

KIC 005807579

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})
005807579-01	OBS	6629.01	17.844324	133.694800	220734.5	5.095	11564.3	6556.2	1.49	5993	91.26	138.45
005807579-02	OBS	No	17.844318	139.726423	45197.8	5.950	2494.0	2456.1	1.49	5993	52.92	138.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005807579-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
005807579-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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 005807579-01

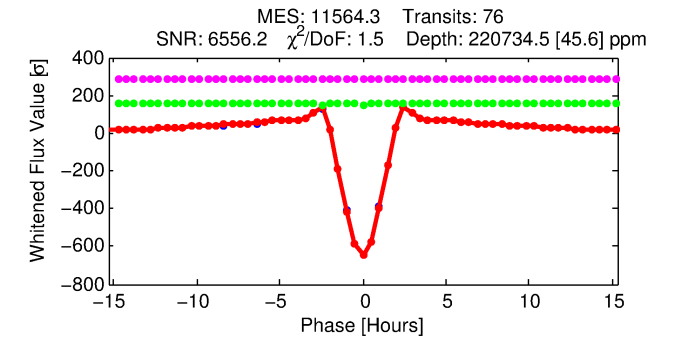
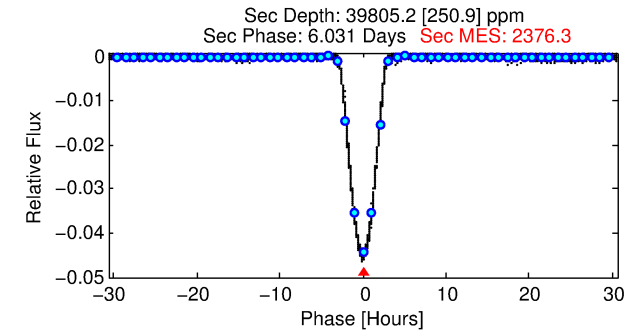
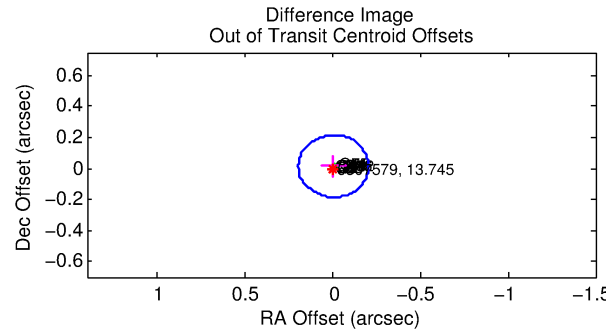
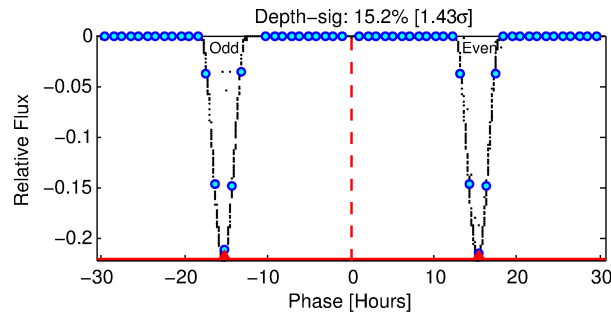
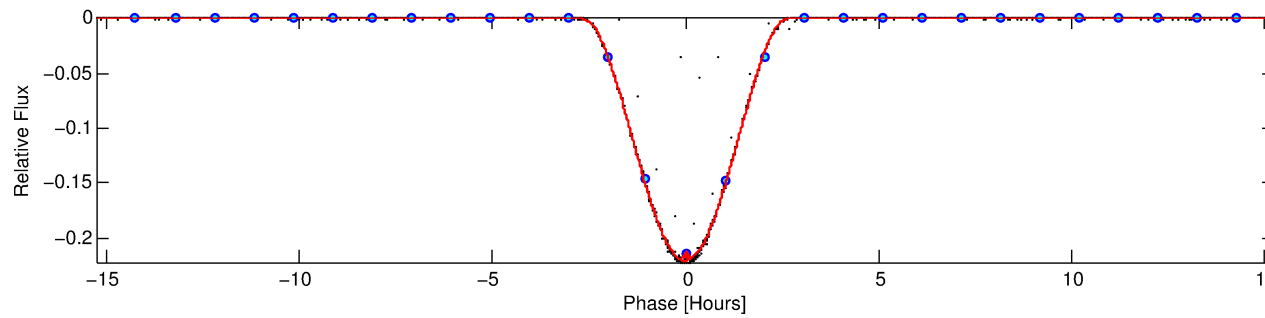
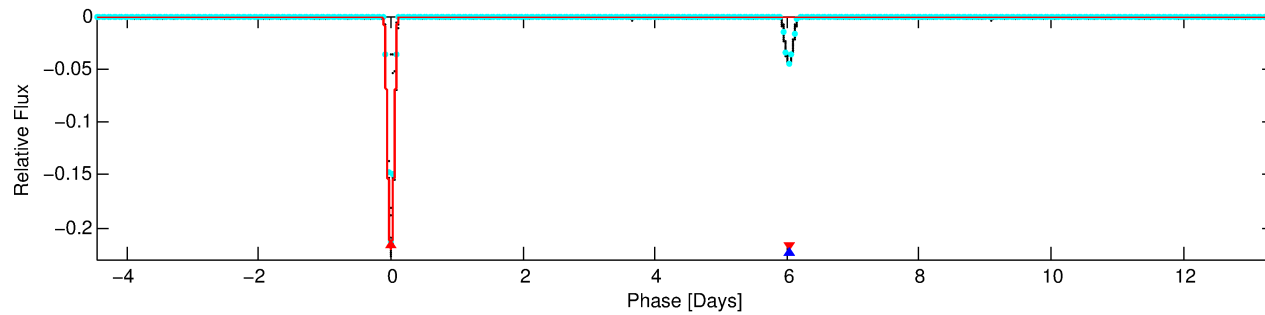
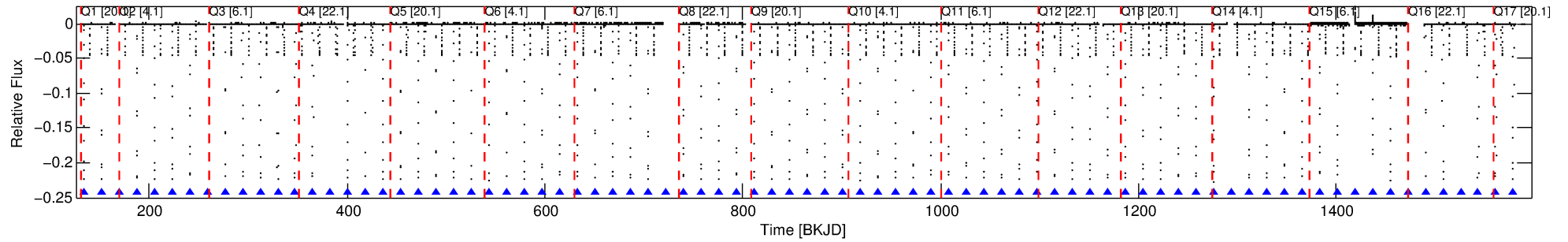
No Significant Match Found

DV One-Page Summary

KIC: 5807579 Candidate: 1 of 2 Period: 17.844 d

KOI: K06629.01 Corr: 0.999

Kp: 13.74 R*: 1.49 Rs Teff: 5993.0 K Logg: 4.11 Fe/H: -0.100



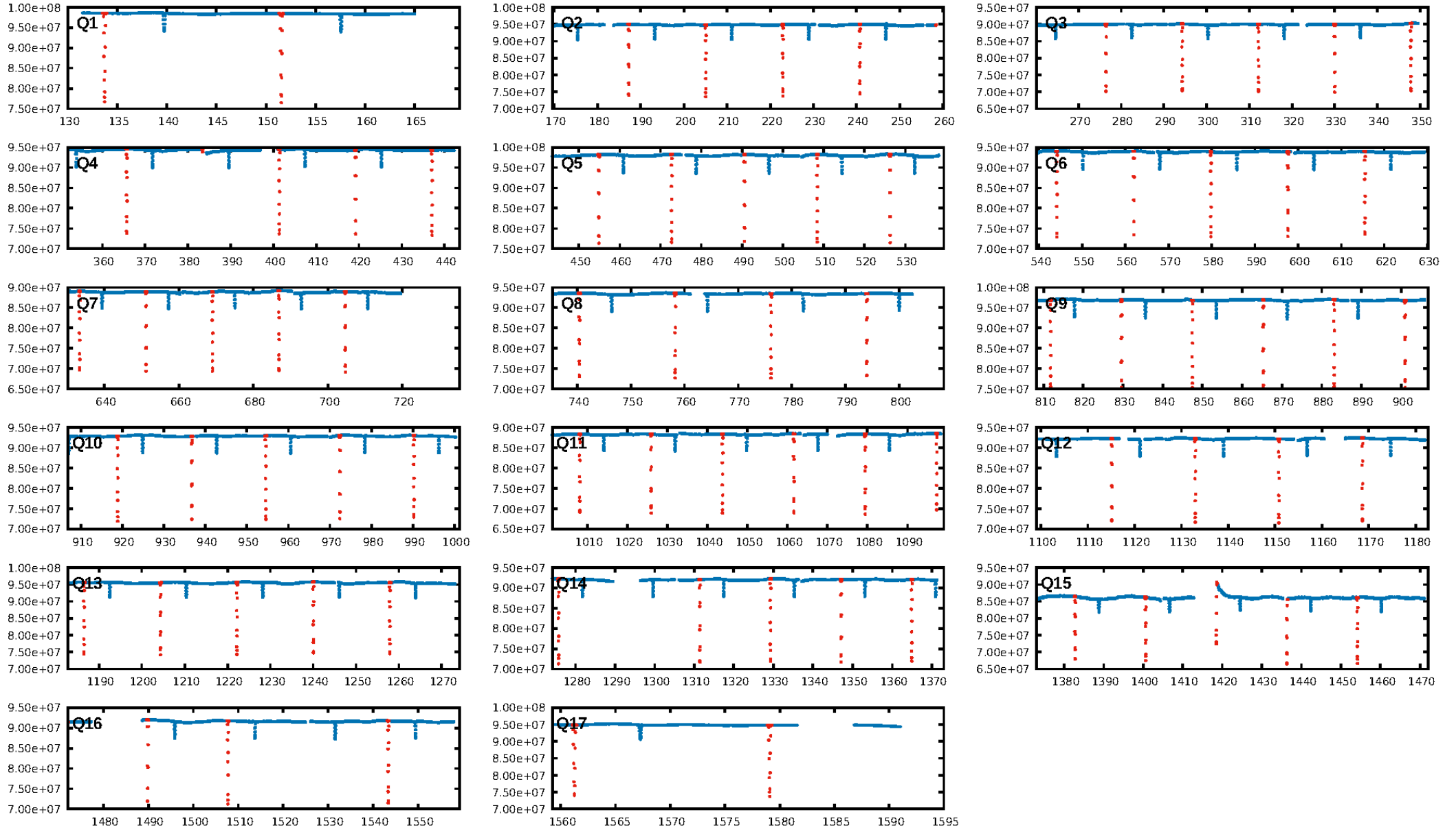
DV Fit Results:

Period = 17.84432 [0.00000] d
Epoch = 133.6948 [0.0000] BKJD
Rp/R* = 0.5632 [0.0156]
a/R* = 36.46 [0.13]
b = 0.77 [0.02]
Seff = 138.45 [72.93]
Teff = 875 [115] K
Rp = 91.26 [29.79] Re
a = 0.1357 [0.0428] AU
Ag = 48.40 [24.72] [1.92σ]
Teffp = 3567 [135] K [15.16σ]

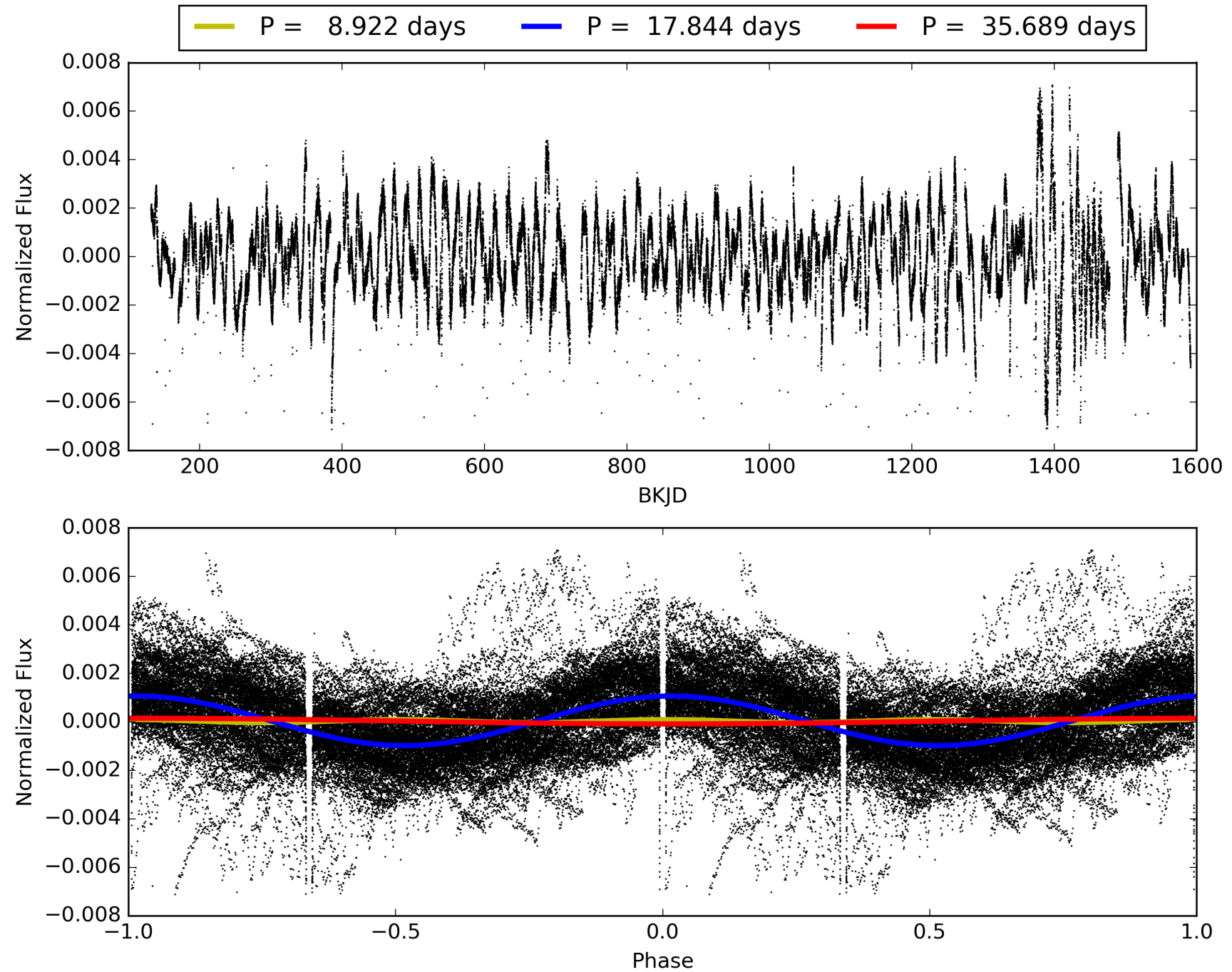
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [72/72]
GhostDiagnostic-chr: 5.996
Centroid-sig: 0.0%
Centroid-so: 0.116 arcsec [196.11σ]
OotOffset-rm: 0.016 arcsec [0.24σ]
KicOffset-rm: 0.055 arcsec [0.82σ]
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 005807579-01, PDC Light Curves

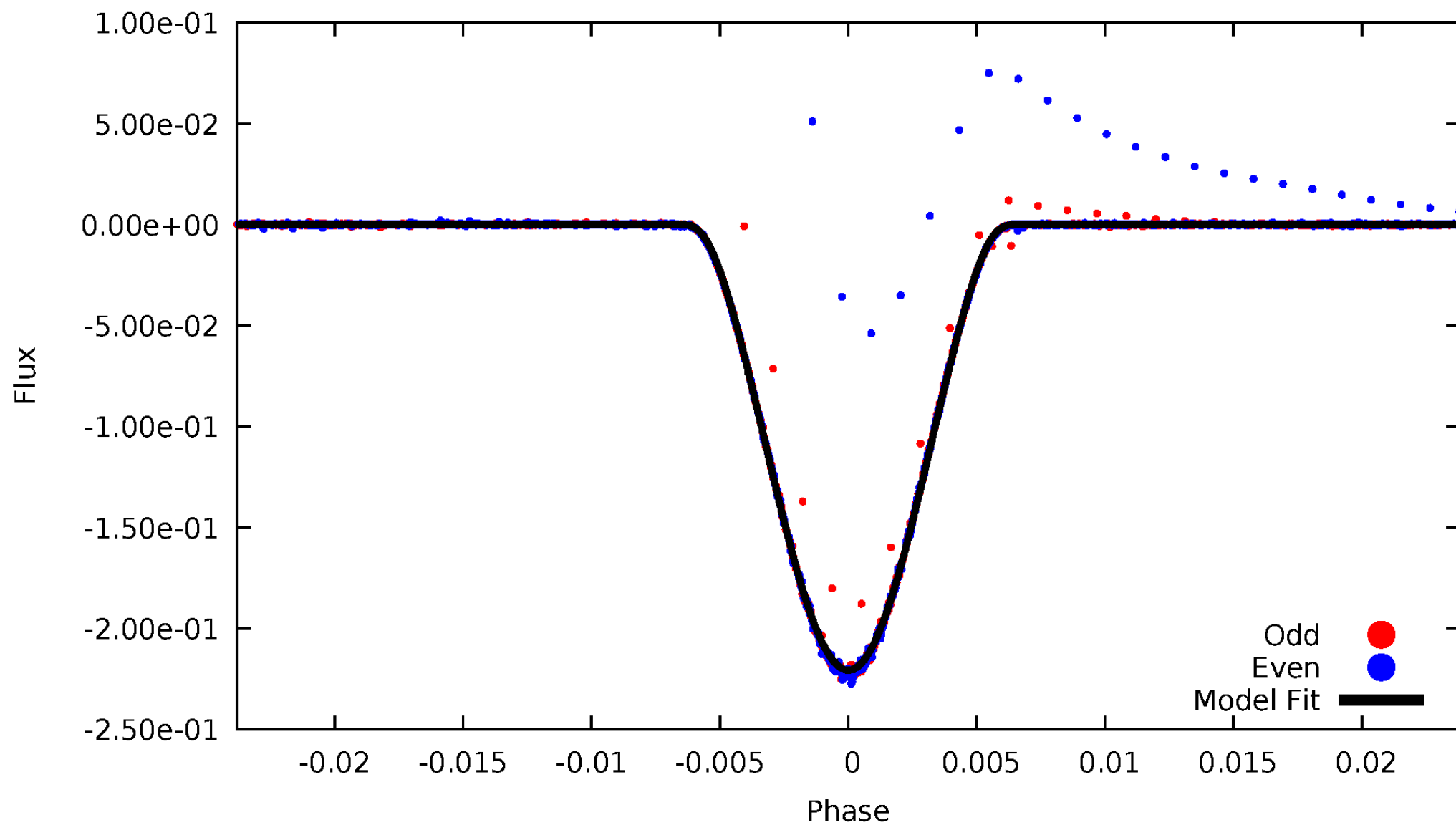


TCE 005807579-01



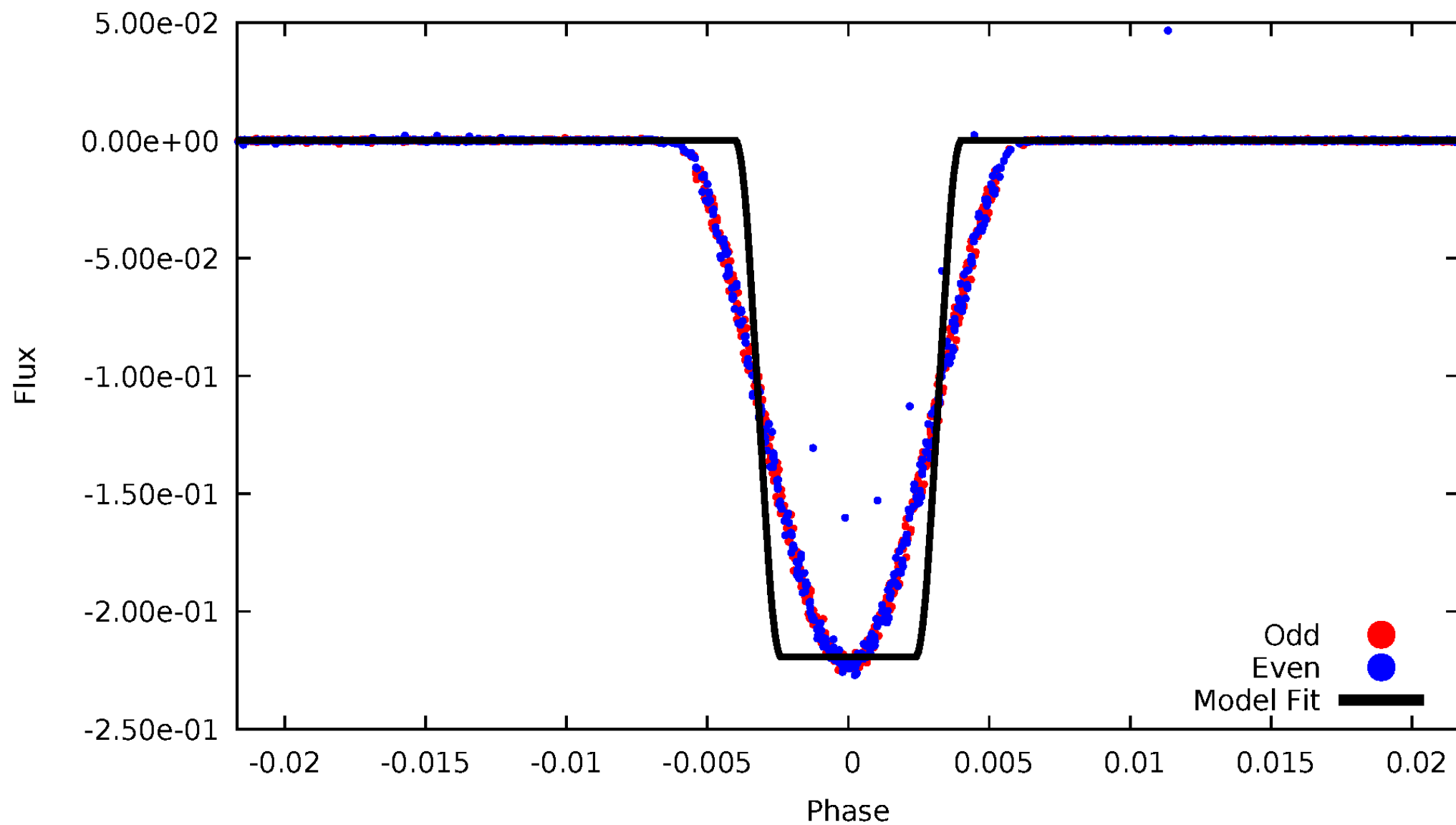
DV Odd/Even

TCE 005807579-01



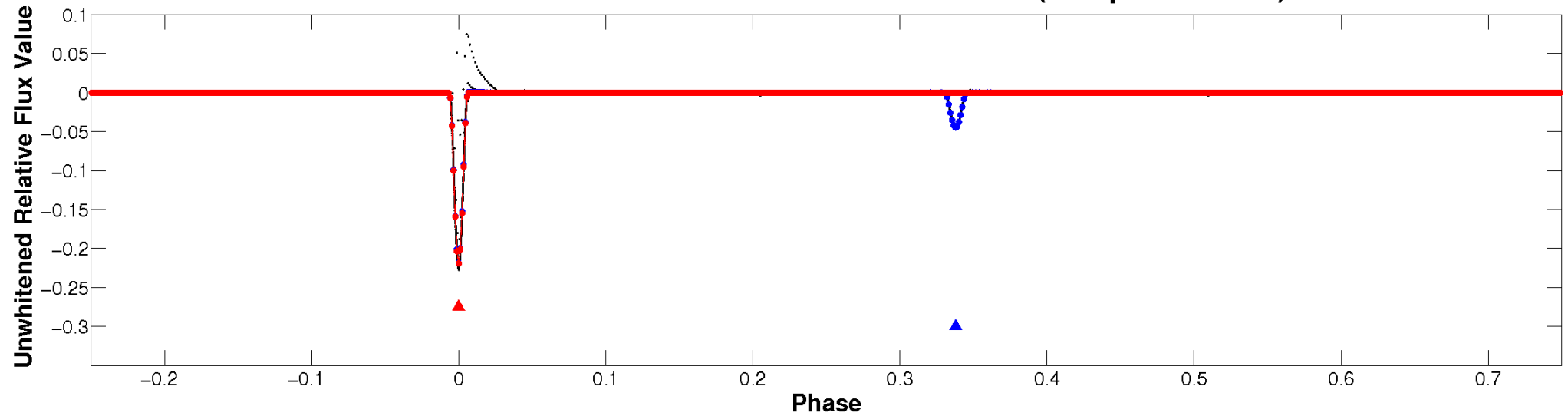
ALT Odd/Even

TCE 005807579-01

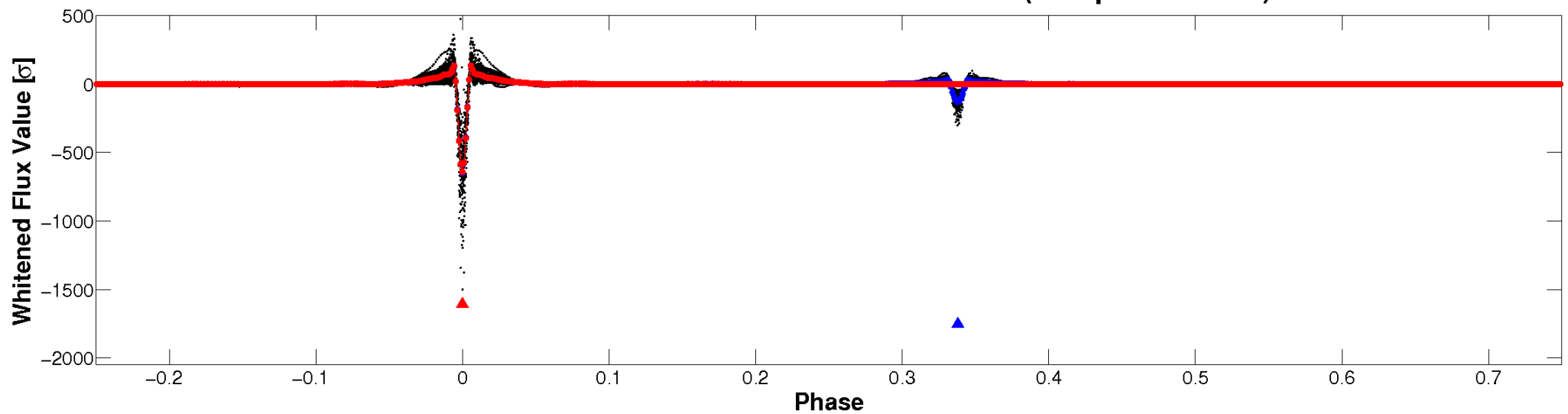


Non-Whitened Vs. Whitened Light Curve

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

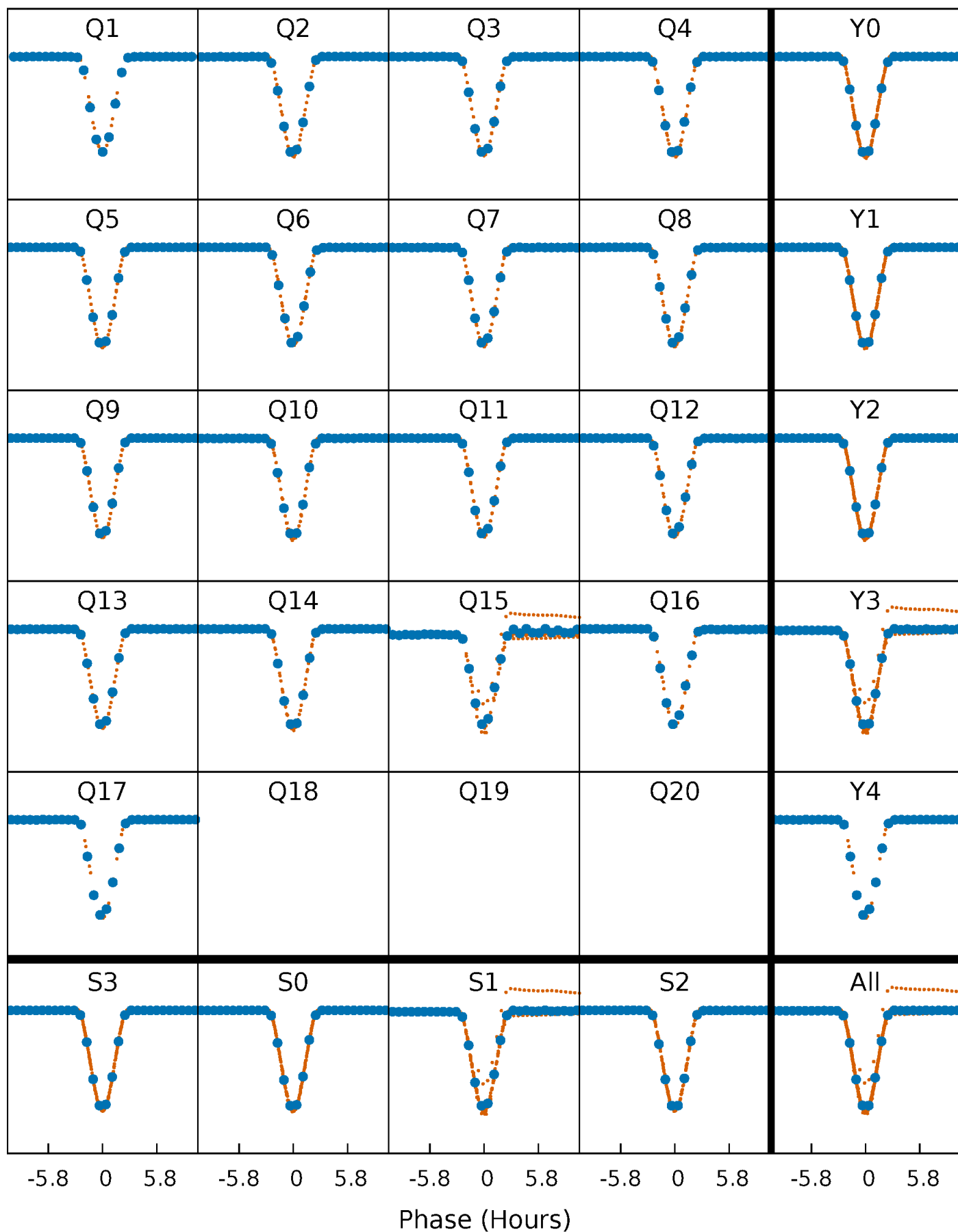


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



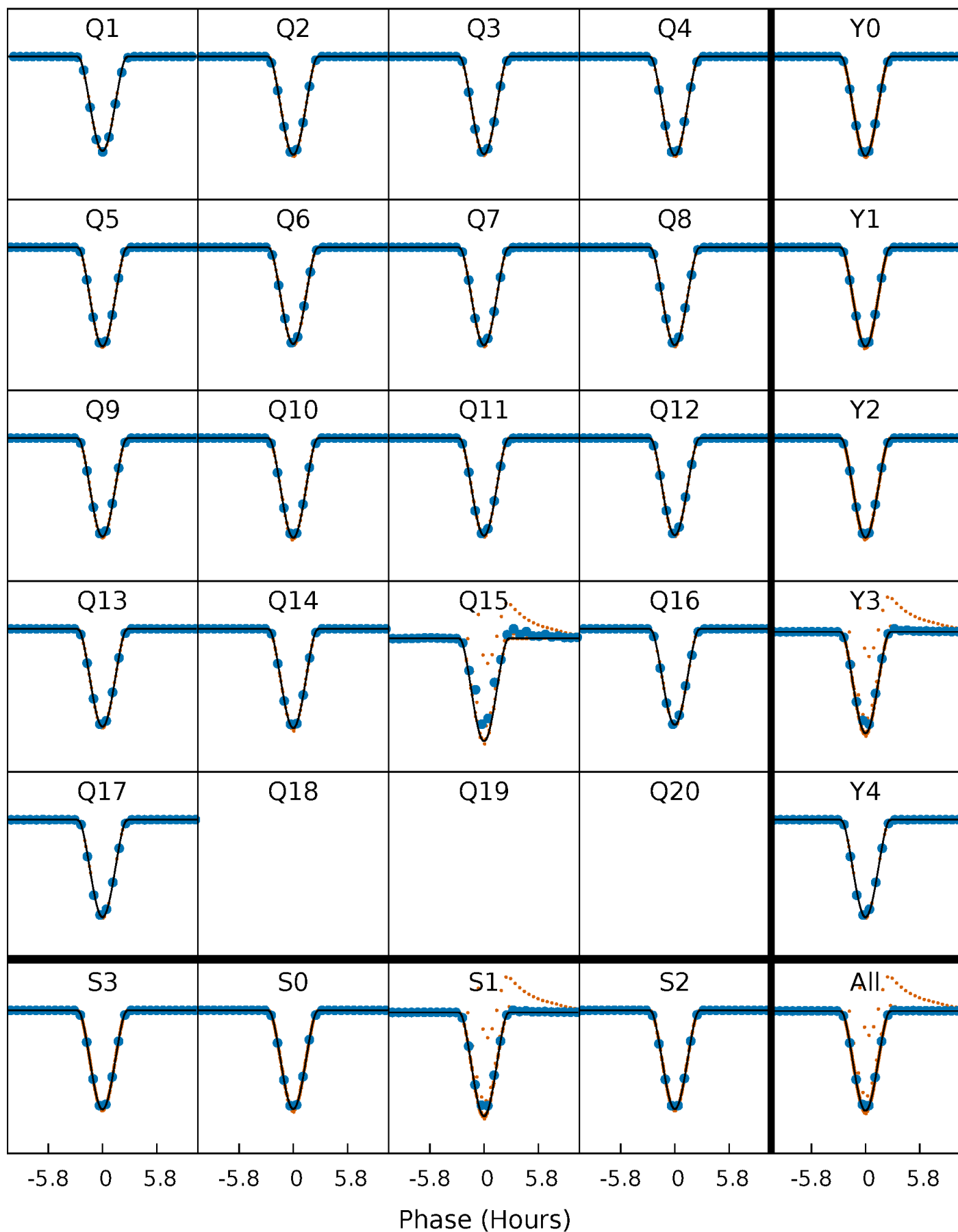
PDC Quarter-Phased Transit Curves

TCE 005807579-01 P= 17.844324 Days $T_0=133.694800$ (BKJD)



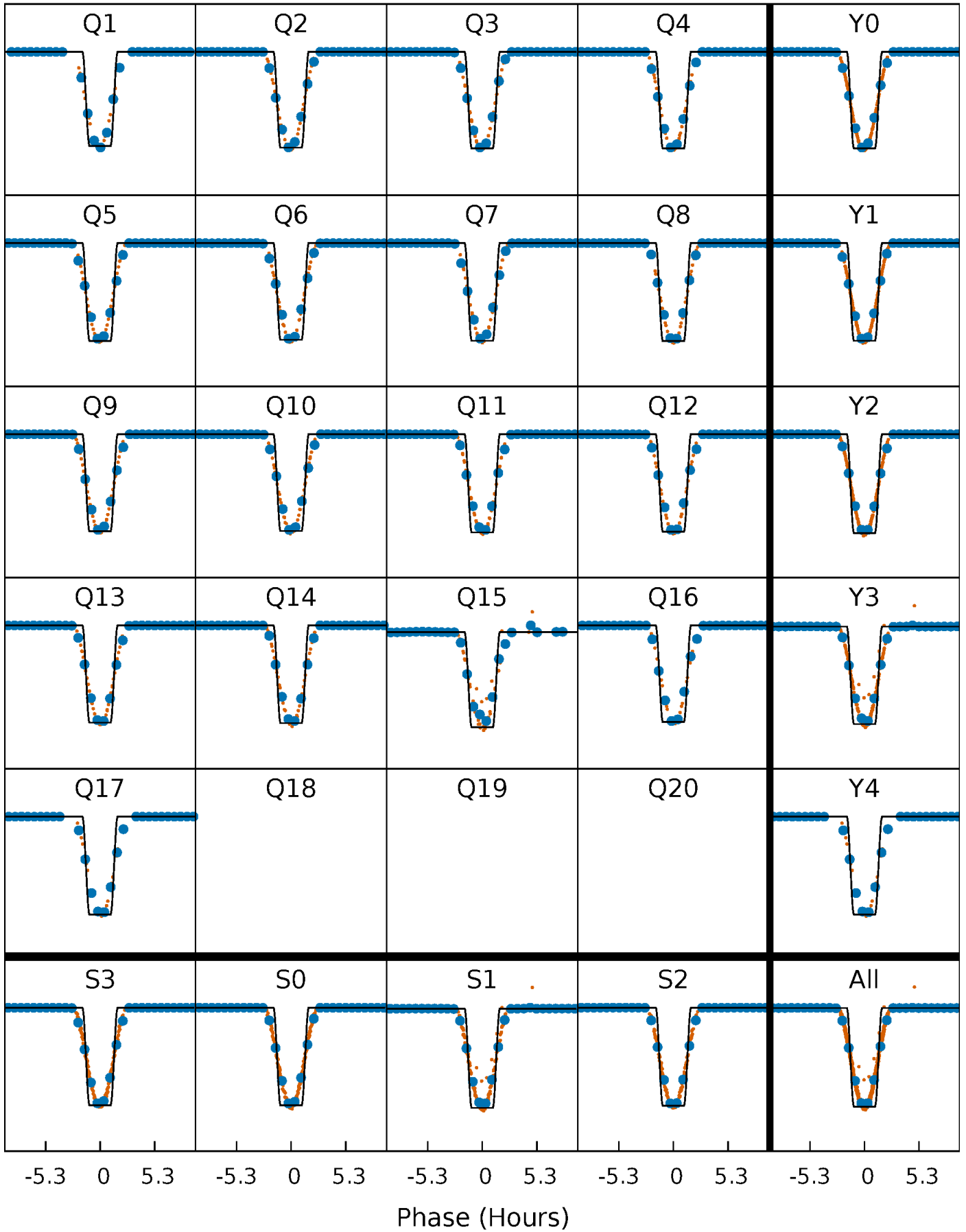
DV Quarter-Phased Transit Curves

TCE 005807579-01 P= 17.844324 Days $T_0=133.694800$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

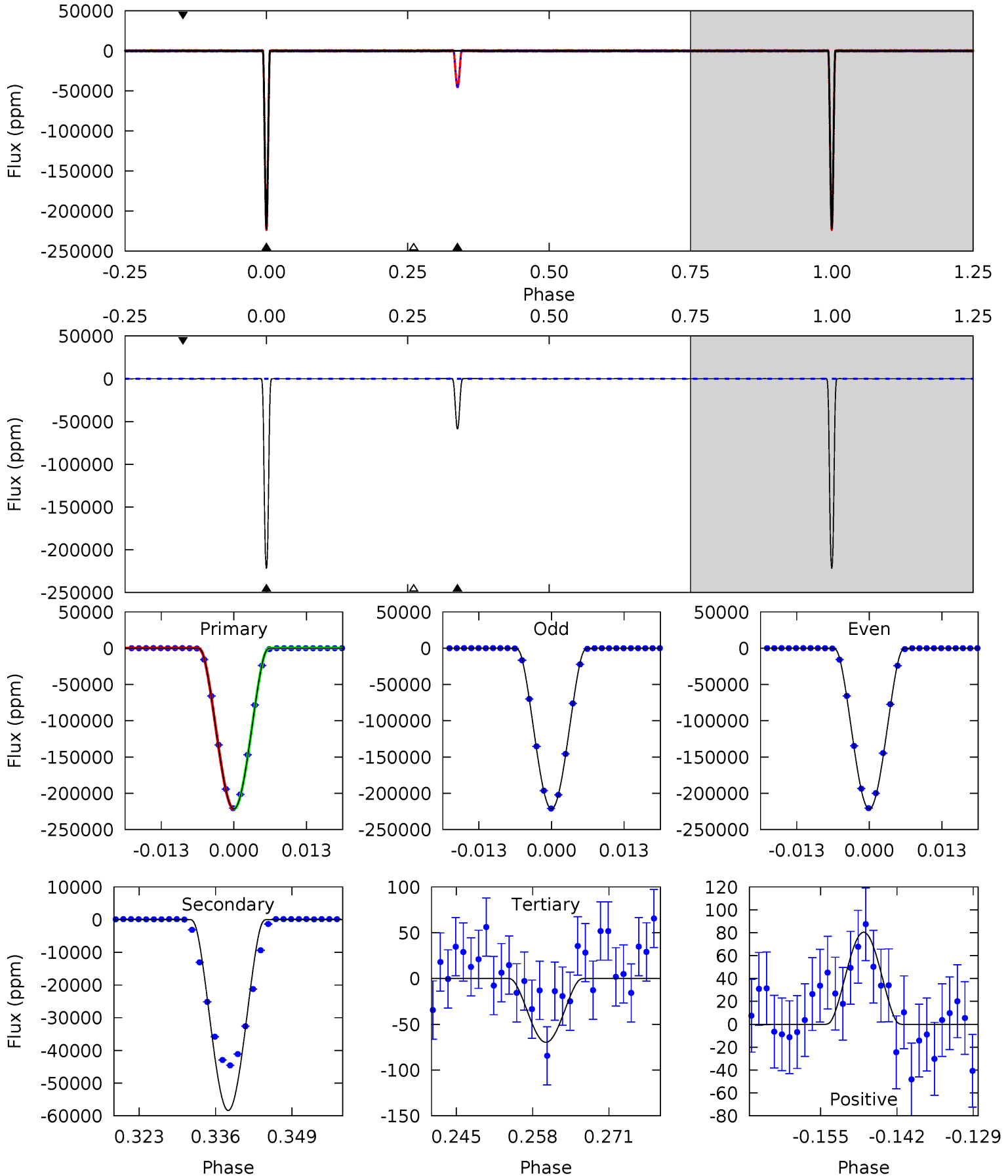
TCE 005807579-01 P= 17.844248 Days $T_0=133.697695$ (BKJD)



DV Model-Shift Uniqueness Test

005807579-01, P = 17.844324 Days, E = 115.850476 Days

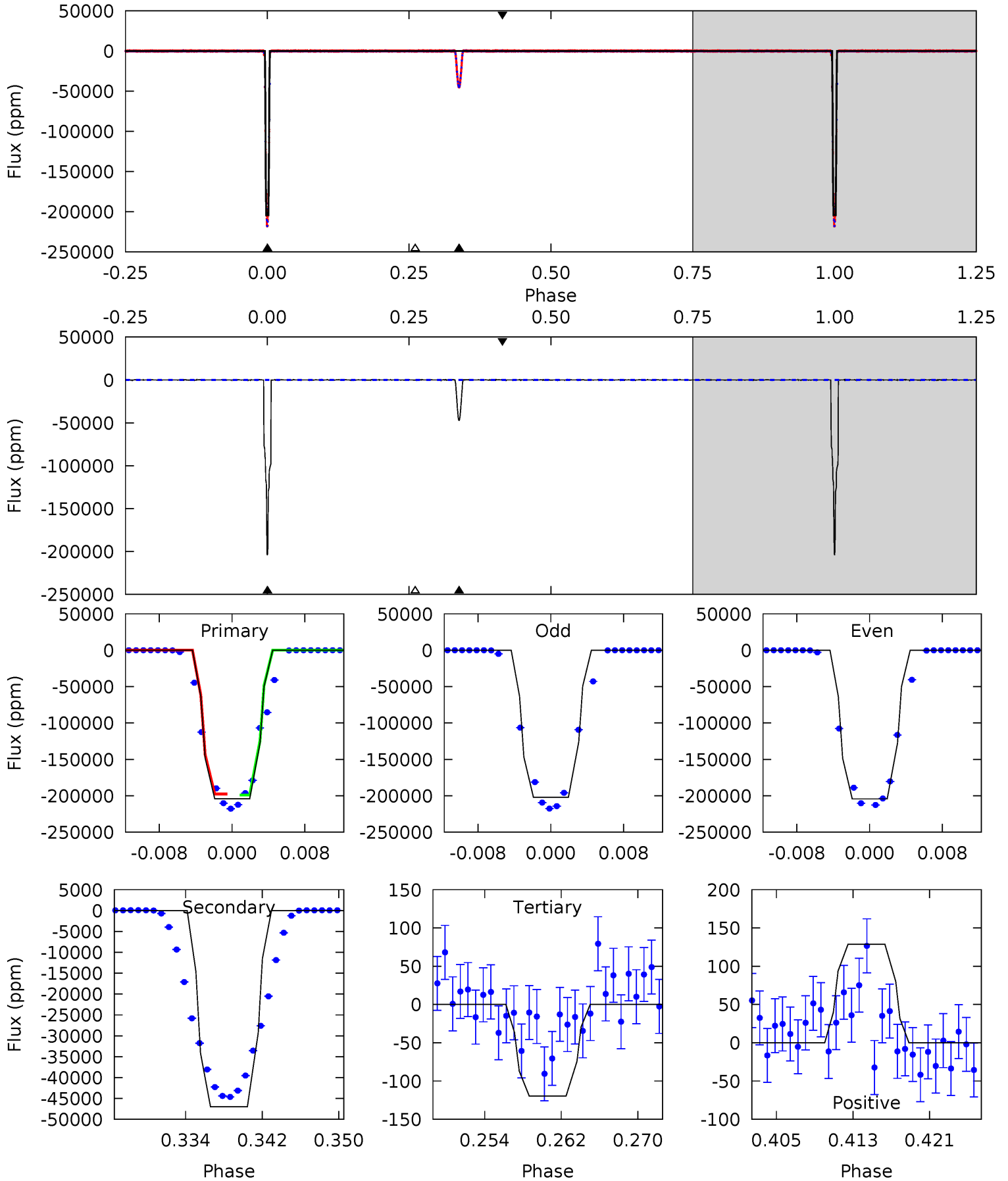
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22372	5895	7.04	8.12	4.98	2.49	4.03	22365	22364	5888	5887	10.5	0.98	0.00	1.73



Alt Model-Shift Uniqueness Test

005807579-01, P = 17.844248 Days, E = 115.853447 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7345	1691	4.30	4.63	5.07	2.65	1.13	7341	7340	1687	1686	38.7	1.00	0.00	0



Stellar Parameters For KIC 005807579

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5993^{+190}_{-211}	$4.114^{+0.299}_{-0.161}$	$-0.100^{+0.300}_{-0.300}$	$1.485^{+0.395}_{-0.483}$	$1.046^{+0.159}_{-0.145}$	$0.449^{+0.916}_{-0.203}$
	+3%/-4%	+7%/-4%	+300%/-300%	+27%/-33%	+15%/-14%	+204%/-45%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 005807579-01 / KOI 6629.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-58384 ± 10	$88.56^{+15.65}_{-15.76}$	1206^{+108}_{-113}	4244^{+106}_{-120}	80^{+36}_{-21}
Alt.	-46998 ± 28	$75.12^{+11.96}_{-13.00}$	1210^{+94}_{-107}	4343^{+127}_{-116}	90^{+40}_{-22}

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 $A_{\text{obs}} \gg 1.0$

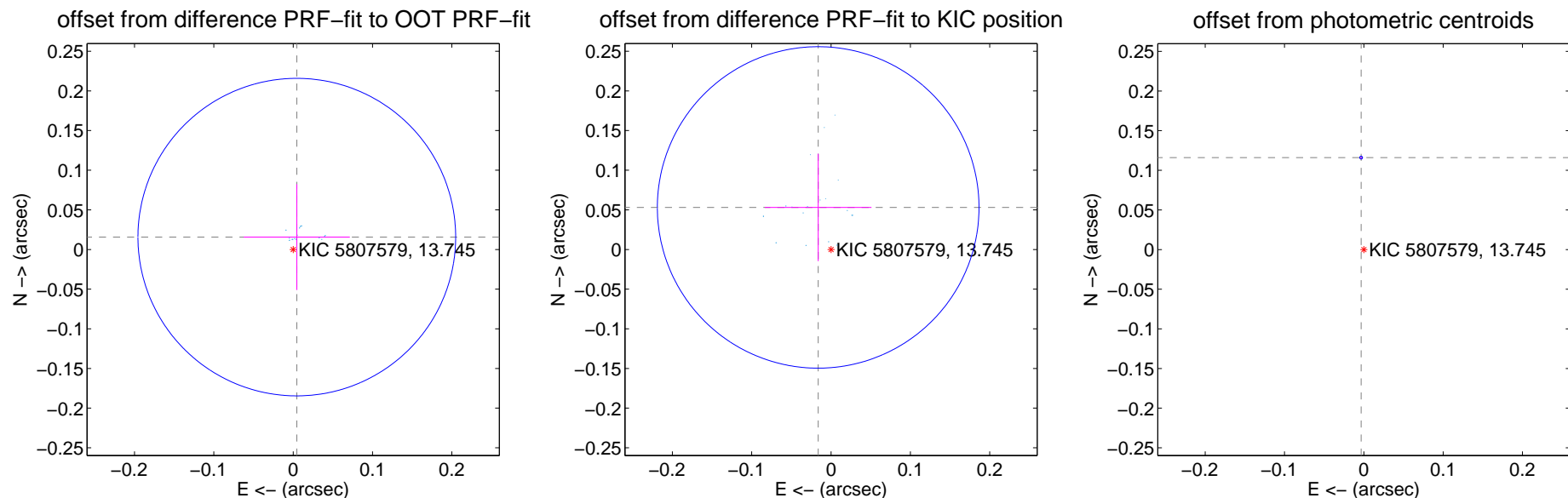
DV Centroid Data

Supplemental centroid analysis for 005807579-01. Kepler magnitude: 13.74. Transit SNR 6556.19

There are 17 quarters with good PRF difference image offsets

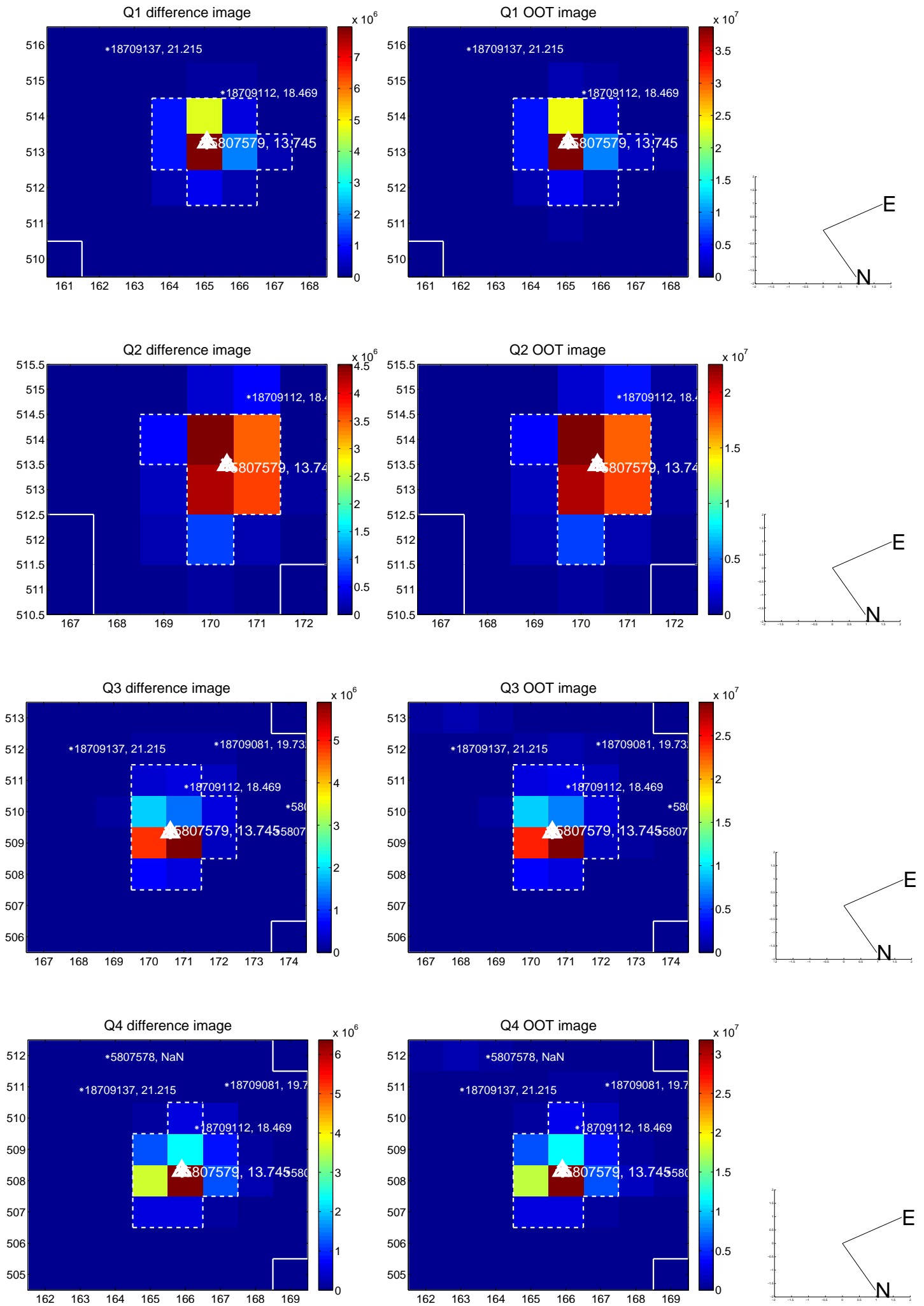
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.016 ± 0.067	0.24	-0.005 ± 0.067	0.016 ± 0.067
PRF-fit source offset from KIC position	0.055 ± 0.068	0.82	0.016 ± 0.067	0.053 ± 0.068
photometric centroid source offset	0.12 ± 0.00	196.11	0.00 ± 0.00	0.12 ± 0.00

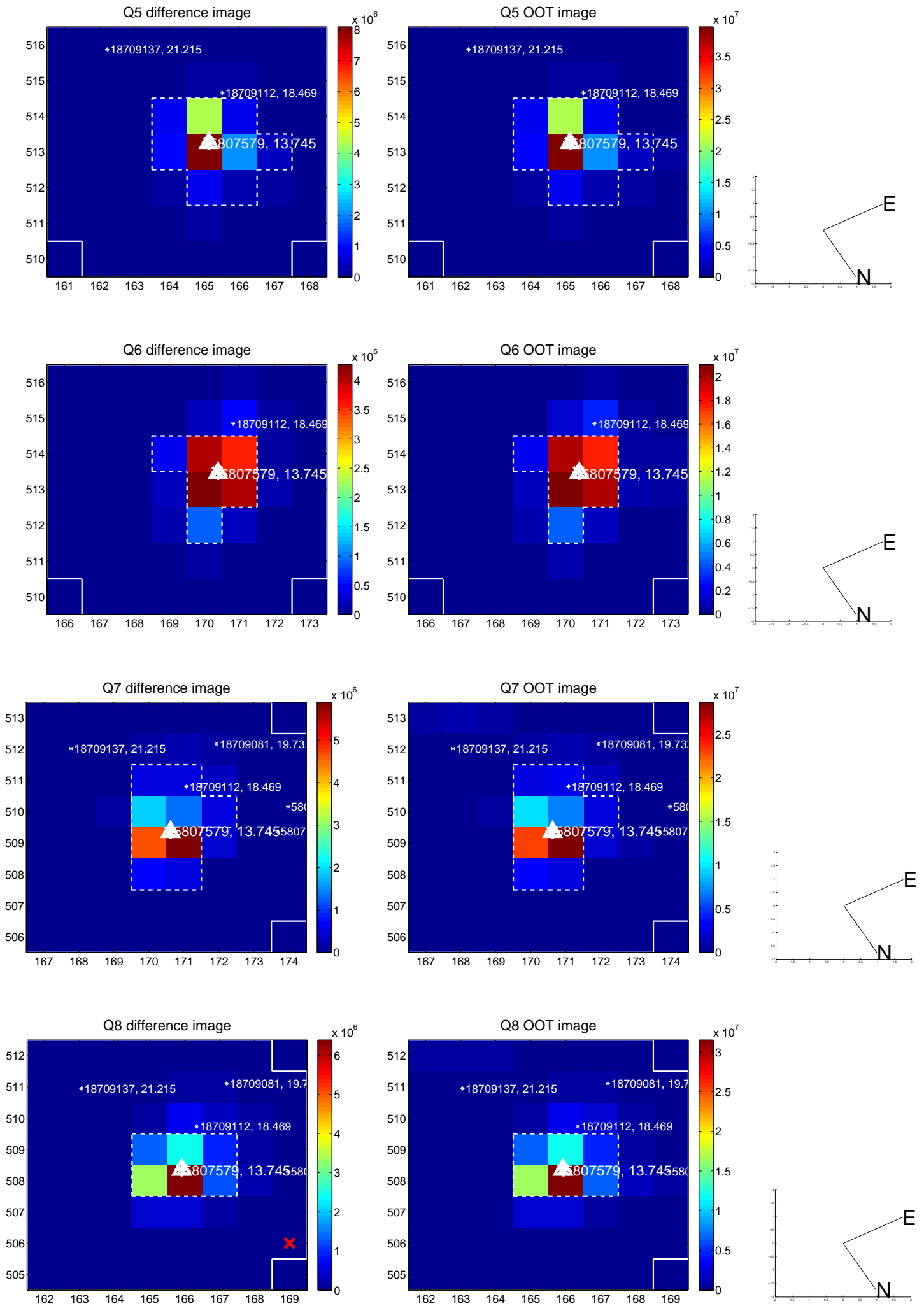


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

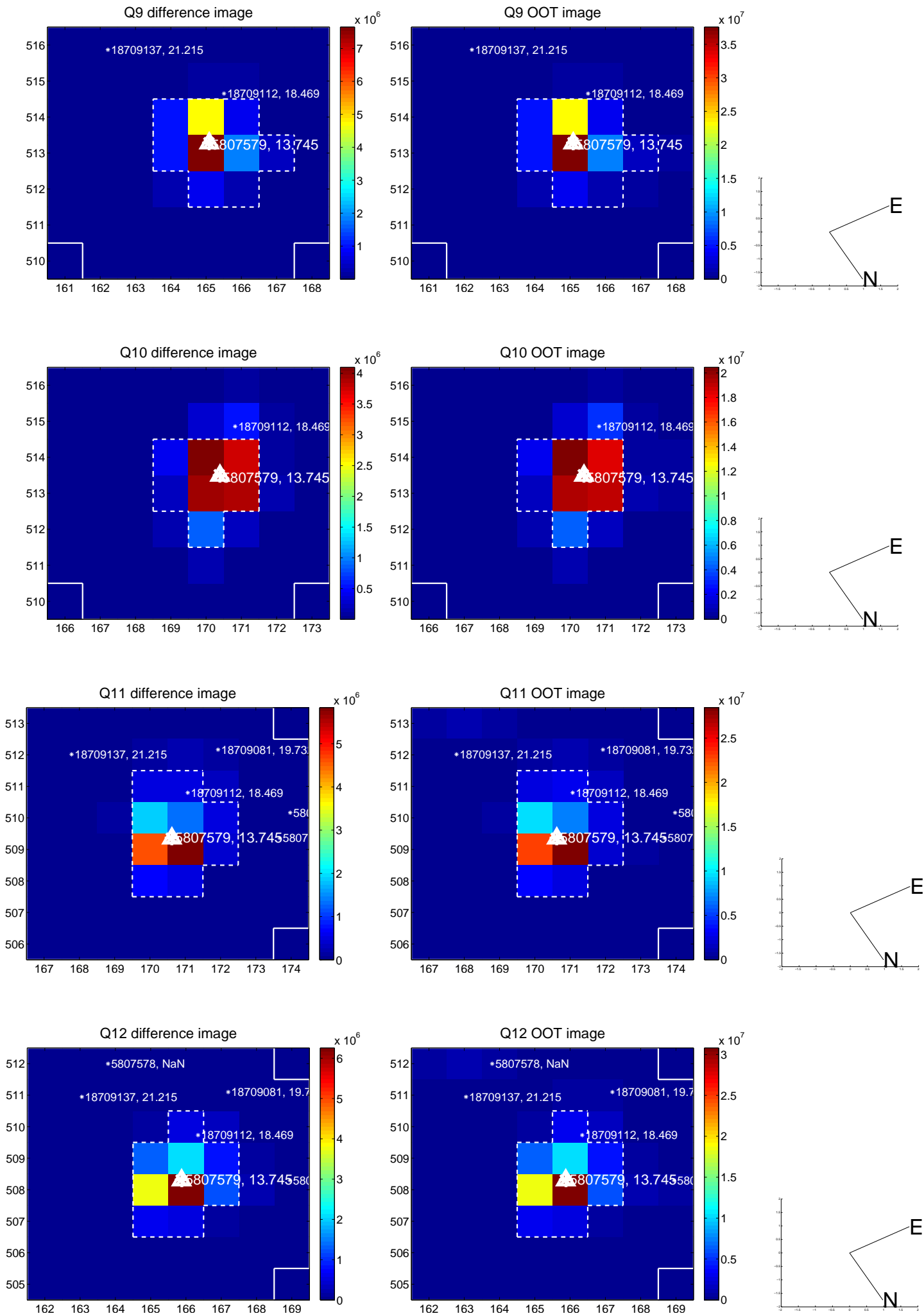
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



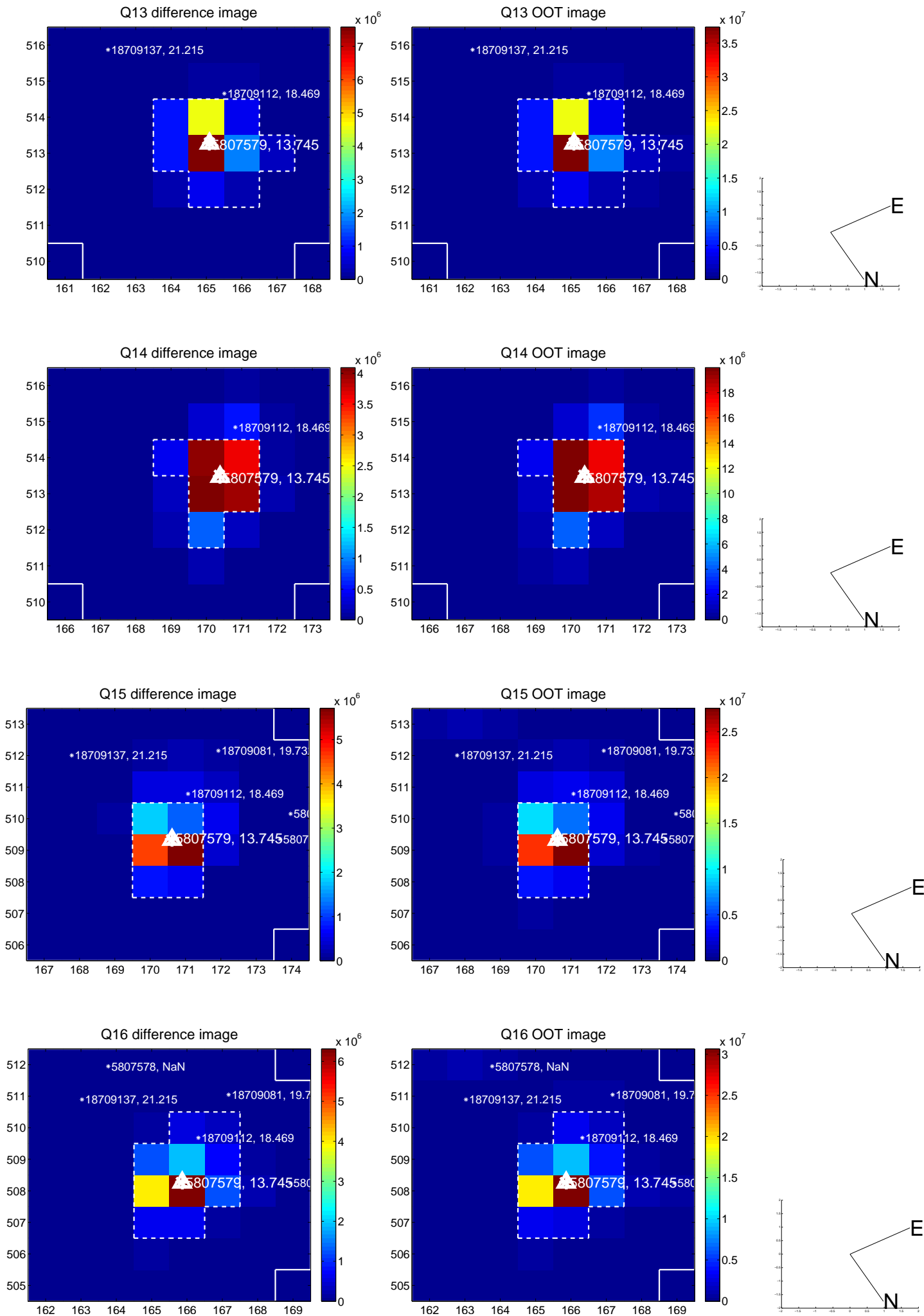
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



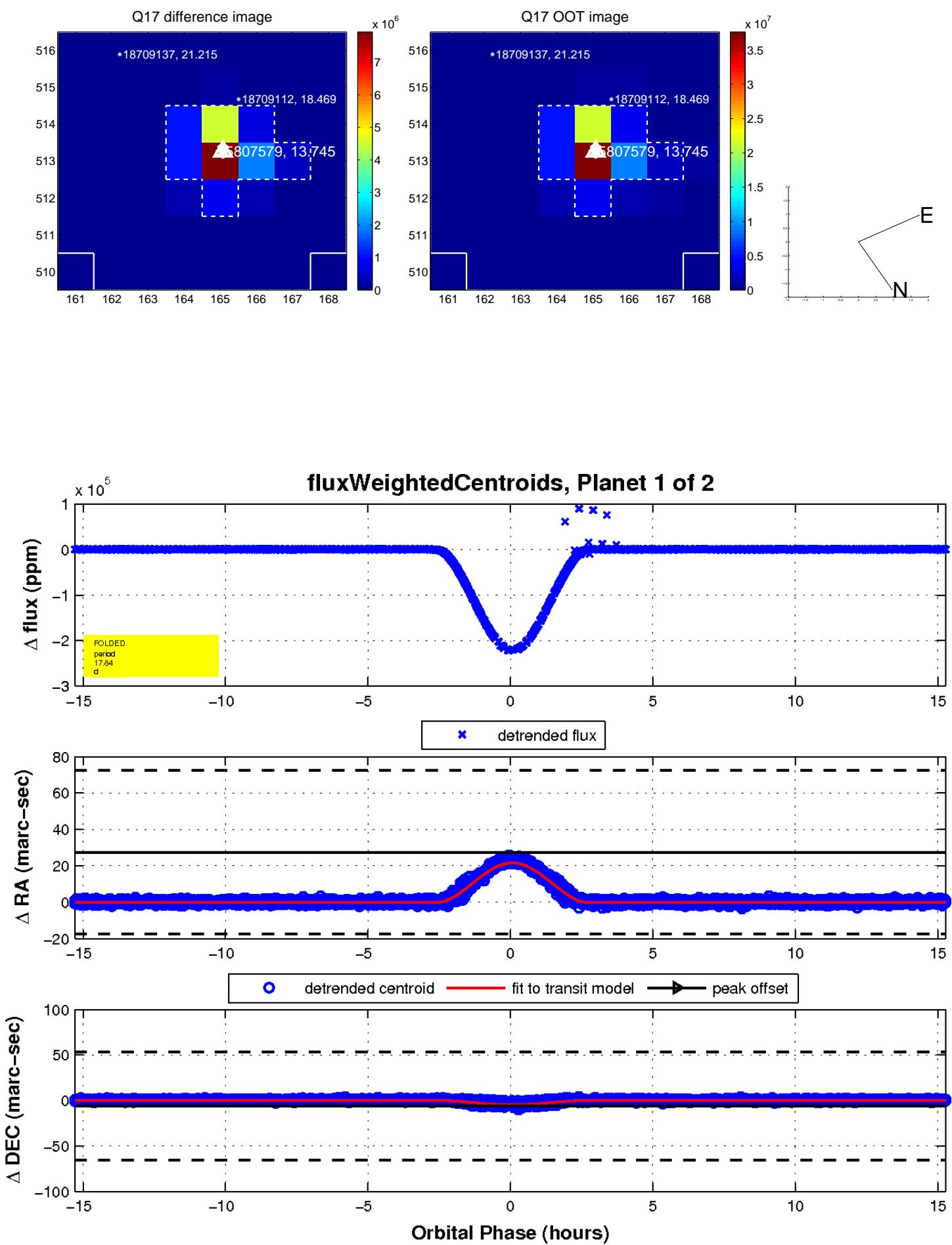
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

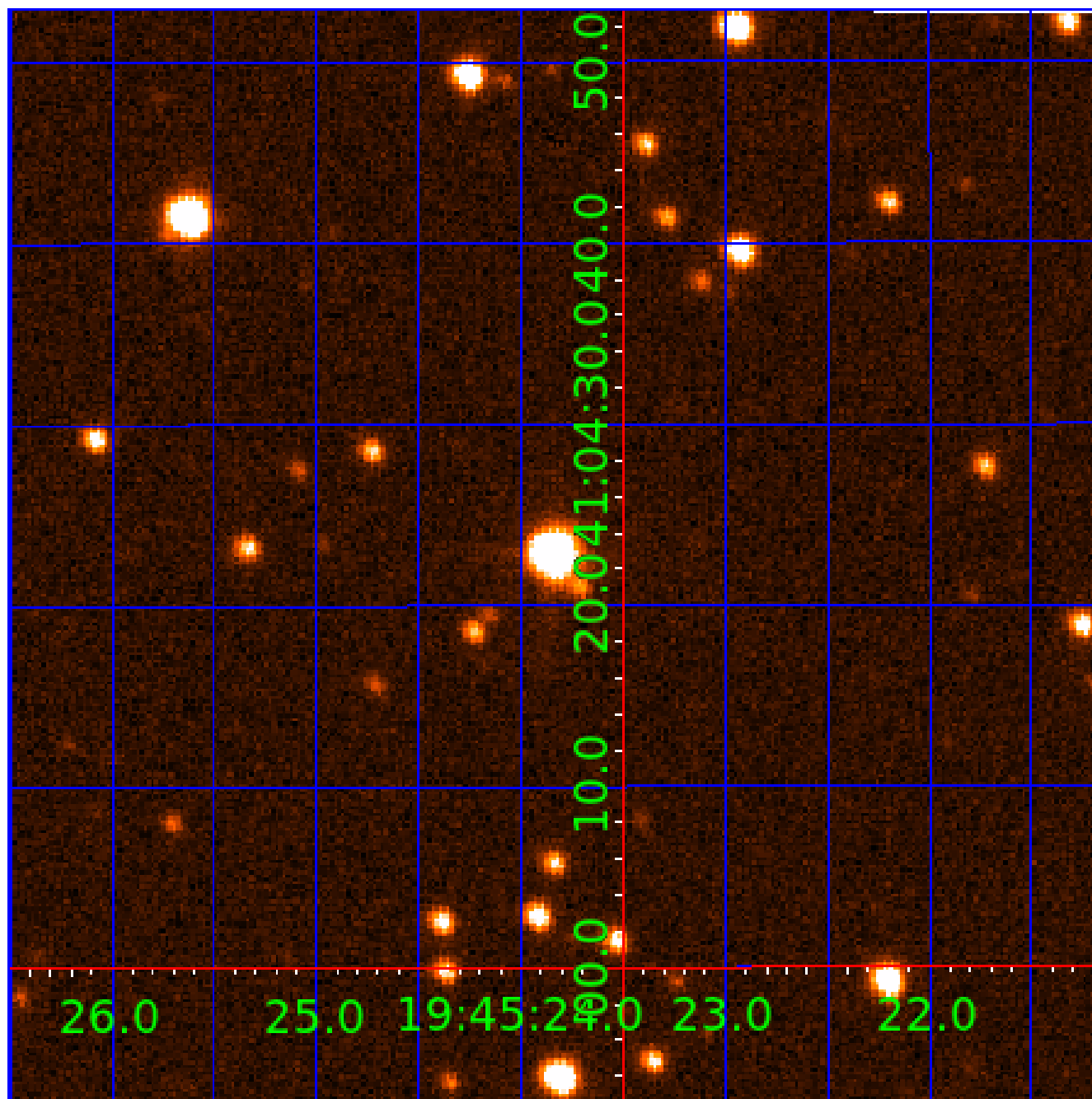


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005807579

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})
005807579-01	OBS	6629.01	17.844324	133.694800	220734.5	5.095	11564.3	6556.2	1.49	5993	91.26	138.45
005807579-02	OBS	No	17.844318	139.726423	45197.8	5.950	2494.0	2456.1	1.49	5993	52.92	138.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005807579-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
005807579-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

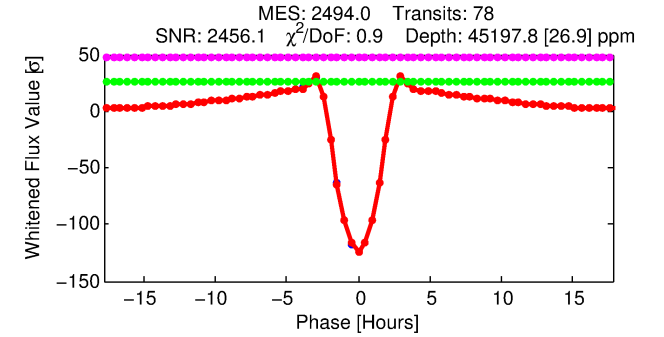
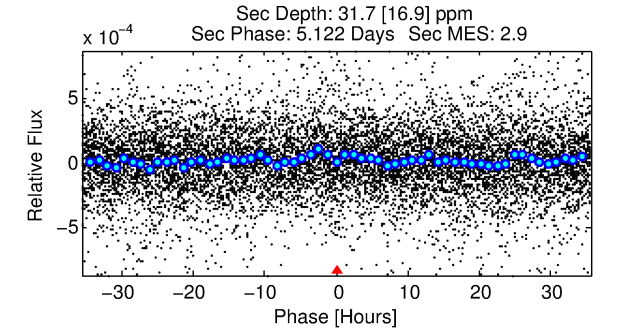
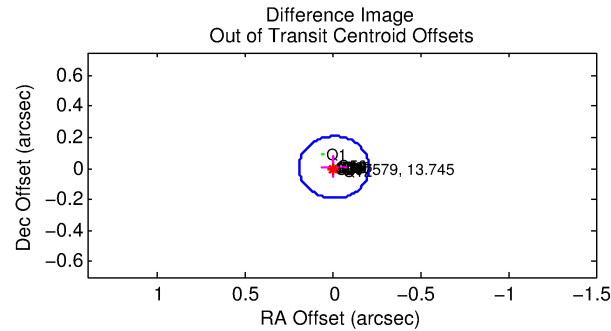
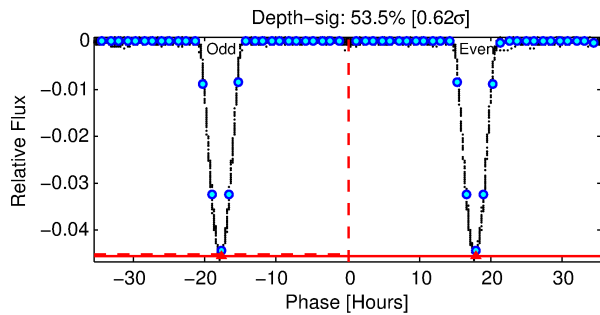
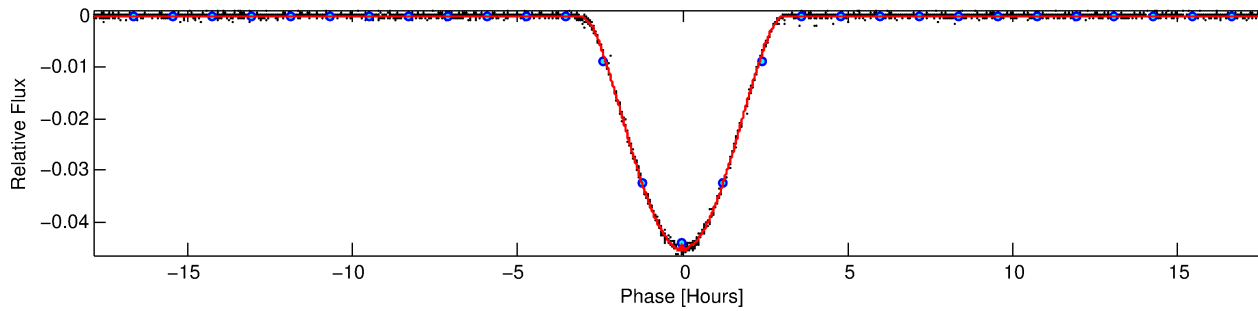
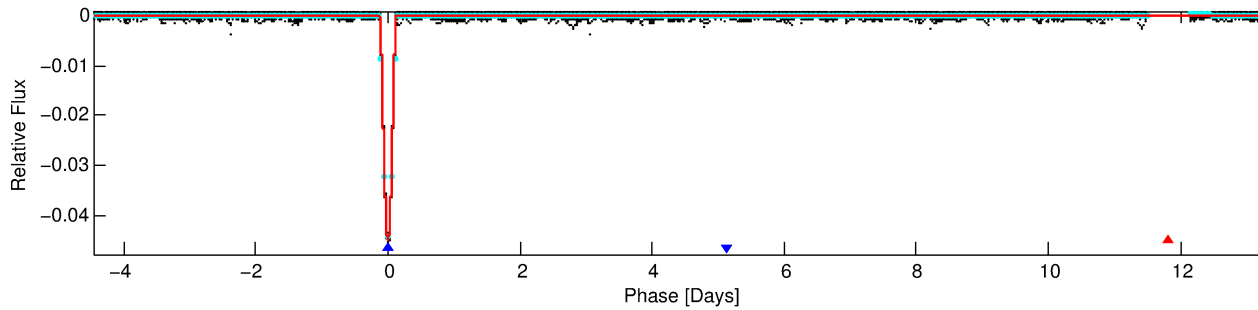
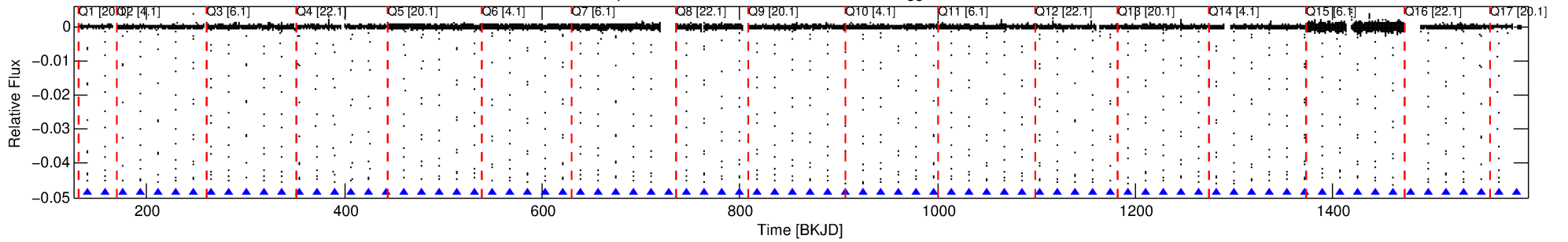
Ephemeris Match Information For 005807579-02

No Significant Match Found

DV One-Page Summary

KIC: 5807579 Candidate: 2 of 2 Period: 17.844 d
KOI: K06629 Corr: No Ephemeris Match

Kp: 13.74 R*: 1.49 Rs Teff: 5993.0 K Logg: 4.11 Fe/H: -0.100



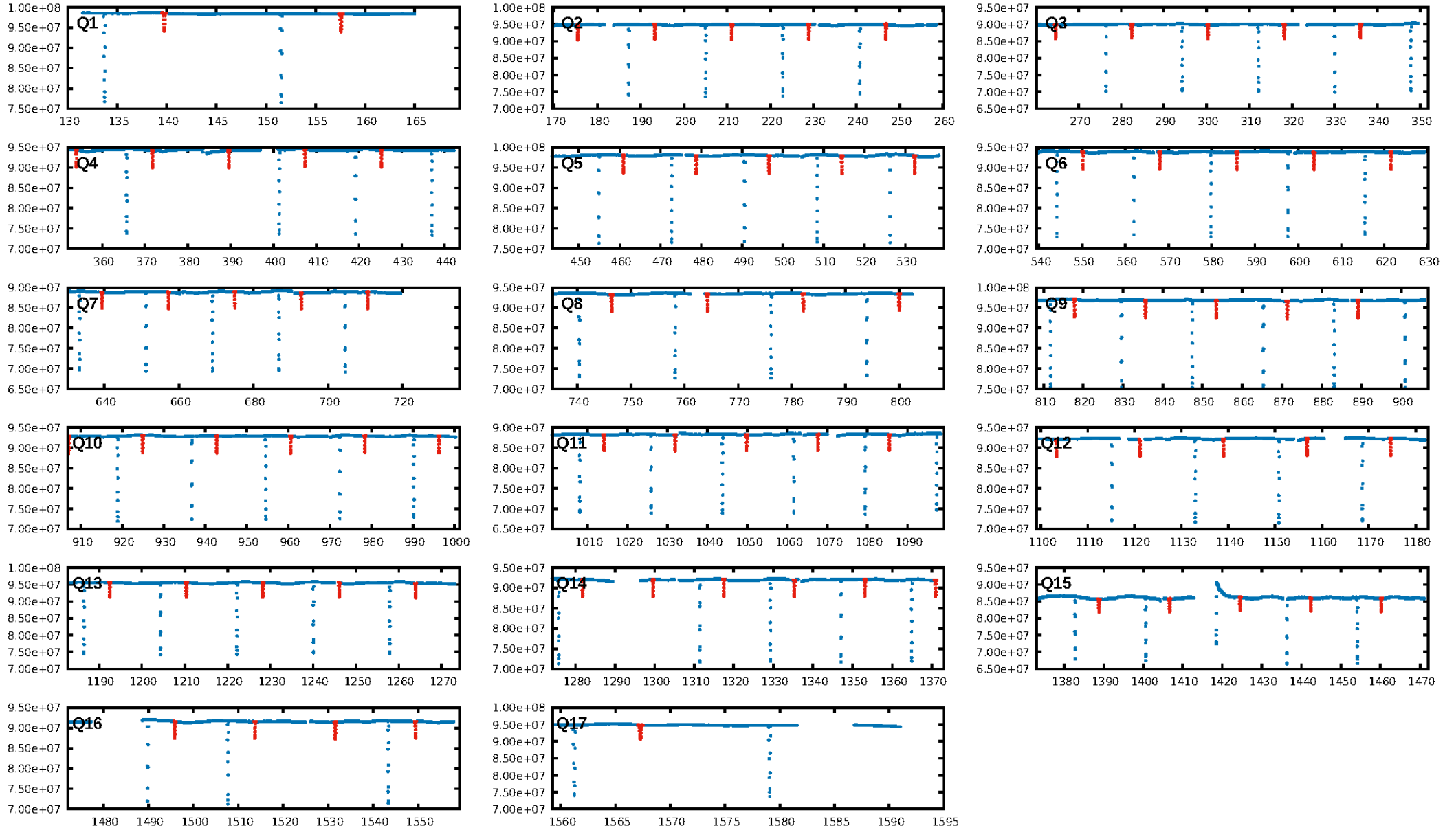
DV Fit Results:

Period = 17.84432 [0.00000] d
Epoch = 139.7264 [0.0000] BKJD
Rp/R* = 0.3265 [0.0069]
a/R* = 20.31 [0.01]
b = 0.99 [0.01]
Seff = 138.45 [72.93]
Teq = 875 [115] K
Rp = 52.92 [17.25] Re
a = 0.1357 [0.0428] AU
Ag = 0.11 [0.08] [-10.48σ]
Teffp = 787 [108] K [-0.55σ]

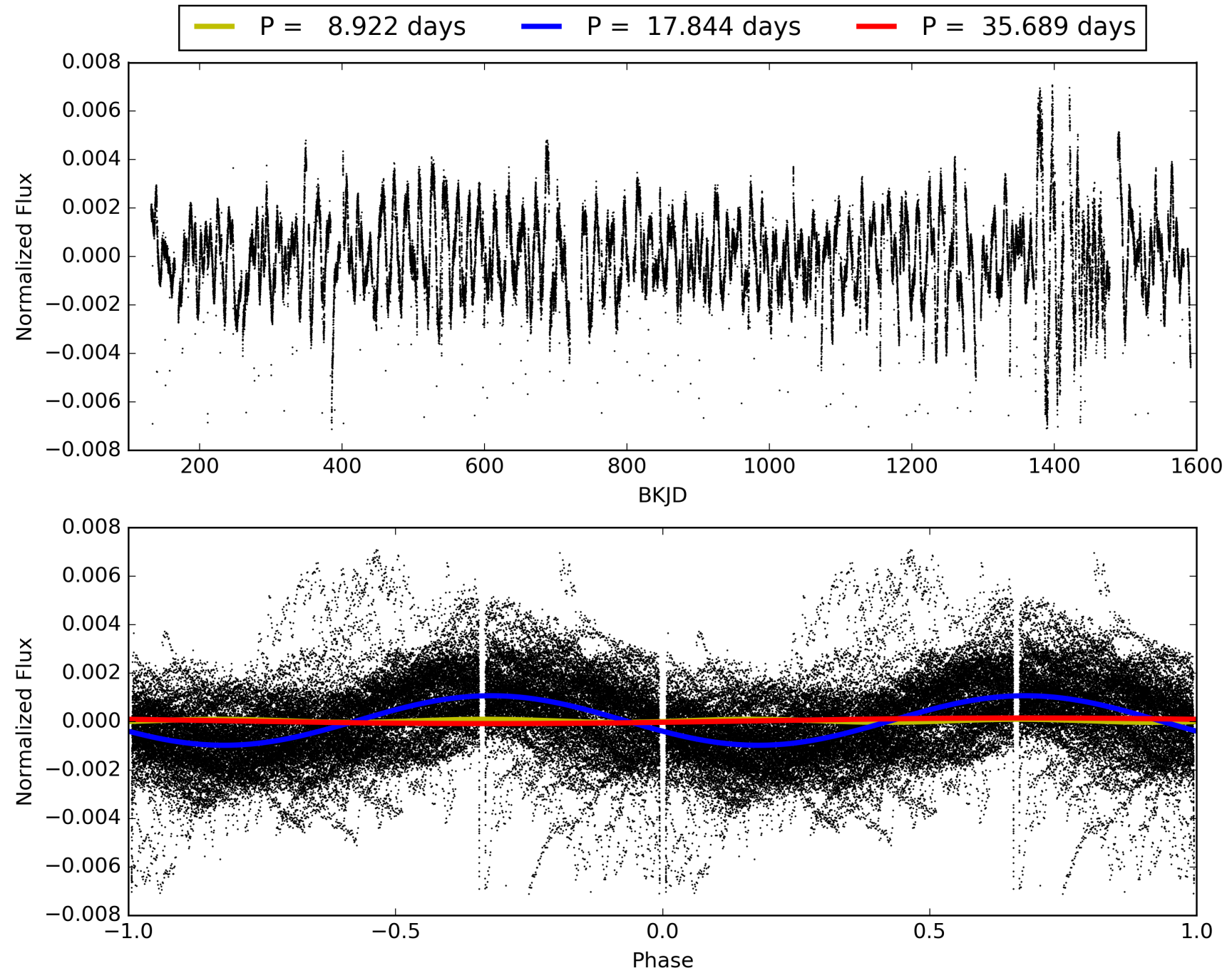
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [75/75]
GhostDiagnostic-chr: 5.581
Centroid-sig: 0.0%
Centroid-so: 0.104 arcsec [43.74σ]
OotOffset-rm: 0.010 arcsec [0.14σ]
KicOffset-rm: 0.076 arcsec [1.11σ]
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 005807579-02, PDC Light Curves

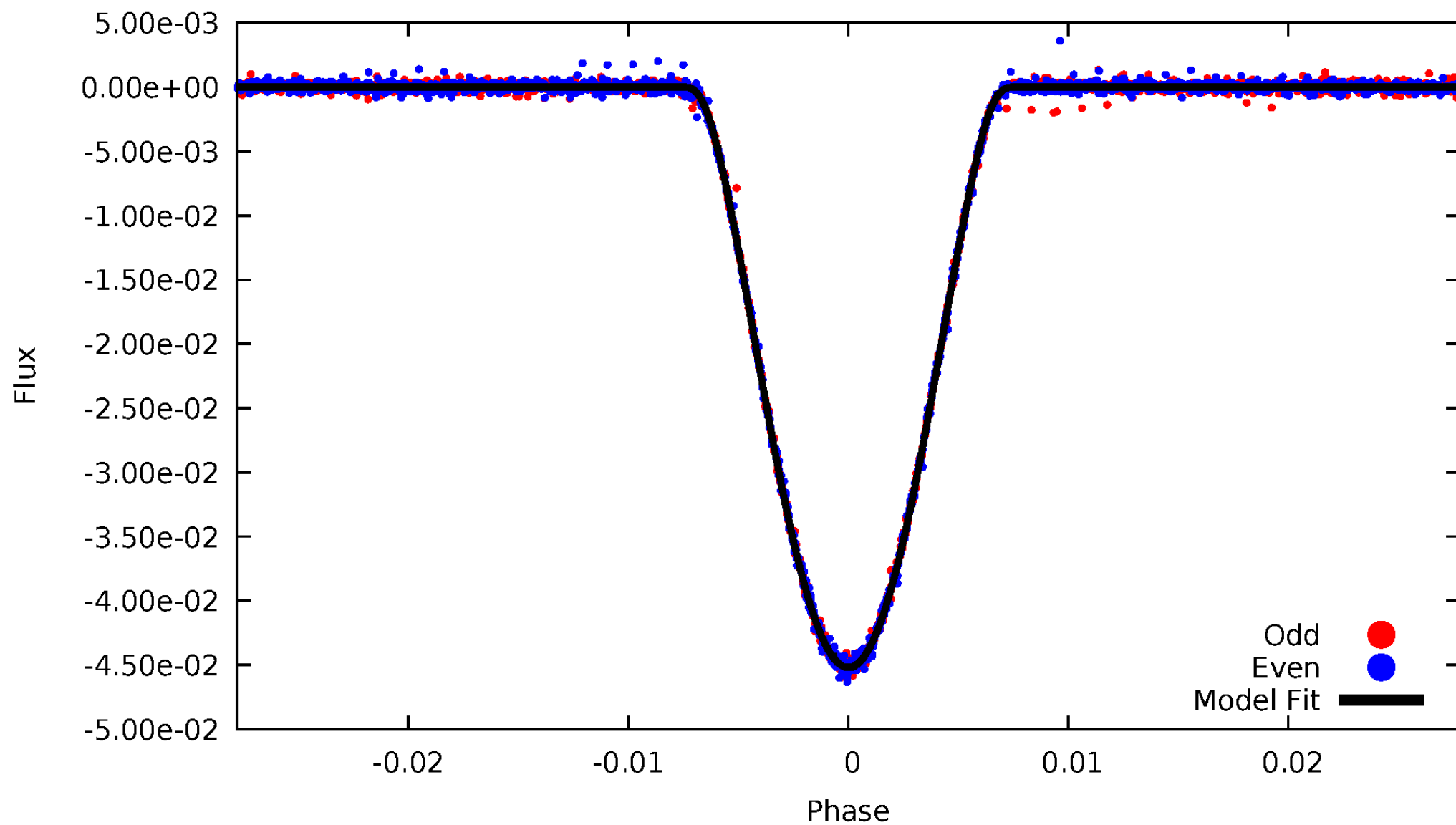


TCE 005807579-02



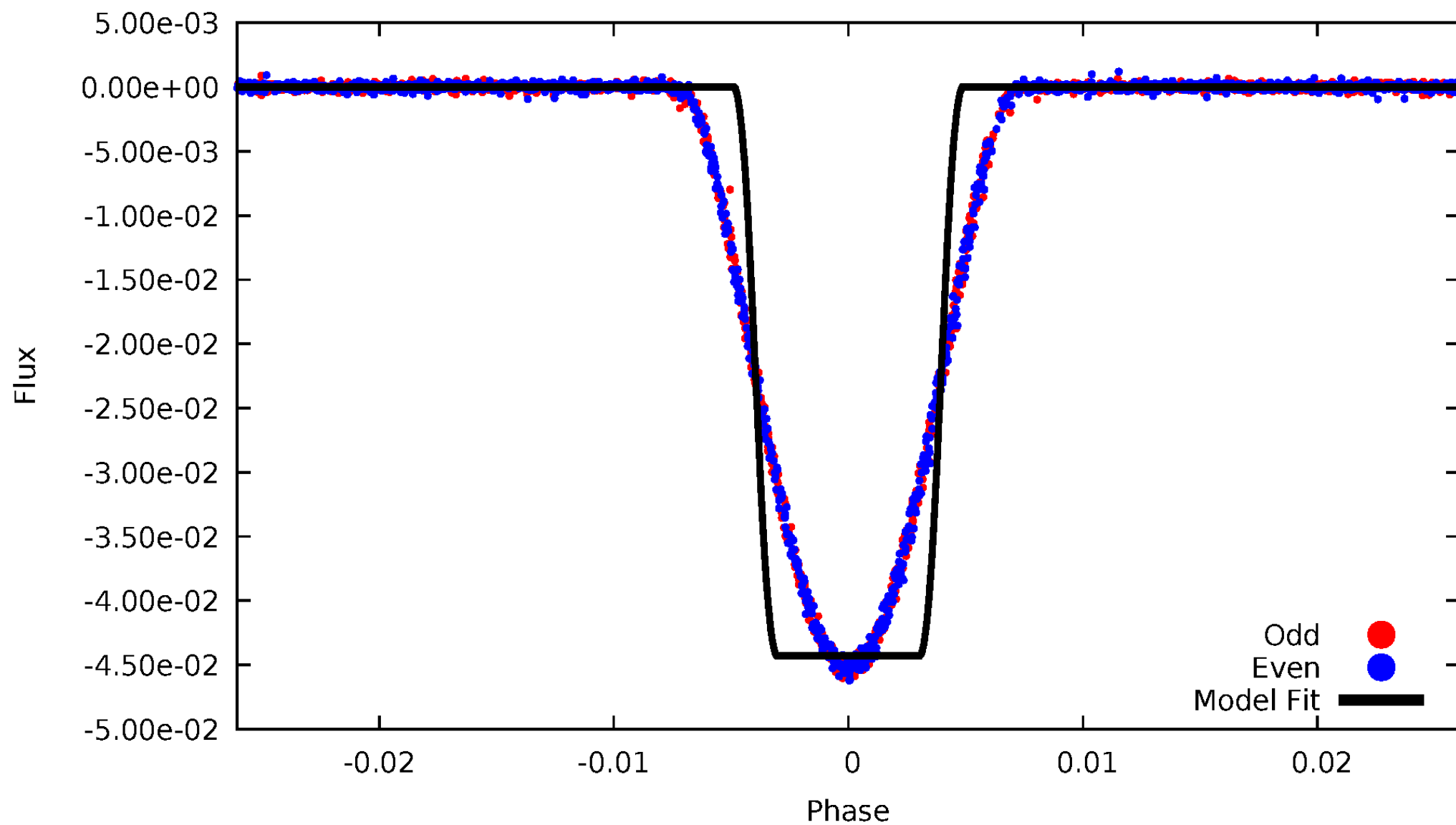
DV Odd/Even

TCE 005807579-02



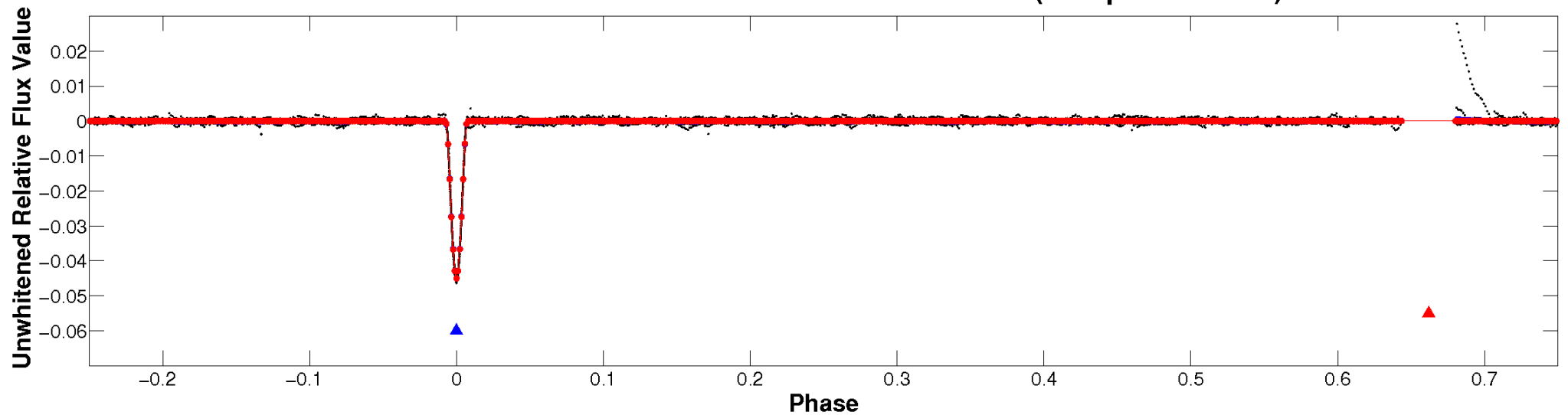
ALT Odd/Even

TCE 005807579-02

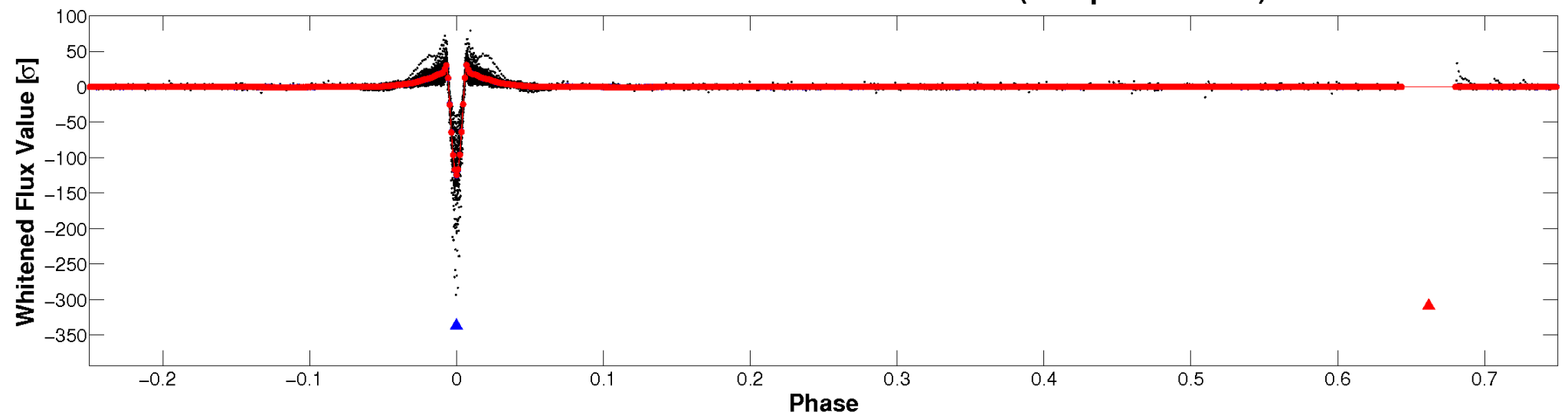


Non-Whitened Vs. Whitened Light Curve

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

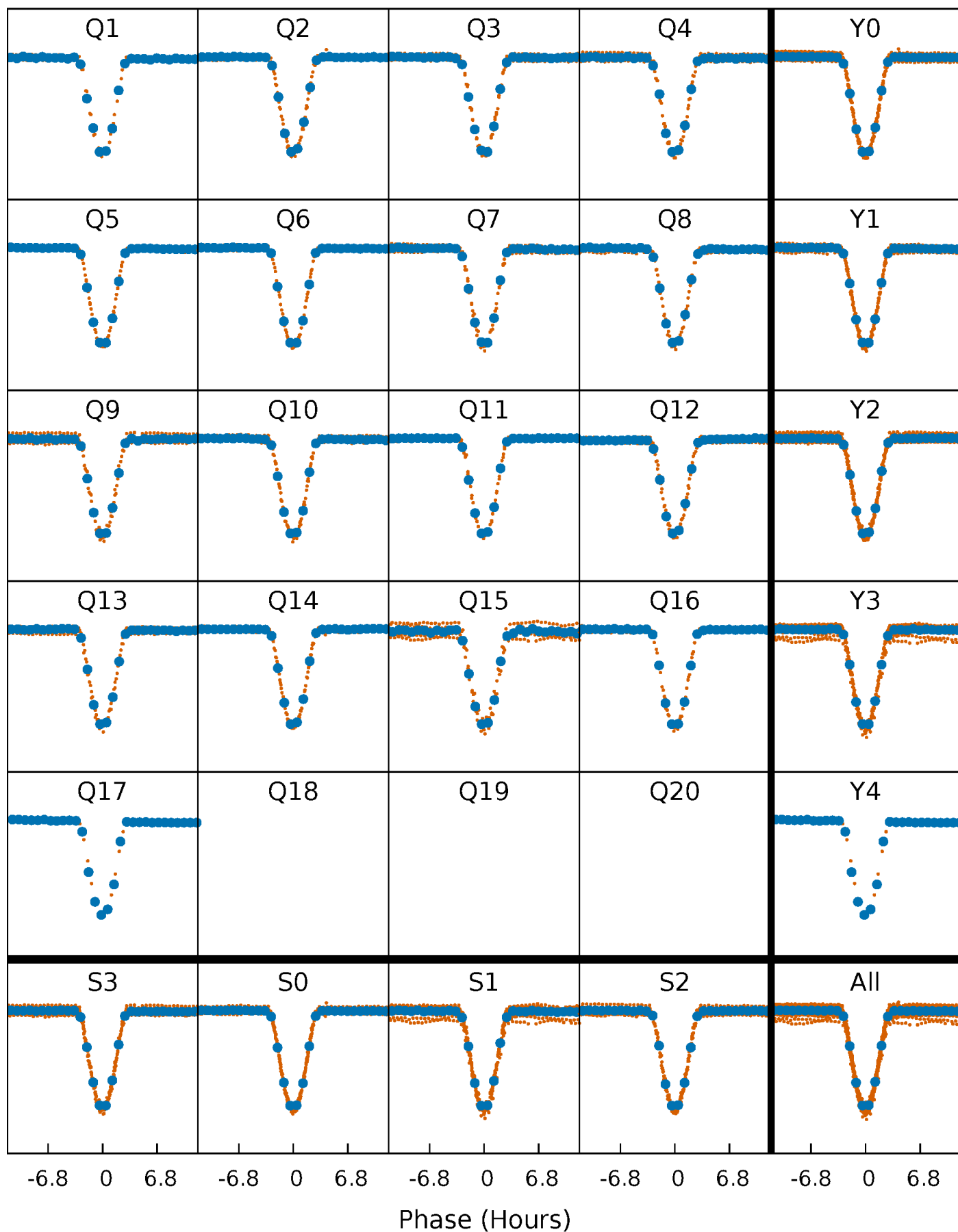


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



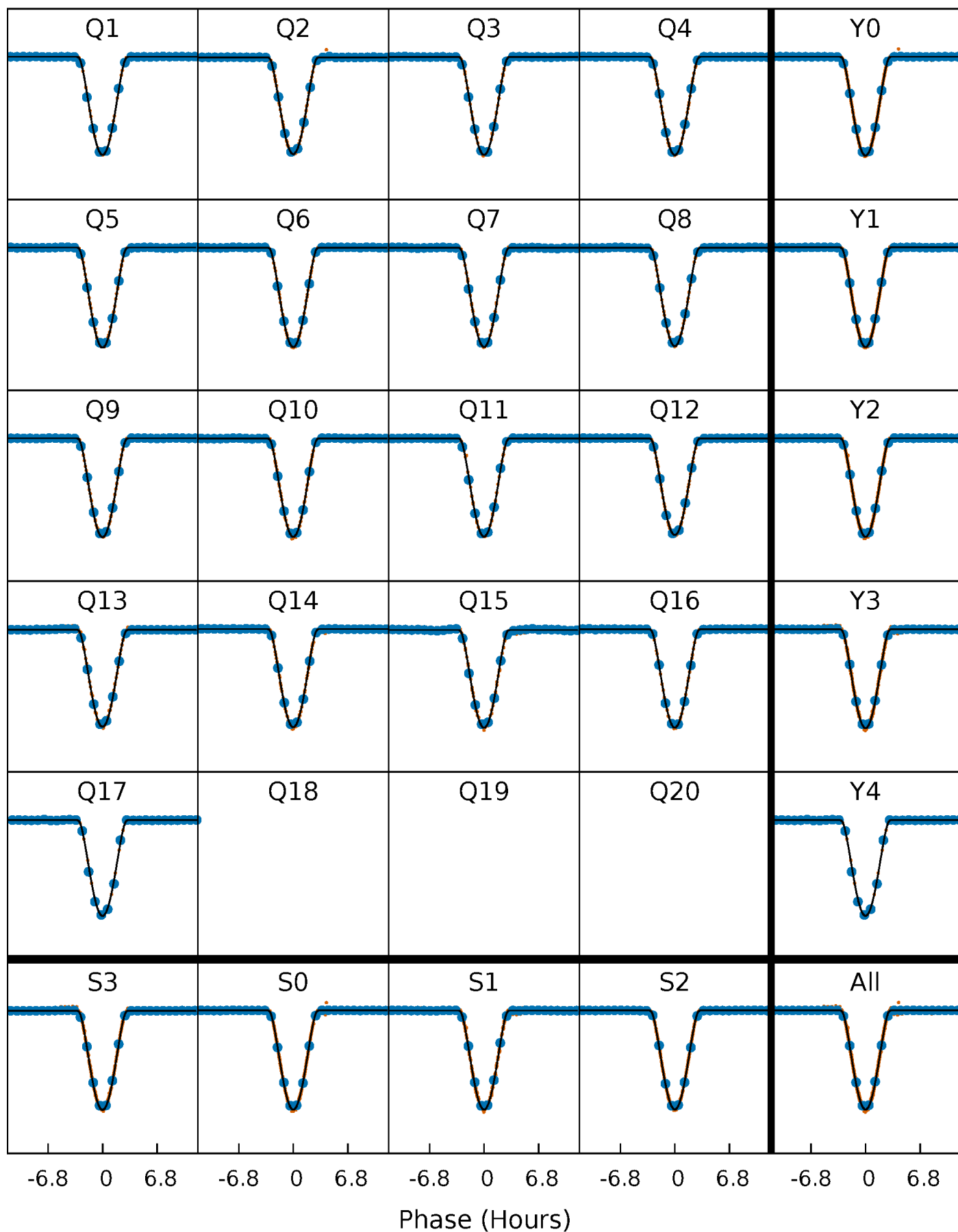
PDC Quarter-Phased Transit Curves

TCE 005807579-02 P= 17.844318 Days $T_0=139.726423$ (BKJD)



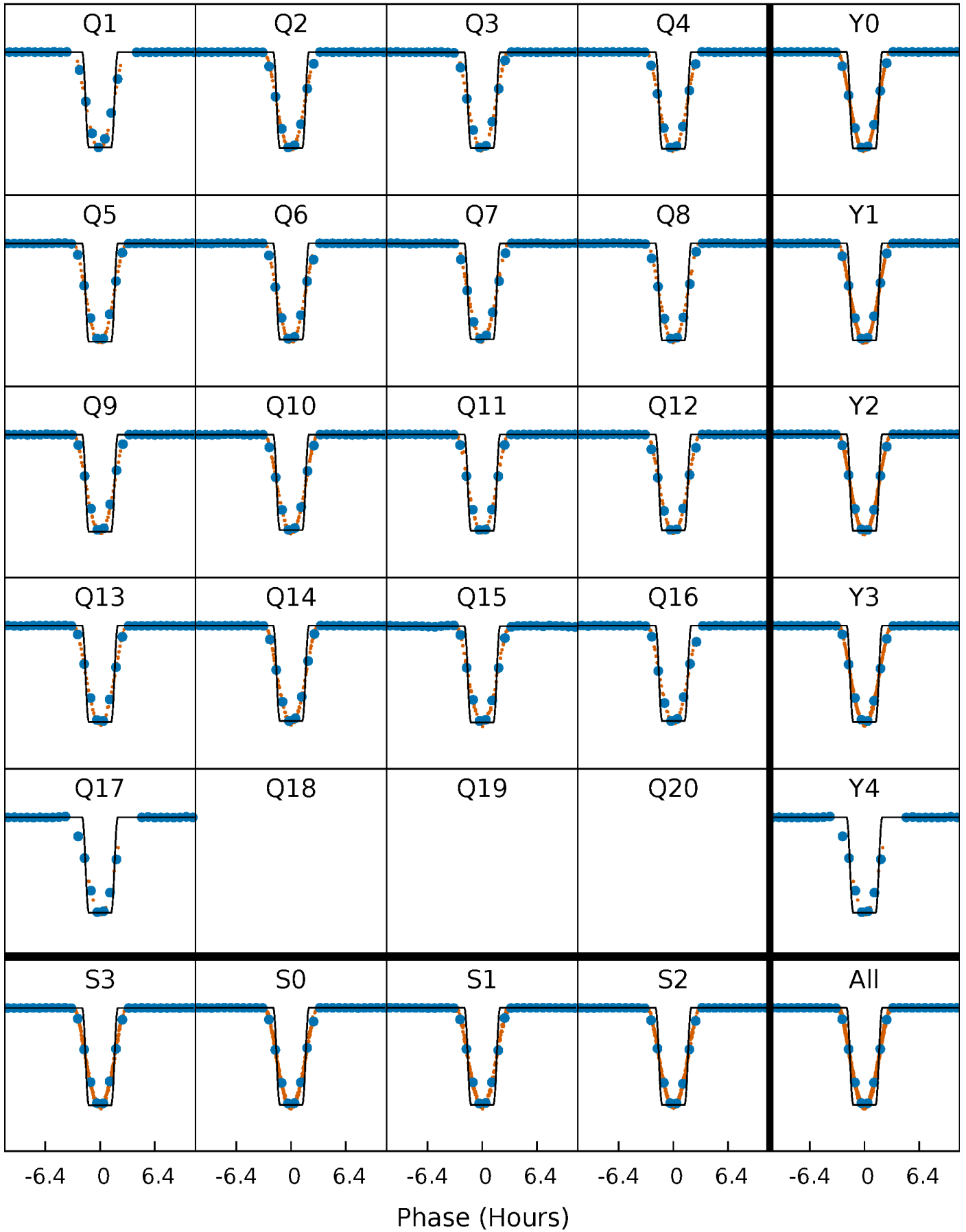
DV Quarter-Phased Transit Curves

TCE 005807579-02 P= 17.844318 Days $T_0=139.726423$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

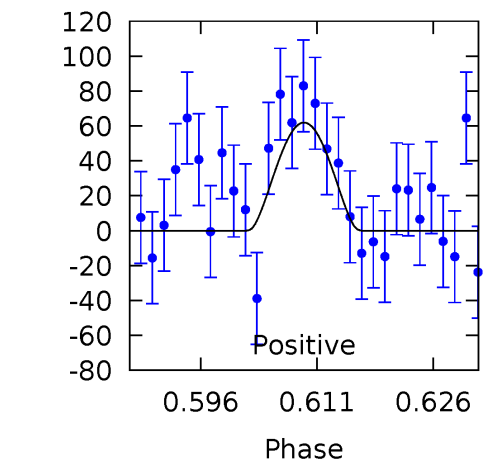
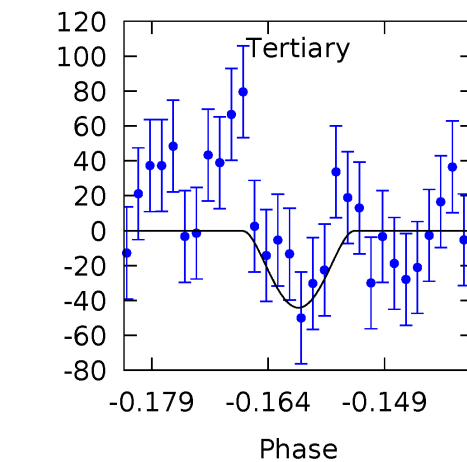
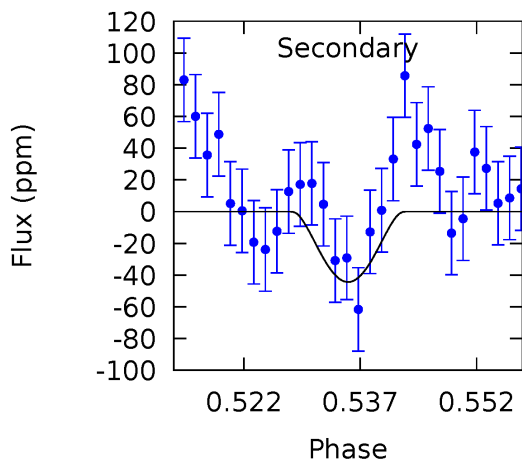
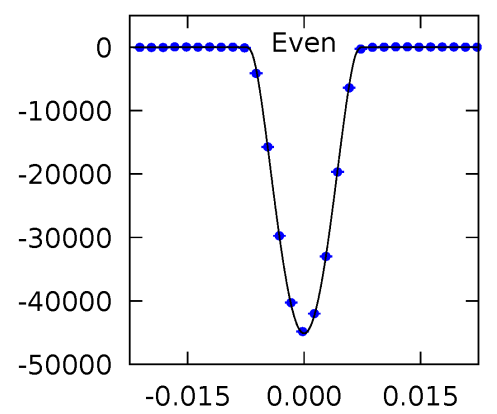
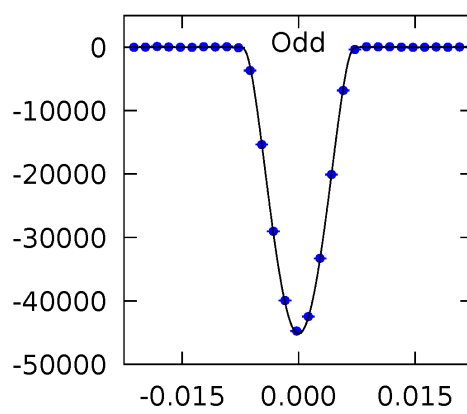
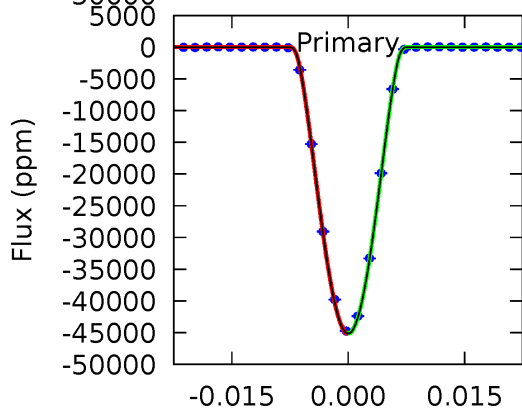
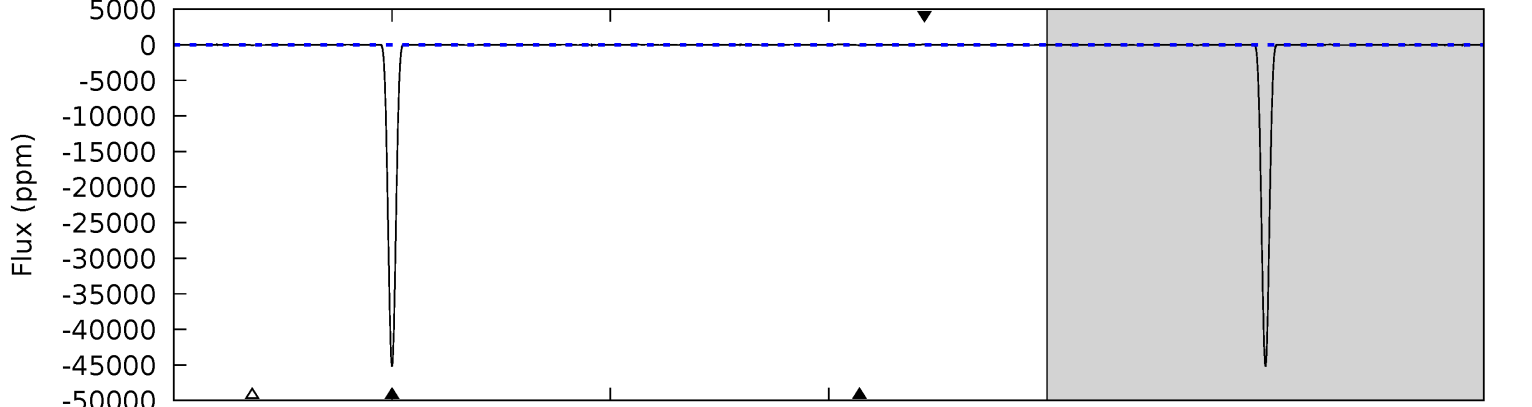
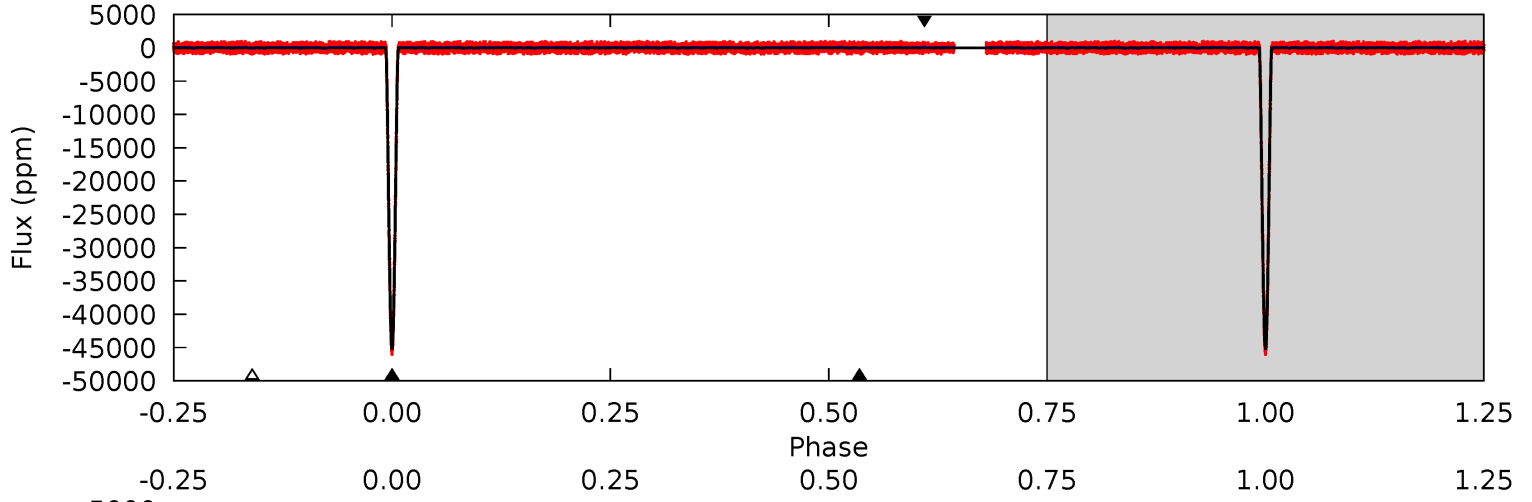
TCE 005807579-02 P= 17.844257 Days $T_0=139.728749$ (BKJD)



DV Model-Shift Uniqueness Test

005807579-02, P = 17.844318 Days, E = 121.882105 Days

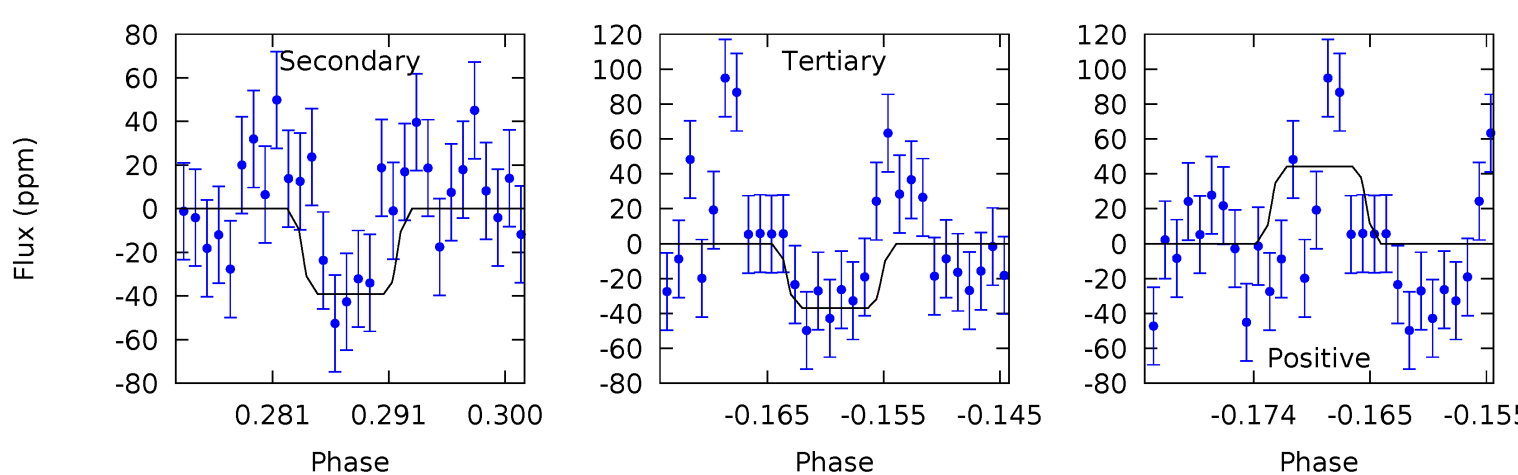
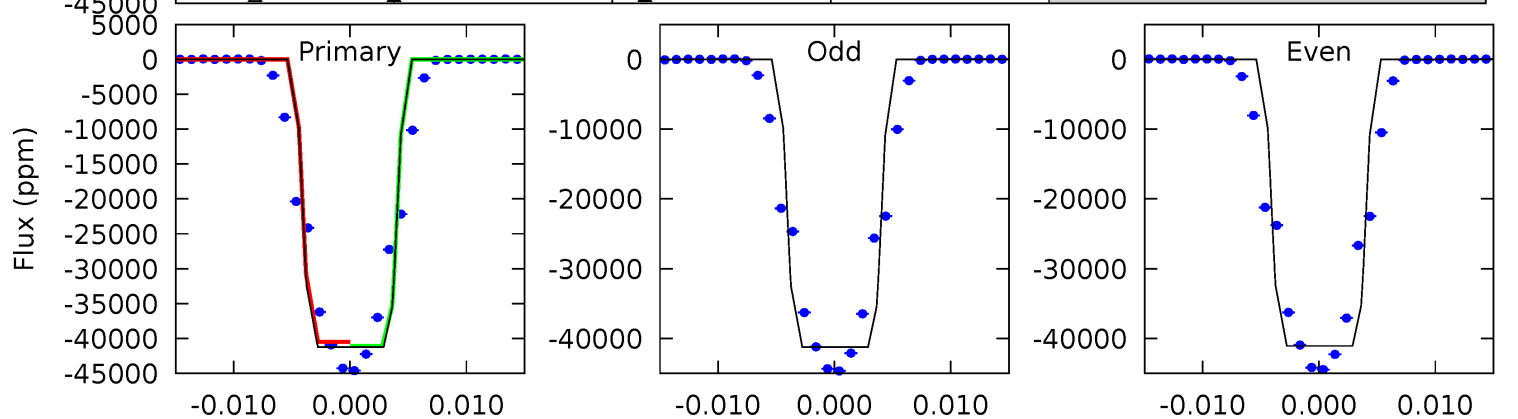
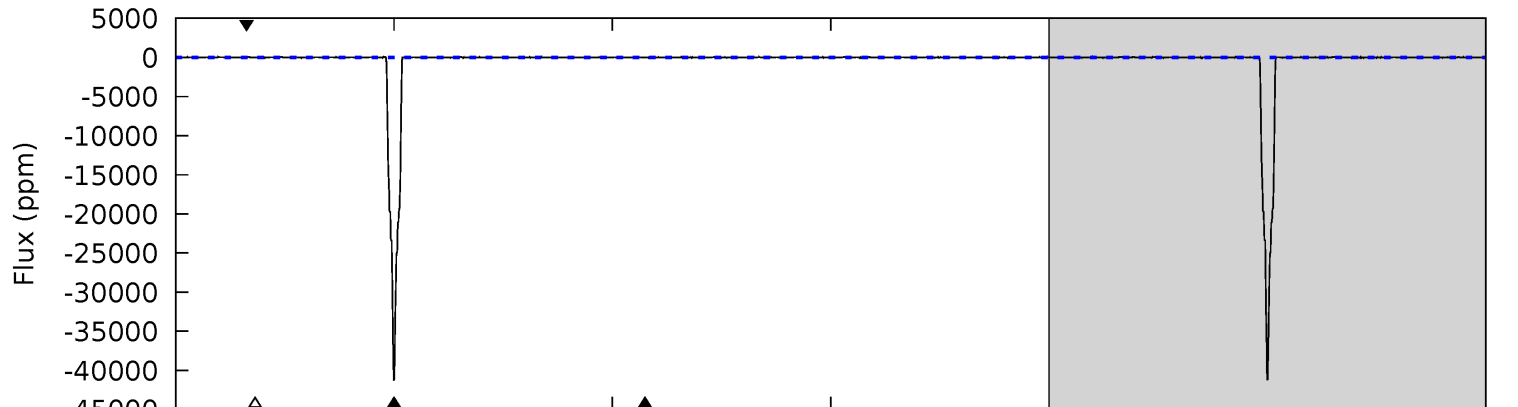
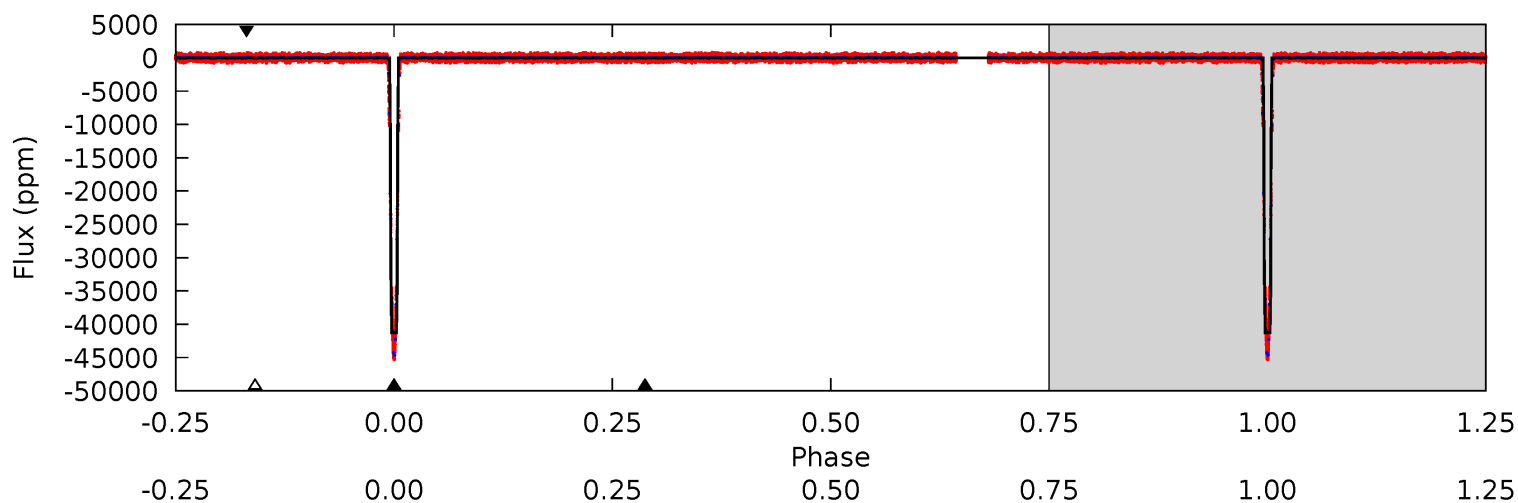
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5735	5.64	5.61	7.87	4.95	2.43	2.45	5729	5727	0.02	-2.23	3.71	1.00	0.00	1.49



Alt Model-Shift Uniqueness Test

005807579-02, P = 17.844257 Days, E = 121.884492 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3850	3.66	3.44	4.12	5.03	2.59	1.28	3847	3846	0.21	-0.46	7.77	1.00	0.00	24.2



Stellar Parameters For KIC 005807579

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5993^{+190}_{-211}	$4.114^{+0.299}_{-0.161}$	$-0.100^{+0.300}_{-0.300}$	$1.485^{+0.395}_{-0.483}$	$1.046^{+0.159}_{-0.145}$	$0.449^{+0.916}_{-0.203}$
	+3%/-4%	+7%/-4%	+300%/-300%	+27%/-33%	+15%/-14%	+204%/-45%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 005807579-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-44 ± 8	$52.62^{+8.08}_{-9.52}$	1214^{+91}_{-110}	-1850^{+186}_{-100}	$0.162^{+0.079}_{-0.047}$
Alt.	-39 ± 11	$33.72^{+5.00}_{-5.70}$	1209^{+99}_{-113}	1667^{+231}_{-3445}	$0.347^{+0.189}_{-0.121}$

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 $A_{\text{obs}} \gg 1.0$

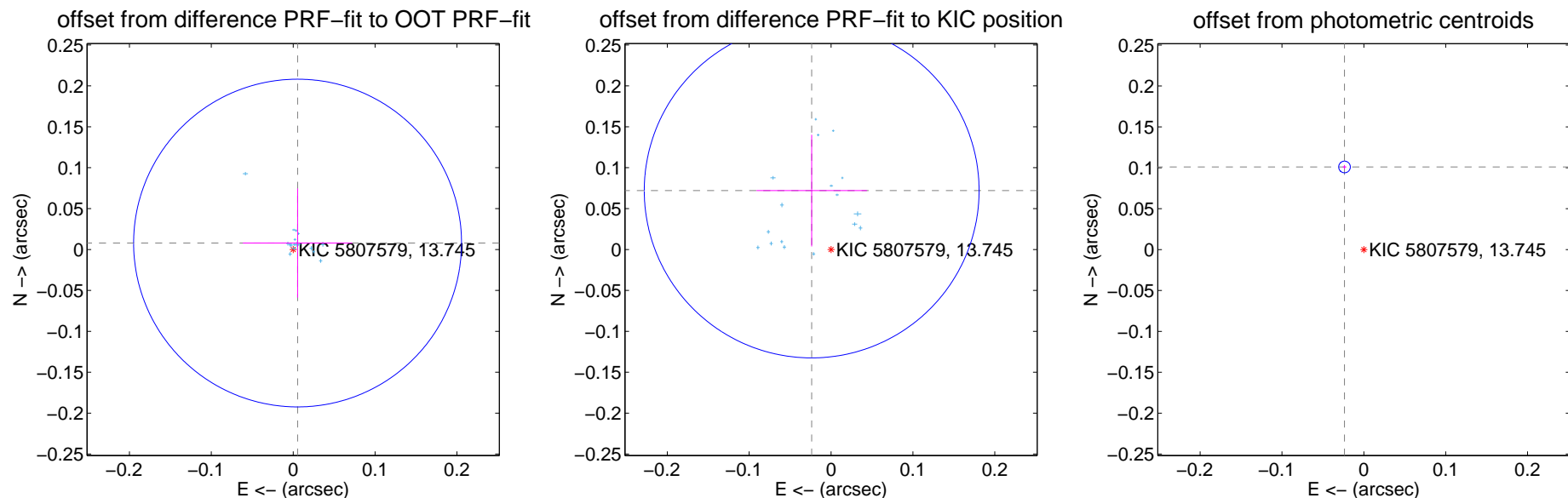
DV Centroid Data

Supplemental centroid analysis for 005807579-02. Kepler magnitude: 13.74. Transit SNR 2456.08

There are 17 quarters with good PRF difference image offsets

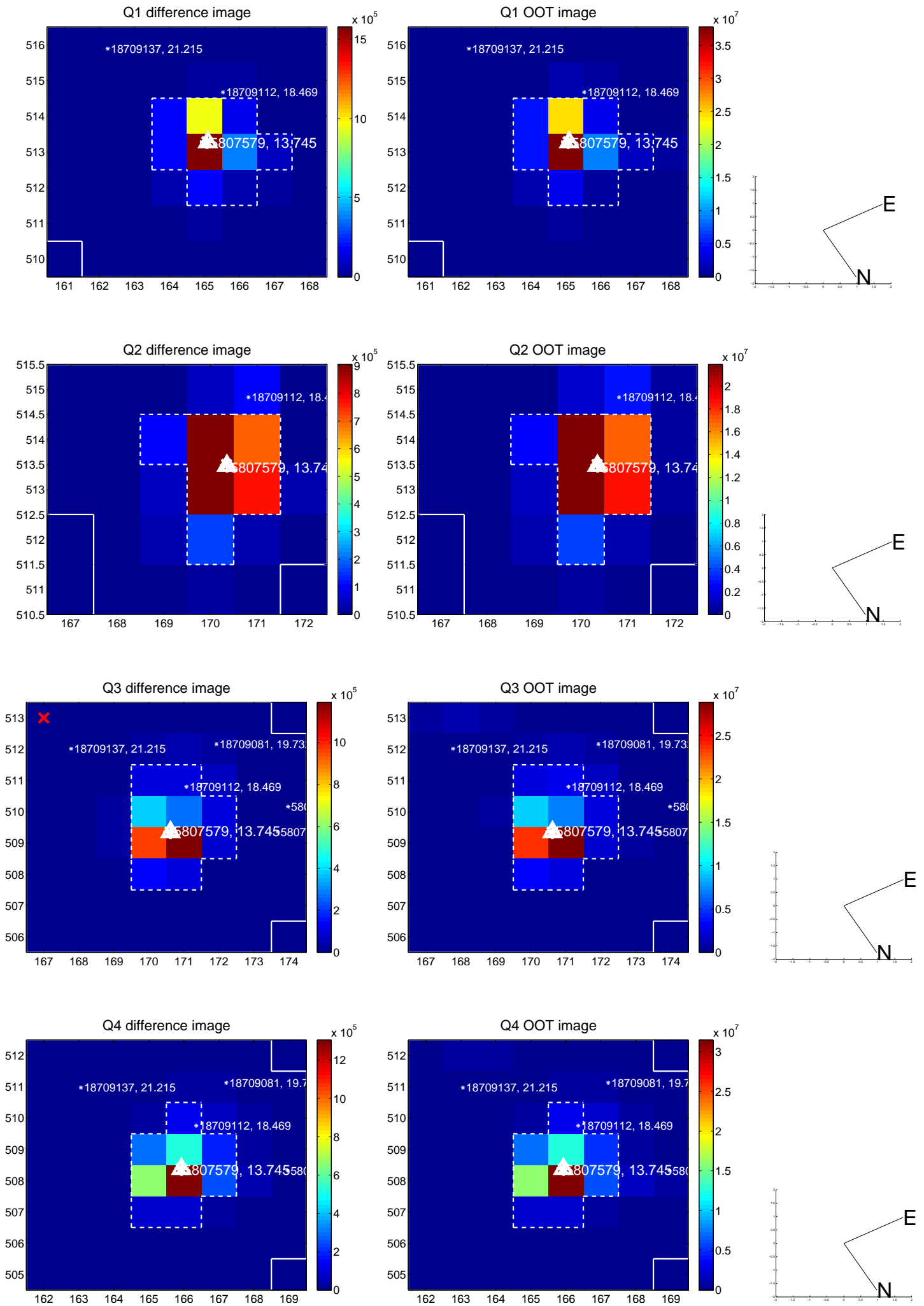
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.010 ± 0.067	0.14	-0.005 ± 0.067	0.008 ± 0.067
PRF-fit source offset from KIC position	0.076 ± 0.068	1.11	0.024 ± 0.067	0.072 ± 0.068
photometric centroid source offset	0.10 ± 0.00	43.74	0.02 ± 0.00	0.10 ± 0.00

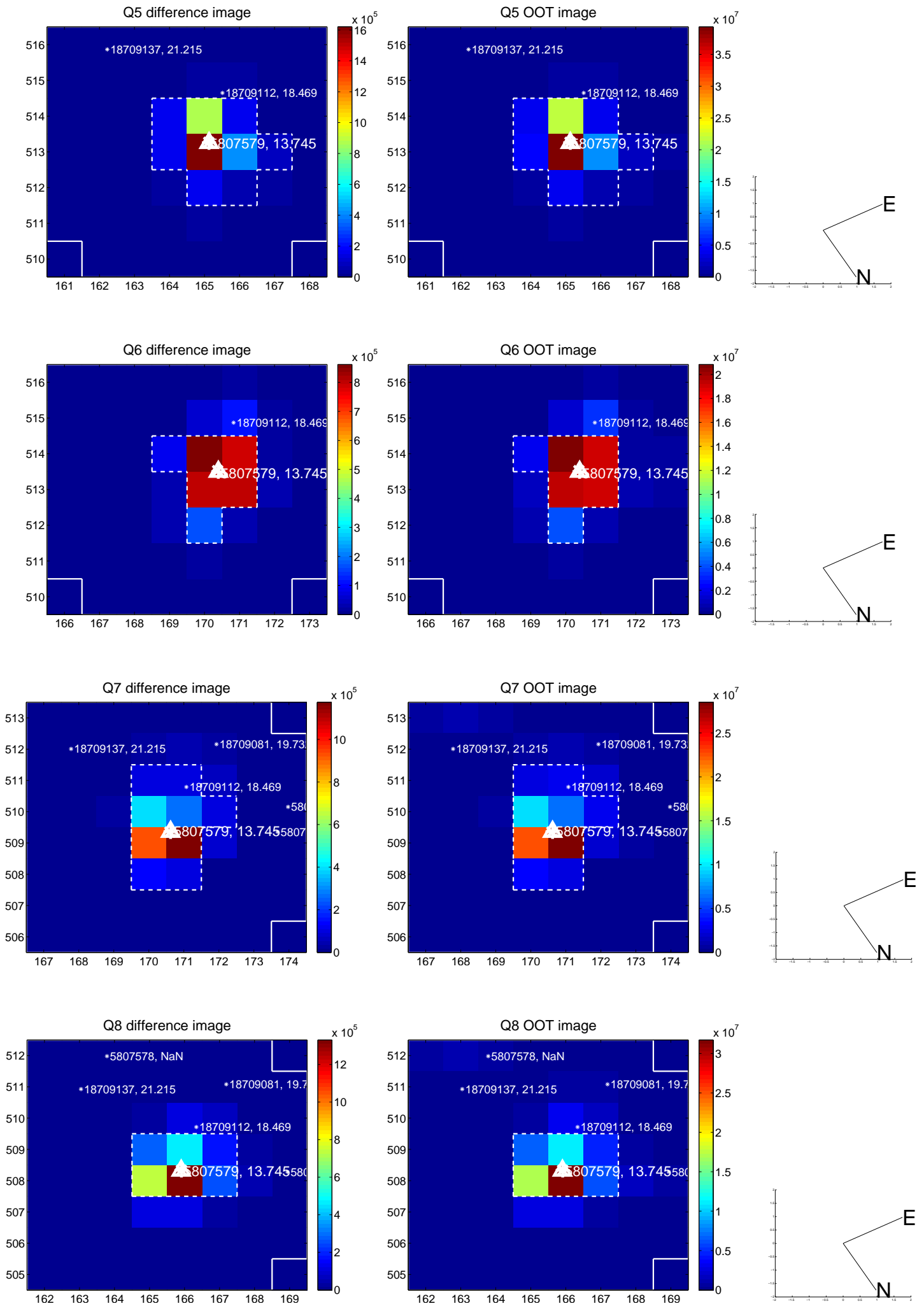


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

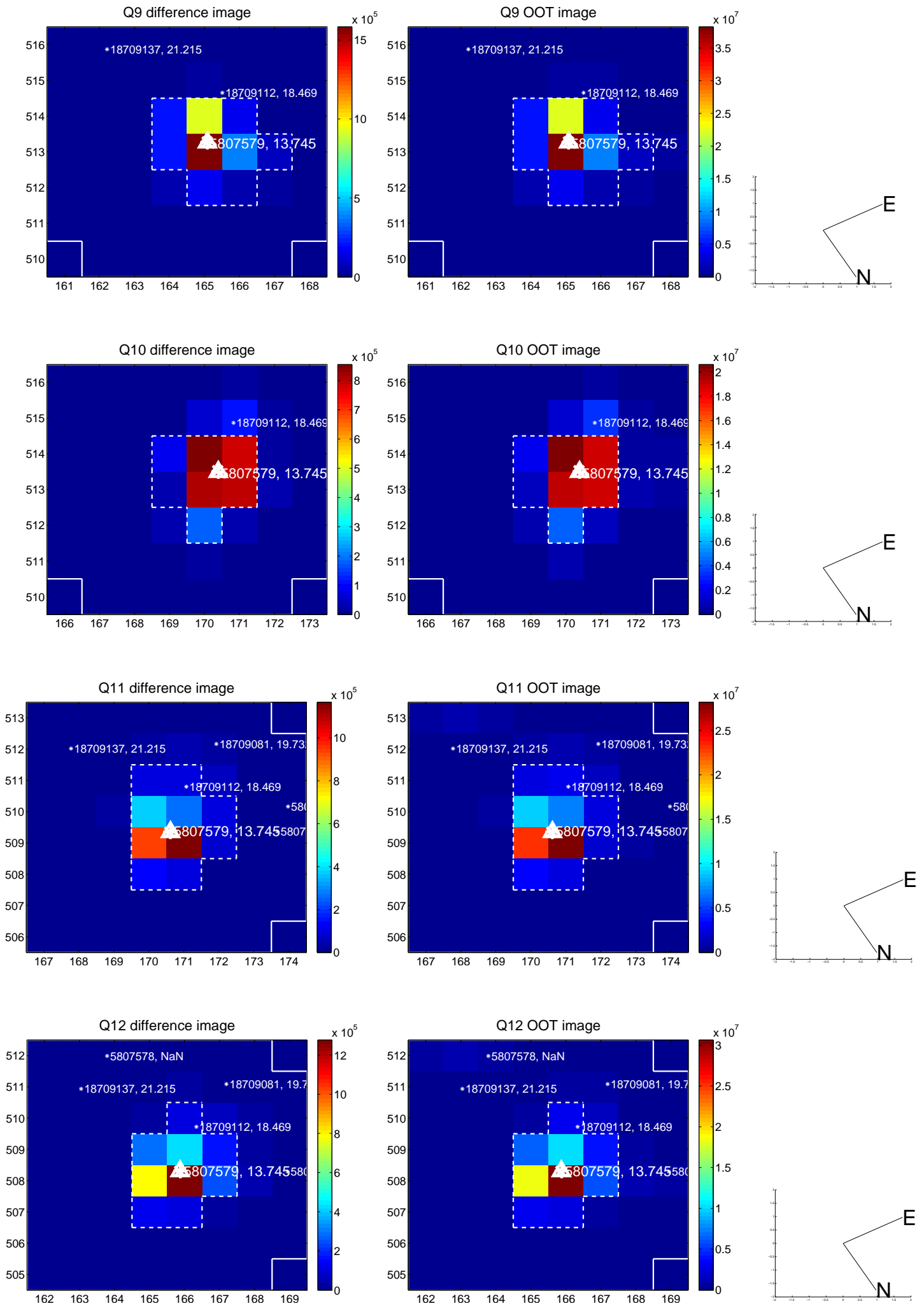
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



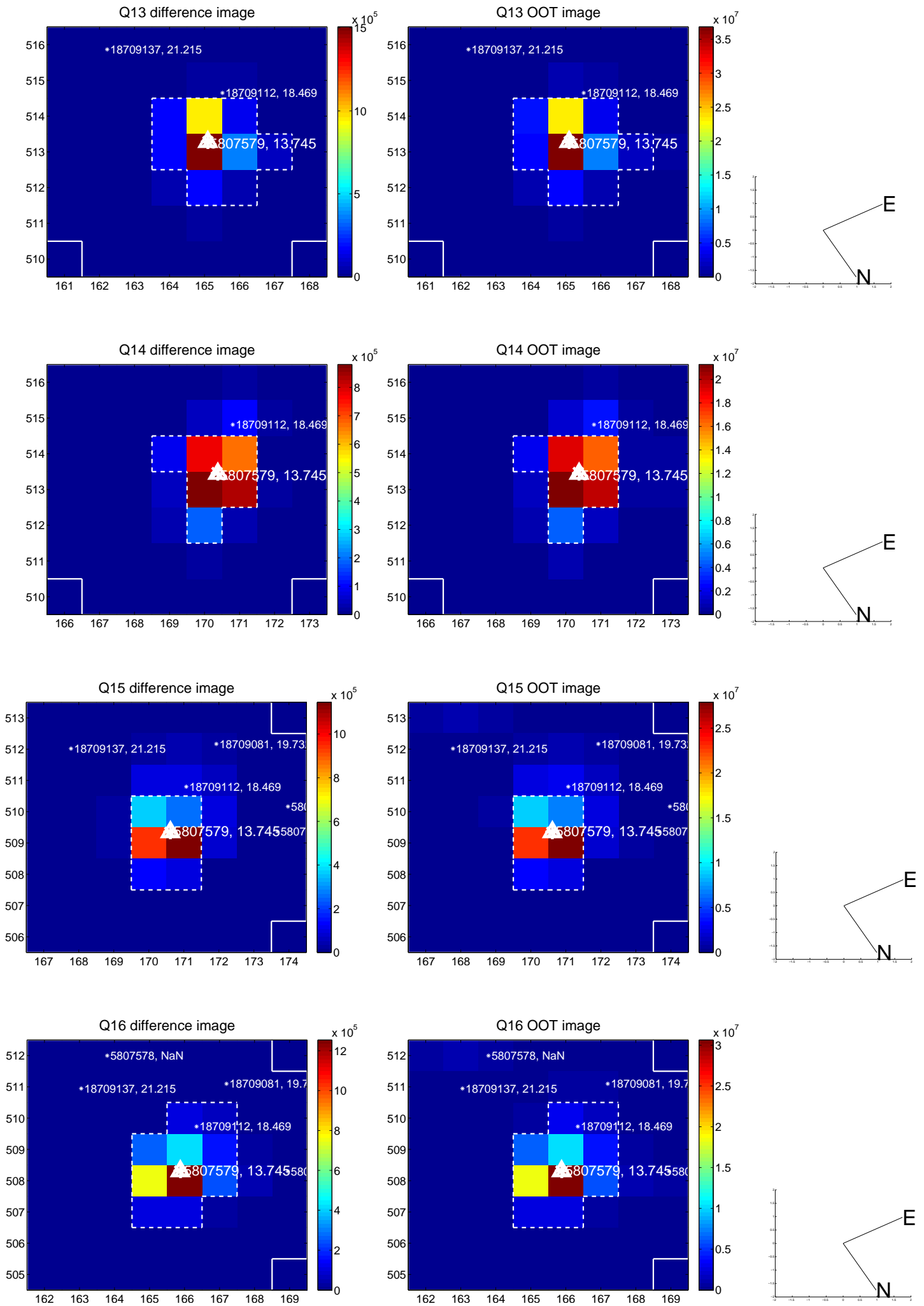
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



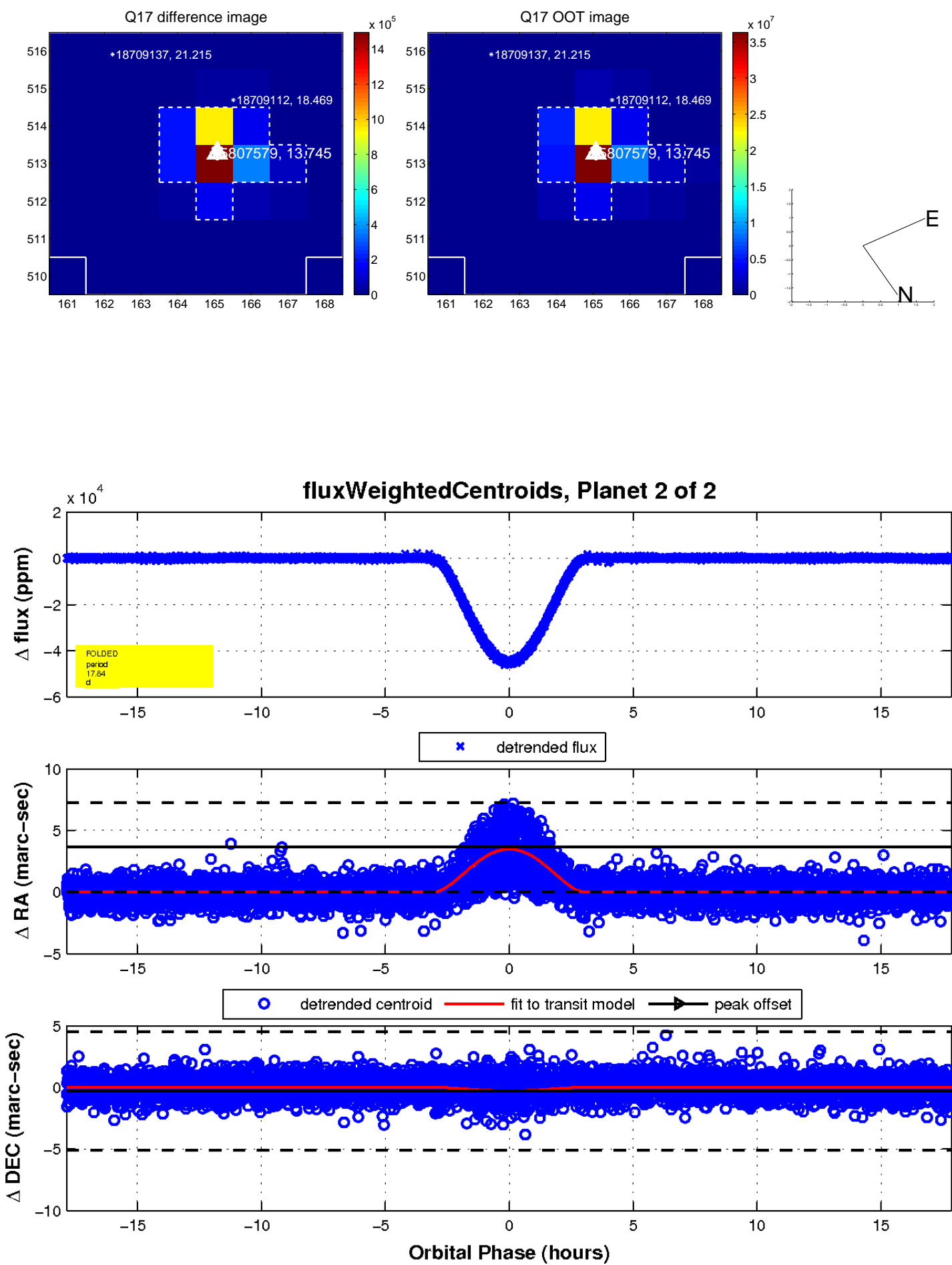
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

