

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging

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Planet 1

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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 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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01110001010000100111110000010111111000101001111011000100000100001101100
010011000101010101100100101011001011010001010010100111110011010110001001
001100100001101000111010010000001000010000111111000111010110010111000101
010001110010010101000100011100000011101000011001000111000100101101010111
00110110111100000000010100100111011000000101110011111000111111100010001
011010110011011000000101111010010011100110000000101100011100110011000010
001101110110111011111000101101001100110010111111100111011101100100111101
100110011100111001111100011001011001100110110101010011110011000010100010
110111010011010001111011100100111001001001001011100110000101010110100111
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This signal was first noticed at UTC 2089-07-14/20:36.

Parameters of the candidate planet of origin and its host star

Spectral Type	M
Stellar Luminosity (Solar Units)	0.0189
Stellar Mass (Solar Masses)	0.358
Distance to Star (lightyears)	238.0
Planet Mass (Earth masses)	3.1
Atmospheric Pressure (atm)	4.3

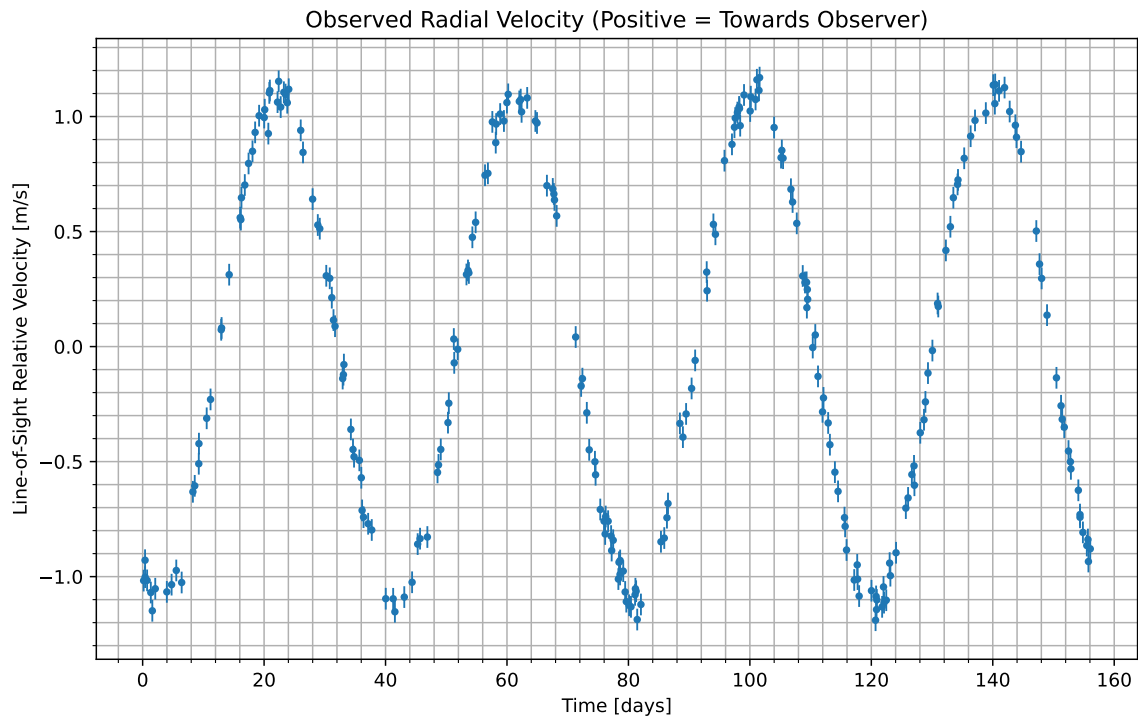


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2089-07-16/23:36. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	21.5
CO_2	71.8
H_2O	6.78

Gas Abundance (percent by volume)

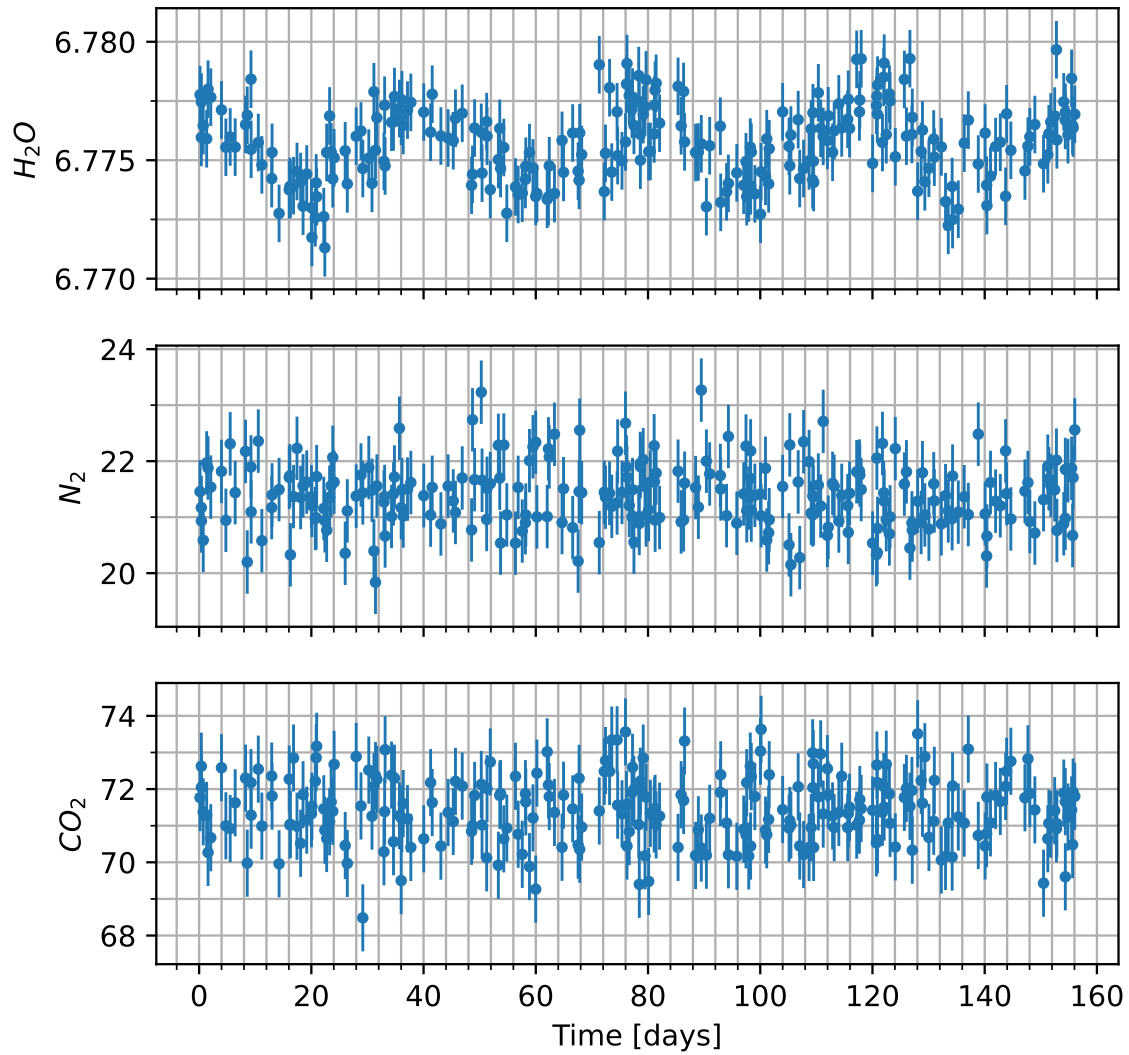


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

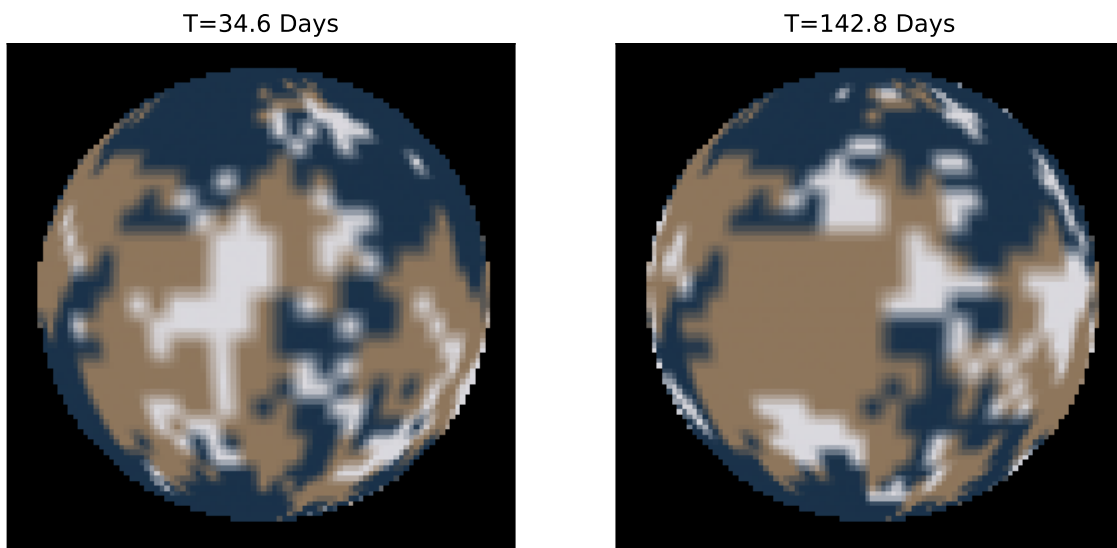


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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