

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

Sunday 30th December, 2074

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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0101011101001100001001110011011001000111000100100101001111011101
0110010000100000010000101100111100101101011110101111110100010011
1001011101101111011001000011100101111101001101001000101010110011
0101110100110101111011000100100010000010110111111010001101110110
0101111000001110001111000000000010100100110101110000100100010011
1100111010011111010001010011000110110011000101110010001110101001
1010101010011100101100001110011001101111010100111111111000001110
```

This signal was first noticed at UTC 2073-08-11/16:24.

Parameters of the candidate planet of origin and its host star

Spectral Type	G
Stellar Luminosity (Solar Units)	0.651
Stellar Mass (Solar Masses)	0.898
Distance to Star (lightyears)	103.7
Planet Mass (Earth masses)	1.1
Atmospheric Pressure (atm)	1.8

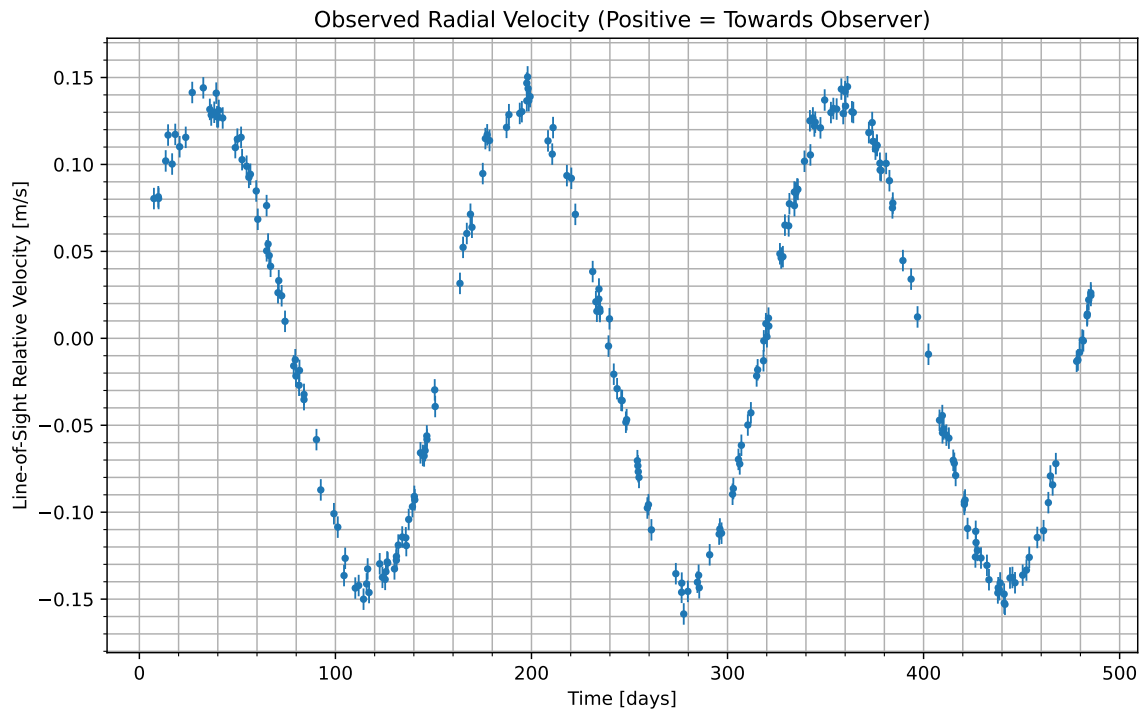


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2073-08-12/19:03. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	40.9
CO_2	34.2
H_2O	24.9

Gas Abundance (percent by volume)

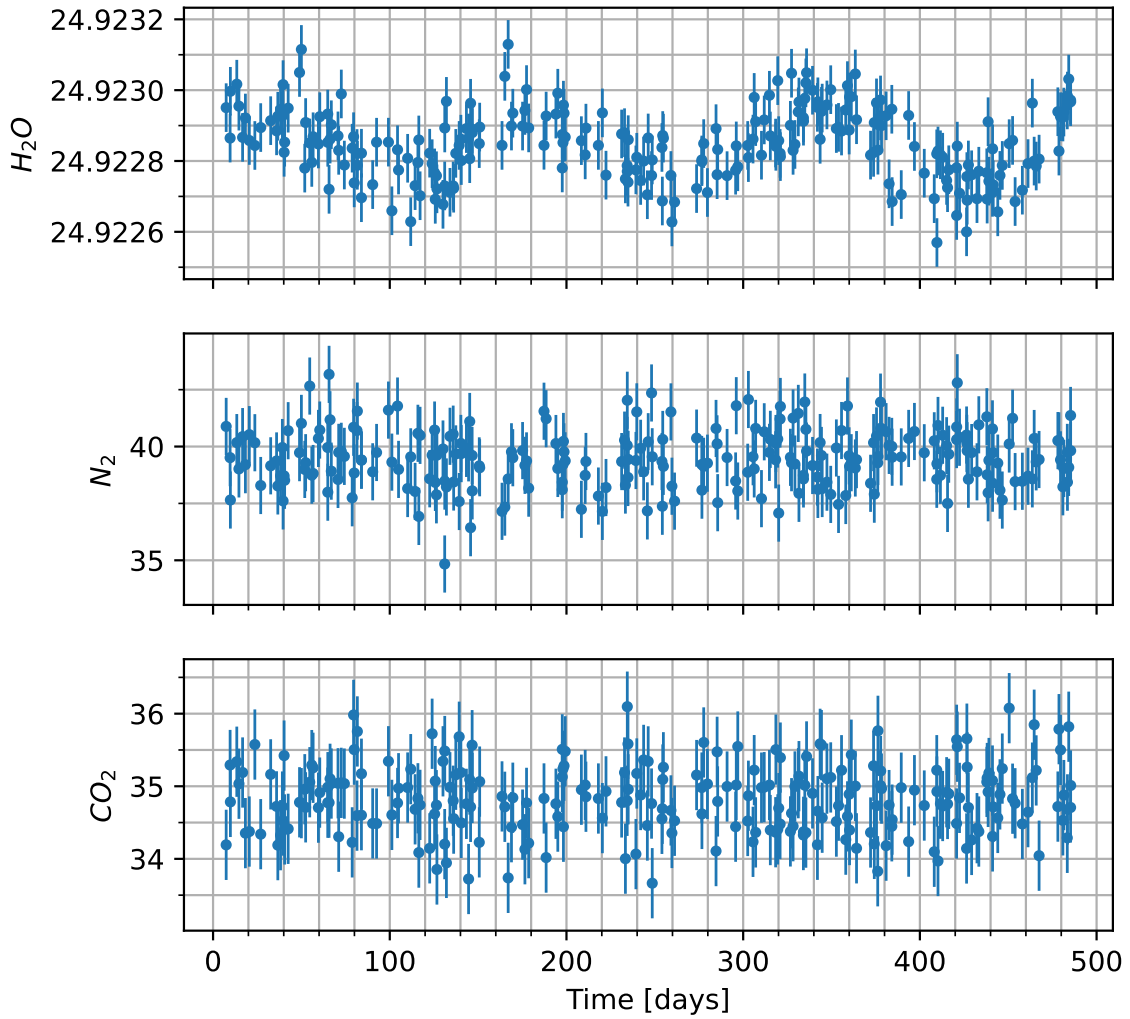


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

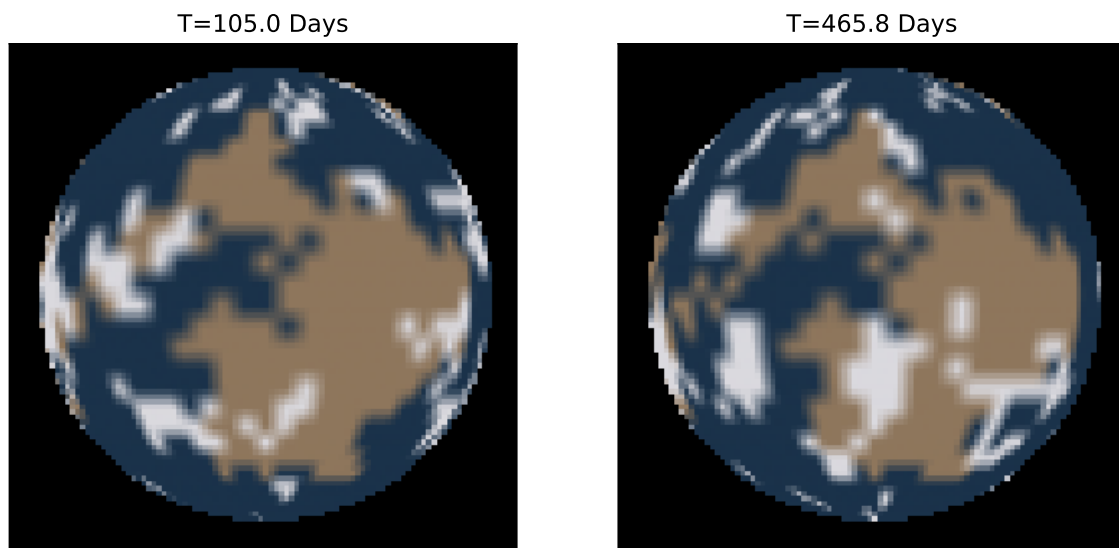


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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