Report page ExoTIC-ISM

W17_G141_lc_15275.txt - 15275

Input parameters:

Number of systematic models: 50
Wavelength mid point = 15284.811294444205
Wavelength half width = 90.80626964749172

Planet parameters:

Rp/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 = 1.1077186985014302
C2 = -1.4165533410885318
C3 = 1.2154694272408872
C4 = -0.40831593100780217

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 = [47 49 48 44 46]
DOF = [44. 42. 43. 43. 45.]
Chi-squared = [49.48762171 47.70509434 48.74959488 49.81403998 52.62554656]
AIC evidence = [338.57576048 338.46702416 338.44477389 337.91255134 337.50679805]
Weights = [0.22003883319978185 0.19736755084544935 0.1930245646787143 0.11336298310425026 0.0755535457627082]
SDNR = [295.89217509 290.39093616 293.56924896 296.80370767 305.13028456]

Top model Noise Statistics:

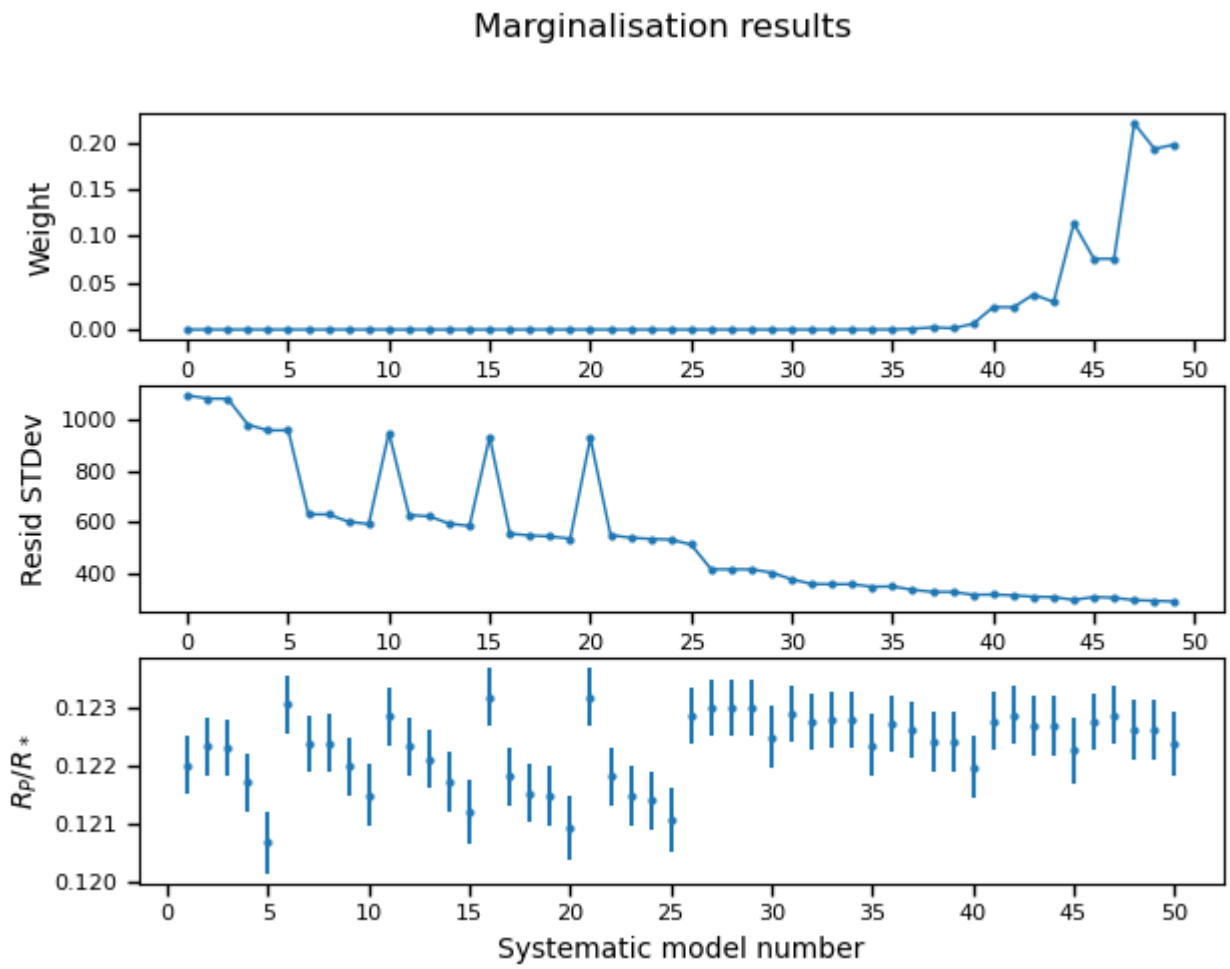
White noise = 0.0
Red noise = 0.0
Beta = 1.0
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12256967254820572 +/- 0.0005574356816576789
Epoch (MJD) = 57957.96871296354 +/- 0.0005851882339515766
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

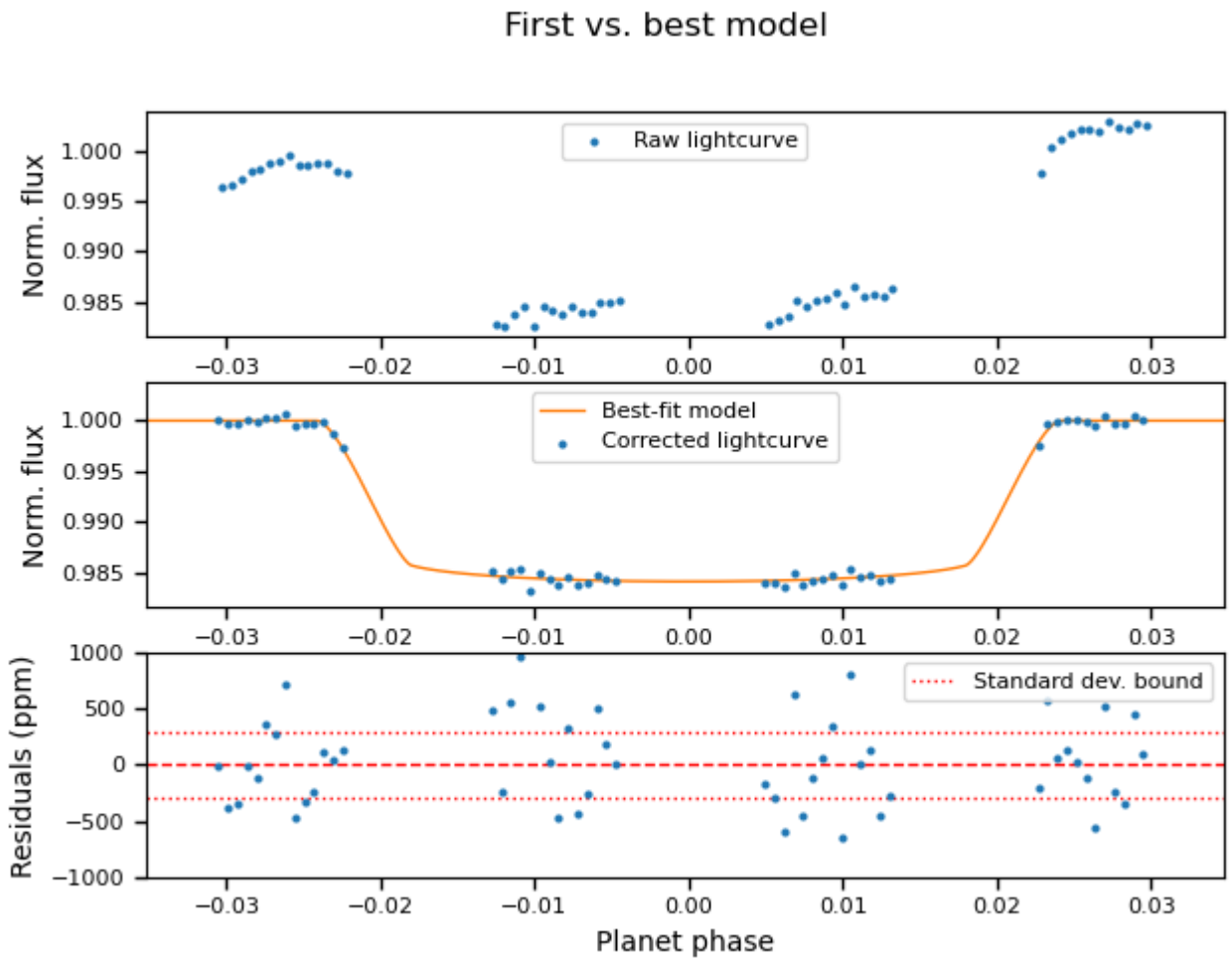
Systematics



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.