

KIC 007751562

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})
007751562-01	OBS	6912.01	17.042153	142.425830	55118.0	7.800	2386.5	2101.4	1.03	6197	24.97	79.11
007751562-02	OBS	No	17.042125	136.059017	2034.2	6.992	84.6	87.7	1.03	6197	5.41	79.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007751562-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_KIC_POS
007751562-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS

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 for comment definitions.

Ephemeris Match Information For 007751562-01

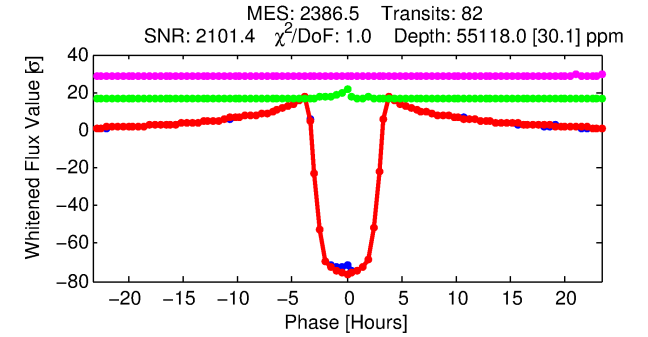
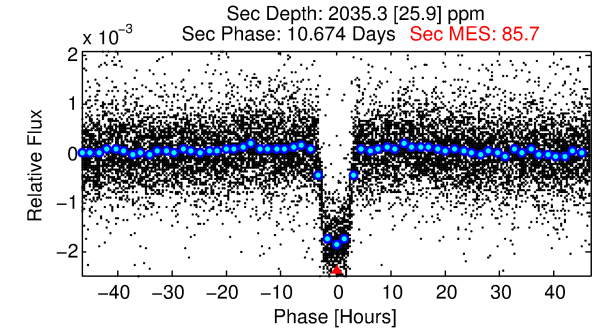
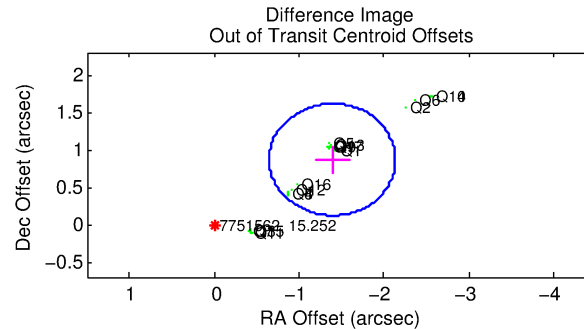
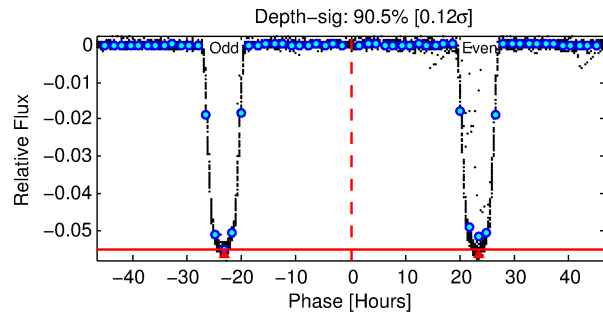
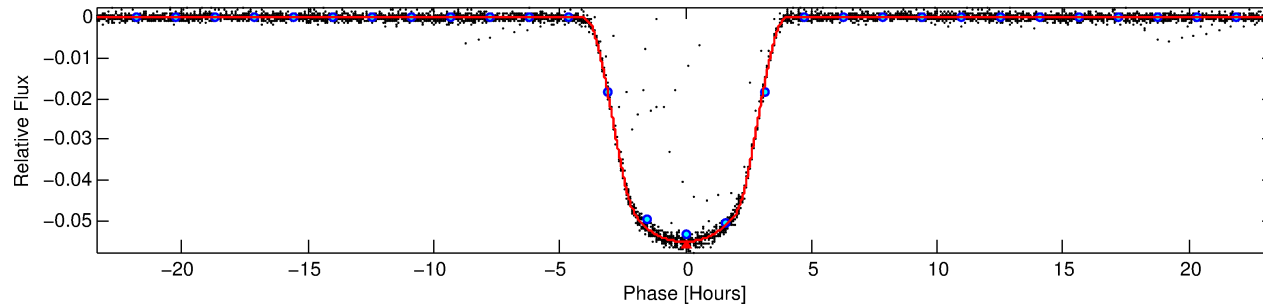
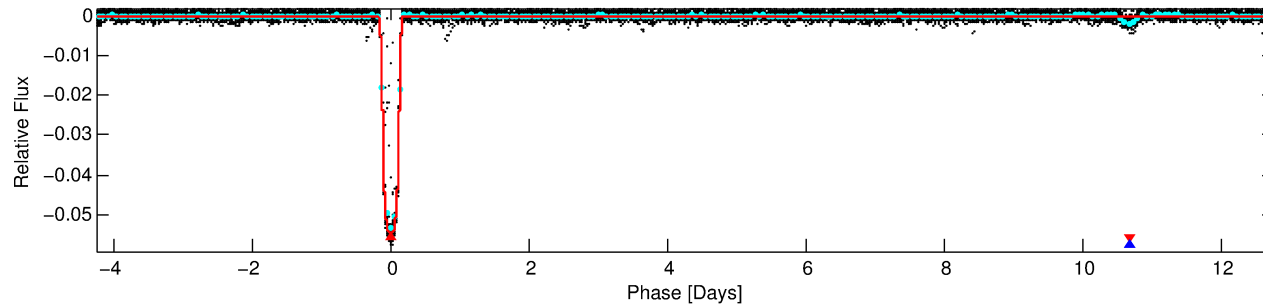
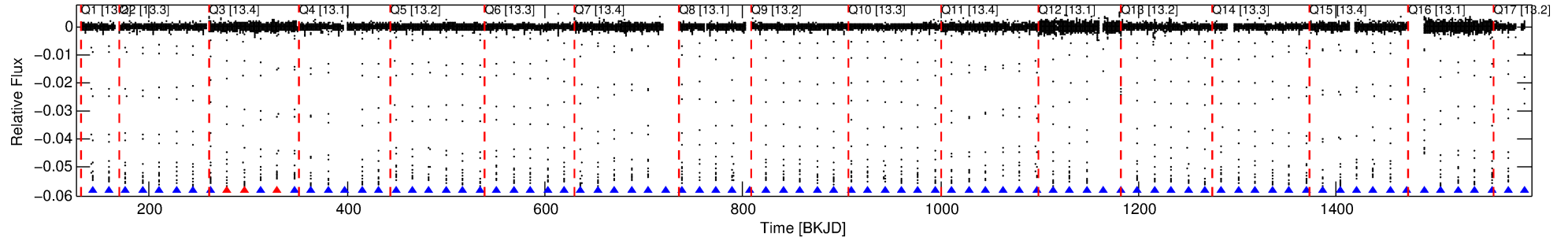
No Significant Match Found

DV One-Page Summary

KIC: 7751562 Candidate: 1 of 2 Period: 17.042 d

KOI: K06912.01 Corr: 1.000

Kp: 15.25 R*: 1.03 Rs Teff: 6197.0 K Logg: 4.45 Fe/H: -0.080



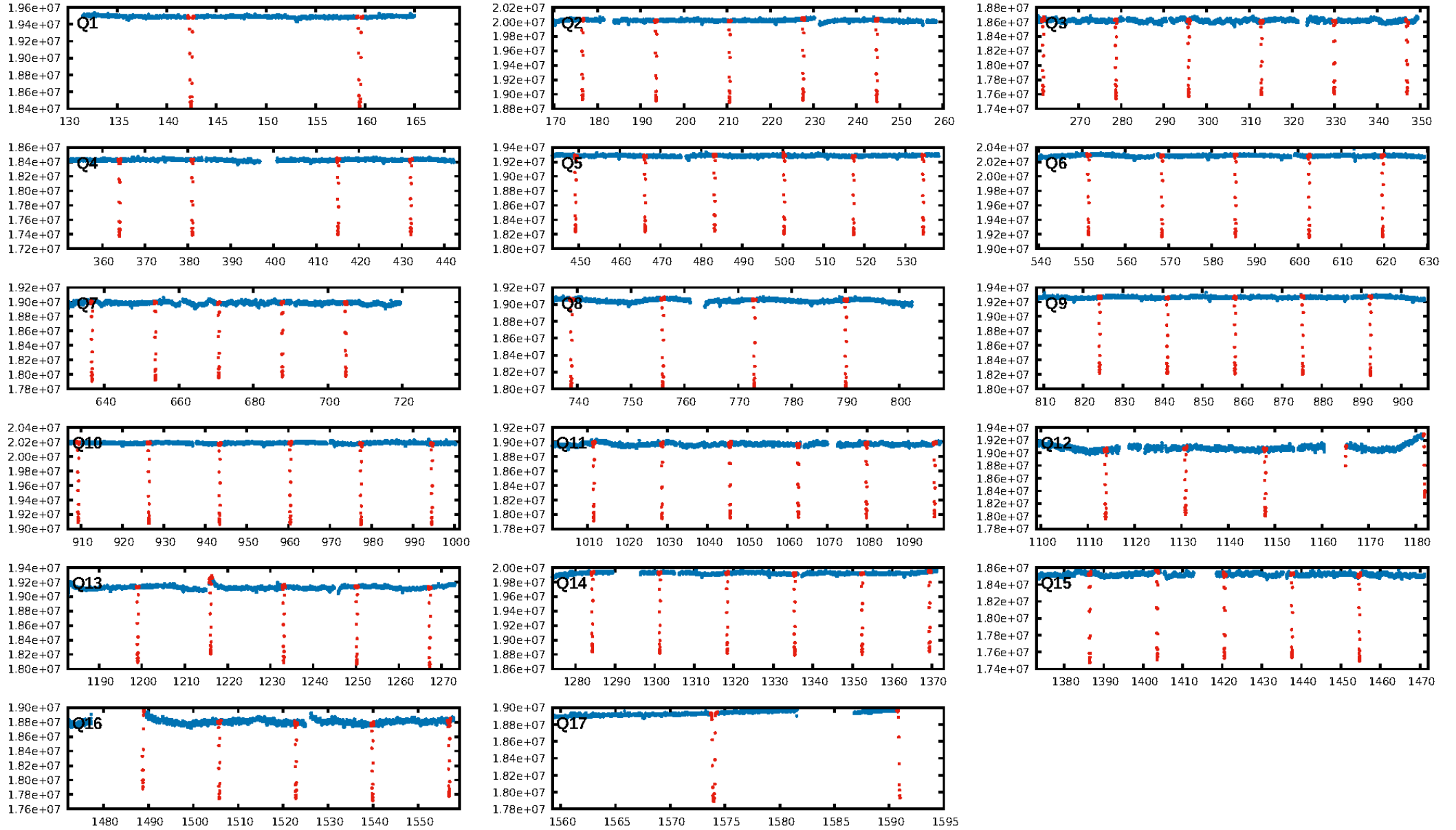
DV Fit Results:

Period = 17.04215 [0.00000] d
Epoch = 142.4258 [0.0001] BKJD
Rp/R* = 0.2211 [0.0001]
a/R* = 18.89 [0.02]
b = 0.46 [0.00]
Seff = 79.11 [30.63]
Teff = 760 [74] K
Rp = 24.97 [7.58] Re
a = 0.1338 [0.0337] AU
Ag = 32.12 [11.61] [2.68σ]
Teffp = 2799 [98] K [16.64σ]

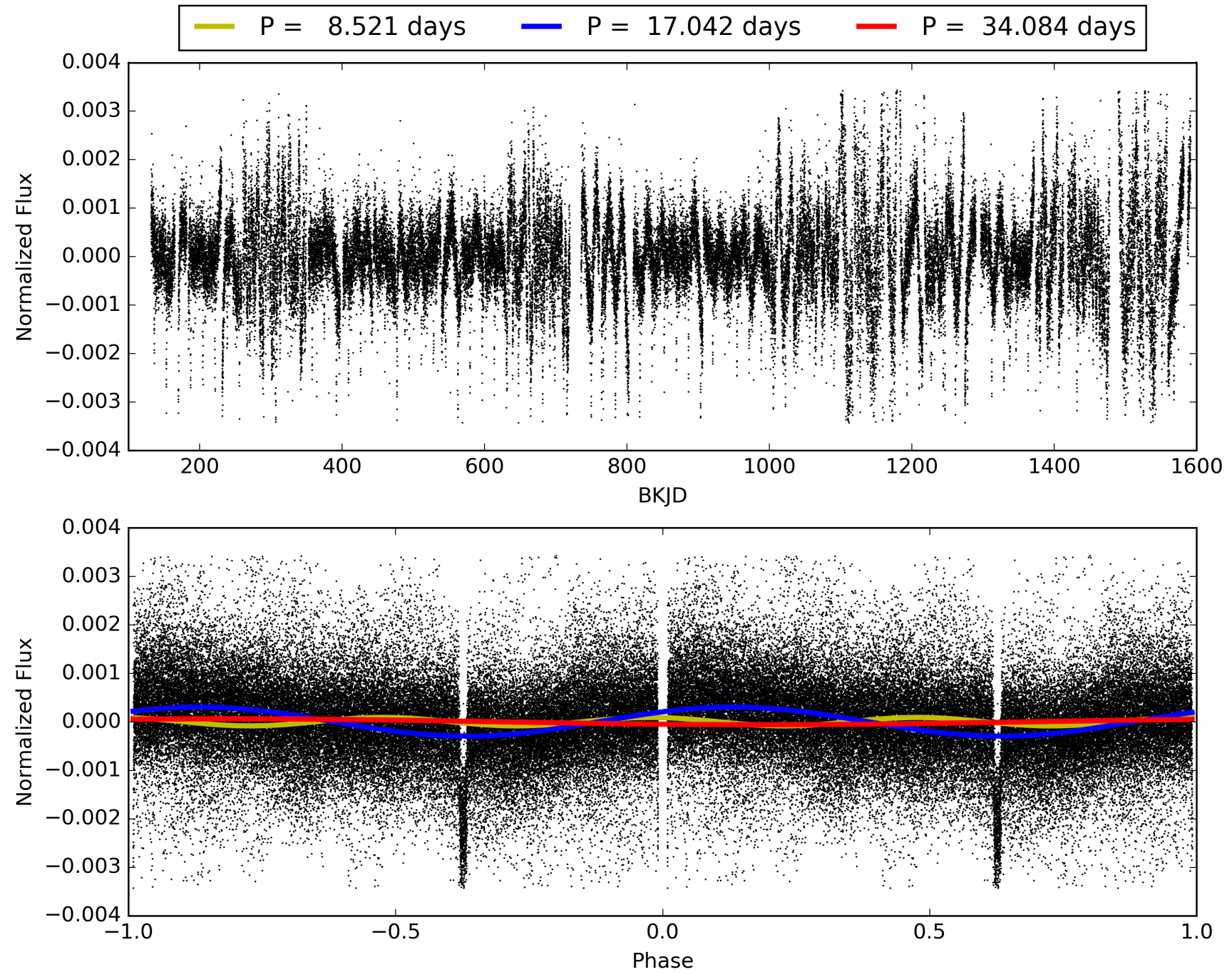
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.96 [75/78]
GhostDiagnostic-chr: 4.023
Centroid-sig: 0.0%
Centroid-so: 0.696 arcsec [196.80σ]
OotOffset-rm: 1.642 arcsec [6.61σ]
KicOffset-rm: 0.047 arcsec [0.68σ]
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 007751562-01, PDC Light Curves

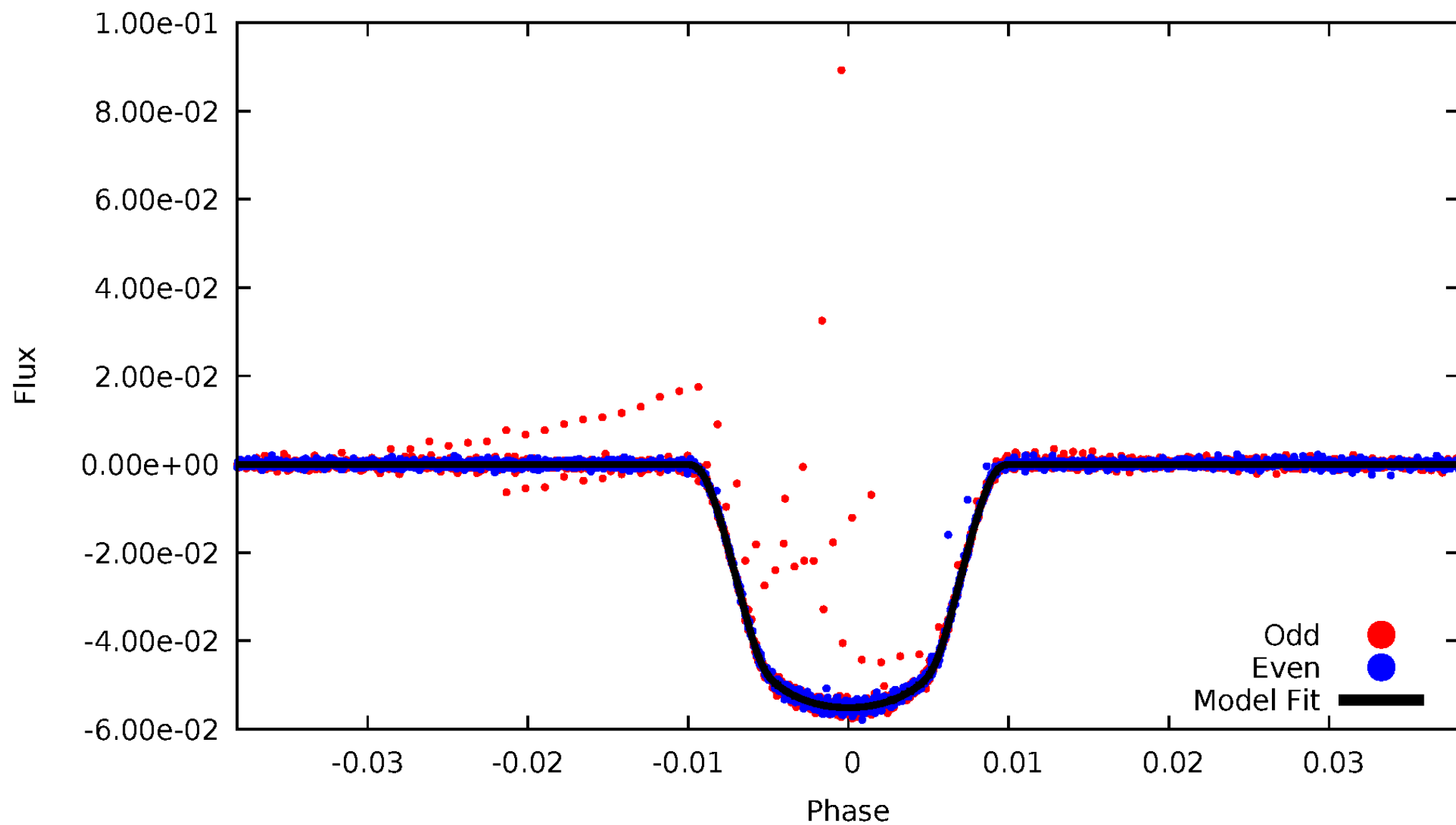


TCE 007751562-01



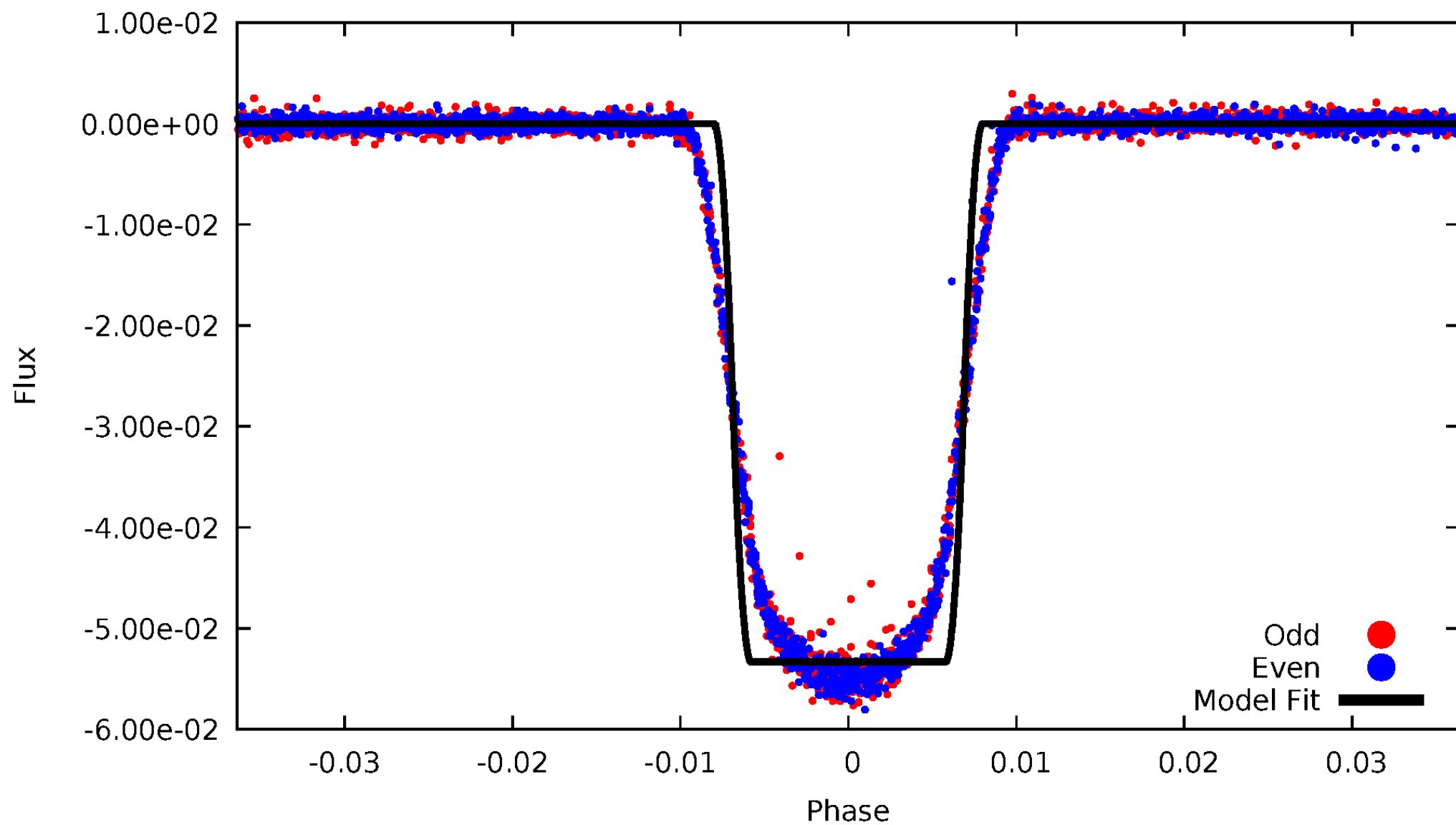
DV Odd/Even

TCE 007751562-01



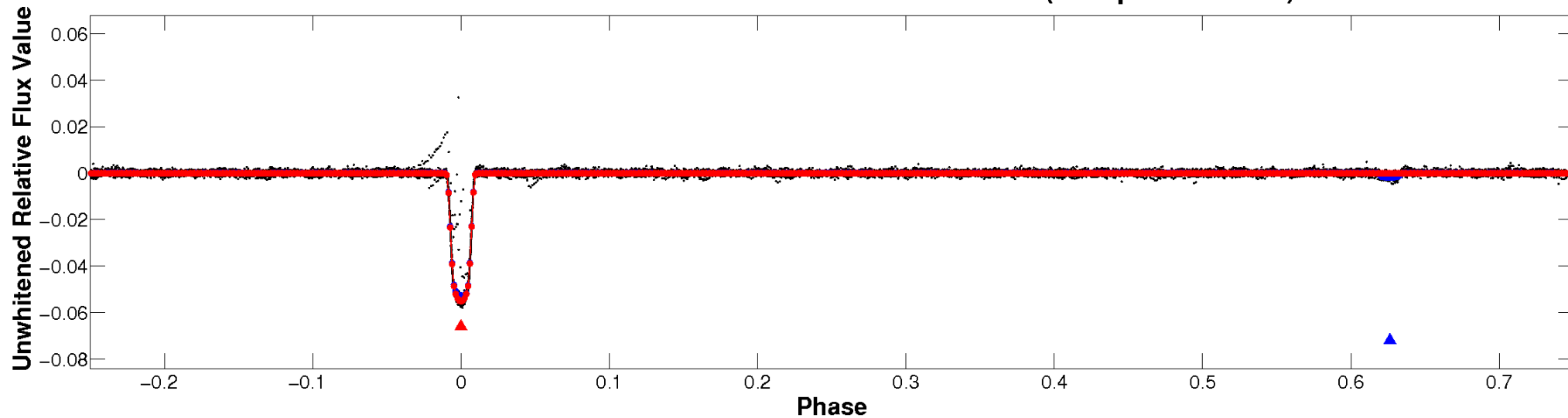
ALT Odd/Even

TCE 007751562-01

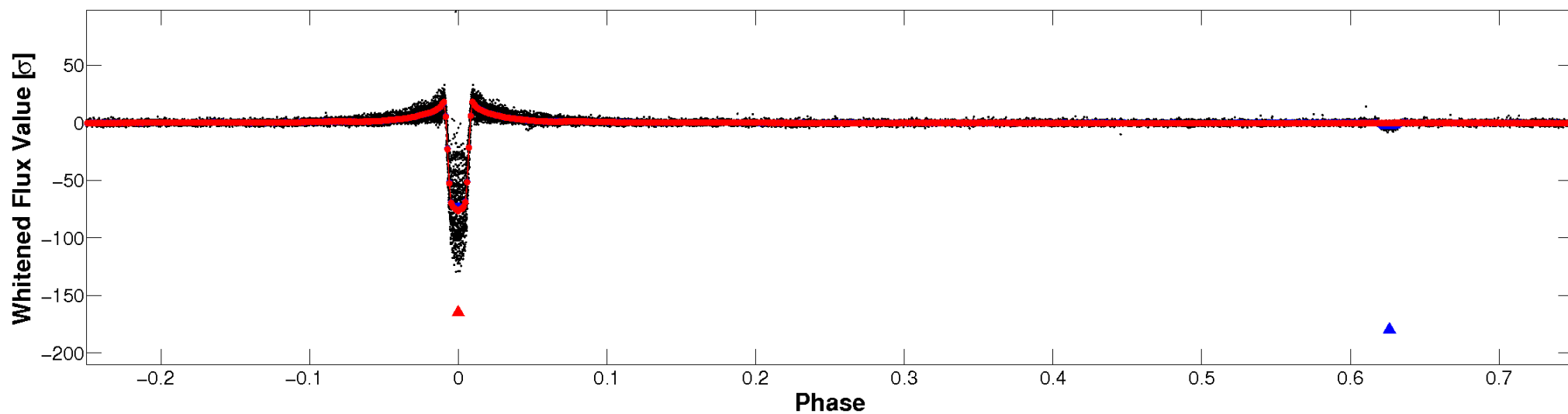


Non-Whitened Vs. Whitened Light Curve

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

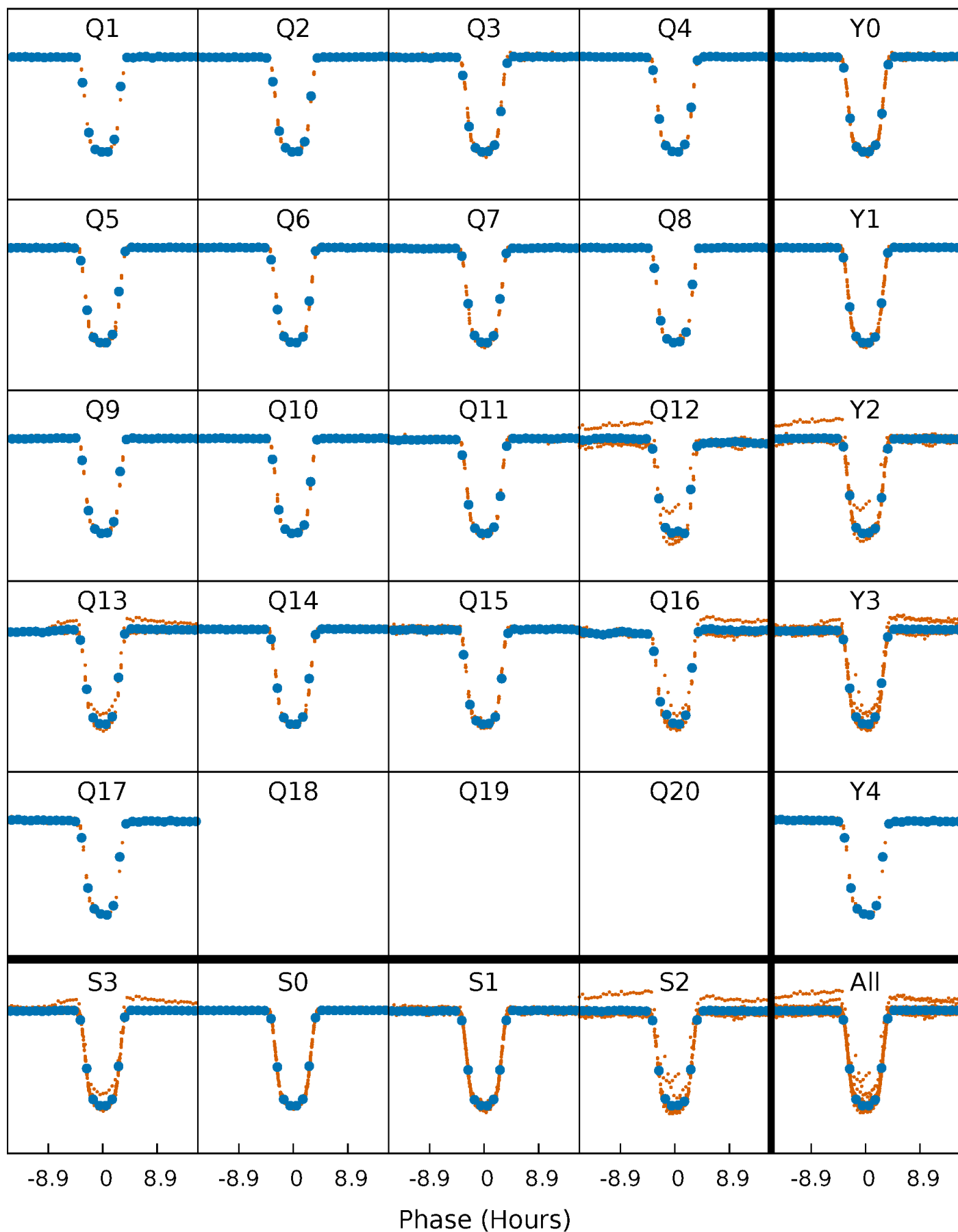


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



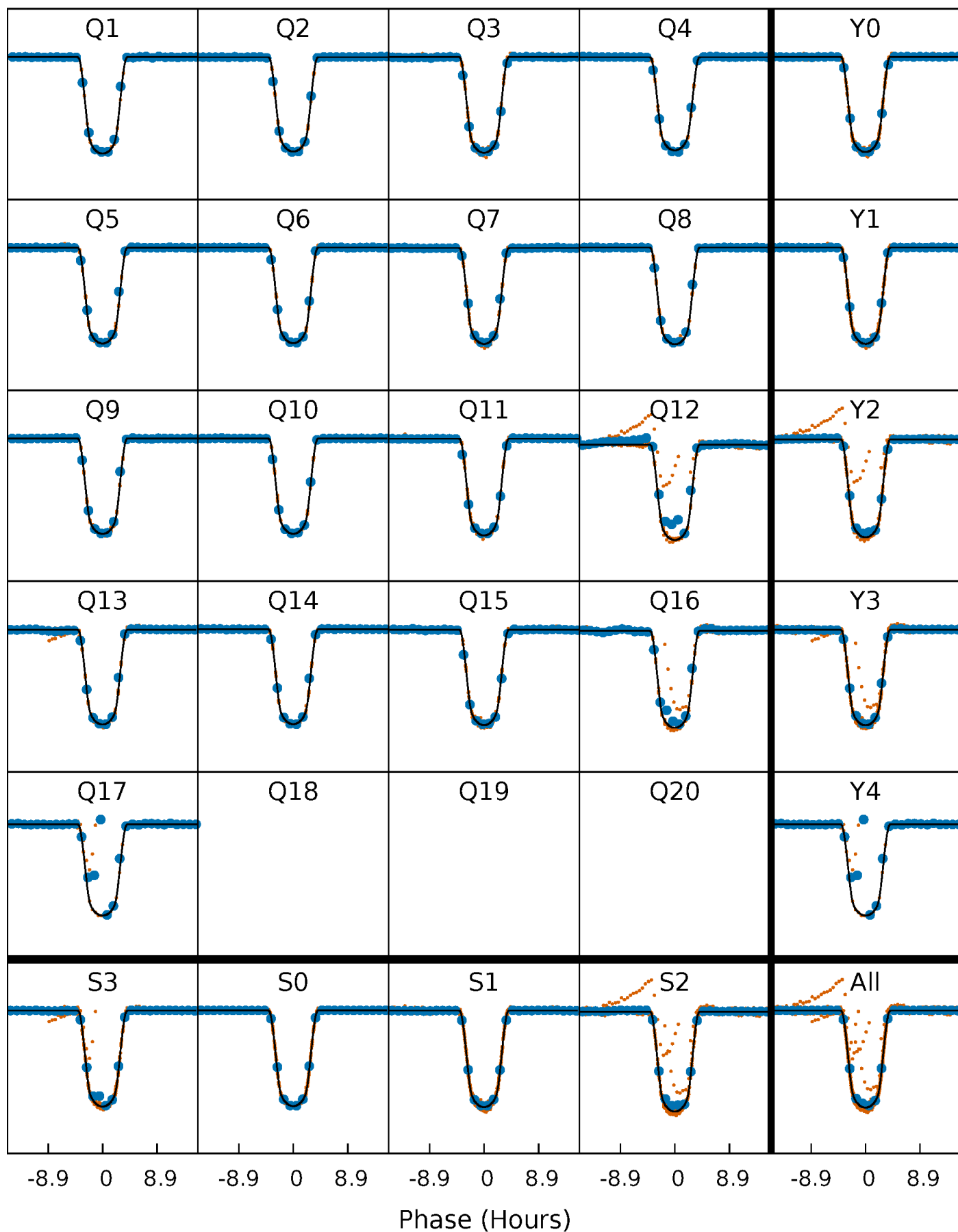
PDC Quarter-Phased Transit Curves

TCE 007751562-01 P= 17.042153 Days $T_0=142.425830$ (BKJD)



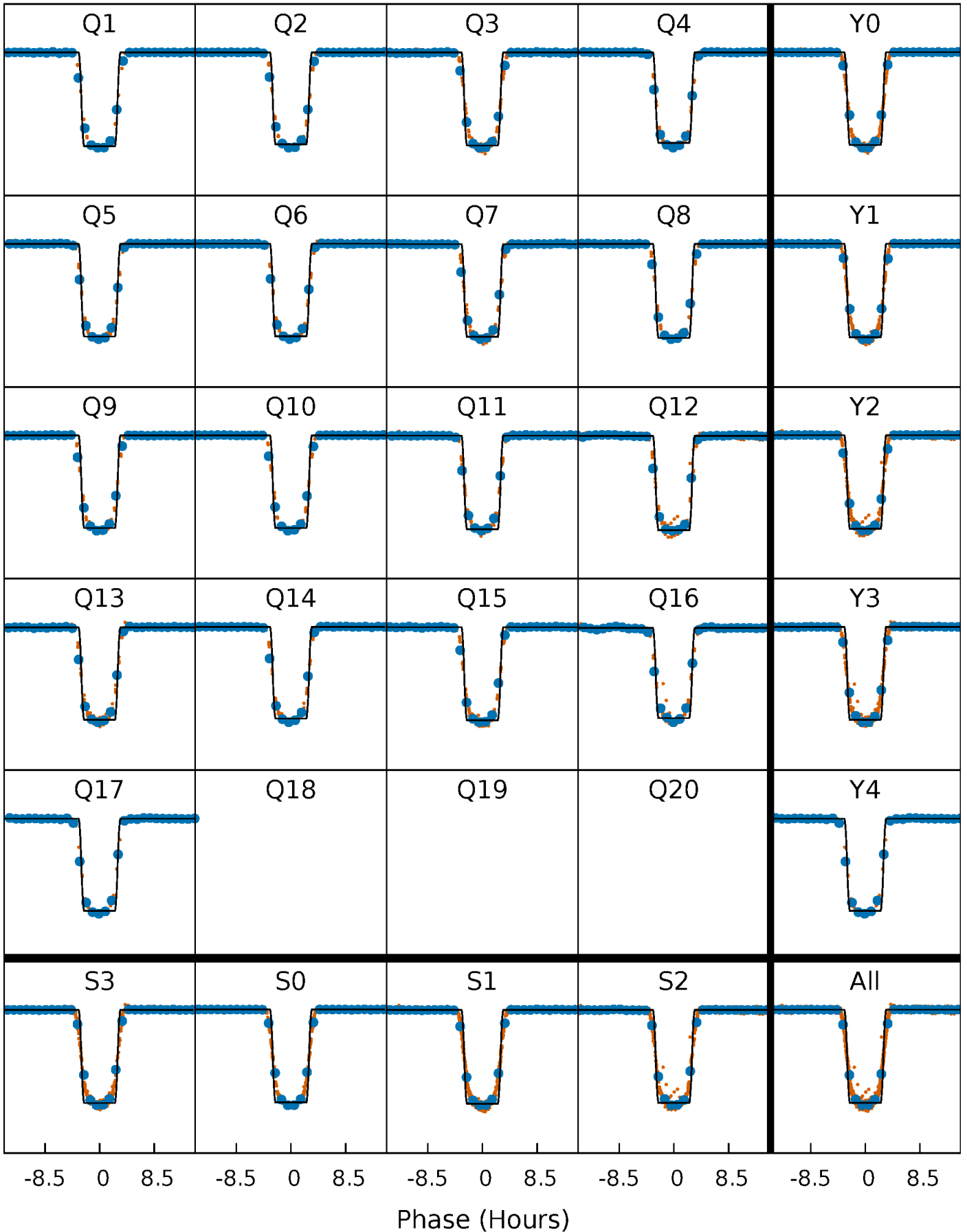
DV Quarter-Phased Transit Curves

TCE 007751562-01 P= 17.042153 Days $T_0=142.425830$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

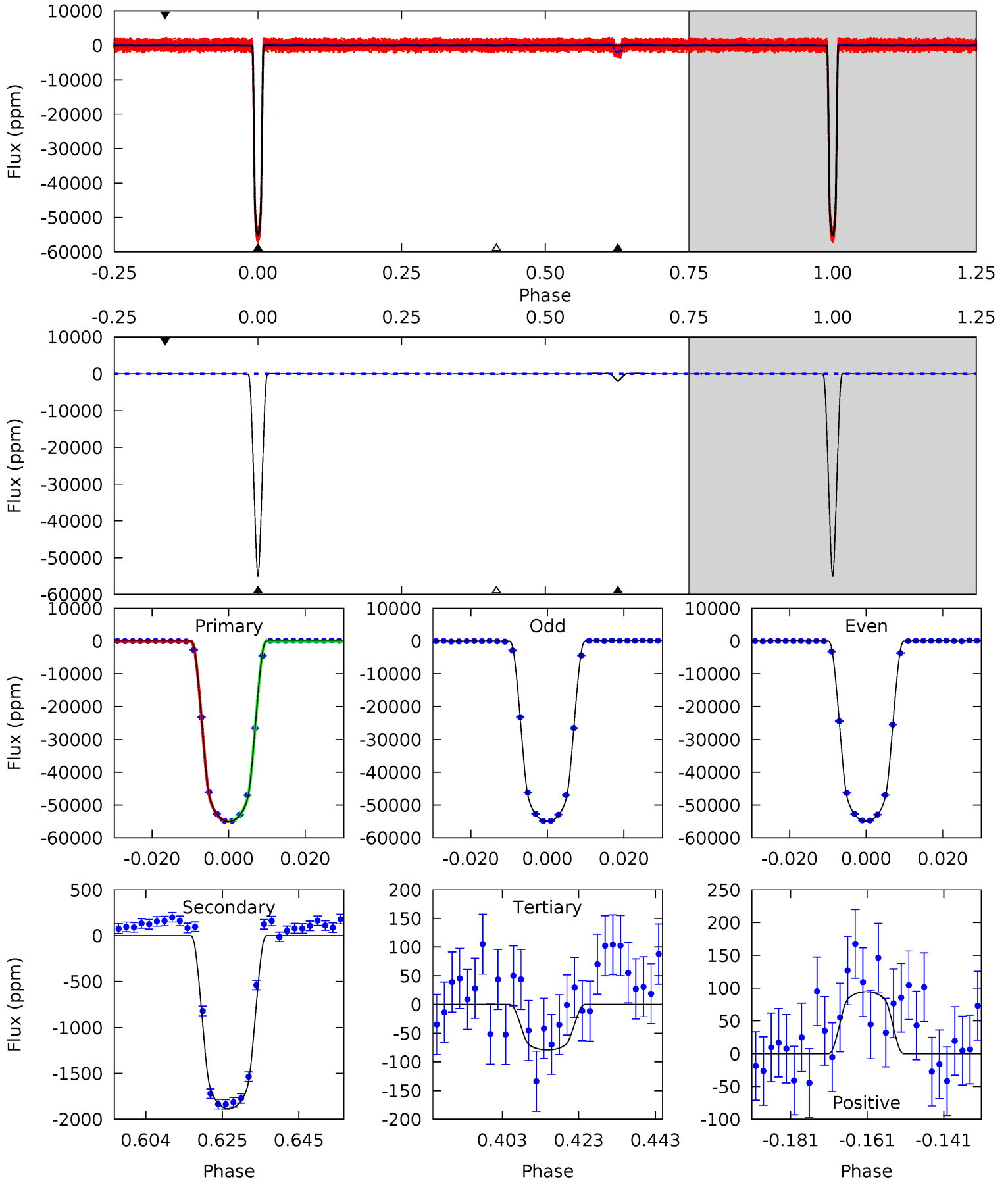
TCE 007751562-01 P= 17.042218 Days $T_0=142.423284$ (BKJD)



DV Model-Shift Uniqueness Test

007751562-01, P = 17.042153 Days, E = 125.383677 Days

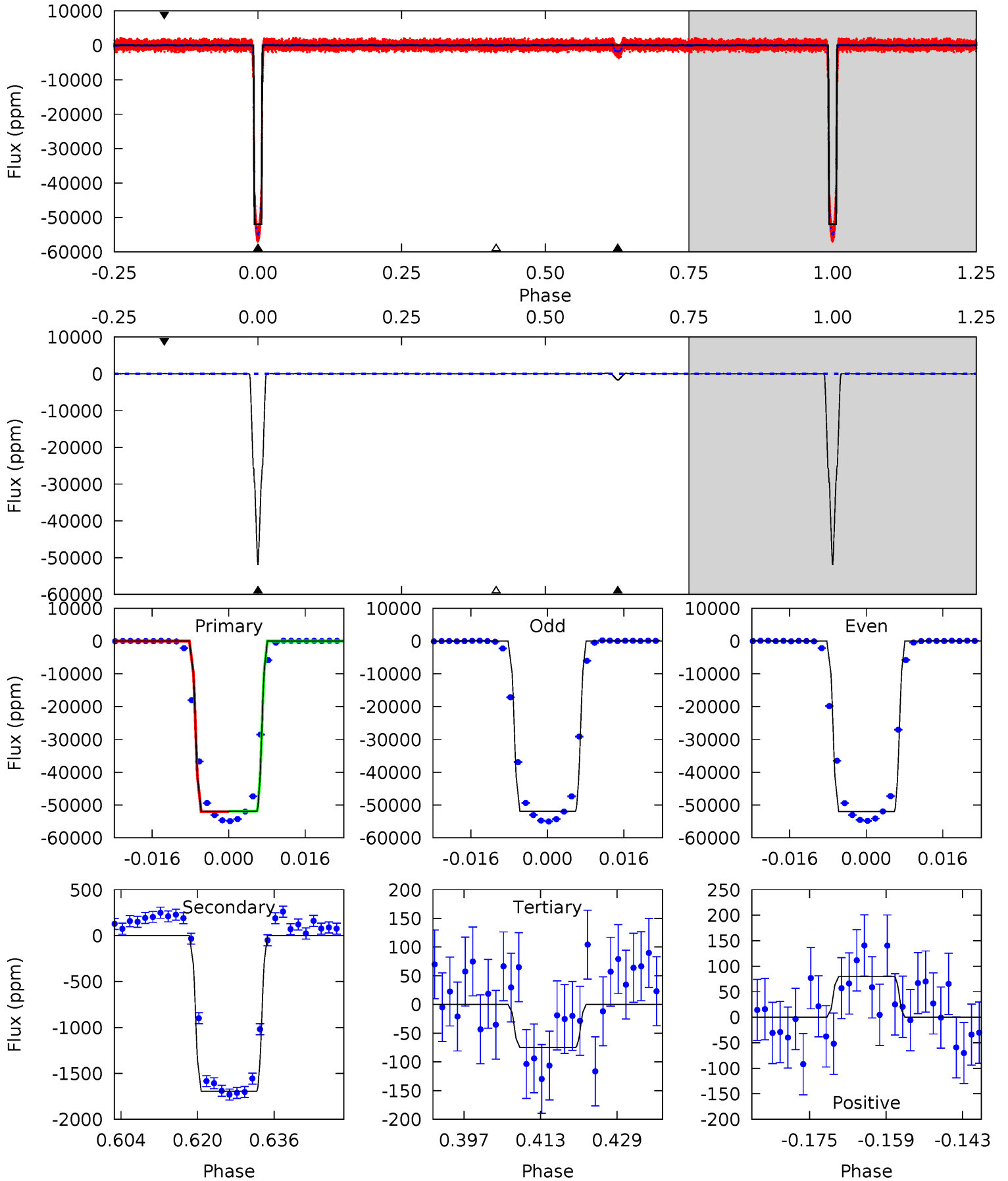
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3681	126.0	5.30	6.31	4.89	2.32	2.87	3675	3674	120.7	119.7	2.53	0.98	0.00	2.12



Alt Model-Shift Uniqueness Test

007751562-01, P = 17.042218 Days, E = 125.381066 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2864	93.4	4.14	4.40	4.94	2.41	1.85	2860	2860	89.3	89.0	3.26	0.99	0.00	4.51



Stellar Parameters For KIC 007751562

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6197^{+172}_{-216}	$4.449^{+0.052}_{-0.195}$	$-0.080^{+0.250}_{-0.300}$	$1.035^{+0.314}_{-0.126}$	$1.096^{+0.141}_{-0.141}$	$1.394^{+0.377}_{-0.712}$
	+3%/-3%	+1%/-4%	+312%/-375%	+30%/-12%	+13%/-13%	+27%/-51%
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 007751562-01 / KOI 6912.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1884 ± 15	$25.73^{+4.24}_{-2.22}$	1085^{+77}_{-55}	3302^{+58}_{-71}	28^{+4}_{-6}
Alt.	-1694 ± 18	$27.35^{+3.89}_{-2.66}$	1091^{+74}_{-58}	3205^{+49}_{-68}	22^{+4}_{-5}

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

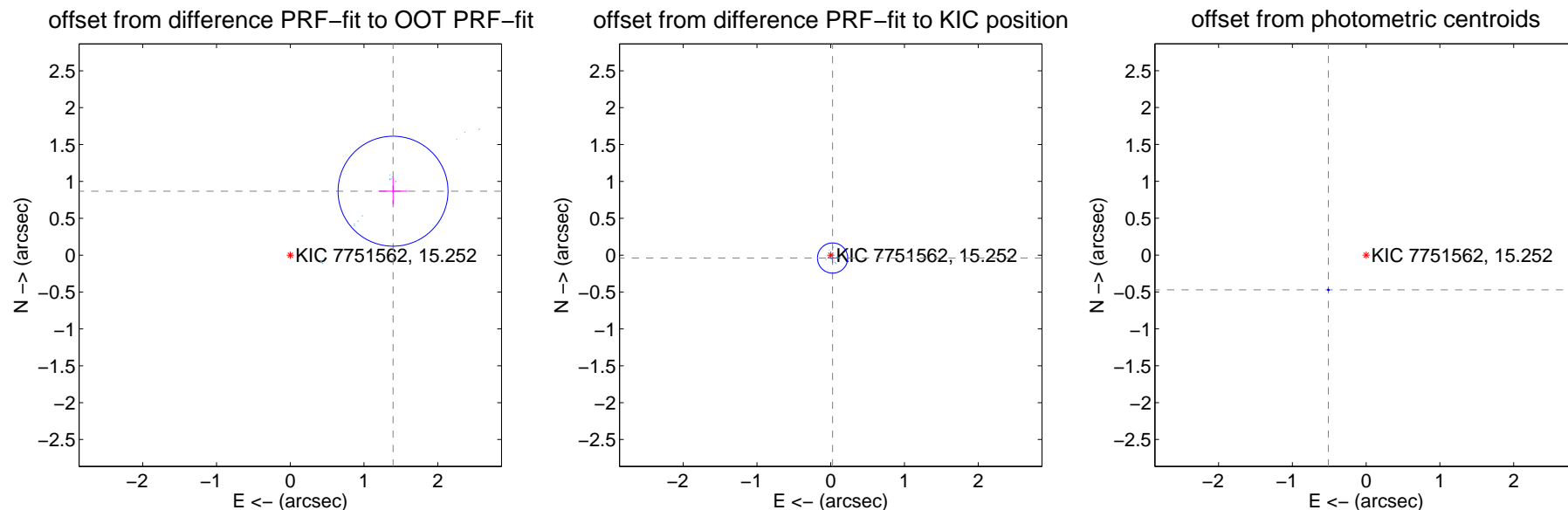
DV Centroid Data

Supplemental centroid analysis for 007751562-01. Kepler magnitude: 15.25. Transit SNR 2101.41

There are 17 quarters with good PRF difference image offsets

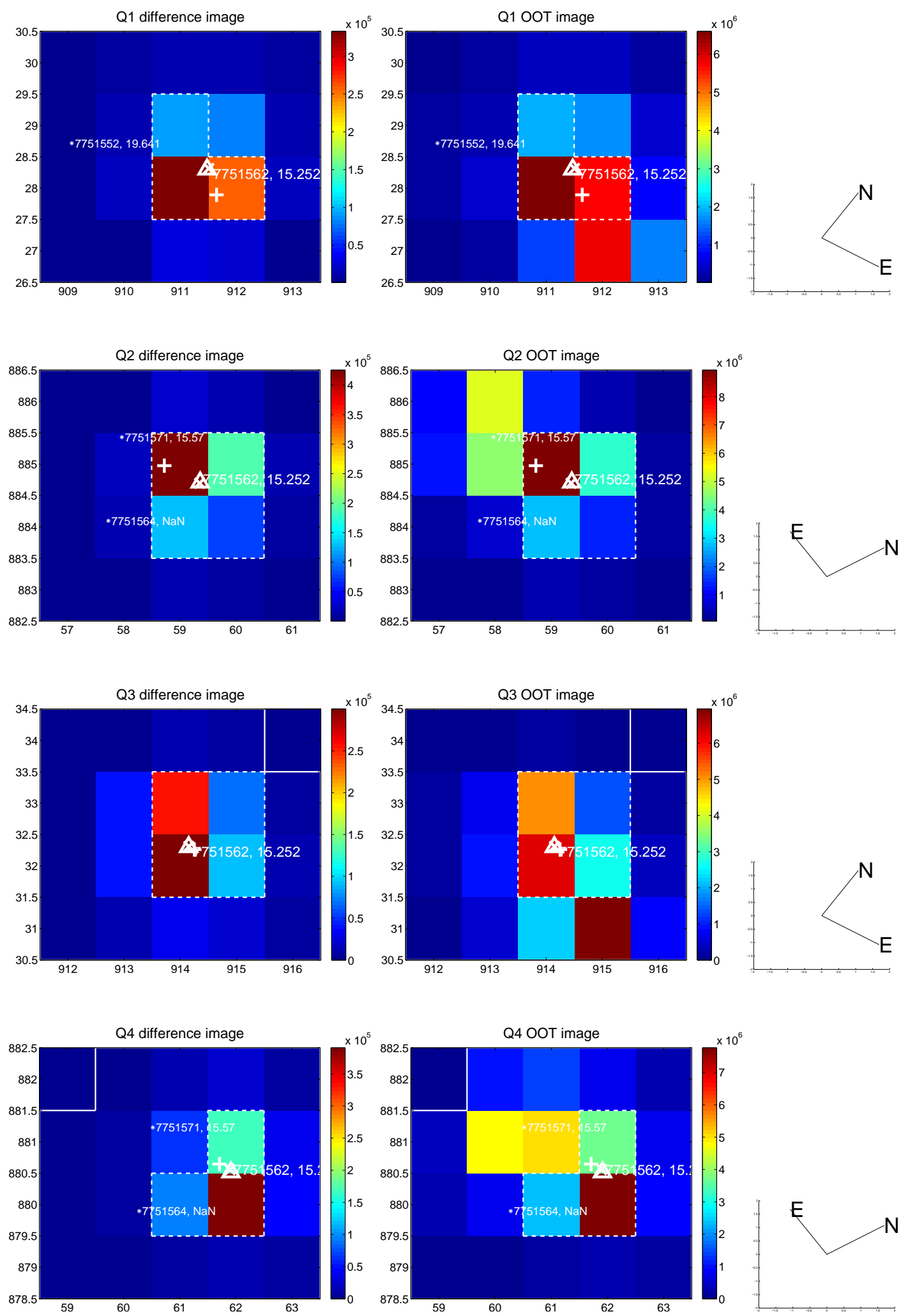
The direct PRF centroid is offset from the target star catalog position by about 1.72 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.642 ± 0.249	6.61	-1.394 ± 0.194	0.867 ± 0.175
PRF-fit source offset from KIC position	0.047 ± 0.068	0.68	-0.025 ± 0.068	-0.039 ± 0.068
photometric centroid source offset	0.70 ± 0.00	196.80	0.51 ± 0.00	-0.47 ± 0.00

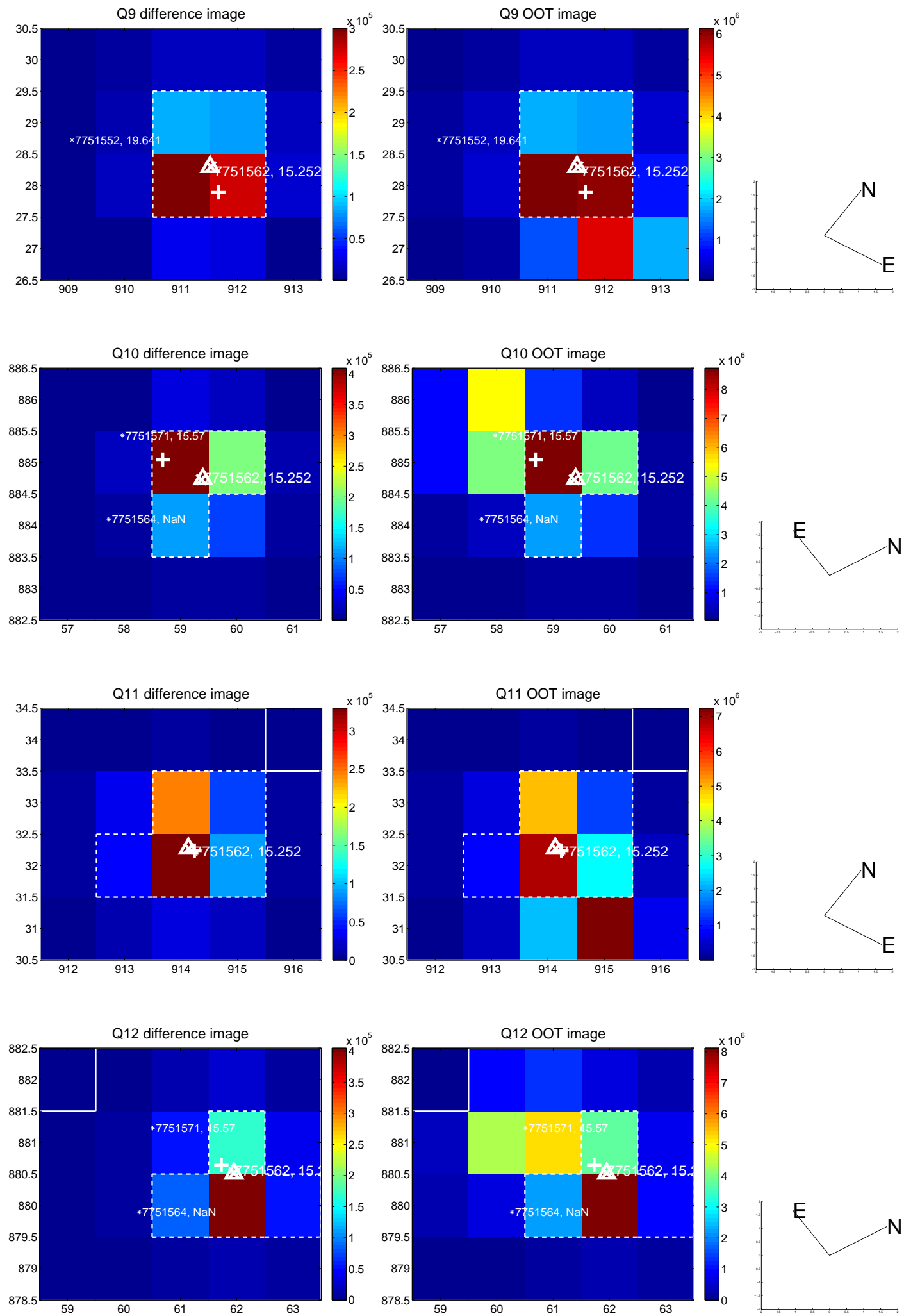


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

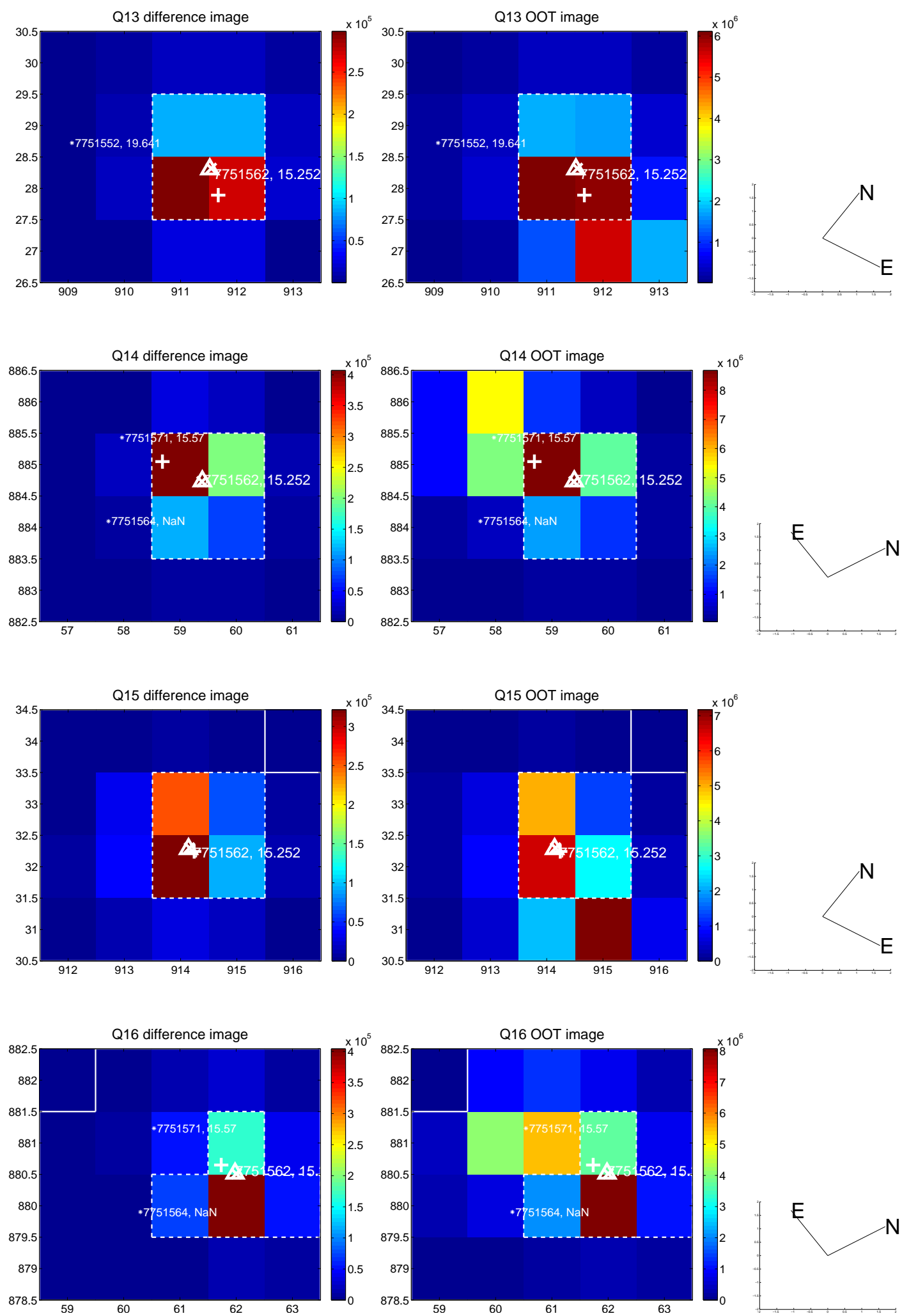
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



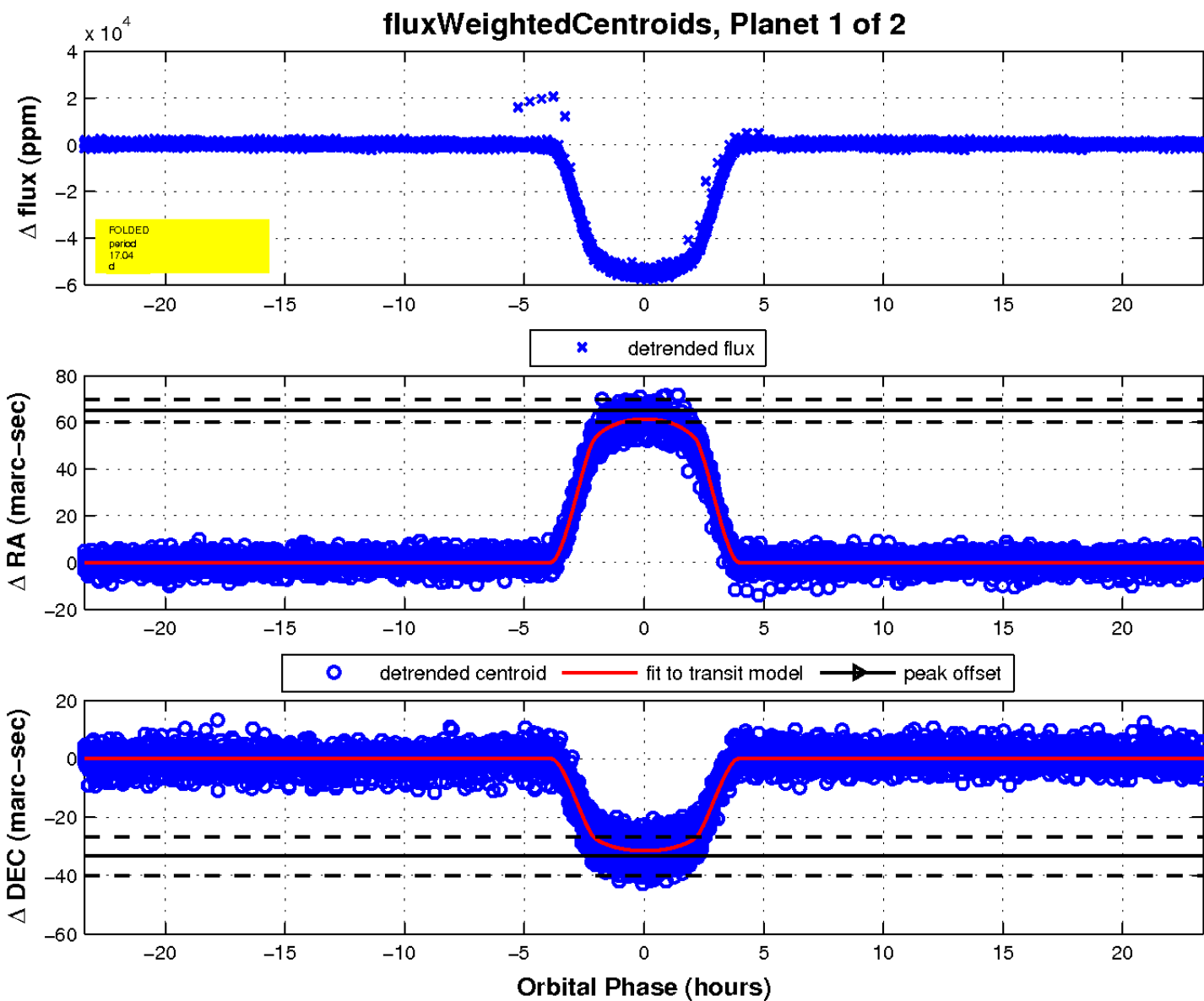
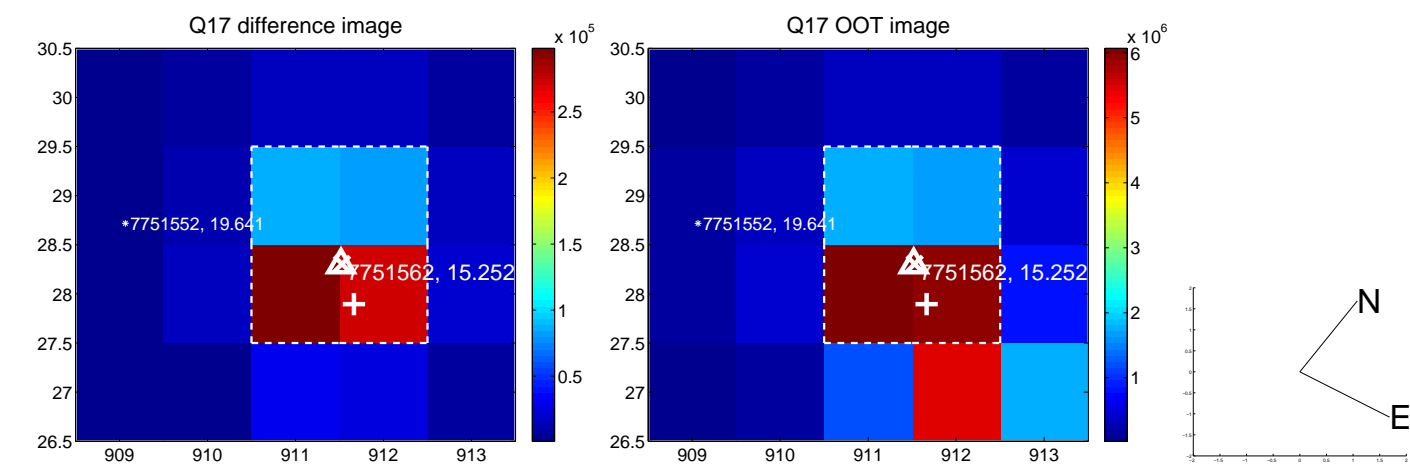
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

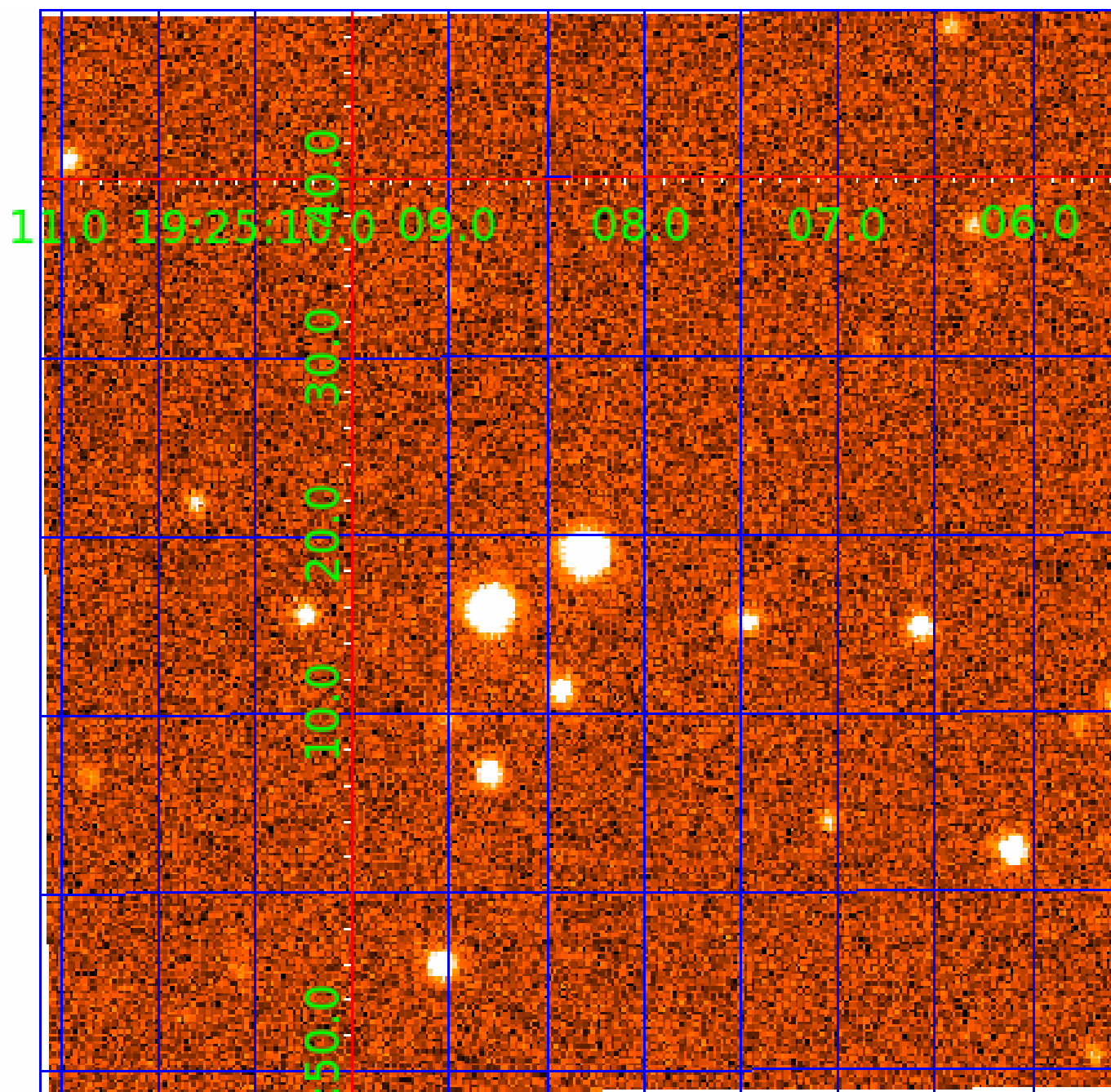


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007751562

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})
007751562-01	OBS	6912.01	17.042153	142.425830	55118.0	7.800	2386.5	2101.4	1.03	6197	24.97	79.11
007751562-02	OBS	No	17.042125	136.059017	2034.2	6.992	84.6	87.7	1.03	6197	5.41	79.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007751562-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_KIC_POS
007751562-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS

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 for comment definitions.

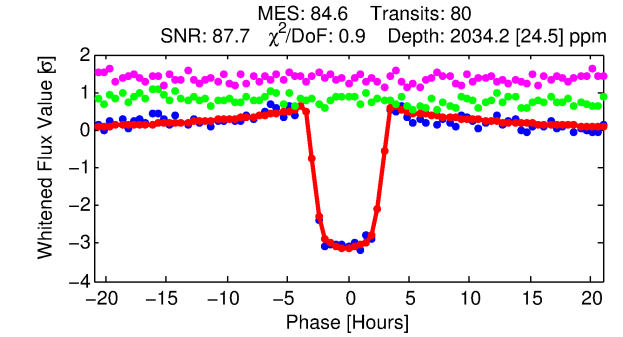
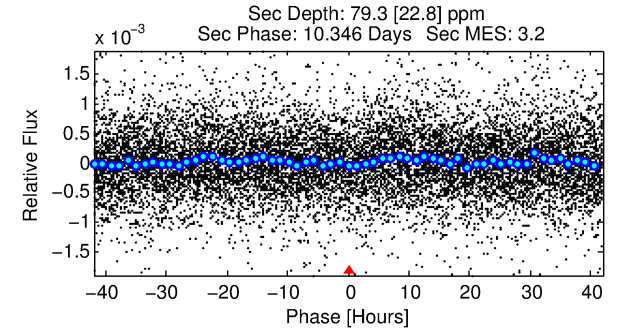
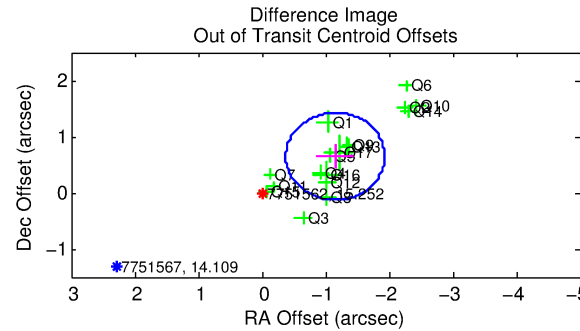
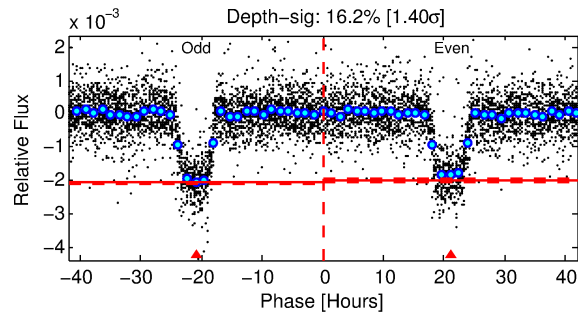
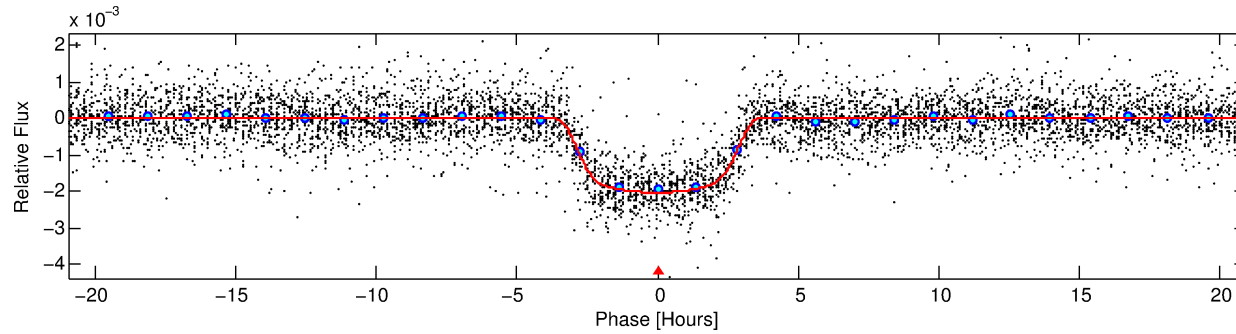
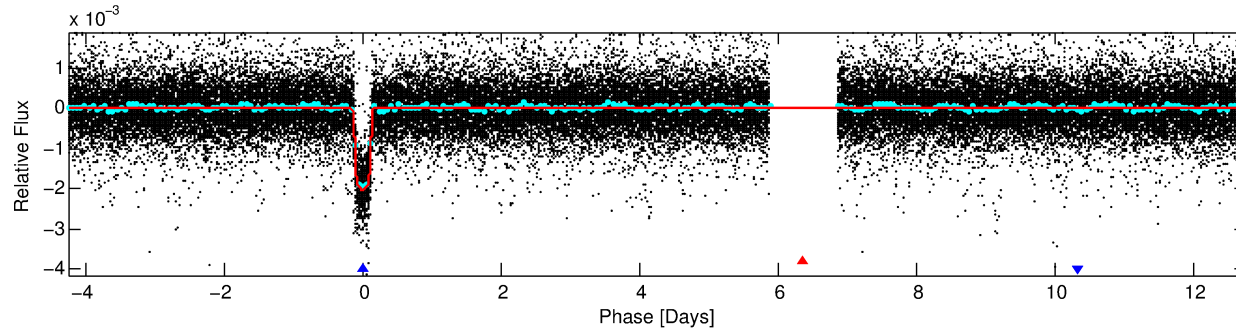
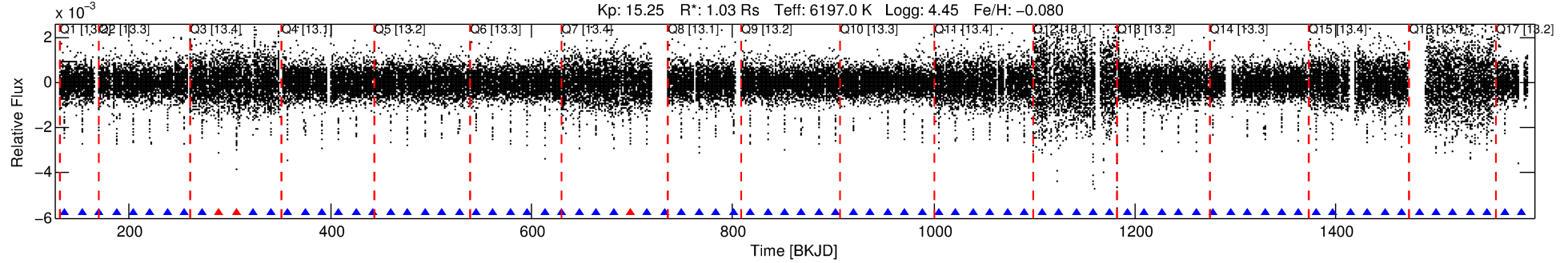
Ephemeris Match Information For 007751562-02

No Significant Match Found

DV One-Page Summary

KIC: 7751562 Candidate: 2 of 2 Period: 17.042 d
KOI: K06912 Corr: No Ephemeris Match

Kp: 15.25 R*: 1.03 Rs Teff: 6197.0 K Logg: 4.45 Fe/H: -0.080



DV Fit Results:

Period = 17.04213 [0.00003] d
Epoch = 136.0590 [0.0015] BKJD
Rp/R* = 0.0479 [0.0005]
a/R* = 10.63 [0.40]
b = 0.88 [0.01]
Seff = 79.11 [30.63]
Teff = 760 [74] K
Rp = 5.41 [1.64] Re
a = 0.1338 [0.0337] AU
Ag = 26.69 [12.33] [2.08σ]
Teffp = 2673 [214] K [8.47σ]

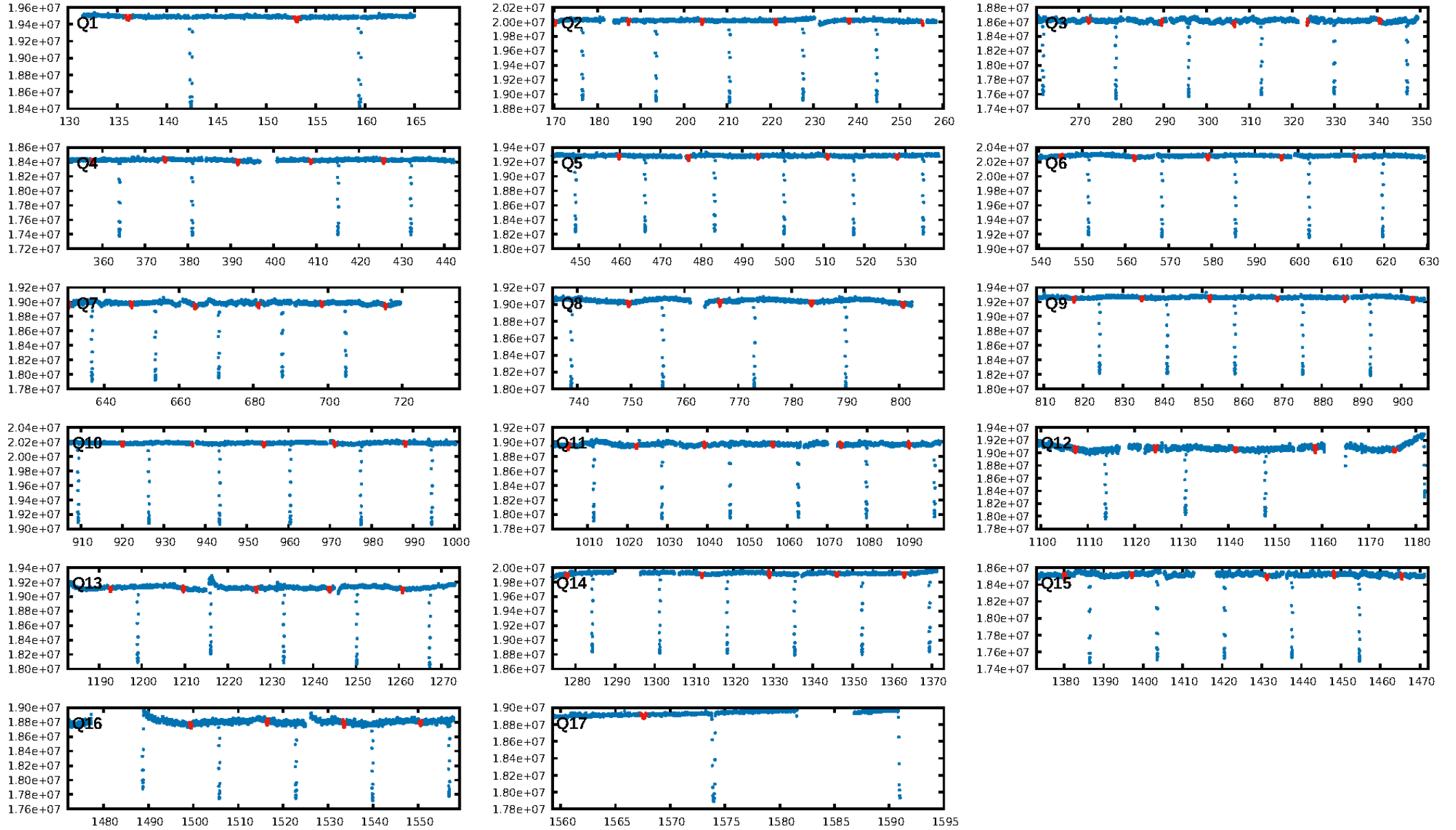
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 97.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.96 [74/77]
GhostDiagnostic-chr: 3.3
Centroid-sig: 0.0%
Centroid-so: 0.837 arcsec [8.82σ]
OotOffset-rm: 1.320 arcsec [5.09σ]
KicOffset-rm: 0.148 arcsec [1.56σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
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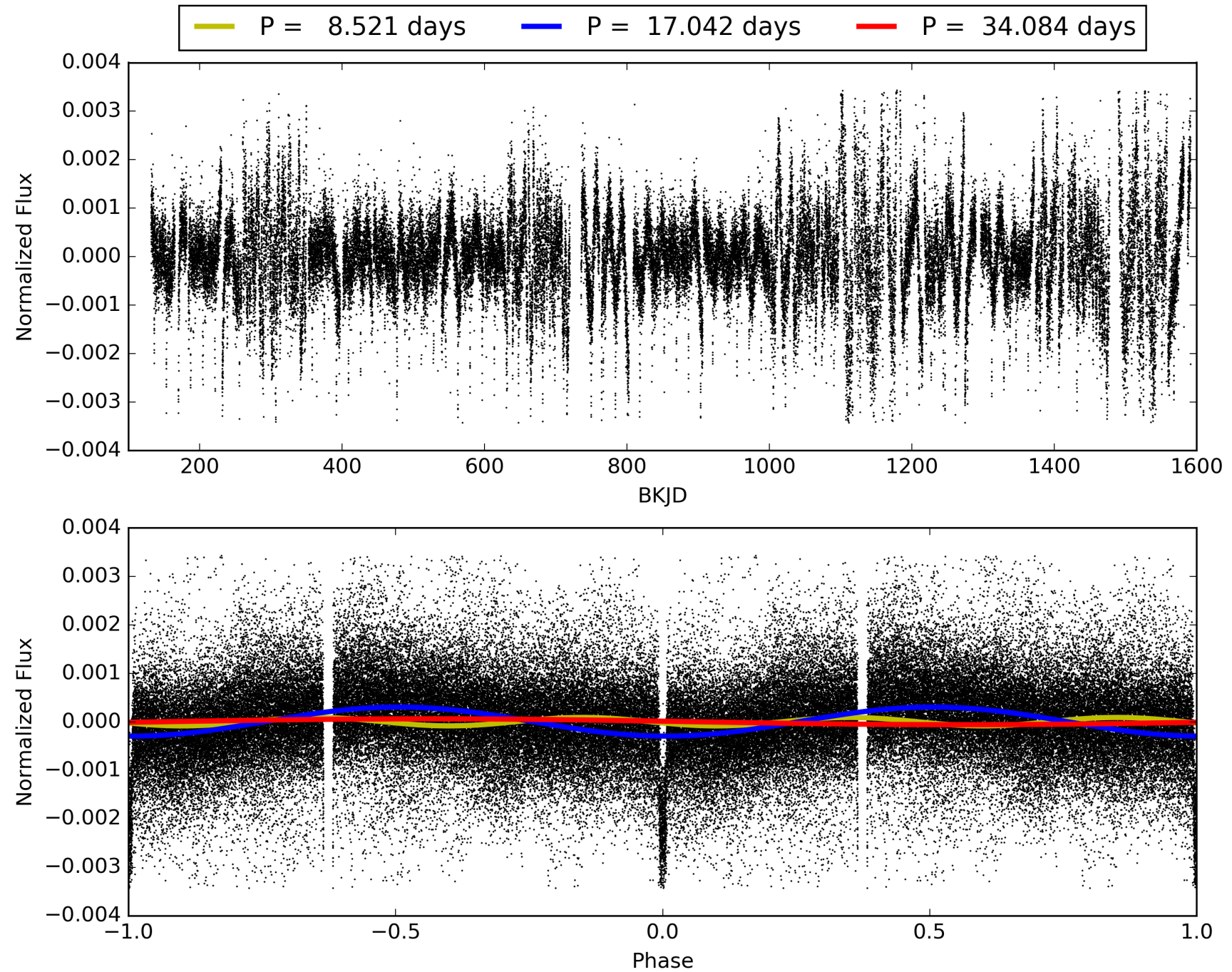
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:00:17 Z

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

TCE 007751562-02, PDC Light Curves

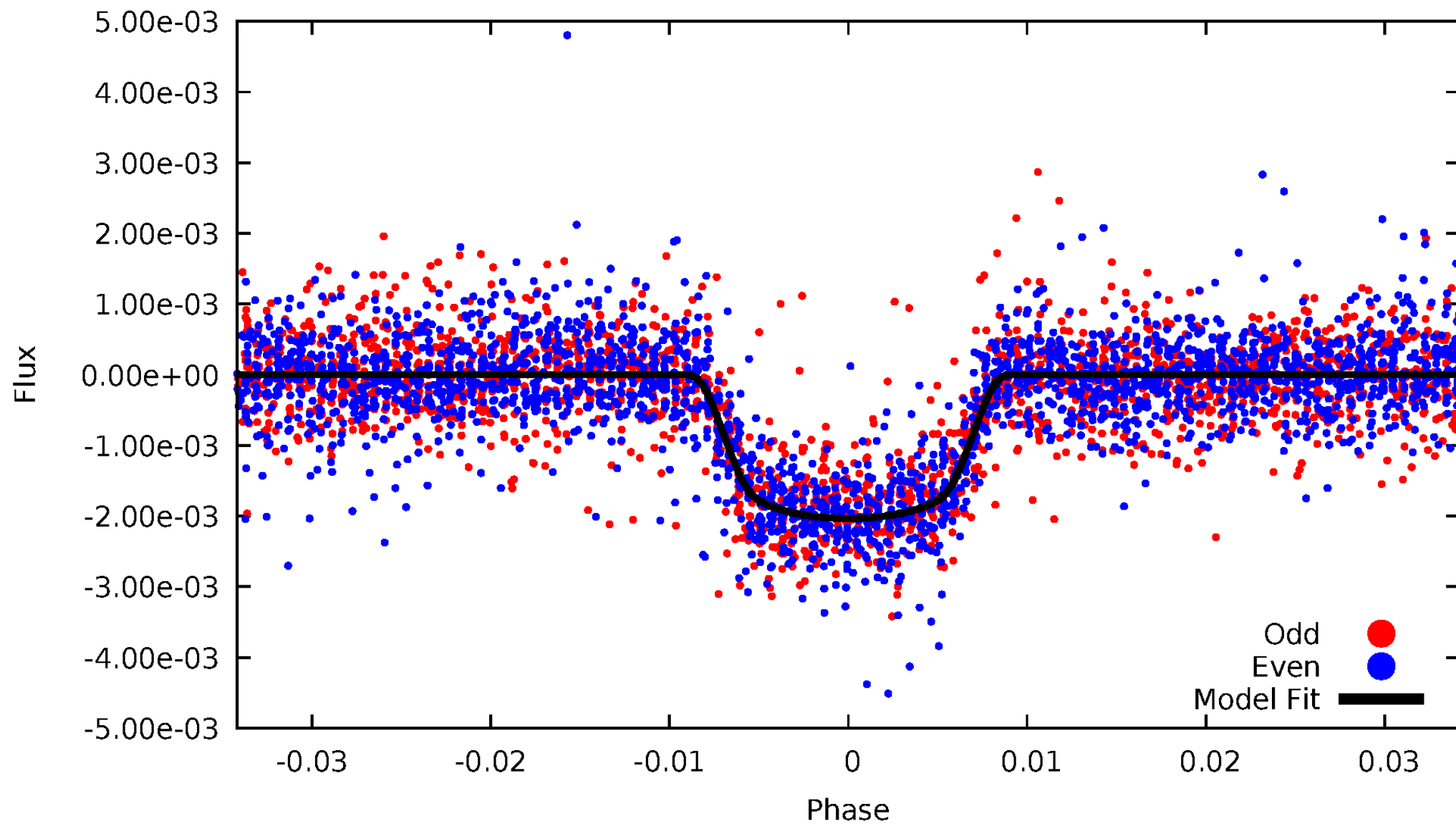


TCE 007751562-02



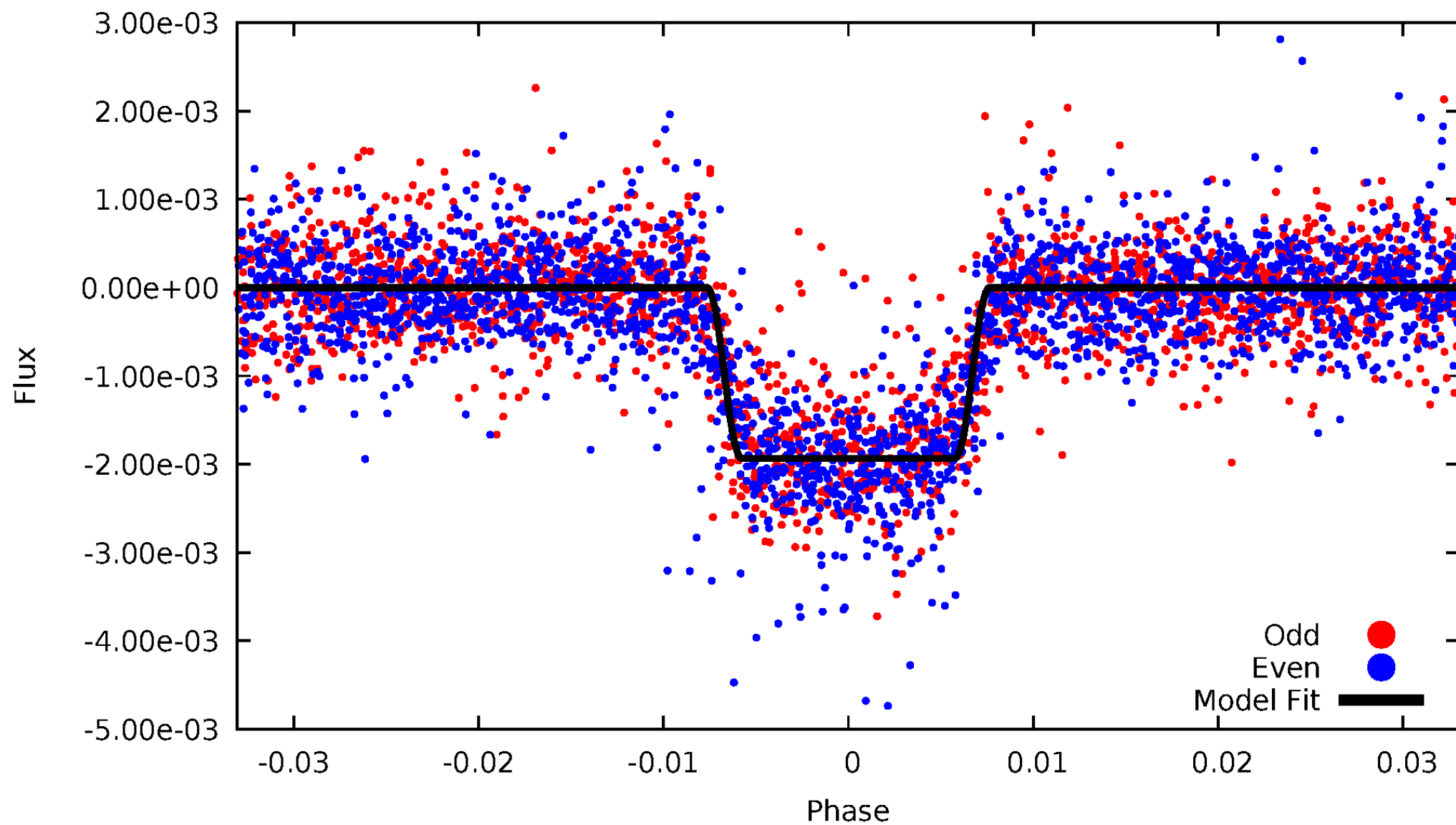
DV Odd/Even

TCE 007751562-02



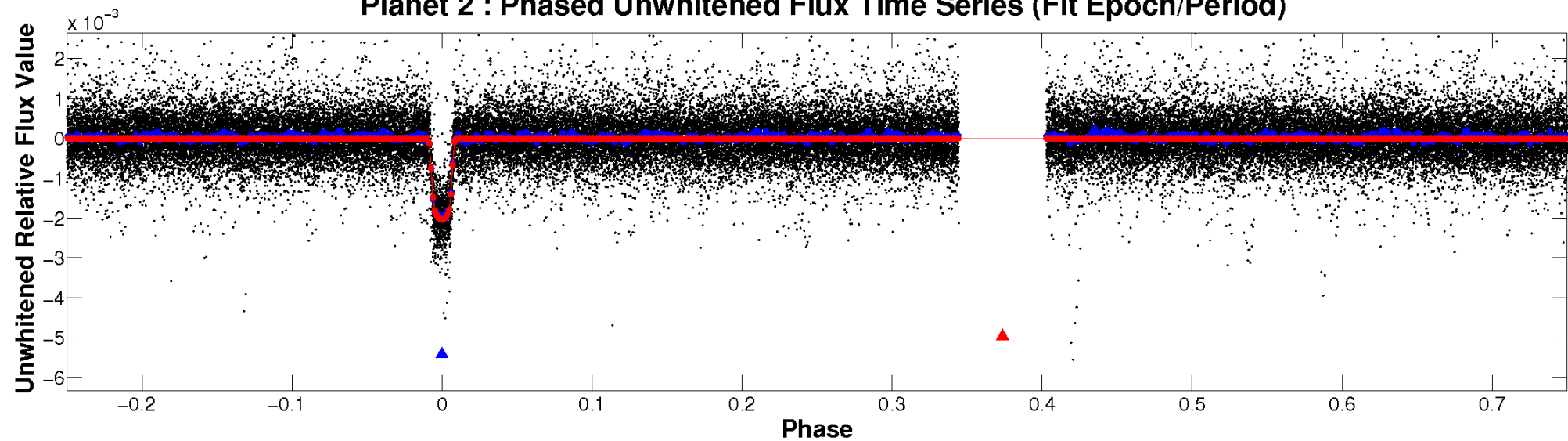
ALT Odd/Even

TCE 007751562-02

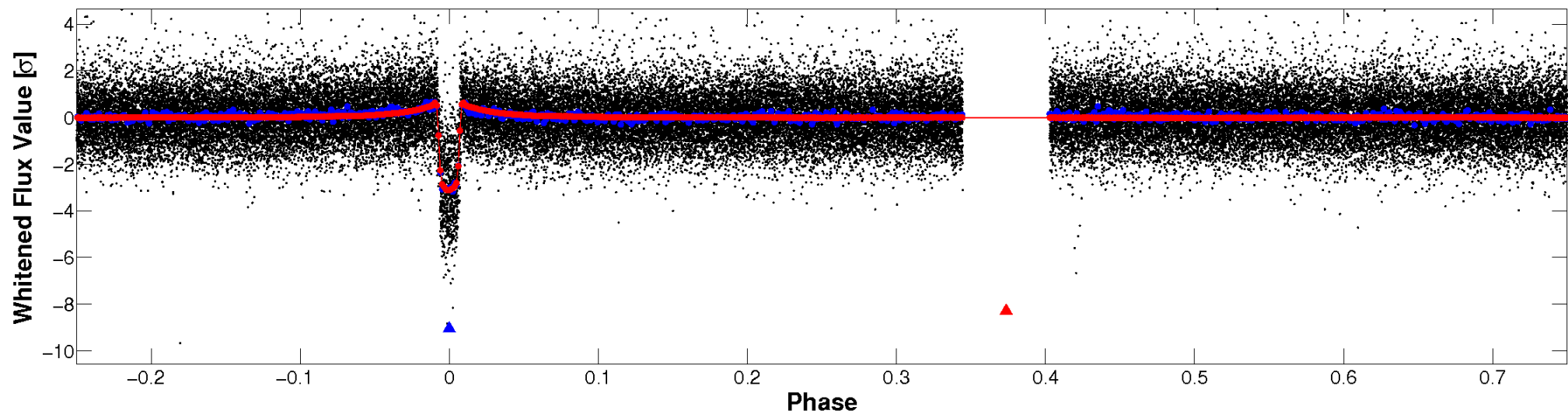


Non-Whitened Vs. Whitened Light Curve

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

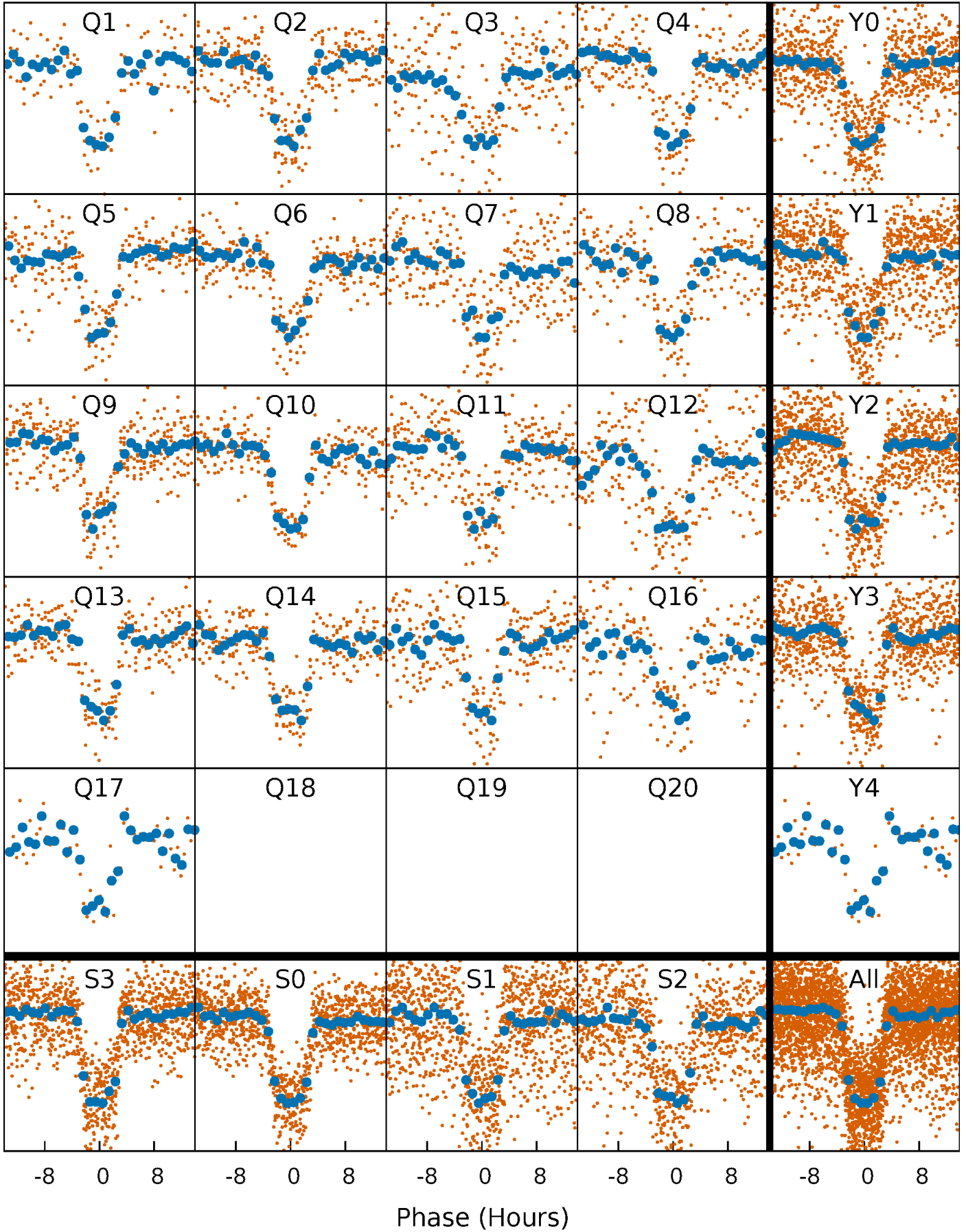


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



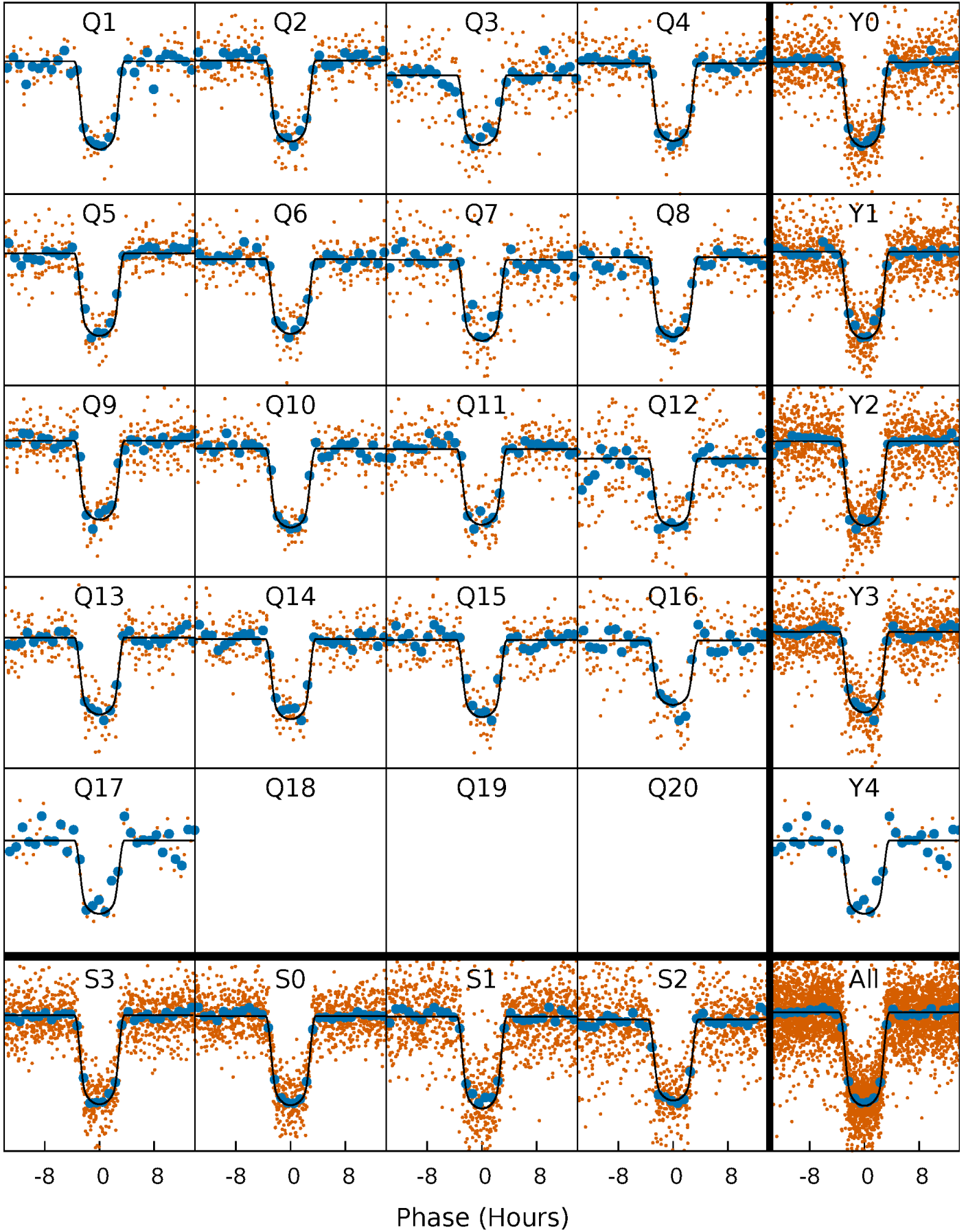
PDC Quarter-Phased Transit Curves

TCE 007751562-02 P= 17.042125 Days $T_0=136.059017$ (BKJD)



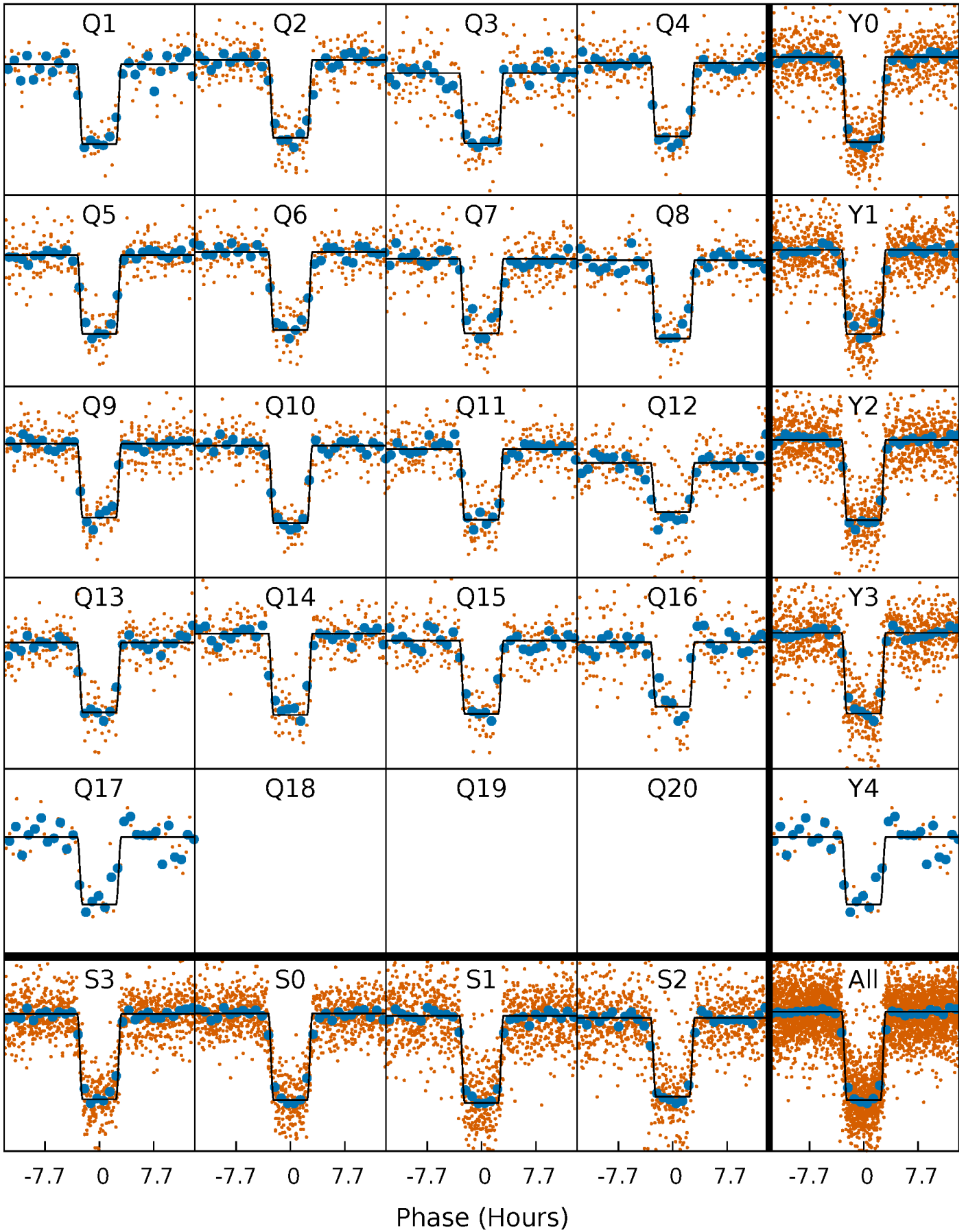
DV Quarter-Phased Transit Curves

TCE 007751562-02 P= 17.042125 Days $T_0=136.059017$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

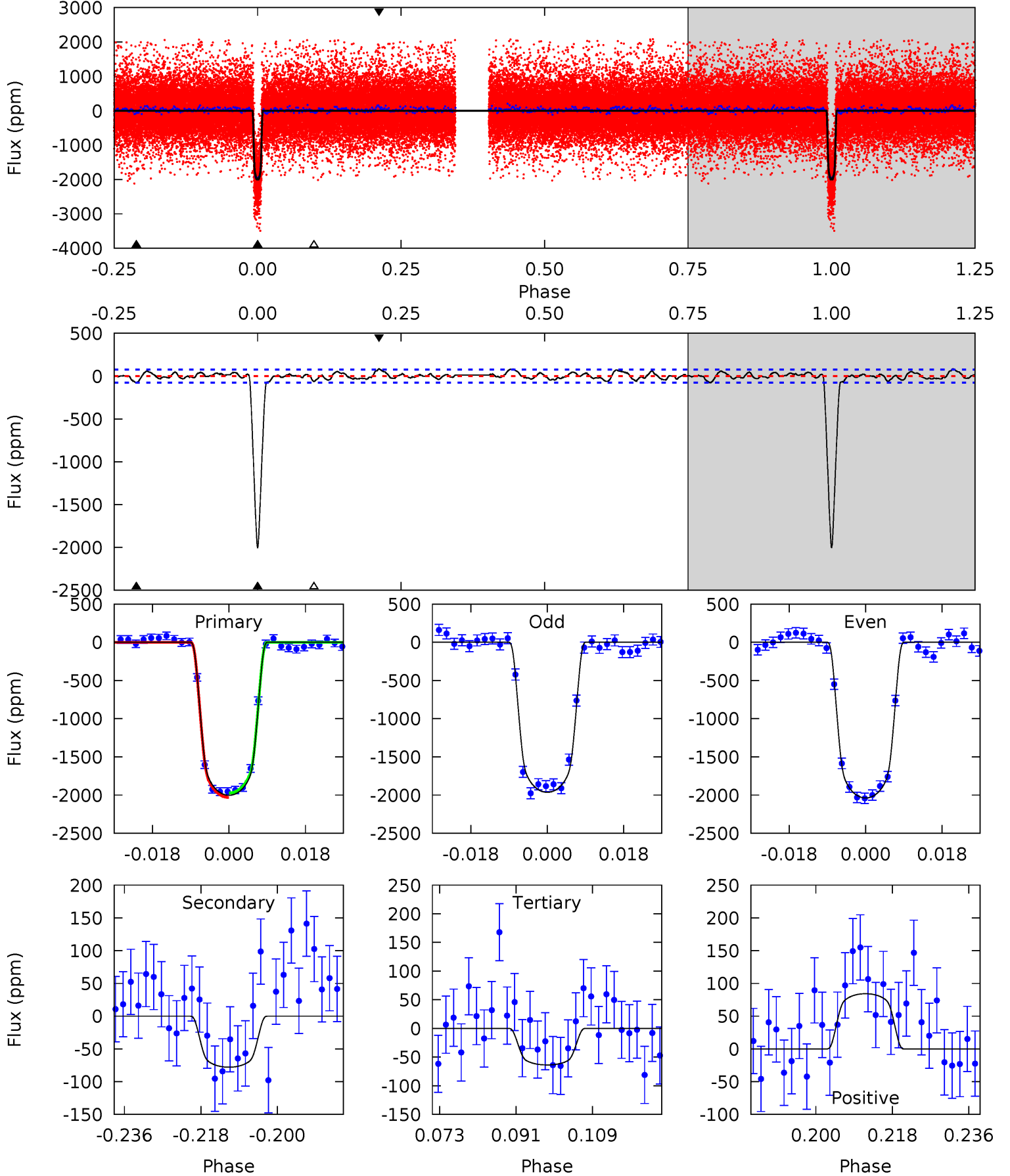
TCE 007751562-02 P= 17.042218 Days $T_0=136.055076$ (BKJD)



DV Model-Shift Uniqueness Test

007751562-02, $P = 17.042125$ Days, $E = 119.016892$ Days

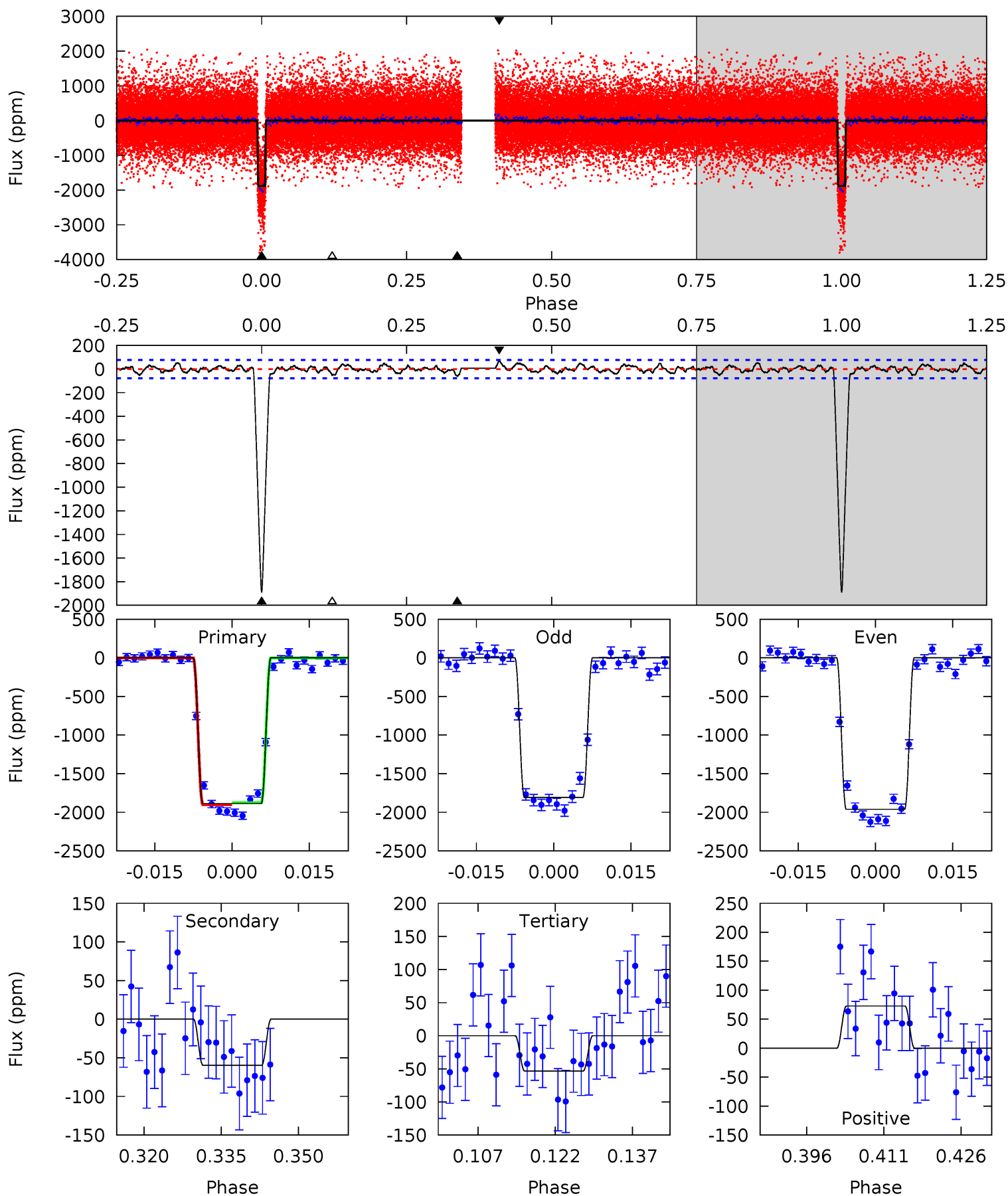
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
129.4	5.04	4.12	5.44	4.91	2.36	1.90	125.2	123.9	0.92	-0.41	2.39	0.99	0.04	1.89



Alt Model-Shift Uniqueness Test

007751562-02, $P = 17.042218$ Days, $E = 119.012858$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
119.6	3.79	3.38	4.61	4.94	2.43	1.38	116.3	115.0	0.42	-0.82	4.87	1.00	0.04	0.80



Stellar Parameters For KIC 007751562

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6197^{+172}_{-216}	$4.449^{+0.052}_{-0.195}$	$-0.080^{+0.250}_{-0.300}$	$1.035^{+0.314}_{-0.126}$	$1.096^{+0.141}_{-0.141}$	$1.394^{+0.377}_{-0.712}$
	+3%/-3%	+1%/-4%	+312%/-375%	+30%/-12%	+13%/-13%	+27%/-51%
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 007751562-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-78 ± 15	$5.59^{+0.81}_{-0.47}$	1085^{+70}_{-54}	3235^{+103}_{-133}	24^{+7}_{-6}
Alt.	-60 ± 16	$5.17^{+0.82}_{-0.50}$	1088^{+76}_{-52}	3184^{+135}_{-162}	21^{+8}_{-6}

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

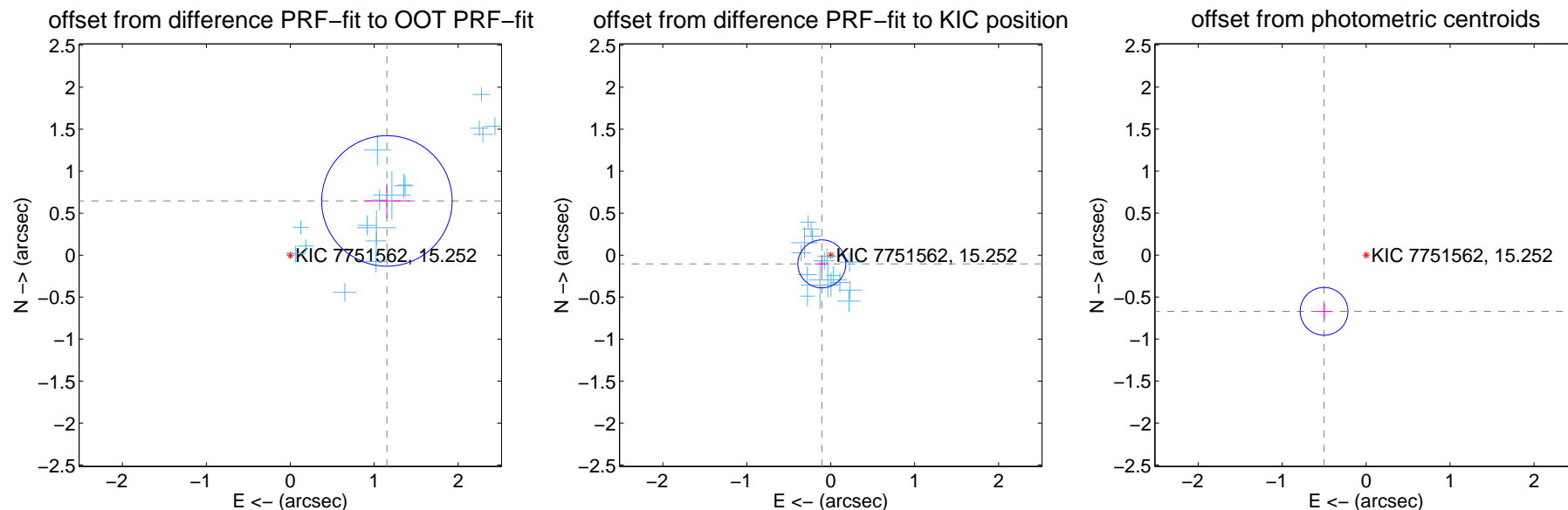
DV Centroid Data

Supplemental centroid analysis for 007751562-02. Kepler magnitude: 15.25. Transit SNR 87.67

There are 17 quarters with good PRF difference image offsets

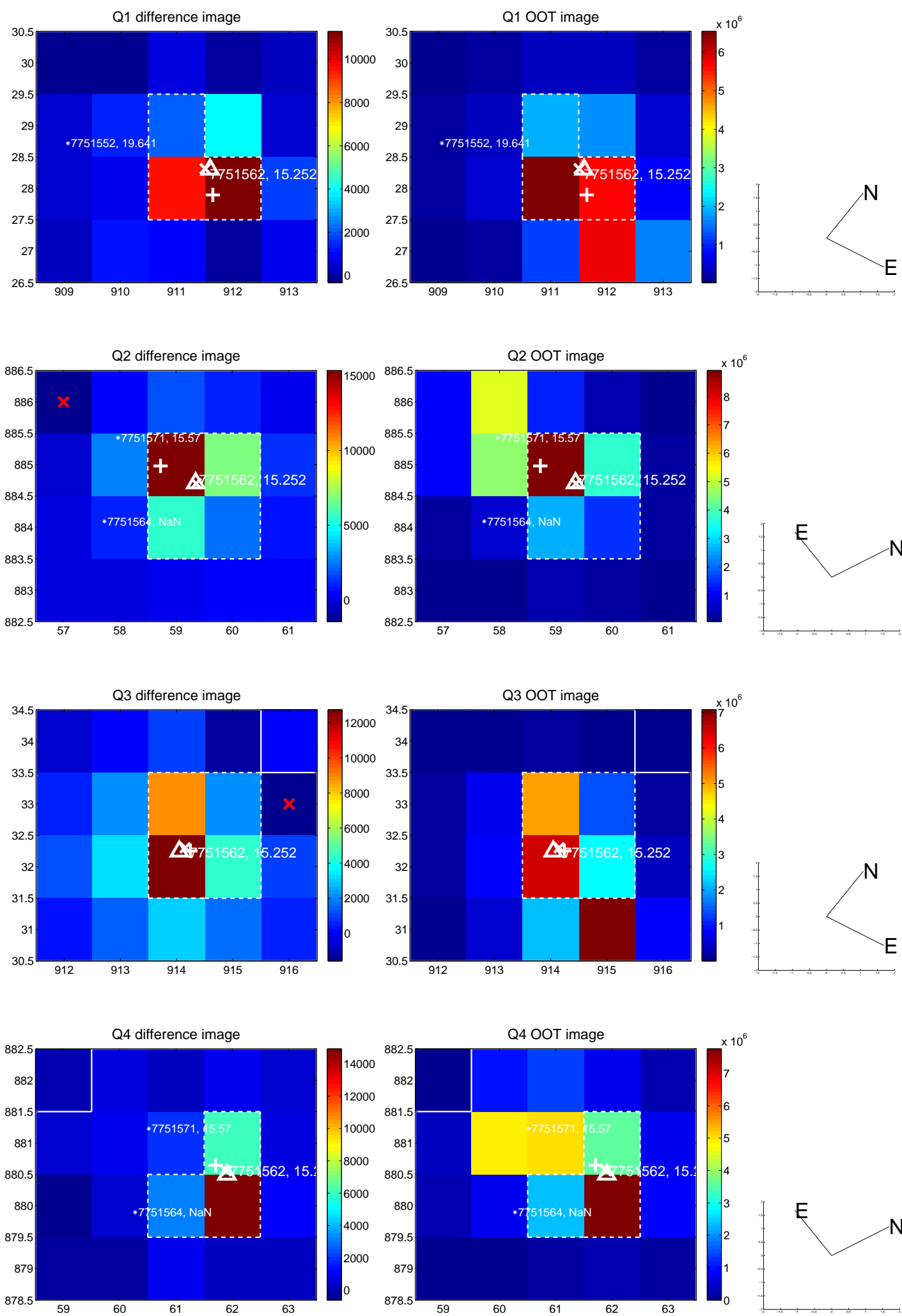
The direct PRF centroid is offset from the target star catalog position by about 1.72 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.320 ± 0.259	5.09	-1.151 ± 0.274	0.646 ± 0.204
PRF-fit source offset from KIC position	0.148 ± 0.095	1.56	0.106 ± 0.084	-0.104 ± 0.106
photometric centroid source offset	0.84 ± 0.09	8.82	0.50 ± 0.10	-0.67 ± 0.09

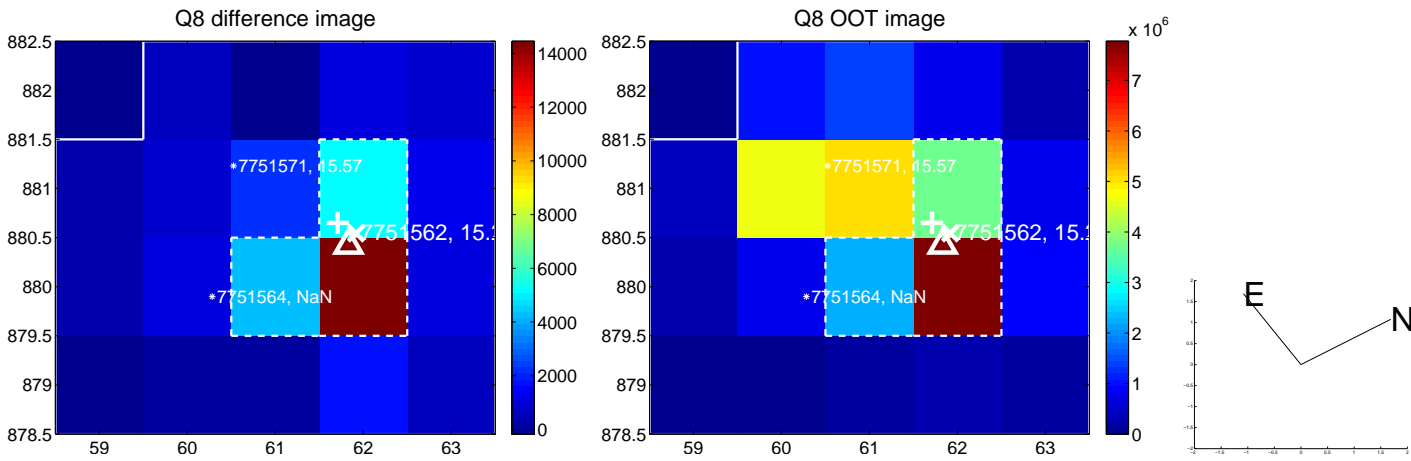
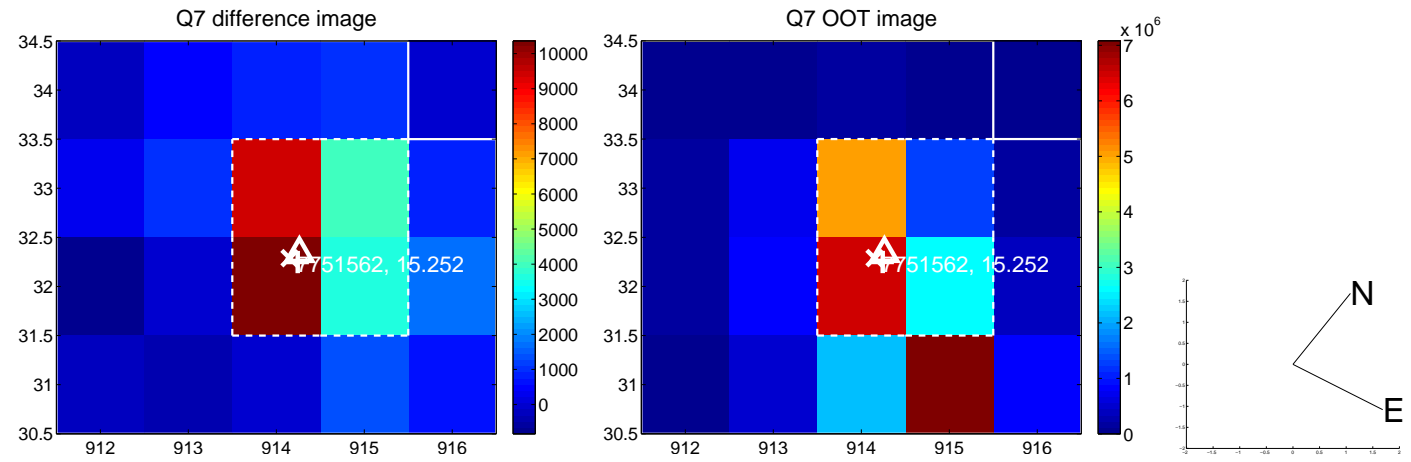
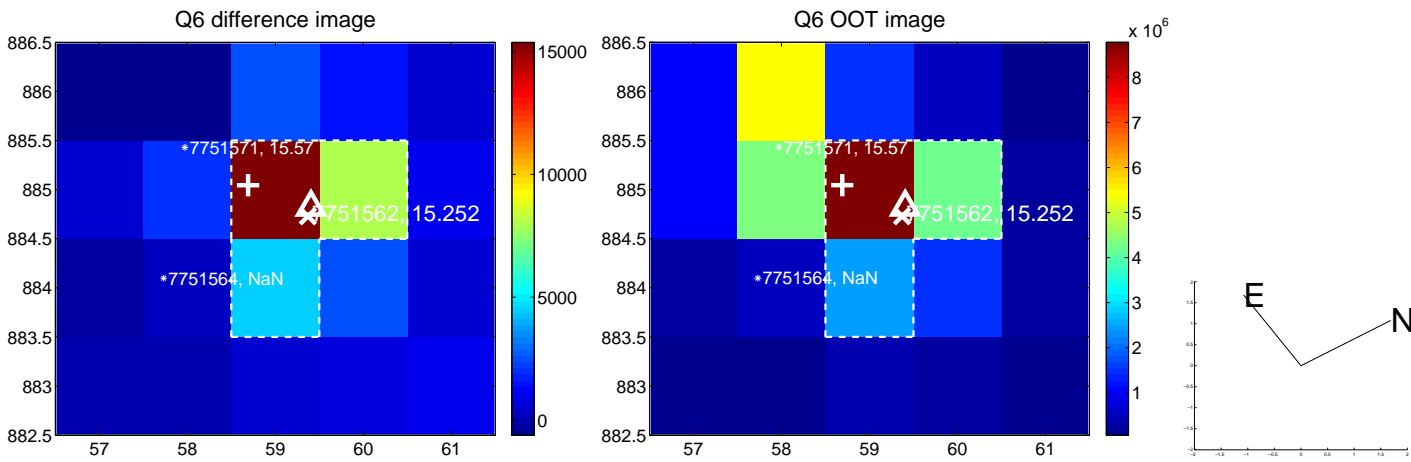
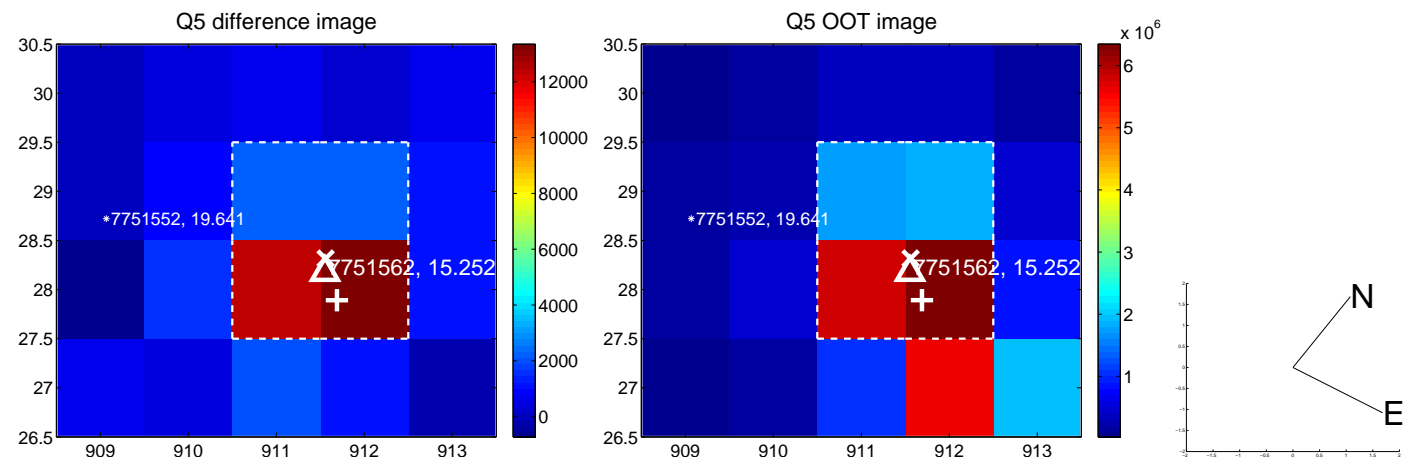


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

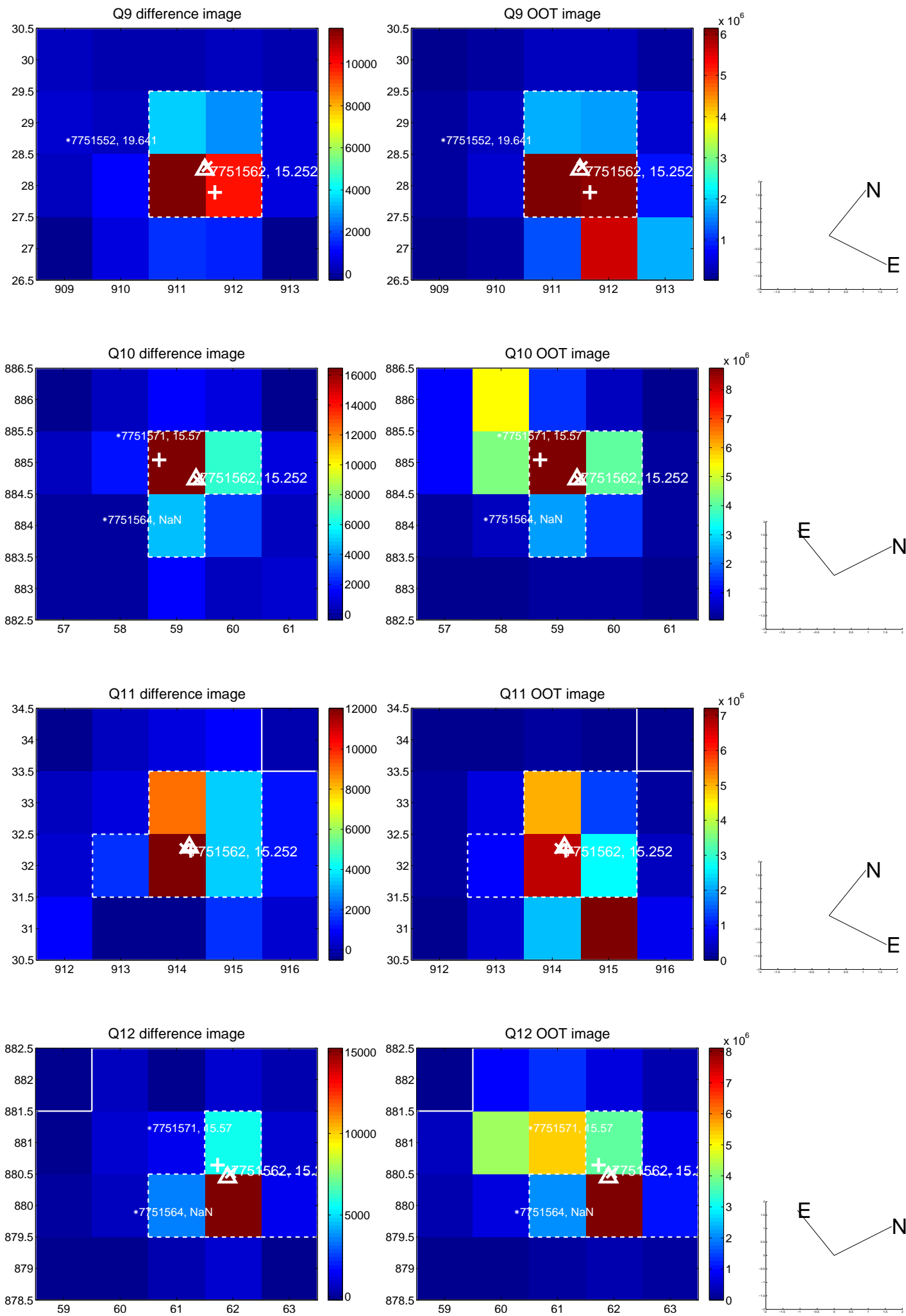
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



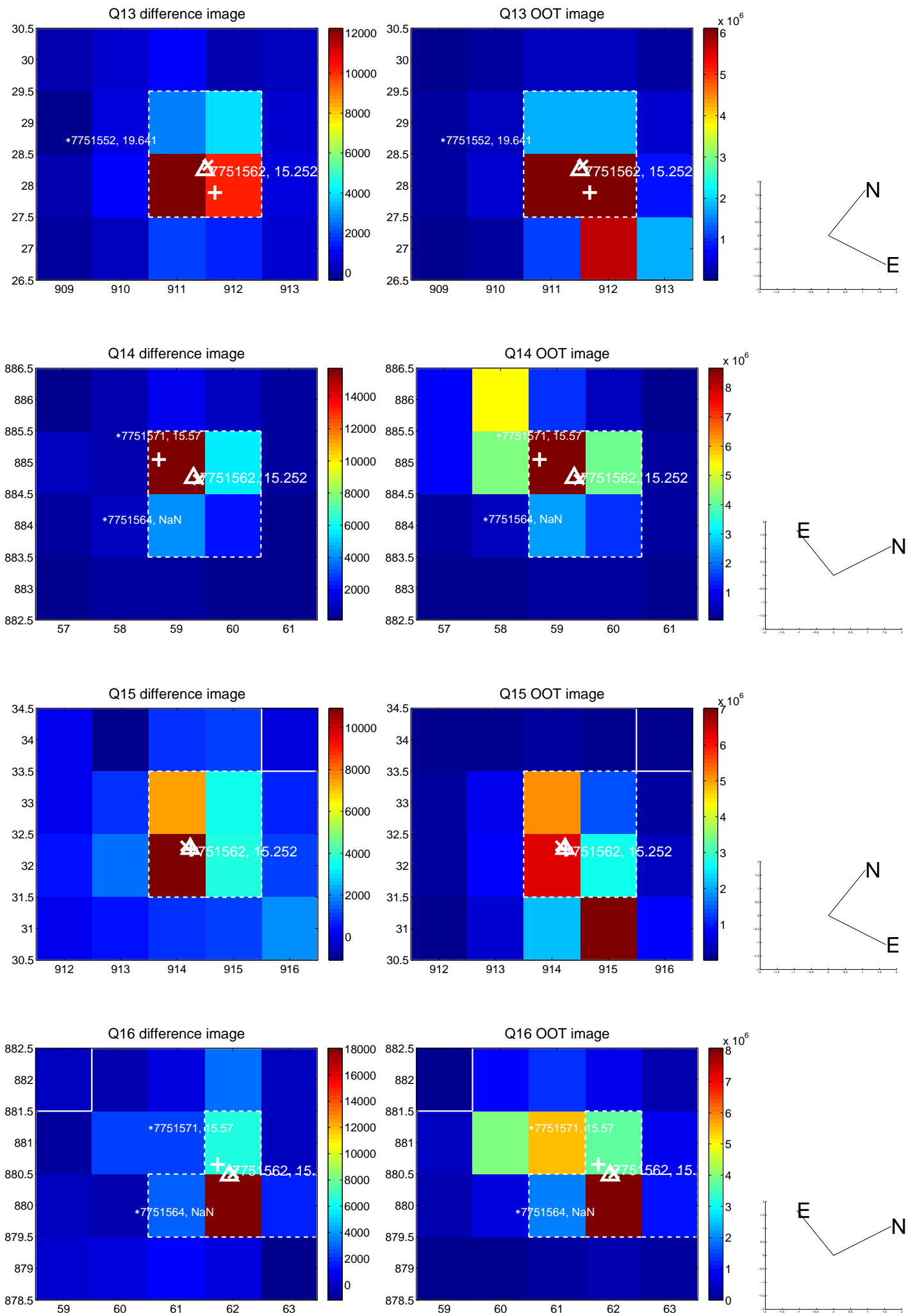
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



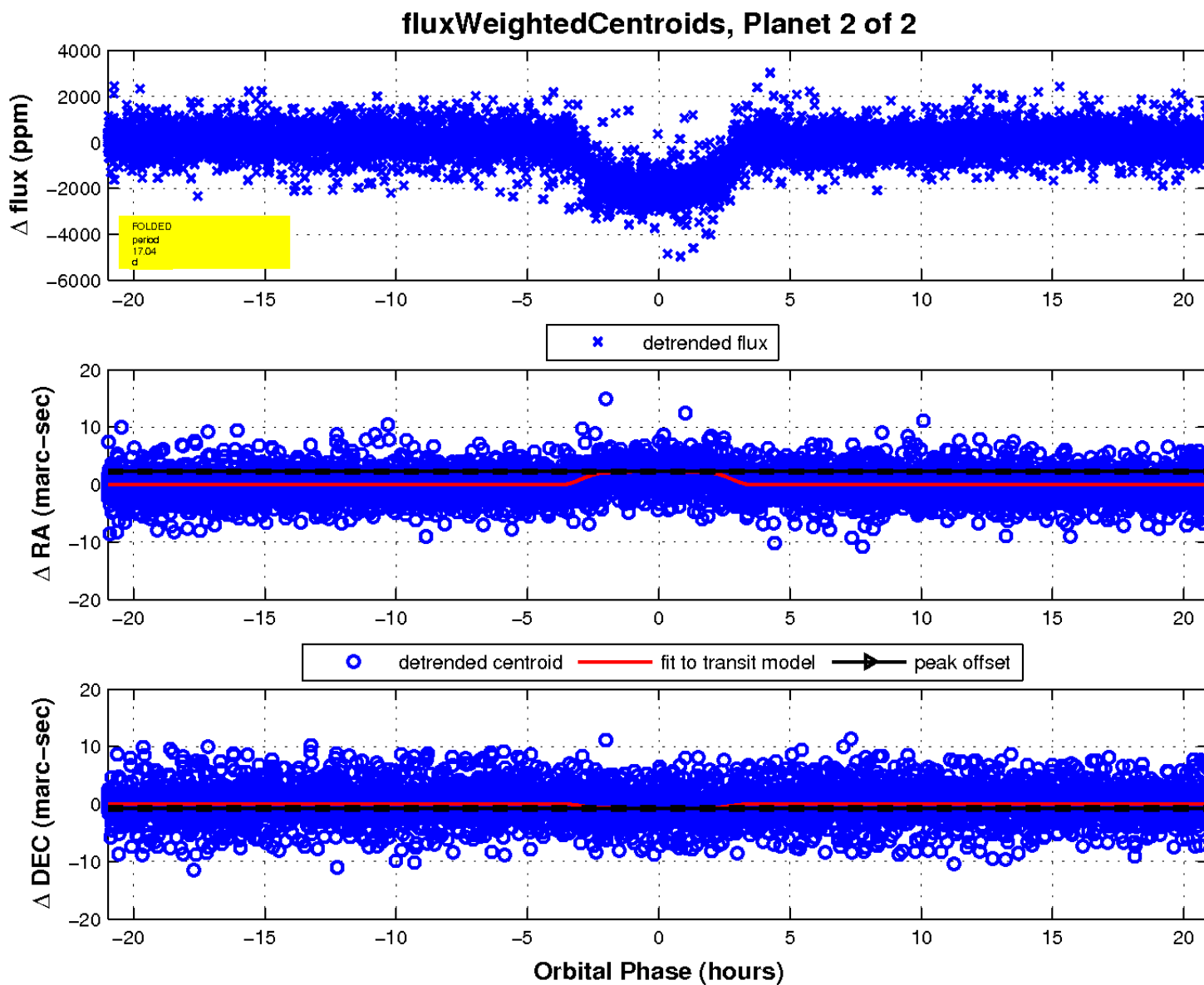
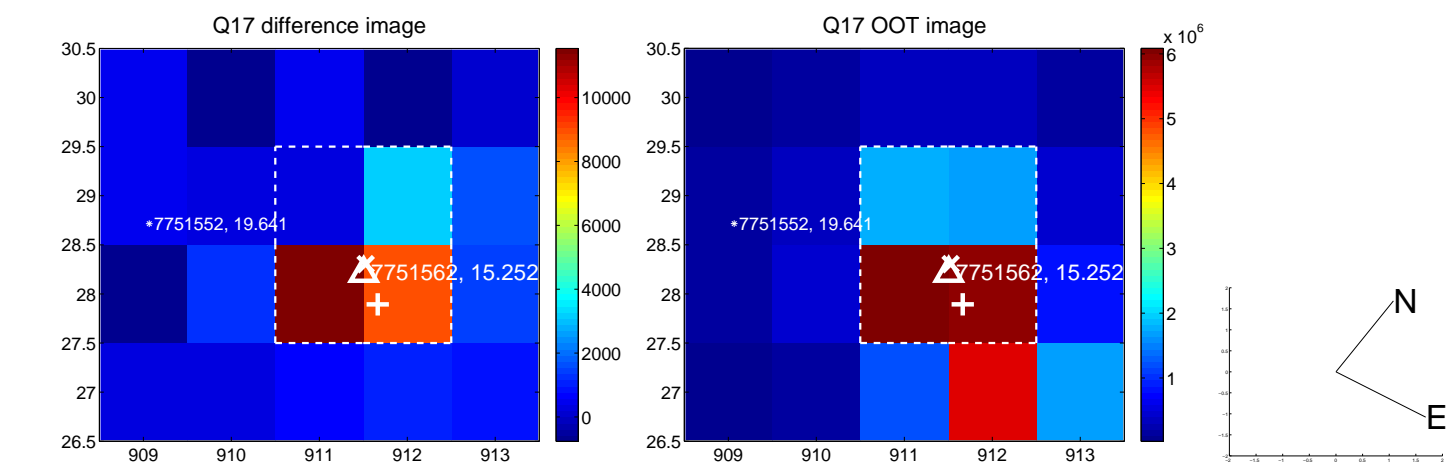
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

