

# AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging palozzie Planet 3

Friday 4<sup>th</sup> May, 2091

**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:

```
00000011100110010111000100101110101001001100111101  
01101001011000000111111010001101011000101010000011  
00100100111001011110010100110010001010110010101100  
00001010000101111101000000101110010011000010110010  
00101000001101101110111101110100110011111011100110  
11010000100000110111100010100001110011100100111101  
10011101000011101001111111100100100010011100010000  
01001100110001011110000010101010010100100000101111  
11100010101000011000110010010000000000110010100111
```

This signal was first noticed at UTC 2091-01-01/05:02.

## **Parameters of the candidate planet of origin and its host star**

Spectral Type	M
Stellar Luminosity (Solar Units)	0.0266
Stellar Mass (Solar Masses)	0.398
Distance to Star (lightyears)	168.1
Planet Mass (Earth masses)	0.8
Atmospheric Pressure (atm)	19.6

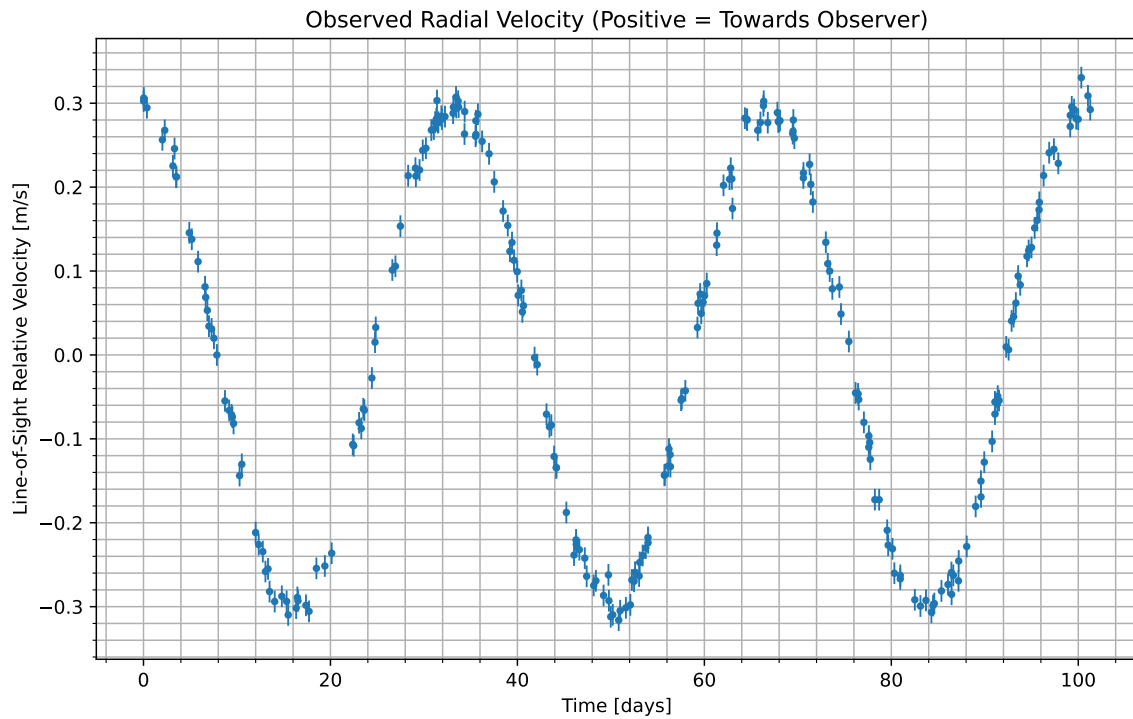


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2091-01-02/08:42. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

### Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
$N_2$	17.5
$CO_2$	66.2
$H_2O$	16.3

### Gas Abundance (percent by volume)

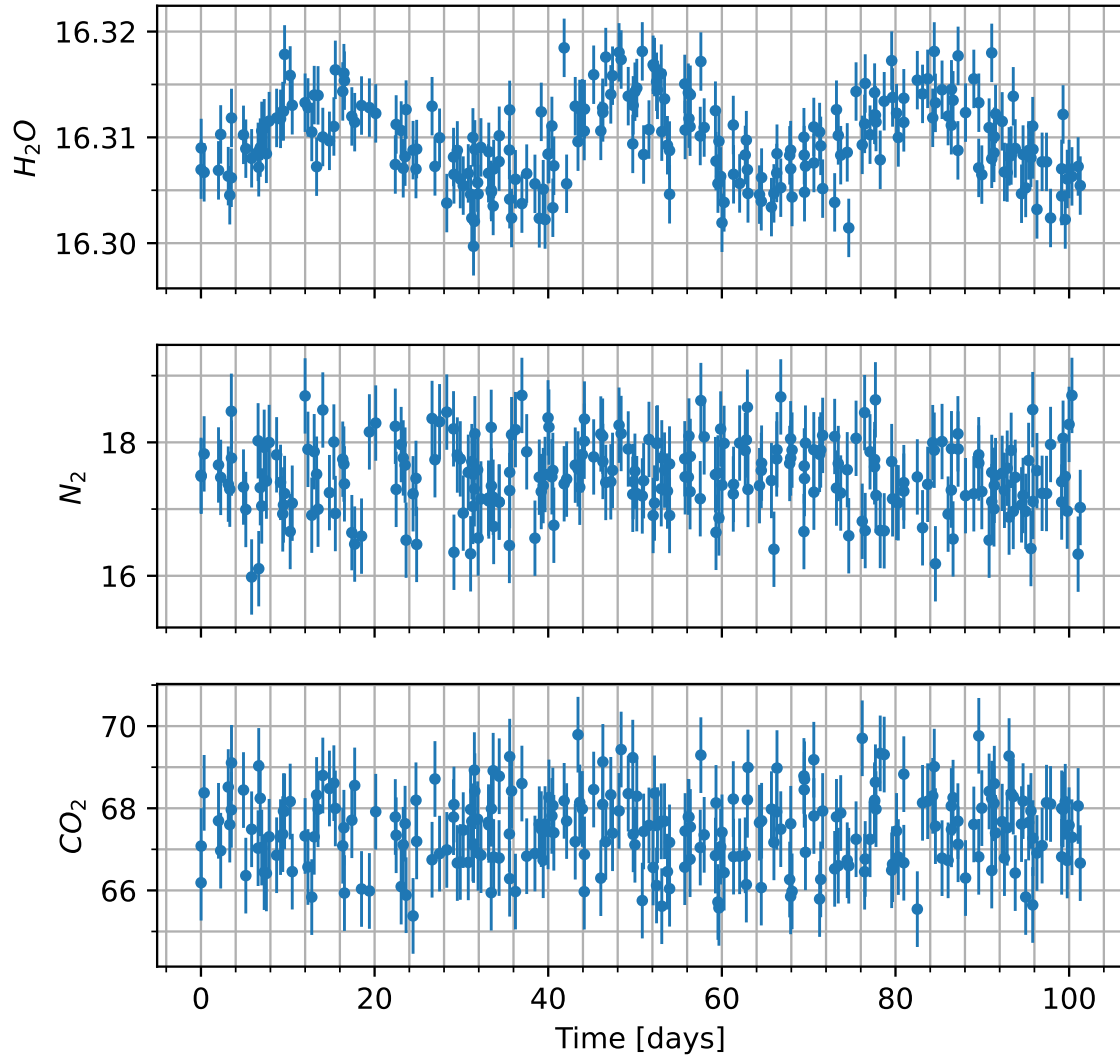


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

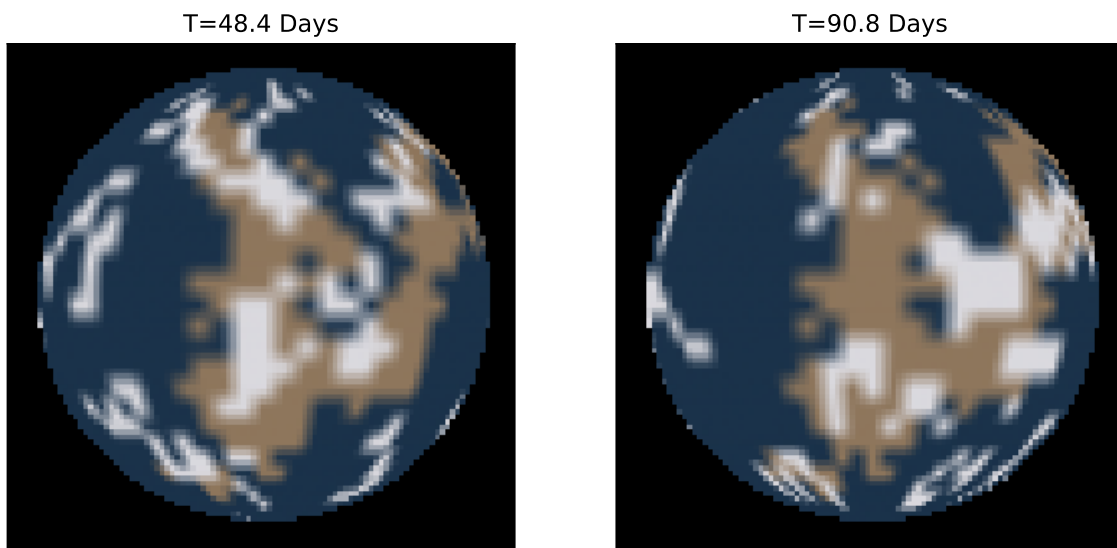


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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