# Report page ExoTIC-ISM

## W17_G141_lc_13529.txt - 13529

### Input parameters:

Number of systematic models: 50
Wavelength mid point = 13514.08903631812
Wavelength half width = 90.80626964749172

#### 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 = 0.9288916394228537
C2 = -0.9804718080851228
C3 = 0.8426605631906269
C4 = -0.2867206577319115

#### 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 = [49 39 37 44 38]
DOF = [42. 44. 46. 43. 45.]
Chi-squared = [61.05323034 64.4822786 67.40959523 64.46714755 66.5599296 ]
AIC evidence = [338.01816679 337.30364266 336.83998434 336.81120818 336.76481716]
Weights = [0.3027430596825836 0.14817000948918901 0.09319573993553318 0.0905521433456438 0.08644728698254128]
SDNR = [293.56769447 301.71500811 308.43989558 301.66102739 306.47387343]

**Top model Noise Statistics:**

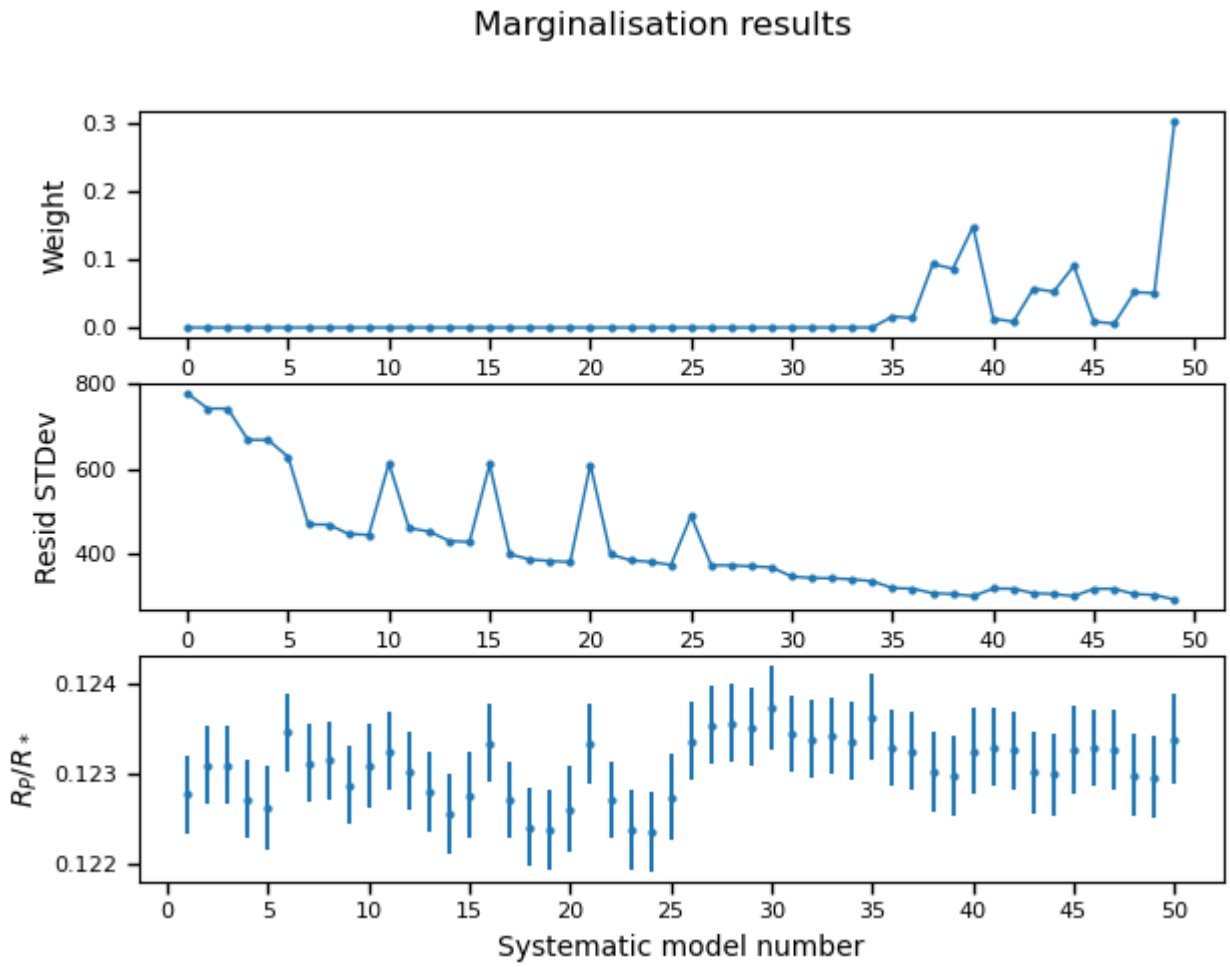
White noise = 0.0004106770951469094
Red noise = 6.387261890711455e-05
Beta = 1.1120660622701164
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

## Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12318458512424622 +/- 0.0004987881847663357
Epoch (MJD) = 57957.96909353197 +/- 0.0005287799899279496
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

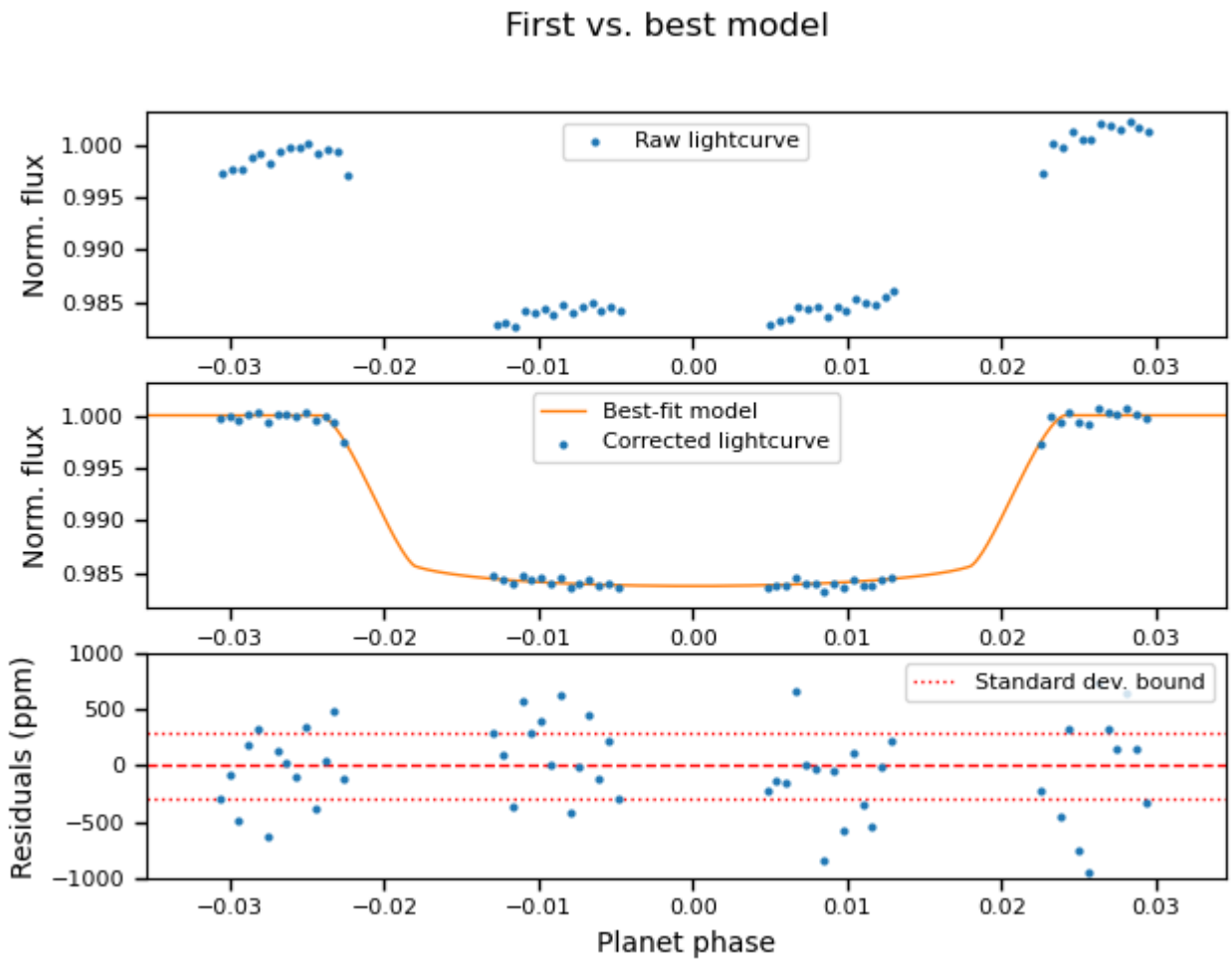
## Systematics




*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.