Report page ExoTIC-ISM

W17_G102_lc_8200.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 8221.634299855497
Wavelength half width = 71.32389609755319

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 = 0.889746396043248
C2 = -0.78480269540717
C3 = 0.7724630462730527
C4 = -0.27526161752412365

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 = [36 40 45 35 41]
DOF = [42. 42. 41. 43. 41.]
Chi-squared = [55.62223387 55.65963609 54.94495075 57.06072183 55.2017859]
AIC evidence = [289.09111934 289.07241824 288.92976091 288.87187537 288.80134333]
Weights = [0.10043114380263966 0.0985704231207051 0.08546559670228149 0.08065883773682918 0.07516580025464085]
SDNR = [436.11520904 436.62338301 433.81355609 442.04514701 434.58883678]

Top model Noise Statistics:

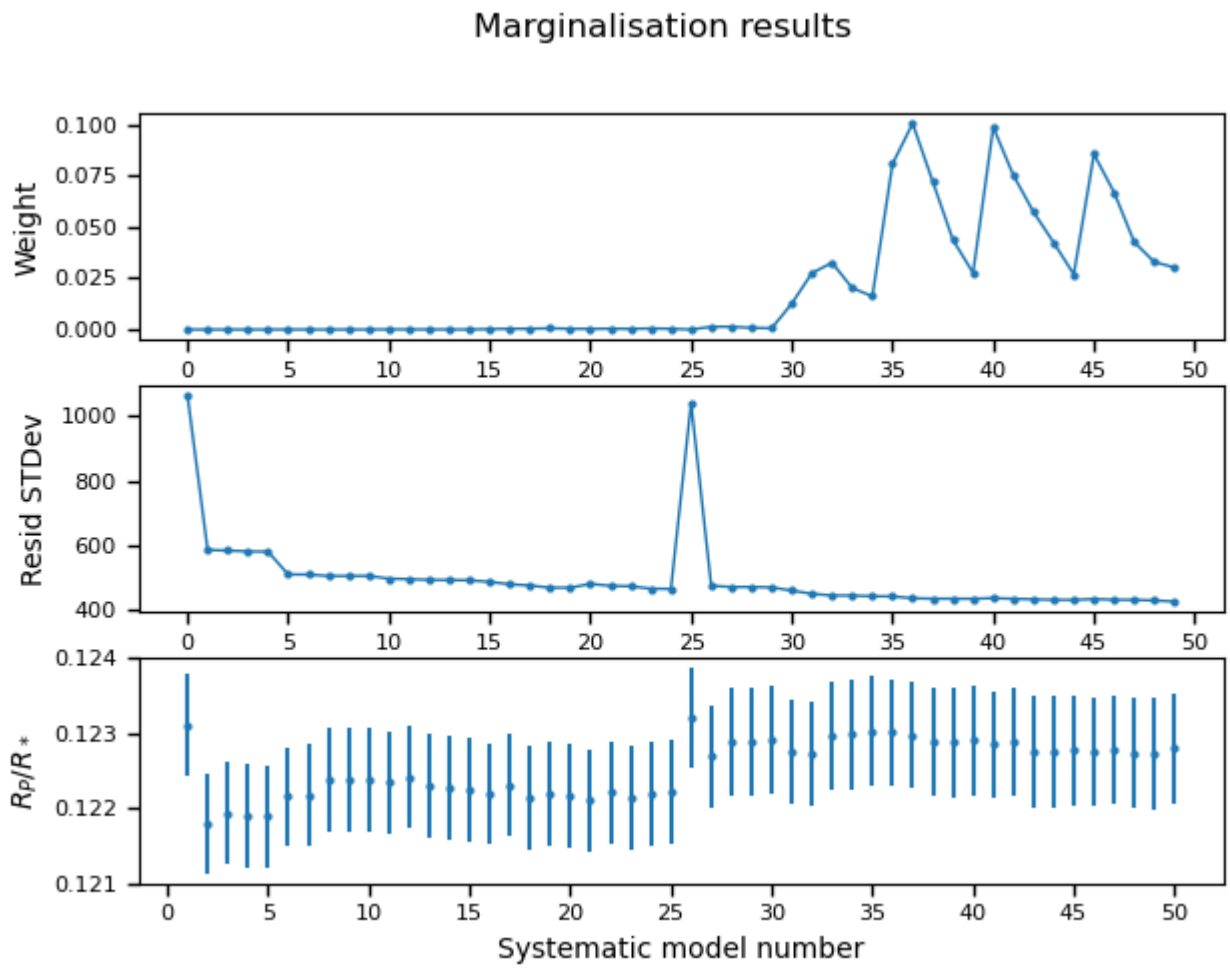
White noise = 0.0005709249592314093
Red noise = 0.0002428464625119479
Beta = 1.691278942015384
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12285179125385089 +/- 0.0007294129345514461
Epoch (MJD) = 58021.47975134063 +/- 0.0006617202521775962
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

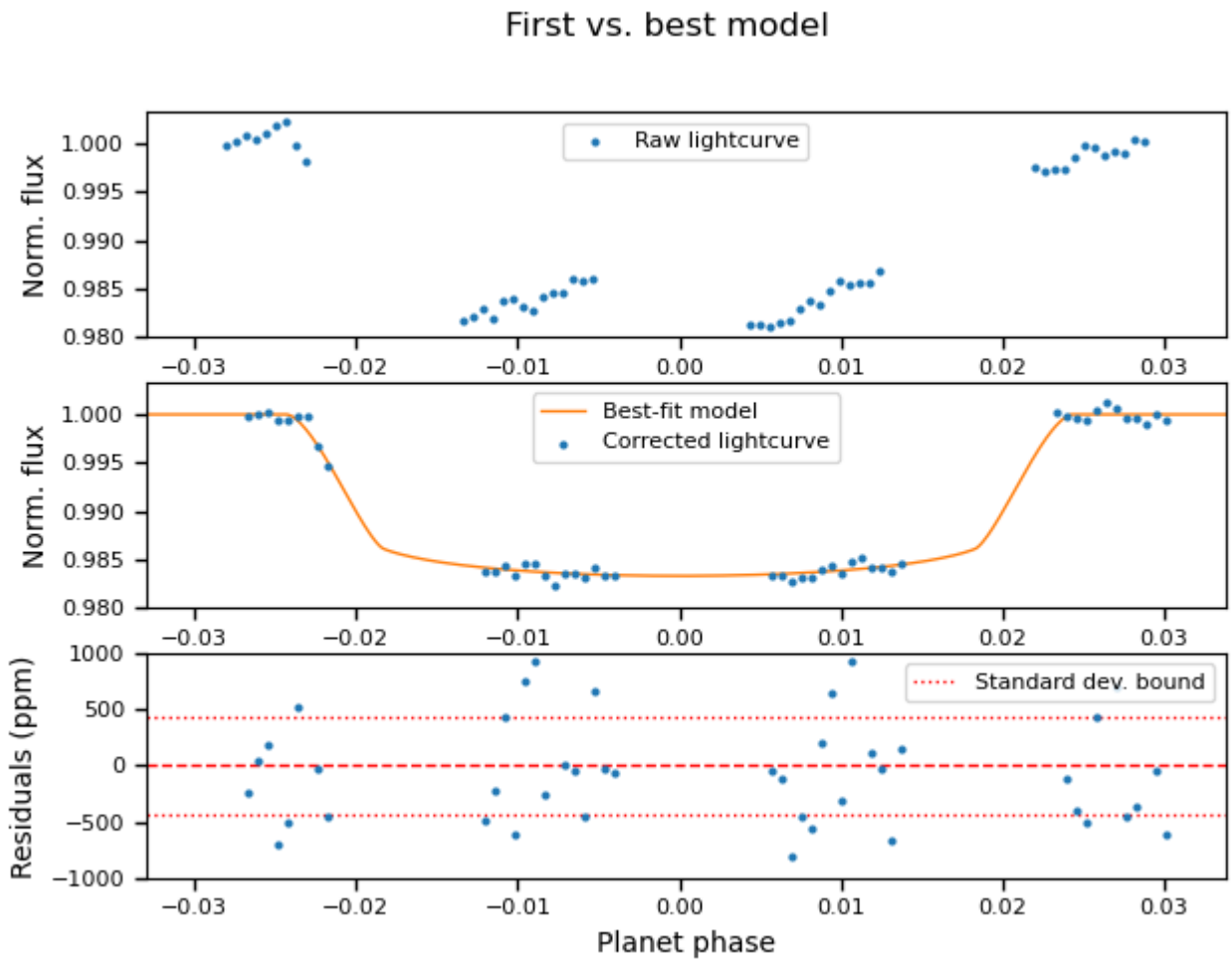
Systematics



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.