

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

Monday 6th June, 2078

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:

```
01011111000011100001011011111010101111011100101  
10111110101110011100100000101010001110101100000  
10000001001011011101101111001001110101001110000  
10001110111101100000110100100100011100001001000  
01011110000011101111110001000111001010100101000  
1110101000111010001011100100111001111110110110  
00100011010100110111101001011110101110111101100  
10101101011000000101010100011111101100111110011
```

This signal was first noticed at UTC 2078-04-07/20:56.

Parameters of the candidate planet of origin and its host star

Spectral Type	M
Stellar Luminosity (Solar Units)	0.00111
Stellar Mass (Solar Masses)	0.148
Distance to Star (lightyears)	21.9
Planet Mass (Earth masses)	4.1
Atmospheric Pressure (atm)	33.5

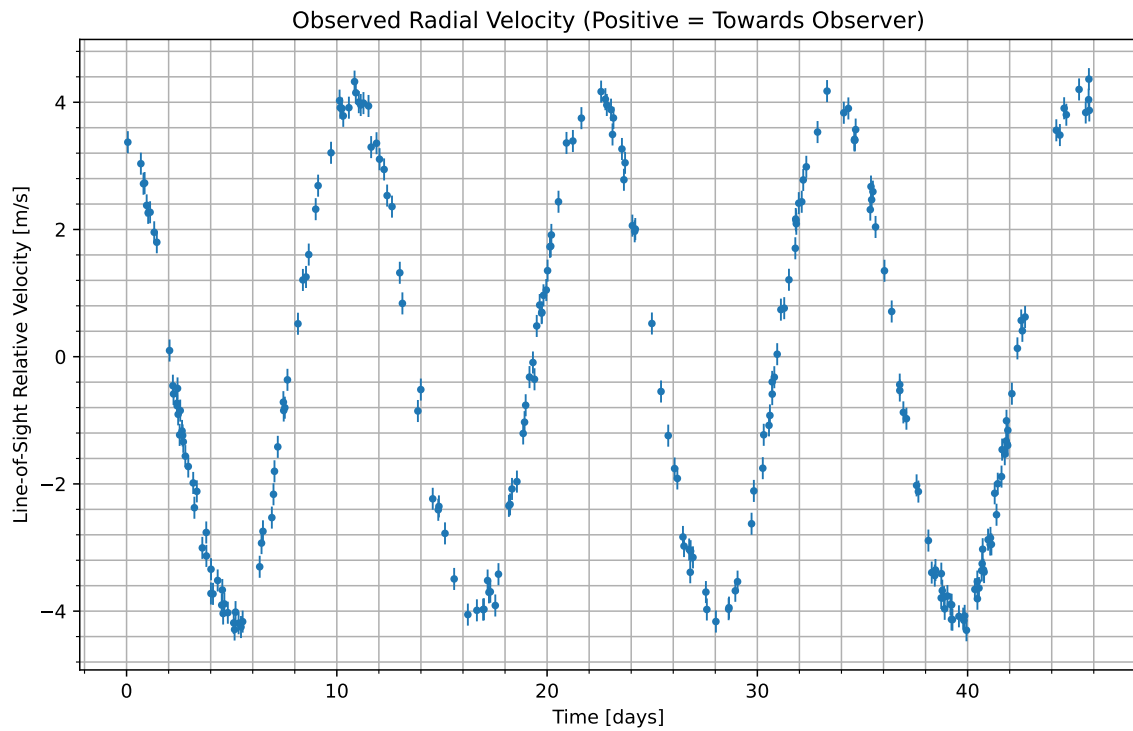


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2078-04-08/03:01. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	46.1
CO_2	29.9
H_2O	24

Gas Abundance (percent by volume)

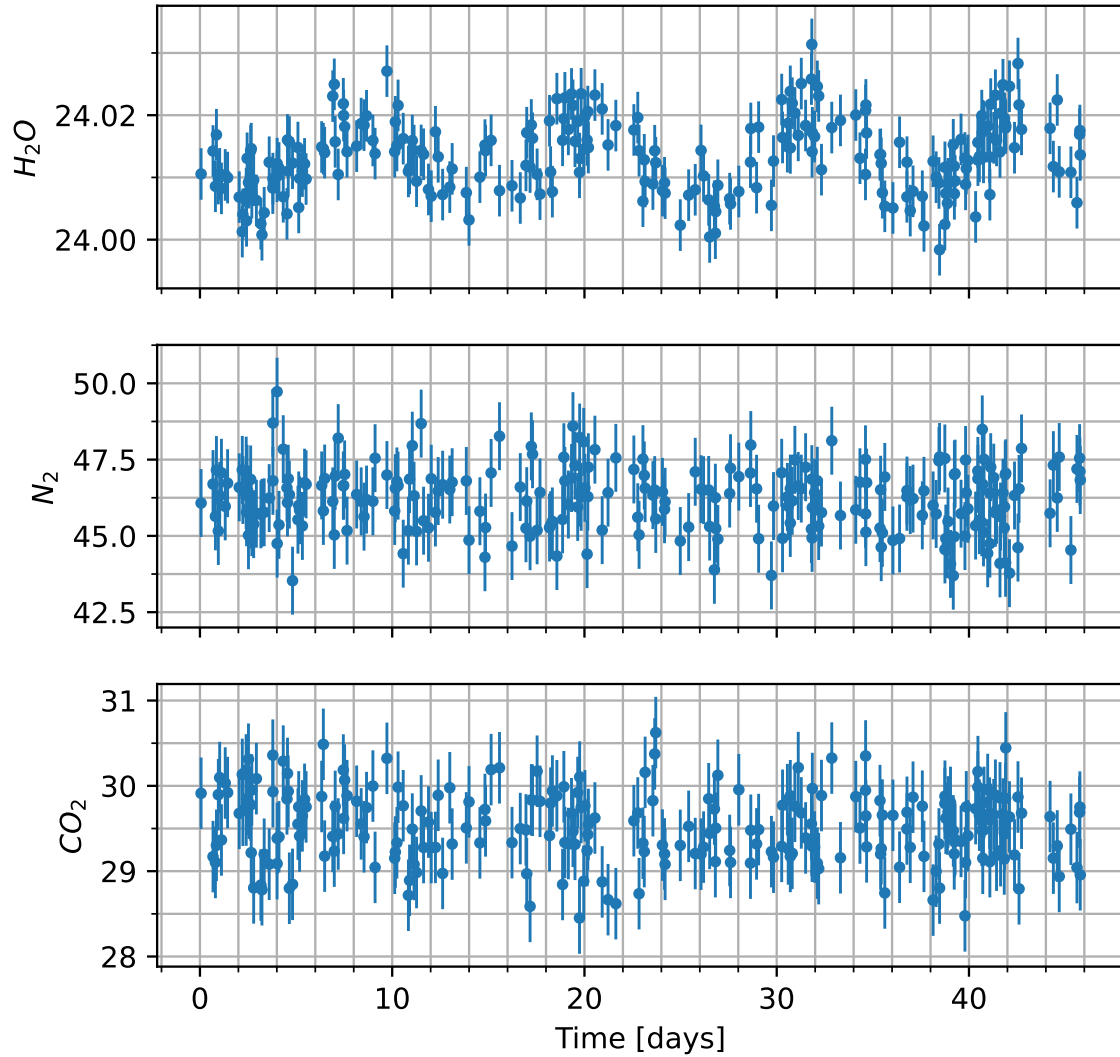


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

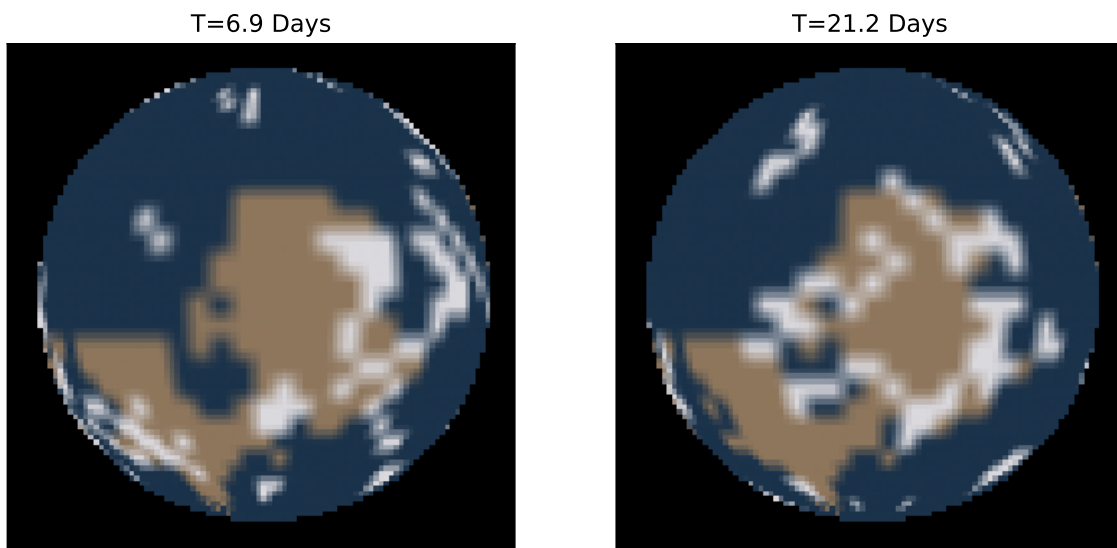


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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