

# KIC 007798259

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007798259-01	OBS	6917.01	1.734227	132.831725	289512.0	2.479	6546.4	4001.8	0.70	4765	40.31	365.23
007798259-02	OBS	No	1.734224	131.964119	94097.9	1.500	2404.9	-1.0	0.70	4765	21.07	365.23

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007798259-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
007798259-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS

**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.

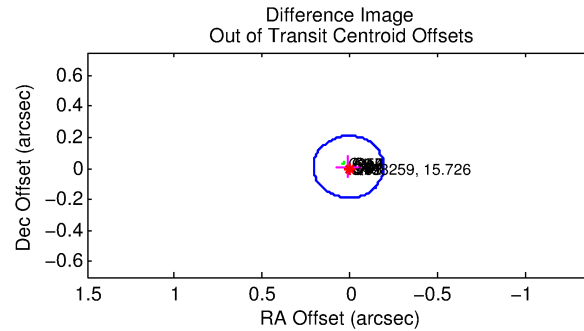
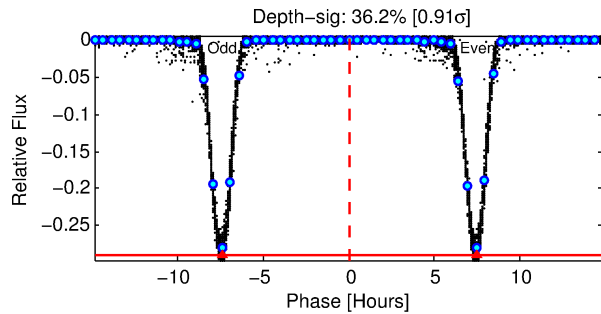
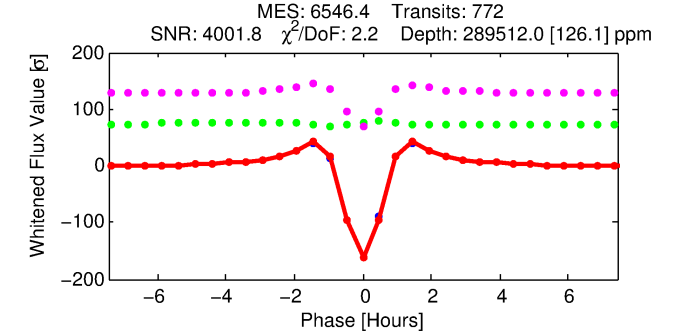
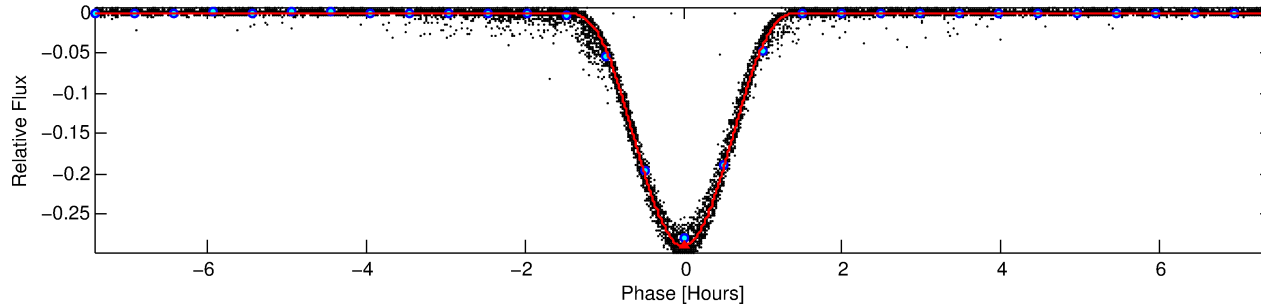
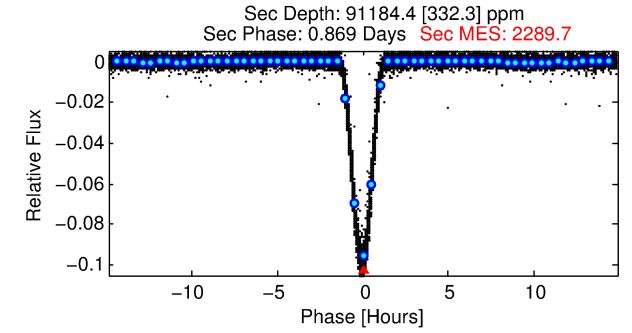
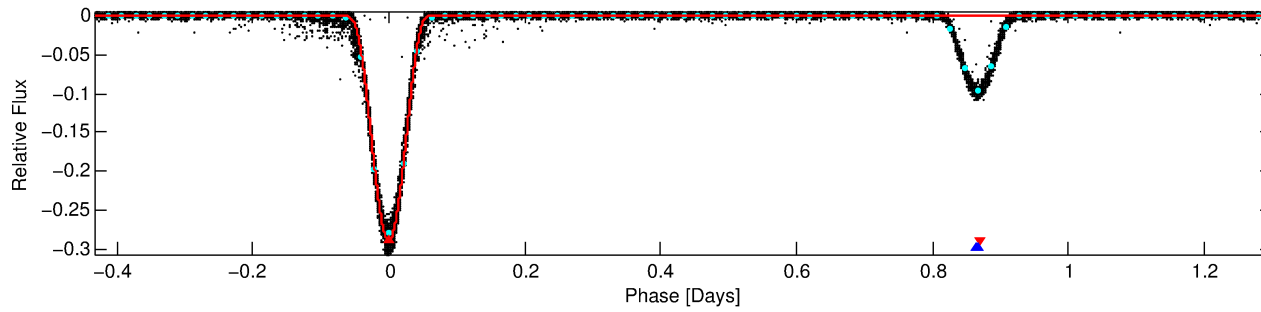
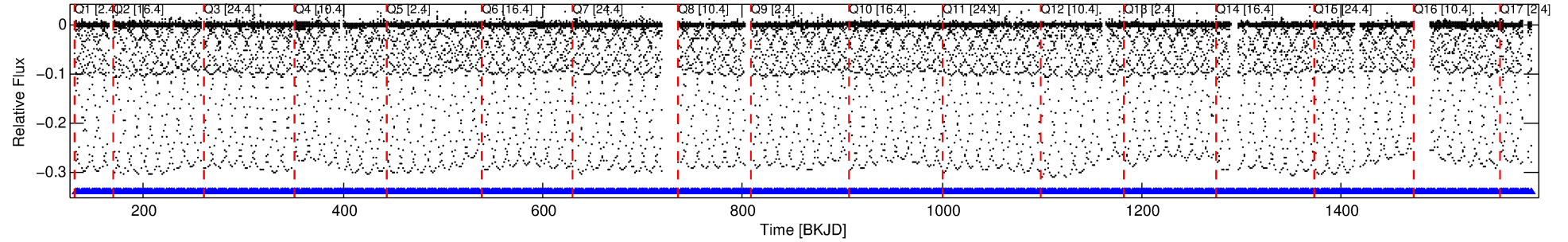
## Ephemeris Match Information For 007798259-01

No Significant Match Found

# DV One-Page Summary

KIC: 7798259 Candidate: 1 of 2 Period: 1.734 d  
KOI: K06917.01 Corr: 0.975

Kp: 15.73 R\*: 0.70 Rs Teff: 4765.0 K Logg: 4.58 Fe/H: -0.180



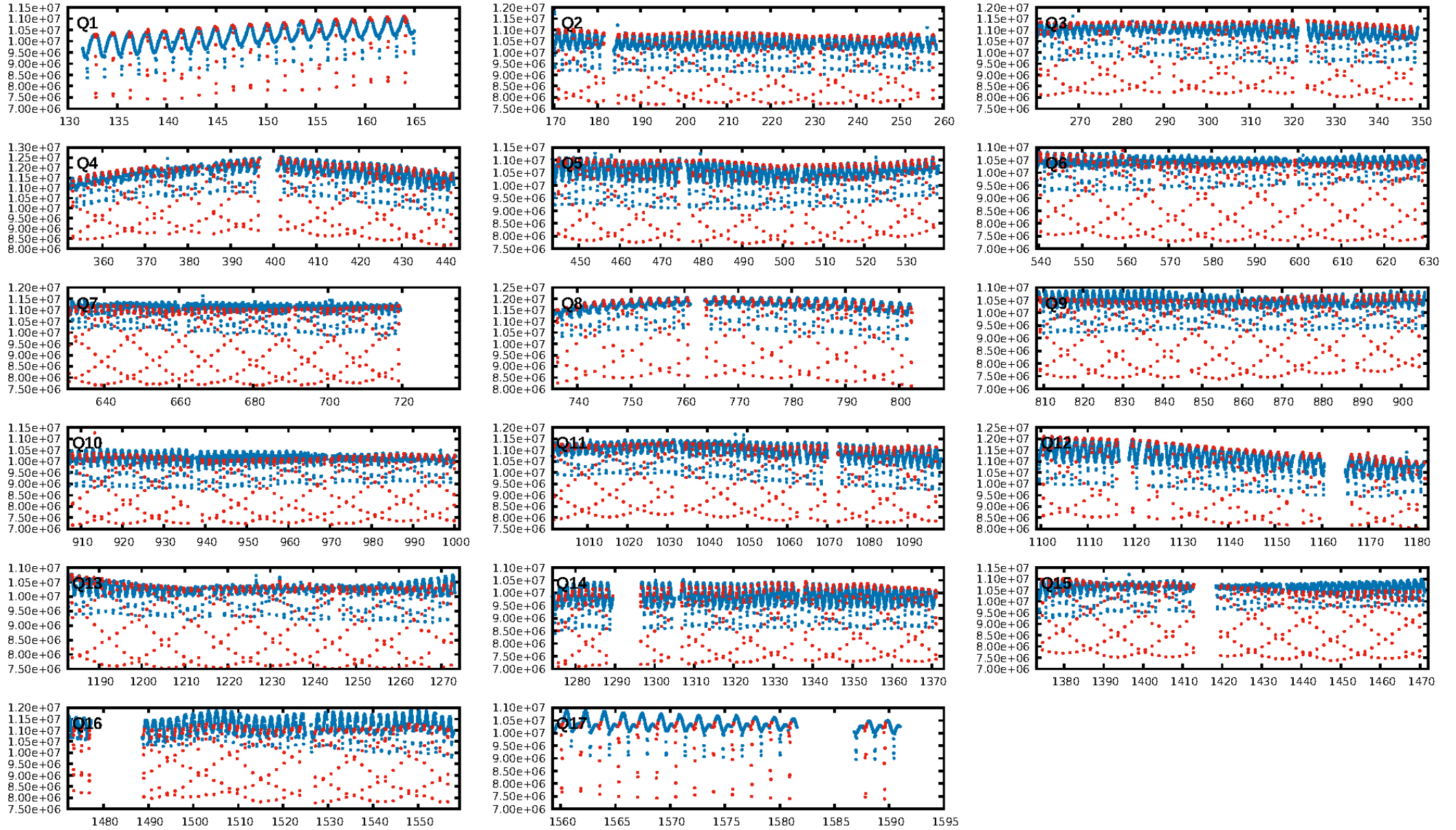
## DV Fit Results:

Period = 1.73423 [0.00000] d  
Epoch = 132.8317 [0.0000] BKJD  
Rp/R\* = 0.5262 [0.0009]  
a/R\* = 7.77 [0.00]  
b = 0.50 [0.00]  
Seff = 365.23 [58.49]  
Teff = 1115 [45] K  
Rp = 40.31 [3.85] Re  
a = 0.0250 [0.0019] AU  
Ag = 19.24 [2.06] [8.85σ]  
Teffp = 3610 [108] K [21.41σ]

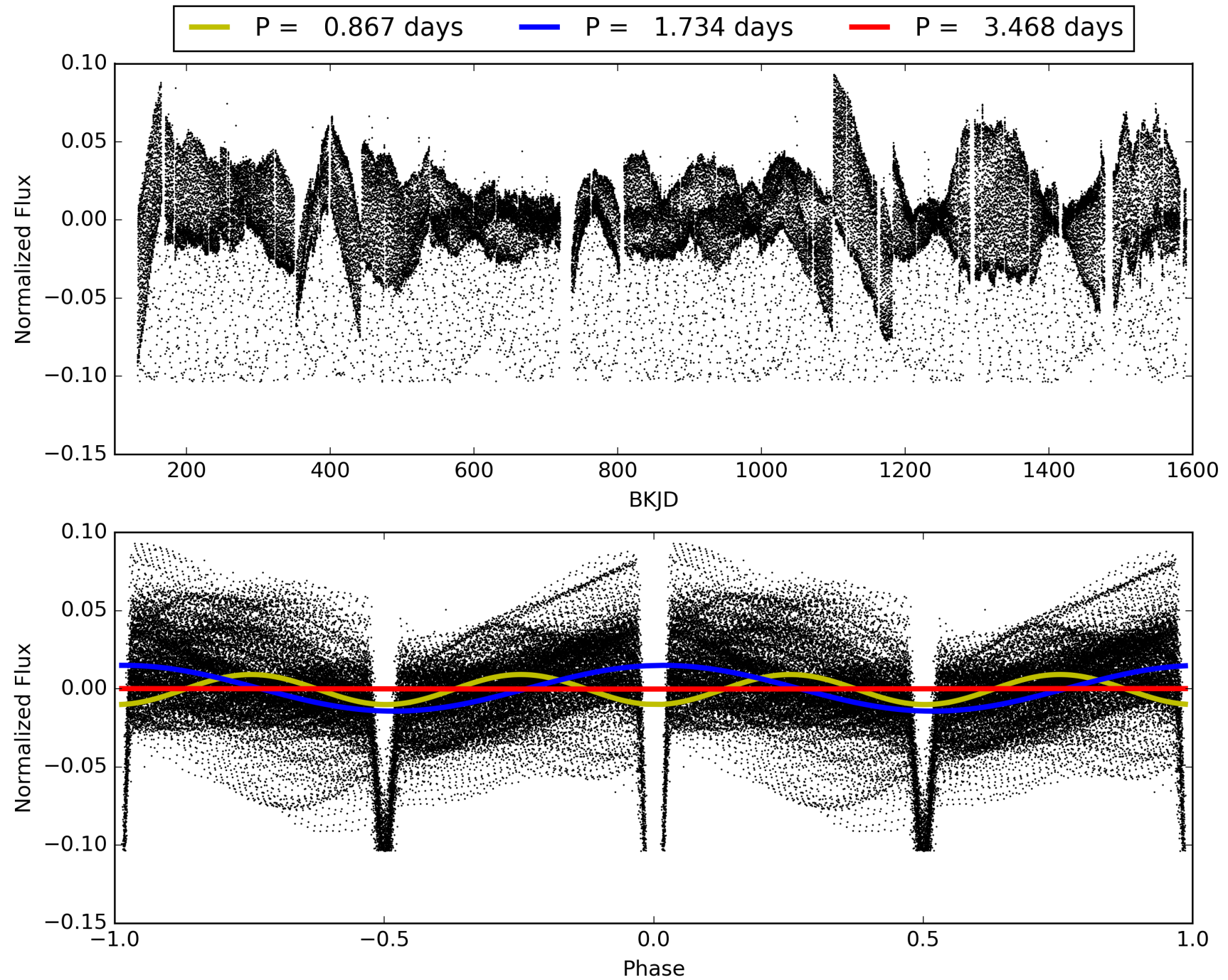
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [738/738]  
GhostDiagnostic-chr: 1.63  
Centroid-sig: 0.0%  
Centroid-so: 1.112 arcsec [914.97σ]  
OotOffset-rm: 0.014 arcsec [0.21σ]  
KicOffset-rm: 0.195 arcsec [2.83σ]  
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]

# TCE 007798259-01, PDC Light Curves

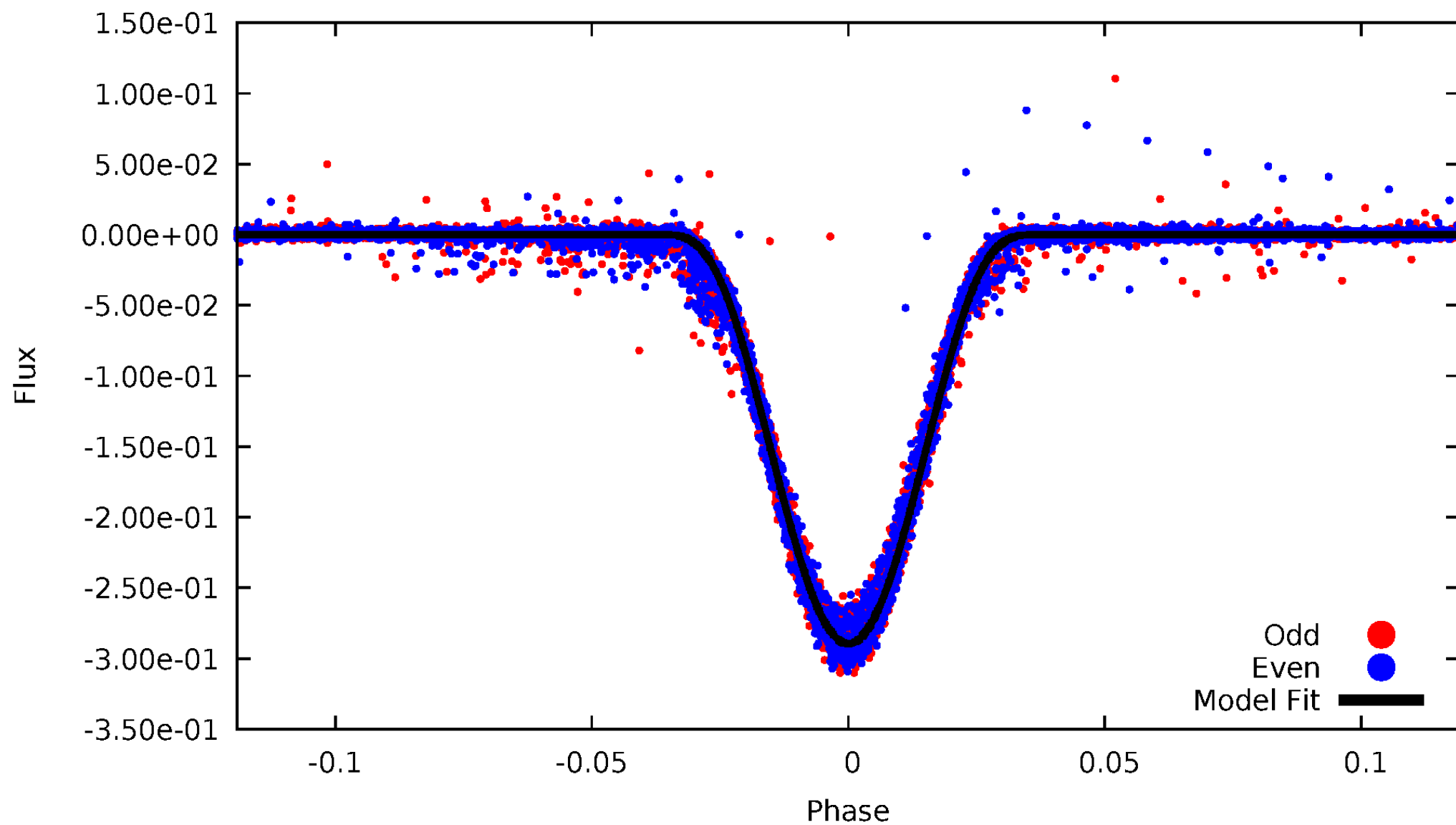


TCE 007798259-01



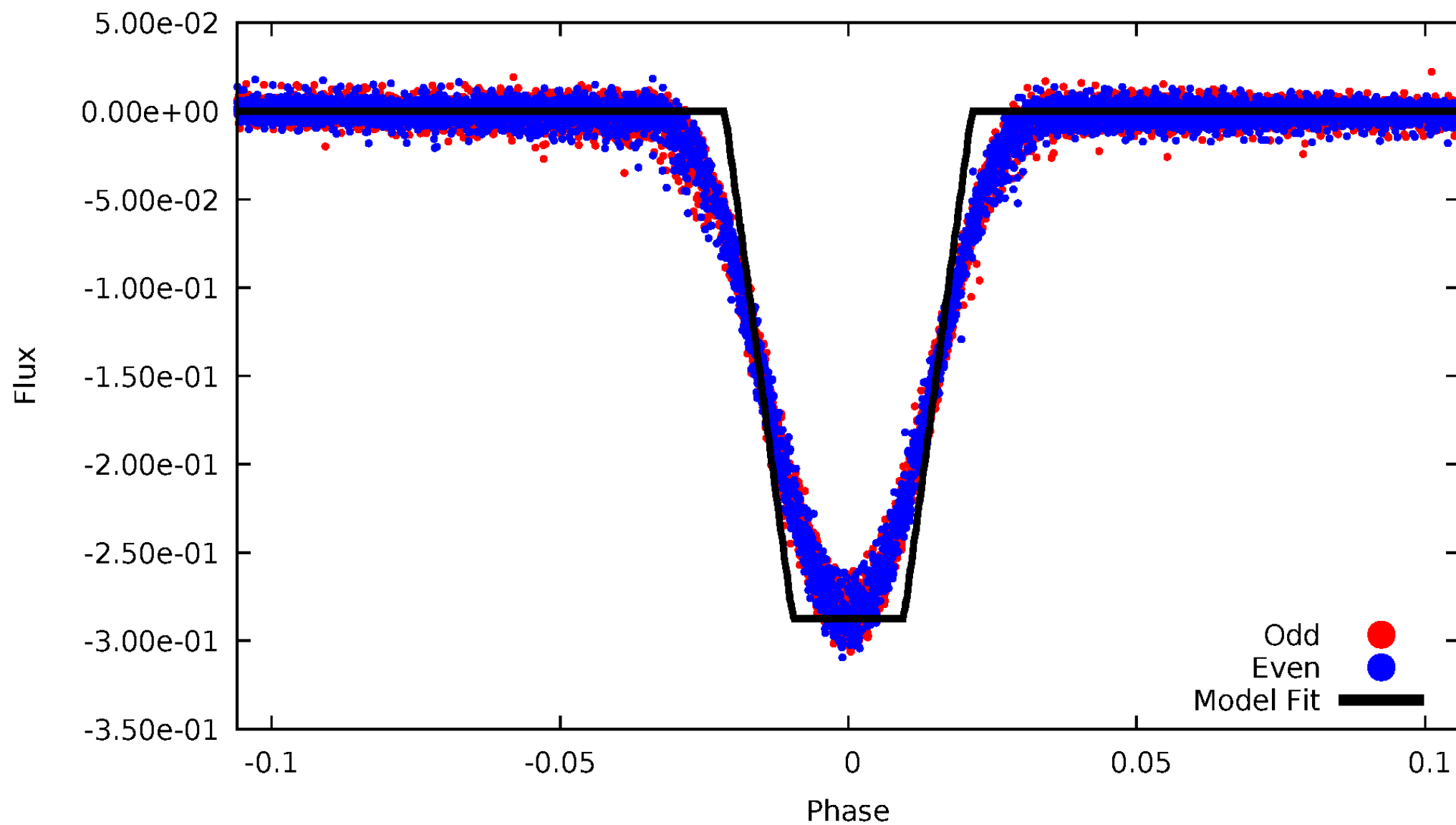
# DV Odd/Even

TCE 007798259-01



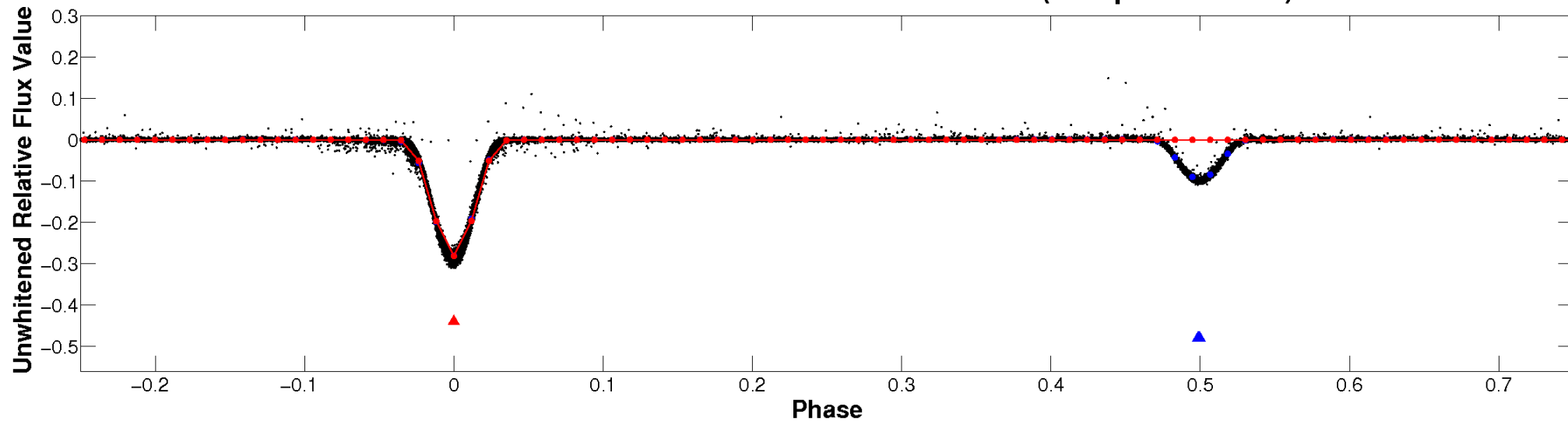
# ALT Odd/Even

TCE 007798259-01

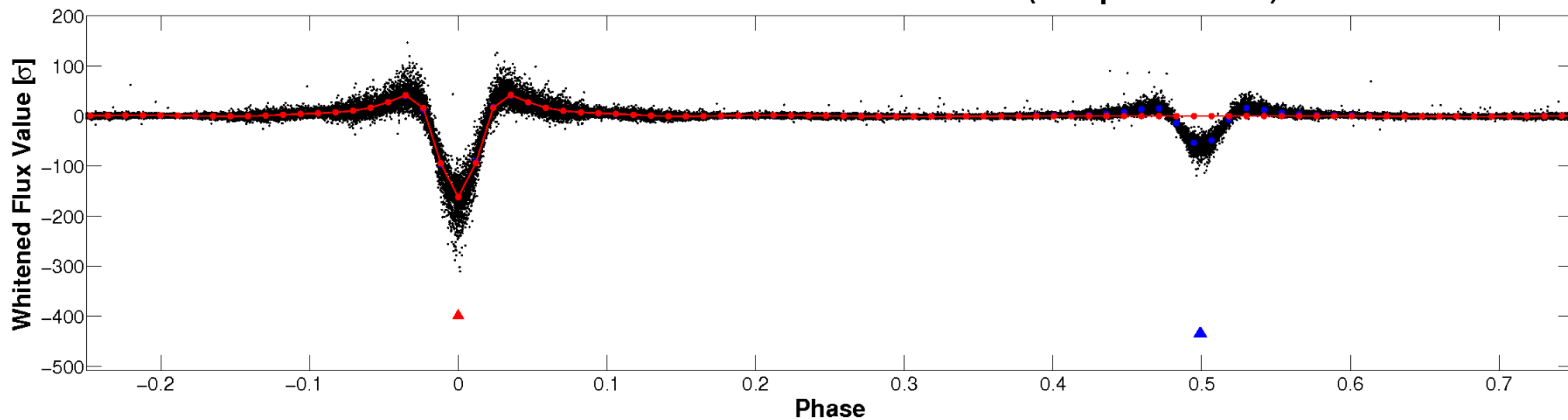


# Non-Whitened Vs. Whitened Light Curve

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

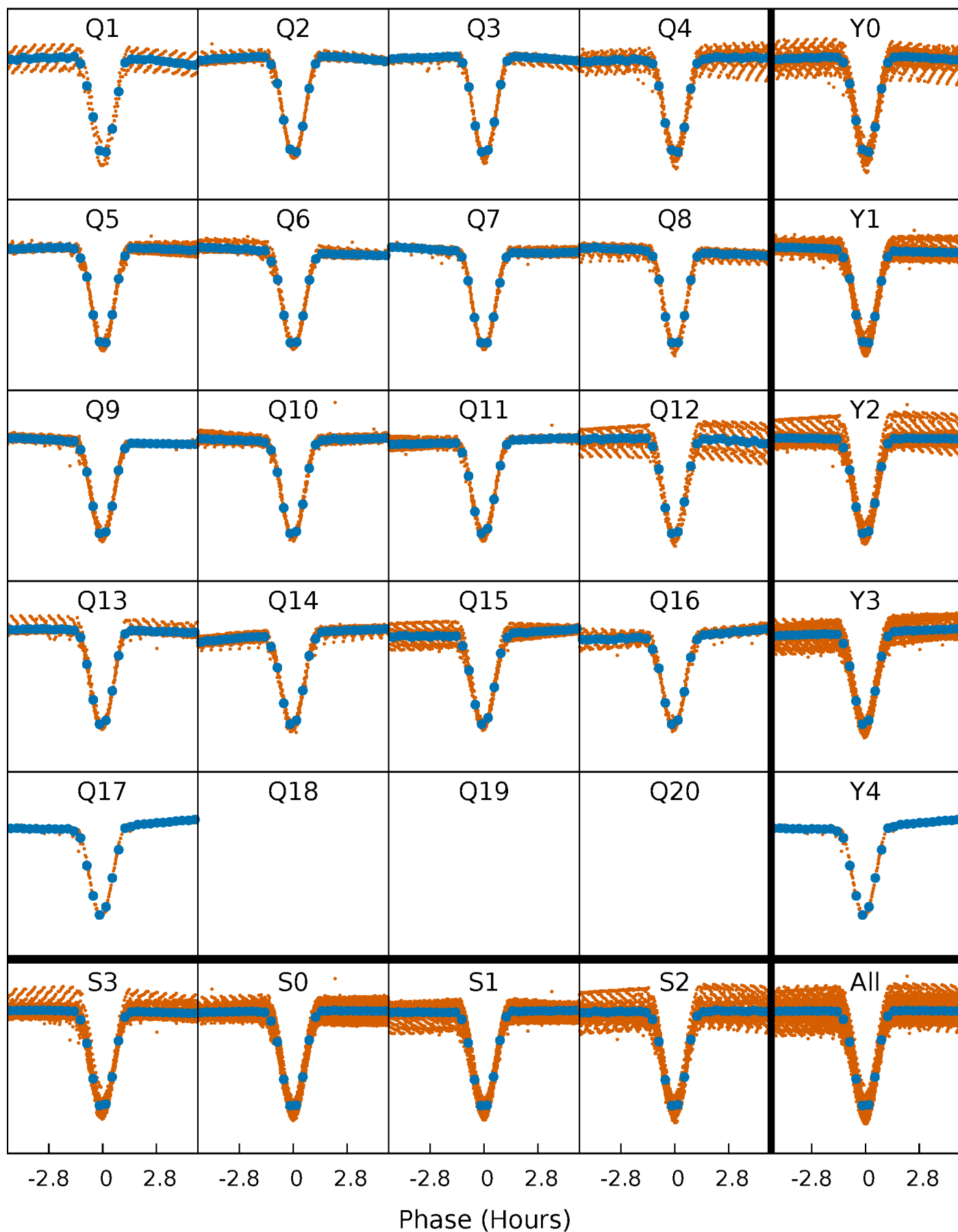


## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



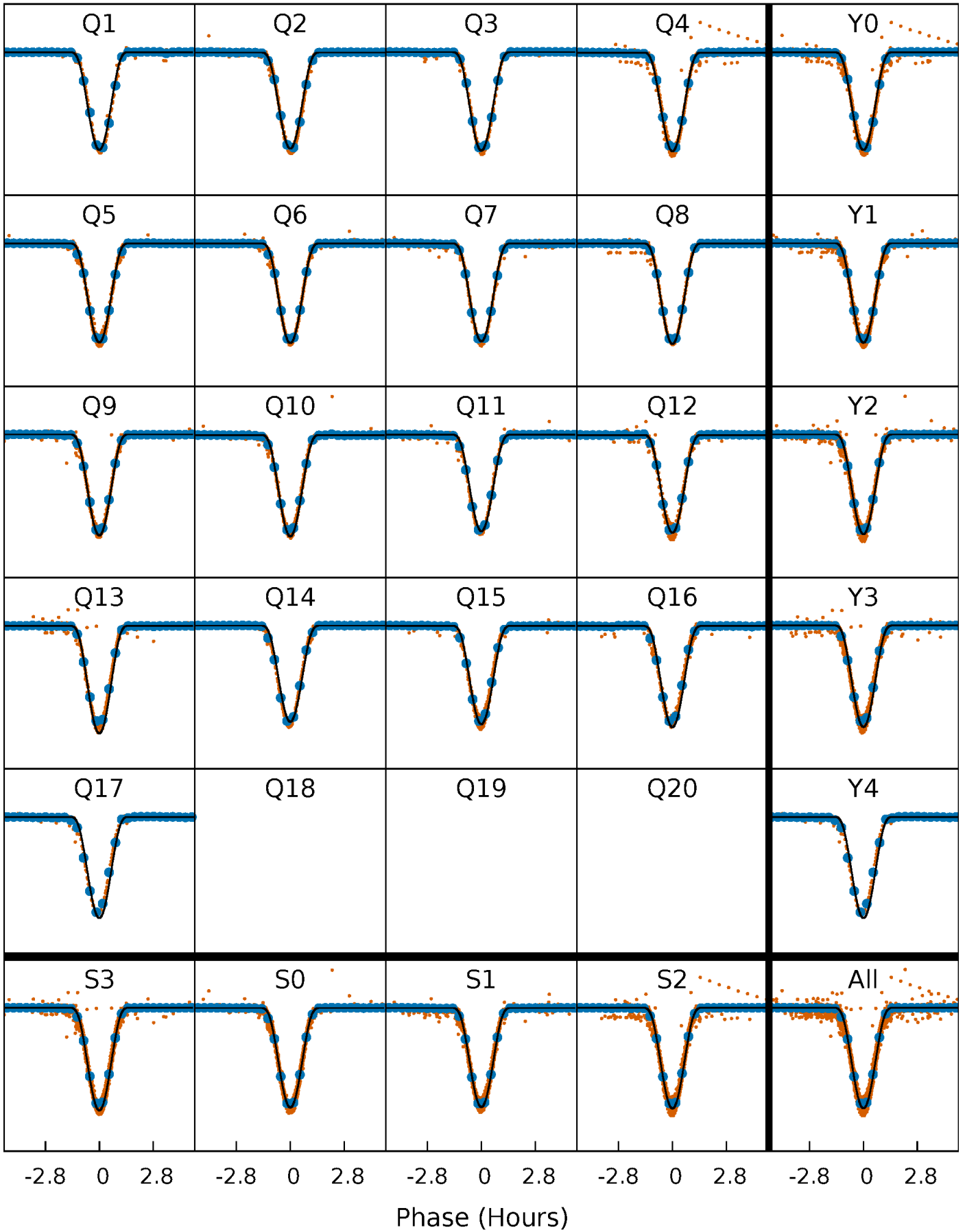
# PDC Quarter-Phased Transit Curves

TCE 007798259-01   P= 1.734227 Days    $T_0=132.831725$  (BKJD)



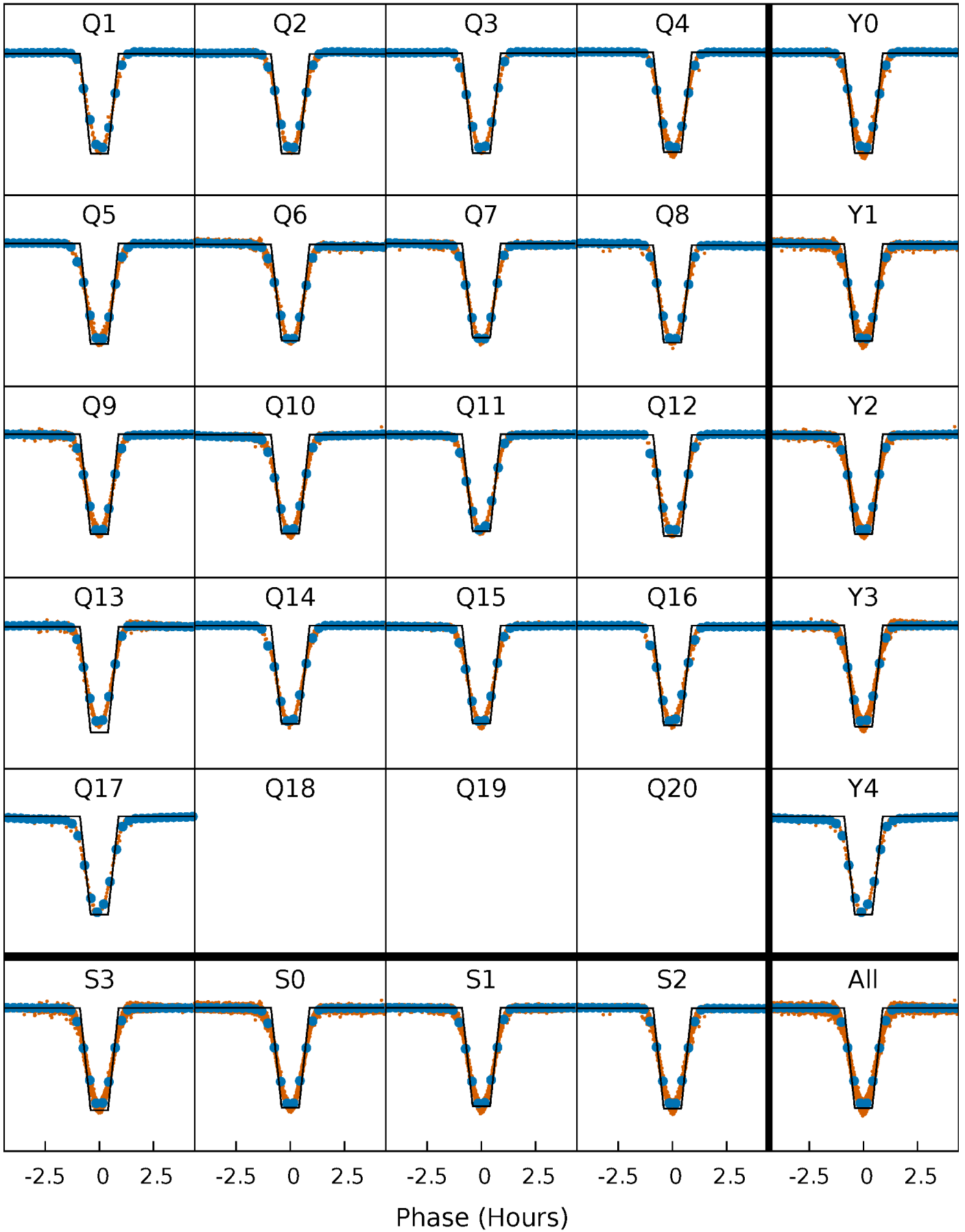
# DV Quarter-Phased Transit Curves

TCE 007798259-01   P= 1.734227 Days    $T_0=132.831725$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

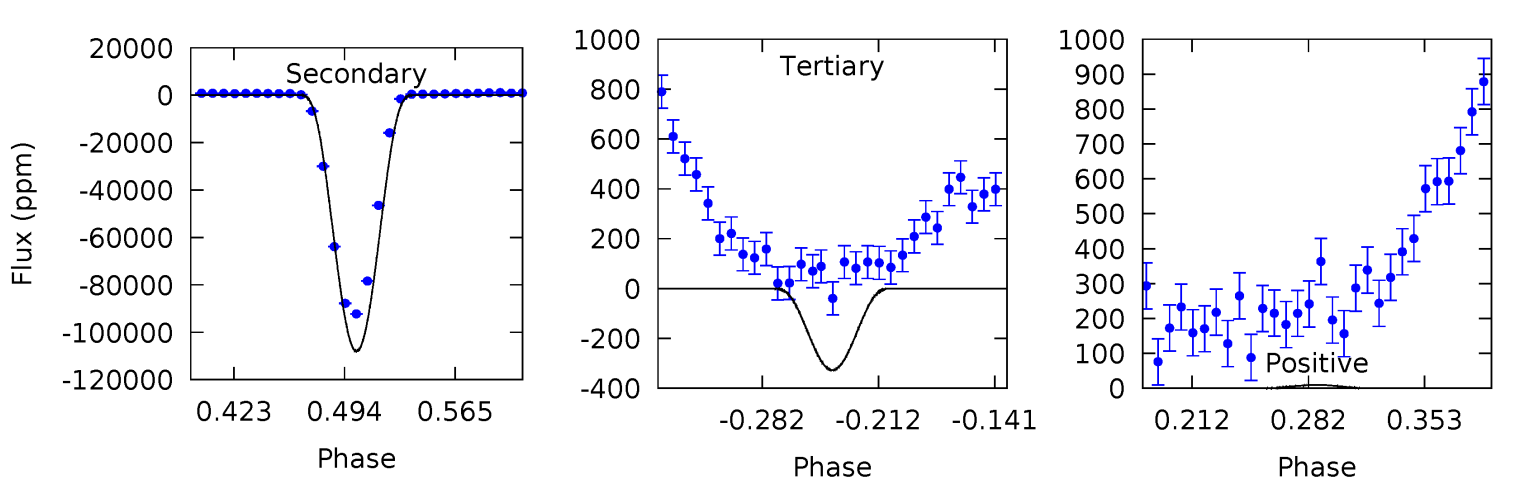
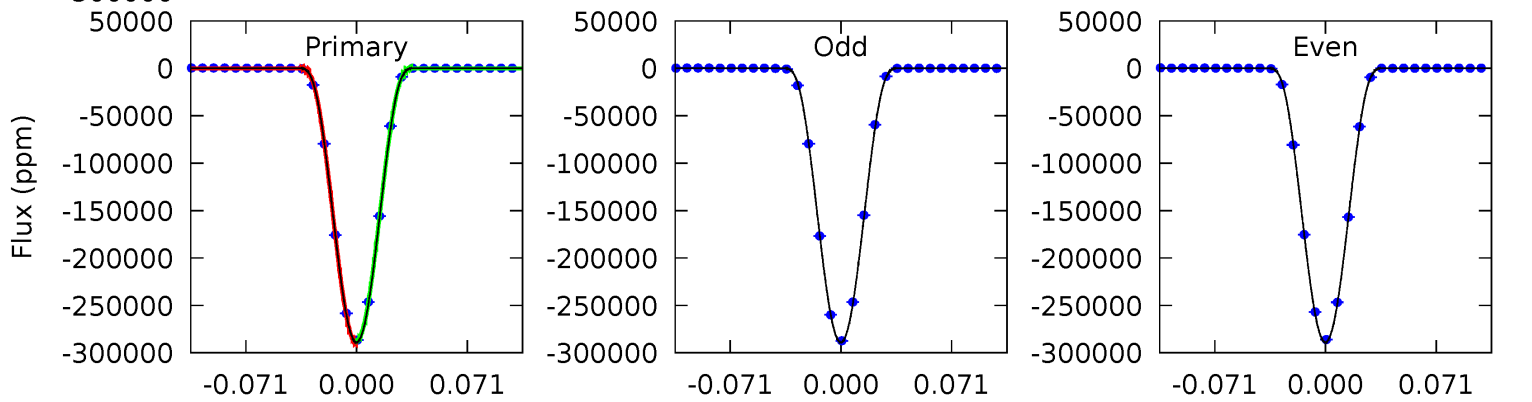
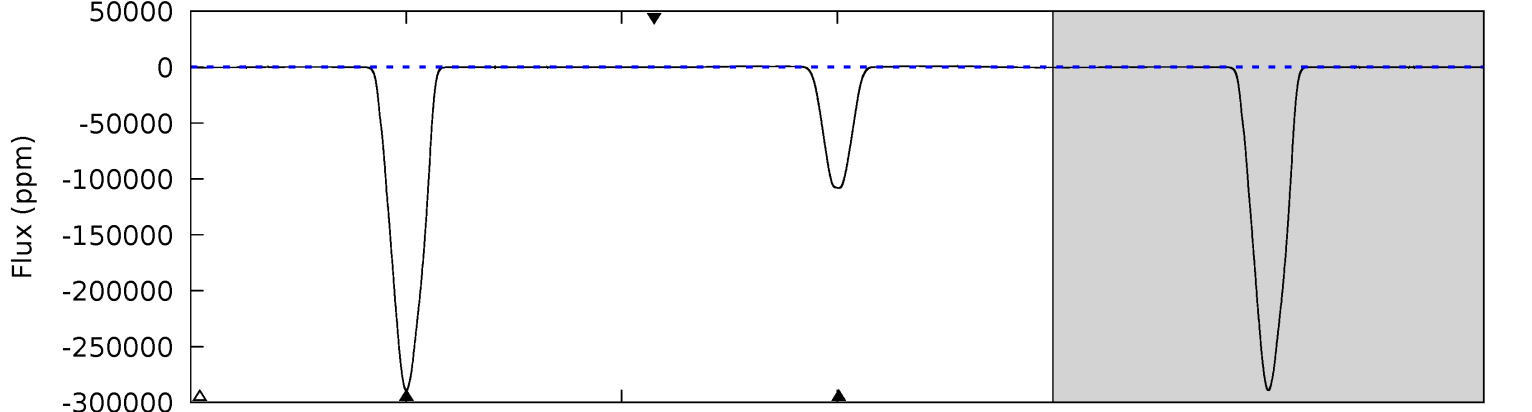
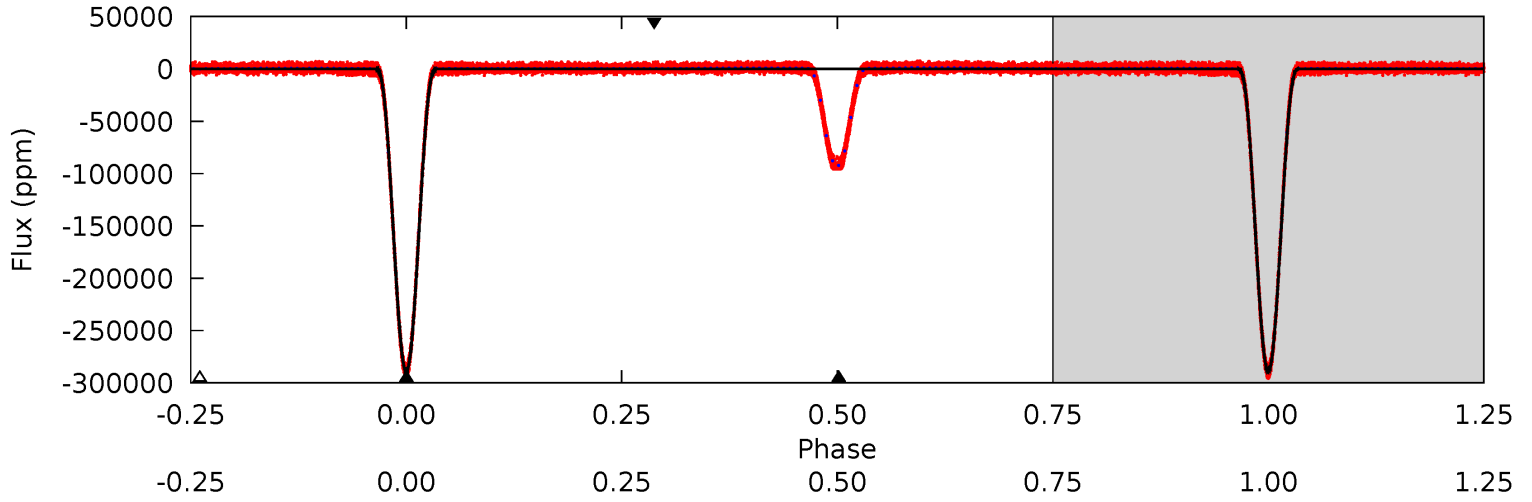
TCE 007798259-01   P= 1.734224 Days    $T_0=132.832277$  (BKJD)



# DV Model-Shift Uniqueness Test

007798259-01, P = 1.734227 Days, E = 131.097498 Days

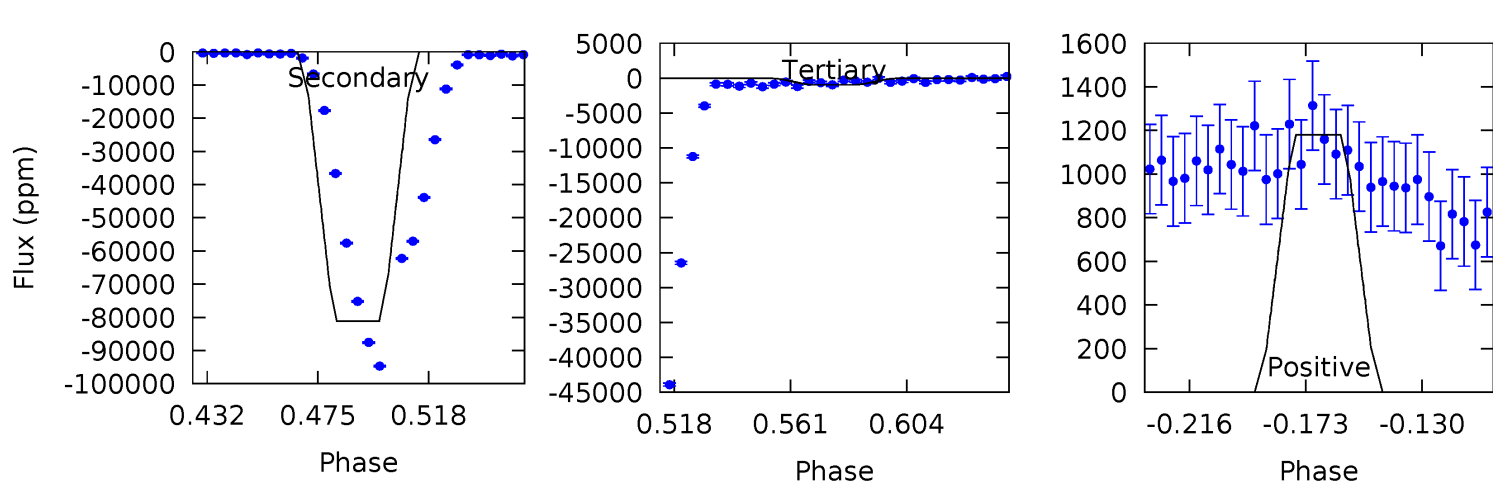
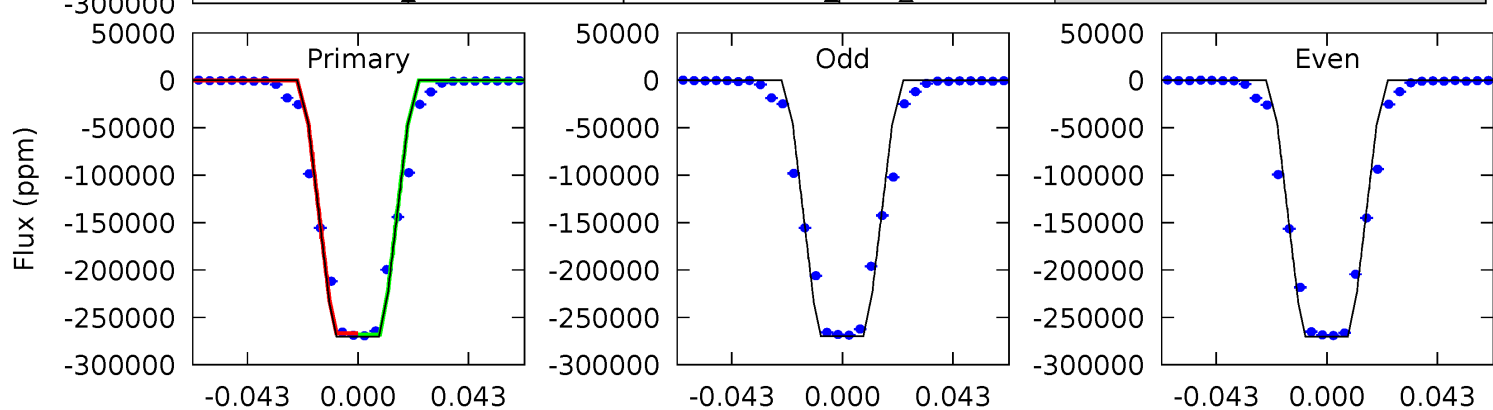
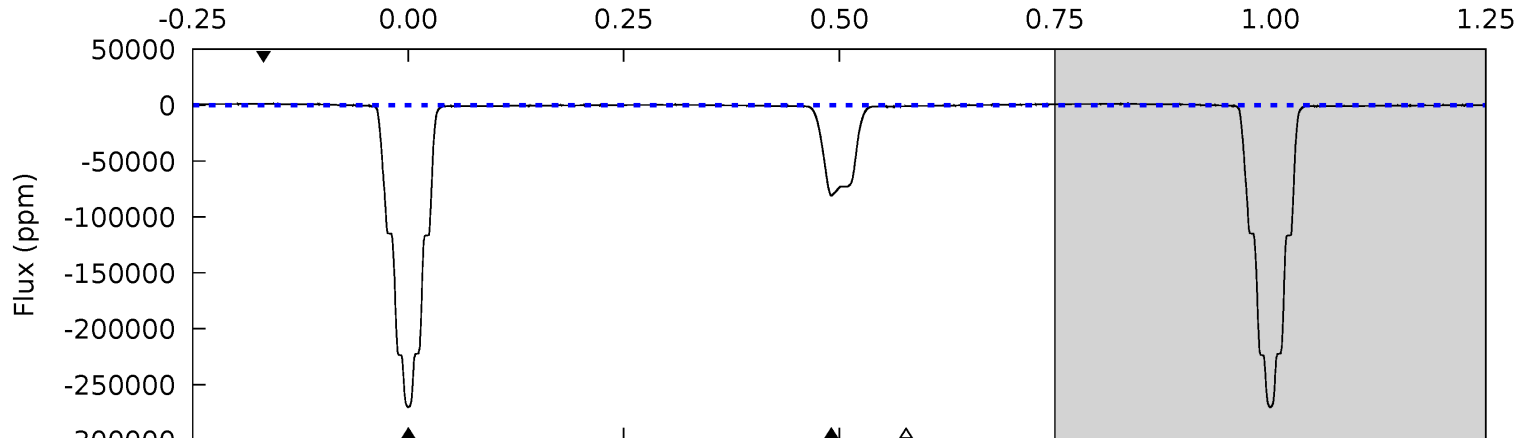
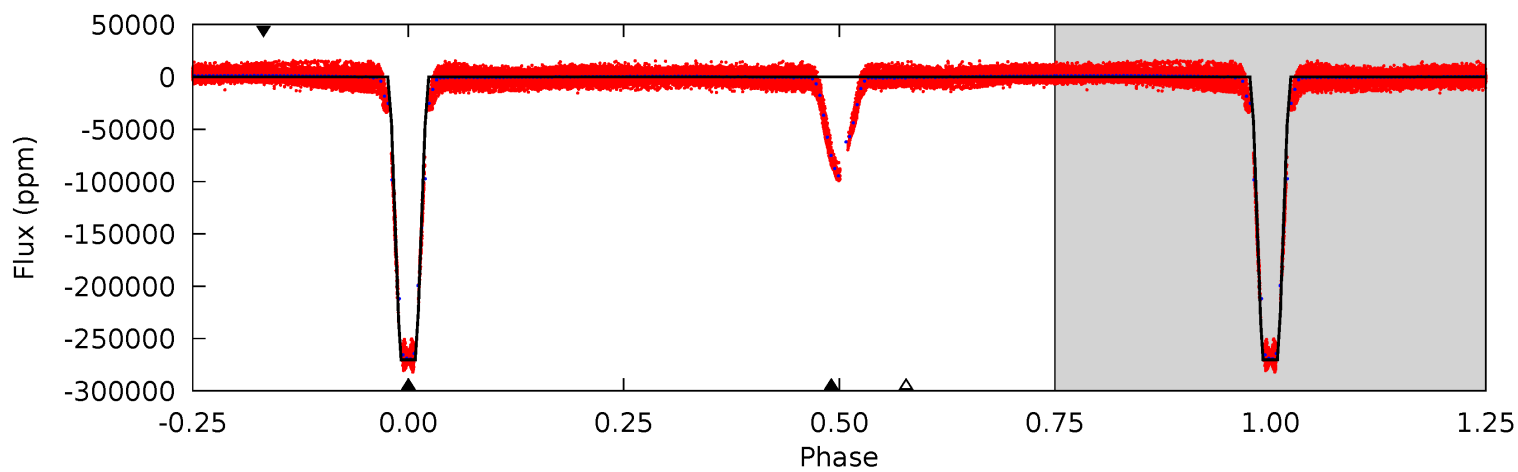
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9396	3512	10.6	0.31	4.64	1.81	11.7	9386	9396	3501	3512	2.64	0.99	0.00	0



# Alt Model-Shift Uniqueness Test

007798259-01, P = 1.734224 Days, E = 131.098053 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
2295	689.7	8.20	10.0	4.74	2.02	5.58	2287	2285	681.5	679.7	2.32	1.00	0.00	0



### Stellar Parameters For KIC 007798259

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4765^{+142}_{-142}$	$4.584^{+0.056}_{-0.032}$	$-0.180^{+0.300}_{-0.300}$	$0.702^{+0.055}_{-0.067}$	$0.690^{+0.076}_{-0.055}$	$2.810^{+0.696}_{-0.386}$
	+3%/-3%	+1%/-1%	+167%/-167%	+8%/-10%	+11%/-8%	+25%/-14%
Source	PHO1	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 007798259-01 / KOI 6917.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-108029 \pm 31$	$40.35^{+1.81}_{-2.10}$	$1547^{+57}_{-49}$	$4053^{+113}_{-100}$	$26^{+2}_{-2}$
Alt.	$-81197 \pm 118$	$40.95^{+2.09}_{-1.97}$	$1547^{+55}_{-56}$	$3805^{+97}_{-92}$	$18^{+1}_{-1}$

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

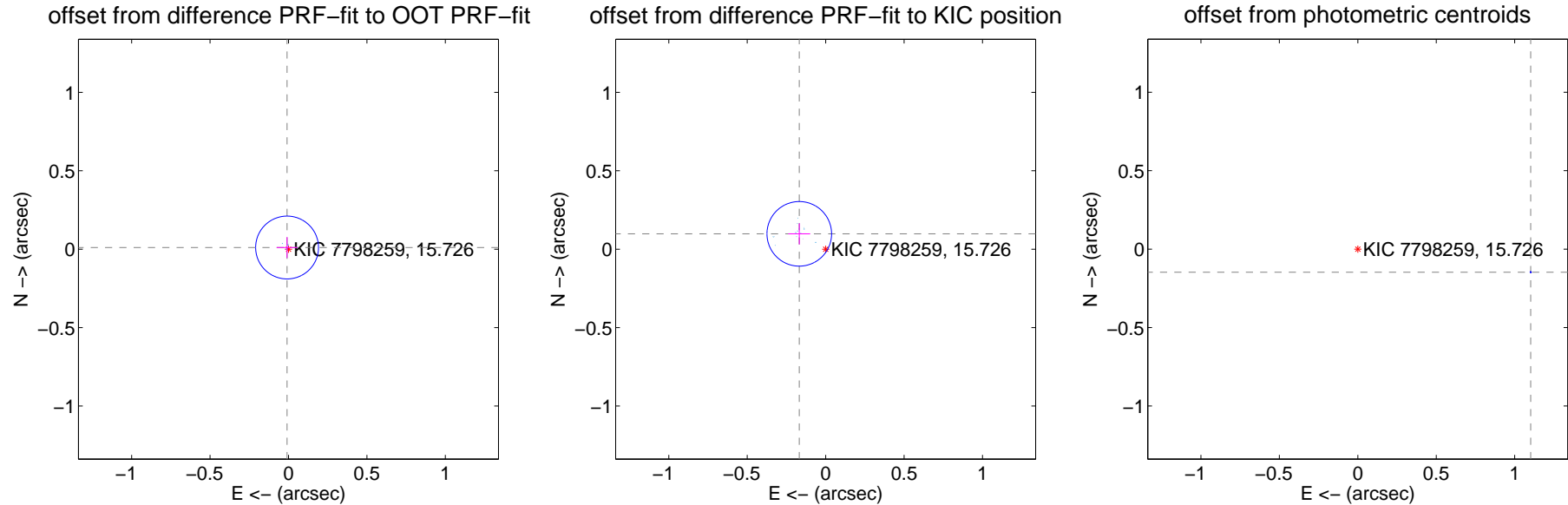
## DV Centroid Data

Supplemental centroid analysis for 007798259-01. Kepler magnitude: 15.73. Transit SNR 4001.75

There are 17 quarters with good PRF difference image offsets

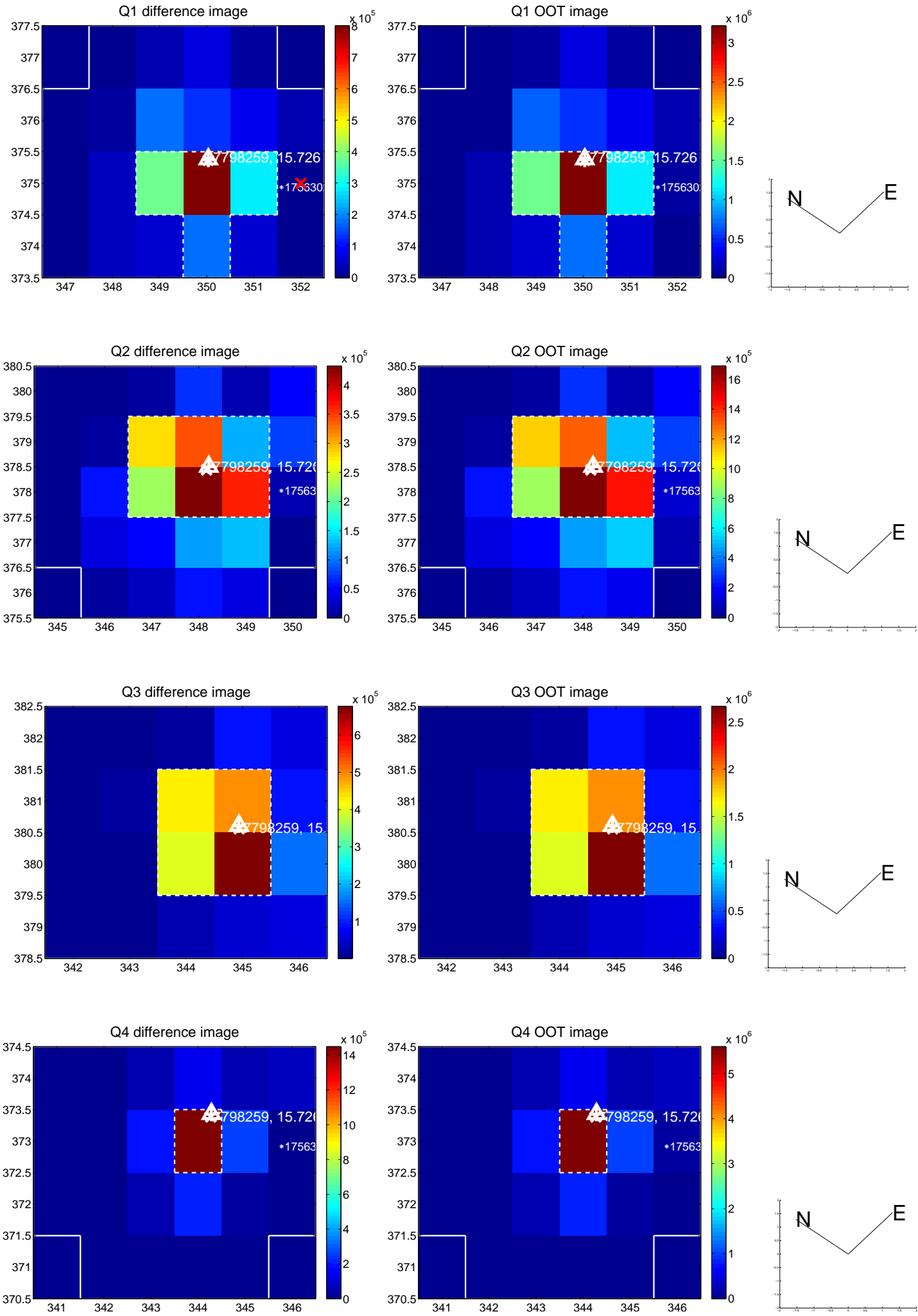
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.014 \pm 0.067$	0.21	$0.009 \pm 0.067$	$0.011 \pm 0.067$
PRF-fit source offset from KIC position	$0.195 \pm 0.069$	2.83	$0.168 \pm 0.070$	$0.098 \pm 0.067$
photometric centroid source offset	$1.11 \pm 0.00$	914.97	$-1.10 \pm 0.00$	$-0.15 \pm 0.00$

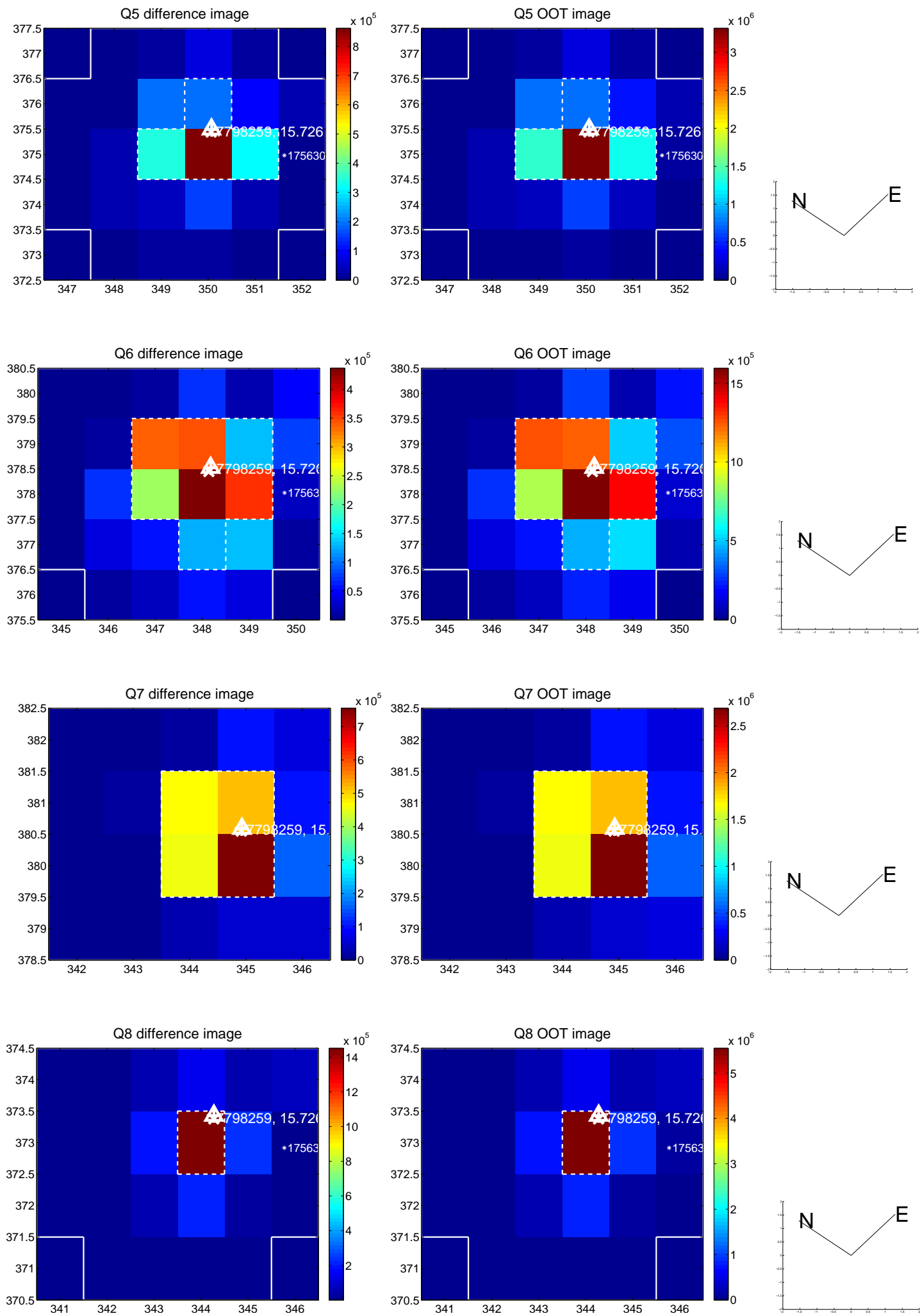


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

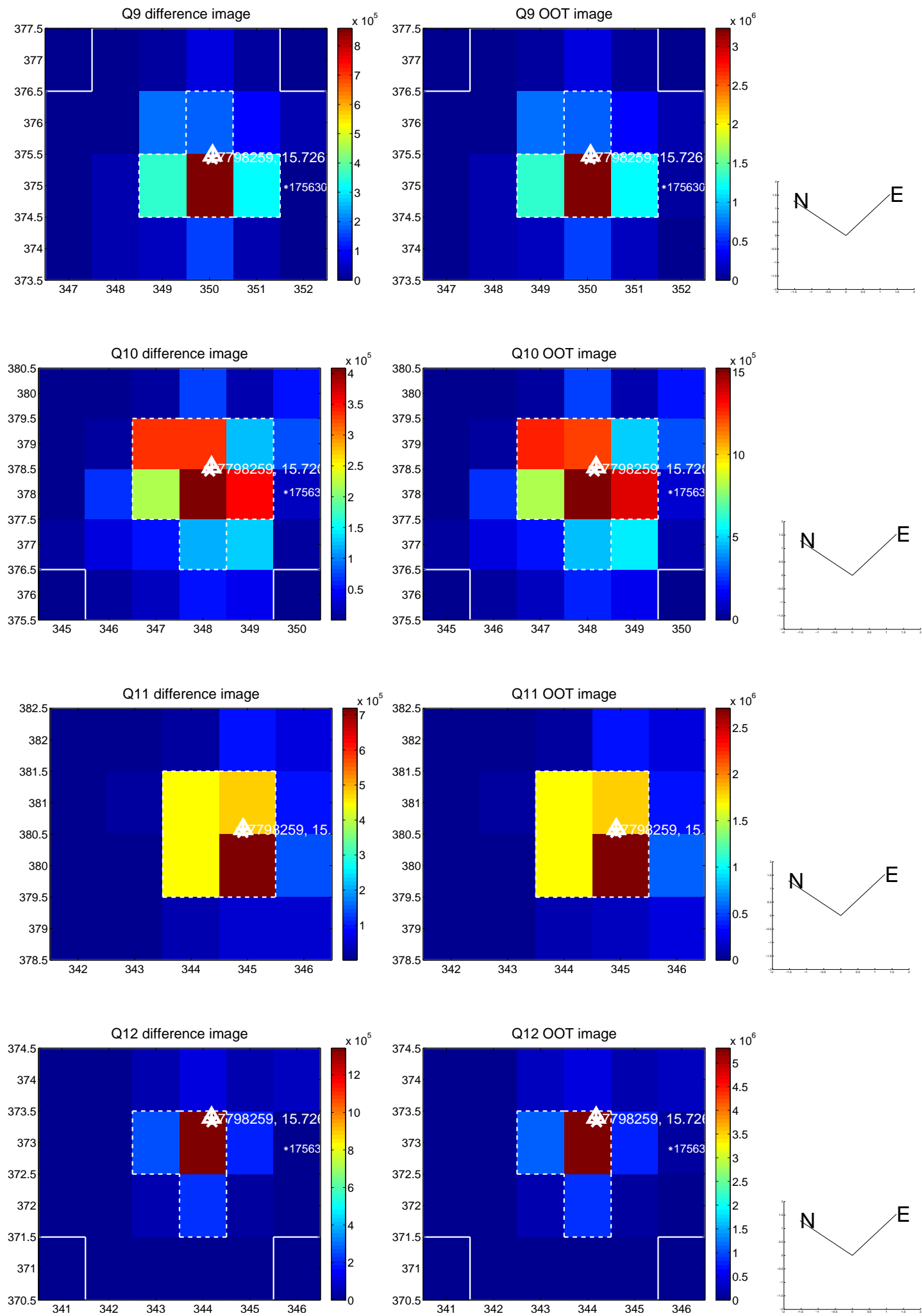
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



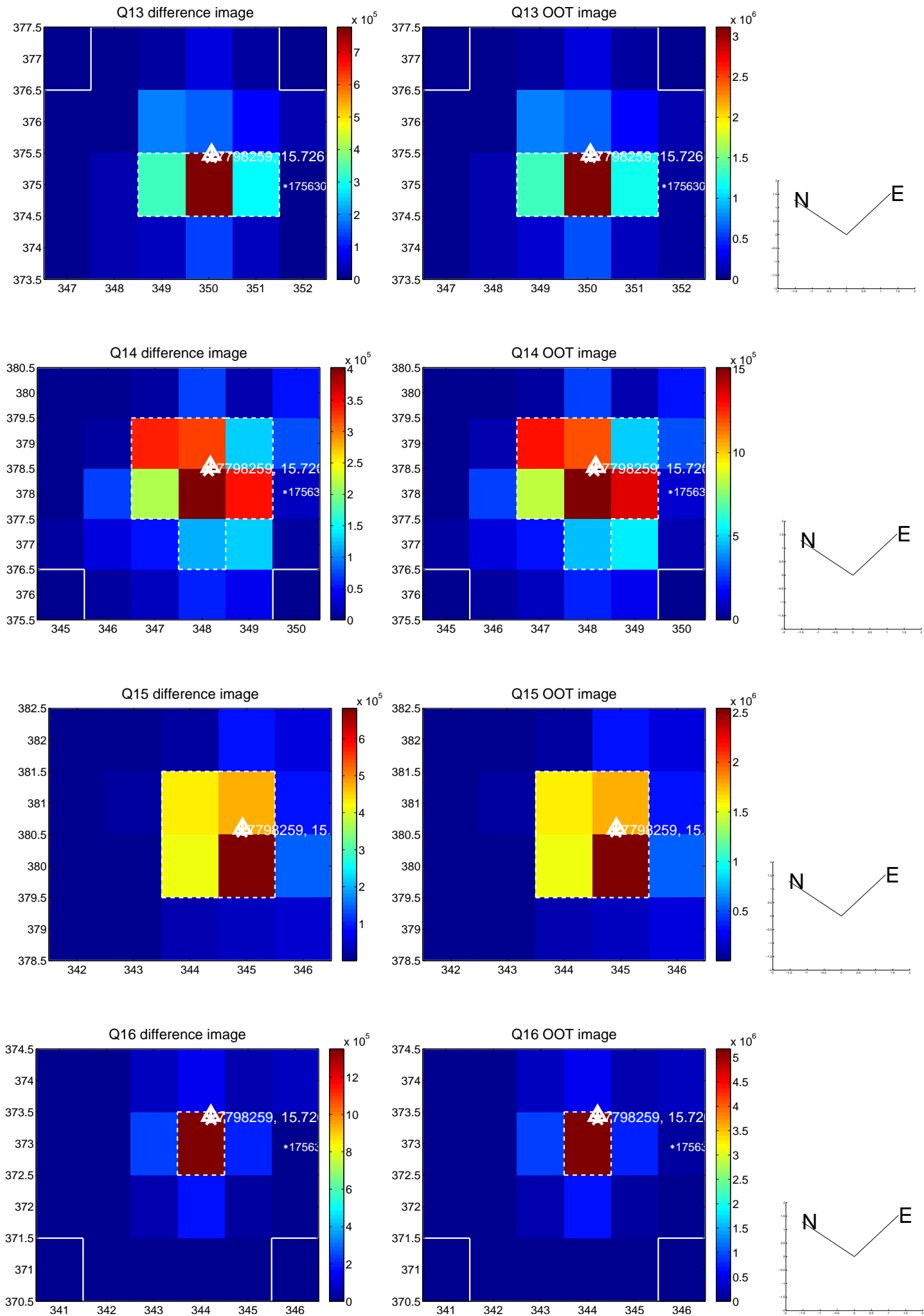
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



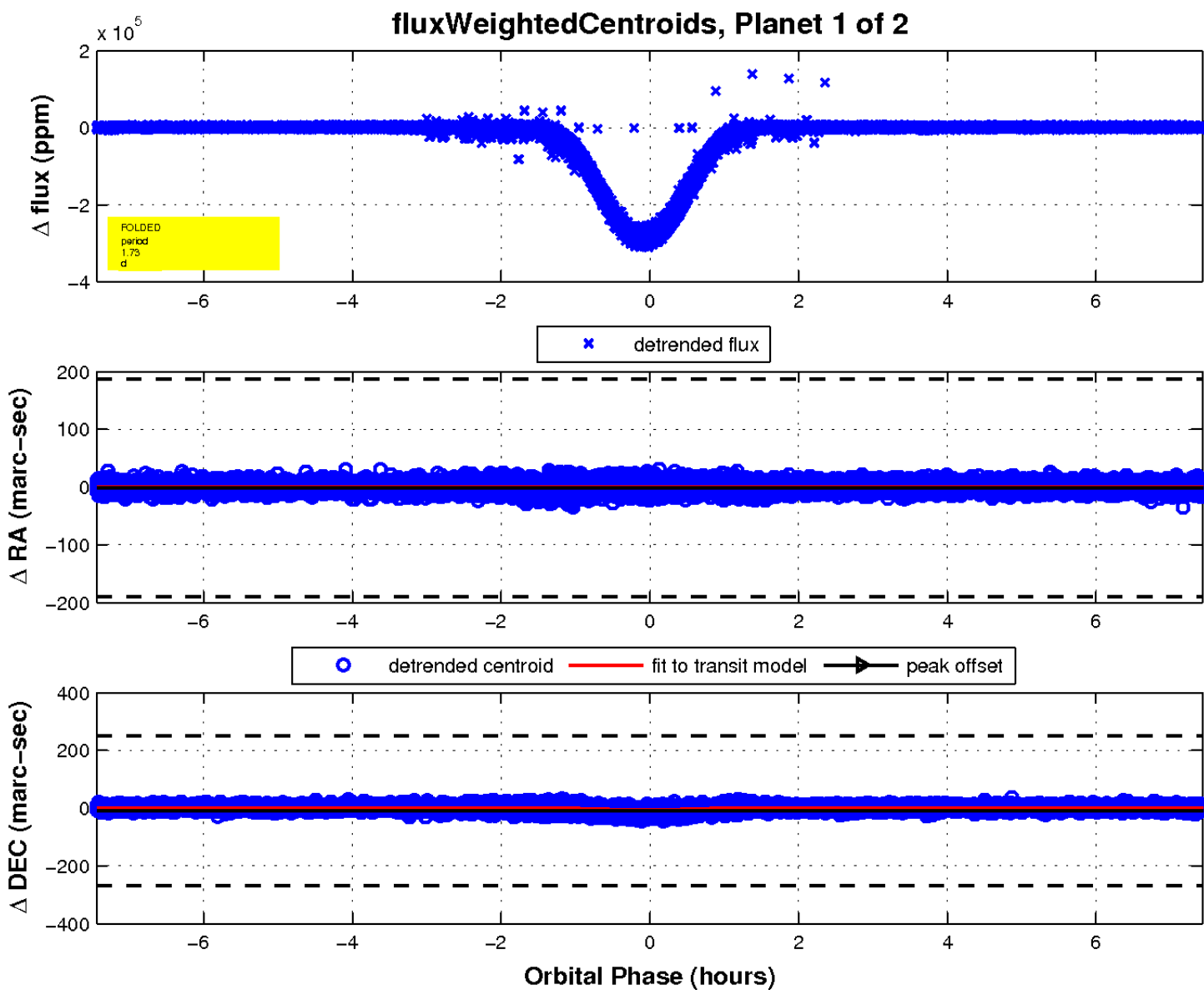
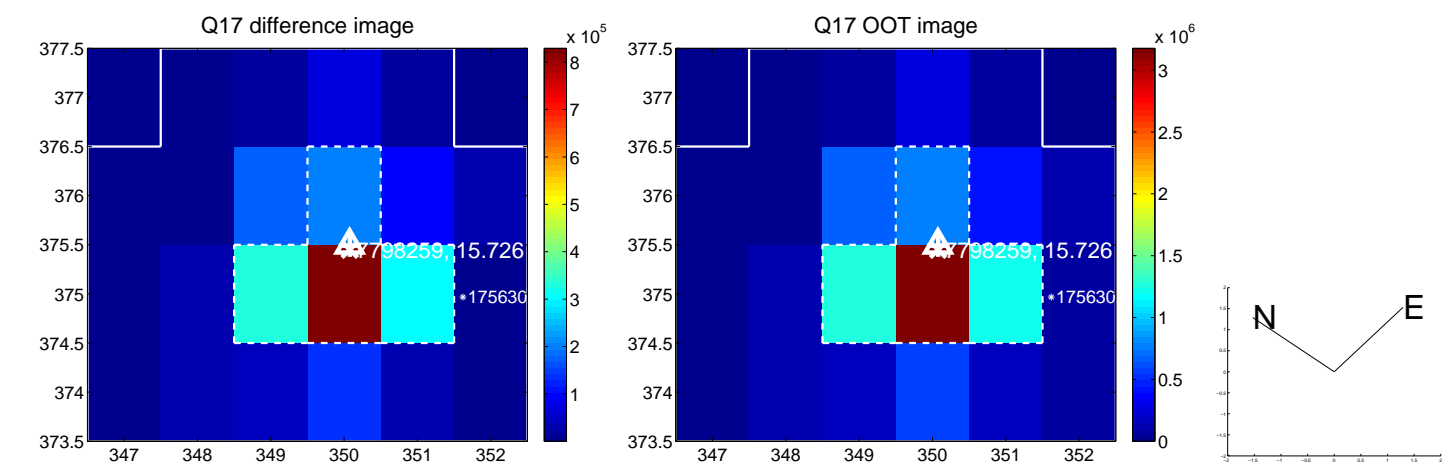
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

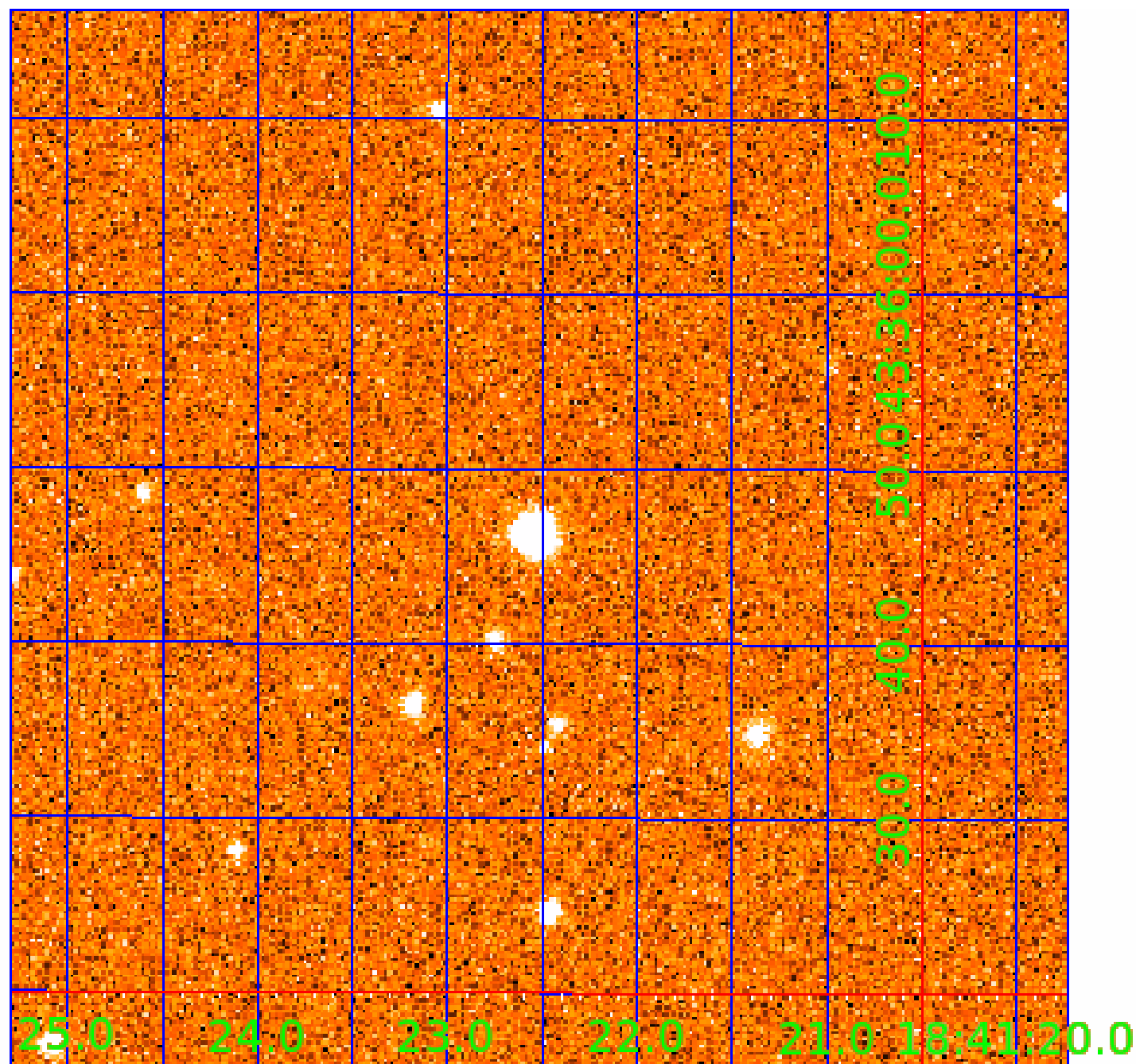


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination



# KIC 007798259

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007798259-01	OBS	6917.01	1.734227	132.831725	289512.0	2.479	6546.4	4001.8	0.70	4765	40.31	365.23
007798259-02	OBS	No	1.734224	131.964119	94097.9	1.500	2404.9	-1.0	0.70	4765	21.07	365.23

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007798259-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
007798259-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS

**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 007798259-02

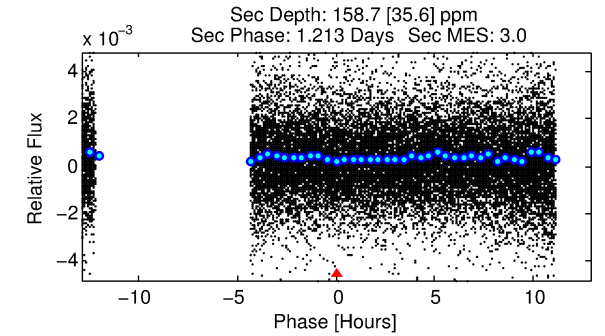
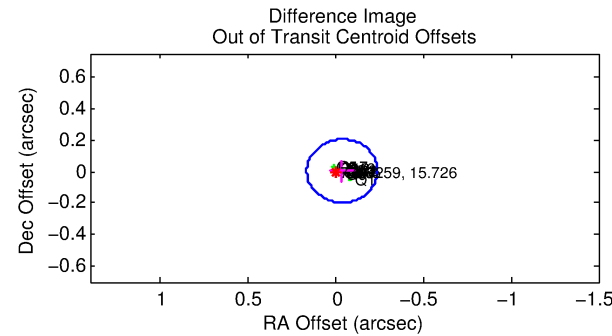
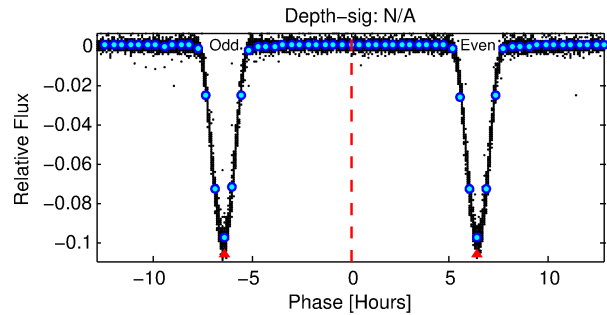
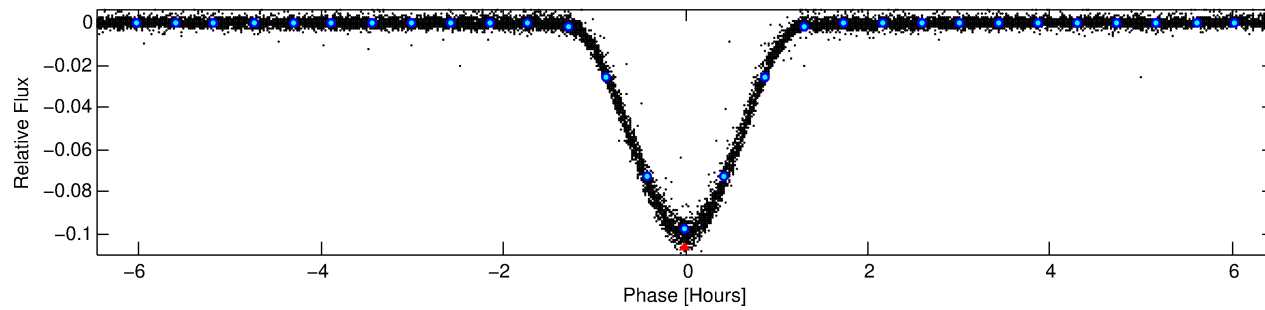
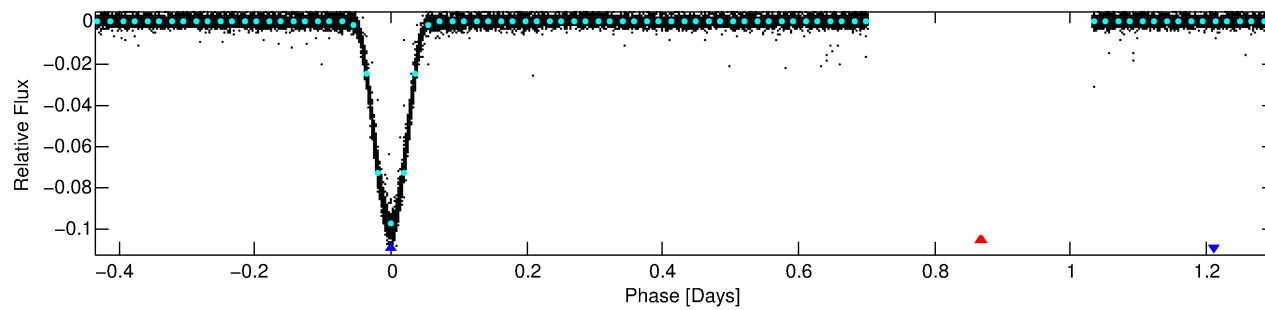
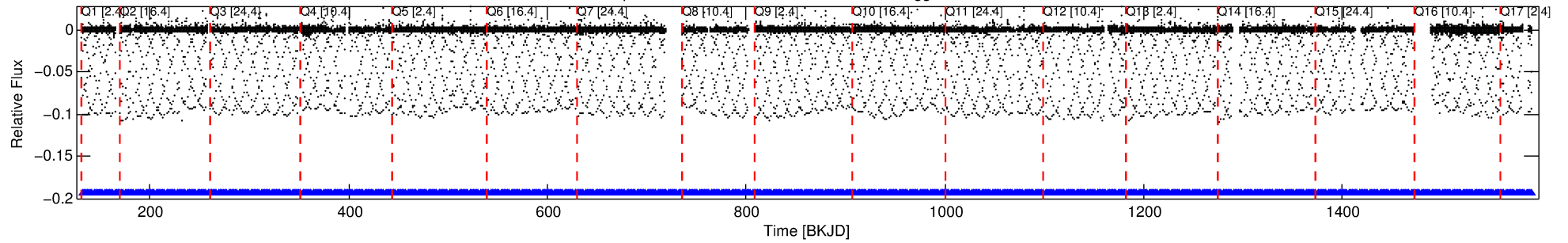
No Significant Match Found

# DV One-Page Summary

KIC: 7798259 Candidate: 2 of 2 Period: 1.734 d

KOI: K06917 Corr: No Ephemeris Match

Kp: 15.73 R\*: 0.70 Rs Teff: 4765.0 K Logg: 4.58 Fe/H: -0.180



## TPS TCE Results:

Period = 1.73422 d  
Epoch = 131.9641 BKJD

DV fit results are unavailable

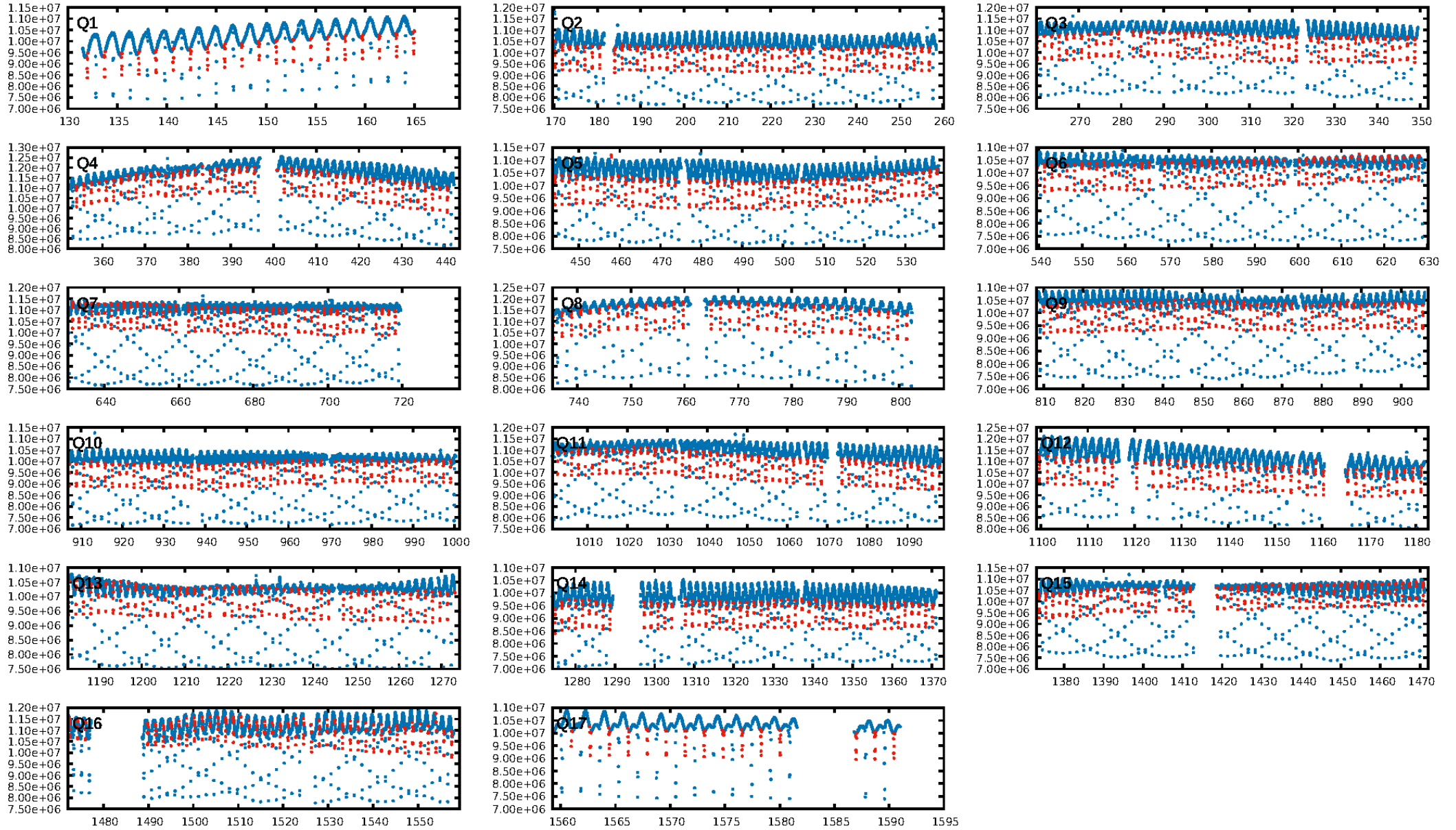
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 0.0% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [738/738]  
GhostDiagnostic-chr: 1.534  
Centroid-sig: 0.0%  
Centroid-so: 1.153 arcsec [410.50σ]  
OotOffset-rm: 0.037 arcsec [0.56σ]  
KicOffset-rm: 0.171 arcsec [2.46σ]  
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]

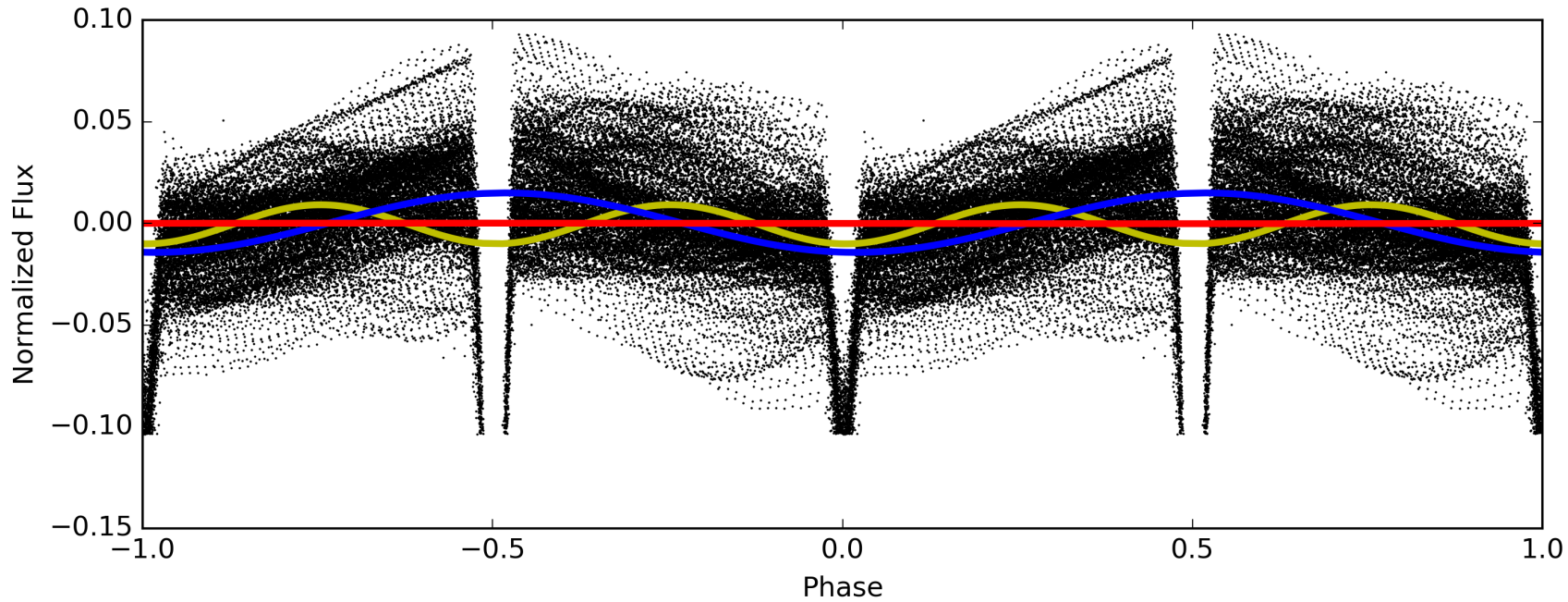
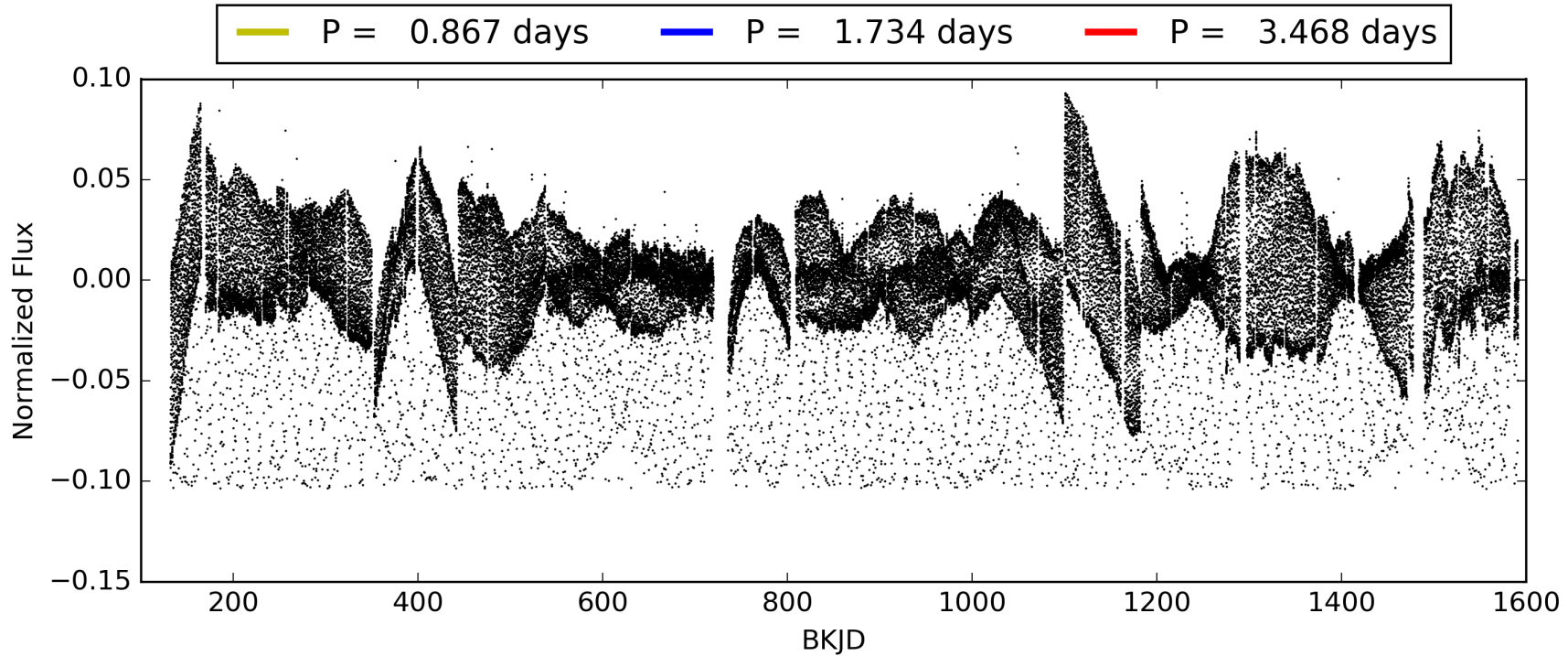
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 15:32:39 Z

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

# TCE 007798259-02, PDC Light Curves

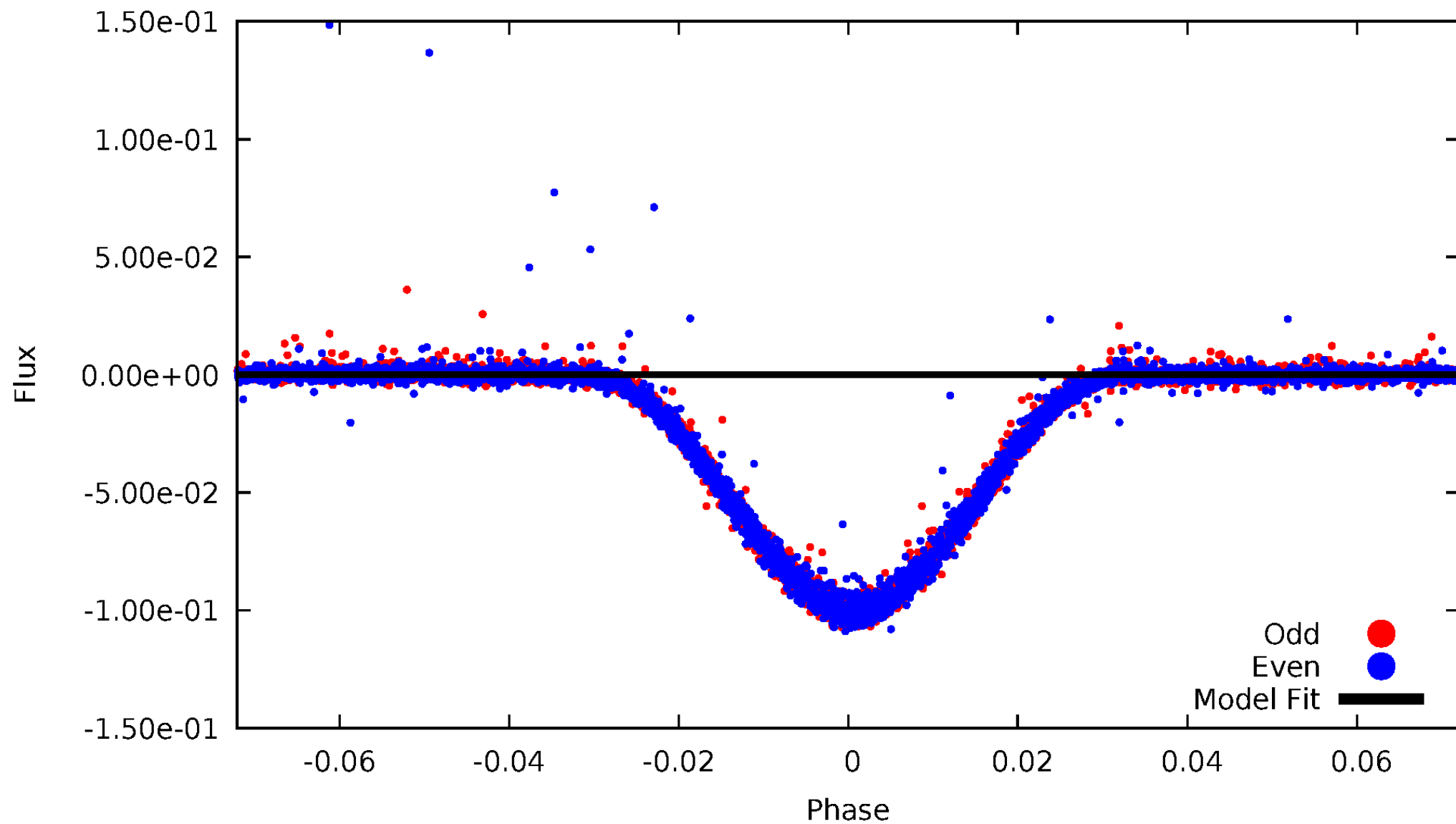


TCE 007798259-02



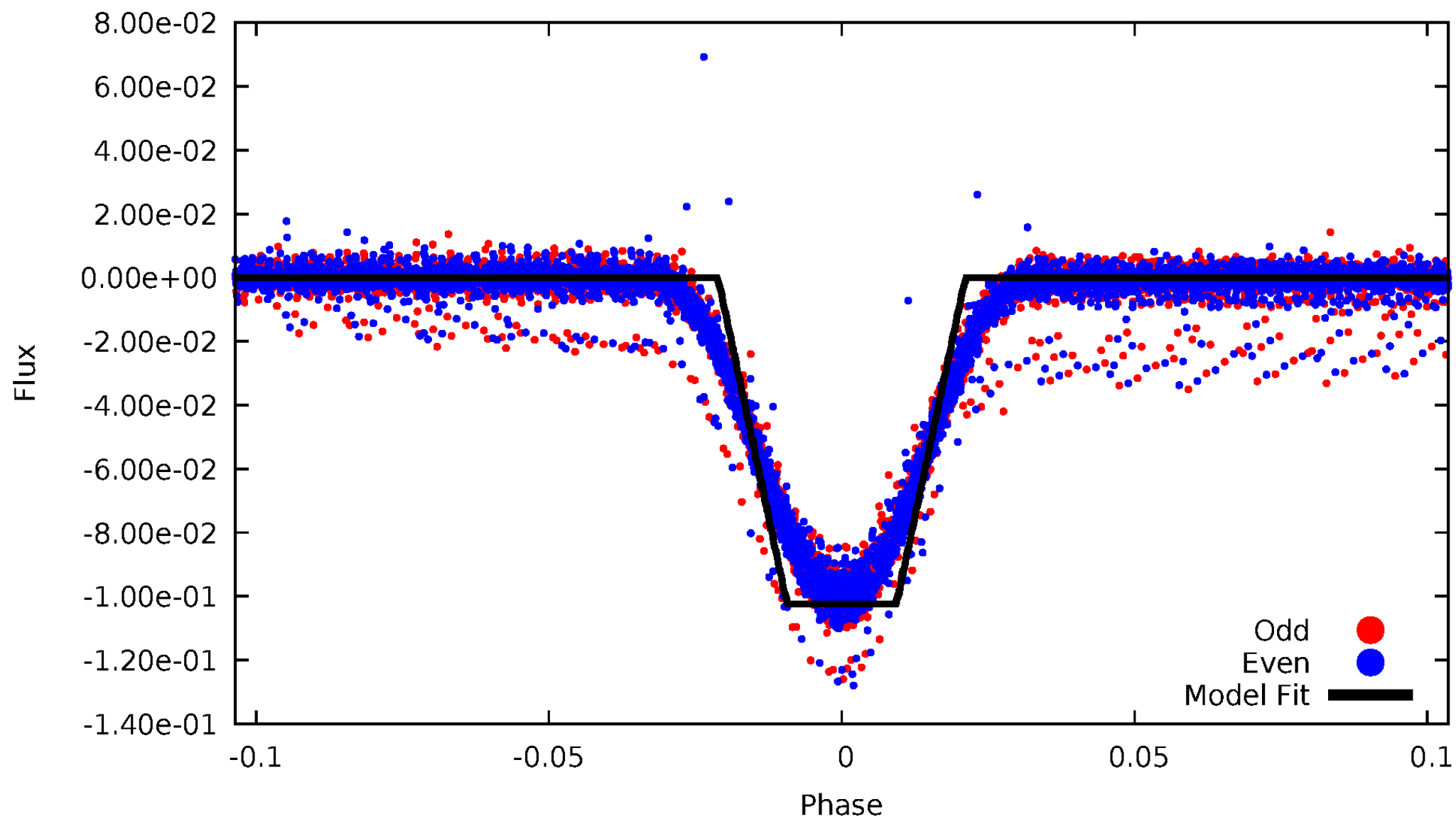
# DV Odd/Even

TCE 007798259-02



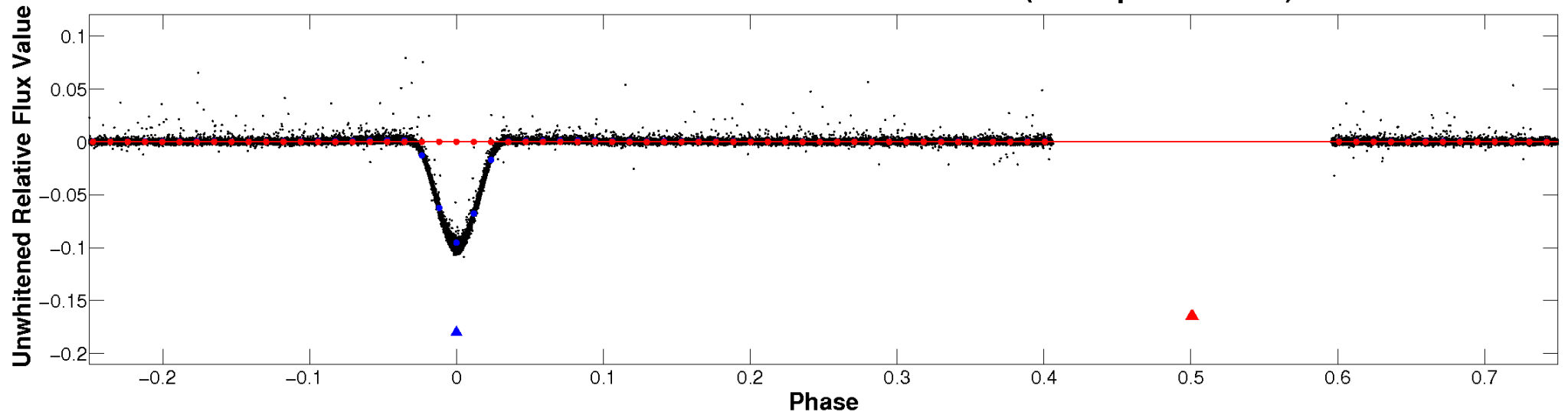
# ALT Odd/Even

TCE 007798259-02

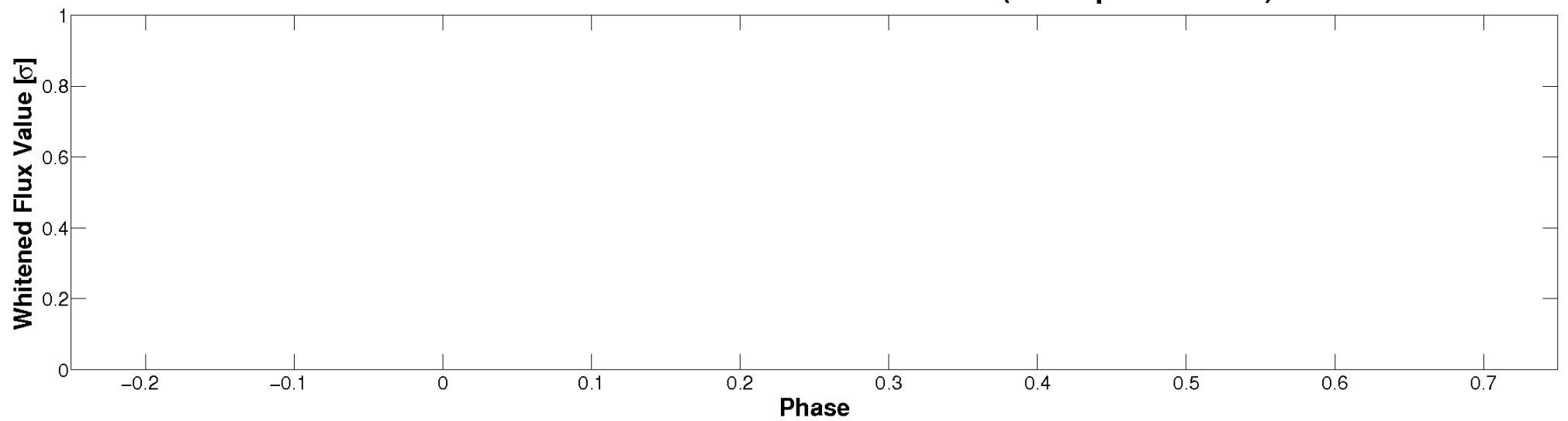


# Non-Whitened Vs. Whitened Light Curve

**Planet 2 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)**

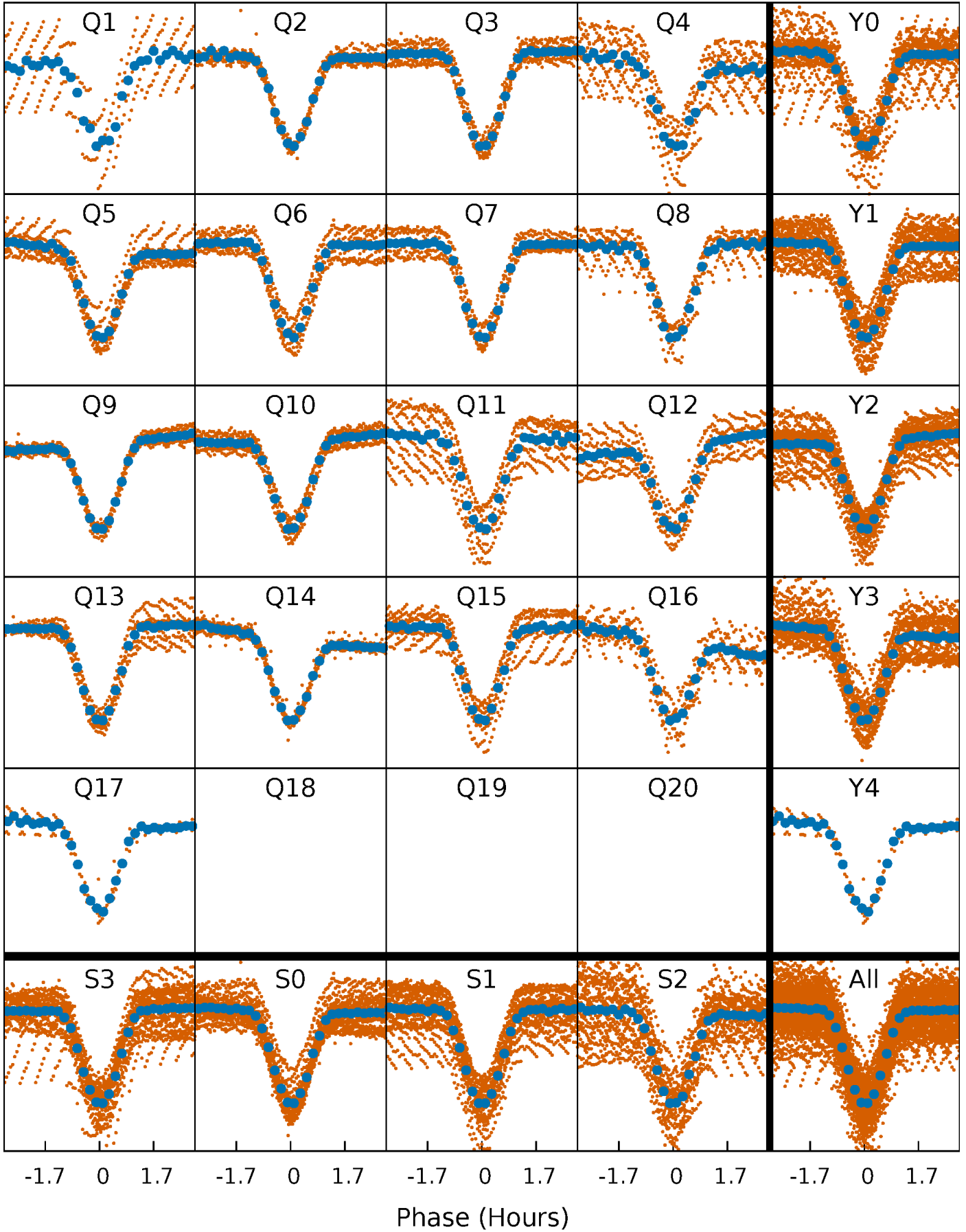


**Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



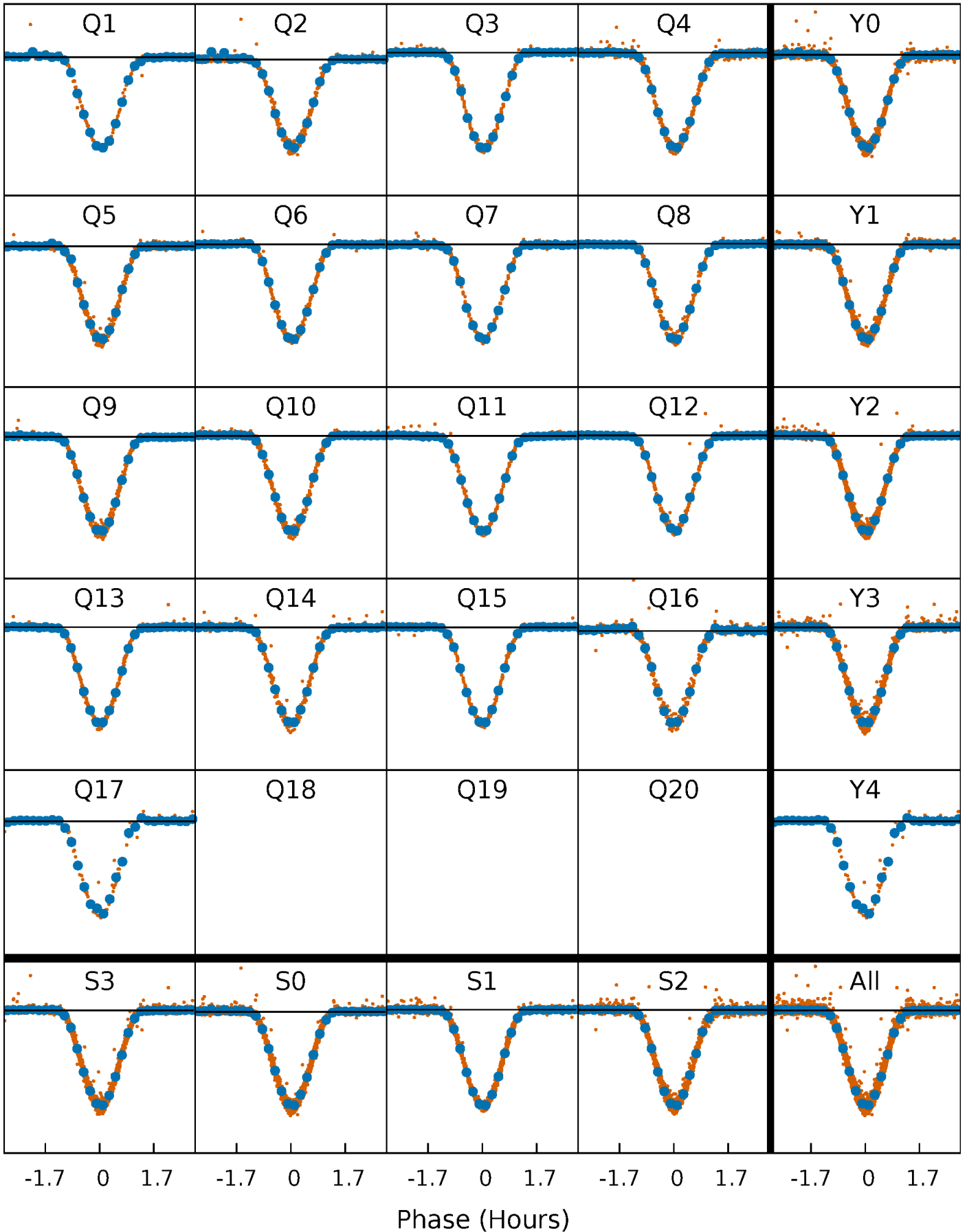
# PDC Quarter-Phased Transit Curves

TCE 007798259-02   P= 1.734224 Days    $T_0=131.964119$  (BKJD)



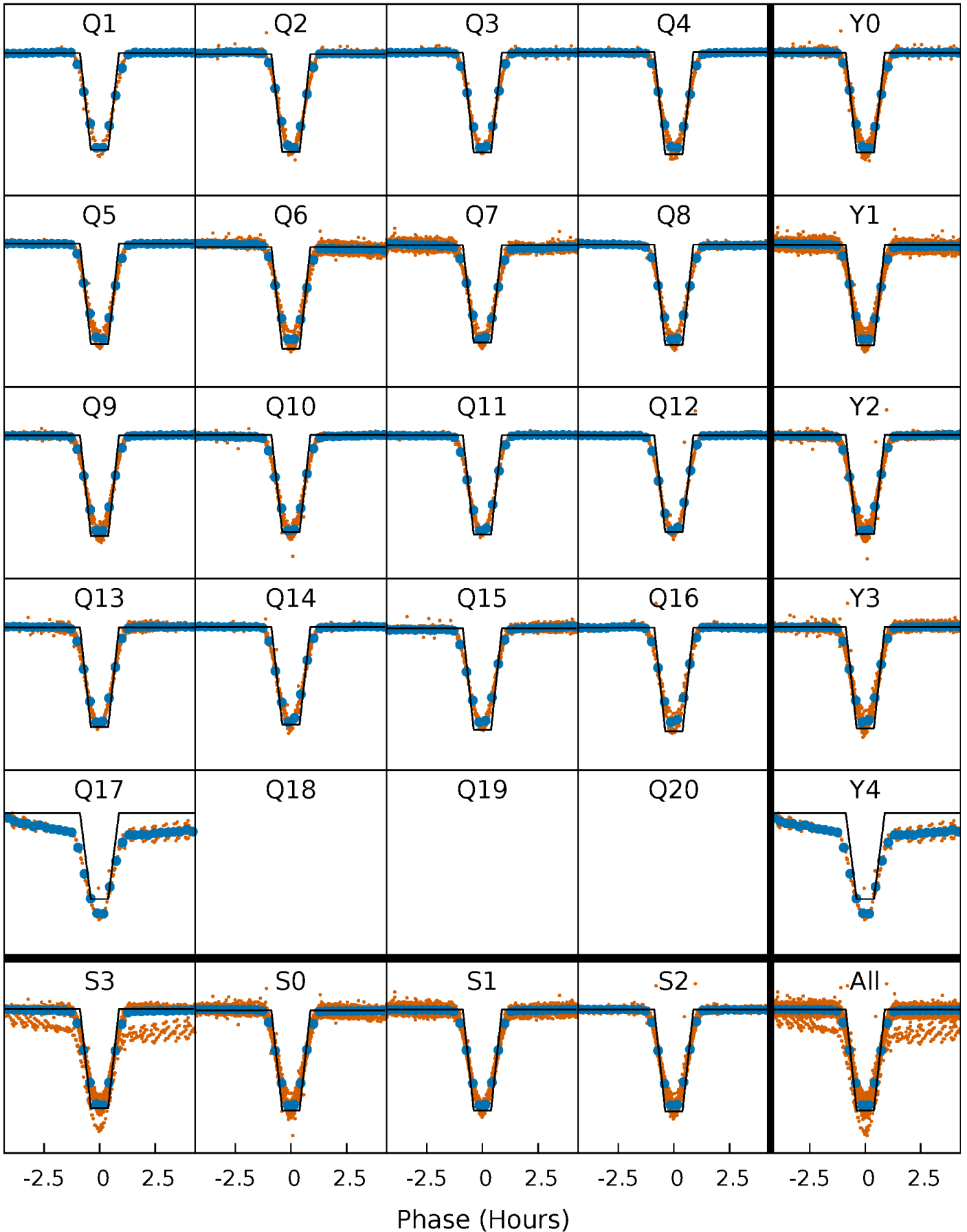
# DV Quarter-Phased Transit Curves

TCE 007798259-02   P= 1.734224 Days    $T_0=131.964119$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

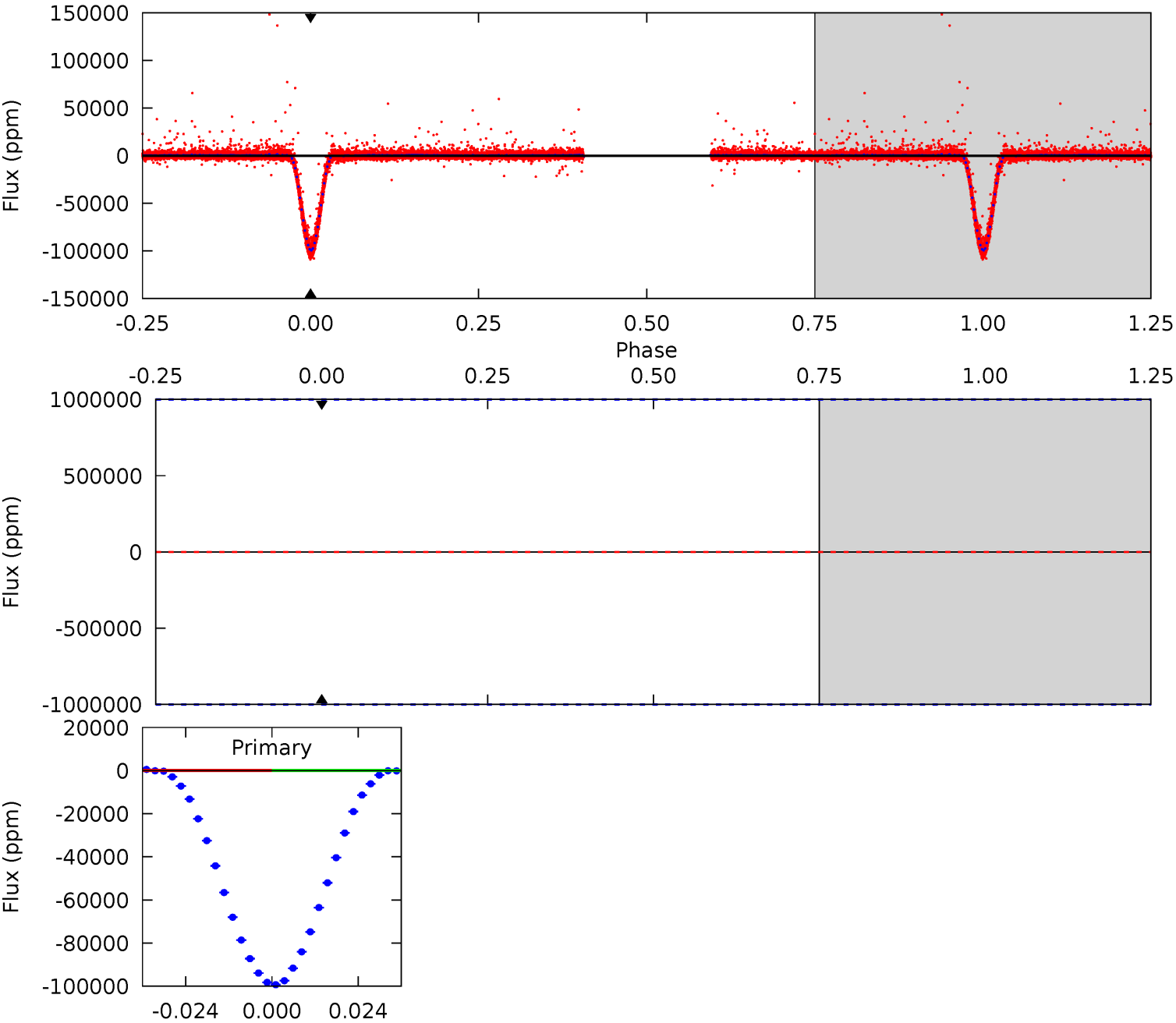
TCE 007798259-02   P= 1.734224 Days    $T_0=131.965227$  (BKJD)



DV Model-Shift Uniqueness Test

007798259-02, P = 1.734224 Days, E = 130.229895 Days

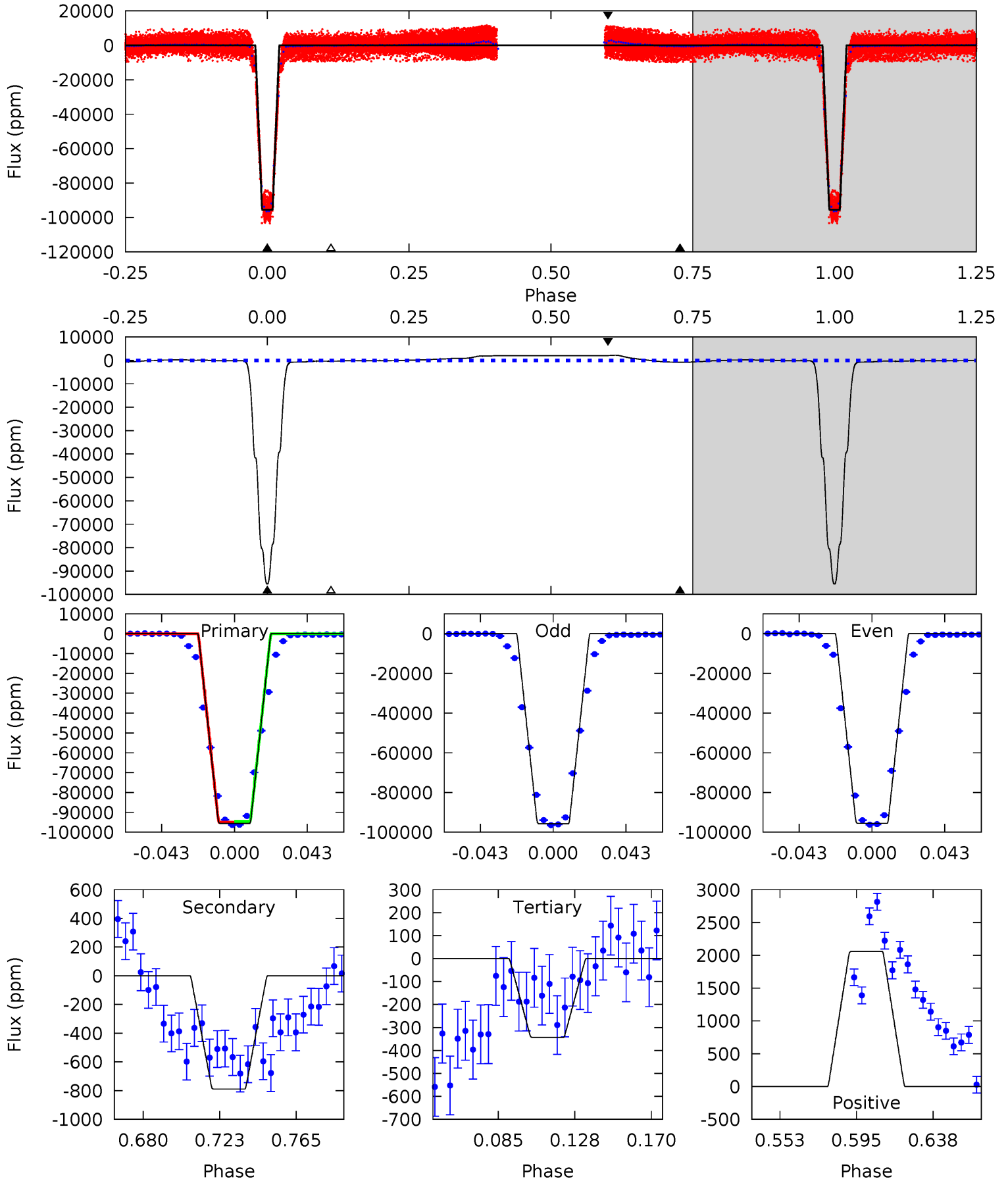
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

007798259-02, P = 1.734224 Days, E = 130.231003 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
1373	11.3	4.93	29.5	4.74	2.03	8.91	1368	1343	6.40	-18.2	1.61	1.00	0.02	0



### Stellar Parameters For KIC 007798259

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4765^{+142}_{-142}$	$4.584^{+0.056}_{-0.032}$	$-0.180^{+0.300}_{-0.300}$	$0.702^{+0.055}_{-0.067}$	$0.690^{+0.076}_{-0.055}$	$2.810^{+0.696}_{-0.386}$
	+3%/-3%	+1%/-1%	+167%/-167%	+8%/-10%	+11%/-8%	+25%/-14%
Source	PHO1	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 007798259-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 1000000$	$20.84^{+7.89}_{-7.54}$	$1550^{+55}_{-54}$	$-3032^{+8313}_{-2151}$	$-3.998^{+100.260}_{-83.231}$
Alt.	$-789 \pm 70$	$25.06^{+7.62}_{-7.72}$	$1552^{+52}_{-53}$	$2010^{+374}_{-3826}$	$0.439^{+0.493}_{-0.185}$

$T_{\text{max}}$  = 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

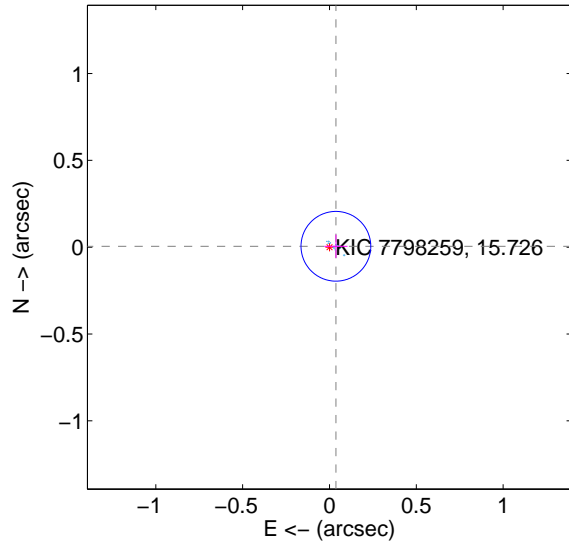
Supplemental centroid analysis for 007798259-02. Kepler magnitude: 15.73. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

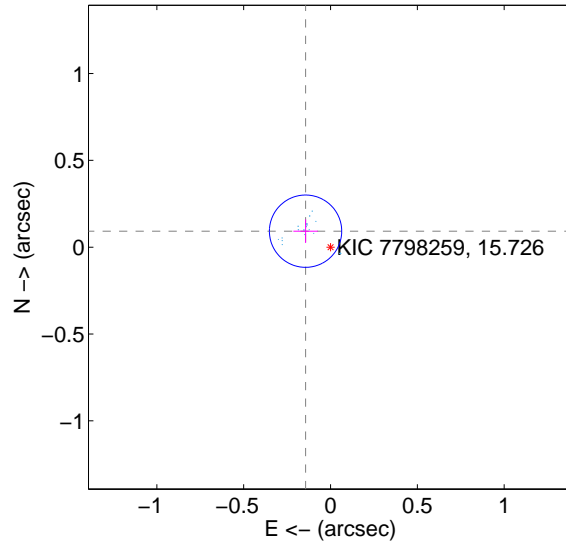
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.037 \pm 0.067$	0.56	$-0.037 \pm 0.067$	$0.005 \pm 0.067$
PRF-fit source offset from KIC position	$0.171 \pm 0.069$	2.46	$0.144 \pm 0.070$	$0.092 \pm 0.068$
photometric centroid source offset	$1.15 \pm 0.00$	410.50	$-1.15 \pm 0.00$	$-0.13 \pm 0.00$

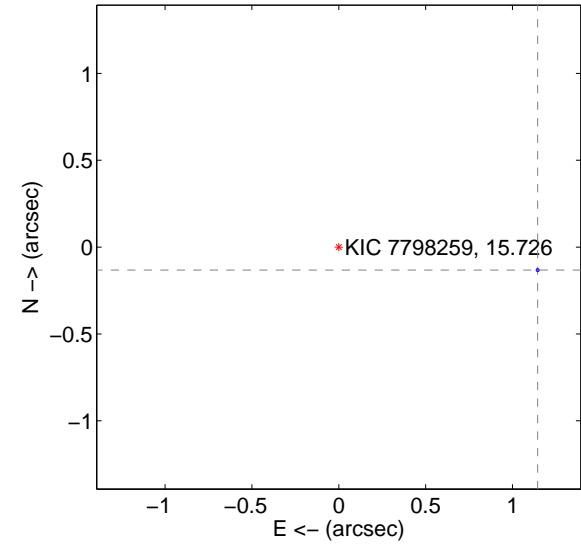
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



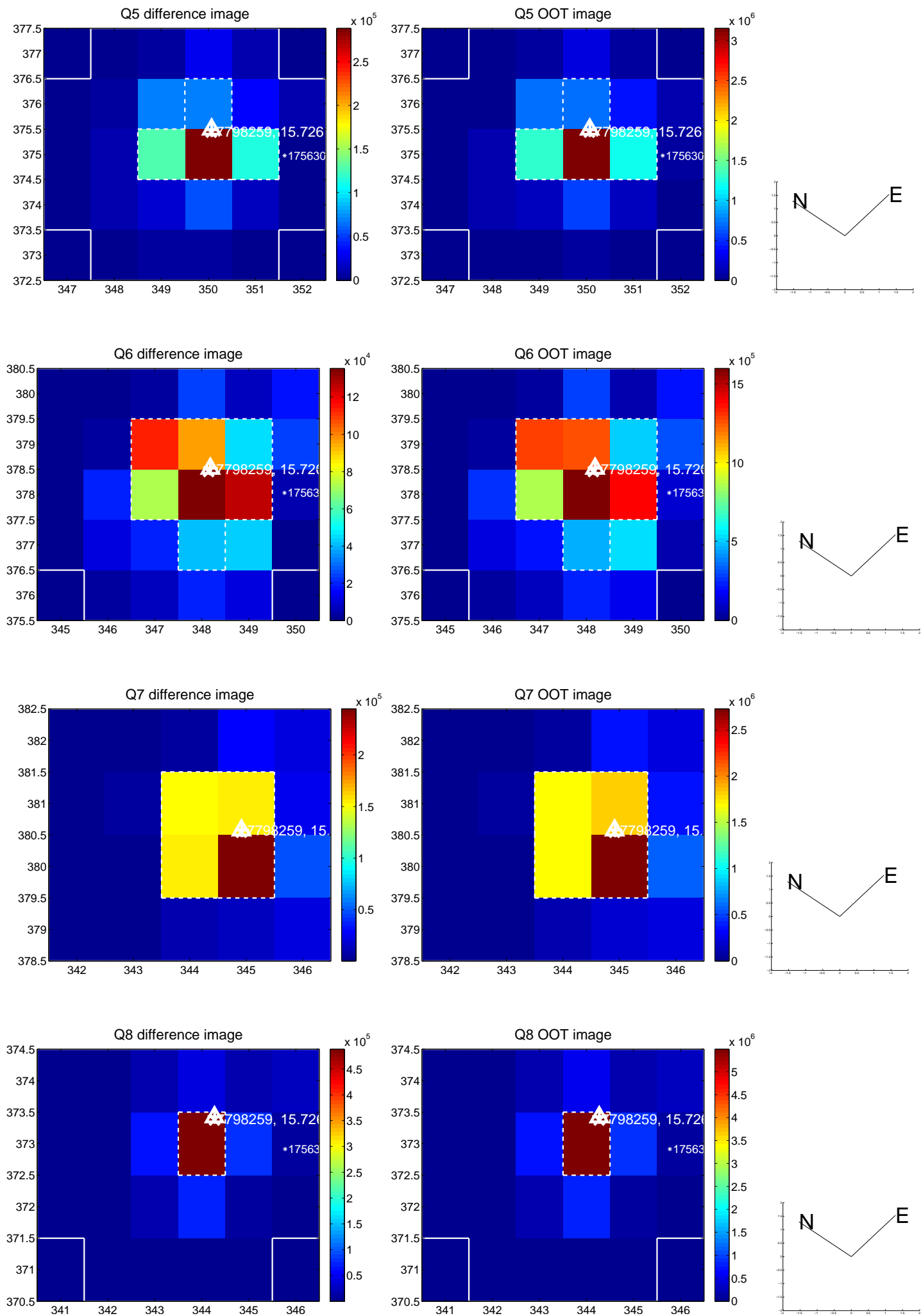
offset from photometric centroids



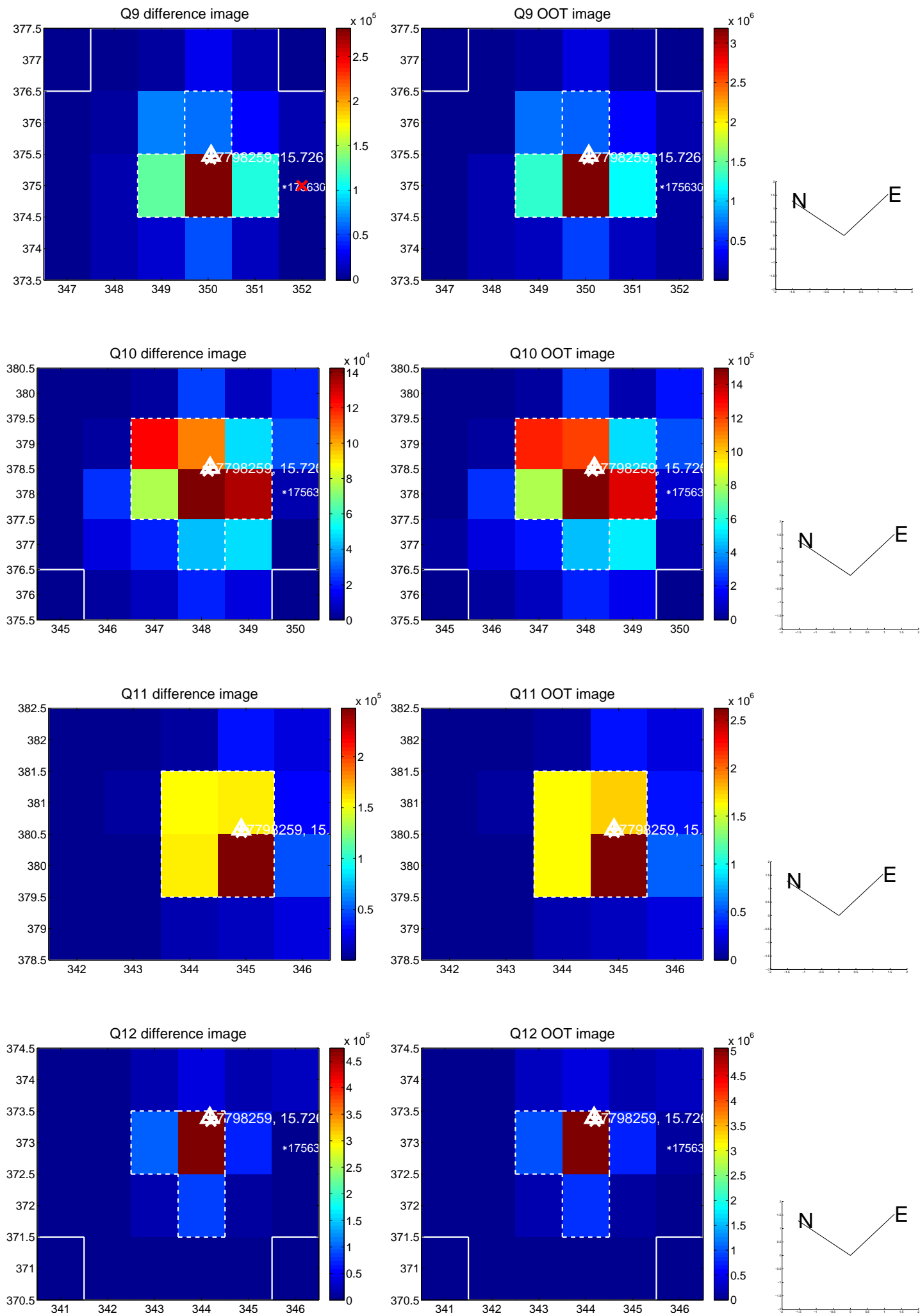
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



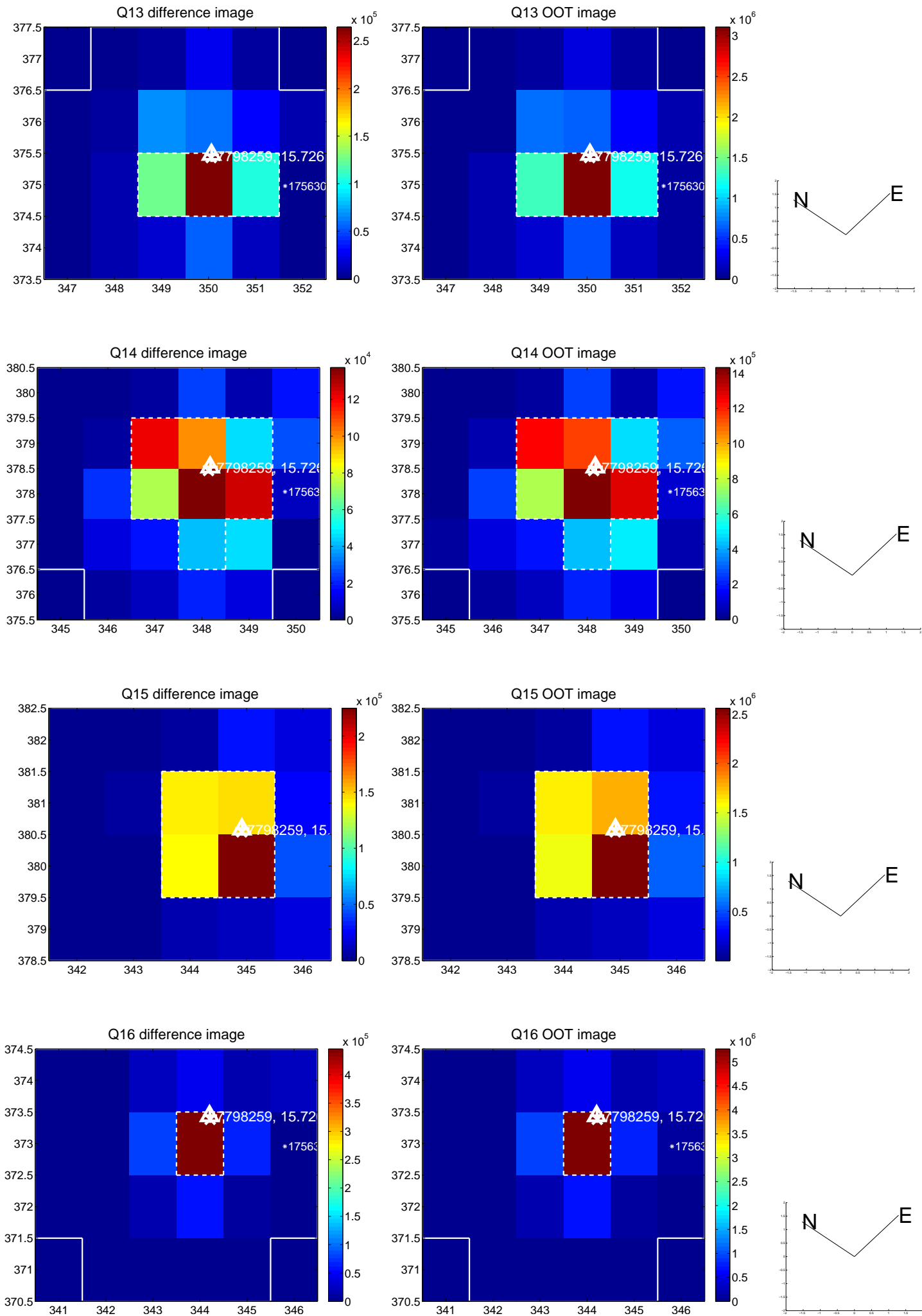
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.





# UKIRT Image

Declination

