

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging hutianyi Planet 3

Wednesday 10th December, 2081

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 is continuous and does not repeat itself frequently. An excerpt of the transmission is shown below:

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010010000001110001100001011111111001101110100000111000  
111001001100100011100101101101010111011100010110101000  
100110000110110000011011111101011110001110000100011010  
100101010010000101011001101011011001100101101101100011  
01101100010110011101111111110001100100010001110011010  
011100011000110100001110000100001001110010010000100110  
1010111001000000010100110110001000100111111100101100101  
011111000110111010100011110010001110100010011111101011  
001100101101111011100000011011111010110111110010001101  
000110000011110111110011010111110001001001011001010010
```

This signal was first noticed at UTC 2079-02-17/06:50.

Parameters of the candidate planet of origin and its host star

Spectral Type	G
Stellar Luminosity (Solar Units)	1.24
Stellar Mass (Solar Masses)	1.05
Distance to Star (lightyears)	5.3
Planet Mass (Earth masses)	1.9
Atmospheric Pressure (atm)	17.4

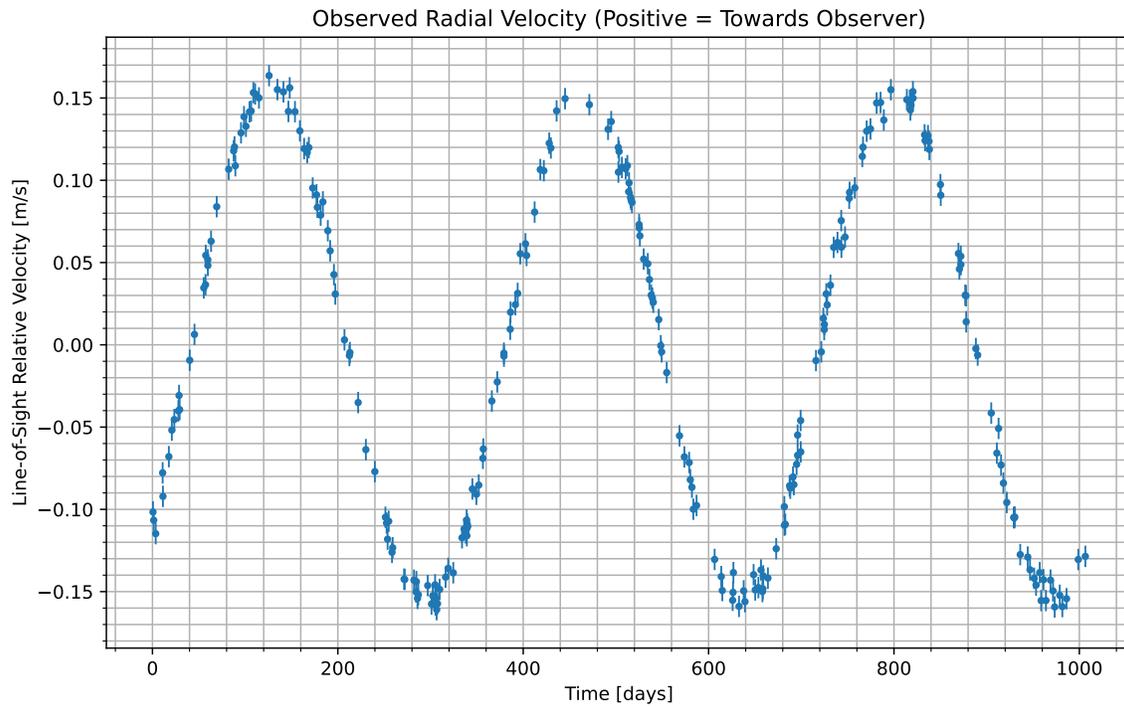


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2079-02-19/14:05. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	42.8
CO_2	38.4
H_2O	18.8

Gas Abundance (percent by volume)

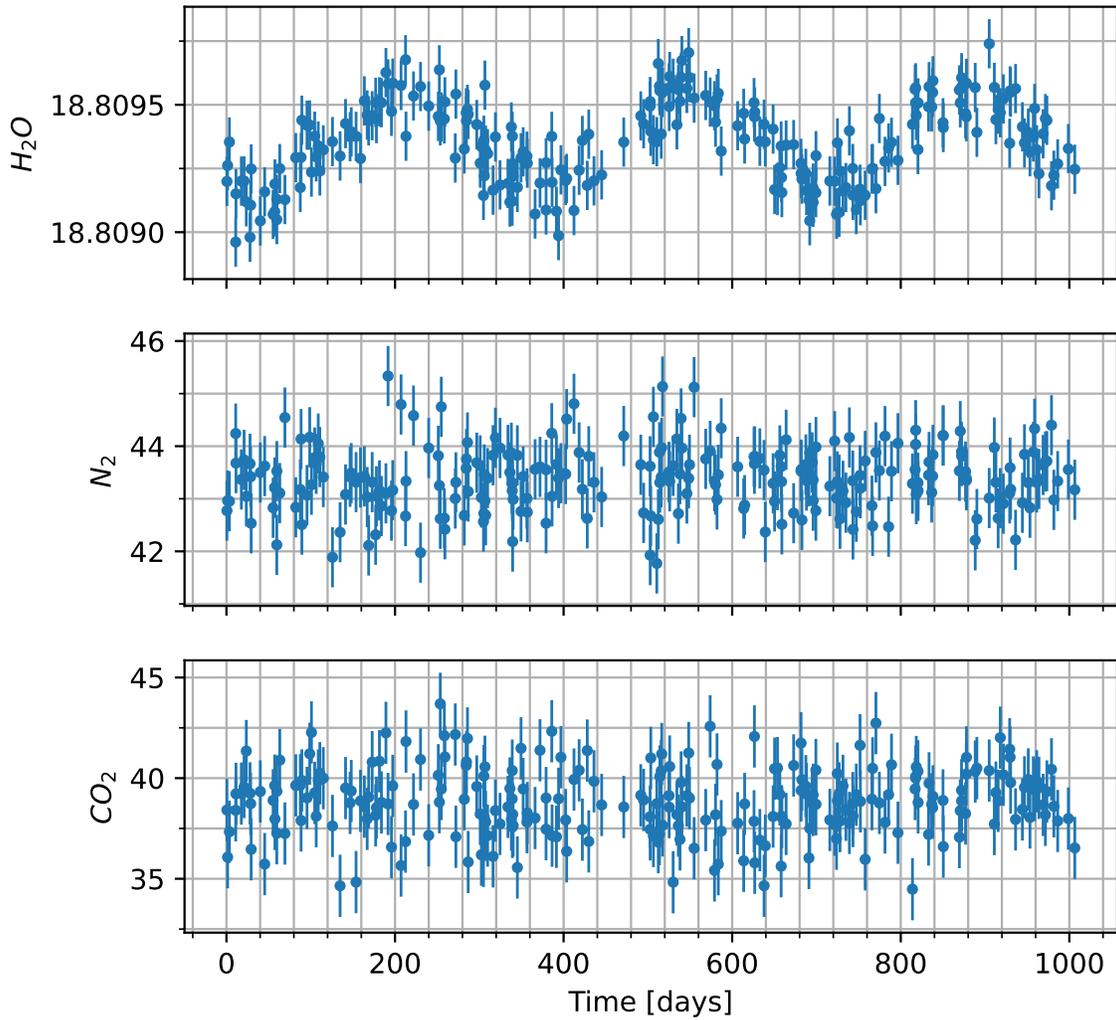


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

T=148.1 Days



T=254.9 Days

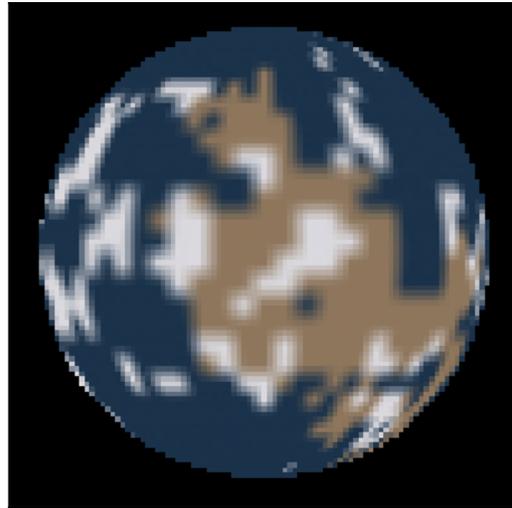


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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