

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging chauhdar Planet 3

Wednesday 17th April, 2080

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 optical 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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00011111111111111111111111111111111111111111111111111111111111111111111111111111111000
000111111111011111111110100000000111110001111100000000110100000000111110001111000
00011111111000111111110010000000111001110011110000000110010000000111000000011000
00011111110000011111110001000000111011111011111000000110001000000111000000011000
000111110000000011111100001000011011111110111110000110000100000110000000001000
0001111000000000001111000000100011011111110111111000011000010000110000000001000
000111100000000000011110000001000110111111101111111000110000001000110000000001000
00011100000000000000111000000010011101111101111111100110000000100111000000011000
00011000000000000000110000000010111001110011111111110110000000010111000000011000
0001111111111111111111111111111111111111100011111111111111111111111111111111111110001111000
```

This signal was first noticed at UTC 2077-07-10/03:41.

Parameters of the candidate planet of origin and its host star

Spectral Type	M
Stellar Luminosity (Solar Units)	0.0328
Stellar Mass (Solar Masses)	0.425
Distance to Star (lightyears)	1141.7
Planet Mass (Earth masses)	0.6
Atmospheric Pressure (atm)	8.0

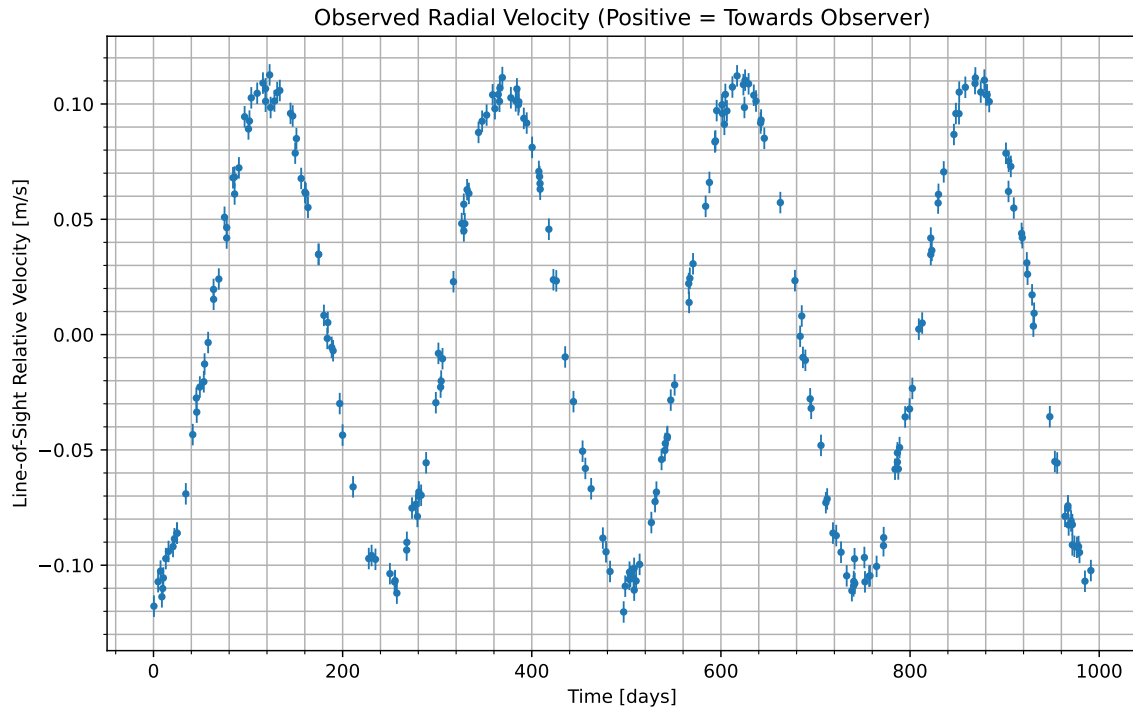


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2077-07-12/02:41. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
H_2S	52.9
N_2	2.52
CO_2	10.7
SO	11.6
SO_2	15.2
HF	0.159
CO	3.63
S_2O	2.68E-05
S_2O_2	0.0639

Gas Abundance (percent by volume)

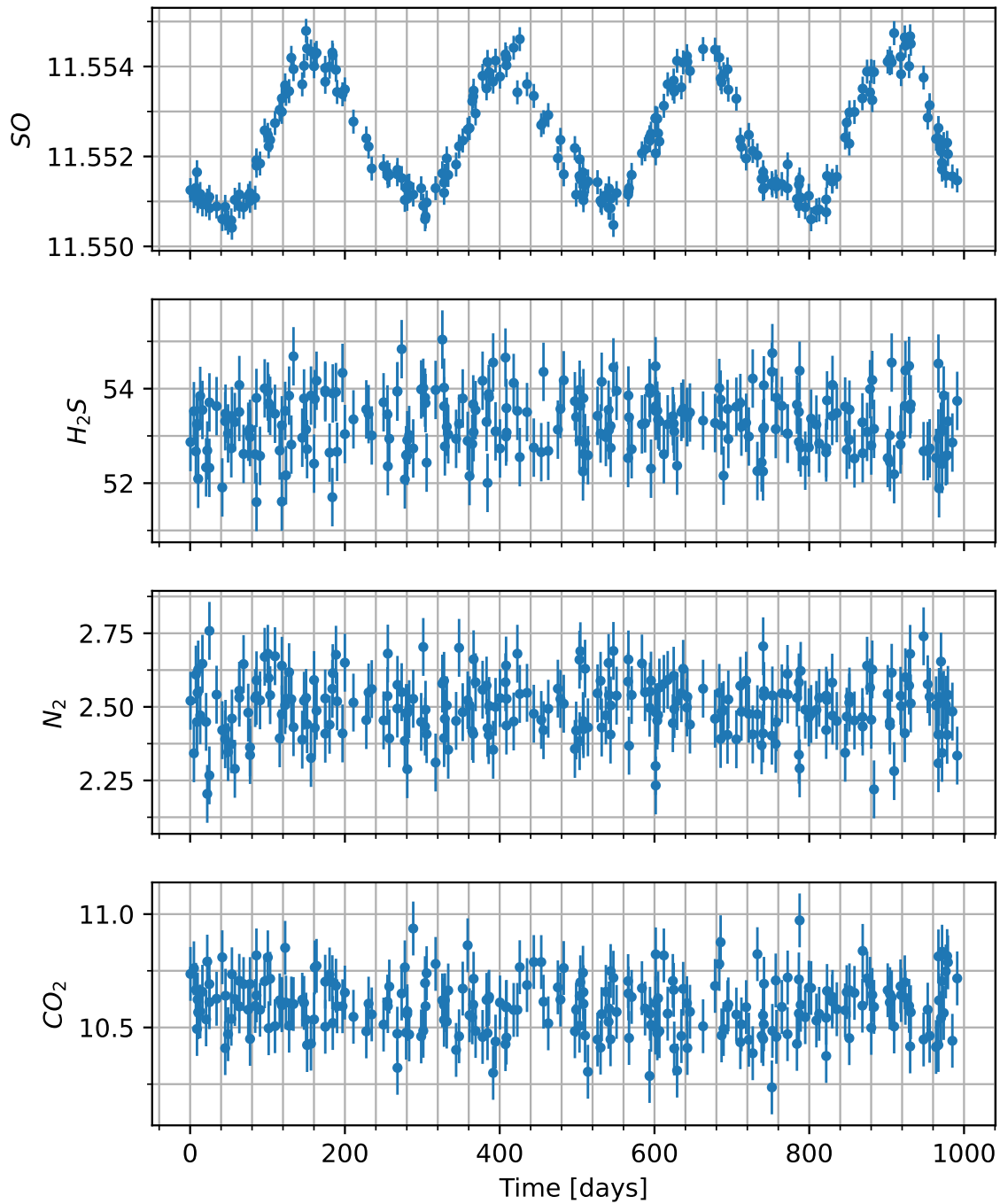


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

Gas Abundance (percent by volume)

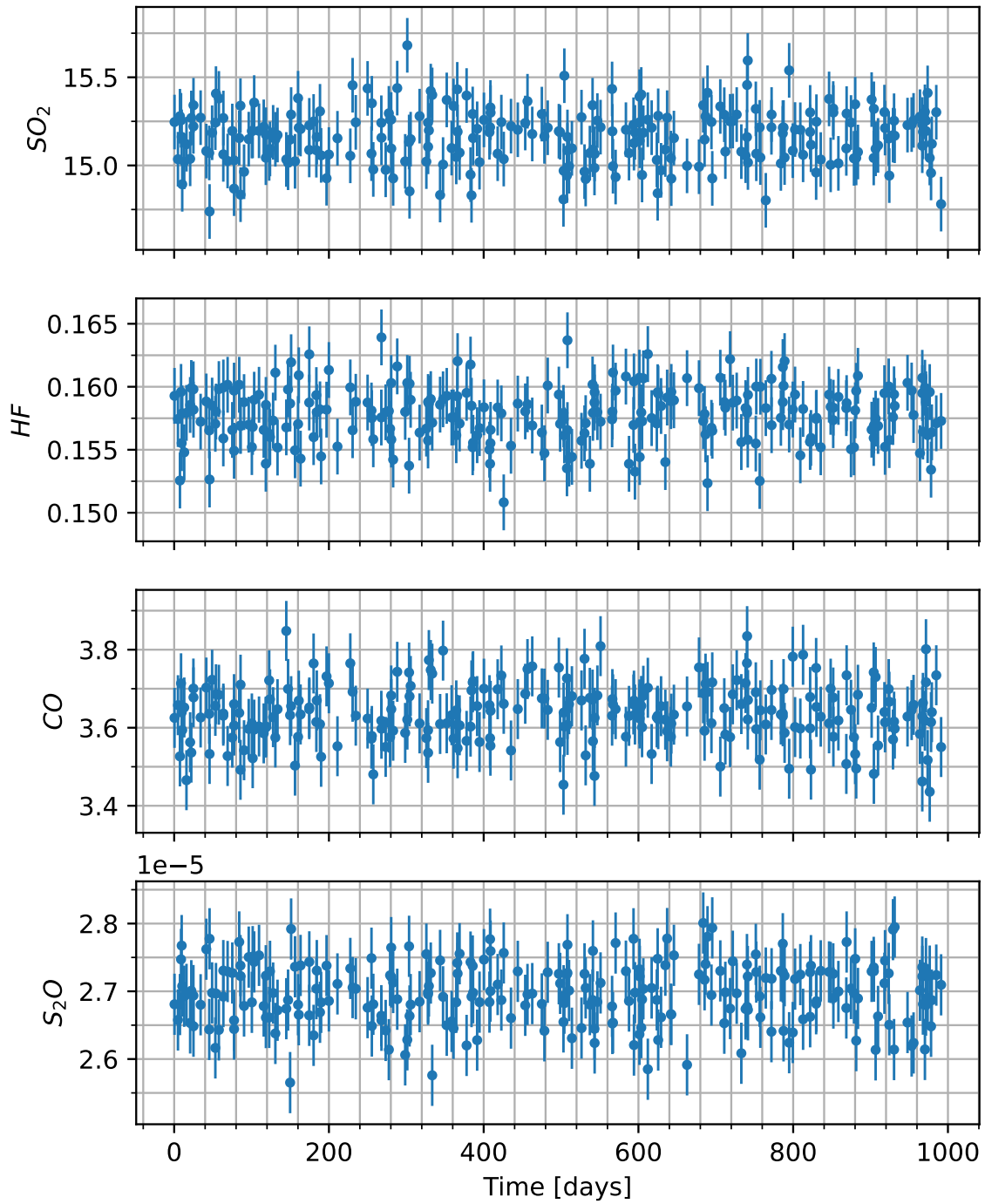


Figure 3: Concentration of various additional gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

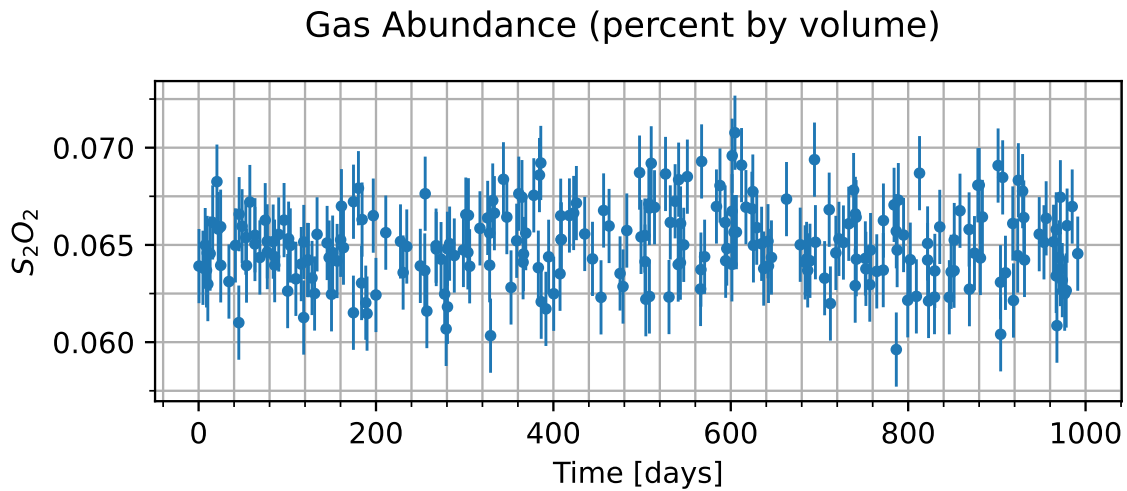


Figure 4: Concentration of various additional gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

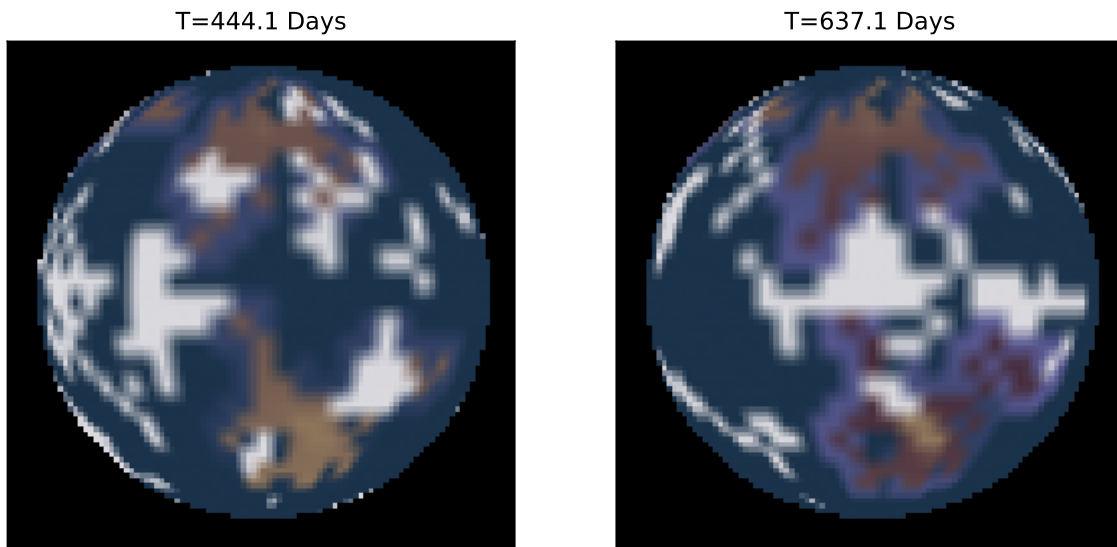


Figure 5: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to be liquid regions of some kind. Other colors present reflect the visible color as best as we are able to measure.