# Report page ExoTIC-ISM

## W17_G102_lc_8394.txt - 190

### Input parameters:

Number of systematic models: 50
Wavelength mid point = 8411.83135611564
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 = 0.8825484035605554
C2 = -0.7853976795273401
C3 = 0.7813120411011455
C4 = -0.2851612725996021

#### 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 49 31]
DOF = [39. 38. 38. 37. 43.]
Chi-squared = [53.8315681 52.94867511 53.46094499 53.01380537 59.7151675 ]
AIC evidence = [295.32613728 295.26758377 295.01144883 294.73501865 294.38433758]
Weights = [0.14813250734678485 0.13970788238234183 0.10813914192566501 0.08202208681480991 0.05776063546898262]
SDNR = [373.52481427 370.33400056 372.24782007 370.57629074 392.97326824]

**Top model Noise Statistics:**

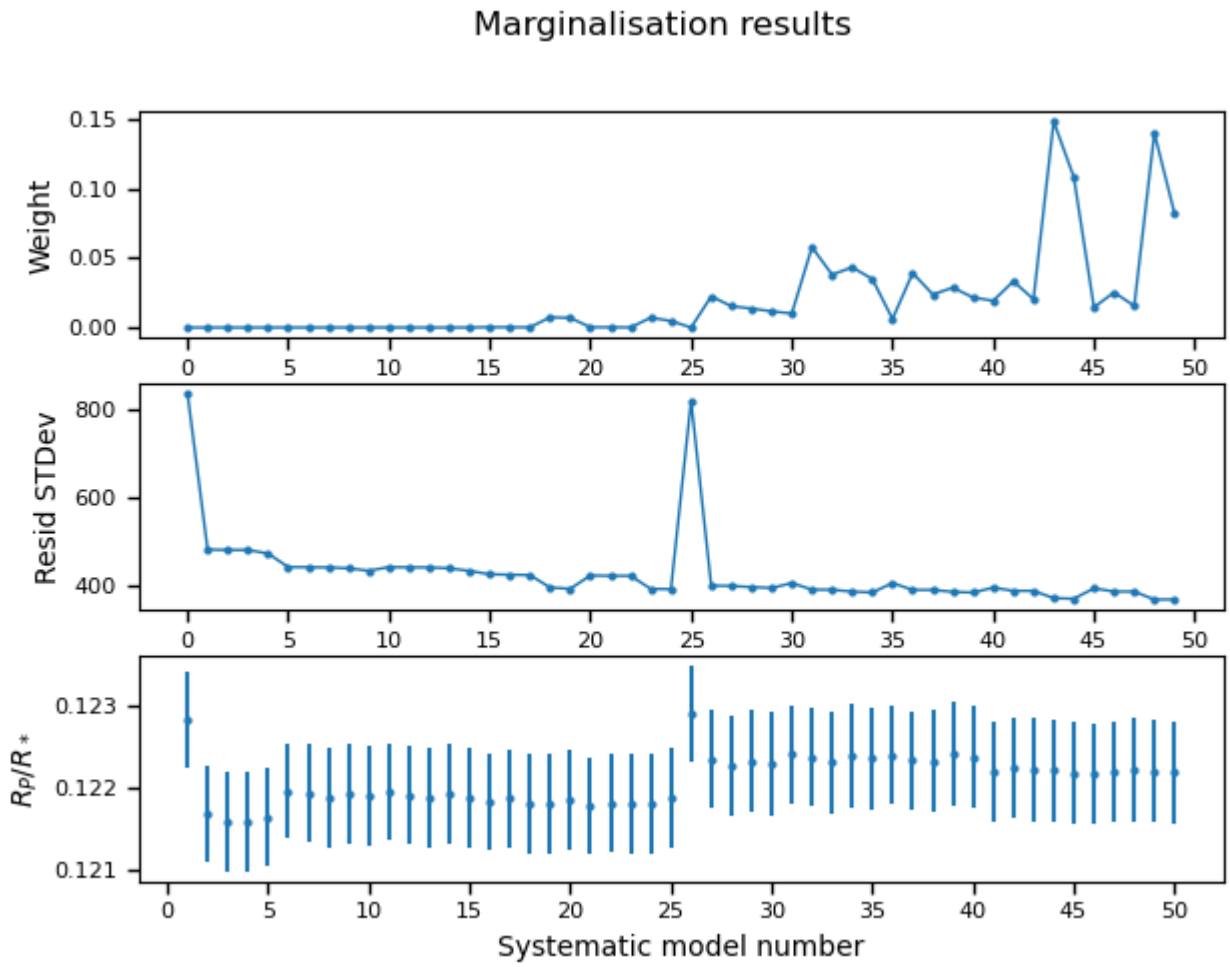
White noise = 0.0005270603480209704
Red noise = 3.684489176073445e-05
Beta = 1.0287757328957676
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

## Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.1222454357066404 +/- 0.0006249895929699243
Epoch (MJD) = 58021.48075193315 +/- 0.0006621588237826181
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

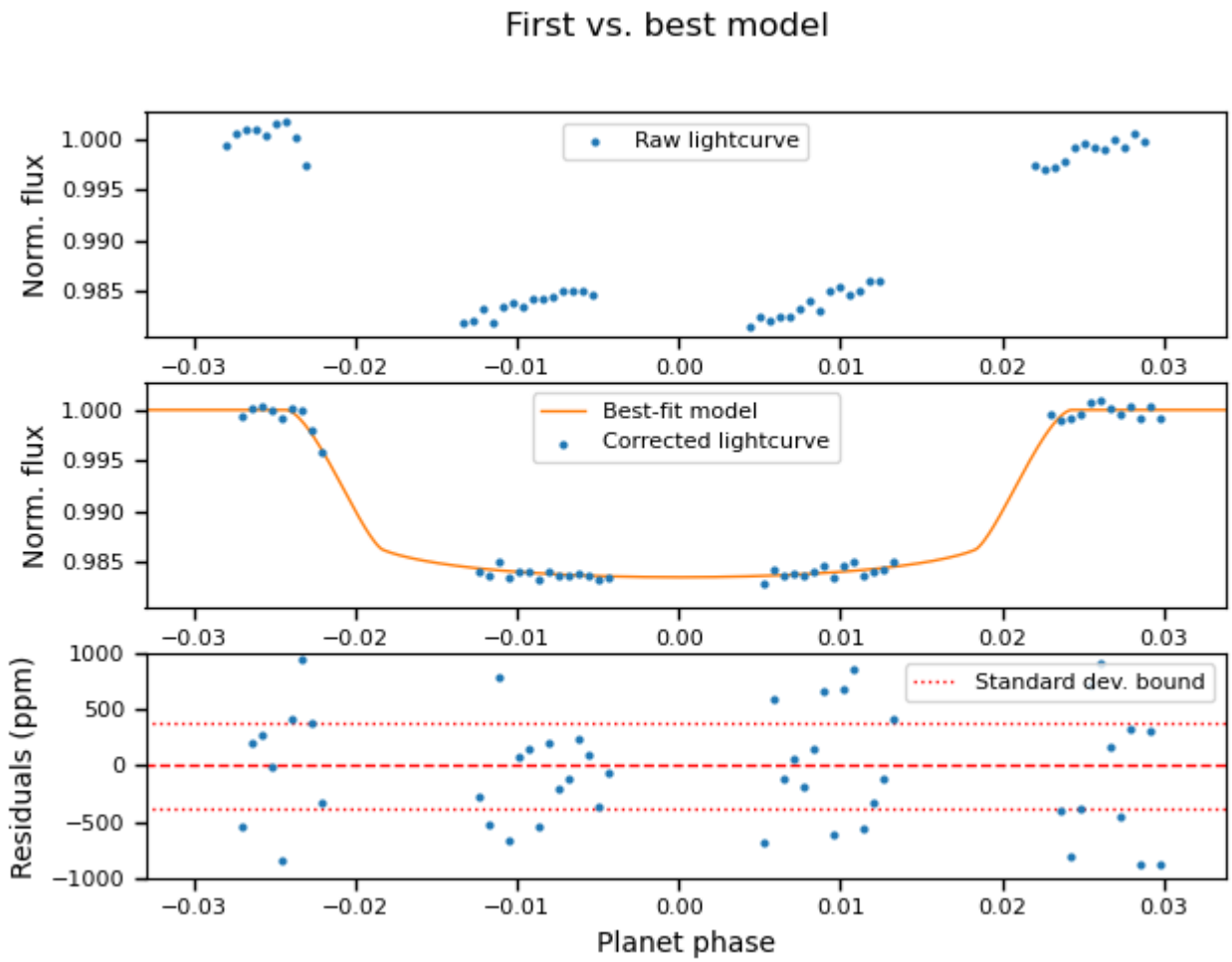
## Systematics




*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.