

Report page ExoTIC-ISM

W17_G102_lc_8394.txt - 8394_clipped

Input parameters:

Number of systematic models: 50
Wavelength mid point = 8388.056724083122
Wavelength half width = 95.09852813007092

Planet parameters:

$R_p/R^* = 0.1255$
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:

$C1 = 0.8806581715011236$
 $C2 = -0.779873434971138$
 $C3 = 0.7746326278802015$
 $C4 = -0.2814458084061633$

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 44 49 18]
DOF = [43. 42. 42. 41. 44.]
Chi-squared = [55.21251574 54.51747463 54.69435791 54.42825686 59.45888288]
AIC evidence = [321.32220746 321.16972802 321.08128638 320.7143369 319.69902389]
Weights = [0.2128319992913125 0.18273256162573176 0.16726544404631158
0.11588896758428059 0.04198529965357732]
SDNR = [364.64158411 362.25104782 362.90666745 361.96718263 378.75519265]

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.

$R_p/R^* = 0.12186107048769095 \pm 0.0005709117687999982$

Epoch (MJD) = 58021.47931037062 $\pm 0.0006789188604006046$

Inclination (rad) = None \pm None

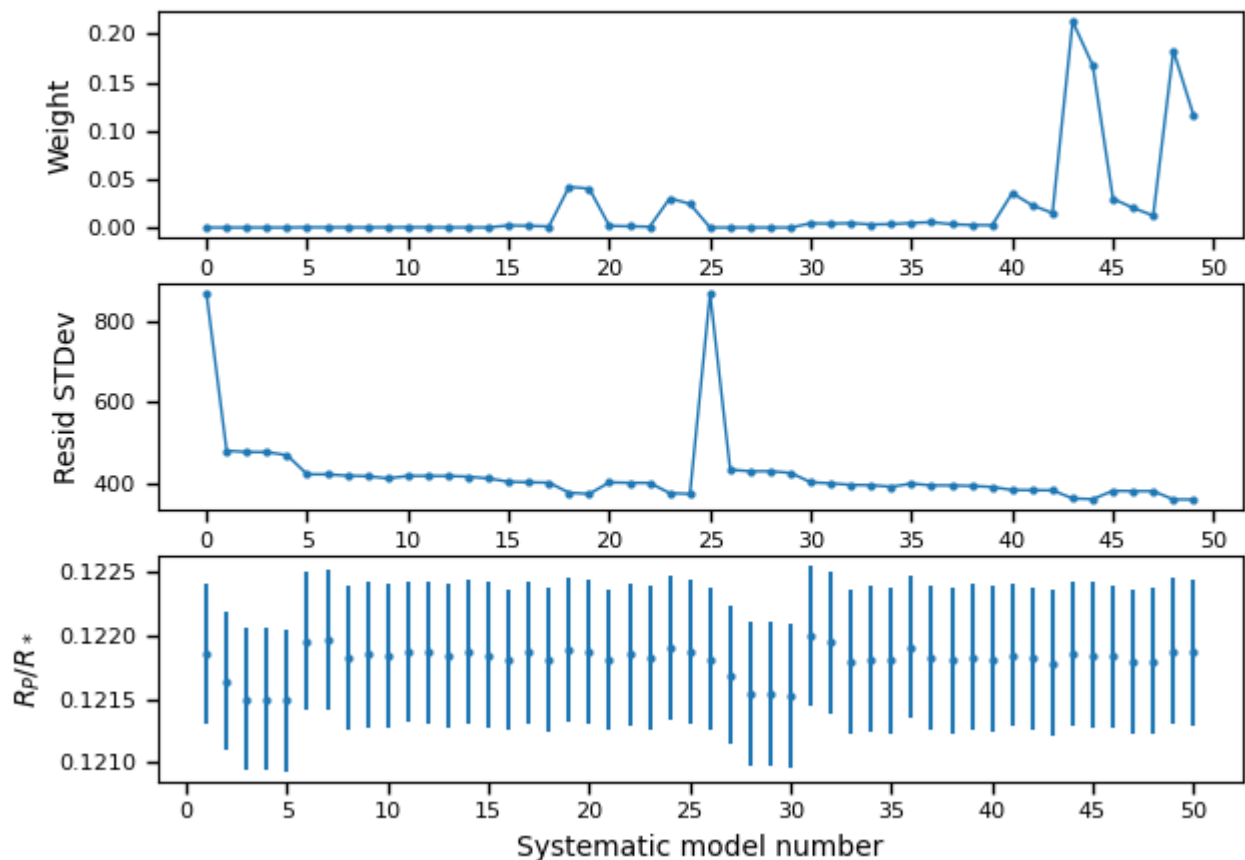
Inclination (deg) = None \pm None

System density ($M_s + M_p/R^3$) = None \pm None

$a/R^* =$ None \pm None

Systematics

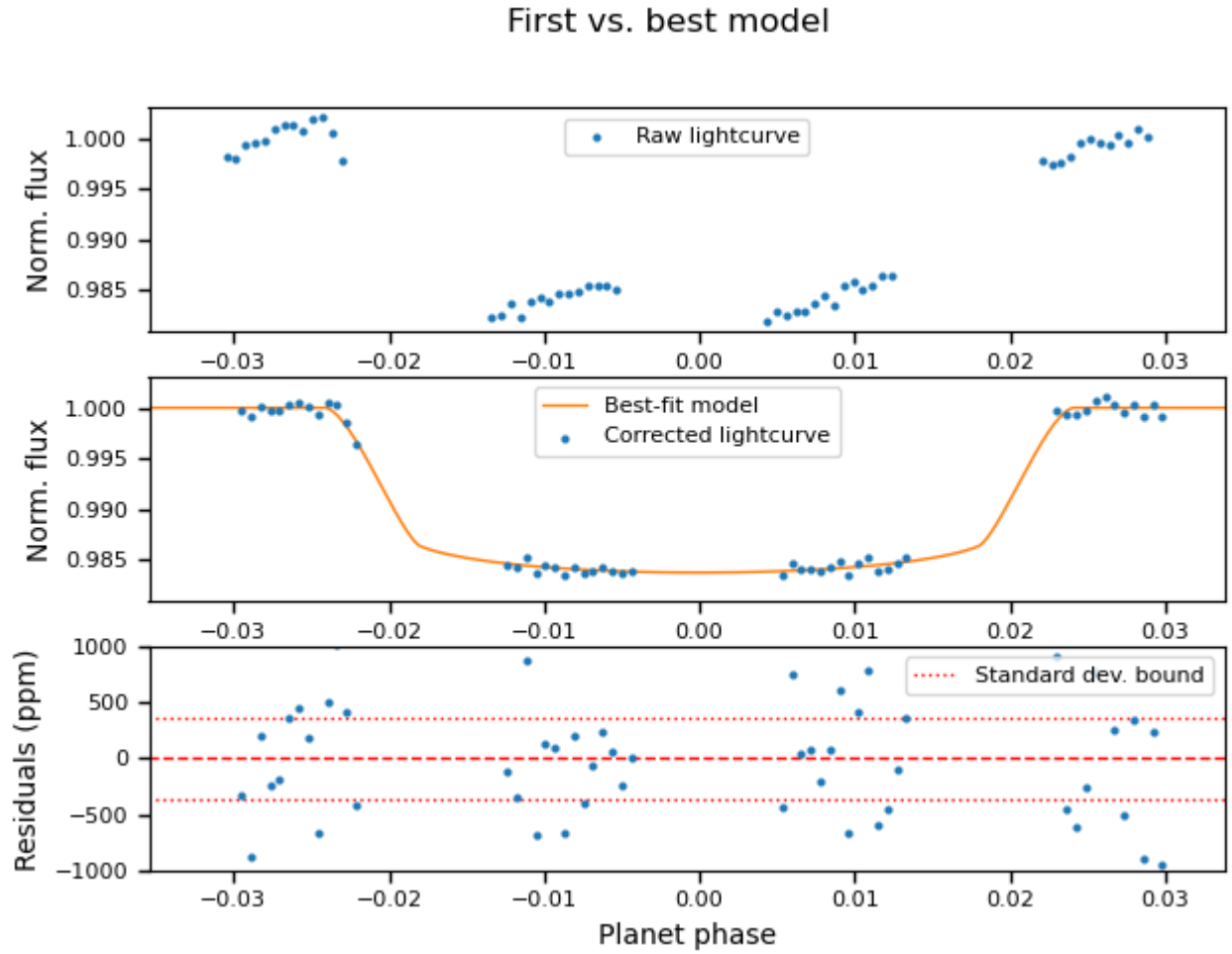
Marginalisation results



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.