

# AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging naderkh1 Planet 3

Friday 10<sup>th</sup> February, 2090

**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 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:

```
01101101010111100110100000011110110010000100100  
01000100110100110011111111100110111110010100100  
1010111100111010110111010111101000000001010011  
10110100101111000011000101001010000100101100111  
11000100011100110000010111001010111111011100011  
10101101011111001001100000101001100111100011000  
01110100100001011110011100010011010011110111101  
00111001101101101110100010101011010101111010011  
00010011000001111100010100100000000110000010111
```

This signal was first noticed at UTC 2086-12-26/21:03.

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

Spectral Type	G
Stellar Luminosity (Solar Units)	1.06
Stellar Mass (Solar Masses)	1.02
Distance to Star (lightyears)	26.8
Planet Mass (Earth masses)	2.2
Atmospheric Pressure (atm)	12.3

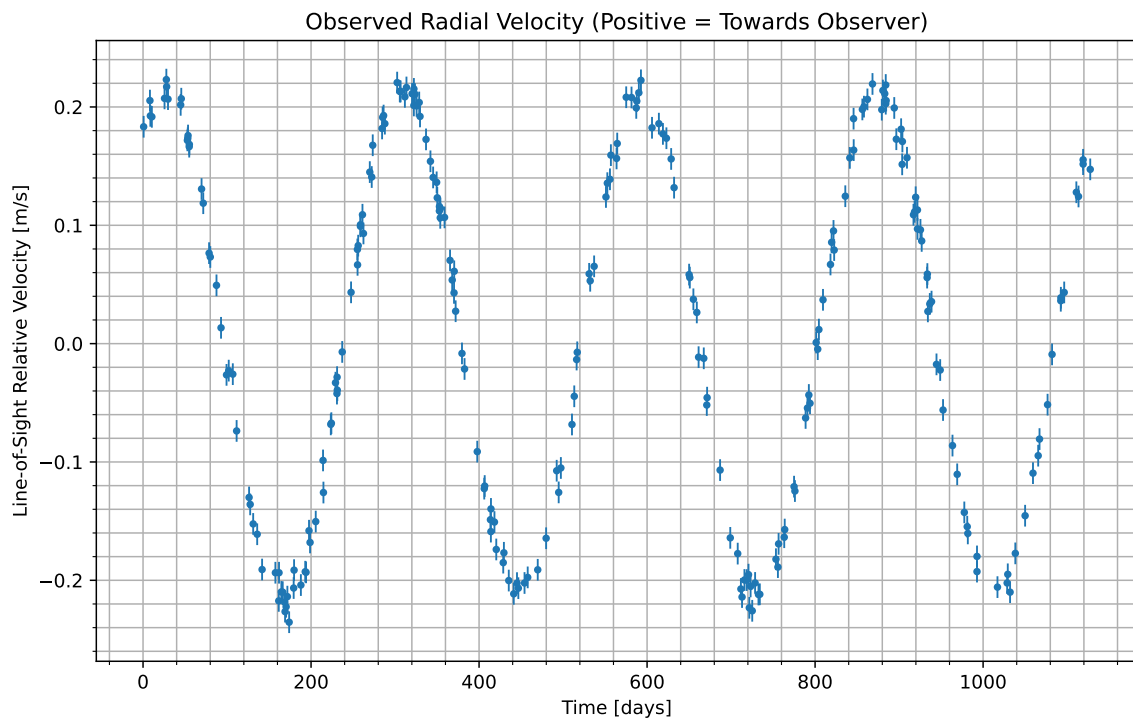


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2086-12-27/21:01. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

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

Molecule	Concentration
$N_2$	31.6
$CO_2$	37
$H_2O$	31.4

### Gas Abundance (percent by volume)

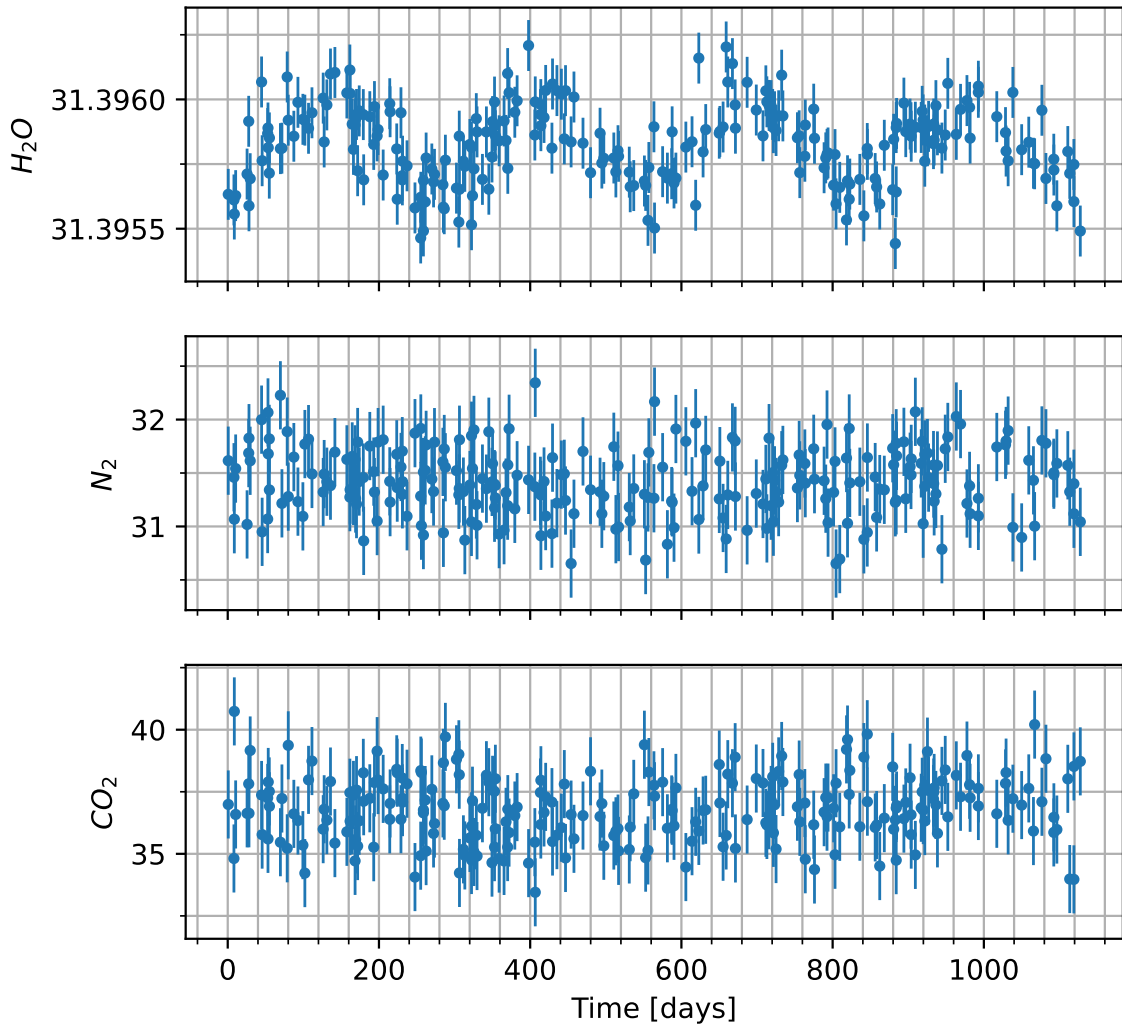


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

T=575.2 Days



T=926.9 Days



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.