Report page ExoTIC-ISM

W17_G102_lc_11110.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 11134.026723838926
Wavelength half width = 83.21121211381251

Planet parameters:

Rp/R* = 0.12169232
Epoch (MJD) = 58021.48064883803
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 = 0.8601440228640868
C2 = -0.8358092061613336
C3 = 0.7879960443168289
C4 = -0.2805518205745473

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 = [43 48 44 38 49]
DOF = [39. 38. 38. 40. 37.]
Chi-squared = [70.95371026 70.62816278 70.94992073 73.31421523 70.49985082]
AIC evidence = [304.28531836 303.94809209 303.78721312 303.60506587 303.51224808]
Weights = [0.25011916314497307 0.17852188427609675 0.15199265865614475 0.1266826285486346 0.11545342210338223]
SDNR = [300.79765477 300.05874582 300.79167771 305.69972849 299.74080422]

Top model Noise Statistics:

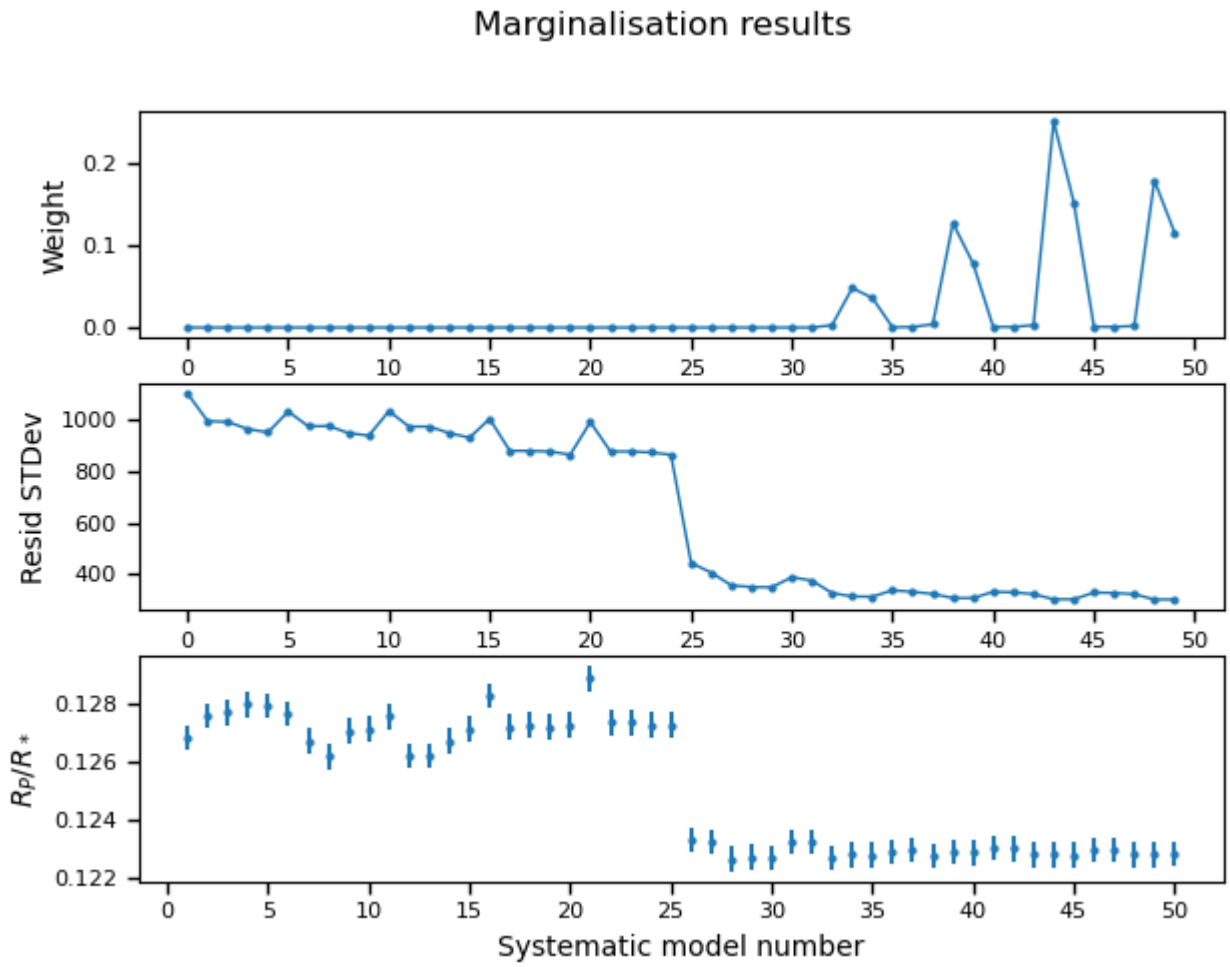
White noise = 0.00039558278974826316
Red noise = 0.00016282595085782424
Beta = 1.660759698206201
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12279915524103695 +/- 0.00043409050421803125
Epoch (MJD) = 58021.481607195805 +/- 0.0004400933814898443
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

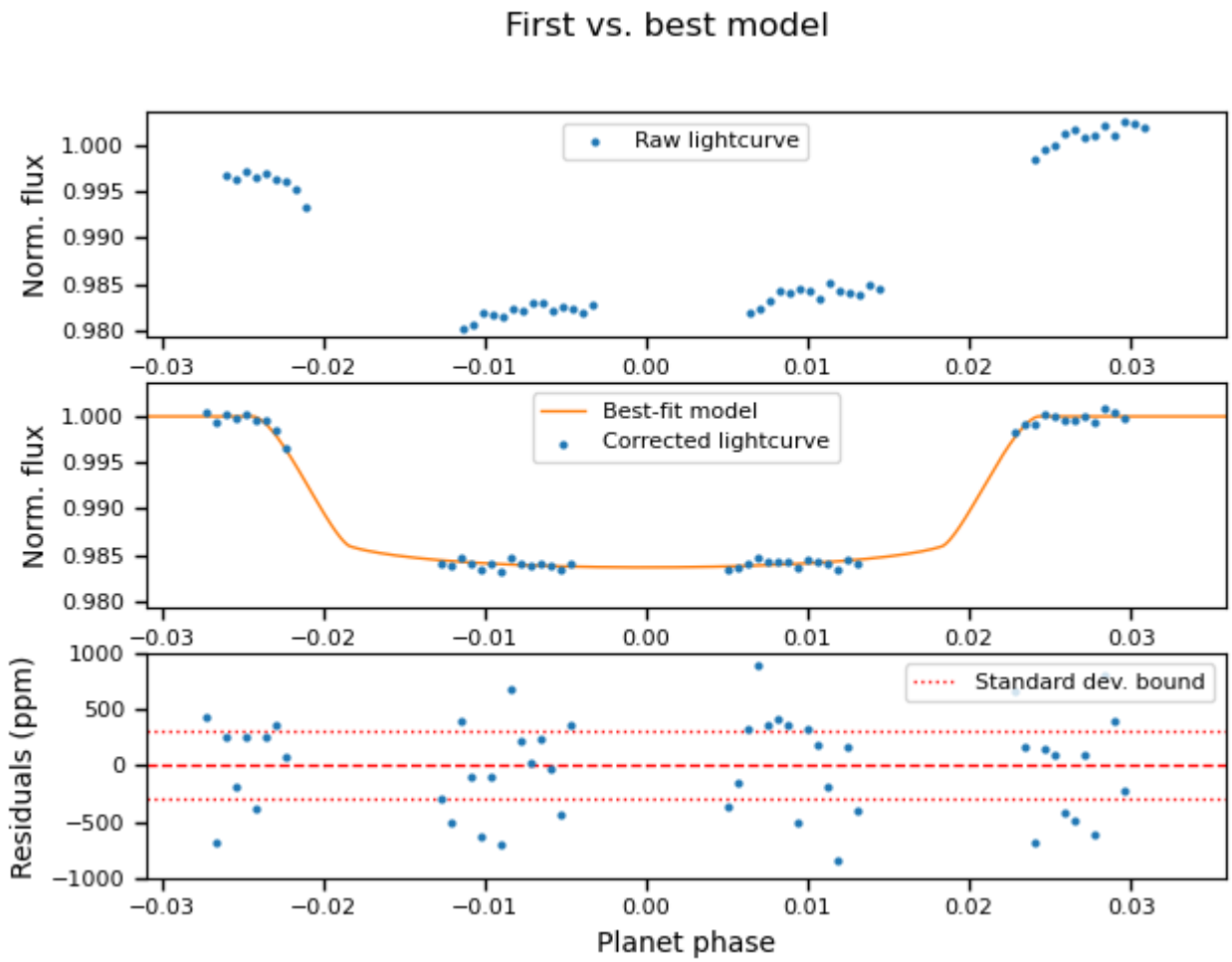
Systematics



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.