# Report page ExoTIC-ISM

## W17_G141_lc_11977.txt - 11977

### Input parameters:

Number of systematic models: 50
Wavelength mid point = 11970.382452310763
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 = 0.8553757217721495
C2 = -0.8291406502867719
C3 = 0.7536812563591047
C4 = -0.2631515865104294

#### 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 = [17 37 39 42 19]
DOF = [46. 46. 44. 45. 44.]
Chi-squared = [68.10192921 68.15057032 66.55318572 67.6650447 66.66949571]
AIC evidence = [335.95933778 335.93501723 335.73370953 335.67778004 335.67555453]
Weights = [0.0924872817053604 0.09026507179916995 0.07380621071959005 0.06979158185586315 0.0696364327676775]
SDNR = [312.60640732 312.49973146 308.80219906 311.49282119 309.28271269]

**Top model Noise Statistics:**

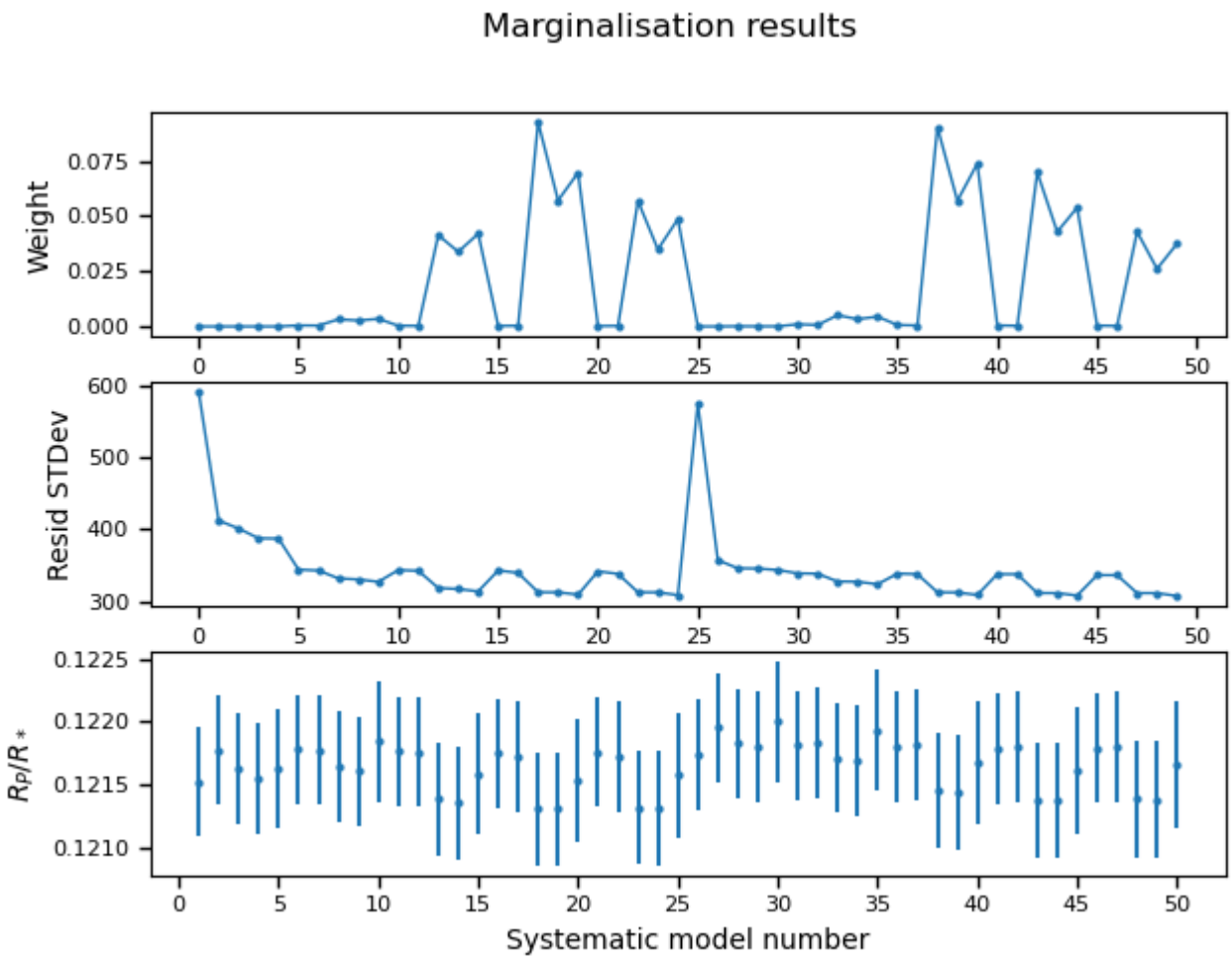
White noise = 0.0004362209715459352
Red noise = 7.532188719935693e-05
Beta = 1.1359042442065117
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

## Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12146145439437109 +/- 0.00048312483326694435
Epoch (MJD) = 57957.969282661164 +/- 0.0005616429709237681
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

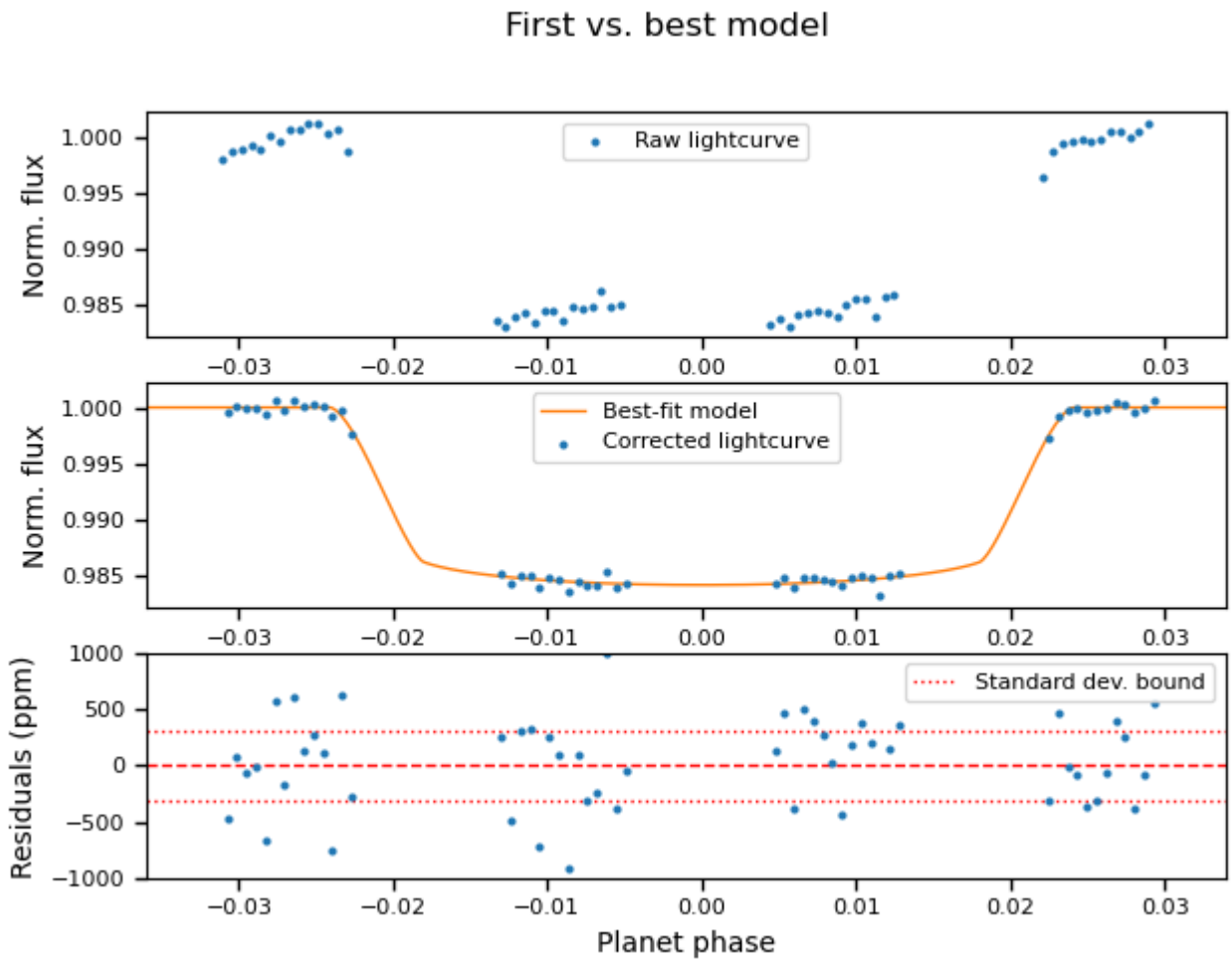
## Systematics




*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.