Report page ExoTIC-ISM

W17_G141_lc_14305.txt - 14305

Input parameters:

Number of systematic models: 50
Wavelength mid point = 14308.643895733672
Wavelength half width = 113.50783705936465

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 = 0.9888080145666787
C2 = -1.1179921101690684
C3 = 0.9475187681305514
C4 = -0.317871321045002

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 37 42]
DOF = [44. 43. 42. 46. 45.]
Chi-squared = [62.57330325 62.56428178 62.56498432 66.63131361 66.39431982]
AIC evidence = [340.90567661 340.41018735 339.90983608 339.87667143 339.49516833]
Weights = [0.2745533603140254 0.16727787814889364 0.1014235285386094
0.09811501890992488 0.06699629716466354]
SDNR = [282.9781417 282.96161548 282.96722311 292.10365553 291.48751878]

Top model Noise Statistics:

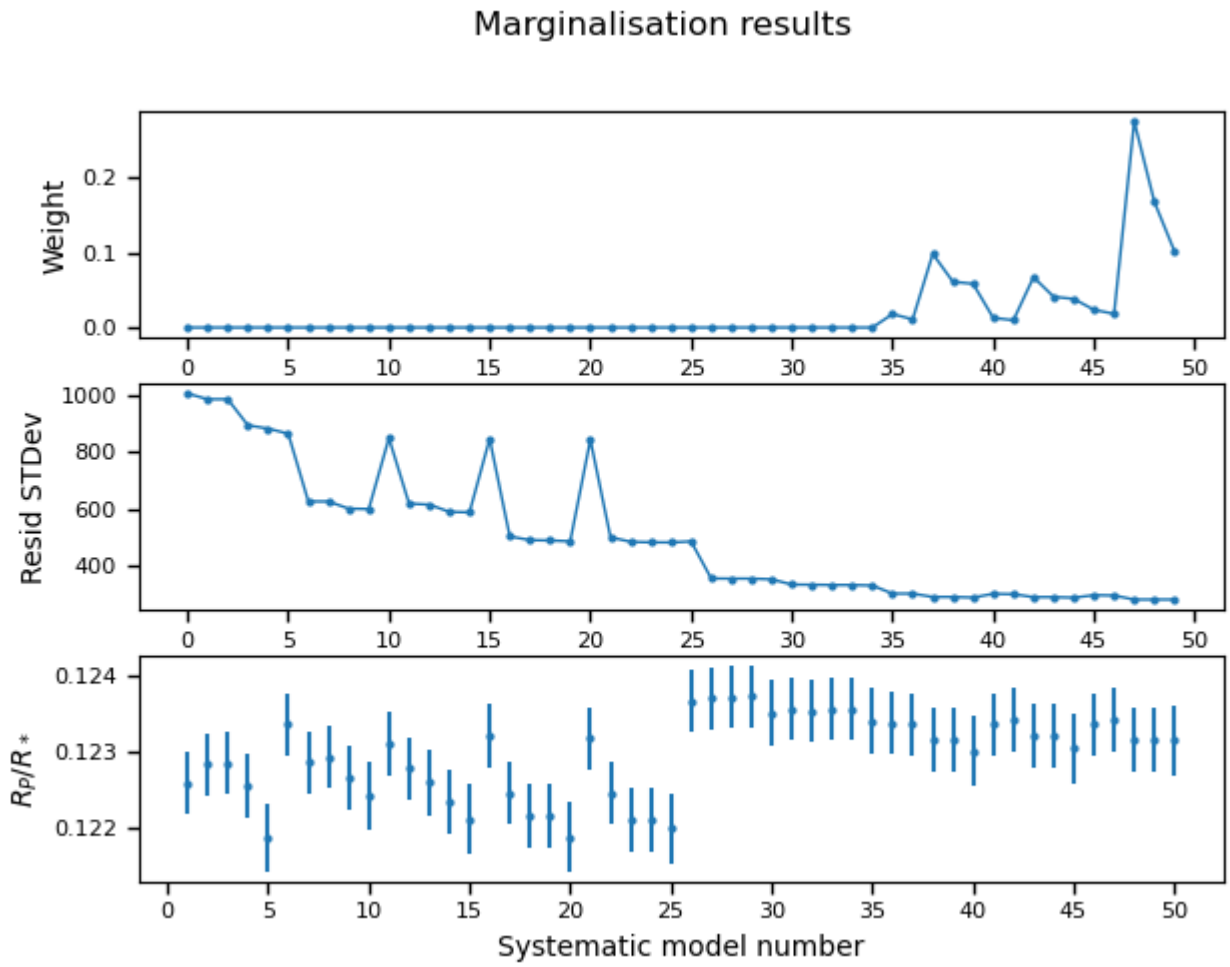
White noise = 0.0
Red noise = 0.0
Beta = 1.0
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12317252394998301 +/- 0.00044151410498966426
Epoch (MJD) = 57957.9701431479 +/- 0.0004999344637347993
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

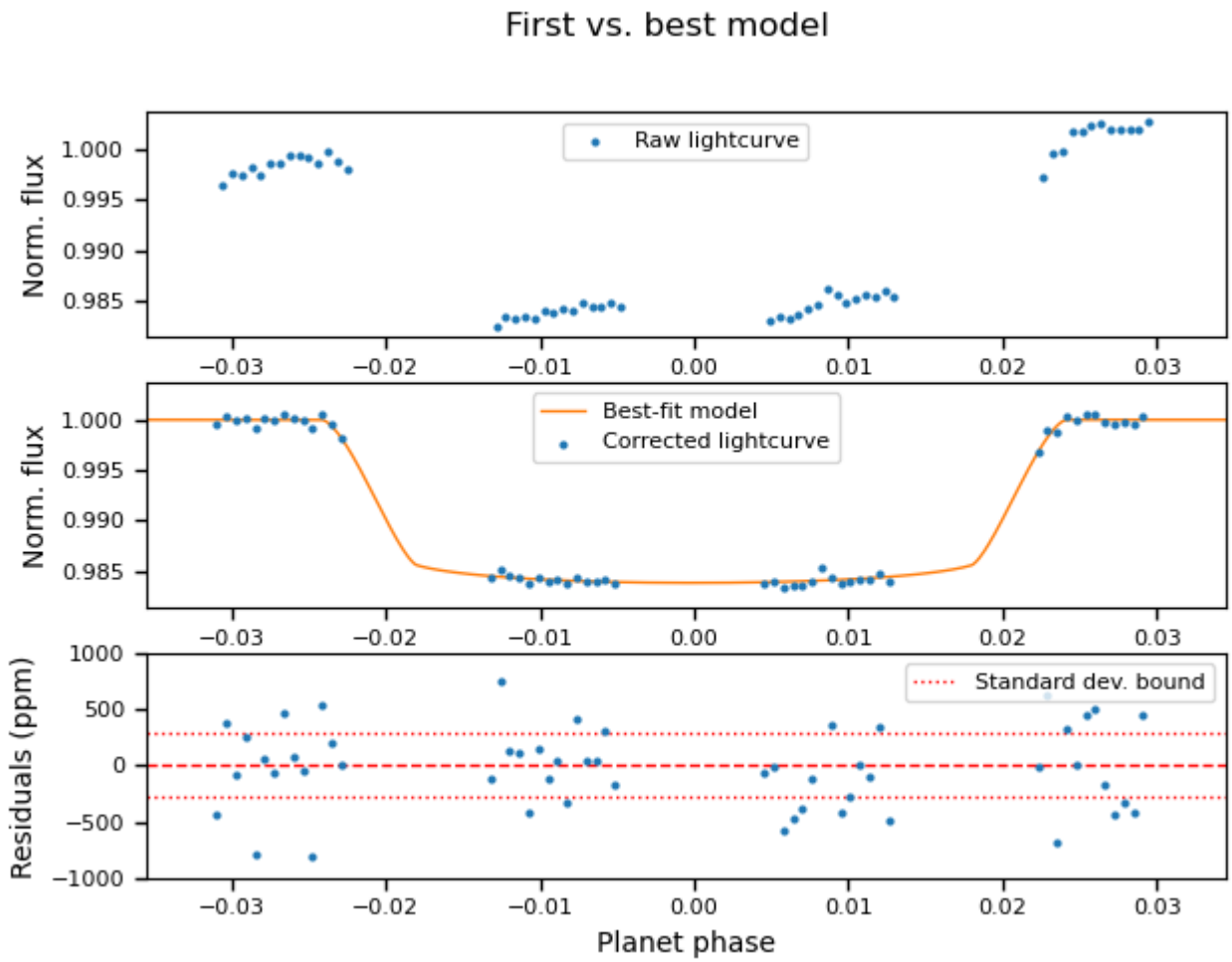
Systematics



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.