

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging cheu1466 Planet 1

Wednesday 27th March, 2075

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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0011010110010010101010111010101100100011010110011  
0101001011000010101111110110100011100001110111101  
100011010000110111010011100000111111101111011101  
0010010011101010011010011101111001101001000010100  
1110010011001111010100101101100000111011000011000  
1111110011111110101101110010000001110001101010011
```

This signal was first noticed at UTC 2075-01-11/17:40.

Parameters of the candidate planet of origin and its host star

Spectral Type	M
Stellar Luminosity (Solar Units)	0.00458
Stellar Mass (Solar Masses)	0.23
Distance to Star (lightyears)	924.3
Planet Mass (Earth masses)	2.8
Atmospheric Pressure (atm)	17.2

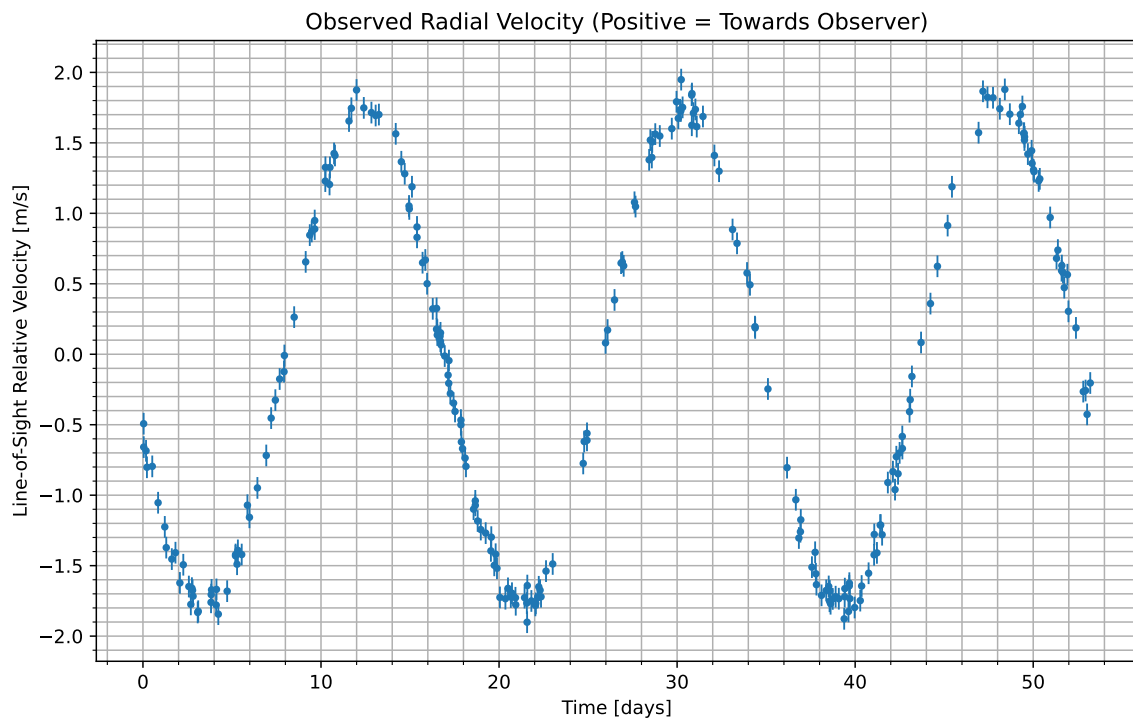


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2075-01-14/02:01. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	37.9
CO_2	49.7
H_2O	12.4

Gas Abundance (percent by volume)

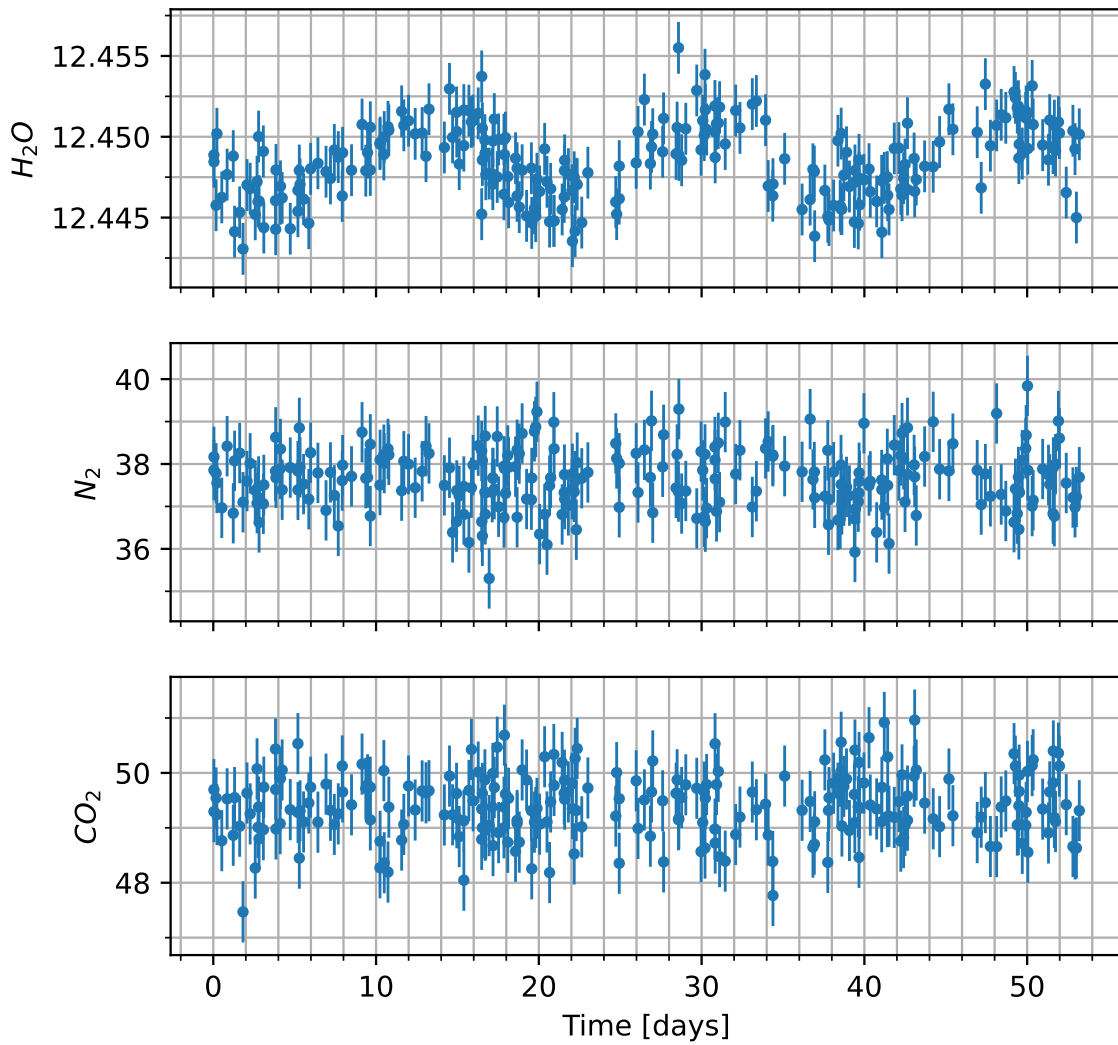


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

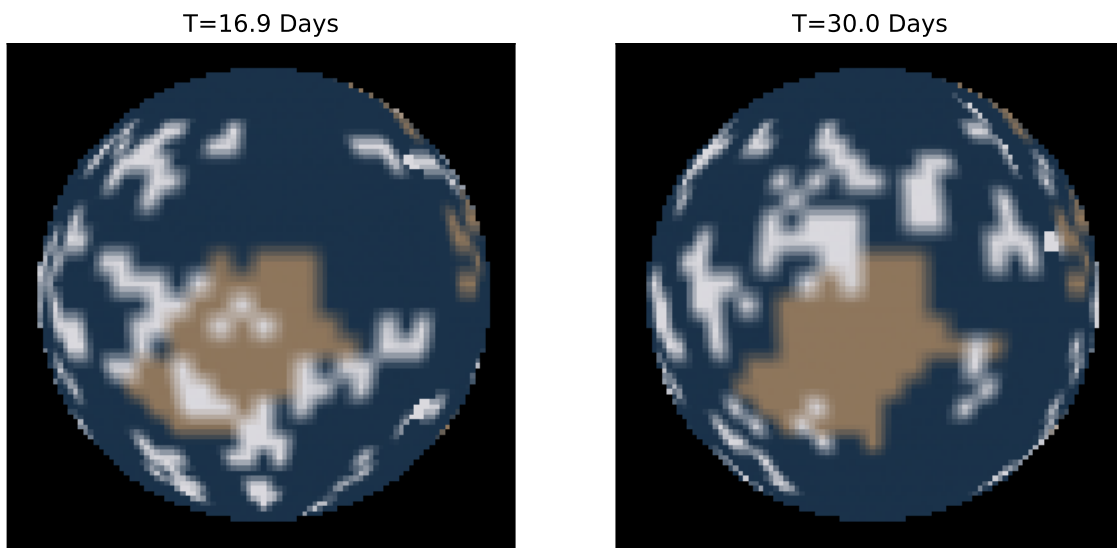


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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