

KIC 006579806

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})
006579806-01	OBS	0967.01	9.880479	134.086837	18419.9	2.770	560.1	549.6	0.92	6113	19.28	129.75
006579806-02	OBS	No	9.880480	139.364153	2449.1	1.614	54.8	60.3	0.92	6113	7.00	129.75

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006579806-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
006579806-02	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.

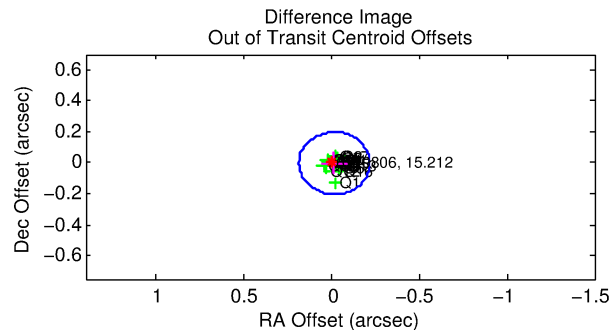
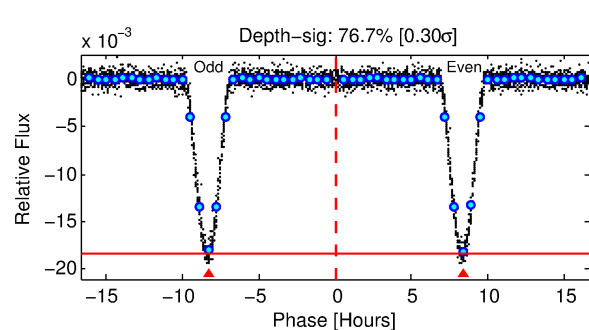
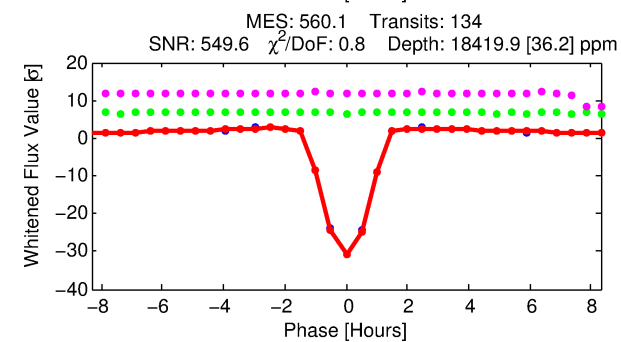
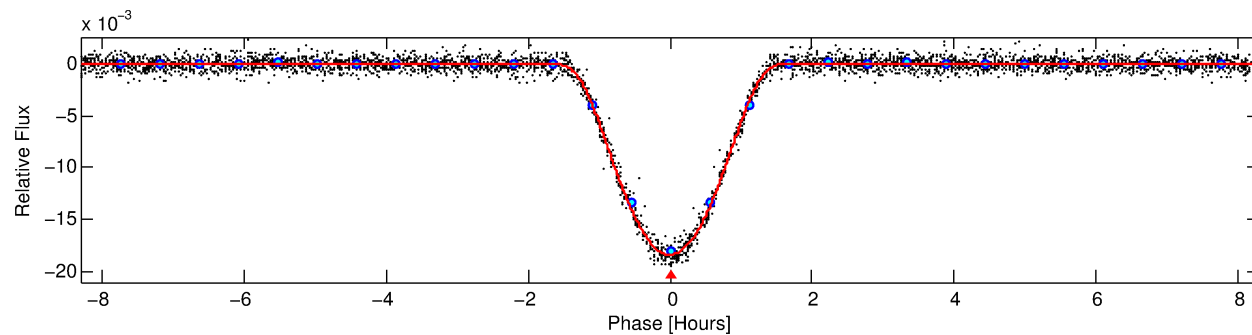
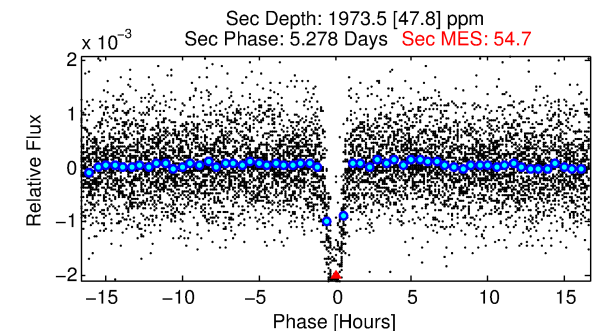
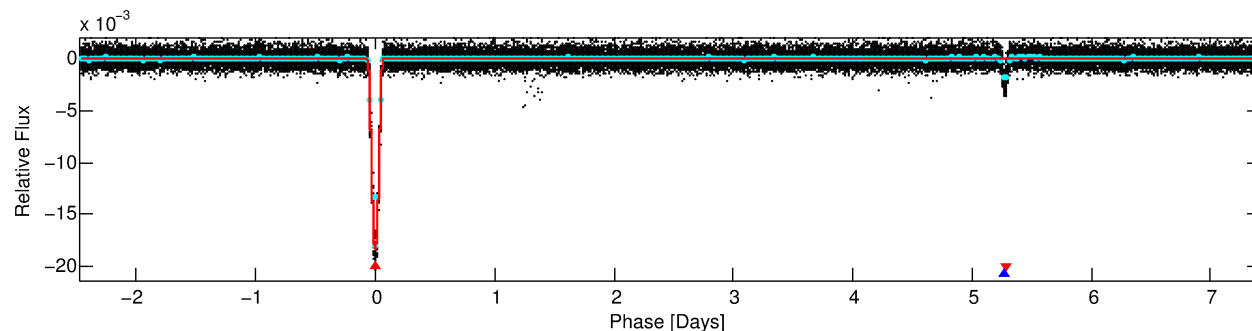
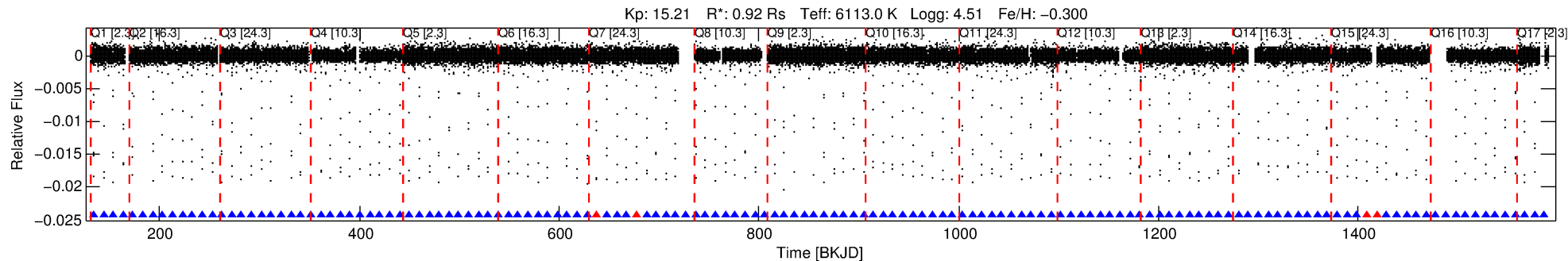
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006579806-01

No Significant Match Found

DV One-Page Summary

KIC: 6579806 Candidate: 1 of 2 Period: 9.880 d
KOI: K00967.01 Corr: 0.997



DV Fit Results:

Period = 9.88048 [0.00000] d
Epoch = 134.0868 [0.0001] BKJD
Rp/R* = 0.1927 [0.0131]
a/R* = 19.28 [0.22]
b = 0.96 [0.02]
Seff = 129.75 [51.70]
Teq = 861 [86] K
Rp = 19.28 [5.91] Re
a = 0.0900 [0.0230] AU
Ag = 23.69 [9.49] [2.39 σ]
Teffp = 2935 [140] K [12.67 σ]

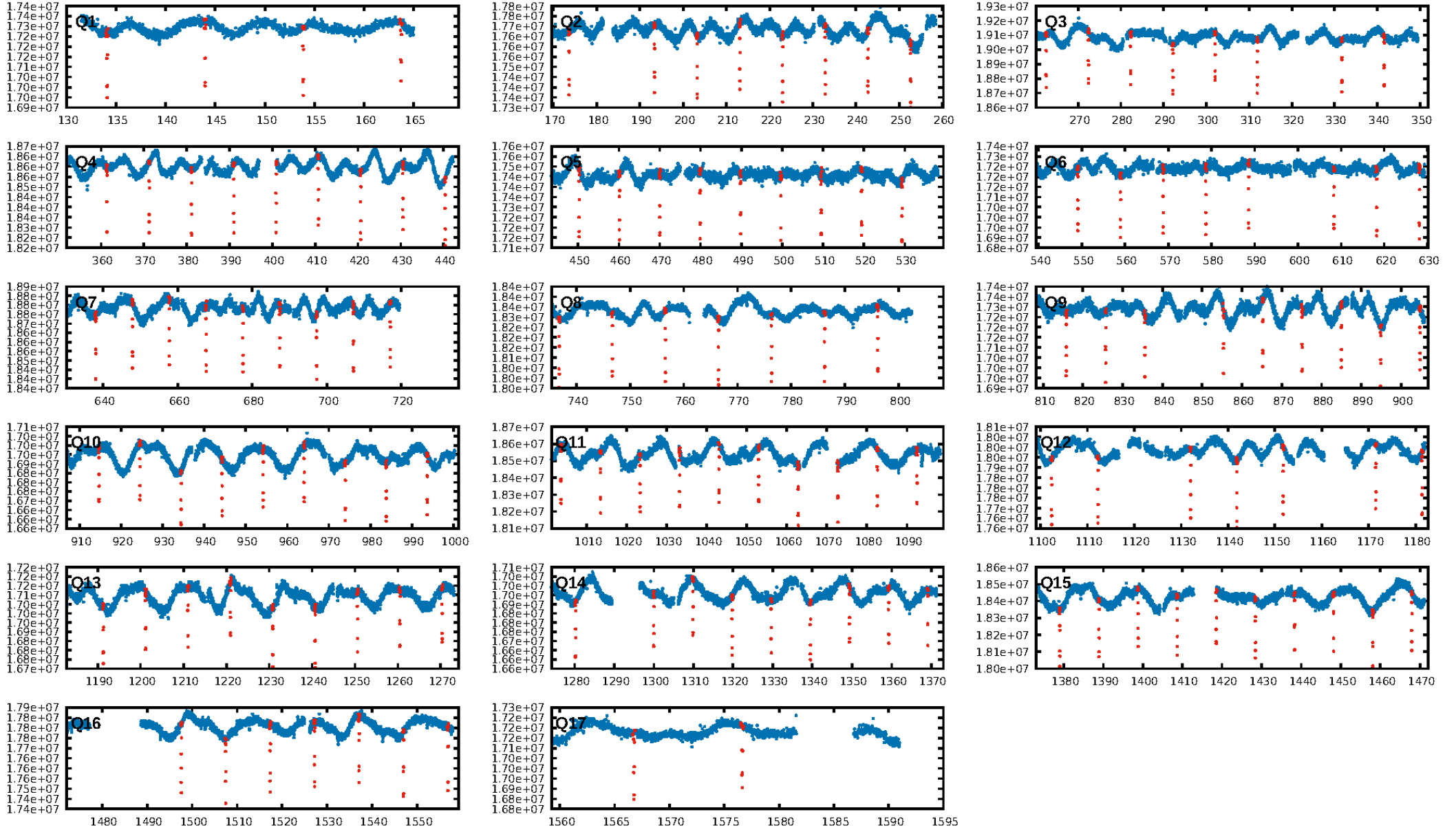
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: 98.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.97 [124/128]
GhostDiagnostic-chr: 3.204
Centroid-sig: 25.6%
Centroid-so: 0.949 arcsec [36.80 σ]
OotOffset-rm: 0.017 arcsec [0.25 σ]
KicOffset-rm: 0.138 arcsec [1.76 σ]
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]

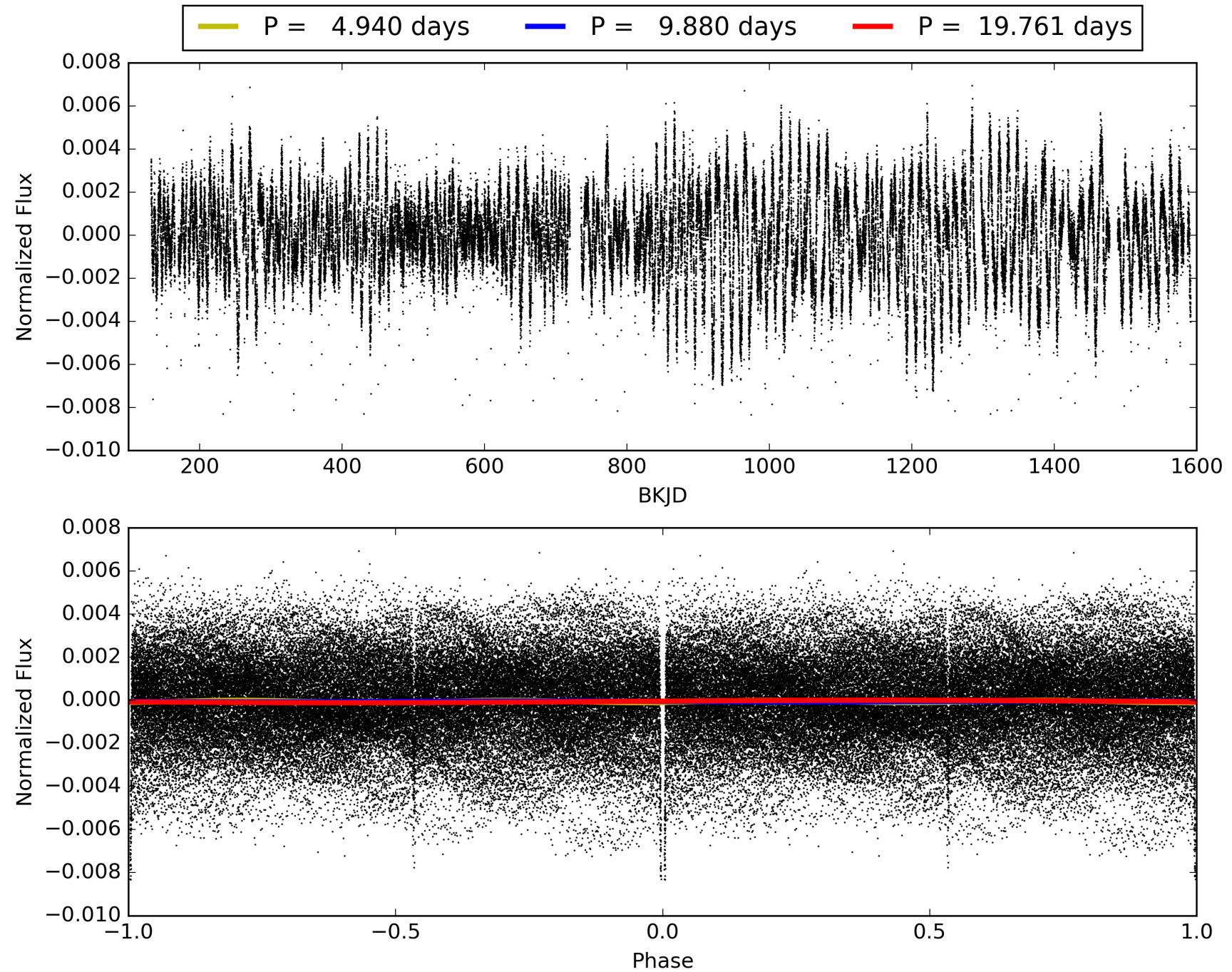
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 14:08:22 Z

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

TCE 006579806-01, PDC Light Curves

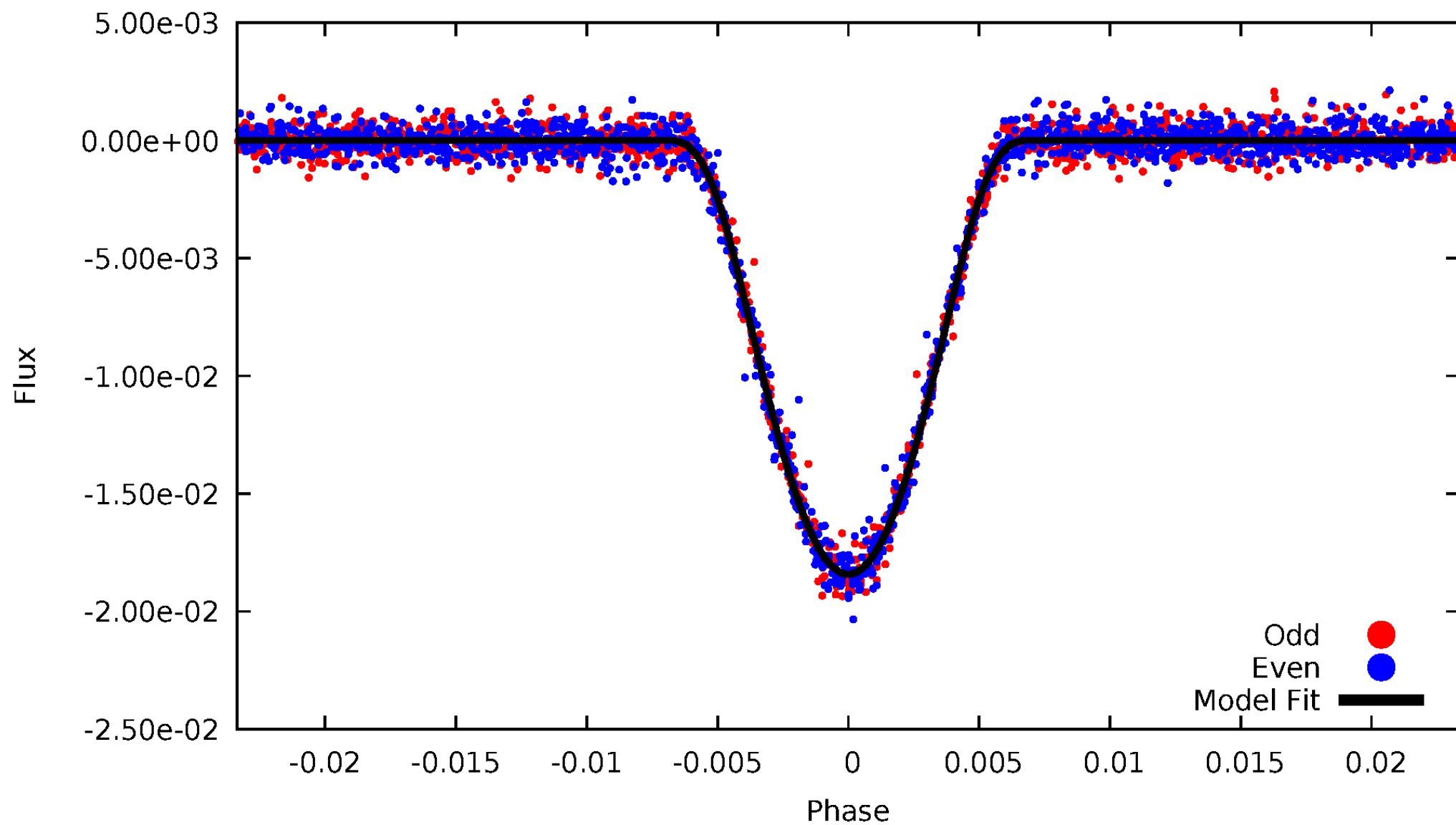


TCE 006579806-01



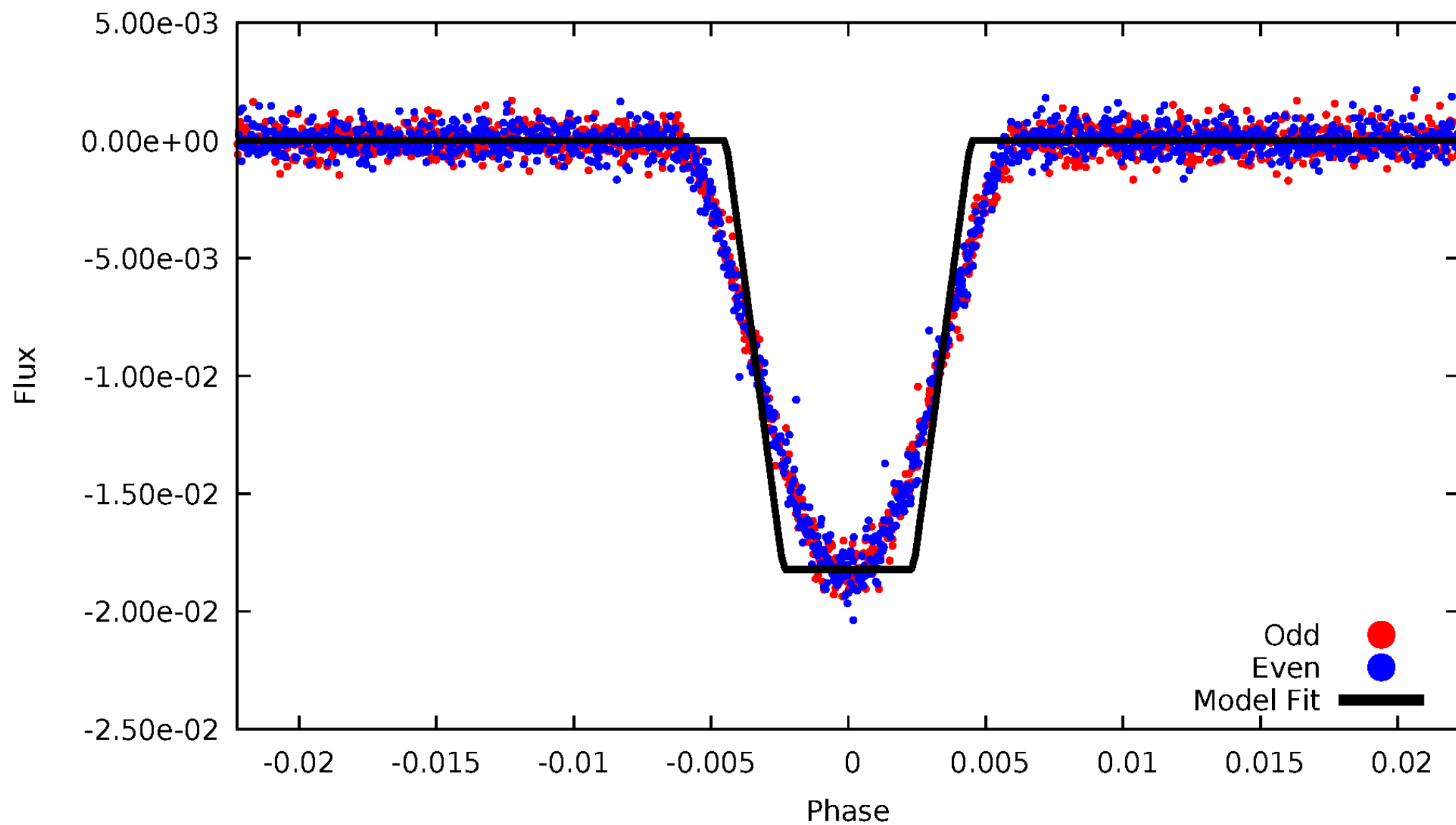
DV Odd/Even

TCE 006579806-01



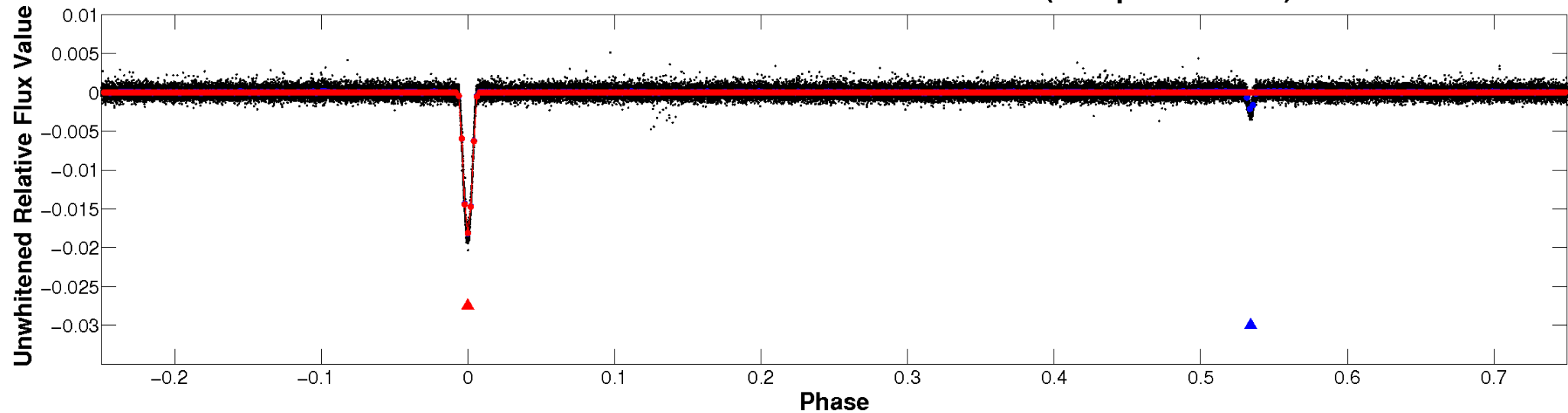
ALT Odd/Even

TCE 006579806-01

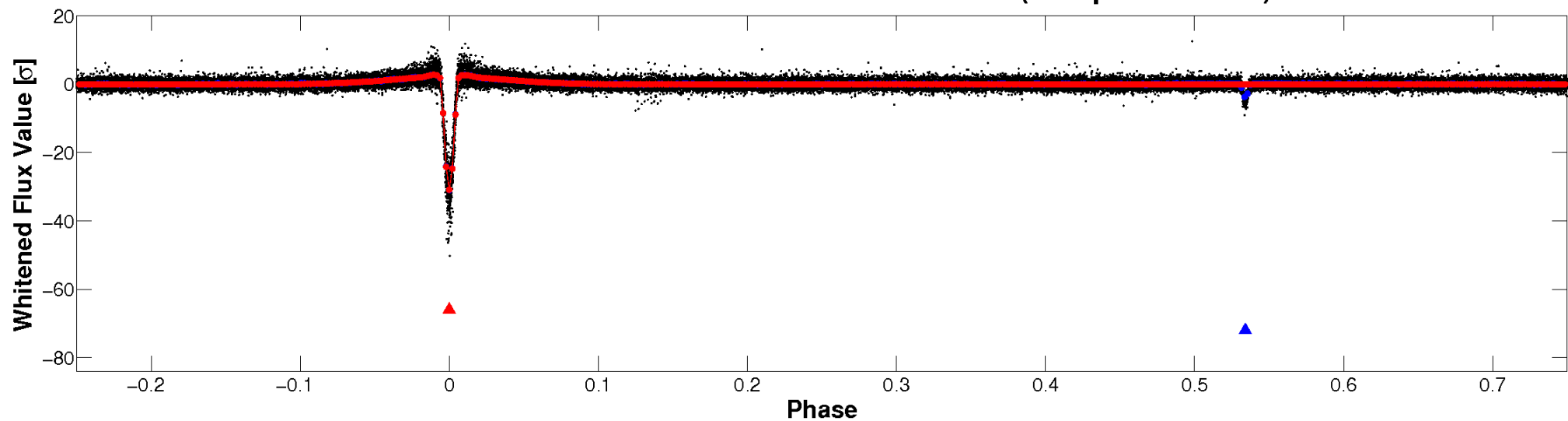


Non-Whitened Vs. Whitened Light Curve

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

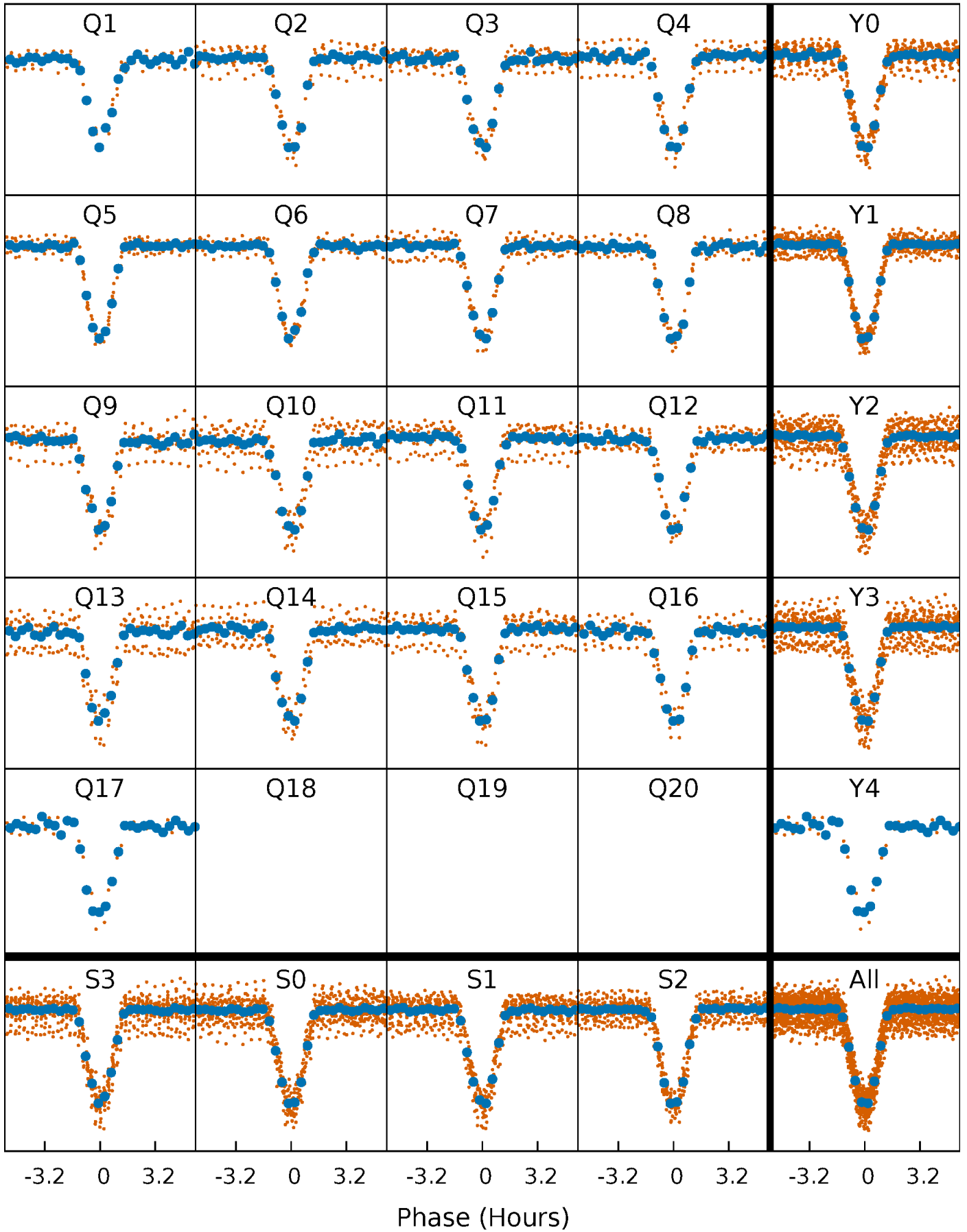


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



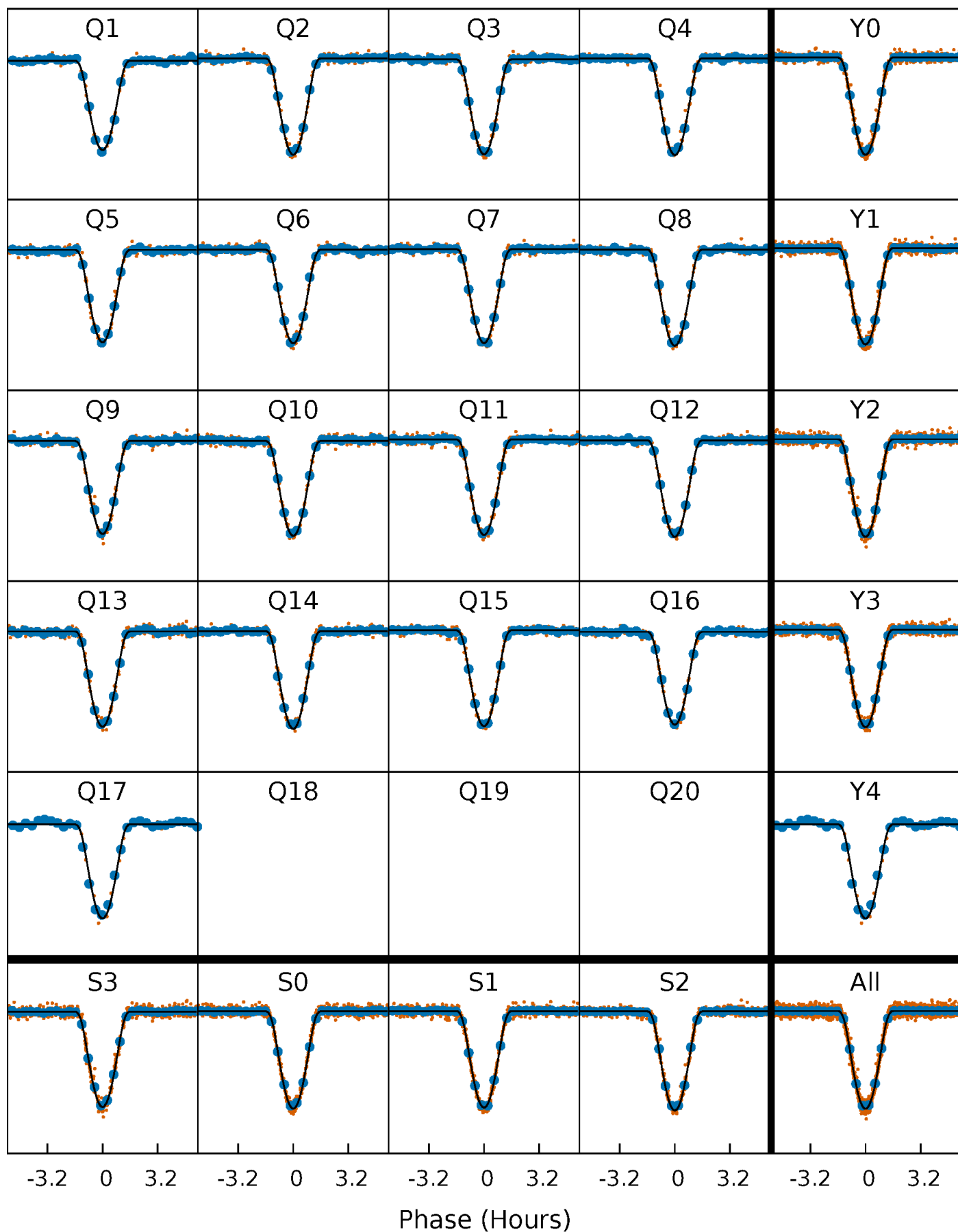
PDC Quarter-Phased Transit Curves

TCE 006579806-01 P= 9.880479 Days $T_0=134.086837$ (BKJD)



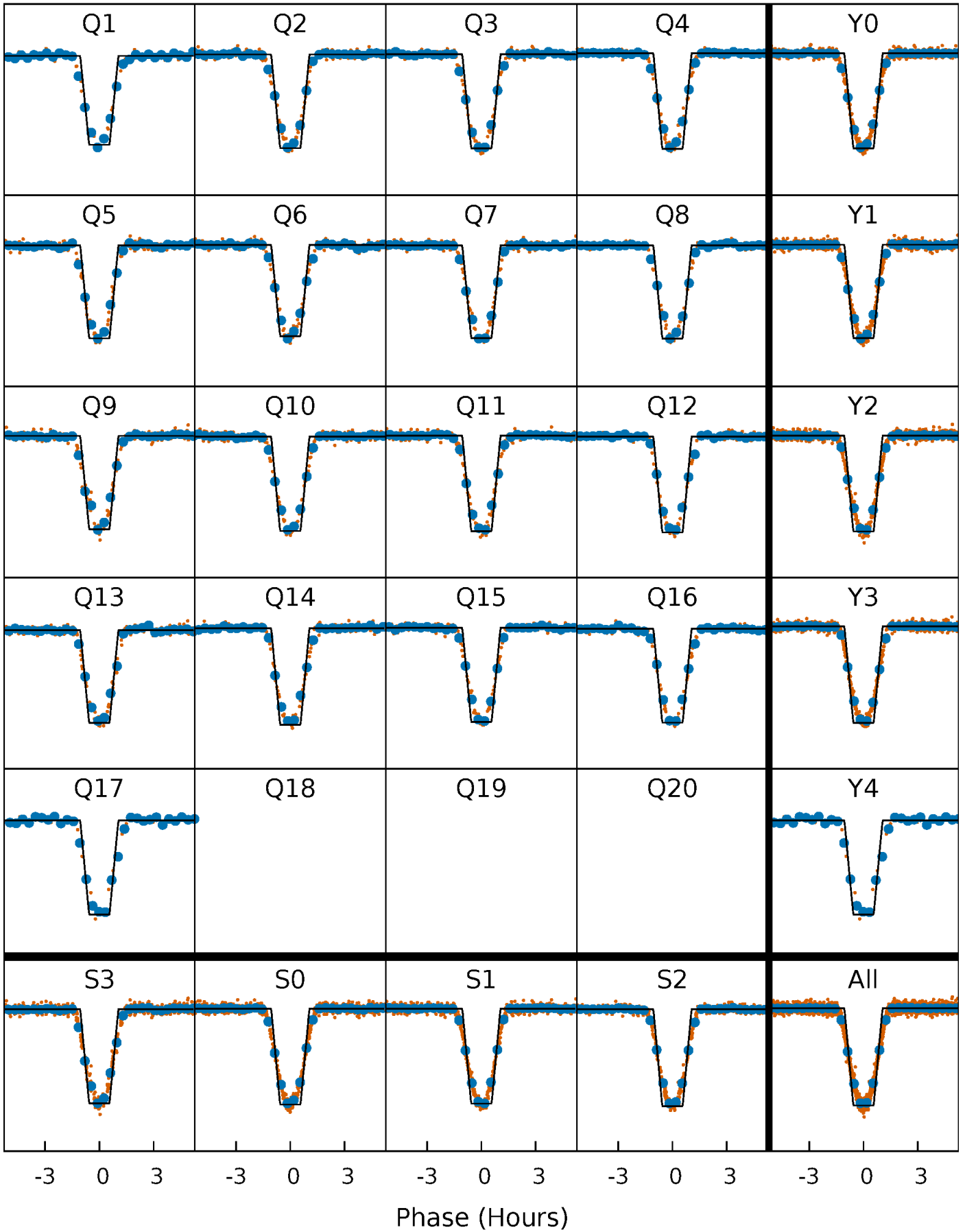
DV Quarter-Phased Transit Curves

TCE 006579806-01 P= 9.880479 Days $T_0=134.086837$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

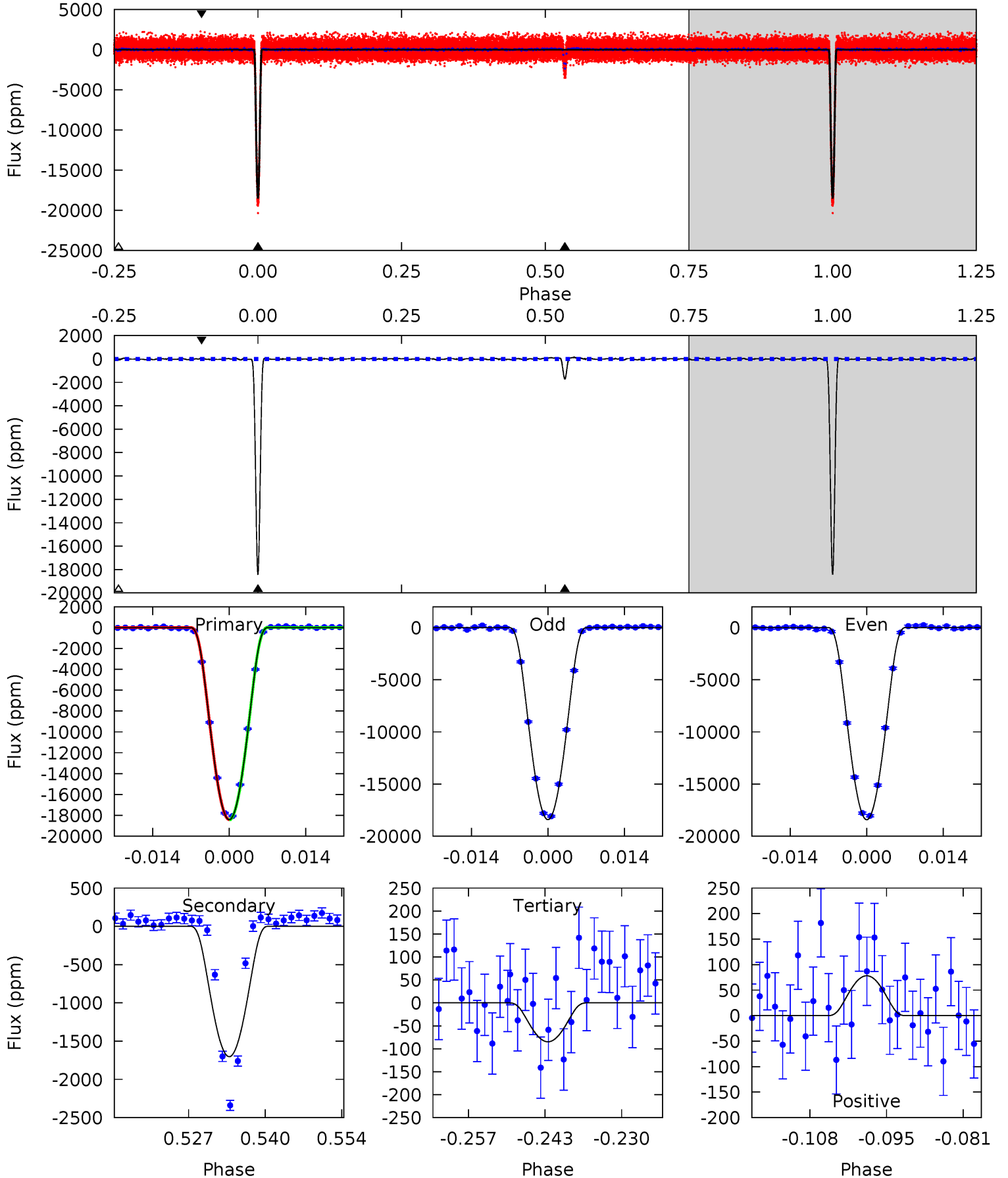
TCE 006579806-01 P= 9.880464 Days $T_0=134.087971$ (BKJD)



DV Model-Shift Uniqueness Test

006579806-01, P = 9.880479 Days, E = 124.206358 Days

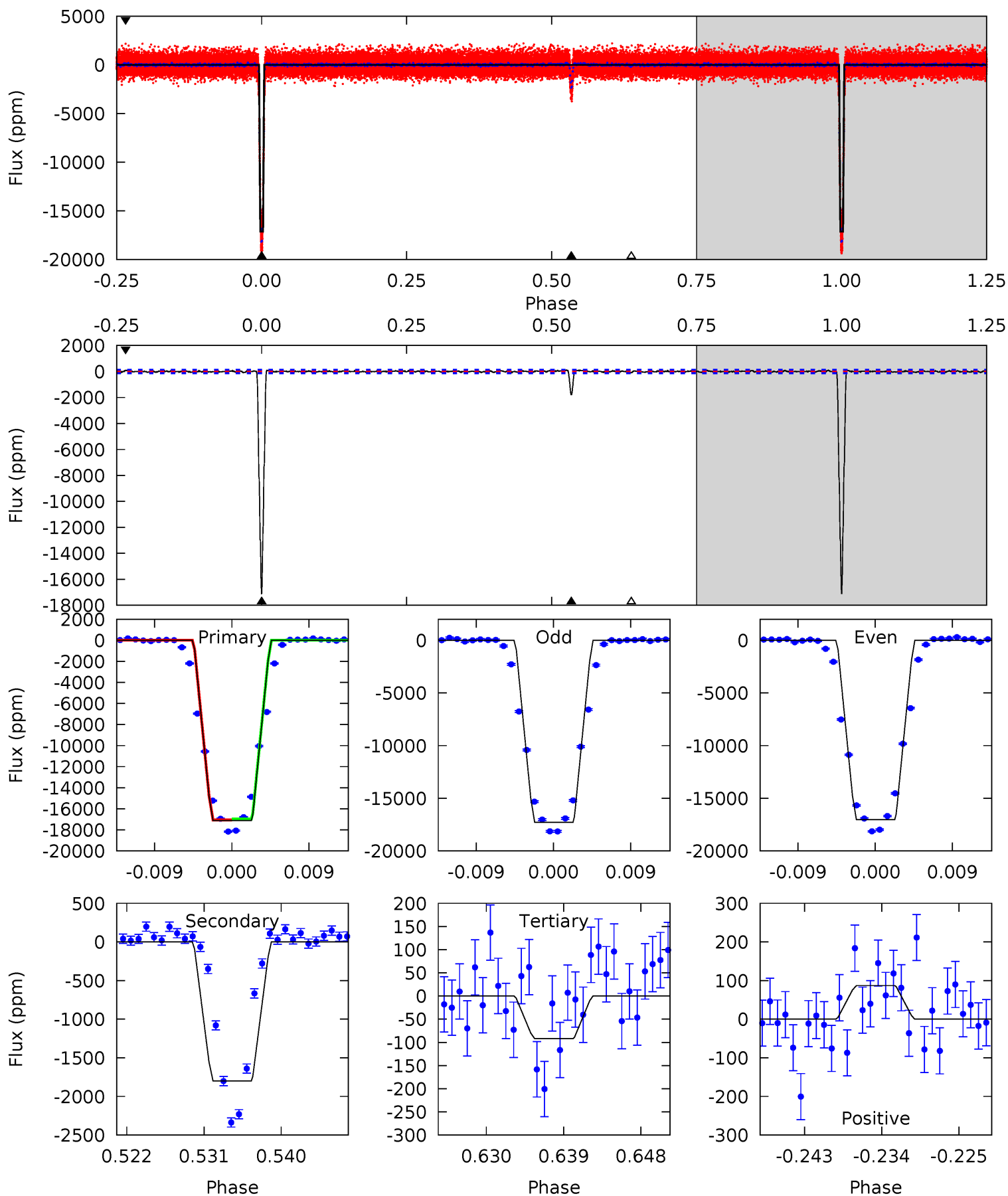
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
982.4	90.8	4.52	4.17	4.97	2.47	1.84	977.9	978.2	86.3	86.7	0.26	1.00	0.01	0.67



Alt Model-Shift Uniqueness Test

006579806-01, P = 9.880464 Days, E = 124.207507 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
673.0	70.7	3.62	3.42	5.05	2.61	1.18	669.4	669.6	67.1	67.3	4.89	1.00	0.01	1.68



Stellar Parameters For KIC 006579806

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6113^{+164}_{-200}	$4.512^{+0.052}_{-0.208}$	$-0.300^{+0.300}_{-0.300}$	$0.917^{+0.274}_{-0.091}$	$0.997^{+0.130}_{-0.130}$	$1.823^{+0.382}_{-0.975}$
	+3%/-3%	+1%/-5%	+100%/-100%	+30%/-10%	+13%/-13%	+21%/-53%
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 006579806-01 / KOI 0967.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1703 ± 19	$20.13^{+3.43}_{-2.37}$	1233^{+92}_{-59}	3359^{+89}_{-96}	18^{+5}_{-4}
Alt.	-1799 ± 25	$14.06^{+2.49}_{-1.65}$	1229^{+89}_{-59}	3796^{+166}_{-148}	40^{+11}_{-10}

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

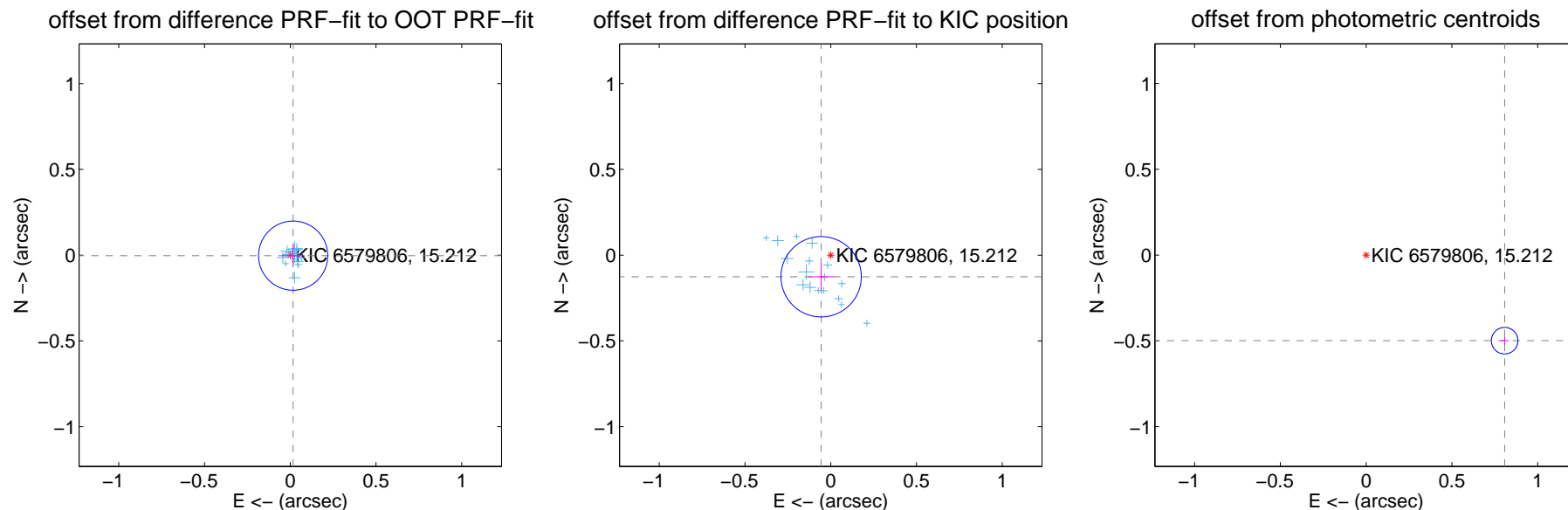
DV Centroid Data

Supplemental centroid analysis for 006579806-01. Kepler magnitude: 15.21. Transit SNR 549.63

There are 17 quarters with good PRF difference image offsets

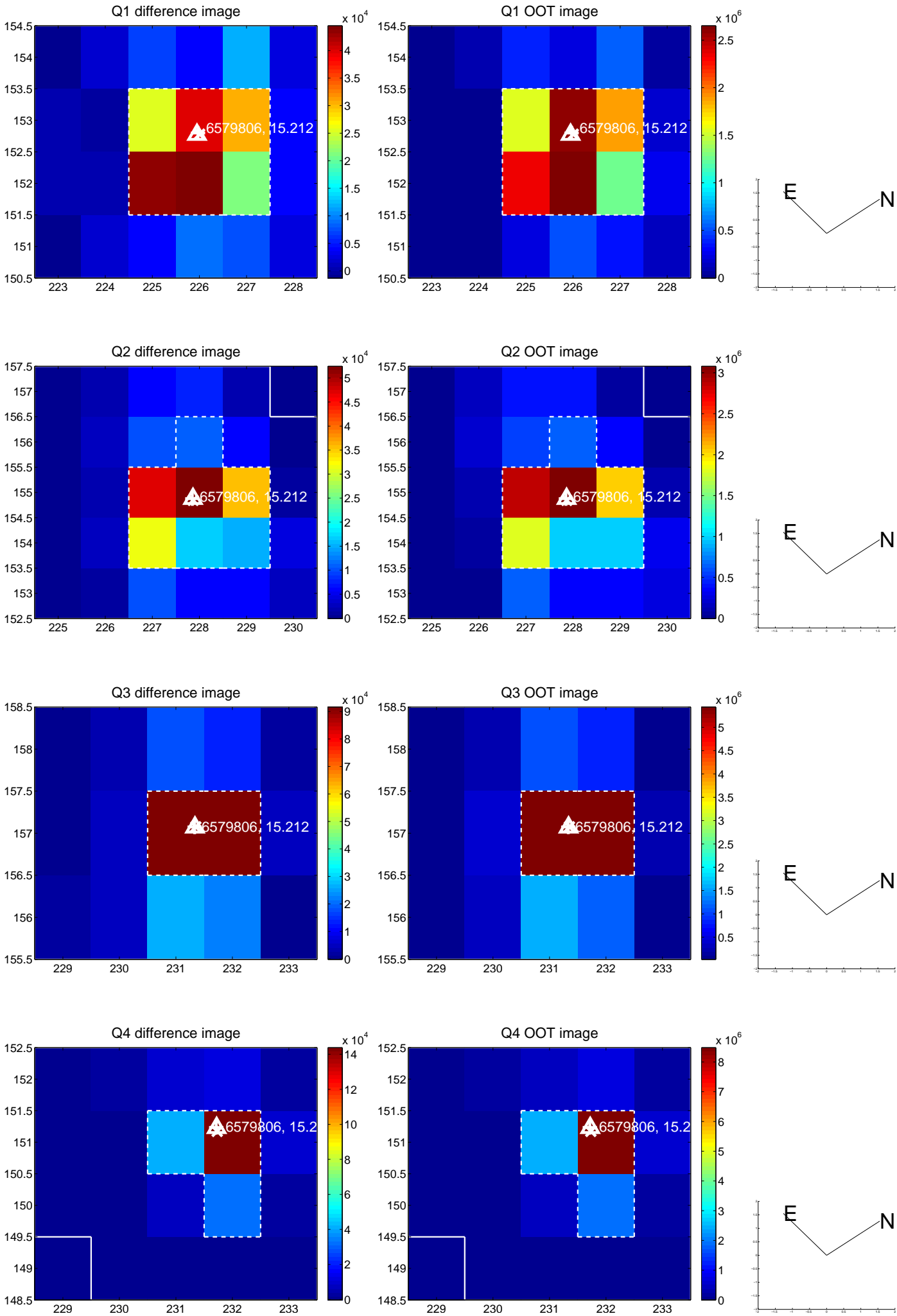
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.017 ± 0.067	0.25	-0.017 ± 0.067	-0.003 ± 0.067
PRF-fit source offset from KIC position	0.138 ± 0.078	1.76	0.056 ± 0.076	-0.126 ± 0.078
photometric centroid source offset	0.95 ± 0.03	36.80	-0.81 ± 0.03	-0.50 ± 0.03

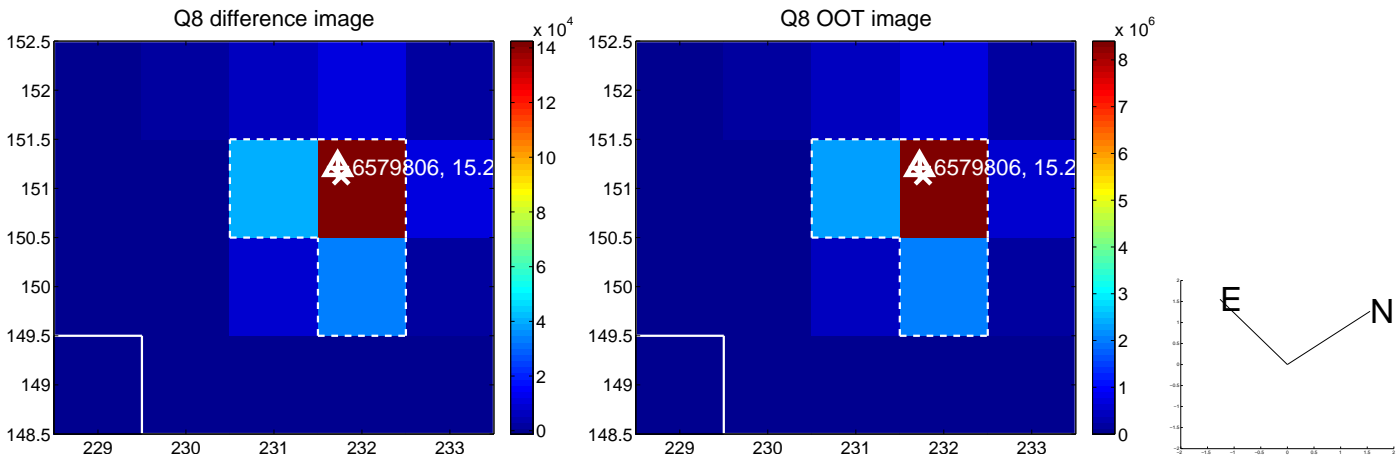
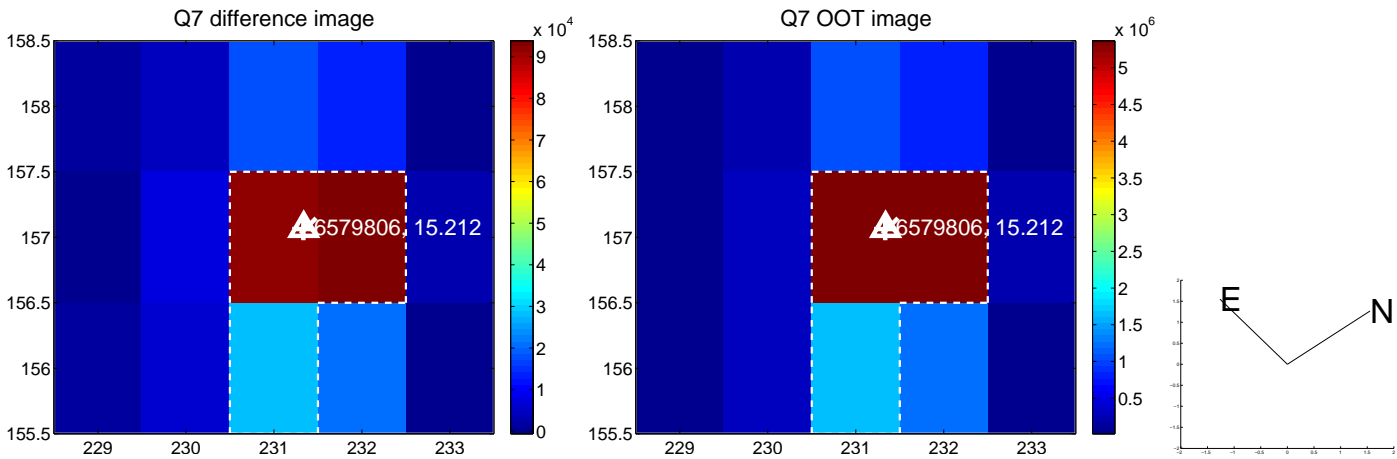
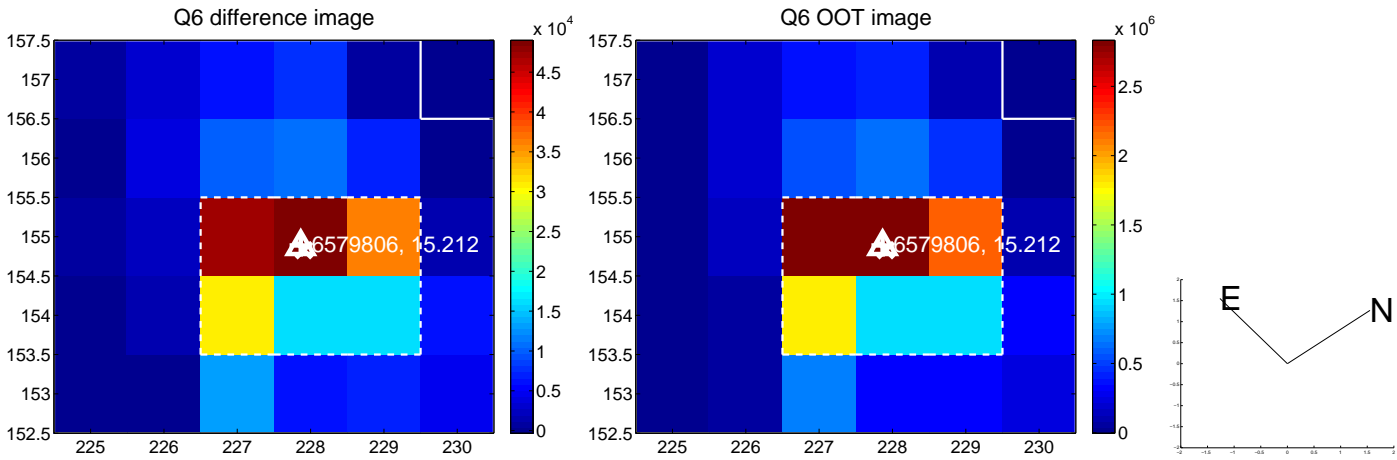
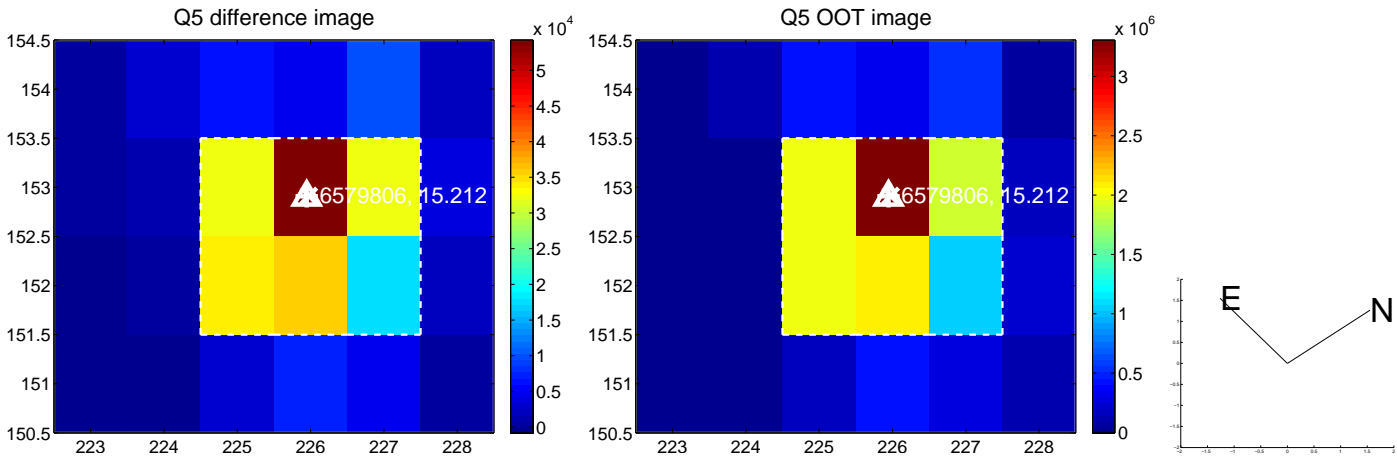


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

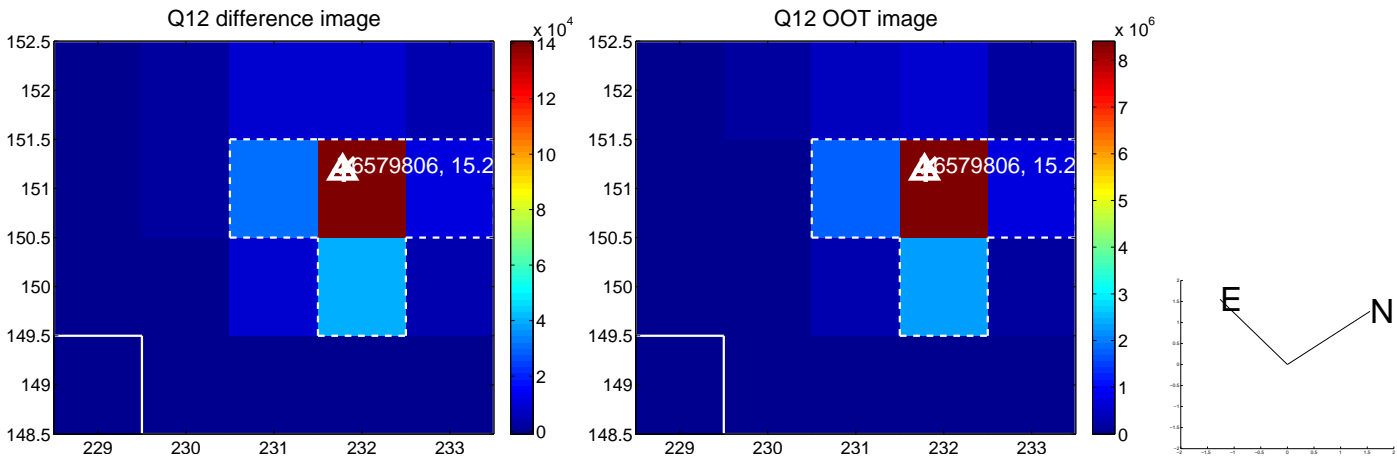
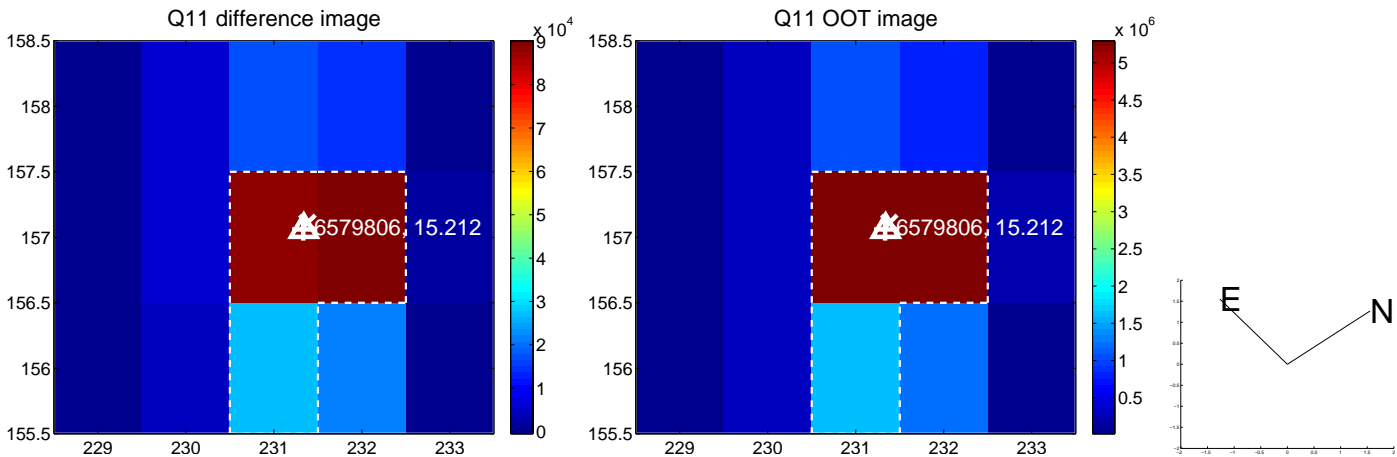
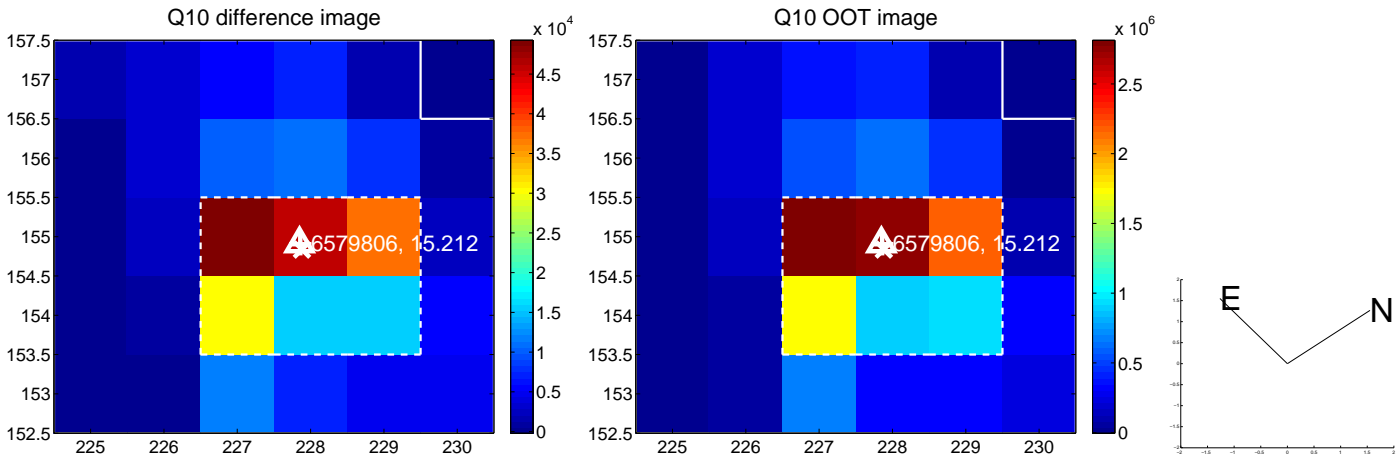
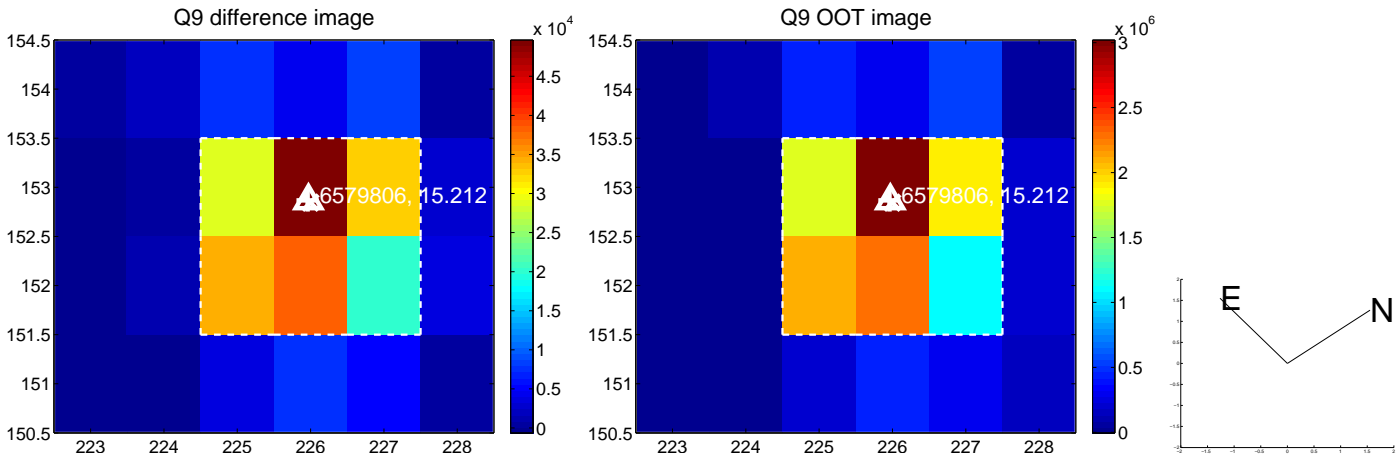
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



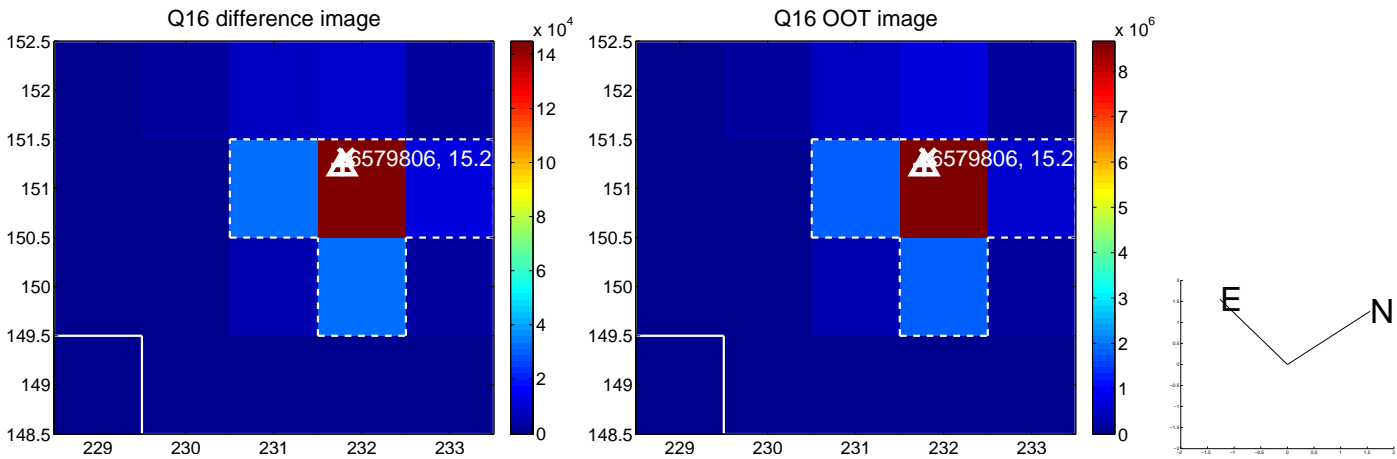
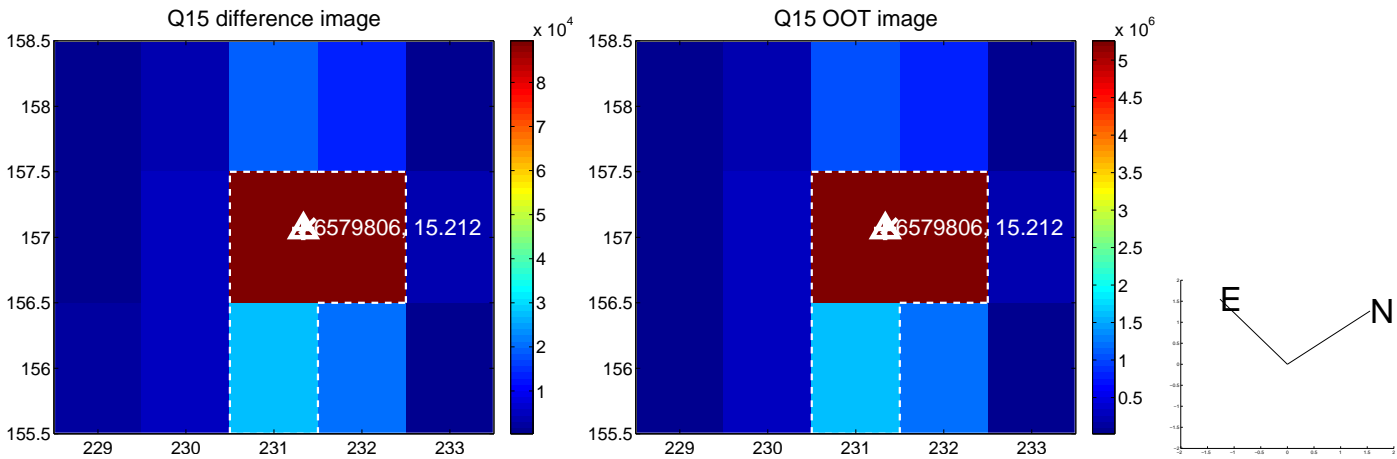
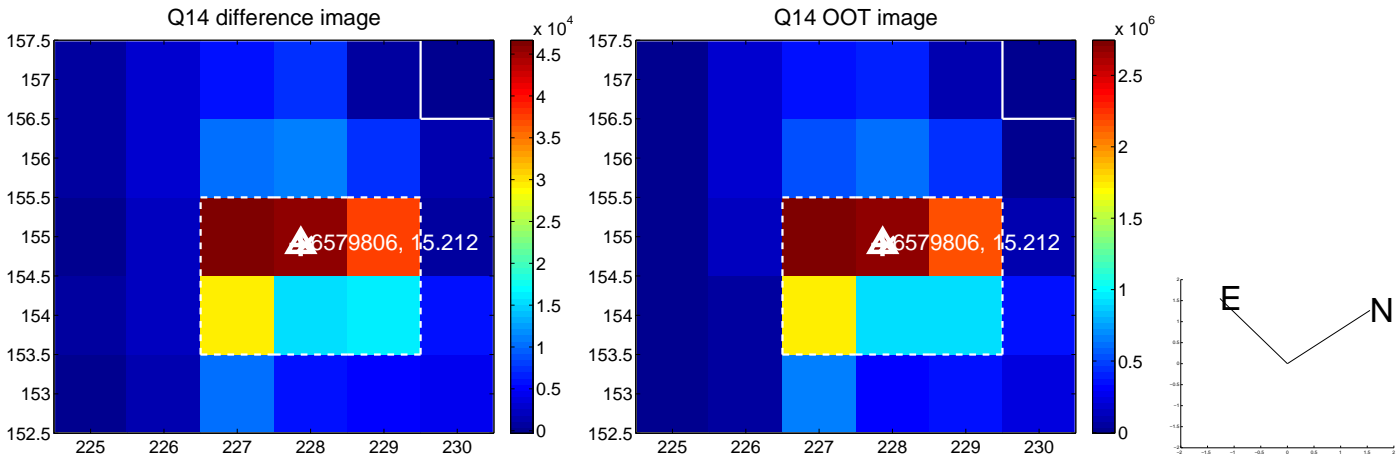
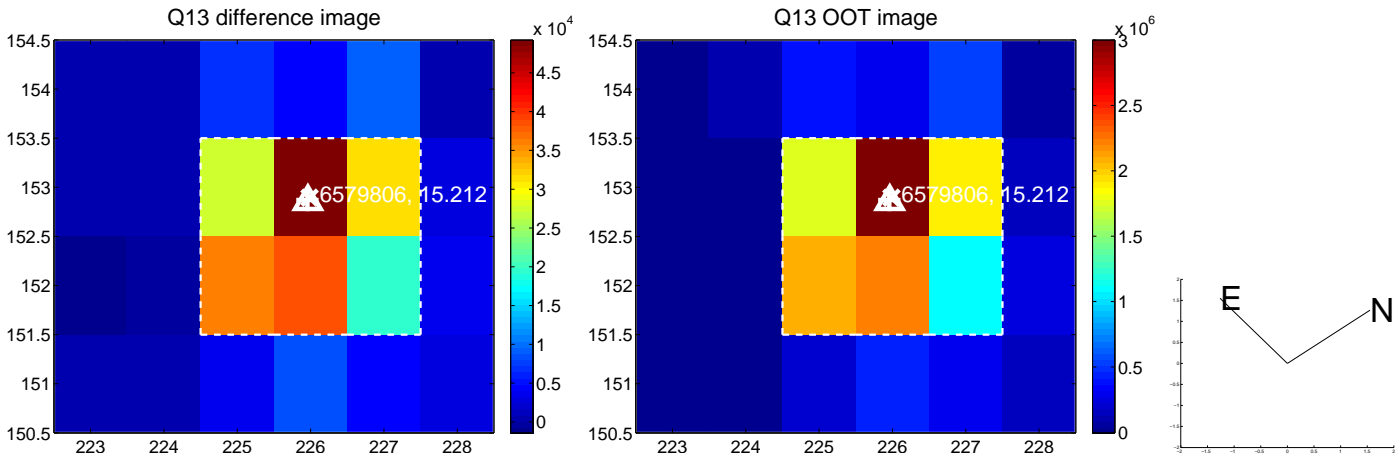
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



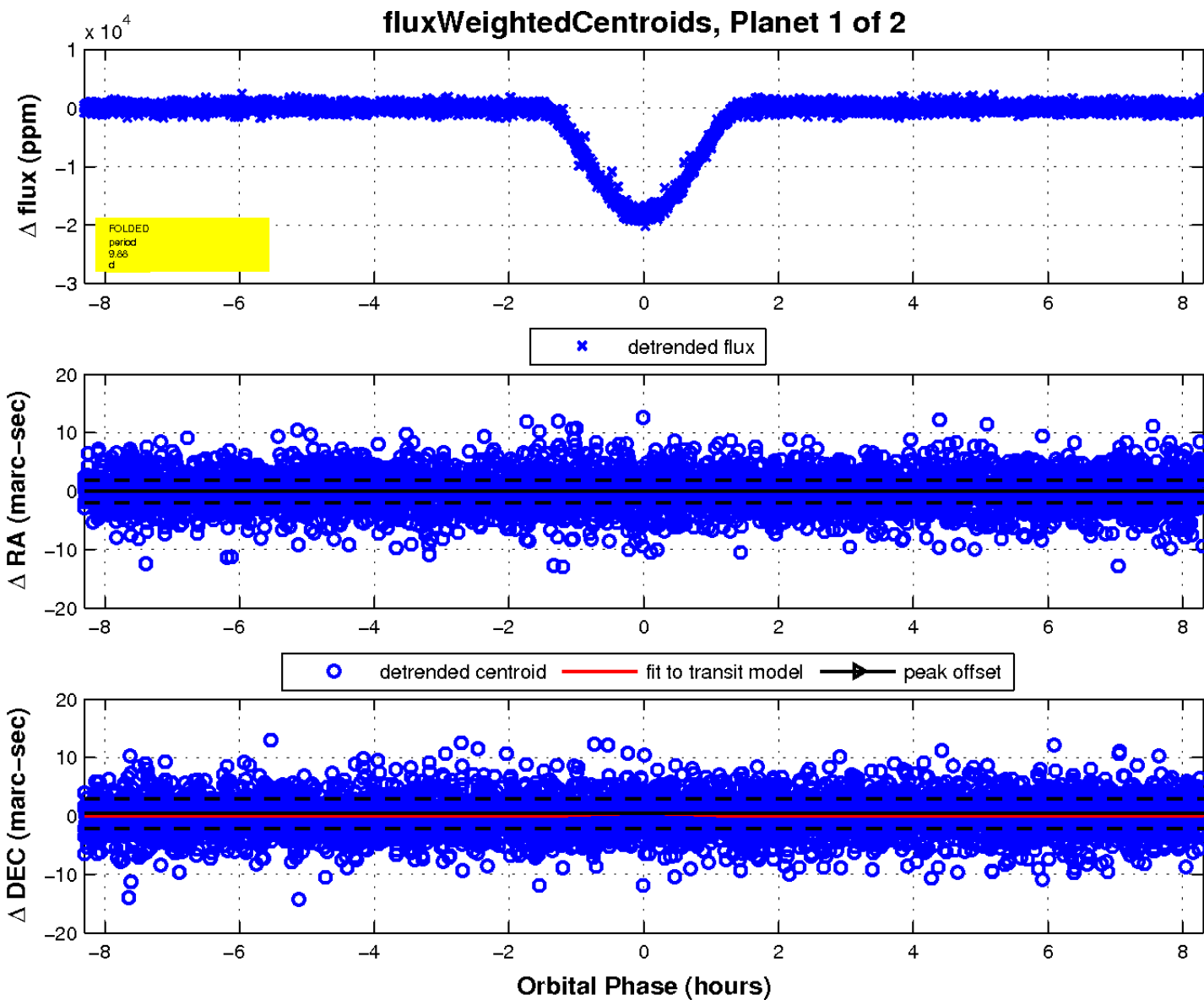
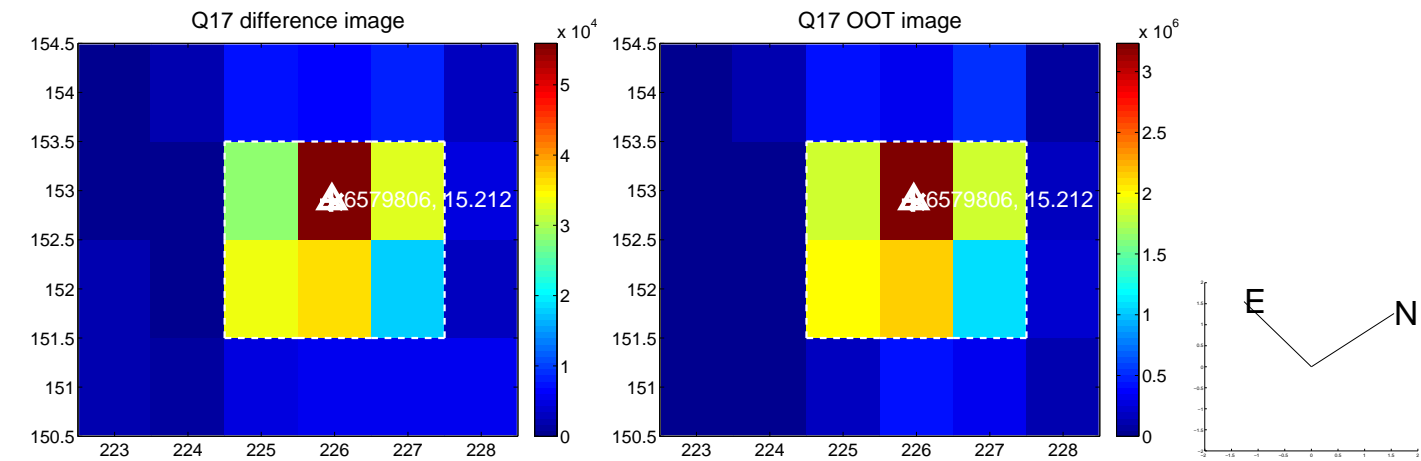
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

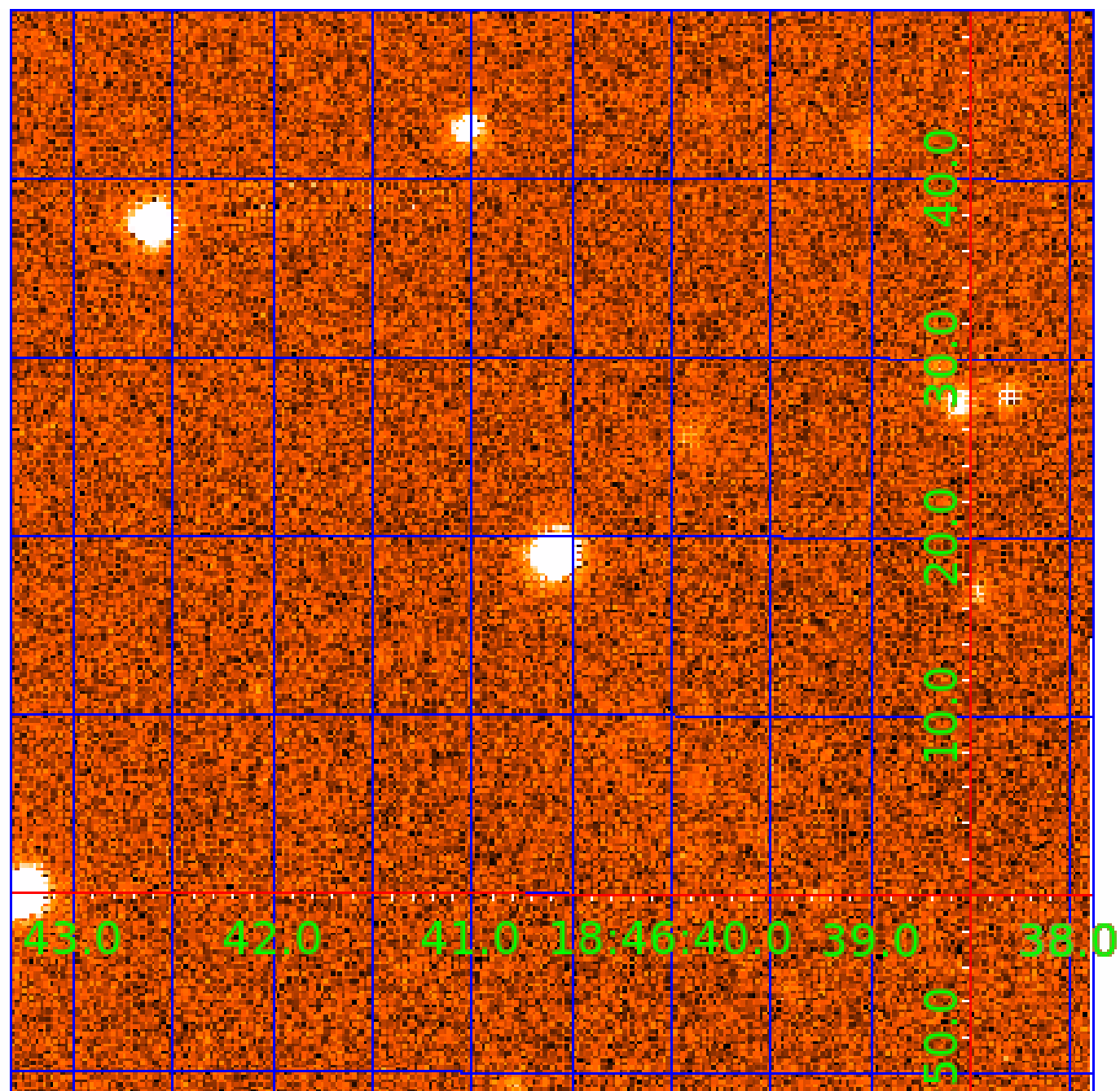


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006579806

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})
006579806-01	OBS	0967.01	9.880479	134.086837	18419.9	2.770	560.1	549.6	0.92	6113	19.28	129.75
006579806-02	OBS	No	9.880480	139.364153	2449.1	1.614	54.8	60.3	0.92	6113	7.00	129.75

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006579806-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
006579806-02	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.

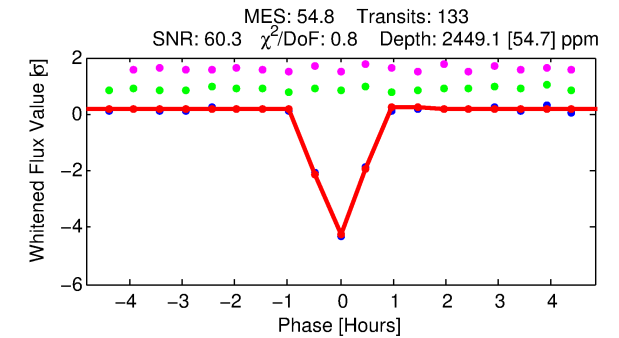
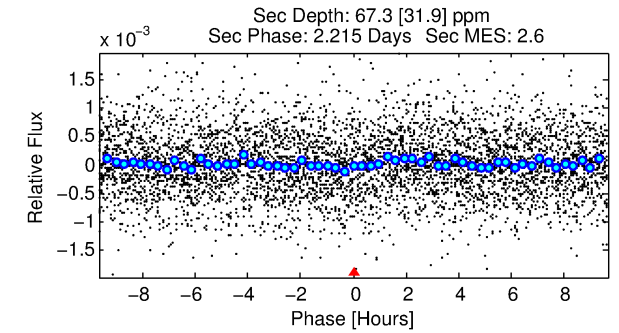
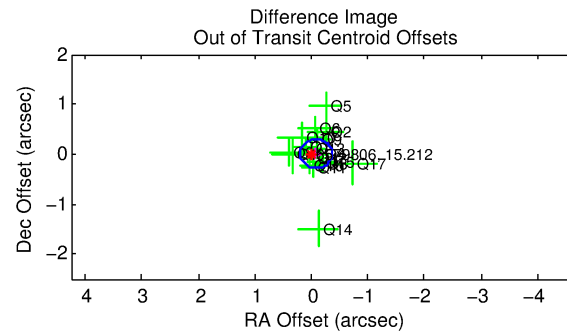
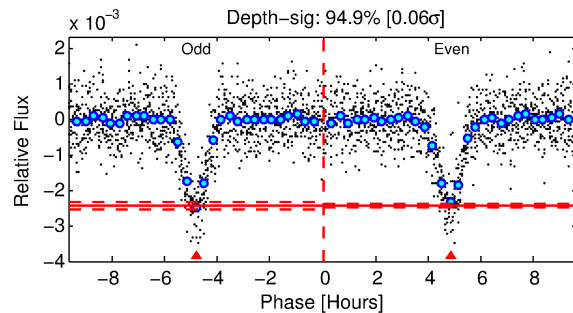
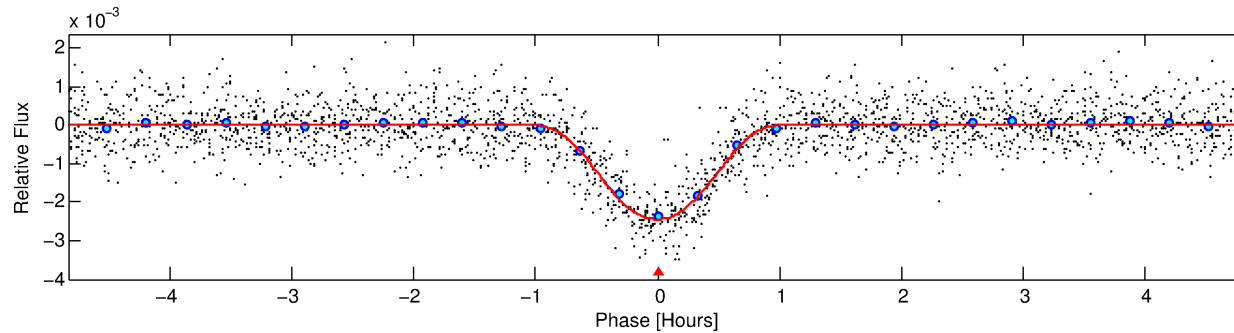
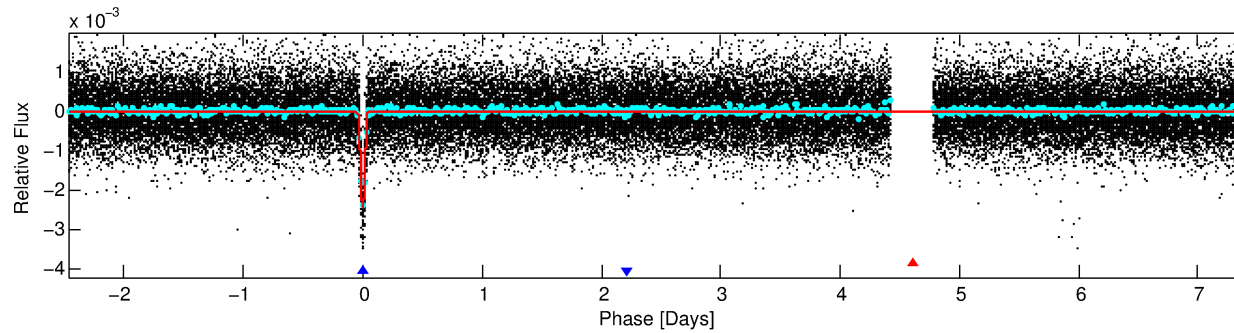
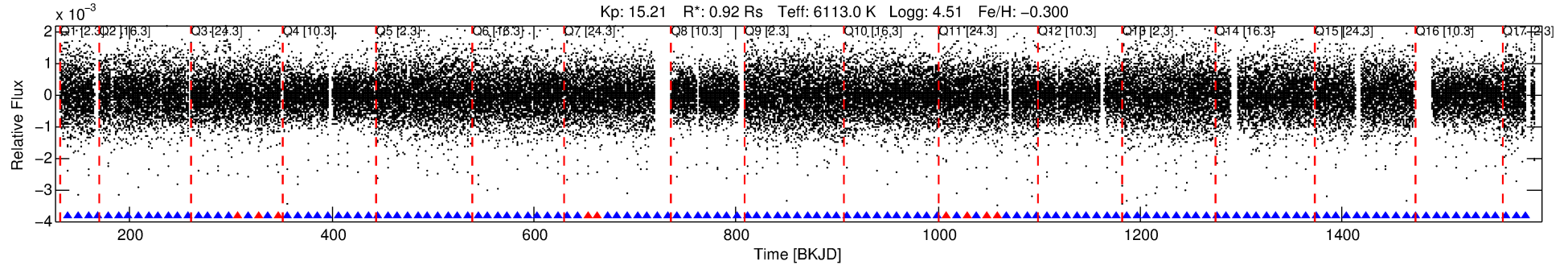
Ephemeris Match Information For 006579806-02

No Significant Match Found

DV One-Page Summary

KIC: 6579806 Candidate: 2 of 2 Period: 9.880 d
KOI: K00967 Corr: No Ephemeris Match

Kp: 15.21 R*: 0.92 Rs Teff: 6113.0 K Logg: 4.51 Fe/H: -0.300



DV Fit Results:

Period = 9.88048 [0.00001] d
Epoch = 139.3642 [0.0006] BKJD
Rp/R* = 0.0699 [0.0377]
a/R* = 20.70 [3.73]
b = 0.97 [0.07]
Seff = 129.75 [51.70]
Teq = 861 [86] K
Rp = 7.00 [4.31] Re
a = 0.0900 [0.0230] AU
Ag = 6.13 [7.58] [0.68σ]
Teffp = 2094 [620] K [1.97σ]

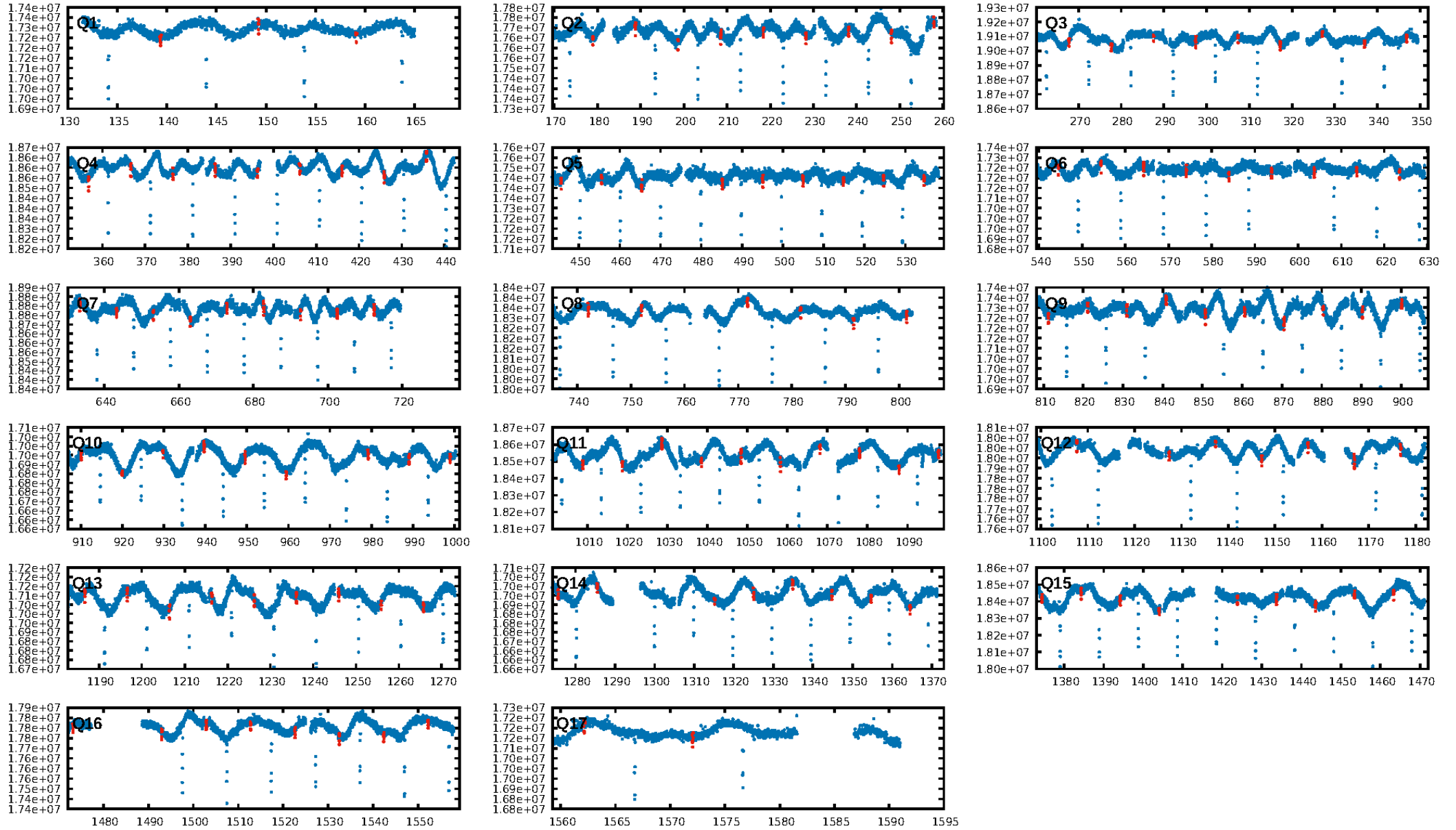
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.93 [119/128]
GhostDiagnostic-chr: 5.033
Centroid-sig: 0.9%
Centroid-so: 0.696 arcsec [2.79σ]
OotOffset-rm: 0.078 arcsec [0.82σ]
KicOffset-rm: 0.089 arcsec [0.62σ]
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]

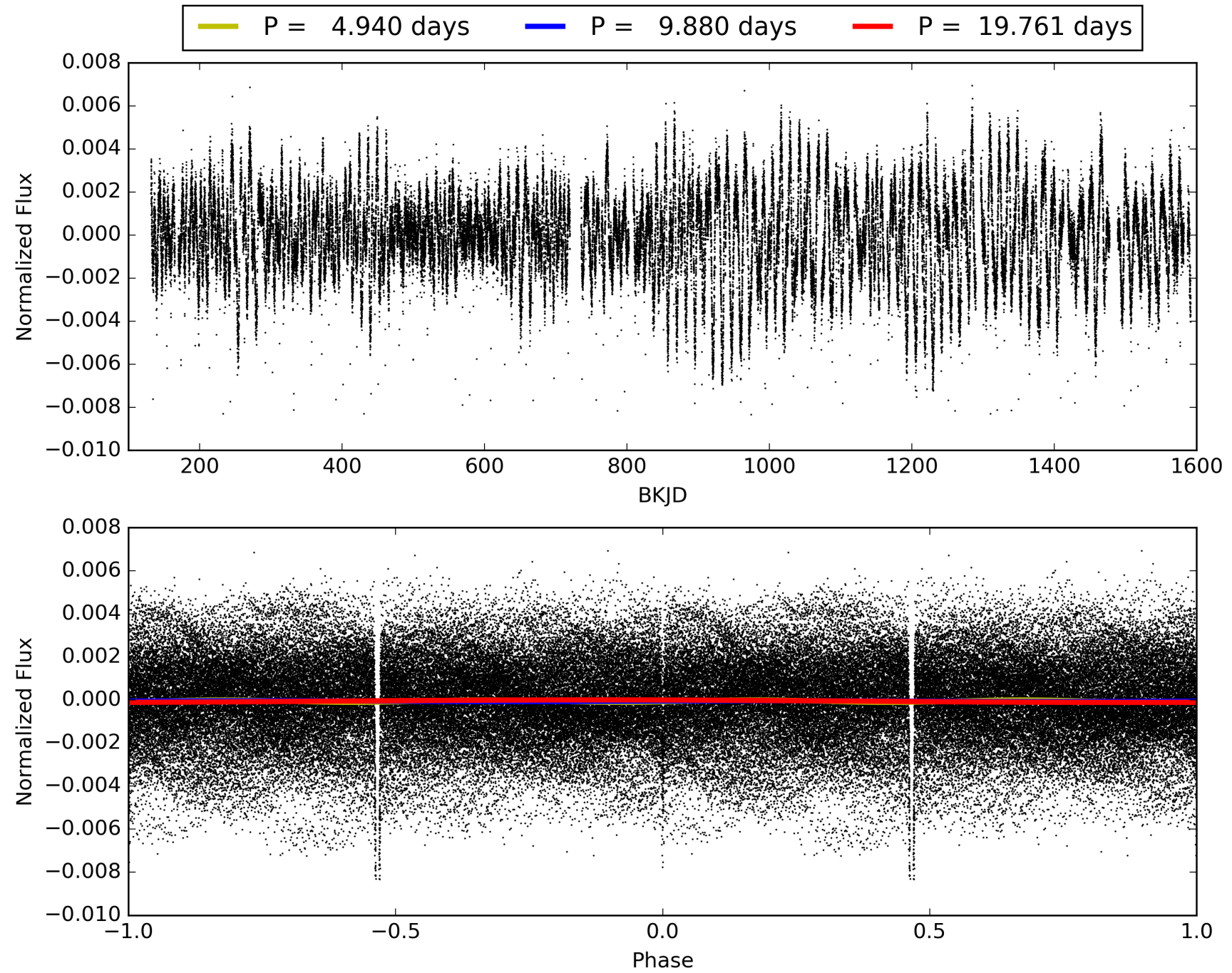
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006579806-02, PDC Light Curves

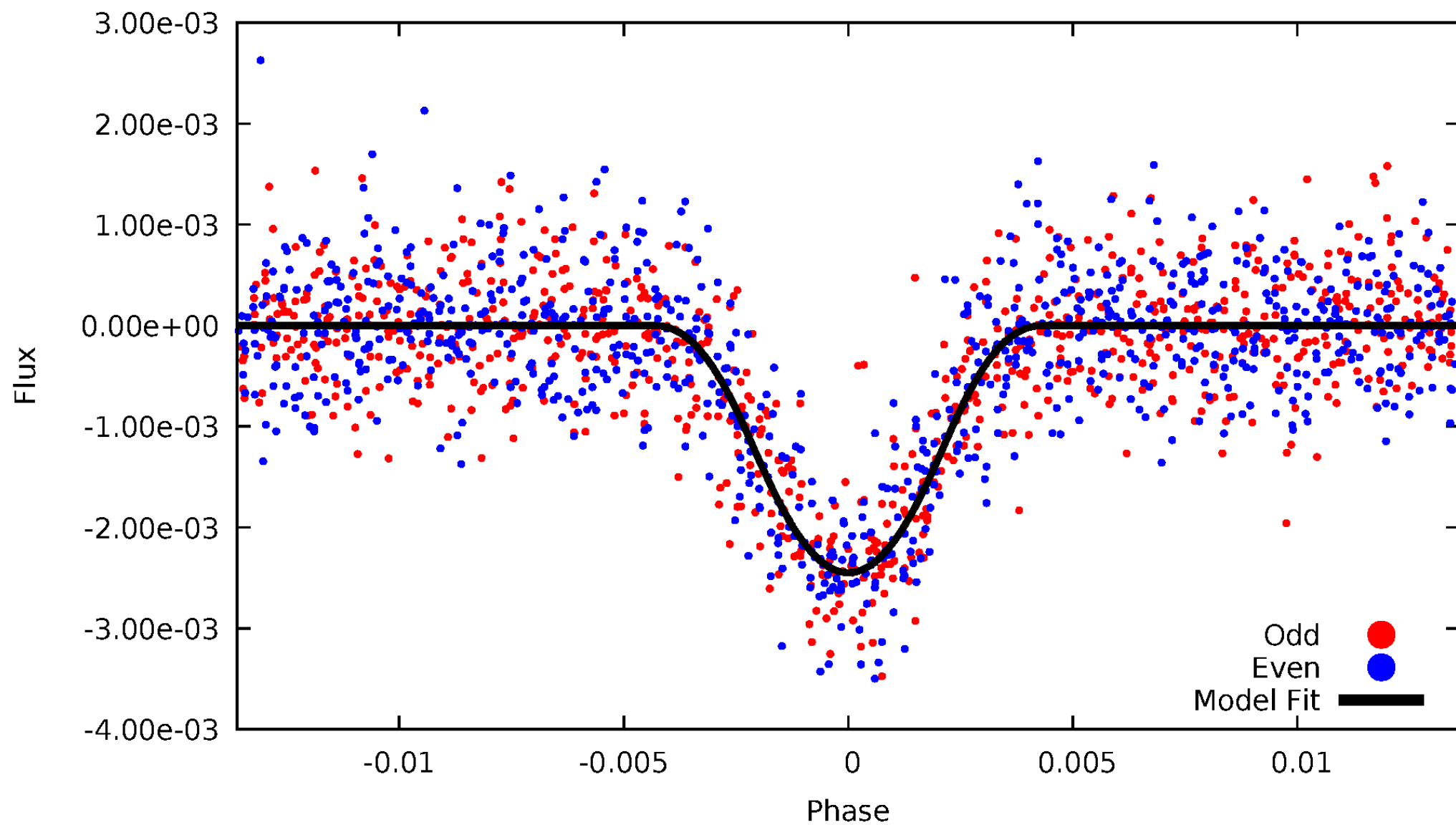


TCE 006579806-02



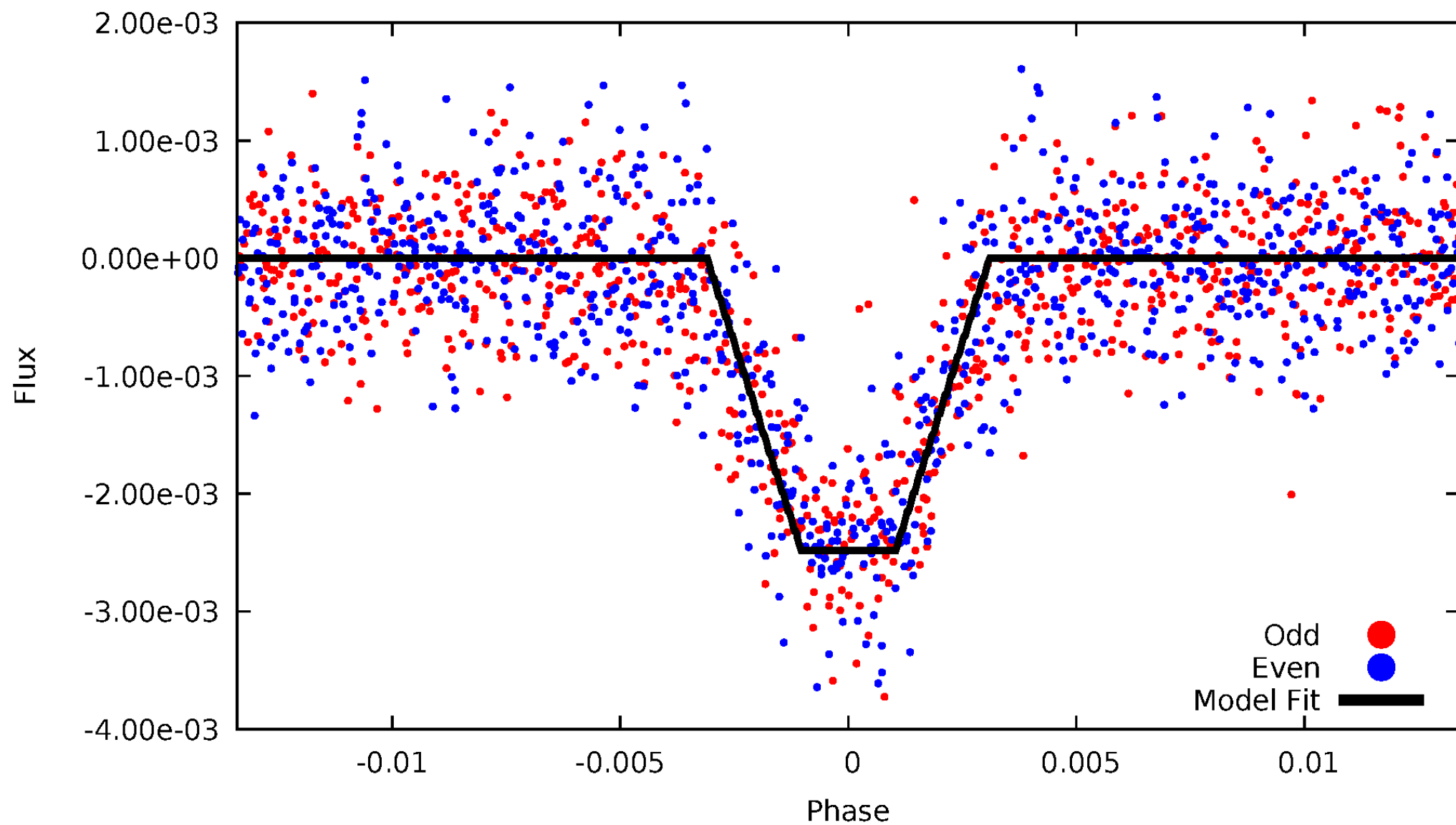
DV Odd/Even

TCE 006579806-02



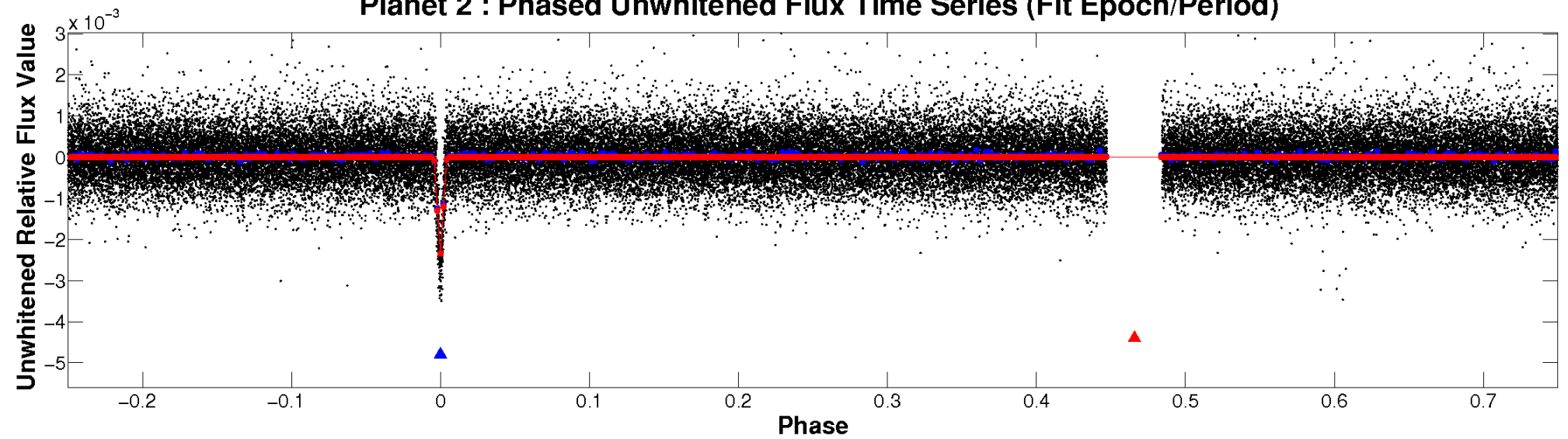
ALT Odd/Even

TCE 006579806-02

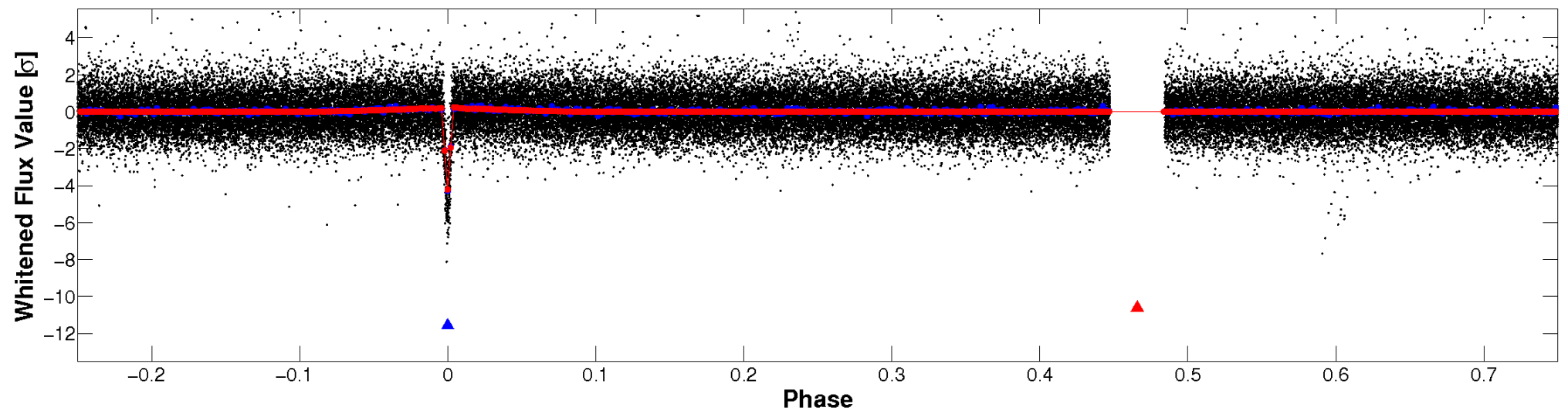


Non-Whitened Vs. Whitened Light Curve

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

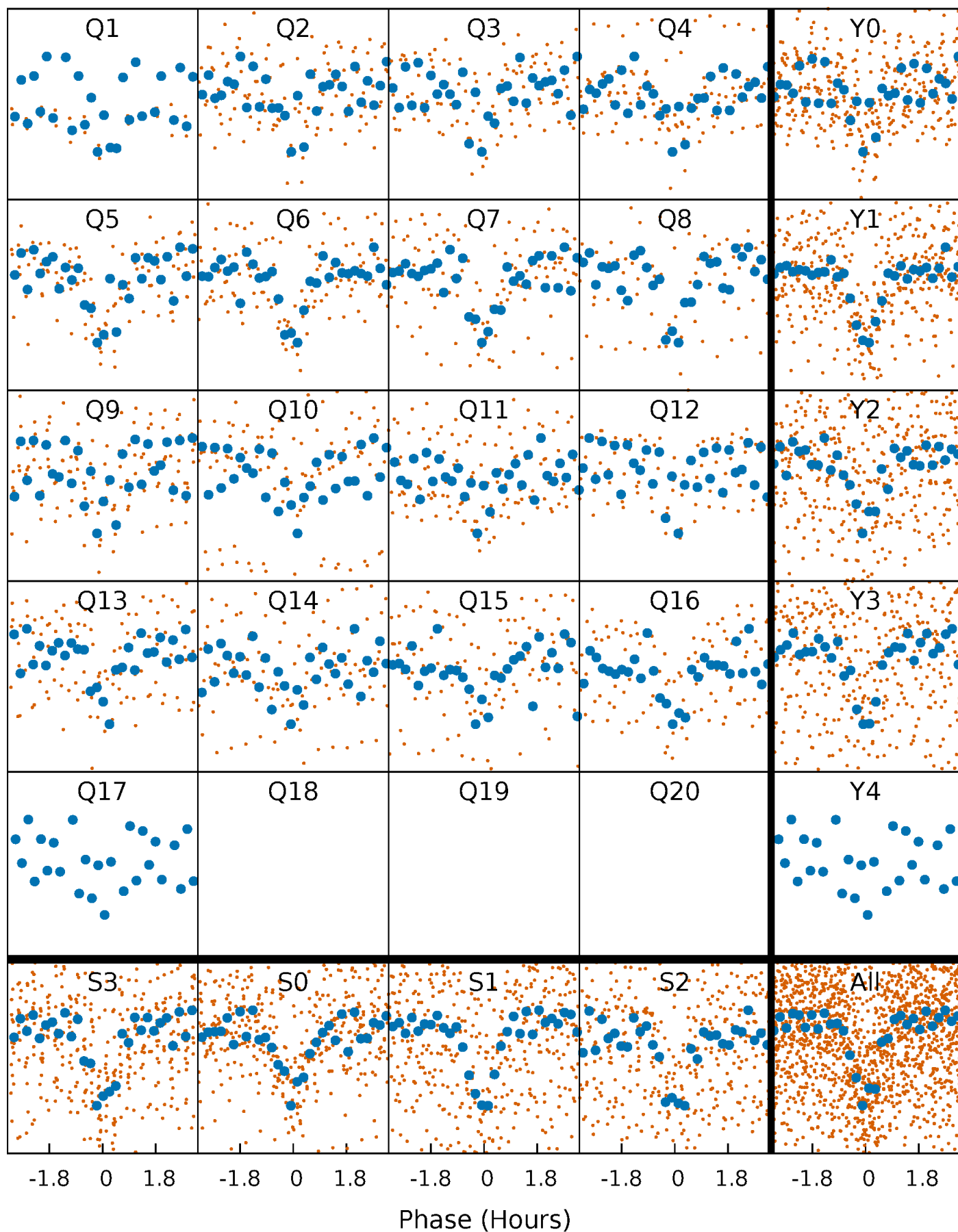


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



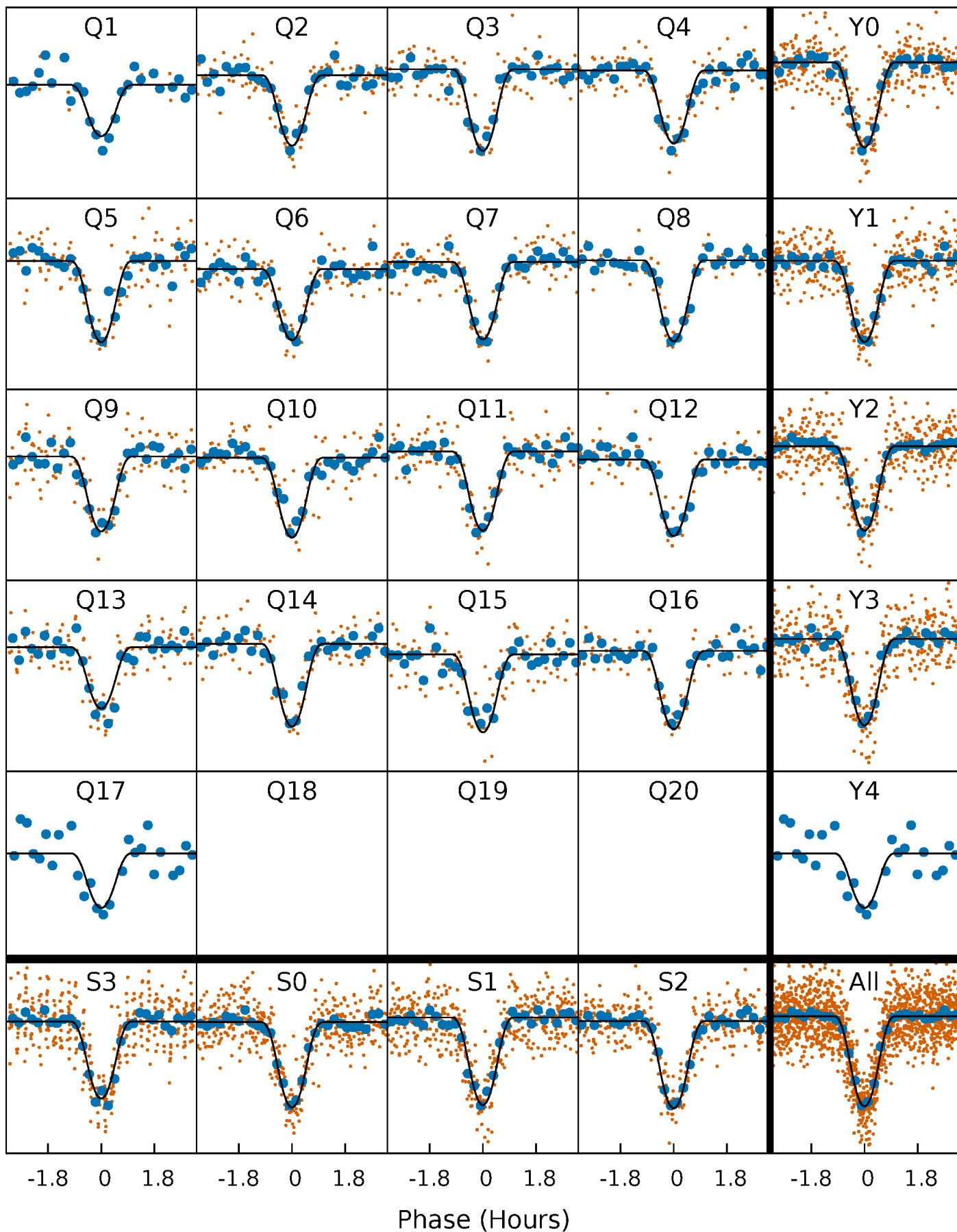
PDC Quarter-Phased Transit Curves

TCE 006579806-02 P= 9.880480 Days $T_0=139.364153$ (BKJD)



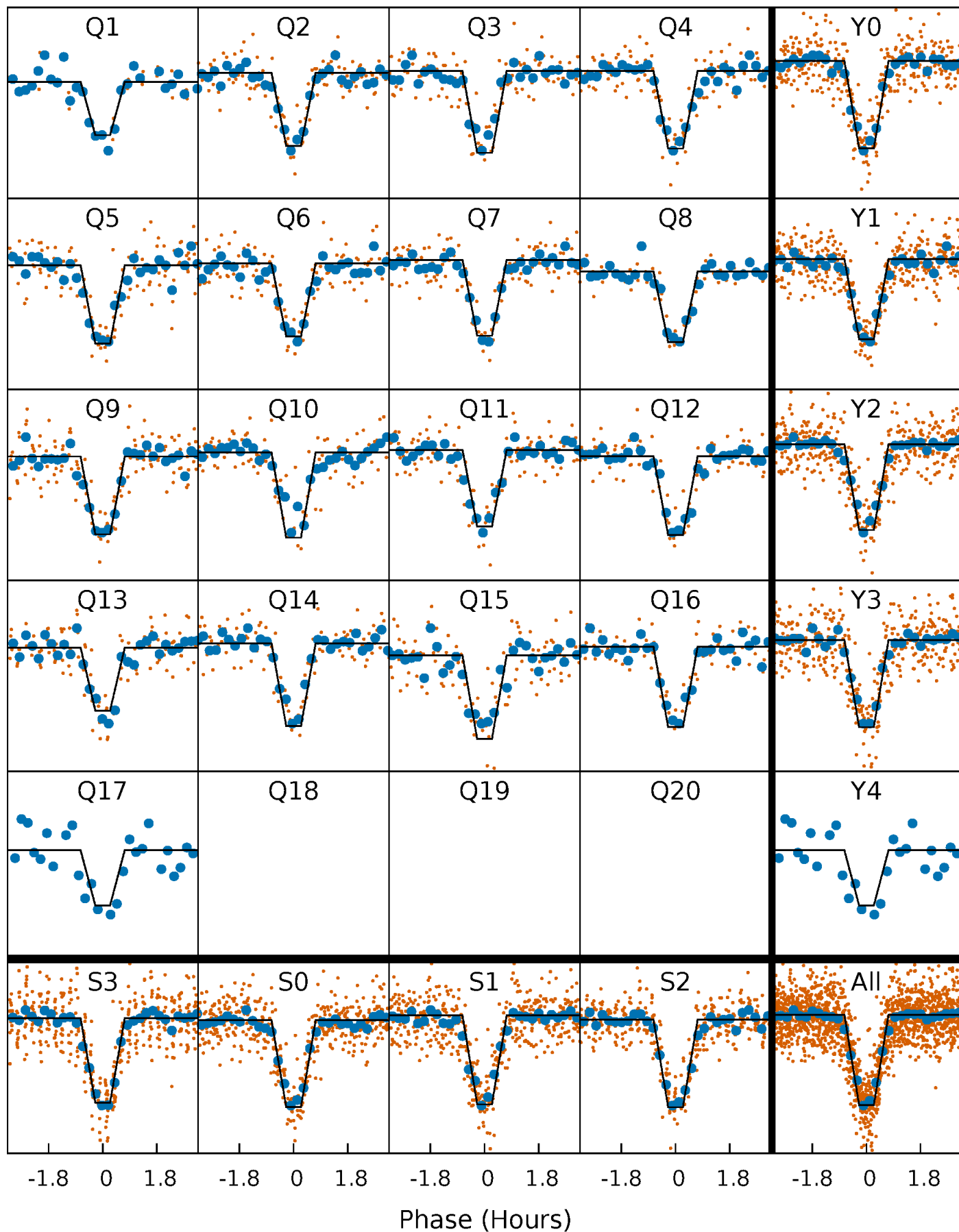
DV Quarter-Phased Transit Curves

TCE 006579806-02 $P = 9.880480$ Days $T_0 = 139.364153$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

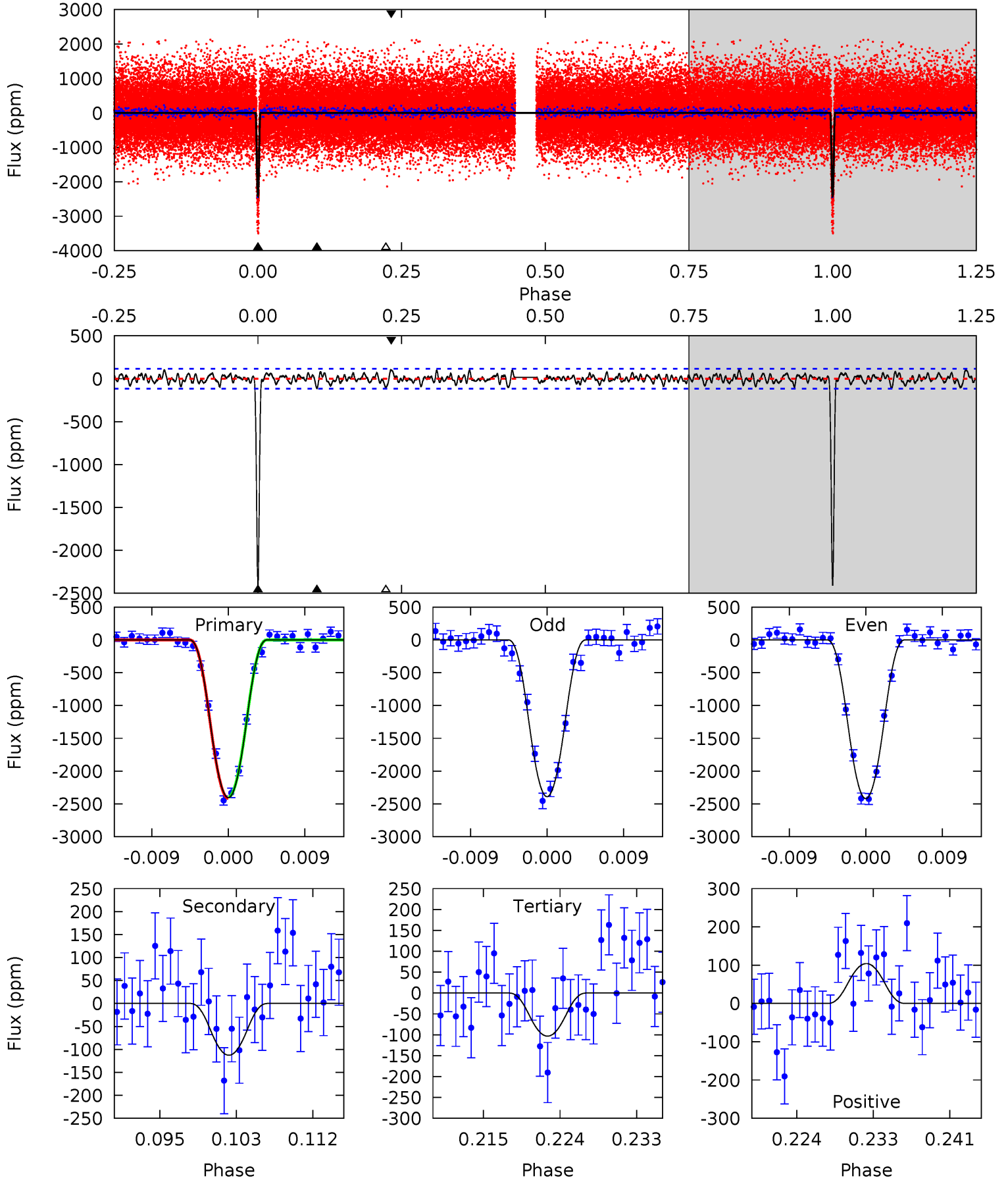
TCE 006579806-02 P= 9.880464 Days $T_0=139.365167$ (BKJD)



DV Model-Shift Uniqueness Test

006579806-02, P = 9.880480 Days, E = 129.483673 Days

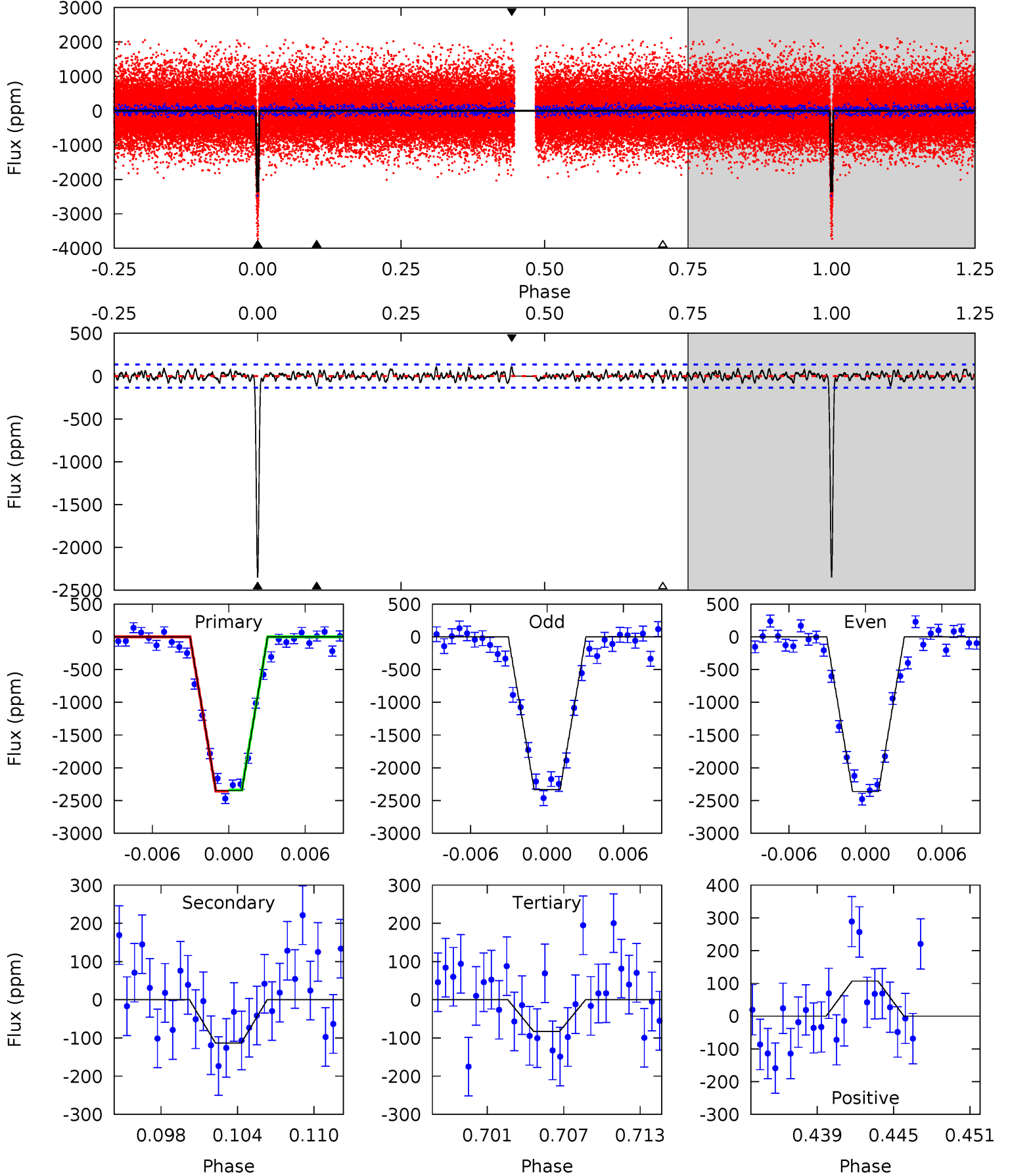
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
103.9	4.87	4.46	4.50	5.05	2.63	1.56	99.5	99.4	0.41	0.37	0.67	0.99	0.04	0.46



Alt Model-Shift Uniqueness Test

006579806-02, P = 9.880464 Days, E = 129.484703 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
88.9	4.28	3.14	4.05	5.12	2.74	1.22	85.8	84.8	1.15	0.23	0.57	0.99	0.04	0.32



Stellar Parameters For KIC 006579806

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6113^{+164}_{-200}	$4.512^{+0.052}_{-0.208}$	$-0.300^{+0.300}_{-0.300}$	$0.917^{+0.274}_{-0.091}$	$0.997^{+0.130}_{-0.130}$	$1.823^{+0.382}_{-0.975}$
	+3%/-3%	+1%/-5%	+100%/-100%	+30%/-10%	+13%/-13%	+21%/-53%
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 006579806-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-113 ± 23	$7.55^{+4.12}_{-3.80}$	1227^{+84}_{-61}	2988^{+739}_{-364}	$8.711^{+27.584}_{-5.213}$
Alt.	-113 ± 26	$5.62^{+4.08}_{-3.27}$	1230^{+87}_{-59}	3265^{+1047}_{-475}	15^{+73}_{-10}

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

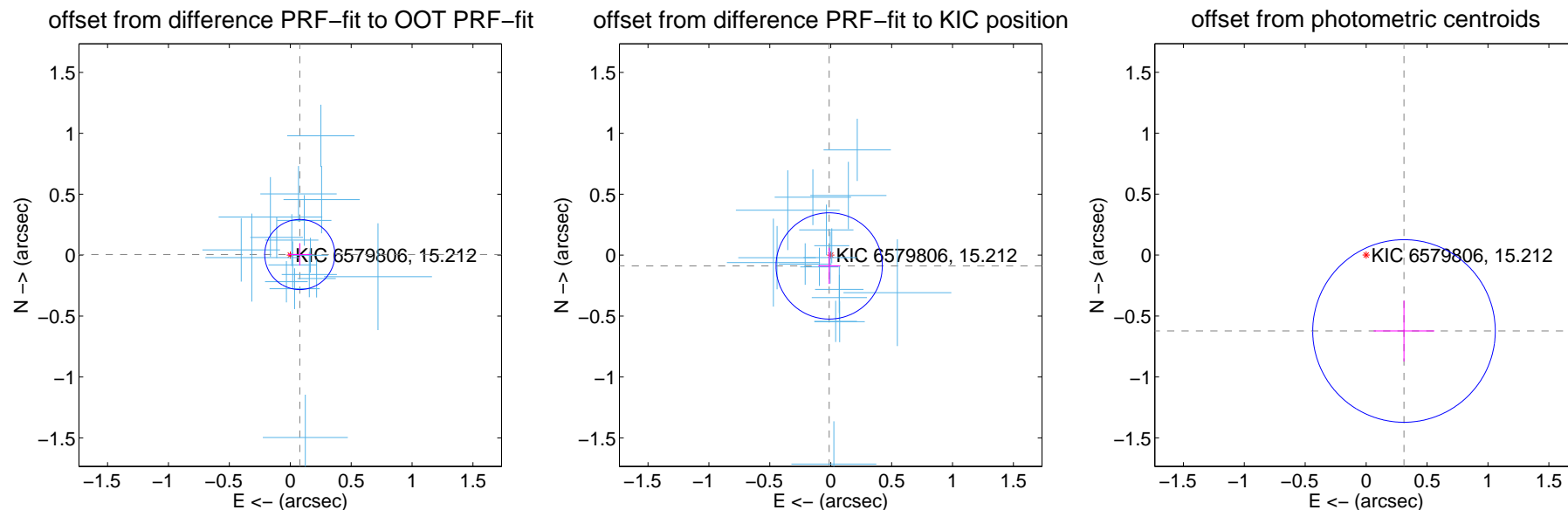
DV Centroid Data

Supplemental centroid analysis for 006579806-02. Kepler magnitude: 15.21. Transit SNR 60.32

There are 17 quarters with good PRF difference image offsets

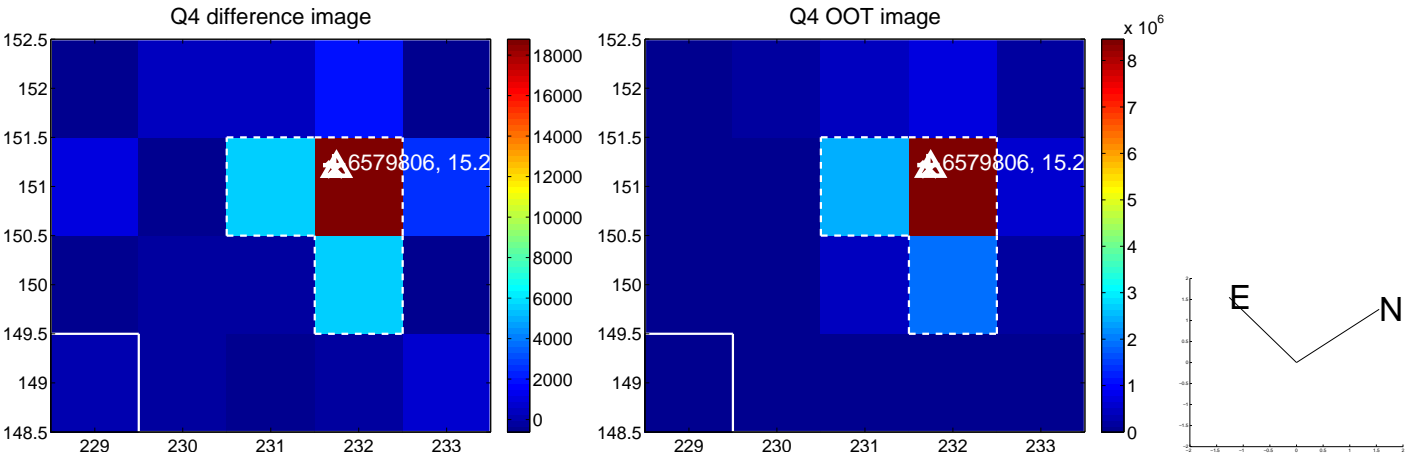
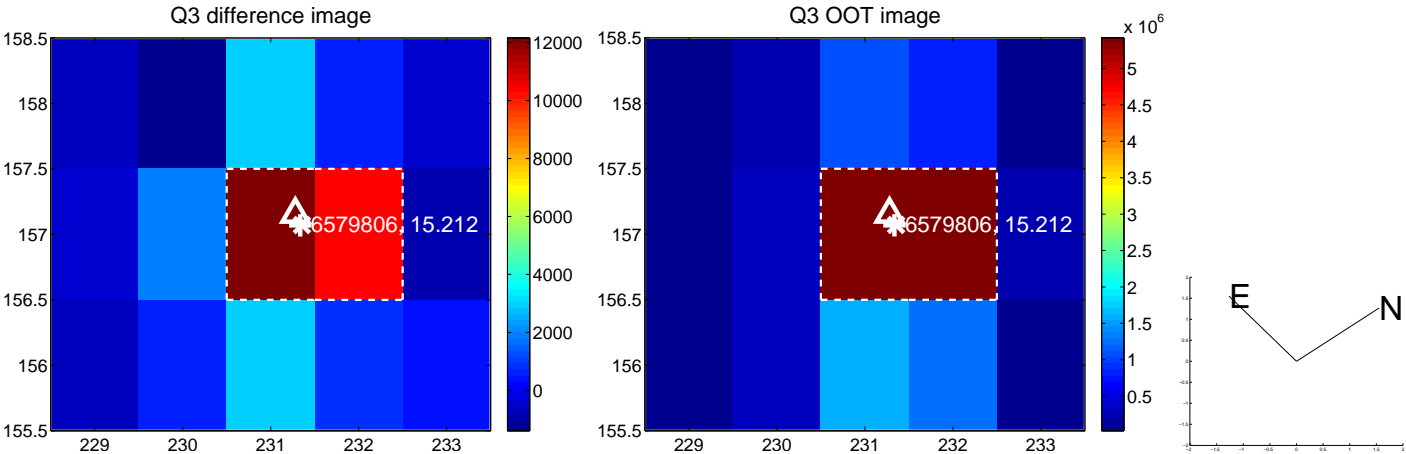
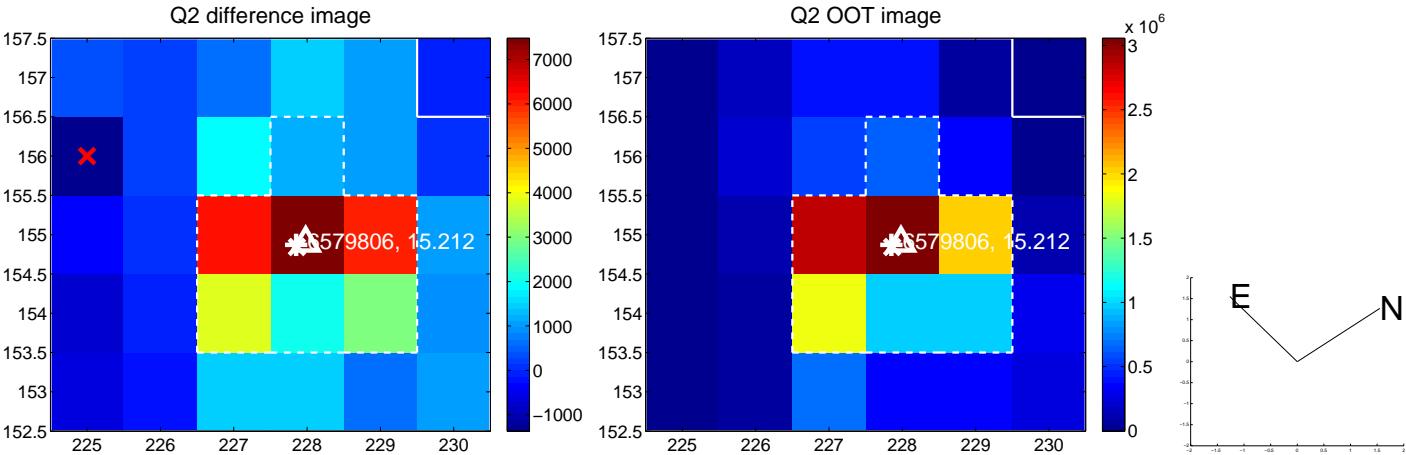
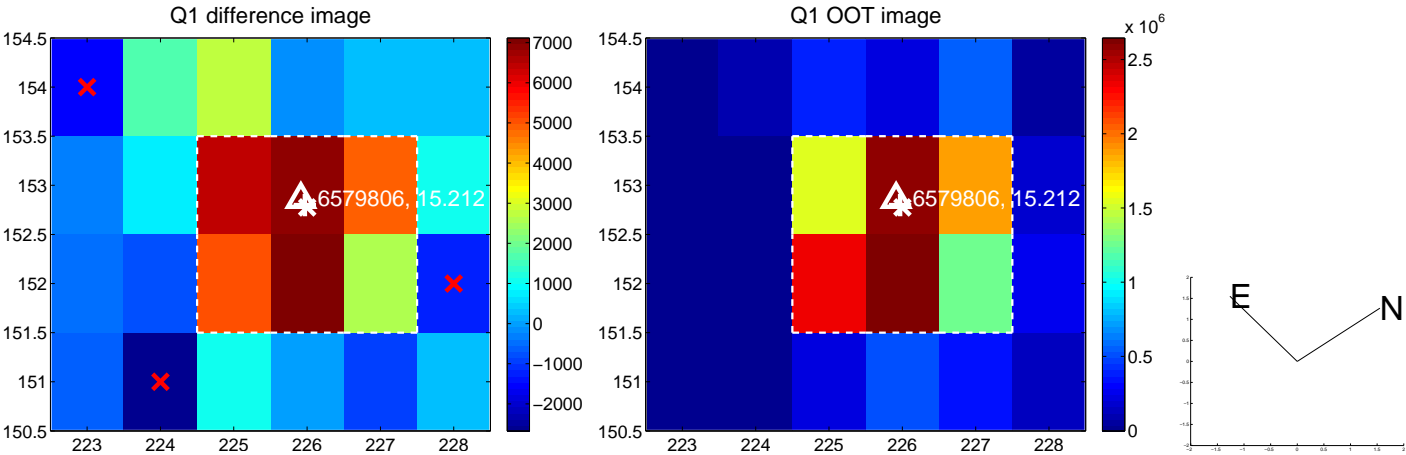
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.078 ± 0.096	0.82	-0.078 ± 0.096	0.005 ± 0.091
PRF-fit source offset from KIC position	0.089 ± 0.145	0.62	0.013 ± 0.088	-0.088 ± 0.148
photometric centroid source offset	0.70 ± 0.25	2.79	-0.31 ± 0.25	-0.62 ± 0.25

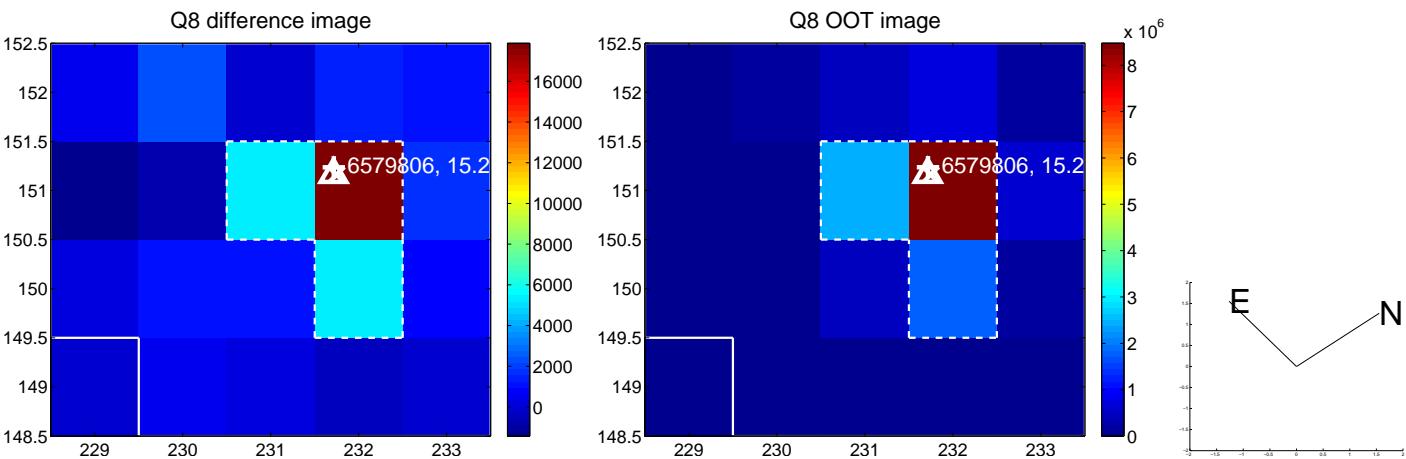
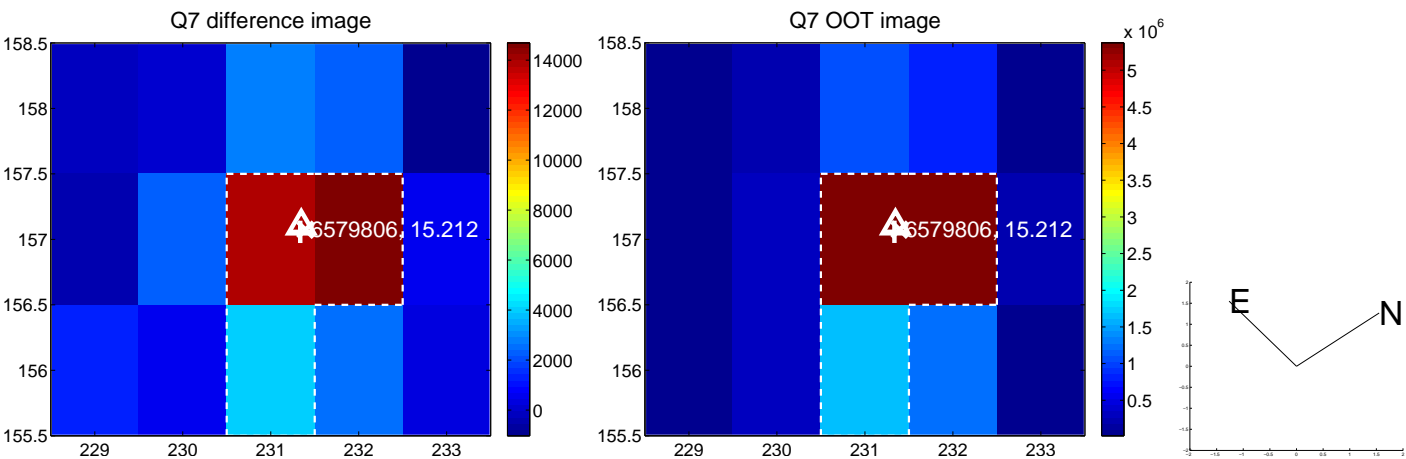
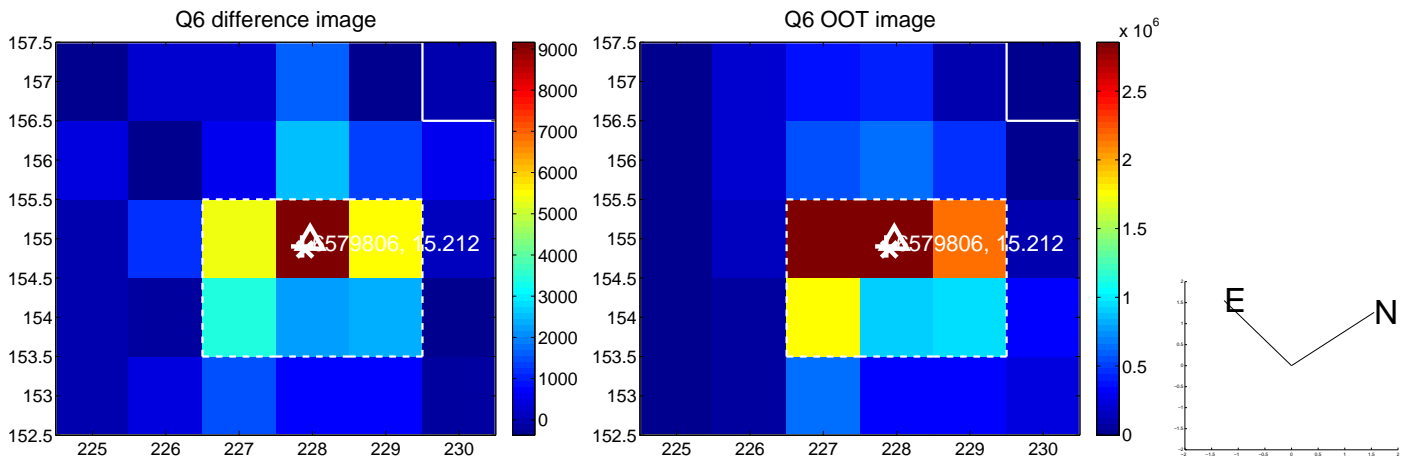
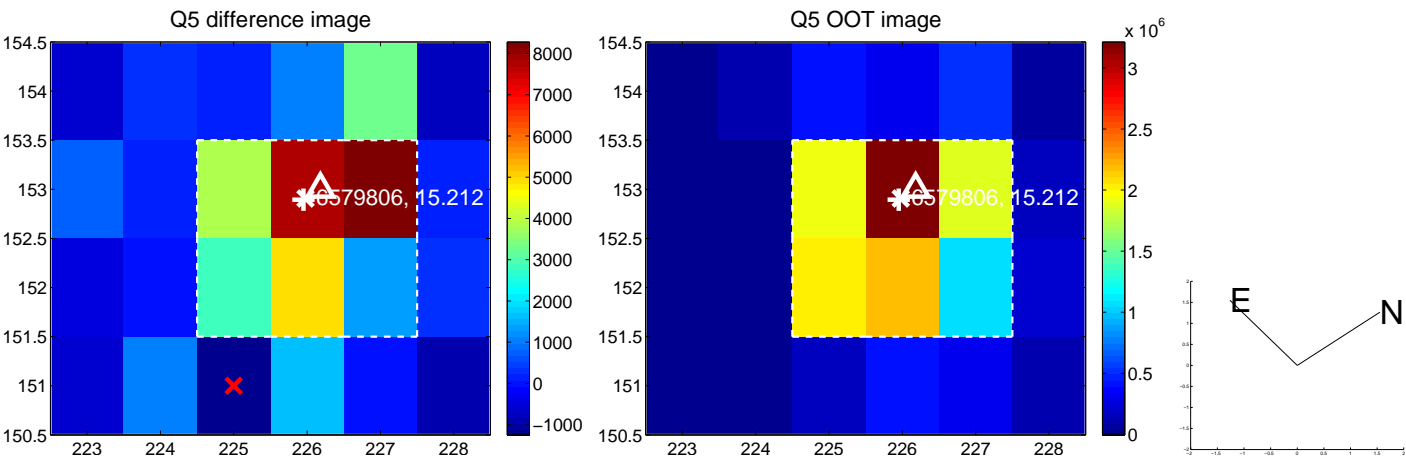


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

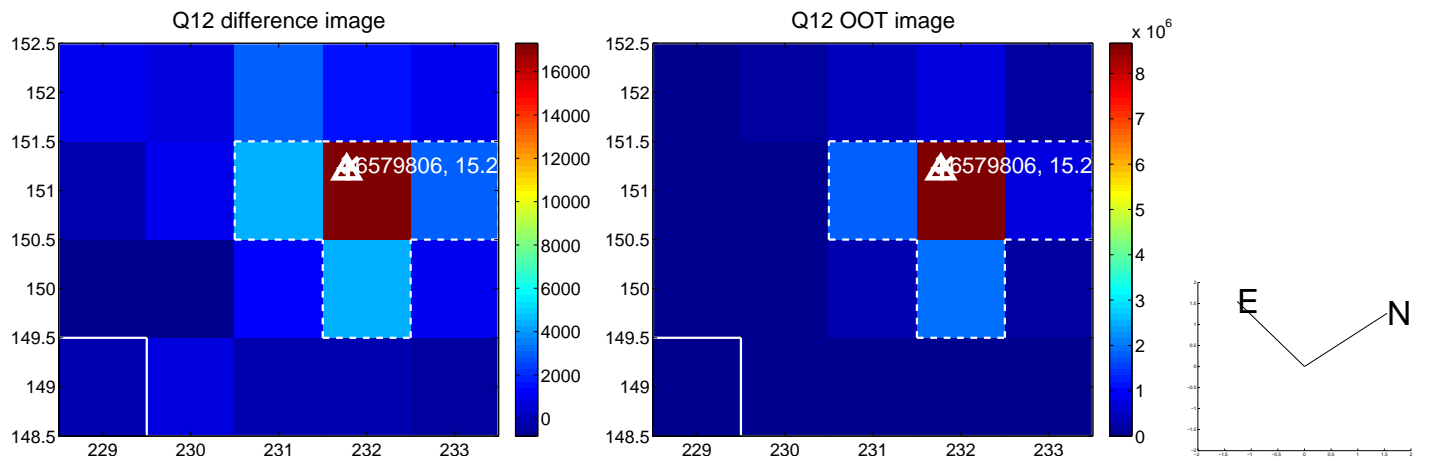
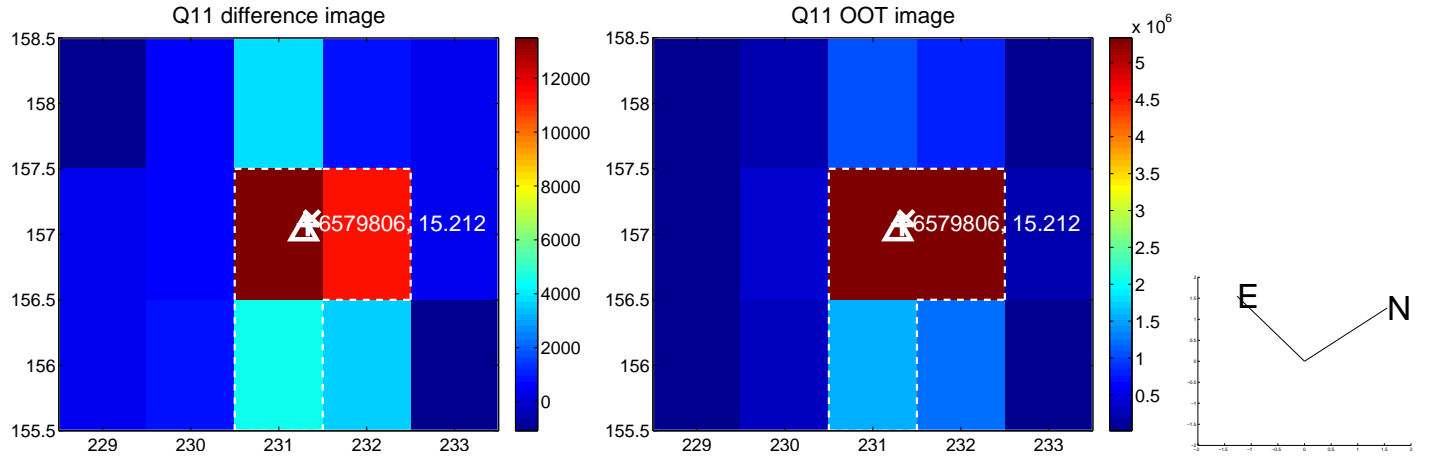
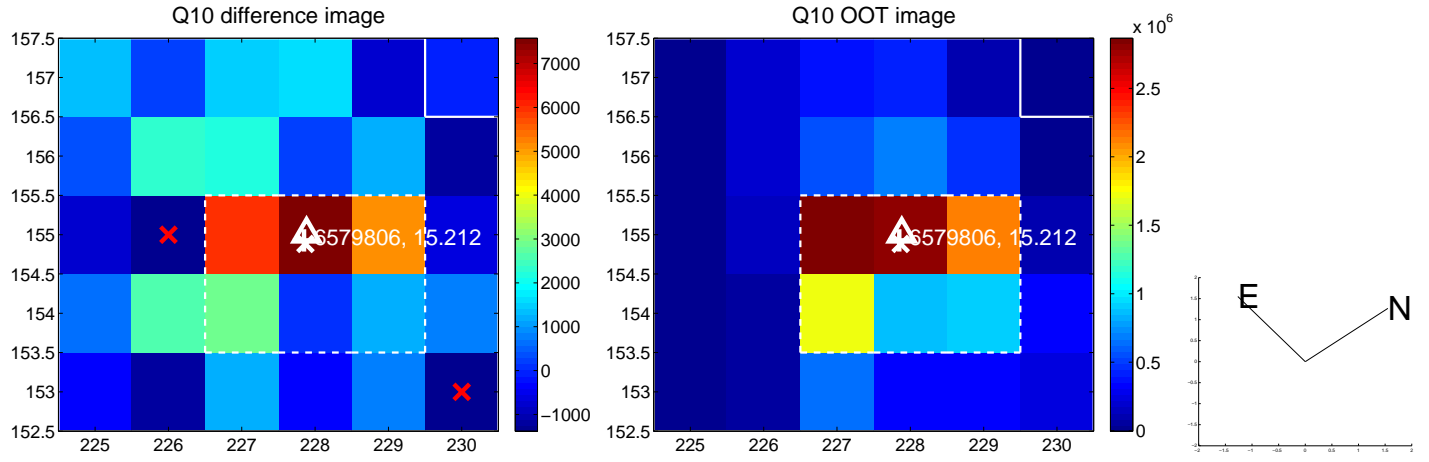
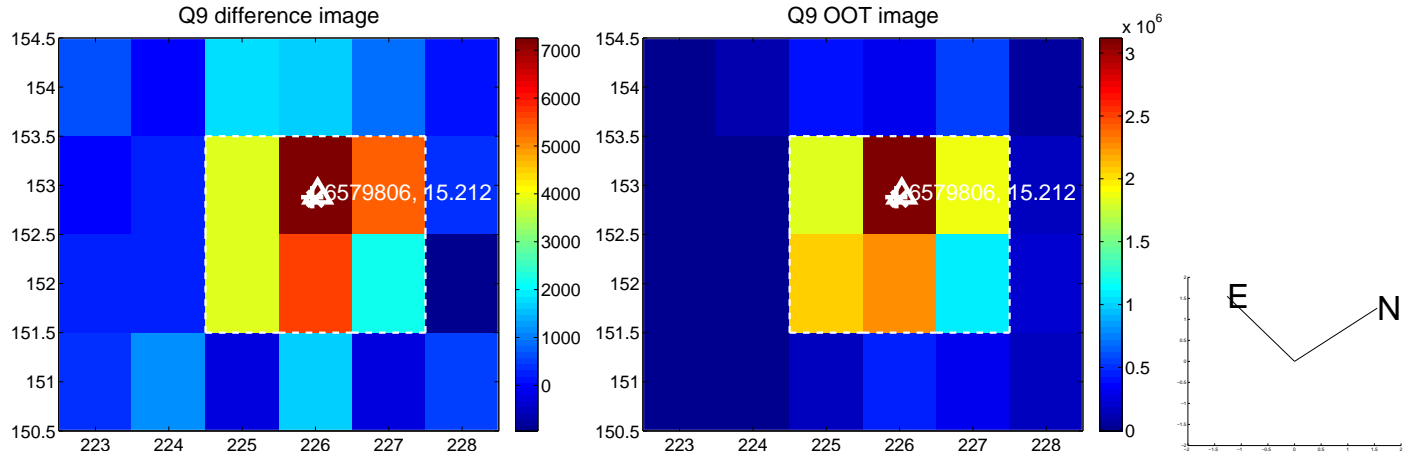
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



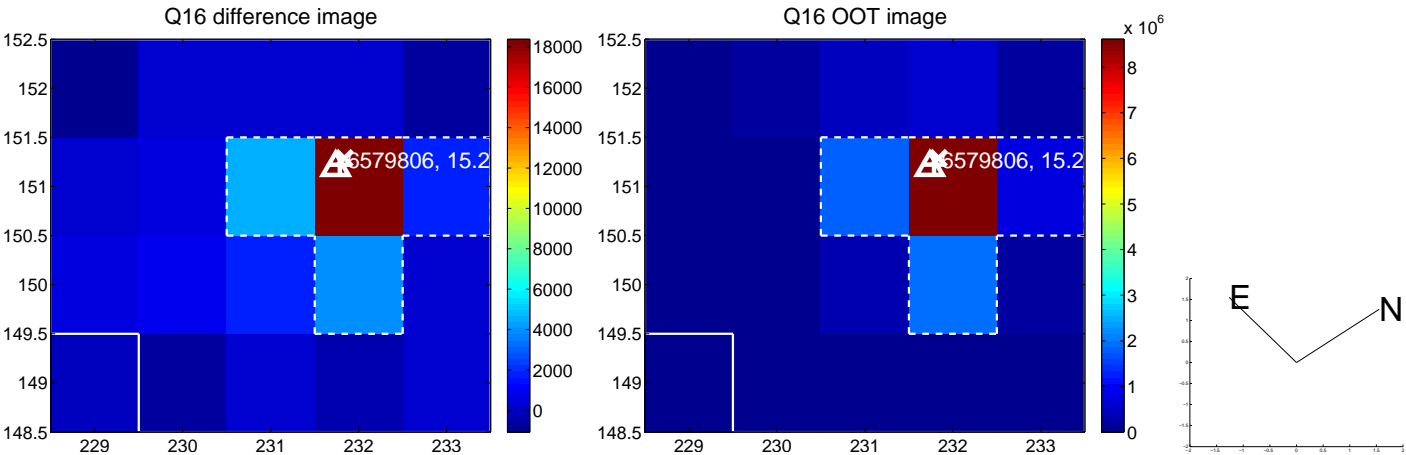
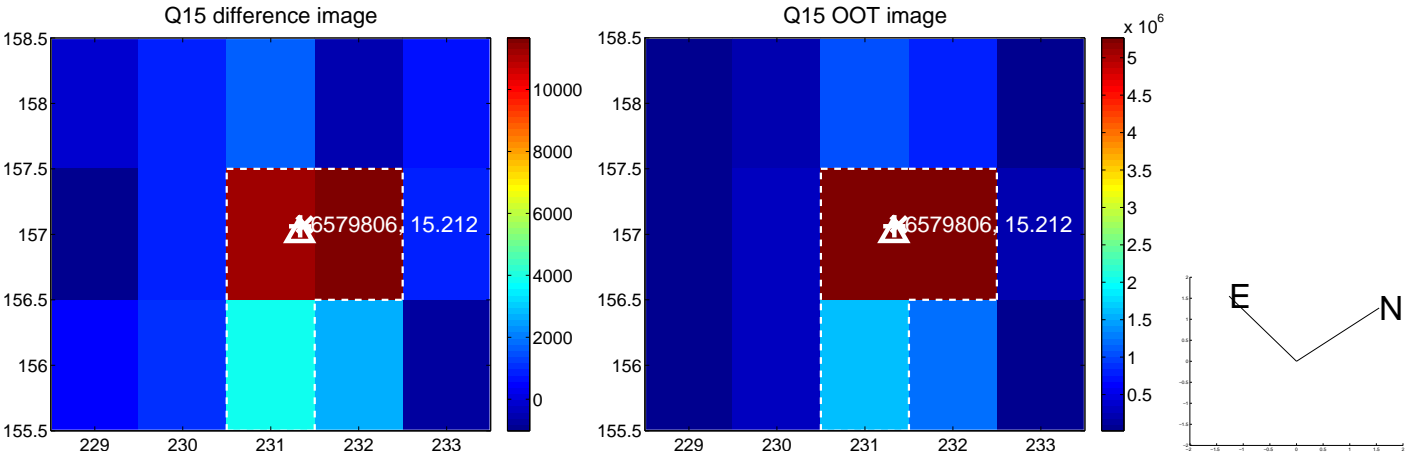
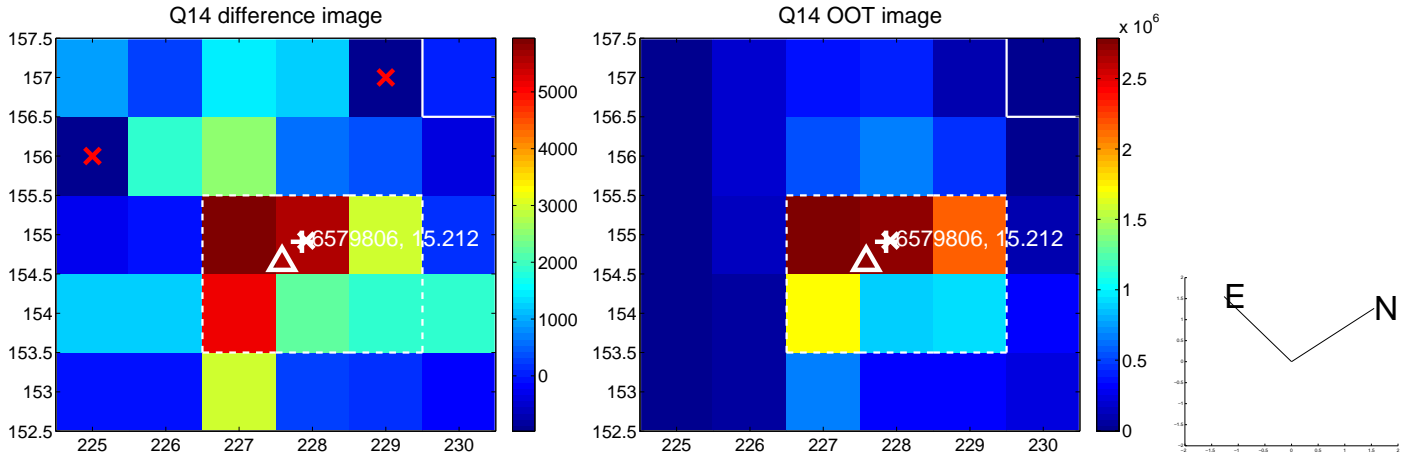
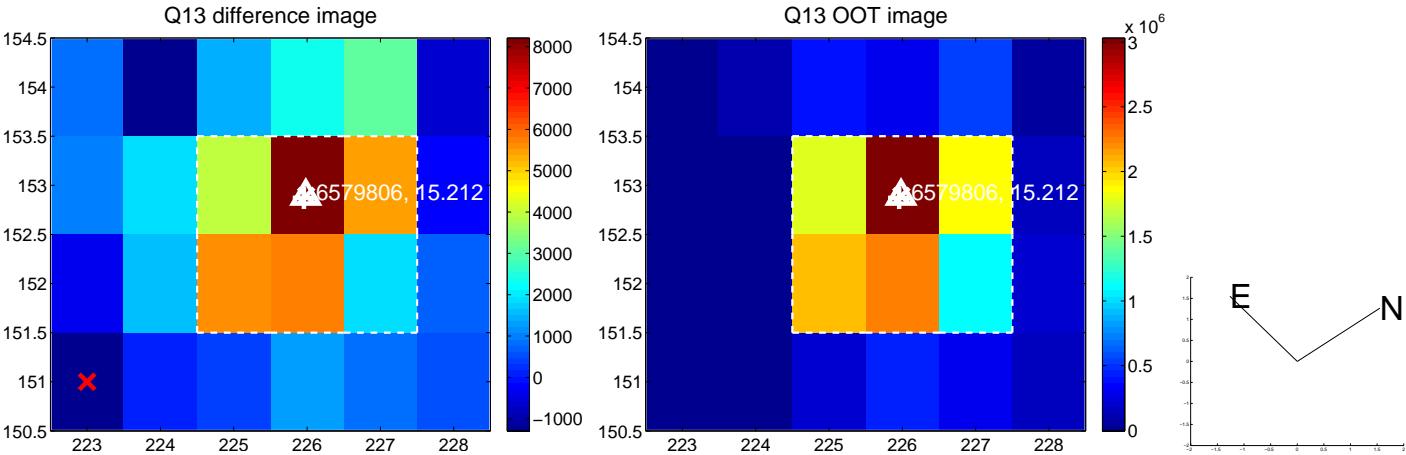
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



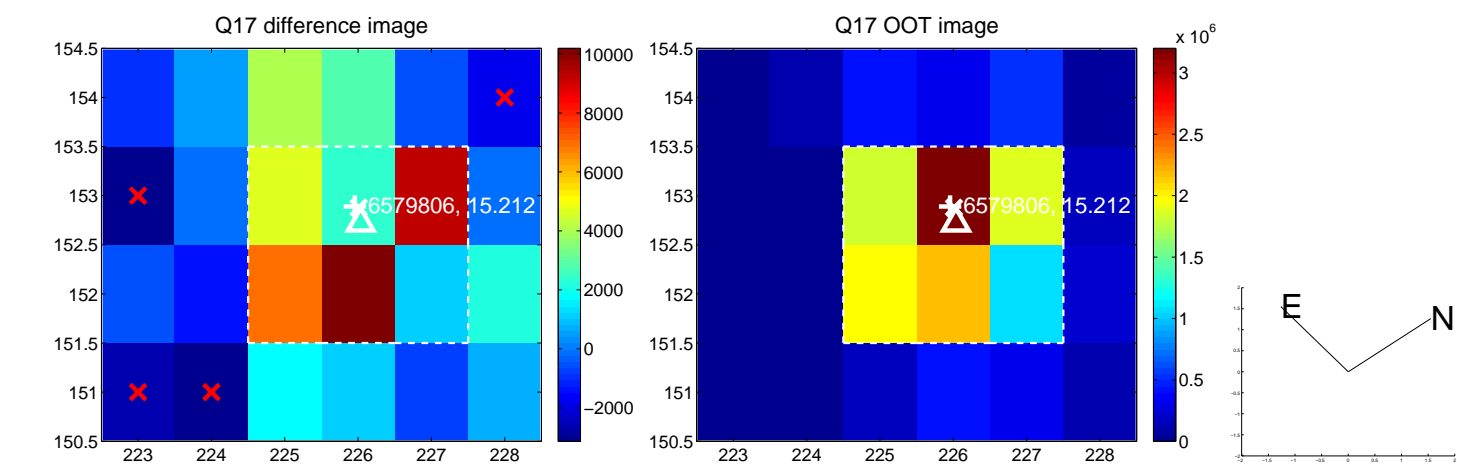
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



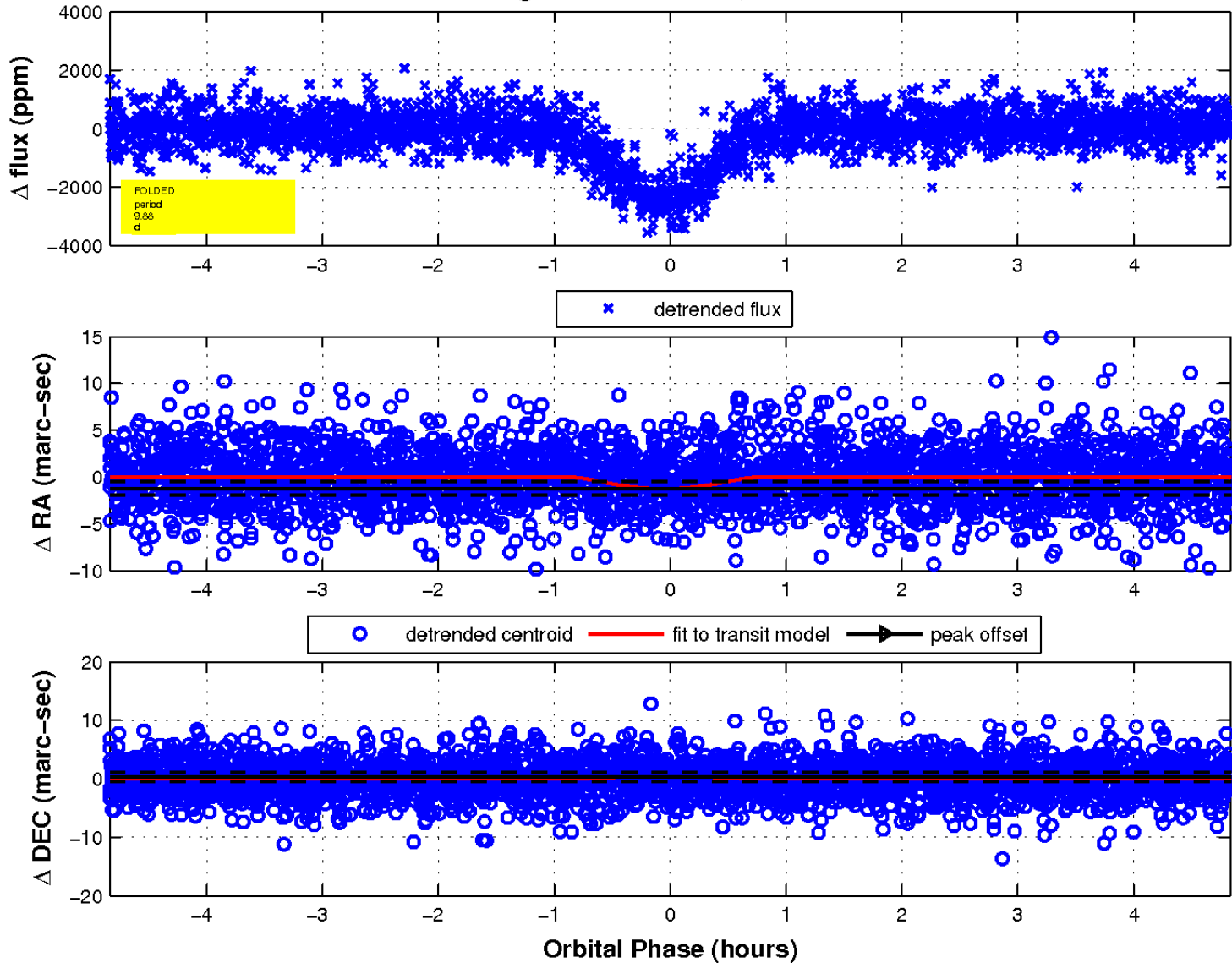
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

