

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging

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Planet 2

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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:

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01001010111100101111101010001100011100011000011000100100  
01111101110000011010110000010000101010000001010111110101  
11011111101111010001001010001100110100100001011100011111  
01111110011001110111010001000110111011001111110010000111  
11110100000101000011010000111101010011011101000000101111  
10100011001101010001000010110110100110111101011100111100  
00000100111100010100010100010001001001111101100000010011  
10010101001100100000011010101110010111110100001011111001  
10001111011110011111011111100000011000101010001111110101
```

This signal was first noticed at UTC 2086-07-10/11:10.

Parameters of the candidate planet of origin and its host star

Spectral Type	K
Stellar Luminosity (Solar Units)	0.0458
Stellar Mass (Solar Masses)	0.463
Distance to Star (lightyears)	134.7
Planet Mass (Earth masses)	3.3
Atmospheric Pressure (atm)	21.2

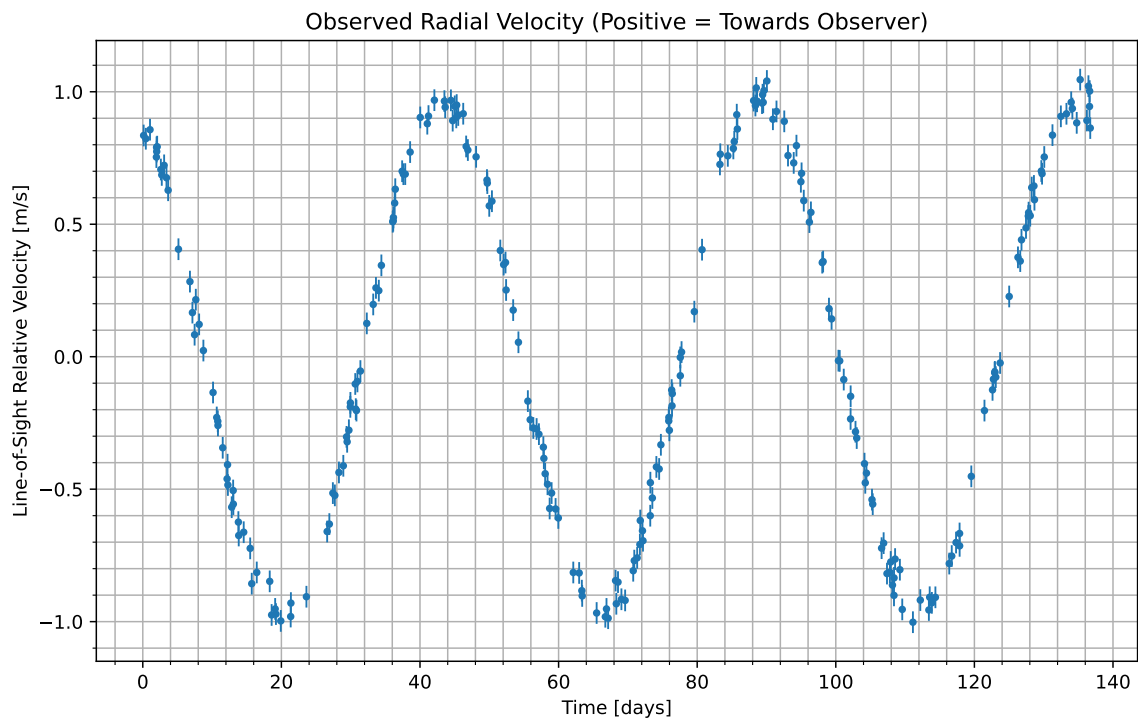


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2086-07-10/18:47. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	50.5
CO_2	36.6
H_2O	12.9

Gas Abundance (percent by volume)

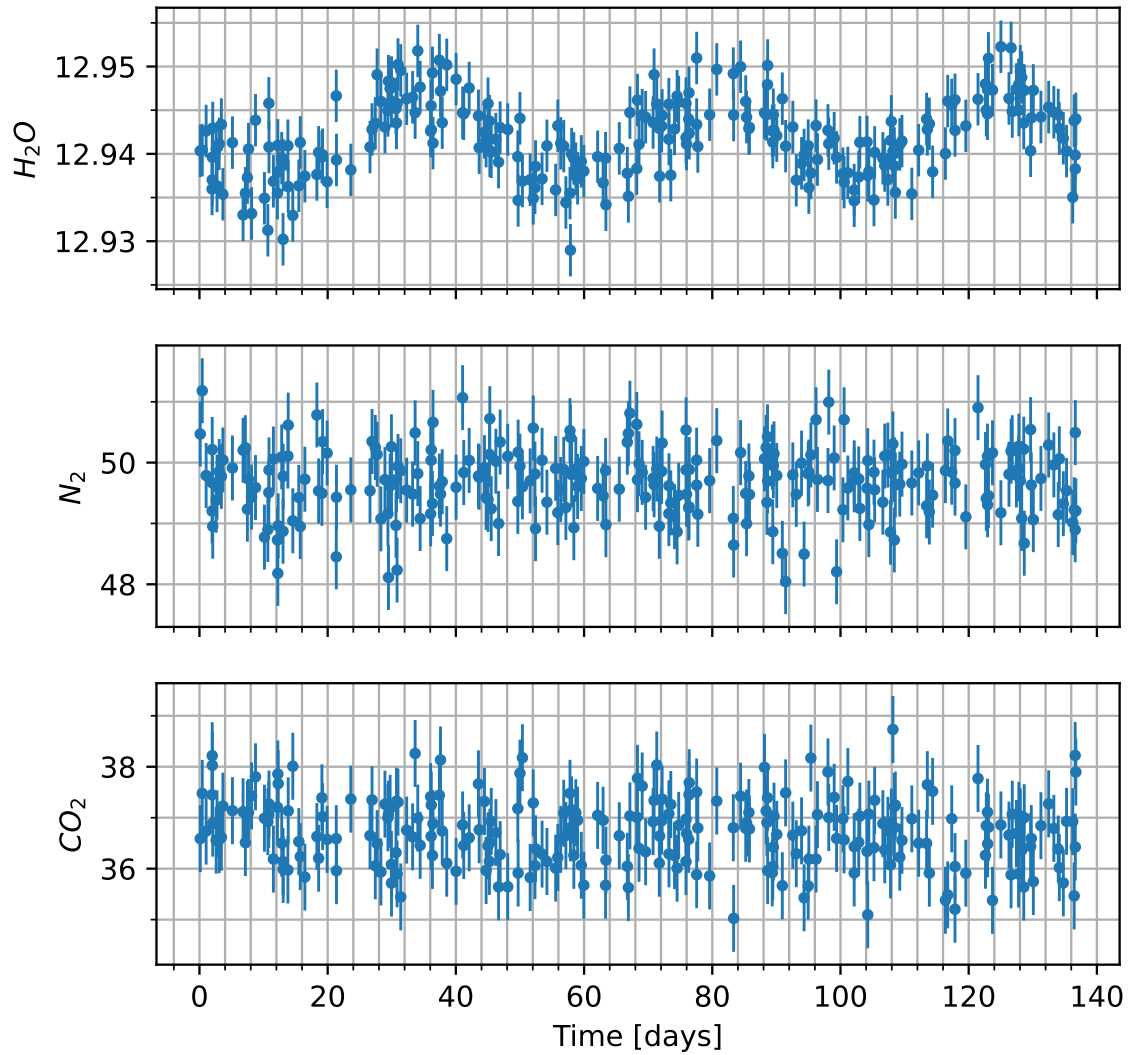


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

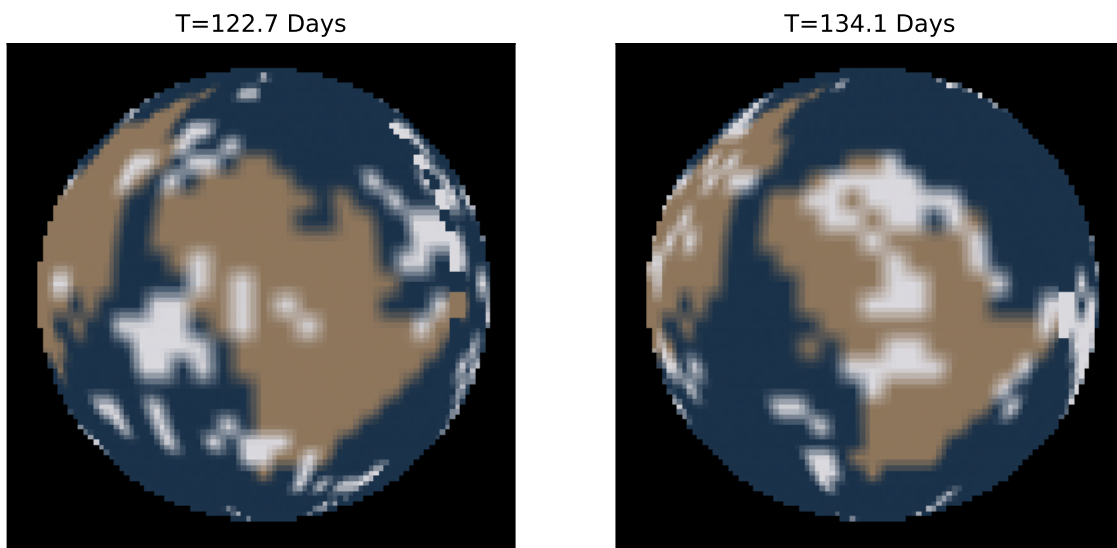


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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