

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging guohai3 Planet 1

Tuesday 13th April, 2083

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:

```
10111011000101110001111110100110000111101101011011101  
00001101100011010010100010011011010111100110000001101  
01001110000101001011100000101101010110110000100000001  
11010100100001000011010110111010100011001111001111011  
00110100010011100100001000001100000100101010100111010
```

This signal was first noticed at UTC 2082-08-11/08:34.

Parameters of the candidate planet of origin and its host star

Spectral Type	K
Stellar Luminosity (Solar Units)	0.132
Stellar Mass (Solar Masses)	0.603
Distance to Star (lightyears)	688.0
Planet Mass (Earth masses)	0.3
Atmospheric Pressure (atm)	17.5

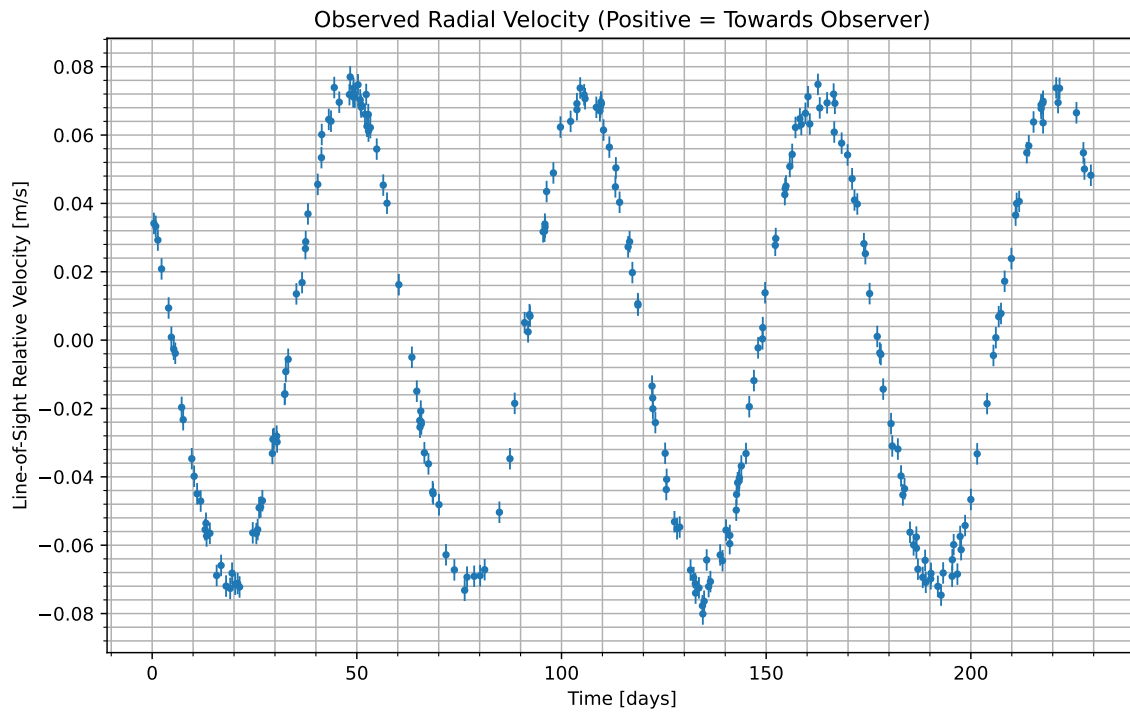


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2082-08-12/16:41. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	43.5
CO_2	28.8
H_2O	27.7

Gas Abundance (percent by volume)

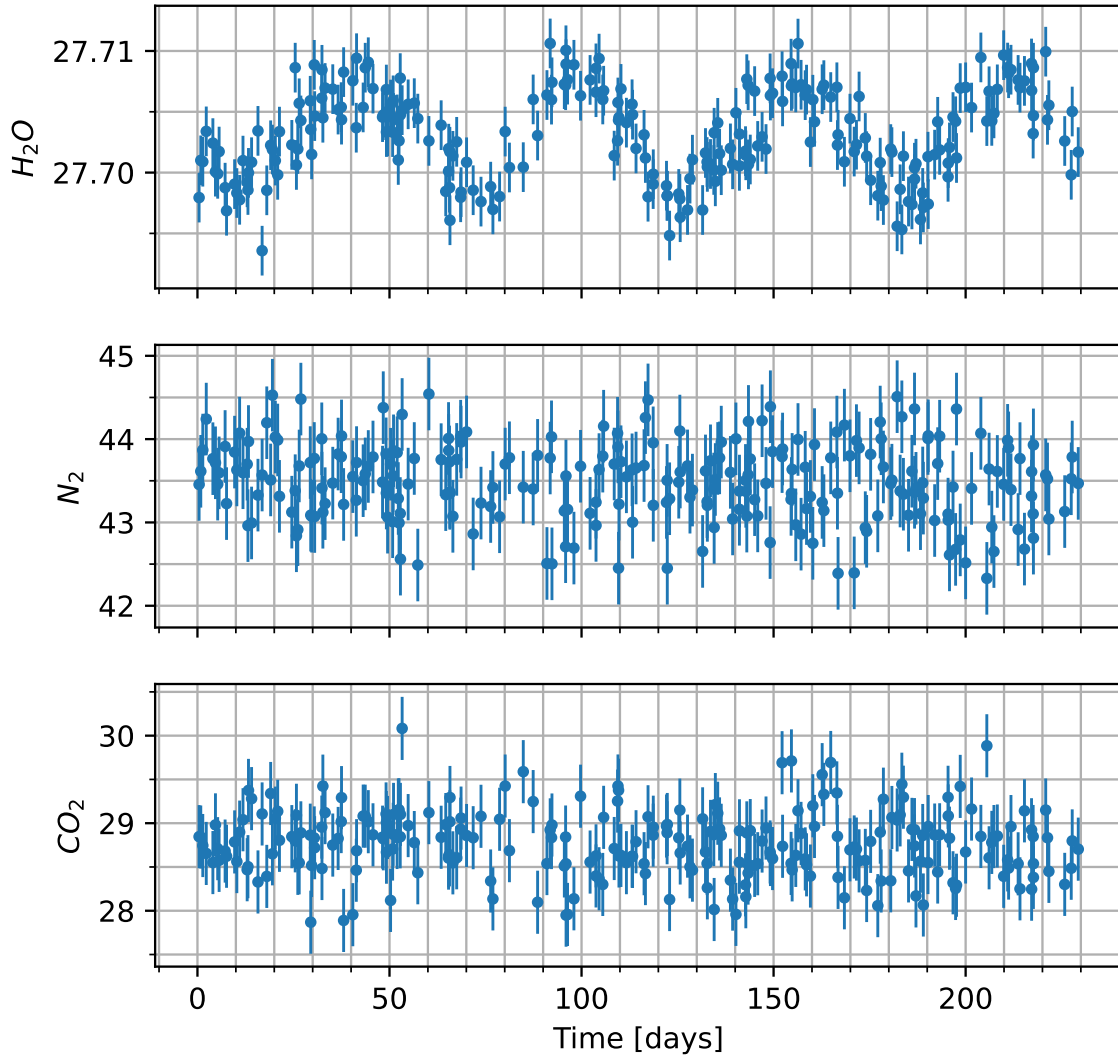


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

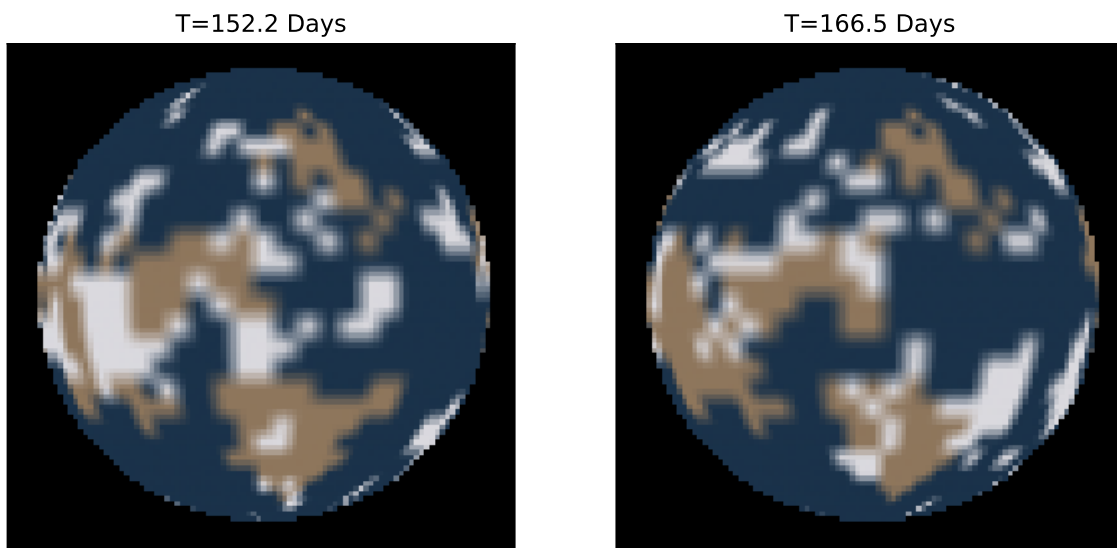


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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