

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging sunzhe16 Planet 1

Wednesday 26th October, 2072

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:

```
1011101111110111010111000010100001011010111001011101001100001101  
111011000100110000011100001001000011100010010000100111110011100  
111011010100011100111010011110001101110011001110001011001101011  
001110110110010111010101110110000100001001000011101111001111001  
000011100110111001101001011011101100011011000001010101000010010
```

This signal was first noticed at UTC 2072-08-25/05:38.

Parameters of the candidate planet of origin and its host star

Spectral Type	M
Stellar Luminosity (Solar Units)	0.000271
Stellar Mass (Solar Masses)	0.0953
Distance to Star (lightyears)	63.9
Planet Mass (Earth masses)	2.6
Atmospheric Pressure (atm)	40.4

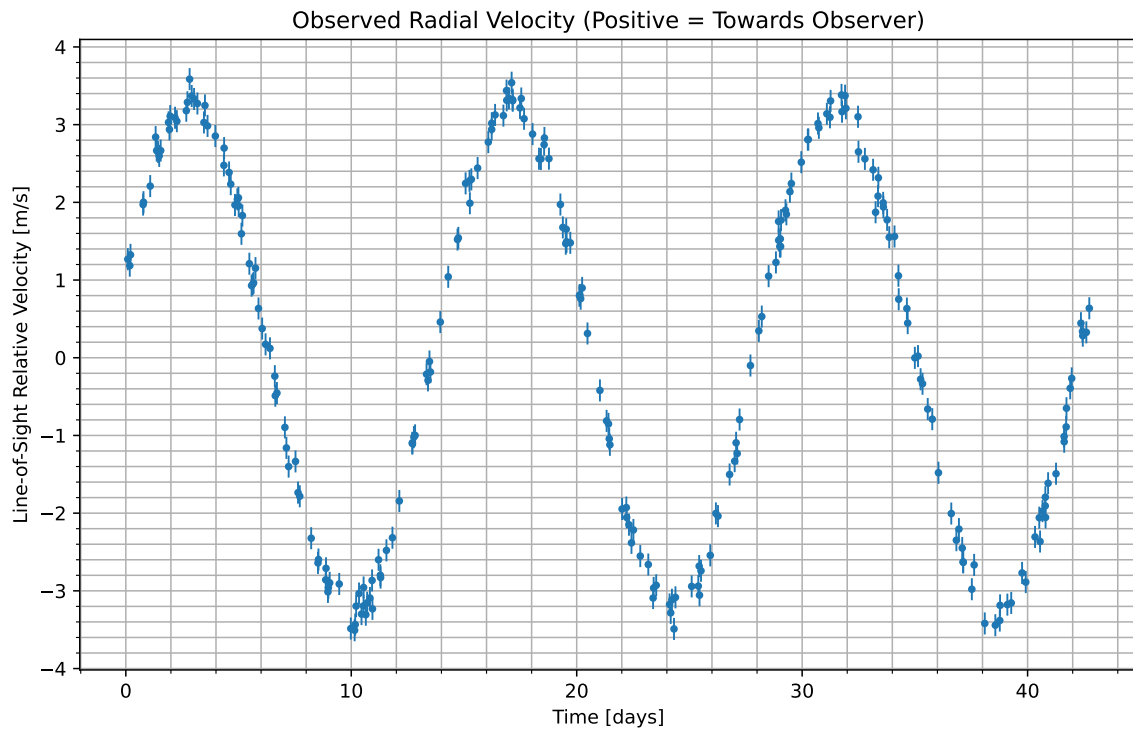


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2072-08-26/15:36. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	11.7
CO_2	77.1
H_2O	11.2

Gas Abundance (percent by volume)

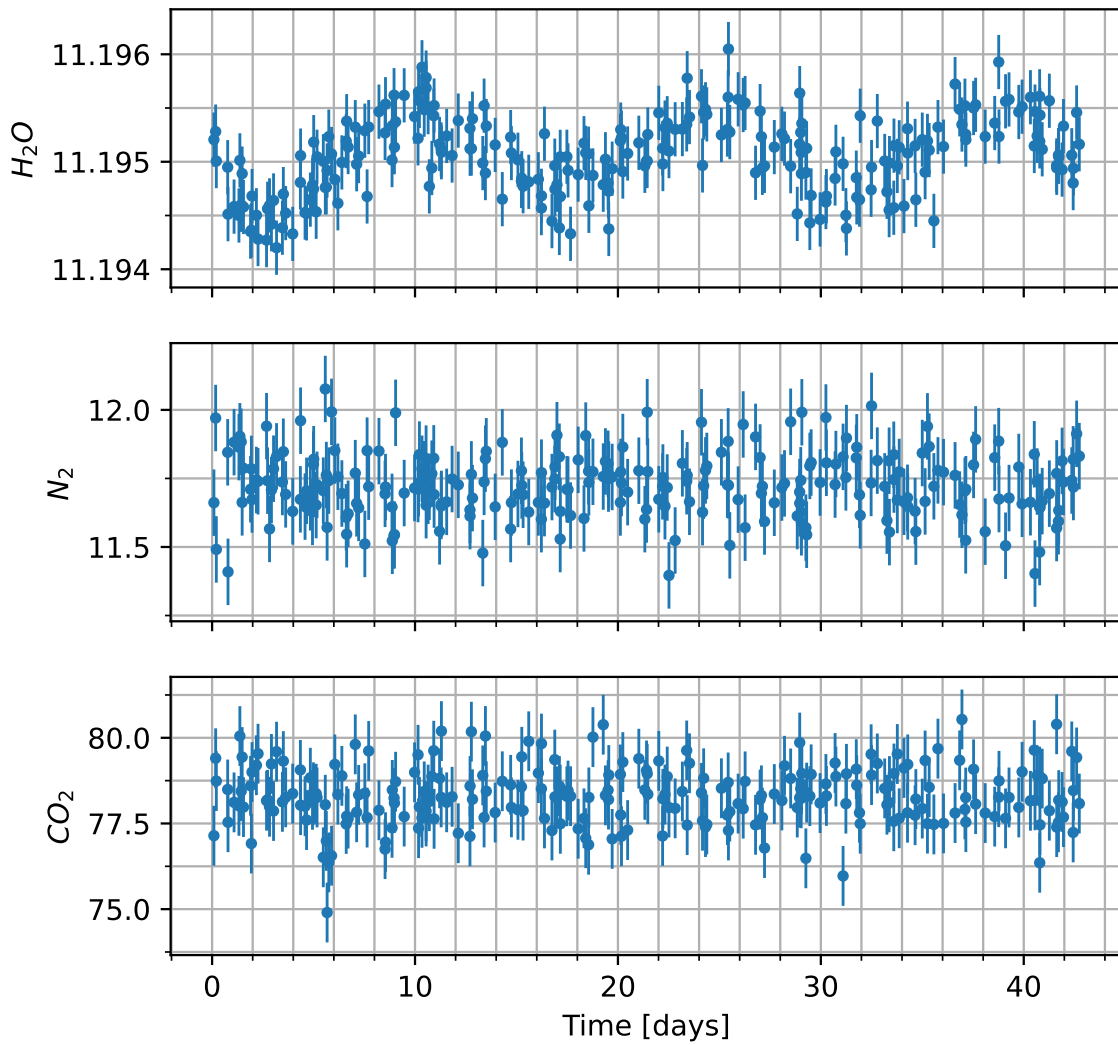


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

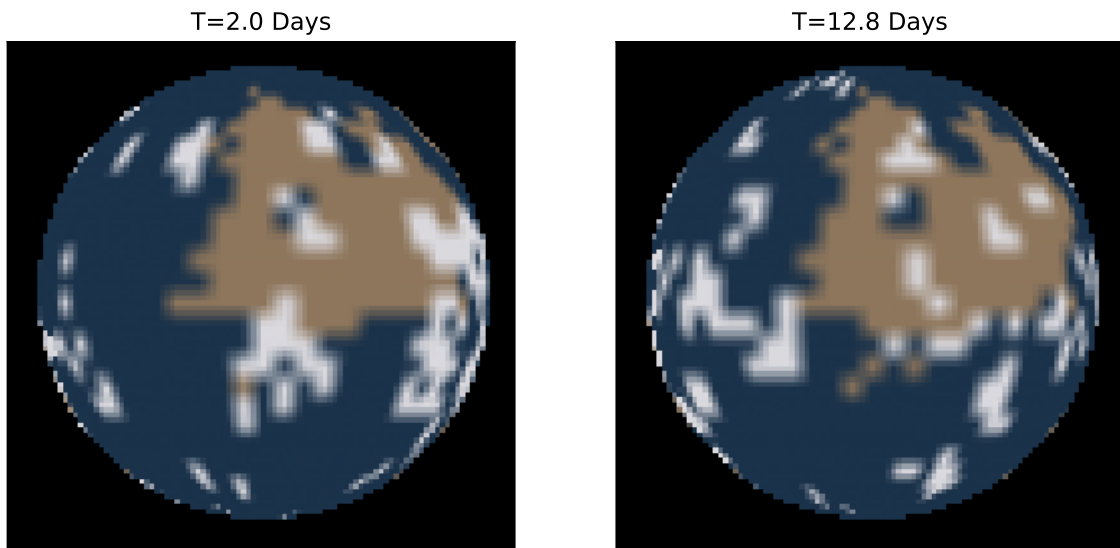


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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