

Report page ExoTIC-ISM

W17_G141_lc_14887.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 14921.58621585424
Wavelength half width = 45.40313482374495

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:

$C1 = 1.0601108365295937$
 $C2 = -1.304014777064255$
 $C3 = 1.118536903806828$
 $C4 = -0.37778847738627064$

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 = [34 39 44 49 48]
DOF = [40. 39. 38. 37. 38.]
Chi-squared = [49.70579037 49.7044173 49.46453882 48.58335062 50.51292288]
AIC evidence = [306.20401199 305.70469853 305.32463777 305.26523187 304.80044574]
Weights = [0.24369180184739714 0.14790805865354342 0.10114246805067037
0.09530899544904475 0.05987973104915381]
SDNR = [303.31580914 303.31301107 302.61642541 299.86448383 305.65789275]

Top model Noise Statistics:

White noise = 0.00041642351692799956

Red noise = 0.00010720465260767737

Beta = 1.3226724241925285

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.

$R_p/R^* = 0.12373192969993865 \pm 0.0006638306167360392$

Epoch (MJD) = 57957.971098699265 \pm 0.0005940254500634474

Inclination (rad) = None \pm None

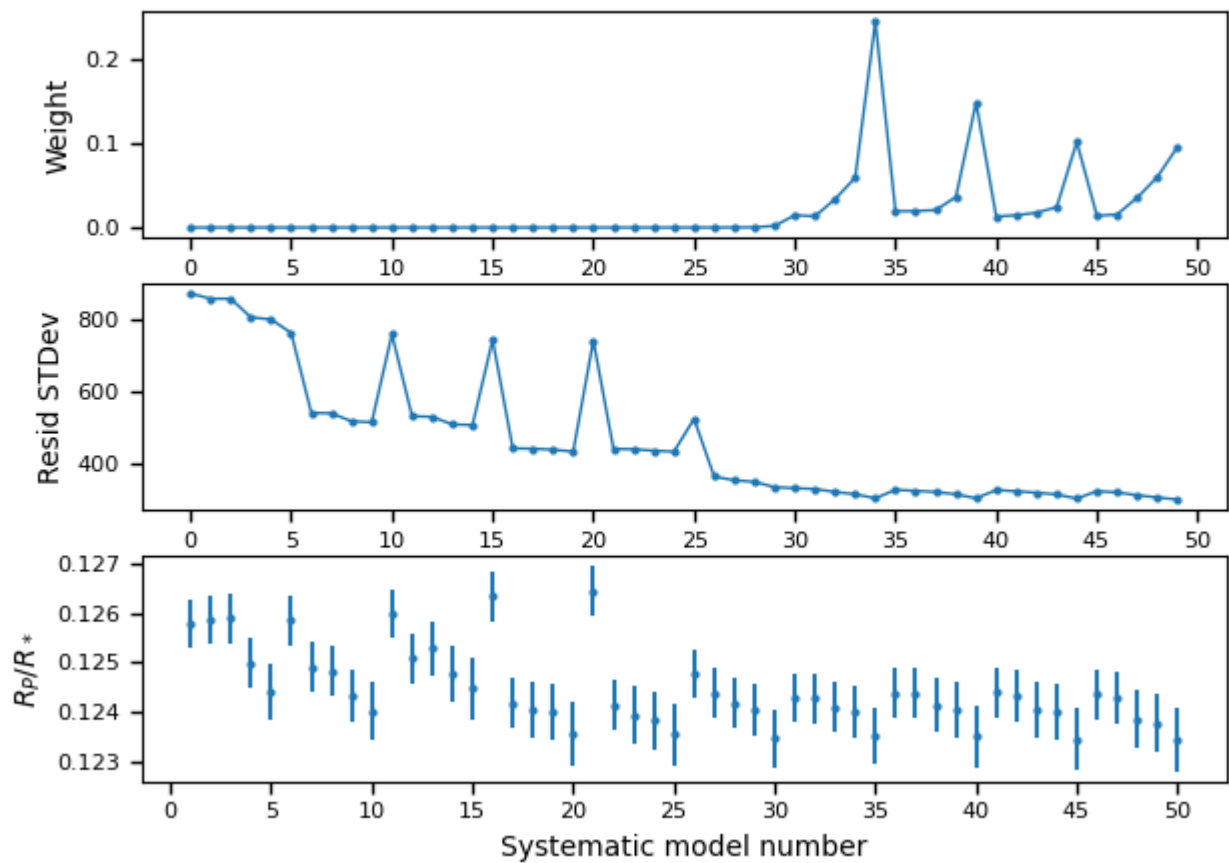
Inclination (deg) = None \pm None

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

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

Systematics

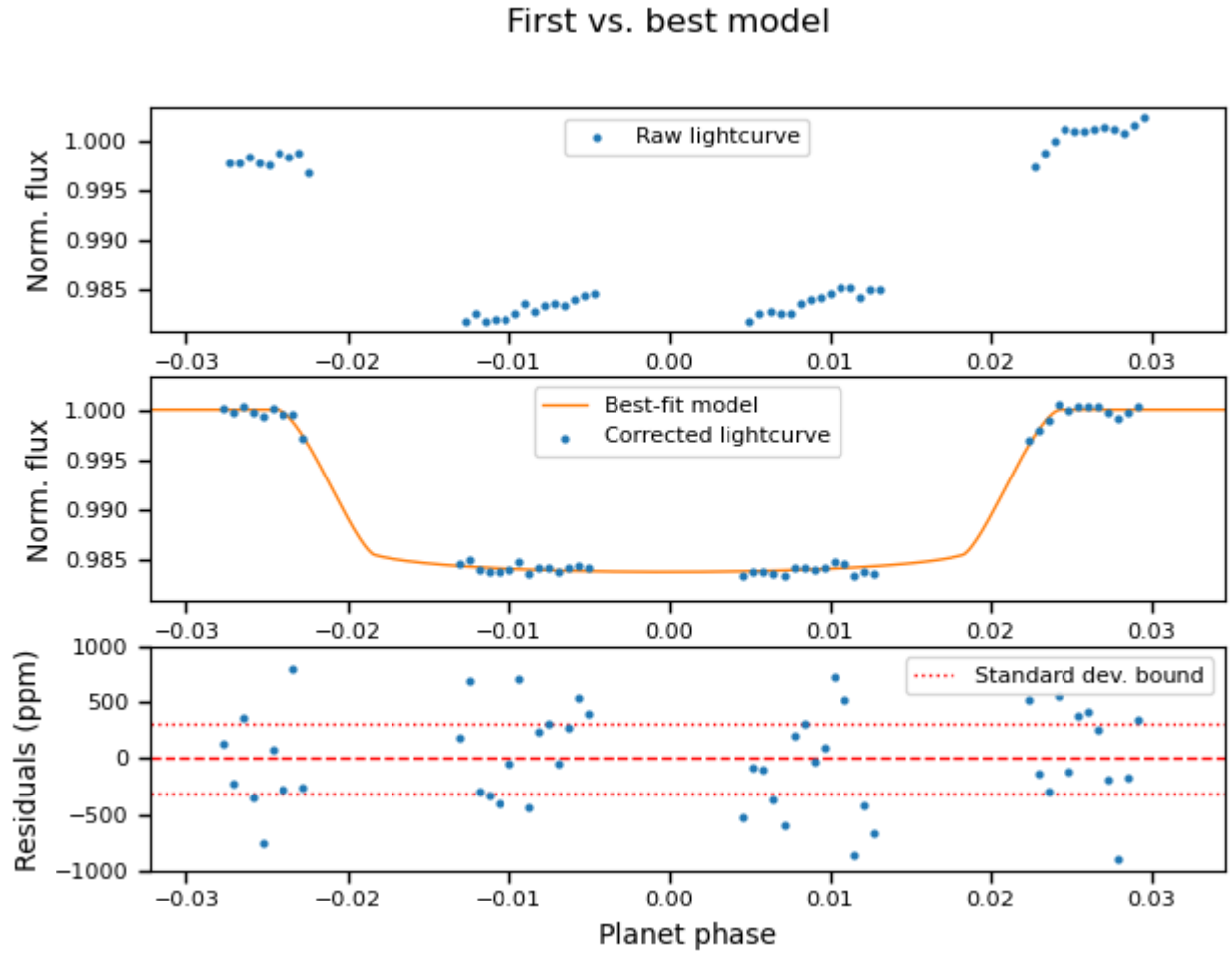
Marginalisation results



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.