

KIC 007369865

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})
007369865-01	OBS	1918.01	42.262699	152.311542	680.2	4.409	27.9	30.5	3.58	5432	12.50	126.51
007369865-02	OBS	No	42.262442	167.701880	185.6	3.678	8.3	9.1	3.58	5432	5.56	126.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007369865-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
007369865-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET

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.

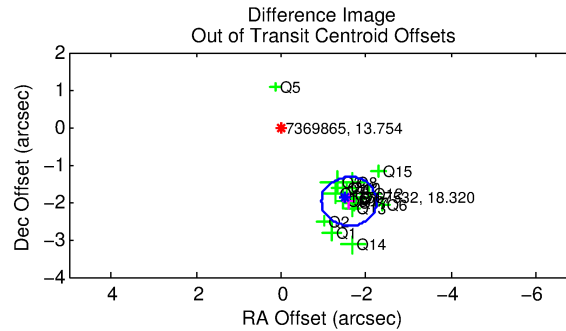
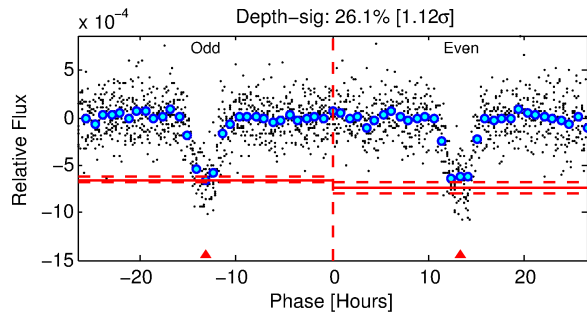
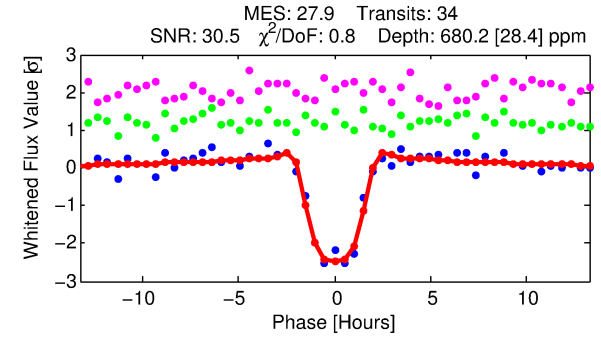
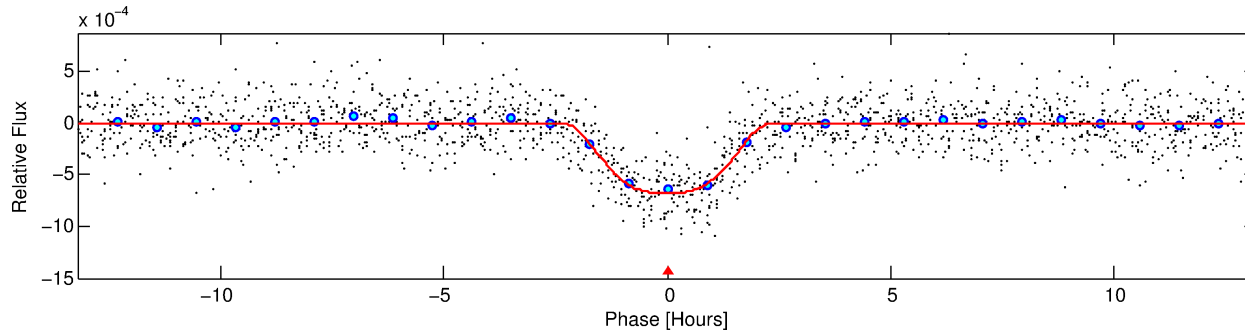
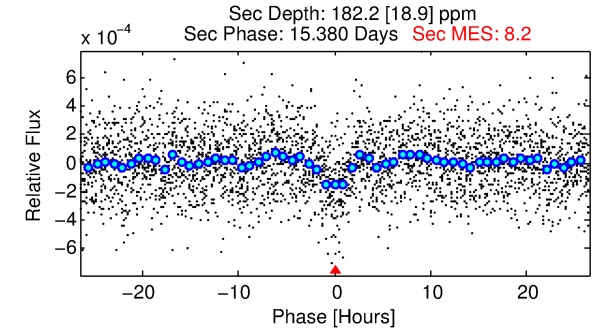
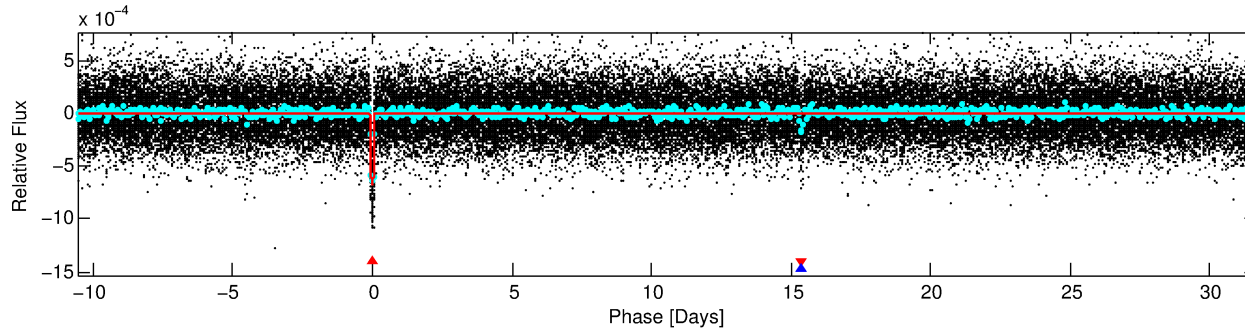
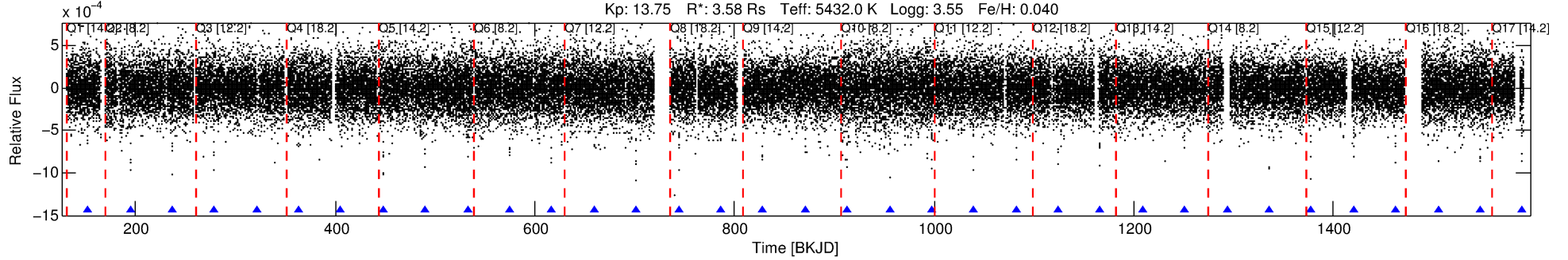
Ephemeris Match Information For 007369865-01

No Significant Match Found

DV One-Page Summary

KIC: 7369865 Candidate: 1 of 2 Period: 42.263 d
KOI: K01918.01 Corr: 0.986

Kp: 13.75 R*: 3.58 Rs Teff: 5432.0 K Logg: 3.55 Fe/H: 0.040



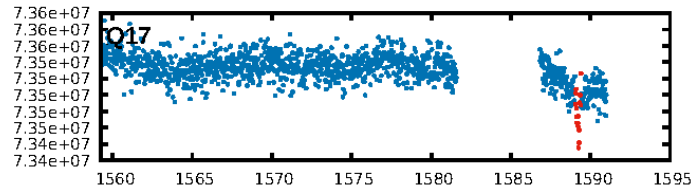
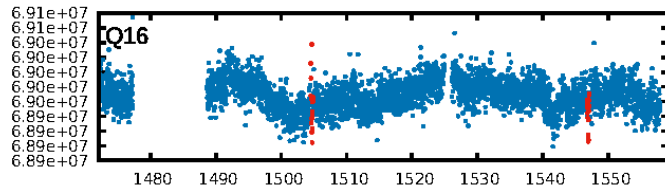
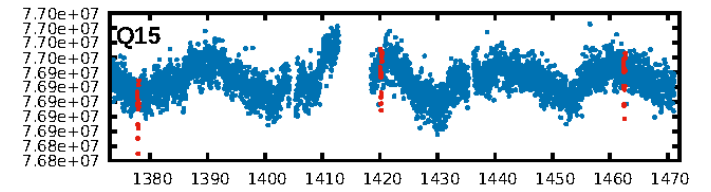
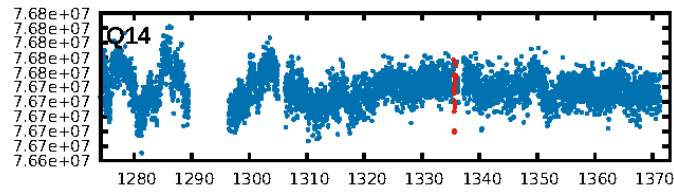
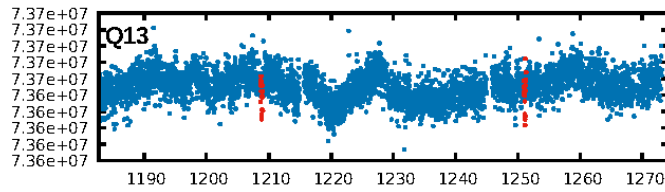
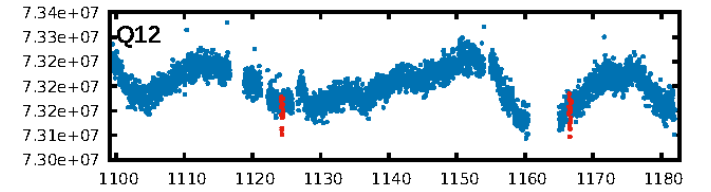
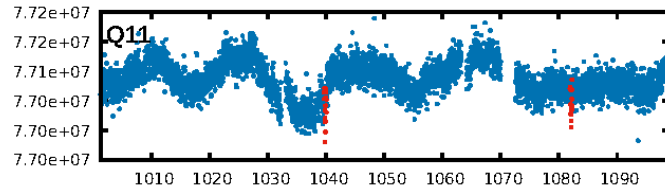
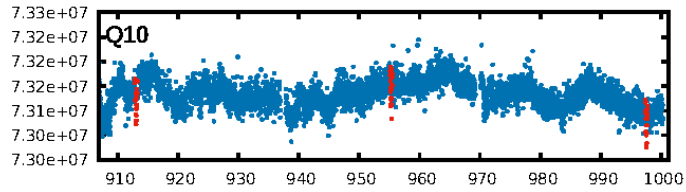
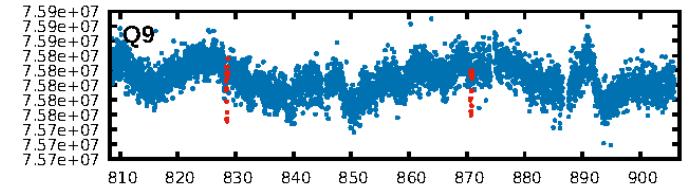
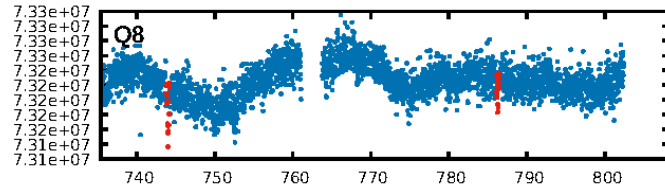
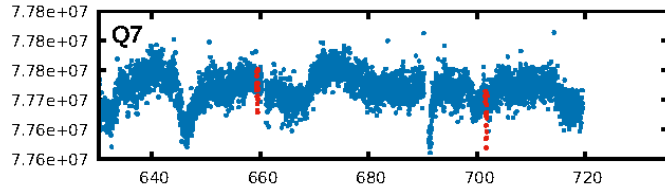
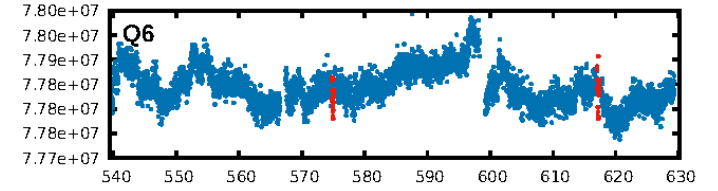
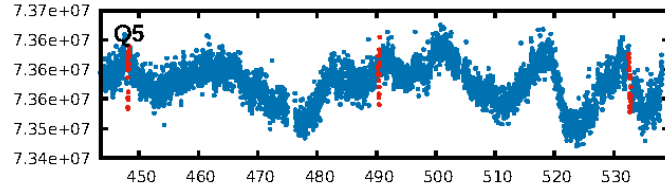
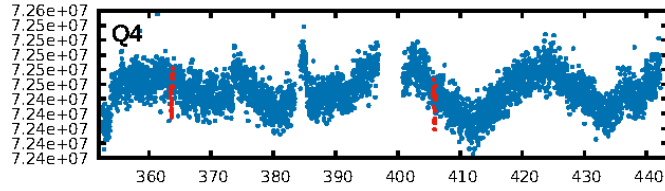
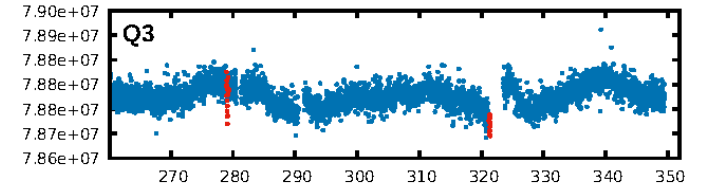
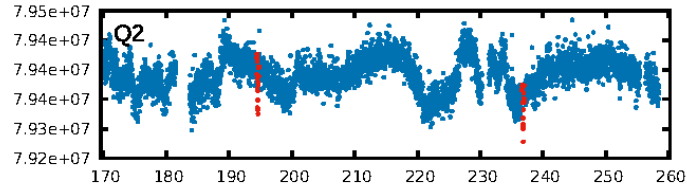
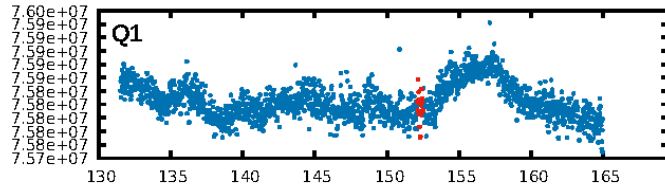
DV Fit Results:

Period = 42.26270 [0.00014] d
Epoch = 152.3115 [0.0028] BKJD
Rp/R* = 0.0320 [0.0010]
a/R* = 26.93 [1.52]
b = 0.96 [0.00]
Seff = 126.51 [169.43]
Teq = 855 [286] K
Rp = 12.50 [9.03] Re
a = 0.2812 [0.2207] AU
Ag = 50.70 [67.72] [0.73σ]
Teffp = 3528 [173] K [7.98σ]

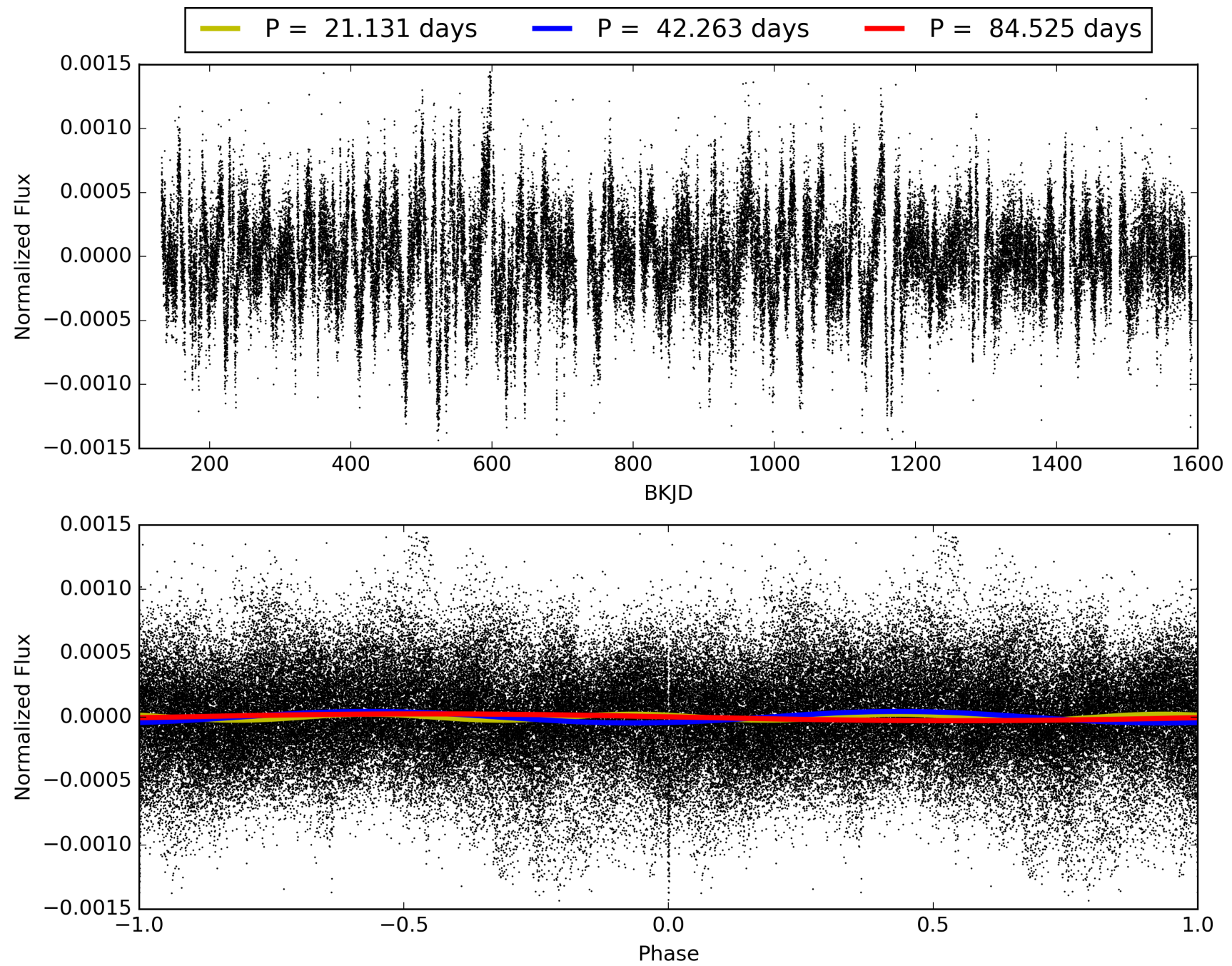
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 87.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.44e-154
RollingBand-fgt: 1.00 [32/32]
GhostDiagnostic-chr: 2.62
Centroid-sig: 0.0%
Centroid-so: 2.362 arcsec [8.67σ]
OotOffset-rm: 2.548 arcsec [11.76σ]
KicOffset-rm: 2.601 arcsec [11.71σ]
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 007369865-01, PDC Light Curves

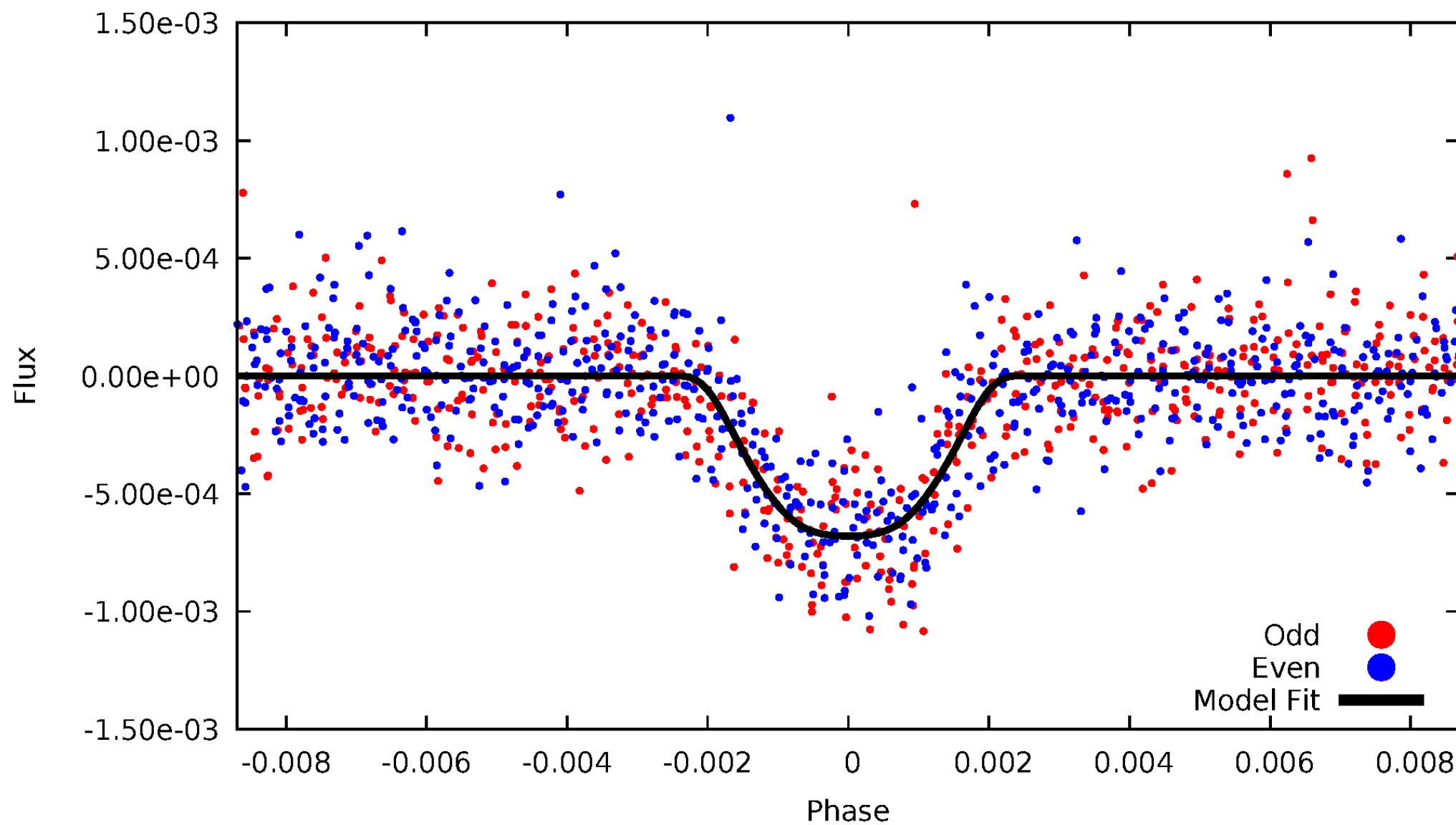


TCE 007369865-01



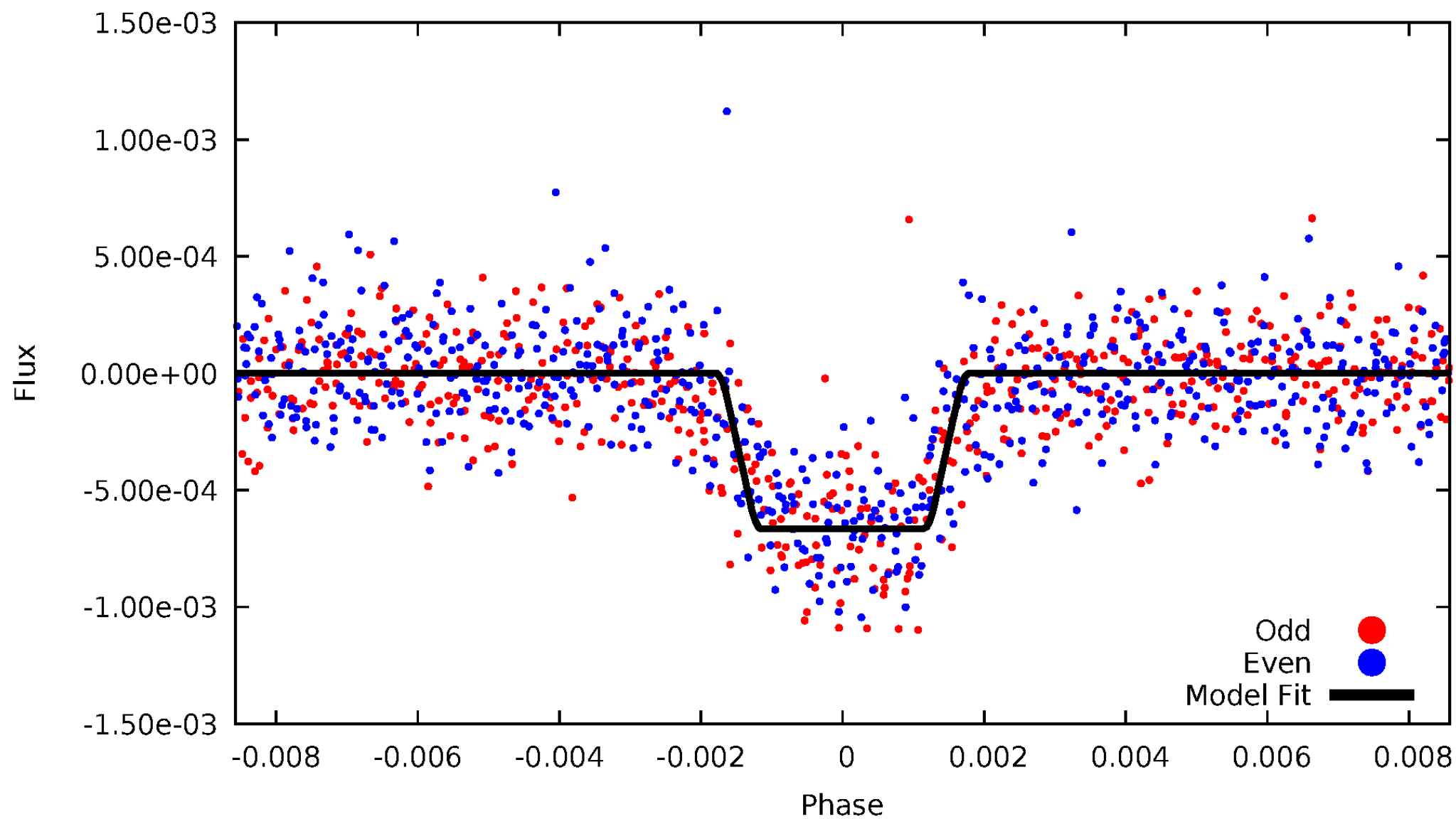
DV Odd/Even

TCE 007369865-01



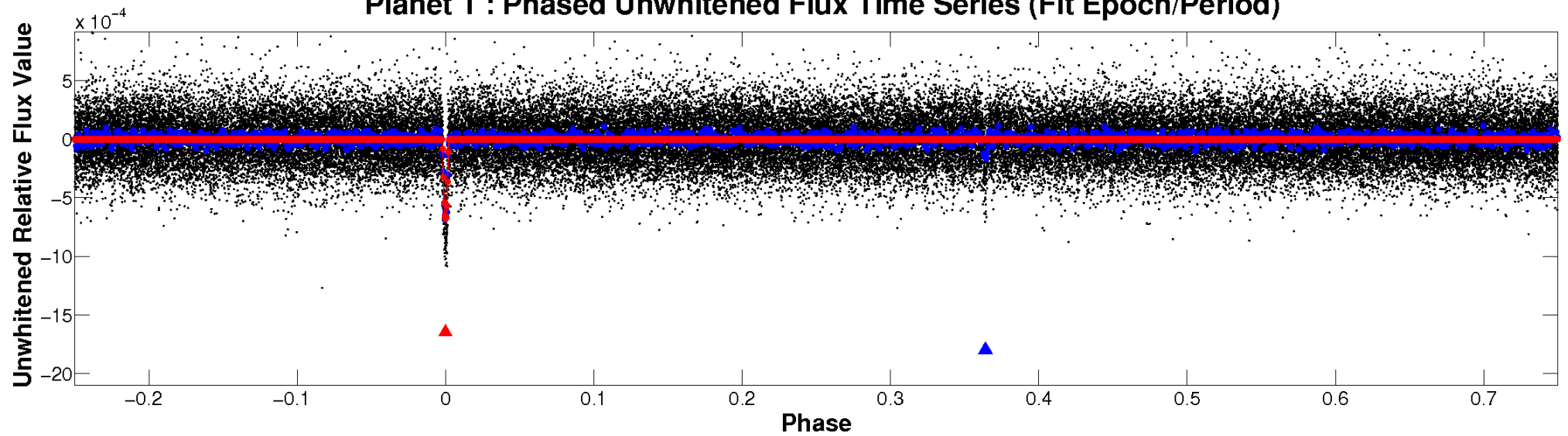
ALT Odd/Even

TCE 007369865-01

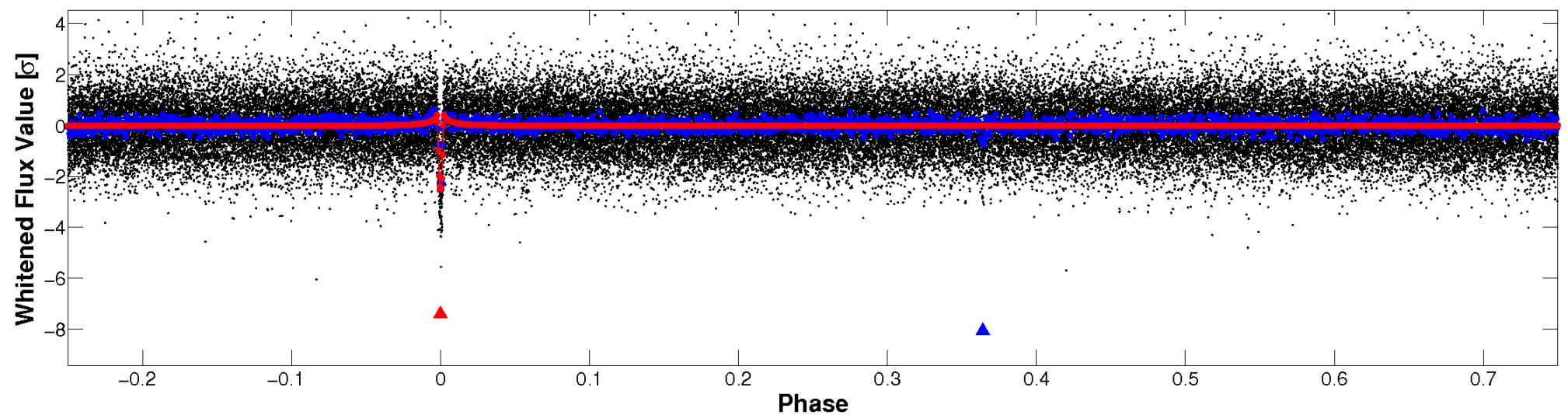


Non-Whitened Vs. Whitened Light Curve

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

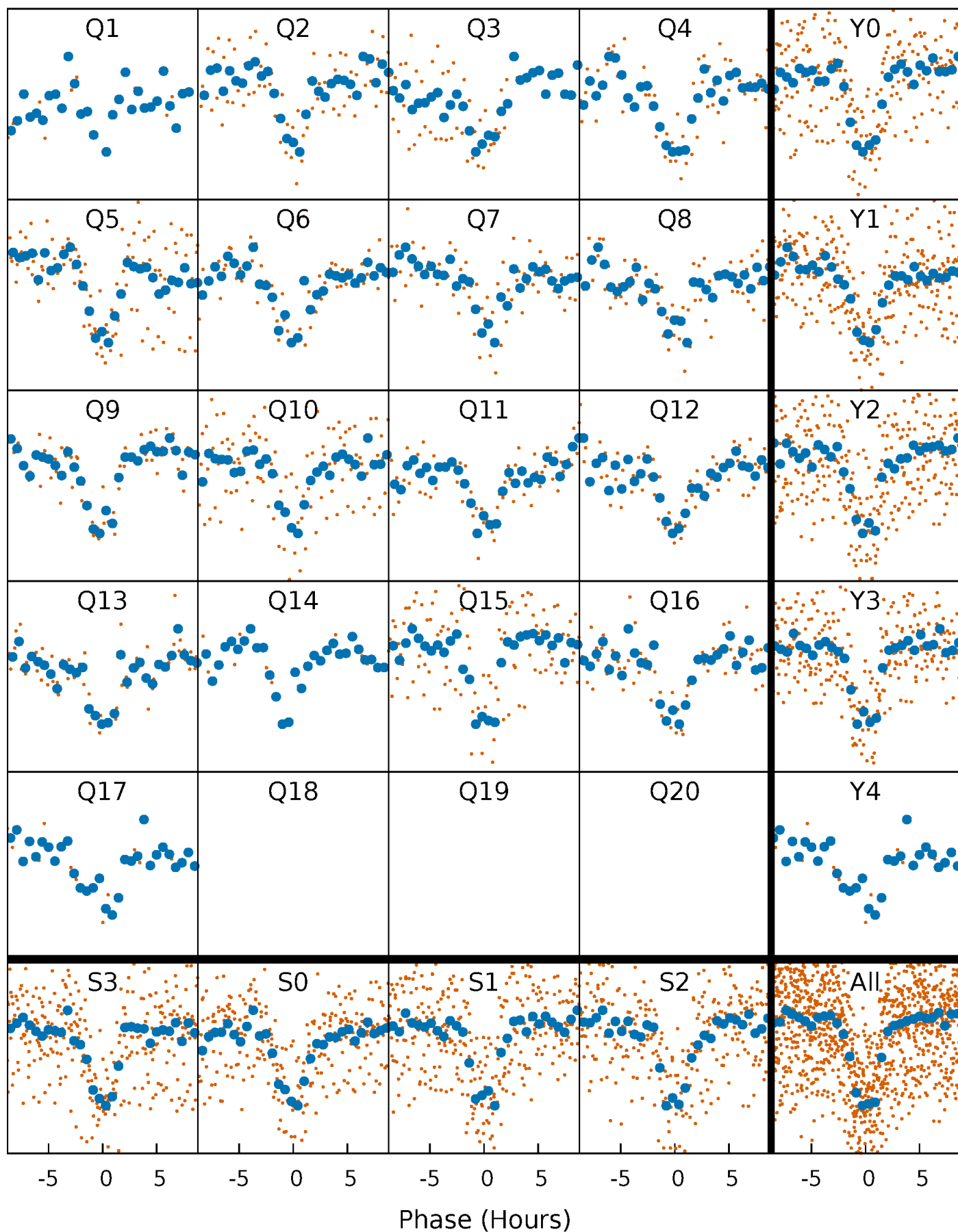


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



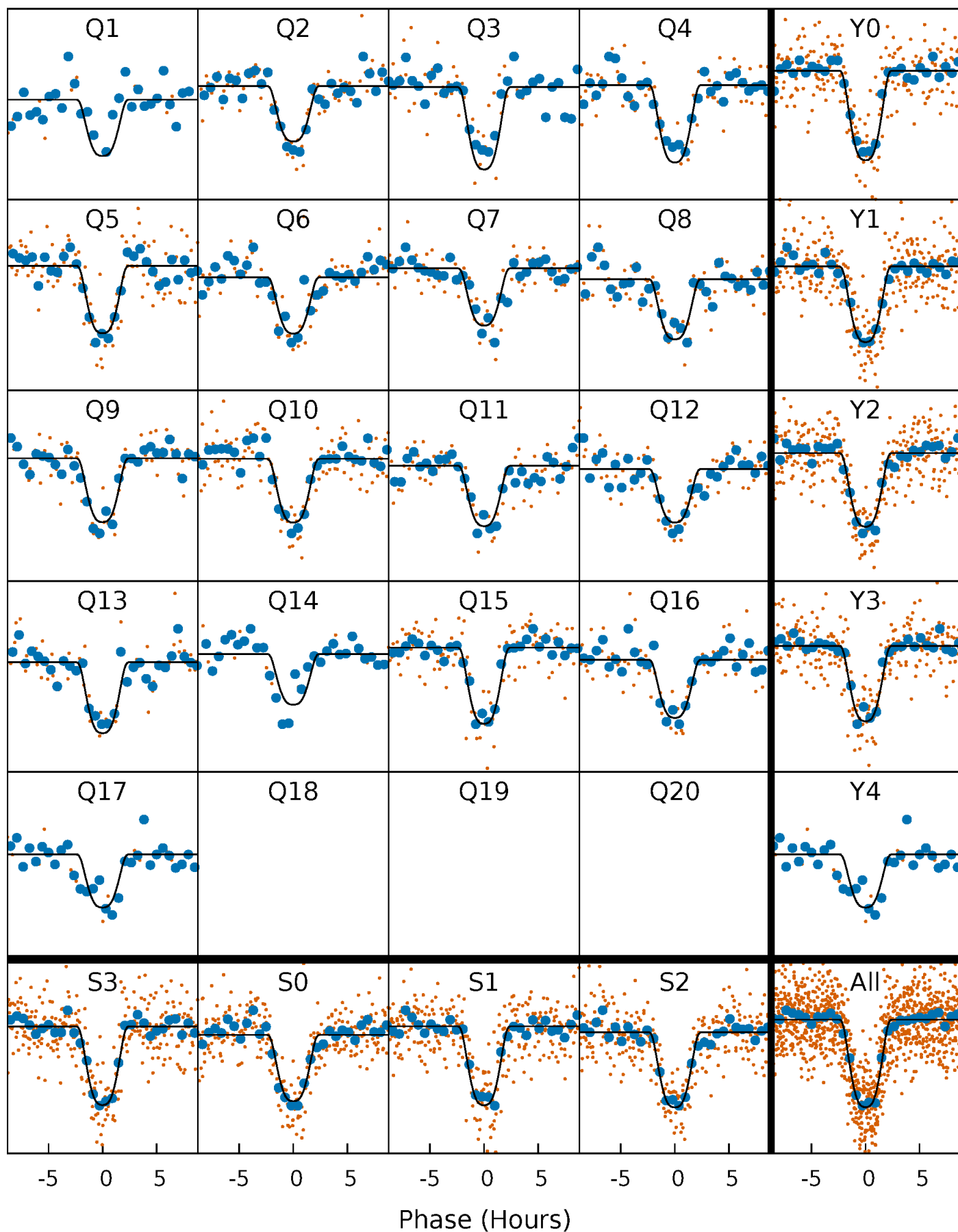
PDC Quarter-Phased Transit Curves

TCE 007369865-01 P= 42.262699 Days $T_0=152.311542$ (BKJD)



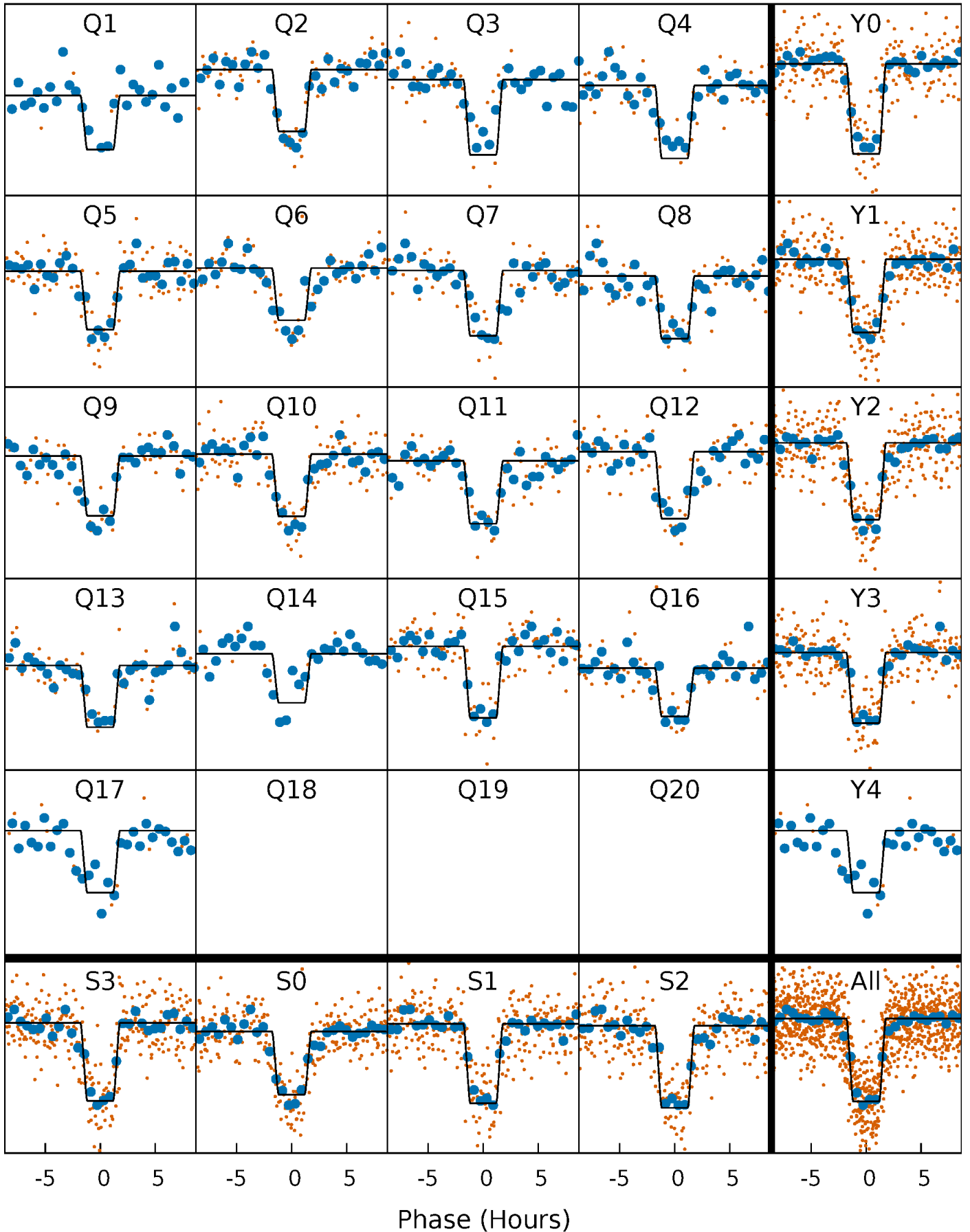
DV Quarter-Phased Transit Curves

TCE 007369865-01 P= 42.262699 Days $T_0=152.311542$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

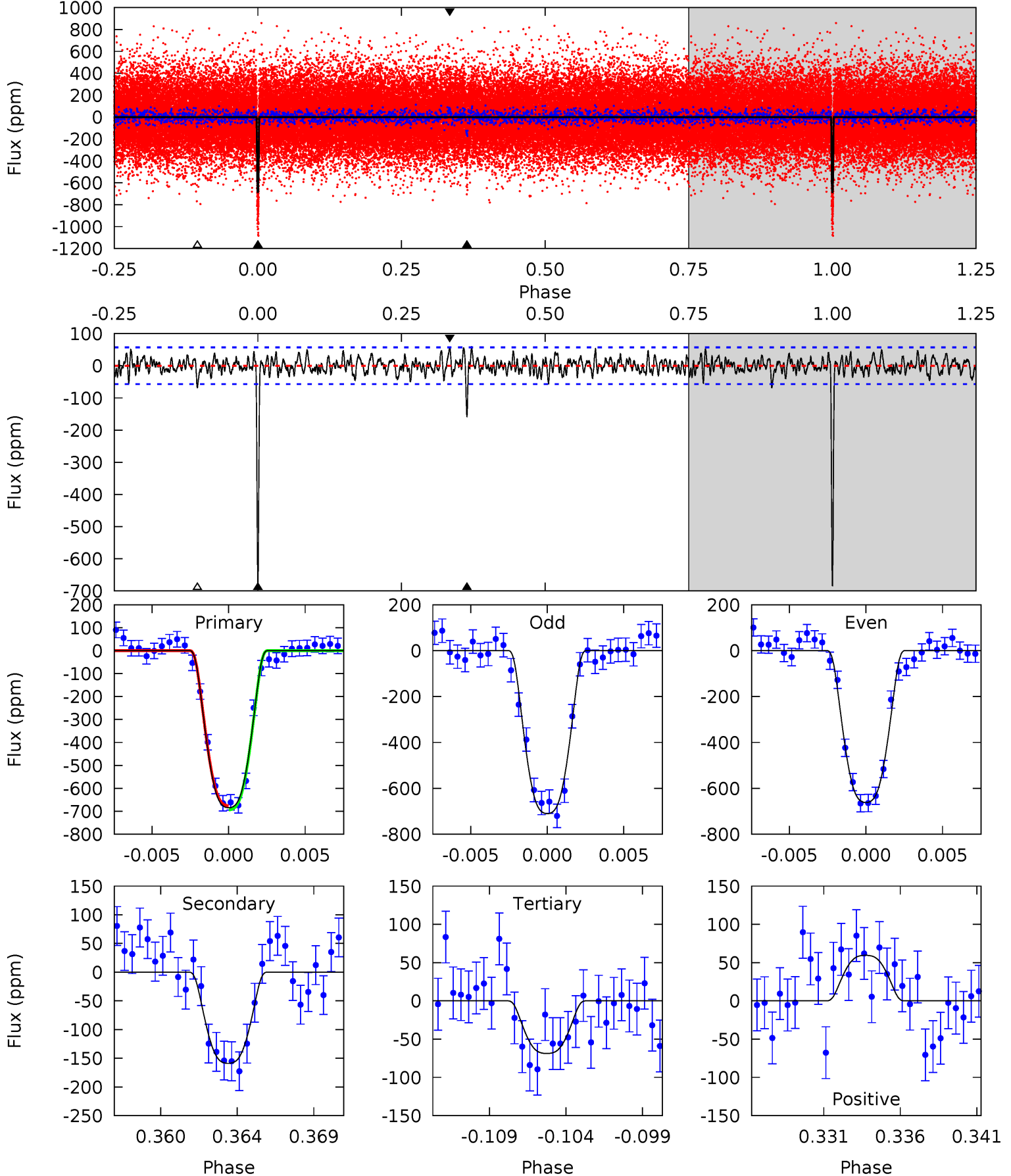
TCE 007369865-01 P= 42.262594 Days $T_0=152.313030$ (BKJD)



DV Model-Shift Uniqueness Test

007369865-01, P = 42.262699 Days, E = 110.048843 Days

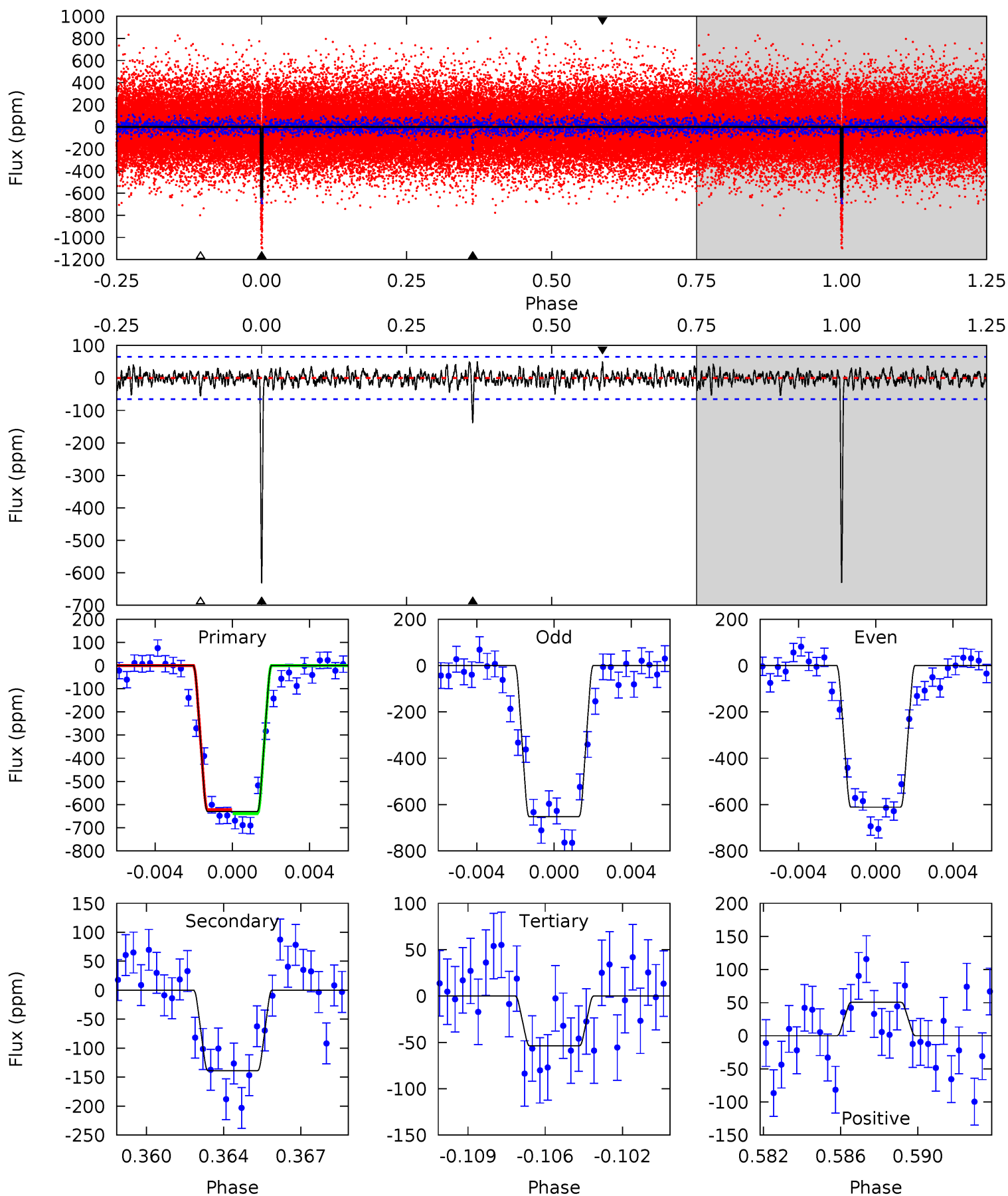
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
62.1	14.4	6.24	5.40	5.17	2.82	1.72	55.9	56.7	8.17	9.01	2.21	0.98	0.08	0.82



Alt Model-Shift Uniqueness Test

007369865-01, P = 42.262594 Days, E = 110.050436 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
50.5	11.1	4.30	4.04	5.22	2.92	1.23	46.2	46.4	6.81	7.07	1.65	0.98	0.07	0.66



Stellar Parameters For KIC 007369865

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5432^{+210}_{-171}	$3.550^{+0.808}_{-0.202}$	$0.040^{+0.250}_{-0.300}$	$3.581^{+1.033}_{-2.583}$	$1.658^{+0.237}_{-0.710}$	$0.051^{+1.133}_{-0.021}$
	+4%/-3%	+23%/-6%	+625%/-750%	+29%/-72%	+14%/-43%	+2228%/-41%
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 007369865-01 / KOI 1918.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-159±11	$11.98^{+2.49}_{-4.23}$	1168^{+124}_{-214}	3771^{+122}_{-102}	48^{+57}_{-15}
Alt.	-139±12	$9.73^{+2.08}_{-3.66}$	1169^{+122}_{-205}	3975^{+156}_{-135}	64^{+80}_{-21}

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

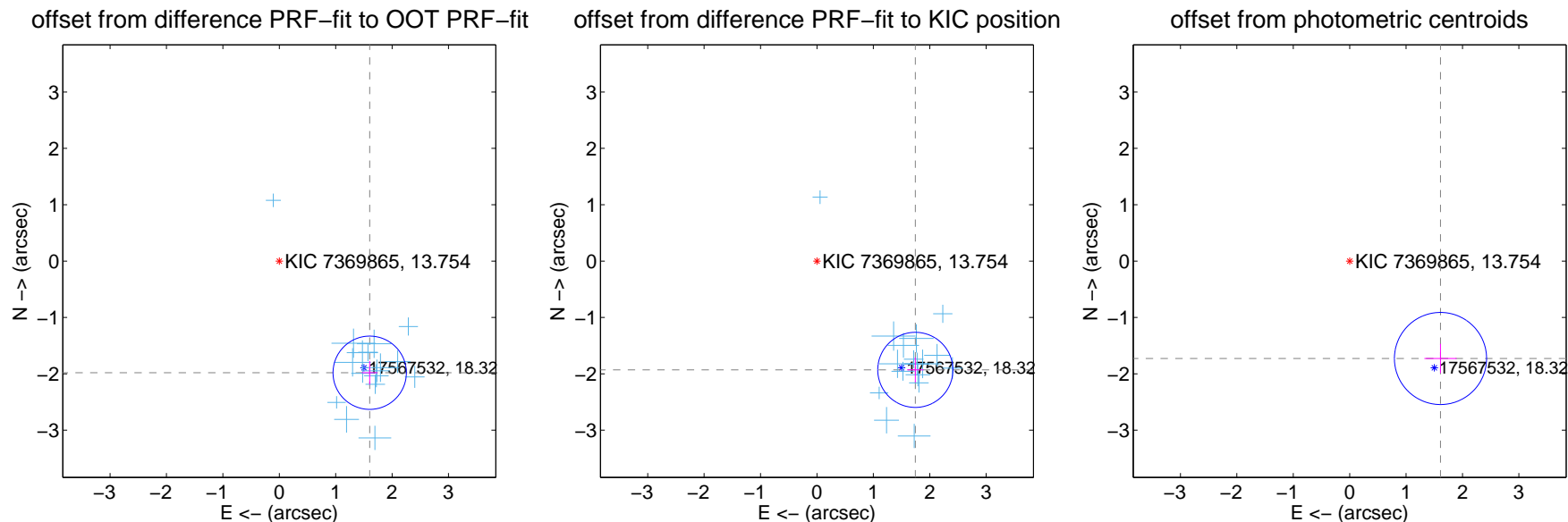
DV Centroid Data

Supplemental centroid analysis for 007369865-01. Kepler magnitude: 13.75. Transit SNR 30.53

There are 17 quarters with good PRF difference image offsets

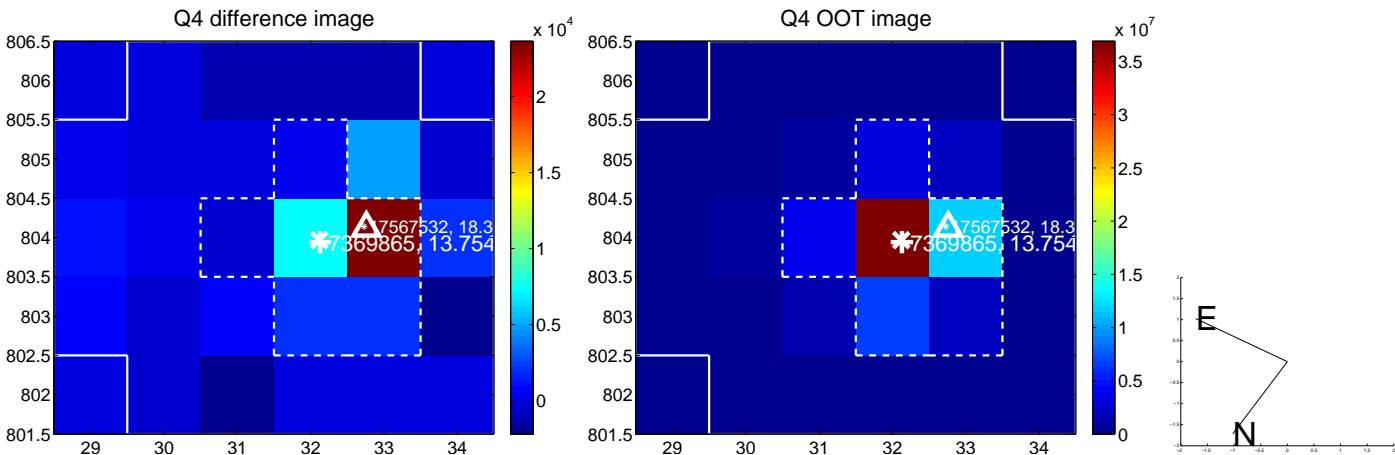
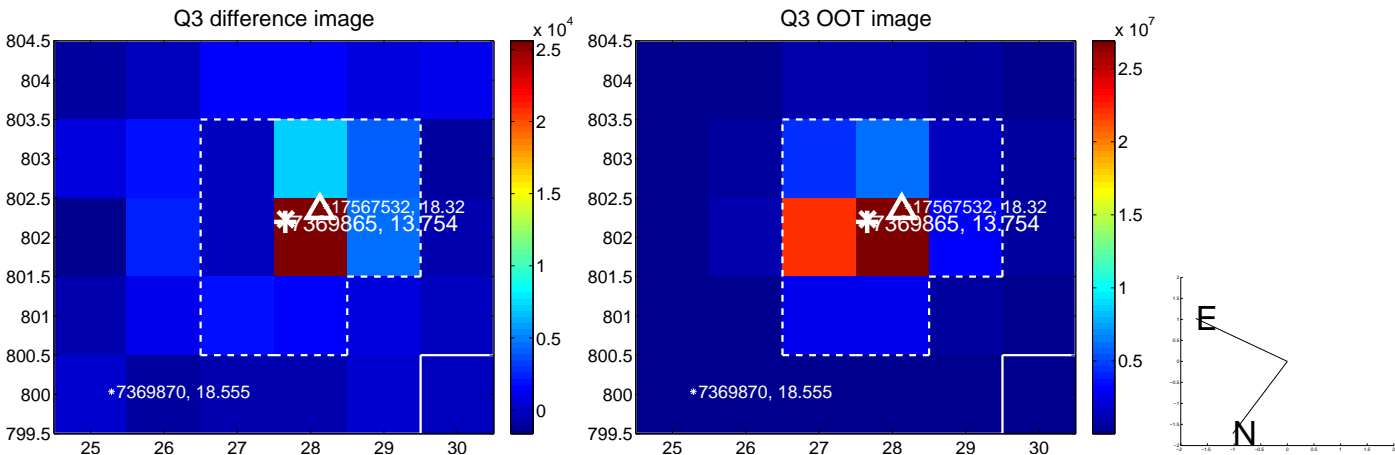
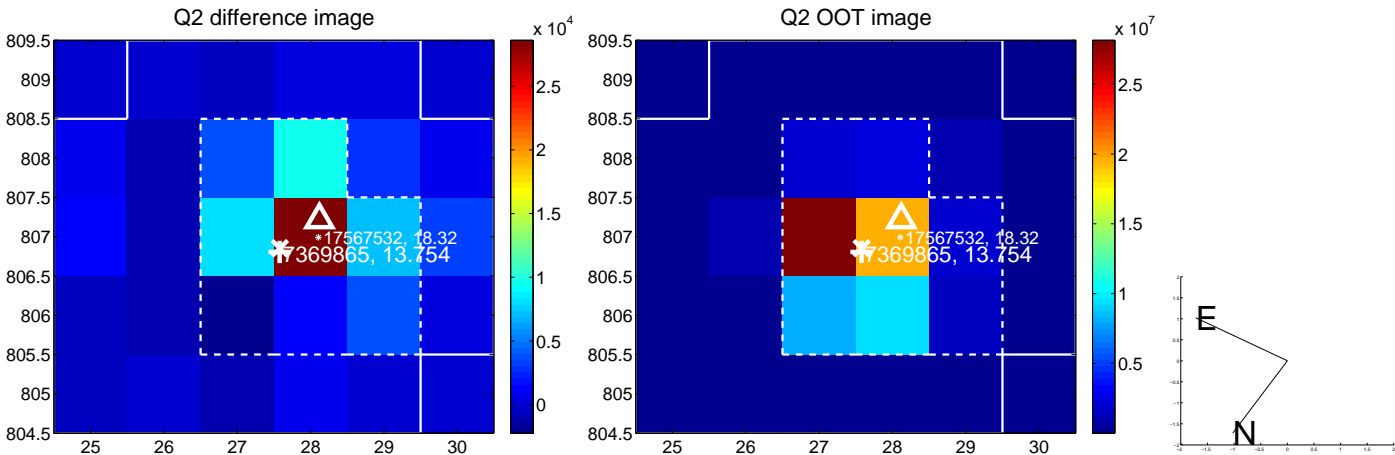
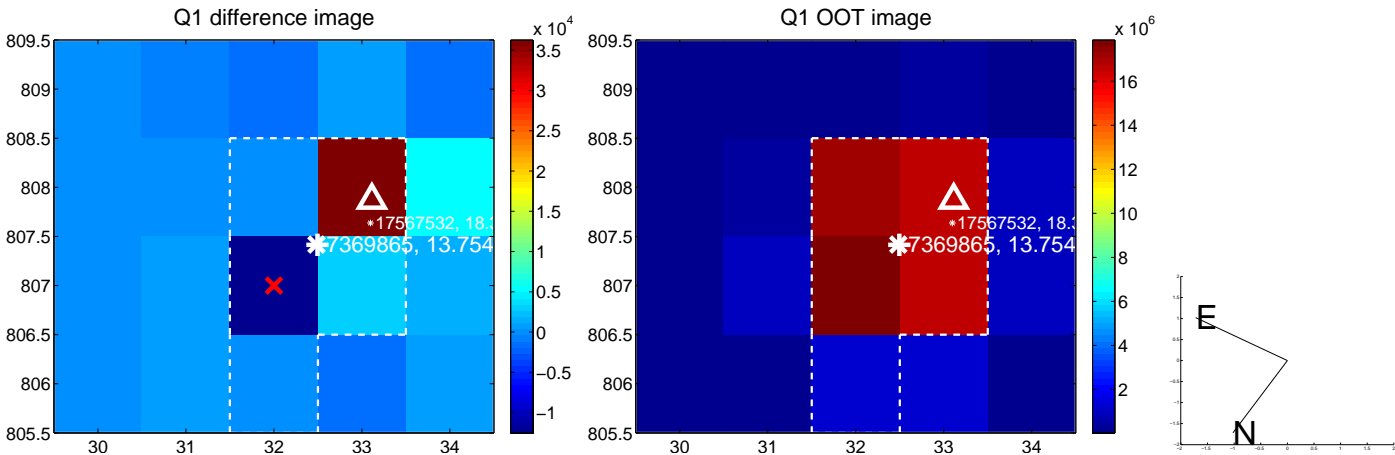
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.548 ± 0.217	11.76	-1.603 ± 0.140	-1.981 ± 0.209
PRF-fit source offset from KIC position	2.601 ± 0.222	11.71	-1.744 ± 0.145	-1.930 ± 0.222
photometric centroid source offset	2.36 ± 0.27	8.67	-1.61 ± 0.29	-1.73 ± 0.26

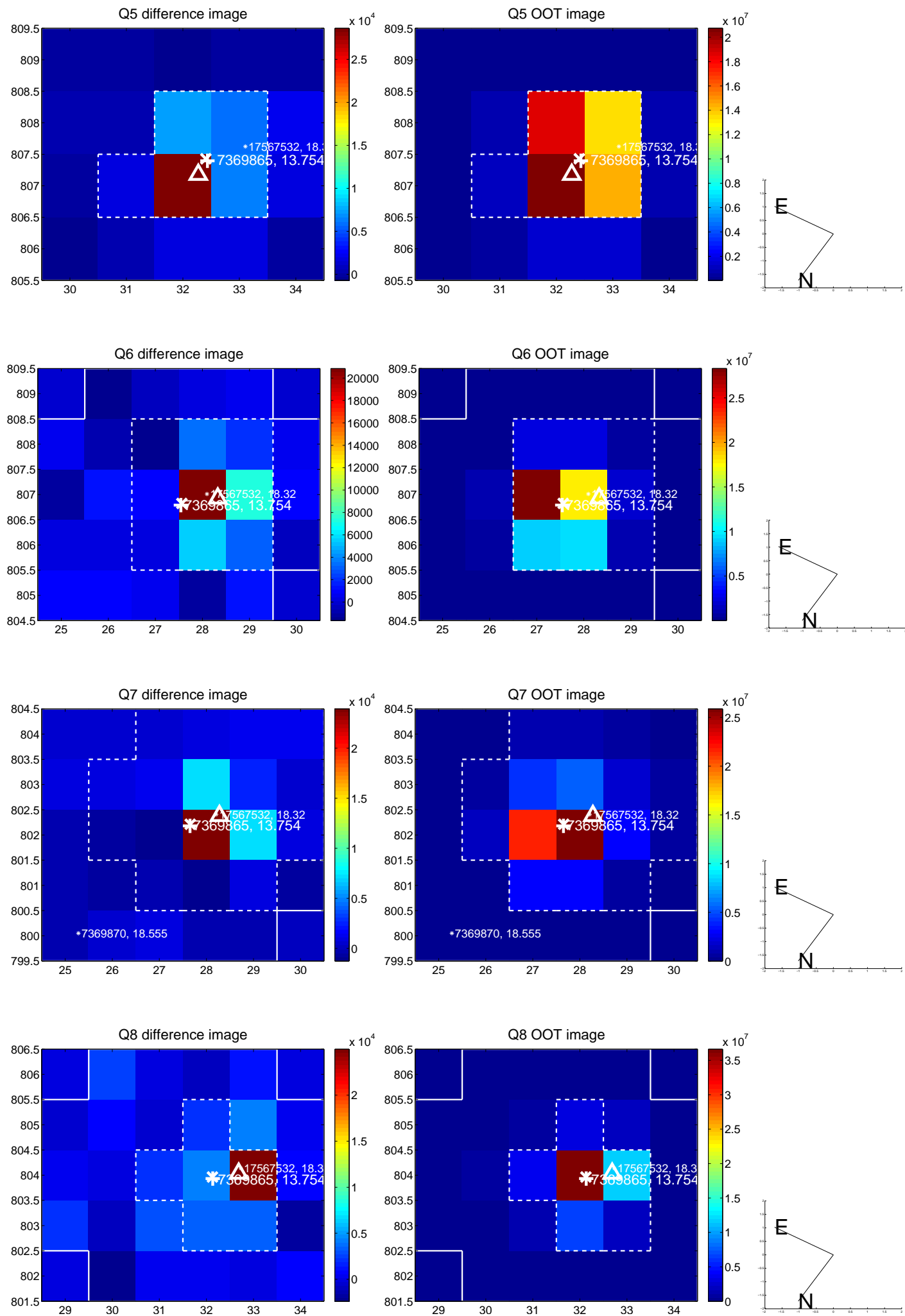


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

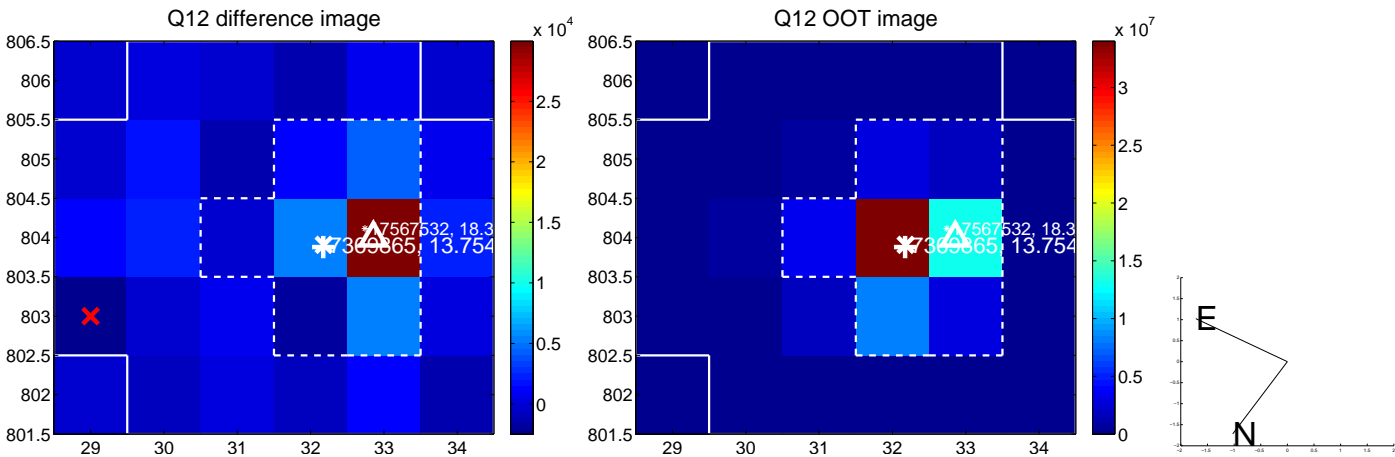
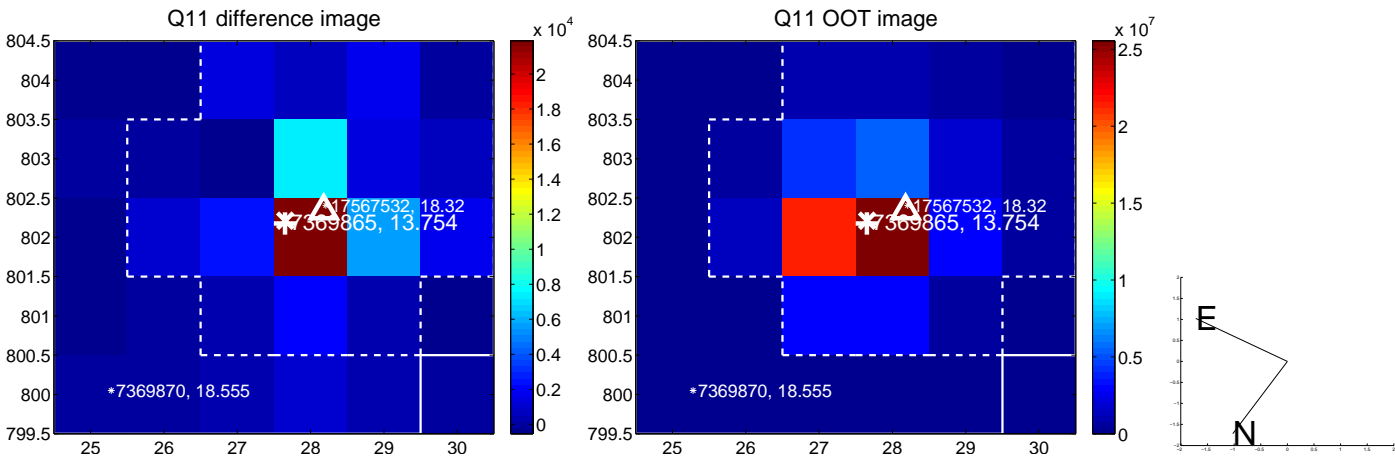
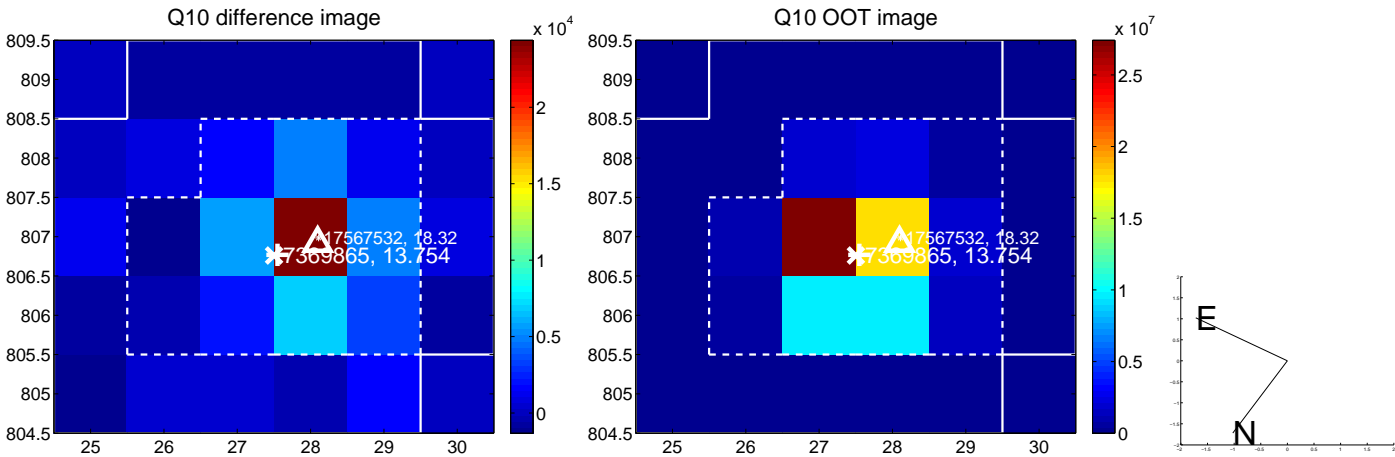
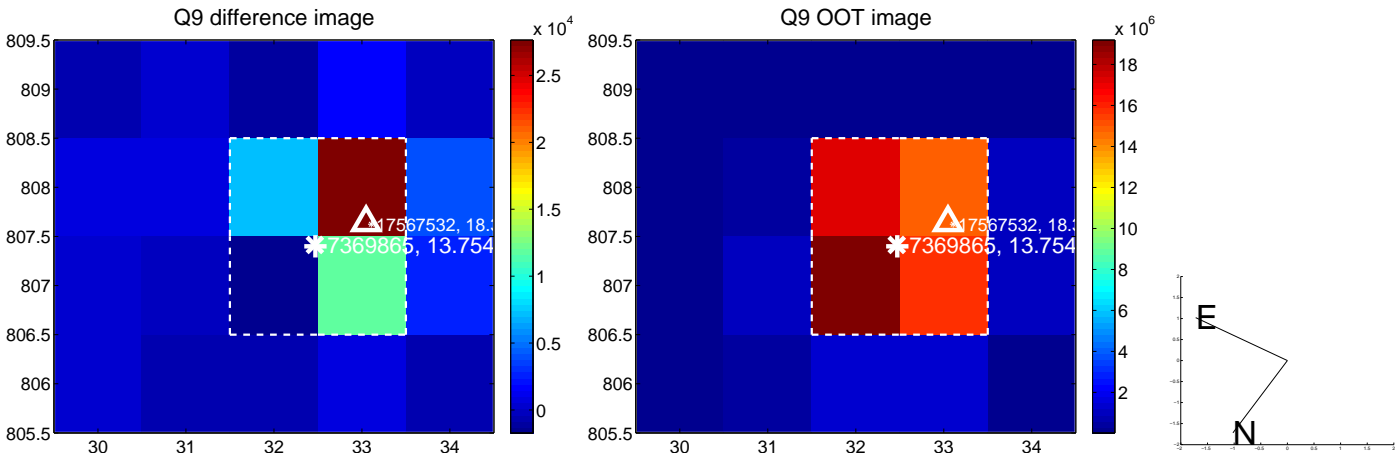
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



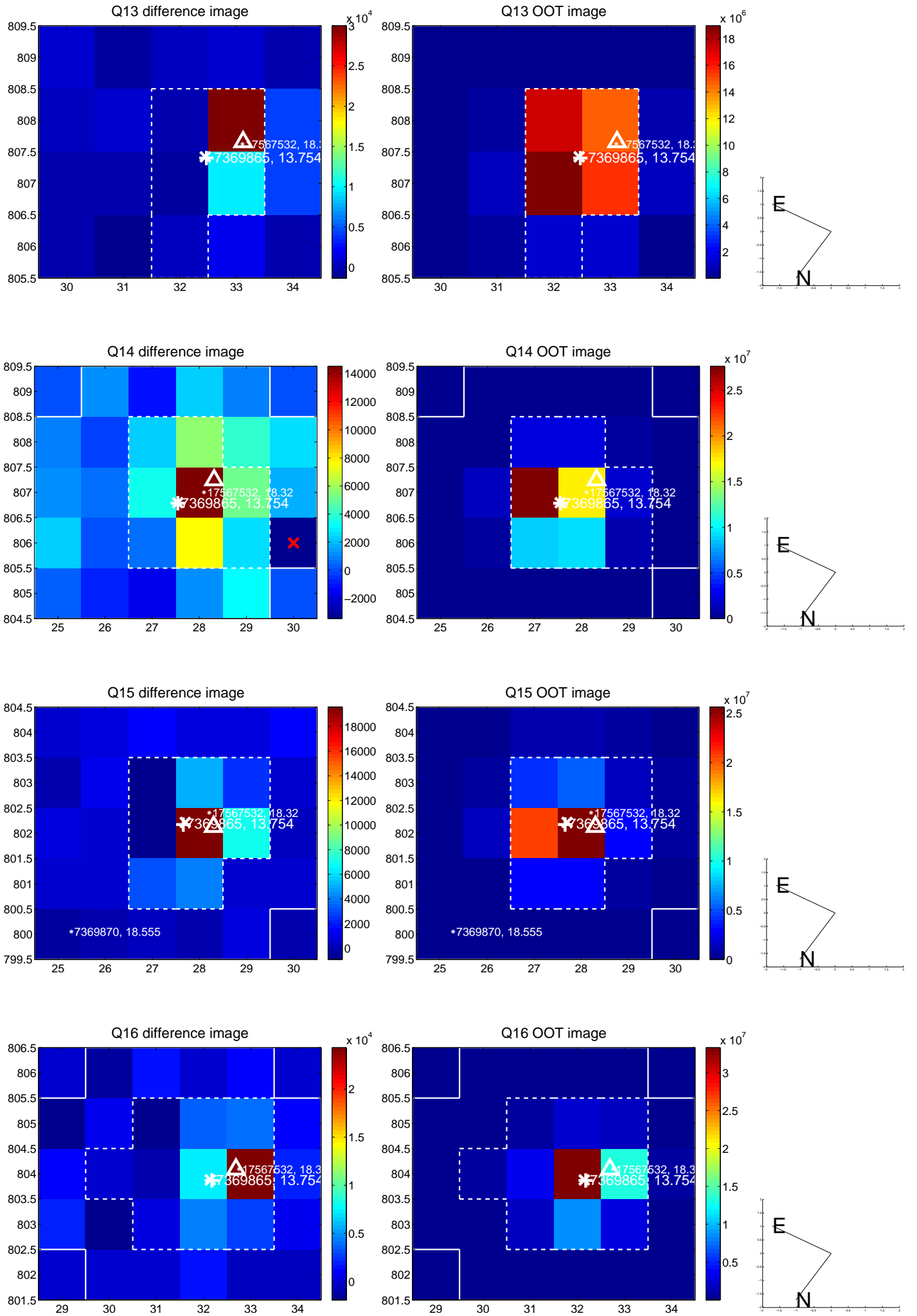
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



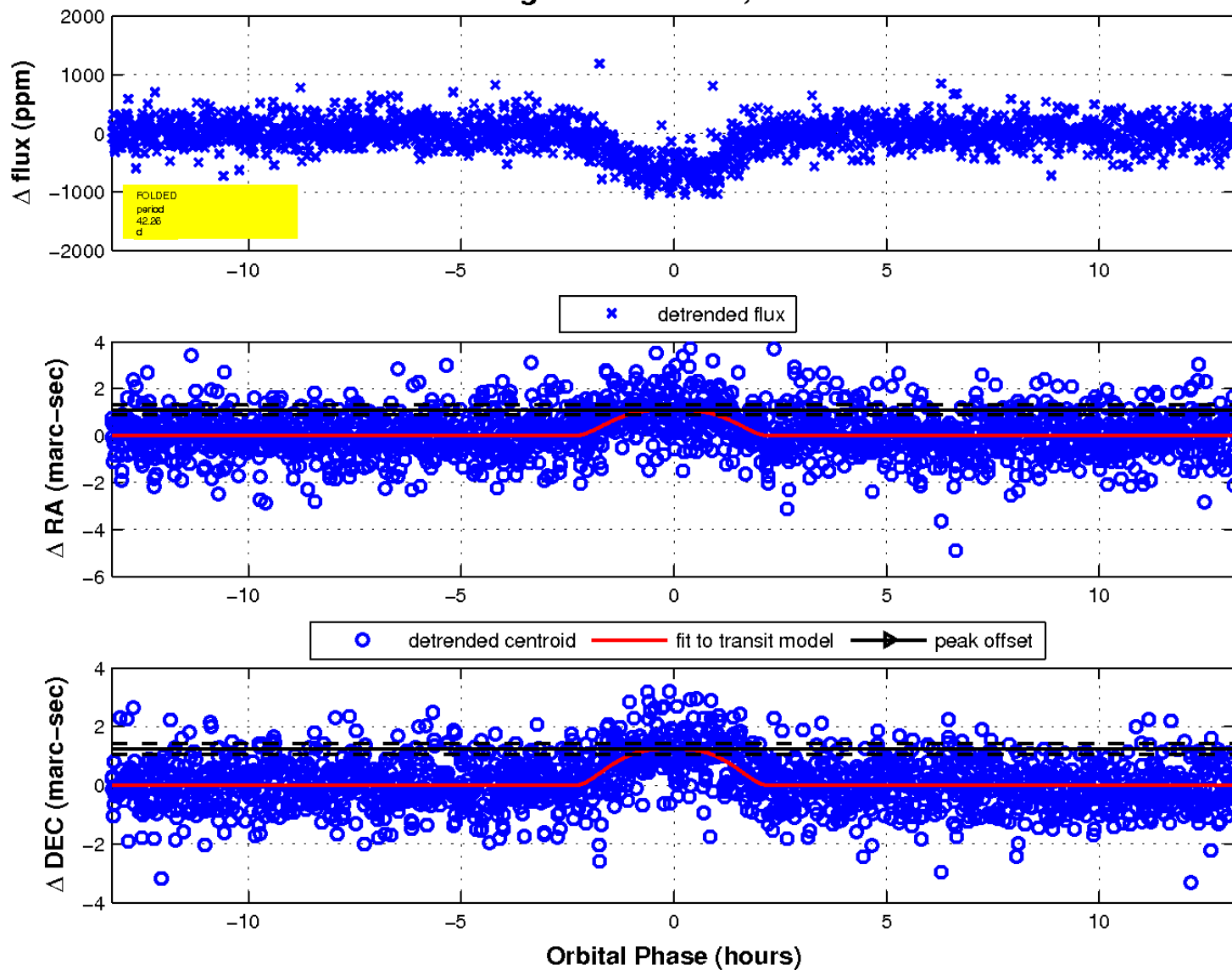
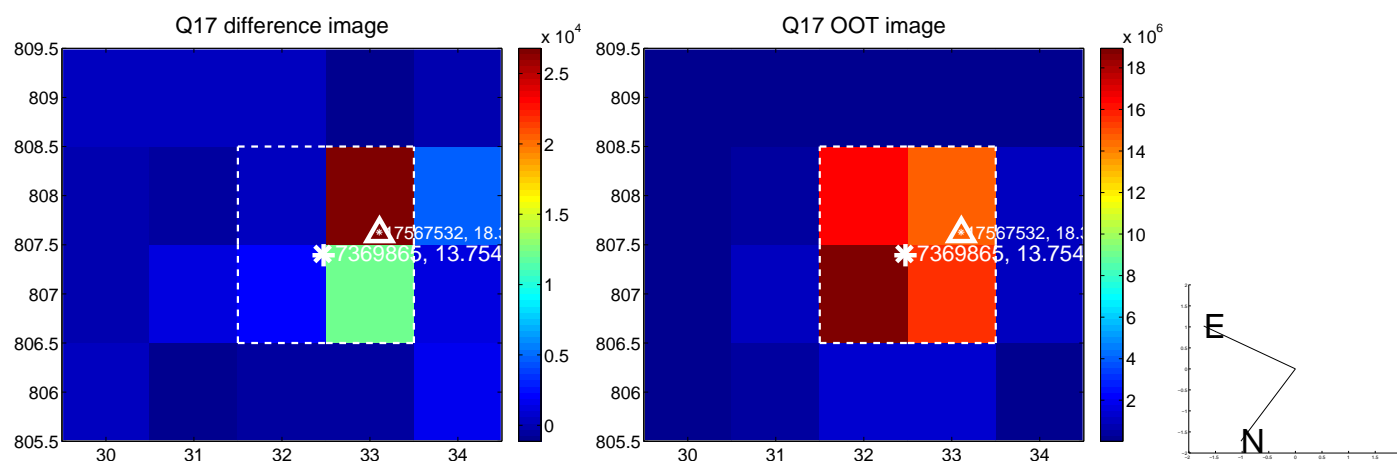
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

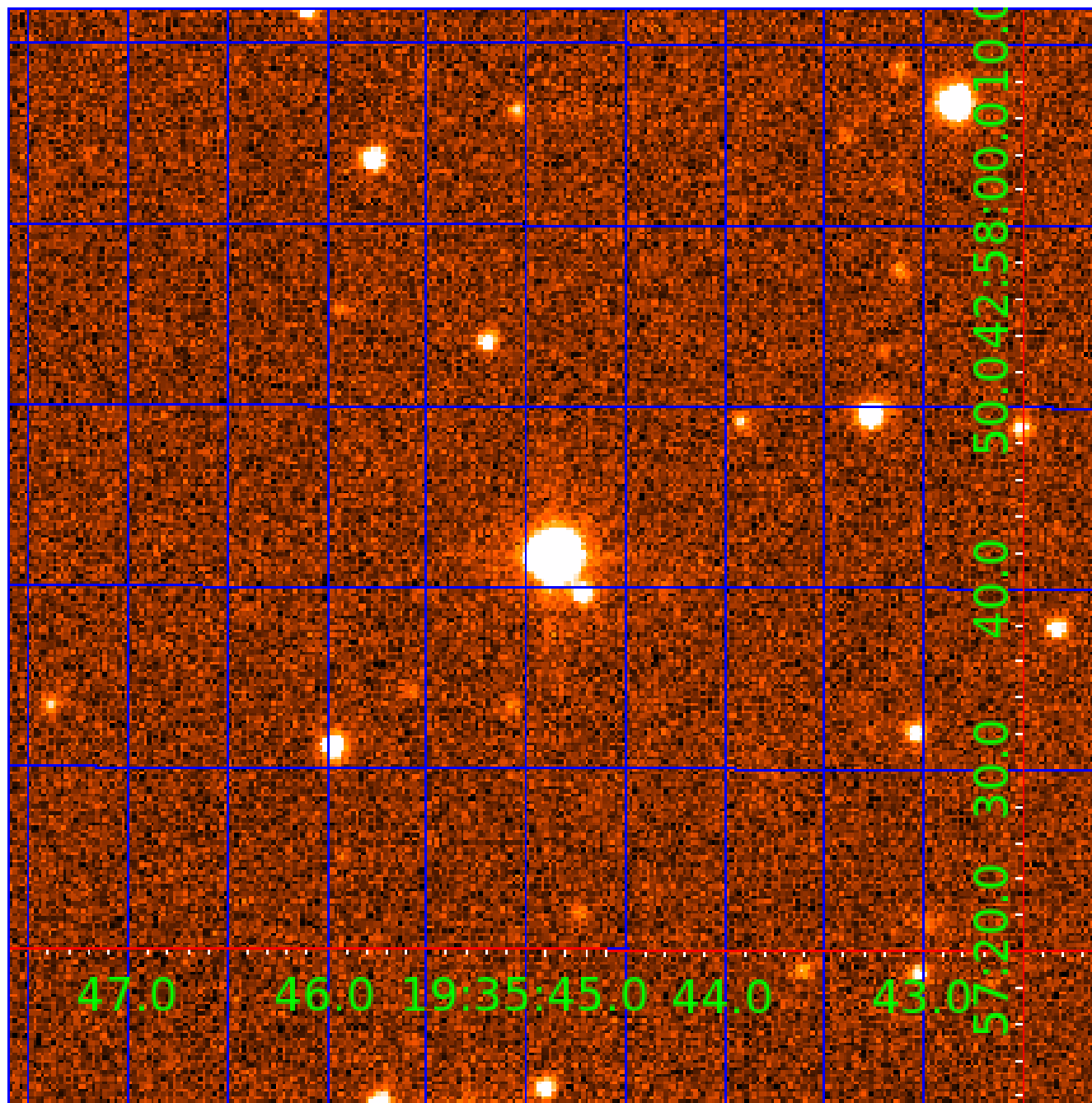


white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007369865

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})
007369865-01	OBS	1918.01	42.262699	152.311542	680.2	4.409	27.9	30.5	3.58	5432	12.50	126.51
007369865-02	OBS	No	42.262442	167.701880	185.6	3.678	8.3	9.1	3.58	5432	5.56	126.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007369865-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
007369865-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET

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 007369865-02

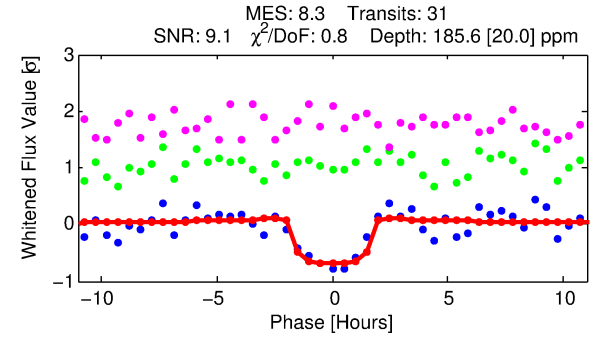
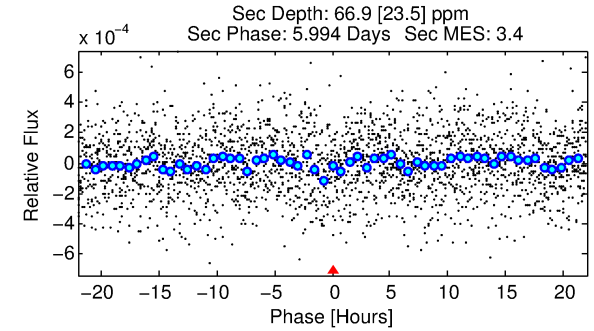
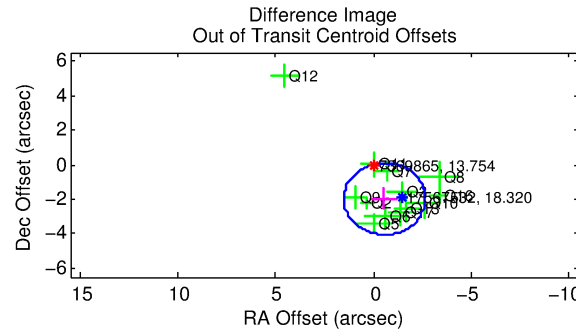
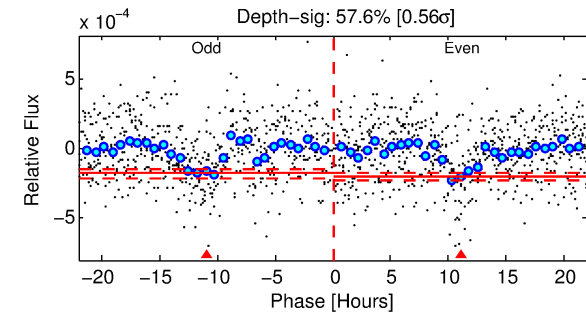
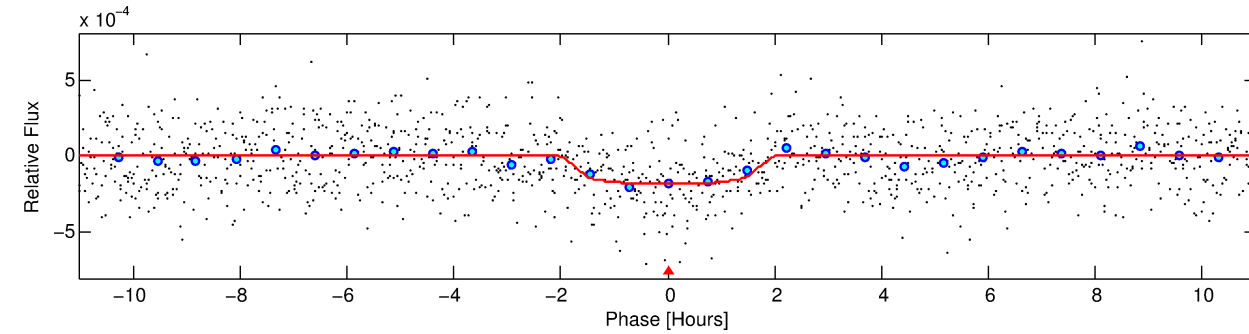
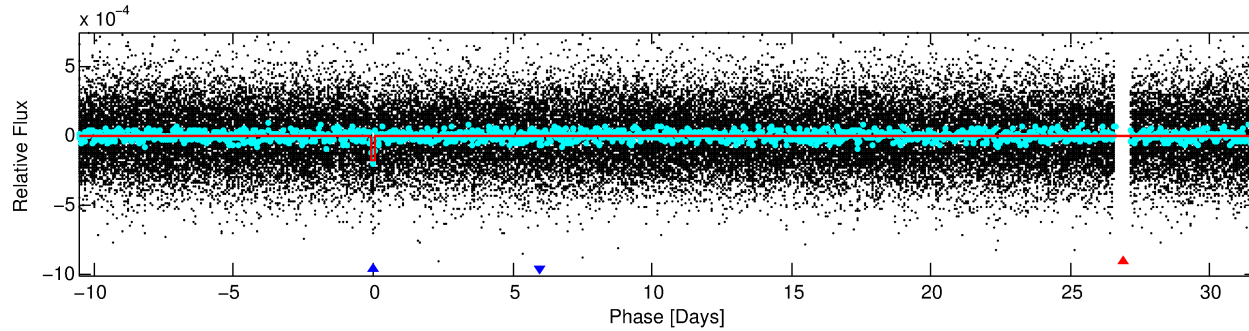
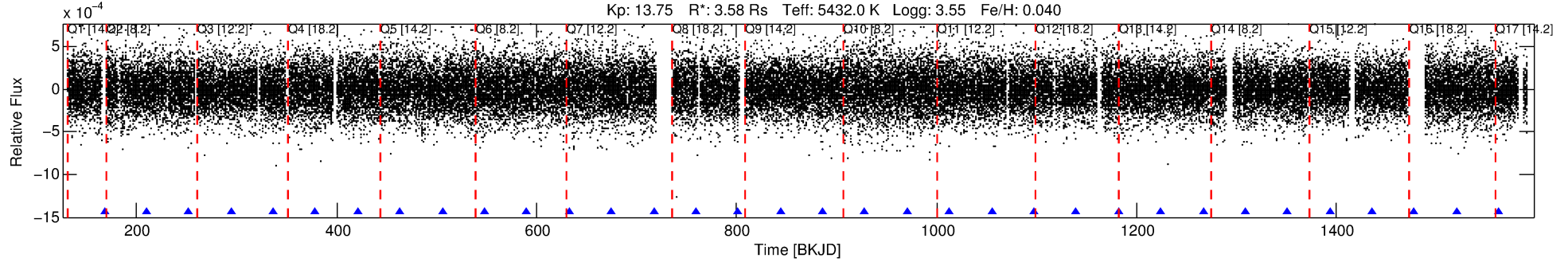
No Significant Match Found

DV One-Page Summary

KIC: 7369865 Candidate: 2 of 2 Period: 42.262 d

KOI: K01918 Corr: No Ephemeris Match

Kp: 13.75 R*: 3.58 Rs Teff: 5432.0 K Logg: 3.55 Fe/H: 0.040



DV Fit Results:

Period = 42.26244 [0.00038] d
Epoch = 167.7019 [0.0075] BKJD
Rp/R* = 0.0142 [0.0103]
a/R* = 50.08 [153.66]
b = 0.84 [1.11]
Seff = 126.51 [169.43]
Teff = 855 [286] K
Rp = 5.56 [5.68] Re
a = 0.2812 [0.2207] AU
Ag = 94.13 [188.04] [0.50σ]
Teffp = 4118 [1543] K [2.08σ]

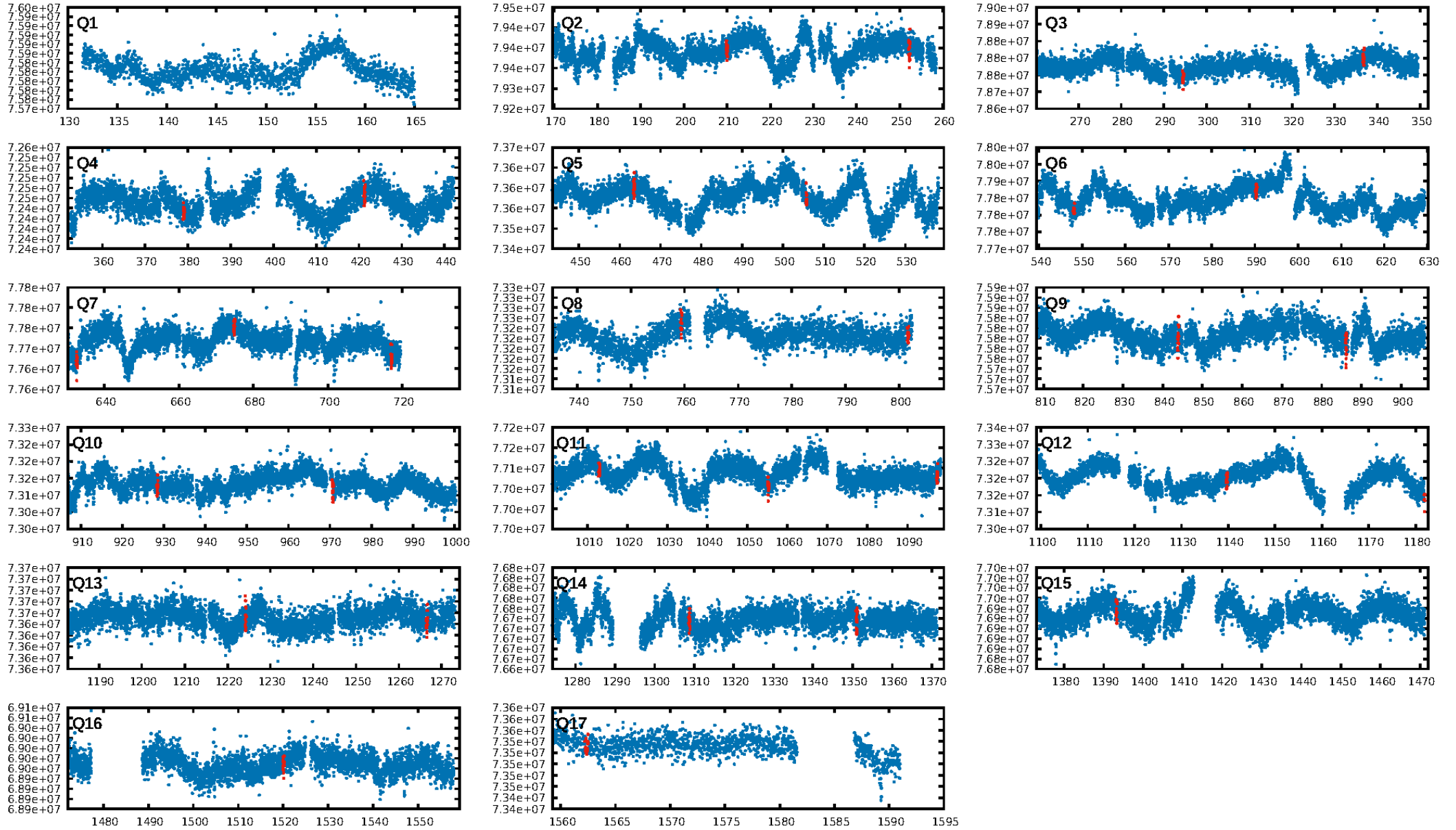
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: 65.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.08e-16
RollingBand-fgt: 1.00 [30/30]
GhostDiagnostic-chr: 1.751
Centroid-sig: 0.4%
Centroid-so: 1.600 arcsec [1.72σ]
OotOffset-rm: 2.058 arcsec [2.97σ]
KicOffset-rm: 1.989 arcsec [3.10σ]
OotOffset-st: 3/3/3/4 [13]
KicOffset-st: 3/3/3/4 [13]
DiffImageQuality-fgm: 0.77 [10/13]
DiffImageOverlap-fno: 1.00 [15/15]

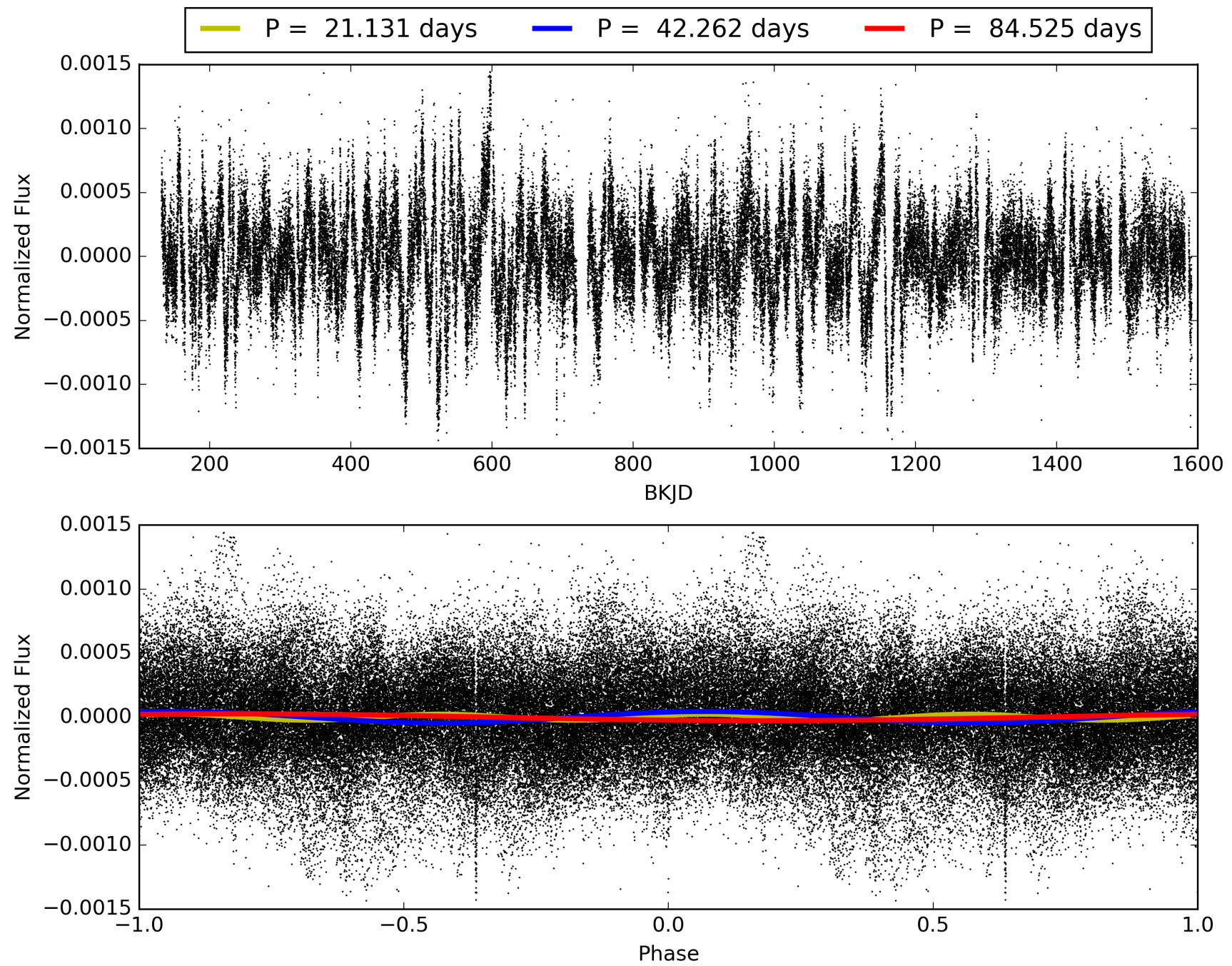
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:05:50 Z

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

TCE 007369865-02, PDC Light Curves

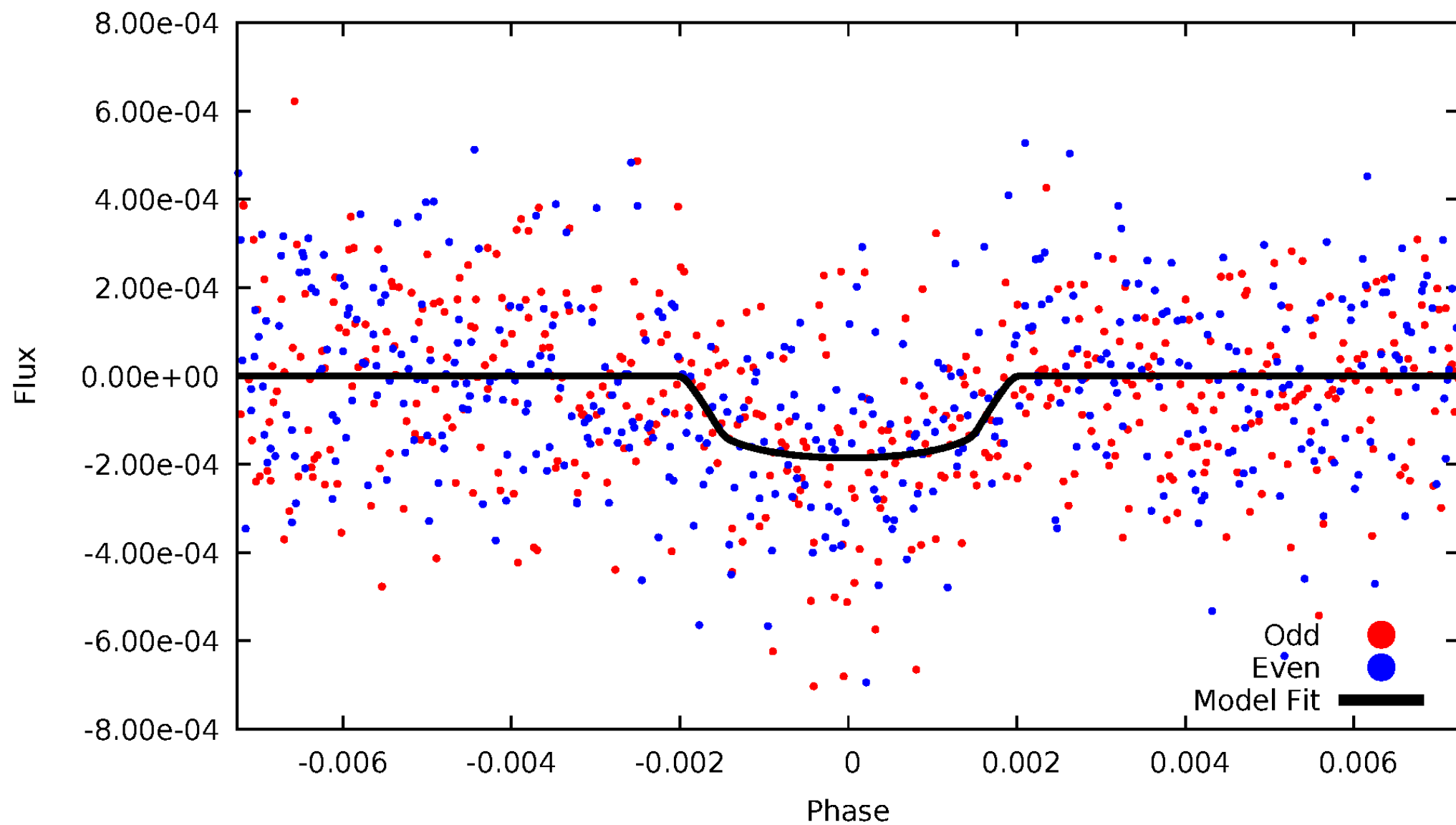


TCE 007369865-02



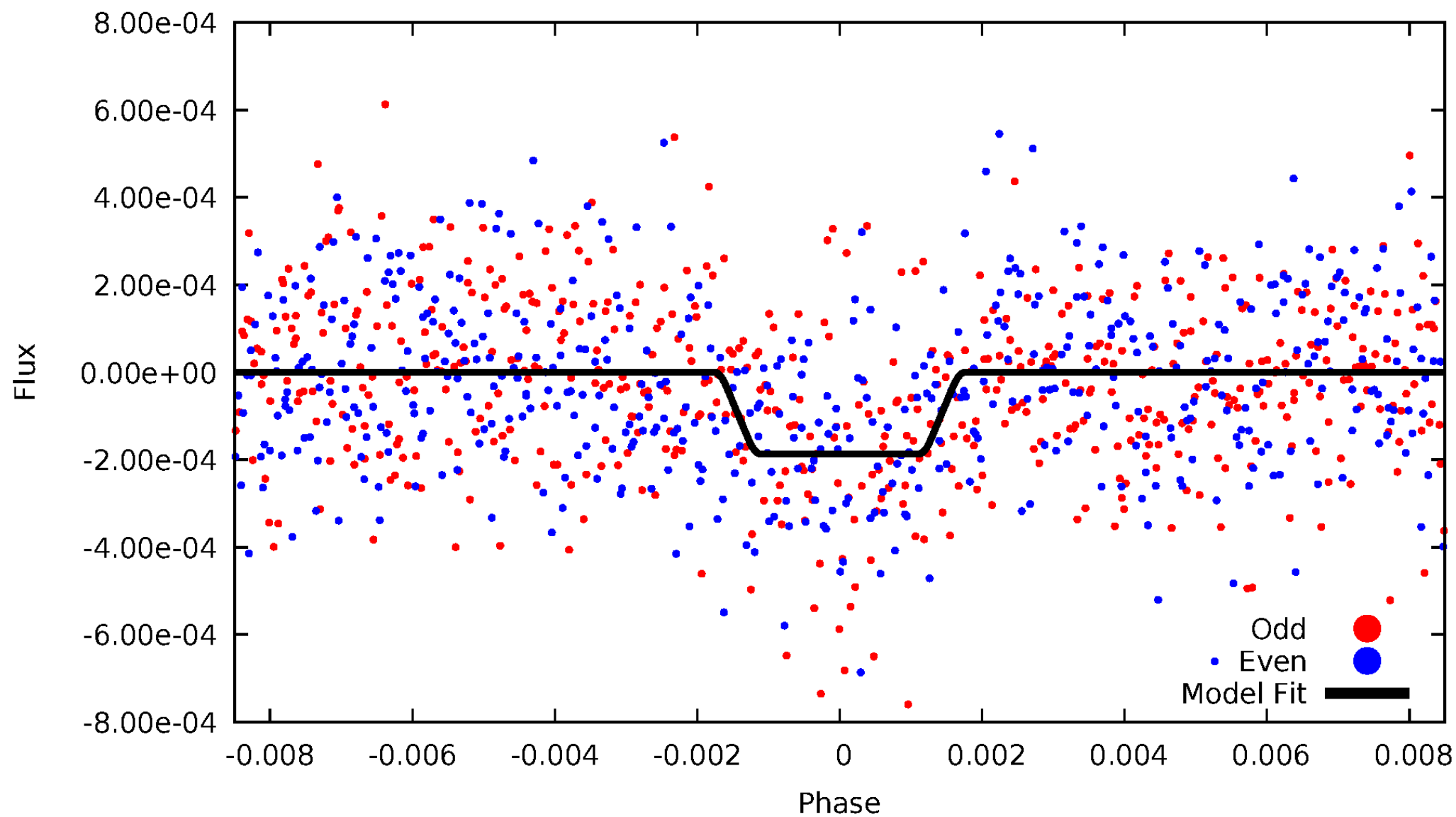
DV Odd/Even

TCE 007369865-02



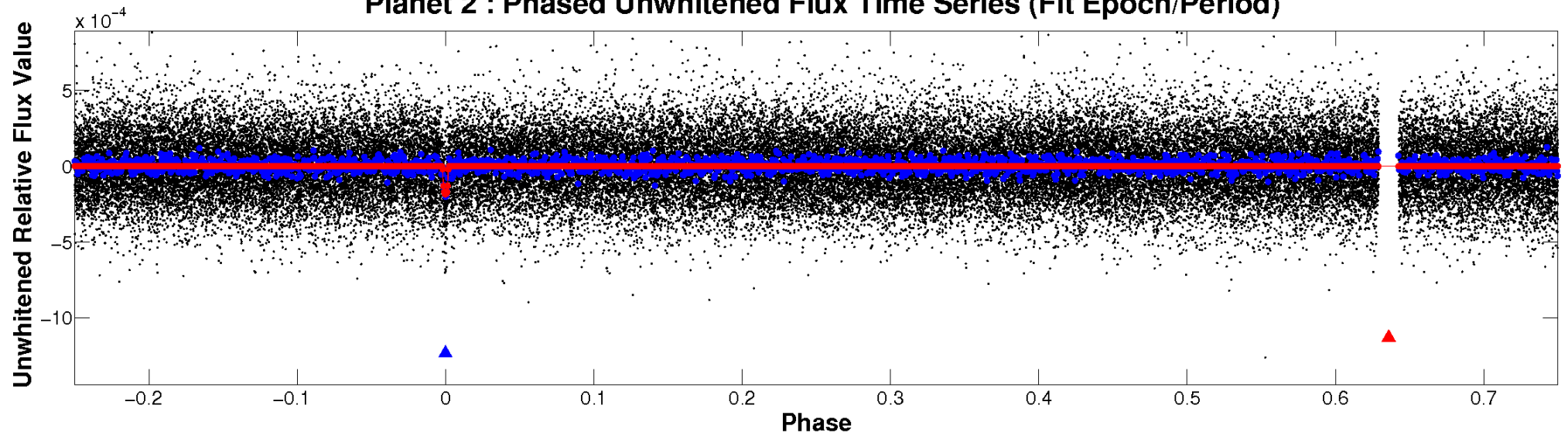
ALT Odd/Even

TCE 007369865-02

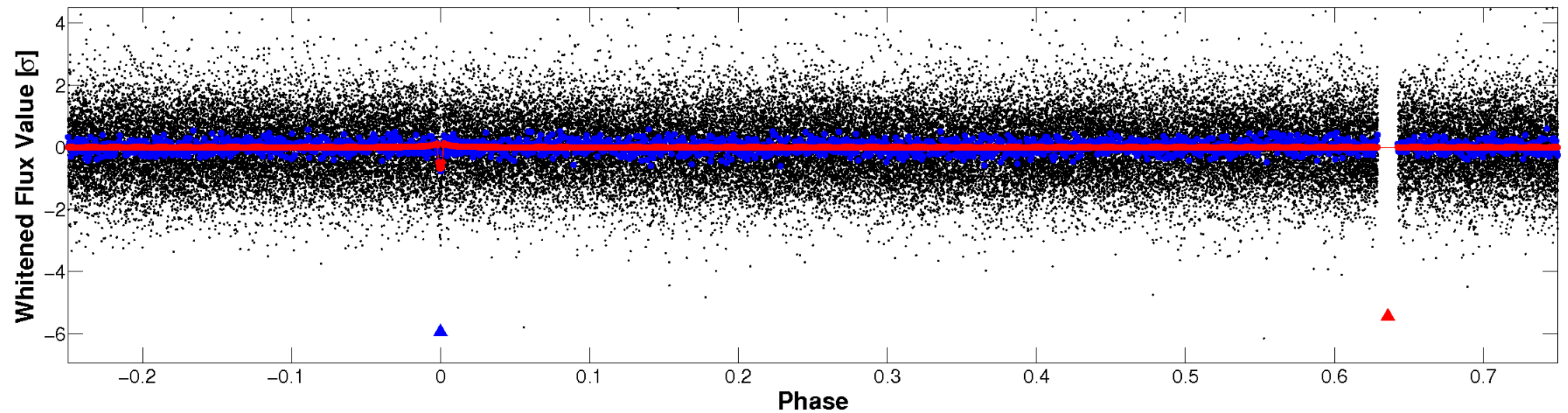


Non-Whitened Vs. Whitened Light Curve

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

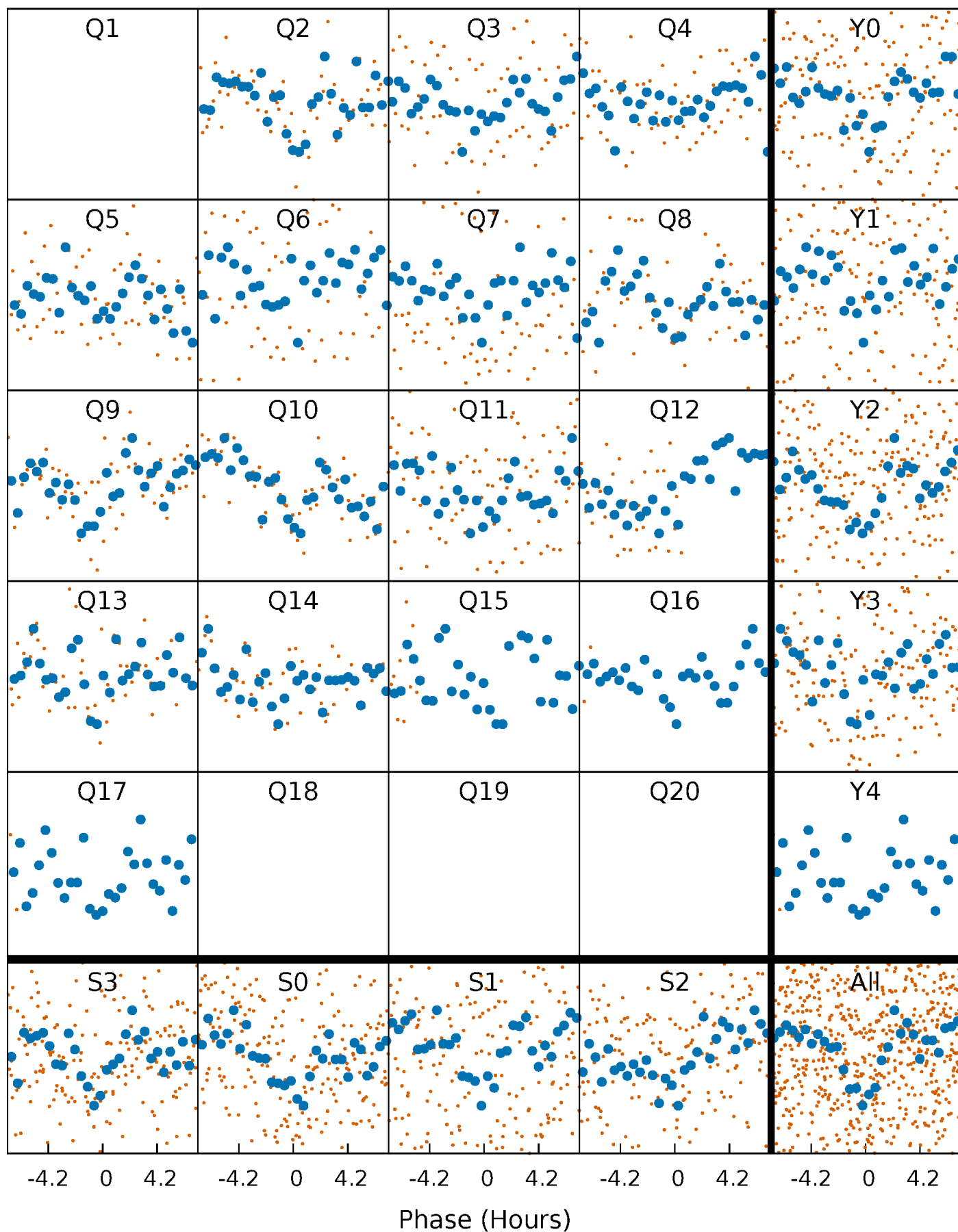


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



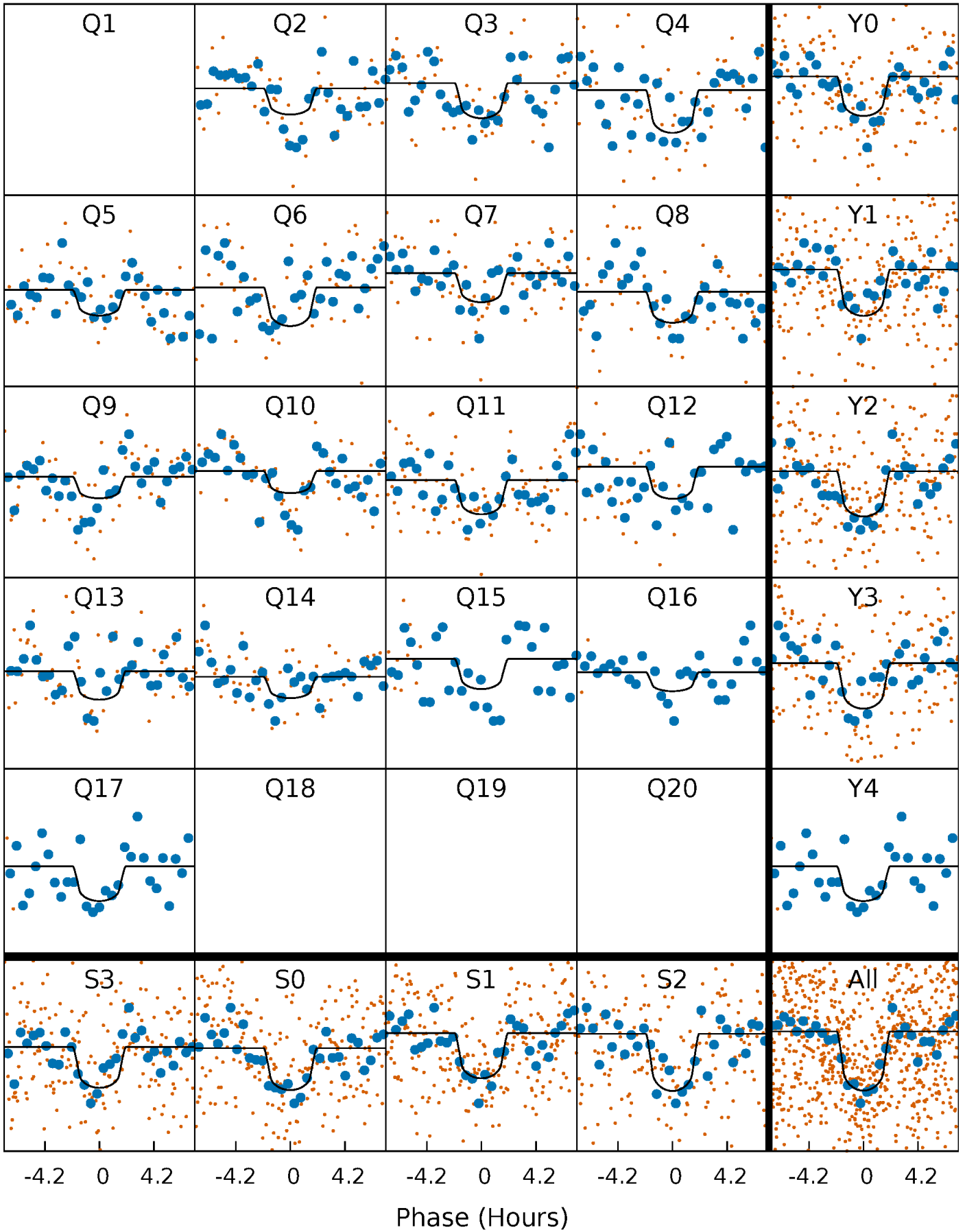
PDC Quarter-Phased Transit Curves

TCE 007369865-02 P= 42.262442 Days $T_0=167.701880$ (BKJD)



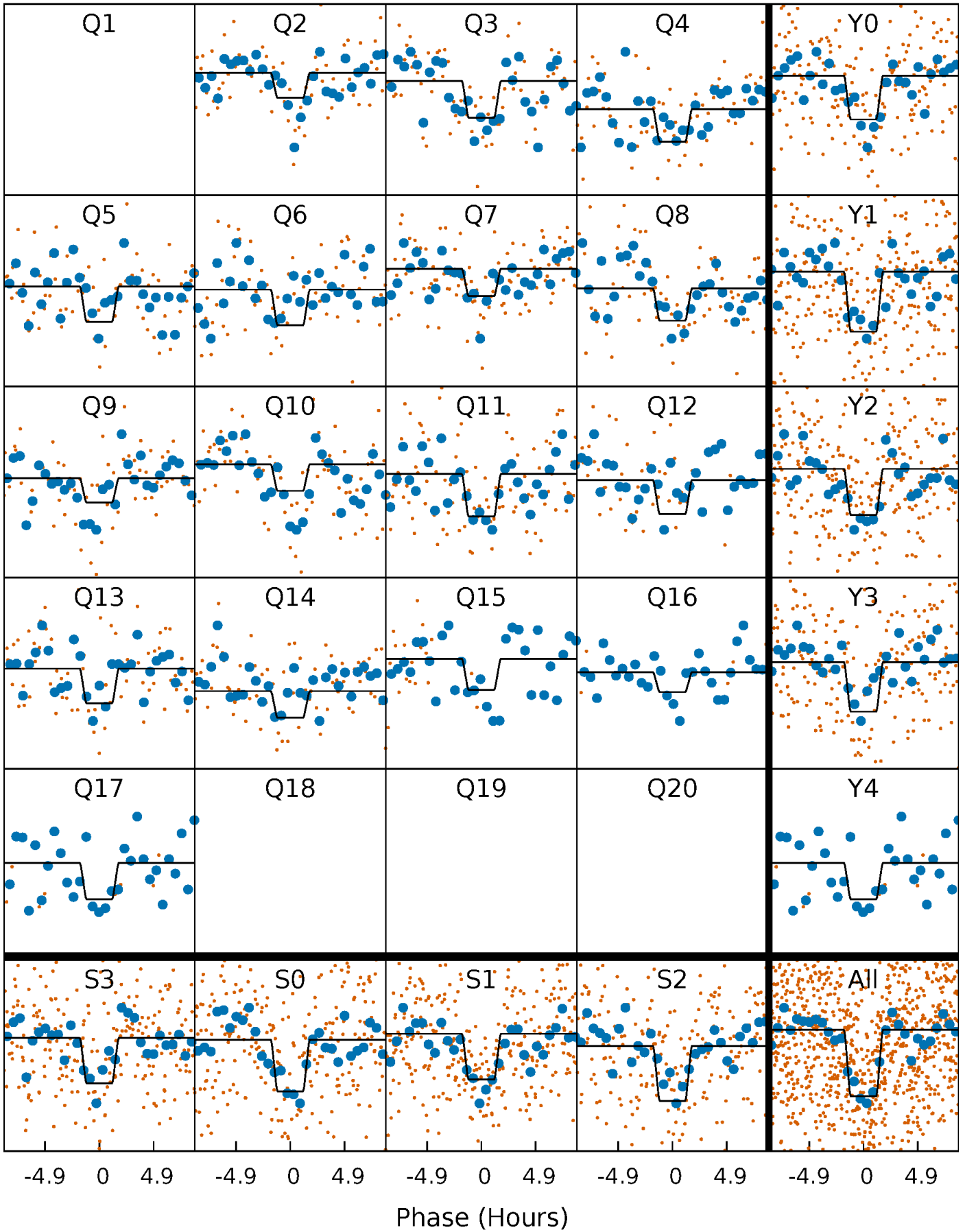
DV Quarter-Phased Transit Curves

TCE 007369865-02 $P = 42.262442$ Days $T_0 = 167.701880$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

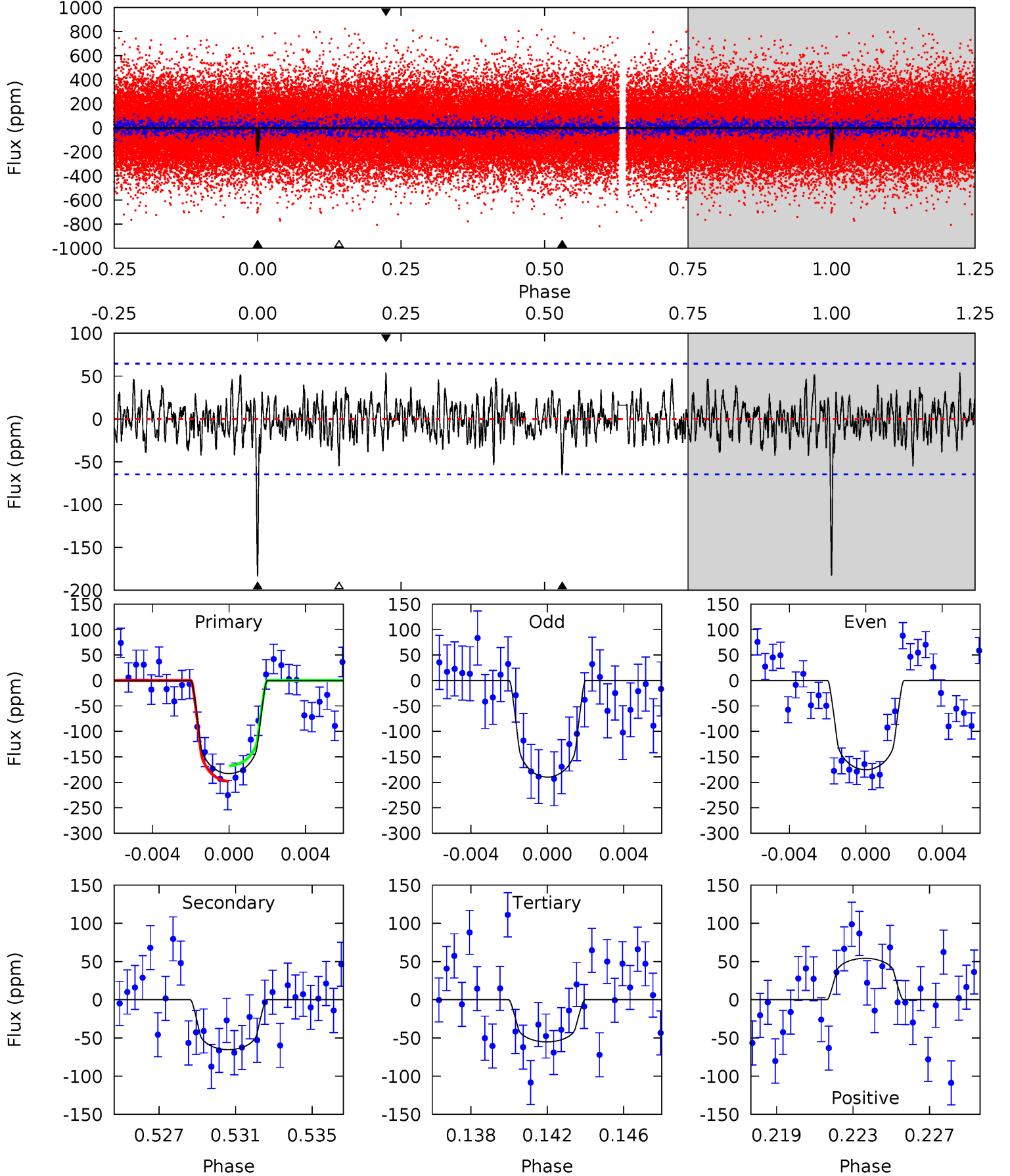
TCE 007369865-02 $P = 42.262257$ Days $T_0 = 167.698730$ (BKJD)



DV Model-Shift Uniqueness Test

007369865-02, $P = 42.262442$ Days, $E = 125.439438$ Days

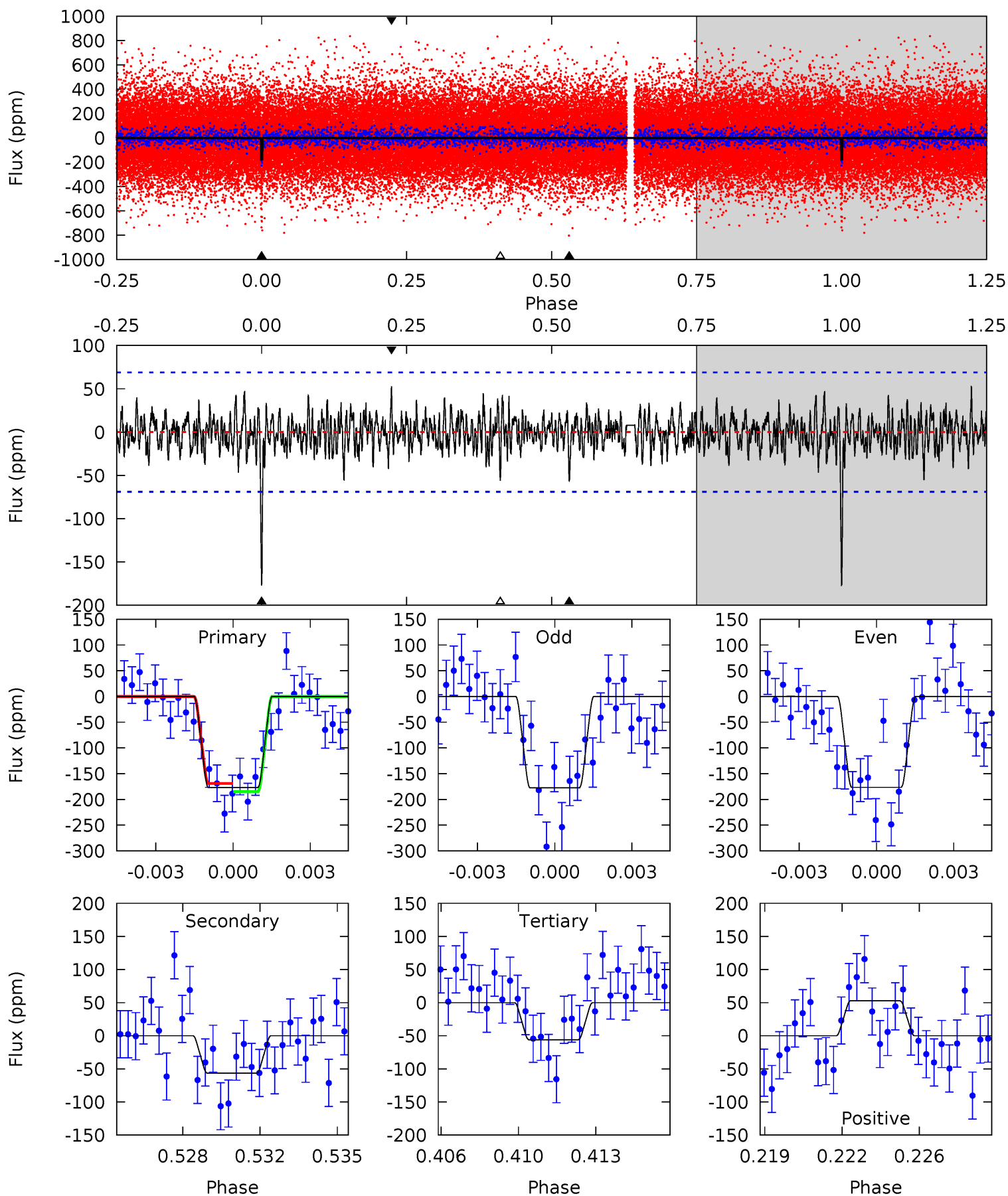
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	5.26	4.44	4.36	5.20	2.87	1.36	10.3	10.3	0.82	0.90	0.58	1.05	0.23	1.23



Alt Model-Shift Uniqueness Test

007369865-02, $P = 42.262257$ Days, $E = 125.436473$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	4.27	4.24	3.99	5.23	2.92	1.21	9.17	9.41	0.03	0.27	0.03	0.93	0.23	0.61



Stellar Parameters For KIC 007369865

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5432^{+210}_{-171}	$3.550^{+0.808}_{-0.202}$	$0.040^{+0.250}_{-0.300}$	$3.581^{+1.033}_{-2.583}$	$1.658^{+0.237}_{-0.710}$	$0.051^{+1.133}_{-0.021}$
	+4%/-3%	+23%/-6%	+625%/-750%	+29%/-72%	+14%/-43%	+2228%/-41%
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 007369865-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-65 ± 12	$5.05^{+4.34}_{-2.86}$	1171^{+125}_{-212}	4201^{+1525}_{-706}	104^{+449}_{-74}
Alt.	-56 ± 13	$4.85^{+4.72}_{-2.98}$	1177^{+121}_{-220}	4127^{+1759}_{-707}	98^{+624}_{-72}

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 $A_{obs} \gg 1.0$

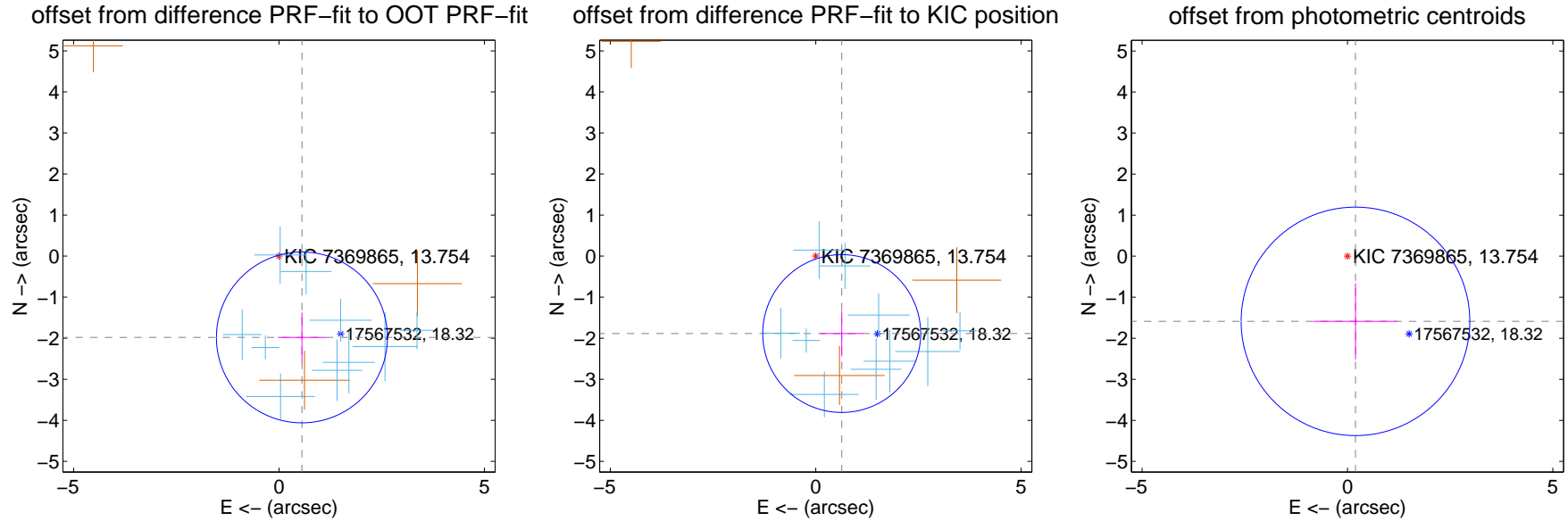
DV Centroid Data

Supplemental centroid analysis for 007369865-02. Kepler magnitude: 13.75. Transit SNR 9.07

There are 10 quarters with good PRF difference image offsets

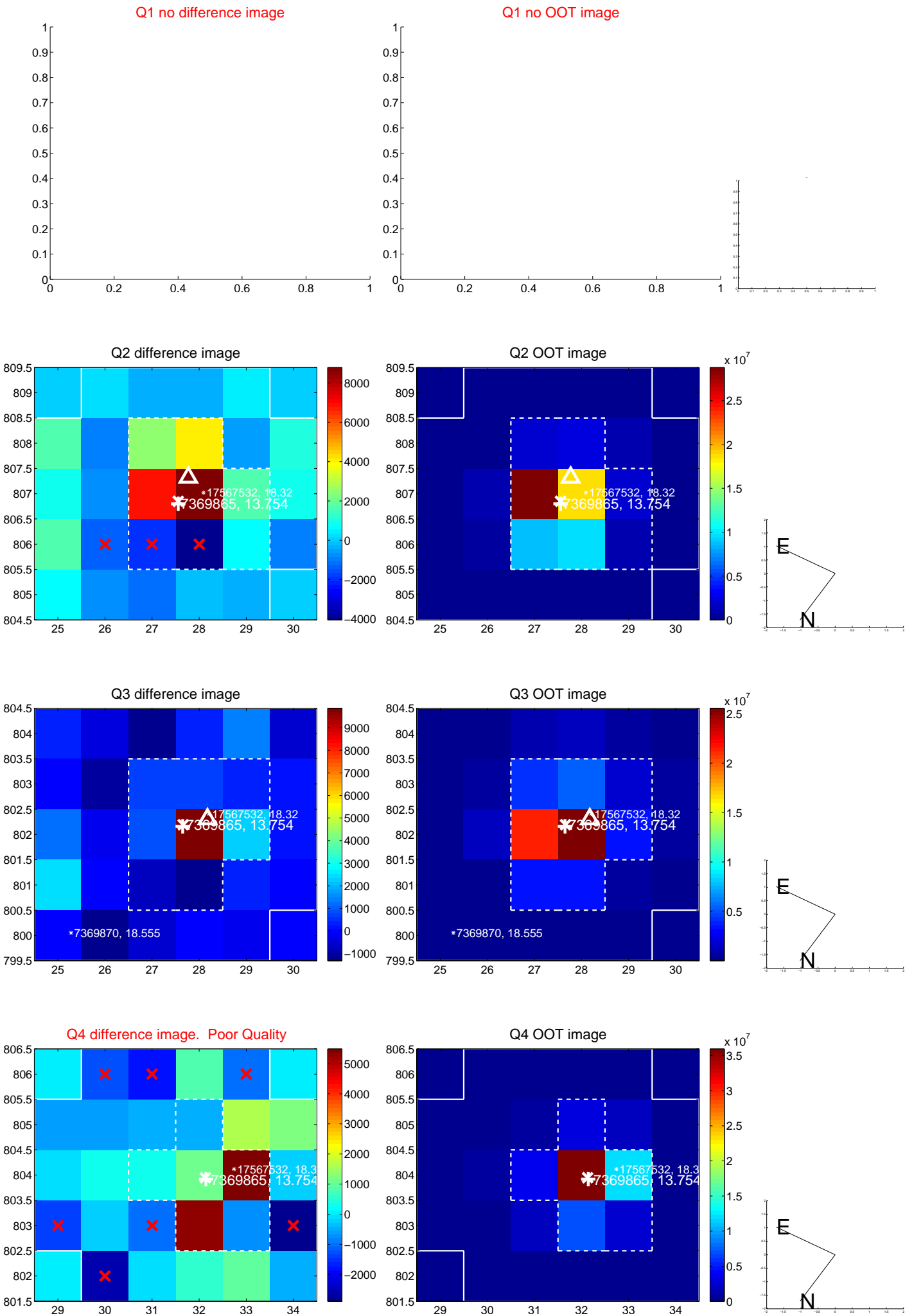
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.058 ± 0.693	2.97	-0.558 ± 0.586	-1.980 ± 0.609
PRF-fit source offset from KIC position	1.989 ± 0.641	3.10	-0.633 ± 0.526	-1.886 ± 0.554
photometric centroid source offset	1.60 ± 0.93	1.72	-0.19 ± 1.01	-1.59 ± 0.93

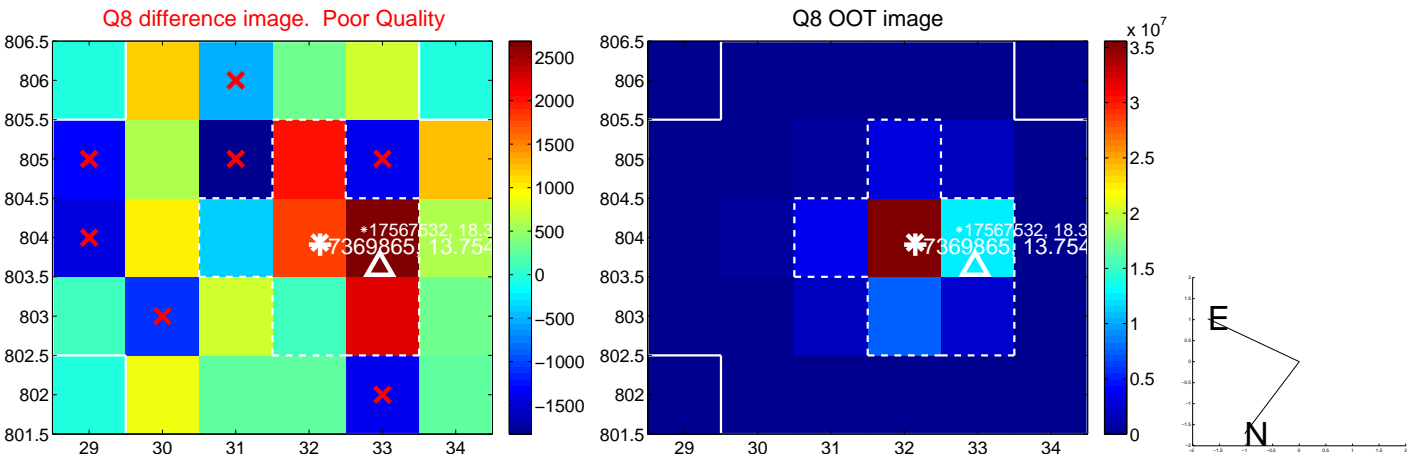
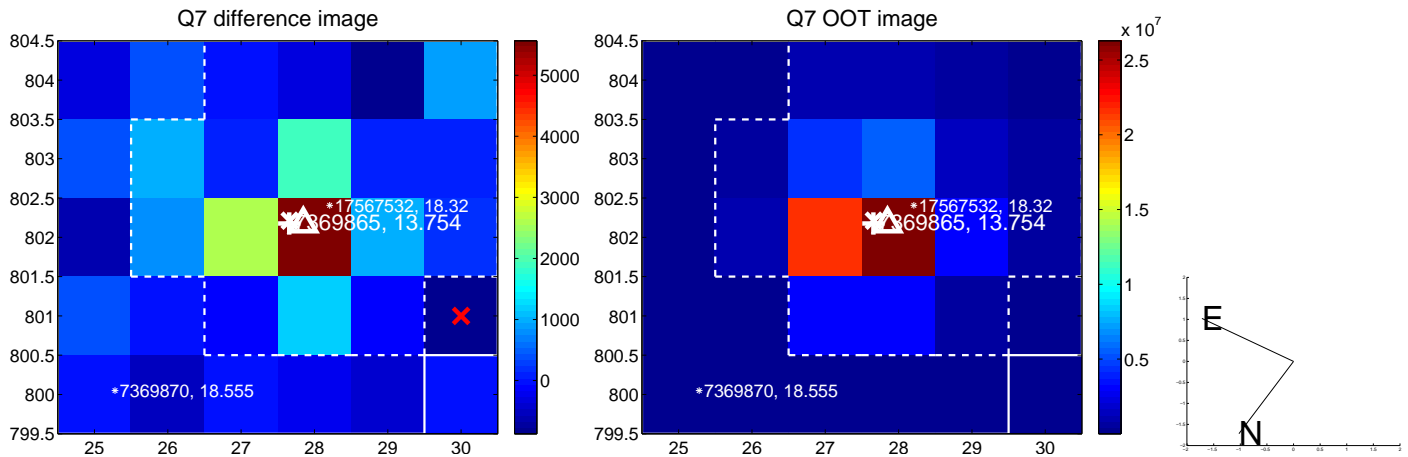
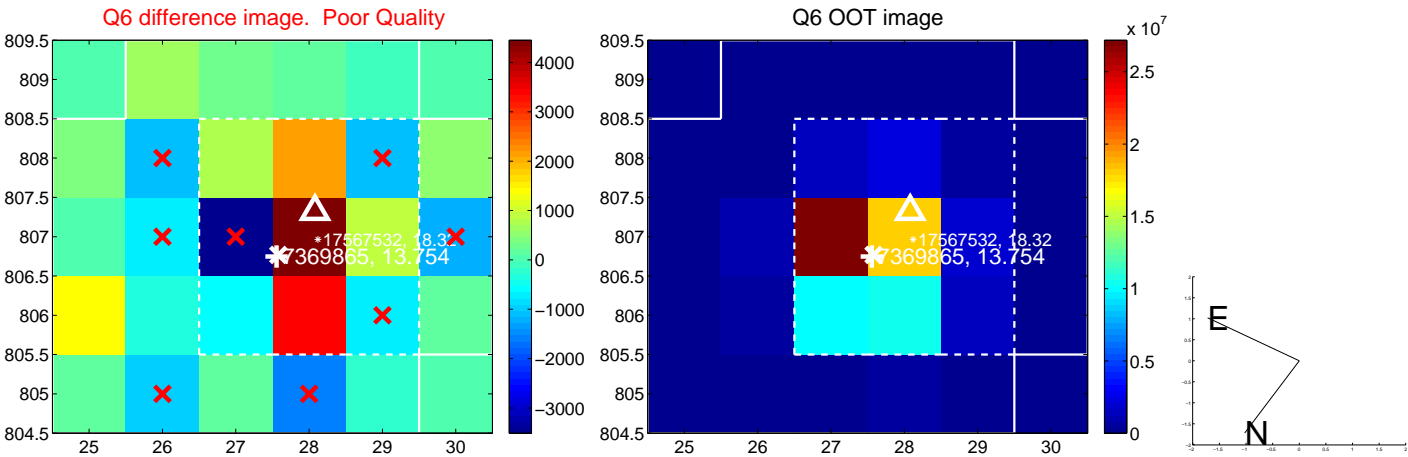
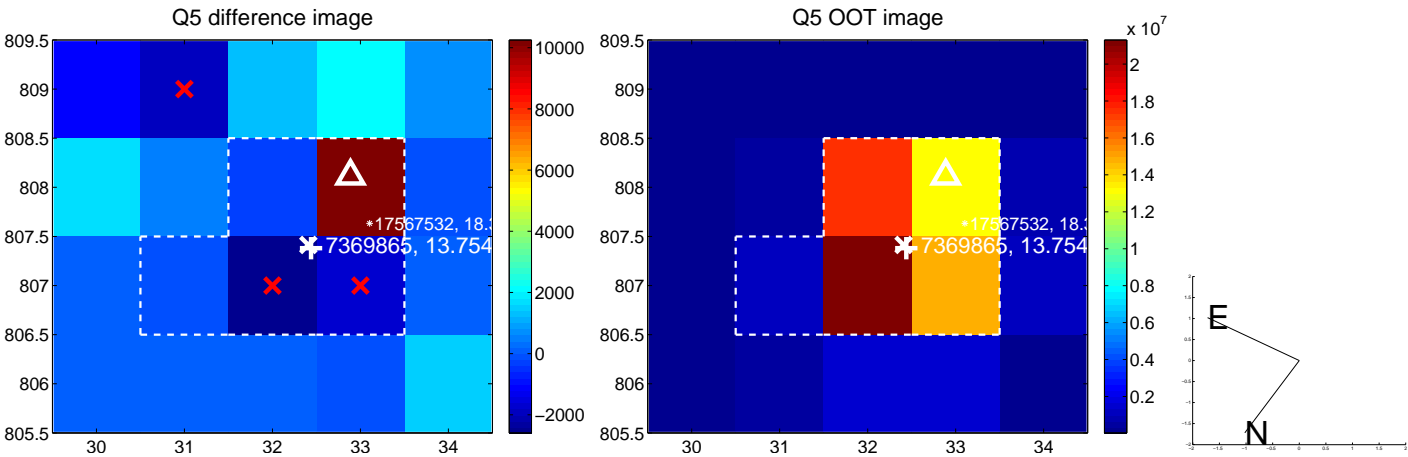


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

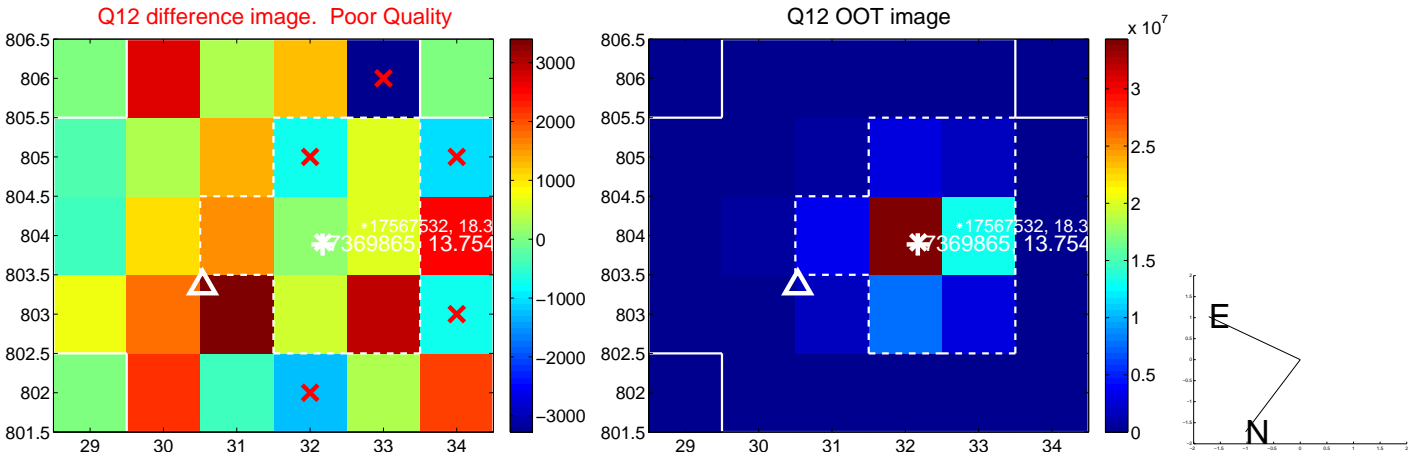
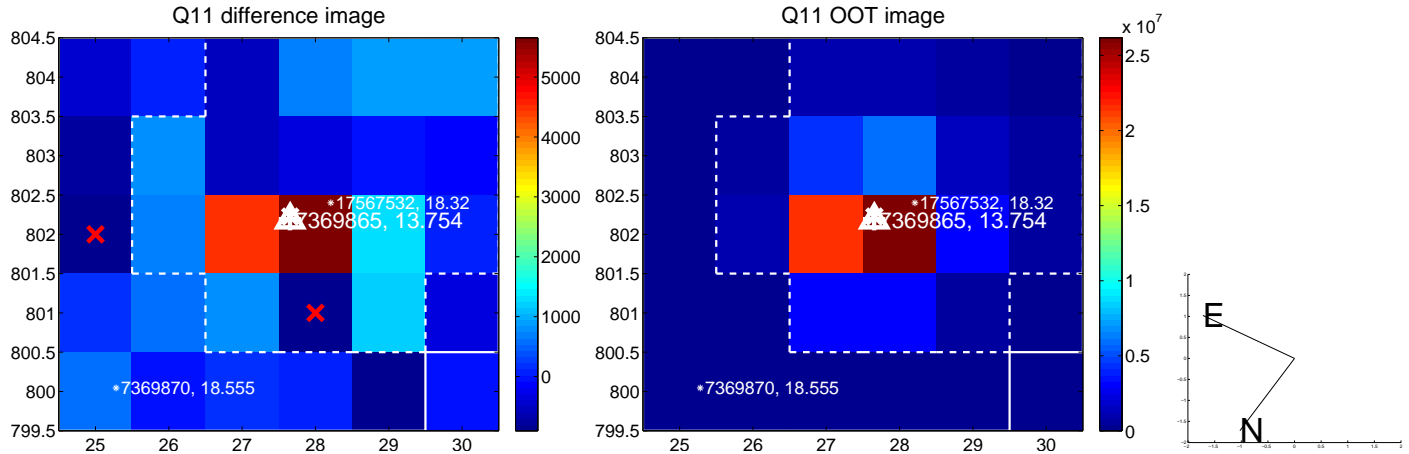
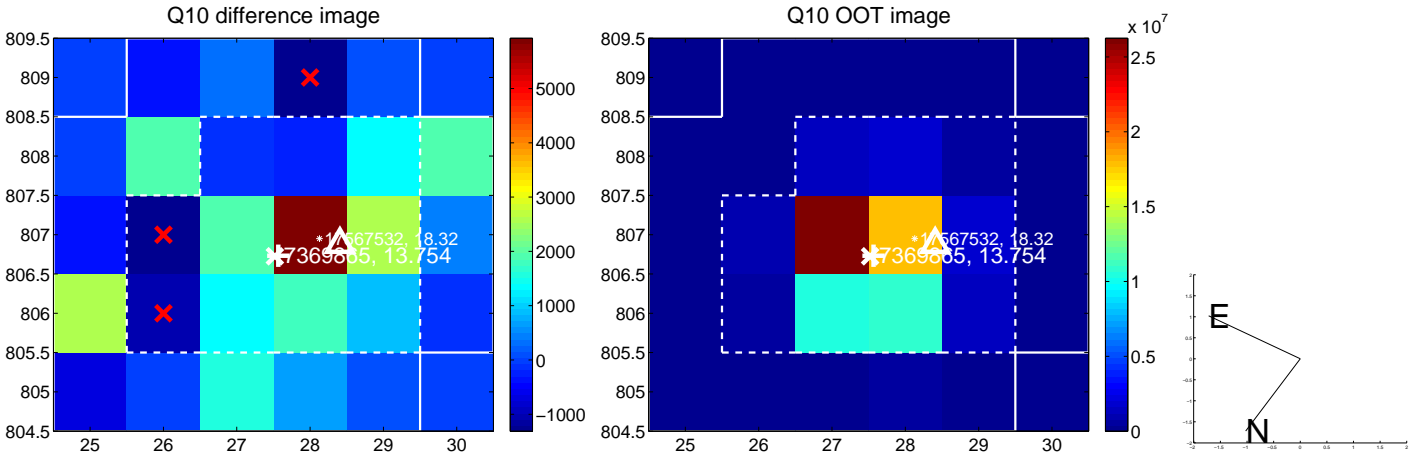
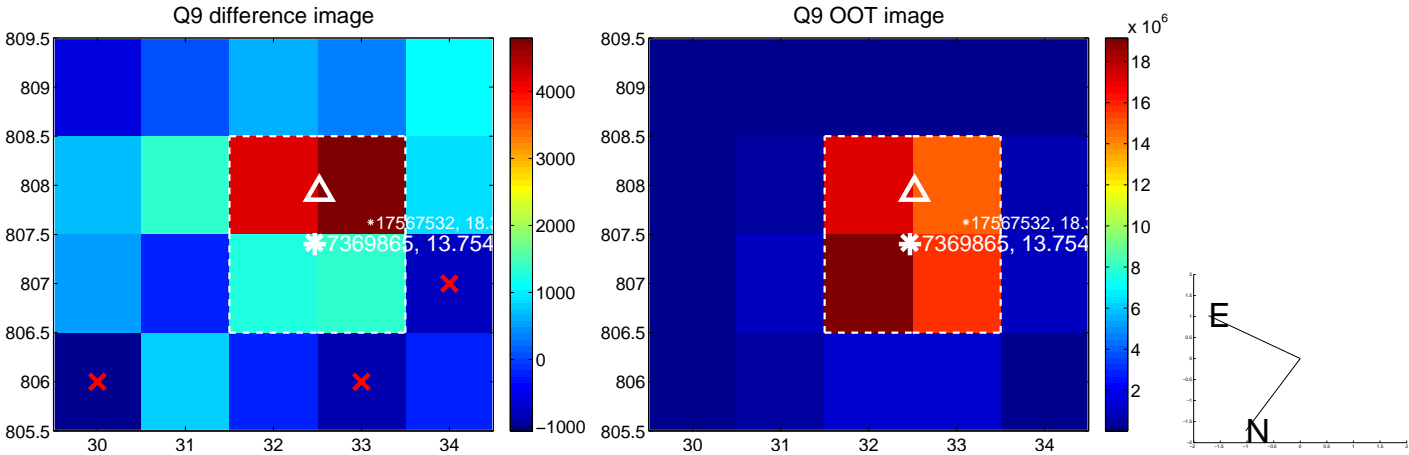
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



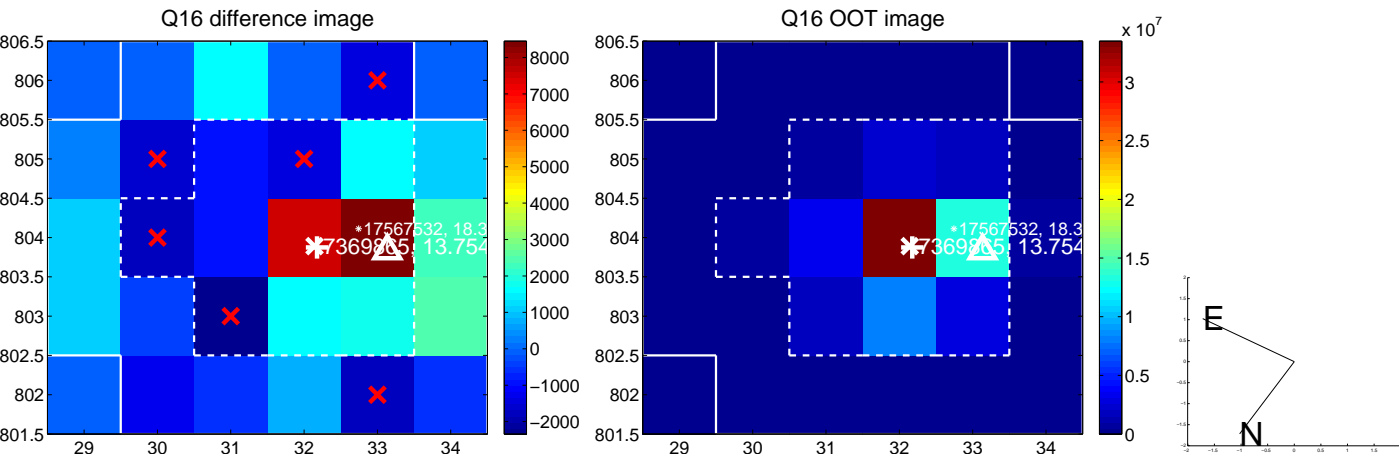
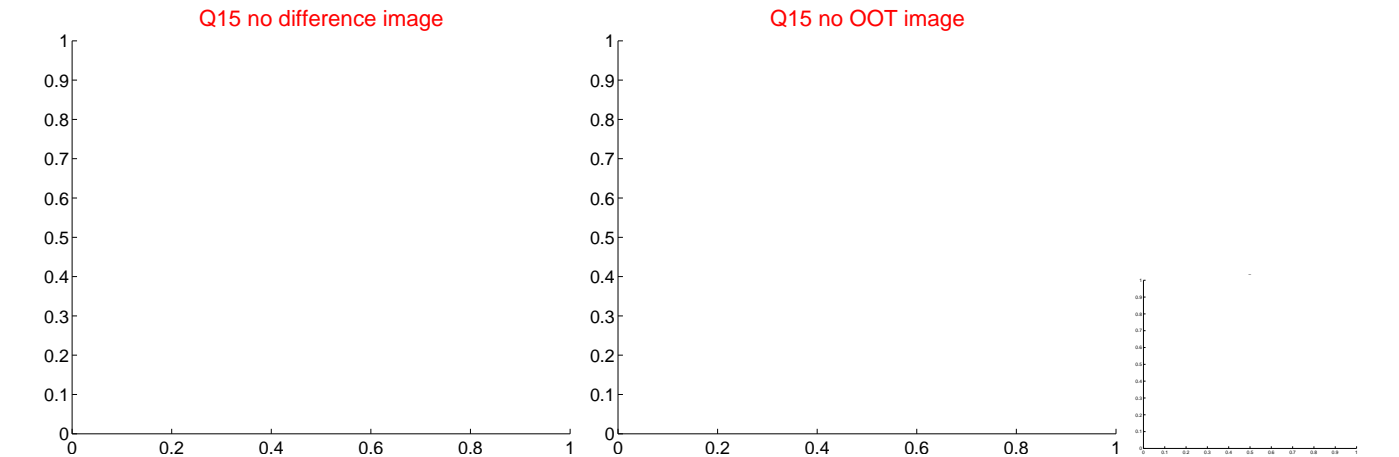
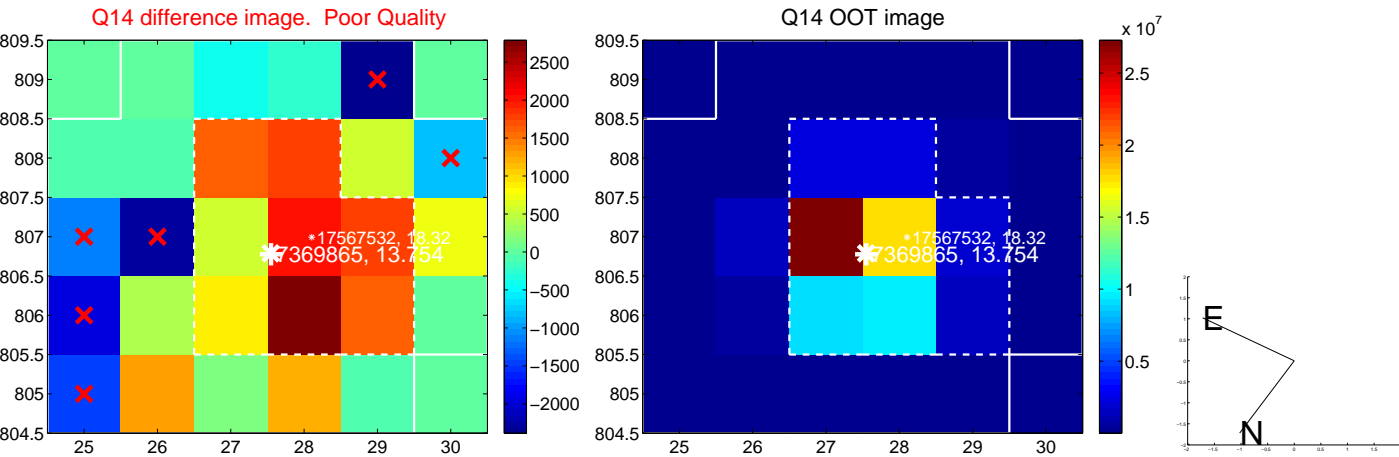
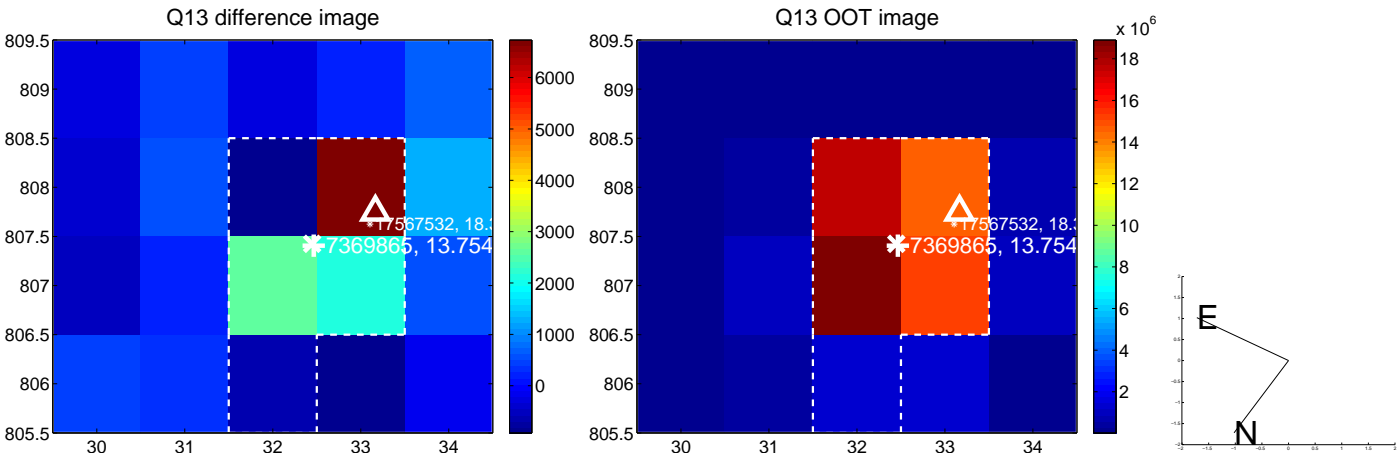
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



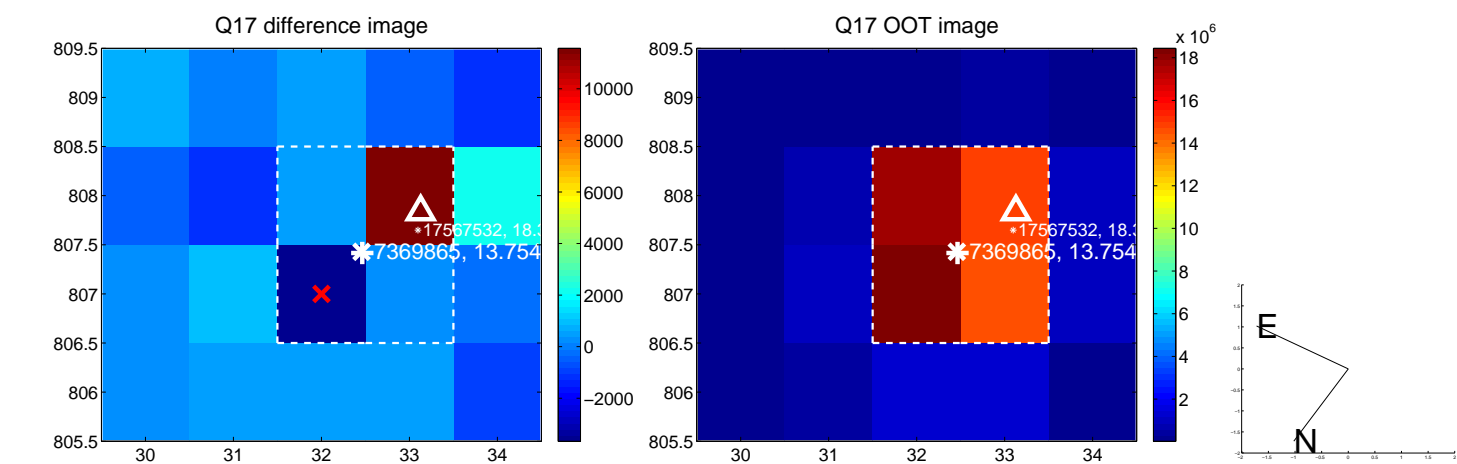
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



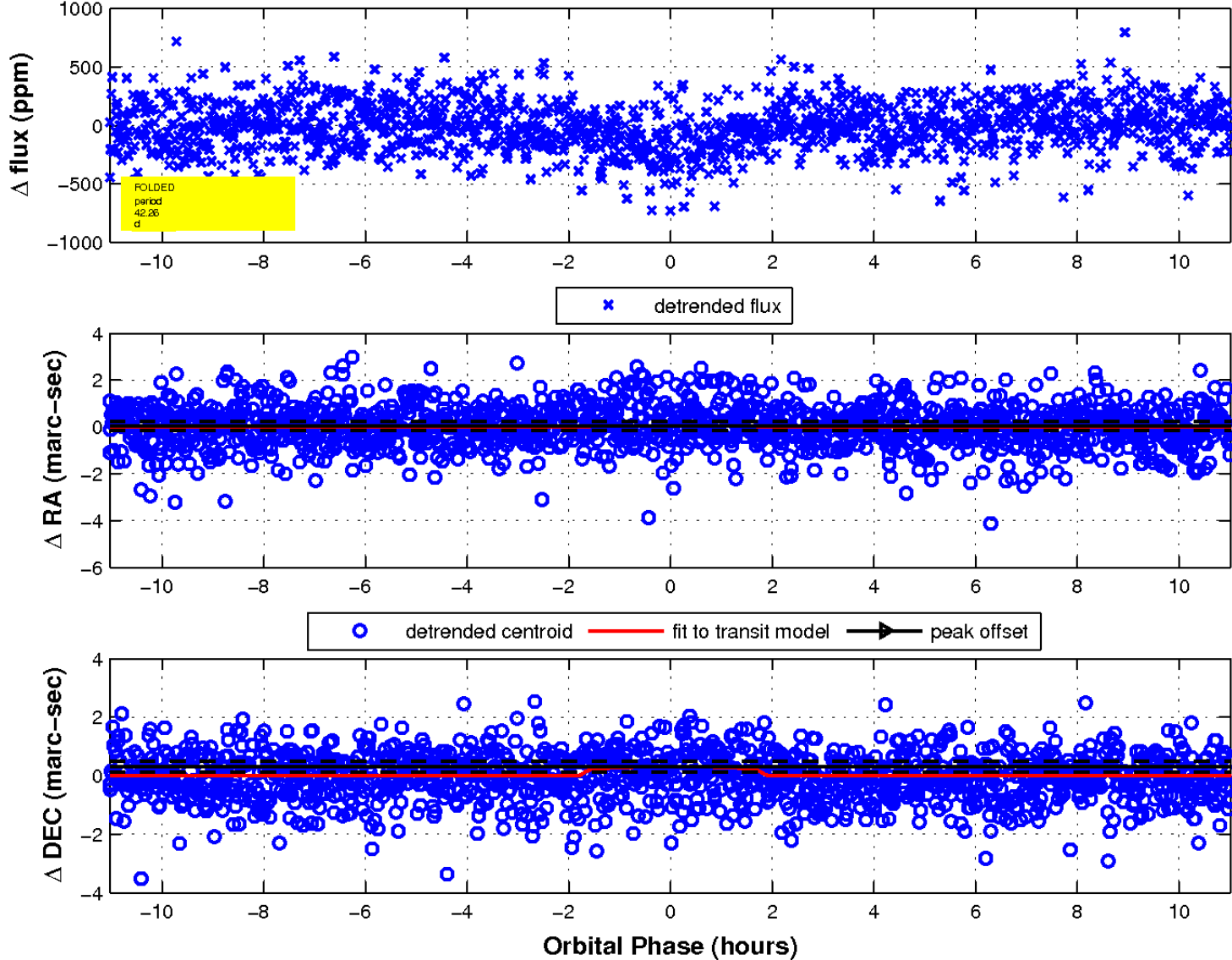
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

