AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging
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Planet 2

Sunday 14th November, 2077

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 narrowband 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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11100011101001000011010111100110111010001111111011000100000110110010000110
00011000100000001011100010111111000100100110101011101100110000101100111011100
10011100011111111011001011001011000110110101100010100111110010010001110000011
11101001110000111101110010011010111001111000000101100111110101111000111110110
10000001110110100100110111000000000001010101011101101000000110101010101111
11000001110001101111000111110000011000010111101000100001000101011010110110011
11111100010011101000001000000110100010001101011011101111000001011111100011011
00000010010000110110011001000011101110101110111110011101011111000001011010000
10011000000100010100001101010111000110010010101101011010010010000011000110100
11001100110011101101101100001110001001001000100101110011011010000001000110111
```

This signal was first noticed at UTC 2077-08-25/22:15.

Parameters of the candidate planet of origin and its host star

Spectral Type	M
Stellar Luminosity (Solar Units)	0.000706
Stellar Mass (Solar Masses)	0.128
Distance to Star (lightyears)	272.4
Planet Mass (Earth masses)	1.1
Atmospheric Pressure (atm)	1.1

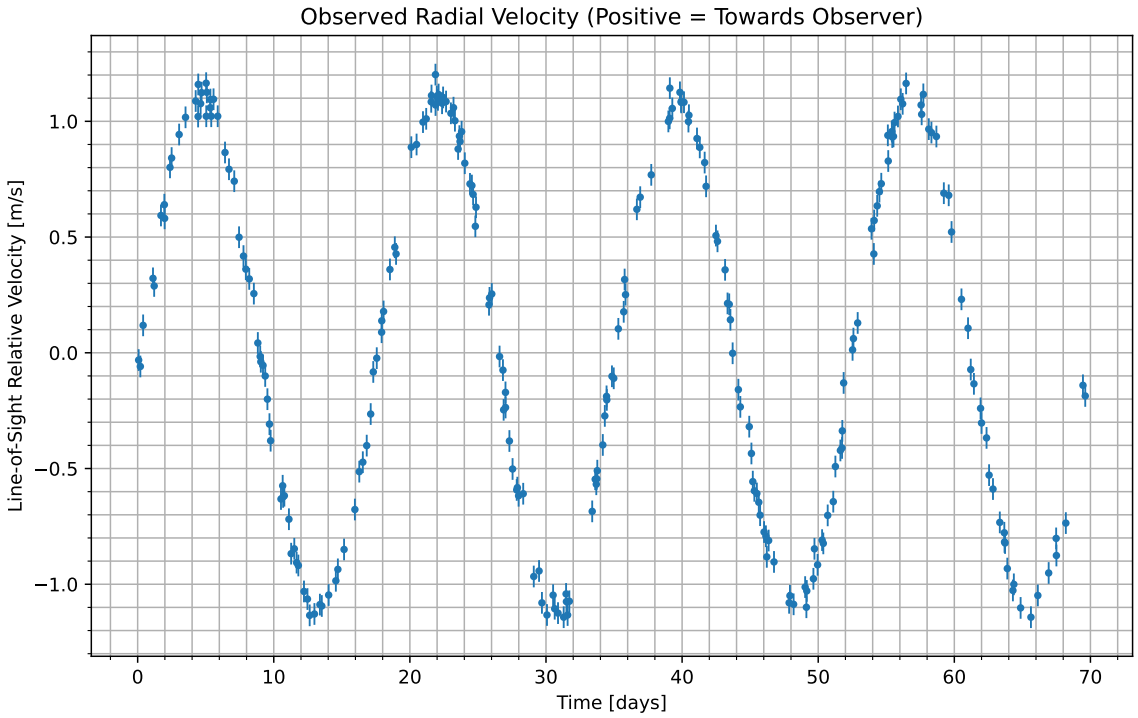

Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2077-08-27/05:02. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	31
CO_2	56.5
H_2O	12.5

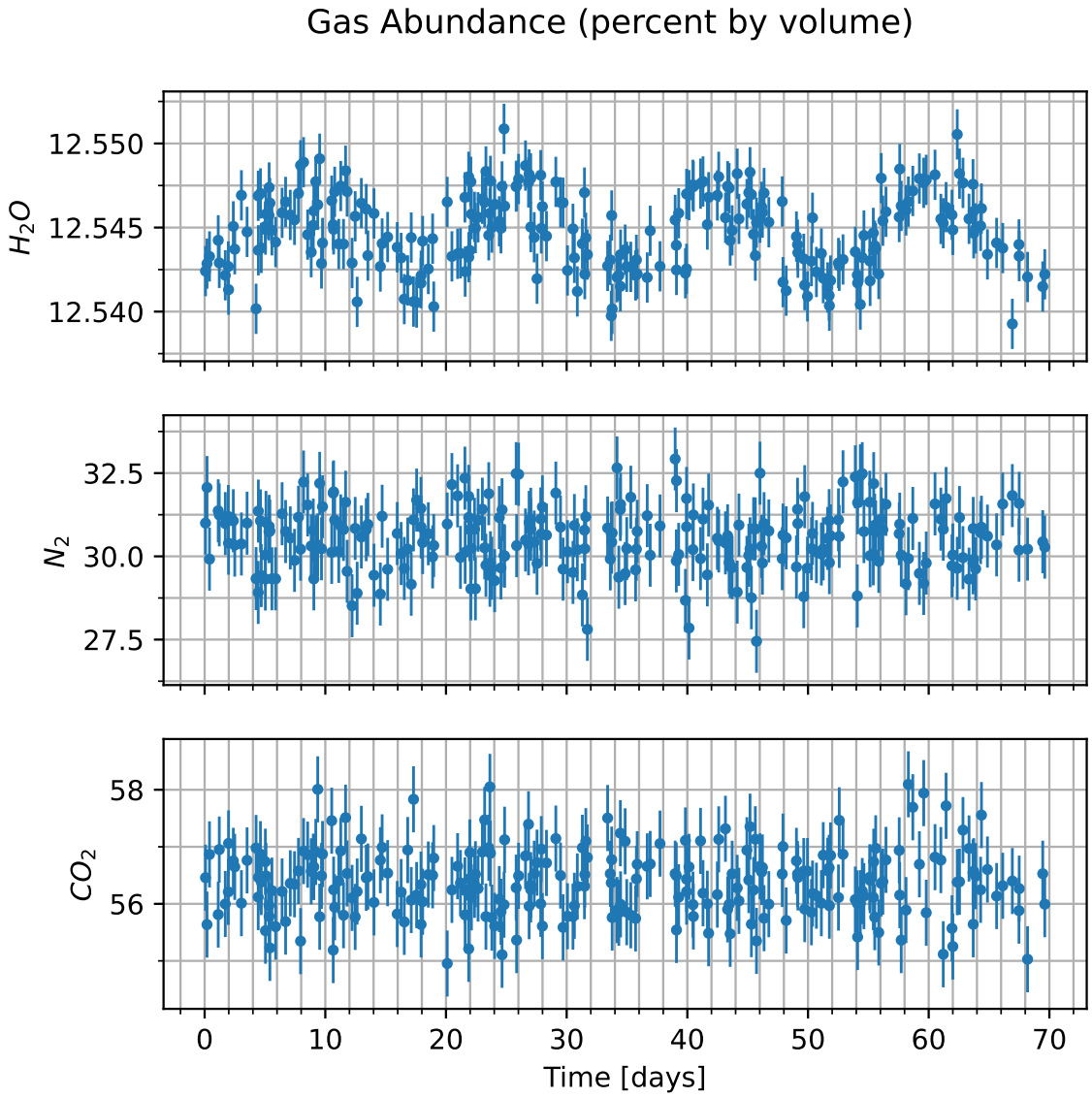

Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

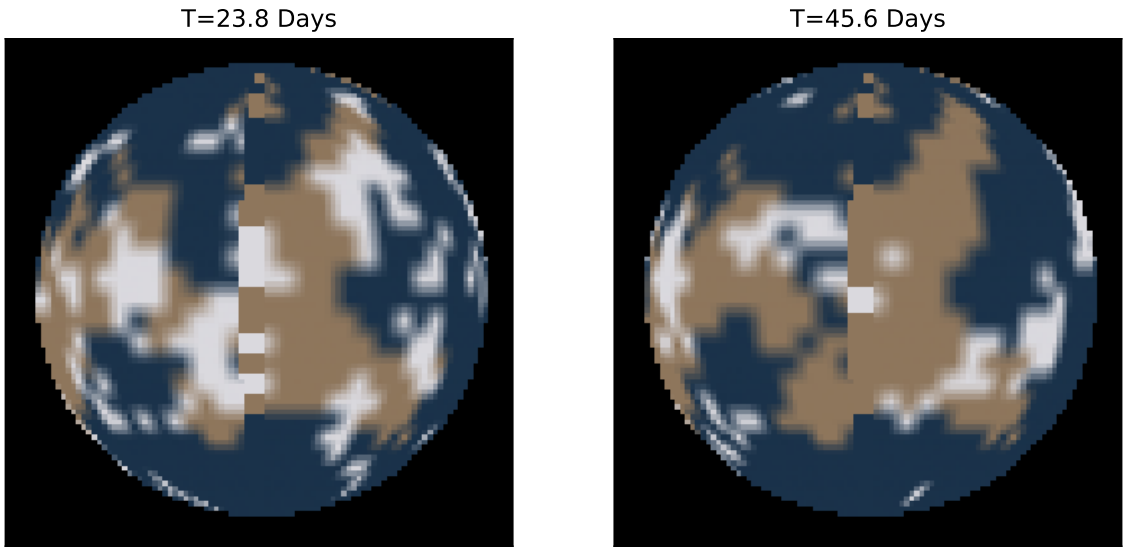

Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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