

# KIC 007280944

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007280944-01	OBS	No	0.566720	131.673730	2.0	5.115	11.5	2.6	1.85	6976	0.27	32432.71

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007280944-01	OBS	FP	0.00	1	0	1	1	SWEET_NTL—LPP_DV—LPP_ALT—CENT_UNRESOLVED_OFFSET—EPHEM_MATCH

**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.

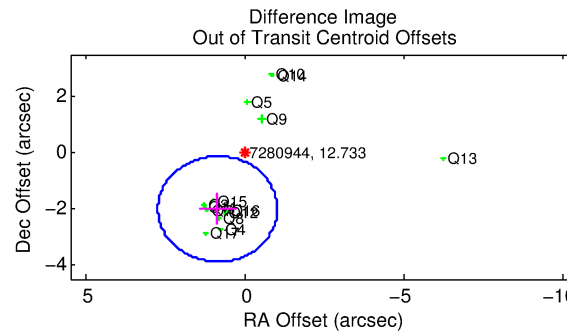
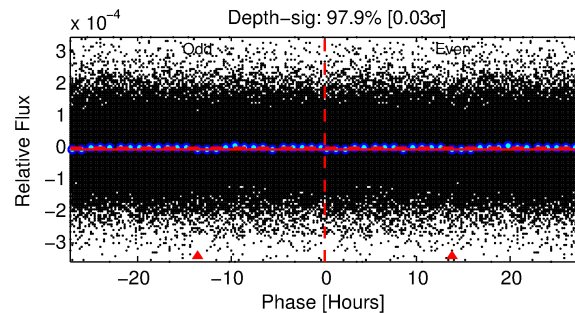
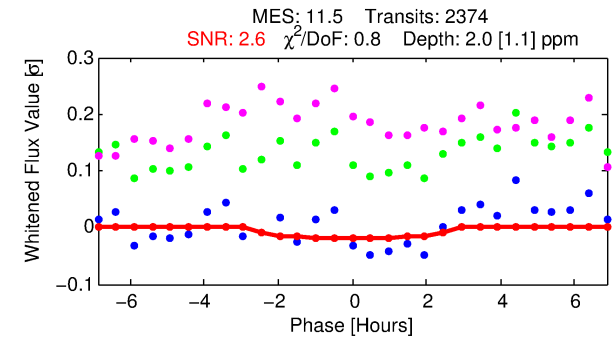
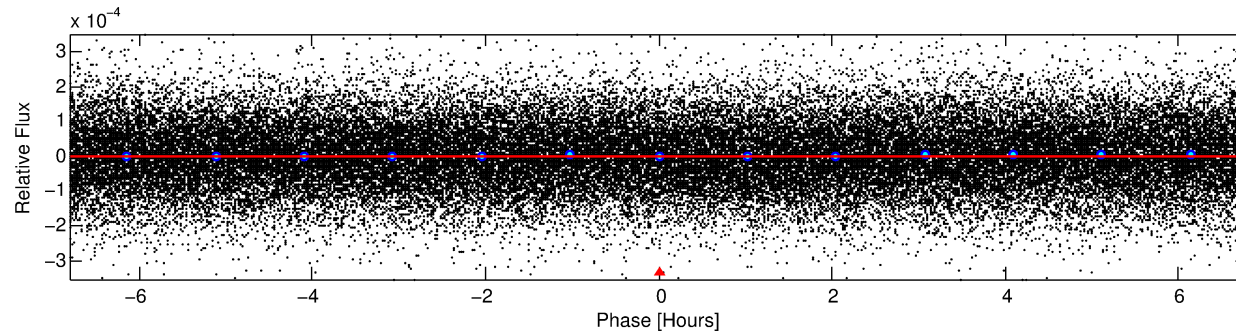
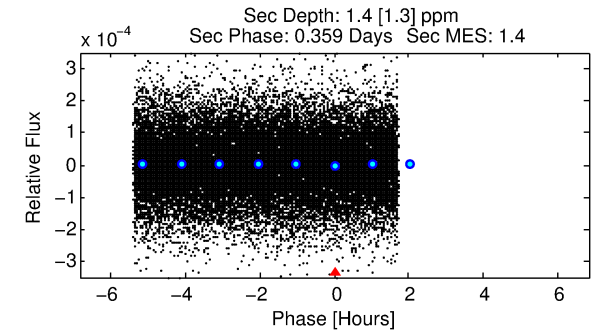
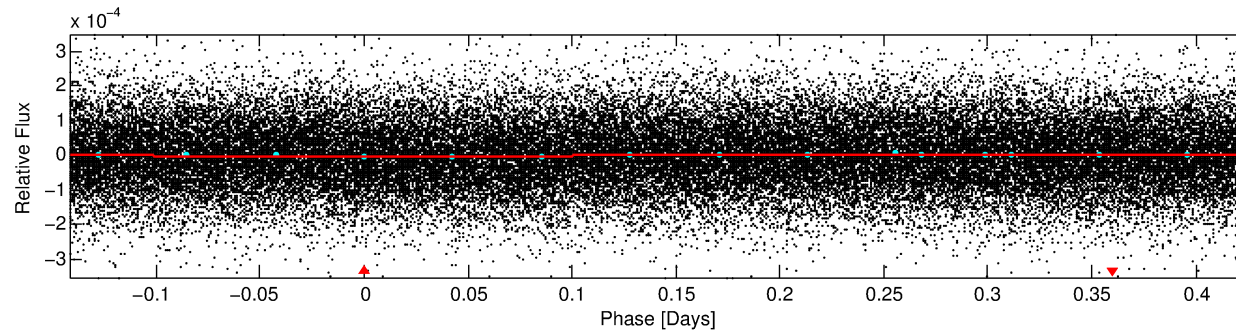
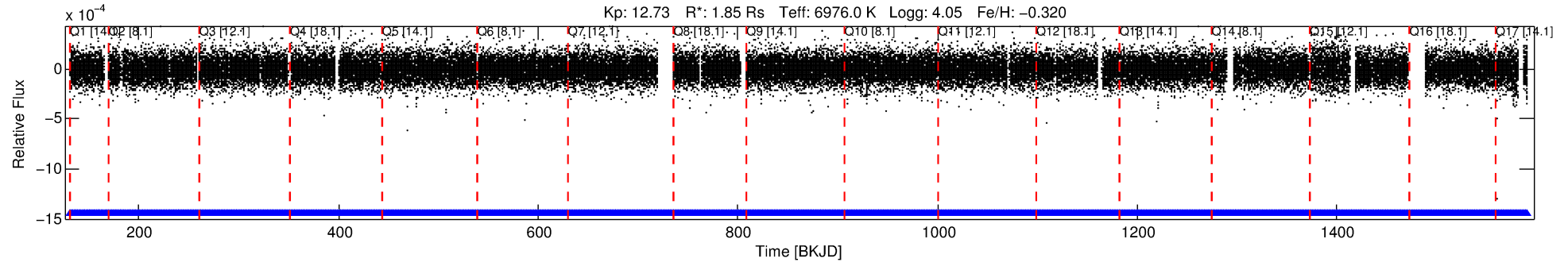
## Ephemeris Match Information For 007280944-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ( $''$ )	$\Delta$ Row	$\Delta$ Col	$m_2$	$m_1$	$D_2/D_1$	Mechanism	Flag	$\sigma_P$	$\sigma_T$
007280944-01	7280944	RR-Lyr-pri	7198959	1:1	237.1	14	57	7.86	12.73	311650.00	Direct-PRF	0	0.46	18.03

**Notes:**  $P_1:P_2$  is the period ratio. Dist is the distance in arcseconds.  $\Delta$ Row and  $\Delta$ Col are the number of pixels apart in row and column.  $m_2$  and  $m_1$  are the magnitudes of the parent and child.  $D_2/D_1$  is the parent's transit depth divided by the child's.  $\sigma_P$  and  $\sigma_T$  are the significance of the match in period and epoch. For a match to be considered significant  $\sigma_P < 5.0$  and  $\sigma_T < 5.0$ . Matches which have  $\sigma_P$  and  $\sigma_T$  very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 7280944 Candidate: 1 of 1 Period: 0.567 d



## DV Fit Results:

Period = 0.56672 [0.00004] d  
Epoch = 131.6737 [0.0193] BKJD  
Rp/R\* = 0.0013 [0.0045]  
a/R\* = 1.08 [2.84]  
b = 0.30 [59.62]  
Seff = 32432.71 [13043.16]  
Teq = 3422 [344] K  
Rp = 0.27 [0.91] Re  
a = 0.0149 [0.0037] AU  
Ag = 2.45 [16.74] [0.09σ]  
Teffp = 6622 [11276] K [0.28σ]

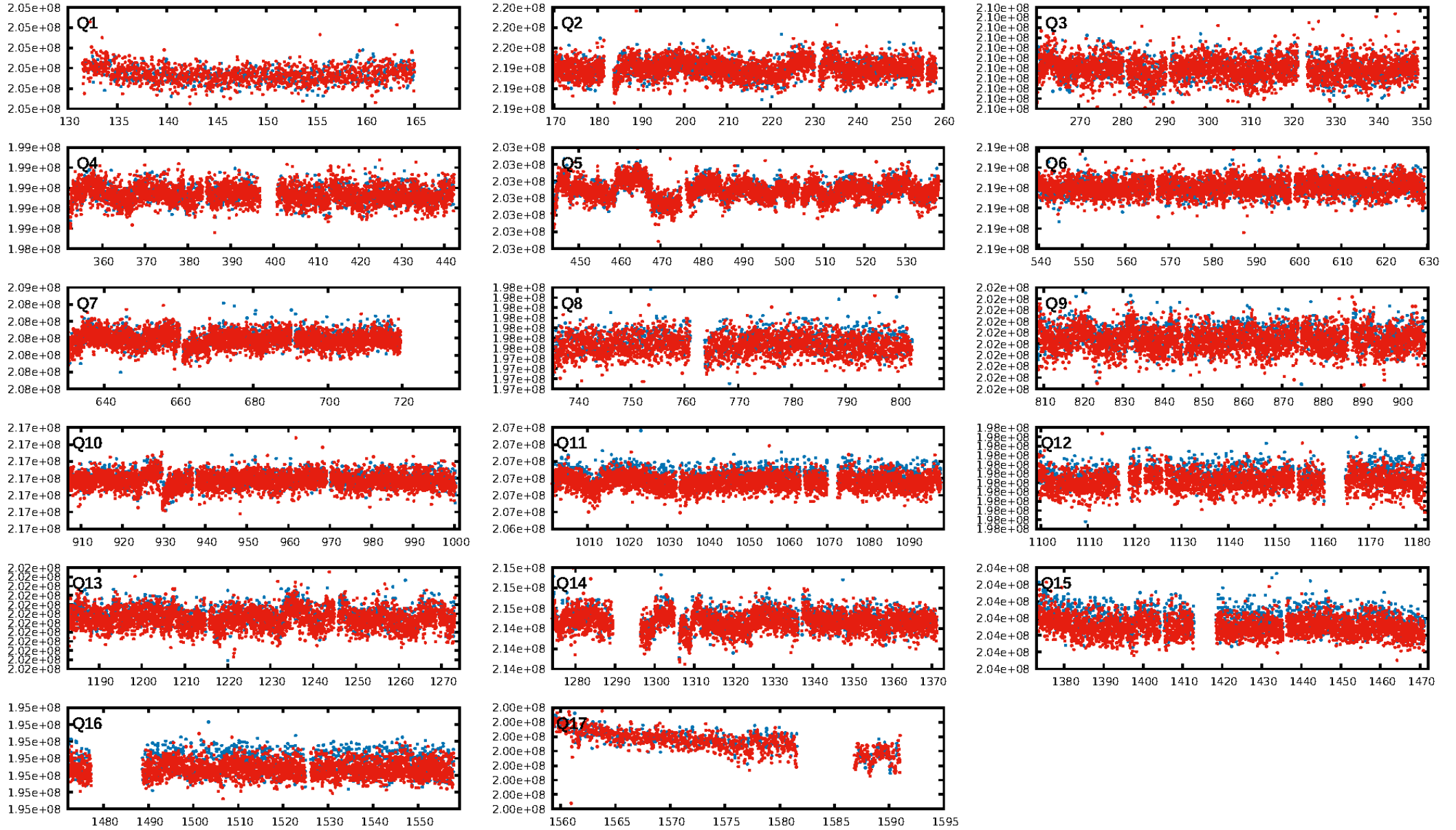
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [2267/2267]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 2.188 arcsec [3.49σ]  
KicOffset-rm: 2.194 arcsec [3.88σ]  
OotOffset-st: 2/4/4/4 [14]  
KicOffset-st: 2/4/4/4 [14]  
DiffImageQuality-fgm: 0.57 [8/14]  
DiffImageOverlap-fno: 1.00 [17/17]

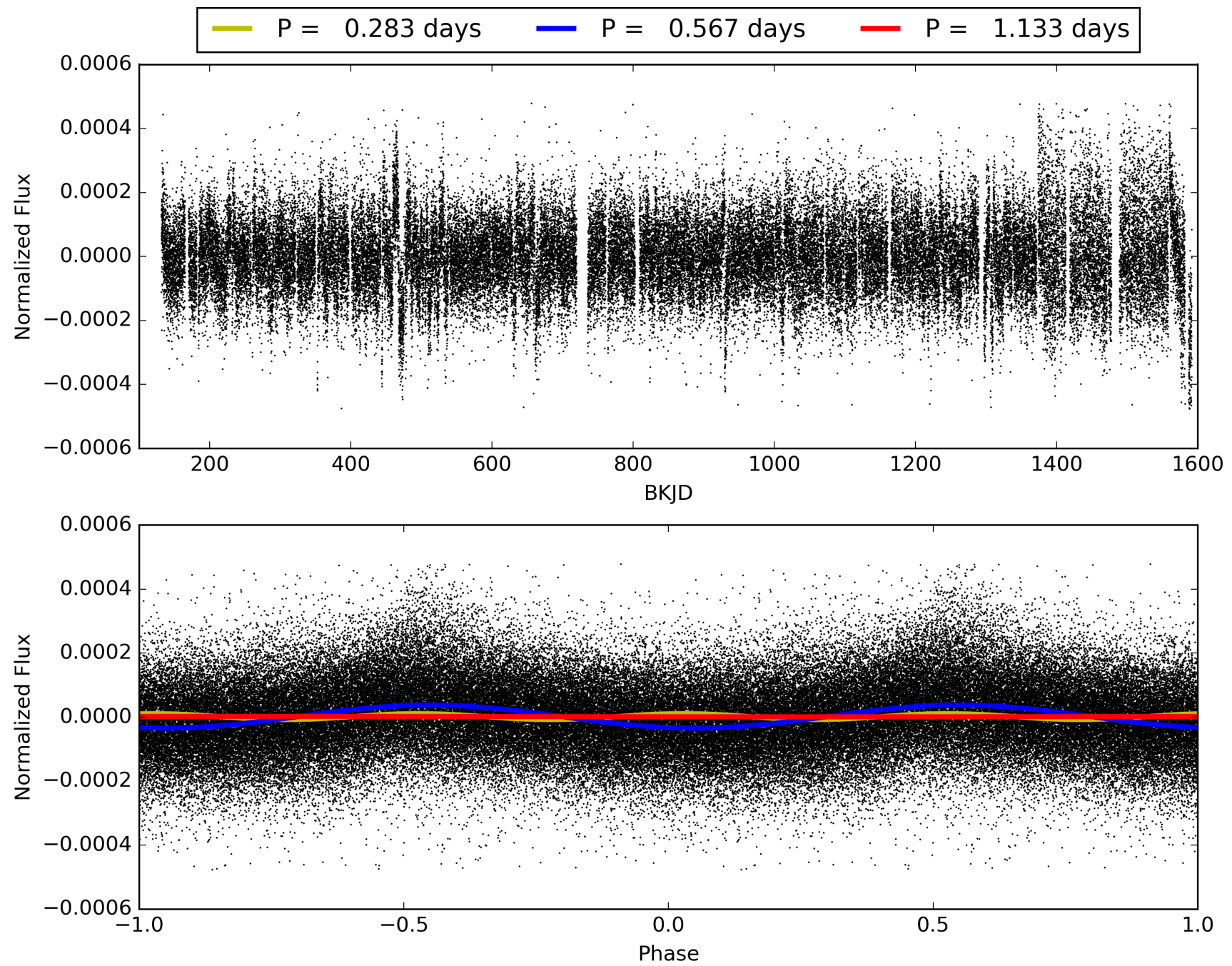
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:34:57 Z

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

# TCE 007280944-01, PDC Light Curves

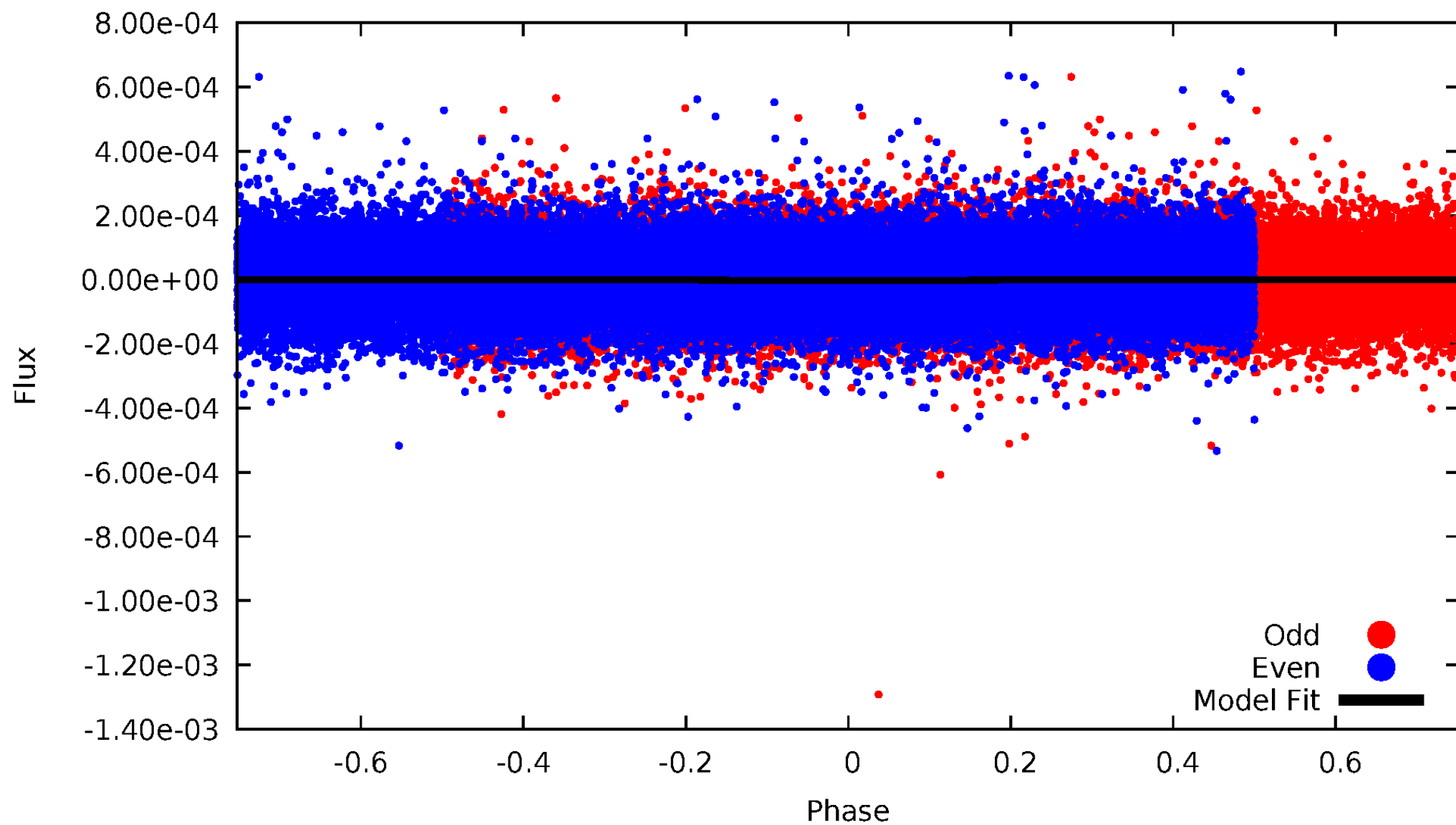


TCE 007280944-01



# DV Odd/Even

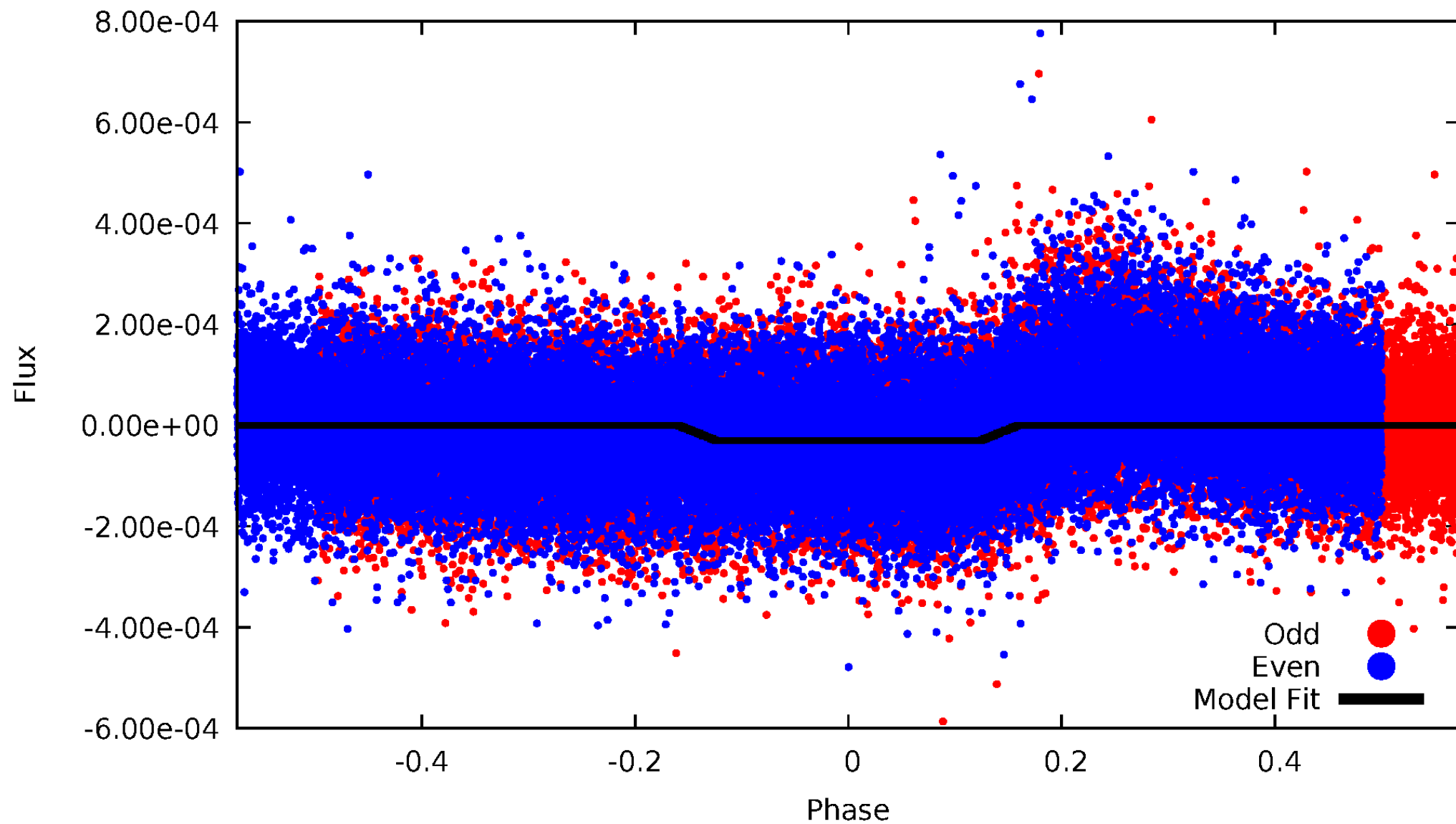
TCE 007280944-01





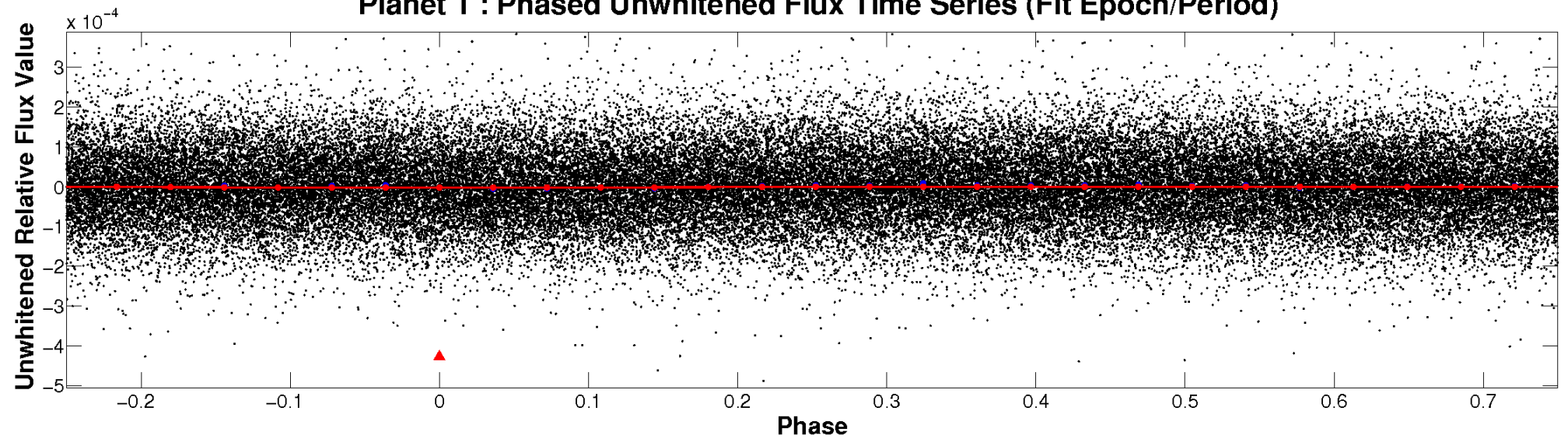
# ALT Odd/Even

TCE 007280944-01

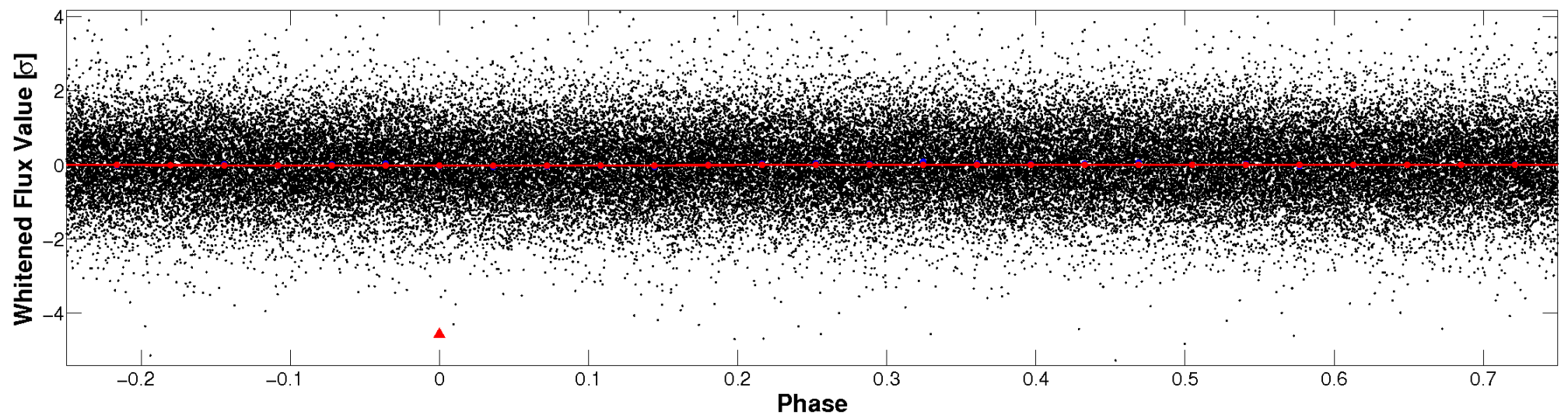


# Non-Whitened Vs. Whitened Light Curve

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

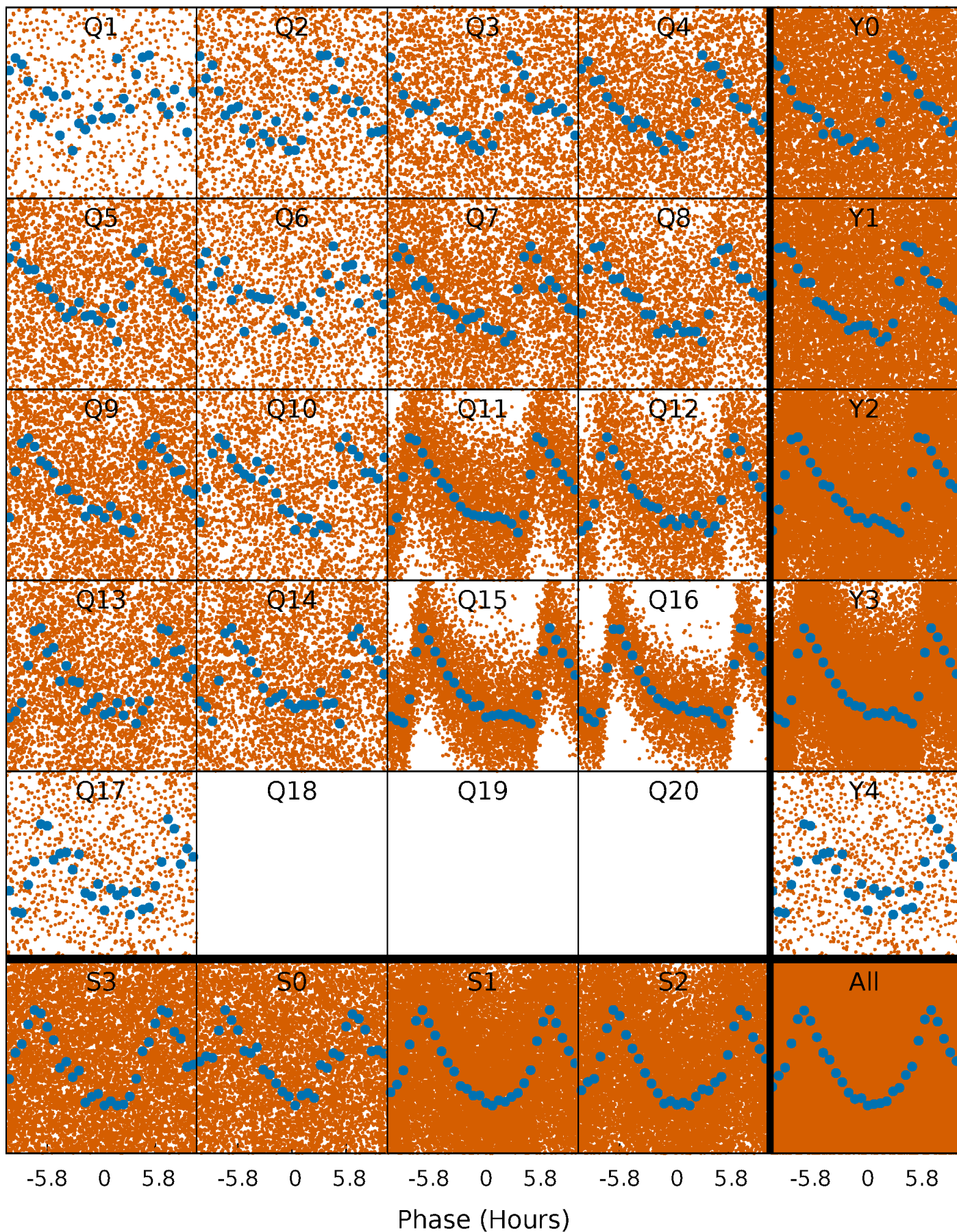


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

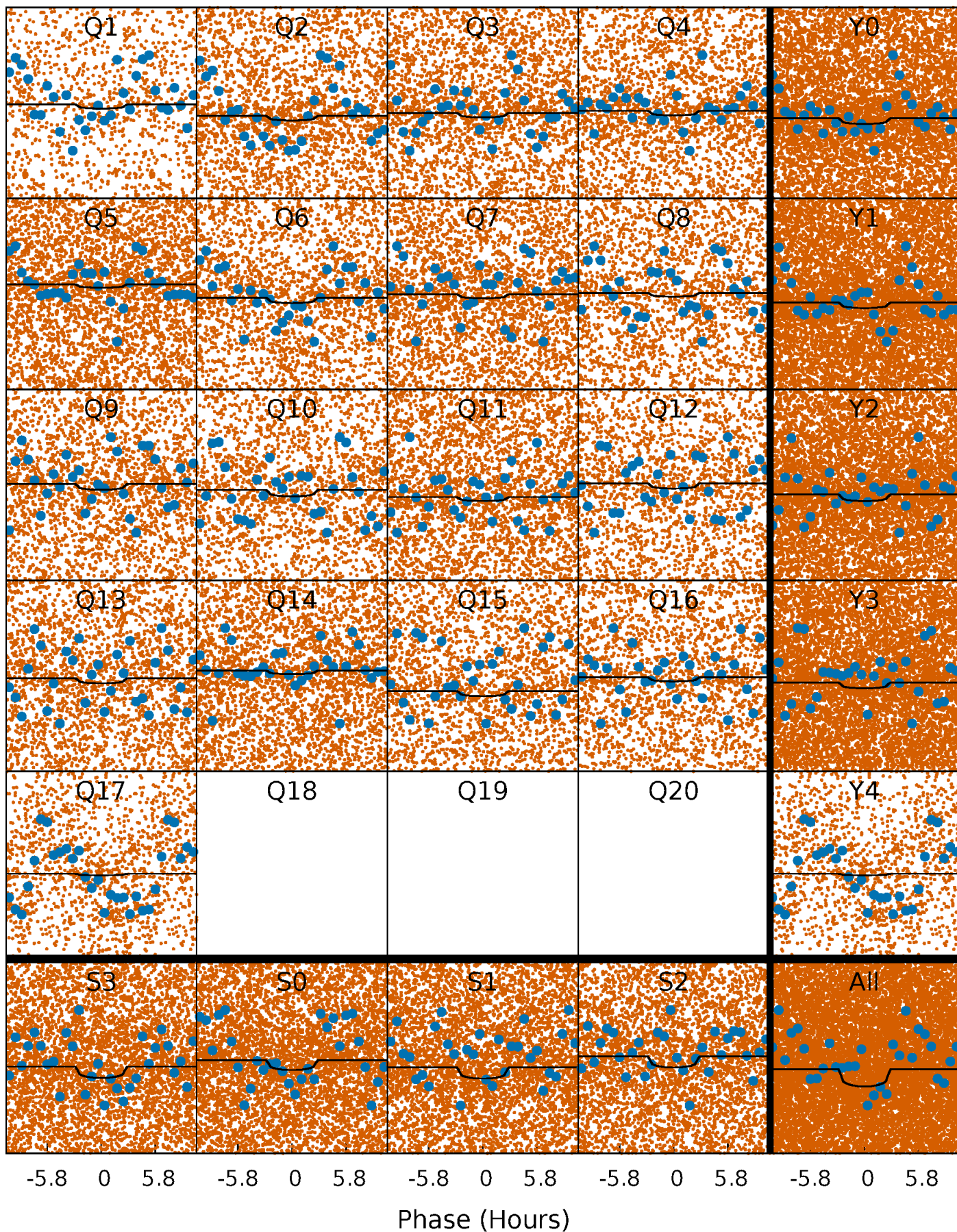
TCE 007280944-01   P= 0.566720 Days    $T_0=131.673730$  (BKJD)





# DV Quarter-Phased Transit Curves

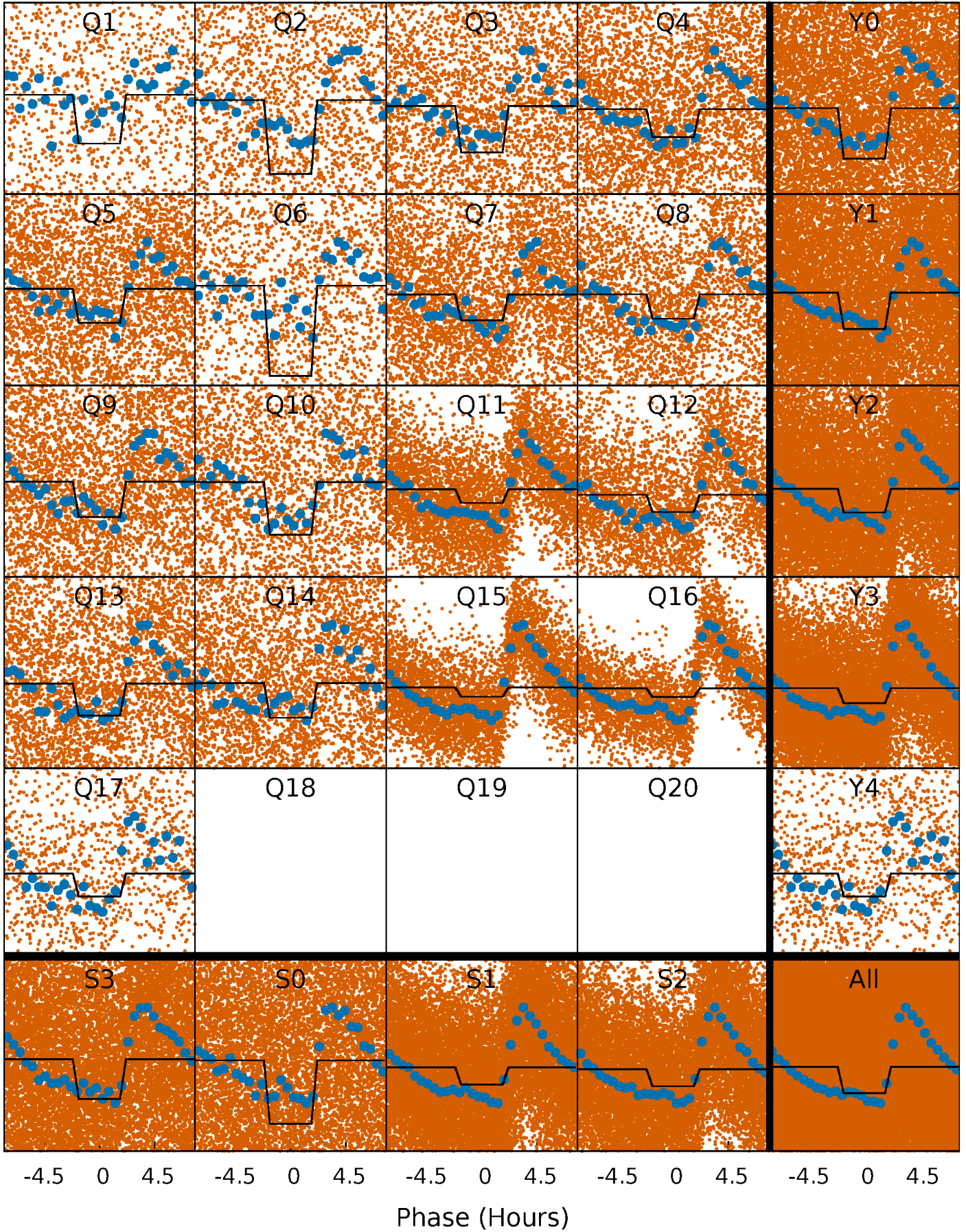
TCE 007280944-01 P= 0.566720 Days  $T_0=131.673730$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

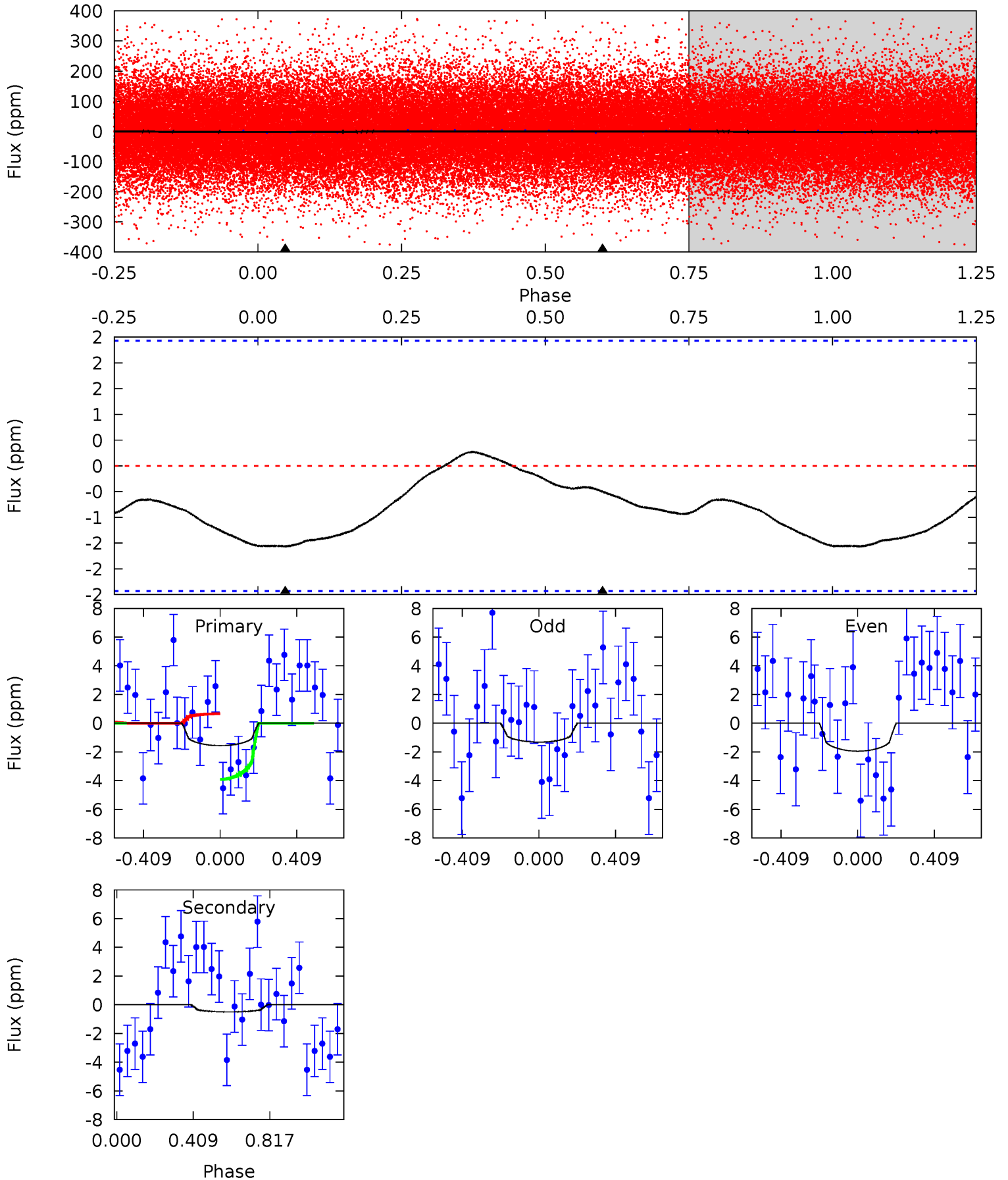
TCE 007280944-01 P= 0.566813 Days  $T_0=131.632295$  (BKJD)



# DV Model-Shift Uniqueness Test

007280944-01, P = 0.566720 Days, E = 131.107010 Days

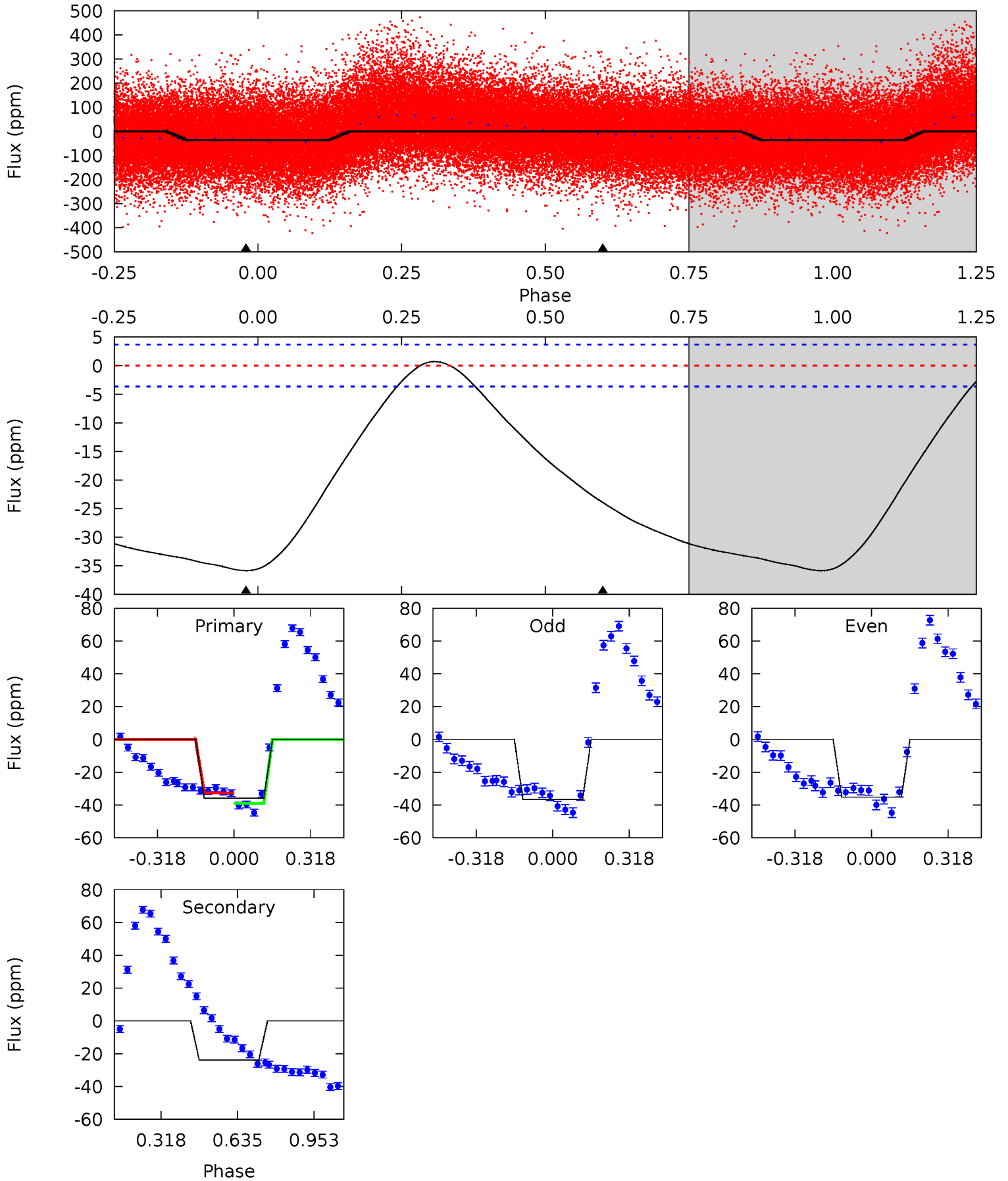
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.74	0.88	0	0	4.26	0.83	0.34	2.74	2.74	0.88	0.88	0.55	0.74	0.15	2.81



# Alt Model-Shift Uniqueness Test

007280944-01, P = 0.566813 Days, E = 131.065482 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
42.4	28.3	0	0	4.32	1.00	1.62	42.4	42.4	28.3	28.3	0.80	1.05	0.02	3.92





### Stellar Parameters For KIC 007280944

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6976^{+205}_{-246}$	$4.046^{+0.214}_{-0.132}$	$-0.320^{+0.300}_{-0.300}$	$1.846^{+0.382}_{-0.510}$	$1.381^{+0.169}_{-0.232}$	$0.309^{+0.346}_{-0.122}$
	+3%/-4%	+5%/-3%	+94%/-94%	+21%/-28%	+12%/-17%	+112%/-40%
Source	PHO1	FLK73	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 007280944-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-1 \pm 1$	$0.72^{+0.71}_{-0.50}$	$4744^{+292}_{-350}$	$-3827^{+8775}_{-429}$	$0.085^{+0.976}_{-0.088}$
Alt.	$-24 \pm 1$	$1.19^{+0.85}_{-0.70}$	$4729^{+306}_{-344}$	$5950^{+4652}_{-1592}$	$2.081^{+10.367}_{-1.363}$

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

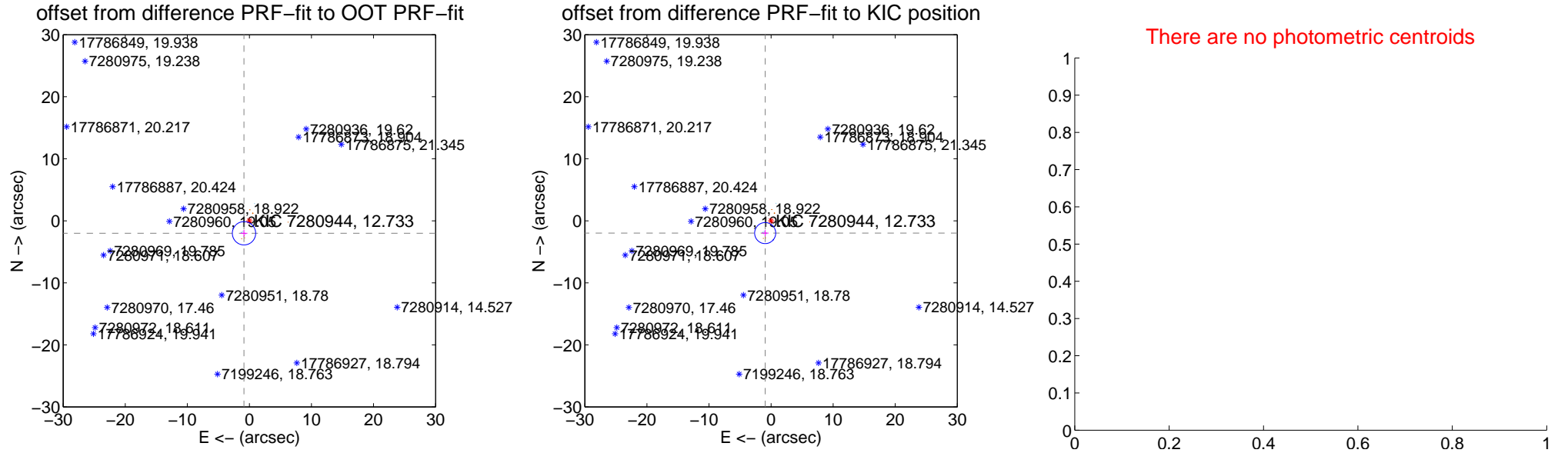
## DV Centroid Data

Supplemental centroid analysis for 007280944-01. Kepler magnitude: 12.73. Transit SNR 2.63

There are 8 quarters with good PRF difference image offsets

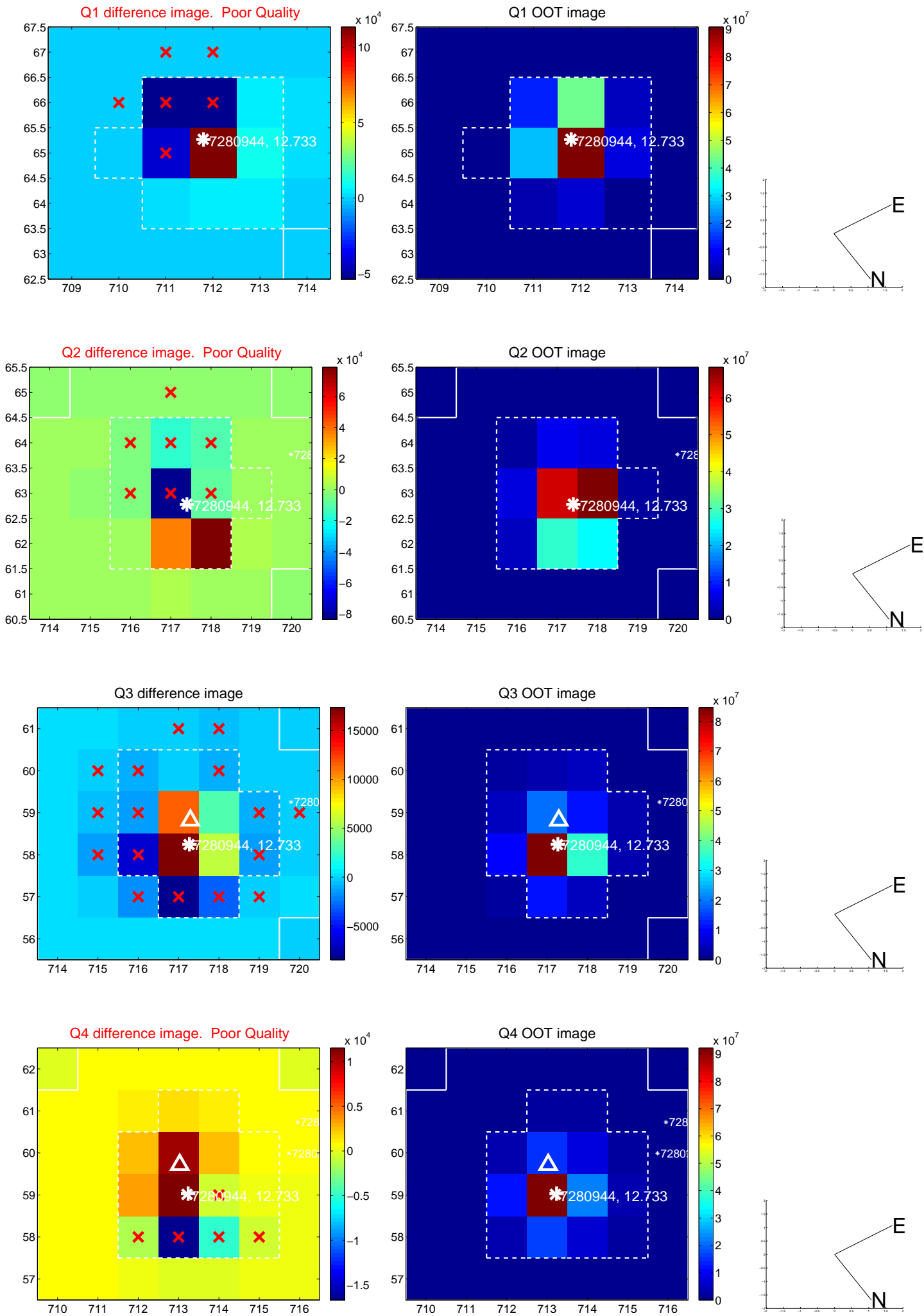
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>2.188 <math>\pm</math> 0.626</b>	<b>3.49</b>	$0.867 \pm 0.546$	$-2.009 \pm 0.537$
PRF-fit source offset from KIC position	<b>2.194 <math>\pm</math> 0.566</b>	<b>3.88</b>	$0.949 \pm 0.537$	$-1.979 \pm 0.478$
photometric centroid source offset	—	—	—	—

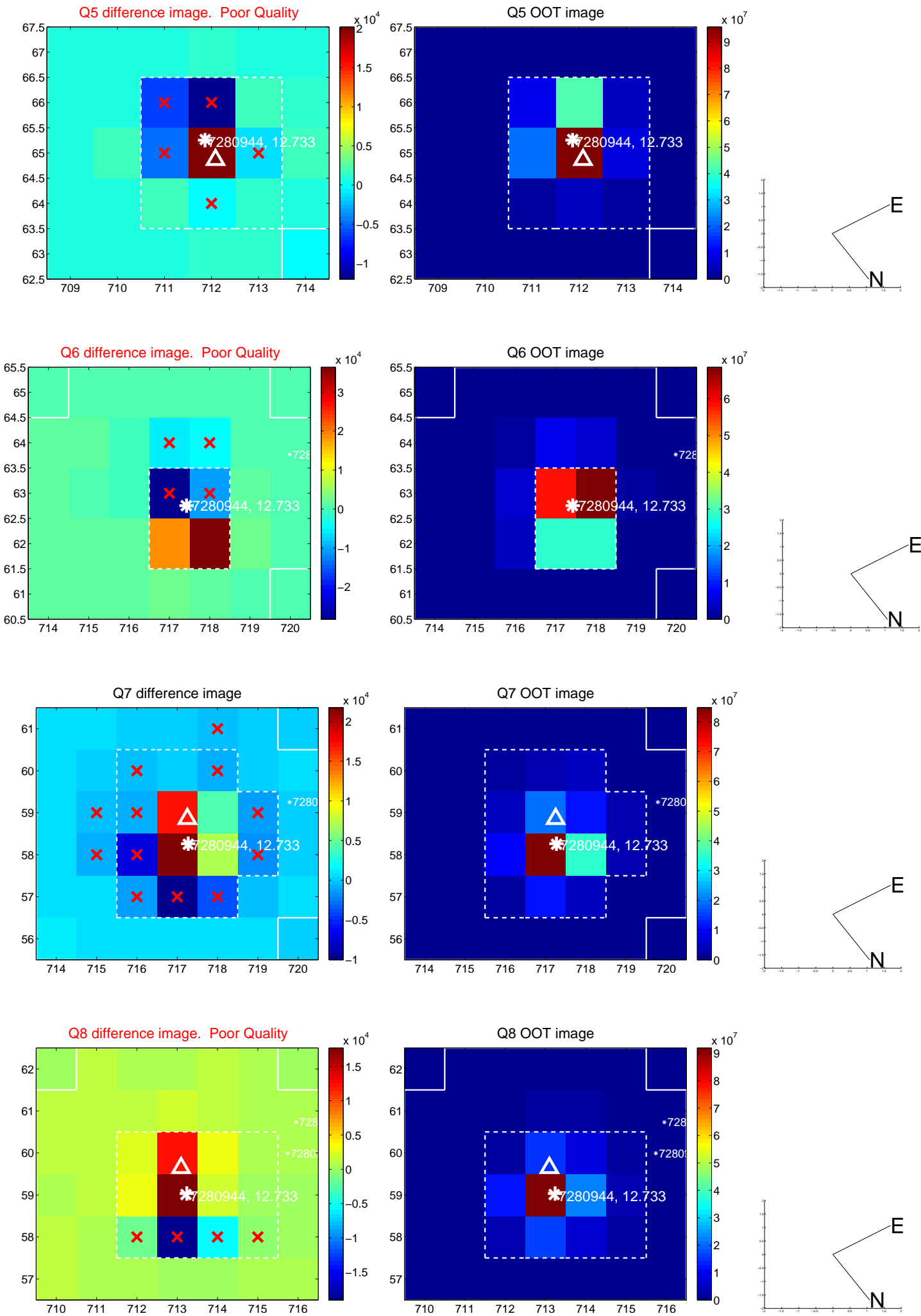


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

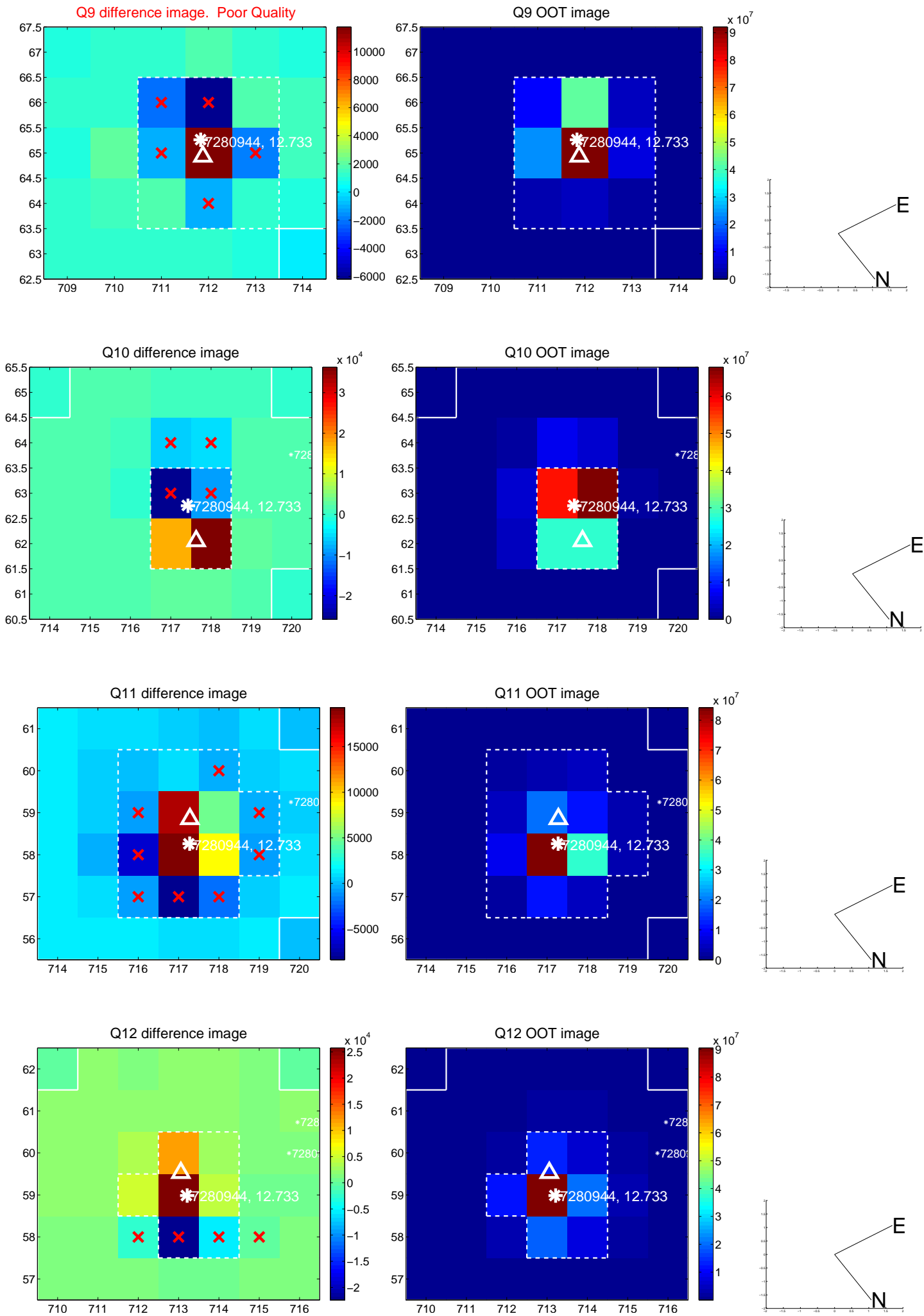


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

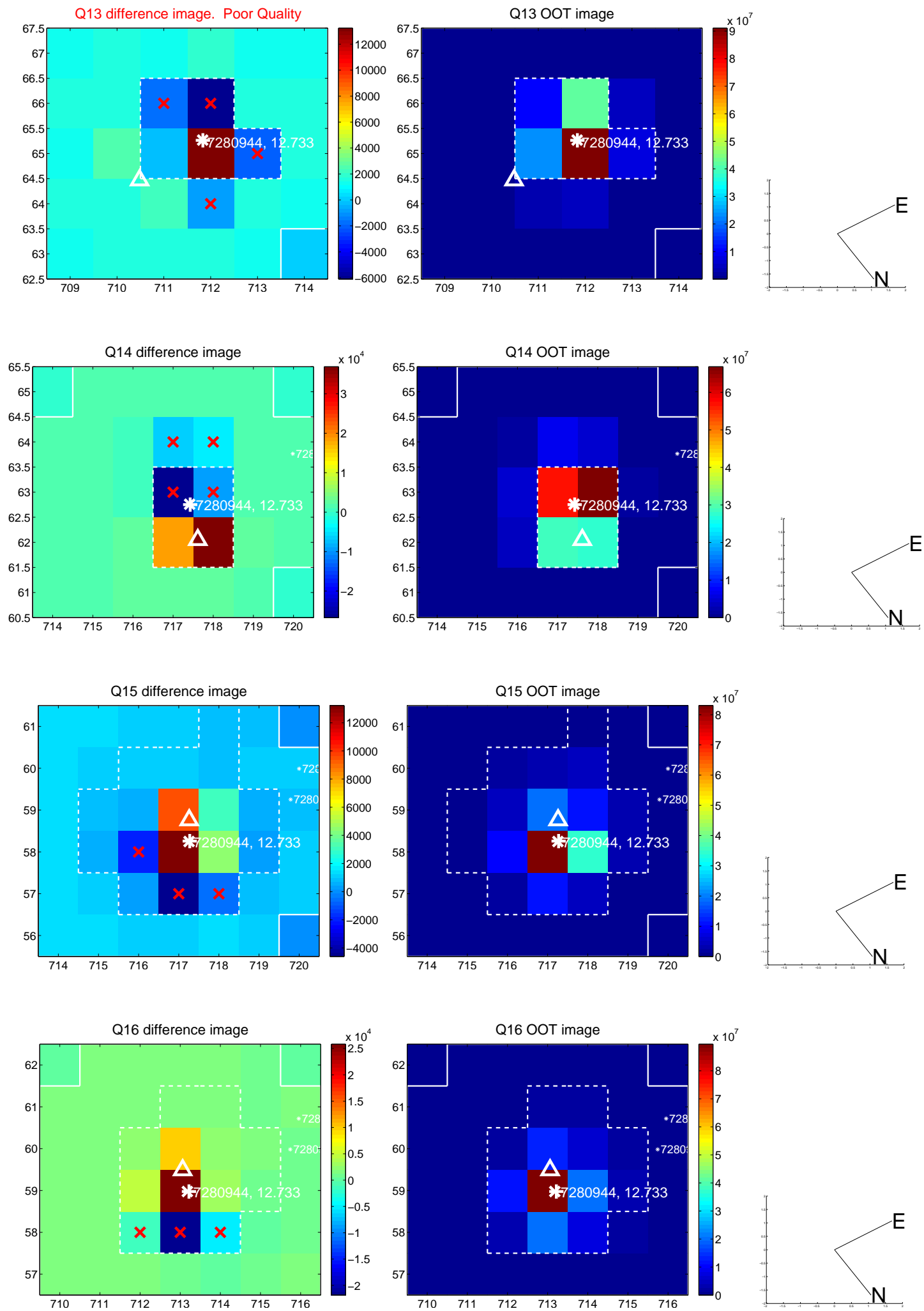




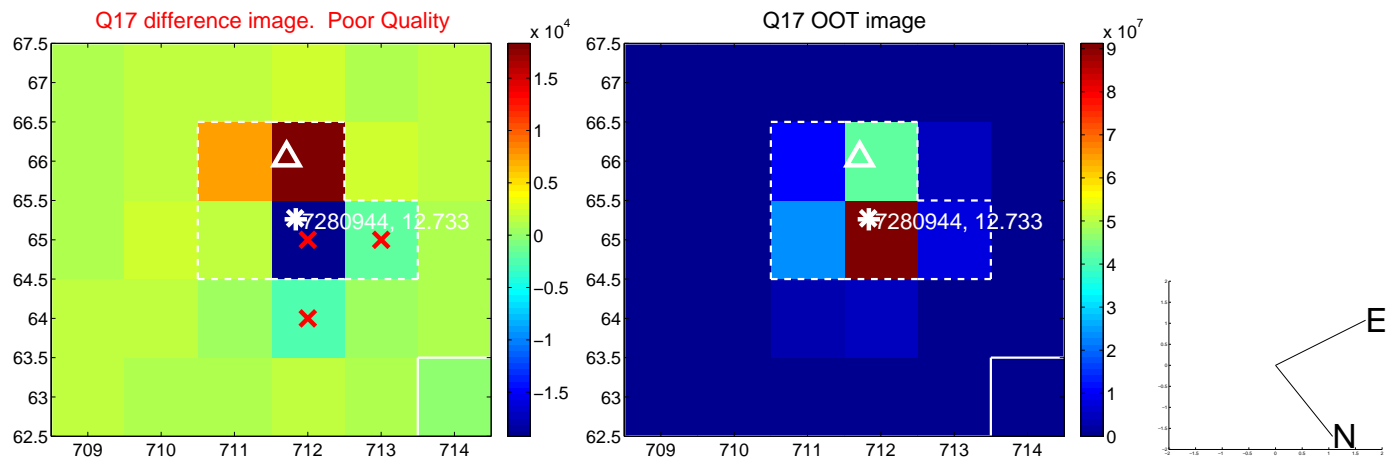
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

