Report page ExoTIC-ISM

W17_G141_lc_14305.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 14354.047030557416
Wavelength half width = 68.10470223561879

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 = 0.9879766220030892
C2 = -1.1179590821132988
C3 = 0.9434637628958654
C4 = -0.3145179309873611

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 48 49 45 39]
DOF = [39. 38. 37. 41. 39.]
Chi-squared = [58.61217041 58.5846609 58.17621778 64.05145816 62.30510625]
AIC evidence = [307.97468678 307.48844154 307.1926631 306.25504291 306.12821887]
Weights = [0.32092398284033546 0.1973460997592692 0.14681607296893126 0.057487090400128484 0.05063972591844714]
SDNR = [286.9507181 286.83991861 285.88223274 299.99999181 296.1386904]

Top model Noise Statistics:

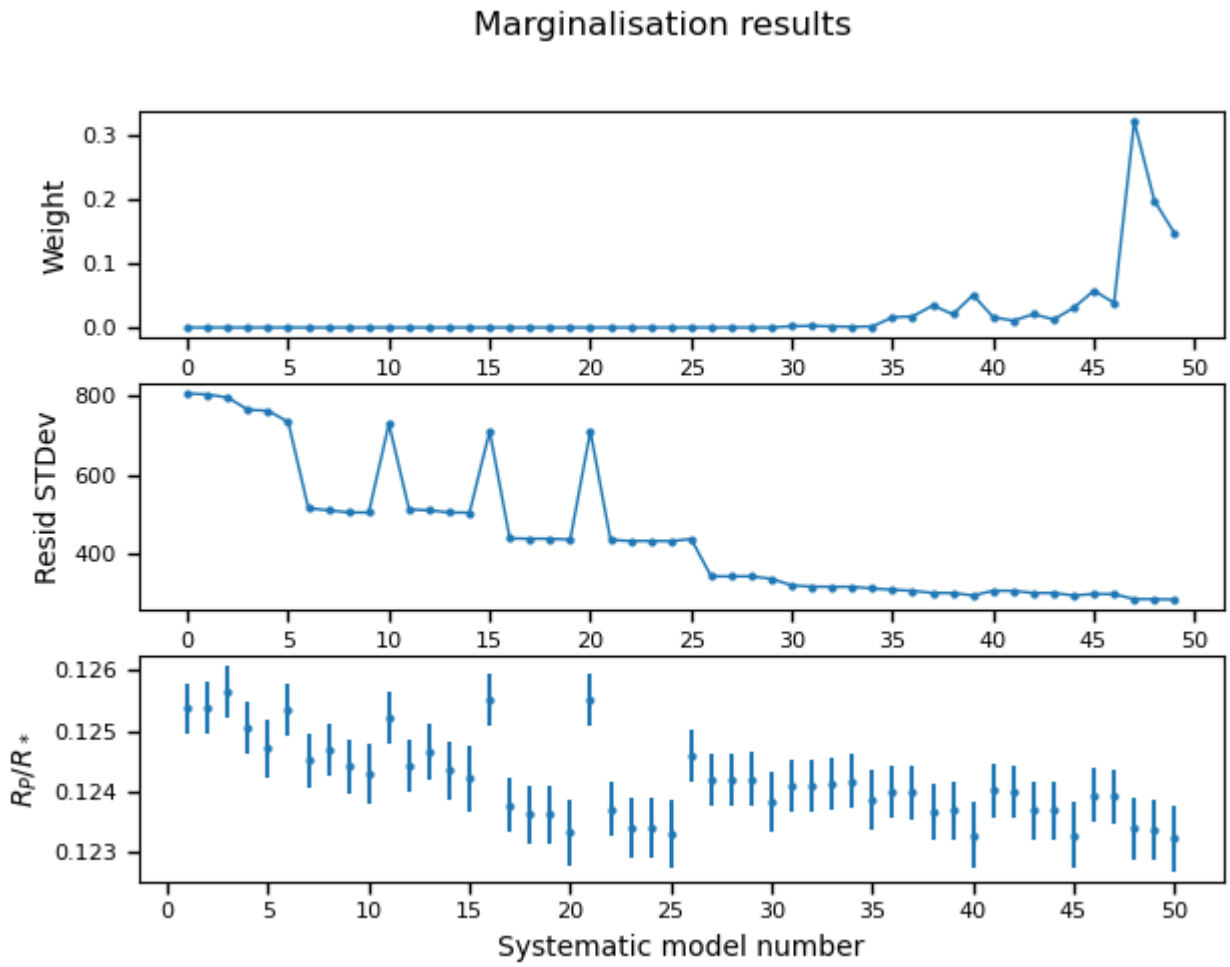
White noise = 0.00039737806044868495
Red noise = 8.64397283407071e-05
Beta = 1.2425956459246874
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.1234567456590698 +/- 0.0005609768131288024
Epoch (MJD) = 57957.97165773452 +/- 0.000488349849895827
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

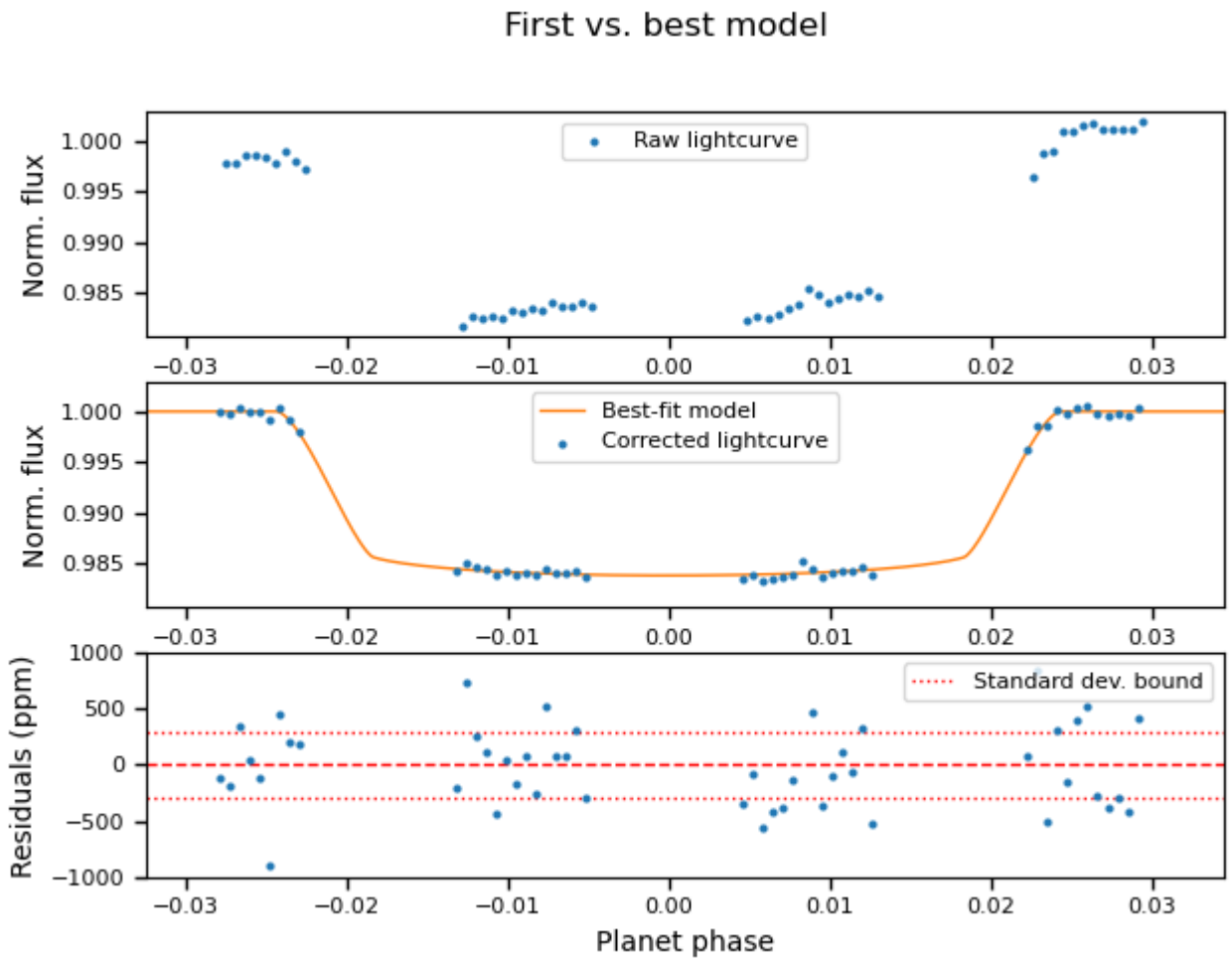
Systematics



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.