

Report page ExoTIC-ISM

W17_G141_lc_14499.txt - 14499

Input parameters:

Number of systematic models: 50
Wavelength mid point = 14512.958002440528
Wavelength half width = 90.80626964749172

Planet parameters:

$R_p/R^* = 0.1255$
Epoch (MJD) = 57957.97108811848
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:

$C1 = 1.006432514464208$
 $C2 = -1.169322624902294$
 $C3 = 1.004445877537824$
 $C4 = -0.34373089310123645$

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 = [35 37 36 40 45]
DOF = [48. 46. 47. 47. 46.]
Chi-squared = [69.71788963 68.02915346 69.70000643 69.72337431 68.72764274]
AIC evidence = [333.69264591 333.537014 333.20158751 333.18990357 333.18776935]
Weights = [0.12067196983373624 0.10328002130254522 0.07384863089560584
0.07299080915950164 0.07283519689240045]
SDNR = [331.1523991 327.10988452 331.13884743 331.16596703 328.78527524]

Top model Noise Statistics:

White noise = 0.00045654846540822827

Red noise = 0.00010943526104143411

Beta = 1.24340071751433

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.

$R_p/R^* = 0.1230774808627203 \pm 0.0004925070039772529$

Epoch (MJD) = 57957.9698475636 $\pm 0.0005147242655348953$

Inclination (rad) = None \pm None

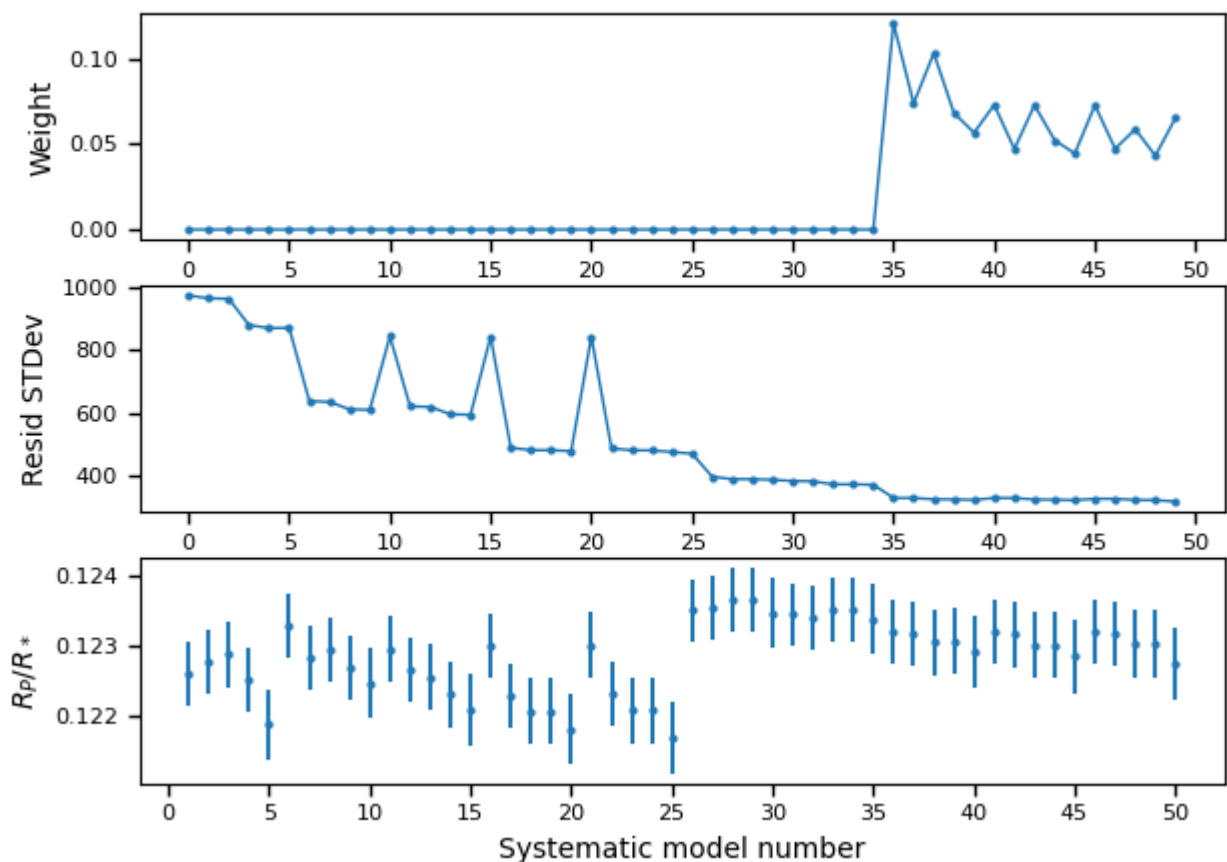
Inclination (deg) = None \pm None

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

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

Systematics

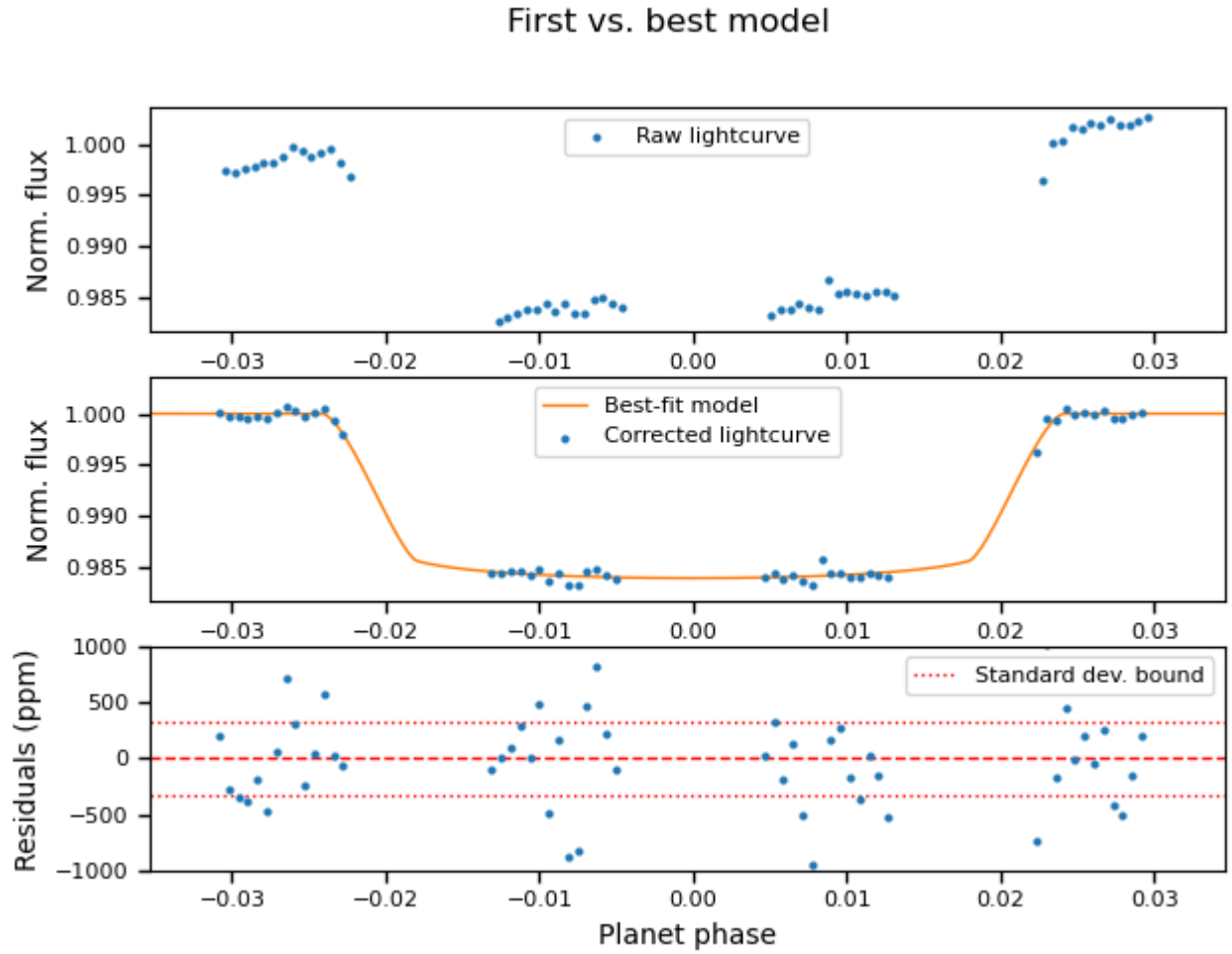
Marginalisation results



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.