

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})
008752817-01	OBS	No	2.176213	132.321174	23.6	11.692	7.8	7.0	5.50	4973	2.57	9595.34
008752817-02	OBS	No	68.721032	181.774220	344.1	3.477	9.0	8.4	5.50	4973	10.28	96.13
008752817-03	OBS	No	309.027981	281.356619	289.7	5.433	7.8	8.1	5.50	4973	10.28	12.95
008752817-04	OBS	No	71.191736	172.979736	317.9	2.628	7.7	7.3	5.50	4973	10.46	91.71
008752817-05	OBS	No	206.237704	194.397361	441.3	2.961	7.7	8.1	5.50	4973	12.70	22.21
008752817-06	OBS	No	239.207502	307.837483	305.0	5.491	7.9	6.9	5.50	4973	11.08	18.22
008752817-07	OBS	No	13.330829	135.941531	159.2	2.652	7.7	7.4	5.50	4973	8.52	856.09
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008752817-01	OBS	FP	0.00	1	0	0	1	LPP_DV—EPHEM_MATCH
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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.

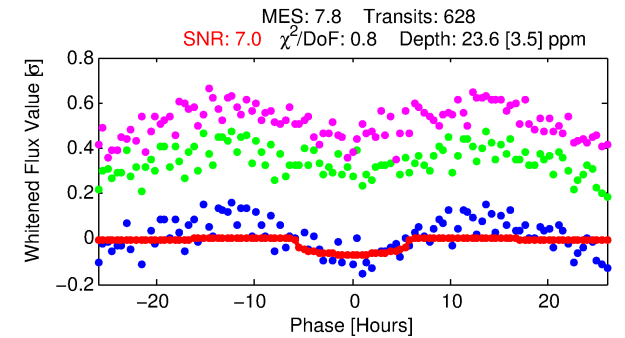
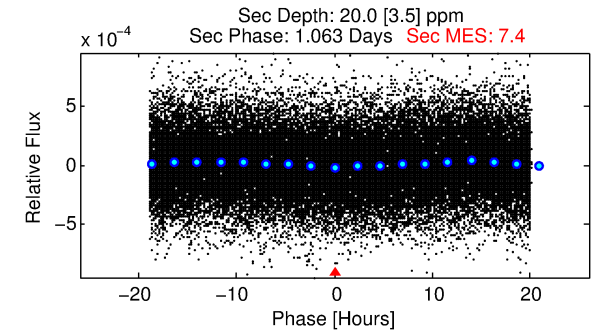
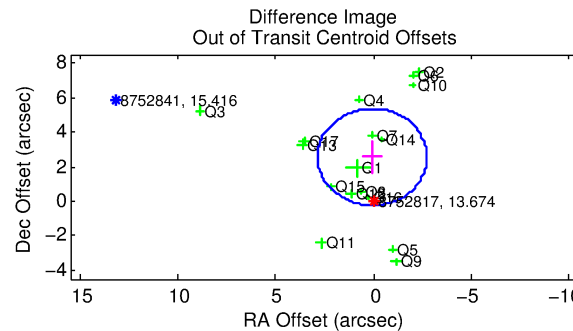
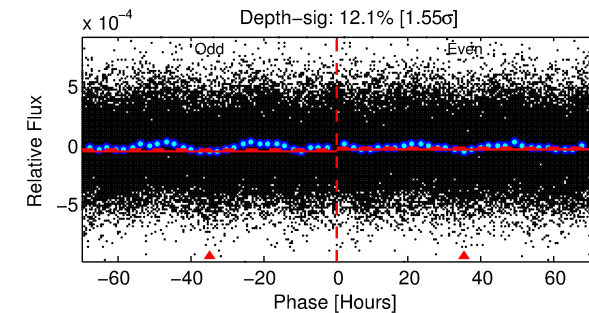
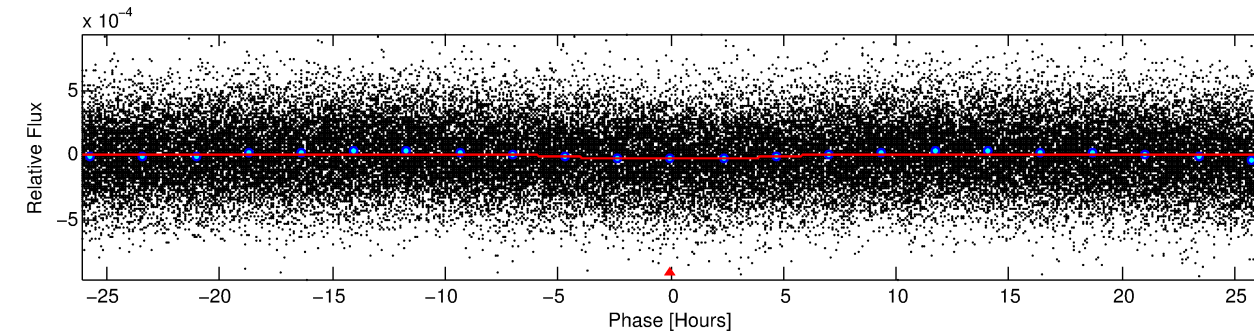
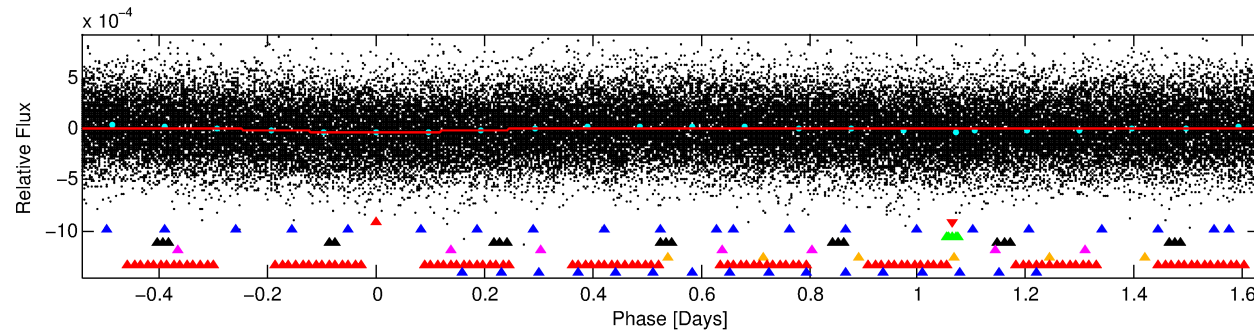
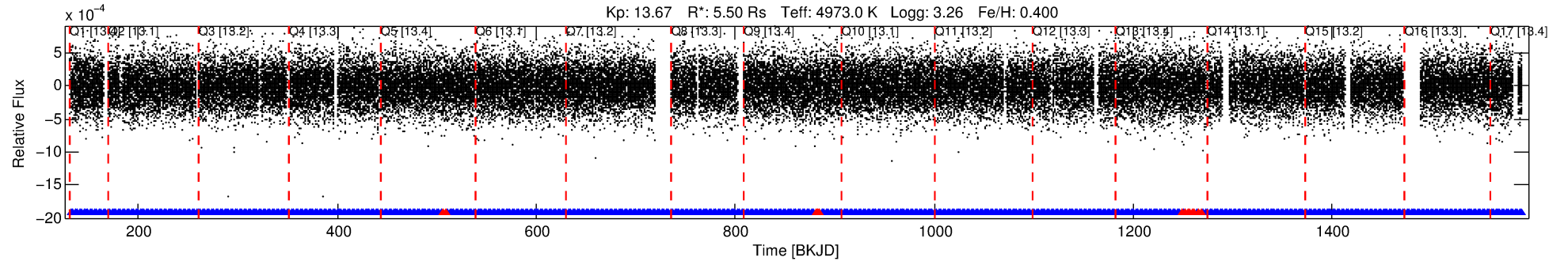
Ephemeris Match Information For 008752817-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
008752817-01	8752817	008752914-01	8752914	2:1	81.8	15	-14	13.89	13.68	0.42	Direct-PRF	1	4.71	2.62

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 8752817 Candidate: 1 of 8 Period: 2.176 d



DV Fit Results:

Period = 2.17621 [0.00006] d
Epoch = 132.3212 [0.0139] BKJD
Rp/R* = 0.0043 [0.0056]
a/R* = 1.55 [3.87]
b = 0.01 [380.64]
Seff = 9595.35 [7623.73]
Teq = 2524 [501] K
Rp = 2.57 [3.66] Re
a = 0.0416 [0.0211] AU
Ag = 2.88 [7.88] [0.24 σ]
Teff = 5084 [3333] K [0.76 σ]

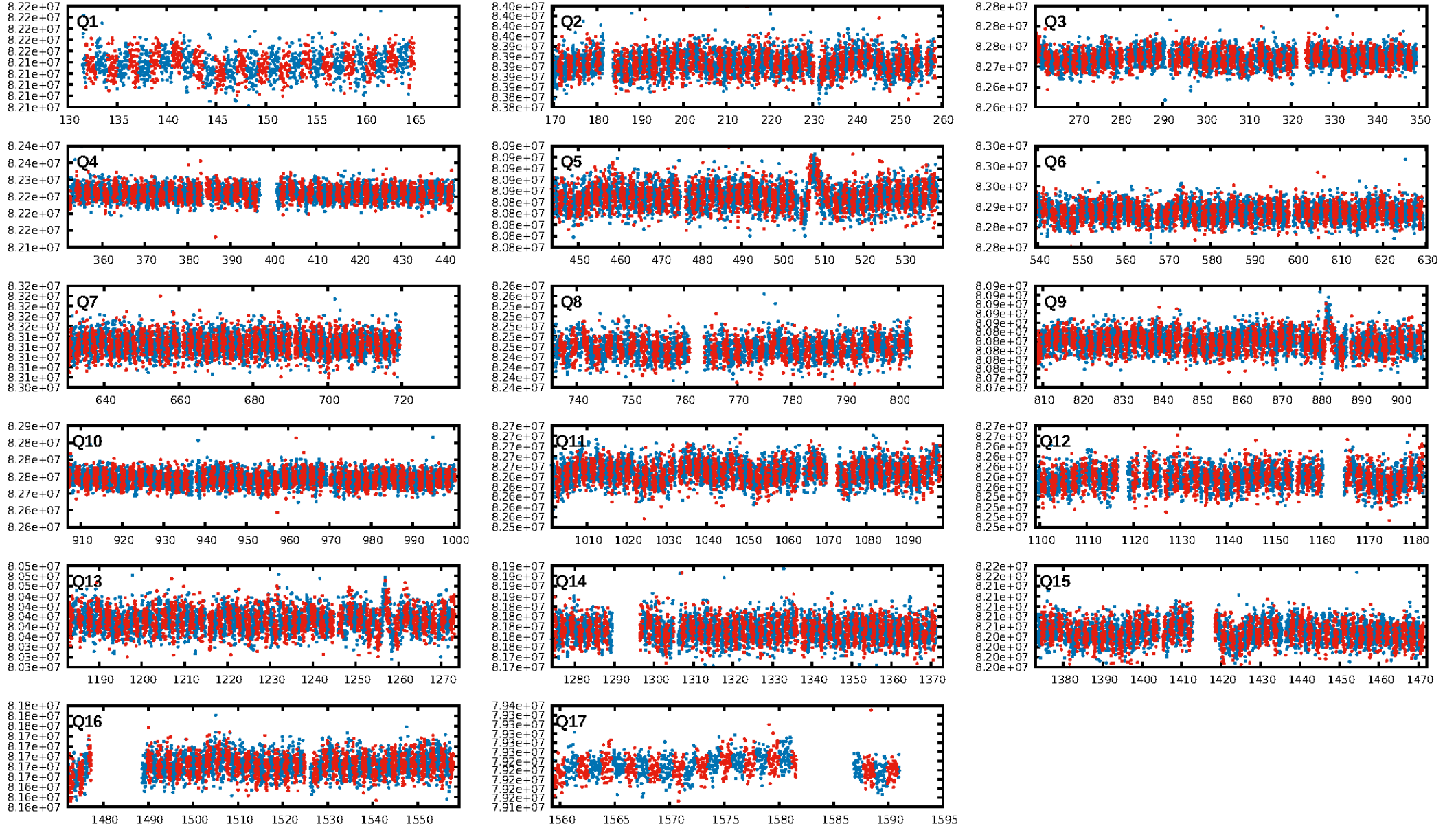
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [22.33 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 3.91e-11
RollingBand-fgt: 0.98 [586/599]
GhostDiagnostic-chr: 1.283
Centroid-sig: 5.3%
Centroid-so: 1.720 arcsec [1.71 σ]
OotOffset-rm: 2.559 arcsec [2.74 σ]
KicOffset-rm: 2.656 arcsec [2.82 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.24 [4/17]
DiffImageOverlap-fno: 1.00 [17/17]

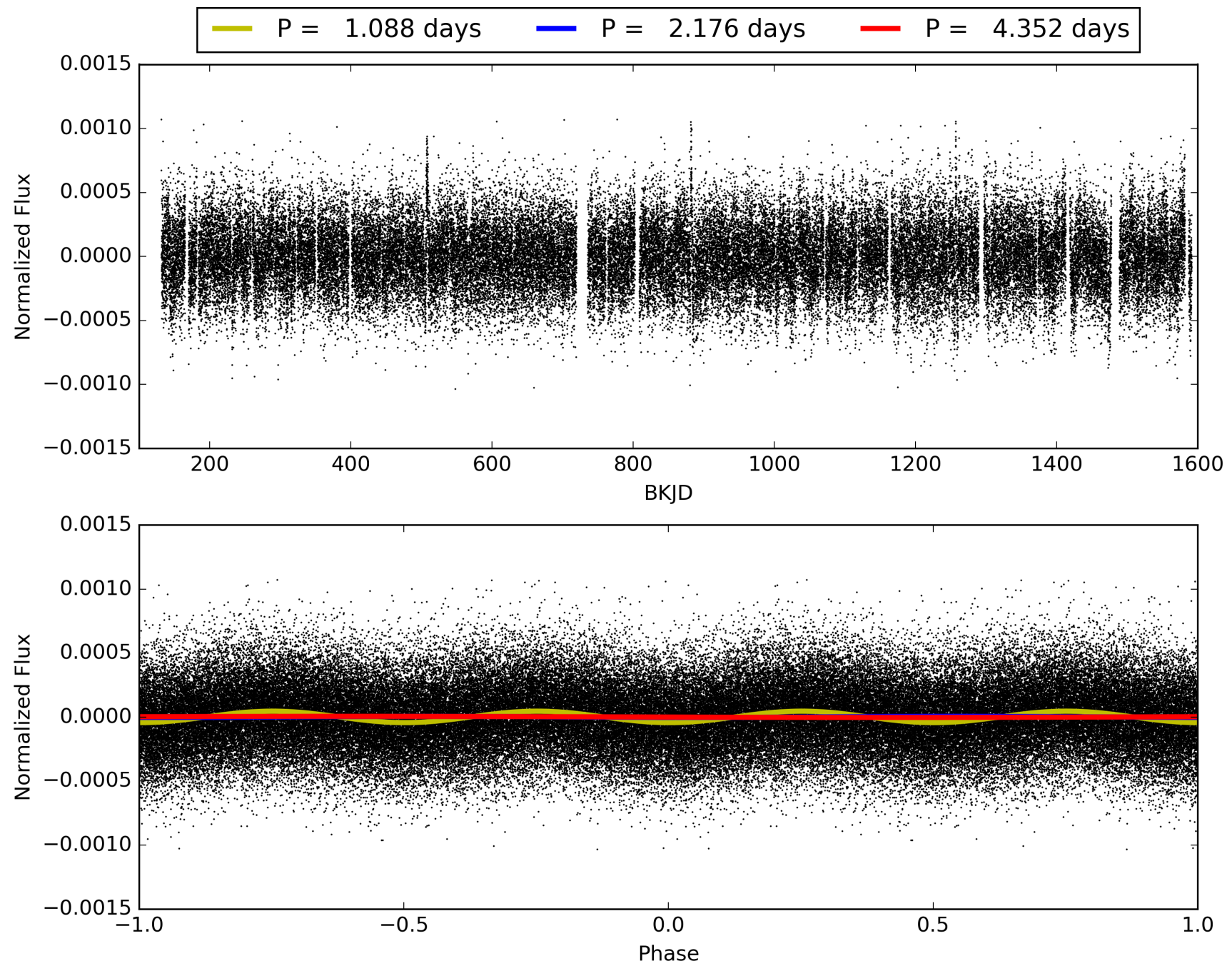
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:01:02 Z

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

TCE 008752817-01, PDC Light Curves

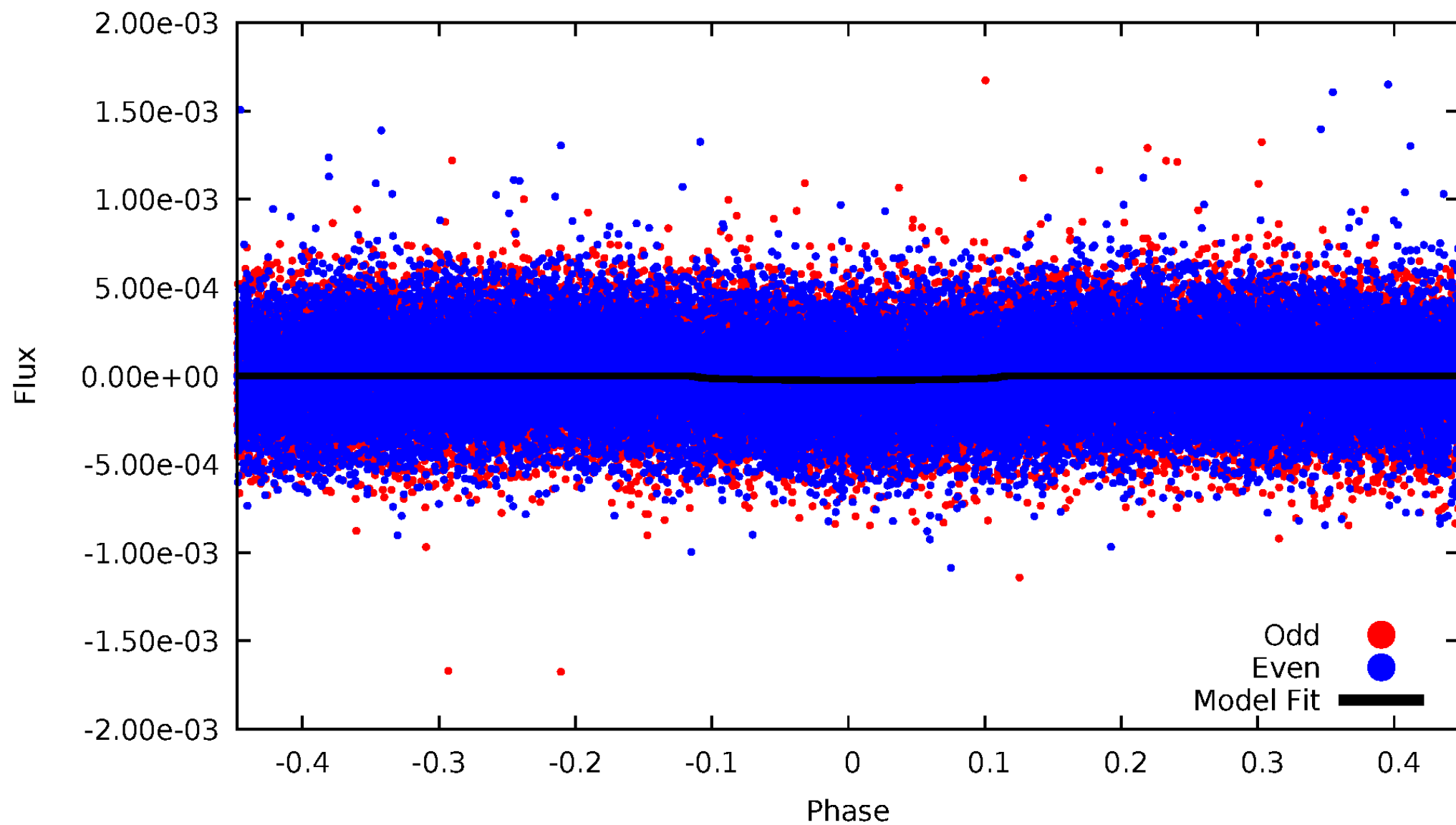


TCE 008752817-01



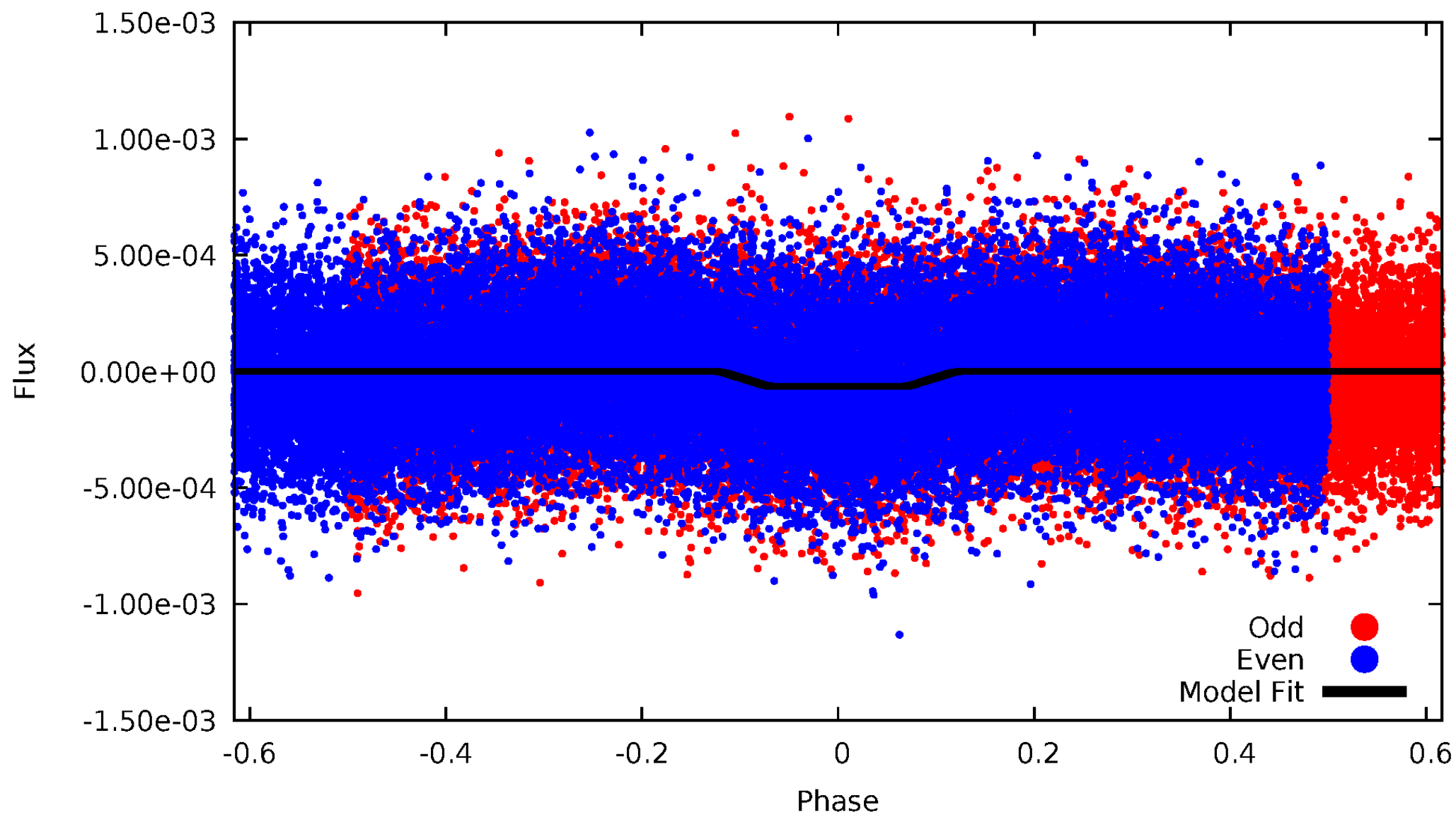
DV Odd/Even

TCE 008752817-01



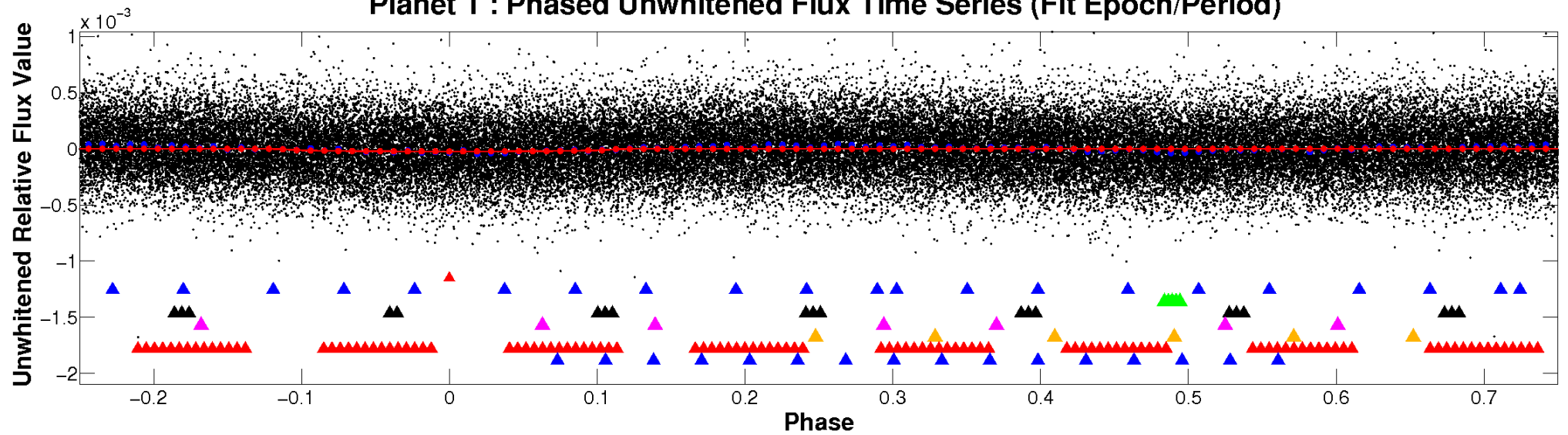
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TCE 008752817-01

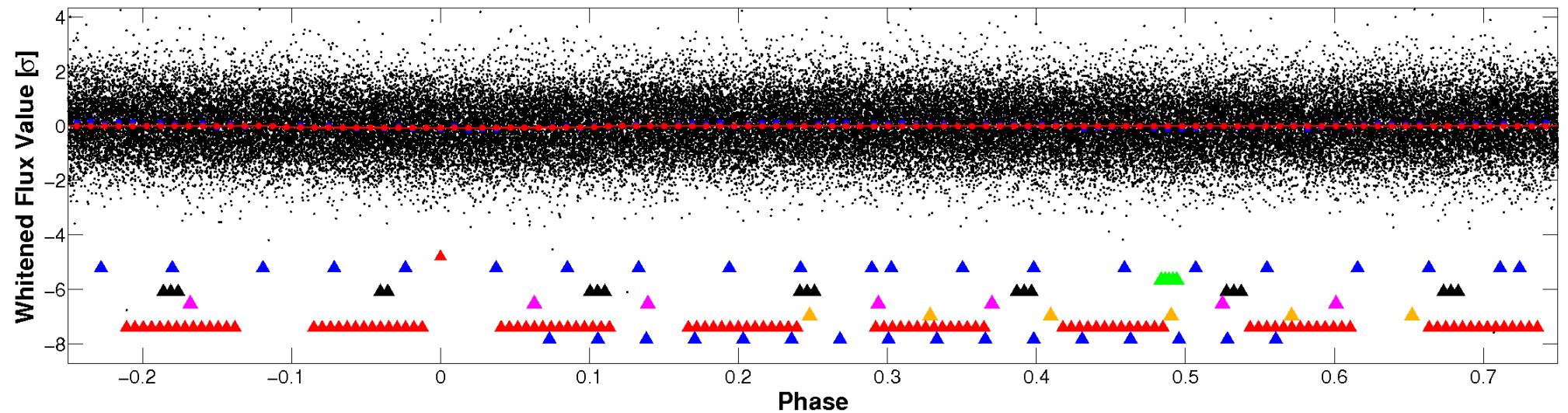


Non-Whitened Vs. Whitened Light Curve

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

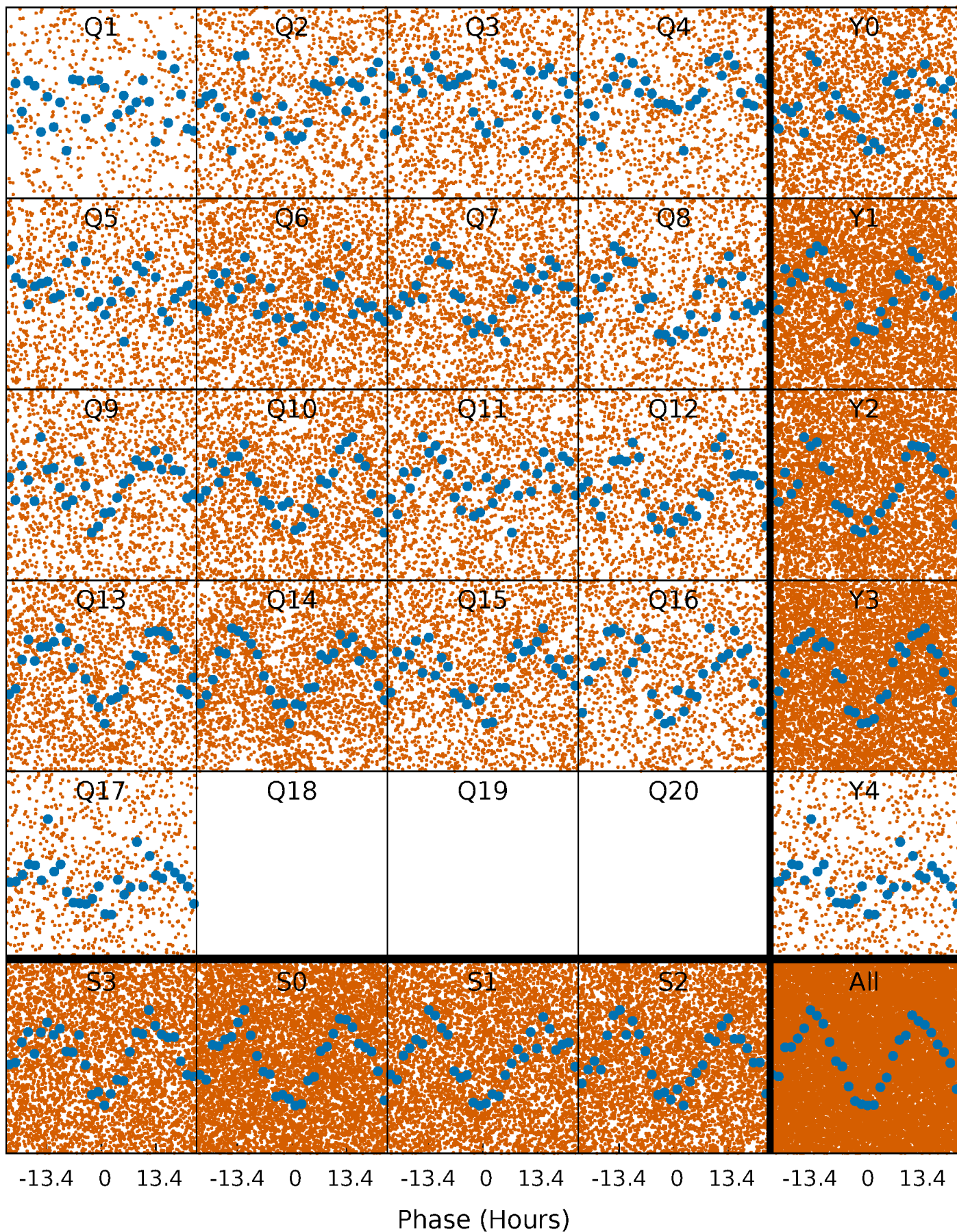


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



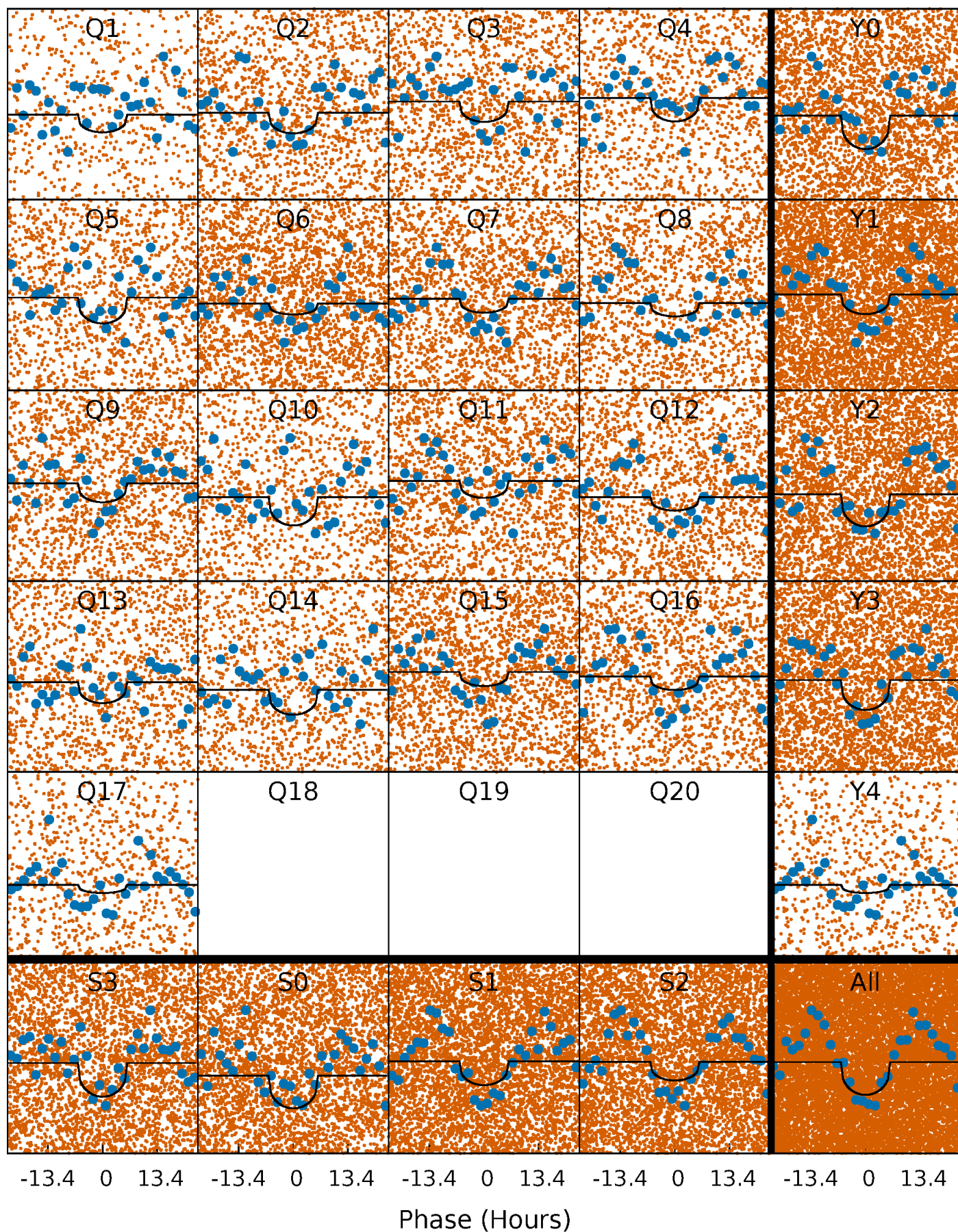
PDC Quarter-Phased Transit Curves

TCE 008752817-01 P= 2.176214 Days $T_0=132.321174$ (BKJD)



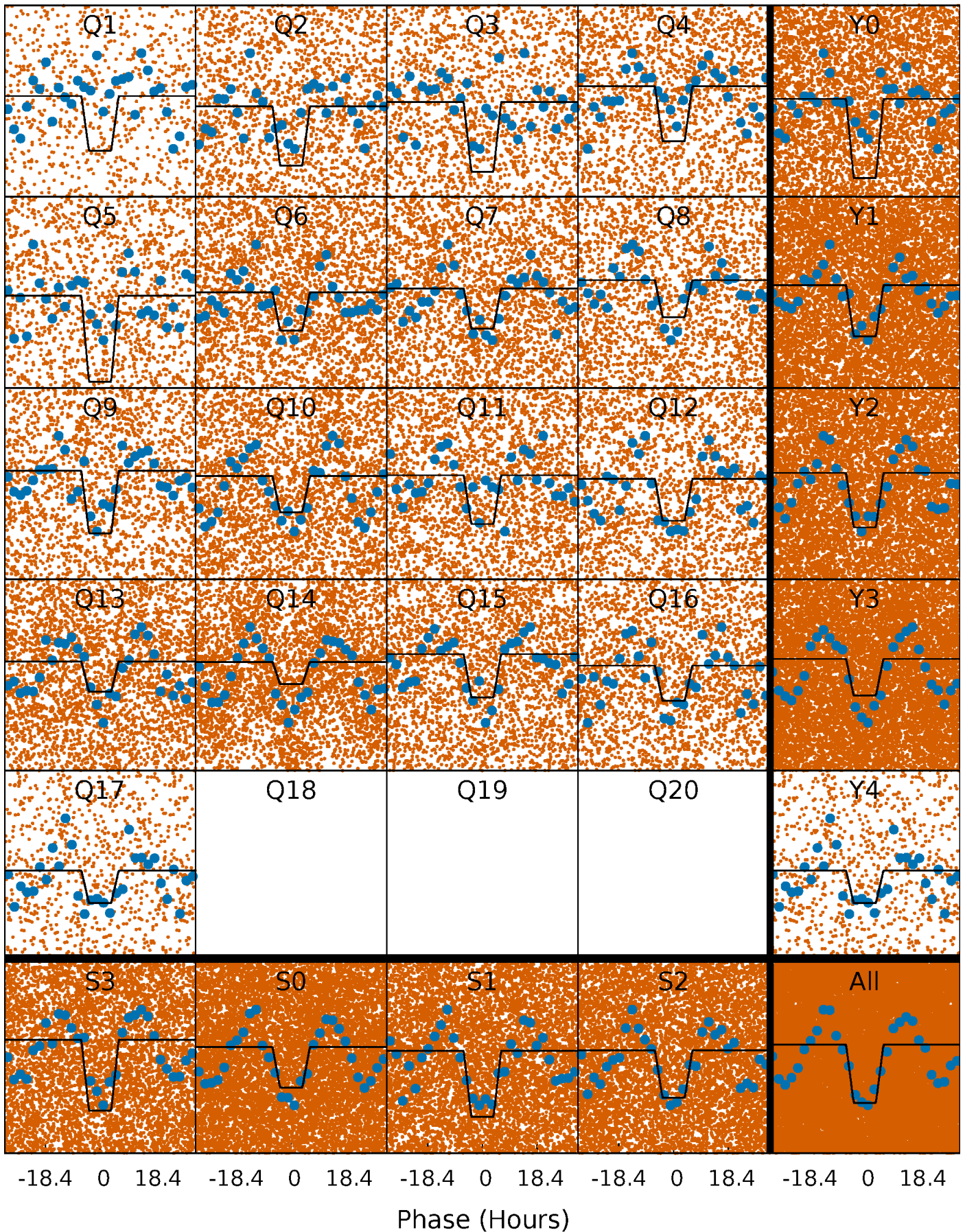
DV Quarter-Phased Transit Curves

TCE 008752817-01 P= 2.176214 Days $T_0=132.321174$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

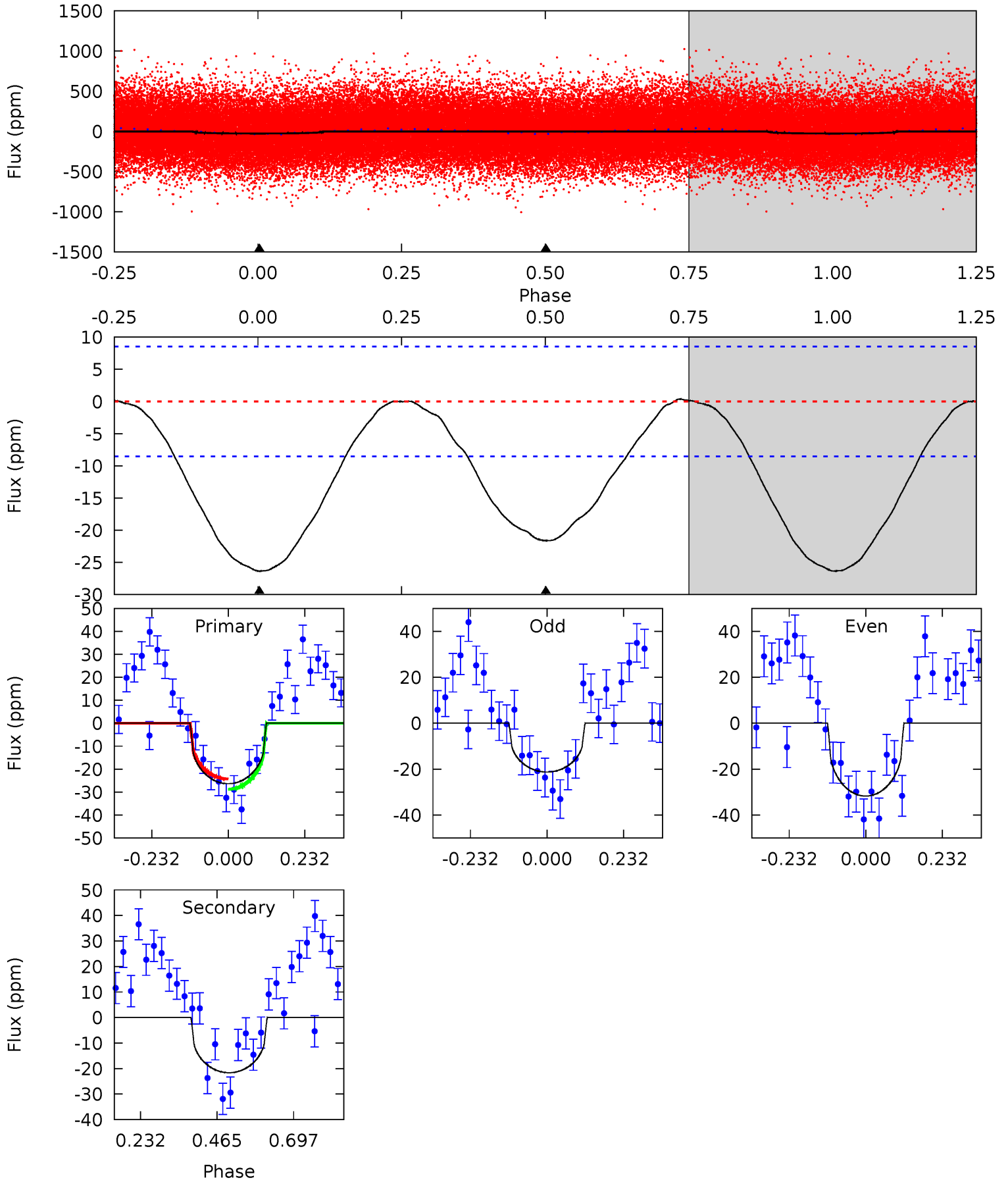
TCE 008752817-01 P= 2.176073 Days $T_0=132.382550$ (BKJD)



DV Model-Shift Uniqueness Test

008752817-01, P = 2.176214 Days, E = 130.144960 Days

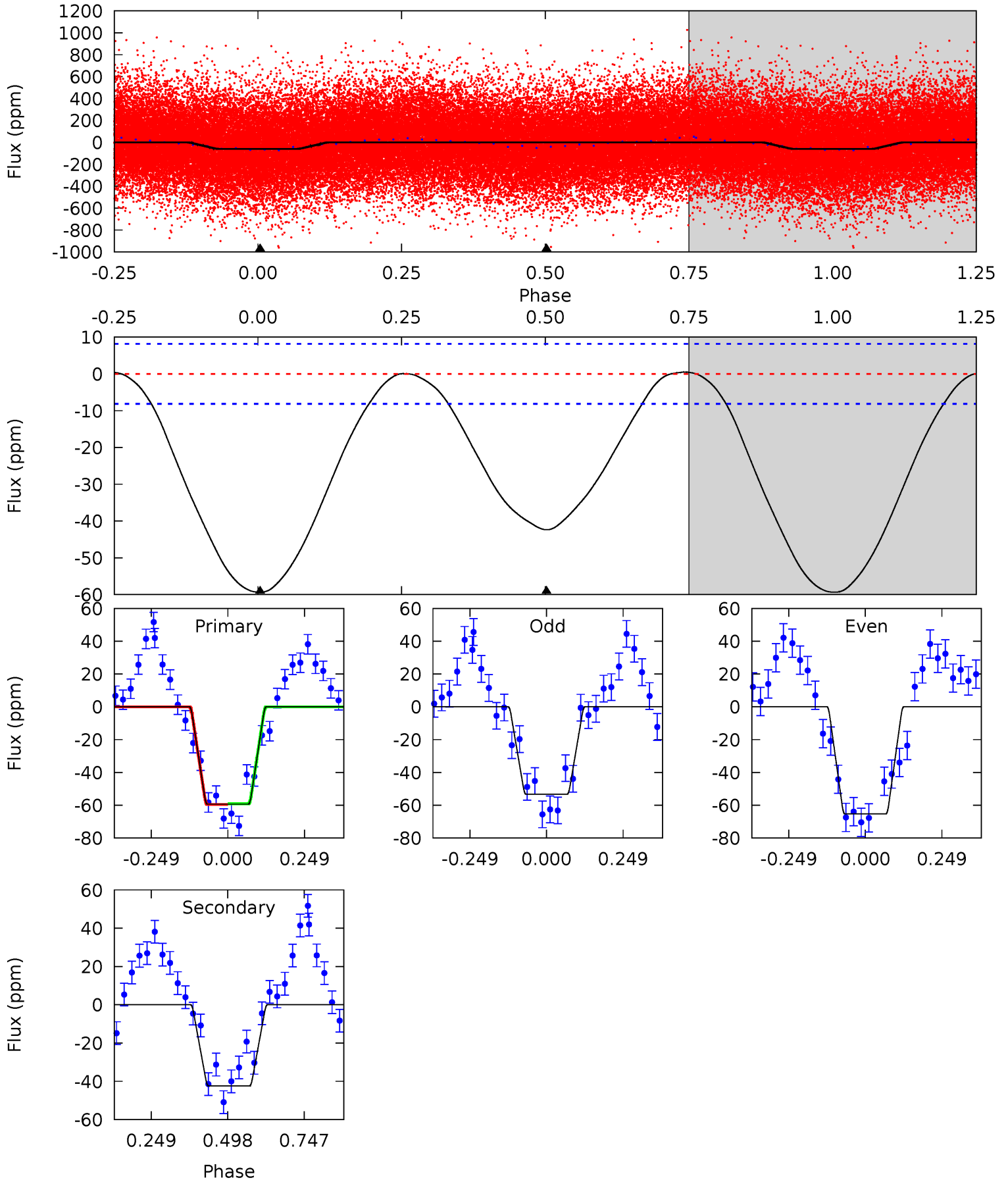
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	11.1	0	0	4.38	1.19	0.10	13.5	13.5	11.1	11.1	2.67	0.91	0.01	1.15



Alt Model-Shift Uniqueness Test

008752817-01, P = 2.176073 Days, E = 130.206477 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.8	22.7	0	0	4.37	1.15	0.28	31.8	31.8	22.7	22.7	3.22	1.10	0.01	0.12



Stellar Parameters For KIC 008752817

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4973^{+138}_{-173}	$3.263^{+0.448}_{-0.241}$	$0.400^{+0.050}_{-0.350}$	$5.501^{+1.656}_{-3.076}$	$2.021^{+0.660}_{-0.991}$	$0.017^{+0.093}_{-0.010}$
	+3%/-3%	+14%/-7%	+12%/-87%	+30%/-56%	+33%/-49%	+543%/-57%
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 008752817-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-22 ± 2	$3.23^{+3.45}_{-2.07}$	3472^{+353}_{-444}	4335^{+2776}_{-1250}	$1.941^{+13.270}_{-1.458}$
Alt.	-42 ± 2	$4.93^{+3.83}_{-3.07}$	3464^{+360}_{-422}	4242^{+2320}_{-899}	$1.760^{+9.915}_{-1.182}$

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 $A_{obs} \gg 1.0$

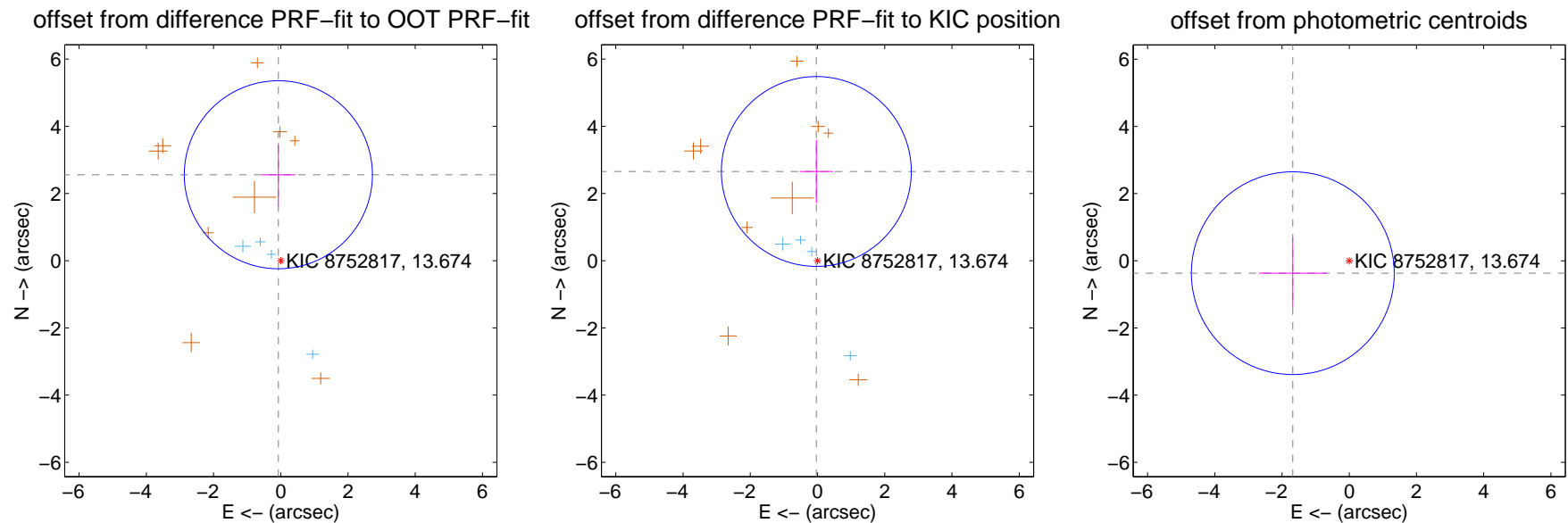
DV Centroid Data

Supplemental centroid analysis for 008752817-01. Kepler magnitude: 13.67. Transit SNR 7.00

There are 4 quarters with good PRF difference image offsets

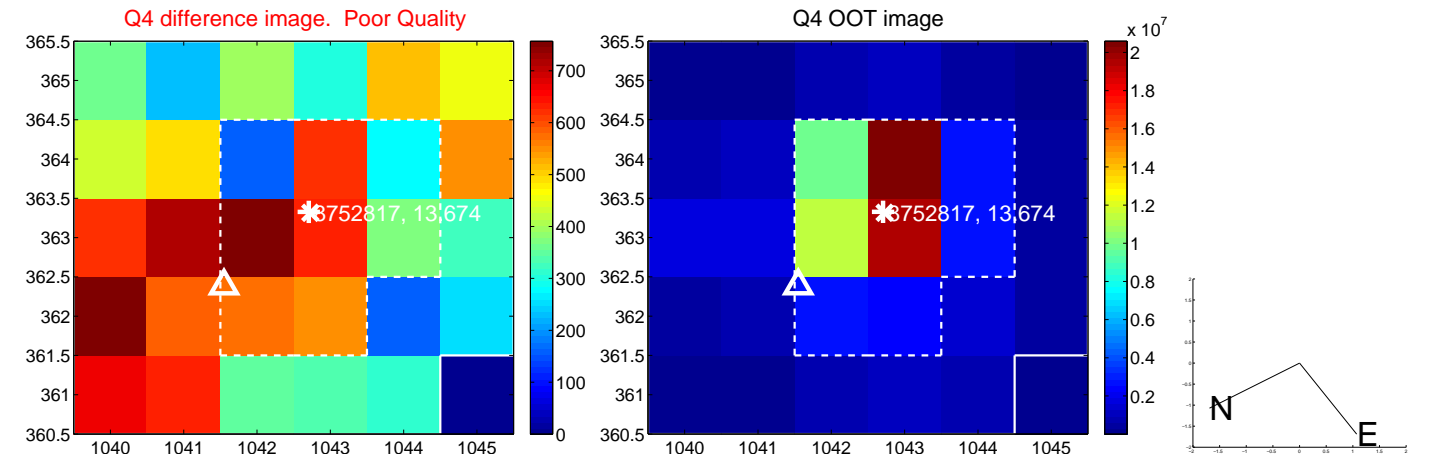
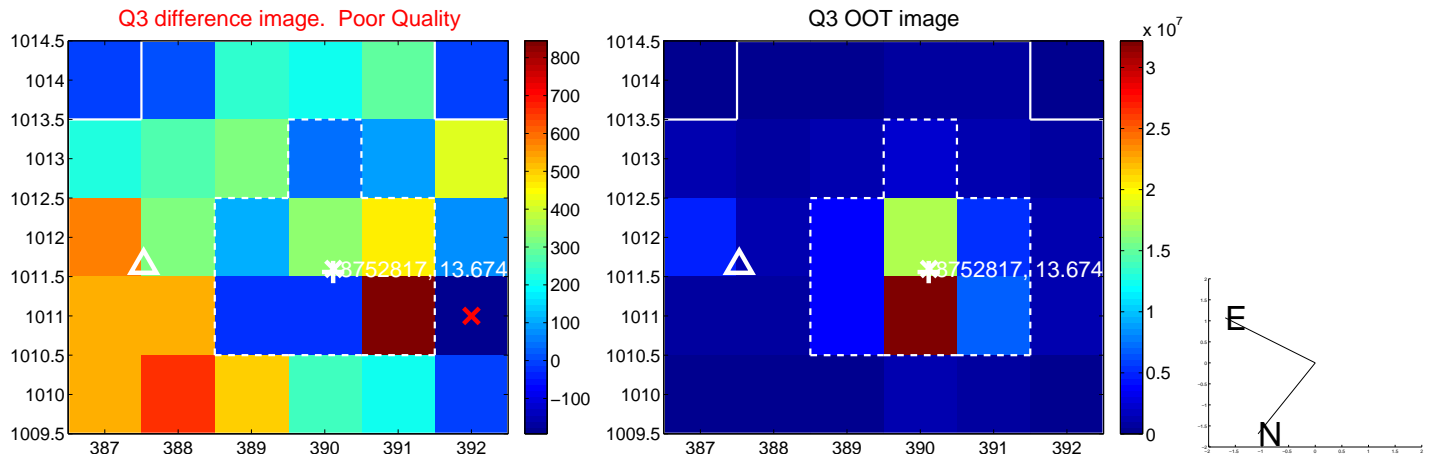
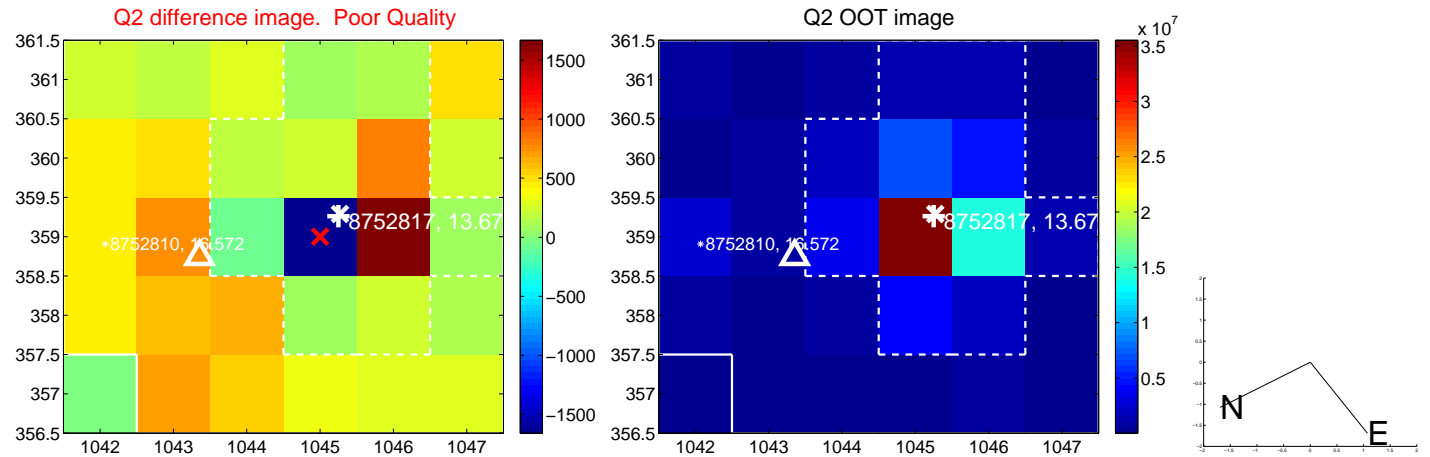
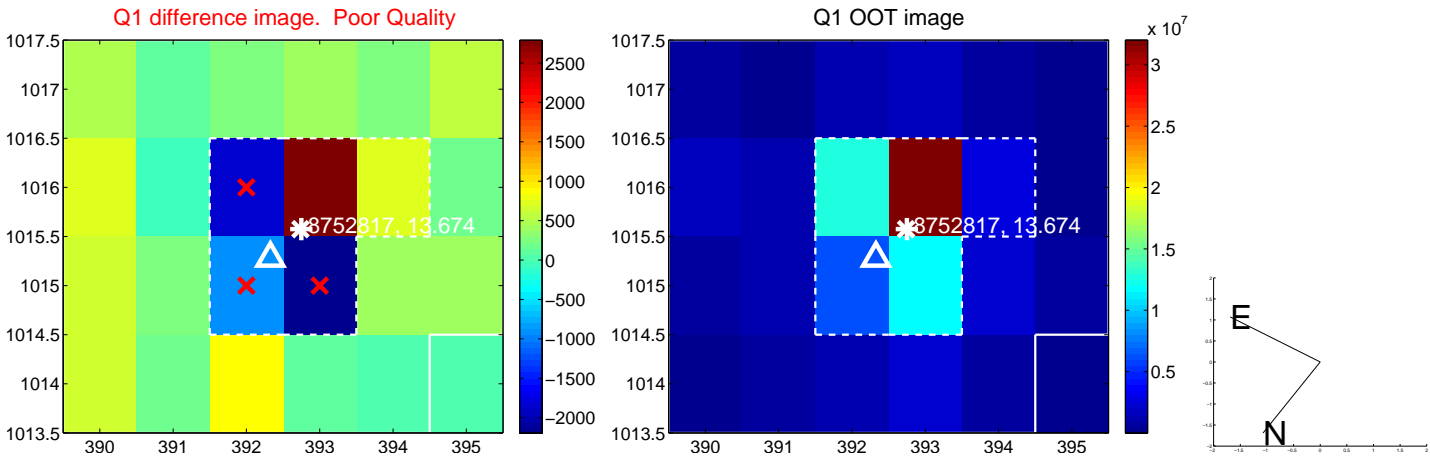
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.559 ± 0.933	2.74	0.072 ± 0.504	2.558 ± 0.933
PRF-fit source offset from KIC position	2.656 ± 0.941	2.82	0.035 ± 0.496	2.656 ± 0.942
photometric centroid source offset	1.72 ± 1.01	1.71	1.68 ± 1.01	-0.37 ± 1.03

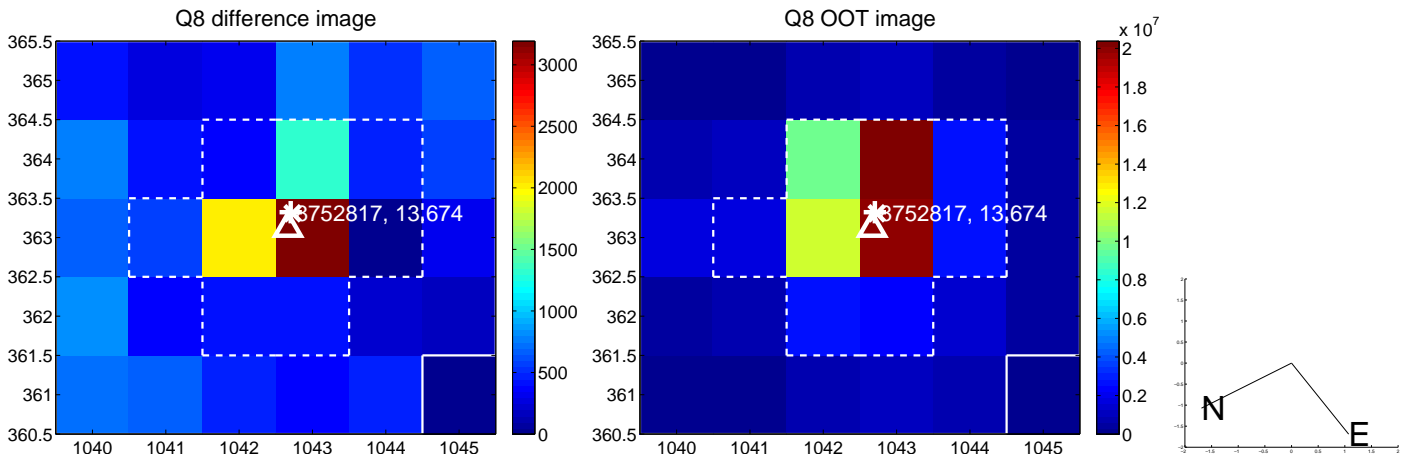
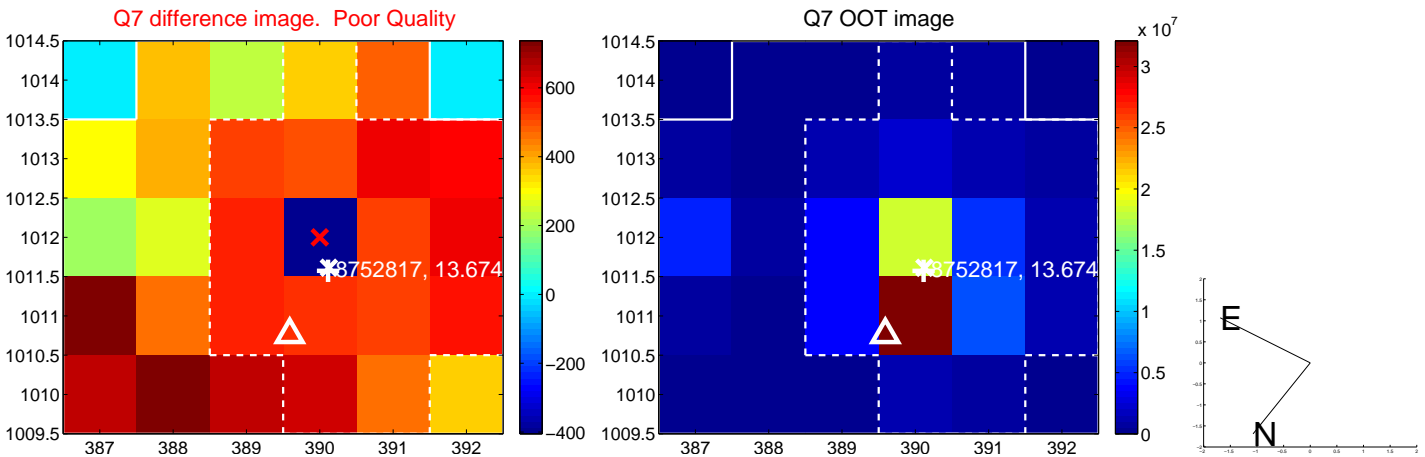
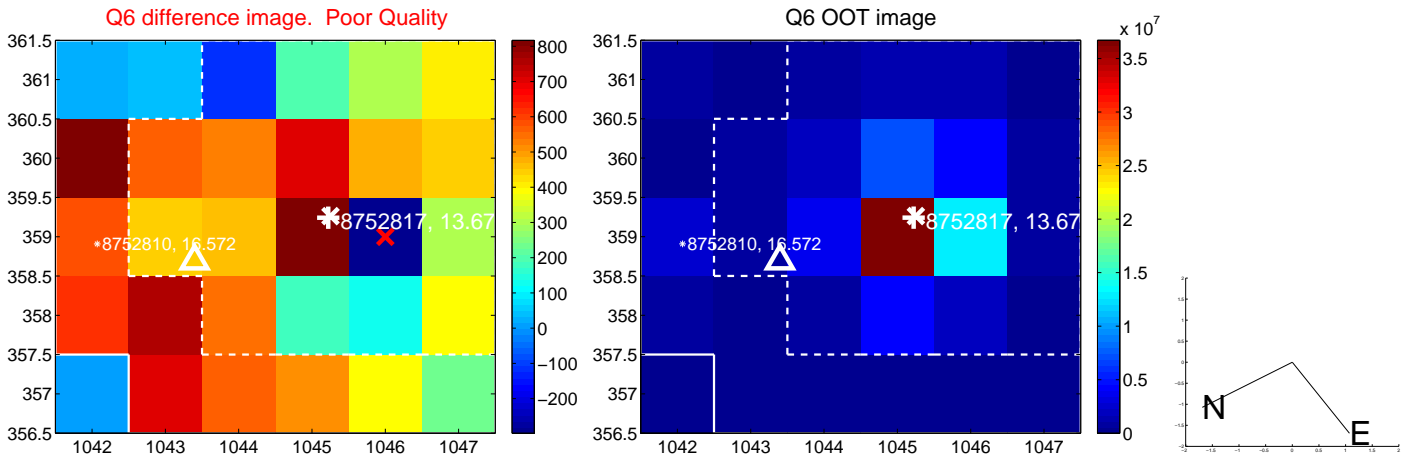
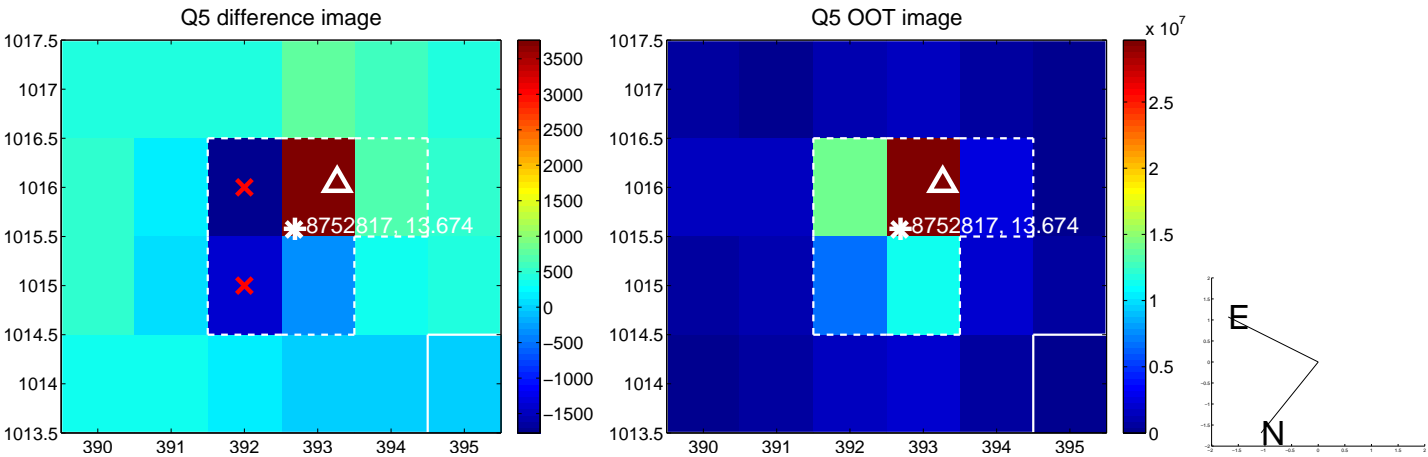


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

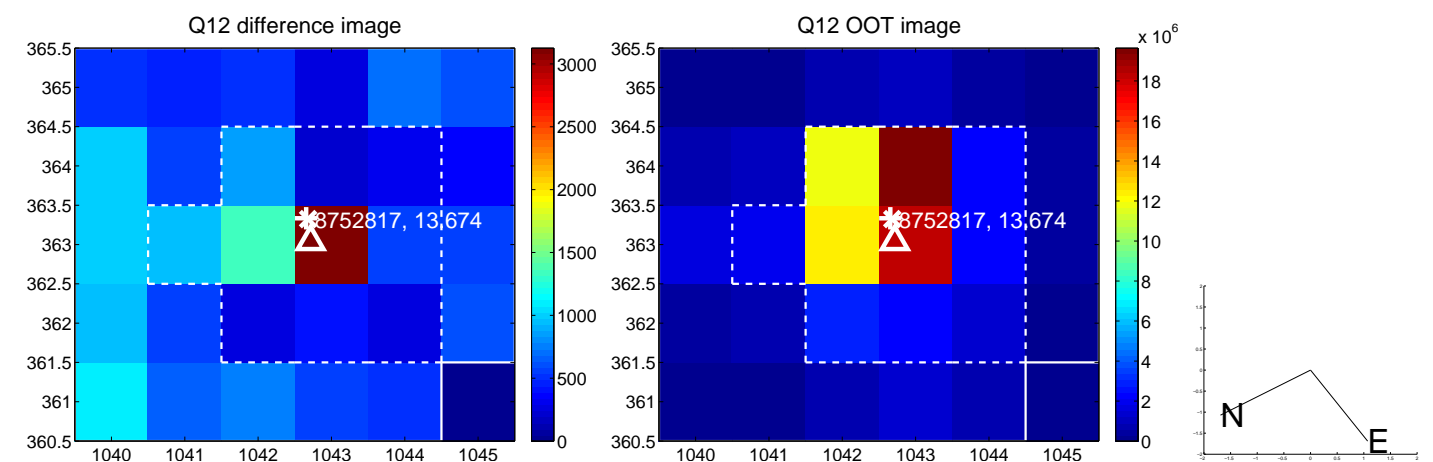
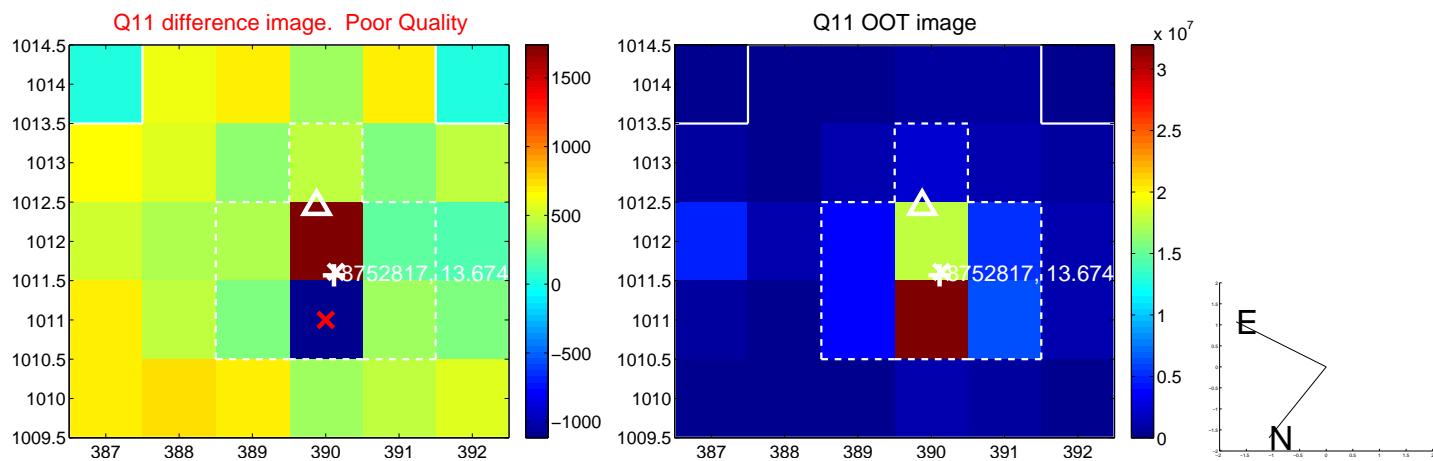
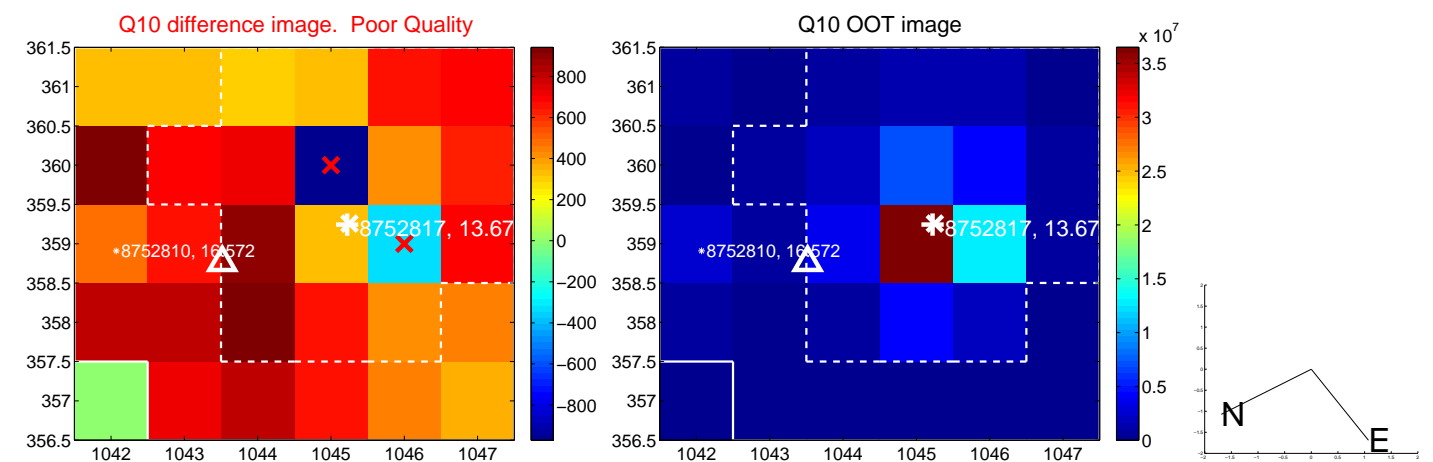
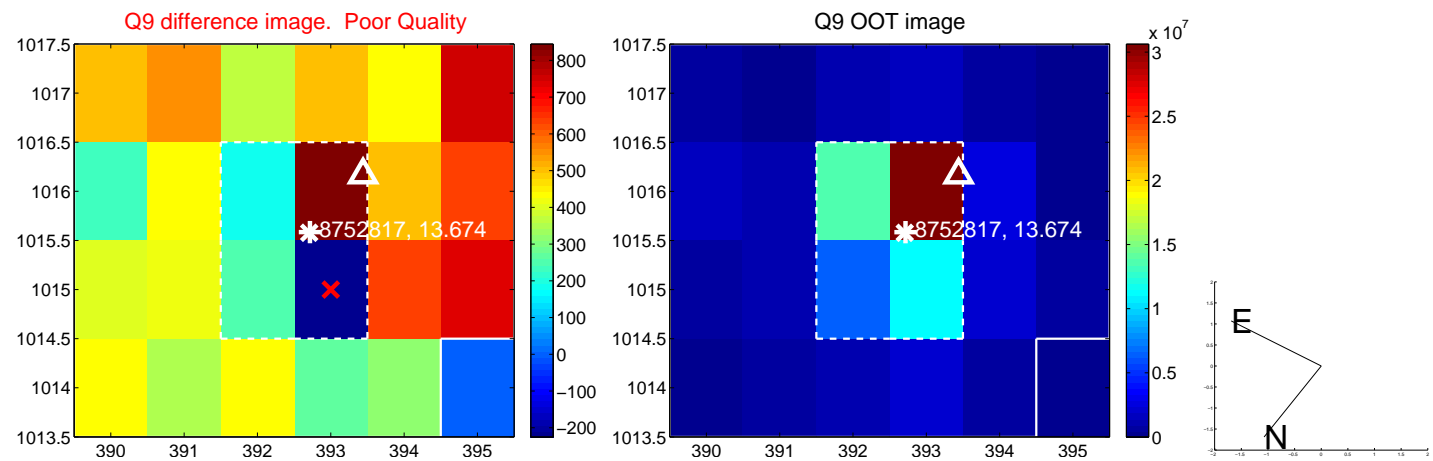
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



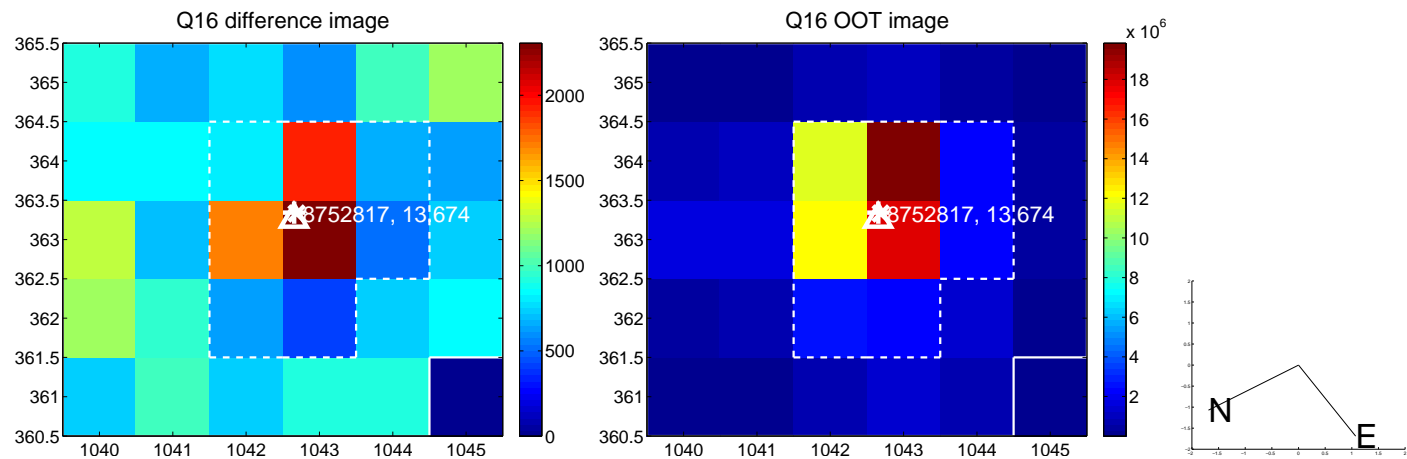
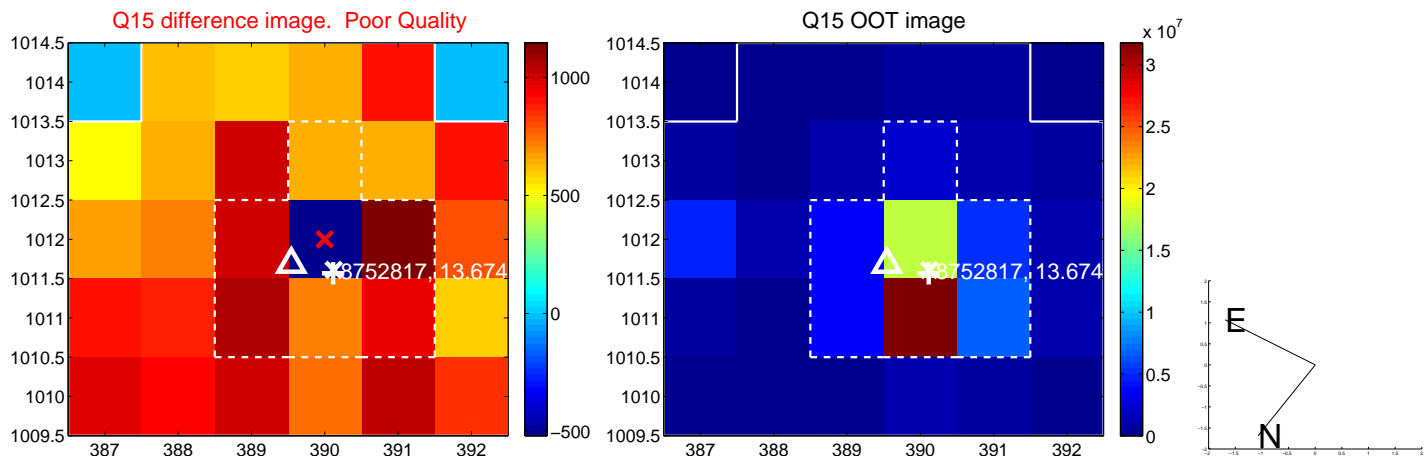
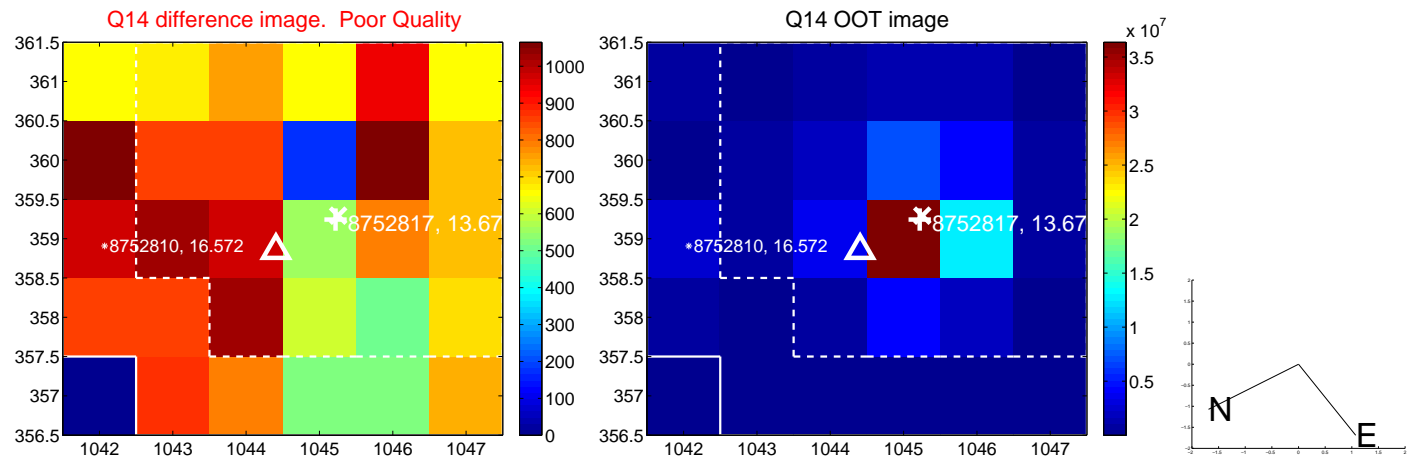
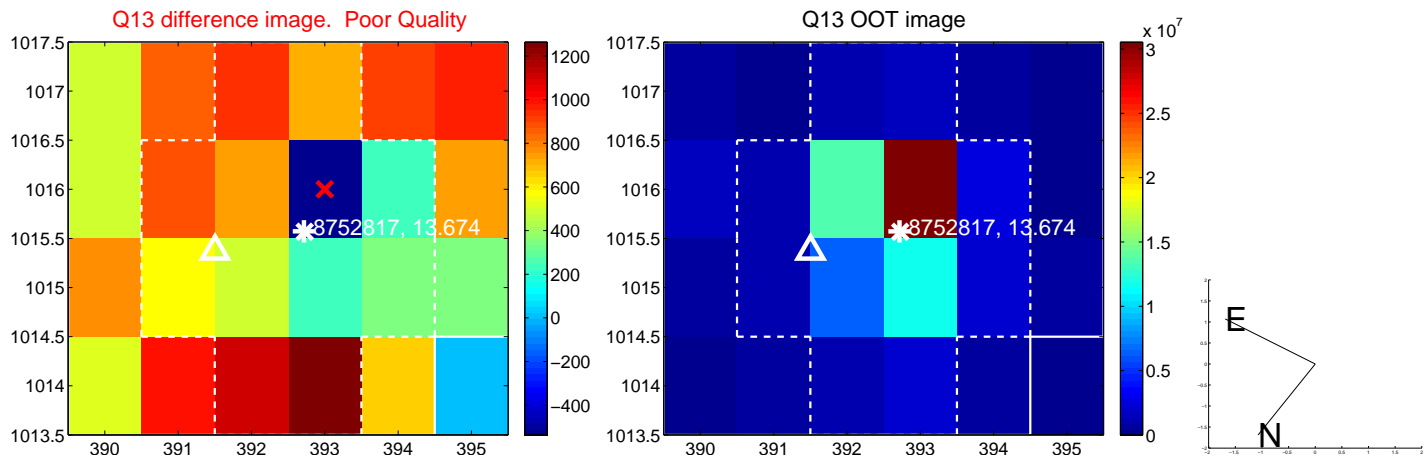
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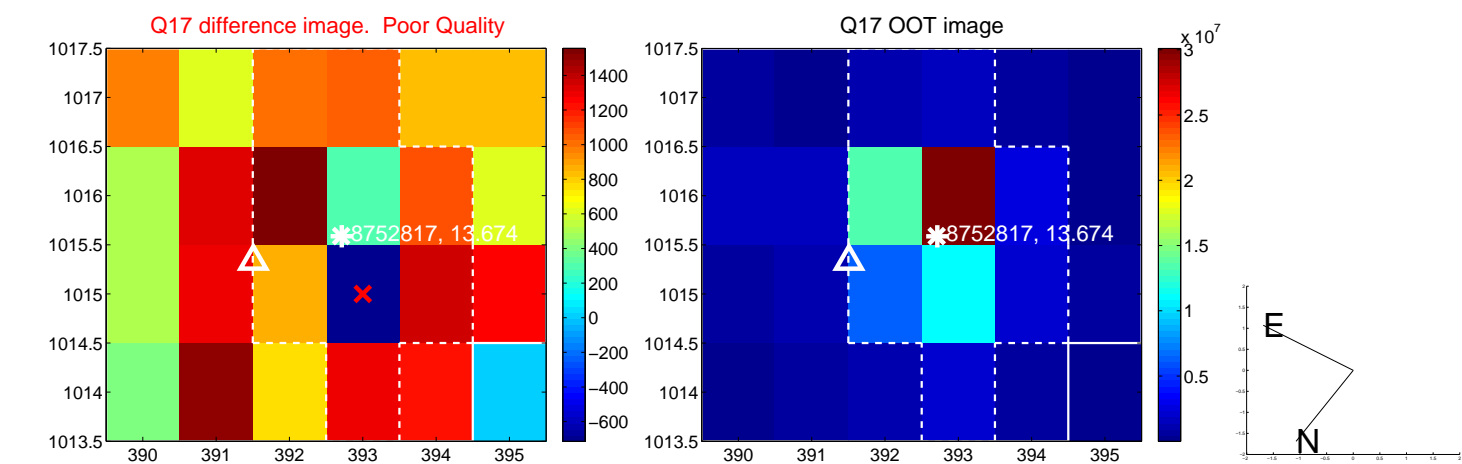
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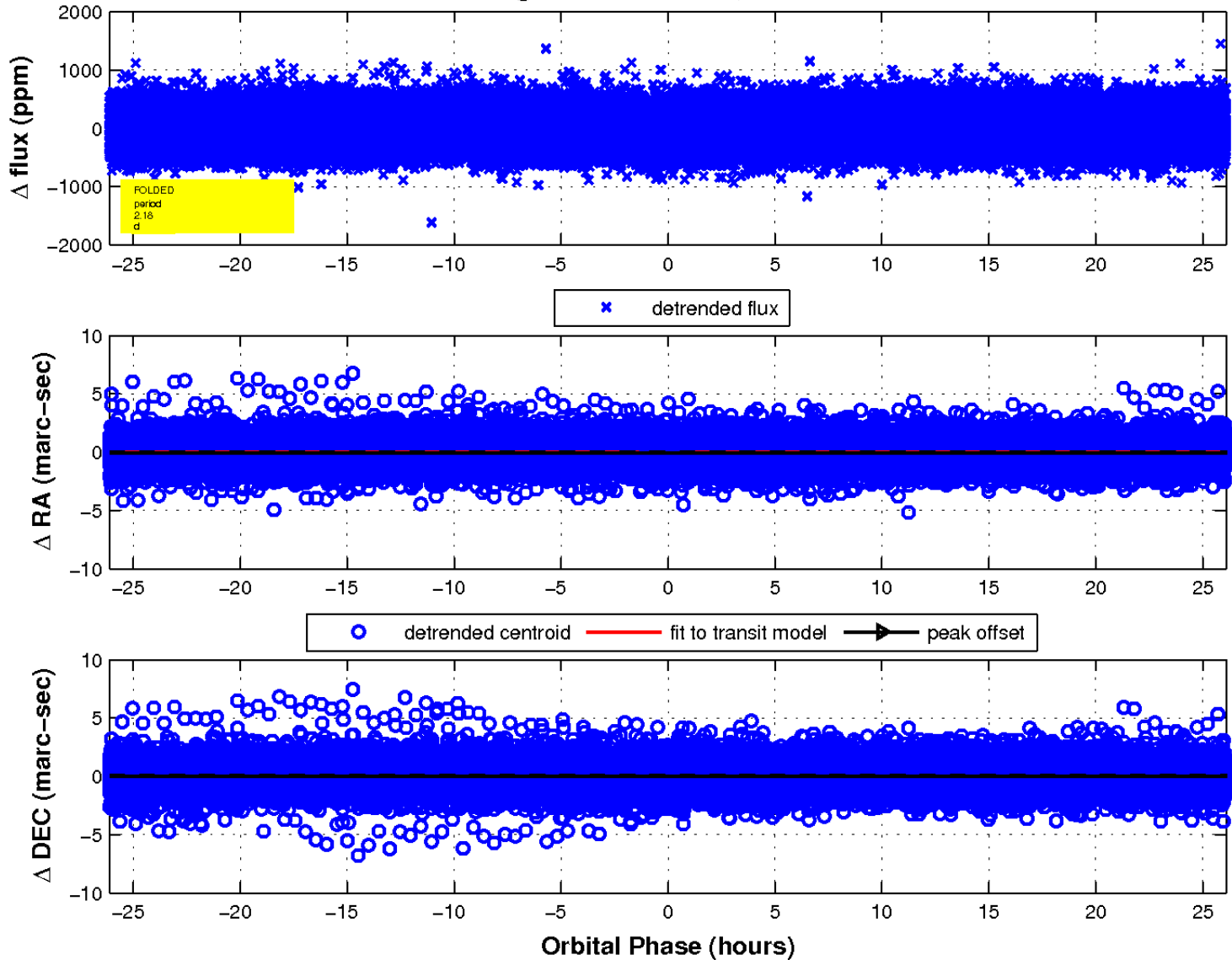
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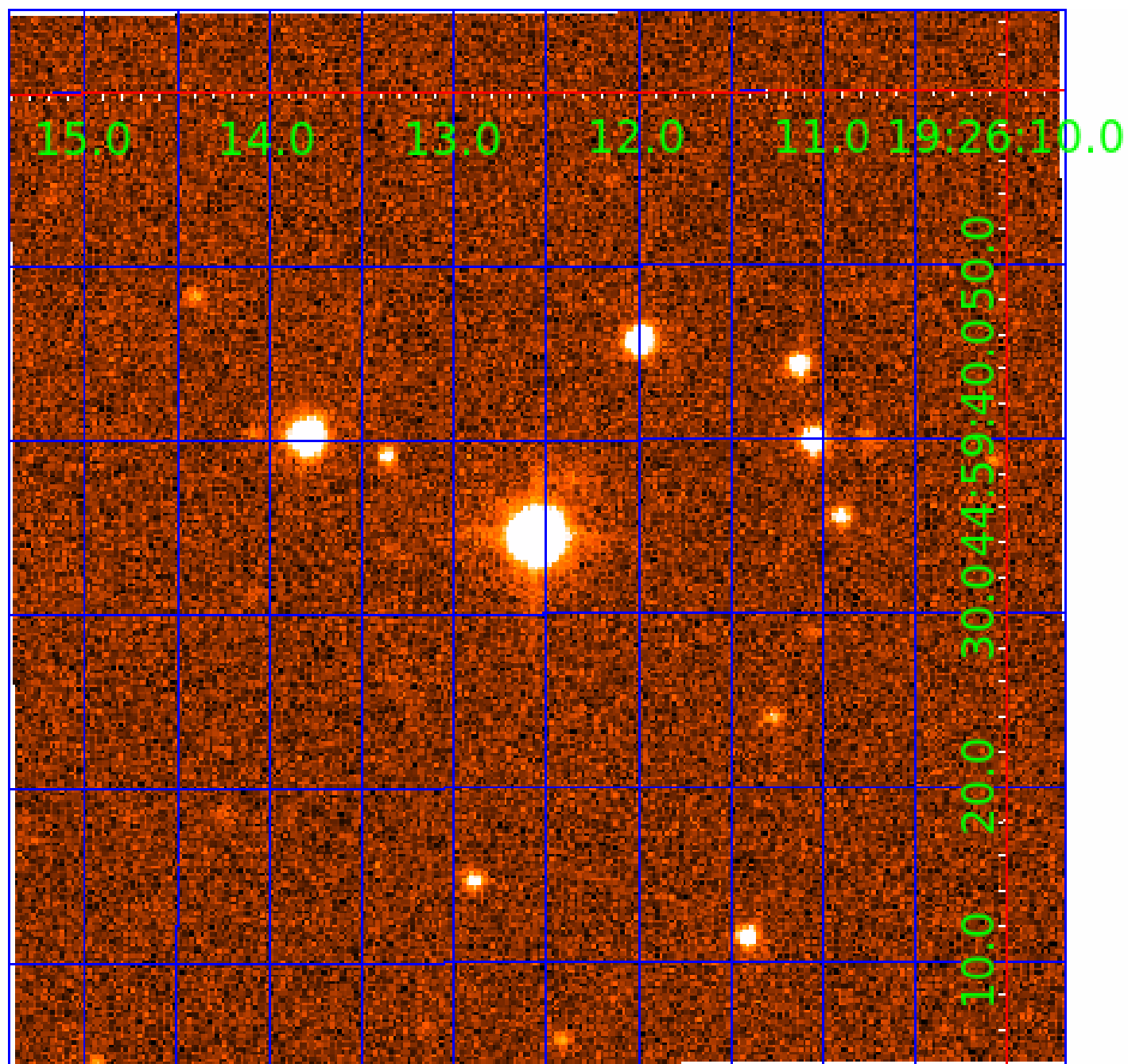


fluxWeightedCentroids, Planet 1 of 8



UKIRT Image

Declination



KIC 008752817

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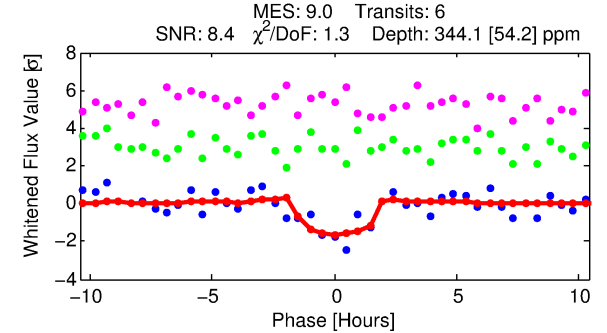
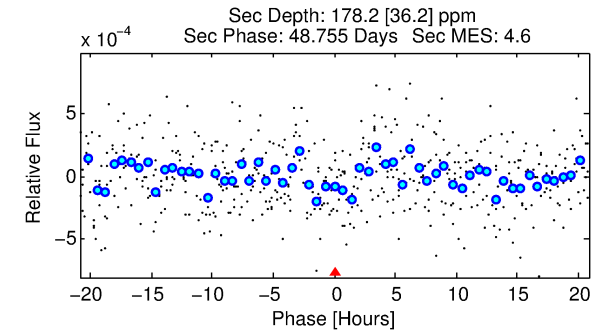
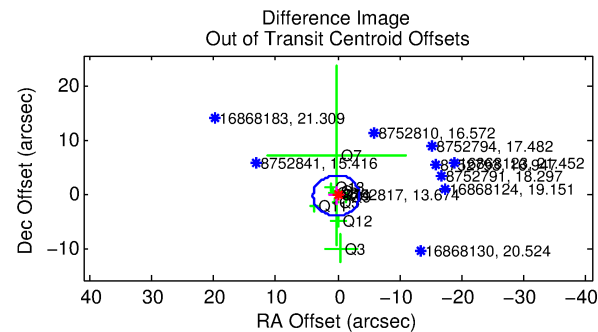
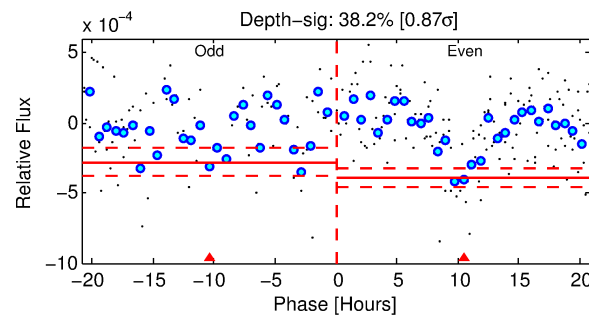
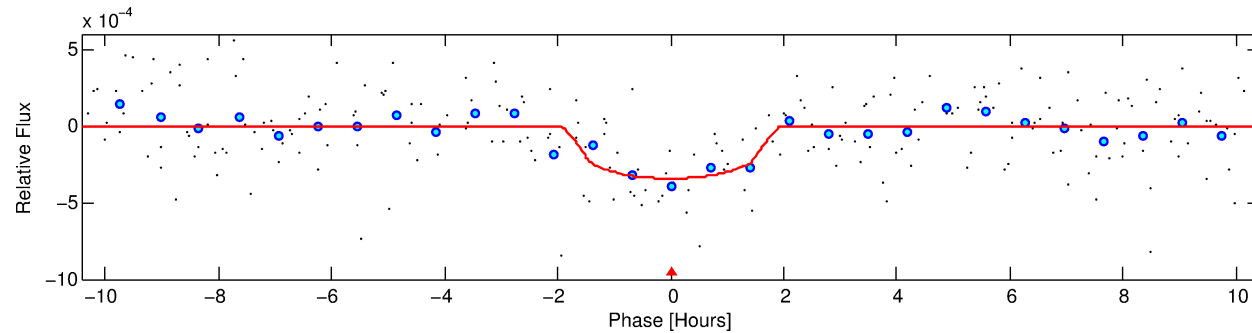
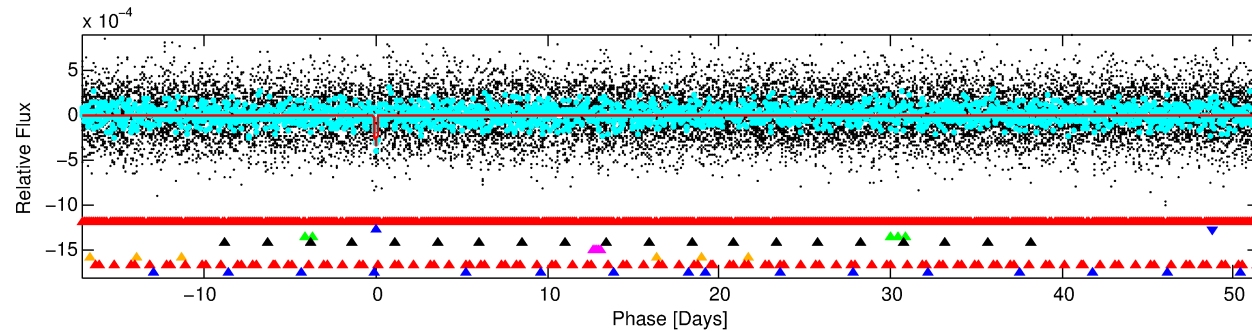
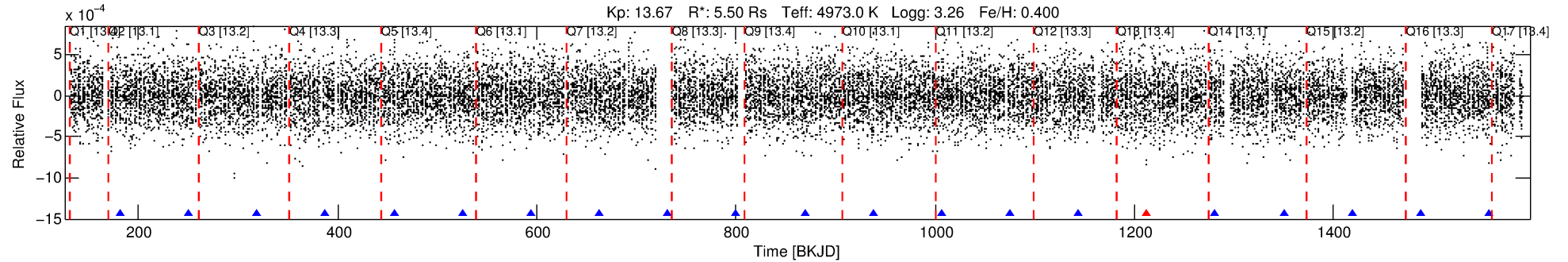
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008752817-02

No Significant Match Found

DV One-Page Summary

KIC: 8752817 Candidate: 2 of 8 Period: 68.721 d



DV Fit Results:

Period = 68.72103 [0.00099] d
Epoch = 181.7742 [0.0118] BKJD
Rp/R* = 0.0171 [0.0371]
a/R* = 133.52 [939.95]
b = 0.50 [10.70]
Seff = 96.13 [76.38]
Teq = 798 [159] K
Rp = 10.28 [23.02] Re
a = 0.4153 [0.2106] AU
Ag = 160.09 [706.36] [0.23 σ]
Teffp = 4391 [4769] K [0.75 σ]

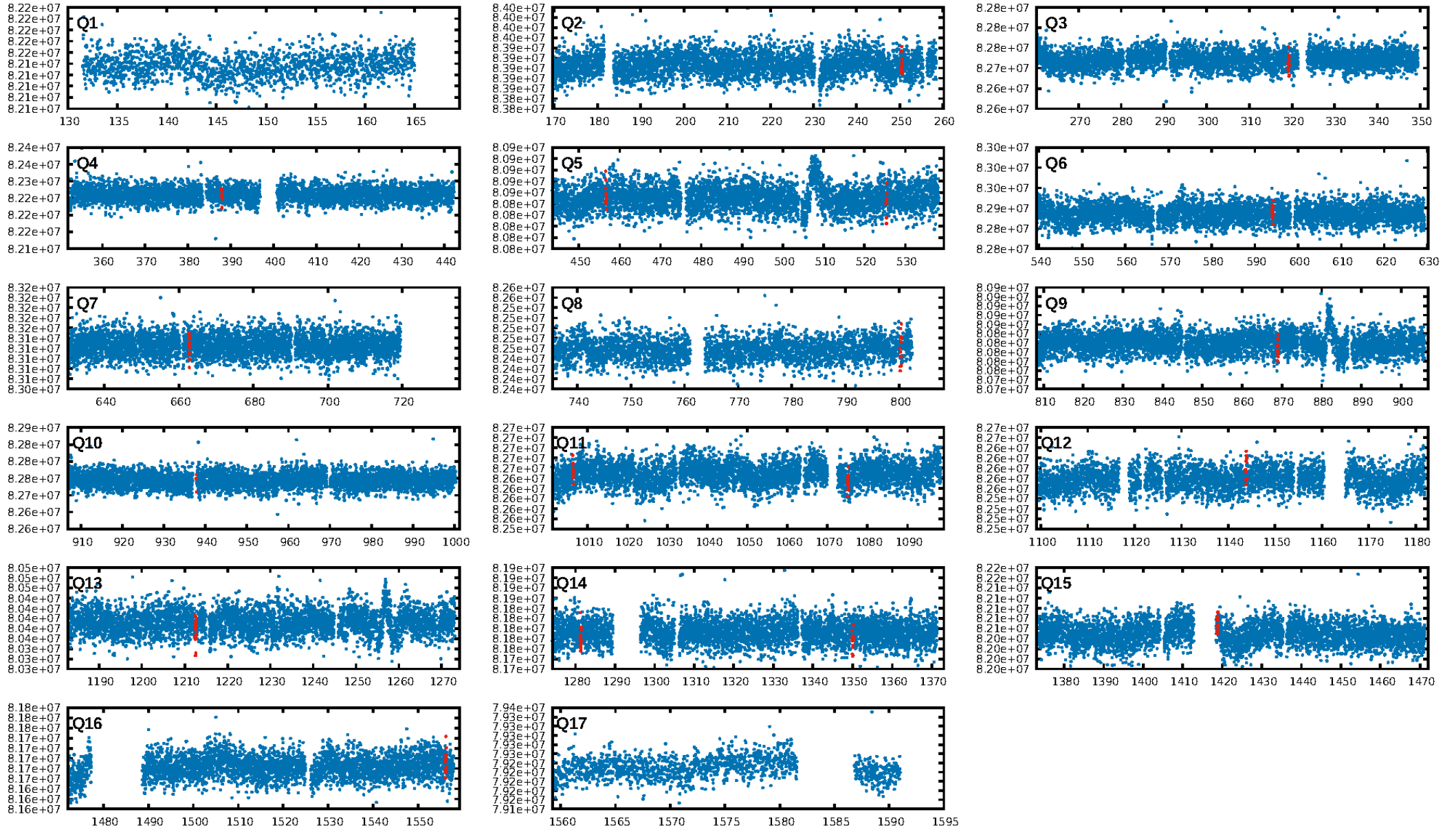
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [304.03 σ]
LongPeriod-sig: 100.0% [13.61 σ]
ModelChiSquare2-sig: 29.0%
ModelChiSquareGof-sig: 89.8%
Bootstrap-pfa: 3.42e-11
RollingBand-fgt: 0.83 [5/6]
GhostDiagnostic-chr: 2.648
Centroid-sig: 0.9%
Centroid-so: 1.687 arcsec [2.31 σ]
OotOffset-rm: 0.270 arcsec [0.22 σ]
KicOffset-rm: 0.248 arcsec [0.21 σ]
OotOffset-st: 1/3/3/3 [10]
KicOffset-st: 1/3/3/3 [10]
DiffImageQuality-fgm: 0.50 [5/10]
DiffImageOverlap-fno: 0.54 [7/13]

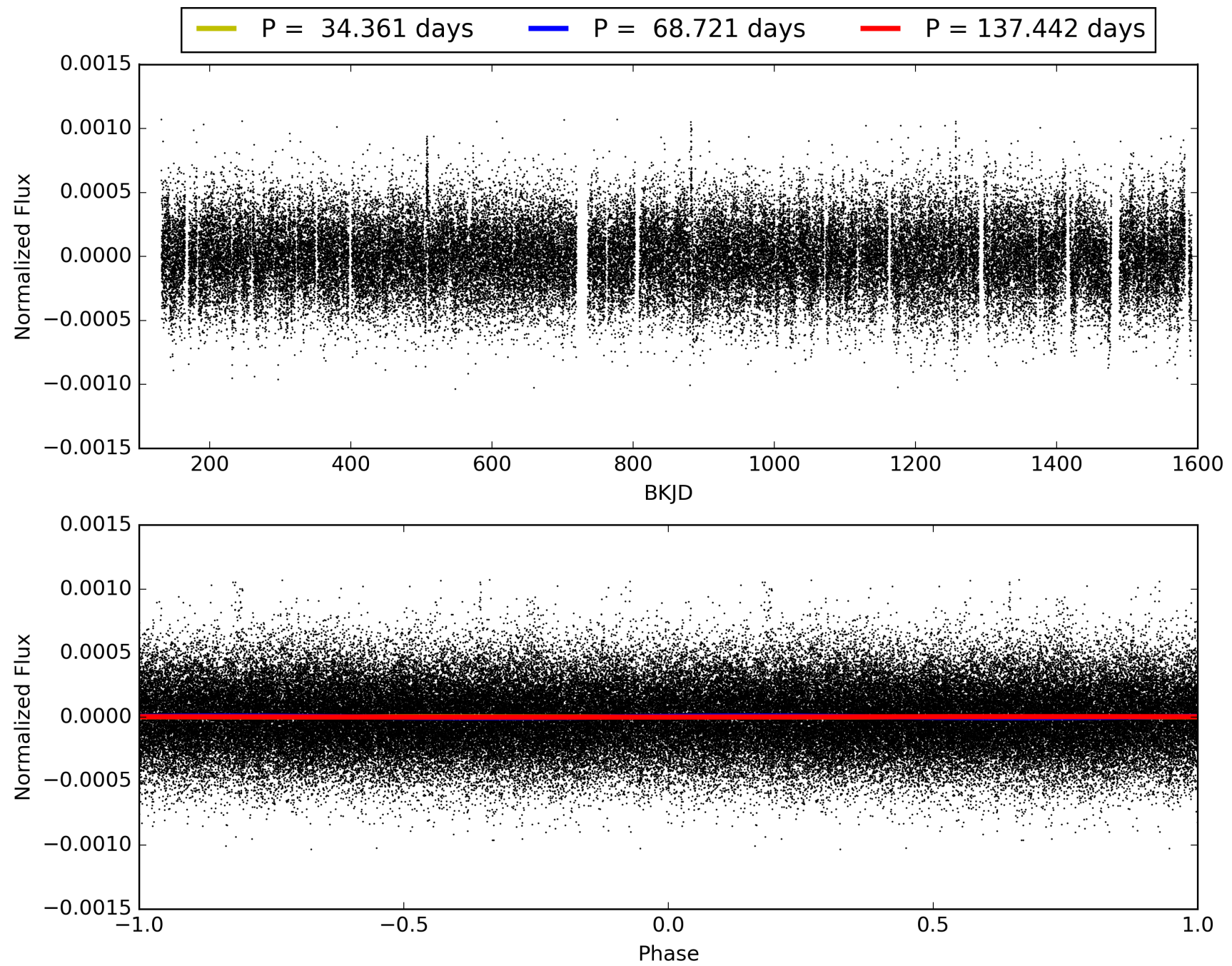
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:01:13 Z

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

TCE 008752817-02, PDC Light Curves

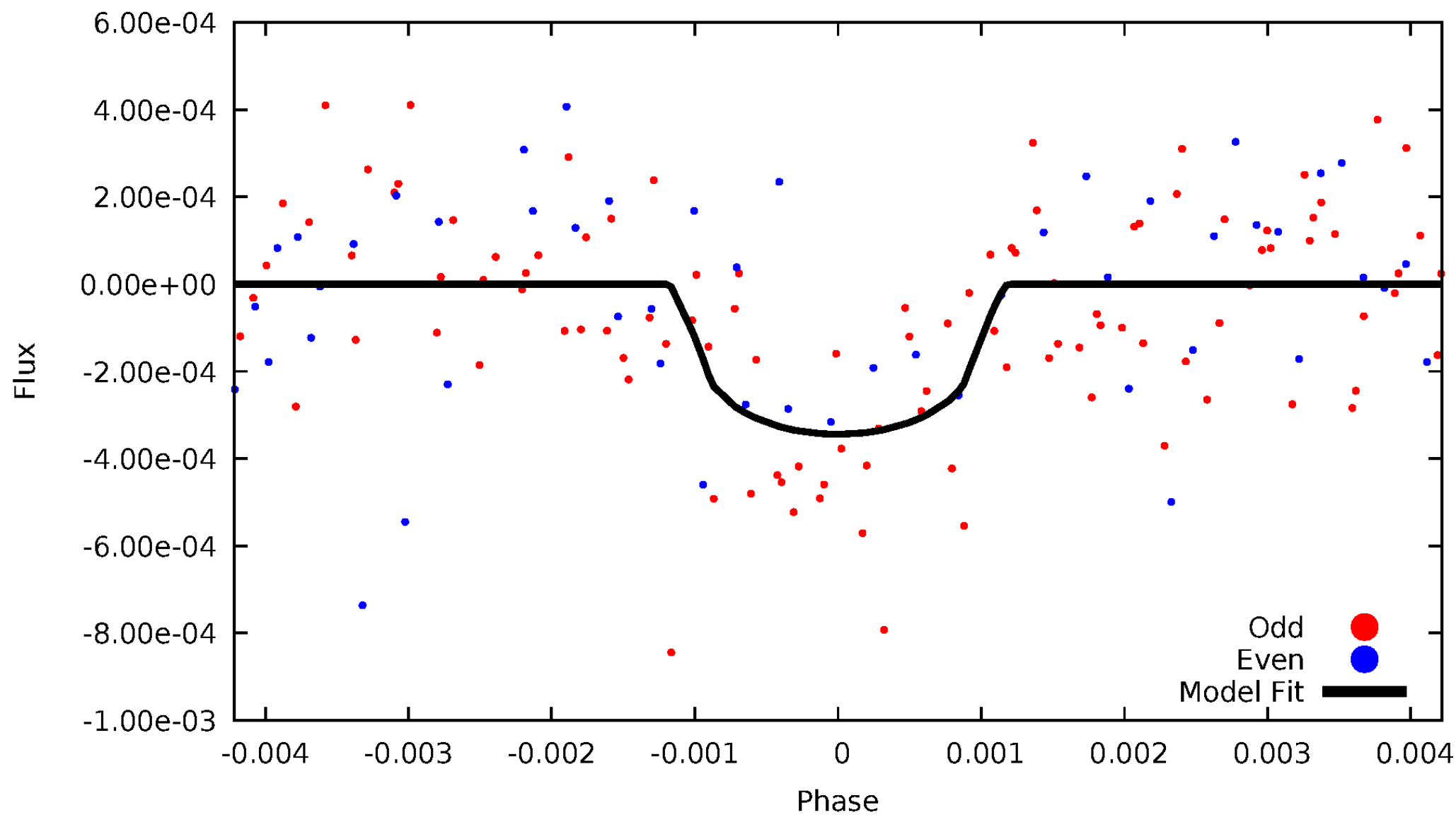


TCE 008752817-02



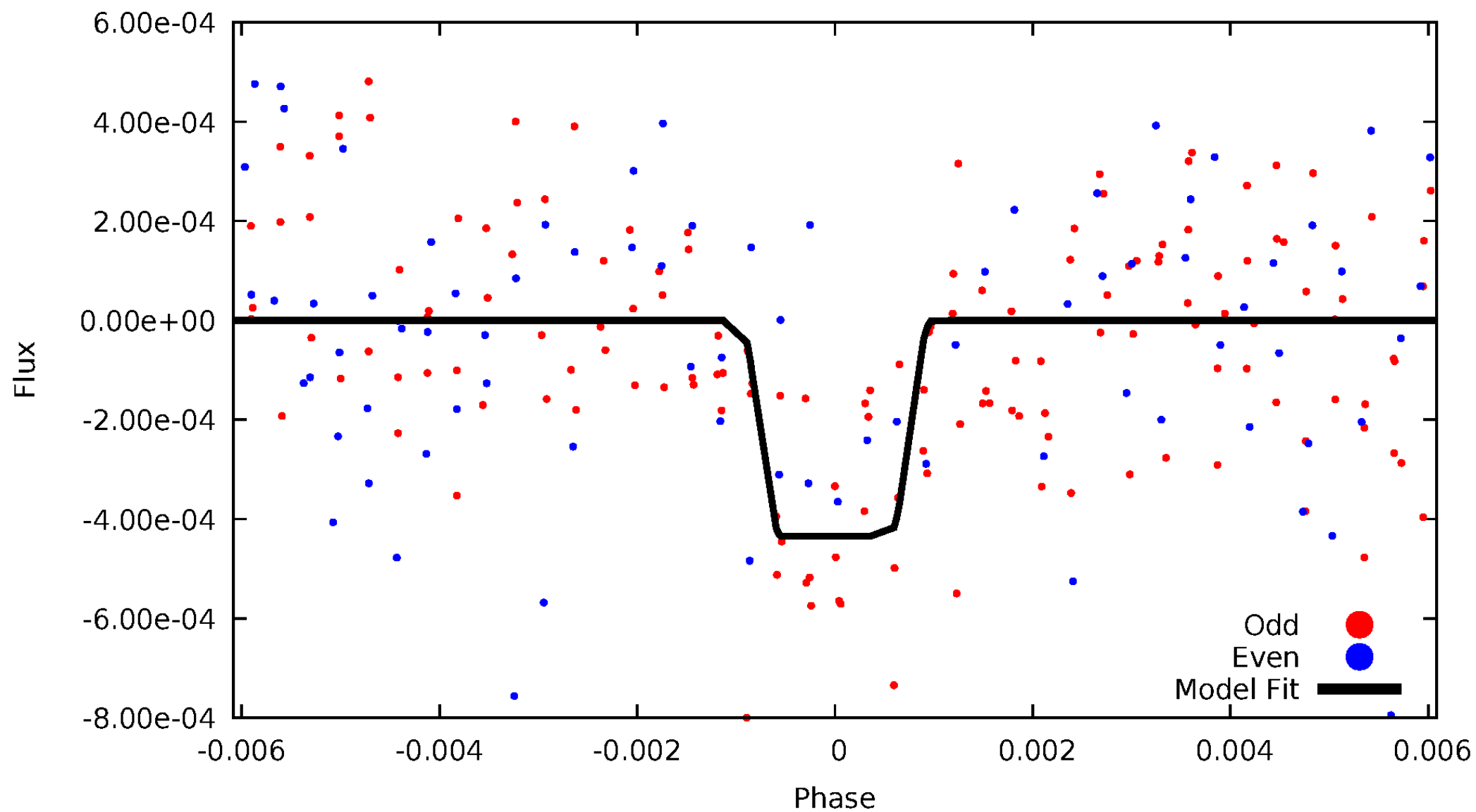
DV Odd/Even

TCE 008752817-02



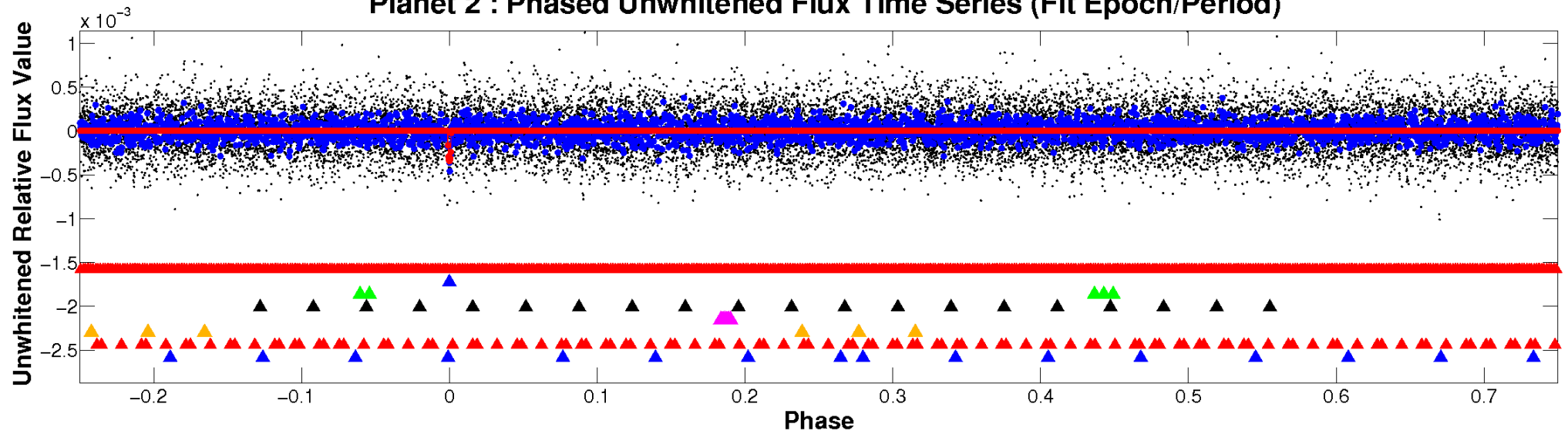
ALT Odd/Even

TCE 008752817-02

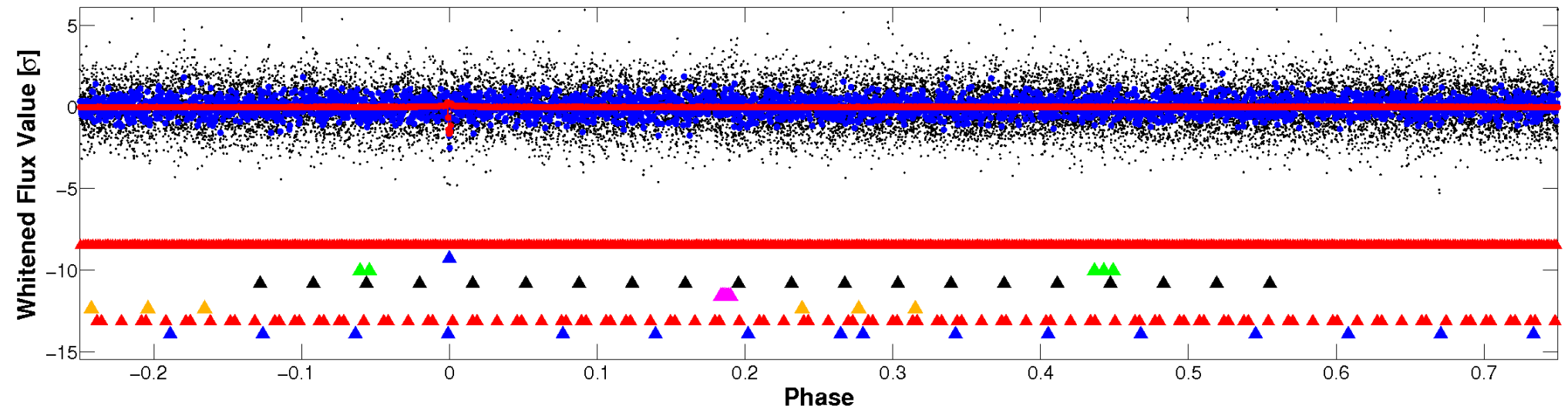


Non-Whitened Vs. Whitened Light Curve

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

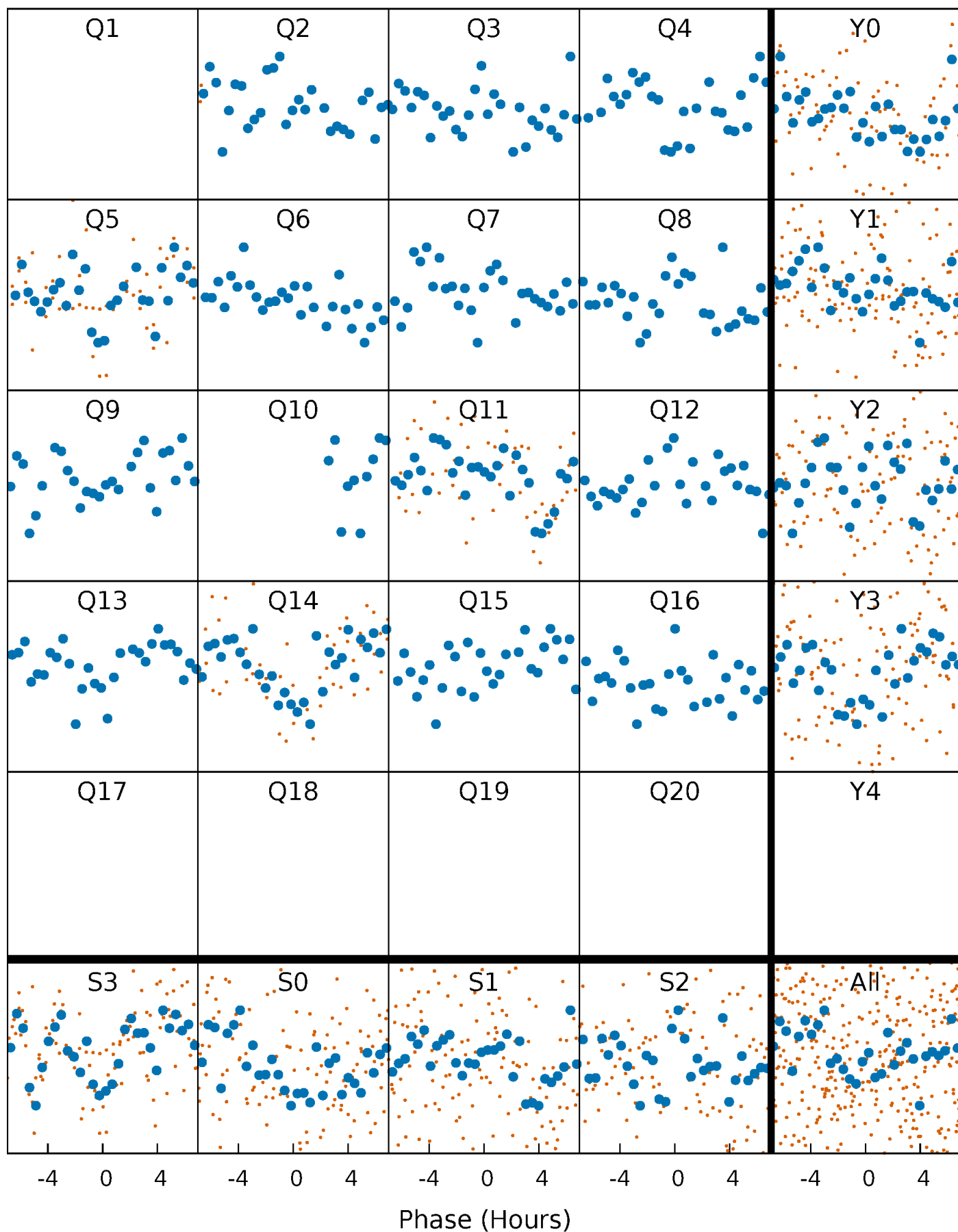


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



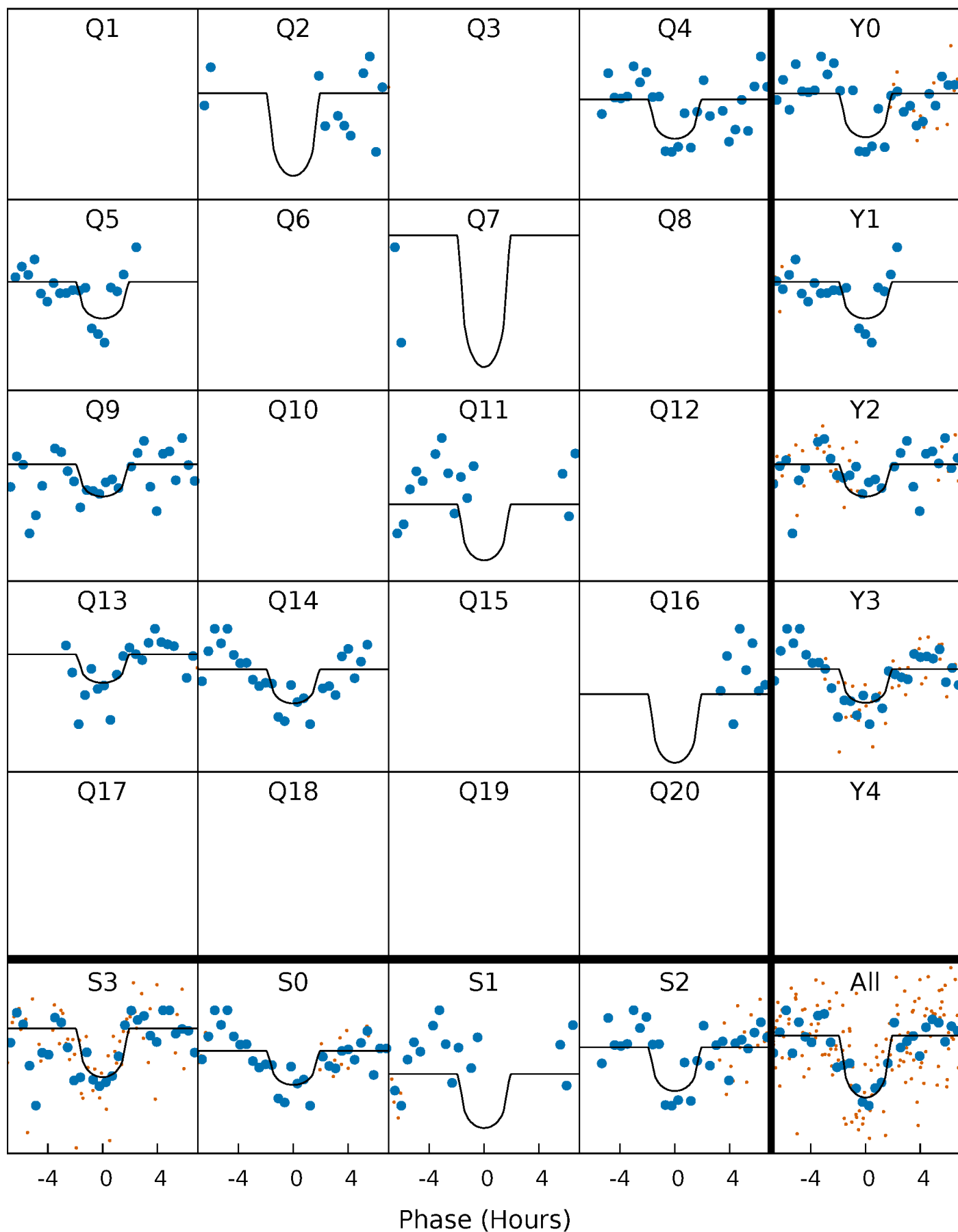
PDC Quarter-Phased Transit Curves

TCE 008752817-02 P= 68.721032 Days $T_0=181.774220$ (BKJD)



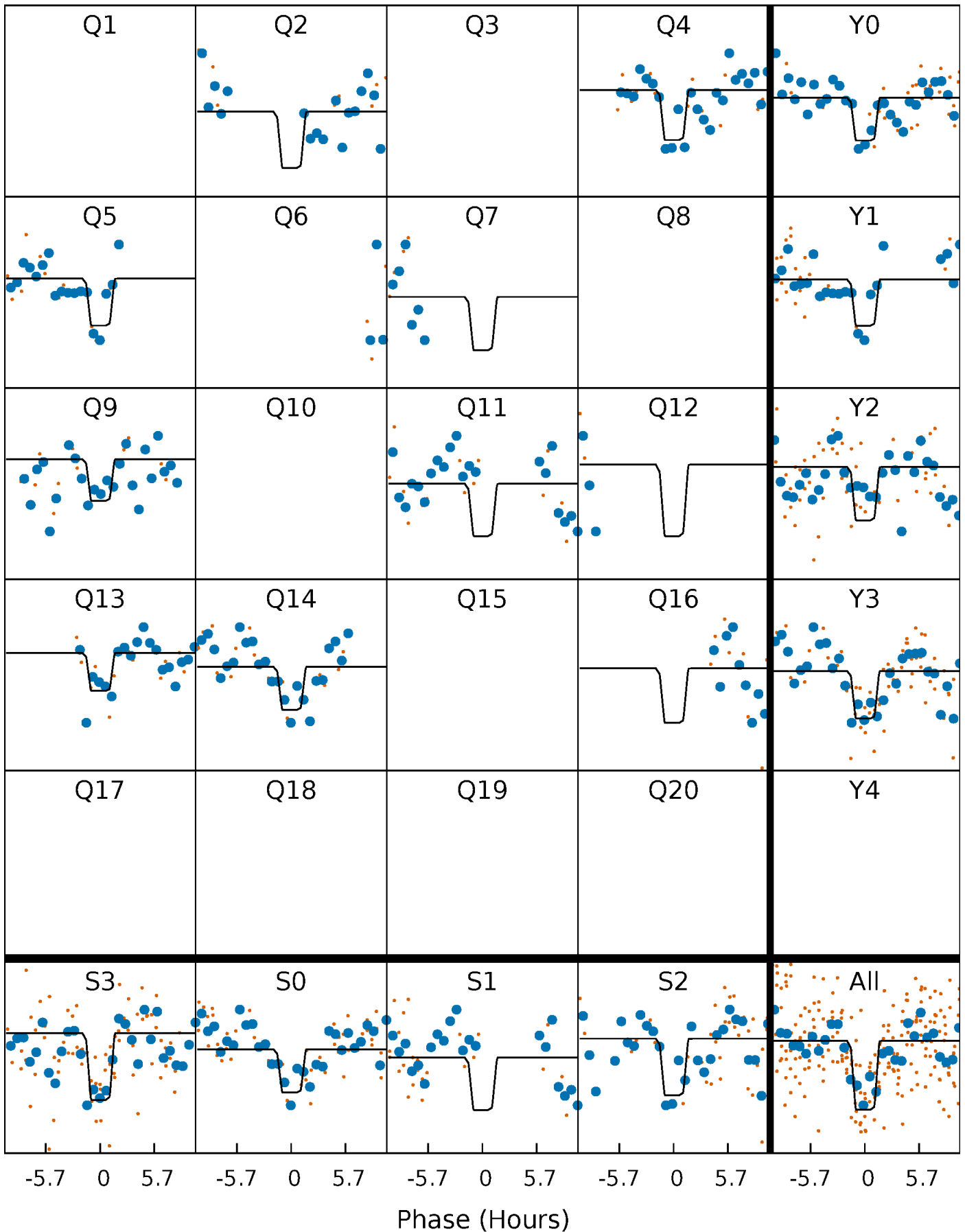
DV Quarter-Phased Transit Curves

TCE 008752817-02 P= 68.721032 Days $T_0=181.774220$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

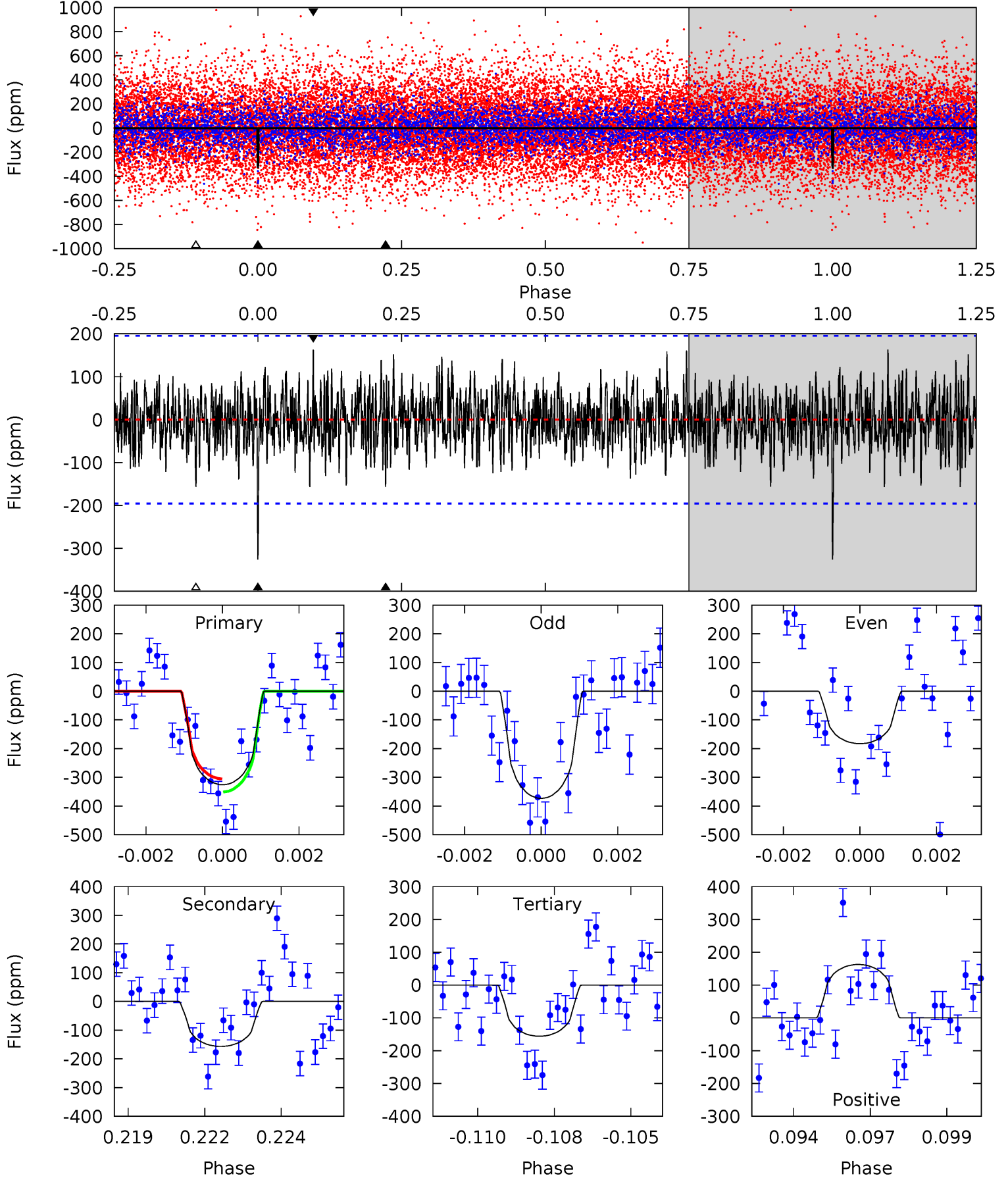
TCE 008752817-02 P= 68.718364 Days $T_0=181.795384$ (BKJD)



DV Model-Shift Uniqueness Test

008752817-02, P = 68.721032 Days, E = 113.053188 Days

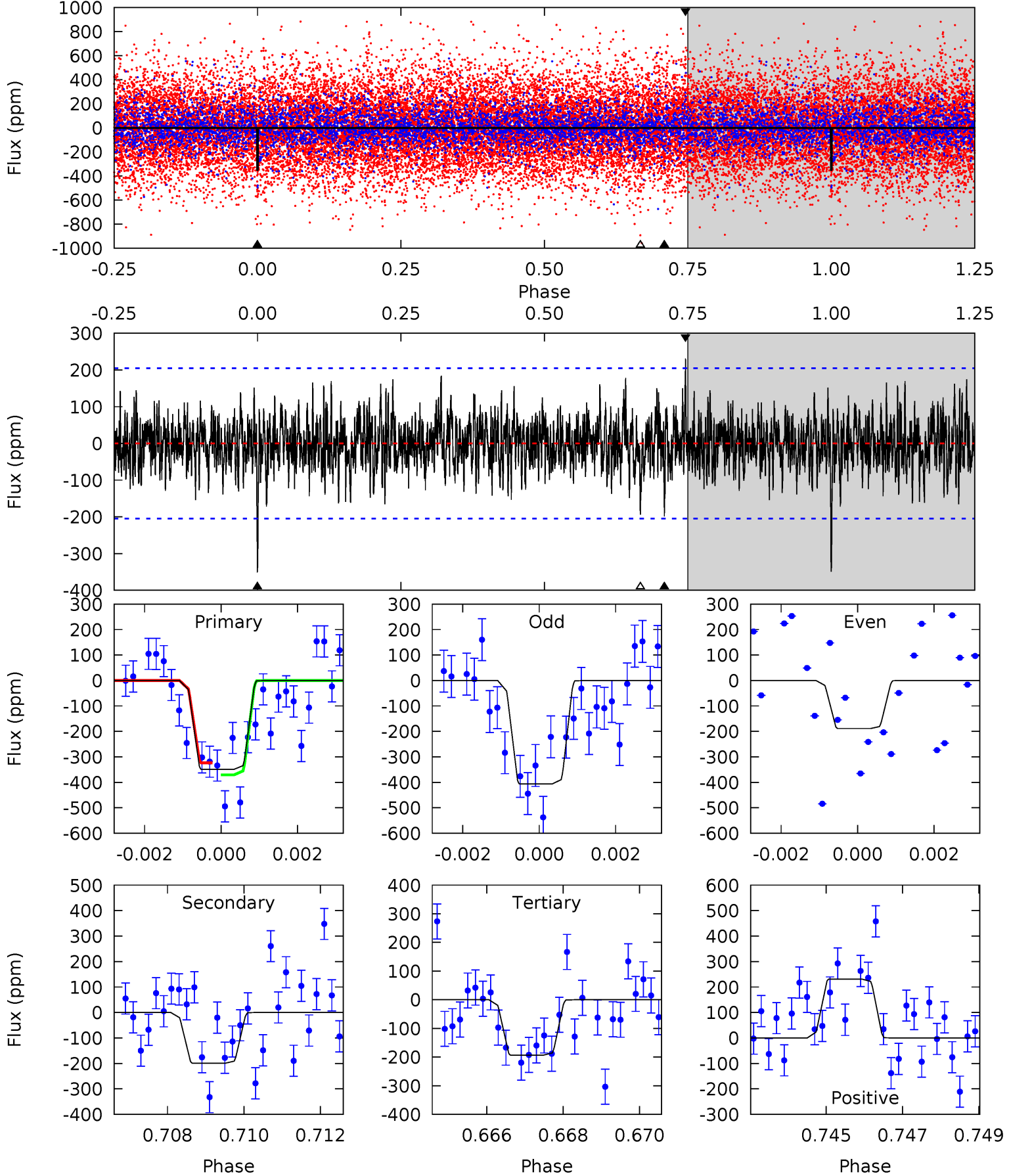
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.87	4.26	4.25	4.43	5.31	3.06	1.39	4.62	4.44	0.01	-0.17	2.32	0.82	0.33	0.62



Alt Model-Shift Uniqueness Test

008752817-02, P = 68.718364 Days, E = 113.077020 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.07	5.18	5.03	6.02	5.32	3.08	1.42	4.05	3.06	0.15	-0.84	2.50	0.81	0.40	0.61



Stellar Parameters For KIC 008752817

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4973^{+138}_{-173}	$3.263^{+0.448}_{-0.241}$	$0.400^{+0.050}_{-0.350}$	$5.501^{+1.656}_{-3.076}$	$2.021^{+0.660}_{-0.991}$	$0.017^{+0.093}_{-0.010}$
	+3%/-3%	+14%/-7%	+12%/-87%	+30%/-56%	+33%/-49%	+543%/-57%
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 008752817-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-157 ± 37	$18.90^{+20.45}_{-13.46}$	1111^{+96}_{-146}	3502^{+1911}_{-655}	42^{+456}_{-32}
Alt.	-199 ± 38	$19.17^{+19.35}_{-12.41}$	1102^{+116}_{-142}	3564^{+1717}_{-668}	50^{+343}_{-37}

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

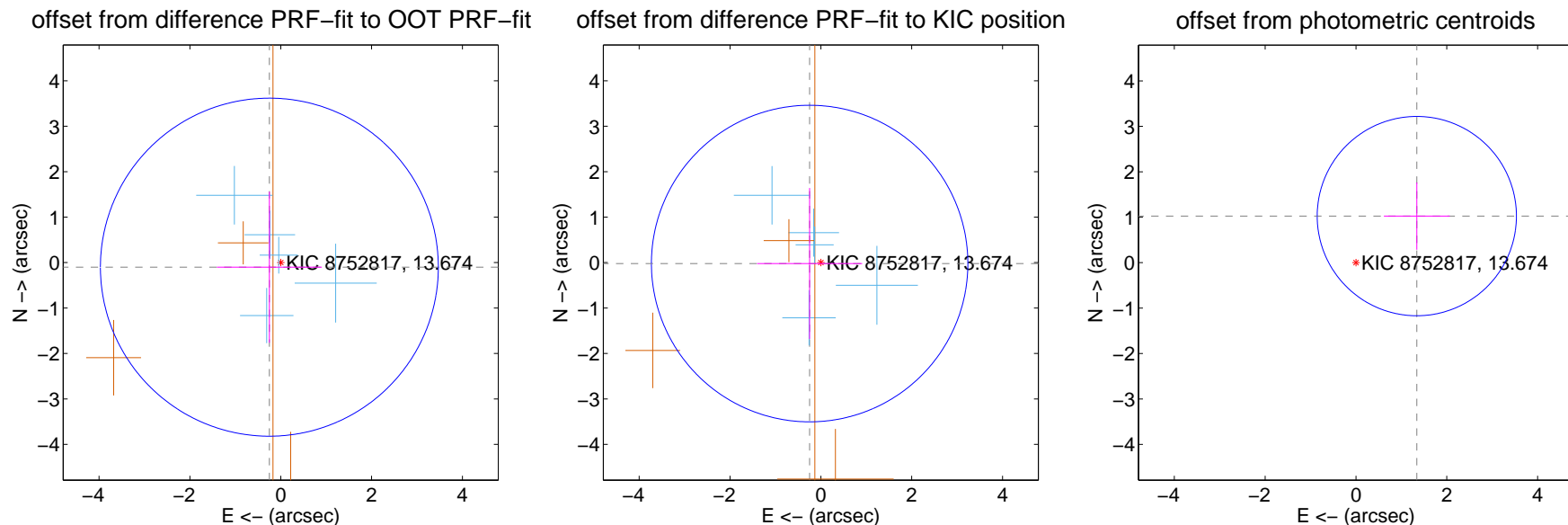
DV Centroid Data

Supplemental centroid analysis for 008752817-02. Kepler magnitude: 13.67. Transit SNR 8.40

There are 5 quarters with good PRF difference image offsets

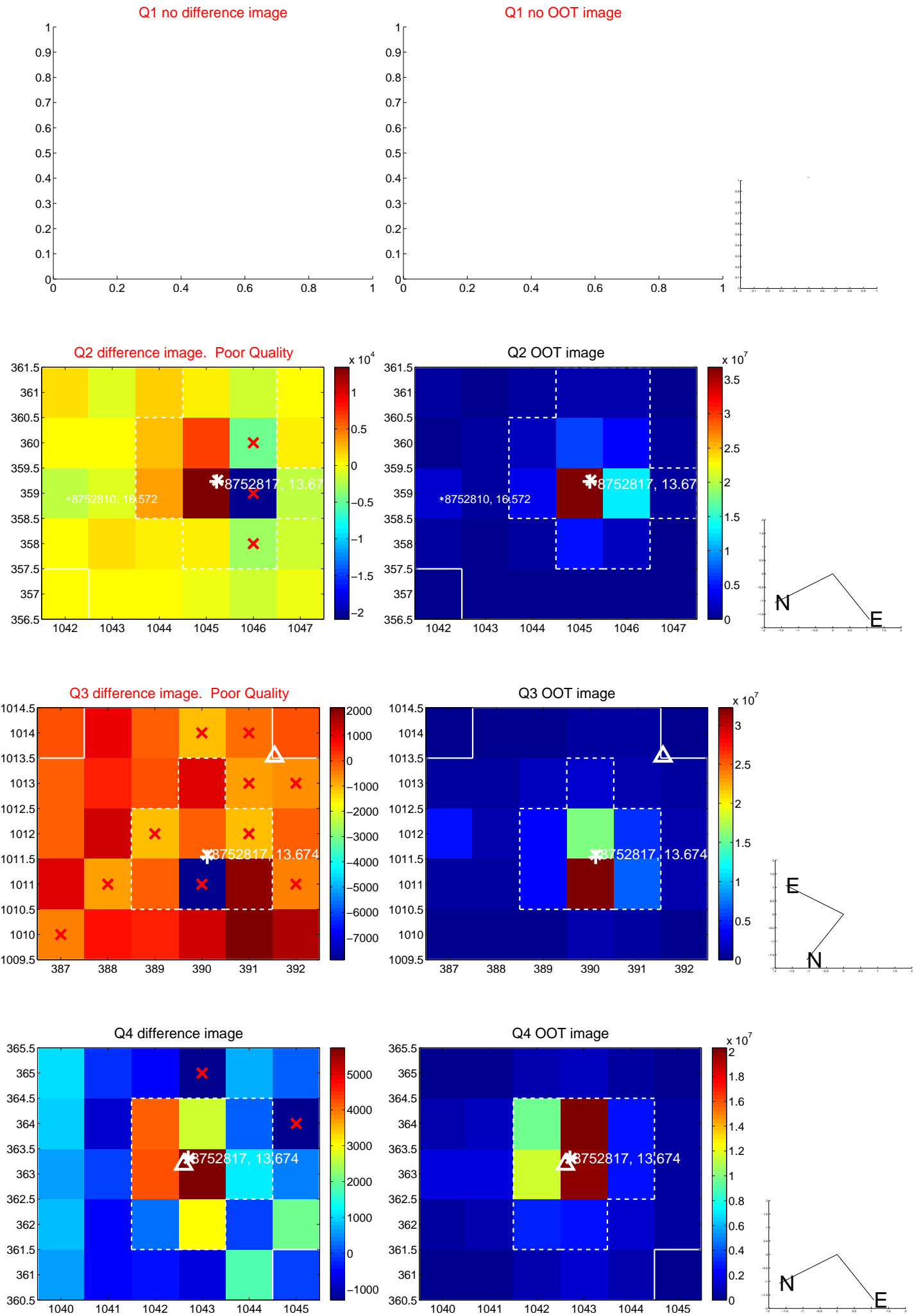
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.270 ± 1.240	0.22	0.250 ± 1.156	-0.101 ± 1.661
PRF-fit source offset from KIC position	0.248 ± 1.161	0.21	0.247 ± 1.156	-0.021 ± 1.661
photometric centroid source offset	1.69 ± 0.73	2.31	-1.34 ± 0.73	1.02 ± 0.74

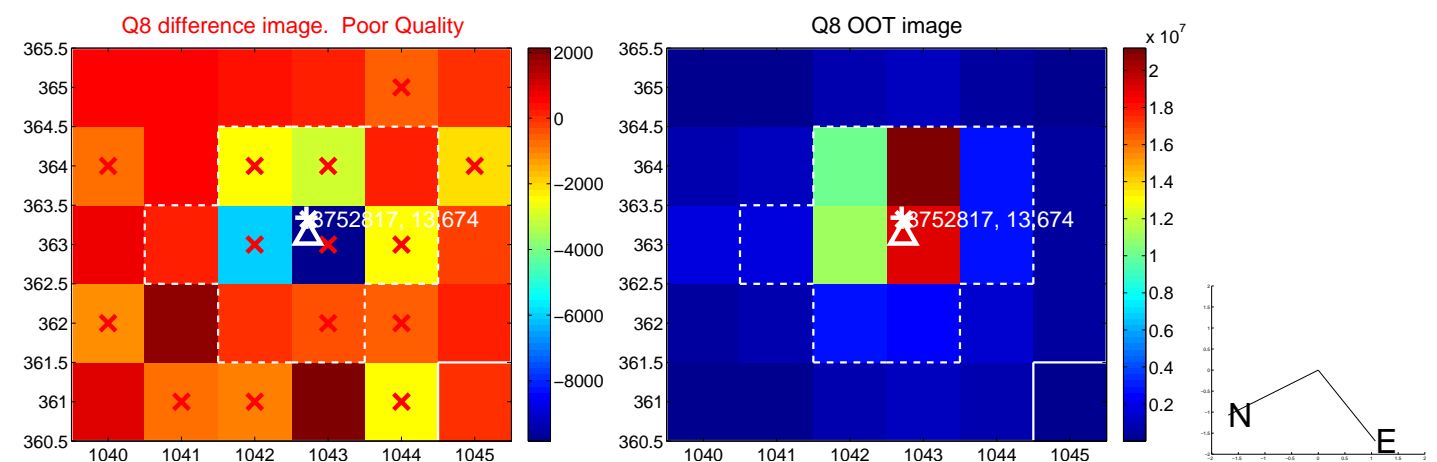
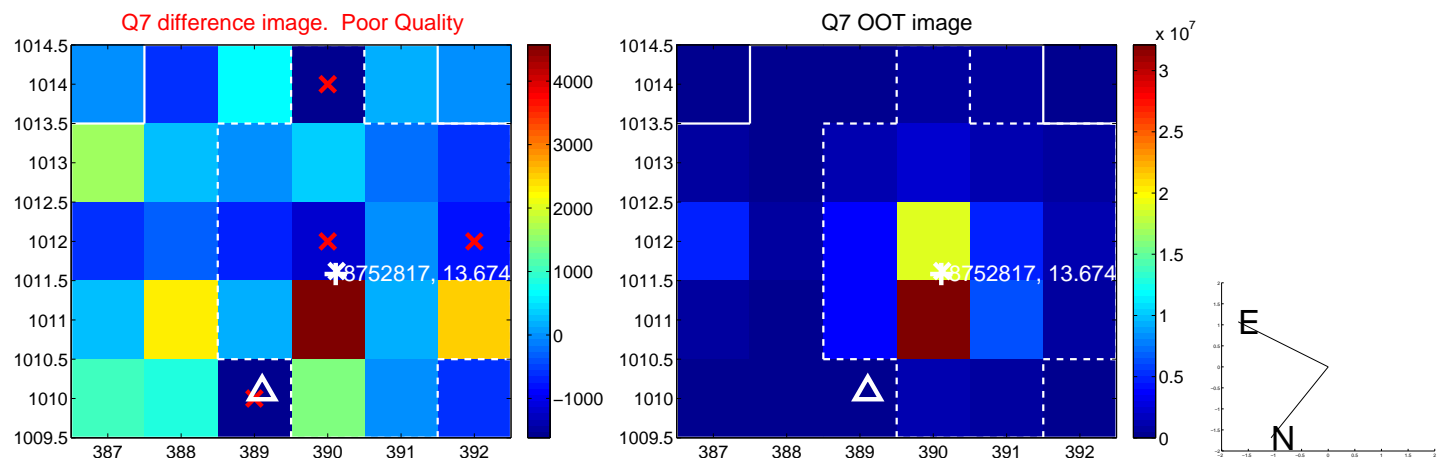
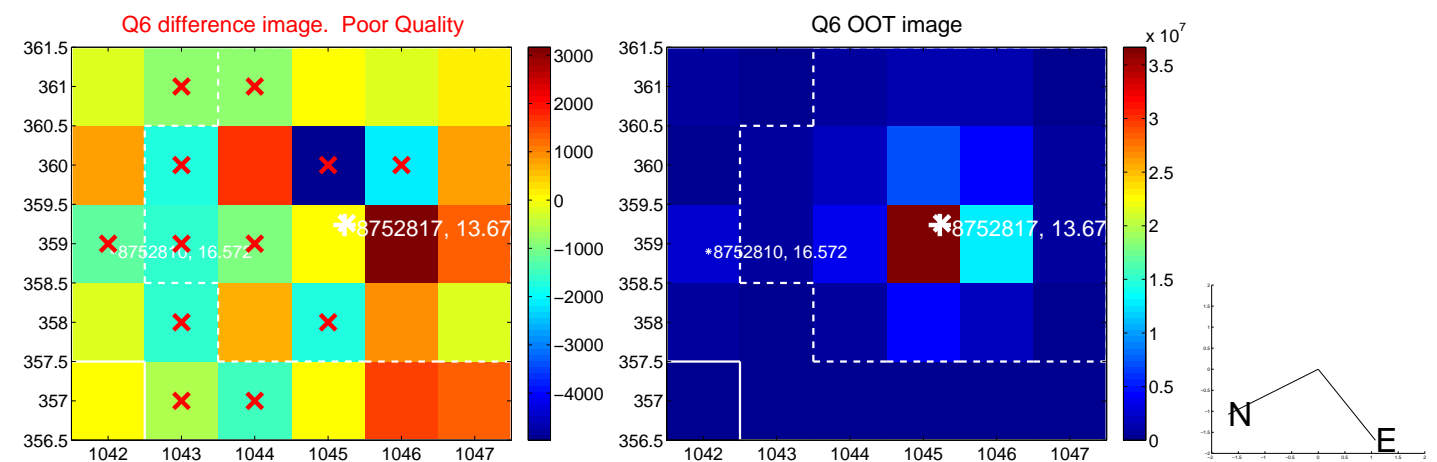
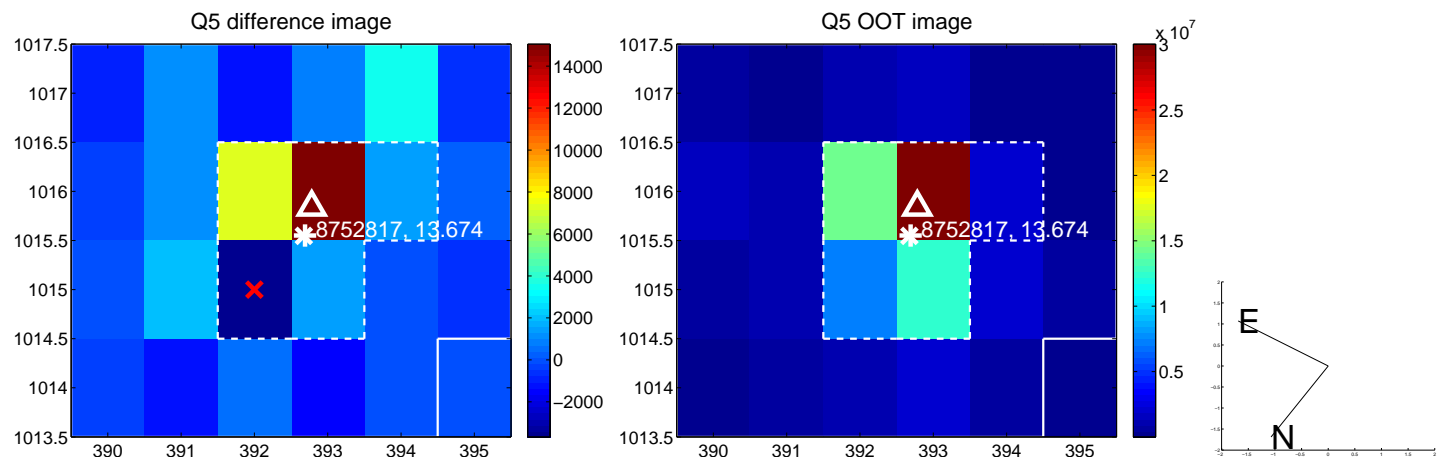


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

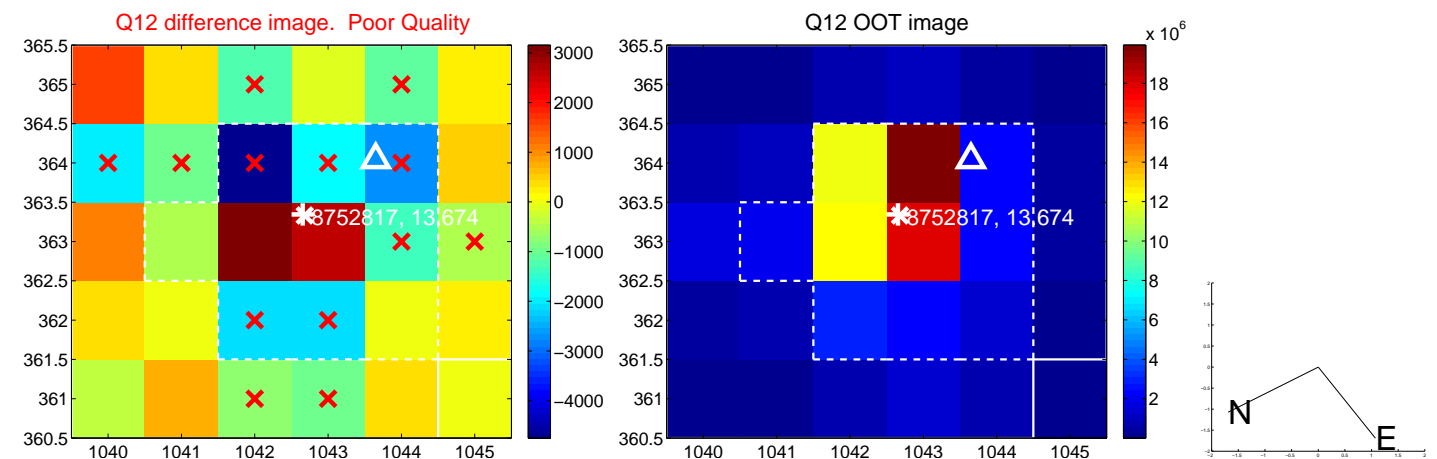
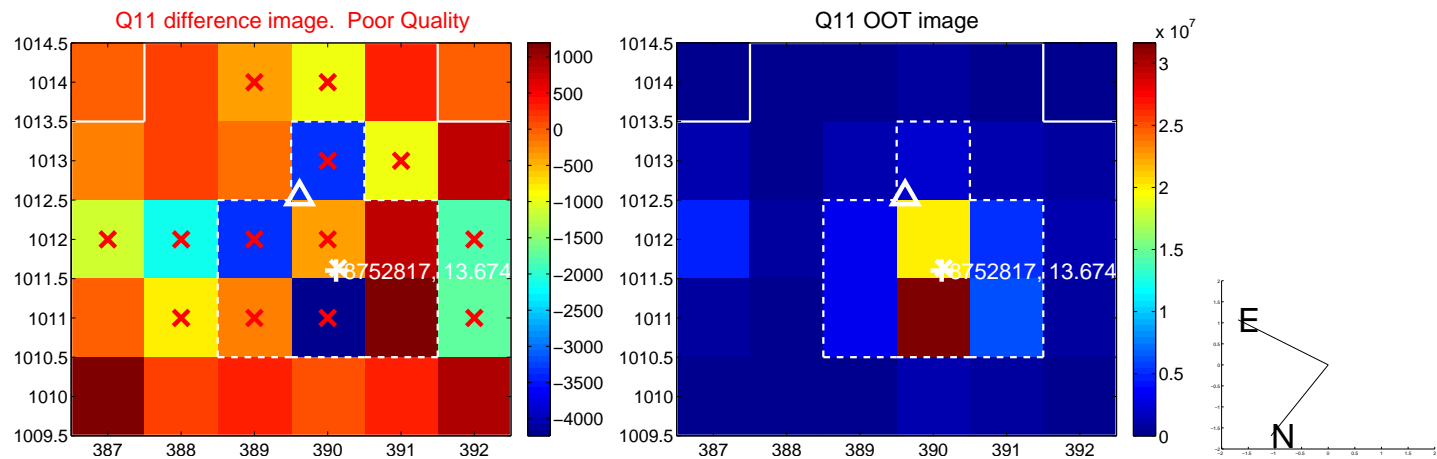
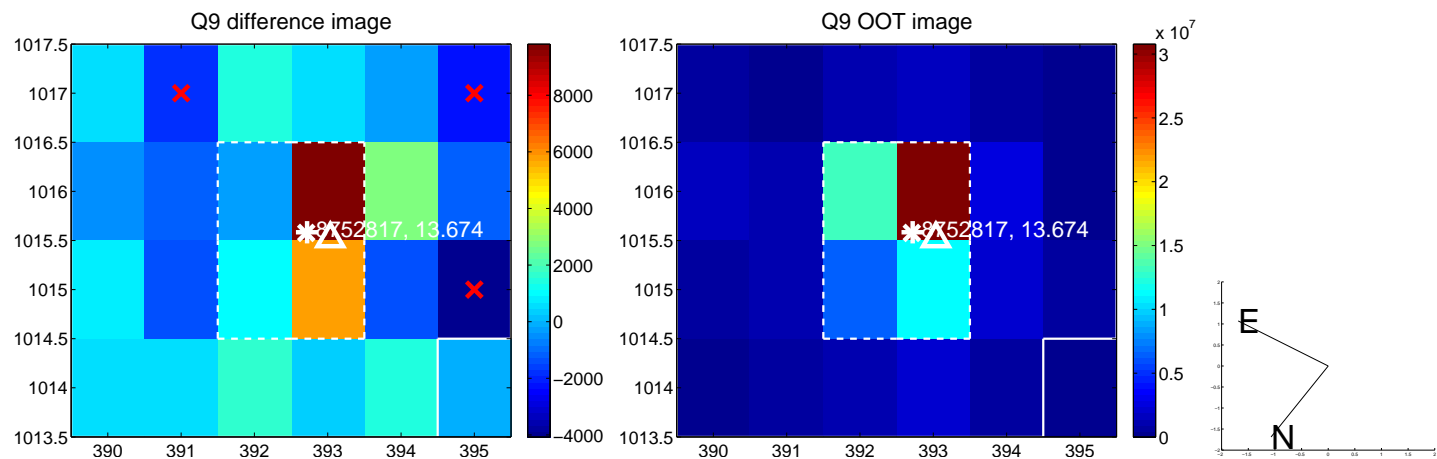
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



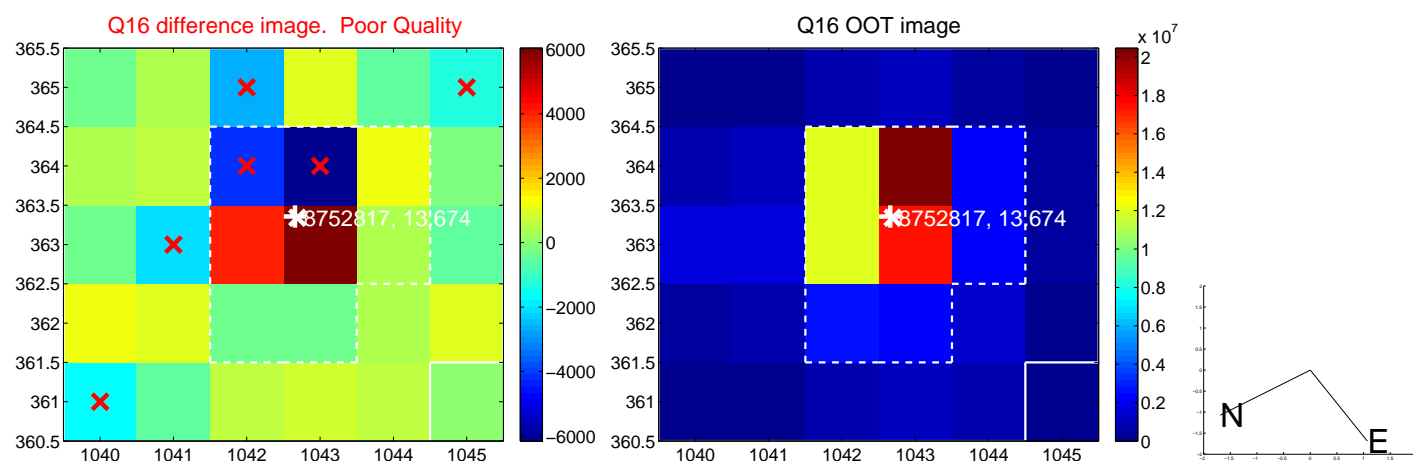
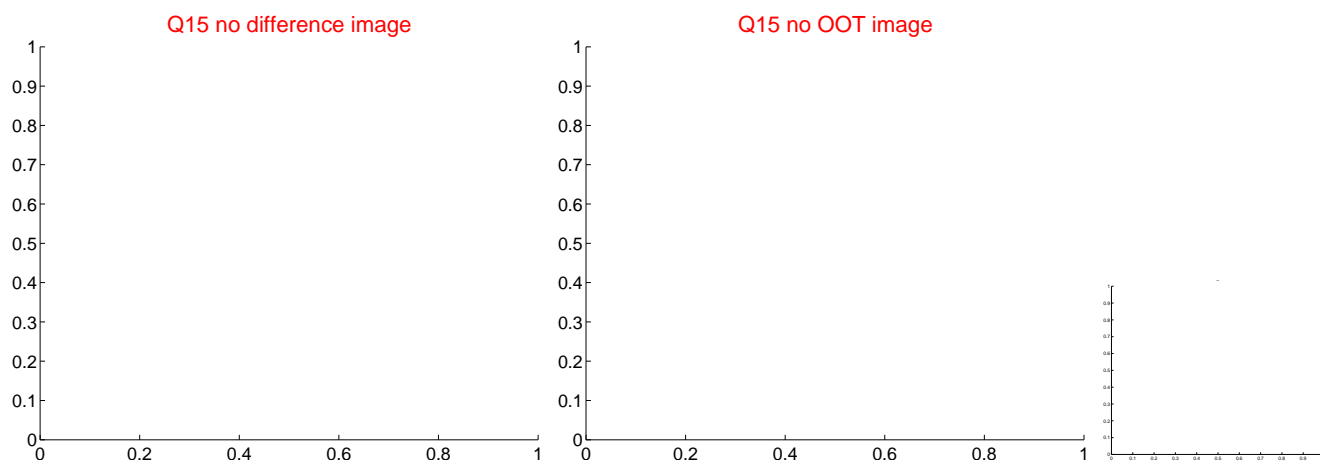
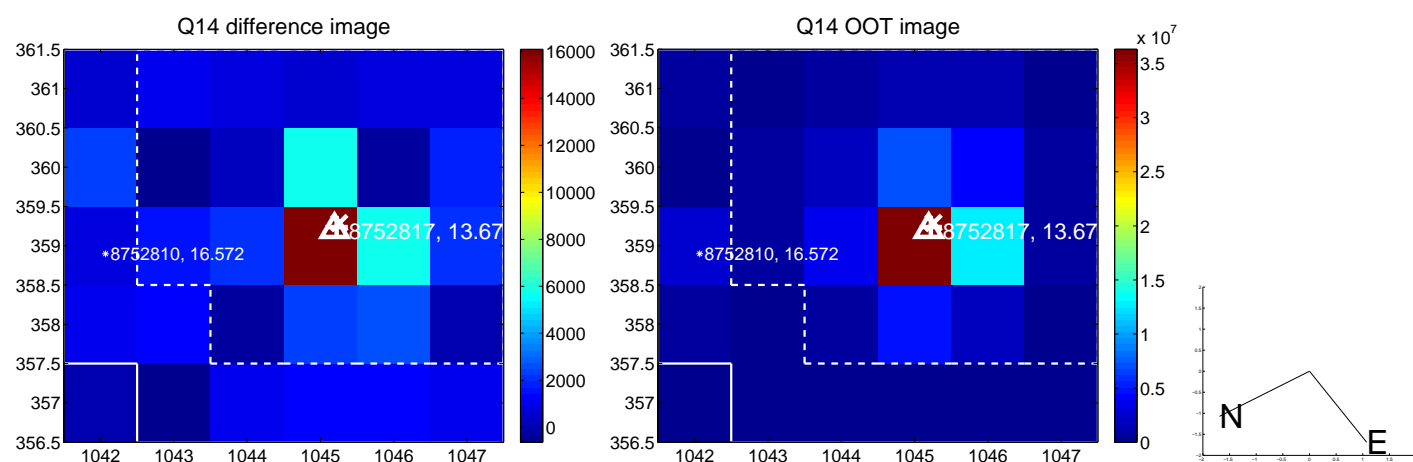
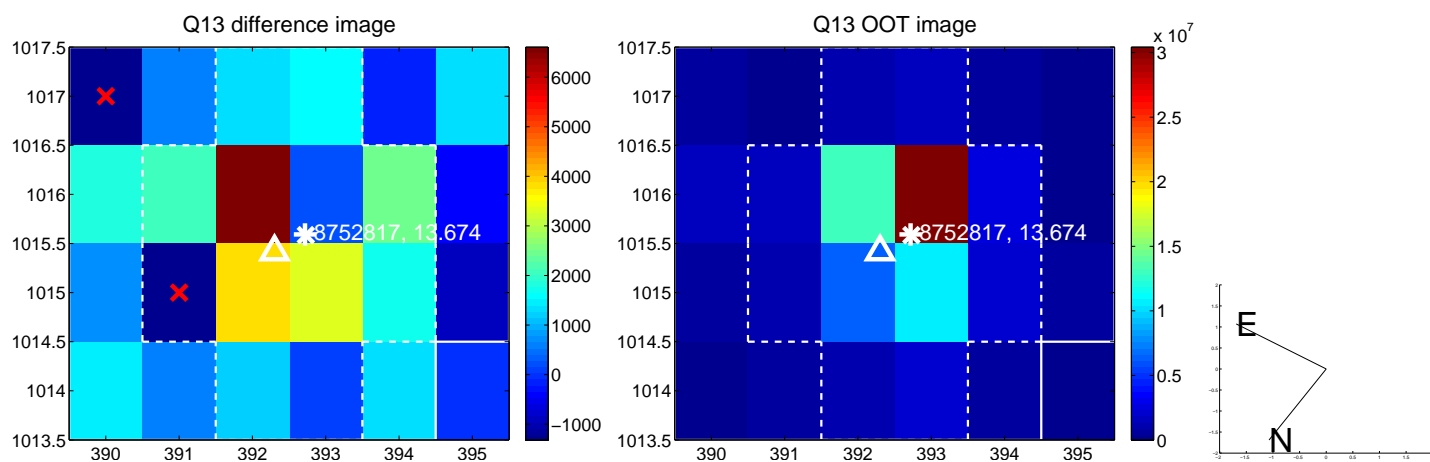
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



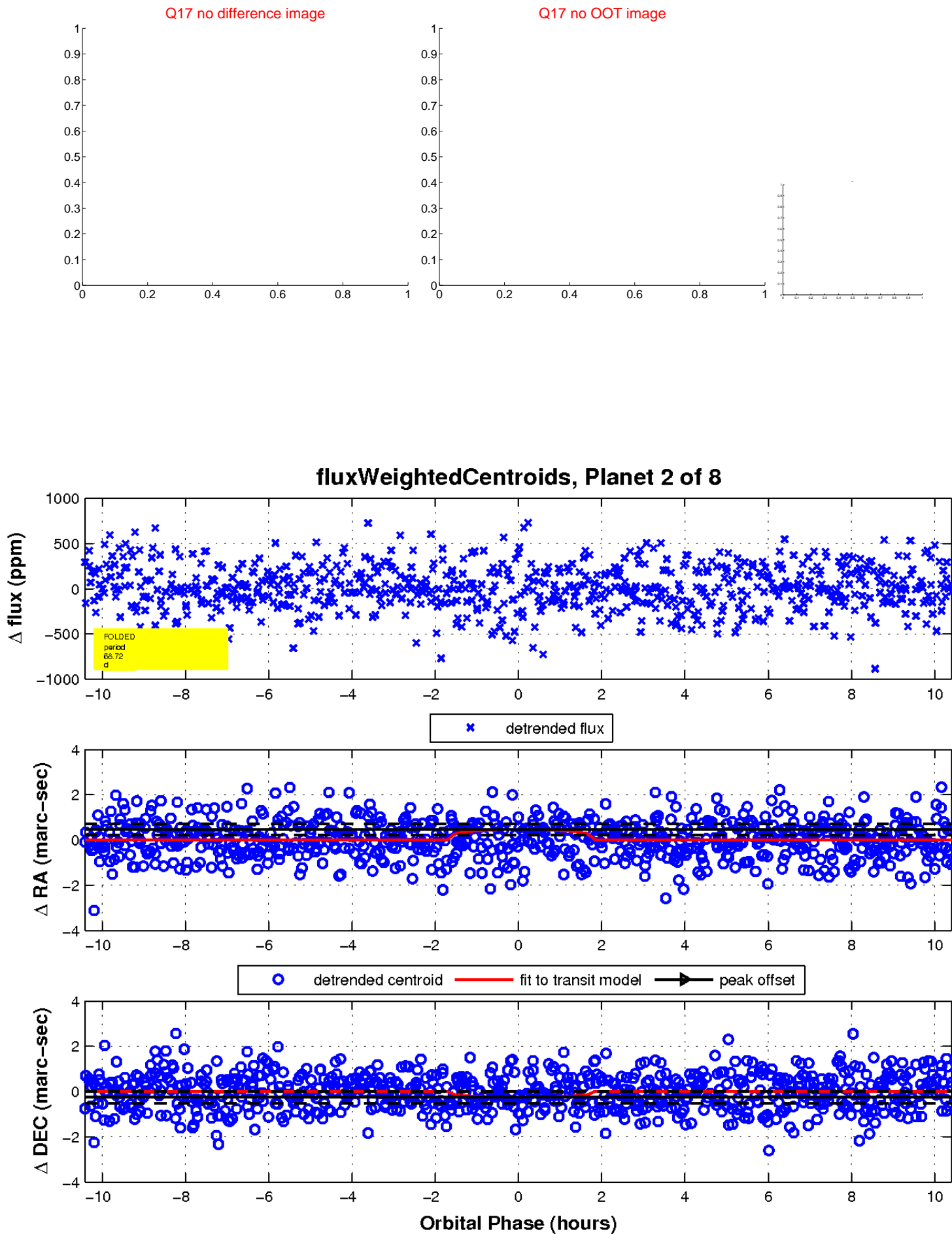
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

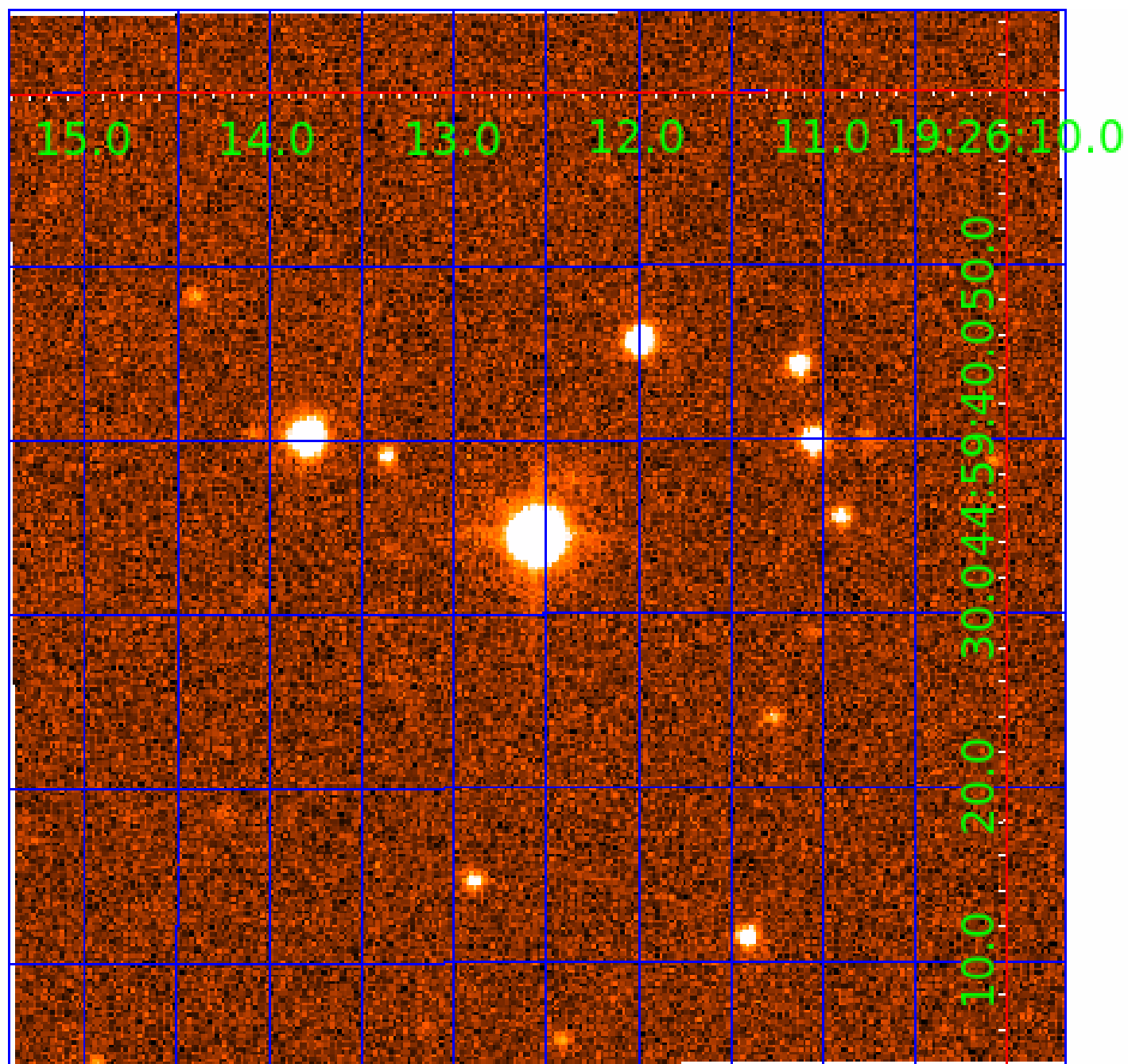


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008752817

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})
008752817-01	OBS	No	2.176213	132.321174	23.6	11.692	7.8	7.0	5.50	4973	2.57	9595.34
008752817-02	OBS	No	68.721032	181.774220	344.1	3.477	9.0	8.4	5.50	4973	10.28	96.13
008752817-03	OBS	No	309.027981	281.356619	289.7	5.433	7.8	8.1	5.50	4973	10.28	12.95
008752817-04	OBS	No	71.191736	172.979736	317.9	2.628	7.7	7.3	5.50	4973	10.46	91.71
008752817-05	OBS	No	206.237704	194.397361	441.3	2.961	7.7	8.1	5.50	4973	12.70	22.21
008752817-06	OBS	No	239.207502	307.837483	305.0	5.491	7.9	6.9	5.50	4973	11.08	18.22
008752817-07	OBS	No	13.330829	135.941531	159.2	2.652	7.7	7.4	5.50	4973	8.52	856.09
008752817-08	OBS	No	86.977802	201.004086	242.6	4.668	7.7	7.2	5.50	4973	8.70	70.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008752817-01	OBS	FP	0.00	1	0	0	1	LPP_DV—EPHEM_MATCH
008752817-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008752817-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008752817-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008752817-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008752817-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008752817-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
008752817-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

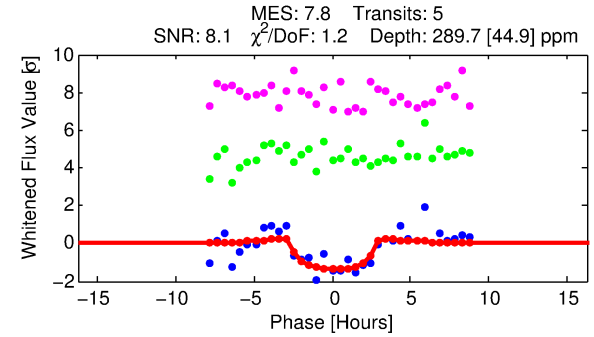
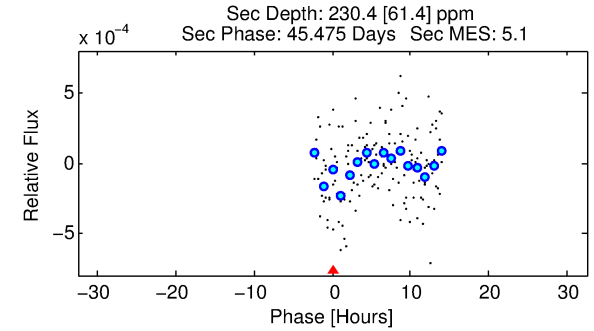
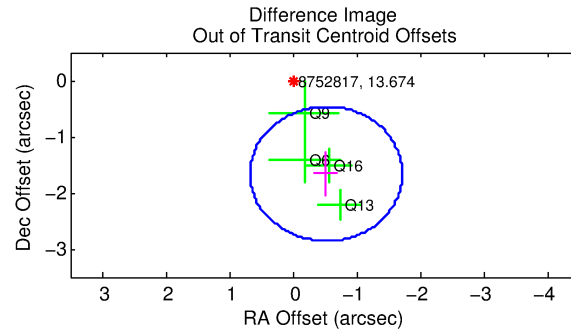
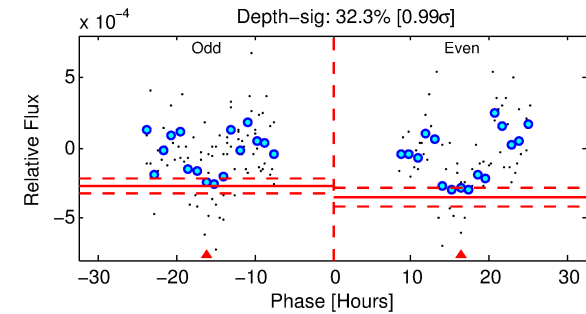
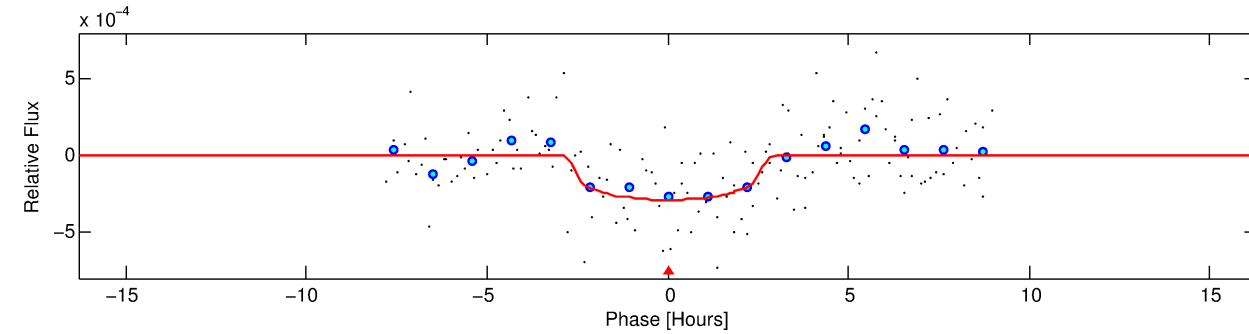
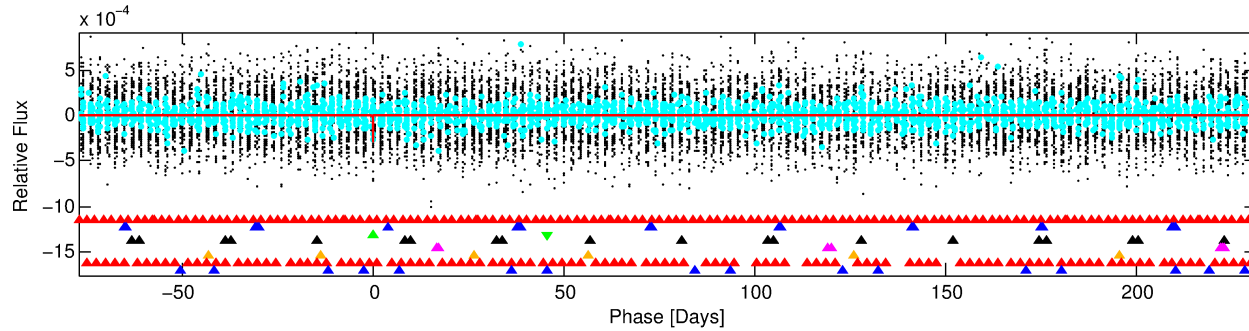
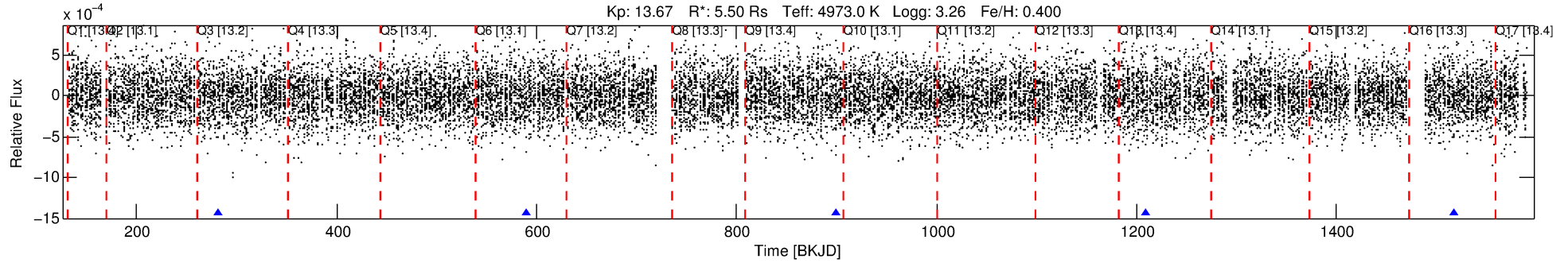
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008752817-03

No Significant Match Found

DV One-Page Summary

KIC: 8752817 Candidate: 3 of 8 Period: 309.028 d



DV Fit Results:

Period = 309.02798 [0.00625] d
Epoch = 281.3566 [0.0169] BKJD
Rp/R* = 0.0171 [0.0200]
a/R* = 292.24 [1178.37]
b = 0.76 [2.26]
Seff = 12.95 [10.29]
Teq = 484 [96] K
Rp = 10.28 [13.32] Re
a = 1.1315 [0.5738] AU
Ag = 1535.83 [3806.99] [0.40 σ]
Teffp = 4682 [2758] K [1.52 σ]

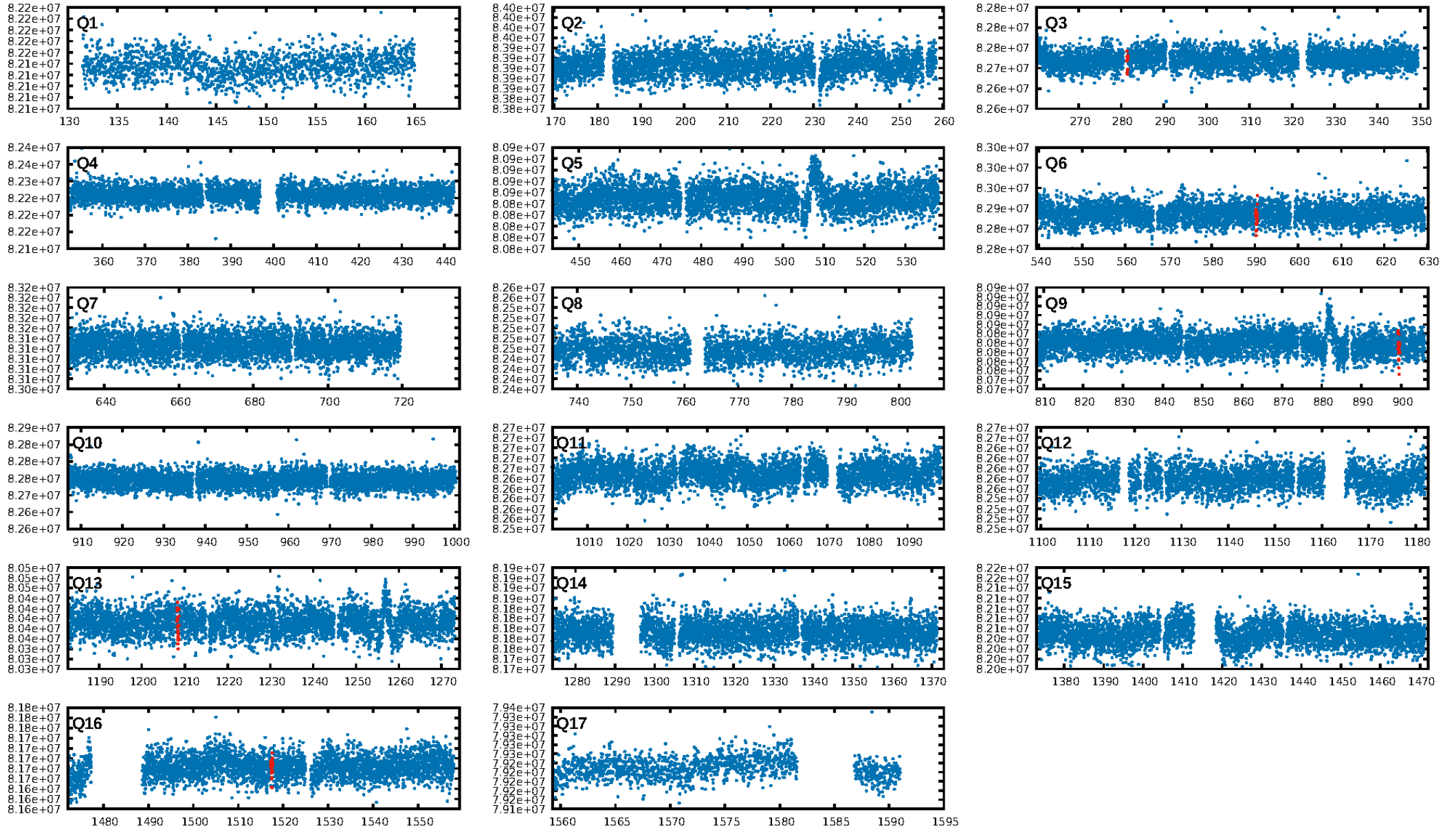
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [216.93 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 63.4%
ModelChiSquareGof-sig: 79.2%
Bootstrap-pfa: 1.85e-08
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 5.301
Centroid-sig: 9.5%
Centroid-so: 2.251 arcsec [1.54 σ]
OotOffset-rm: 1.744 arcsec [4.37 σ]
KicOffset-rm: 1.695 arcsec [5.02 σ]
OotOffset-st: 1/0/1/2 [4]
KicOffset-st: 1/0/1/2 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [4/4]

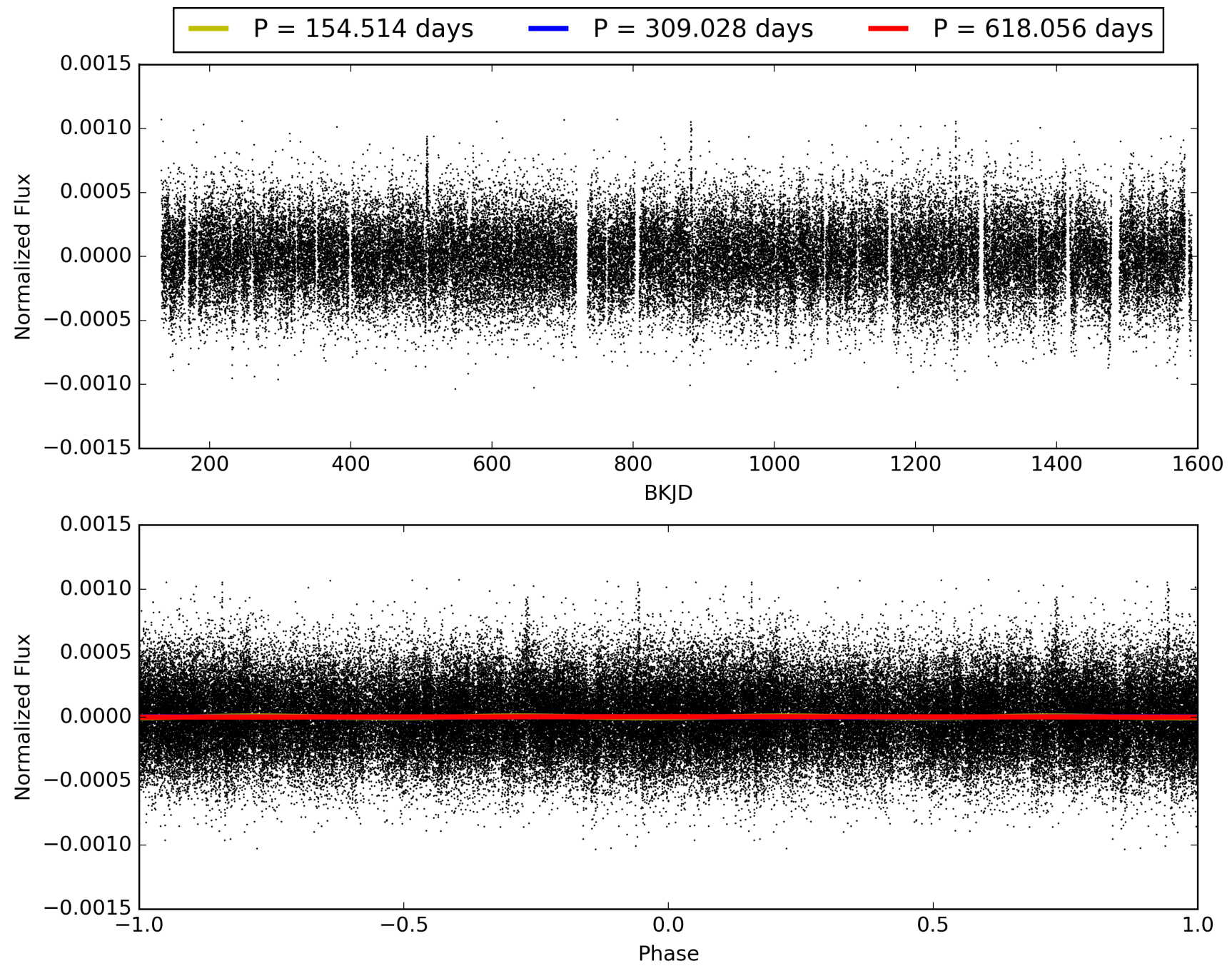
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:01:19 Z

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

TCE 008752817-03, PDC Light Curves

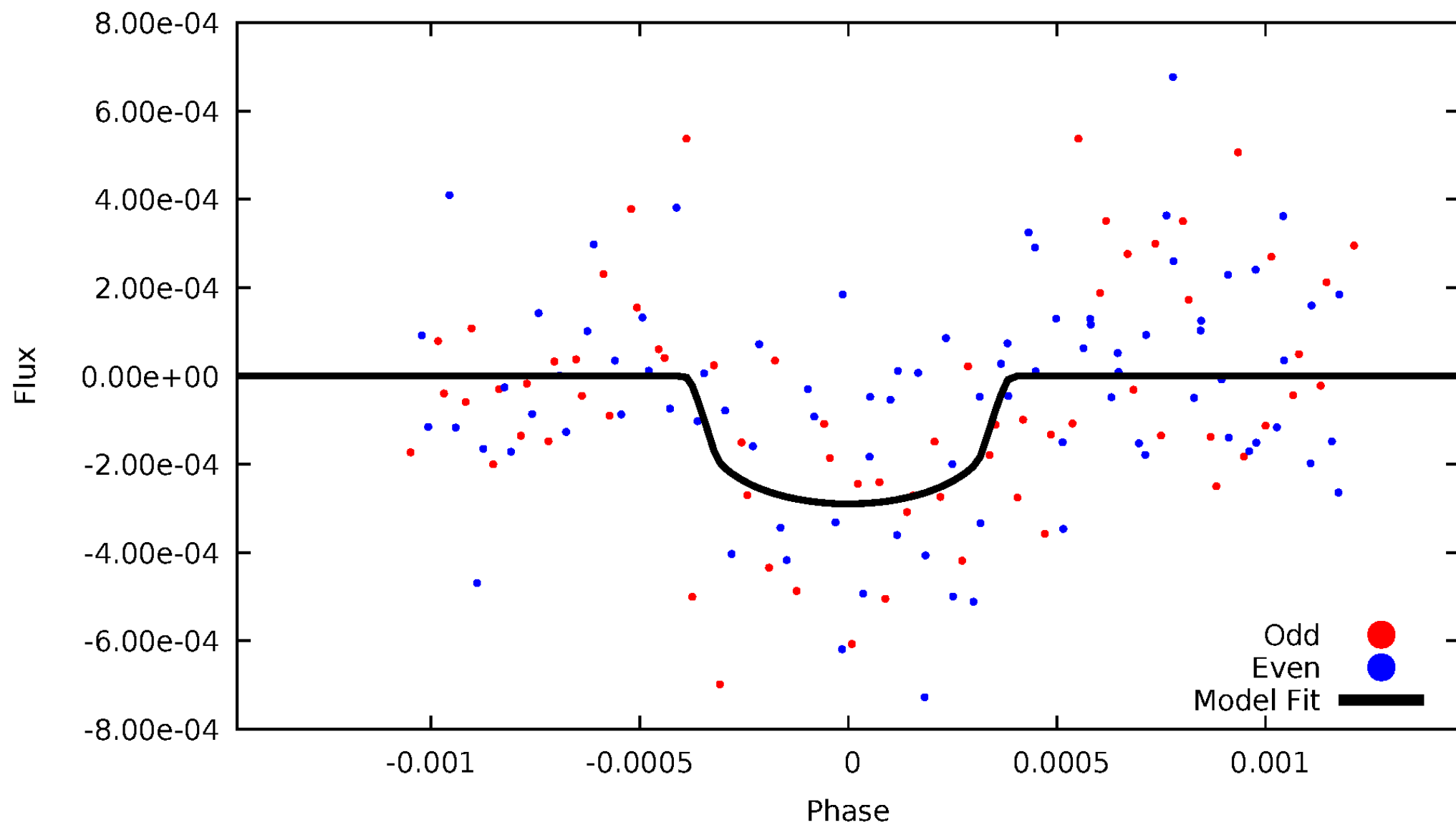


TCE 008752817-03



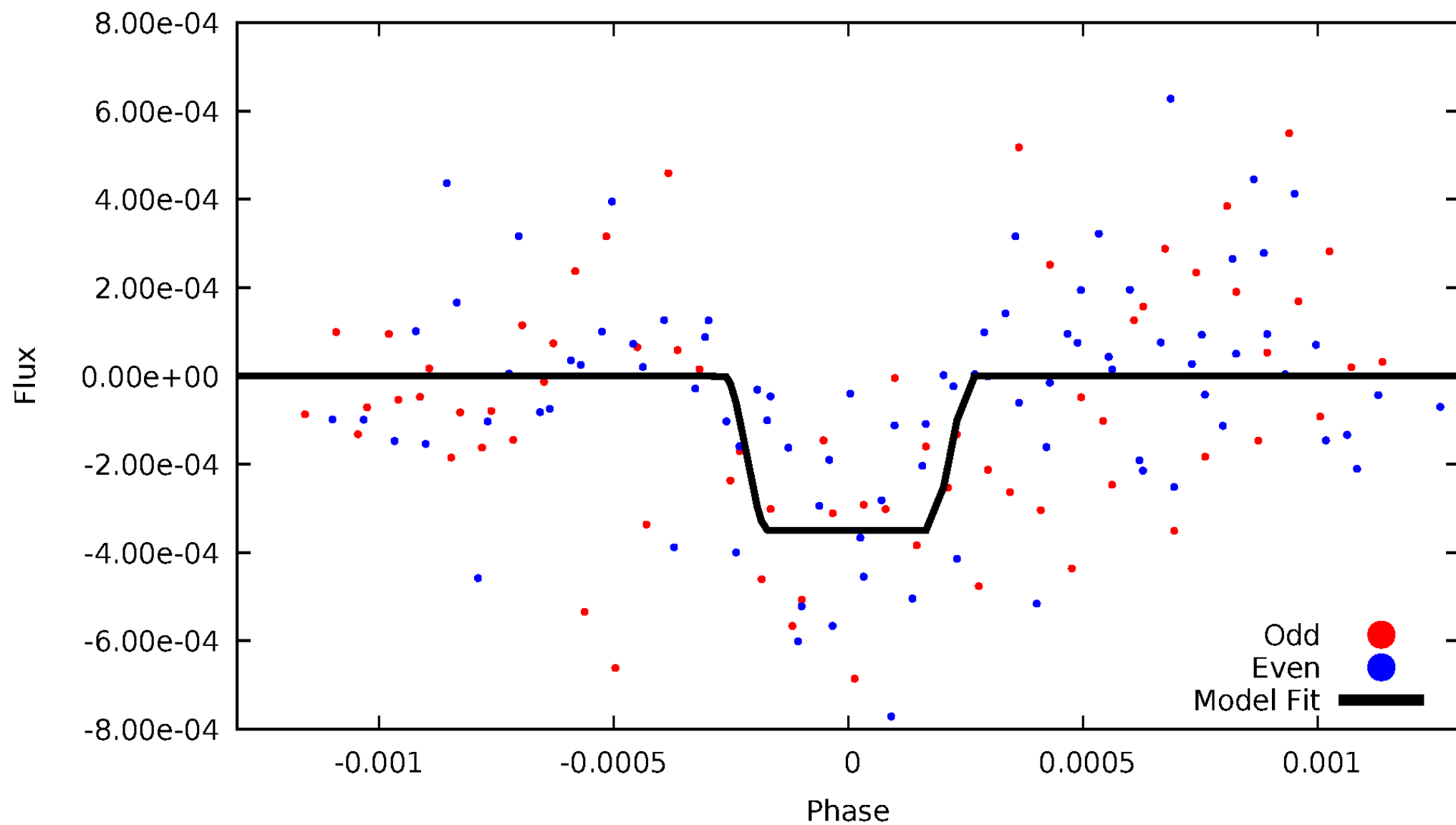
DV Odd/Even

TCE 008752817-03



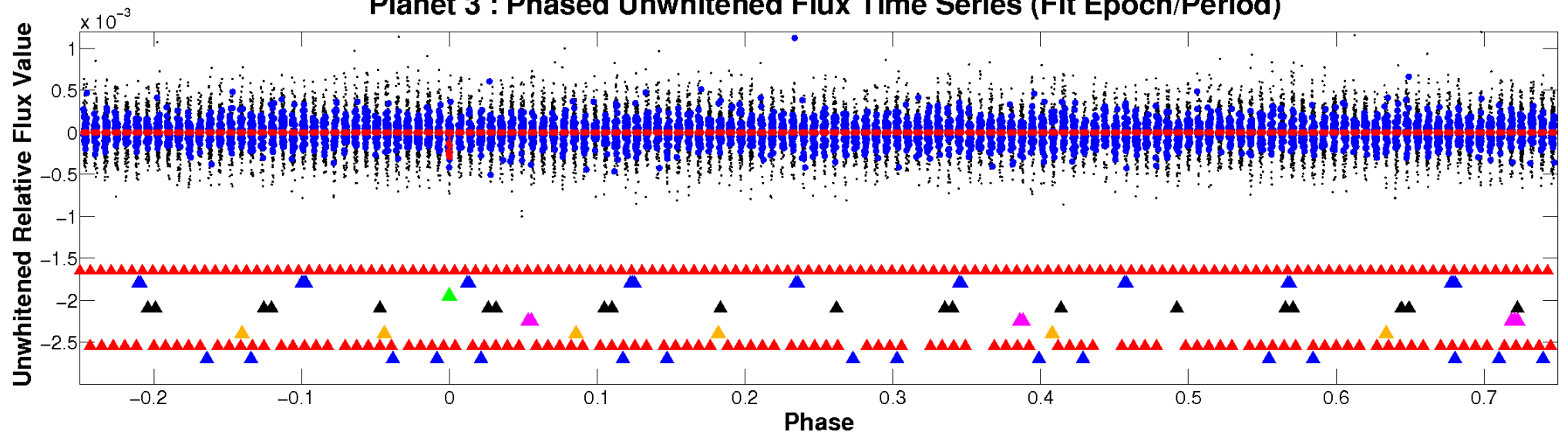
ALT Odd/Even

TCE 008752817-03

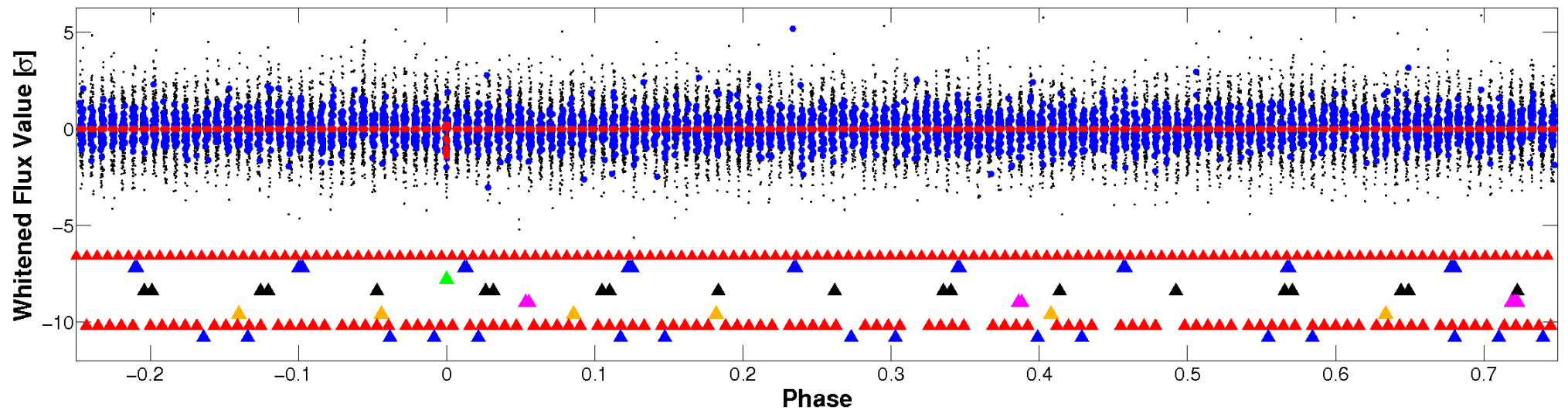


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

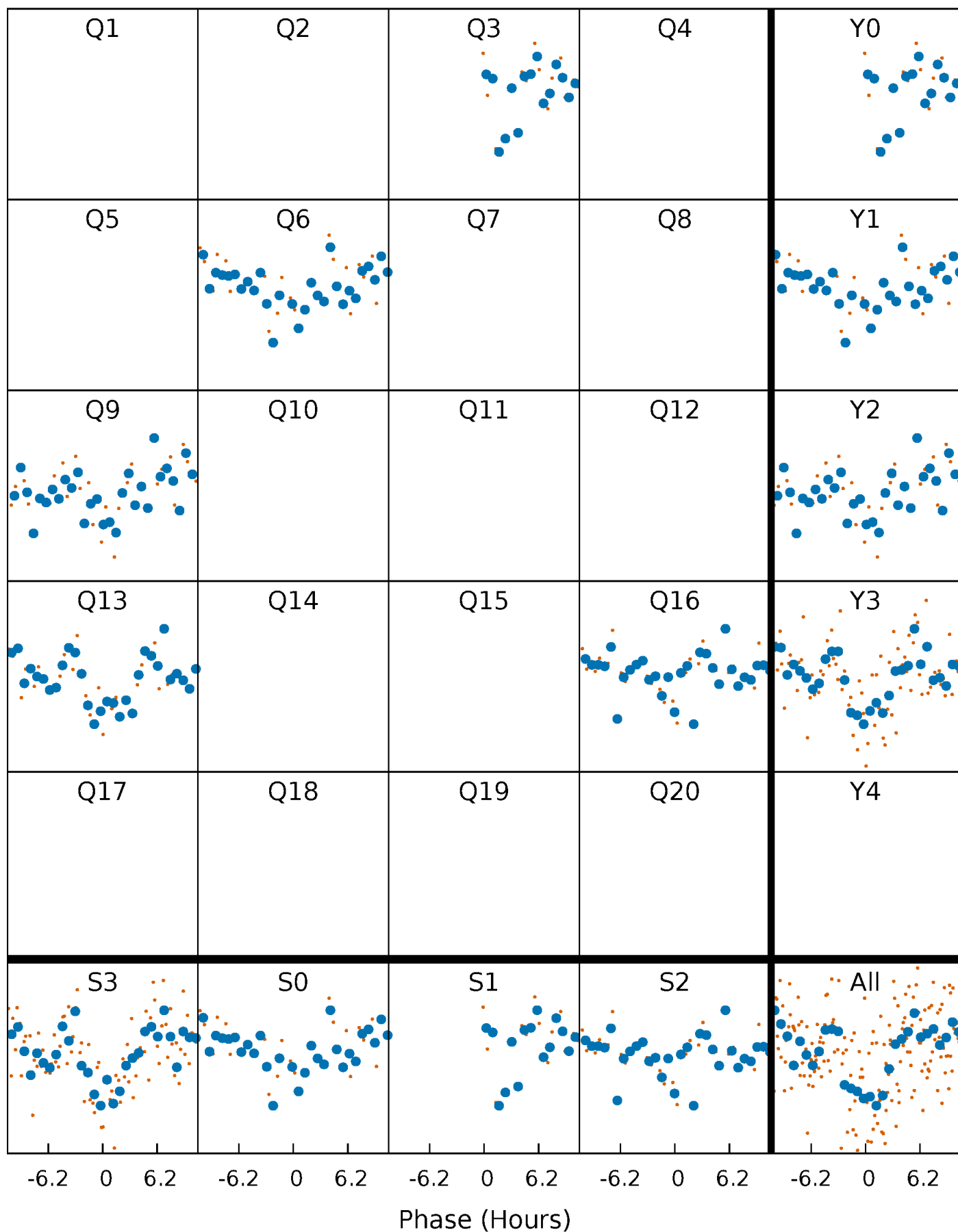


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



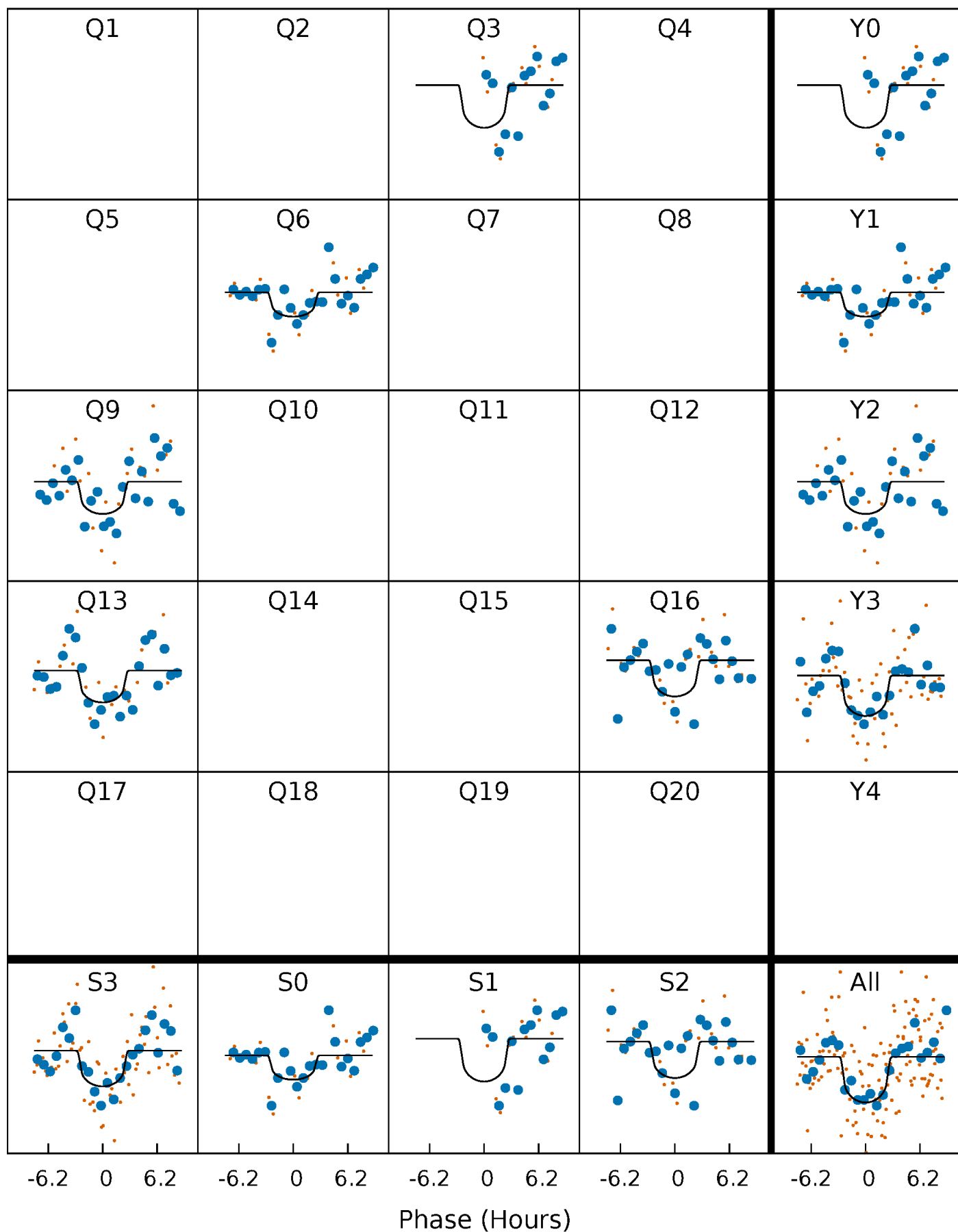
PDC Quarter-Phased Transit Curves

TCE 008752817-03 $P=309.027981$ Days $T_0=281.356619$ (BKJD)



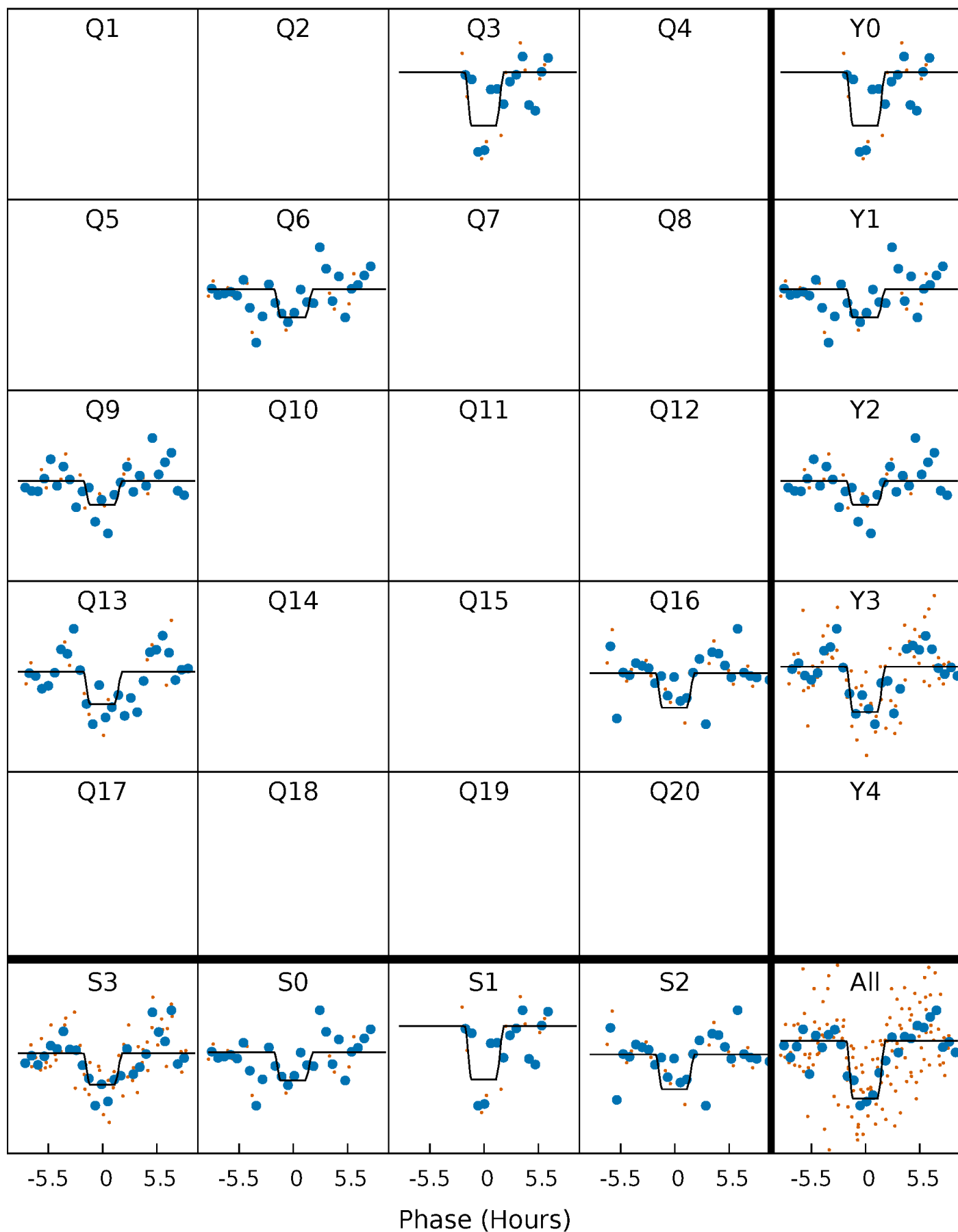
DV Quarter-Phased Transit Curves

TCE 008752817-03 P=309.027981 Days $T_0=281.356619$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

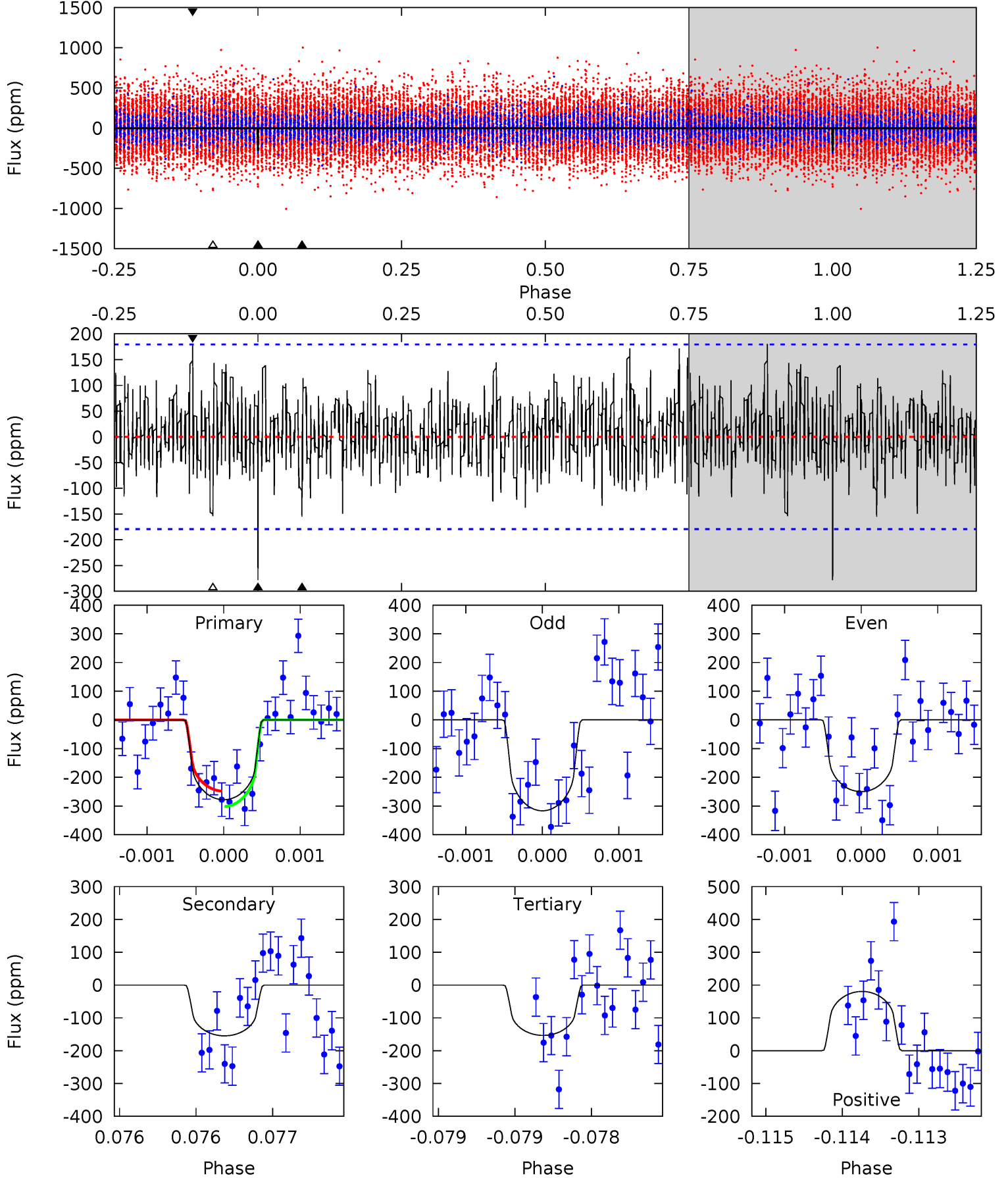
TCE 008752817-03 $P=308.998174$ Days $T_0=281.444521$ (BKJD)



DV Model-Shift Uniqueness Test

008752817-03, P = 309.027981 Days, E = 281.356619 Days

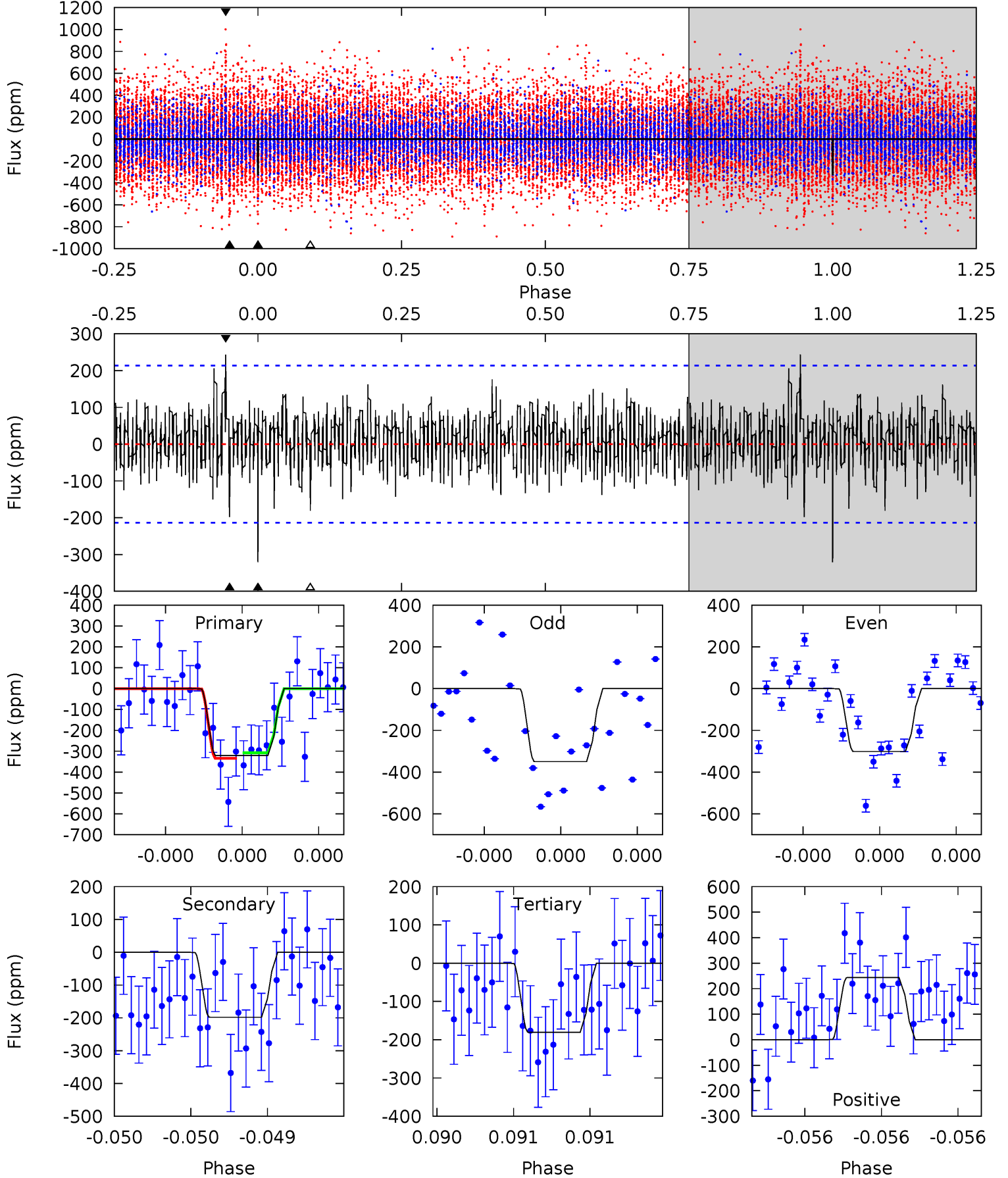
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.52	4.74	4.70	5.53	5.50	3.36	1.53	3.82	2.99	0.04	-0.79	1.00	0.91	0.39	0.81



Alt Model-Shift Uniqueness Test

008752817-03, P = 308.998174 Days, E = 281.444521 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.36	5.17	4.71	6.35	5.58	3.49	1.39	3.65	2.01	0.46	-1.18	0.62	1.00	0.43	0.35



Stellar Parameters For KIC 008752817

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4973^{+138}_{-173}	$3.263^{+0.448}_{-0.241}$	$0.400^{+0.050}_{-0.350}$	$5.501^{+1.656}_{-3.076}$	$2.021^{+0.660}_{-0.991}$	$0.017^{+0.093}_{-0.010}$
	+3%/-3%	+14%/-7%	+12%/-87%	+30%/-56%	+33%/-49%	+543%/-57%
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 008752817-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-155 ± 33	$12.35^{+11.67}_{-8.01}$	672^{+61}_{-86}	4001^{+2062}_{-747}	705^{+5000}_{-514}
Alt.	-198 ± 38	$13.04^{+11.90}_{-8.14}$	673^{+66}_{-81}	4156^{+1859}_{-794}	836^{+4865}_{-616}

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

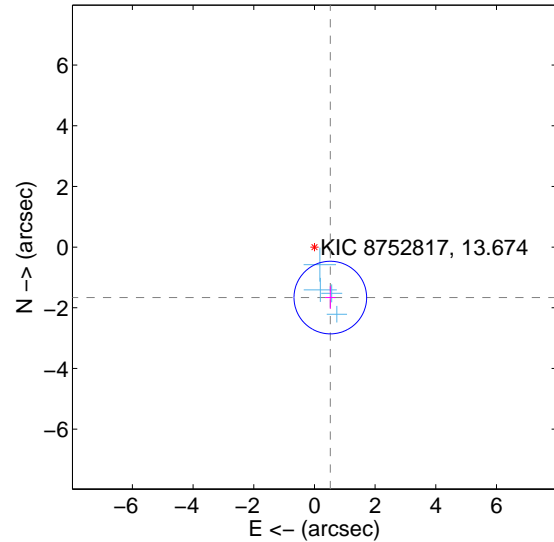
Supplemental centroid analysis for 008752817-03. Kepler magnitude: 13.67. Transit SNR 8.05

There are 4 quarters with good PRF difference image offsets

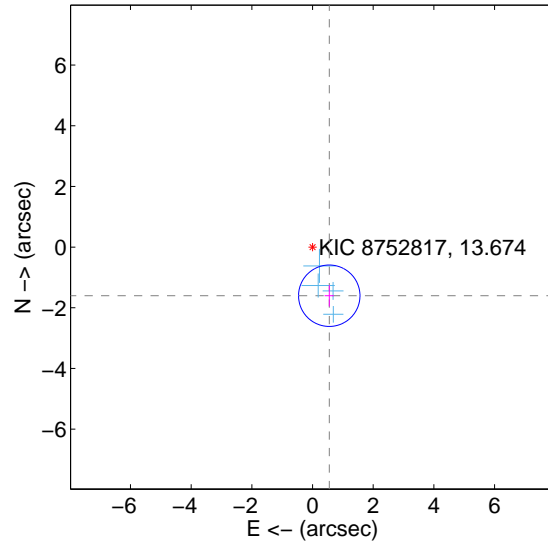
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.744 ± 0.399	4.37	-0.523 ± 0.171	-1.664 ± 0.373
PRF-fit source offset from KIC position	1.695 ± 0.337	5.02	-0.552 ± 0.154	-1.603 ± 0.353
photometric centroid source offset	2.25 ± 1.47	1.54	1.48 ± 1.41	1.69 ± 1.51

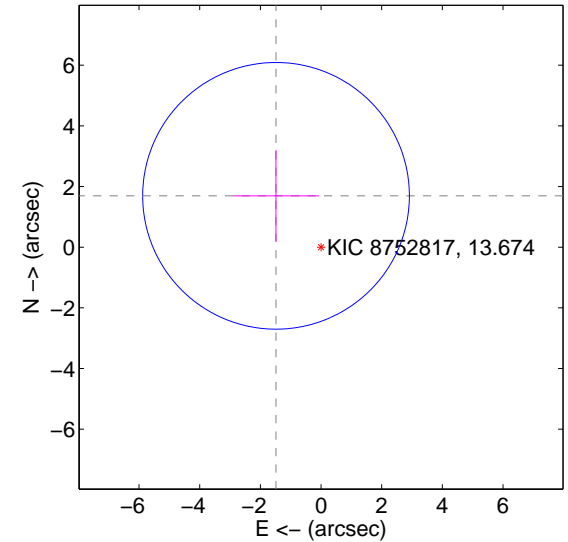
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

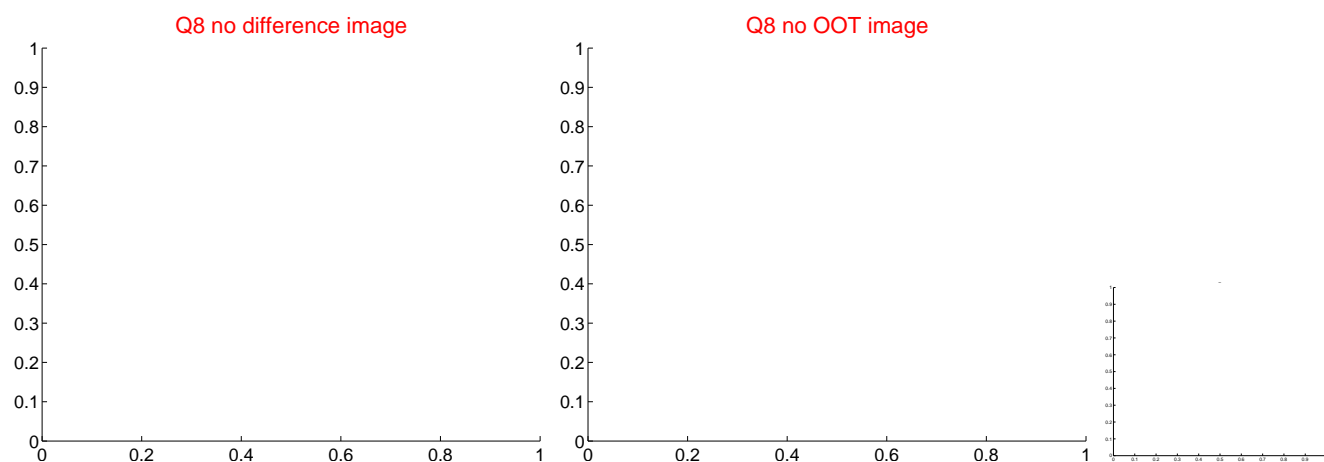
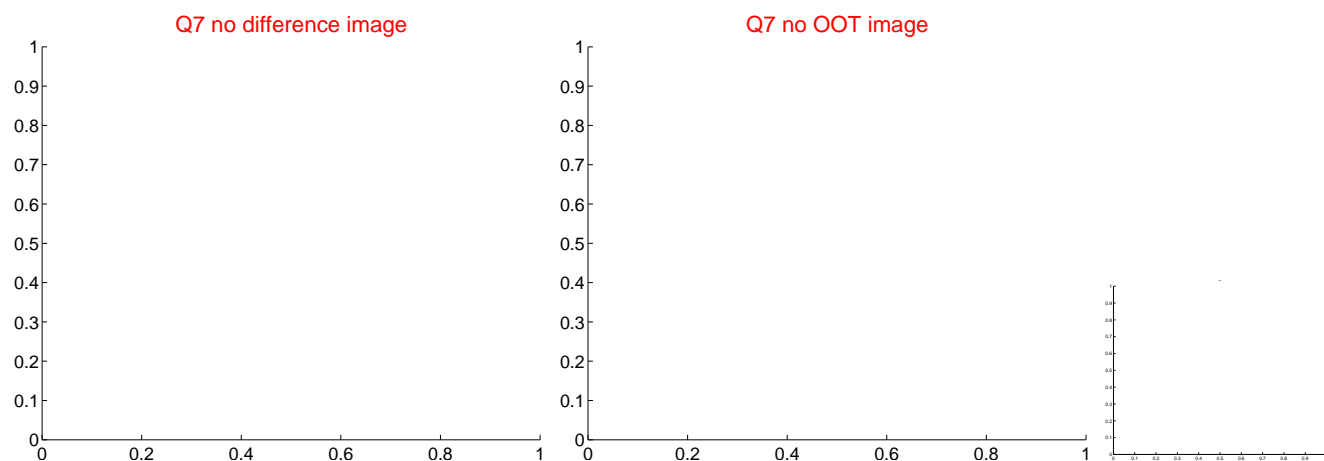
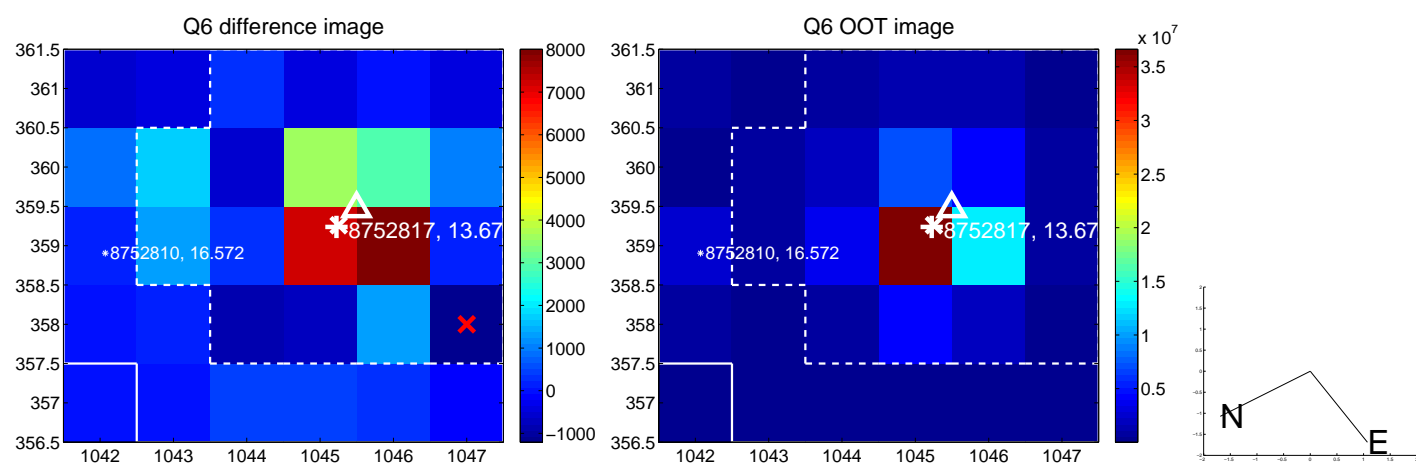
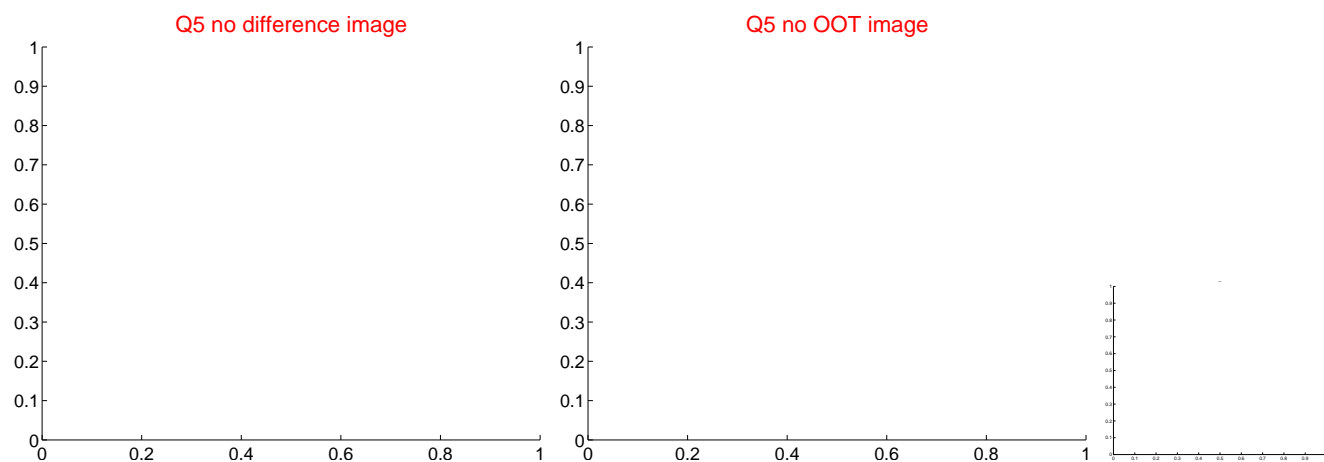


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

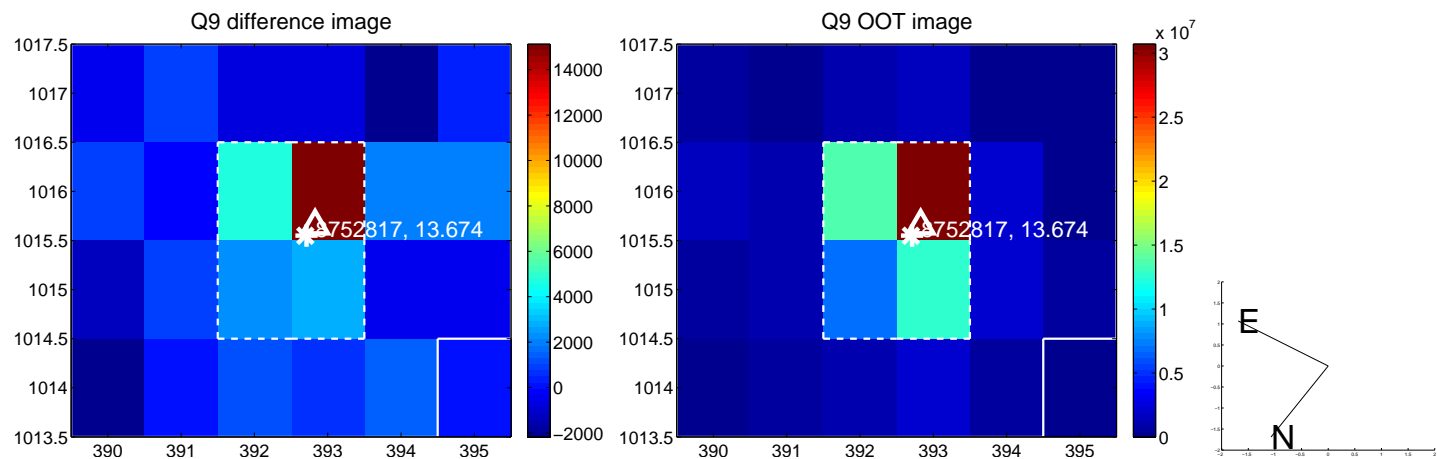
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



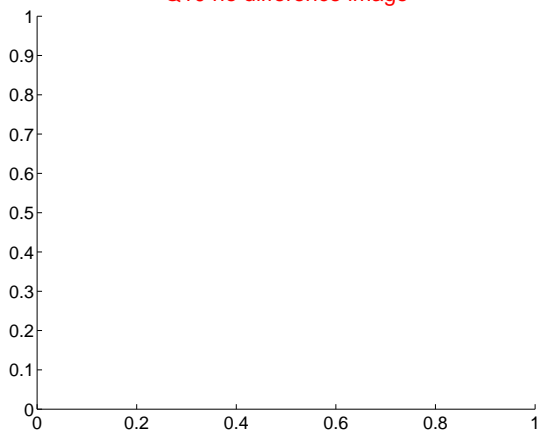
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



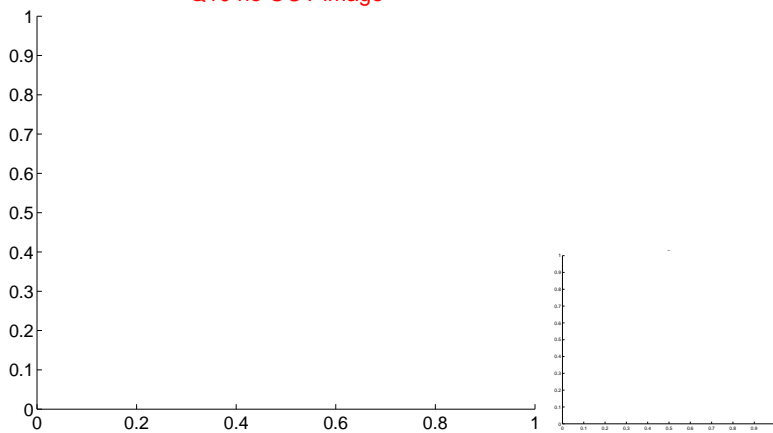
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



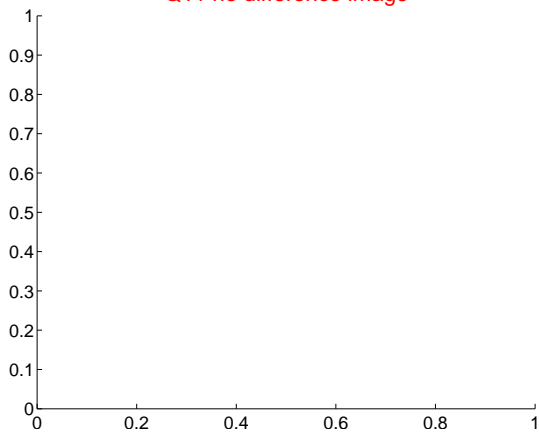
Q10 no difference image



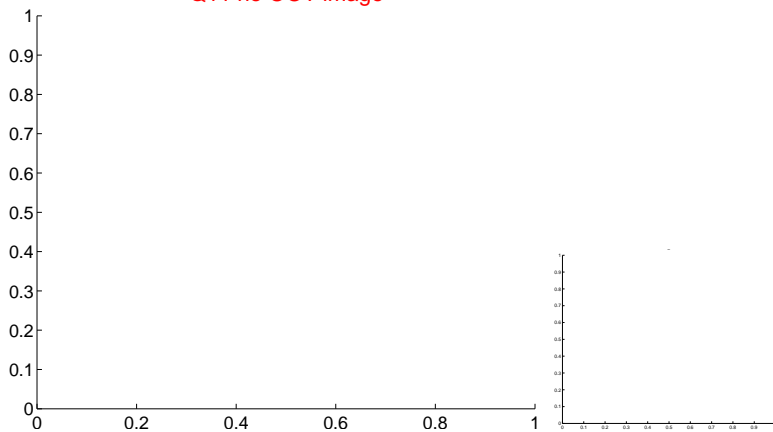
Q10 no OOT image



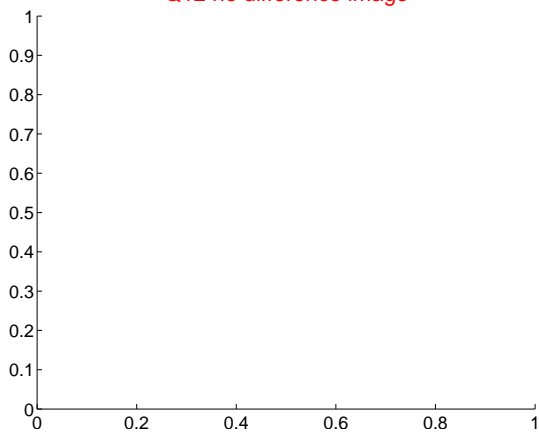
Q11 no difference image



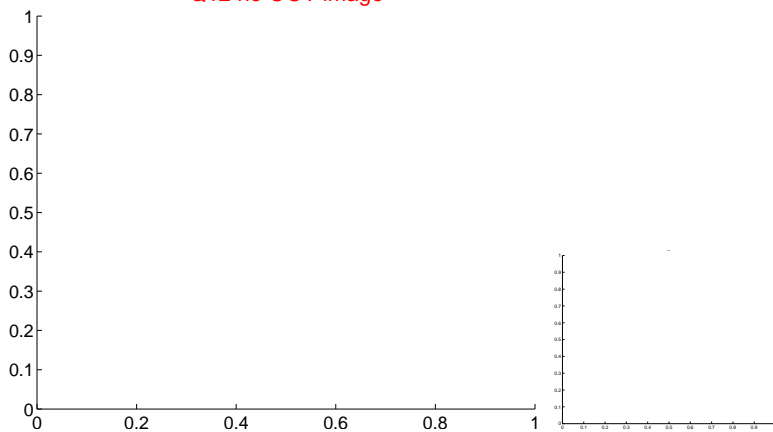
Q11 no OOT image



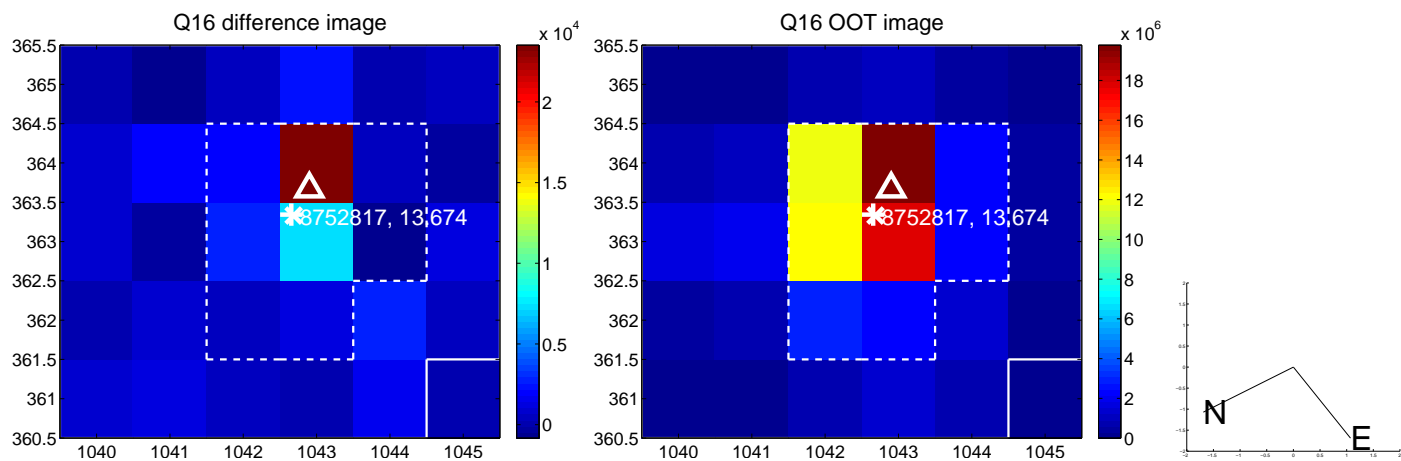
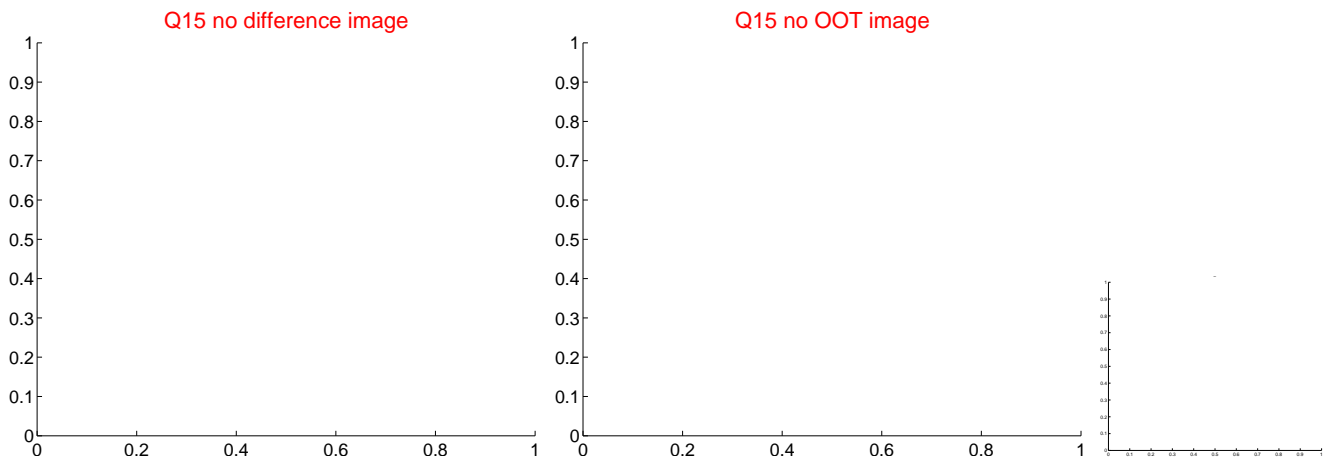
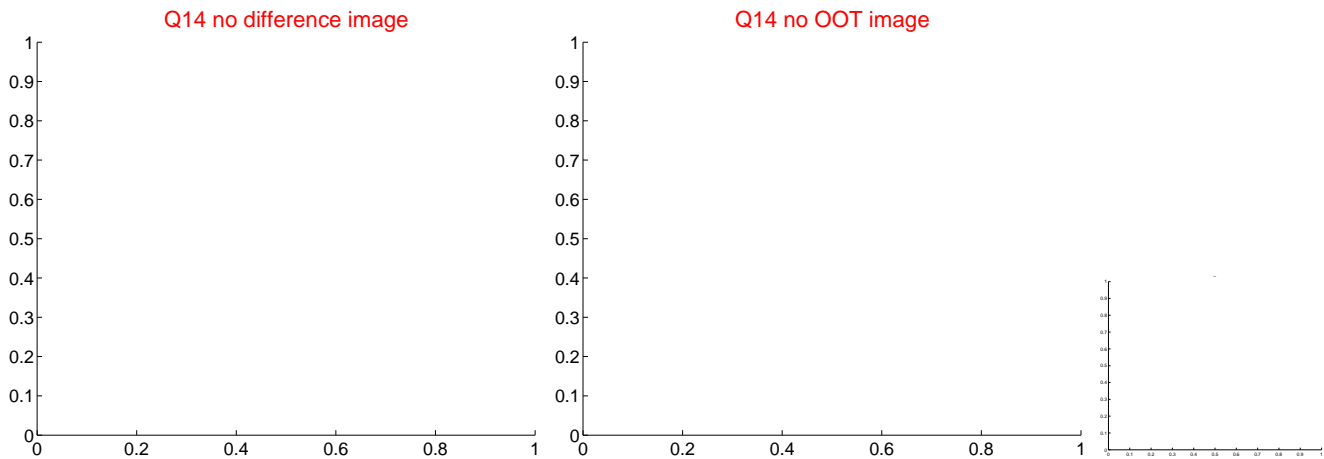
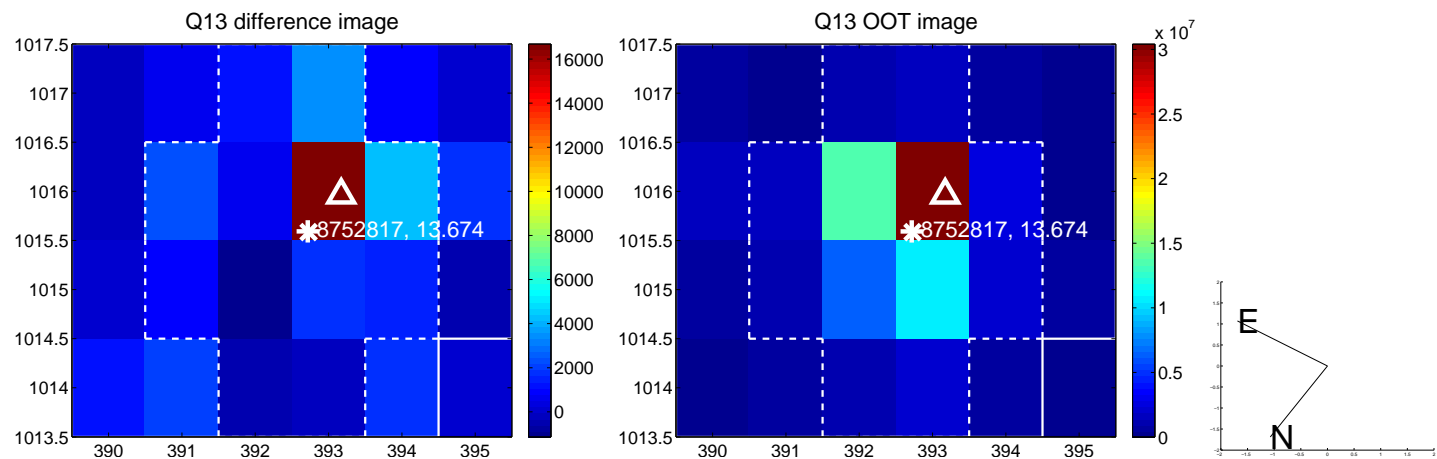
Q12 no difference image



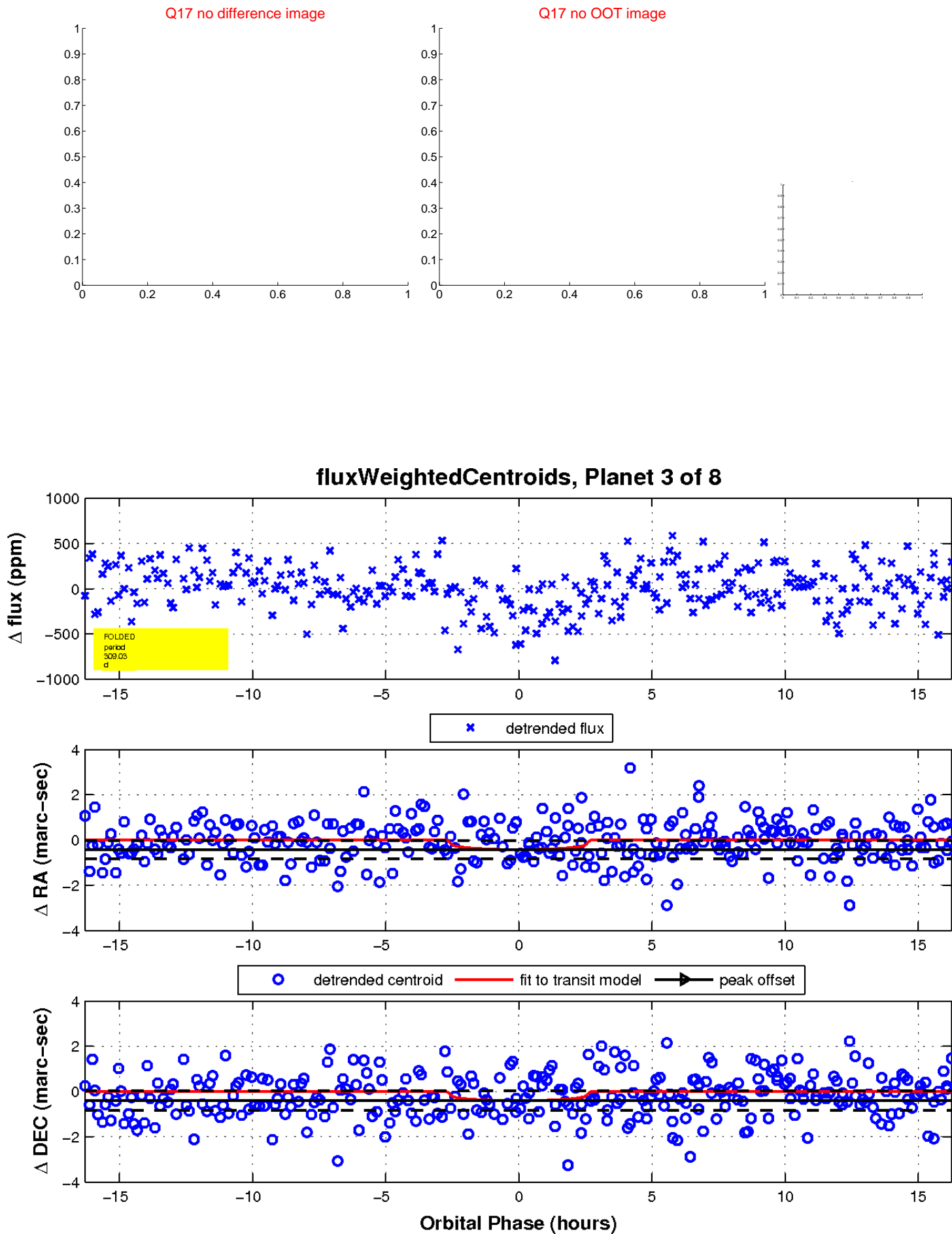
Q12 no OOT image



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

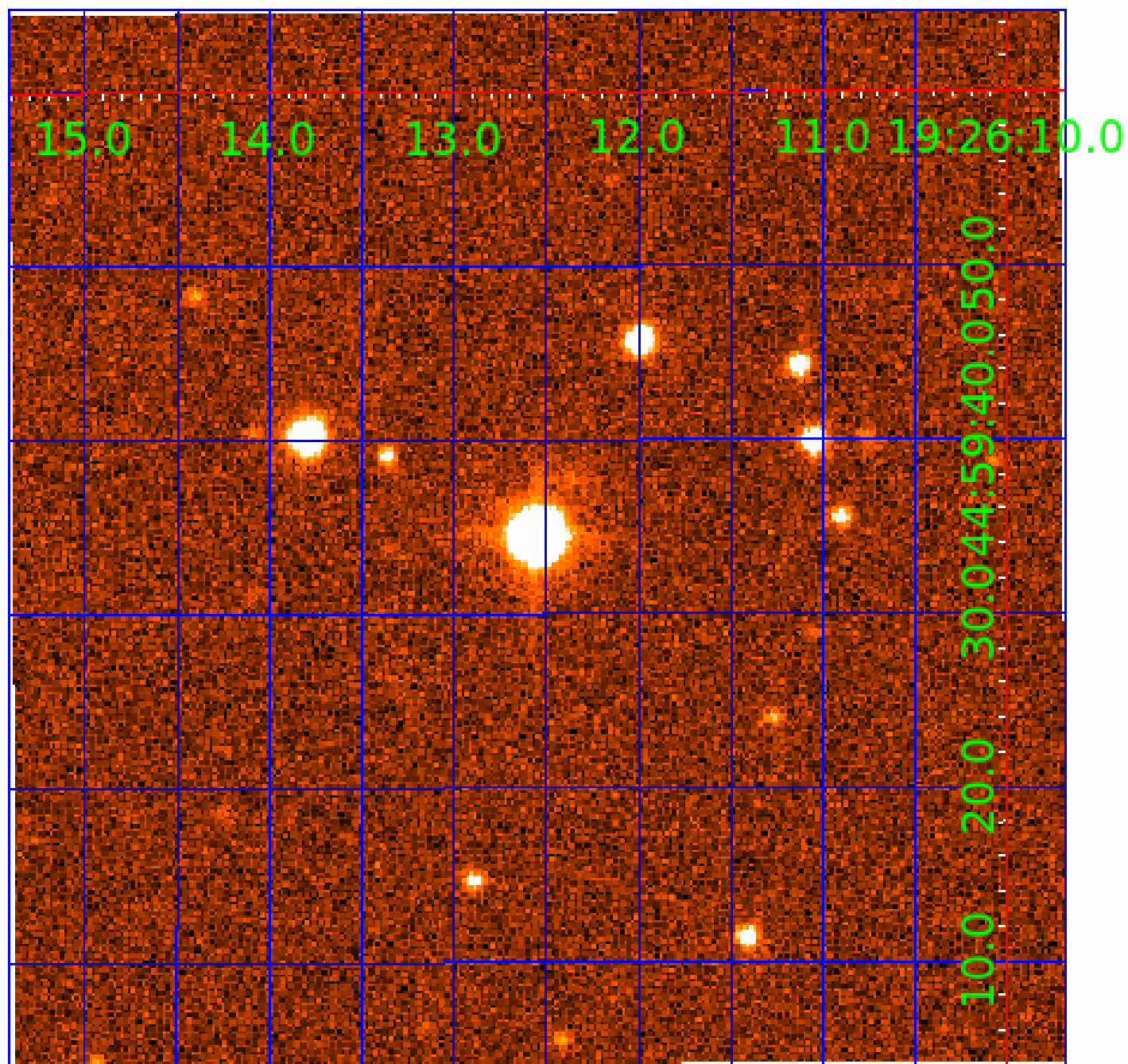


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008752817

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})
008752817-01	OBS	No	2.176213	132.321174	23.6	11.692	7.8	7.0	5.50	4973	2.57	9595.34
008752817-02	OBS	No	68.721032	181.774220	344.1	3.477	9.0	8.4	5.50	4973	10.28	96.13
008752817-03	OBS	No	309.027981	281.356619	289.7	5.433	7.8	8.1	5.50	4973	10.28	12.95
008752817-04	OBS	No	71.191736	172.979736	317.9	2.628	7.7	7.3	5.50	4973	10.46	91.71
008752817-05	OBS	No	206.237704	194.397361	441.3	2.961	7.7	8.1	5.50	4973	12.70	22.21
008752817-06	OBS	No	239.207502	307.837483	305.0	5.491	7.9	6.9	5.50	4973	11.08	18.22
008752817-07	OBS	No	13.330829	135.941531	159.2	2.652	7.7	7.4	5.50	4973	8.52	856.09
008752817-08	OBS	No	86.977802	201.004086	242.6	4.668	7.7	7.2	5.50	4973	8.70	70.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008752817-01	OBS	FP	0.00	1	0	0	1	LPP_DV—EPHEM_MATCH
008752817-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008752817-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008752817-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008752817-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008752817-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008752817-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
008752817-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

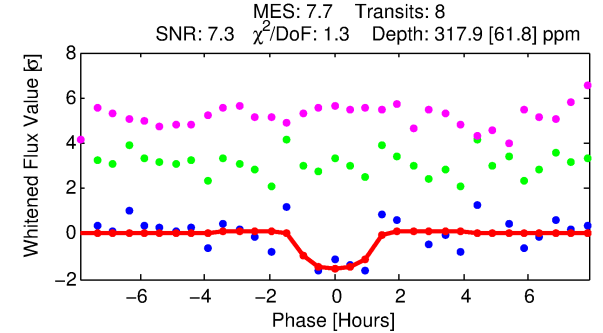
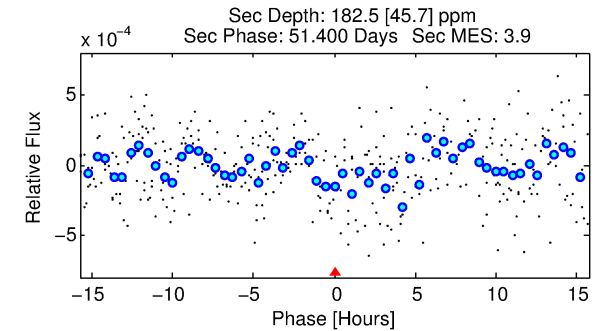
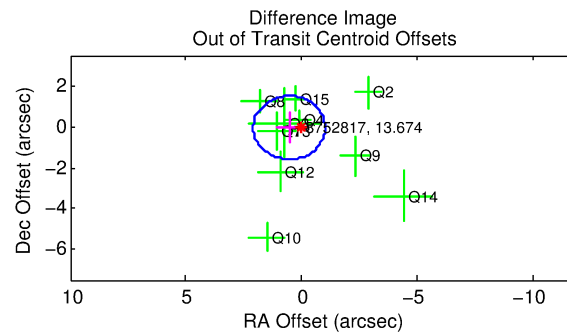
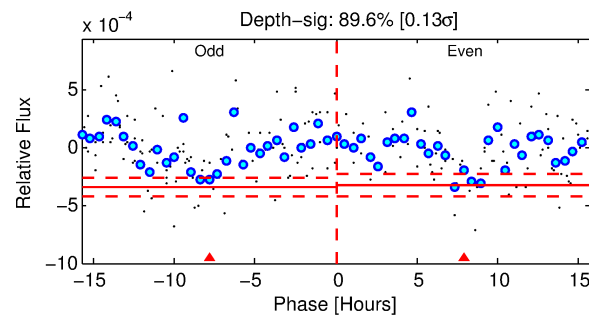
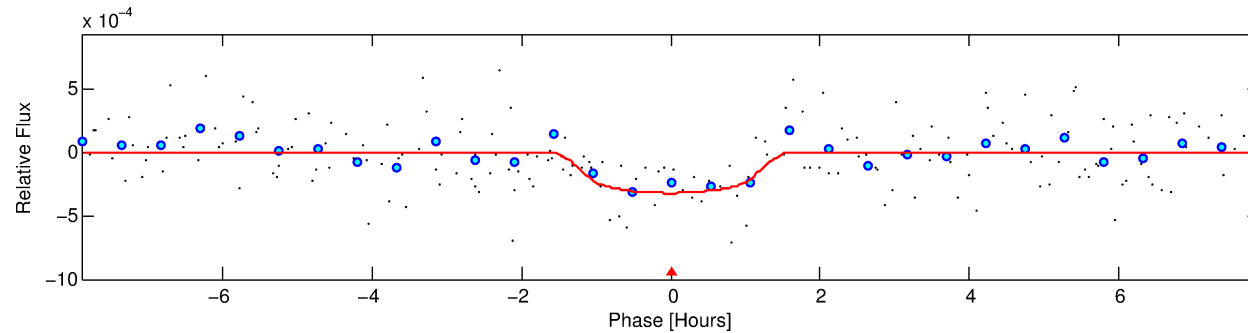
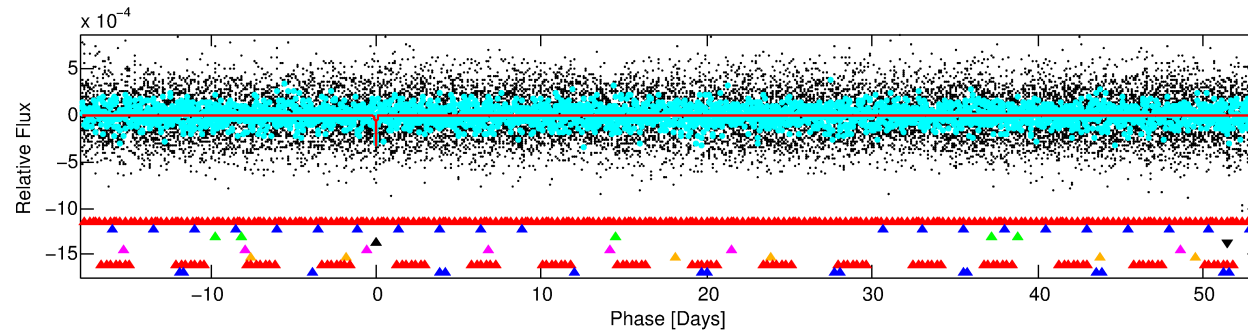
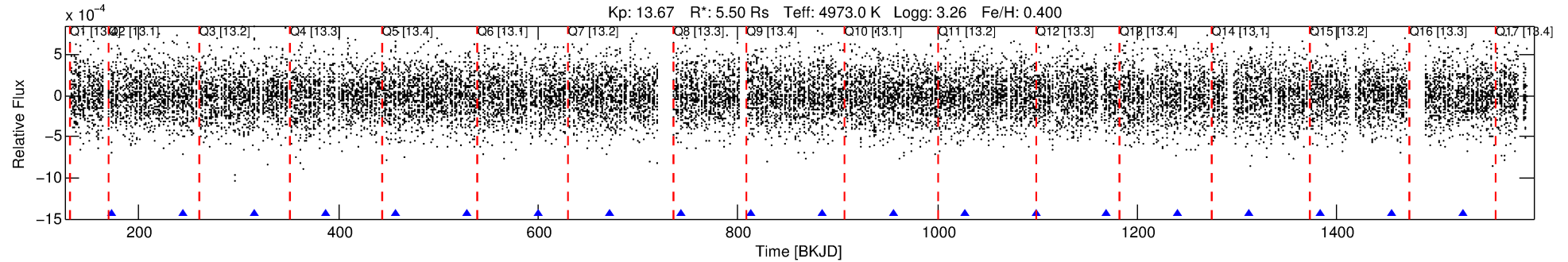
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008752817-04

No Significant Match Found

DV One-Page Summary

KIC: 8752817 Candidate: 4 of 8 Period: 71.192 d



DV Fit Results:

Period = 71.19174 [0.00087] d
Epoch = 172.9797 [0.0110] BKJD
Rp/R* = 0.0174 [0.0384]
a/R* = 153.25 [1130.72]
b = 0.70 [5.55]
Seff = 91.71 [72.87]
Teq = 789 [157] K
Rp = 10.46 [23.76] Re
a = 0.4252 [0.2156] AU
Ag = 165.84 [742.59] [0.22σ]
Teffp = 4378 [4828] K [0.74σ]

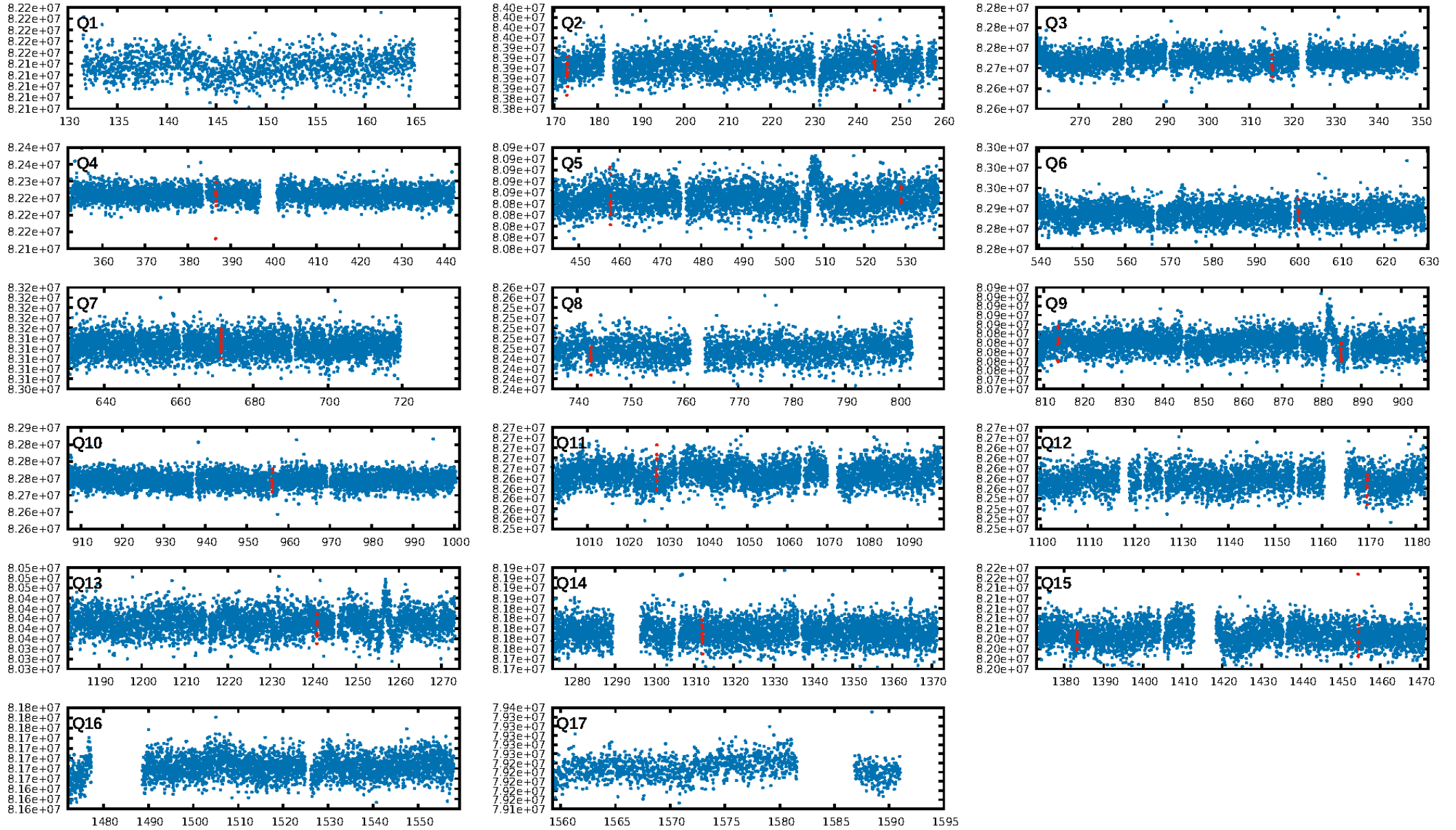
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [13.61σ]
LongPeriod-sig: 100.0% [70.73σ]
ModelChiSquare2-sig: 96.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.10e-08
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 0.8532
Centroid-sig: 62.0%
Centroid-so: 0.765 arcsec [0.87σ]
OotOffset-rm: 0.535 arcsec [1.03σ]
KicOffset-rm: 0.054 arcsec [0.09σ]
OotOffset-st: 3/3/3/2 [11]
KicOffset-st: 3/3/3/2 [11]
DiffImageQuality-fgm: 0.64 [7/11]
DiffImageOverlap-fno: 0.67 [8/12]

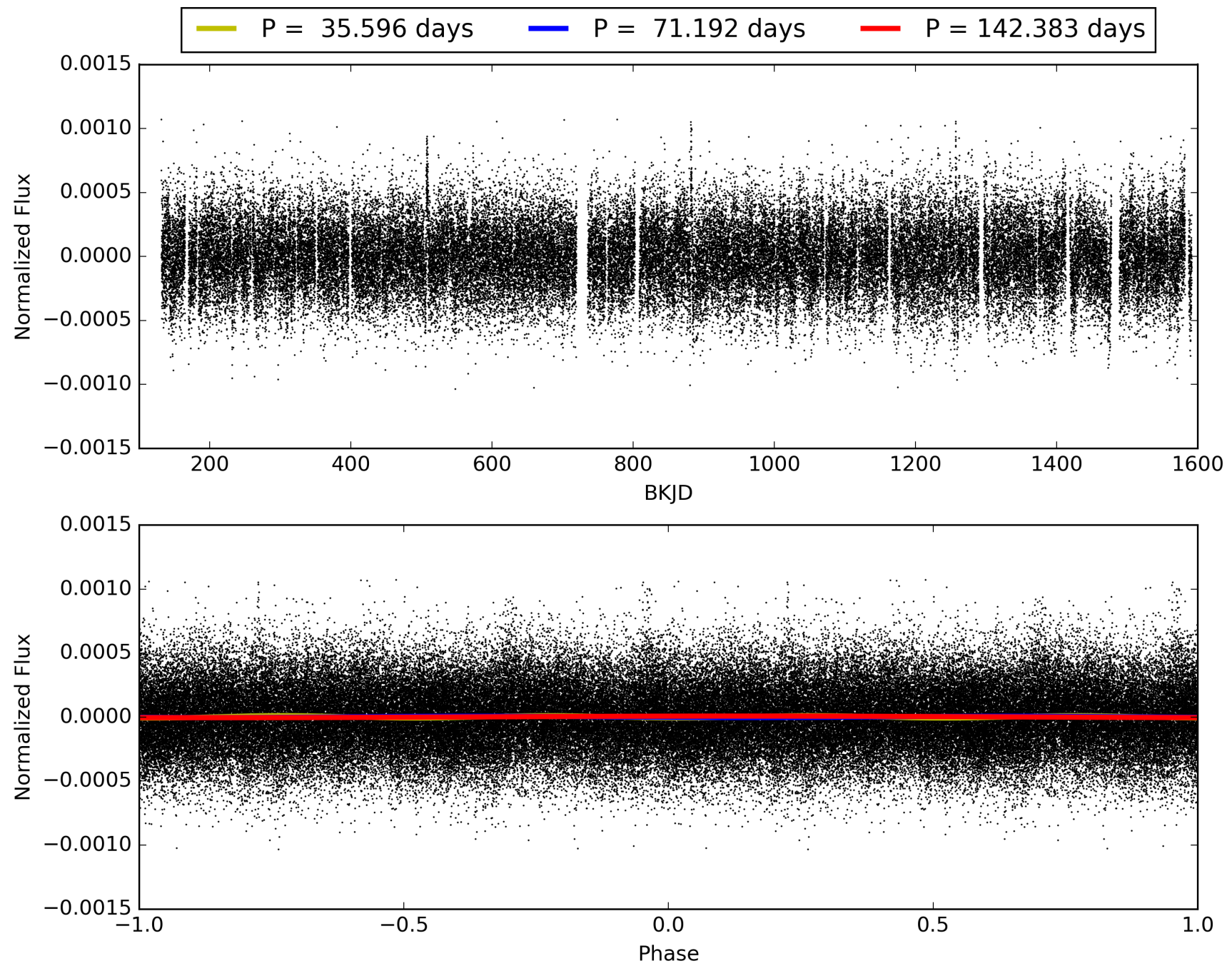
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:01:23 Z

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

TCE 008752817-04, PDC Light Curves

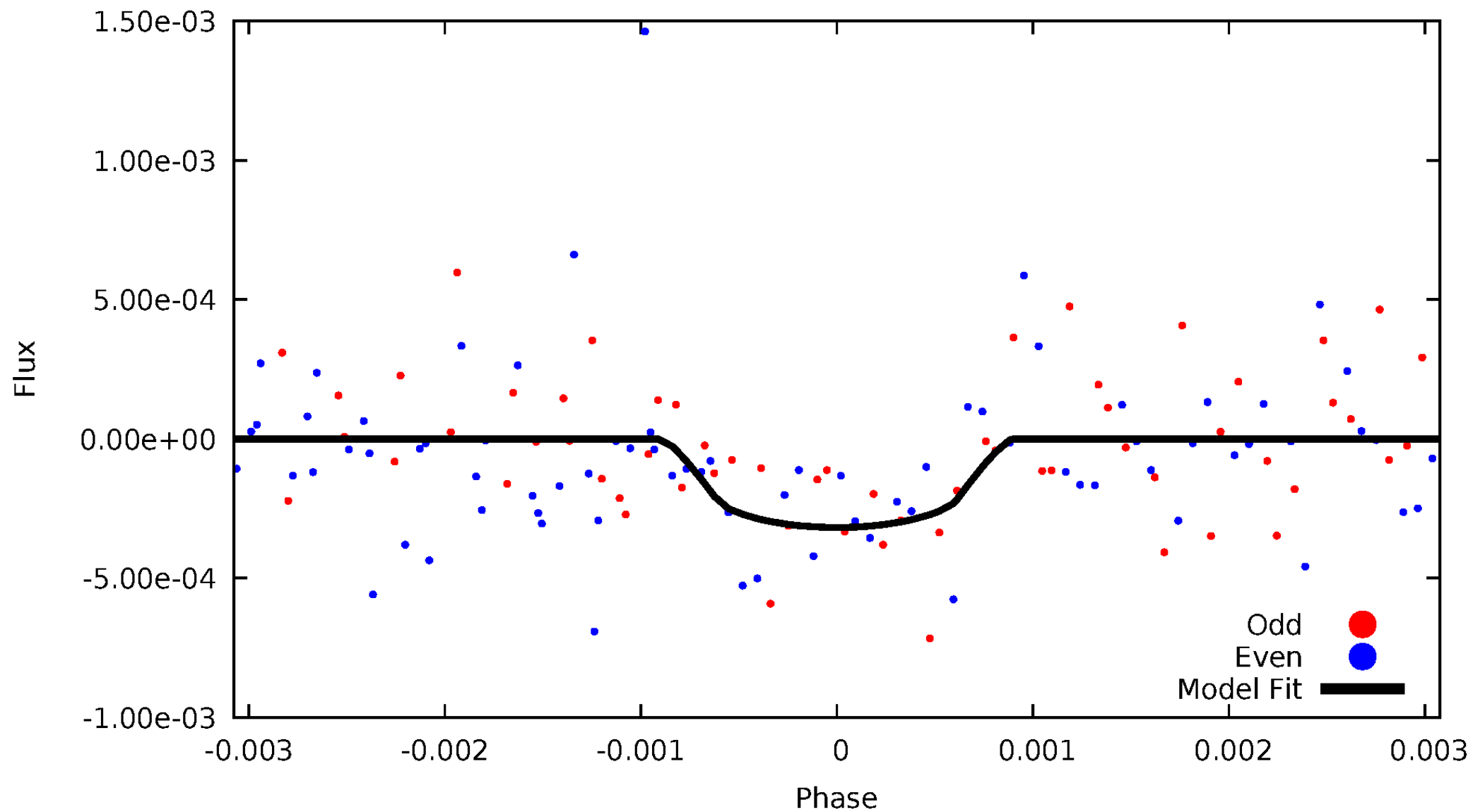


TCE 008752817-04



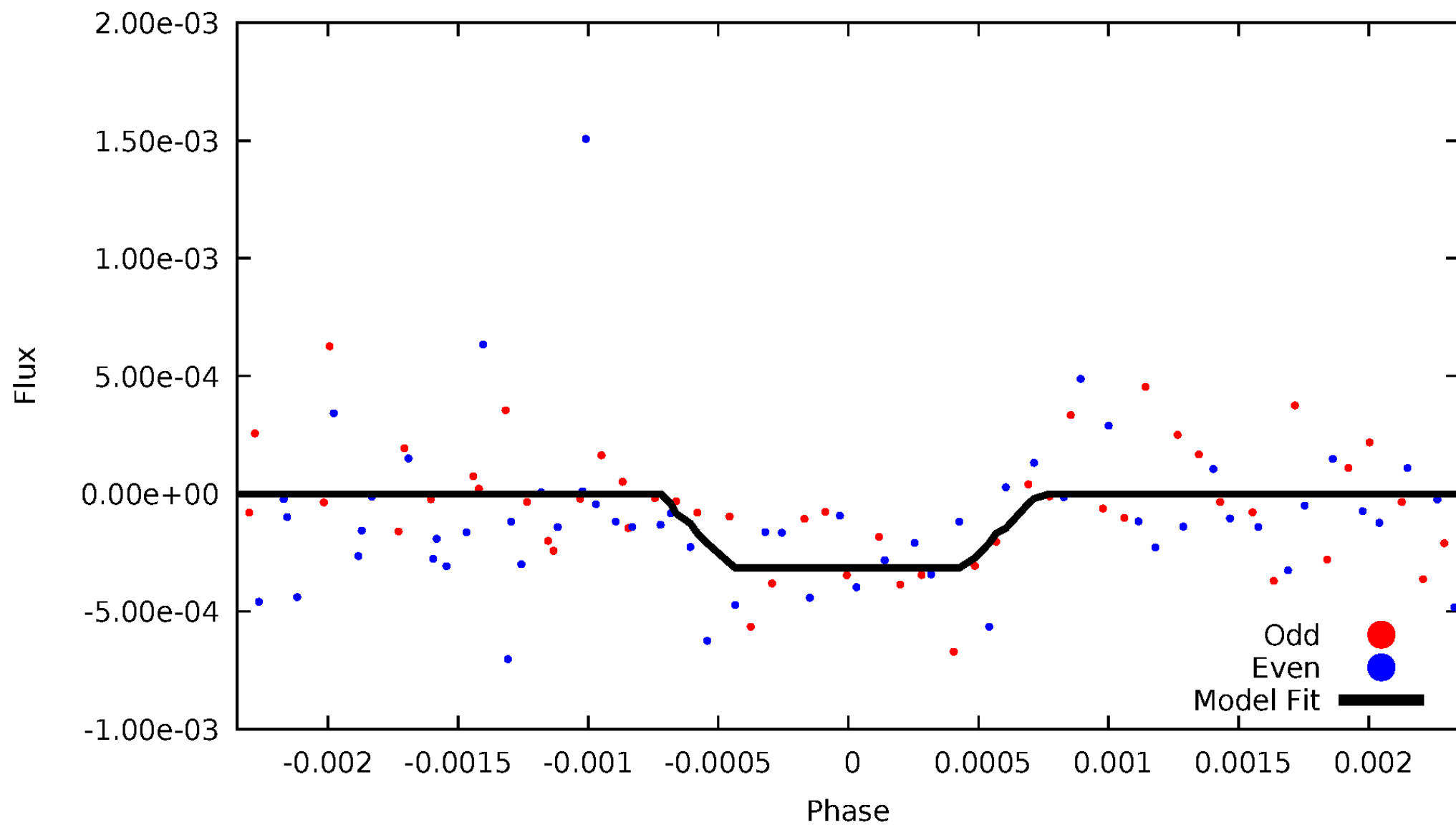
DV Odd/Even

TCE 008752817-04



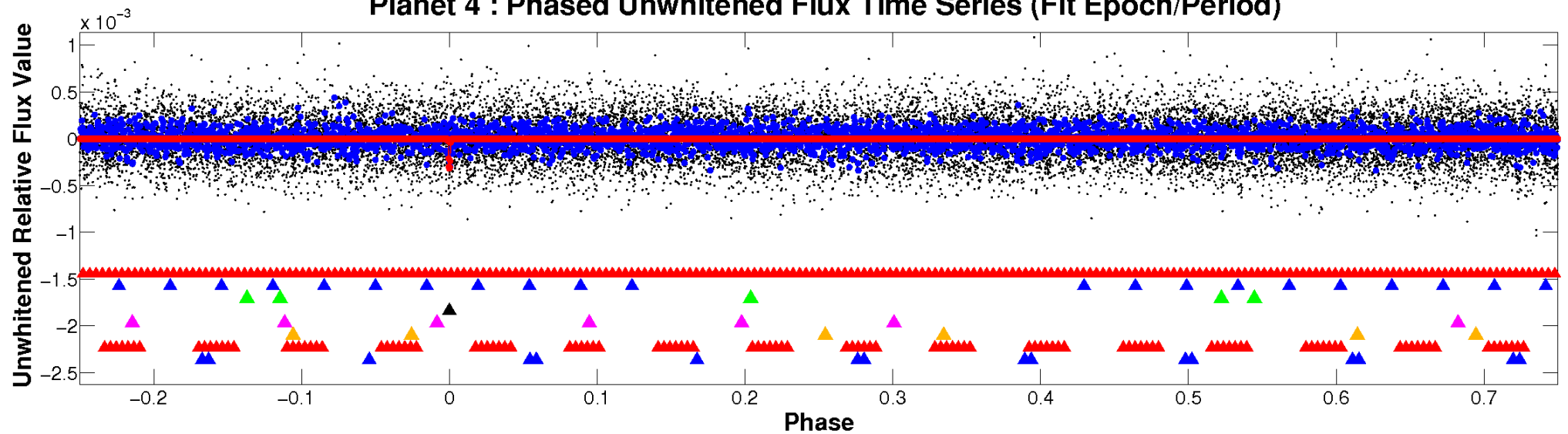
ALT Odd/Even

TCE 008752817-04

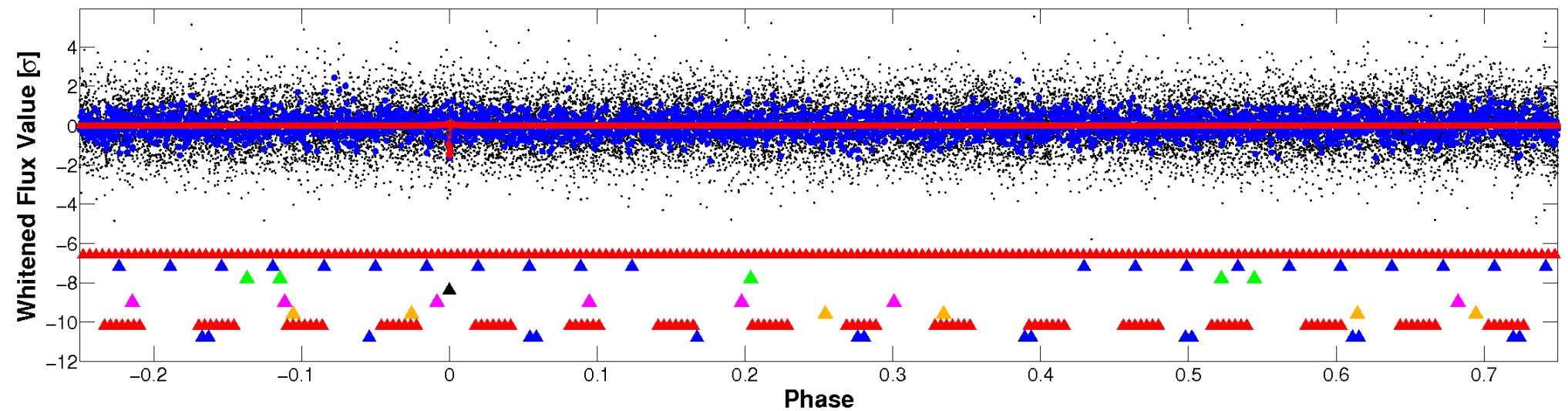


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

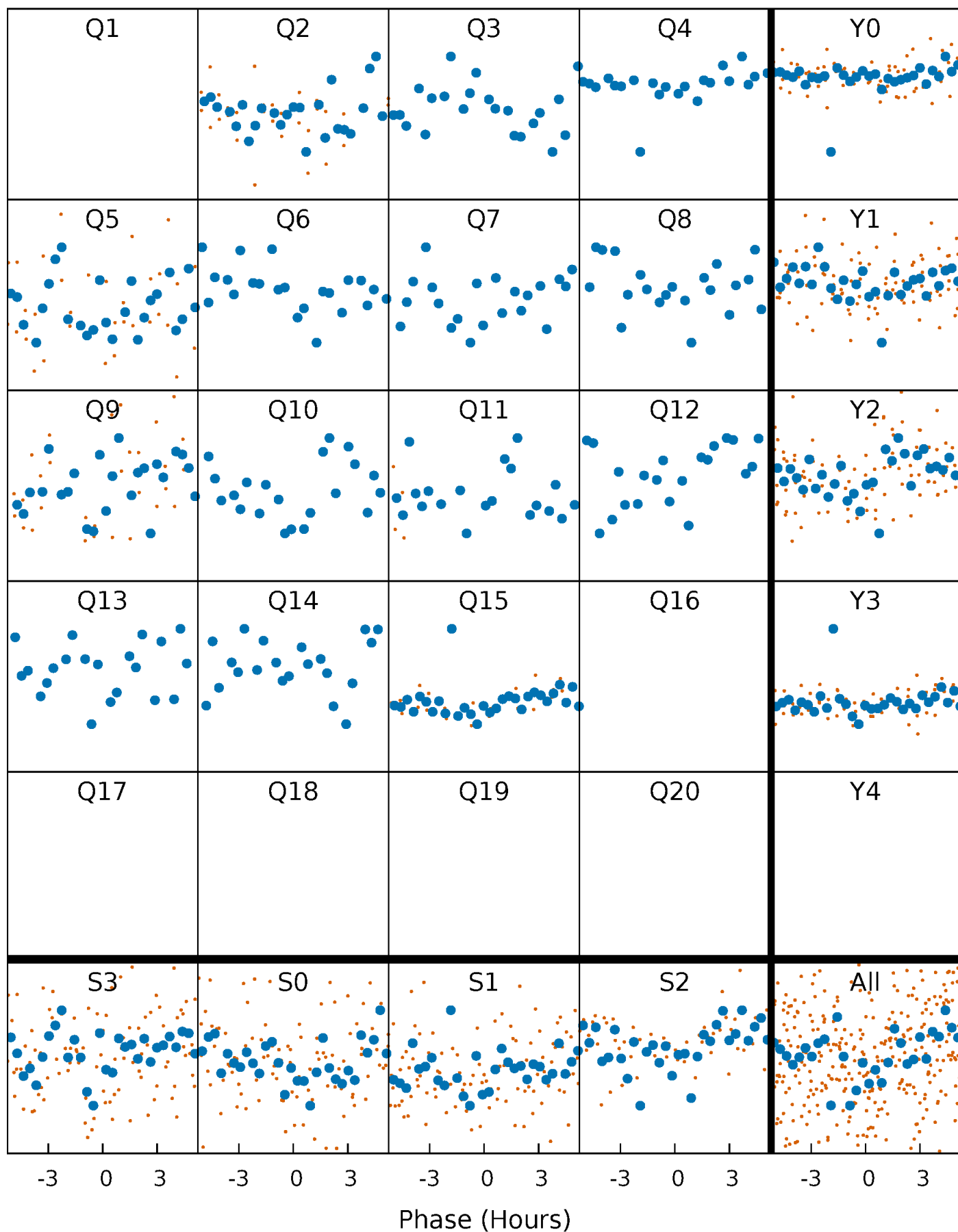


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



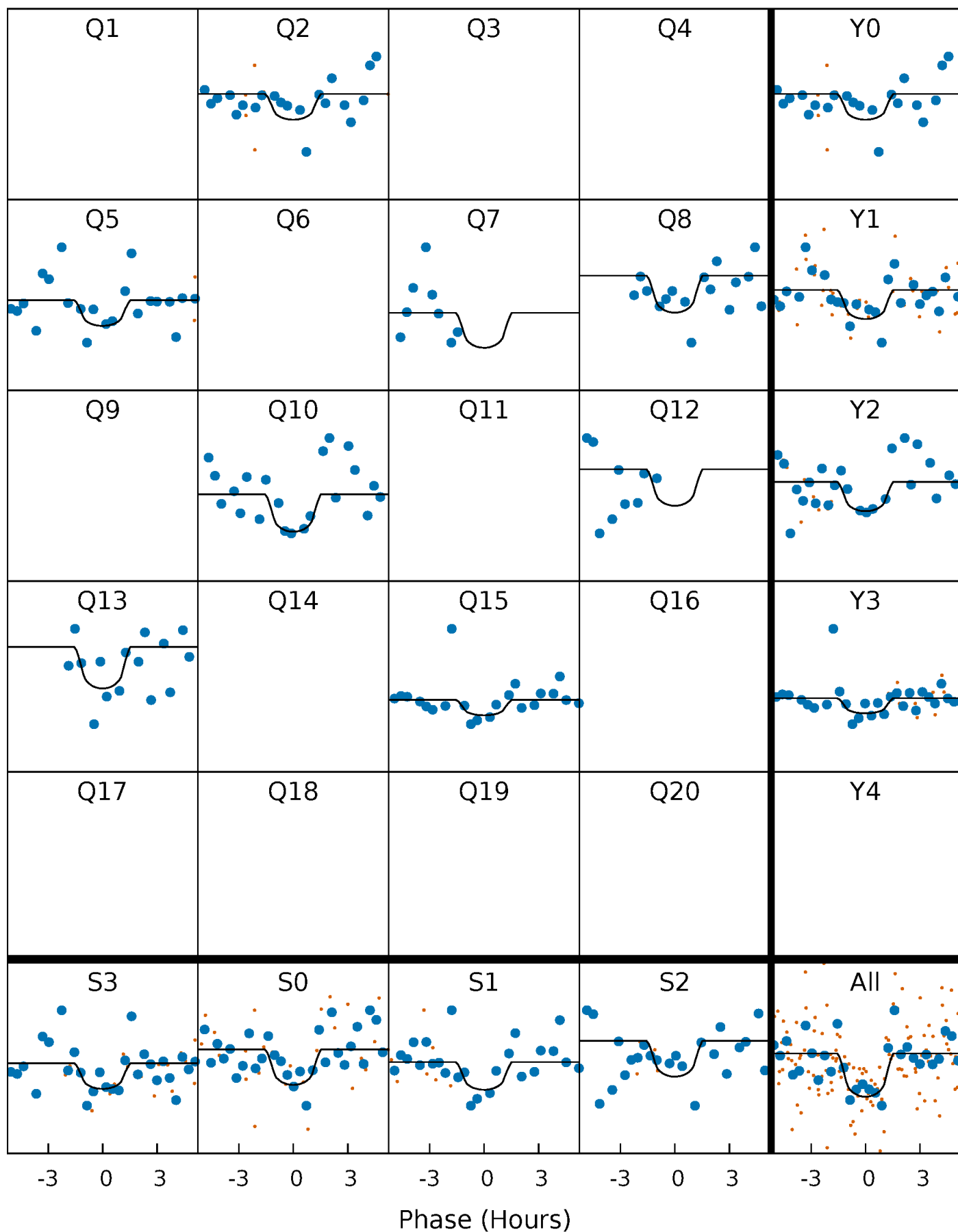
PDC Quarter-Phased Transit Curves

TCE 008752817-04 P= 71.191736 Days $T_0=172.979737$ (BKJD)



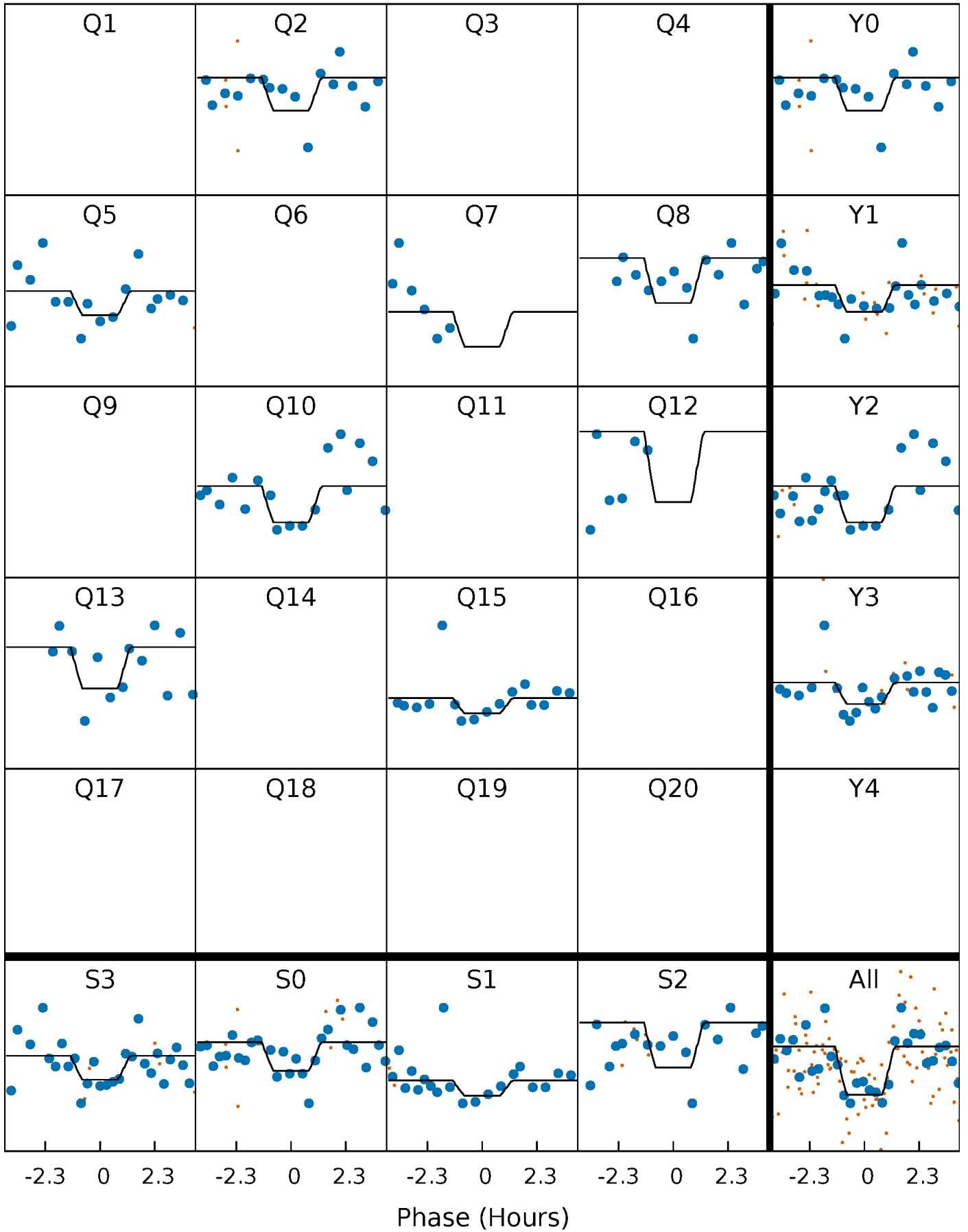
DV Quarter-Phased Transit Curves

TCE 008752817-04 P= 71.191736 Days $T_0=172.979737$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

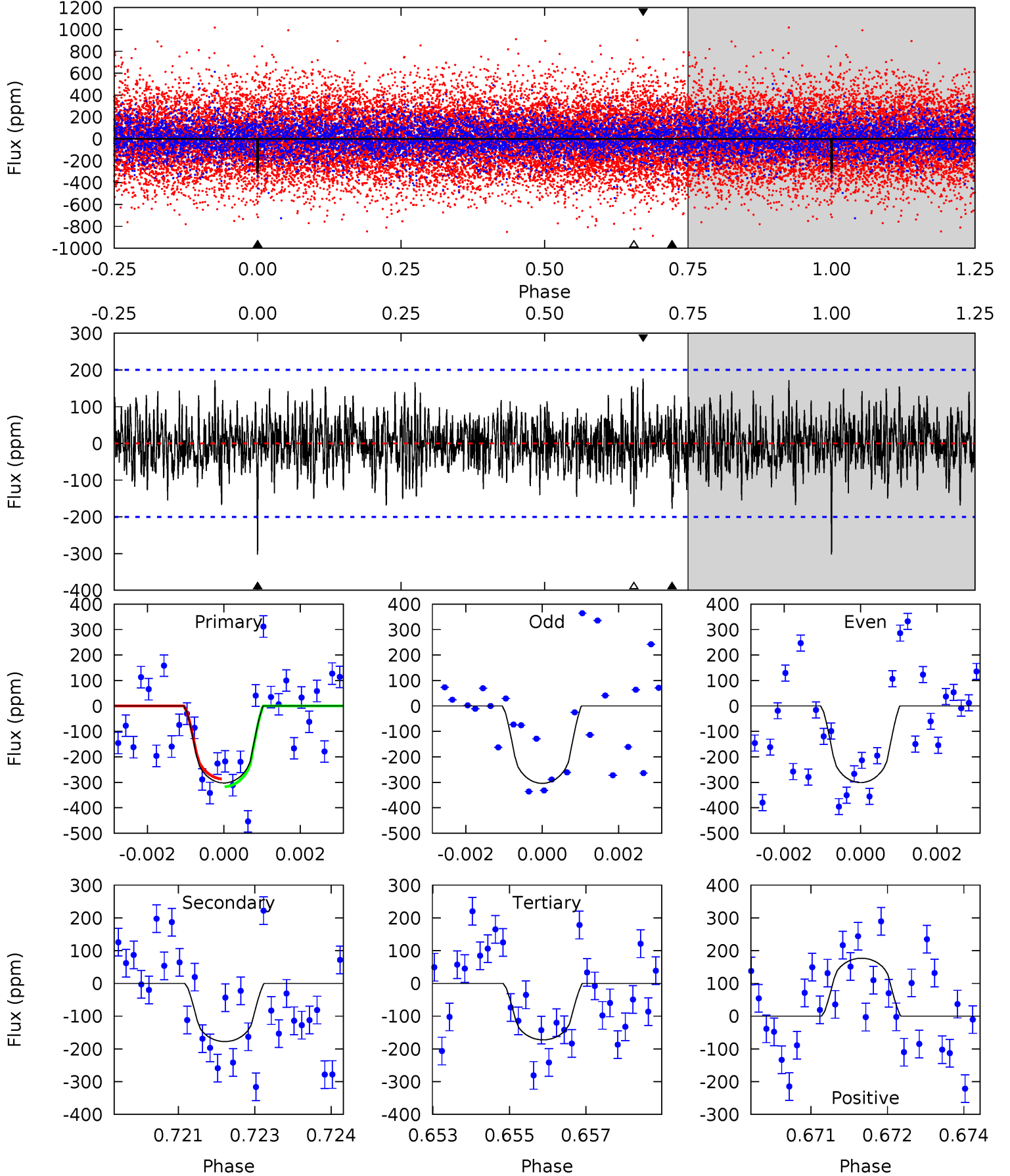
TCE 008752817-04 P= 71.191569 Days $T_0=172.984838$ (BKJD)



DV Model-Shift Uniqueness Test

008752817-04, P = 71.191736 Days, E = 101.788001 Days

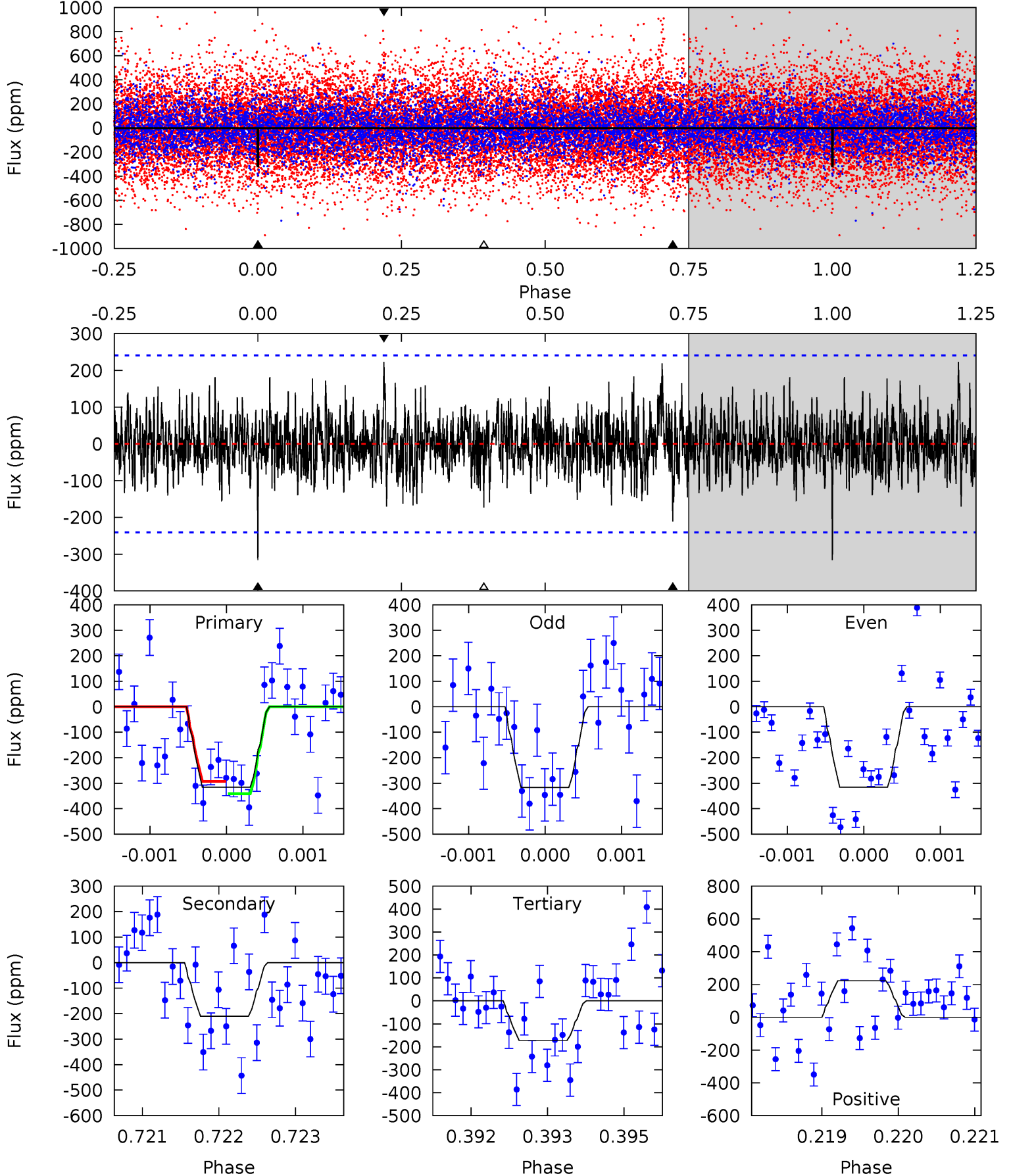
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.08	4.74	4.60	4.72	5.35	3.13	1.43	3.47	3.35	0.14	0.02	0.04	1.06	0.37	0.41



Alt Model-Shift Uniqueness Test

008752817-04, P = 71.191569 Days, E = 101.793269 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.07	4.72	3.86	4.99	5.39	3.20	1.30	3.21	2.08	0.85	-0.28	0.02	0.95	0.41	0.54



Stellar Parameters For KIC 008752817

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4973^{+138}_{-173}	$3.263^{+0.448}_{-0.241}$	$0.400^{+0.050}_{-0.350}$	$5.501^{+1.656}_{-3.076}$	$2.021^{+0.660}_{-0.991}$	$0.017^{+0.093}_{-0.010}$
	+3%/-3%	+14%/-7%	+12%/-87%	+30%/-56%	+33%/-49%	+543%/-57%
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 008752817-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-178 ± 37	$18.32^{+20.59}_{-12.72}$	1093^{+114}_{-135}	3562^{+2012}_{-664}	53^{+480}_{-42}
Alt.	-211 ± 45	$19.29^{+20.36}_{-13.24}$	1095^{+116}_{-134}	3591^{+1867}_{-624}	58^{+436}_{-44}

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 $A_{obs} \gg 1.0$

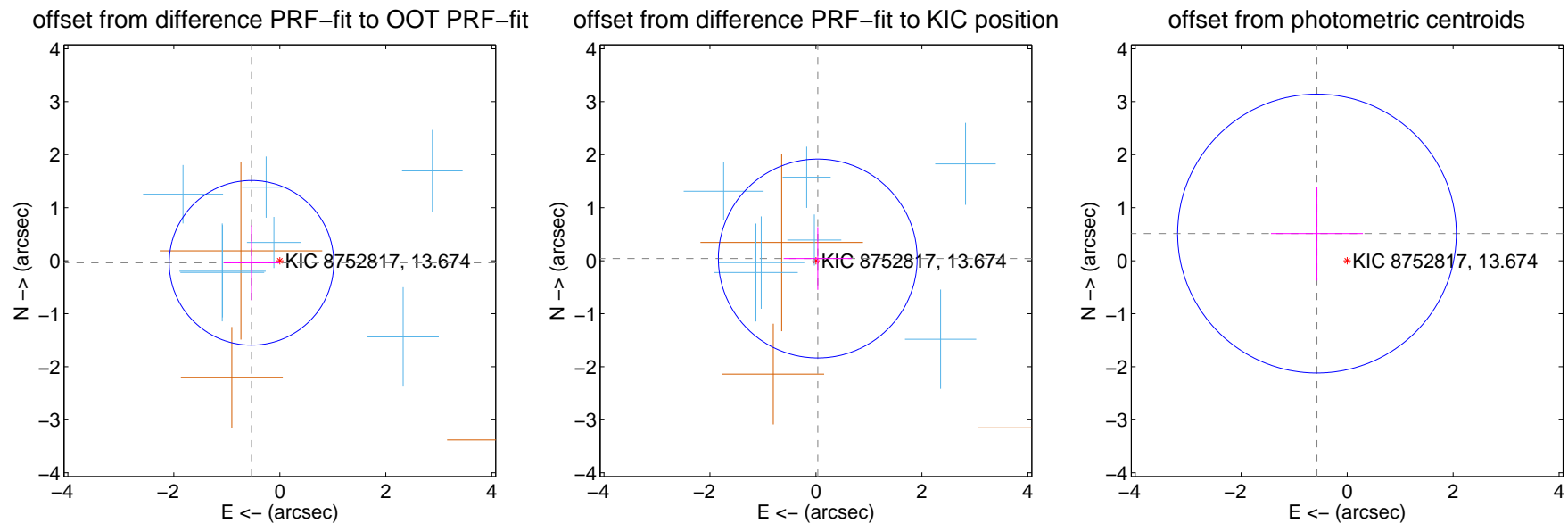
DV Centroid Data

Supplemental centroid analysis for 008752817-04. Kepler magnitude: 13.67. Transit SNR 7.27

There are 7 quarters with good PRF difference image offsets

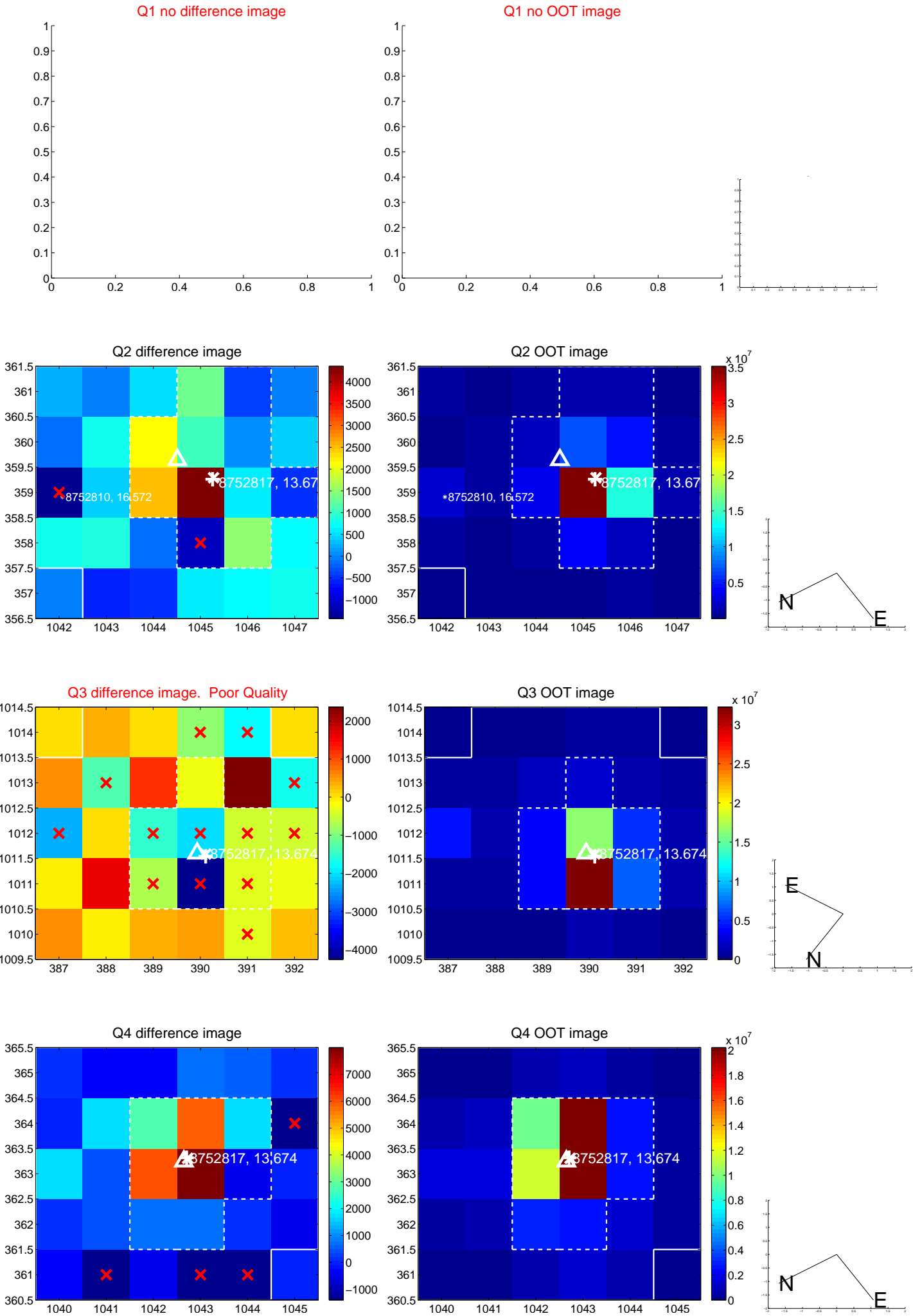
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.535 ± 0.518	1.03	0.534 ± 0.524	-0.040 ± 0.706
PRF-fit source offset from KIC position	0.054 ± 0.625	0.09	-0.035 ± 0.642	0.041 ± 0.592
photometric centroid source offset	0.77 ± 0.88	0.87	0.57 ± 0.87	0.51 ± 0.89

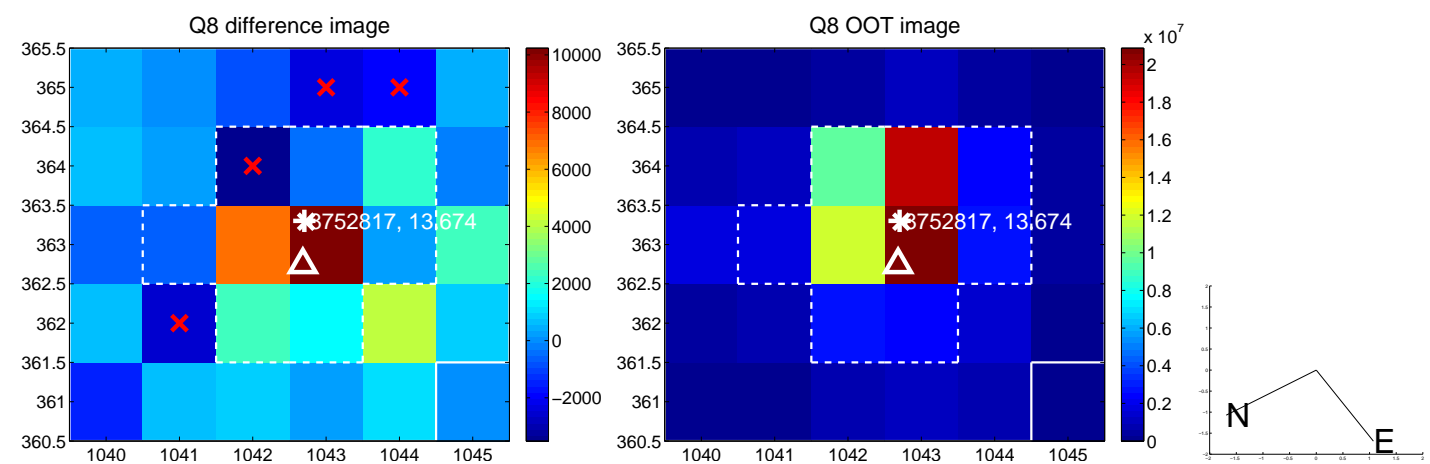
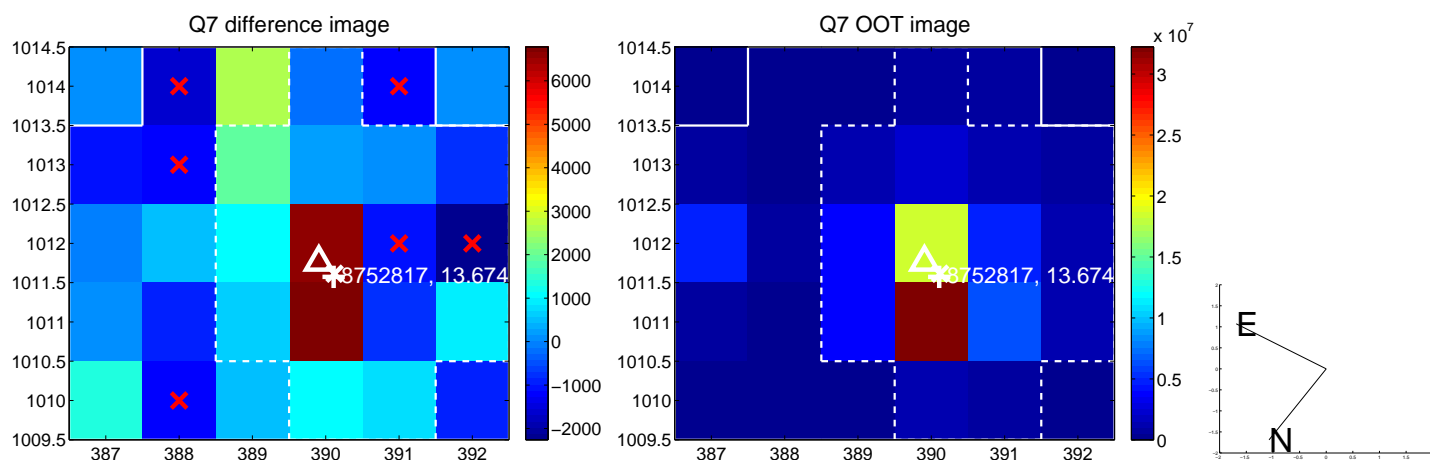
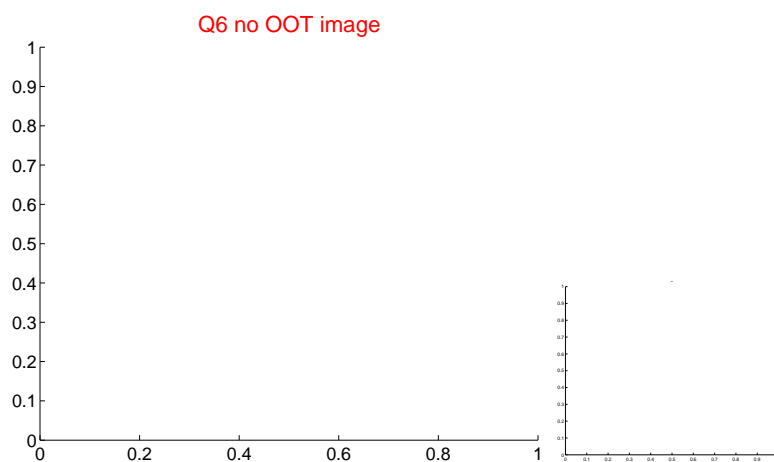
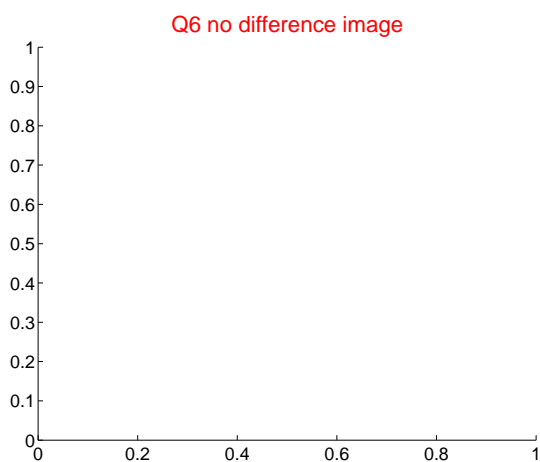
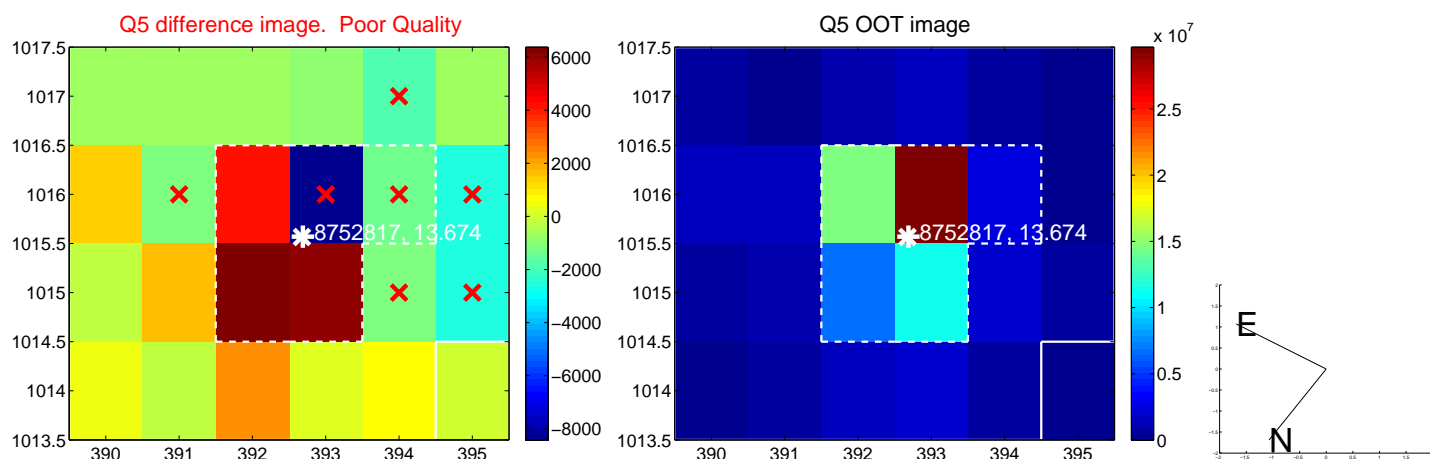


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

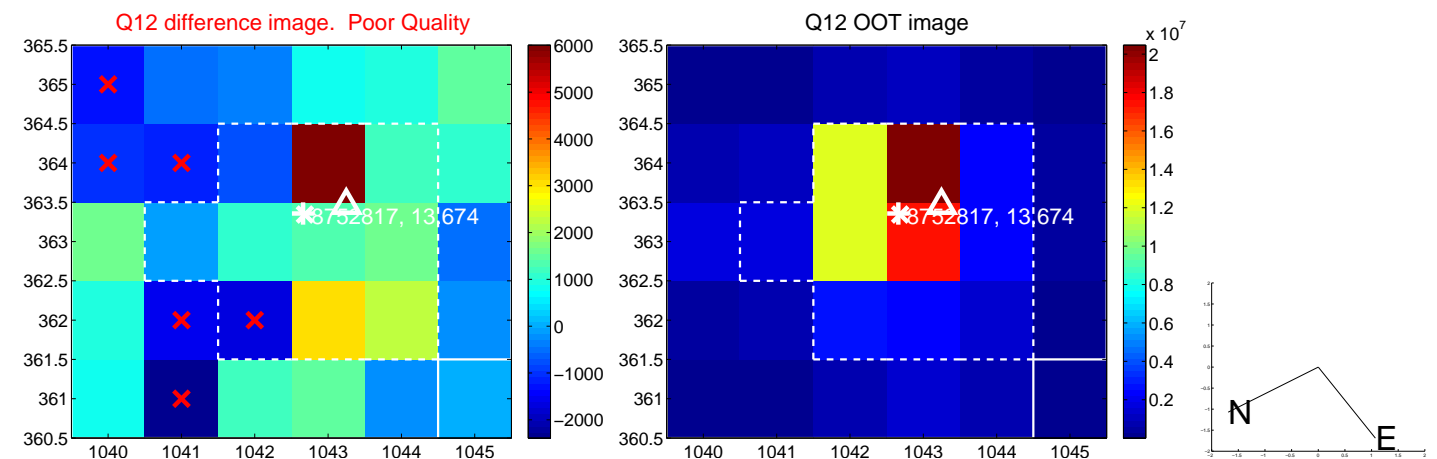
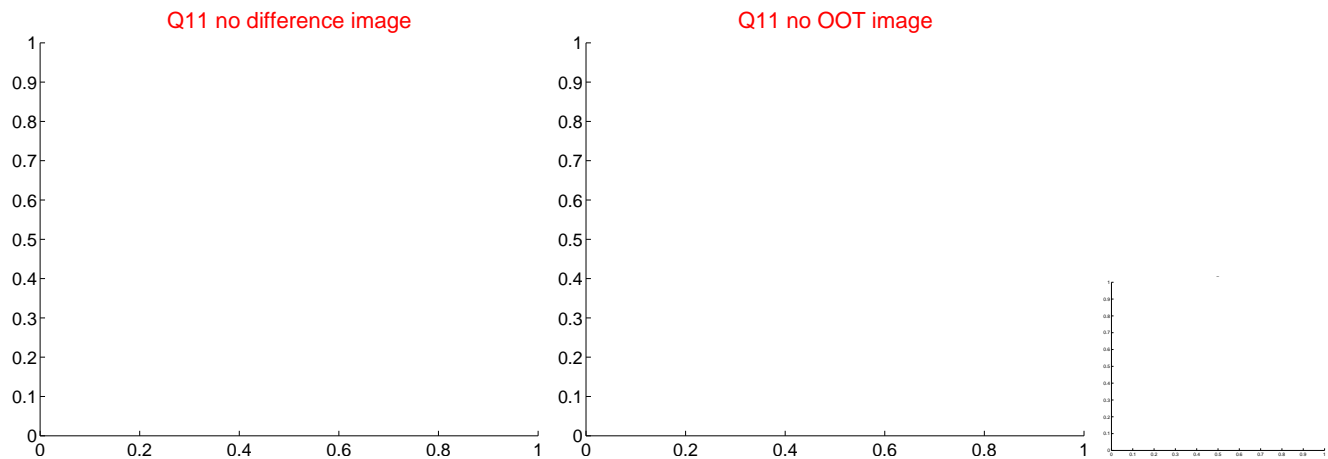
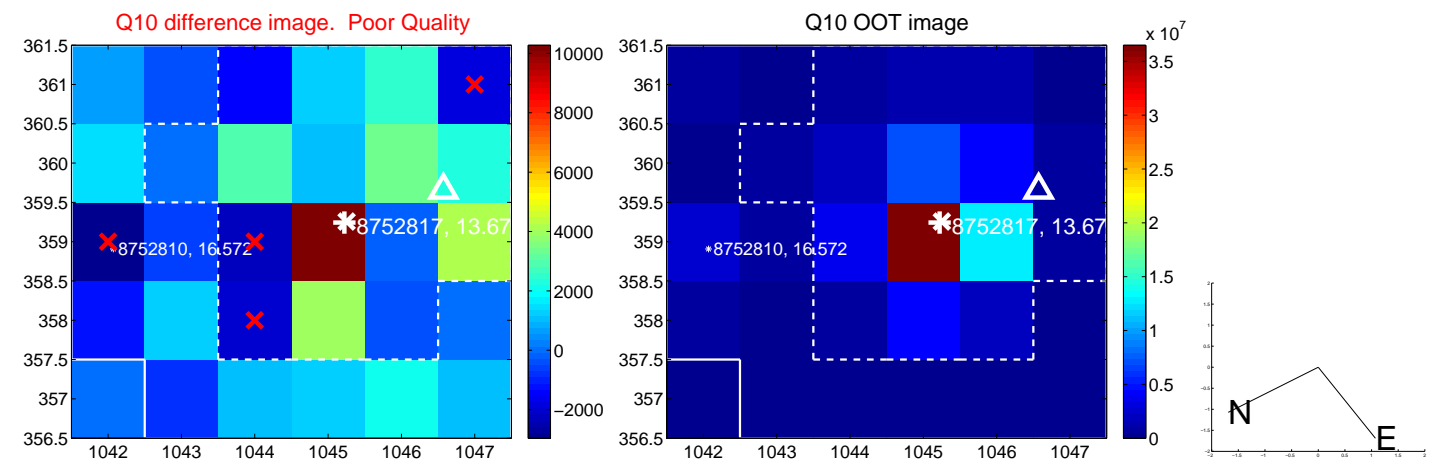
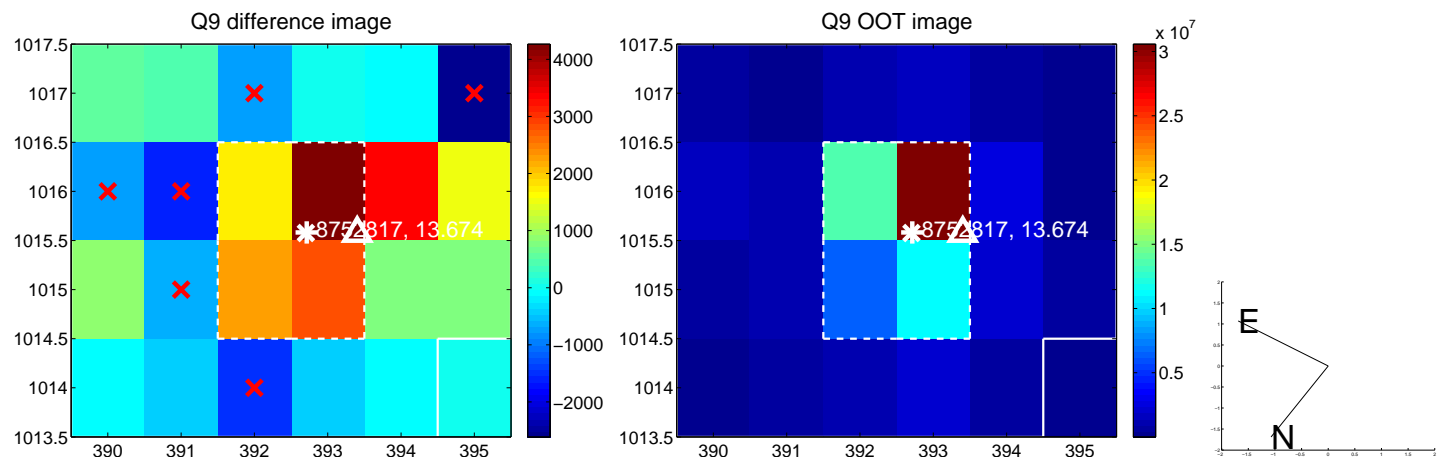
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



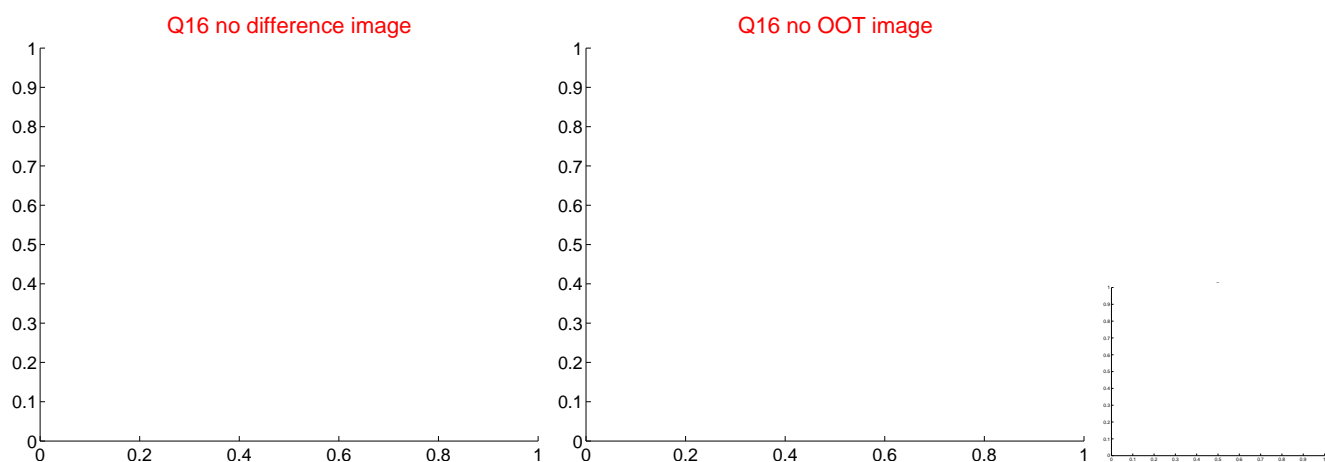
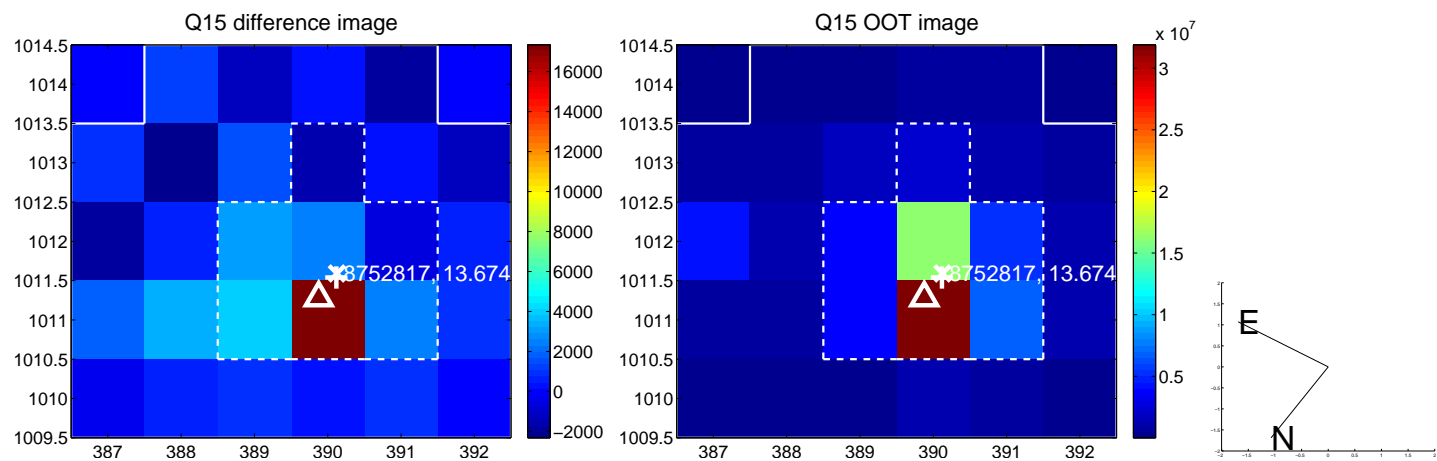
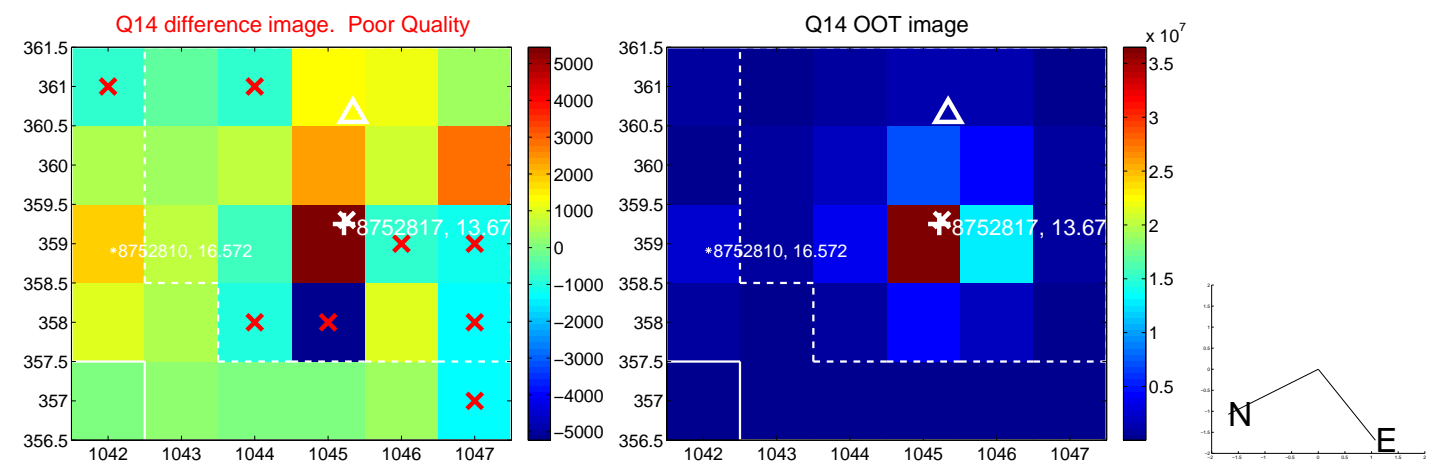
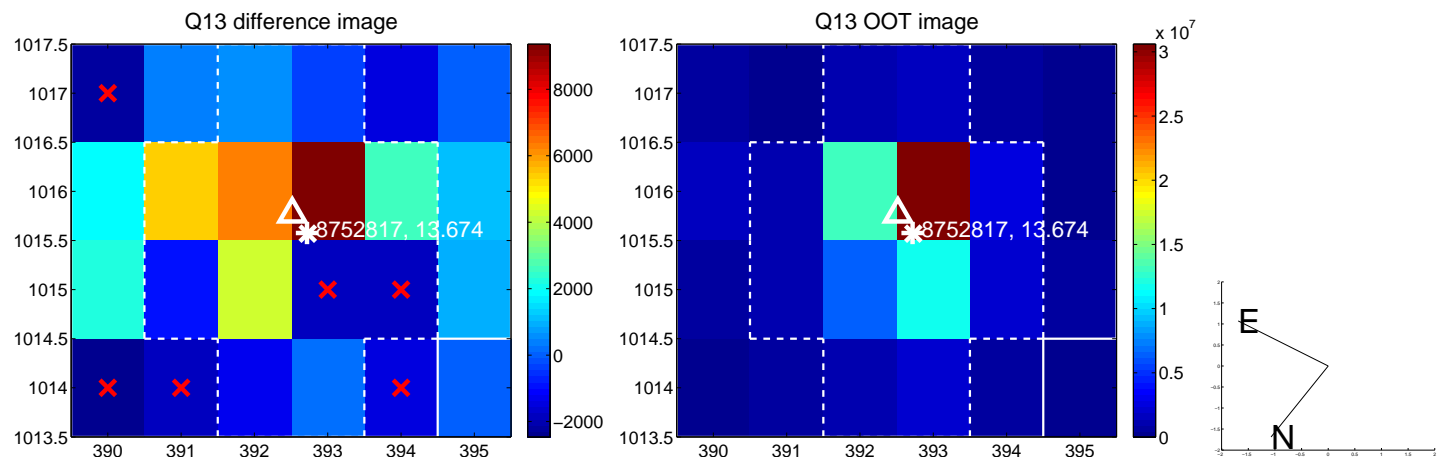
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



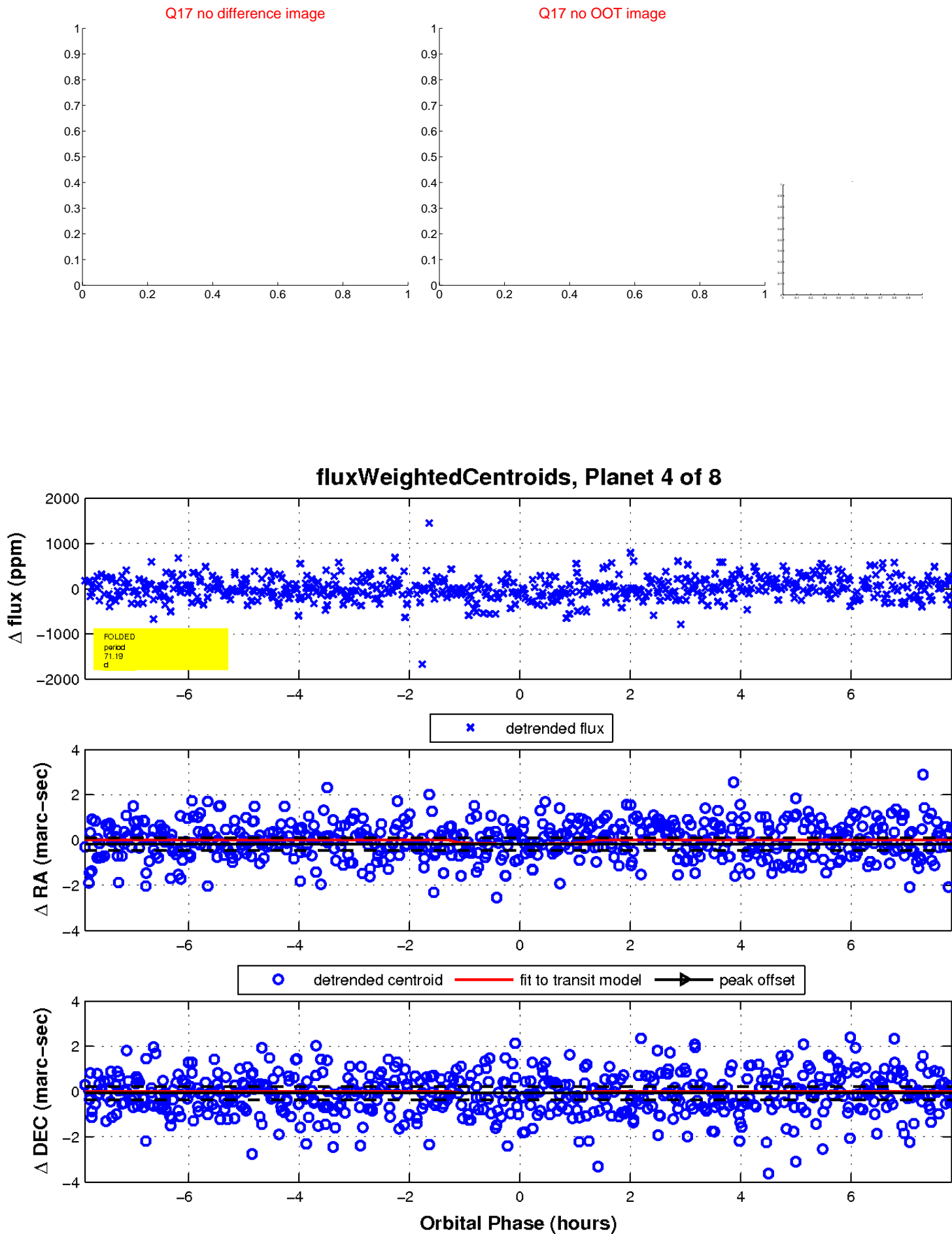
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

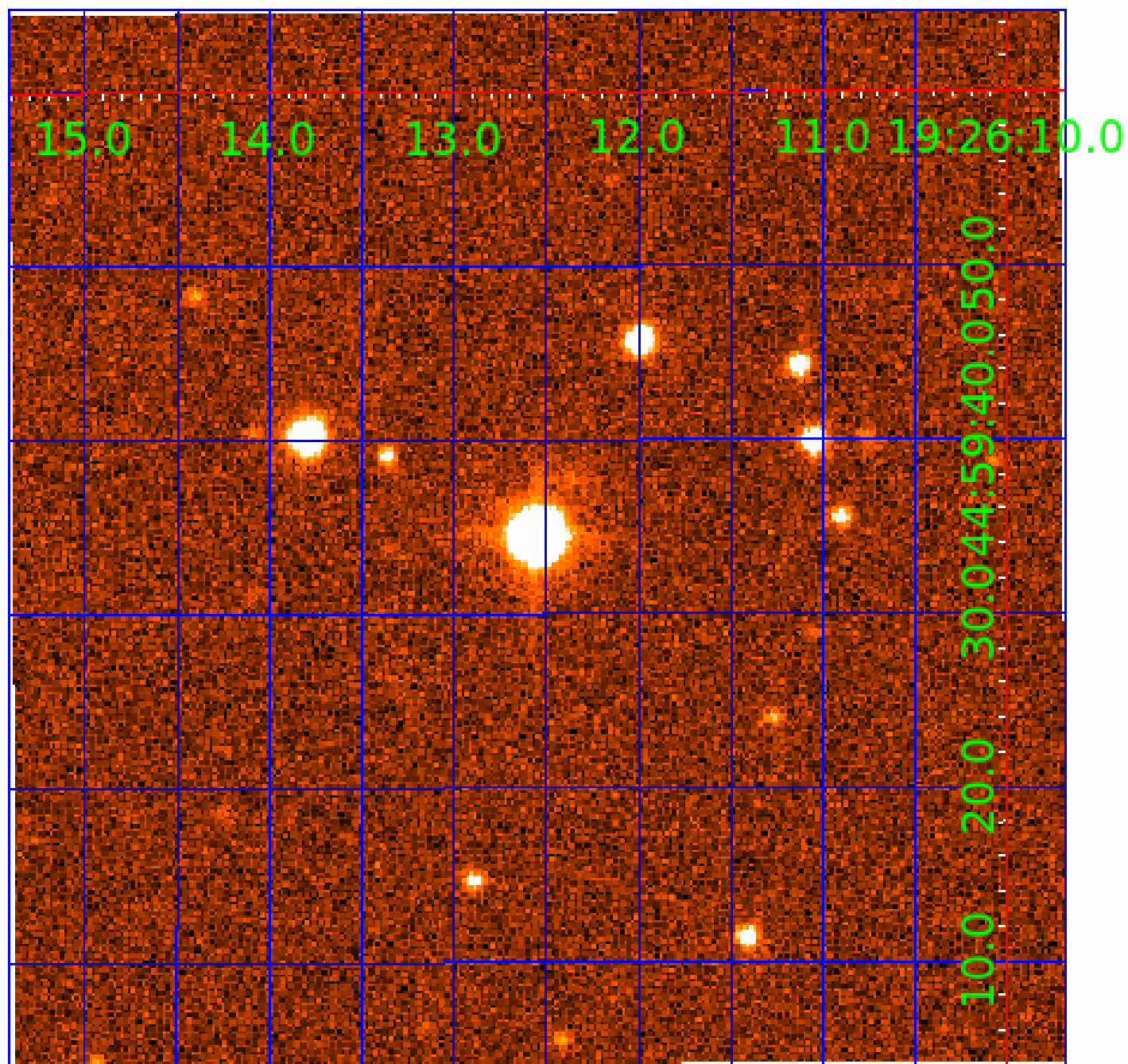


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008752817

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})
008752817-01	OBS	No	2.176213	132.321174	23.6	11.692	7.8	7.0	5.50	4973	2.57	9595.34
008752817-02	OBS	No	68.721032	181.774220	344.1	3.477	9.0	8.4	5.50	4973	10.28	96.13
008752817-03	OBS	No	309.027981	281.356619	289.7	5.433	7.8	8.1	5.50	4973	10.28	12.95
008752817-04	OBS	No	71.191736	172.979736	317.9	2.628	7.7	7.3	5.50	4973	10.46	91.71
008752817-05	OBS	No	206.237704	194.397361	441.3	2.961	7.7	8.1	5.50	4973	12.70	22.21
008752817-06	OBS	No	239.207502	307.837483	305.0	5.491	7.9	6.9	5.50	4973	11.08	18.22
008752817-07	OBS	No	13.330829	135.941531	159.2	2.652	7.7	7.4	5.50	4973	8.52	856.09
008752817-08	OBS	No	86.977802	201.004086	242.6	4.668	7.7	7.2	5.50	4973	8.70	70.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008752817-01	OBS	FP	0.00	1	0	0	1	LPP_DV—EPHEM_MATCH
008752817-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008752817-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008752817-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008752817-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008752817-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008752817-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
008752817-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

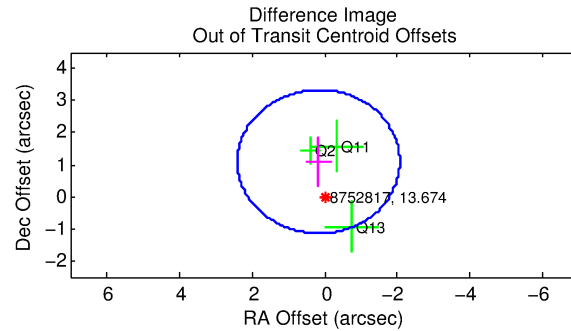
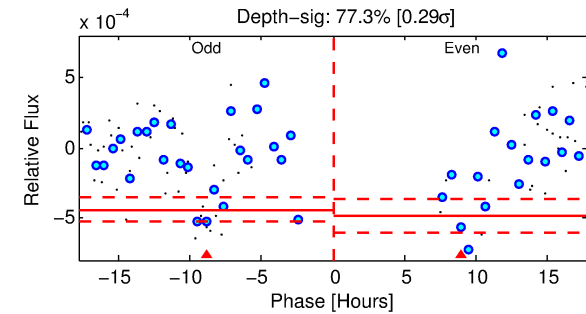
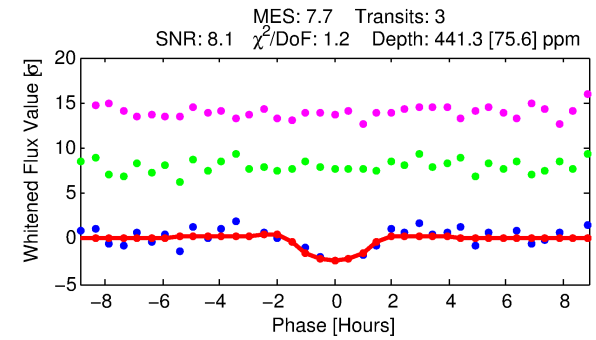
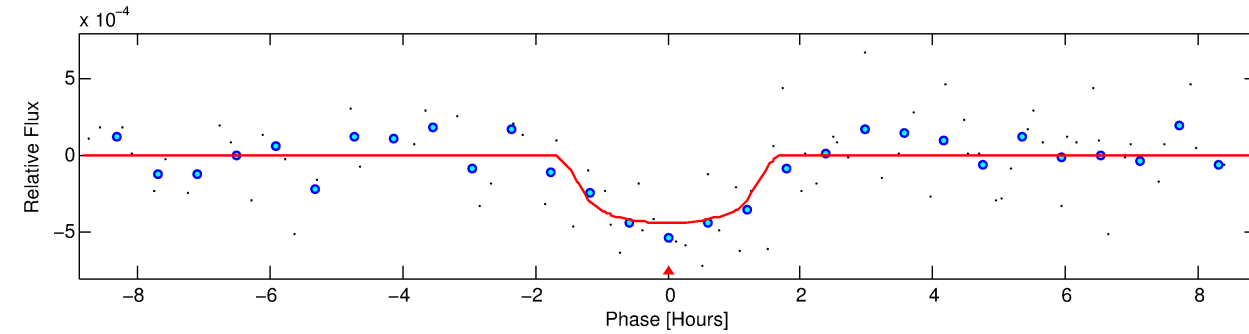
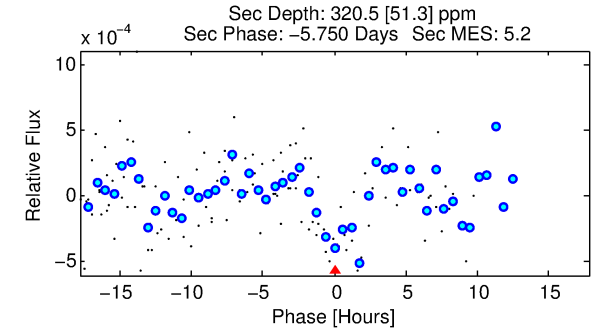
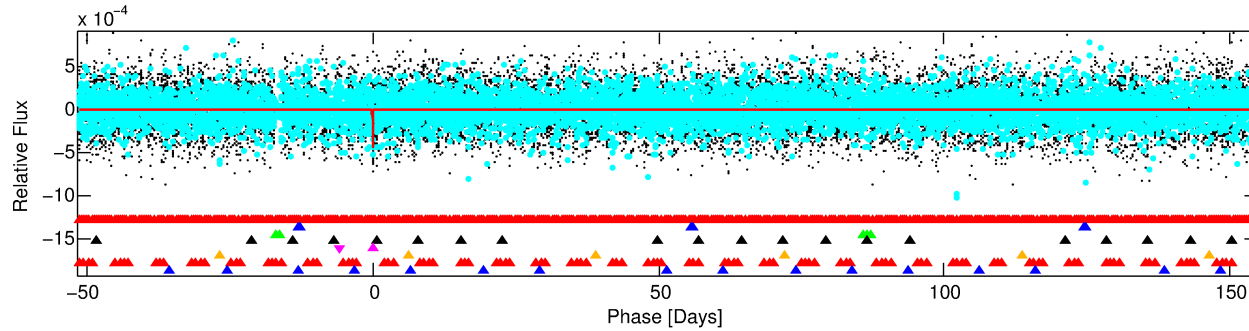
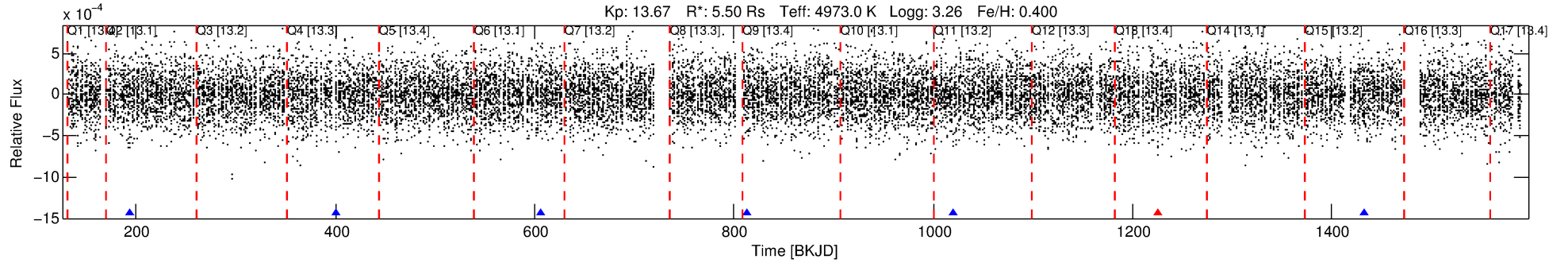
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008752817-05

No Significant Match Found

DV One-Page Summary

KIC: 8752817 Candidate: 5 of 8 Period: 206.238 d



DV Fit Results:

Period = 206.23770 [0.00285] d
Epoch = 194.3974 [0.0106] BKJD
Rp/R* = 0.0212 [0.0573]
a/R* = 361.25 [3349.75]
b = 0.76 [5.24]
Seff = 22.21 [17.64]
Teq = 554 [110] K
Rp = 12.70 [35.14] Re
a = 0.8641 [0.4382] AU
Ag = 816.37 [4472.39] [0.18σ]
Teffp = 4575 [6203] K [0.65σ]

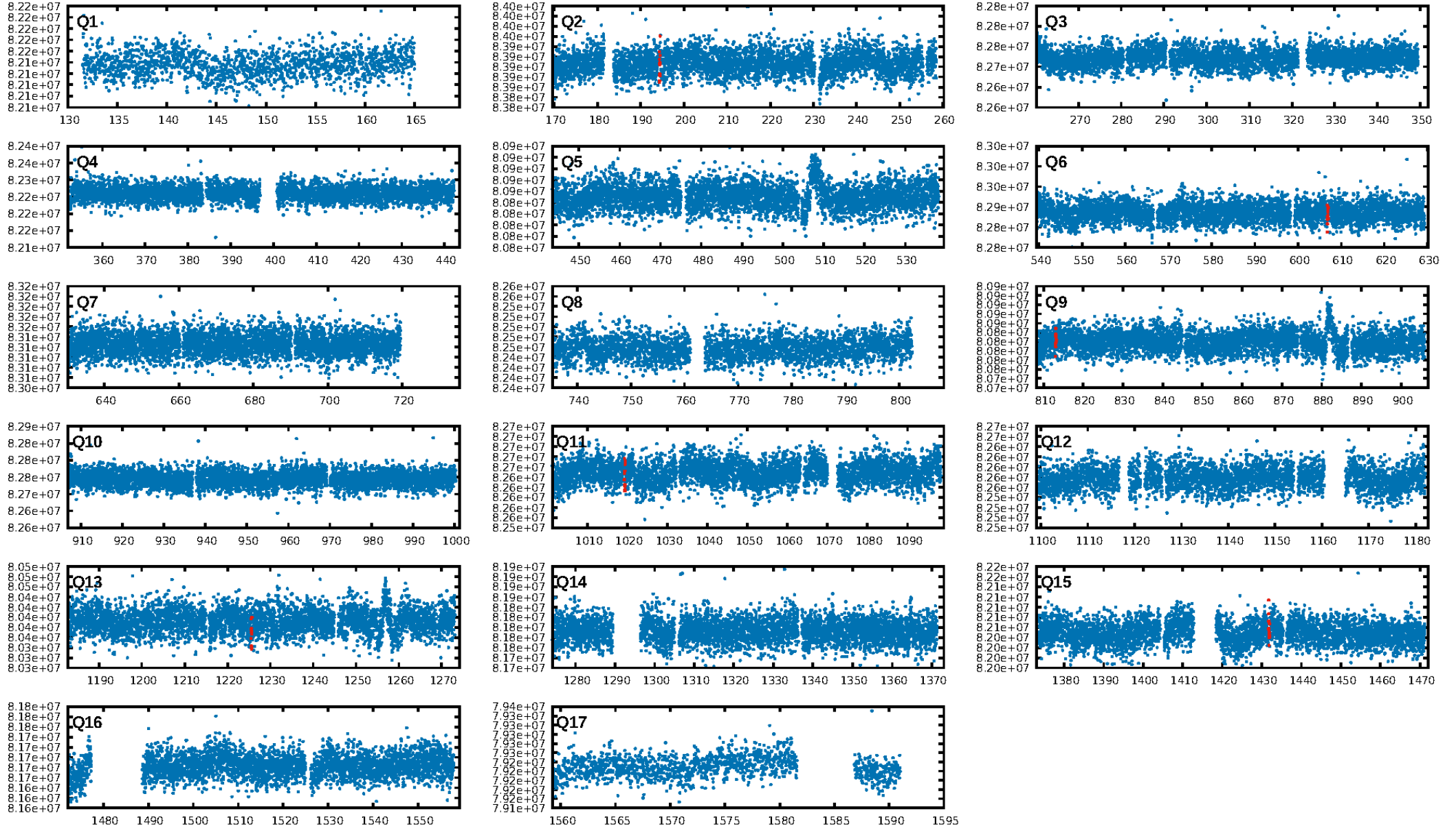
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [517.82σ]
LongPeriod-sig: 100.0% [126.84σ]
ModelChiSquare2-sig: 96.2%
ModelChiSquareGof-sig: 94.5%
Bootstrap-pfa: 2.14e-08
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: -4.885
Centroid-sig: 93.9%
Centroid-so: 0.464 arcsec [0.46σ]
OotOffset-rm: 1.105 arcsec [1.48σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-rm: 1.234 arcsec [1.30σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.50 [3/6]

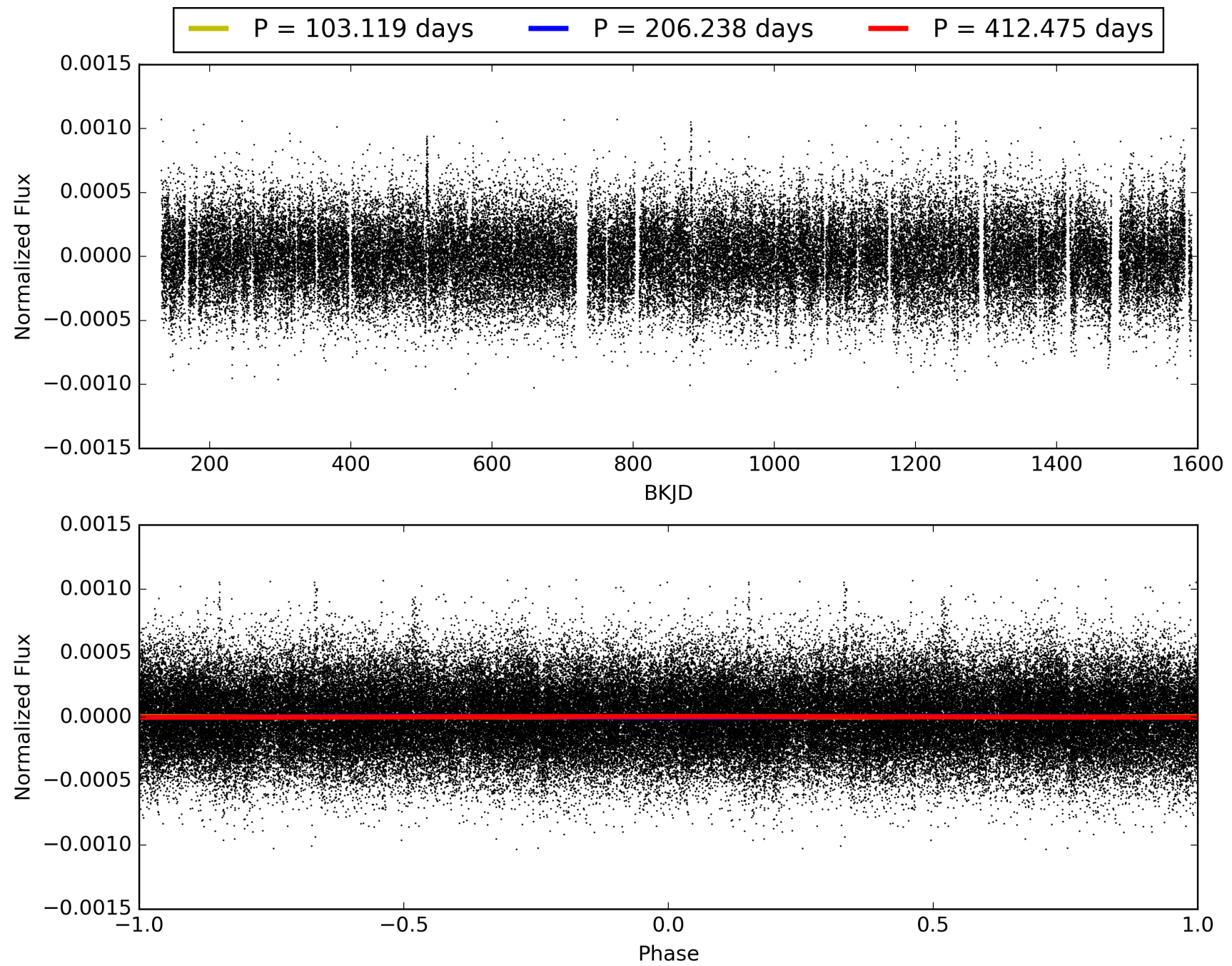
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:01:30 Z

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

TCE 008752817-05, PDC Light Curves

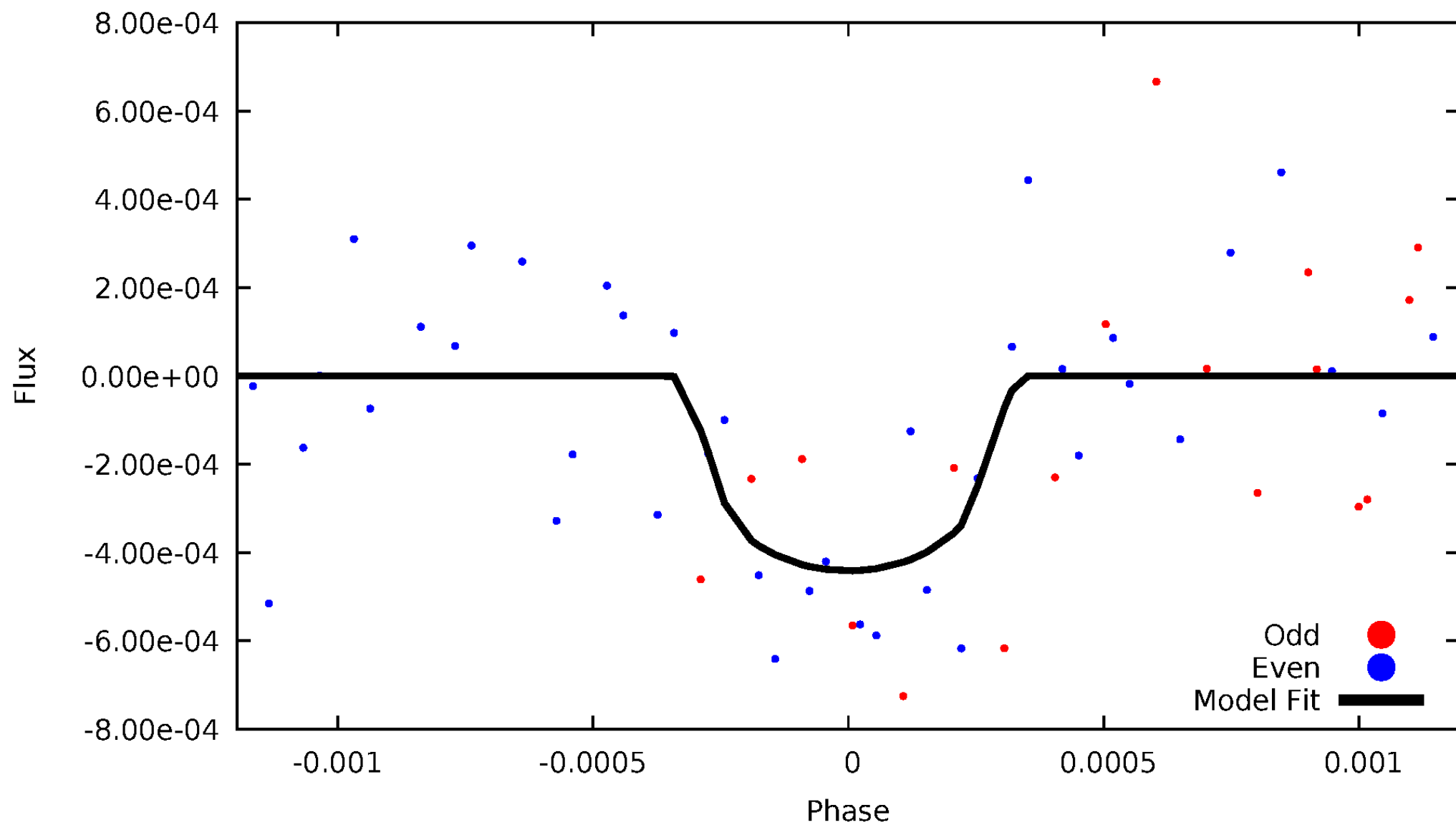


TCE 008752817-05



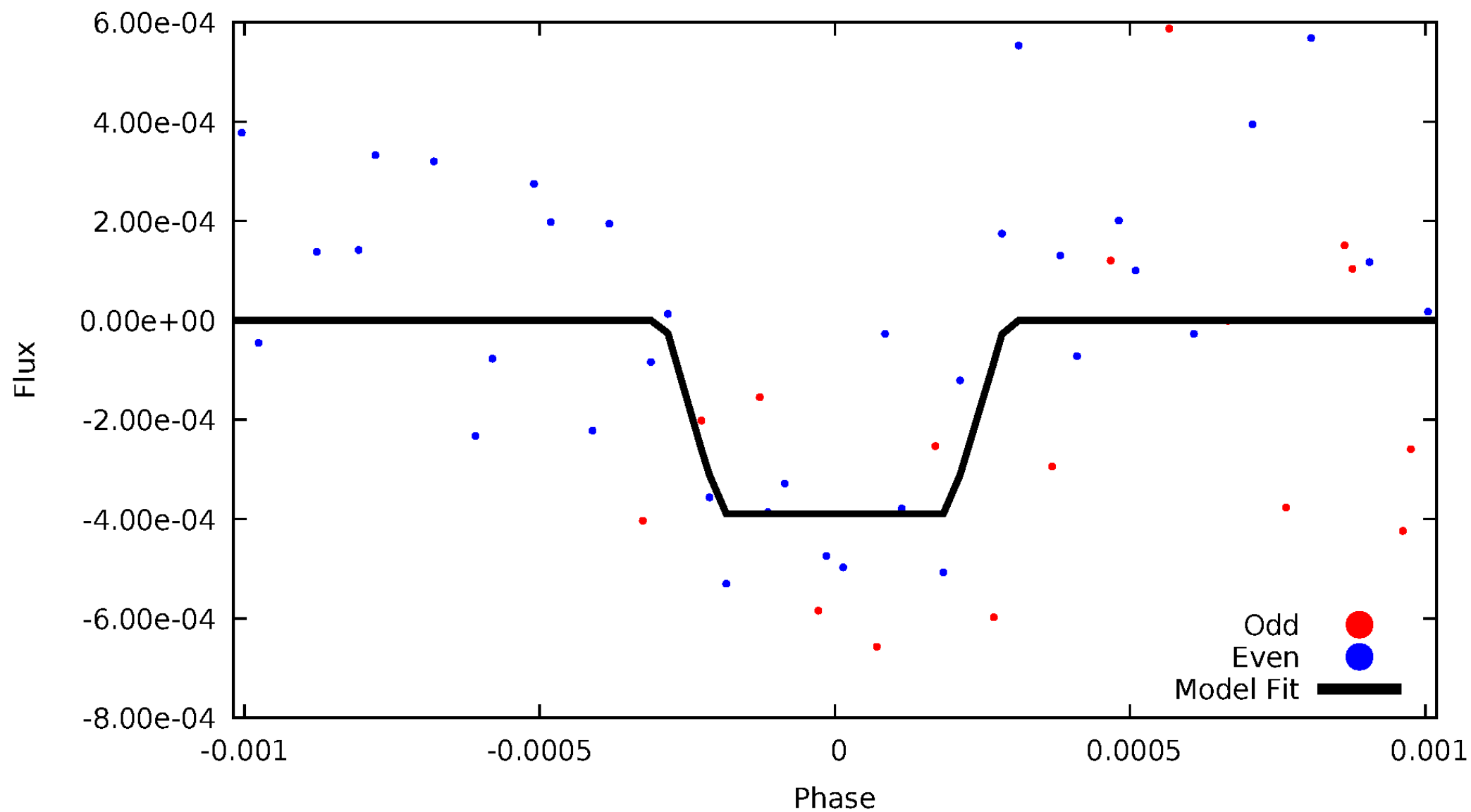
DV Odd/Even

TCE 008752817-05



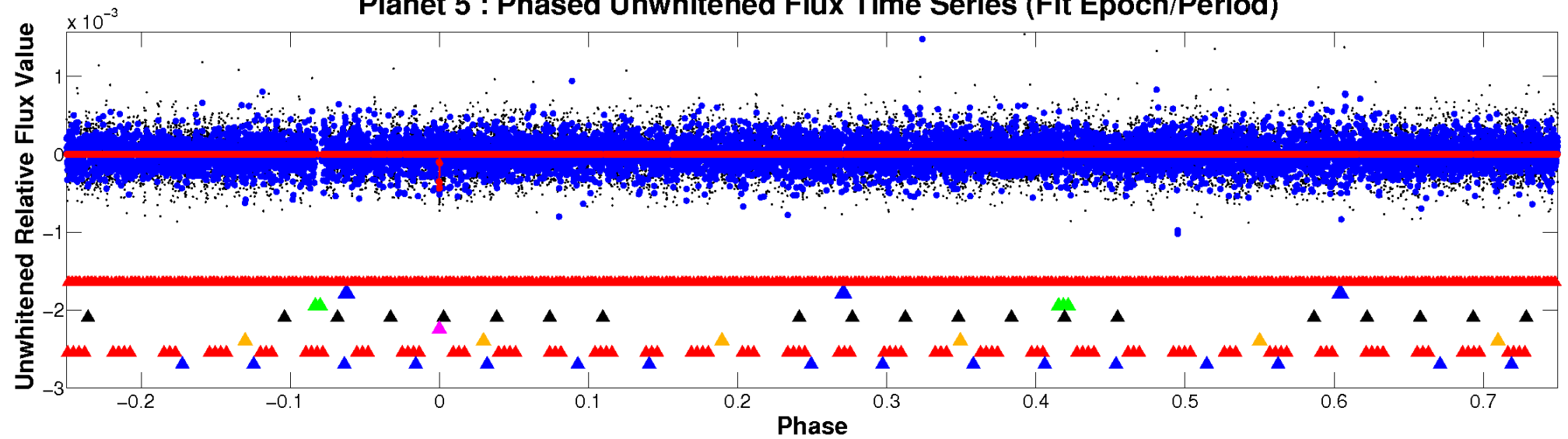
ALT Odd/Even

TCE 008752817-05

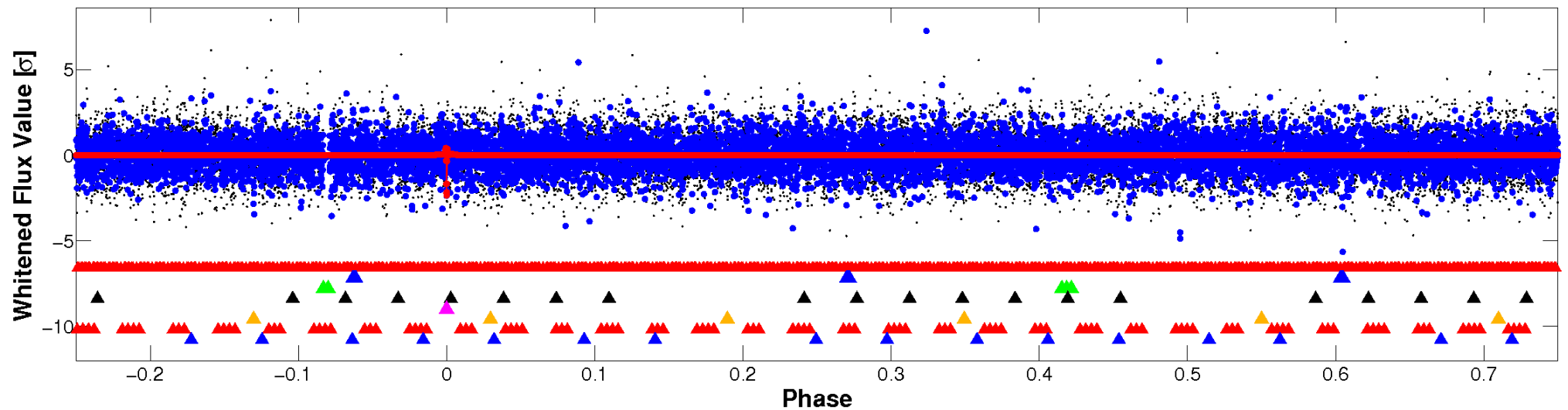


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

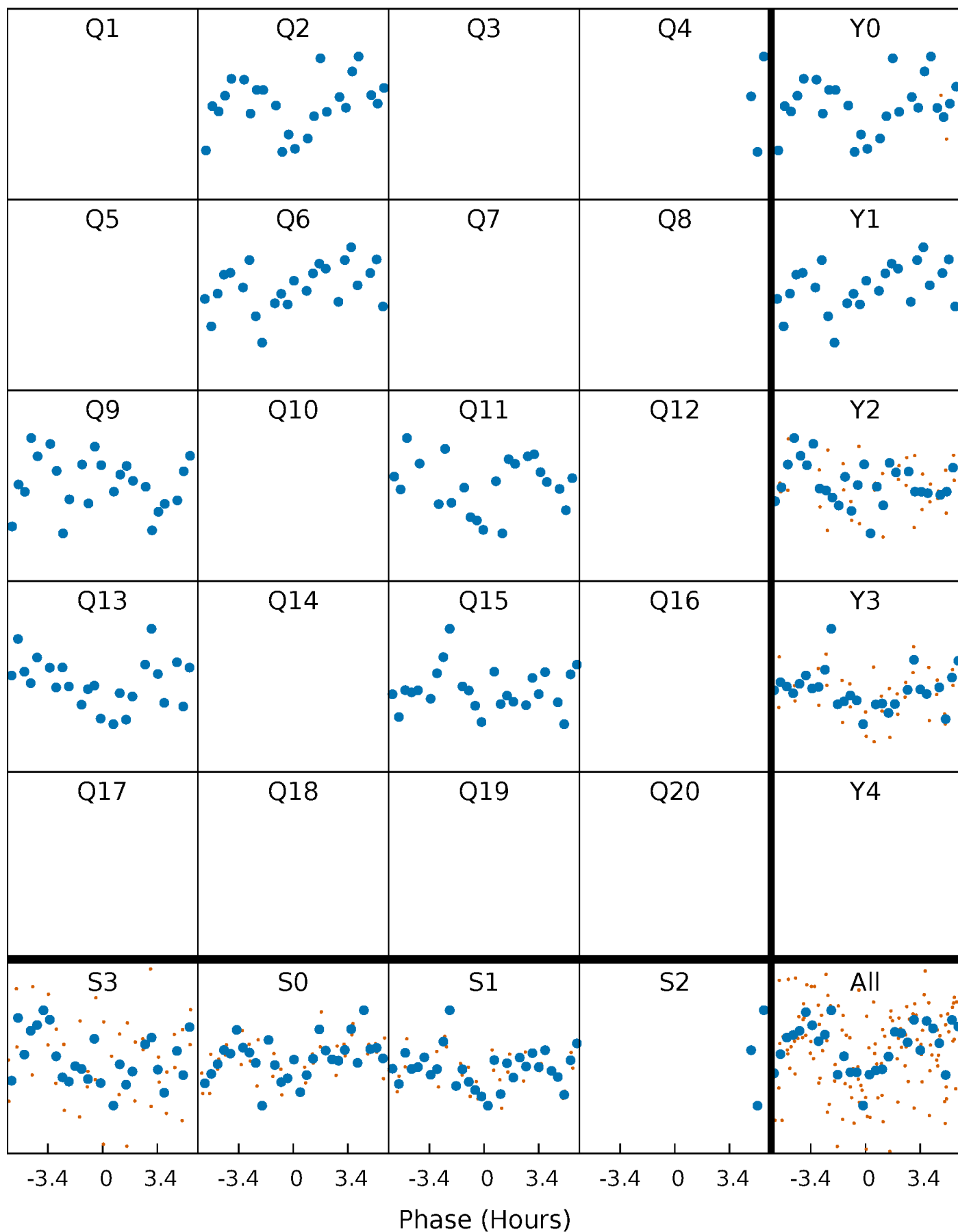


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



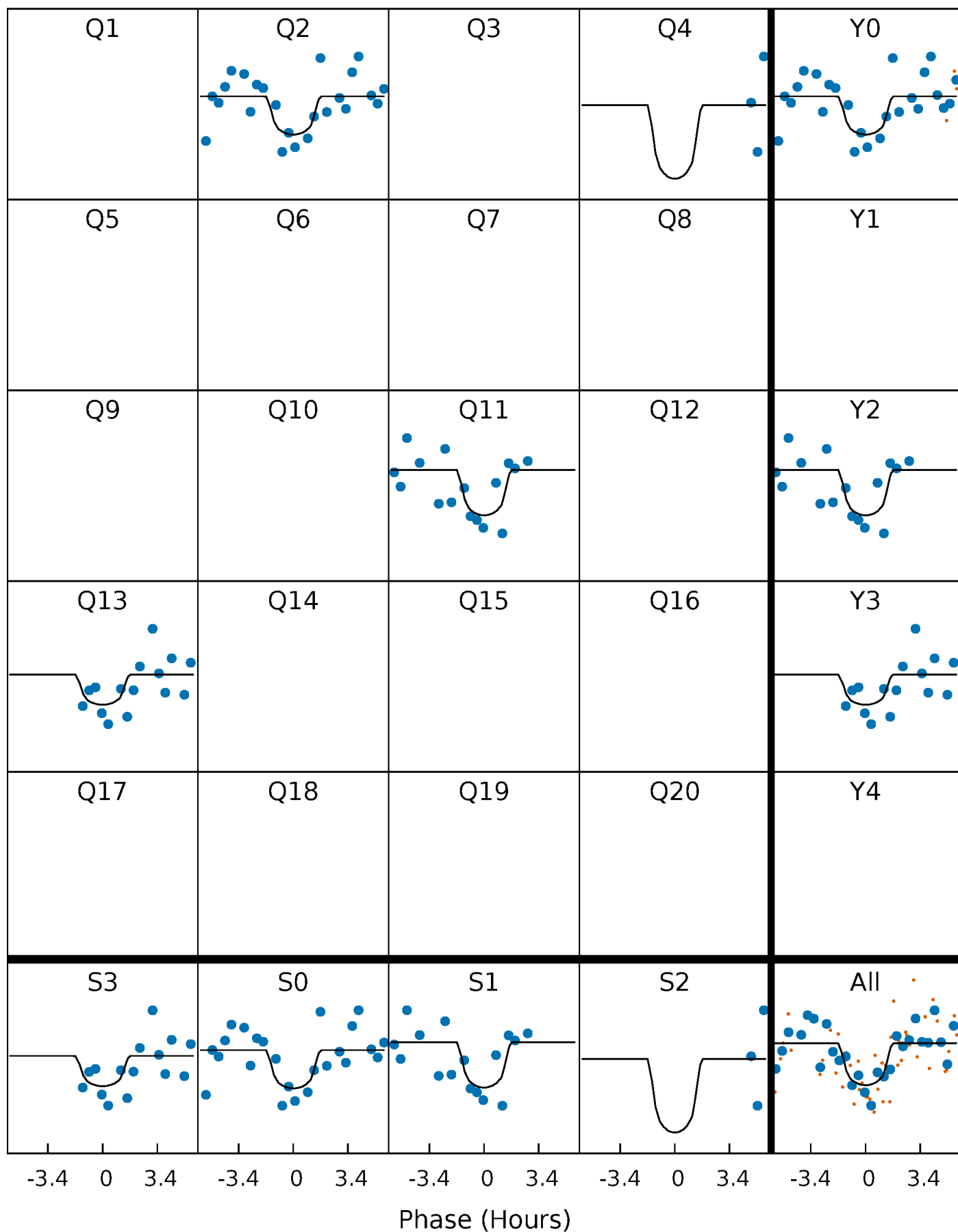
PDC Quarter-Phased Transit Curves

TCE 008752817-05 $P=206.237704$ Days $T_0=194.397361$ (BKJD)



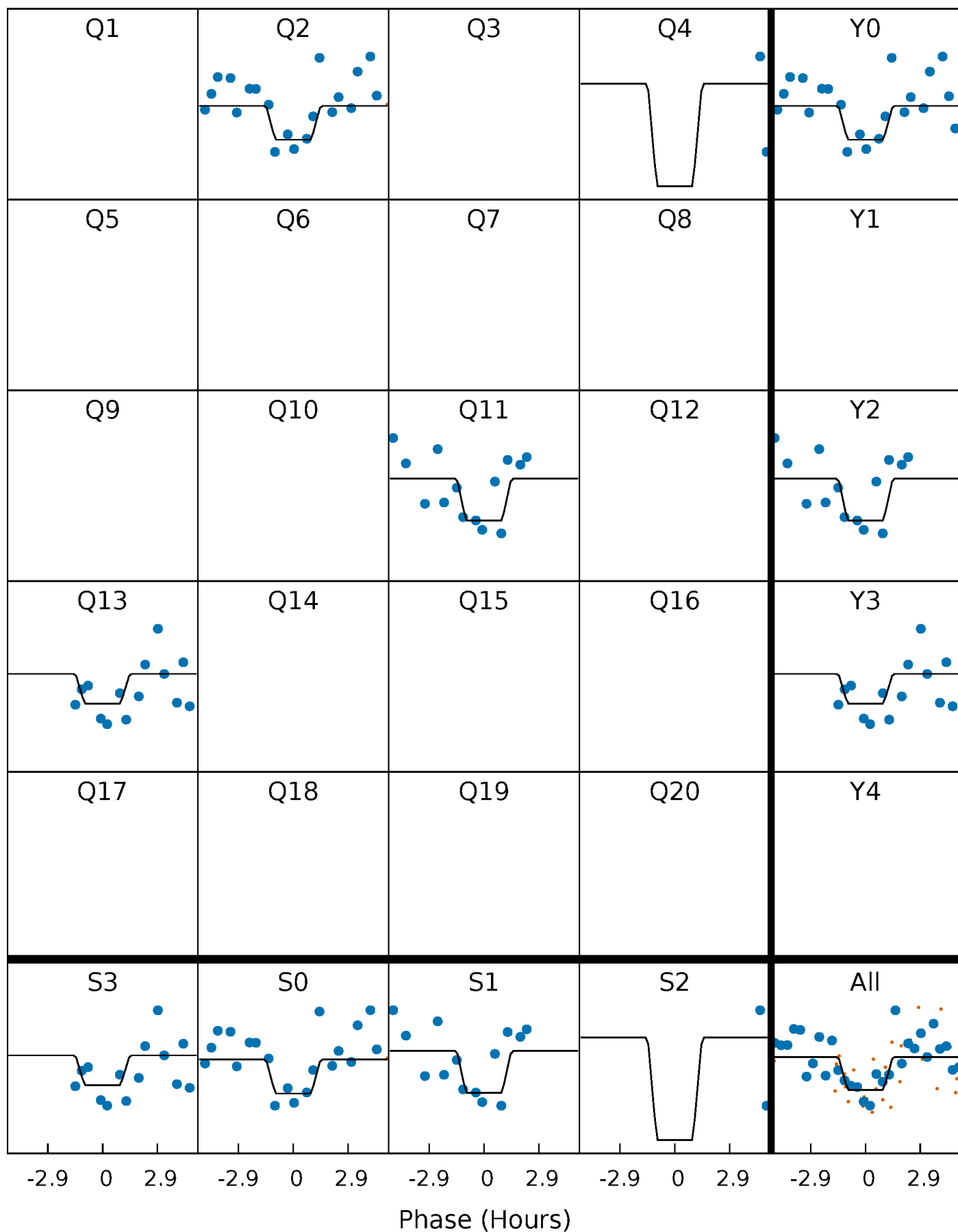
DV Quarter-Phased Transit Curves

TCE 008752817-05 $P=206.237704$ Days $T_0=194.397361$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

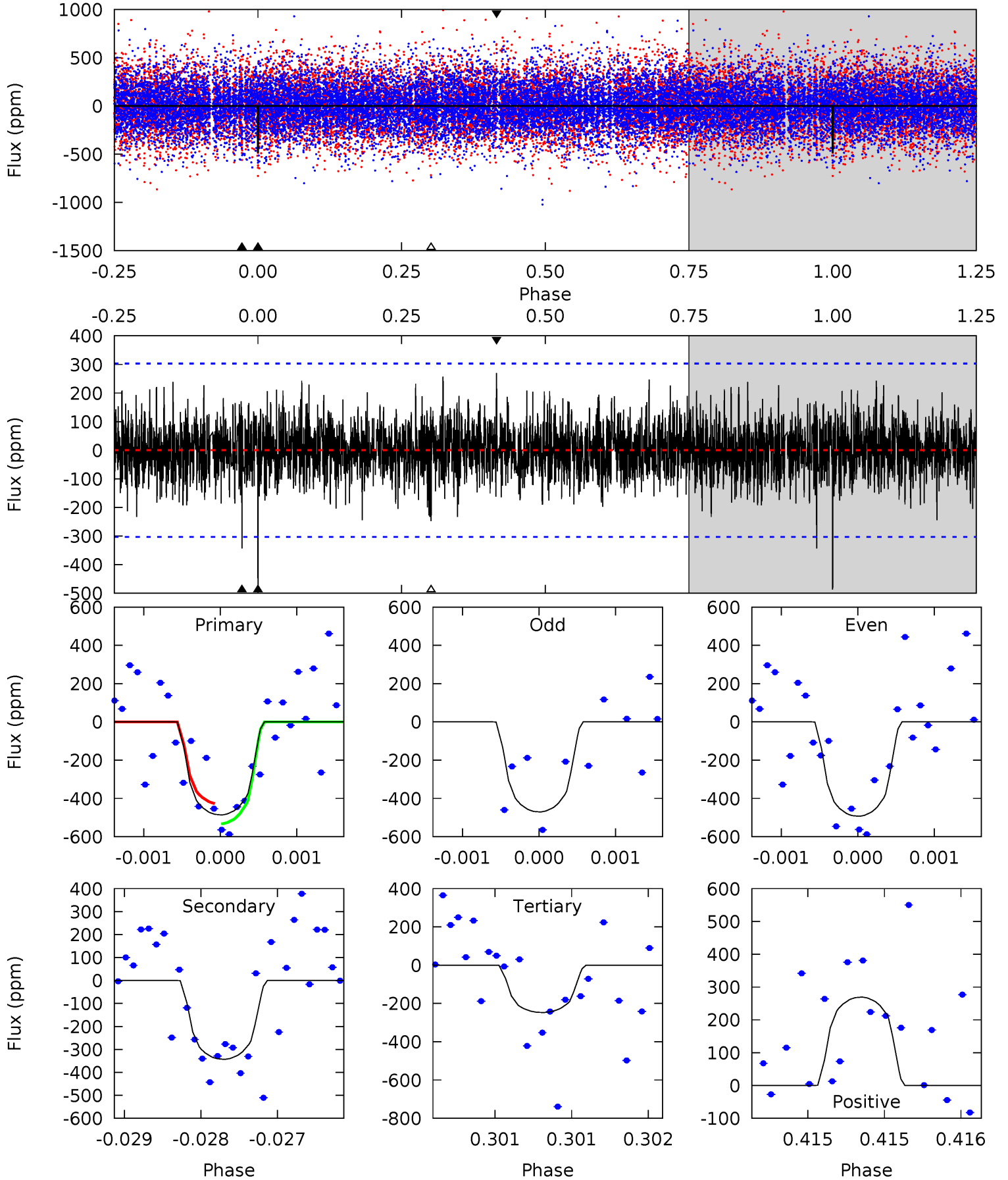
TCE 008752817-05 P=206.237524 Days $T_0=194.405777$ (BKJD)



DV Model-Shift Uniqueness Test

008752817-05, P = 206.237704 Days, E = 194.397361 Days

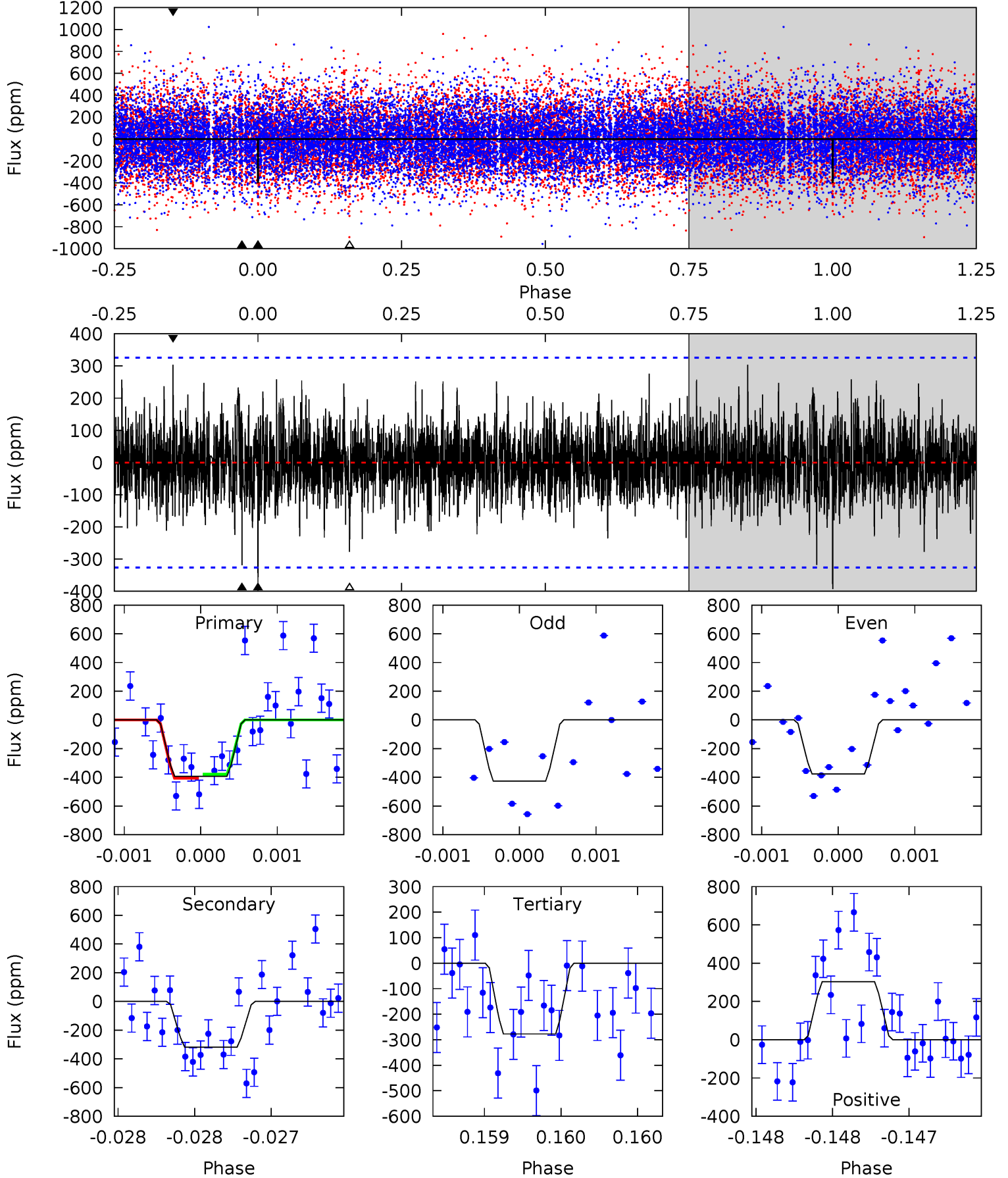
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.90	6.28	4.52	4.93	5.54	3.43	1.31	4.37	3.97	1.76	1.35	0.19	1.01	0.36	0.96



Alt Model-Shift Uniqueness Test

008752817-05, P = 206.237524 Days, E = 194.405777 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.70	5.43	4.73	5.18	5.56	3.46	1.25	1.97	1.52	0.70	0.26	0.39	1.00	0.44	0.23



Stellar Parameters For KIC 008752817

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4973^{+138}_{-173}	$3.263^{+0.448}_{-0.241}$	$0.400^{+0.050}_{-0.350}$	$5.501^{+1.656}_{-3.076}$	$2.021^{+0.660}_{-0.991}$	$0.017^{+0.093}_{-0.010}$
	+3%/-3%	+14%/-7%	+12%/-87%	+30%/-56%	+33%/-49%	+543%/-57%
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 008752817-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-343 ± 55	$26.83^{+29.24}_{-18.19}$	766^{+76}_{-103}	3505^{+1833}_{-639}	190^{+1660}_{-145}
Alt.	-318 ± 59	$24.90^{+29.51}_{-16.49}$	764^{+84}_{-97}	3541^{+1765}_{-683}	208^{+1783}_{-166}

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

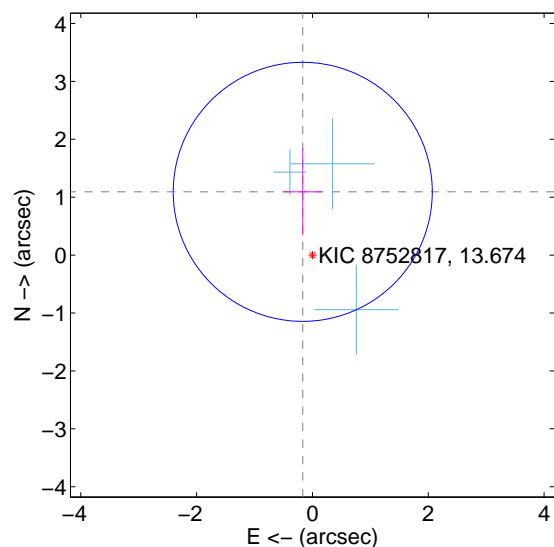
Supplemental centroid analysis for 008752817-05. Kepler magnitude: 13.67. Transit SNR 8.06

There are 3 quarters with good PRF difference image offsets

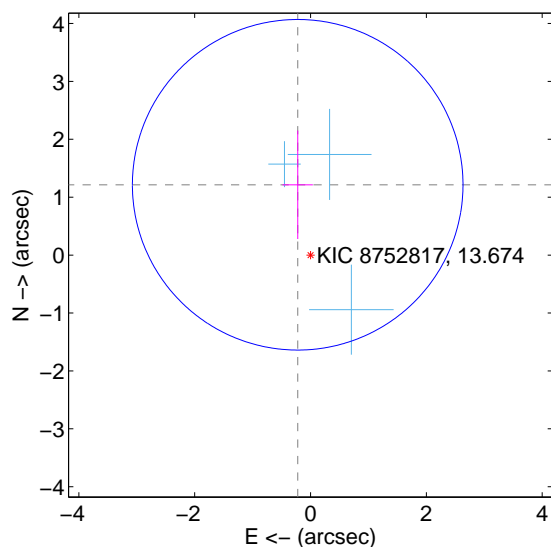
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.105 ± 0.746	1.48	0.167 ± 0.332	1.092 ± 0.753
PRF-fit source offset from KIC position	1.234 ± 0.951	1.30	0.222 ± 0.263	1.214 ± 0.936
photometric centroid source offset	0.46 ± 1.01	0.46	0.13 ± 1.05	0.45 ± 1.00

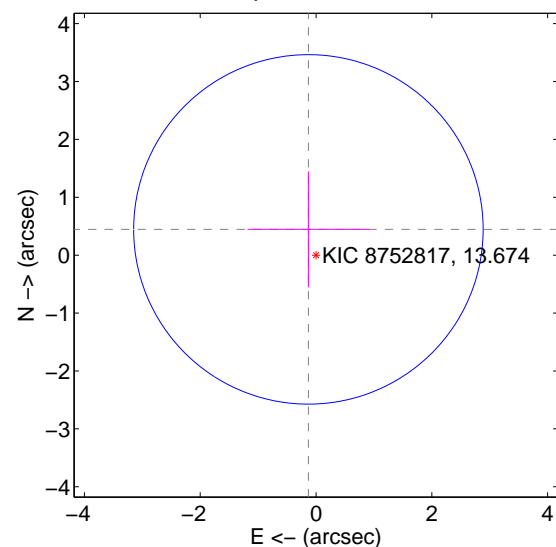
offset from difference PRF-fit to OOT PRF-fit



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.

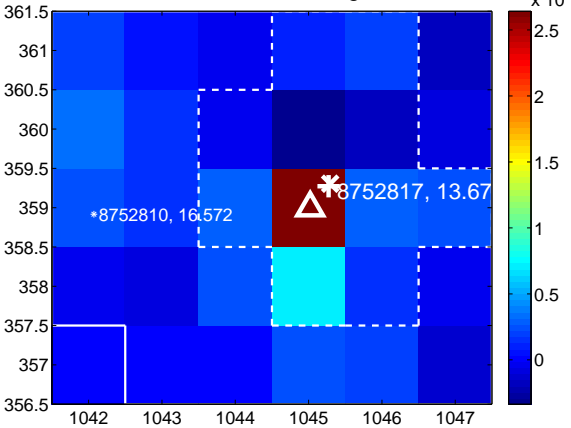
Q1 no difference image



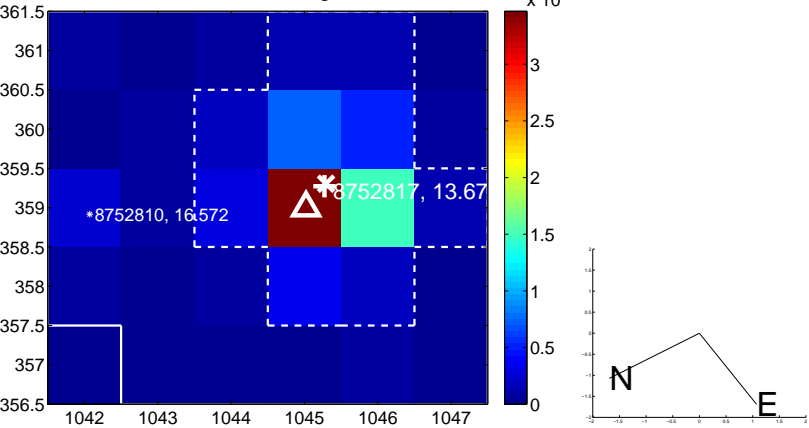
Q1 no OOT image



Q2 difference image



Q2 OOT image



Q3 no difference image



Q3 no OOT image



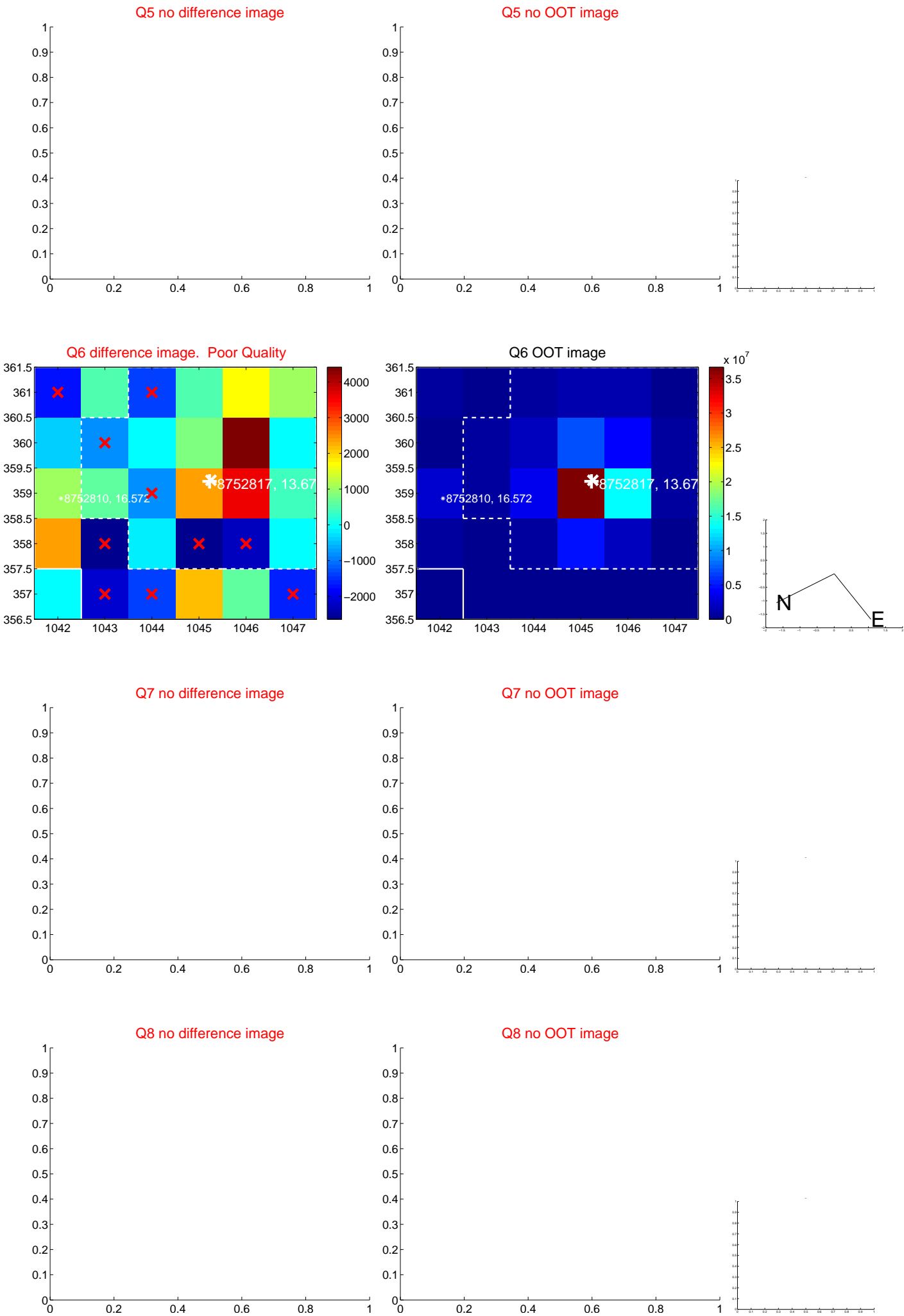
Q4 no difference image



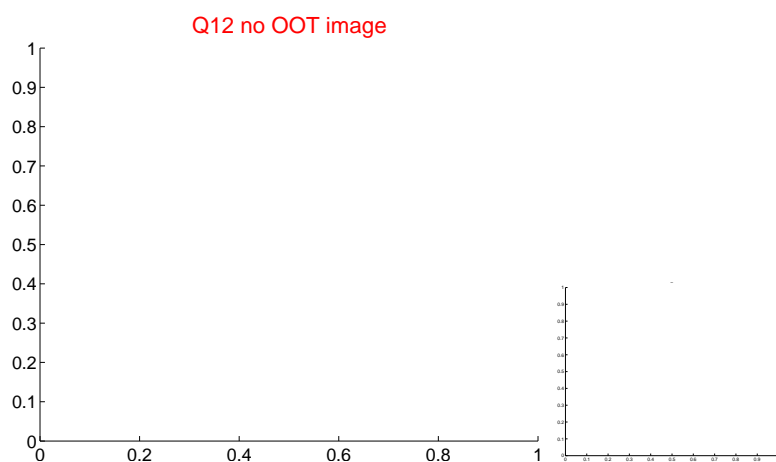
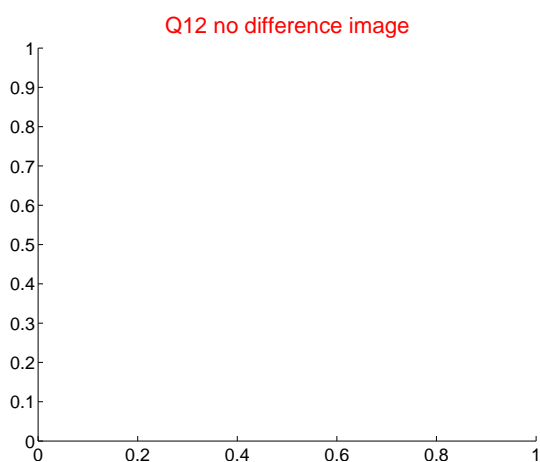
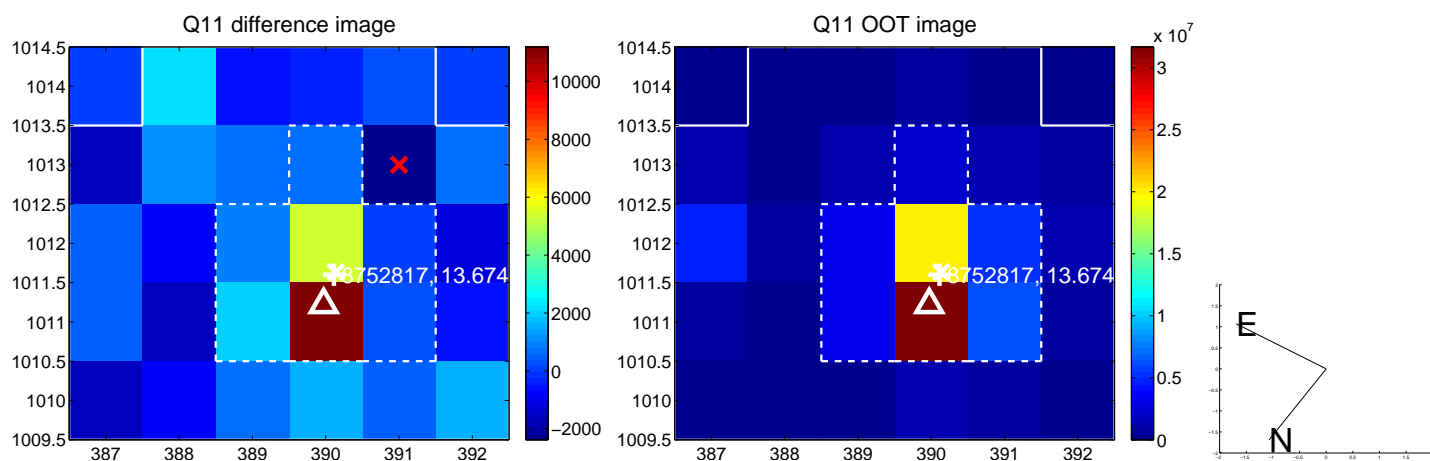
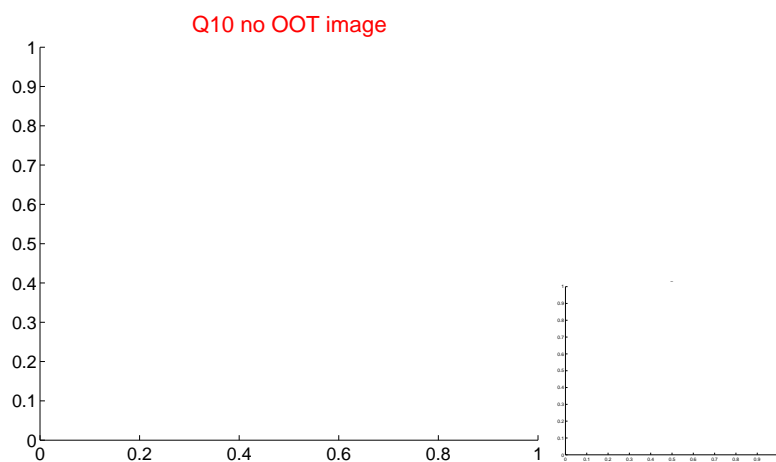
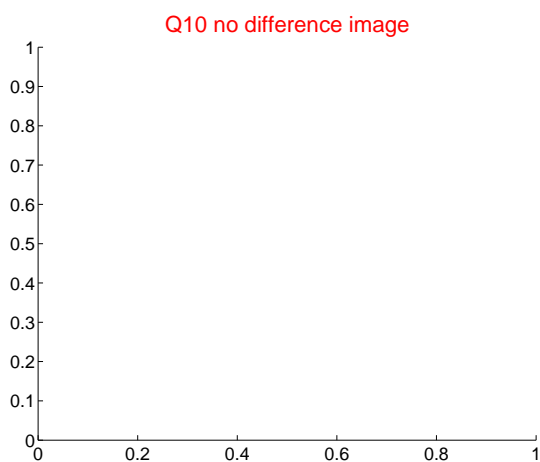
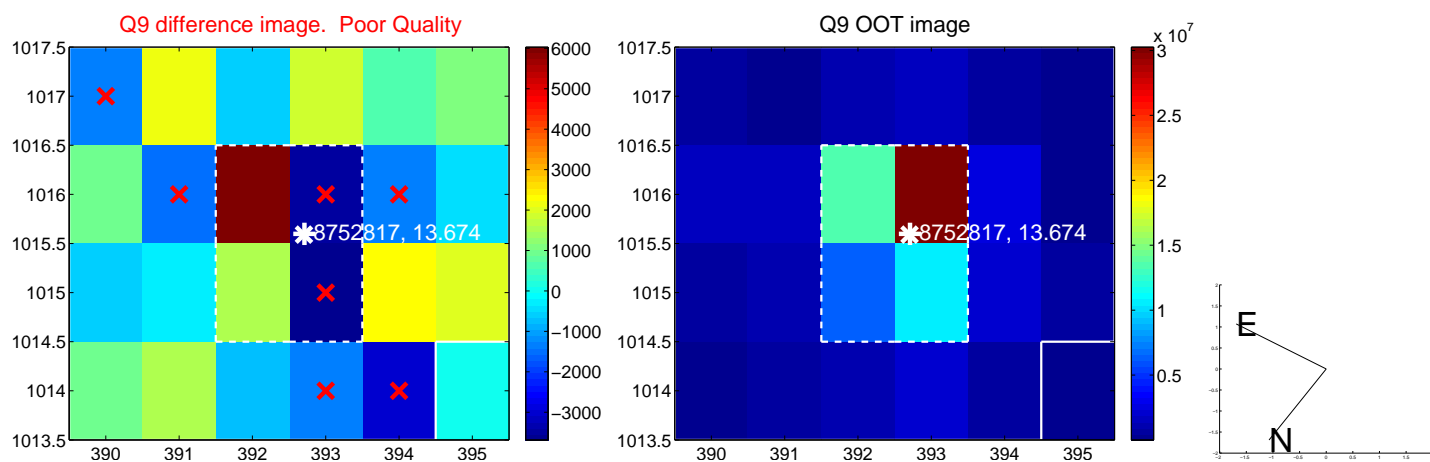
Q4 no OOT image



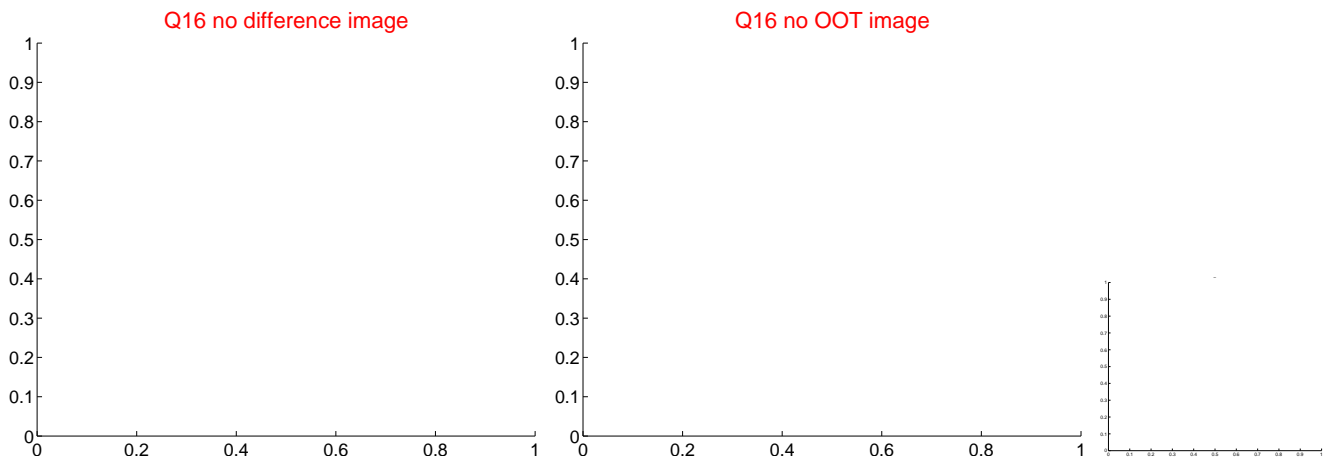
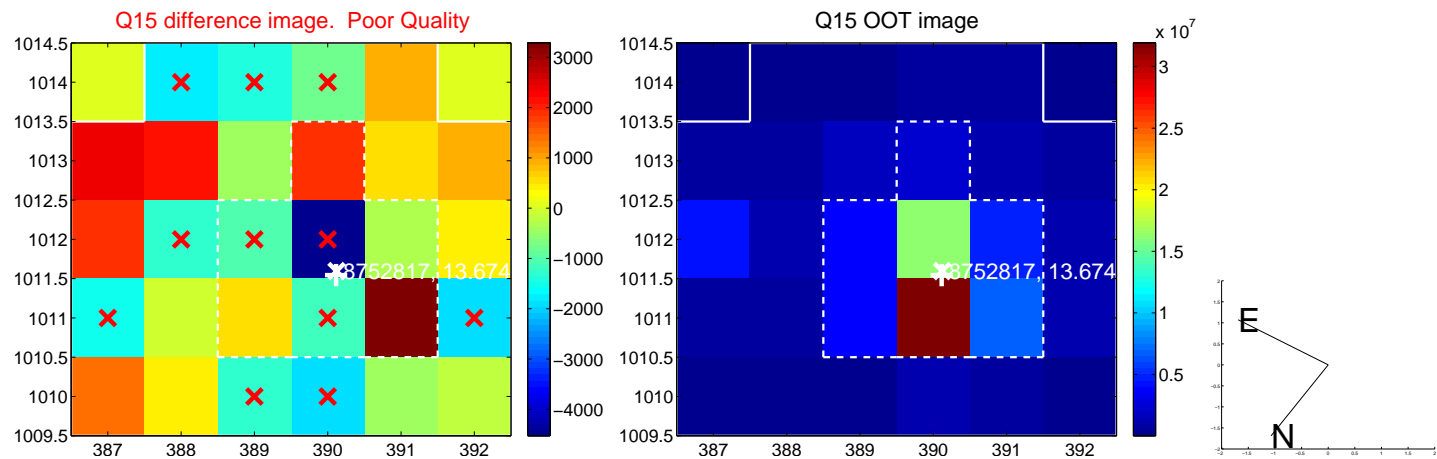
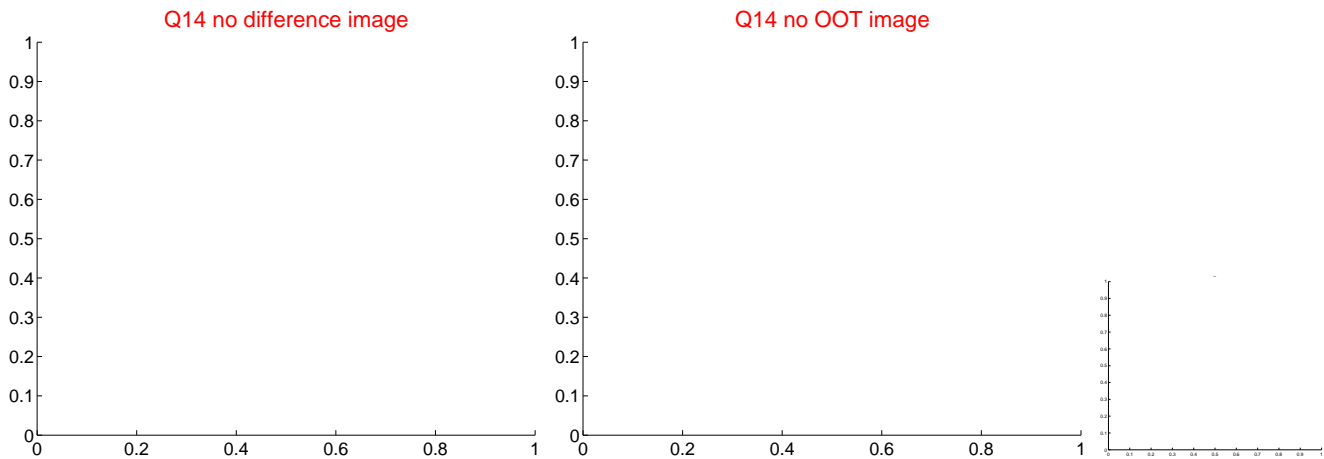
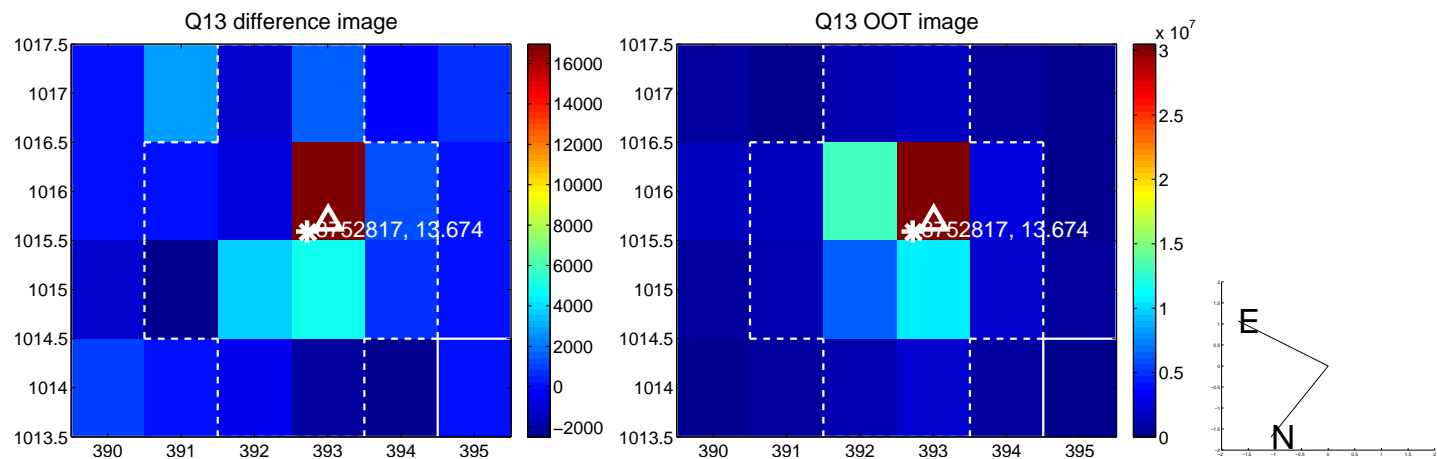
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



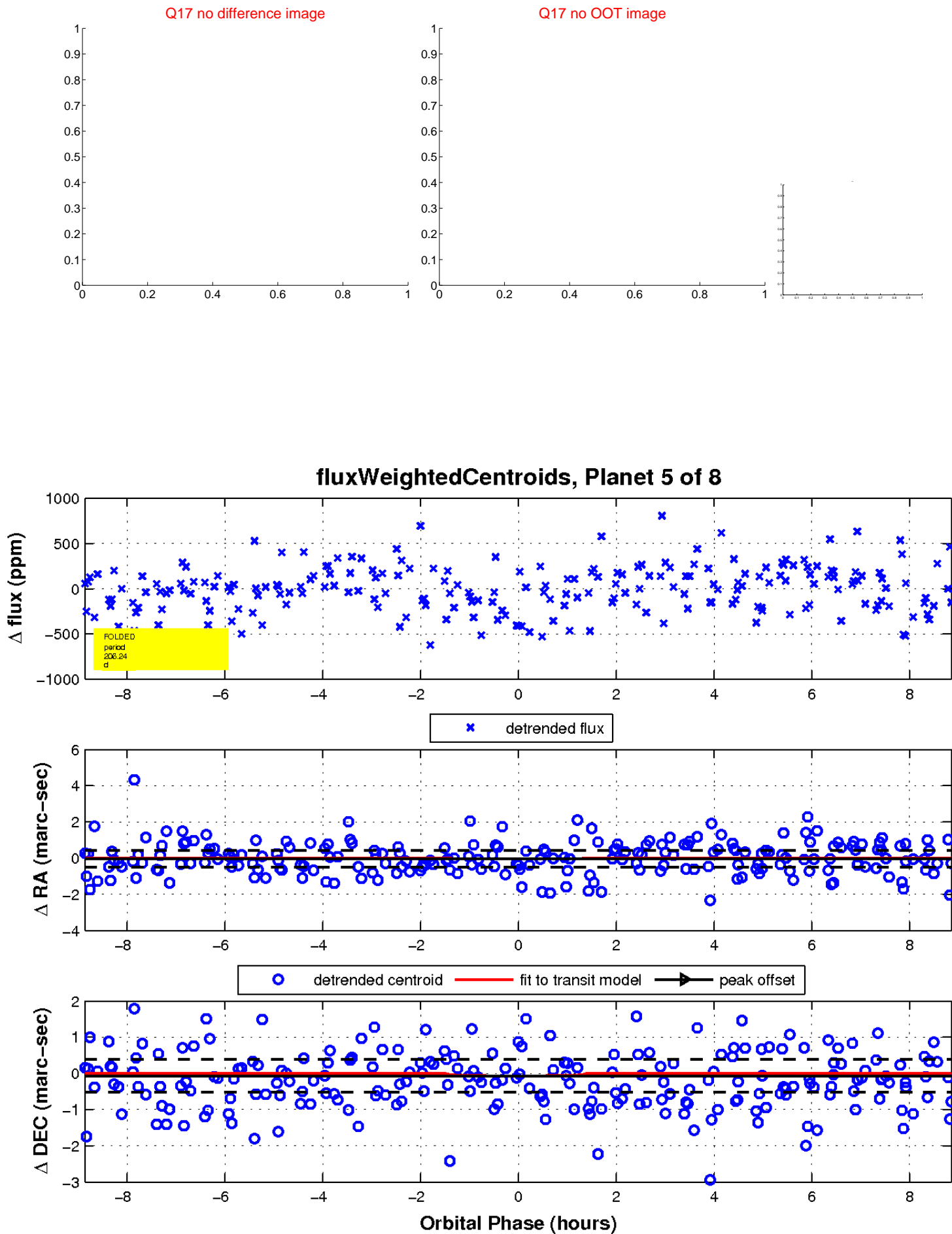
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

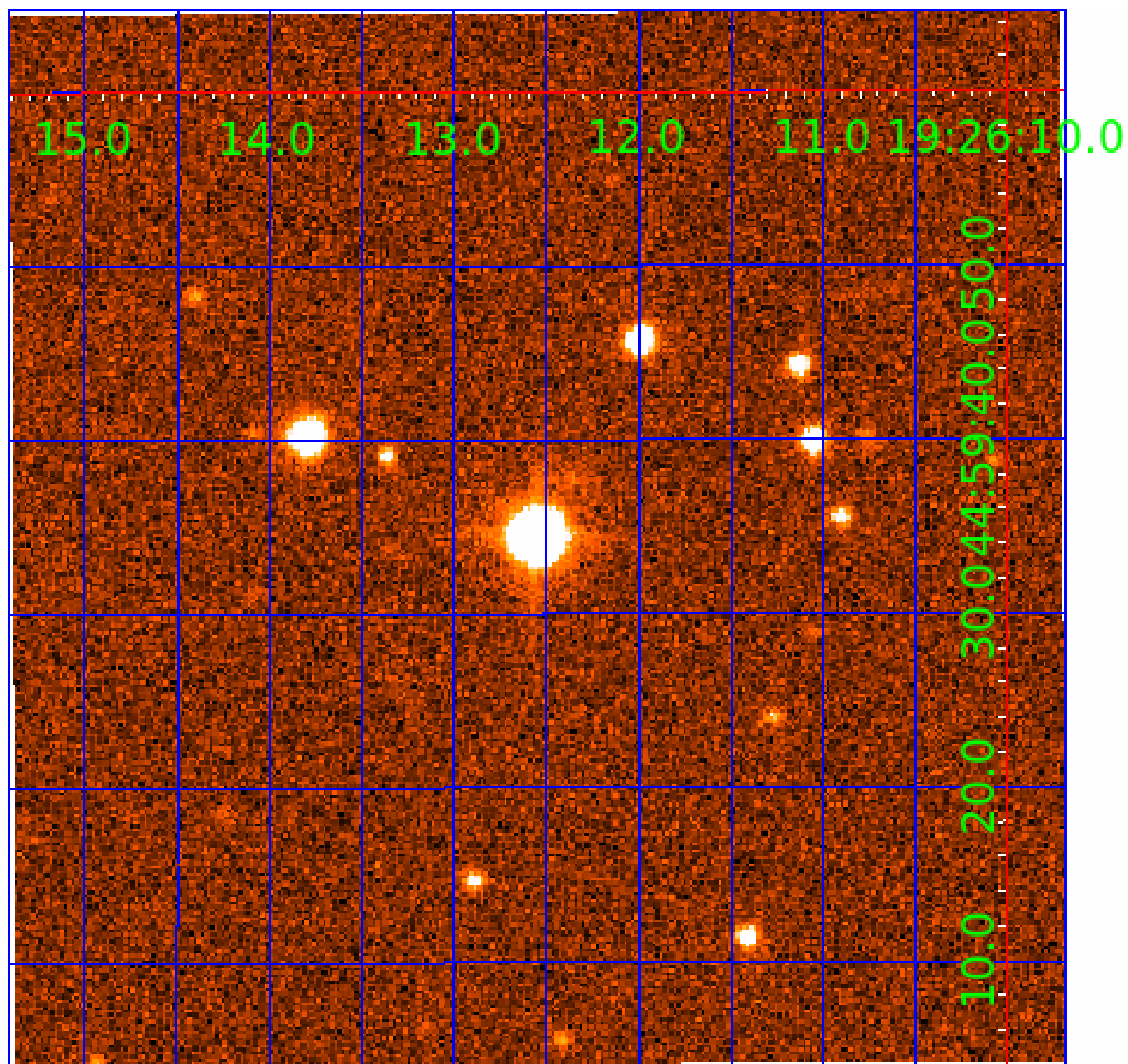


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008752817

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})
008752817-01	OBS	No	2.176213	132.321174	23.6	11.692	7.8	7.0	5.50	4973	2.57	9595.34
008752817-02	OBS	No	68.721032	181.774220	344.1	3.477	9.0	8.4	5.50	4973	10.28	96.13
008752817-03	OBS	No	309.027981	281.356619	289.7	5.433	7.8	8.1	5.50	4973	10.28	12.95
008752817-04	OBS	No	71.191736	172.979736	317.9	2.628	7.7	7.3	5.50	4973	10.46	91.71
008752817-05	OBS	No	206.237704	194.397361	441.3	2.961	7.7	8.1	5.50	4973	12.70	22.21
008752817-06	OBS	No	239.207502	307.837483	305.0	5.491	7.9	6.9	5.50	4973	11.08	18.22
008752817-07	OBS	No	13.330829	135.941531	159.2	2.652	7.7	7.4	5.50	4973	8.52	856.09
008752817-08	OBS	No	86.977802	201.004086	242.6	4.668	7.7	7.2	5.50	4973	8.70	70.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008752817-01	OBS	FP	0.00	1	0	0	1	LPP_DV—EPHEM_MATCH
008752817-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008752817-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008752817-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008752817-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008752817-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008752817-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
008752817-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

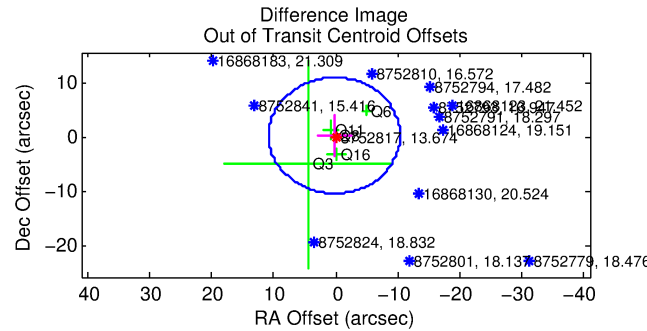
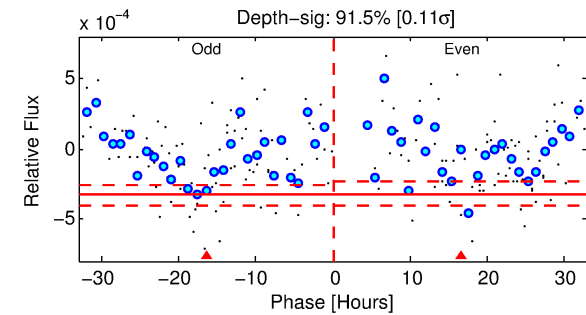
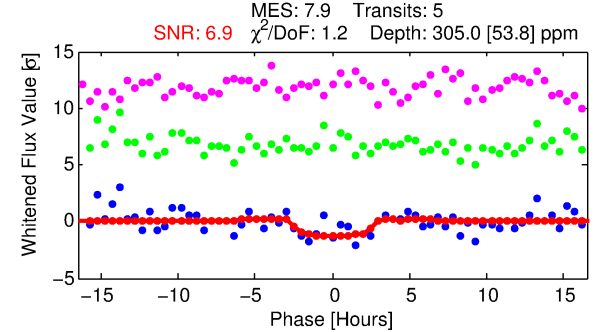
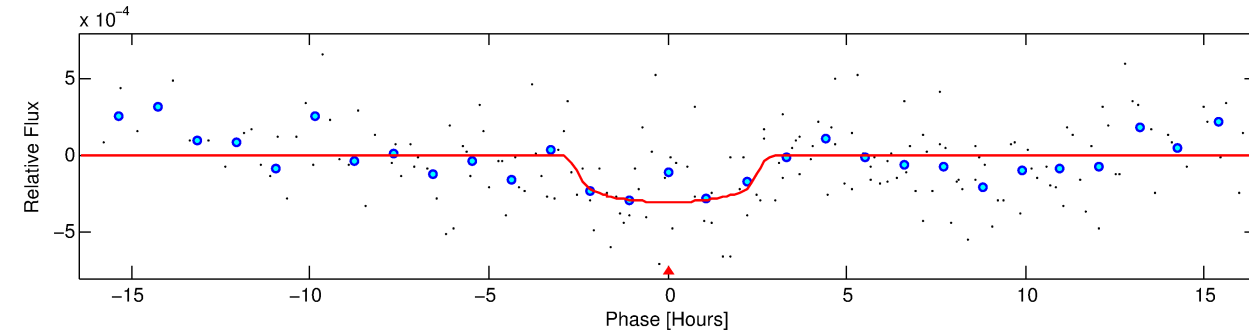
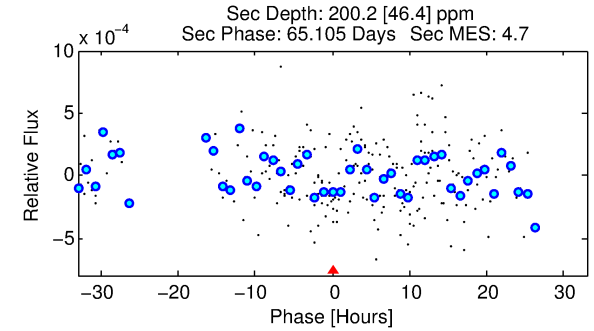
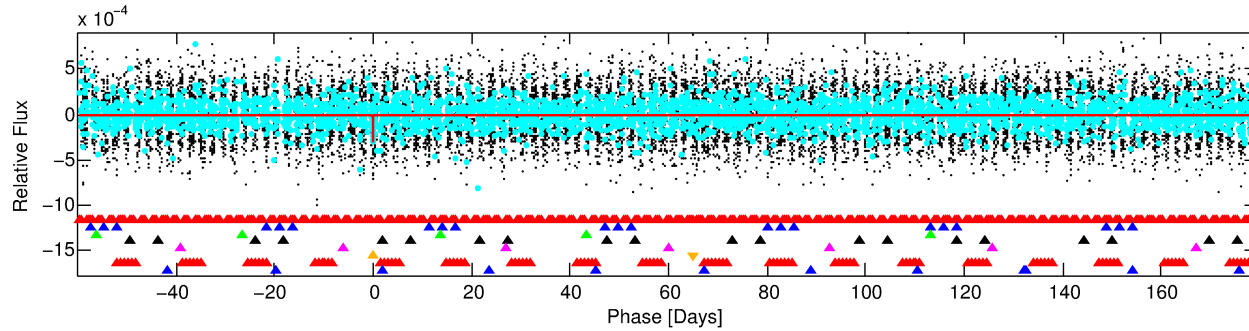
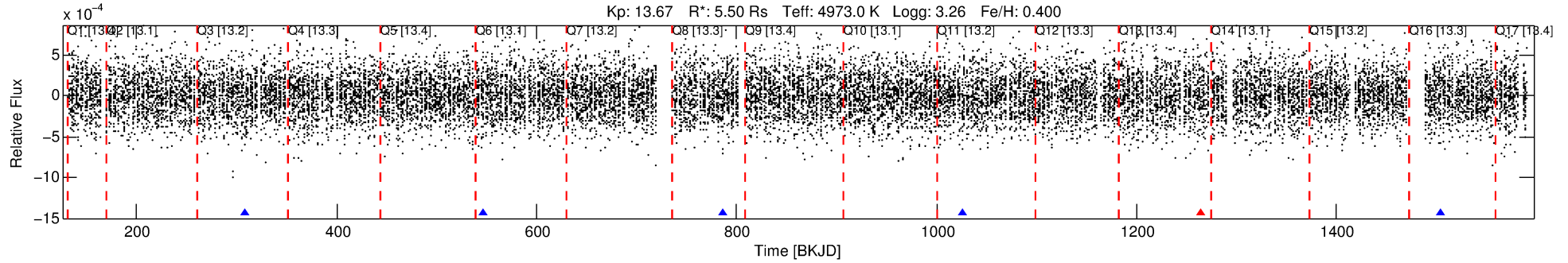
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008752817-06

No Significant Match Found

DV One-Page Summary

KIC: 8752817 Candidate: 6 of 8 Period: 239.208 d



DV Fit Results:

Period = 239.20750 [0.00781] d
Epoch = 307.8375 [0.0169] BKJD
Rp/R* = 0.0185 [0.0193]
a/R* = 191.89 [726.98]
b = 0.84 [1.37]
Seff = 18.22 [14.48]
Teq = 527 [105] K
Rp = 11.08 [13.12] Re
a = 0.9539 [0.4838] AU
Ag = 816.64 [1830.02] [0.45σ]
Teffp = 4354 [2291] K [1.67σ]

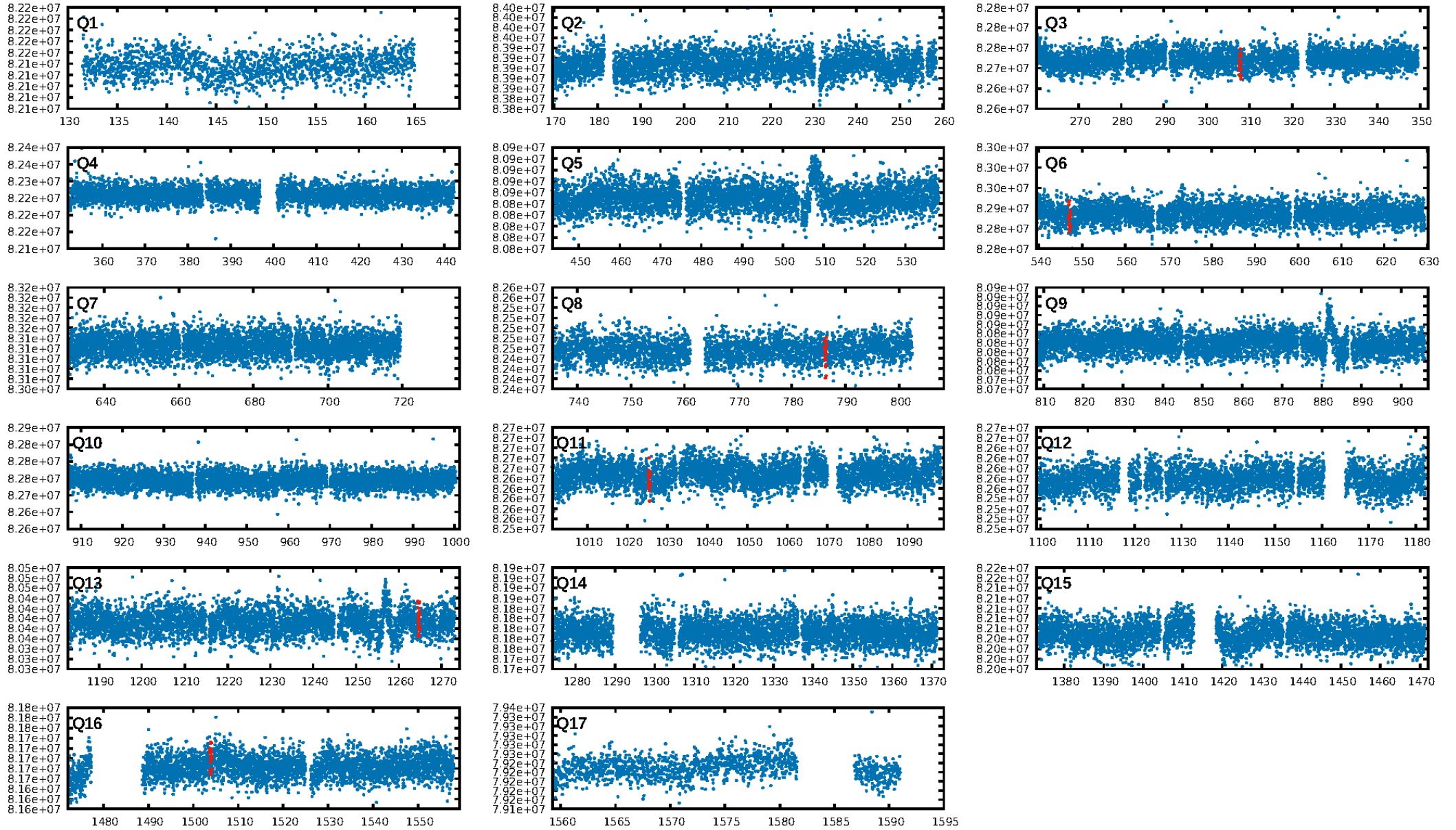
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [126.84σ]
LongPeriod-sig: 100.0% [216.93σ]
ModelChiSquare2-sig: 33.1%
ModelChiSquareGof-sig: 99.5%
Bootstrap-pfa: 1.95e-09
RollingBand-fgt: 0.80 [4/5]
GhostDiagnostic-chr: 0.6092
Centroid-sig: 16.6%
Centroid-so: 1.757 arcsec [1.55σ]
OotOffset-rm: 0.384 arcsec [0.11σ]
KicOffset-rm: 0.353 arcsec [0.09σ]
OotOffset-st: 1/2/2/0 [5]
KicOffset-st: 1/2/2/0 [5]
DiffImageQuality-fgm: 0.20 [1/5]
DiffImageOverlap-fno: 0.83 [5/6]

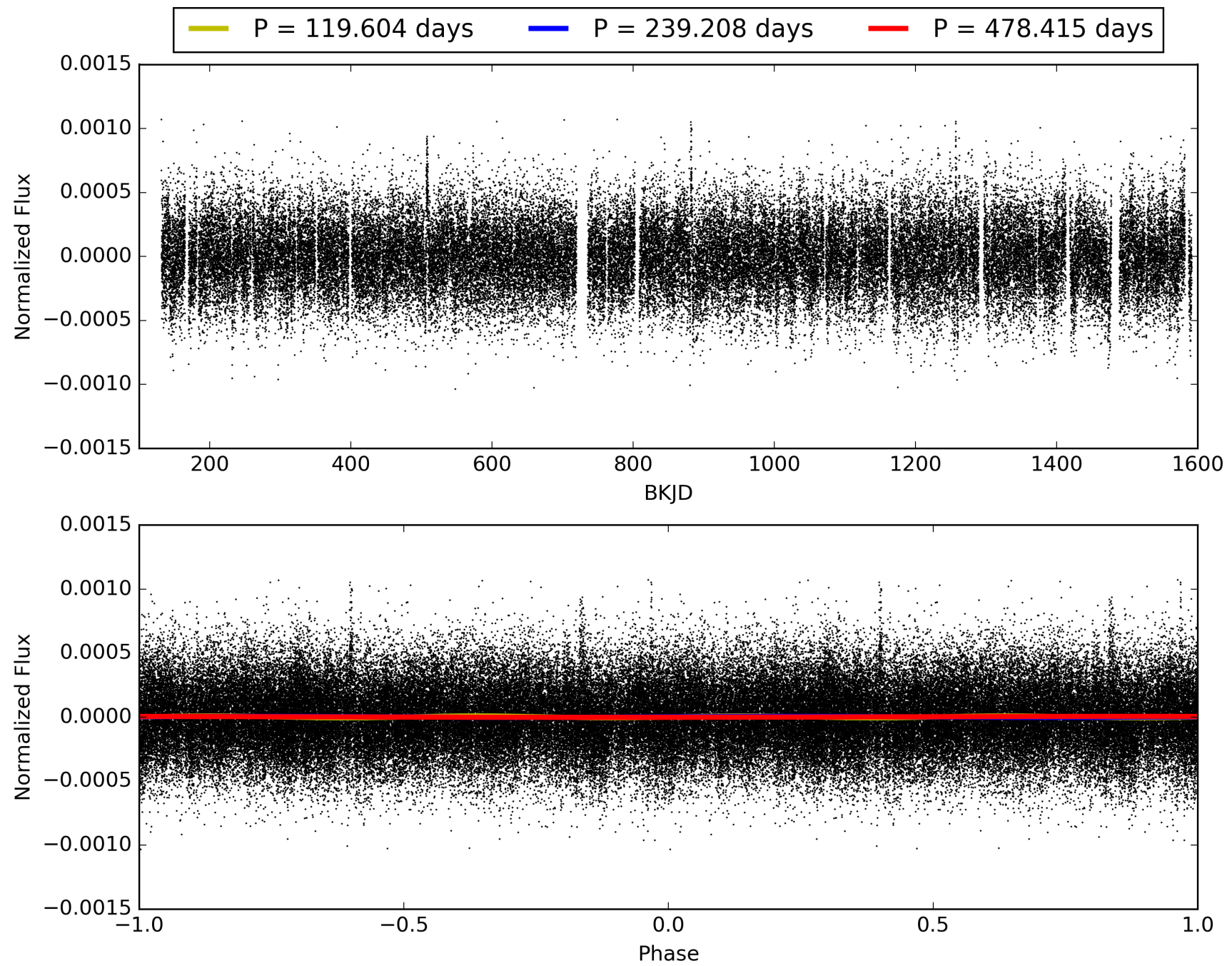
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:01:36 Z

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

TCE 008752817-06, PDC Light Curves

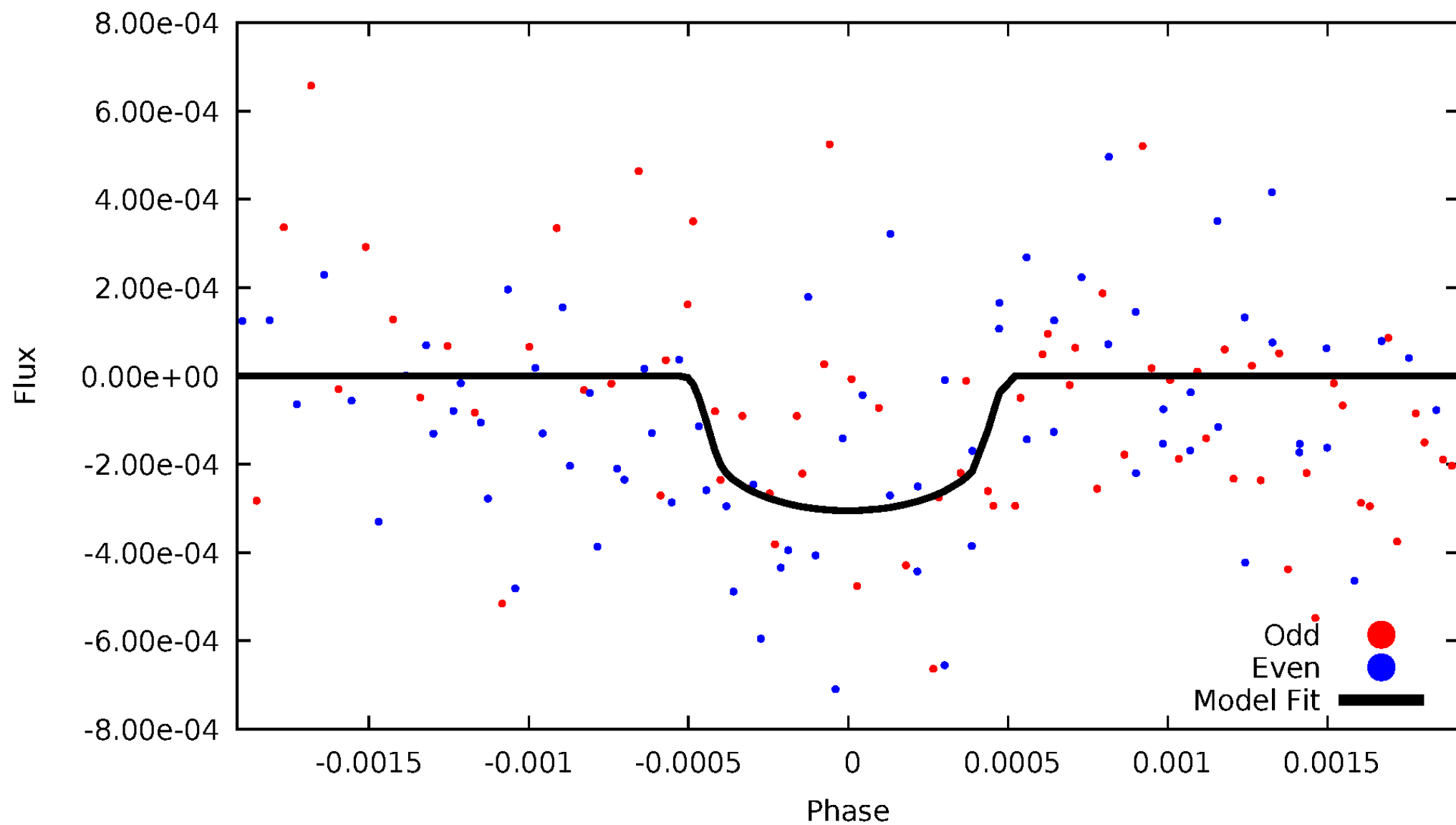


TCE 008752817-06



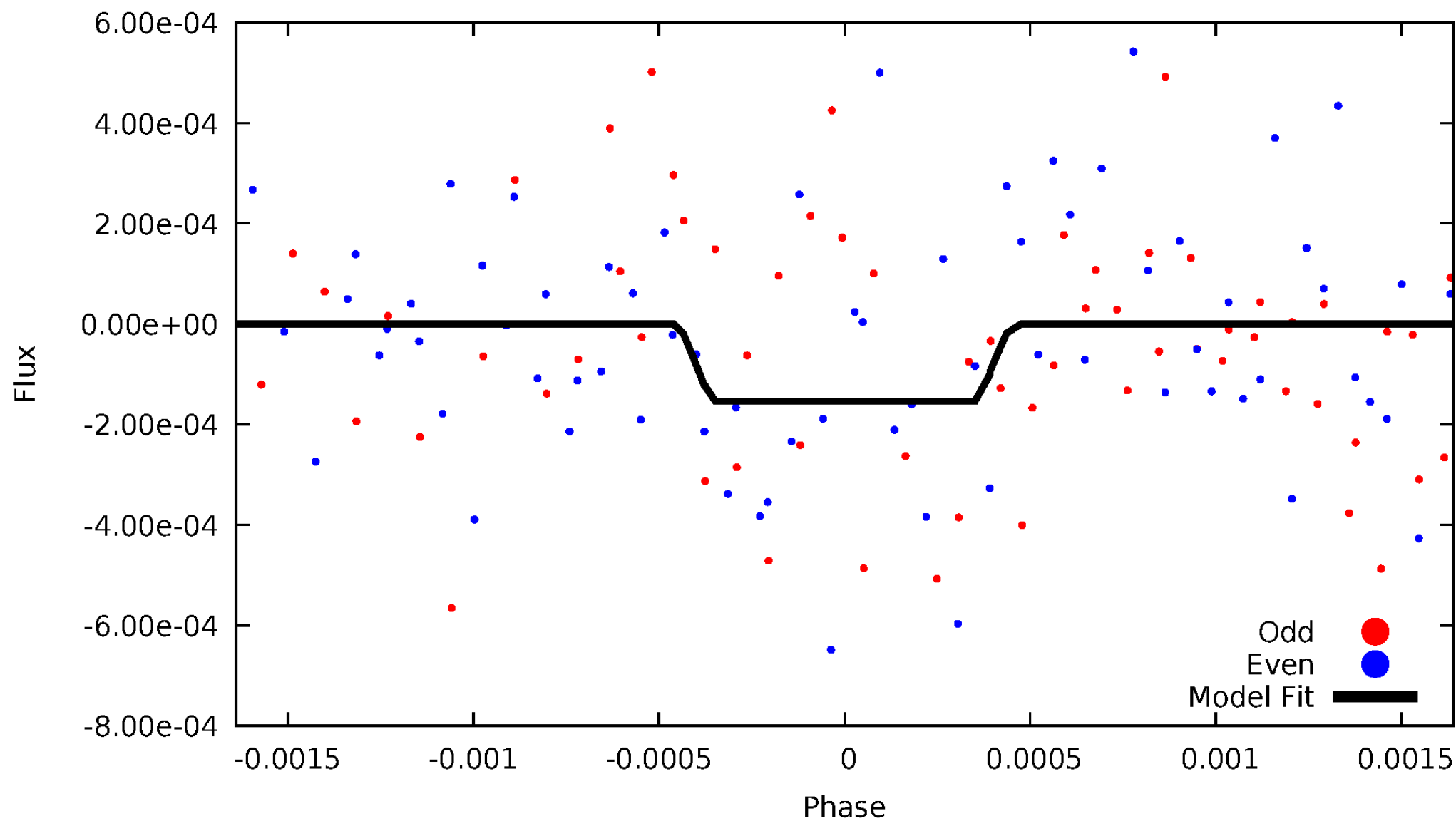
DV Odd/Even

TCE 008752817-06



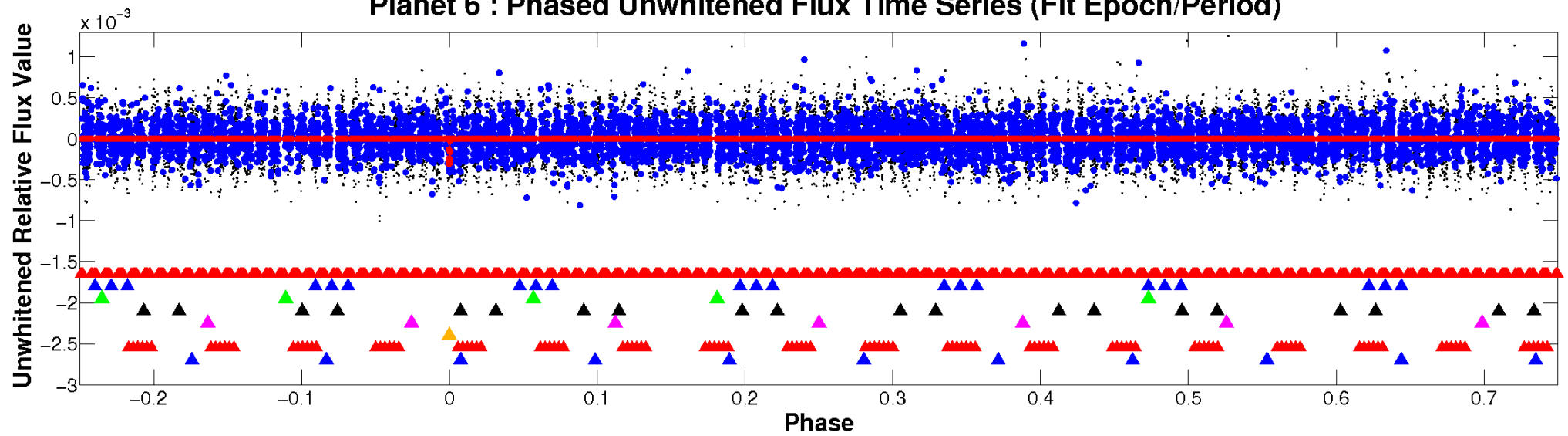
ALT Odd/Even

TCE 008752817-06

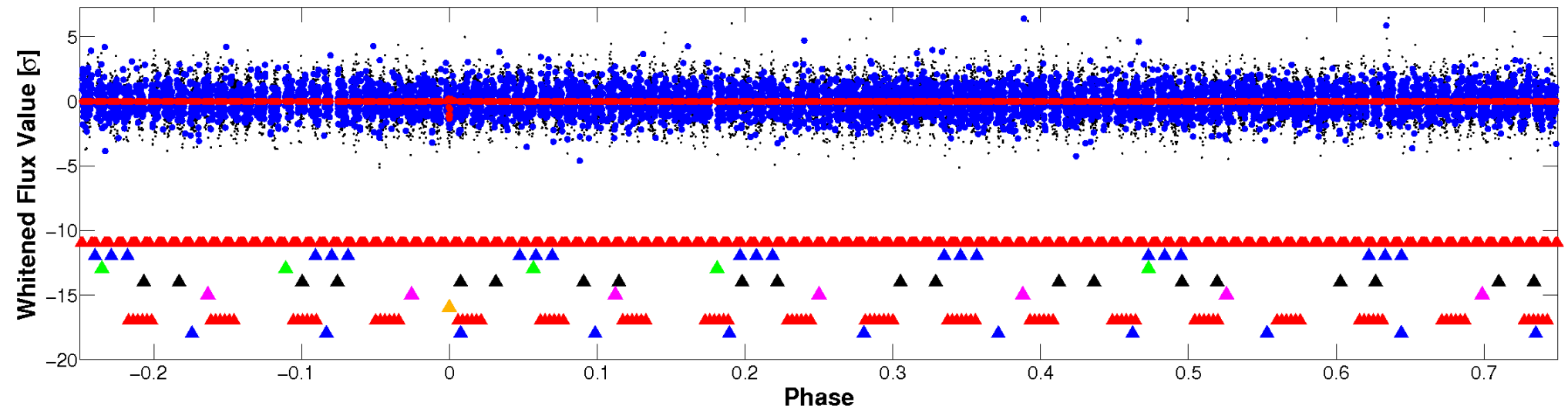


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

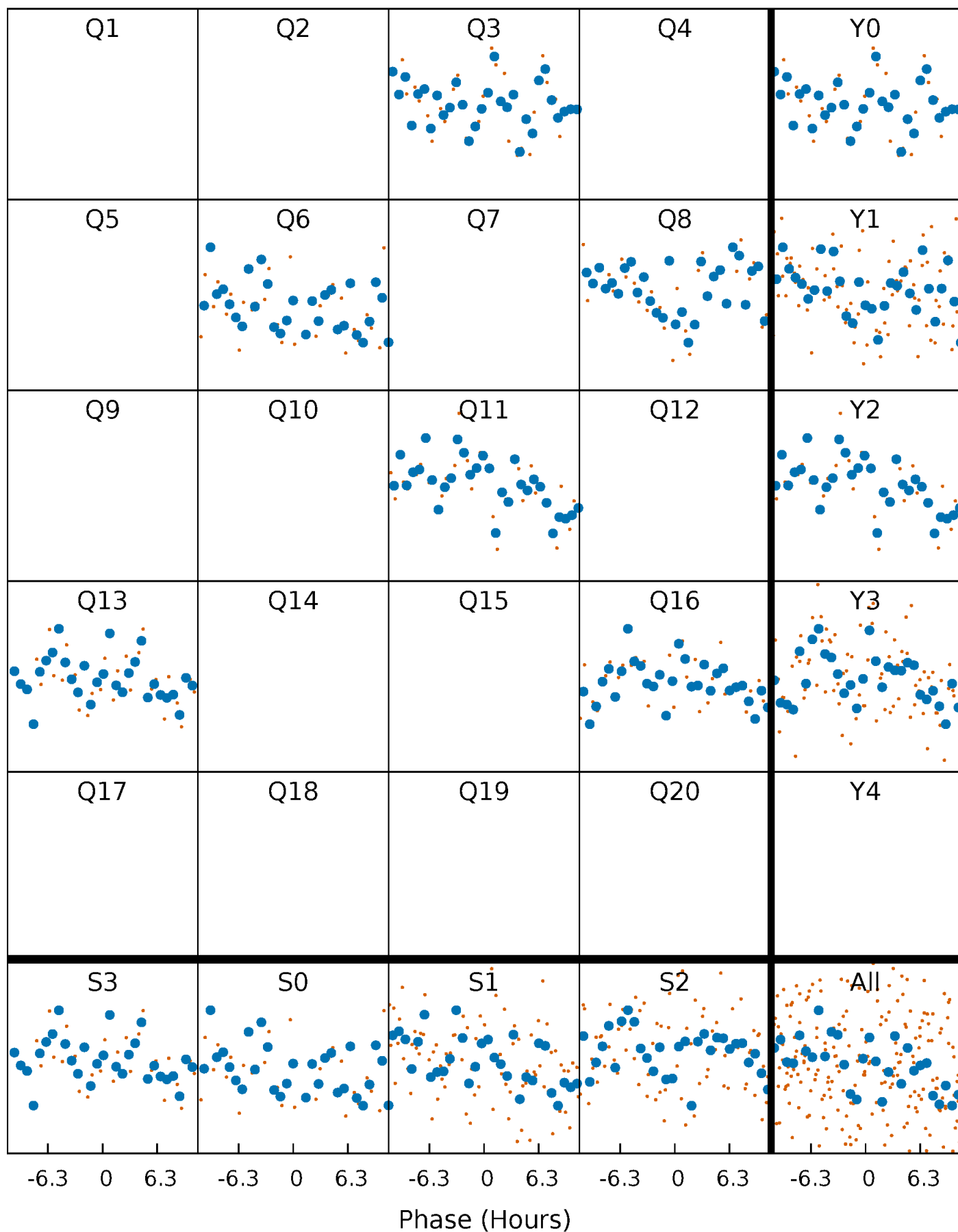


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



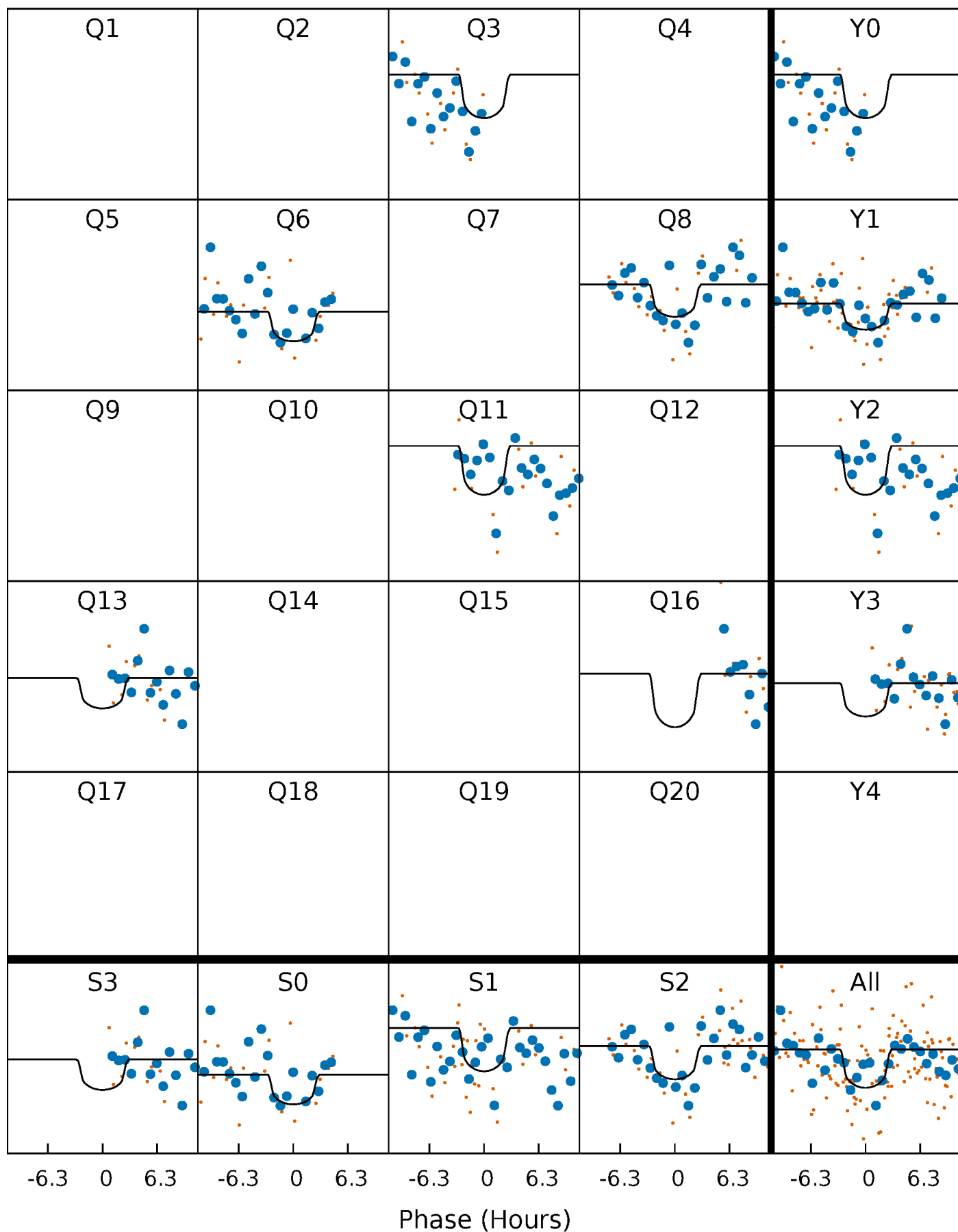
PDC Quarter-Phased Transit Curves

TCE 008752817-06 $P=239.207502$ Days $T_0=307.837483$ (BKJD)



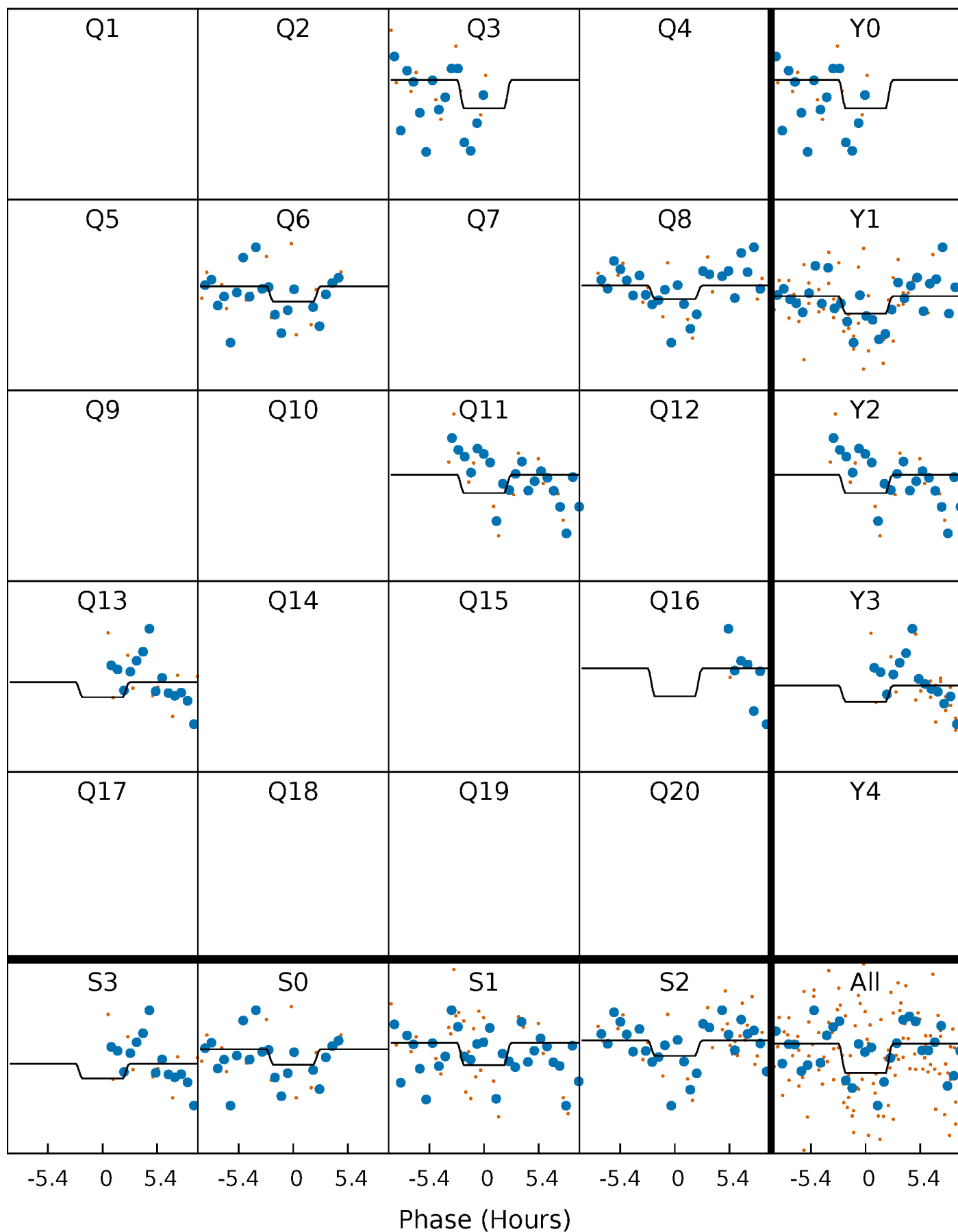
DV Quarter-Phased Transit Curves

TCE 008752817-06 $P=239.207502$ Days $T_0=307.837483$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

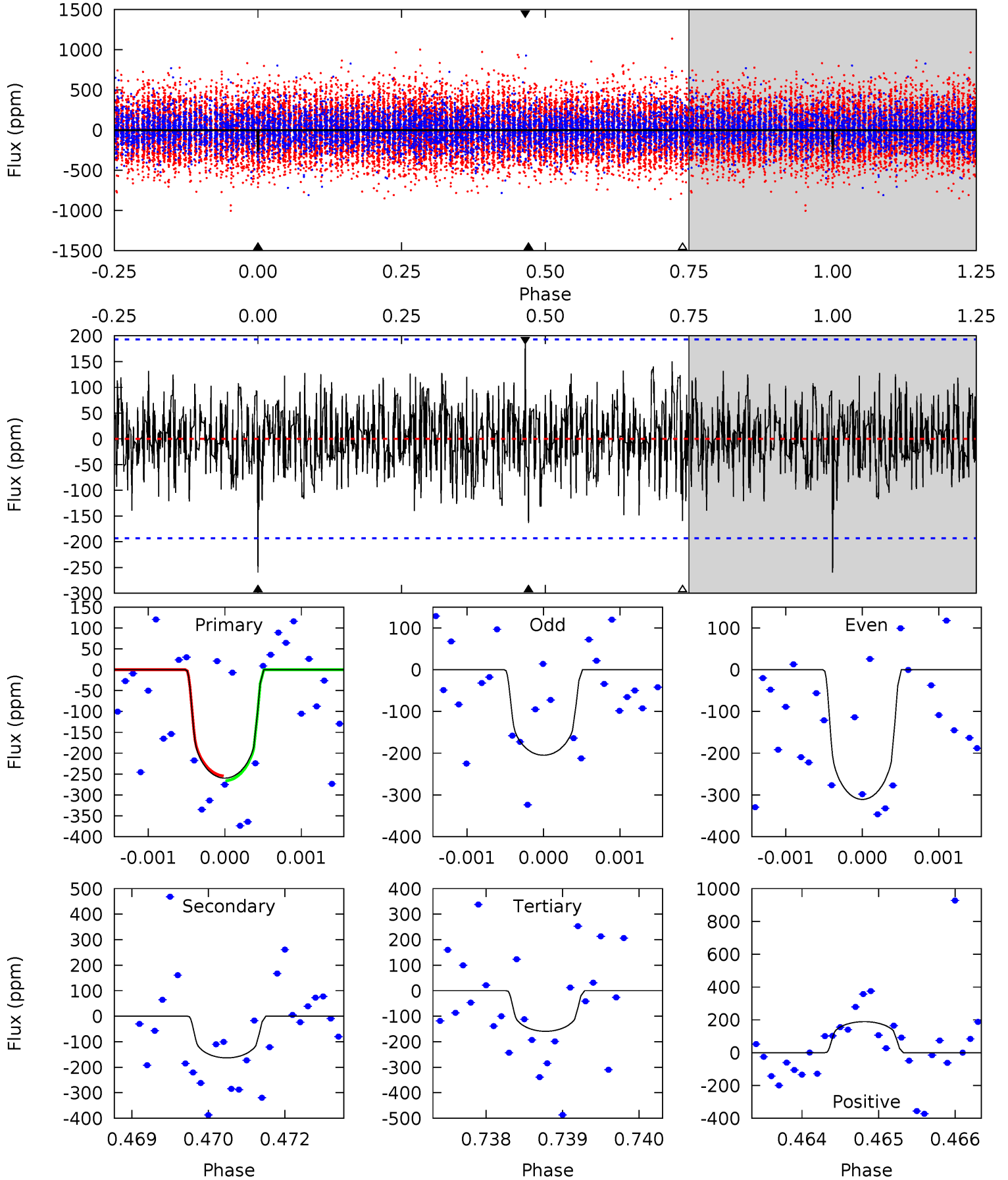
TCE 008752817-06 P=239.212412 Days $T_0=307.826709$ (BKJD)



DV Model-Shift Uniqueness Test

008752817-06, P = 239.207502 Days, E = 68.629981 Days

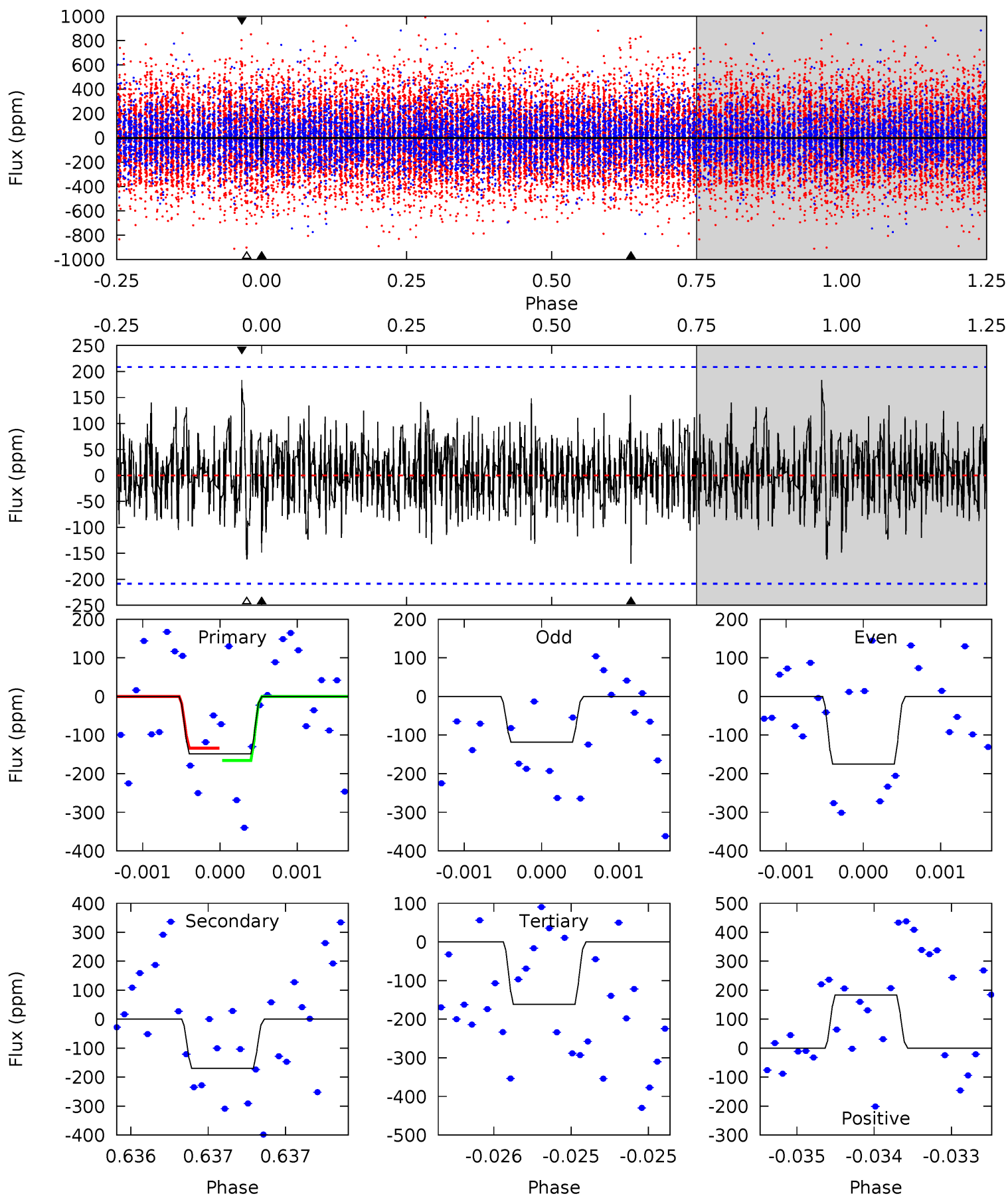
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.33	4.61	4.49	5.33	5.45	3.28	1.37	2.84	2.00	0.12	-0.73	1.49	1.11	0.42	0.17



Alt Model-Shift Uniqueness Test

008752817-06, P = 239.212412 Days, E = 68.614297 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.90	4.46	4.24	4.81	5.47	3.33	1.18	-0.34	-0.91	0.22	-0.35	0.75	0.60	0.52	0.42



Stellar Parameters For KIC 008752817

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4973^{+138}_{-173}	$3.263^{+0.448}_{-0.241}$	$0.400^{+0.050}_{-0.350}$	$5.501^{+1.656}_{-3.076}$	$2.021^{+0.660}_{-0.991}$	$0.017^{+0.093}_{-0.010}$
	+3%/-3%	+14%/-7%	+12%/-87%	+30%/-56%	+33%/-49%	+543%/-57%
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 008752817-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-163 ± 35	$12.71^{+12.99}_{-8.15}$	736^{+71}_{-91}	3942^{+2251}_{-678}	489^{+3895}_{-362}
Alt.	-170 ± 38	$10.78^{+9.48}_{-7.36}$	736^{+71}_{-93}	4287^{+2923}_{-808}	713^{+6658}_{-516}

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 $A_{obs} \gg 1.0$

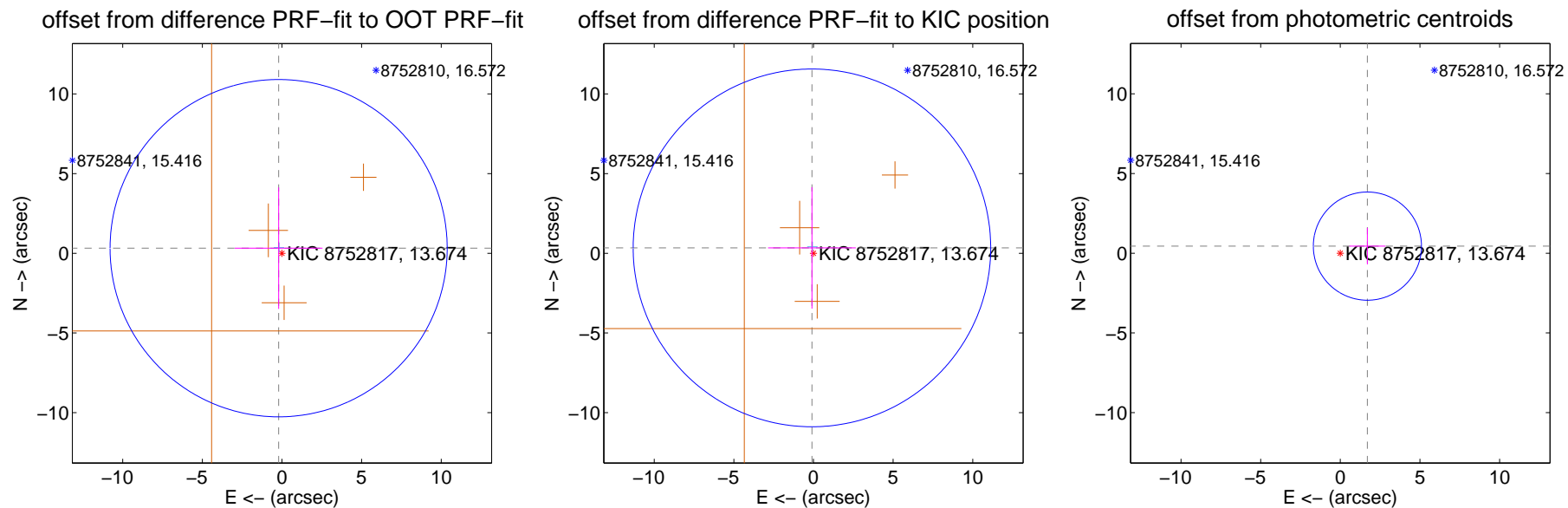
DV Centroid Data

Supplemental centroid analysis for 008752817-06. Kepler magnitude: 13.67. Transit SNR 6.87

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.384 ± 3.528	0.11	0.211 ± 2.757	0.321 ± 3.813
PRF-fit source offset from KIC position	0.353 ± 3.742	0.09	0.098 ± 2.757	0.339 ± 3.813
photometric centroid source offset	1.76 ± 1.13	1.55	-1.70 ± 1.13	0.45 ± 1.14



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.

Q1 no difference image



Q1 no OOT image



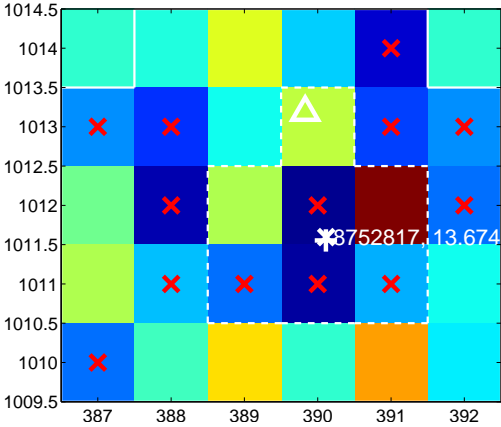
Q2 no difference image



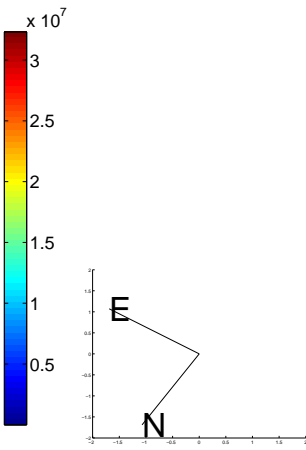
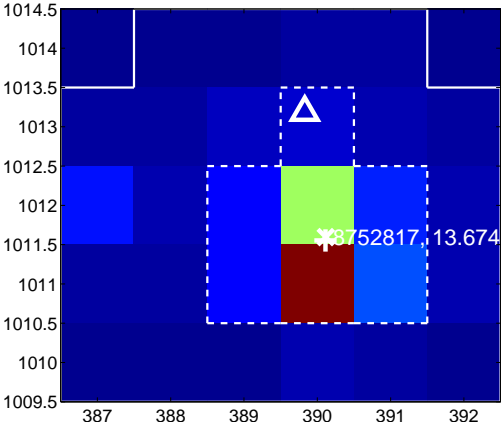
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



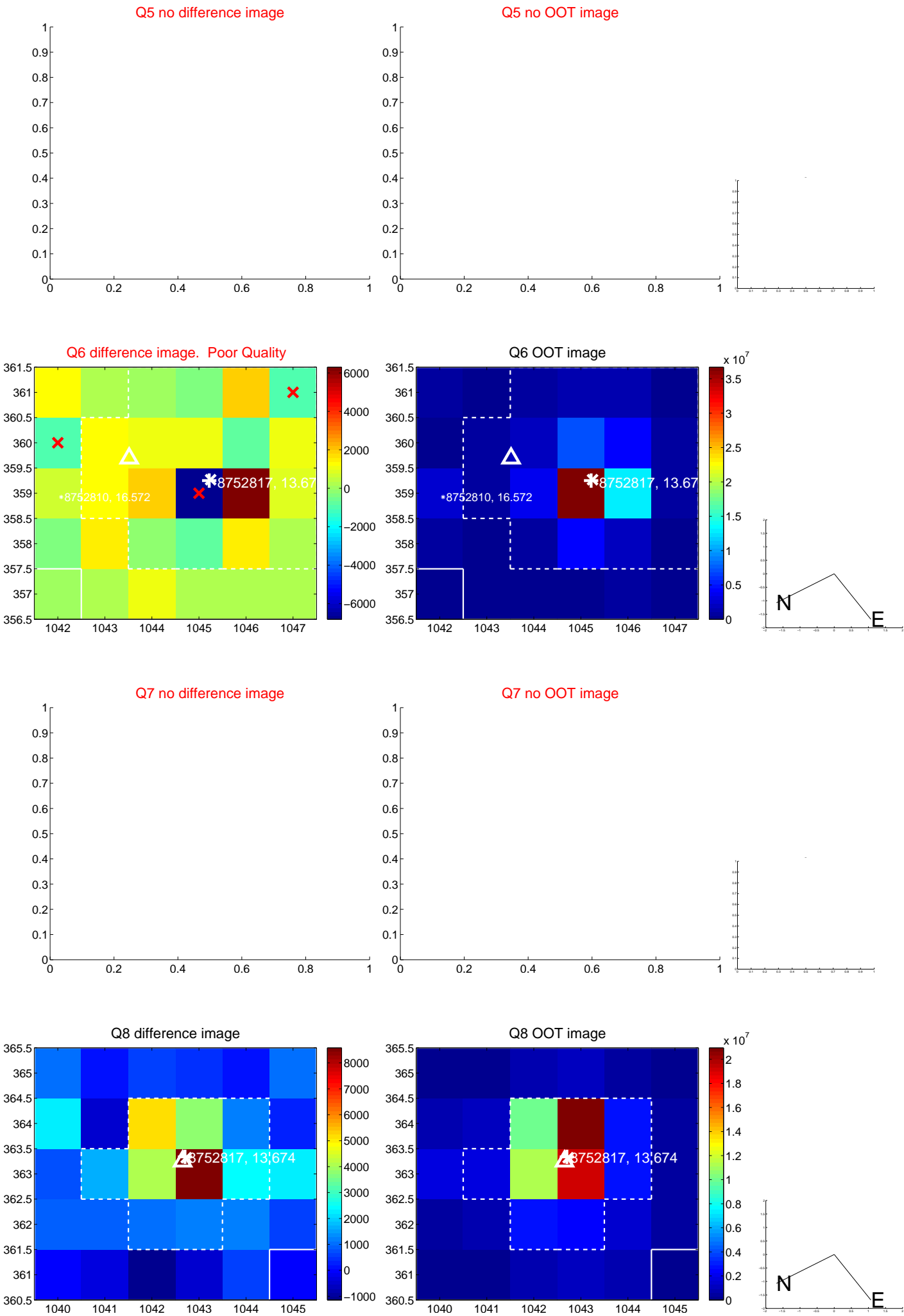
Q4 no difference image



Q4 no OOT image



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.

Q9 no difference image



Q9 no OOT image



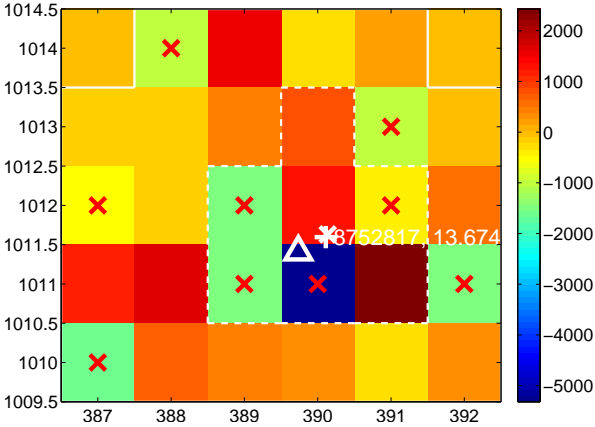
Q10 no difference image



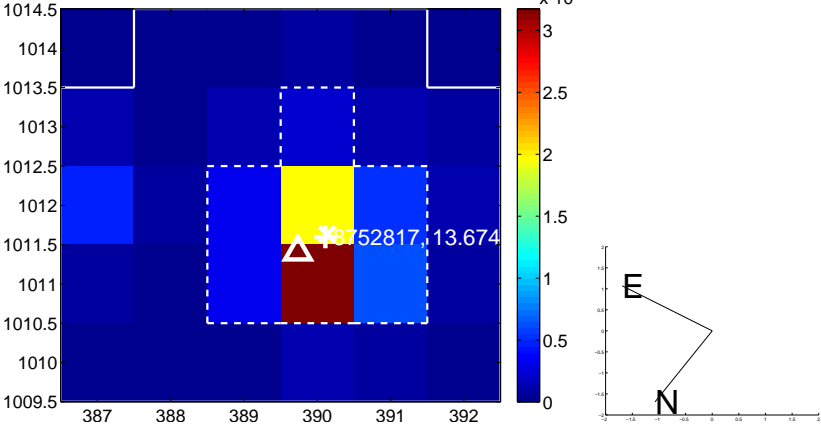
Q10 no OOT image



Q11 difference image. Poor Quality



Q11 OOT image



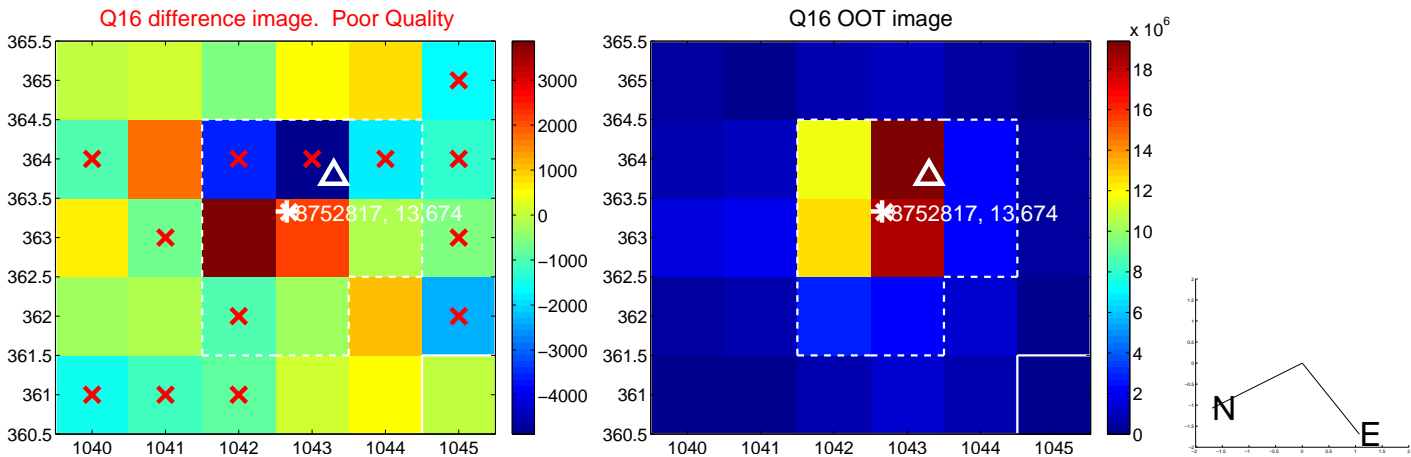
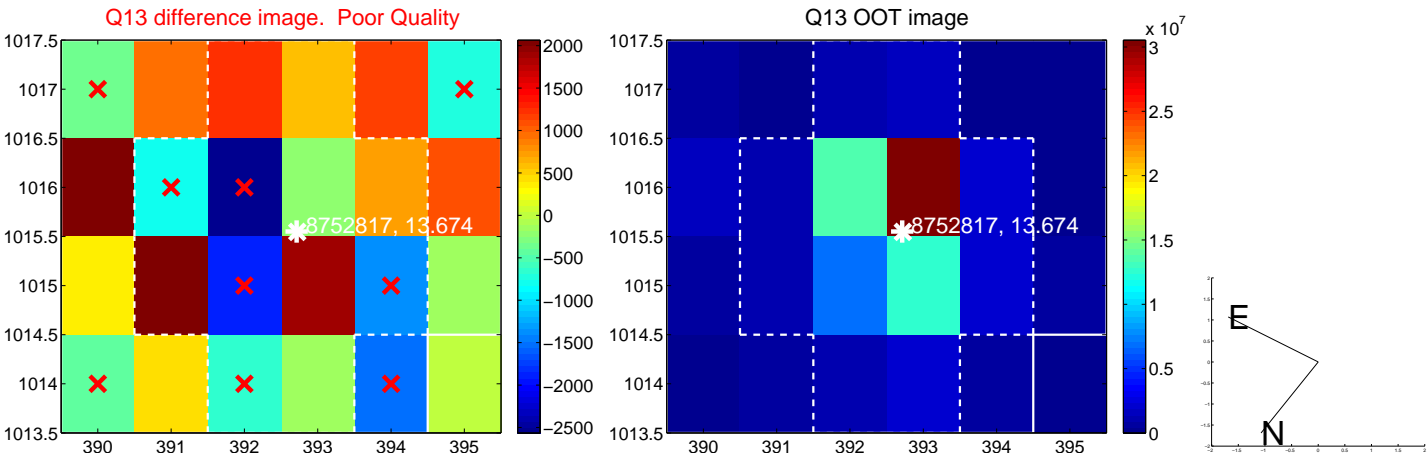
Q12 no difference image



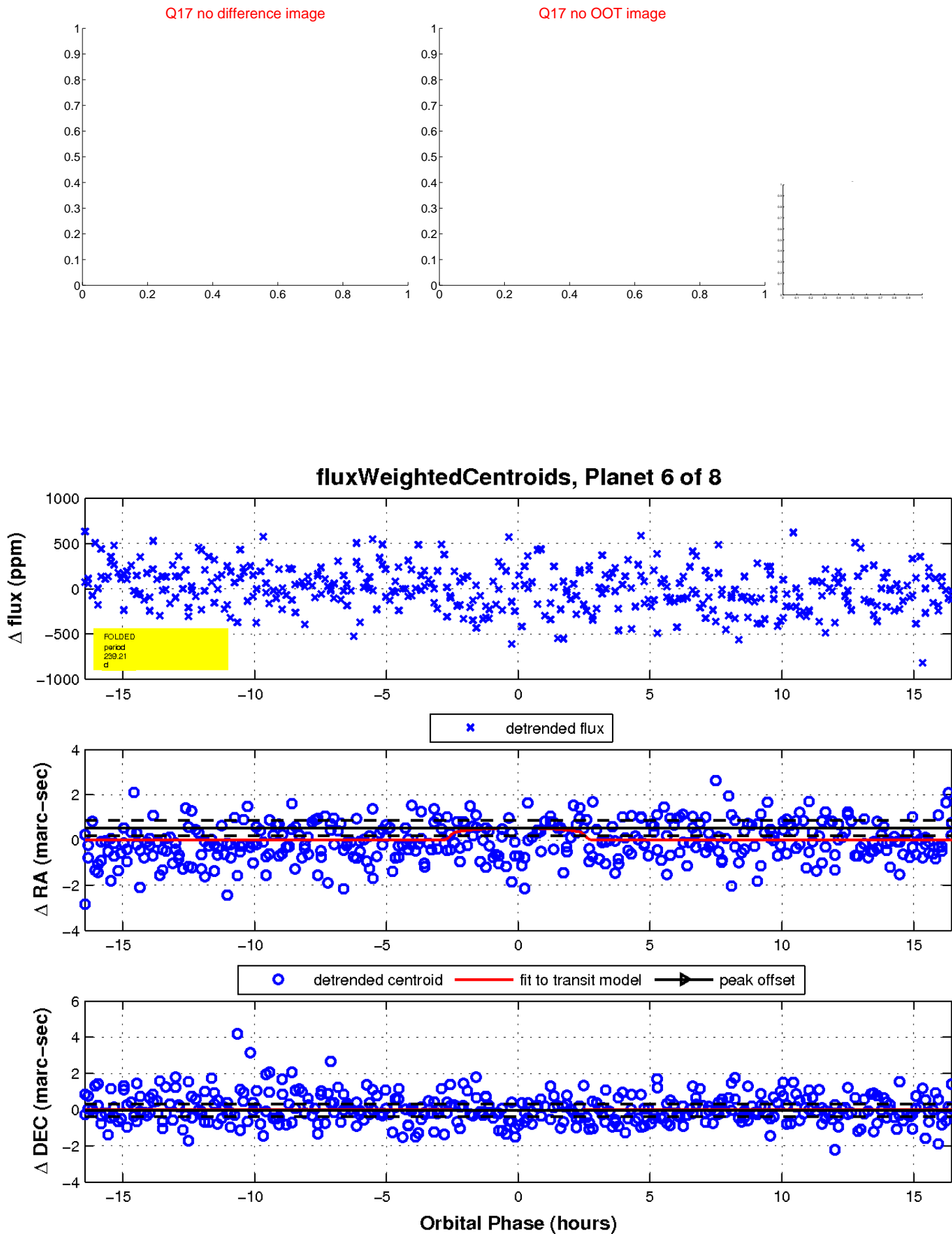
Q12 no OOT image



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

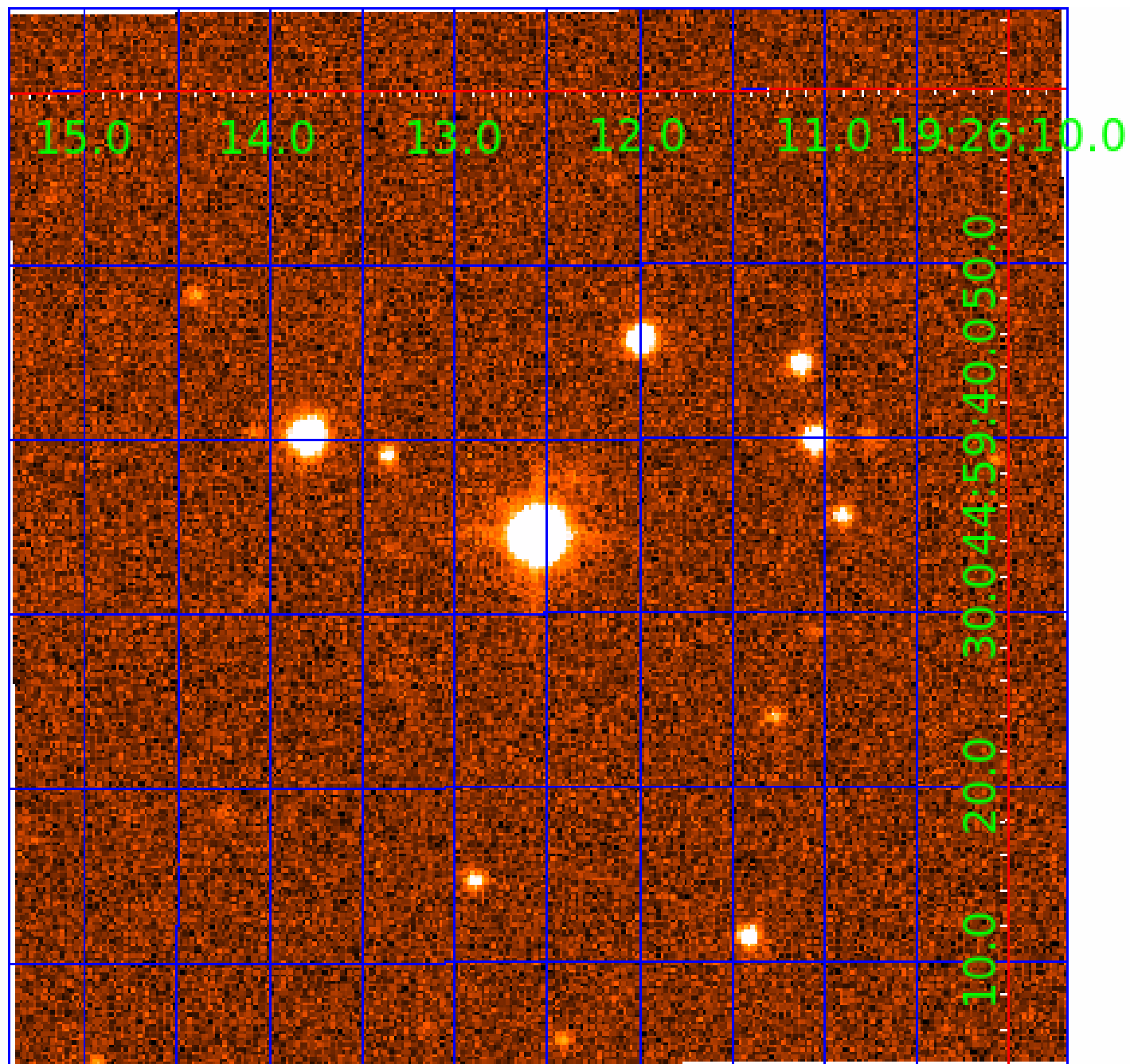


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008752817

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})
008752817-01	OBS	No	2.176213	132.321174	23.6	11.692	7.8	7.0	5.50	4973	2.57	9595.34
008752817-02	OBS	No	68.721032	181.774220	344.1	3.477	9.0	8.4	5.50	4973	10.28	96.13
008752817-03	OBS	No	309.027981	281.356619	289.7	5.433	7.8	8.1	5.50	4973	10.28	12.95
008752817-04	OBS	No	71.191736	172.979736	317.9	2.628	7.7	7.3	5.50	4973	10.46	91.71
008752817-05	OBS	No	206.237704	194.397361	441.3	2.961	7.7	8.1	5.50	4973	12.70	22.21
008752817-06	OBS	No	239.207502	307.837483	305.0	5.491	7.9	6.9	5.50	4973	11.08	18.22
008752817-07	OBS	No	13.330829	135.941531	159.2	2.652	7.7	7.4	5.50	4973	8.52	856.09
008752817-08	OBS	No	86.977802	201.004086	242.6	4.668	7.7	7.2	5.50	4973	8.70	70.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008752817-01	OBS	FP	0.00	1	0	0	1	LPP_DV—EPHEM_MATCH
008752817-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008752817-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008752817-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008752817-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008752817-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008752817-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
008752817-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

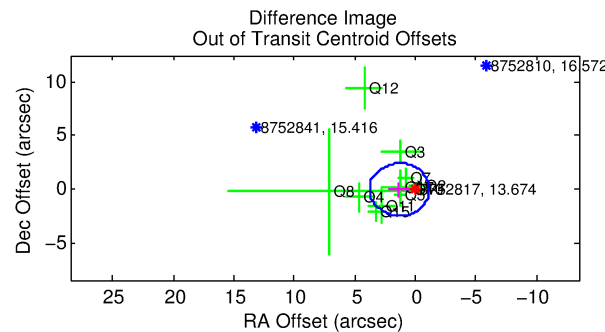
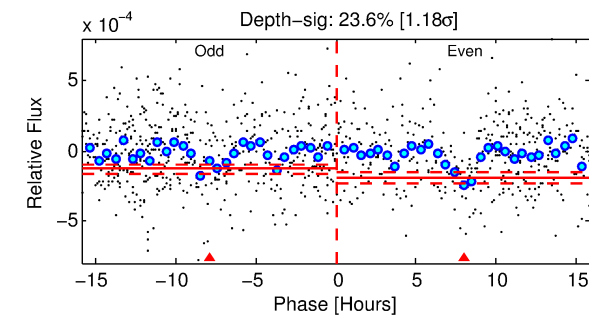
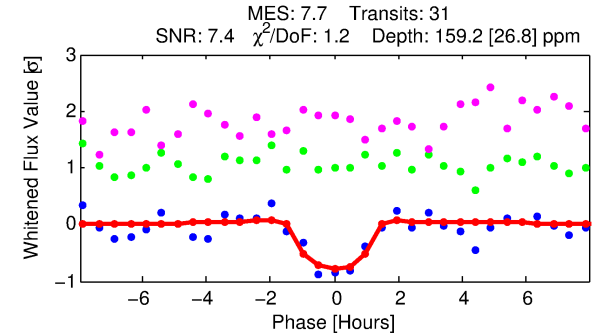
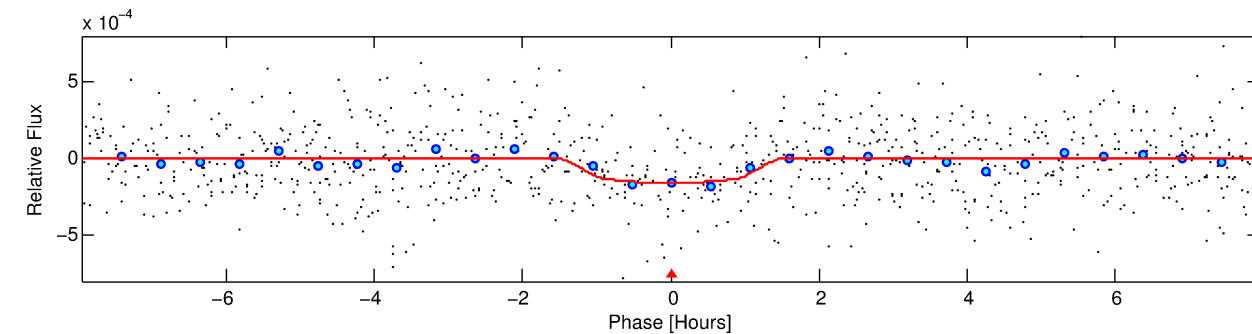
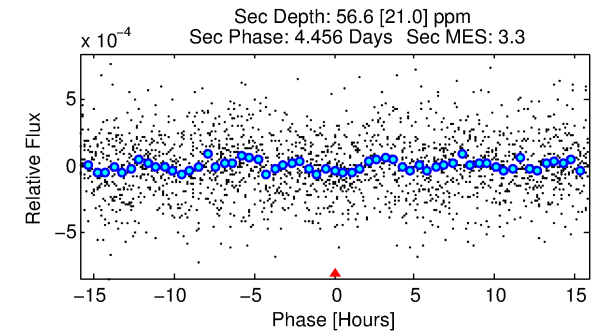
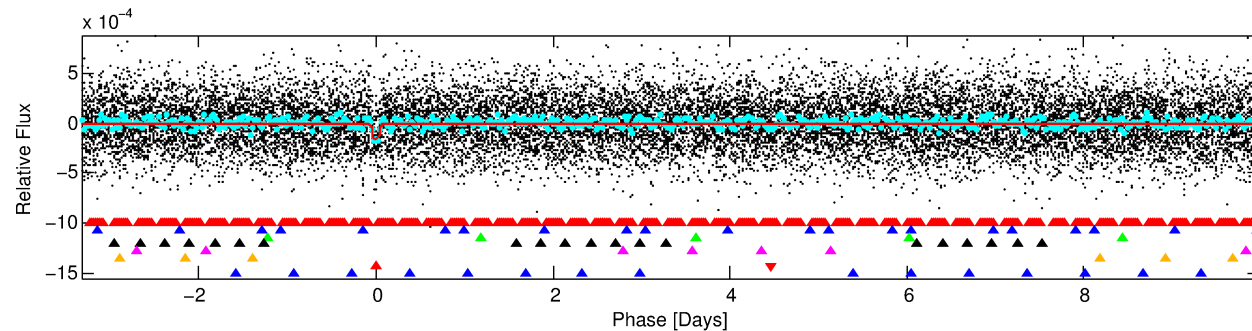
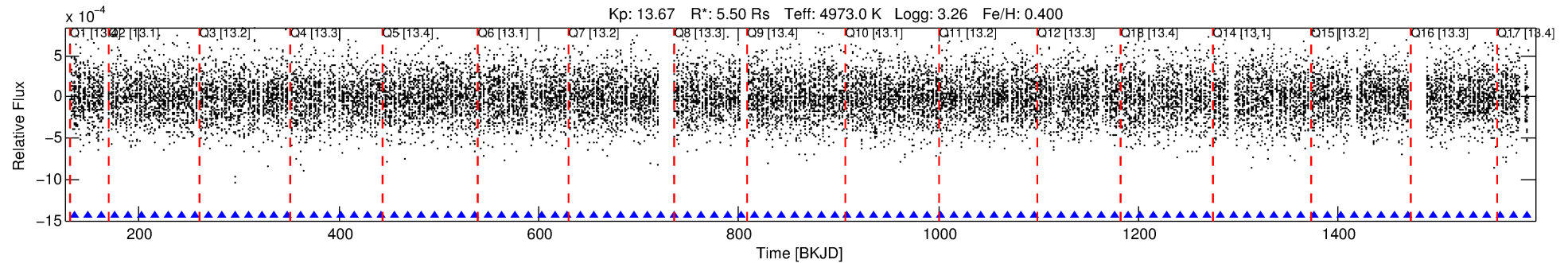
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008752817-07

No Significant Match Found

DV One-Page Summary

KIC: 8752817 Candidate: 7 of 8 Period: 13.331 d



DV Fit Results:

Period = 13.33083 [0.00015] d
Epoch = 135.9415 [0.0095] BKJD
Rp/R* = 0.0142 [0.0204]
a/R* = 17.83 [100.43]
b = 0.90 [1.20]
Seff = 856.09 [680.18]
Teq = 1379 [274] K
Rp = 8.52 [13.14] Re
a = 0.1392 [0.0706] AU
Ag = 8.31 [24.97] [0.29σ]
Teffp = 3621 [2628] K [0.85σ]

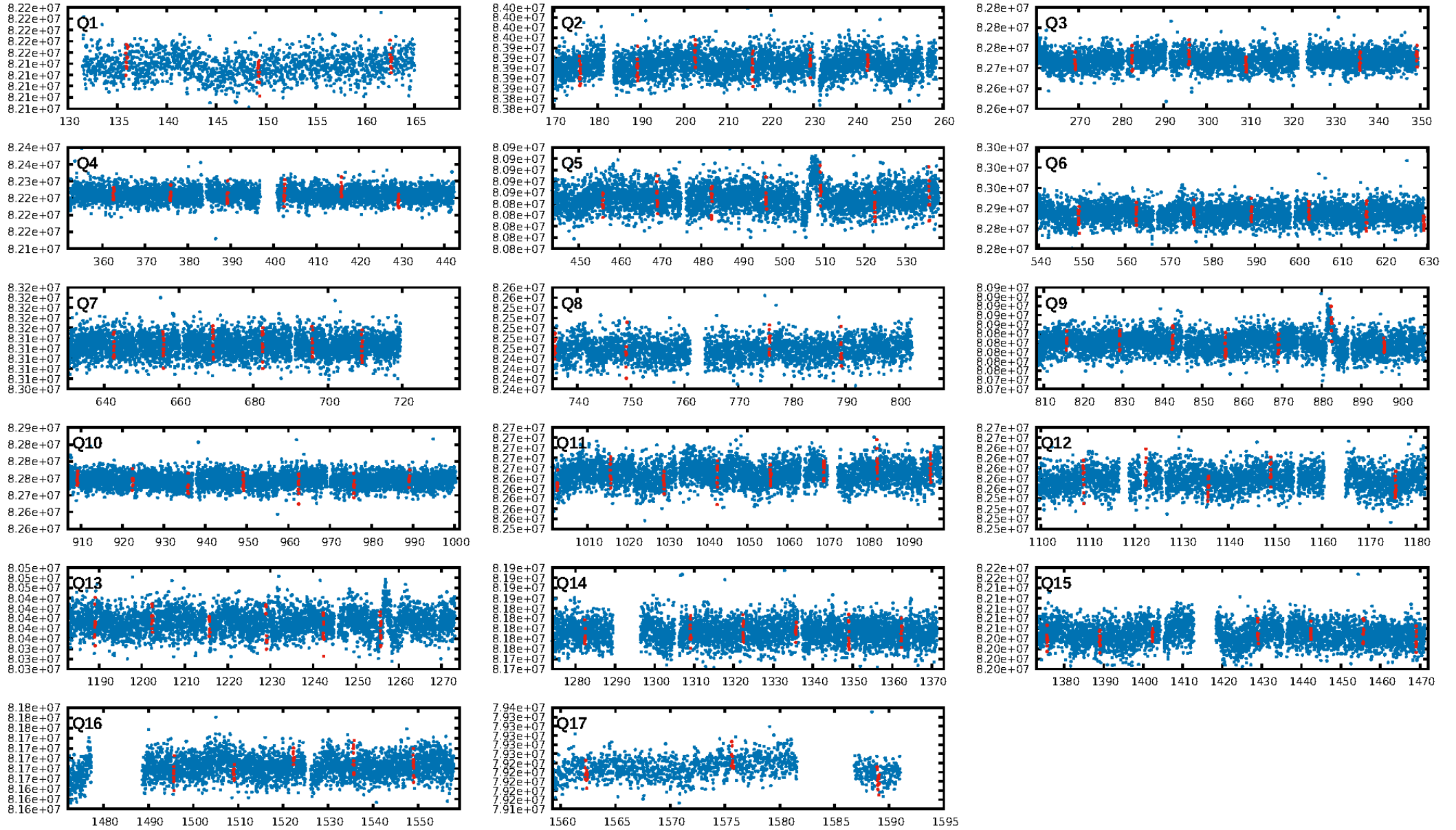
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [22.33σ]
LongPeriod-sig: 100.0% [304.03σ]
ModelChiSquare2-sig: 98.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.35e-09
RollingBand-fgt: 1.00 [29/29]
GhostDiagnostic-chr: 25.77
Centroid-sig: 0.0%
Centroid-so: 2.267 arcsec [3.02σ]
OotOffset-rm: 1.329 arcsec [1.62σ]
OotOffset-st: 2/4/3/2 [11]
KicOffset-rm: 1.296 arcsec [1.58σ]
KicOffset-st: 2/4/3/2 [11]
DiffImageQuality-fgm: 0.45 [5/11]
DiffImageOverlap-fno: 1.00 [17/17]

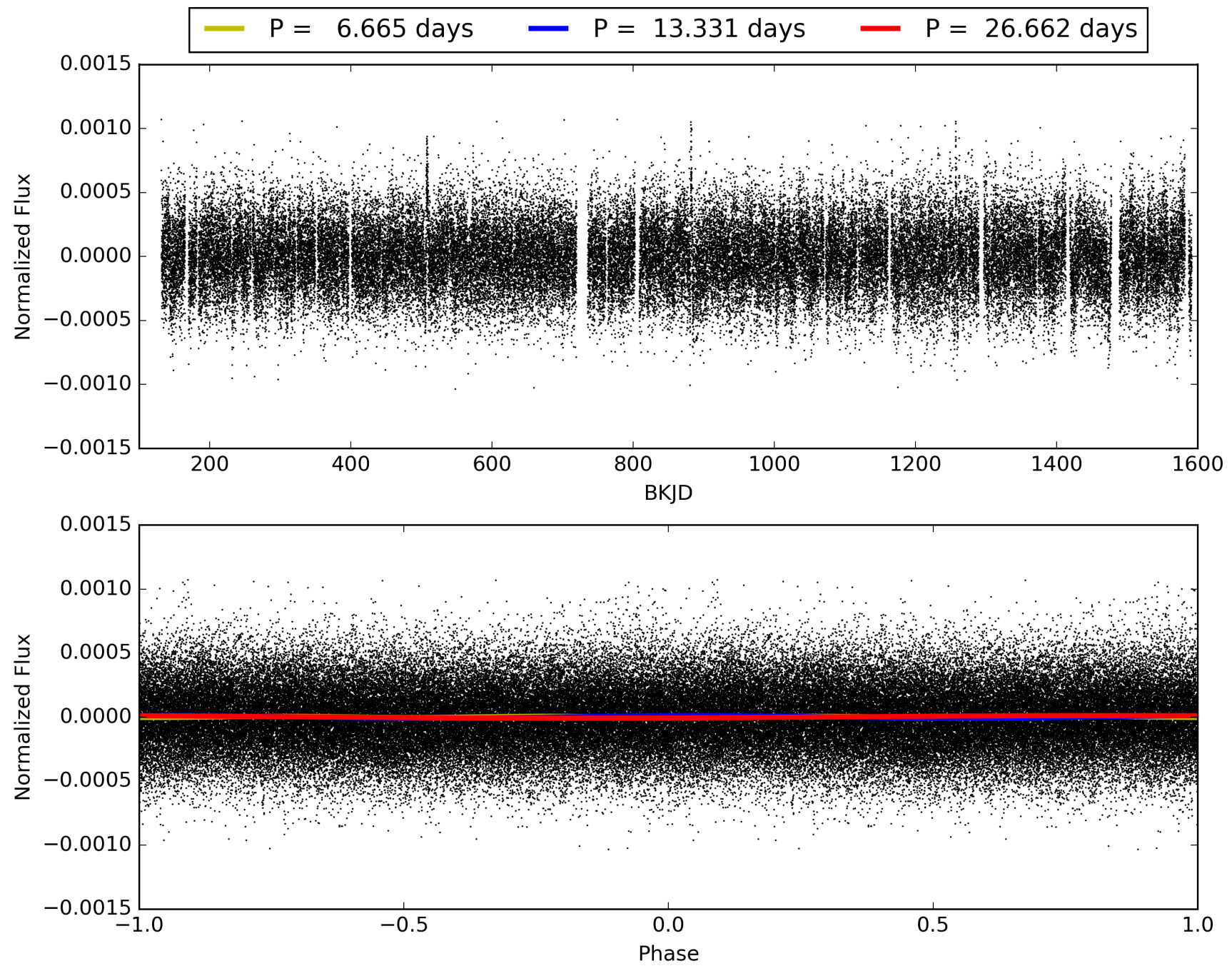
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:01:40 Z

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

TCE 008752817-07, PDC Light Curves

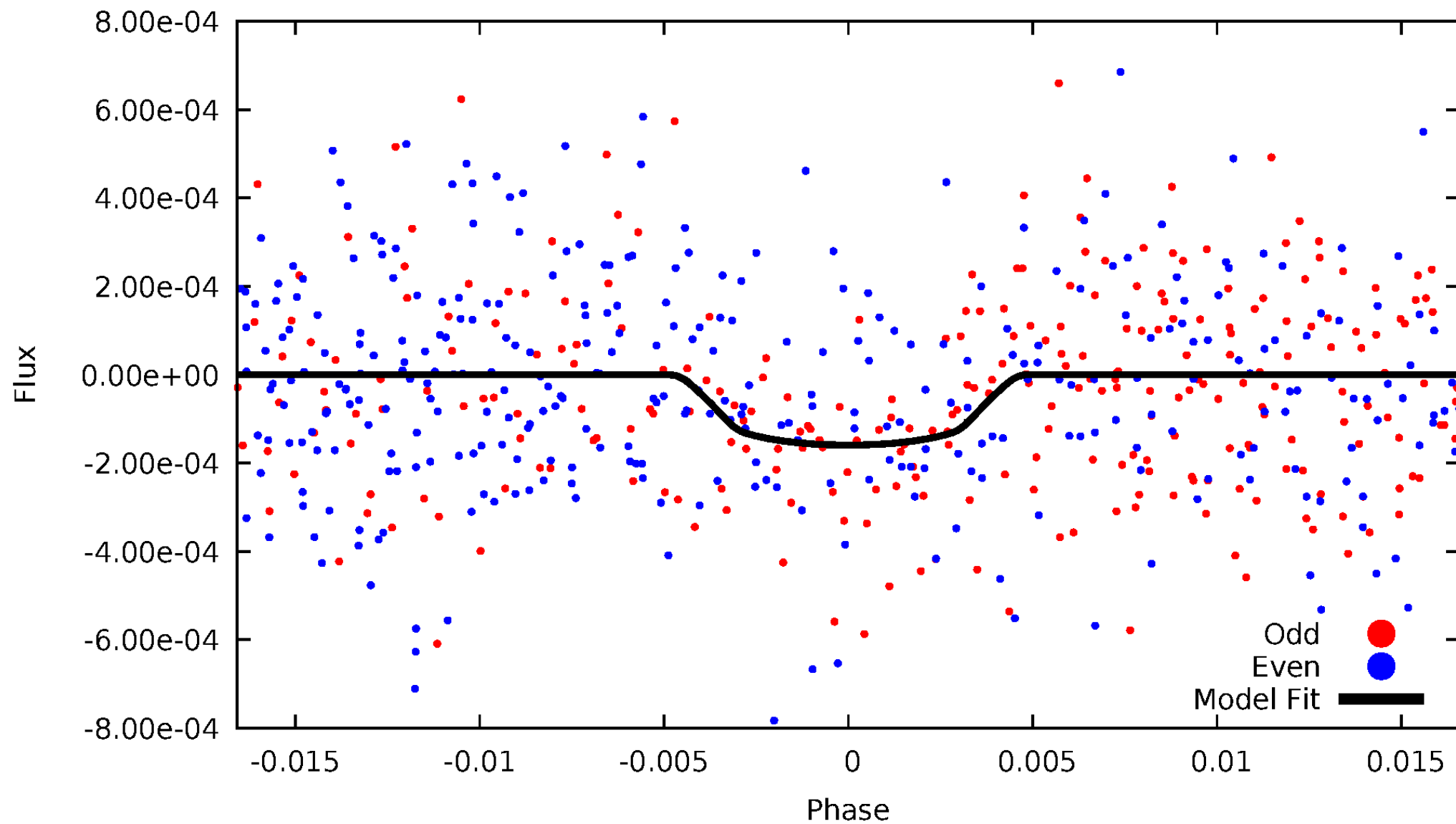


TCE 008752817-07



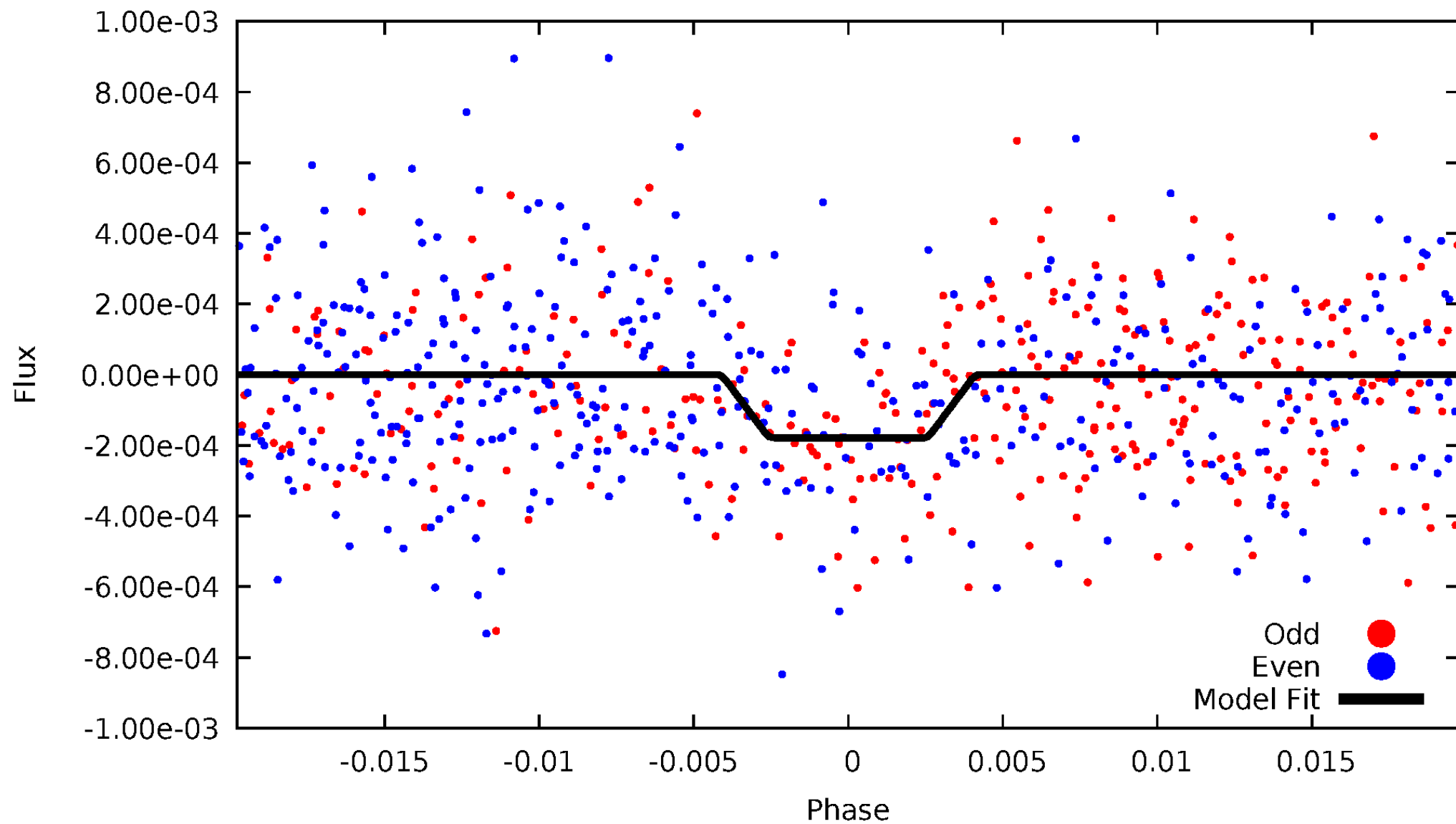
DV Odd/Even

TCE 008752817-07

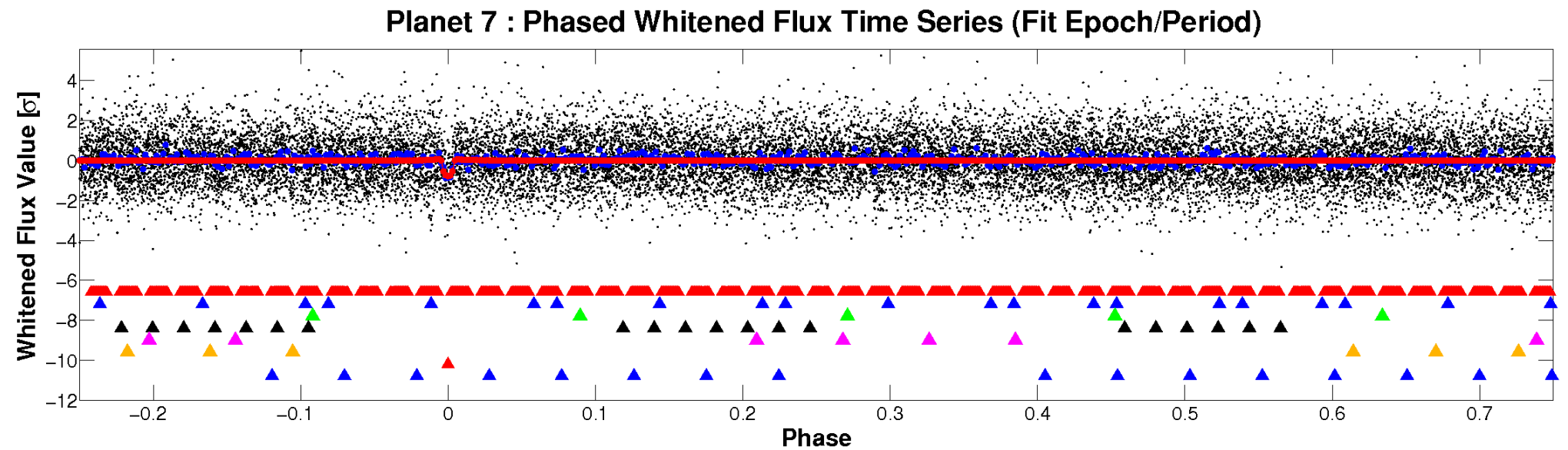
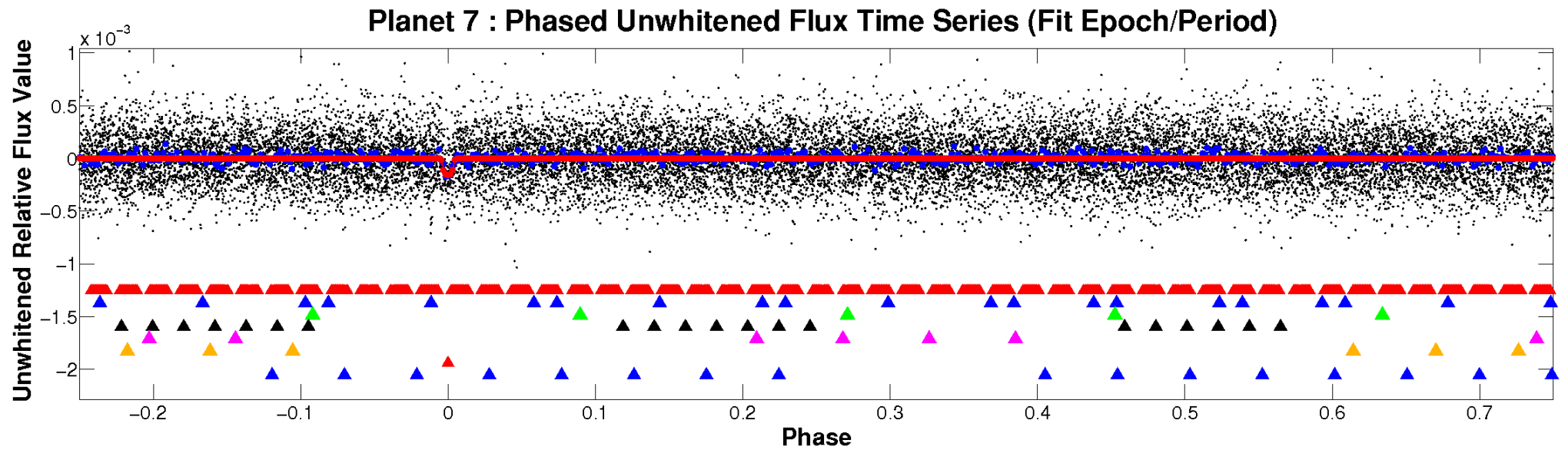


ALT Odd/Even

TCE 008752817-07

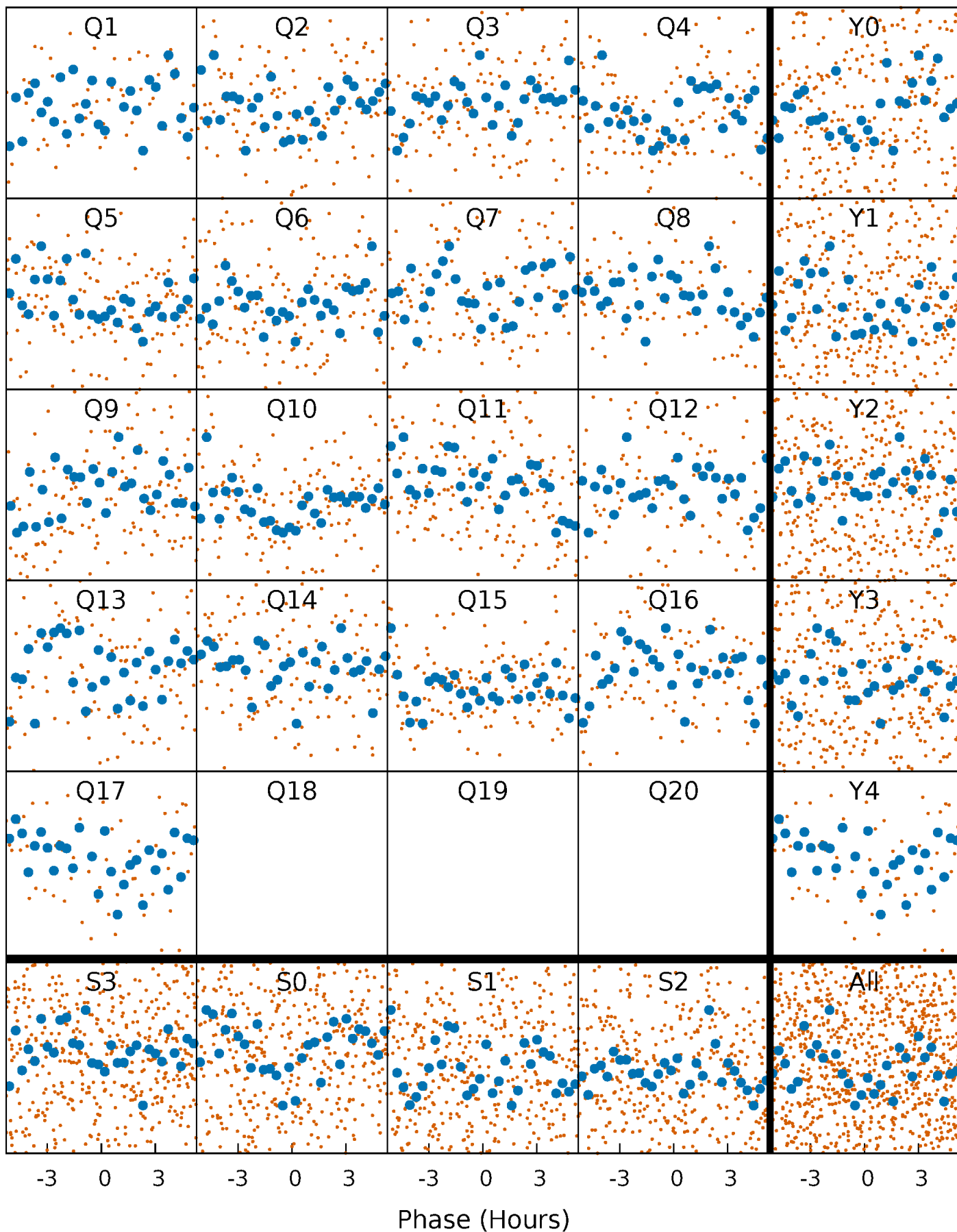


Non-Whitened Vs. Whitened Light Curve



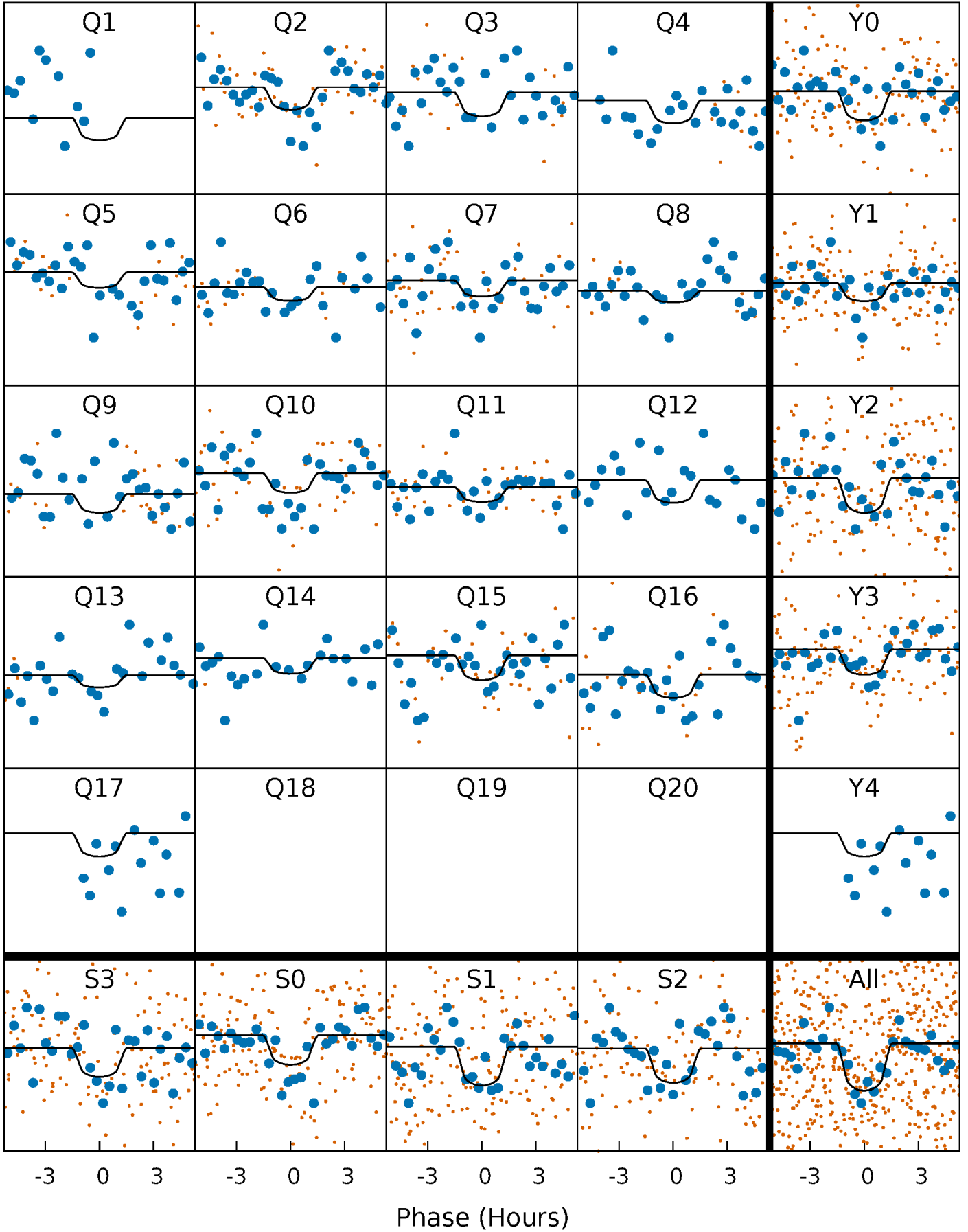
PDC Quarter-Phased Transit Curves

TCE 008752817-07 $P = 13.330829$ Days $T_0 = 135.941531$ (BKJD)



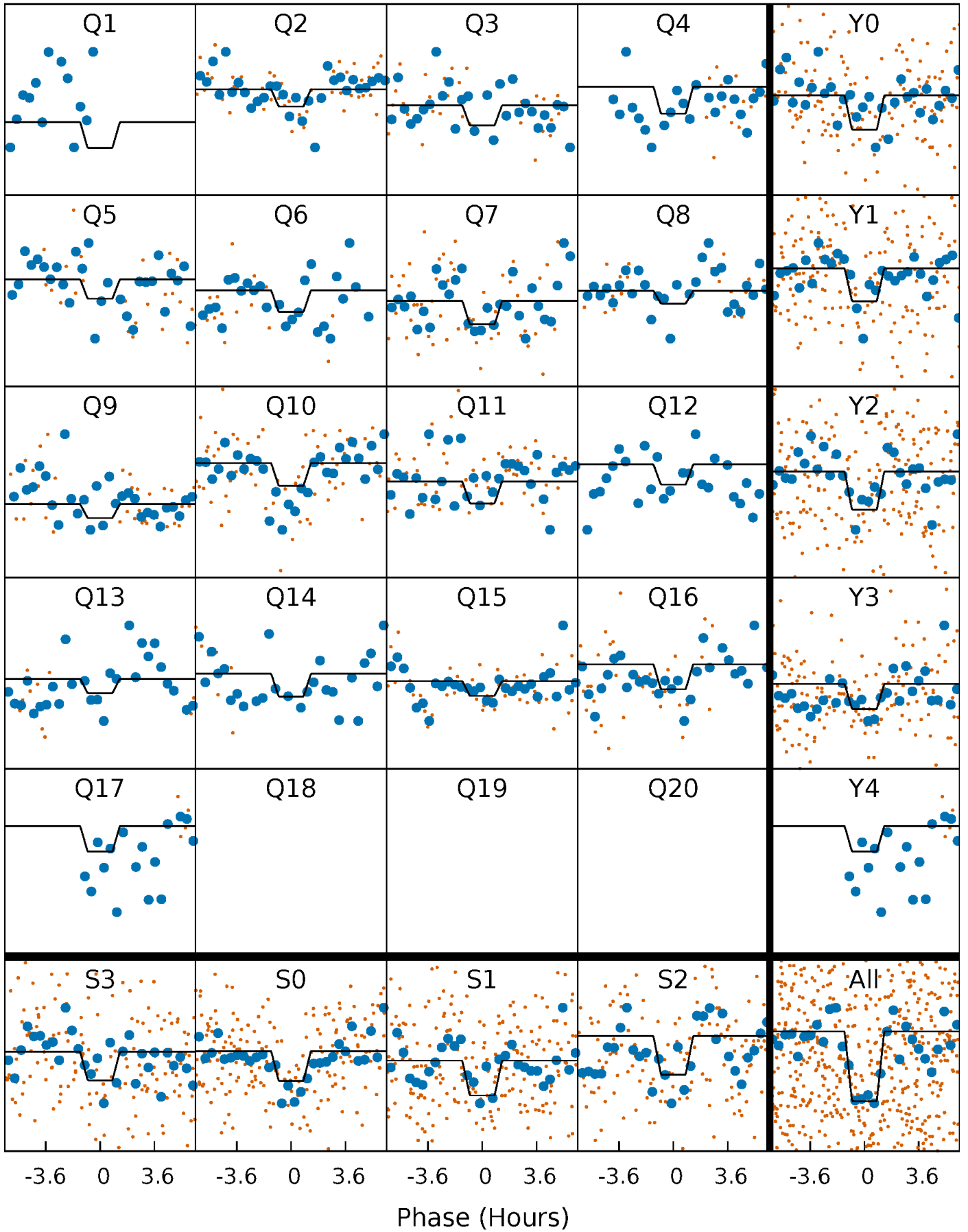
DV Quarter-Phased Transit Curves

TCE 008752817-07 $P = 13.330829$ Days $T_0 = 135.941531$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

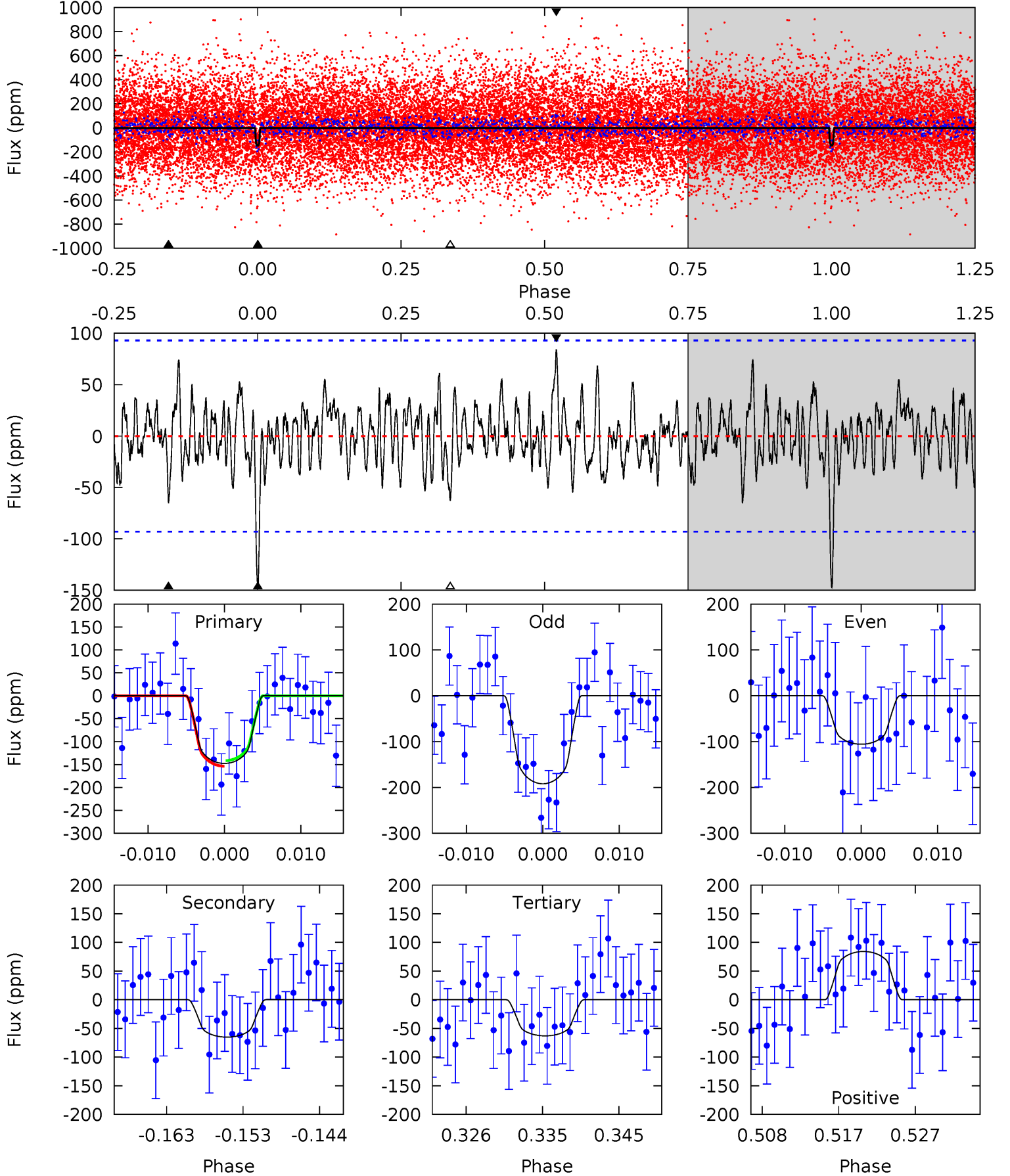
TCE 008752817-07 P= 13.330928 Days $T_0=135.937090$ (BKJD)



DV Model-Shift Uniqueness Test

008752817-07, $P = 13.330829$ Days, $E = 122.610702$ Days

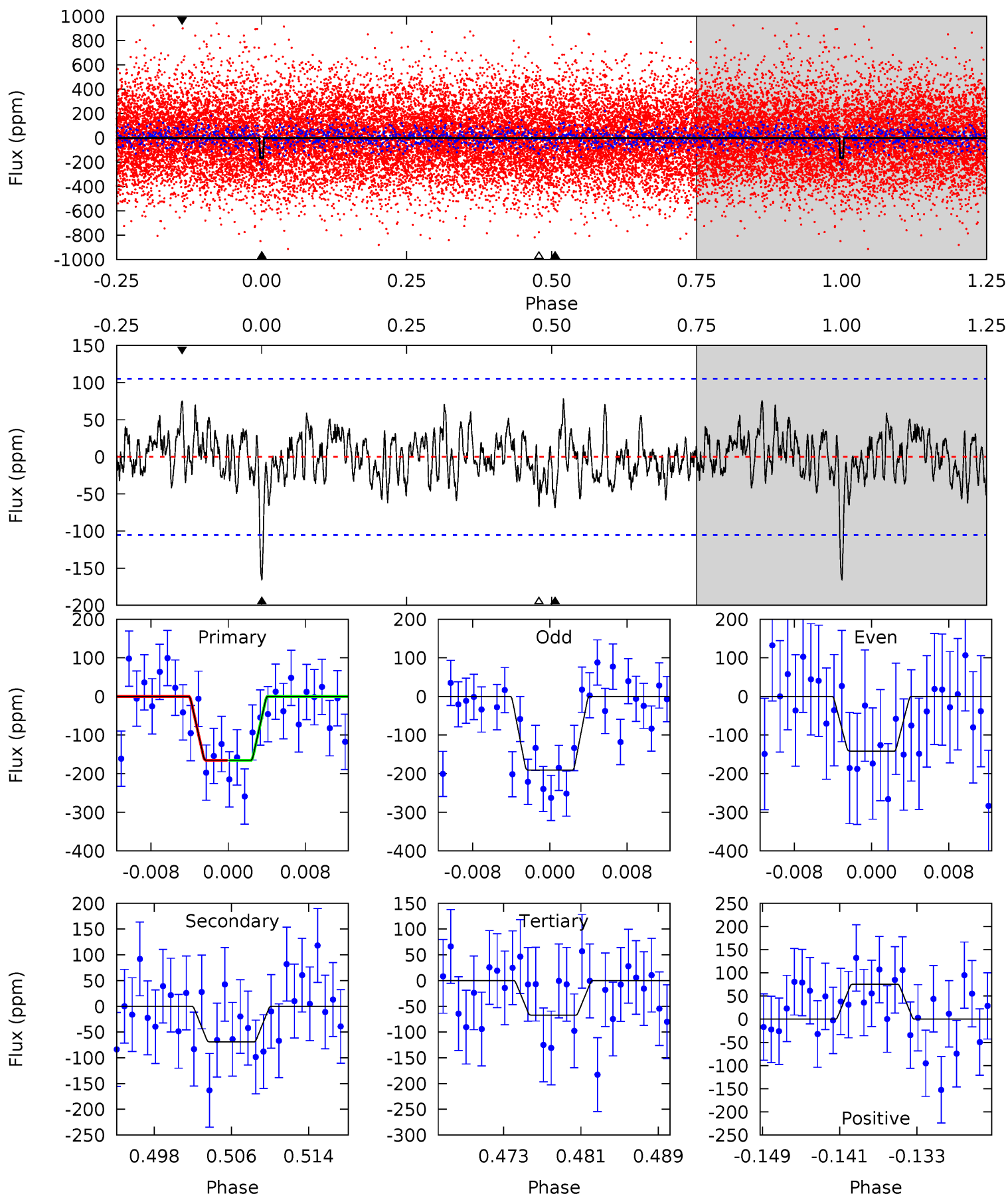
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.99	3.53	3.41	4.56	5.03	2.59	1.33	4.58	3.43	0.12	-1.03	2.34	0.91	0.36	0.33



Alt Model-Shift Uniqueness Test

008752817-07, P = 13.330928 Days, E = 122.606162 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.96	3.32	3.24	3.64	5.06	2.64	1.24	4.72	4.32	0.08	-0.32	1.18	0.79	0.32	0.01



Stellar Parameters For KIC 008752817

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4973^{+138}_{-173}	$3.263^{+0.448}_{-0.241}$	$0.400^{+0.050}_{-0.350}$	$5.501^{+1.656}_{-3.076}$	$2.021^{+0.660}_{-0.991}$	$0.017^{+0.093}_{-0.010}$
	+3%/-3%	+14%/-7%	+12%/-87%	+30%/-56%	+33%/-49%	+543%/-57%
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 008752817-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-65 ± 18	$11.51^{+11.83}_{-7.60}$	1909^{+193}_{-238}	3457^{+1725}_{-673}	$5.294^{+39.608}_{-4.099}$
Alt.	-69 ± 21	$10.33^{+11.57}_{-6.91}$	1915^{+188}_{-254}	3590^{+2126}_{-729}	$6.453^{+55.658}_{-5.071}$

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

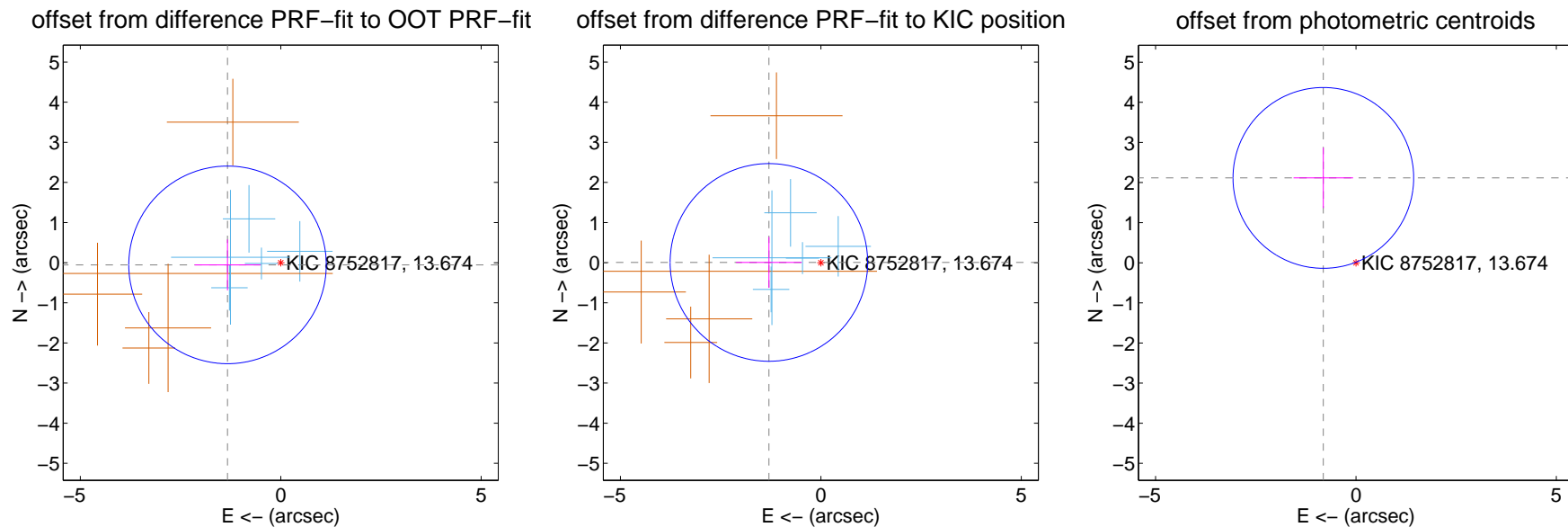
DV Centroid Data

Supplemental centroid analysis for 008752817-07. Kepler magnitude: 13.67. Transit SNR 7.41

There are 5 quarters with good PRF difference image offsets

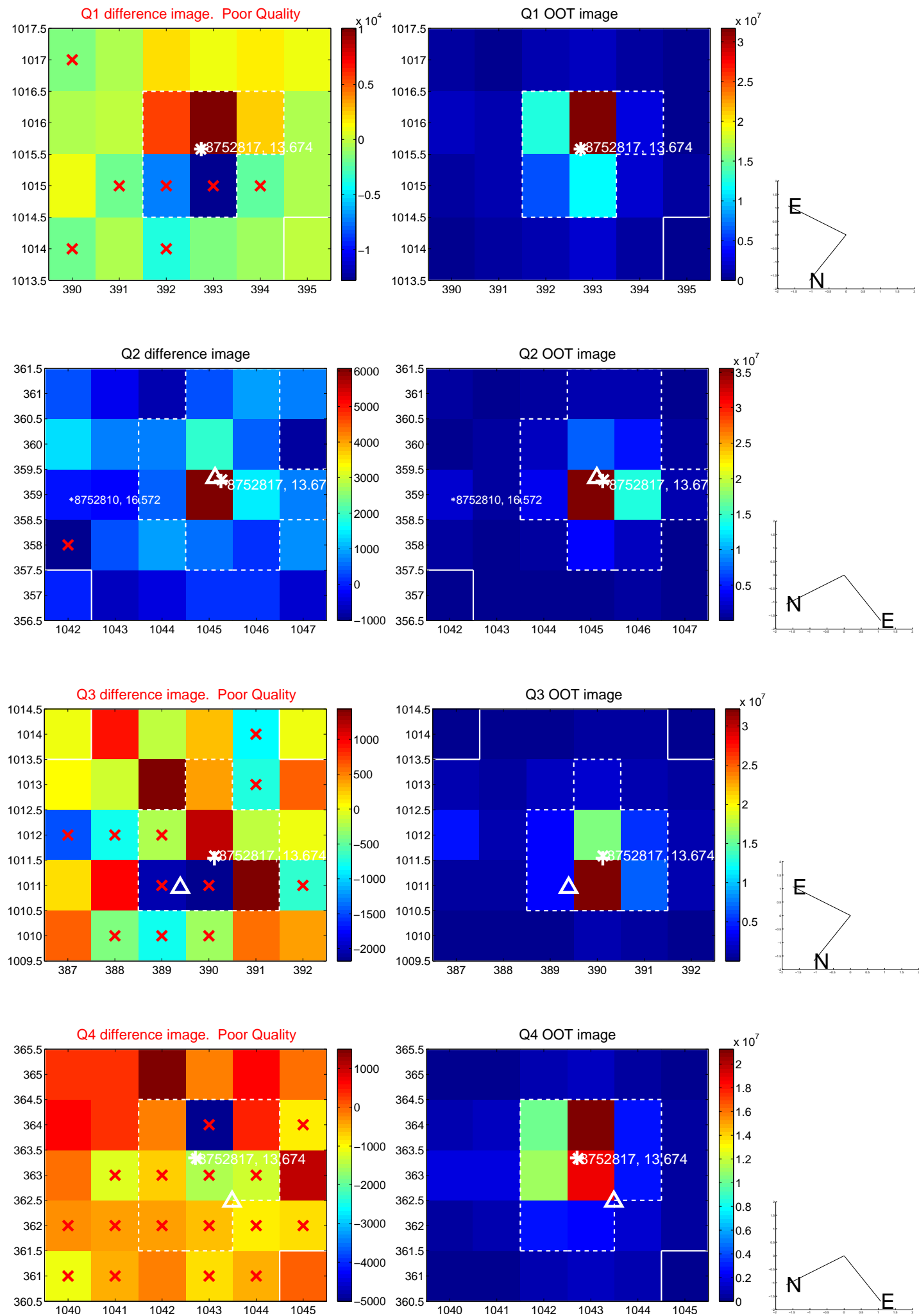
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.329 ± 0.821	1.62	1.328 ± 0.821	-0.055 ± 0.633
PRF-fit source offset from KIC position	1.296 ± 0.821	1.58	1.296 ± 0.821	0.006 ± 0.633
photometric centroid source offset	2.27 ± 0.75	3.02	0.81 ± 0.74	2.12 ± 0.75

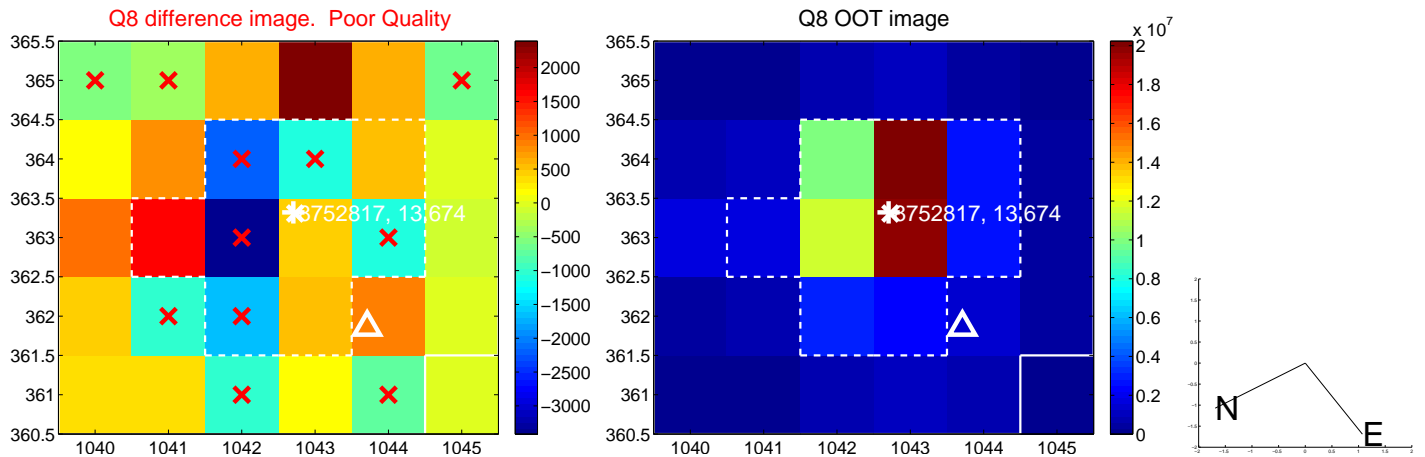
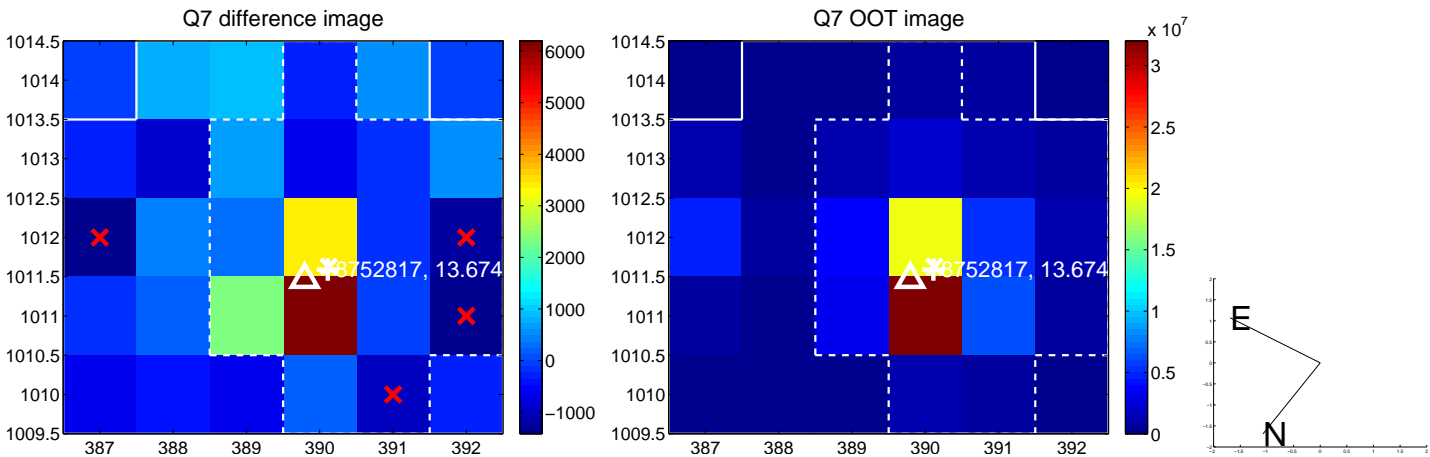
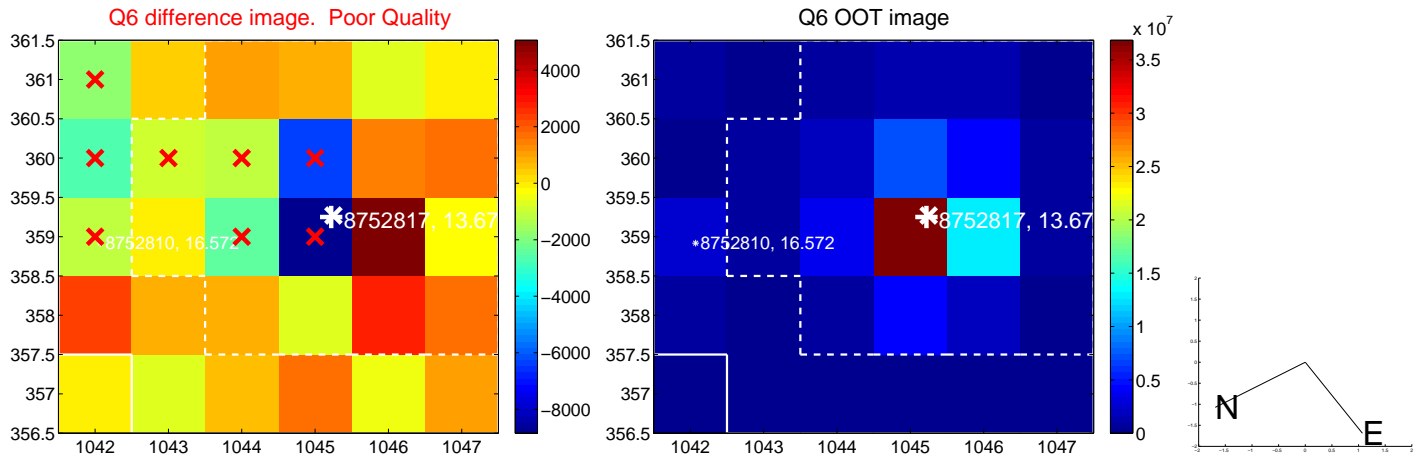
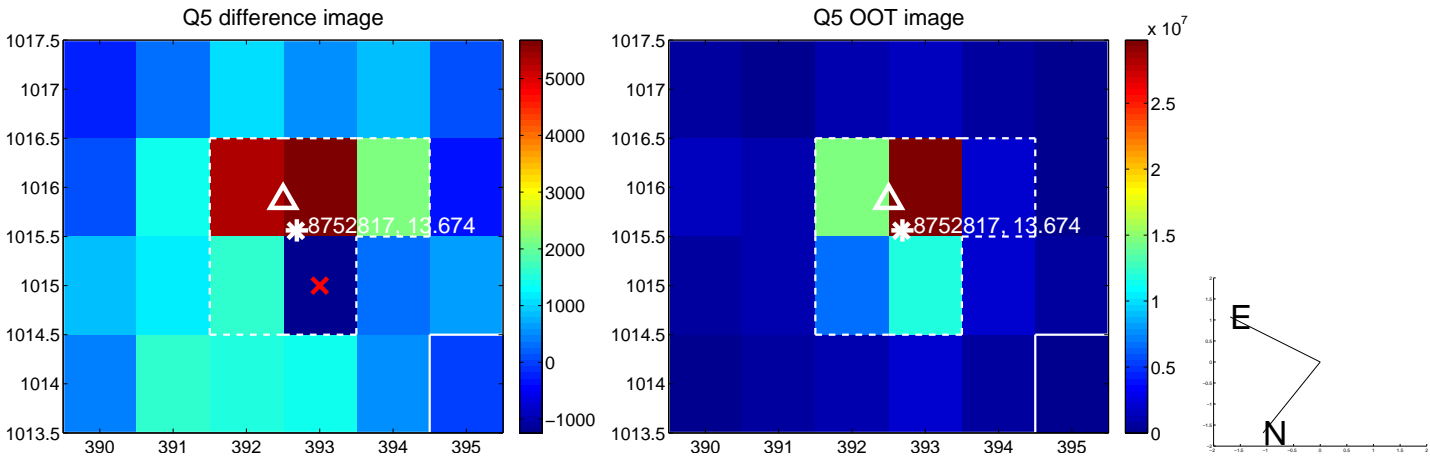


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

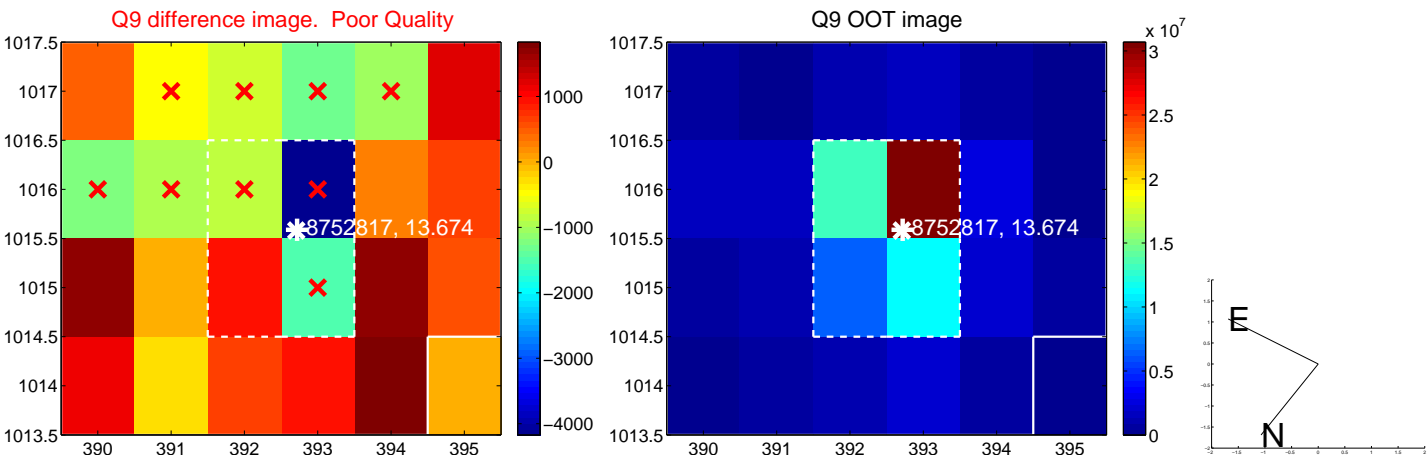
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



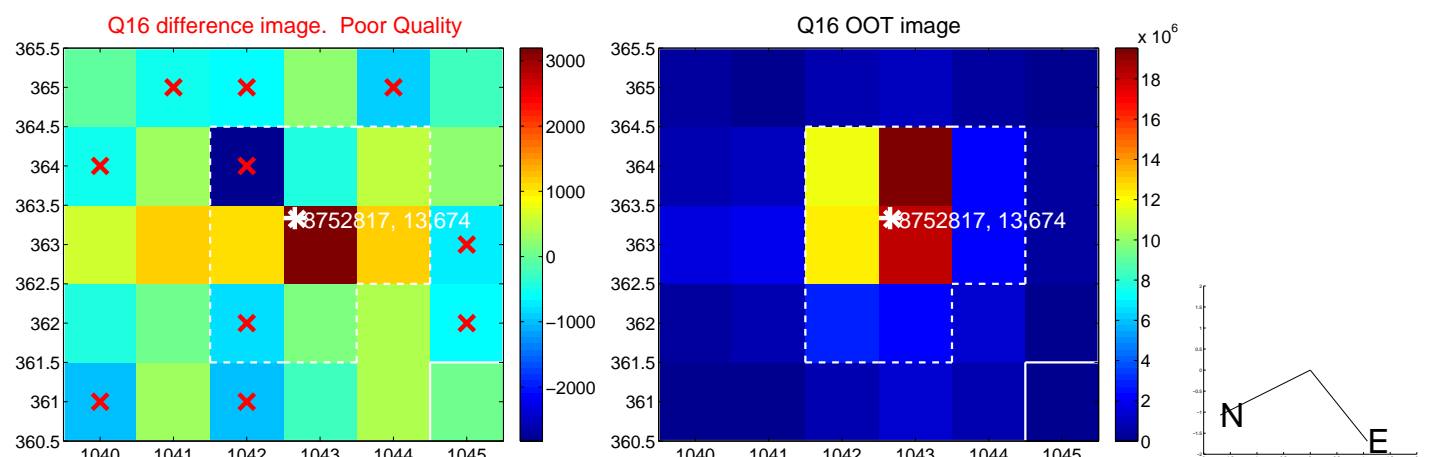
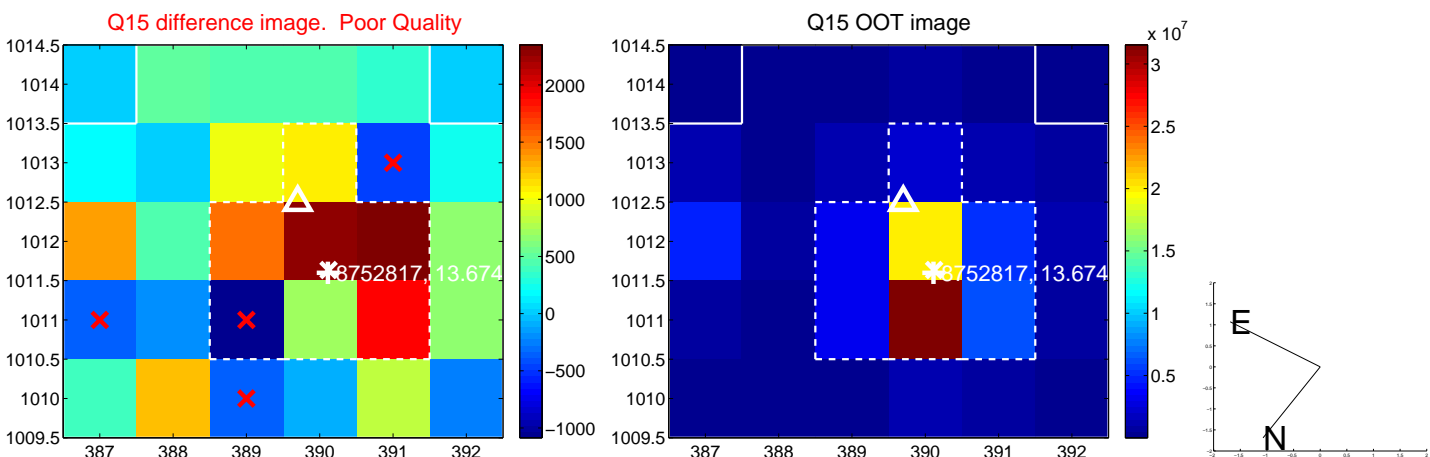
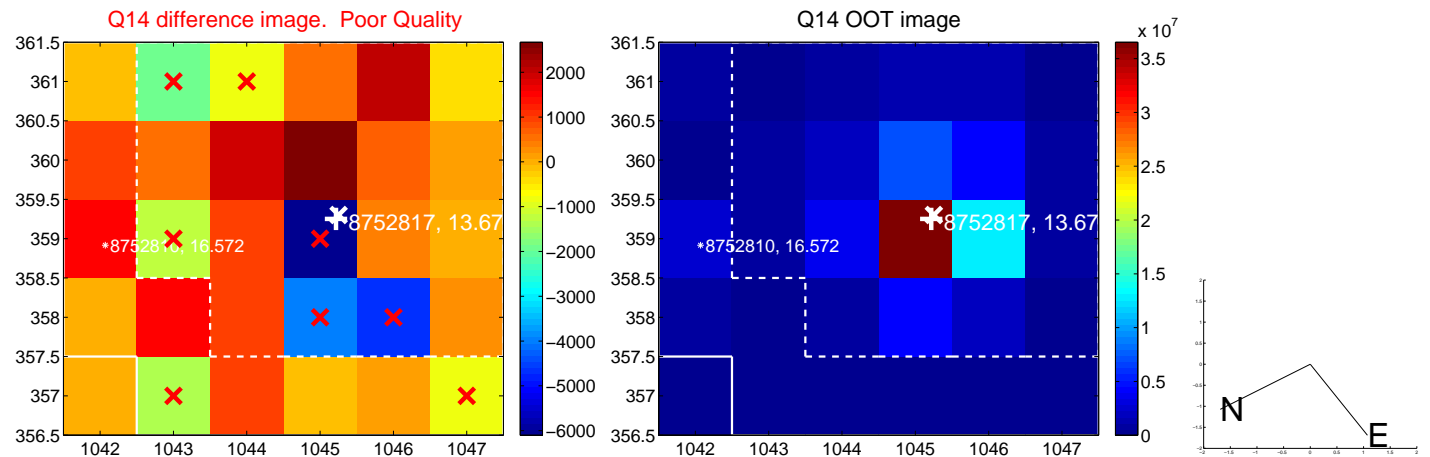
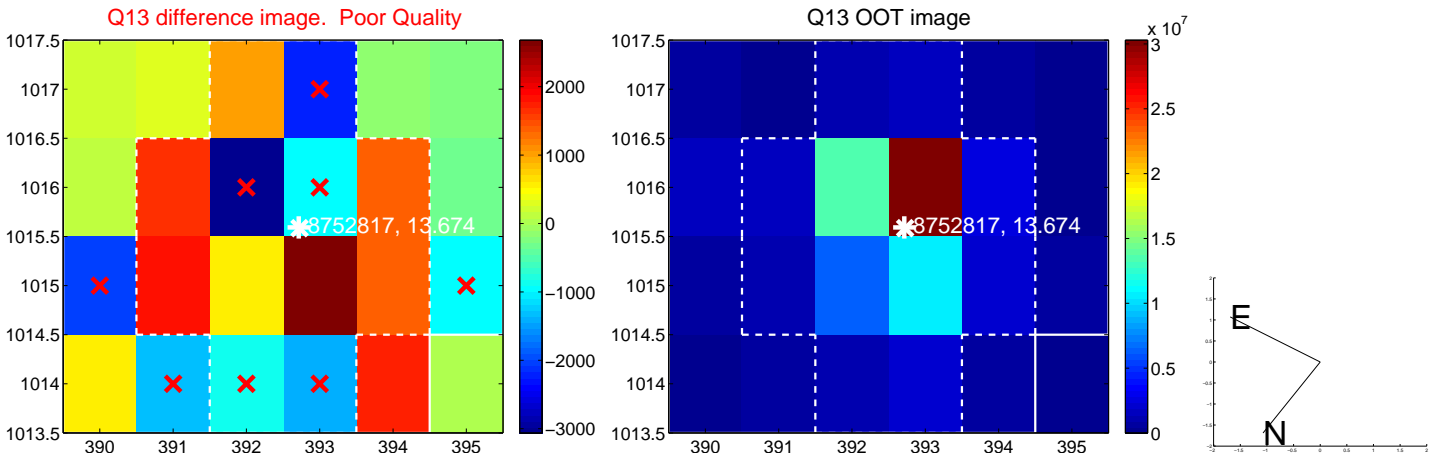
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



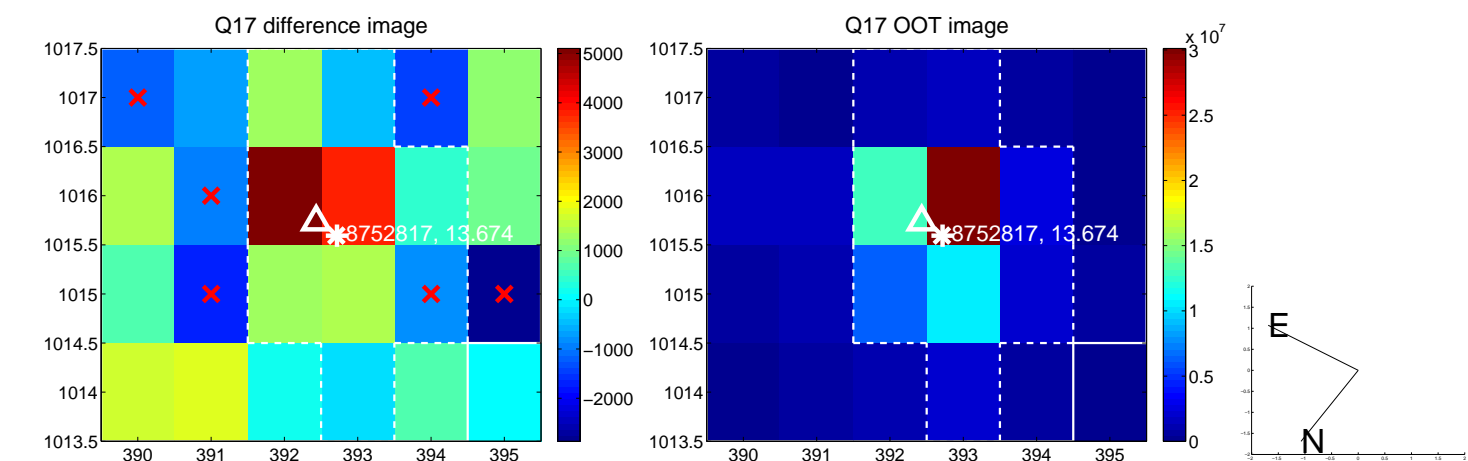
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



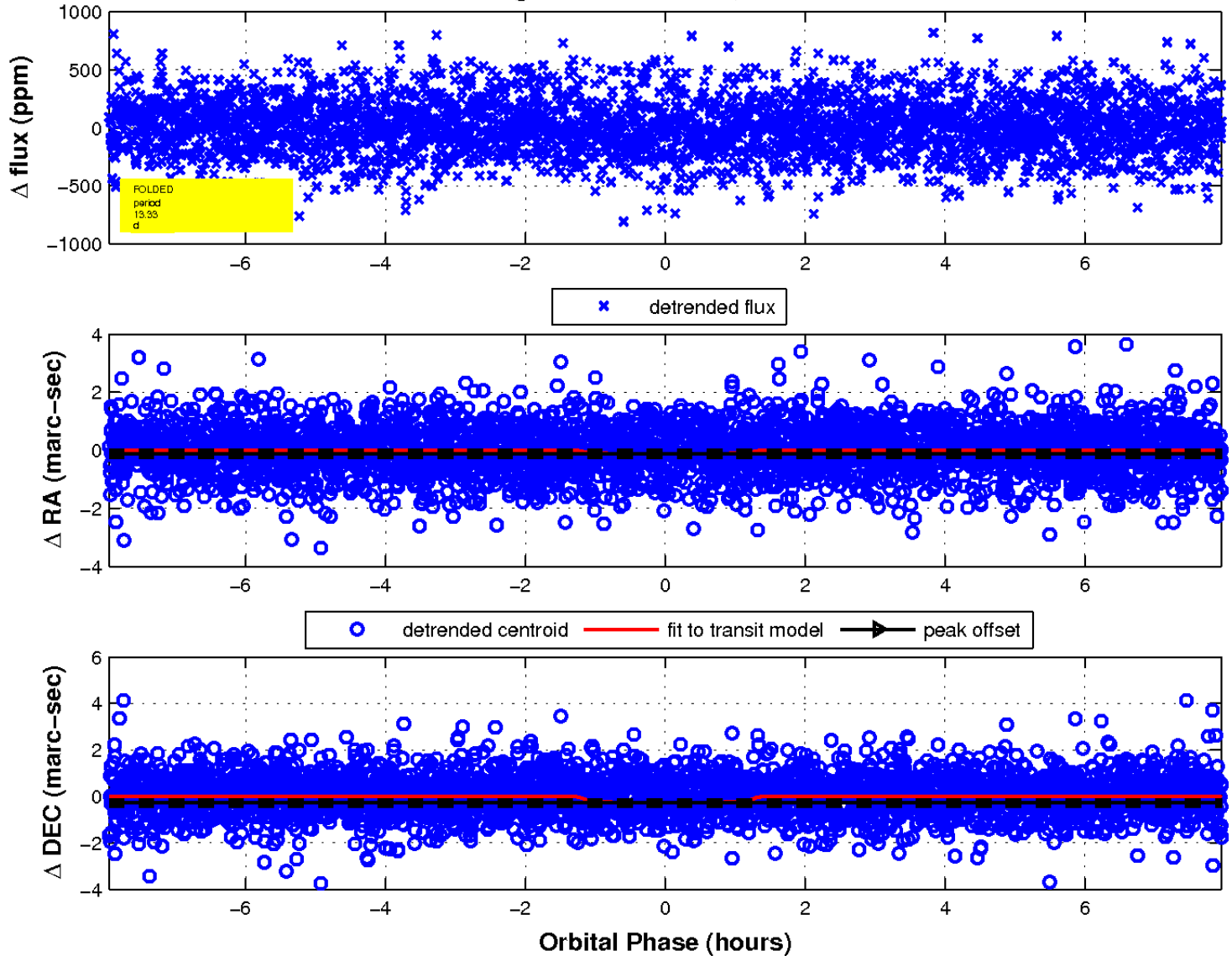
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

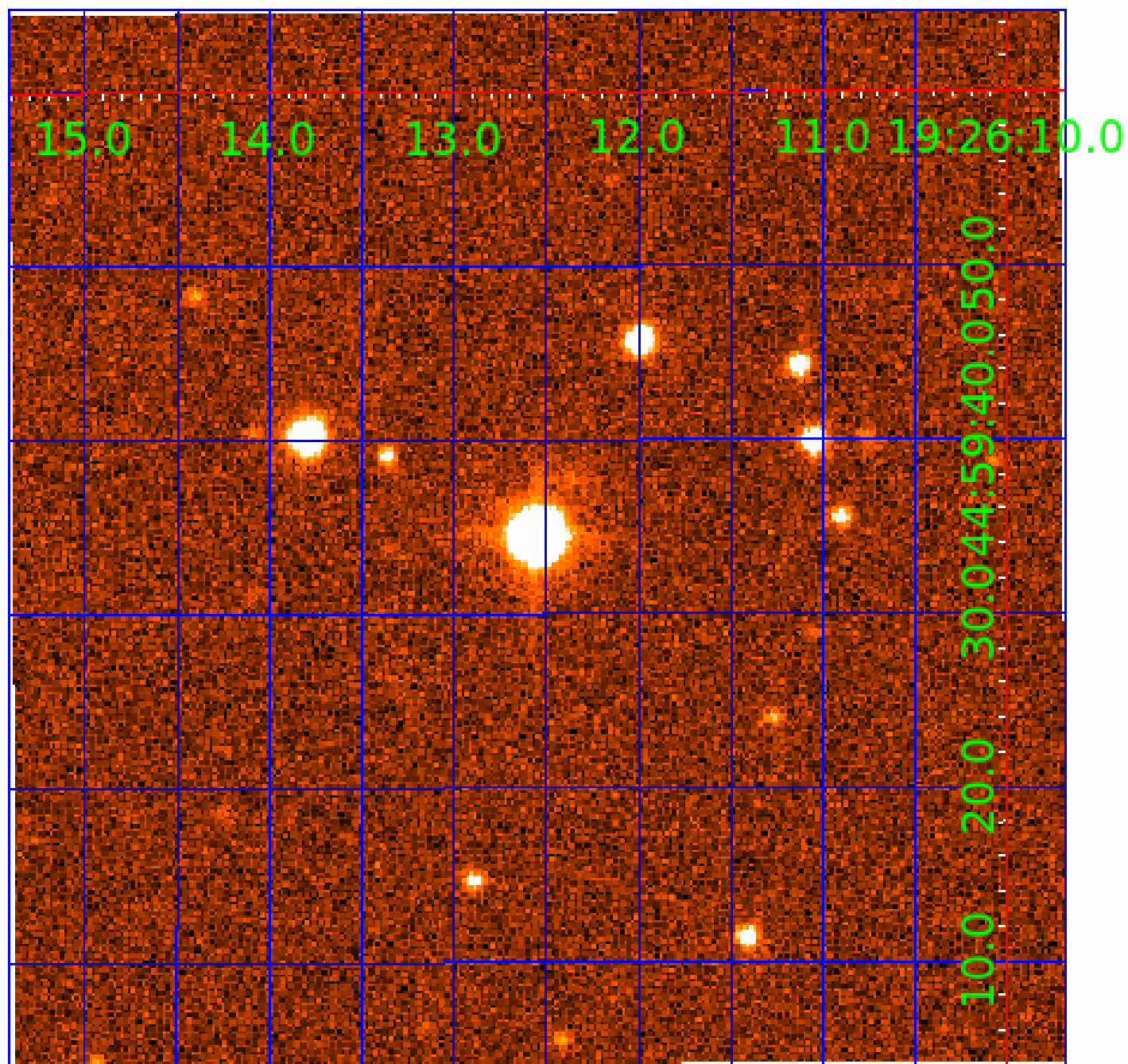


fluxWeightedCentroids, Planet 7 of 8



UKIRT Image

Declination



KIC 008752817

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})
008752817-01	OBS	No	2.176213	132.321174	23.6	11.692	7.8	7.0	5.50	4973	2.57	9595.34
008752817-02	OBS	No	68.721032	181.774220	344.1	3.477	9.0	8.4	5.50	4973	10.28	96.13
008752817-03	OBS	No	309.027981	281.356619	289.7	5.433	7.8	8.1	5.50	4973	10.28	12.95
008752817-04	OBS	No	71.191736	172.979736	317.9	2.628	7.7	7.3	5.50	4973	10.46	91.71
008752817-05	OBS	No	206.237704	194.397361	441.3	2.961	7.7	8.1	5.50	4973	12.70	22.21
008752817-06	OBS	No	239.207502	307.837483	305.0	5.491	7.9	6.9	5.50	4973	11.08	18.22
008752817-07	OBS	No	13.330829	135.941531	159.2	2.652	7.7	7.4	5.50	4973	8.52	856.09
008752817-08	OBS	No	86.977802	201.004086	242.6	4.668	7.7	7.2	5.50	4973	8.70	70.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008752817-01	OBS	FP	0.00	1	0	0	1	LPP_DV—EPHEM_MATCH
008752817-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008752817-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008752817-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008752817-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008752817-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008752817-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
008752817-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

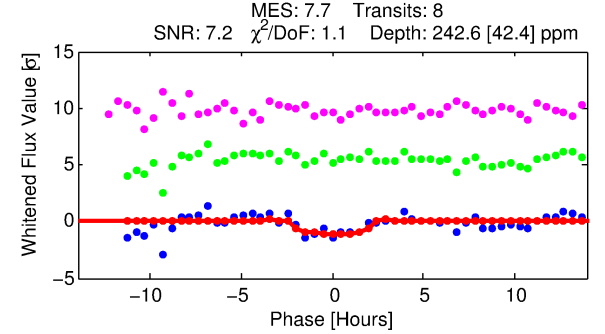
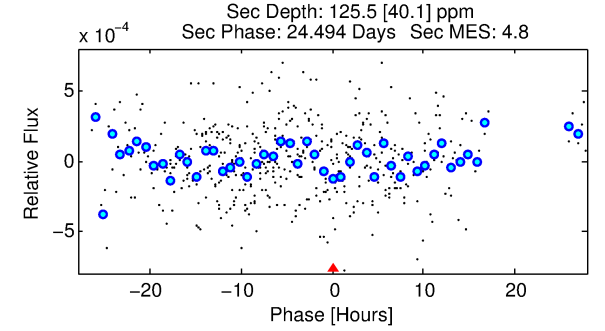
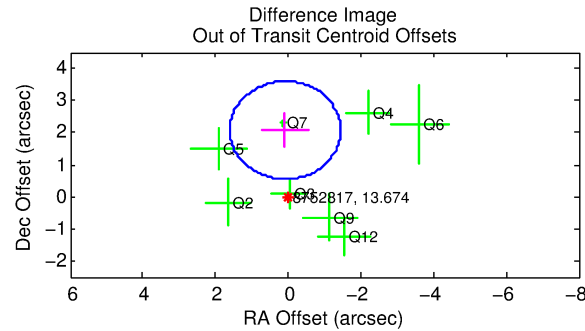
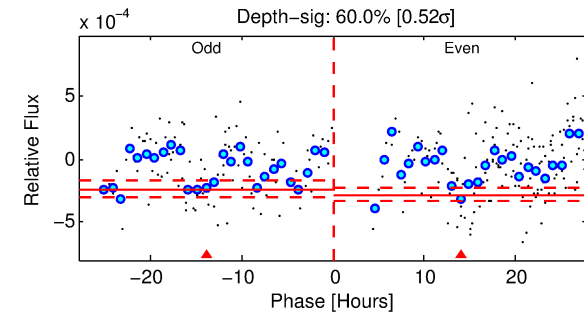
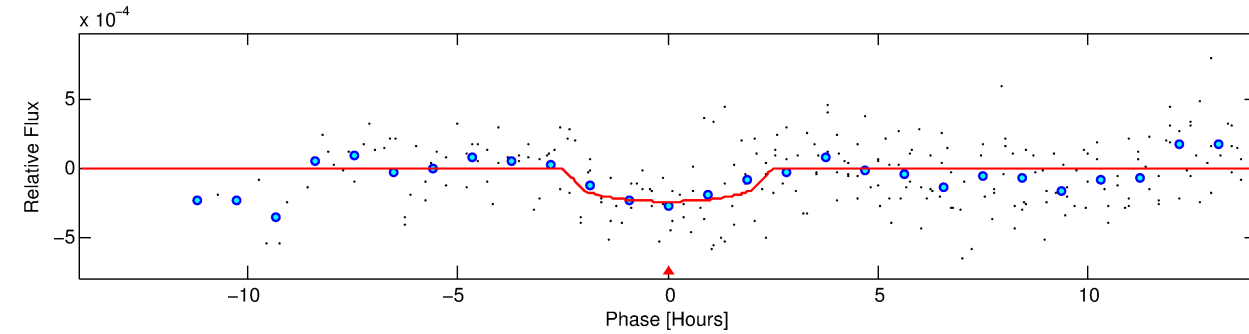
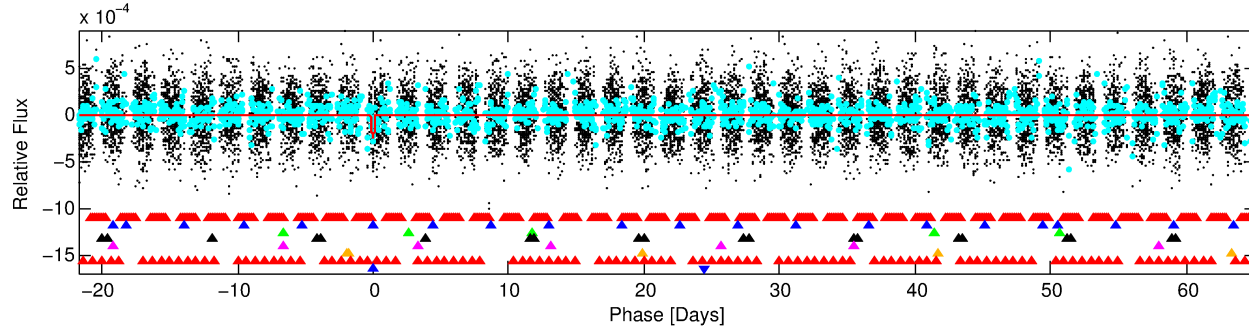
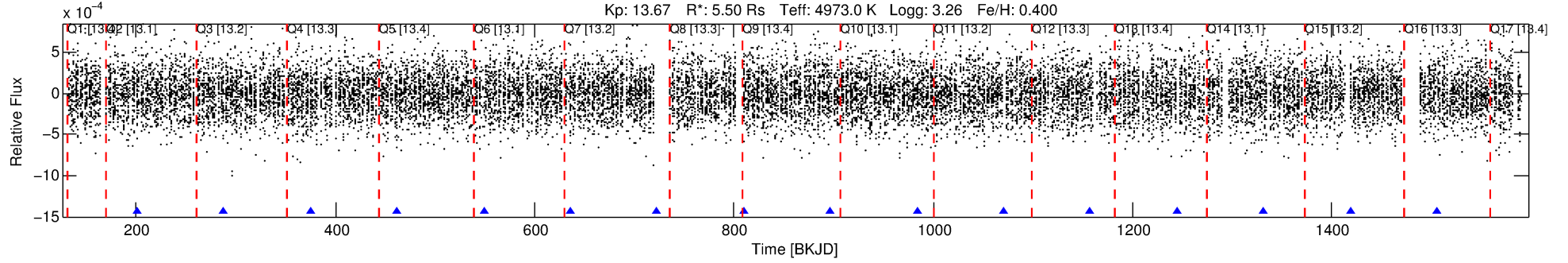
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008752817-08

No Significant Match Found

DV One-Page Summary

KIC: 8752817 Candidate: 8 of 8 Period: 86.978 d



DV Fit Results:

Period = 86.97780 [0.00310] d
Epoch = 201.0041 [0.0128] BKJD
Rp/R* = 0.0145 [0.0277]
a/R* = 122.03 [767.59]
b = 0.54 [8.32]
Seff = 70.22 [55.79]
Teff = 738 [147] K
Rp = 8.70 [17.31] Re
a = 0.4860 [0.2465] AU
Ag = 215.42 [842.37] [0.25 σ]
Teffp = 4372 [4191] K [0.87 σ]

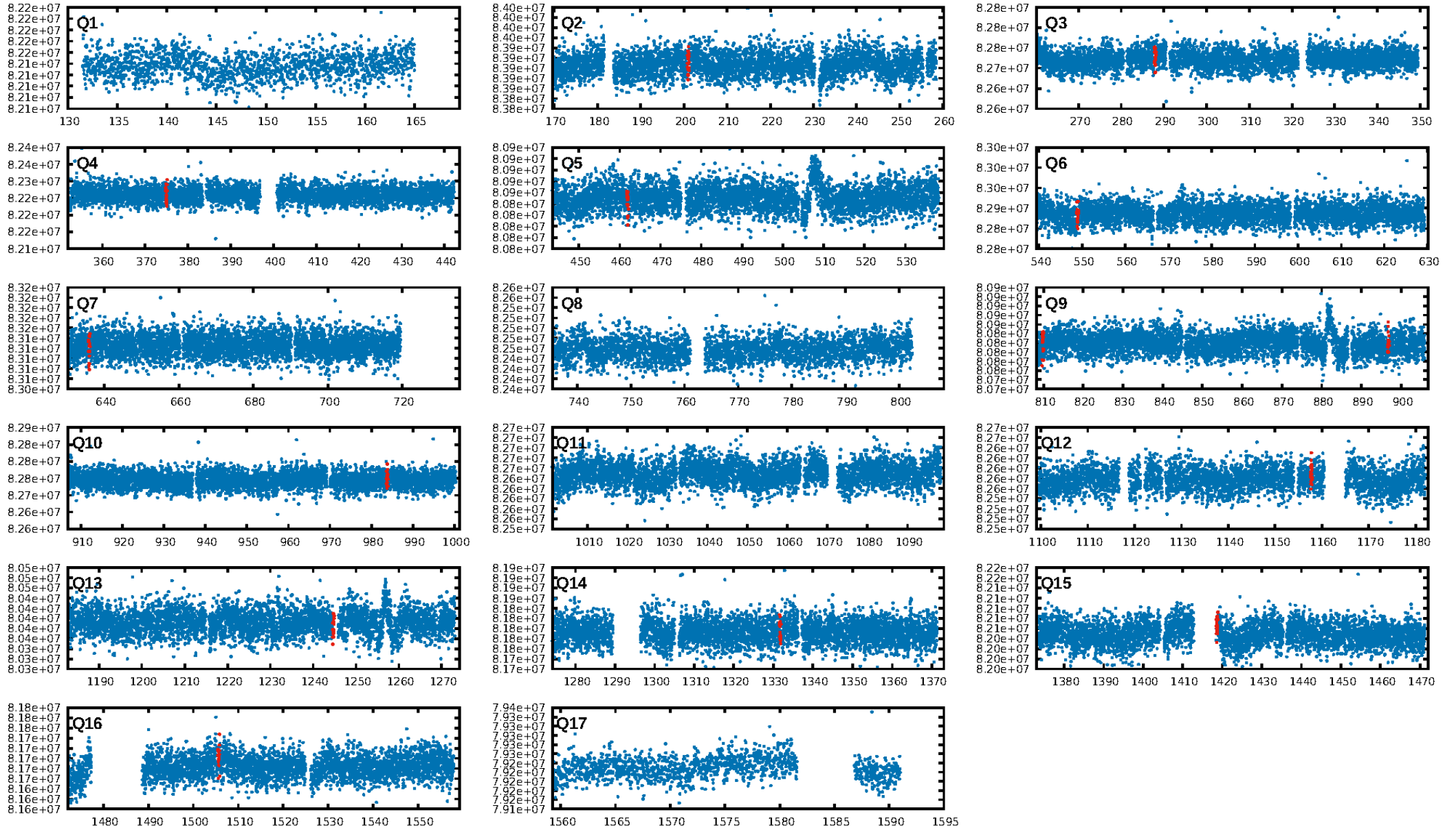
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [70.73 σ]
LongPeriod-sig: 100.0% [517.82 σ]
ModelChiSquare2-sig: 23.7%
ModelChiSquareGof-sig: 98.6%
Bootstrap-pfa: 9.91e-09
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: -2.561
Centroid-sig: 18.2%
Centroid-so: 0.765 arcsec [0.76 σ]
OotOffset-rm: 2.075 arcsec [4.08 σ]
KicOffset-rm: 2.190 arcsec [4.49 σ]
OotOffset-st: 2/2/2/2 [8]
KicOffset-st: 2/2/2/2 [8]
DiffImageQuality-fgm: 0.38 [3/8]
DiffImageOverlap-fno: 0.50 [5/10]

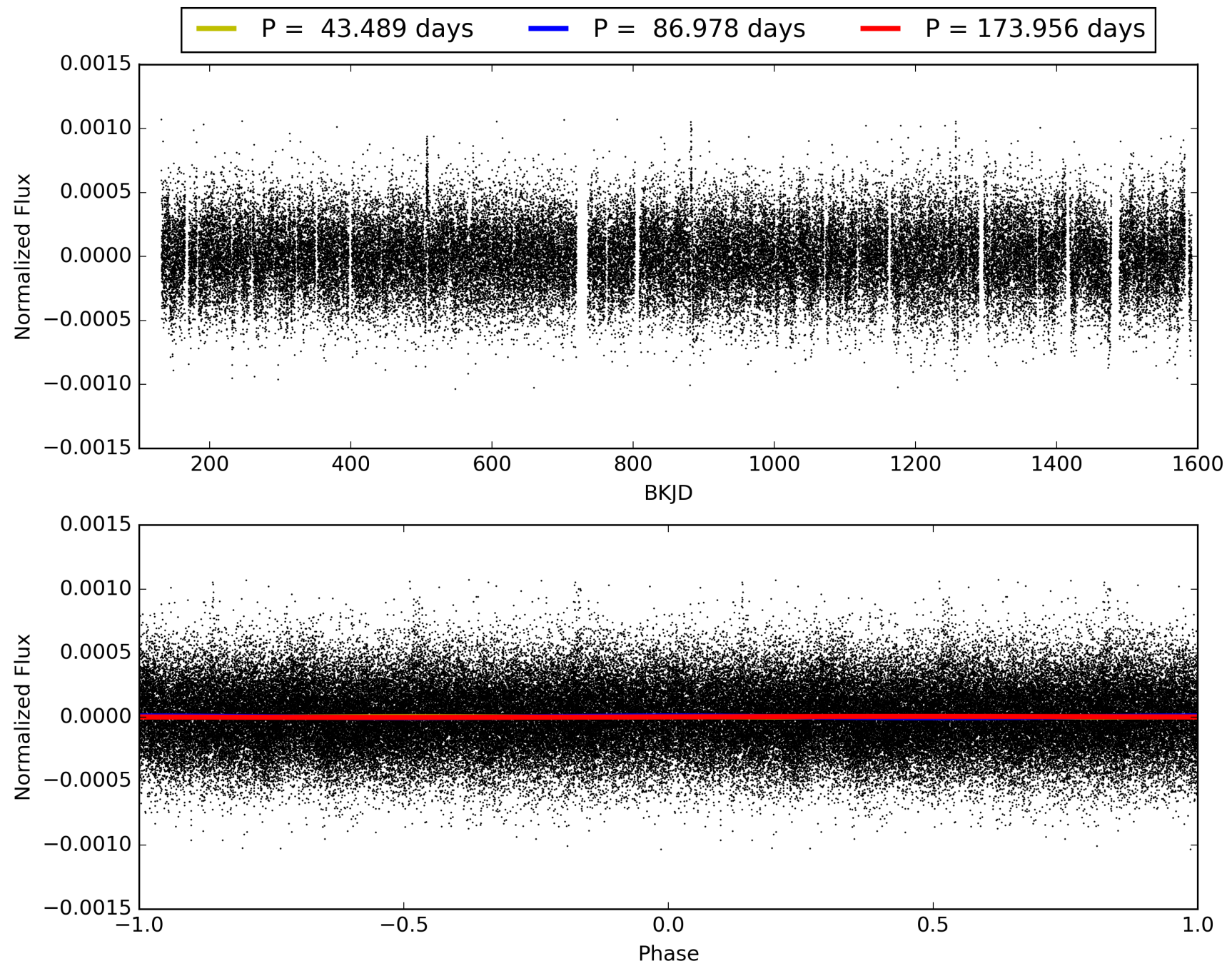
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:01:45 Z

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

TCE 008752817-08, PDC Light Curves

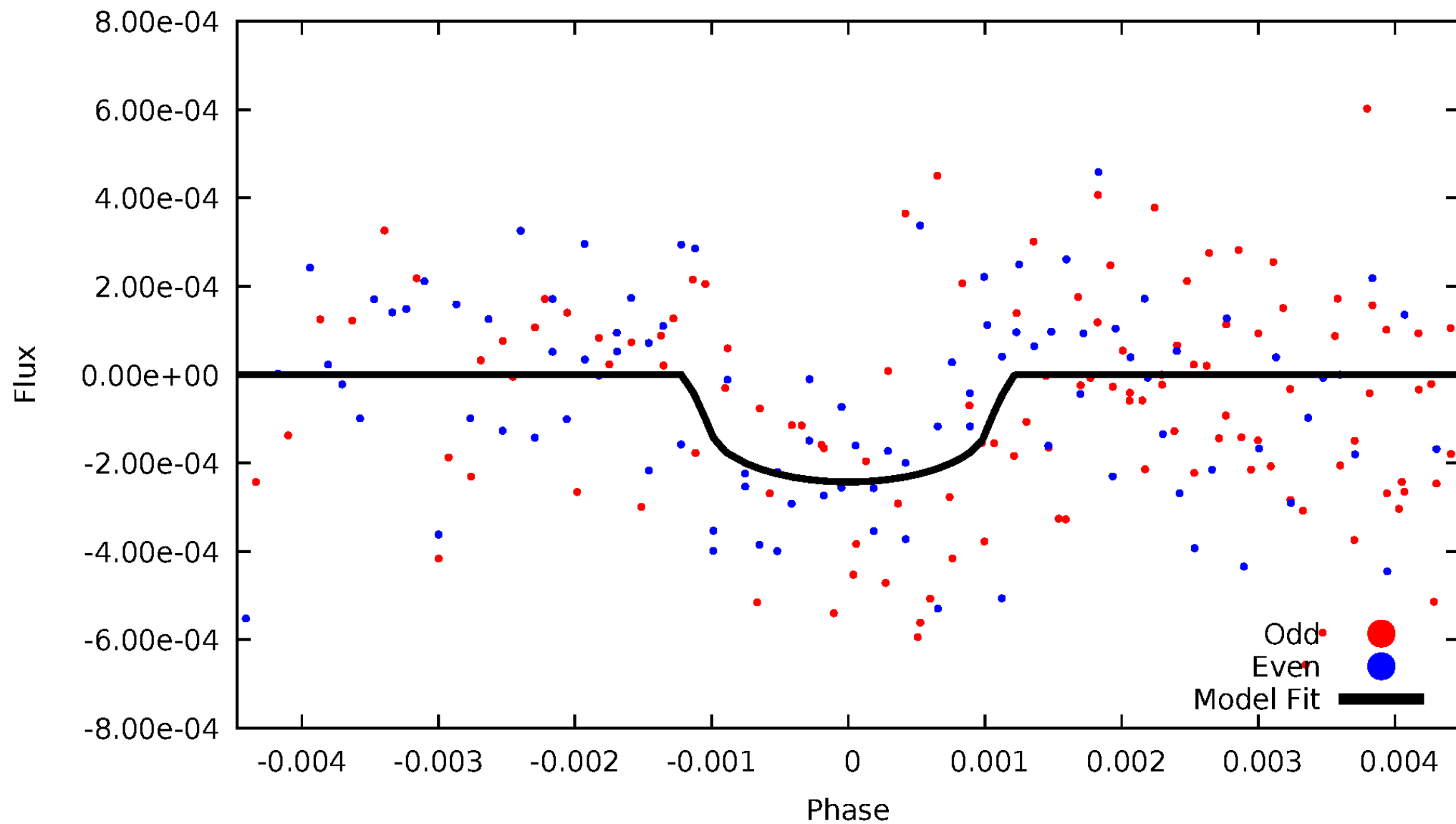


TCE 008752817-08



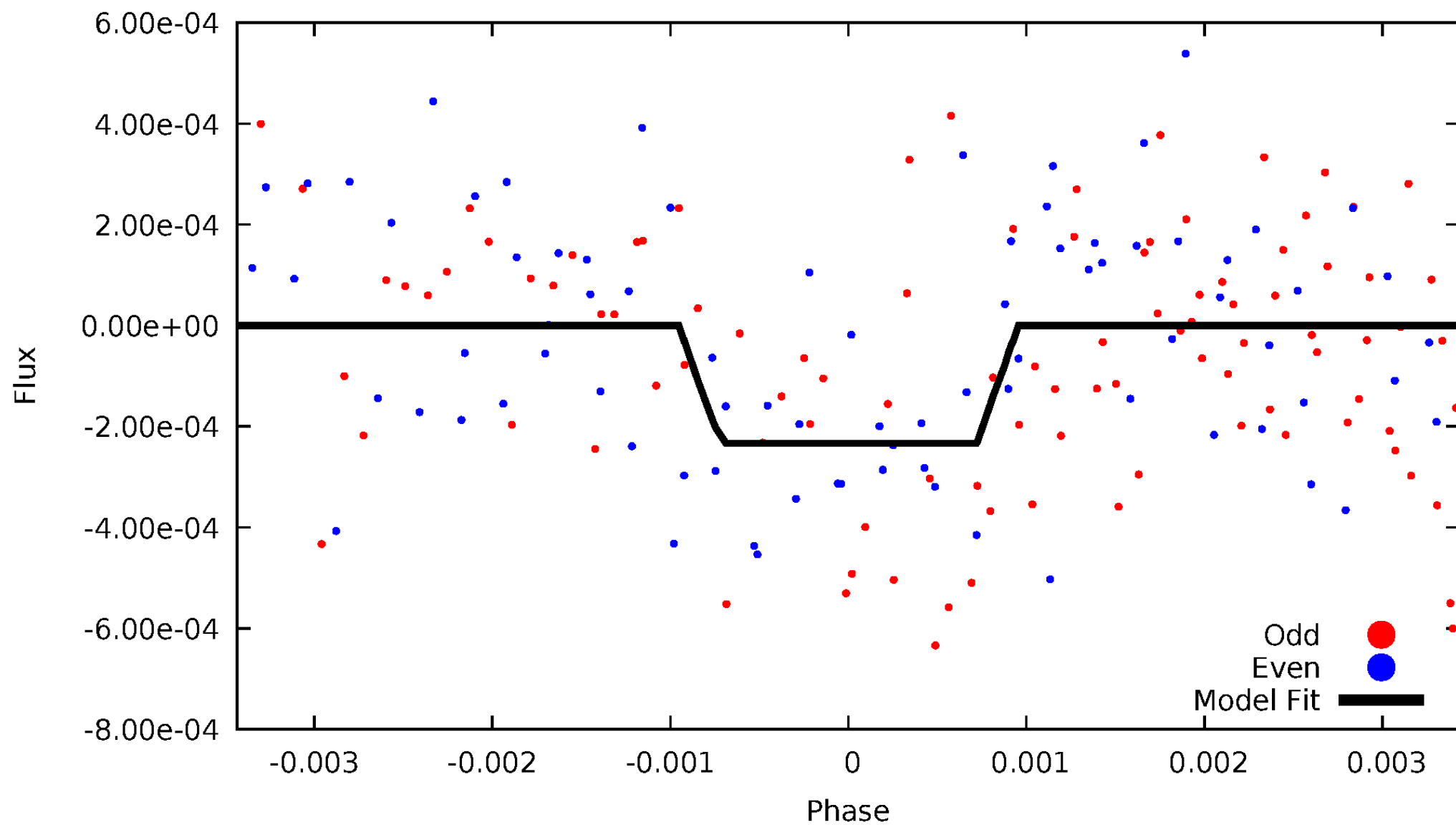
DV Odd/Even

TCE 008752817-08



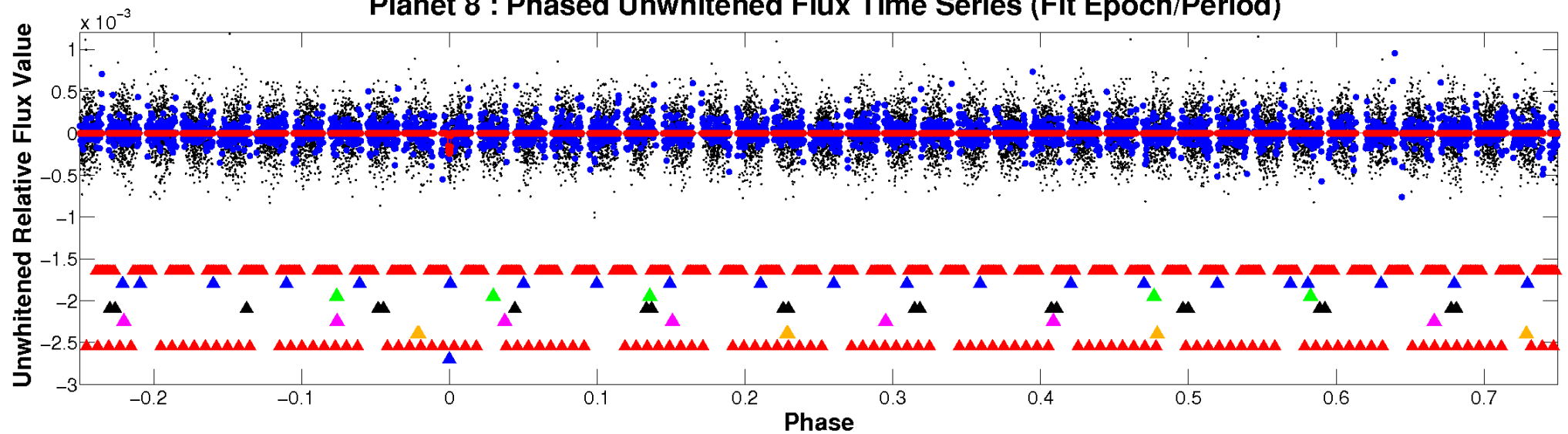
ALT Odd/Even

TCE 008752817-08

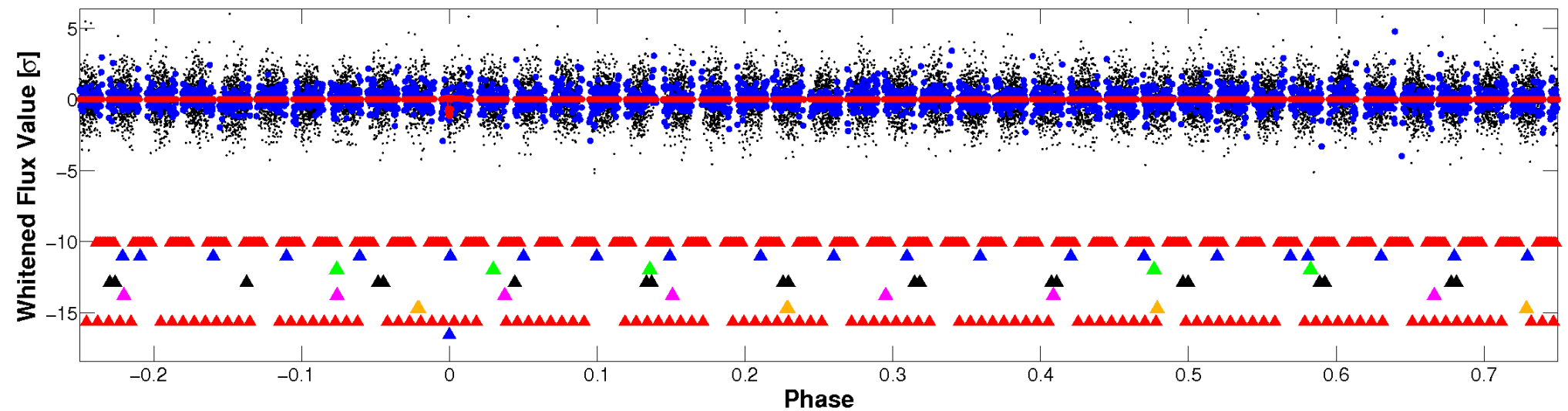


Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

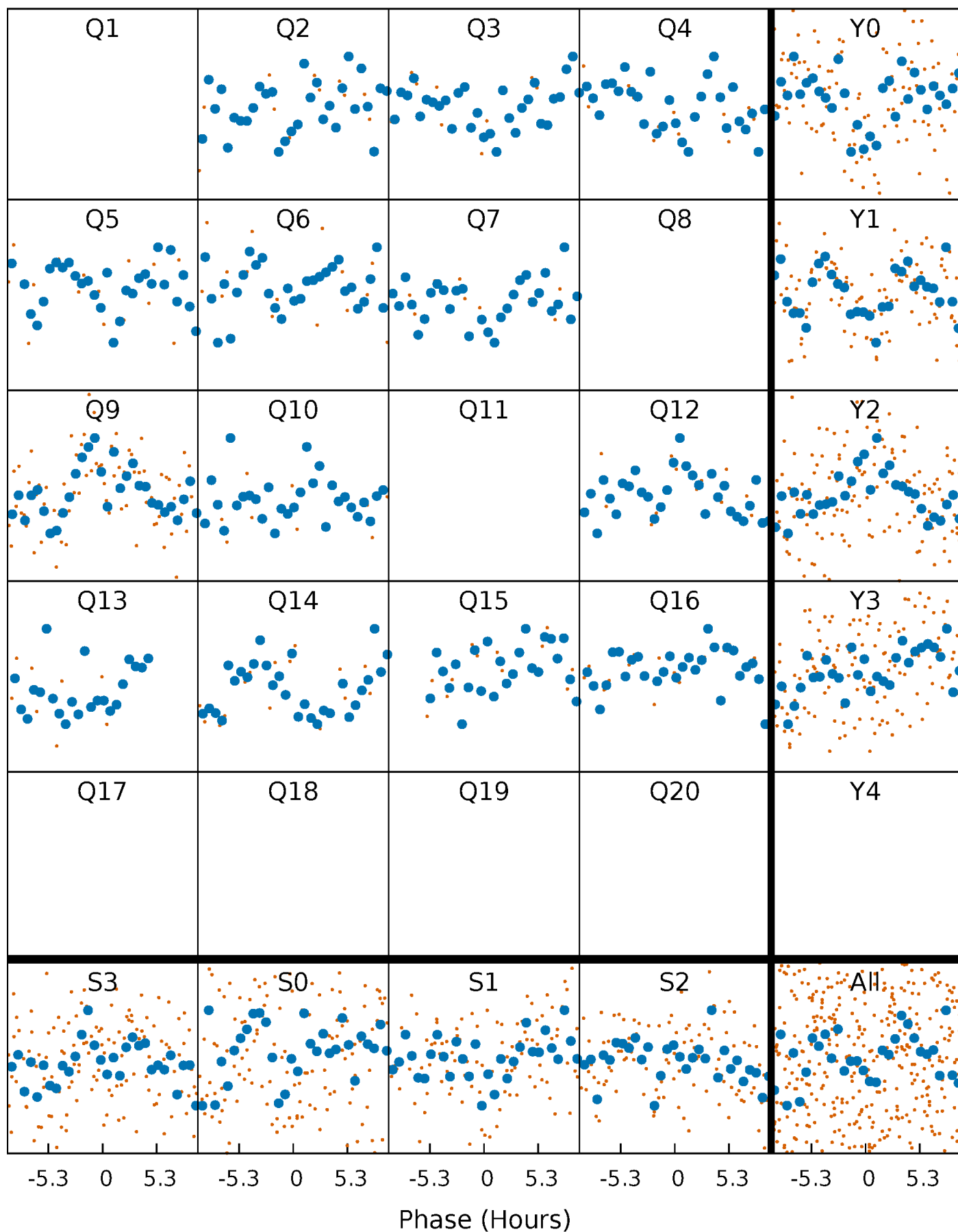


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



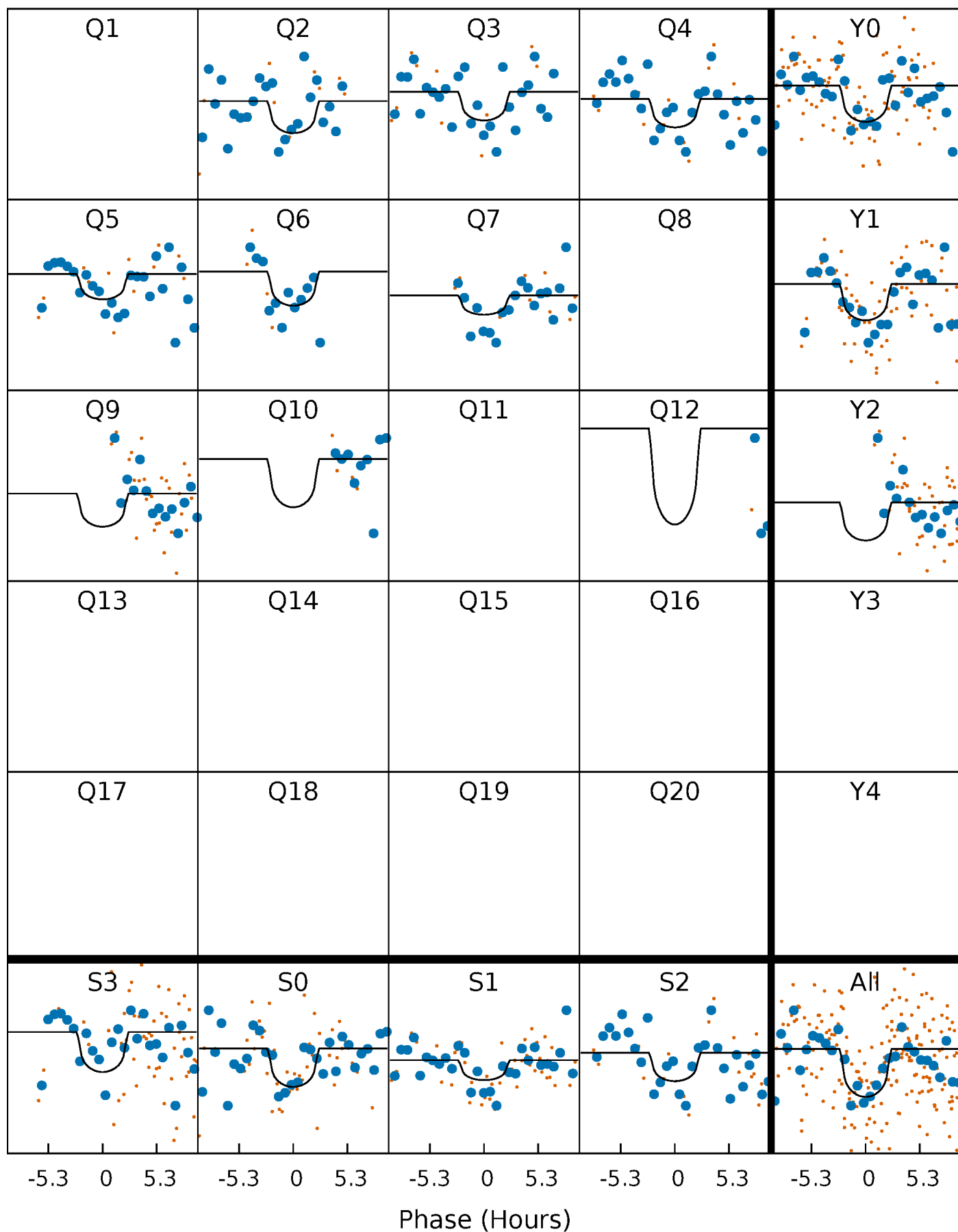
PDC Quarter-Phased Transit Curves

TCE 008752817-08 P= 86.977802 Days $T_0=201.004086$ (BKJD)



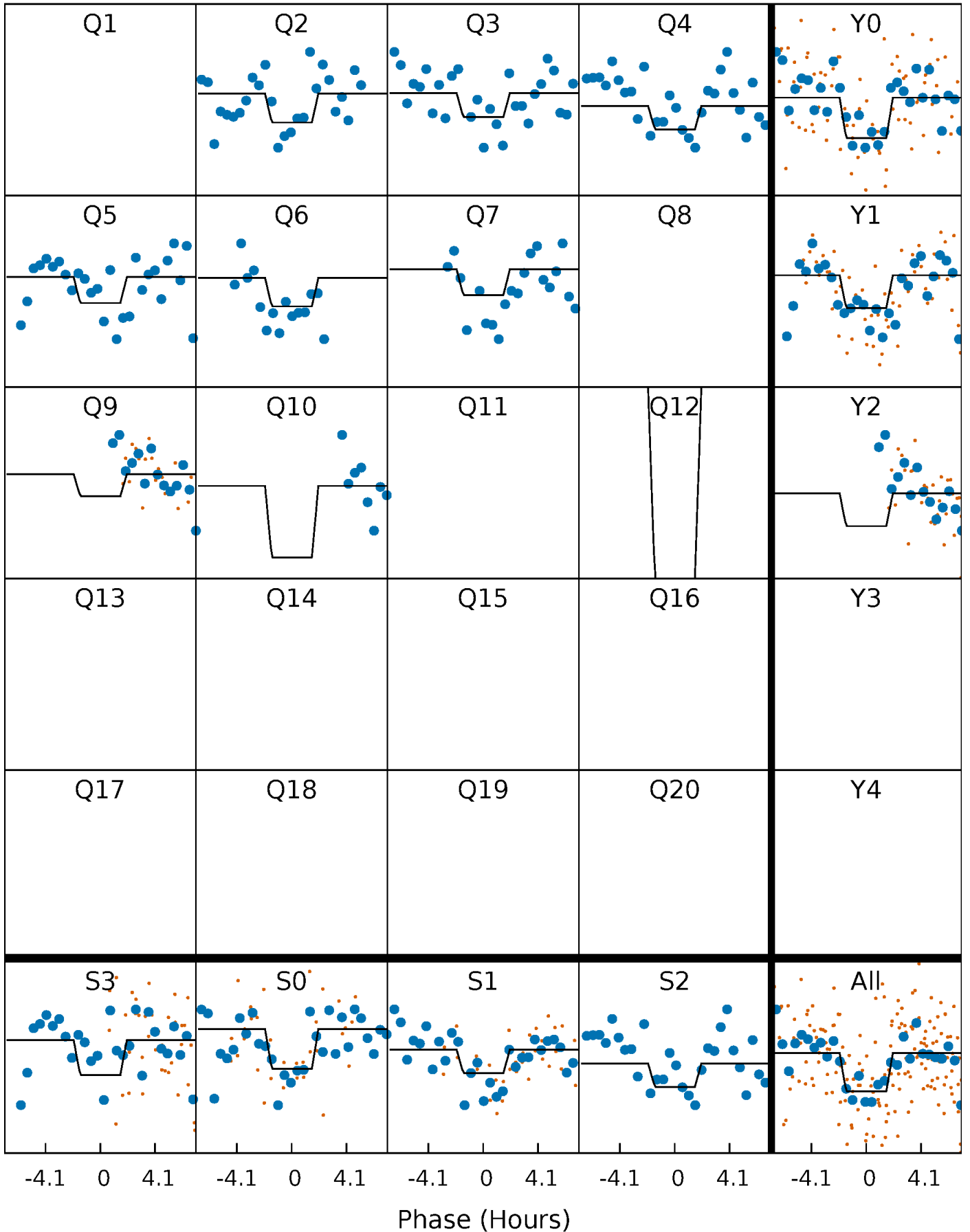
DV Quarter-Phased Transit Curves

TCE 008752817-08 $P = 86.977802$ Days $T_0 = 201.004086$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

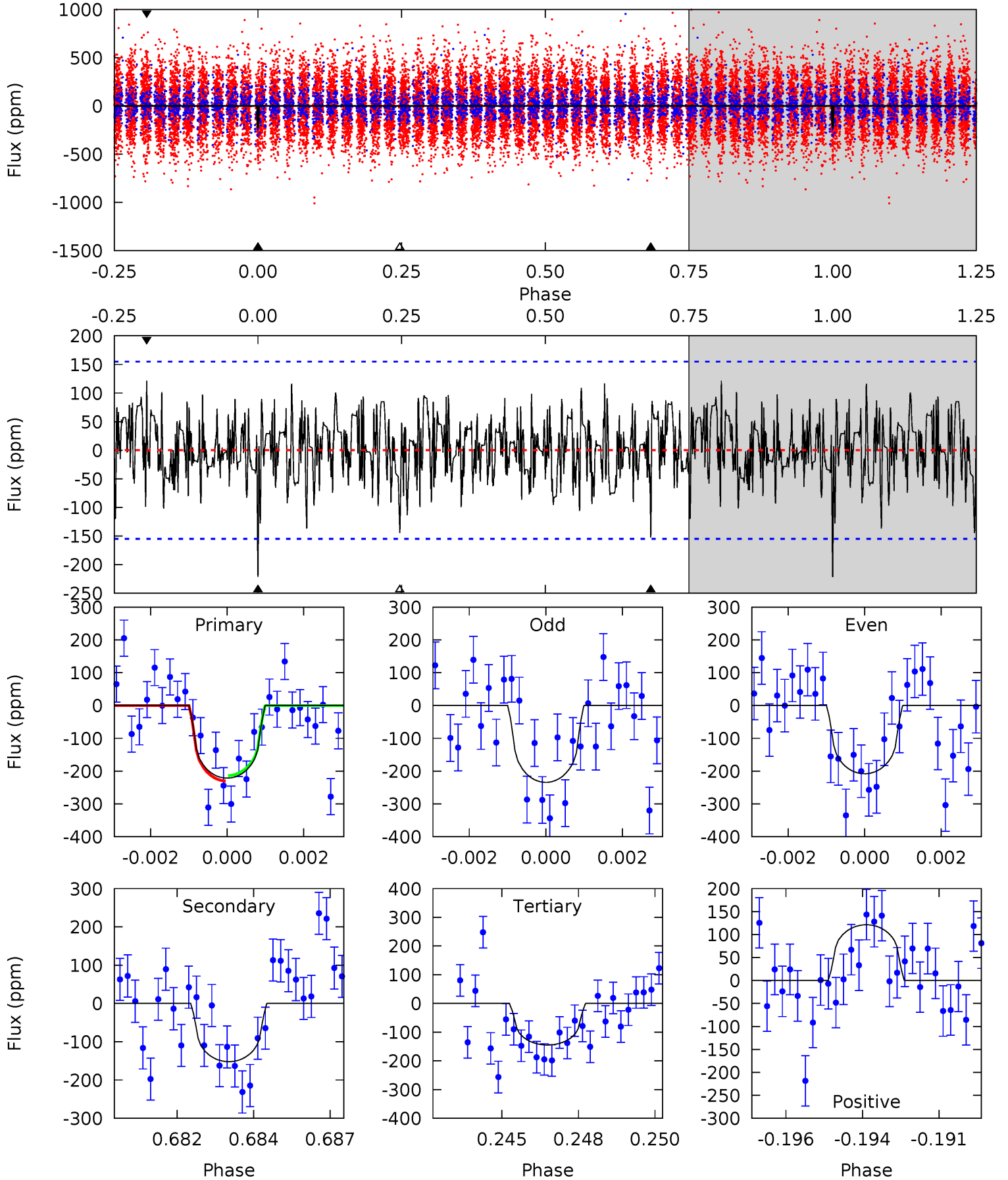
TCE 008752817-08 P= 86.980220 Days $T_0=200.993550$ (BKJD)



DV Model-Shift Uniqueness Test

008752817-08, $P = 86.977802$ Days, $E = 114.026284$ Days

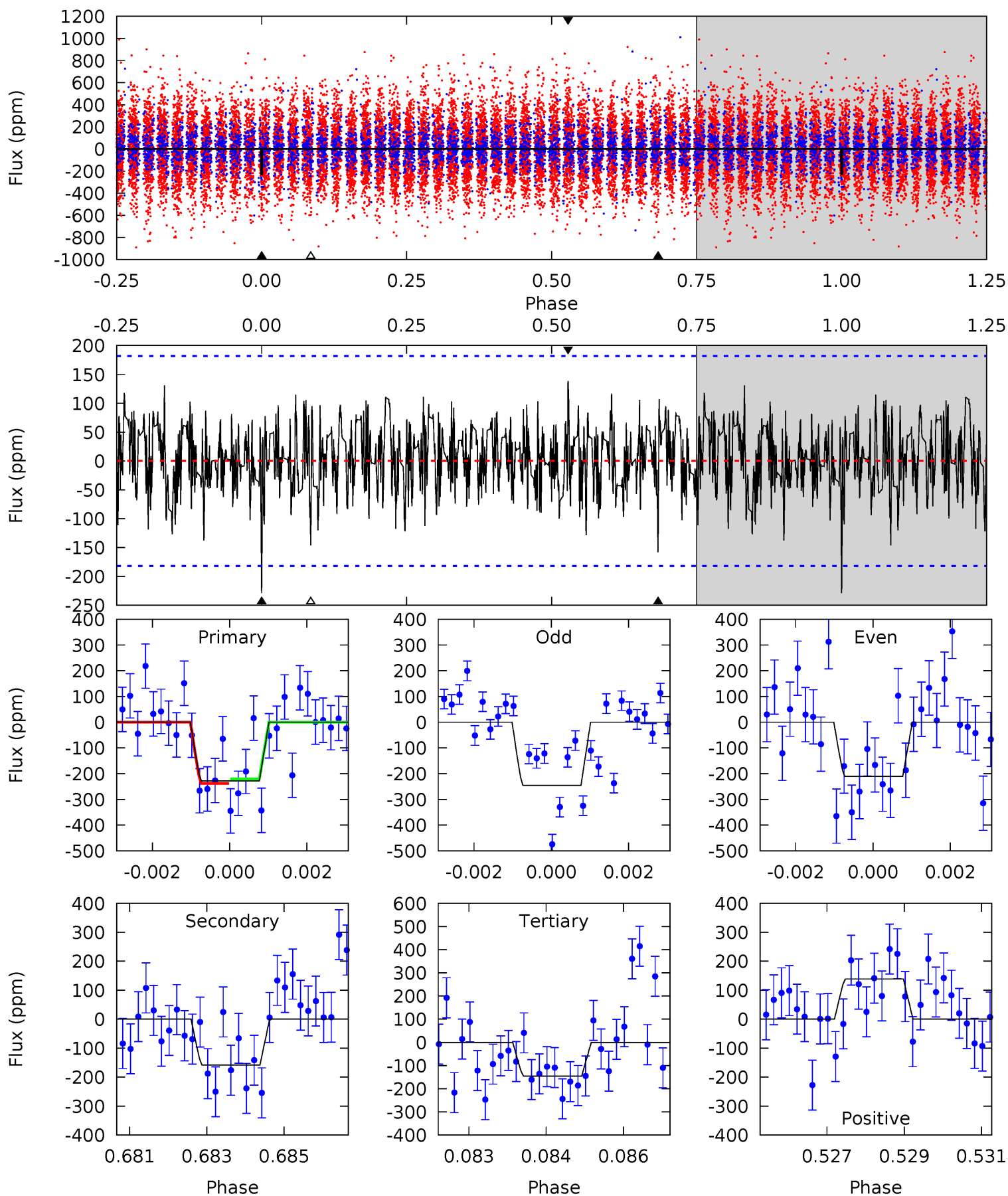
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.56	5.19	4.94	4.14	5.29	3.03	1.45	2.62	3.42	0.25	1.05	0.45	0.69	0.35	0.28



Alt Model-Shift Uniqueness Test

008752817-08, P = 86.980220 Days, E = 114.013330 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.71	4.64	4.28	4.07	5.34	3.11	1.30	2.43	2.64	0.35	0.57	0.52	0.89	0.38	0.25



Stellar Parameters For KIC 008752817

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4973^{+138}_{-173}	$3.263^{+0.448}_{-0.241}$	$0.400^{+0.050}_{-0.350}$	$5.501^{+1.656}_{-3.076}$	$2.021^{+0.660}_{-0.991}$	$0.017^{+0.093}_{-0.010}$
	+3%/-3%	+14%/-7%	+12%/-87%	+30%/-56%	+33%/-49%	+543%/-57%
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 008752817-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-152 ± 29	$14.61^{+15.20}_{-9.98}$	1030^{+103}_{-127}	3790^{+1970}_{-723}	89^{+866}_{-66}
Alt.	-158 ± 34	$14.19^{+14.70}_{-9.43}$	1030^{+97}_{-126}	3786^{+2183}_{-683}	101^{+776}_{-76}

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

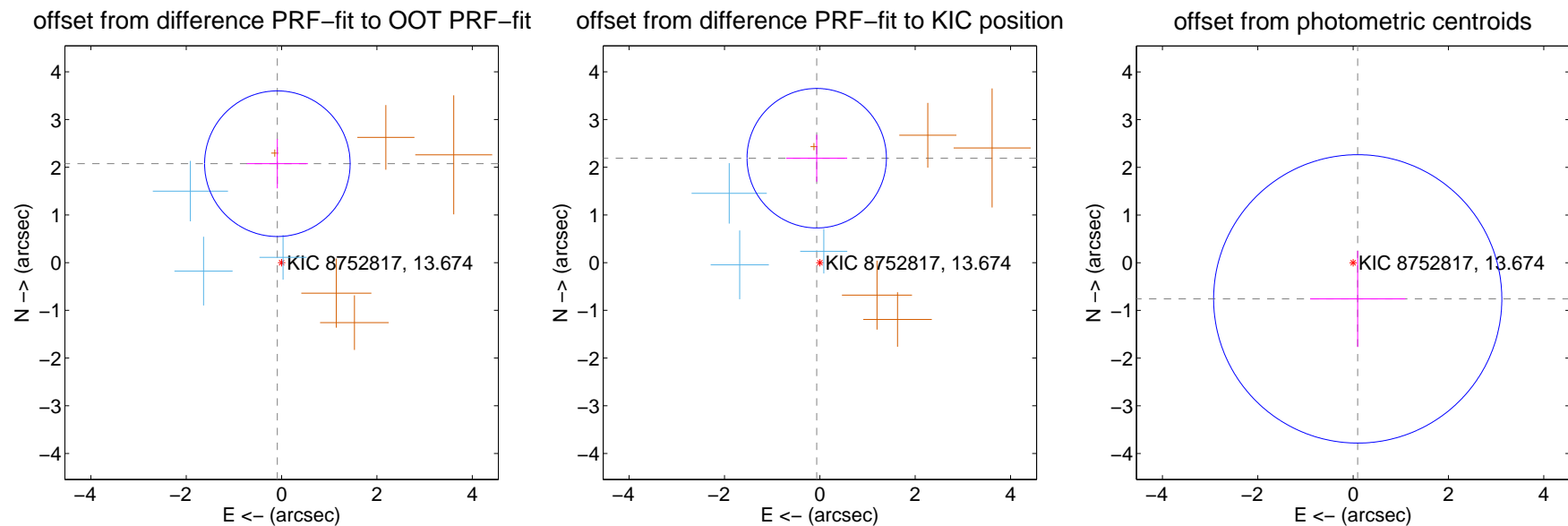
DV Centroid Data

Supplemental centroid analysis for 008752817-08. Kepler magnitude: 13.67. Transit SNR 7.23

There are 3 quarters with good PRF difference image offsets

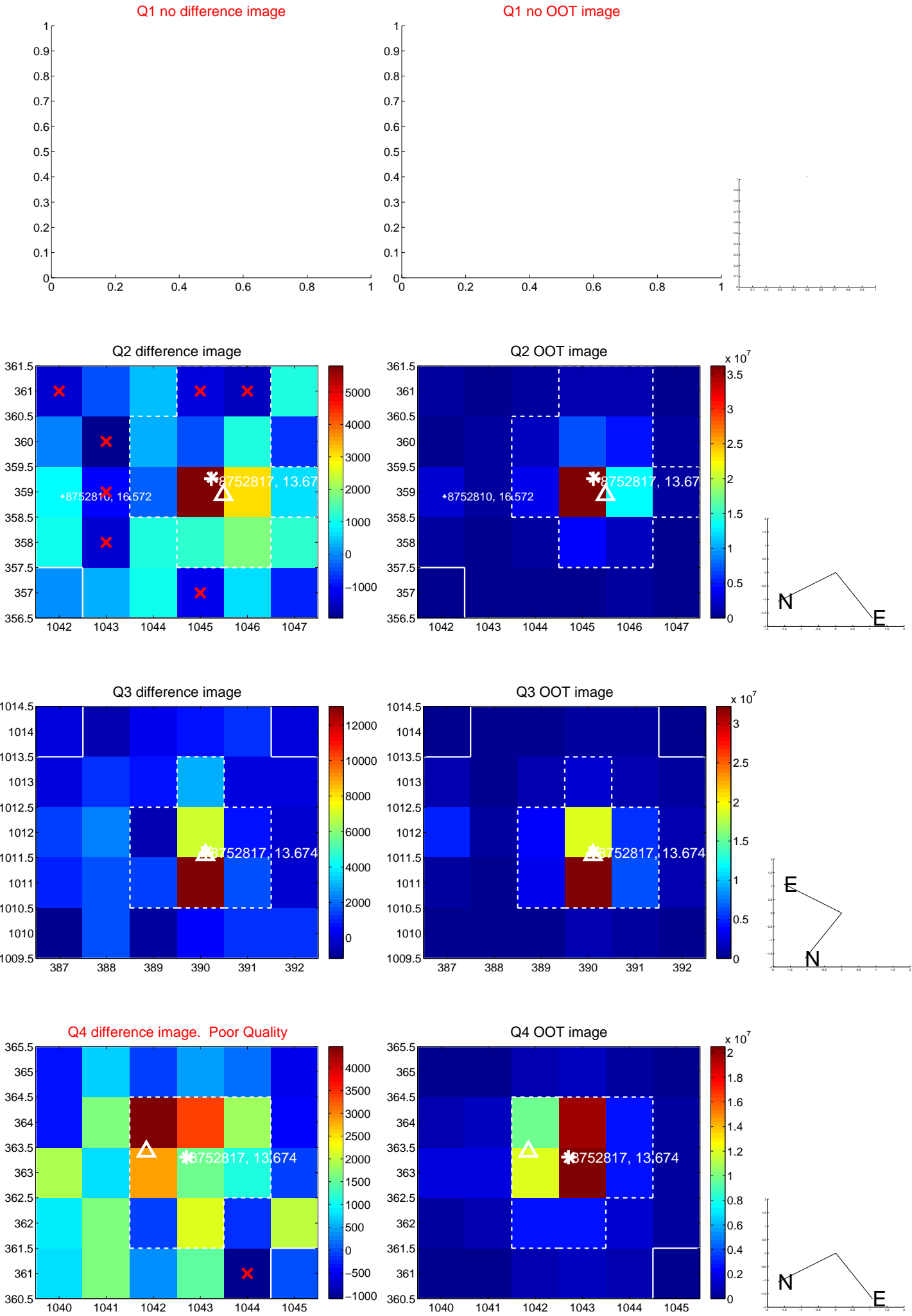
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.075 ± 0.509	4.08	0.088 ± 0.640	2.073 ± 0.518
PRF-fit source offset from KIC position	2.190 ± 0.487	4.49	0.065 ± 0.638	2.189 ± 0.492
photometric centroid source offset	0.76 ± 1.01	0.76	-0.10 ± 1.00	-0.76 ± 1.01

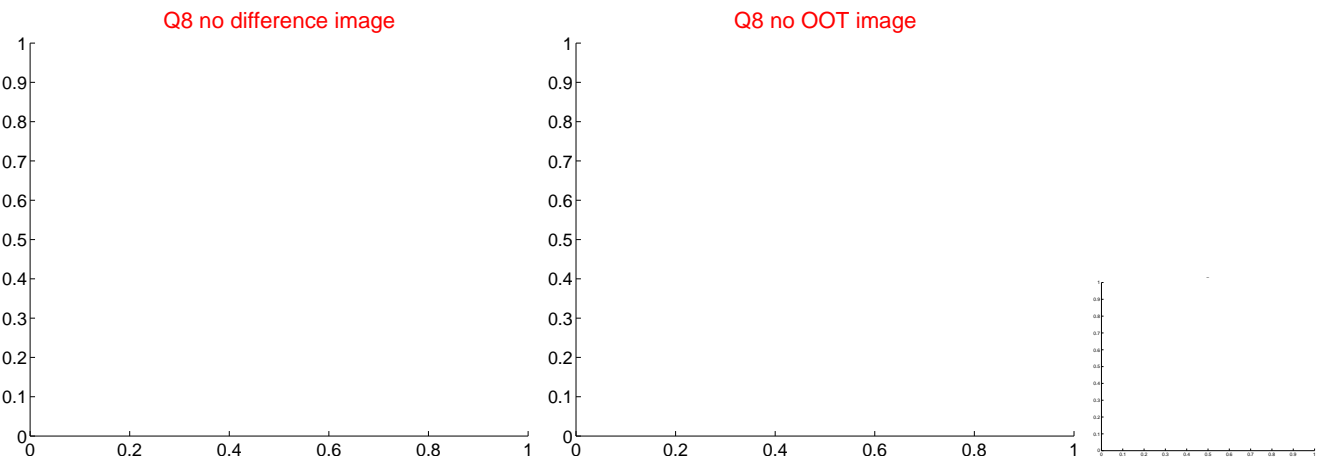
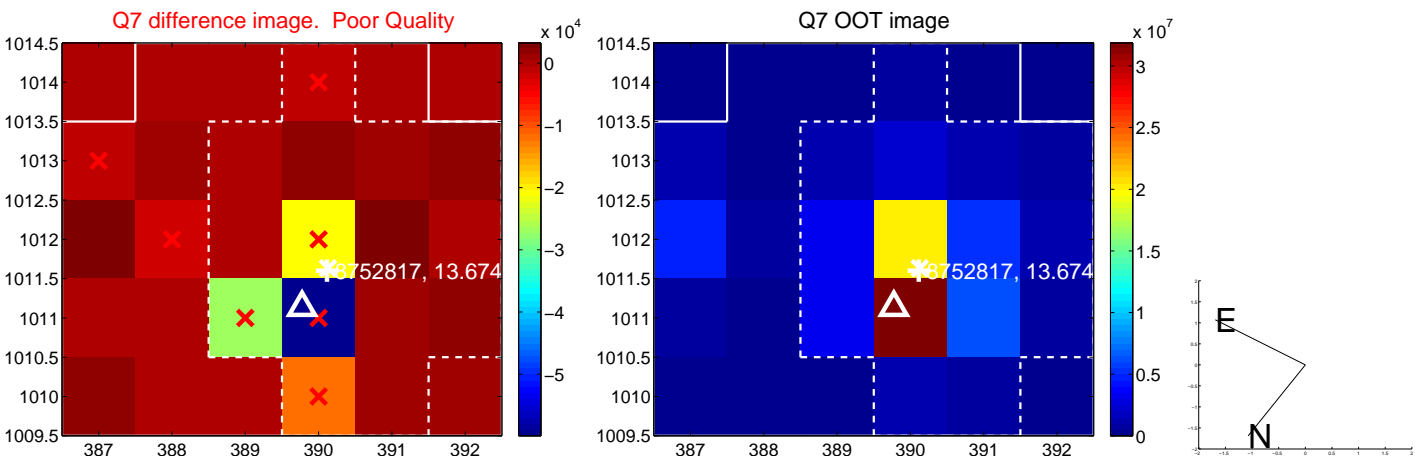
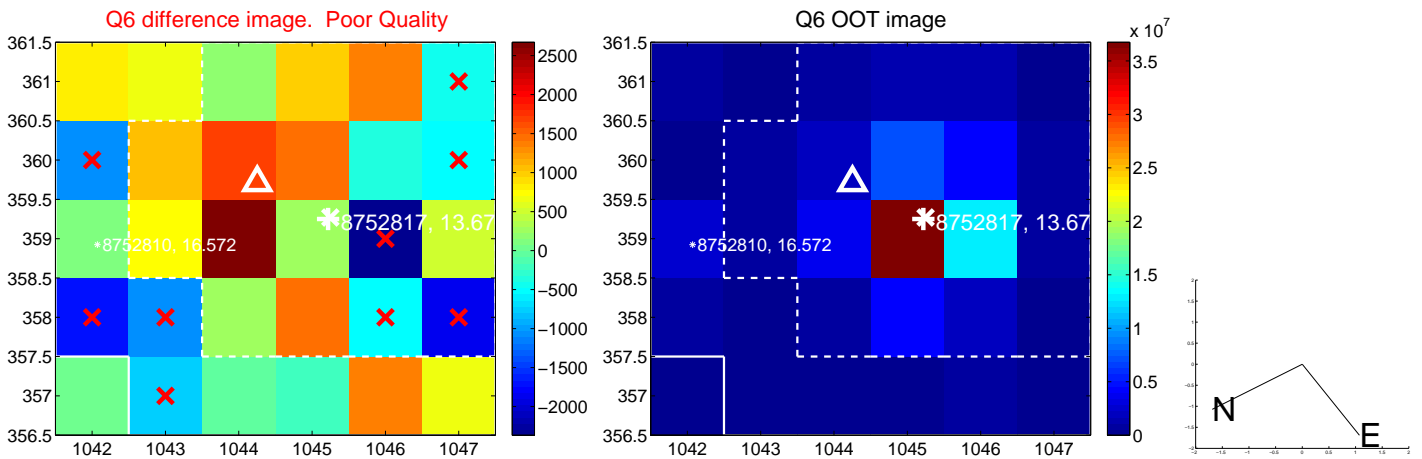
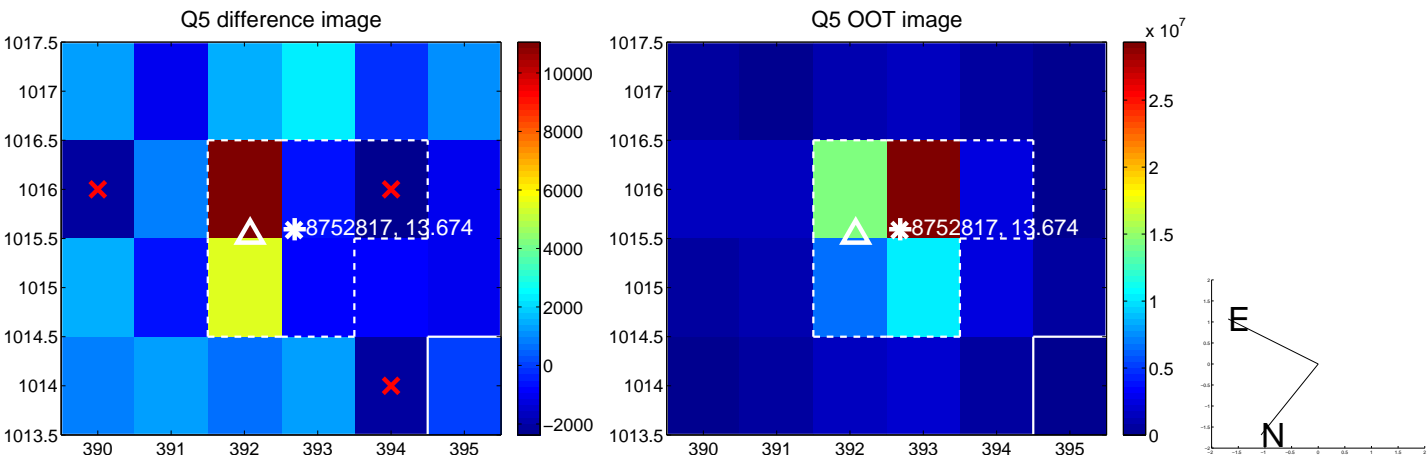


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

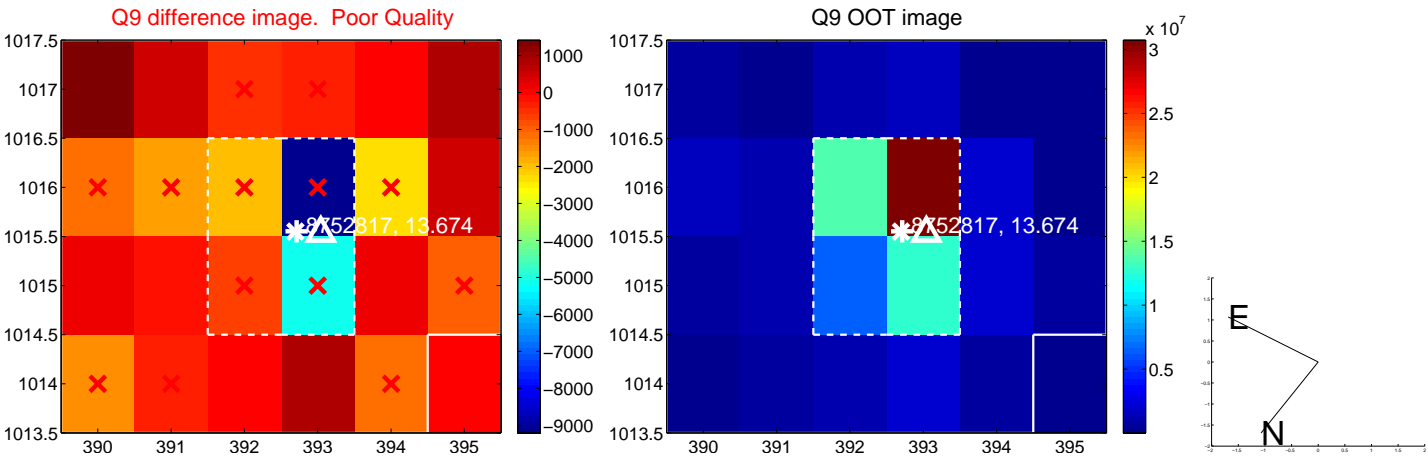
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



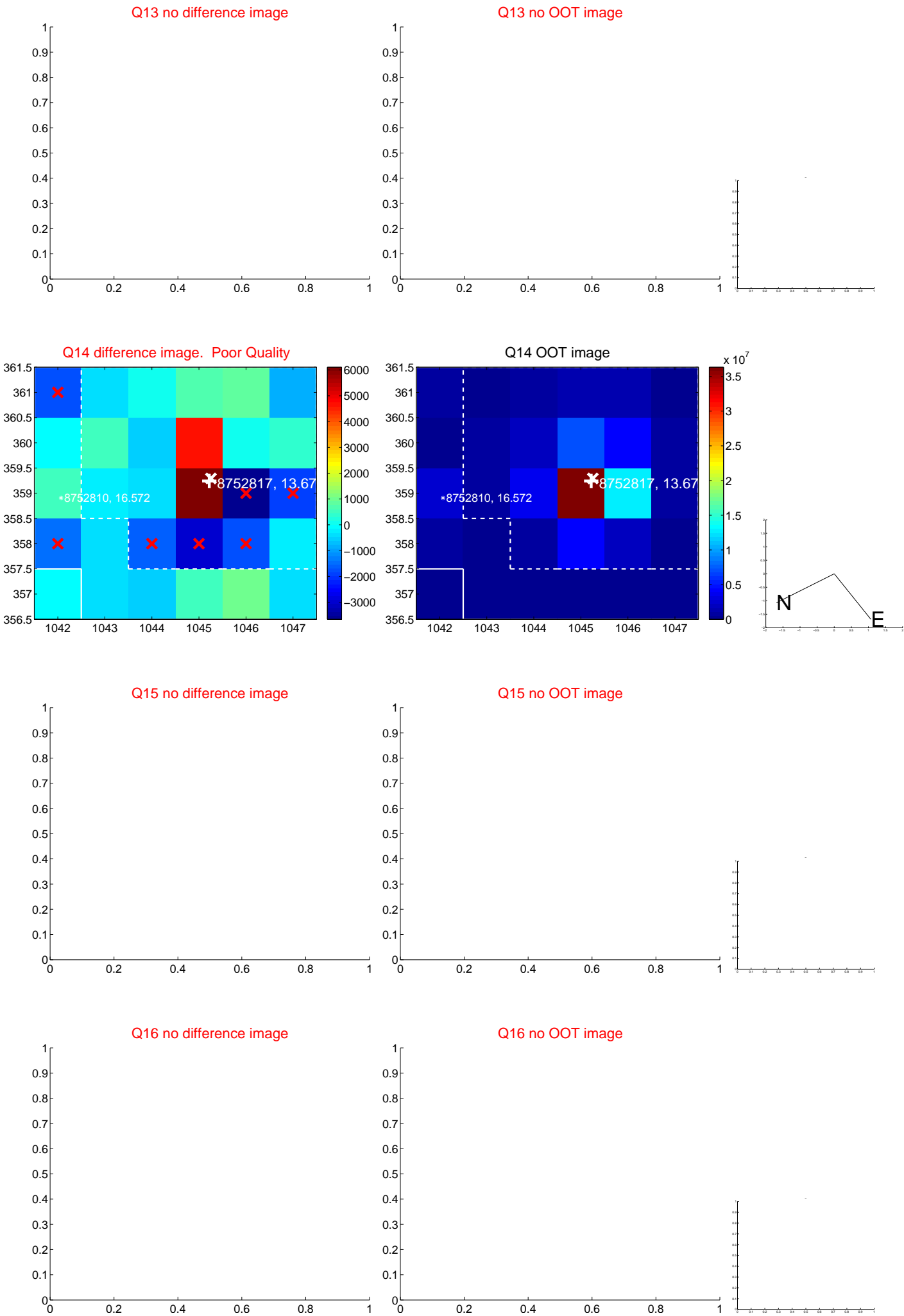
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



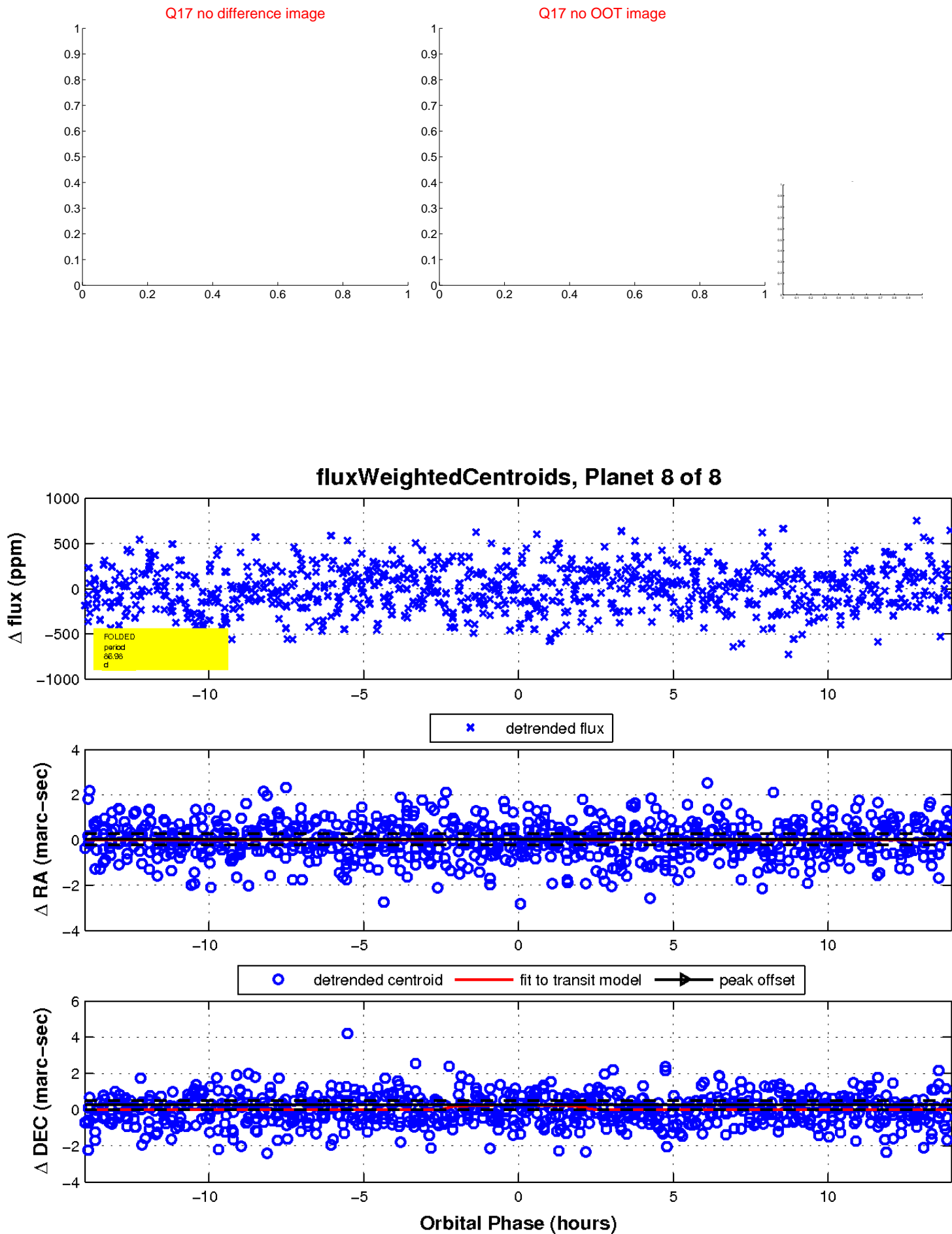
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

