AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging
duttaar2
Planet 3

Sunday 28th June, 2099

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 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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11011000000000000000000000010110111011110000000000000000011011
11011010111110111110101111100011011101111011111111111111011011
11011000000001111101101111000000111011110111111111111111011011
11011000000001111101110111000000000011110111111111111111011011
11011000000001111101111011000000000000001111111111111111011011
11011000000001111101111101000000000000001111111111111111011011
11011000000000000000000000000000000000000000000000000000011011
```

This signal was first noticed at UTC 2083-02-25/09:01.

Parameters of the candidate planet of origin and its host star

Spectral Type	F
Stellar Luminosity (Solar Units)	2.16
Stellar Mass (Solar Masses)	1.21
Distance to Star (lightyears)	1089.0
Planet Mass (Earth masses)	0.3
Atmospheric Pressure (atm)	6.8

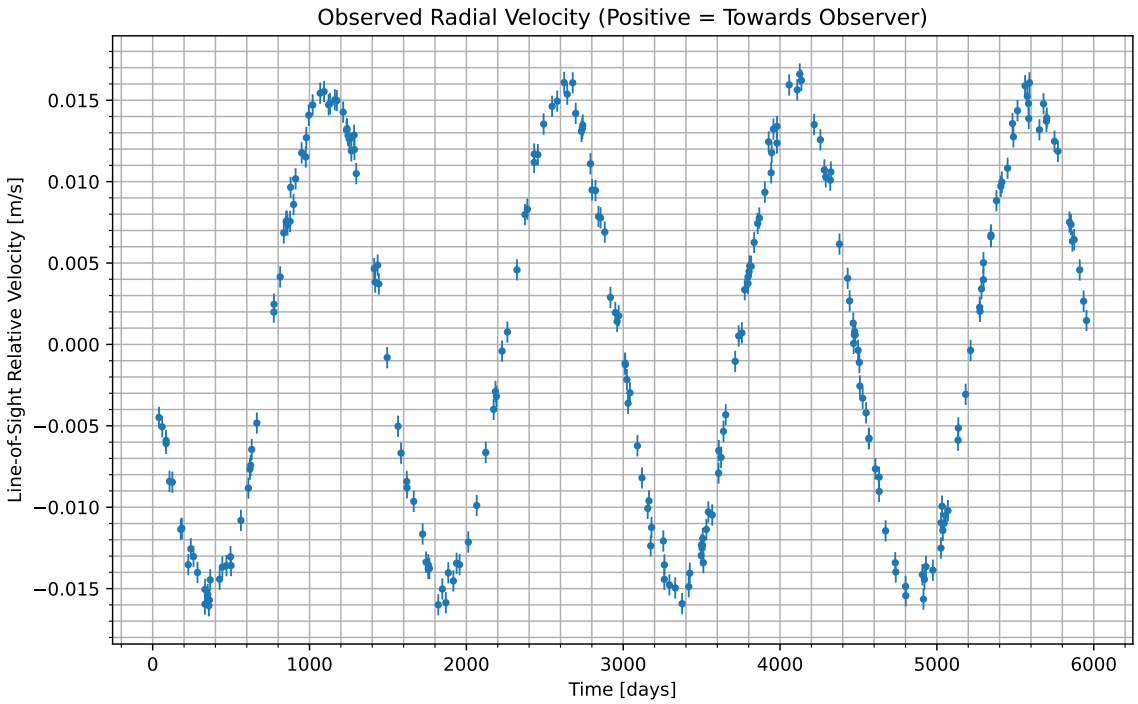

Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2083-02-28/05:42. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	27
CO	12.1
CO_2	18.8
SiH_4	10.4
H_2S	31.7

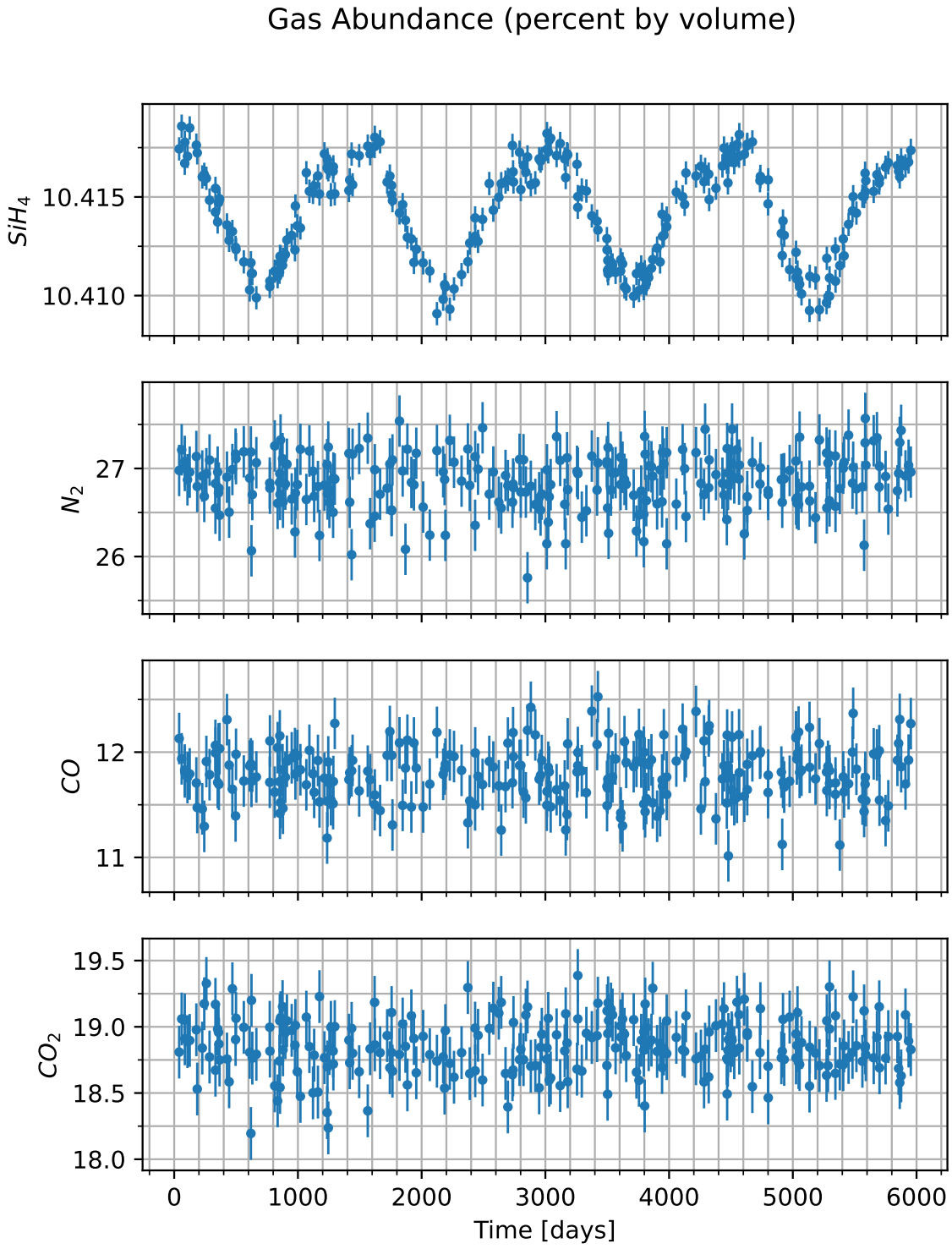

Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

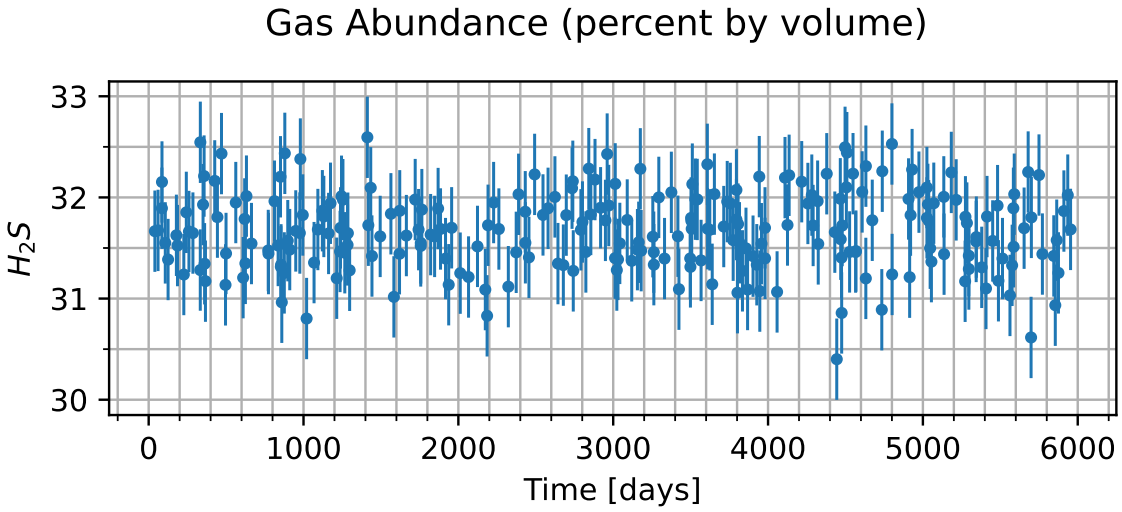

Figure 3: Concentration of various additional gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

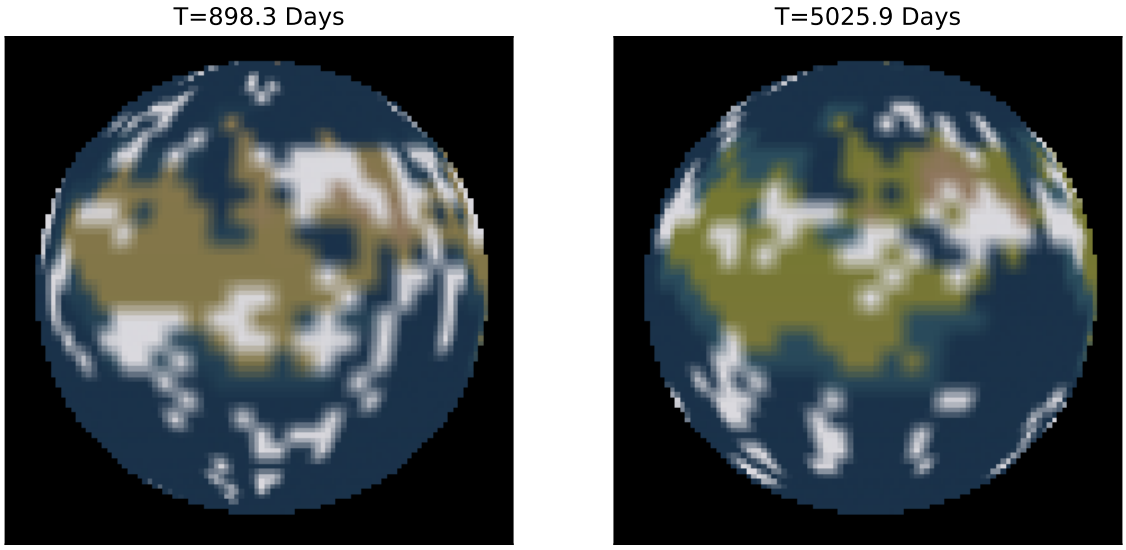

Figure 4: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to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