Report page ExoTIC-ISM

W17_G141_lc_15663.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 15693.439507857918
Wavelength half width = 45.40313482374586

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 = 1.1178591986053732
C2 = -1.4854869381172633
C3 = 1.2913223706462695
C4 = -0.4349557202890731

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 = [47 48 42 43 49]
DOF = [39. 38. 40. 39. 37.]
Chi-squared = [41.09591473 40.24823315 42.4049901 41.79343105 40.22098849]
AIC evidence = [306.97437468 306.89821547 306.819837 306.62561652 306.4118378]
Weights = [0.16973504437965461 0.15728814626912713 0.14543088757122188 0.11975889348595349 0.09670854660275544]
SDNR = [293.61813604 290.49526104 298.32571002 296.07841747 290.3964507]

Top model Noise Statistics:

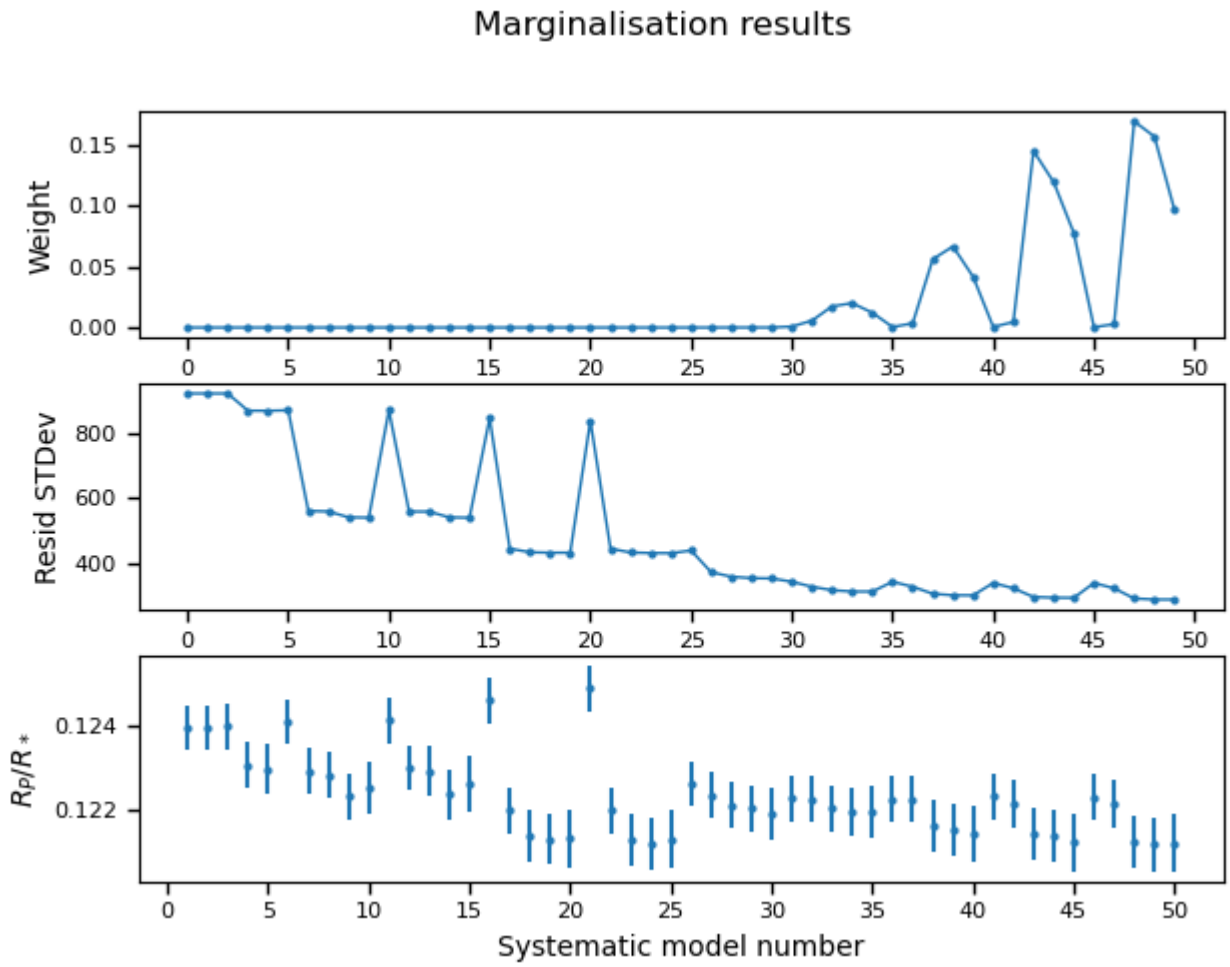
White noise = 0.00038588519626302226
Red noise = 0.0001596104531084069
Beta = 1.6652319814851522
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.1213469280816531 +/- 0.0006679025597337123
Epoch (MJD) = 57957.971603938924 +/- 0.0006433206989239648
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

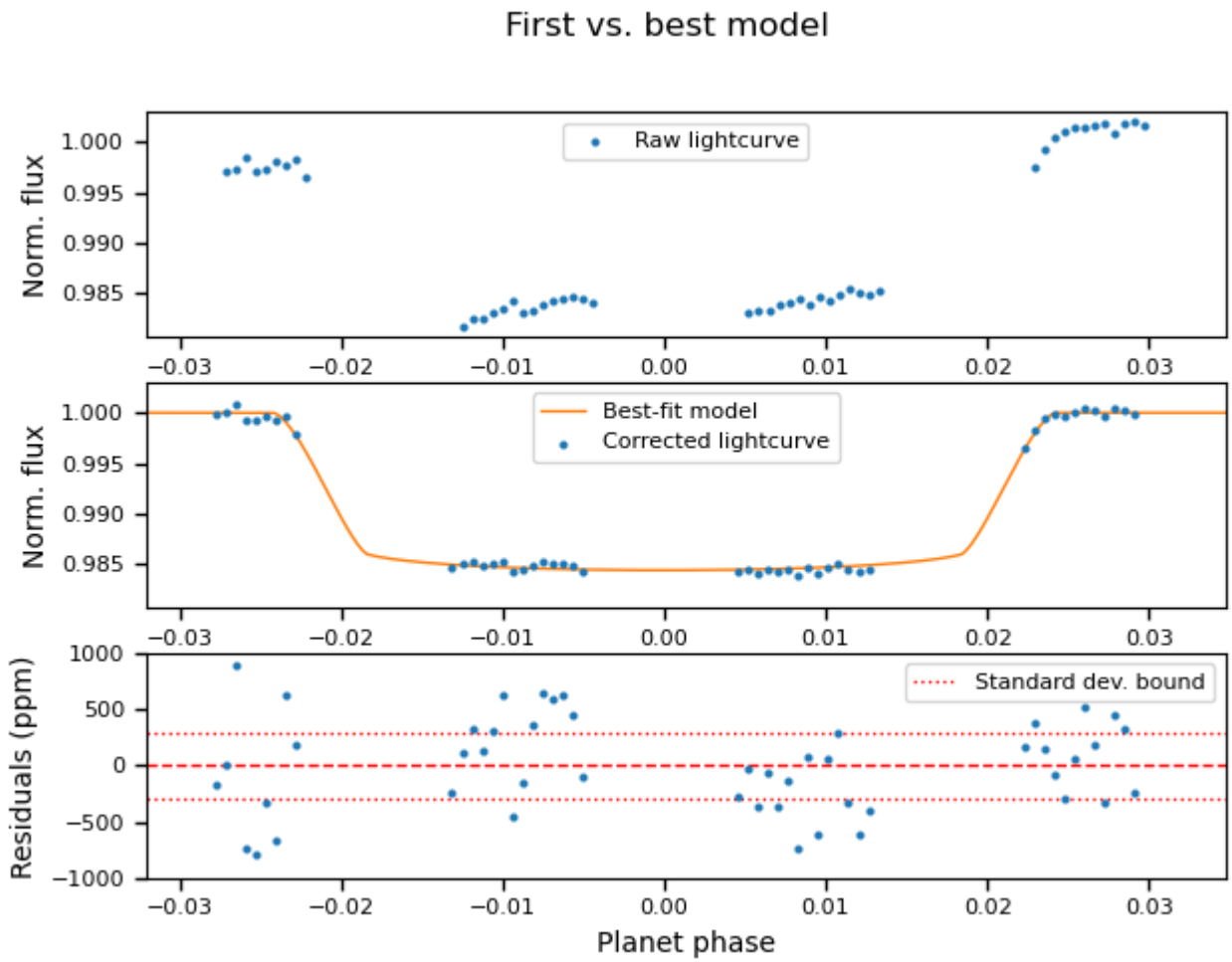
Systematics



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.