Report page ExoTIC-ISM

W17_G102_lc_9573.txt - 9573_clipped

Input parameters:

Number of systematic models: 50
Wavelength mid point = 9576.78832570901
Wavelength half width = 118.87316016258865

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 = 0.8585556095815061
C2 = -0.7929904885039111
C3 = 0.7684189190730746
C4 = -0.27866302167028567

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 = [44 49 39 34 48]
DOF = [42. 41. 43. 44. 42.]
Chi-squared = [104.83459571 104.81640786 108.54376052 110.51379102 111.60453257]
AIC evidence = [318.19990602 317.70899995 316.84532362 316.36030837 314.81493759]
Weights = [0.4825645318776005 0.295364025080119 0.12452820693158041 0.07667049850265485 0.016348664714626607]
SDNR = [330.89746291 330.86157723 336.58442416 339.52873451 341.3019086]

Top model Noise Statistics:

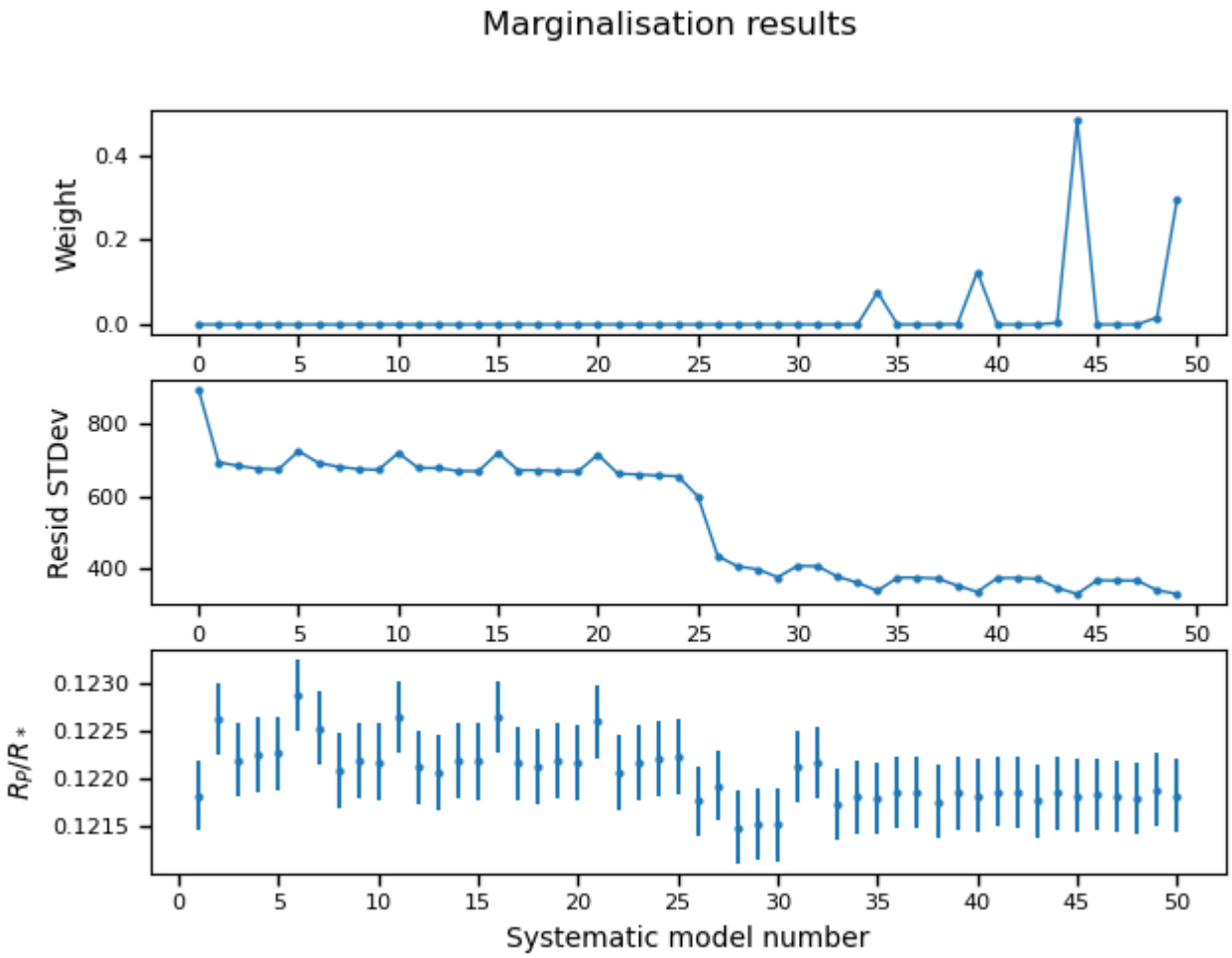
White noise = 0.00046175610387379505
Red noise = 7.96521749446978e-05
Beta = 1.1356582995255387
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12181947462968261 +/- 0.0003836429405291707
Epoch (MJD) = 58021.47864615412 +/- 0.000418151448366062
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

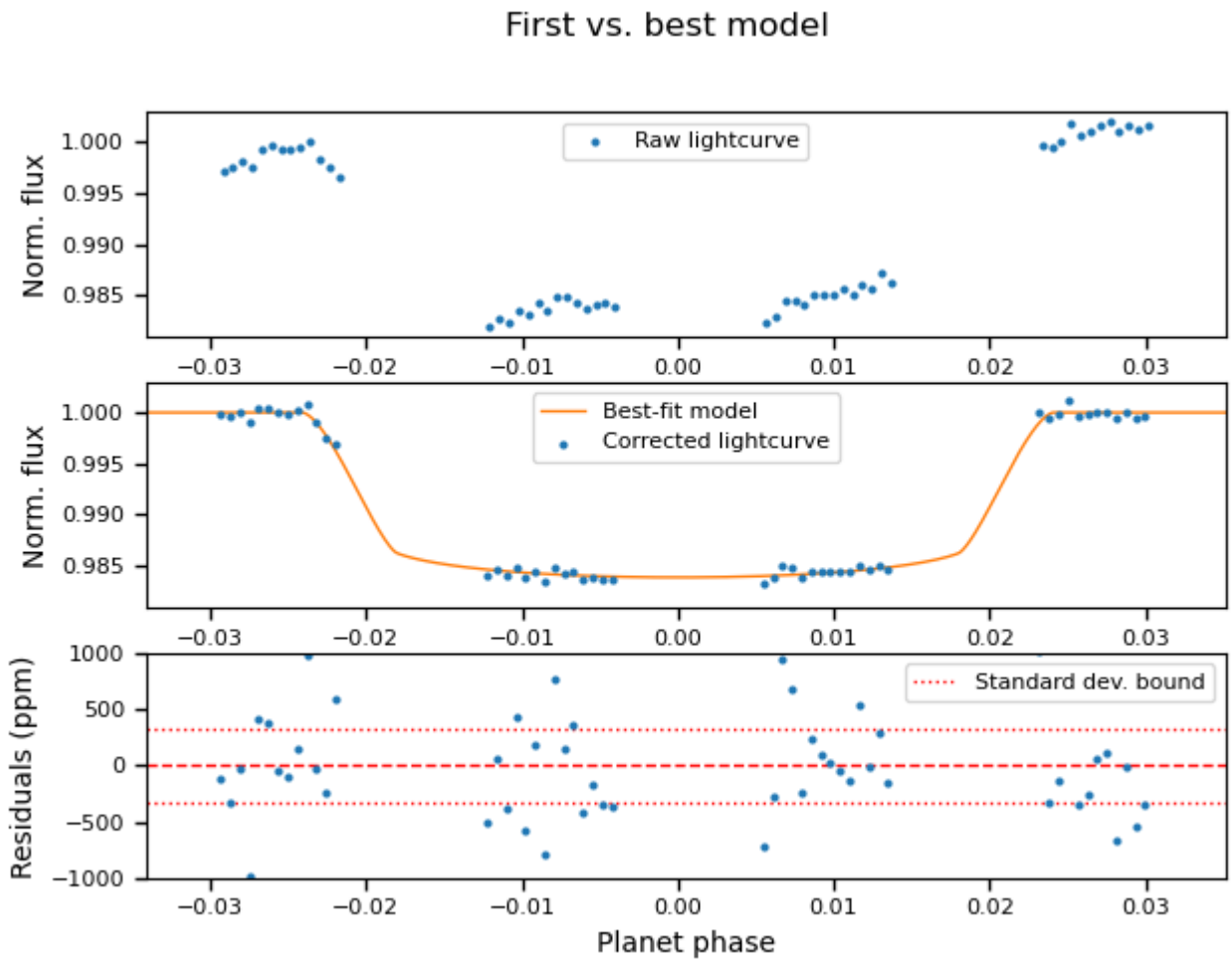
Systematics



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.