

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

Friday 3rd August, 2091

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 narrowband 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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111000000000000000000000000000000000000000000000000000001000000000000000000110
1110000111000000000000000000000000000000000000000000000001000000000000000000110
1110001111100010100010001010000000000010000000100000000000000000000000000000000000
00000011111000101010100010100001010000010000001001000000010000000111
11000011111000001000100010000000000000010000000100000000000000000000111
11000001110010000000000000000000000000000000000000000001000000000000000000111
```

This signal was first noticed at UTC 2090-09-27/02:34.

Parameters of the candidate planet of origin and its host star

Spectral Type	K
Stellar Luminosity (Solar Units)	0.0543
Stellar Mass (Solar Masses)	0.483
Distance to Star (lightyears)	1069.1
Planet Mass (Earth masses)	0.6
Atmospheric Pressure (atm)	1.8

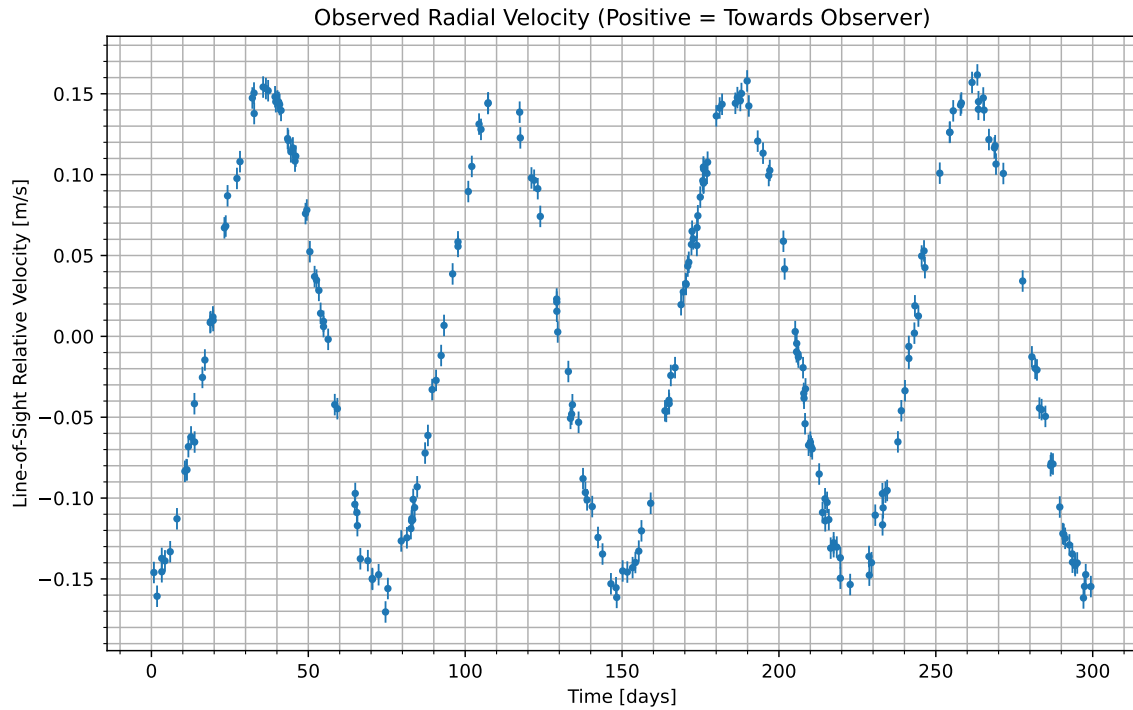


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2090-09-28/01:37. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	16.3
CO_2	32.8
O_2	35.7
H_2O	15
CH_3Cl	1.9E-05
O_3	0.152

Gas Abundance (percent by volume)

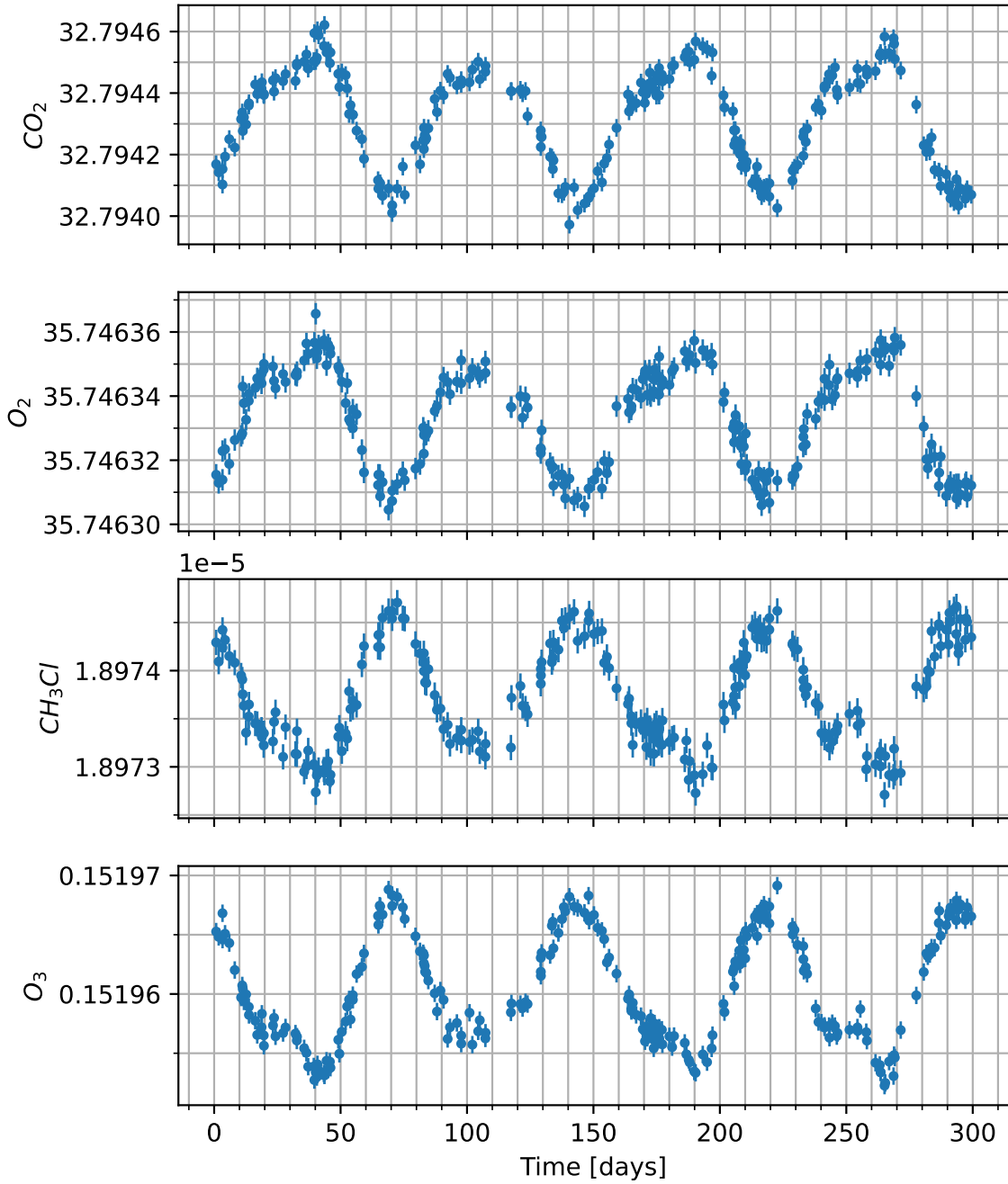


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

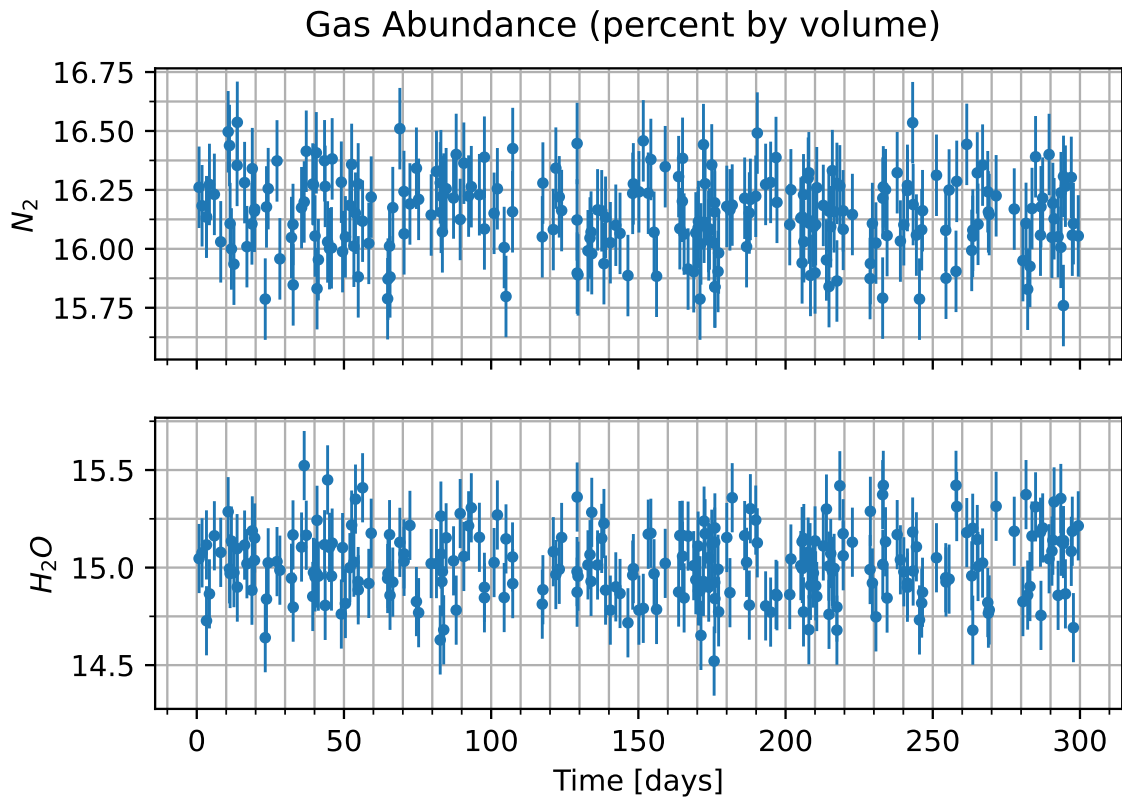


Figure 3: Concentration of various additional gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

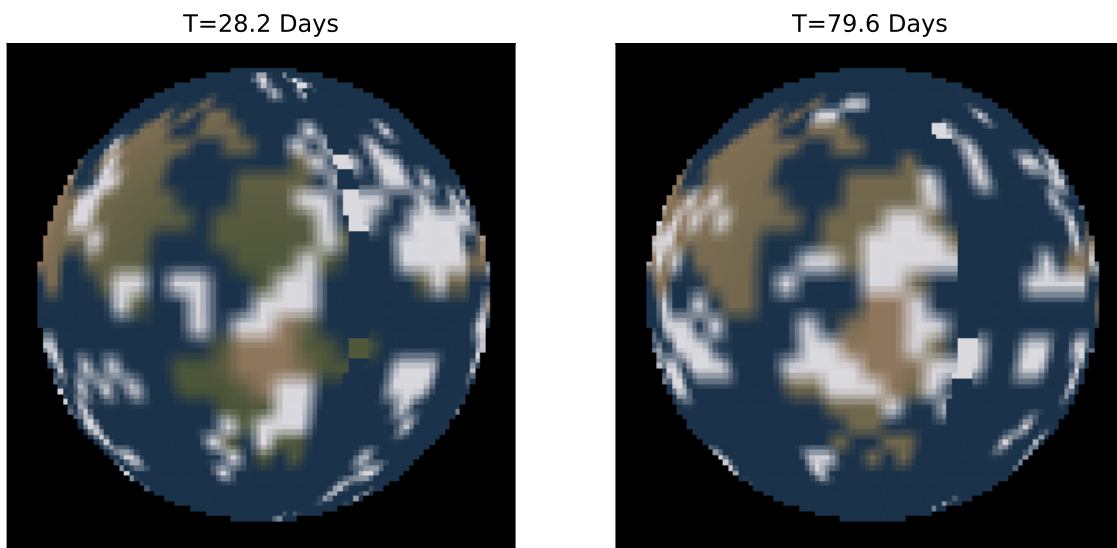


Figure 4: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to be liquid regions of some kind. Other colors present reflect the visible color as best as we are able to measure.