Report page ExoTIC-ISM

W17_G141_lc_12559.txt - 12559

Input parameters:

Number of systematic models: 50
Wavelength mid point = 12560.62320501946
Wavelength half width = 90.80626964749172

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 = 0.8773303220885648
C2 = -0.8747639874282237
C3 = 0.7778021765283126
C4 = -0.27087834642774045

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 42 48 44 43]
DOF = [44. 45. 43. 43. 44.]
Chi-squared = [37.6390116 39.04829013 37.43657756 37.61478156 38.7806014]
AIC evidence = [350.80248001 350.59784074 350.40369703 350.31459503 350.23168511]
Weights = [0.16610313590840078 0.13536429570824007 0.1114778497829966 0.10197461539753686 0.09386090916166832]
SDNR = [229.48072969 233.72868754 228.88446557 229.41450876 232.95158356]

Top model Noise Statistics:

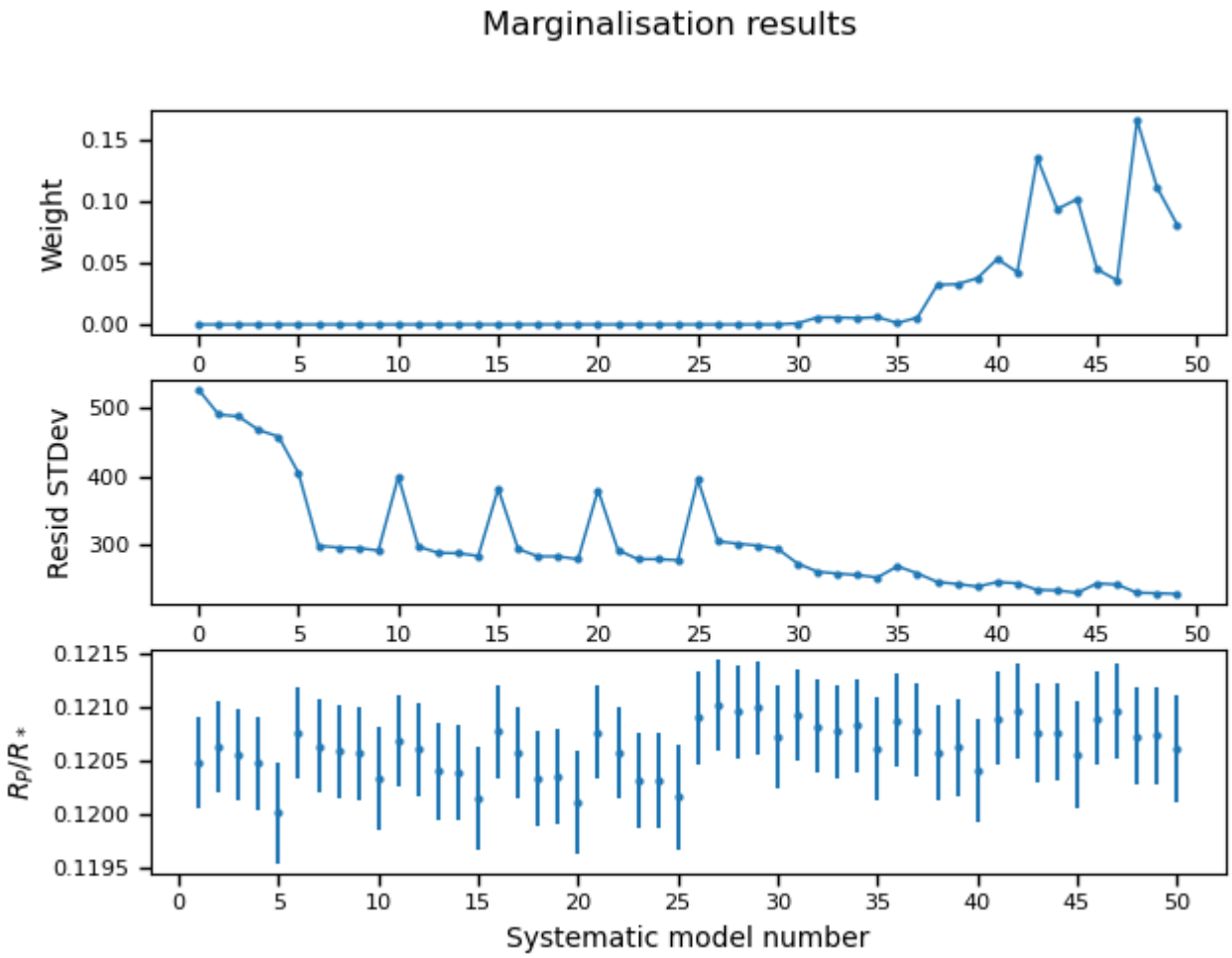
White noise = 0.0003236764218328409
Red noise = 2.4740714381780335e-05
Beta = 1.0286480472504564
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.1207243710097613 +/- 0.00048099385948131634
Epoch (MJD) = 57957.96902621398 +/- 0.0005388402773553078
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

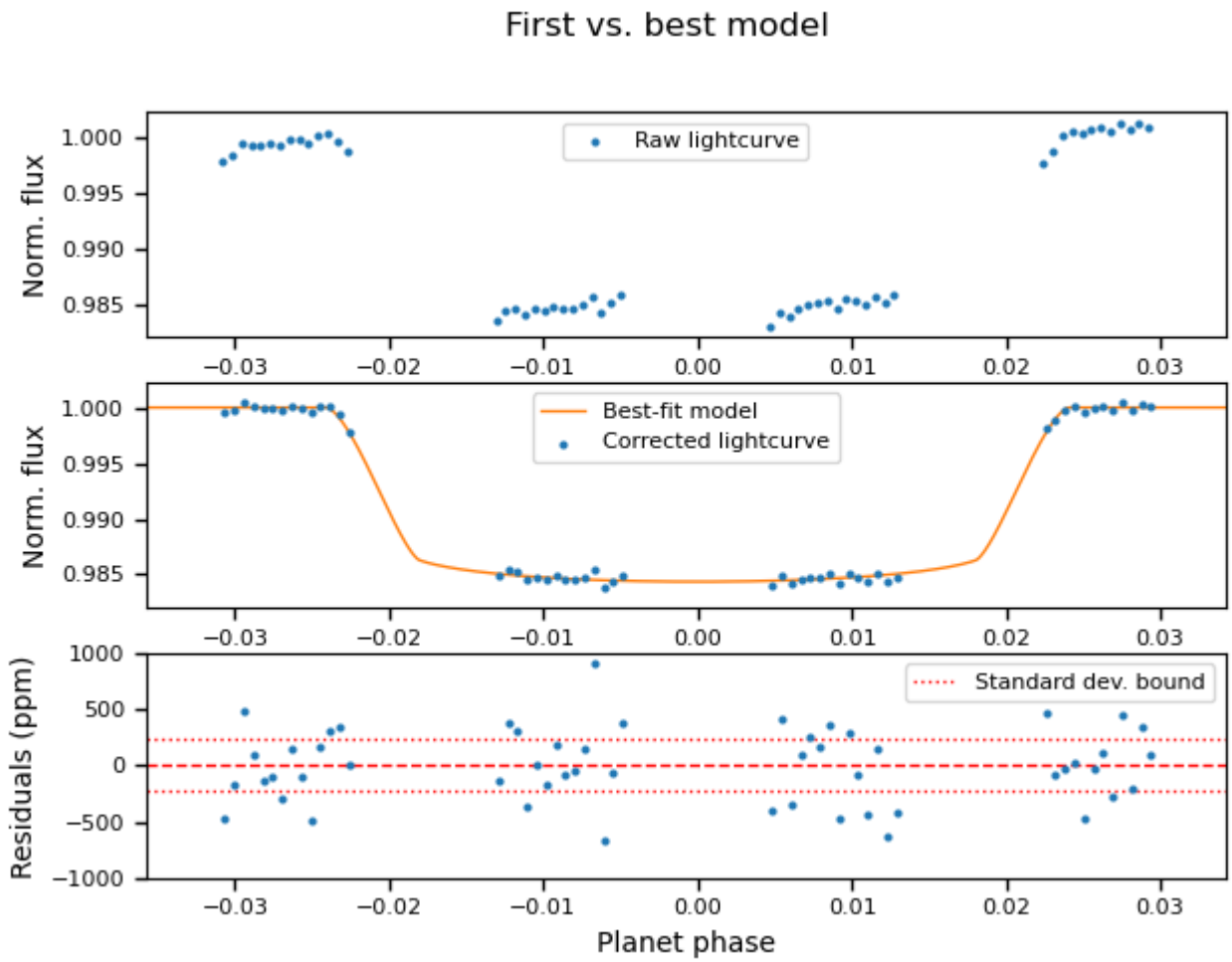
Systematics



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.