Report page ExoTIC-ISM

W17_G141_lc_14111.txt - 14111

Input parameters:

Number of systematic models: 50
Wavelength mid point = 14104.329789026815
Wavelength half width = 90.80626964749081

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 = 0.9853254823565127
C2 = -1.1073762665538989
C3 = 0.9445874756286882
C4 = -0.31964169849231494

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 42 38 47 43]
DOF = [46. 45. 45. 44. 44.]
Chi-squared = [73.05578333 72.27551086 72.52356405 71.92522983 72.00283242]
AIC evidence = [332.03931356 331.92944979 331.8054232 331.60459031 331.56578901]
Weights = [0.16546346463186143 0.1482480142985502 0.1309558246760089 0.10712829766277483 0.10305119106971646]
SDNR = [332.38541914 330.72494784 331.13994983 329.92622466 330.05906908]

Top model Noise Statistics:

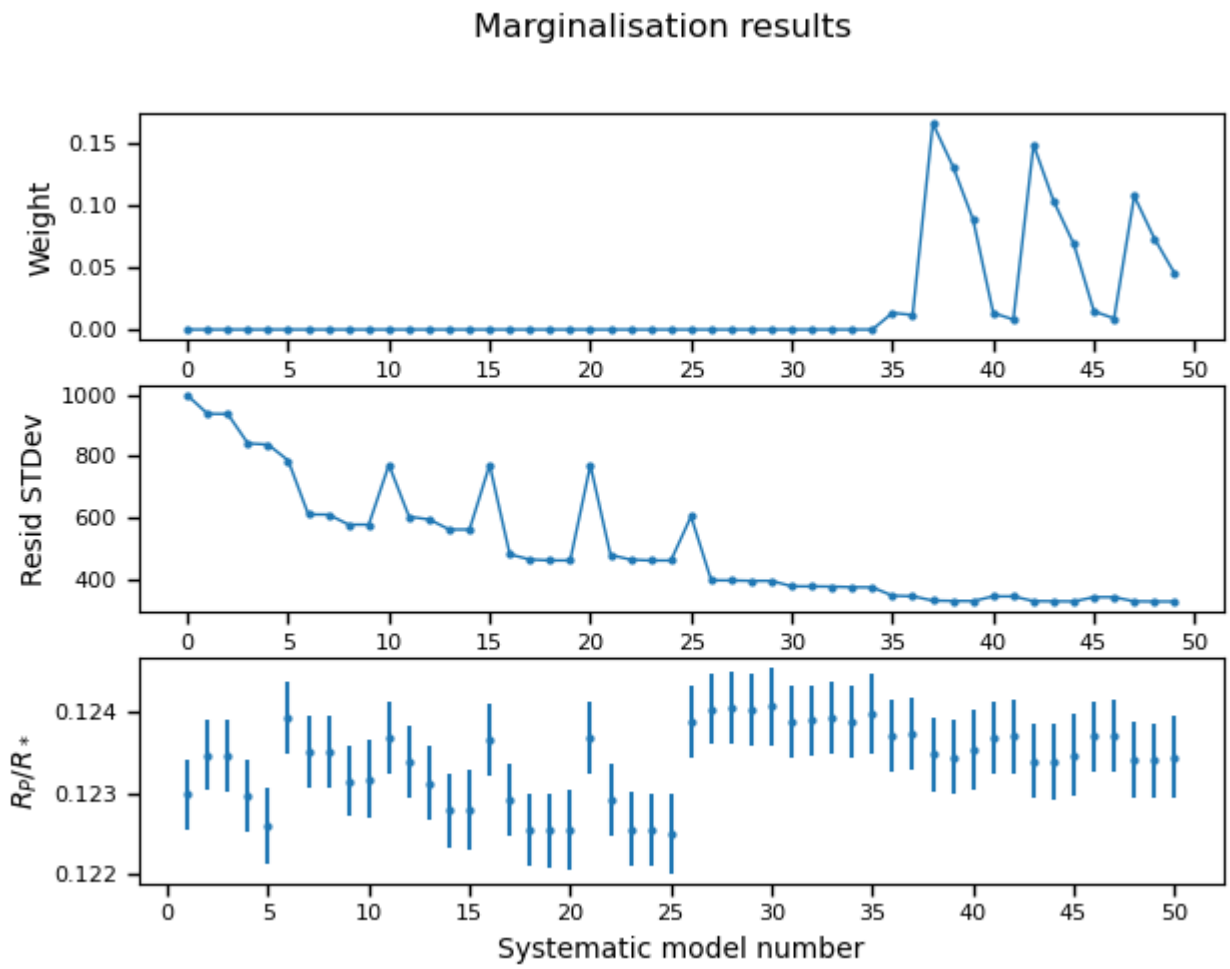
White noise = 0.0
Red noise = 0.0
Beta = 1.0
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.1234582116207748 +/- 0.0004786358136426598
Epoch (MJD) = 57957.96945133368 +/- 0.0005530362719612444
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

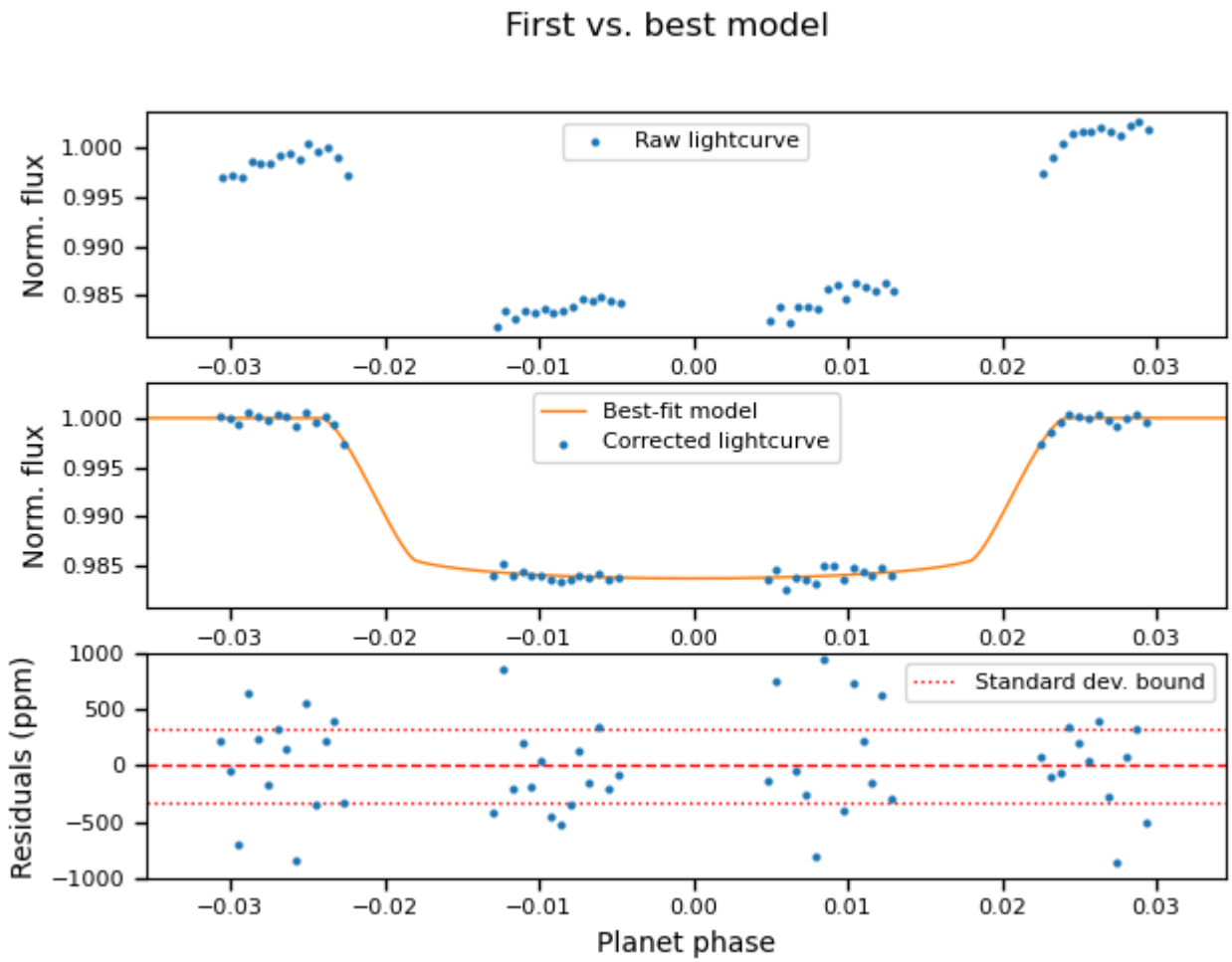
Systematics



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.