Report page ExoTIC-ISM

W17_G102_lc_9767.txt - 9767_clipped

Input parameters:

Number of systematic models: 50
Wavelength mid point = 9766.985381969153
Wavelength half width = 71.32389609755319

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 = 0.8440956551009666
C2 = -0.7757596218915799
C3 = 0.7636011907376419
C4 = -0.27202320043878603

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 = [33 38 34 32 39]
DOF = [45. 44. 44. 46. 43.]
Chi-squared = [60.16321641 59.88050814 60.15456555 62.36141145 59.85012402]
AIC evidence = [331.29280646 330.93416059 330.79713189 330.69370894 330.44935266]
Weights = [0.17025261097851813 0.11894217076871999 0.10371105493140564 0.09352097693619543 0.0732464276933339]
SDNR = [306.80139028 306.08818884 306.77938944 312.24380246 306.00931396]

Top model Noise Statistics:

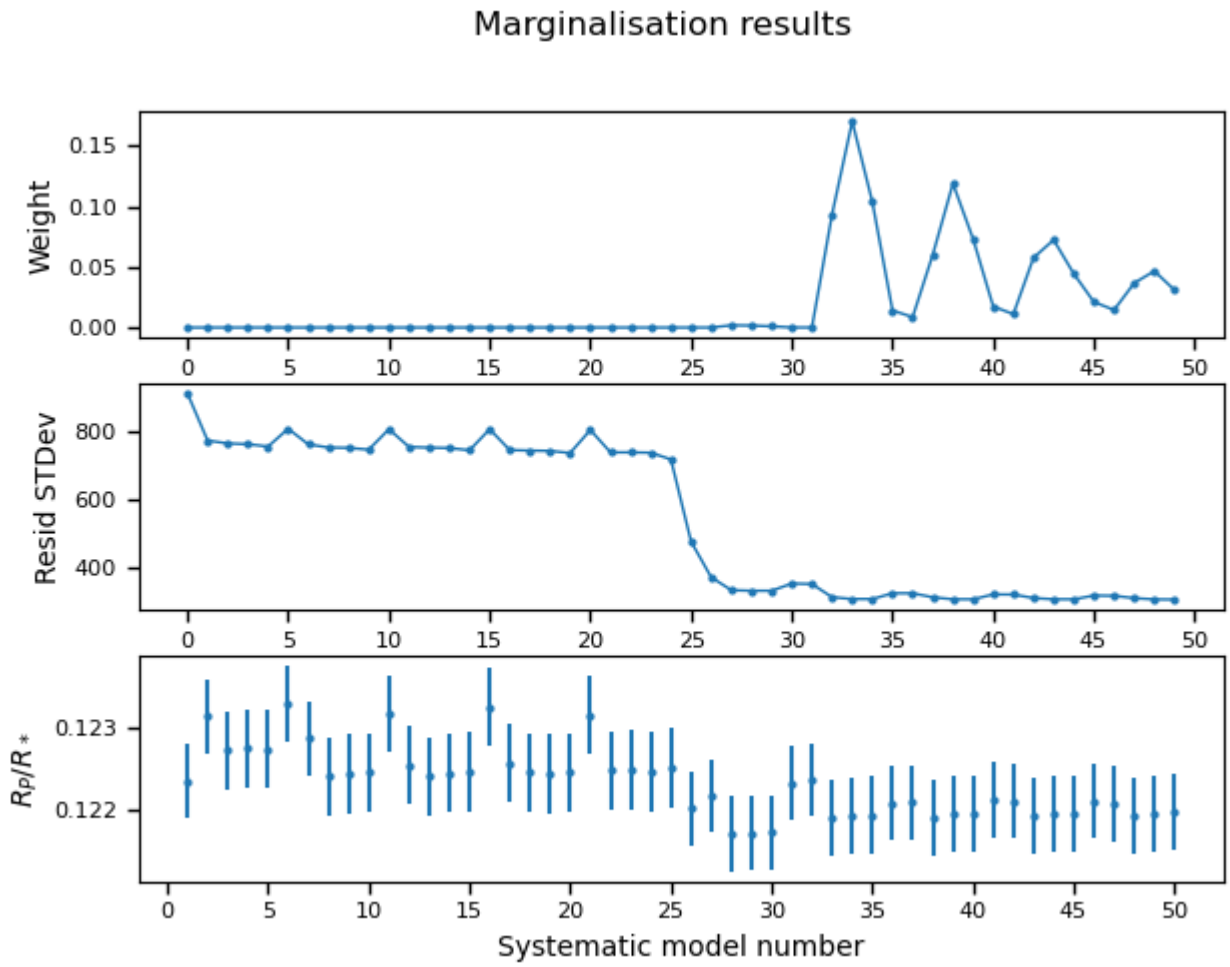
White noise = 0.00042886853939218917
Red noise = 6.898700537660478e-05
Beta = 1.1192884804737924
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.121956156772384 +/- 0.0004690084240517403
Epoch (MJD) = 58021.47868578353 +/- 0.0004829361728172985
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

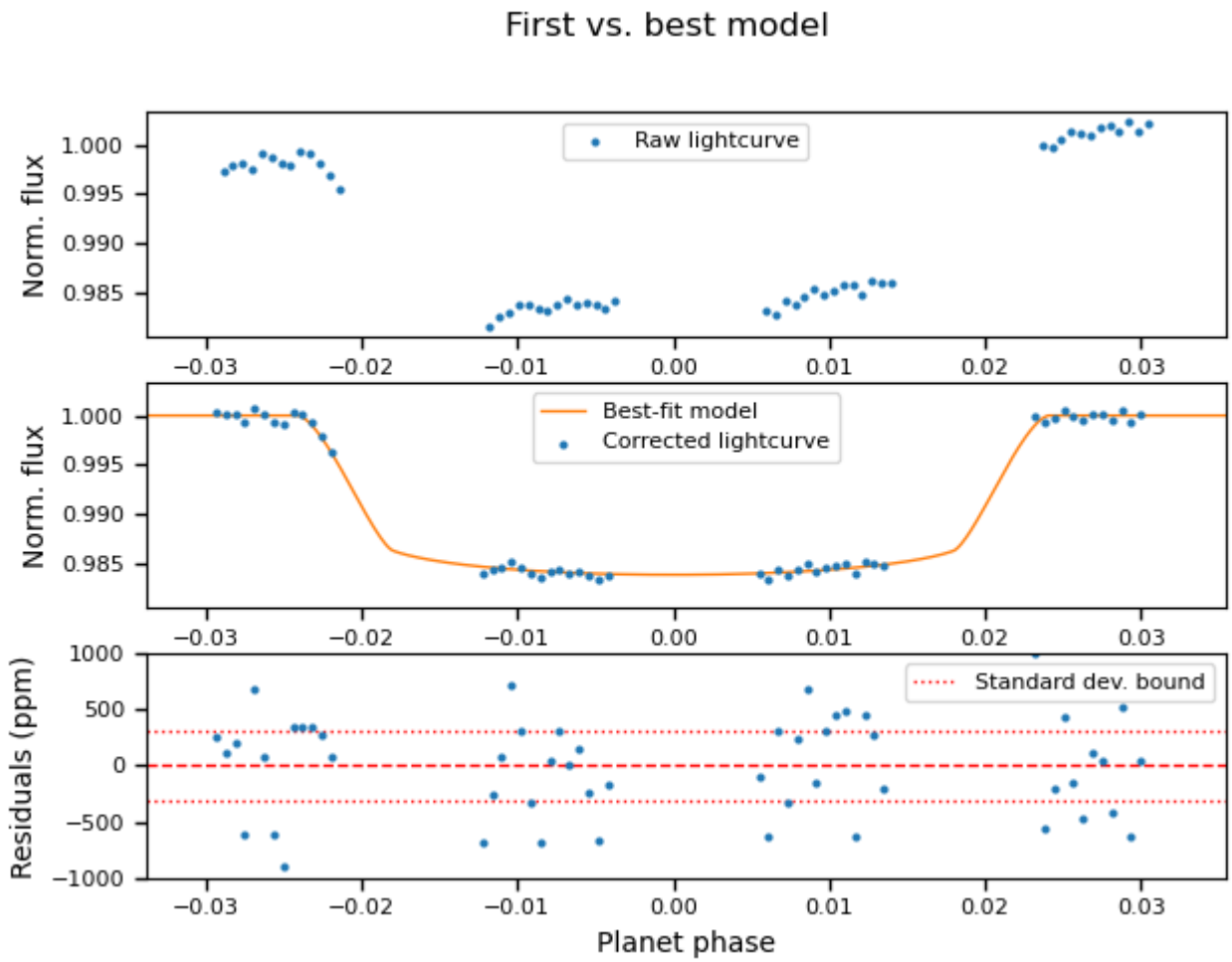
Systematics



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.