# Report page ExoTIC-ISM

## W17_G141_lc_16245.txt - 190

### Input parameters:

Number of systematic models: 50
Wavelength mid point = 16283.680260566613
Wavelength half width = 45.40313482374586

#### Planet parameters:

Rp/R* = 0.12169232
Epoch (MJD) = 57957.97108811848
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 = 1.211190811153901
C2 = -1.7169789735296683
C3 = 1.5220909436745997
C4 = -0.523140068944277

#### 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 = [47 48 49 45 46]
DOF = [39. 38. 37. 41. 40.]
Chi-squared = [51.29461829 50.41312238 49.69216129 56.97642497 56.08458357]
AIC evidence = [298.5938038 298.53455175 298.39503229 296.75290045 296.69882116]
Weights = [0.2873437709243269 0.2708126510991541 0.23554637219613261 0.04559399246551476 0.043193787066949096]
SDNR = [349.96251247 346.83707403 344.36385751 368.69213949 365.94357456]

**Top model Noise Statistics:**

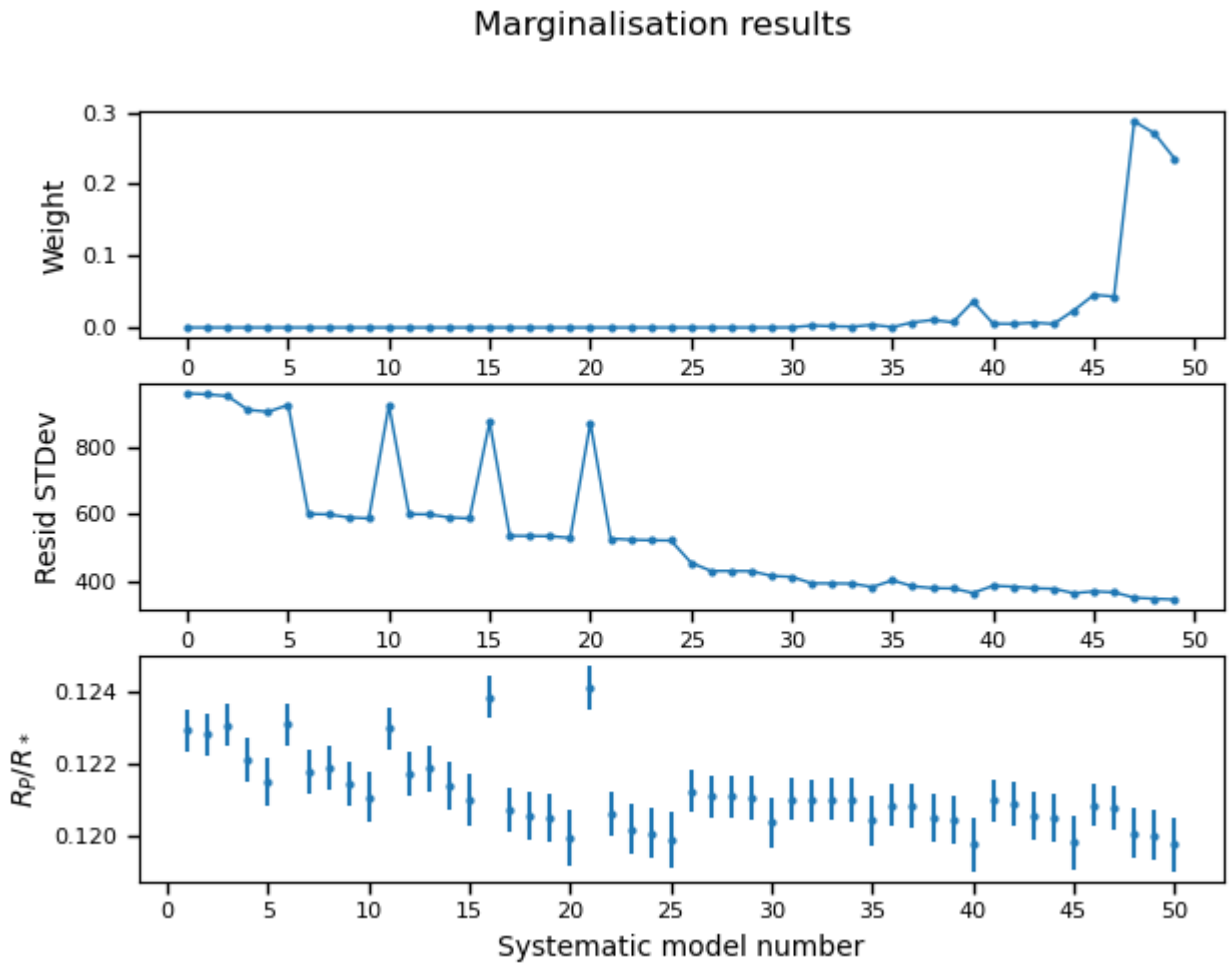
White noise = 0.0
Red noise = 0.0
Beta = 1.0
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

## Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.1200786878269811 +/- 0.0007642213800909199
Epoch (MJD) = 57957.97095574741 +/- 0.0006584865089680845
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

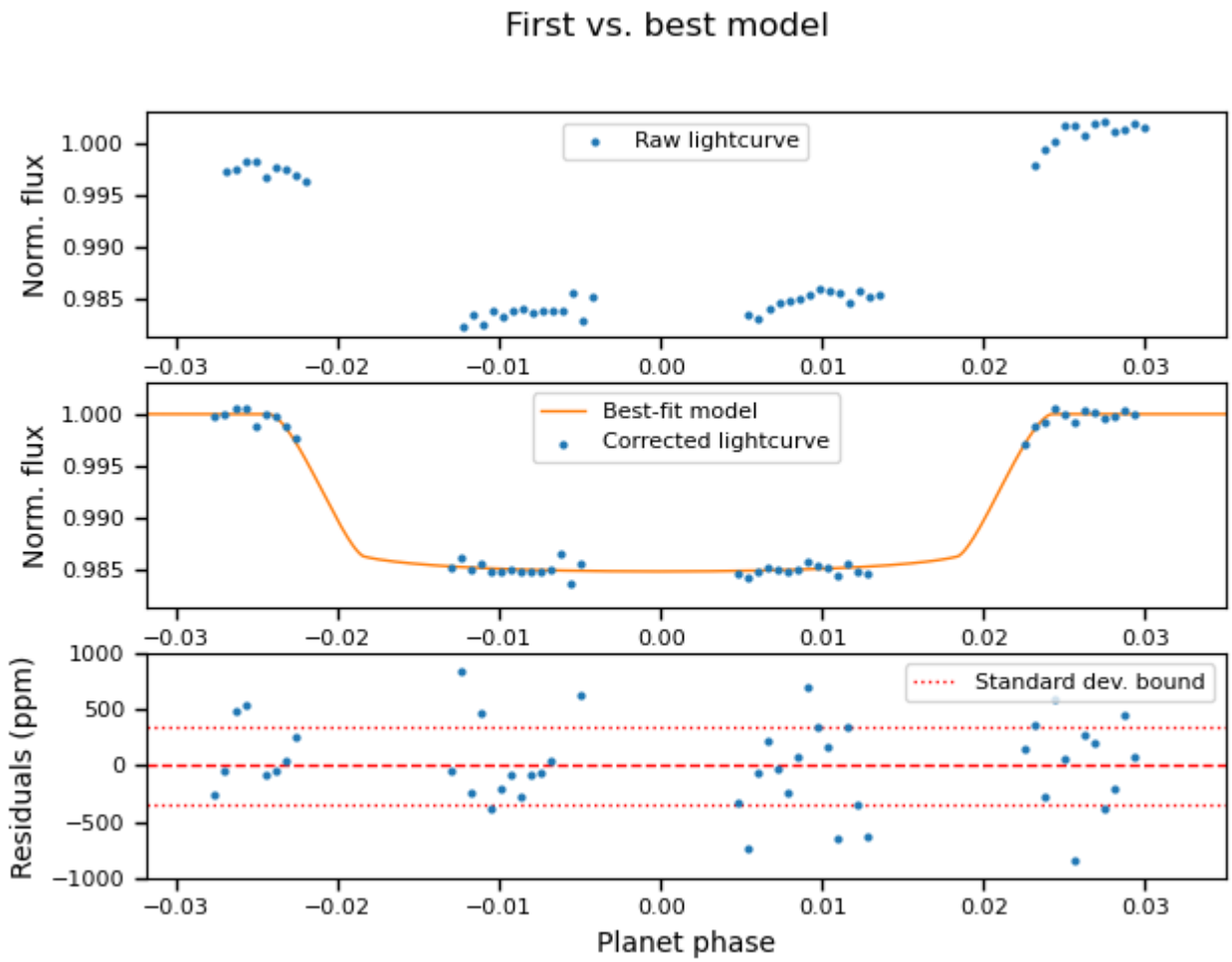
## Systematics




*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.