Report page ExoTIC-ISM

W17_G141_lc_11589.txt - 11589

Input parameters:

Number of systematic models: 50
Wavelength mid point = 11584.455806308924
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 = 0.8555243653638105
C2 = -0.8406864974170446
C3 = 0.7874694379340194
C4 = -0.28089316326404884

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 = [24 49 19 16 17]
DOF = [43. 42. 44. 47. 46.]
Chi-squared = [62.56298393 62.17955001 65.23068971 68.37771771 67.47010444]
AIC evidence = [340.46990729 340.16162425 339.6360544 339.5625404 339.51634704]
Weights = [0.13944018537453517 0.10244772753628652 0.06056897781891026 0.056276038748048415 0.05373558681200047]
SDNR = [281.80323409 281.01449199 287.83236145 294.68503615 292.81291632]

Top model Noise Statistics:

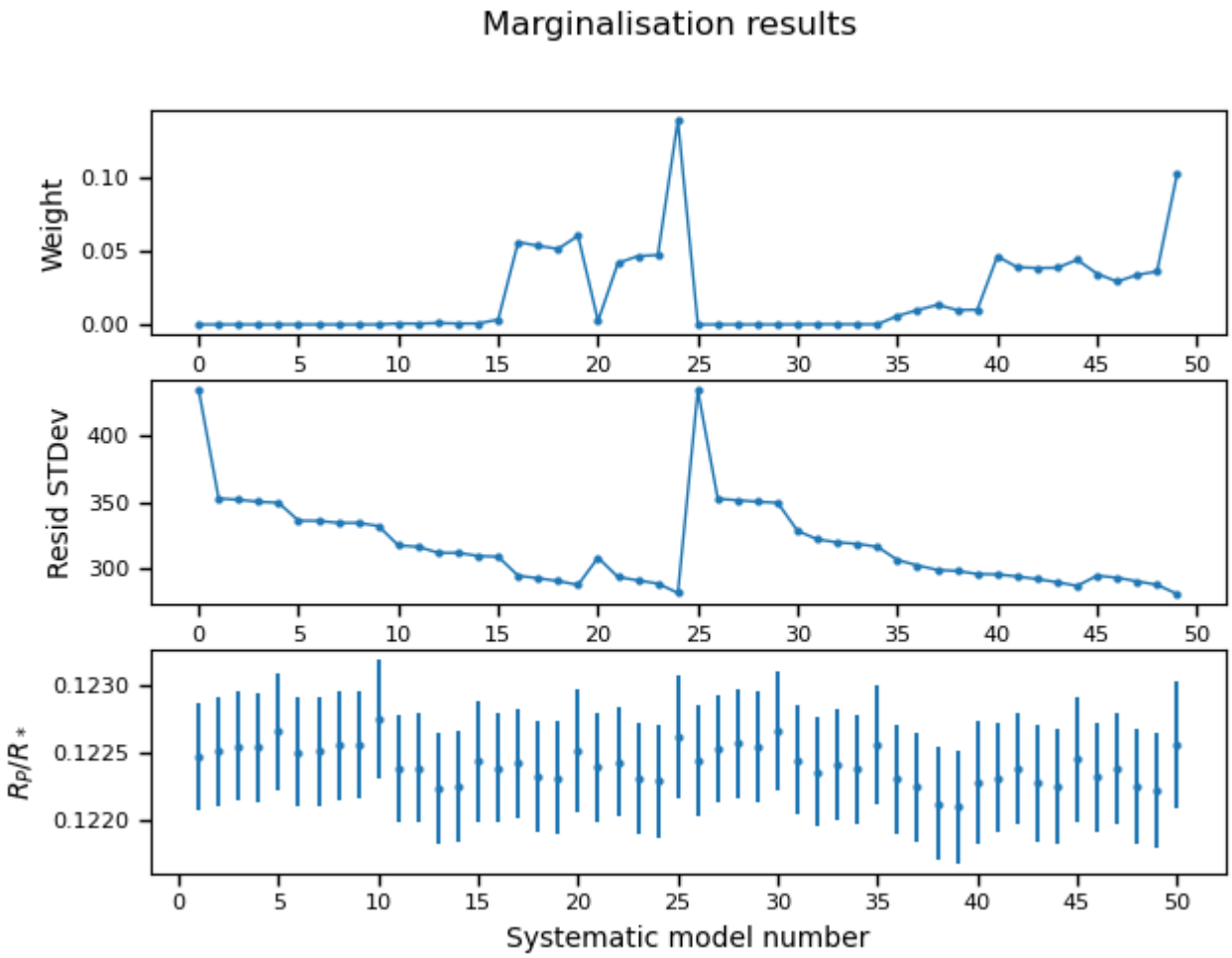
White noise = 0.0
Red noise = 0.0
Beta = 1.0
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12239662296833664 +/- 0.00045401734928743364
Epoch (MJD) = 57957.96917216635 +/- 0.0005296597473469744
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

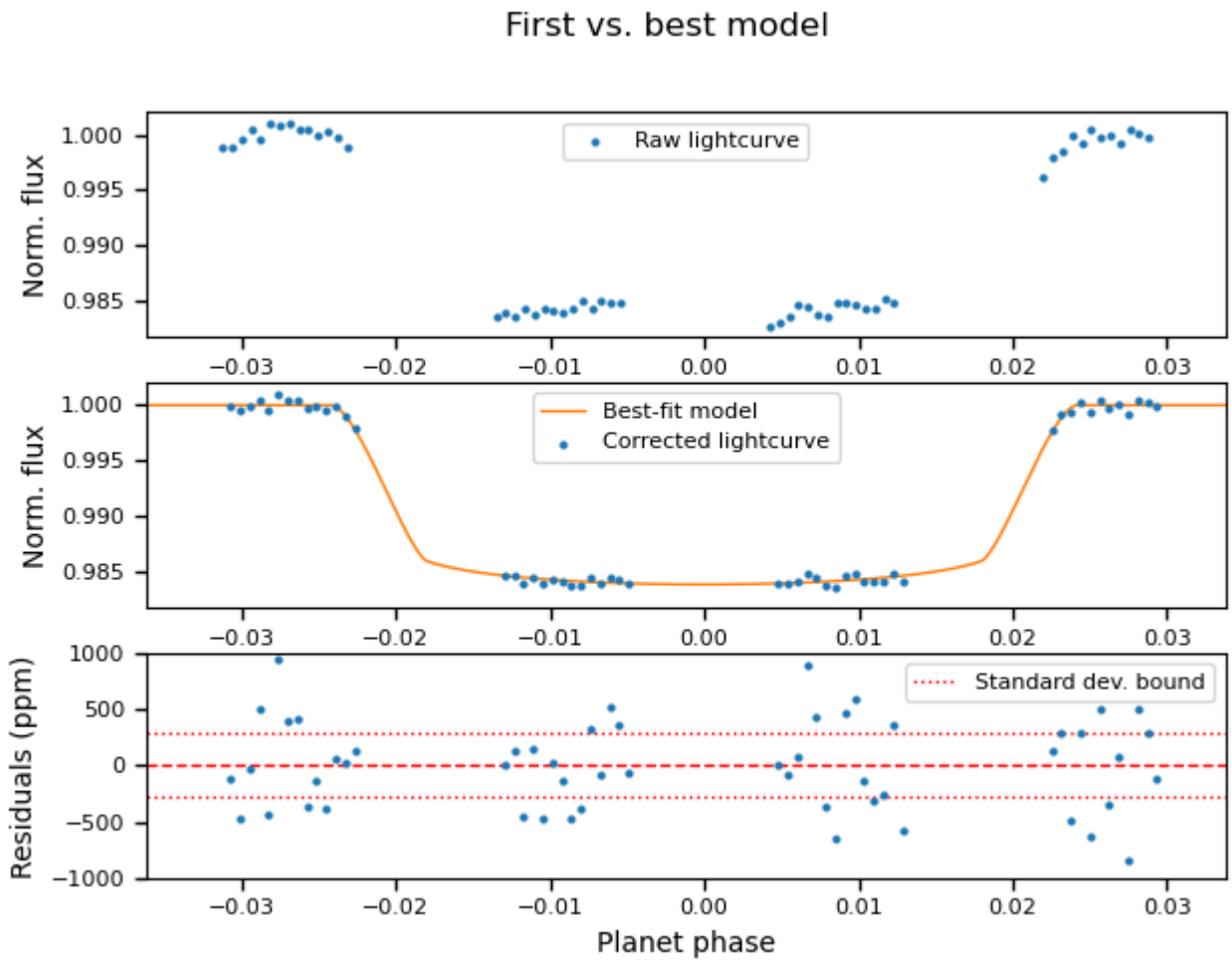
Systematics



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.