

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

Tuesday 19th November, 2097

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 lasted a short duration and then stopped. The transmission is shown below:

```
10011011000111000001110011000101001100000101000100101  
11100001100100100010101111101100011000111000100011001  
01001101110101111000010010110110010110101111100011101  
10010111001011001011101000001010111010001110001100001  
00111110100110111001001101000001111010110001001111000  
1110011111100100010111101000000001111101011011101011  
10001011010100101011010011110110001101111101011110110  
00000101110010111010100101011101100111011000110110110
```

This signal was first noticed at UTC 2096-07-03/19:36.

Parameters of the candidate planet of origin and its host star

| | |
|----------------------------------|-------|
| Spectral Type | K |
| Stellar Luminosity (Solar Units) | 0.277 |
| Stellar Mass (Solar Masses) | 0.725 |
| Distance to Star (lightyears) | 28.3 |
| Planet Mass (Earth masses) | 2.5 |
| Atmospheric Pressure (atm) | 1.2 |

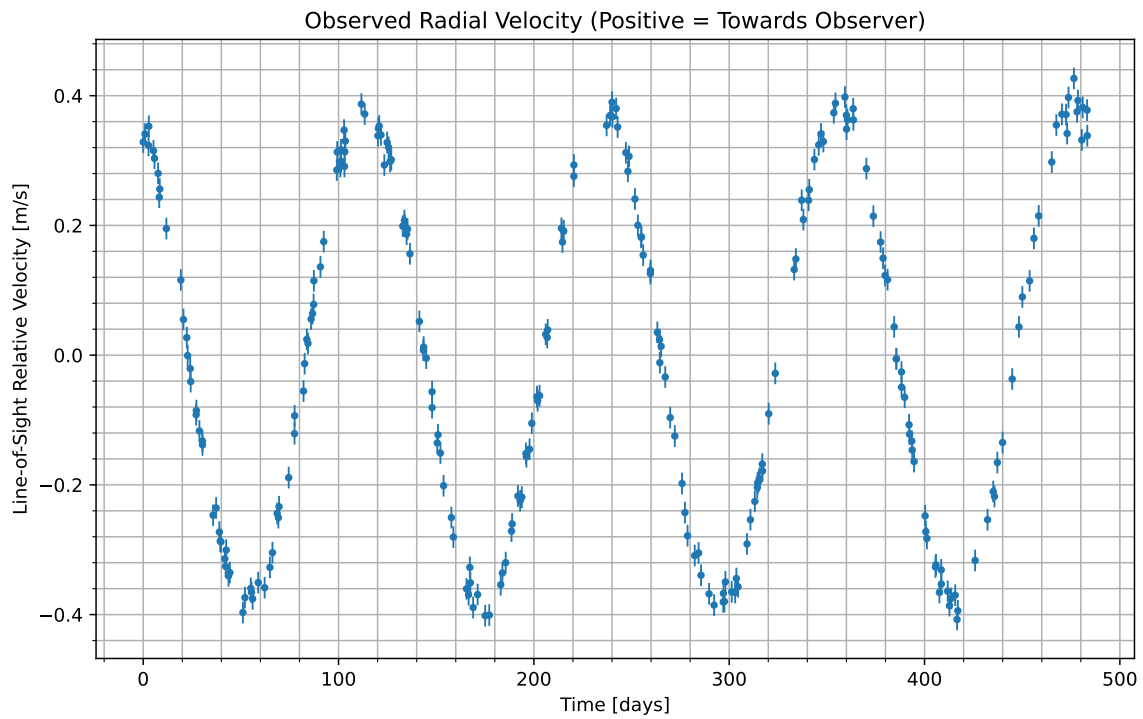


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2096-07-04/20:00. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

| Molecule | Concentration |
|----------|---------------|
| N_2 | 54.6 |
| CO_2 | 39 |
| H_2O | 6.45 |

Gas Abundance (percent by volume)

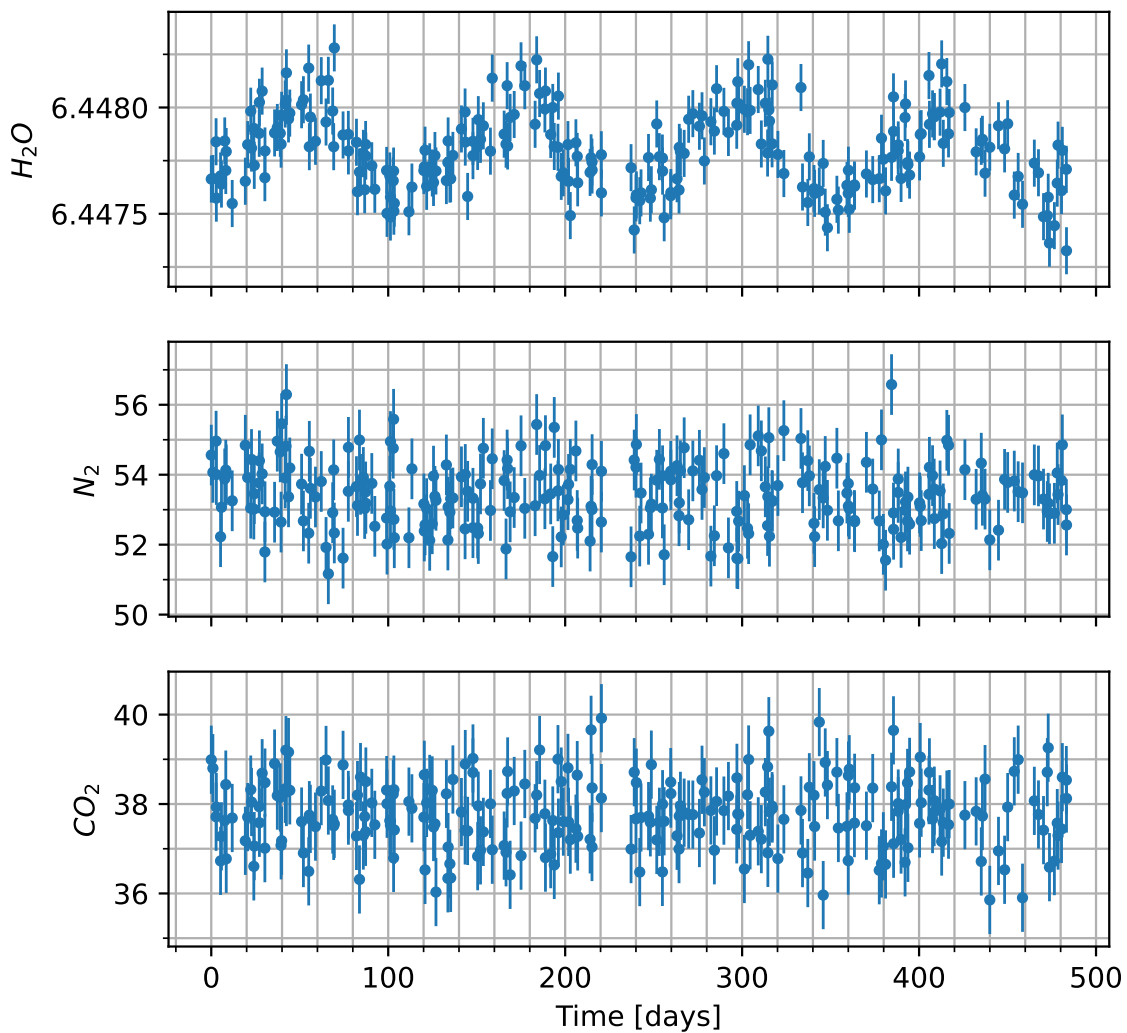


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

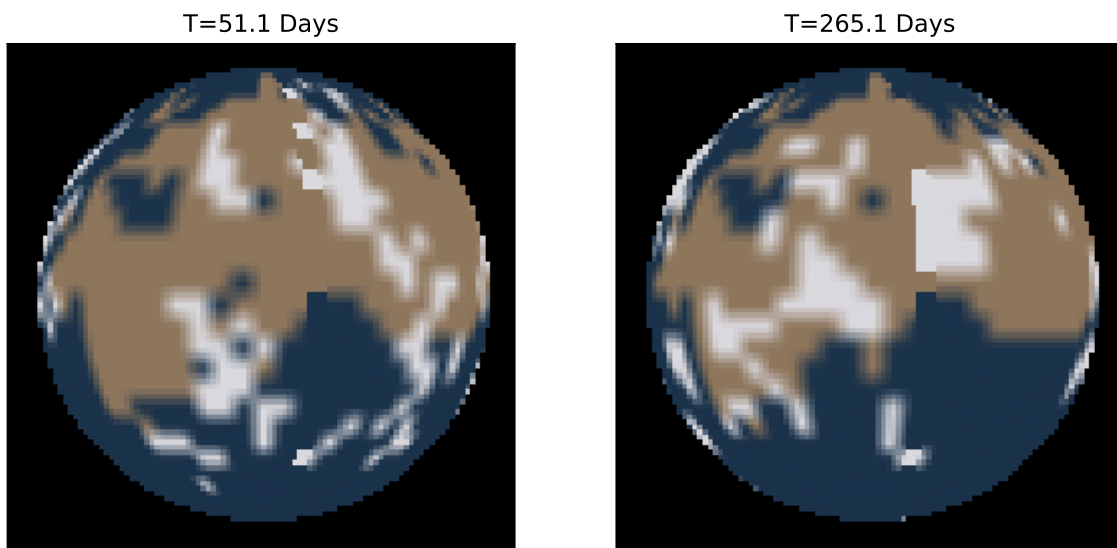


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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