

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging wangell2 Planet 3

Thursday 9th August, 2096

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

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10110100010101100111100010001101111011101010000011
01100100101101100000000010000001010000001010001100
10111001010111001101101100000010001100111011011010
11100011110110101100100001001111111101010011011010
00110010101011111000011100010101011001001001111001
01011101000100000101010101010000011101011000100000
01001000001010001001111111111011101010001100011110
01100101011111001011101011110100111101101111110011
11101010111101010010001100101101110110100000111000
```

This signal was first noticed at UTC 2095-12-07/14:13.

Parameters of the candidate planet of origin and its host star

Spectral Type	K
Stellar Luminosity (Solar Units)	0.0483
Stellar Mass (Solar Masses)	0.469
Distance to Star (lightyears)	34.3
Planet Mass (Earth masses)	1.2
Atmospheric Pressure (atm)	1.8

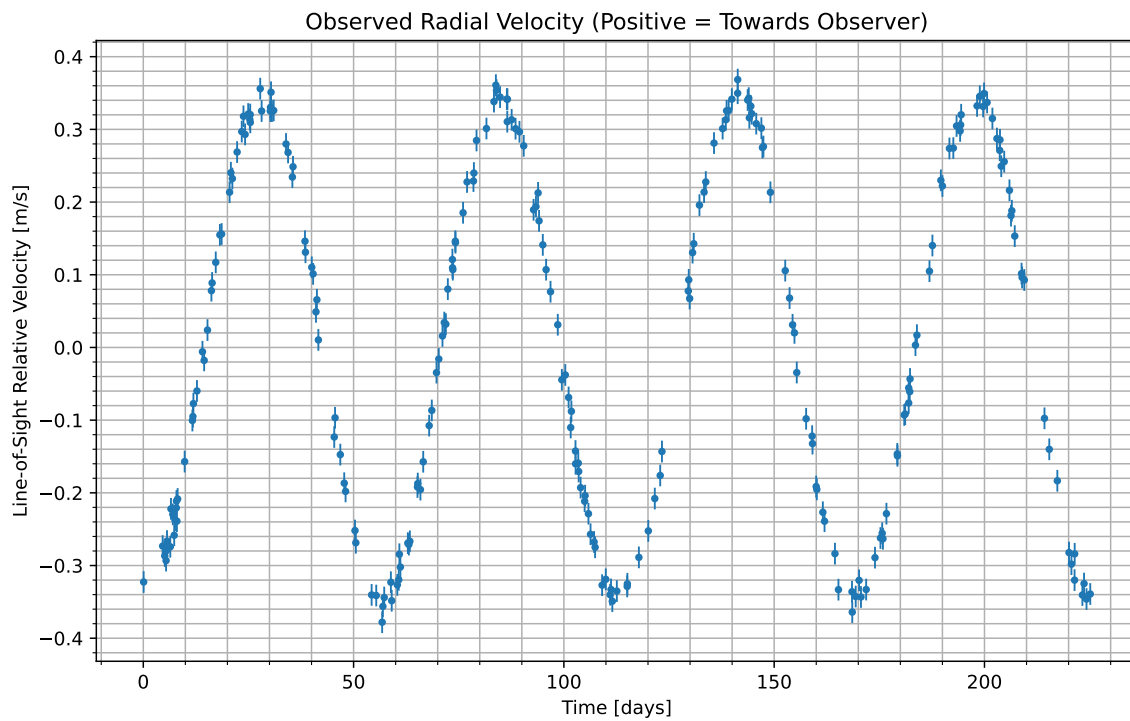


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2095-12-08/13:21. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	10.8
CO_2	64.8
H_2O	24.4

Gas Abundance (percent by volume)

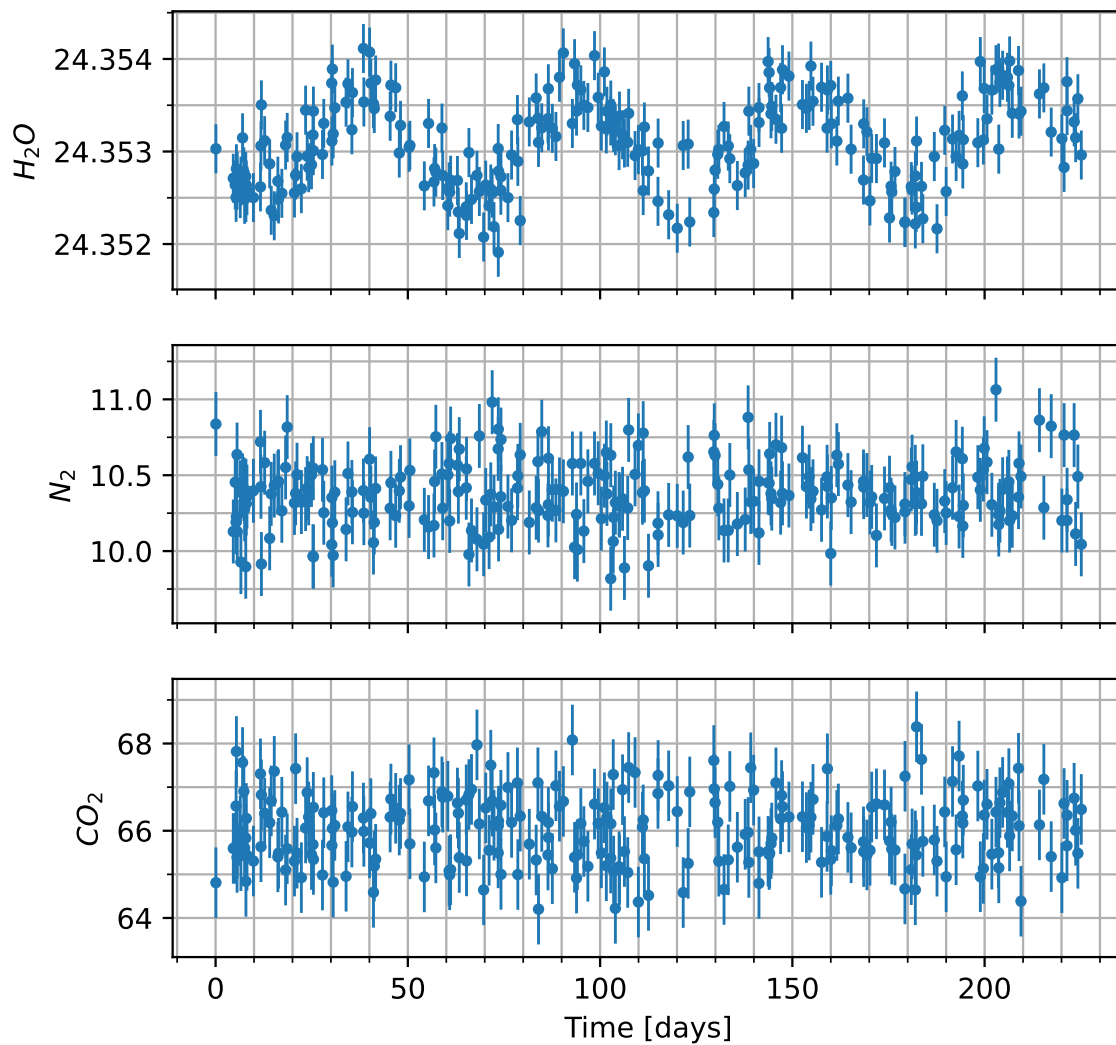


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

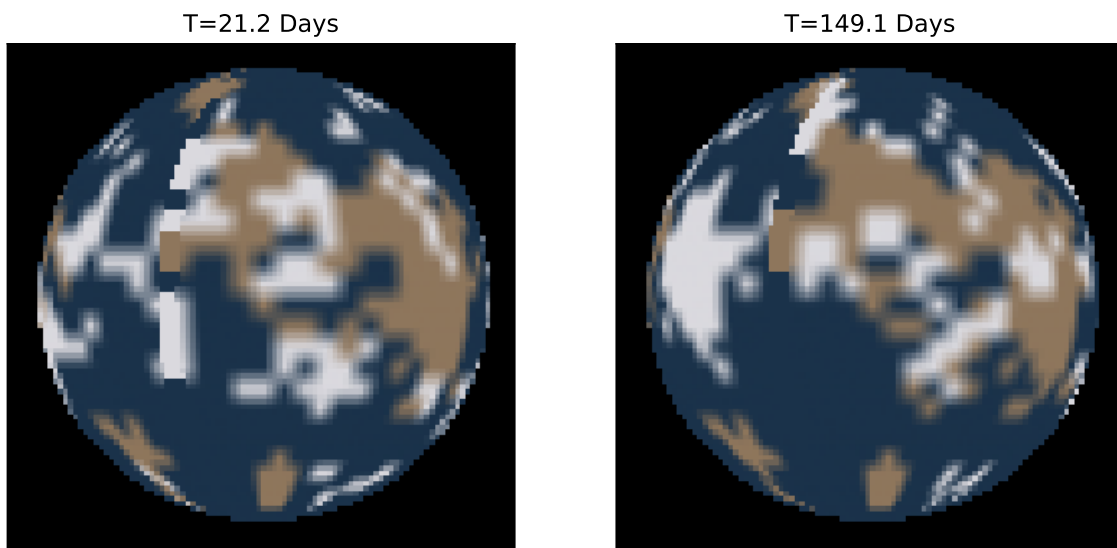


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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