

# KIC 004847534

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004847534-01	OBS	0499.01	9.668573	135.860750	411.7	2.537	32.7	36.2	0.84	5288	2.03	67.25

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004847534-01	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.

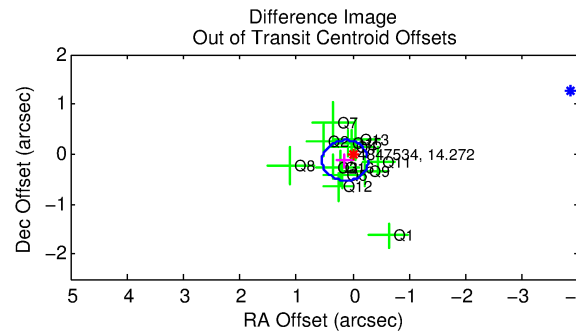
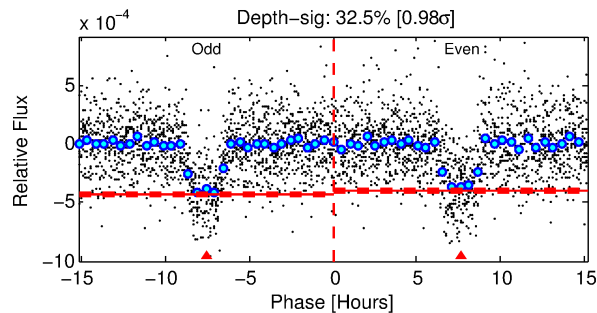
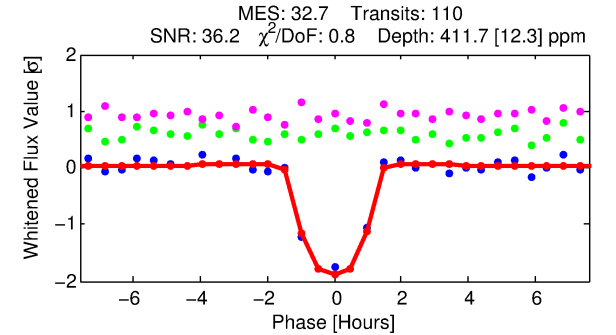
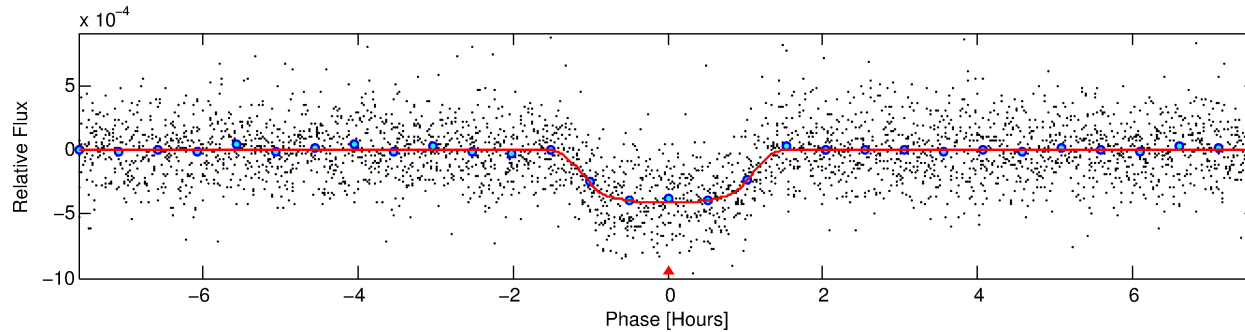
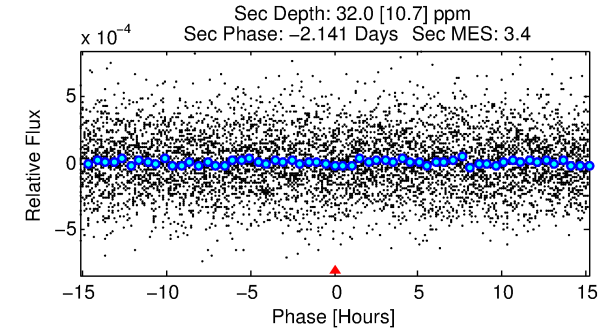
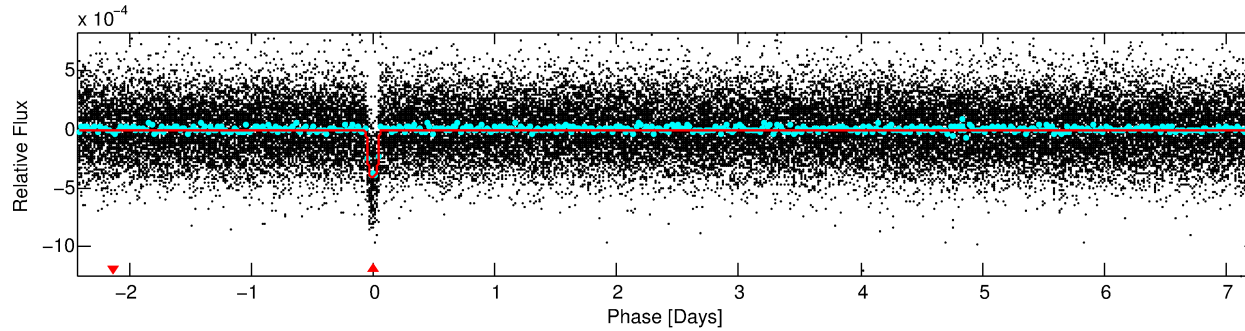
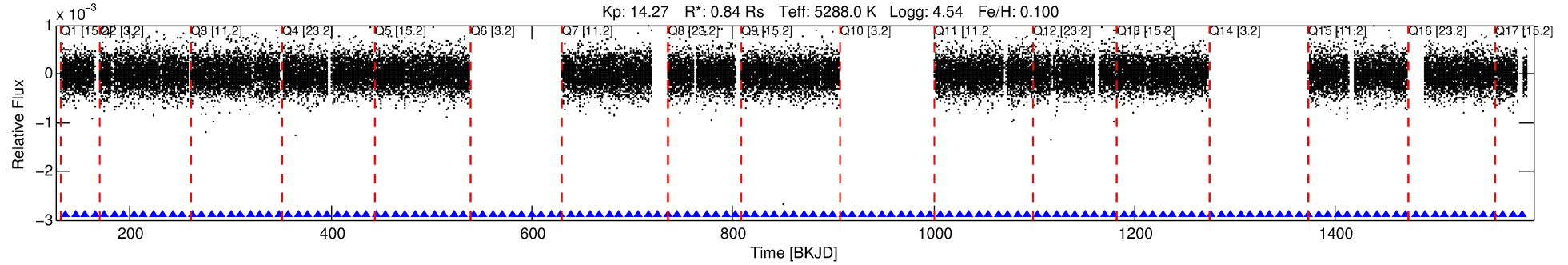
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004847534-01

No Significant Match Found

# DV One-Page Summary

KIC: 4847534 Candidate: 1 of 1 Period: 9.669 d  
KOI: K00499.01 Corr: 0.967



## DV Fit Results:

Period = 9.66857 [0.00002] d  
Epoch = 135.8607 [0.0016] BKJD  
Rp/R\* = 0.0223 [0.0039]  
a/R\* = 14.64 [10.50]  
b = 0.89 [0.17]  
Seff = 67.25 [17.37]  
Teff = 730 [47] K  
Rp = 2.03 [0.51] Re  
a = 0.0853 [0.0127] AU  
Ag = 31.04 [16.51] [1.82σ]  
Teffp = 2665 [336] K [5.70σ]

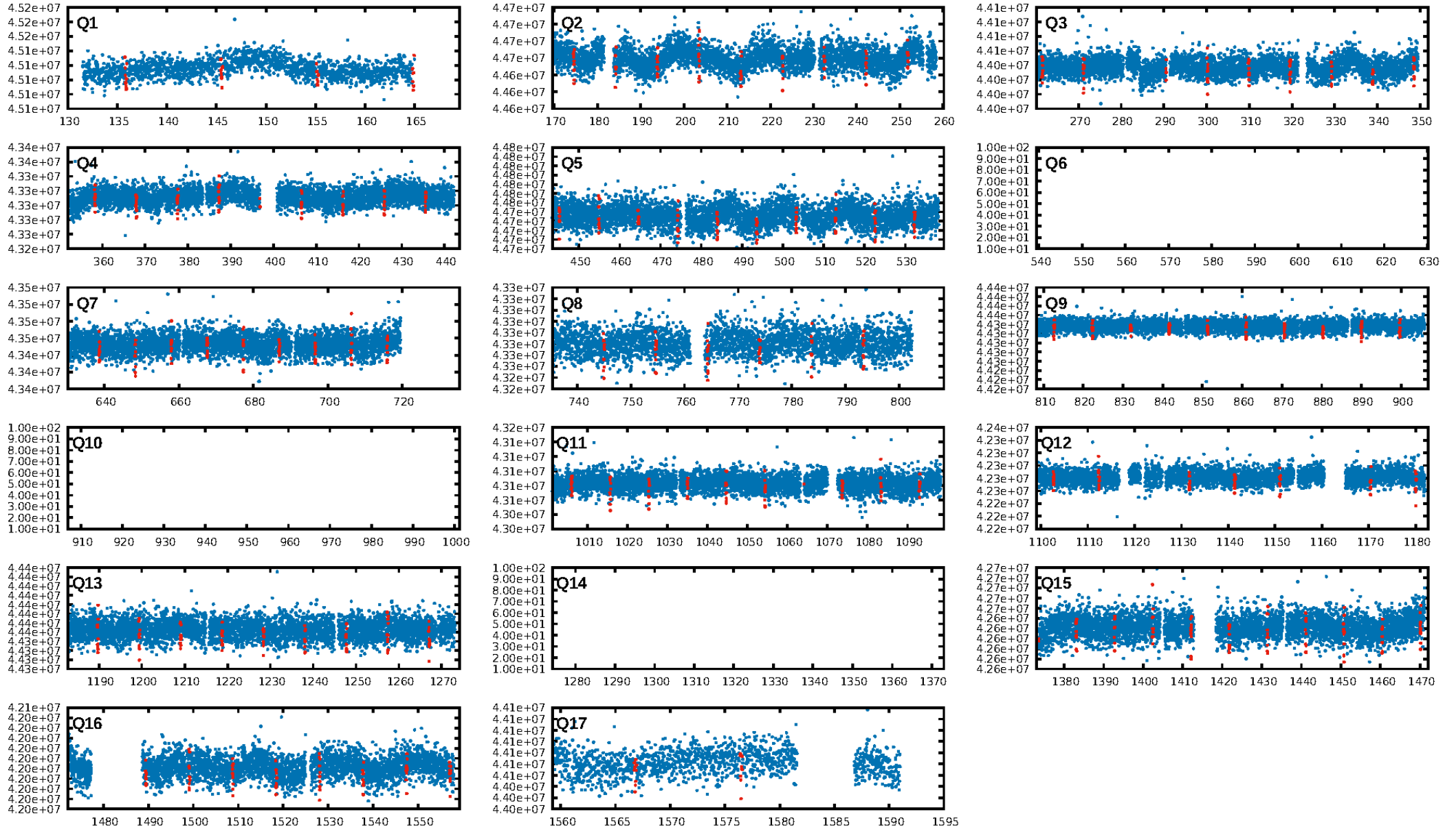
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.2%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.47e-232  
RollingBand-fgt: 1.00 [104/104]  
GhostDiagnostic-chr: 13.32  
Centroid-sig: 60.0%  
Centroid-so: 0.380 arcsec [1.04σ]  
OotOffset-rm: 0.189 arcsec [1.40σ]  
KicOffset-rm: 0.362 arcsec [2.84σ]  
OotOffset-st: 1/4/4/4 [13]  
KicOffset-st: 1/4/4/4 [13]  
DiffImageQuality-fgm: 1.00 [13/13]  
DiffImageOverlap-fno: 1.00 [14/14]

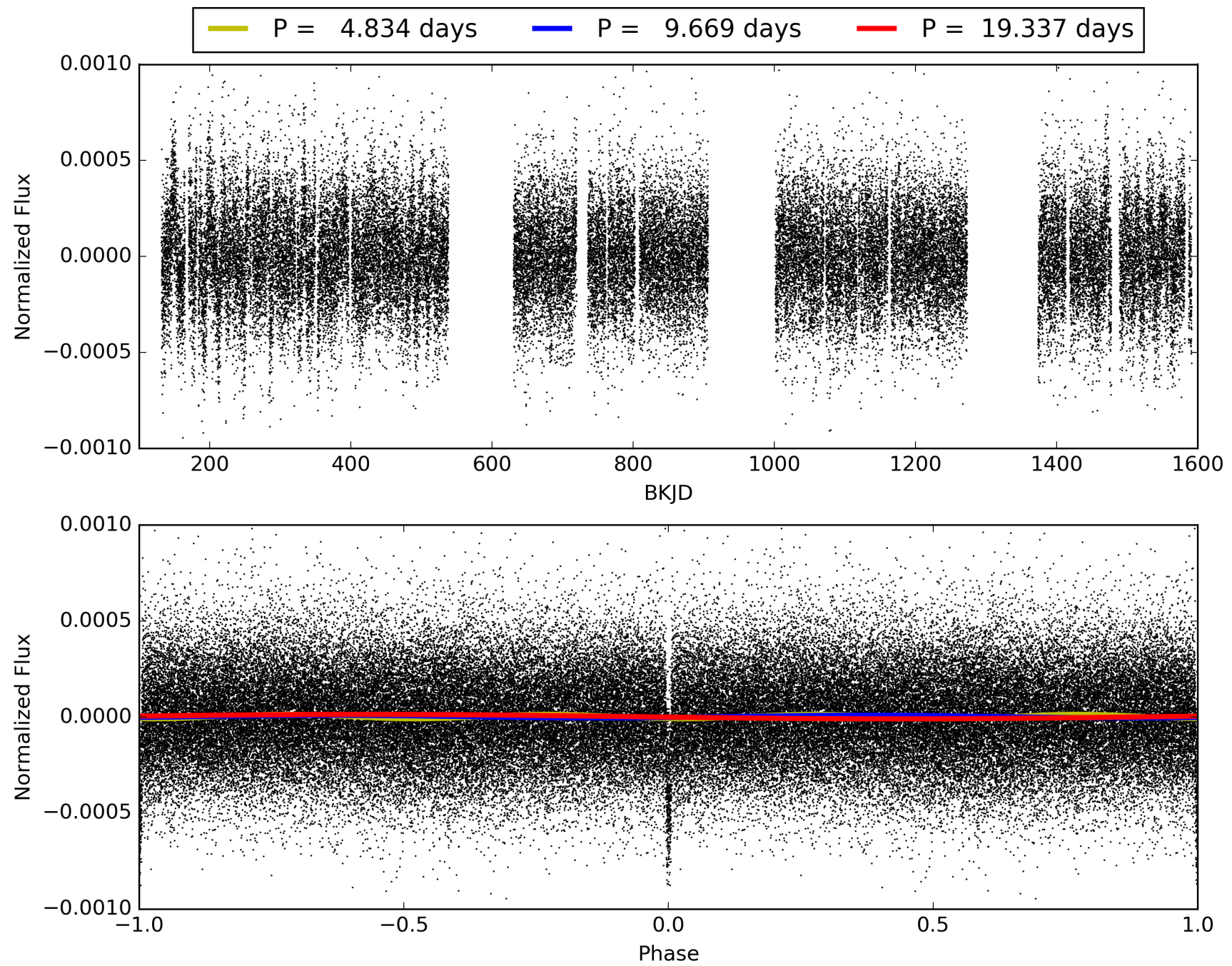
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:35:08 Z

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

# TCE 004847534-01, PDC Light Curves

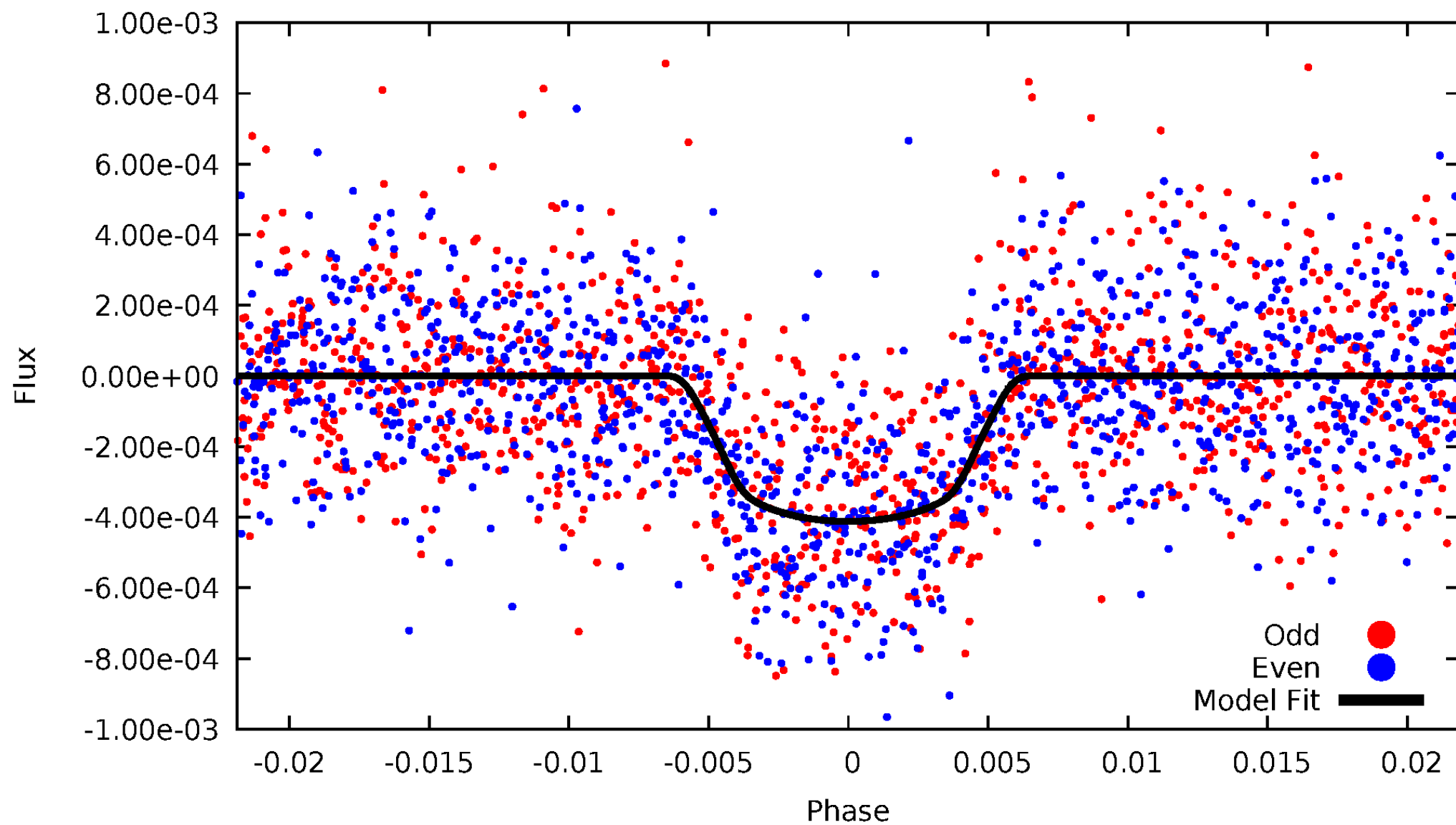


TCE 004847534-01



# DV Odd/Even

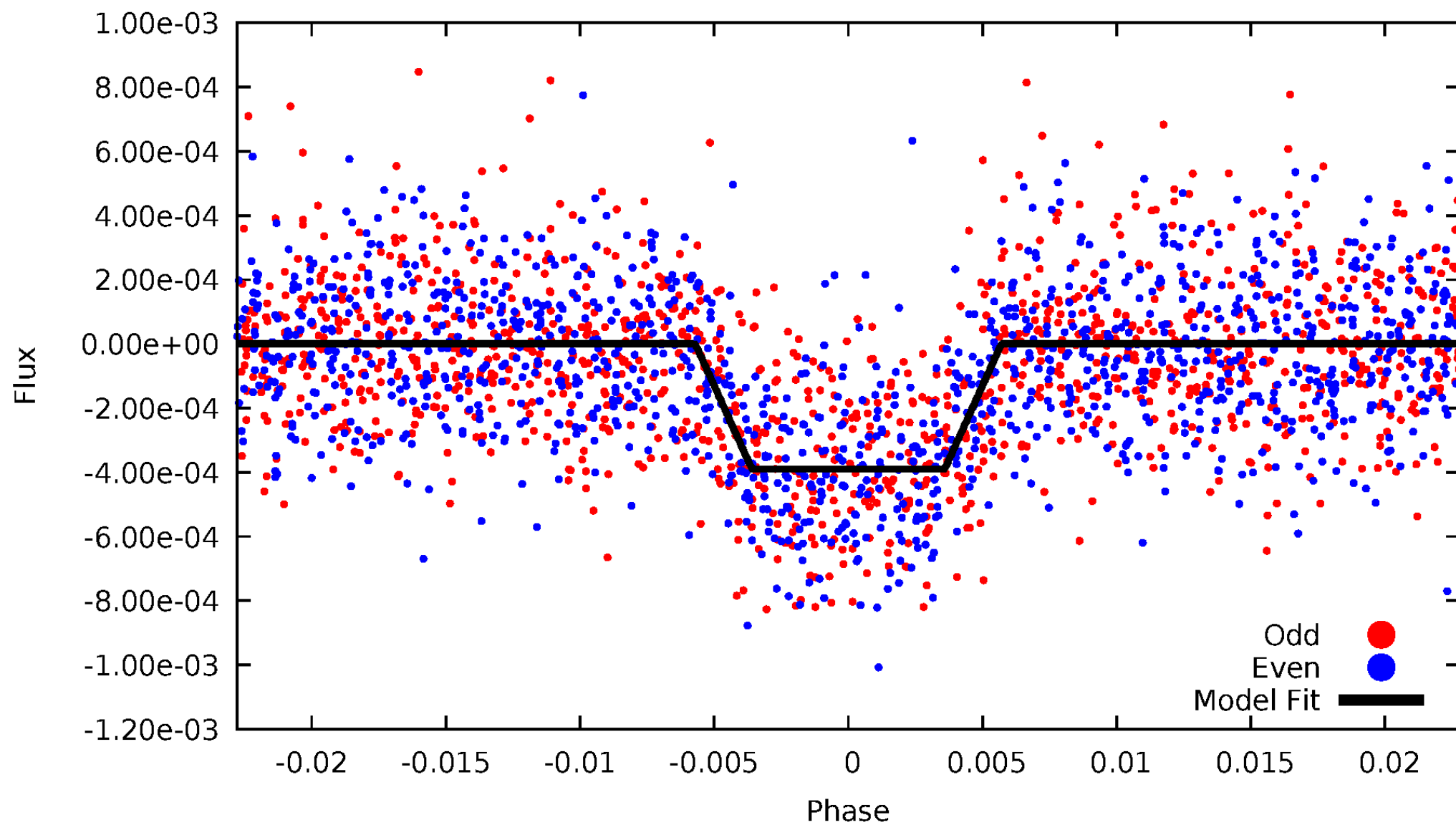
TCE 004847534-01



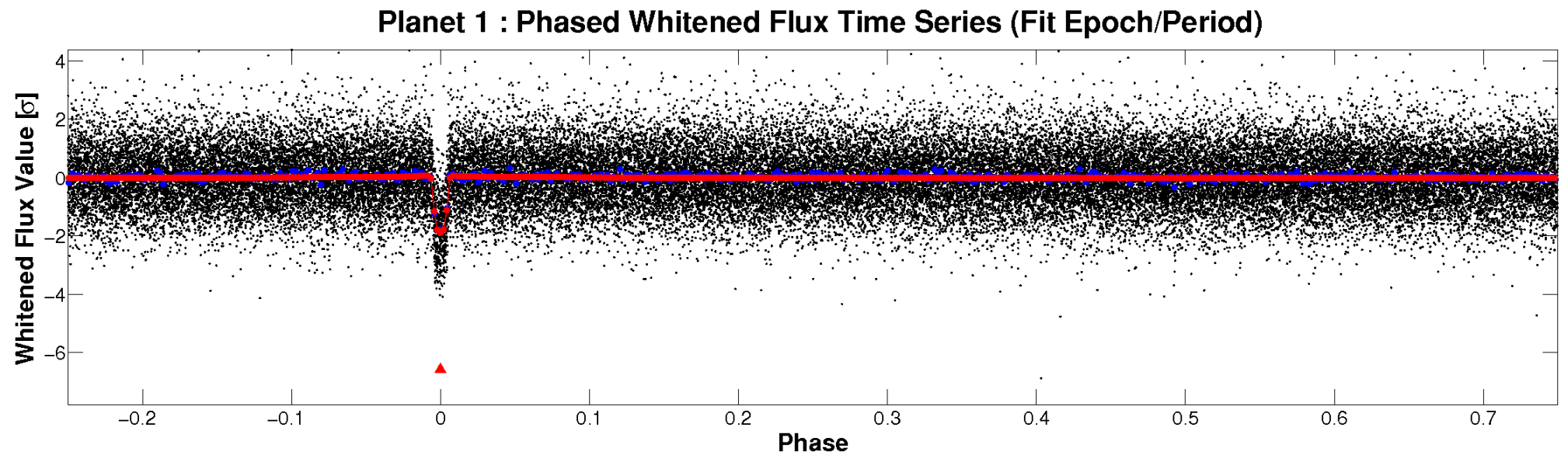
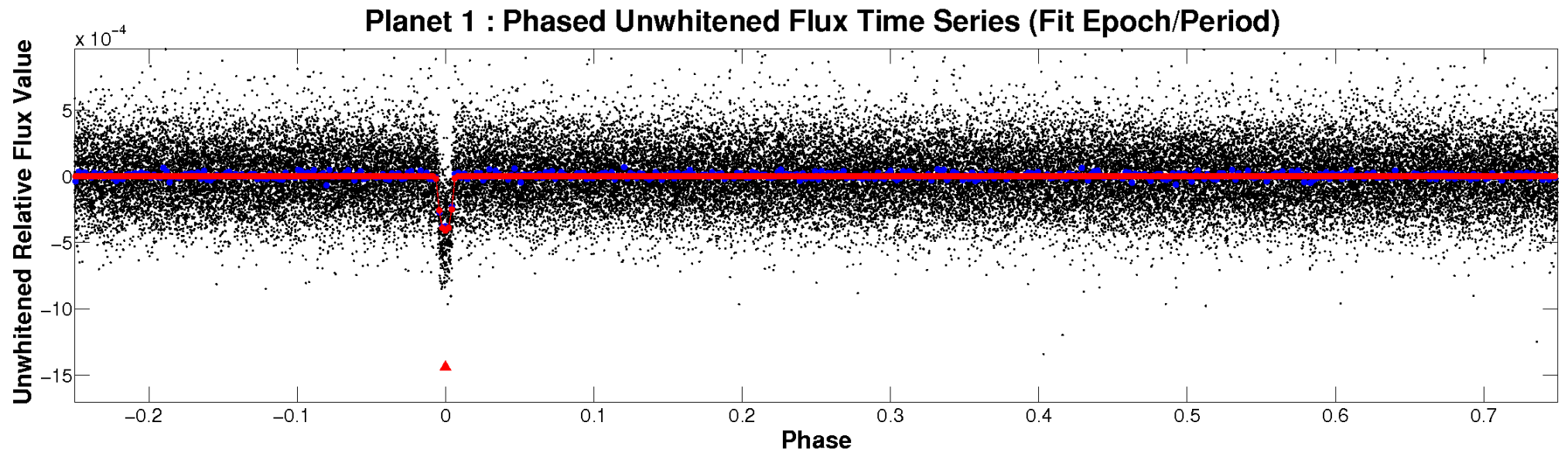


# ALT Odd/Even

TCE 004847534-01

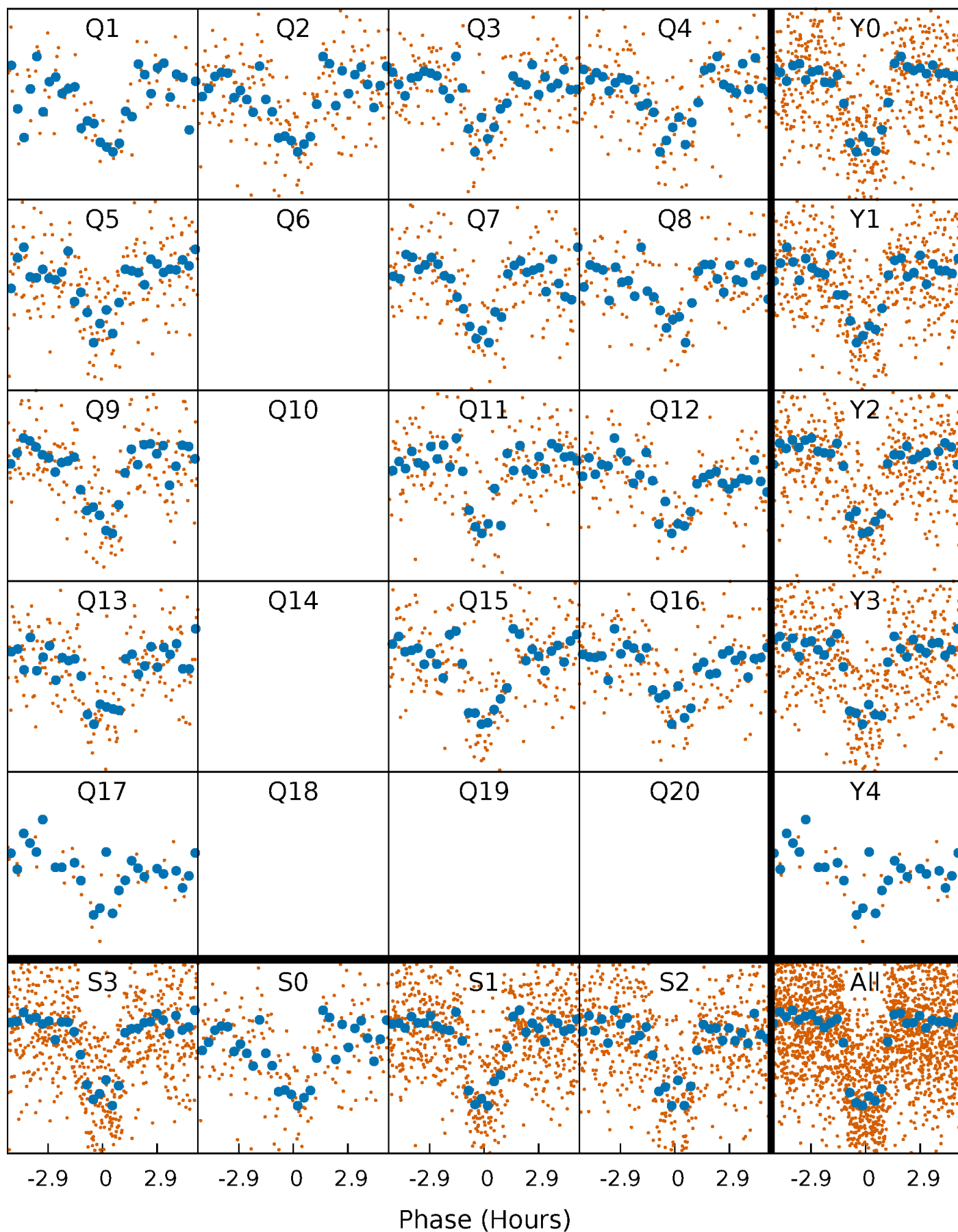


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

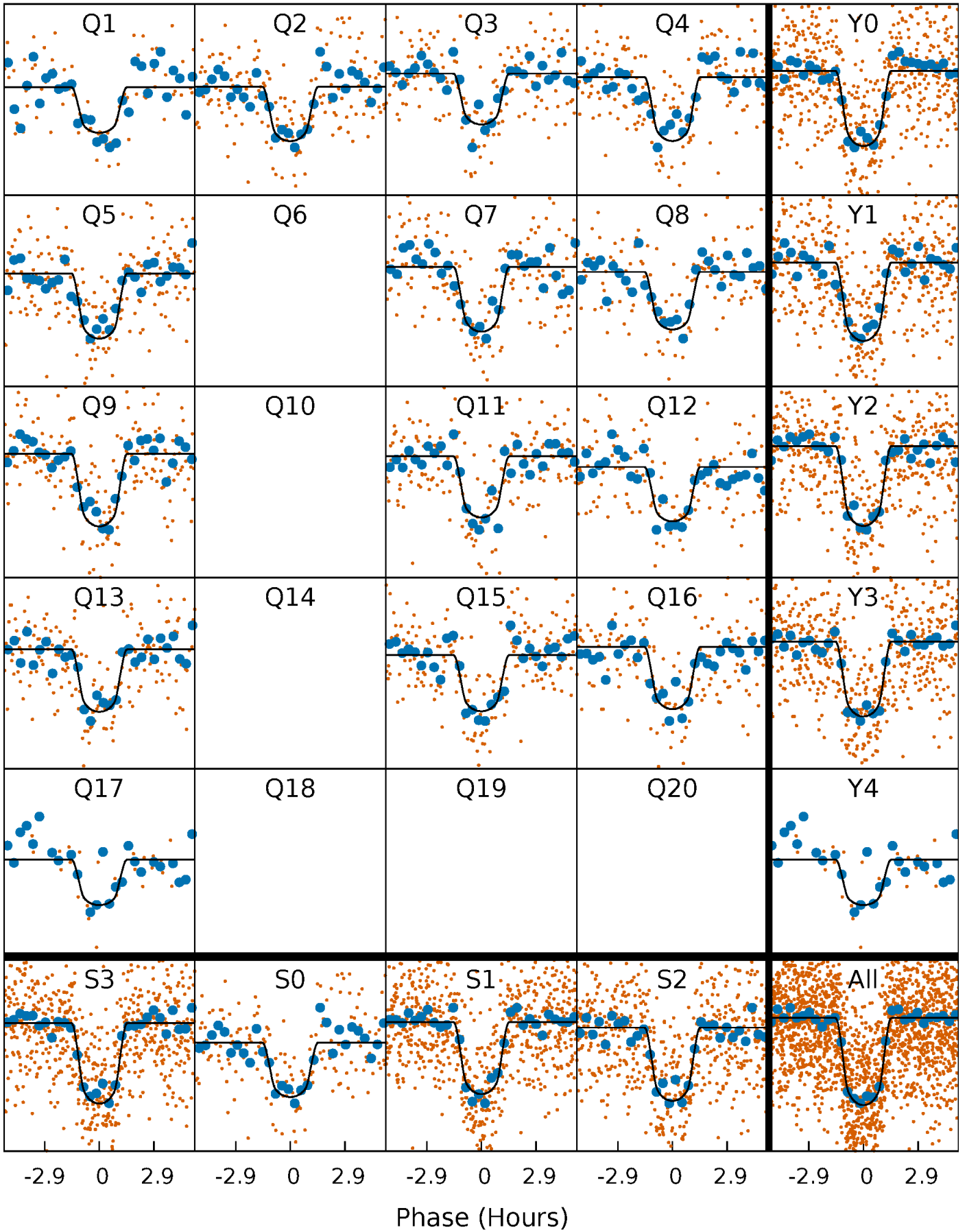
TCE 004847534-01   P= 9.668573 Days    $T_0=135.860750$  (BKJD)





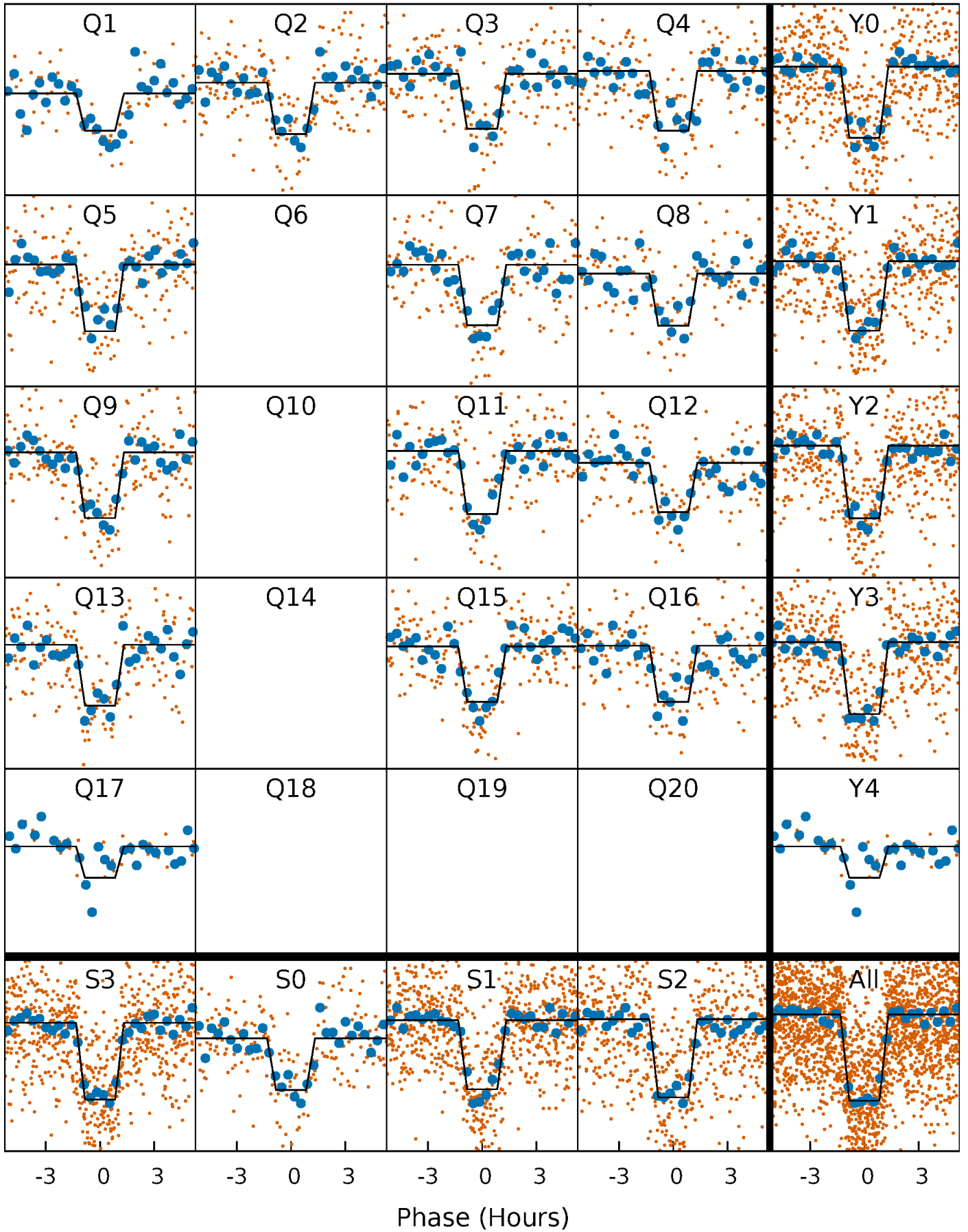
# DV Quarter-Phased Transit Curves

TCE 004847534-01   P= 9.668573 Days    $T_0=135.860750$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

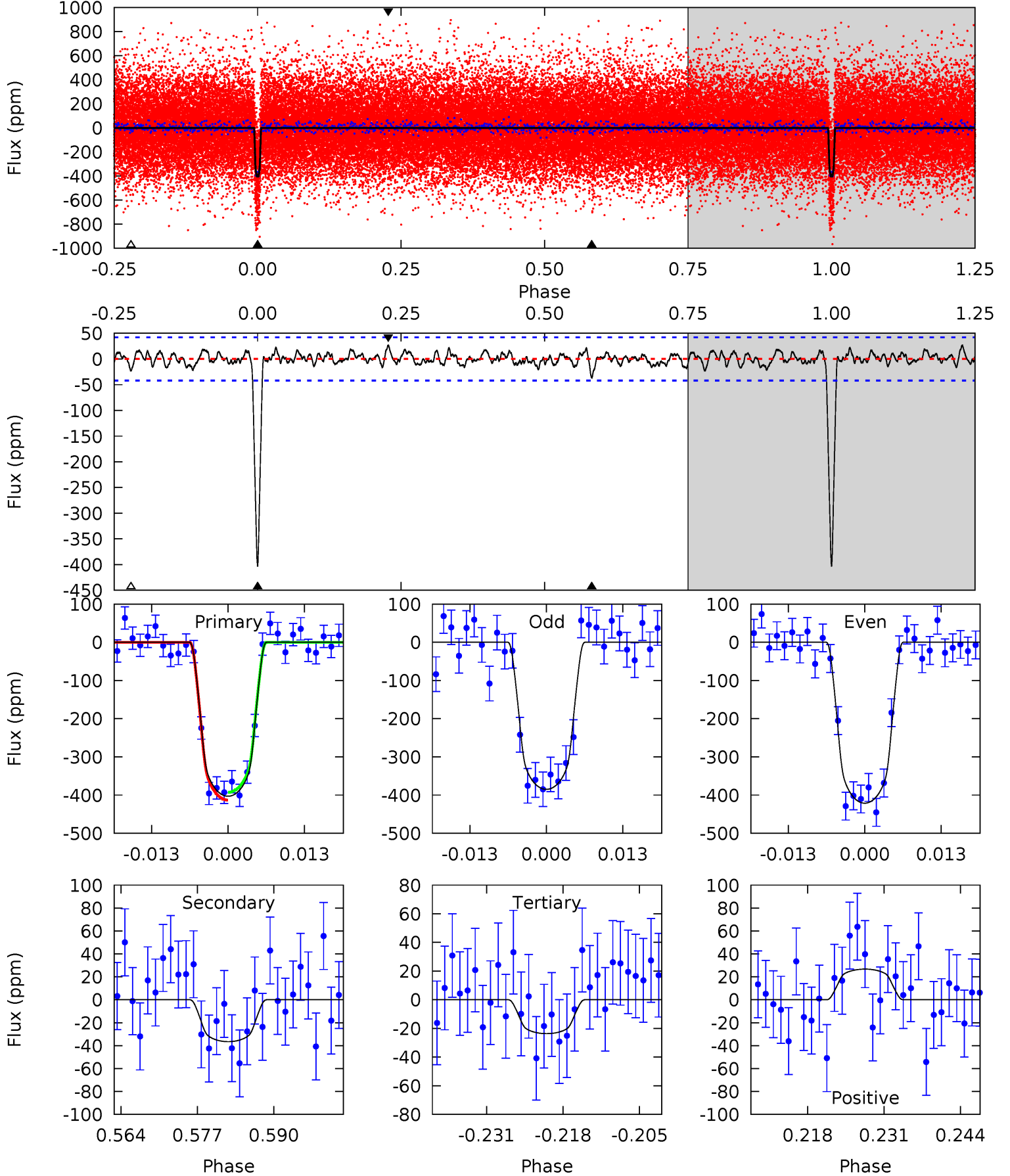
TCE 004847534-01 P= 9.668660 Days  $T_0=135.853853$  (BKJD)



# DV Model-Shift Uniqueness Test

004847534-01, P = 9.668573 Days, E = 126.192177 Days

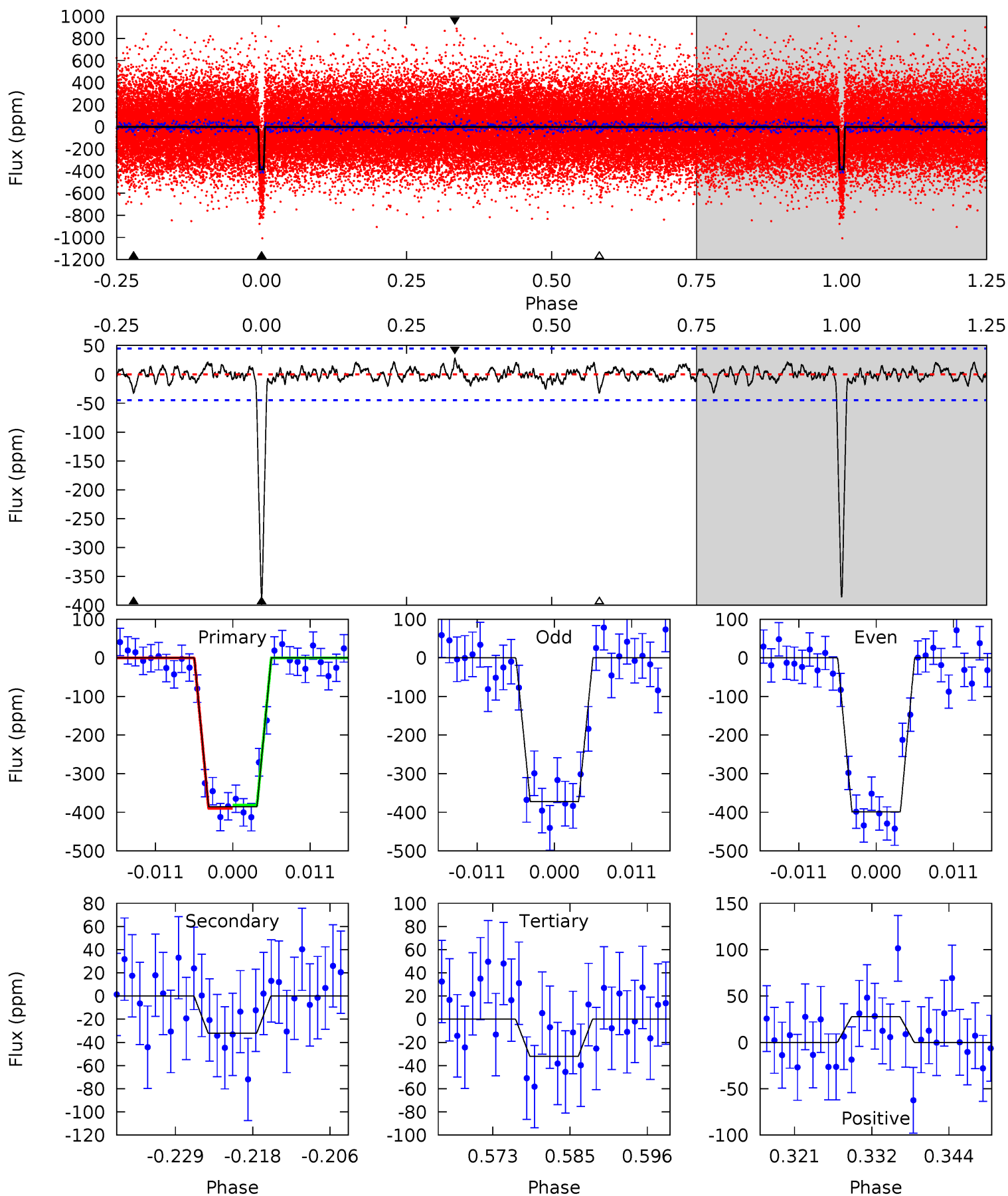
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
47.6	4.32	2.80	3.16	4.98	2.49	1.05	44.8	44.5	1.53	1.16	2.14	1.00	0.06	1.20



# Alt Model-Shift Uniqueness Test

004847534-01, P = 9.668660 Days, E = 126.185193 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
43.1	3.59	3.59	3.09	5.00	2.53	0.99	39.5	40.0	0.01	0.50	1.48	1.00	0.07	0.44



### Stellar Parameters For KIC 004847534

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5288^{+184}_{-184}$	$4.541^{+0.051}_{-0.119}$	$0.100^{+0.250}_{-0.300}$	$0.836^{+0.148}_{-0.080}$	$0.884^{+0.074}_{-0.082}$	$2.134^{+0.435}_{-0.750}$
	+3%/-3%	+1%/-3%	+250%/-300%	+18%/-10%	+8%/-9%	+20%/-35%
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 004847534-01 / KOI 0499.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-37 \pm 8$	$2.08^{+0.42}_{-0.40}$	$1032^{+54}_{-44}$	$3273^{+264}_{-212}$	$33^{+20}_{-13}$
Alt.	$-32 \pm 9$	$1.83^{+0.41}_{-0.37}$	$1033^{+53}_{-49}$	$3339^{+288}_{-250}$	$36^{+26}_{-15}$

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



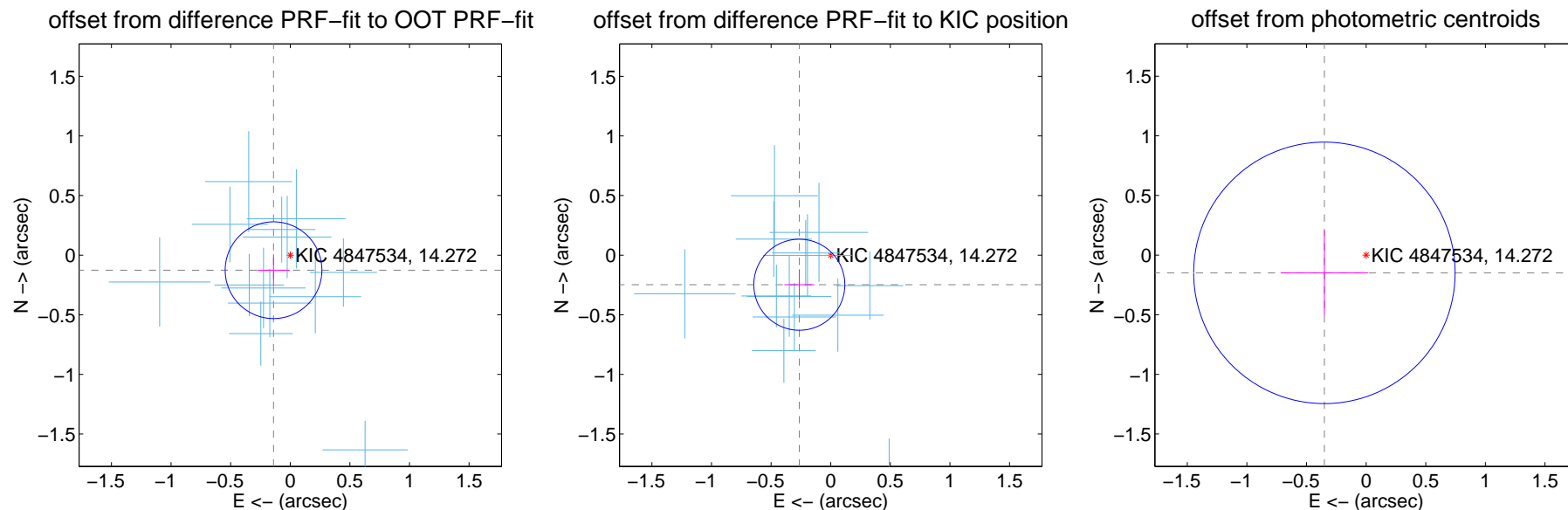
## DV Centroid Data

Supplemental centroid analysis for 004847534-01. Kepler magnitude: 14.27. Transit SNR 36.25

There are 13 quarters with good PRF difference image offsets

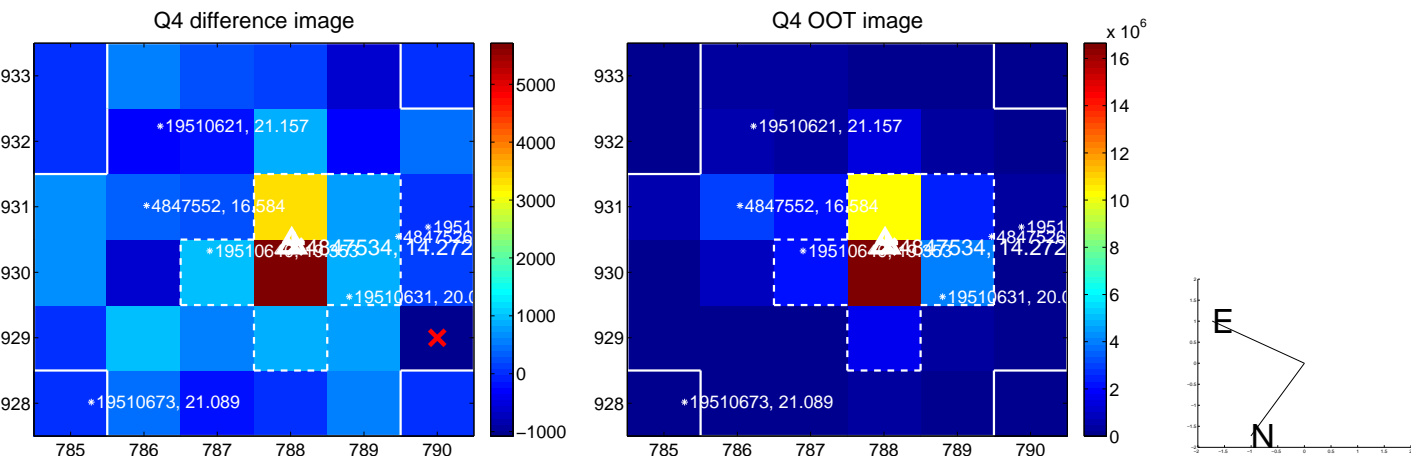
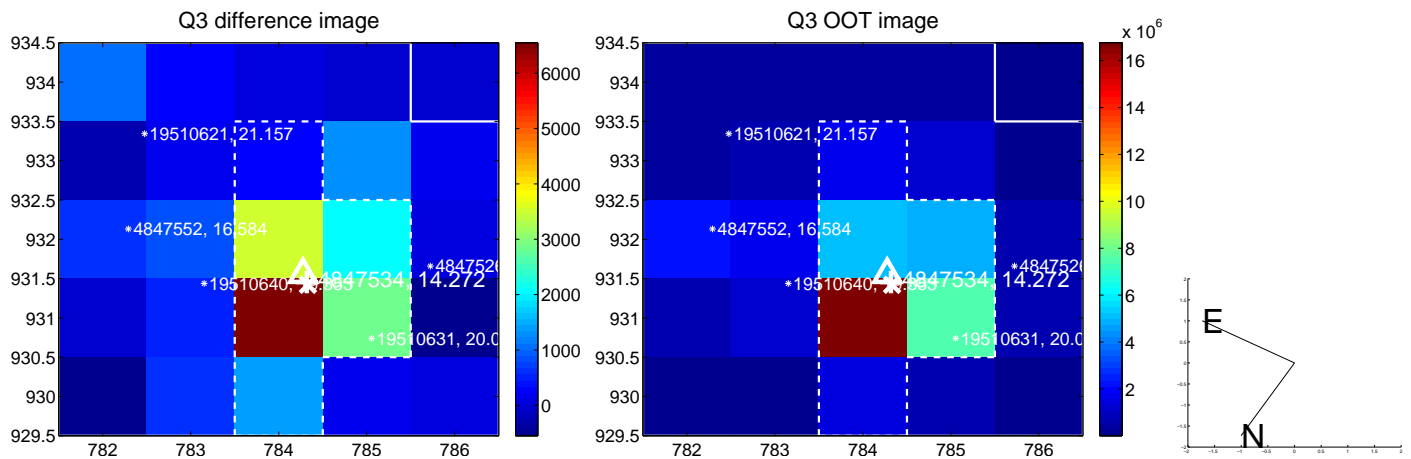
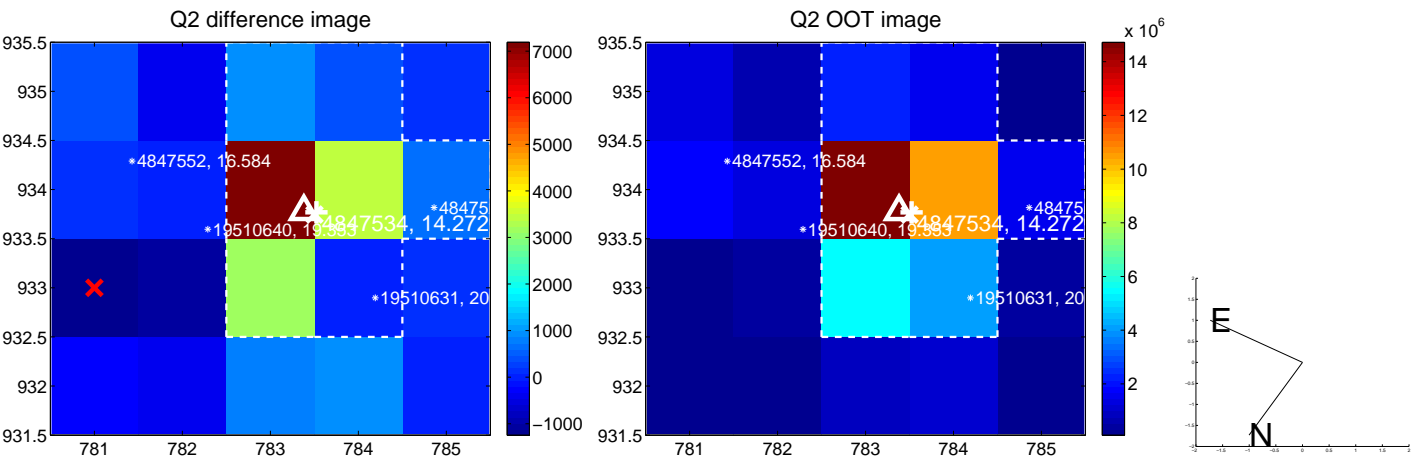
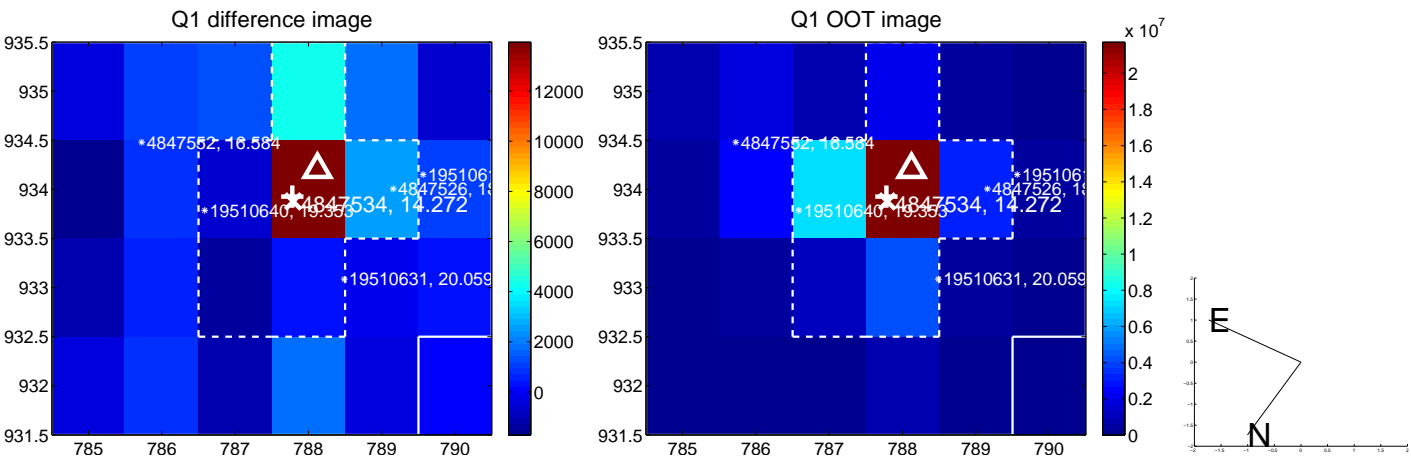
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.189 \pm 0.135$	1.40	$0.140 \pm 0.137$	$-0.126 \pm 0.133$
PRF-fit source offset from KIC position	$0.362 \pm 0.127$	2.84	$0.263 \pm 0.126$	$-0.248 \pm 0.129$
photometric centroid source offset	$0.38 \pm 0.37$	1.04	$0.35 \pm 0.37$	$-0.15 \pm 0.35$

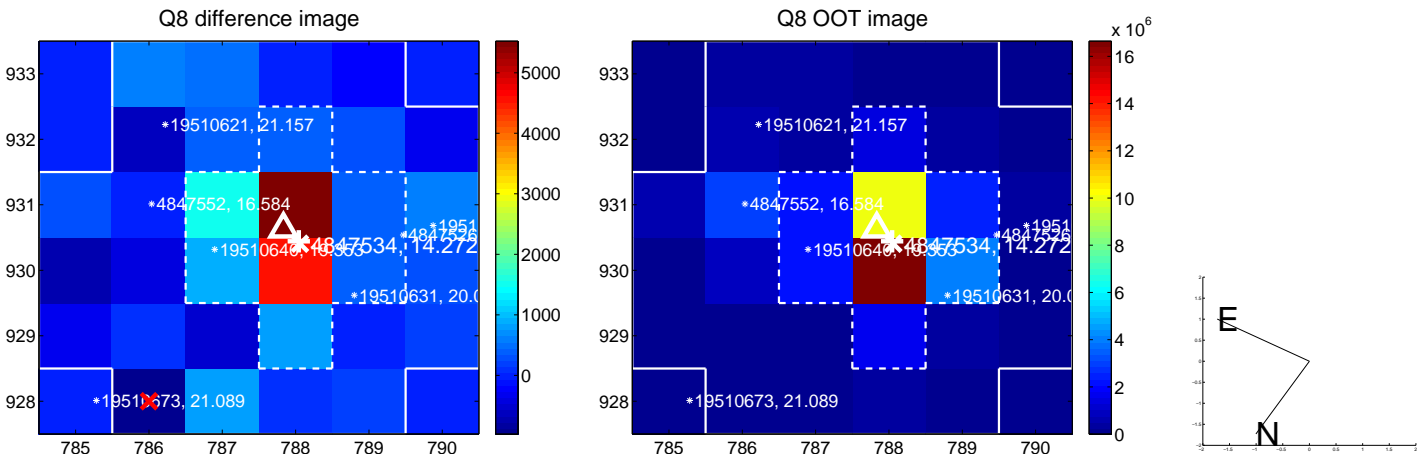
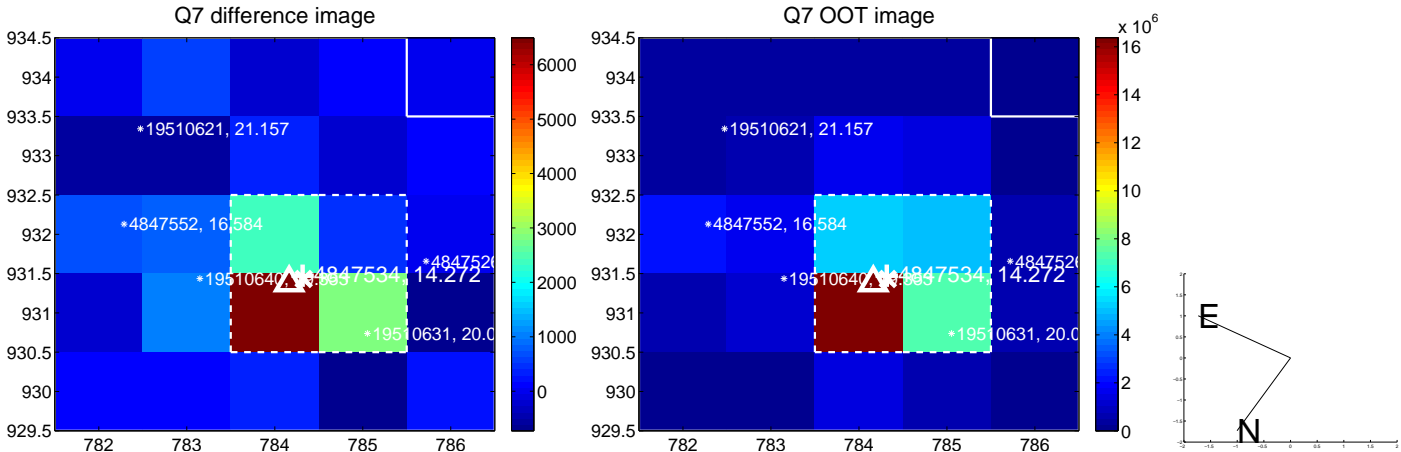
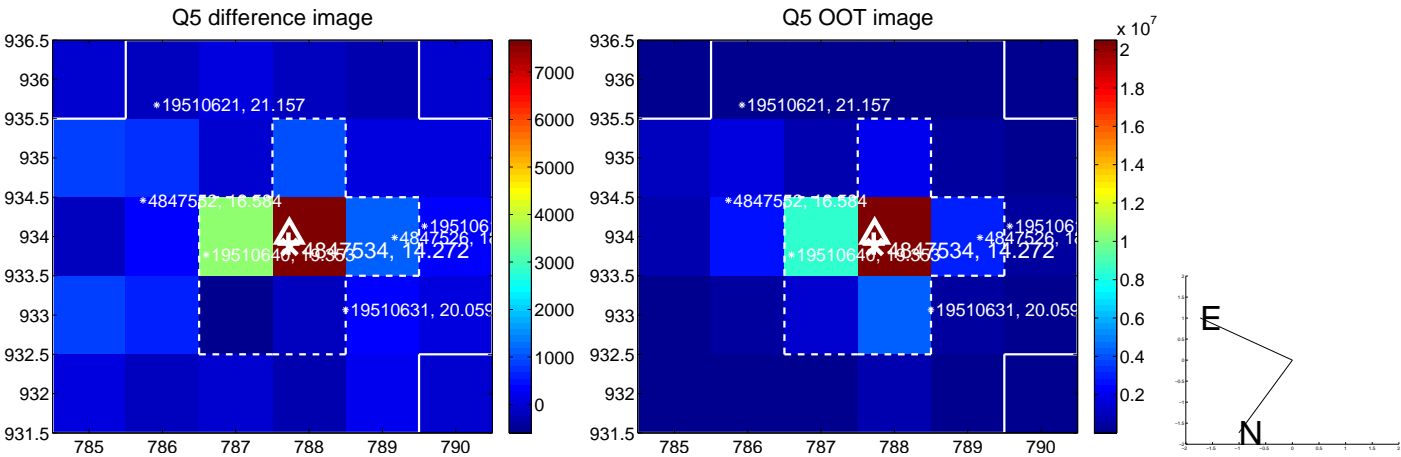


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

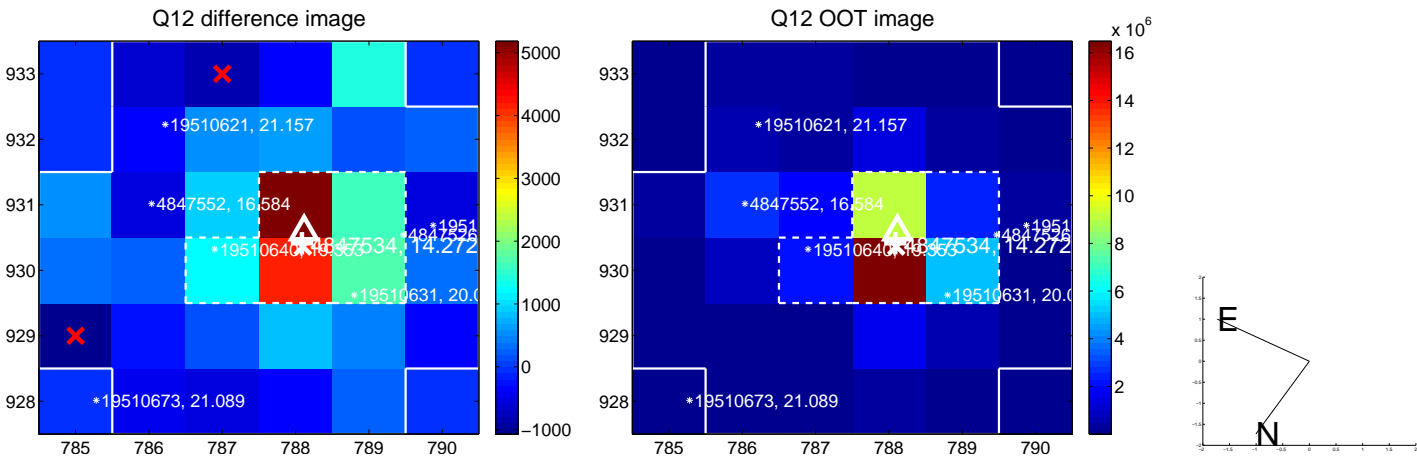
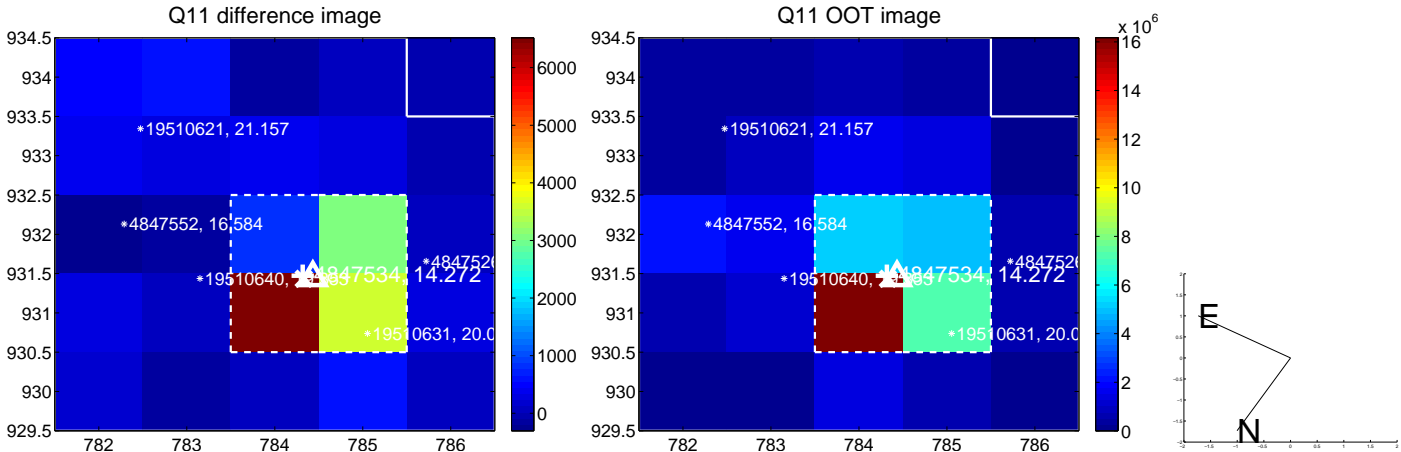
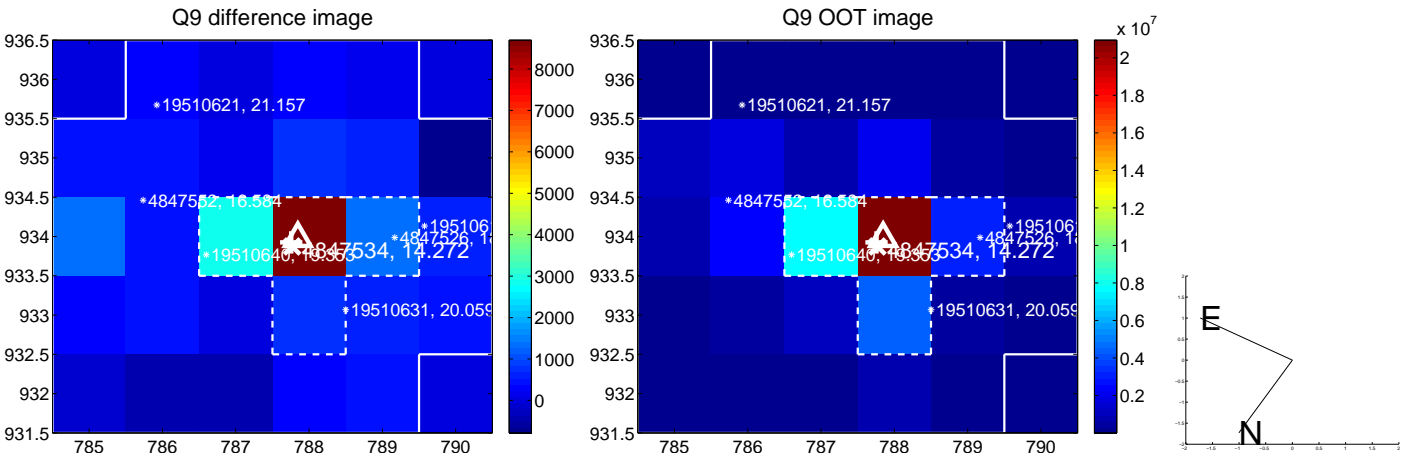
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



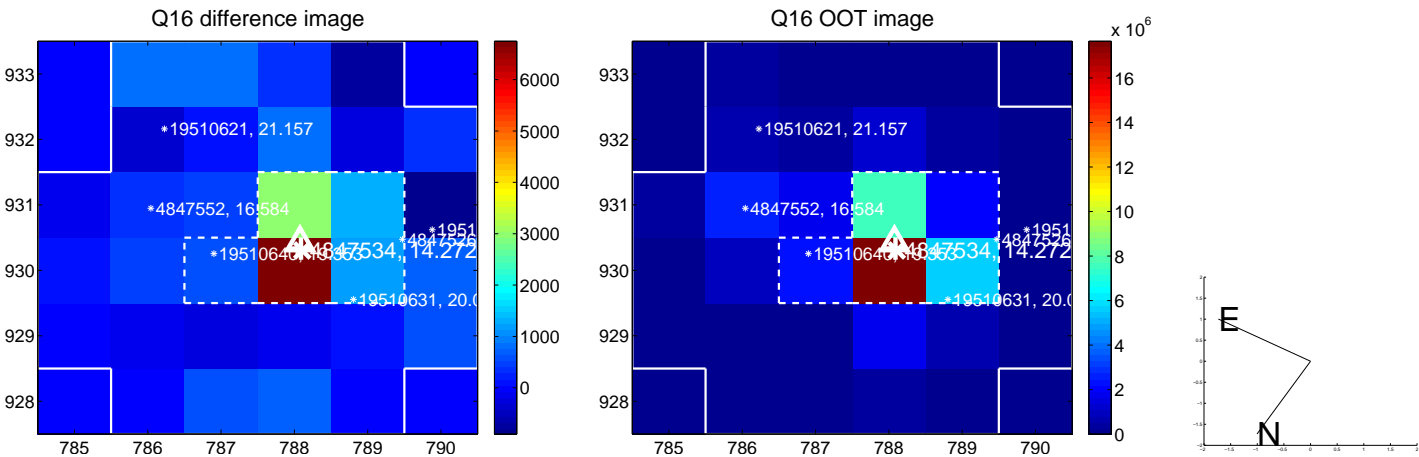
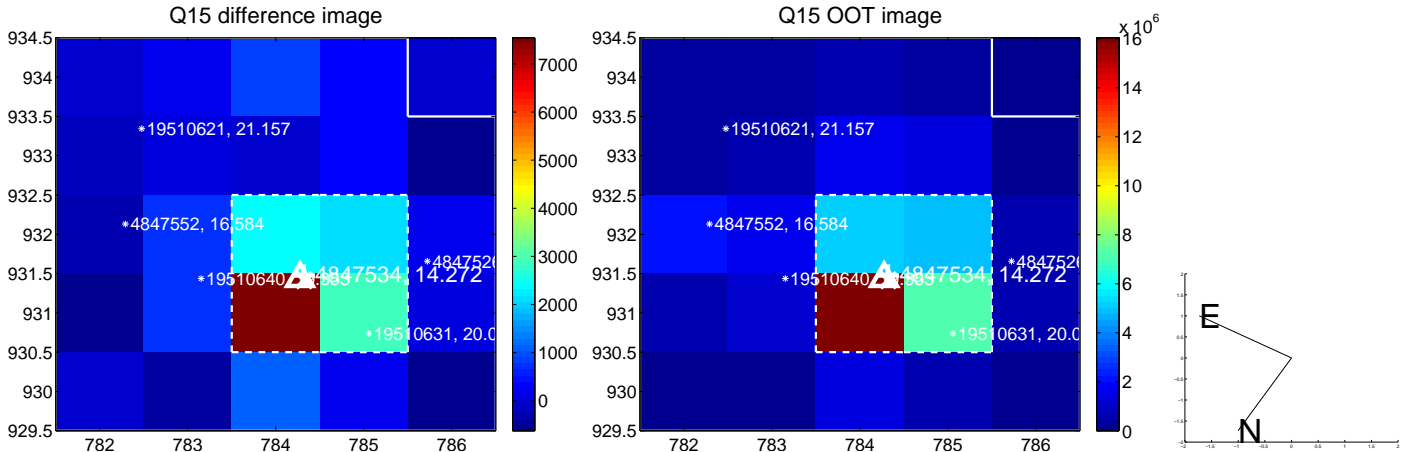
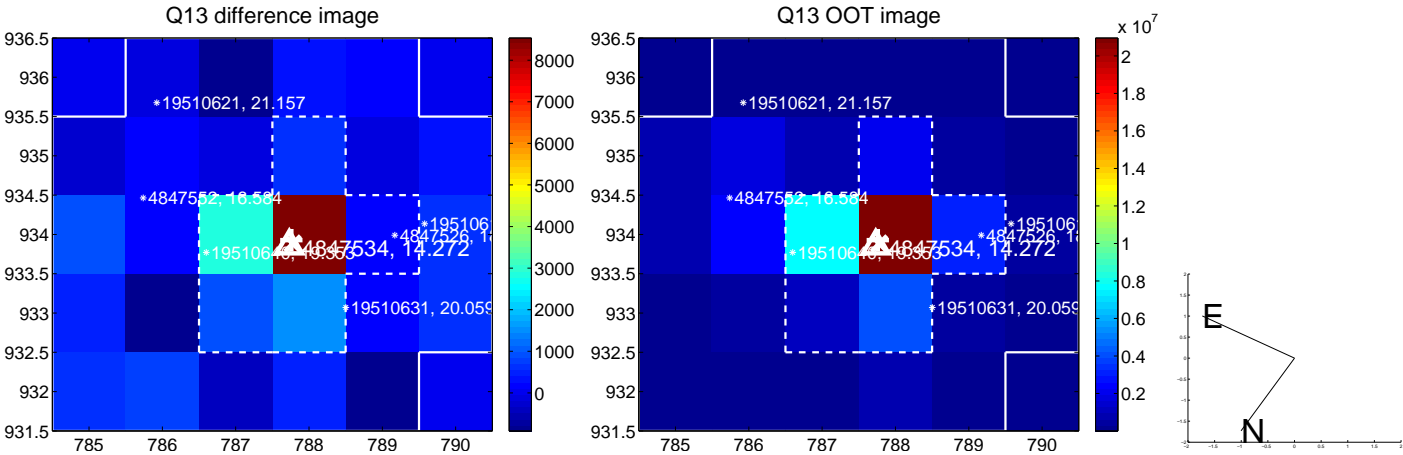
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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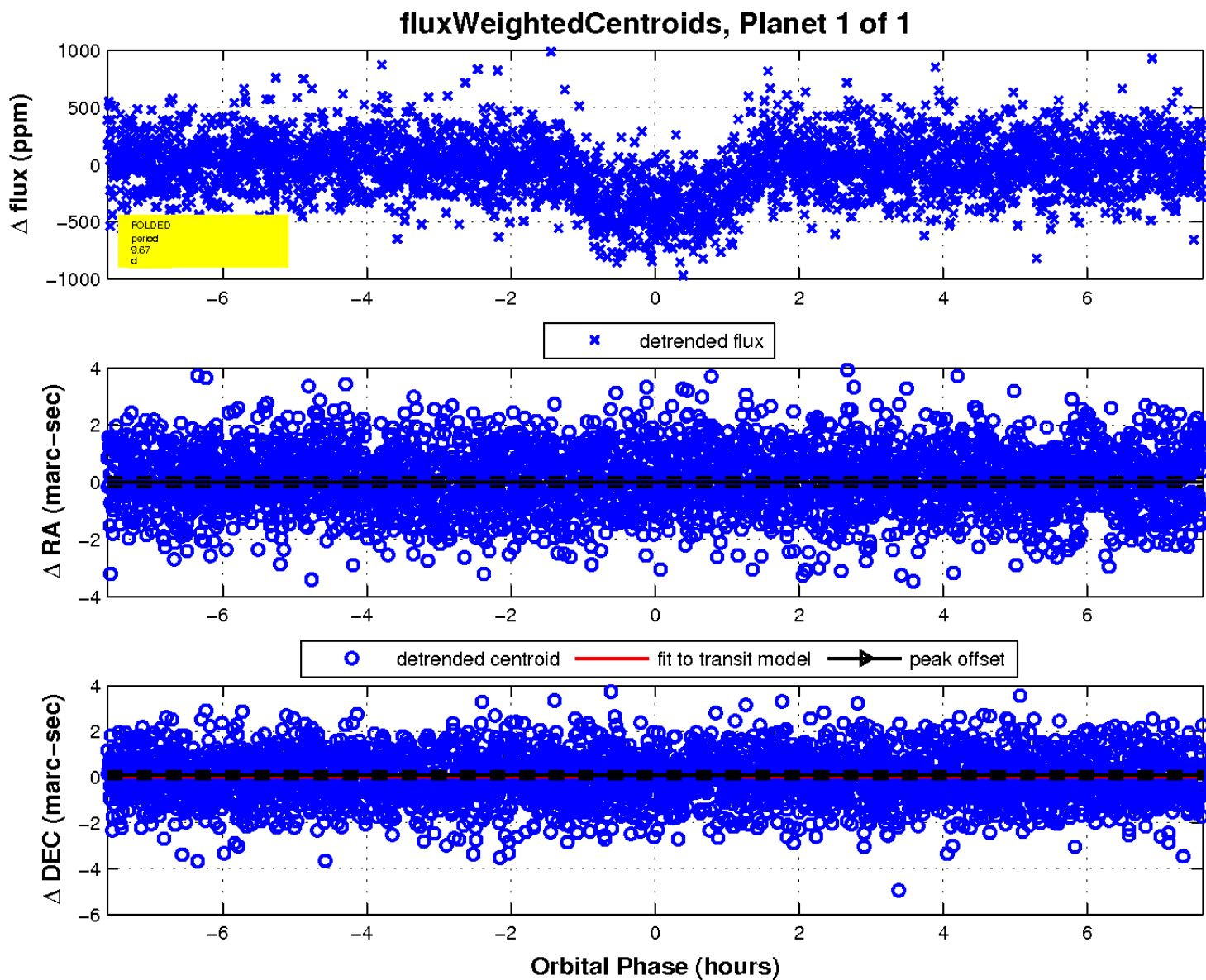
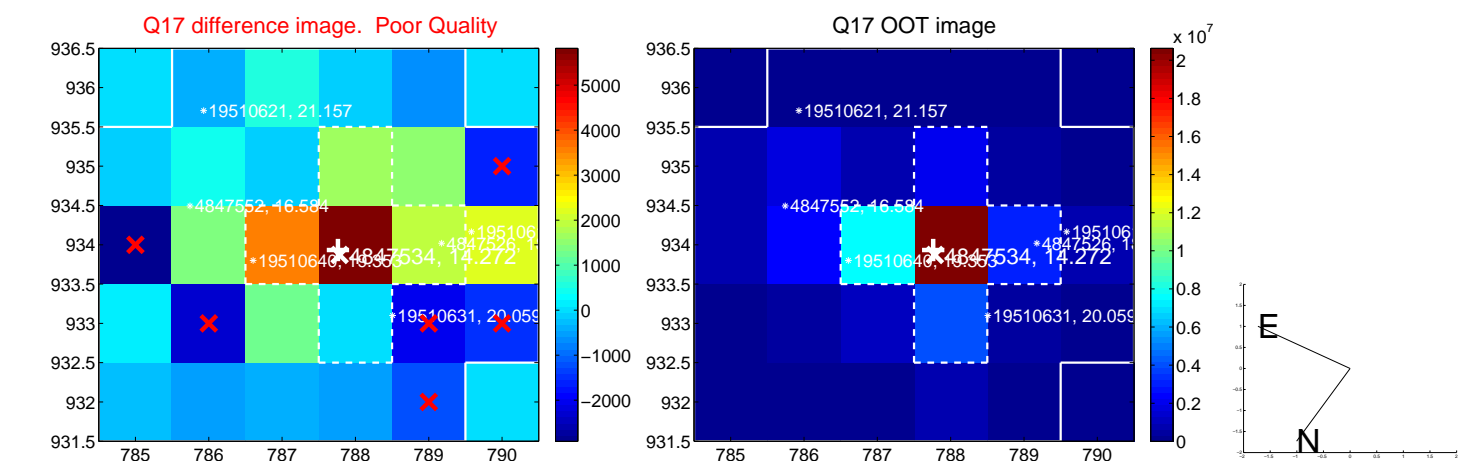


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

