Report page ExoTIC-ISM

W17_G102_lc_8990.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 9018.084472944844
Wavelength half width = 83.21121211381251

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 = 0.8760544647889138
C2 = -0.8180064182045995
C3 = 0.8039351092642115
C4 = -0.29331387590561386

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 = [18 19 43 23 44]
DOF = [40. 39. 39. 39. 38.]
Chi-squared = [43.98929262 43.32986945 43.89296945 43.9622879 43.12478063]
AIC evidence = [313.74494027 313.57465185 313.29310185 313.25844263 313.17719626]
Weights = [0.1480010728390593 0.12482729018306361 0.0941963188941934 0.09098747672501319 0.08388740788323068]
SDNR = [259.19688848 257.26683716 258.93579083 259.10946456 256.69018998]

Top model Noise Statistics:

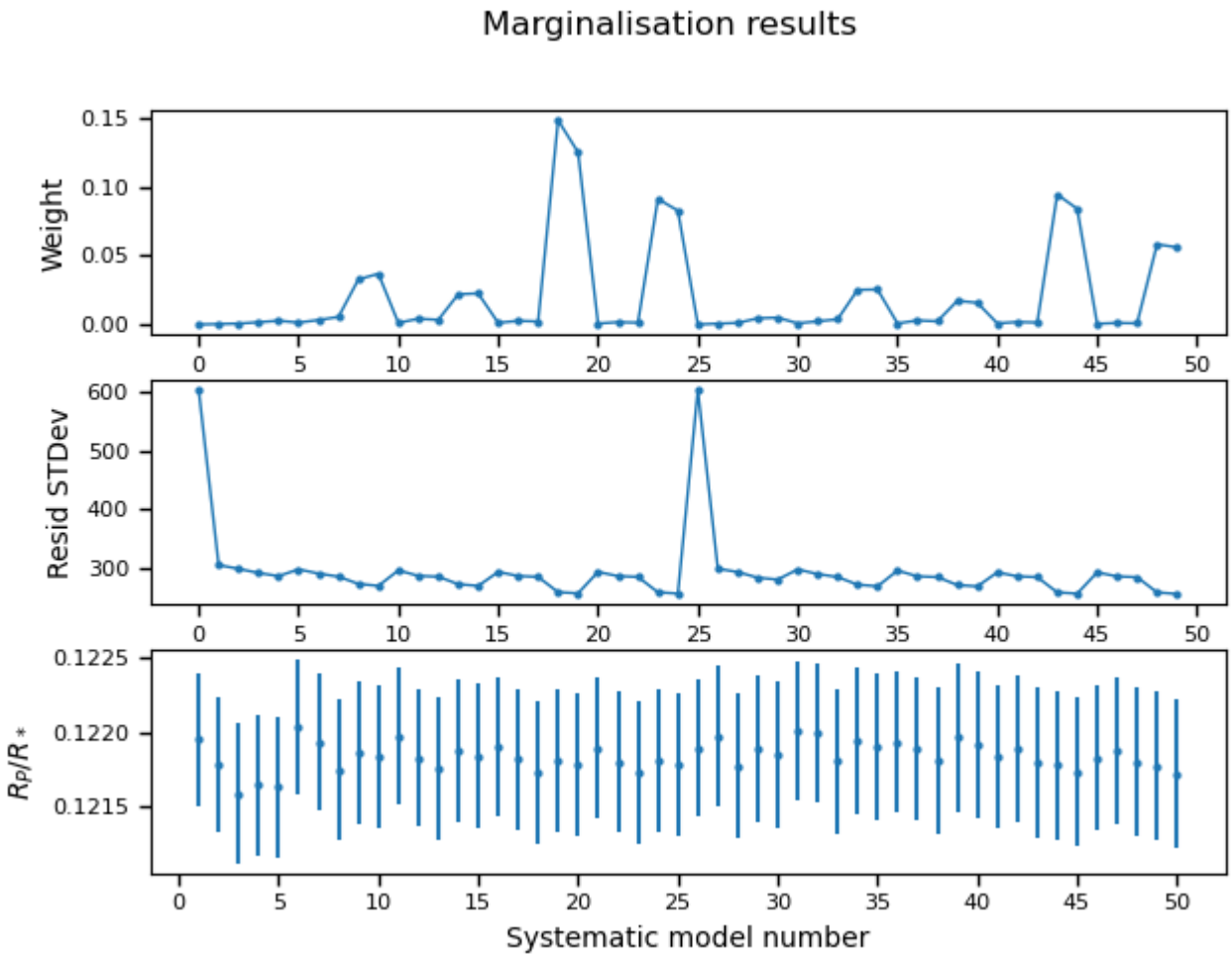
White noise = 0.00033480399101713023
Red noise = 0.00015533313336344075
Beta = 1.7761936640323288
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12180407210110064 +/- 0.0004873436158300 4294
Epoch (MJD) = 58021.47977940392 +/- 0.0004261141985415823
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

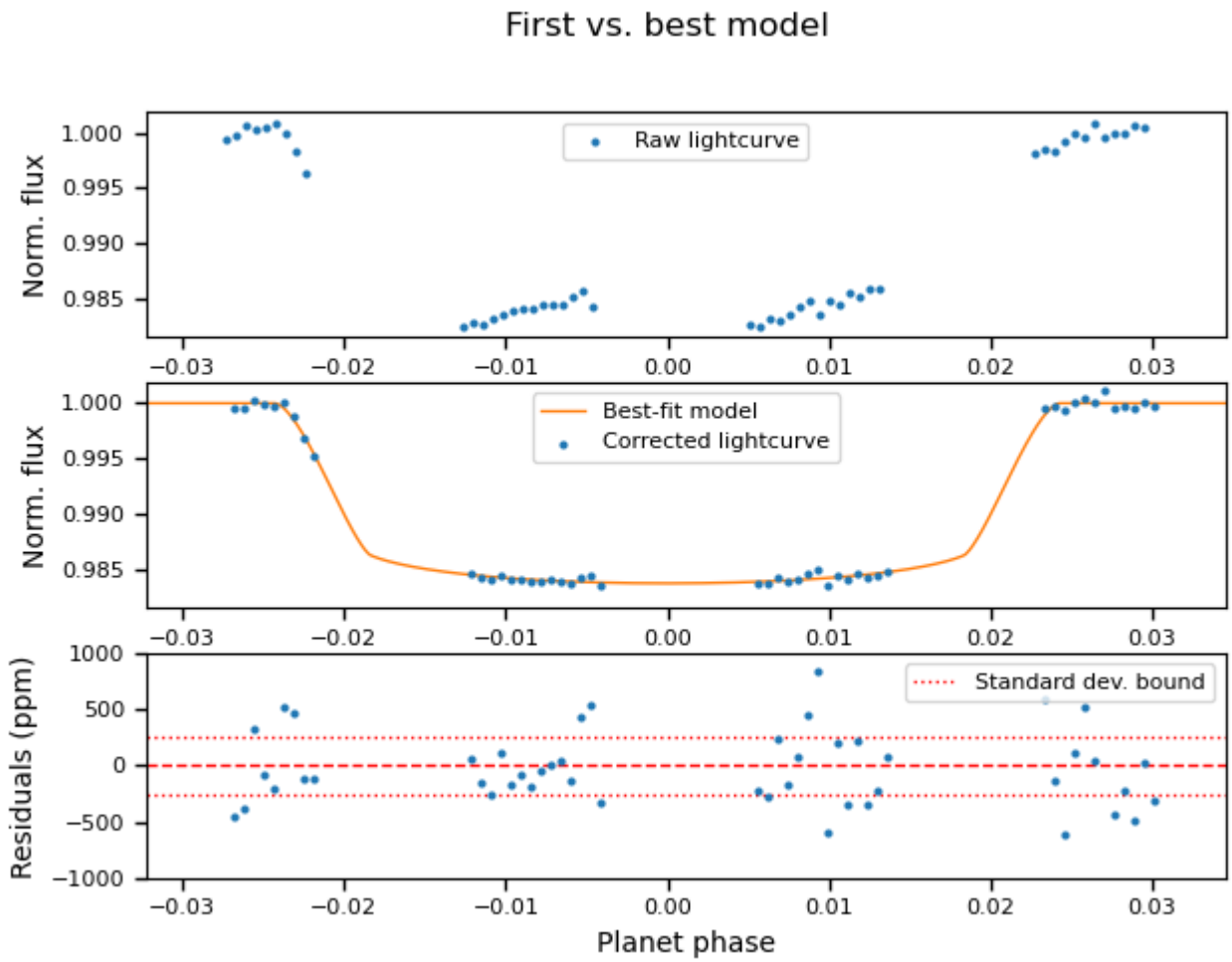
Systematics



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.