Report page ExoTIC-ISM

W17_G141_lc_16245.txt - 16245

Input parameters:

Number of systematic models: 50
Wavelength mid point = 16238.277125742867
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 = 1.1680732437200023
C2 = -1.6059479947417676
C3 = 1.411873188338313
C4 = -0.48552861281124515

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 = [47 48 49 45 46]
DOF = [44. 43. 42. 46. 45.]
Chi-squared = [59.75813984 59.06200825 58.89265339 64.16805859 64.16678121]
AIC evidence = [327.95074232 327.79880812 327.38348554 326.74578295 326.24642164]
Weights = [0.25764473766110507 0.2213283728806351 0.14610490260573164 0.07721720379102308 0.04686452380313278]
SDNR = [360.56503253 358.35367754 357.84319988 373.5276398 373.53126477]

Top model Noise Statistics:

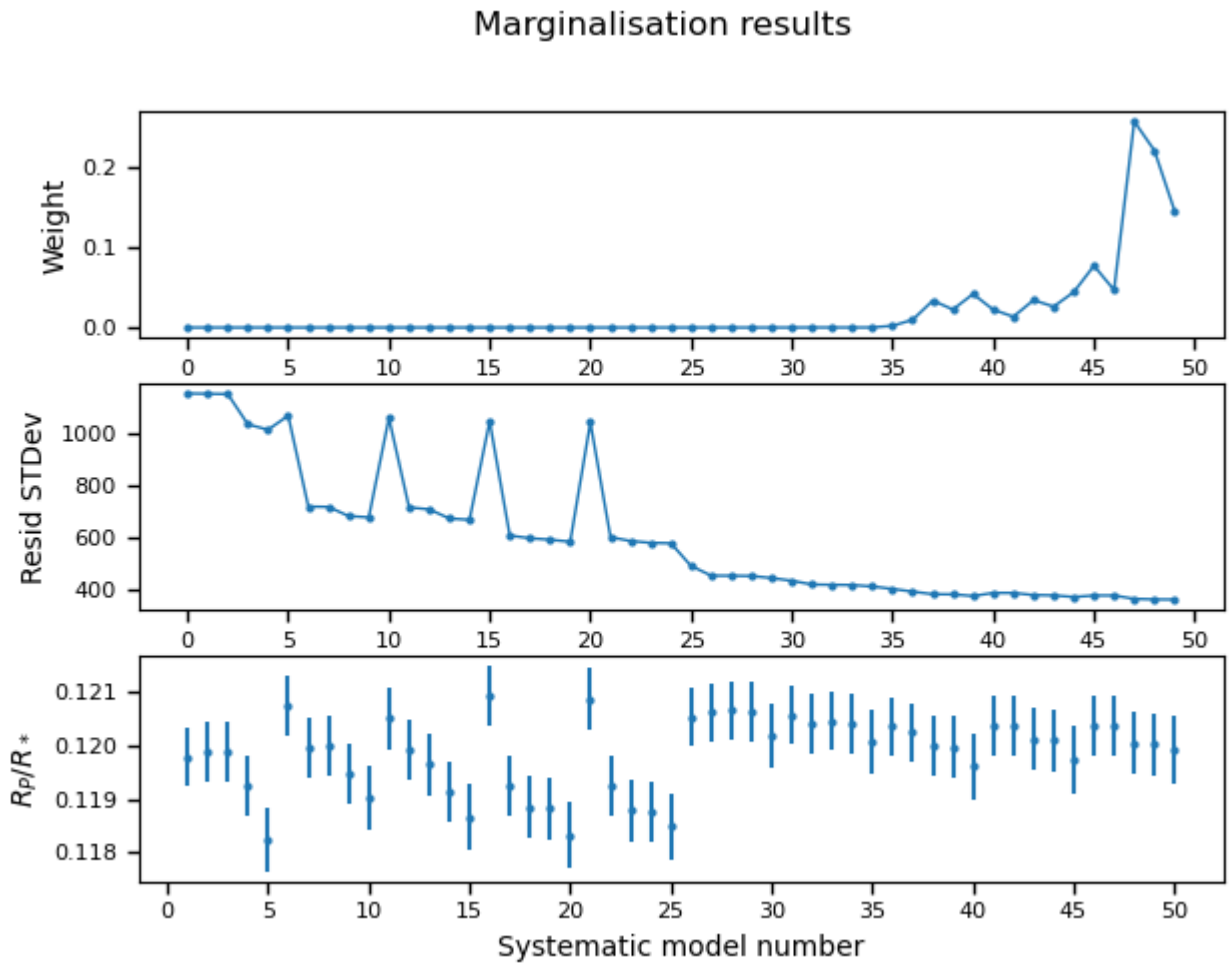
White noise = 0.0
Red noise = 0.0
Beta = 1.0
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12004569640394185 +/- 0.0006152175199087935
Epoch (MJD) = 57957.96930131369 +/- 0.0006981324423771904
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

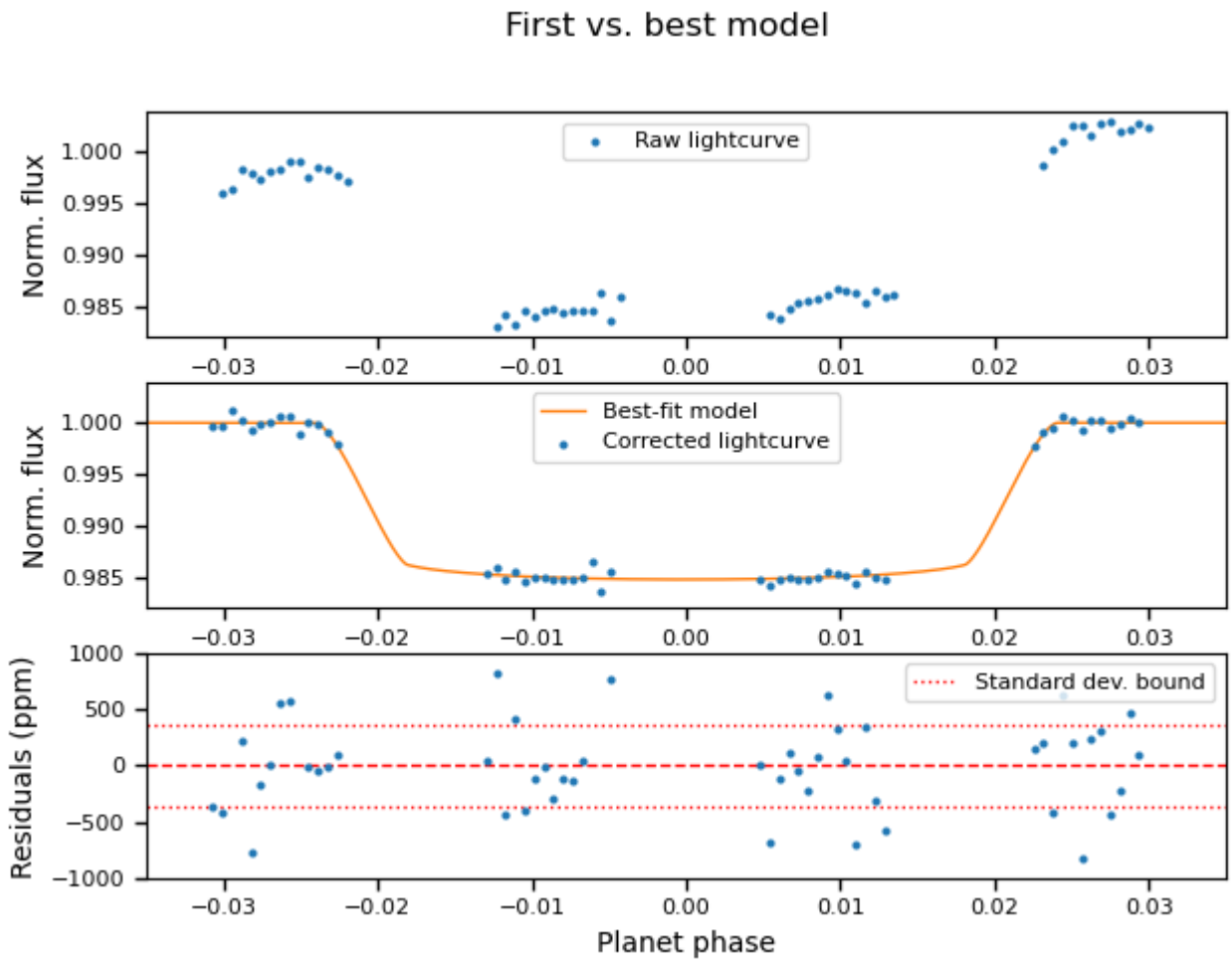
Systematics



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.