Report page ExoTIC-ISM

W17_G141_lc_13723.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 13763.806277848722
Wavelength half width = 68.1047022356197

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 = 0.9554545837689943
C2 = -1.0416995939329388
C3 = 0.893620399369833
C4 = -0.3039970732878794

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 = [39 44 49 37 38]
DOF = [39. 38. 37. 41. 40.]
Chi-squared = [78.42305315 78.33757085 78.33662108 83.79151499 83.11038596]
AIC evidence = [299.11784082 298.66058196 298.16105685 297.4336099 297.27417441]
Weights = [0.34773714304503767 0.2201233356802313 0.1335749701969501
0.06453553094302157 0.05502460507827631]
SDNR = [324.81903346 324.67548509 324.67334879 335.81226849 334.42118007]

Top model Noise Statistics:

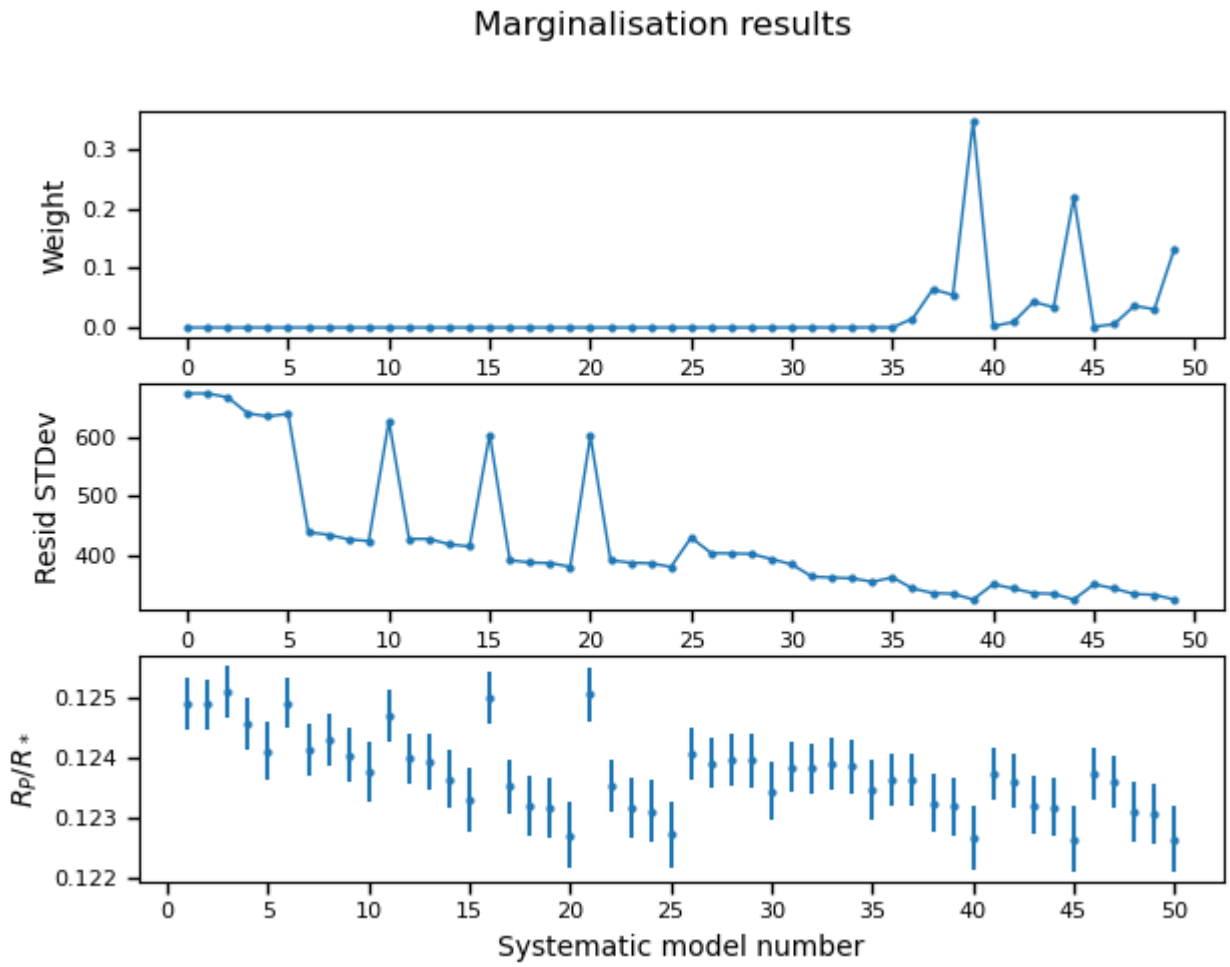
White noise = 0.0
Red noise = 0.0
Beta = 1.0
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12282887043136813 +/- 0.0005883774085284722
Epoch (MJD) = 57957.970956459016 +/- 0.0004954429889384159
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

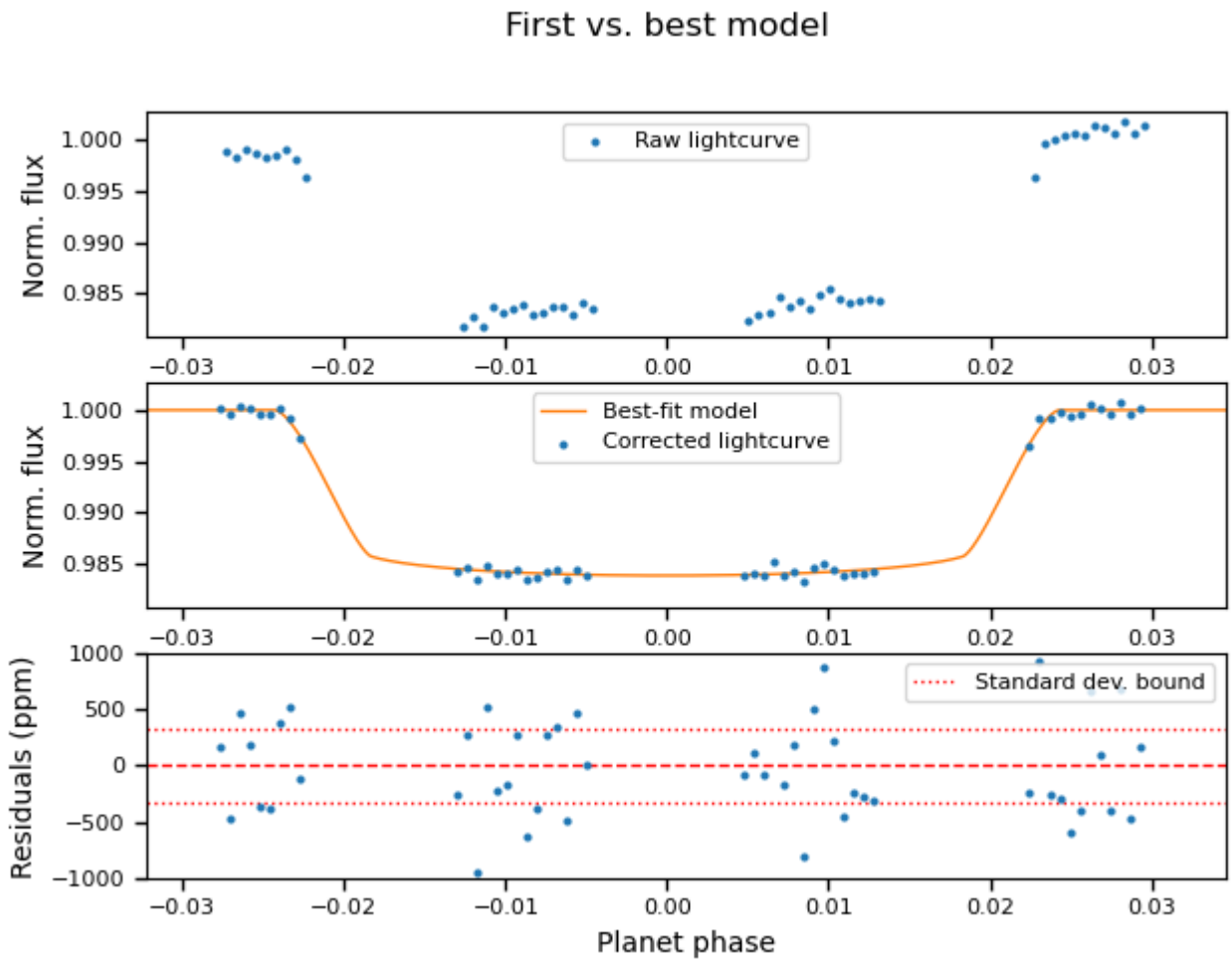
Systematics



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.