

# KIC 005962514

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005962514-01	OBS	6639.01	0.790112	132.018362	145781.9	5.129	2790.9	806.9	1.34	6785	75.75	9878.18

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005962514-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—CENT_FEW_DIFFS

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

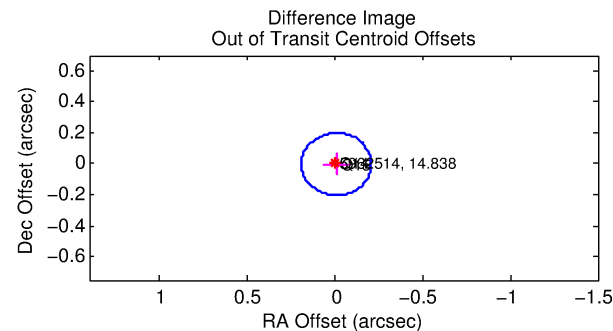
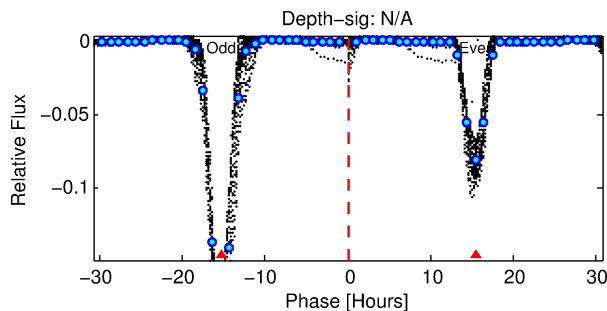
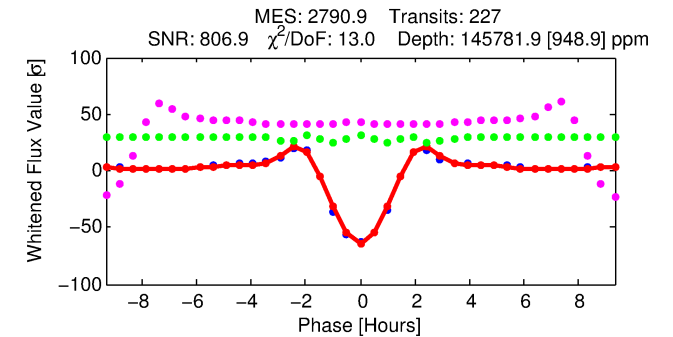
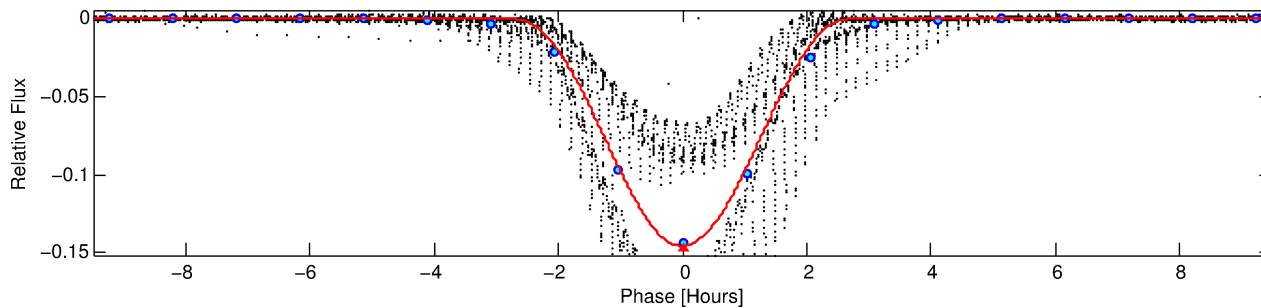
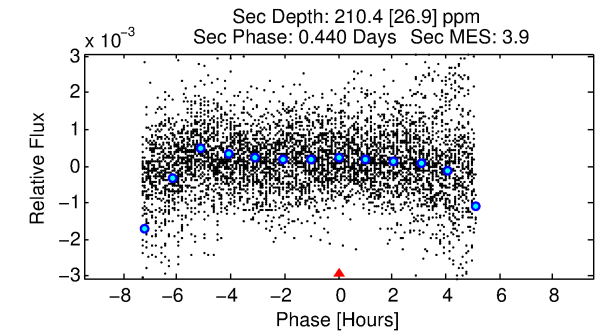
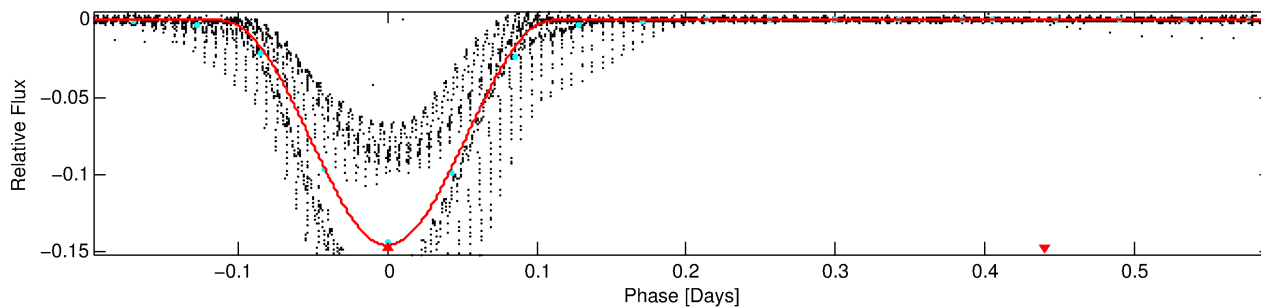
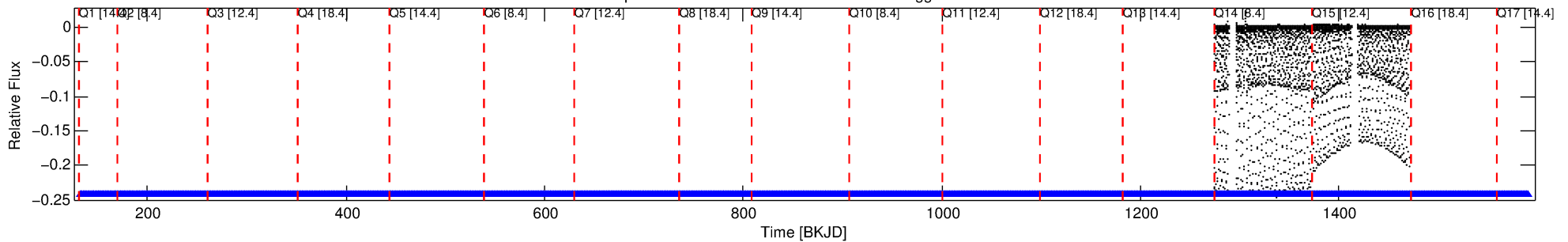
## Ephemeris Match Information For 005962514-01

No Significant Match Found

# DV One-Page Summary

KIC: 5962514 Candidate: 1 of 1 Period: 0.790 d  
KOI: K06639.01 Corr: 0.780

Kp: 14.84 R\*: 1.34 Rs Teff: 6785.0 K Logg: 4.32 Fe/H: 0.070



## DV Fit Results:

Period = 0.79011 [0.00000] d  
Epoch = 132.0184 [0.0001] BKJD  
Rp/R\* = 0.5173 [0.2280]  
a/R\* = 1.86 [0.21]  
b = 0.90 [0.32]  
Seff = 9878.18 [4600.05]  
Teq = 2542 [296] K  
**Rp = 75.75 [43.79] Re**  
a = 0.0186 [0.0057] AU  
Ag = 0.01 [0.01] [-143.46σ]  
Teffp = 1136 [257] K [-3.58σ]

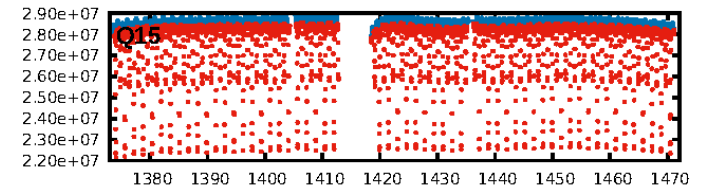
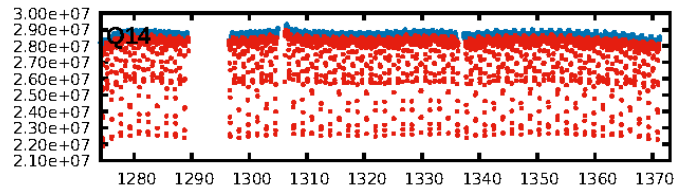
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [227/227]  
GhostDiagnostic-chr: 1.156  
**Centroid-sig: 0.0%**  
**Centroid-so: 0.035 arcsec [21.87σ]**  
OotOffset-rm: 0.008 arcsec [0.12σ]  
KicOffset-rm: 0.124 arcsec [1.84σ]  
OotOffset-st: 1/1/0/0 [2]  
KicOffset-st: 1/1/0/0 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [2/2]

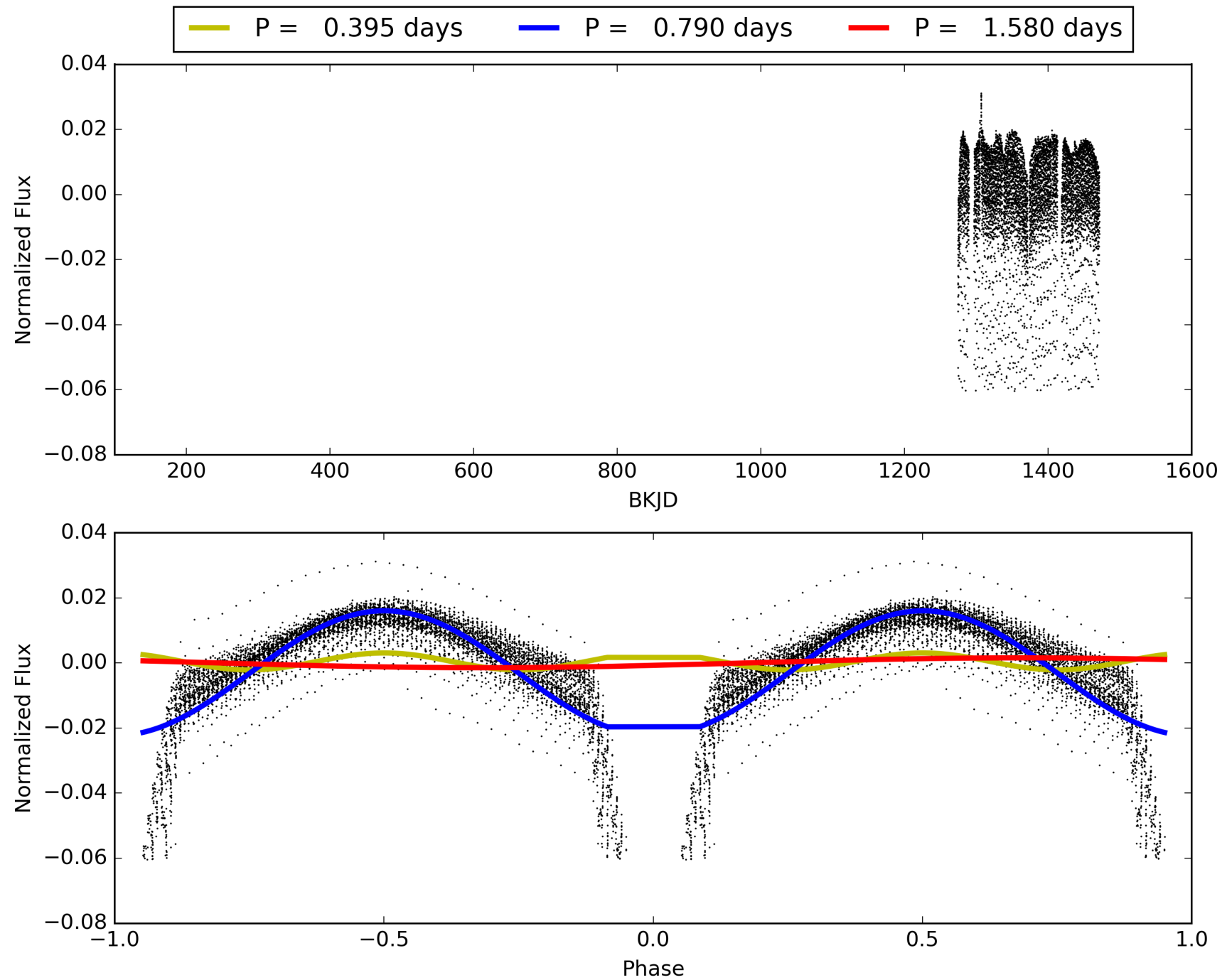
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:00:50 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005962514-01, PDC Light Curves

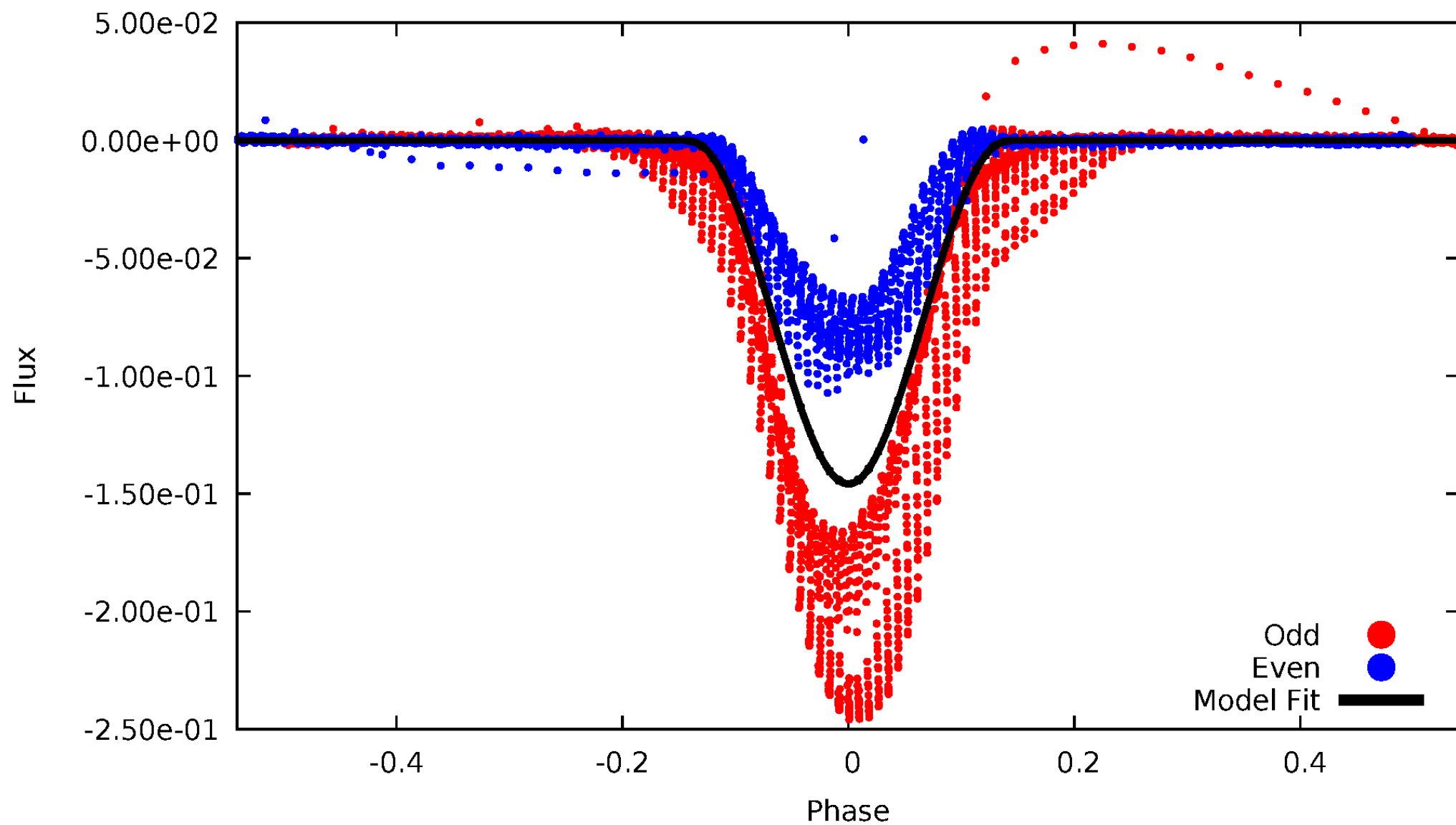


TCE 005962514-01



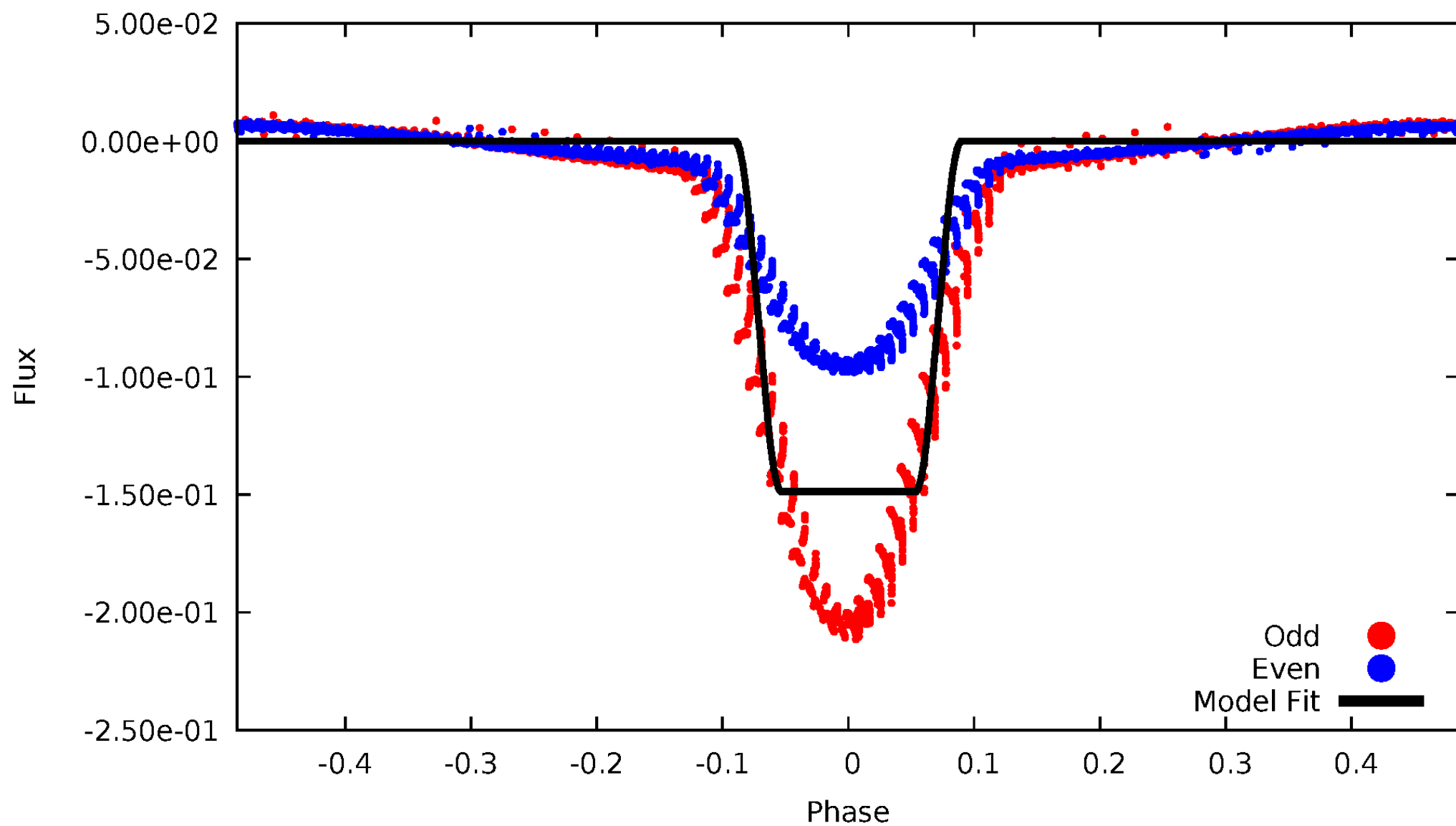
# DV Odd/Even

TCE 005962514-01



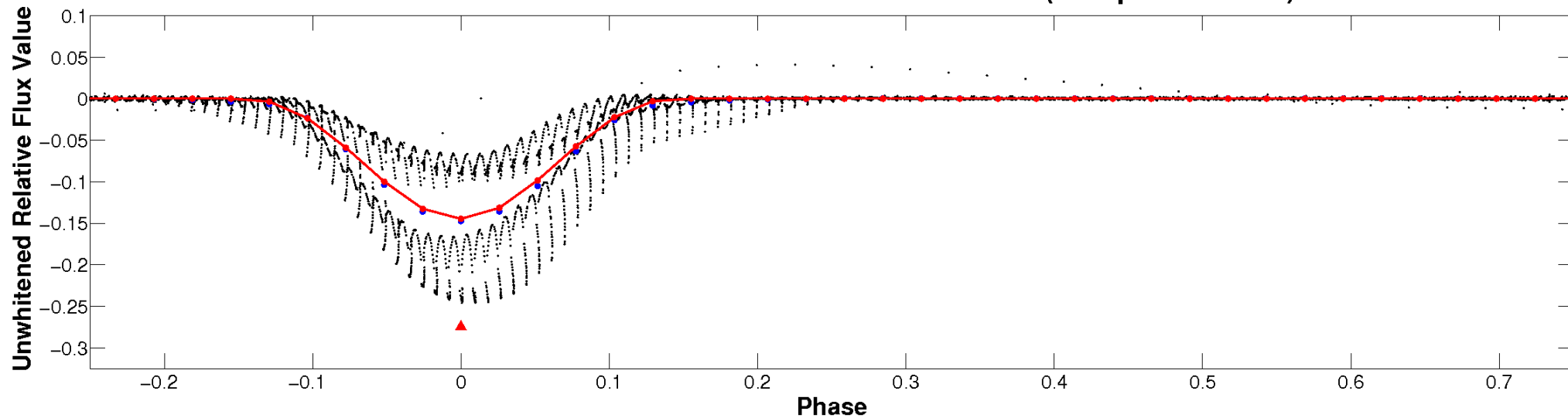
# ALT Odd/Even

TCE 005962514-01

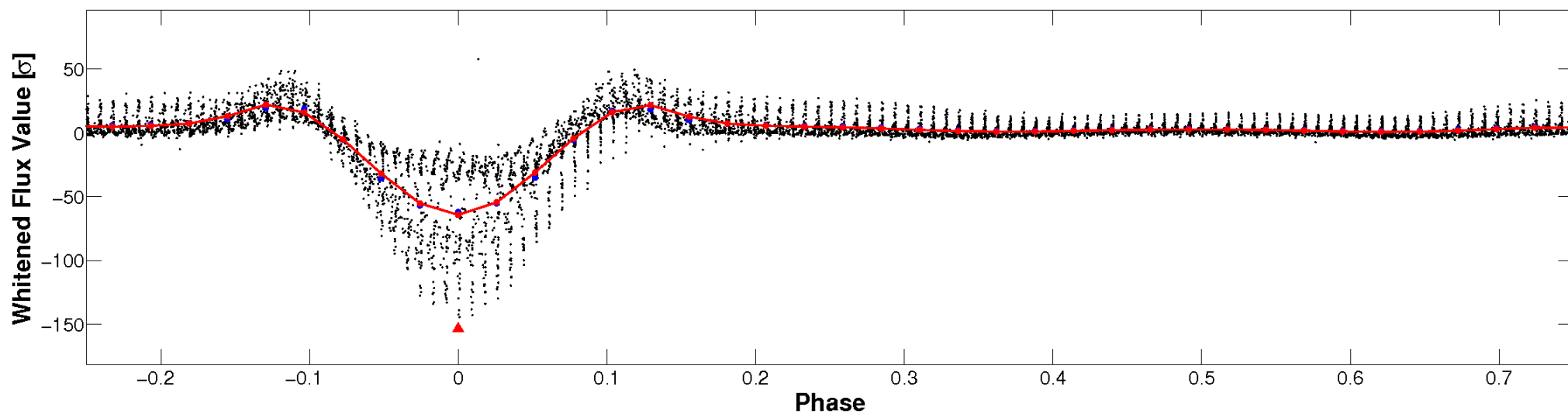


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**

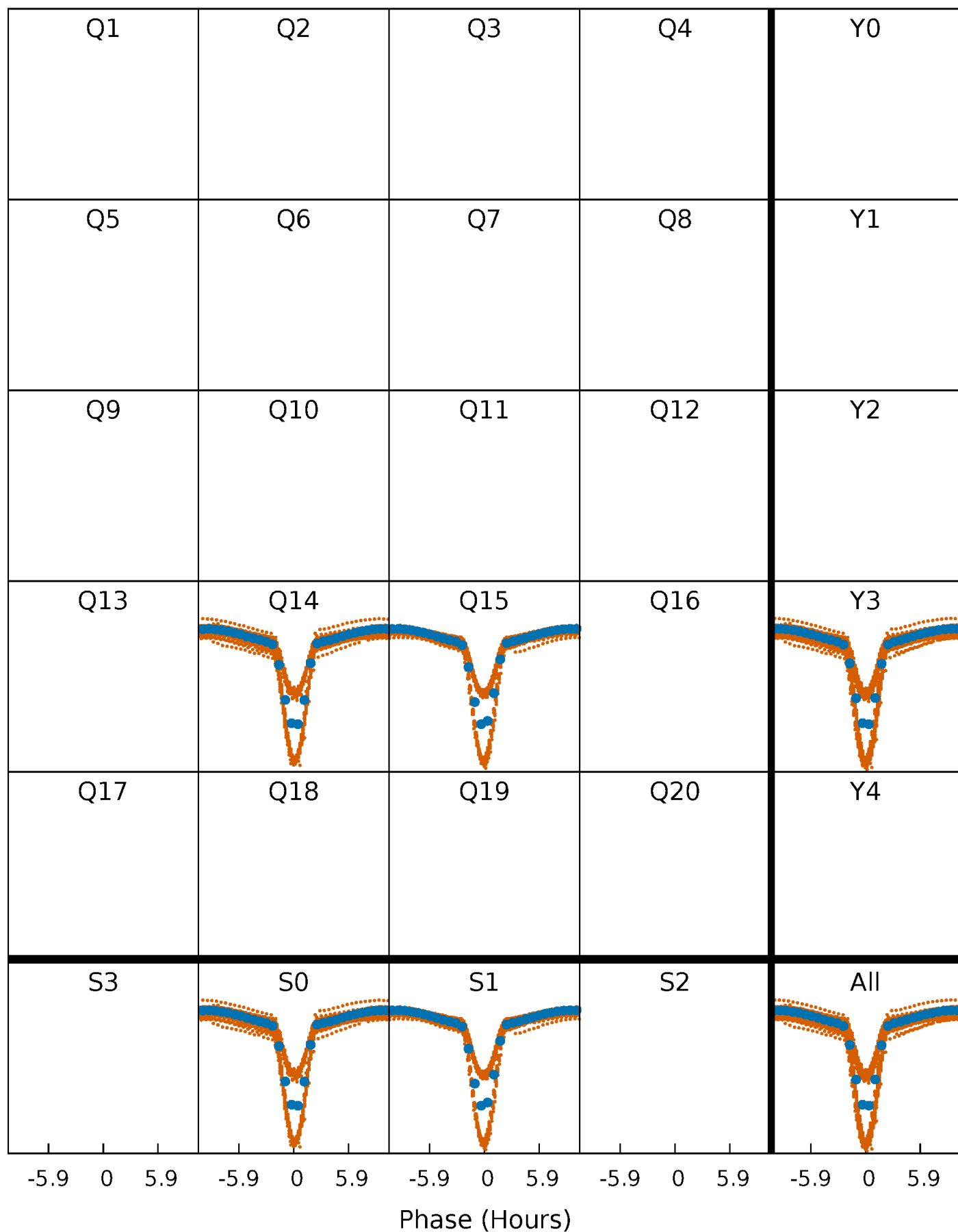


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

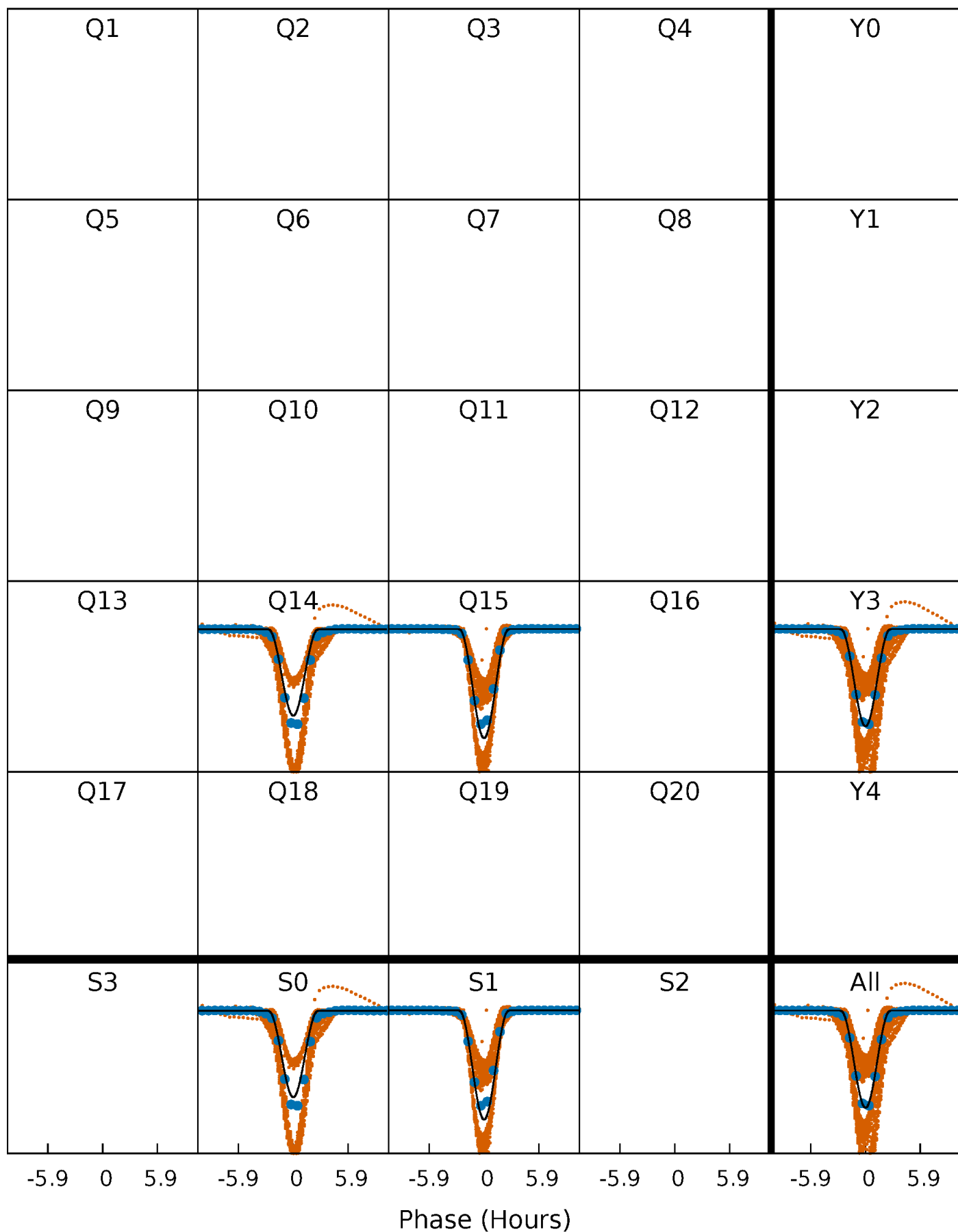
TCE 005962514-01   P= 0.790112 Days    $T_0=132.018362$  (BKJD)





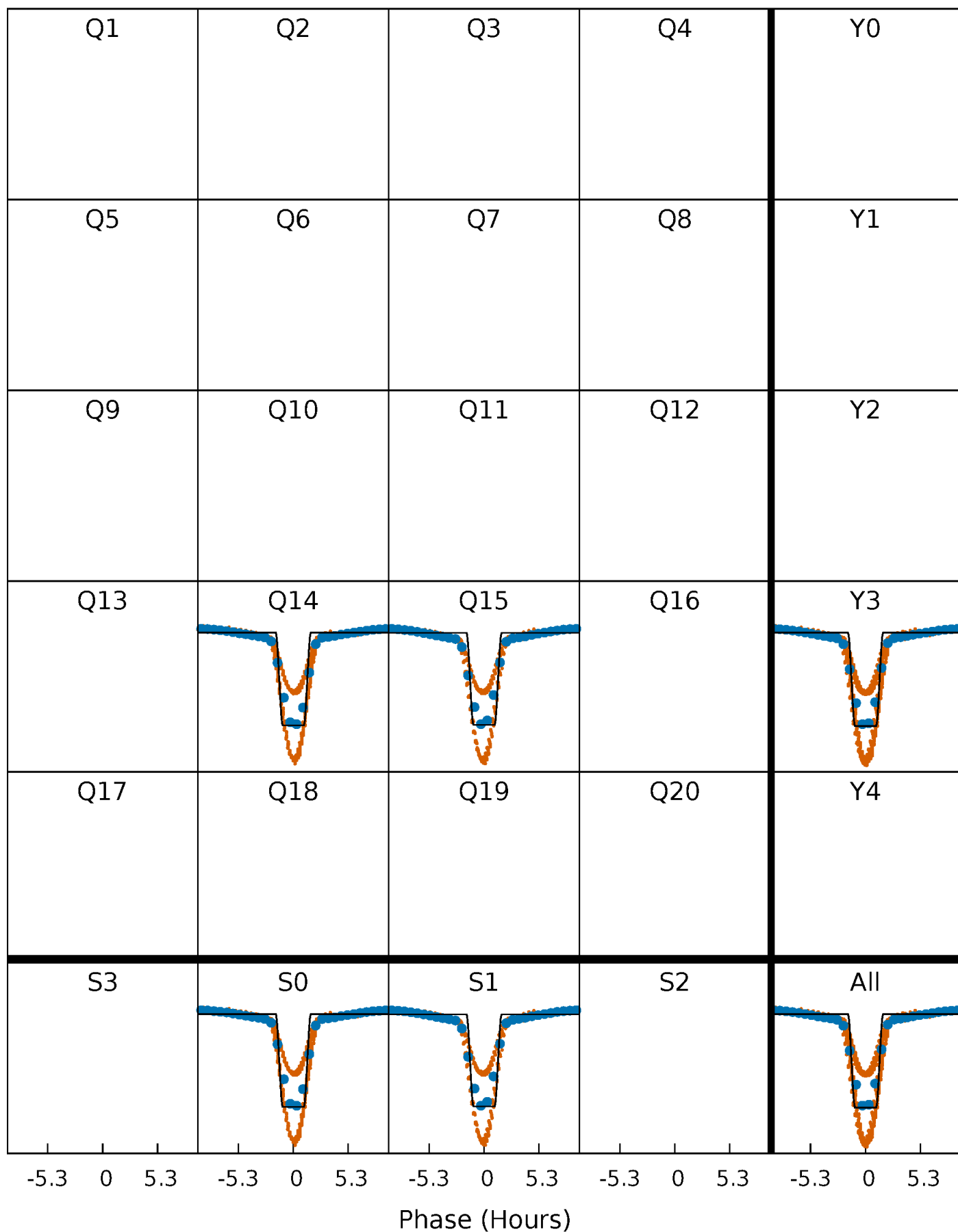
# DV Quarter-Phased Transit Curves

TCE 005962514-01 P= 0.790112 Days  $T_0=132.018362$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

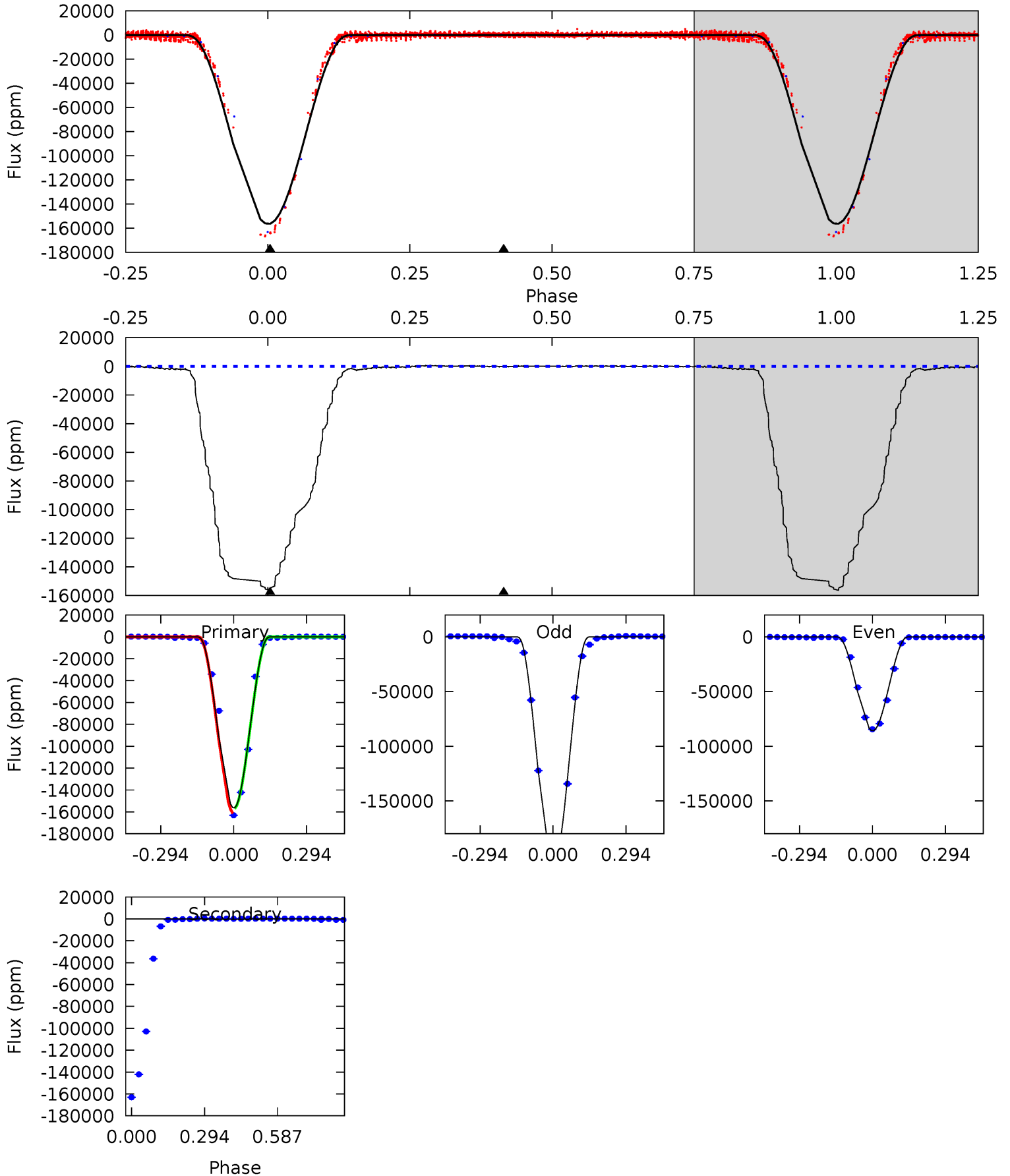
TCE 005962514-01 P= 0.790116 Days  $T_0=132.013339$  (BKJD)



# DV Model-Shift Uniqueness Test

005962514-01, P = 0.790112 Days, E = 132.018362 Days

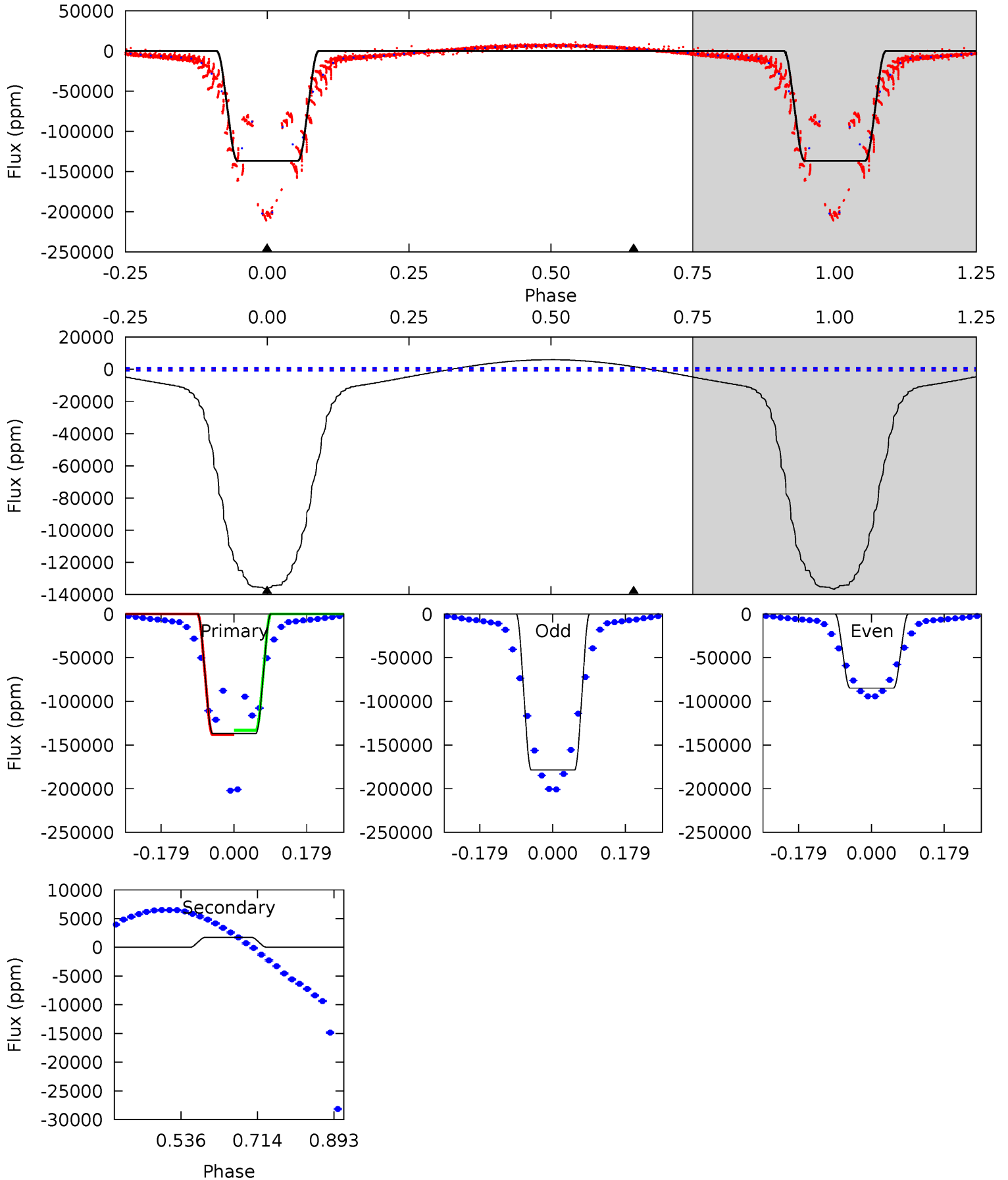
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3440	6.93	0	0	4.33	1.05	3.06	3440	3440	6.93	6.93	1613	0.89	0.00	0



# Alt Model-Shift Uniqueness Test

005962514-01, P = 0.790116 Days, E = 132.013339 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
837.0	-10.7	0	0	4.44	1.35	28.3	837.0	837.0	-10.7	-10.7	415.9	0.78	0.04	16.0



### Stellar Parameters For KIC 005962514

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6785^{+189}_{-283}$	$4.321^{+0.058}_{-0.232}$	$0.070^{+0.200}_{-0.350}$	$1.342^{+0.502}_{-0.167}$	$1.374^{+0.204}_{-0.224}$	$0.801^{+0.255}_{-0.452}$
	+3%/-4%	+1%/-5%	+286%/-500%	+37%/-12%	+15%/-16%	+32%/-56%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 005962514-01 / KOI 6639.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-315 \pm 45$	$81.59^{+37.50}_{-36.29}$	$3621^{+294}_{-188}$	$-3418^{+131}_{-188}$	$0.009^{+0.020}_{-0.005}$
Alt.	$1745 \pm 163$	$61.23^{+36.34}_{-33.78}$	$3639^{+312}_{-197}$	$-3664^{+173}_{-404}$	$-0.083^{+0.050}_{-0.345}$

$T_{max}$  = Theoretical Maximum Planetary Temperature  
 $T_{obs}$  = Observed Planetary Temperature (Assuming A=0.3)  
 $A_{obs}$  = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$

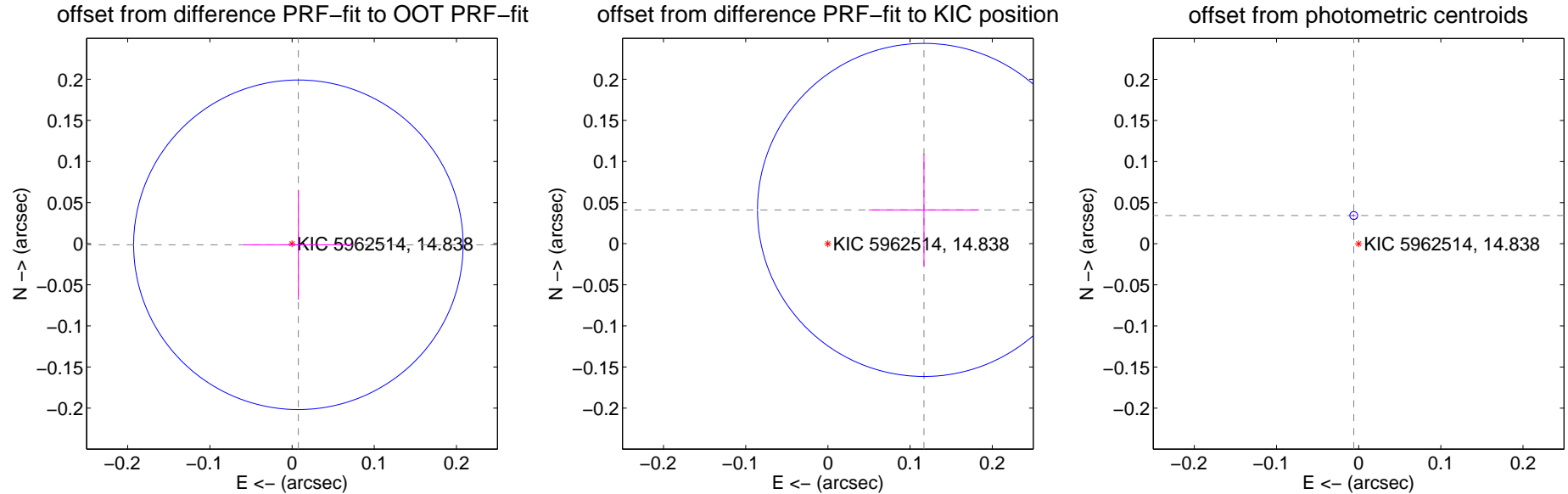
## DV Centroid Data

Supplemental centroid analysis for 005962514-01. Kepler magnitude: 14.84. Transit SNR 806.94

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.008 \pm 0.067$	0.12	$-0.008 \pm 0.067$	$-0.001 \pm 0.067$
PRF-fit source offset from KIC position	$0.124 \pm 0.068$	1.84	$-0.117 \pm 0.067$	$0.041 \pm 0.068$
photometric centroid source offset	$0.03 \pm 0.00$	21.87	$0.01 \pm 0.00$	$0.03 \pm 0.00$



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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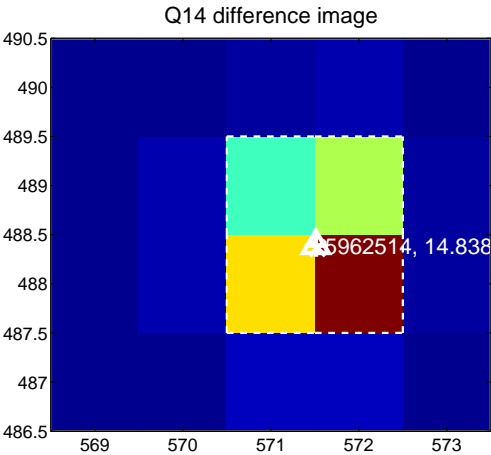
Q13 no difference image



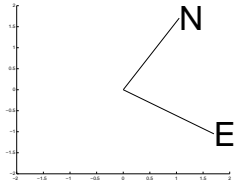
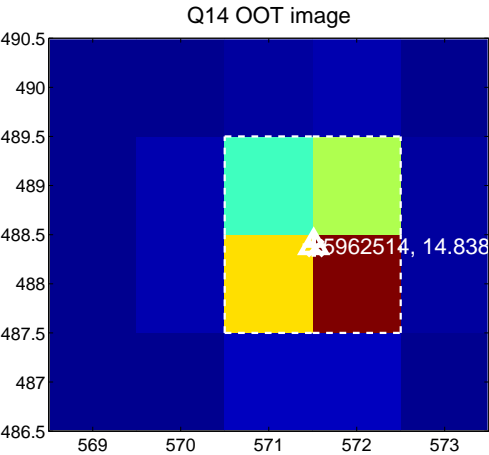
Q13 no OOT image



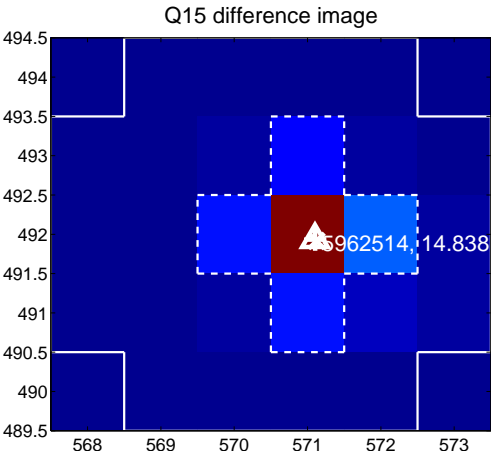
Q14 difference image



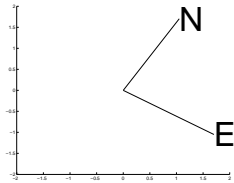
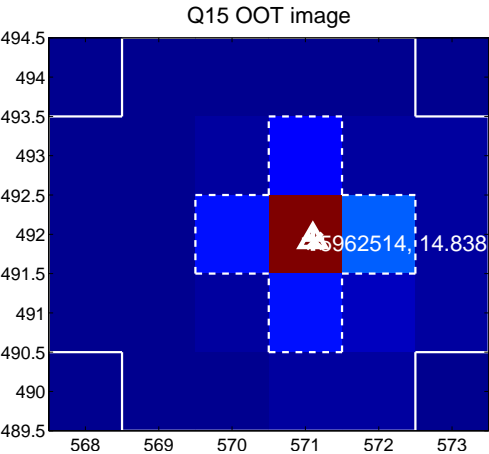
Q14 OOT image



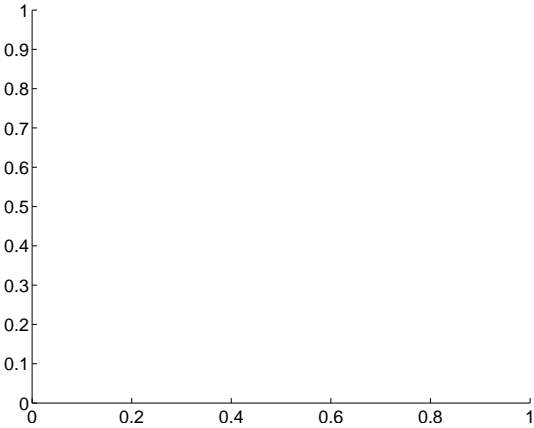
Q15 difference image



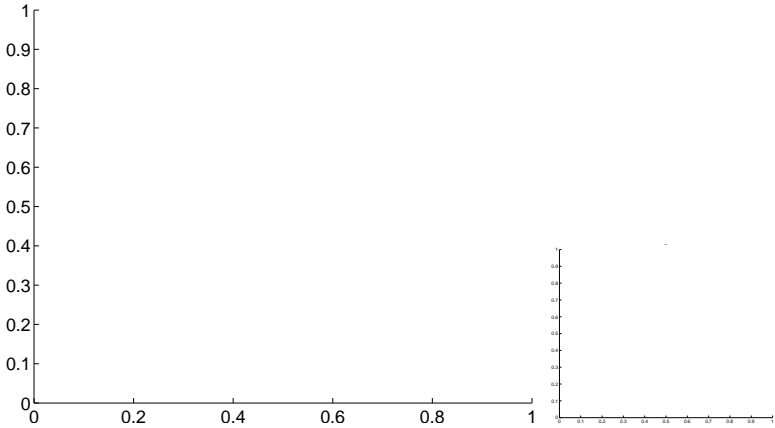
Q15 OOT image



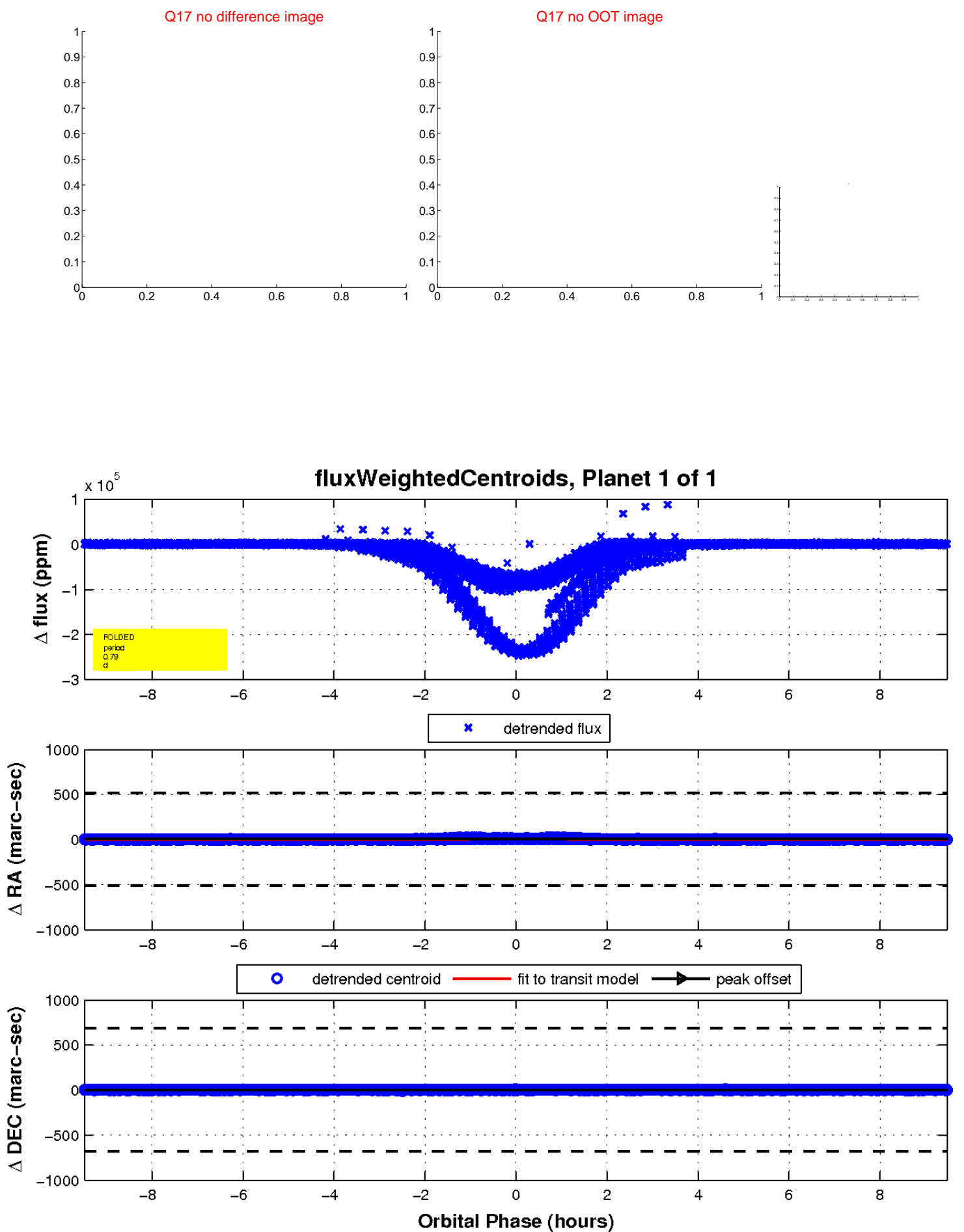
Q16 no difference image



Q16 no OOT image



white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination

