

KIC 011874338

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})
011874338-01	OBS	3464.01	15.975013	135.717791	644.6	3.462	27.6	31.4	3.46	5220	17.89	403.68
011874338-02	OBS	No	15.975383	141.275473	578.8	3.387	25.1	29.0	3.46	5220	16.68	403.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011874338-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
011874338-02	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.

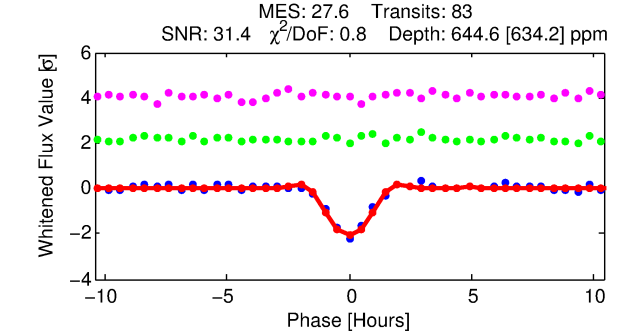
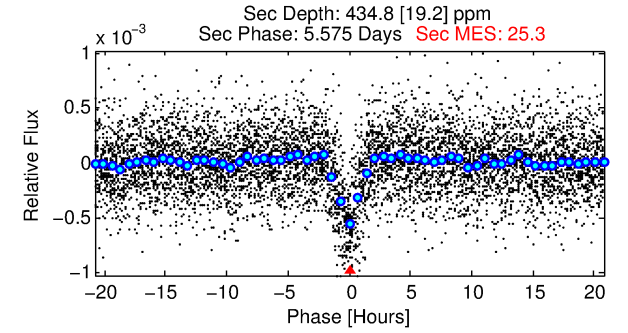
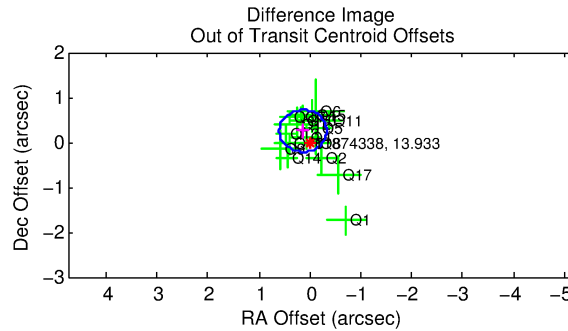
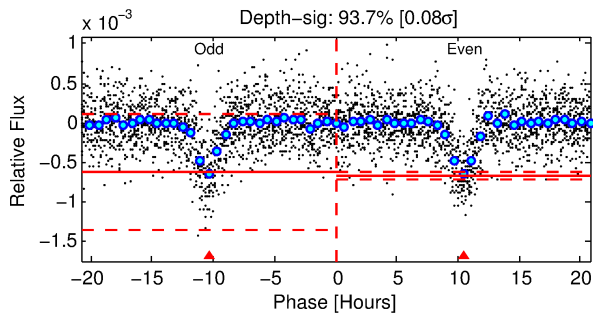
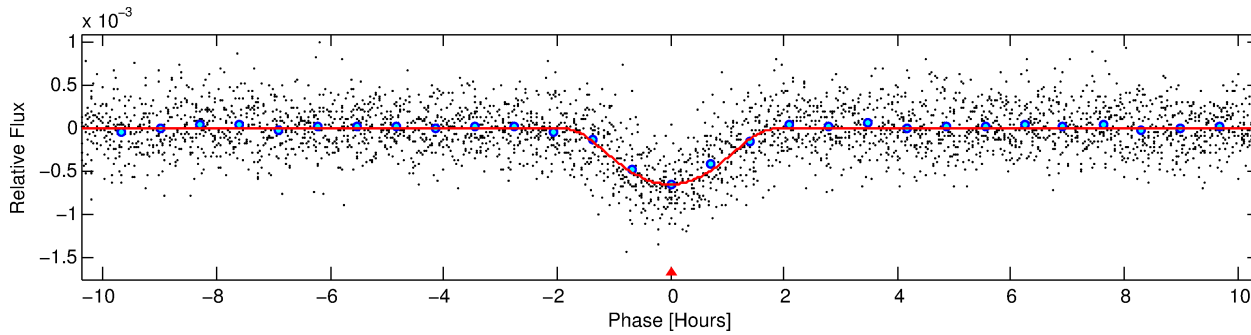
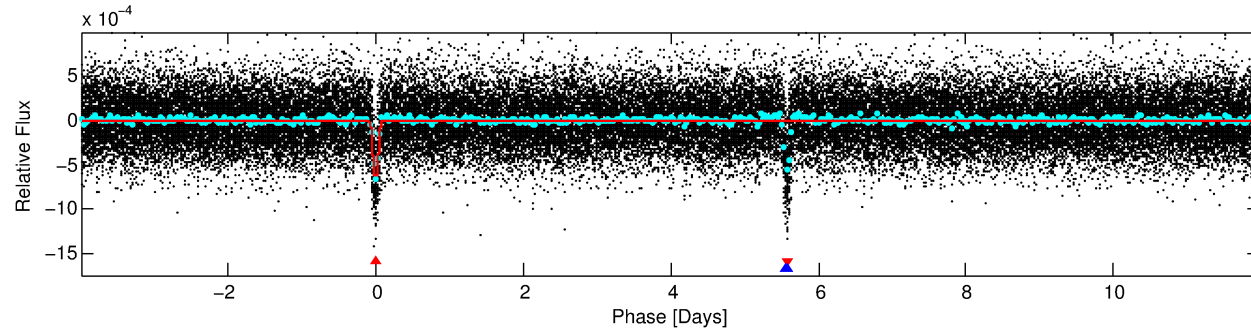
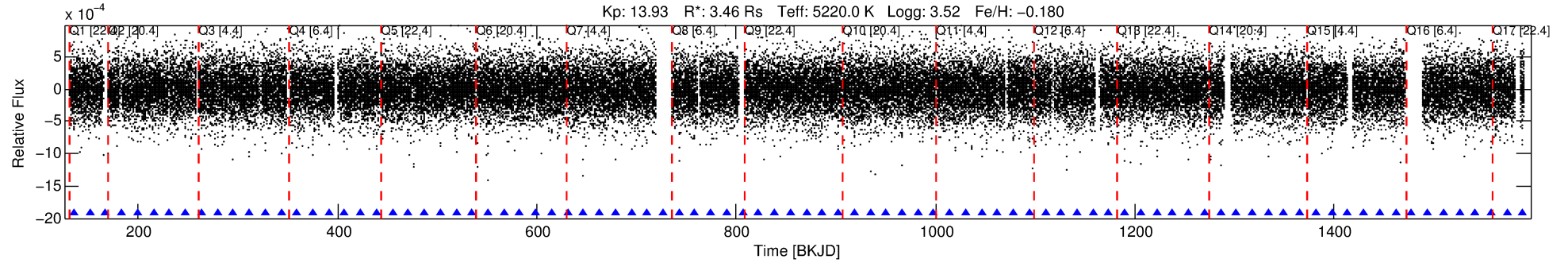
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011874338-01

No Significant Match Found

DV One-Page Summary

KIC: 11874338 Candidate: 1 of 2 Period: 15.975 d
KOI: K03464.01 Corr: 0.985



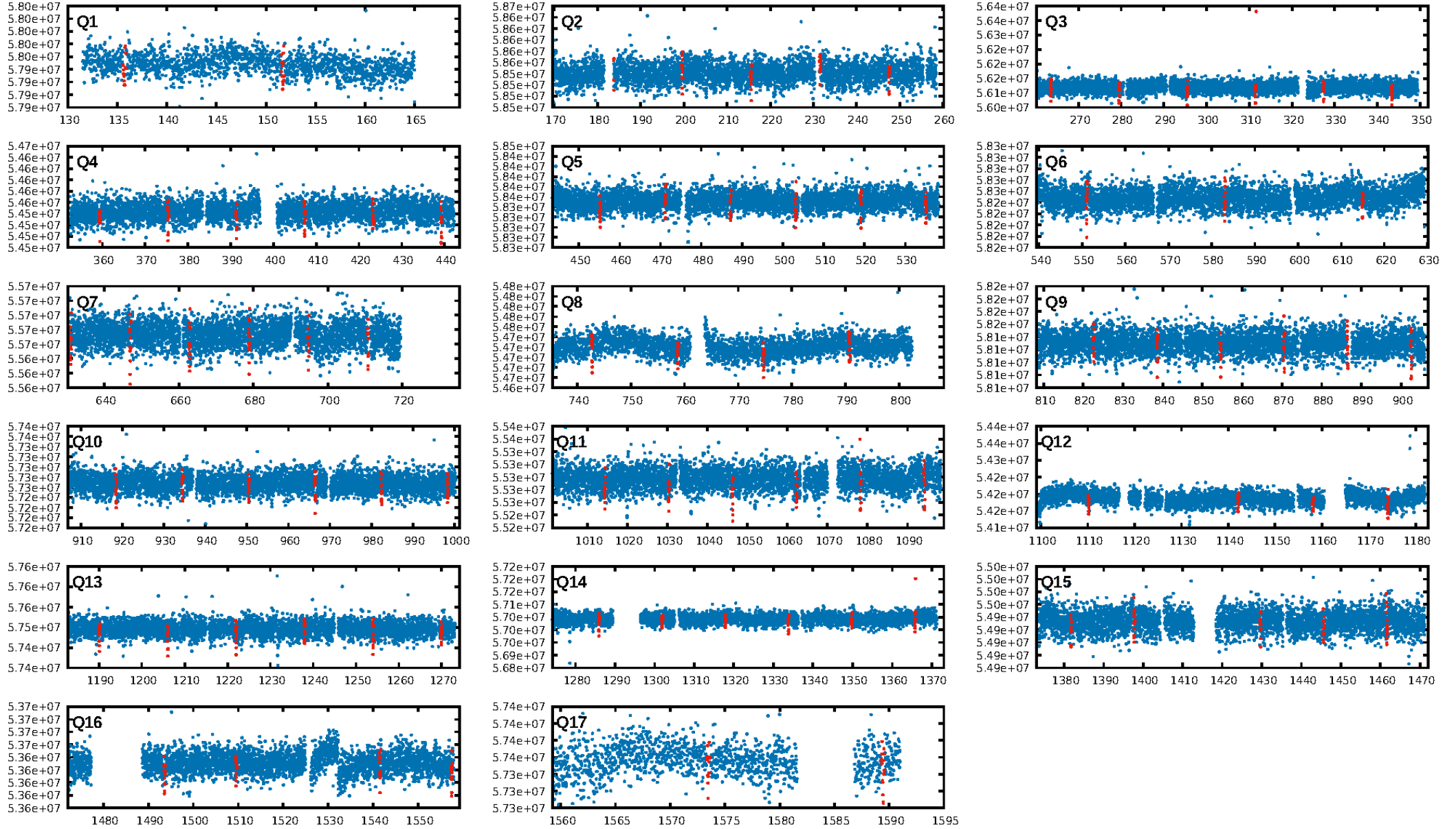
DV Fit Results:

Period = 15.97501 [0.00005] d
Epoch = 135.7178 [0.0025] BKJD
Rp/R* = 0.0474 [0.0577]
a/R* = 11.03 [3.22]
b = 1.00 [0.05]
Seff = 403.68 [576.37]
Teq = 1143 [408] K
Rp = 17.89 [24.29] Re
a = 0.1403 [0.1111] AU
Ag = 14.71 [41.45] [0.33 σ]
Teffp = 3461 [2107] K [1.08 σ]

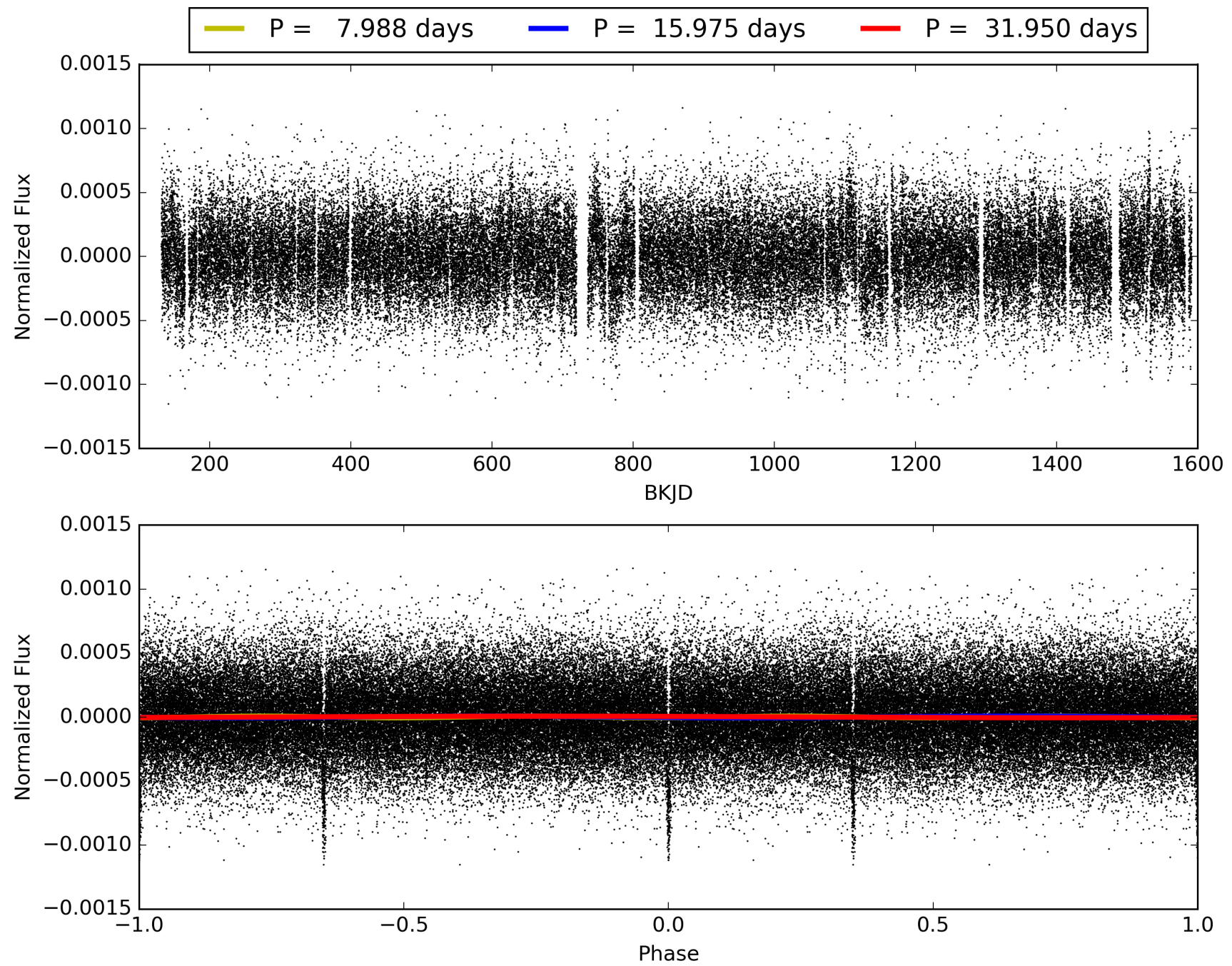
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00 σ]
ModelChiSquare2-sig: 99.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.40e-159
RollingBand-fgt: 1.00 [79/79]
GhostDiagnostic-chr: 5.94
Centroid-sig: 84.6%
Centroid-so: 0.335 arcsec [1.12 σ]
OotOffset-rm: 0.284 arcsec [1.84 σ]
KicOffset-rm: 0.351 arcsec [2.06 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]

TCE 011874338-01, PDC Light Curves

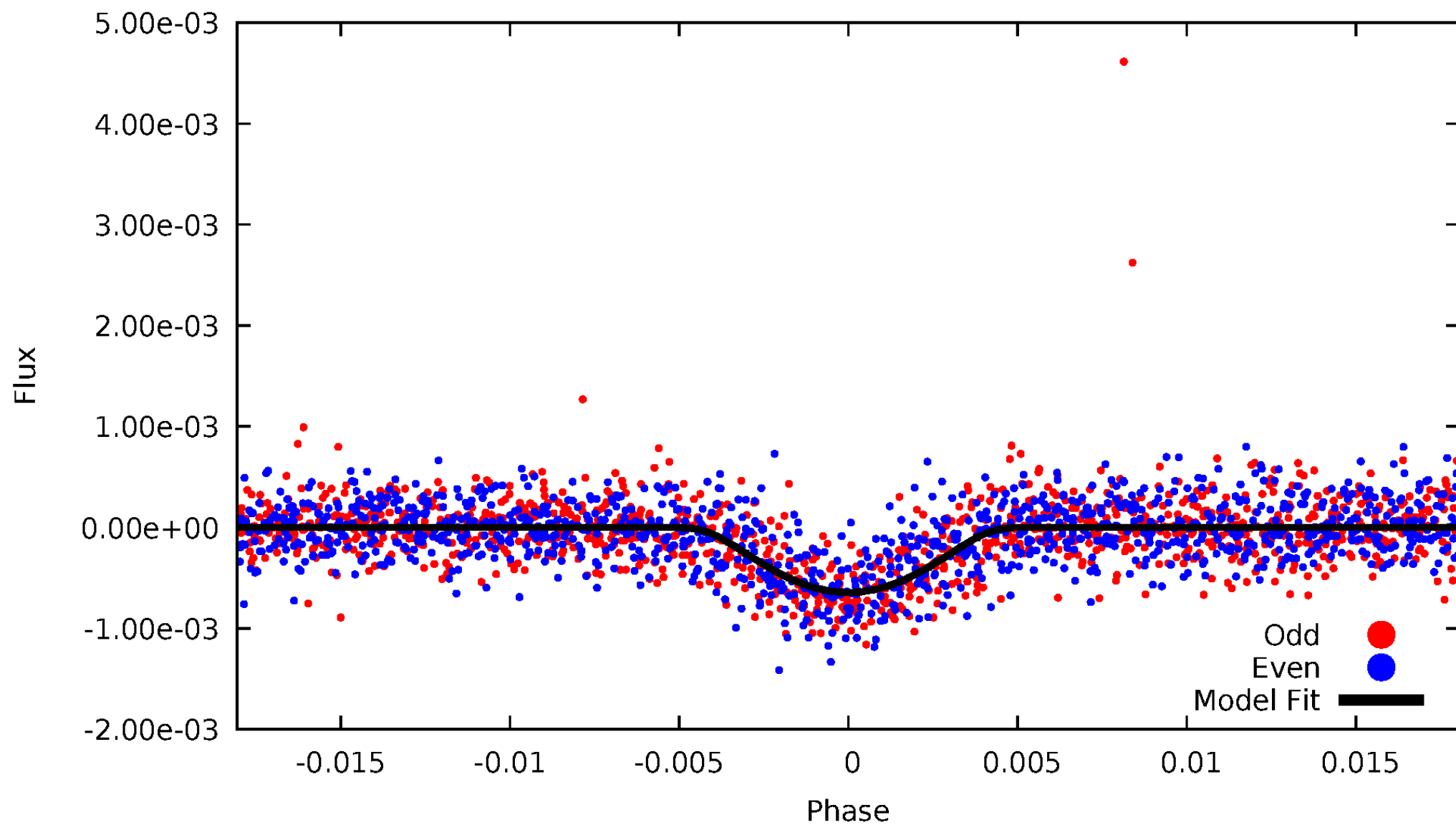


TCE 011874338-01



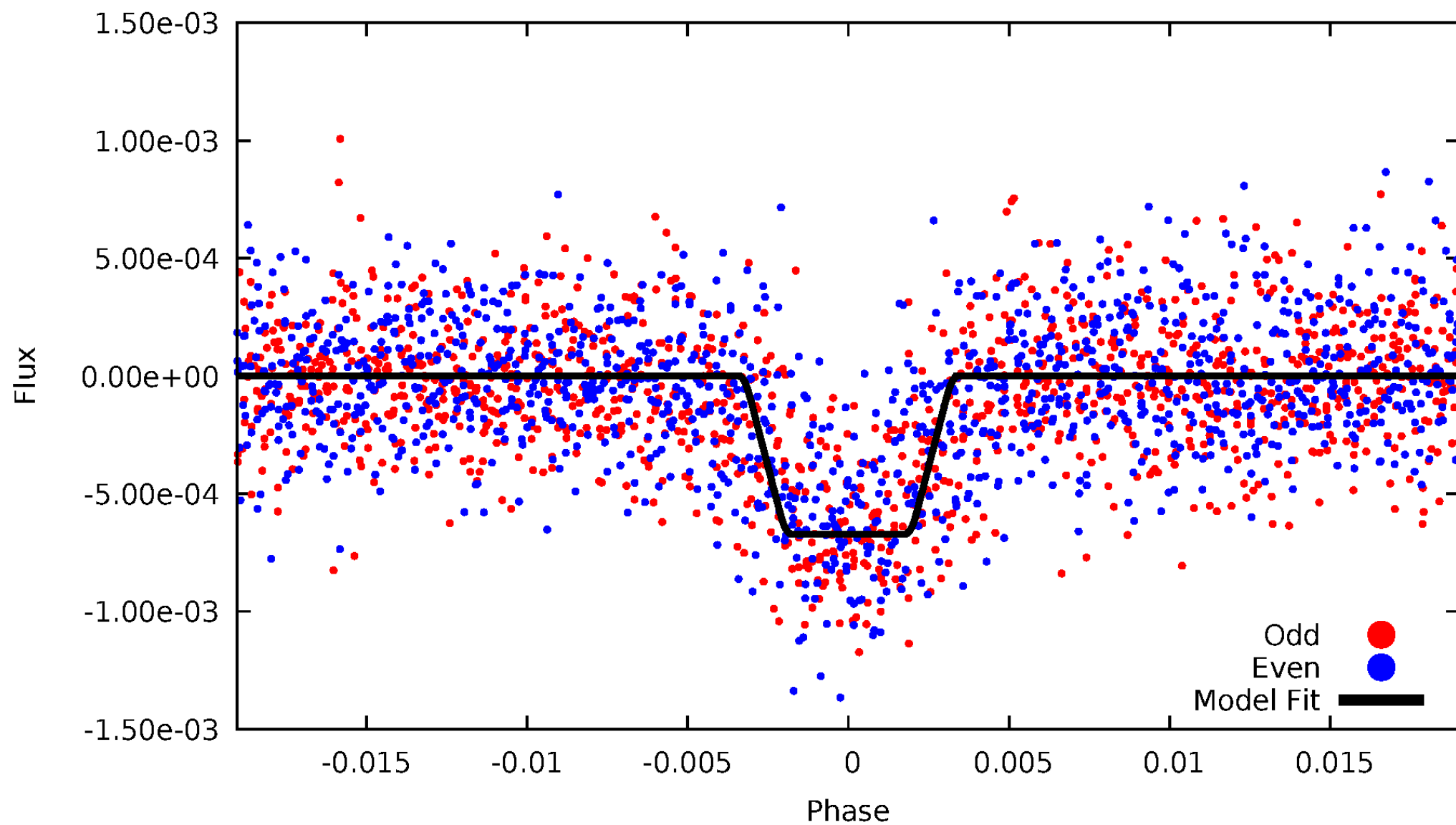
DV Odd/Even

TCE 011874338-01



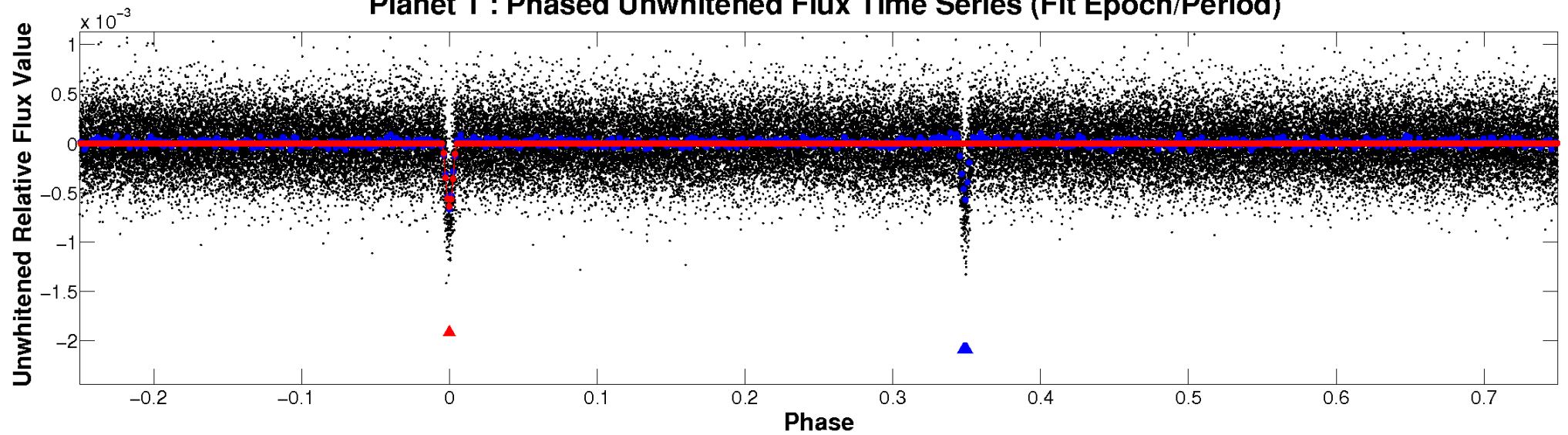
ALT Odd/Even

TCE 011874338-01

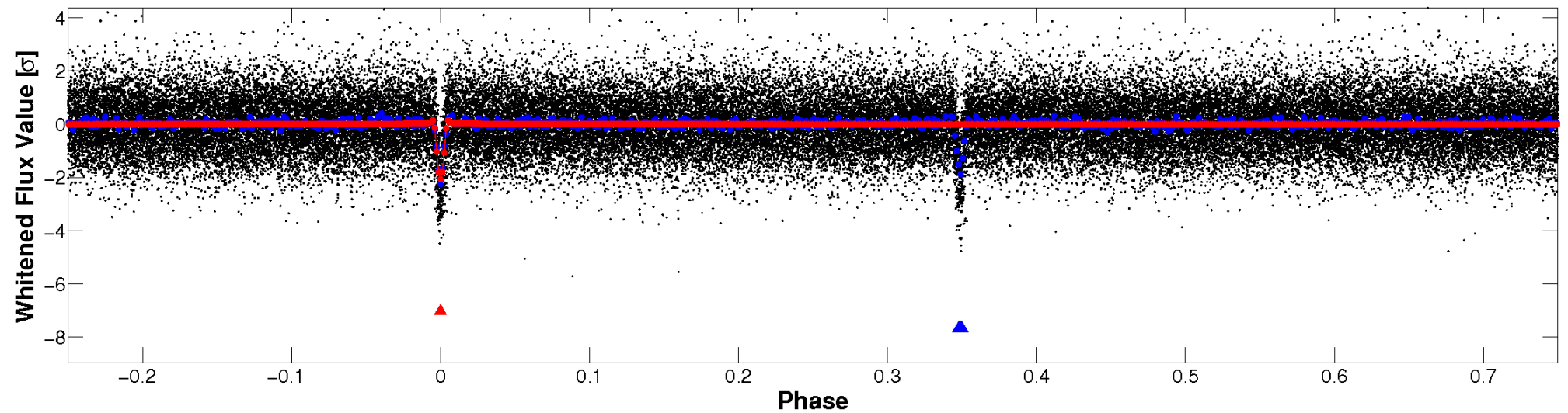


Non-Whitened Vs. Whitened Light Curve

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

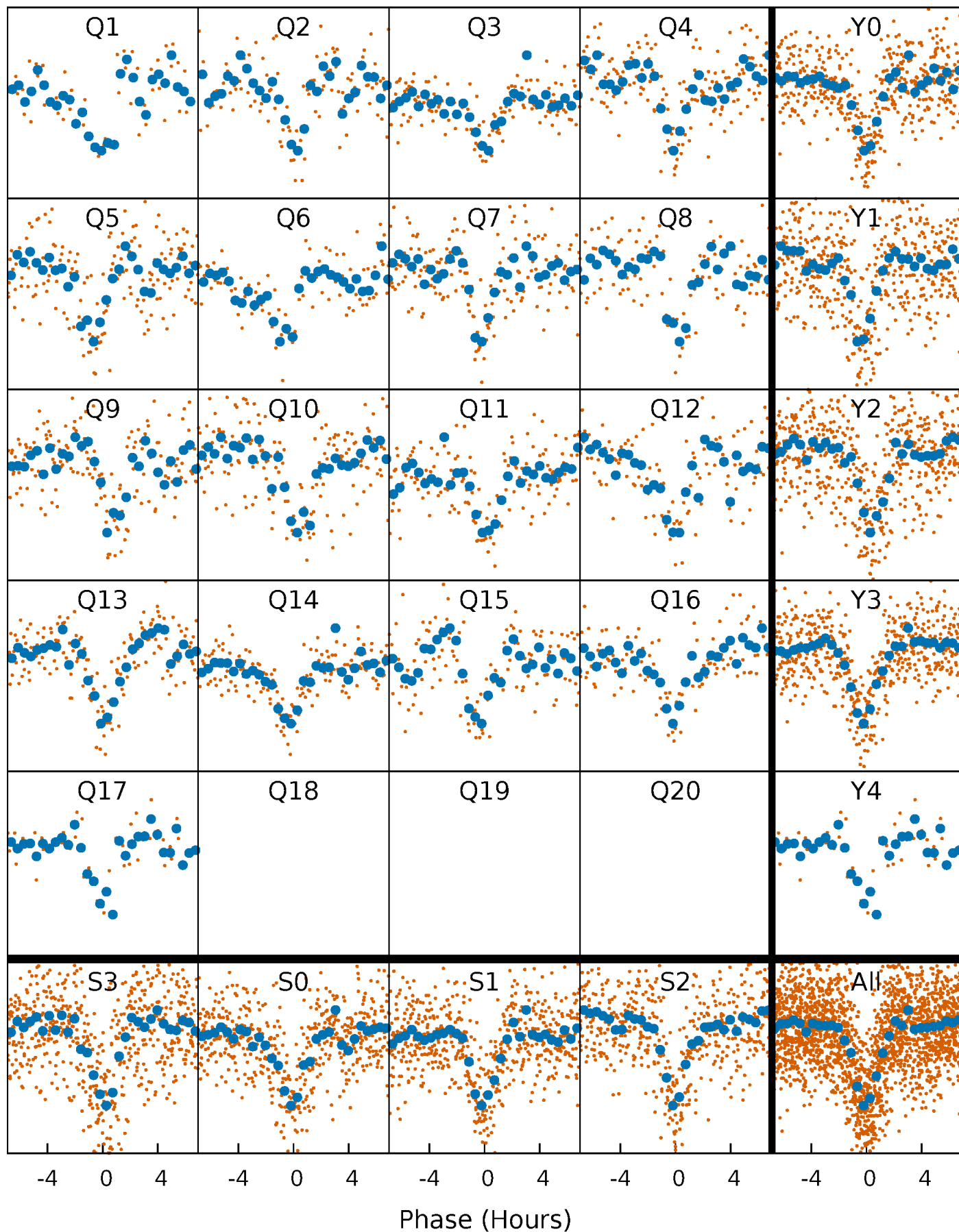


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



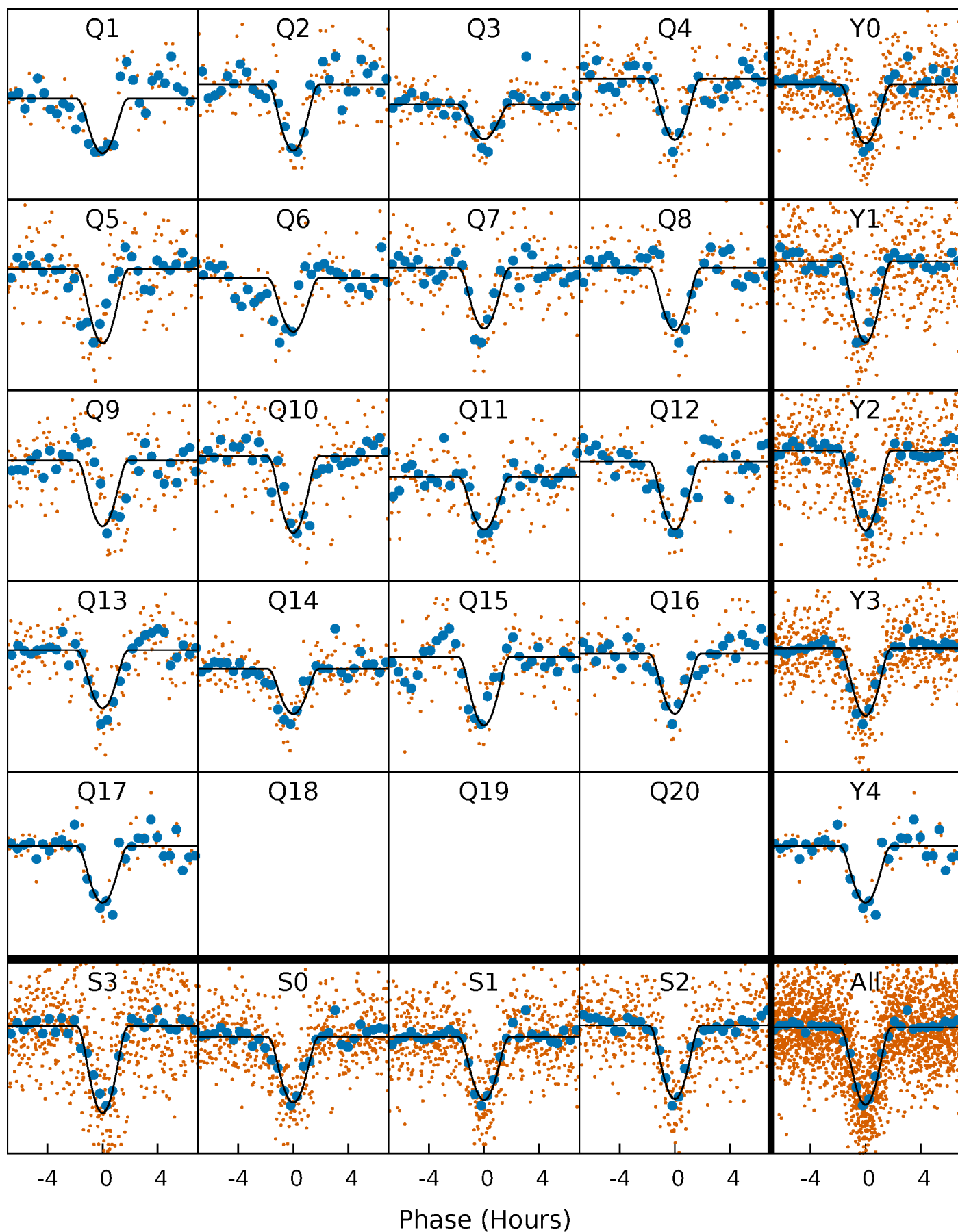
PDC Quarter-Phased Transit Curves

TCE 011874338-01 P= 15.975013 Days $T_0=135.717791$ (BKJD)



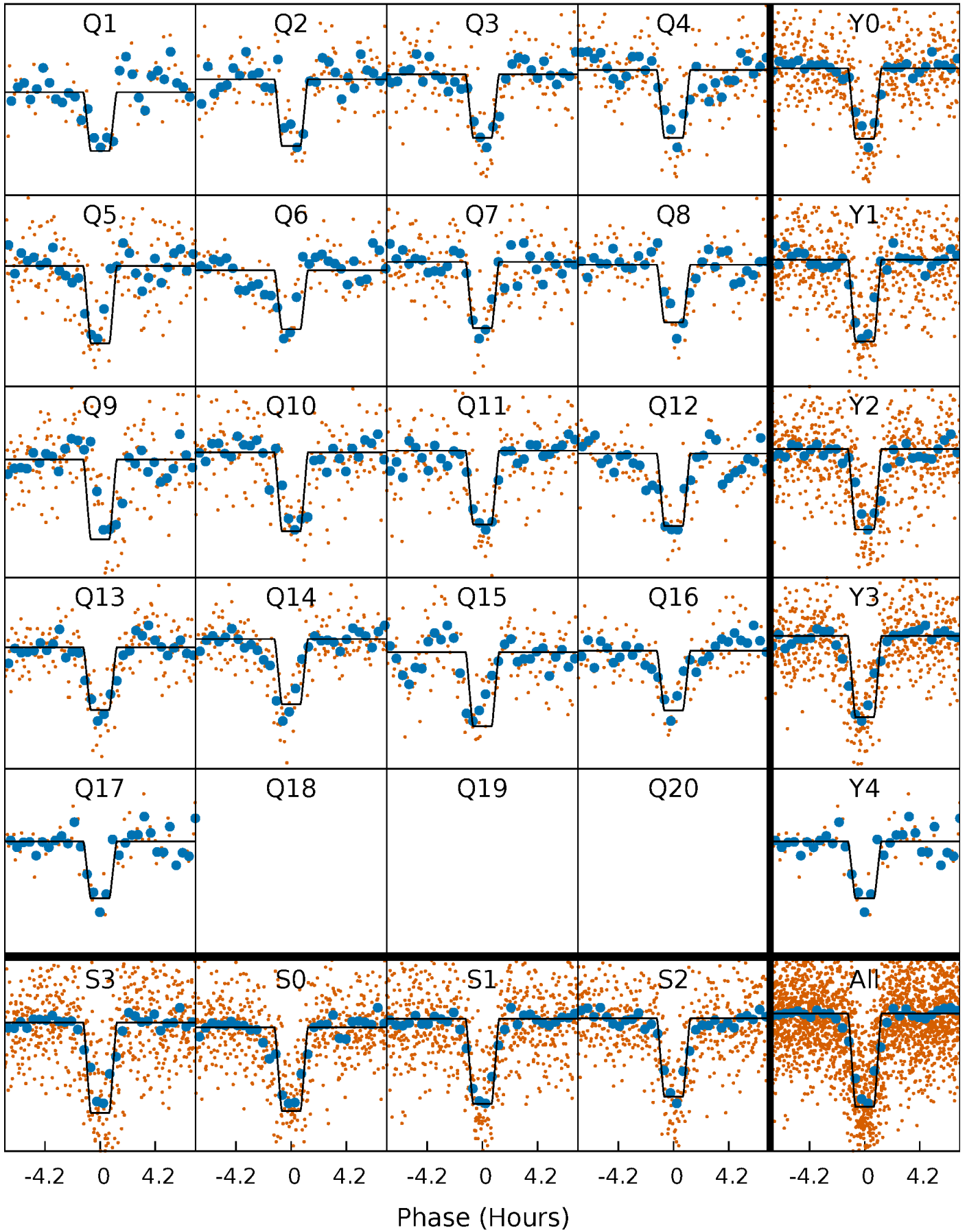
DV Quarter-Phased Transit Curves

TCE 011874338-01 P= 15.975013 Days $T_0=135.717791$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

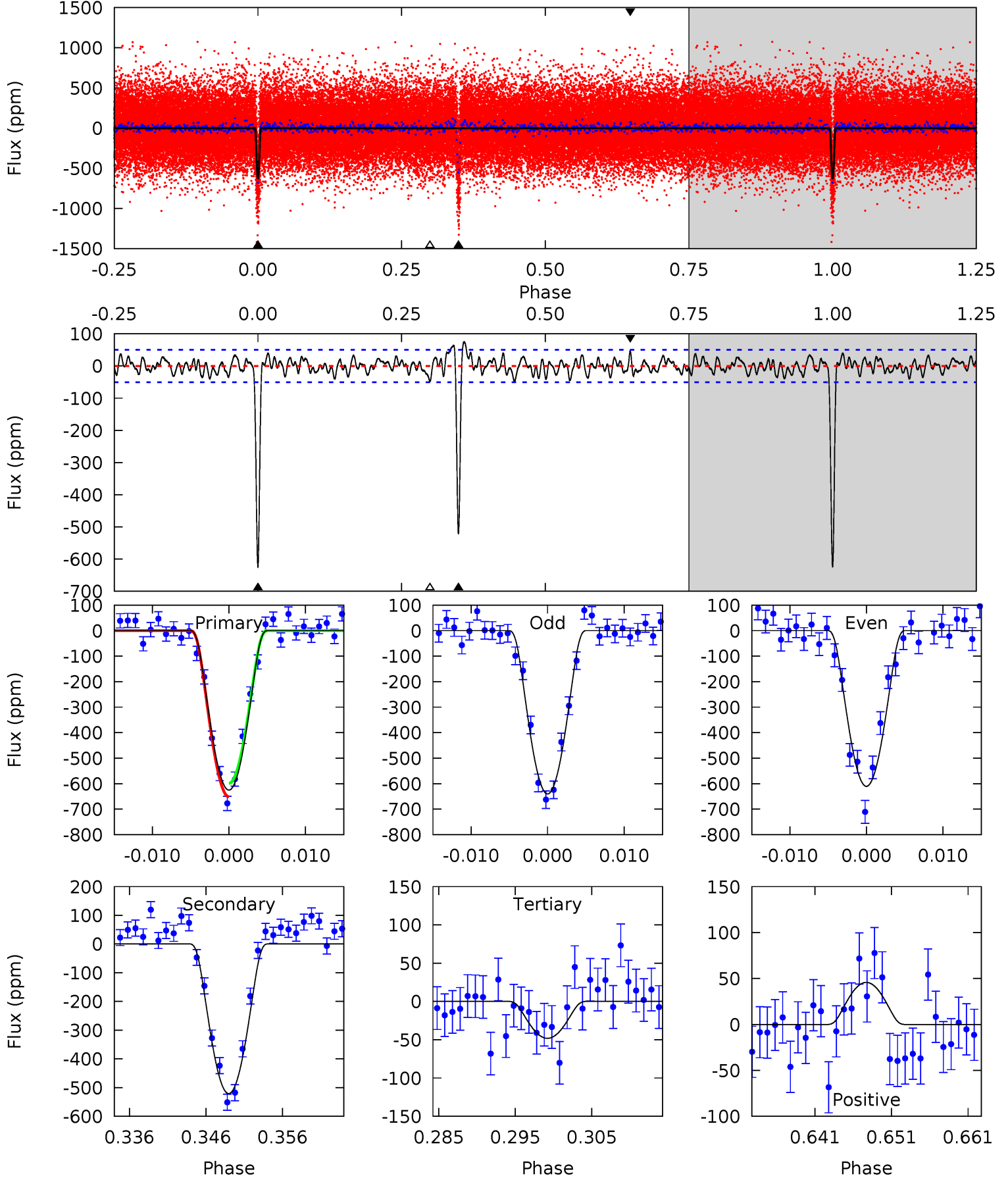
TCE 011874338-01 P= 15.975222 Days $T_0=135.706819$ (BKJD)



DV Model-Shift Uniqueness Test

011874338-01, P = 15.975013 Days, E = 119.742778 Days

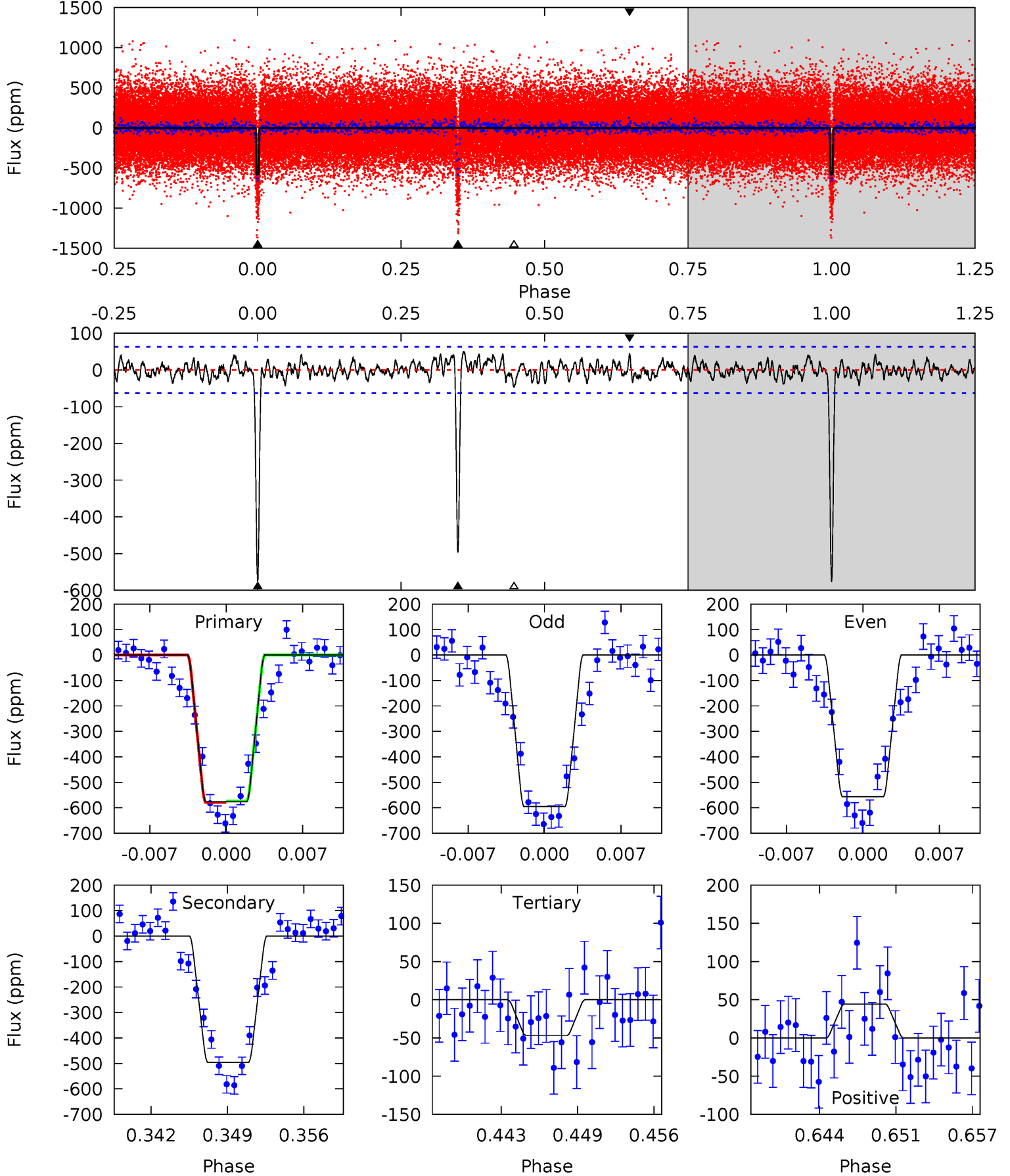
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
62.3	51.9	4.79	4.55	5.02	2.57	1.88	57.5	57.7	47.1	47.3	1.47	1.01	0.11	2.61



Alt Model-Shift Uniqueness Test

011874338-01, P = 15.975222 Days, E = 119.731597 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.5	40.0	3.77	3.59	5.10	2.71	1.39	42.7	42.9	36.2	36.4	1.58	0.99	0.08	0.24



Stellar Parameters For KIC 011874338

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5220^{+173}_{-173}	$3.520^{+0.888}_{-0.222}$	$-0.180^{+0.300}_{-0.300}$	$3.456^{+1.126}_{-2.092}$	$1.443^{+0.222}_{-0.517}$	$0.049^{+0.998}_{-0.025}$
	+3%/-3%	+25%/-6%	+167%/-167%	+33%/-61%	+15%/-36%	+2027%/-50%
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 011874338-01 / KOI 3464.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-521 ± 10	$19.20^{+18.52}_{-13.10}$	1551^{+184}_{-309}	3624^{+1727}_{-631}	15^{+121}_{-11}
Alt.	-496 ± 12	$15.72^{+18.74}_{-10.37}$	1560^{+177}_{-307}	3806^{+2054}_{-721}	20^{+167}_{-16}

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

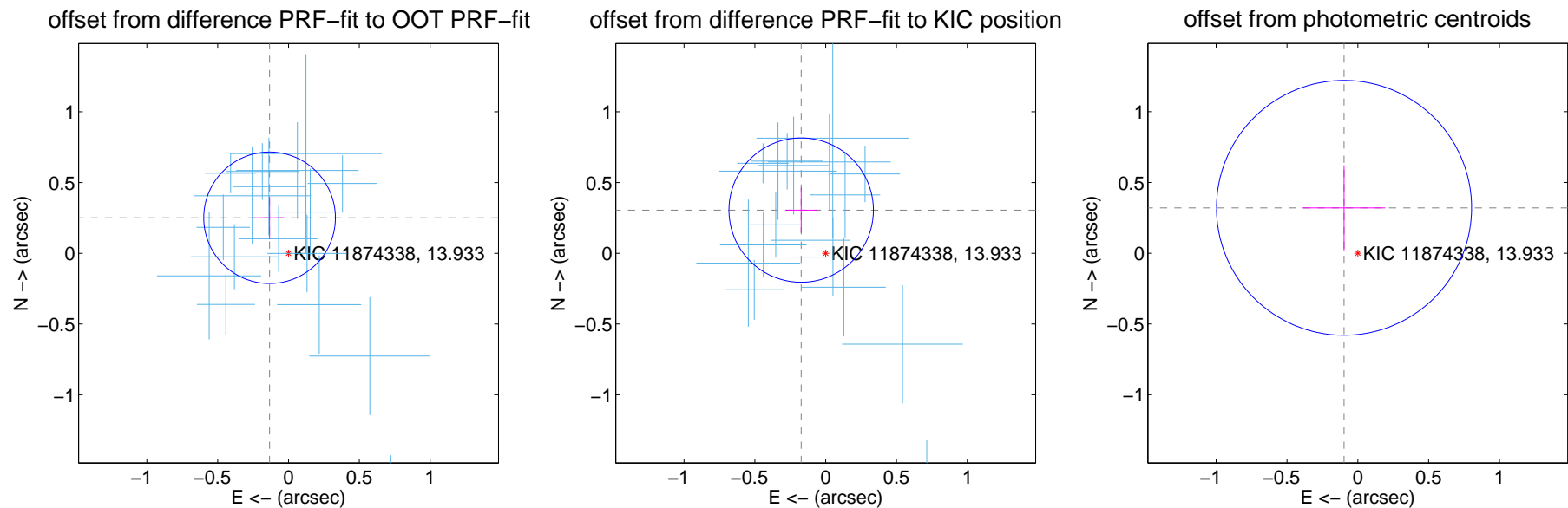
DV Centroid Data

Supplemental centroid analysis for 011874338-01. Kepler magnitude: 13.93. Transit SNR 31.40

There are 17 quarters with good PRF difference image offsets

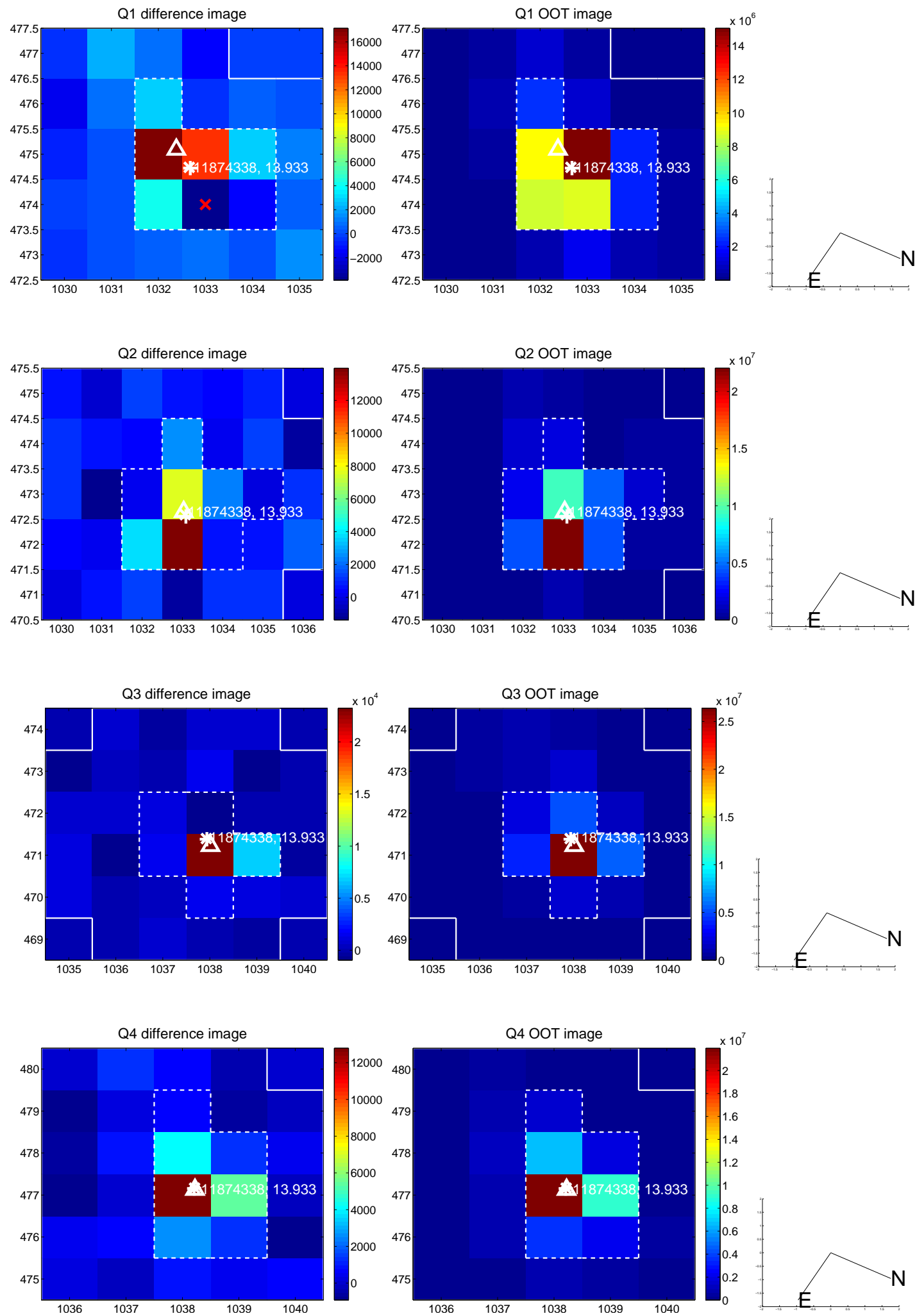
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.284 ± 0.155	1.84	0.134 ± 0.111	0.251 ± 0.150
PRF-fit source offset from KIC position	0.351 ± 0.170	2.06	0.173 ± 0.111	0.305 ± 0.161
photometric centroid source offset	0.34 ± 0.30	1.12	0.10 ± 0.29	0.32 ± 0.30

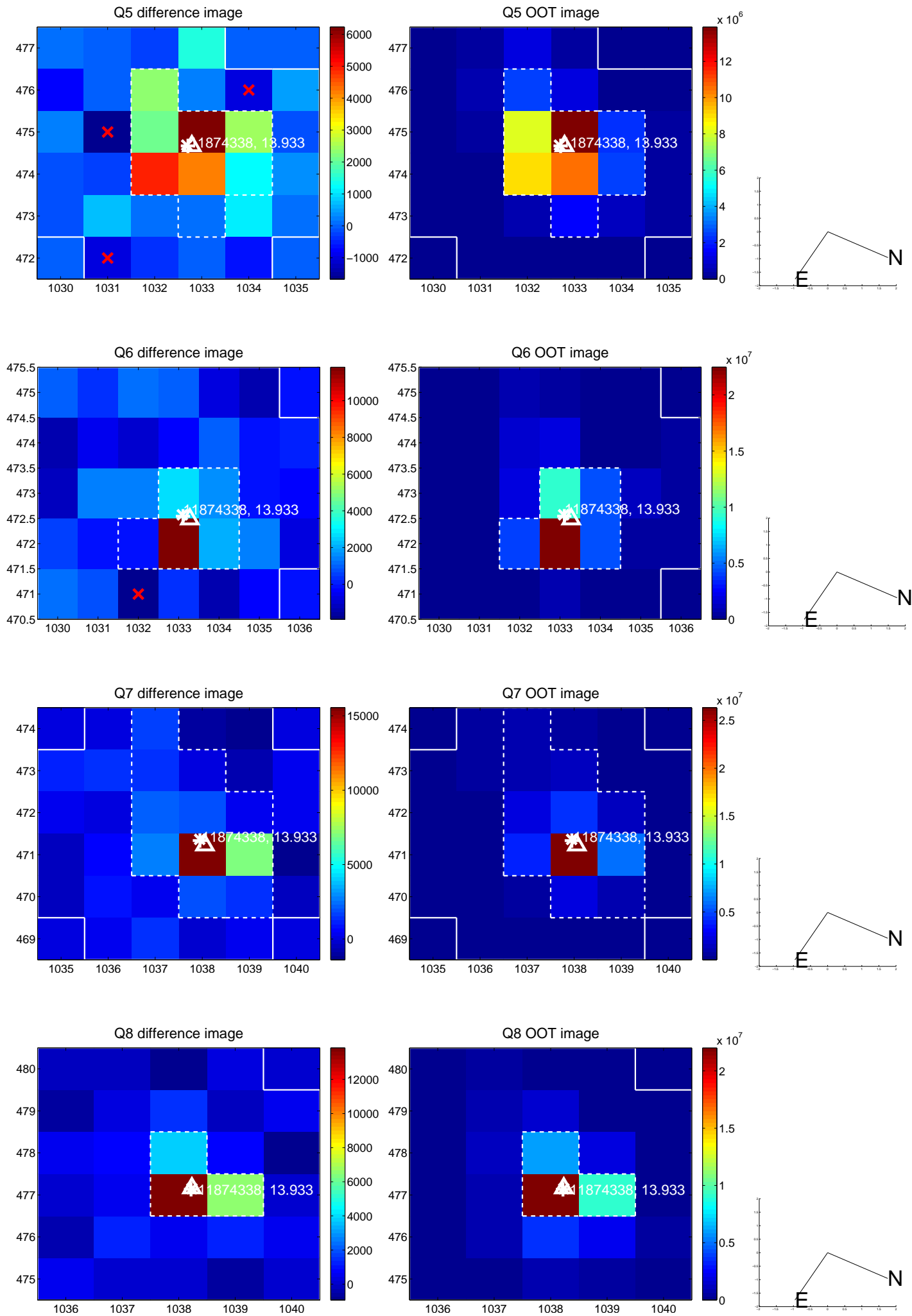


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

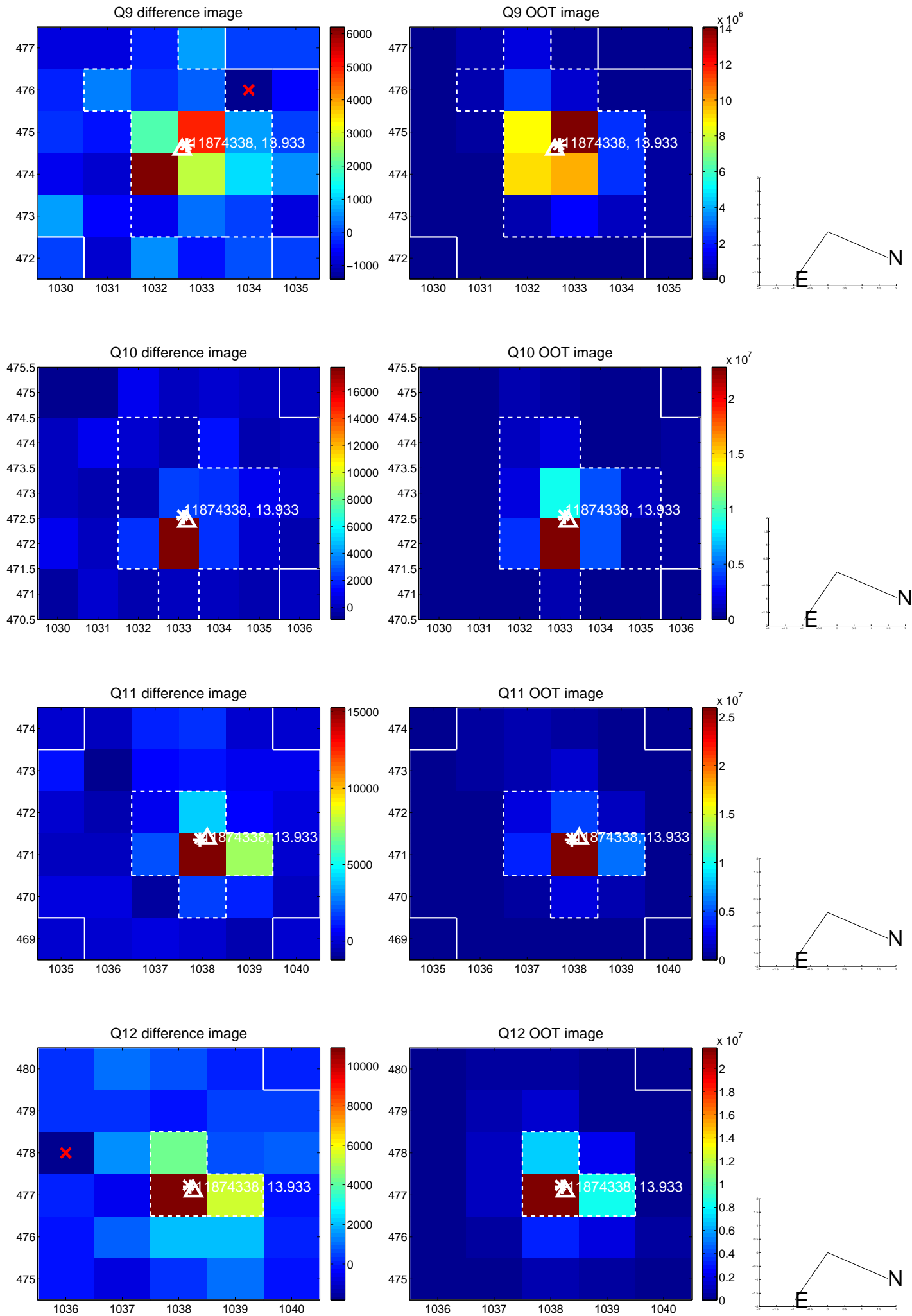
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



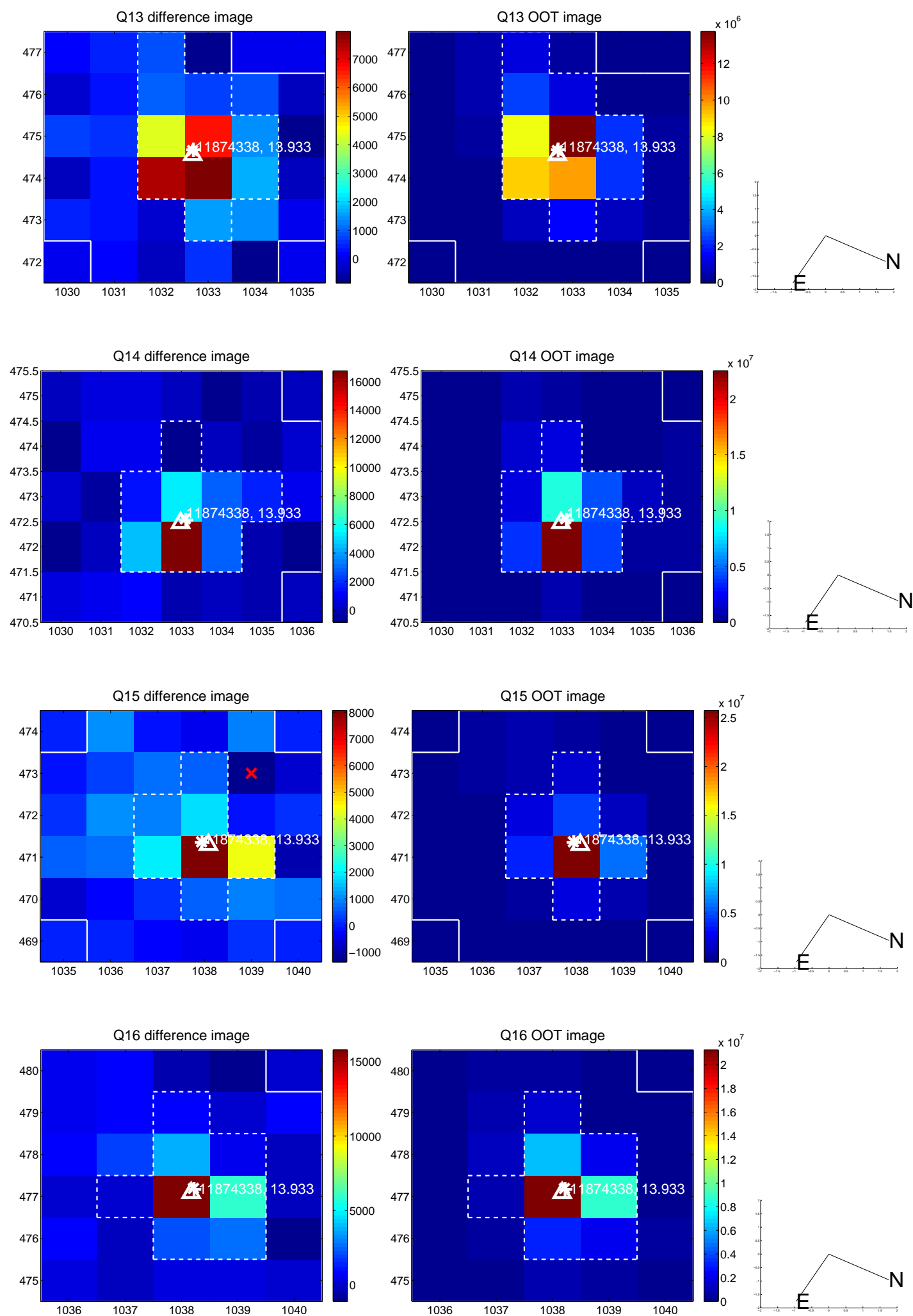
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



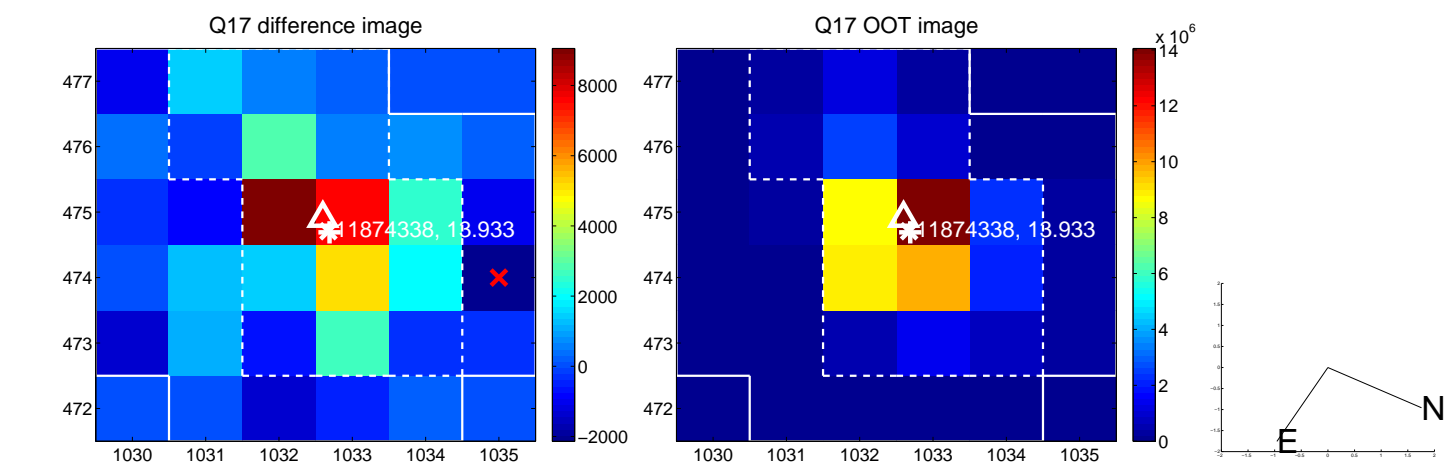
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



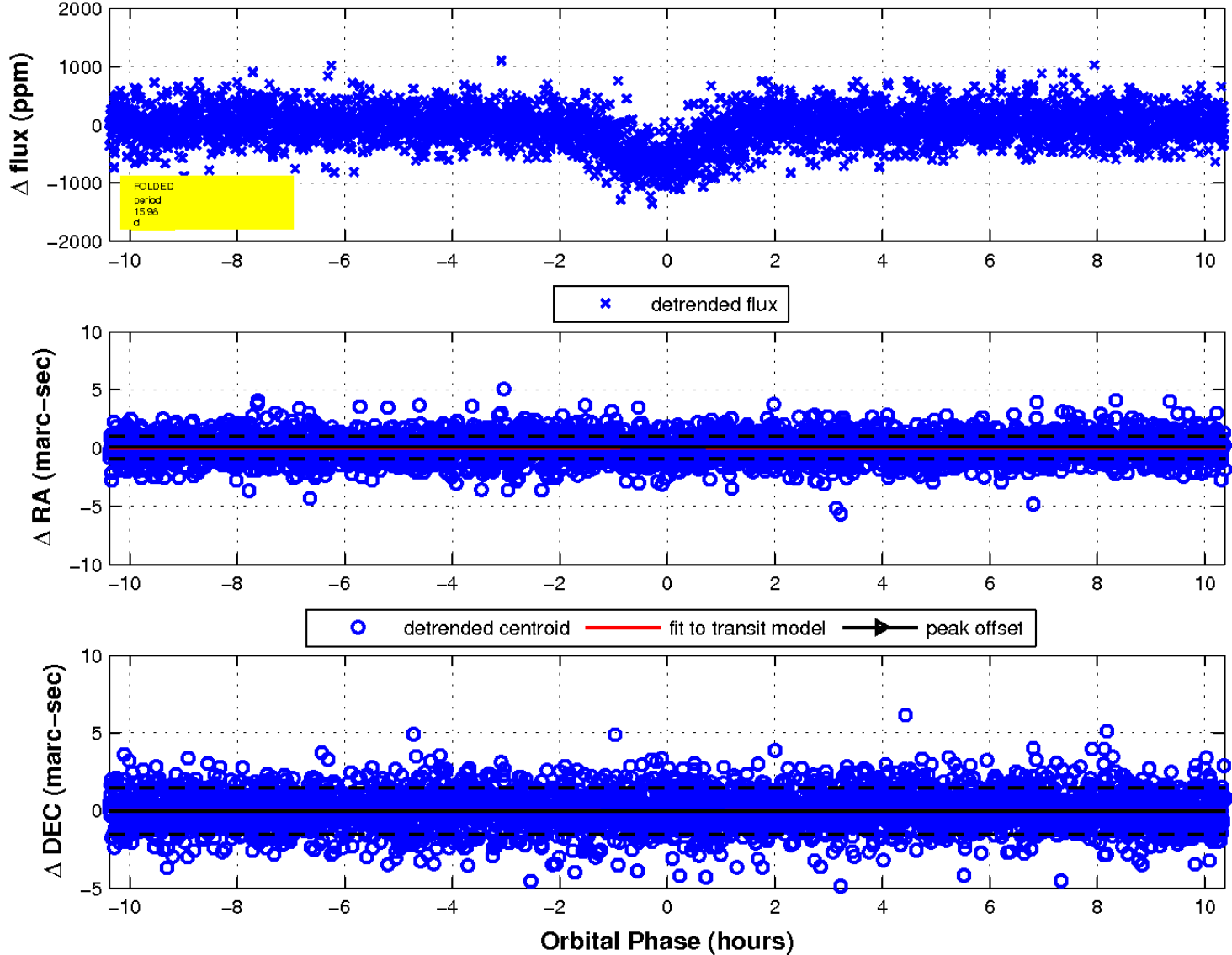
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

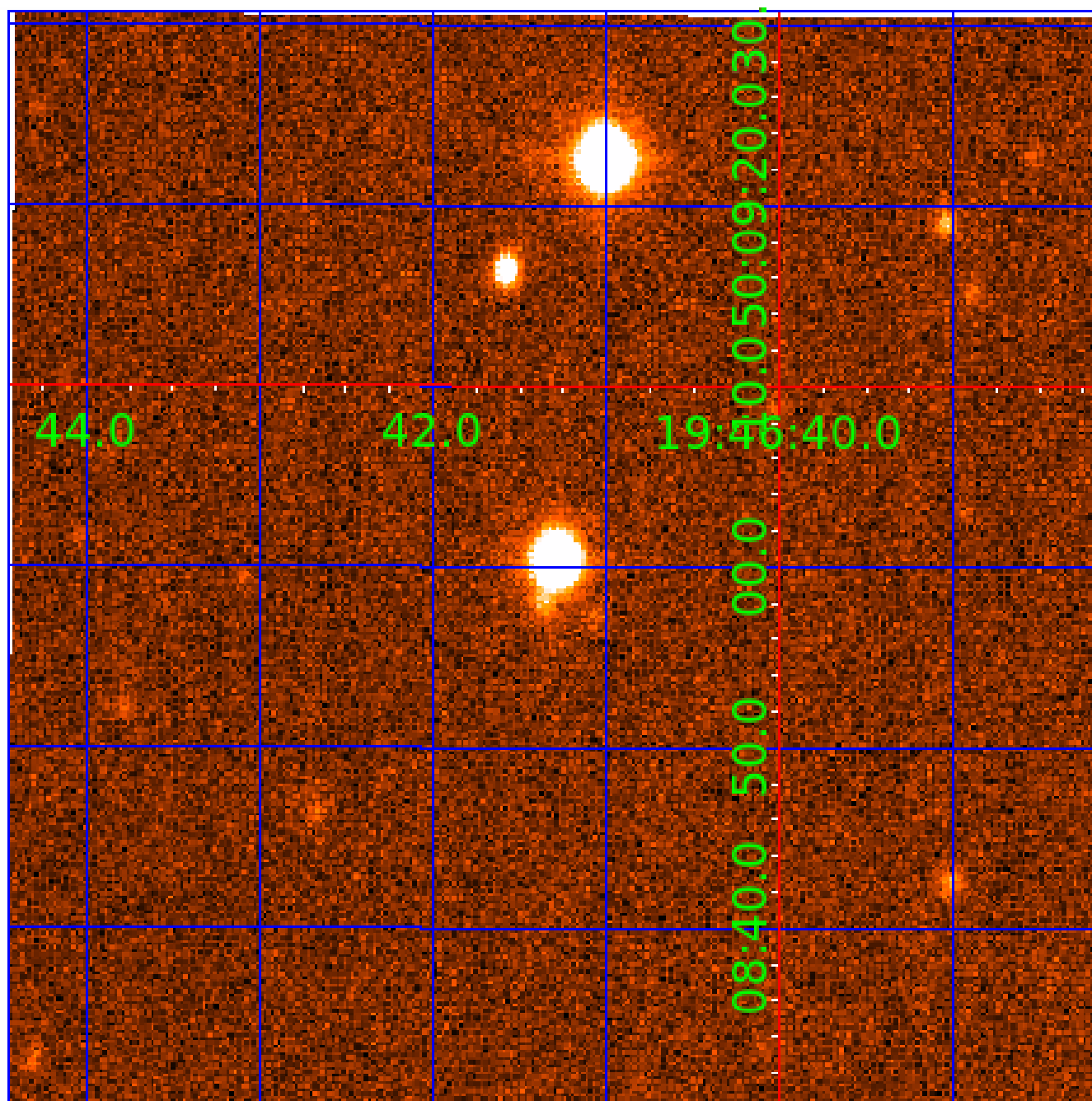


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 011874338

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})
011874338-01	OBS	3464.01	15.975013	135.717791	644.6	3.462	27.6	31.4	3.46	5220	17.89	403.68
011874338-02	OBS	No	15.975383	141.275473	578.8	3.387	25.1	29.0	3.46	5220	16.68	403.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011874338-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
011874338-02	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.

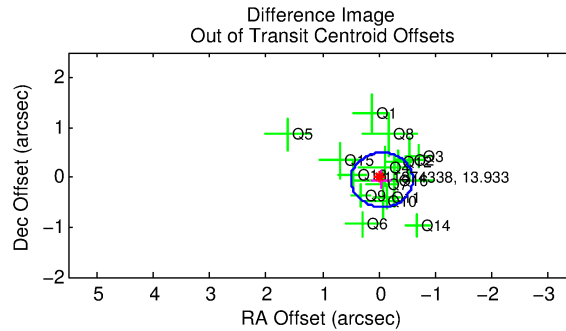
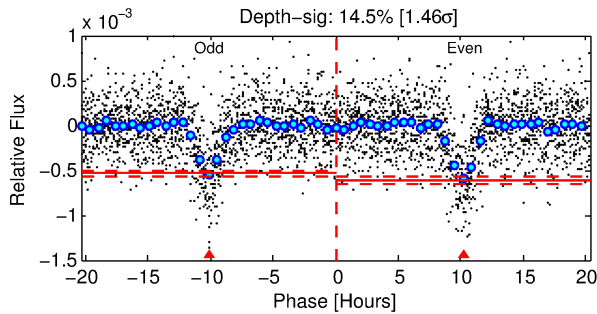
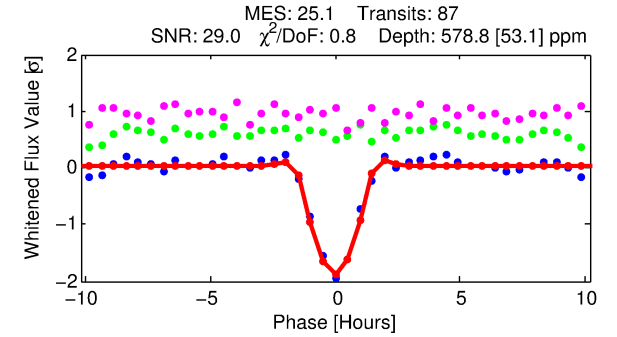
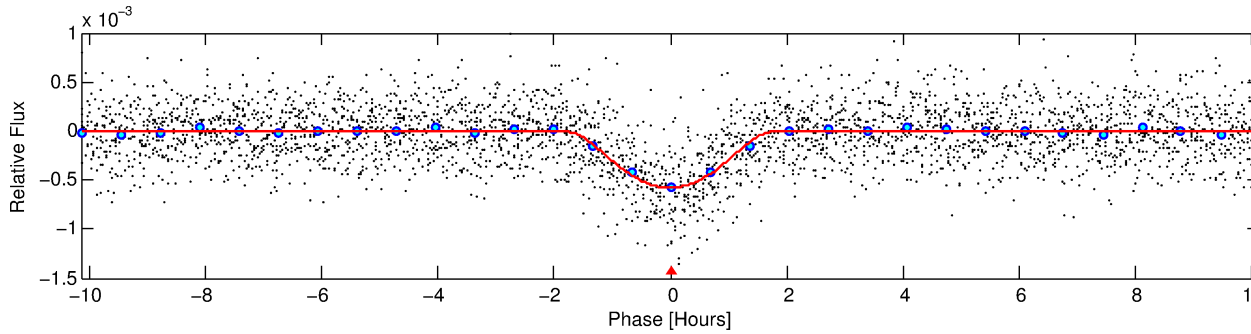
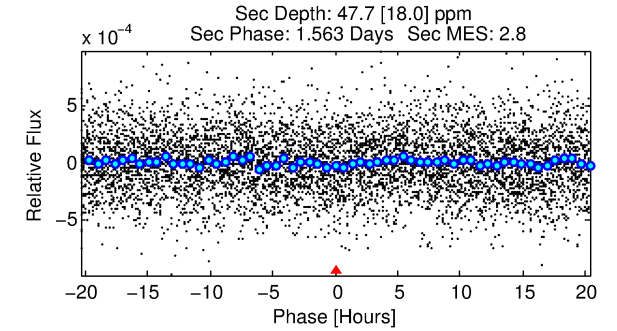
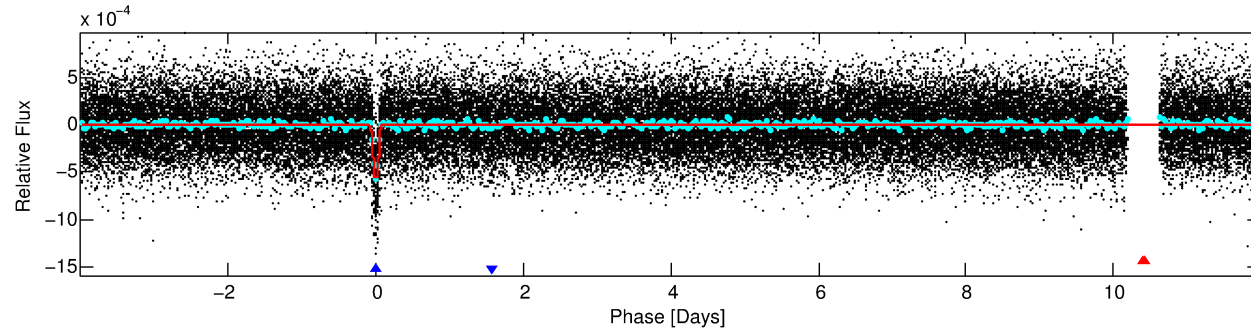
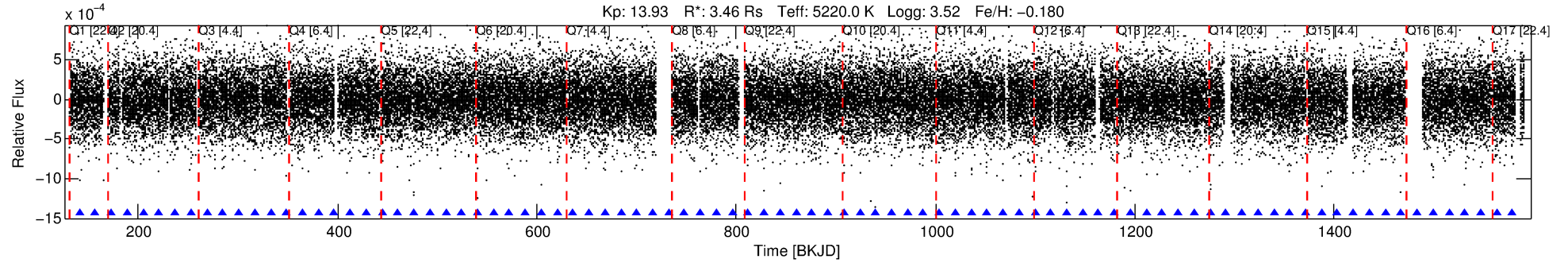
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011874338-02

No Significant Match Found

DV One-Page Summary

KIC: 11874338 Candidate: 2 of 2 Period: 15.975 d
KOI: K03464 Corr: No Ephemeris Match



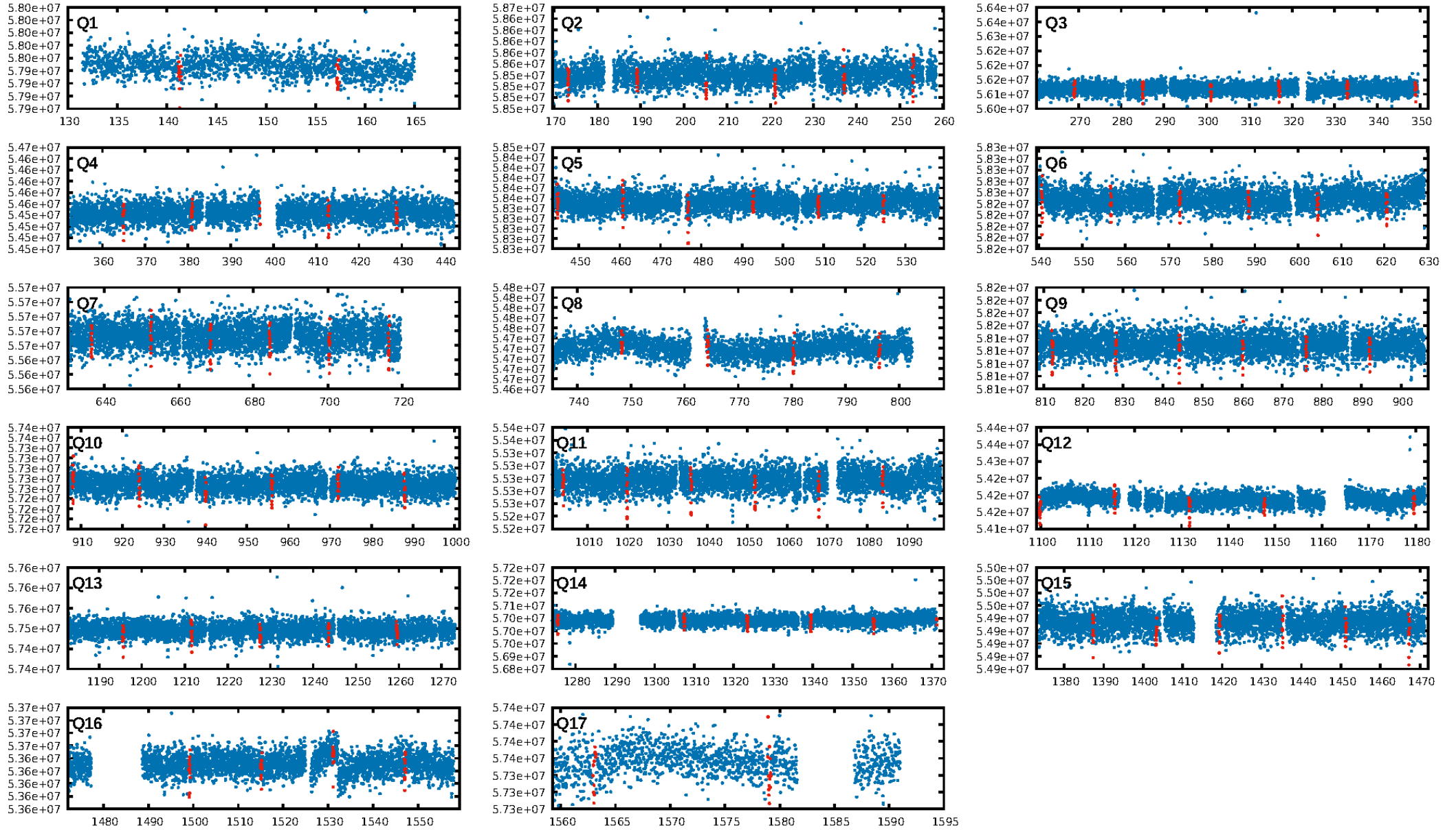
DV Fit Results:

Period = 15.97538 [0.00005] d
Epoch = 141.2755 [0.0026] BKJD
Rp/R* = 0.0442 [0.0539]
a/R* = 11.04 [3.35]
b = 1.00 [0.08]
Seff = 403.67 [576.35]
Teff = 1143 [408] K
Rp = 16.68 [22.69] Re
a = 0.1403 [0.1111] AU
Ag = 1.86 [5.29] [0.16 σ]
Teffp = 2063 [1273] K [0.69 σ]

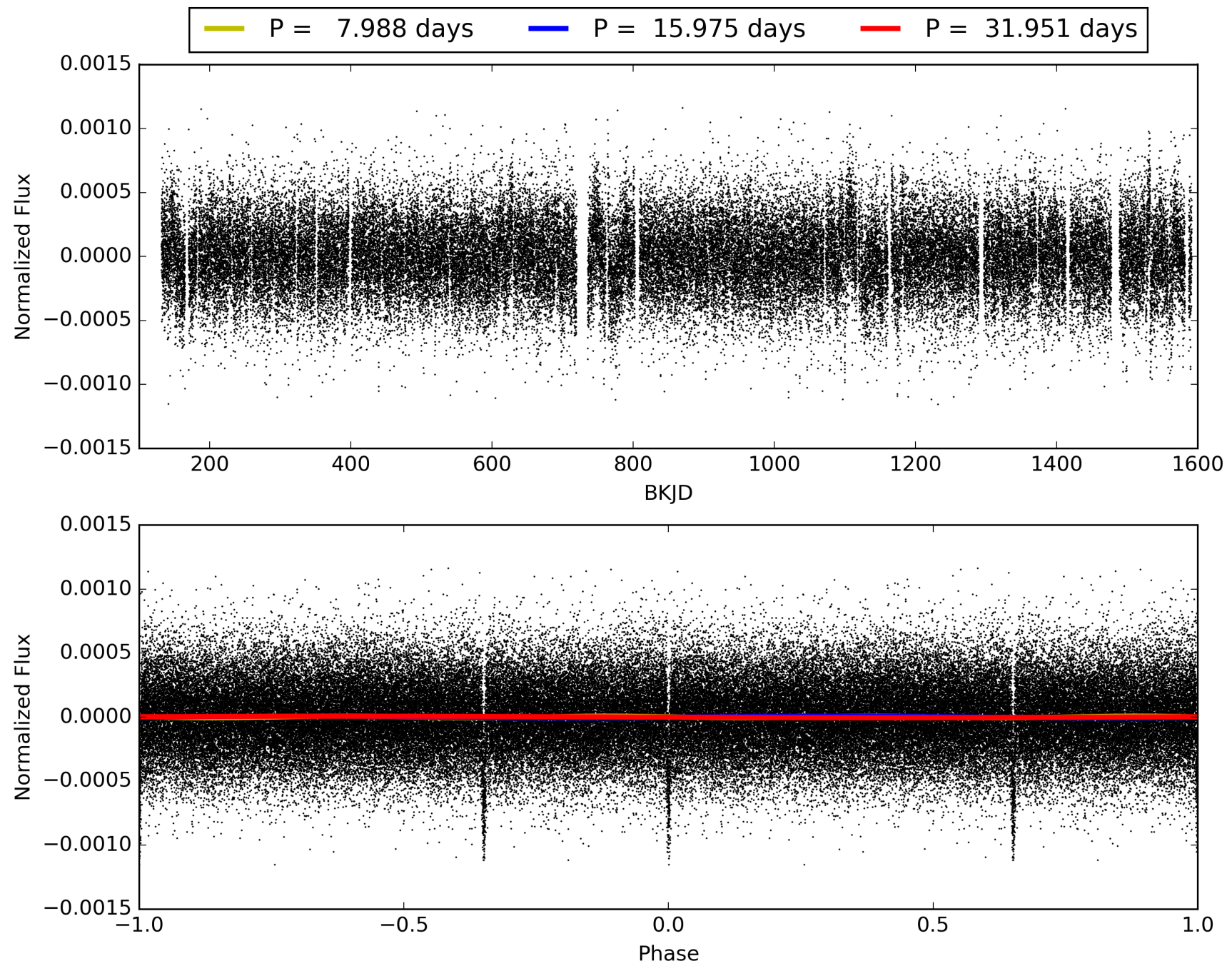
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.20e-132
RollingBand-fgt: 1.00 [83/83]
GhostDiagnostic-chr: 2.925
Centroid-sig: 92.4%
Centroid-so: 0.388 arcsec [1.20 σ]
OotOffset-rm: 0.076 arcsec [0.42 σ]
KicOffset-rm: 0.029 arcsec [0.17 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 011874338-02, PDC Light Curves

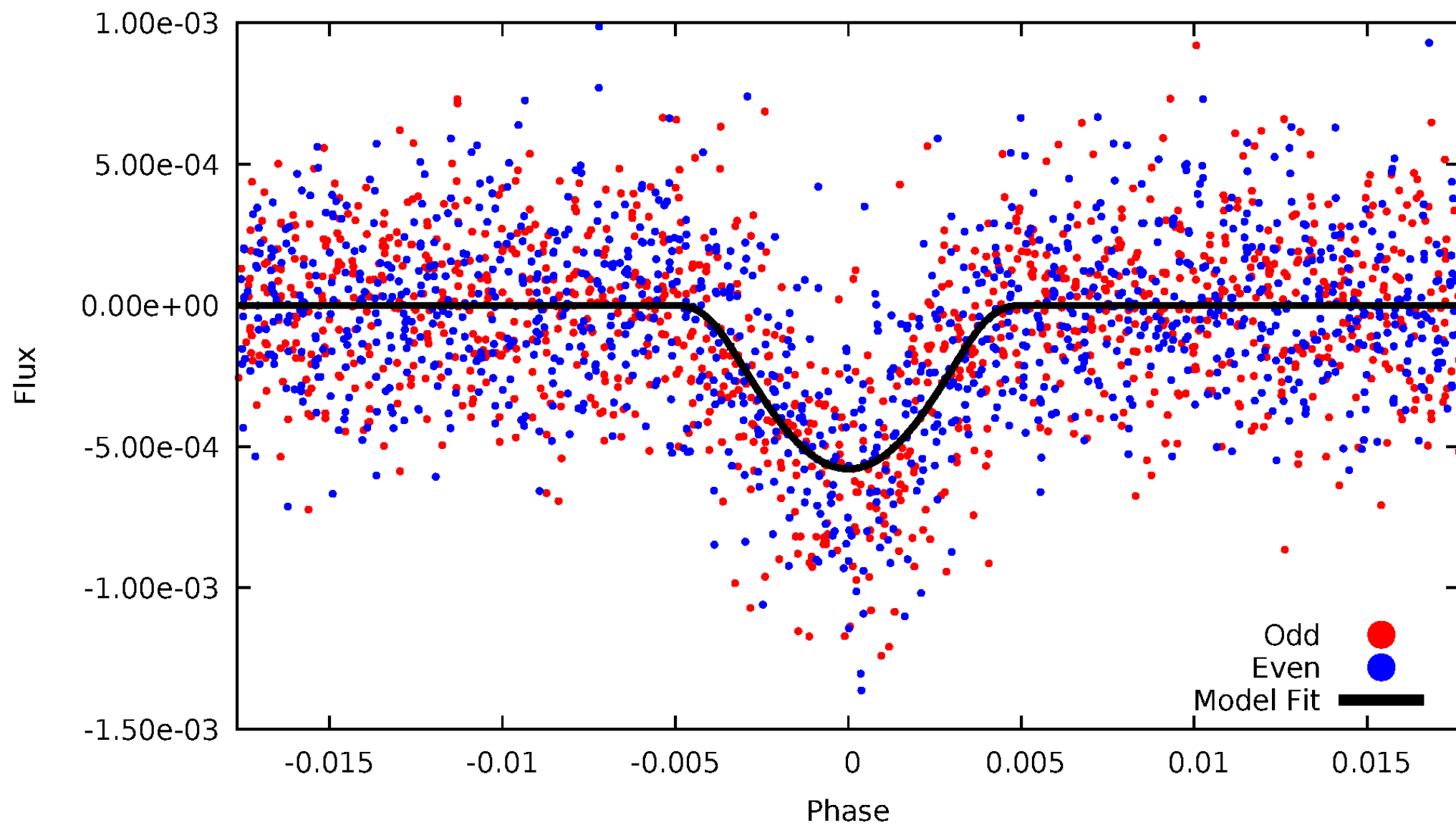


TCE 011874338-02



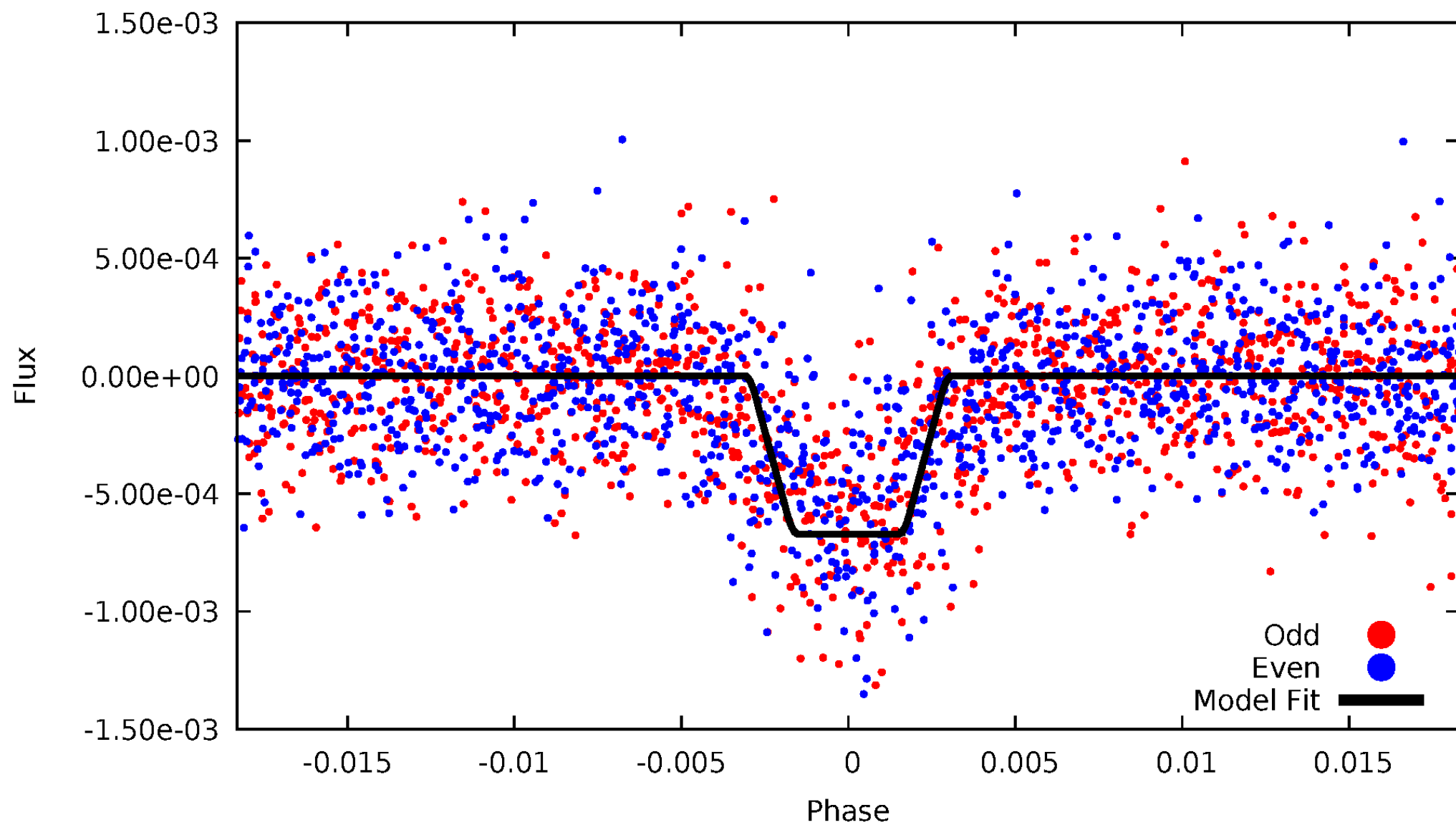
DV Odd/Even

TCE 011874338-02



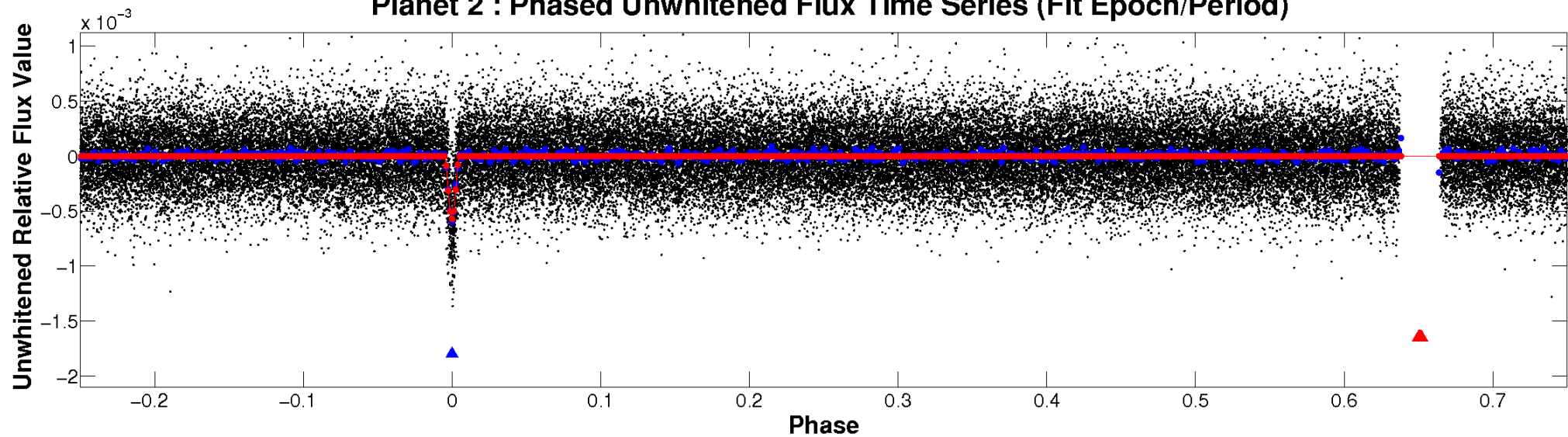
ALT Odd/Even

TCE 011874338-02

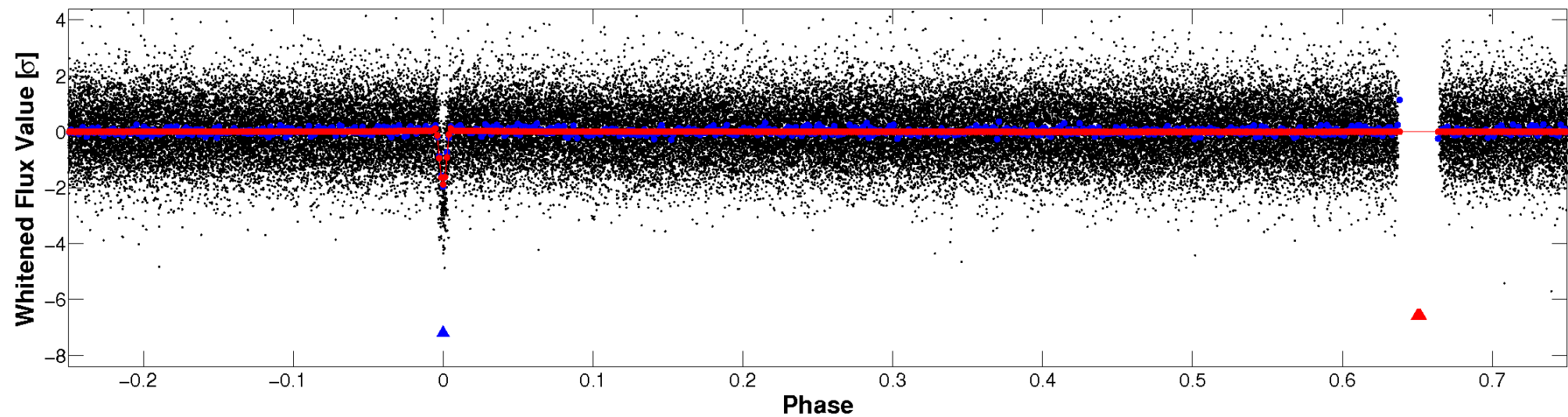


Non-Whitened Vs. Whitened Light Curve

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

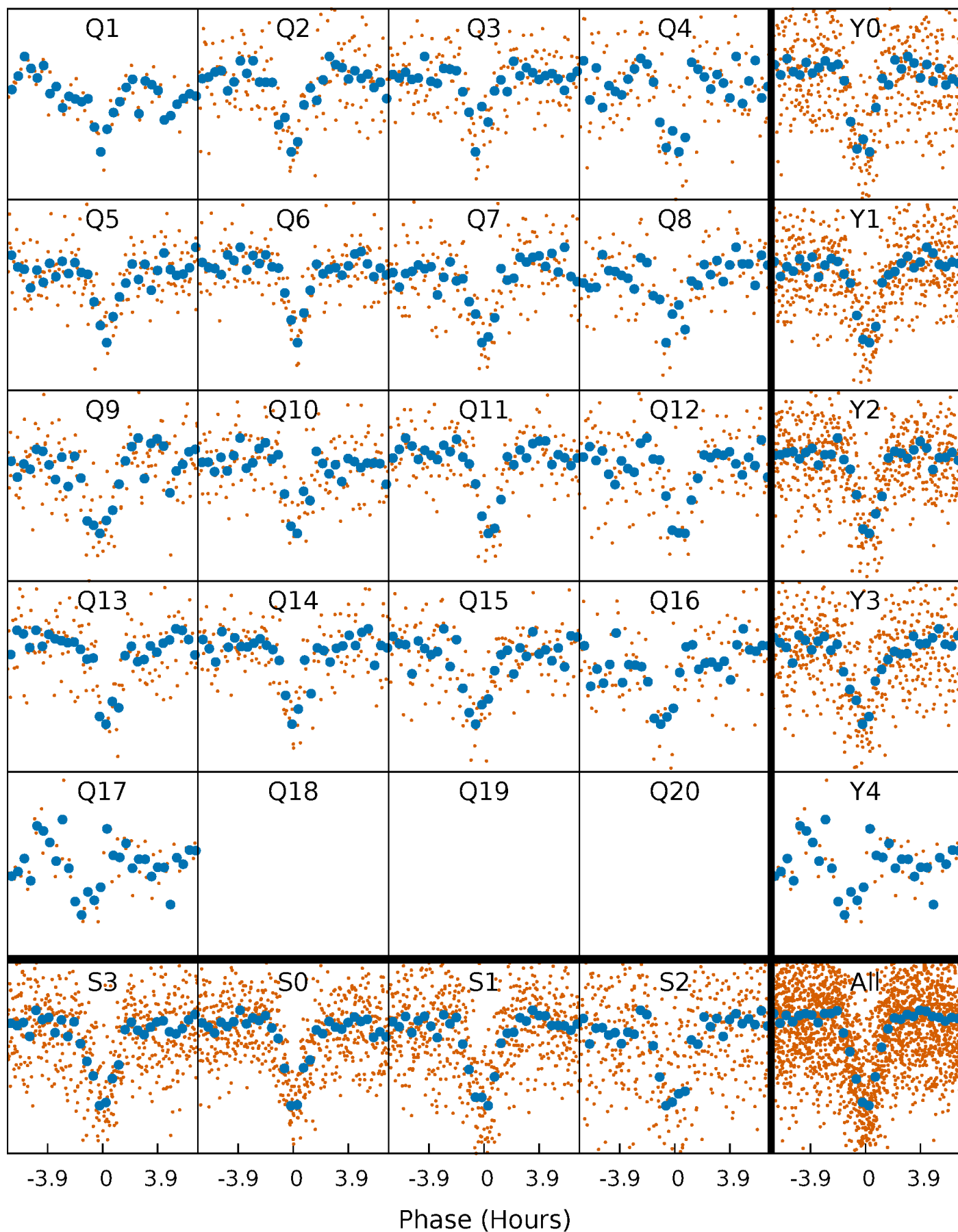


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



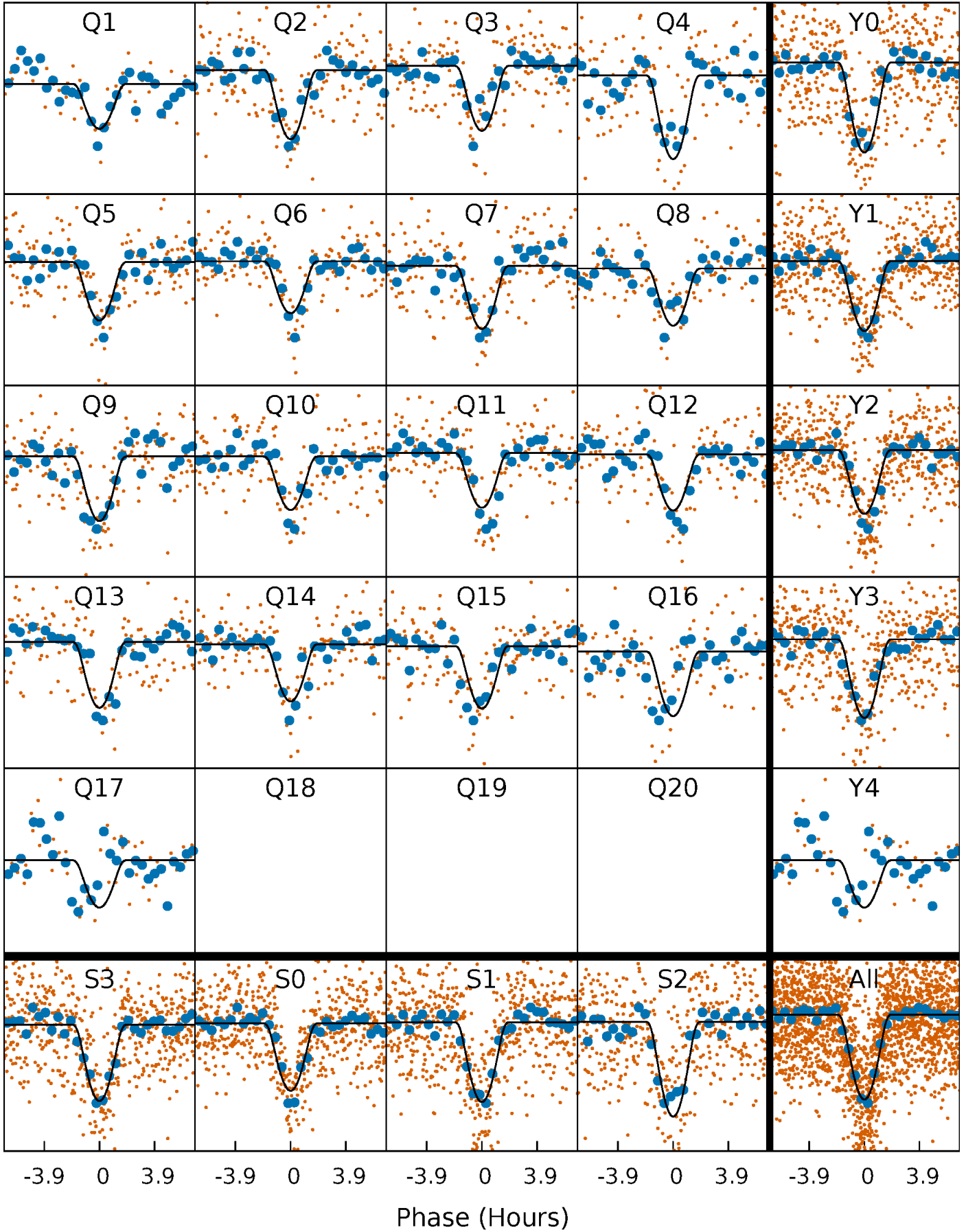
PDC Quarter-Phased Transit Curves

TCE 011874338-02 P= 15.975383 Days $T_0=141.275473$ (BKJD)



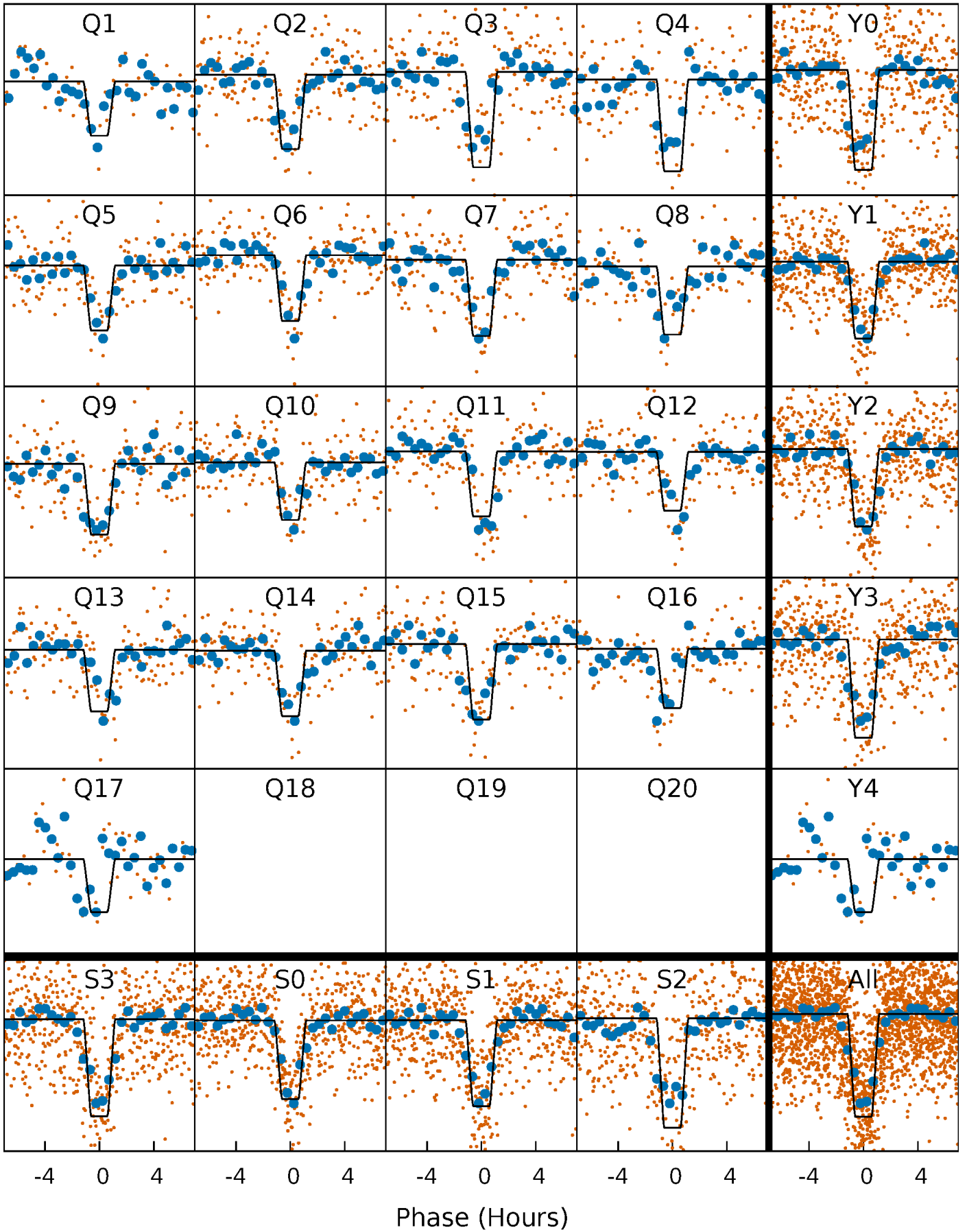
DV Quarter-Phased Transit Curves

TCE 011874338-02 P= 15.975383 Days $T_0=141.275473$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

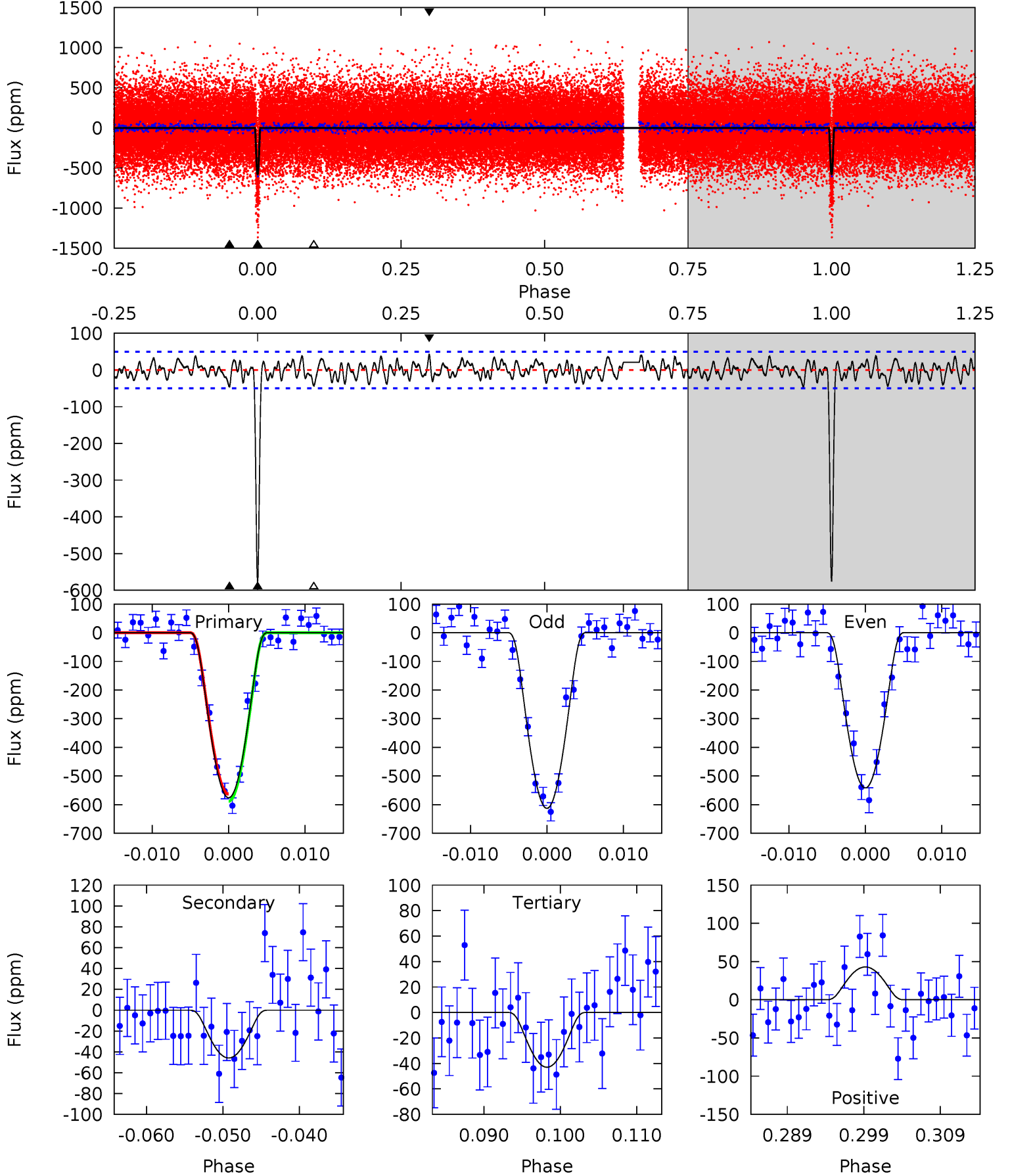
TCE 011874338-02 P= 15.975241 Days $T_0=141.281261$ (BKJD)



DV Model-Shift Uniqueness Test

011874338-02, P = 15.975383 Days, E = 125.300090 Days

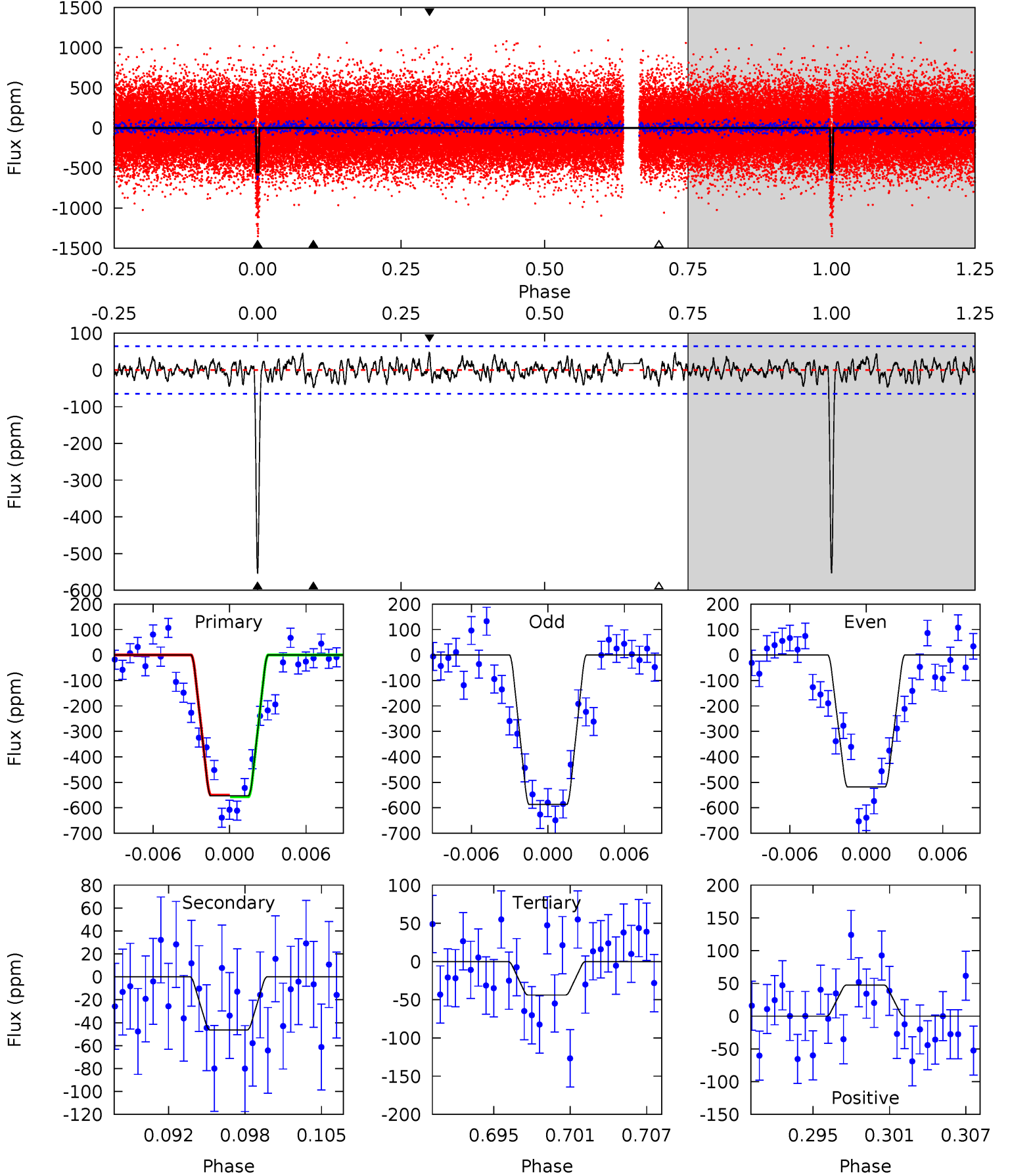
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
58.1	4.63	4.33	4.33	5.03	2.58	1.69	53.8	53.8	0.29	0.30	3.58	0.95	0.07	1.25



Alt Model-Shift Uniqueness Test

011874338-02, P = 15.975241 Days, E = 125.306020 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.7	3.65	3.46	3.75	5.12	2.74	1.32	40.2	39.9	0.19	-0.10	2.74	0.97	0.08	0.26



Stellar Parameters For KIC 011874338

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5220^{+173}_{-173}	$3.520^{+0.888}_{-0.222}$	$-0.180^{+0.300}_{-0.300}$	$3.456^{+1.126}_{-2.092}$	$1.443^{+0.222}_{-0.517}$	$0.049^{+0.998}_{-0.025}$
	+3%/-3%	+25%/-6%	+167%/-167%	+33%/-61%	+15%/-36%	+2027%/-50%
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 011874338-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-46 ± 10	$17.84^{+22.03}_{-11.98}$	1553^{+178}_{-269}	2529^{+928}_{-4085}	$1.540^{+11.932}_{-1.245}$
Alt.	-46 ± 13	$13.84^{+17.68}_{-9.36}$	1553^{+194}_{-281}	2731^{+1148}_{-637}	$2.450^{+22.651}_{-1.973}$

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

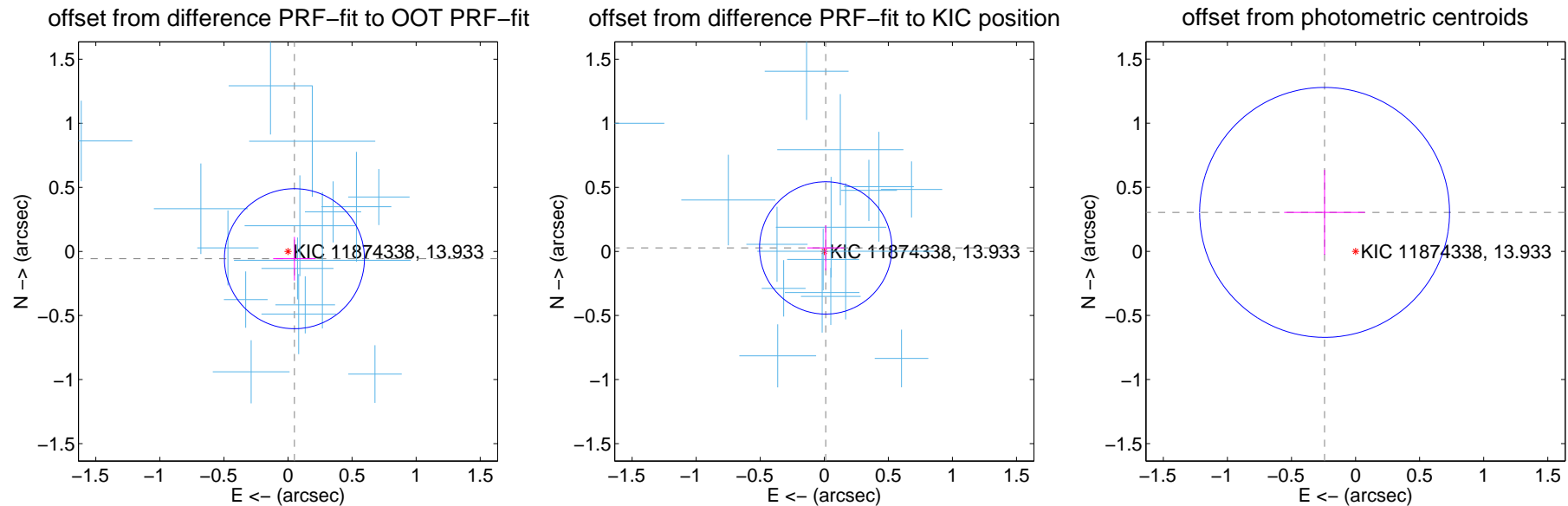
DV Centroid Data

Supplemental centroid analysis for 011874338-02. Kepler magnitude: 13.93. Transit SNR 29.00

There are 16 quarters with good PRF difference image offsets

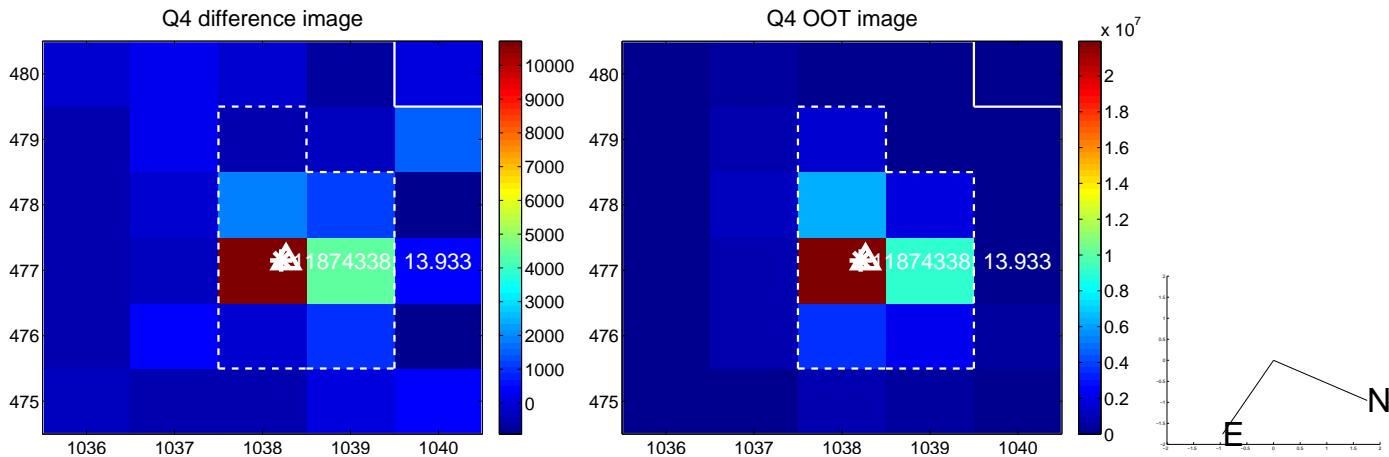
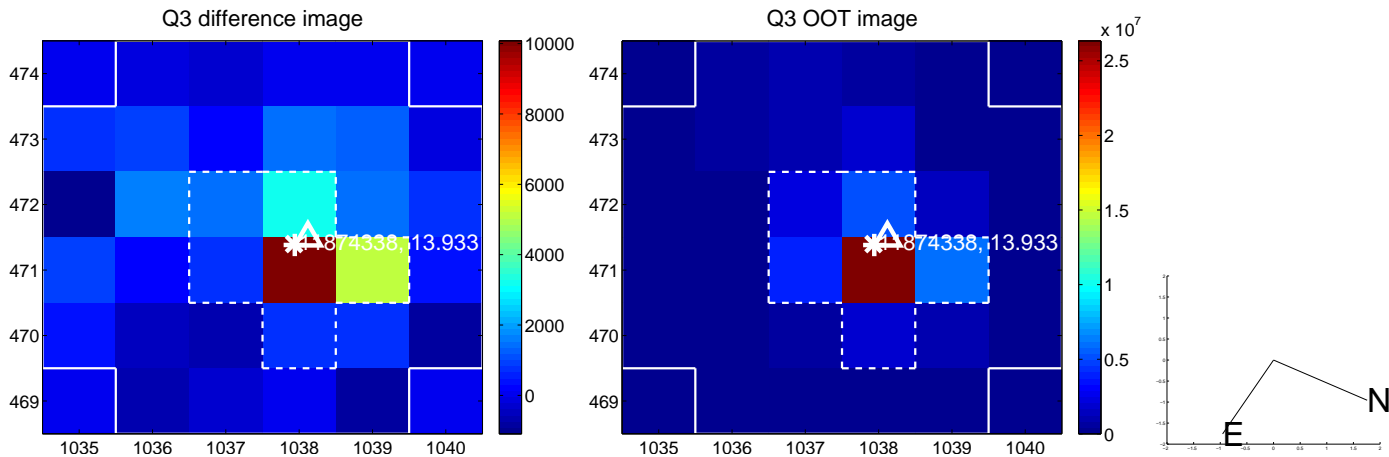
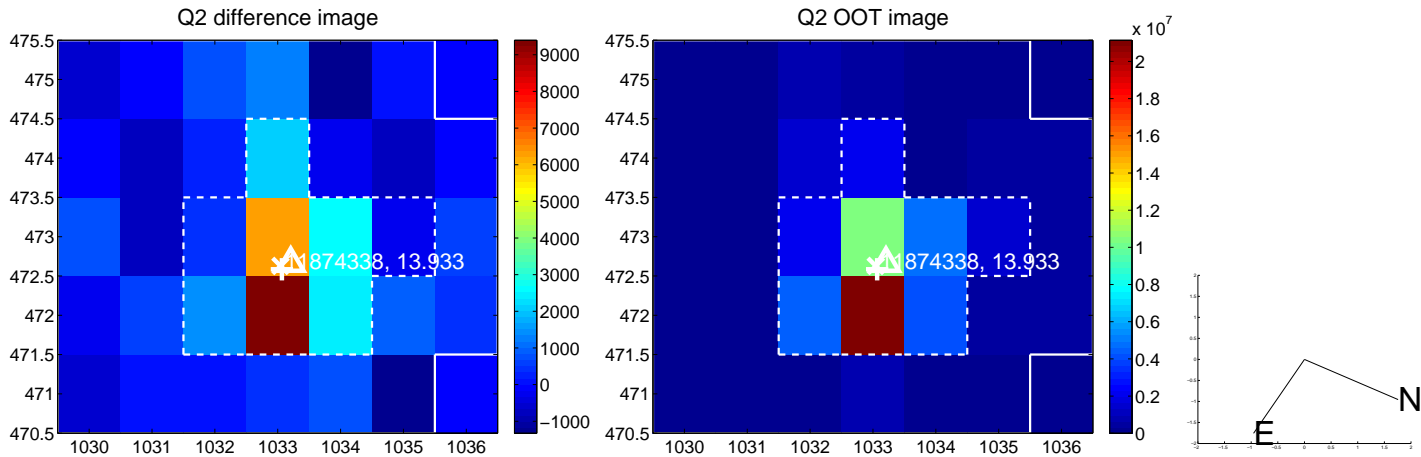
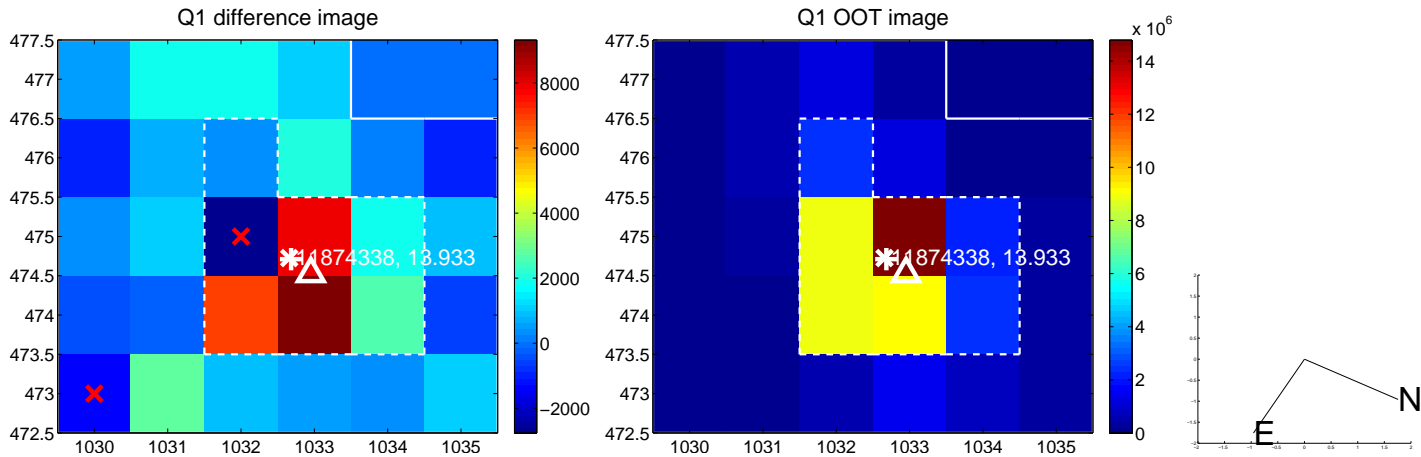
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.076 ± 0.182	0.42	-0.050 ± 0.165	-0.057 ± 0.170
PRF-fit source offset from KIC position	0.029 ± 0.172	0.17	-0.011 ± 0.144	0.027 ± 0.176
photometric centroid source offset	0.39 ± 0.32	1.20	0.24 ± 0.32	0.30 ± 0.33

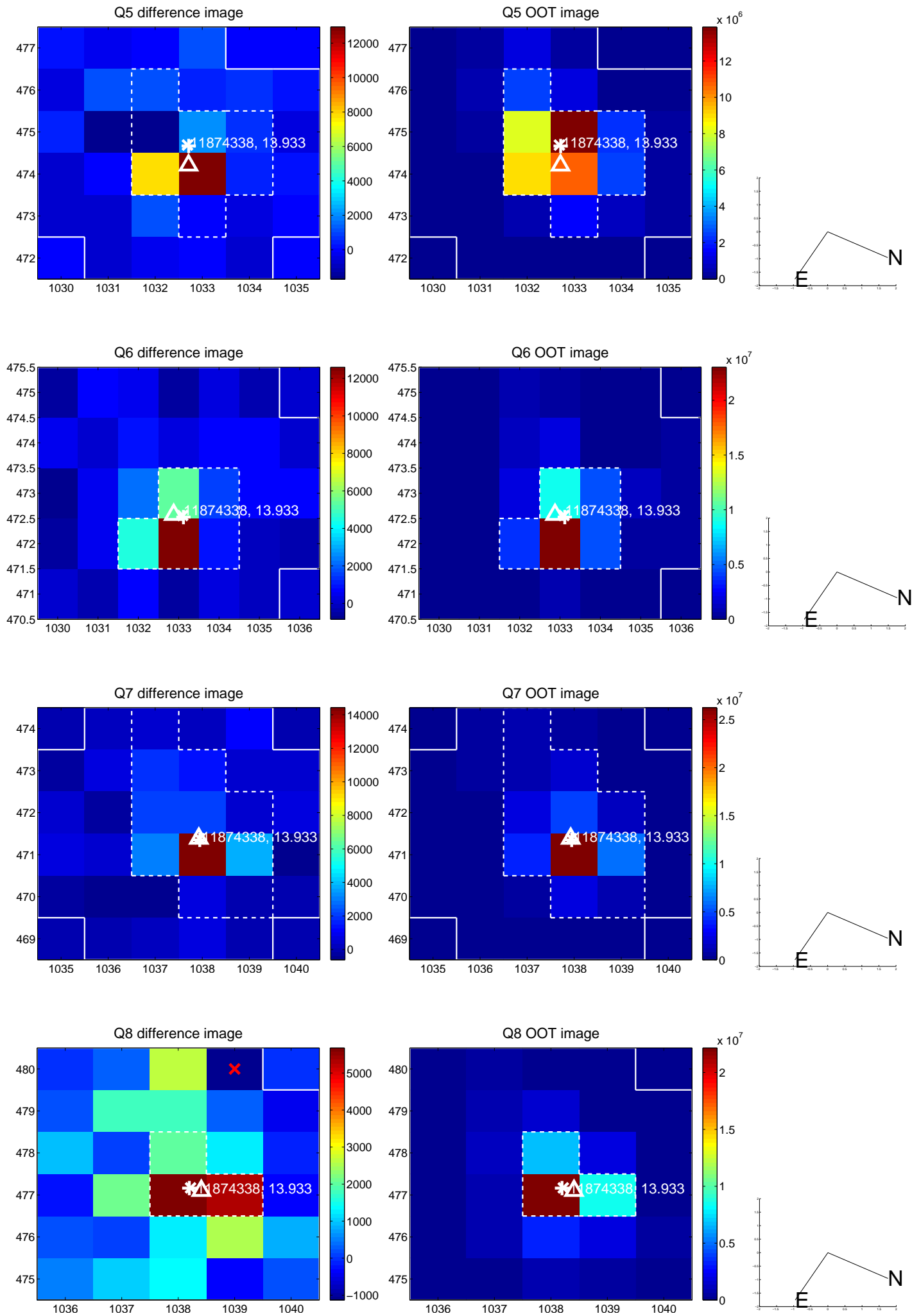


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

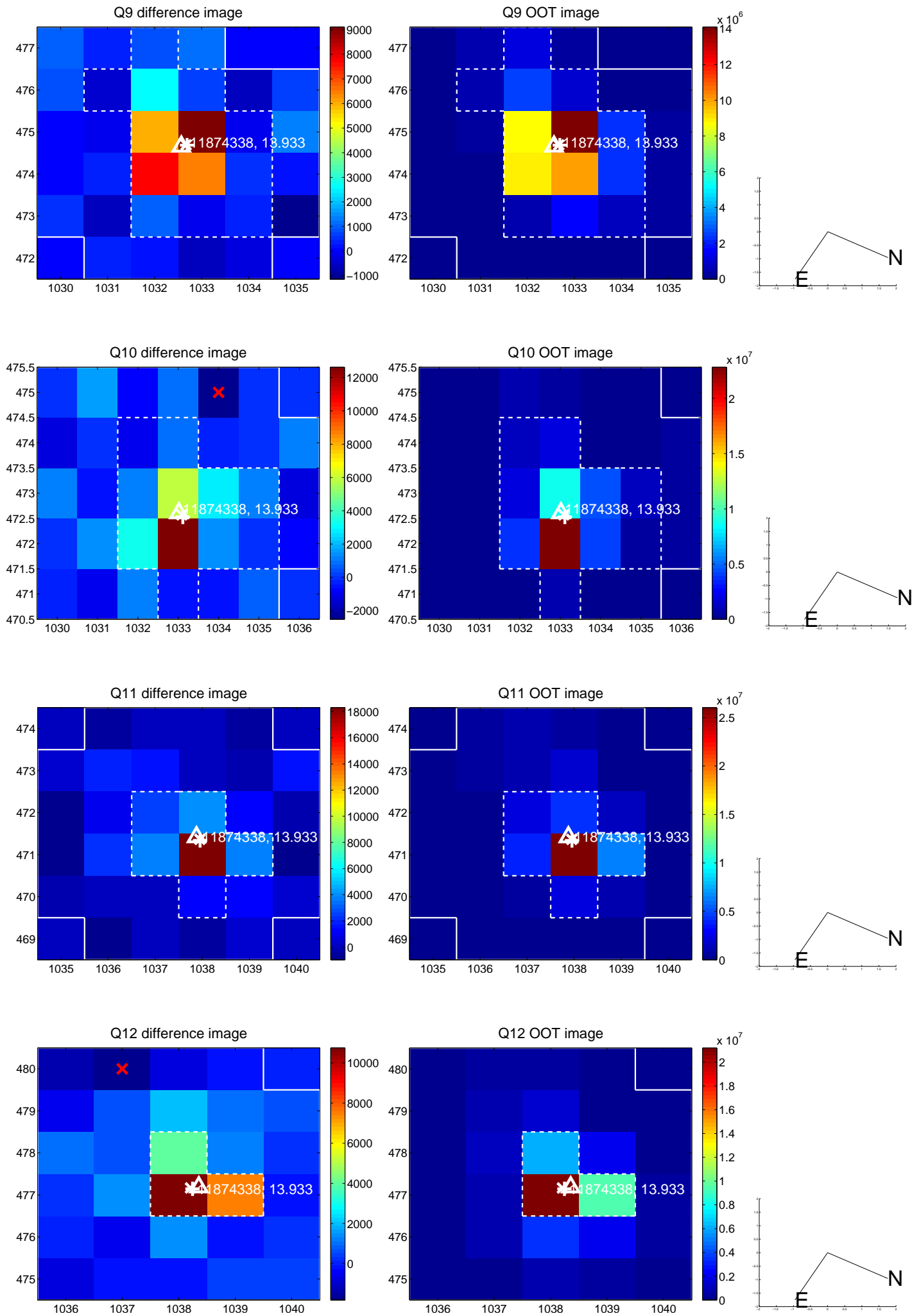
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



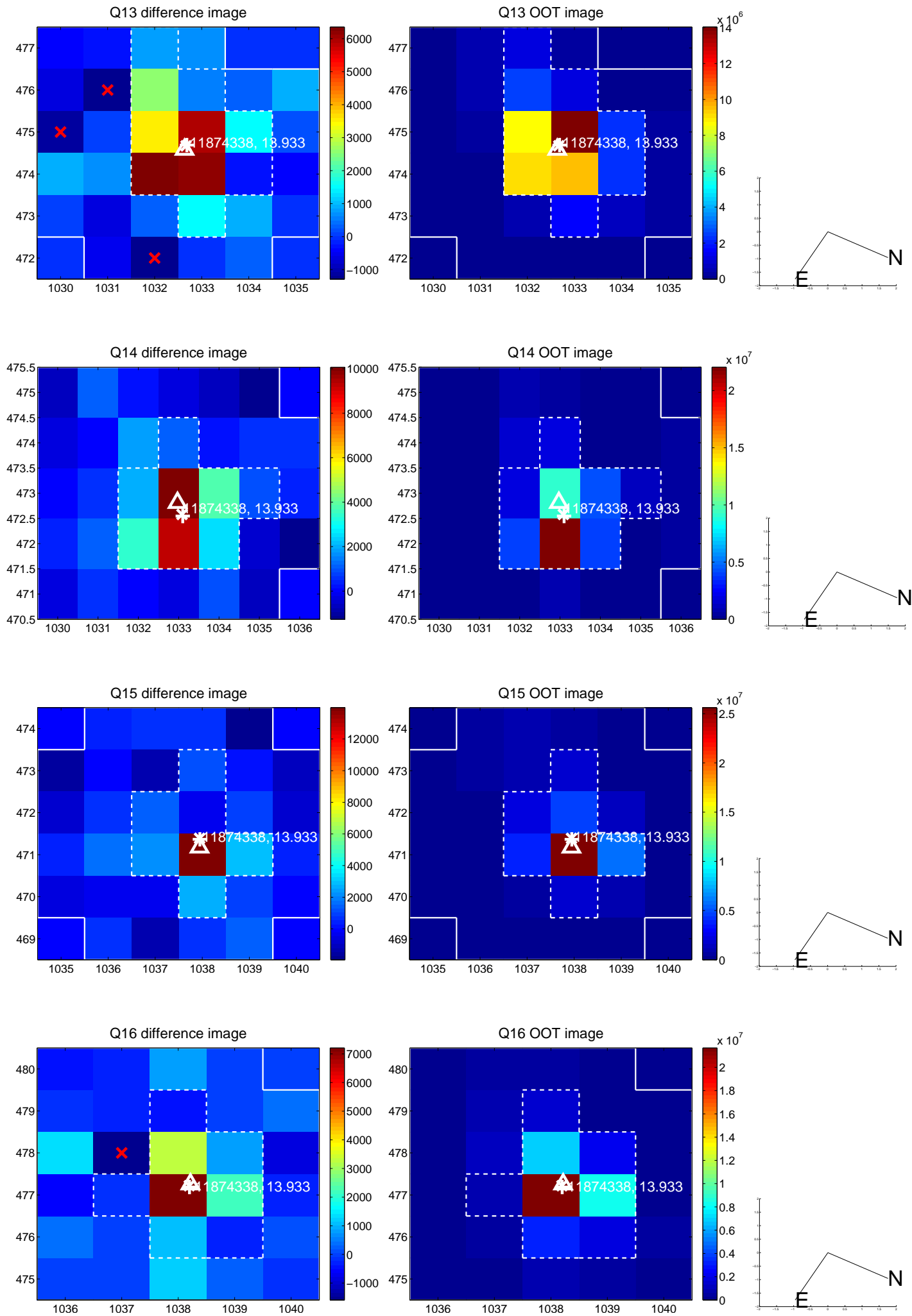
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



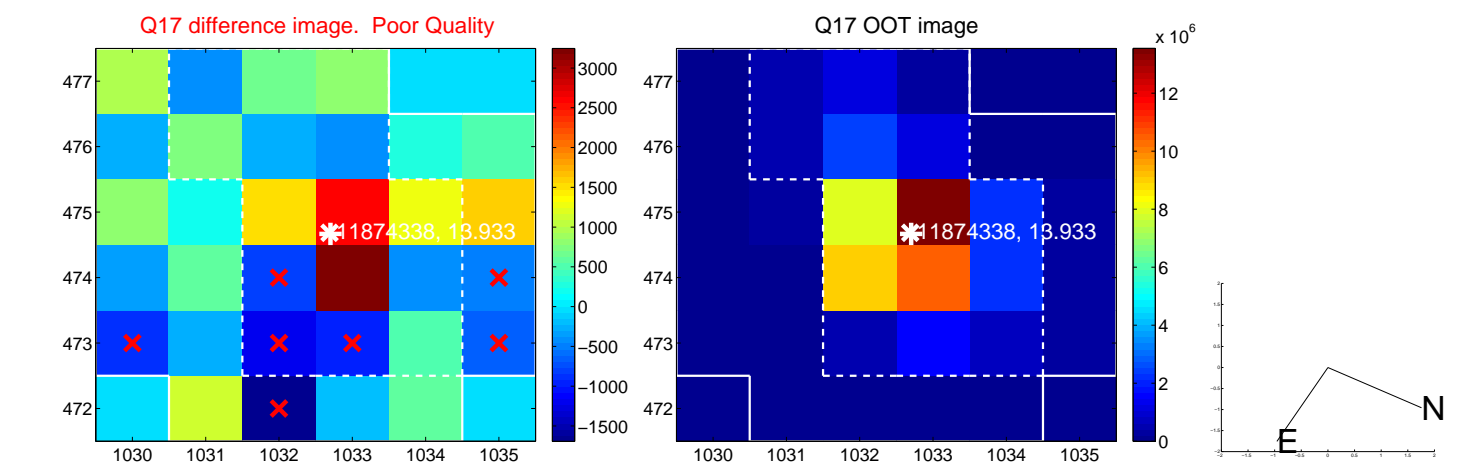
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



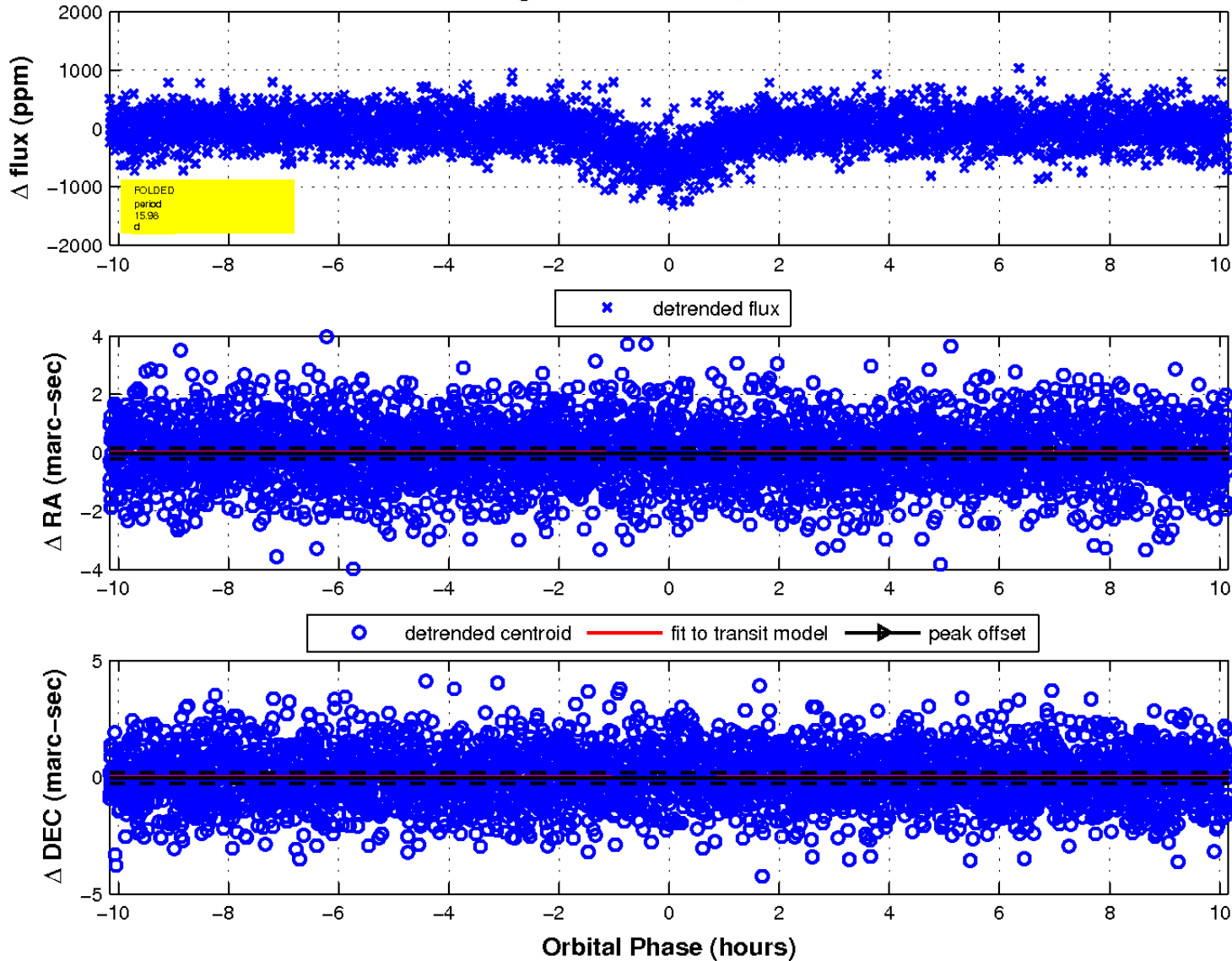
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

