Report page ExoTIC-ISM

W17_G102_lc_9926.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 9945.295122213036
Wavelength half width = 59.43658008129387

Planet parameters:

Rp/R* = 0.12169232
Epoch (MJD) = 58021.48064883803
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 = 0.8603066443486683
C2 = -0.8327647721731892
C3 = 0.8318373595810895
C4 = -0.30616508716698054

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 47 49 46 45]
DOF = [38. 39. 37. 40. 41.]
Chi-squared = [70.1768006 71.30104627 69.79882728 74.88517255 77.1395742]
AIC evidence = [300.42350585 300.36138301 300.11249251 299.06931987 298.44211905]
Weights = [0.28640005917350836 0.2691494513001301 0.20984649839490352 0.07393628178487234 0.03948823751876216]
SDNR = [321.88951353 324.37980291 320.96392045 332.14098347 337.25922633]

Top model Noise Statistics:

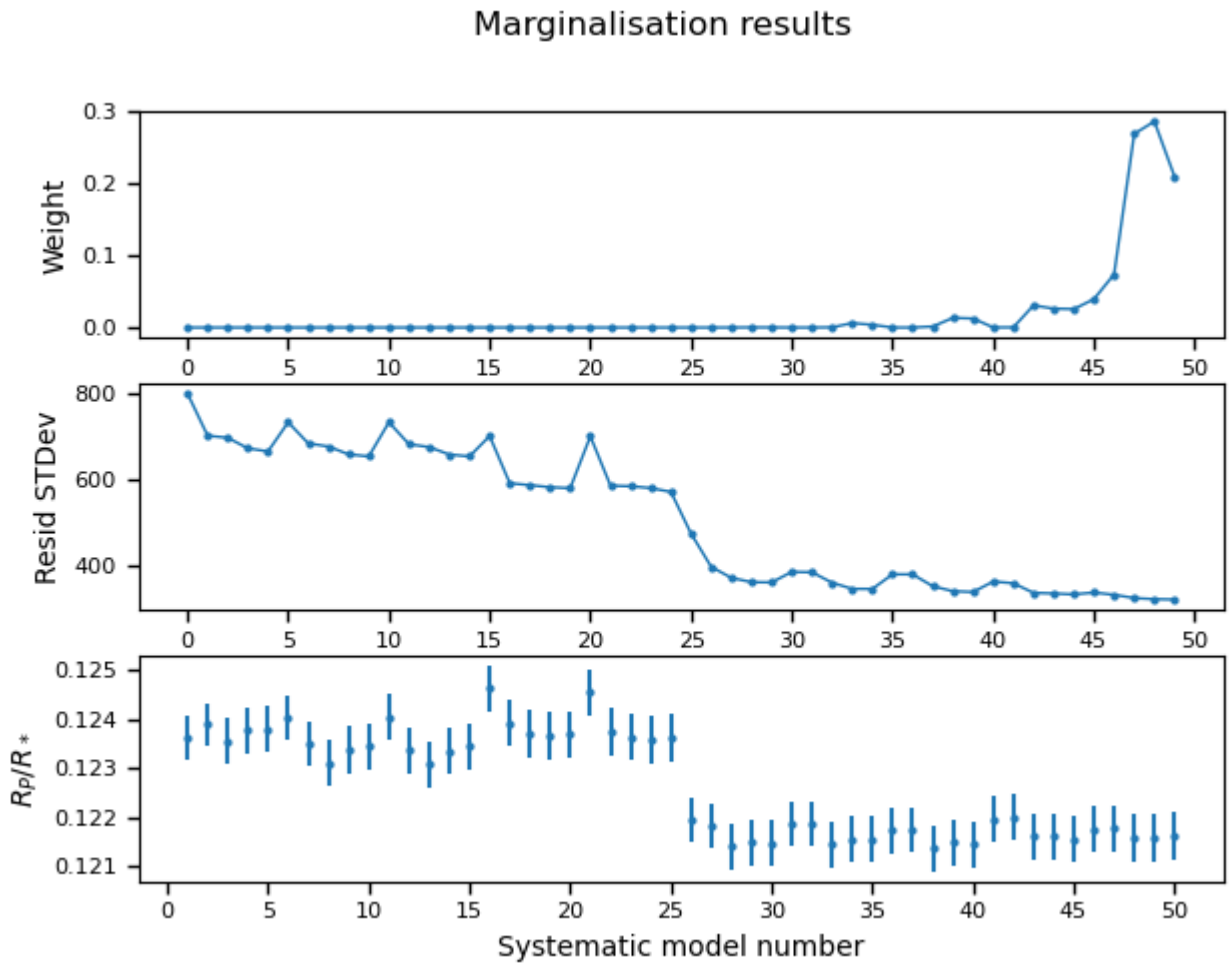
White noise = 0.0004507445891562522
Red noise = 6.628926843376332e-05
Beta = 1.120027303267235
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12160907983847483 +/- 0.00048196376597494923
Epoch (MJD) = 58021.48070528067 +/- 0.00047725881614504894
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

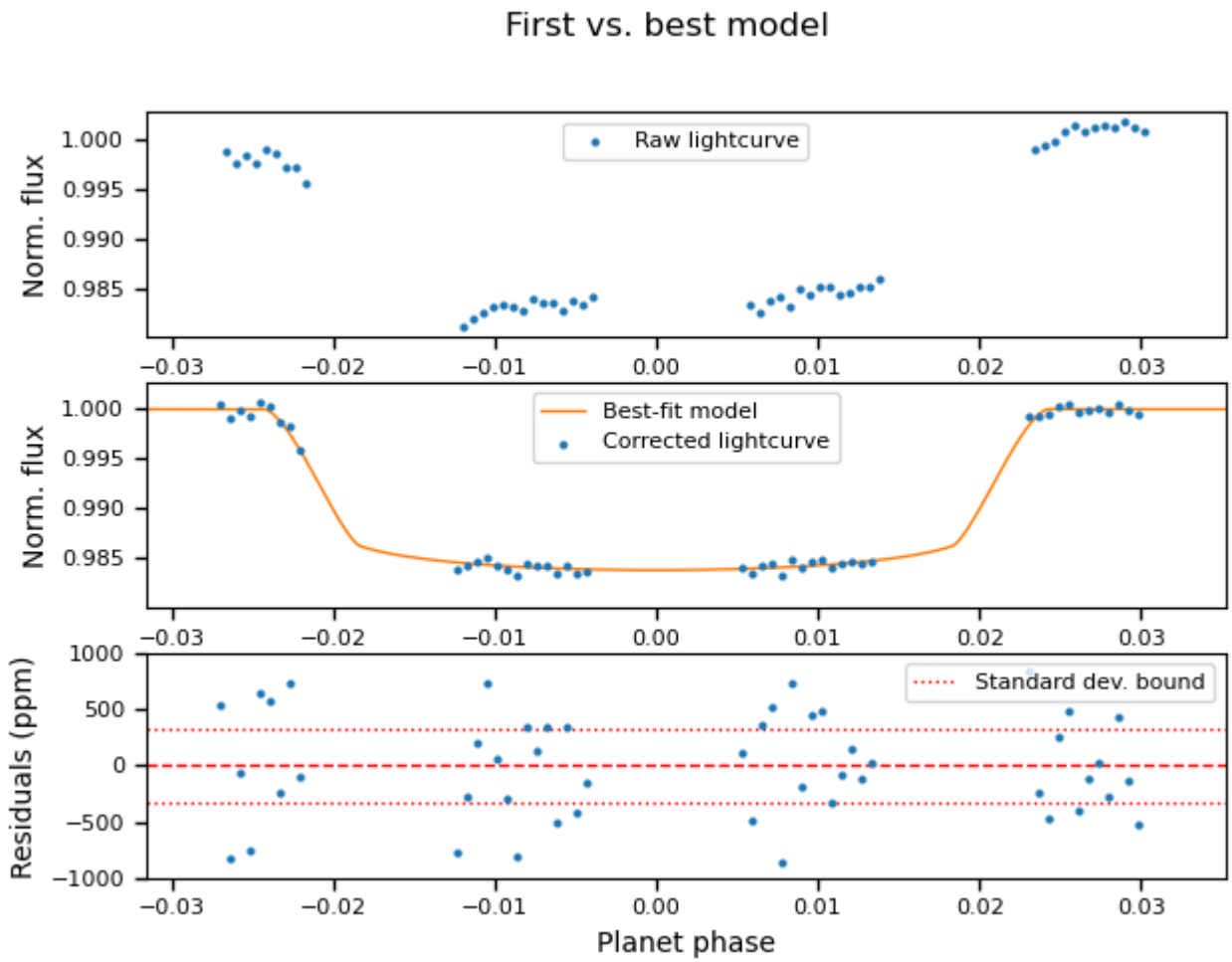
Systematics



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.