

KIC 006964817

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})
006964817-01	OBS	No	375.142757	365.358602	439.4	2.730	10.5	8.7	2.11	6024	4.59	4.51
006964817-02	OBS	No	25.675397	143.656436	193.2	65.843	10.2	20.8	2.11	6024	4.78	161.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006964817-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006964817-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_RESOLVED_OFFSET

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

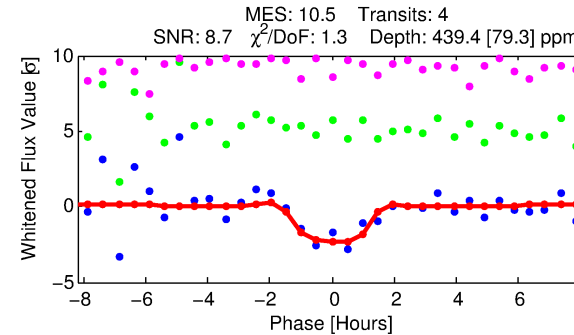
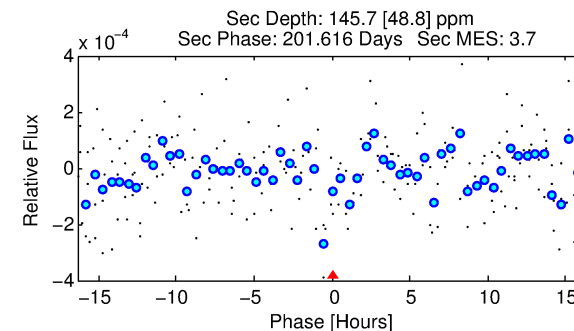
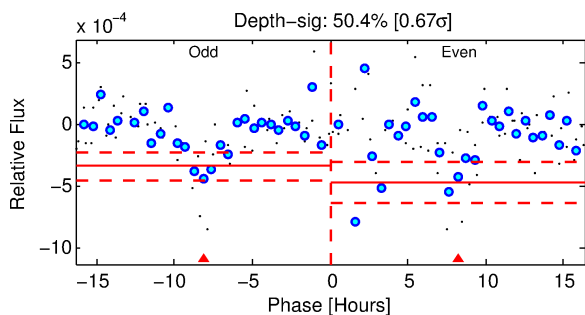
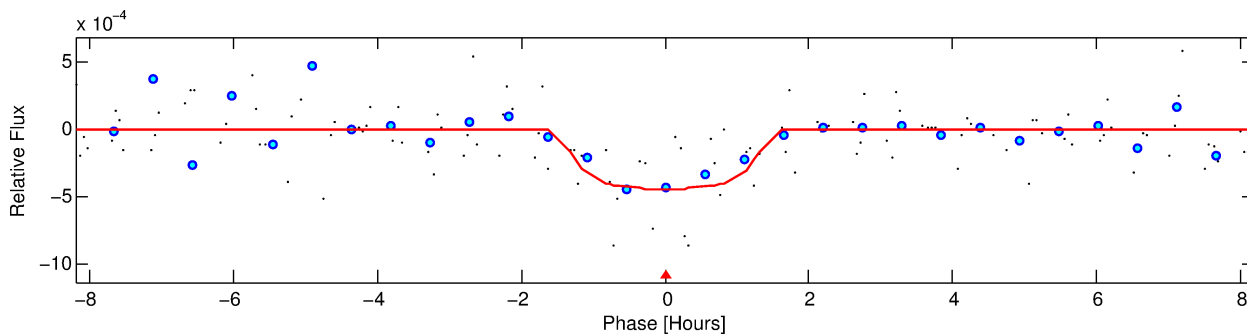
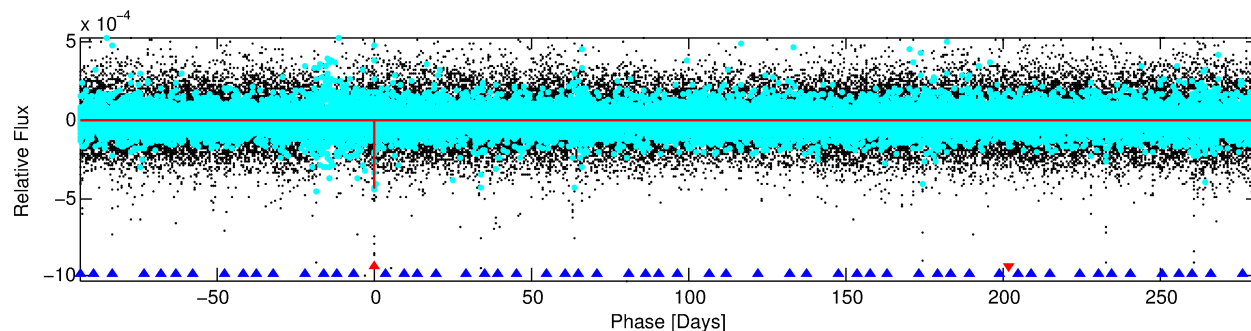
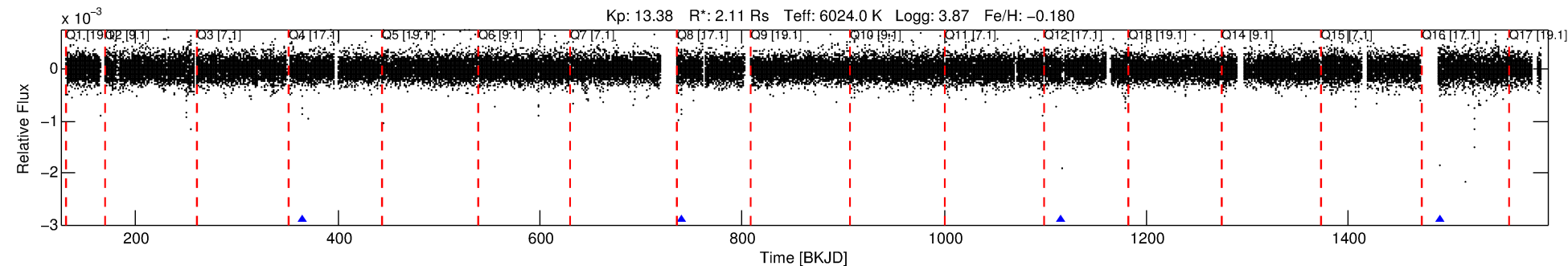
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006964817-01

No Significant Match Found

DV One-Page Summary

KIC: 6964817 Candidate: 1 of 2 Period: 375.143 d



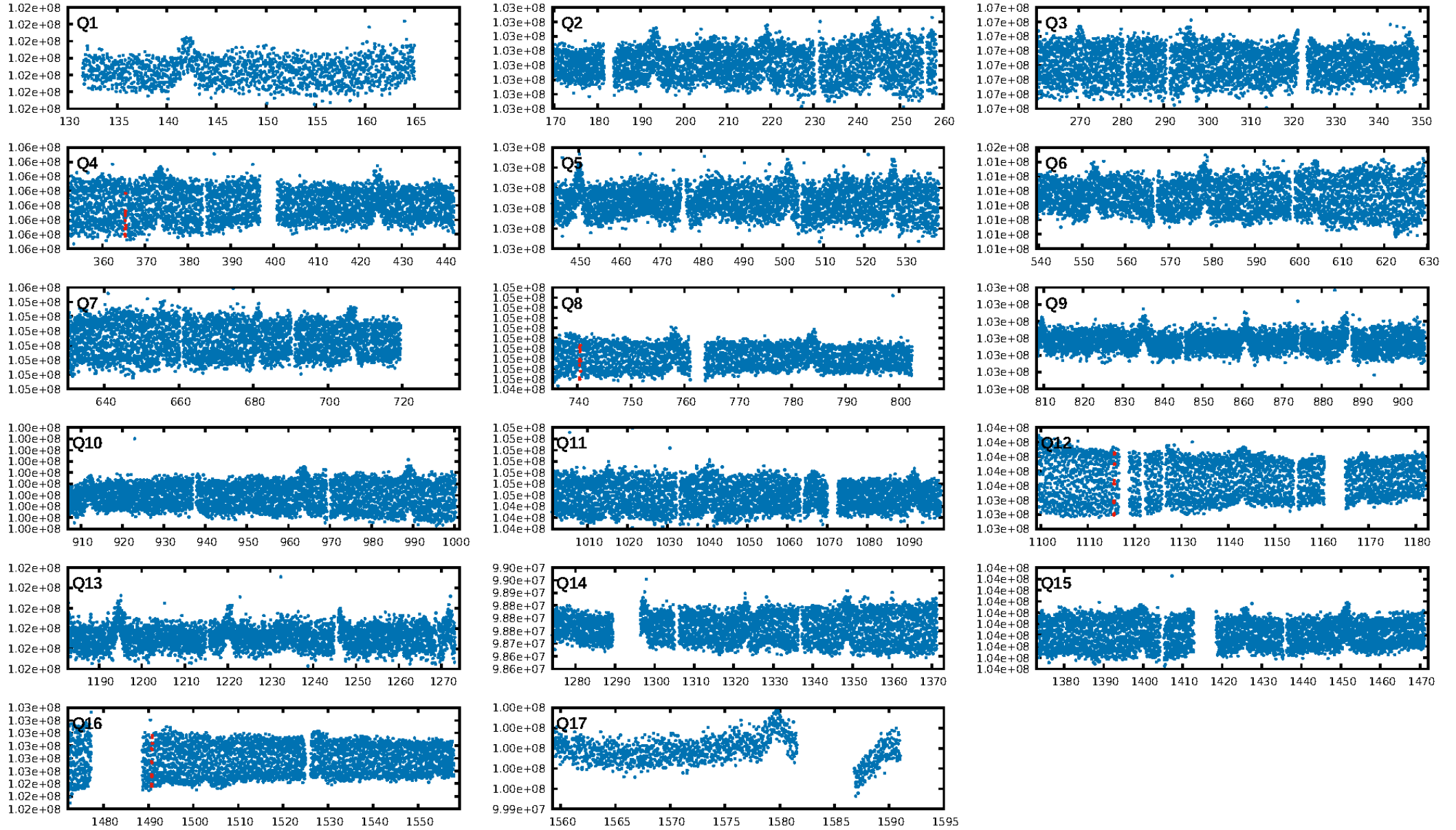
DV Fit Results:

Period = 375.14276 [0.00384] d
Epoch = 365.3586 [0.0077] BKJD
Rp/R* = 0.0200 [0.0517]
a/R* = 897.54 [11189.87]
b = 0.56 [15.70]
Seff = 4.51 [3.83]
Teq = 372 [79] K
Rp = 4.59 [12.10] Re
a = 1.0783 [0.5460] AU
Ag = 4425.84 [23280.27] [0.19 σ]
Teffp = 4686 [6085] K [0.71 σ]

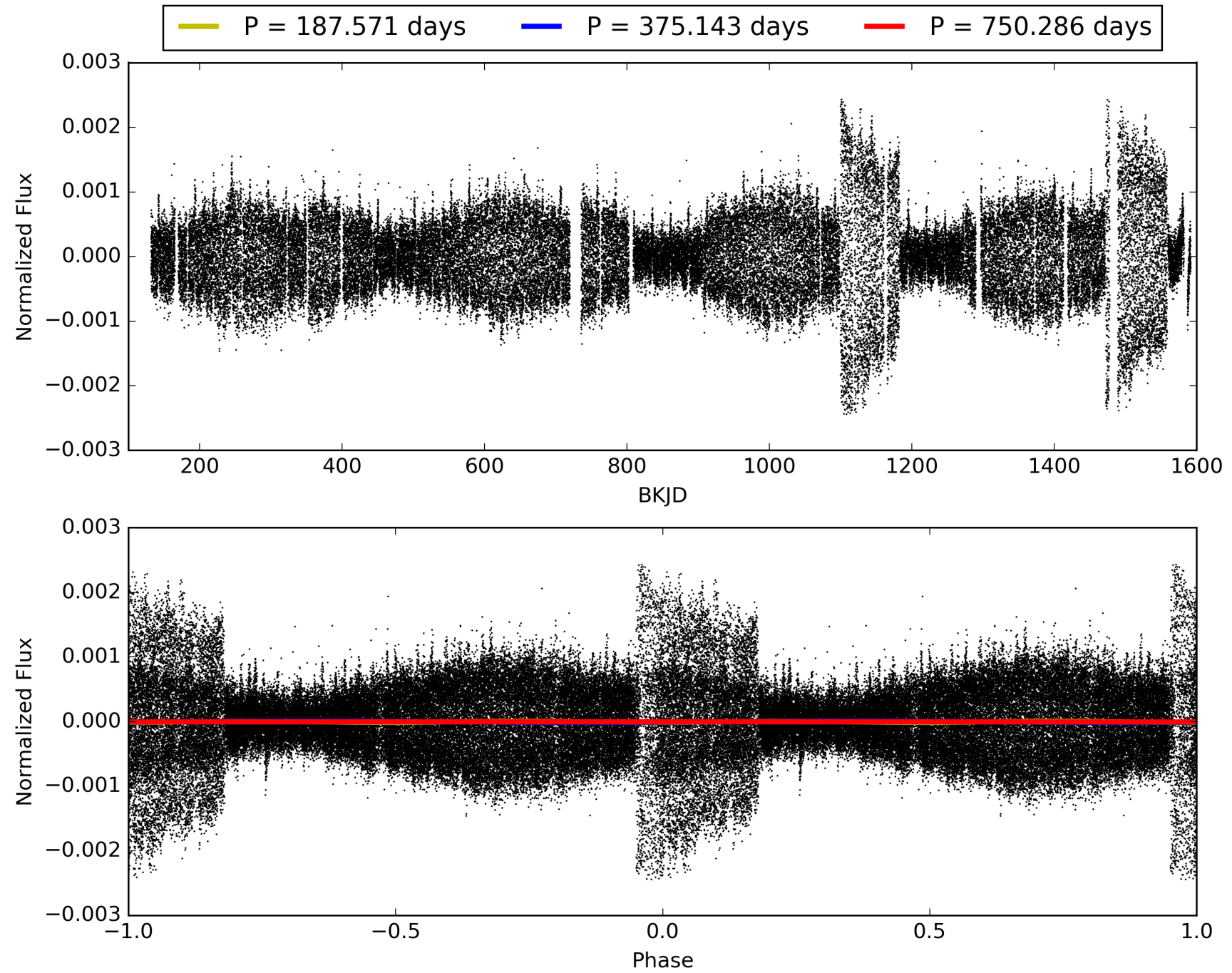
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [127.27 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 39.1%
Bootstrap-pfa: 1.09e-17
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.3825
Centroid-sig: 7.7%
Centroid-so: 2.053 arcsec [0.53 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [4/4]

TCE 006964817-01, PDC Light Curves

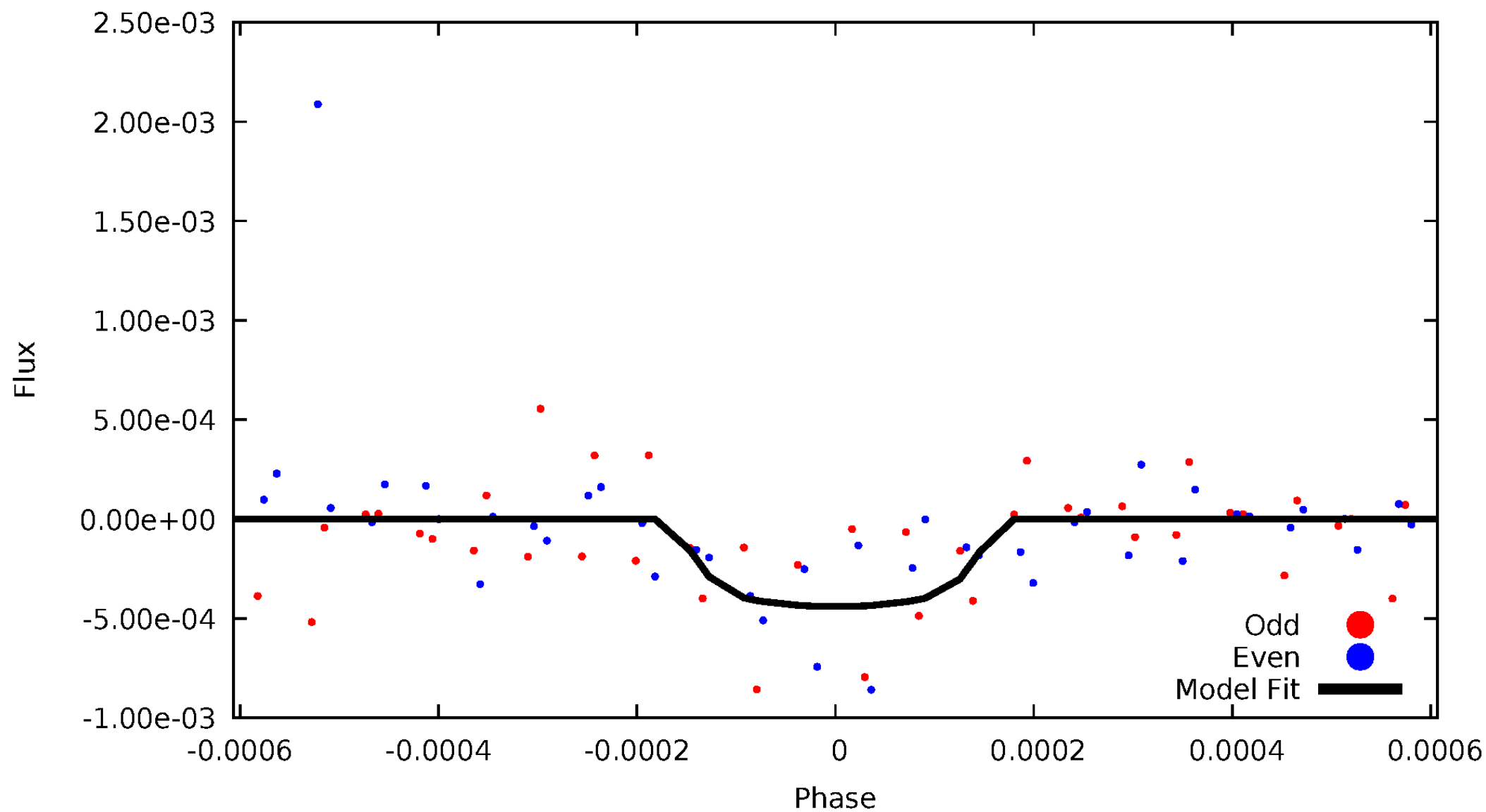


TCE 006964817-01



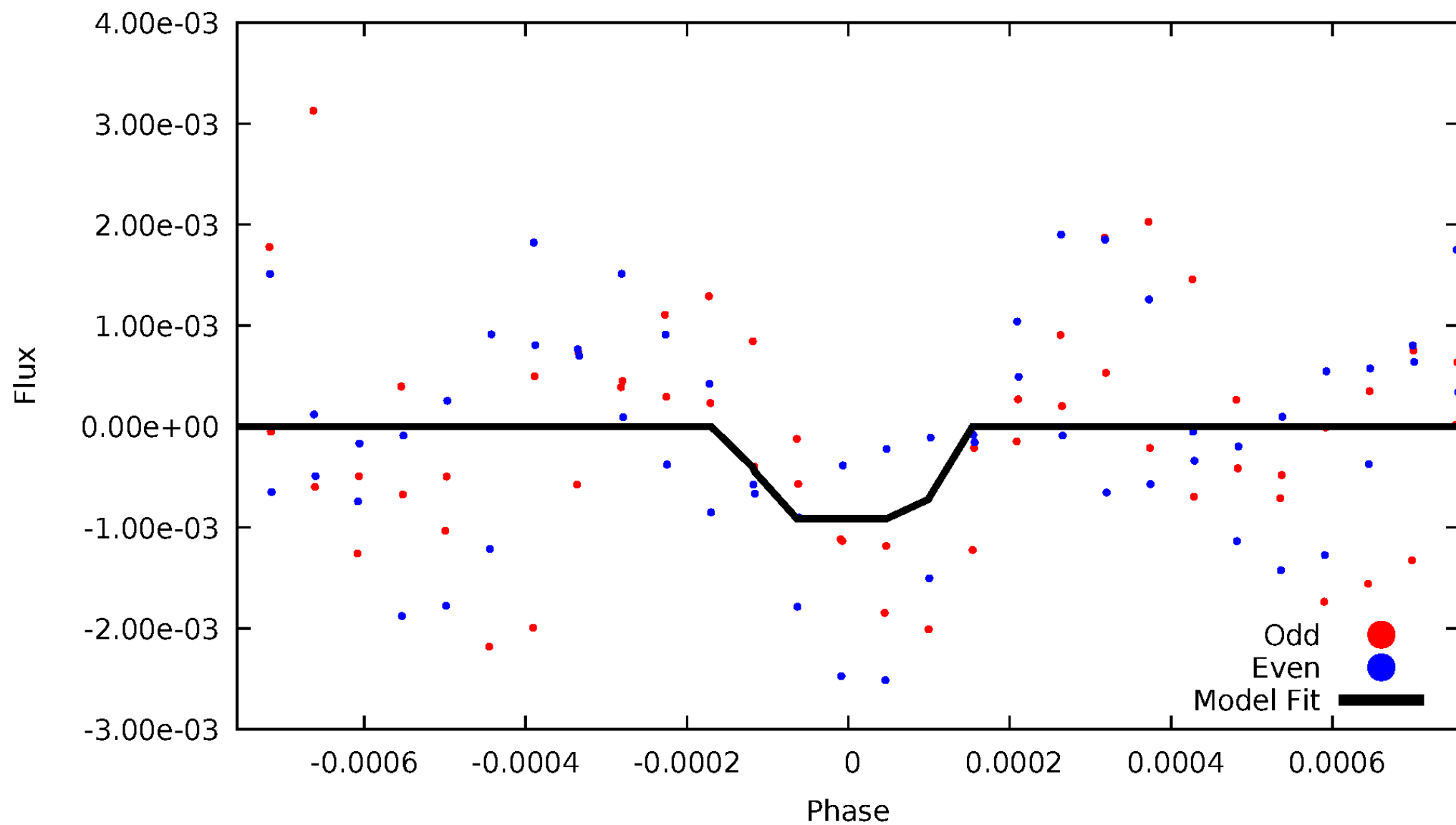
DV Odd/Even

TCE 006964817-01

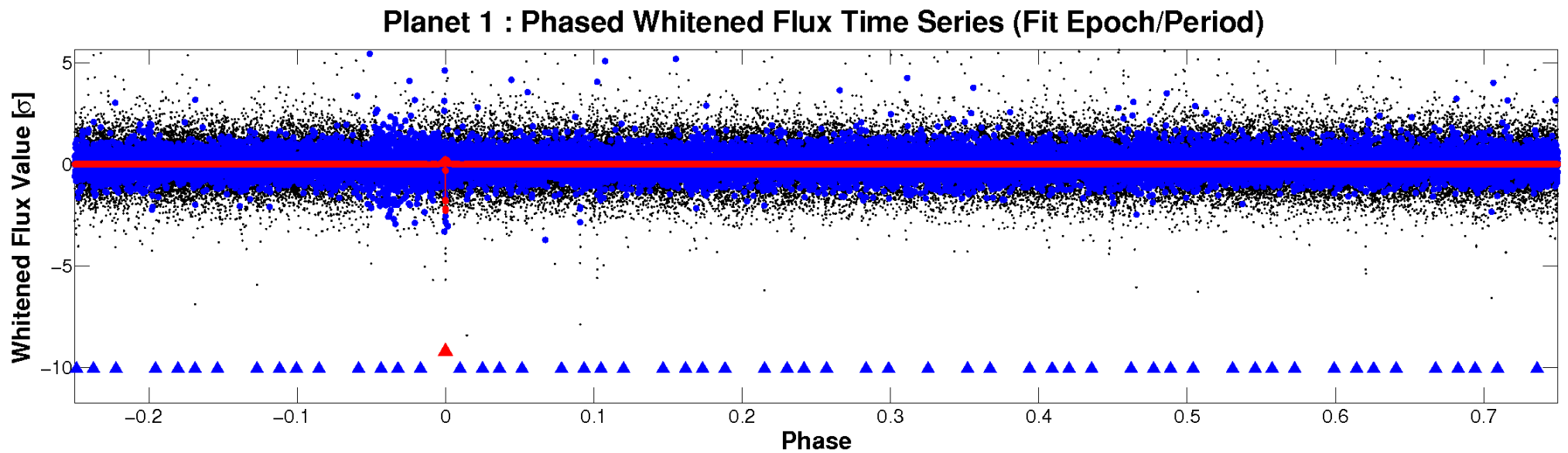
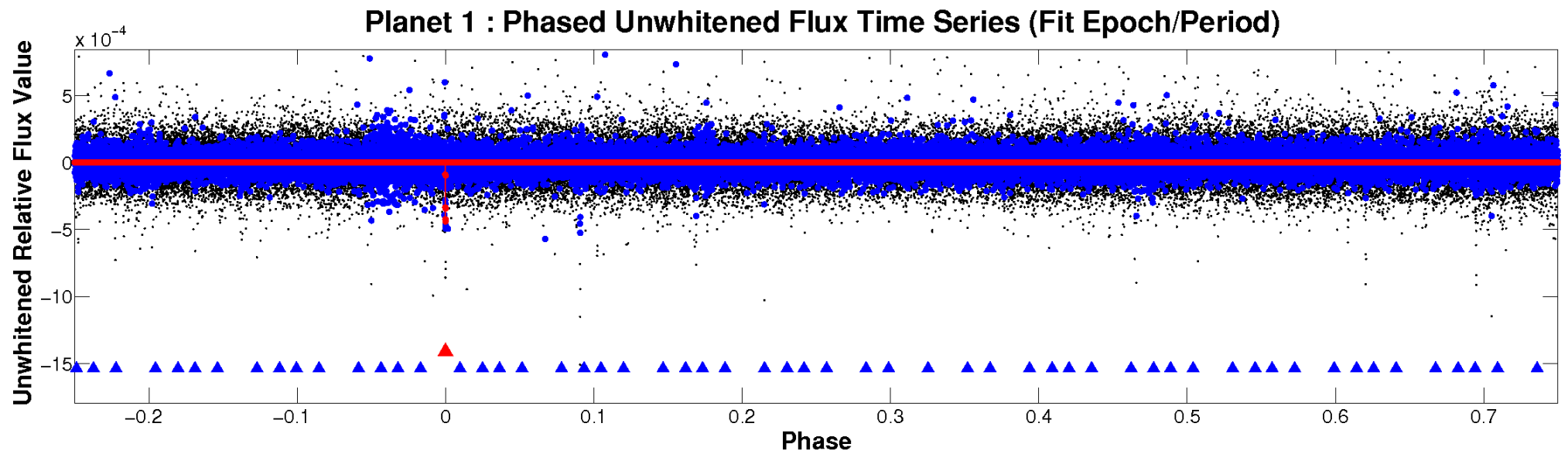


ALT Odd/Even

TCE 006964817-01

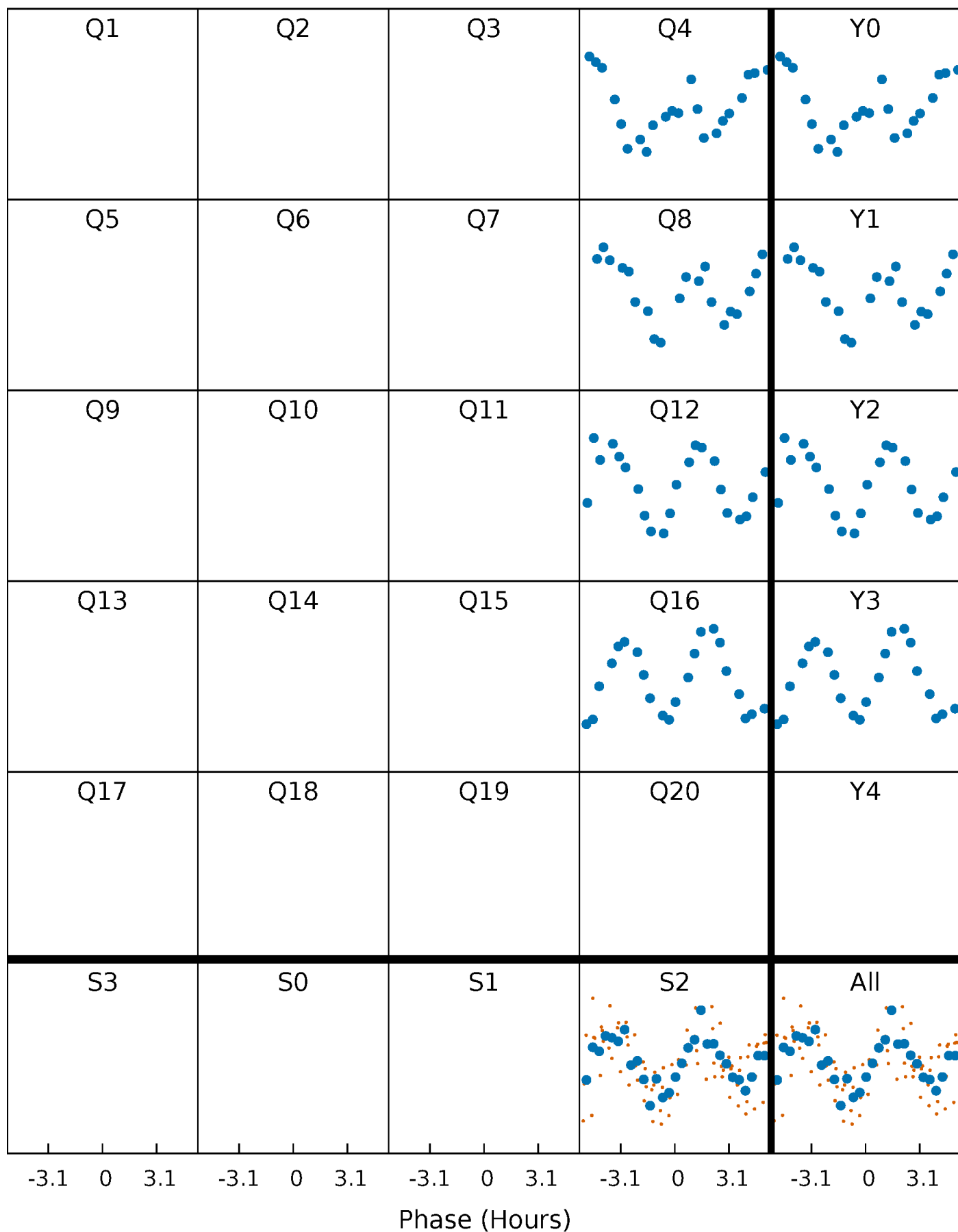


Non-Whitened Vs. Whitened Light Curve



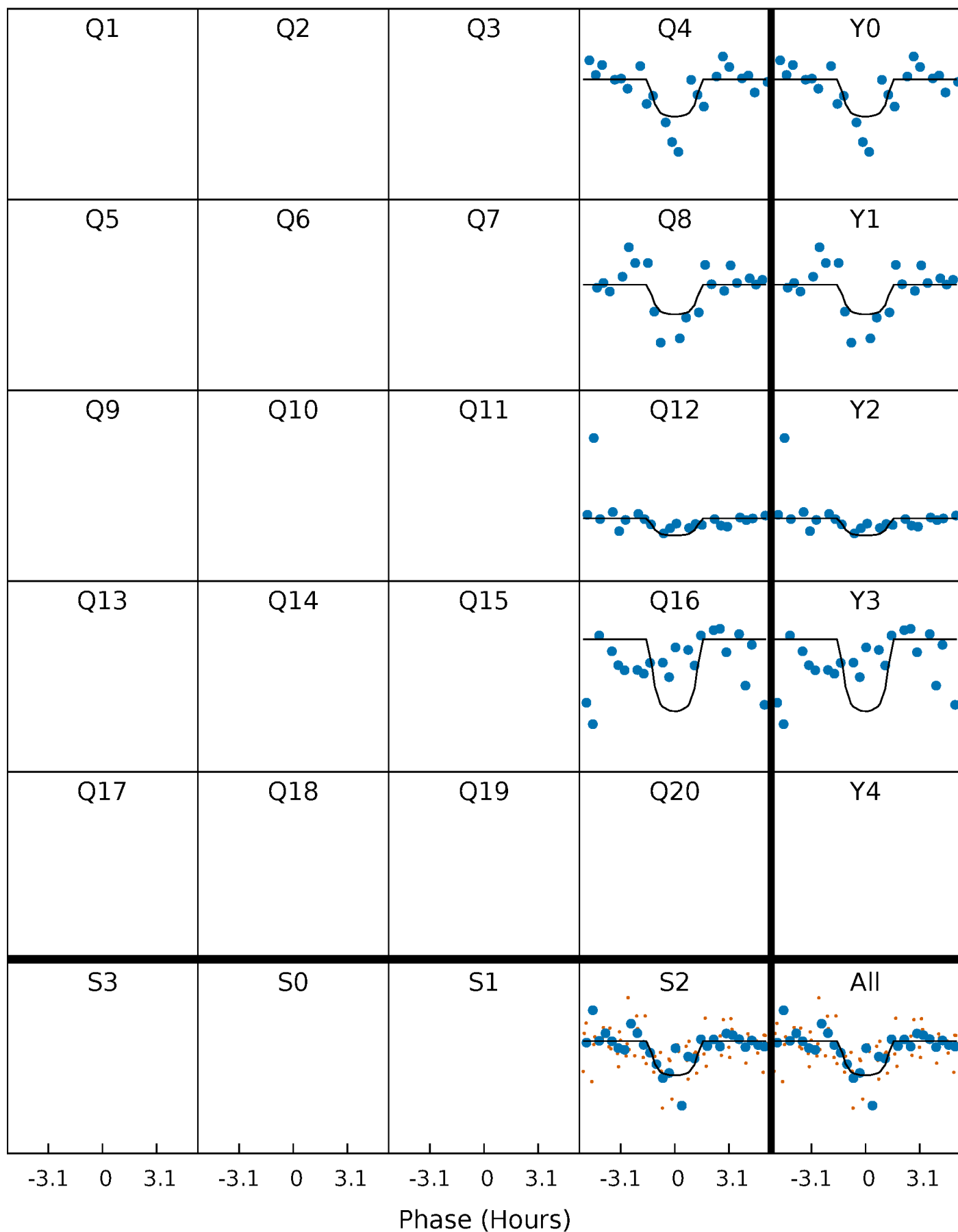
PDC Quarter-Phased Transit Curves

TCE 006964817-01 P=375.142757 Days $T_0=365.358602$ (BKJD)



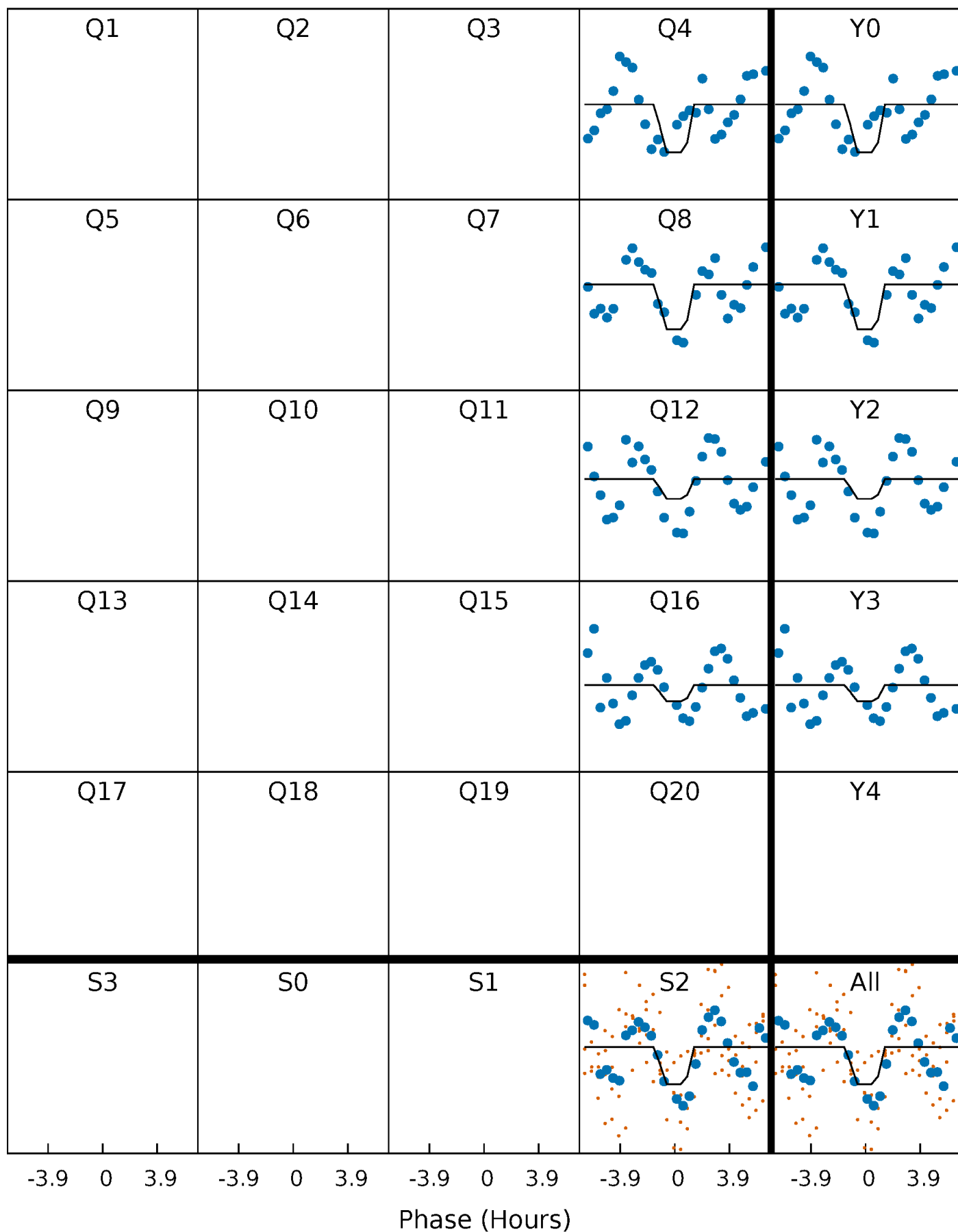
DV Quarter-Phased Transit Curves

TCE 006964817-01 P=375.142757 Days $T_0=365.358602$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

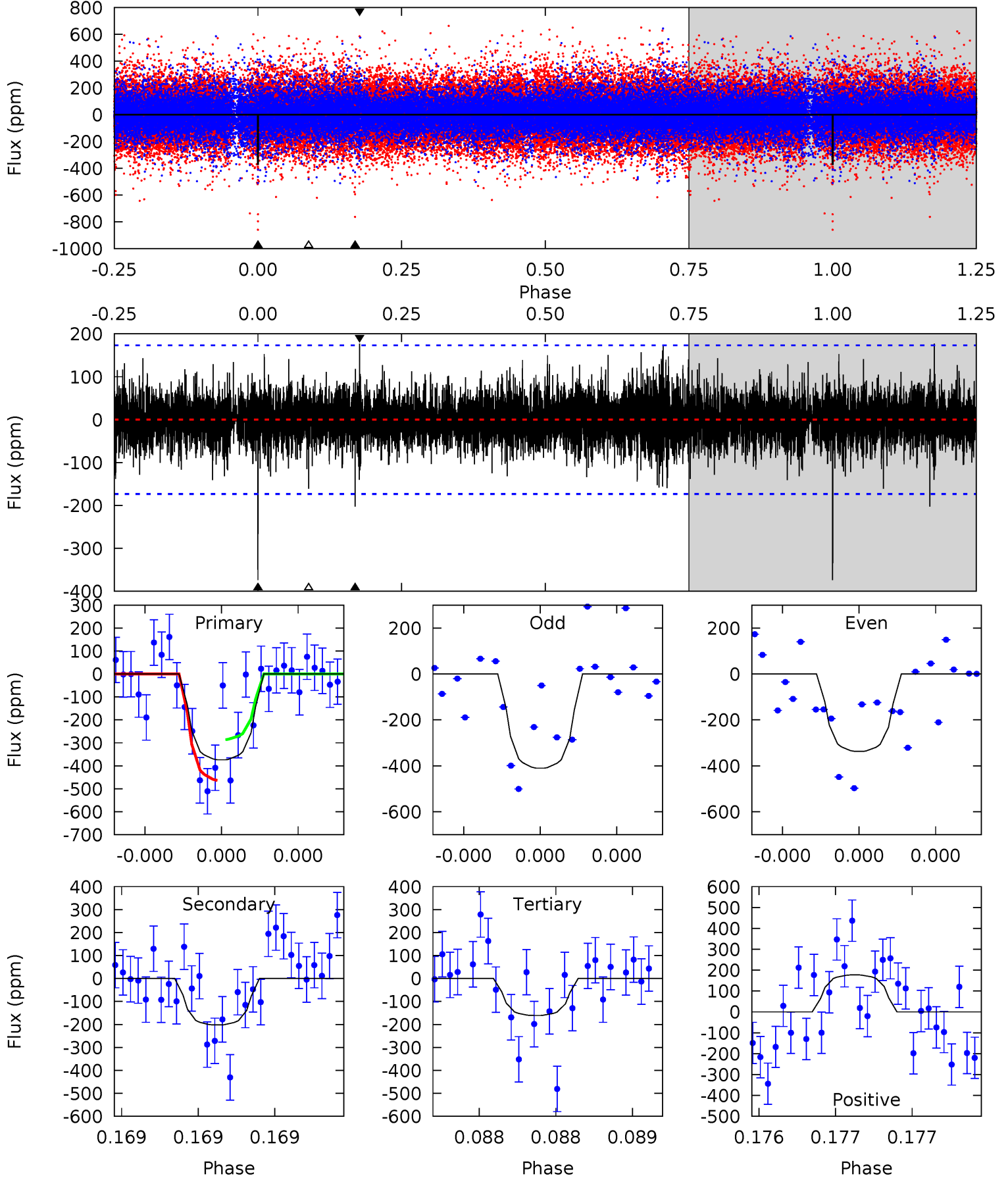
TCE 006964817-01 P=375.140689 Days $T_0=365.313339$ (BKJD)



DV Model-Shift Uniqueness Test

006964817-01, P = 375.142757 Days, E = 365.358602 Days

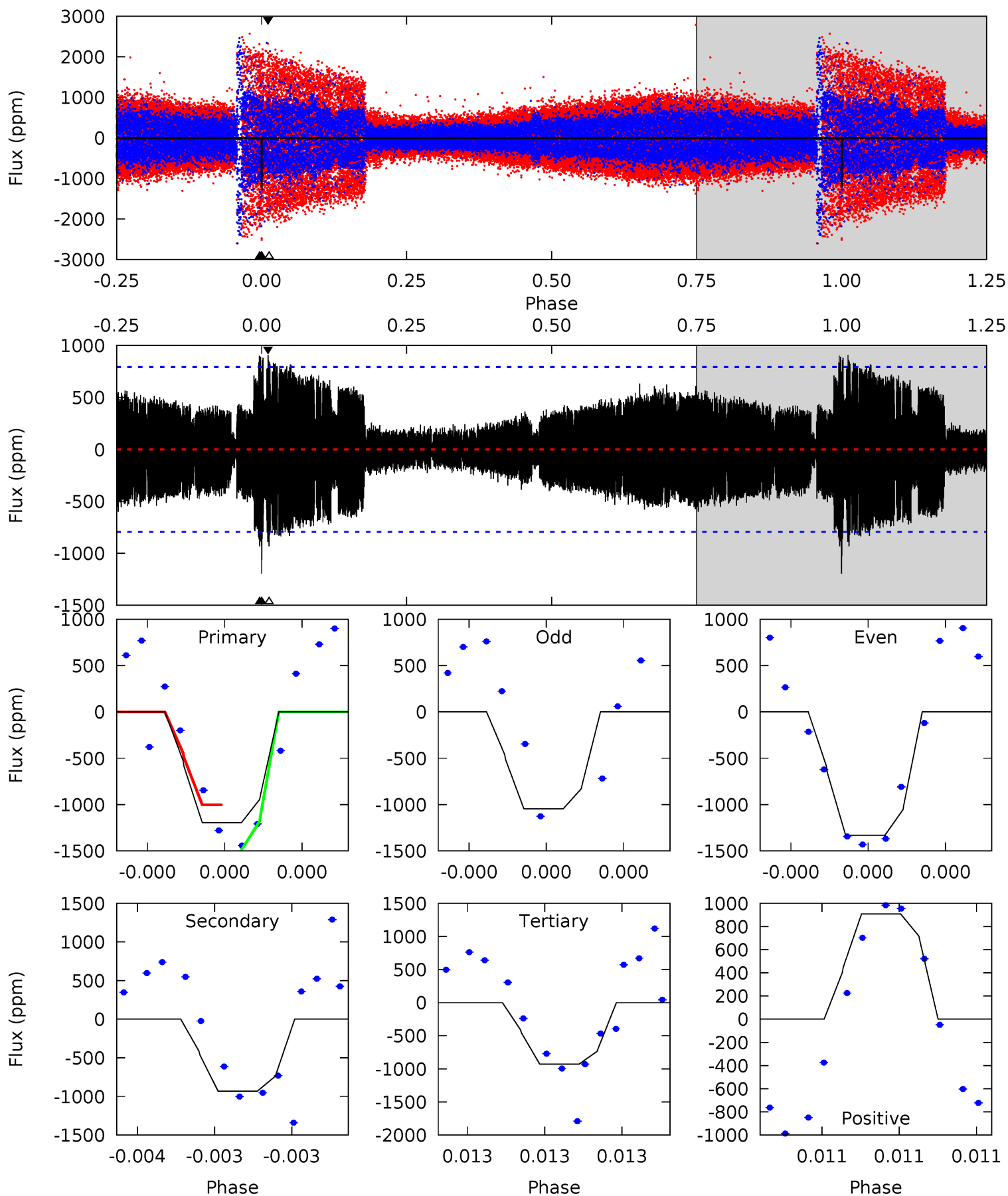
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	6.59	5.25	5.77	5.65	3.59	1.29	6.93	6.41	1.34	0.82	1.18	1.07	0.32	2.90



Alt Model-Shift Uniqueness Test

006964817-01, P = 375.140689 Days, E = 365.313339 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.60	6.71	6.70	6.54	5.71	3.70	1.92	1.91	2.07	0.02	0.18	1.03	1.14	0.43	1.70



Stellar Parameters For KIC 006964817

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6024^{+201}_{-183}	$3.865^{+0.504}_{-0.126}$	$-0.180^{+0.300}_{-0.300}$	$2.108^{+0.443}_{-1.033}$	$1.188^{+0.180}_{-0.247}$	$0.179^{+0.936}_{-0.066}$
	+3%/-3%	+13%/-3%	+167%/-167%	+21%/-49%	+15%/-21%	+523%/-37%
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 006964817-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-202 ± 31	$9.59^{+8.70}_{-6.70}$	507^{+41}_{-61}	3785^{+2263}_{-717}	1457^{+13731}_{-1086}
Alt.	-932 ± 139	$9.30^{+10.84}_{-6.45}$	503^{+42}_{-71}	4962^{+4056}_{-1100}	6887^{+63364}_{-5346}

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

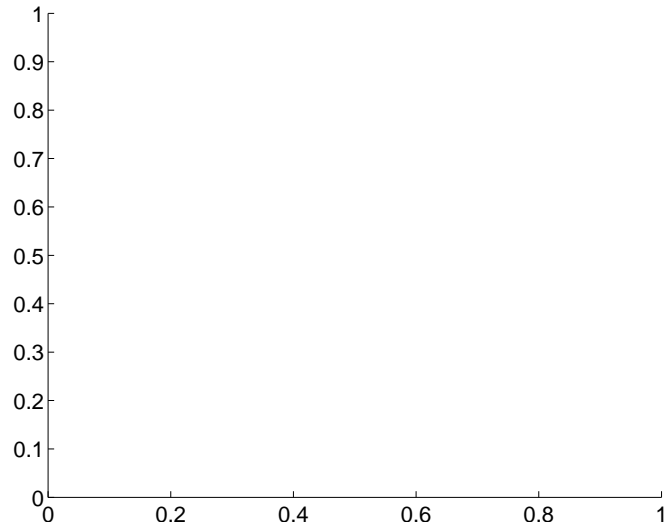
Supplemental centroid analysis for 006964817-01. Kepler magnitude: 13.38. Transit SNR 8.74

There are 0 quarters with good PRF difference image offsets

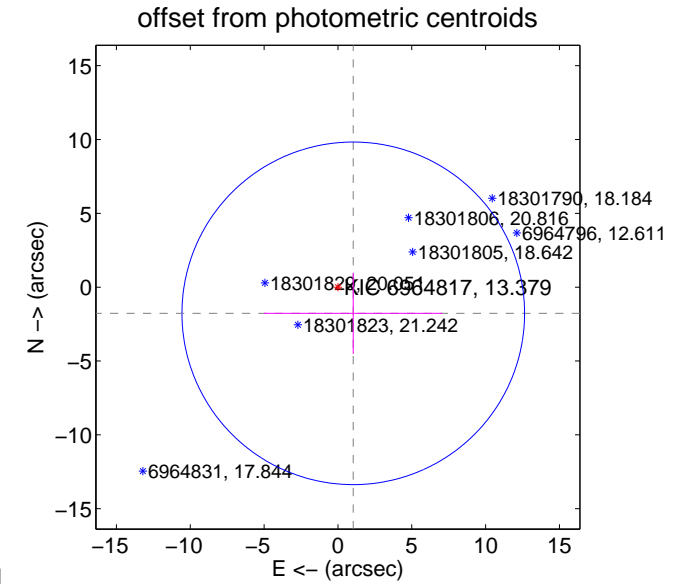
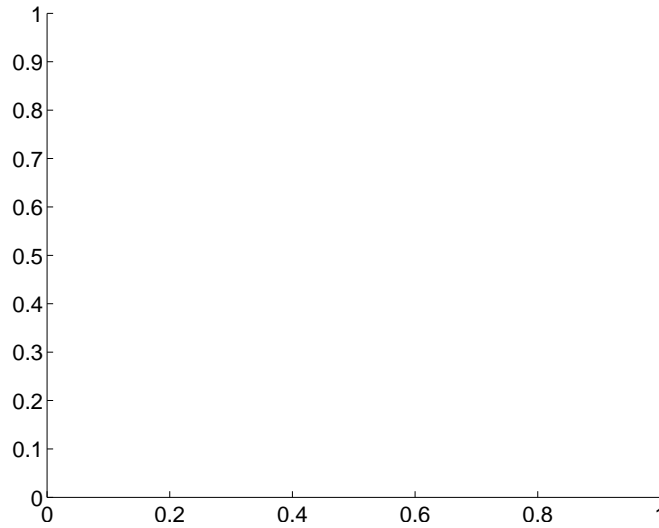
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	2.05 ± 3.87	0.53	-1.04 ± 6.04	-1.77 ± 2.75

There is no PRF-fit offset from OOT-fit

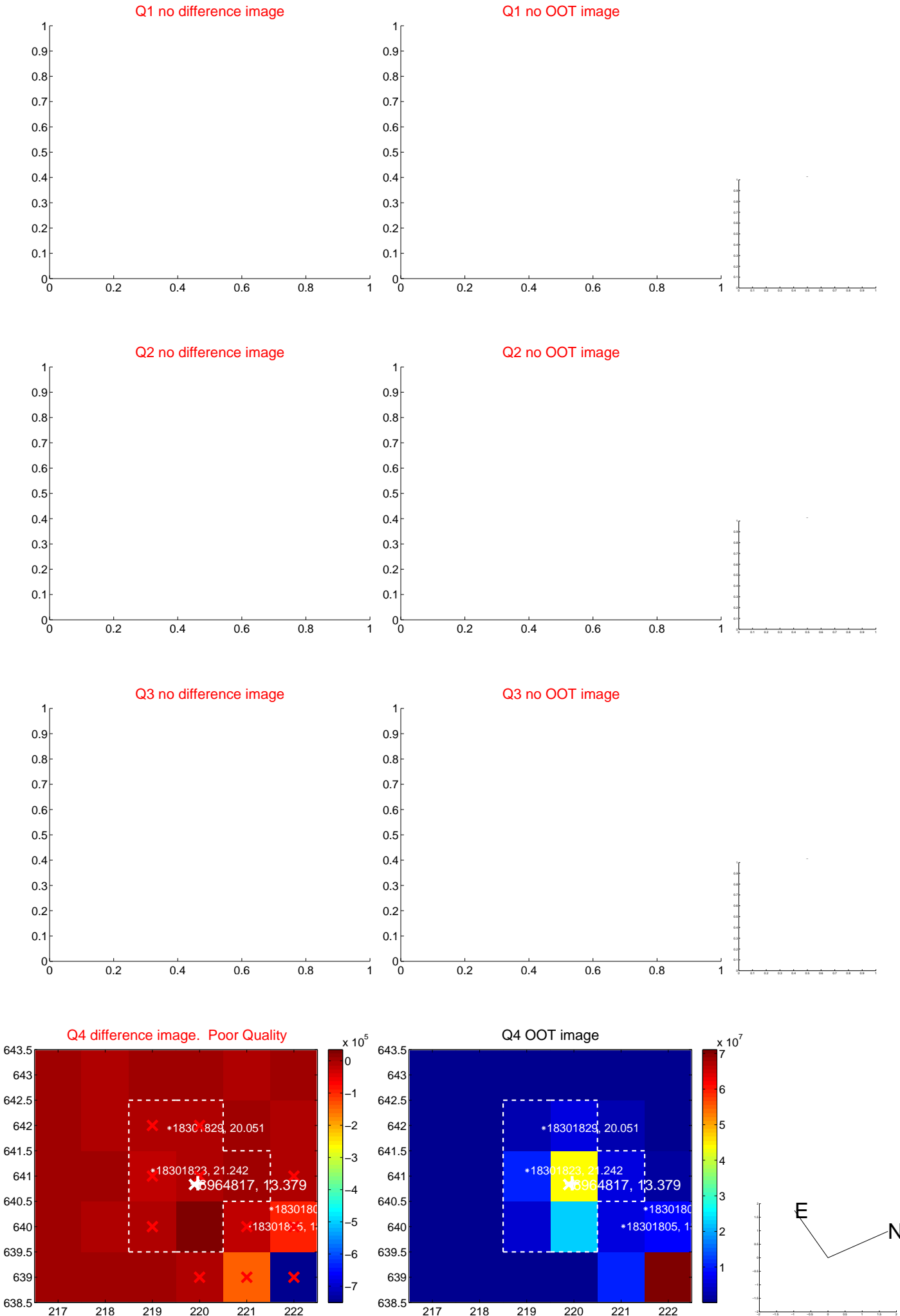


There is no PRF-fit offset from KIC

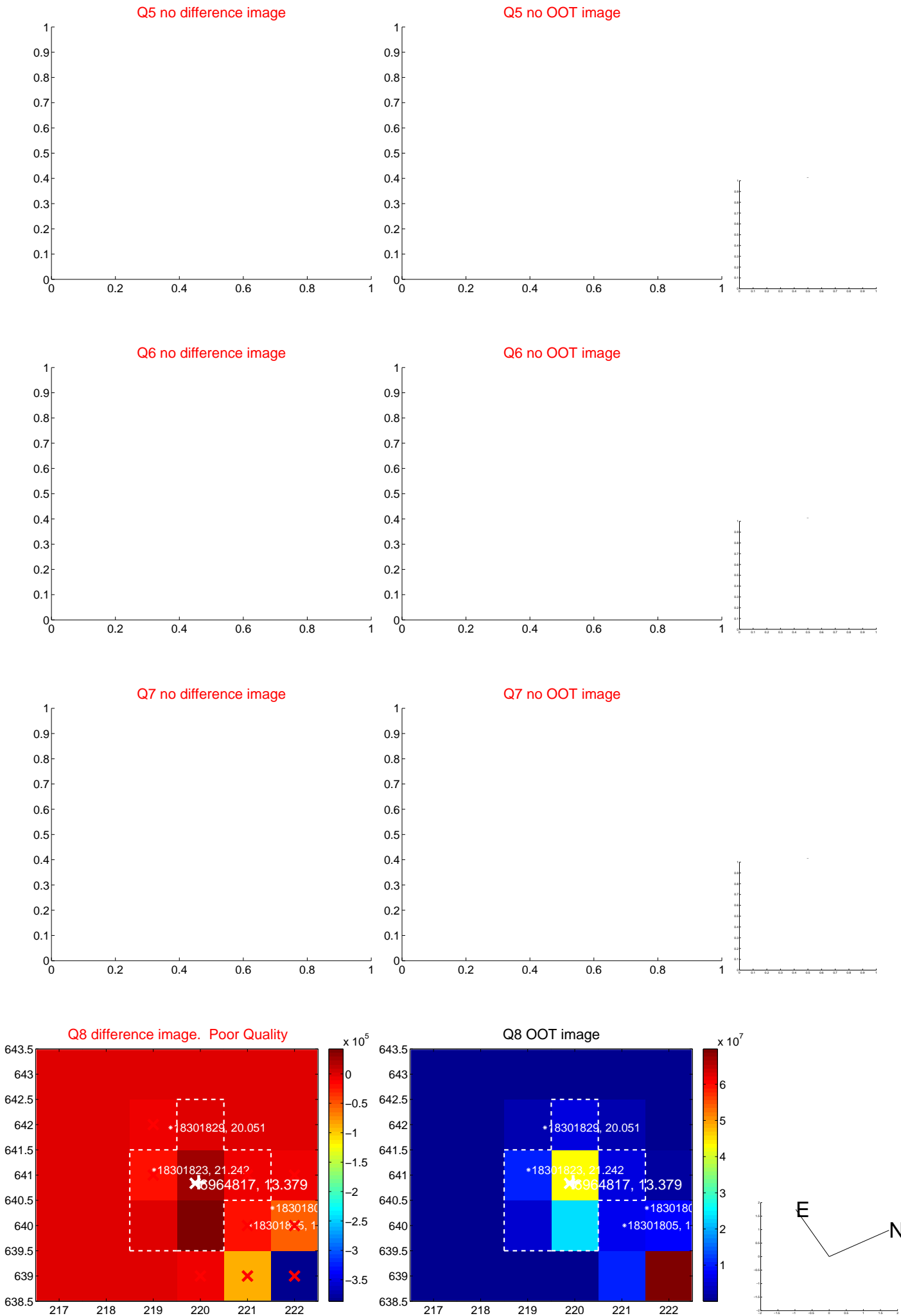


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

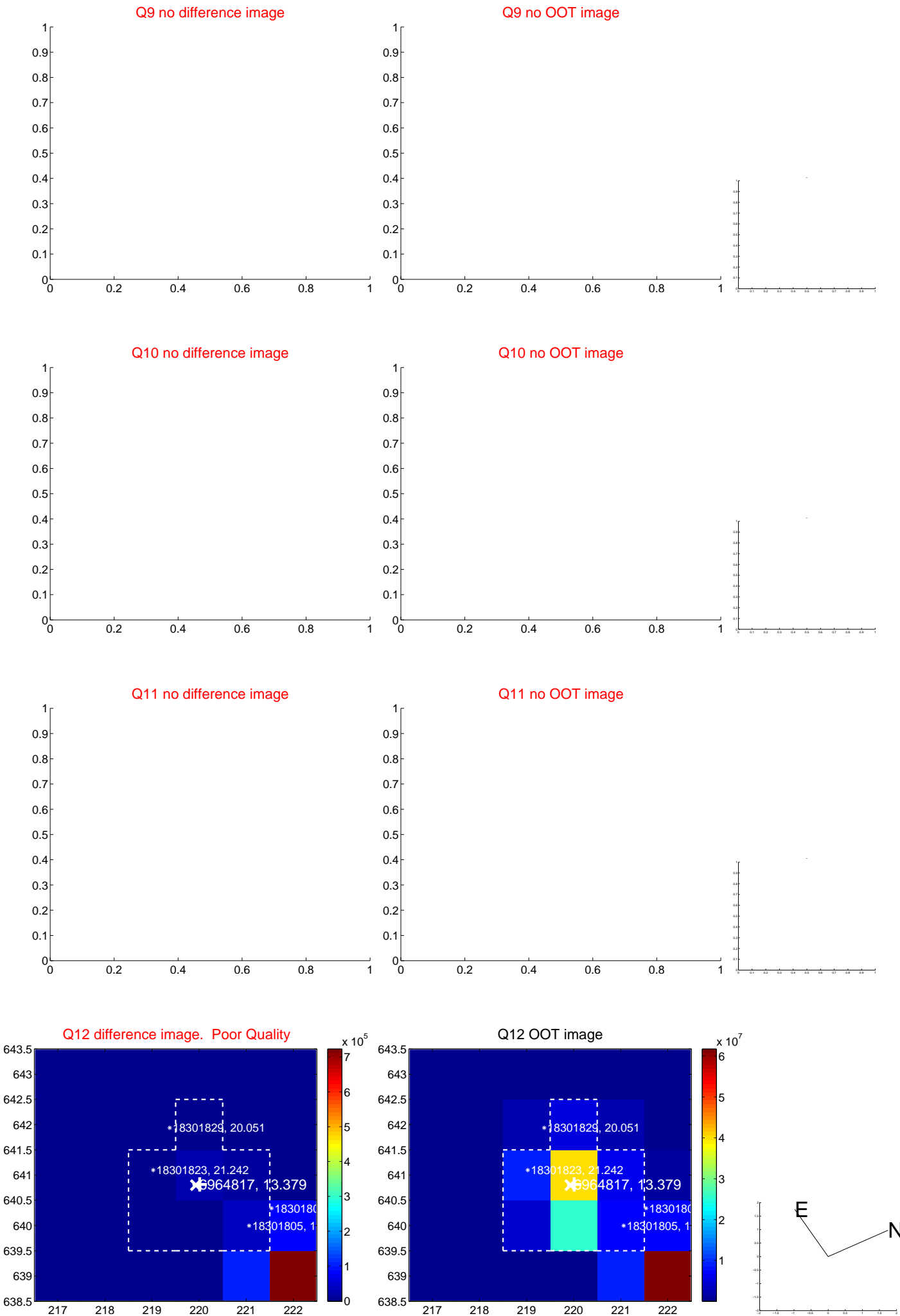
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



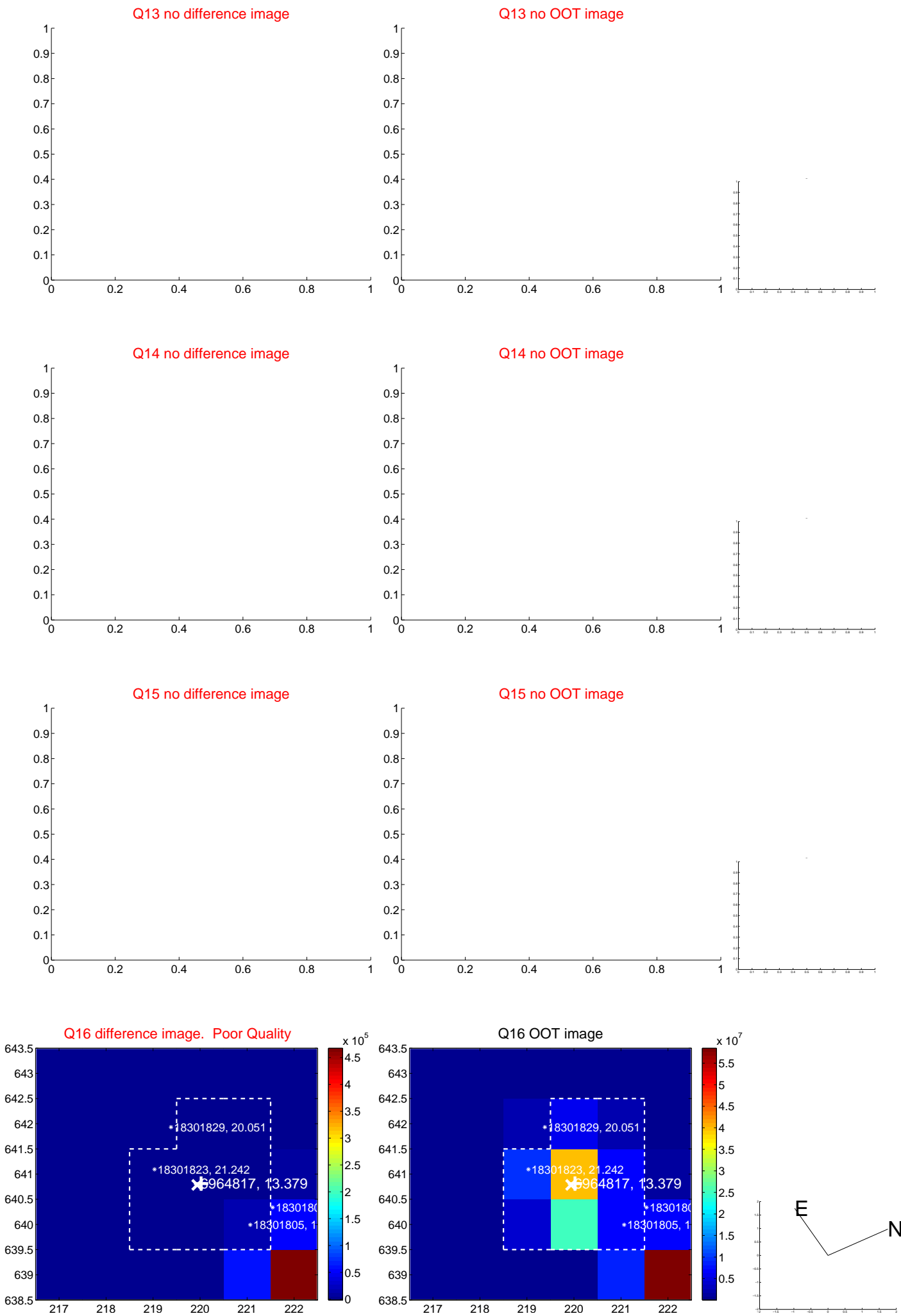
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



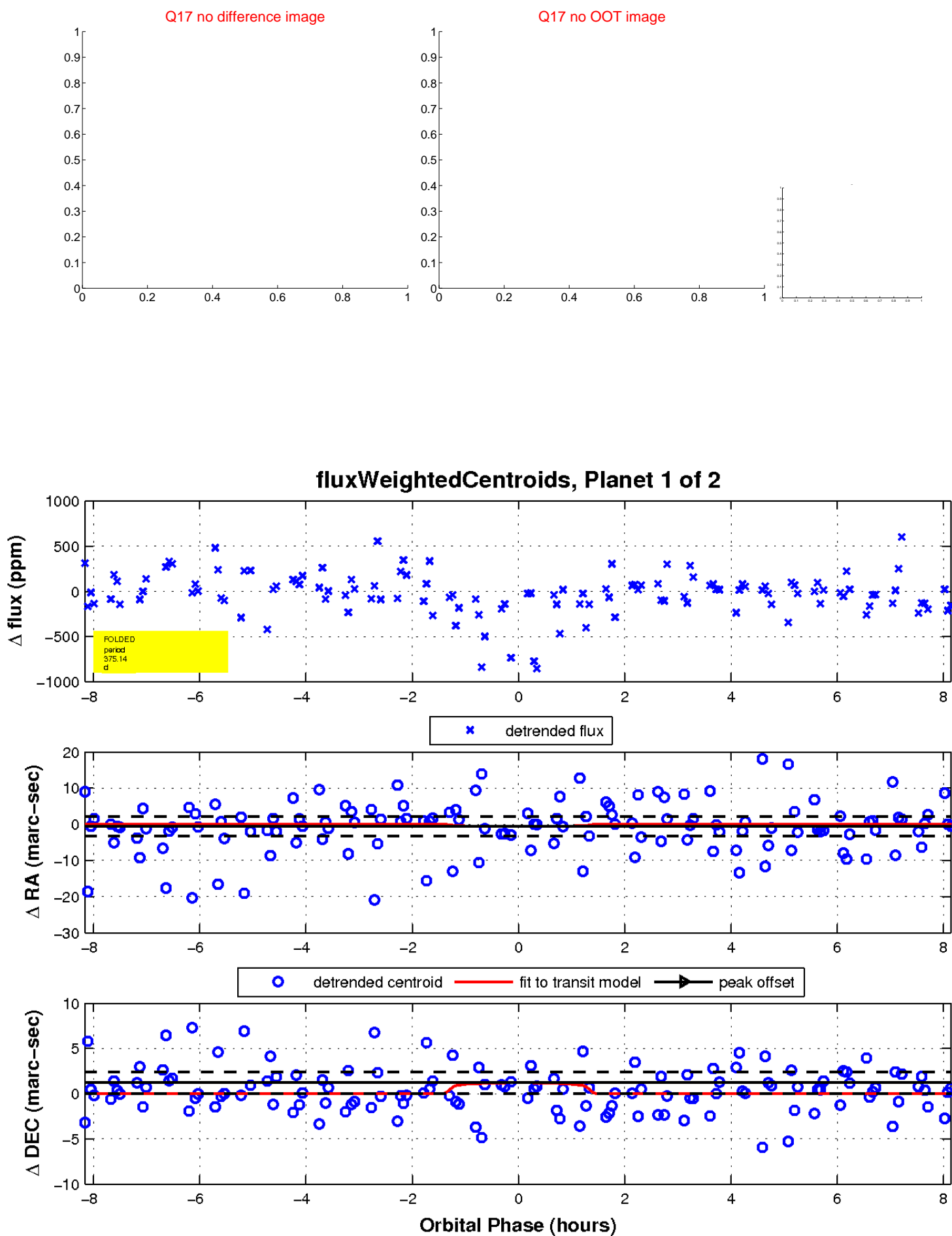
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



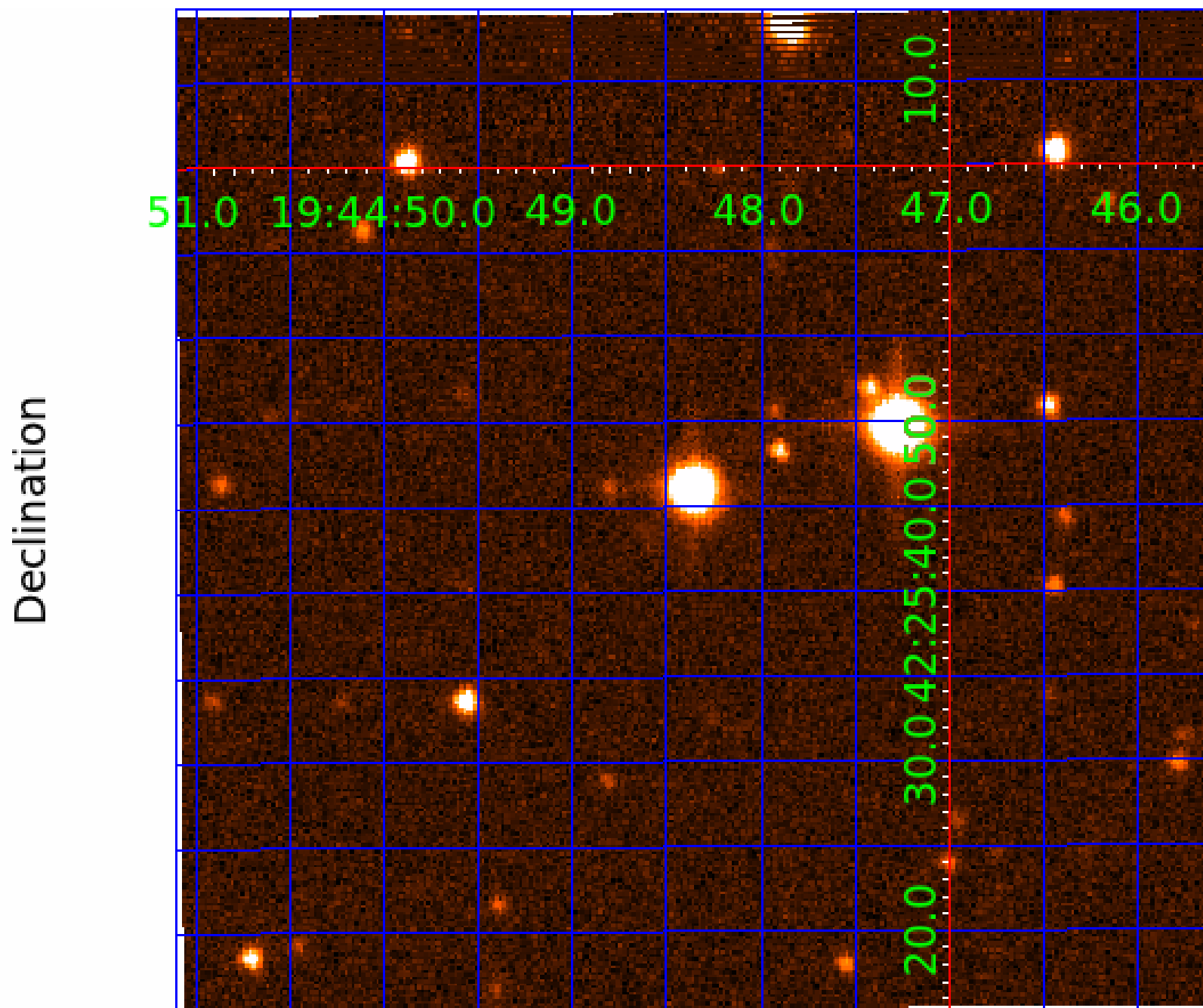
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image



KIC 006964817

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})
006964817-01	OBS	No	375.142757	365.358602	439.4	2.730	10.5	8.7	2.11	6024	4.59	4.51
006964817-02	OBS	No	25.675397	143.656436	193.2	65.843	10.2	20.8	2.11	6024	4.78	161.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006964817-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006964817-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_RESOLVED_OFFSET

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

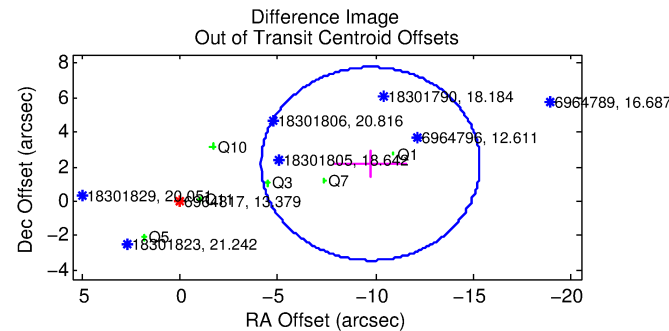
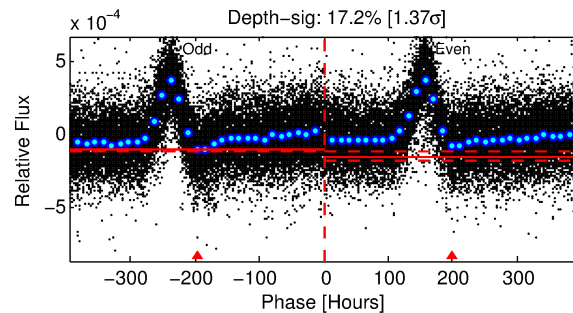
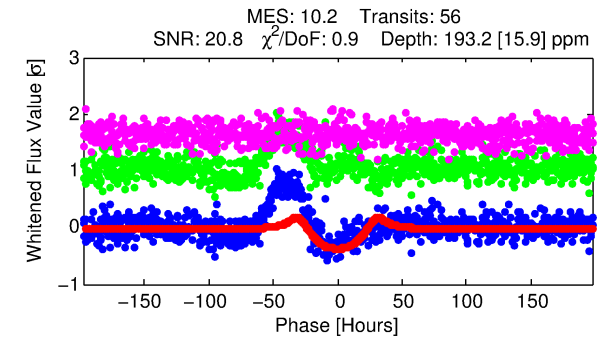
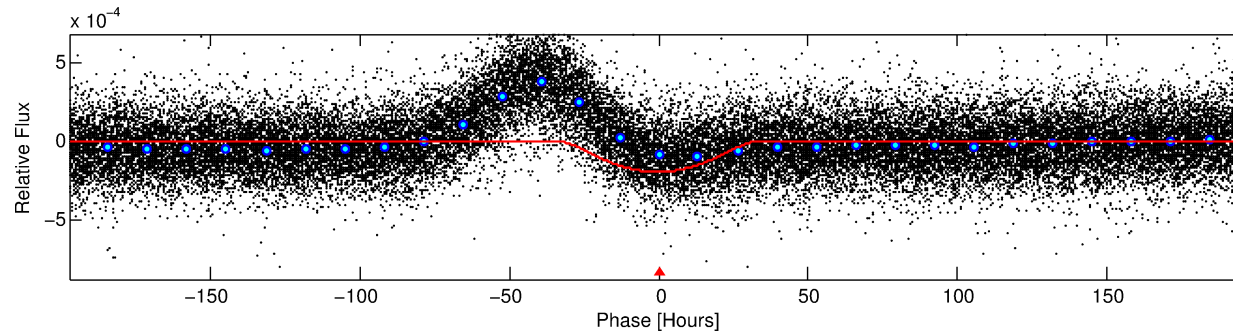
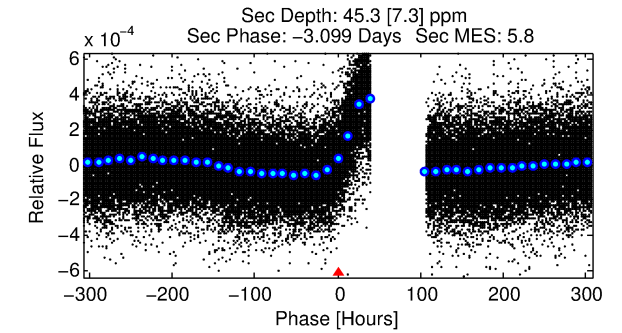
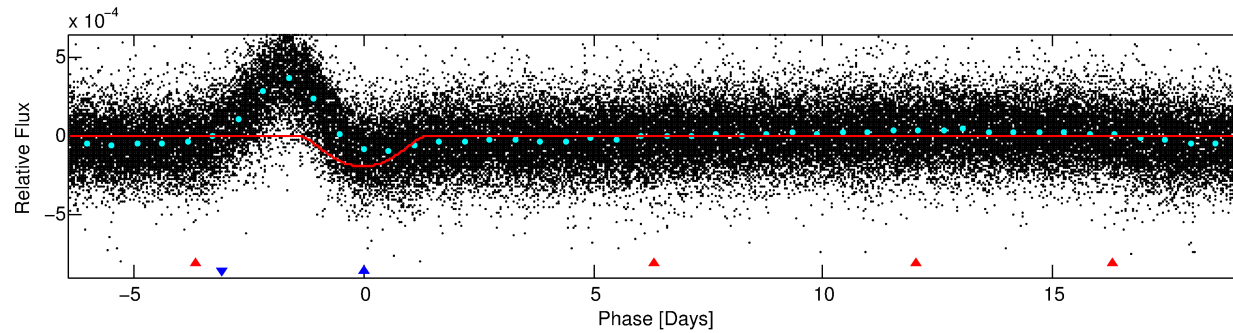
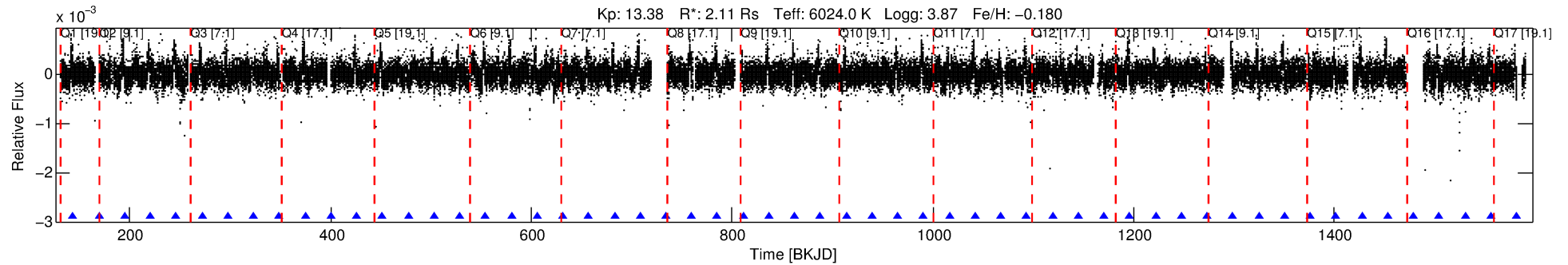
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006964817-02

No Significant Match Found

DV One-Page Summary

KIC: 6964817 Candidate: 2 of 2 Period: 25.675 d



DV Fit Results:

Period = 25.67540 [0.00155] d
Epoch = 143.6564 [0.0502] BKJD
Rp/R* = 0.0208 [0.0054]
a/R* = 1.23 [0.04]
b = 0.99 [0.01]
Seff = 161.06 [136.96]
Teq = 908 [193] K
Rp = 4.78 [2.65] Re
a = 0.1804 [0.0914] AU
Ag = 35.53 [35.56] [0.97σ]
Teff = 3429 [480] K [4.87σ]

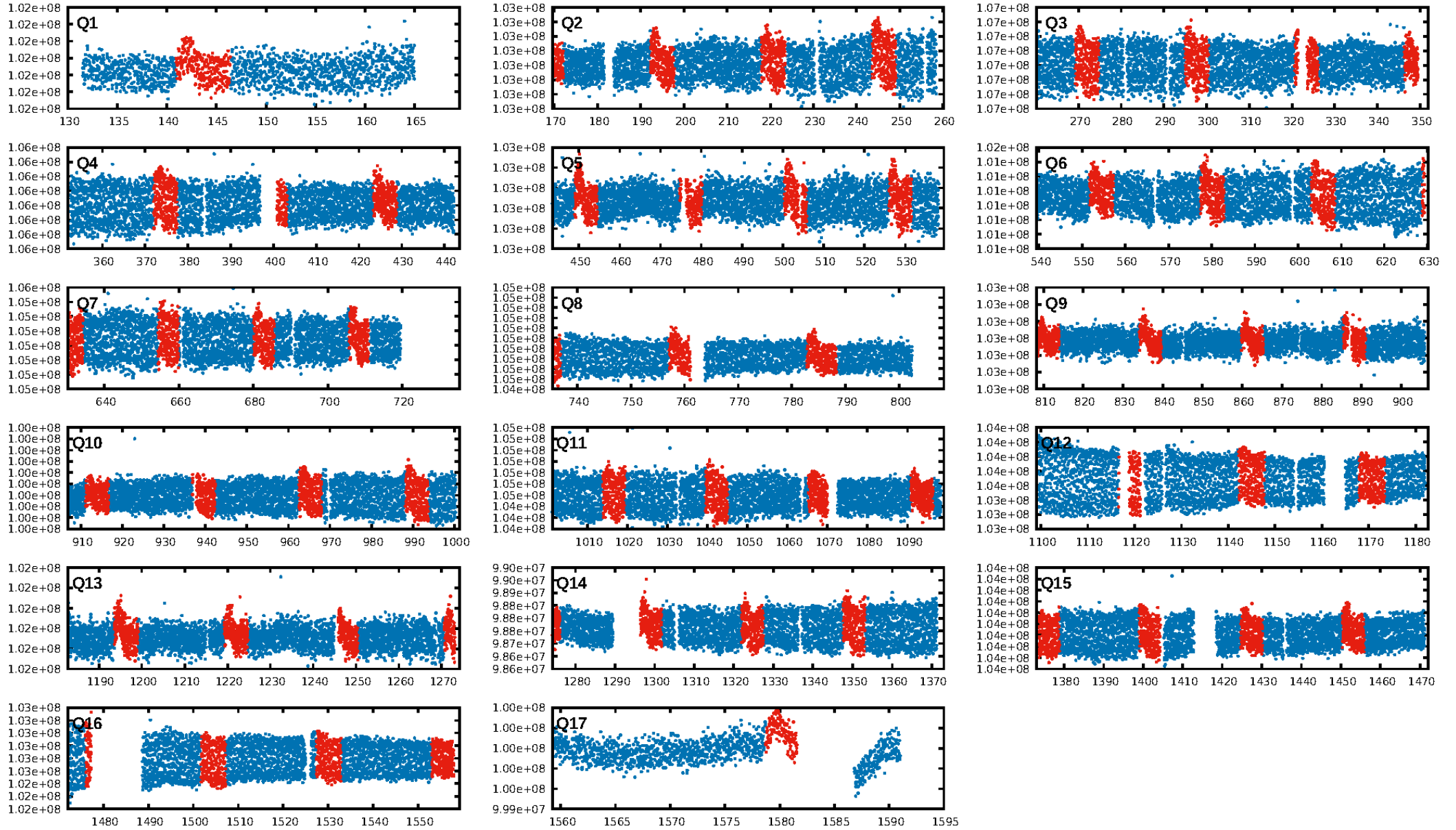
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [127.27σ]
ModelChiSquare2-sig: 97.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.15e-22
RollingBand-fgt: 1.00 [54/54]
GhostDiagnostic-chr: -3.429
Centroid-sig: 2.3%
Centroid-so: 0.685 arcsec [0.94σ]
OotOffset-rm: 9.974 arcsec [5.35σ]
KicOffset-rm: 10.045 arcsec [6.48σ]
OotOffset-st: 1/3/0/2 [6]
KicOffset-st: 1/3/0/2 [6]
DiffImageQuality-fgm: 0.17 [1/6]
DiffImageOverlap-fno: 1.00 [14/14]

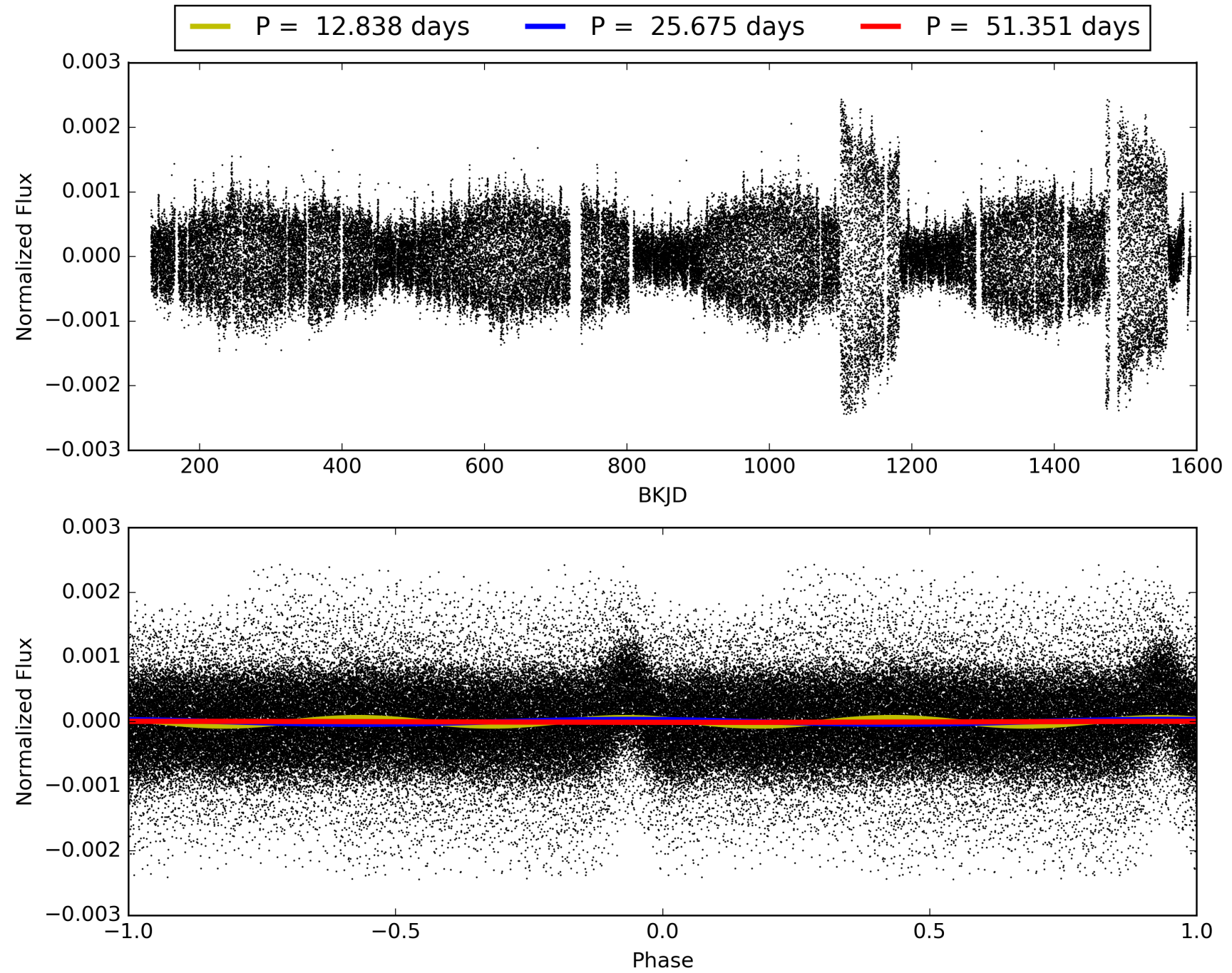
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:16:52 Z

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

TCE 006964817-02, PDC Light Curves

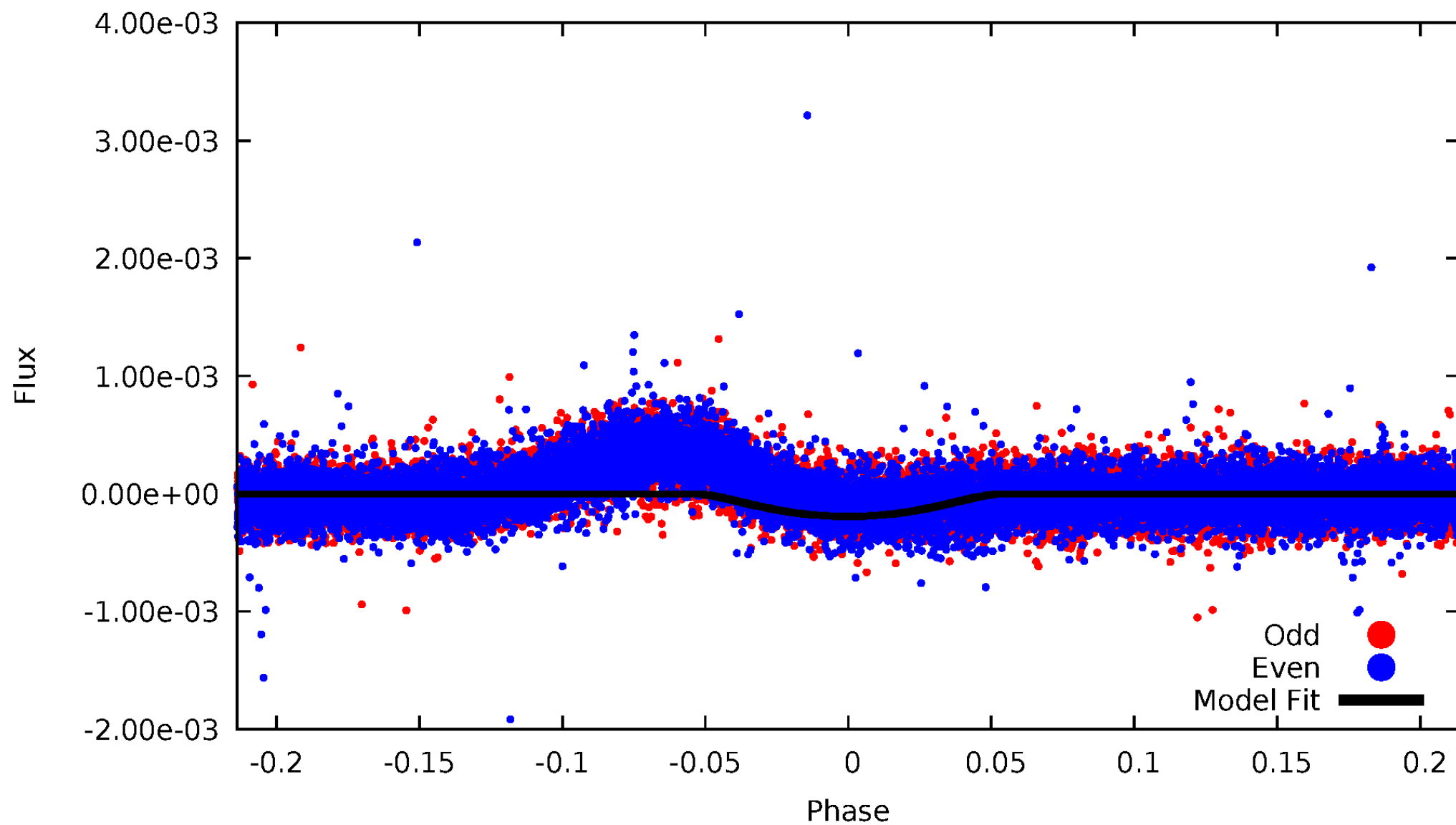


TCE 006964817-02



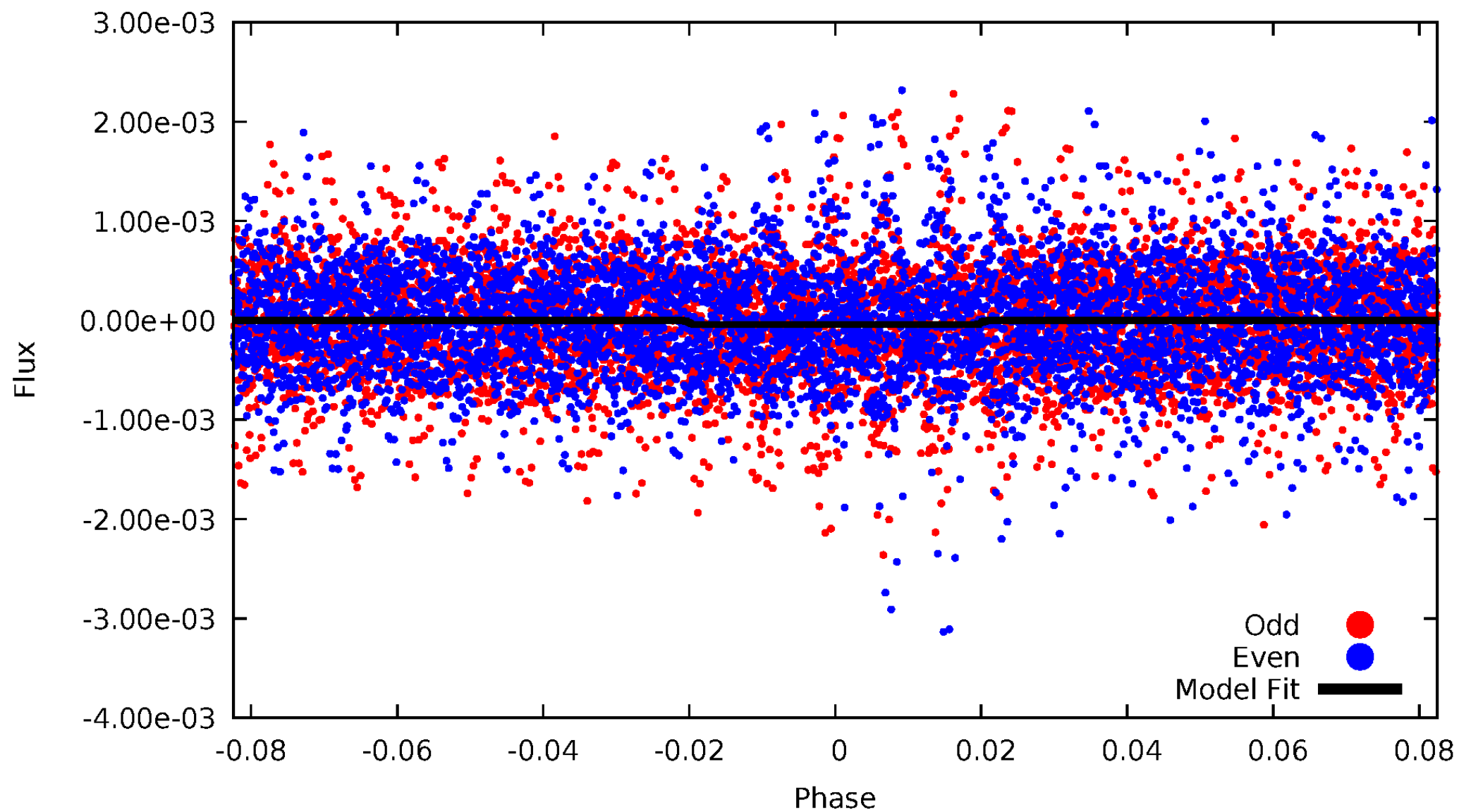
DV Odd/Even

TCE 006964817-02



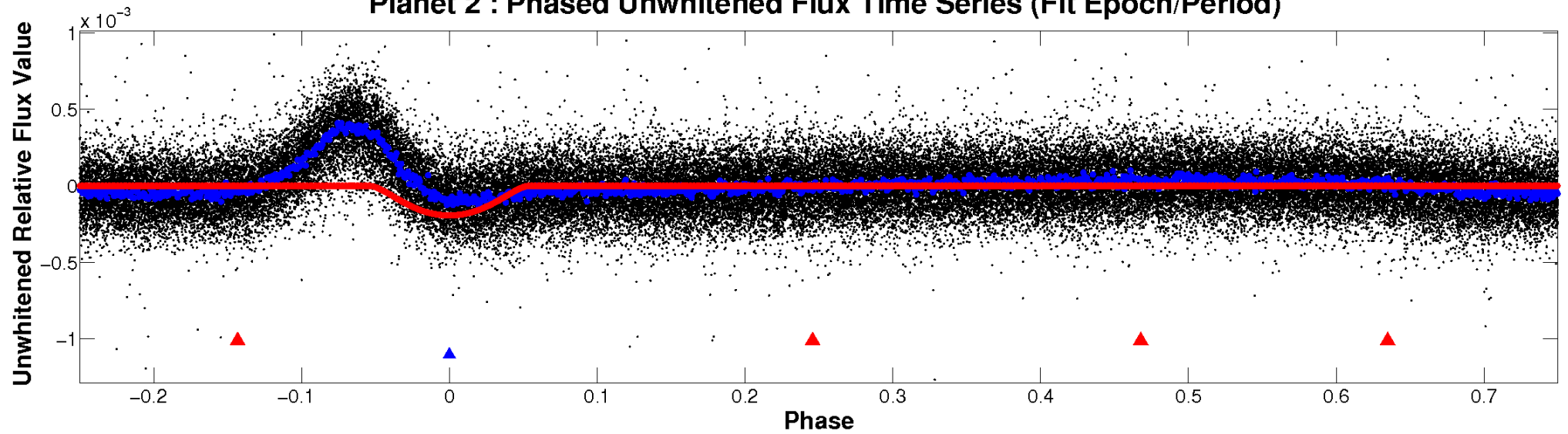
ALT Odd/Even

TCE 006964817-02

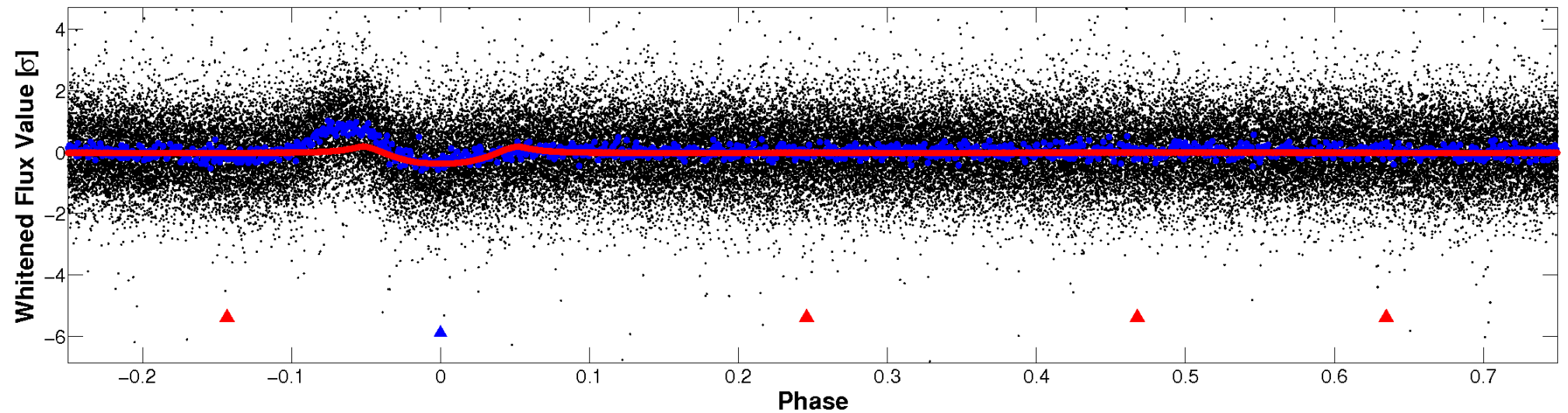


Non-Whitened Vs. Whitened Light Curve

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

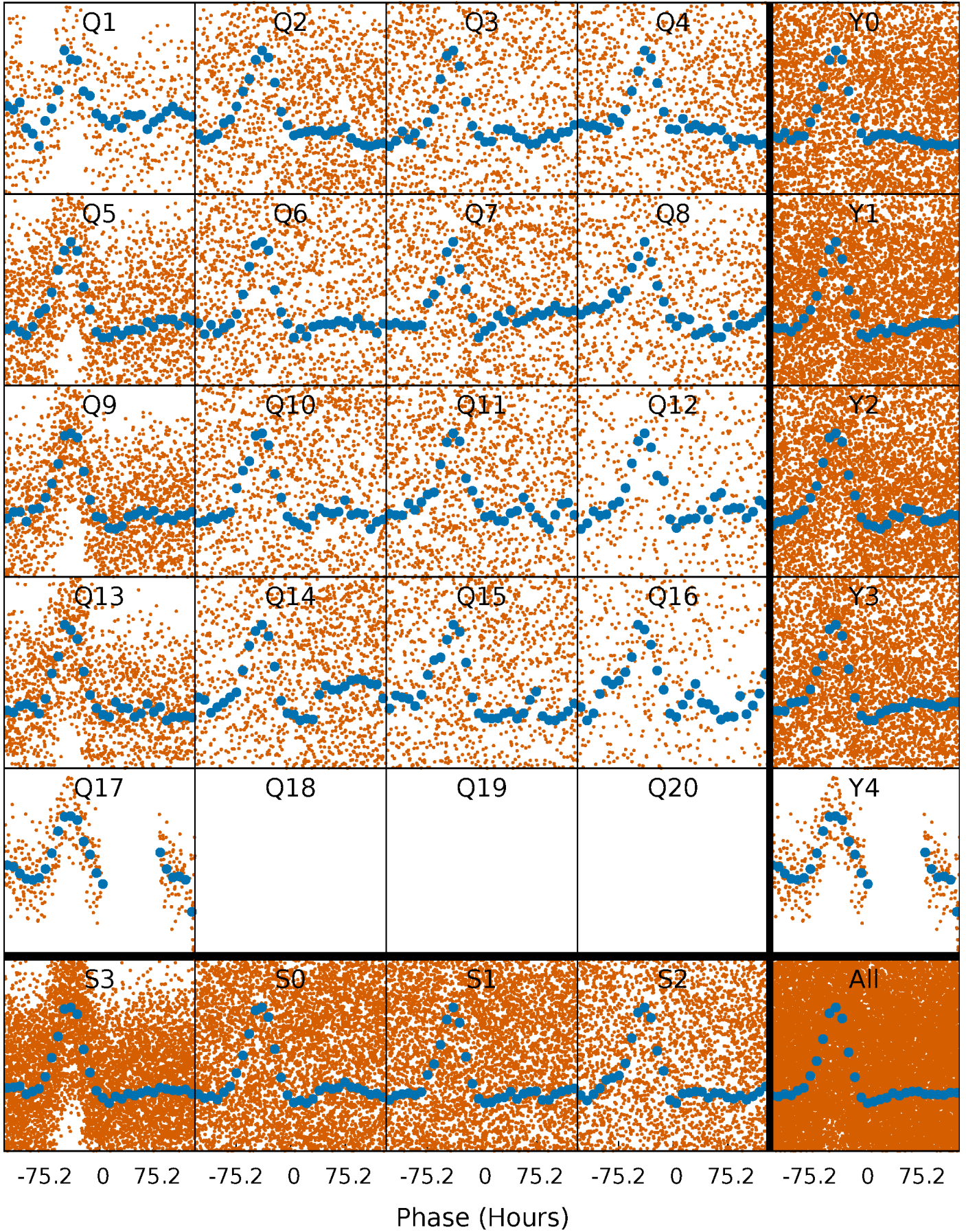


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



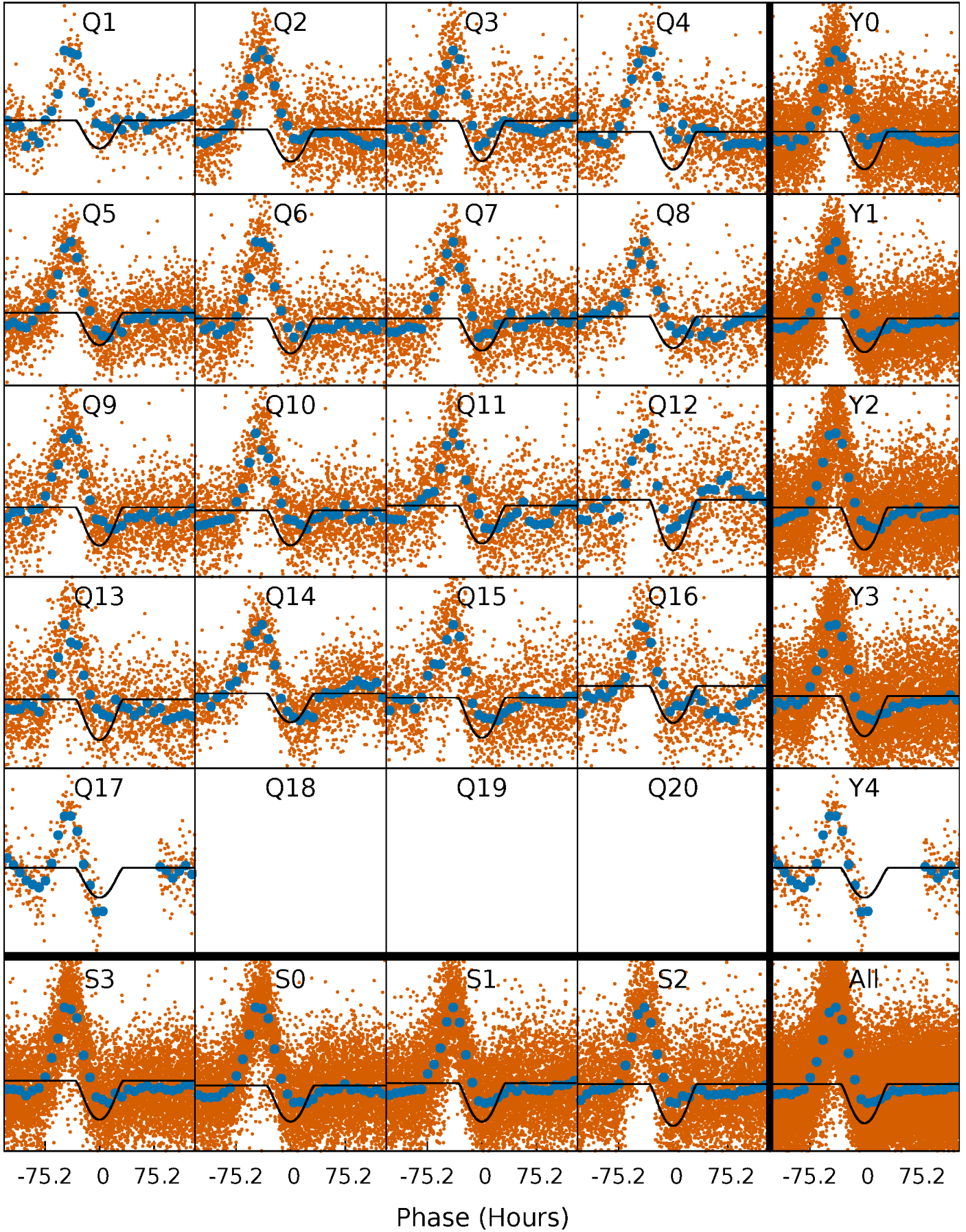
PDC Quarter-Phased Transit Curves

TCE 006964817-02 P= 25.675397 Days $T_0=143.656436$ (BKJD)



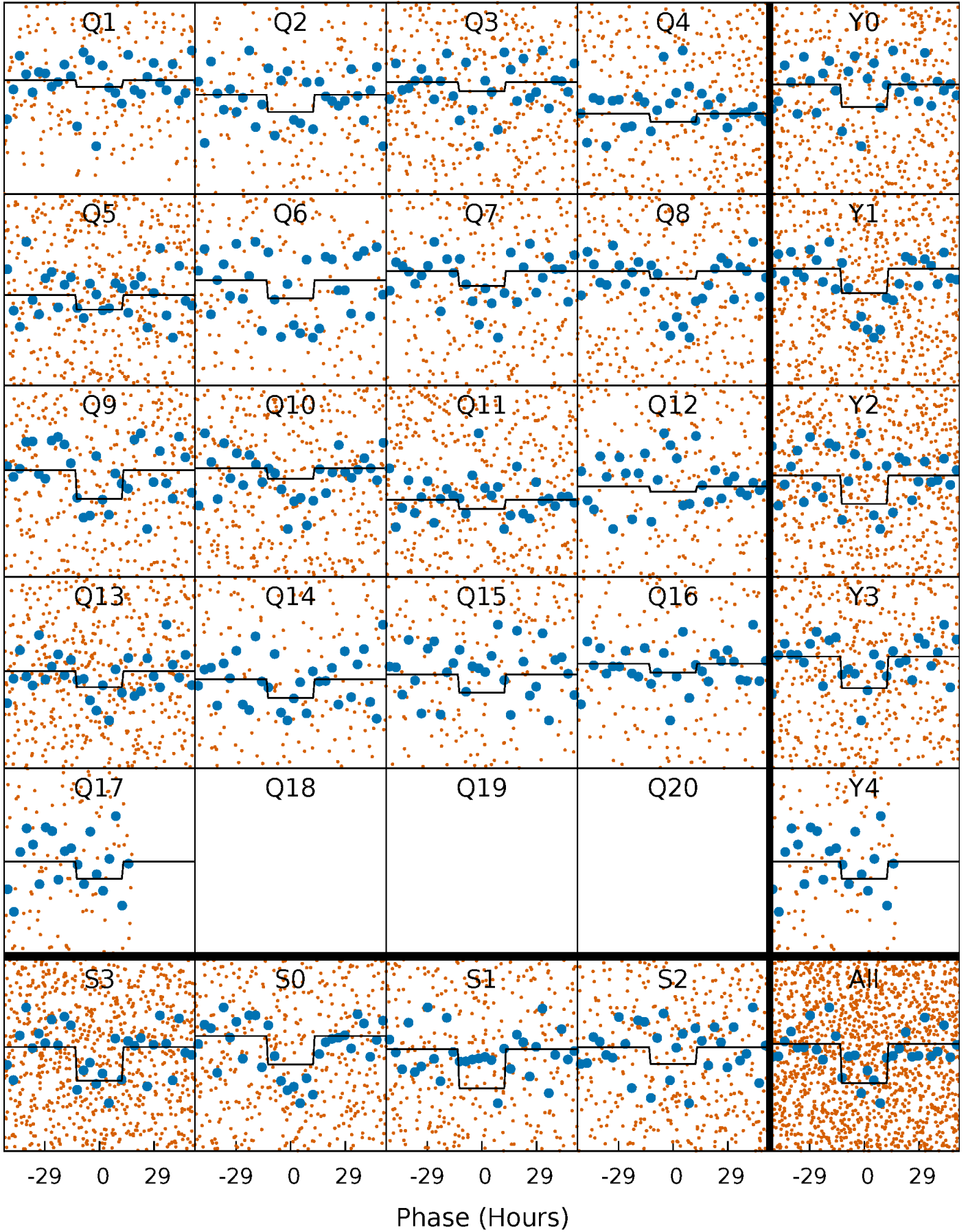
DV Quarter-Phased Transit Curves

TCE 006964817-02 P= 25.675397 Days $T_0=143.656436$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

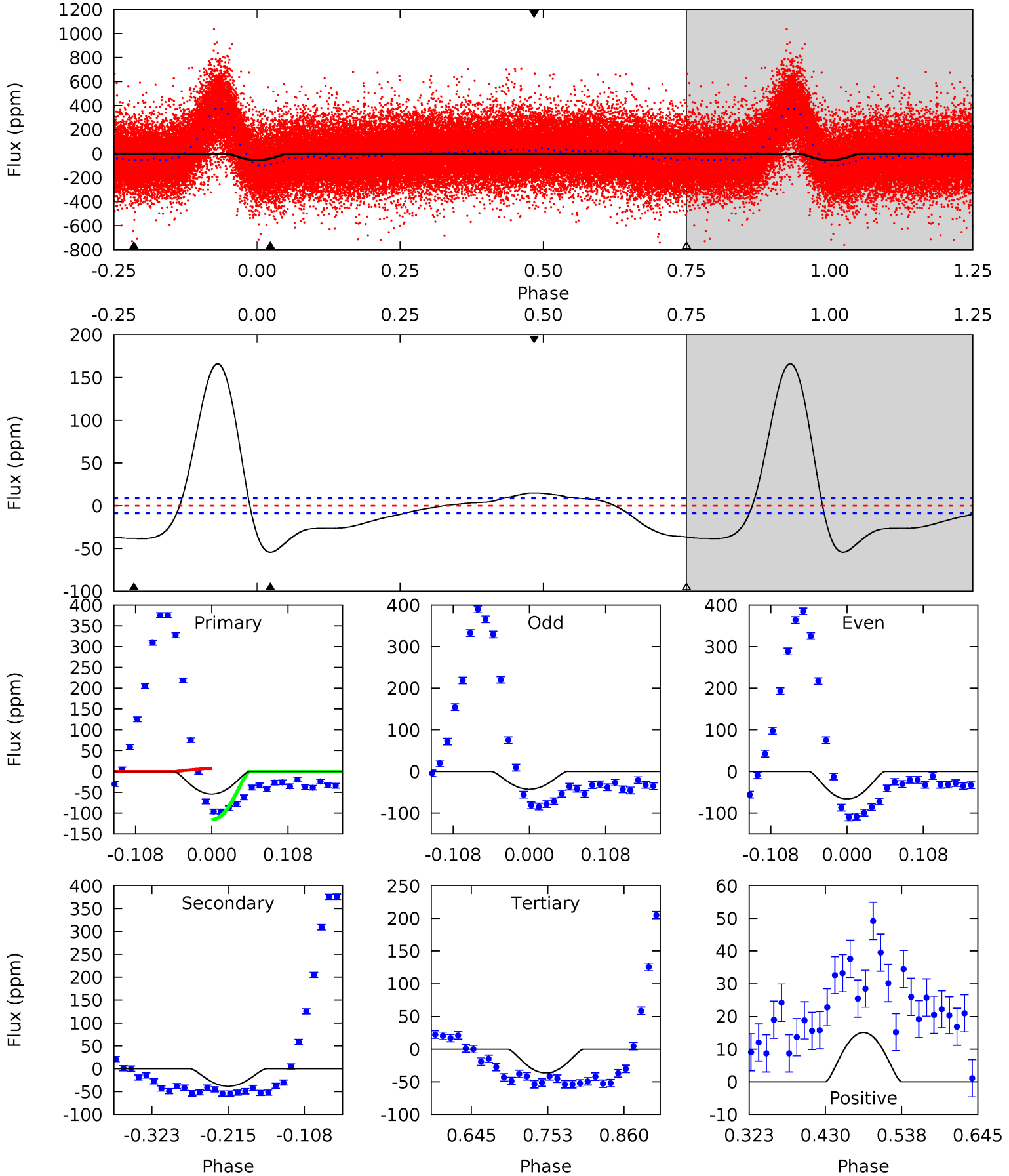
TCE 006964817-02 P= 25.669856 Days $T_0=143.352835$ (BKJD)



DV Model-Shift Uniqueness Test

006964817-02, P = 25.675397 Days, E = 117.981039 Days

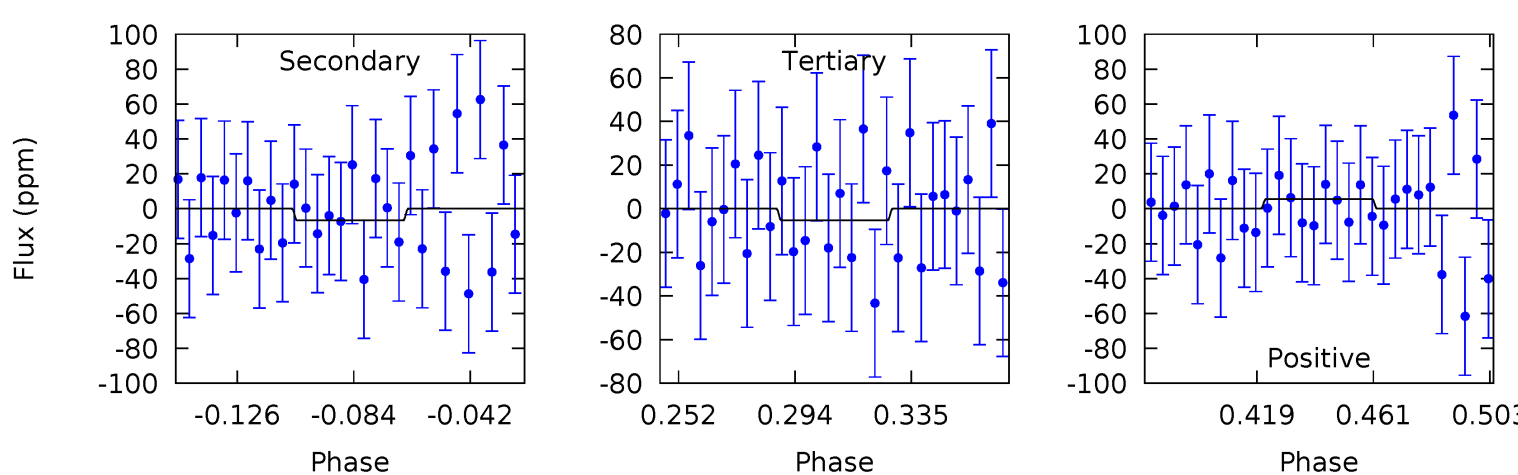
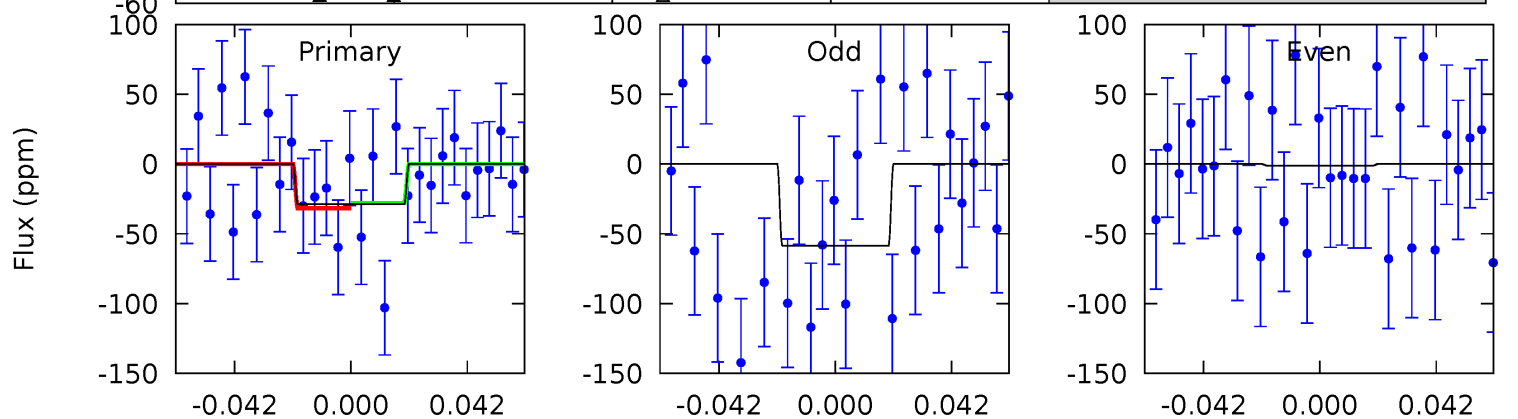
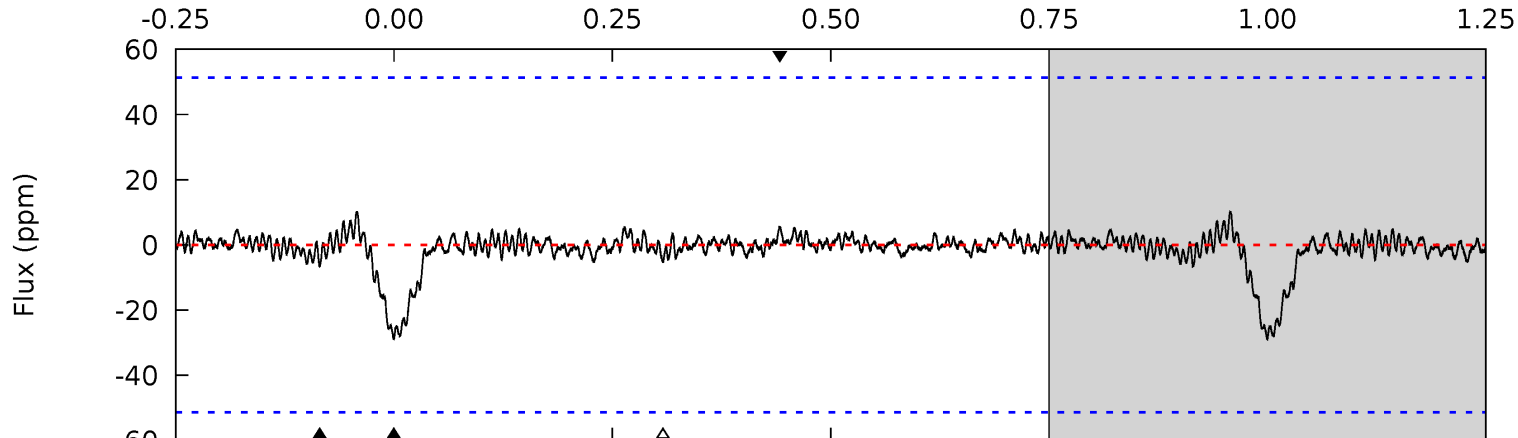
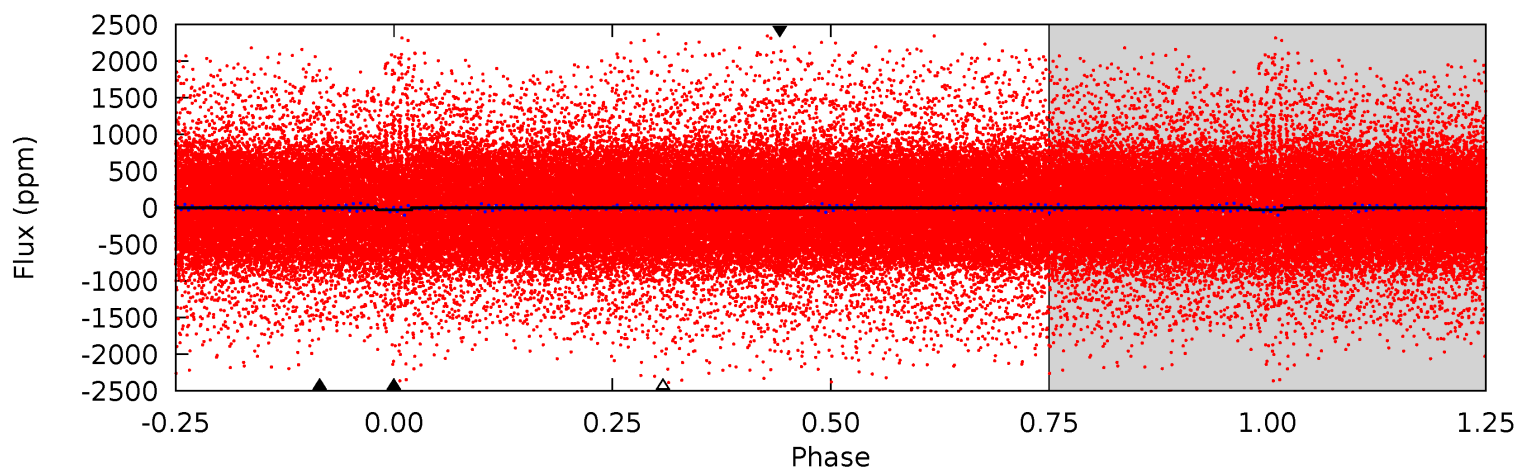
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.1	19.8	18.9	7.80	4.55	1.61	13.9	9.21	20.3	0.88	12.0	6.07	0.80	0.75	28.8



Alt Model-Shift Uniqueness Test

006964817-02, P = 25.669856 Days, E = 117.682979 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.67	0.61	0.49	0.51	4.74	2.03	0.18	2.18	2.16	0.12	0.10	2.66	0.70	0.26	0.18



Stellar Parameters For KIC 006964817

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6024^{+201}_{-183}	$3.865^{+0.504}_{-0.126}$	$-0.180^{+0.300}_{-0.300}$	$2.108^{+0.443}_{-1.033}$	$1.188^{+0.180}_{-0.247}$	$0.179^{+0.936}_{-0.066}$
	+3%/-3%	+13%/-3%	+167%/-167%	+21%/-49%	+15%/-21%	+523%/-37%
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 006964817-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-38 ± 2	$4.44^{+1.55}_{-1.70}$	1243^{+93}_{-170}	3708^{+406}_{-294}	34^{+52}_{-15}
Alt.	-7 ± 11	$1.50^{+1.07}_{-0.90}$	1244^{+94}_{-178}	3714^{+1830}_{-7315}	38^{+298}_{-68}

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

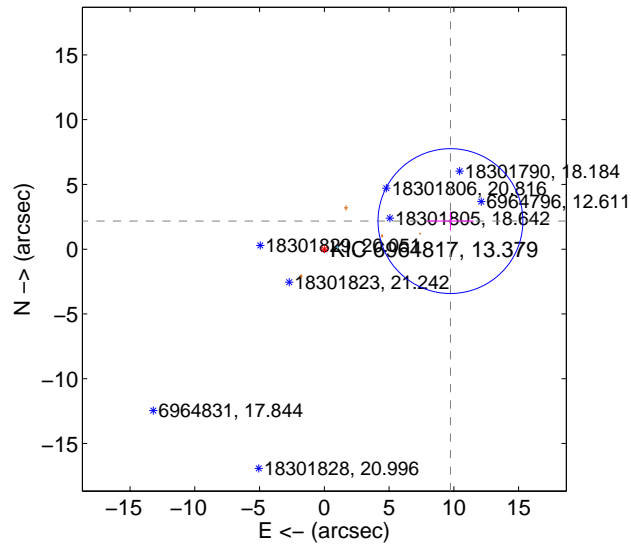
Supplemental centroid analysis for 006964817-02. Kepler magnitude: 13.38. Transit SNR 20.78

There are 1 quarters with good PRF difference image offsets

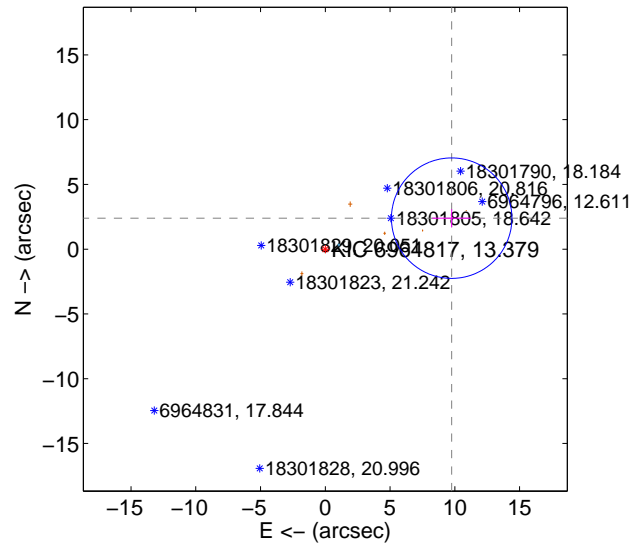
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.974 \pm 1.864	5.35	-9.736 \pm 1.790	2.168 \pm 0.728
PRF-fit source offset from KIC position	10.045 \pm 1.550	6.48	-9.756 \pm 1.500	2.394 \pm 0.700
photometric centroid source offset	0.69 \pm 0.73	0.94	-0.31 \pm 1.48	0.61 \pm 0.35

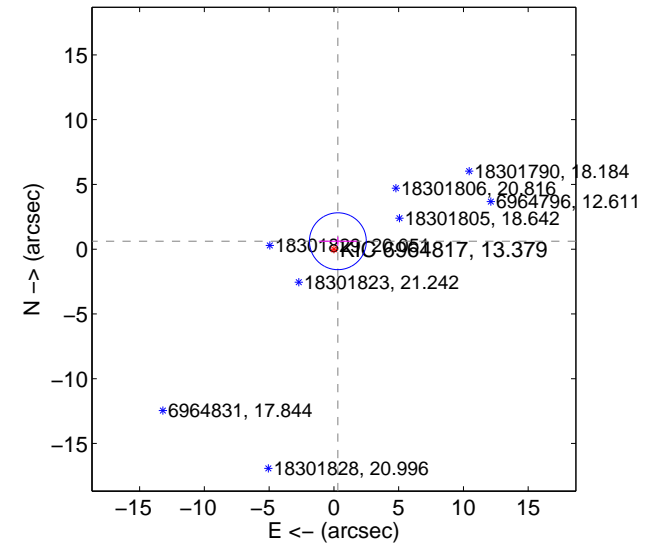
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

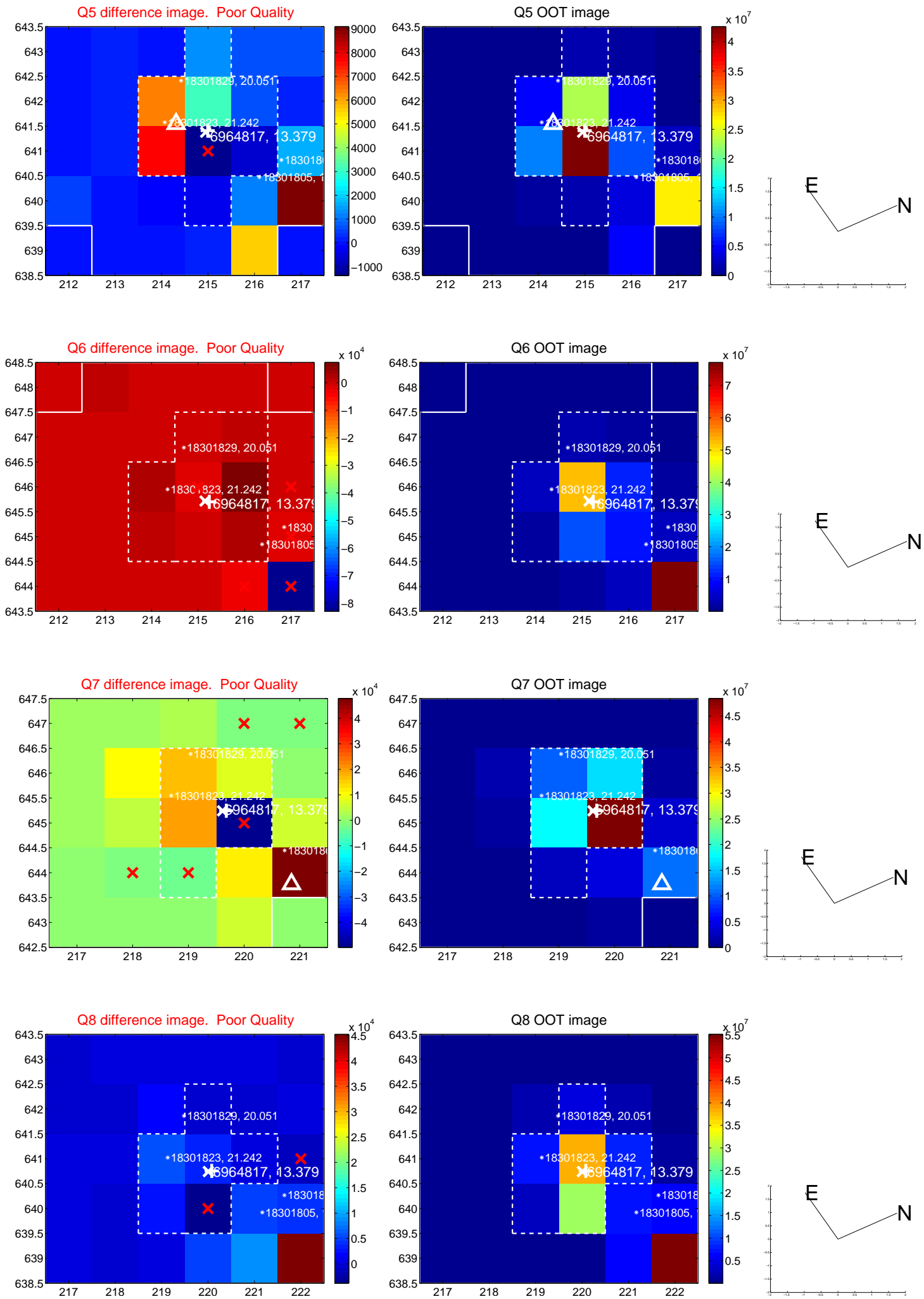


offset from photometric centroids

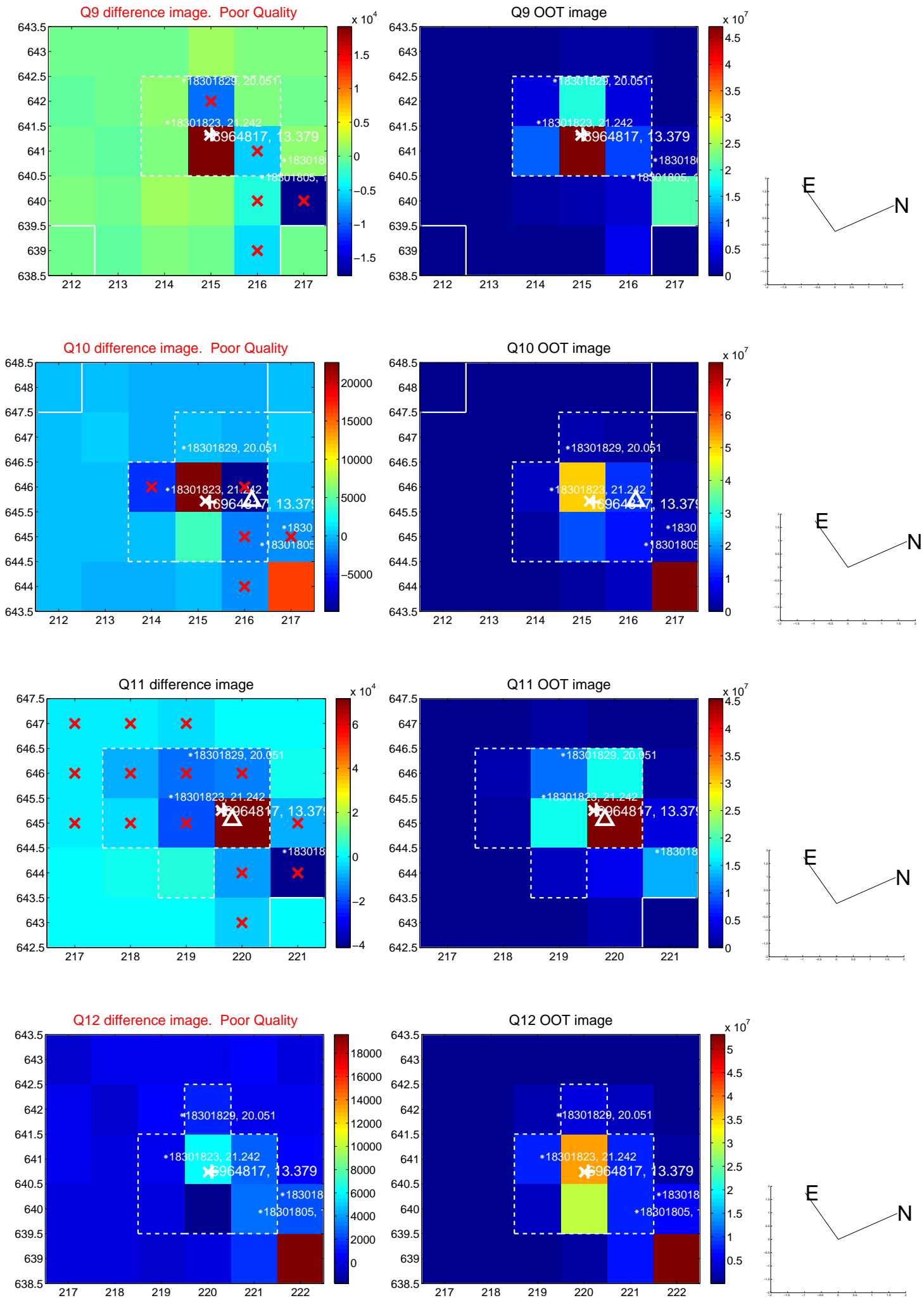


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



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

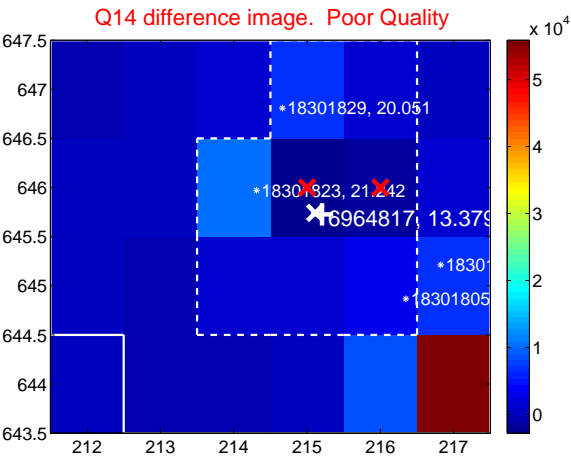
Q13 no difference image



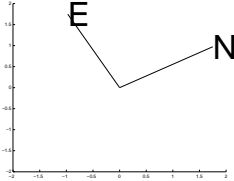
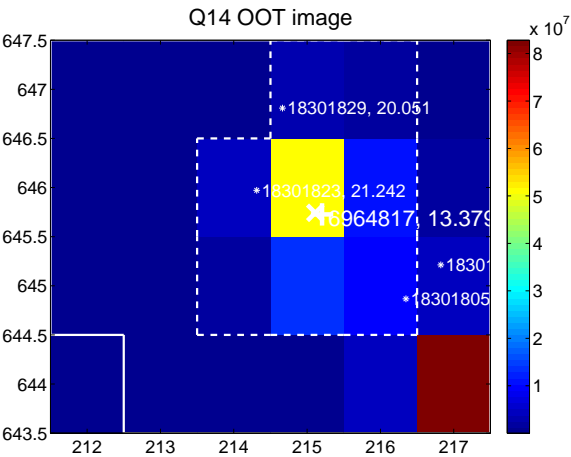
Q13 no OOT image



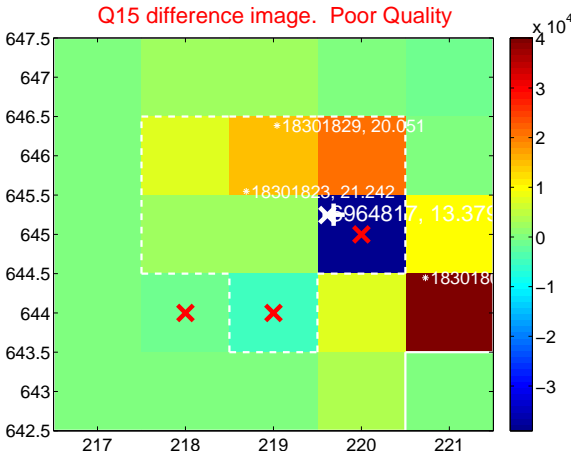
Q14 difference image. Poor Quality



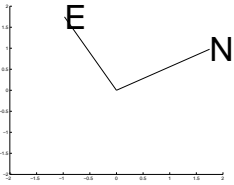
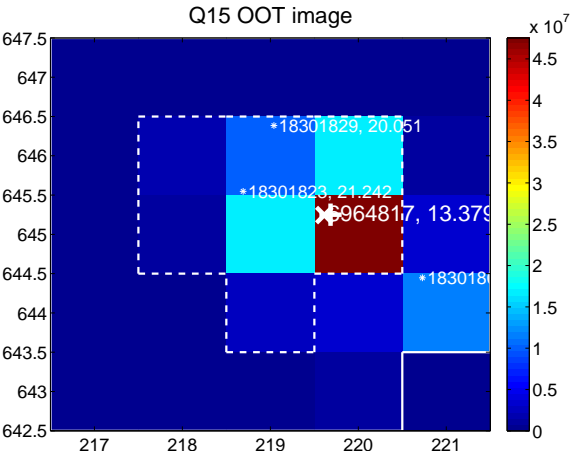
Q14 OOT image



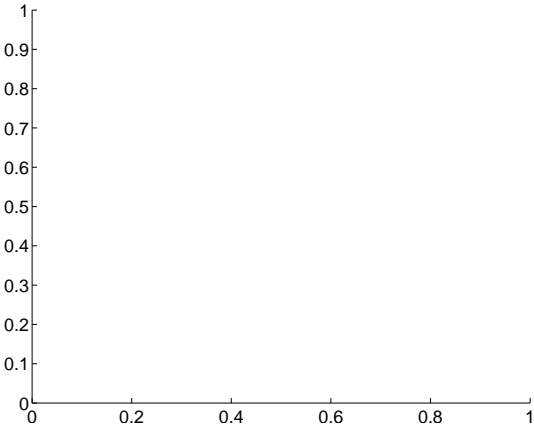
Q15 difference image. Poor Quality



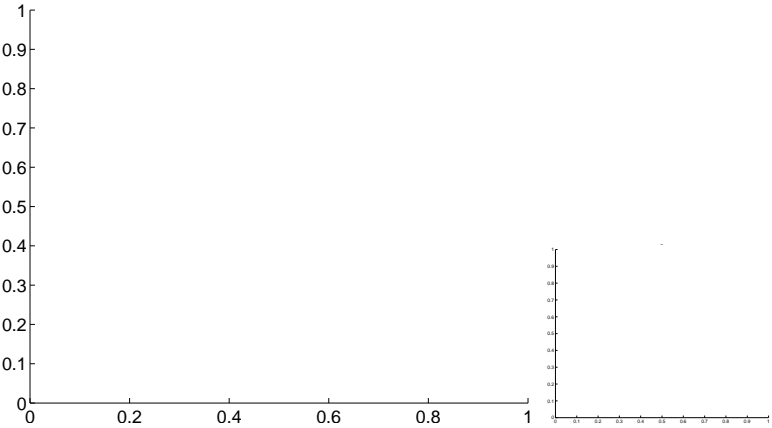
Q15 OOT image



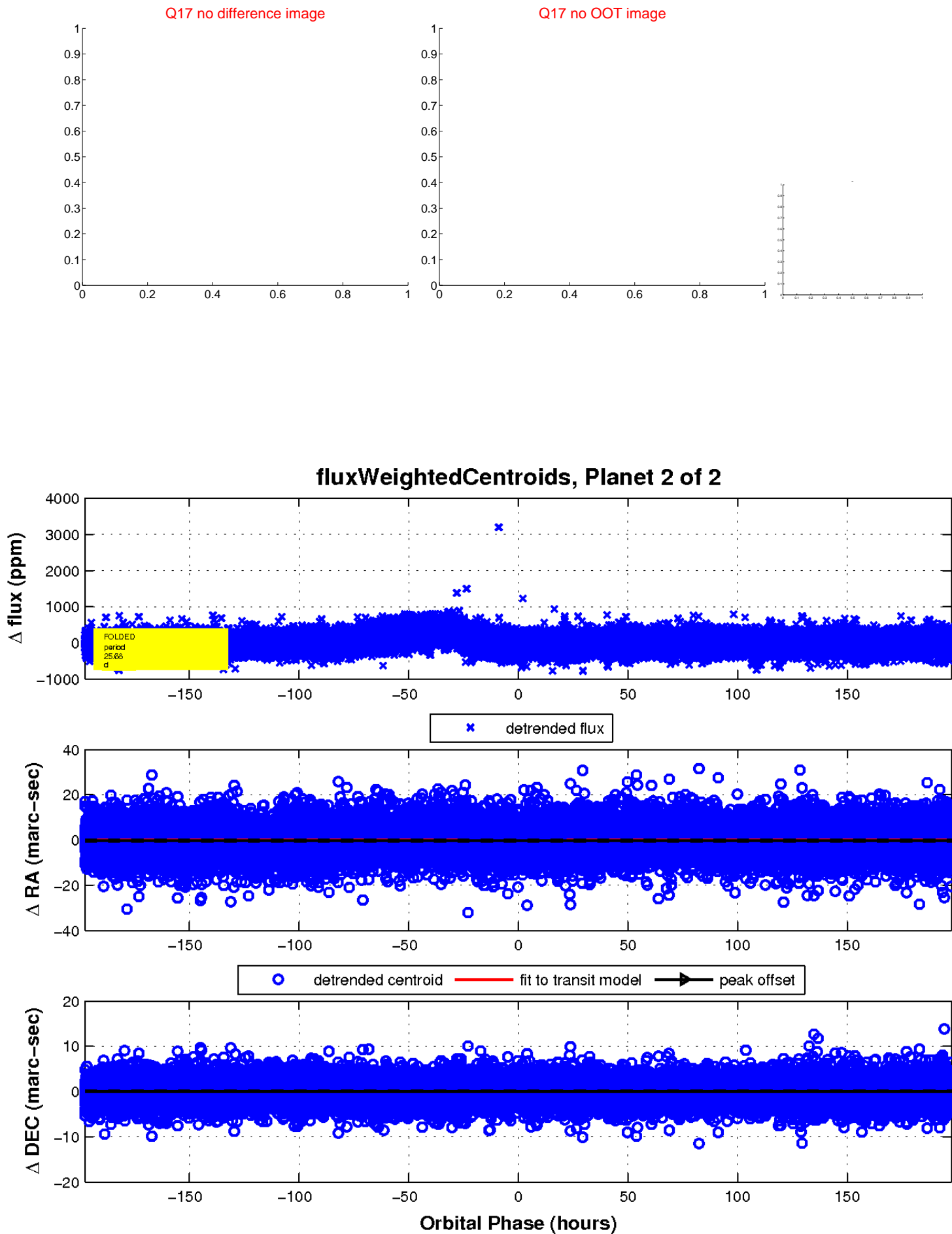
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

