AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging
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Planet 3

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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 has been observed to repeat itself regularly. The transmission is shown below:

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1 0 1 0 1 0 0 1 0 0 0 1 0 0 0 0 0
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This signal was first noticed at UTC 2075-08-30/05:15.

Parameters of the candidate planet of origin and its host star

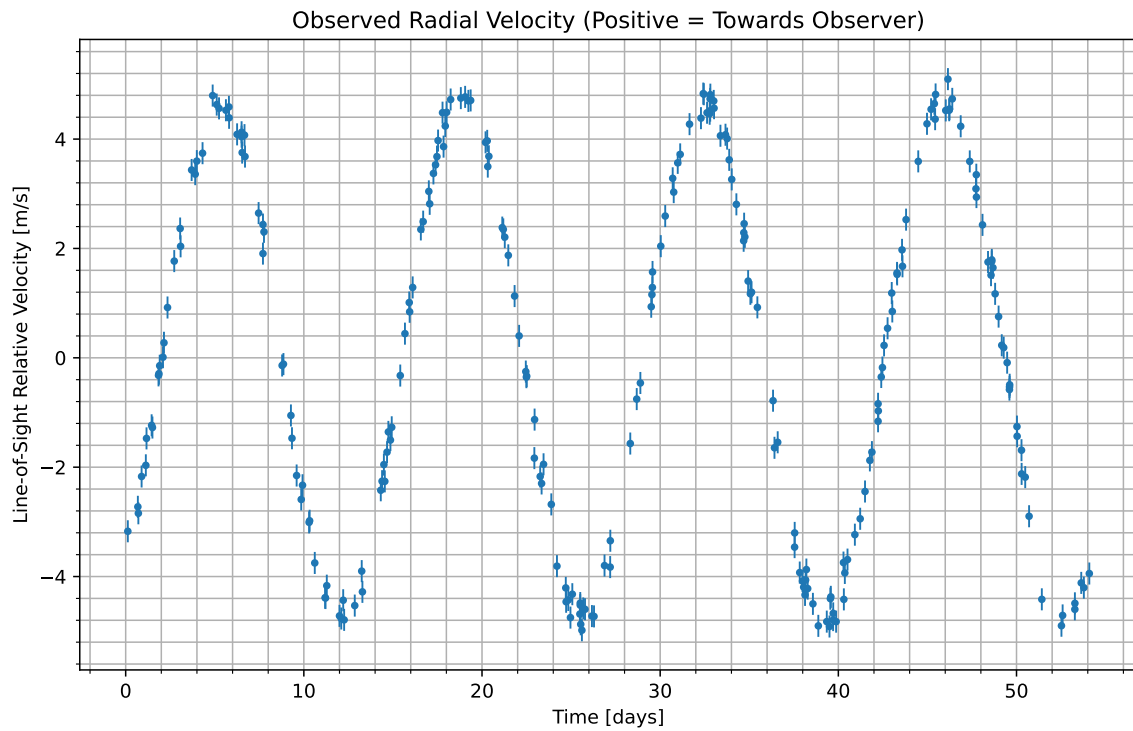|	
Spectral Type	M
Stellar Luminosity (Solar Units)	0.000552
Stellar Mass (Solar Masses)	0.119
Distance to Star (lightyears)	7.2
Planet Mass (Earth masses)	4.3
Atmospheric Pressure (atm)	0.9

Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2075-08-30/21:39. 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)

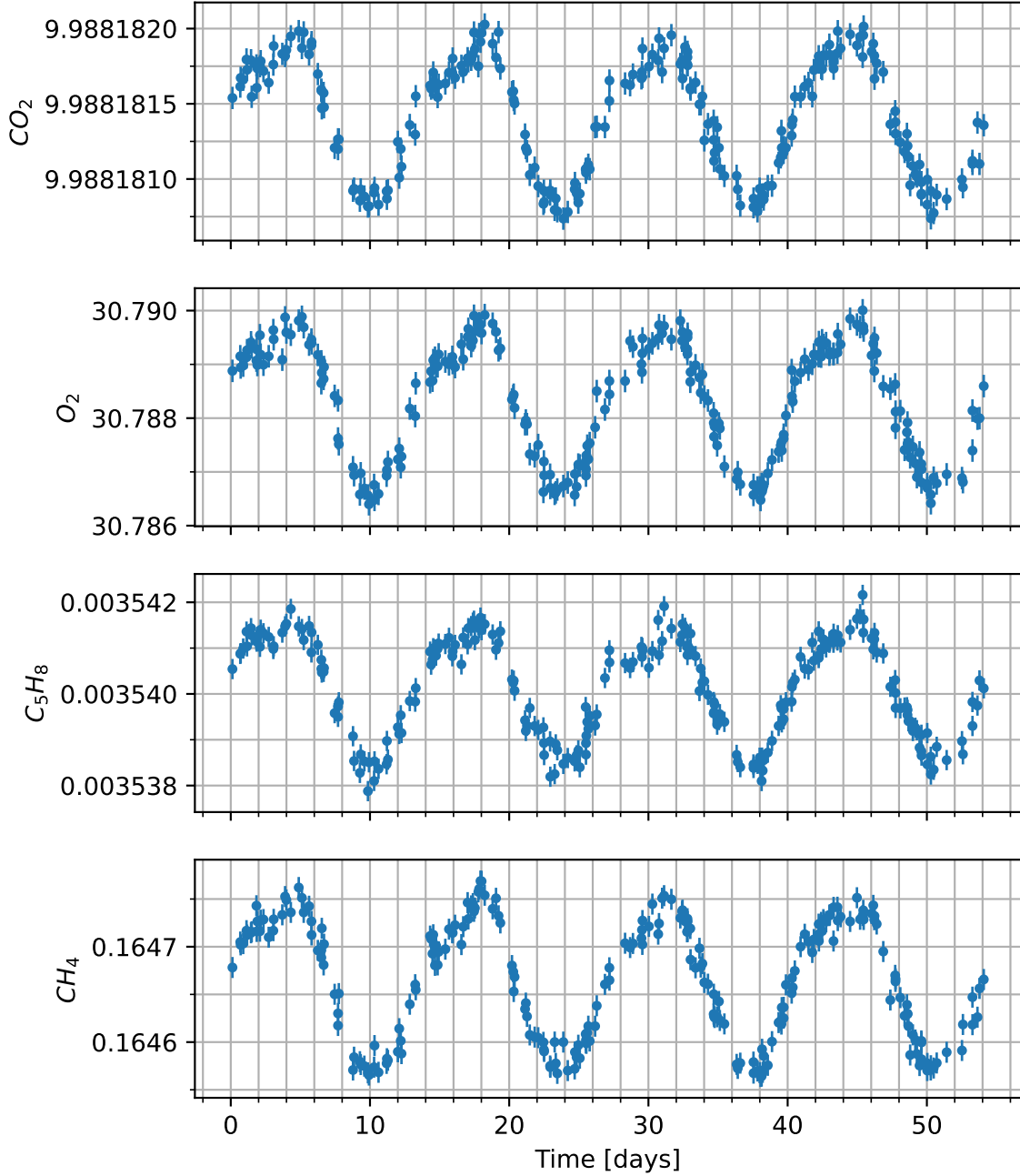| Molecule	Concentration
N_2	42.4
CO_2	9.99
O_2	30.8
H_2O	16.7
C_5H_8	0.00354
CH_4	0.165

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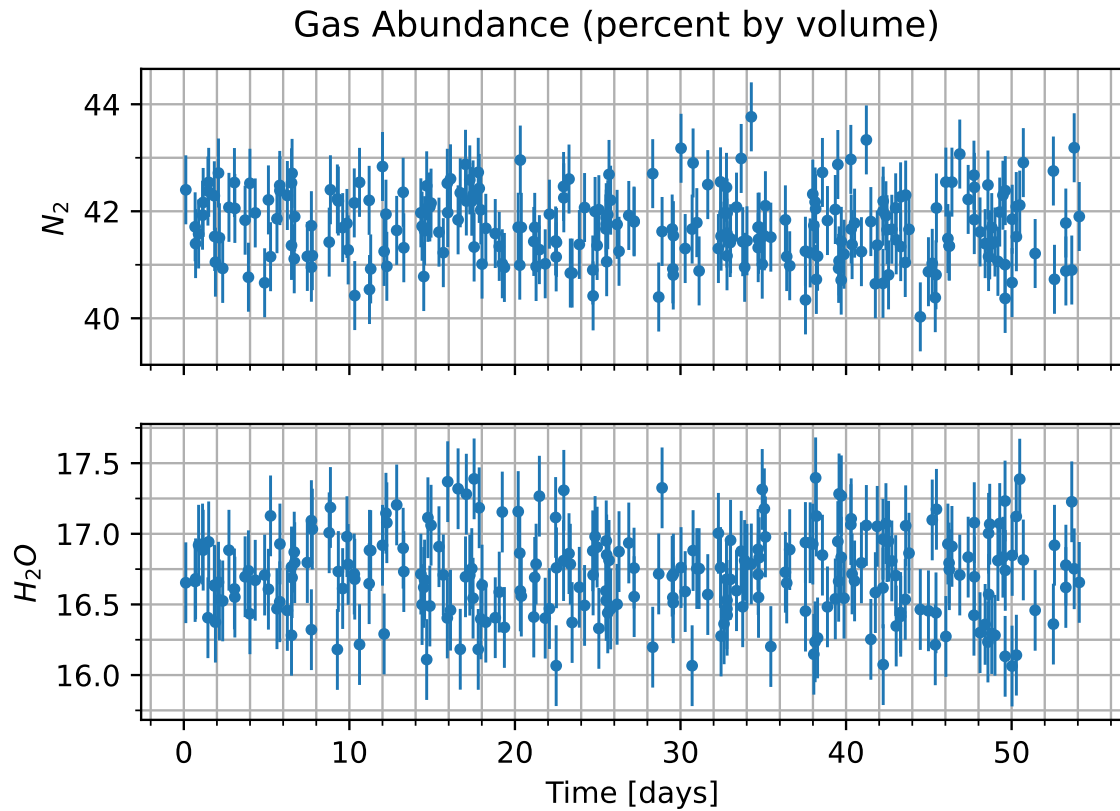
Figure 3: Concentration of various additional gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

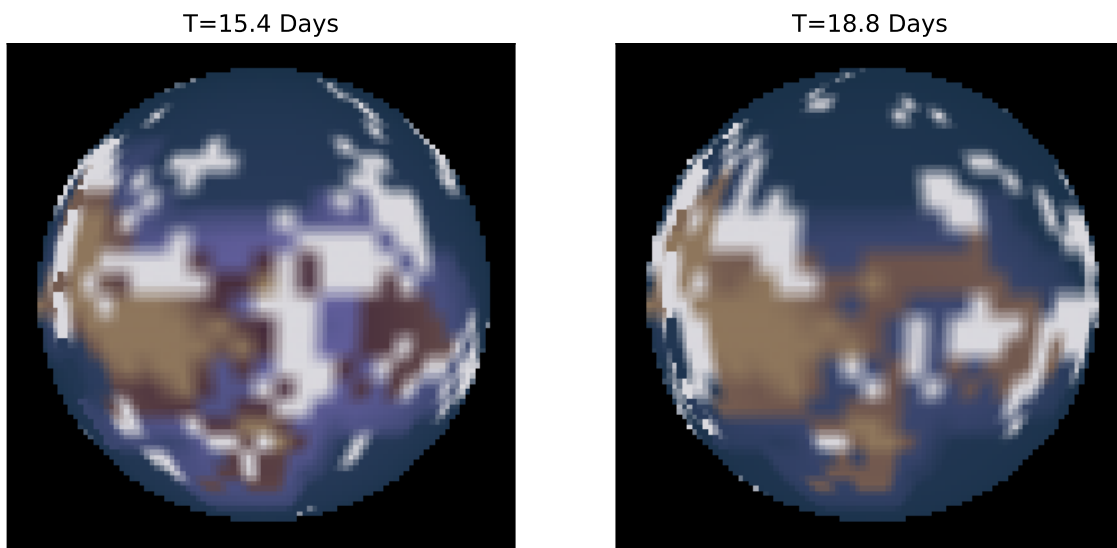T=15.4 Days   T=18.8 Days

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.