# Report page ExoTIC-ISM

## W17_G141_lc_white.txt - g141

### Input parameters:

Number of systematic models: 50
Wavelength mid point = 13763.806277848722
Wavelength half width = 5788.899690027587

#### Planet parameters:

Rp/R* = 0.1255
Epoch (MJD) = 57957.97108811848
Inclination (deg) = 86.93051272857655
Eccentricity = 0.0
Omega (deg) = 0.0
Period (days) = 3.7354850226
a/R* = 7.025

#### Stellar parameters:

FeH (dex) = -0.25
Teff (K) = 6550.0
log(g) (cgs) = 4.2

### Output parameters:

#### Limb-darkening coefficients:

C1 = 0.9676205933240049
C2 = -1.0952647799130337
C3 = 0.9611786158672821
C4 = -0.330156729548993

#### 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 = [48 49 47 39 44]
DOF = [43. 42. 44. 44. 43.]
Chi-squared = [274.29802637 274.27859982 283.21007136 286.32365078 286.04658756]
AIC evidence = [315.86601442 315.37572769 311.90999192 310.35320221 309.99173382]
Weights = [0.6092451484322985 0.3731326552546486 0.011660397028100613
0.0024581487420841435 0.0017124757511784723]
SDNR = [131.32863012 131.32320984 133.51021594 134.20069624 134.12980837]

**Top model Noise Statistics:**

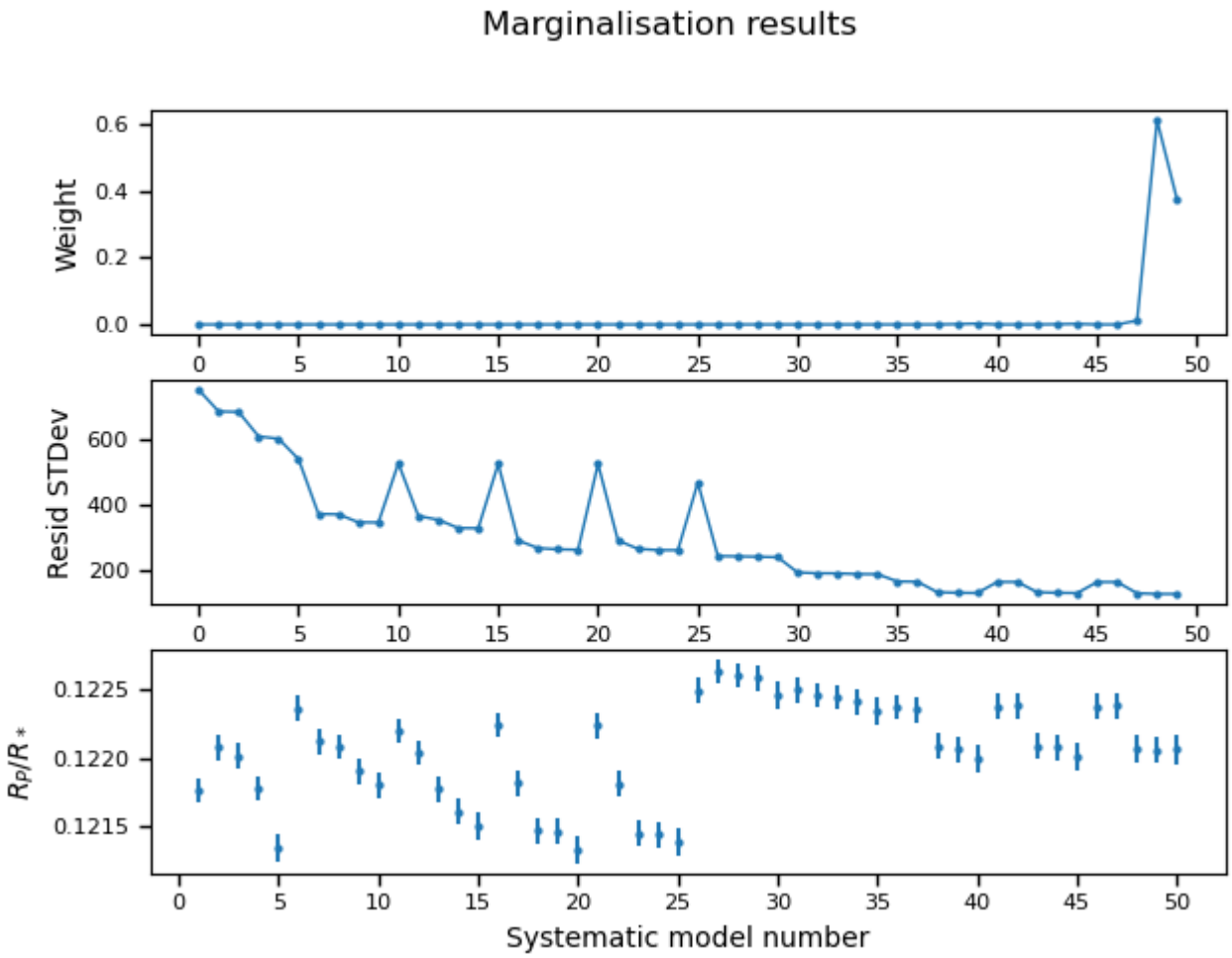
White noise = 0.00018168411010696499
Red noise = 4.042071535937075e-05
Beta = 1.2139405879895133
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

## Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12206101805053743 +/- 9.972371039798426e-05
Epoch (MJD) = 57957.97117723506 +/- 0.00011942897935605016
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

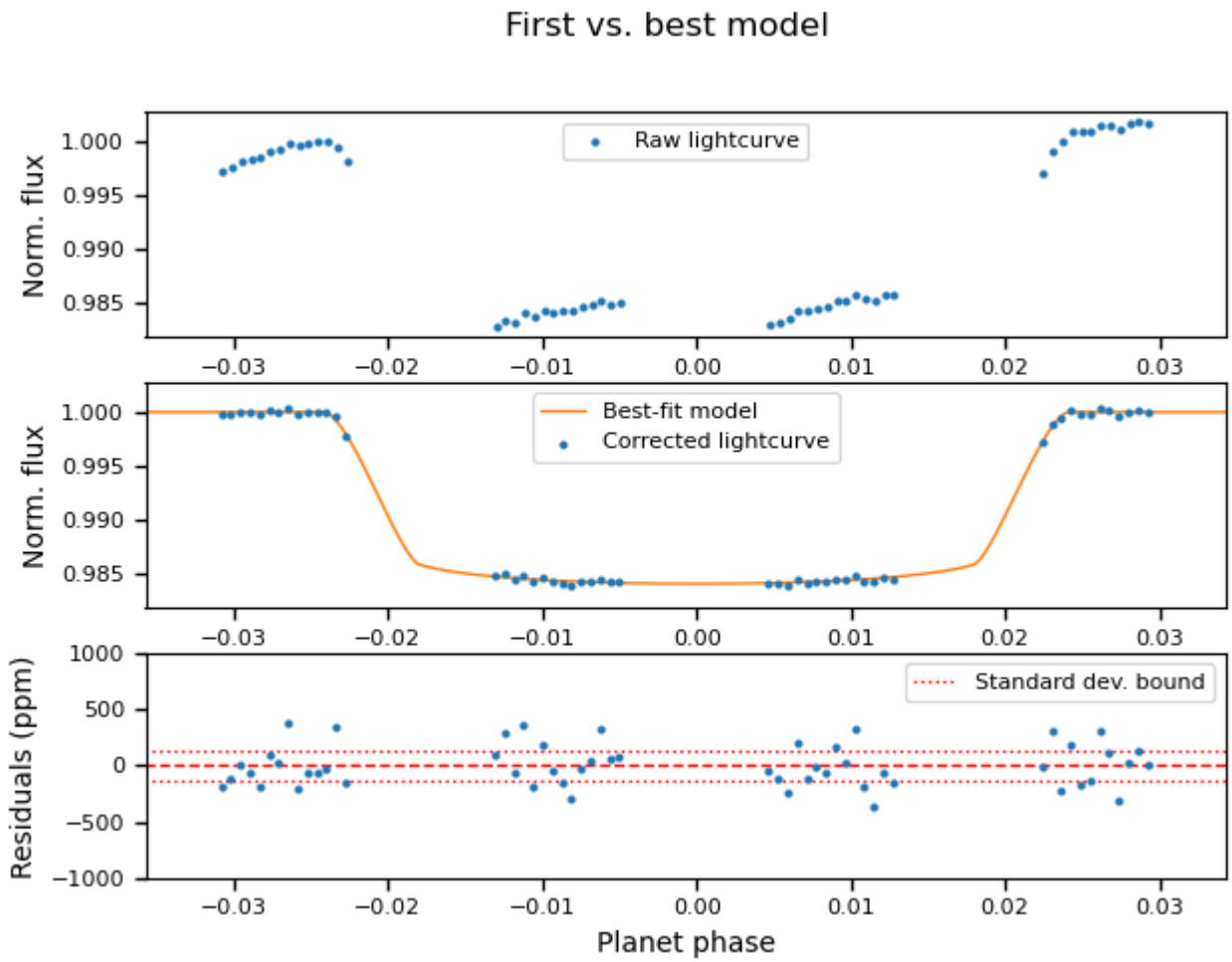
## Systematics




*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.