

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging decairej Planet 2

Tuesday 11th February, 2076

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 lasted a short duration and then stopped. The transmission is shown below:

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0010111111100110100010010010011101111111010011010111110100101010011011  
0010101000100101000011000110110110011010110010110001110010110011001111  
1100101001010101100100010110111100111101001111001001000010101010100111  
010001000100110010111010111101001111100100101001110110111110001101010  
0010100011001000110011101001101110110100011111101000001101000001001010  
111100101001000111001011011000000000000100001001011011010000010110011  
111111010100001110110101011011001110010100111111000011011110100010100  
0011111000011110110101001101000000000101010000010001101100000111110001  
1010100010110111101000110111110010000111001111111111010100101111110110
```

This signal was first noticed at UTC 2073-09-11/14:33.

Parameters of the candidate planet of origin and its host star

Spectral Type	G
Stellar Luminosity (Solar Units)	0.724
Stellar Mass (Solar Masses)	0.922
Distance to Star (lightyears)	32.8
Planet Mass (Earth masses)	2.0
Atmospheric Pressure (atm)	1.0

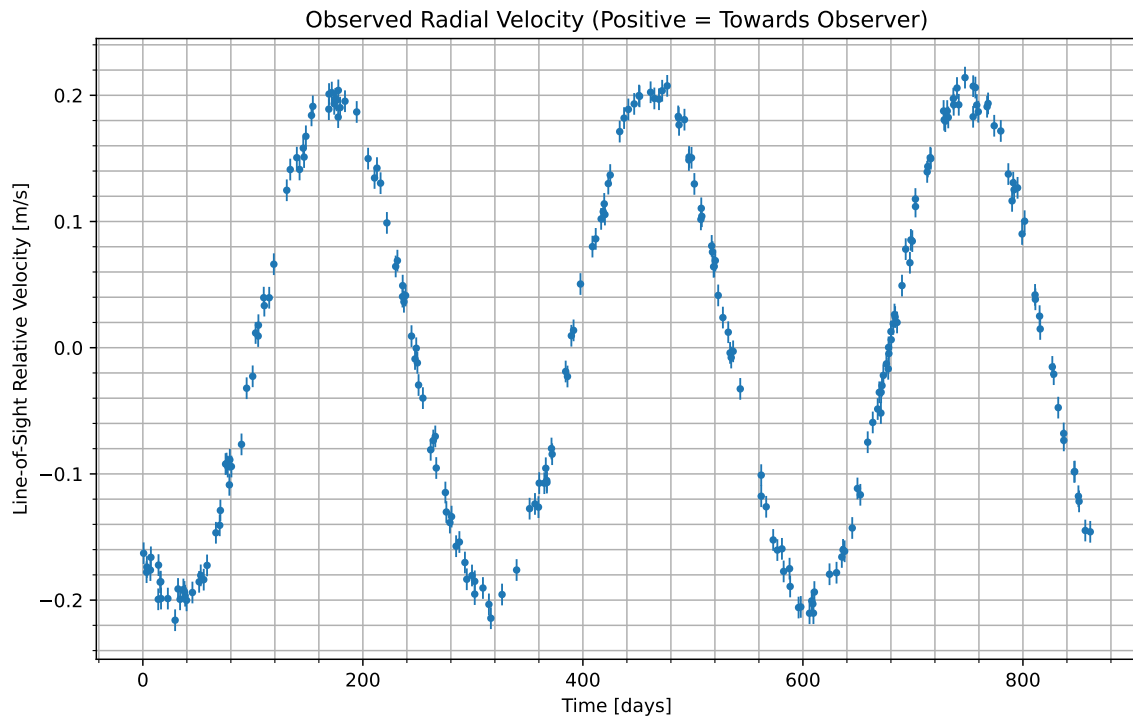


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2073-09-12/18:00. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	15.9
CO_2	68.4
H_2O	15.8

Gas Abundance (percent by volume)

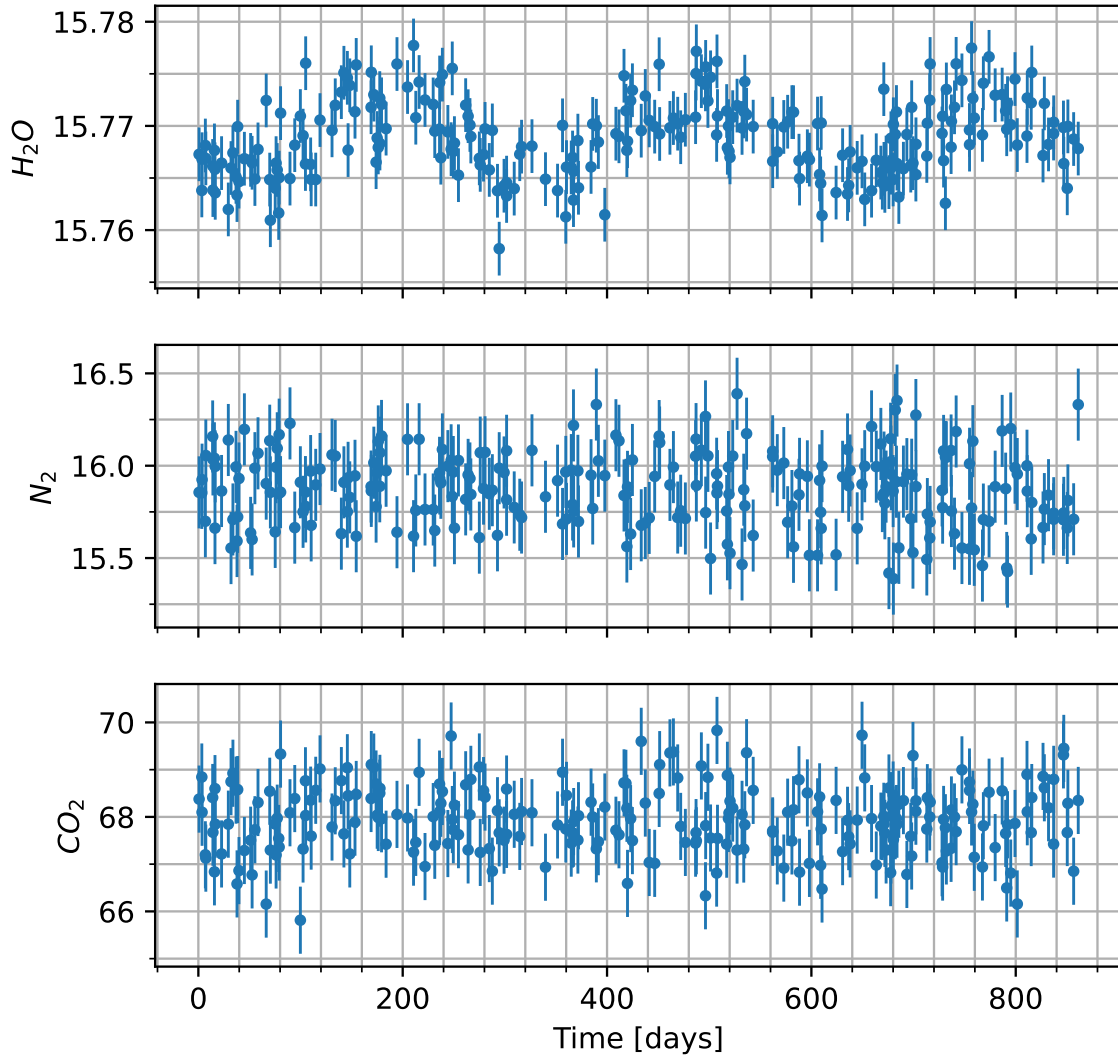


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

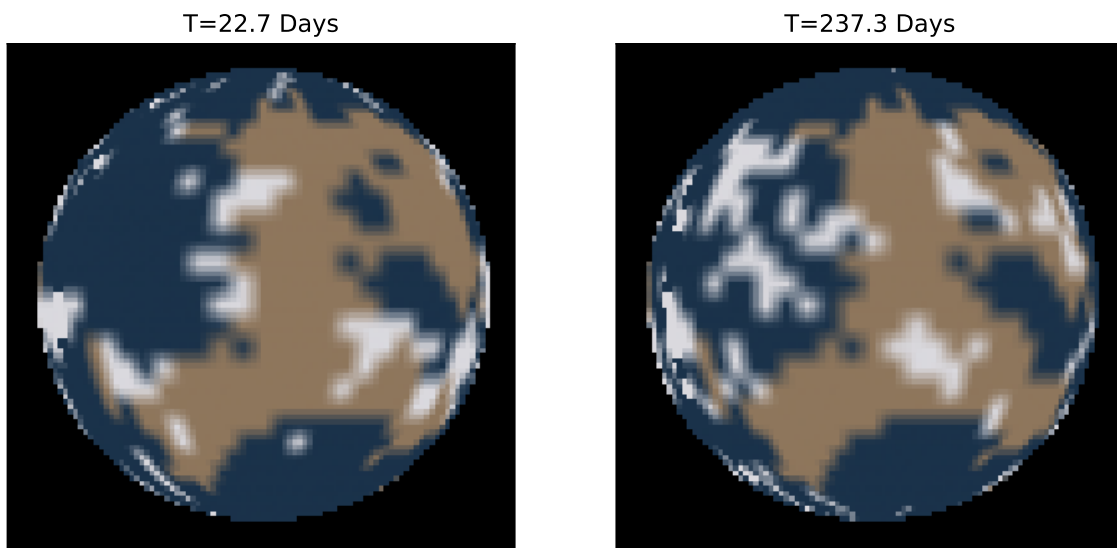


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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