

# AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging hoangm14 Planet 1

Thursday 26<sup>th</sup> August, 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 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:

```
101011010001000101111110001010110100000101011001110110110011011001110010001  
001000010110000000010110100000101001101000001100010011110011101001100101101  
010111111101011110001110010110001001100101101010100000000101100100100110111  
0001001000010011000110001101101101010101011000111111110100101101001010101  
11011010100001010010001111000011100000110110010000101111111110011111011010
```

This signal was first noticed at UTC 2077-04-15/13:36.

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

Spectral Type	F
Stellar Luminosity (Solar Units)	2.72
Stellar Mass (Solar Masses)	1.28
Distance to Star (lightyears)	139.1
Planet Mass (Earth masses)	0.4
Atmospheric Pressure (atm)	30.2

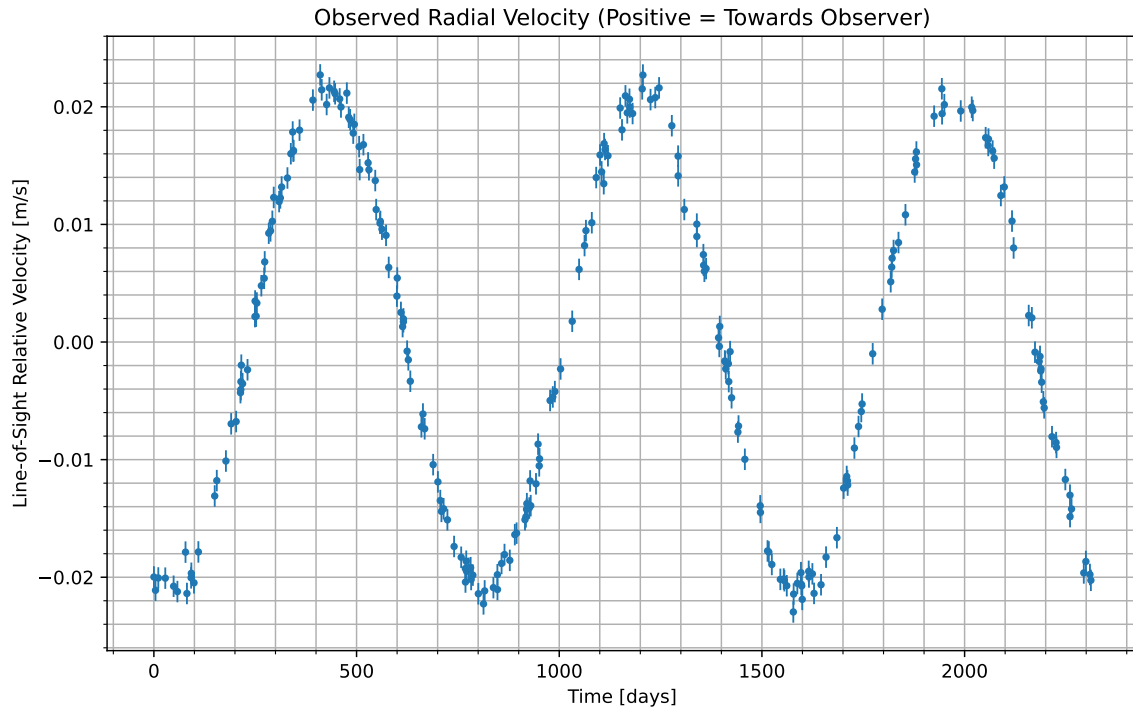


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2077-04-16/10:35. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

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

Molecule	Concentration
$N_2$	35.6
$CO_2$	33.1
$H_2O$	31.3

### Gas Abundance (percent by volume)

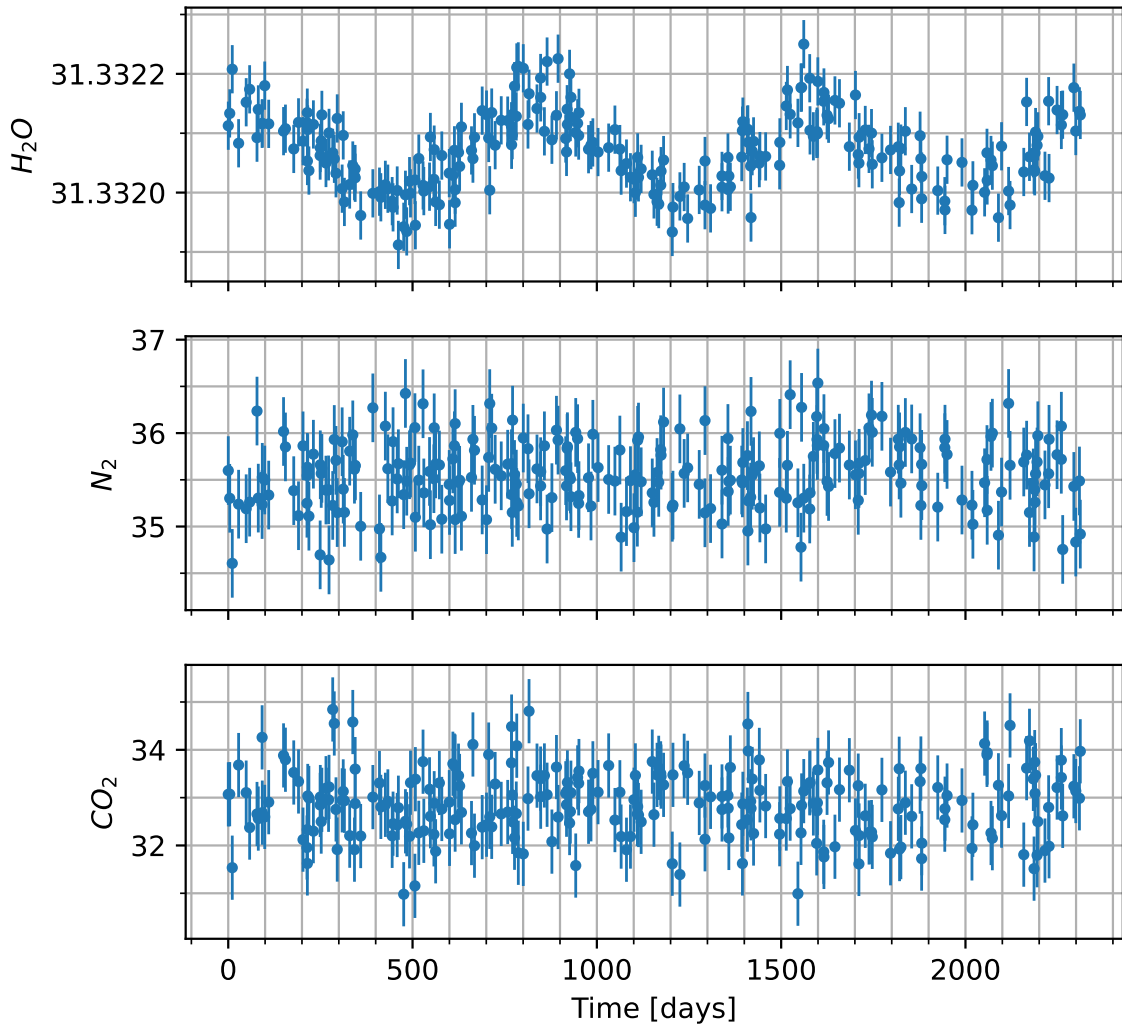


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

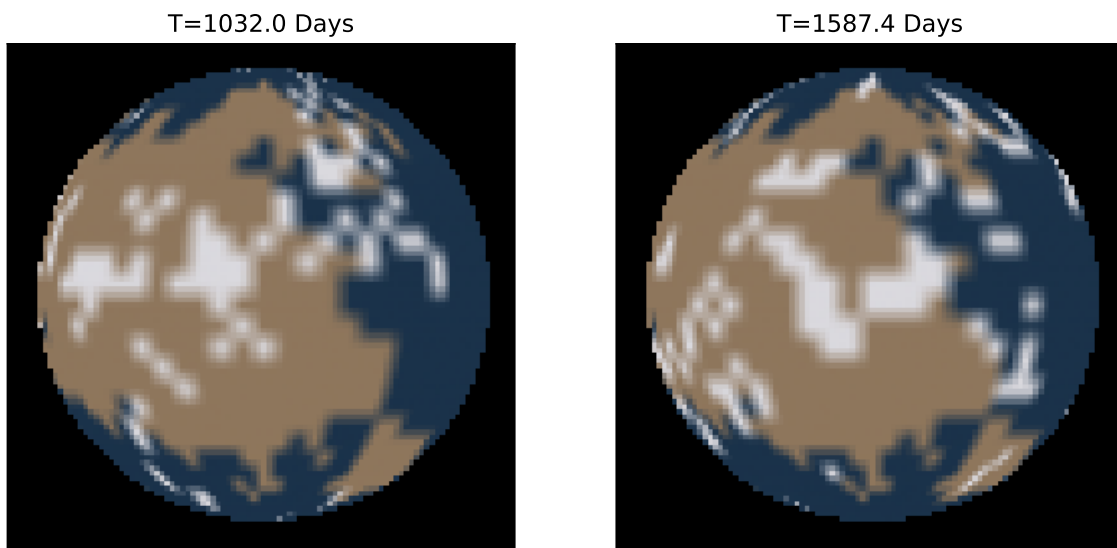


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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