Report page ExoTIC-ISM

W17_G141_lc_14887.txt - 14887

Input parameters:

Number of systematic models: 50
Wavelength mid point = 14876.183081030493
Wavelength half width = 90.80626964749081

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 = 1.0499864148149503
C2 = -1.2680530805242303
C3 = 1.0768733019389403
C4 = -0.3605553824423078

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 = [39 34 38 33 44]
DOF = [44. 45. 45. 46. 43.]
Chi-squared = [52.59868322 53.83270247 54.14531046 55.36067043 52.58945983]
AIC evidence = [338.48888656 338.37187694 338.21557294 338.10789296 337.99349826]
Weights = [0.10898359868206343 0.09694926251321409 0.08292062129387648 0.0744556609039119 0.06640743987988111]
SDNR = [297.5986593 301.02467878 301.84805191 305.17371002 297.5855139]

Top model Noise Statistics:

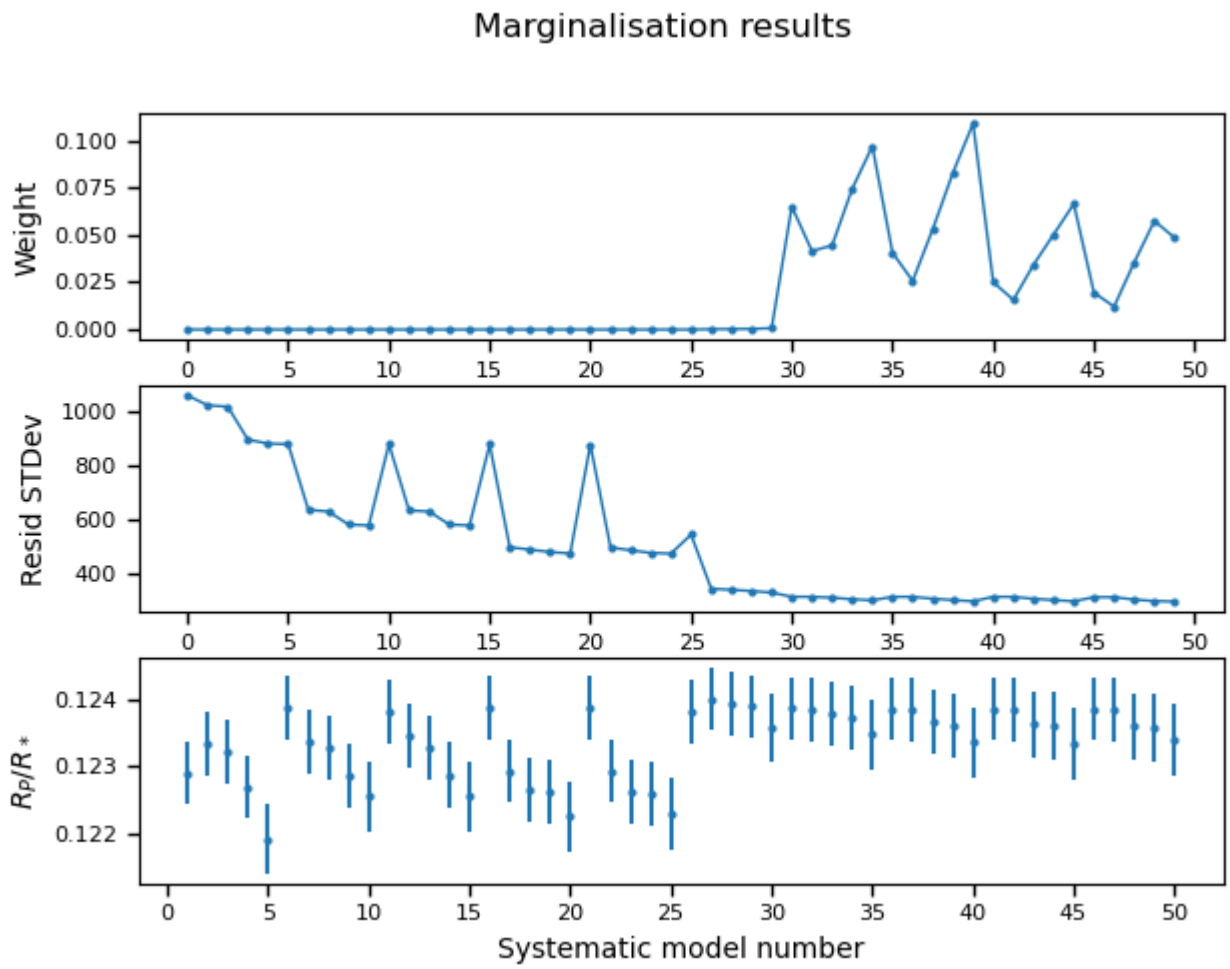
White noise = 0.0
Red noise = 0.0
Beta = 1.0
If the red-noise is significant it means the data is poorly fit by any of the systematic models. It is recommended that the input lightcurves are checked for additional noise sources.

Marginalised parameters:

If None, parameter was not fit for.

Rp/R* = 0.12361243234021159 +/- 0.0005280257535287974
Epoch (MJD) = 57957.969619054566 +/- 0.0006055158767484664
Inclination (rad) = None +/- None
Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

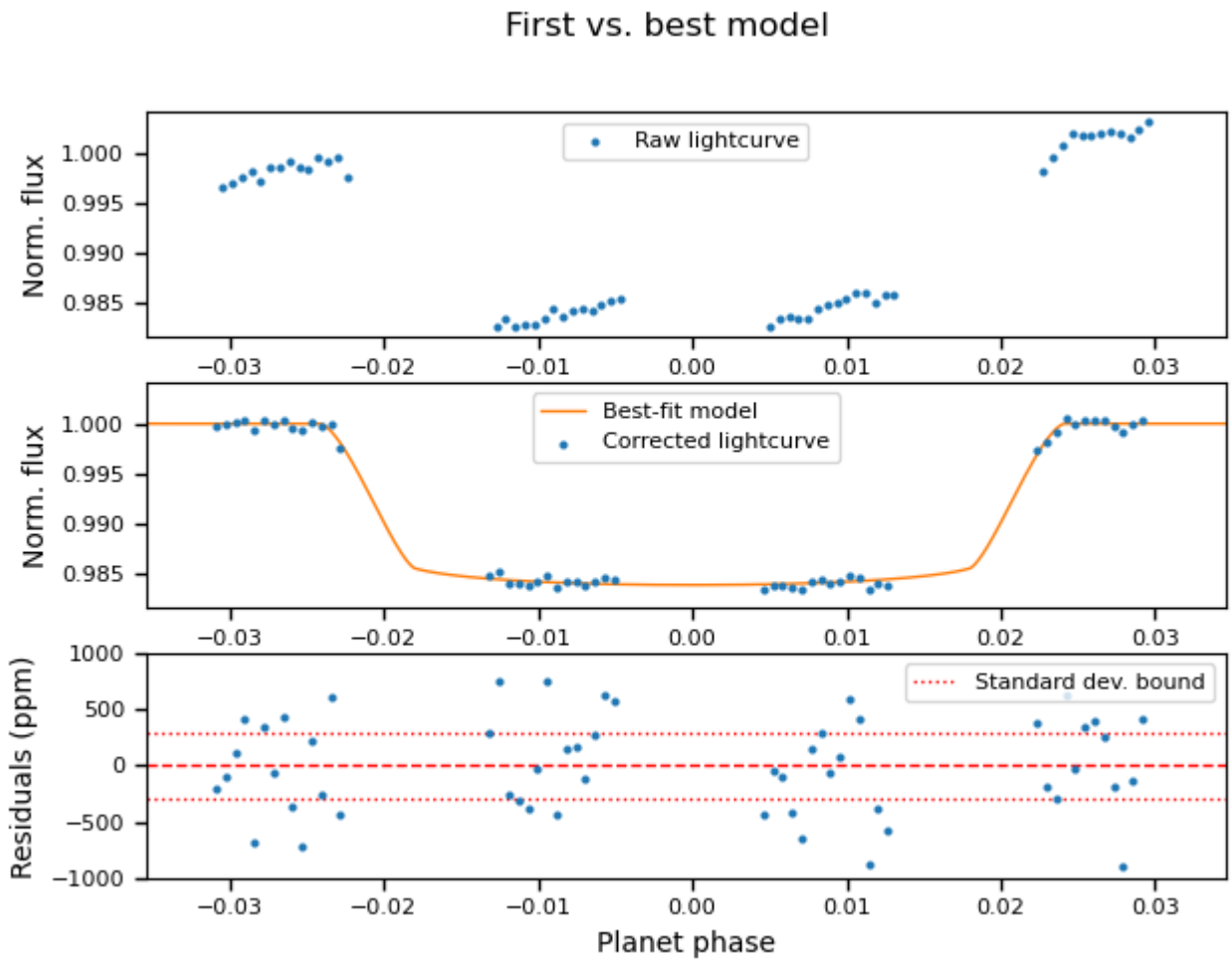
Systematics



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.