

Report page ExoTIC-ISM

W17_G102_lc_9573.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 9600.56295774153
Wavelength half width = 95.09852813007092

Planet parameters:

$R_p/R^* = 0.12169232$
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:

$C1 = 0.8562724184373391$
 $C2 = -0.787119959280996$
 $C3 = 0.7573576730408741$
 $C4 = -0.27426465408800943$

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 = [49 48 44 39 34]
DOF = [37. 38. 38. 39. 40.]
Chi-squared = [101.93453775 103.3855824 103.66827018 104.8598463 106.89843542]
AIC evidence = [290.77416201 290.54863969 290.40729579 290.31150774 289.79221317]
Weights = [0.2786499297359344 0.2223902979409649 0.19307718735030188
0.17544085684565527 0.10437679970077372]
SDNR = [338.44846283 340.71829562 341.46736553 343.34616239 346.62083975]

Top model Noise Statistics:

White noise = 0.0004405696760759989

Red noise = 0.00019470301394439431

Beta = 1.7279148002754625

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.

$R_p/R^* = 0.12243628137258492 \pm 0.00042229524220774566$

Epoch (MJD) = 58021.48020074253 $\pm 0.00039490911279869387$

Inclination (rad) = None \pm None

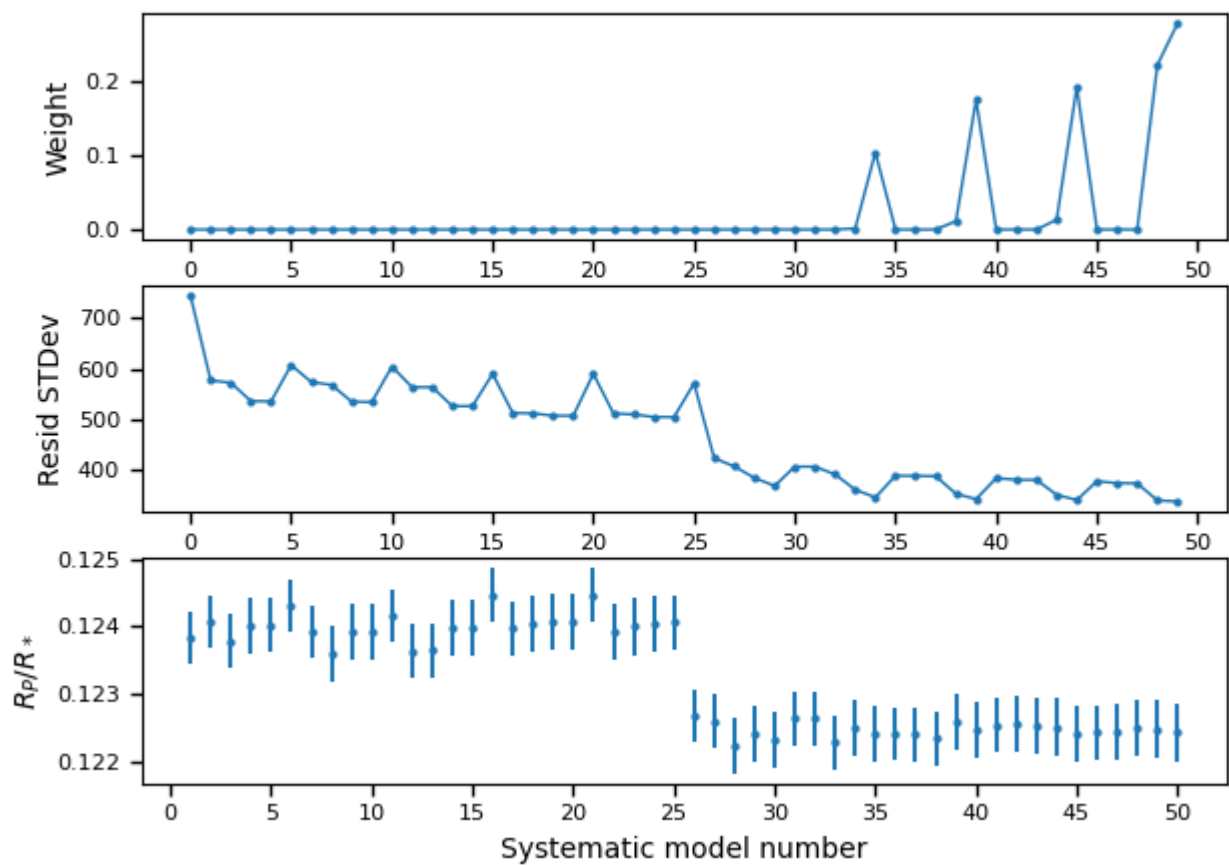
Inclination (deg) = None \pm None

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

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

Systematics

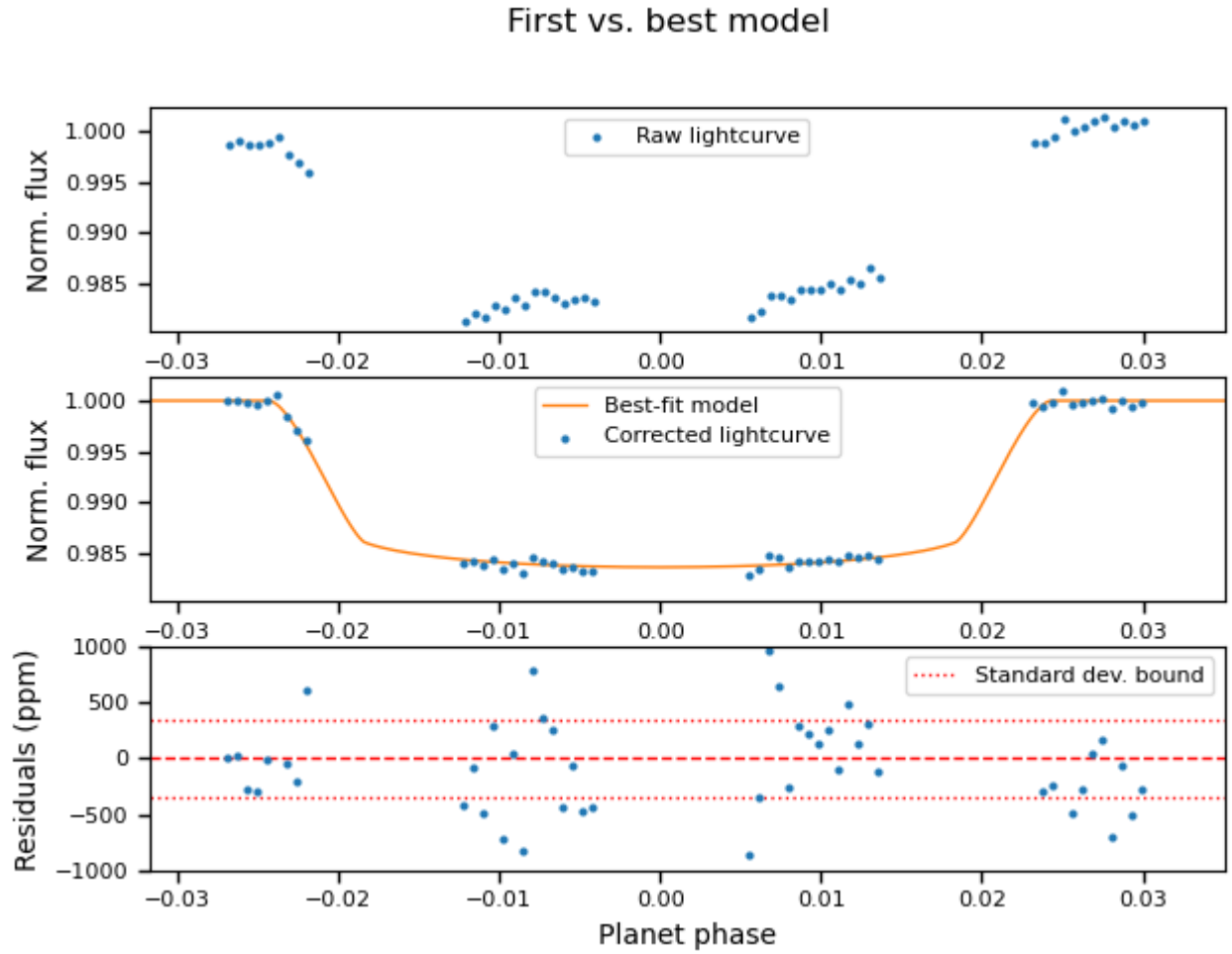
Marginalisation results



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.