Report page ExoTIC-ISM

W17_G102_lc_10916.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 10931.942351562524
Wavelength half width = 71.32389609755228

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 = 0.873926023978828
C2 = -0.8626899425689839
C3 = 0.7846311523273312
C4 = -0.28324516452005405

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 = [45 46 47 48 49]
DOF = [41. 40. 39. 38. 37.]
Chi-squared = [89.89855744 89.78181512 89.44398138 89.11858729 88.29665399]
AIC evidence = [293.46146745 293.01983861 292.68875548 292.35145253 292.26241918]
Weights = [0.24575461962949968 0.15801733127464615 0.1134794301975784 0.08098942843582944 0.07409034937509068]
SDNR = [354.50616381 354.31958523 353.73838916 353.12015221 351.38420265]

Top model Noise Statistics:

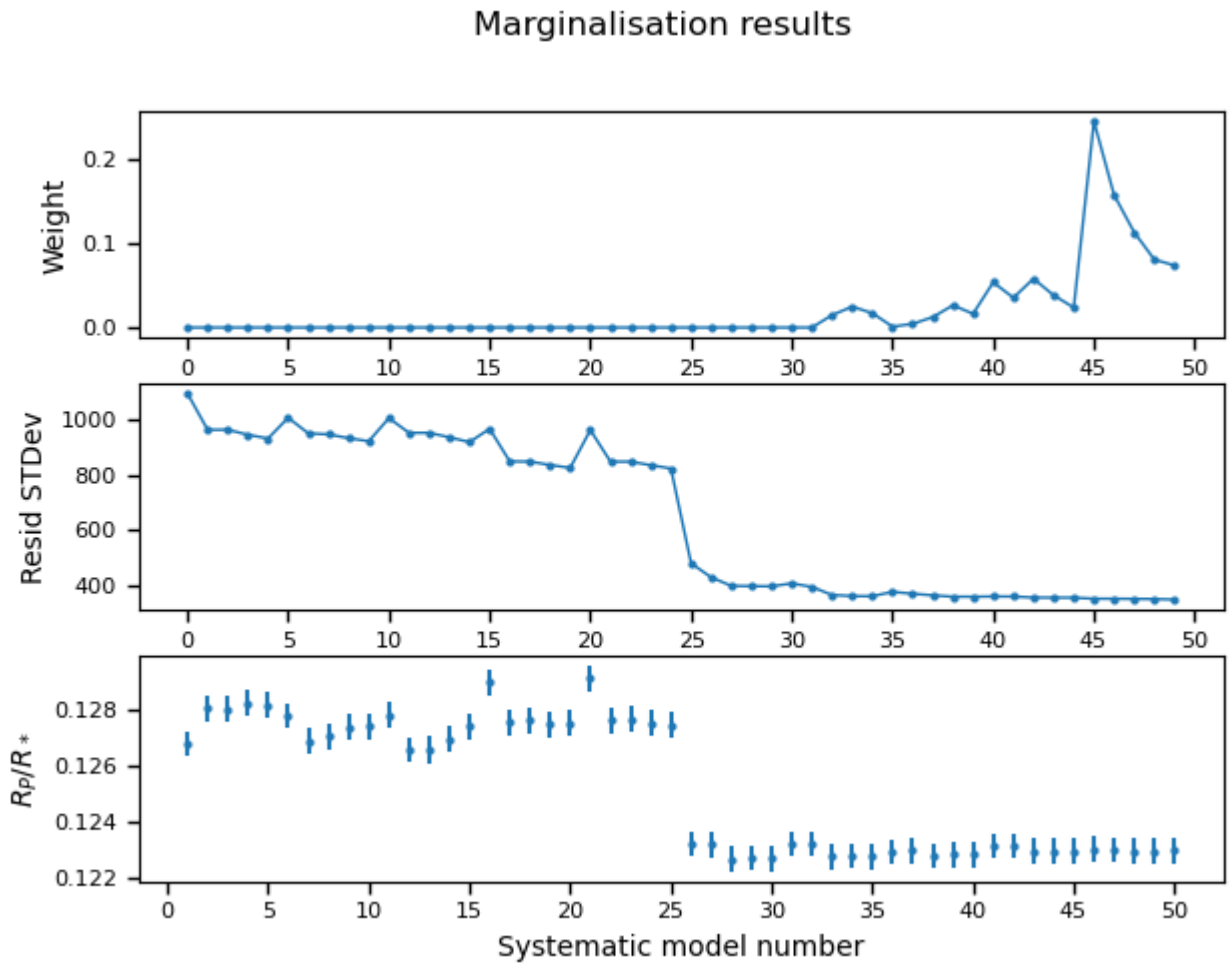
White noise = 0.0004511011295703684
Red noise = 0.0002276953572548091
Beta = 1.8641912706294328
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12296243710782755 +/- 0.0004693522438764605
Epoch (MJD) = 58021.48055996227 +/- 0.0004499845501099081
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

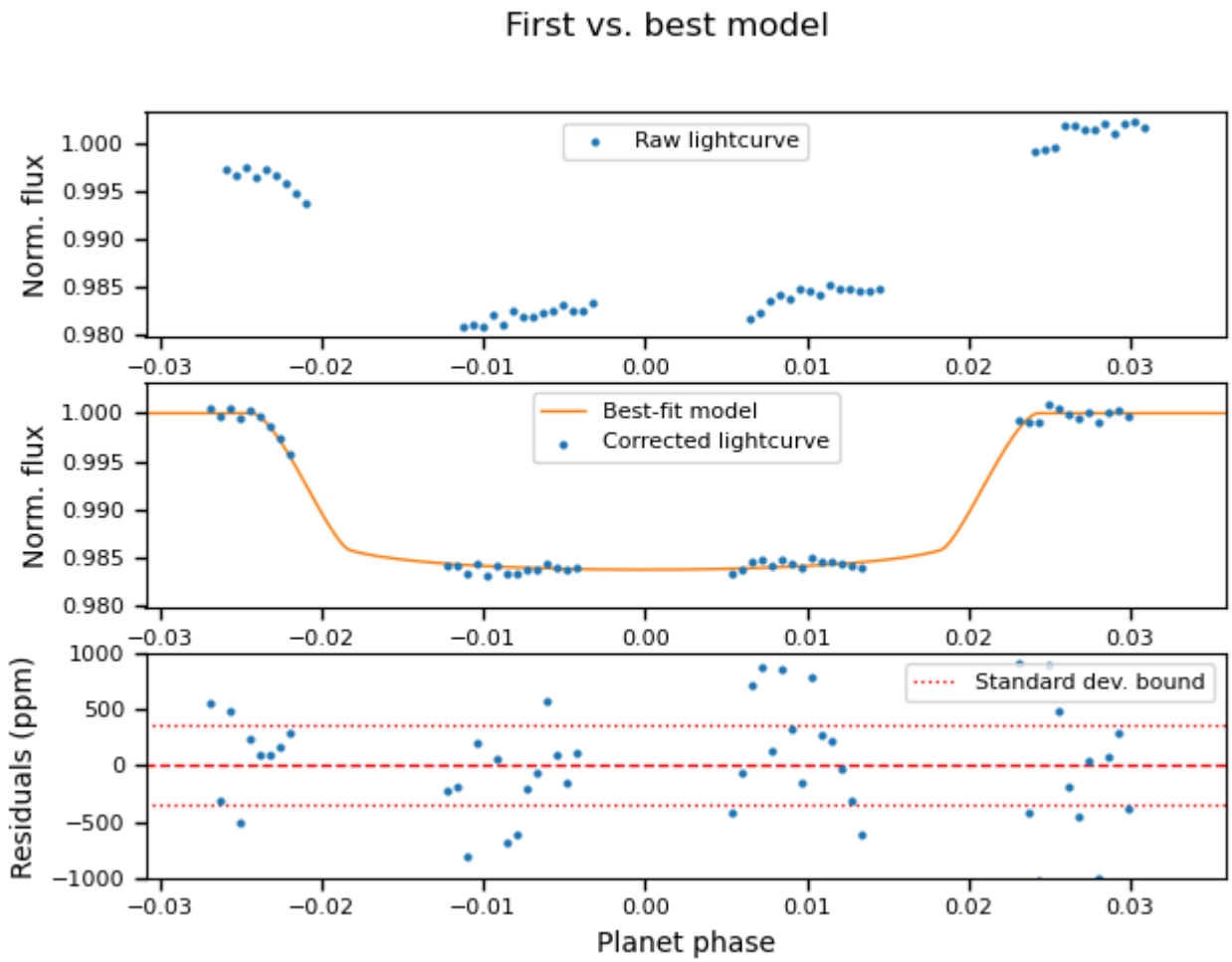
Systematics



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.