

Report page ExoTIC-ISM

W17_G102_lc_8782.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 8804.112784652183
Wavelength half width = 83.21121211381251

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:

$C1 = 0.8595413419669052$
 $C2 = -0.7435883682042026$
 $C3 = 0.7057451550116162$
 $C4 = -0.2525155849310215$

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 = [15 18 20 40 16]
DOF = [43. 40. 42. 42. 42.]
Chi-squared = [65.50069099 63.22981202 65.37239986 65.43923542 65.49892416]
AIC evidence = [301.06582839 300.70126787 300.62997395 300.59655617 300.5667118]
Weights = [0.08734880615540216 0.060663903762237535 0.0564895086356102
0.054632948442351795 0.05302655280983206]
SDNR = [339.00178996 333.13998703 338.65353859 338.86528497 339.00120321]

Top model Noise Statistics:

White noise = 0.0004440544532133912

Red noise = 0.00018810056782521357

Beta = 1.687381722270104

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.

$R_p/R^* = 0.12137699303613078 \pm 0.0005080834187927745$

Epoch (MJD) = 58021.4807238323 $\pm 0.00048509364012890434$

Inclination (rad) = None \pm None

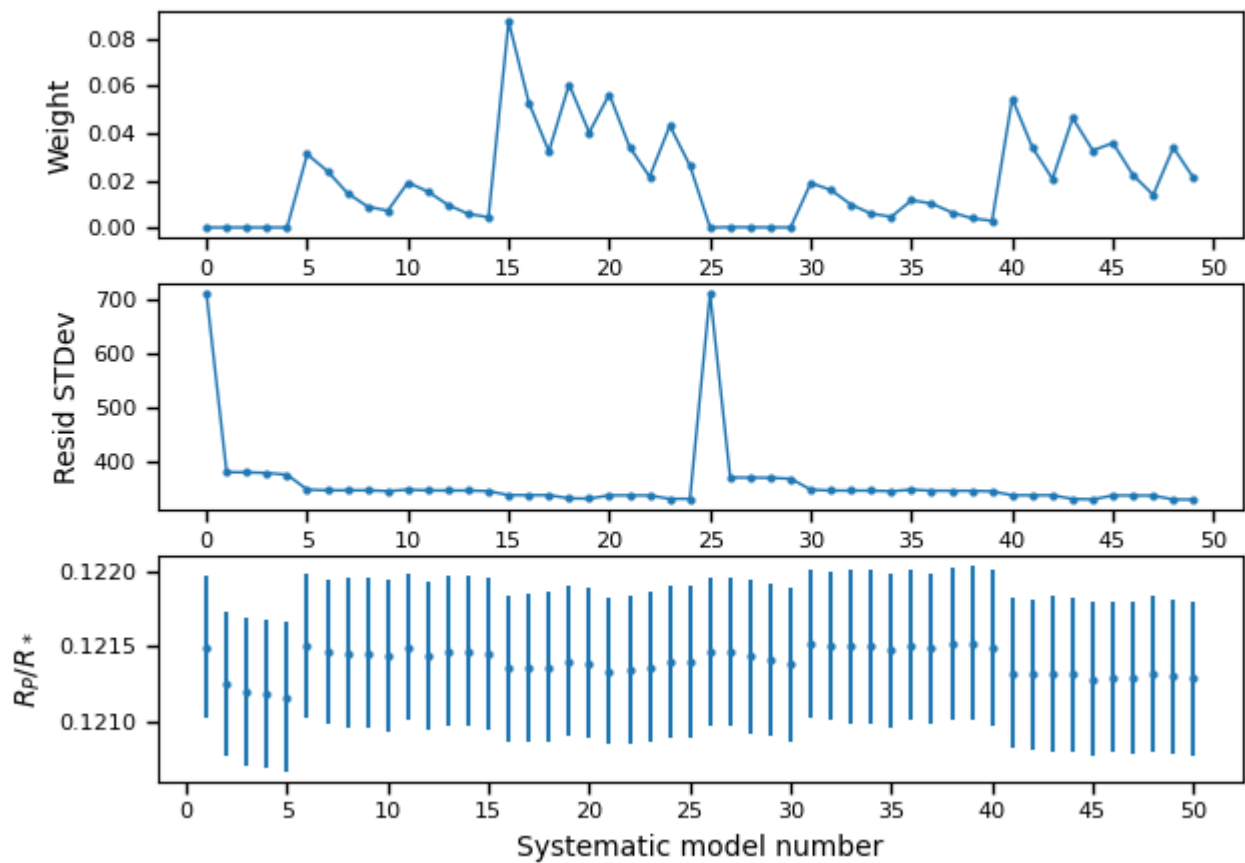
Inclination (deg) = None \pm None

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

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

Systematics

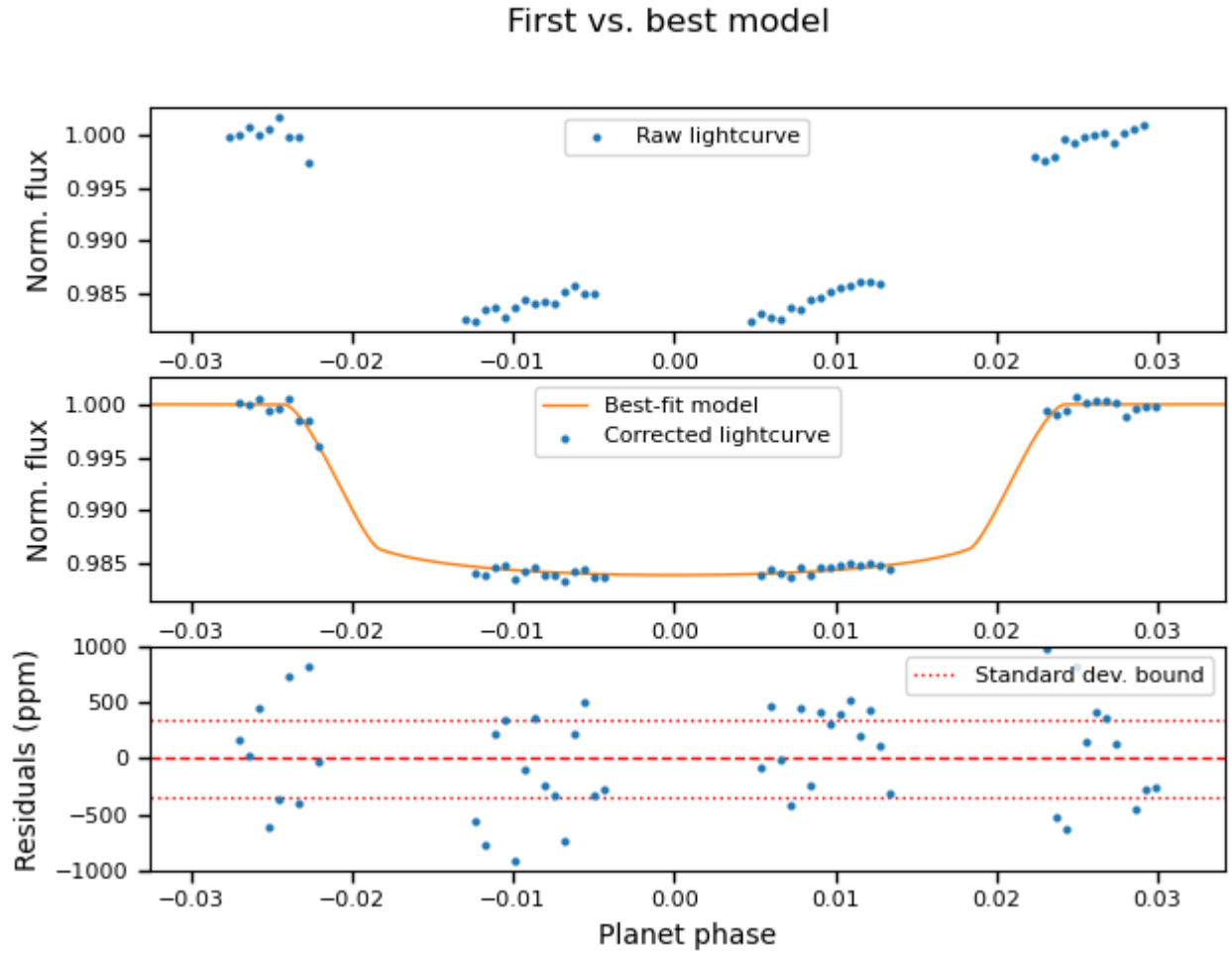
Marginalisation results



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.