Report page ExoTIC-ISM

W17_G141_lc_12850.txt - 12850

Input parameters:

Number of systematic models: 50
Wavelength mid point = 12855.743581373807
Wavelength half width = 204.31410670685545

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 = 0.9060787850533101
C2 = -0.9271797273331273
C3 = 0.7927906629072486
C4 = -0.2719708276977416

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 38 49 43 39]
DOF = [43. 45. 42. 44. 44.]
Chi-squared = [46.68493621 49.29134138 46.64310665 48.82876175 48.98086225]
AIC evidence = [364.18815212 363.88494953 363.7090669 363.61623935 363.5401891]
Weights = [0.2155539626266364 0.15917571138391412 0.13350328181384818
0.12166830270988606 0.11275848885519518]
SDNR = [181.93459209 187.05057986 181.85935398 186.09440488 186.43919922]

Top model Noise Statistics:

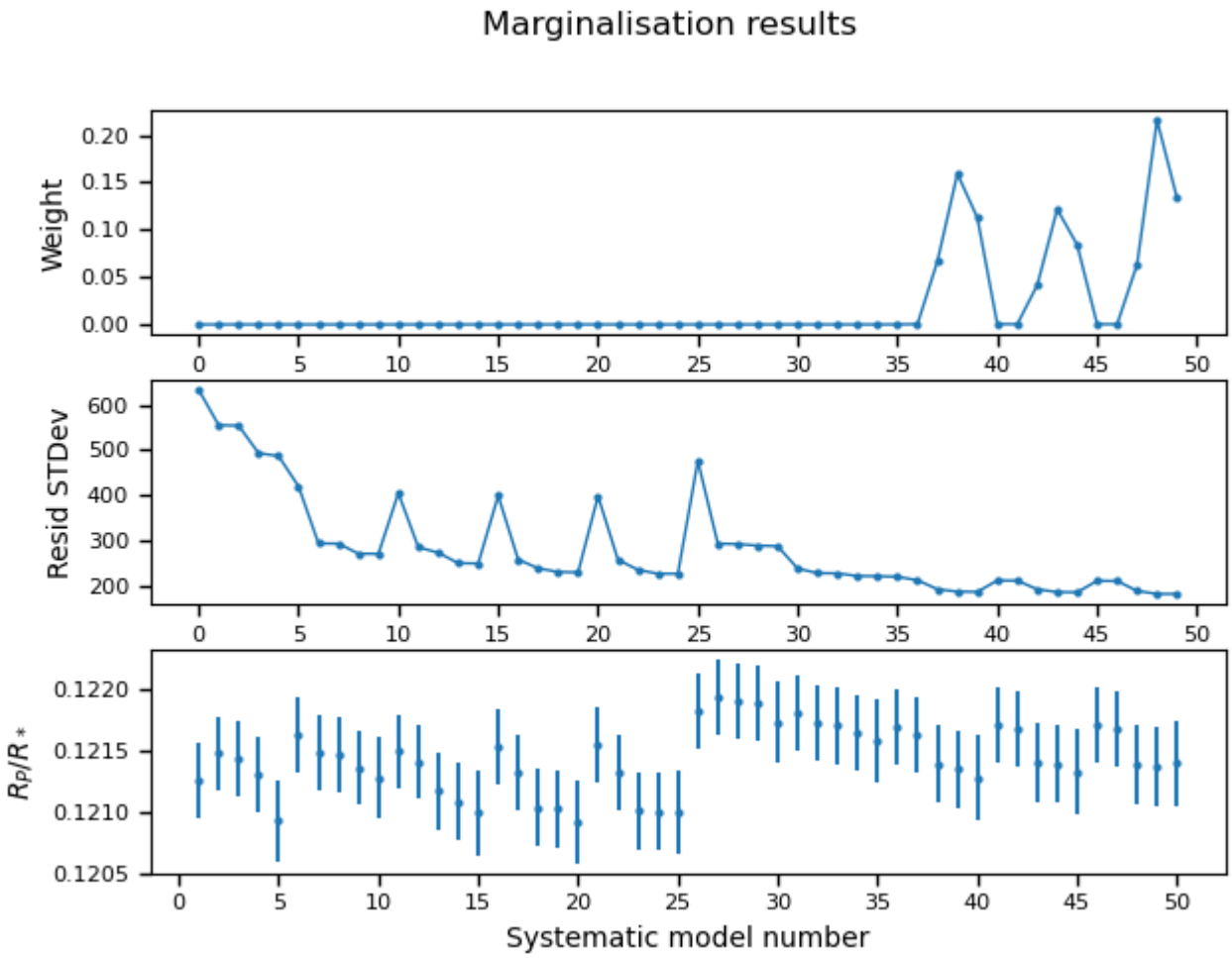
White noise = 0.0
Red noise = 0.0
Beta = 1.0
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12136291313728723 +/- 0.0003342016898907101
Epoch (MJD) = 57957.9697821954 +/- 0.0004088393154300096
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

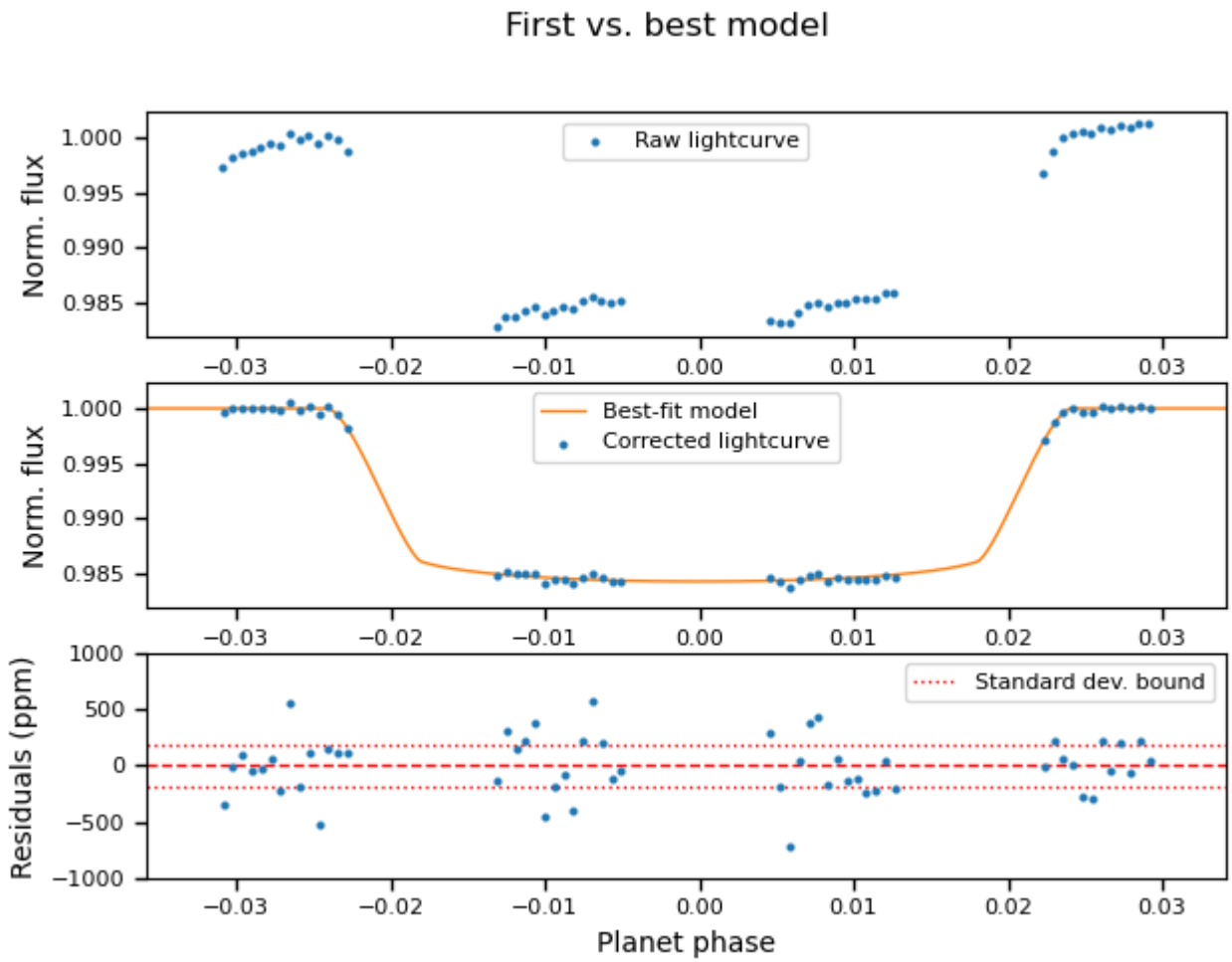
Systematics



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.