

# KIC 010202759

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010202759-01	OBS	2405.01	0.872946	132.374761	100.8	1.017	37.3	47.8	2.08	7102	2.44	23773.19

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010202759-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET—HALO_GHOST

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

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

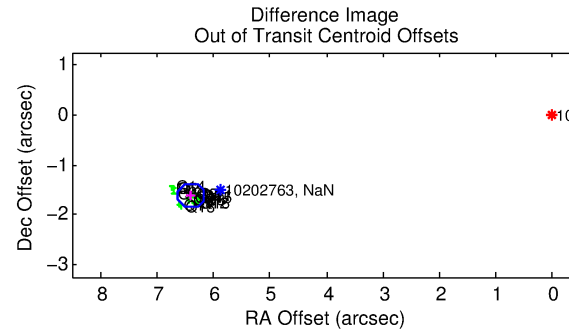
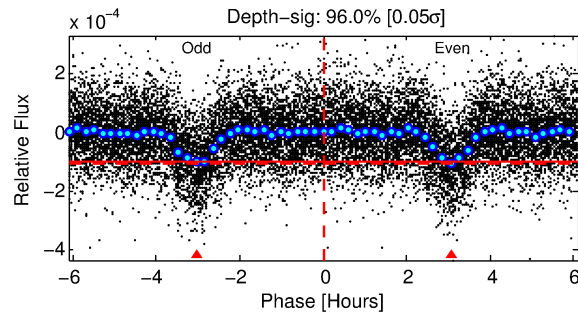
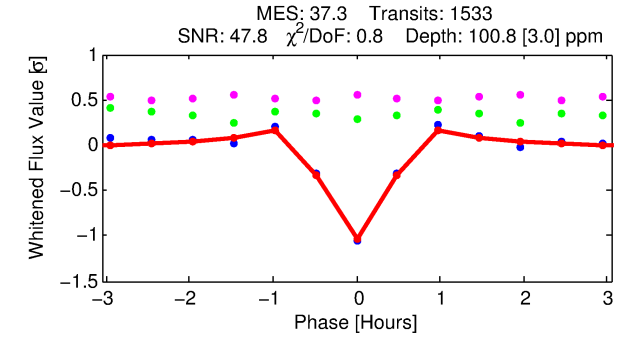
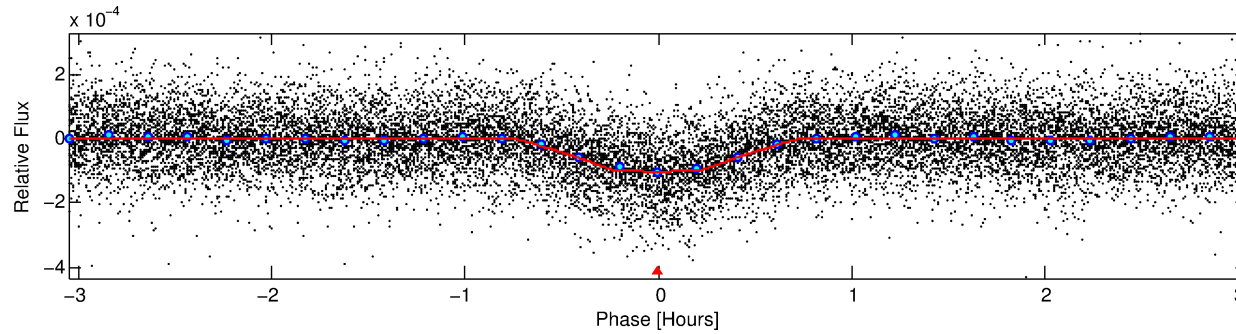
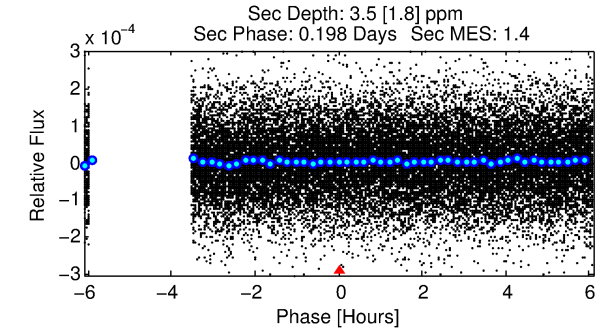
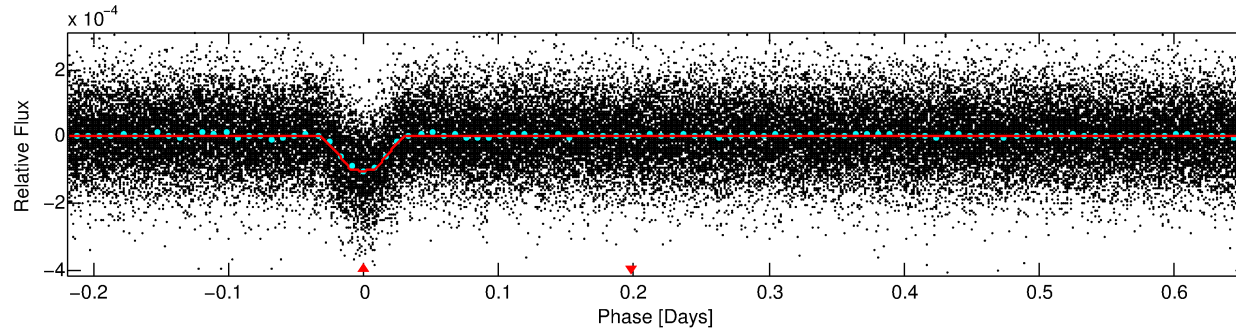
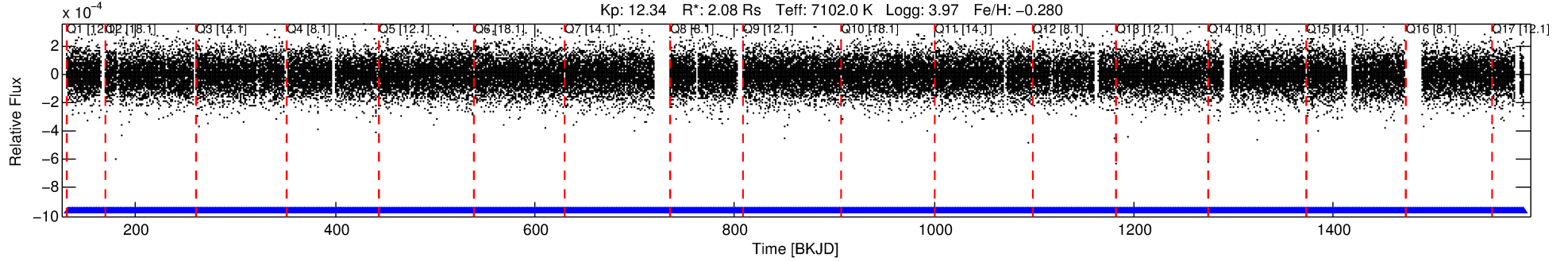
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010202759-01

No Significant Match Found

# DV One-Page Summary

KIC: 10202759 Candidate: 1 of 1 Period: 0.873 d  
KOI: K02405.01 Corr: 0.847



## DV Fit Results:

Period = 0.87295 [0.00000] d  
Epoch = 132.3748 [0.0003] BKJD  
Rp/R\* = 0.0108 [0.0010]  
a/R\* = 3.16 [1.54]  
b = 0.90 [0.12]  
Seff = 23773.19 [9659.83]  
Teq = 3166 [322] K  
Rp = 2.44 [0.70] Re  
a = 0.0204 [0.0050] AU  
Ag = 0.13 [0.09] [-9.78σ]  
Teffp = 2967 [406] K [-0.39σ]

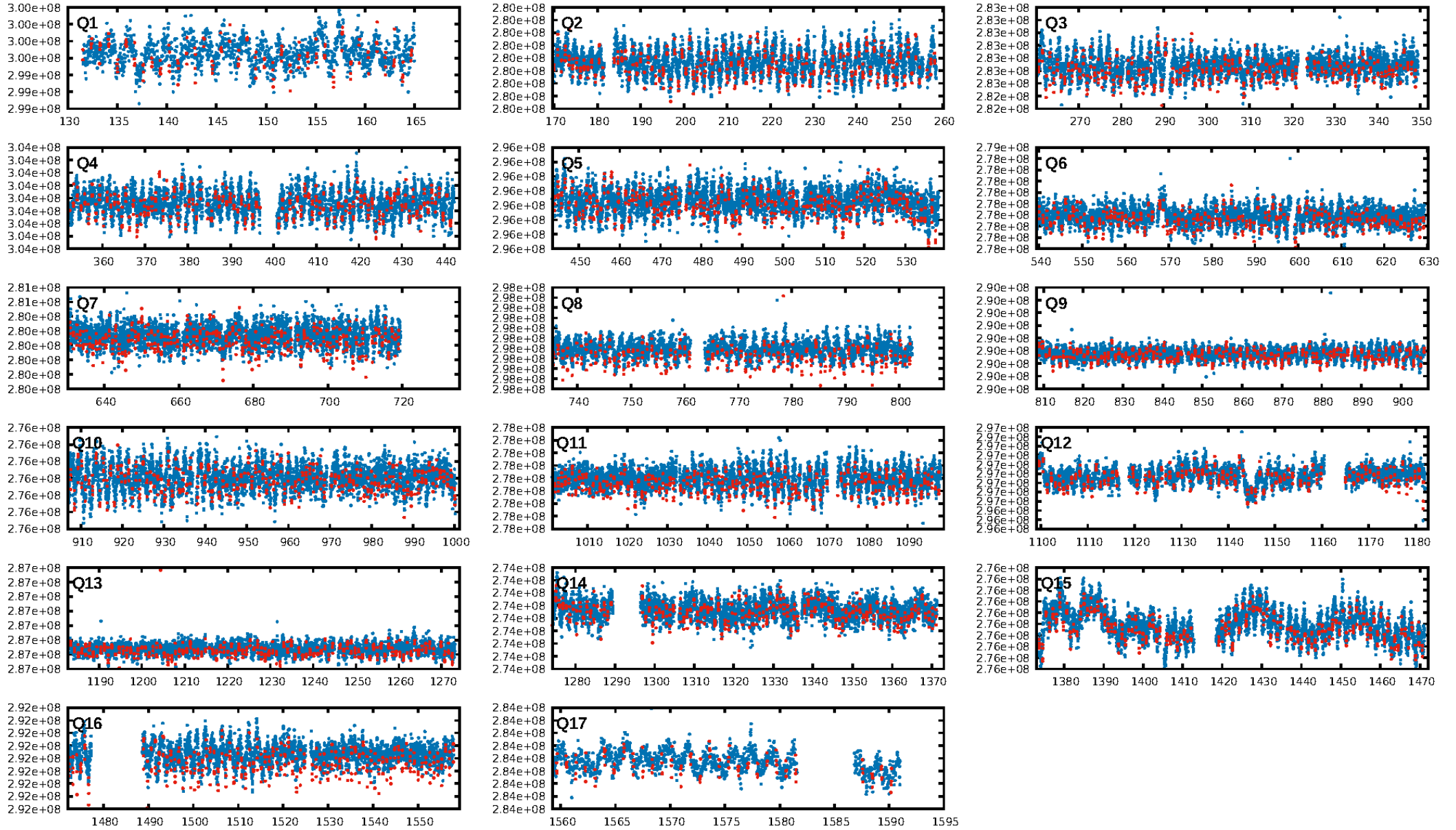
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 8.15e-279  
RollingBand-fgt: 1.00 [1464/1464]  
GhostDiagnostic-chr: -0.07596  
Centroid-sig: 0.0%  
Centroid-so: 11.280 arcsec [59.07σ]  
OotOffset-rm: 6.600 arcsec [82.45σ]  
KicOffset-rm: 6.528 arcsec [84.19σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

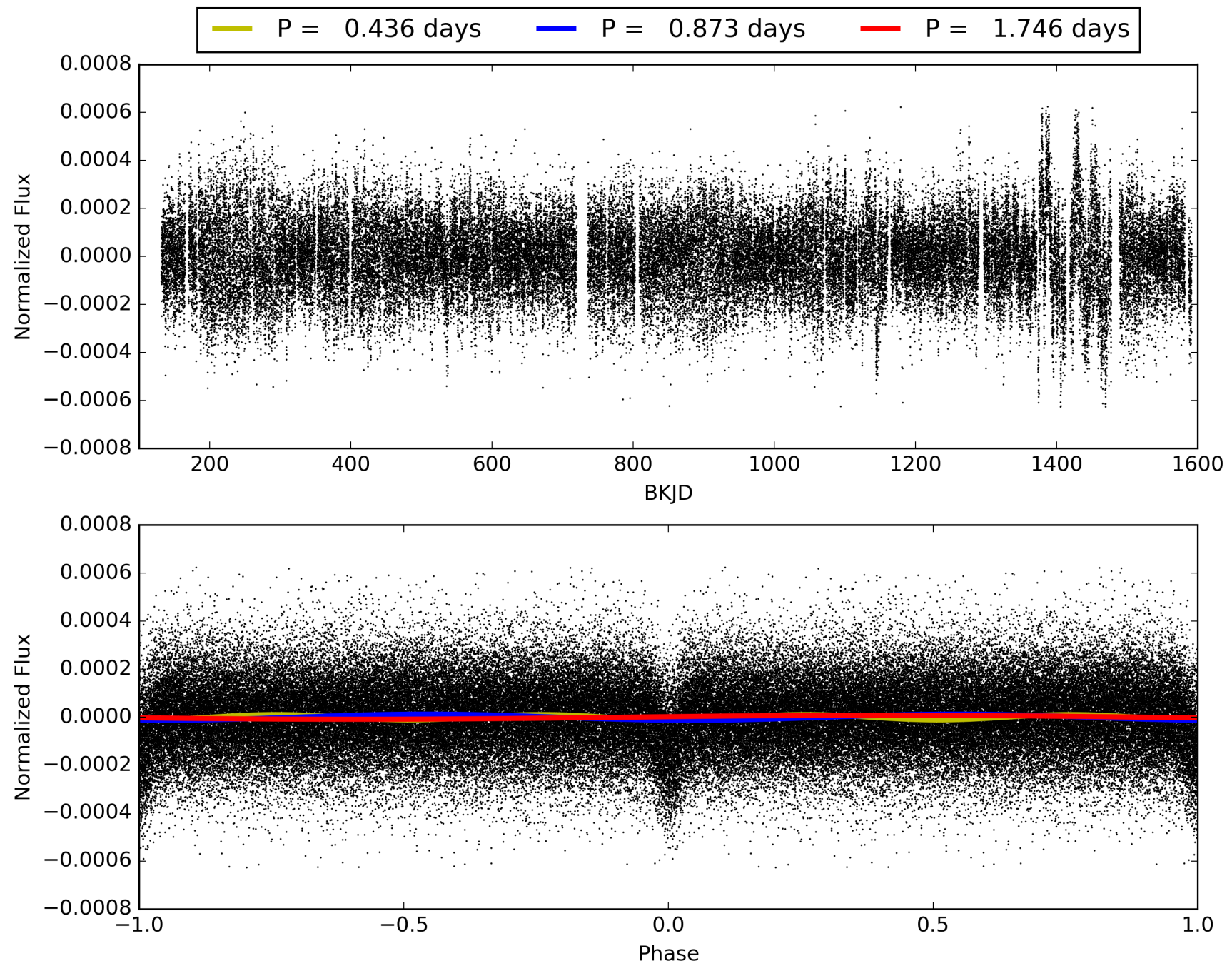
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:15:37 Z

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

# TCE 010202759-01, PDC Light Curves

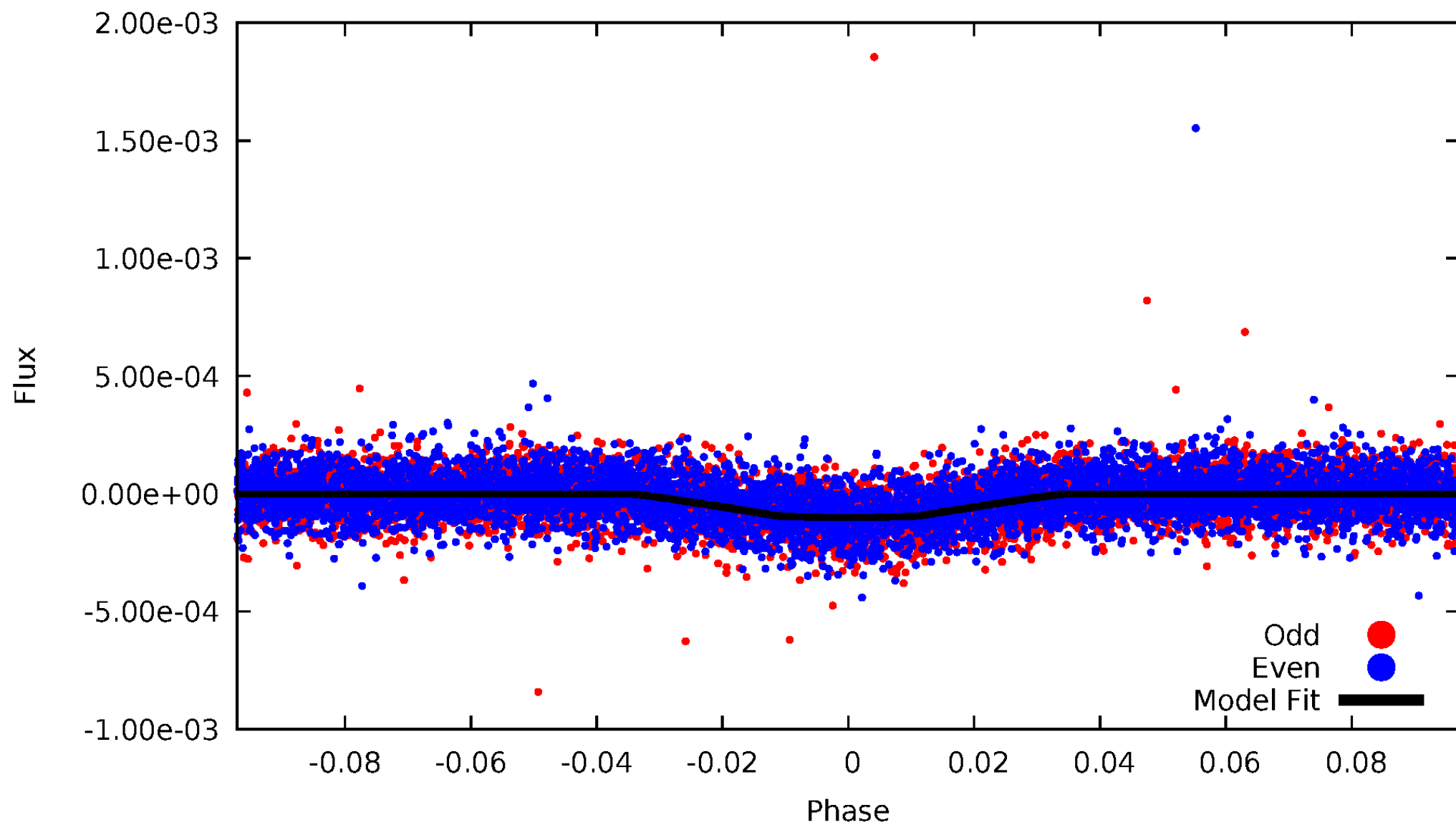


TCE 010202759-01



# DV Odd/Even

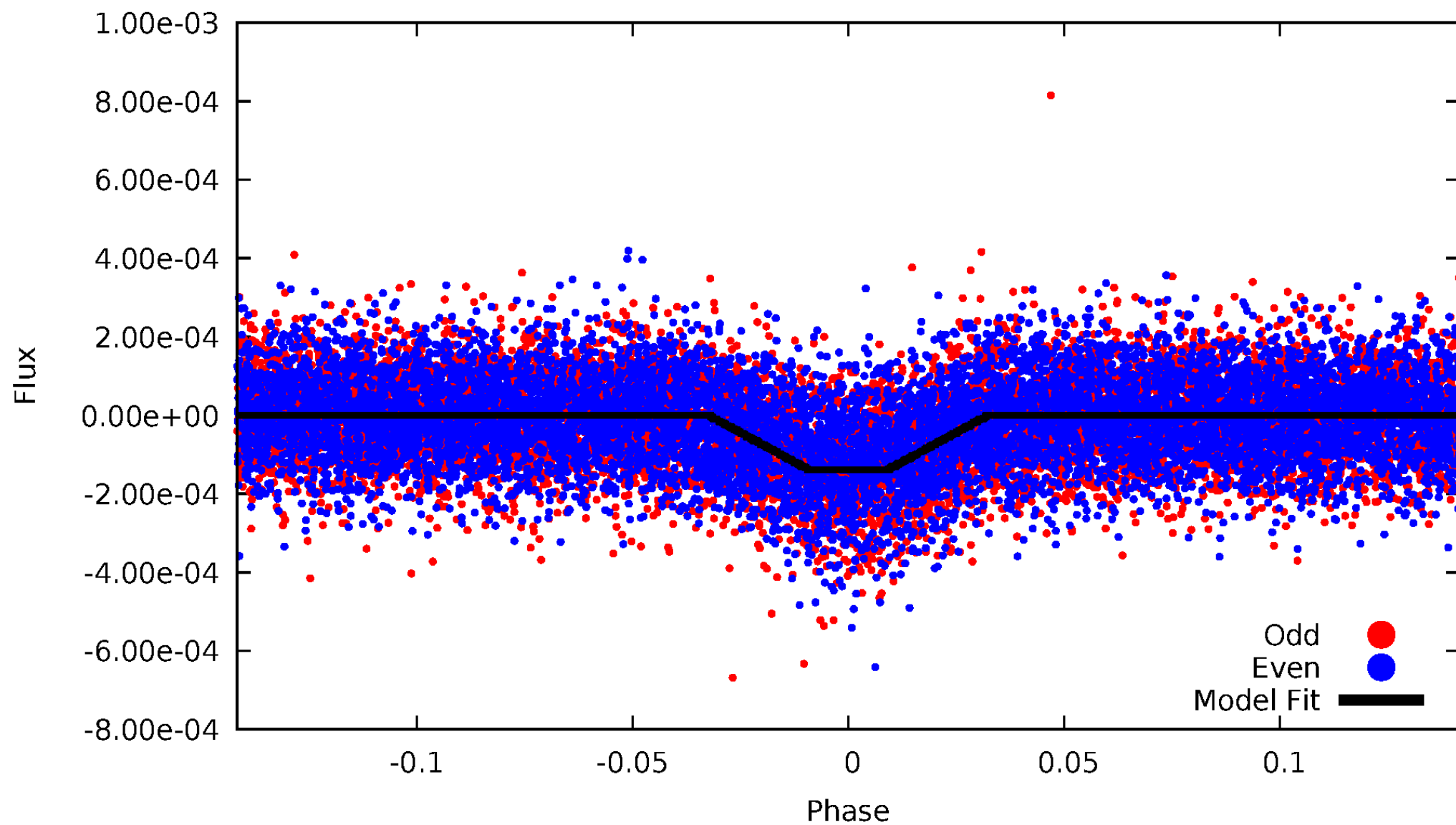
TCE 010202759-01



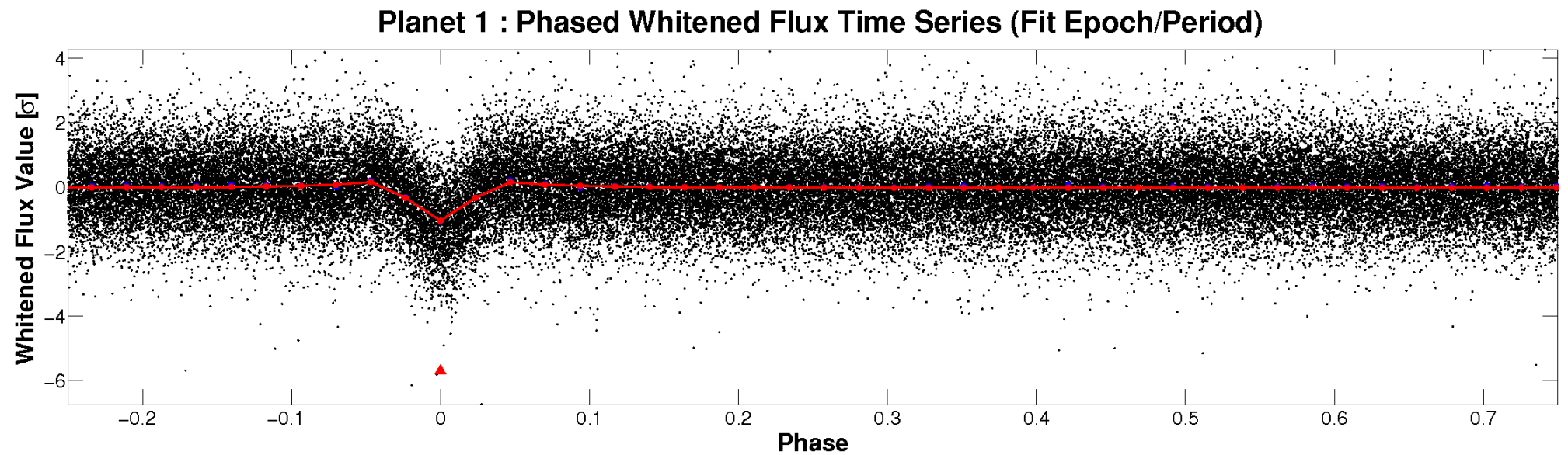
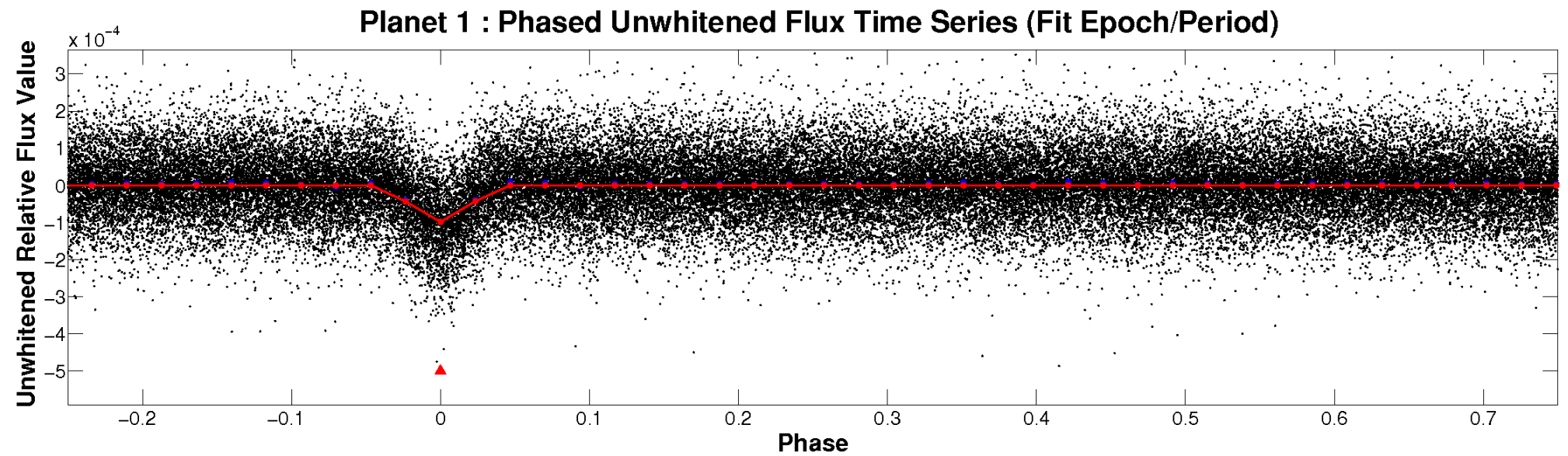


# ALT Odd/Even

TCE 010202759-01

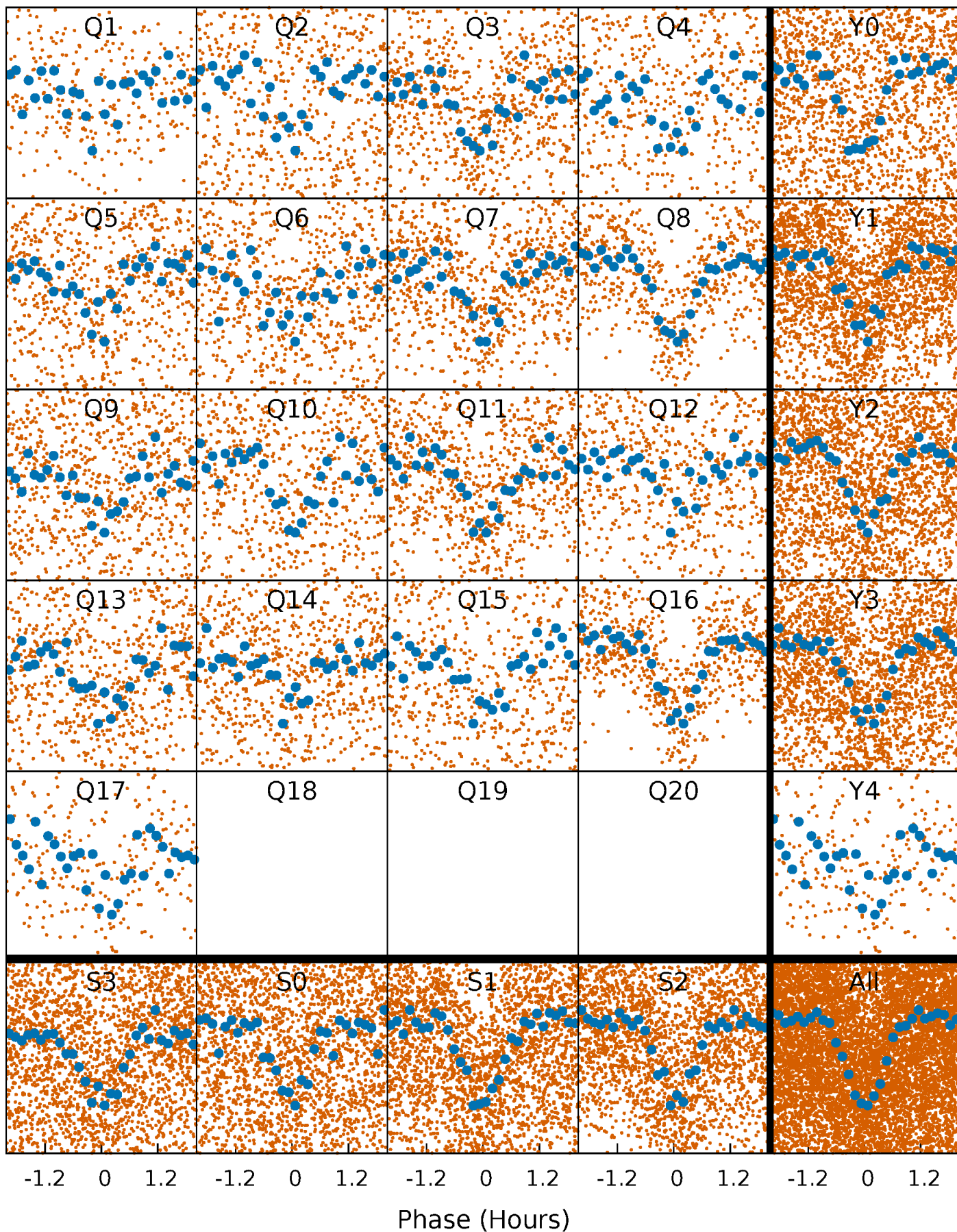


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

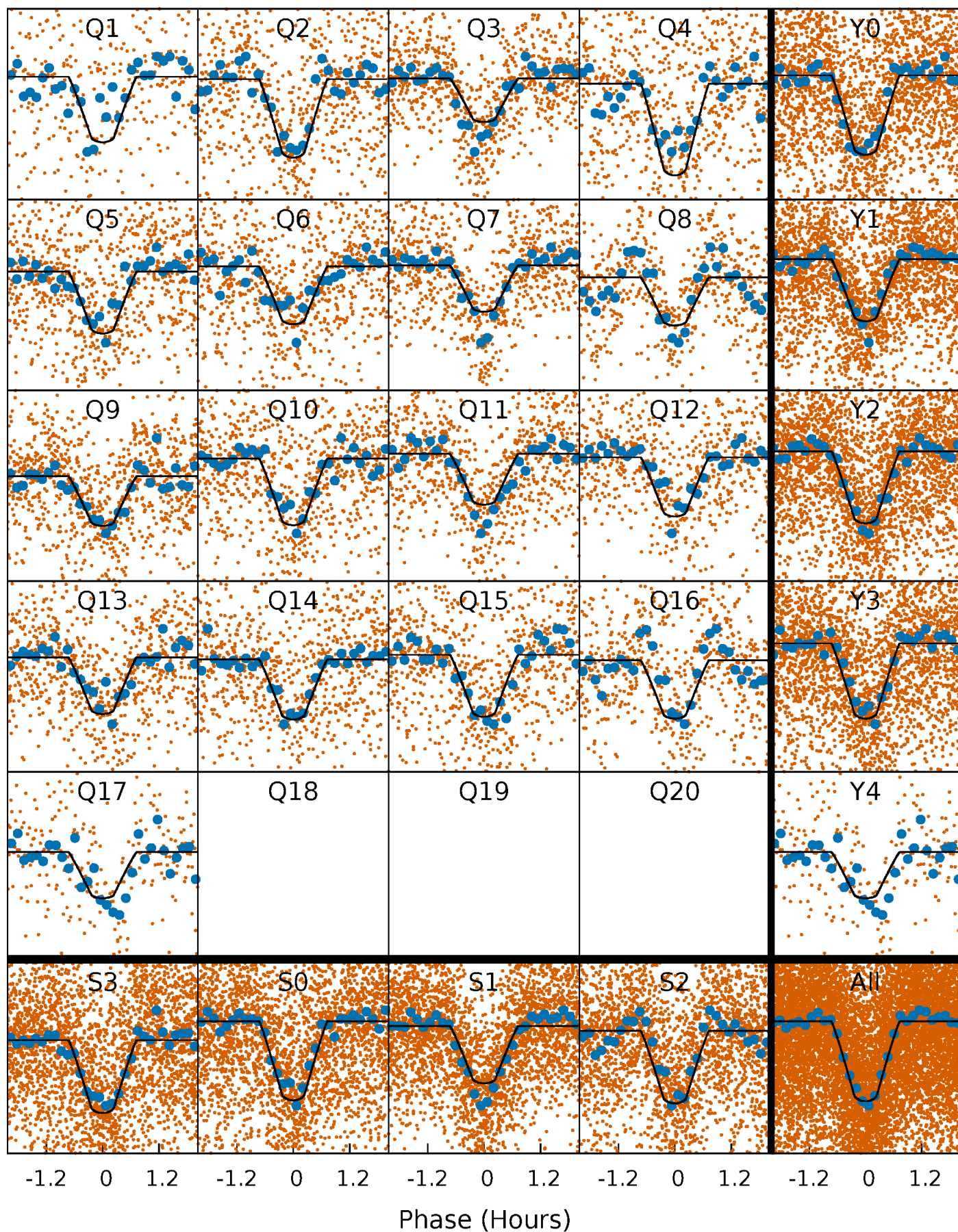
TCE 010202759-01 P= 0.872946 Days  $T_0=132.374761$  (BKJD)





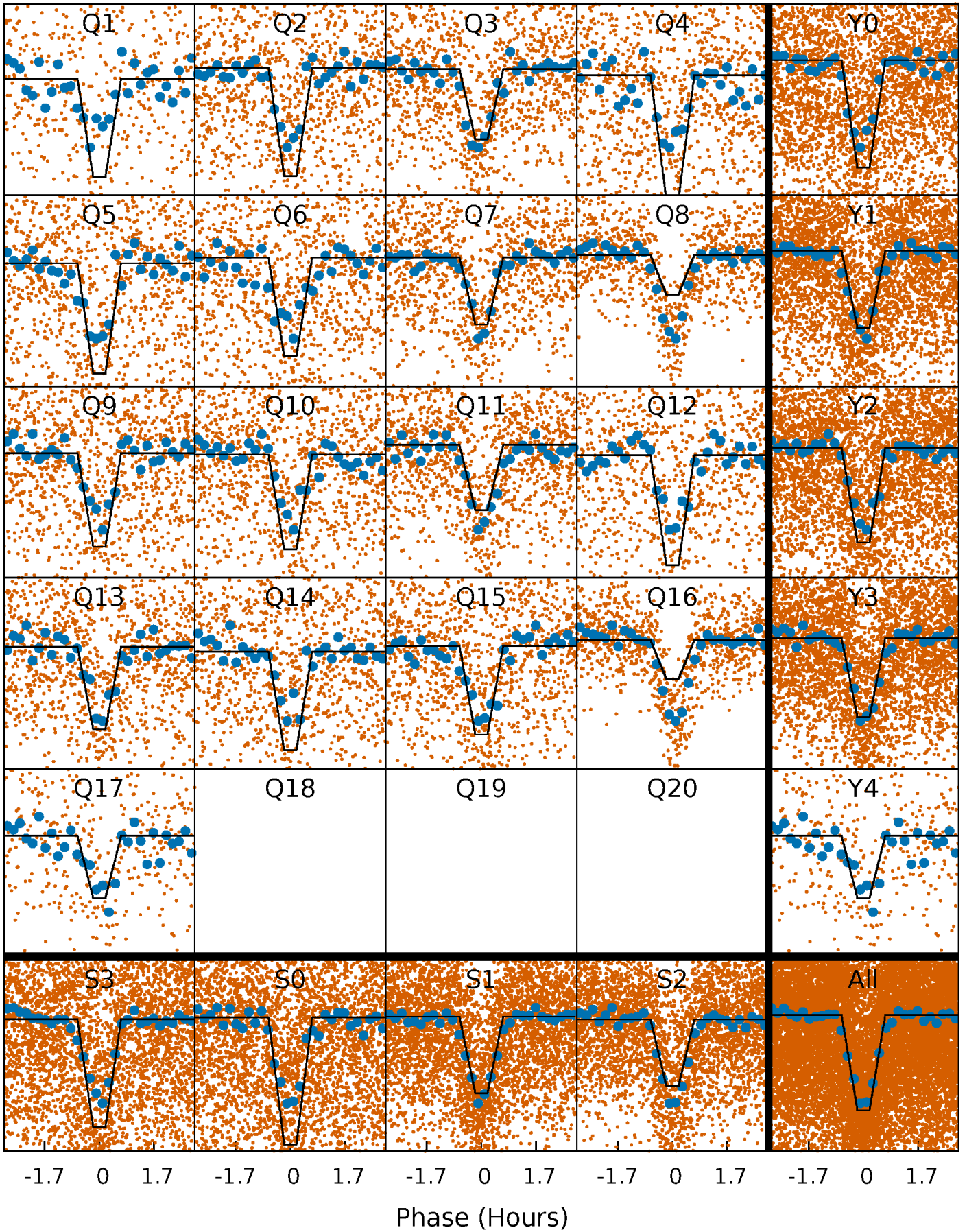
# DV Quarter-Phased Transit Curves

TCE 010202759-01 P= 0.872946 Days  $T_0=132.374761$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

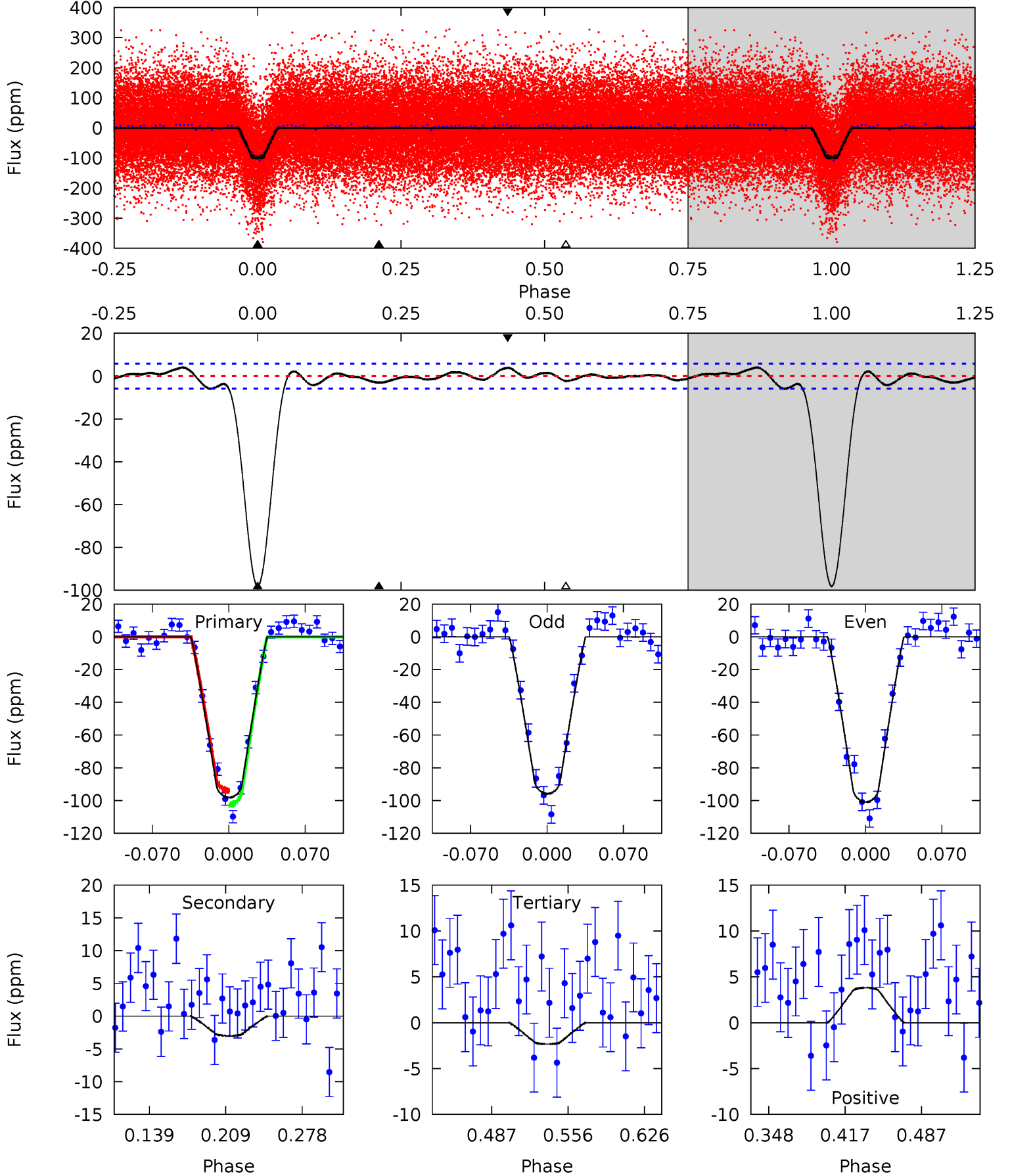
TCE 010202759-01 P= 0.872947 Days  $T_0=132.374663$  (BKJD)



# DV Model-Shift Uniqueness Test

010202759-01, P = 0.872946 Days, E = 131.501815 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
78.5	2.41	1.87	3.05	4.64	1.82	1.52	76.6	75.5	0.54	-0.64	2.06	1.02	0.04	3.42

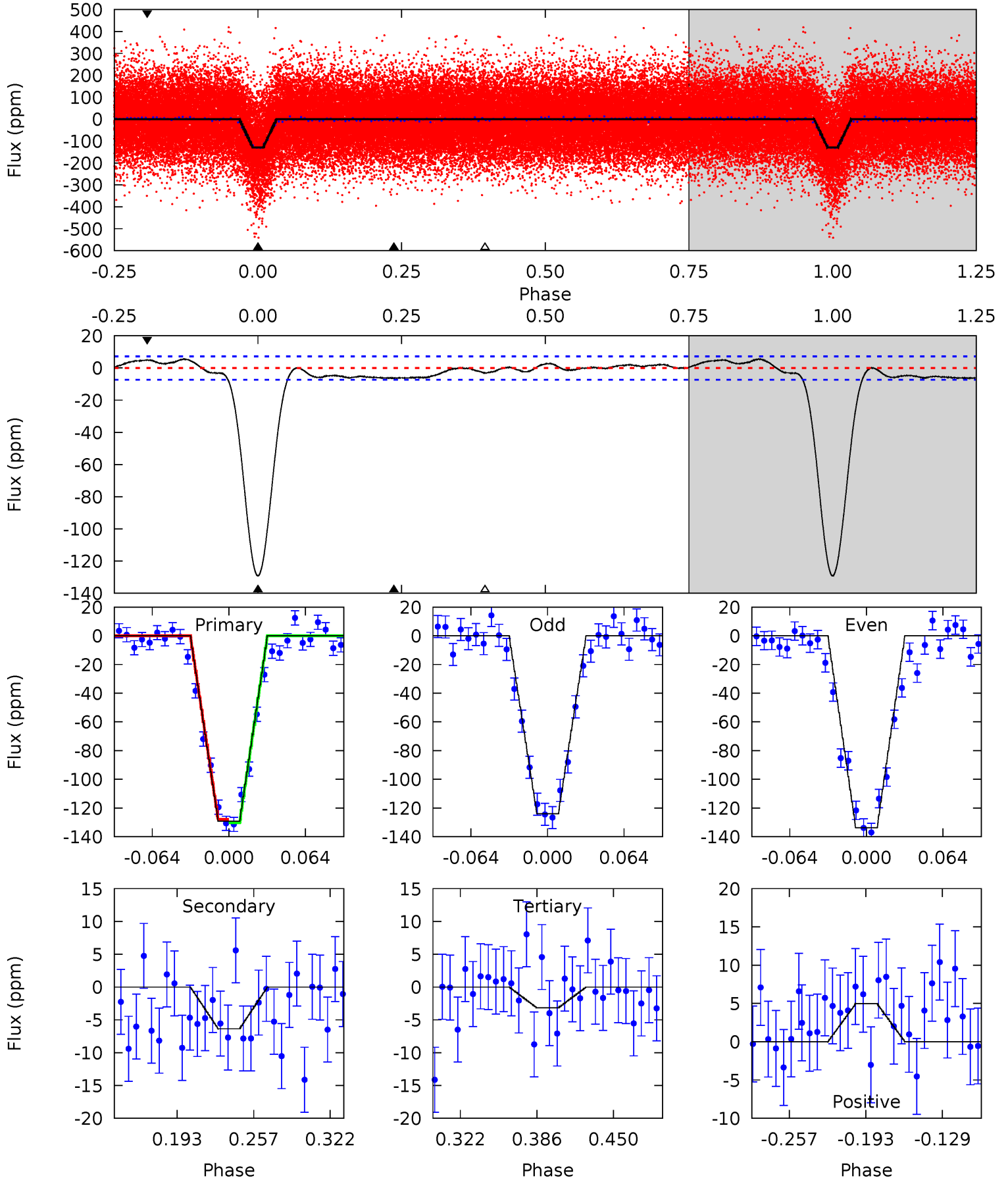




# Alt Model-Shift Uniqueness Test

010202759-01, P = 0.872947 Days, E = 131.501716 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
82.6	4.07	2.03	3.17	4.66	1.85	1.83	80.6	79.5	2.04	0.89	3.13	1.02	0.04	0.78





### Stellar Parameters For KIC 010202759

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7102^{+192}_{-235}$	$3.972^{+0.221}_{-0.119}$	$-0.280^{+0.300}_{-0.300}$	$2.082^{+0.460}_{-0.563}$	$1.480^{+0.205}_{-0.251}$	$0.231^{+0.308}_{-0.095}$
	+3%/-3%	+6%/-3%	+107%/-107%	+22%/-27%	+14%/-17%	+133%/-41%
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 010202759-01 / KOI 2405.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-3 \pm 1$	$2.35^{+0.39}_{-0.37}$	$4363^{+276}_{-302}$	$-3564^{+362}_{-275}$	$0.122^{+0.074}_{-0.057}$
Alt.	$-6 \pm 2$	$2.61^{+0.44}_{-0.40}$	$4375^{+267}_{-331}$	$-3202^{+5517}_{-394}$	$0.211^{+0.100}_{-0.070}$

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

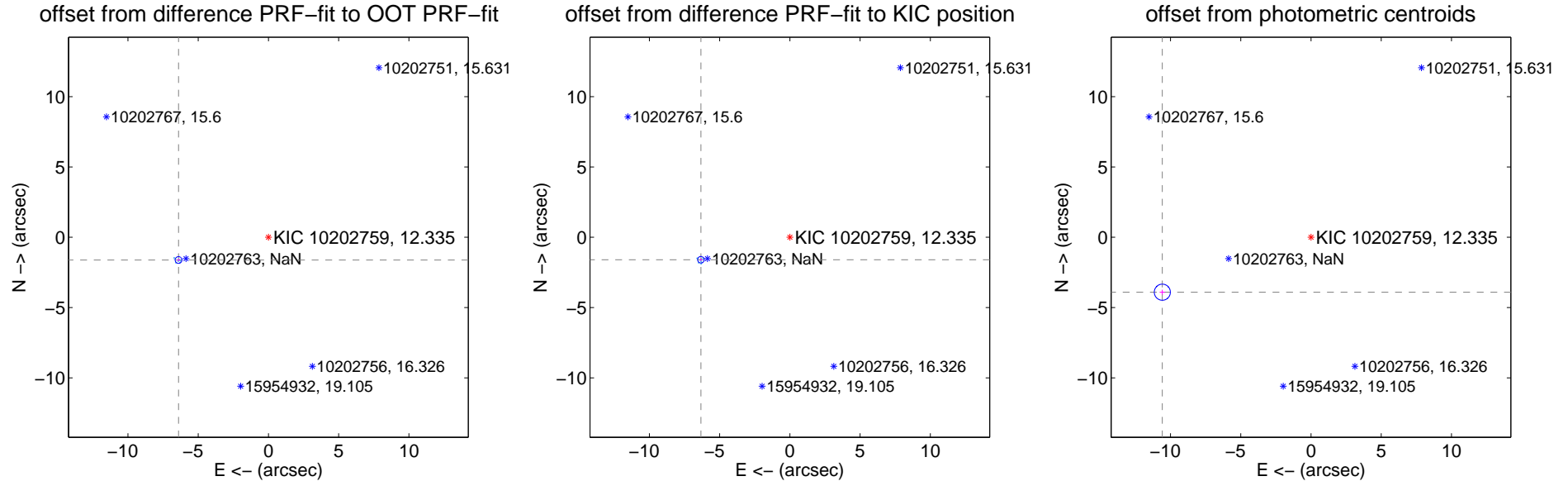
## DV Centroid Data

Supplemental centroid analysis for 010202759-01. Kepler magnitude: 12.34. Transit SNR 47.77

There are 17 quarters with good PRF difference image offsets

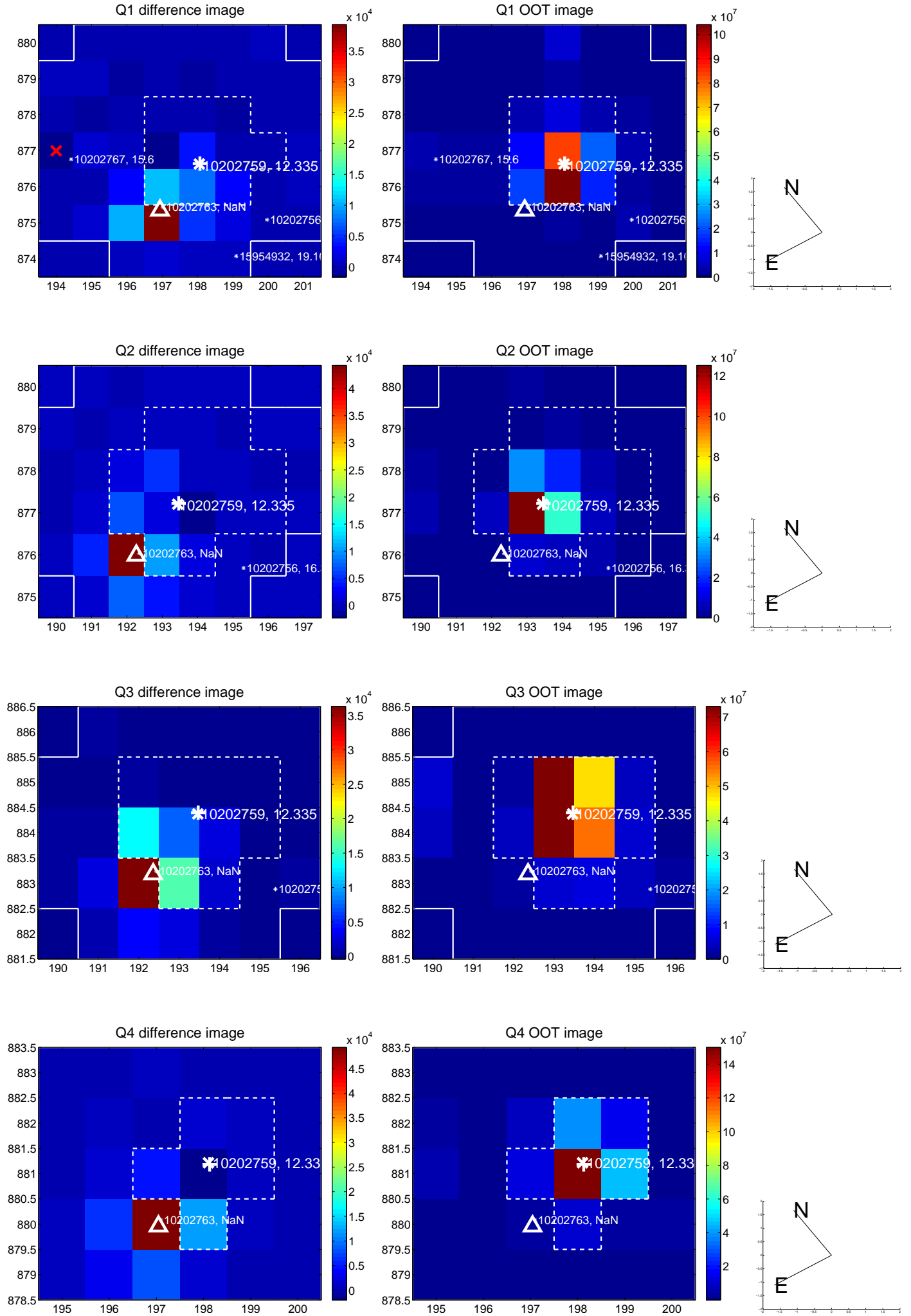
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$6.600 \pm 0.080$	82.45	$6.399 \pm 0.081$	$-1.617 \pm 0.072$
PRF-fit source offset from KIC position	$6.528 \pm 0.078$	84.19	$6.330 \pm 0.078$	$-1.596 \pm 0.077$
photometric centroid source offset	$11.28 \pm 0.19$	59.07	$10.58 \pm 0.19$	$-3.91 \pm 0.17$

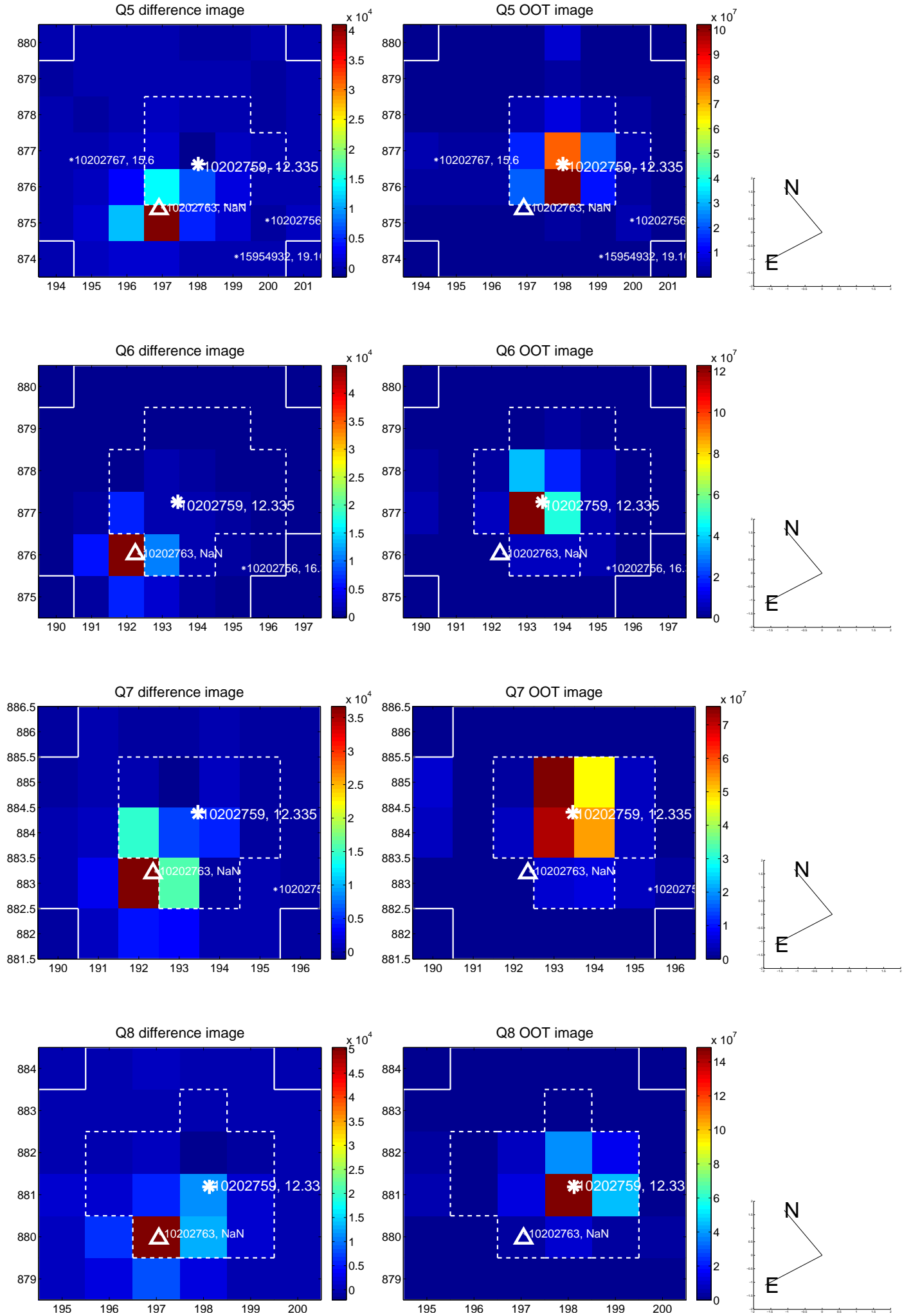


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

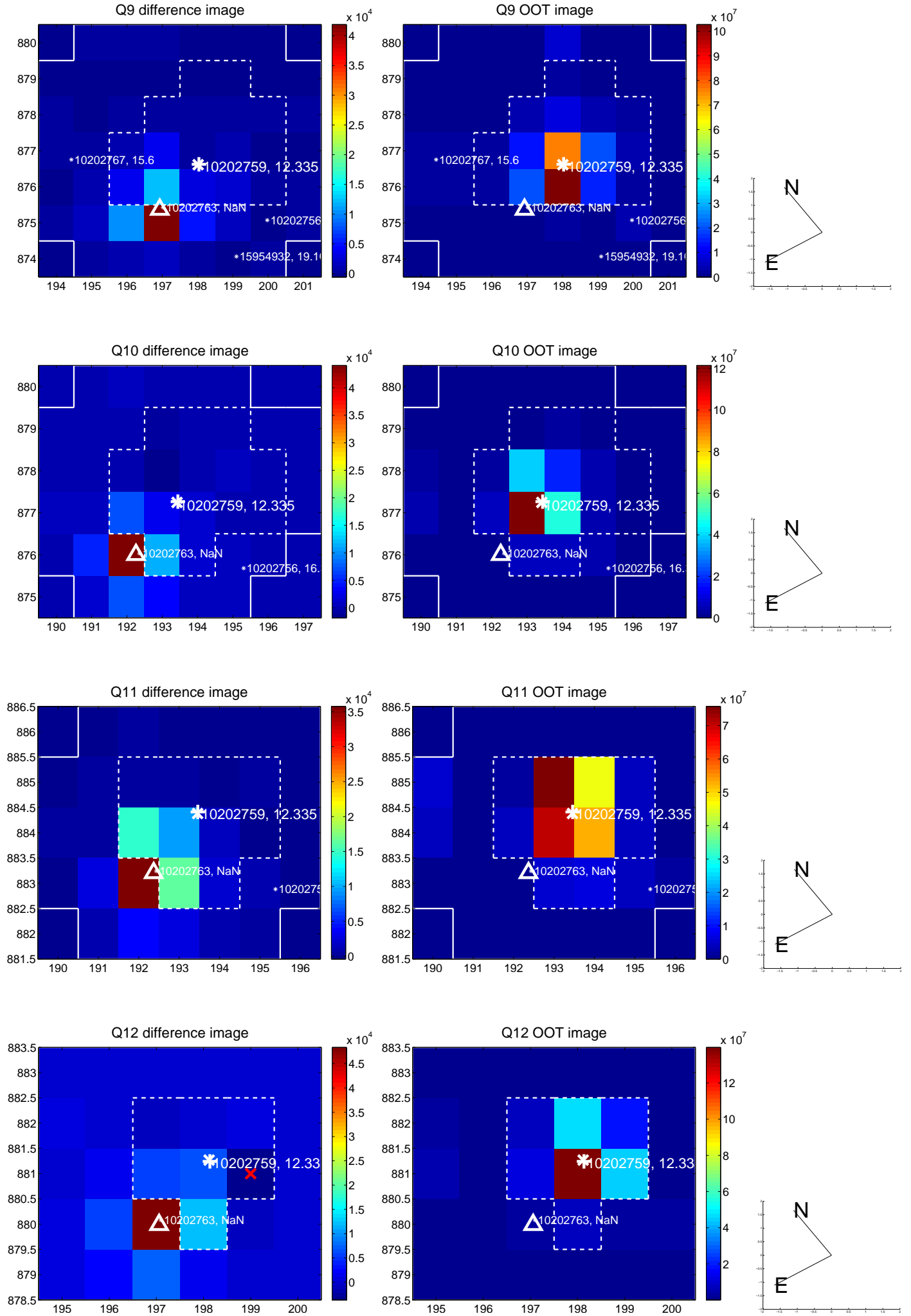


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

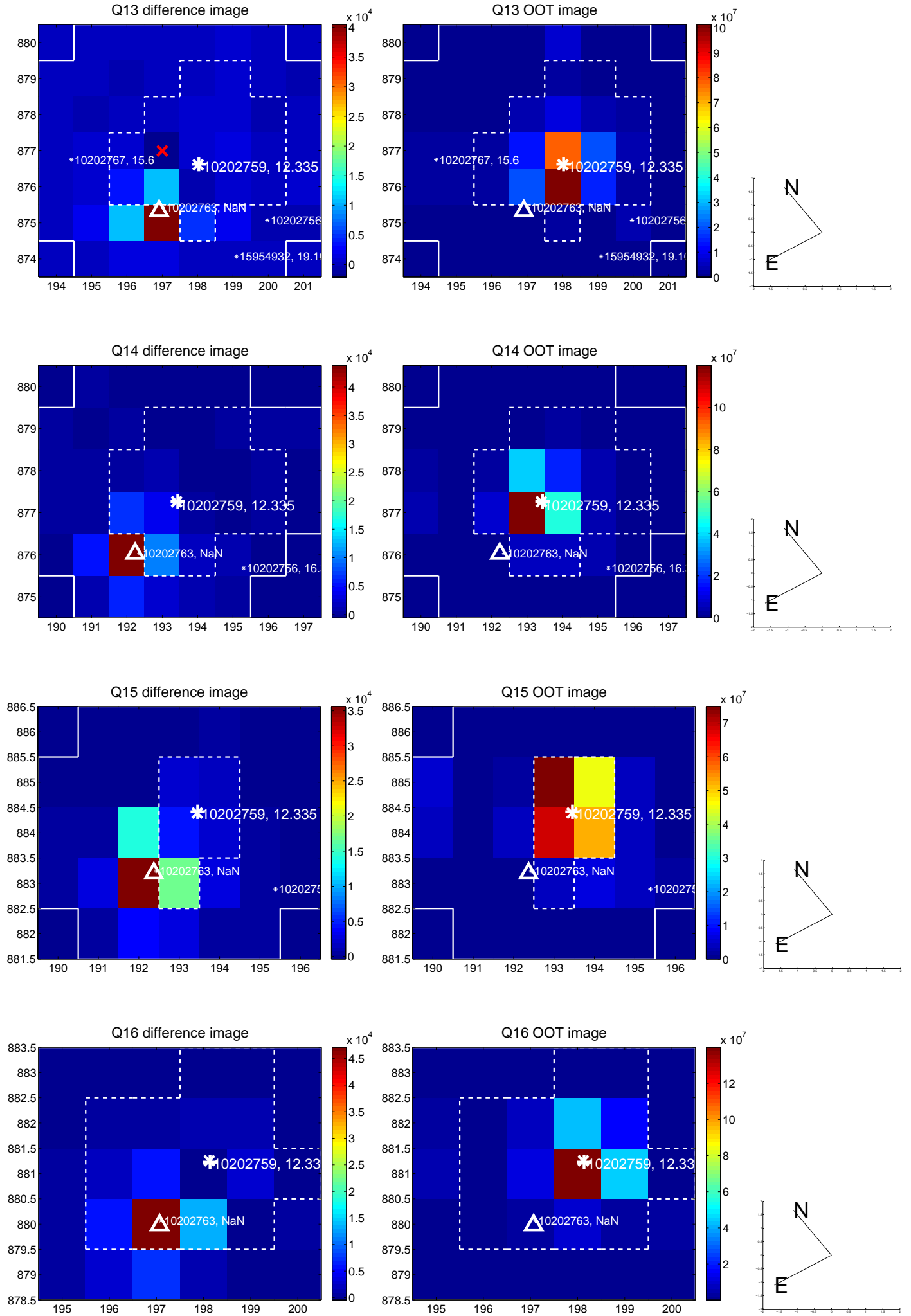




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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





UKIRT Image

