Report page ExoTIC-ISM

W17_G102_lc_10916.txt - 10528_clipped

Input parameters:

Number of systematic models: 50
Wavelength mid point = 10908.167719530005
Wavelength half width = 95.09852813007092

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 = 0.8673246840402864
C2 = -0.8488827392611848
C3 = 0.7794151076439236
C4 = -0.28131926773277166

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 = [46 47 48 38 49]
DOF = [44. 43. 42. 44. 41.]
Chi-squared = [96.93179622 96.38602959 95.91306367 98.30595323 95.40332538]
AIC evidence = [317.39481639 317.16769971 316.90418267 316.70773789 316.65905181]
Weights = [0.15894583597418938 0.1266524605956999 0.09731272534032319 0.07995667992122679 0.07615714581056277]
SDNR = [354.83976039 353.90495835 353.08101457 357.62341214 352.11118637]

Top model Noise Statistics:

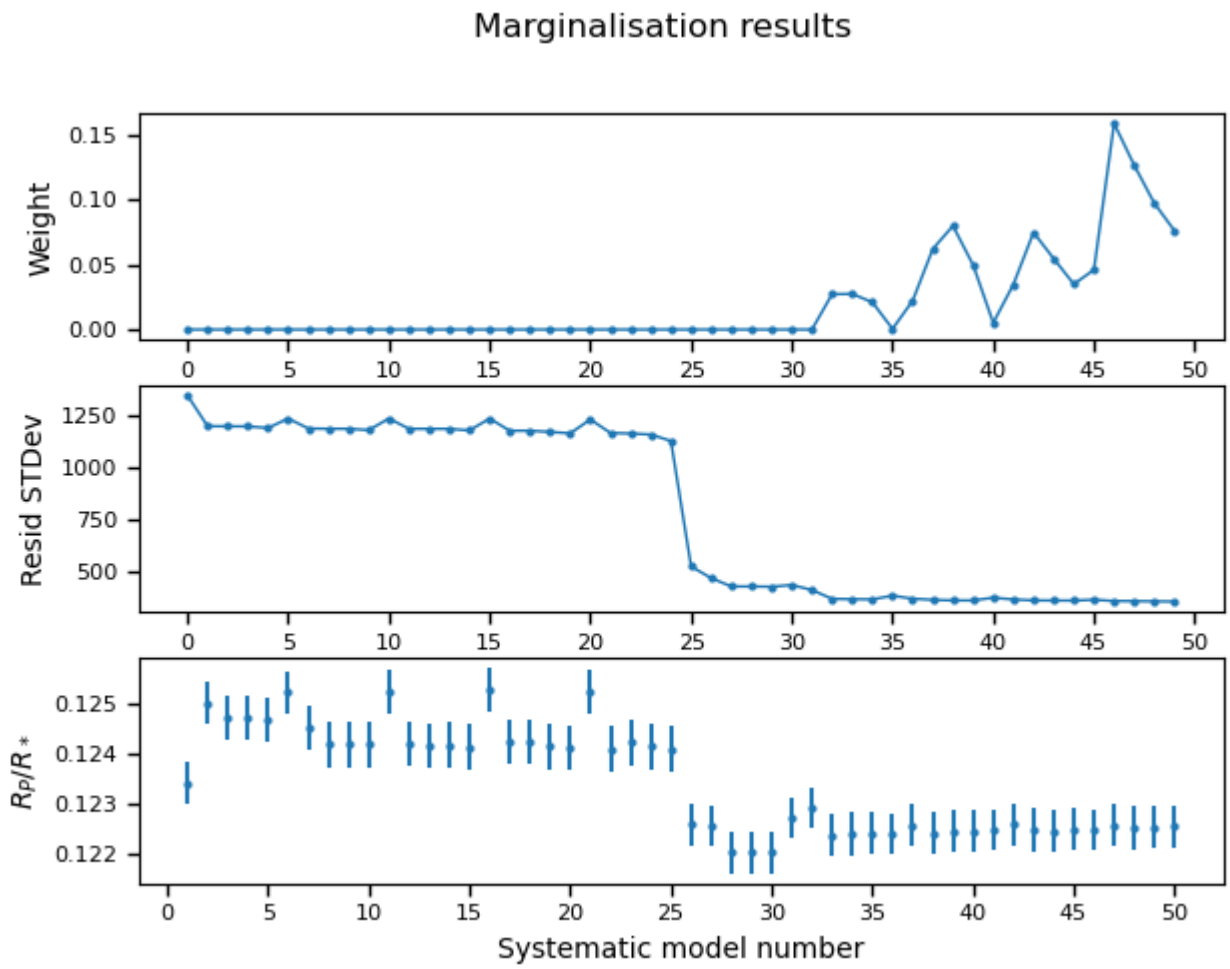
White noise = 0.0004763912642998241
Red noise = 0.00016541265276419335
Beta = 1.444483515095228
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12248158329651726 +/- 0.0004282701481119692
Epoch (MJD) = 58021.478982033776 +/- 0.00046267291558585335
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

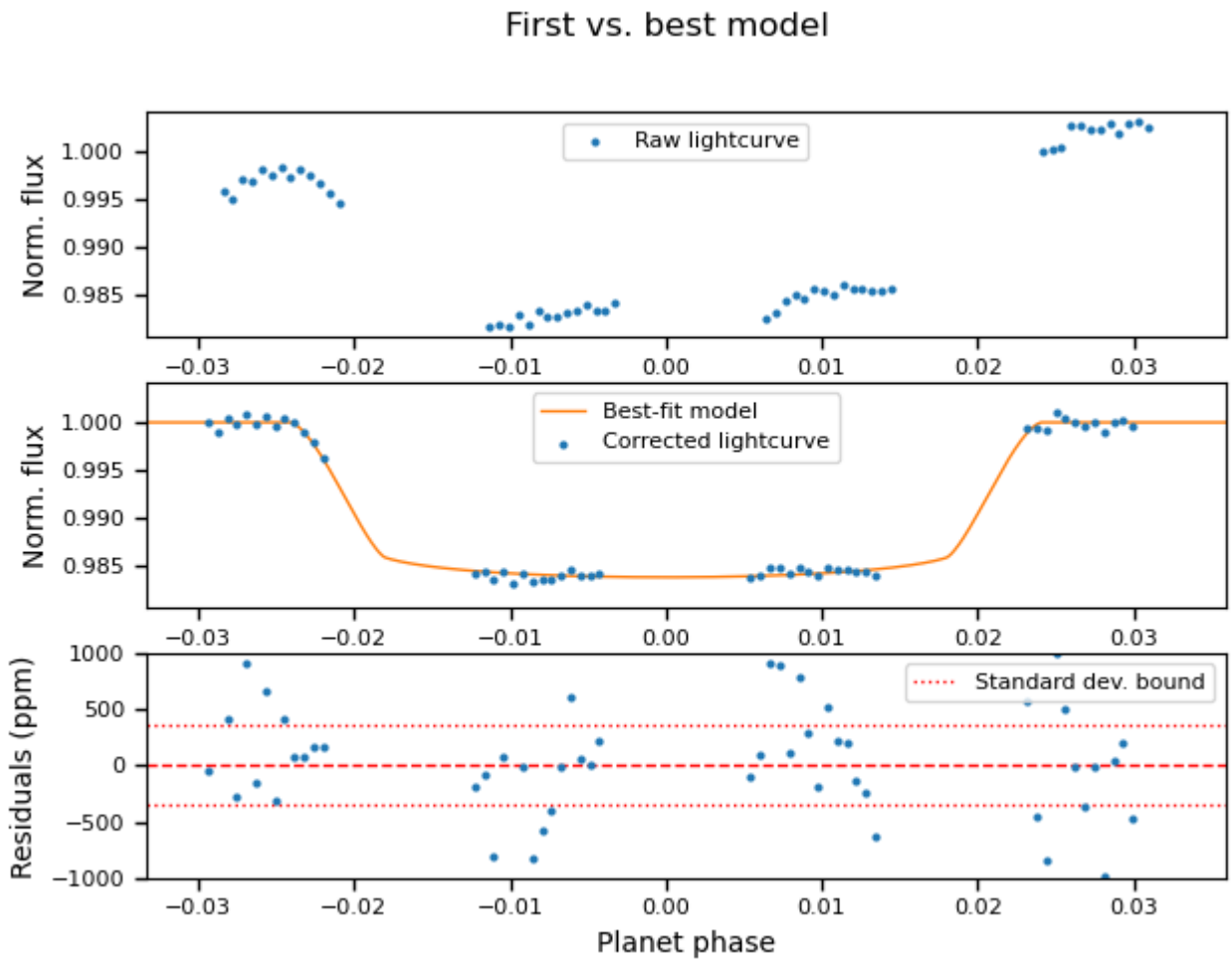
Systematics



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.