Report page ExoTIC-ISM

W17_G141_lc_13141.txt - 13141

Input parameters:

Number of systematic models: 50
Wavelength mid point = 13150.863957728154
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 = 0.9083782993741065
C2 = -0.9320496294686187
C3 = 0.8057575221950063
C4 = -0.2746475284730382

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 = [43 48 42 44 49]
DOF = [44. 43. 45. 43. 42.]
Chi-squared = [67.82910457 67.42616574 69.60965189 67.81959767 67.22592193]
AIC evidence = [335.68096302 335.38243244 335.29068936 335.18571647 334.98255434]
Weights = [0.18932828684607514 0.14046409342960023 0.12815094380140069 0.1153805653343701 0.09416737632874479]
SDNR = [308.42301449 307.52370583 312.55988689 308.39565483 307.04113175]

Top model Noise Statistics:

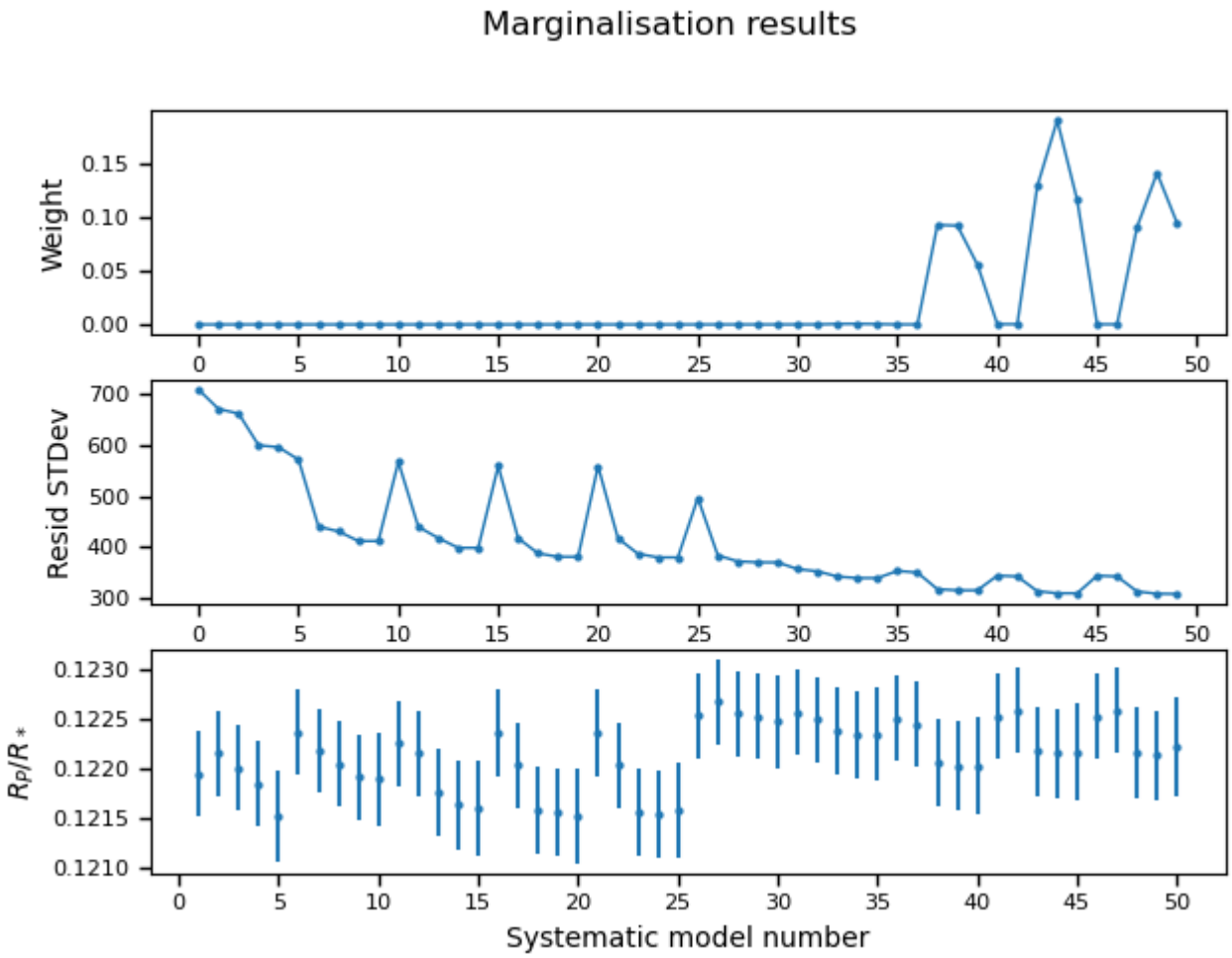
White noise = 0.0004117682006964318
Red noise = 0.0001508860784710416
Beta = 1.4821161221420103
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12212741198653547 +/- 0.0004658362256587176
Epoch (MJD) = 57957.96970925942 +/- 0.0005602229130053653
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

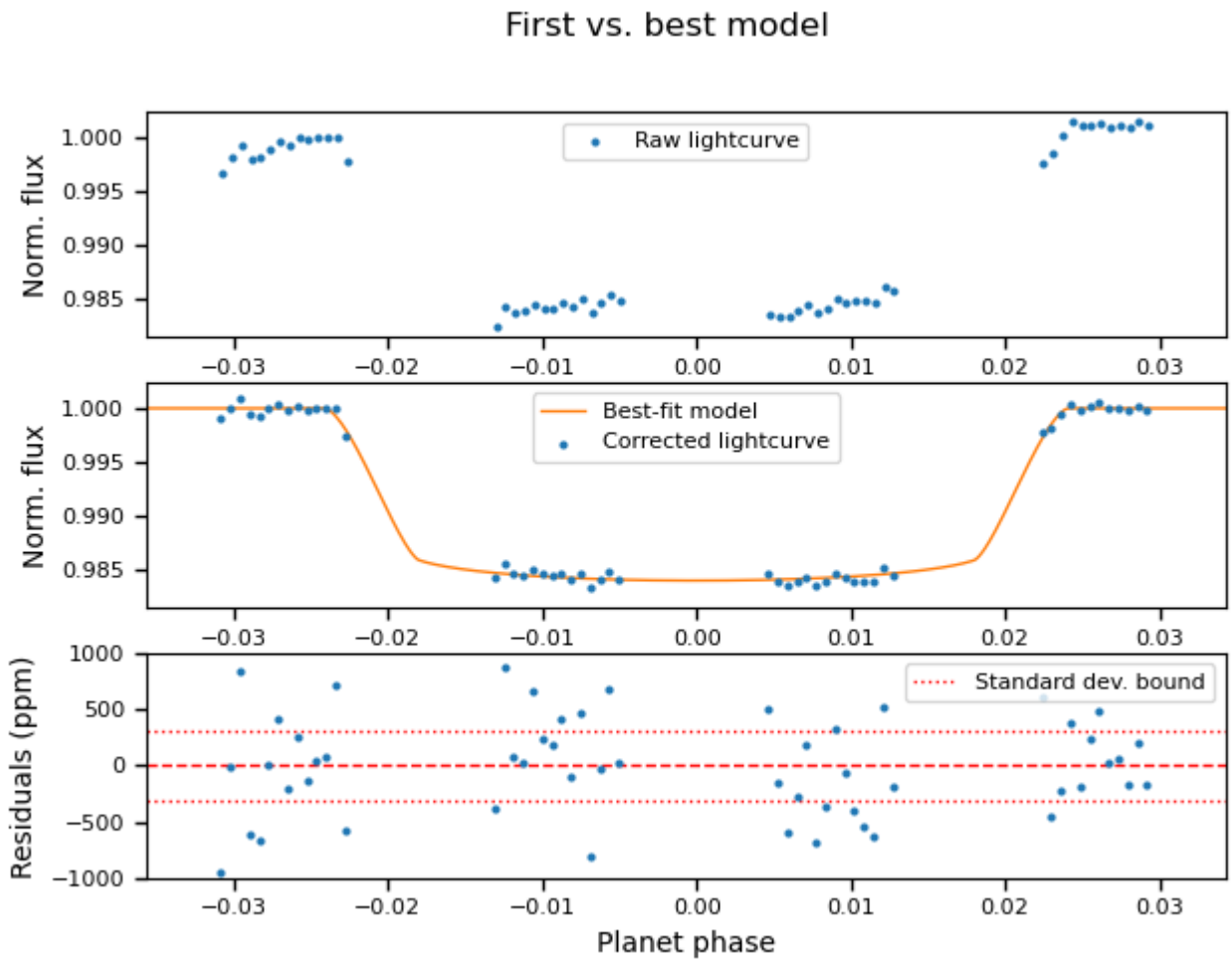
Systematics



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.