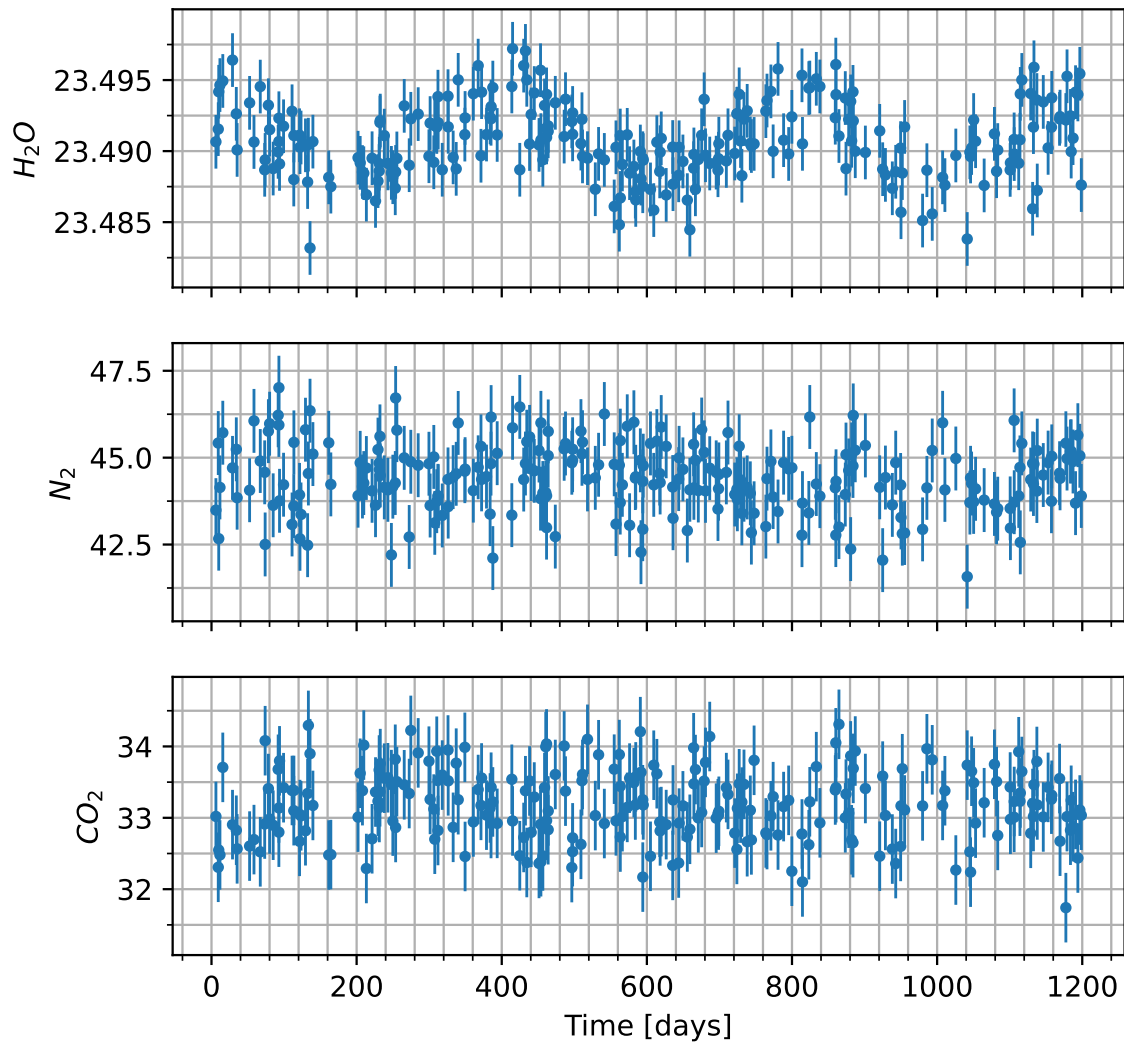


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

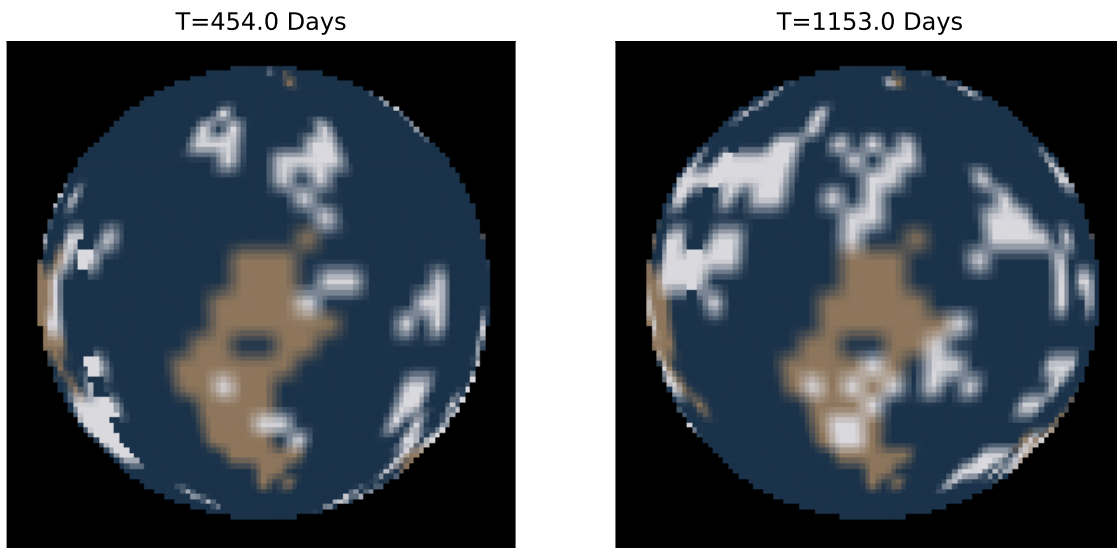


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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