Report page ExoTIC-ISM

W17_G141_lc_13529.txt - 190

Input parameters:

Number of systematic models: 50
Wavelength mid point = 13559.492171141866
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 = 0.9282336197374371
C2 = -0.9765834287900212
C3 = 0.8366185833112805
C4 = -0.28433540751539427

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 38 37 39 48]
DOF = [37. 40. 41. 39. 38.]
Chi-squared = [62.85035074 66.07497027 67.36444308 65.52202021 64.71331845]
AIC evidence = [302.45826378 302.34595402 302.20121761 302.12242905 302.02677993]
Weights = [0.12082518957821312 0.10798961028487092 0.09343804697634078 0.08635874314974192 0.0784813433460371]
SDNR = [312.13300256 320.07303097 323.19228888 318.75910171 316.68834585]

Top model Noise Statistics:

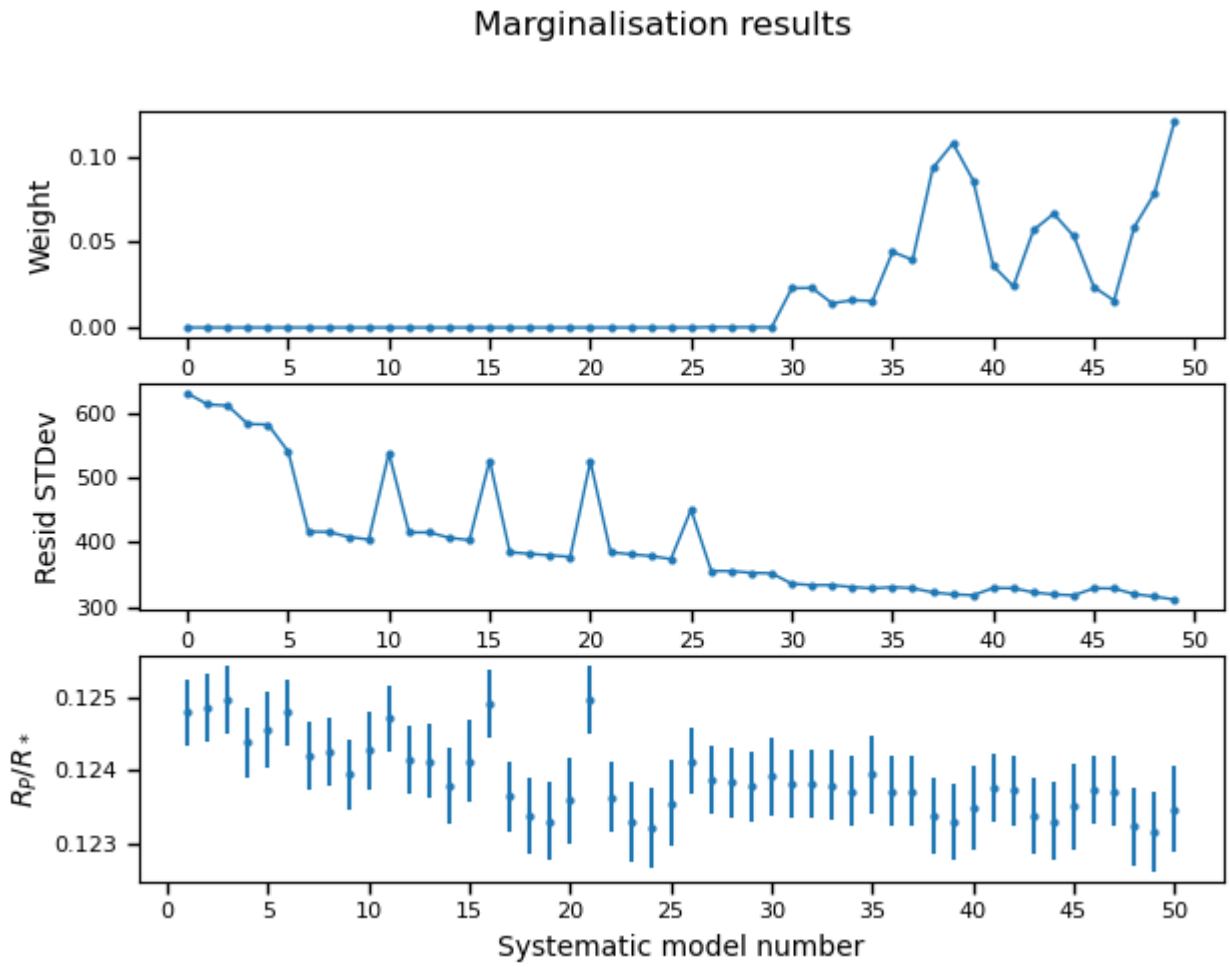
White noise = 0.0004215472752749426
Red noise = 0.0001363137169181588
Beta = 1.46435249185036
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12347885632605657 +/- 0.000559836883660073
Epoch (MJD) = 57957.97059134665 +/- 0.00049193493721432
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

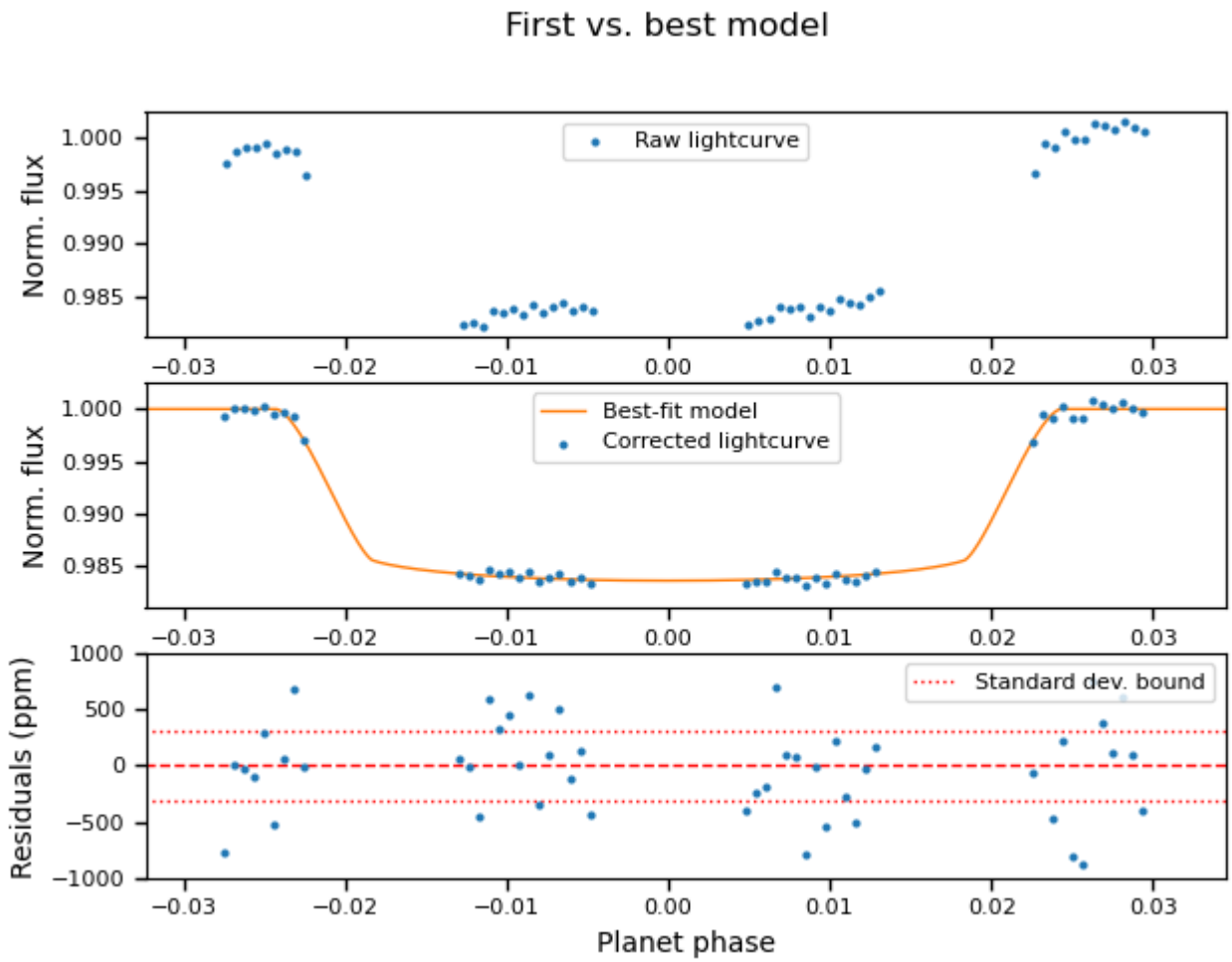
Systematics



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.