

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

Sunday 30th August, 2071

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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1011110010110110001000111110010100101000010100010001  
0100100110110011111100101010010011110011010010001001  
101011110011011010101001110000101110100111111101101  
1001101100010001010001010111101100011110010100101000  
1101111101100011000111110001111000001110011100011010  
0111000100100011111011010000010010100001100111111111
```

This signal was first noticed at UTC 2070-12-30/19:36.

Parameters of the candidate planet of origin and its host star

Spectral Type	K
Stellar Luminosity (Solar Units)	0.117
Stellar Mass (Solar Masses)	0.585
Distance to Star (lightyears)	845.8
Planet Mass (Earth masses)	1.5
Atmospheric Pressure (atm)	0.7

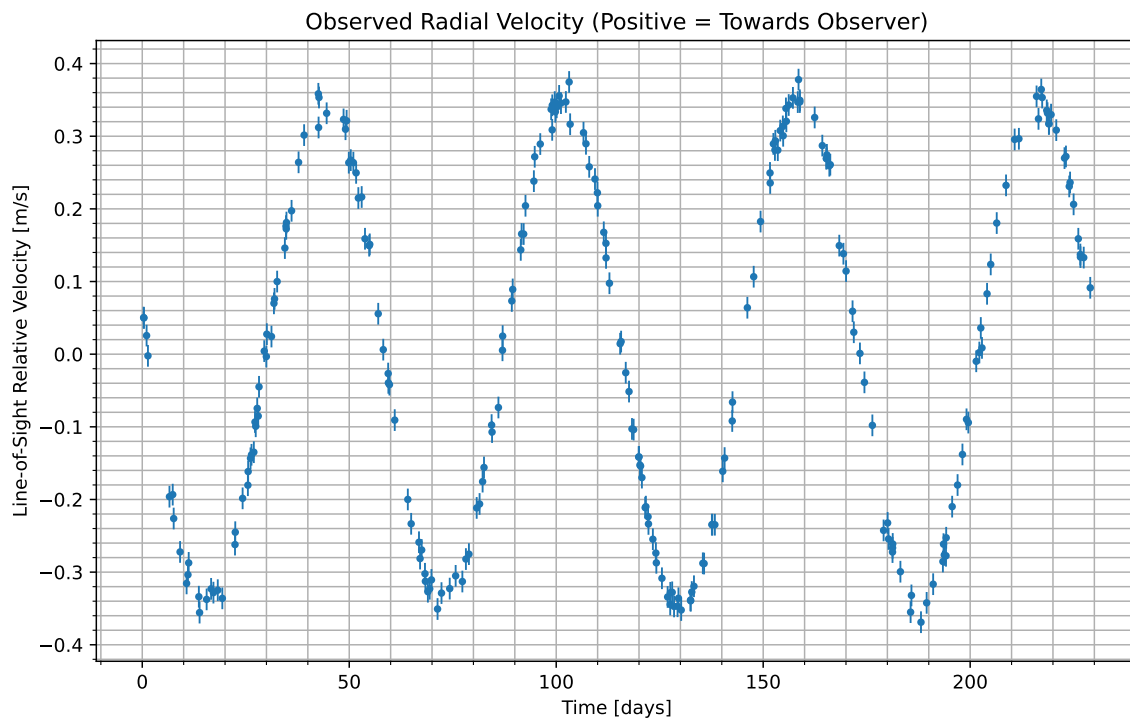


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2071-01-02/18:07. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	25.3
CO_2	68.3
H_2O	6.4

Gas Abundance (percent by volume)

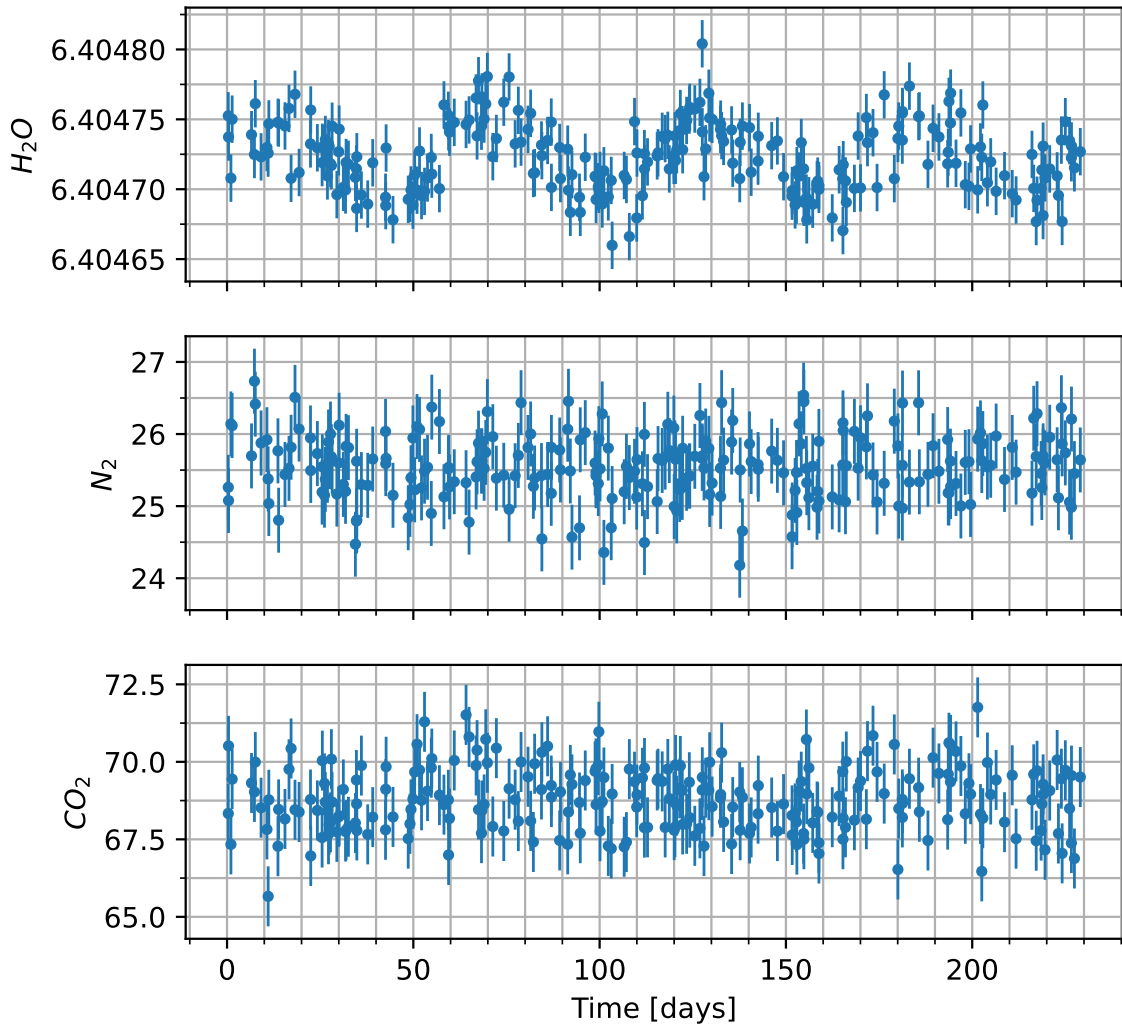


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

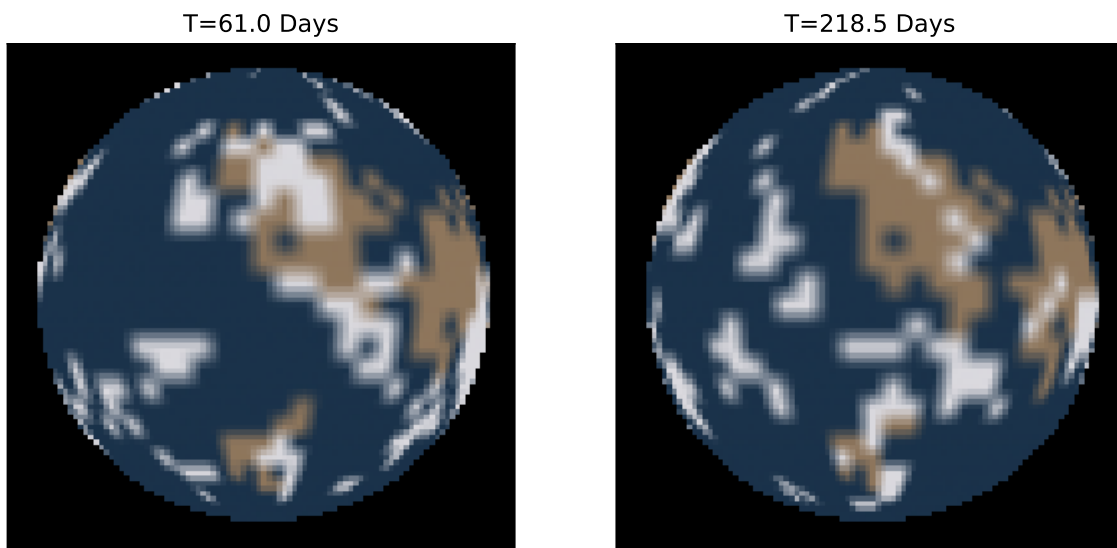


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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