

Report page ExoTIC-ISM

W17_G141_lc_11783.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 11834.173047839526
Wavelength half width = 45.40313482374586

Planet parameters:

$R_p/R^* = 0.12169232$
Epoch (MJD) = 57957.97108811848
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:

$C1 = 0.867331359864959$
 $C2 = -0.87737805080071$
 $C3 = 0.8179675965669898$
 $C4 = -0.29202934524453616$

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 = [32 37 33 42 38]
DOF = [42. 41. 41. 40. 40.]
Chi-squared = [43.79038304 43.00584059 43.79127959 43.00476762 43.00759745]
AIC evidence = [313.351845 313.24411623 312.85139673 312.74465271 312.7432378]
Weights = [0.11014167975498353 0.0988930302634713 0.06677436592834038
0.060013842587341146 0.05992898826670185]
SDNR = [265.97018895 263.65119393 265.9686857 263.65845361 263.6506648]

Top model Noise Statistics:

White noise = 0.0003734482404548423

Red noise = 4.6741637822903785e-05

Beta = 1.0887183030039413

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.

$R_p/R^* = 0.12228914116269742 \pm 0.0005419522214229294$

Epoch (MJD) = 57957.97115320487 $\pm 0.0005093323810739757$

Inclination (rad) = None \pm None

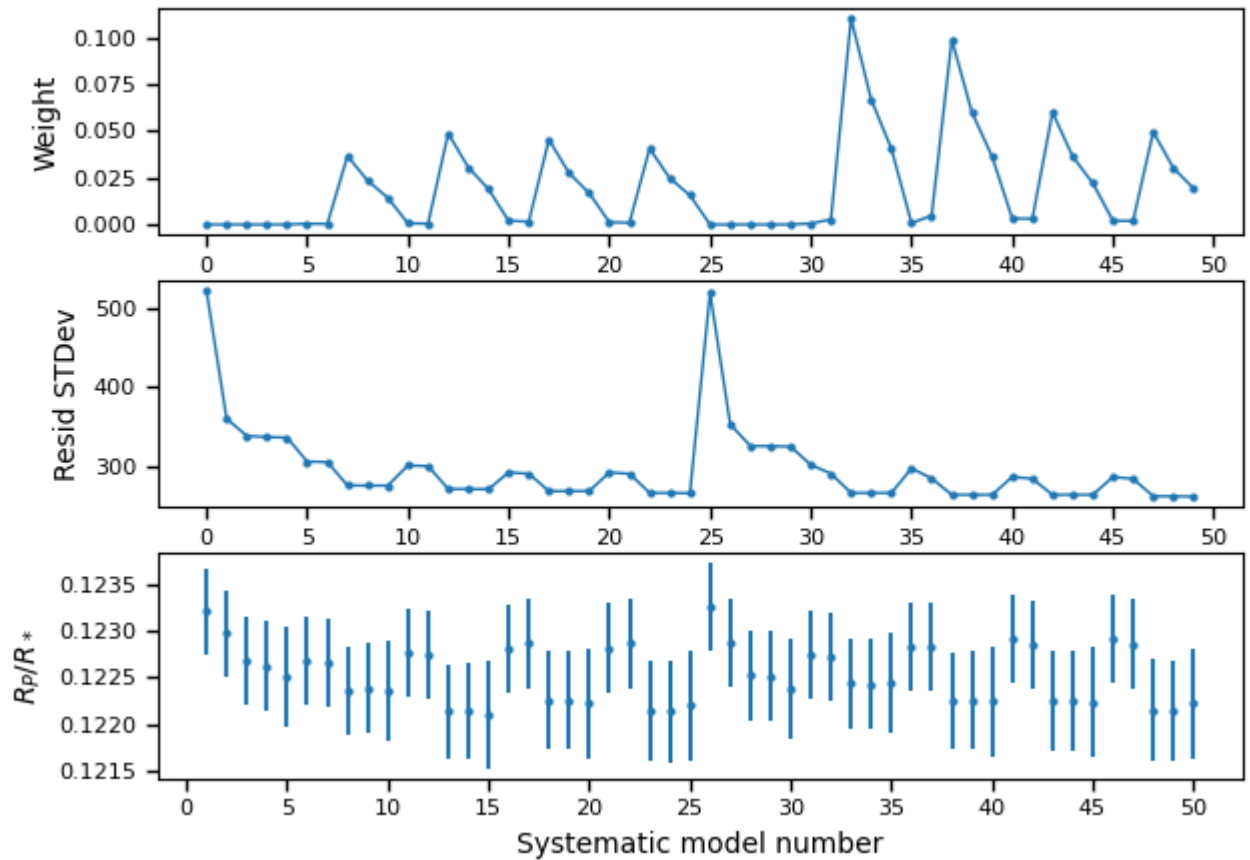
Inclination (deg) = None \pm None

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

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

Systematics

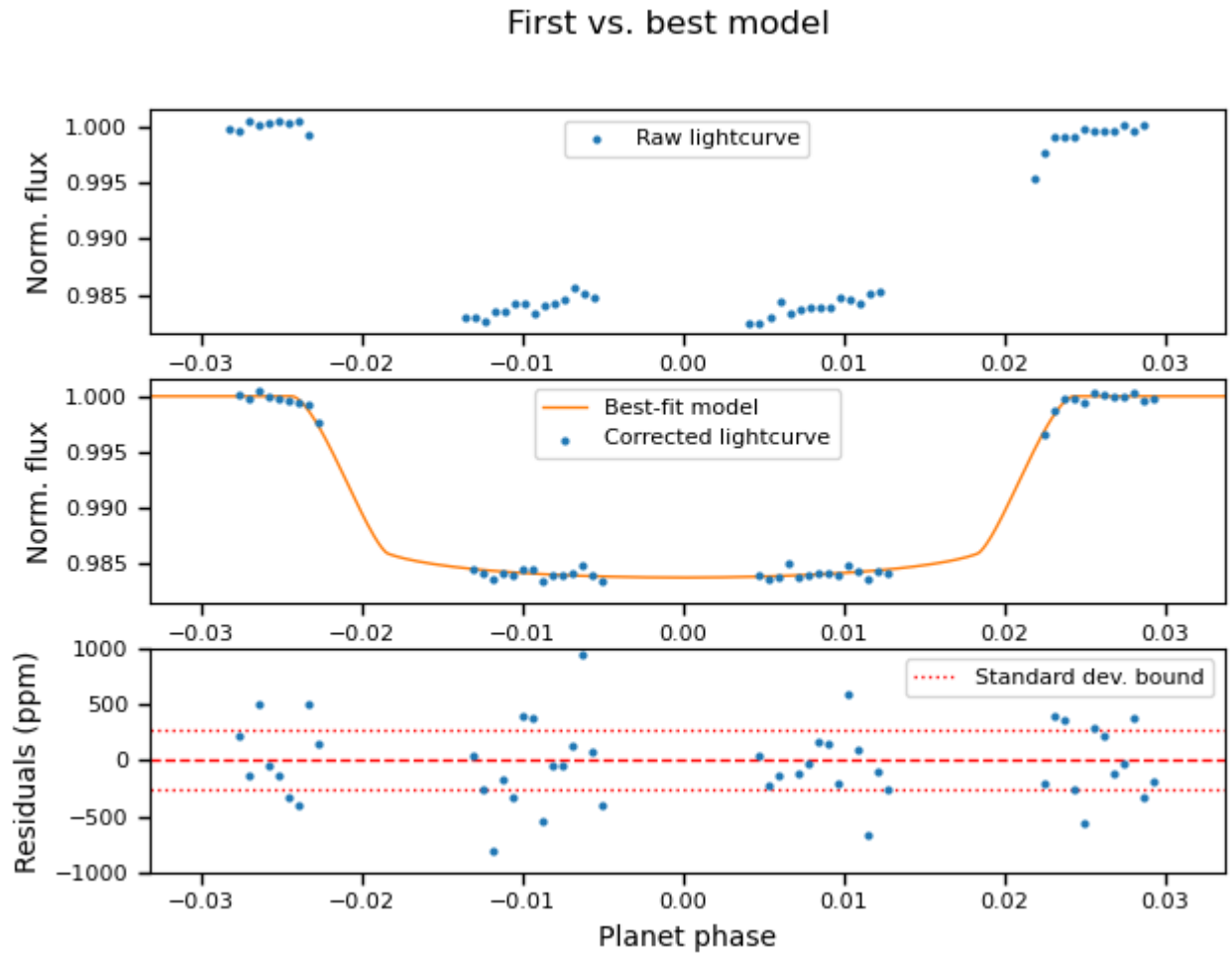
Marginalisation results



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.