

# KIC 006951812

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006951812-01	OBS	No	447.633820	191.994571	128.5	8.458	7.3	7.0	1.18	5937	1.53	1.21

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006951812-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

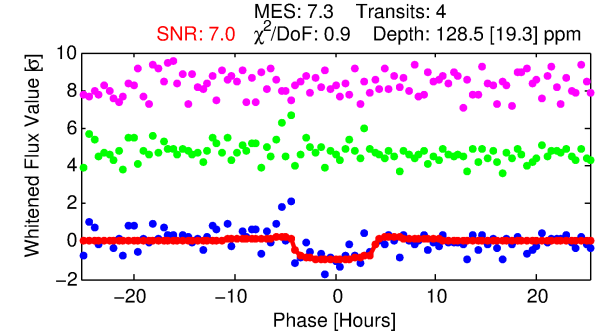
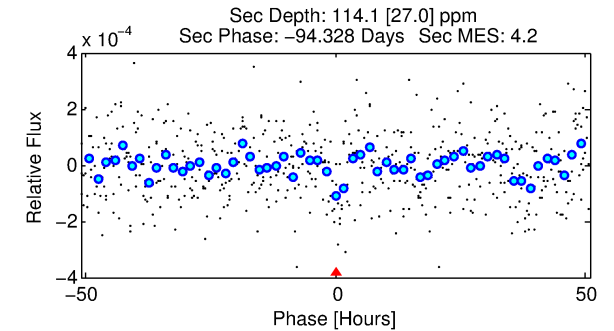
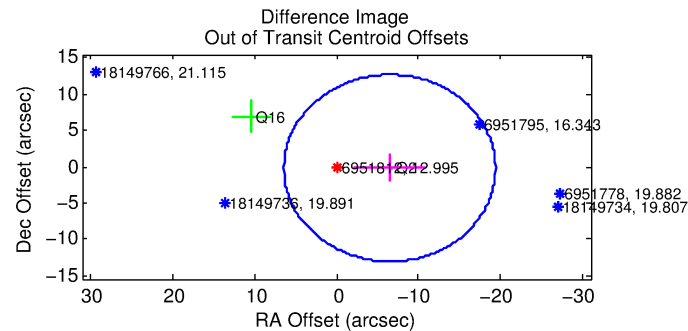
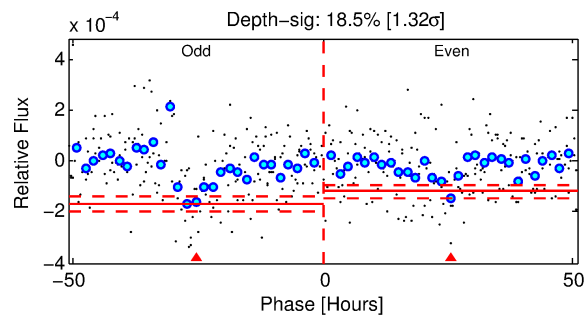
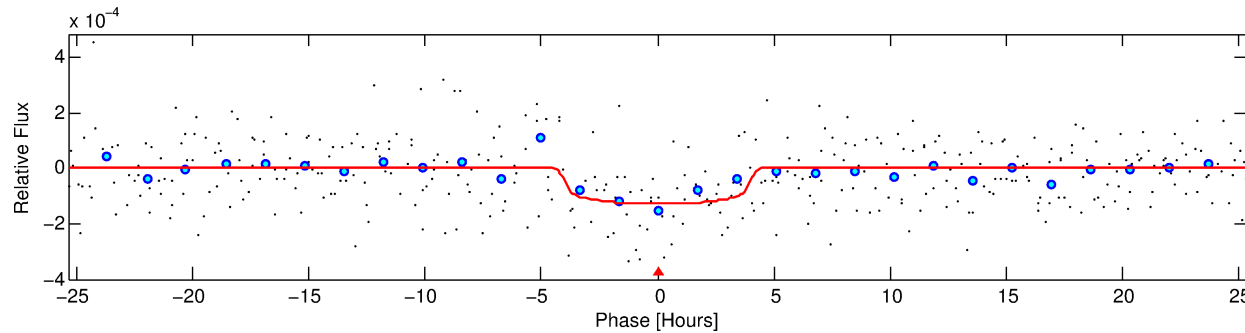
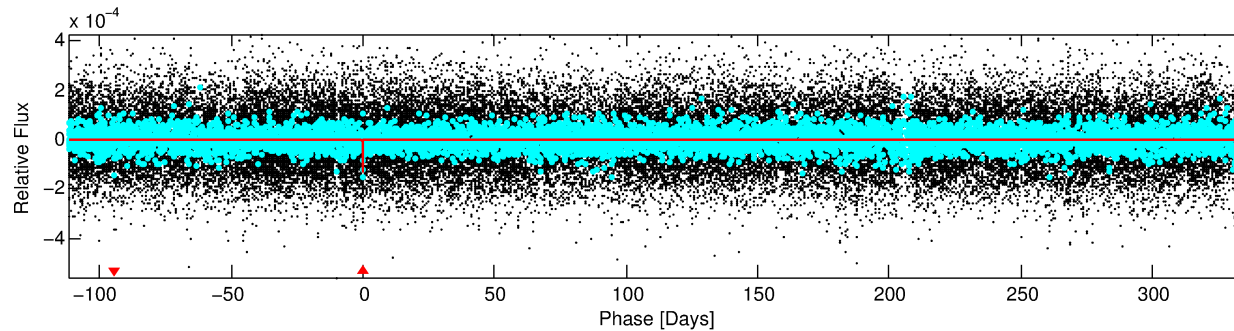
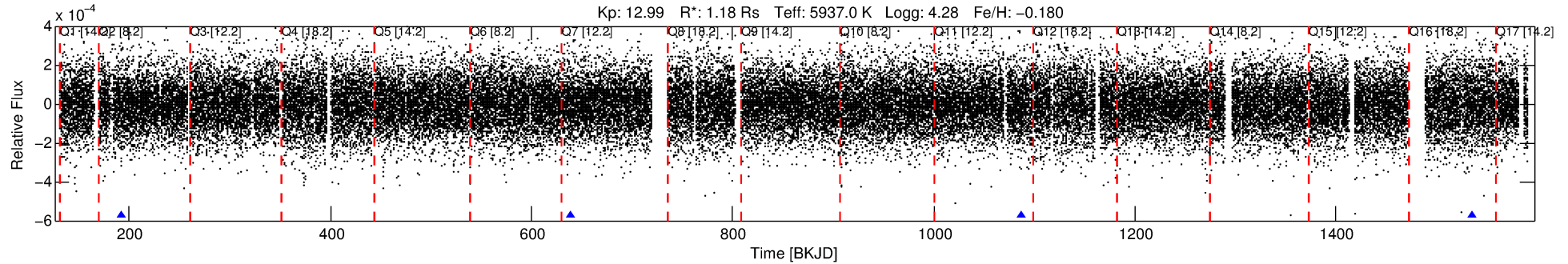
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006951812-01

No Significant Match Found

# DV One-Page Summary

KIC: 6951812 Candidate: 1 of 1 Period: 447.634 d



## DV Fit Results:

Period = 447.63382 [0.00993] d  
Epoch = 191.9946 [0.0180] BKJD  
Rp/R\* = 0.0119 [0.0066]  
a/R\* = 212.12 [577.73]  
b = 0.87 [0.80]  
Seff = 1.21 [0.40]  
Teq = 268 [22] K  
Rp = 1.53 [0.90] Re  
a = 1.1291 [0.2197] AU  
Ag = 34028.49 [39676.56] [0.86 $\sigma$ ]  
Teffp = 5618 [1587] K [3.37 $\sigma$ ]

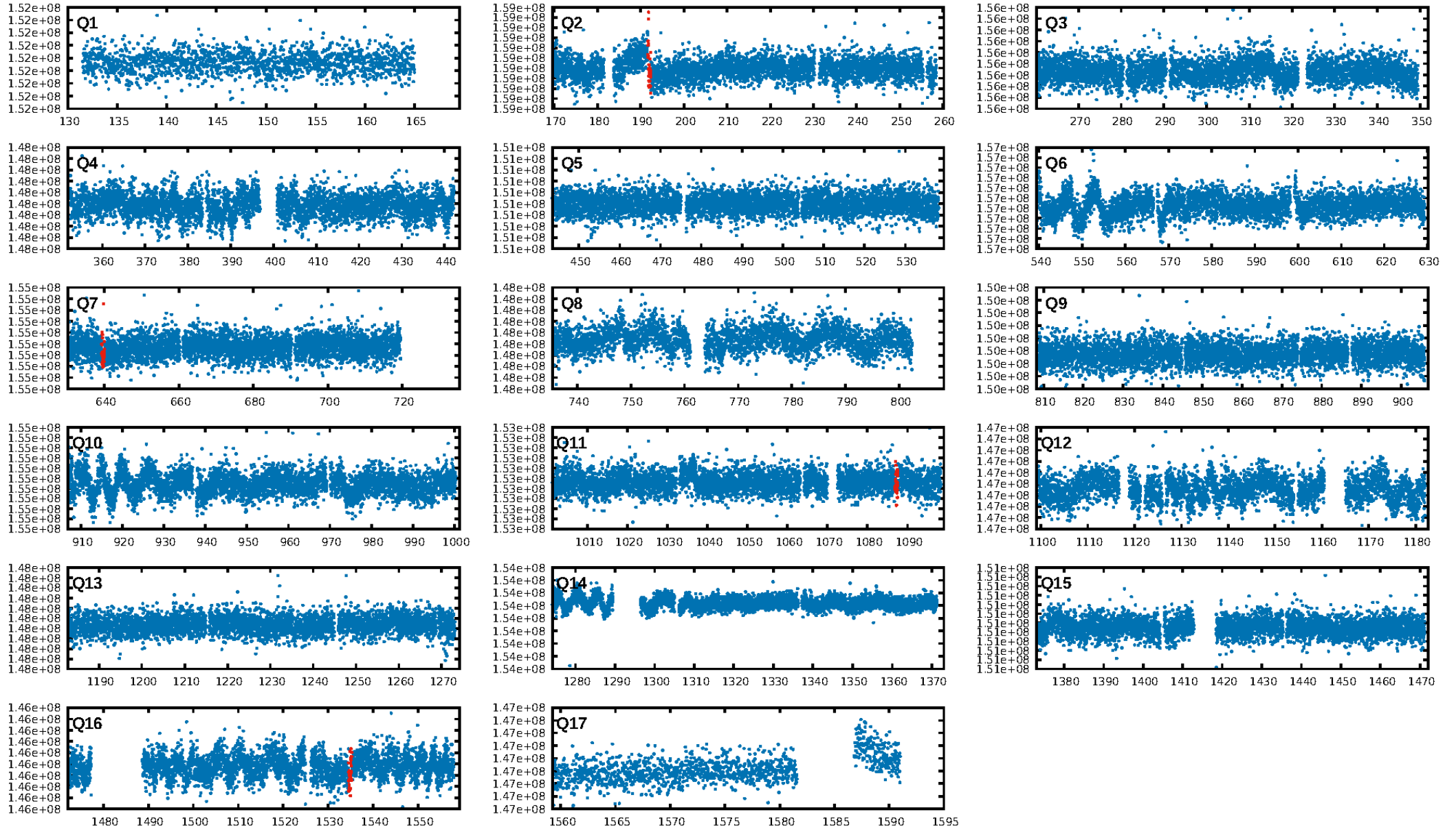
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 65.4%  
ModelChiSquareGof-sig: 99.9%  
**Bootstrap-pfa: 9.40e-11**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -4.243  
Centroid-sig: 2.5%  
Centroid-so: 3.369 arcsec [1.71 $\sigma$ ]  
OotOffset-rm: 6.485 arcsec [1.51 $\sigma$ ]  
OotOffset-st: 1/0/1/0 [2]  
KicOffset-rm: 6.442 arcsec [1.47 $\sigma$ ]  
KicOffset-st: 1/0/1/0 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [4/4]

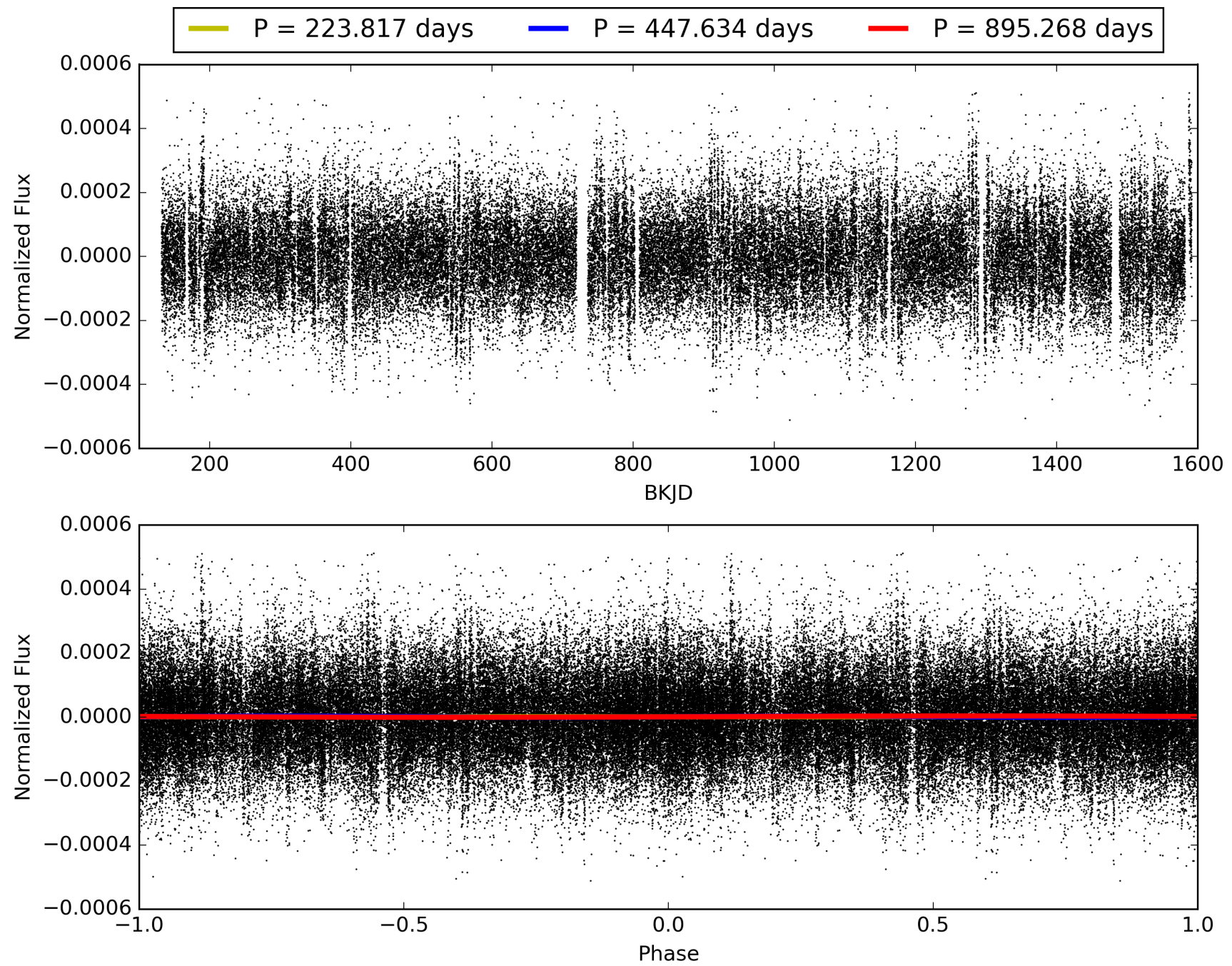
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:30:16 Z

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

# TCE 006951812-01, PDC Light Curves

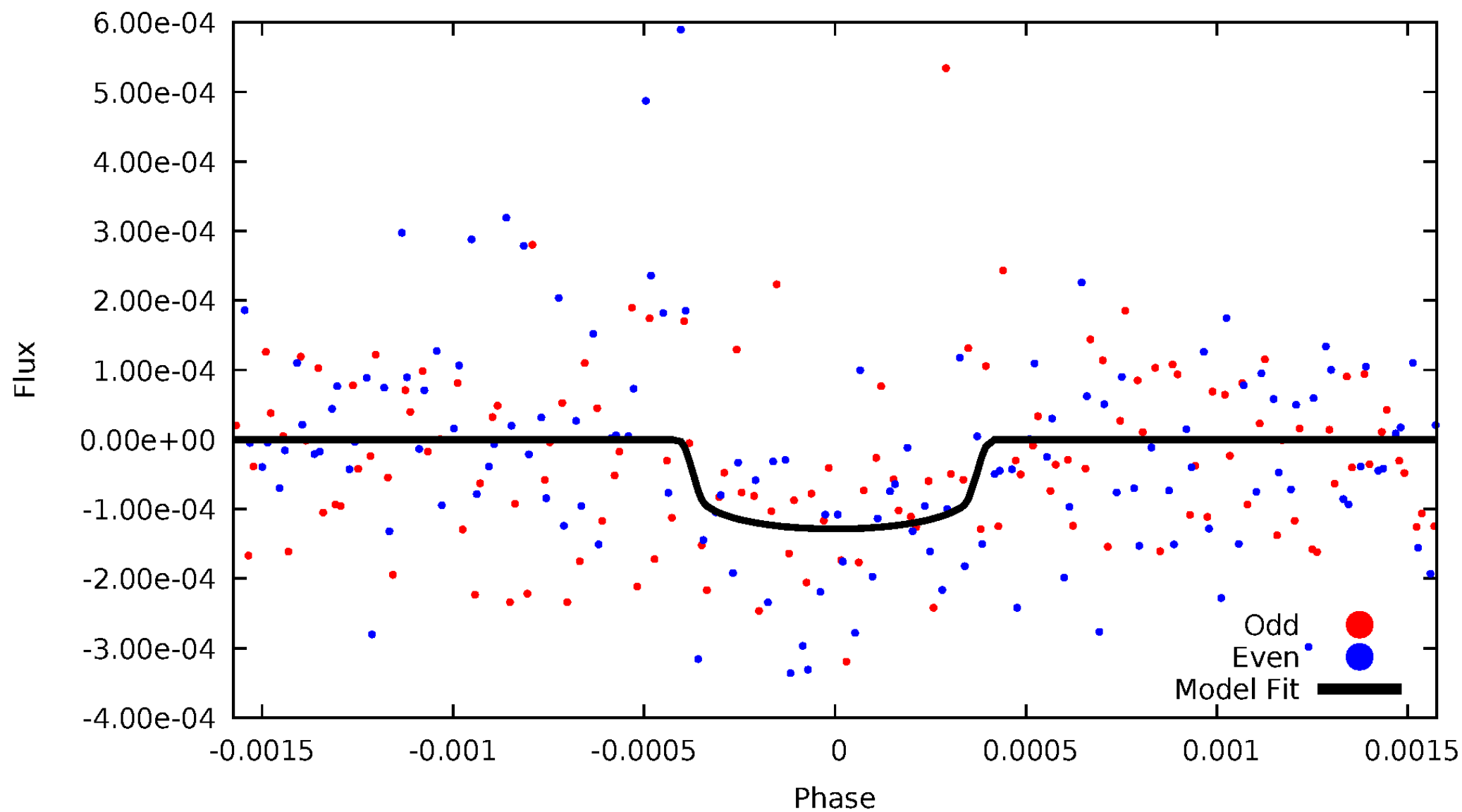


TCE 006951812-01



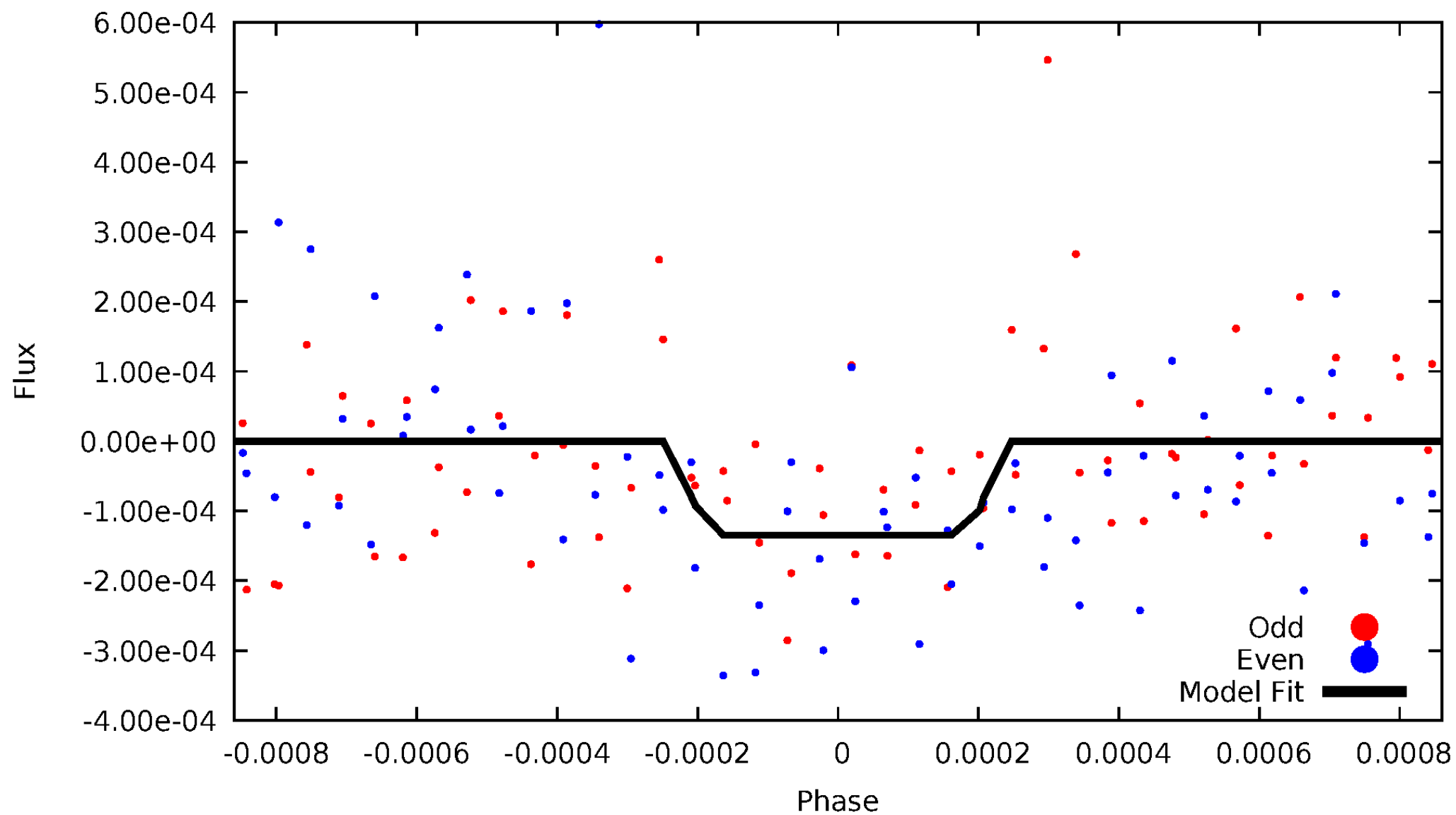
# DV Odd/Even

TCE 006951812-01



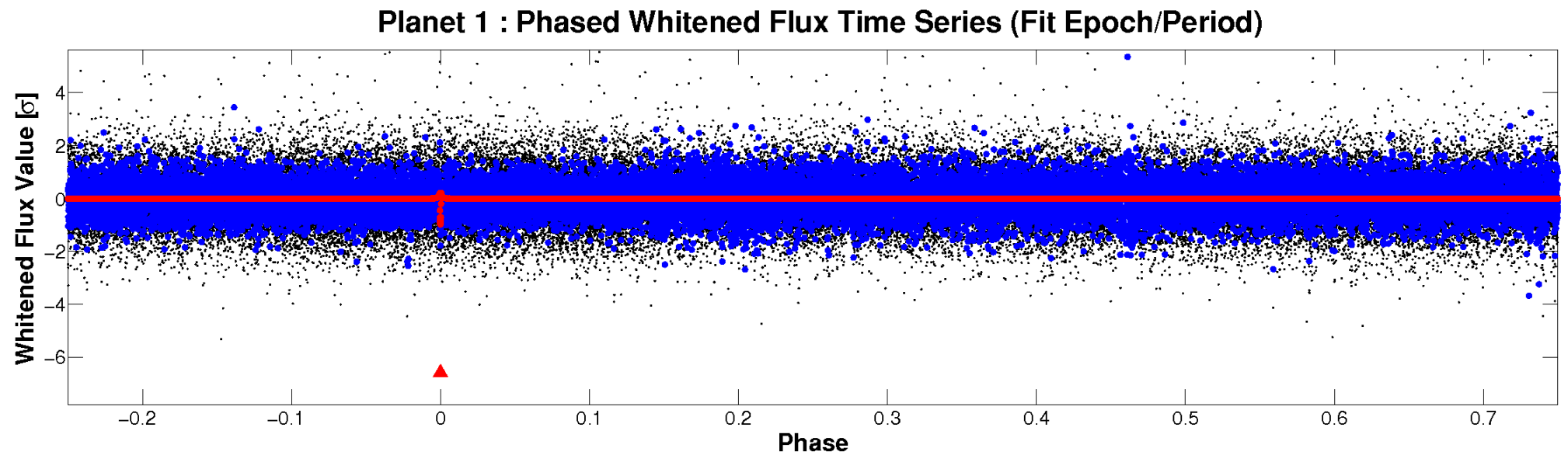
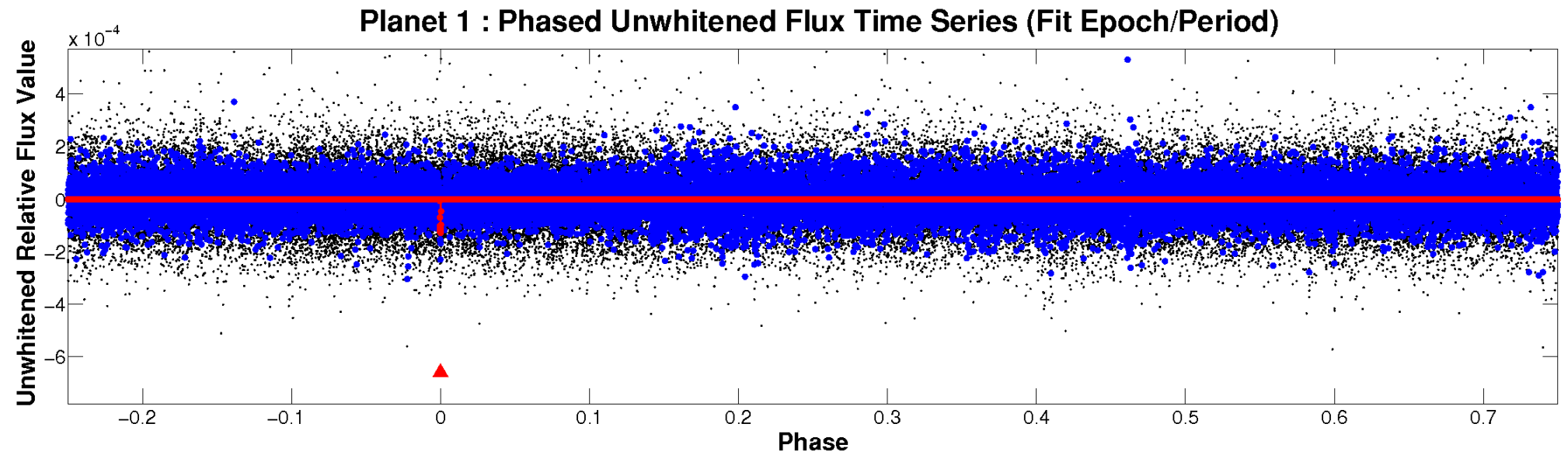
# ALT Odd/Even

TCE 006951812-01



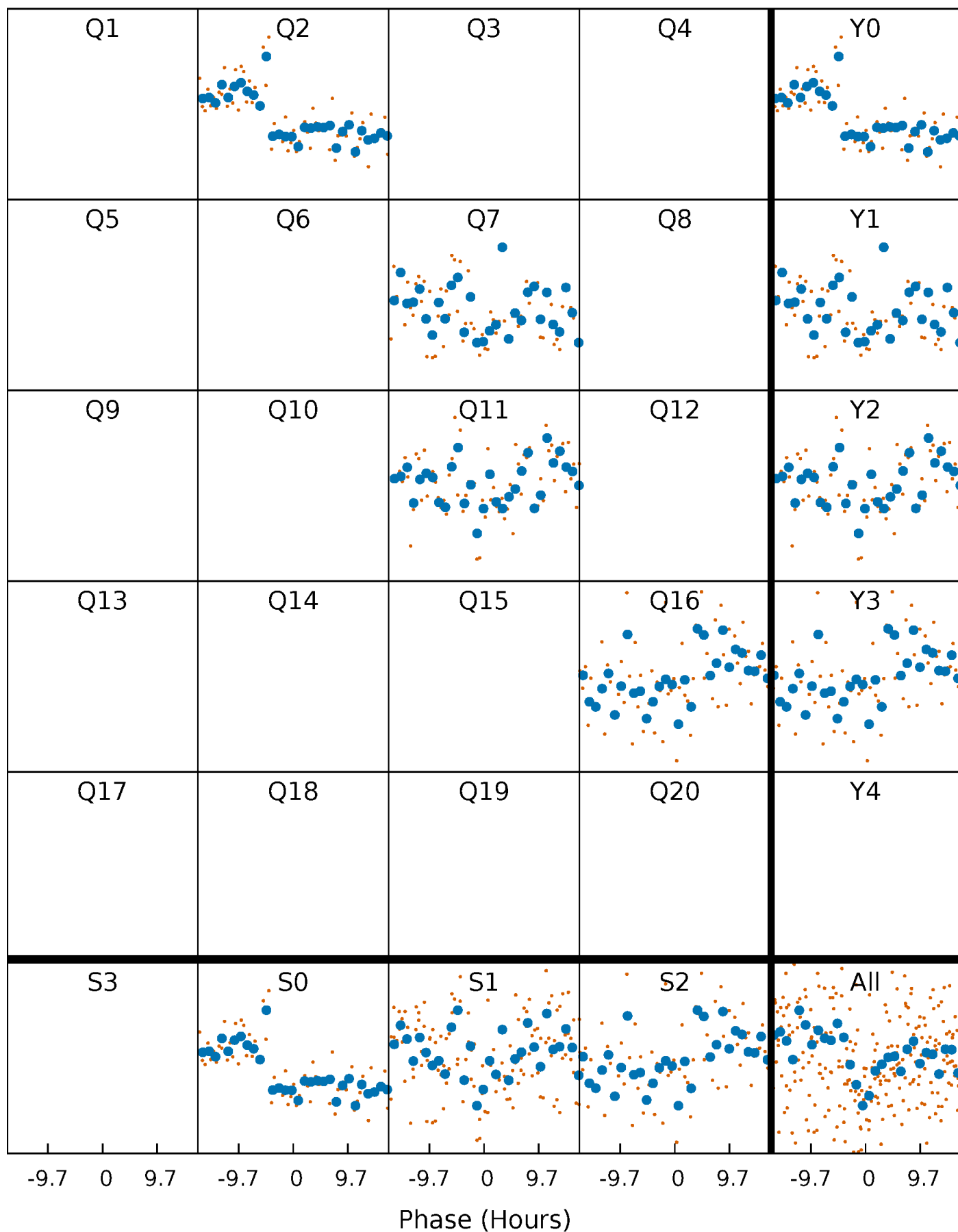


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

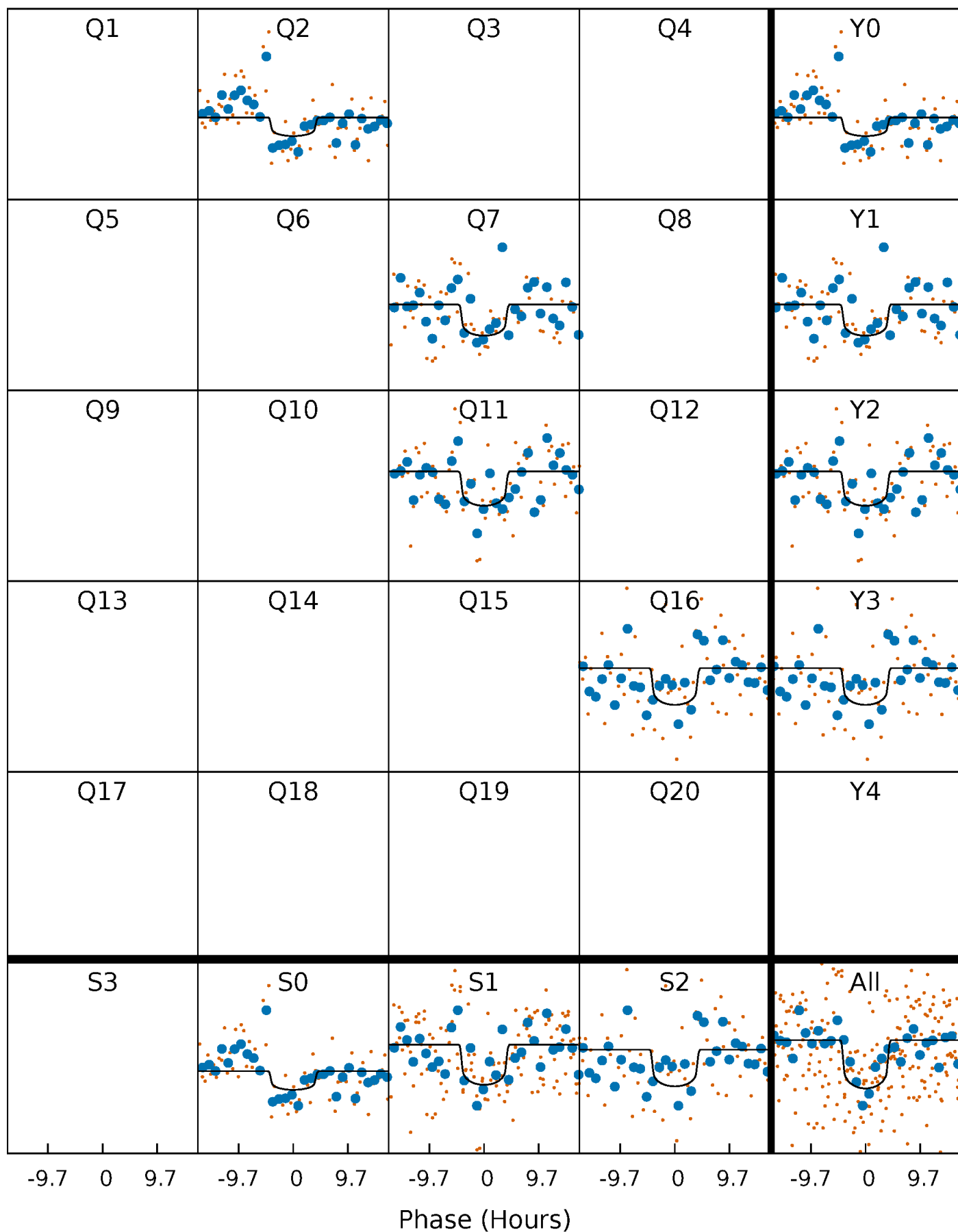
TCE 006951812-01 P=447.633820 Days  $T_0=191.994571$  (BKJD)





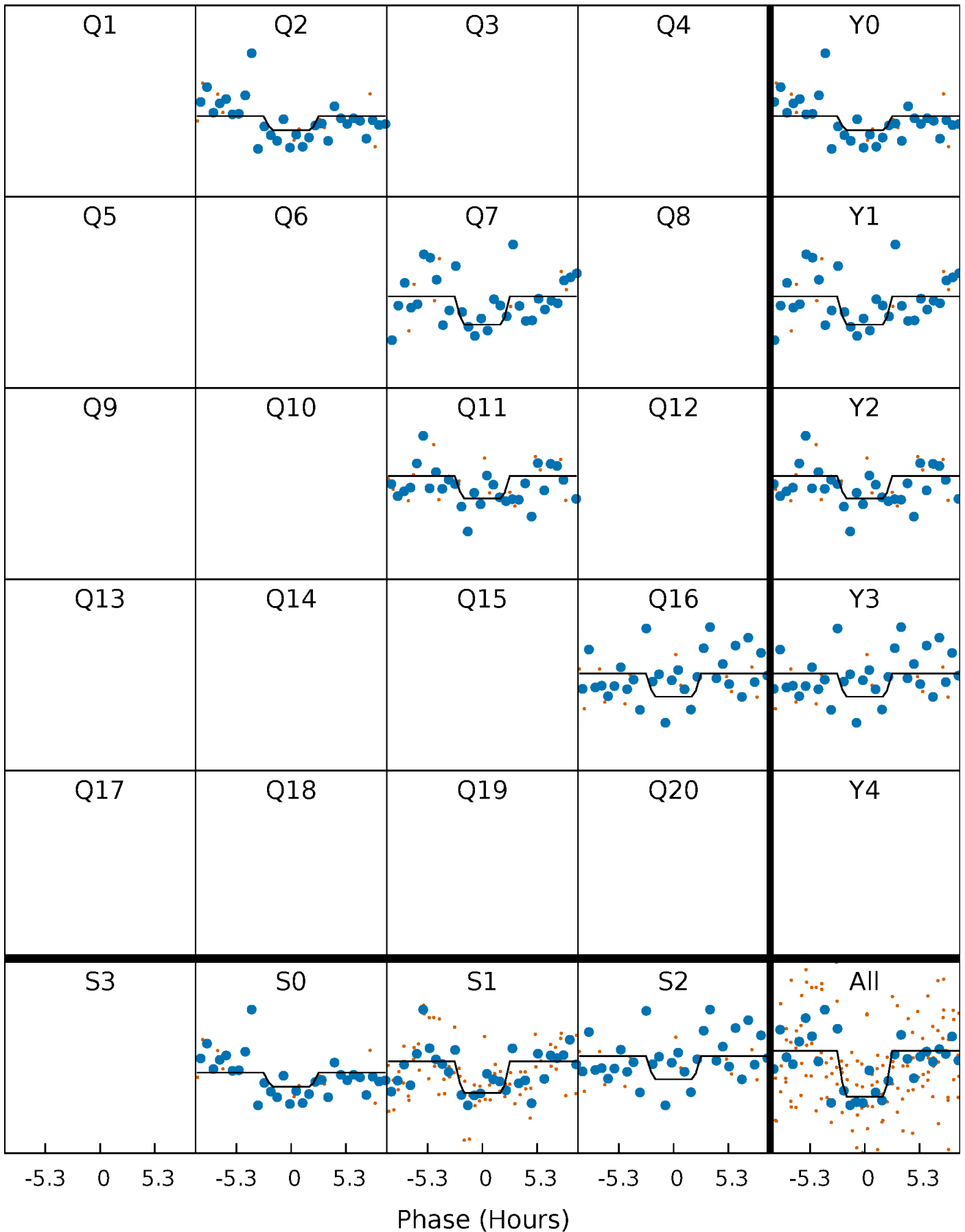
# DV Quarter-Phased Transit Curves

TCE 006951812-01 P=447.633820 Days  $T_0=191.994571$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

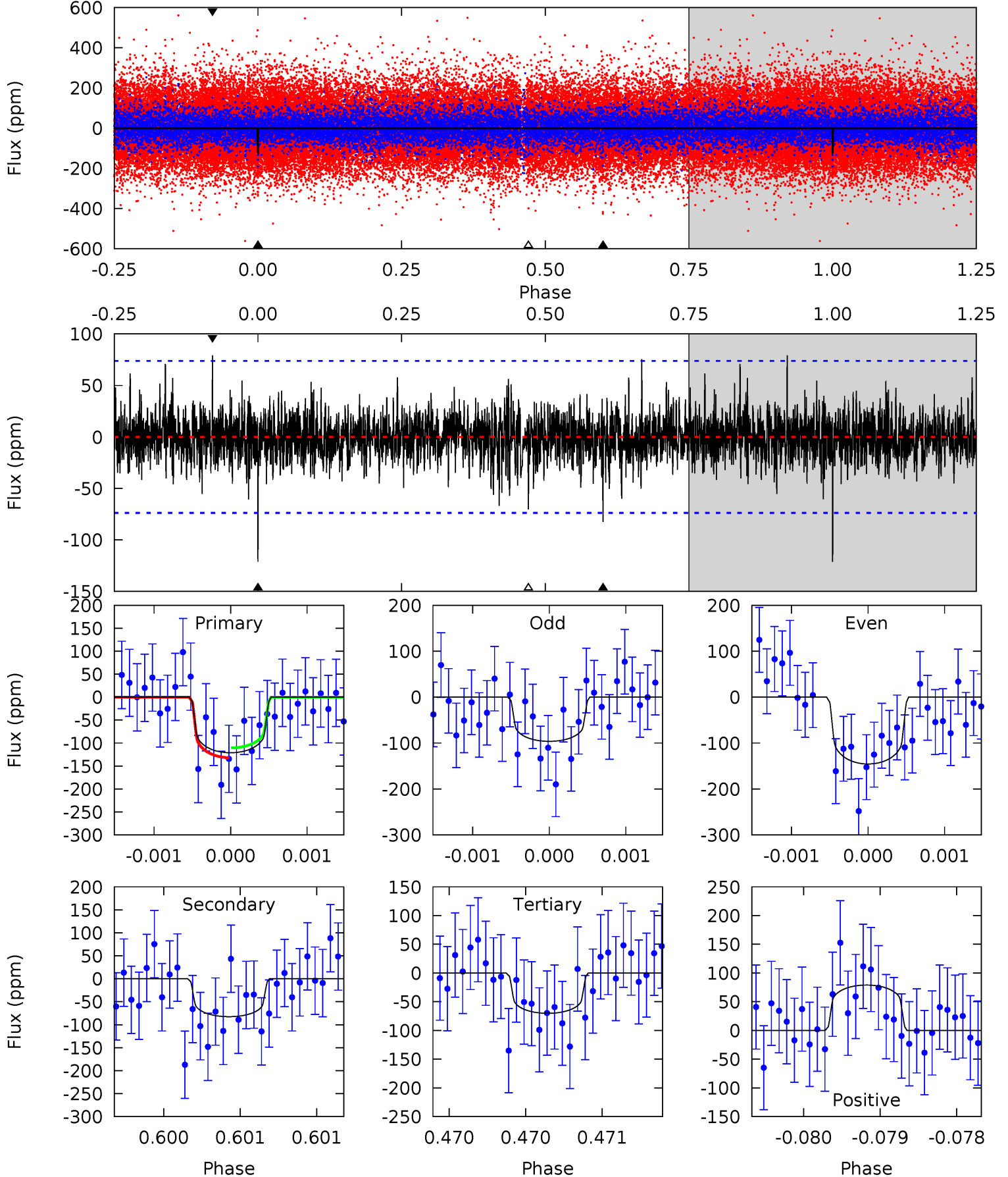
TCE 006951812-01 P=447.658433 Days  $T_0=191.966260$  (BKJD)



# DV Model-Shift Uniqueness Test

006951812-01, P = 447.633820 Days, E = 191.994571 Days

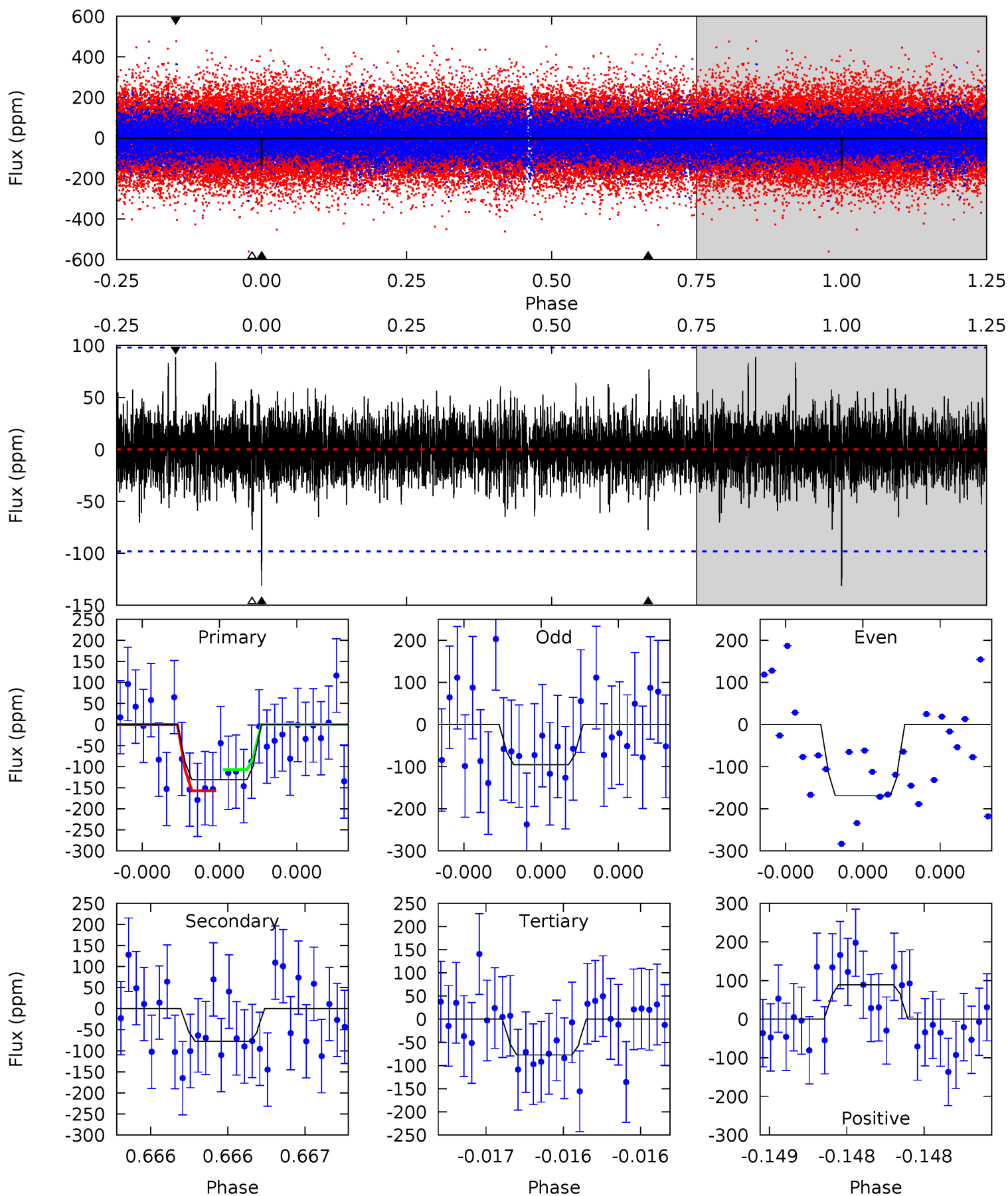
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.02	6.15	5.23	5.89	5.49	3.36	1.29	3.79	3.13	0.92	0.26	1.83	1.02	0.39	0.80



# Alt Model-Shift Uniqueness Test

006951812-01, P = 447.658433 Days, E = 191.966260 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
7.47	4.42	4.40	5.06	5.59	3.51	1.05	3.08	2.42	0.02	-0.64	2.11	1.05	0.40	1.43



### Stellar Parameters For KIC 006951812

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5937^{+161}_{-161}$	$4.277^{+0.180}_{-0.135}$	$-0.180^{+0.300}_{-0.300}$	$1.178^{+0.242}_{-0.218}$	$0.958^{+0.134}_{-0.097}$	$0.824^{+0.683}_{-0.324}$
	+3%/-3%	+4%/-3%	+167%/-167%	+21%/-19%	+14%/-10%	+83%/-39%
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 006951812-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-83 \pm 13$	$1.60^{+0.85}_{-0.74}$	$372^{+22}_{-23}$	$5117^{+1789}_{-830}$	$22488^{+58424}_{-13112}$
Alt.	$-78 \pm 18$	$1.55^{+0.75}_{-0.78}$	$372^{+24}_{-22}$	$5141^{+2104}_{-843}$	$22713^{+67483}_{-13226}$

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

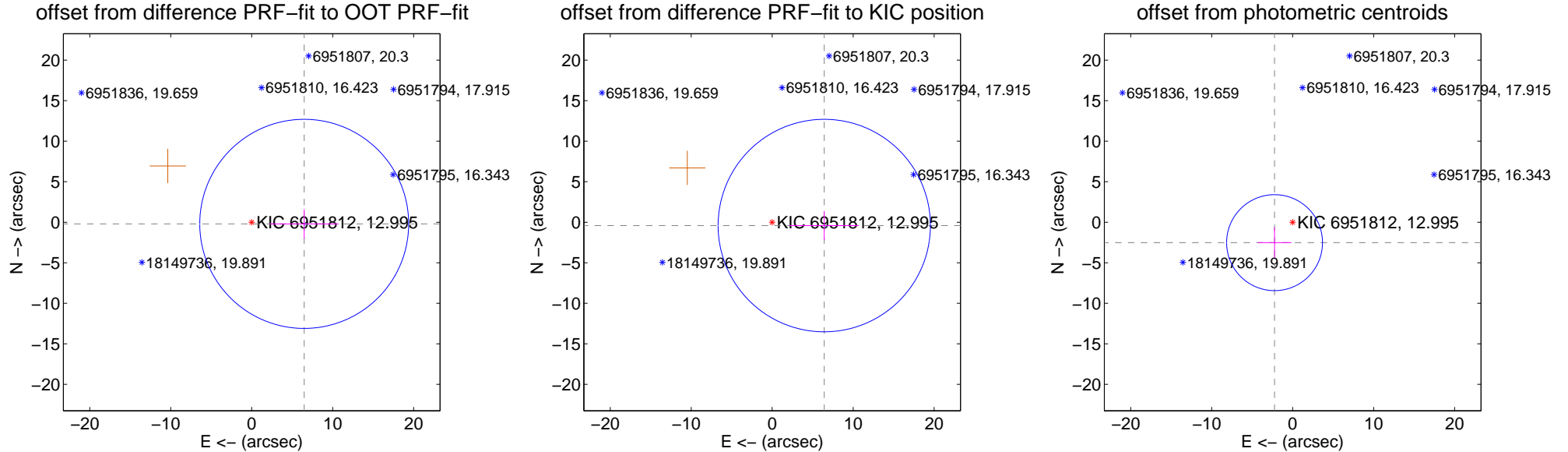
## DV Centroid Data

Supplemental centroid analysis for 006951812-01. Kepler magnitude: 12.99. Transit SNR 7.02

There are 1 quarters with good PRF difference image offsets

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

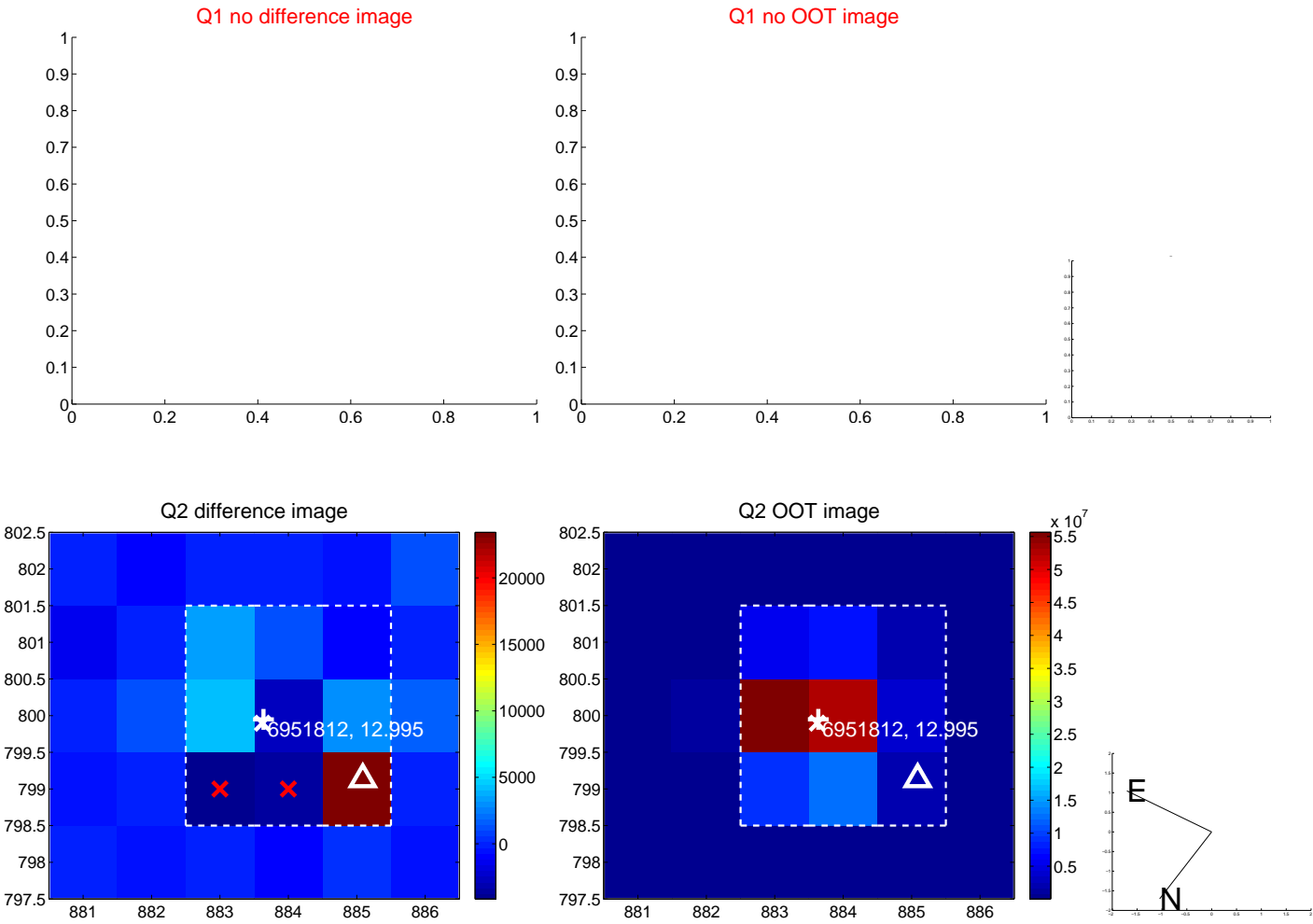
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$6.485 \pm 4.300$	1.51	$-6.482 \pm 4.246$	$-0.201 \pm 1.799$
PRF-fit source offset from KIC position	$6.442 \pm 4.369$	1.47	$-6.429 \pm 4.264$	$-0.411 \pm 1.793$
photometric centroid source offset	$3.37 \pm 1.97$	1.71	$2.24 \pm 2.08$	$-2.52 \pm 1.89$



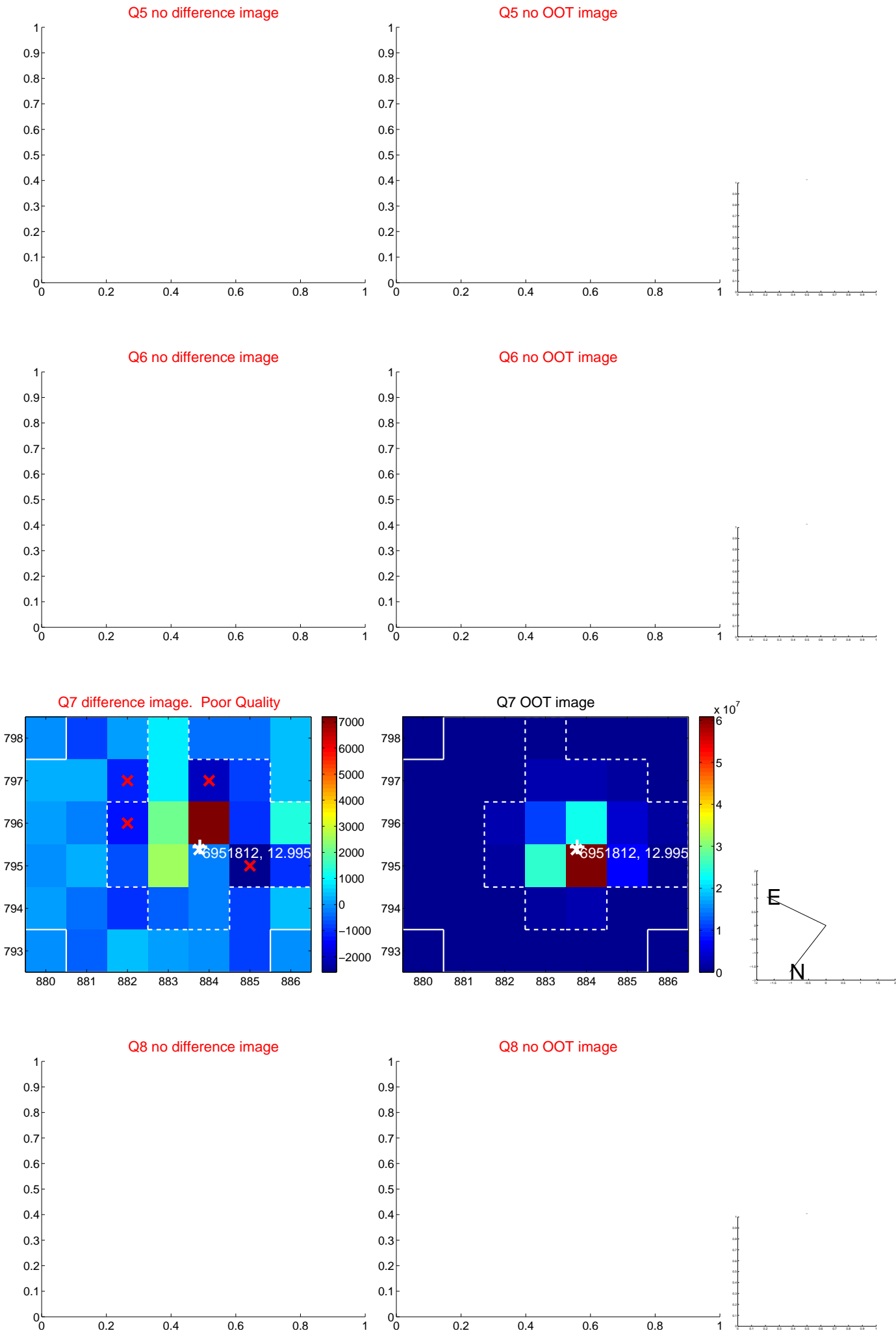
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



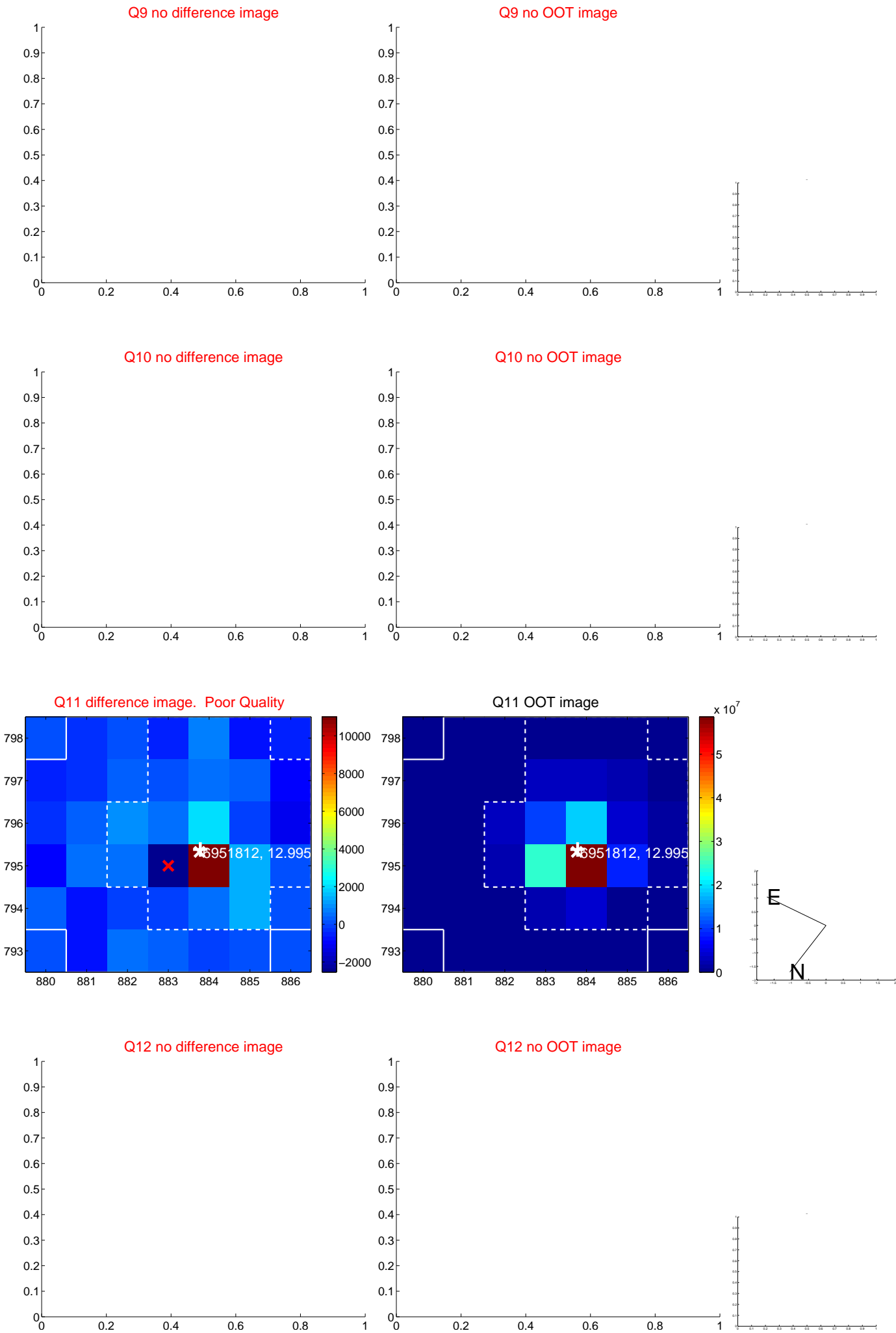
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



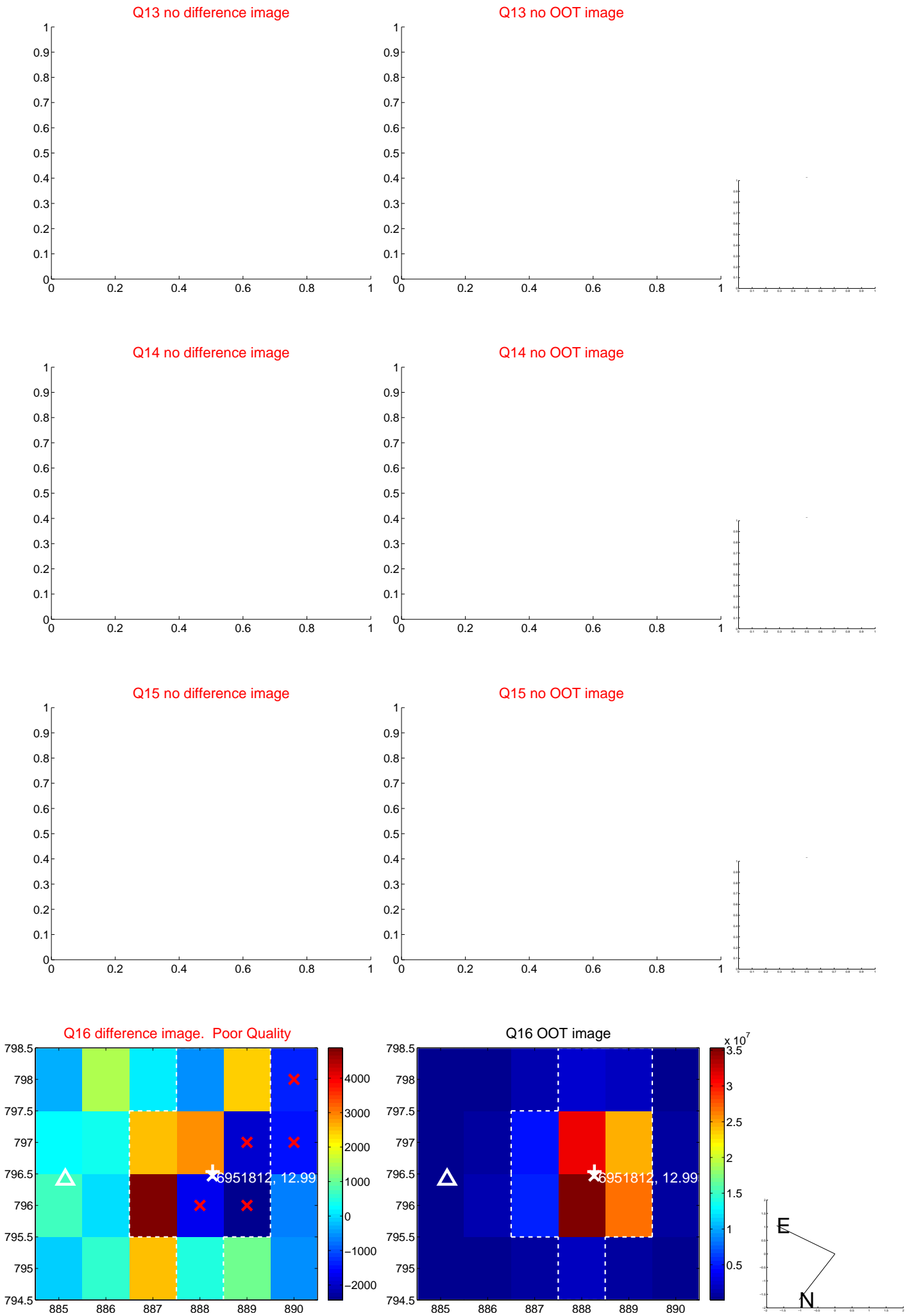
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



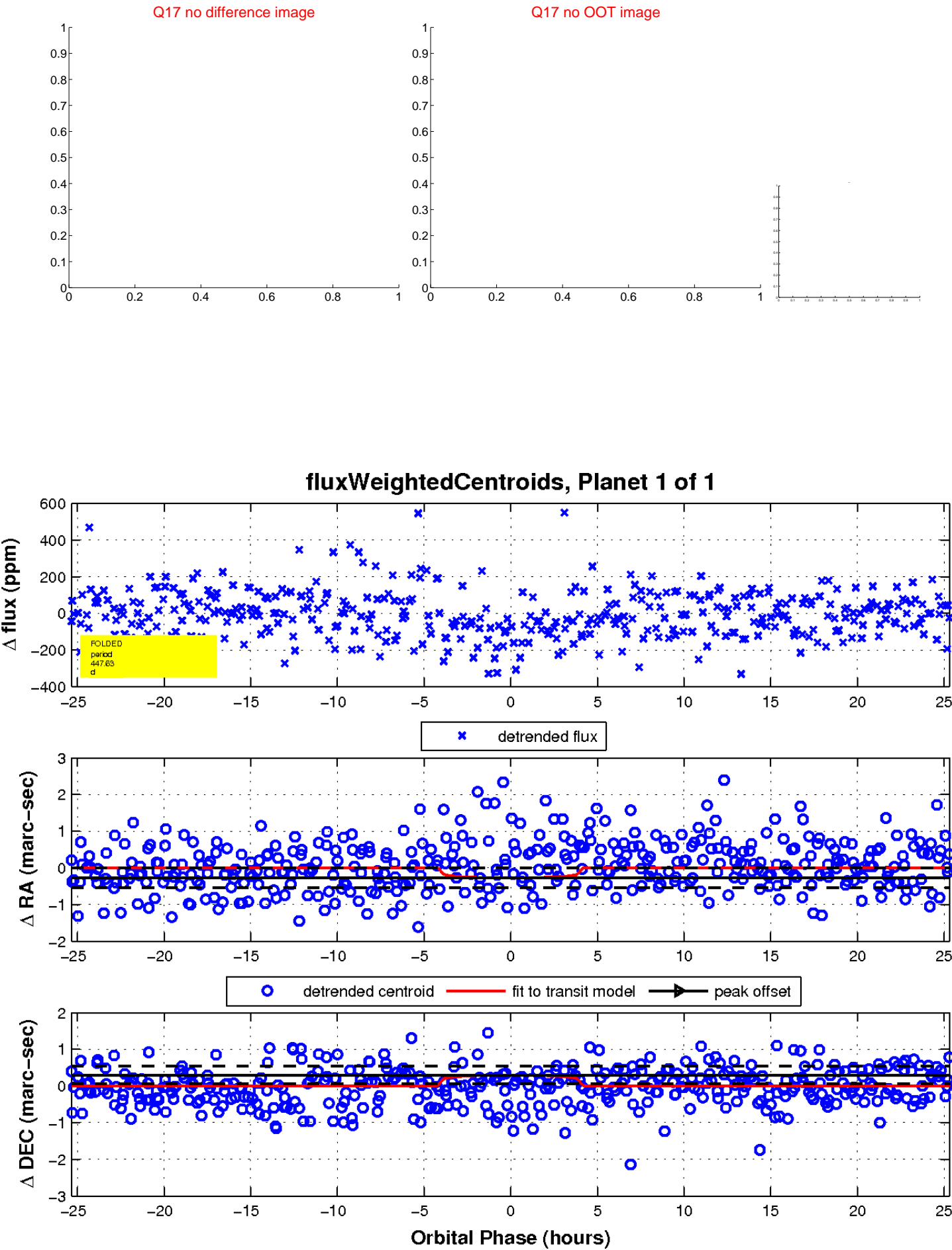
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

