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 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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10001011001010110000001001110111000101001000101000100110110000011101100
10100101010001110101111011001111111010011000000101110100001001011010010
00010110010010100011100110010000001100001110011111101010010000010000011
00101110001101100101100000101011001101011110001011110100100010011101010
00000101101011101101100001001101001110000000111000011011101001000001011
10000100011011010010101111110100010011111100100010011001111100101000011
01111101111001000100111010100001101000001010100100011110101100011011101
01100001000001111100011101111111011010101001110101100101110110110101010
01111000110000000110001101101010000100101011010101100100110000000101011
10000010011001101110110110101010011011110111100011000011110110111111000
```

This signal was first noticed at UTC 2085-12-06/16:17.

Parameters of the candidate planet of origin and its host star

Spectral Type	G
Stellar Luminosity (Solar Units)	1.27
Stellar Mass (Solar Masses)	1.06
Distance to Star (lightyears)	87.9
Planet Mass (Earth masses)	4.0
Atmospheric Pressure (atm)	4.6

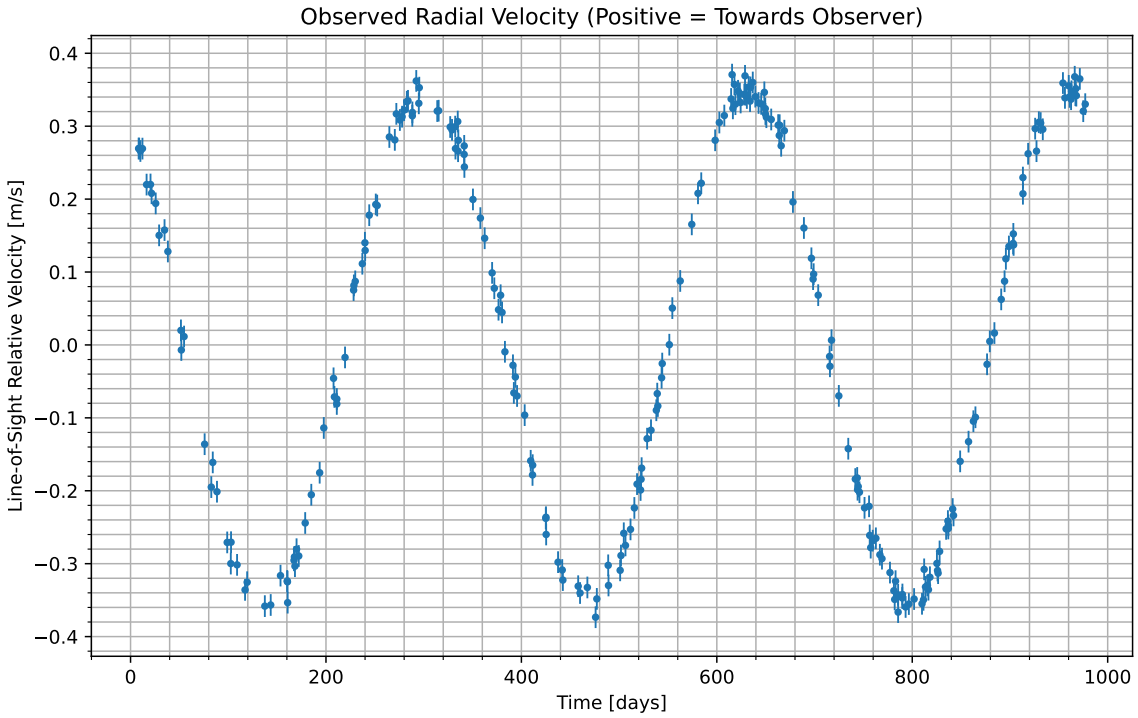

Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2085-12-07/12:59. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	13.9
CO_2	62.1
H_2O	23.9

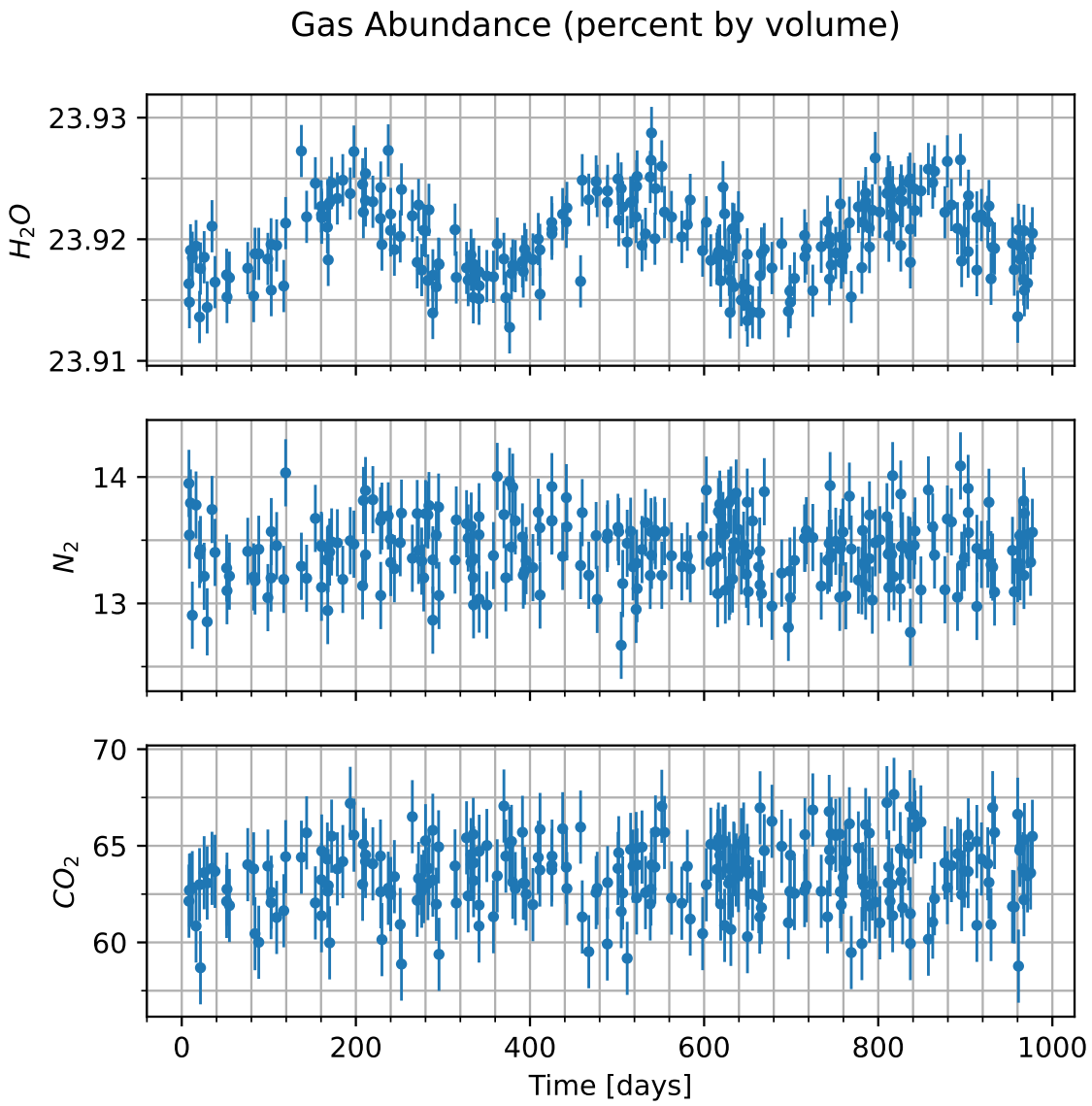

Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

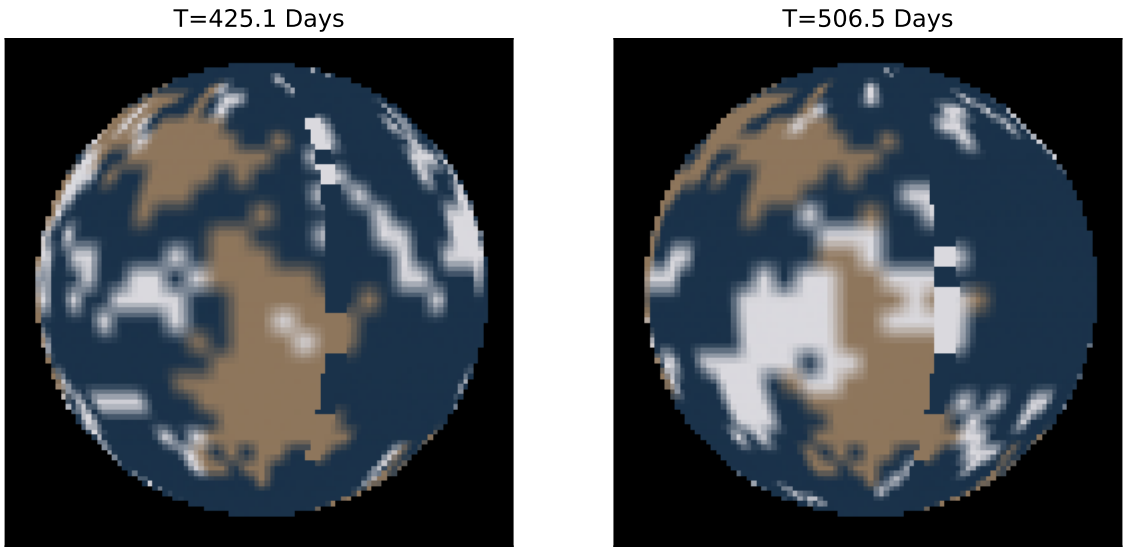

Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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