Report page ExoTIC-ISM

W17_G141_lc_13141.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 13196.2670925519
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 = 0.9169979847364985
C2 = -0.9530259908707343
C3 = 0.825715854062086
C4 = -0.28116239545779853

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 = [37 38 32 33 48]
DOF = [41. 40. 42. 41. 38.]
Chi-squared = [48.99048658 48.15794371 50.28083966 49.46949631 46.71924064]
AIC evidence = [311.43592497 311.35219641 311.29074843 311.19642011 311.07154794]
Weights = [0.11718146477619269 0.10776954975203139 0.10134668610409338 0.09222385709122777 0.0813976726927065]
SDNR = [274.73130742 272.35939995 278.30676808 276.03299785 268.19723449]

Top model Noise Statistics:

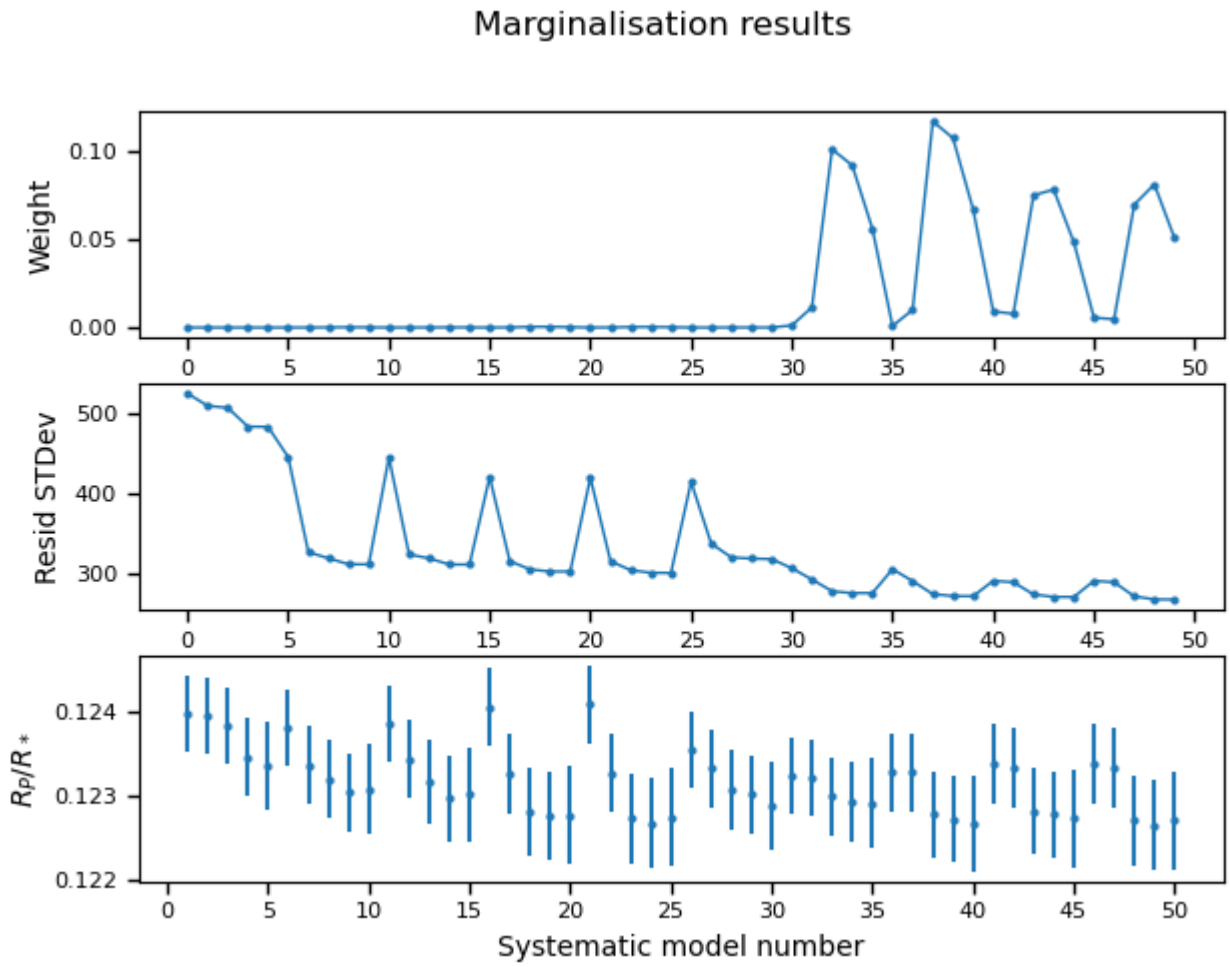
White noise = 0.00037483886536271785
Red noise = 0.00010640148460793356
Beta = 1.3783957101385538
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12282278933476307 +/- 0.0005402115110058626
Epoch (MJD) = 57957.970942404085 +/- 0.0005026446175983525
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

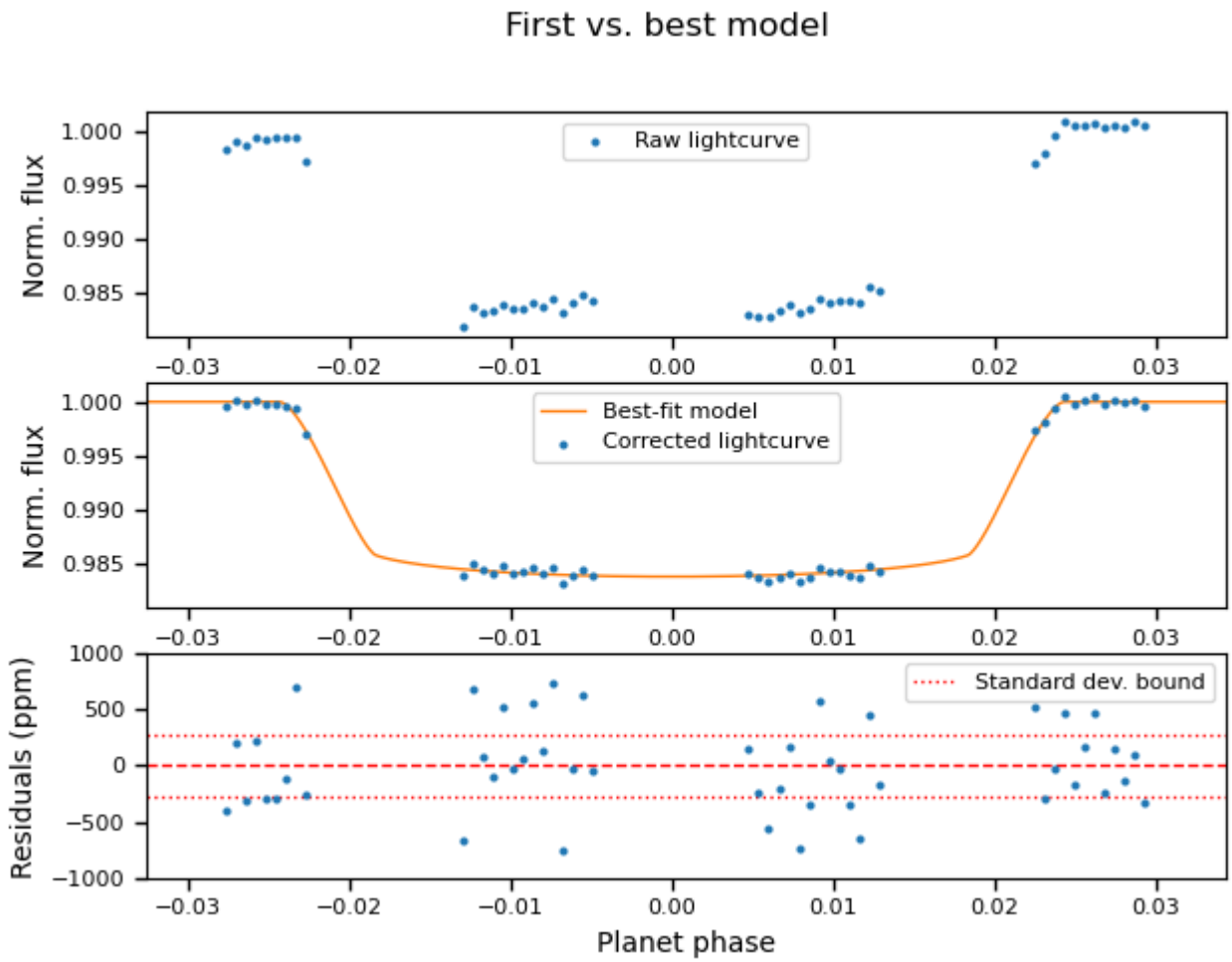
Systematics



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.