Report page ExoTIC-ISM

W17_G141_lc_15469.txt - 15469

Input parameters:

Number of systematic models: 50
Wavelength mid point = 15466.423833739189
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 = 1.12028183979224
C2 = -1.4670889205323994
C3 = 1.274128708895885
C4 = -0.43291665659979

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 = [48 37 47 38 49]
DOF = [43. 46. 44. 45. 42.]
Chi-squared = [60.07840536 63.37704569 61.46900592 62.49583568 59.60074851]
AIC evidence = [331.64886557 331.4995454 331.45356529 331.44015041 331.38769399]
Weights = [0.15786045232763765 0.13596415237015125 0.1298540526943223
0.12812370868562636 0.12157603334327177]
SDNR = [333.77672752 343.01040454 337.71949241 340.57151584 332.41975943]

White noise = 0.00044134852594513113
Red noise = 0.00017557885289409792
Beta = 1.5438824703060985
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* = 0.12227358091228153 +/- 0.0005379075909308606
Epoch (MJD) = 57957.96892816276 +/- 0.0006074425106370485
Inclination (rad) = None +/- None
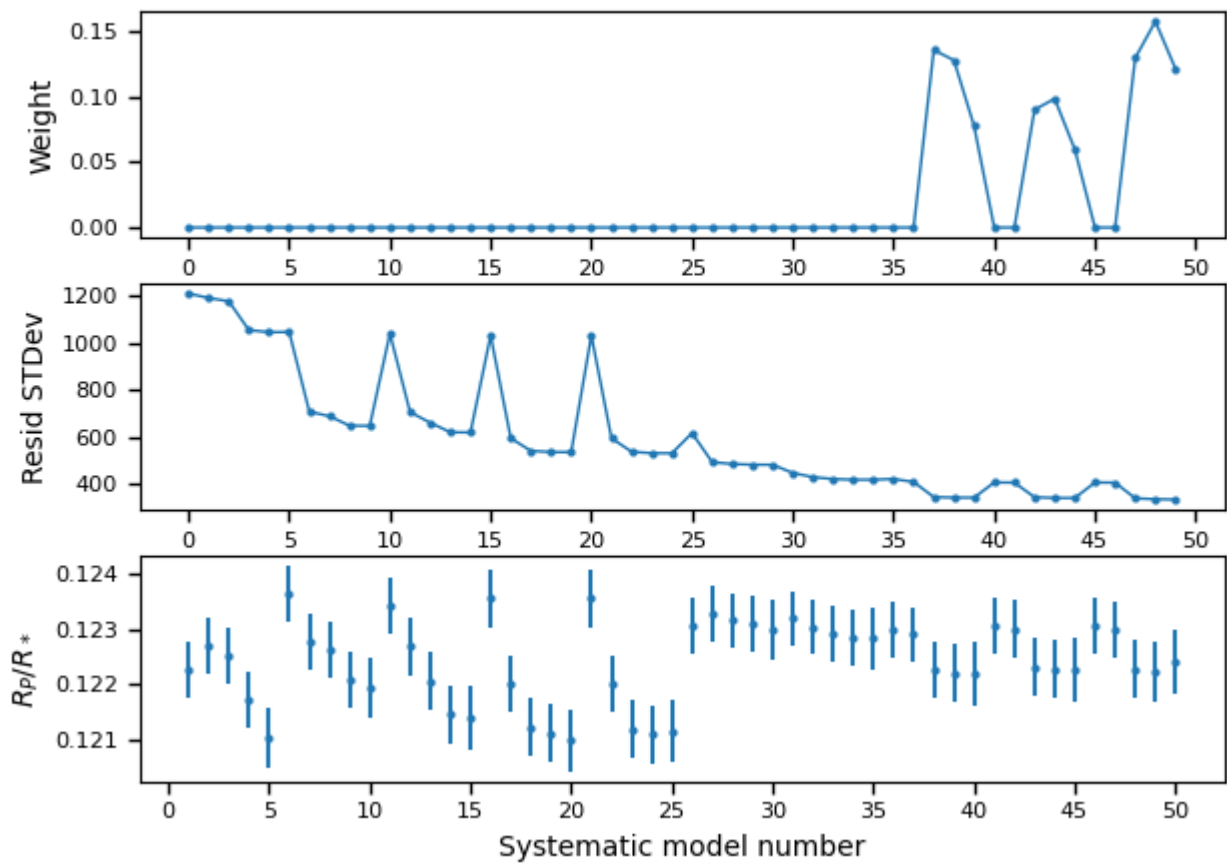Inclination (deg) = None +/- None
System density (Ms+Mp/R^3) = None +/- None
a/R* = None +/- None

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
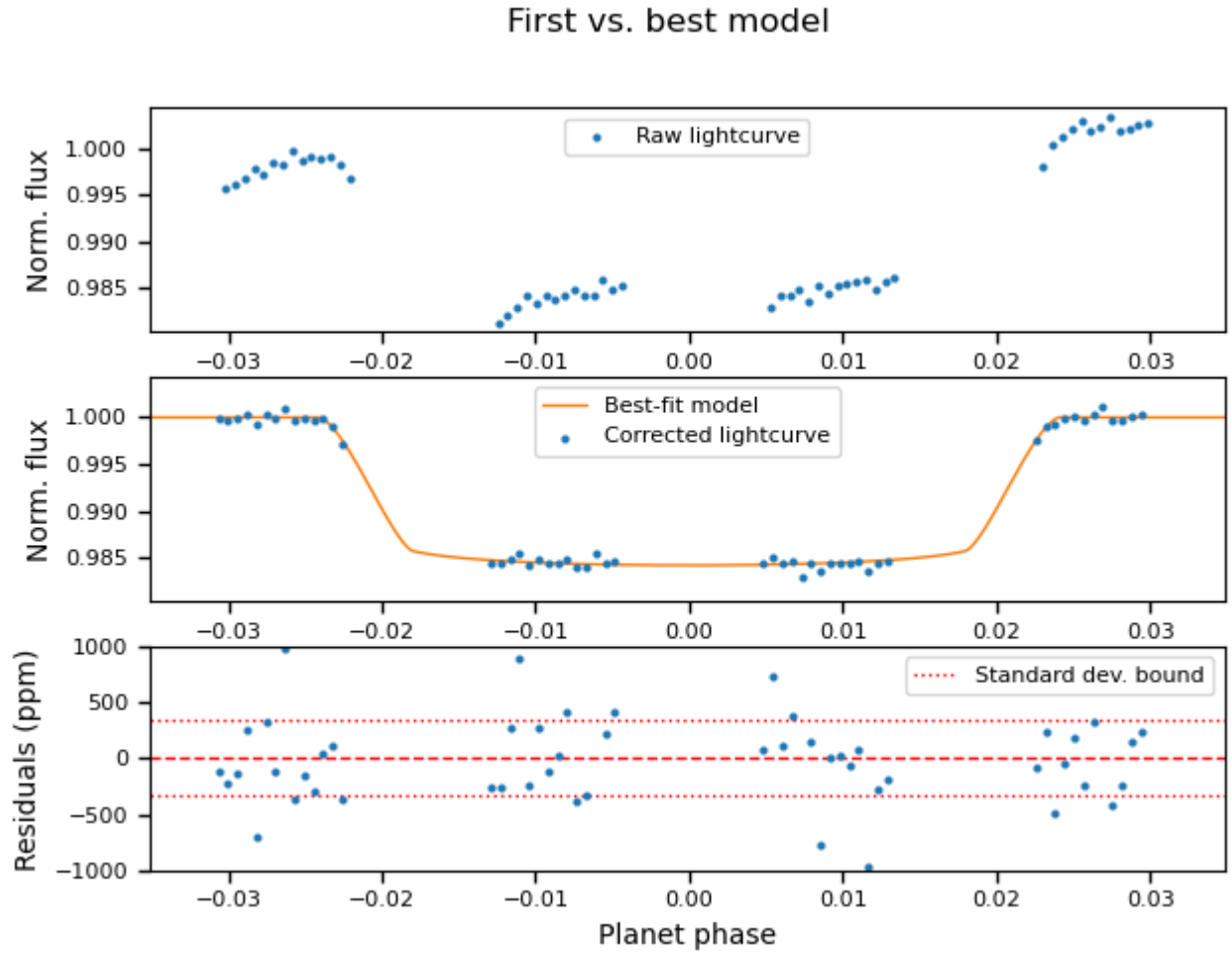
Top: Input lightcurve with no systematic model correction applied. *Middle:* Lightcurve corrected by highest weight systematic model plotted with the smooth planetary transit model centred on the mid-transit time. *Bottom:* Residuals and uncertainties associated with the middle panel lightcurve. The upper and lower standard deviation bounds are shown in dotted lines relative to zero.