Report page ExoTIC-ISM

W17_G141_lc_13723.txt - 13723

Input parameters:

Number of systematic models: 50
Wavelength mid point = 13718.403143024978
Wavelength half width = 113.50783705936465

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 = 0.9418733700450089
C2 = -1.0117135454352204
C3 = 0.866426177772887
C4 = -0.29417282219756974

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 = [39 37 38 44 42]
DOF = [44. 46. 45. 43. 45.]
Chi-squared = [78.66551466 80.87594455 80.54621623 78.64014808 80.87271602]
AIC evidence = [334.01428166 333.90906671 333.57393087 333.52696495 333.41068098]
Weights = [0.182159505148785 0.16396742190961358 0.11727620979659652 0.11189556699849952 0.09961193886841277]
SDNR = [310.40135877 314.79207477 314.12563797 310.32056396 314.77034214]

Top model Noise Statistics:

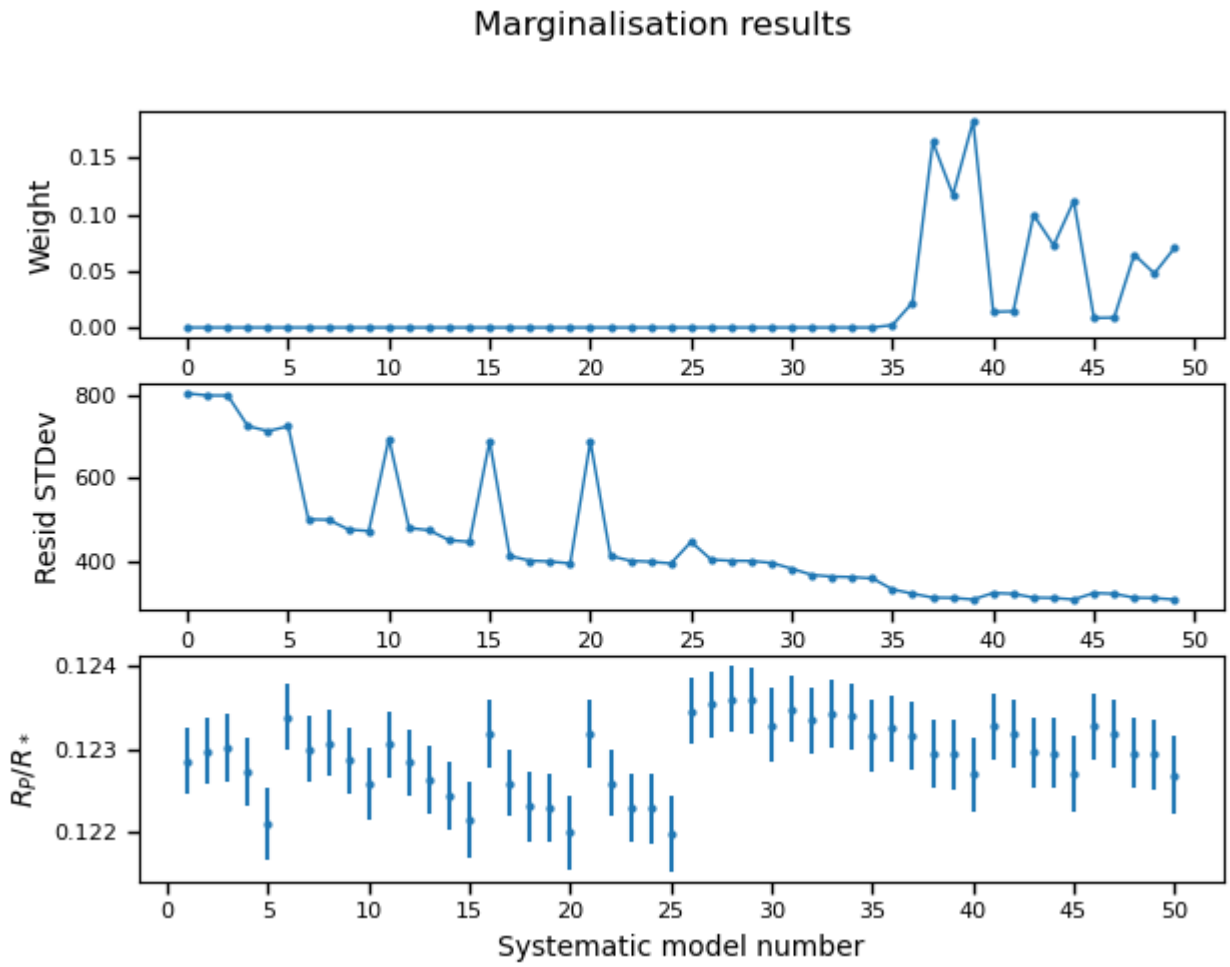
White noise = 0.0
Red noise = 0.0
Beta = 1.0
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.1228773684944942 +/- 0.0004562214254637073
Epoch (MJD) = 57957.96932536358 +/- 0.0004865715690357068
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

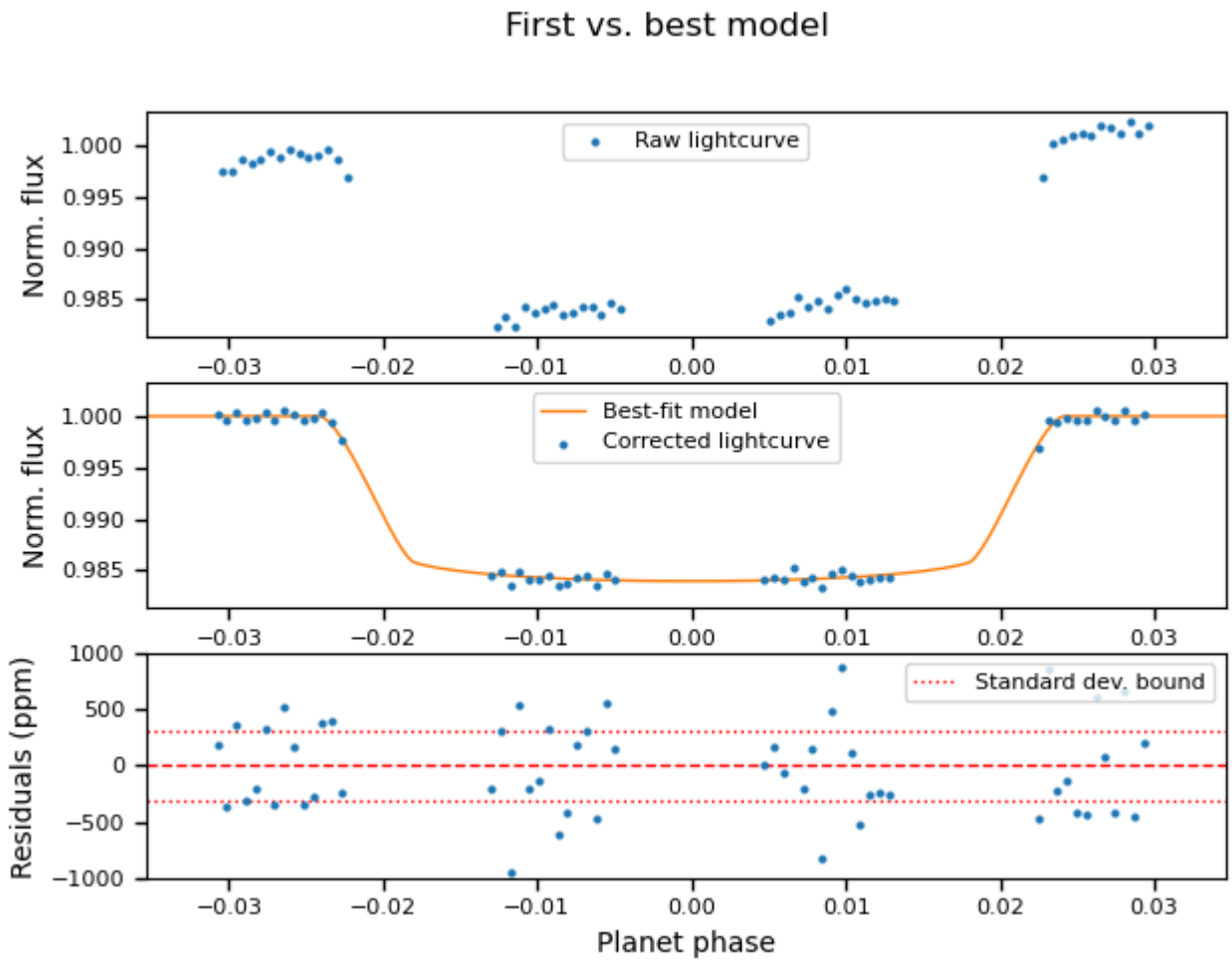
Systematics



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.