Report page ExoTIC-ISM

W17_G141_lc_14693.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 14739.973676559257
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 = 1.0540807119628295
C2 = -1.2761501280857066
C3 = 1.097081354333476
C4 = -0.373844324544355

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 = [37 49 47 42 38]
DOF = [41. 37. 39. 40. 40.]
Chi-squared = [55.16890578 51.56546797 53.58501967 54.98396941 54.99202098]
AIC evidence = [304.66548646 304.46720537 304.45742952 304.25795465 304.25392887]
Weights = [0.147594471636616 0.12104802481538454 0.11987044231975985 0.09819316835500437 0.097798658588565]
SDNR = [315.26747036 304.75194001 310.70268872 314.76802569 314.75039428]

Top model Noise Statistics:

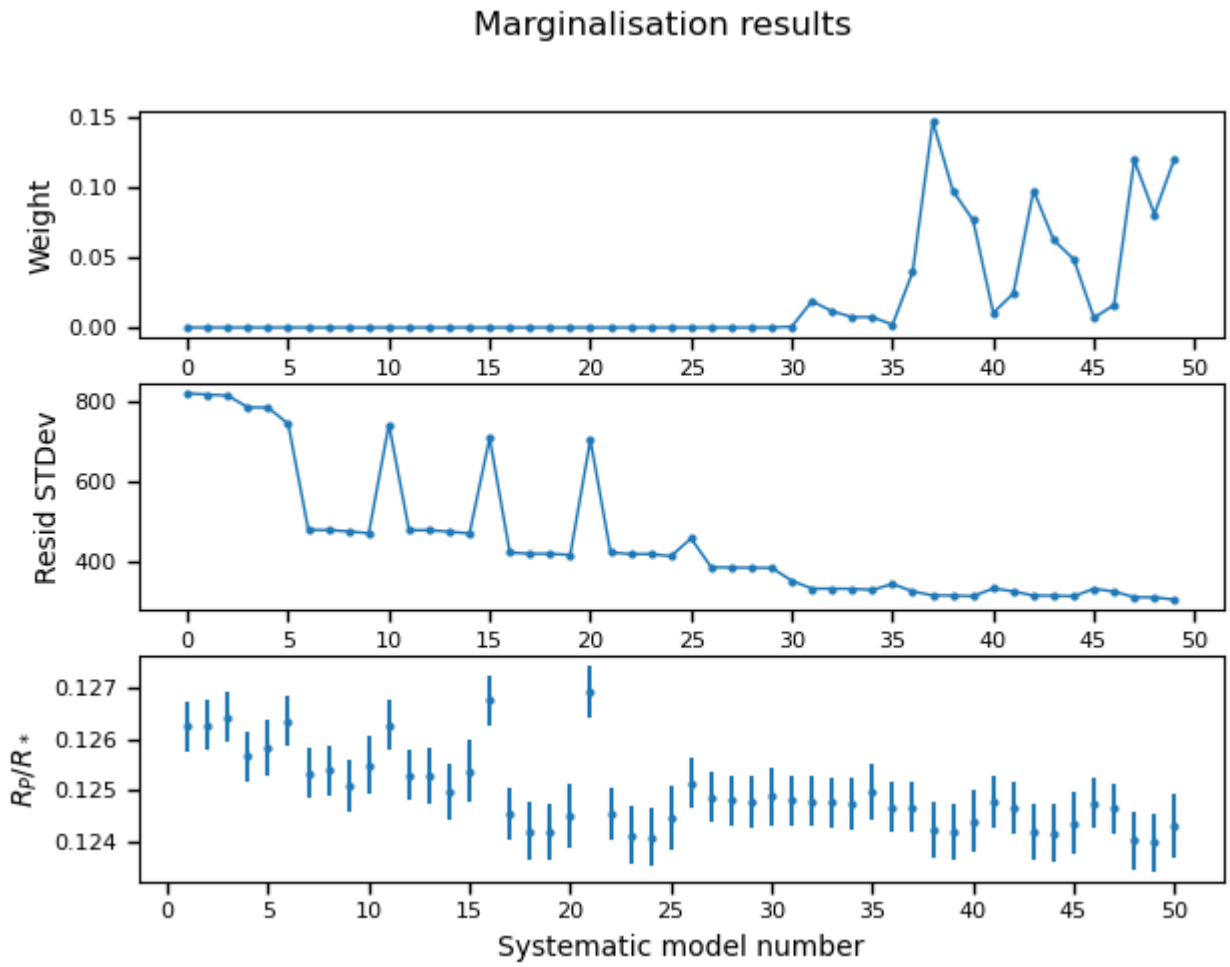
White noise = 0.00044432721438650383
Red noise = 3.8392863386039496e-05
Beta = 1.043542164619752
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12427746768525919 +/- 0.0006073232539793898
Epoch (MJD) = 57957.970698569174 +/- 0.0005126487406020887
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

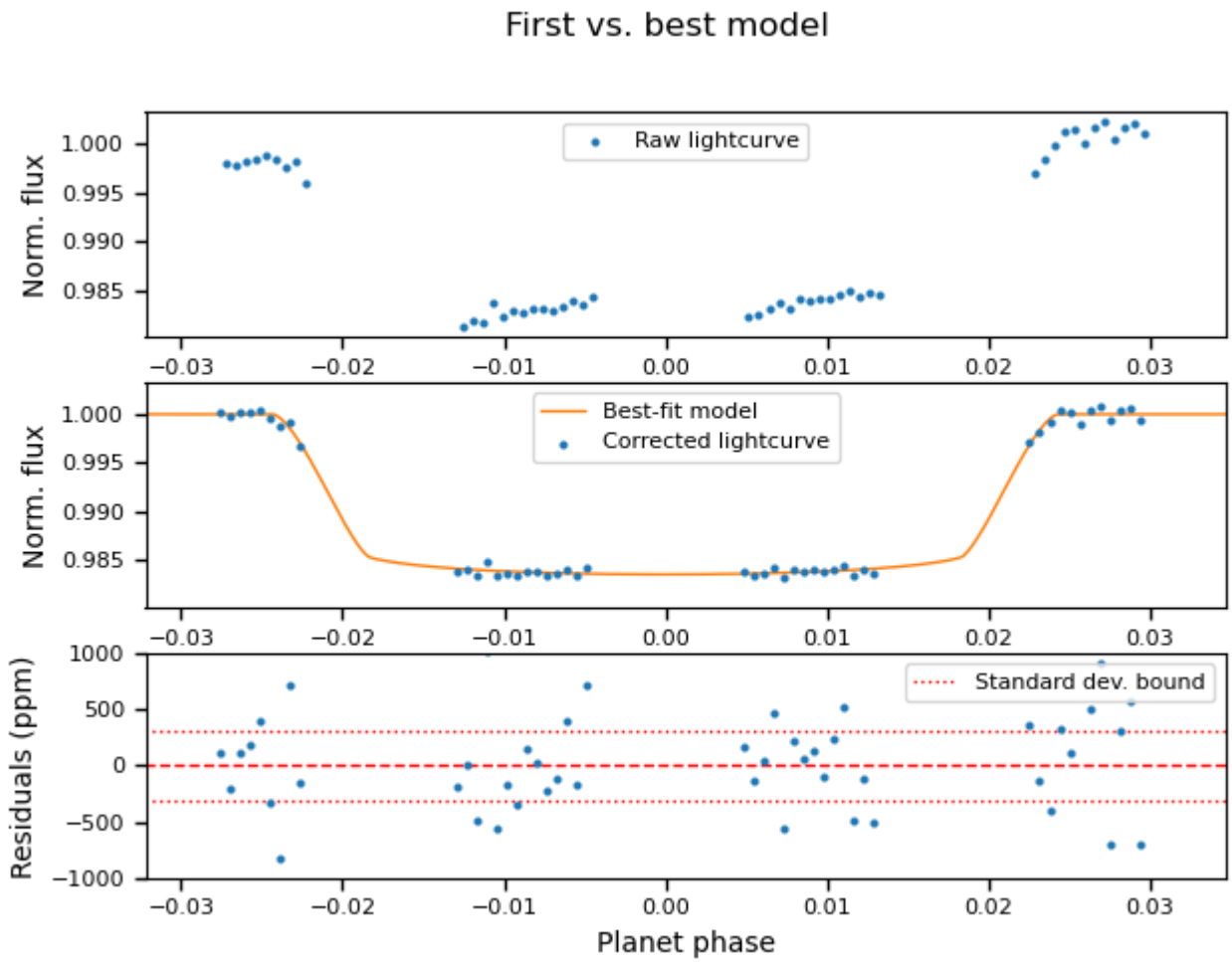
Systematics



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.