Report page ExoTIC-ISM

W17_G141_lc_15081.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 15125.900322561094
Wavelength half width = 68.10470223561879

Planet parameters:

Rp/R* = 0.12169232
Epoch (MJD) = 57957.97108811848
Inclination (deg) = 87.34635
Eccentricity = 0.0
Omega (deg) = 0.0
Period (days) = 3.73548535
a/R* = 7.0780354

Stellar parameters:

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

Output parameters:

Limb-darkening coefficients:

C1 = 1.1080116540321874
C2 = -1.416735182497107
C3 = 1.2223187973881084
C4 = -0.41276792987672456

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 = [48 49 47 44 39]
DOF = [38. 37. 39. 38. 39.]
Chi-squared = [51.5851468 50.75870576 54.76492937 55.89618816 56.96292631]
AIC evidence = [308.34612048 308.259341 307.2562292 306.1905998 306.15723072]
Weights = [0.3844078401321645 0.35245557741916905 0.1292583077562209 0.04453090262486813 0.04306946665131851]
SDNR = [283.58812206 281.30327244 292.34079736 295.27593754 298.17839519]

Top model Noise Statistics:

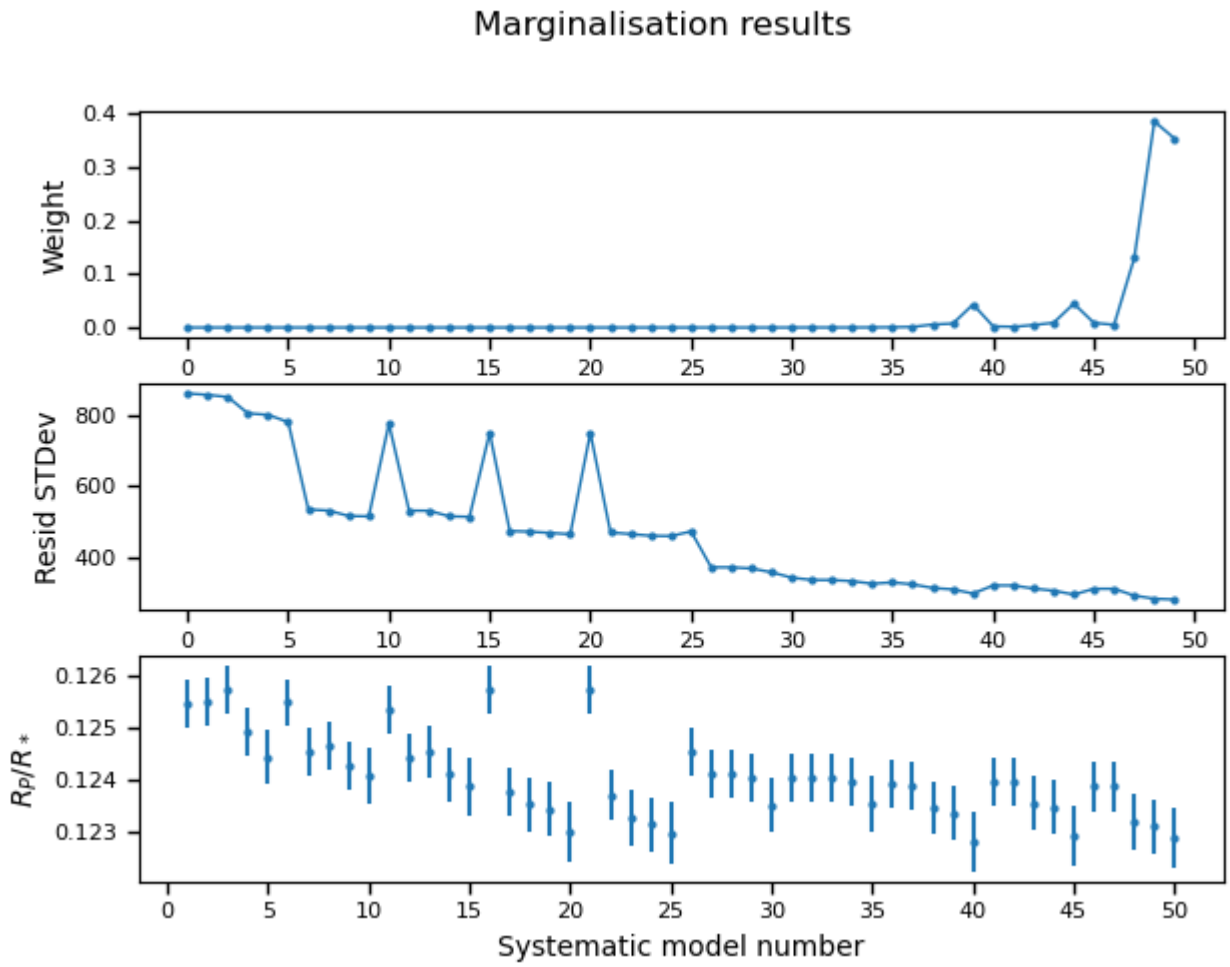
White noise = 0.0
Red noise = 0.0
Beta = 1.0
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12305110902769589 +/- 0.0005833382816724402
Epoch (MJD) = 57957.97172074605 +/- 0.0005771761759384847
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

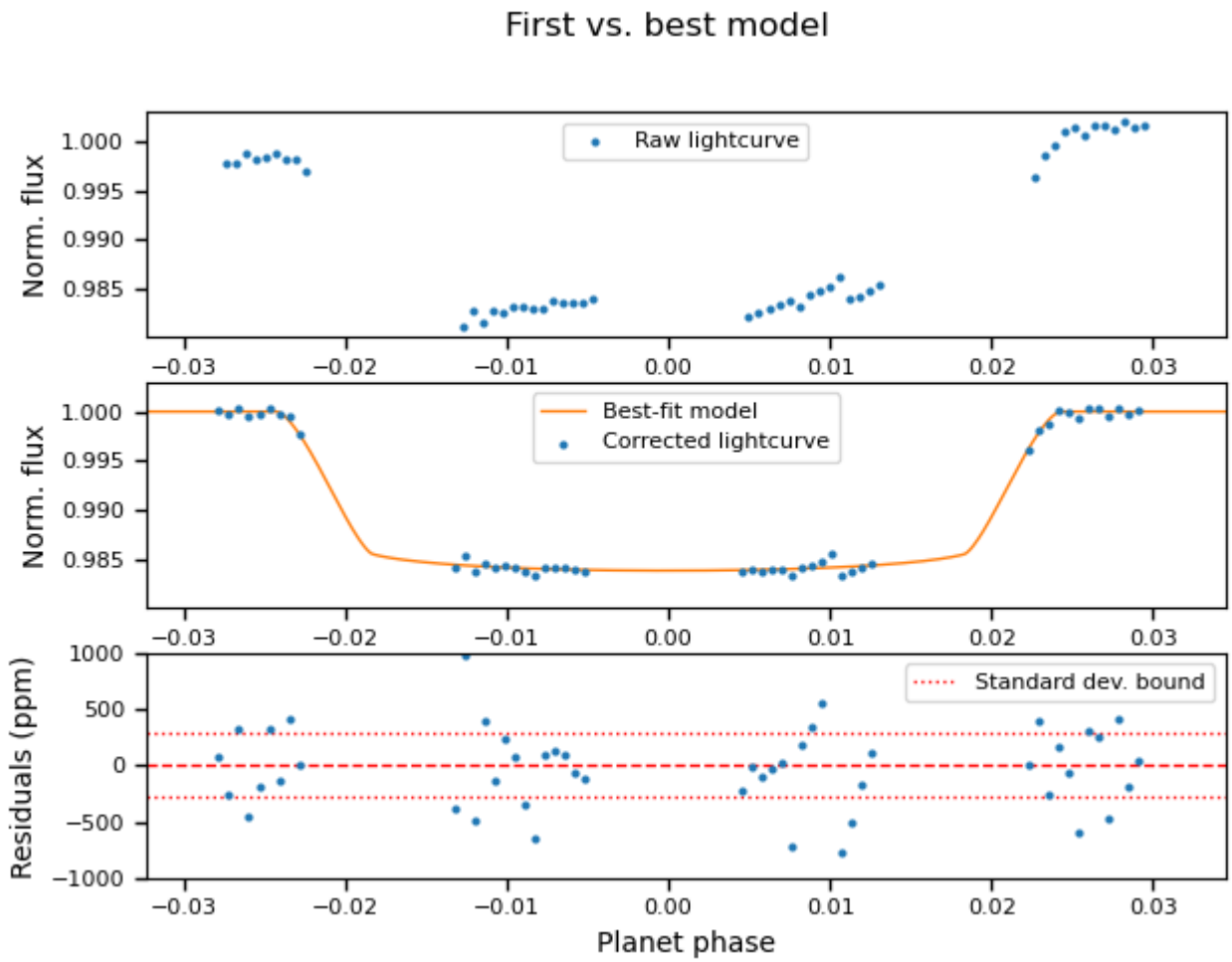
Systematics



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.