

KIC 012367017

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})
012367017-01	OBS	7529.01	1.222115	131.821912	970.0	2.046	136.5	82.0	0.87	5157	3.44	1106.66
012367017-02	OBS	No	1.222128	132.423494	2160.7	1.500	26.2	-1.0	0.87	5157	3.95	1106.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012367017-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
012367017-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_NOFITS—HALO_GHOST

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.

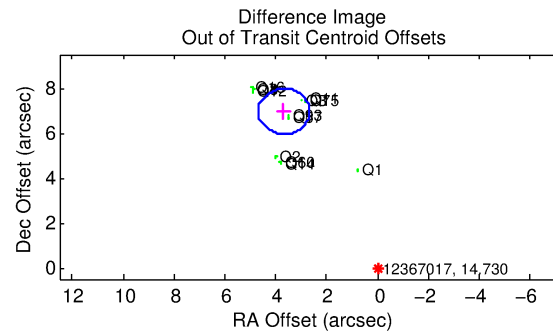
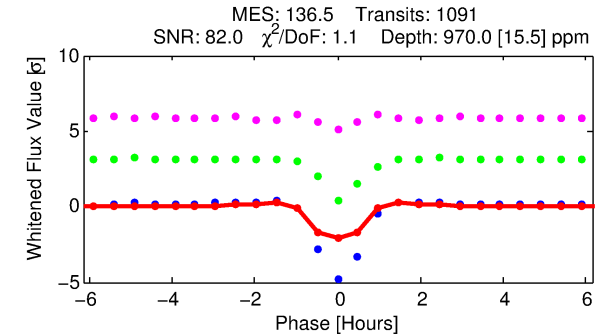
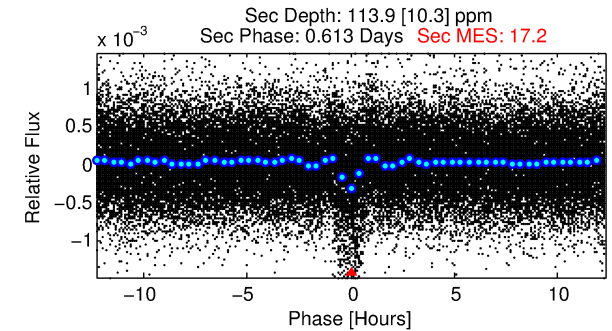
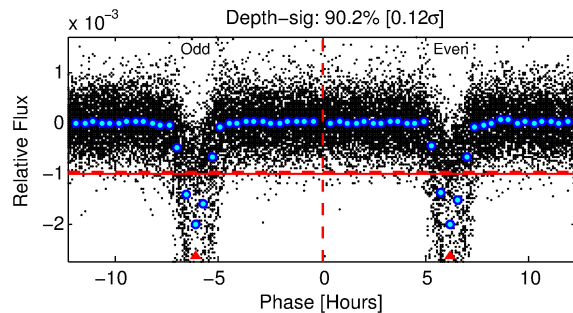
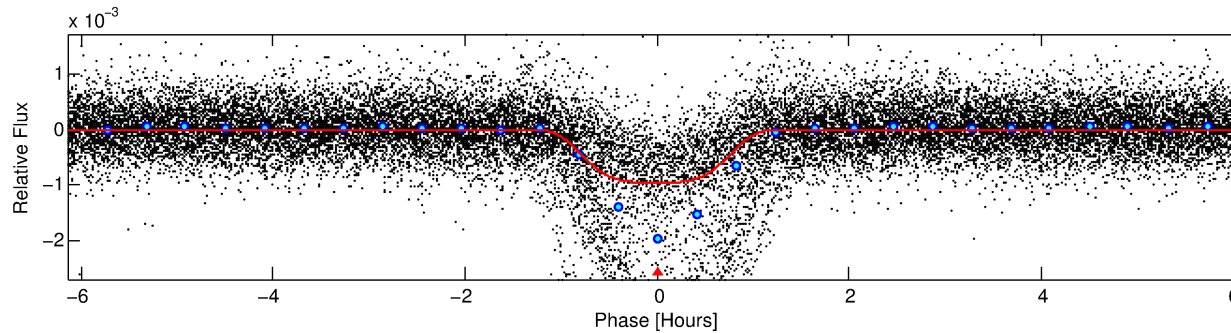
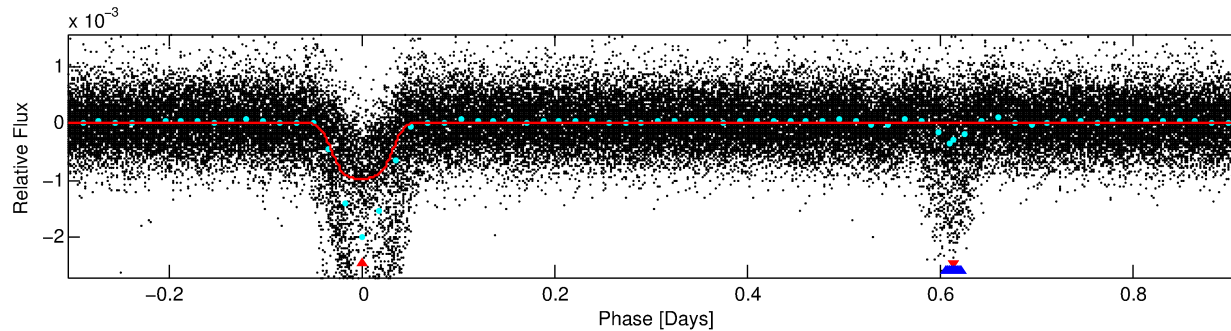
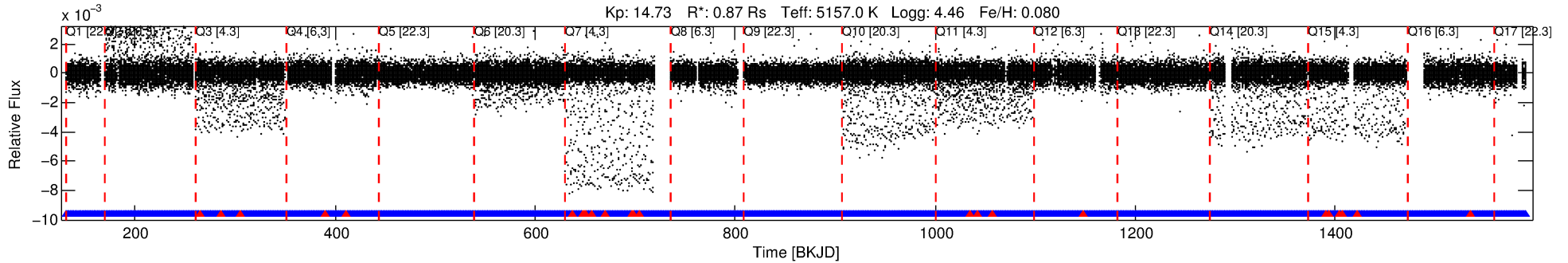
Ephemeris Match Information For 012367017-01

No Significant Match Found

DV One-Page Summary

KIC: 12367017 Candidate: 1 of 2 Period: 1.222 d
KOI: K07529.01 Corr: 0.941

Kp: 14.73 R*: 0.87 Rs Teff: 5157.0 K Logg: 4.46 Fe/H: 0.080



DV Fit Results:

Period = 1.22212 [0.00000] d
Epoch = 131.8219 [0.0003] BKJD
Rp/R* = 0.0362 [0.0007]
a/R* = 2.30 [0.13]
b = 0.93 [0.01]
Seff = 1106.66 [304.52]
Teq = 1471 [101] K
Rp = 3.44 [0.51] Re
a = 0.0208 [0.0031] AU
Ag = 2.30 [0.60] [2.16σ]
Teff = 2799 [116] K [8.65σ]

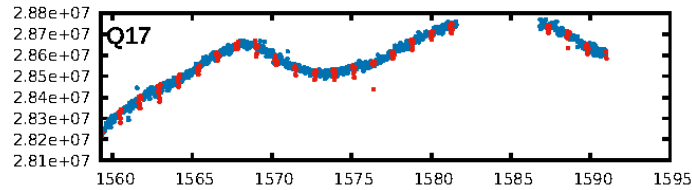
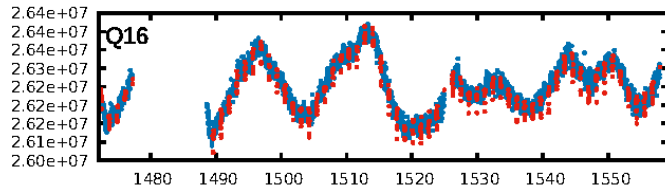
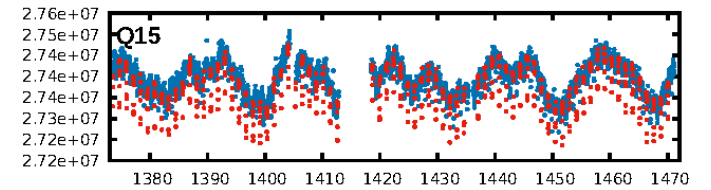
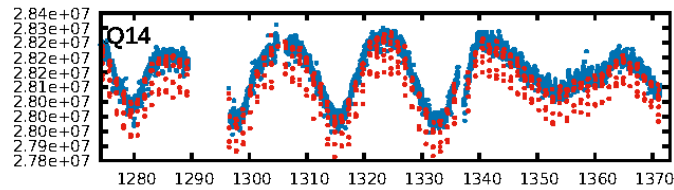
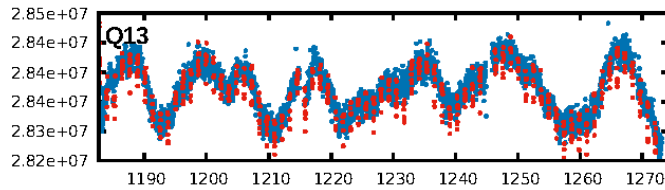
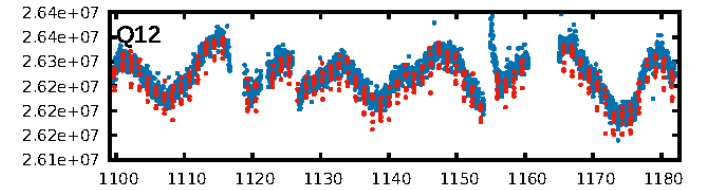
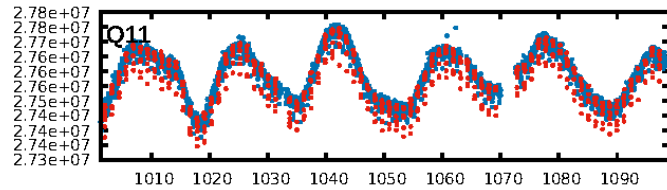
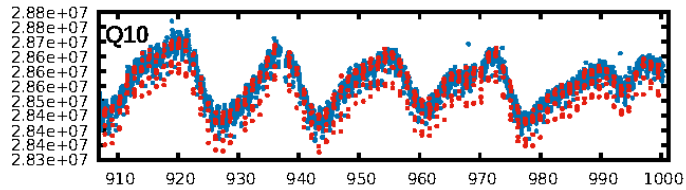
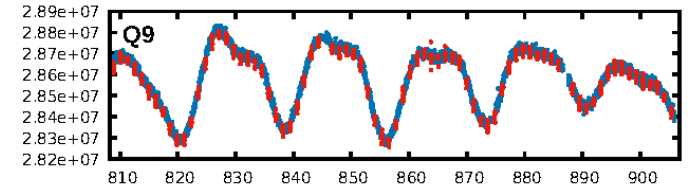
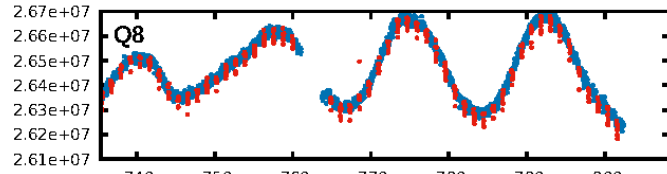
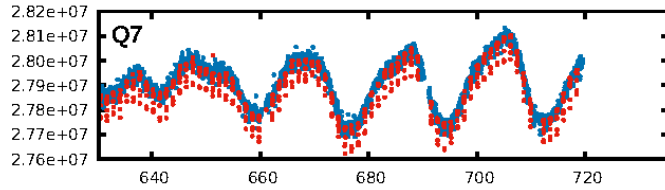
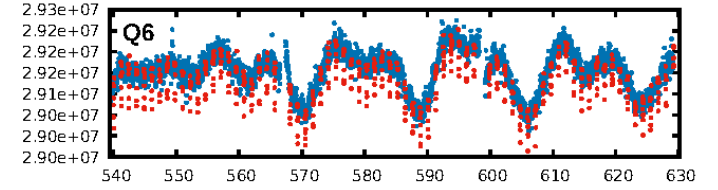
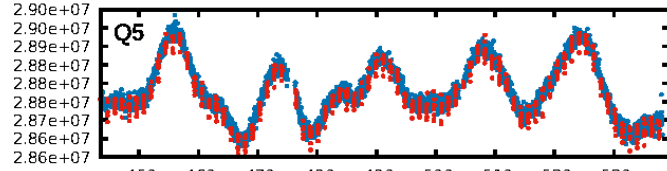
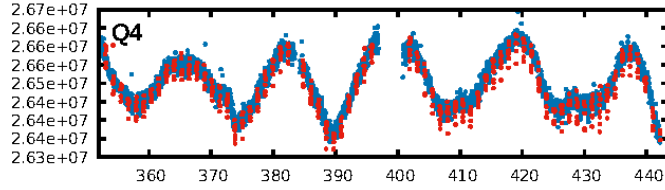
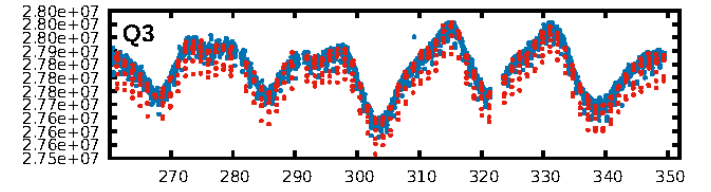
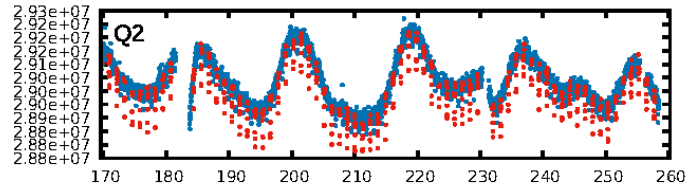
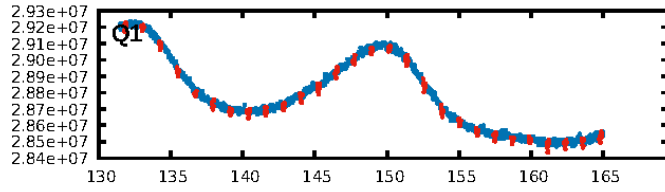
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [1016/1040]
GhostDiagnostic-chr: 0.07546
Centroid-sig: 0.0%
Centroid-so: 14.574 arcsec [134.03σ]
OotOffset-rm: 7.874 arcsec [23.45σ]
KicOffset-rm: 7.957 arcsec [23.99σ]
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]

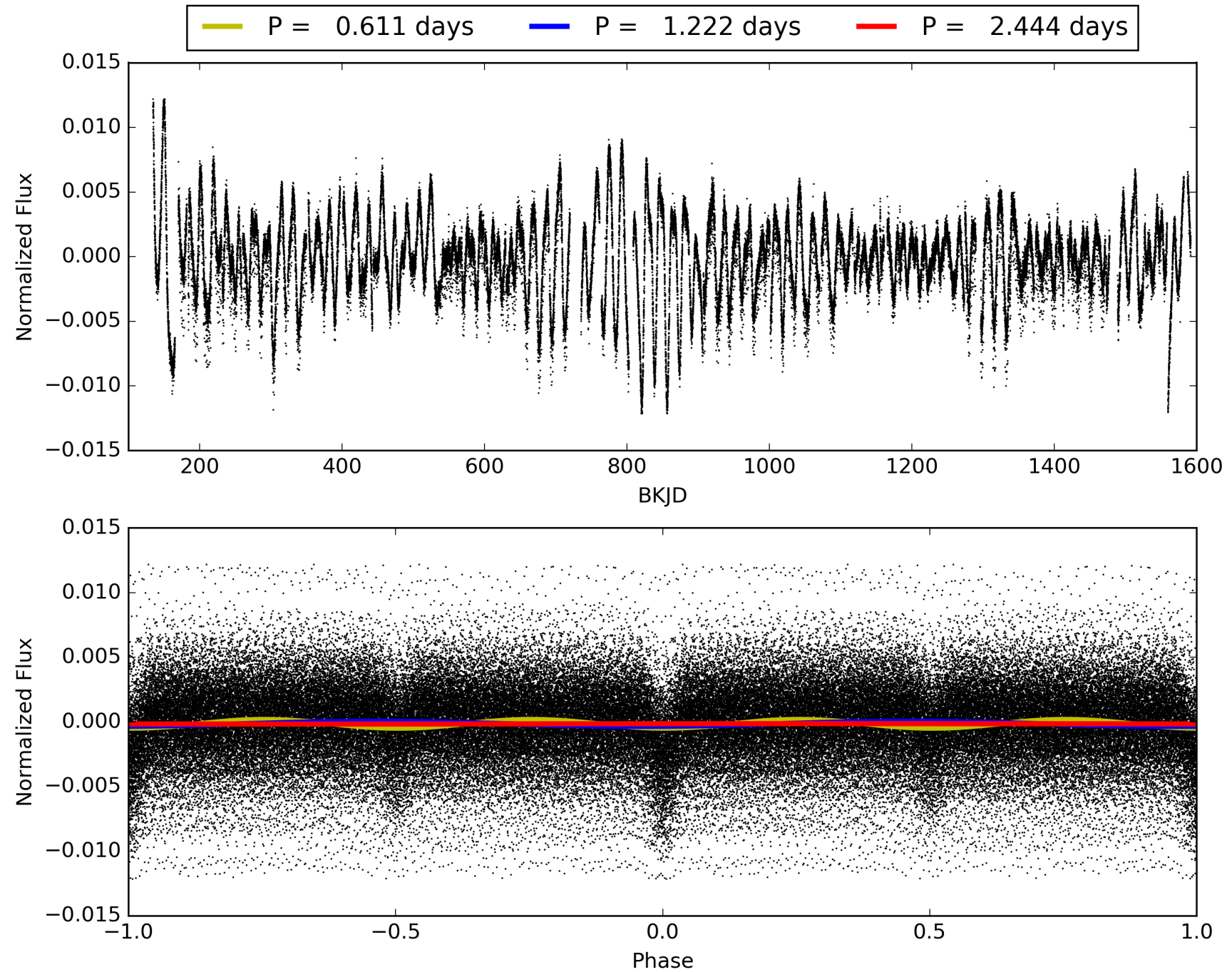
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:32:12 Z

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

TCE 012367017-01, PDC Light Curves

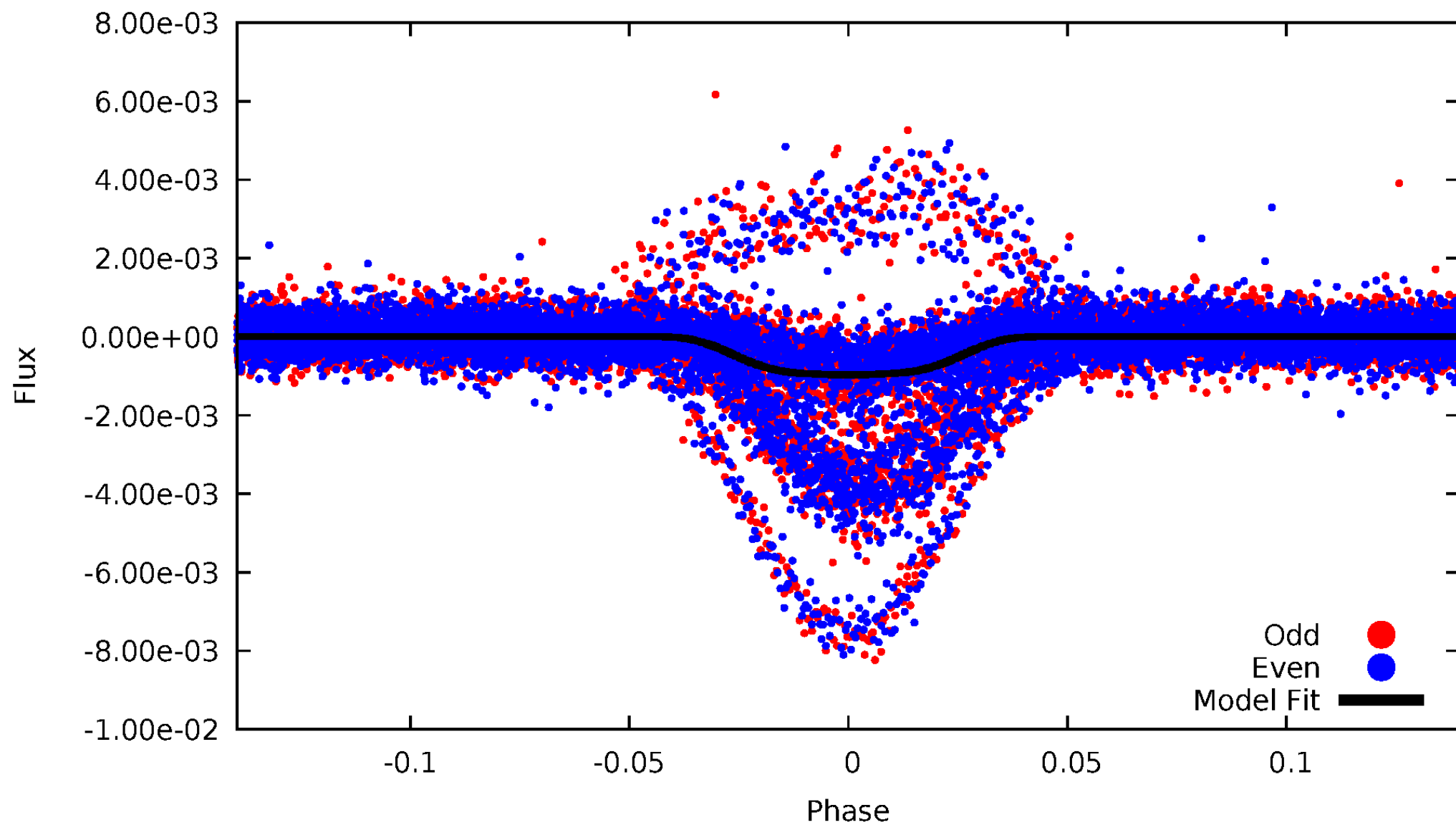


TCE 012367017-01



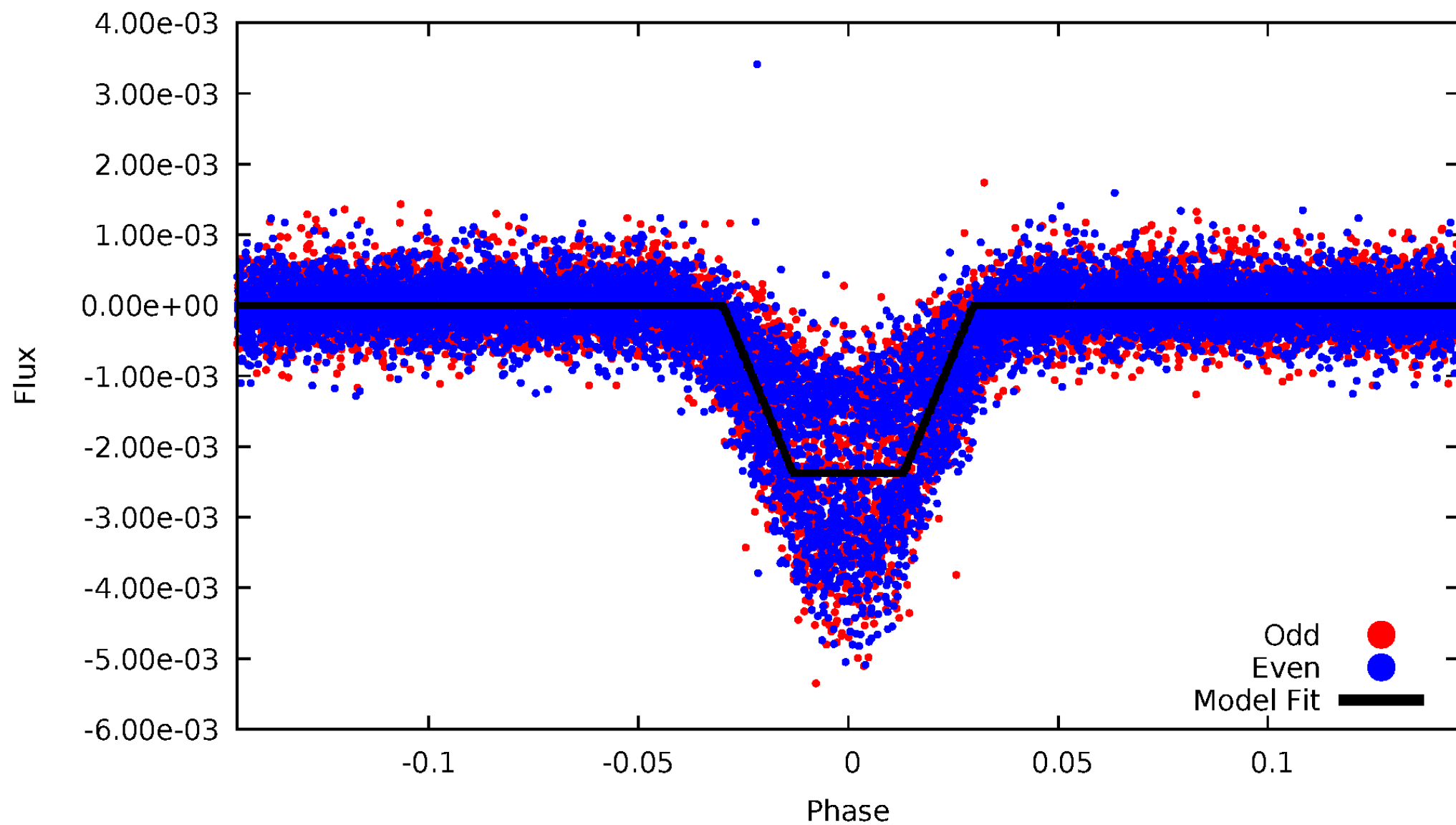
DV Odd/Even

TCE 012367017-01



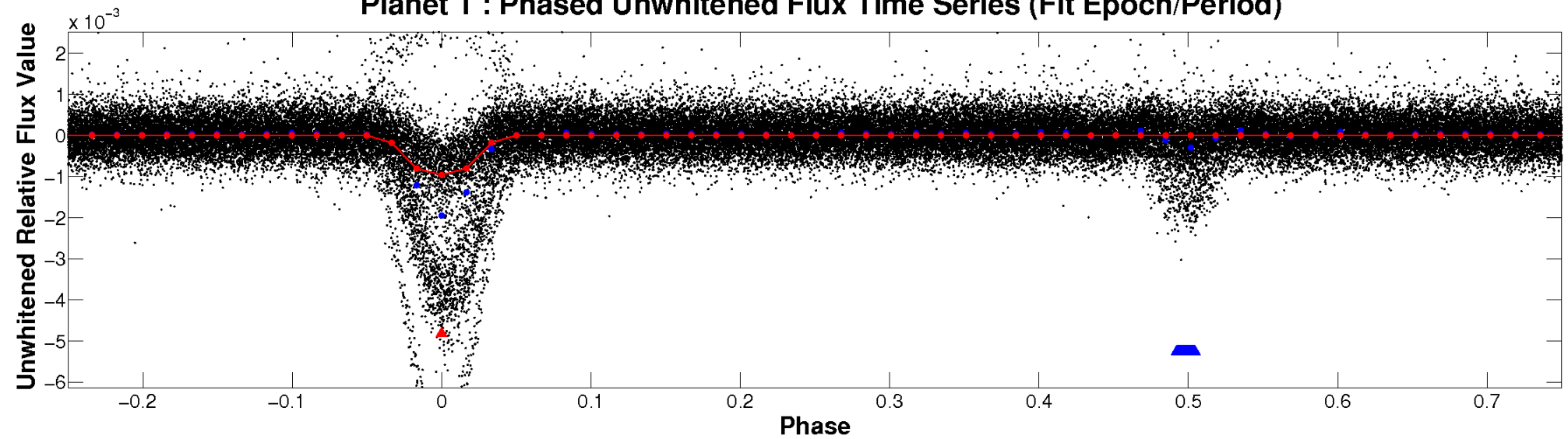
ALT Odd/Even

TCE 012367017-01

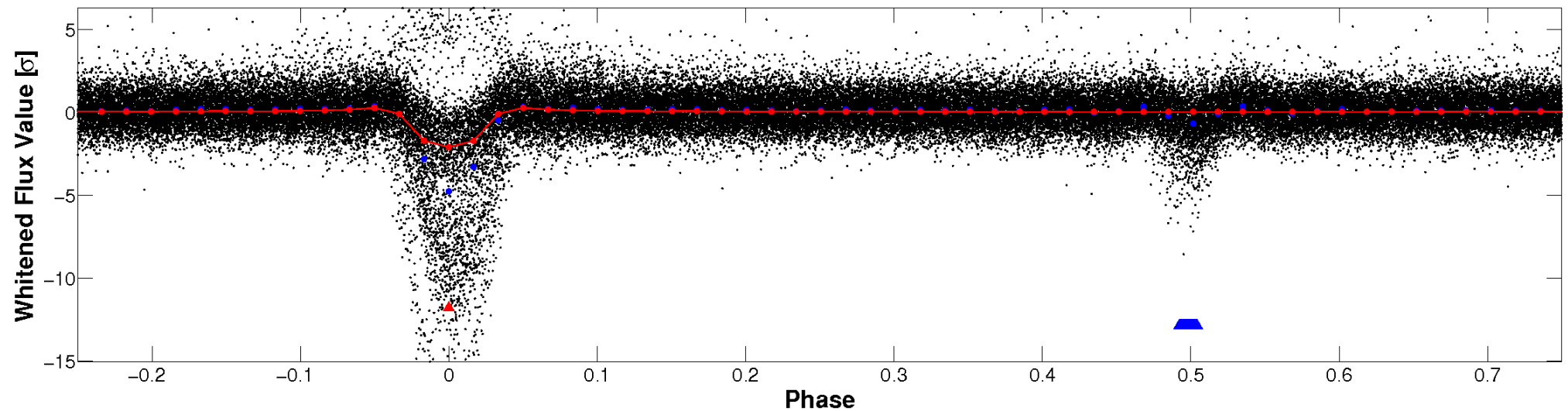


Non-Whitened Vs. Whitened Light Curve

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

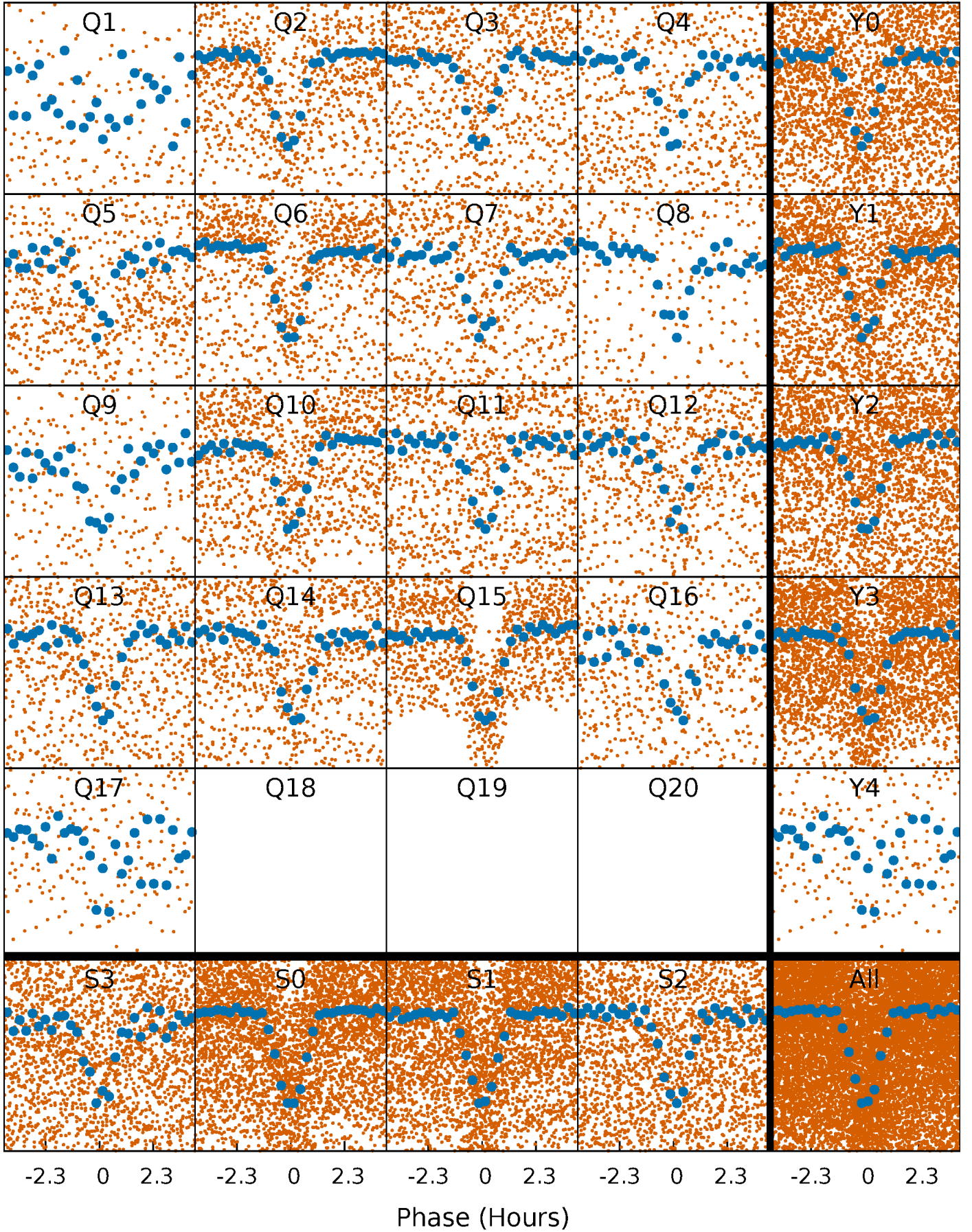


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



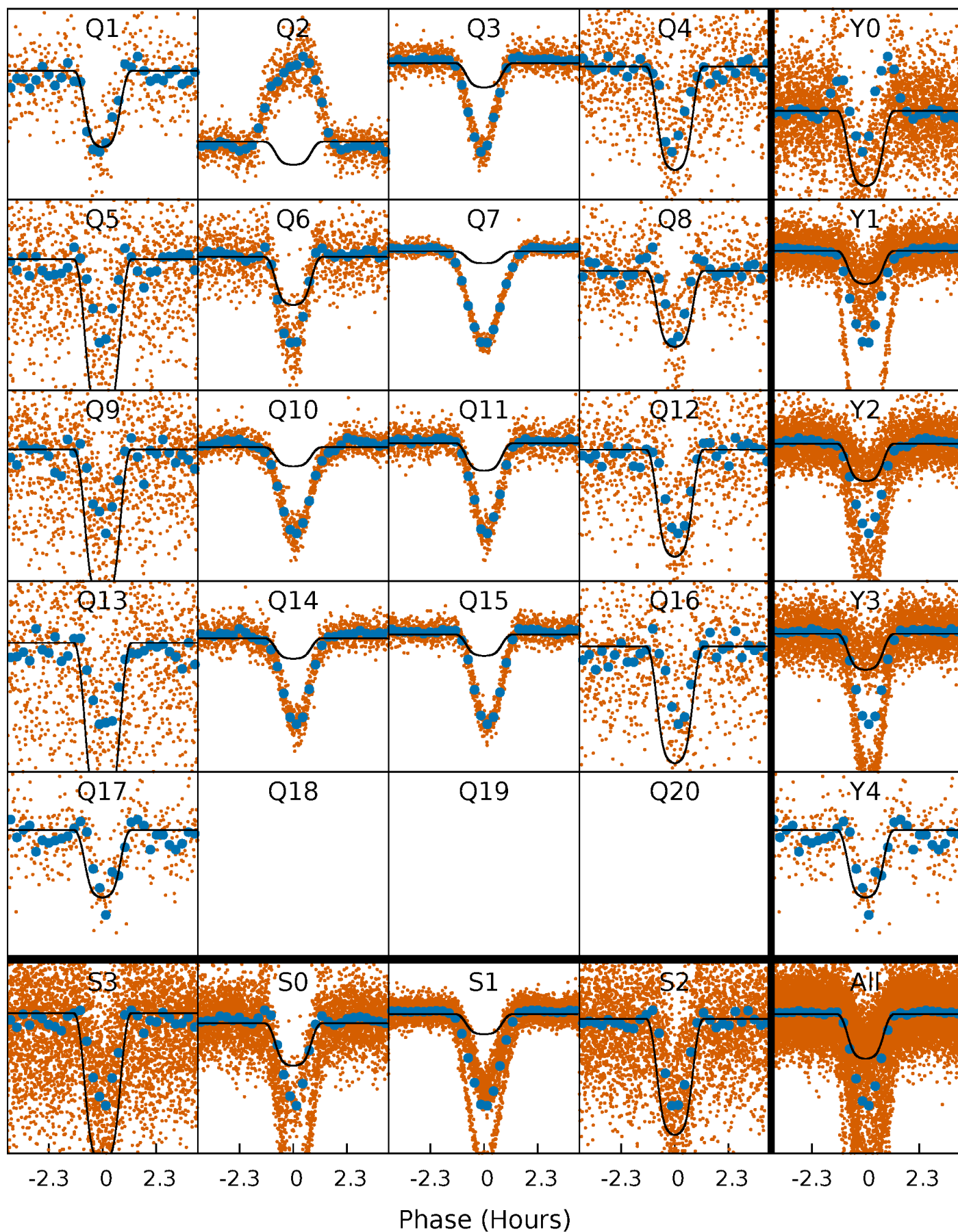
PDC Quarter-Phased Transit Curves

TCE 012367017-01 P= 1.222115 Days $T_0=131.821912$ (BKJD)



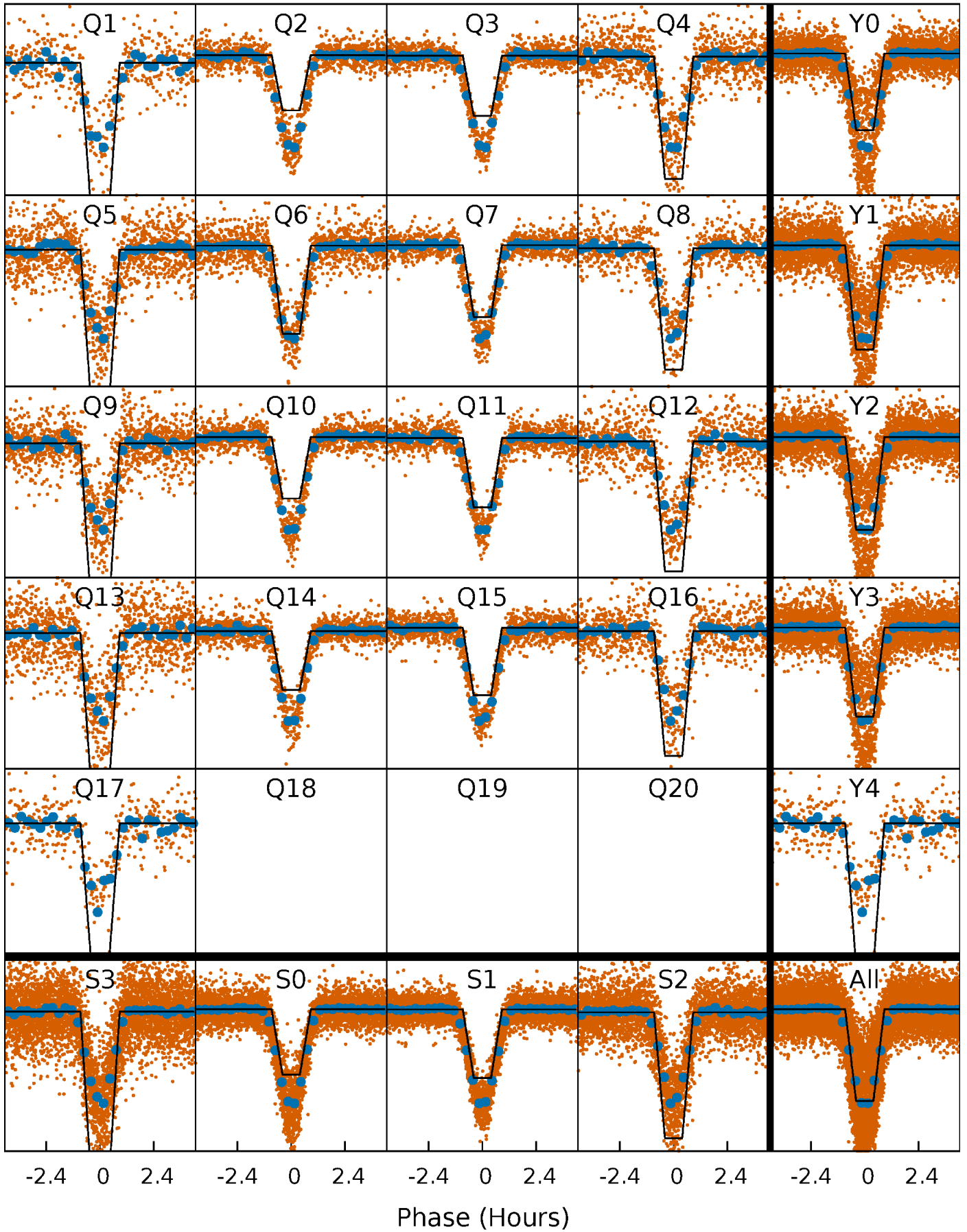
DV Quarter-Phased Transit Curves

TCE 012367017-01 P= 1.222115 Days $T_0=131.821912$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

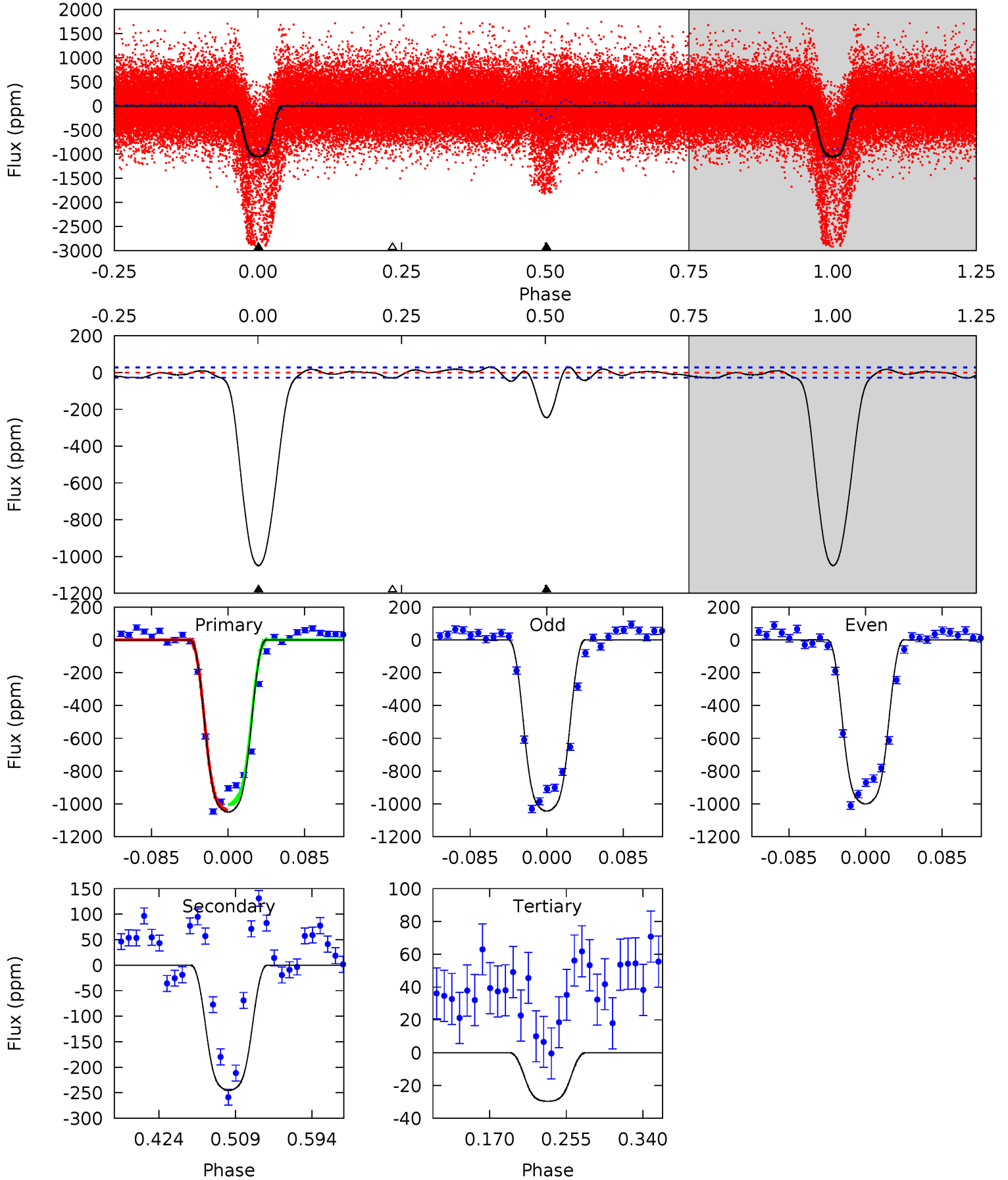
TCE 012367017-01 P= 1.222128 Days $T_0=131.815854$ (BKJD)



DV Model-Shift Uniqueness Test

012367017-01, P = 1.222115 Days, E = 130.599797 Days

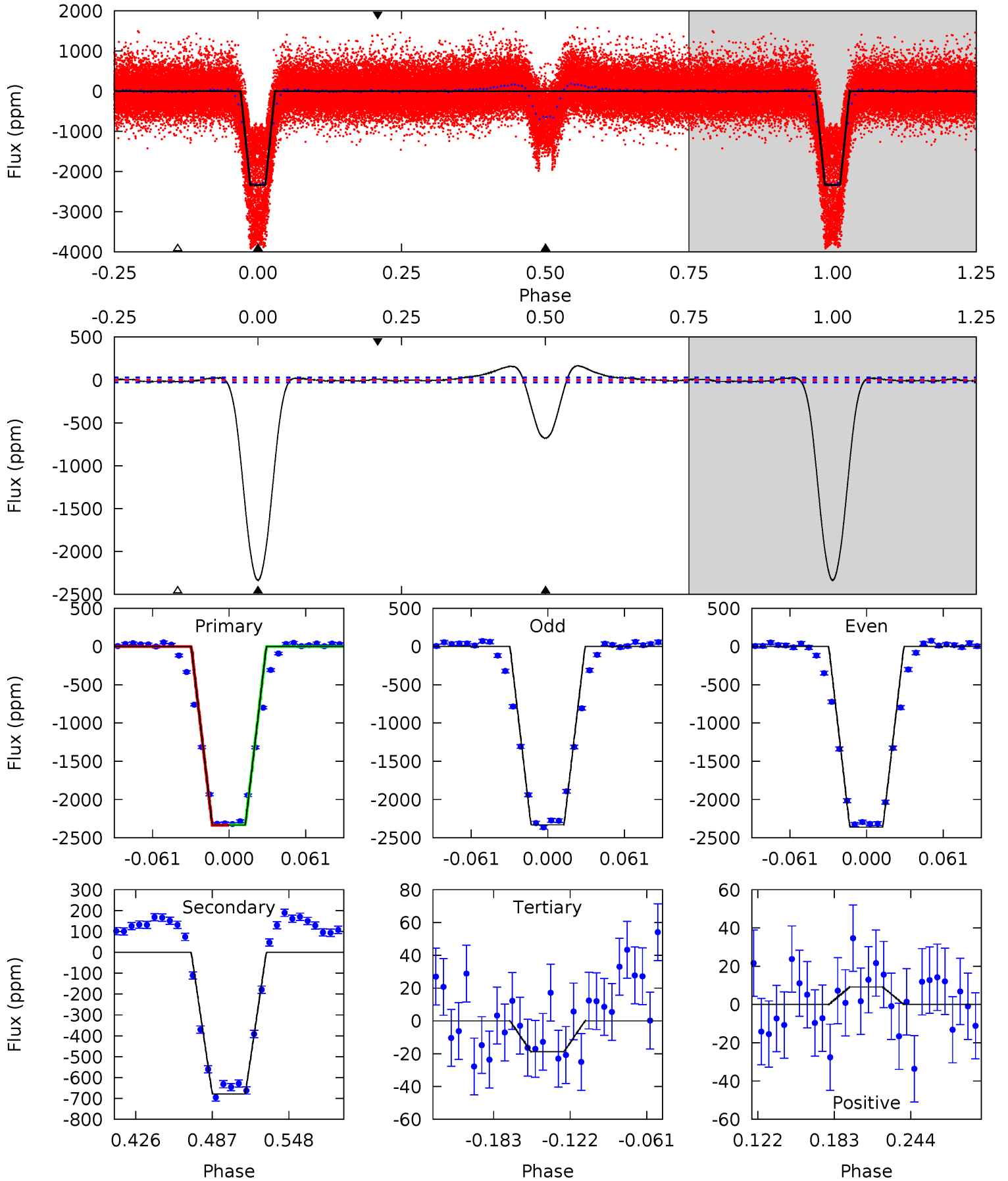
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
174.2	40.7	4.93	0	4.60	1.72	2.25	169.2	174.2	35.8	40.7	3.60	1.69	0.03	2.84



Alt Model-Shift Uniqueness Test

012367017-01, P = 1.222128 Days, E = 130.593726 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
407.8	118.4	3.28	1.60	4.67	1.87	6.83	404.5	406.2	115.2	116.8	2.66	0.99	0.07	0.43



Stellar Parameters For KIC 012367017

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5157^{+170}_{-139}	$4.465^{+0.108}_{-0.144}$	$0.080^{+0.250}_{-0.250}$	$0.870^{+0.127}_{-0.101}$	$0.806^{+0.096}_{-0.064}$	$1.725^{+0.760}_{-0.622}$
	+3%/-3%	+2%/-3%	+312%/-312%	+15%/-12%	+12%/-8%	+44%/-36%
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 012367017-01 / KOI 7529.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-245 ± 6	$3.49^{+0.34}_{-0.27}$	2074^{+104}_{-104}	3708^{+97}_{-85}	$4.857^{+0.787}_{-0.777}$
Alt.	-678 ± 6	$4.69^{+0.42}_{-0.35}$	2069^{+106}_{-91}	4002^{+107}_{-94}	$7.391^{+1.170}_{-1.105}$

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

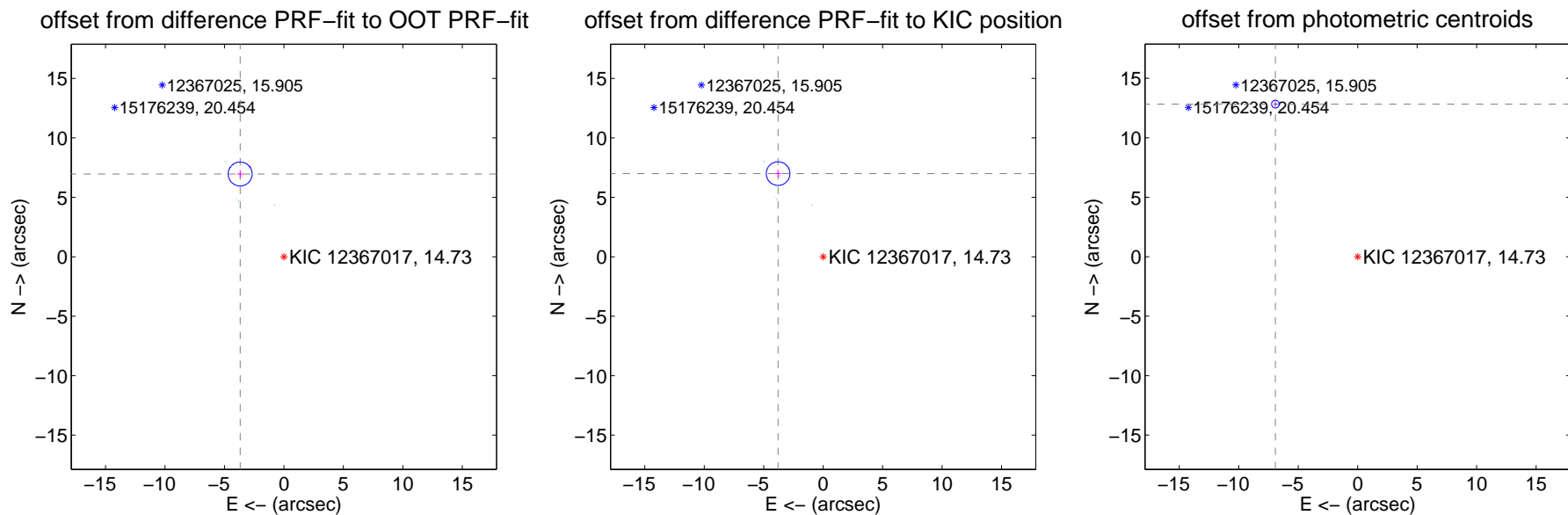
DV Centroid Data

Supplemental centroid analysis for 012367017-01. Kepler magnitude: 14.73. Transit SNR 82.00

There are 17 quarters with good PRF difference image offsets

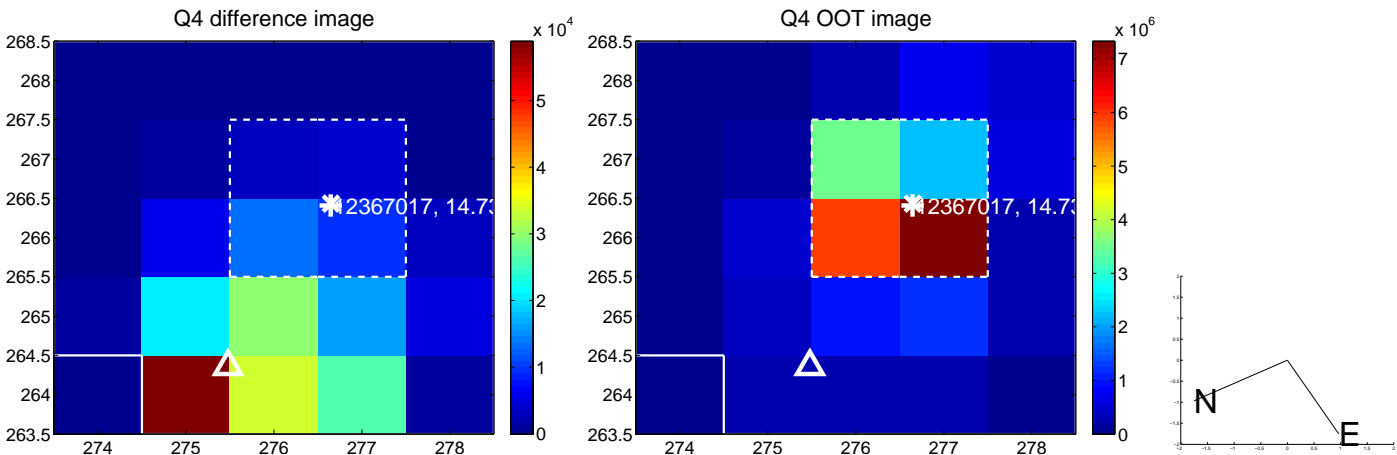
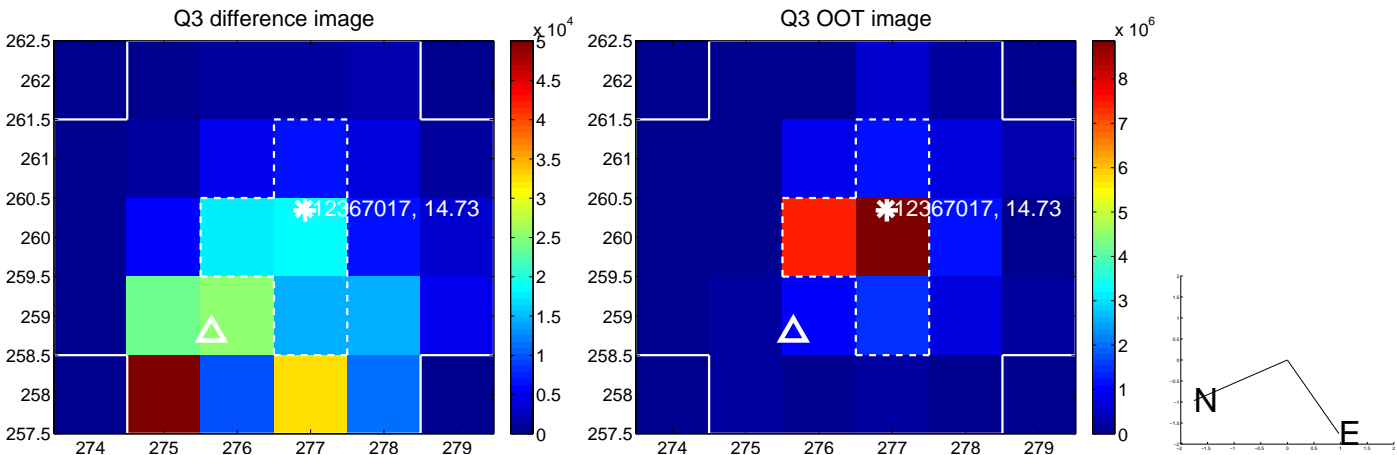
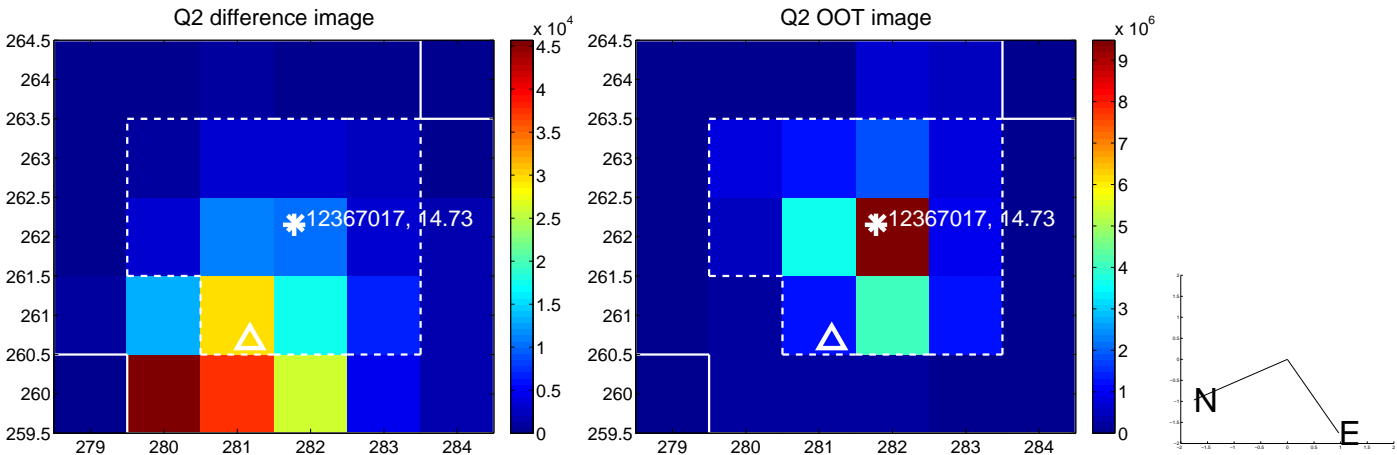
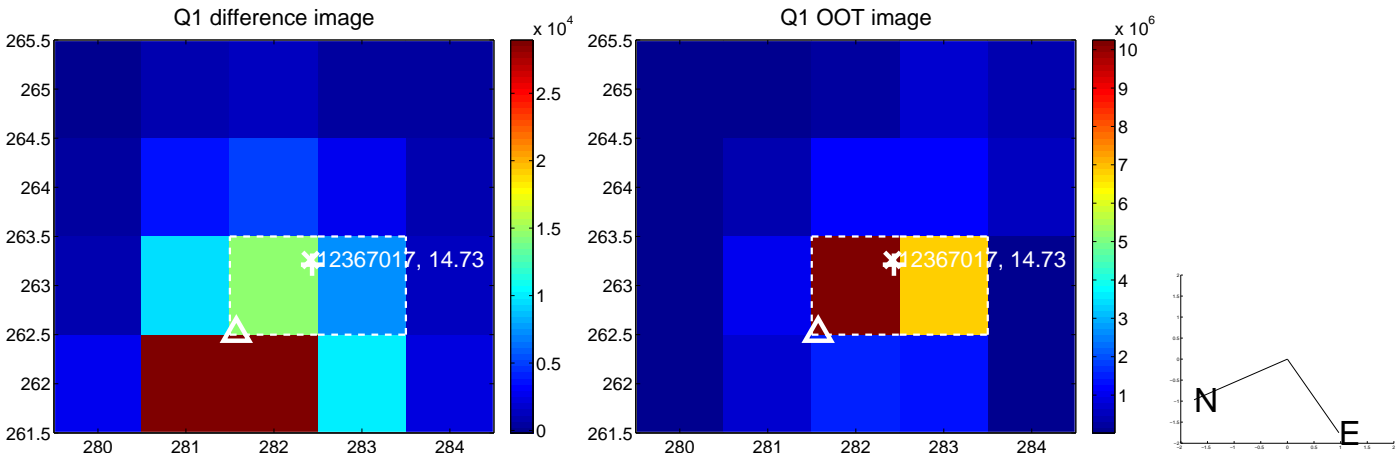
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.874 \pm 0.336	23.45	3.679 \pm 0.240	6.962 \pm 0.324
PRF-fit source offset from KIC position	7.957 \pm 0.332	23.99	3.793 \pm 0.240	6.994 \pm 0.308
photometric centroid source offset	14.57 \pm 0.11	134.03	6.91 \pm 0.10	12.83 \pm 0.11

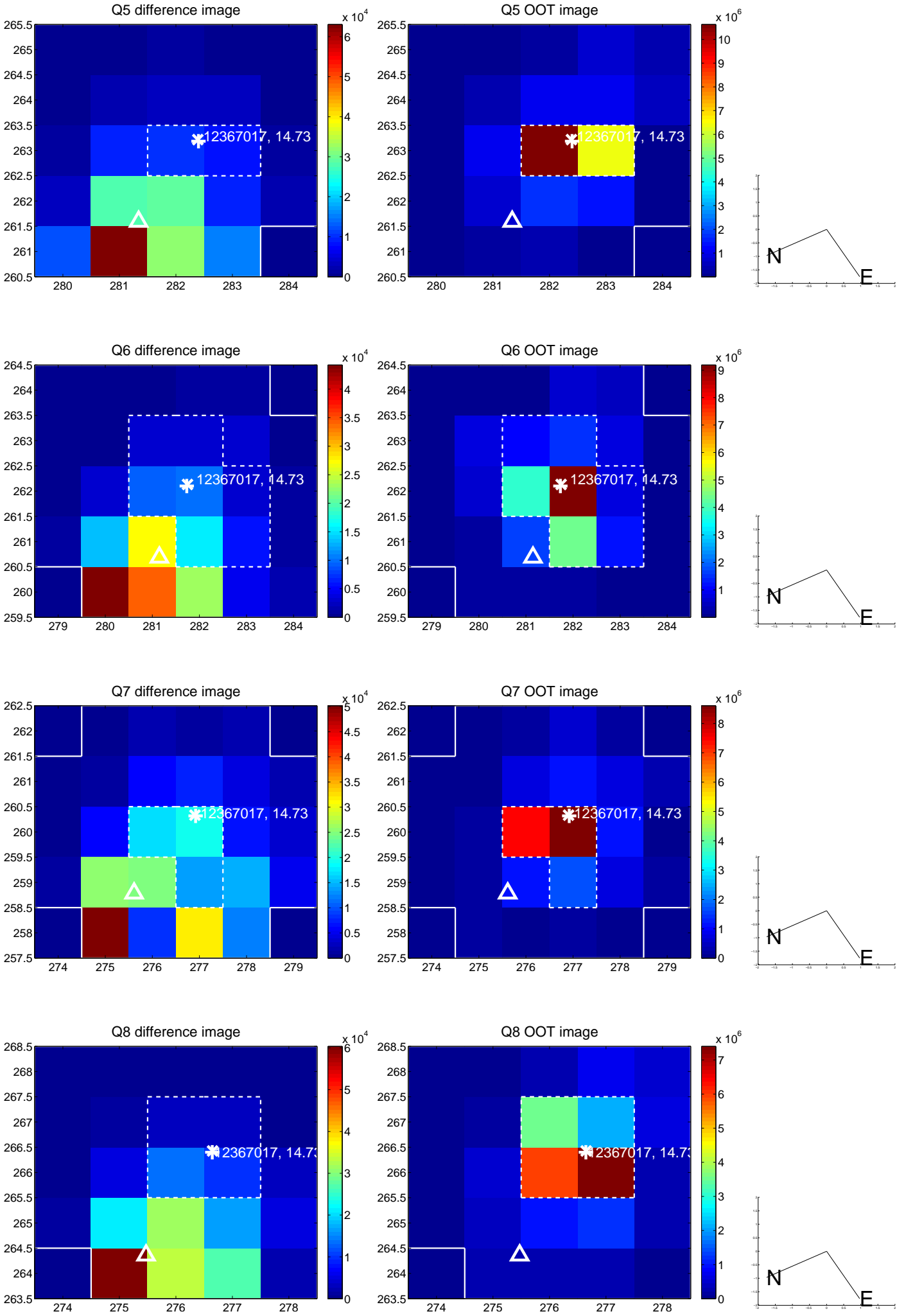


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

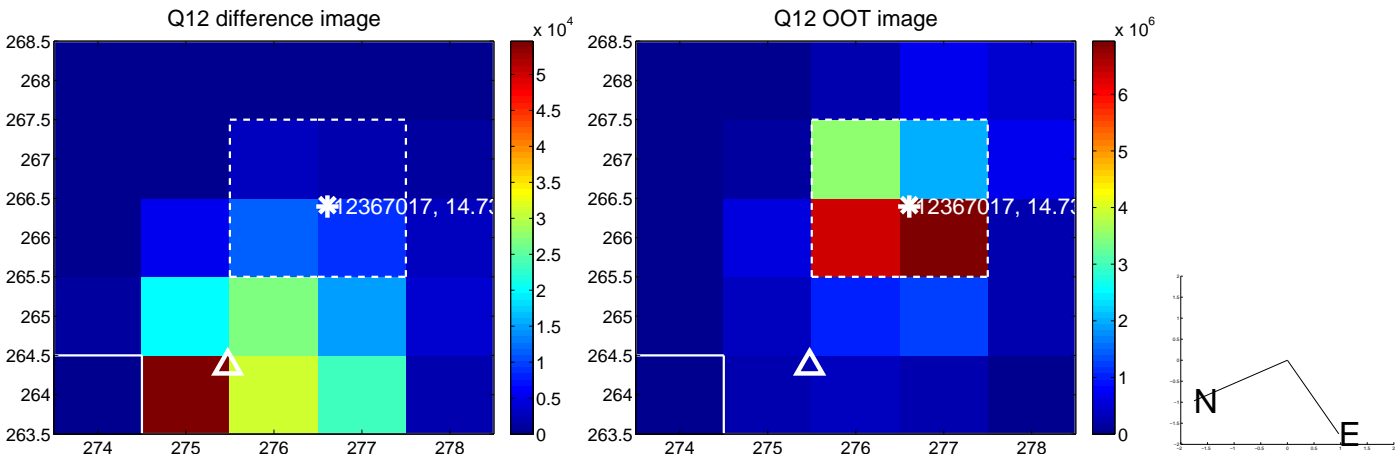
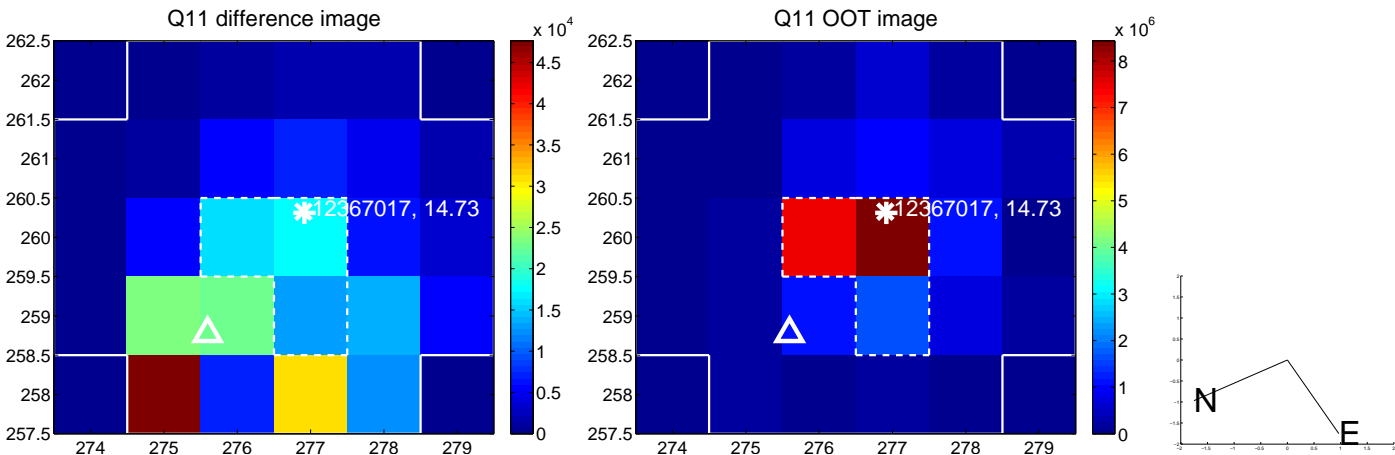
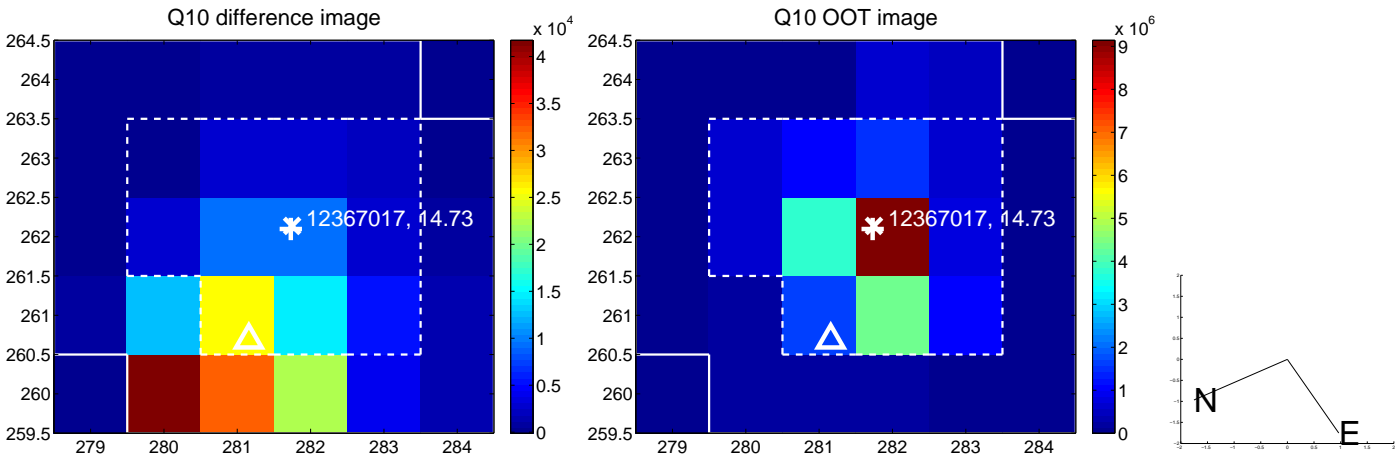
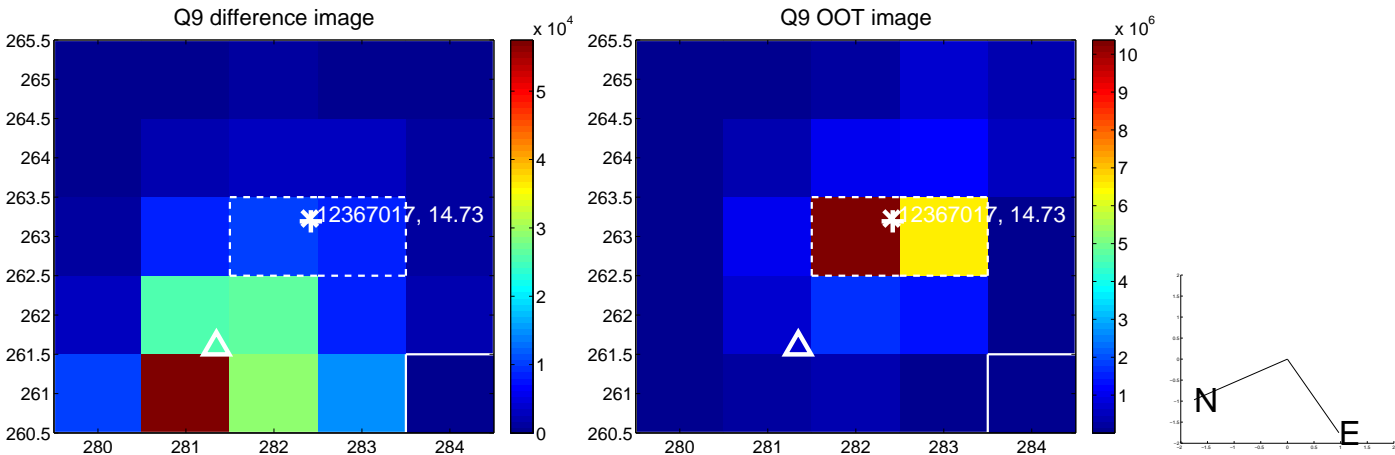
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



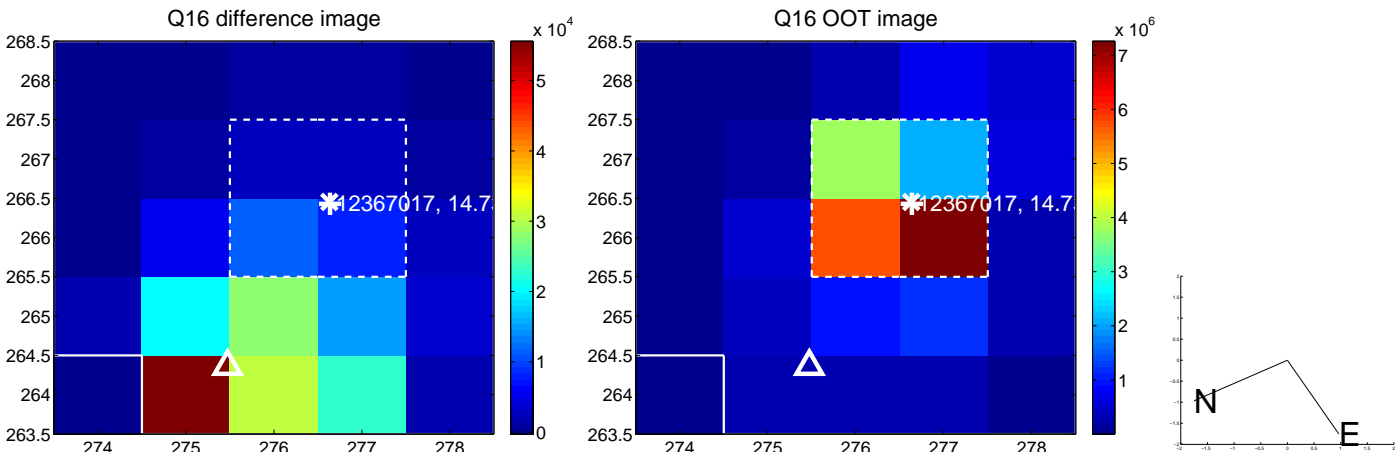
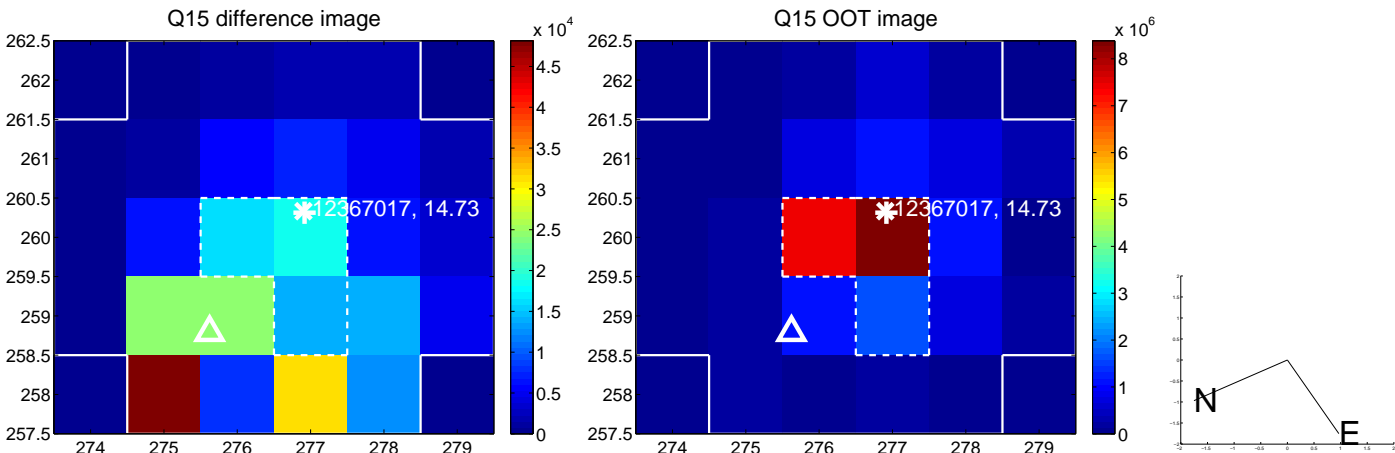
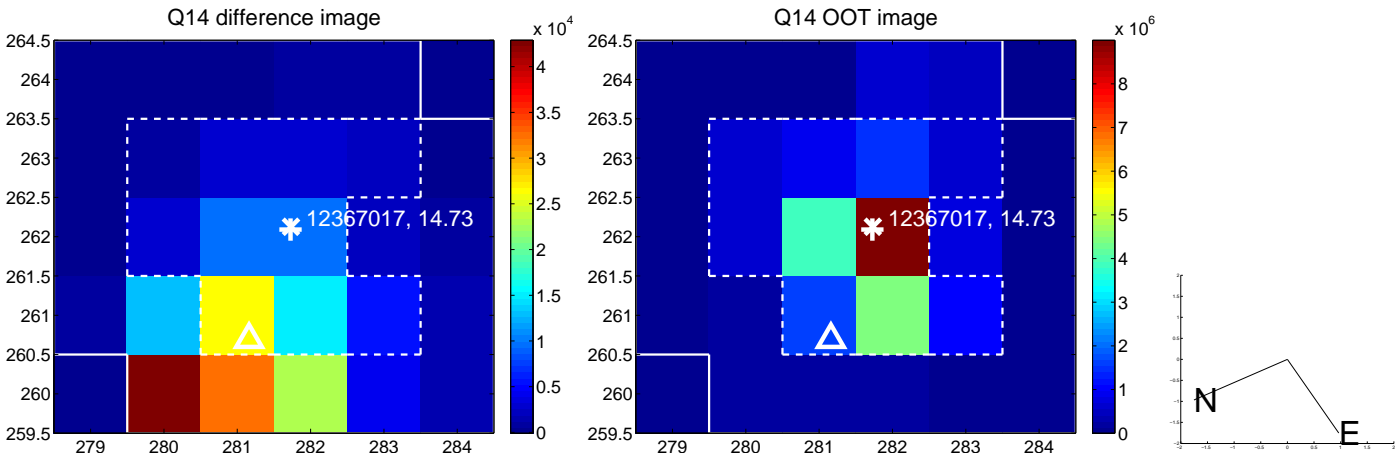
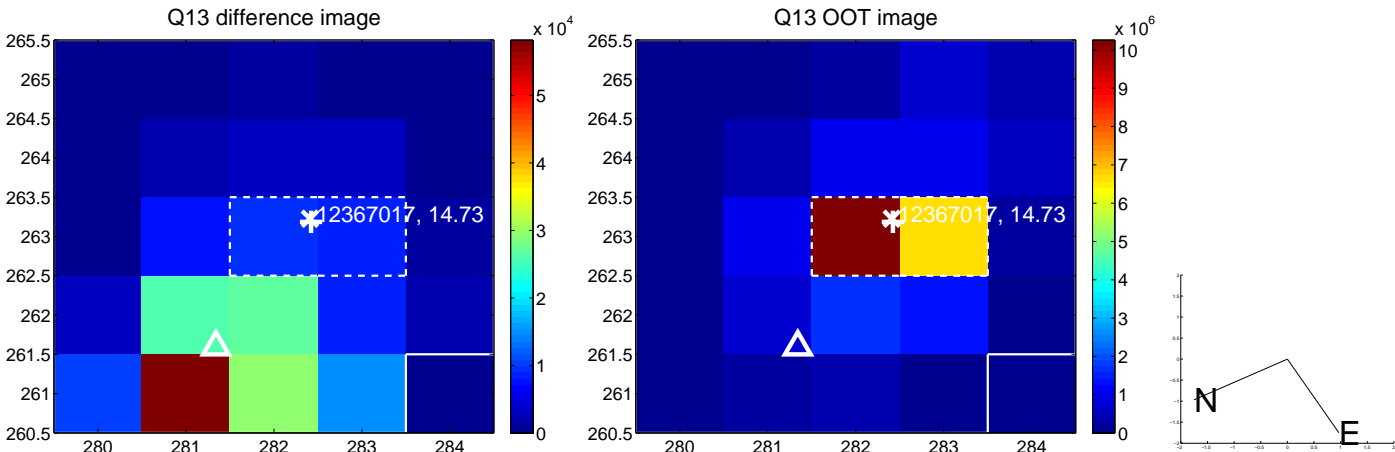
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



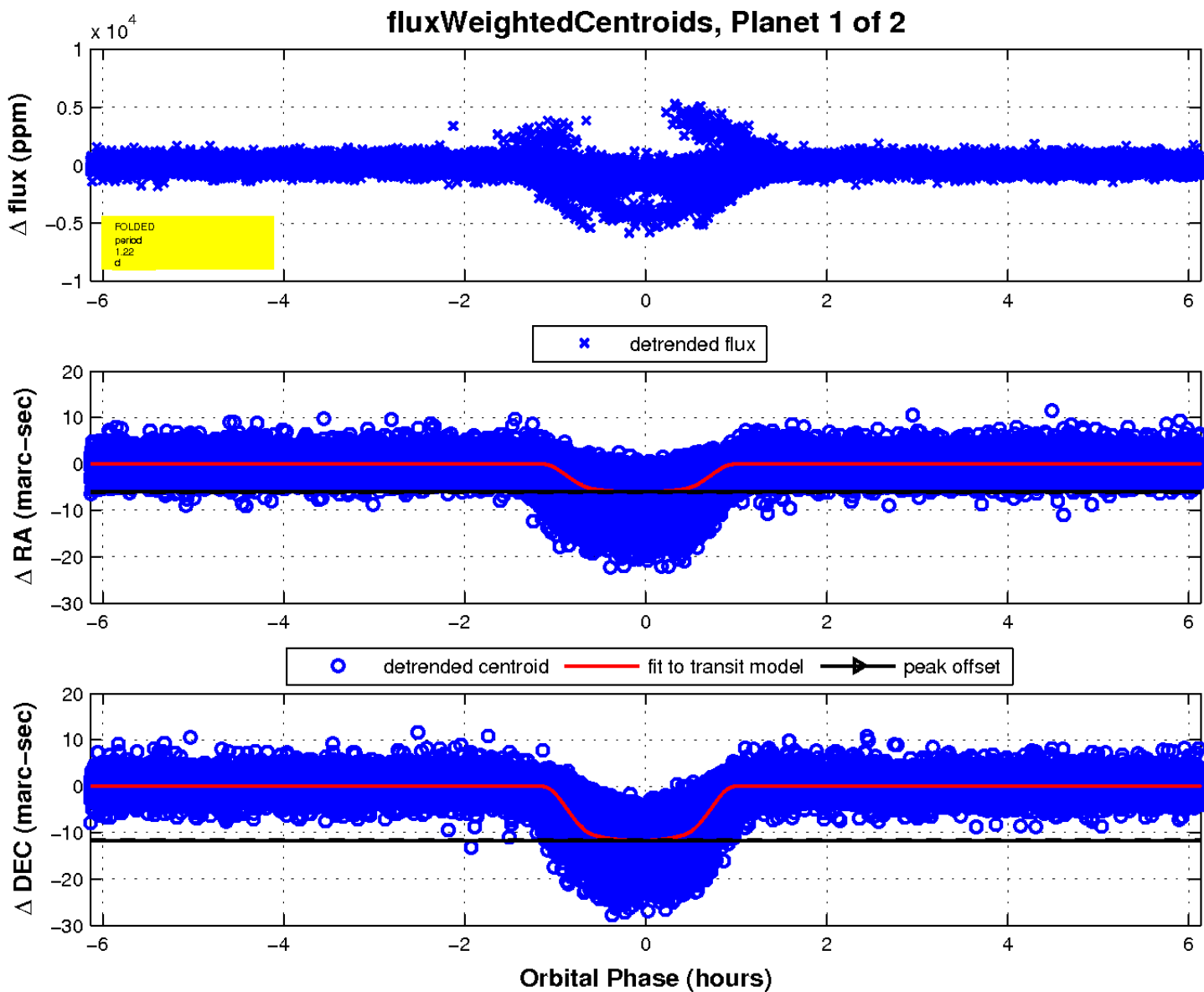
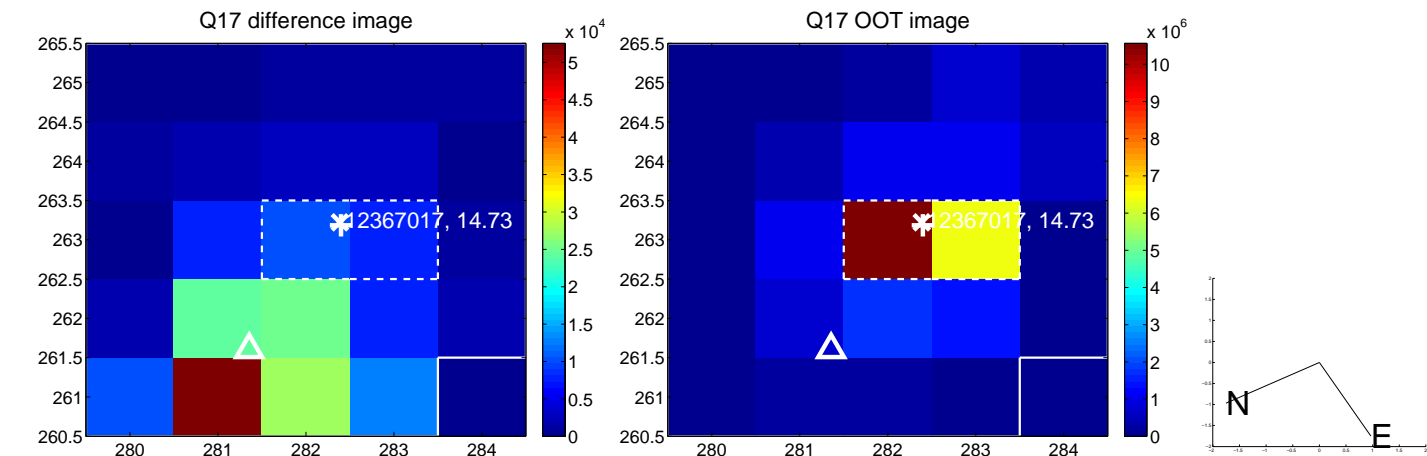
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

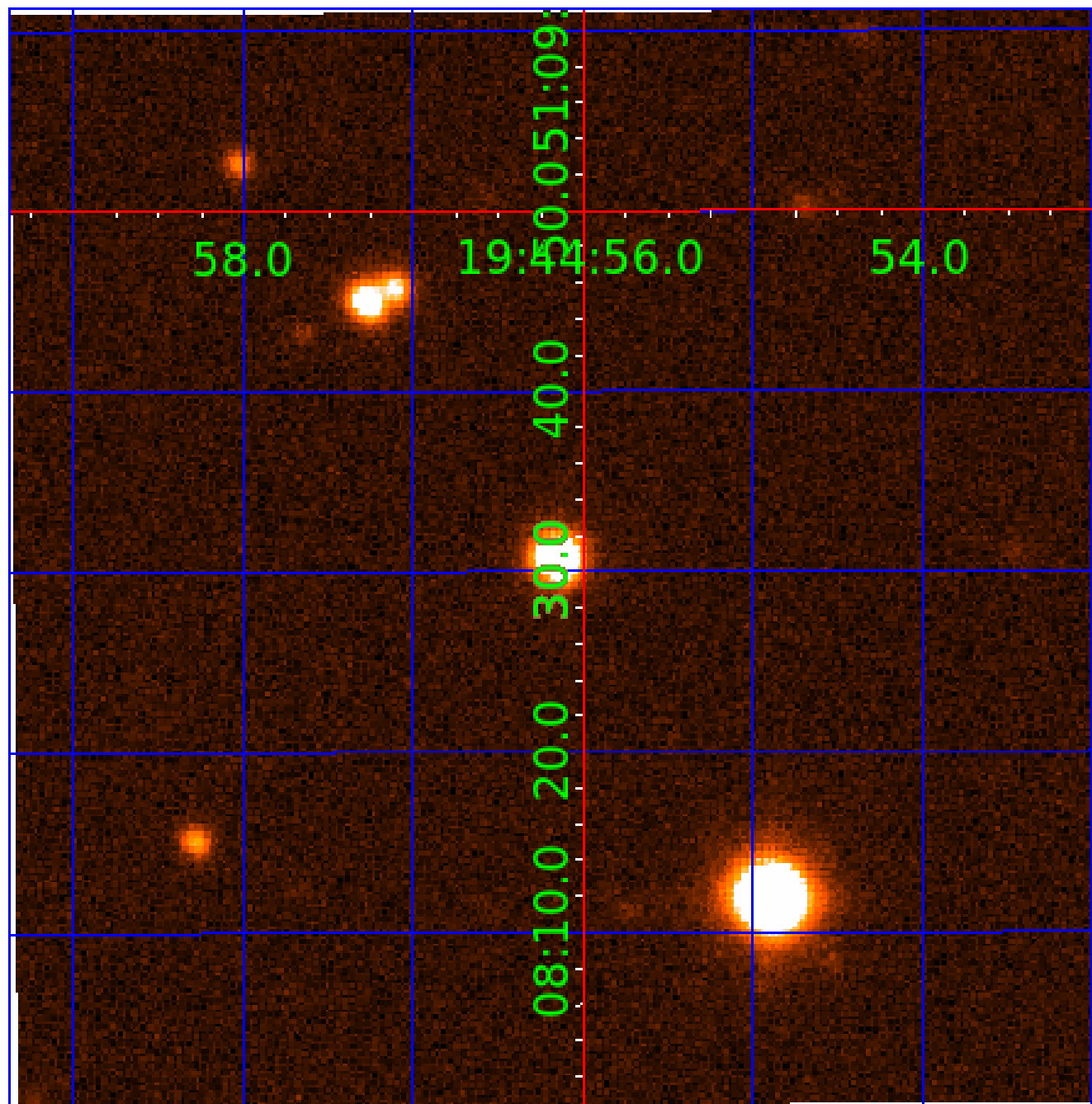


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012367017

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})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012367017-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
012367017-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_NOFITS—HALO_GHOST

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 012367017-02

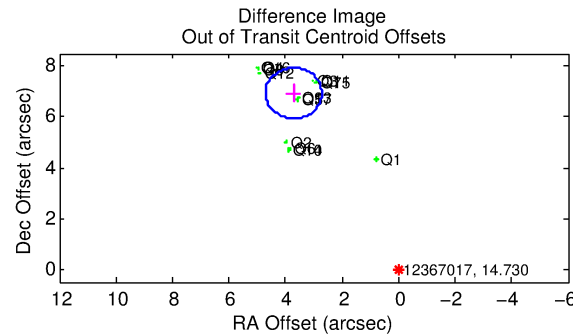
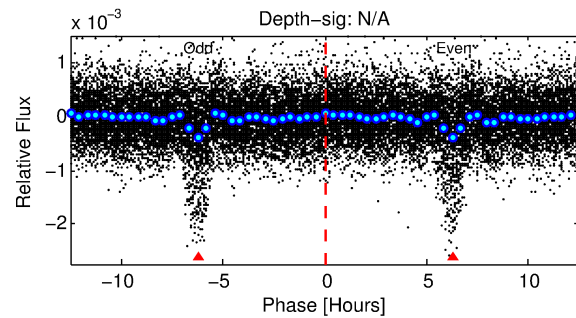
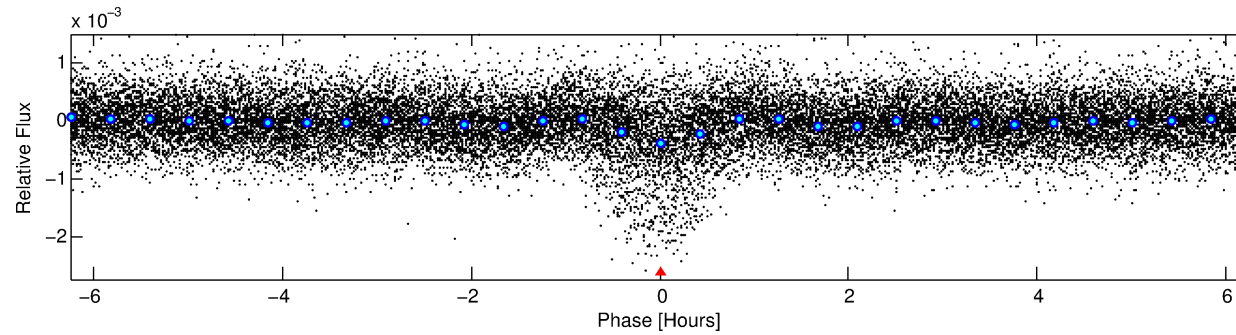
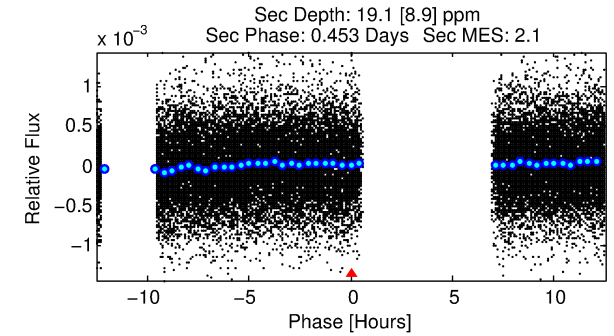
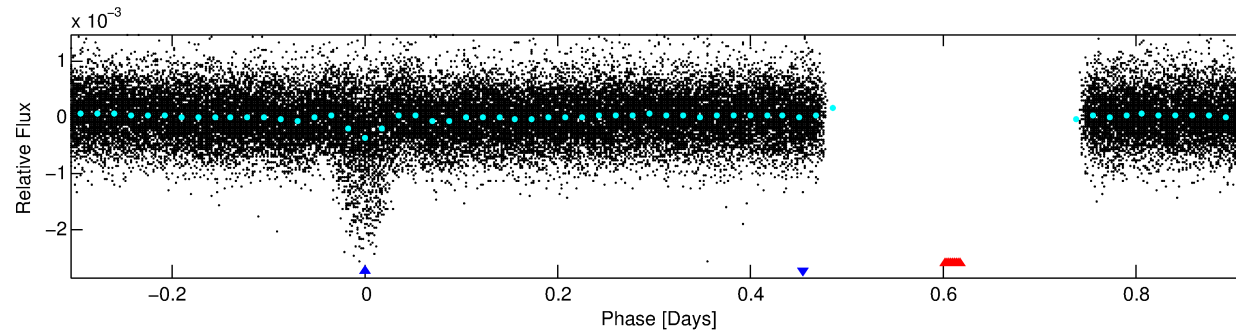
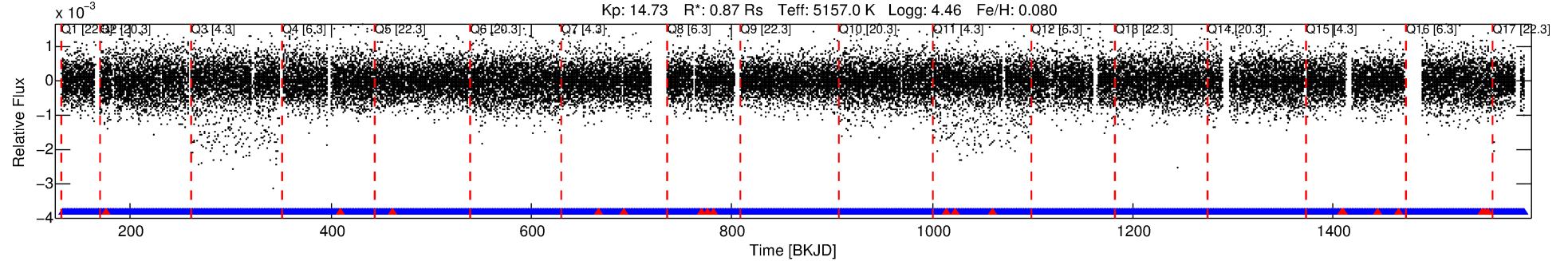
No Significant Match Found

DV One-Page Summary

KIC: 12367017 Candidate: 2 of 2 Period: 1.222 d

KOI: K07529 Corr: No Ephemeris Match

Kp: 14.73 R*: 0.87 Rs Teff: 5157.0 K Logg: 4.46 Fe/H: 0.080



TPS TCE Results:

Period = 1.22213 d
Epoch = 132.4235 BKJD

DV fit results are unavailable

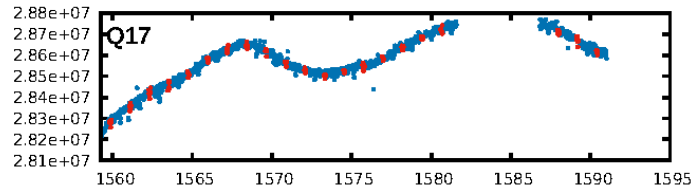
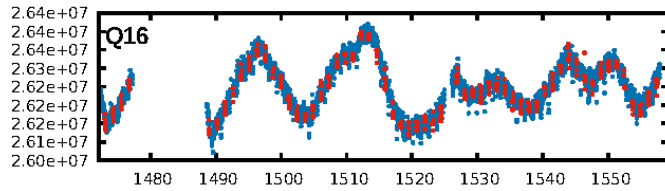
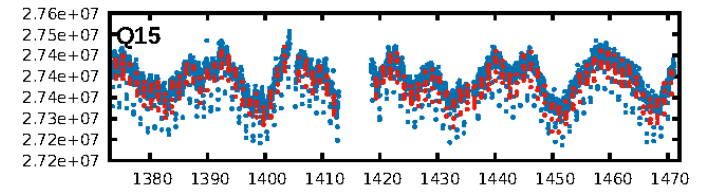
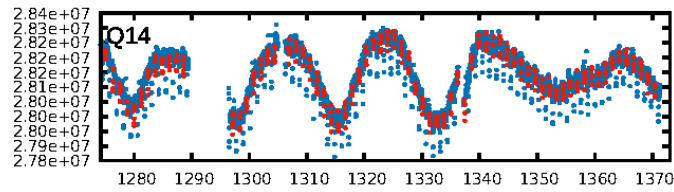
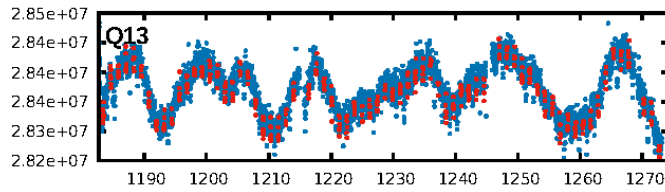
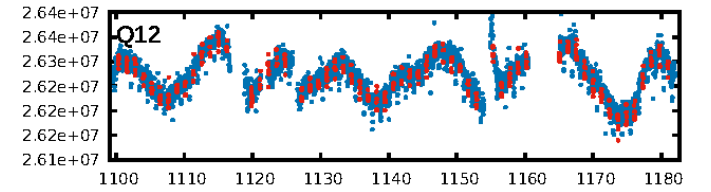
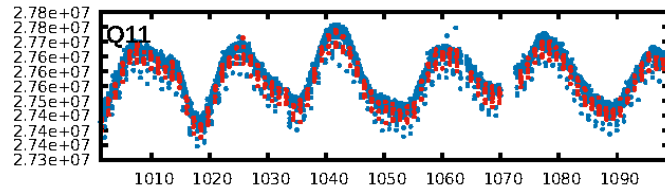
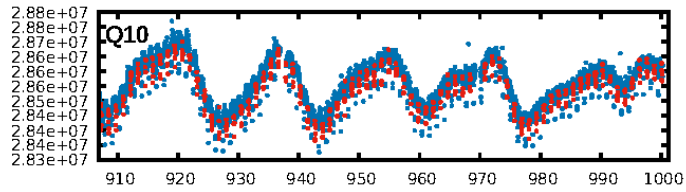
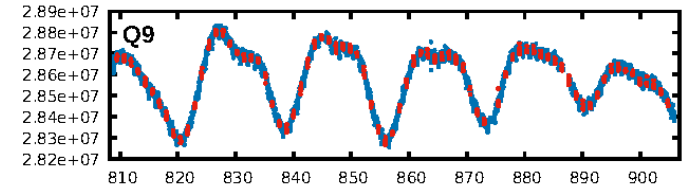
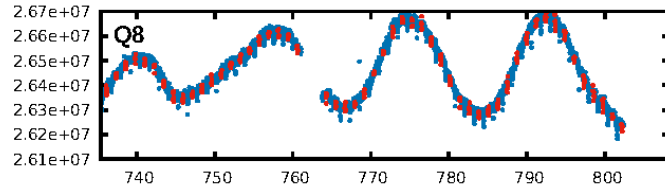
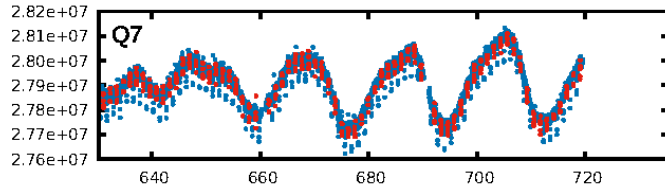
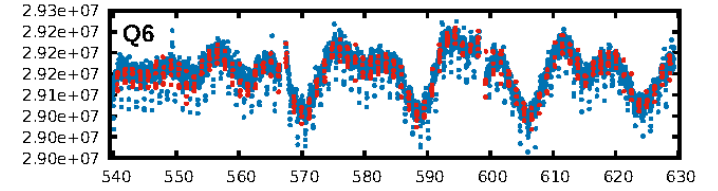
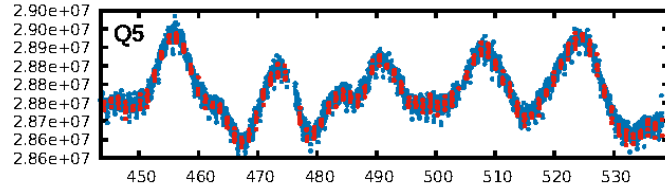
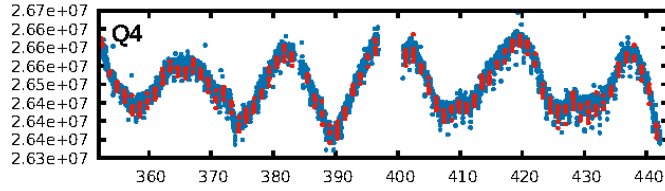
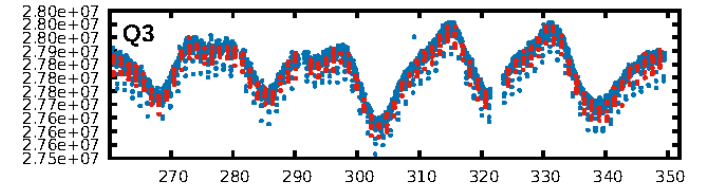
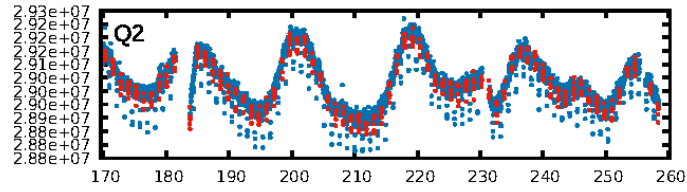
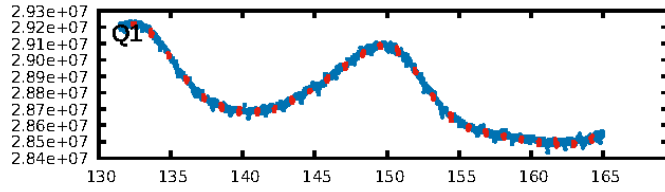
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [1030/1048]
GhostDiagnostic-chr: 0.04926
Centroid-sig: 0.0%
Centroid-so: 2.903 arcsec [31.72σ]
OotOffset-rm: 7.874 arcsec [23.69σ]
KicOffset-rm: 7.953 arcsec [24.36σ]
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]

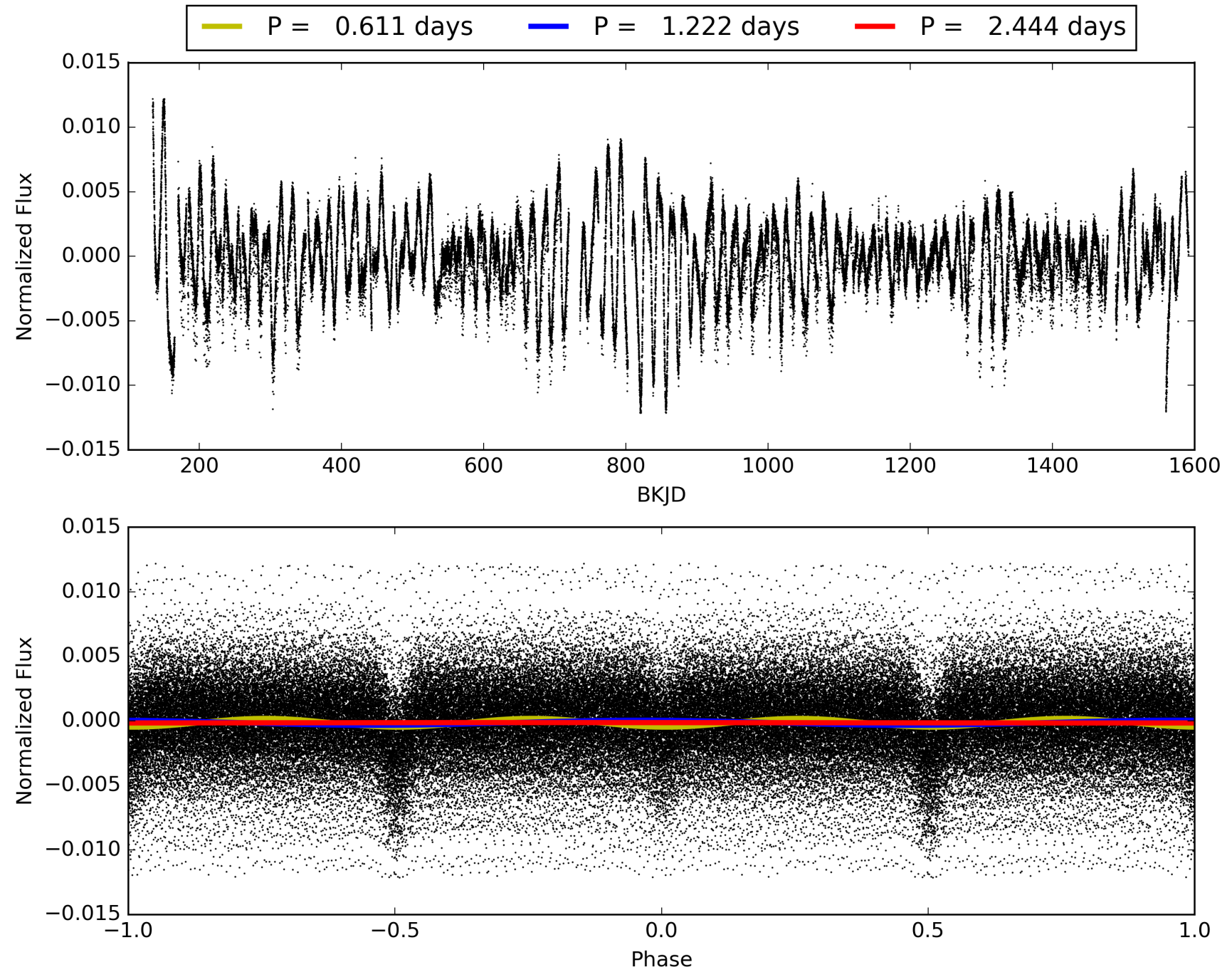
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:32:21 Z

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

TCE 012367017-02, PDC Light Curves

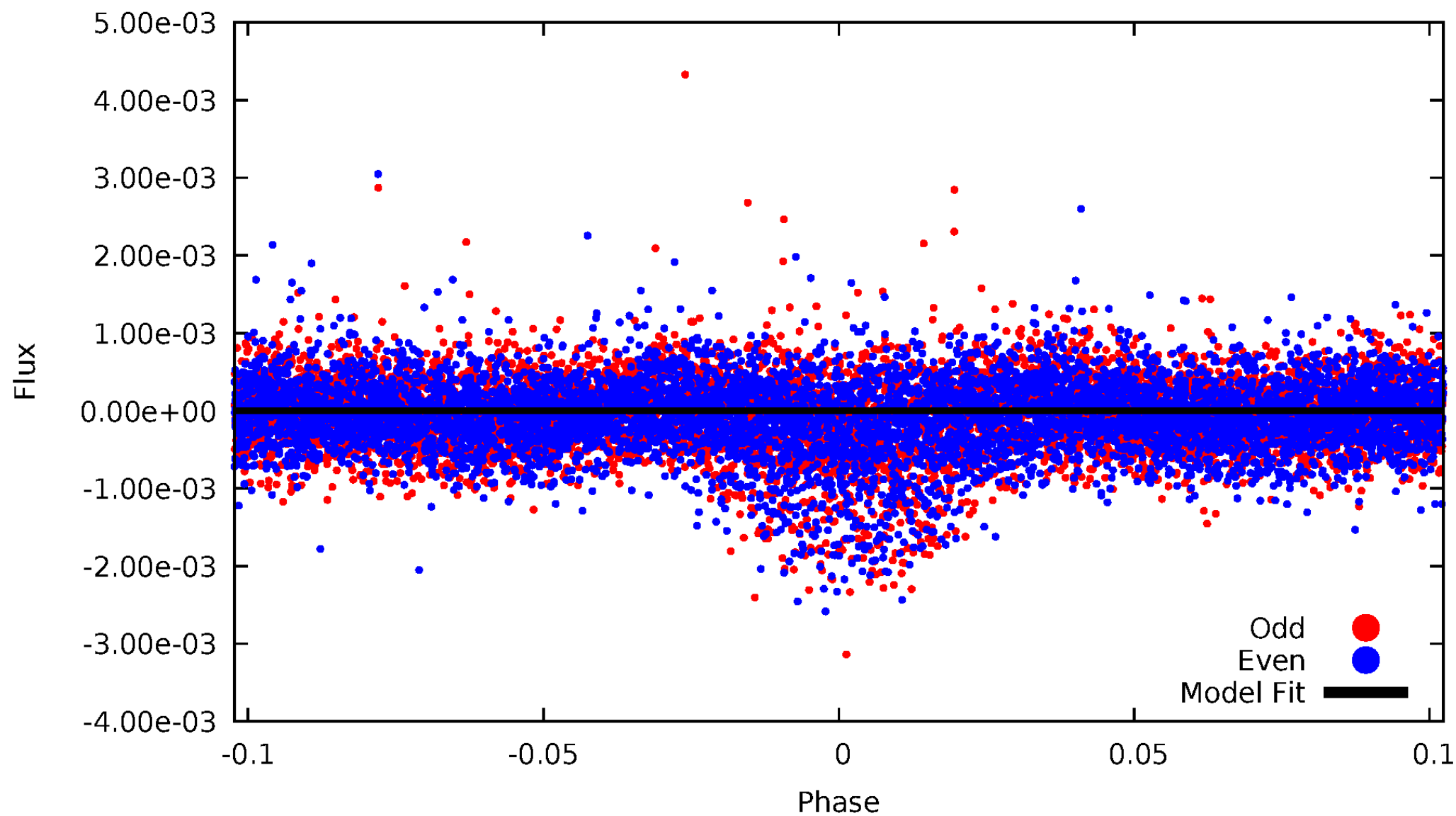


TCE 012367017-02



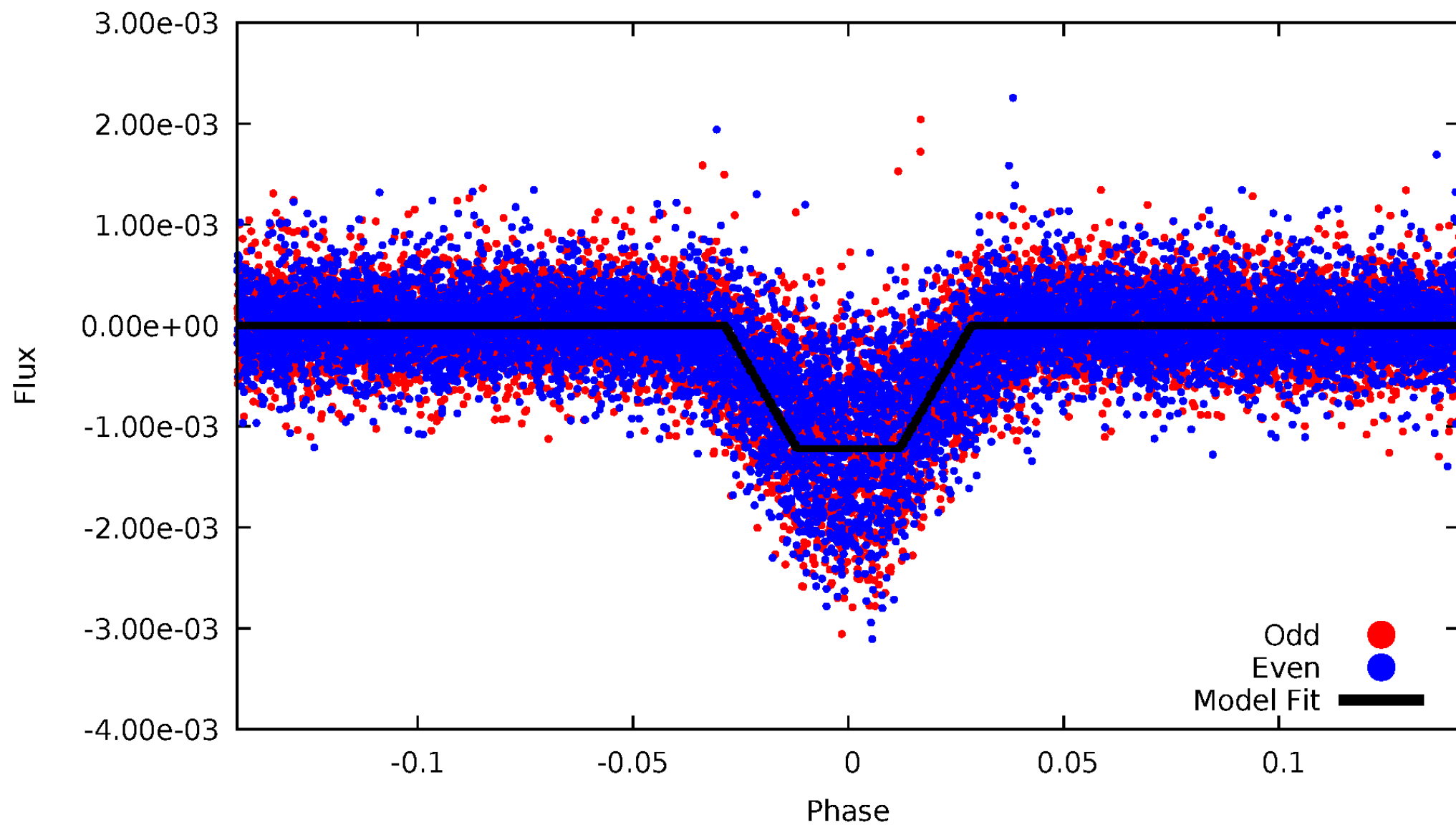
DV Odd/Even

TCE 012367017-02



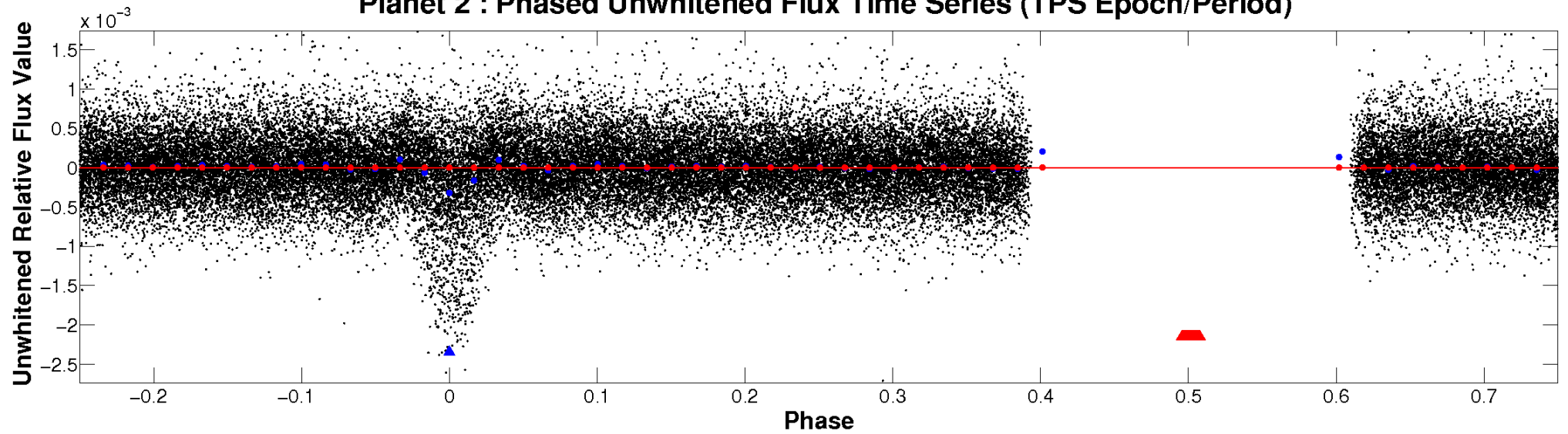
ALT Odd/Even

TCE 012367017-02

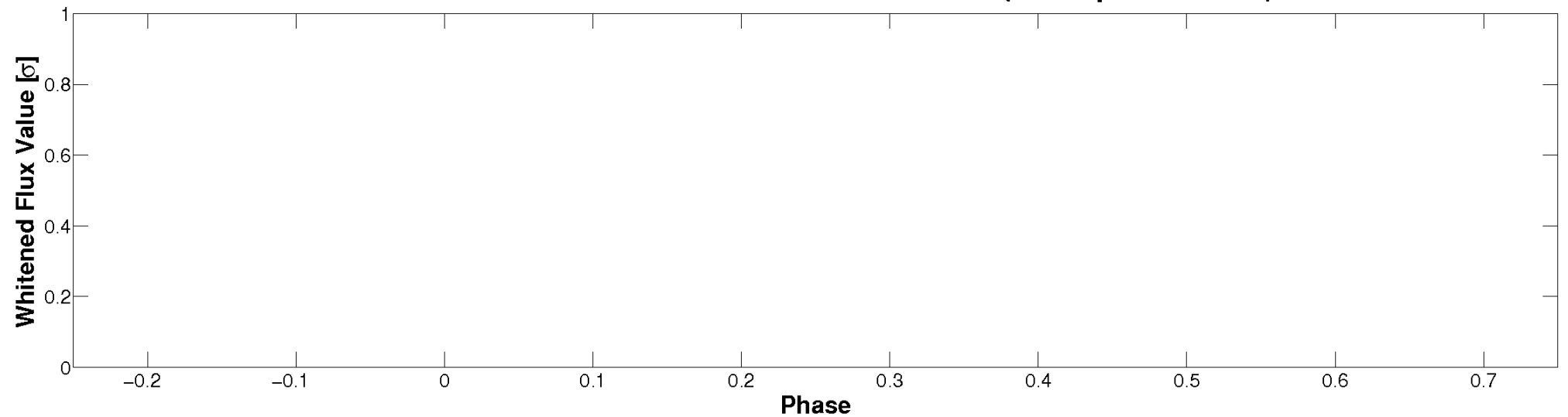


Non-Whitened Vs. Whitened Light Curve

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

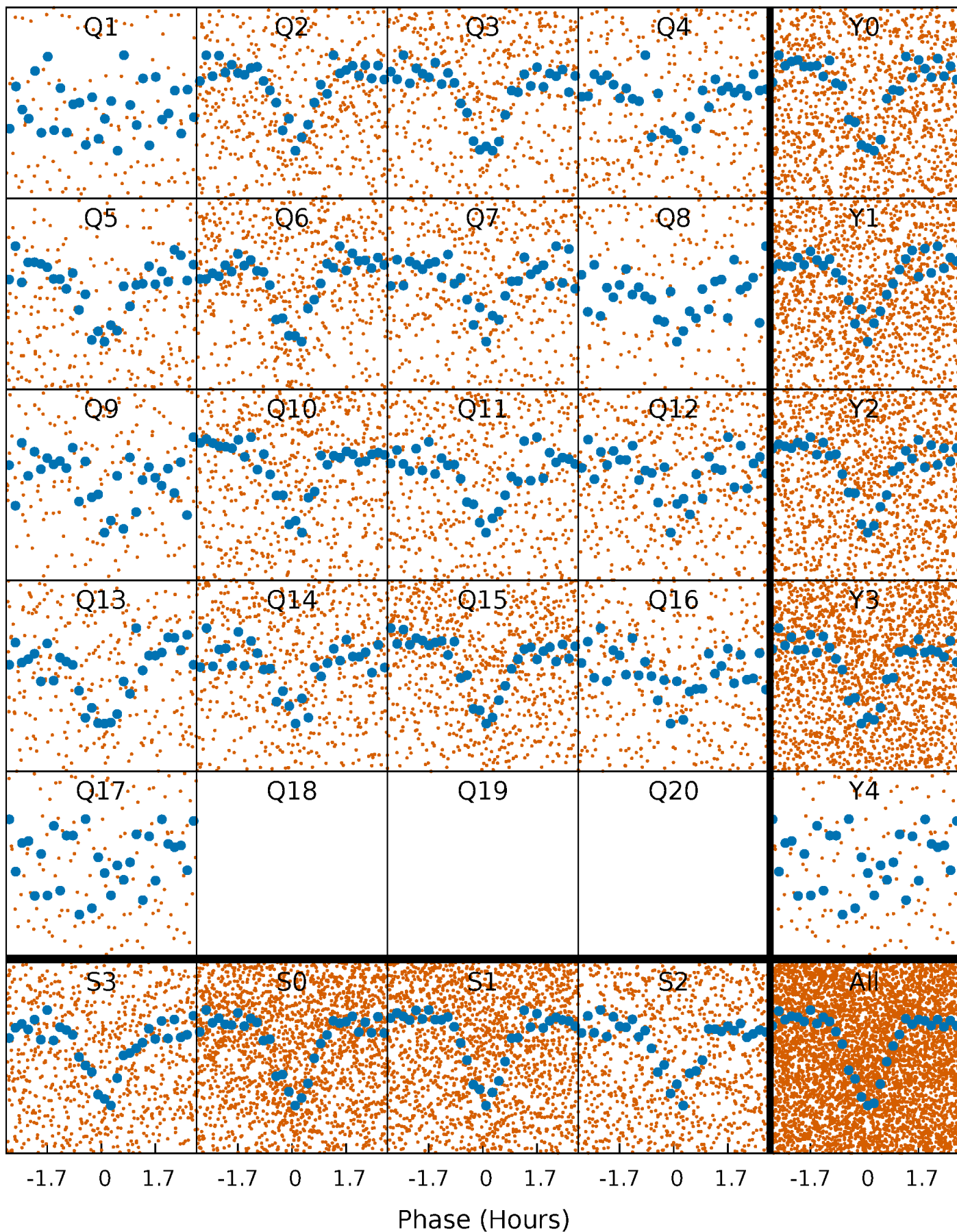


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



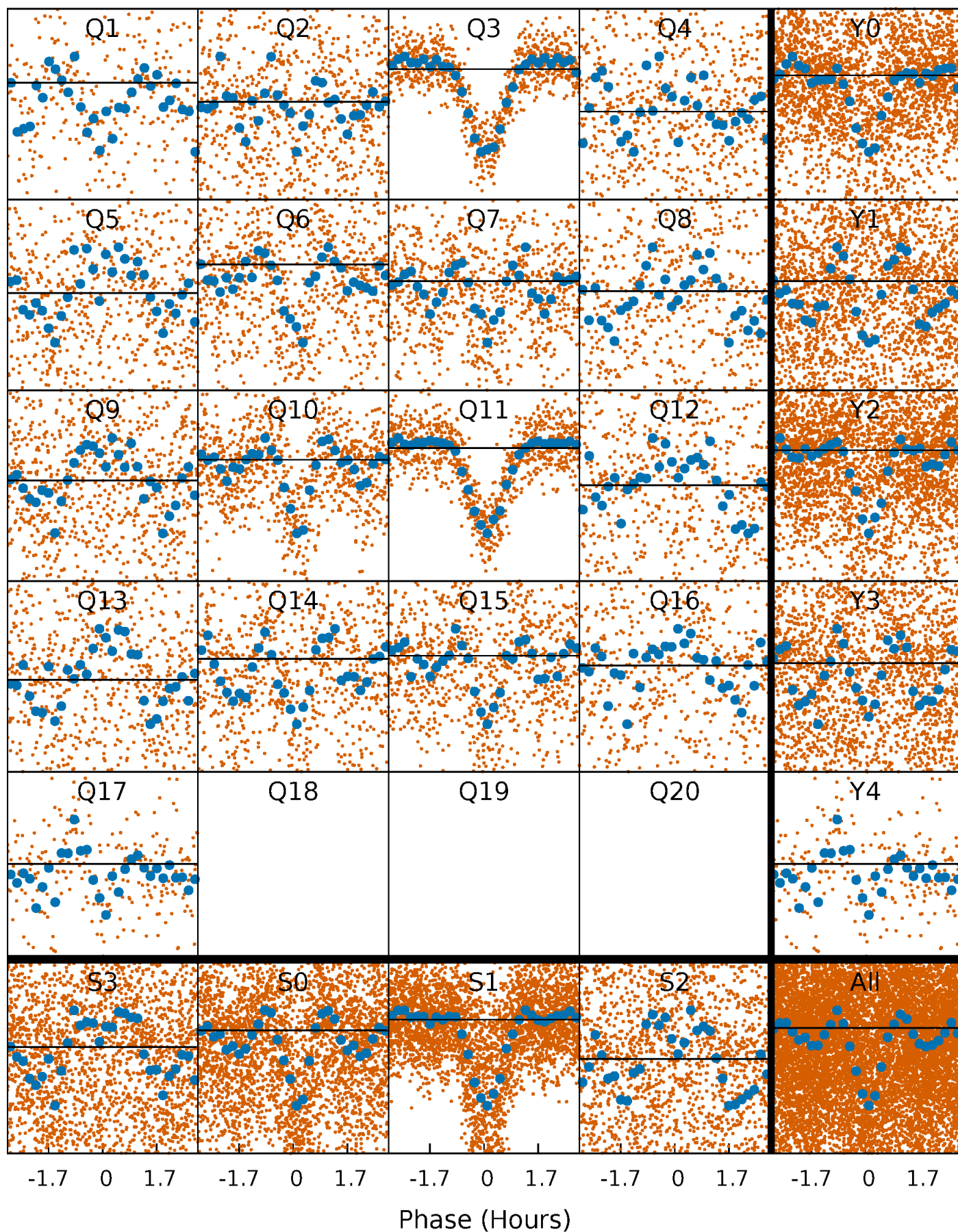
PDC Quarter-Phased Transit Curves

TCE 012367017-02 P= 1.222128 Days $T_0=132.423494$ (BKJD)



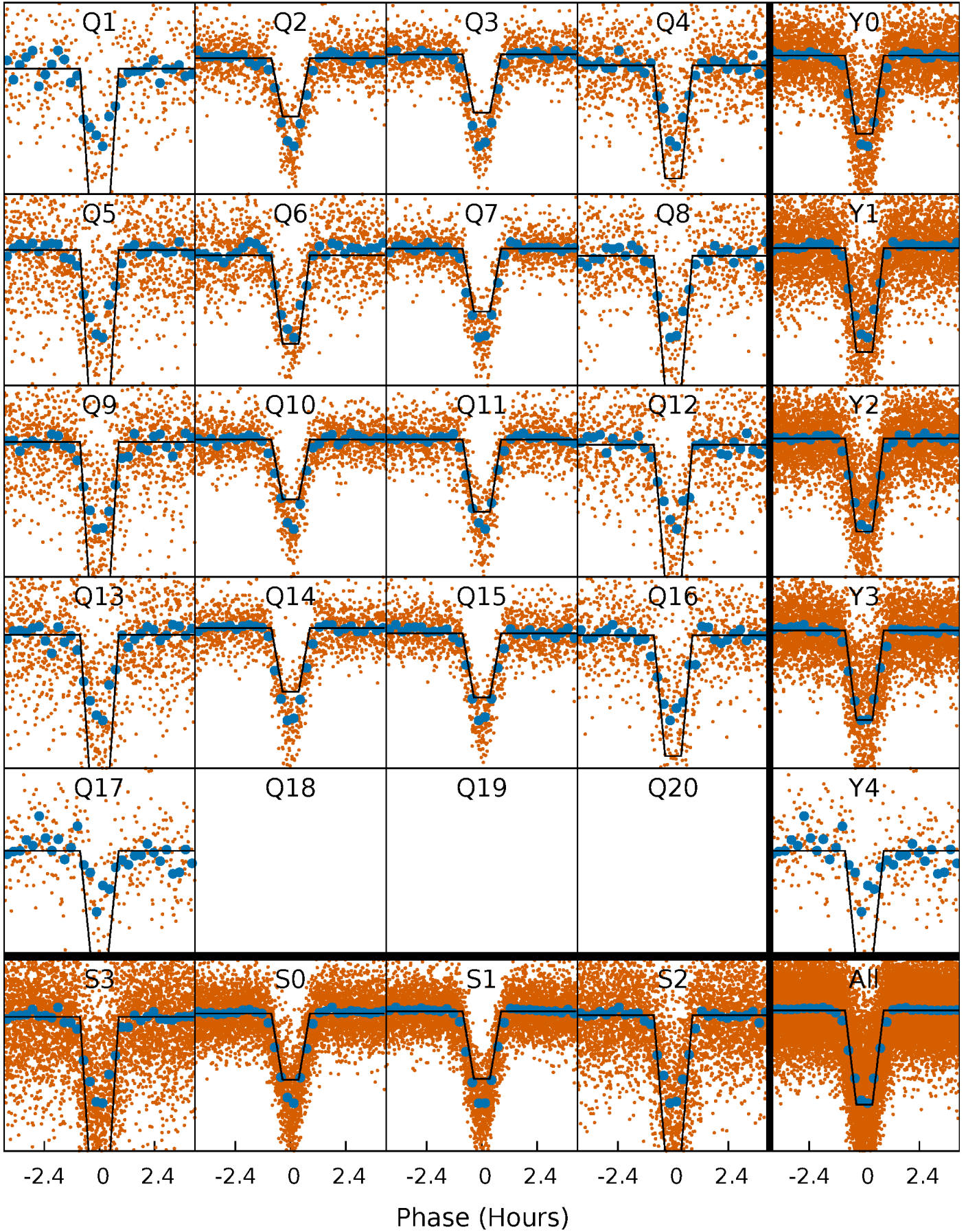
DV Quarter-Phased Transit Curves

TCE 012367017-02 P= 1.222128 Days $T_0=132.423494$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

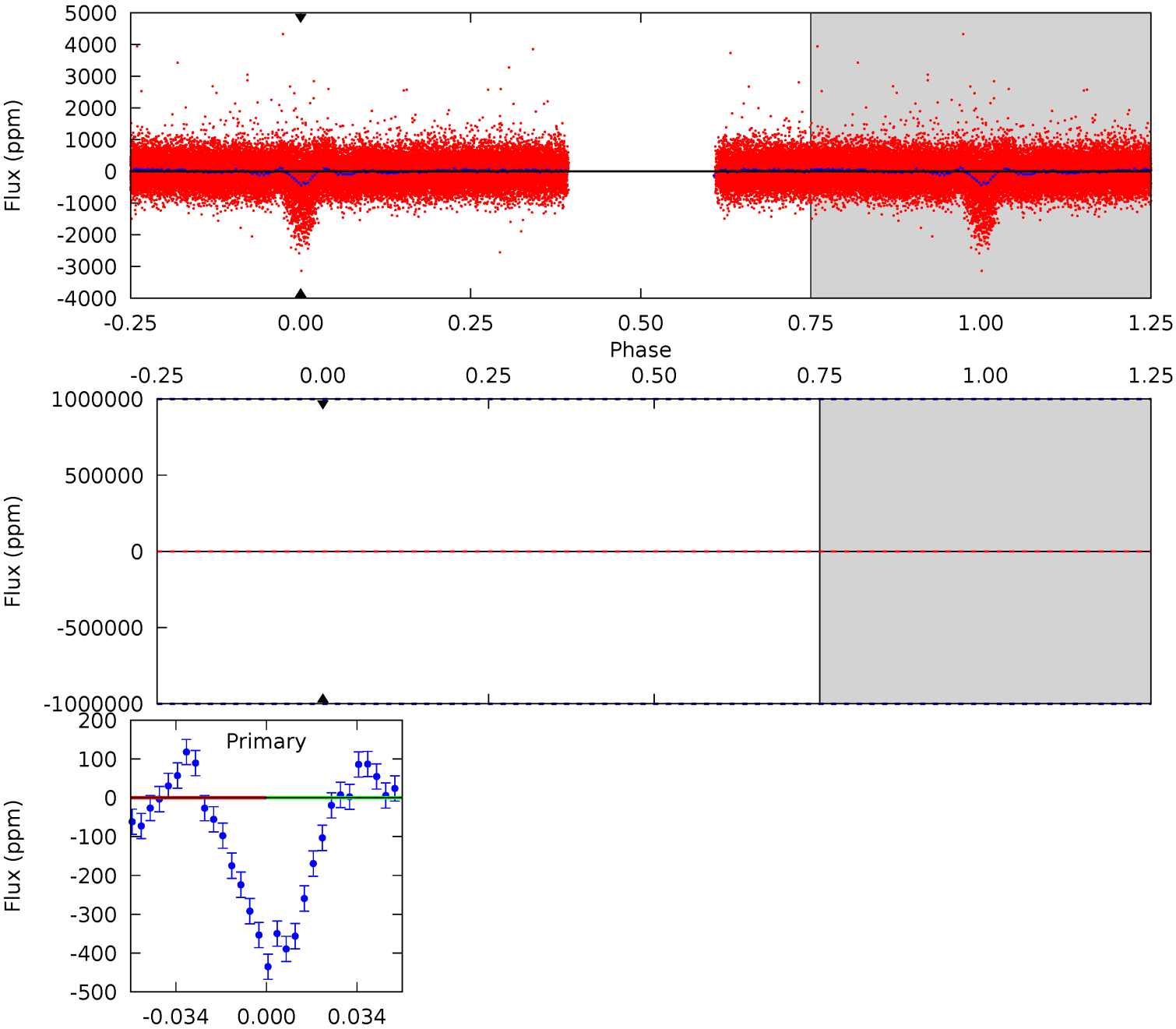
TCE 012367017-02 P= 1.222128 Days $T_0=132.426903$ (BKJD)



DV Model-Shift Uniqueness Test

012367017-02, P = 1.222128 Days, E = 131.201366 Days

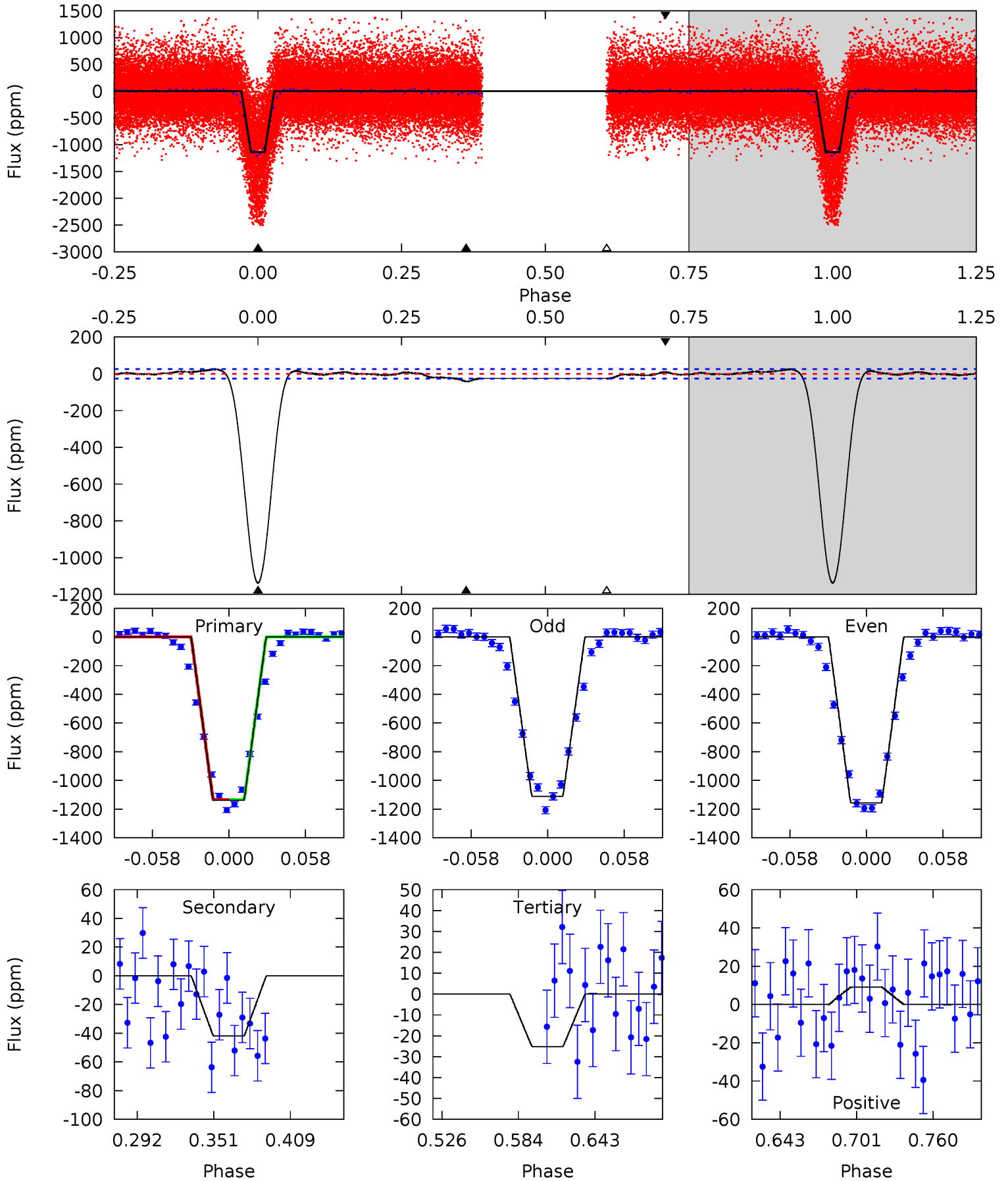
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

012367017-02, P = 1.222128 Days, E = 131.204775 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
207.4	7.62	4.58	1.66	4.68	1.89	1.57	202.8	205.7	3.04	5.96	4.16	1.02	0.02	0.04



Stellar Parameters For KIC 012367017

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5157^{+170}_{-139}	$4.465^{+0.108}_{-0.144}$	$0.080^{+0.250}_{-0.250}$	$0.870^{+0.127}_{-0.101}$	$0.806^{+0.096}_{-0.064}$	$1.725^{+0.760}_{-0.622}$
	+3%/-3%	+2%/-3%	+312%/-312%	+15%/-12%	+12%/-8%	+44%/-36%
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 012367017-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$7.77^{+8.27}_{-5.22}$	2070^{+112}_{-98}	-4643^{+17927}_{-9682}	$-15.958^{+608.154}_{-637.824}$
Alt.	-42 ± 5	$8.18^{+8.28}_{-5.68}$	2067^{+122}_{-109}	-2296^{+5336}_{-198}	$0.152^{+1.356}_{-0.115}$

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

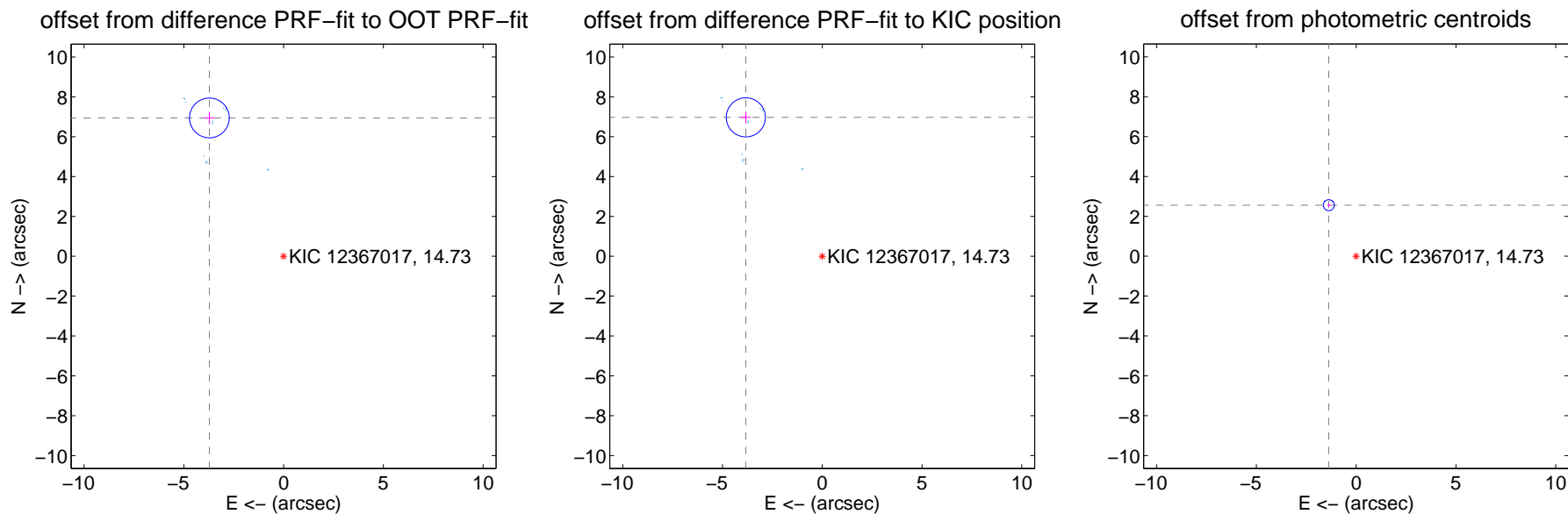
DV Centroid Data

Supplemental centroid analysis for 012367017-02. Kepler magnitude: 14.73. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

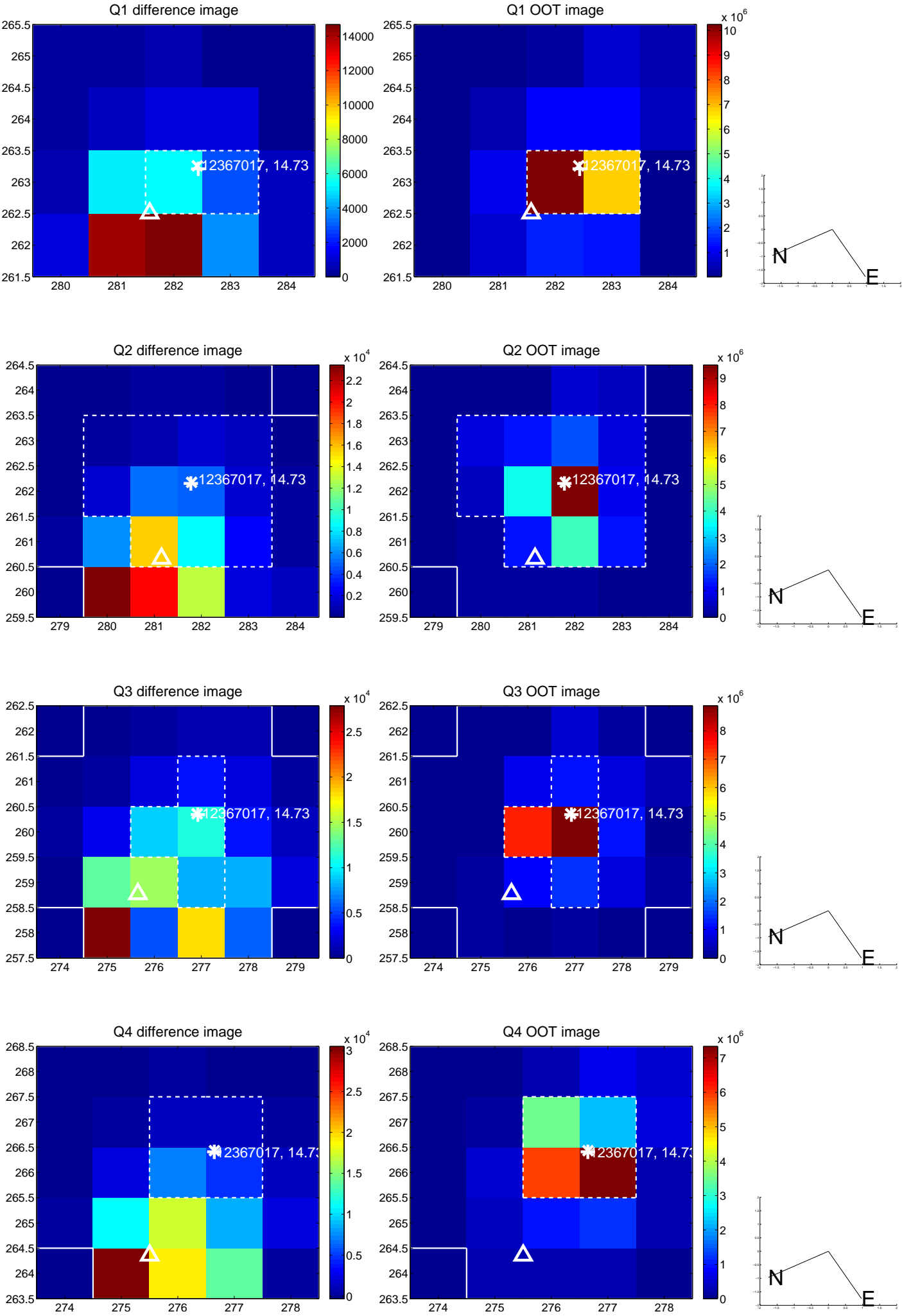
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.874 \pm 0.332	23.69	3.720 \pm 0.250	6.940 \pm 0.307
PRF-fit source offset from KIC position	7.953 \pm 0.326	24.36	3.831 \pm 0.236	6.969 \pm 0.300
photometric centroid source offset	2.90 \pm 0.09	31.72	1.37 \pm 0.08	2.56 \pm 0.09

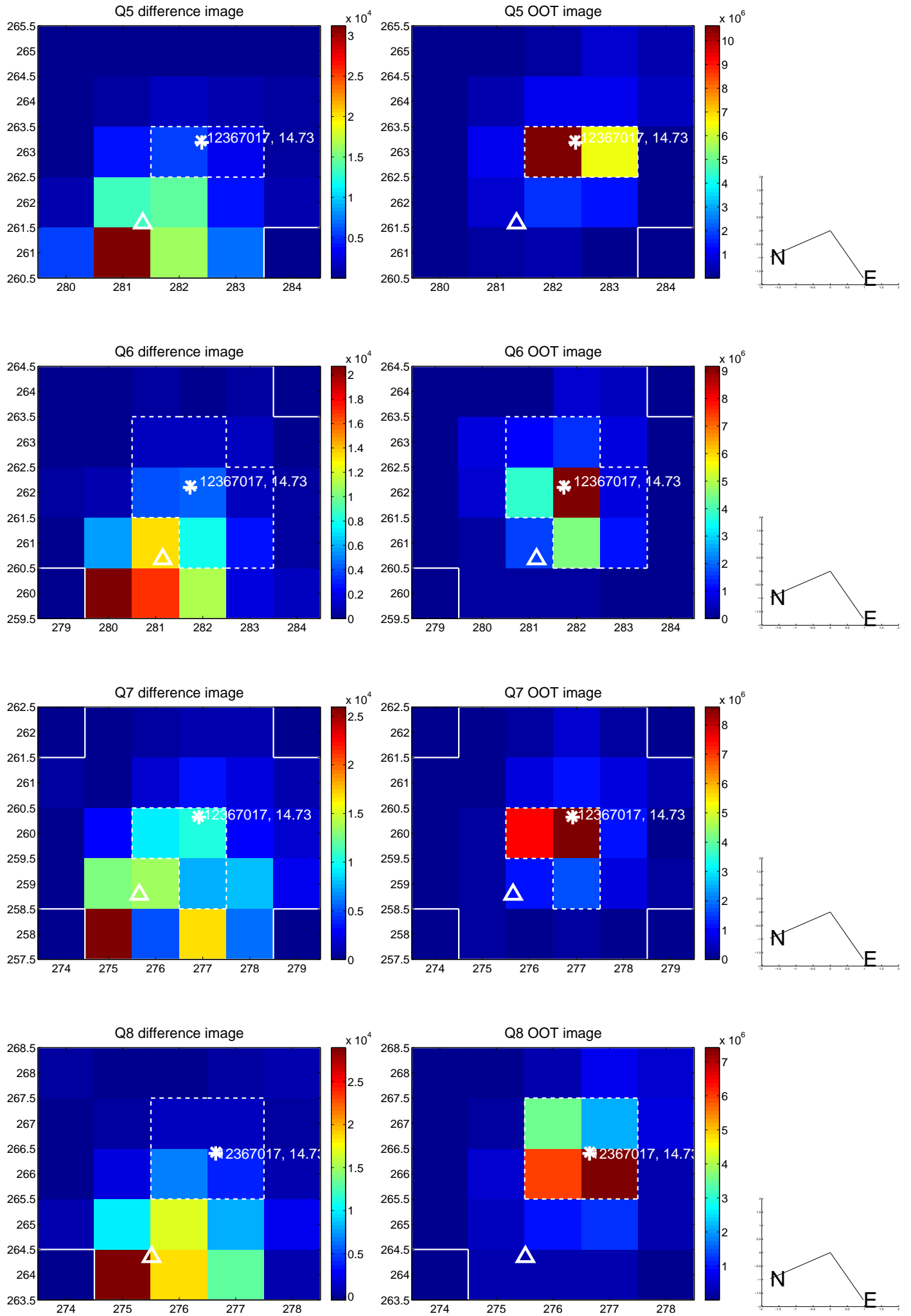


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

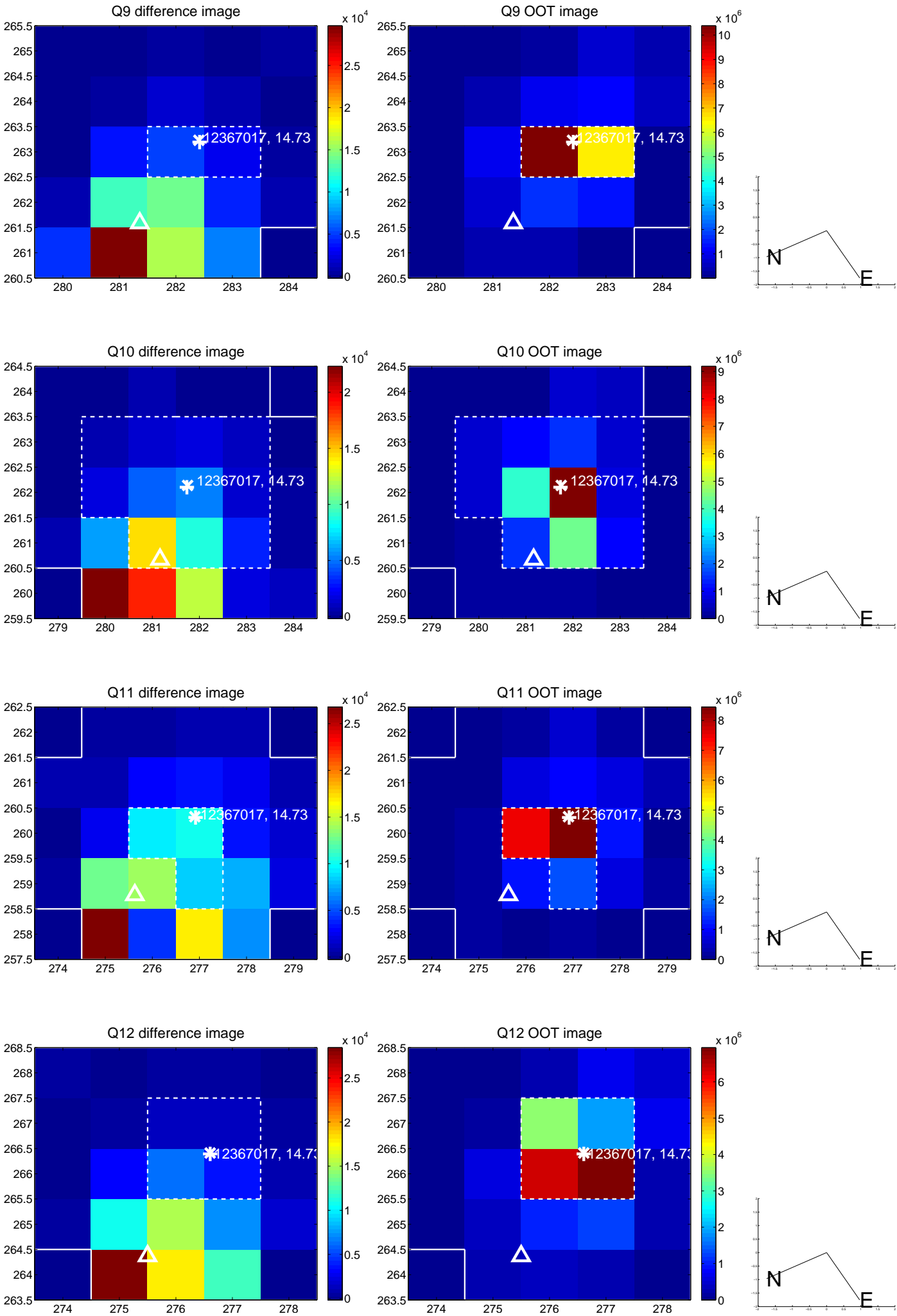
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



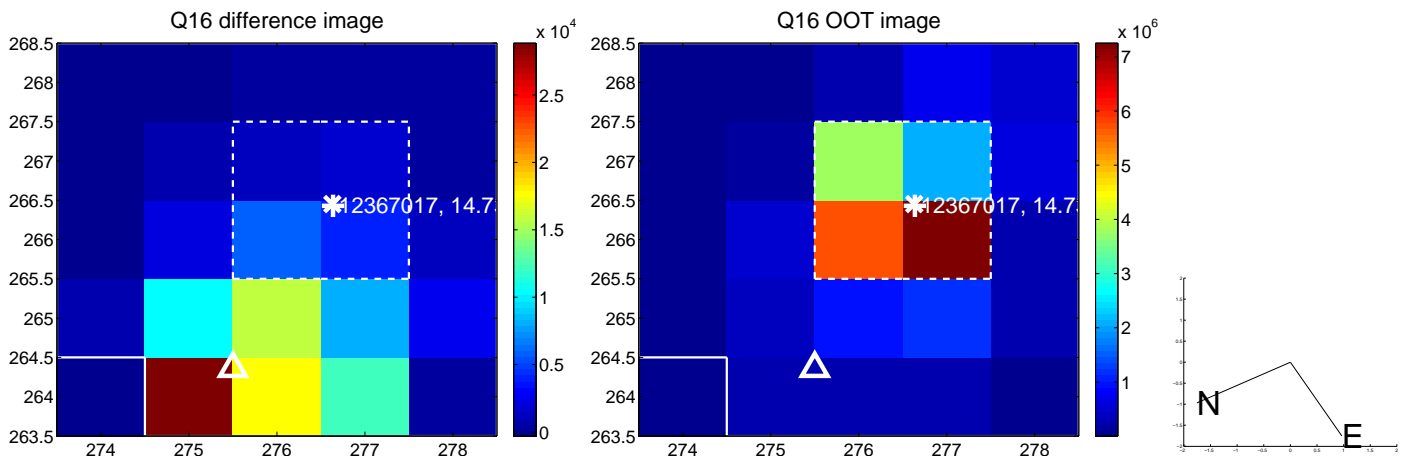
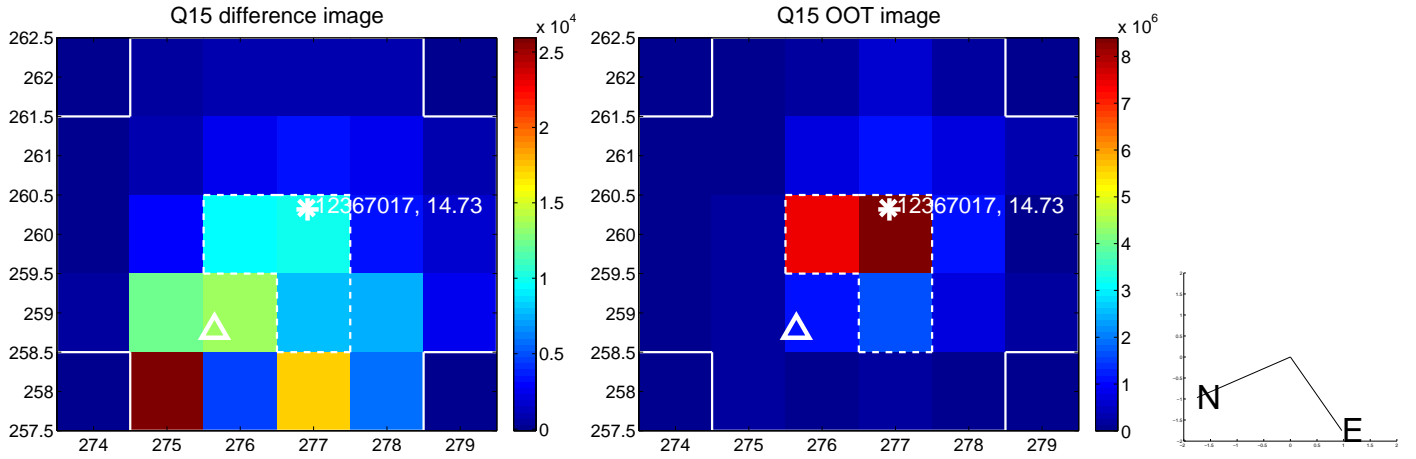
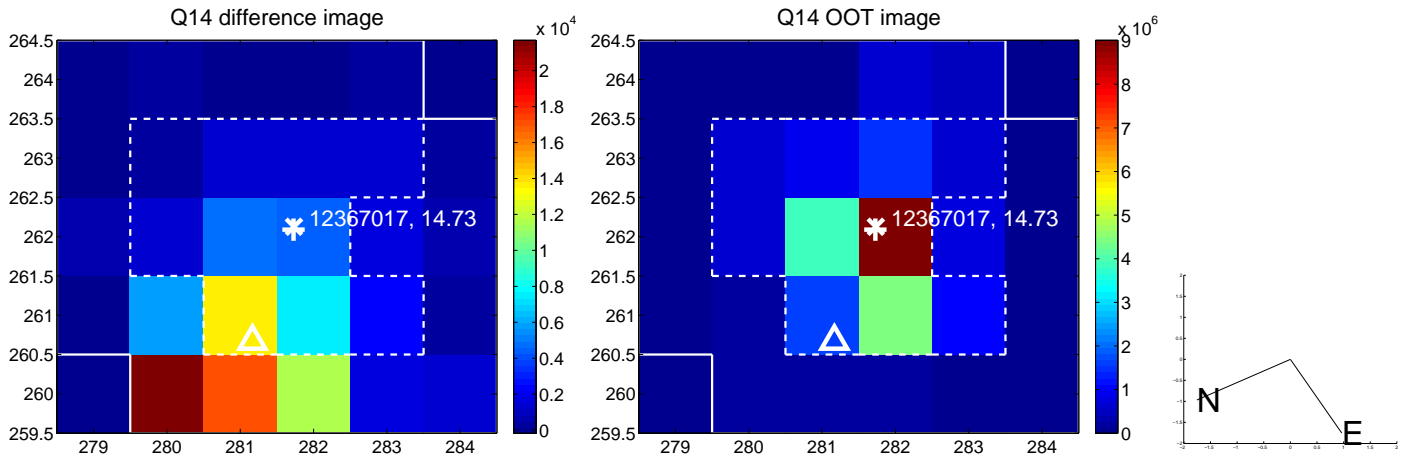
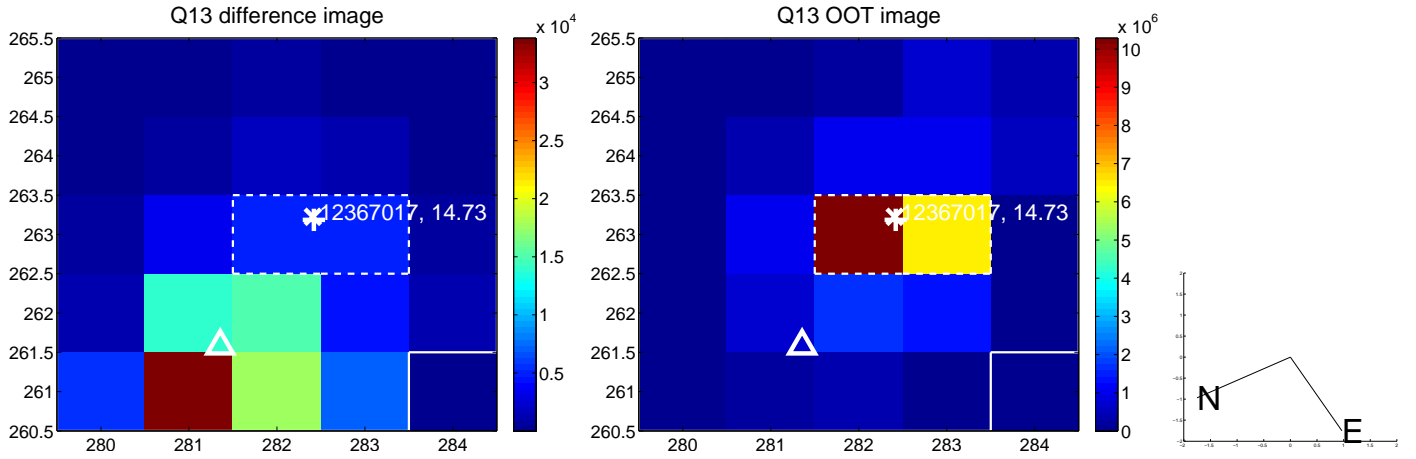
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



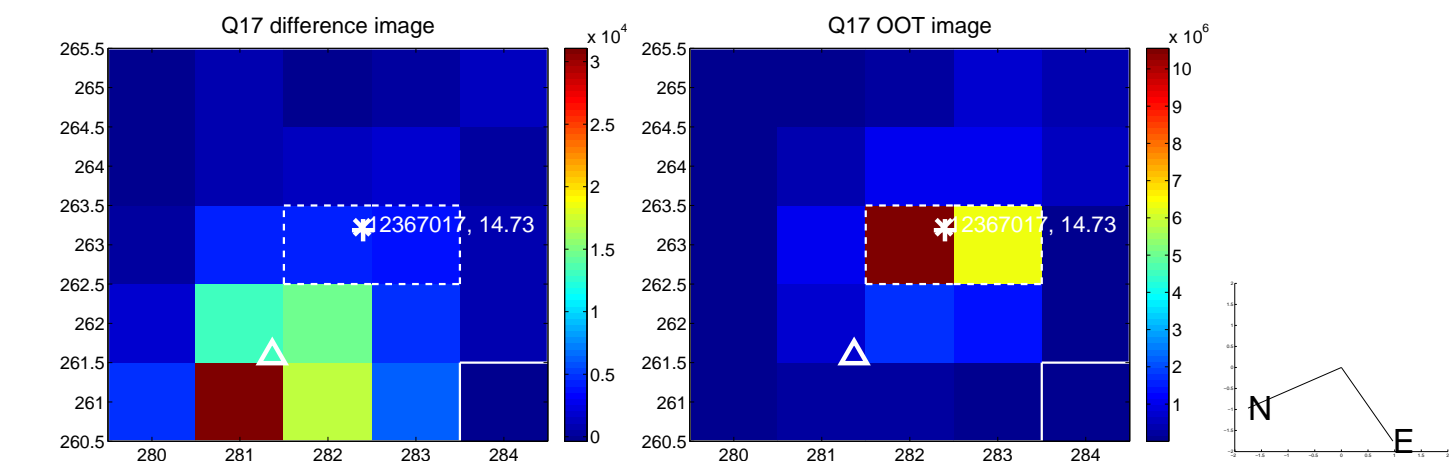
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



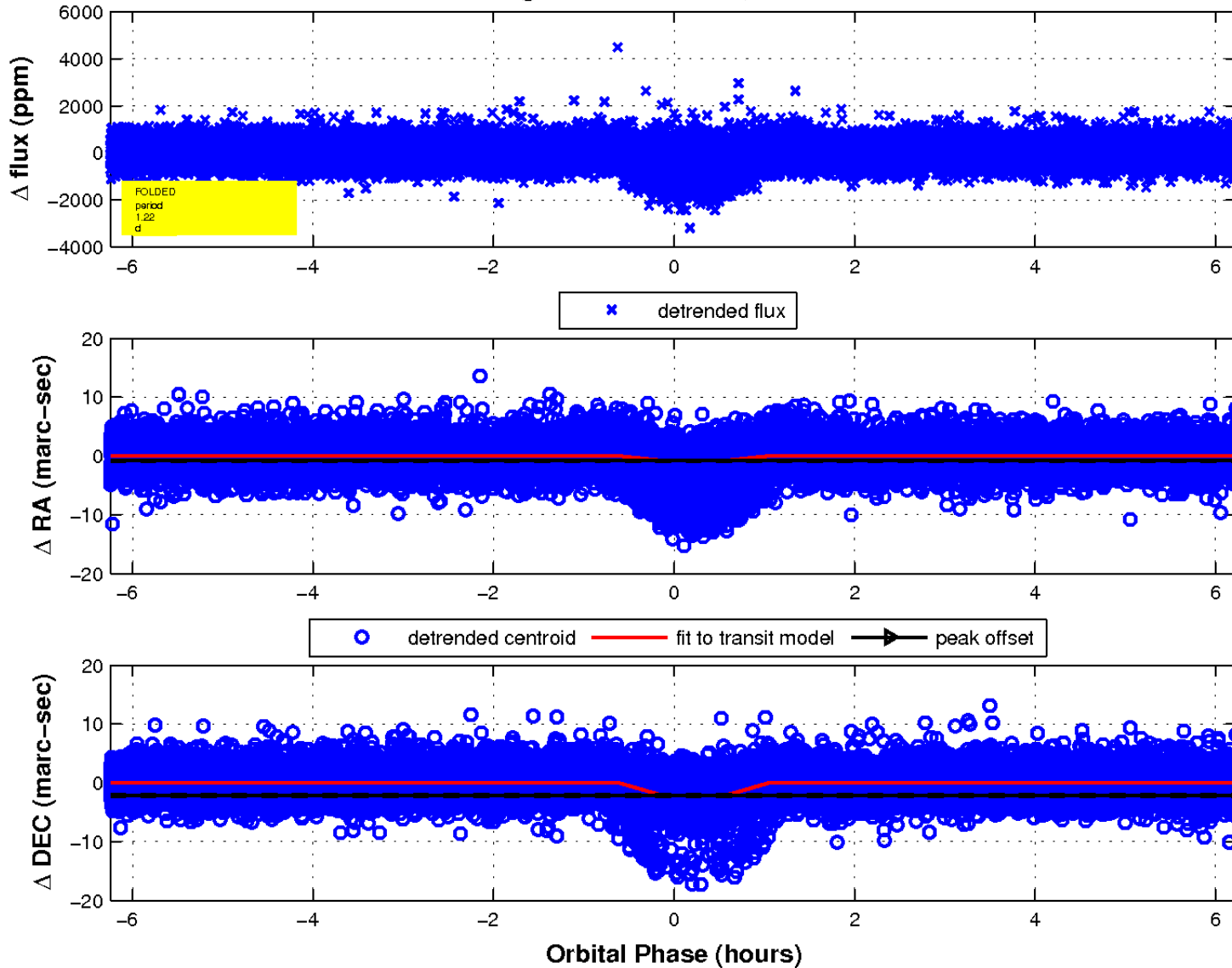
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

