

# KIC 008583696

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008583696-01	OBS	1275.01	50.286336	167.633581	1120.3	6.434	91.0	91.9	1.17	5900	4.07	20.63

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008583696-01	OBS	PC	0.94	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.

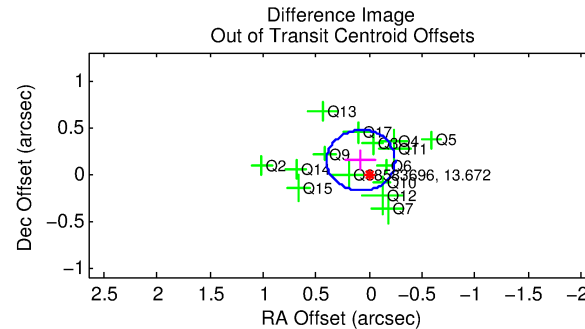
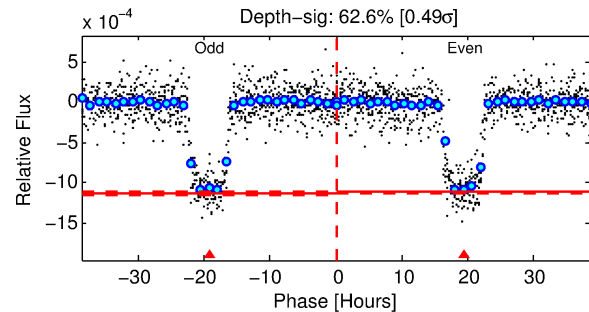
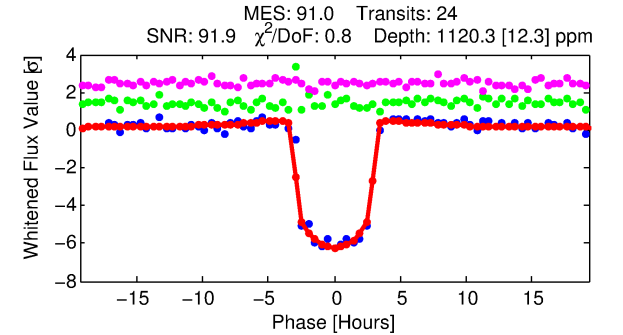
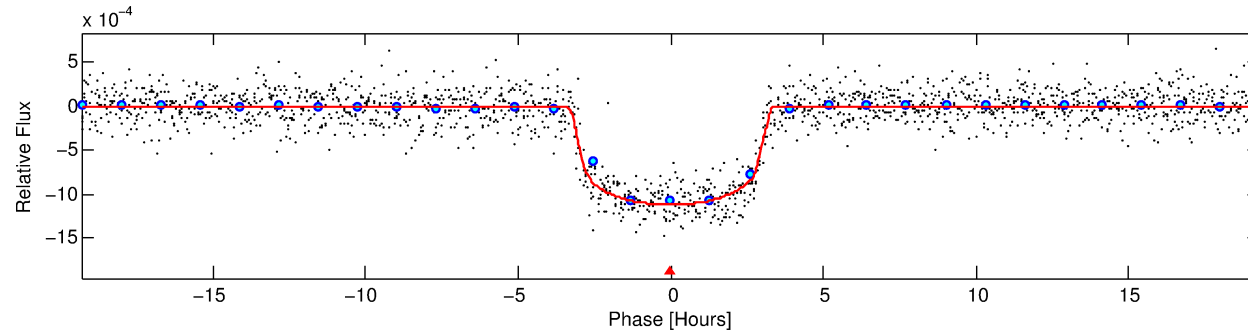
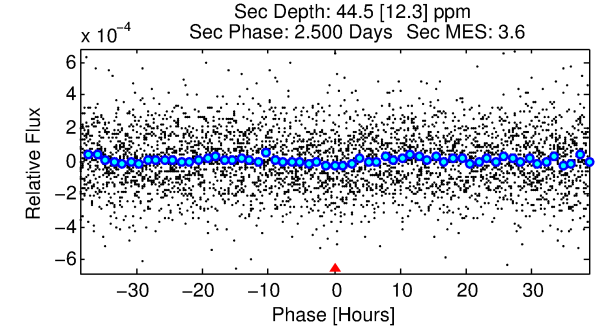
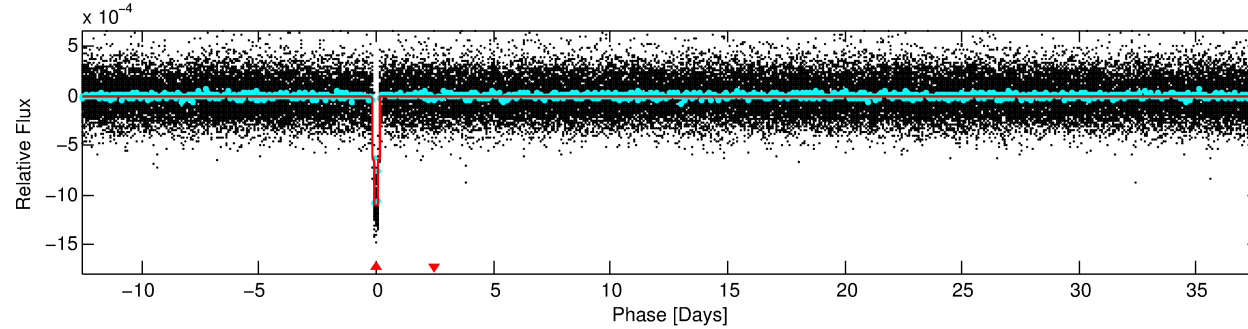
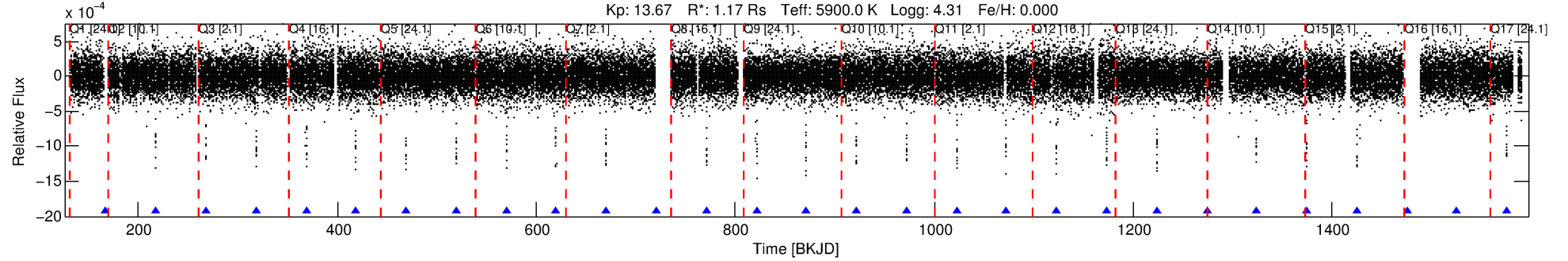
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008583696-01

No Significant Match Found

# DV One-Page Summary

KIC: 8583696 Candidate: 1 of 1 Period: 50.286 d  
KOI: K01275.01 Corr: 0.995



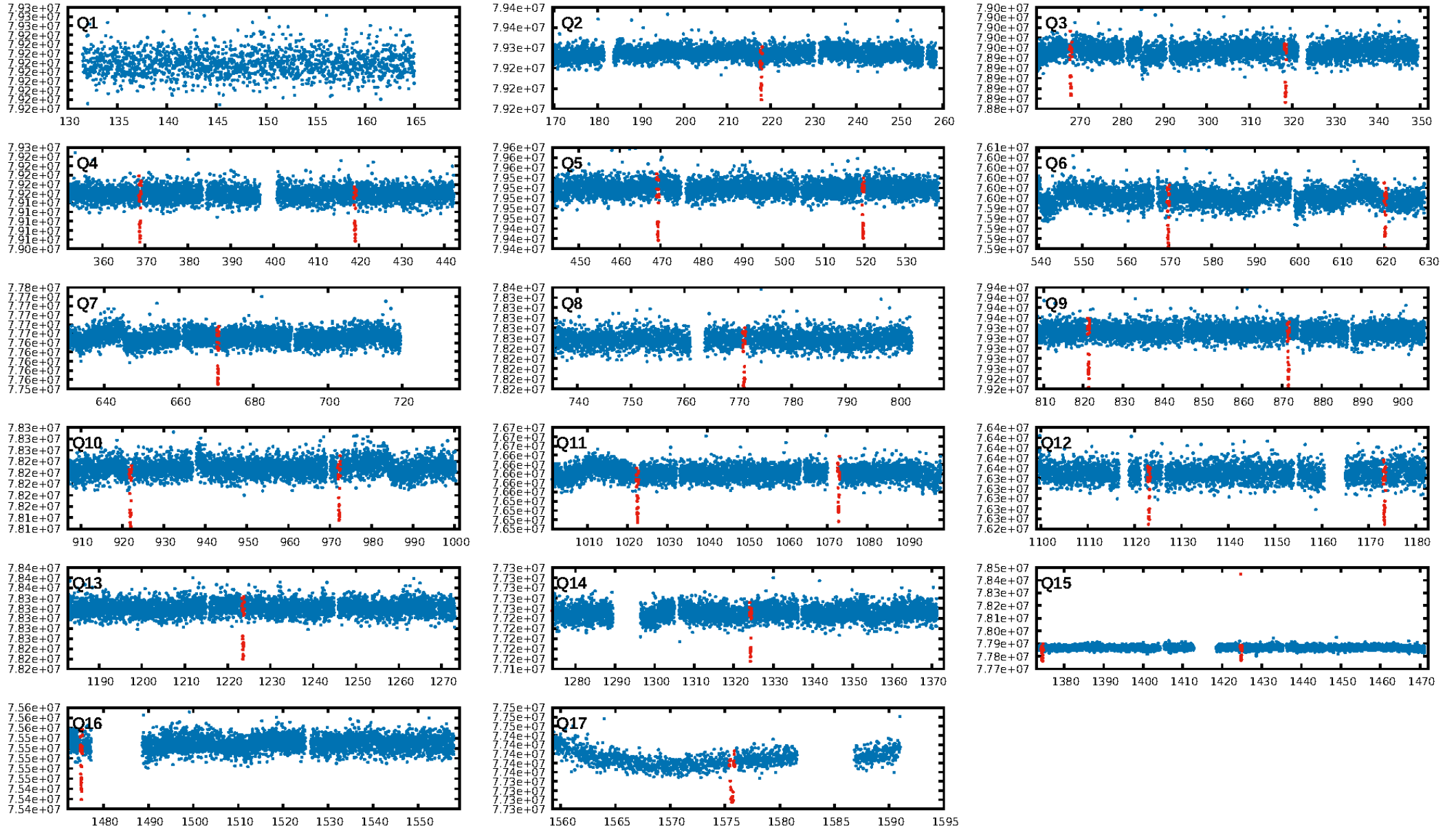
## DV Fit Results:

Period = 50.28634 [0.00009] d  
Epoch = 167.6336 [0.0014] BKJD  
Rp/R\* = 0.0320 [0.0025]  
a/R\* = 50.16 [17.58]  
b = 0.60 [0.38]  
Seff = 20.63 [4.99]  
Teq = 543 [33] K  
Rp = 4.07 [0.72] Re  
a = 0.2677 [0.0392] AU  
Ag = 106.00 [41.38] [2.54σ]  
Teffp = 2696 [220] K [9.68σ]

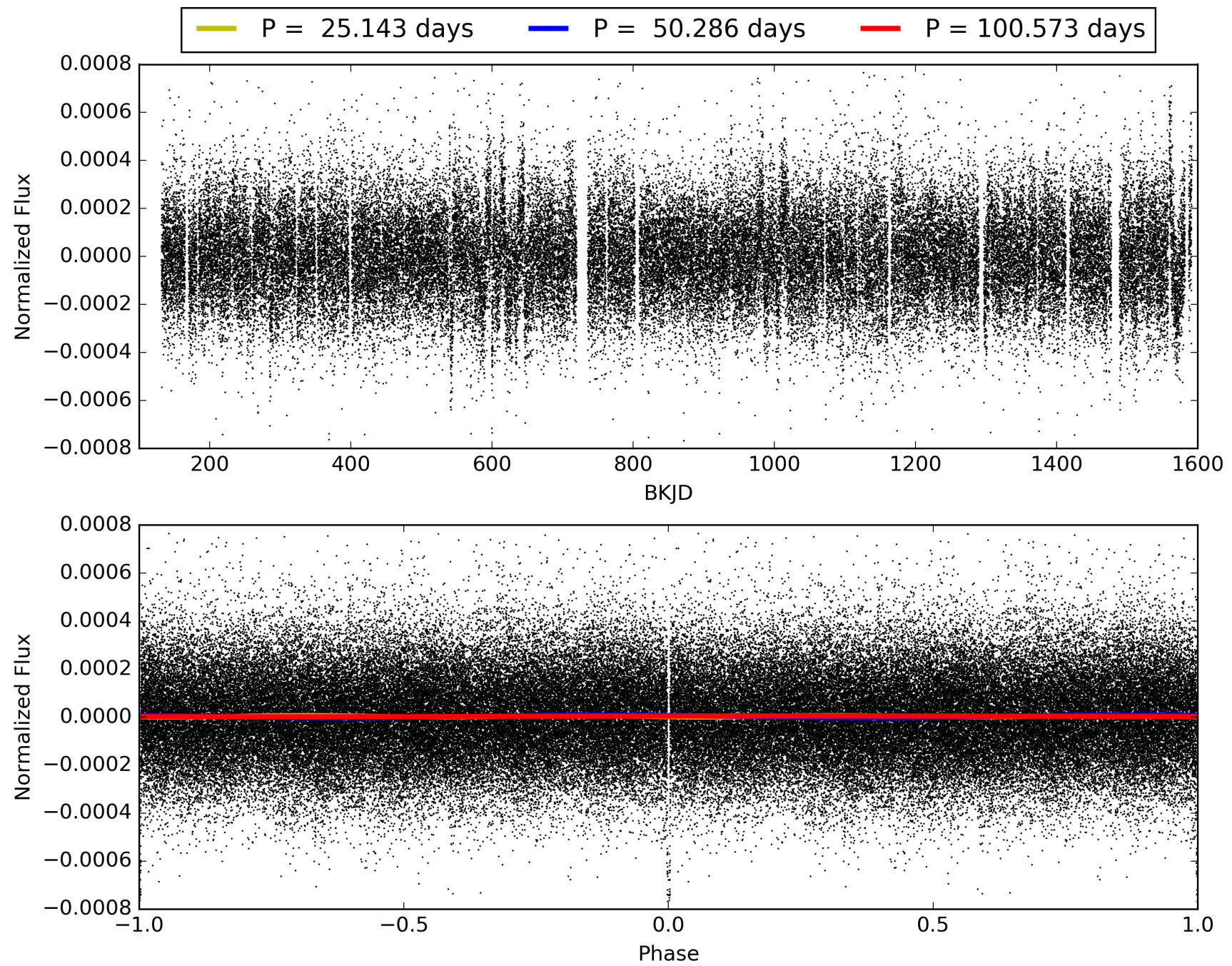
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 97.2%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [23/23]  
GhostDiagnostic-chr: 7.567  
Centroid-sig: 0.0%  
Centroid-so: 0.174 arcsec [1.13σ]  
OotOffset-rm: 0.165 arcsec [1.53σ]  
KicOffset-rm: 0.212 arcsec [1.70σ]  
OotOffset-st: 4/4/3/4 [15]  
KicOffset-st: 4/4/3/4 [15]  
DiffImageQuality-fgm: 1.00 [15/15]  
DiffImageOverlap-fno: 1.00 [15/15]

# TCE 008583696-01, PDC Light Curves

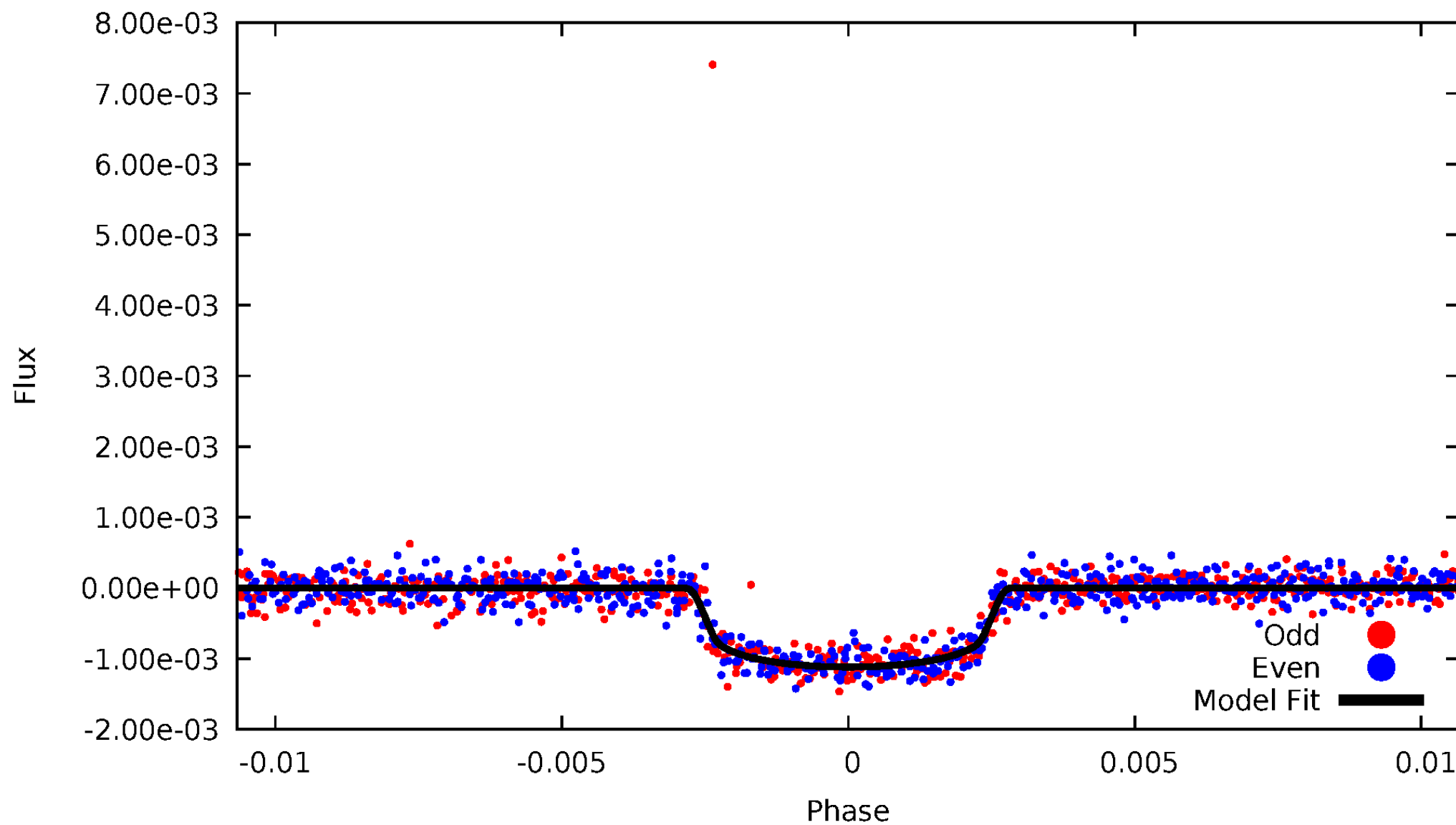


# TCE 008583696-01



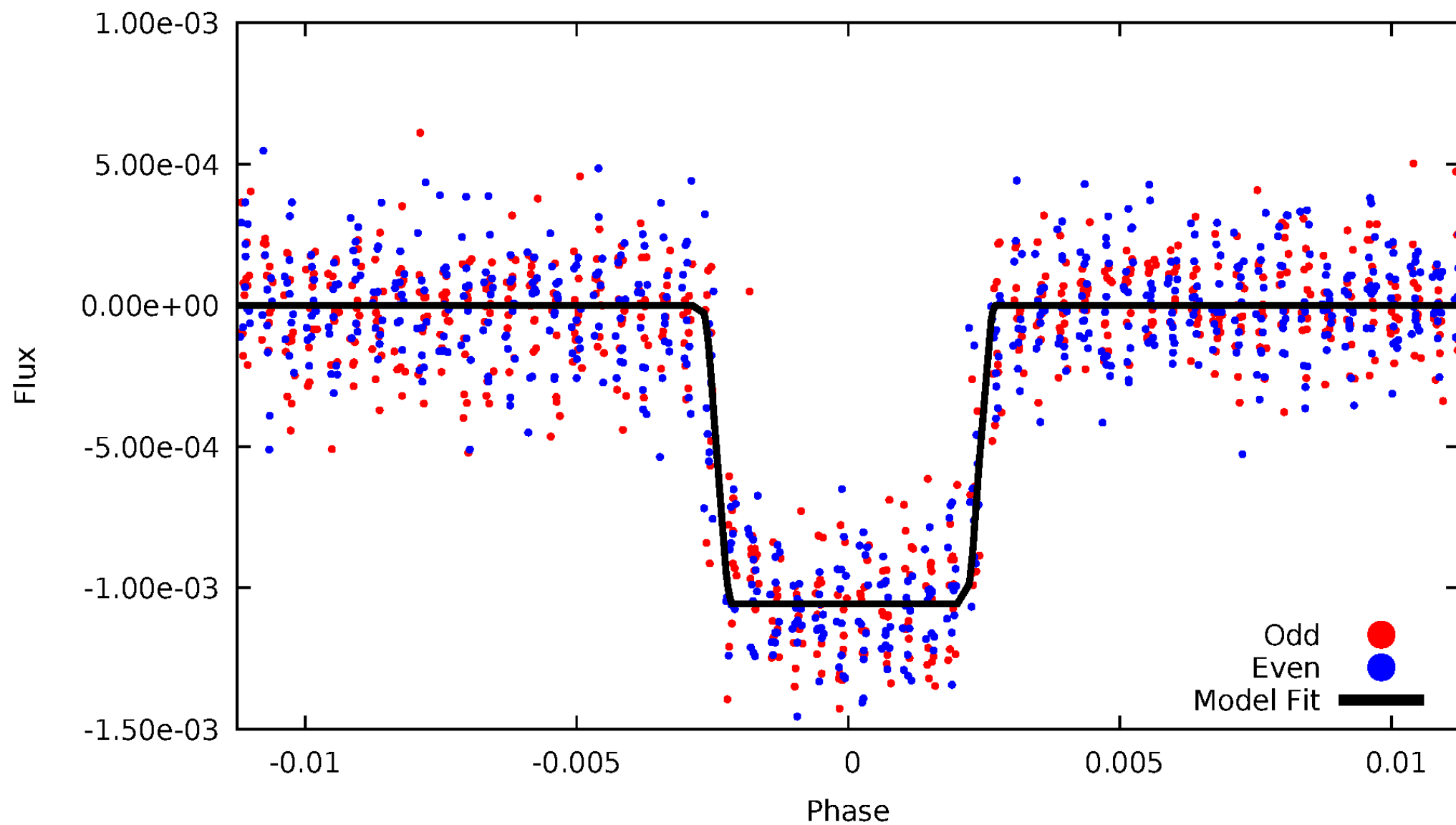
# DV Odd/Even

TCE 008583696-01



# ALT Odd/Even

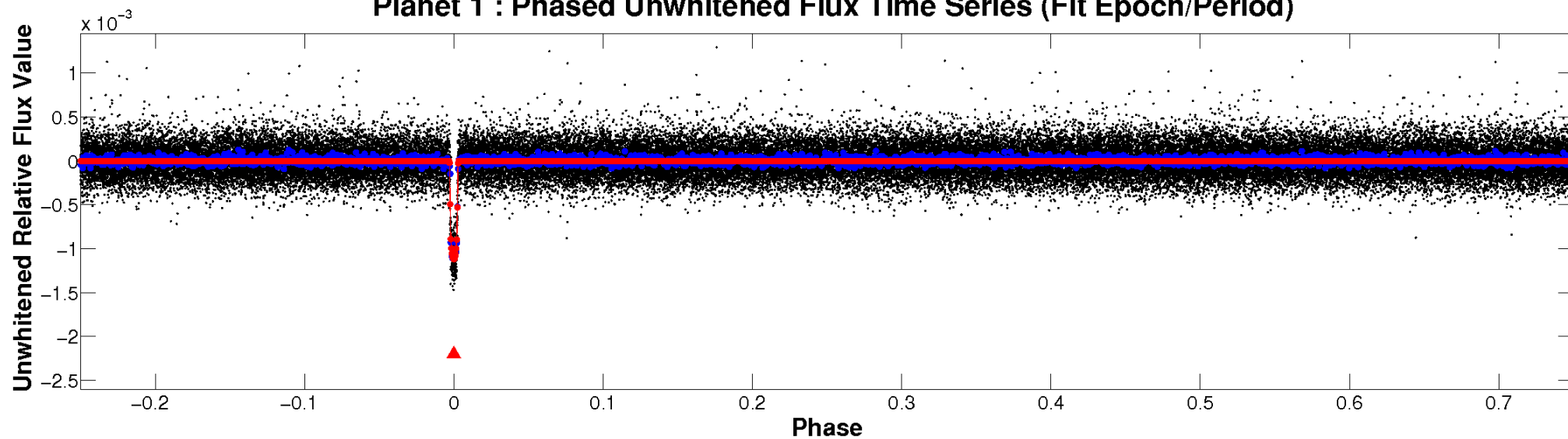
TCE 008583696-01



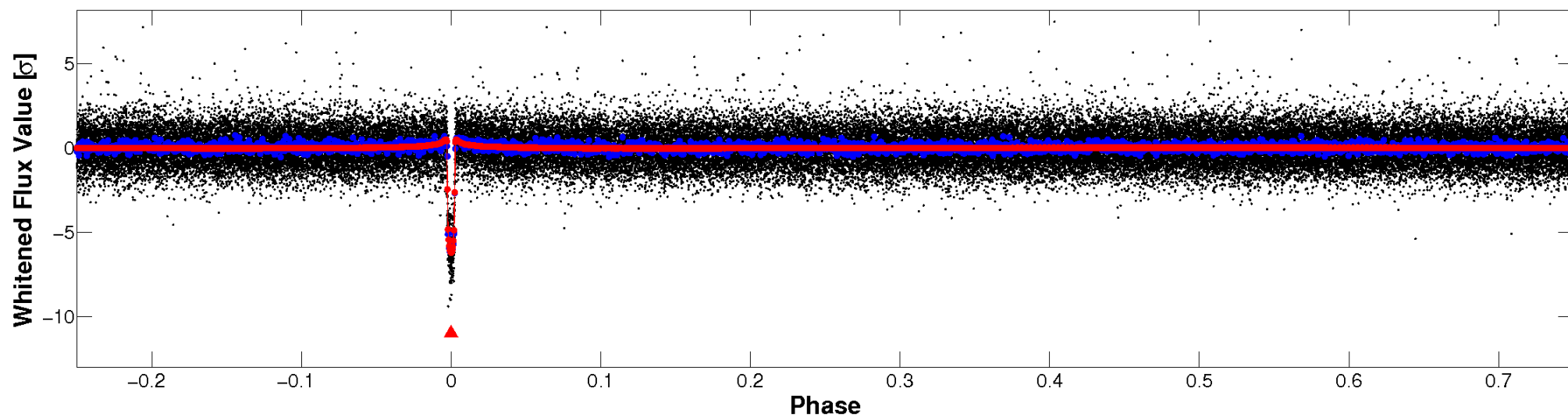


# Non-Whitened Vs. Whitened Light Curve

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

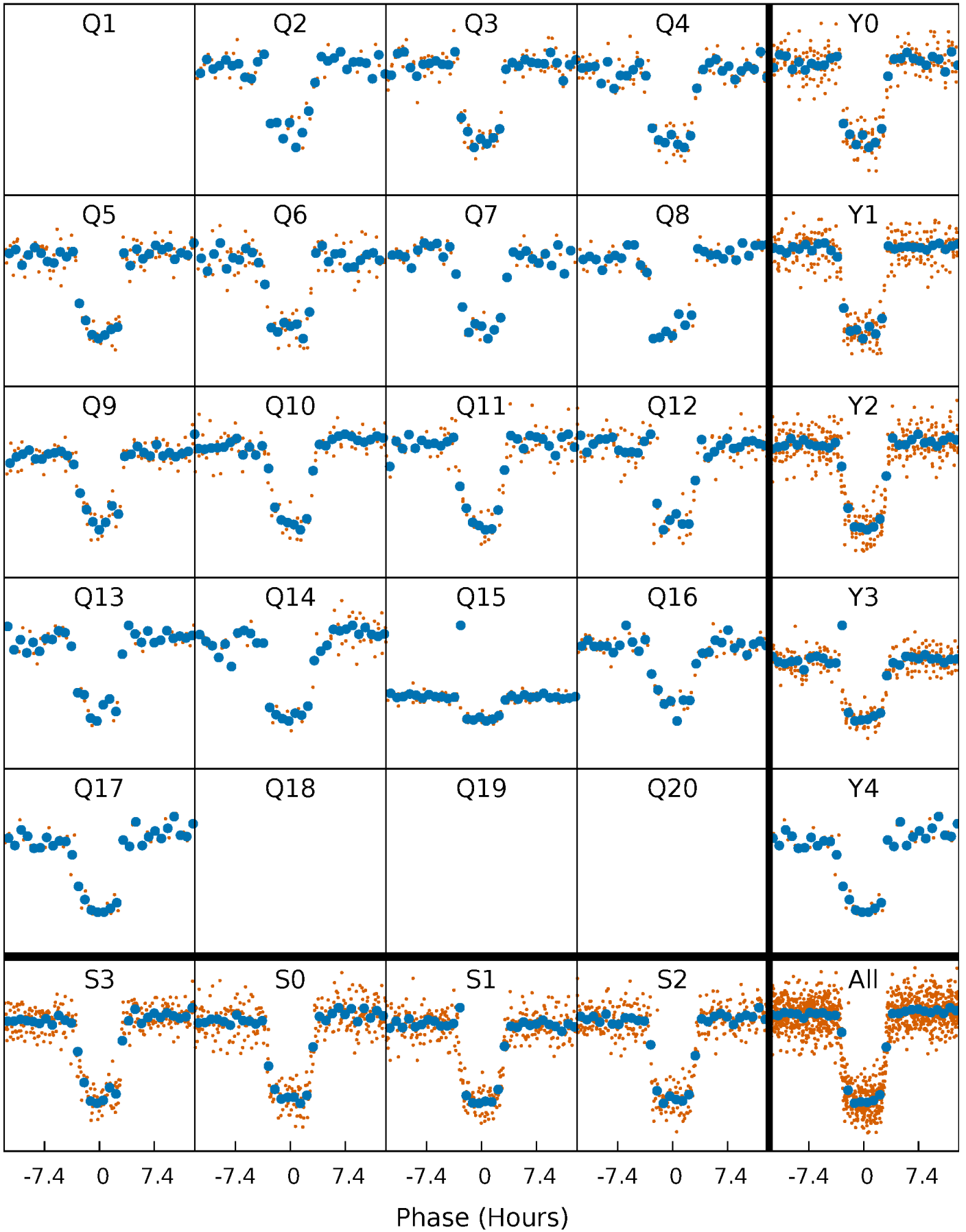


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

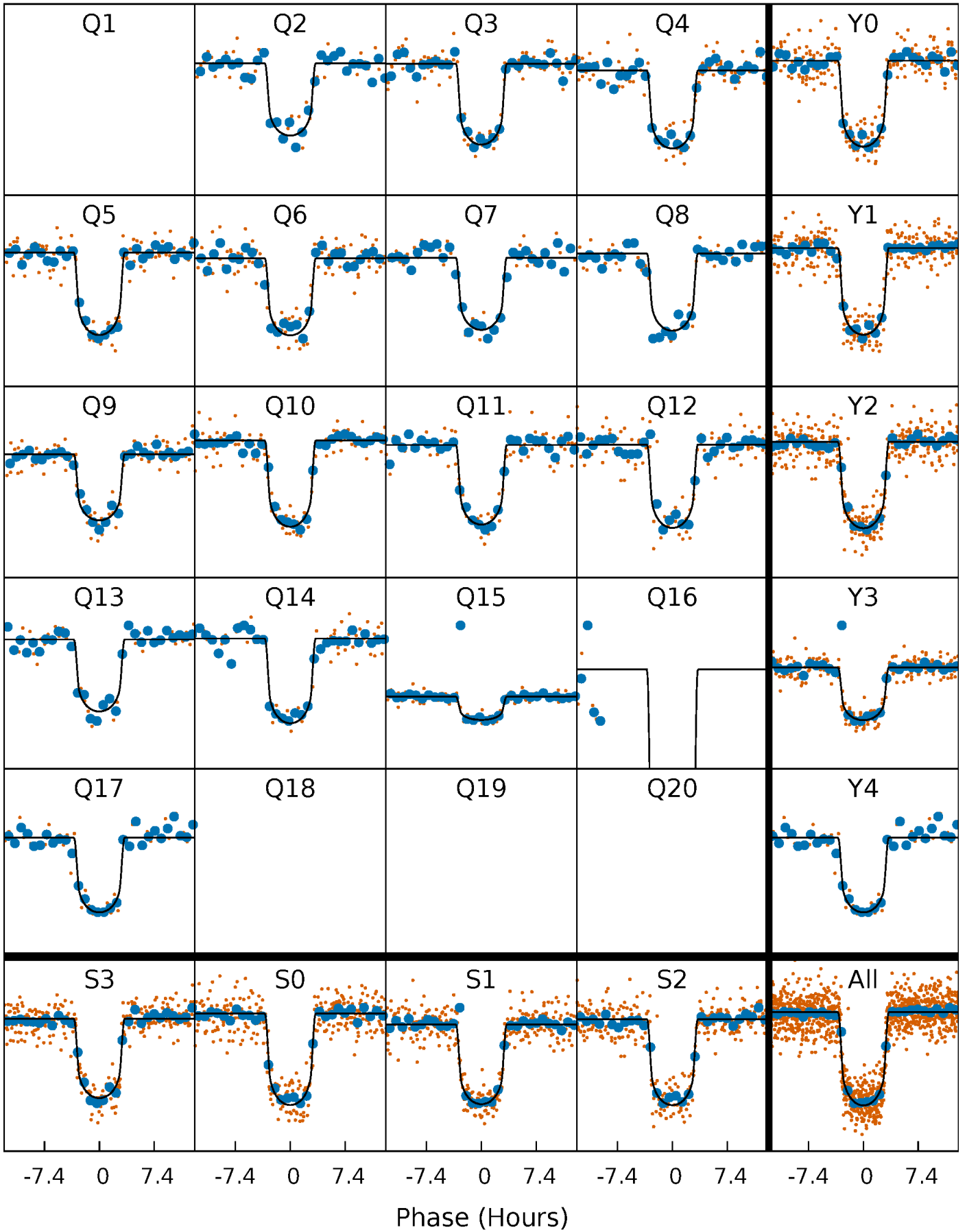
TCE 008583696-01 P= 50.286336 Days  $T_0=167.633581$  (BKJD)





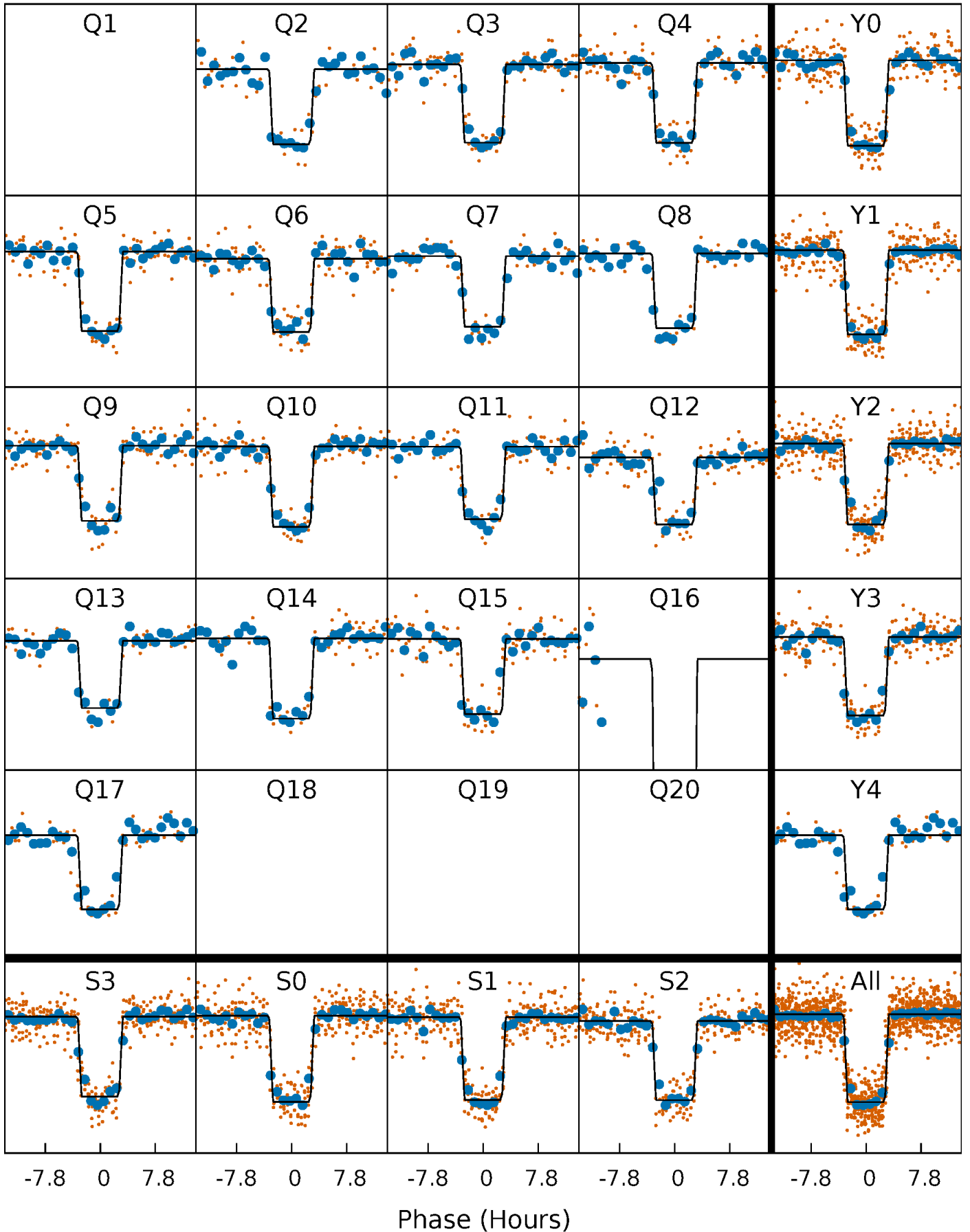
# DV Quarter-Phased Transit Curves

TCE 008583696-01 P= 50.286336 Days  $T_0=167.633581$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

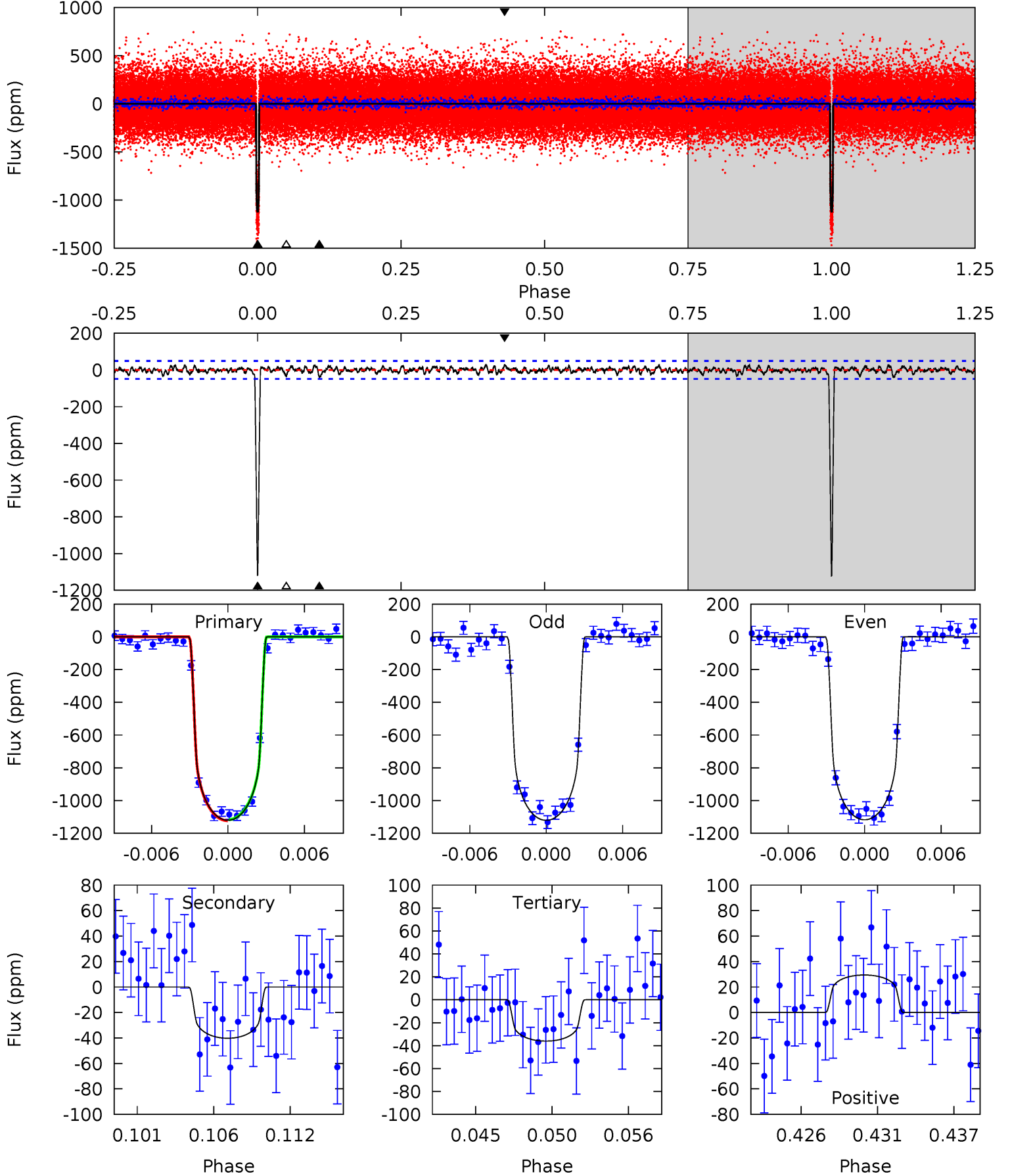
TCE 008583696-01 P= 50.287279 Days  $T_0=167.621640$  (BKJD)



# DV Model-Shift Uniqueness Test

008583696-01, P = 50.286336 Days, E = 117.347245 Days

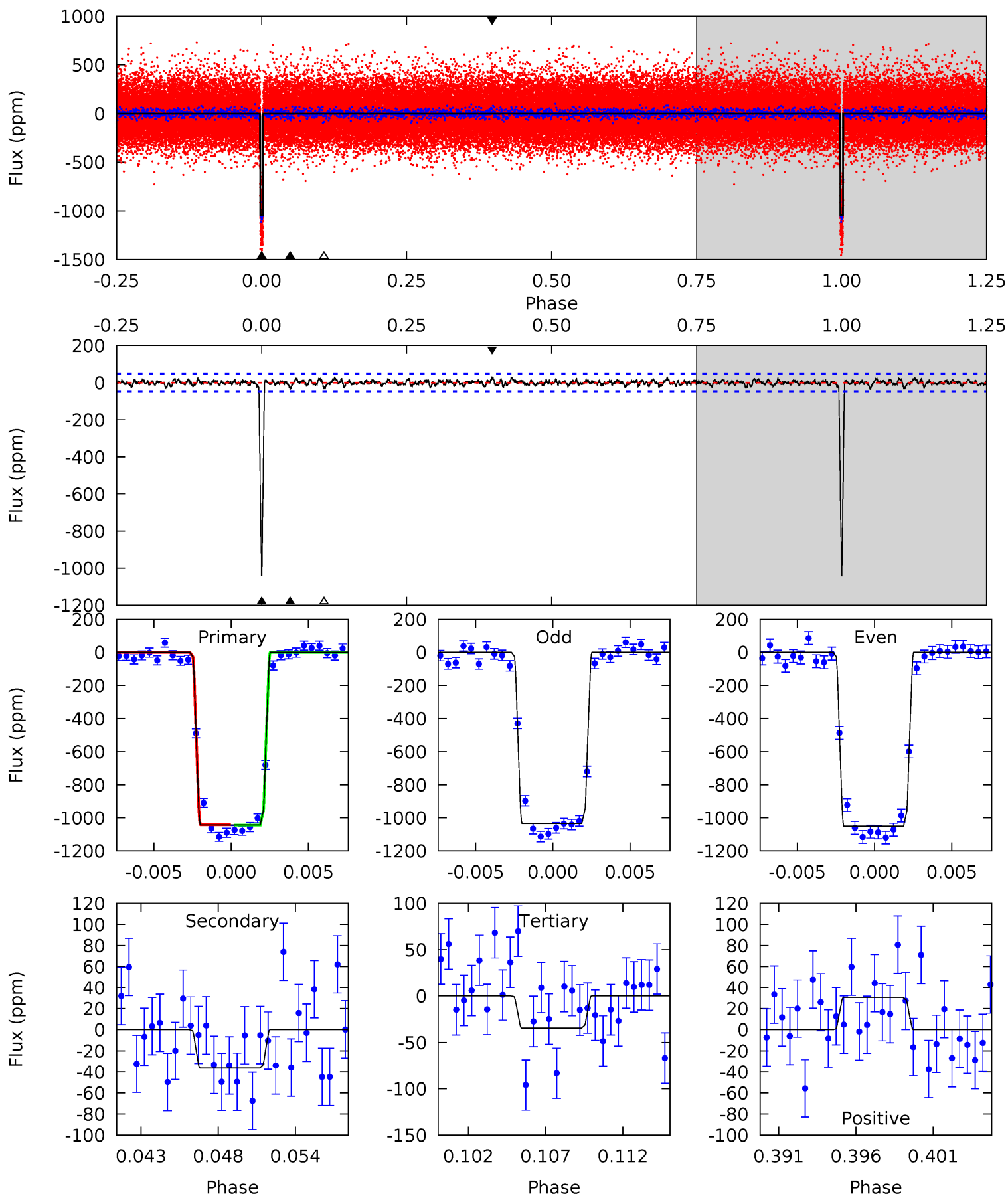
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
118.0	4.24	3.80	3.10	5.14	2.77	1.12	114.2	114.9	0.44	1.14	0.18	0.99	0.03	0.32



# Alt Model-Shift Uniqueness Test

008583696-01, P = 50.287279 Days, E = 117.334361 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
108.3	3.78	3.59	3.17	5.14	2.79	1.00	104.7	105.1	0.19	0.61	0.84	1.00	0.03	0.14



### Stellar Parameters For KIC 008583696

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5900^{+105}_{-117}$	$4.309^{+0.132}_{-0.108}$	$0.000^{+0.150}_{-0.150}$	$1.167^{+0.185}_{-0.168}$	$1.012^{+0.082}_{-0.067}$	$0.896^{+0.507}_{-0.273}$
	+2%/-2%	+3%/-3%	+inf%/-inf%	+16%/-14%	+8%/-7%	+57%/-30%
Source	SPE57	SPE57	SPE57	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 008583696-01 / KOI 1275.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-40 \pm 9$	$4.07^{+0.48}_{-0.52}$	$759^{+34}_{-37}$	$3214^{+141}_{-143}$	$97^{+36}_{-29}$
Alt.	$-36 \pm 10$	$4.11^{+0.49}_{-0.44}$	$754^{+38}_{-33}$	$3143^{+141}_{-158}$	$83^{+30}_{-26}$

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

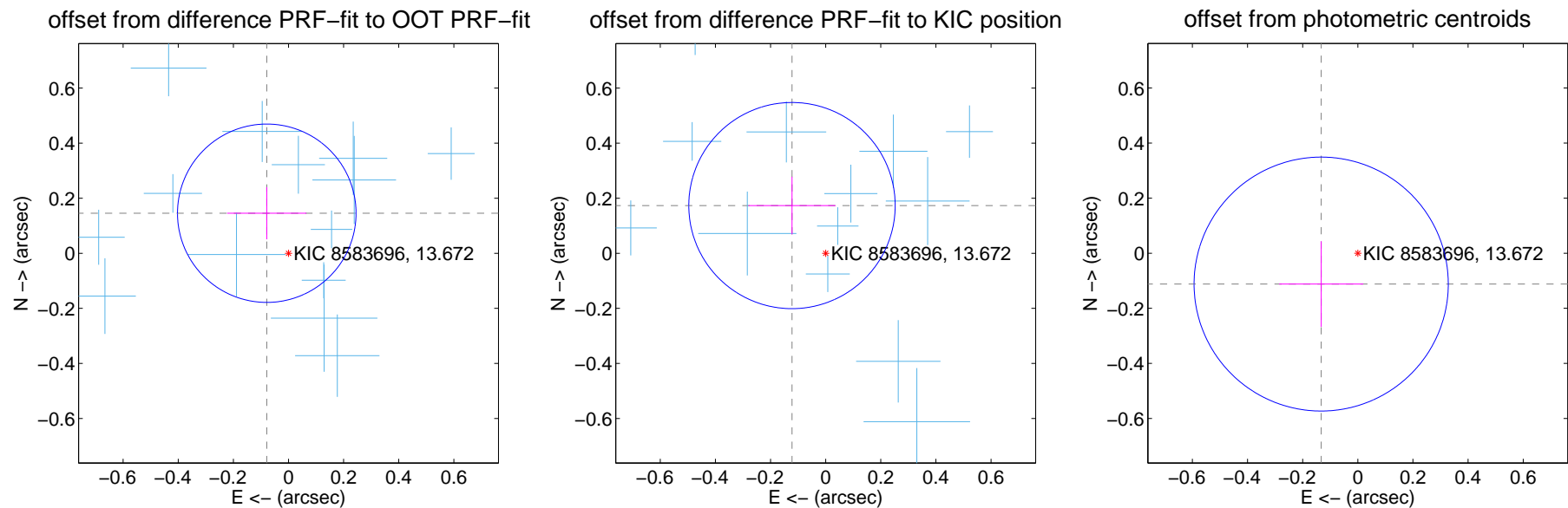
## DV Centroid Data

Supplemental centroid analysis for 008583696-01. Kepler magnitude: 13.67. Transit SNR 91.85

There are 15 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

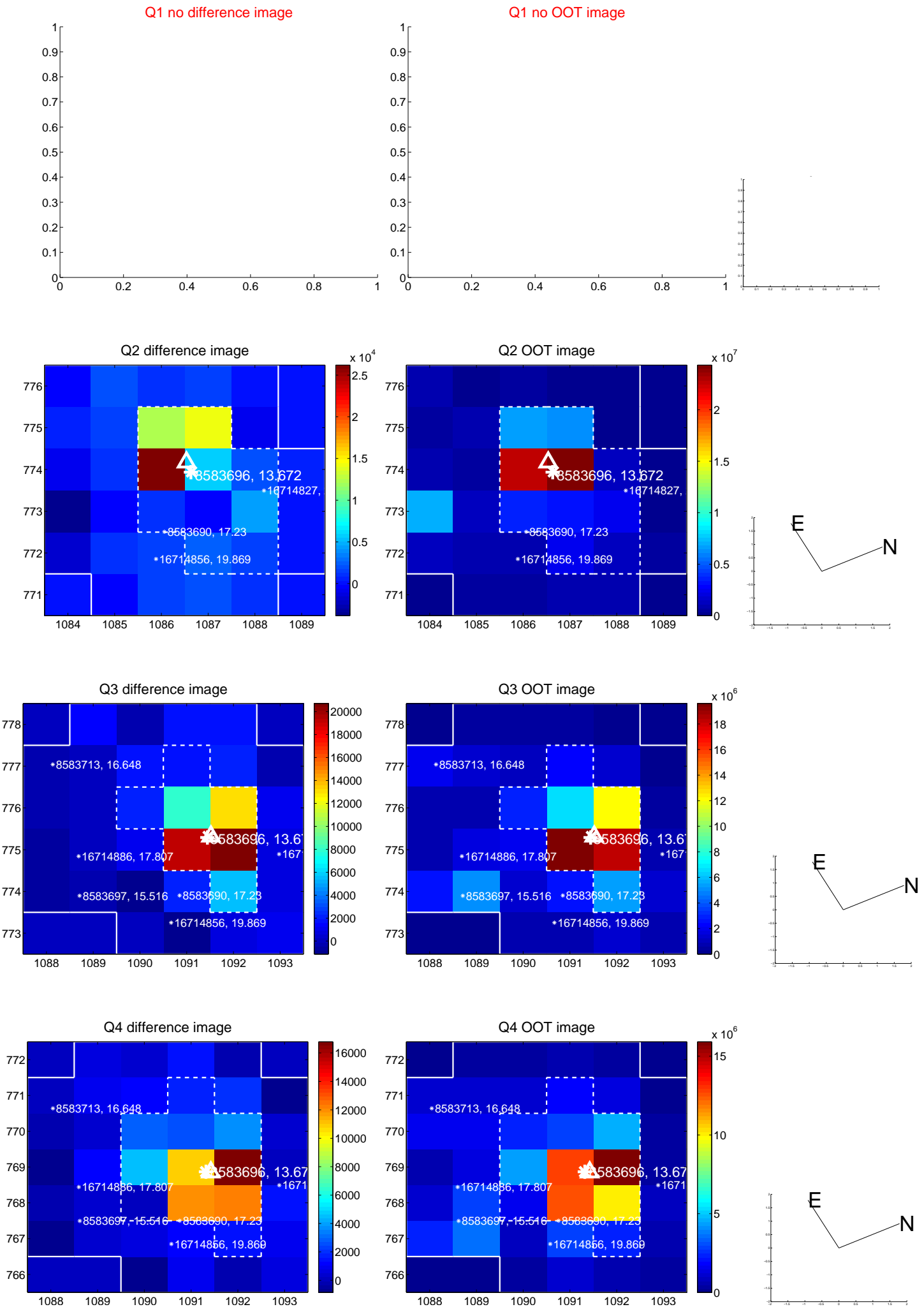
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.165 \pm 0.108$	1.53	$0.079 \pm 0.144$	$0.145 \pm 0.095$
PRF-fit source offset from KIC position	$0.212 \pm 0.125$	1.70	$0.122 \pm 0.158$	$0.173 \pm 0.105$
photometric centroid source offset	$0.17 \pm 0.15$	1.13	$0.13 \pm 0.15$	$-0.11 \pm 0.16$



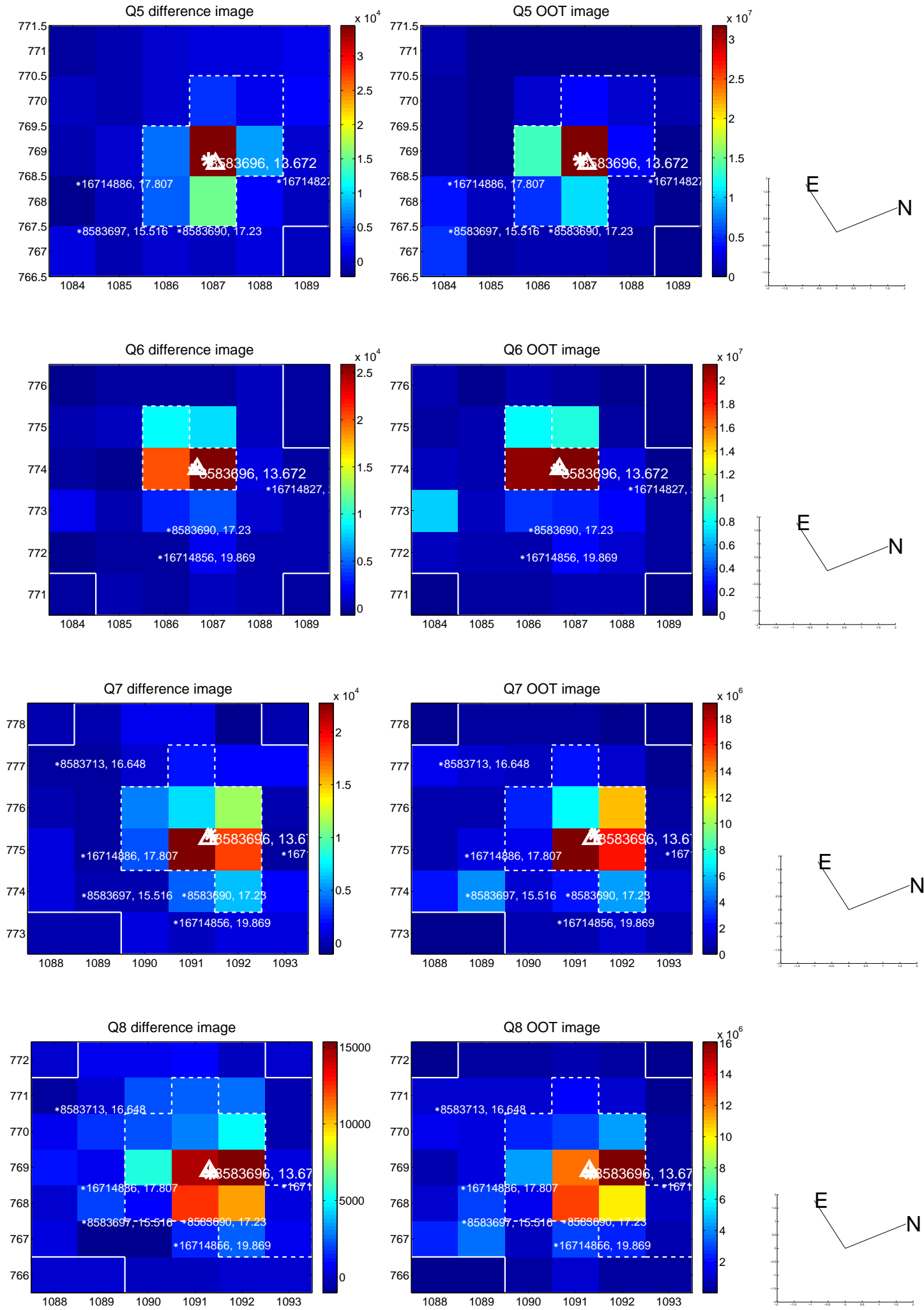
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



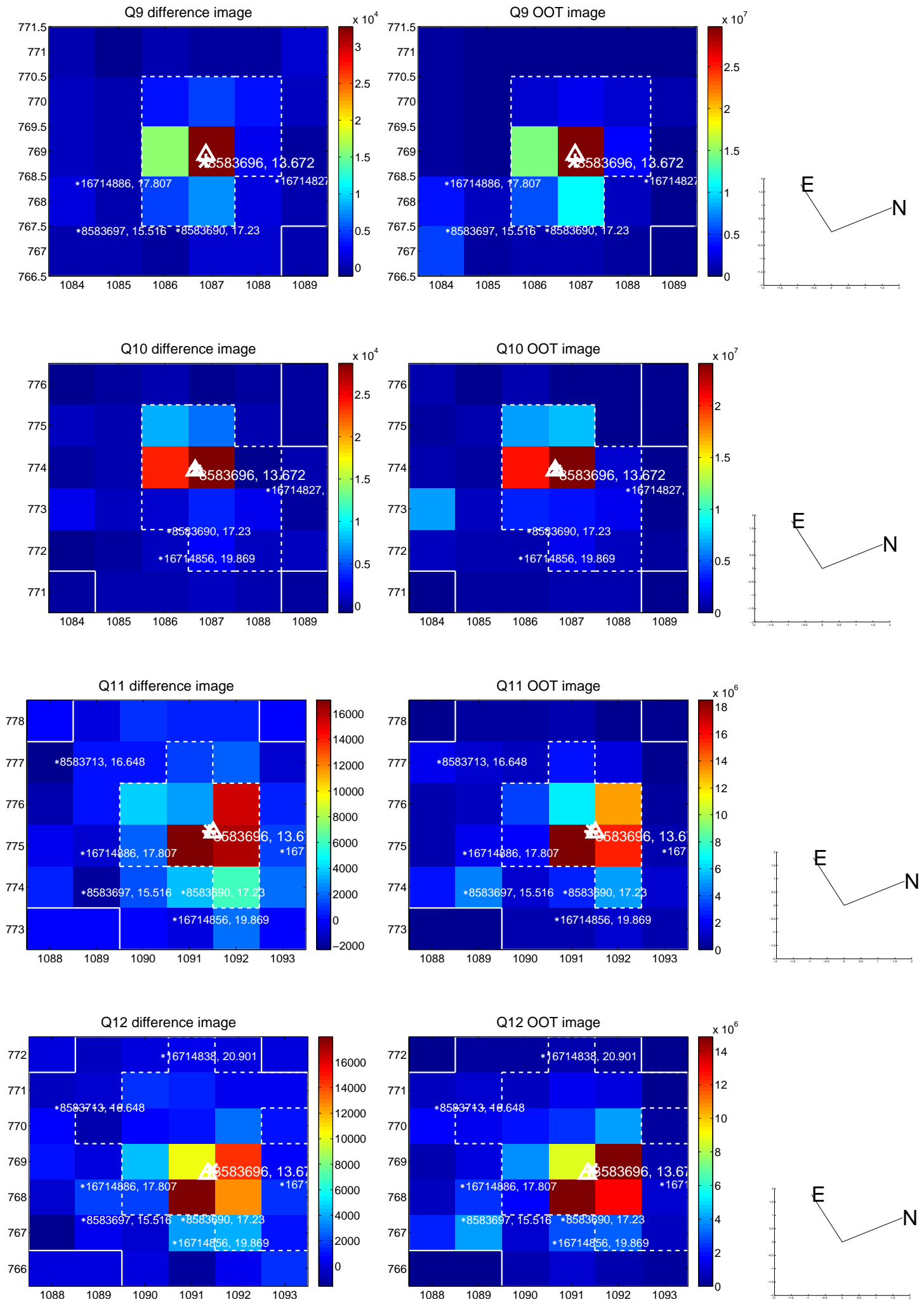
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



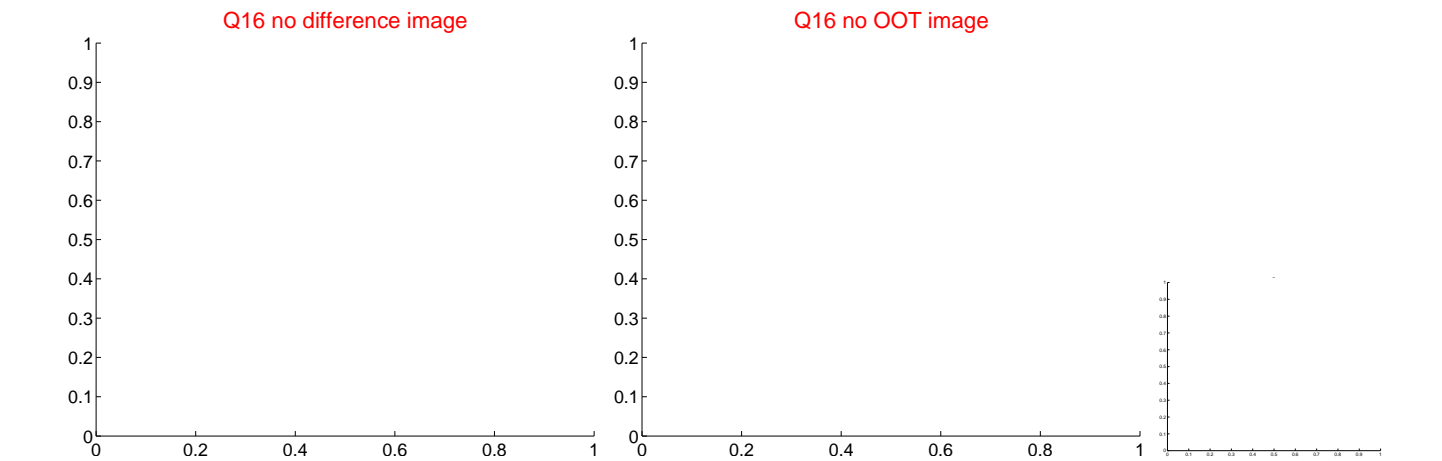
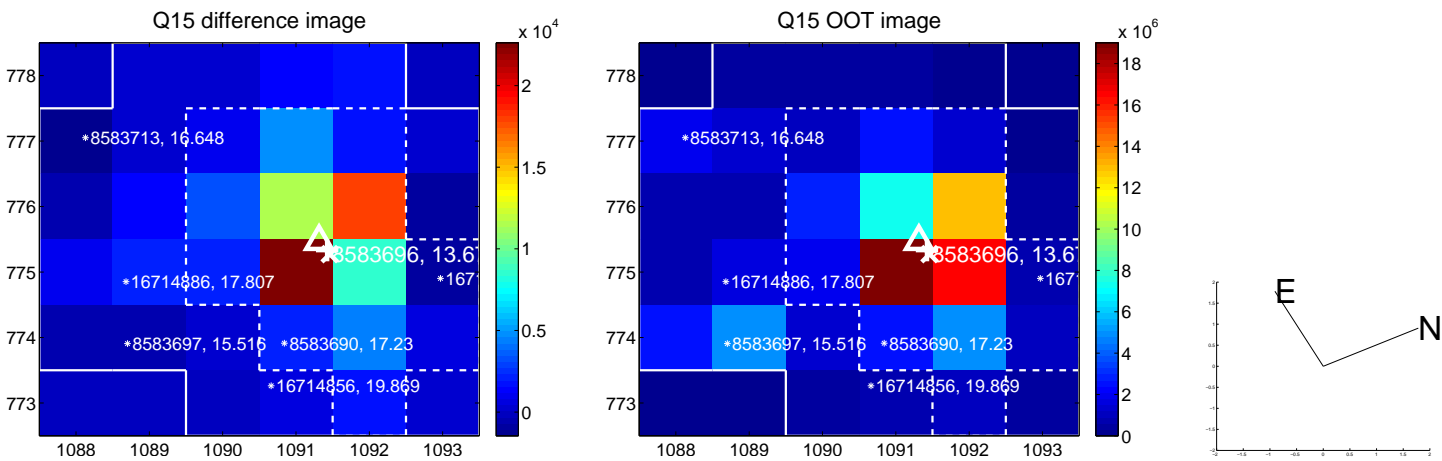
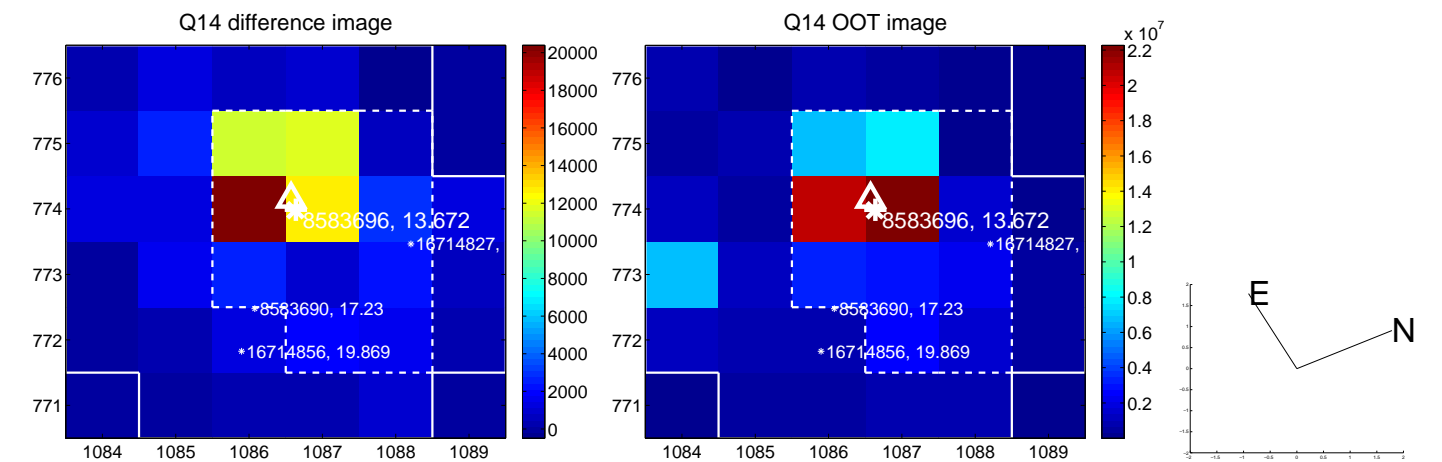
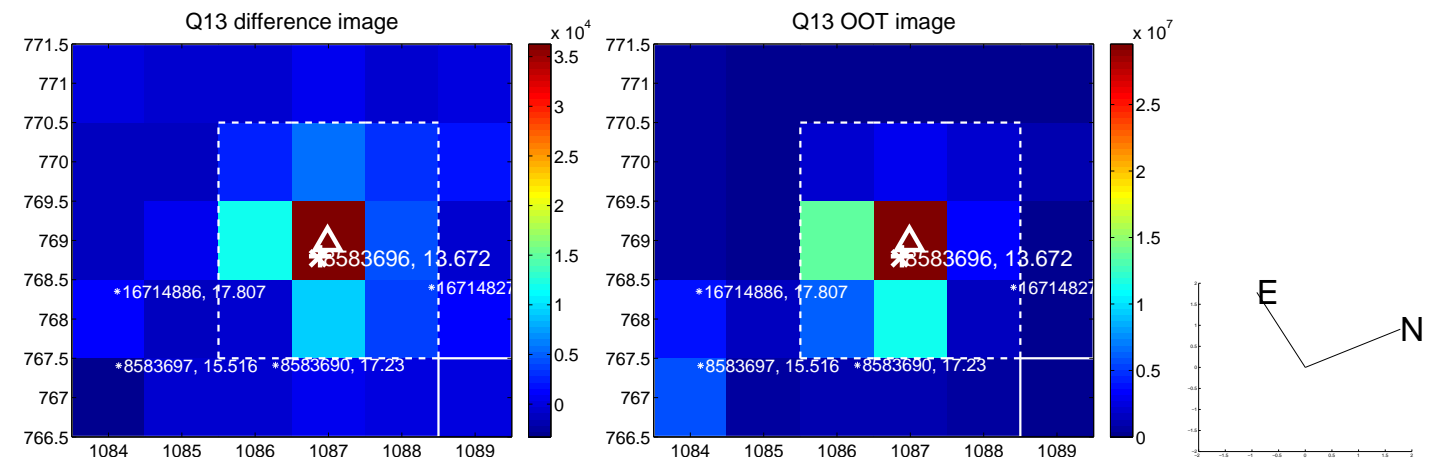
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



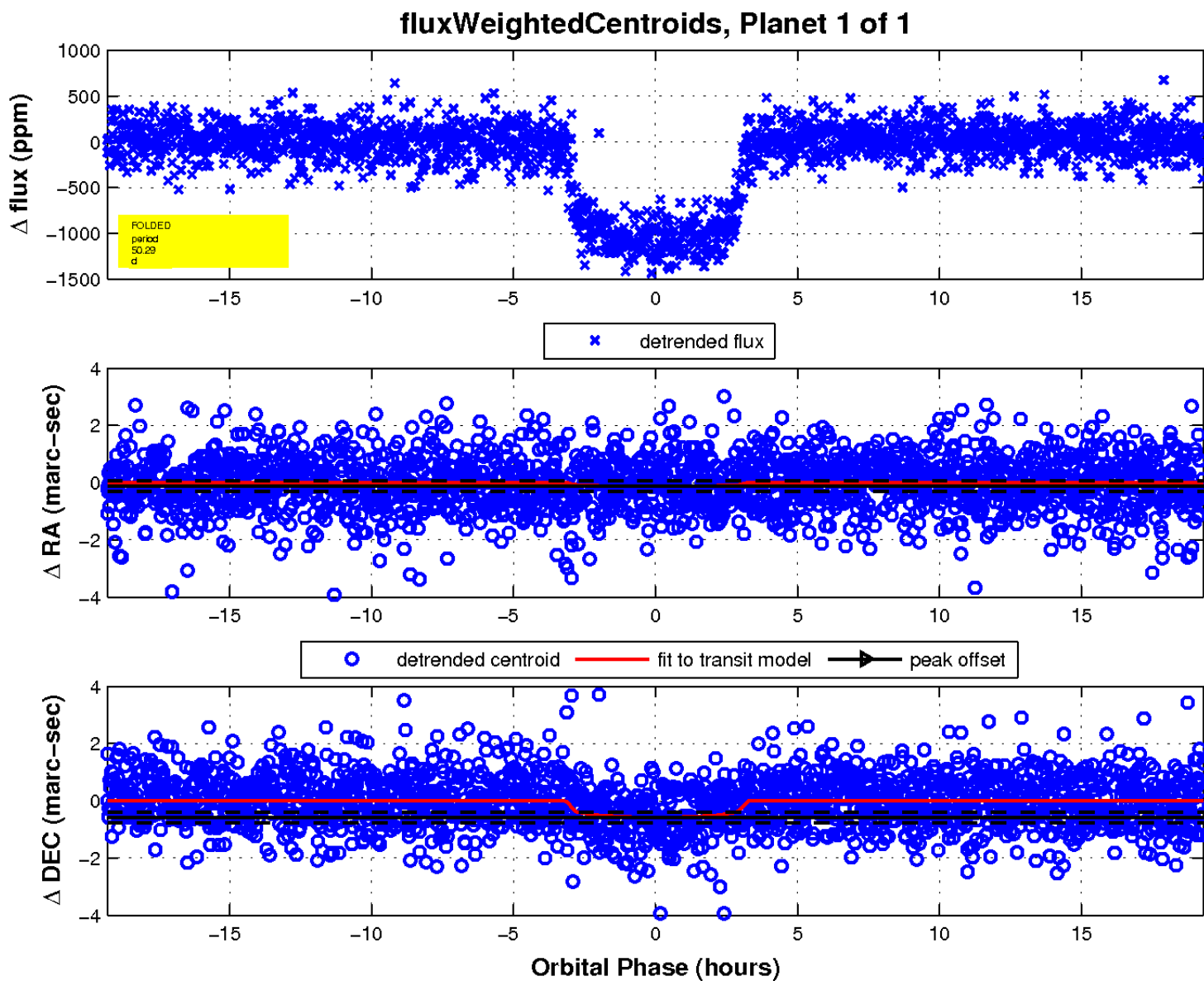
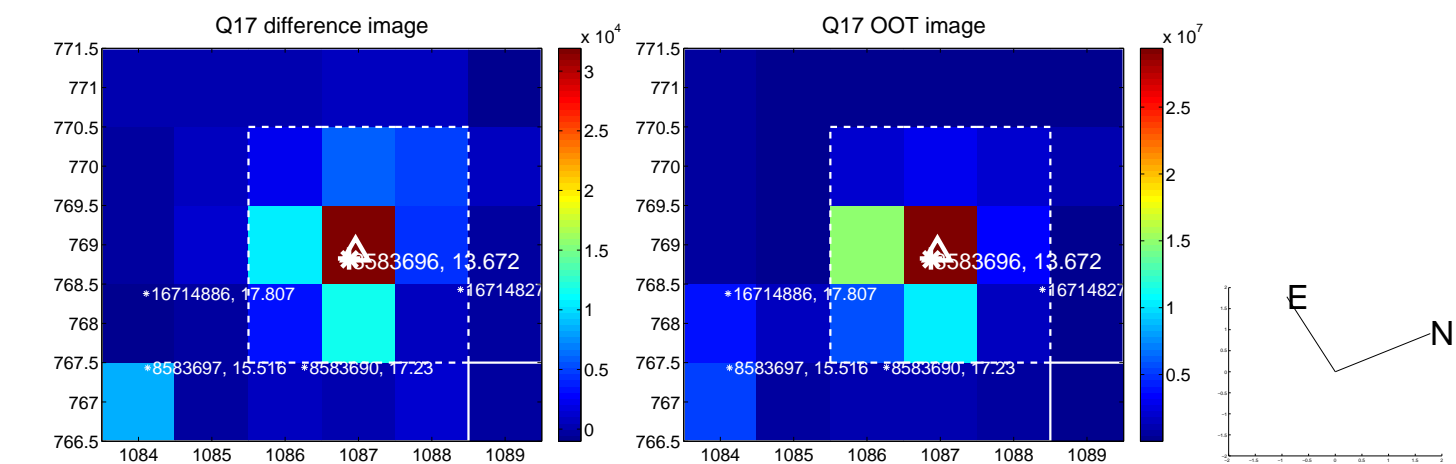
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

