

KIC 010287248

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})
010287248-01	OBS	1152.01	4.722256	135.742906	82628.3	3.472	4806.9	3275.1	0.49	3801	14.54	22.73
010287248-02	OBS	No	4.722255	132.615485	7438.4	2.204	444.2	442.4	0.49	3801	4.70	22.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010287248-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010287248-02	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.

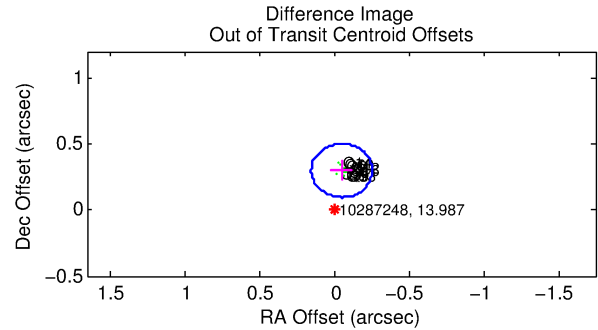
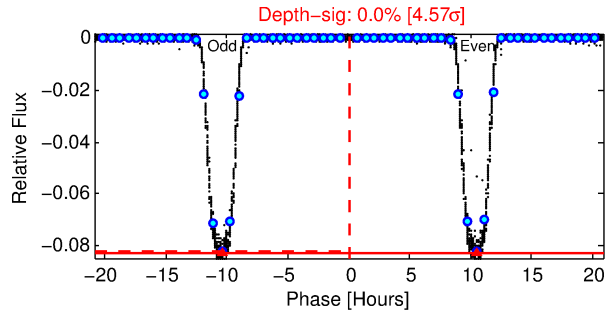
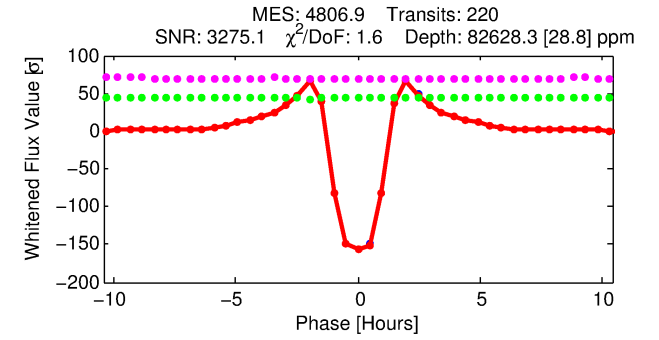
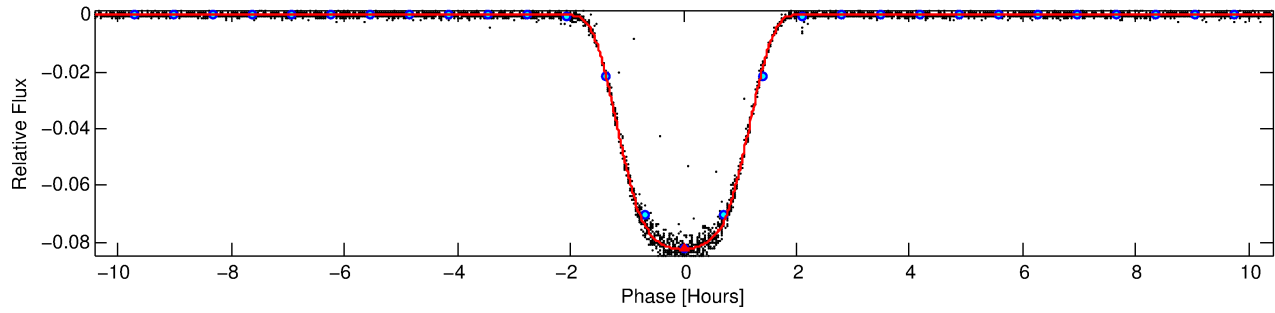
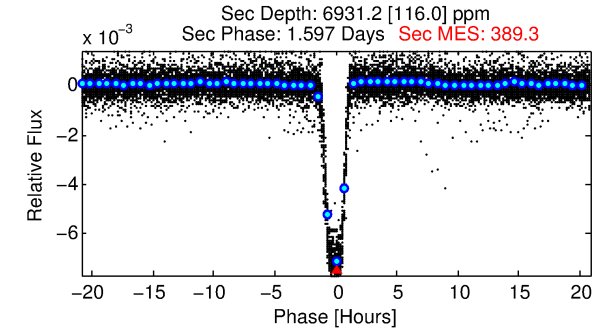
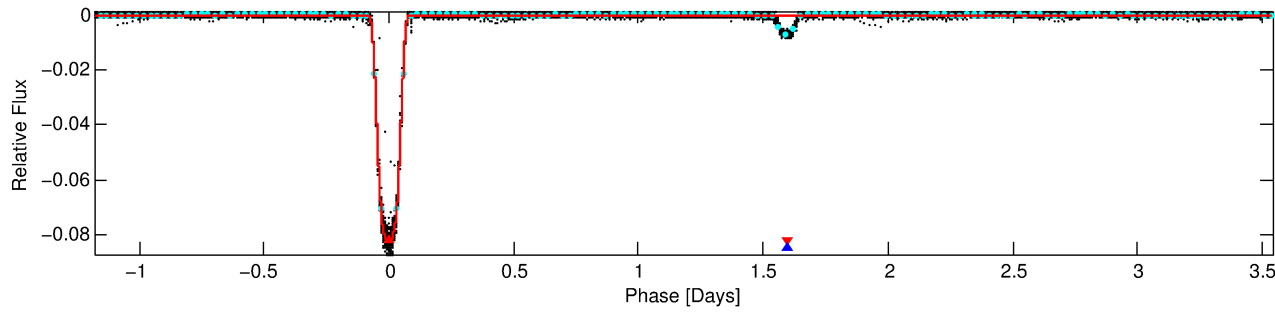
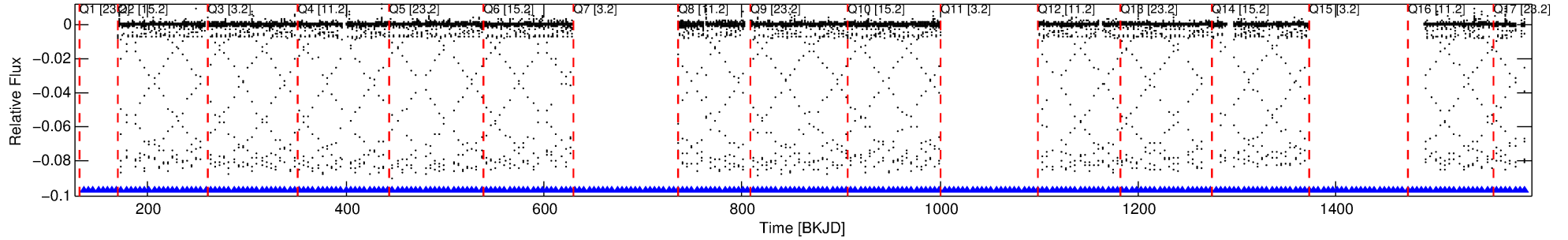
Ephemeris Match Information For 010287248-01

No Significant Match Found

DV One-Page Summary

KIC: 10287248 Candidate: 1 of 2 Period: 4.722 d
KOI: K01152.01 Corr: 0.995

Kp: 13.99 R*: 0.49 Rs Teff: 3801.0 K Logg: 4.78 Fe/H: -0.140



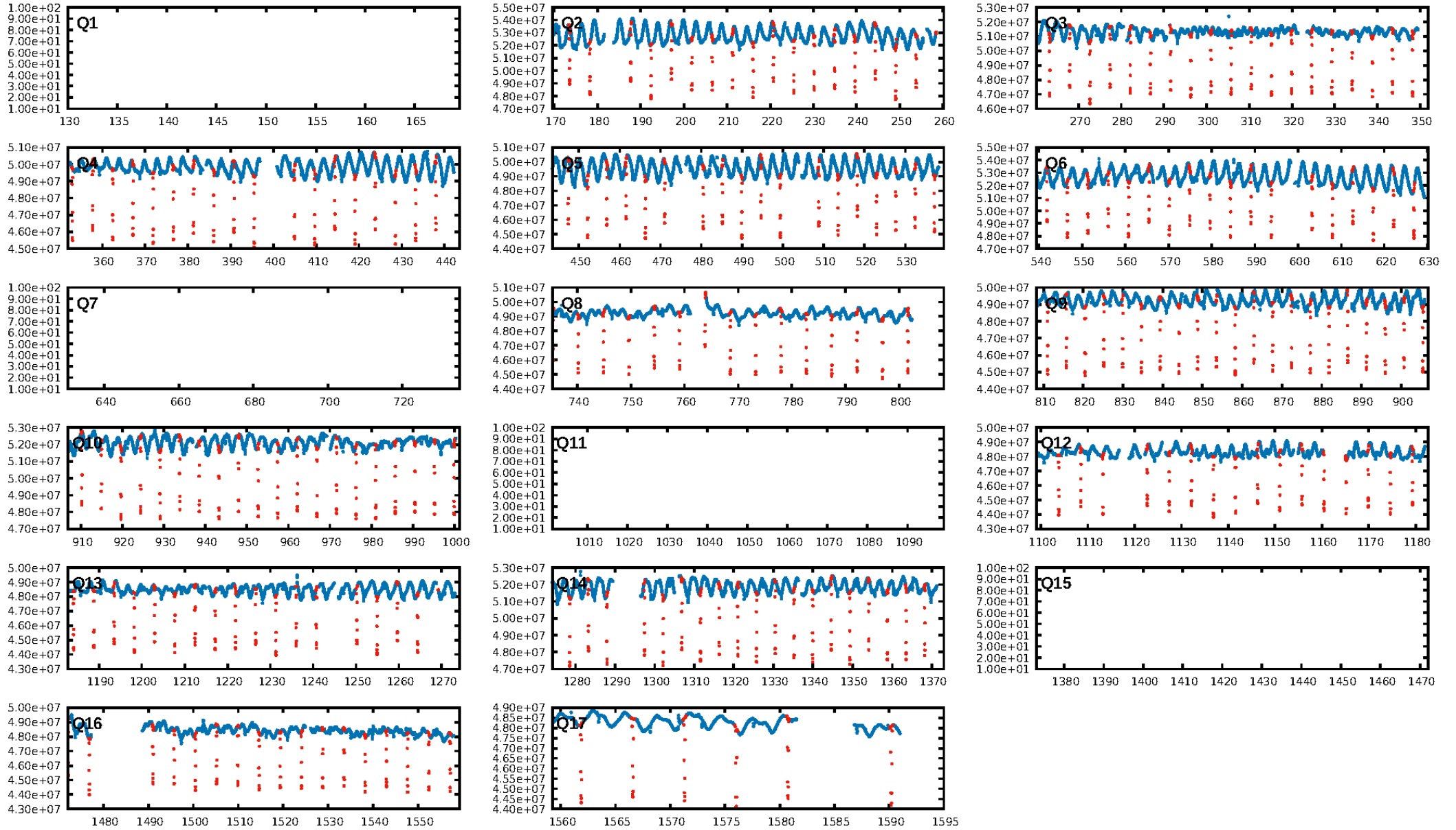
DV Fit Results:

Period = 4.72226 [0.00000] d
Epoch = 135.7429 [0.0000] BKJD
Rp/R* = 0.2731 [0.0001]
a/R* = 12.06 [0.01]
b = 0.53 [0.00]
Seff = 22.73 [2.26]
Teff = 557 [14] K
Rp = 14.54 [0.98] Re
a = 0.0443 [0.0024] AU
Ag = 35.32 [2.71] [12.65σ]
Teffp = 2099 [35] K [40.63σ]

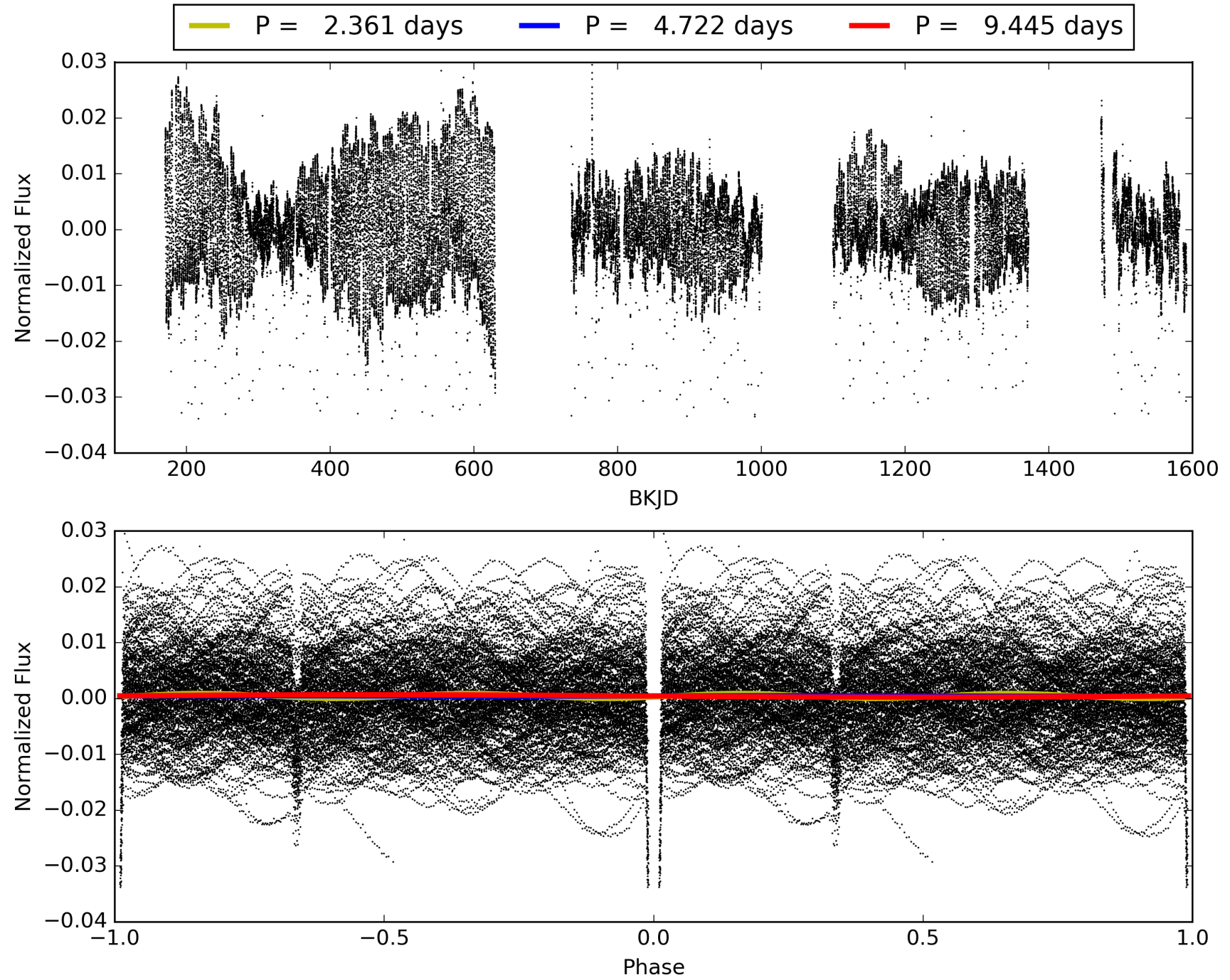
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [214/214]
GhostDiagnostic-chr: 2.303
Centroid-sig: 0.0%
Centroid-so: 0.480 arcsec [297.51σ]
OotOffset-rm: 0.302 arcsec [4.47σ]
KicOffset-rm: 0.527 arcsec [7.78σ]
OotOffset-st: 4/1/4/4 [13]
KicOffset-st: 4/1/4/4 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 010287248-01, PDC Light Curves

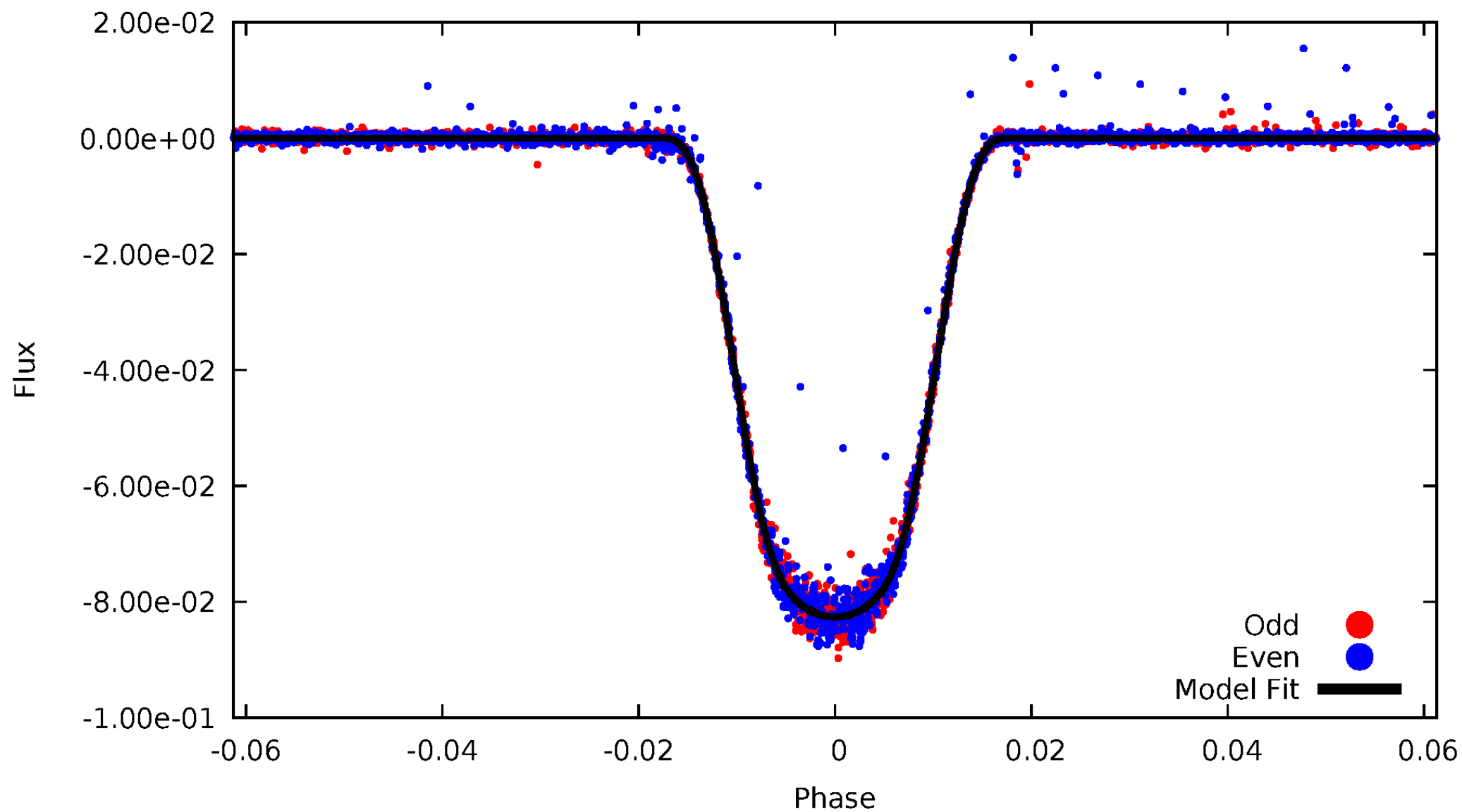


TCE 010287248-01



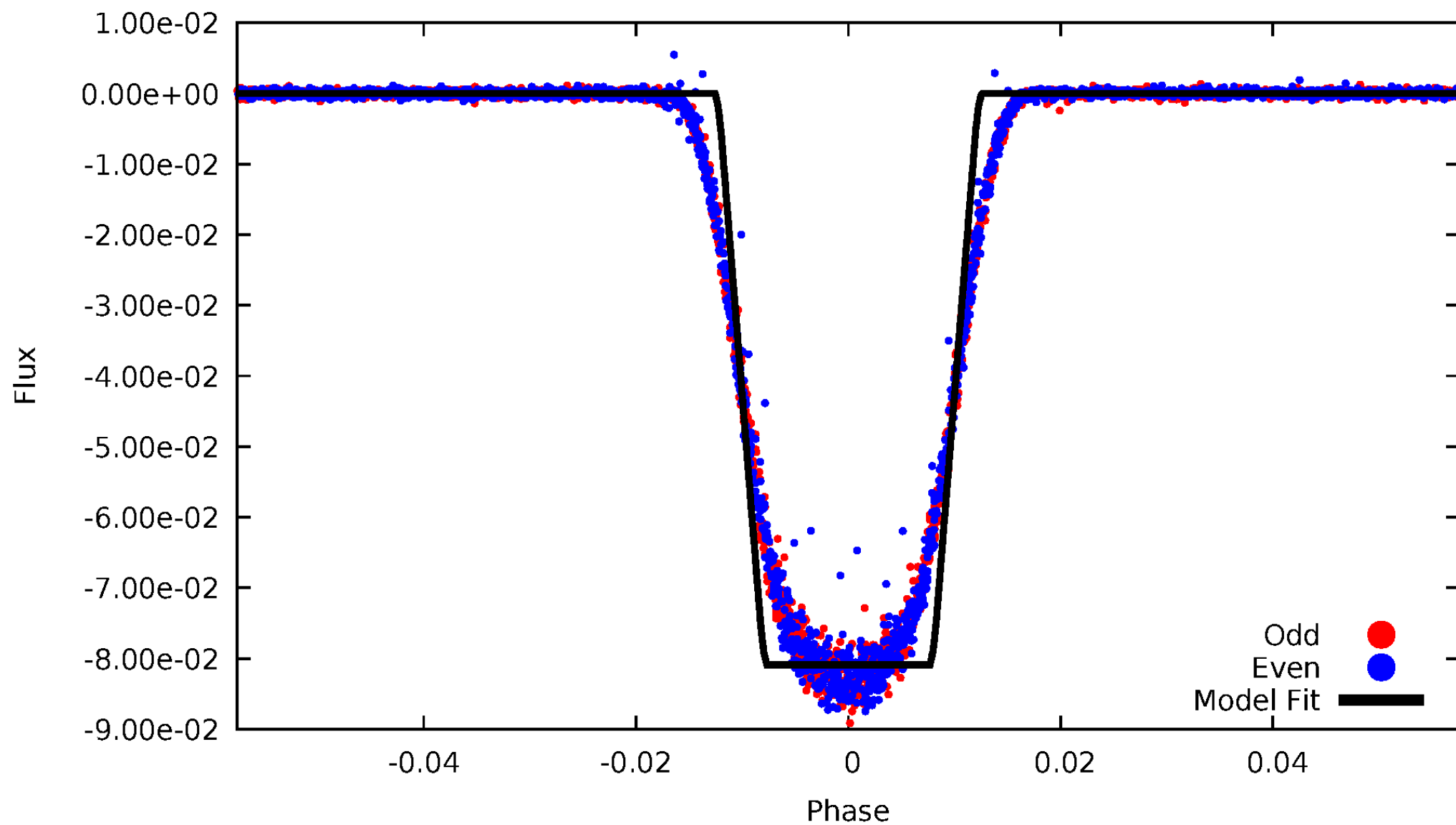
DV Odd/Even

TCE 010287248-01



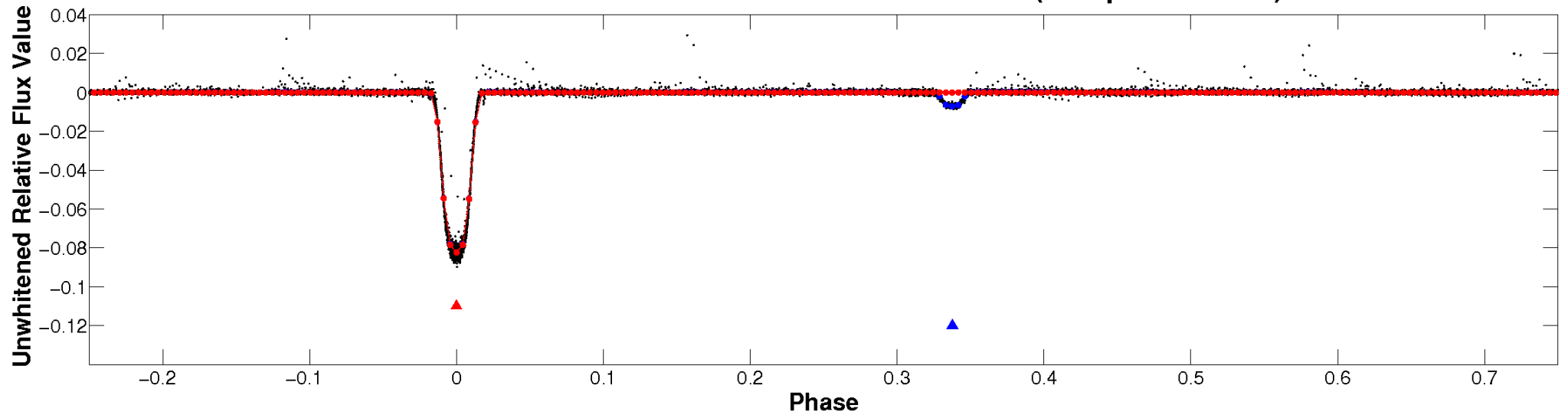
ALT Odd/Even

TCE 010287248-01

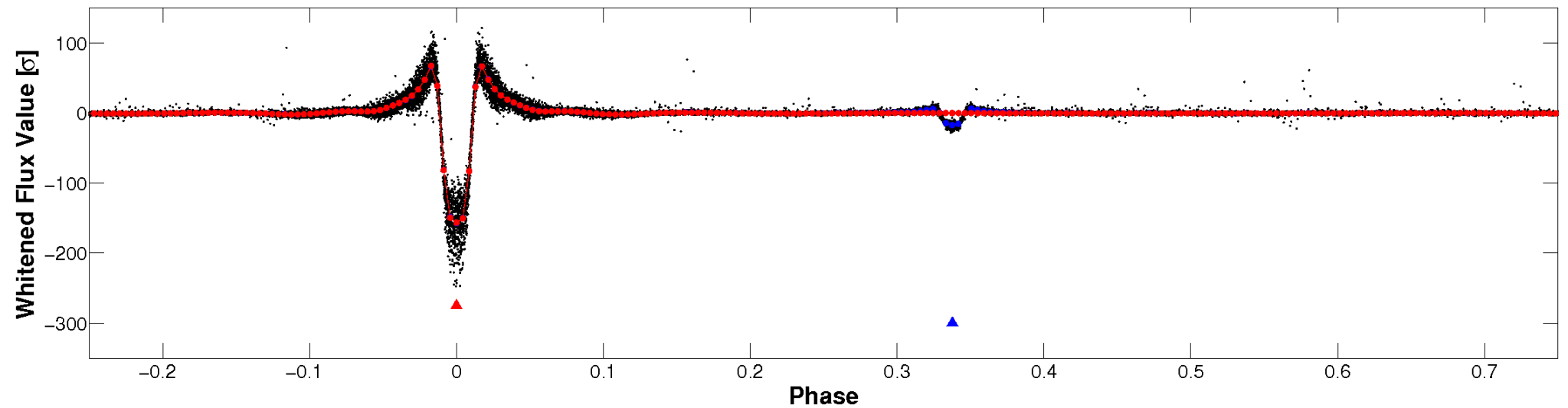


Non-Whitened Vs. Whitened Light Curve

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

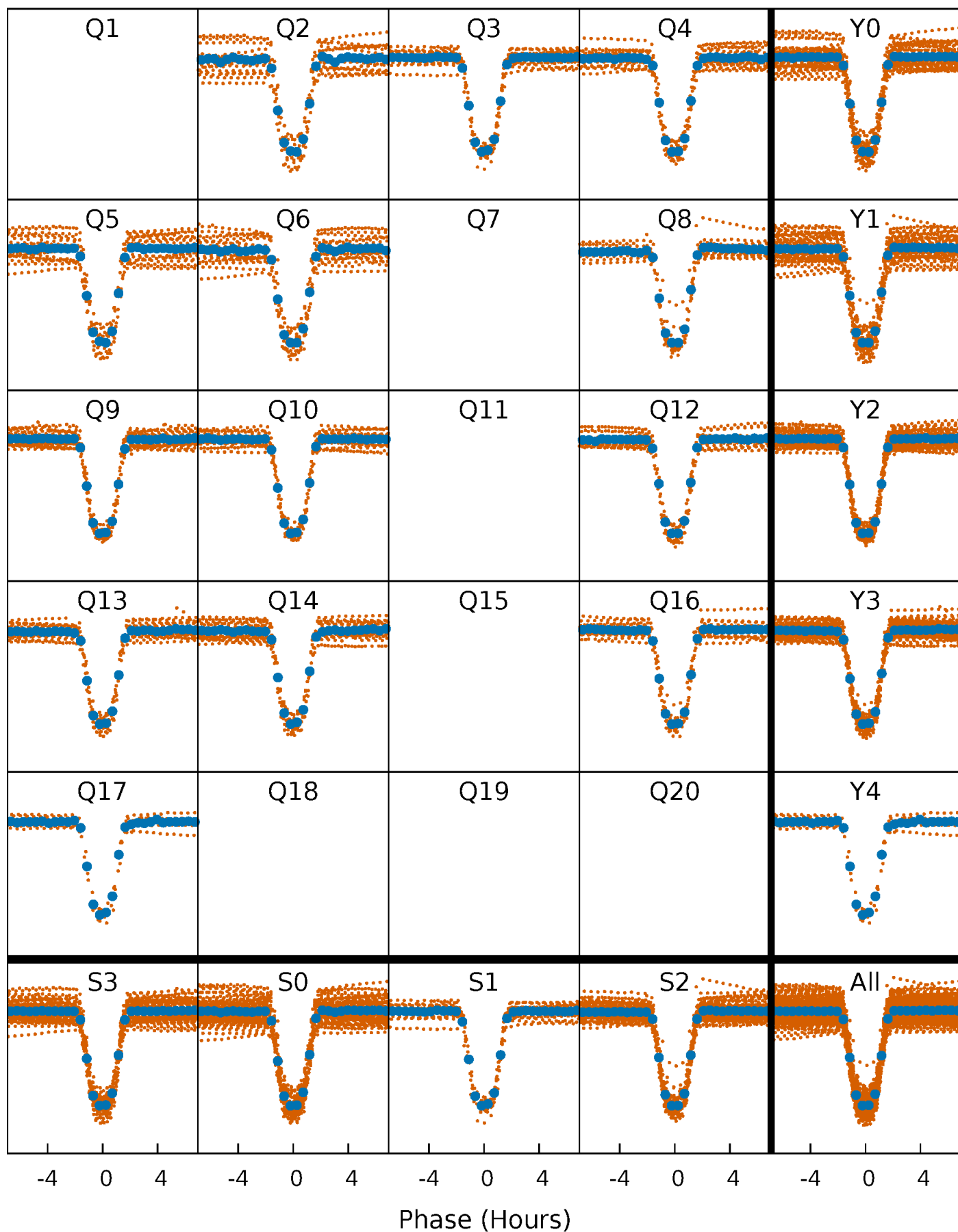


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



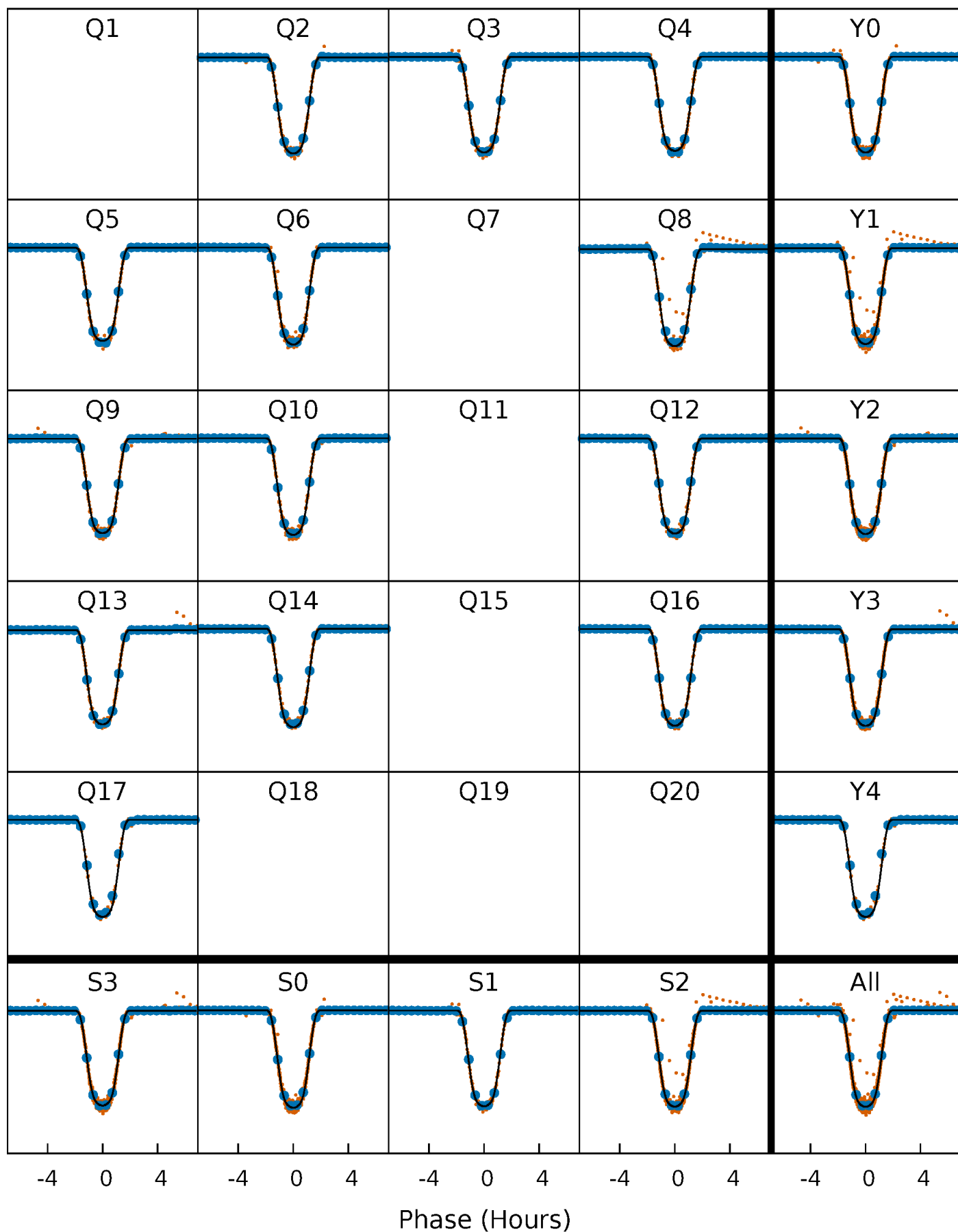
PDC Quarter-Phased Transit Curves

TCE 010287248-01 P= 4.722256 Days $T_0=135.742906$ (BKJD)



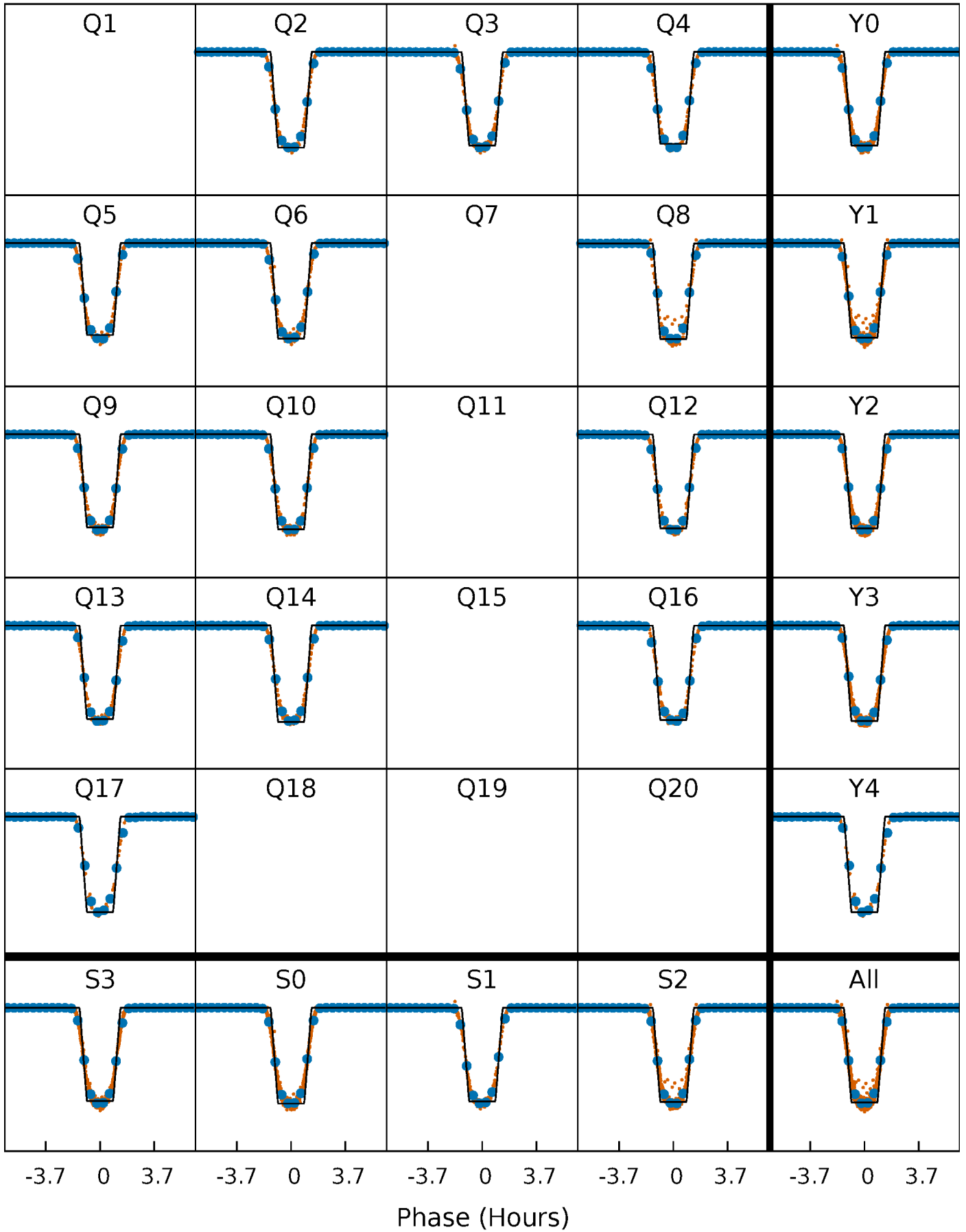
DV Quarter-Phased Transit Curves

TCE 010287248-01 P= 4.722256 Days $T_0=135.742906$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

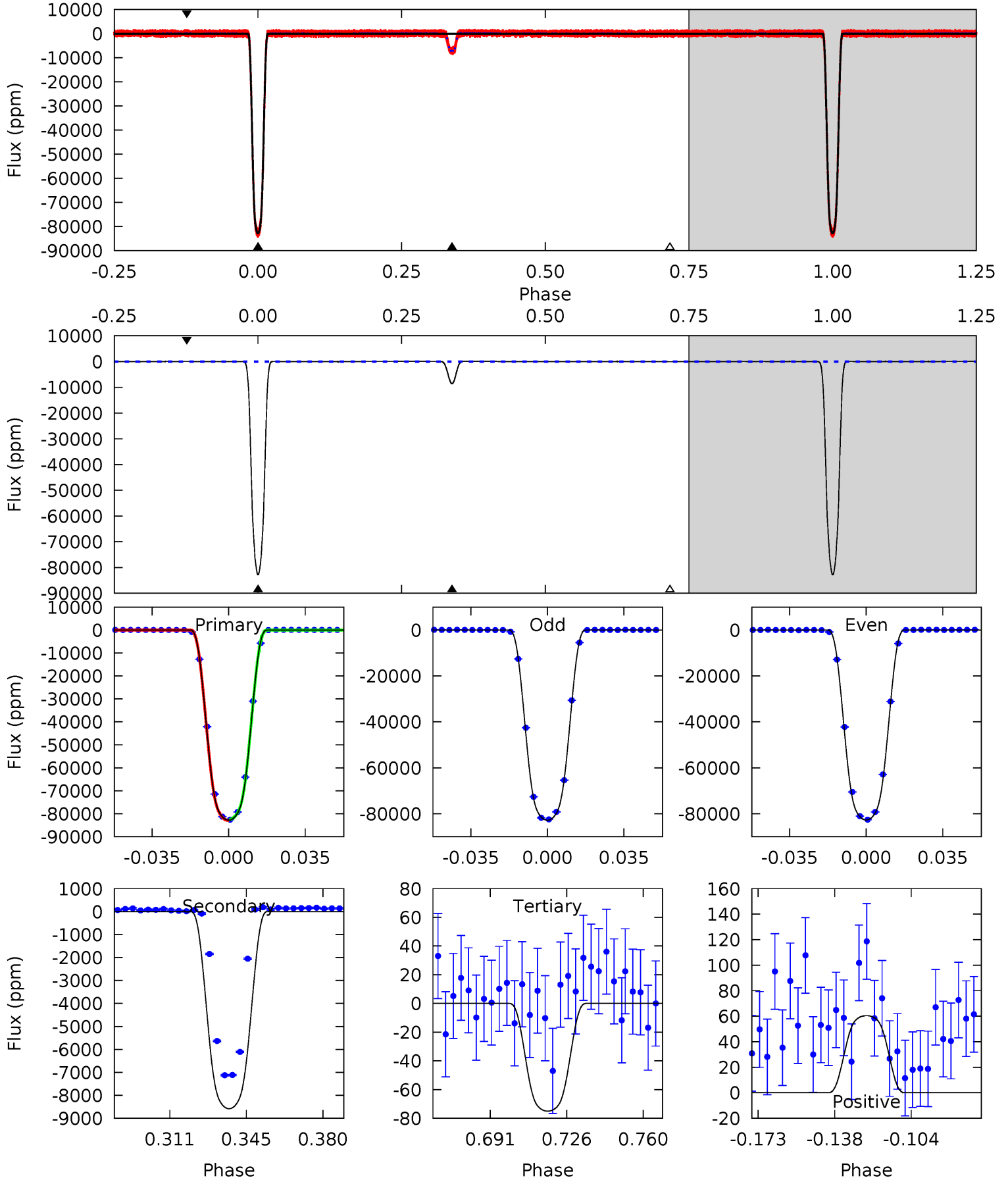
TCE 010287248-01 P= 4.722243 Days $T_0=135.744598$ (BKJD)



DV Model-Shift Uniqueness Test

010287248-01, P = 4.722256 Days, E = 135.742906 Days

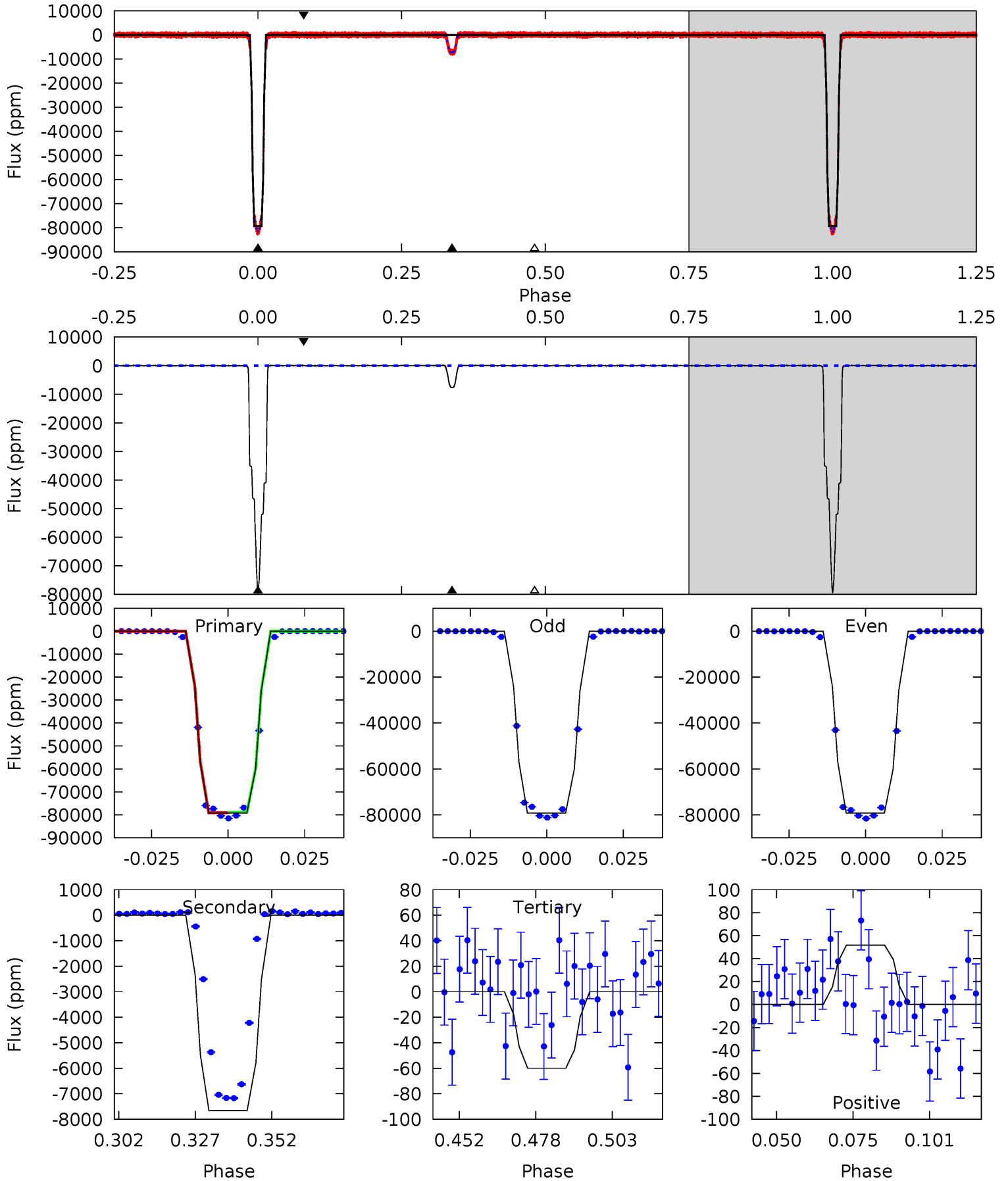
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7359	763.0	6.67	5.37	4.78	2.11	4.04	7352	7353	756.3	757.6	5.07	1.00	0.00	0



Alt Model-Shift Uniqueness Test

010287248-01, P = 4.722243 Days, E = 135.744598 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4257	411.3	3.22	2.78	4.85	2.24	1.29	4254	4254	408.0	408.5	0.99	1.00	0.00	0



Stellar Parameters For KIC 010287248

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3801^{+57}_{-62}	$4.776^{+0.025}_{-0.039}$	$-0.140^{+0.100}_{-0.100}$	$0.488^{+0.033}_{-0.027}$	$0.517^{+0.024}_{-0.032}$	$6.283^{+0.759}_{-0.886}$
	+1%/-2%	+1%/-1%	+71%/-71%	+7%/-6%	+5%/-6%	+12%/-14%
Source	SPE5	SPE5	SPE5	DSEP		

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

Secondary Eclipse Parameters for KIC 010287248-01 / KOI 1152.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-8582 ± 11	$14.59^{+0.52}_{-0.46}$	780^{+15}_{-16}	2757^{+30}_{-34}	44^{+2}_{-2}
Alt.	-7658 ± 19	$15.20^{+0.56}_{-0.51}$	780^{+16}_{-16}	2685^{+32}_{-32}	36^{+2}_{-2}

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

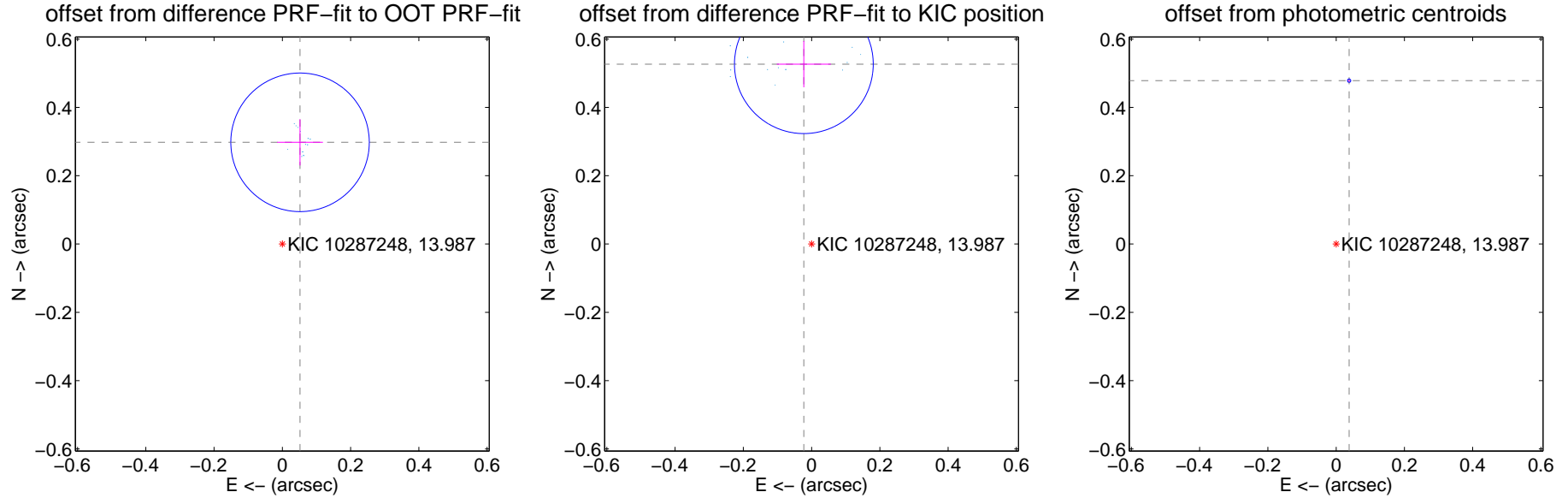
DV Centroid Data

Supplemental centroid analysis for 010287248-01. Kepler magnitude: 13.99. Transit SNR 3275.14

There are 13 quarters with good PRF difference image offsets

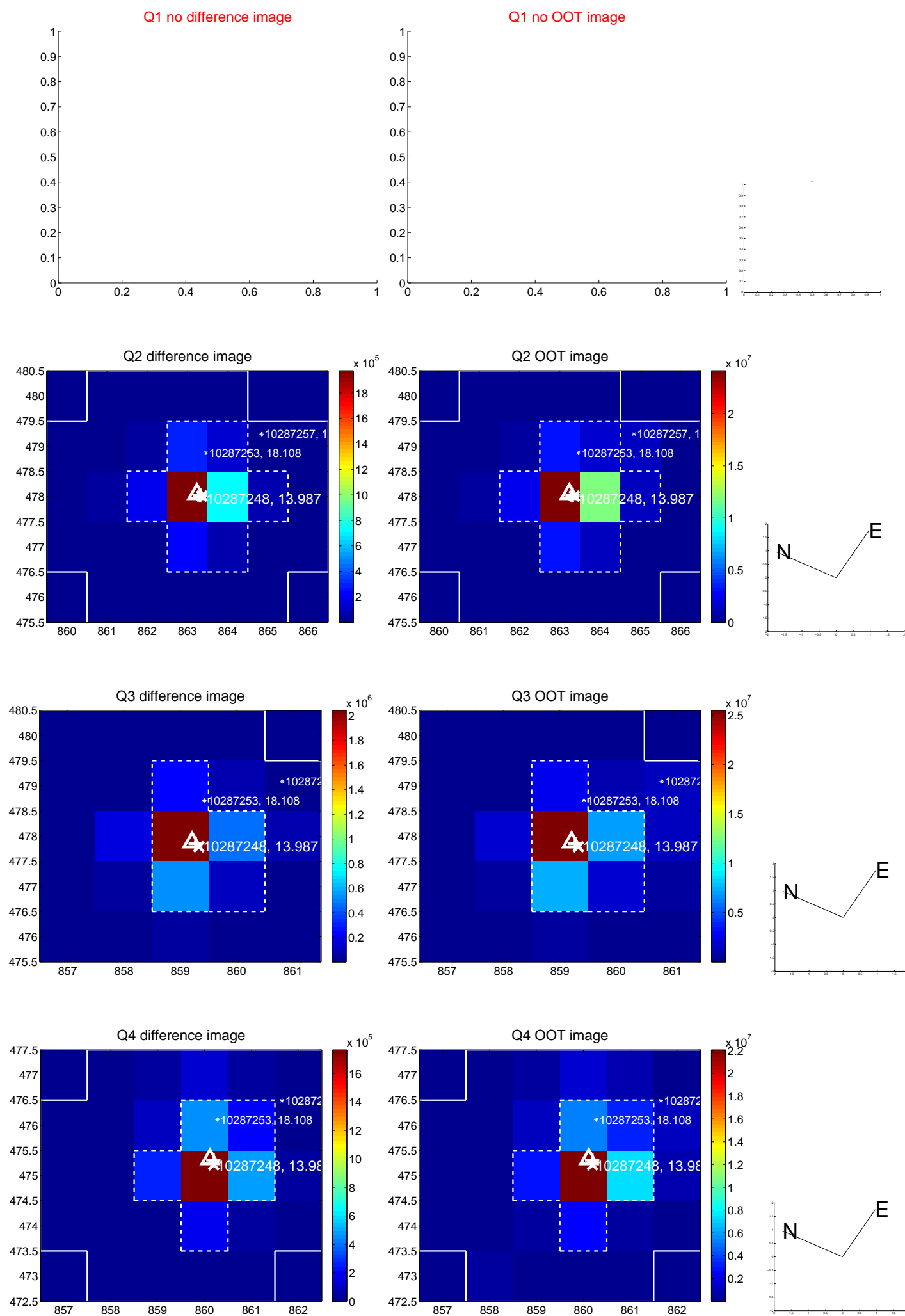
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.302 ± 0.068	4.47	-0.052 ± 0.067	0.298 ± 0.068
PRF-fit source offset from KIC position	0.527 ± 0.068	7.78	0.023 ± 0.079	0.527 ± 0.068
photometric centroid source offset	0.48 ± 0.00	297.51	-0.04 ± 0.00	0.48 ± 0.00

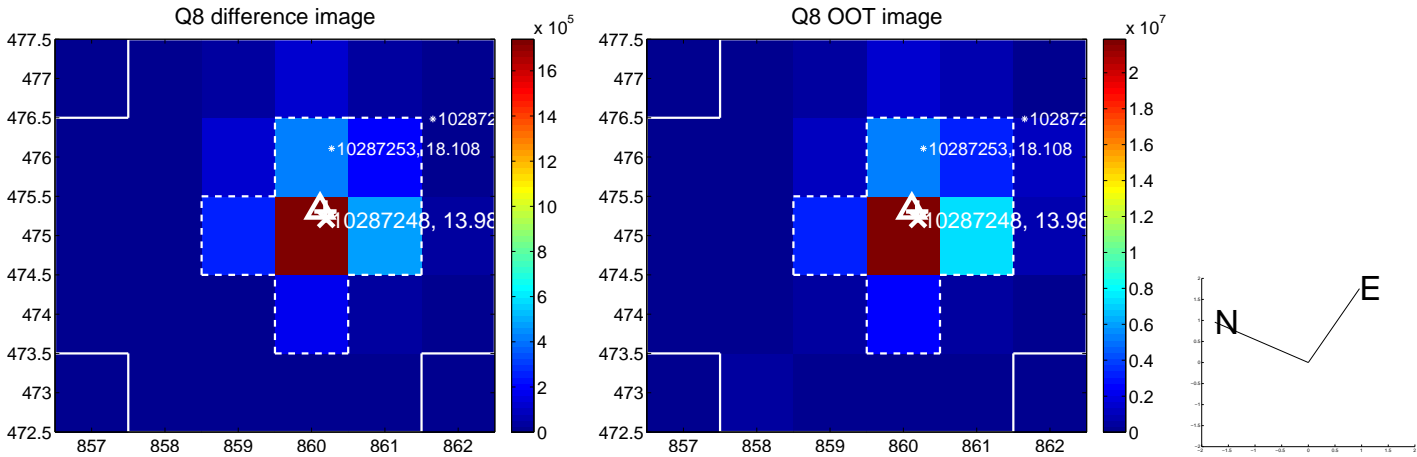
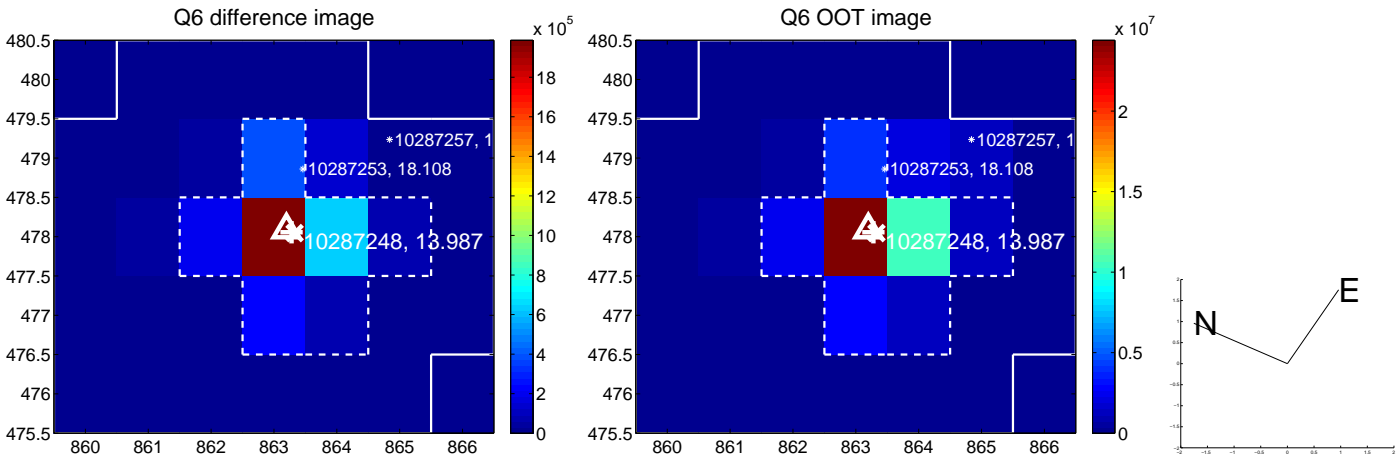
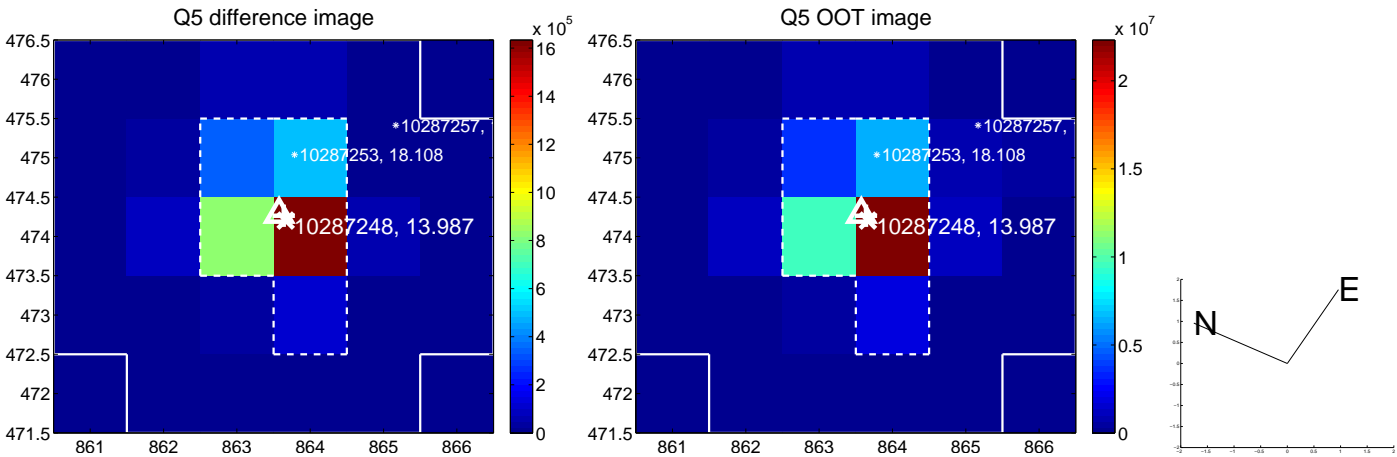


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

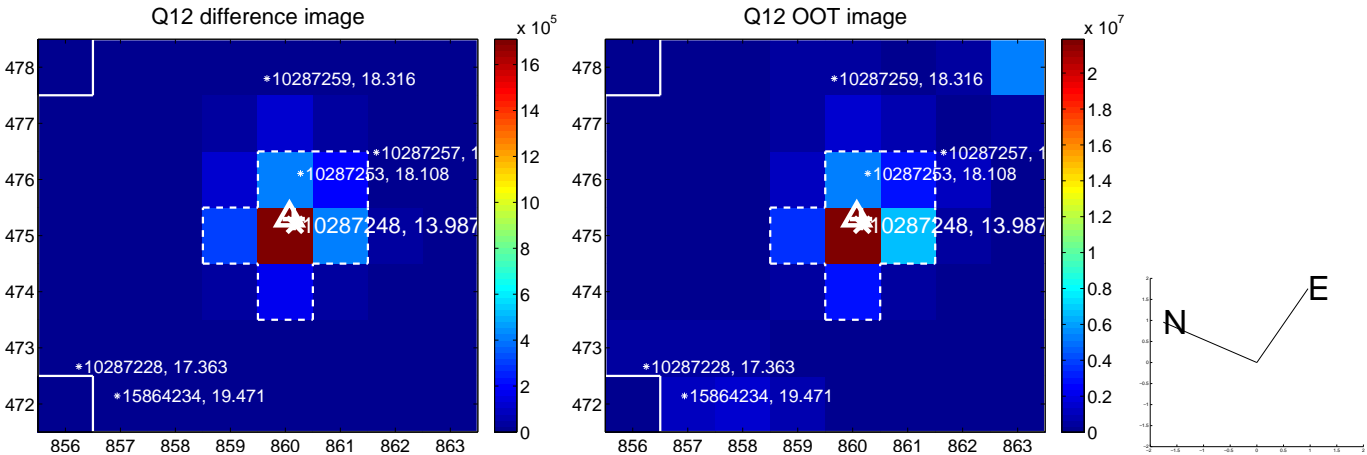
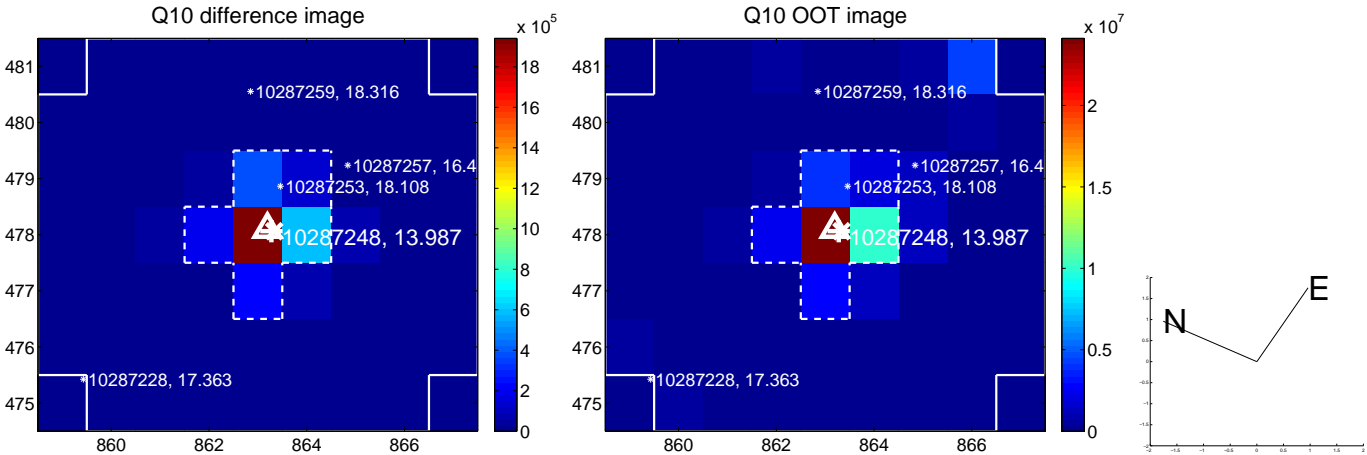
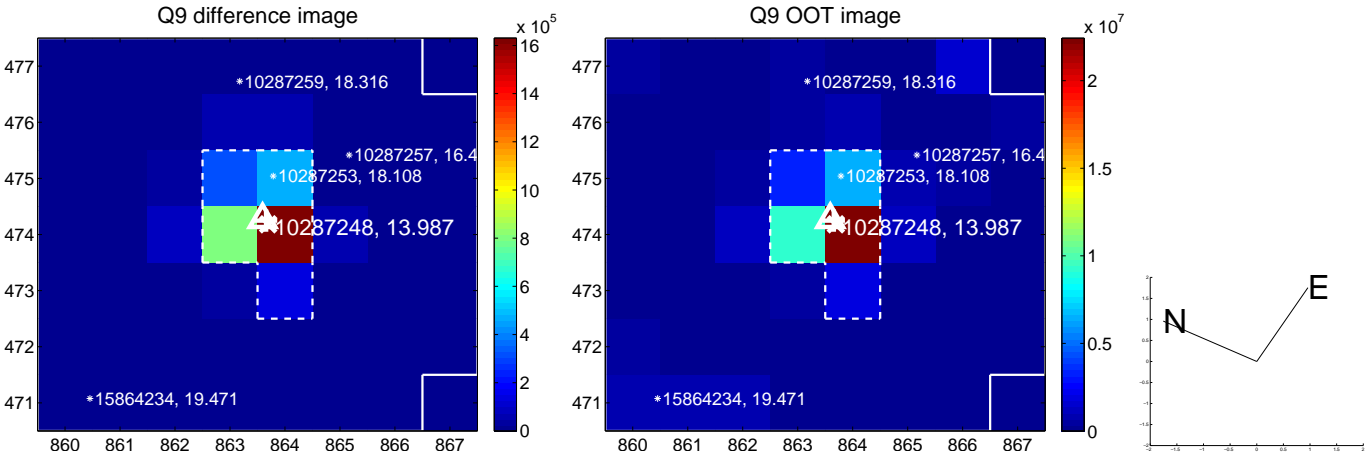
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



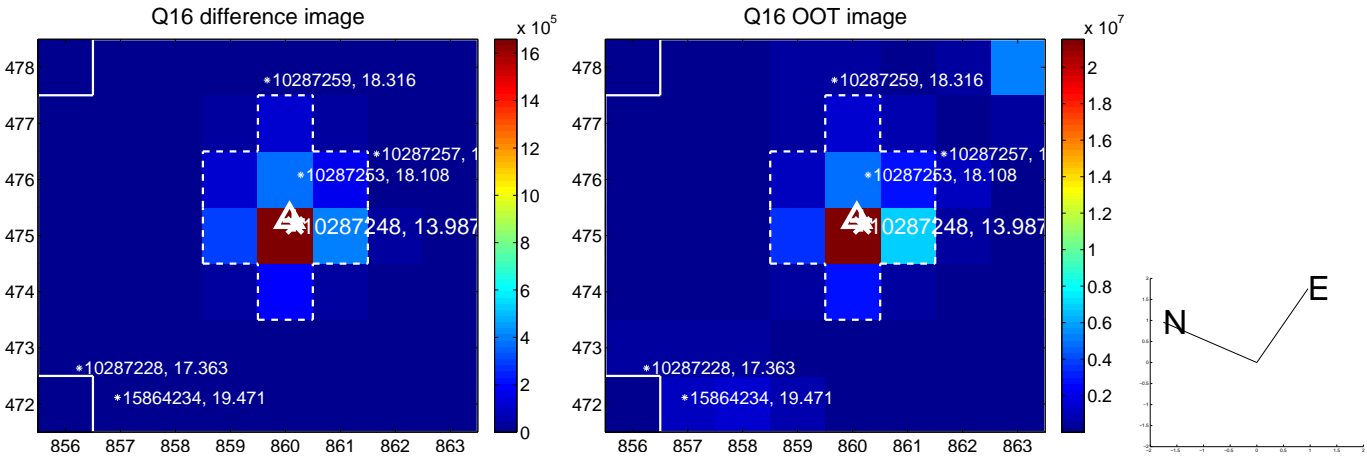
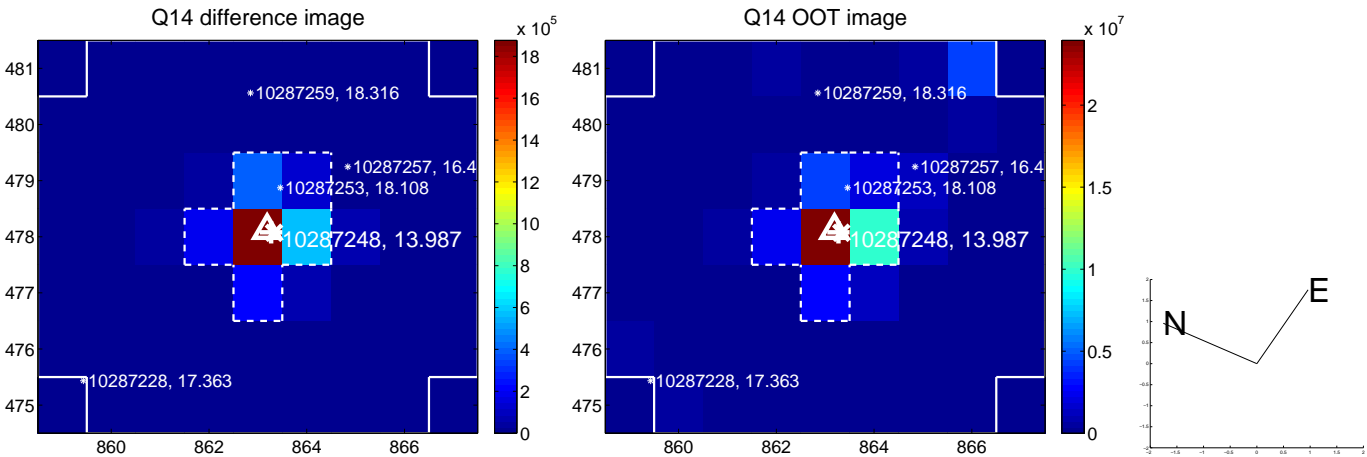
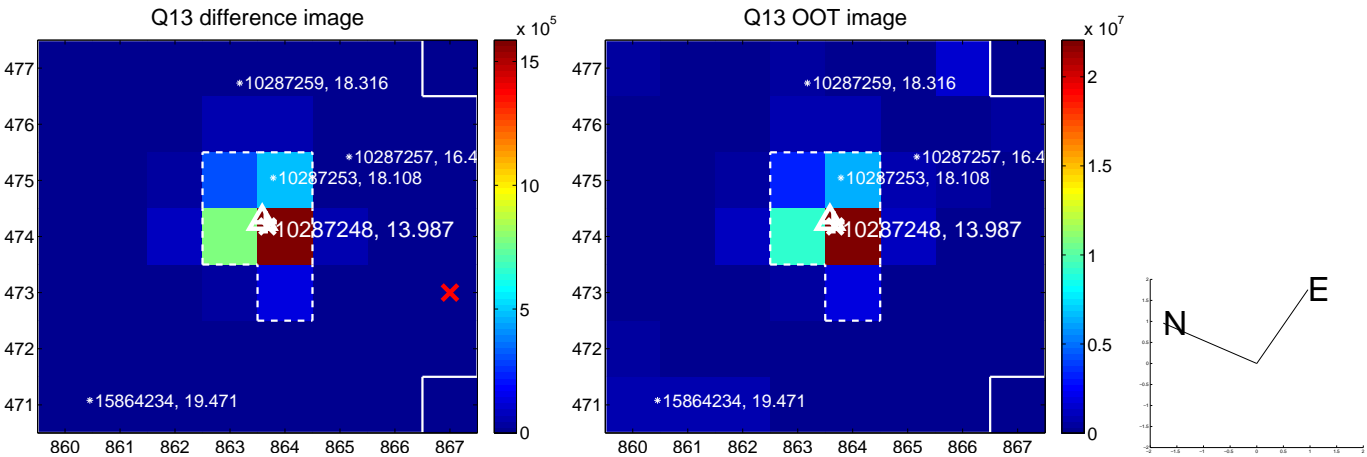
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



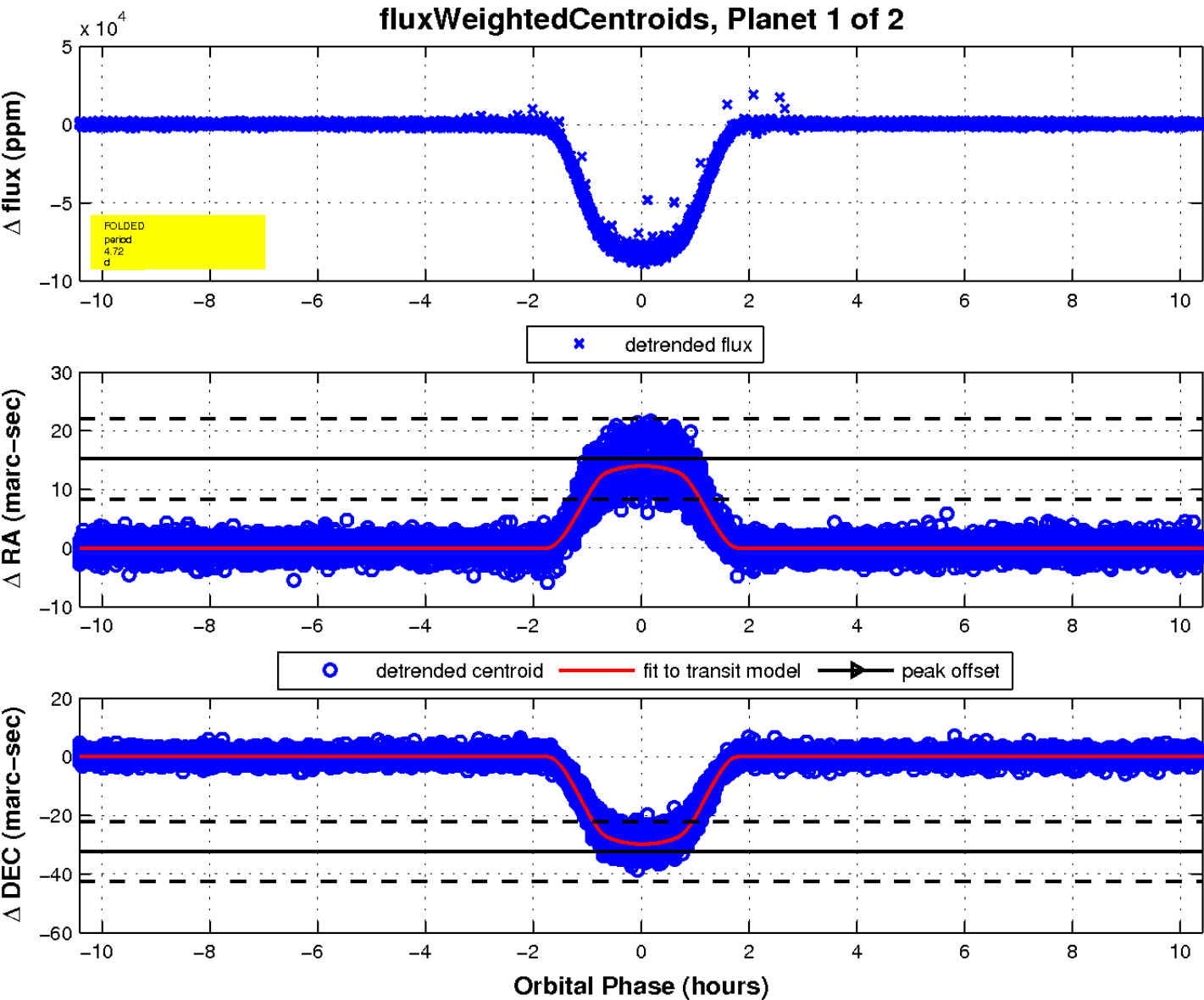
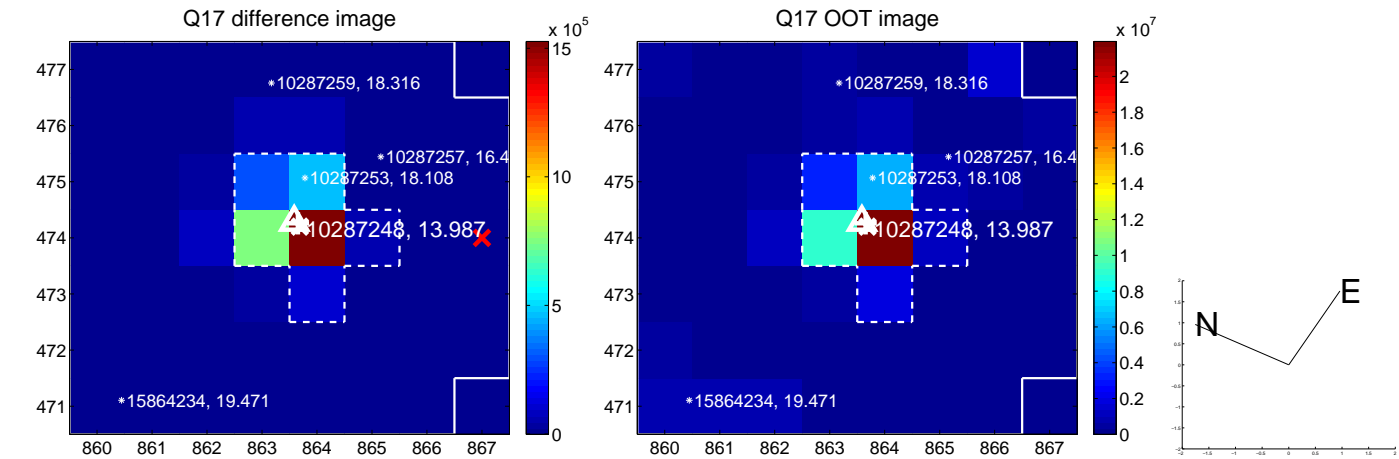
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

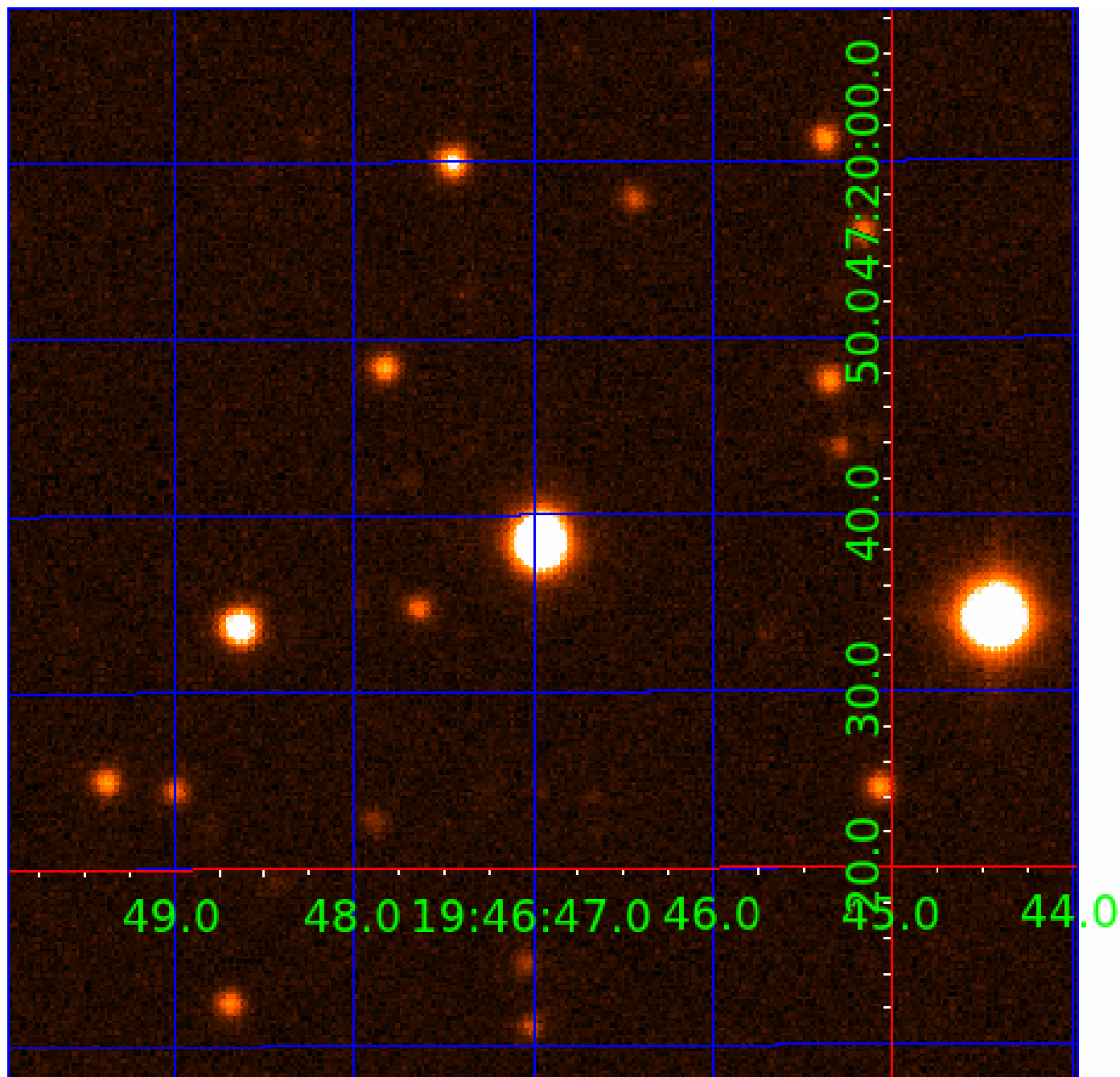


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010287248

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})
010287248-01	OBS	1152.01	4.722256	135.742906	82628.3	3.472	4806.9	3275.1	0.49	3801	14.54	22.73
010287248-02	OBS	No	4.722255	132.615485	7438.4	2.204	444.2	442.4	0.49	3801	4.70	22.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010287248-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010287248-02	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.

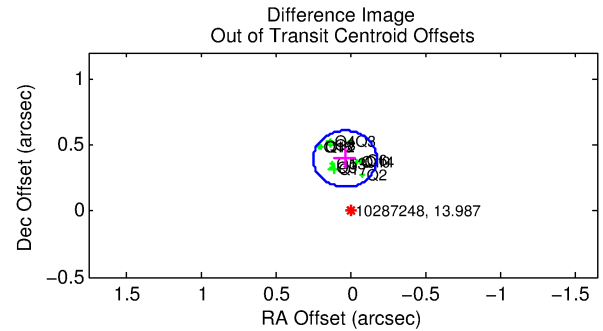
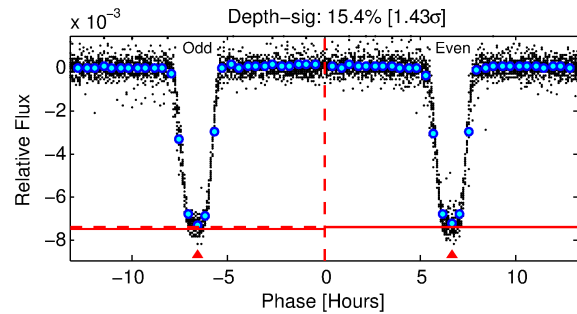
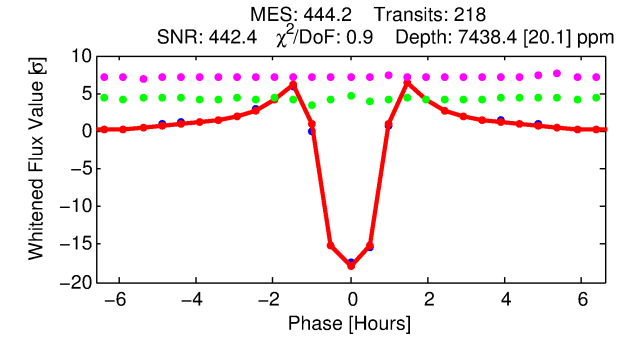
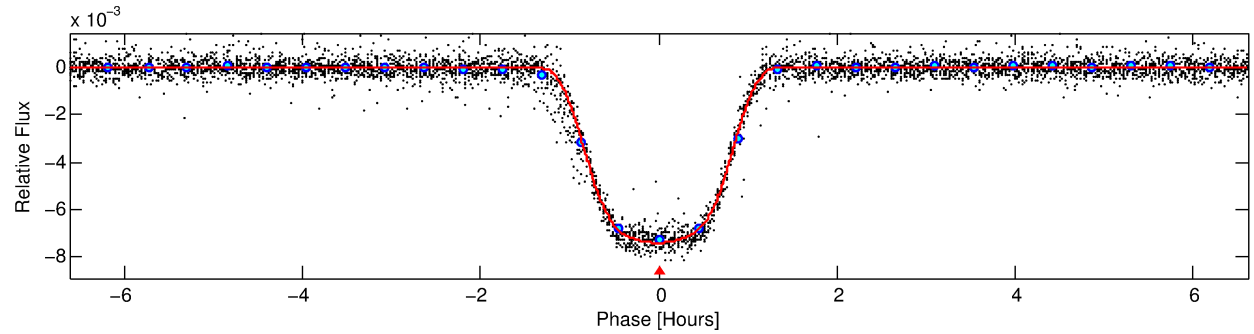
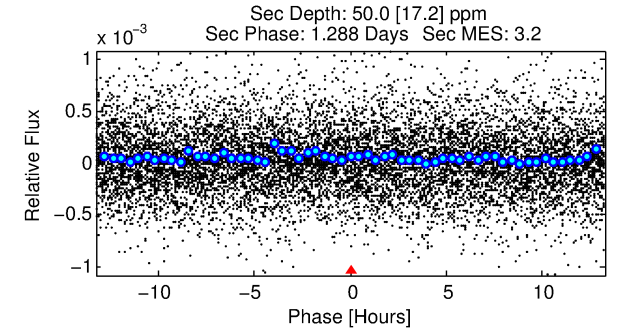
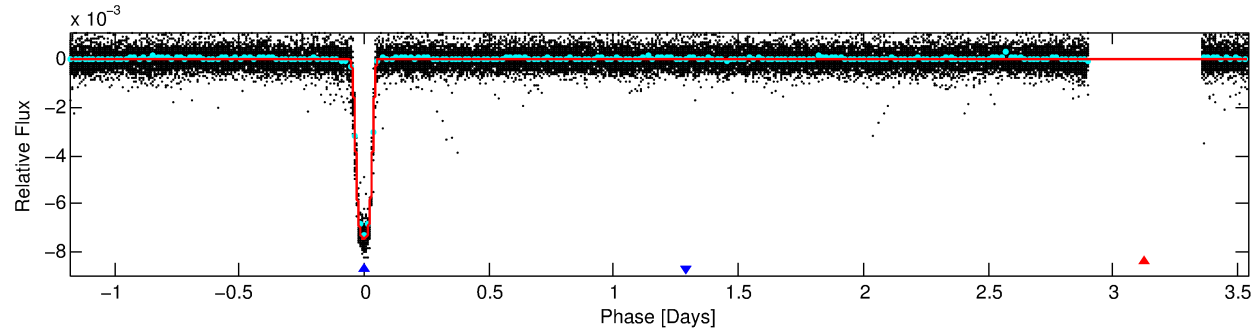
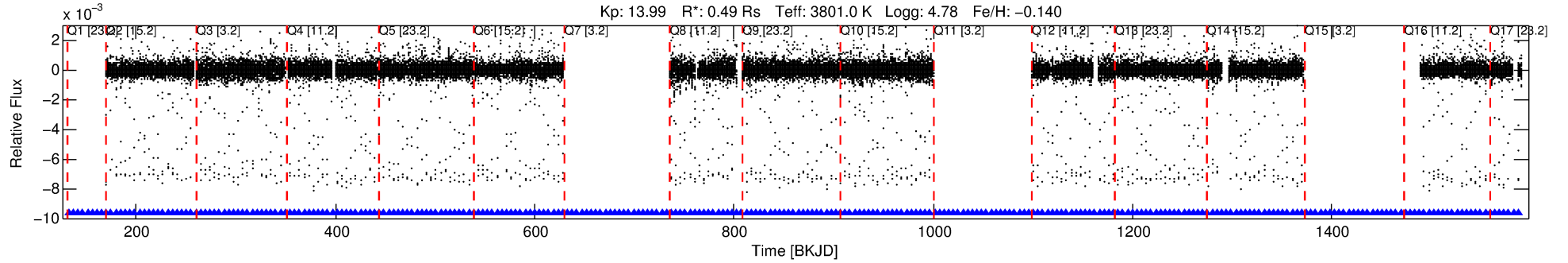
Ephemeris Match Information For 010287248-02

No Significant Match Found

DV One-Page Summary

KIC: 10287248 Candidate: 2 of 2 Period: 4.722 d

KOI: K01152 Corr: No Ephemeris Match



DV Fit Results:

Period = 4.72225 [0.00000] d
Epoch = 132.6155 [0.0001] BKJD
Rp/R* = 0.0882 [0.0003]
a/R* = 12.00 [0.15]
b = 0.81 [0.01]
Seff = 22.73 [2.26]
Teq = 557 [14] K
Rp = 4.70 [0.32] Re
a = 0.0443 [0.0024] AU
Ag = 2.44 [0.86] [1.68 σ]
Teffp = 1076 [94] K [5.46 σ]

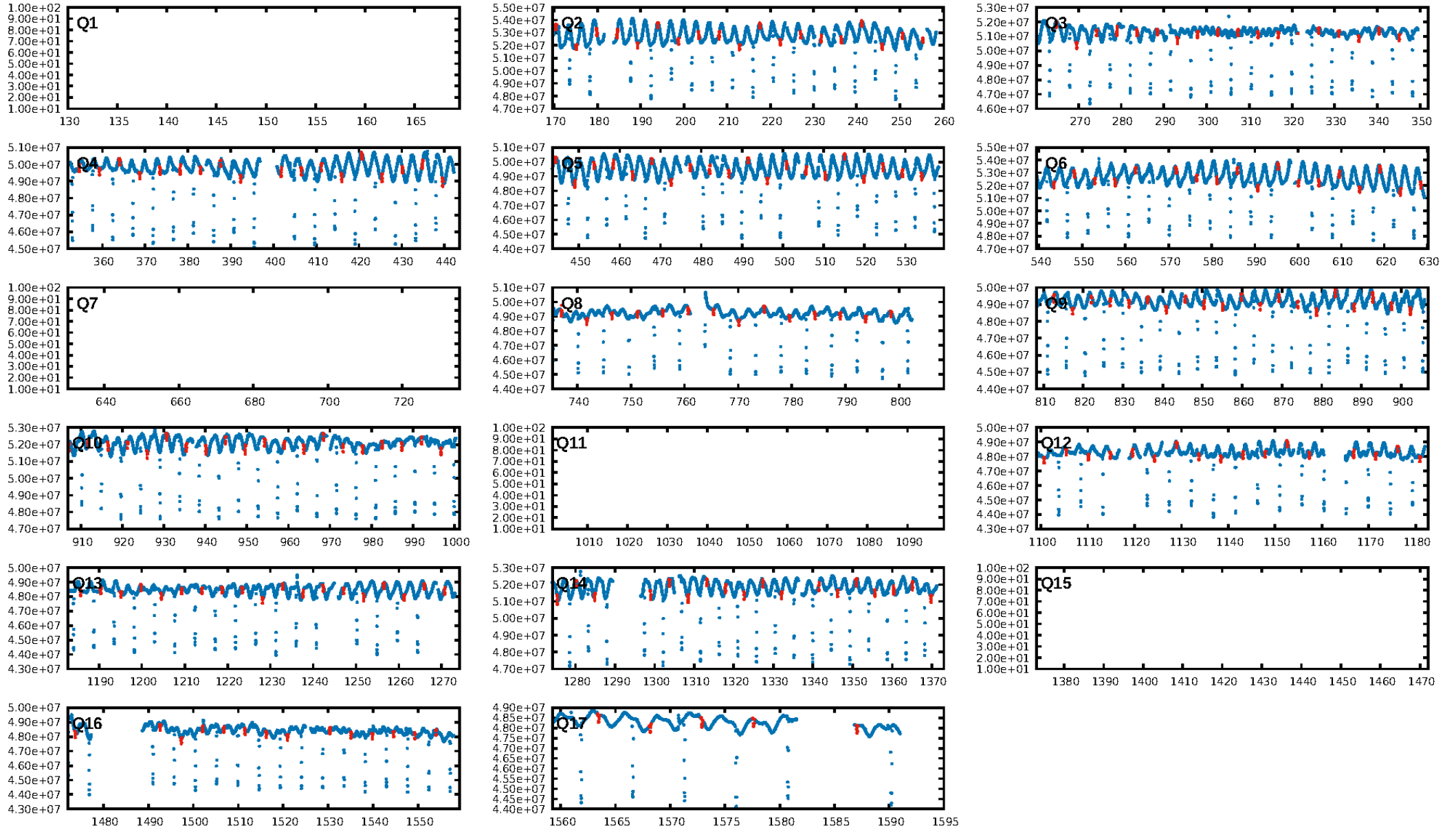
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [213/213]
GhostDiagnostic-chr: 2.13
Centroid-sig: 0.0%
Centroid-so: 0.491 arcsec [25.39 σ]
OotOffset-rm: 0.395 arcsec [5.56 σ]
KicOffset-rm: 0.641 arcsec [8.63 σ]
OotOffset-st: 4/1/4/4 [13]
KicOffset-st: 4/1/4/4 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

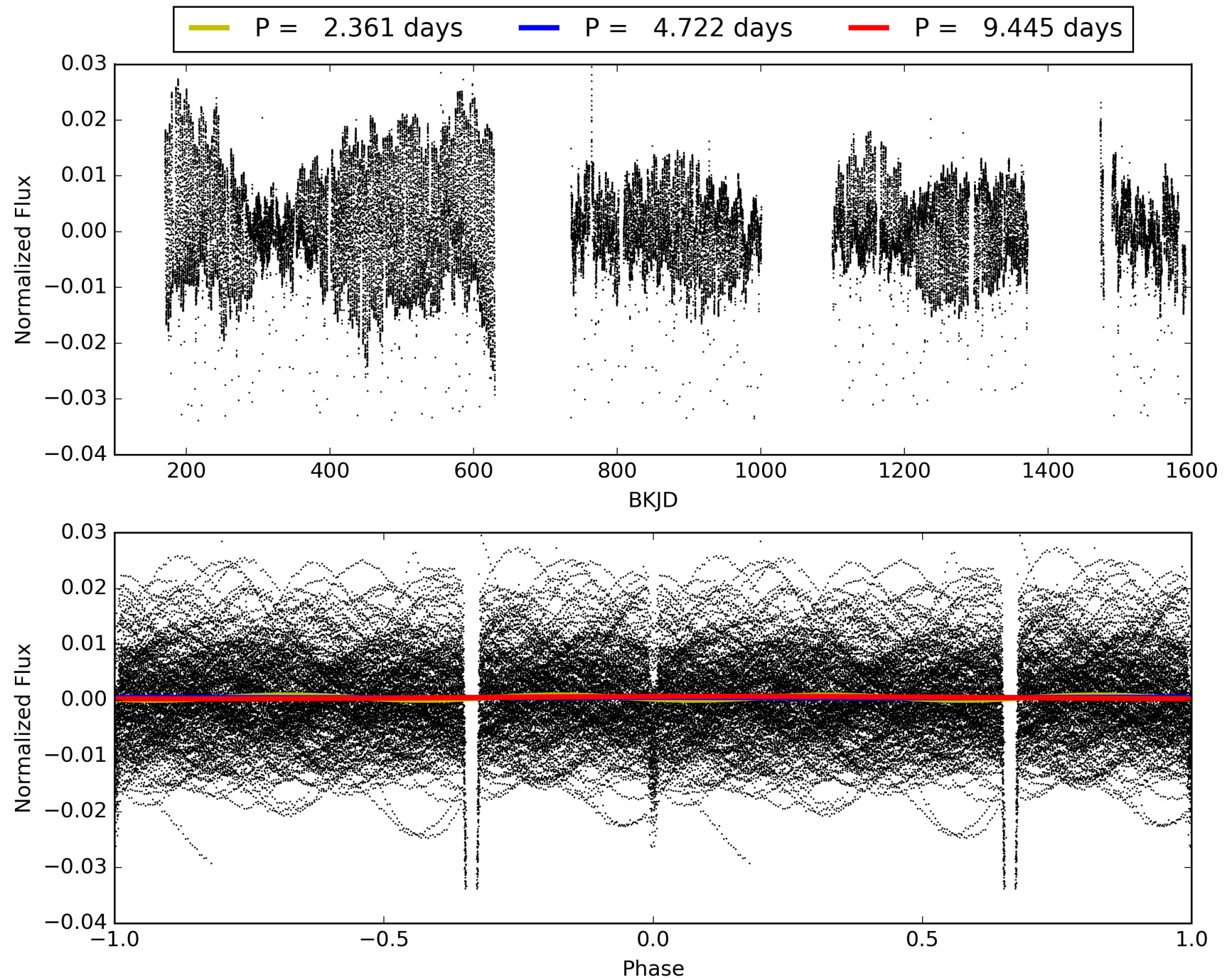
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 00:59:04 Z

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

TCE 010287248-02, PDC Light Curves

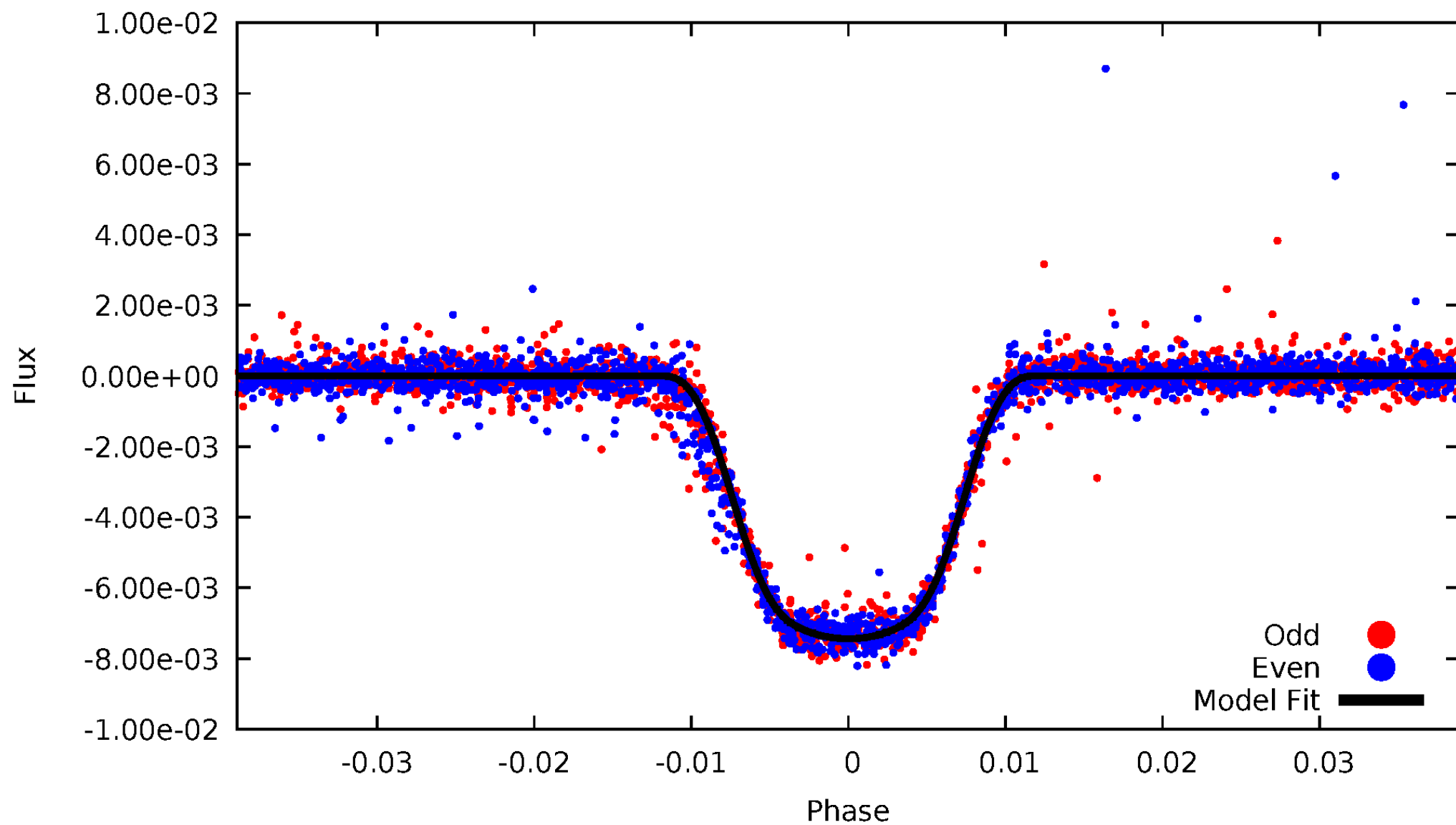


TCE 010287248-02



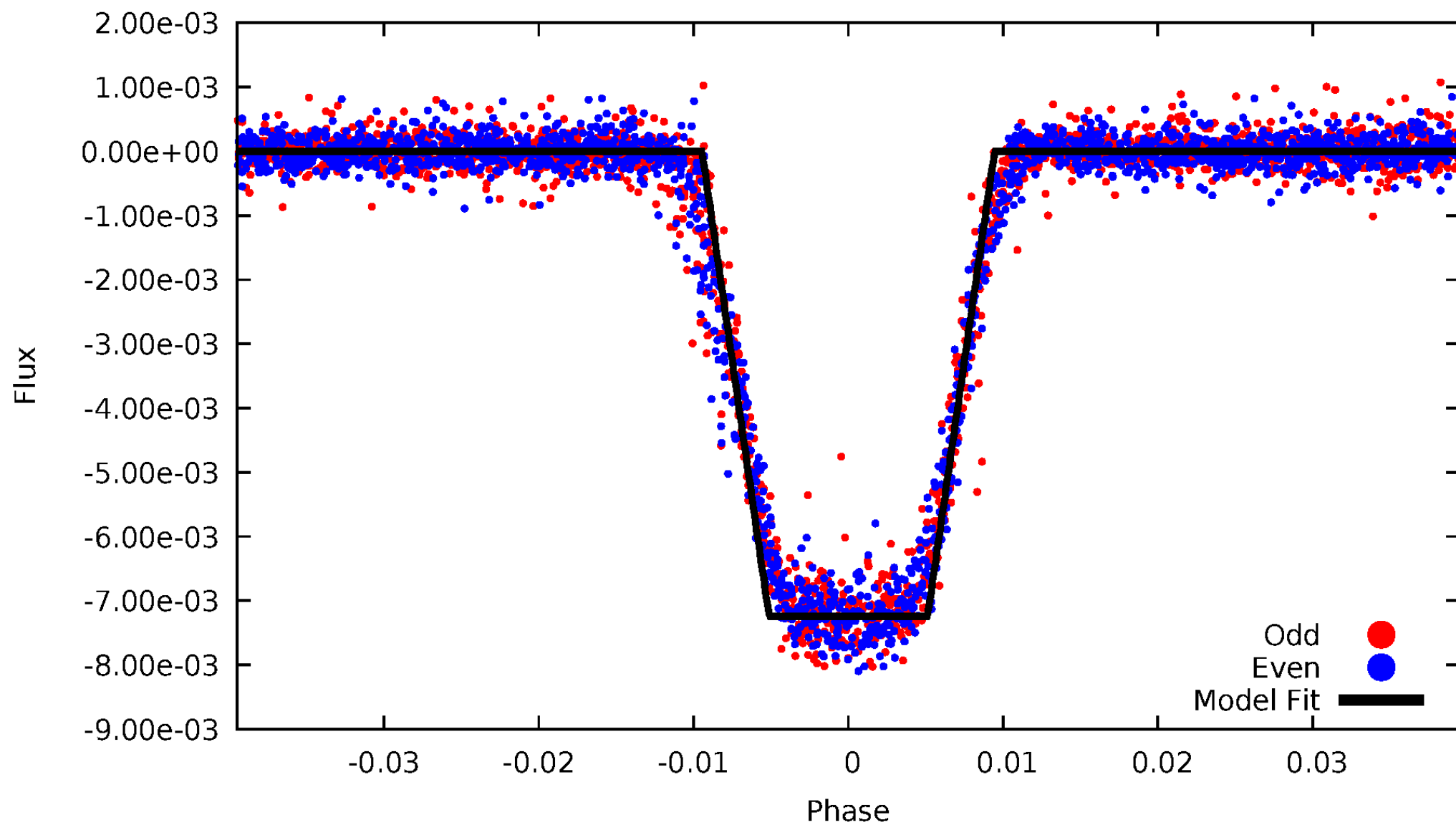
DV Odd/Even

TCE 010287248-02



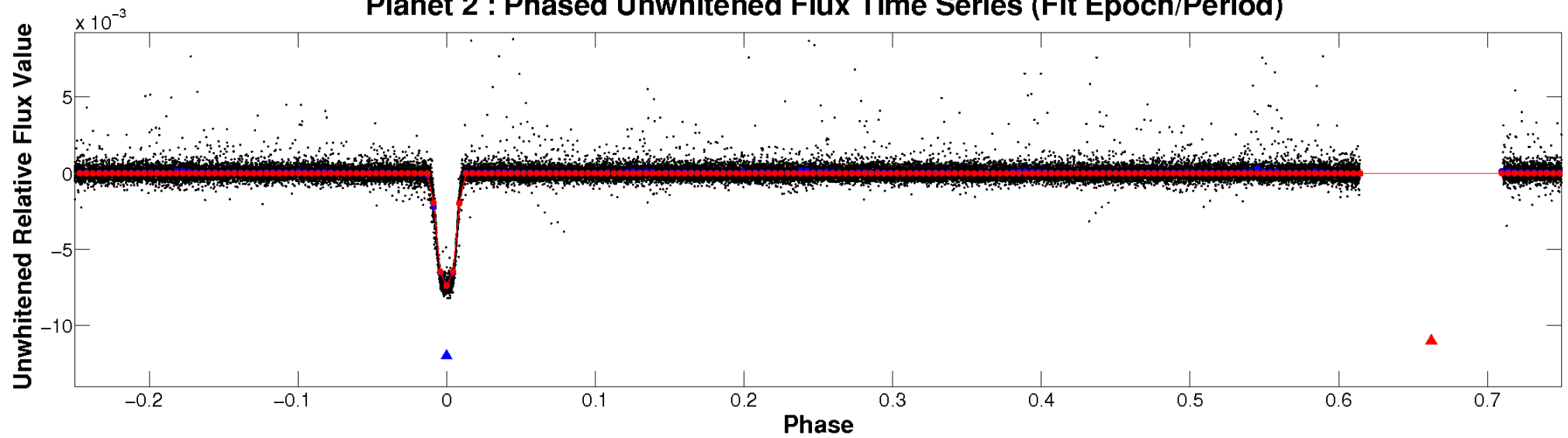
ALT Odd/Even

TCE 010287248-02

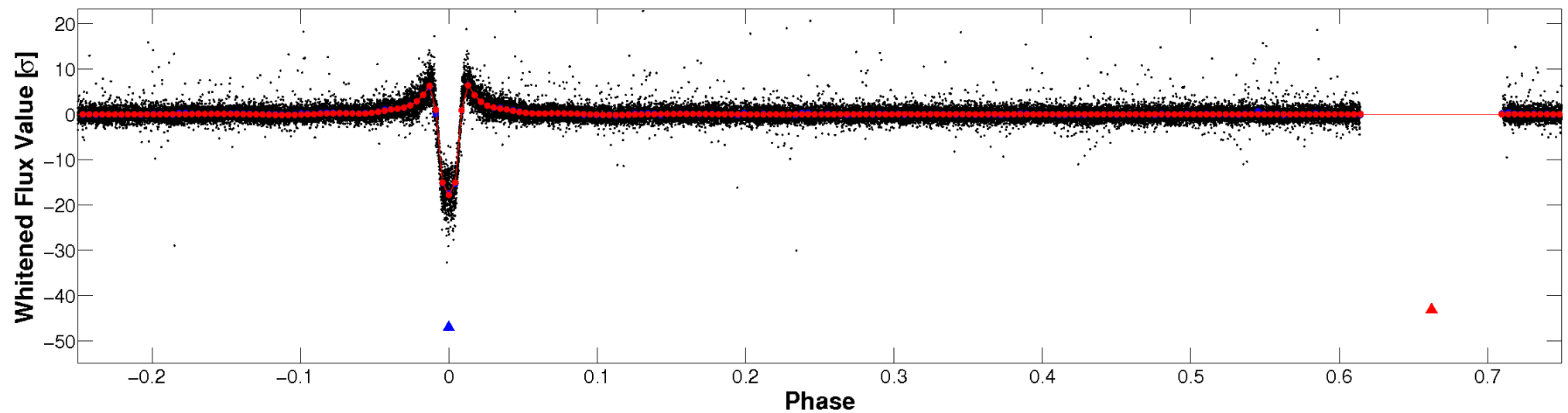


Non-Whitened Vs. Whitened Light Curve

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

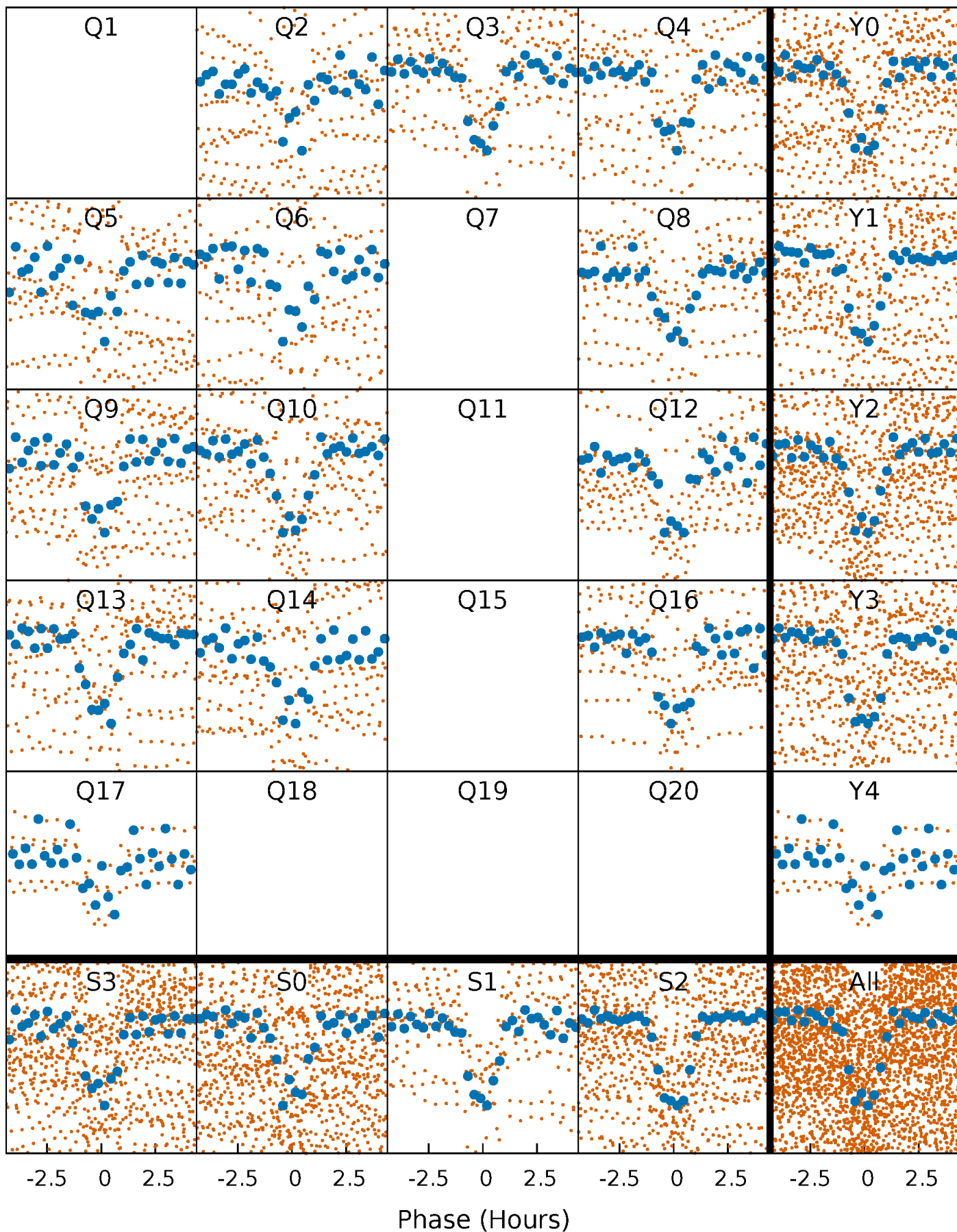


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



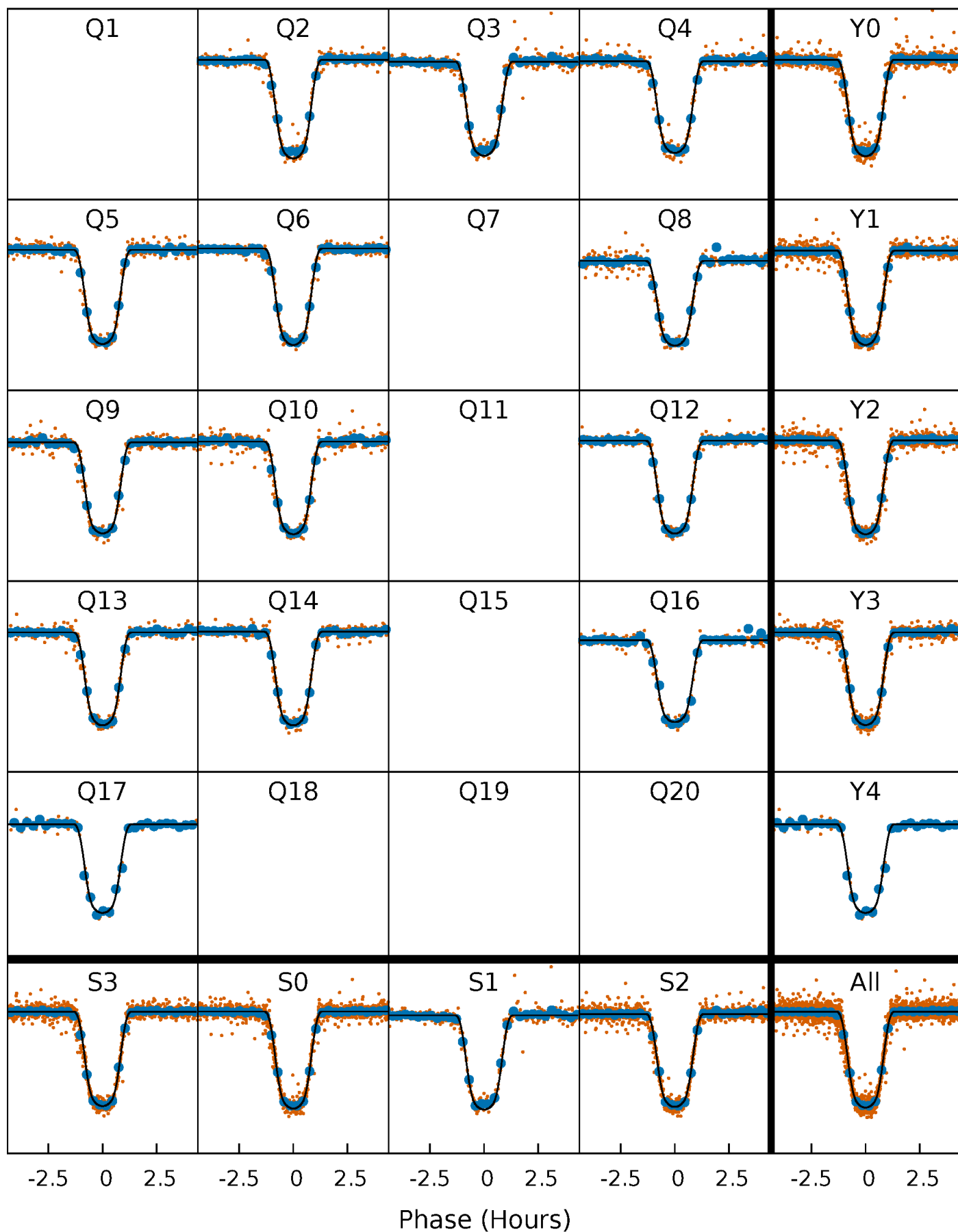
PDC Quarter-Phased Transit Curves

TCE 010287248-02 P= 4.722255 Days $T_0=132.615485$ (BKJD)



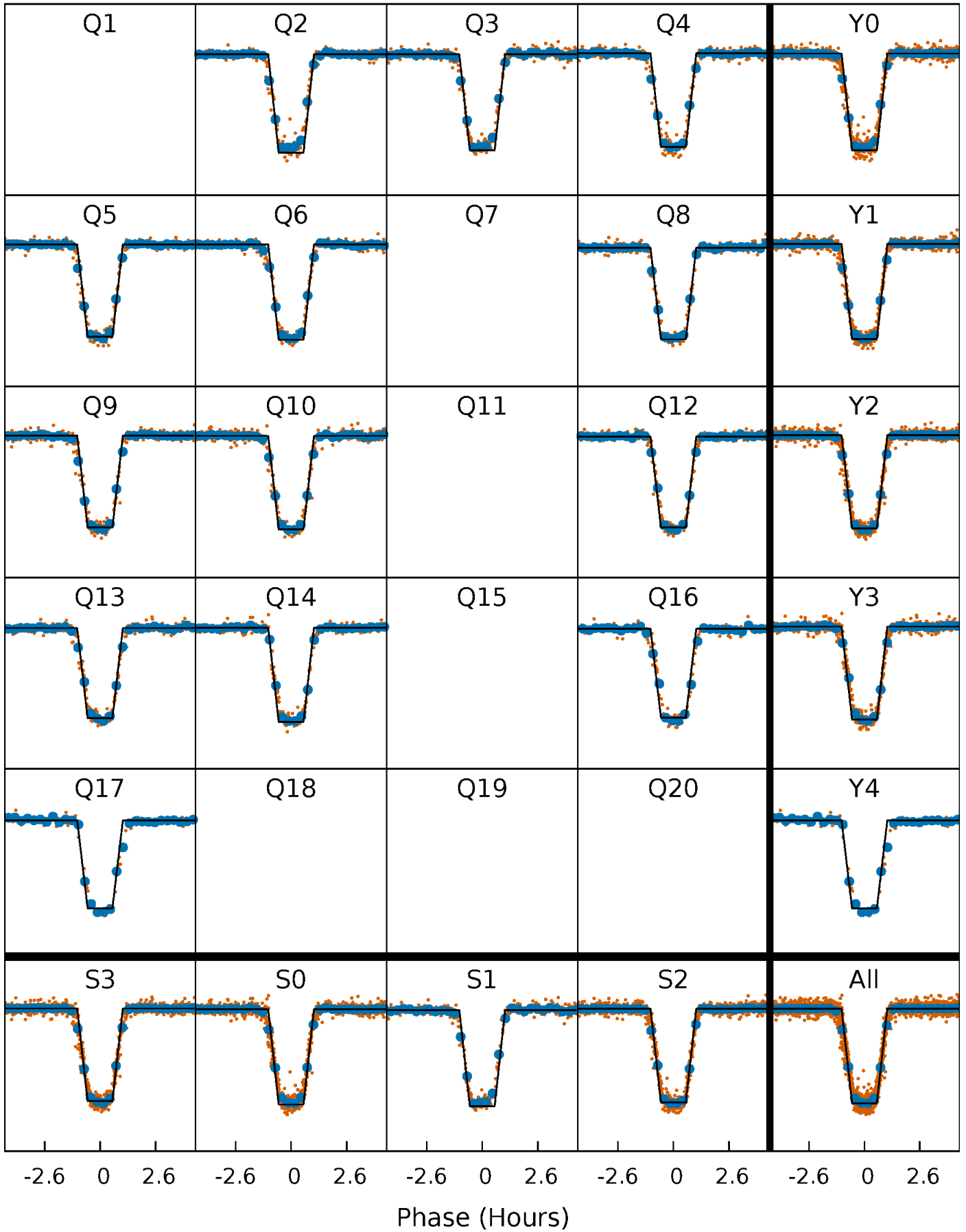
DV Quarter-Phased Transit Curves

TCE 010287248-02 P= 4.722255 Days $T_0=132.615485$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

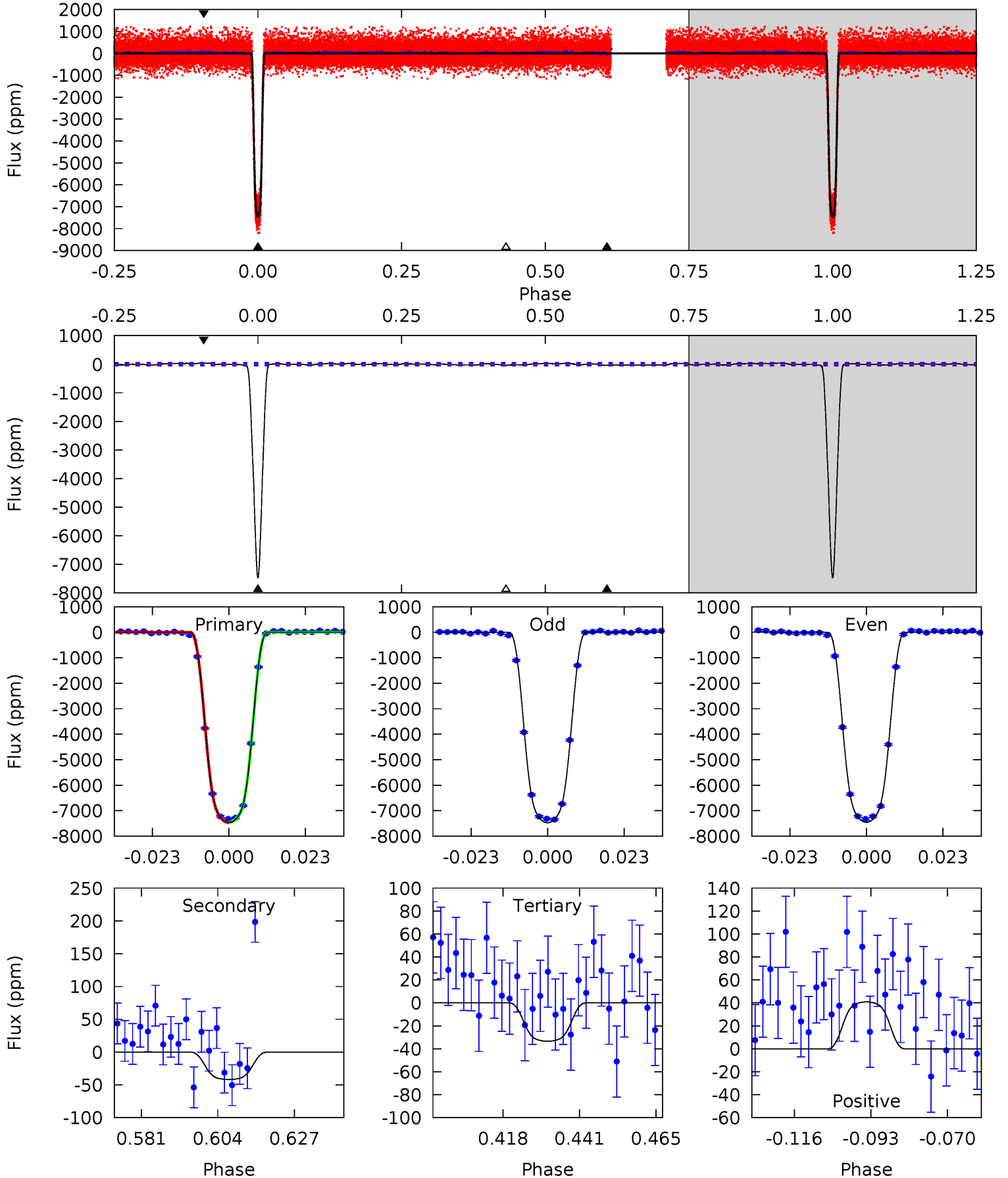
TCE 010287248-02 $P = 4.722244$ Days $T_0 = 132.616682$ (BKJD)



DV Model-Shift Uniqueness Test

010287248-02, P = 4.722255 Days, E = 132.615485 Days

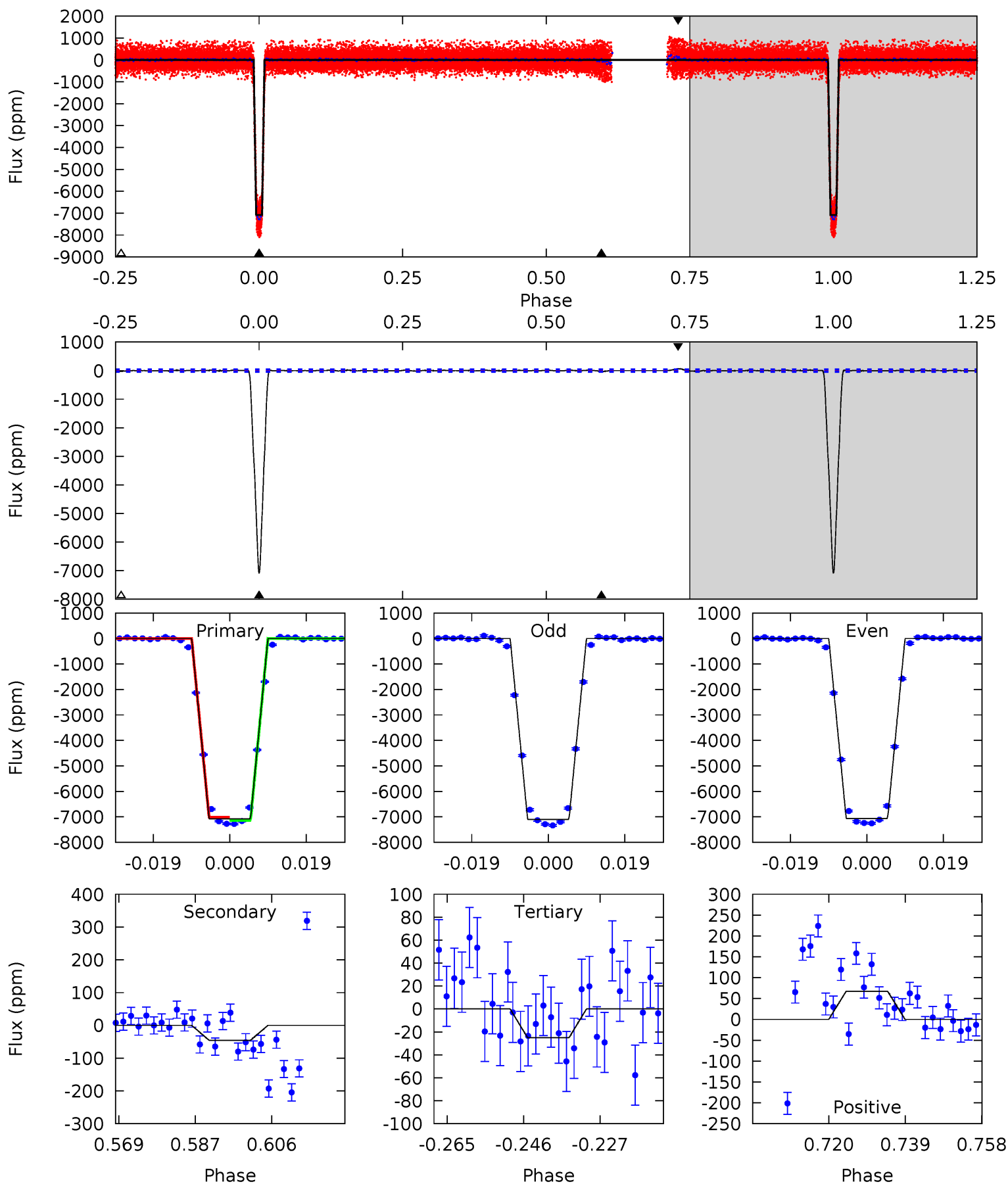
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
802.9	4.50	3.59	4.39	4.86	2.27	1.82	799.3	798.5	0.91	0.11	1.10	1.00	0.01	0.32



Alt Model-Shift Uniqueness Test

010287248-02, P = 4.722244 Days, E = 132.616682 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
862.8	5.55	3.06	8.23	4.90	2.35	1.26	859.7	854.5	2.50	-2.68	2.19	1.00	0.01	6.91



Stellar Parameters For KIC 010287248

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3801^{+57}_{-62}	$4.776^{+0.025}_{-0.039}$	$-0.140^{+0.100}_{-0.100}$	$0.488^{+0.033}_{-0.027}$	$0.517^{+0.024}_{-0.032}$	$6.283^{+0.759}_{-0.886}$
	+1%/-2%	+1%/-1%	+71%/-71%	+7%/-6%	+5%/-6%	+12%/-14%
Source	SPE5	SPE5	SPE5	DSEP		

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

Secondary Eclipse Parameters for KIC 010287248-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-42 ± 9	$4.71^{+0.18}_{-0.14}$	780^{+16}_{-16}	1914^{+50}_{-60}	$2.050^{+0.470}_{-0.458}$
Alt.	-46 ± 8	$4.54^{+0.16}_{-0.13}$	780^{+15}_{-16}	1946^{+40}_{-46}	$2.367^{+0.457}_{-0.437}$

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

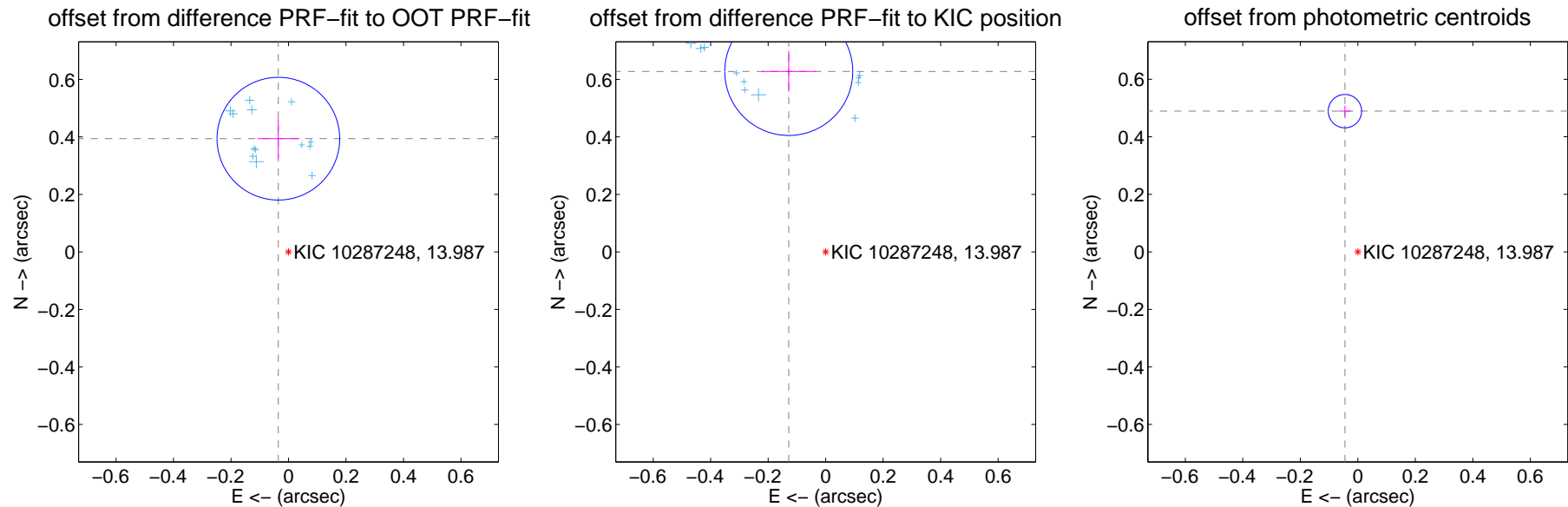
DV Centroid Data

Supplemental centroid analysis for 010287248-02. Kepler magnitude: 13.99. Transit SNR 442.40

There are 13 quarters with good PRF difference image offsets

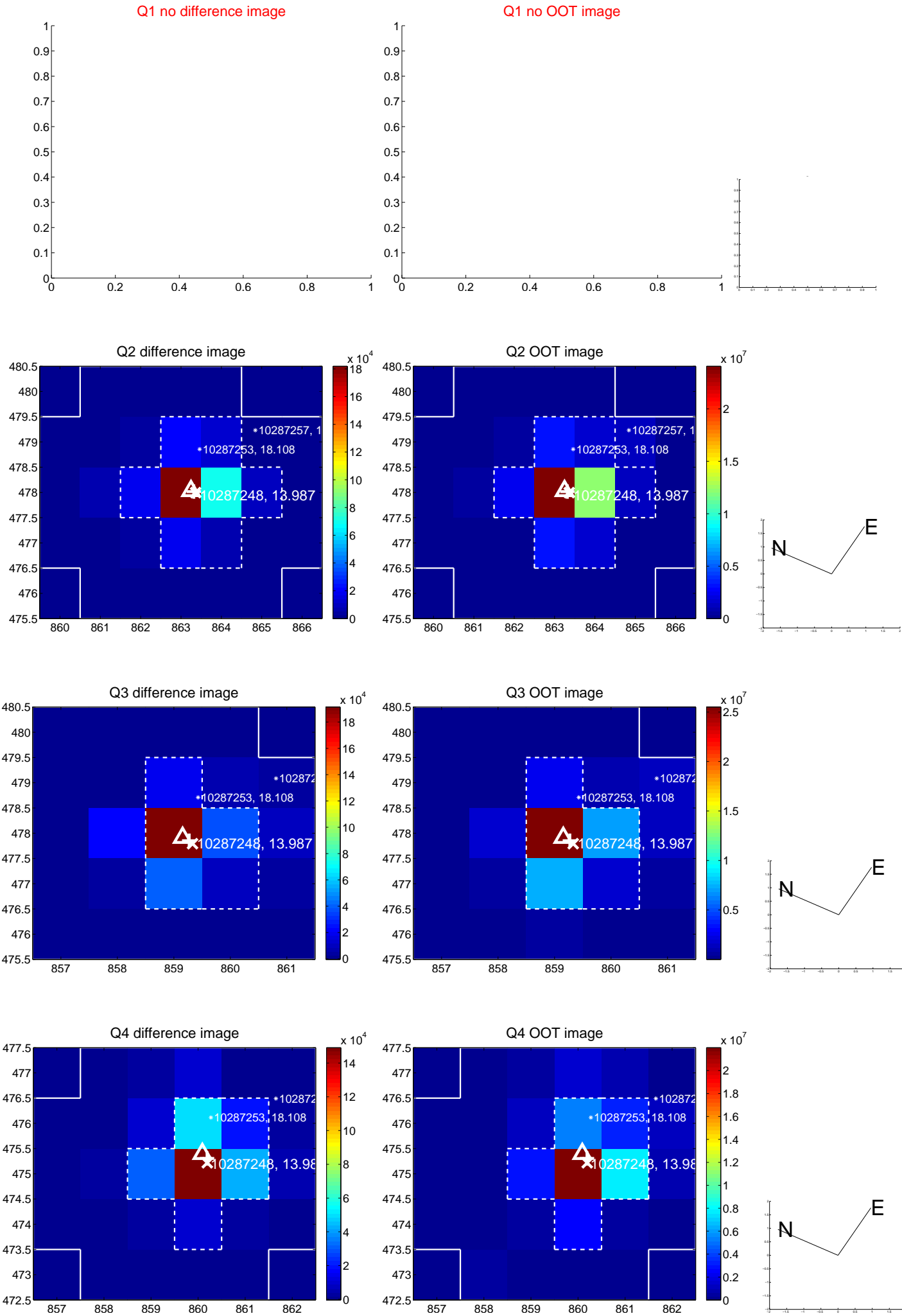
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.395 \pm 0.071	5.56	0.035 \pm 0.072	0.394 \pm 0.071
PRF-fit source offset from KIC position	0.641 \pm 0.074	8.63	0.128 \pm 0.094	0.628 \pm 0.071
photometric centroid source offset	0.49 \pm 0.02	25.39	0.04 \pm 0.02	0.49 \pm 0.02

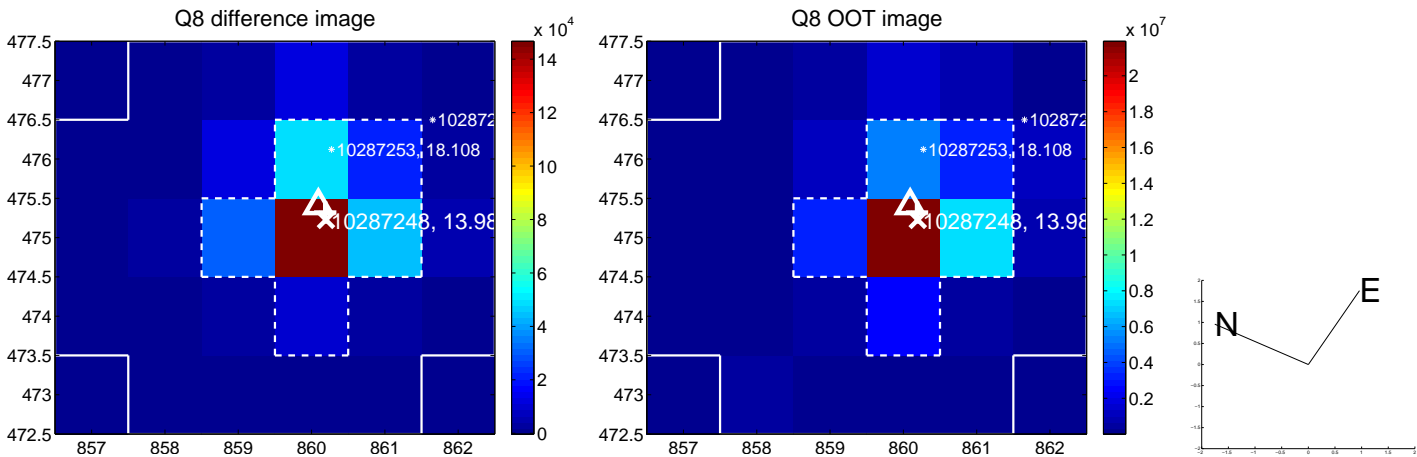
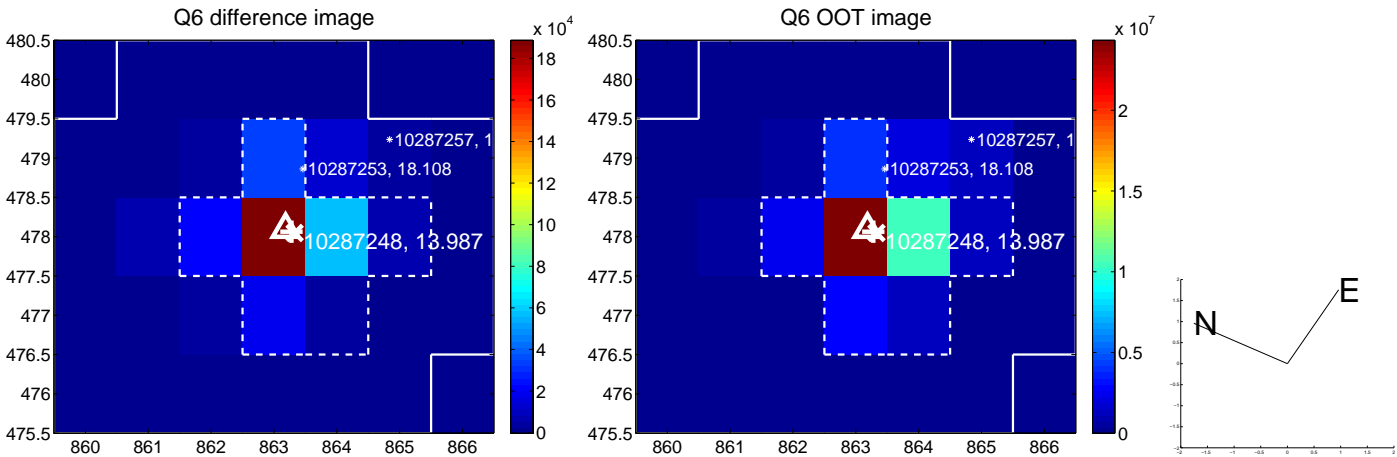
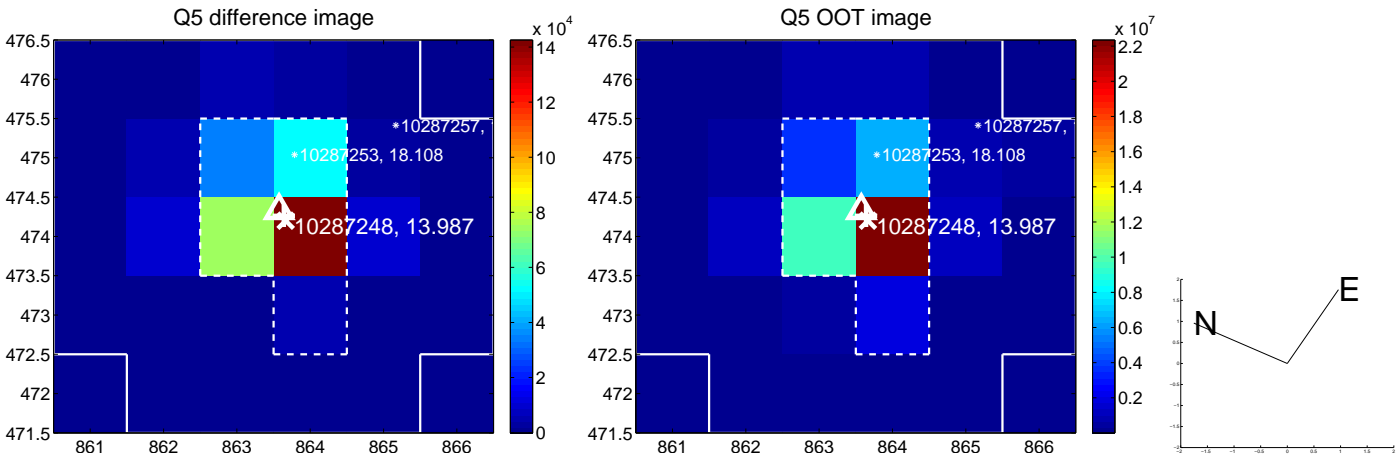


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

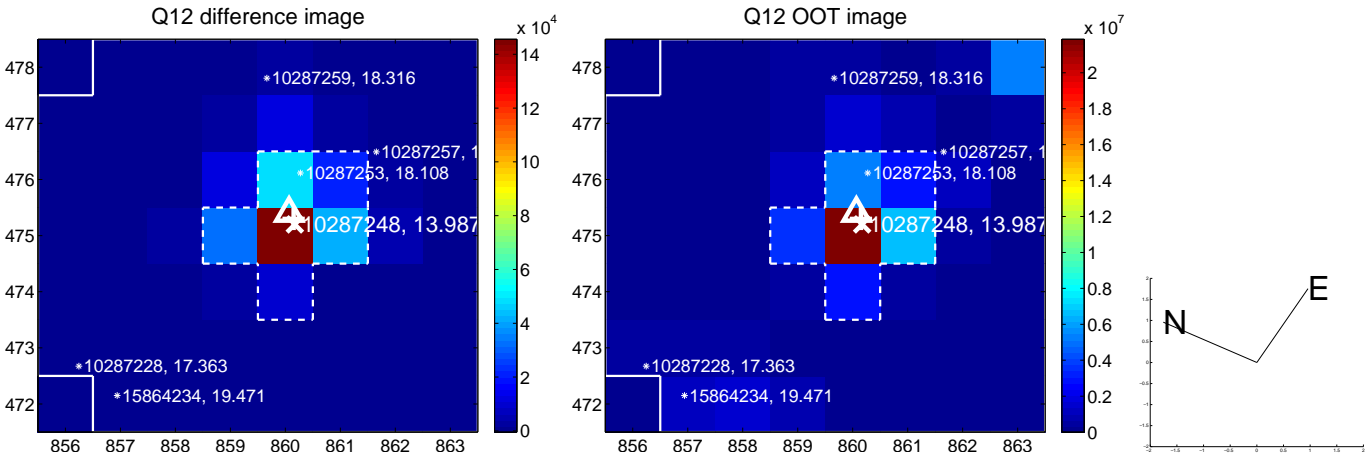
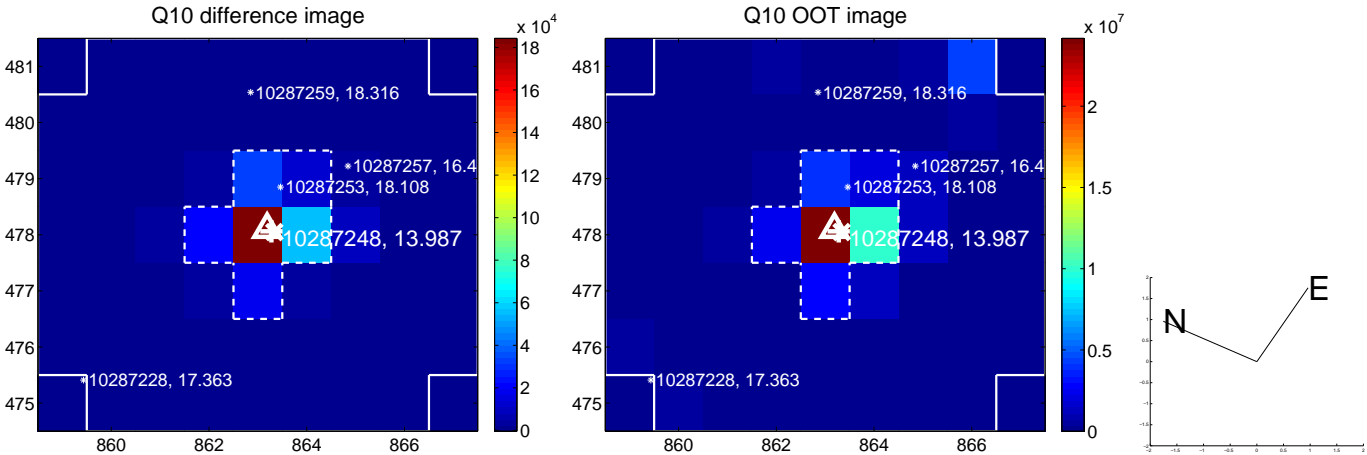
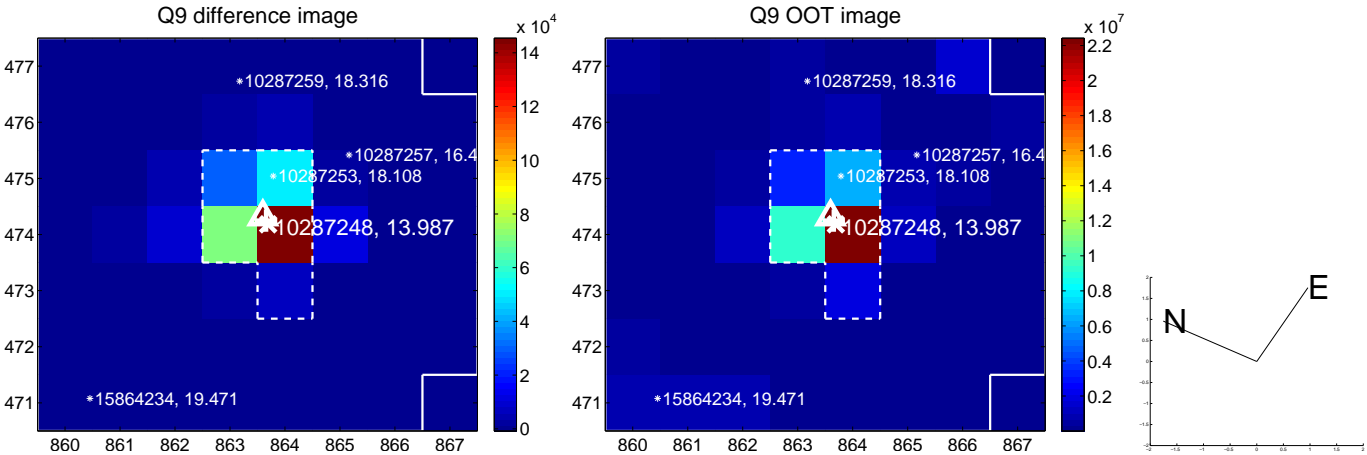
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



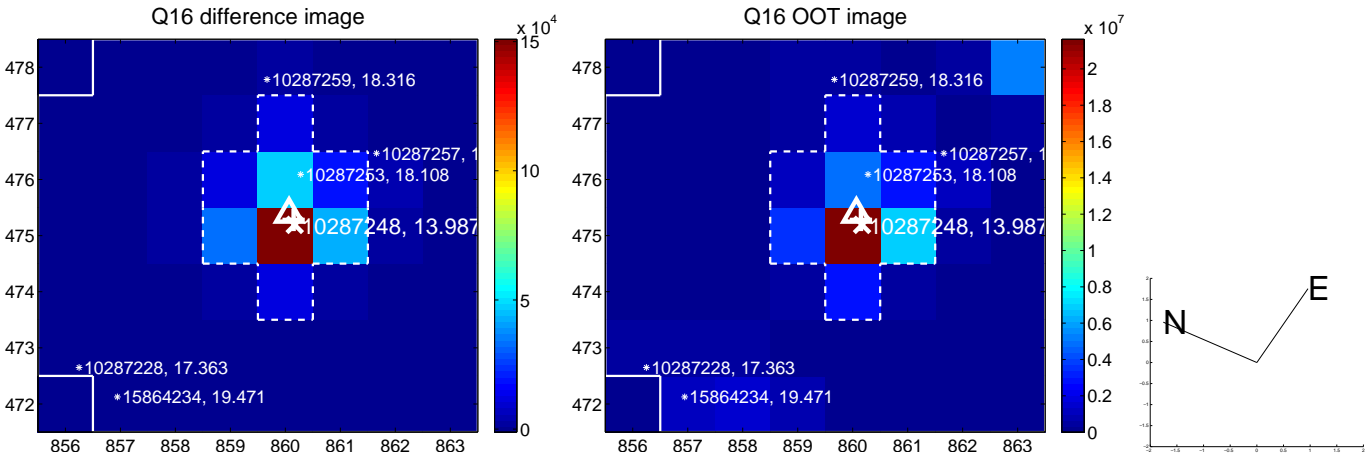
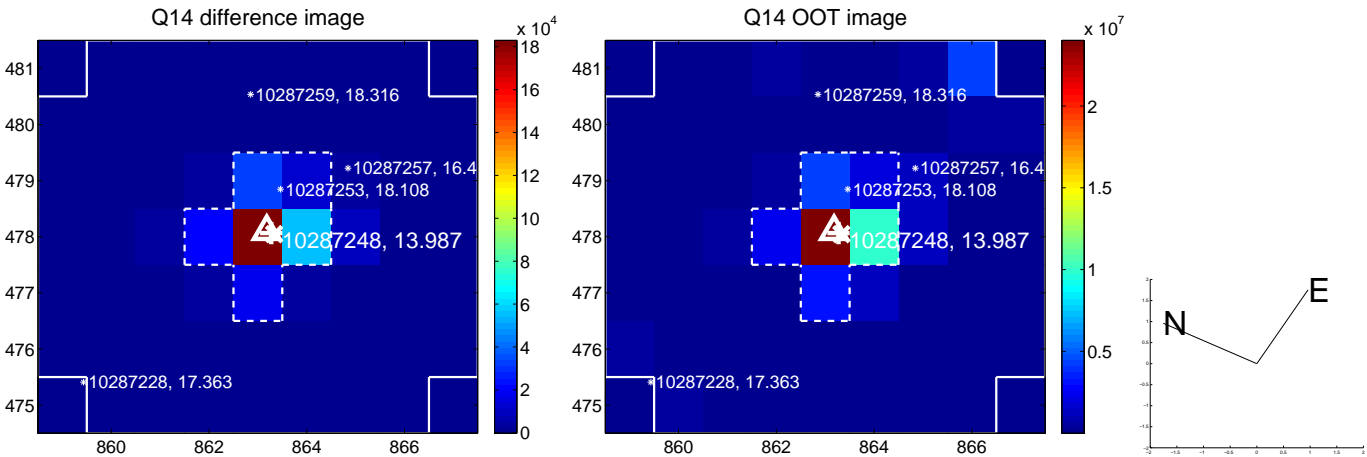
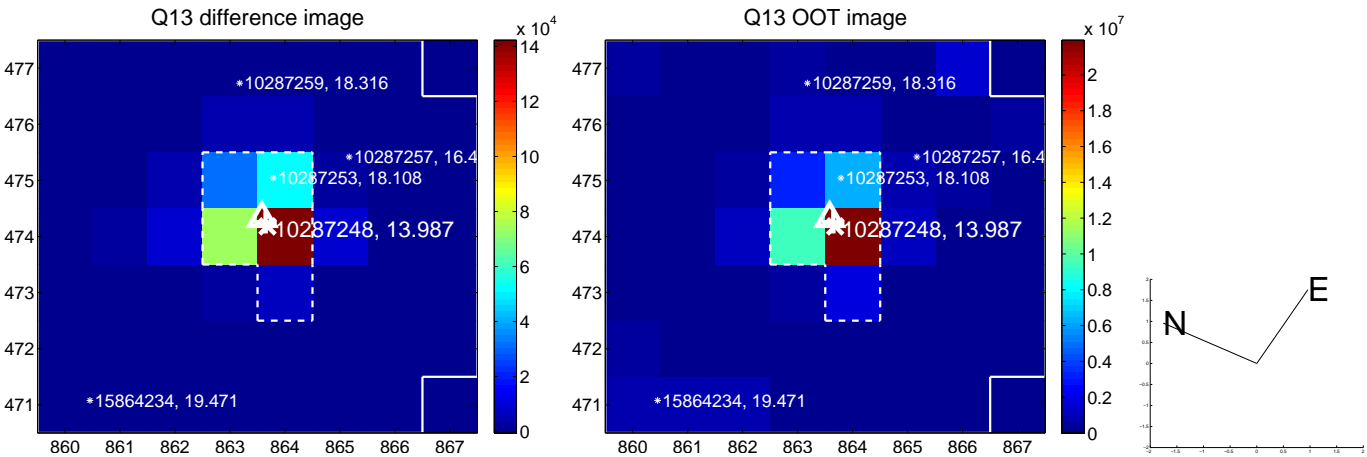
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



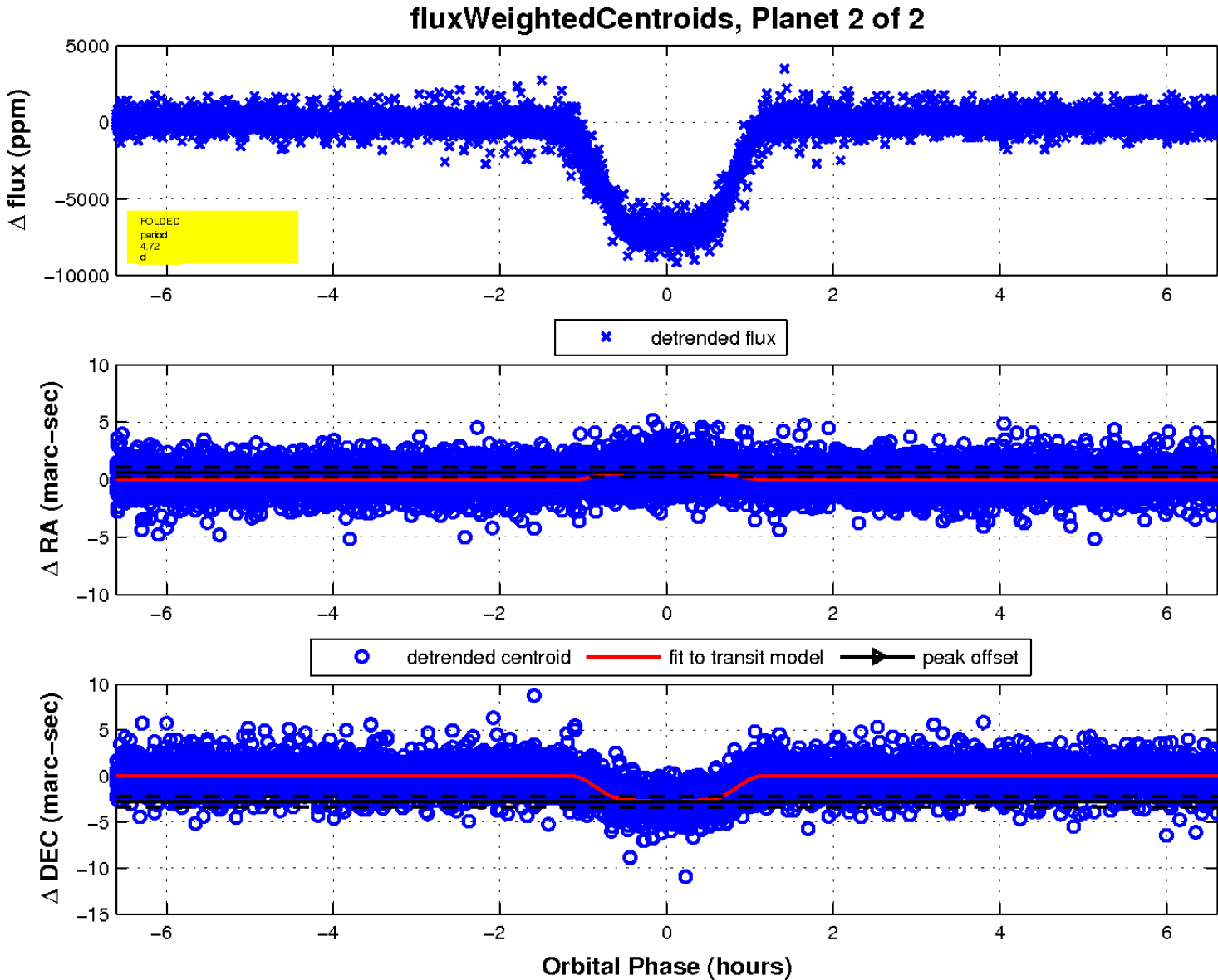
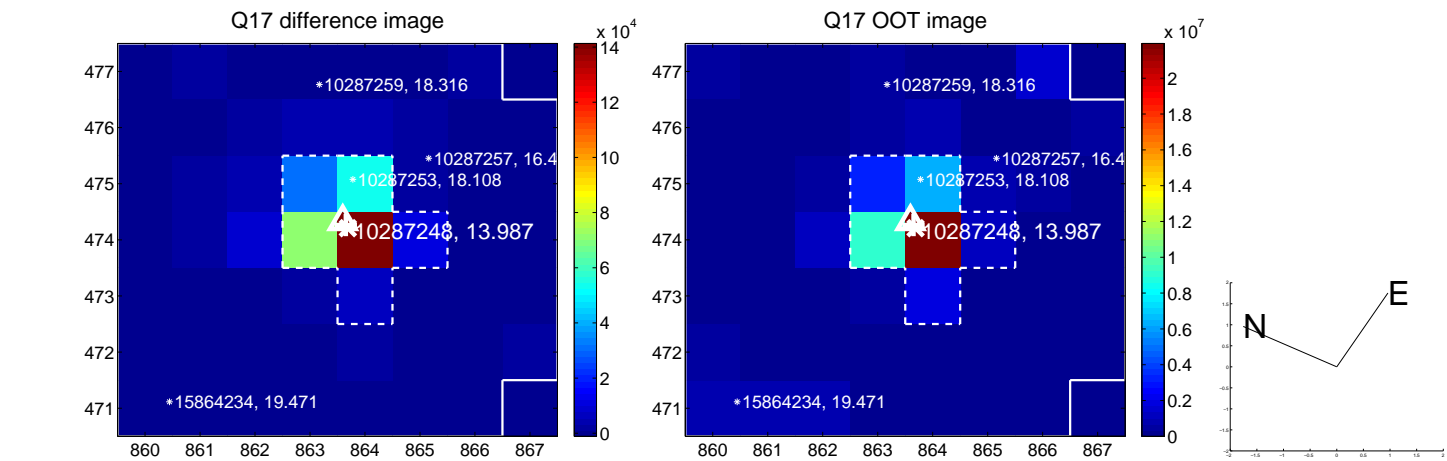
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

