

# KIC 004547830

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004547830-01	OBS	No	2.425472	133.844932	4.6	8.879	11.8	9.3	2.67	7801	0.66	12221.25

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004547830-01	OBS	FP	0.00	1	0	0	0	<del>SWEET_NTL</del> — <del>LPP_DV</del> — <del>CENT_SATURATED</del>

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

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

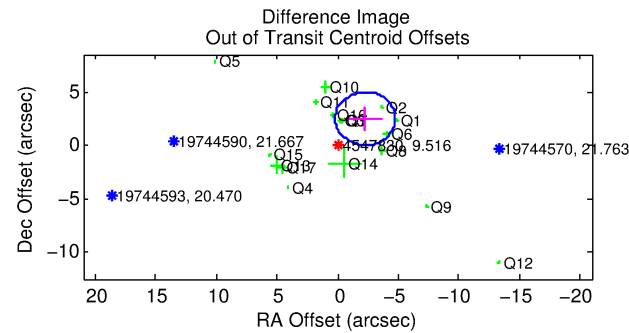
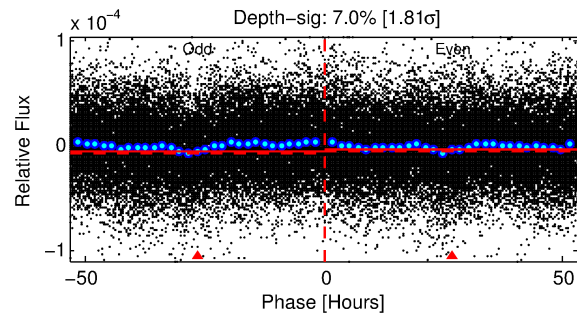
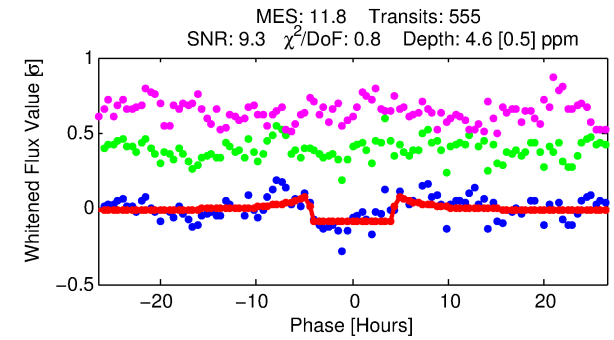
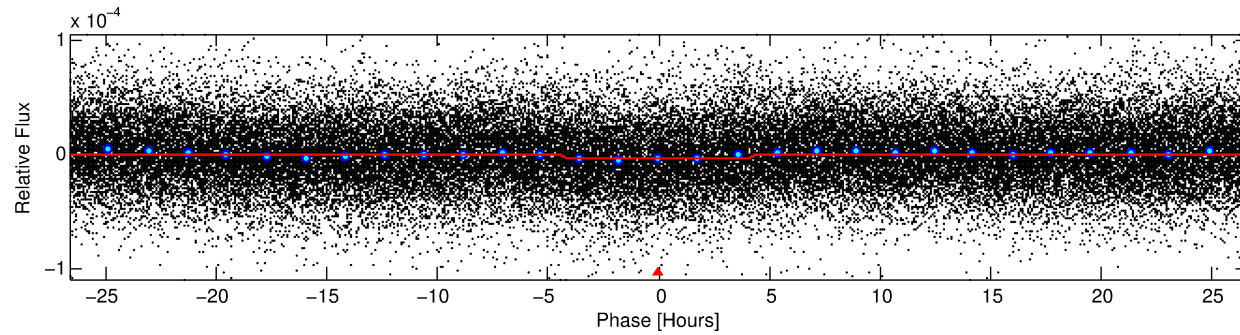
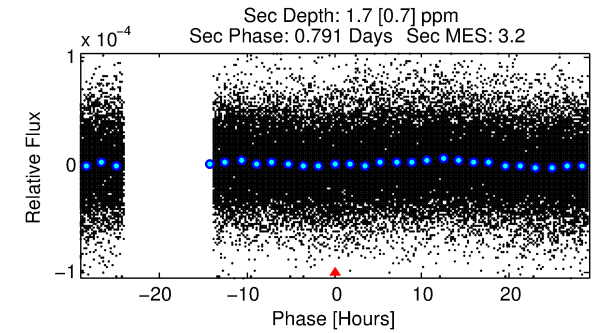
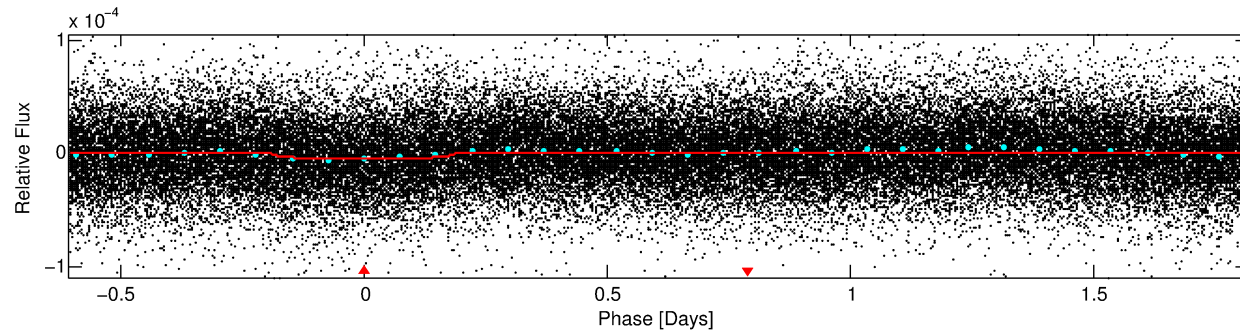
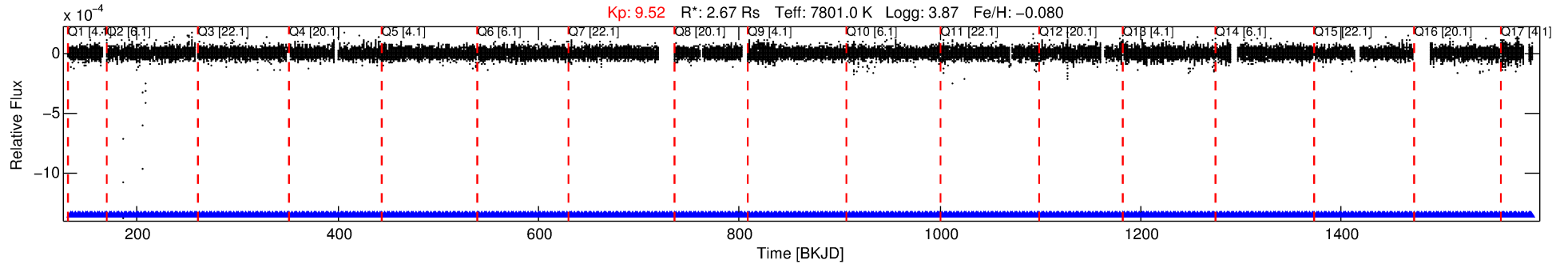
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004547830-01

No Significant Match Found

# DV One-Page Summary

KIC: 4547830 Candidate: 1 of 1 Period: 2.425 d



## DV Fit Results:

Period = 2.42547 [0.00002] d  
Epoch = 133.8449 [0.0047] BKJD  
Rp/R\* = 0.0023 [0.0002]  
a/R\* = 1.31 [0.30]  
b = 0.90 [0.12]  
Seff = 12221.25 [6965.26]  
Teq = 2681 [382] K  
Rp = 0.66 [0.26] Re  
a = 0.0439 [0.0153] AU  
Ag = 4.07 [2.87] [1.07σ]  
Teffp = 5887 [703] K [4.01σ]

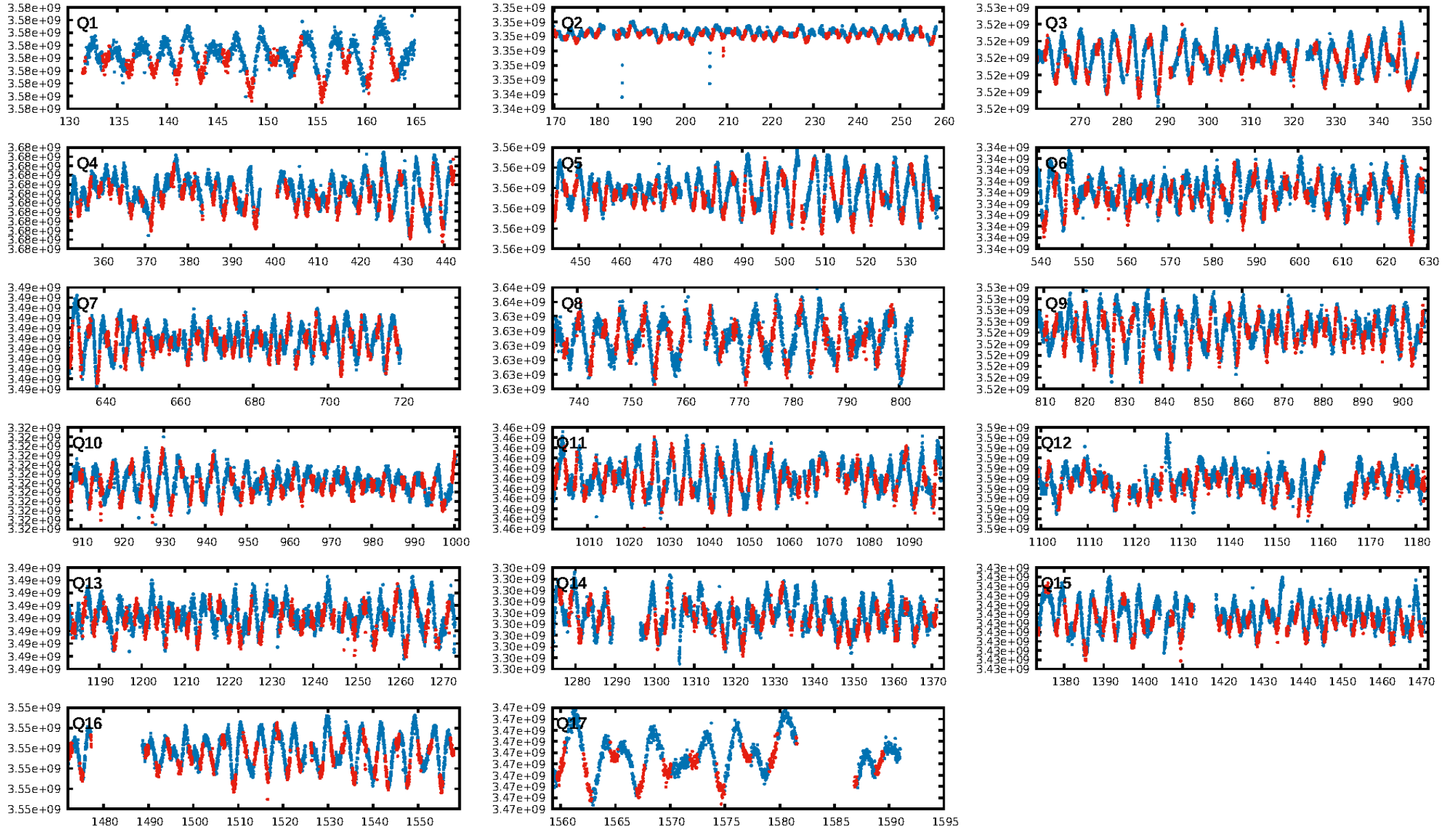
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.16e-21  
RollingBand-fgt: 1.00 [530/530]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 3.382 arcsec [4.08σ]  
KicOffset-rm: 3.878 arcsec [4.22σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.12 [2/17]  
DiffImageOverlap-fno: 1.00 [17/17]

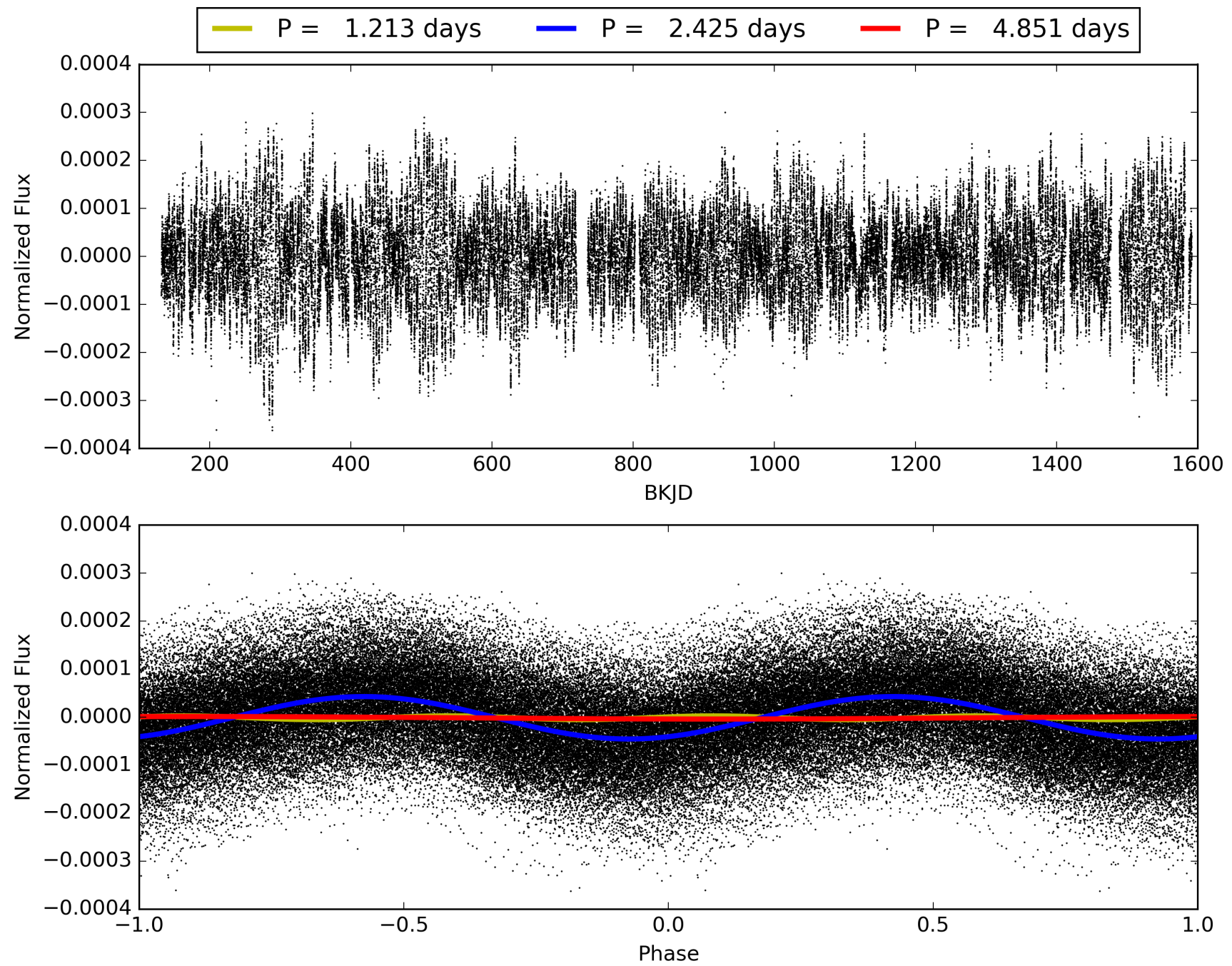
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:02:20 Z

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

# TCE 004547830-01, PDC Light Curves

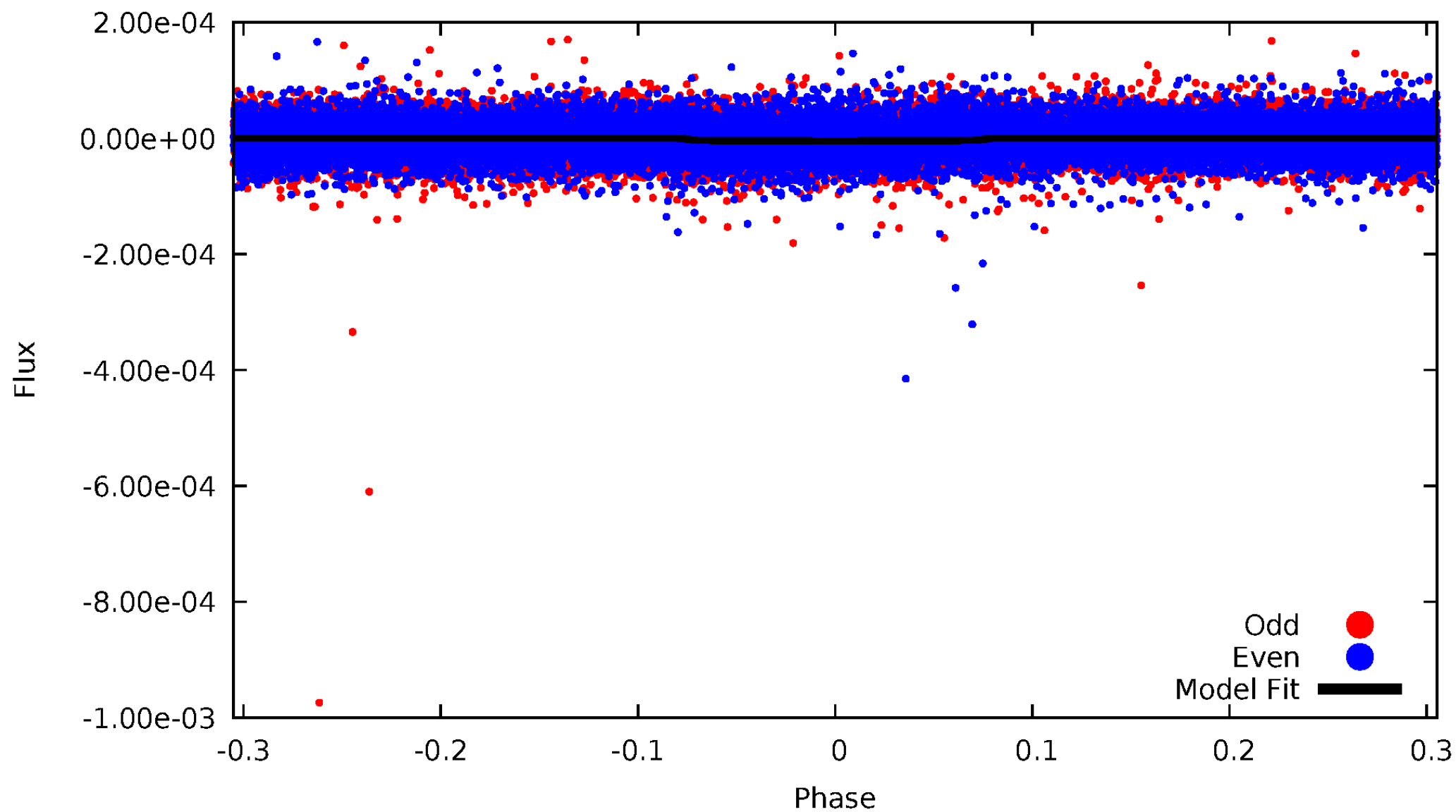


TCE 004547830-01



# DV Odd/Even

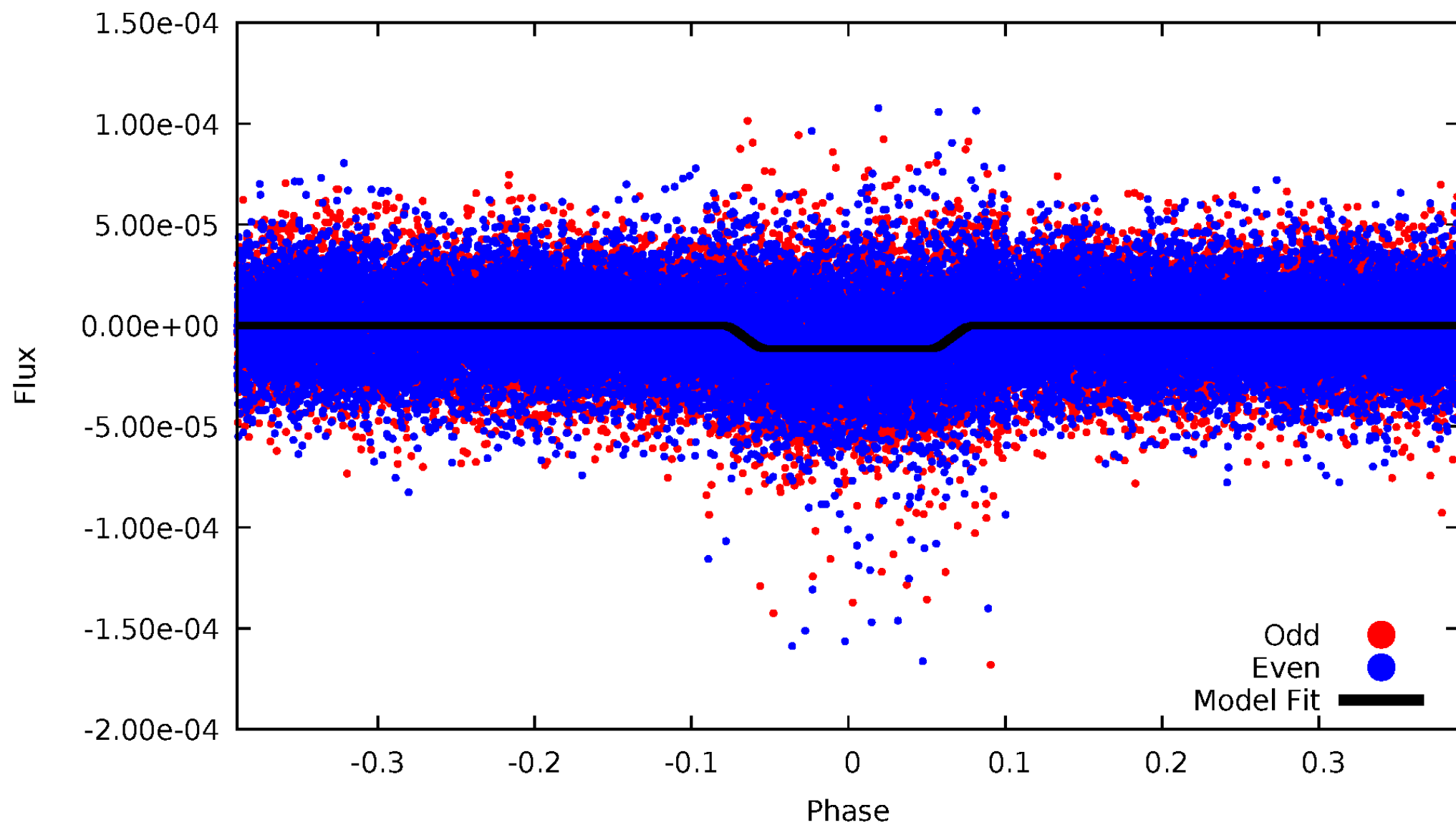
TCE 004547830-01





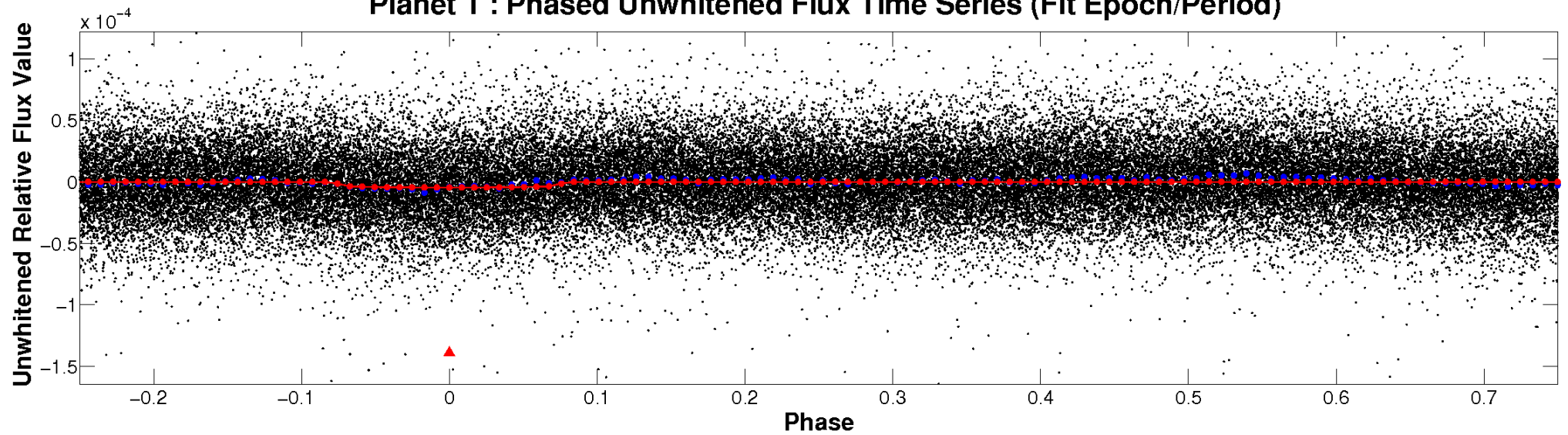
# ALT Odd/Even

TCE 004547830-01

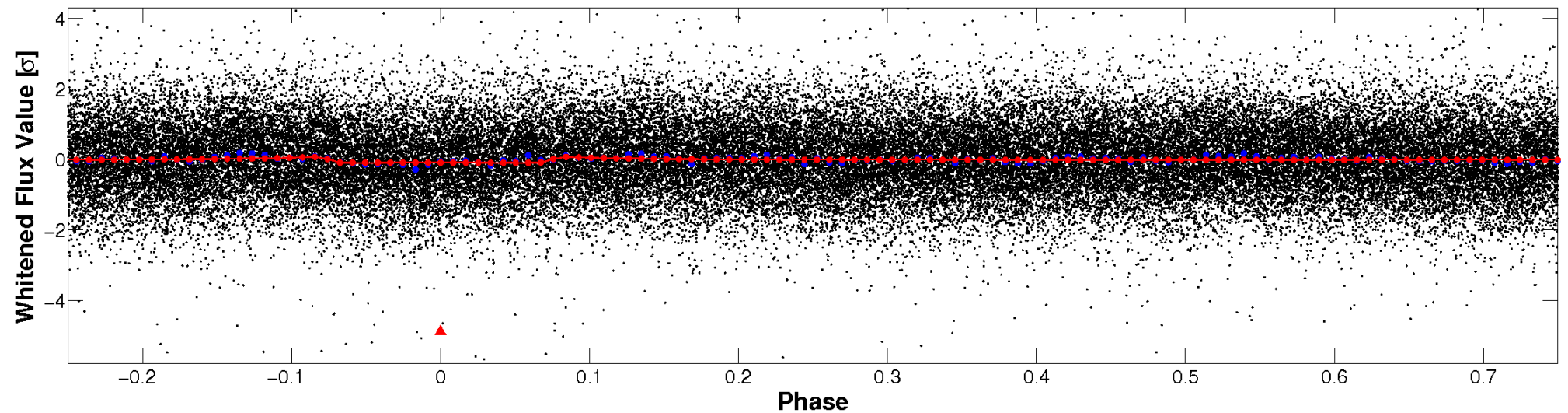


# Non-Whitened Vs. Whitened Light Curve

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

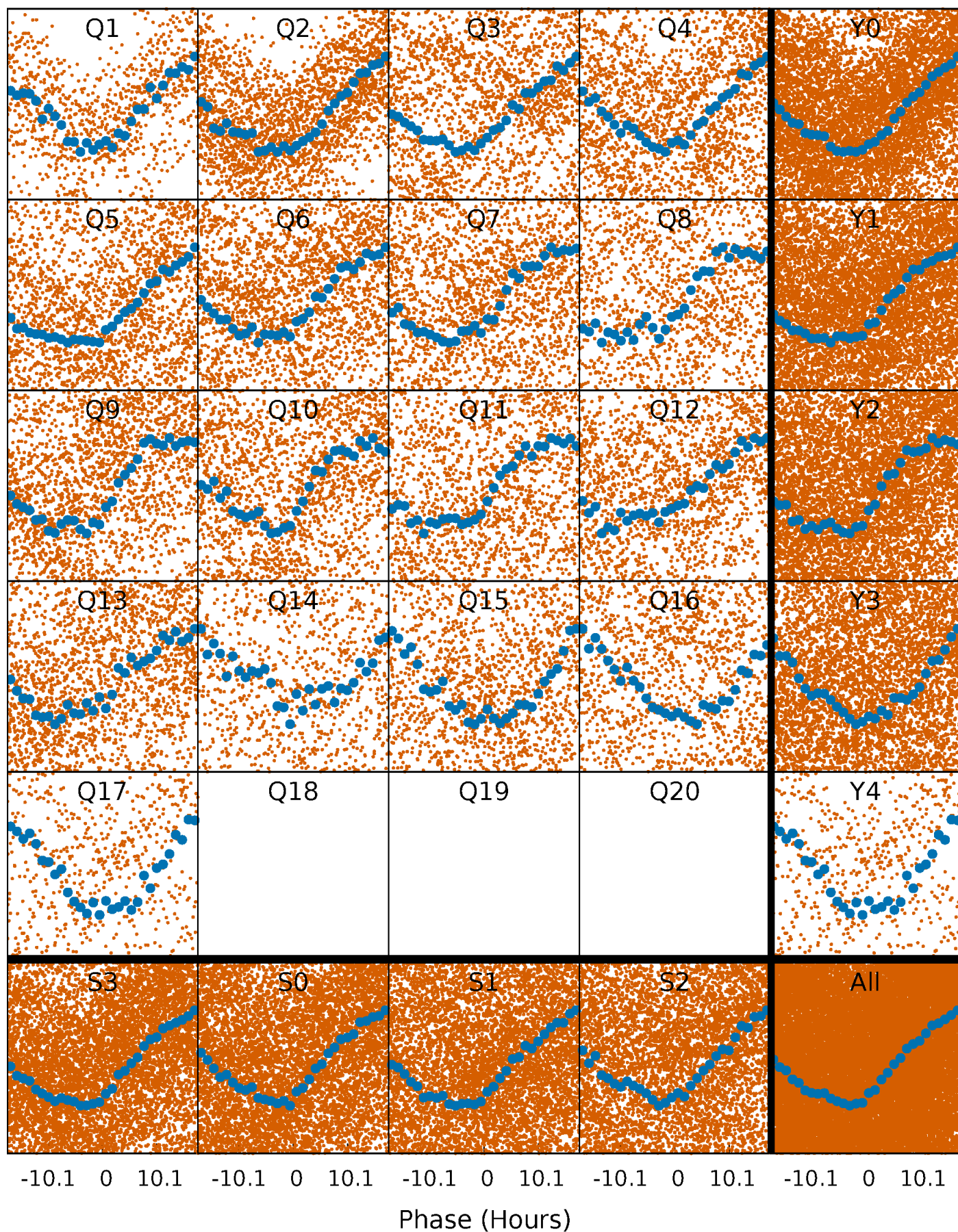


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

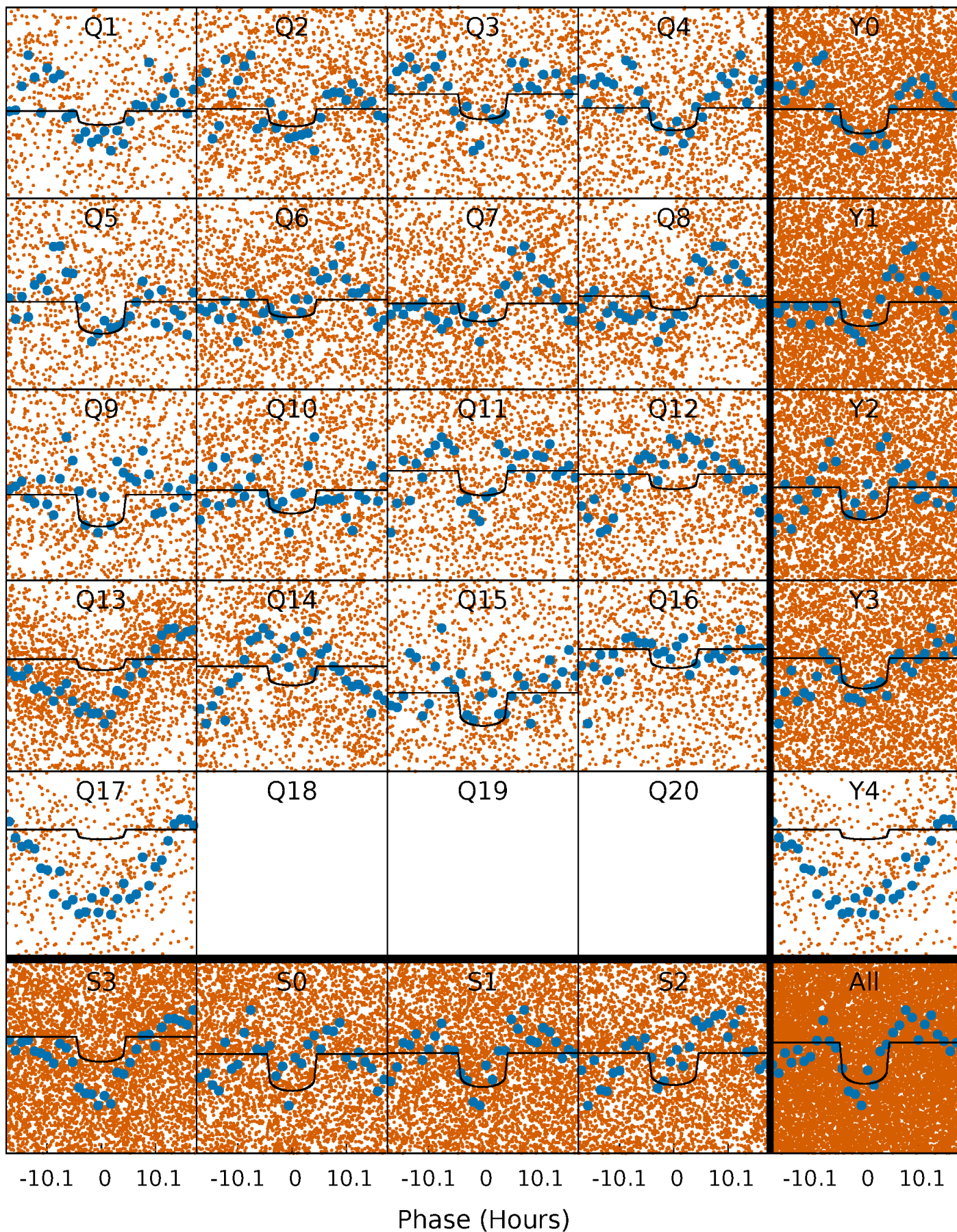
TCE 004547830-01 P= 2.425472 Days  $T_0=133.844932$  (BKJD)





# DV Quarter-Phased Transit Curves

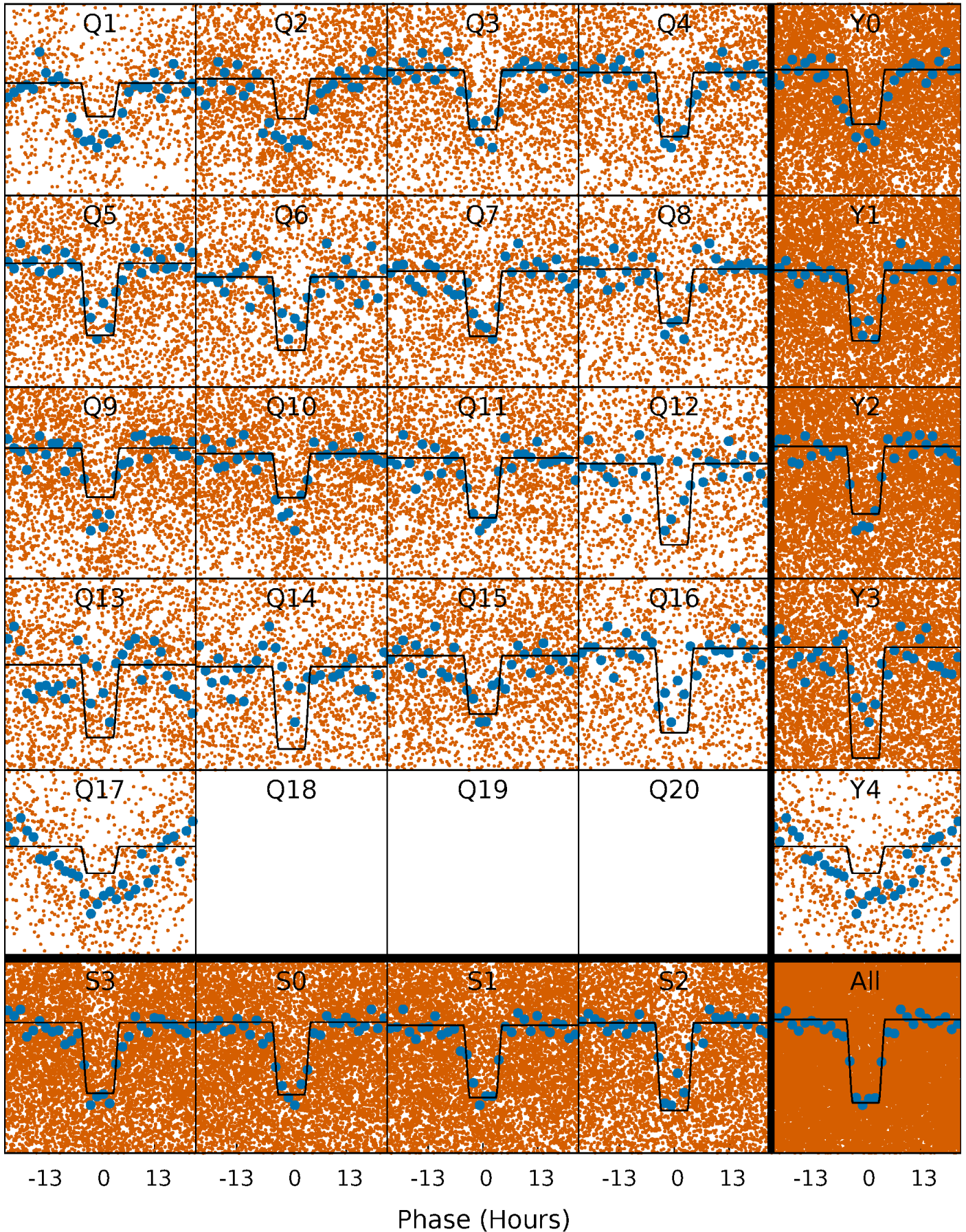
TCE 004547830-01 P= 2.425472 Days  $T_0=133.844932$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

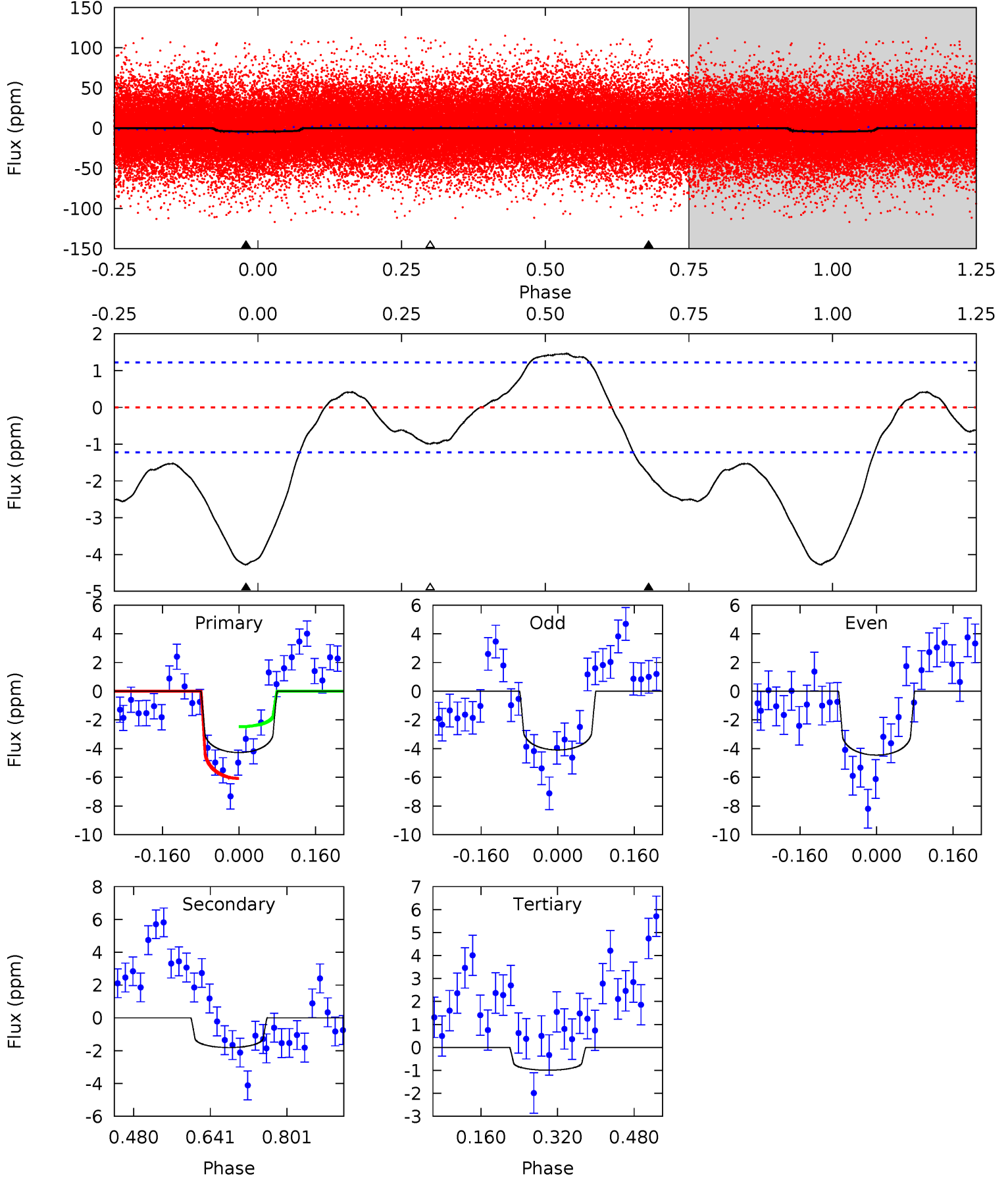
TCE 004547830-01 P= 2.425280 Days  $T_0=133.868898$  (BKJD)



# DV Model-Shift Uniqueness Test

004547830-01, P = 2.425472 Days, E = 131.419460 Days

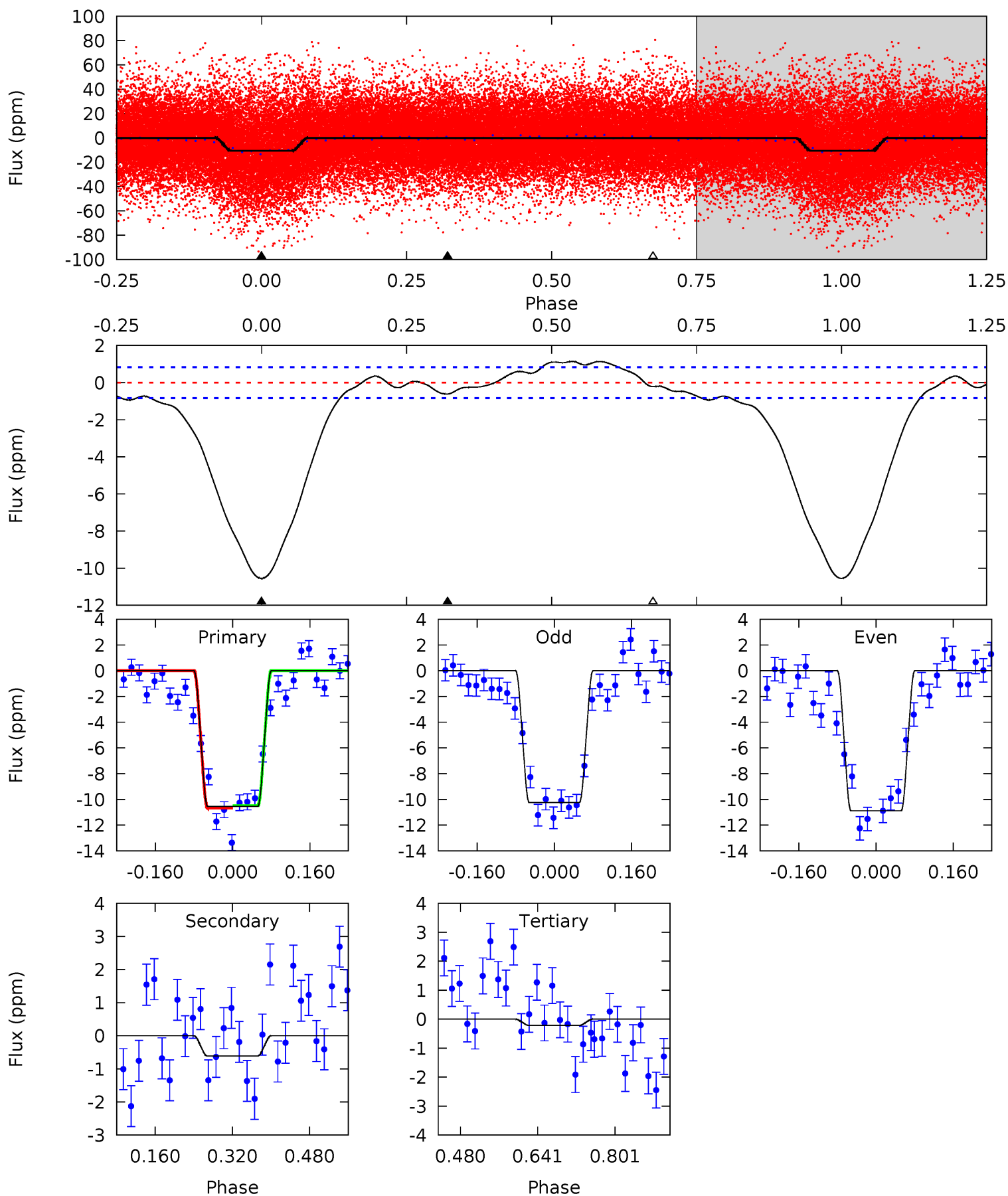
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	6.61	3.62	0	4.46	1.40	2.71	12.0	15.6	2.99	6.61	0.65	1.02	0.25	6.62



# Alt Model-Shift Uniqueness Test

004547830-01, P = 2.425280 Days, E = 131.443618 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
56.3	3.27	1.14	0	4.46	1.40	4.40	55.2	56.3	2.13	3.27	1.71	1.00	0.10	0.46





### Stellar Parameters For KIC 004547830

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7801^{+216}_{-325}$	$3.870^{+0.315}_{-0.105}$	$-0.080^{+0.200}_{-0.350}$	$2.667^{+0.431}_{-1.006}$	$1.925^{+0.082}_{-0.467}$	$0.143^{+0.325}_{-0.046}$
	+3%/-4%	+8%/-3%	+250%/-438%	+16%/-38%	+4%/-24%	+227%/-33%
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 004547830-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-2 \pm 0$	$0.63^{+0.11}_{-0.12}$	$3672^{+258}_{-375}$	$5756^{+405}_{-372}$	$4.780^{+2.585}_{-1.372}$
Alt.	$-1 \pm 0$	$0.94^{+0.13}_{-0.19}$	$3684^{+242}_{-356}$	$3632^{+347}_{-445}$	$0.714^{+0.456}_{-0.247}$

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

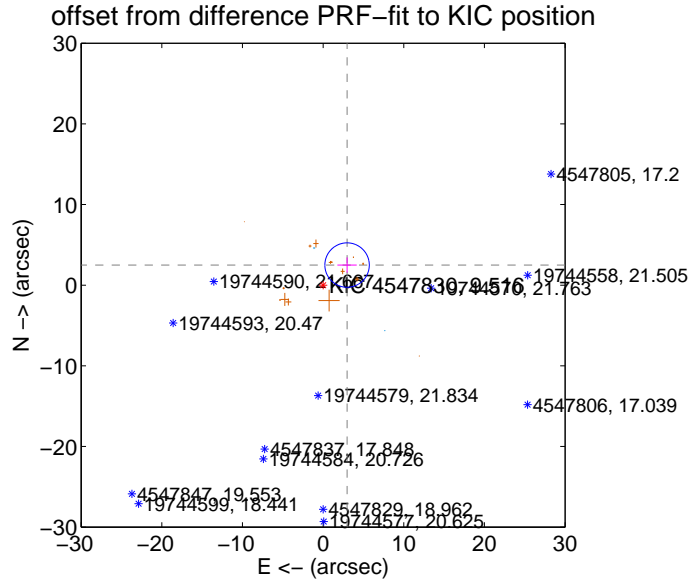
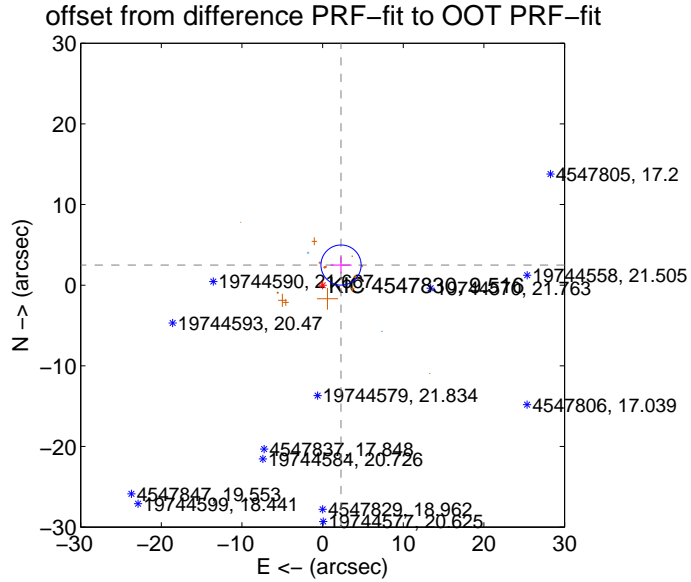
## DV Centroid Data

Supplemental centroid analysis for 004547830-01. **Kepler magnitude: 9.52.** Transit SNR 9.30

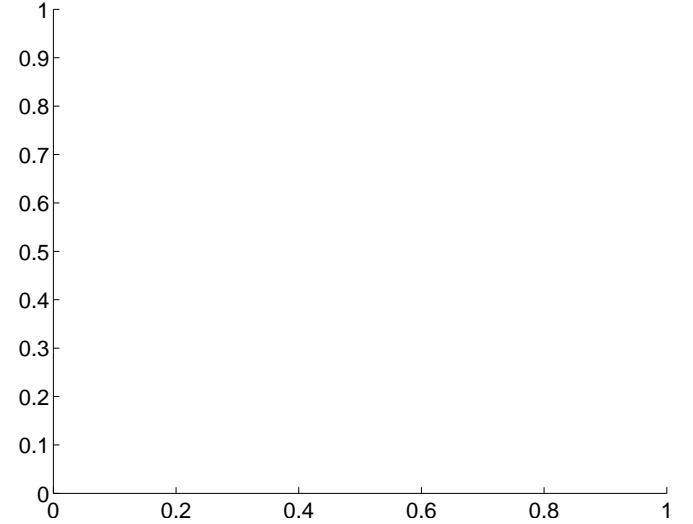
**There are 2 quarters with good PRF difference image offsets**

The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>3.382 \pm 0.830</math></b>	<b>4.08</b>	$-2.285 \pm 1.310$	$2.493 \pm 1.049$
PRF-fit source offset from KIC position	<b><math>3.878 \pm 0.918</math></b>	<b>4.22</b>	$-2.971 \pm 1.202$	$2.492 \pm 0.945$
photometric centroid source offset	—	—	—	—

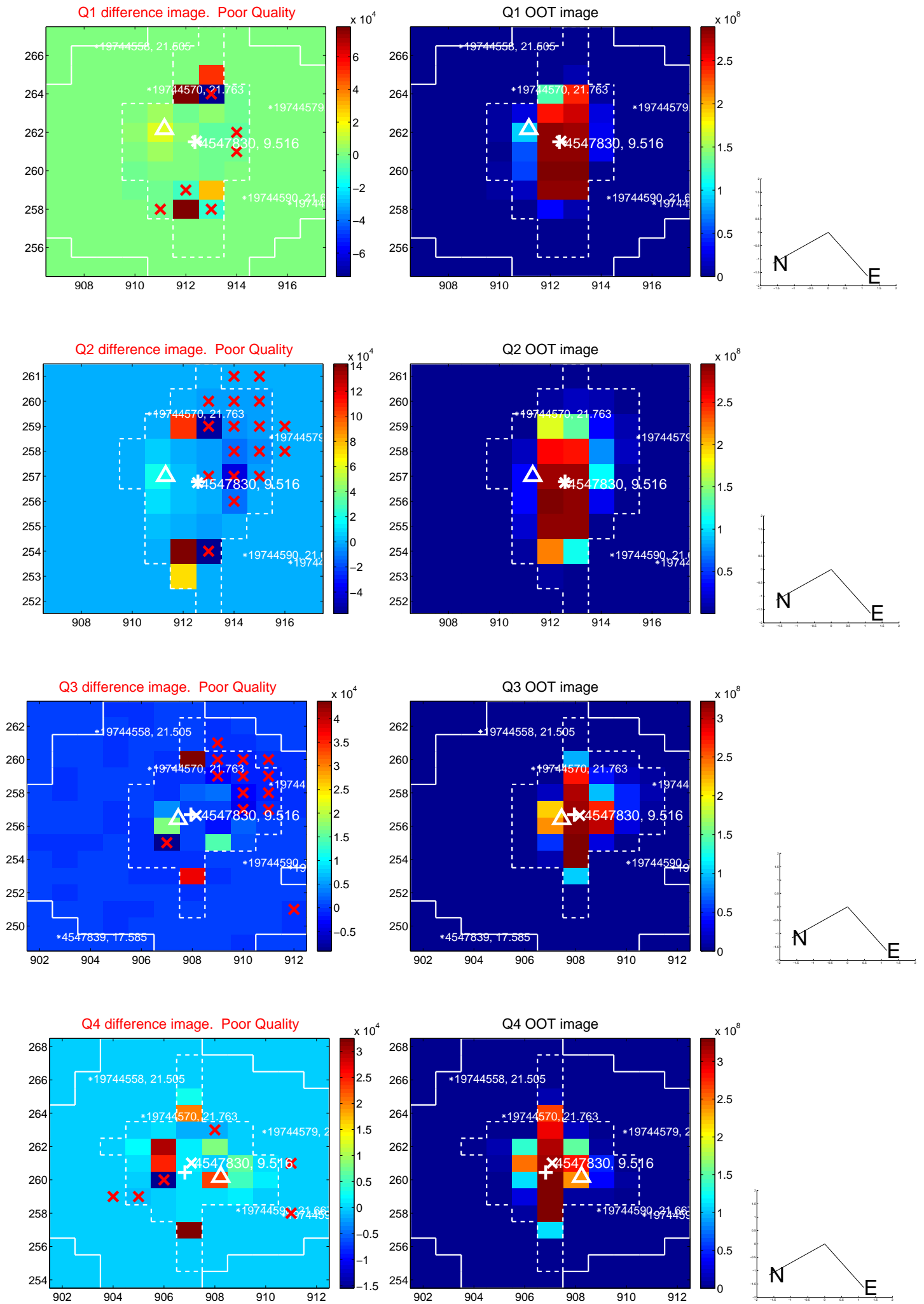


**There are no photometric centroids**

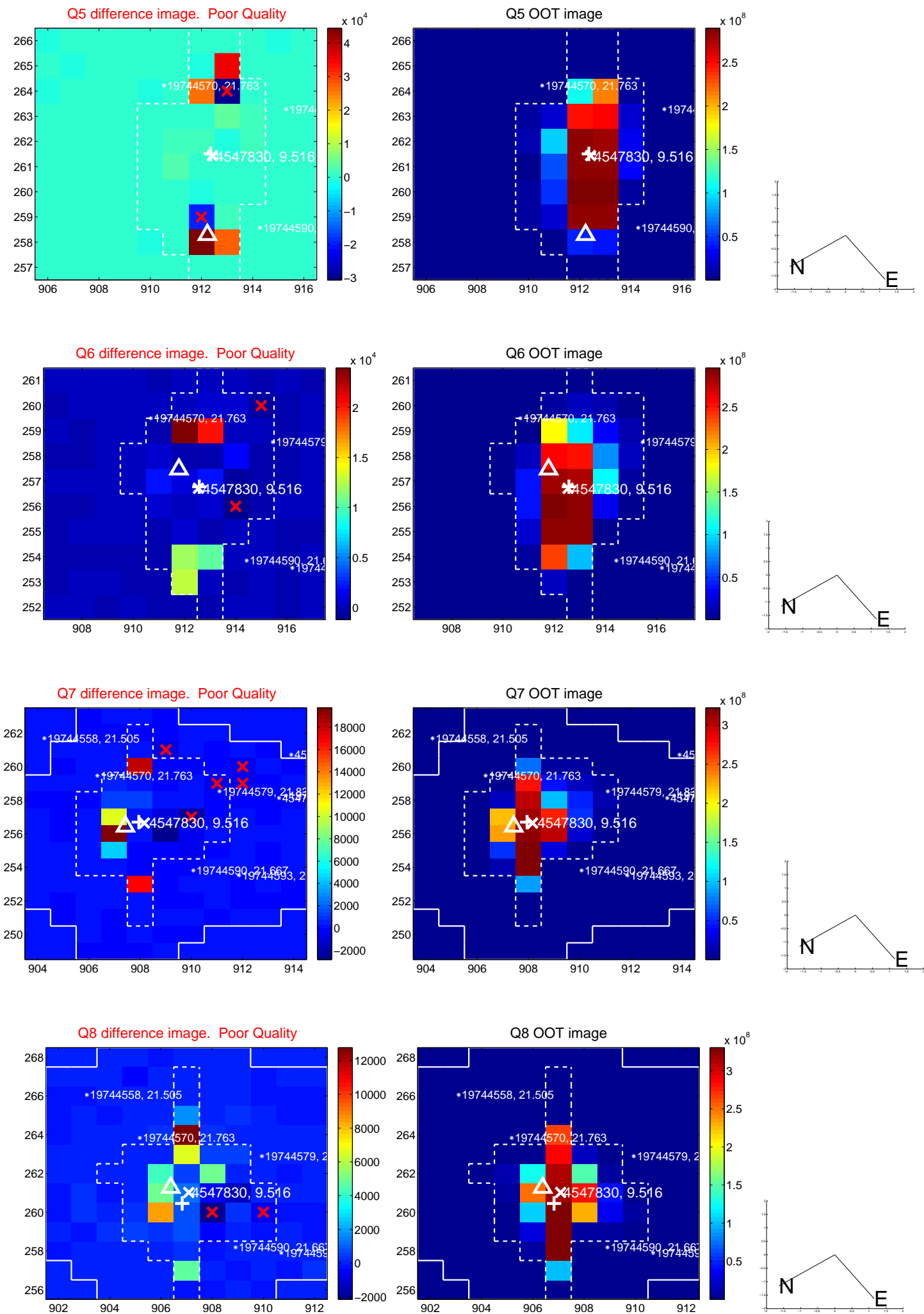


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

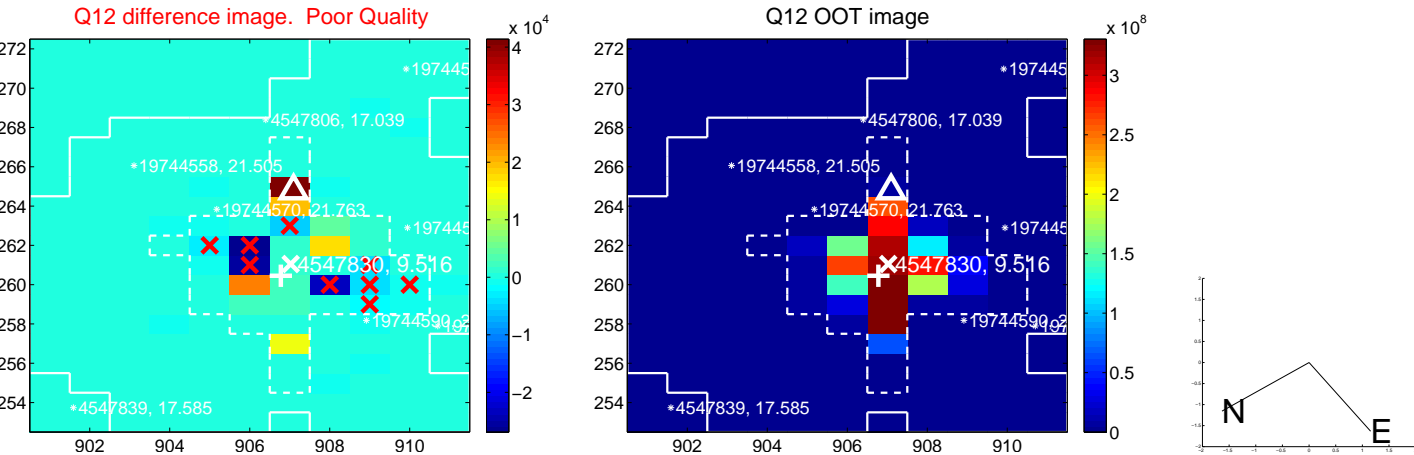
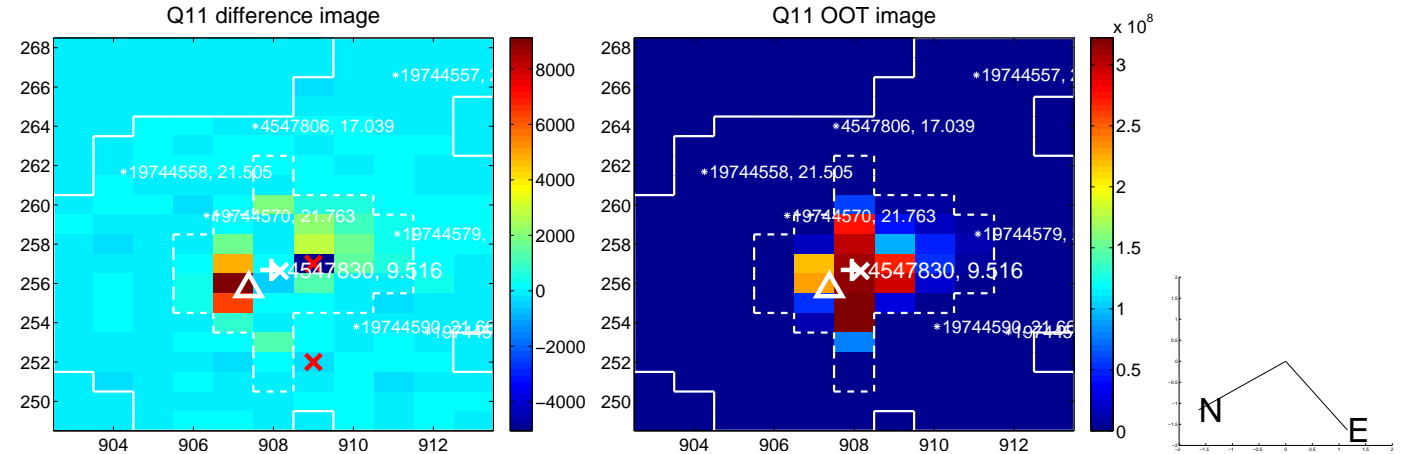
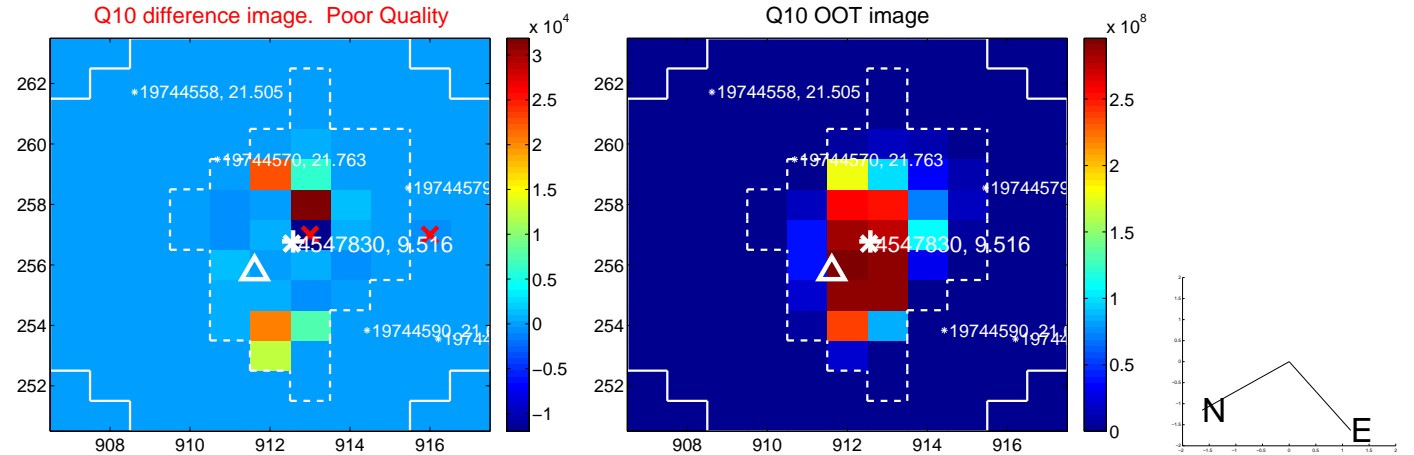
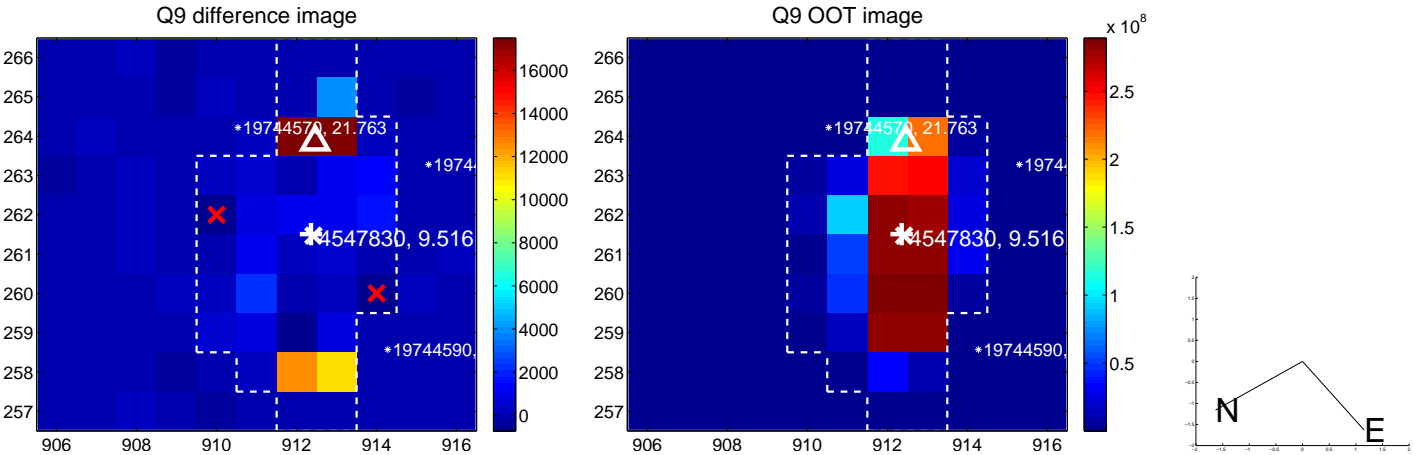


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

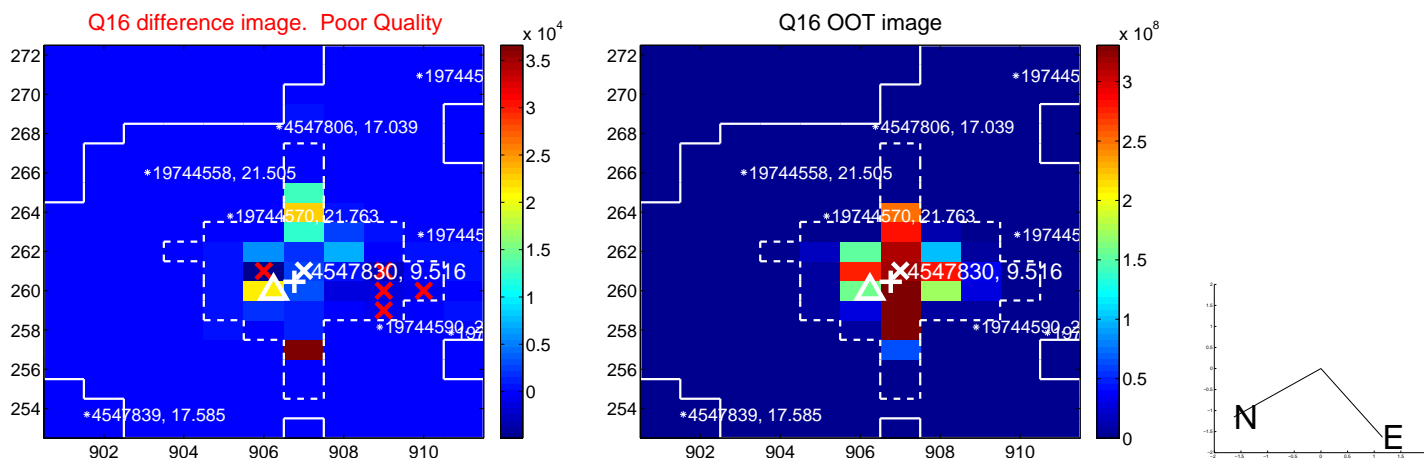
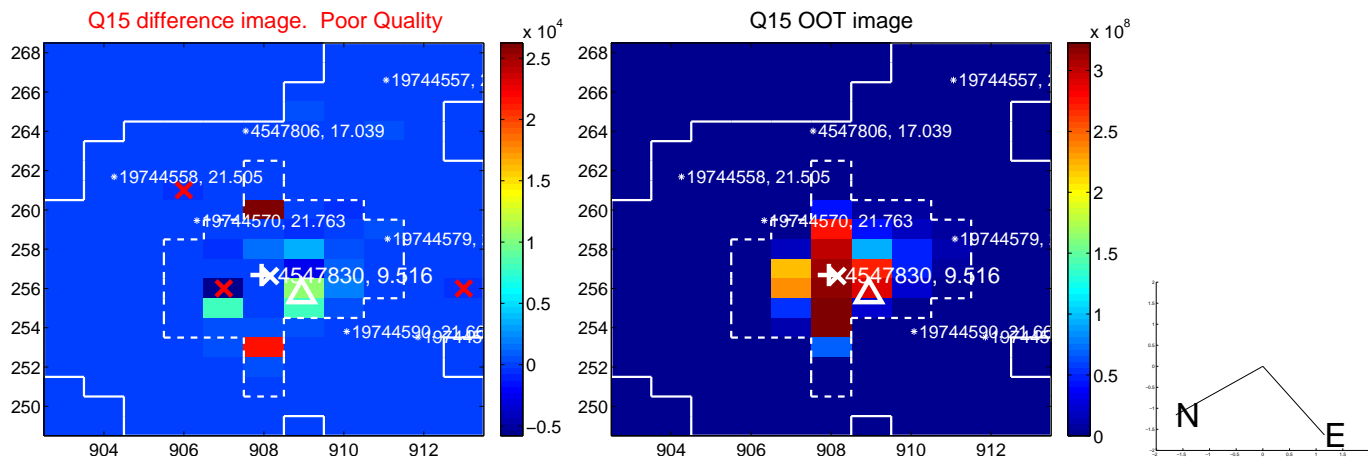
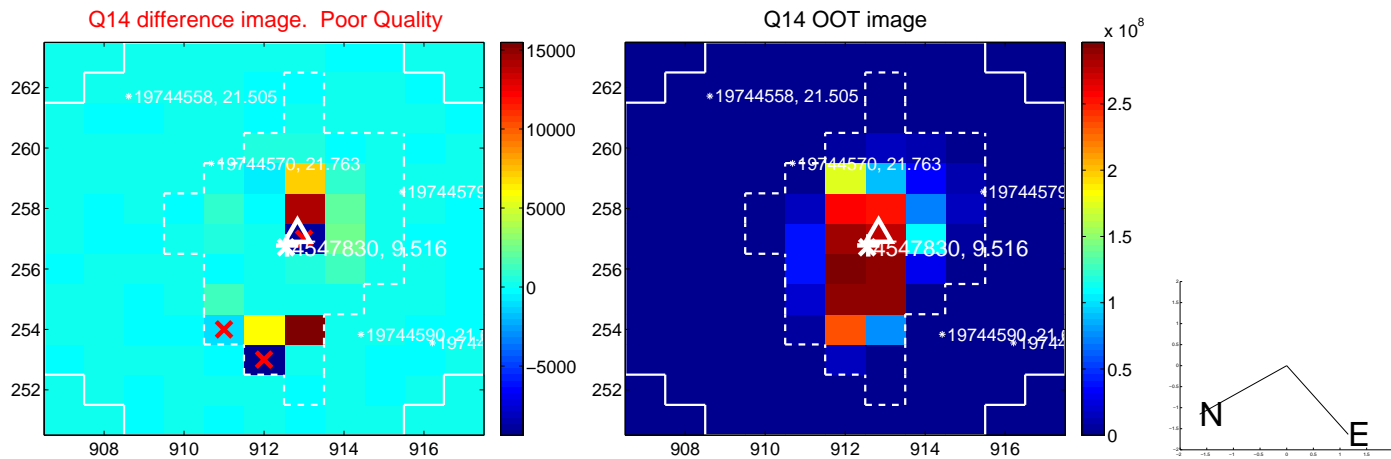
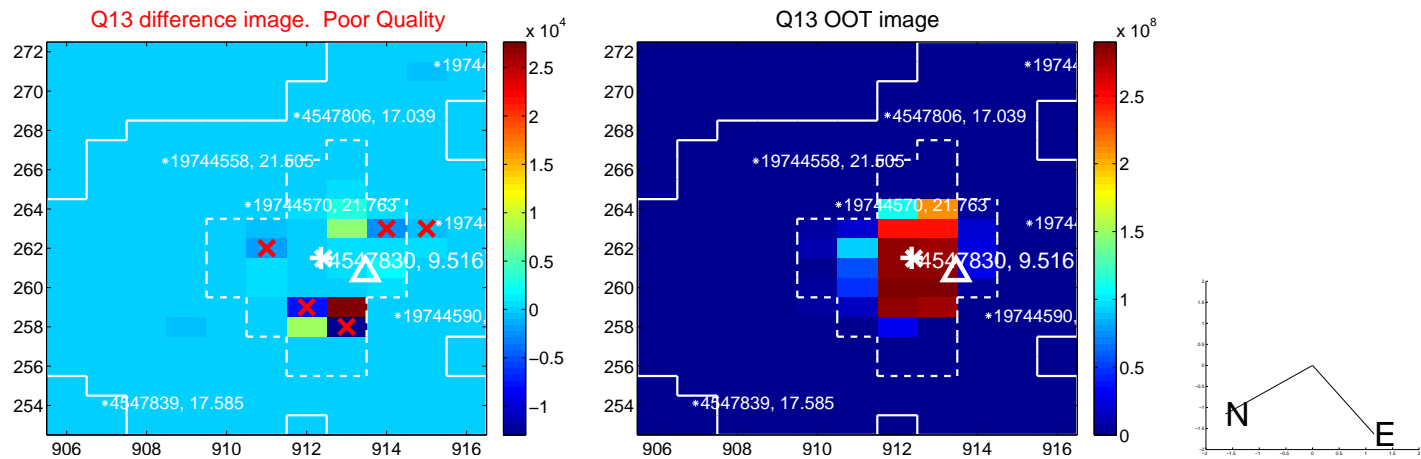




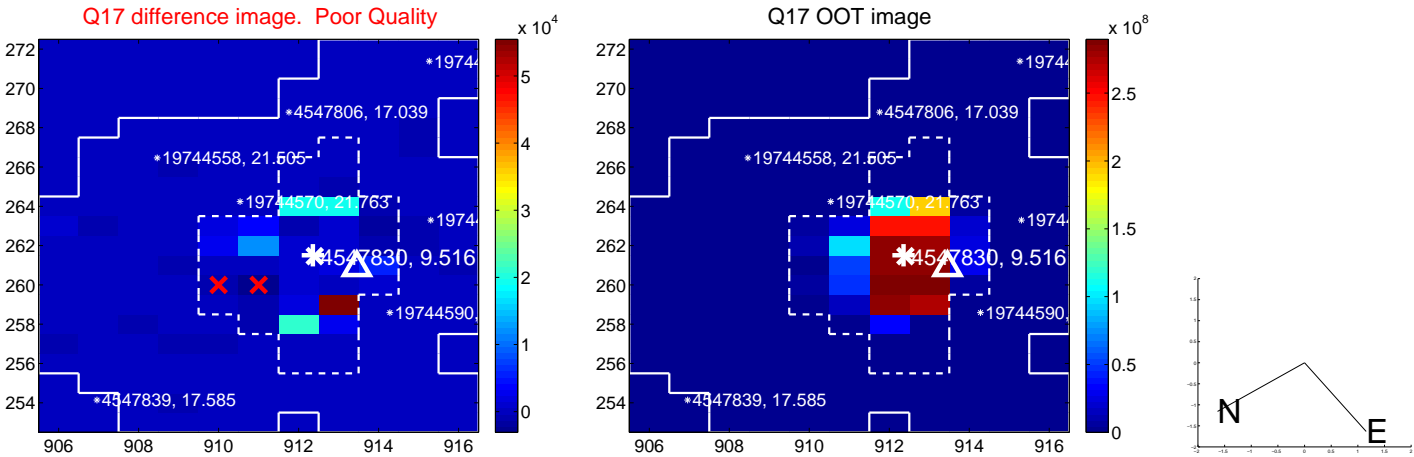
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

