

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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00011000100010110011111000101000011110110001000100000000  
10000011110011110001001000000001110000110100011011111011  
10110101000001110110111011110110100000001111110110001011  
11010111101010101110011100100100101101000001011011110110  
0011101000010010101011010001001000000101011110111110000  
1110011111001101111011110000111110000111111011010000101
```

This signal was first noticed at UTC 2091-05-11/17:41.

Parameters of the candidate planet of origin and its host star

Spectral Type	M
Stellar Luminosity (Solar Units)	0.00051
Stellar Mass (Solar Masses)	0.116
Distance to Star (lightyears)	240.5
Planet Mass (Earth masses)	2.1
Atmospheric Pressure (atm)	27.4

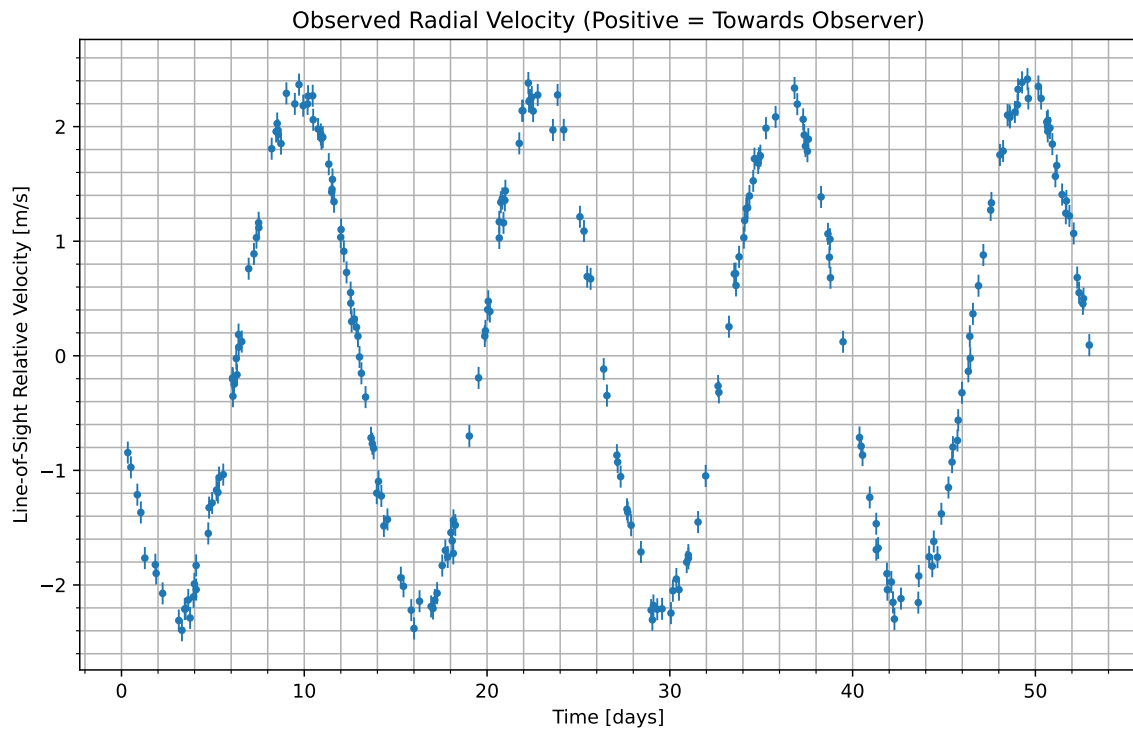


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2091-05-14/15:34. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	23.3
CO_2	43.5
H_2O	33.2

Gas Abundance (percent by volume)

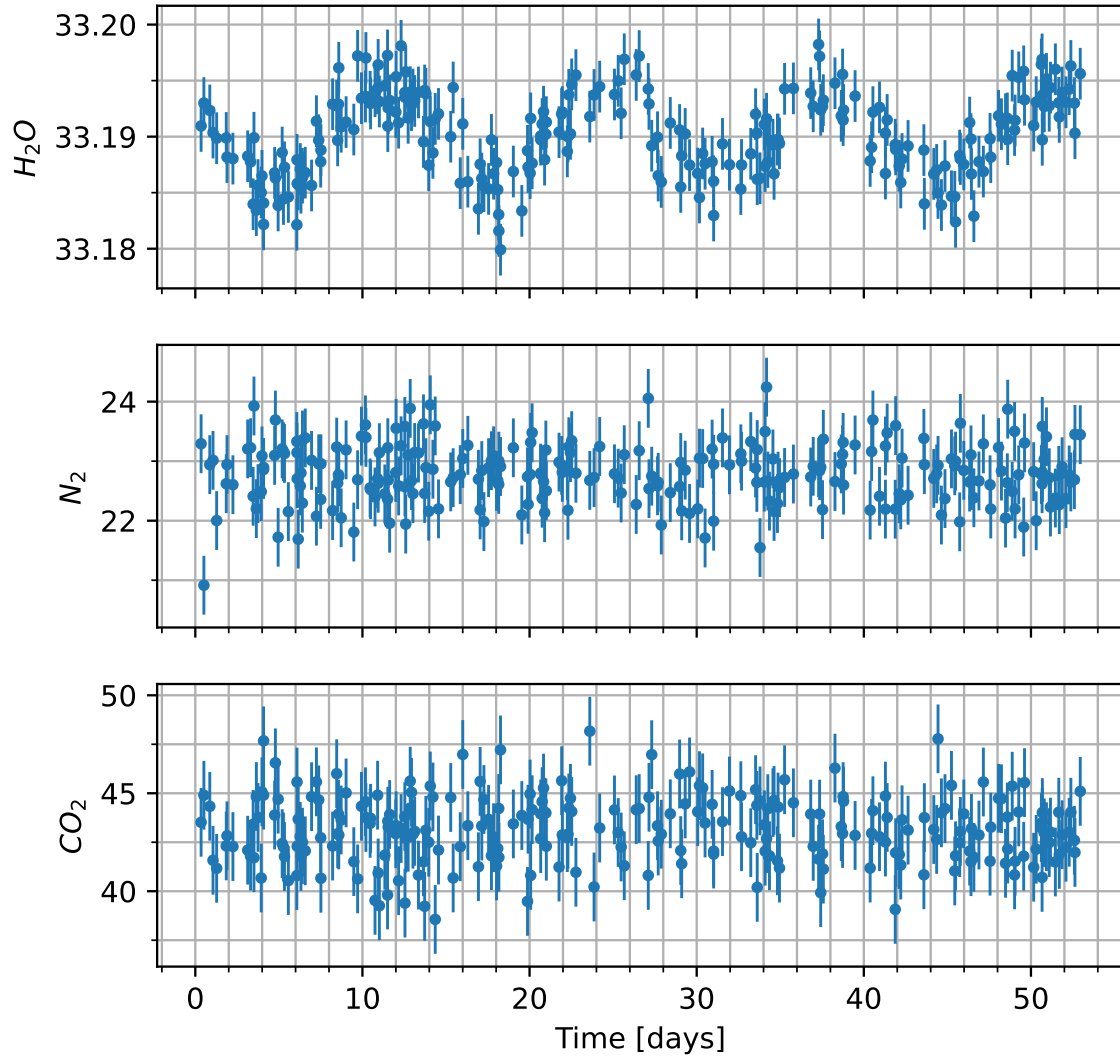


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

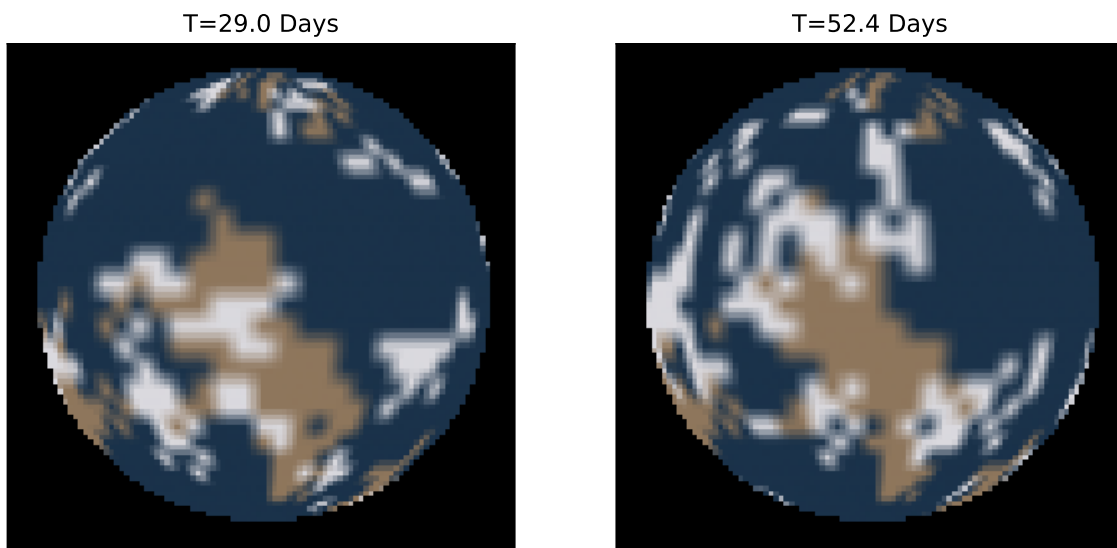


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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