

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging

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Planet 3

Monday 14th June, 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 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:

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100101100101100101111100011011100110011111110011101100001100001010010
00110100011111001100011011111101101111001011100010010010010110100011
0111110111110100100100010011000110011010001111000011001011111101011010
0001011010100111011001110100110111000111110011010100011001001010010110
1010011010011000110000001010011001000010111100001001111110100010010001
```

This signal was first noticed at UTC 2082-07-20/02:43.

Parameters of the candidate planet of origin and its host star

Spectral Type	K
Stellar Luminosity (Solar Units)	0.114
Stellar Mass (Solar Masses)	0.581
Distance to Star (lightyears)	178.6
Planet Mass (Earth masses)	2.0
Atmospheric Pressure (atm)	5.6

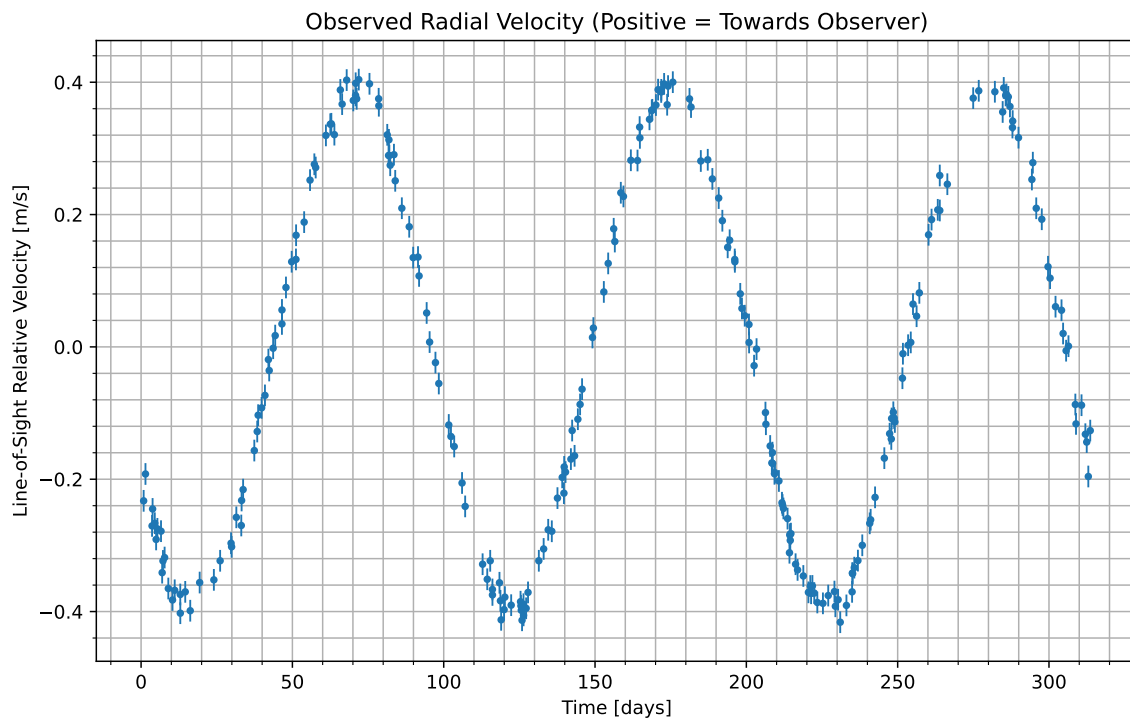


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2082-07-21/19:07. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	22.2
CO_2	53
H_2O	24.8

Gas Abundance (percent by volume)

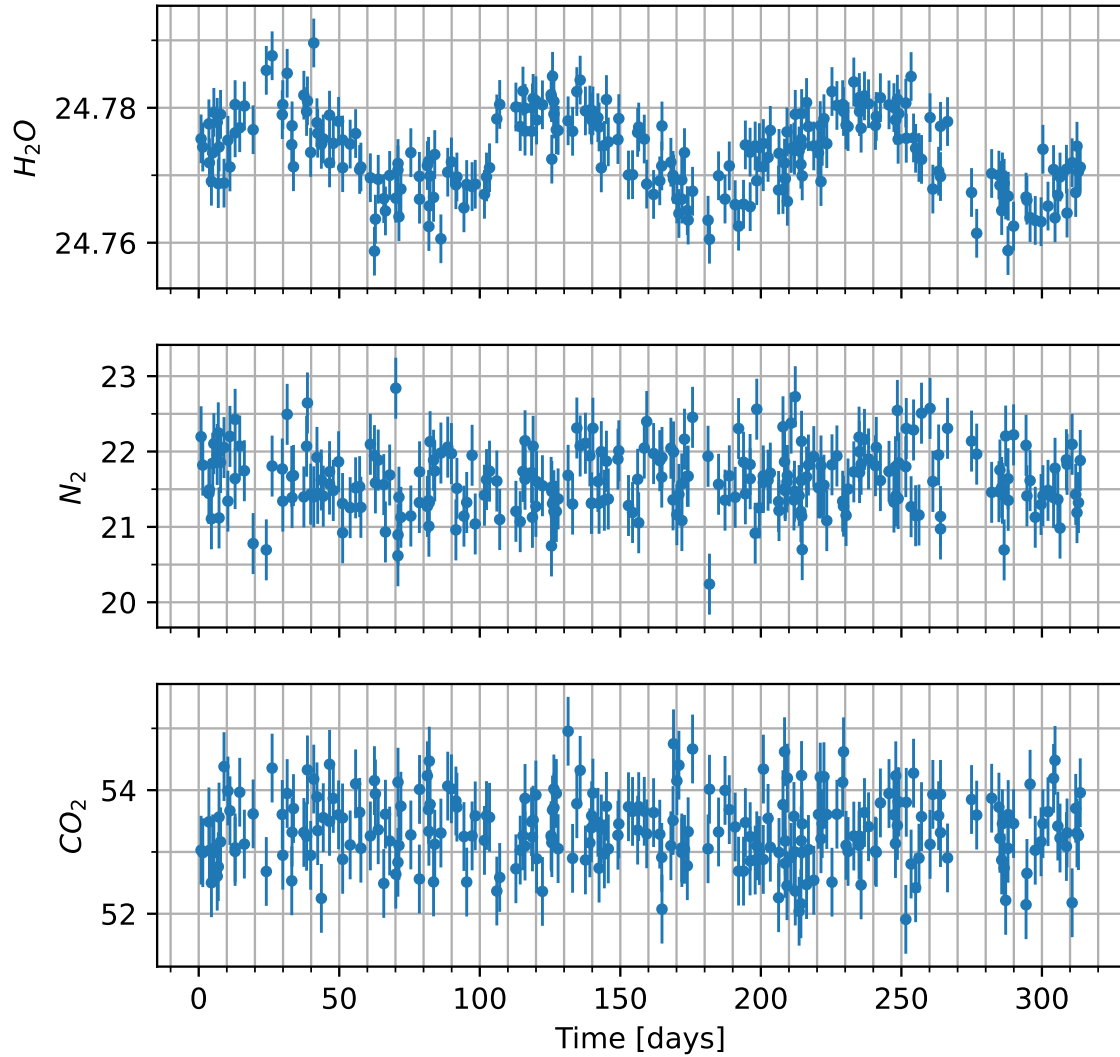


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

T=133.0 Days



T=213.6 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.