

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

Tuesday 30th November, 2088

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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0110111011100000011111111110100000000011100111101011110110  
0100101010110010110101100001011101010000010110011100011100  
1011110001000011000010101010111000101001101100011101100101  
00111111110110011000100111011110101111101111111001101101  
1001001000110110110111100101010011010001101111000111100010  
0000110010111011001100000101100110100100110011010110001010  
1011000110010001111111011000111101111010011110010111001010  
1111101010100010011000000001100111010111110110111110001100  
011110111111000100100000000010001101110010000011000001000  
1001101000010101110100101010001100111111001010010101000011
```

This signal was first noticed at UTC 2086-11-28/01:48.

Parameters of the candidate planet of origin and its host star

Spectral Type	G
Stellar Luminosity (Solar Units)	0.522
Stellar Mass (Solar Masses)	0.85
Distance to Star (lightyears)	16.0
Planet Mass (Earth masses)	3.4
Atmospheric Pressure (atm)	21.6

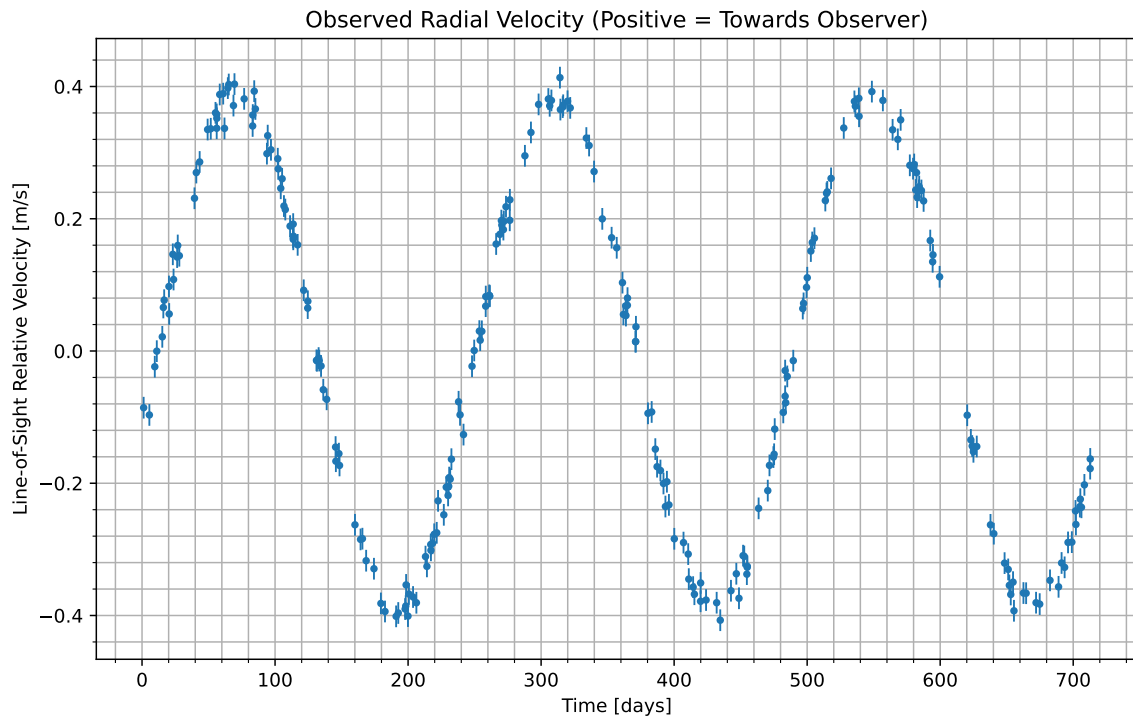


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2086-11-29/06:53. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	30.5
CO_2	34.9
H_2O	34.6

Gas Abundance (percent by volume)

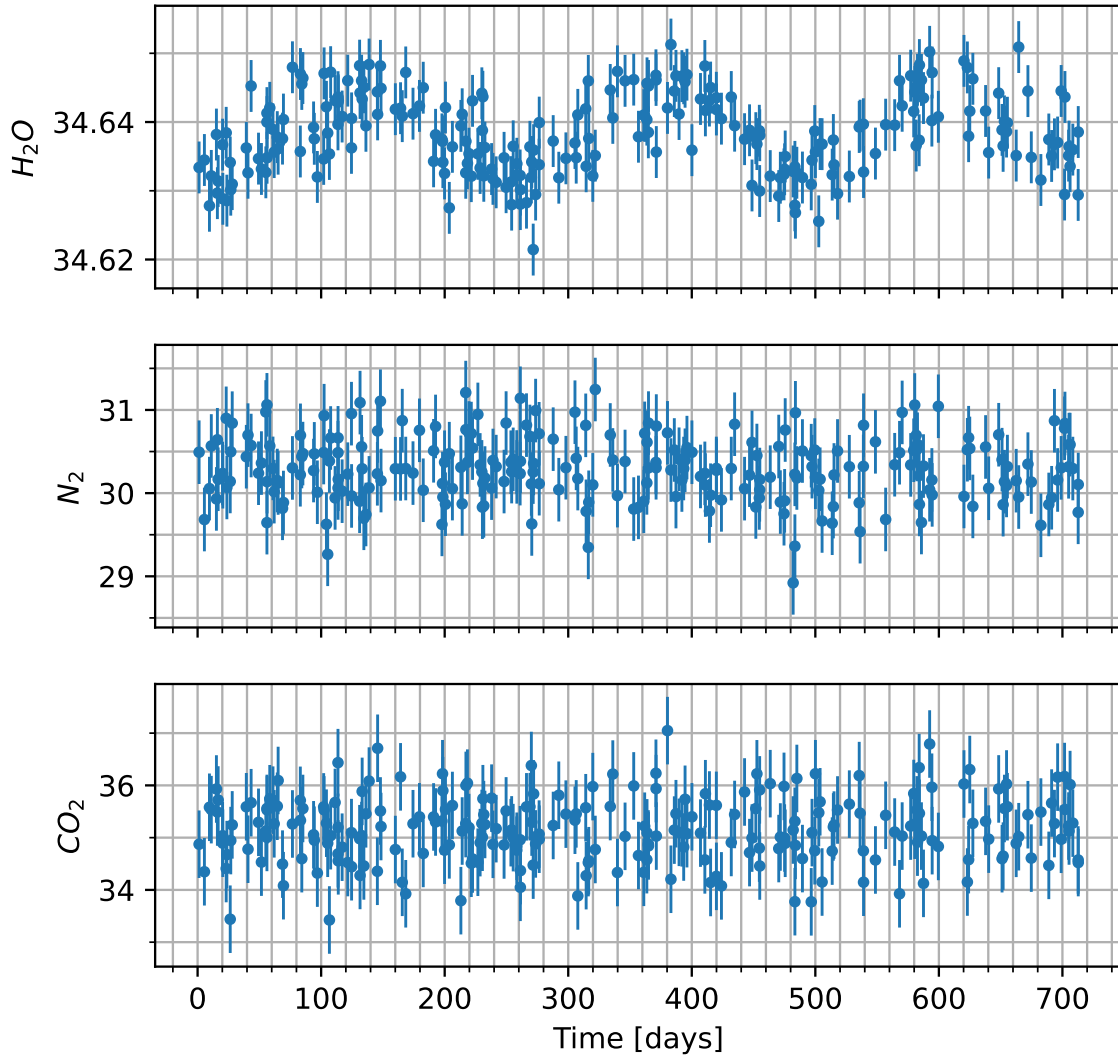


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

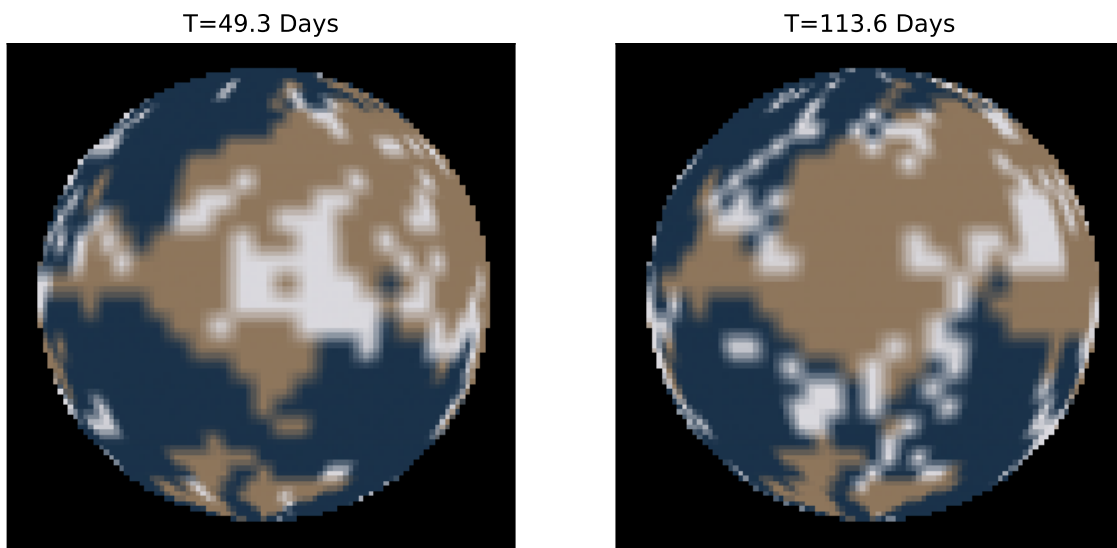


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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