

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

Saturday 8th January, 2095

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

```
10000101100101111011100110001110011101011101100  
10110001011000011000011111001001000111010000010  
10011000001001110110101101010100011011110000110  
11111001010010111010111011000001000010110101000  
1101011011110111011100110110111111000111110010  
10111001000011110100010101110101000000011101110  
10010110111010000111011110111010010101011100010  
01000111101111001001101000000100011101100101001  
00001001101001011010000010111110100011111011000
```

This signal was first noticed at UTC 2094-11-04/18:32.

Parameters of the candidate planet of origin and its host star

Spectral Type	M
Stellar Luminosity (Solar Units)	0.000706
Stellar Mass (Solar Masses)	0.128
Distance to Star (lightyears)	272.4
Planet Mass (Earth masses)	3.6
Atmospheric Pressure (atm)	1.1

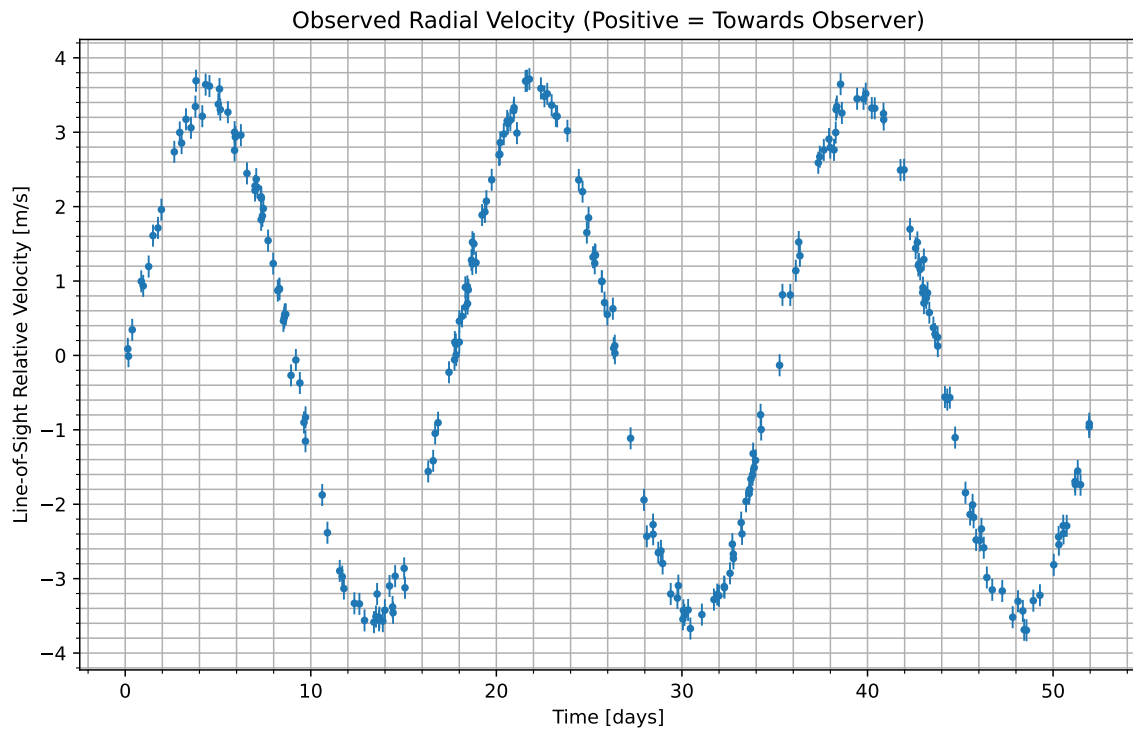


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2094-11-07/07:50. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	31
CO_2	56.5
H_2O	12.5

Gas Abundance (percent by volume)

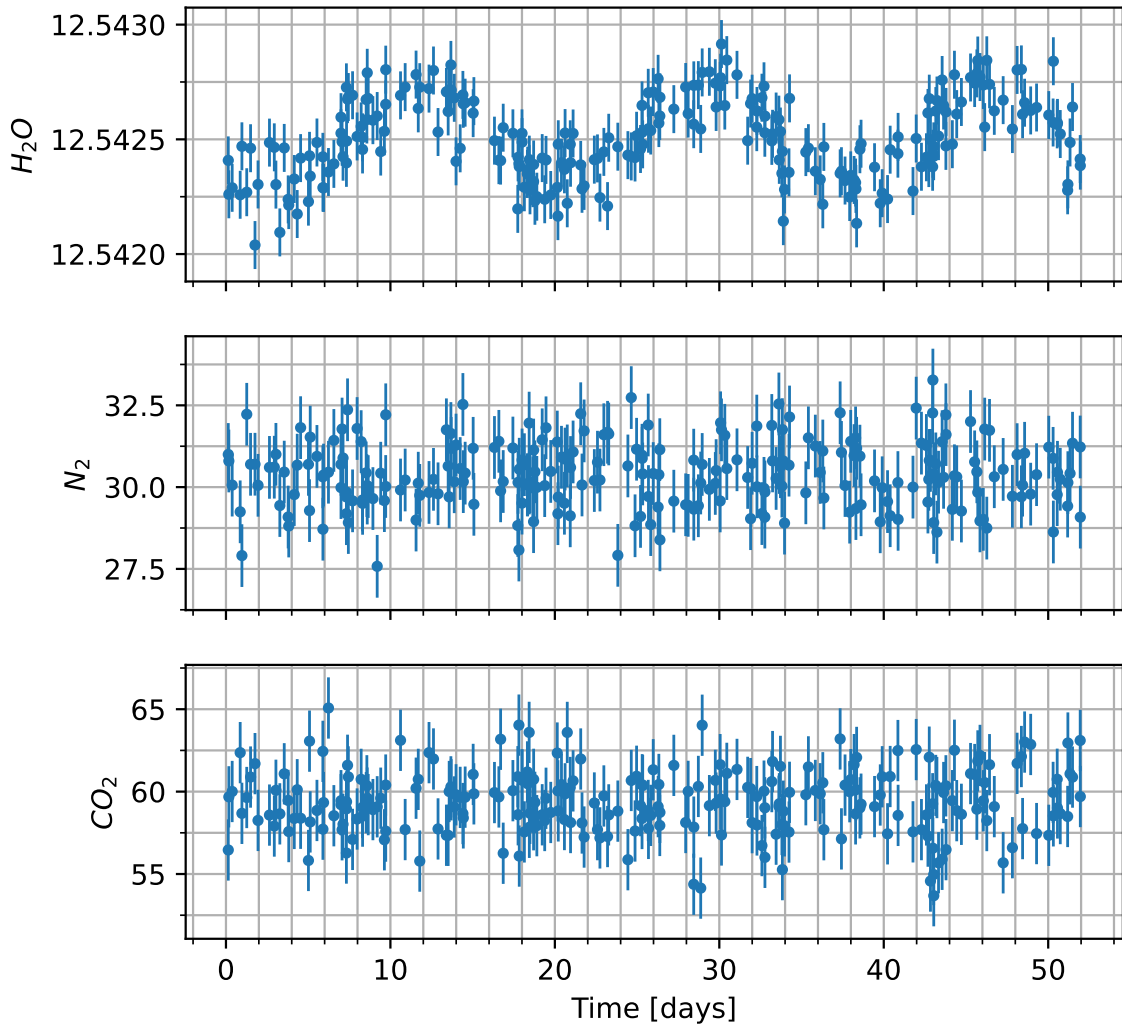


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

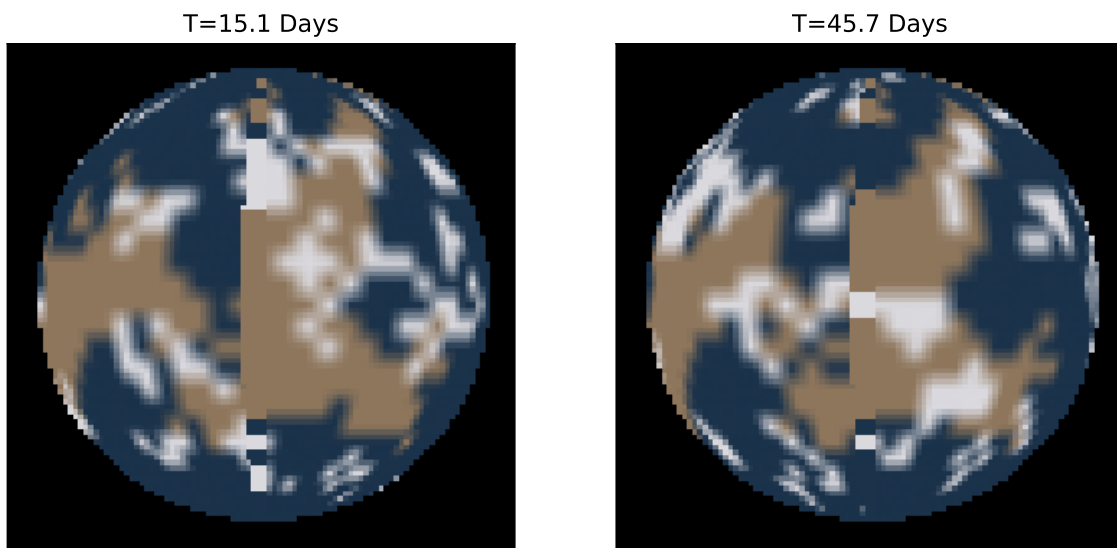


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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