

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging yangan19 Planet 1

Saturday 25th November, 2079

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:

```
01011000100101101001010001101001100100110110100001111001111110010011111111  
101011000111111011100001011111000010001010110000111011010111001000001011000  
101001111001100011010111011011101001100000110010111001100001101010011110000  
001010110101001101001011110110011101110100101000111110110110111010101100010  
01010100010000010110000000010110011101010101100111111101101001001010100001
```

This signal was first noticed at UTC 2078-11-09/19:49.

Parameters of the candidate planet of origin and its host star

Spectral Type	K
Stellar Luminosity (Solar Units)	0.268
Stellar Mass (Solar Masses)	0.72
Distance to Star (lightyears)	12.7
Planet Mass (Earth masses)	1.7
Atmospheric Pressure (atm)	0.5

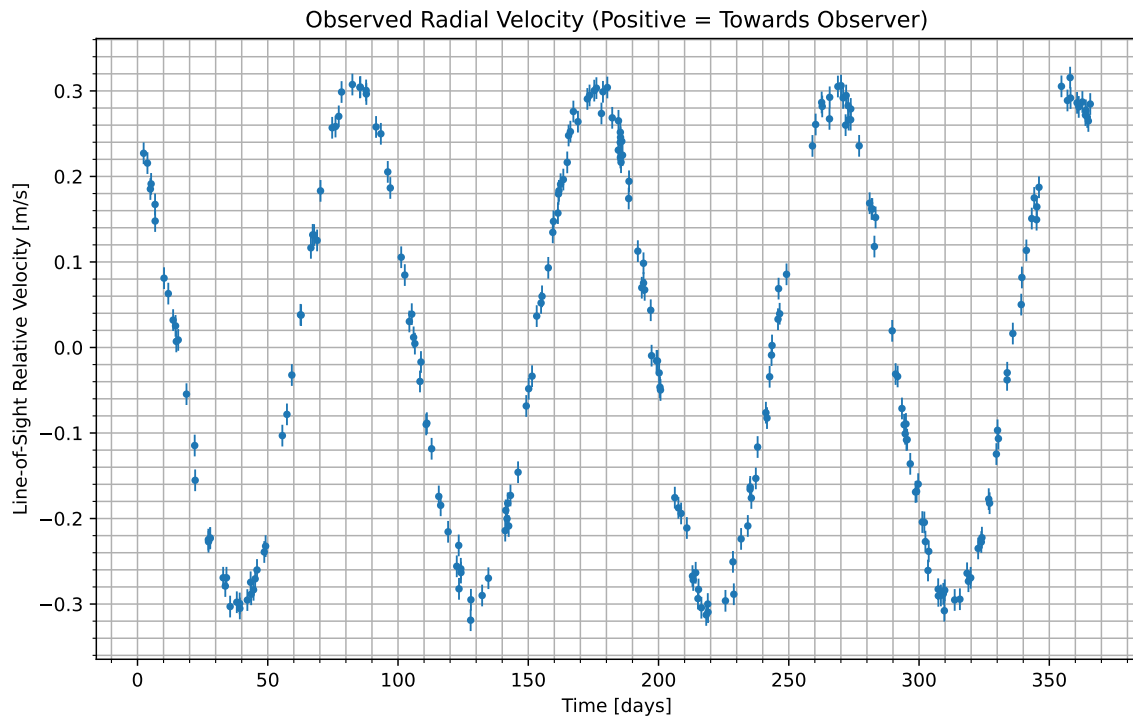


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2078-11-10/03:55. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	55.8
CO_2	31.5
H_2O	12.6

Gas Abundance (percent by volume)

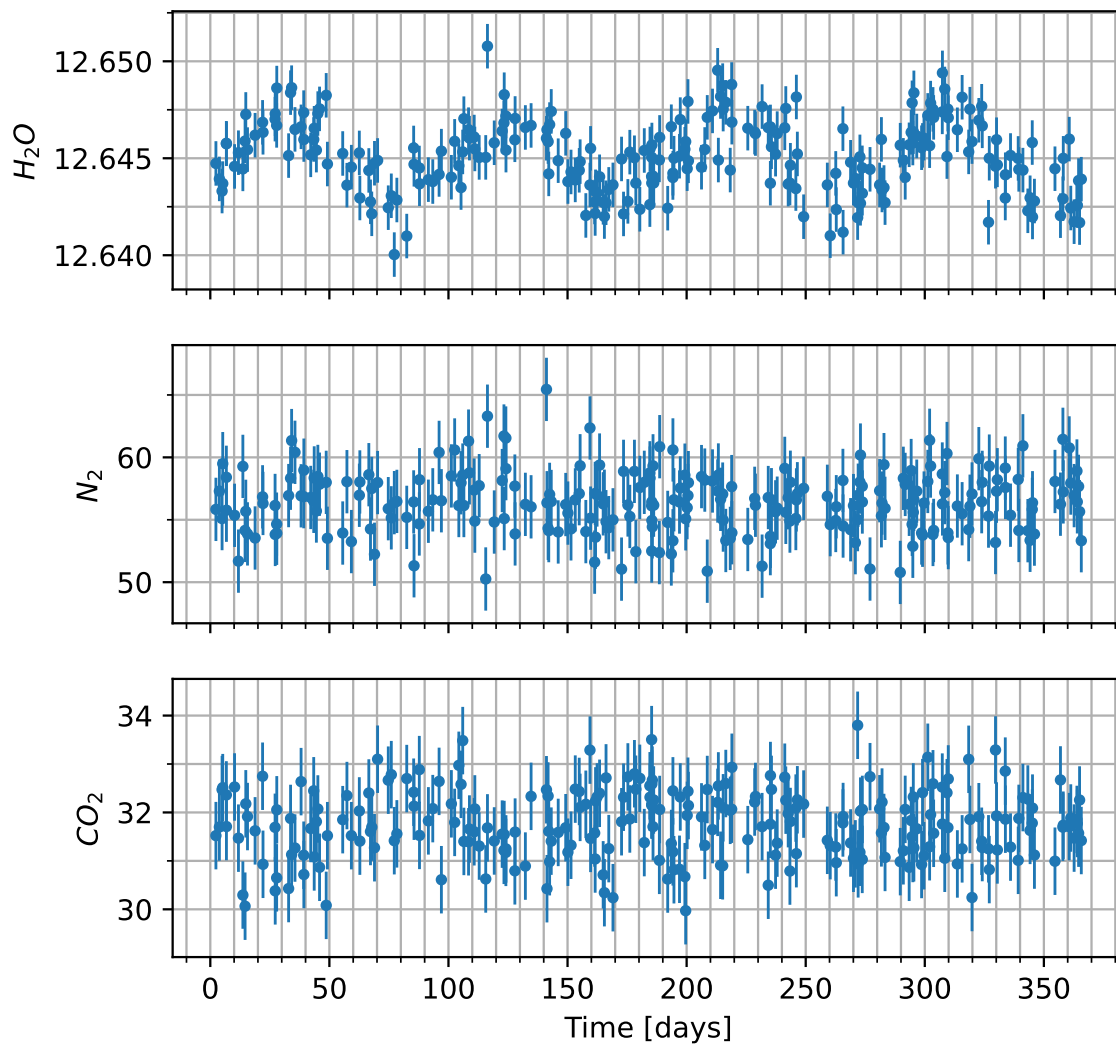


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

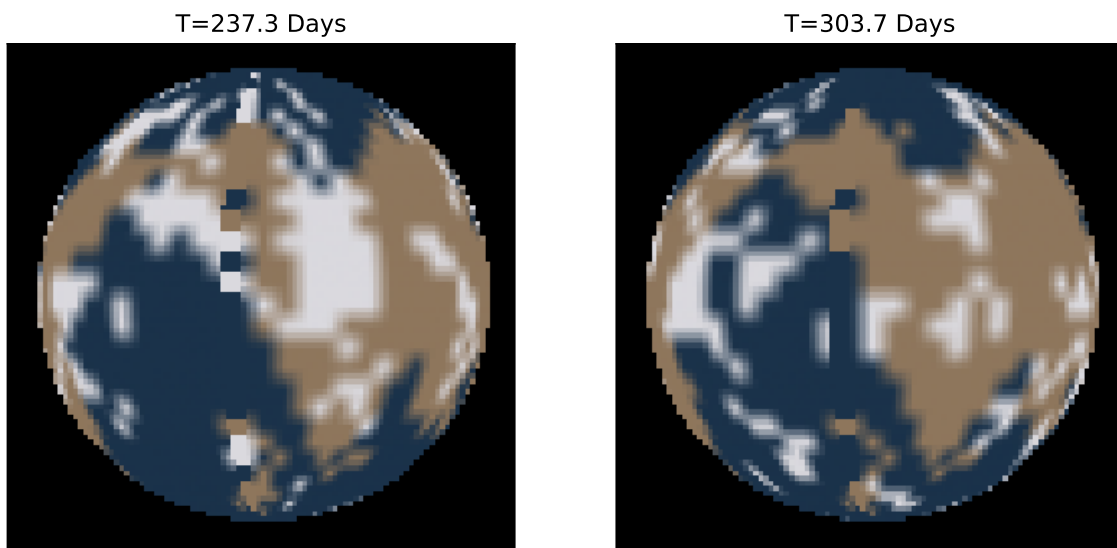


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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