Report page ExoTIC-ISM

W17_G141_lc_15857.txt - 15857

Input parameters:

Number of systematic models: 50
Wavelength mid point = 15852.350479741028
Wavelength half width = 113.50783705936374

Planet parameters:

Rp/R* = 0.1255
Epoch (MJD) = 57957.97108811848
Inclination (deg) = 86.93051272857655
Eccentricity = 0.0
Omega (deg) = 0.0
Period (days) = 3.7354850226
a/R* = 7.025

Stellar parameters:

FeH (dex) = -0.25
Teff (K) = 6550.0
log(g) (cgs) = 4.2

Output parameters:

Limb-darkening coefficients:

C1 = 1.0383322170943172
C2 = -1.2903971453385579
C3 = 1.0909719714354162
C4 = -0.3619831485674202

Top five systematic models by their weight

Check the chi-squared values and the AIC evidence for reasonable fits.
If the chi-squared values far exceed the DOF then it is likely that the input data contains additional noise, double check the spectral extraction.
Model numbers = [39 44 49 47 48]
DOF = [44. 43. 42. 44. 43.]
Chi-squared = [50.98959397 50.13436389 49.26079305 51.86377694 51.2084603]
AIC evidence = [339.67047405 339.59808909 339.53487451 339.23338256 339.06104089]
Weights = [0.20547656633512282 0.19112870159452722 0.17942054350774062 0.13271984887223512 0.11170917357685664]
SDNR = [290.60675495 288.34504737 285.82038251 293.19176242 291.43498984]

Top model Noise Statistics:

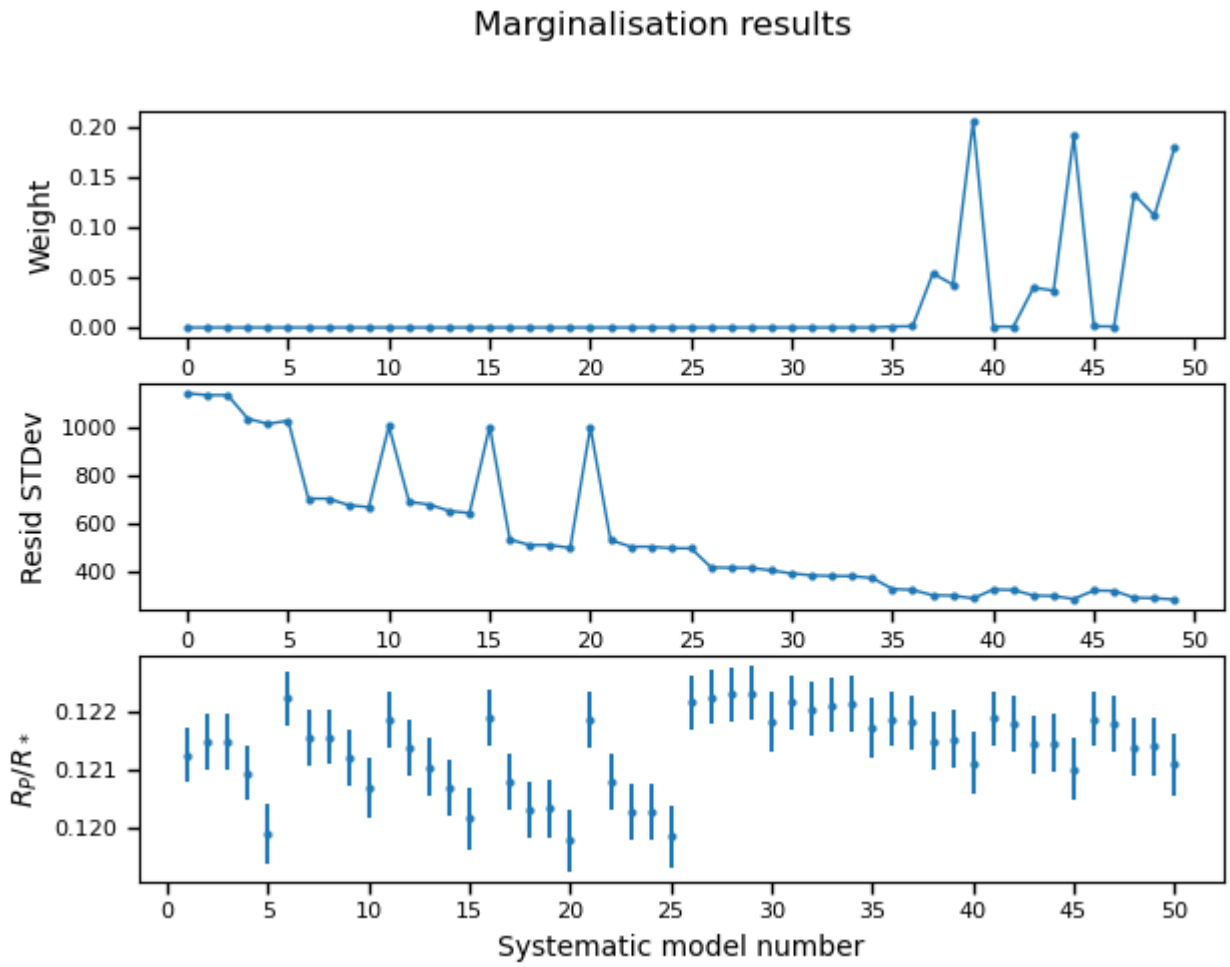
White noise = 0.0
Red noise = 0.0
Beta = 1.0
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12123849564027209 +/- 0.0005571599824753087
Epoch (MJD) = 57957.96961077058 +/- 0.0005862201441774486
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

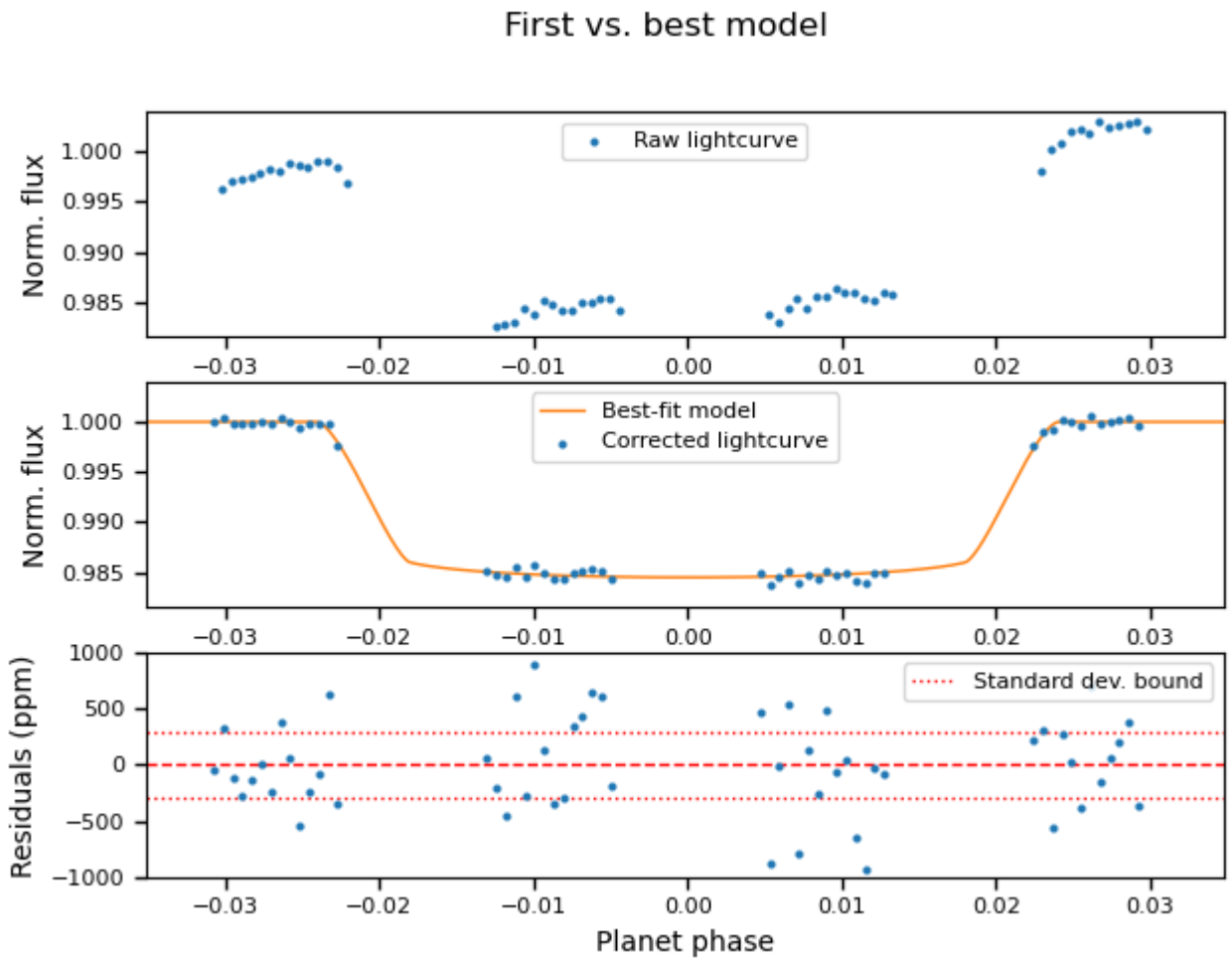
Systematics



Top: Evidence-based weight associated with each systematic model when fit with the data. *Middle:* Standard deviation of the residuals after correcting for each systematic model. *Bottom:* Radius ratio

measured from the transit depth when the light curve has been corrected using each systematic model. *If present, grey crosses mark discarded systematic models (poor AIC evidence).*

Lightcurves



Top: Input lightcurve with no systematic model correction applied. *Middle:* Lightcurve corrected by highest weight systematic model plotted with the smooth planetary transit model centred on the mid-transit time. *Bottom:* Residuals and uncertainties associated with the middle panel lightcurve. The upper and lower standard deviation bounds are shown in dotted lines relative to zero.