Report page ExoTIC-ISM

W17_G102_lc_8782.txt - 8782_clipped

Input parameters:

Number of systematic models: 50
Wavelength mid point = 8780.338152619664
Wavelength half width = 106.98584414633024

Planet parameters:

Rp/R* = 0.1255
Epoch (MJD) = 58021.48064883803
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 = 0.8588653388885349
C2 = -0.7428654121289835
C3 = 0.7112288347321348
C4 = -0.2555433508084532

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 = [15 40 43 41 20]
DOF = [47. 46. 43. 45. 46.]
Chi-squared = [67.12374404 66.18276495 63.75473742 65.82016798 67.02942649]
AIC evidence = [327.73878774 327.70927728 327.42329105 327.39057577 327.28594652]
Weights = [0.08656944442545797 0.08405206783109233 0.06314604562655267 0.06111363182138866 0.05504250442976665]
SDNR = [330.49458186 328.20117262 322.34589584 327.39770781 330.25853337]

Top model Noise Statistics:

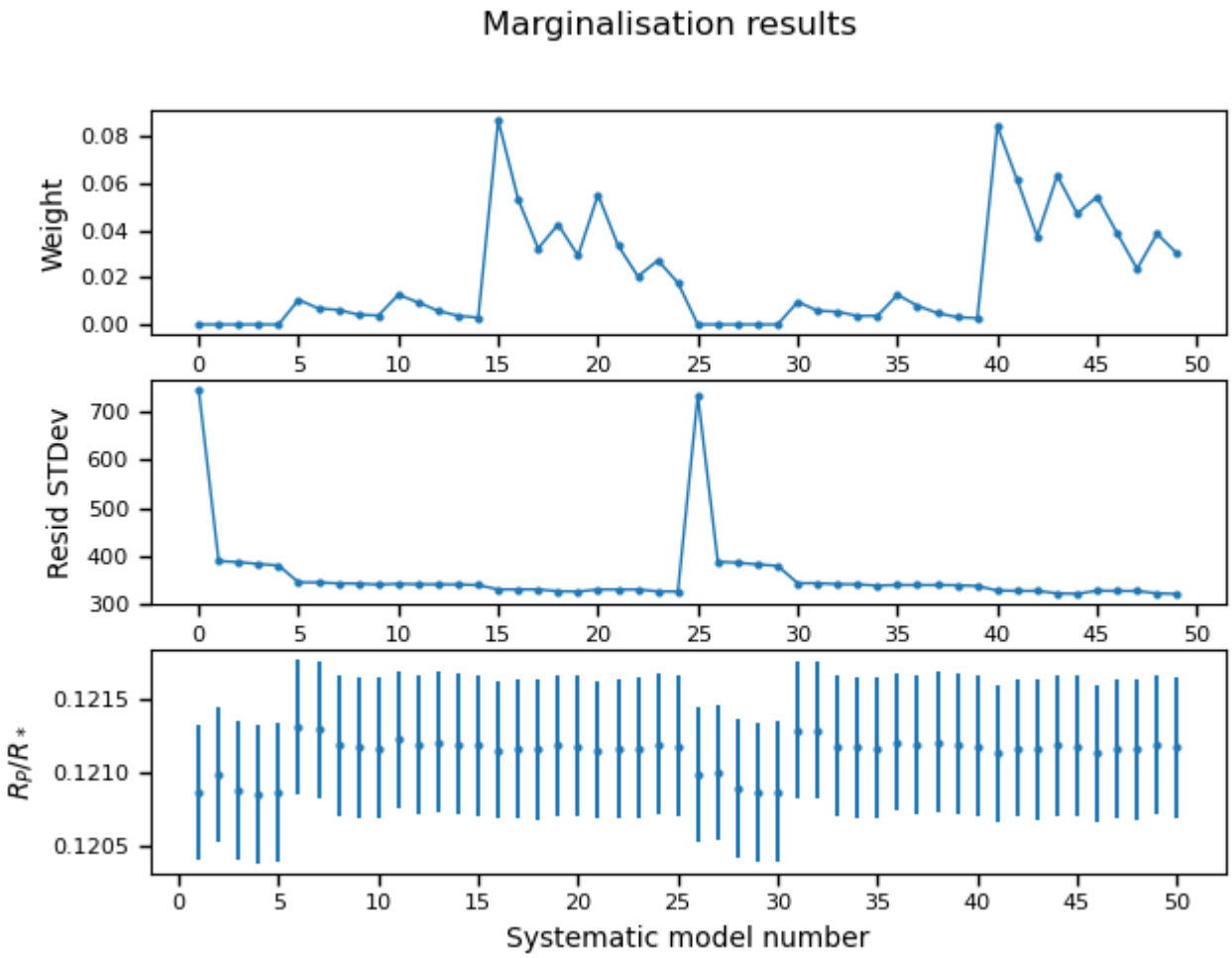
White noise = 0.00046600074753646914
Red noise = 3.781637823167191e-05
Beta = 1.032212559287232
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12116603394738094 +/- 0.000472641363229752
Epoch (MJD) = 58021.478784509294 +/- 0.0005272486792277678
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

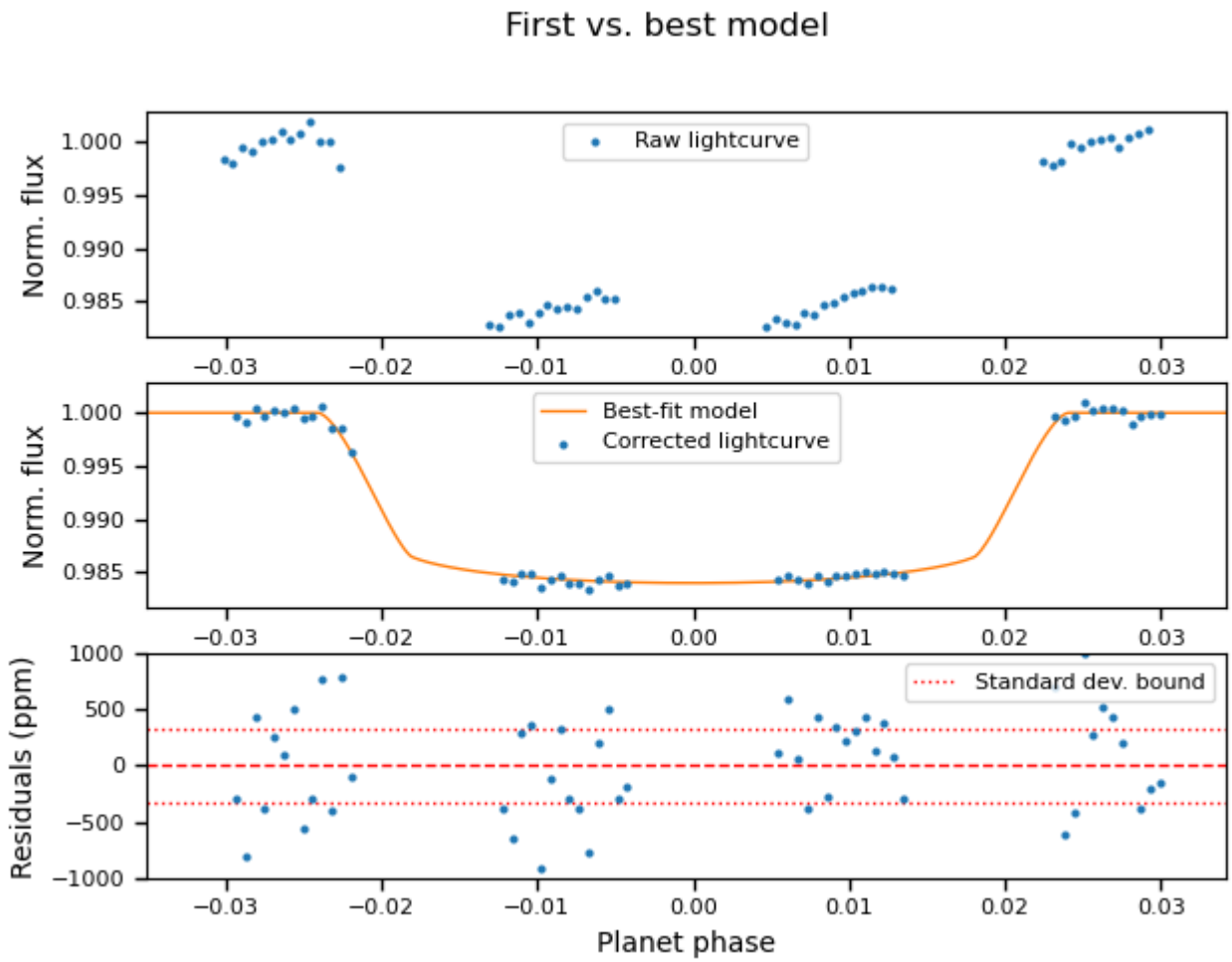
Systematics



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.