

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging

furreed2

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 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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111010111111100101101010000010001111111010010001101010010101011001
1001101000100110001011111011010001001001111101101010010101110001101
1111101111010010110011000000001000111010110110011100000001000111101
0011111111100000011110010110111011000110110011000110010111011011000
1000000101011011000000110100000111000111110110100111010001011001010
001010011111110000100110011101100110001011101111101011000011101101
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This signal was first noticed at UTC 2081-02-06/20:18.

Parameters of the candidate planet of origin and its host star

Spectral Type	M
Stellar Luminosity (Solar Units)	0.0042
Stellar Mass (Solar Masses)	0.224
Distance to Star (lightyears)	125.0
Planet Mass (Earth masses)	3.3
Atmospheric Pressure (atm)	1.4

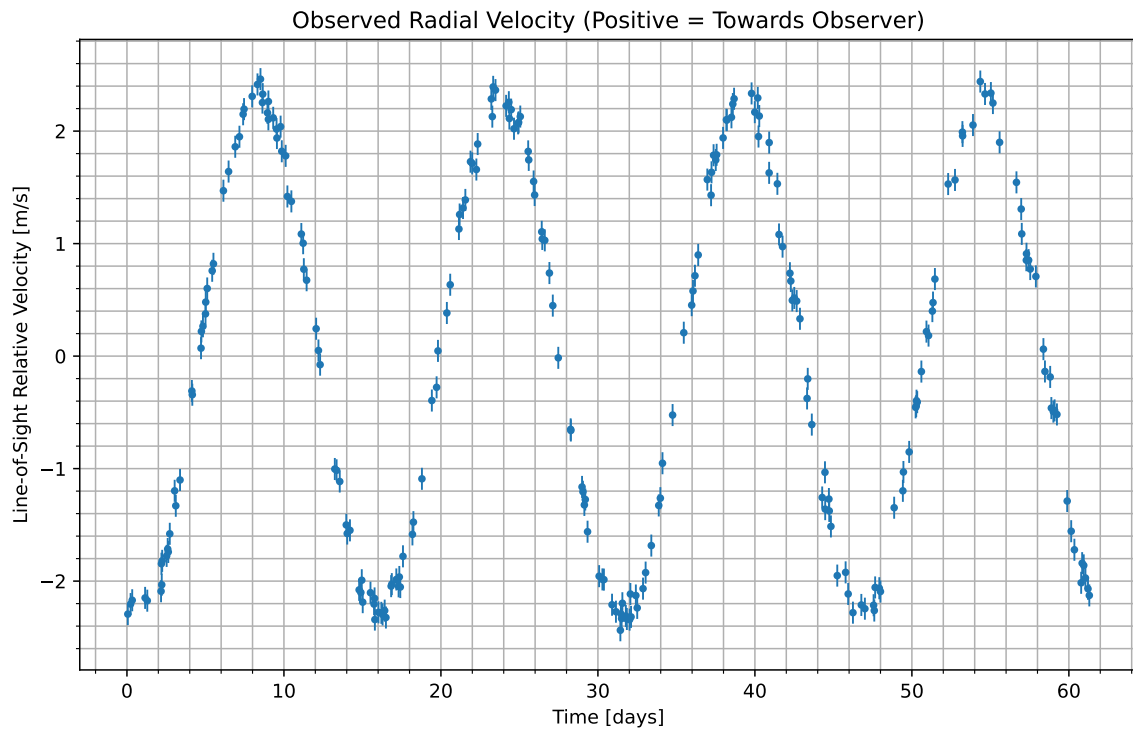


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2081-02-09/19:29. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	41.4
CO_2	52.8
H_2O	5.85

Gas Abundance (percent by volume)

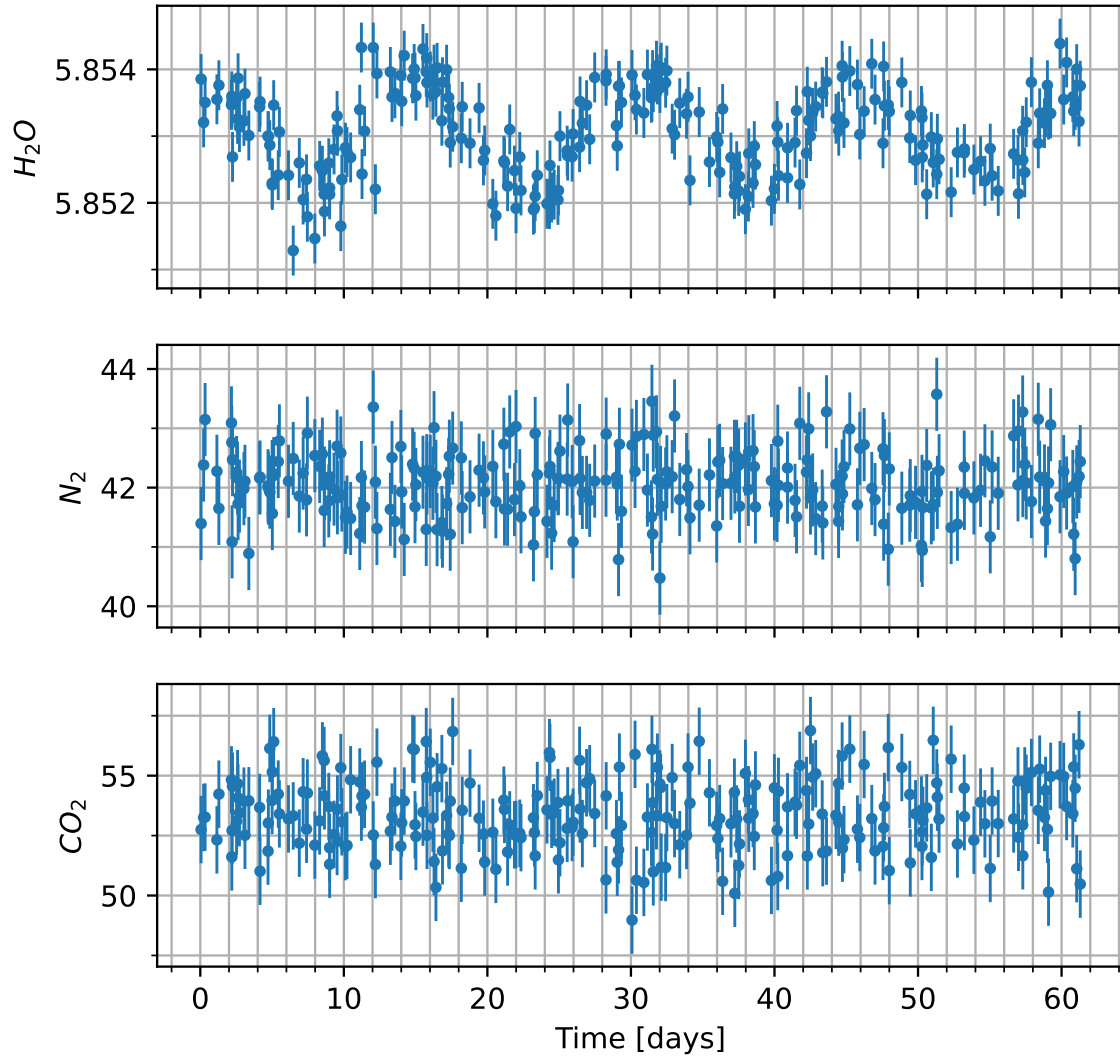


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

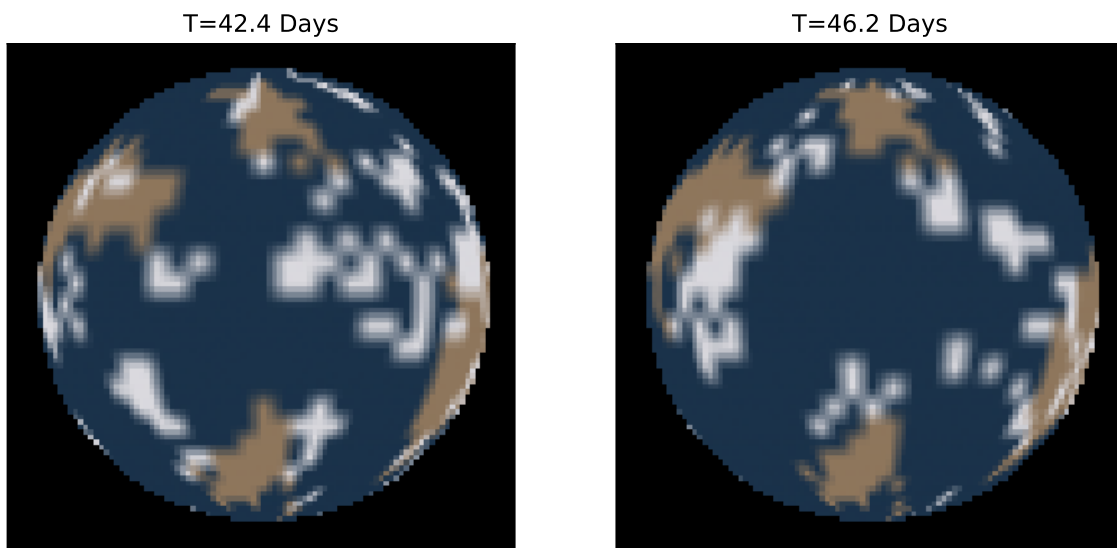


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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