

# AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging janghyuk Planet 2

Wednesday 18<sup>th</sup> February, 2082

**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:

```
001110000110001110111101110100101010100111011110000111  
110111001101001001110000011010010011101110000010110111  
001000001101000100101111001101100111000011001110000110  
011000011011000010110001101010100001000100100111101000  
100011110100101101000111011100100000110100100101110000  
111100101001100000110111010010101101011010110011001001  
010011111000001011110011001011011010110110101111011000
```

This signal was first noticed at UTC 2081-11-22/13:32.

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

Spectral Type	M
Stellar Luminosity (Solar Units)	0.0154
Stellar Mass (Solar Masses)	0.335
Distance to Star (lightyears)	6.1
Planet Mass (Earth masses)	0.4
Atmospheric Pressure (atm)	12.3

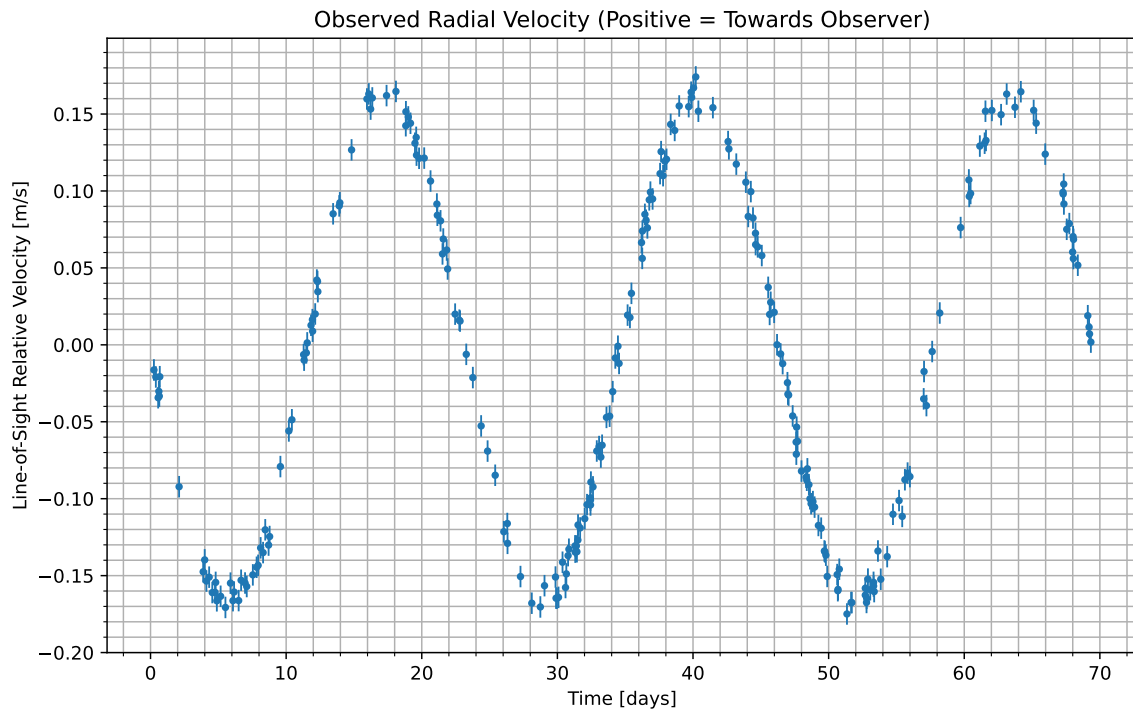


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2081-11-23/18:03. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

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

Molecule	Concentration
$N_2$	32.9
$CO_2$	45.4
$H_2O$	21.7

### Gas Abundance (percent by volume)

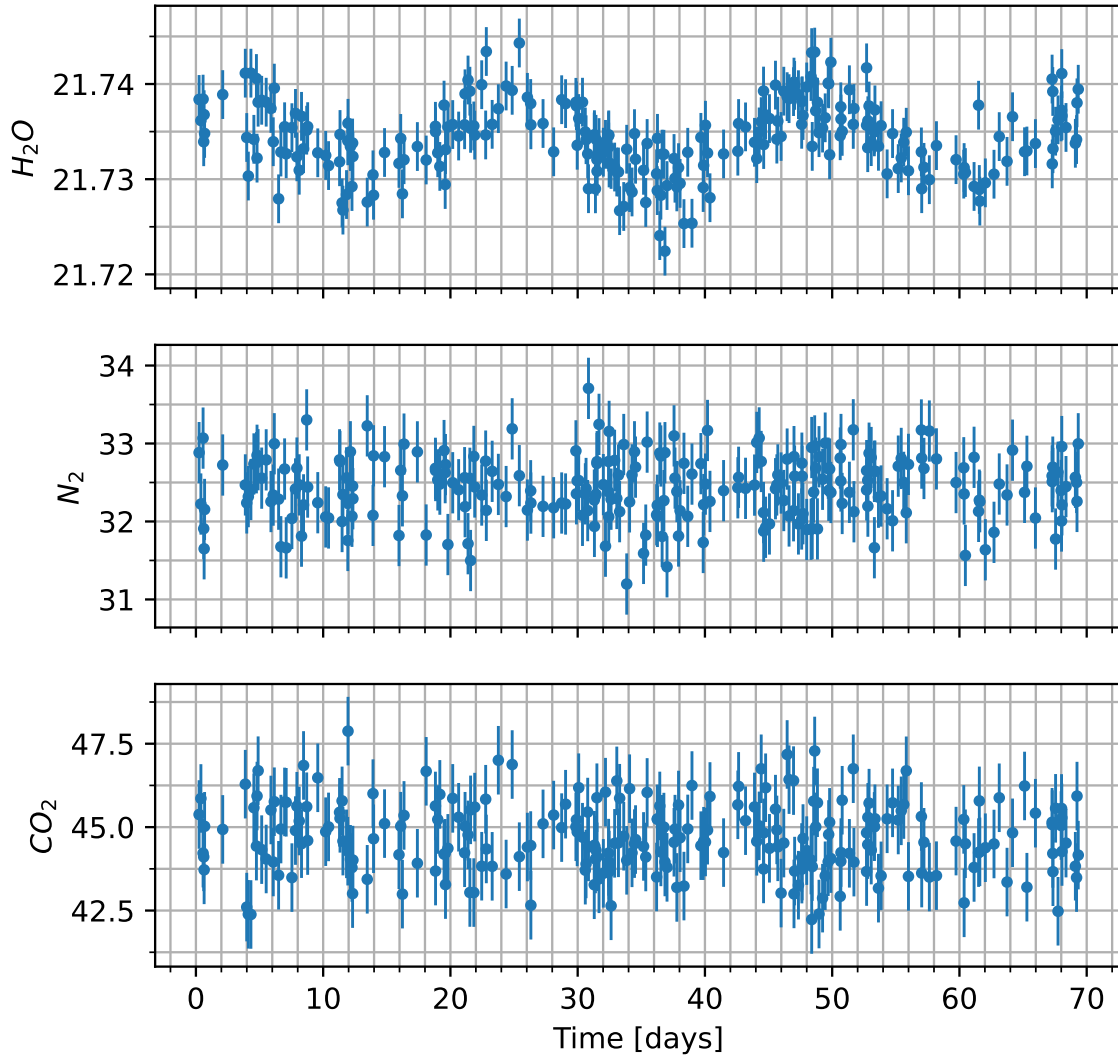


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

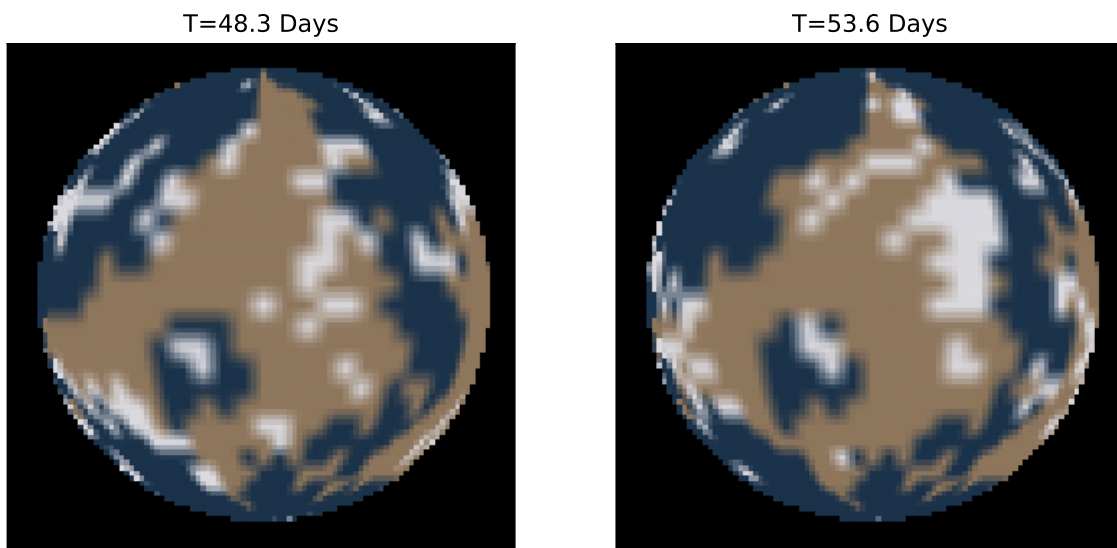


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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