Report page ExoTIC-ISM

W17_G141_lc_12365.txt - 12365

Input parameters:

Number of systematic models: 50
Wavelength mid point = 12379.010665724476
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 = 0.8741911513598644
C2 = -0.8721973635388359
C3 = 0.7869484617245045
C4 = -0.27702125215282414

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 = [30 31 35 32 33]
DOF = [49. 48. 48. 47. 46.]
Chi-squared = [40.02164775 39.44265929 40.01053243 39.22338262 38.27324201]
AIC evidence = [352.14410137 351.9335956 351.64965903 351.54323394 351.51830424]
Weights = [0.12226044369506121 0.09905227920234098 0.0745679812868611 0.06703977603523192 0.06538915533242078]
SDNR = [236.62497518 234.94536765 236.59784342 234.28677038 231.33527981]

Top model Noise Statistics:

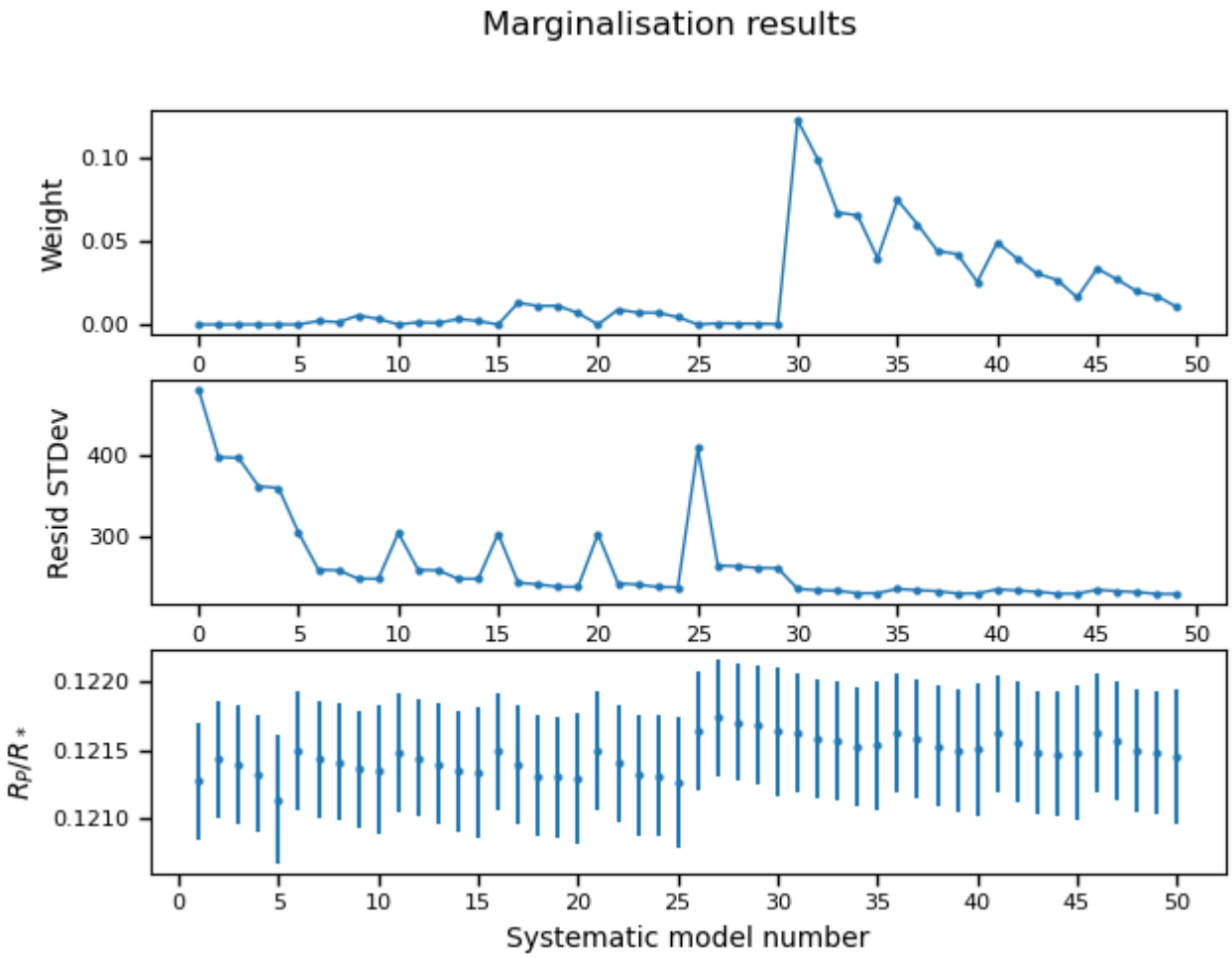
White noise = 0.0003298939124032872
Red noise = 5.889223231268828e-05
Beta = 1.1444283463635505
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12154987679138925 +/- 0.0004490468367884954
Epoch (MJD) = 57957.96959045141 +/- 0.0005061426384259252
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

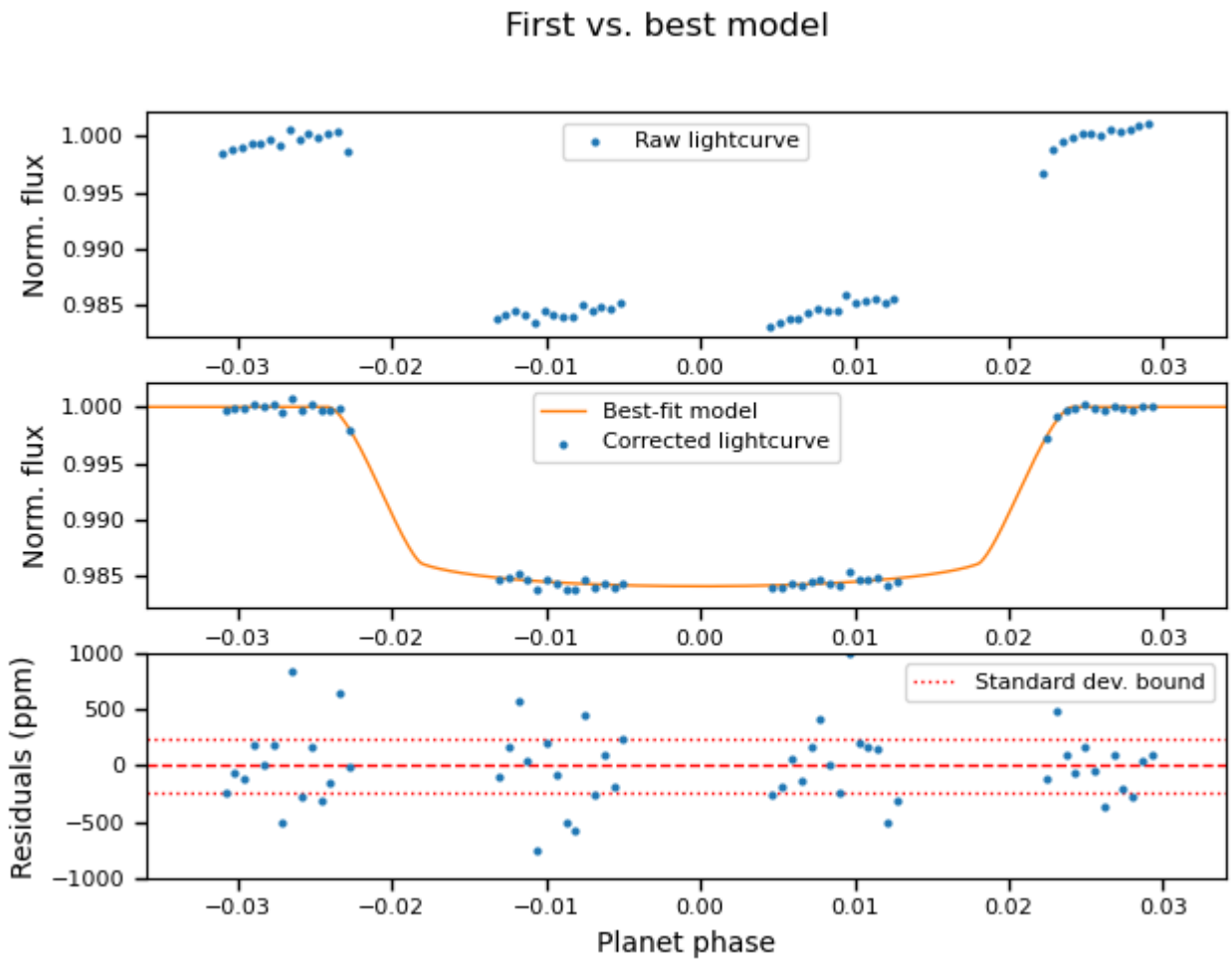
Systematics



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.