

# KIC 005375194

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005375194-01	OBS	1825.01	13.522487	142.182449	665.0	4.230	45.0	48.4	0.82	5338	2.53	42.87

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005375194-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

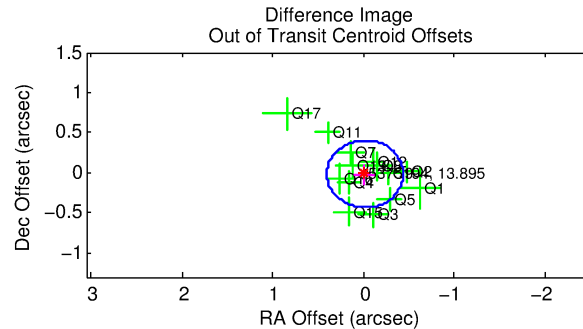
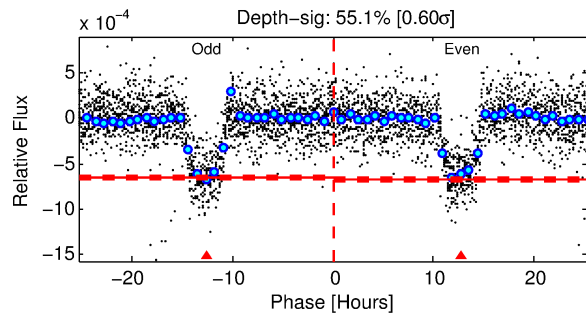
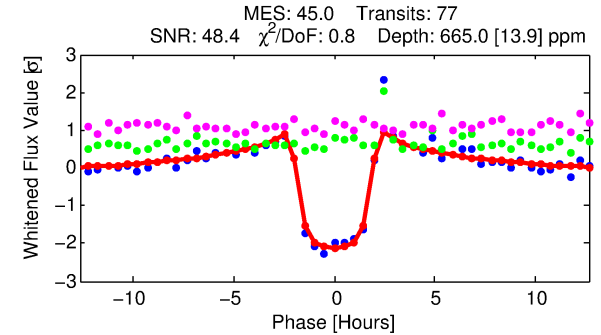
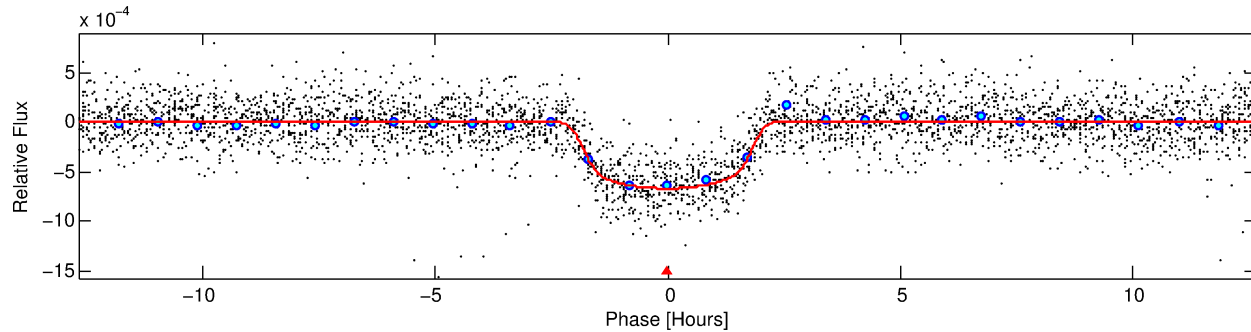
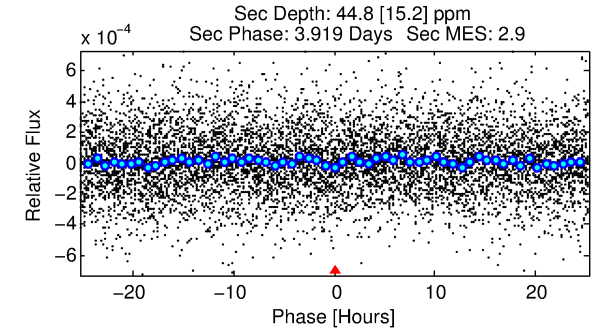
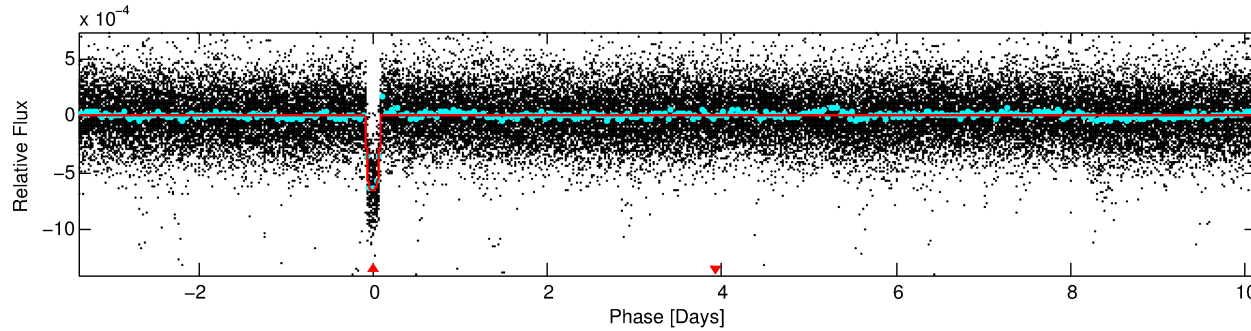
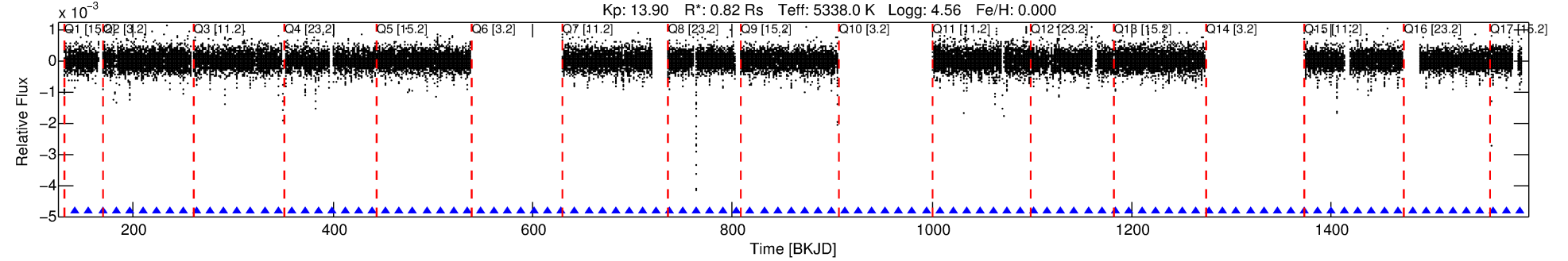
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005375194-01

No Significant Match Found

# DV One-Page Summary

KIC: 5375194 Candidate: 1 of 1 Period: 13.522 d  
KOI: K01825.01 Corr: 0.959



## DV Fit Results:

Period = 13.52249 [0.00002] d  
Epoch = 142.1824 [0.0013] BKJD  
Rp/R\* = 0.0284 [0.0010]  
a/R\* = 12.35 [1.65]  
b = 0.90 [0.03]  
Seff = 42.87 [6.69]  
Teff = 652 [25] K  
Rp = 2.53 [0.26] Re  
a = 0.1063 [0.0092] AU  
Ag = 43.59 [16.25] [2.62σ]  
Teffp = 2592 [231] K [8.34σ]

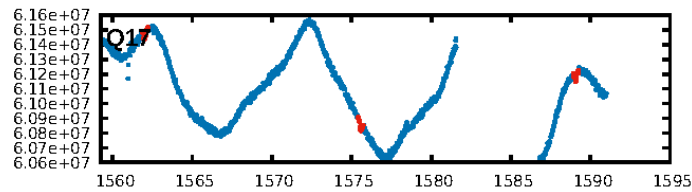
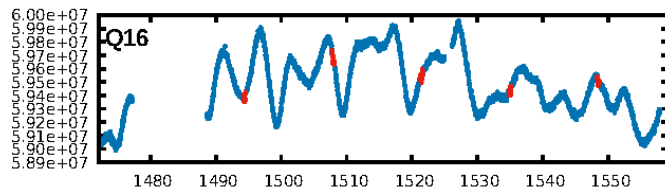
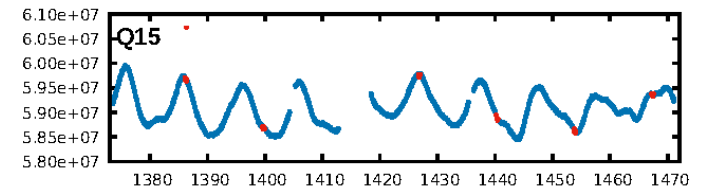
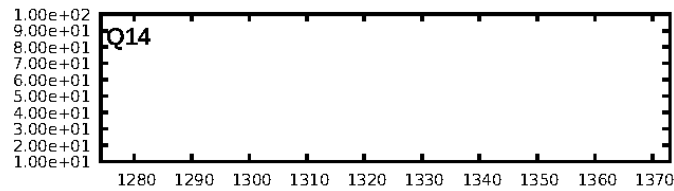
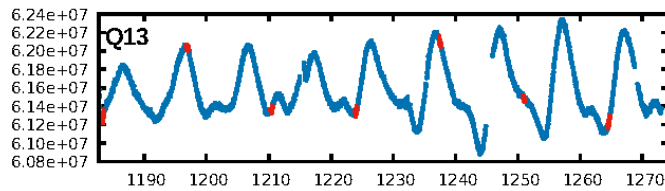
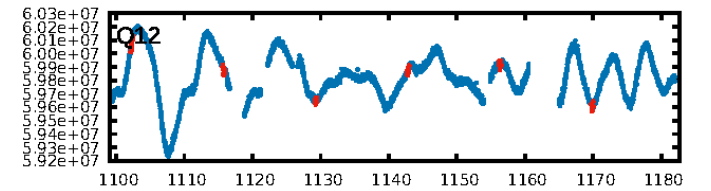
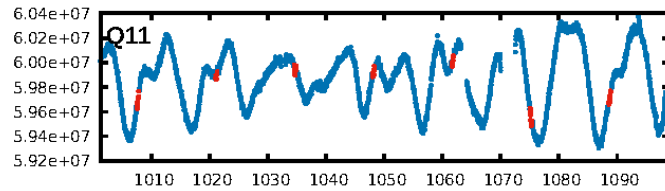
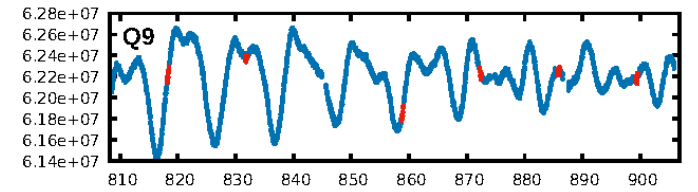
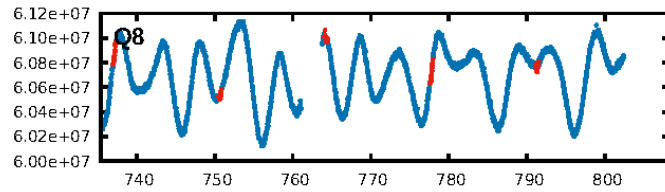
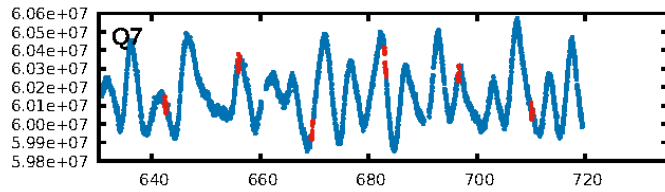
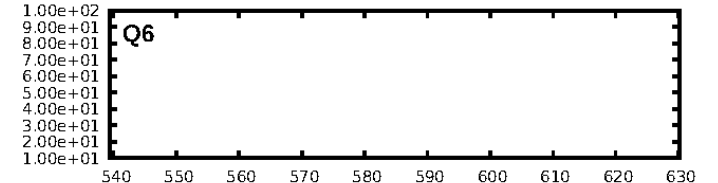
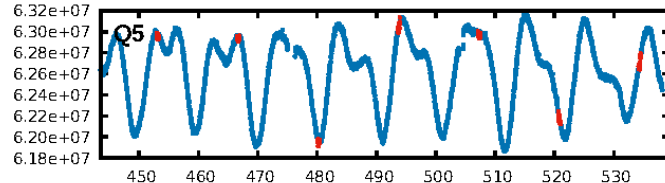
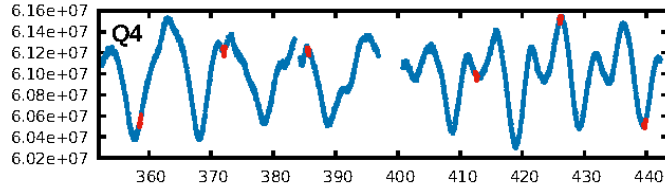
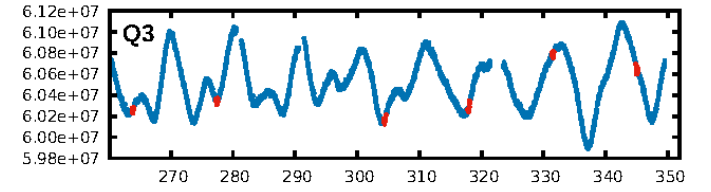
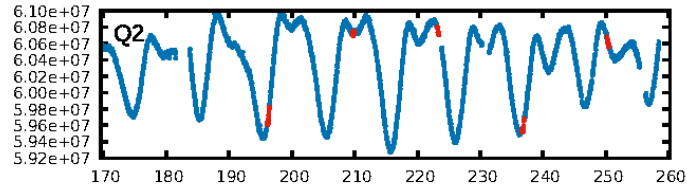
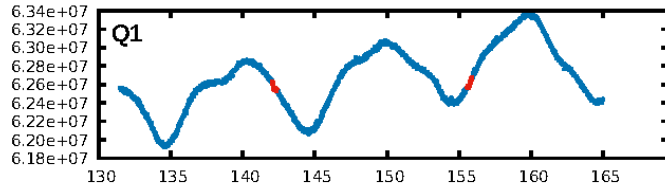
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 97.4%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [72/72]  
GhostDiagnostic-chr: 2.743  
Centroid-sig: 0.0%  
Centroid-so: 0.360 arcsec [2.09σ]  
OotOffset-rm: 0.025 arcsec [0.18σ]  
KicOffset-rm: 0.099 arcsec [0.77σ]  
OotOffset-st: 1/4/4/5 [14]  
KicOffset-st: 1/4/4/5 [14]  
DiffImageQuality-fgm: 1.00 [14/14]  
DiffImageOverlap-fno: 1.00 [14/14]

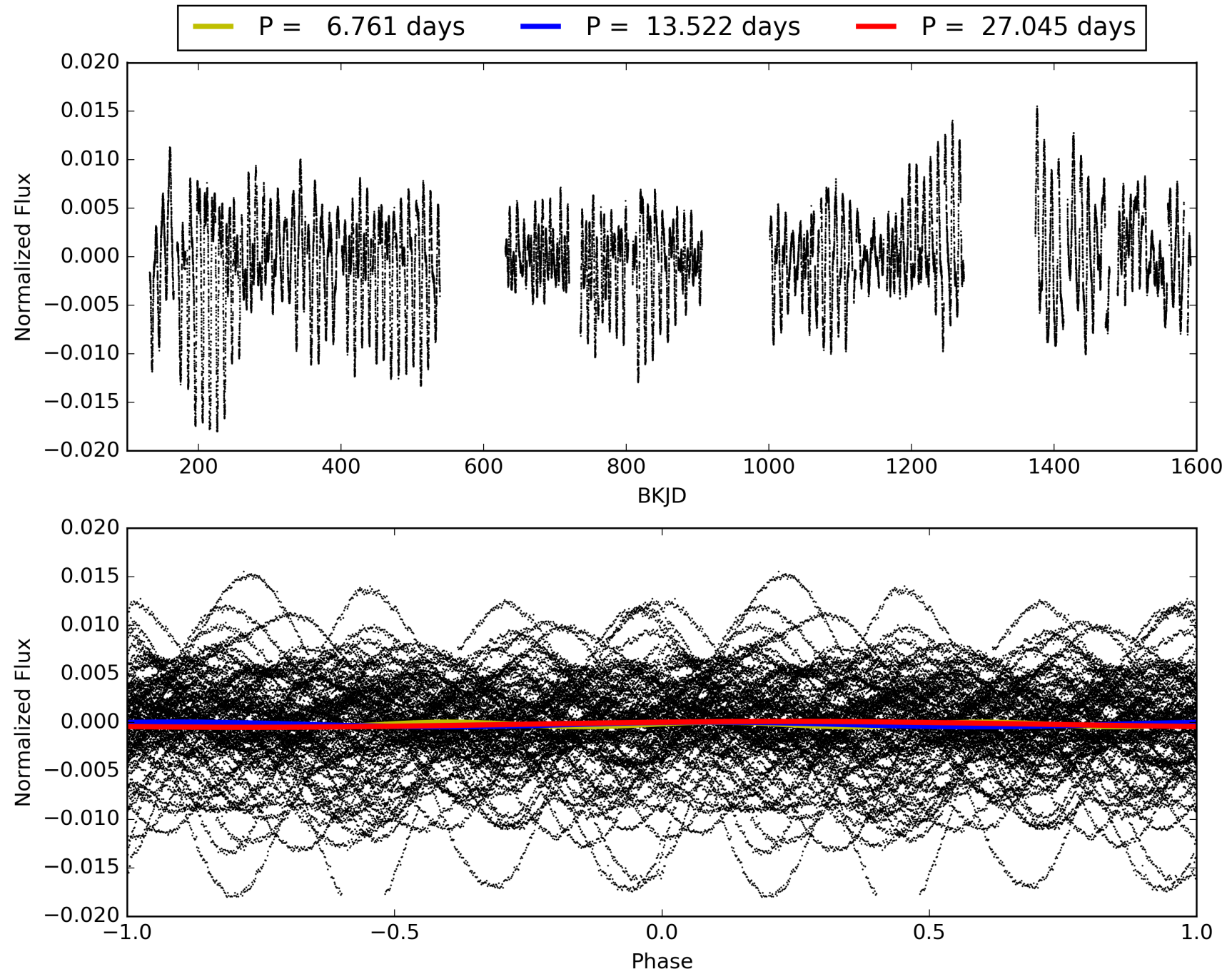
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:55:27 Z

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

# TCE 005375194-01, PDC Light Curves

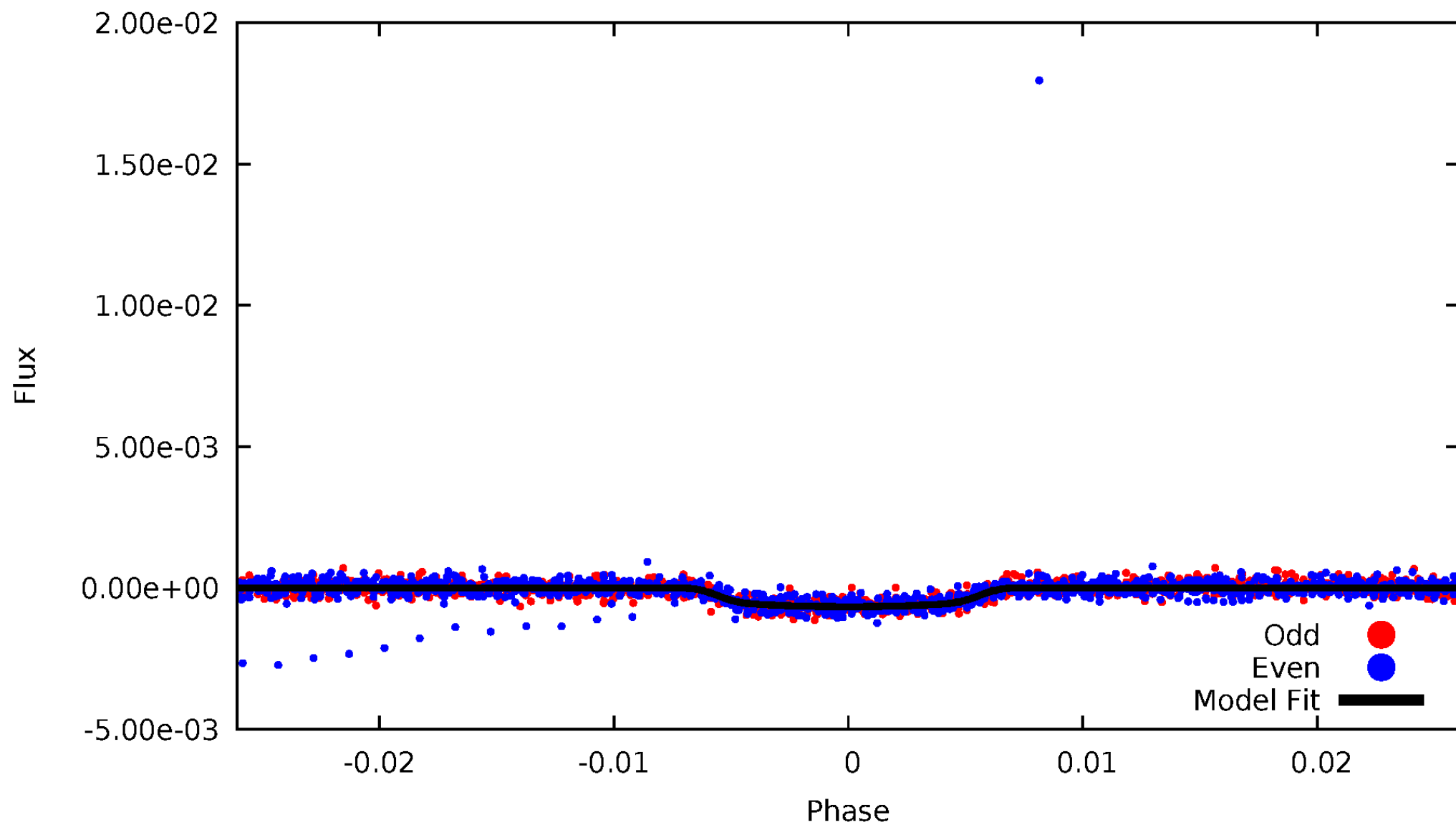


TCE 005375194-01



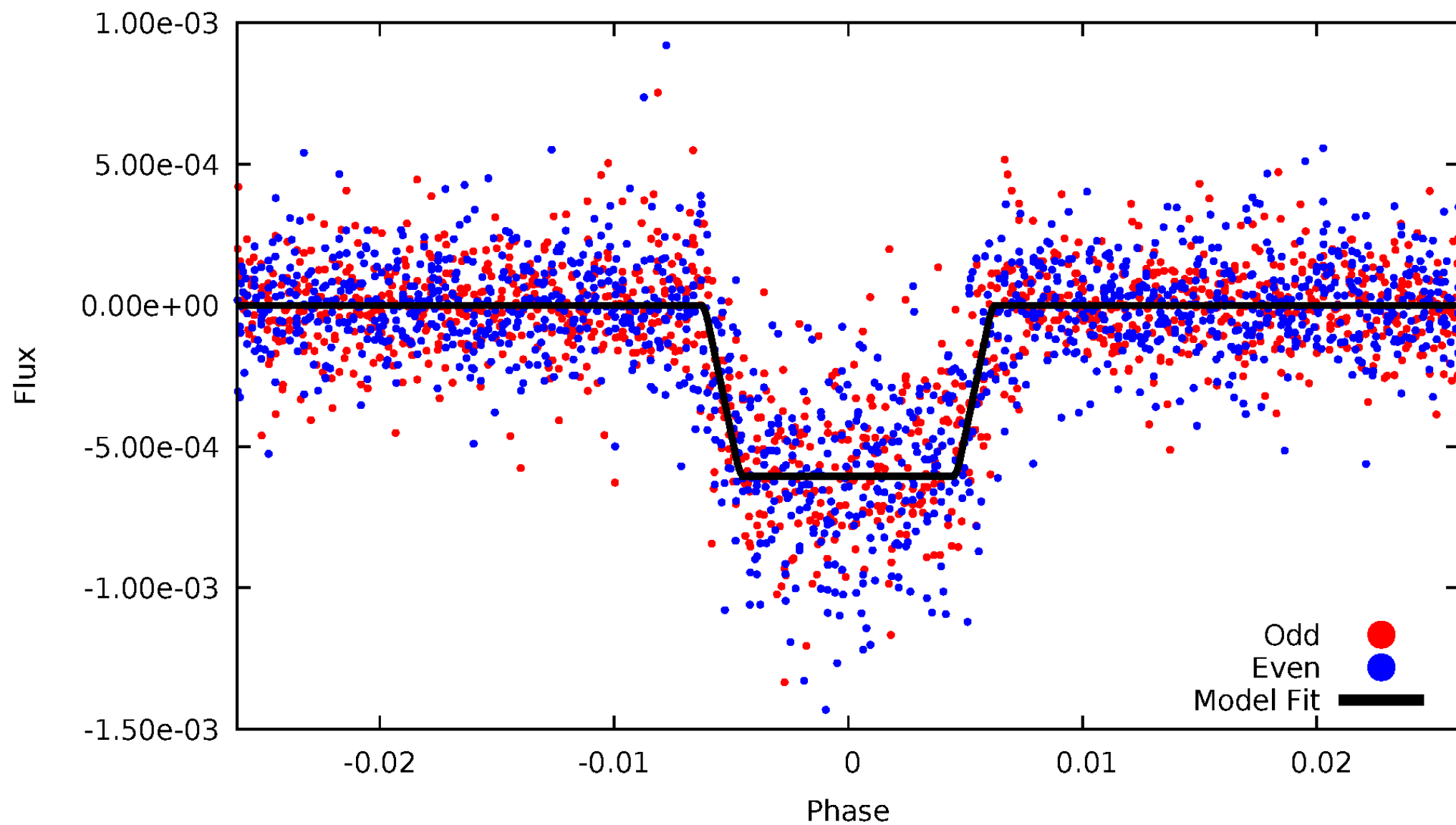
# DV Odd/Even

TCE 005375194-01



# ALT Odd/Even

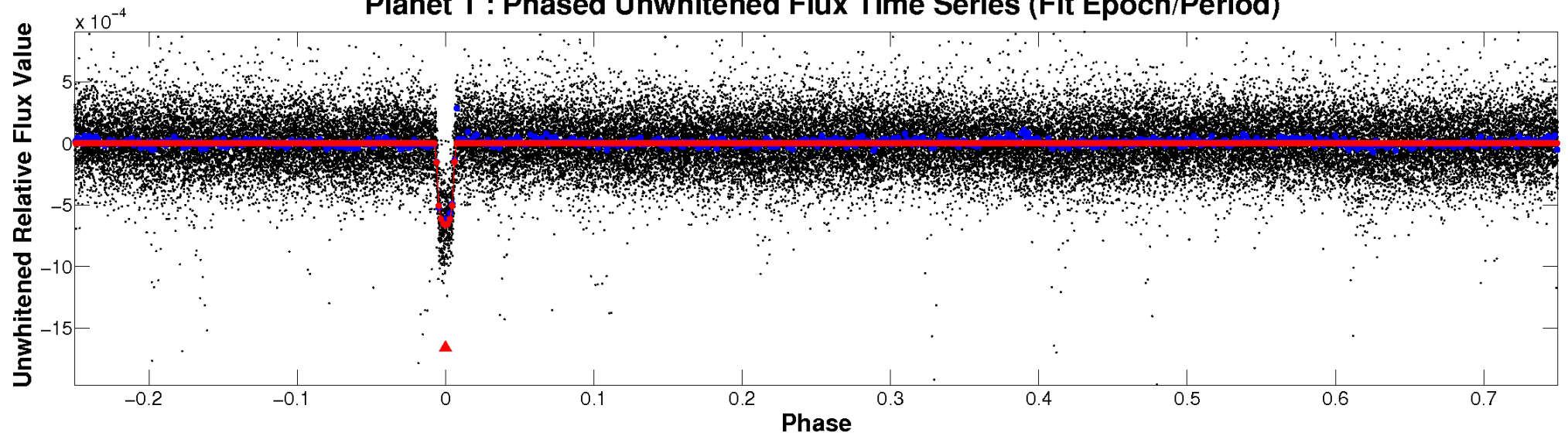
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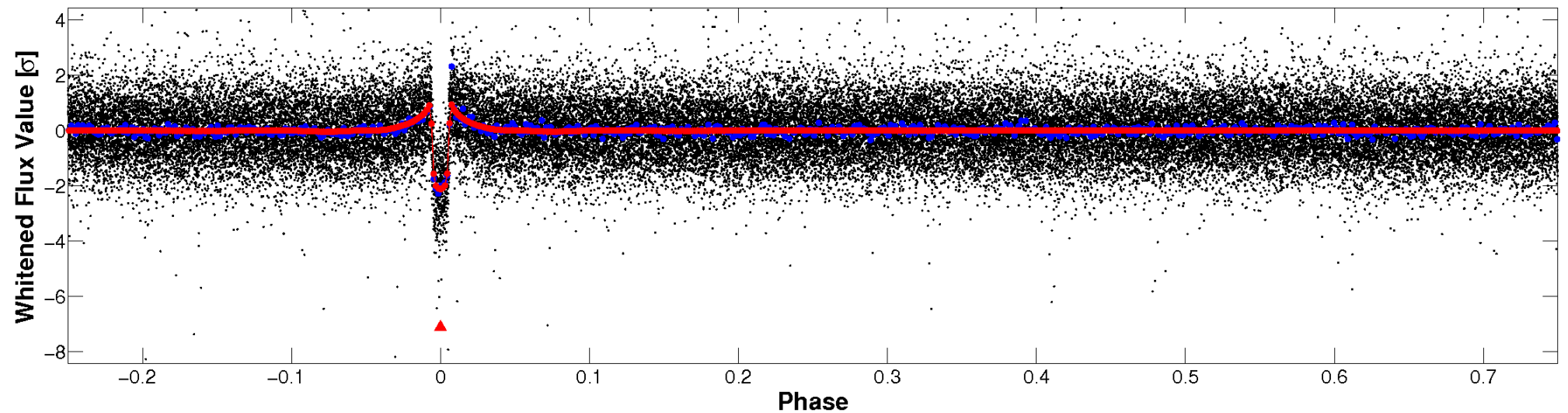


# Non-Whitened Vs. Whitened Light Curve

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

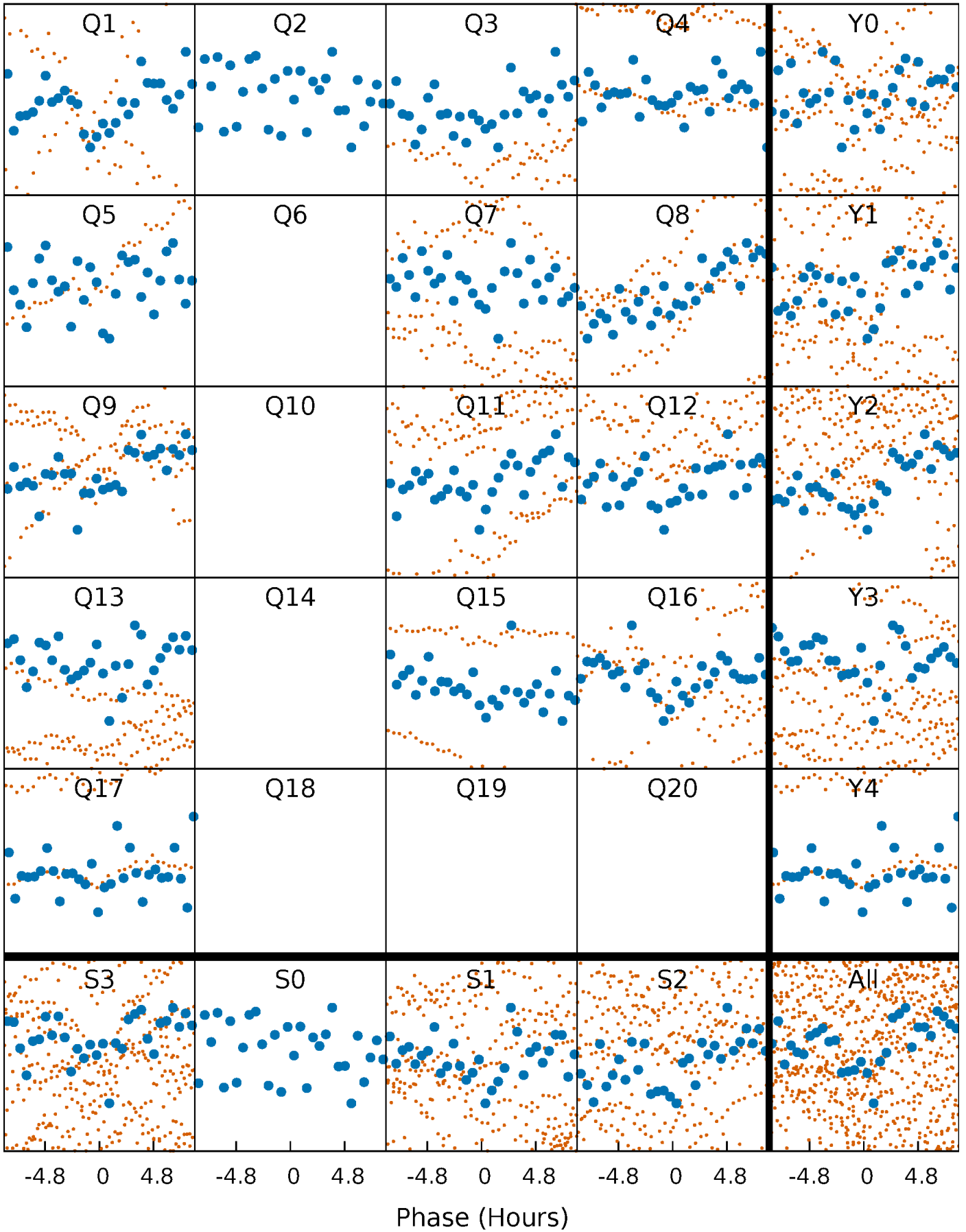


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

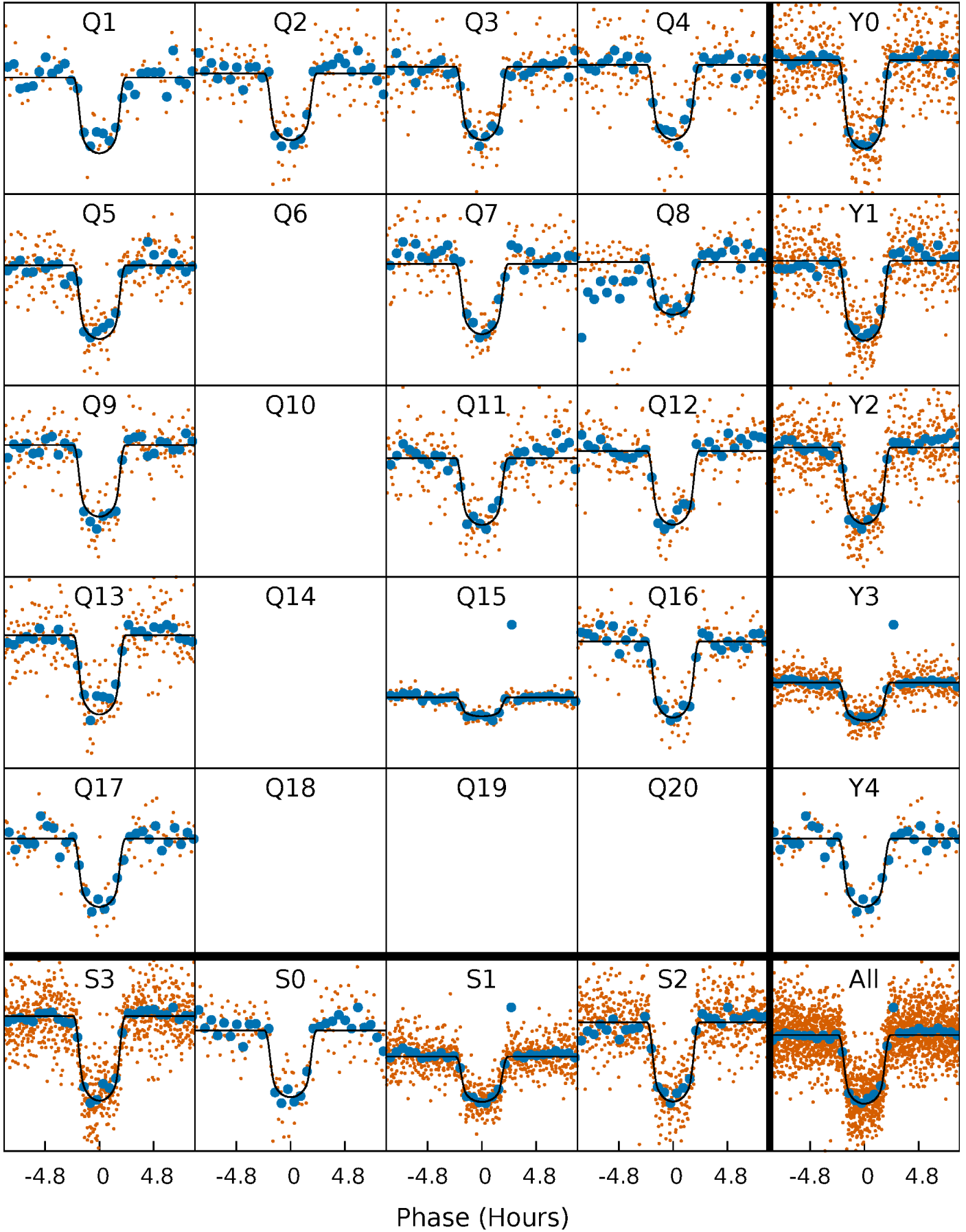
TCE 005375194-01 P= 13.522487 Days  $T_0=142.182449$  (BKJD)





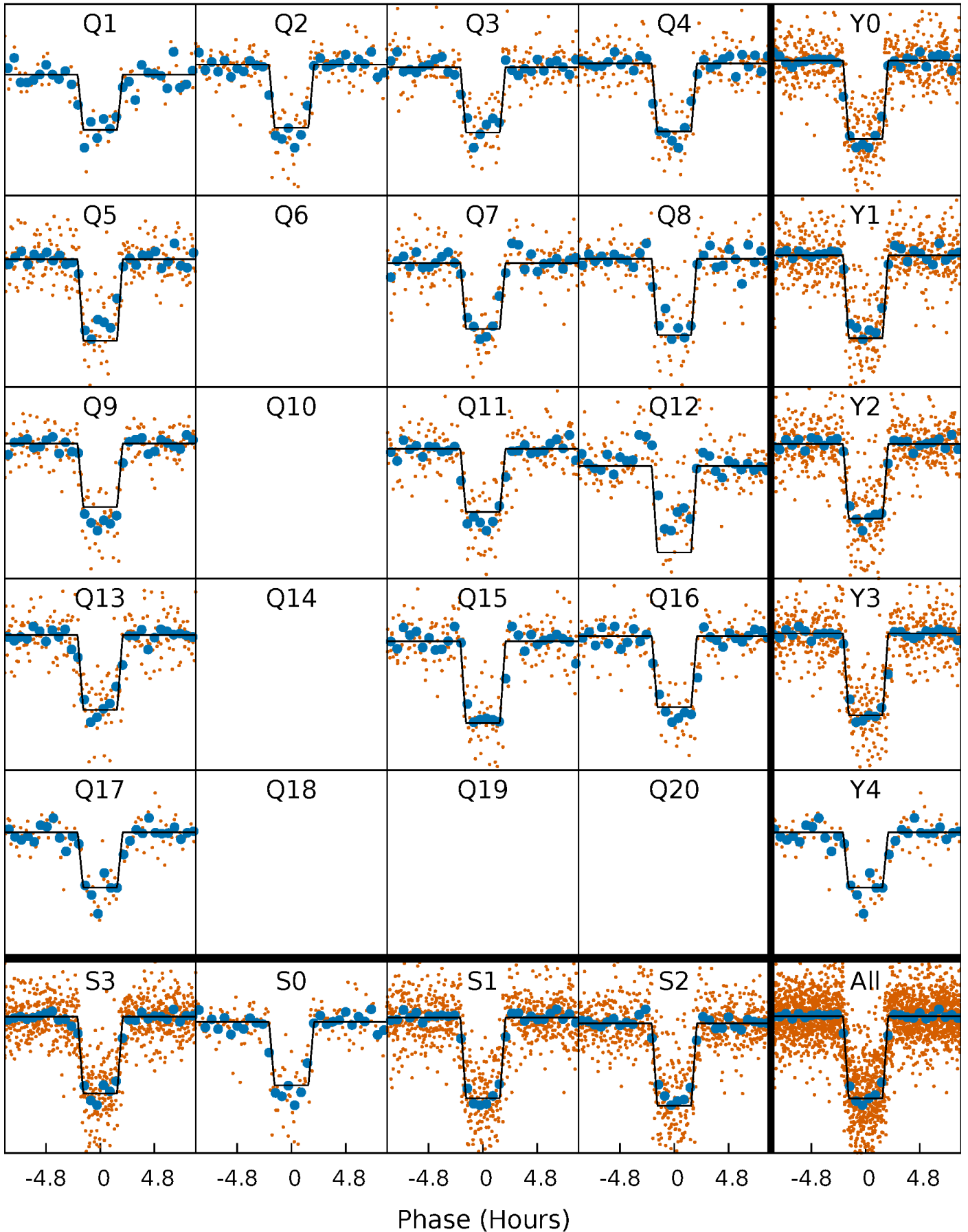
# DV Quarter-Phased Transit Curves

TCE 005375194-01 P= 13.522487 Days  $T_0=142.182449$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

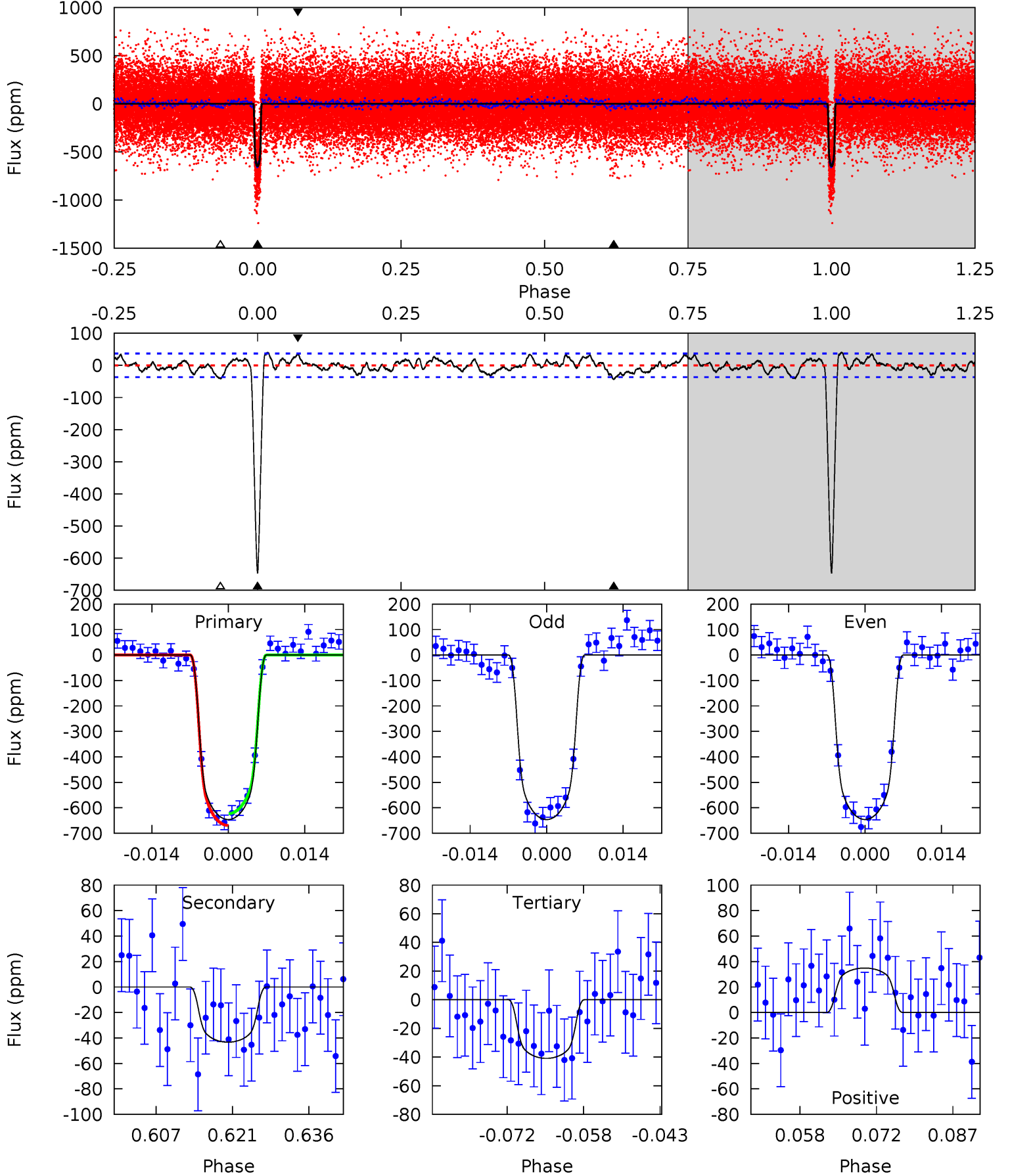
TCE 005375194-01 P= 13.522363 Days  $T_0=142.189078$  (BKJD)



# DV Model-Shift Uniqueness Test

005375194-01, P = 13.522487 Days, E = 128.659962 Days

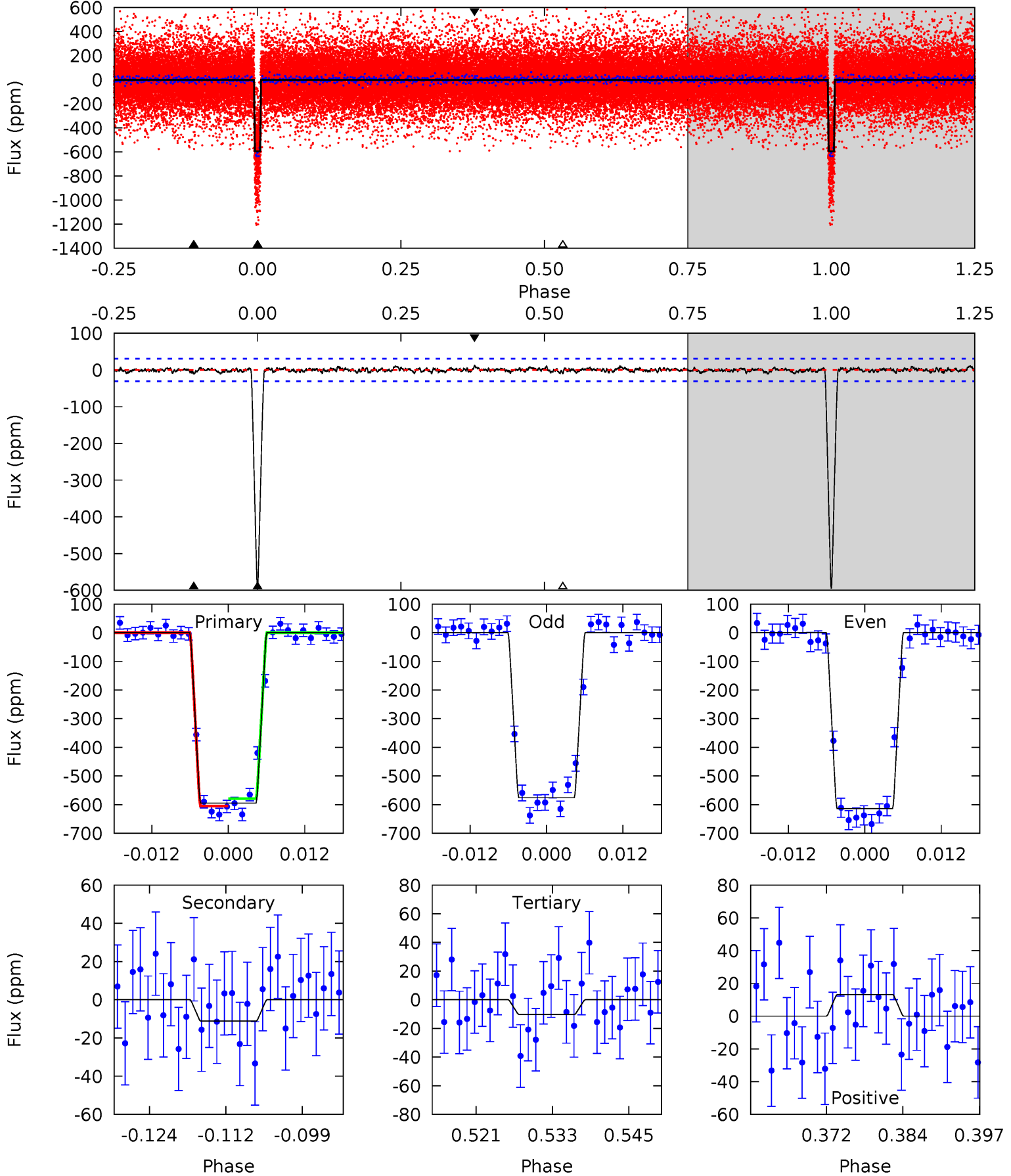
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
87.1	5.84	5.52	4.71	4.96	2.45	2.08	81.6	82.4	0.32	1.13	0.02	1.00	0.06	3.13



# Alt Model-Shift Uniqueness Test

005375194-01, P = 13.522363 Days, E = 128.666715 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
96.3	1.81	1.66	2.13	4.98	2.50	0.56	94.7	94.2	0.15	-0.33	3.07	0.99	0.02	2.15



### Stellar Parameters For KIC 005375194

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5338^{+106}_{-106}$	$4.557^{+0.028}_{-0.077}$	$0.000^{+0.150}_{-0.150}$	$0.816^{+0.078}_{-0.039}$	$0.875^{+0.043}_{-0.058}$	$2.271^{+0.265}_{-0.515}$
	+2%/-2%	+1%/-2%	+inf%/-inf%	+10%/-5%	+5%/-7%	+12%/-23%
Source	SPE57	SPE57	SPE57	DSEP		

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

### Secondary Eclipse Parameters for KIC 005375194-01 / KOI 1825.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-43 \pm 7$	$2.55^{+0.16}_{-0.13}$	$918^{+29}_{-24}$	$3156^{+94}_{-101}$	$41^{+9}_{-8}$
Alt.	$-11 \pm 6$	$2.22^{+0.14}_{-0.14}$	$918^{+27}_{-23}$	$2709^{+178}_{-257}$	$14^{+8}_{-7}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

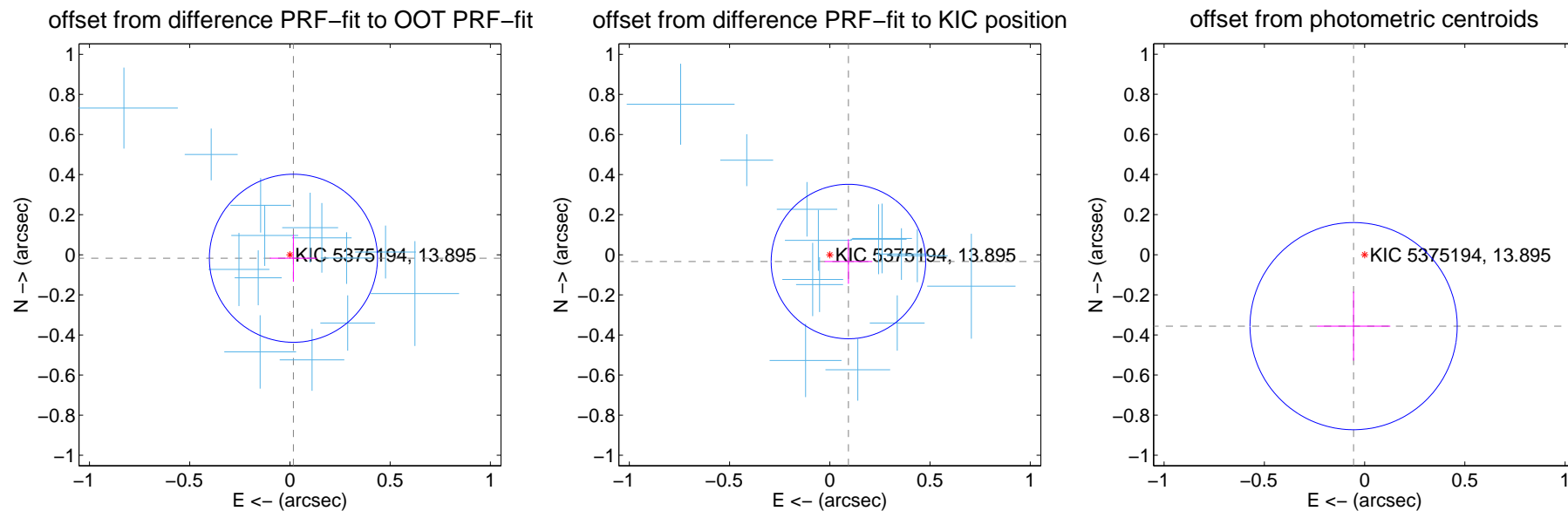
## DV Centroid Data

Supplemental centroid analysis for 005375194-01. Kepler magnitude: 13.89. Transit SNR 48.38

There are 14 quarters with good PRF difference image offsets

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

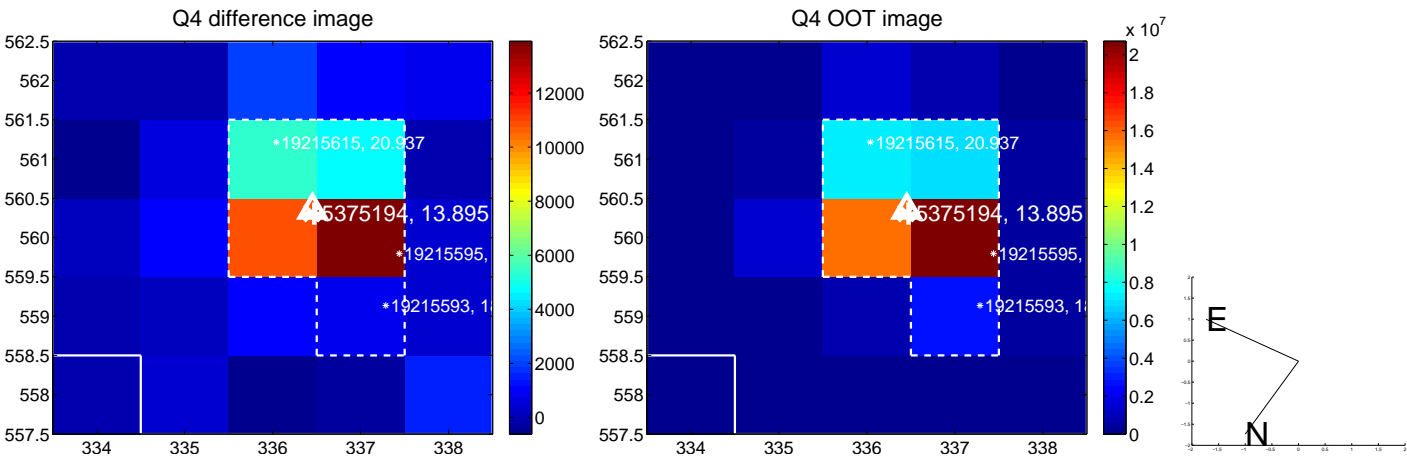
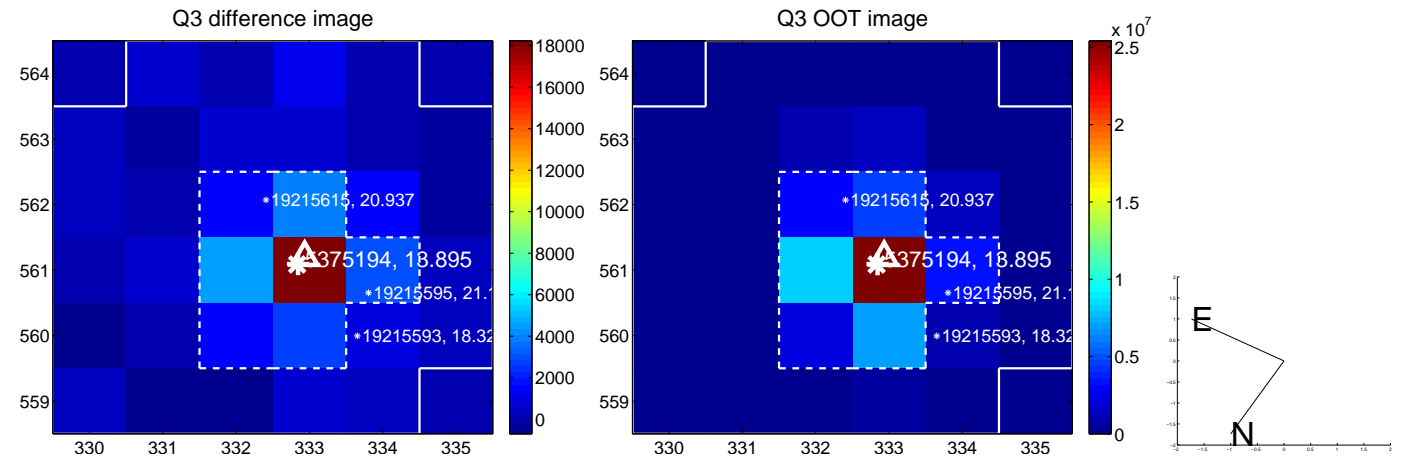
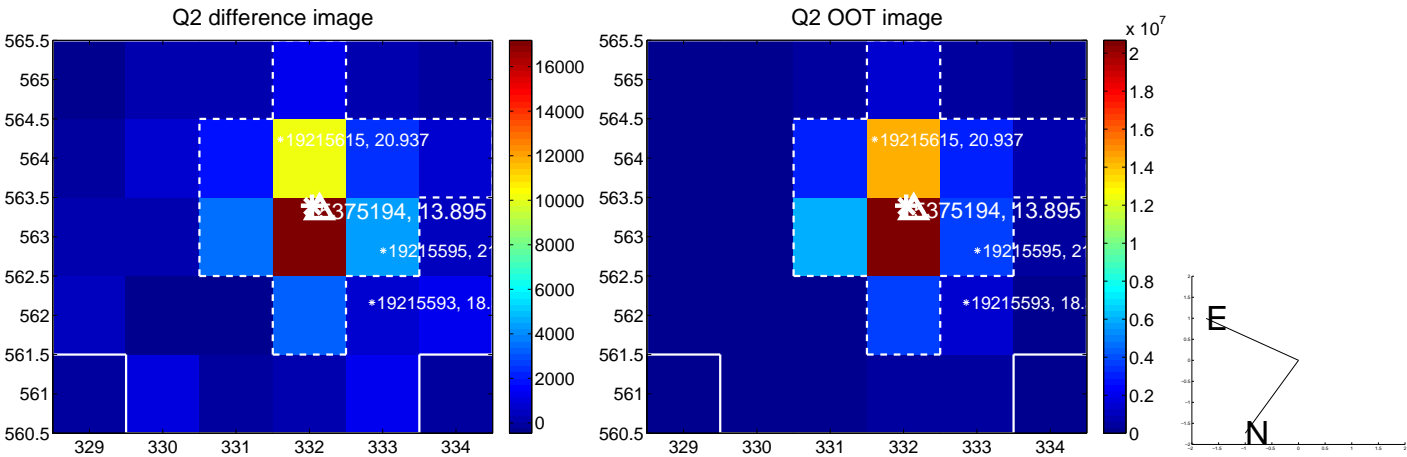
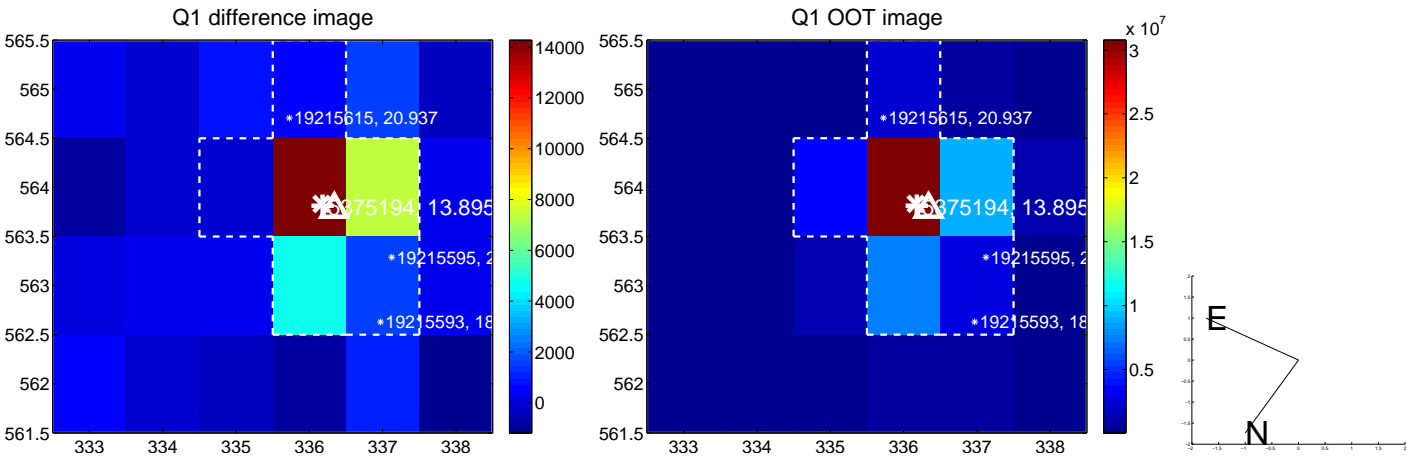
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.025 \pm 0.140$	0.18	$-0.017 \pm 0.117$	$-0.017 \pm 0.117$
PRF-fit source offset from KIC position	$0.099 \pm 0.128$	0.77	$-0.093 \pm 0.119$	$-0.034 \pm 0.111$
photometric centroid source offset	$0.36 \pm 0.17$	2.09	$0.05 \pm 0.18$	$-0.36 \pm 0.17$



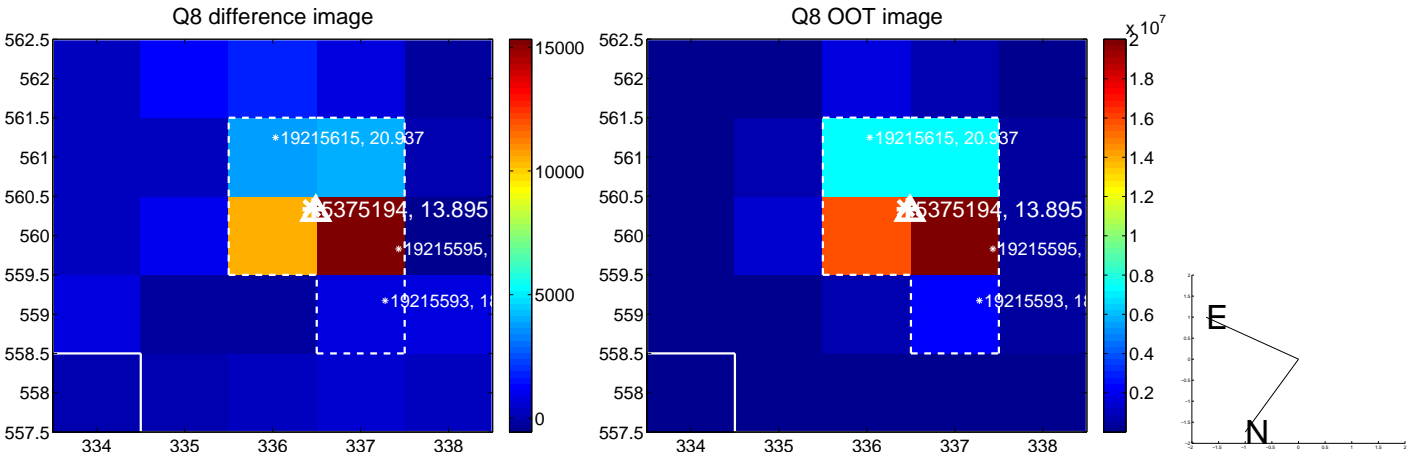
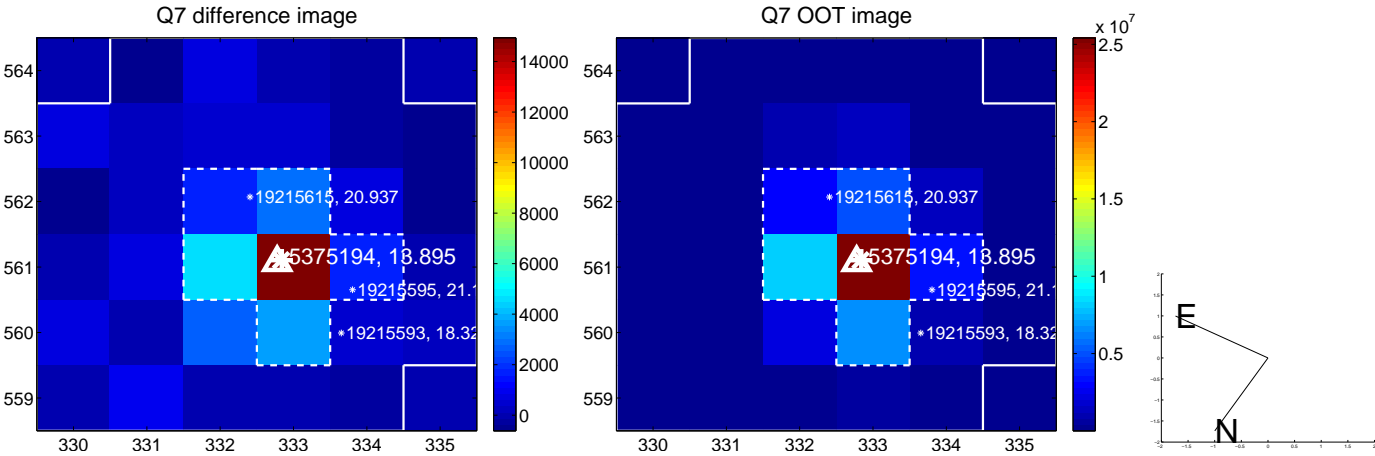
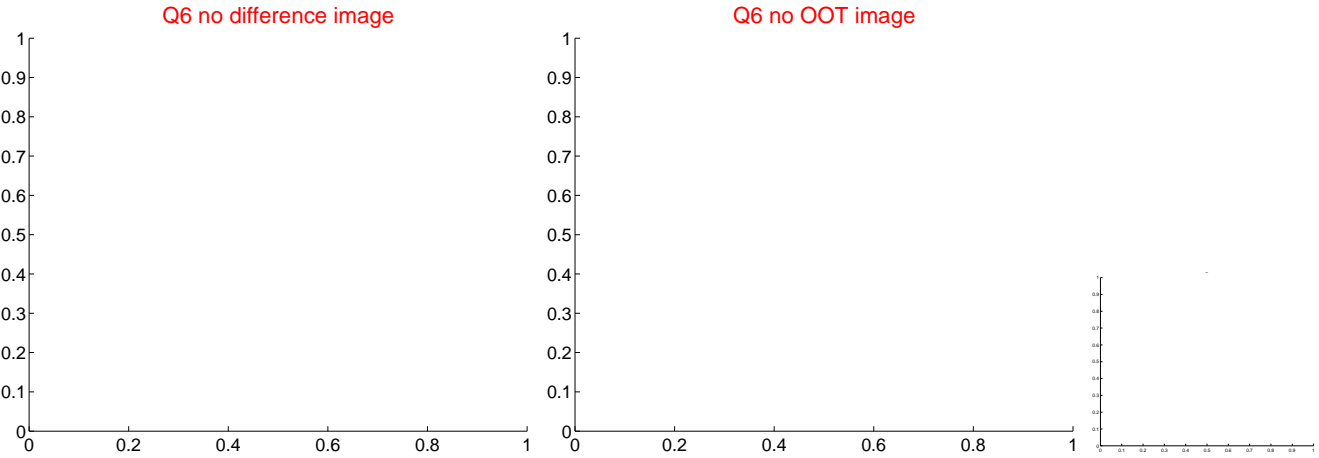
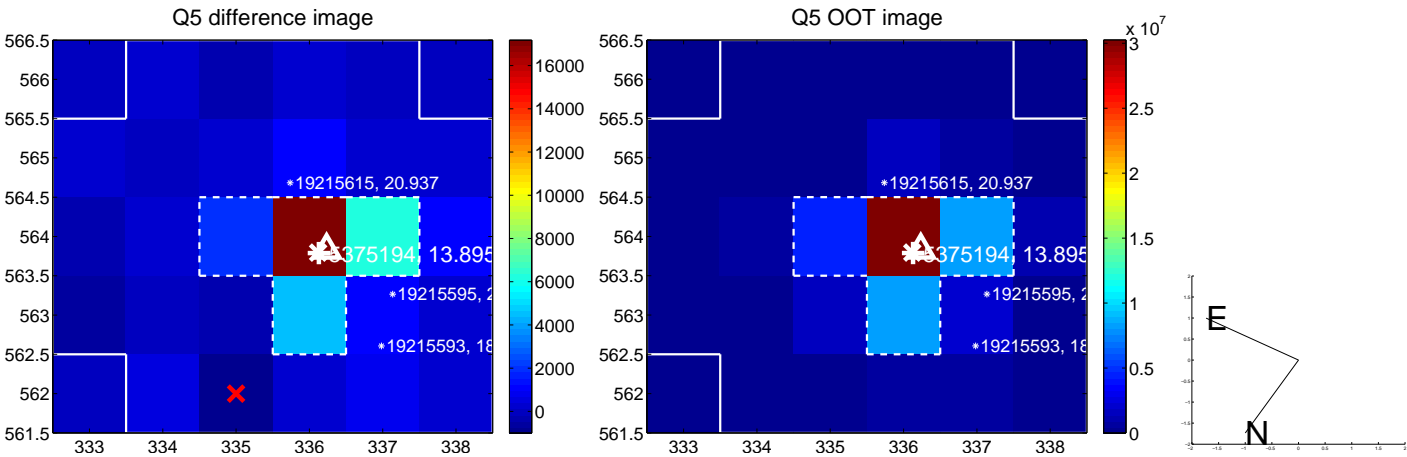
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: 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.



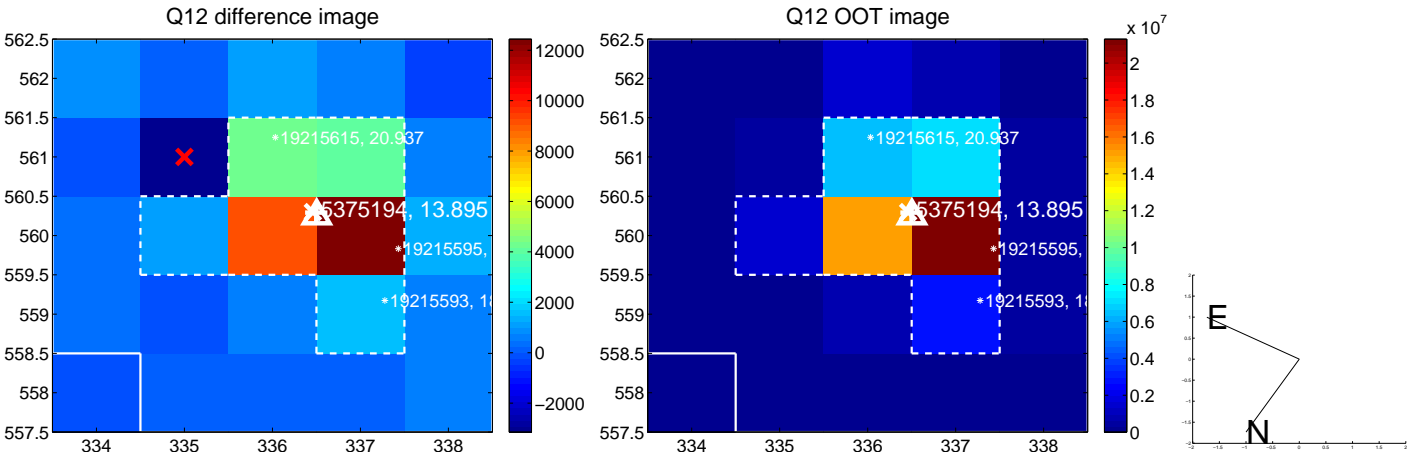
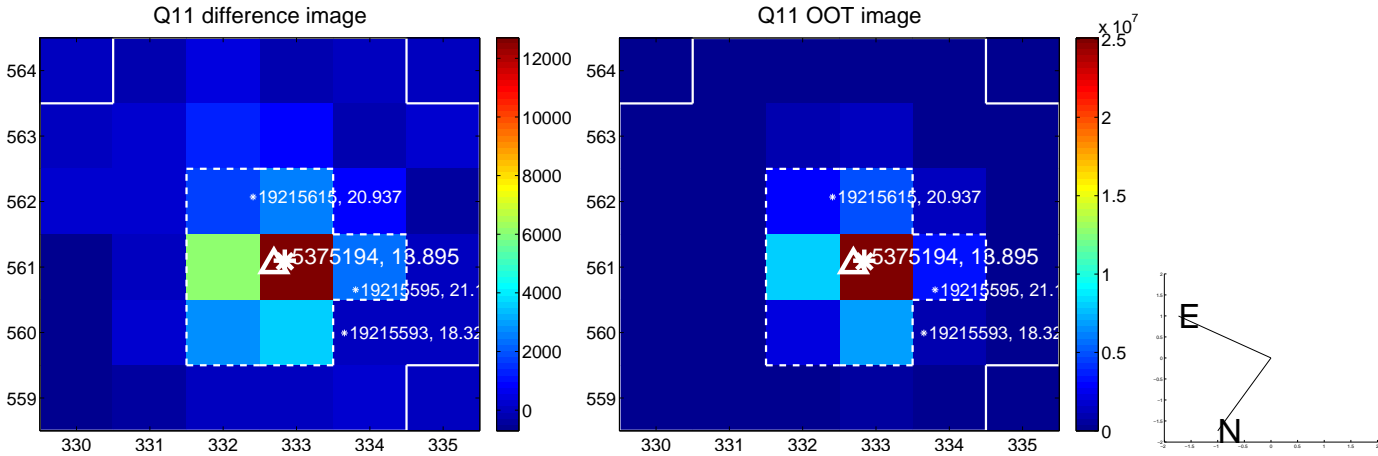
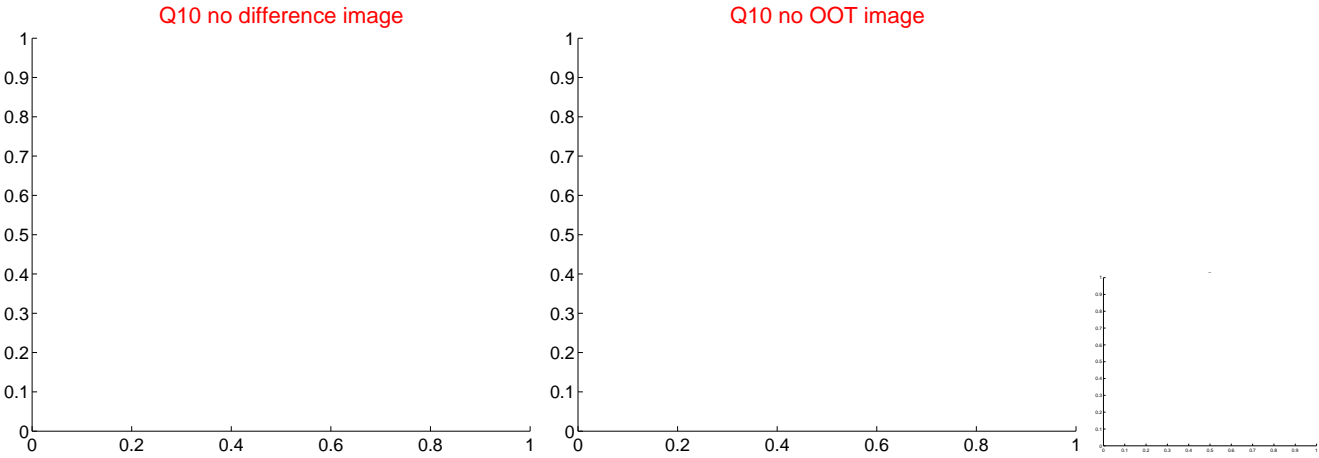
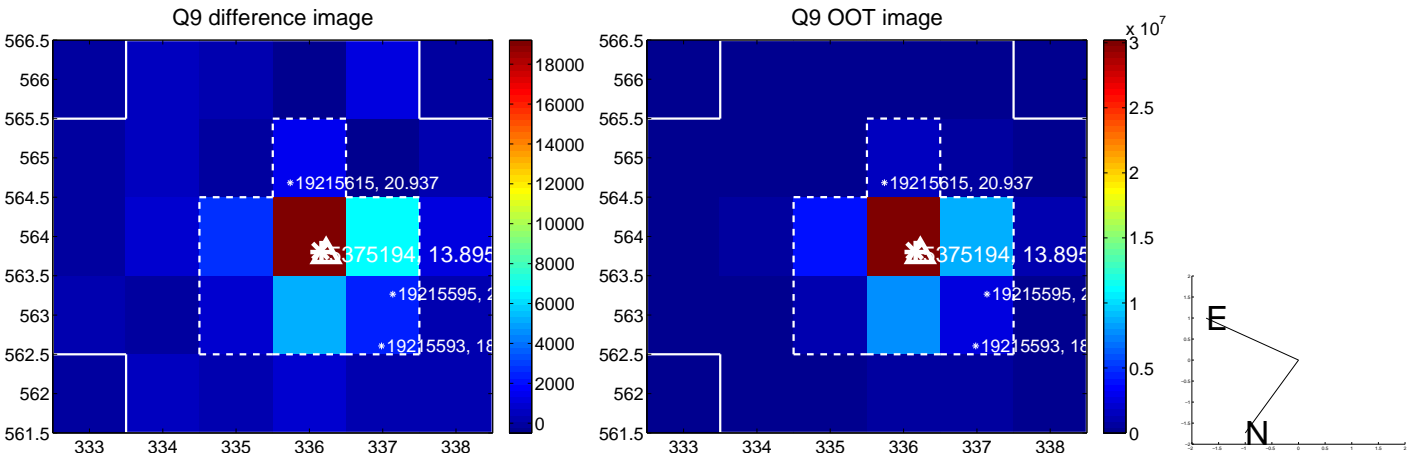
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



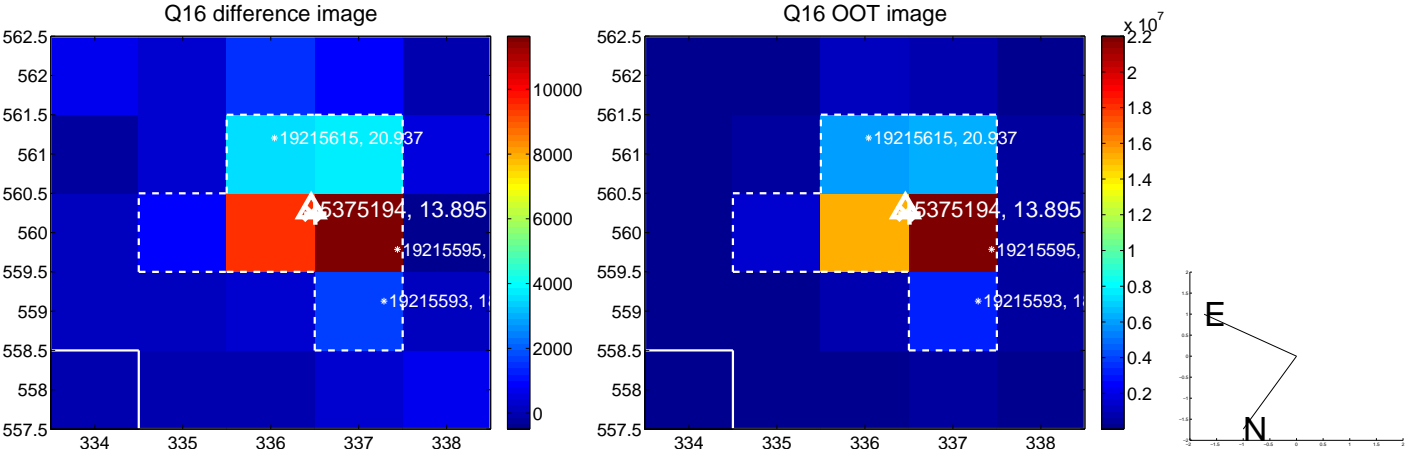
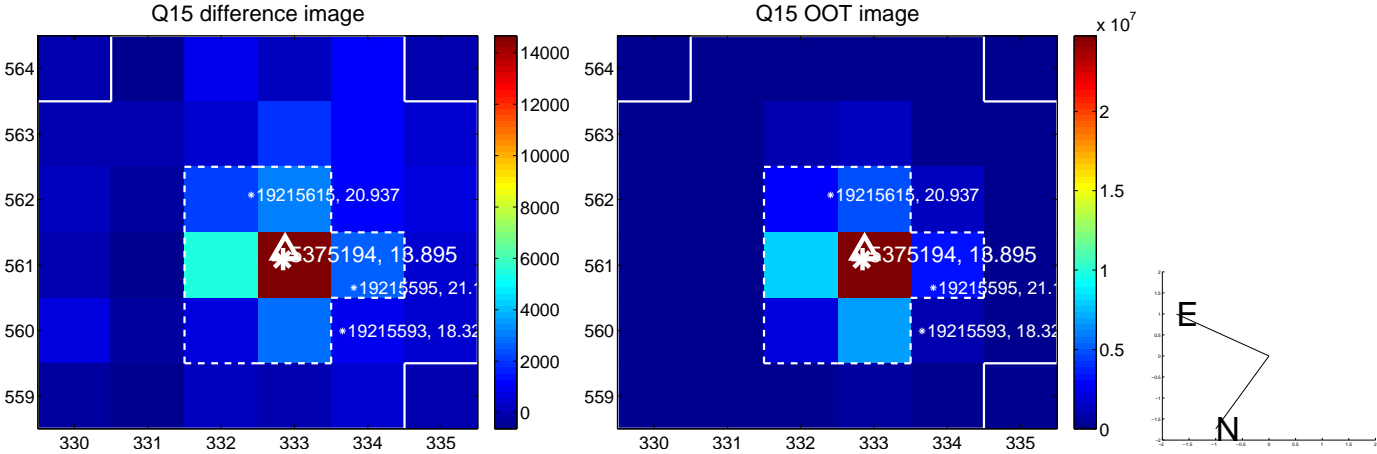
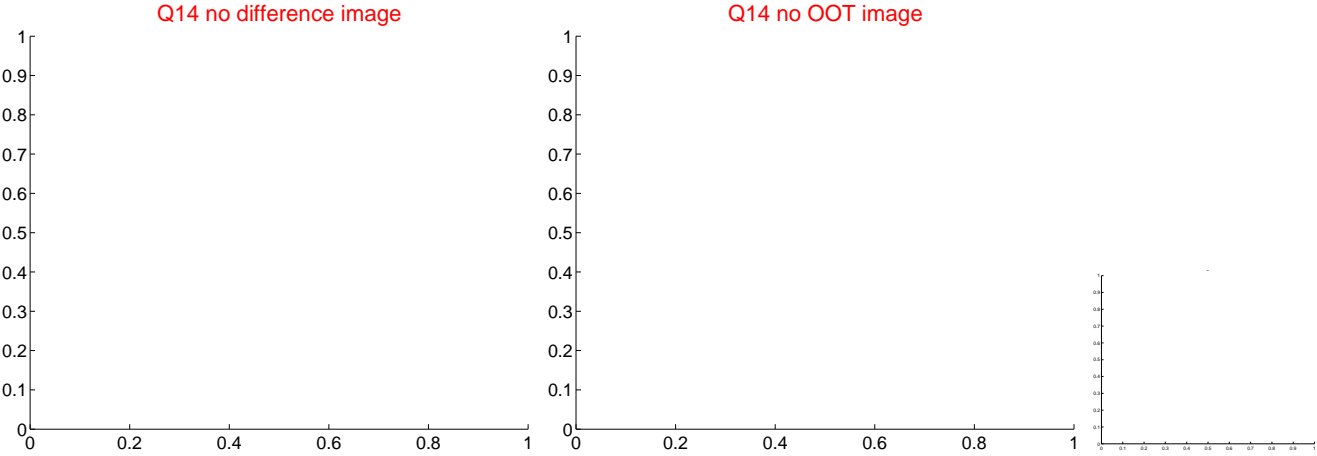
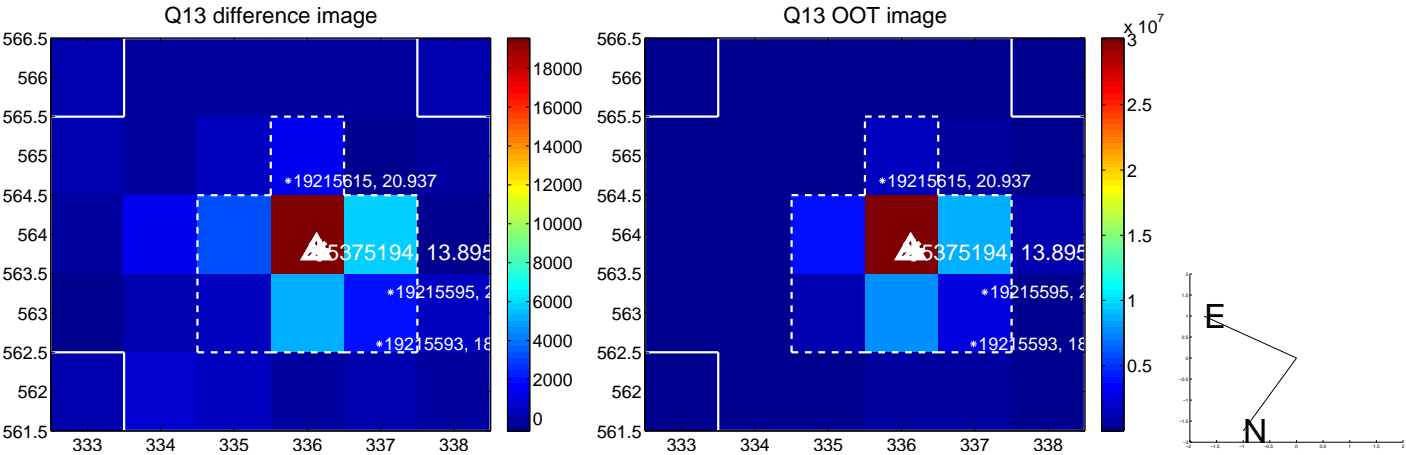
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



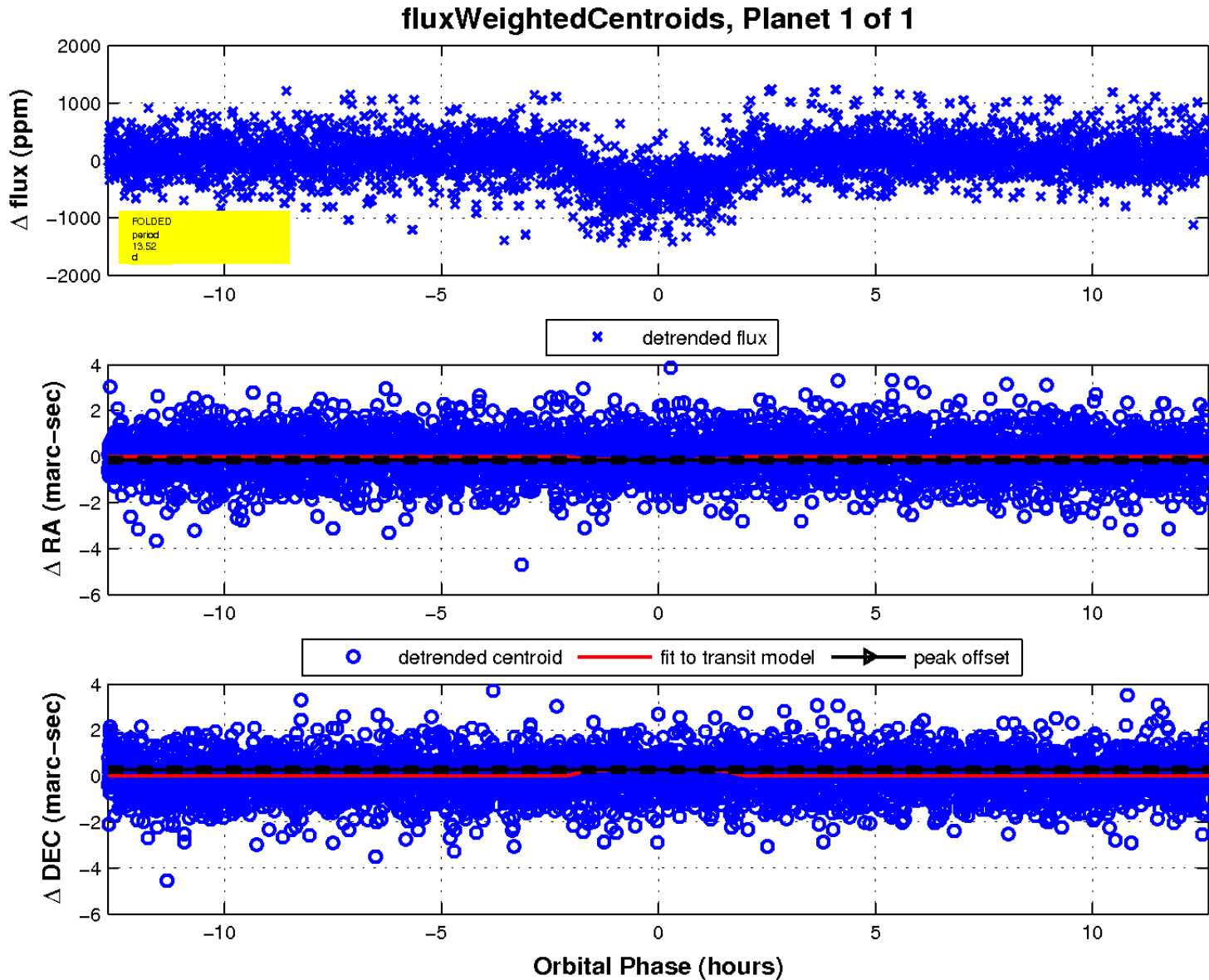
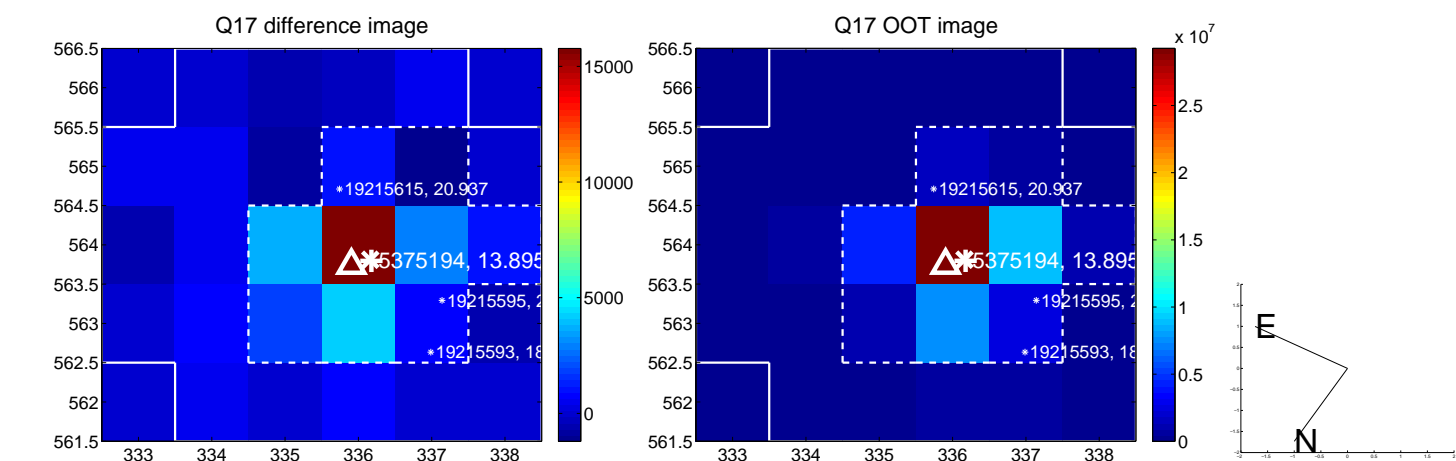
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

