

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging

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Planet 3

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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 microwave 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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100111001101110001110111110011110000111000011011
011100101001101000000011001000011101010101001001
110100011000110101001101010100010001100110110101
010011100111001000101101100010010110110001000010
010000101011010111101101101110000000110010000001
10110101000111100011111011100011101110110100111
101000001100001001110010101000111001001101011111
111111111011001111000010001101011001000110001111
000010011101010010100011111011101001000111101100
```

This signal was first noticed at UTC 2068-10-29/22:50.

Parameters of the candidate planet of origin and its host star

Spectral Type	G
Stellar Luminosity (Solar Units)	1.05
Stellar Mass (Solar Masses)	1.01
Distance to Star (lightyears)	398.1
Planet Mass (Earth masses)	2.3
Atmospheric Pressure (atm)	3.5

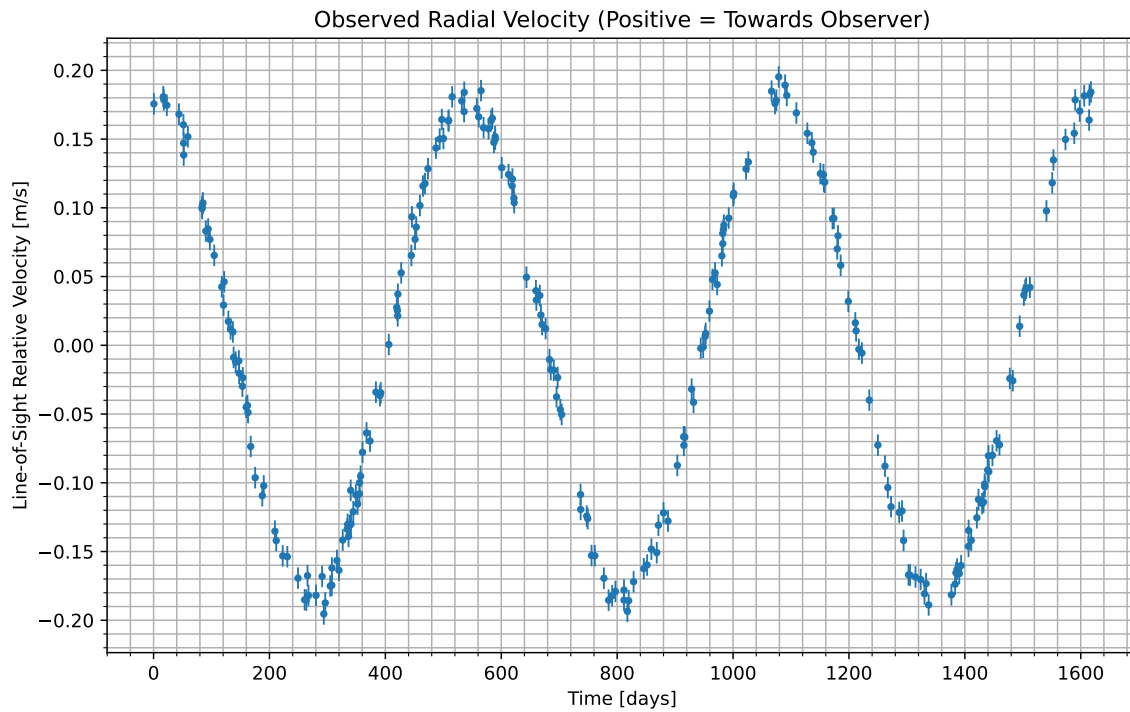


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2068-10-31/14:14. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	14
CO_2	63.6
H_2O	22.4

Gas Abundance (percent by volume)

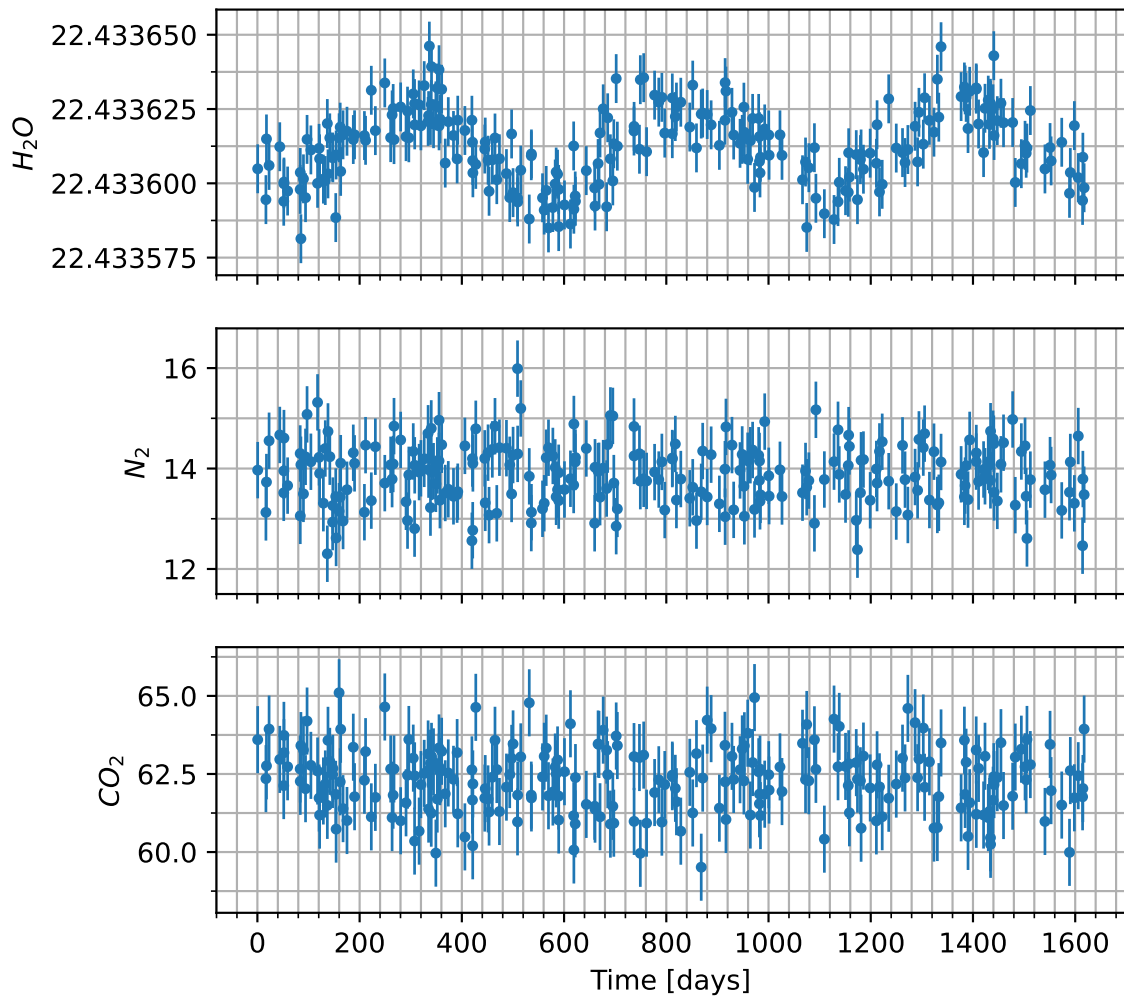


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

T=263.5 Days



T=390.8 Days



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.