Report page ExoTIC-ISM

W17_G141_lc_15469.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 15511.826968562935
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 = 1.1087664075822319
C2 = -1.4403530949284848
C3 = 1.2484266895228062
C4 = -0.42475112669502574

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 = [48 37 38 47 49]
DOF = [38. 41. 40. 39. 37.]
Chi-squared = [54.28233601 57.5466789 56.61059351 55.68009259 54.24668221]
AIC evidence = [300.55515733 300.42298589 300.39102859 300.35627904 300.07298423]
Weights = [0.16153881774584783 0.1415388201702633 0.13708713212264262 0.13240523501670412 0.099740555541977]
SDNR = [332.18506887 342.15727285 339.35017955 336.49333009 332.06560457]

Top model Noise Statistics:

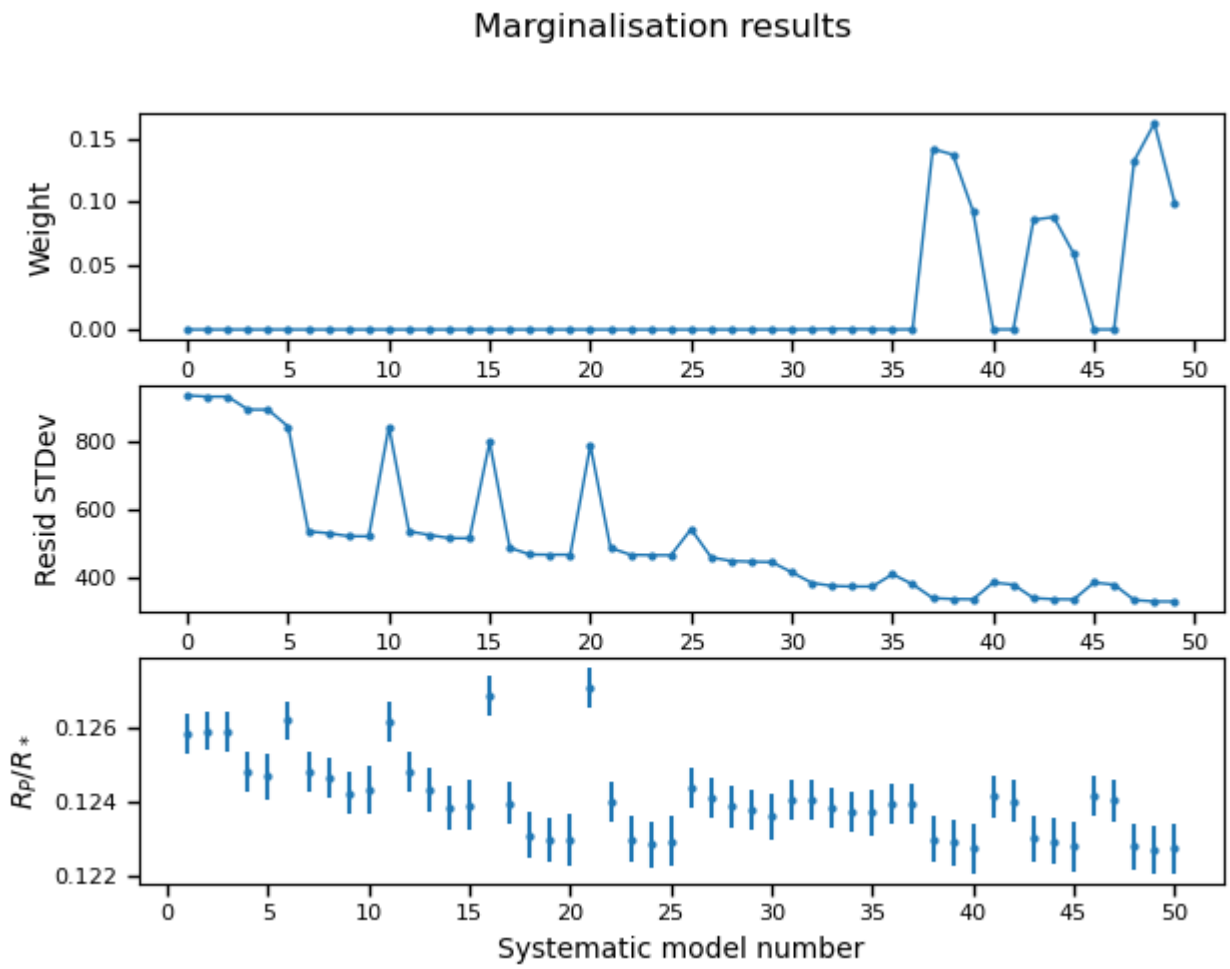
White noise = 0.00045270749890745604
Red noise = 0.00013062268732466433
Beta = 1.3884322290401134
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12285837426335172 +/- 0.0006353656009657372
Epoch (MJD) = 57957.97032006274 +/- 0.0005565266801869274
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

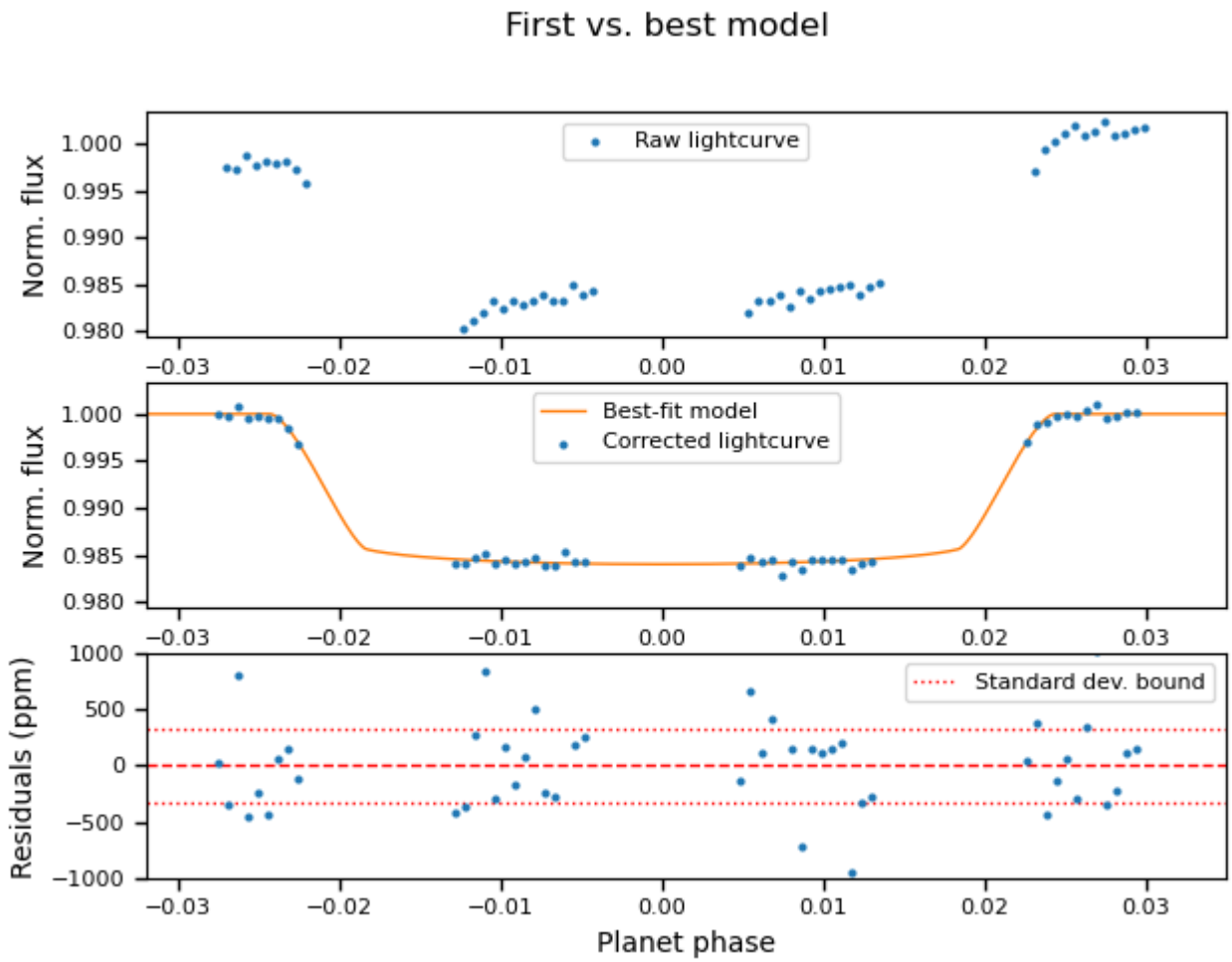
Systematics



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.