Report page ExoTIC-ISM

W17_G102_lc_10120.txt - 10120_clipped

Input parameters:

Number of systematic models: 50
Wavelength mid point = 10123.60486245692
Wavelength half width = 118.87316016258956

Planet parameters:

Rp/R* = 0.1255
Epoch (MJD) = 58021.48064883803
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 = 0.8682139366170387
C2 = -0.839126123072111
C3 = 0.8051850782287958
C4 = -0.29317156058814486

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 = [43 48 37 44 42]
DOF = [43. 42. 45. 42. 44.]
Chi-squared = [131.89466716 131.34175334 134.48508841 131.78237484 133.96424582]
AIC evidence = [306.31741575 306.09387266 306.02220512 305.87356191 305.78262642]
Weights = [0.15591345305080415 0.12468093721275463 0.11605804293782175 0.10002770757690571 0.09133296019800112]
SDNR = [363.70672325 362.92601798 367.10565191 363.55817728 366.44053404]

Top model Noise Statistics:

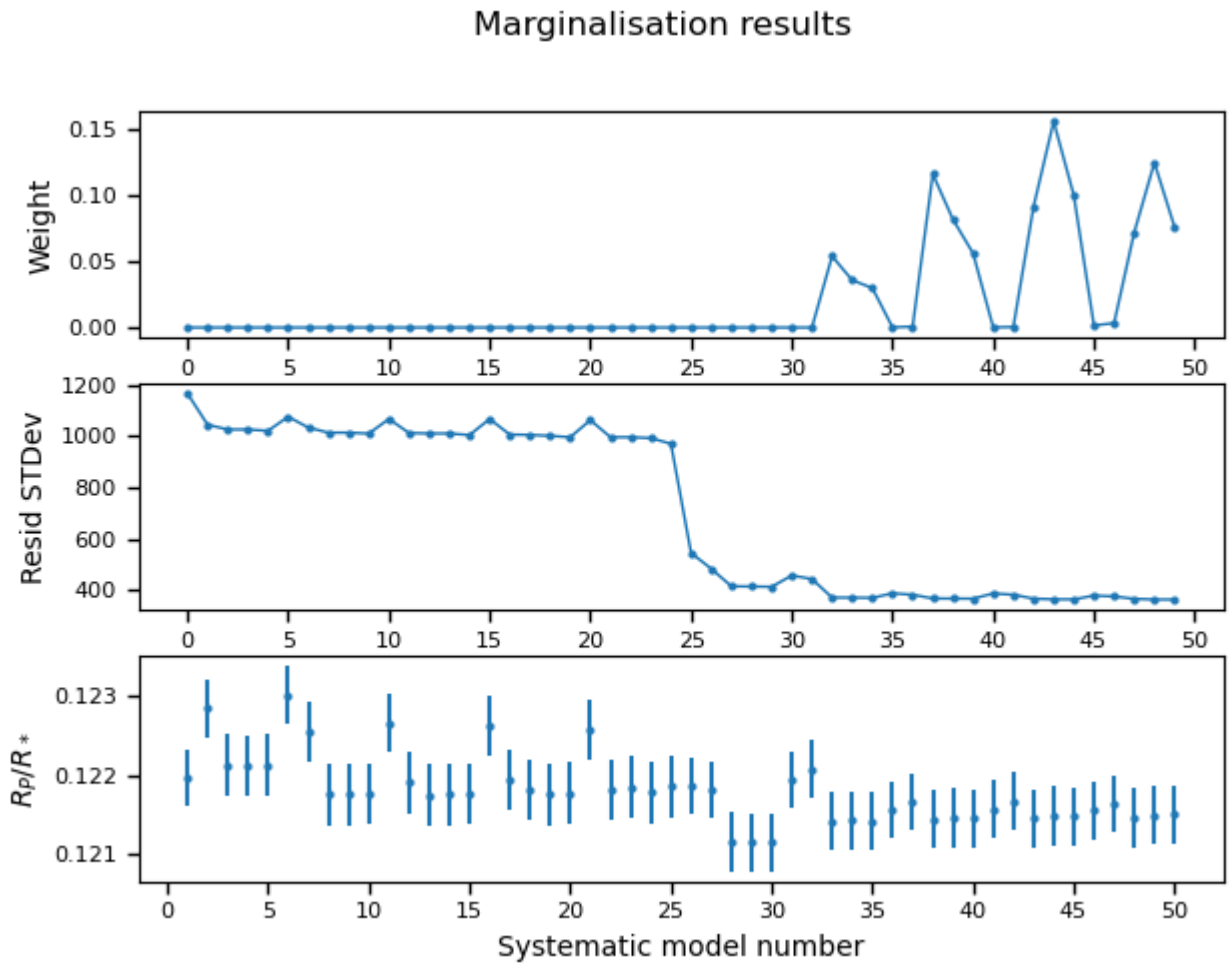
White noise = 0.0
Red noise = 0.0
Beta = 1.0
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12146919302347475 +/- 0.0003721709222758533
Epoch (MJD) = 58021.48027222249 +/- 0.00042314637584319007
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

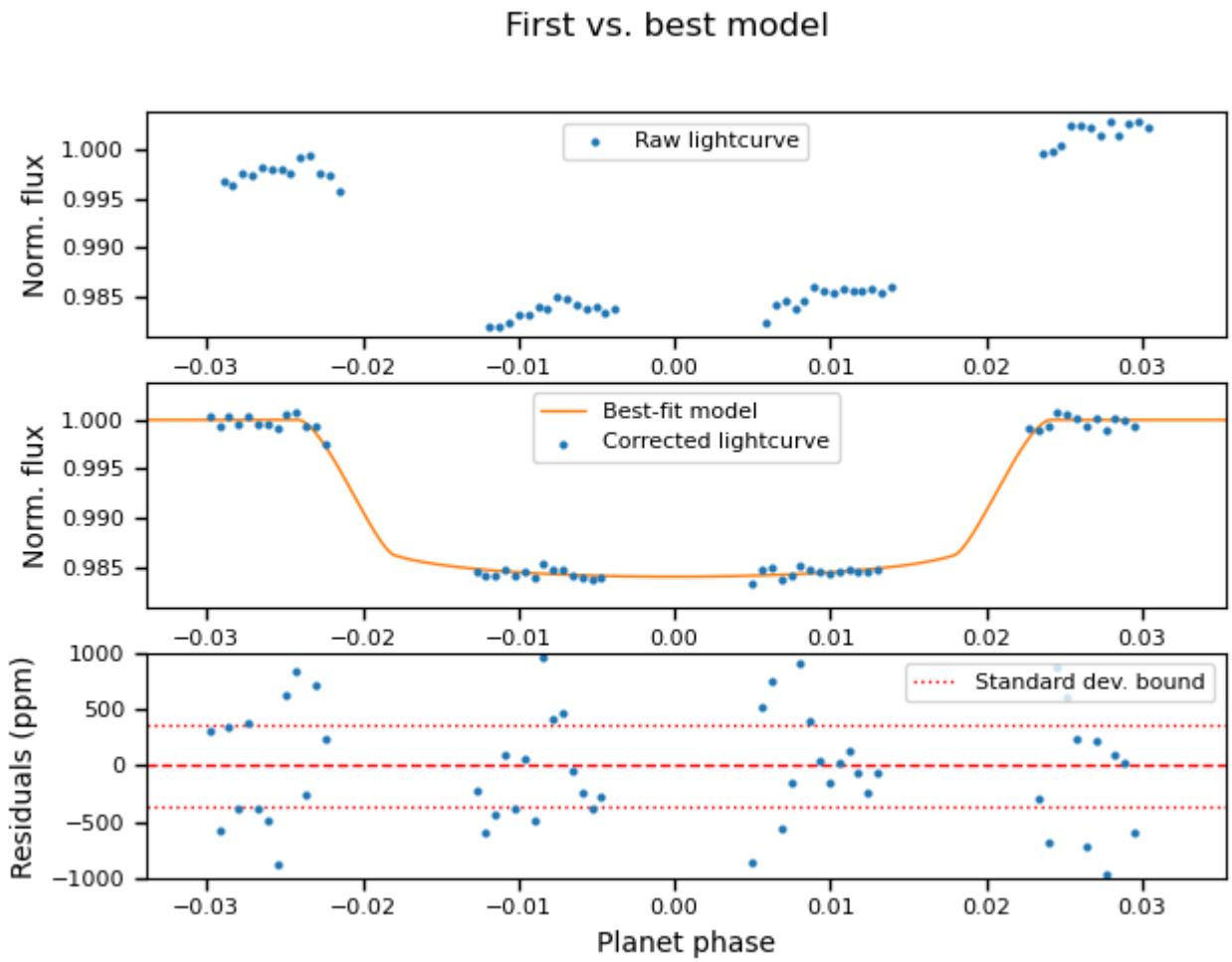
Systematics



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.