

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging chenh149 Planet 2

Sunday 27th October, 2086

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:

```
110010110111101100000111010110110111101110100110001100010101100101100000  
000100001011101101011001000001110001000110010010100000010110011000110110  
110100011011001100011110100000010100001111001000010111111010010000111101  
010101101000001011010001110100101000110000111000000010110000001010101010  
110111011100001111010111000000010110001000001100011110111001111001000001  
11101010001000001011010100100110011011110010111110011001001011111110000
```

This signal was first noticed at UTC 2084-11-21/19:58.

Parameters of the candidate planet of origin and its host star

Spectral Type	K
Stellar Luminosity (Solar Units)	0.191
Stellar Mass (Solar Masses)	0.661
Distance to Star (lightyears)	607.0
Planet Mass (Earth masses)	2.8
Atmospheric Pressure (atm)	0.5

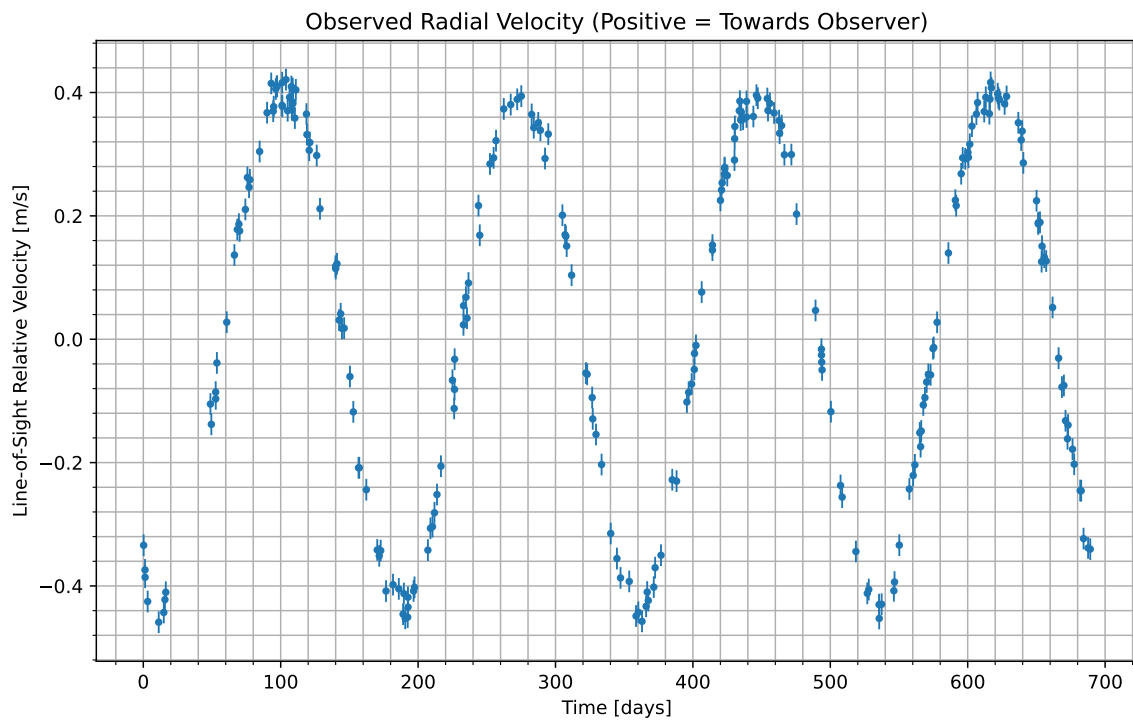


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2084-11-24/03:12. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	59.3
CO_2	30.5
H_2O	10.1

Gas Abundance (percent by volume)

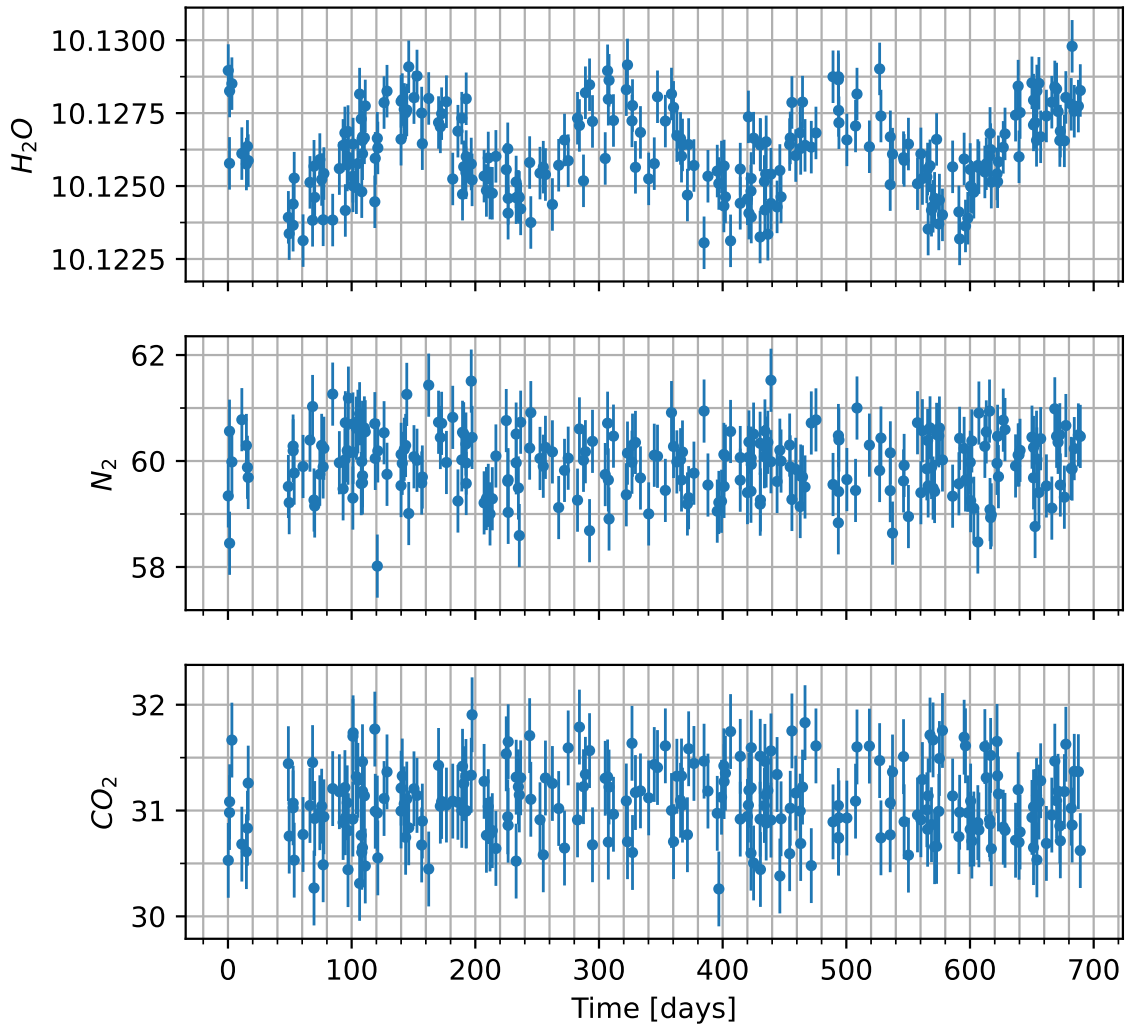


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

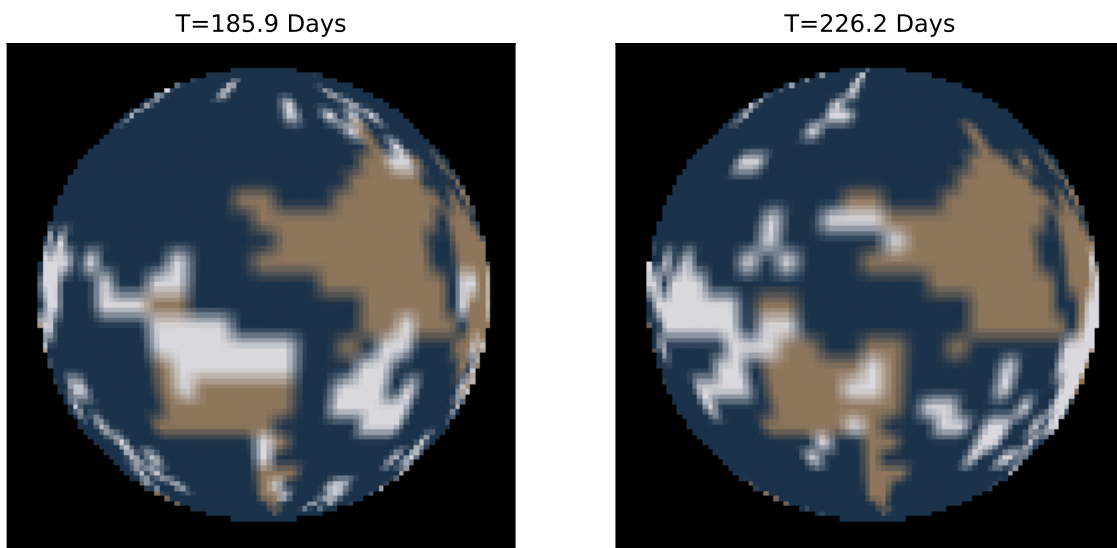


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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