

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging maslova Planet 1

Tuesday 24th January, 2073

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 microwave 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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00111000111101001101000101100010110110100100000100000110100100010010001100110  
1110011101001100110111001001101111111000011100001010100010110011110100101010  
10101110100111000001110011110110110011110011110000110010001010101000010110101  
100101000000011000101111001110101011110010011011111111111101001100011110110101  
01000010000011011101000010111110101100011100110110001011110001110001000111110  
00011101101101001111100111001011010101000110010000101101001010111100111000000  
010011011000100010111011010101110111110001011011111101101110001000011011100  
11110010000101100010101100111000010010110001110110010010101111101011100001101  
001000011010000100010100011011110111000011011100100000100010110000000000110
```

This signal was first noticed at UTC 2072-03-19/14:30.

Parameters of the candidate planet of origin and its host star

Spectral Type	K
Stellar Luminosity (Solar Units)	0.172
Stellar Mass (Solar Masses)	0.644
Distance to Star (lightyears)	8.6
Planet Mass (Earth masses)	2.3
Atmospheric Pressure (atm)	0.6

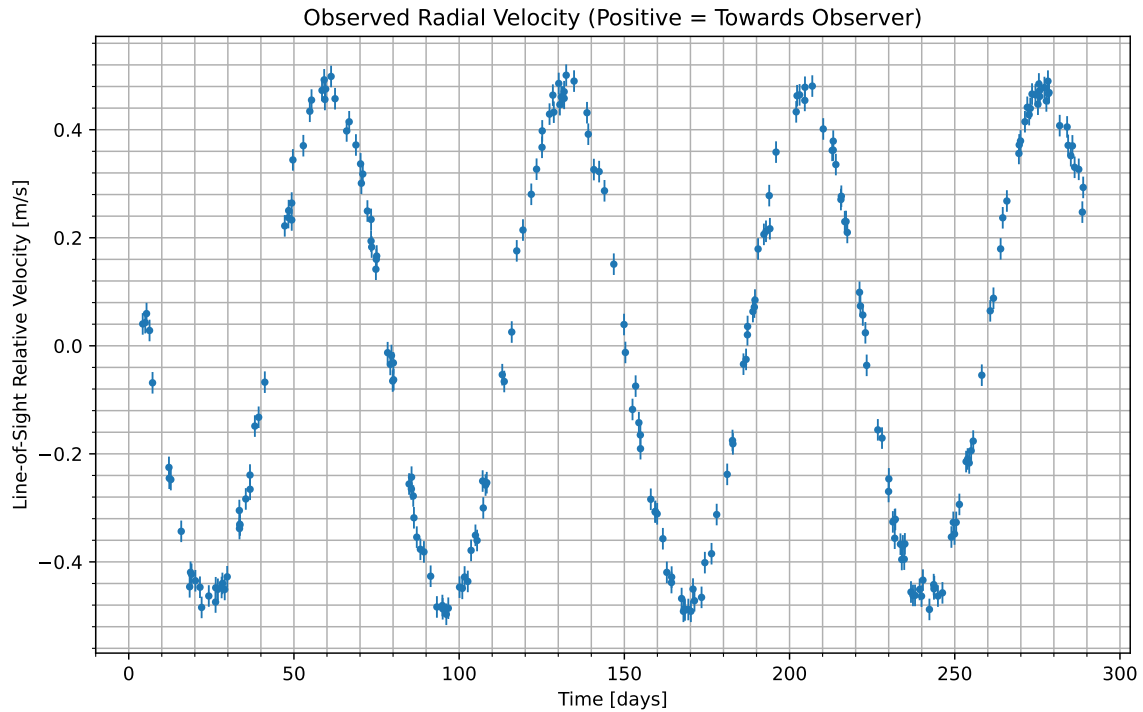


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2072-03-21/09:29. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	45
CO_2	25.7
H_2O	29.3

Gas Abundance (percent by volume)

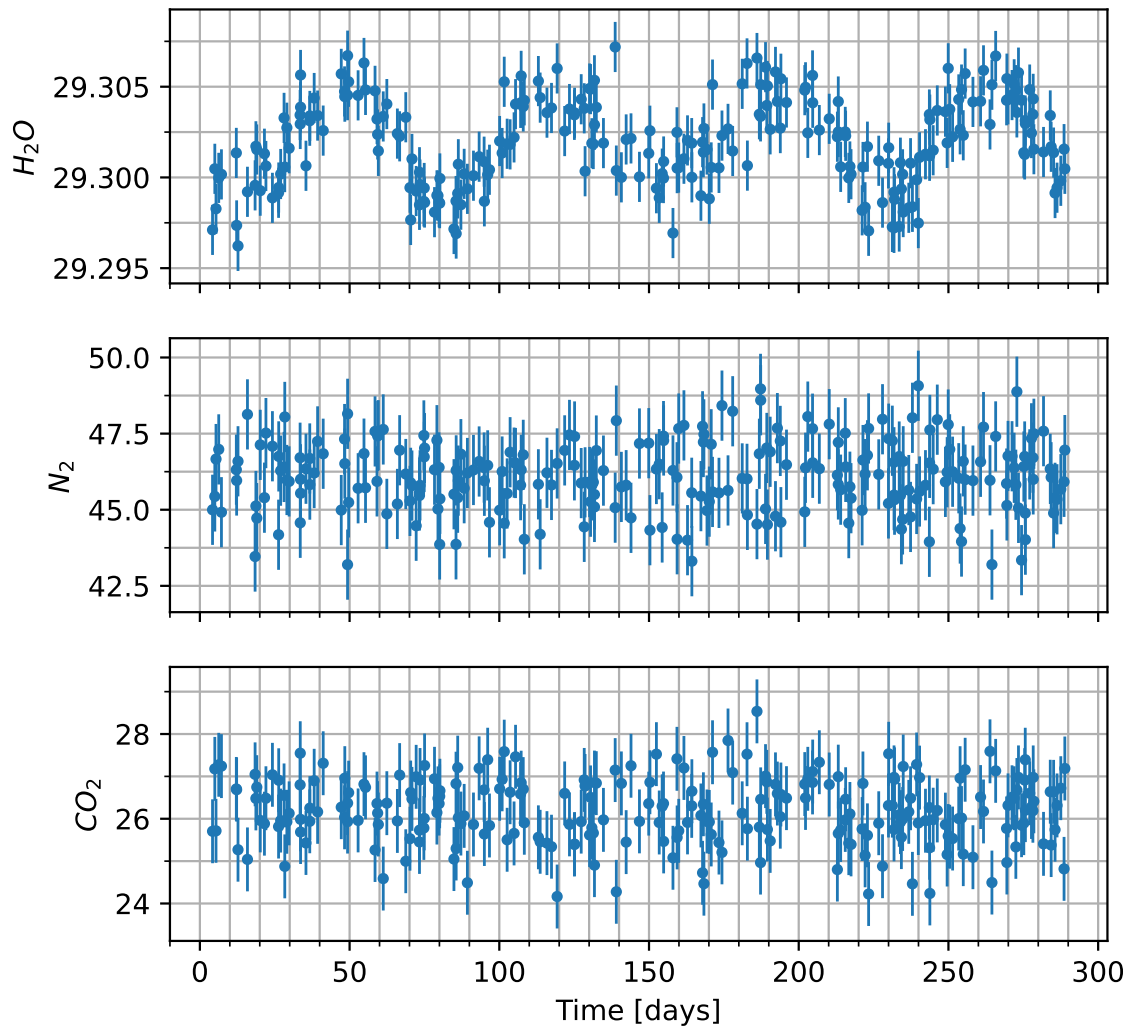


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

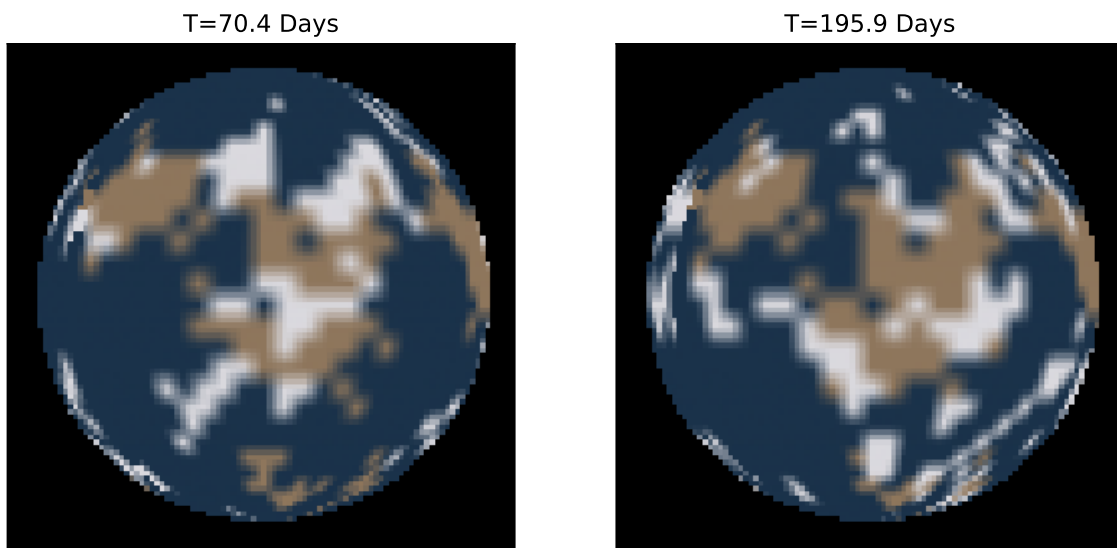


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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