

# KIC 006032517

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006032517-01	OBS	2070.01	1.791392	132.999064	237.7	2.068	40.8	44.8	1.03	6092	1.88	1473.47

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006032517-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET—HALO_GHOST

**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.

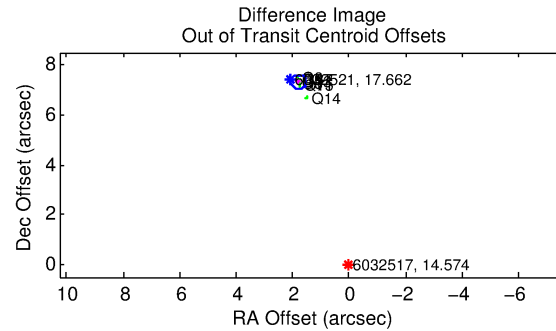
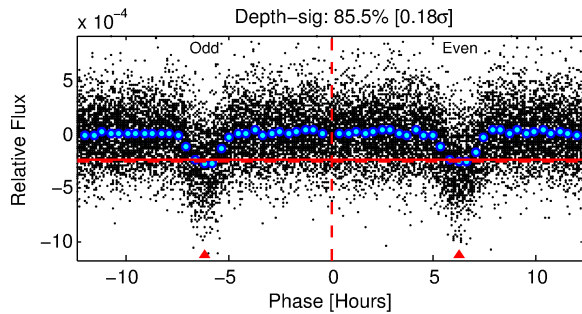
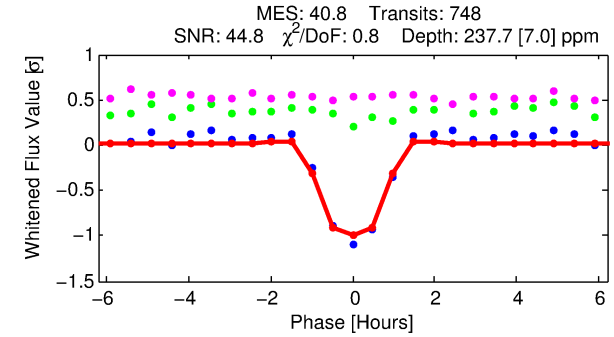
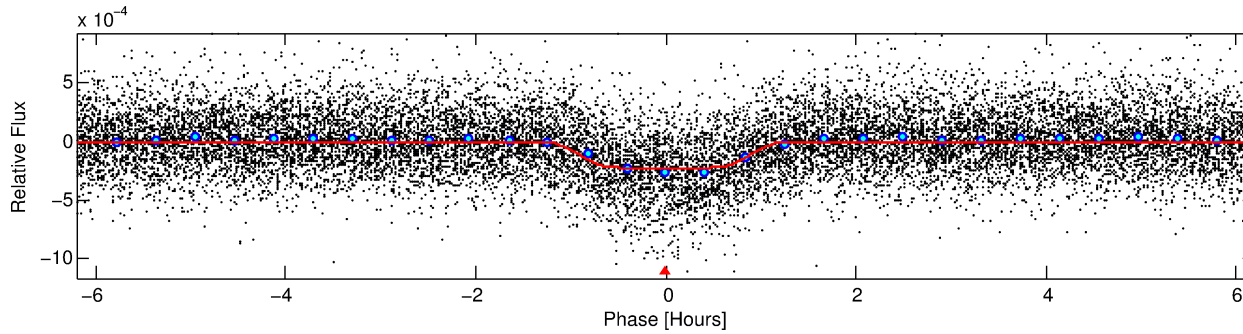
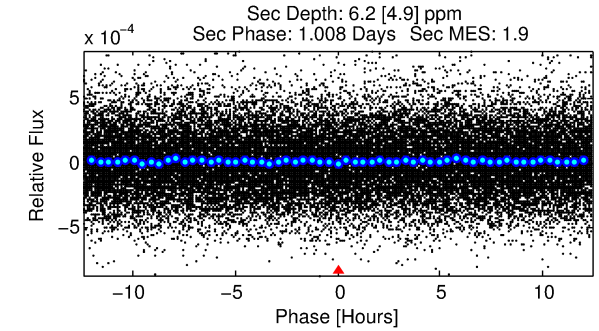
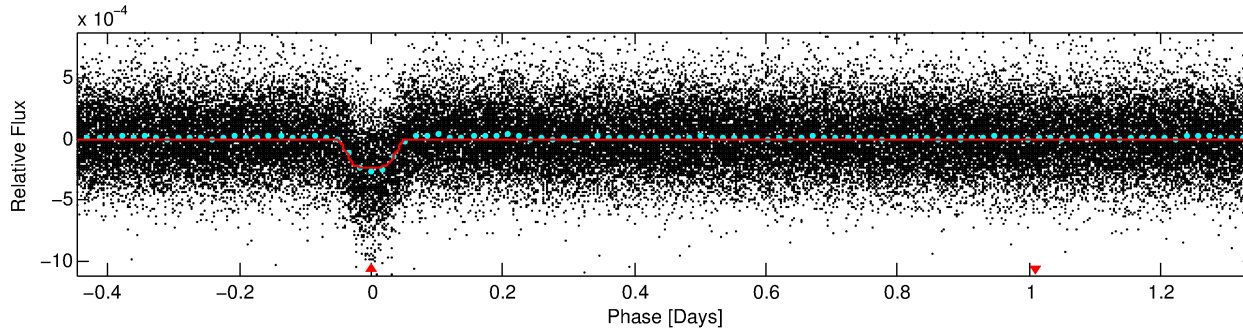
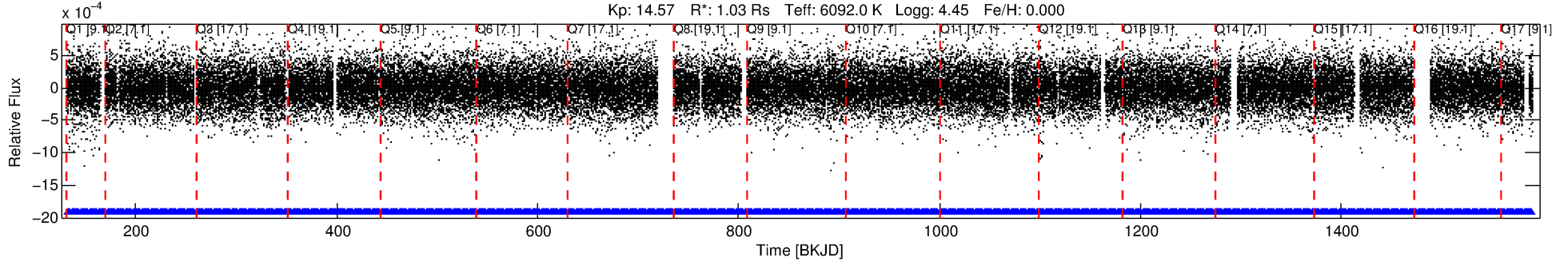
## Ephemeris Match Information For 006032517-01

No Significant Match Found

# DV One-Page Summary

KIC: 6032517 Candidate: 1 of 1 Period: 1.791 d  
KOI: K02070.01 Corr: 0.851

Kp: 14.57 R\*: 1.03 Rs Teff: 6092.0 K Logg: 4.45 Fe/H: 0.000



## DV Fit Results:

Period = 1.79139 [0.00000] d  
Epoch = 132.9991 [0.0007] BKJD  
Rp/R\* = 0.0167 [0.0023]  
a/R\* = 3.25 [2.03]  
b = 0.90 [0.15]  
Seff = 1473.47 [633.30]  
Teq = 1580 [170] K  
Rp = 1.88 [0.67] Re  
a = 0.0297 [0.0083] AU  
Ag = 0.86 [0.80] [-0.17σ]  
Teffp = 2353 [497] K [1.47σ]

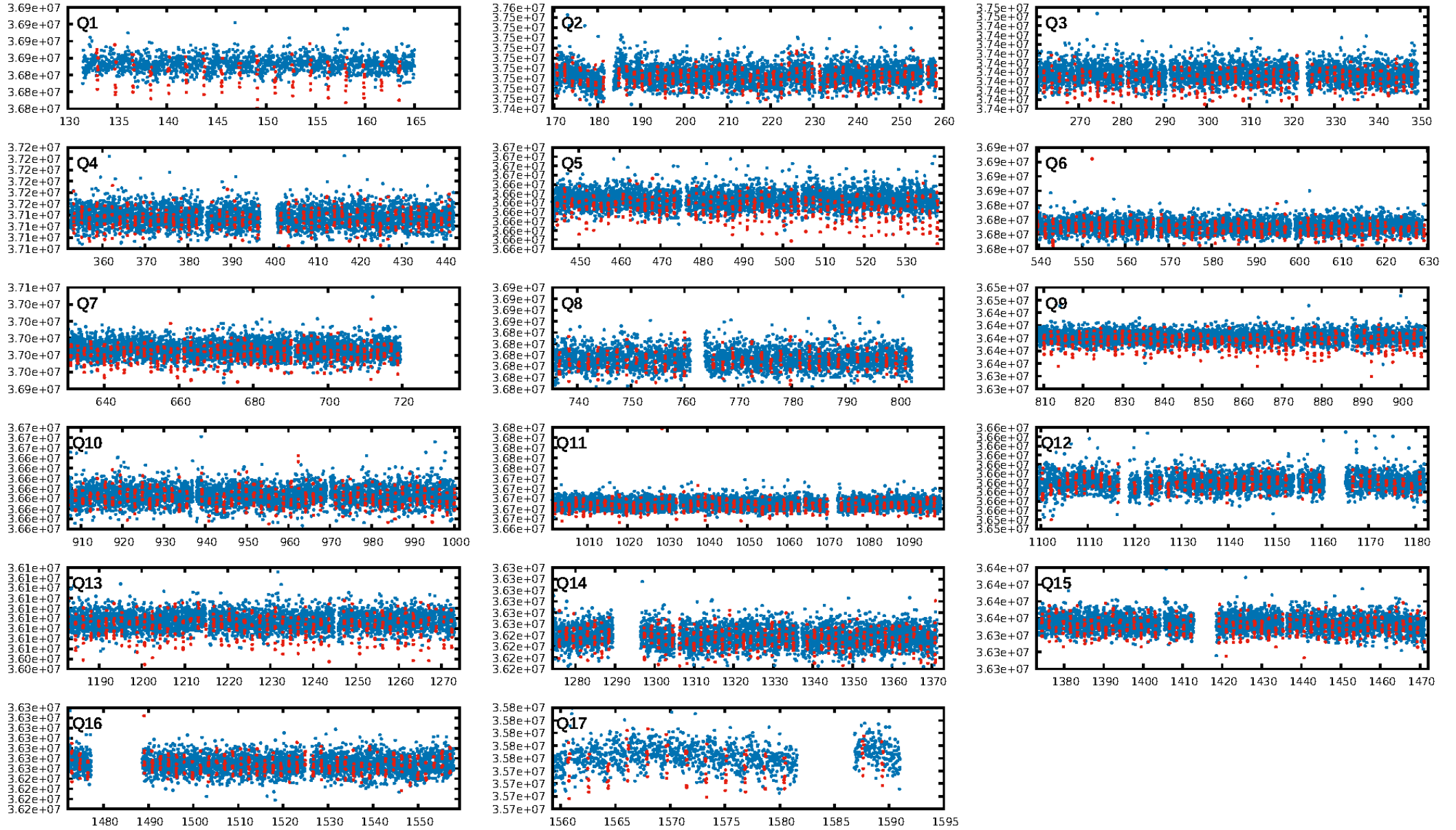
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [716/716]  
GhostDiagnostic-chr: -0.203  
Centroid-sig: 0.0%  
Centroid-so: 87.975 arcsec [273.10σ]  
OotOffset-rm: 7.537 arcsec [81.46σ]  
KicOffset-rm: 7.681 arcsec [74.53σ]  
OotOffset-st: 1/4/1/5 [11]  
KicOffset-st: 1/4/1/5 [11]  
DiffImageQuality-fgm: 1.00 [11/11]  
DiffImageOverlap-fno: 1.00 [17/17]

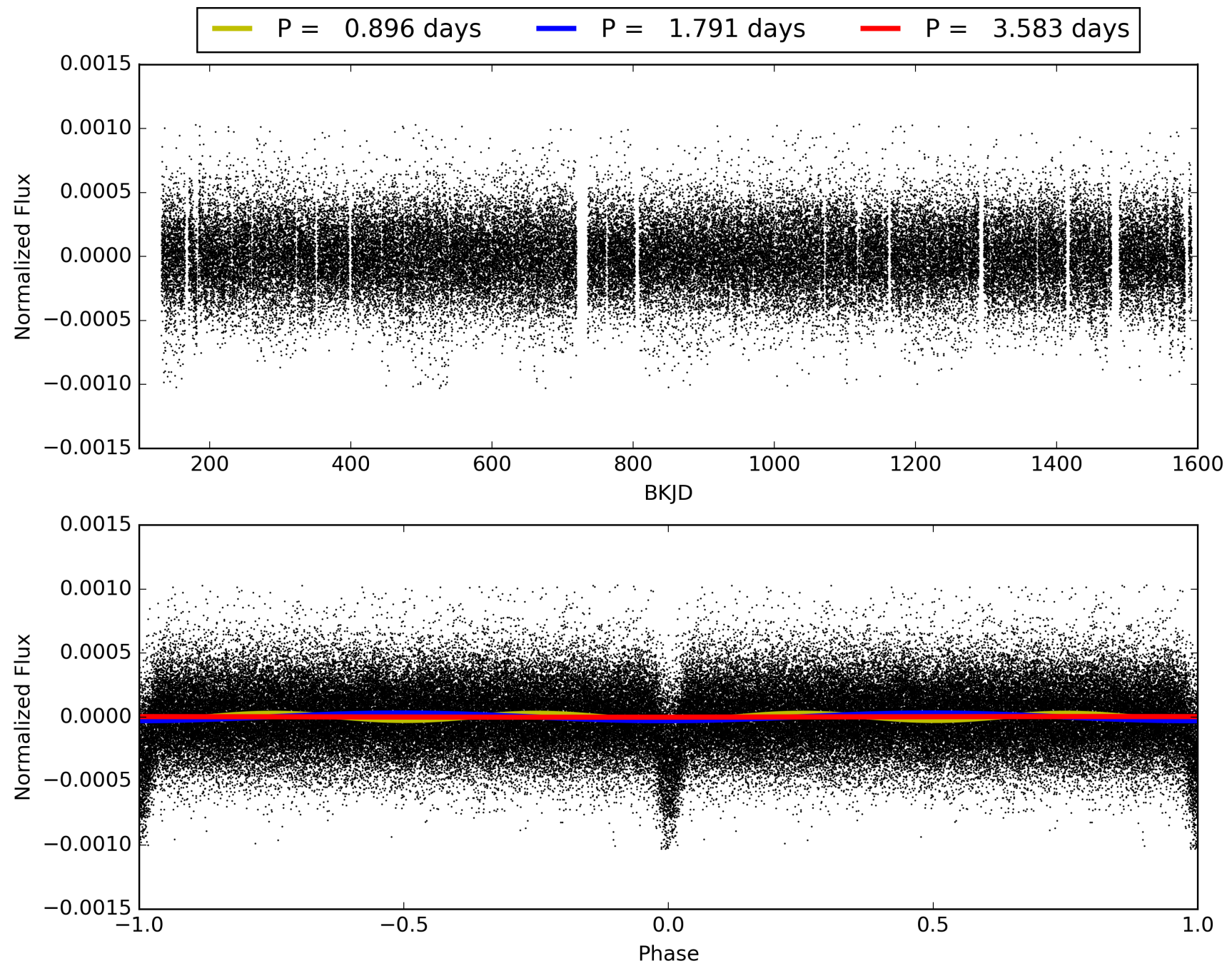
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 19:45:39 Z

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

# TCE 006032517-01, PDC Light Curves

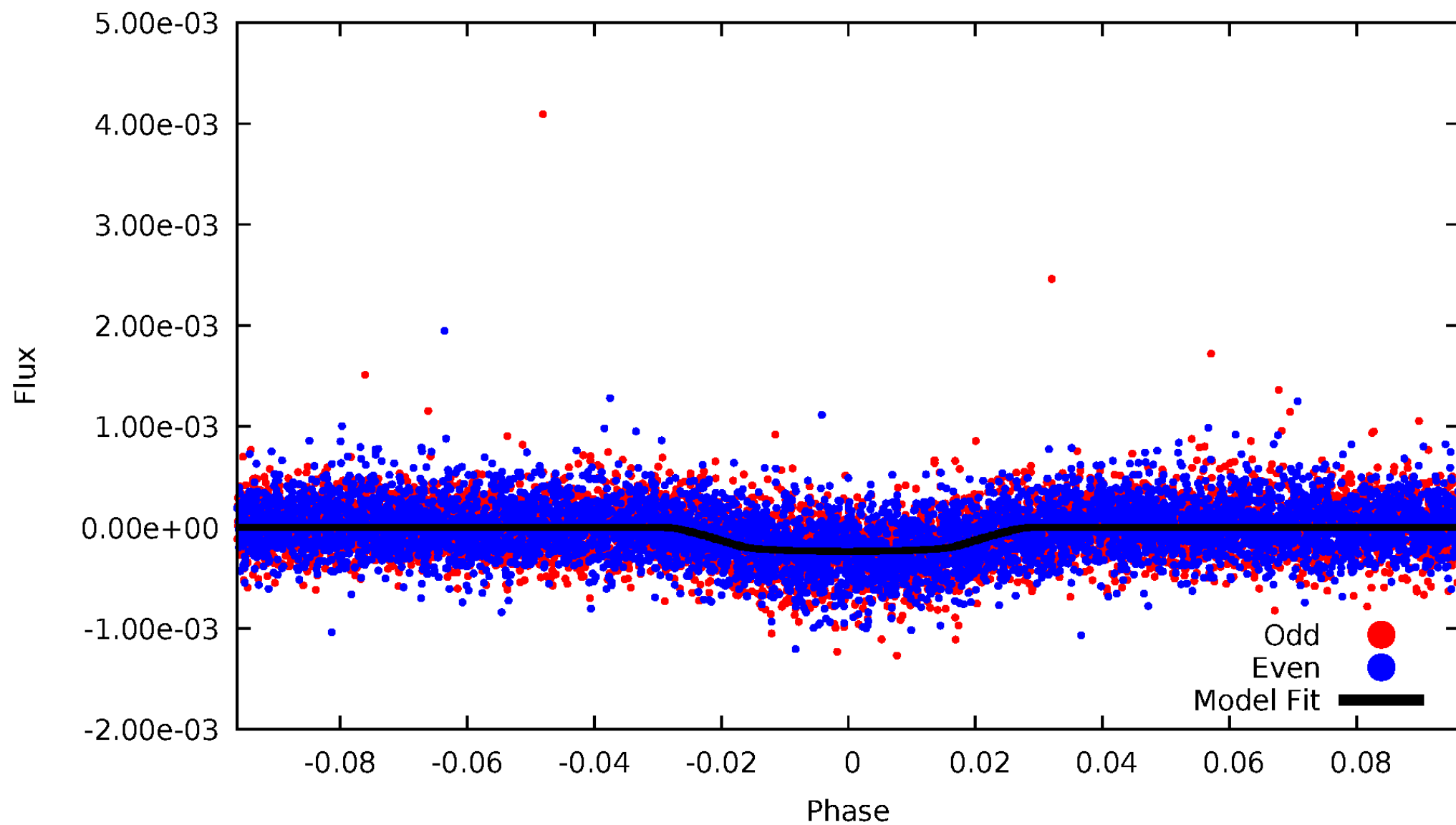


TCE 006032517-01



# DV Odd/Even

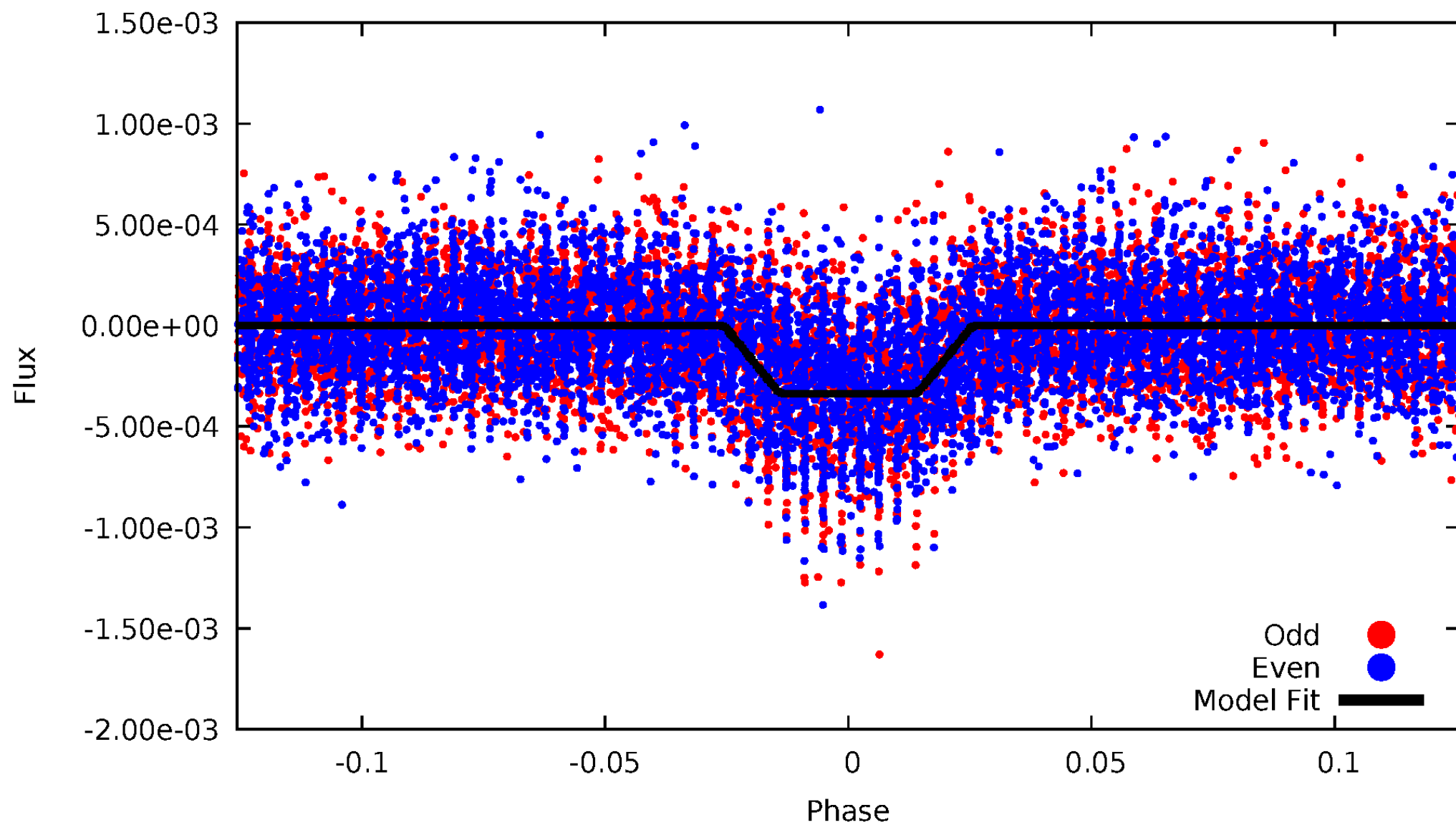
TCE 006032517-01





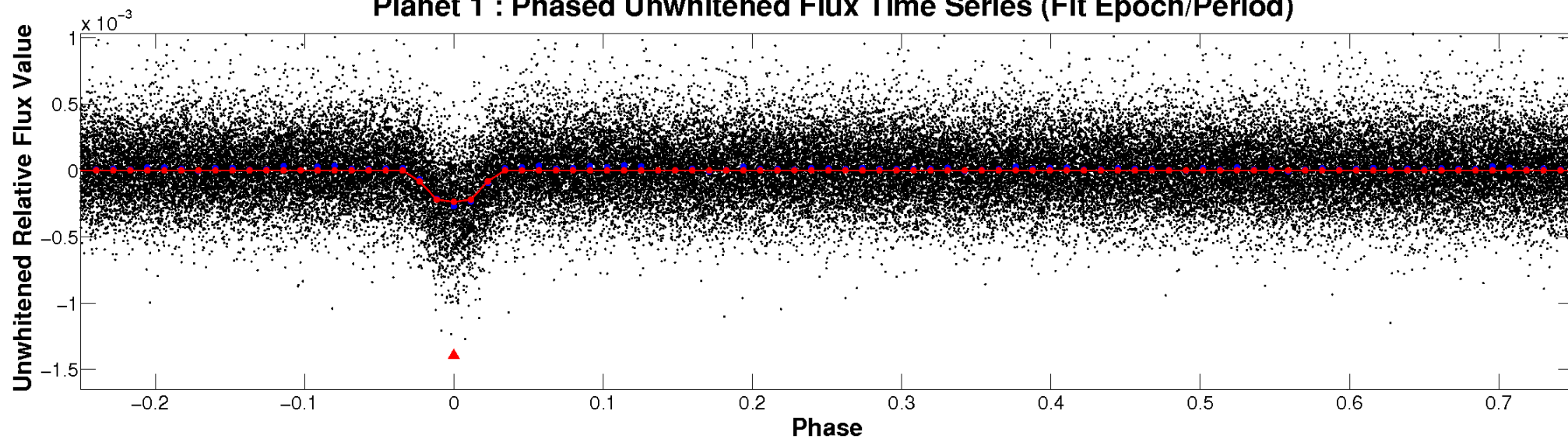
# ALT Odd/Even

TCE 006032517-01

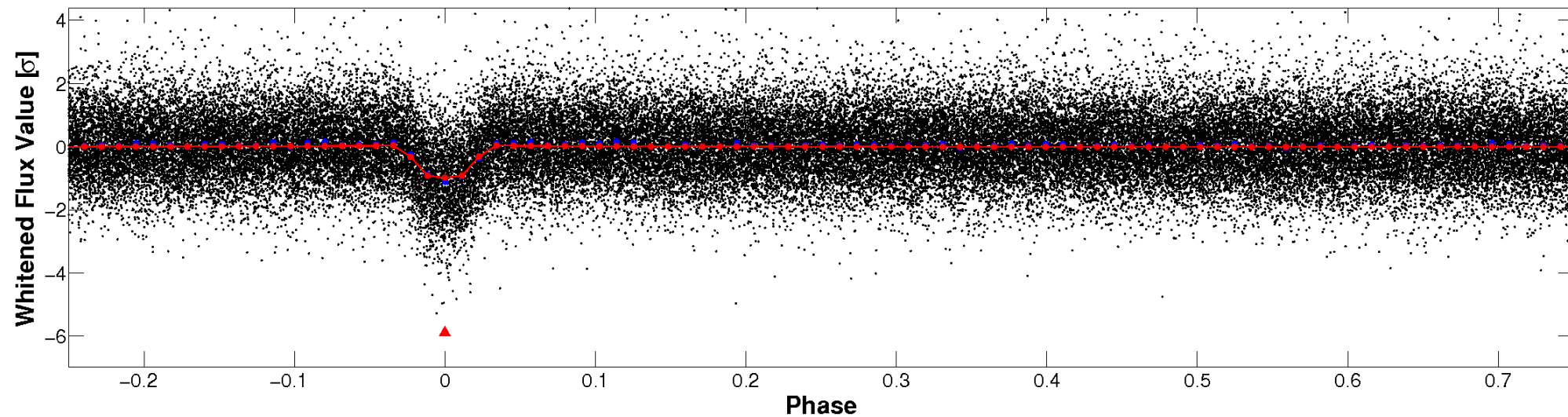


# Non-Whitened Vs. Whitened Light Curve

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

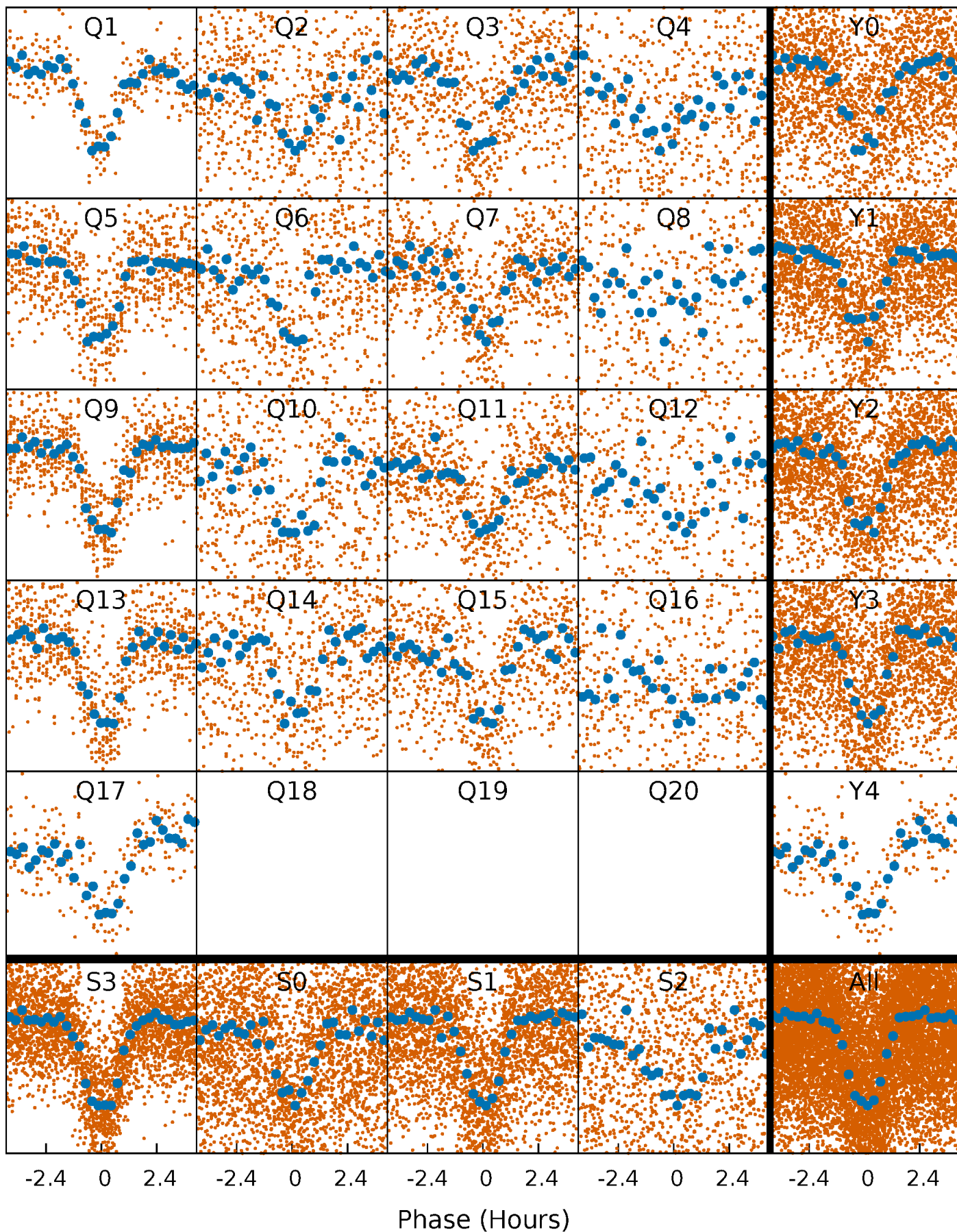


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

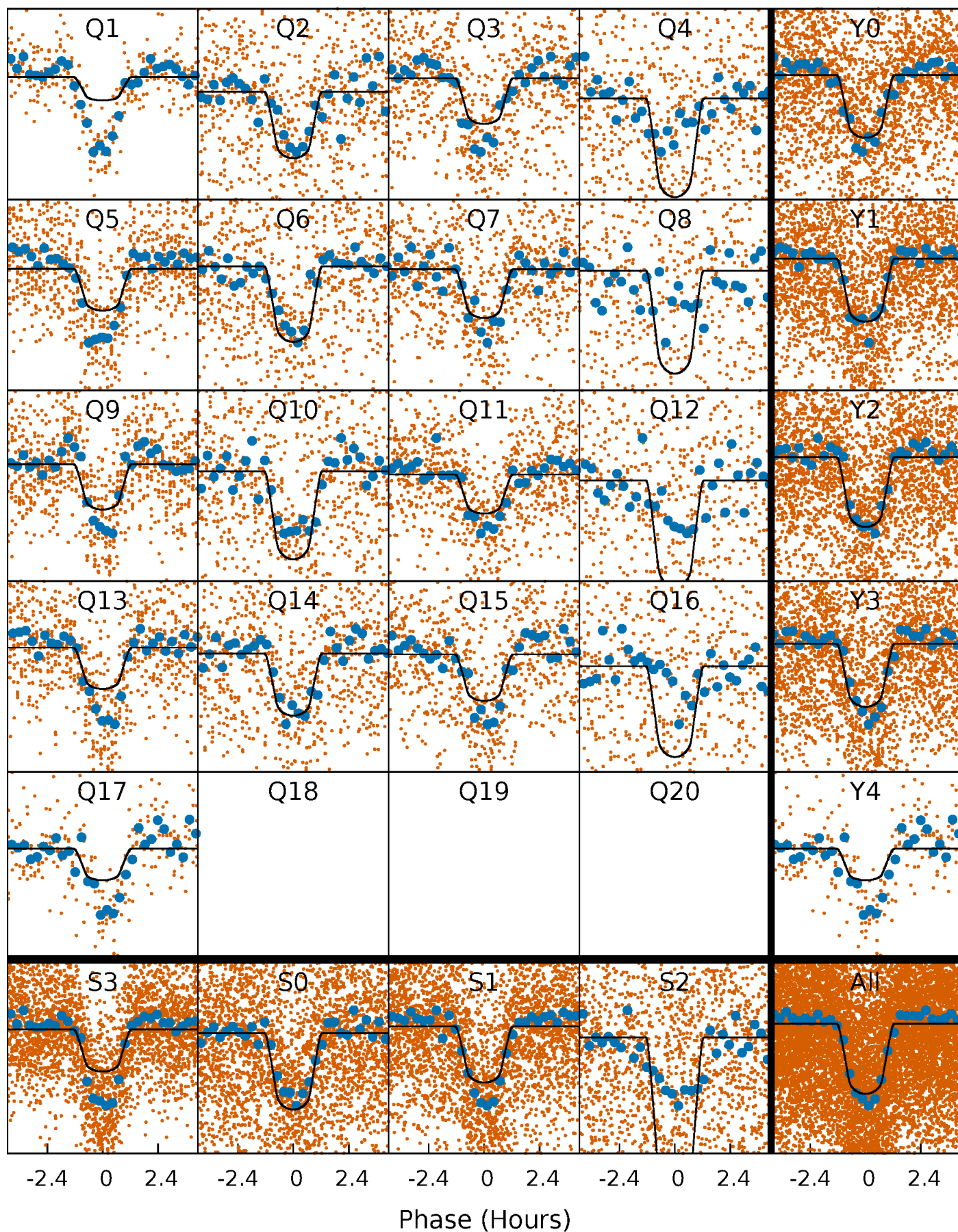
TCE 006032517-01 P= 1.791392 Days  $T_0=132.999064$  (BKJD)





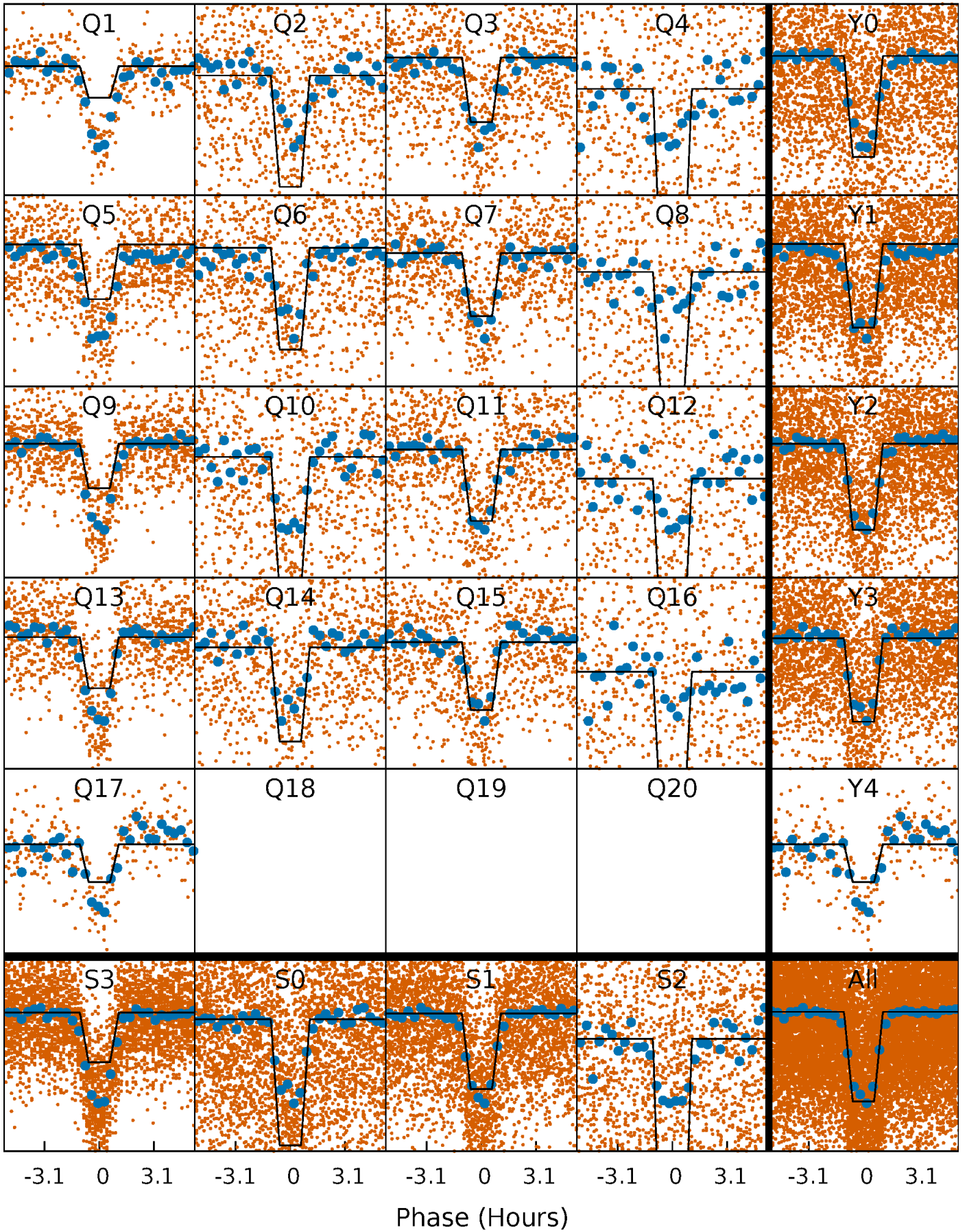
# DV Quarter-Phased Transit Curves

TCE 006032517-01 P= 1.791392 Days  $T_0=132.999064$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

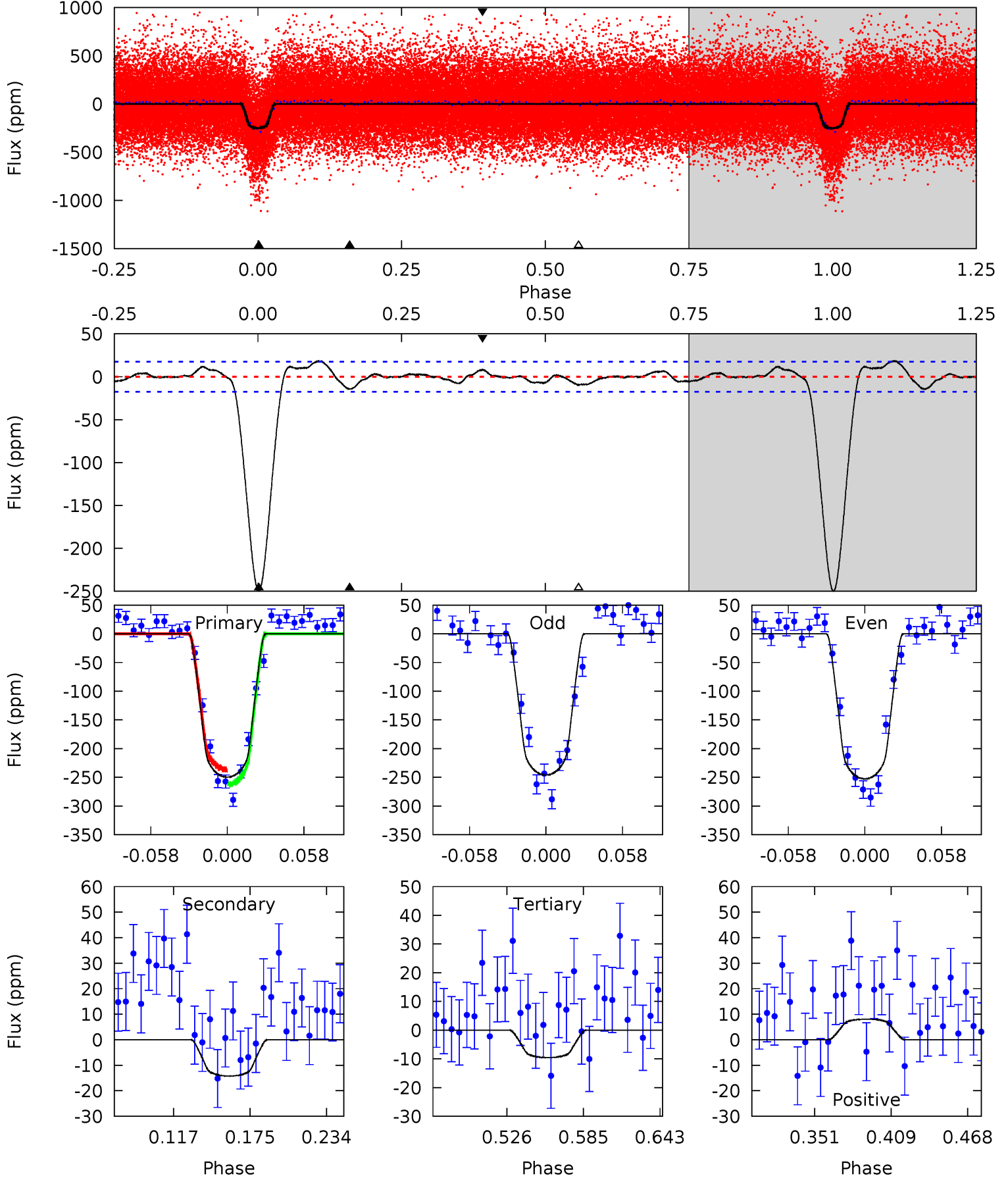
TCE 006032517-01 P= 1.791410 Days  $T_0=132.993338$  (BKJD)



# DV Model-Shift Uniqueness Test

006032517-01, P = 1.791392 Days, E = 131.207672 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
66.6	3.80	2.55	2.15	4.68	1.89	1.32	64.0	64.4	1.25	1.65	0.89	1.06	0.07	3.48

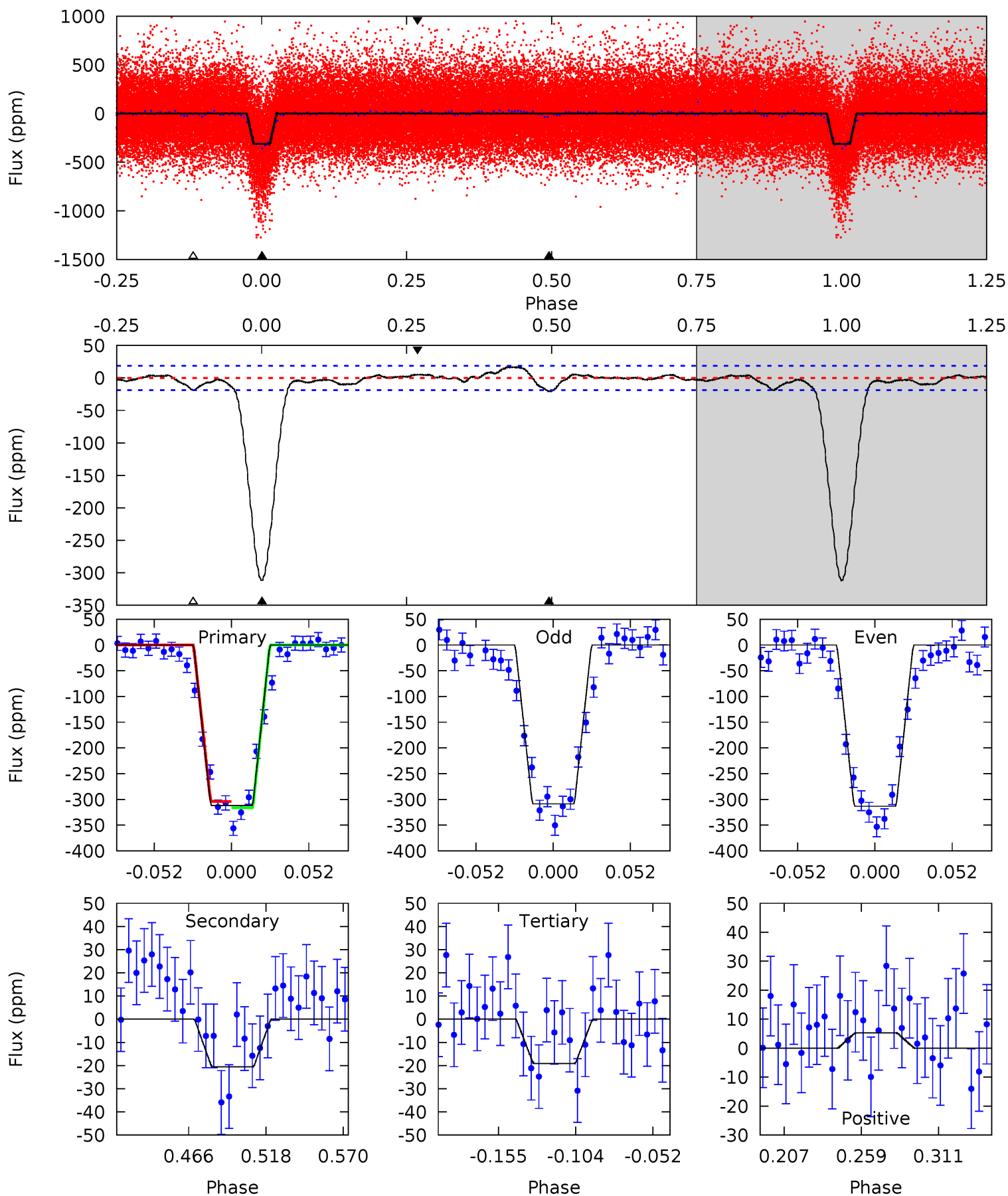




# Alt Model-Shift Uniqueness Test

006032517-01, P = 1.791410 Days, E = 131.201928 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
77.9	5.13	4.79	1.31	4.70	1.94	1.49	73.1	76.6	0.35	3.82	0.58	1.09	0.05	1.53





### Stellar Parameters For KIC 006032517

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6092^{+165}_{-202}$	$4.453^{+0.056}_{-0.224}$	$0.000^{+0.250}_{-0.350}$	$1.028^{+0.341}_{-0.114}$	$1.091^{+0.139}_{-0.153}$	$1.415^{+0.425}_{-0.776}$
	+3%/-3%	+1%/-5%	+inf%/-inf%	+33%/-11%	+13%/-14%	+30%/-55%
Source	PHO1	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 006032517-01 / KOI 2070.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-14 \pm 4$	$1.97^{+0.41}_{-0.31}$	$2256^{+172}_{-106}$	$3292^{+253}_{-247}$	$1.699^{+0.969}_{-0.630}$
Alt.	$-21 \pm 4$	$2.15^{+0.41}_{-0.33}$	$2246^{+171}_{-99}$	$3402^{+231}_{-206}$	$2.071^{+0.986}_{-0.708}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

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

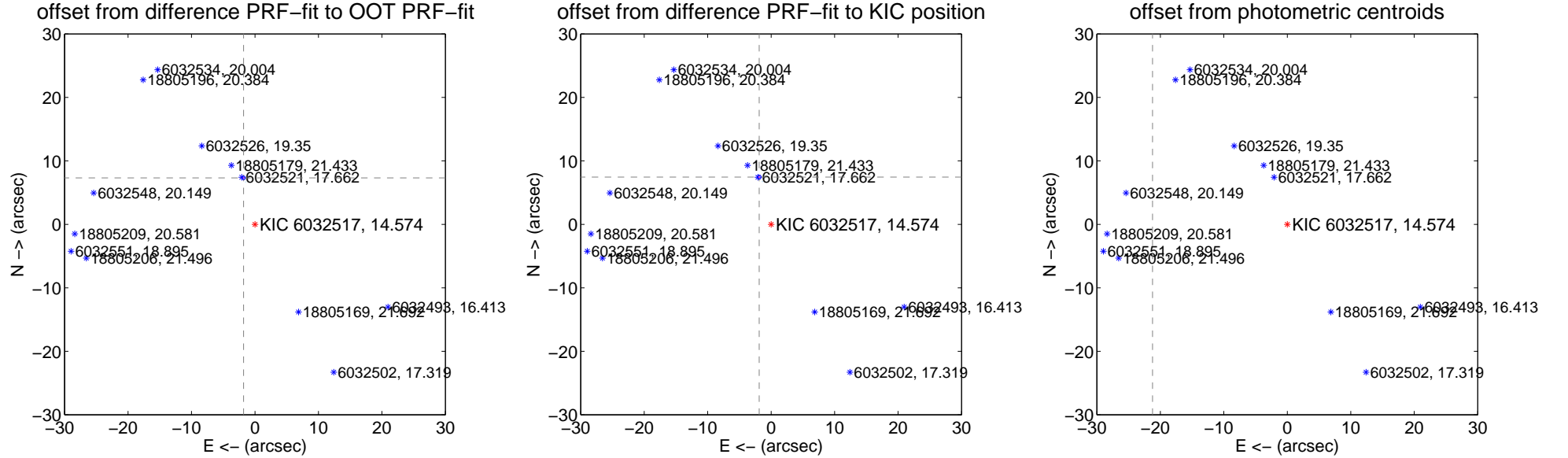
## DV Centroid Data

Supplemental centroid analysis for 006032517-01. Kepler magnitude: 14.57. Transit SNR 44.78

There are 11 quarters with good PRF difference image offsets

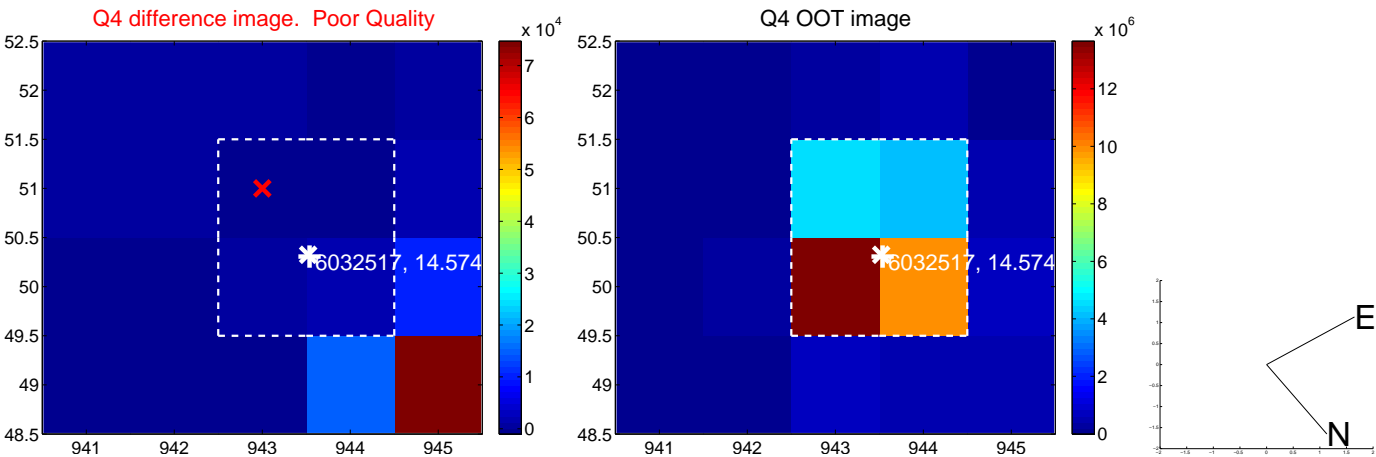
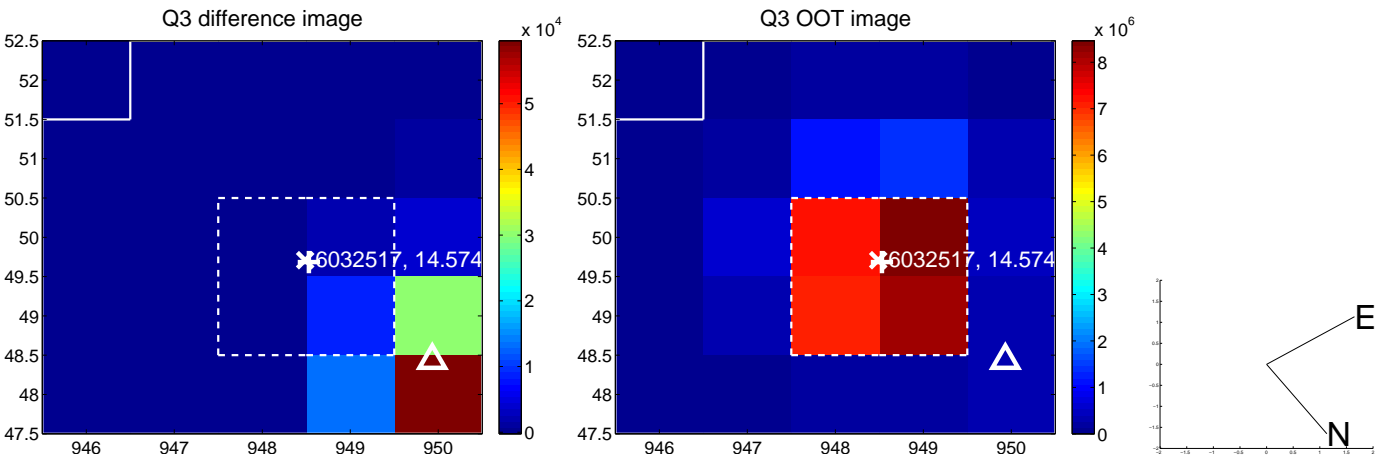
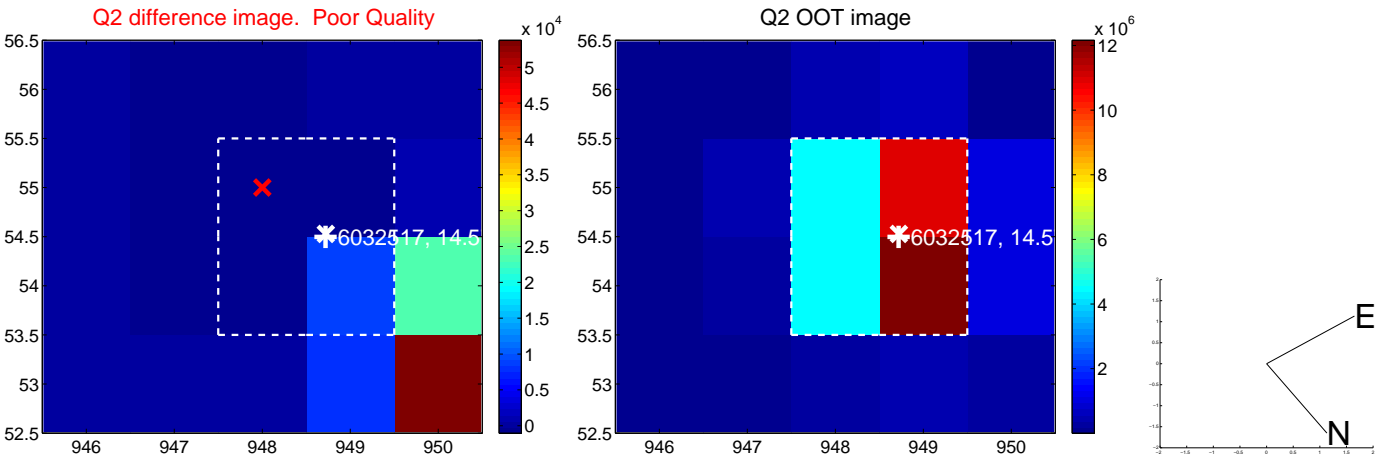
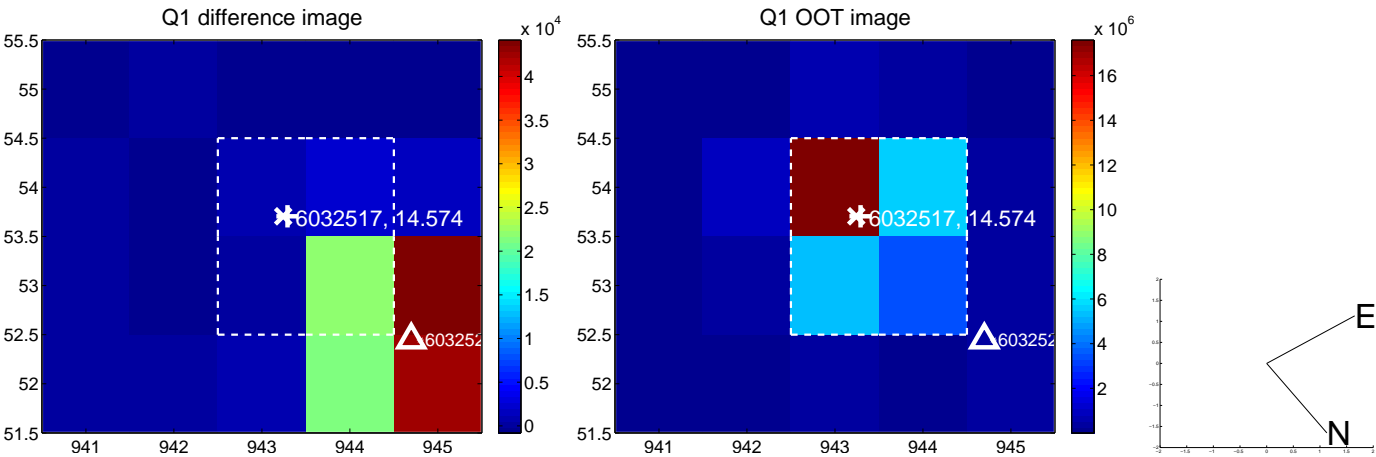
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>7.537 <math>\pm</math> 0.093</b>	<b>81.46</b>	1.795 $\pm$ 0.072	7.320 $\pm$ 0.090
PRF-fit source offset from KIC position	<b>7.681 <math>\pm</math> 0.103</b>	<b>74.53</b>	1.879 $\pm$ 0.081	7.447 $\pm$ 0.097
photometric centroid source offset	<b>87.97 <math>\pm</math> 0.32</b>	<b>273.10</b>	21.23 $\pm$ 0.31	85.37 $\pm$ 0.32



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.

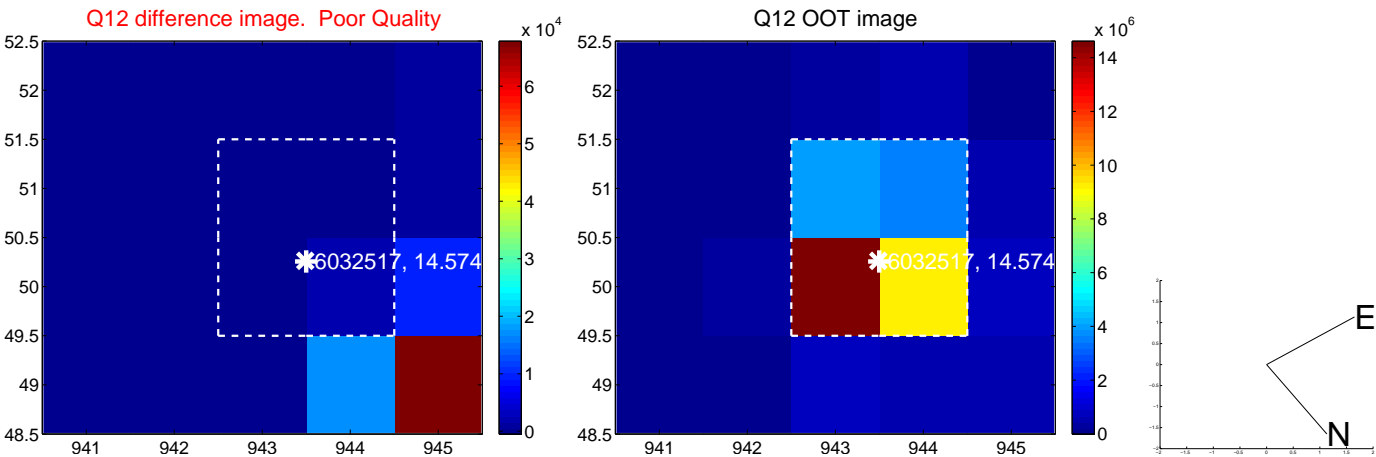
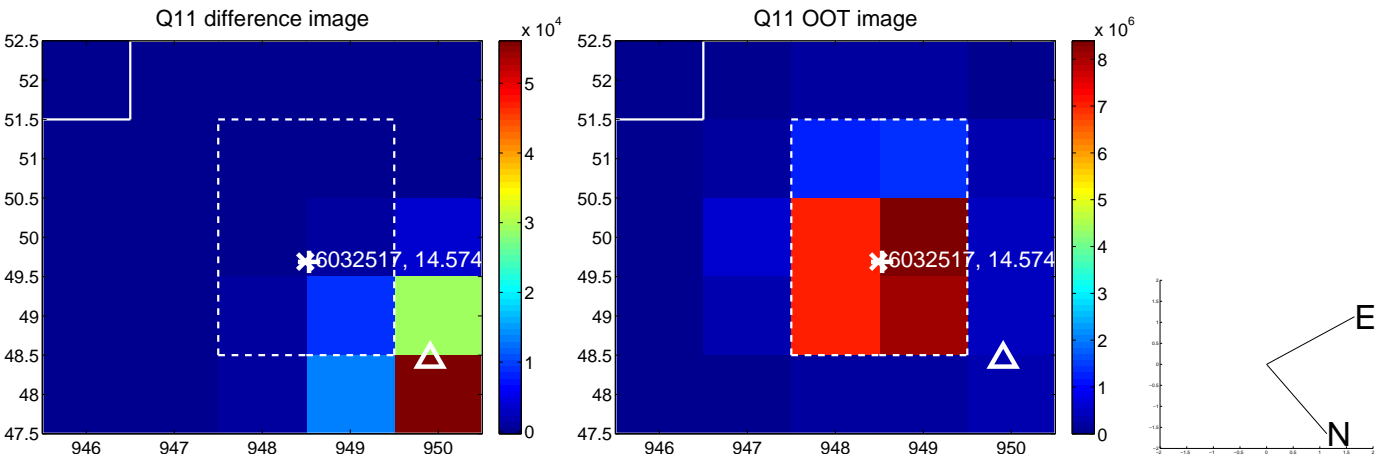
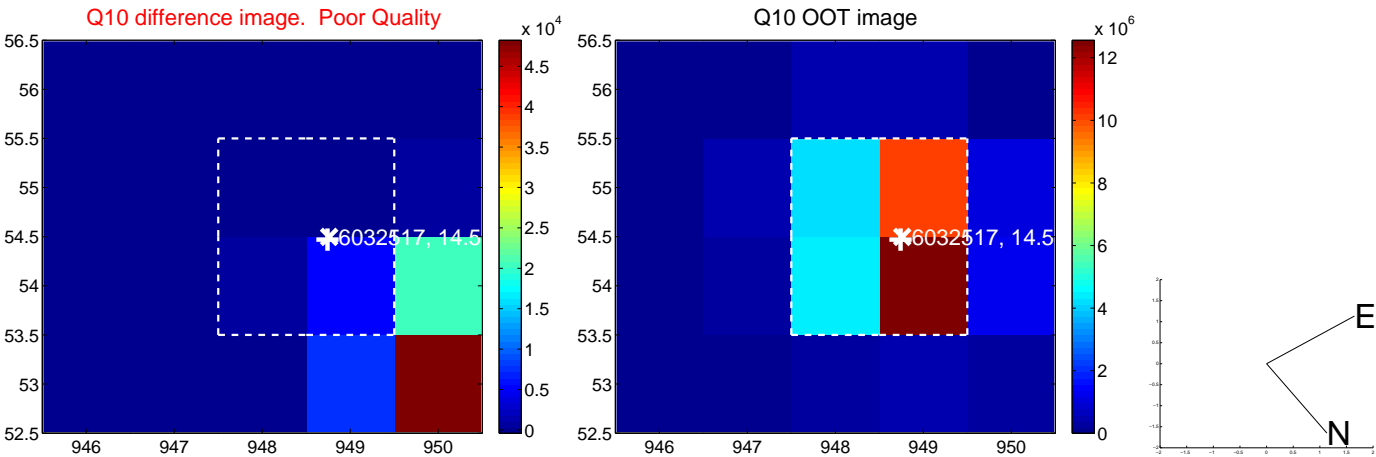
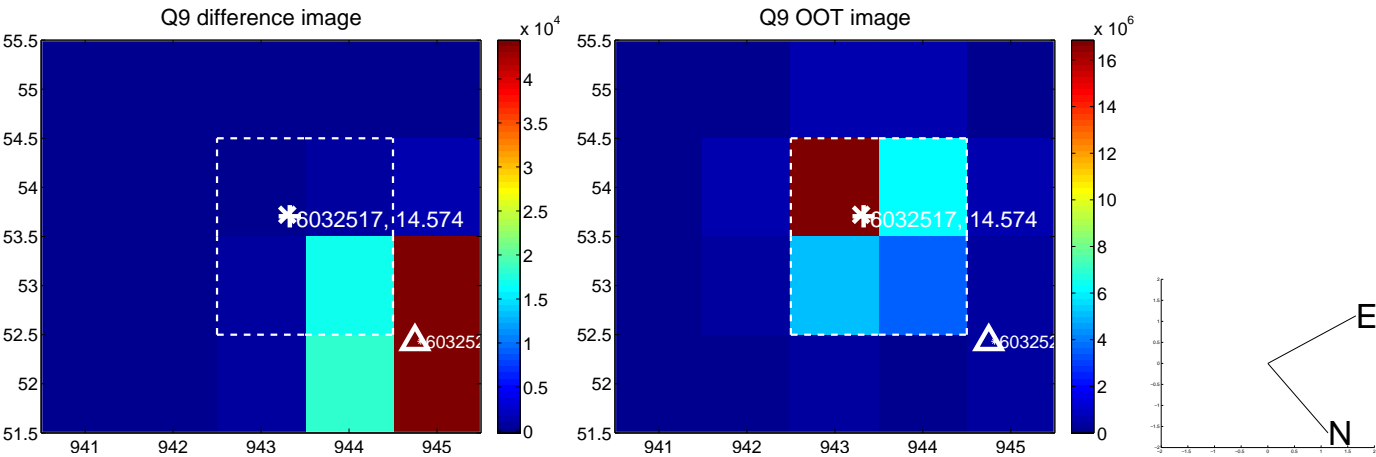
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



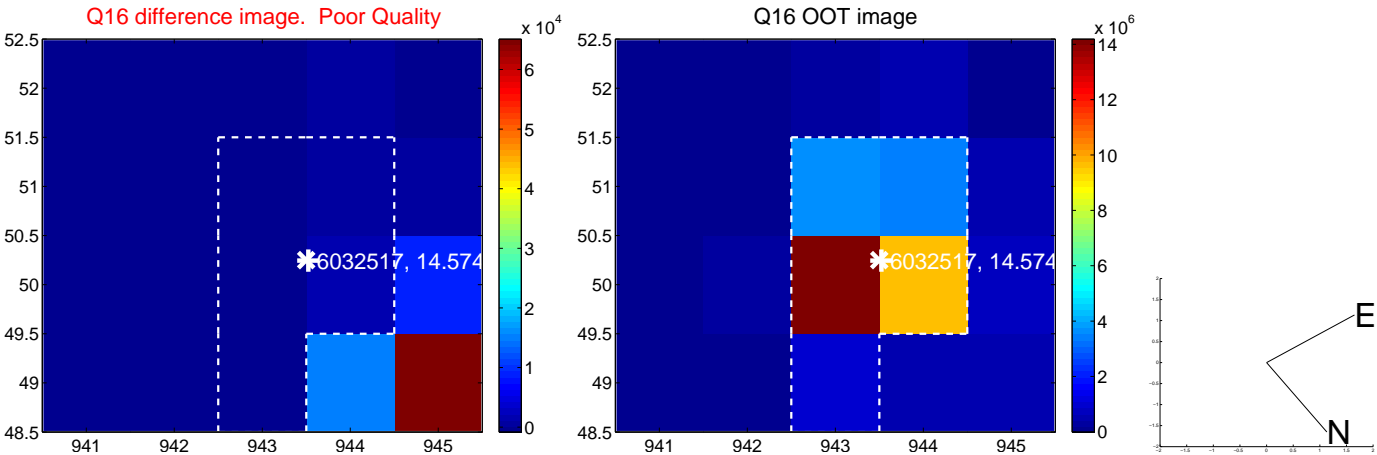
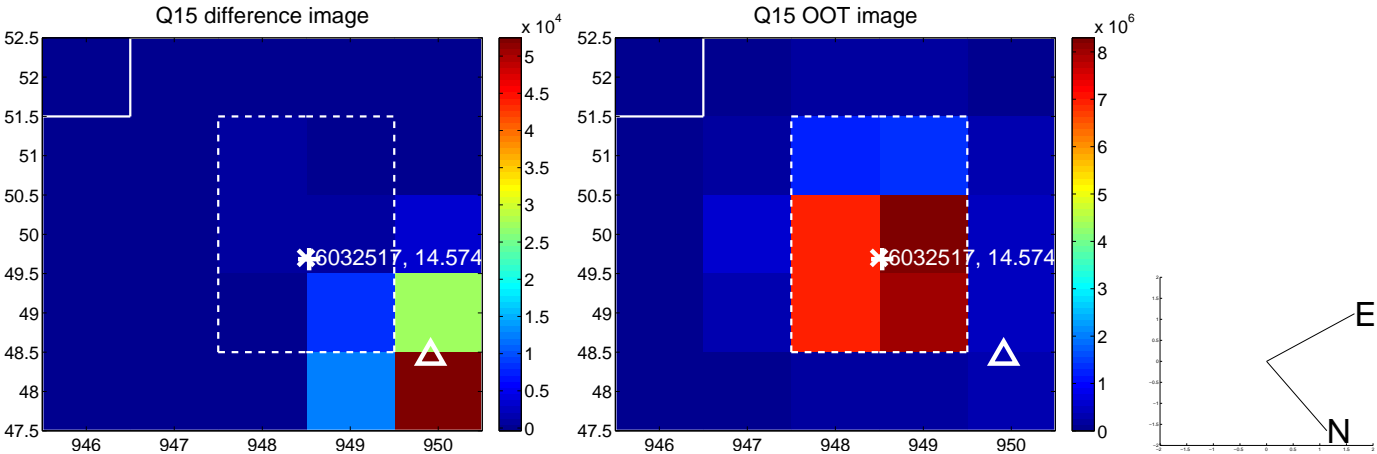
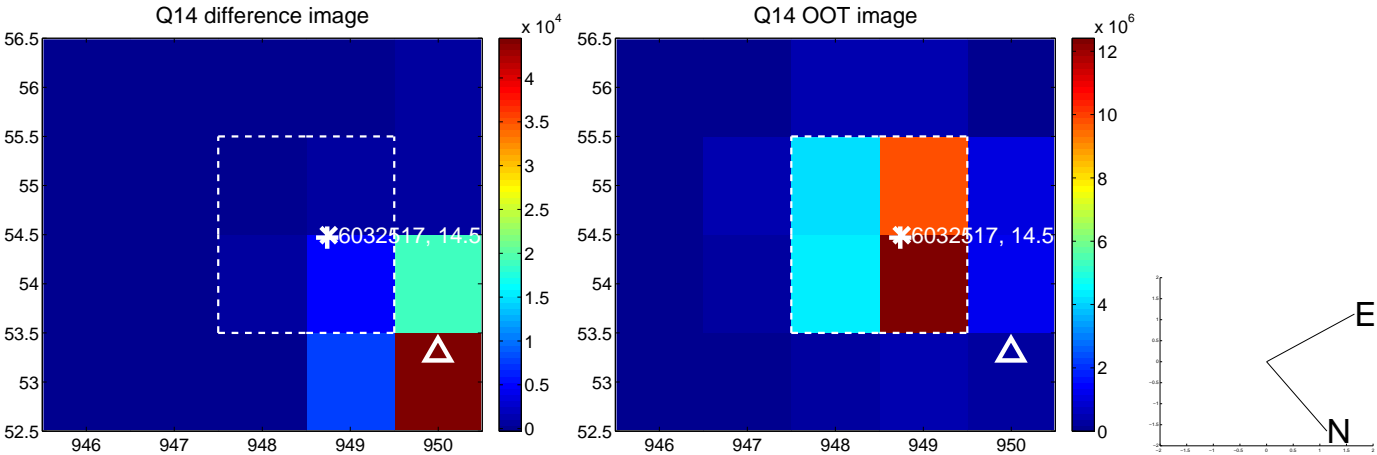
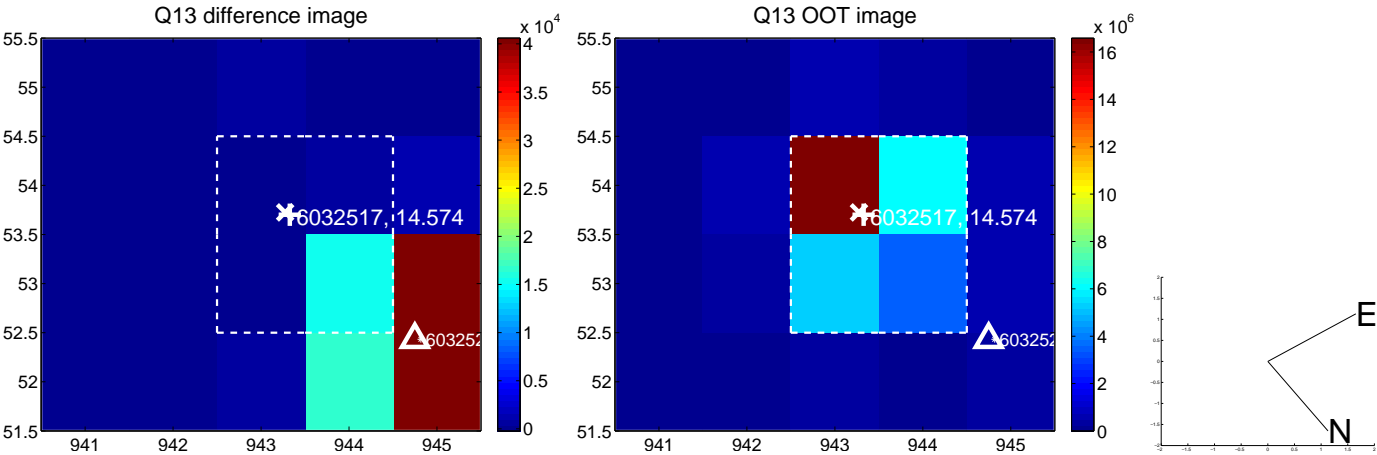




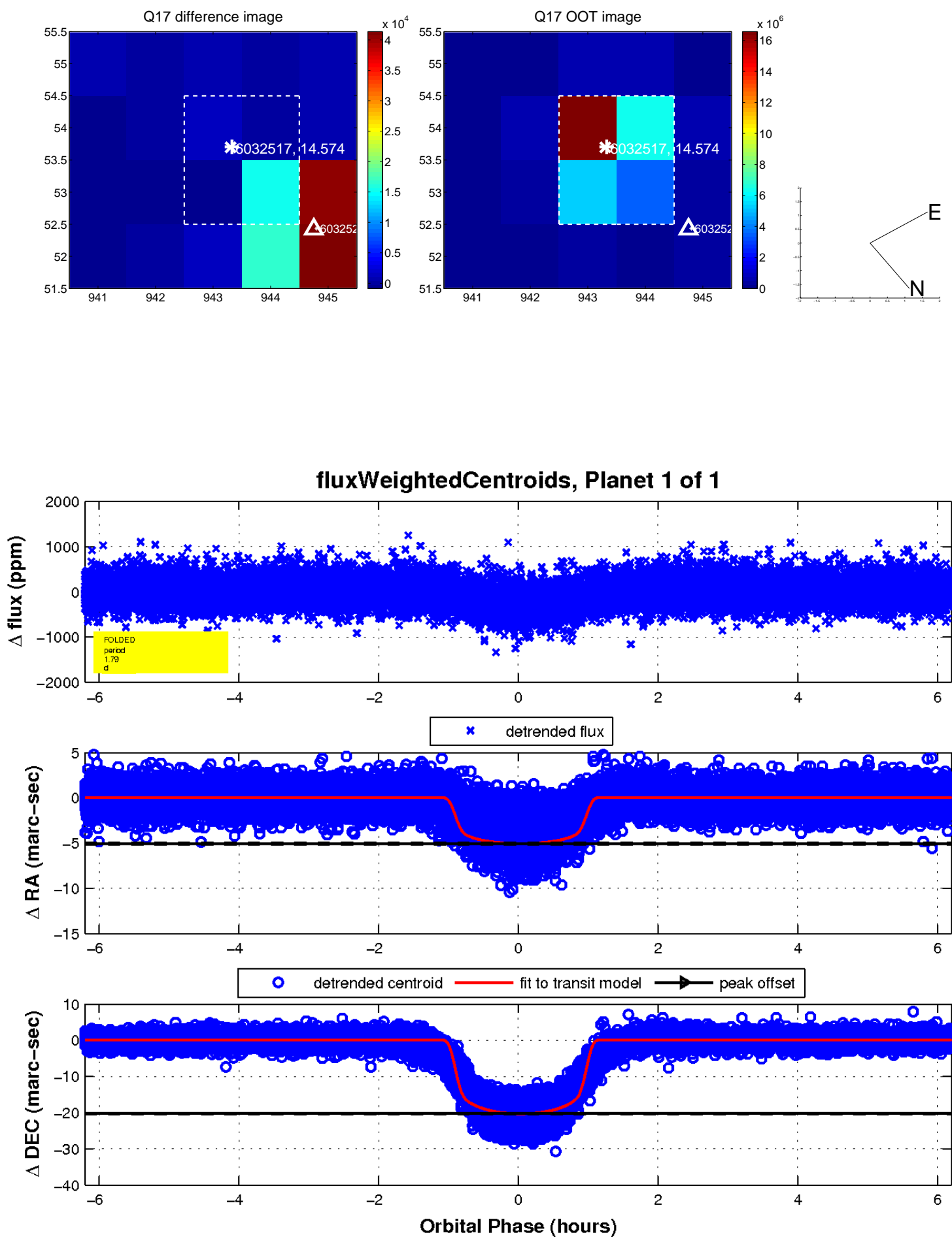
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

Declination

