Report page ExoTIC-ISM

W17_G141_lc_11977.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 12015.78558713451
Wavelength half width = 45.40313482374586

Planet parameters:

Rp/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 = 0.8604676476155692
C2 = -0.8461228618273645
C3 = 0.7696388011437678
C4 = -0.26803176665752776

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 = [7 12 17 32 8]
DOF = [43. 42. 41. 42. 42.]
Chi-squared = [63.87760387 63.20766868 62.5177707 63.82756393 63.85038843]
AIC evidence = [304.45531314 304.29028073 304.13522973 303.98033311 303.96892086]
Weights = [0.0838441590527151 0.07108863079278498 0.06087827696602624
0.05214247074542035 0.05155079047443177]
SDNR = [317.05473134 315.44376616 313.77994056 316.9296208 316.97619216]

Top model Noise Statistics:

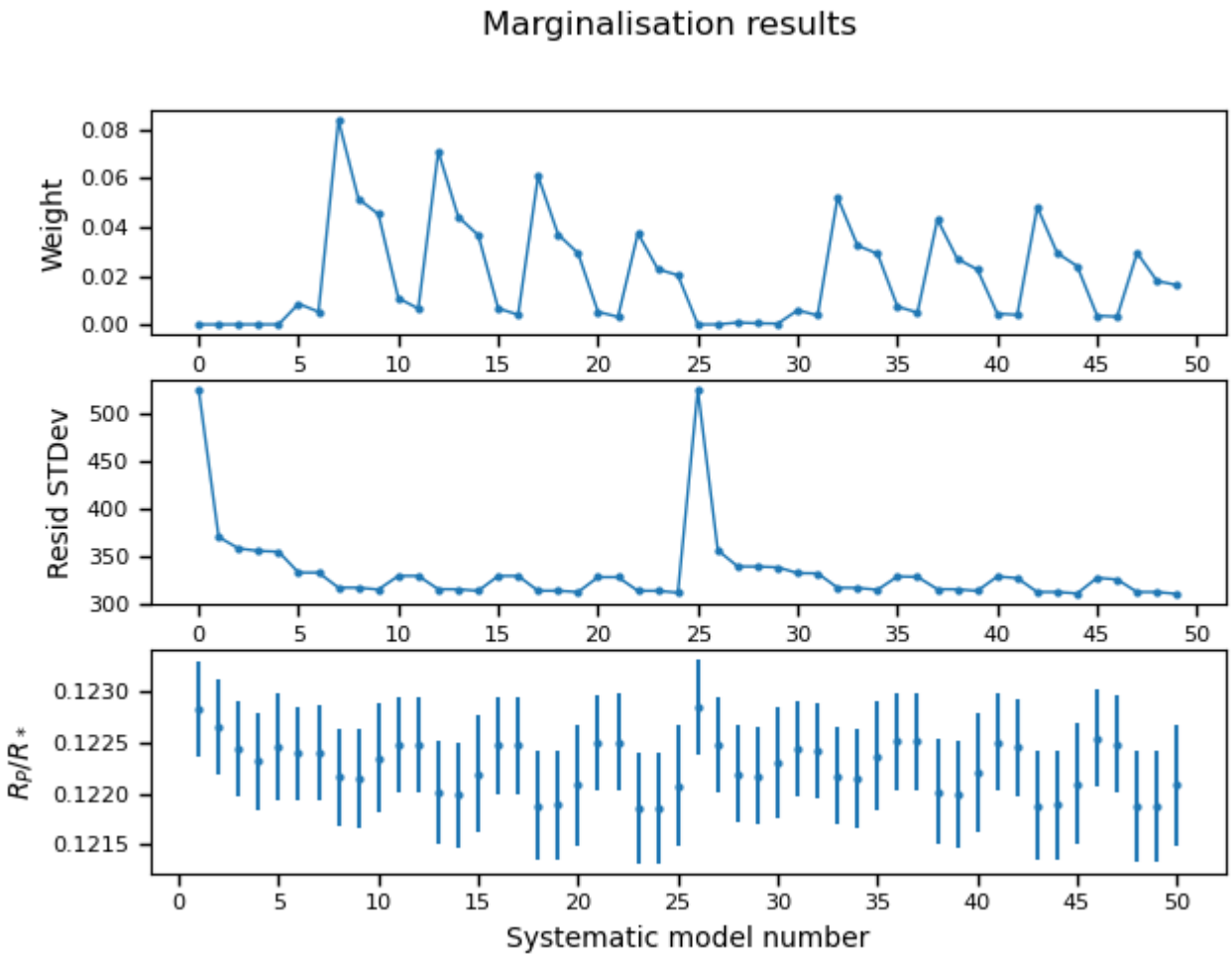
White noise = 0.00044822919749675833
Red noise = 1.2229574042143829e-05
Beta = 1.0044535803240493
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12208655593051043 +/- 0.000550770295997416
Epoch (MJD) = 57957.97047825969 +/- 0.0004753404095854426
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

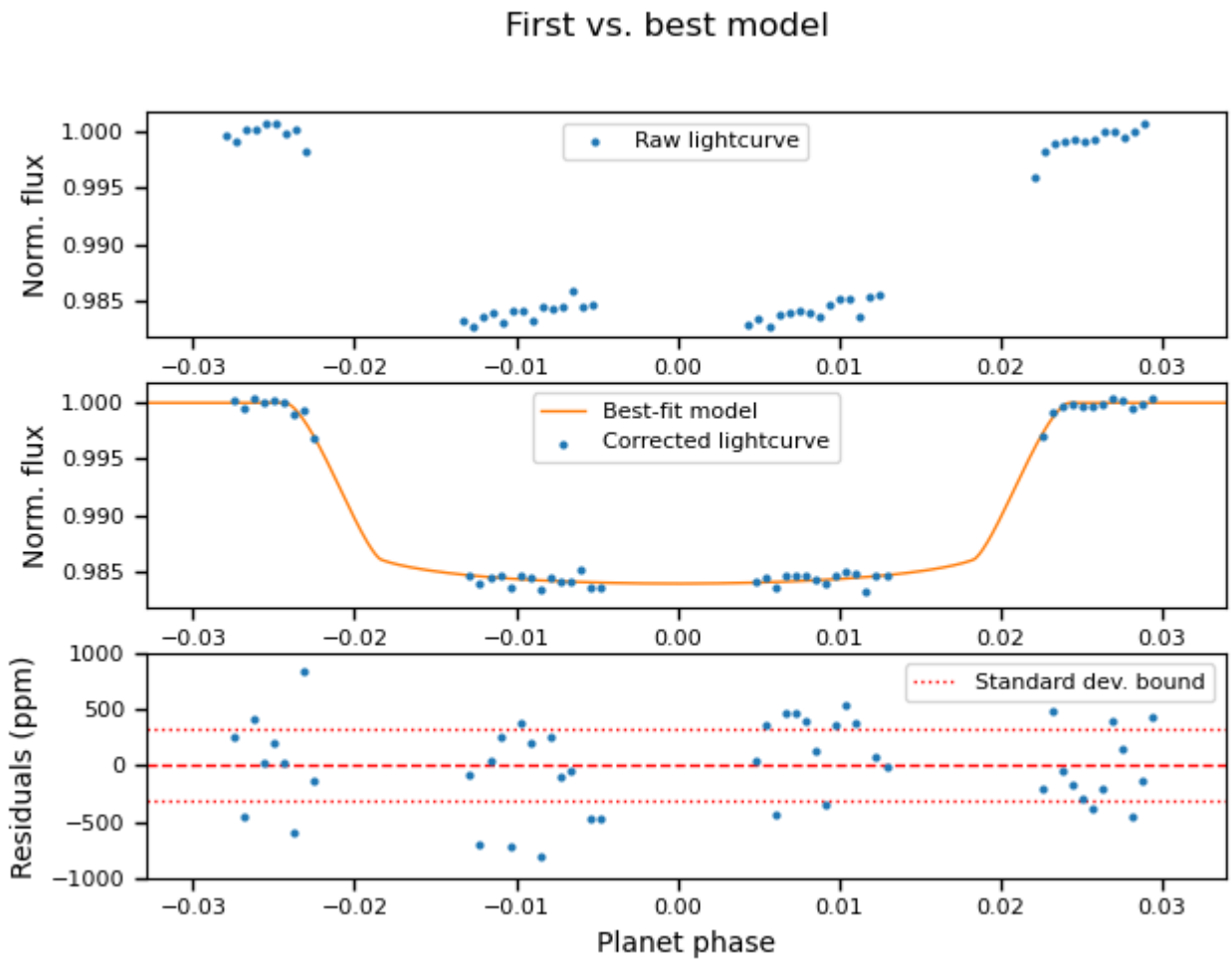
Systematics



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.