

# KIC 011302847

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011302847-01	OBS	No	0.683036	132.131523	24.3	1.279	8.3	9.0	0.97	6025	0.48	4681.83

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011302847-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET

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

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

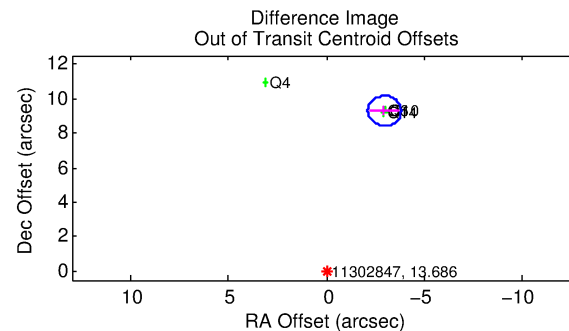
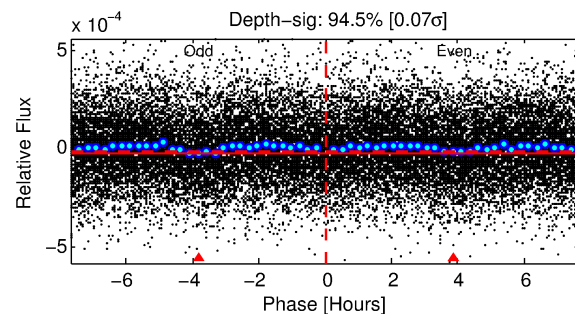
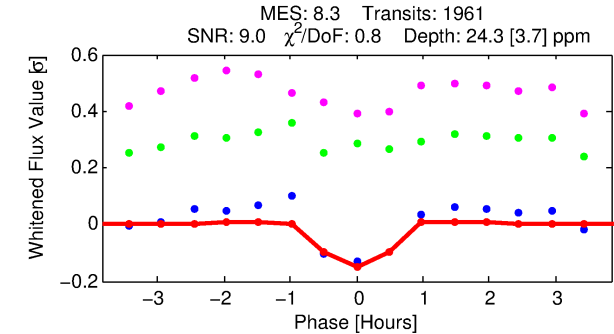
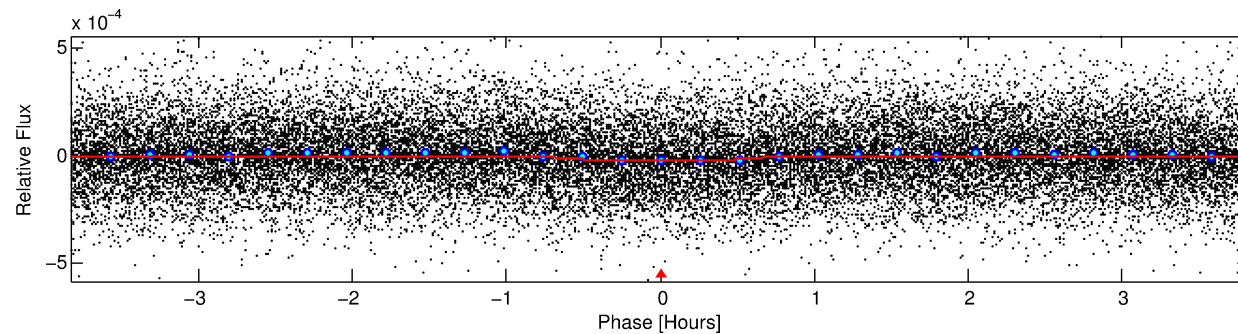
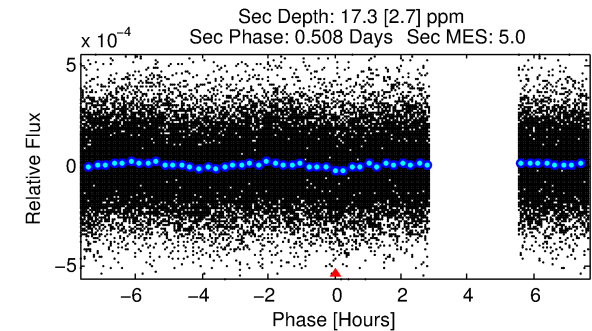
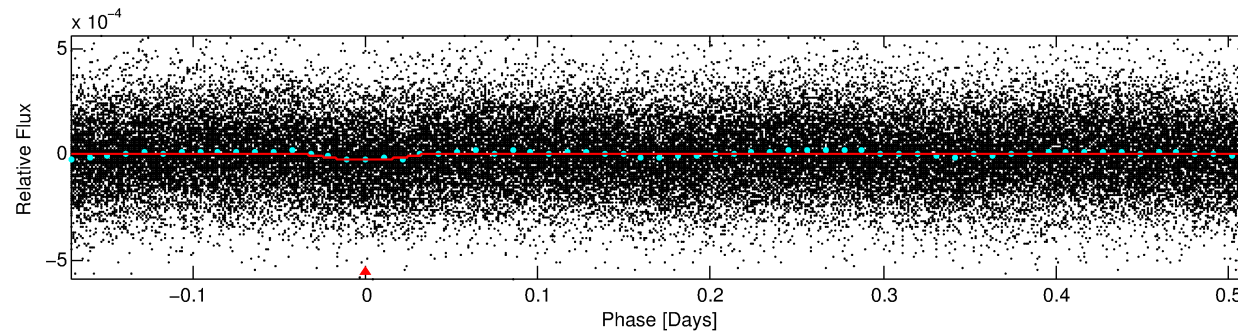
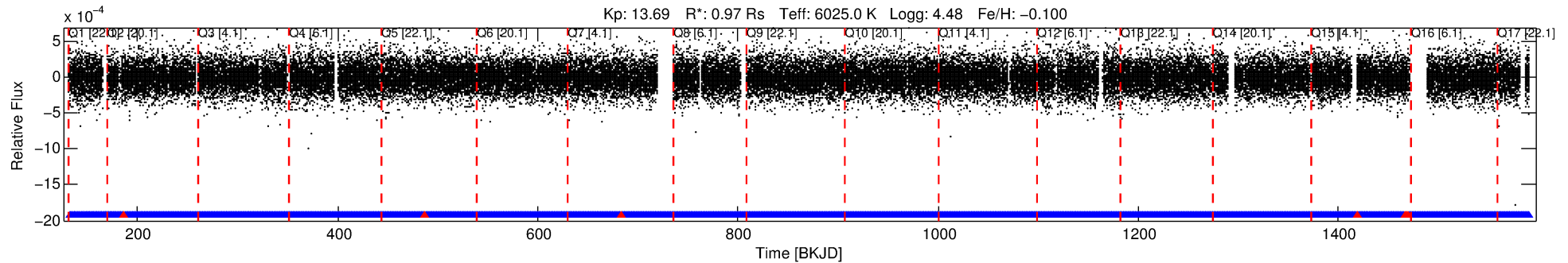
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 011302847-01

No Significant Match Found

# DV One-Page Summary

KIC: 11302847 Candidate: 1 of 1 Period: 0.683 d



## DV Fit Results:

Period = 0.68304 [0.00001] d  
Epoch = 132.1315 [0.0022] BKJD  
Rp/R\* = 0.0046 [0.0033]  
a/R\* = 3.95 [12.68]  
b = 0.31 [10.07]  
Seff = 4681.83 [1938.20]  
Teq = 2109 [218] K  
Rp = 0.48 [0.38] Re  
a = 0.0154 [0.0042] AU  
Ag = 9.69 [14.47] [0.60σ]  
Teffp = 5754 [2079] K [1.74σ]

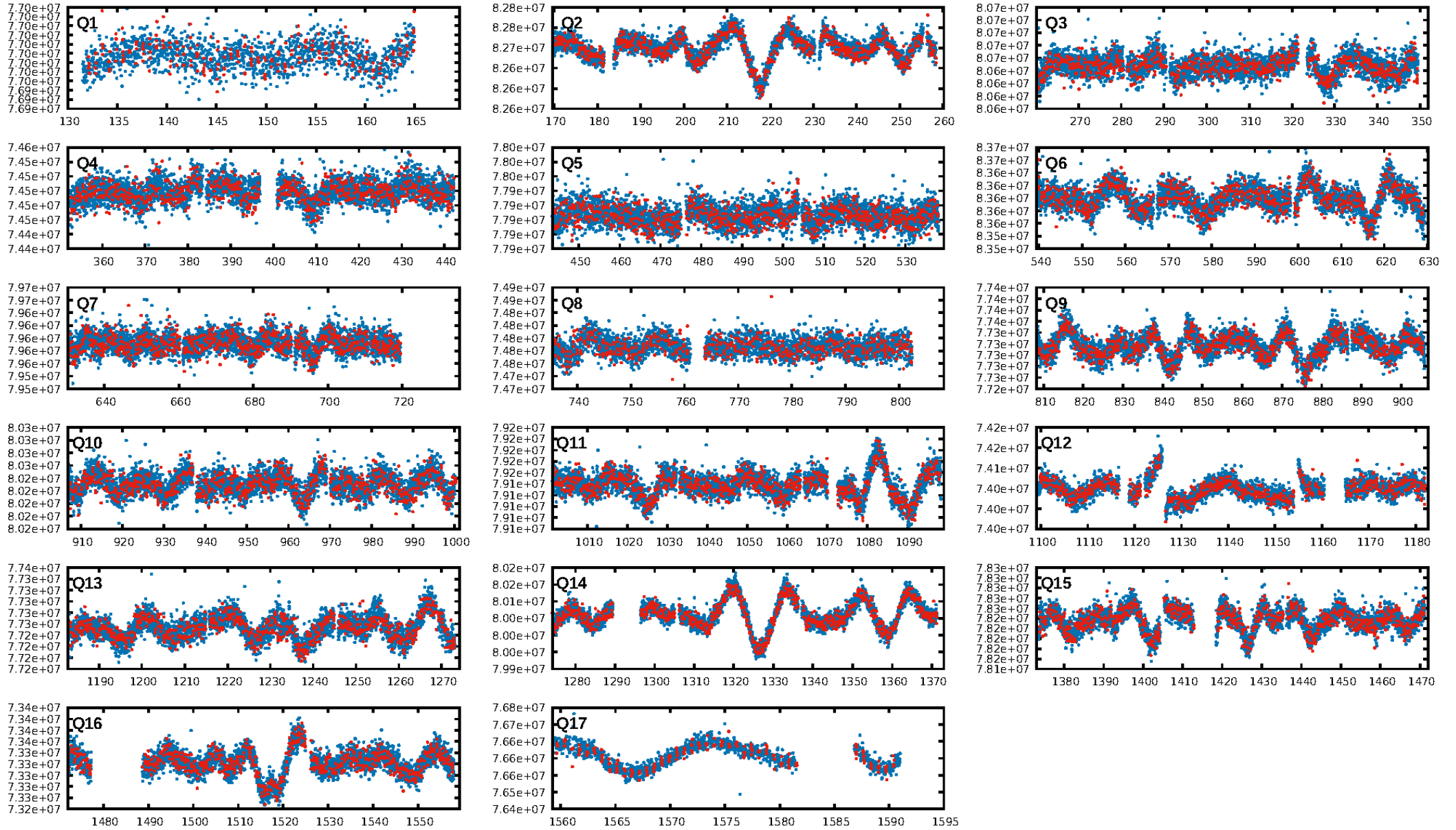
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 9.70e-16  
RollingBand-fgt: 1.00 [1866/1873]  
**GhostDiagnostic-chr: -0.2649**  
Centroid-sig: 0.4%  
Centroid-so: 3.816 arcsec [2.80σ]  
**OotOffset-rm: 9.746 arcsec [33.82σ]**  
**KicOffset-rm: 9.517 arcsec [31.69σ]**  
OotOffset-st: 3/0/1/0 [4]  
KicOffset-st: 3/0/1/0 [4]  
DiffImageQuality-fgm: 1.00 [4/4]  
DiffImageOverlap-fno: 1.00 [17/17]

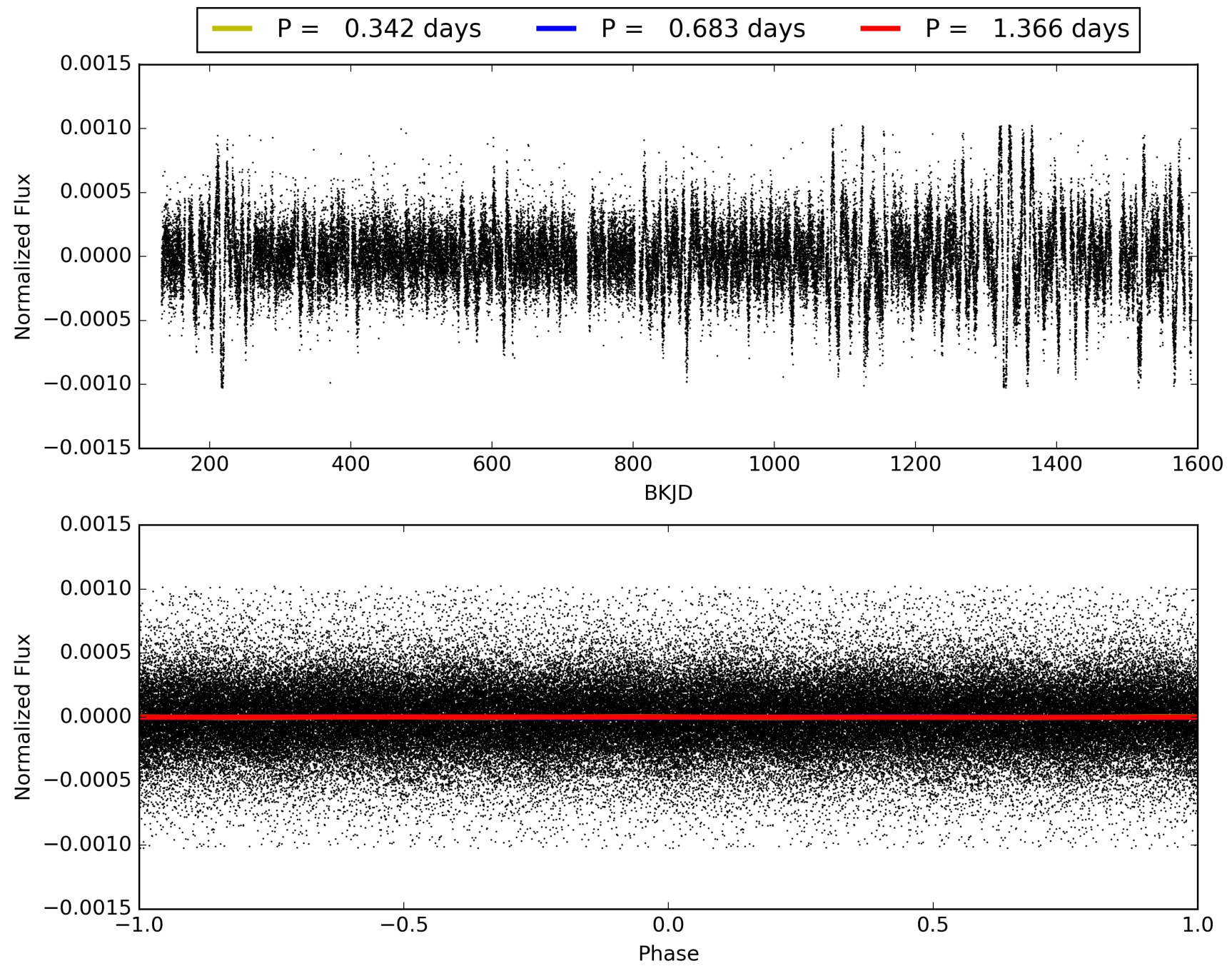
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:43:45 Z

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

# TCE 011302847-01, PDC Light Curves



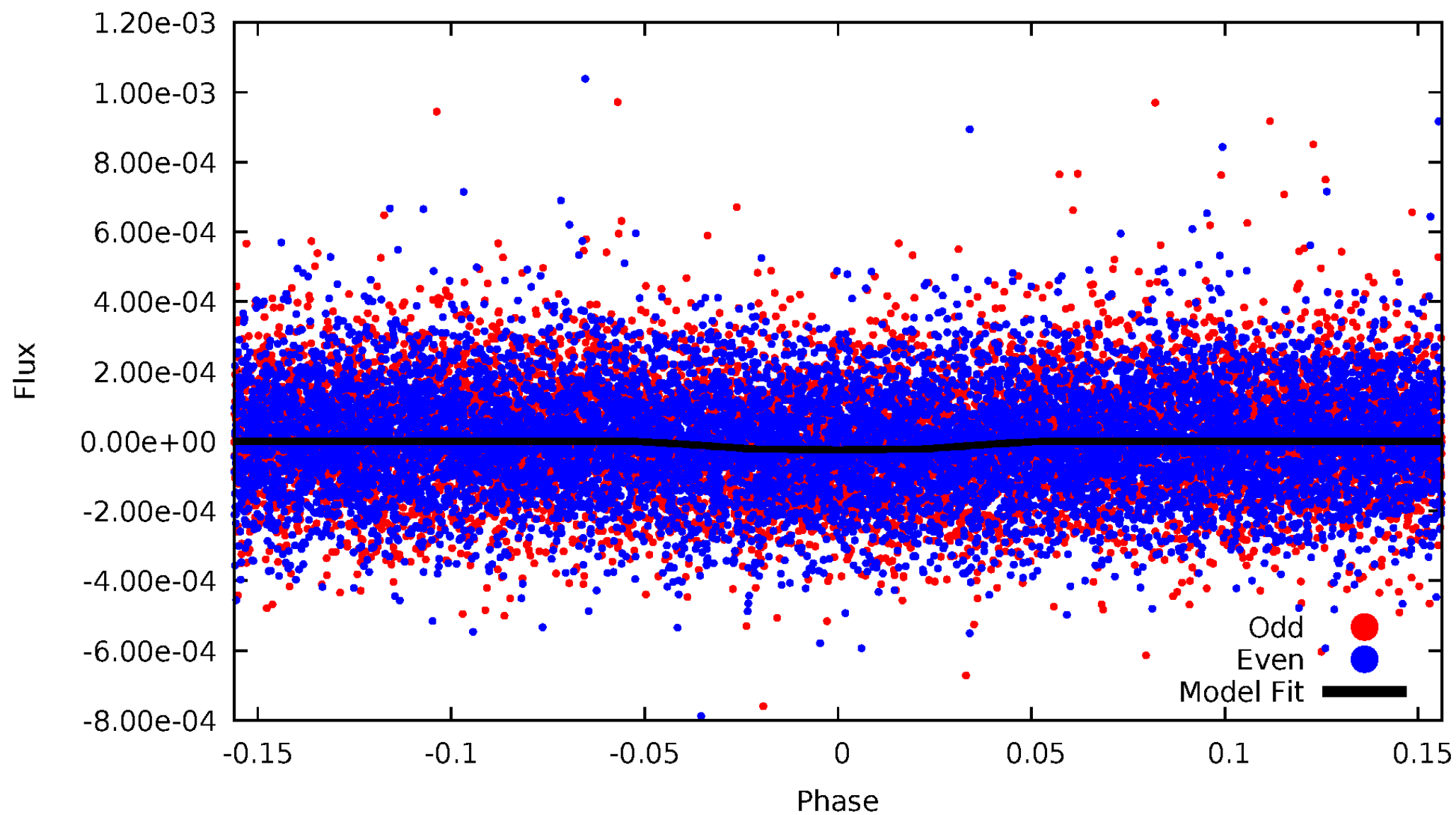
TCE 011302847-01





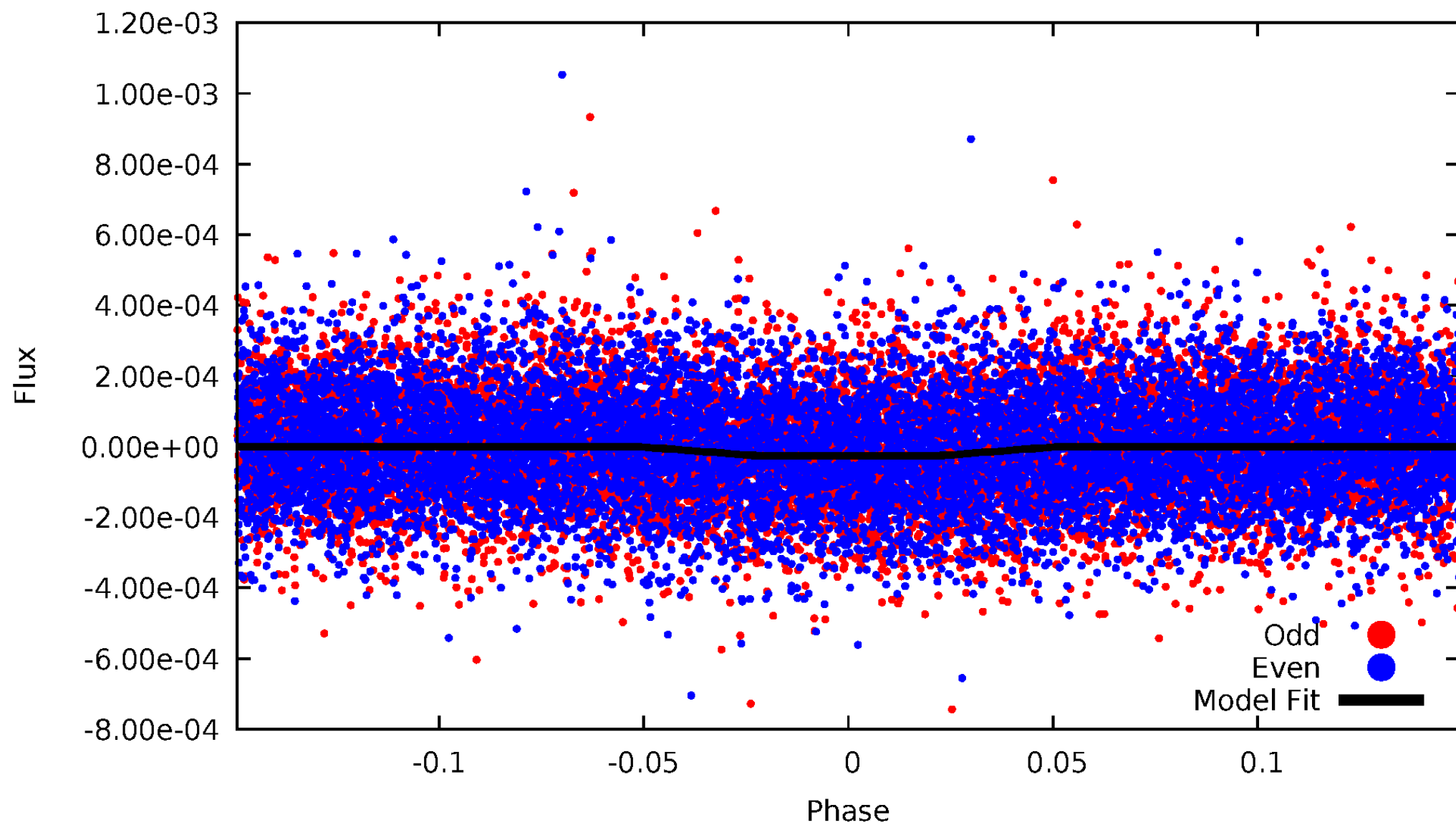
# DV Odd/Even

TCE 011302847-01



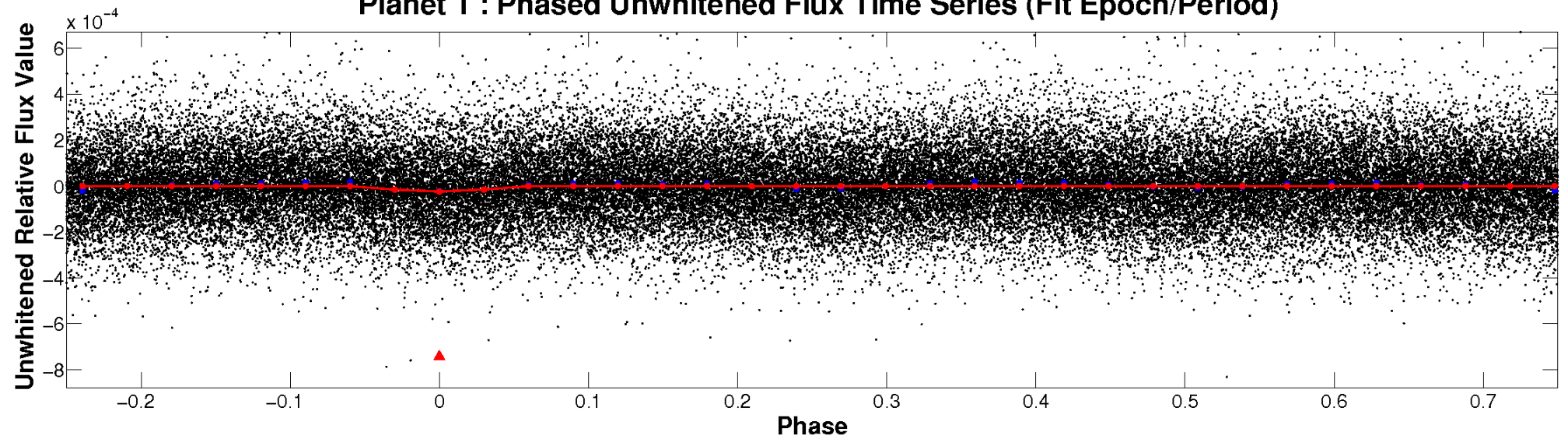
# ALT Odd/Even

TCE 011302847-01

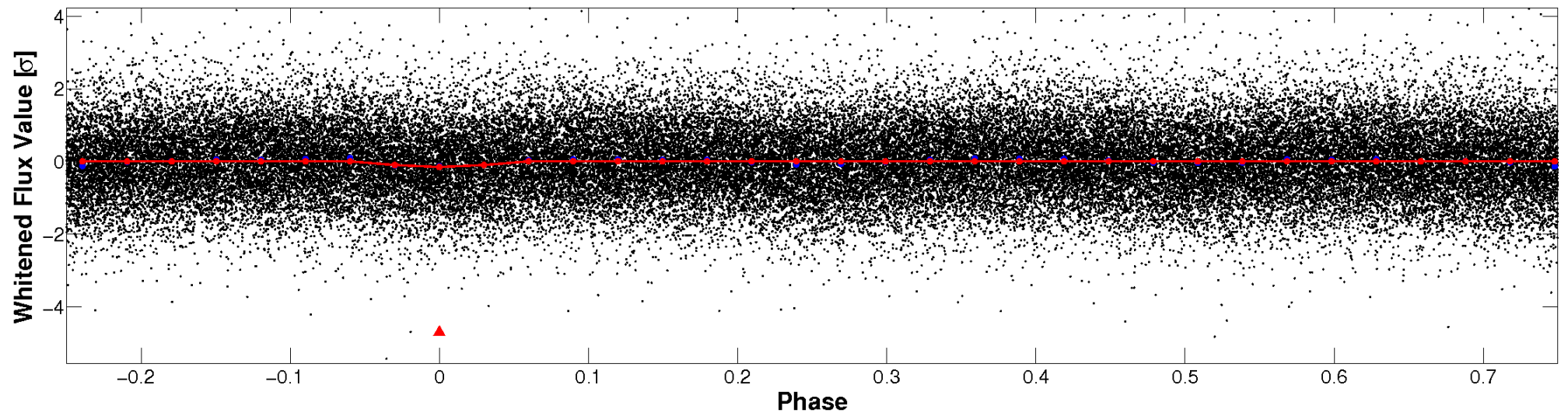


# Non-Whitened Vs. Whitened Light Curve

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

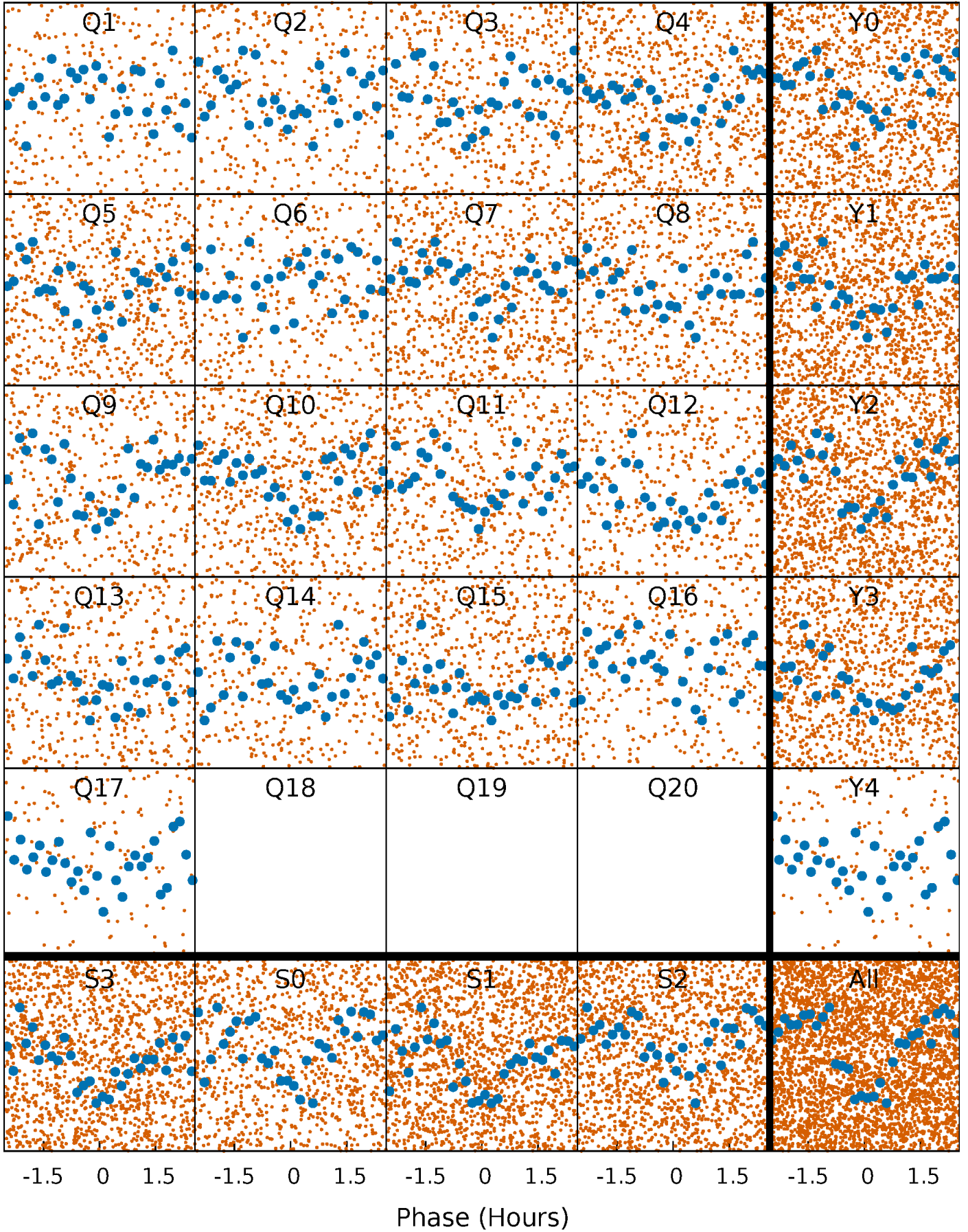


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

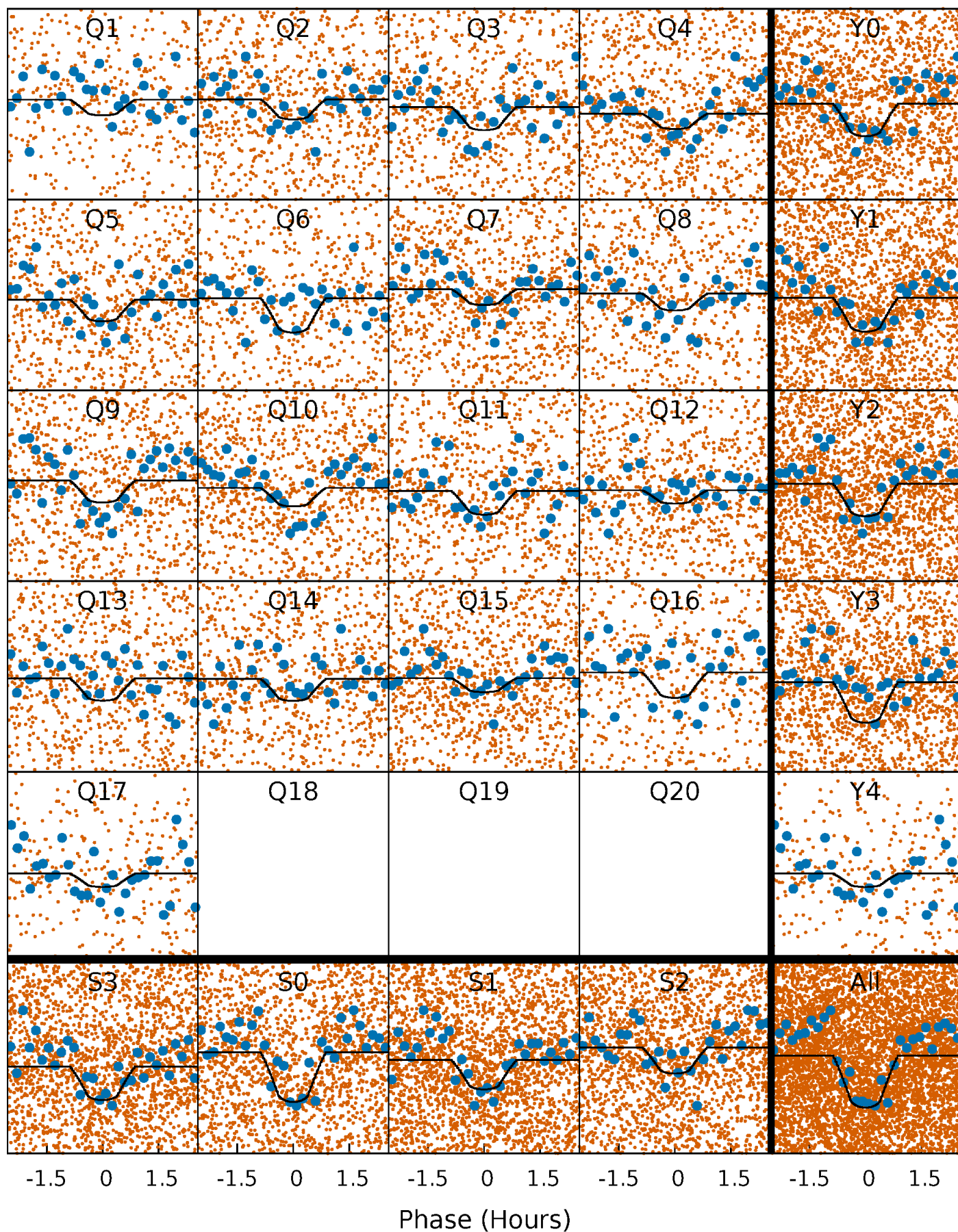
TCE 011302847-01   P= 0.683036 Days    $T_0=132.131523$  (BKJD)





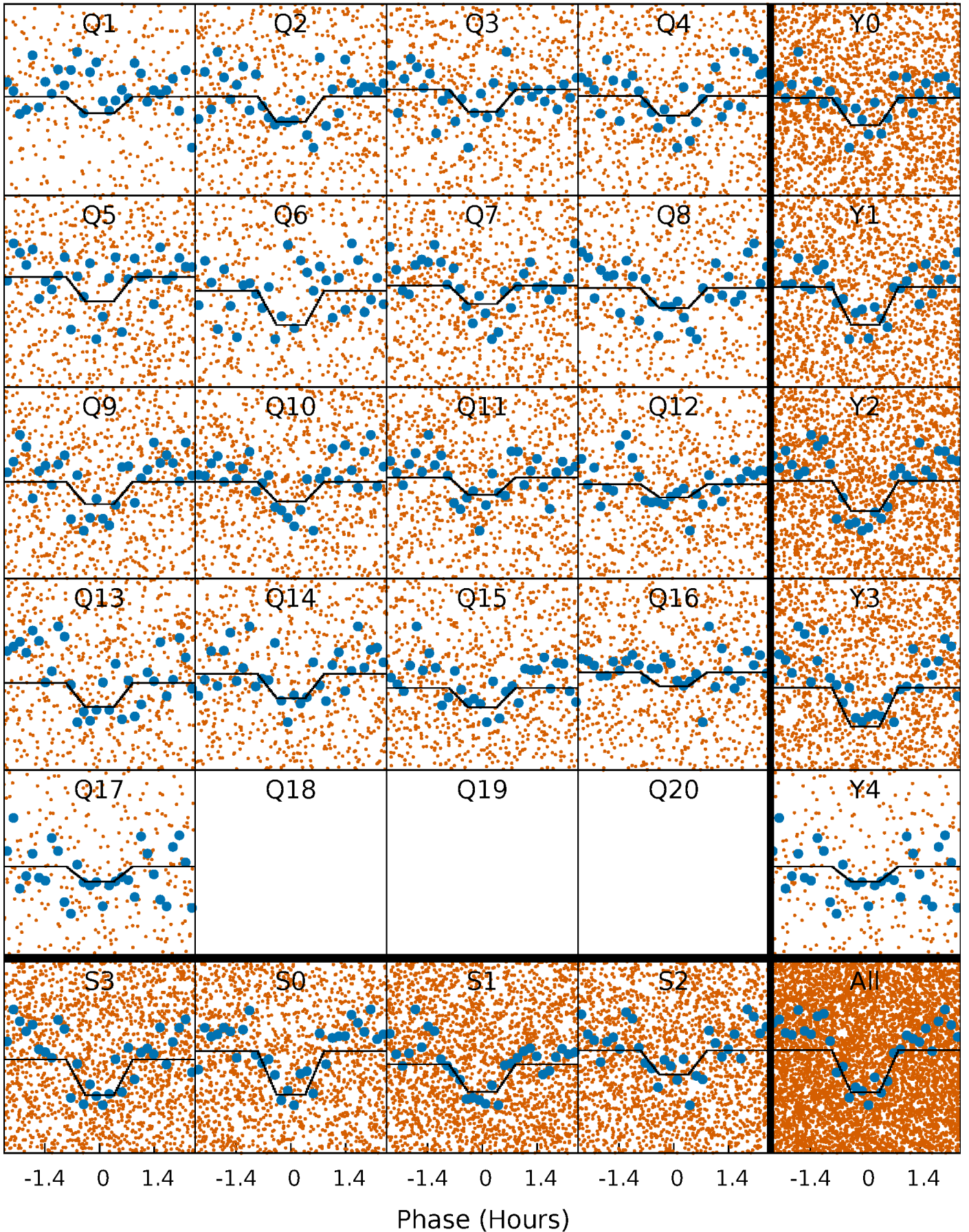
# DV Quarter-Phased Transit Curves

TCE 011302847-01   P= 0.683036 Days    $T_0=132.131523$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

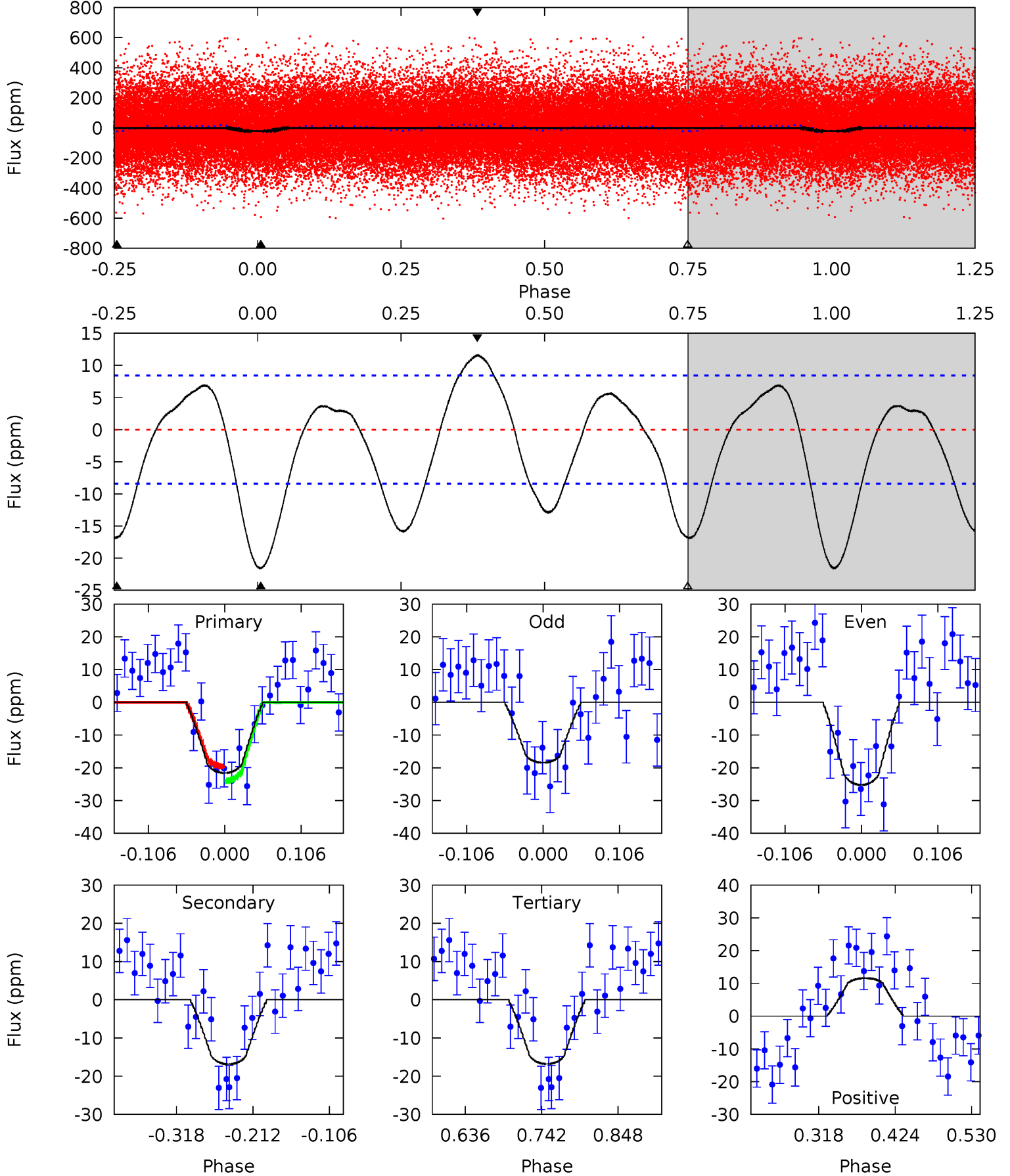
TCE 011302847-01   P= 0.683038 Days    $T_0=132.132906$  (BKJD)



# DV Model-Shift Uniqueness Test

011302847-01, P = 0.683036 Days, E = 131.448487 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
11.7	9.12	9.09	6.27	4.55	1.62	4.27	2.59	5.41	0.03	2.85	1.84	0.97	0.35	1.19

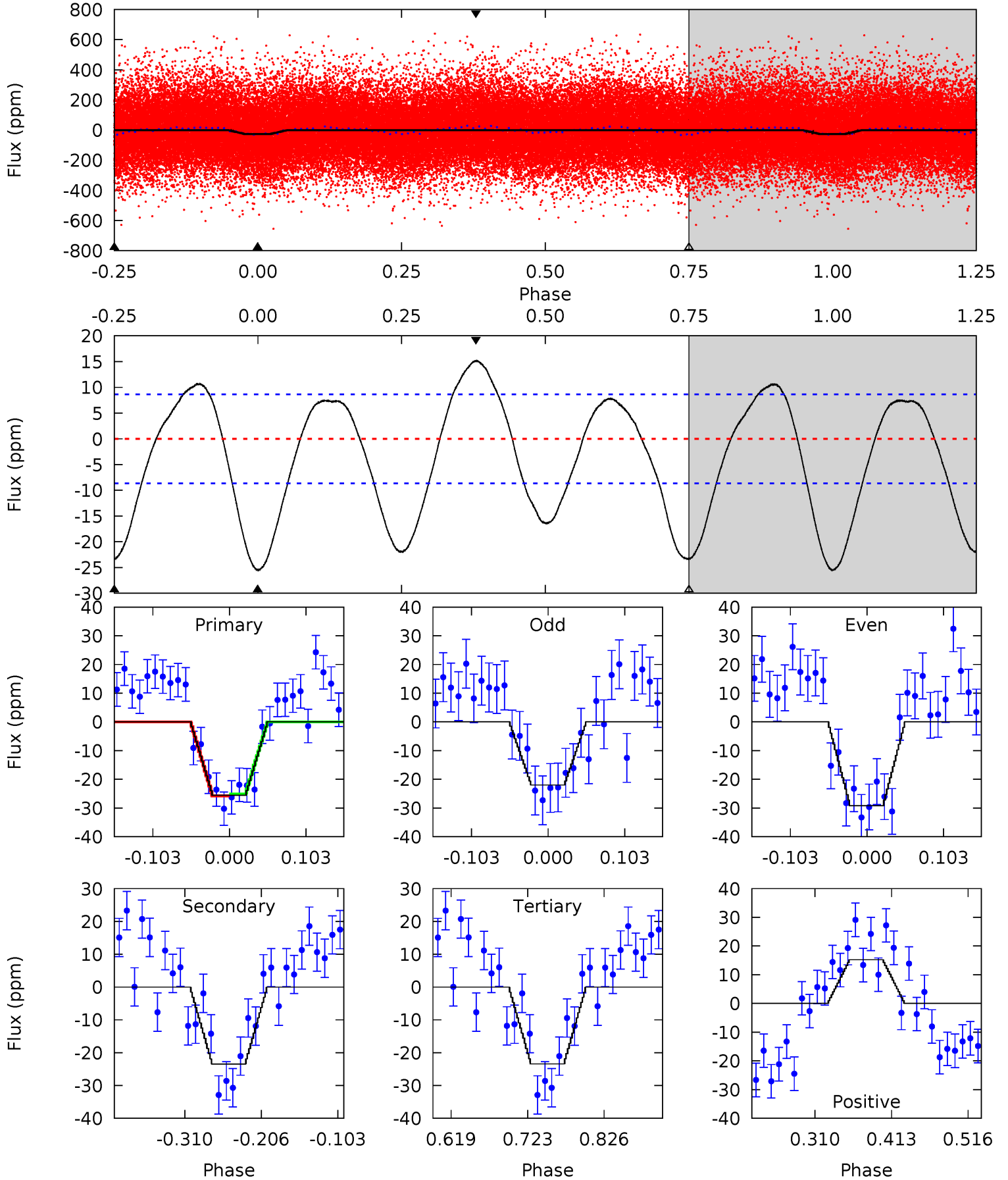




# Alt Model-Shift Uniqueness Test

011302847-01, P = 0.683038 Days, E = 131.449868 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
13.5	12.4	12.4	8.04	4.56	1.63	5.86	1.15	5.48	0.01	4.33	1.90	1.03	0.37	0.17





### Stellar Parameters For KIC 011302847

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6025^{+162}_{-180}$	$4.482^{+0.054}_{-0.216}$	$-0.100^{+0.300}_{-0.300}$	$0.967^{+0.315}_{-0.105}$	$1.035^{+0.139}_{-0.139}$	$1.611^{+0.454}_{-0.838}$
	+3%/-3%	+1%/-5%	+300%/-300%	+33%/-11%	+13%/-13%	+28%/-52%
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 011302847-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-17 \pm 2$	$0.55^{+0.35}_{-0.31}$	$3015^{+225}_{-141}$	$5490^{+3274}_{-1109}$	$7.262^{+30.529}_{-4.586}$
Alt.	$-23 \pm 2$	$0.58^{+0.36}_{-0.33}$	$3011^{+232}_{-147}$	$5776^{+3688}_{-1151}$	$8.813^{+38.597}_{-5.412}$

$T_{max}$  = 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

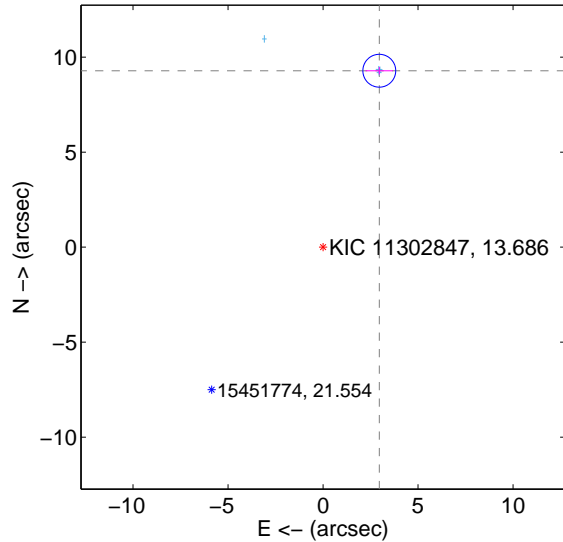
Supplemental centroid analysis for 011302847-01. Kepler magnitude: 13.69. Transit SNR 9.03

There are 4 quarters with good PRF difference image offsets

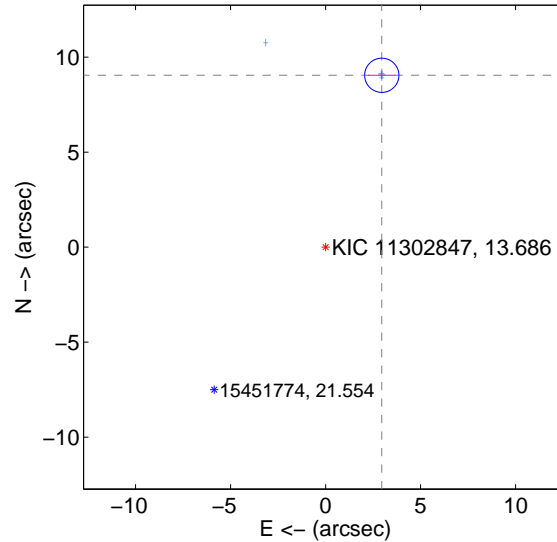
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>9.746 \pm 0.288</math></b>	<b>33.82</b>	$-2.961 \pm 0.729$	$9.286 \pm 0.194$
PRF-fit source offset from KIC position	<b><math>9.517 \pm 0.300</math></b>	<b>31.69</b>	$-2.957 \pm 0.736$	$9.046 \pm 0.205$
photometric centroid source offset	$3.82 \pm 1.36$	2.80	$3.52 \pm 1.35$	$-1.47 \pm 1.41$

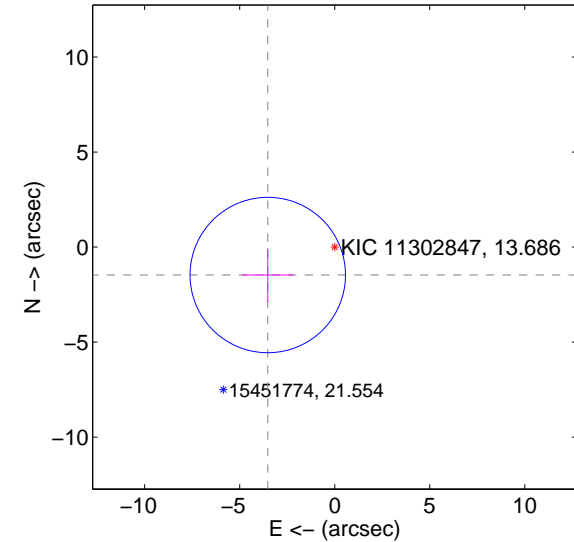
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

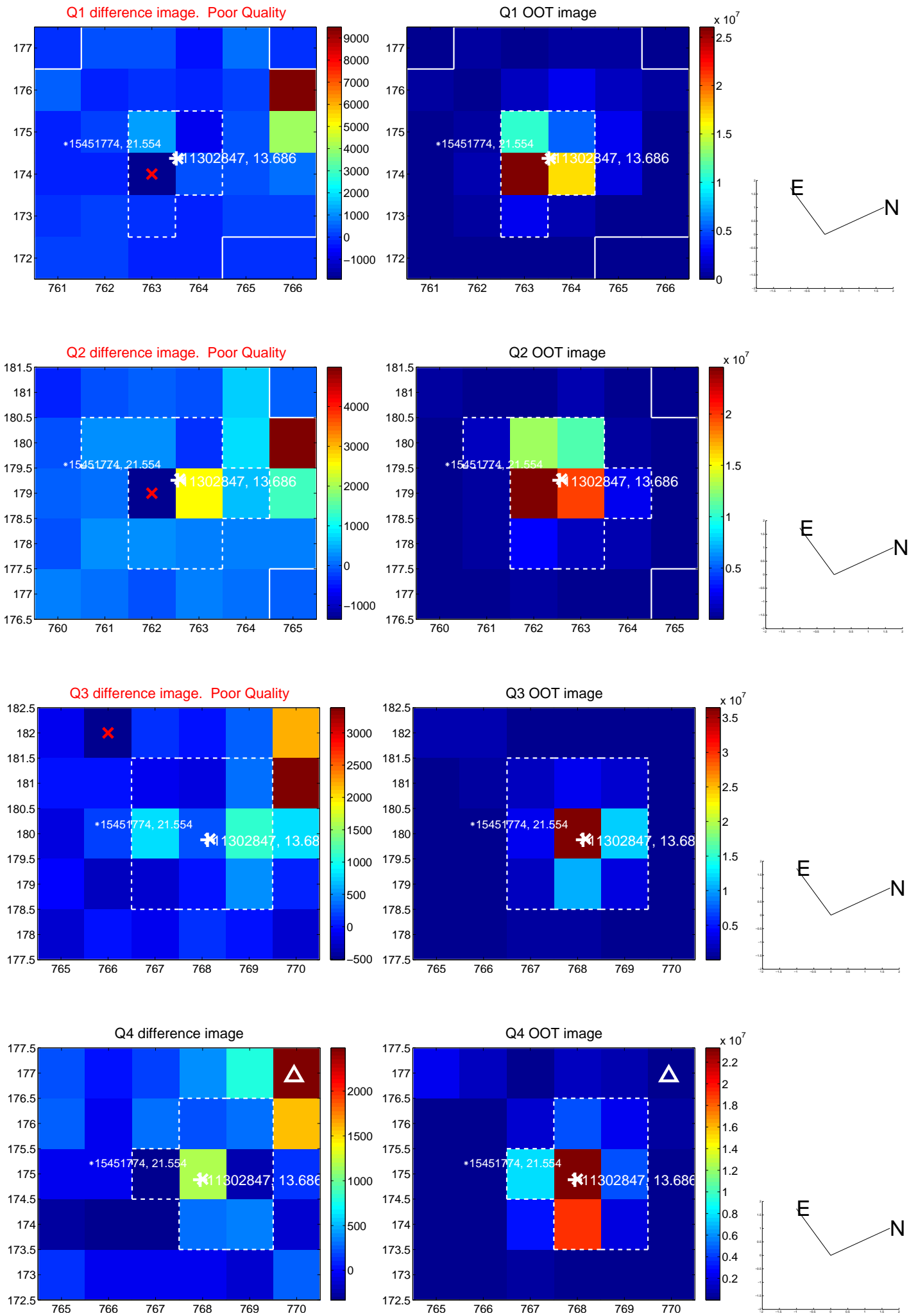


offset from photometric centroids

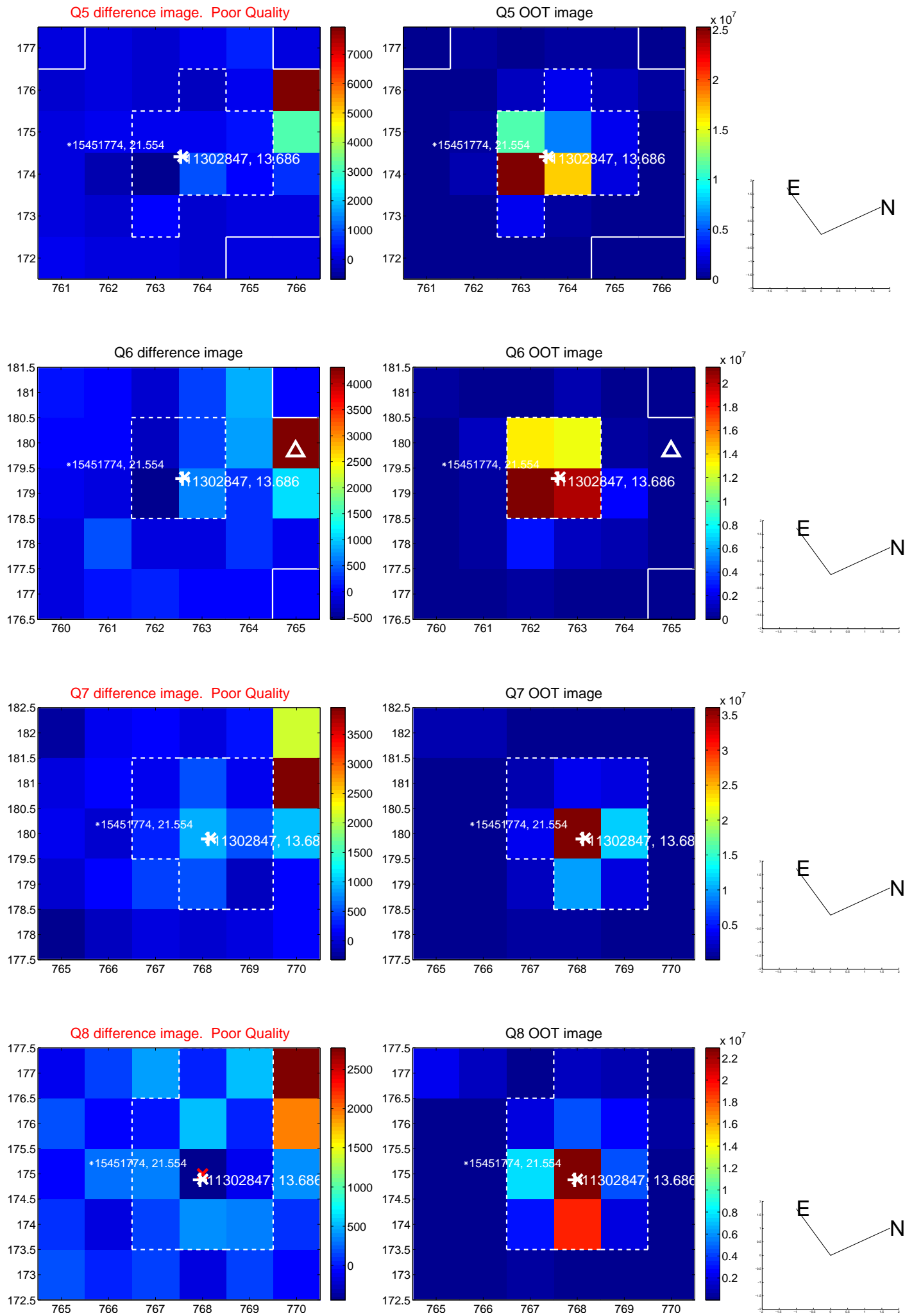


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

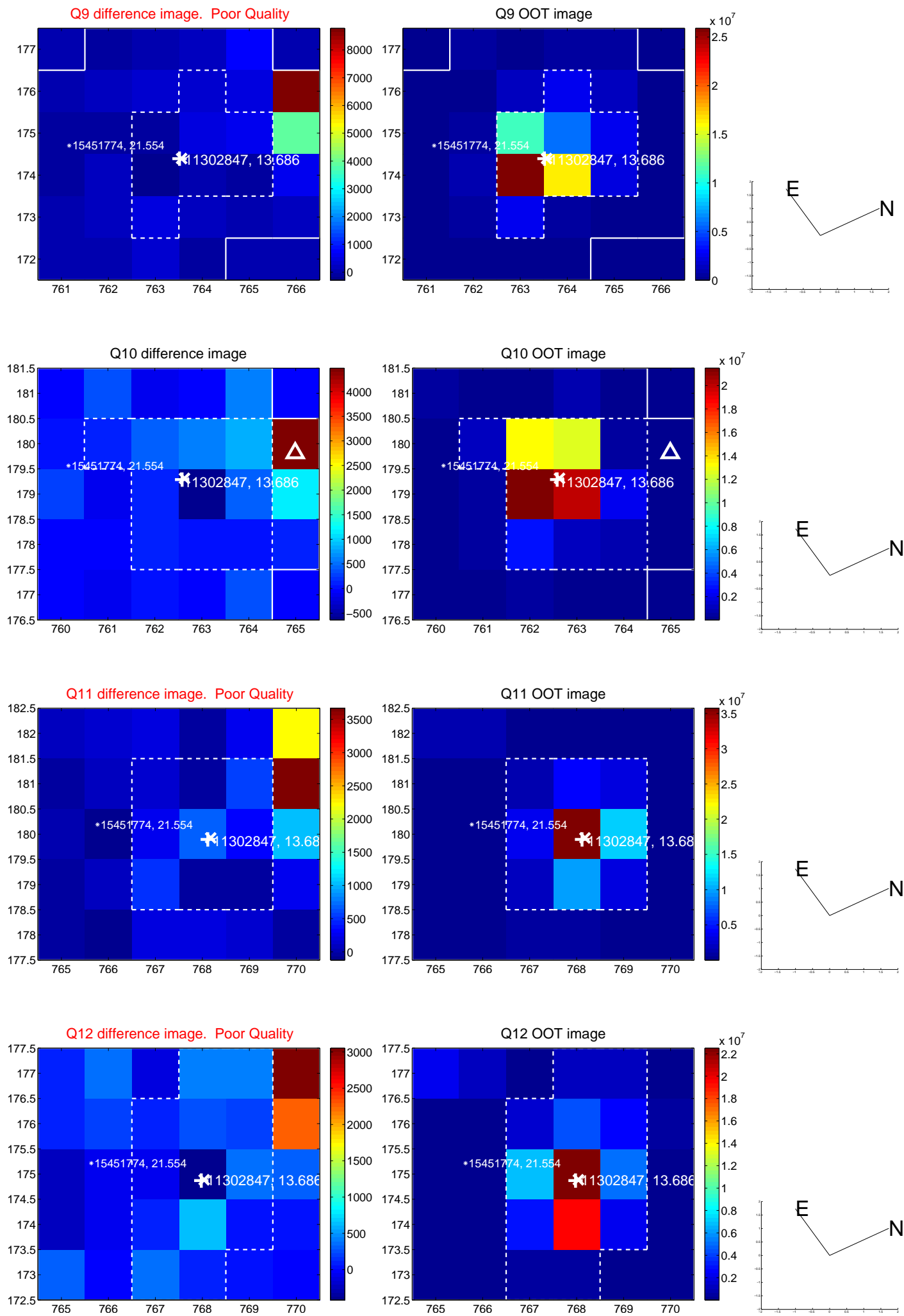


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

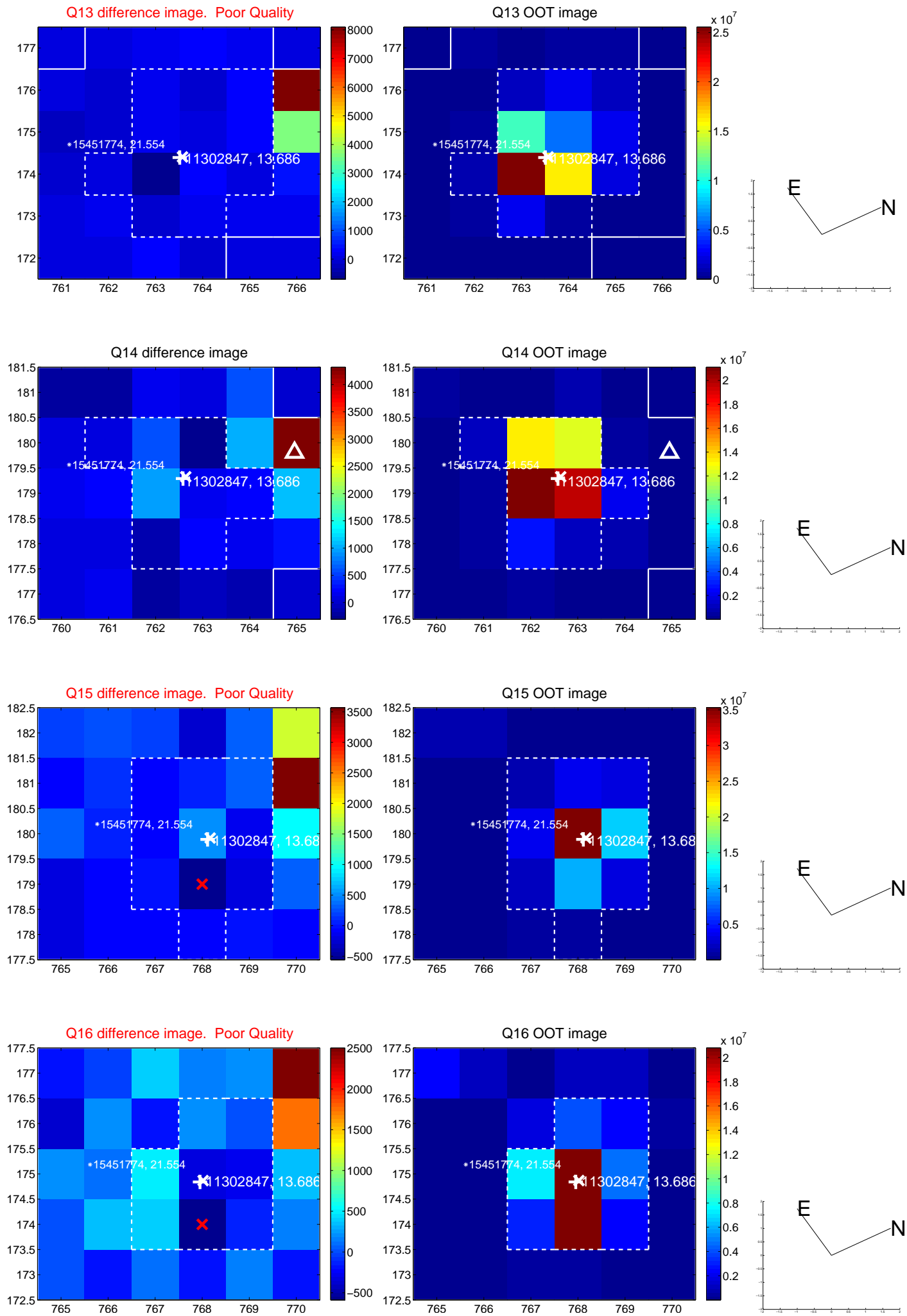




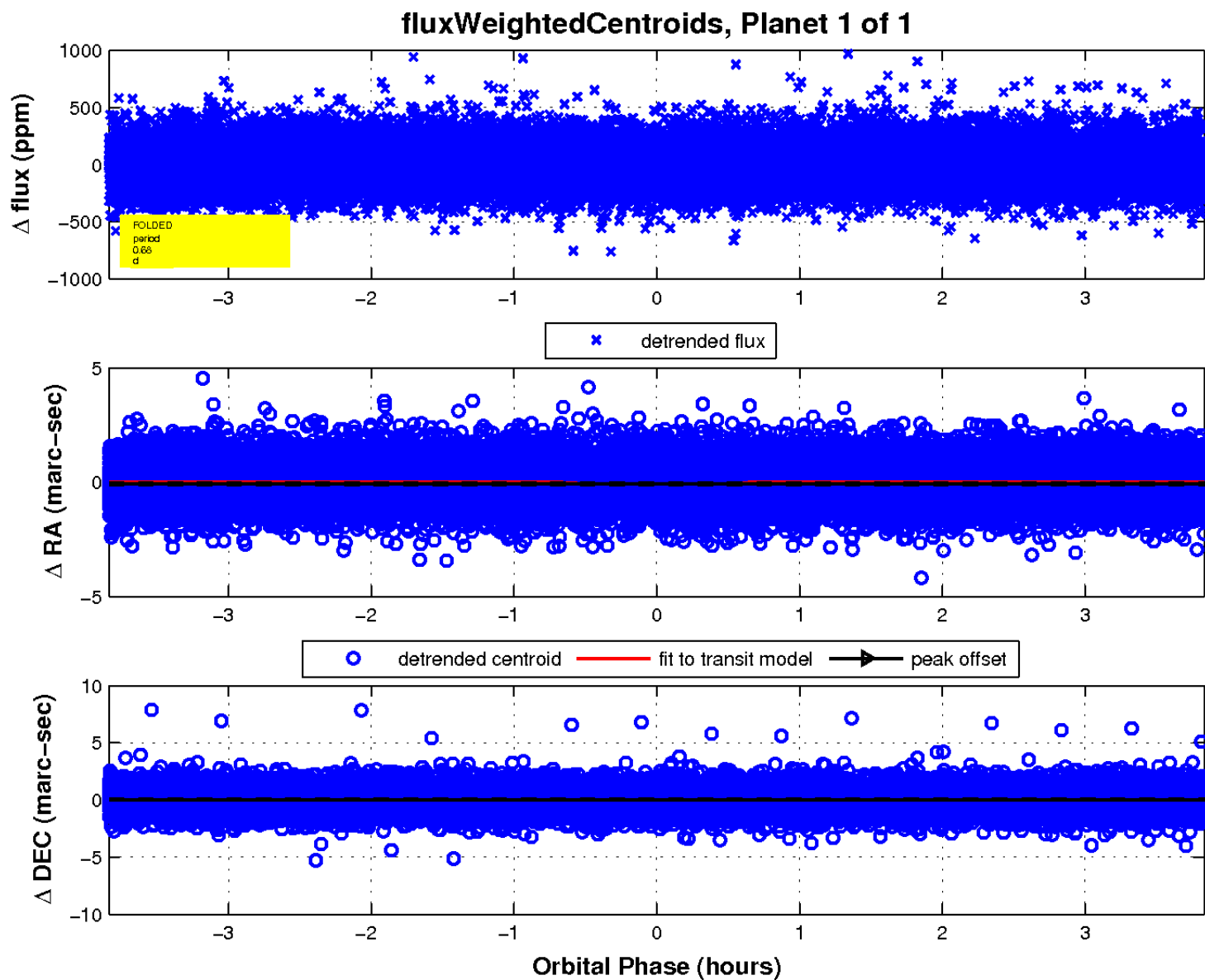
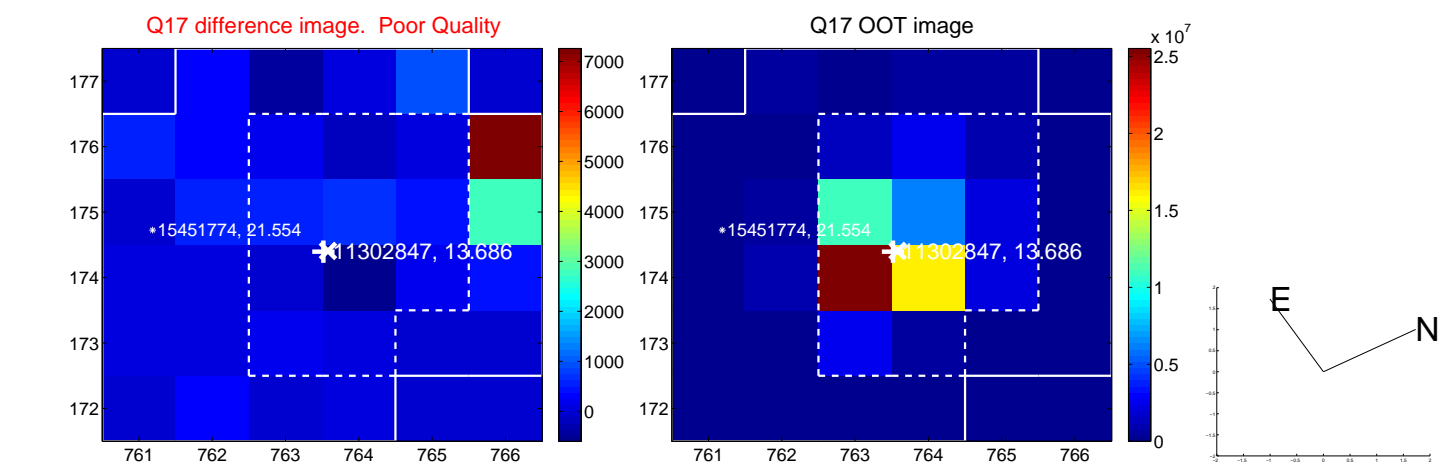
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

