Report page ExoTIC-ISM

W17_G141_lc_15275.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 15330.214429267951
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 = 1.1144021133340853
C2 = -1.4326955758939988
C3 = 1.2274969758158834
C4 = -0.41097959736252027

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 = [49 44 45 47 48]
DOF = [37. 38. 41. 39. 38.]
Chi-squared = [46.90424847 48.21307724 51.8348689 50.34697626 49.49690335]
AIC evidence = [304.78001303 304.62559864 304.31470281 304.05864913 303.98368559]
Weights = [0.21599737624995366 0.18509179233269374 0.13563345276336983 0.10499391172783096 0.09741096891551196]
SDNR = [301.79410795 306.04187479 317.36517892 312.78111088 310.0400604]

Top model Noise Statistics:

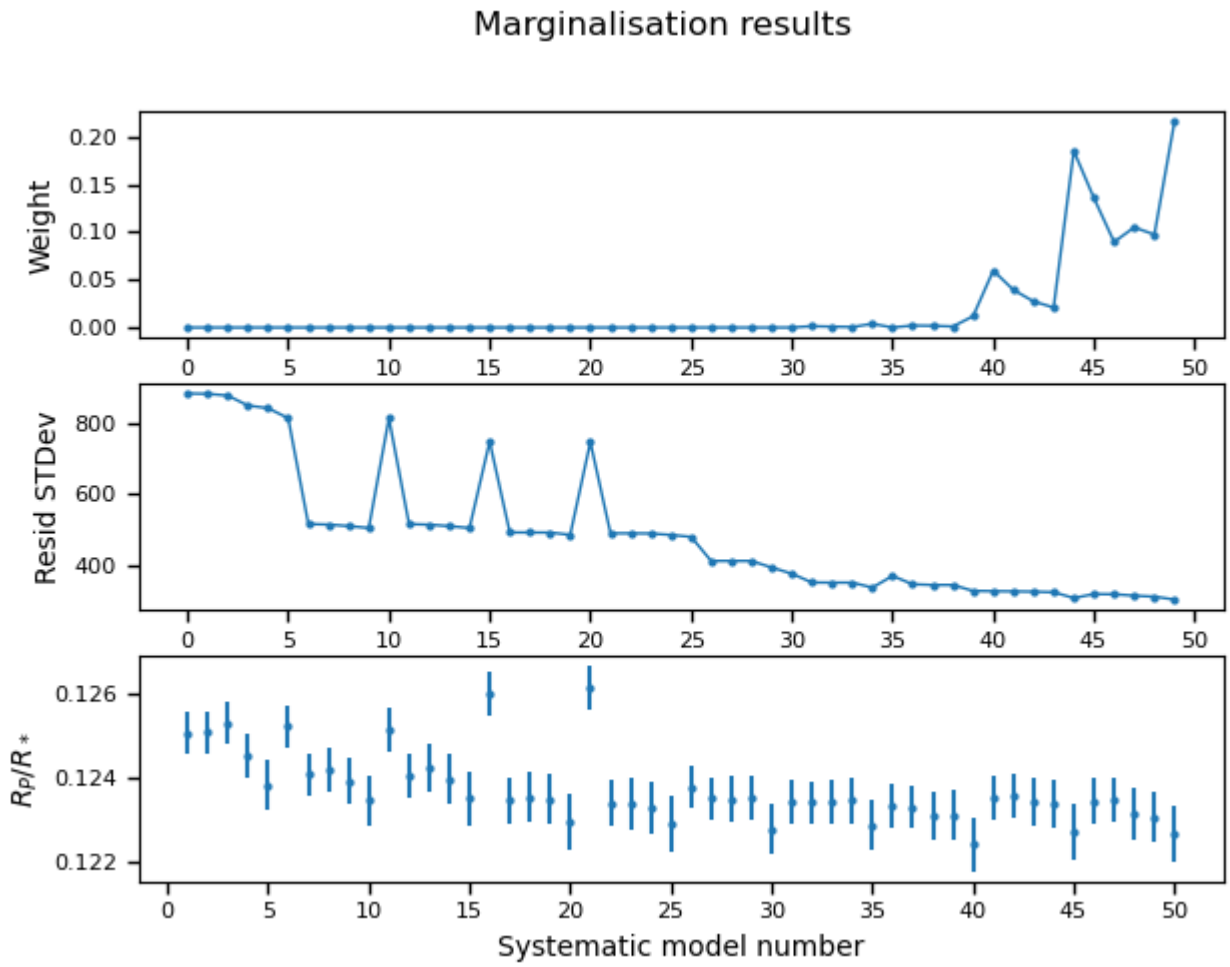
White noise = 0.0
Red noise = 0.0
Beta = 1.0
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12307380438485946 +/- 0.0007052813901971002
Epoch (MJD) = 57957.970189593165 +/- 0.0005472031035197431
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

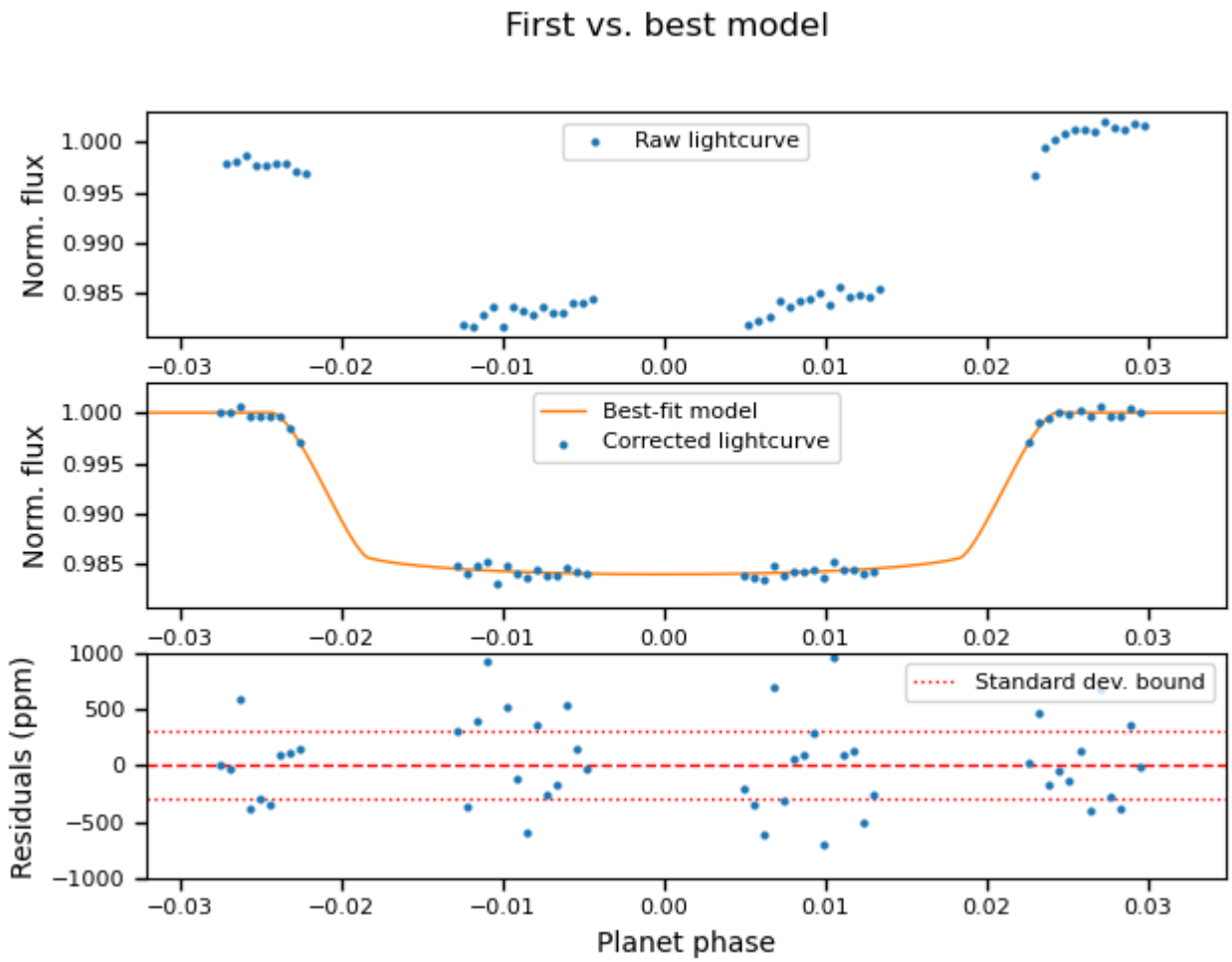
Systematics



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.