

KIC 003458687

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})
003458687-01	OBS	7543.01	0.983762	132.289383	23.9	6.743	8.8	9.1	5.29	6431	2.63	0.00
003458687-03	OBS	No	37.921542	137.409403	251.9	4.719	12.5	9.1	5.29	6431	8.85	567.57
003458687-04	OBS	No	34.338166	164.199165	317.7	2.327	11.8	9.4	5.29	6431	10.68	647.88
003458687-05	OBS	No	27.757951	139.496836	409.1	1.913	11.3	12.4	5.29	6431	11.27	860.36
003458687-06	OBS	No	27.834187	137.823236	336.6	1.997	10.7	10.9	5.29	6431	10.97	857.22
003458687-07	OBS	No	11.691953	138.628806	197.9	4.490	9.7	12.3	5.29	6431	8.70	2724.89
003458687-08	OBS	No	14.488233	137.905875	271.0	1.438	10.2	10.5	5.29	6431	9.13	2047.28
003458687-09	OBS	No	28.101709	140.458736	305.4	3.602	10.3	11.9	5.29	6431	9.65	846.36
003458687-10	OBS	No	29.681505	136.537650	270.5	3.500	9.5	-1.0	5.29	6431	8.76	786.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003458687-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
003458687-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003458687-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003458687-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
003458687-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-10	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_NOFITS—HALO_GHOST

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

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

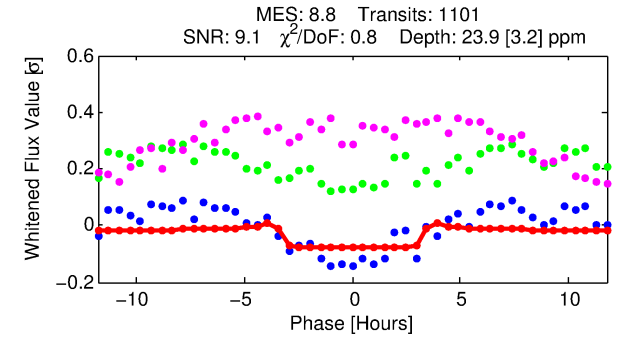
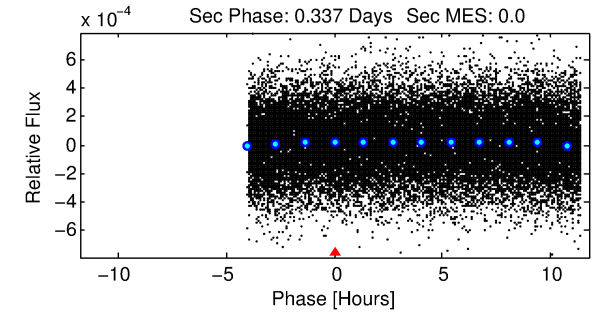
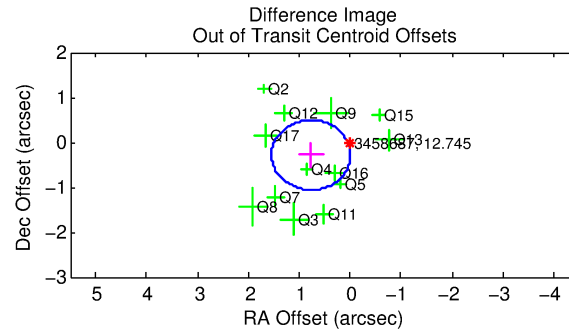
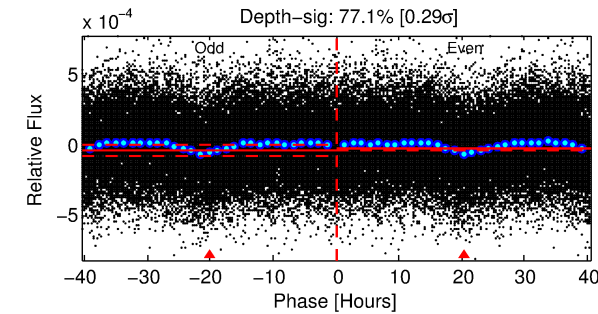
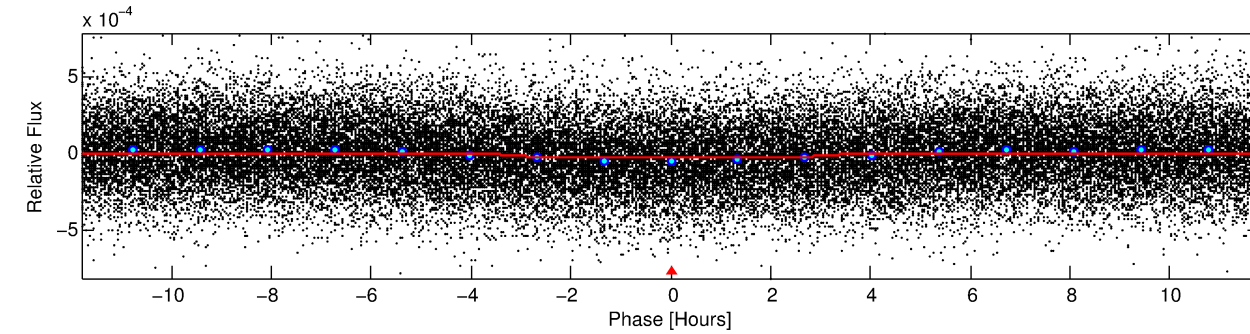
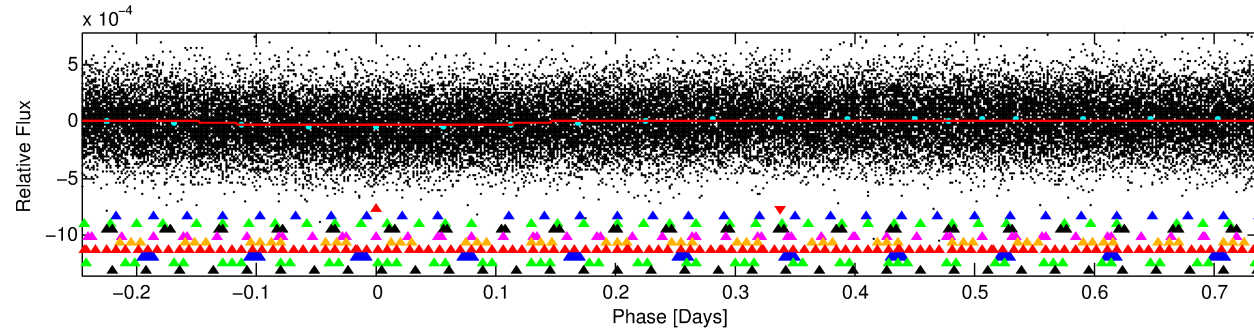
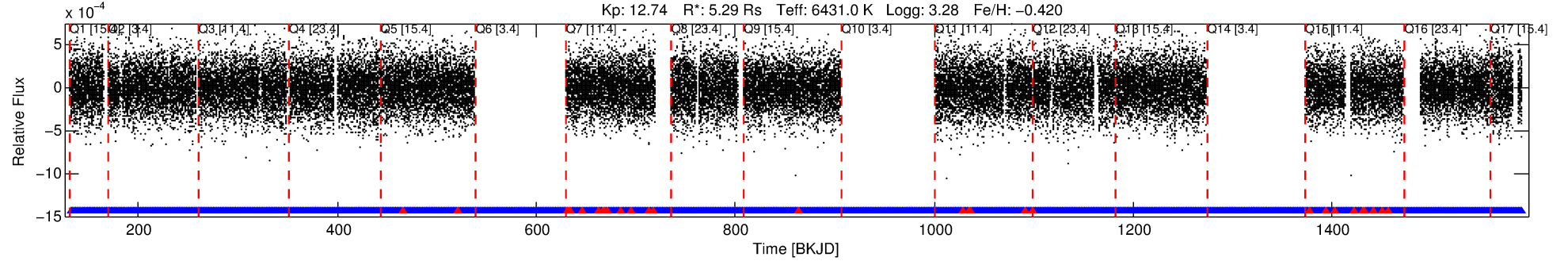
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003458687-01

No Significant Match Found

DV One-Page Summary

KIC: 3458687 Candidate: 1 of 10 Period: 0.984 d
KOI: K07543 Corr: No Ephemeris Match



DV Fit Results:

Period = 0.98376 [0.00002] d
Epoch = 132.2894 [0.0054] BKJD
Rp/R* = 0.0046 [0.0033]
a/R* = 1.26 [1.79]
b = 0.33 [10.46]
Seff = N/A
Teq = N/A
Rp = 2.63 [2.37] Re
a = N/A
Ag = N/A
Teffp = N/A

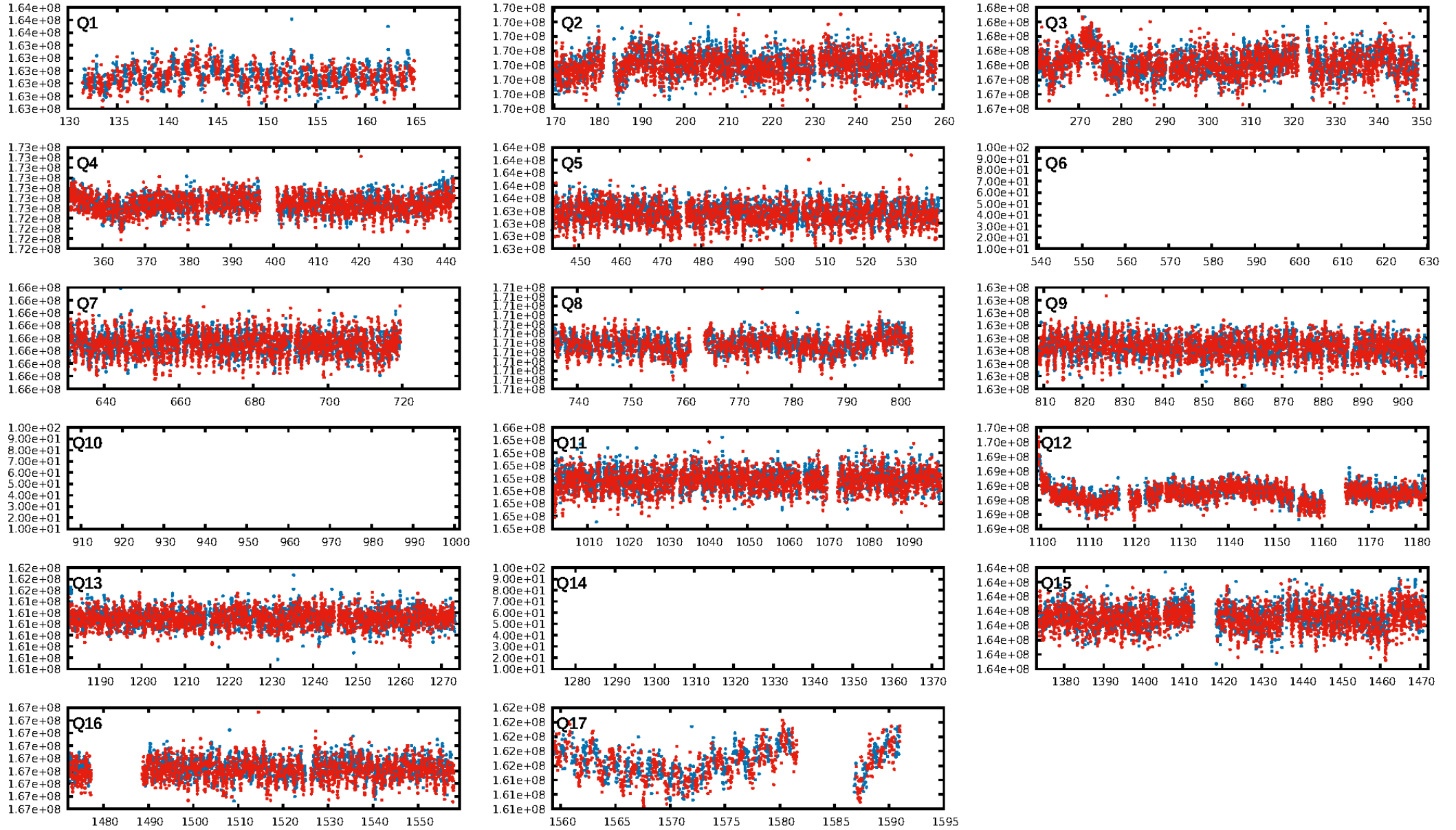
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [31.72 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.97 [1008/1040]
GhostDiagnostic-chr: 1.512
Centroid-sig: 0.0%
Centroid-so: 1.779 arcsec [3.34 σ]
OotOffset-rm: 0.822 arcsec [3.18 σ]
KicOffset-rm: 0.862 arcsec [3.23 σ]
OotOffset-st: 1/4/4/4 [13]
KicOffset-st: 1/4/4/4 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [14/14]

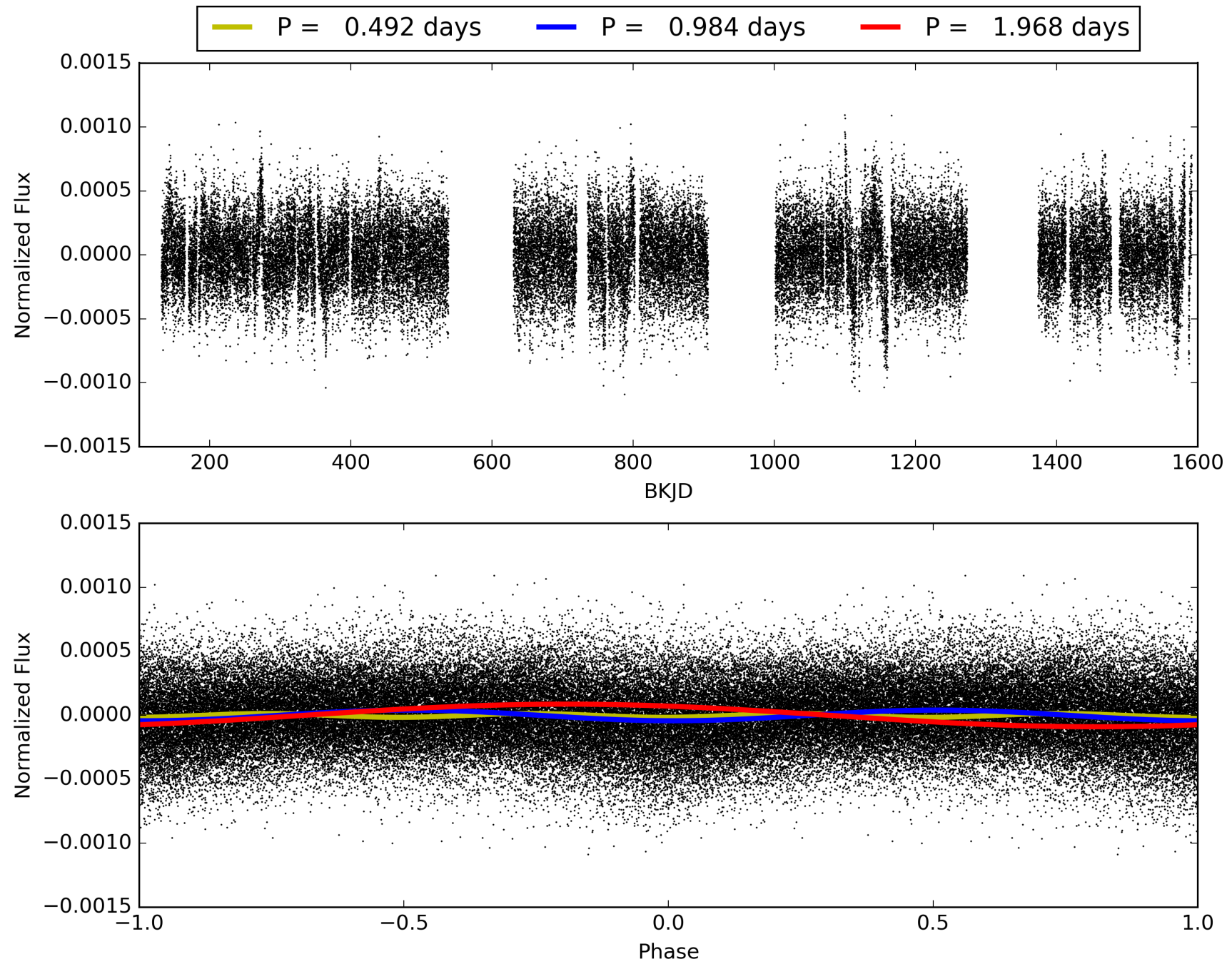
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:32:23 Z

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

TCE 003458687-01, PDC Light Curves

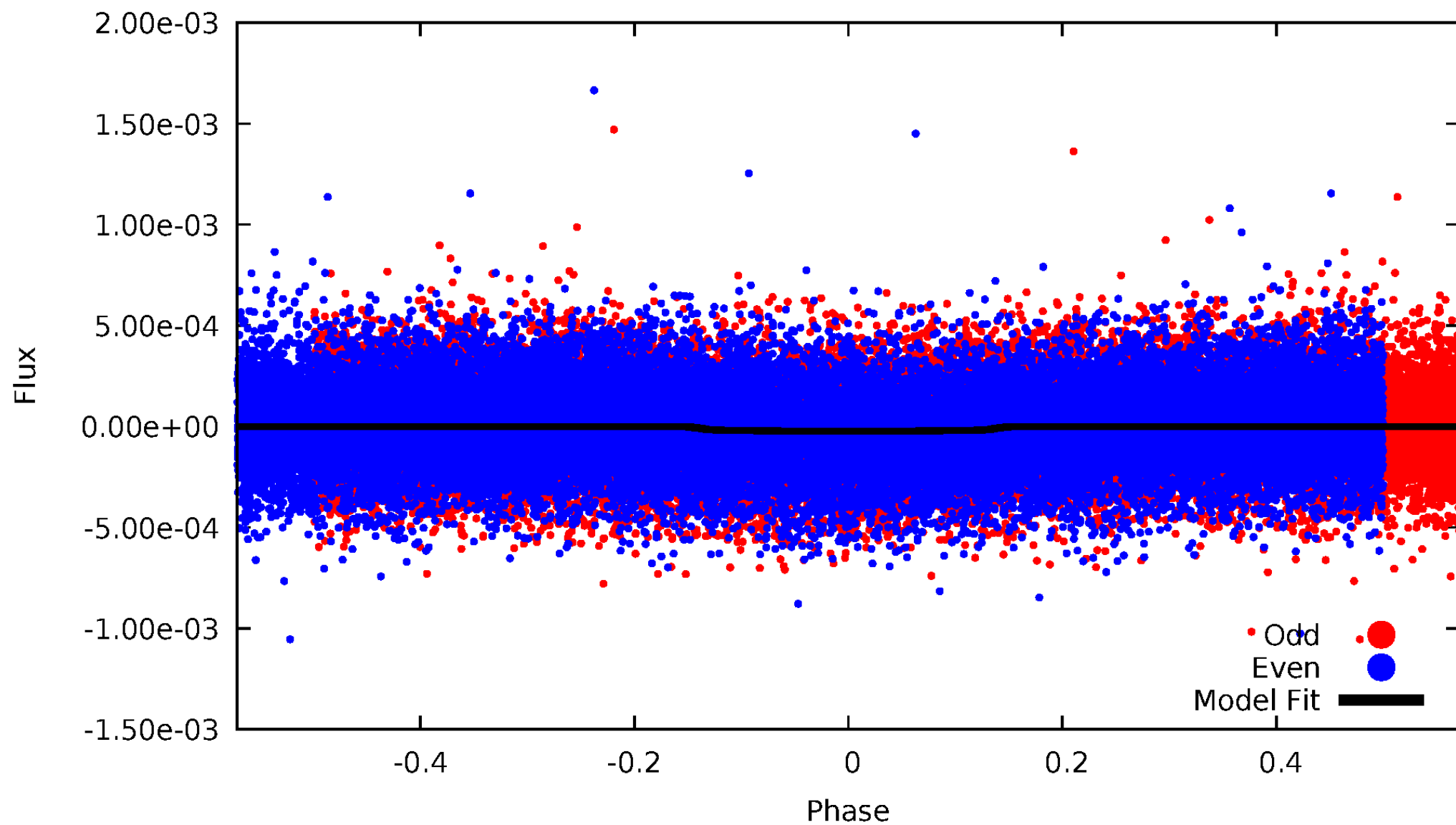


TCE 003458687-01



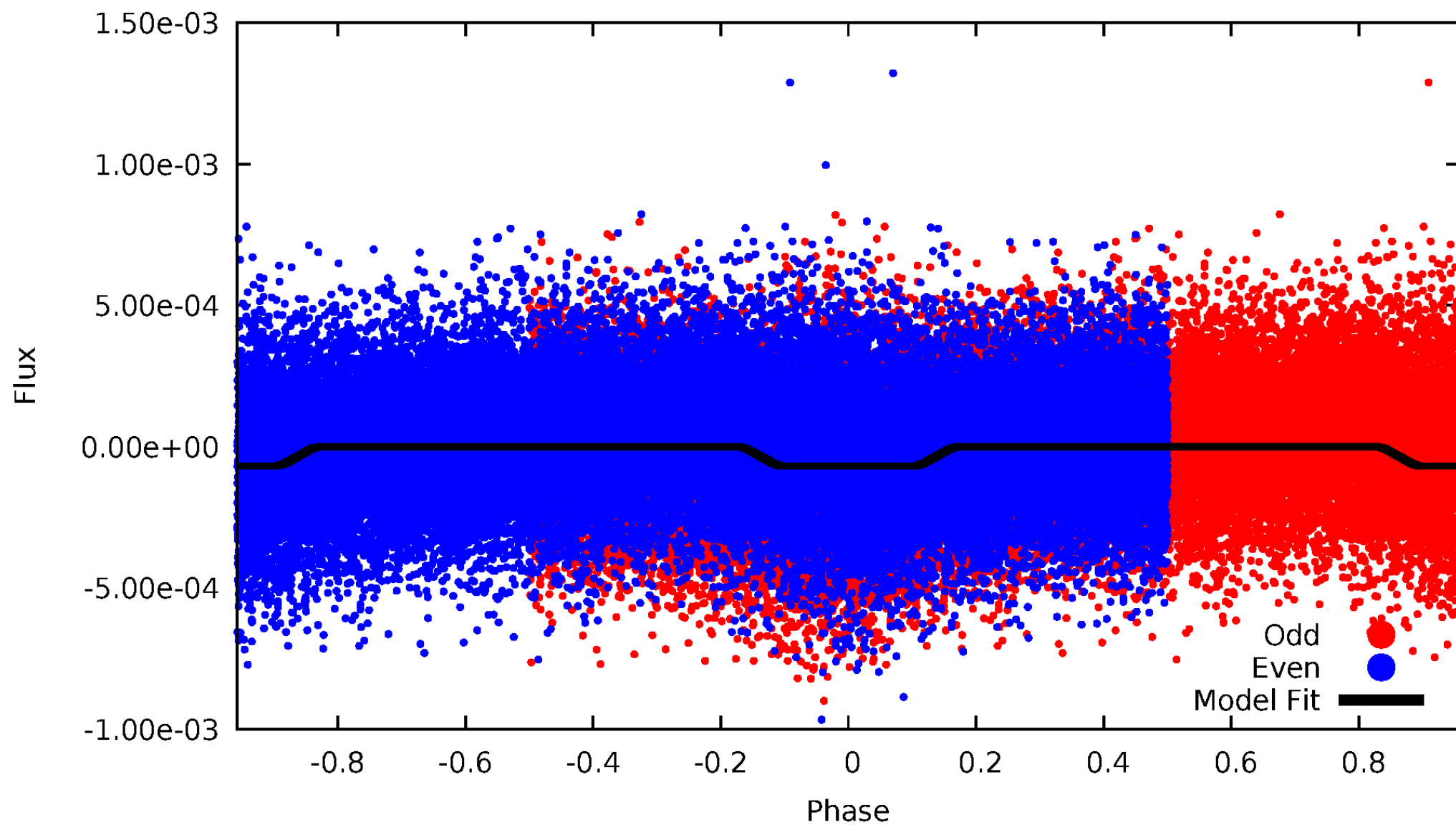
DV Odd/Even

TCE 003458687-01

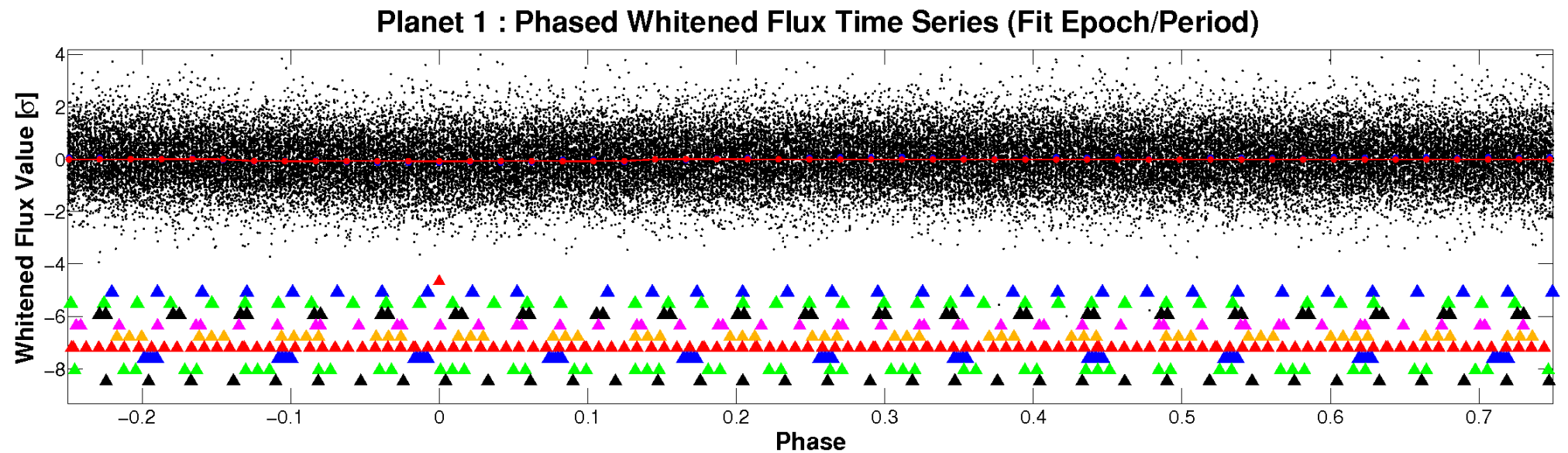
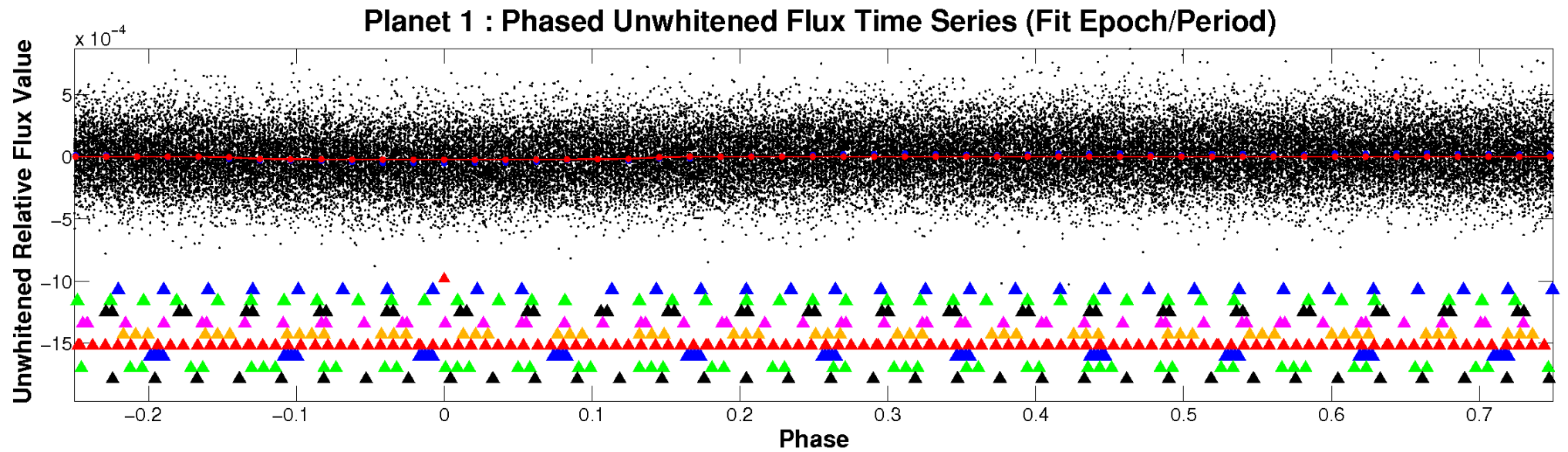


ALT Odd/Even

TCE 003458687-01

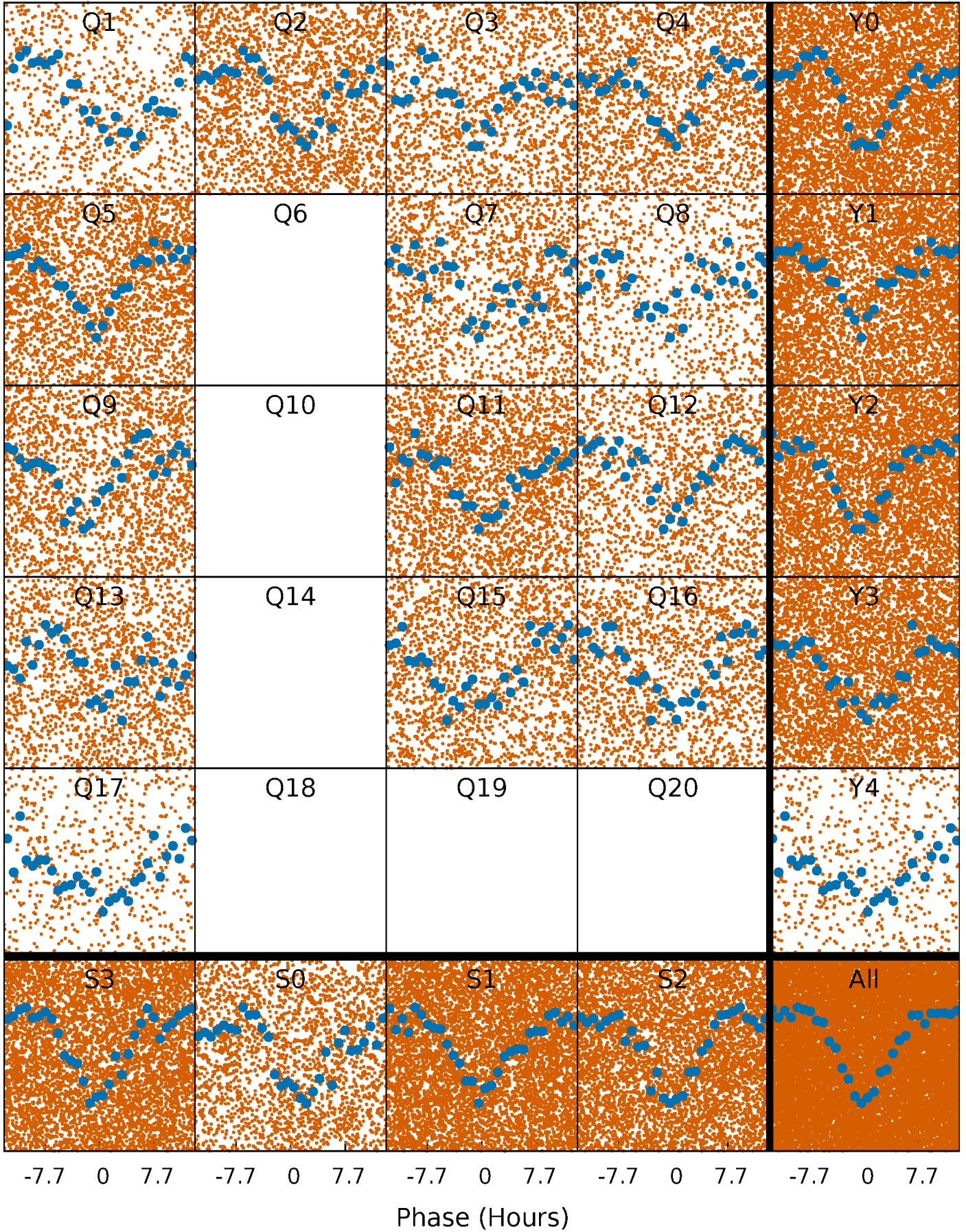


Non-Whitened Vs. Whitened Light Curve



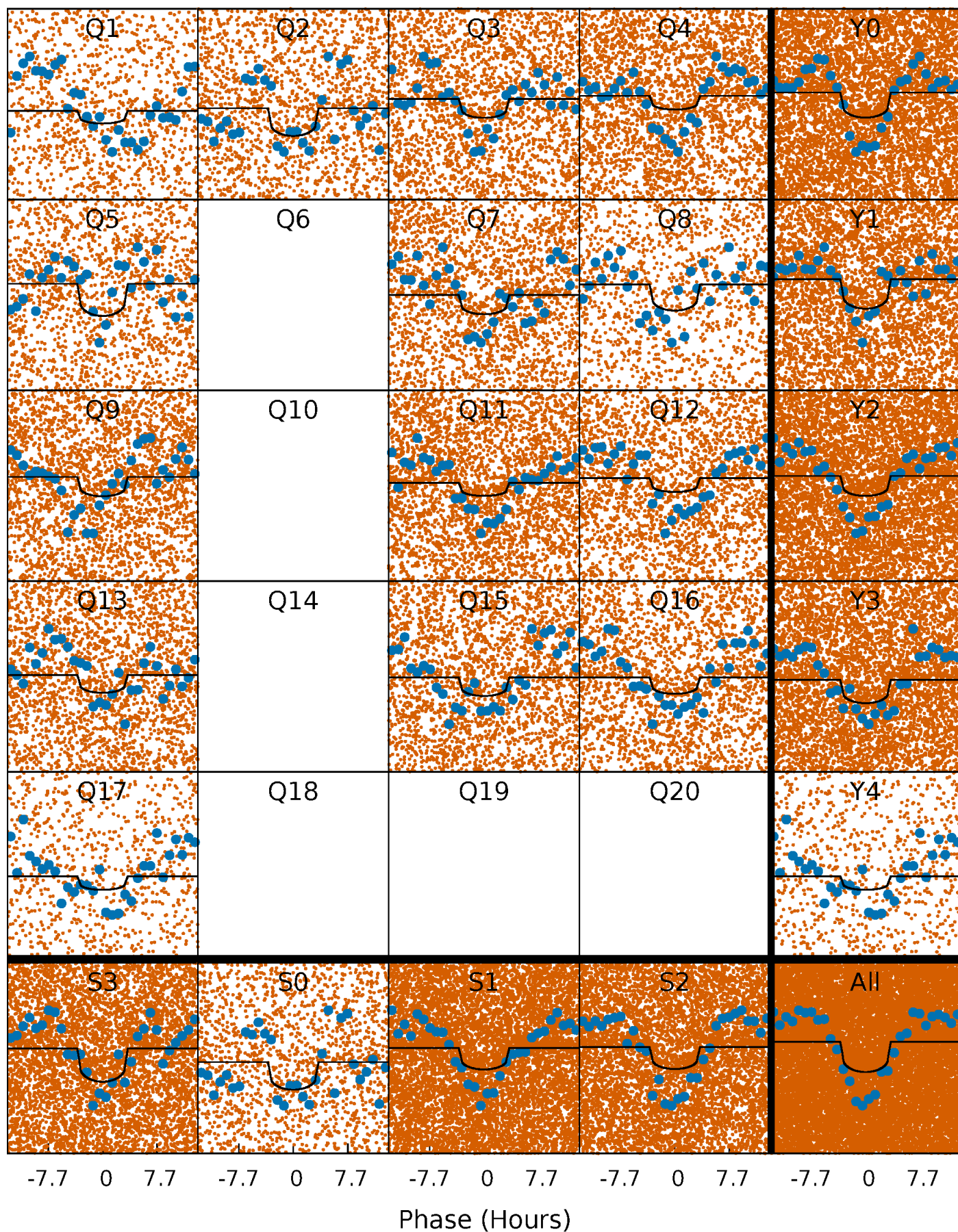
PDC Quarter-Phased Transit Curves

TCE 003458687-01 P= 0.983762 Days $T_0=132.289383$ (BKJD)



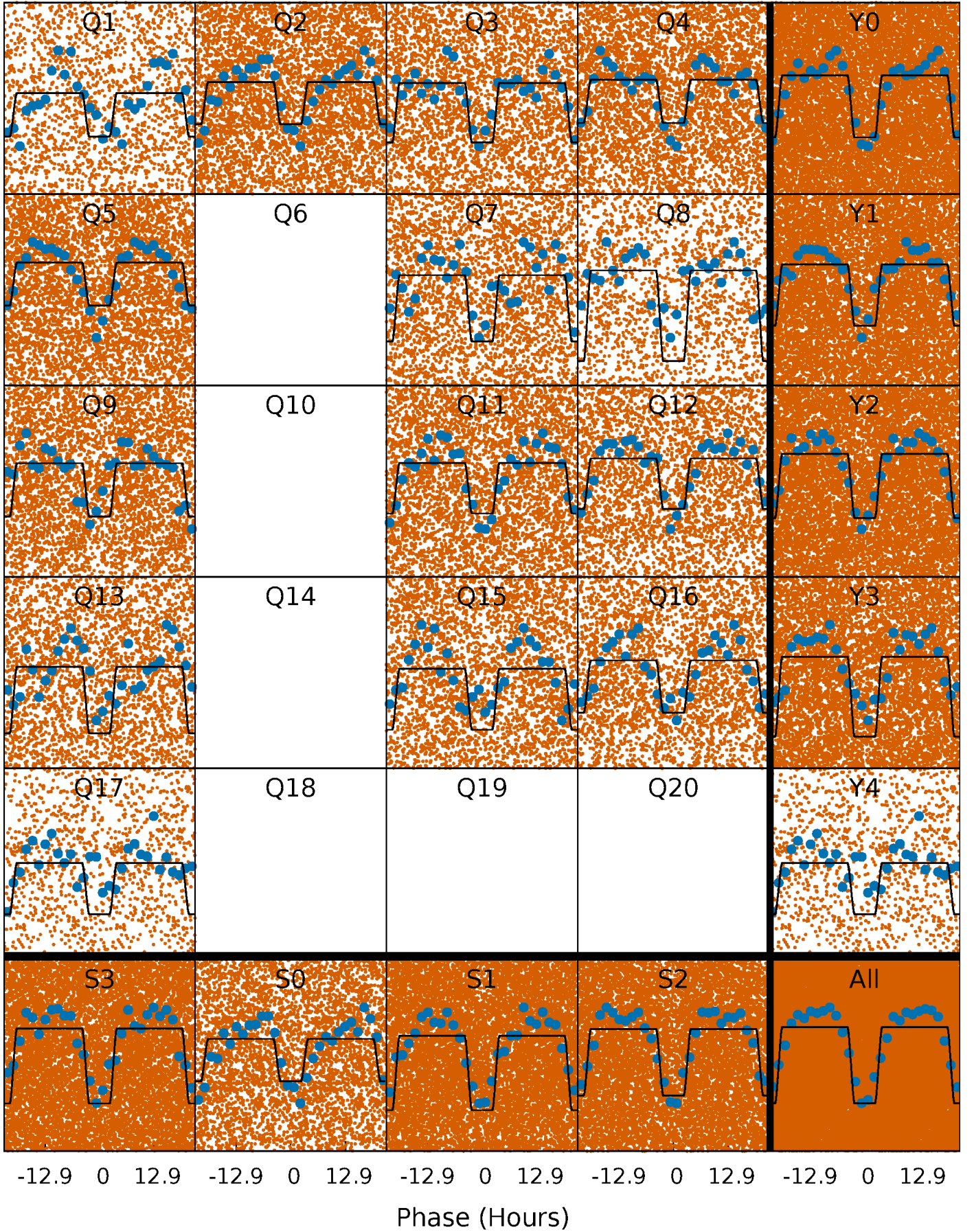
DV Quarter-Phased Transit Curves

TCE 003458687-01 P= 0.983762 Days $T_0=132.289383$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

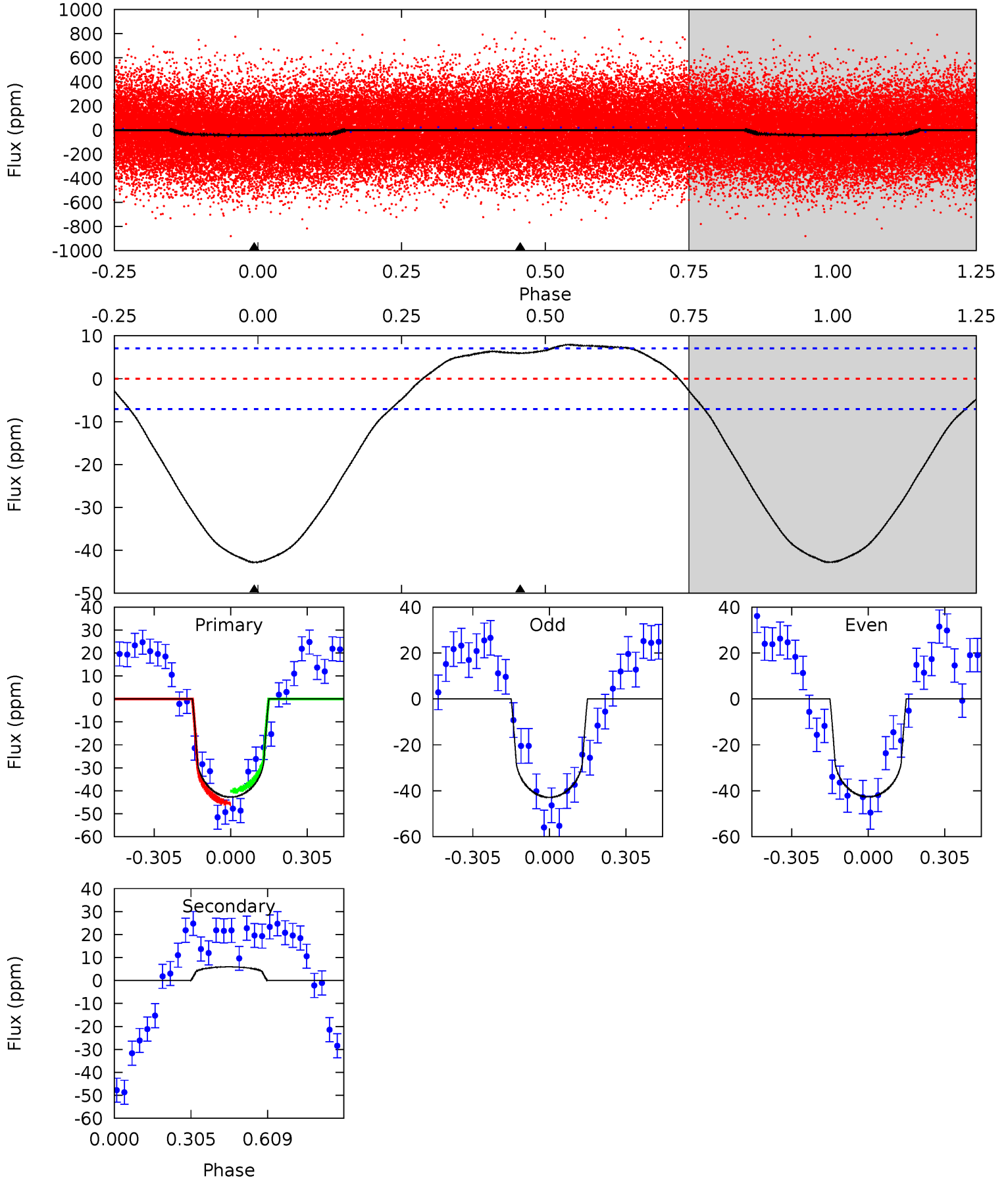
TCE 003458687-01 P= 0.983757 Days $T_0=132.288941$ (BKJD)



DV Model-Shift Uniqueness Test

003458687-01, P = 0.983762 Days, E = 131.305621 Days

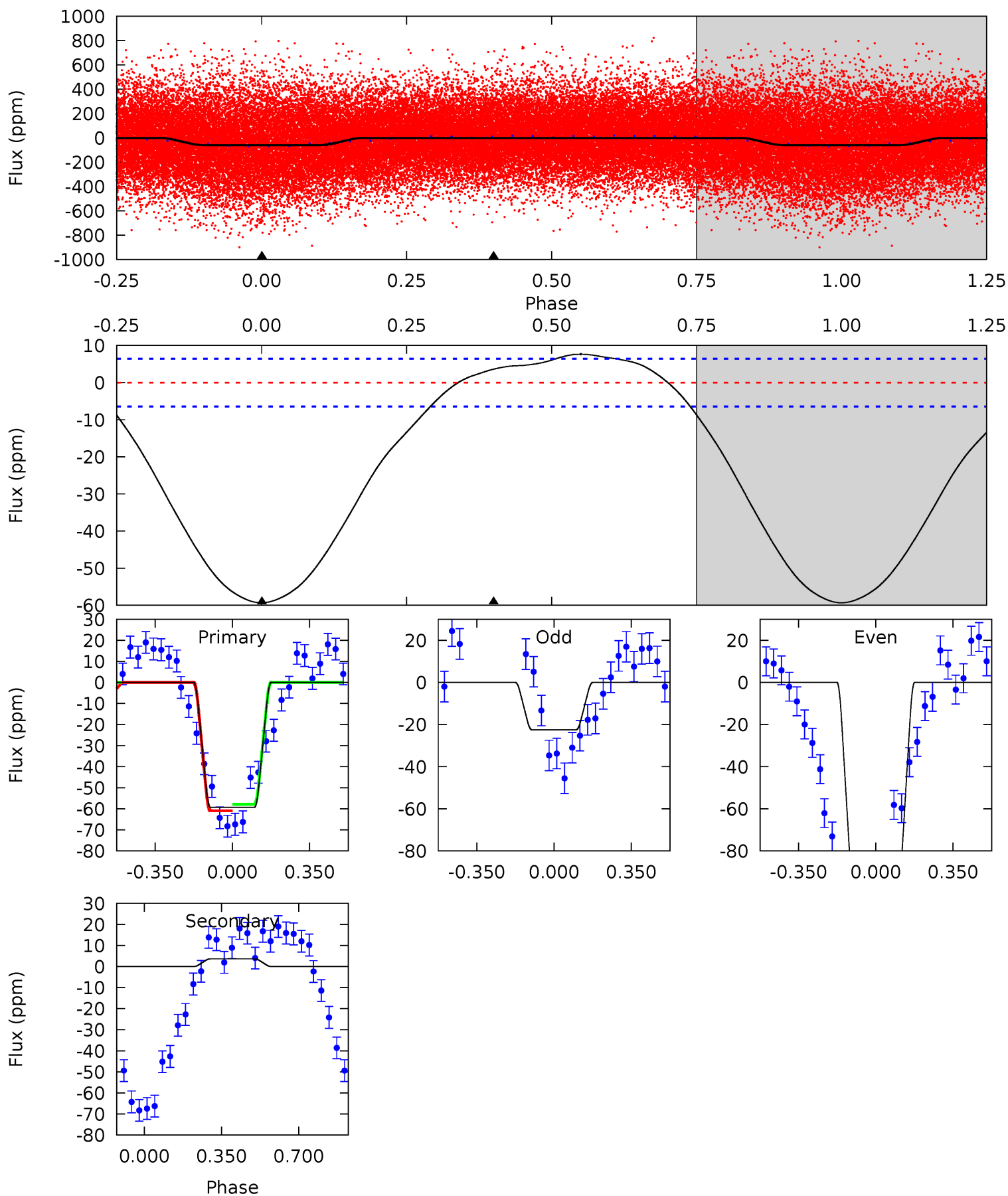
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.2	-3.64	0	0	4.33	1.03	2.57	26.2	26.2	-3.64	-3.64	0.07	1.03	0.16	1.61



Alt Model-Shift Uniqueness Test

003458687-01, P = 0.983757 Days, E = 131.305184 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.7	-2.42	0	0	4.29	0.93	2.77	39.7	39.7	-2.42	-2.42	24.4	0.98	0.11	0.98



Stellar Parameters For KIC 003458687

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6431^{+172}_{-211}	$3.276^{+0.468}_{-0.052}$	$-0.420^{+0.400}_{-0.300}$	$5.294^{+0.294}_{-2.795}$	$1.932^{+0.069}_{-0.590}$	$0.018^{+0.090}_{-0.003}$
	+3%/-3%	+14%/-2%	+95%/-71%	+6%/-53%	+4%/-31%	+491%/-18%
Source	PHO1	FLK73	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 003458687-01 / KOI 7543.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	6 ± 2	$2.50^{+1.92}_{-1.43}$	5732^{+285}_{-696}	-5464^{+467}_{-1652}	$-0.281^{+0.186}_{-1.273}$
Alt.	4 ± 1	$4.18^{+2.10}_{-1.74}$	5712^{+316}_{-719}	-5002^{+412}_{-324}	$-0.059^{+0.037}_{-0.138}$

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 $A_{obs} \gg 1.0$

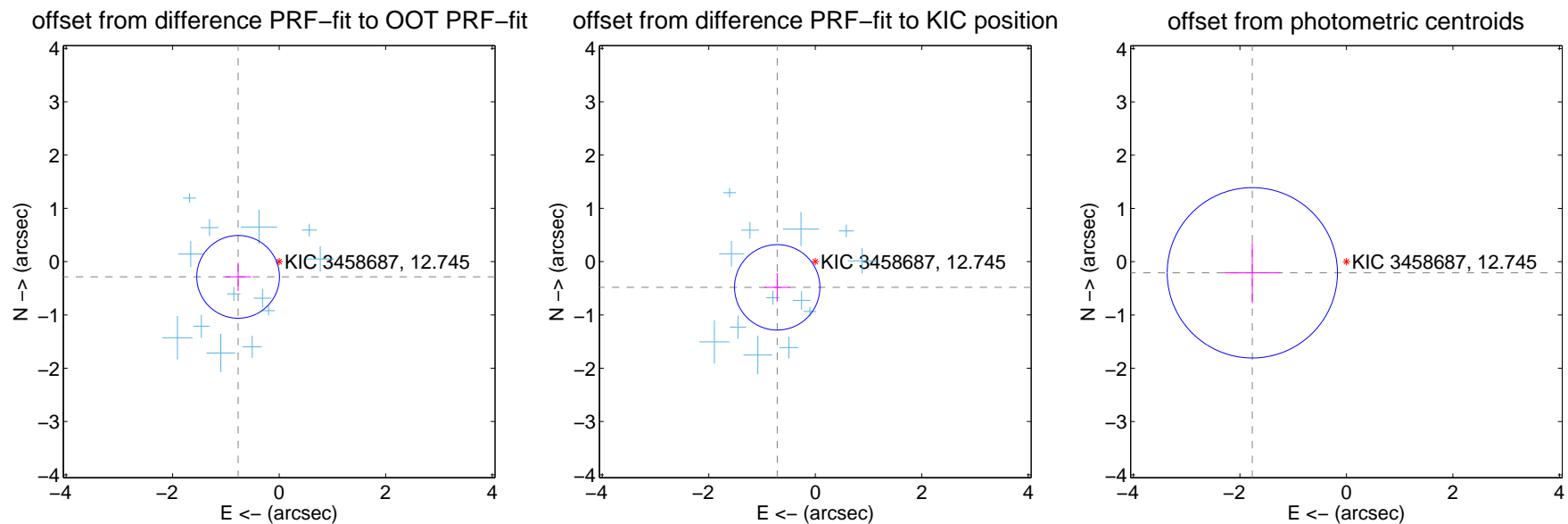
DV Centroid Data

Supplemental centroid analysis for 003458687-01. Kepler magnitude: 12.74. Transit SNR 9.07

There are 13 quarters with good PRF difference image offsets

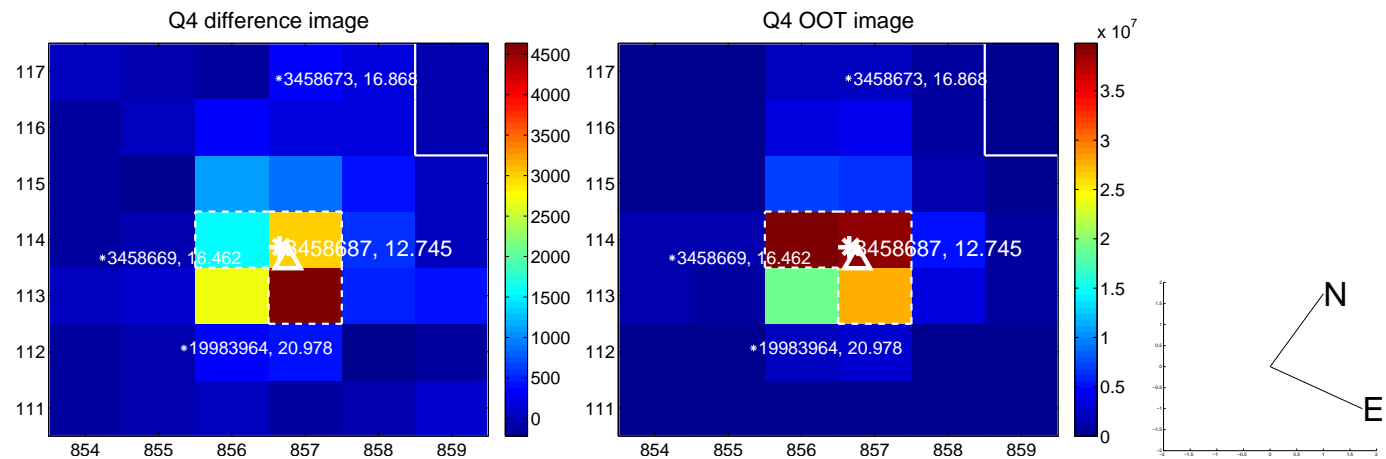
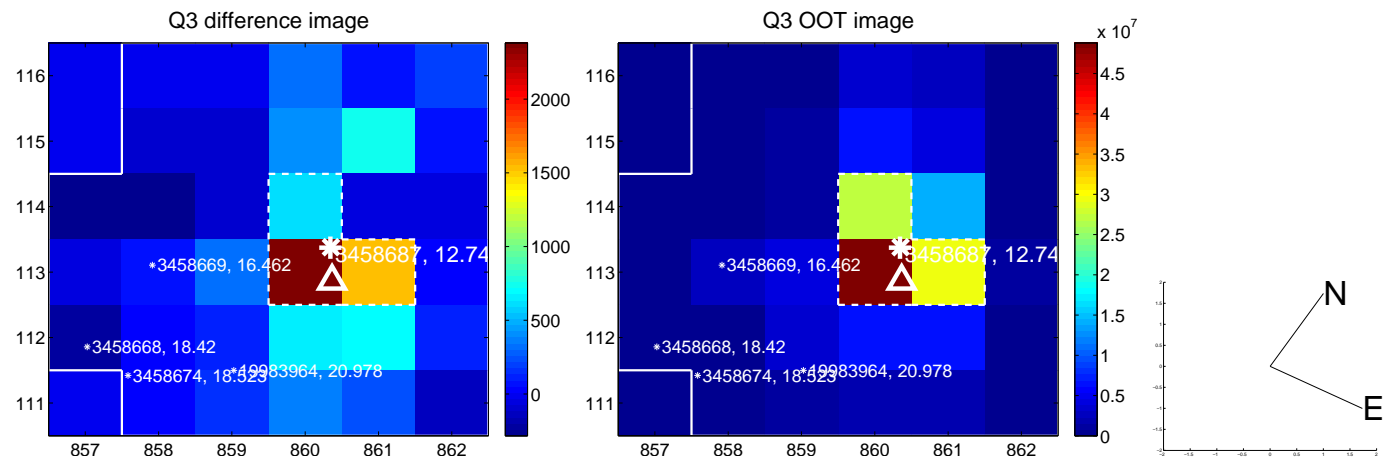
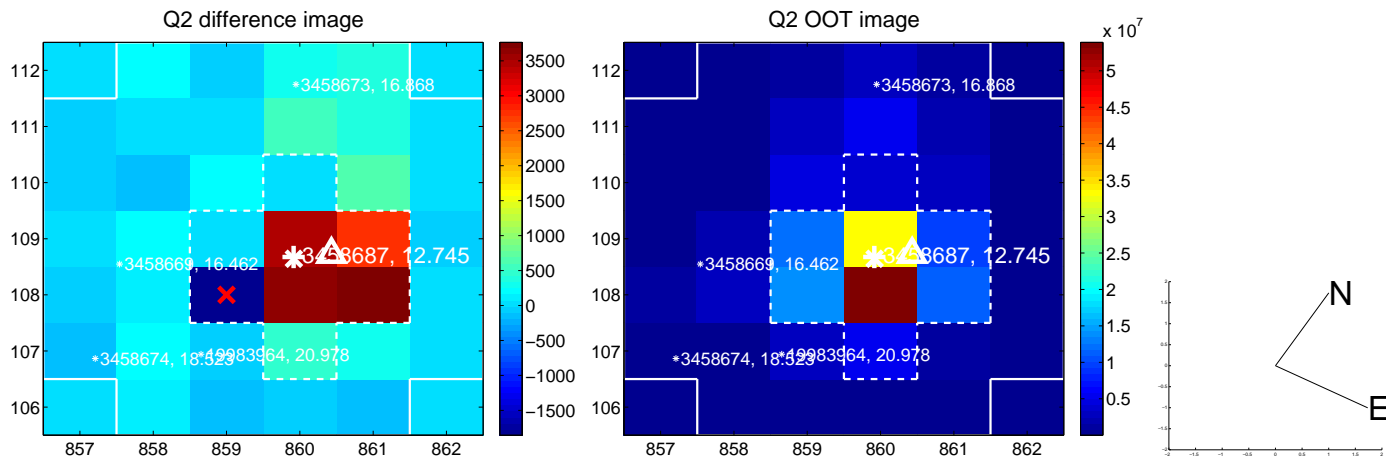
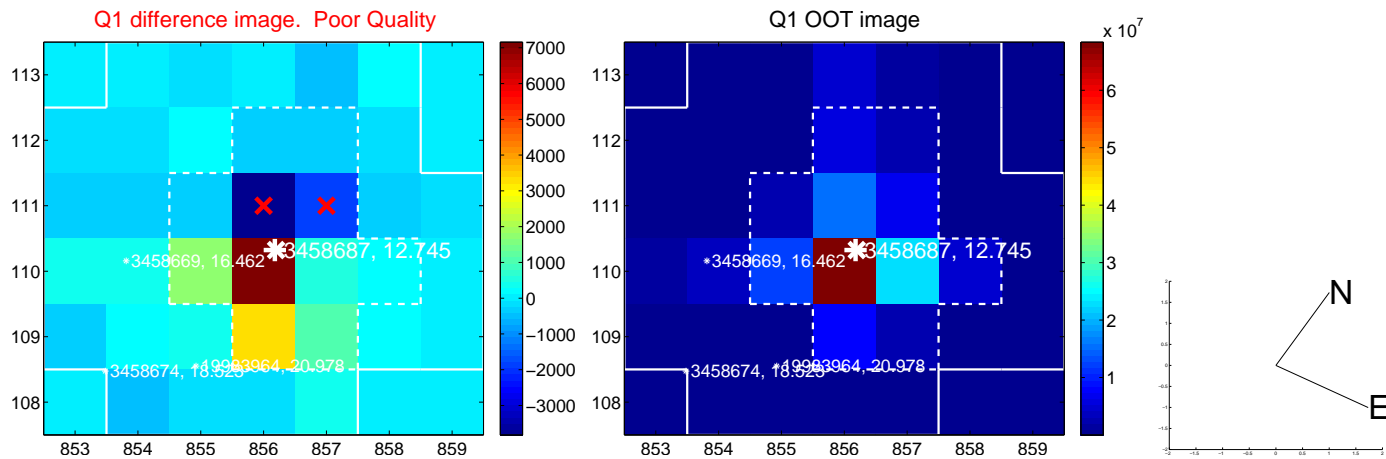
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.822 ± 0.259	3.18	0.770 ± 0.243	-0.285 ± 0.267
PRF-fit source offset from KIC position	0.862 ± 0.267	3.23	0.714 ± 0.242	-0.483 ± 0.268
photometric centroid source offset	1.78 ± 0.53	3.34	1.77 ± 0.53	-0.21 ± 0.57

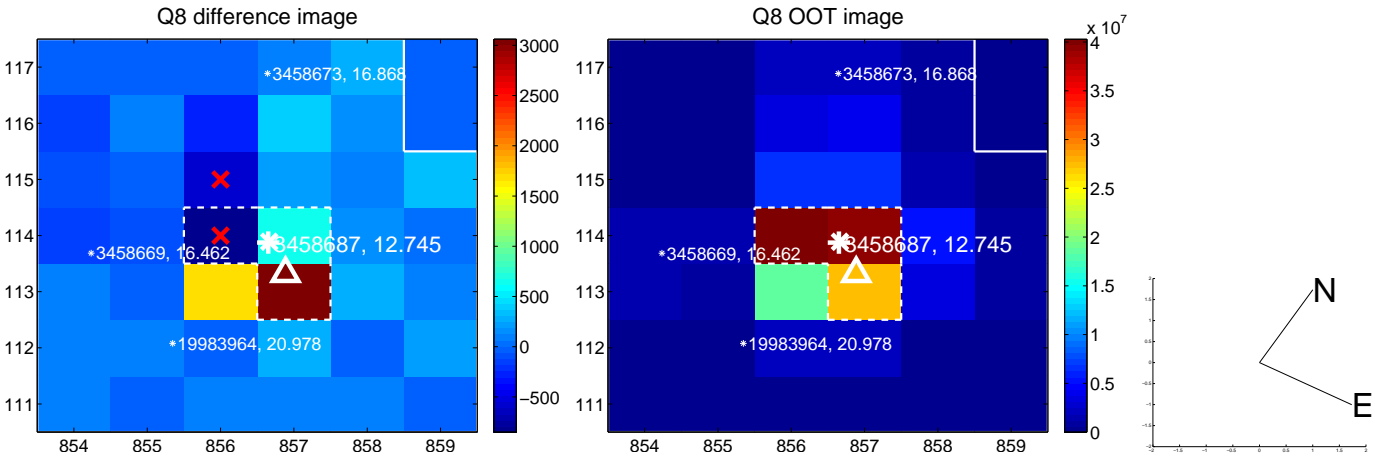
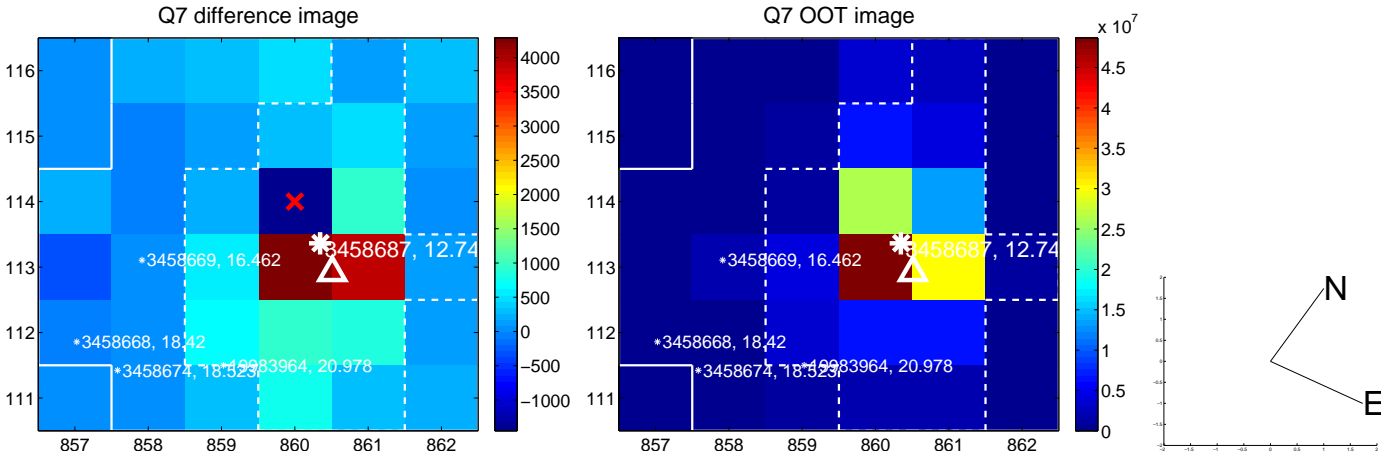
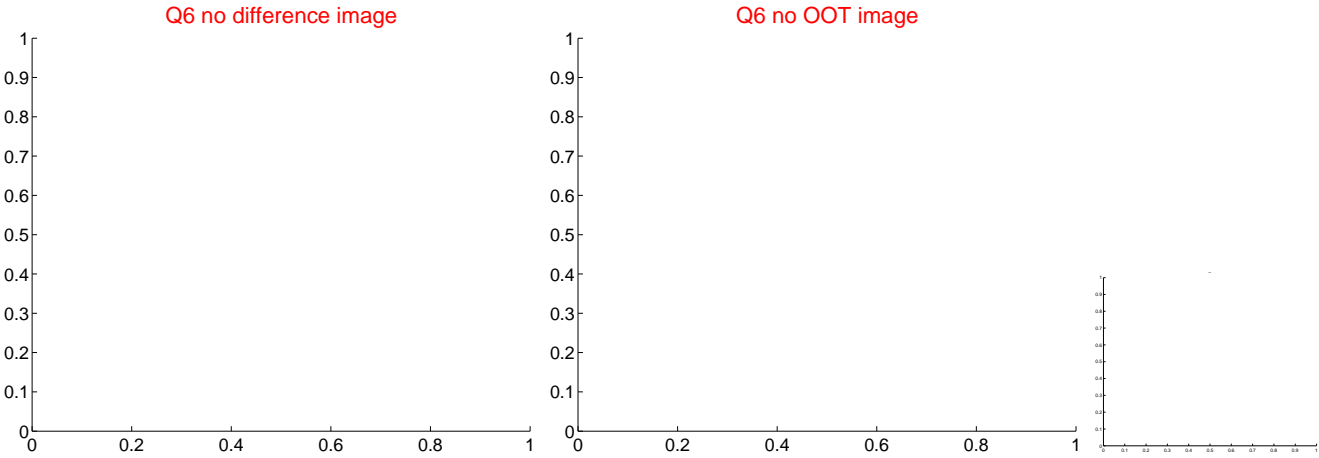
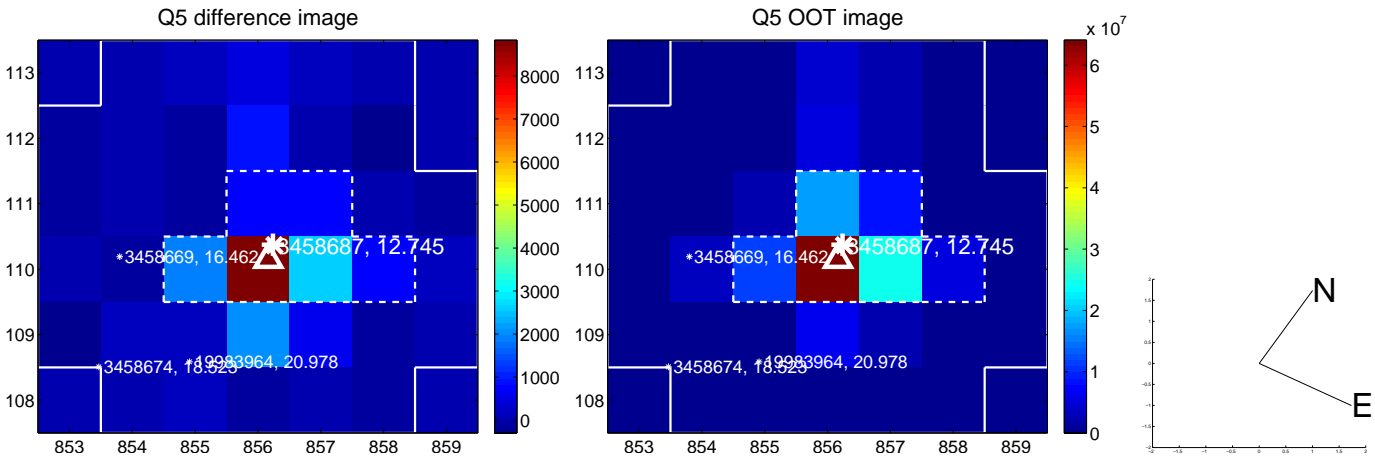


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

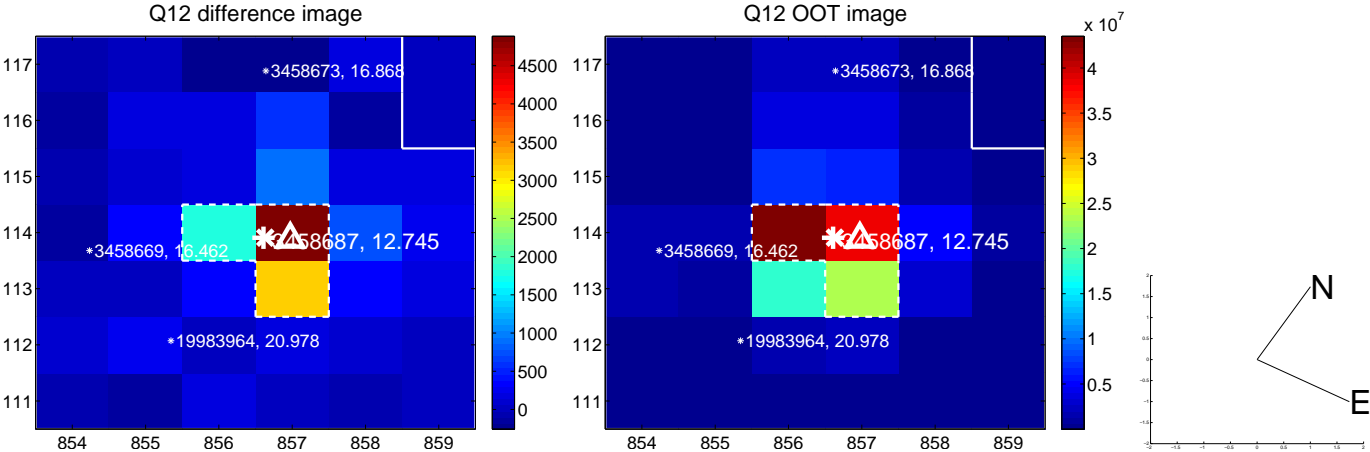
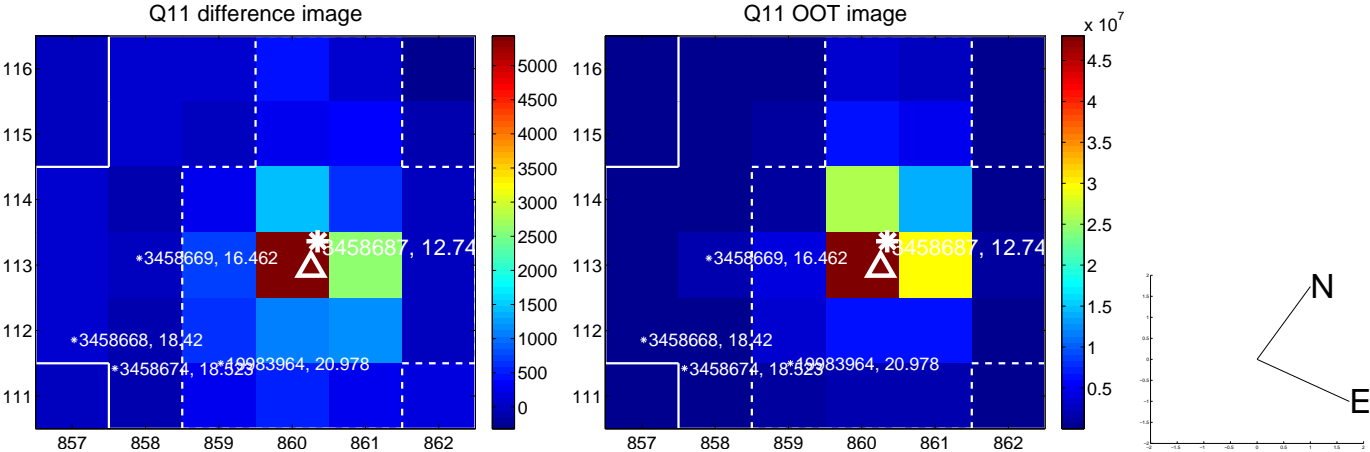
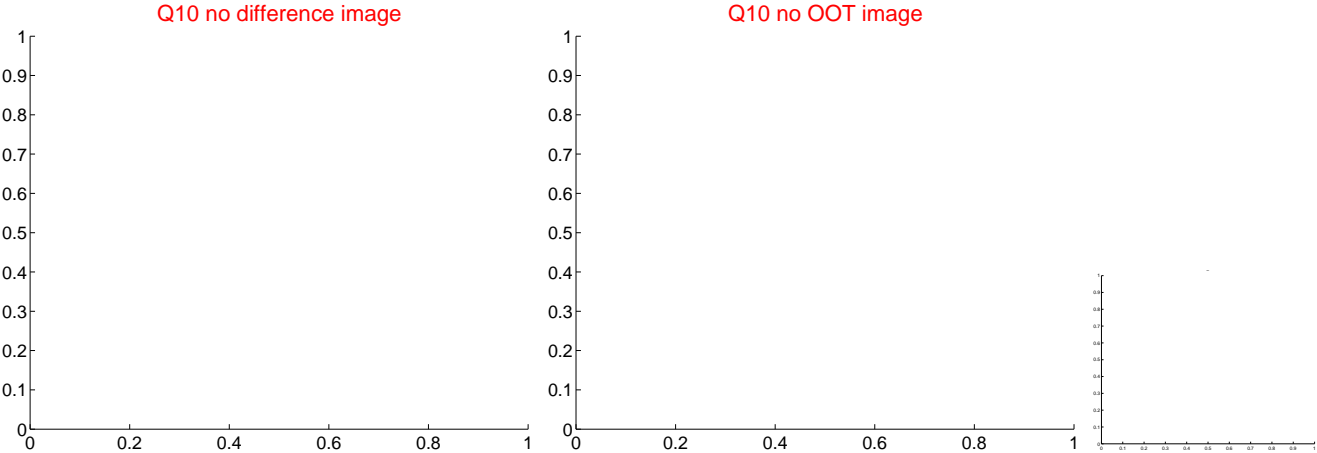
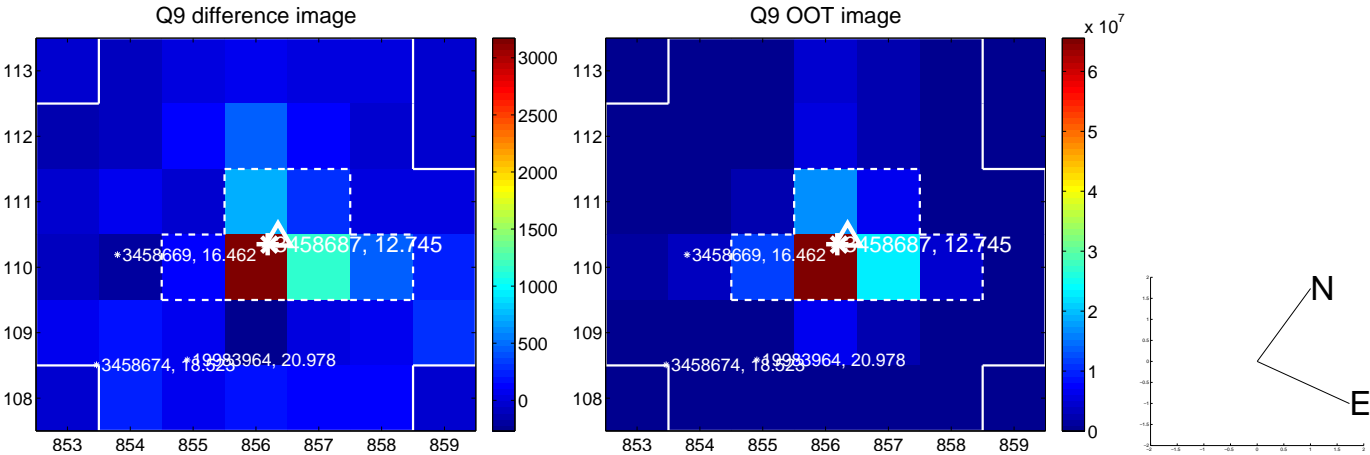
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



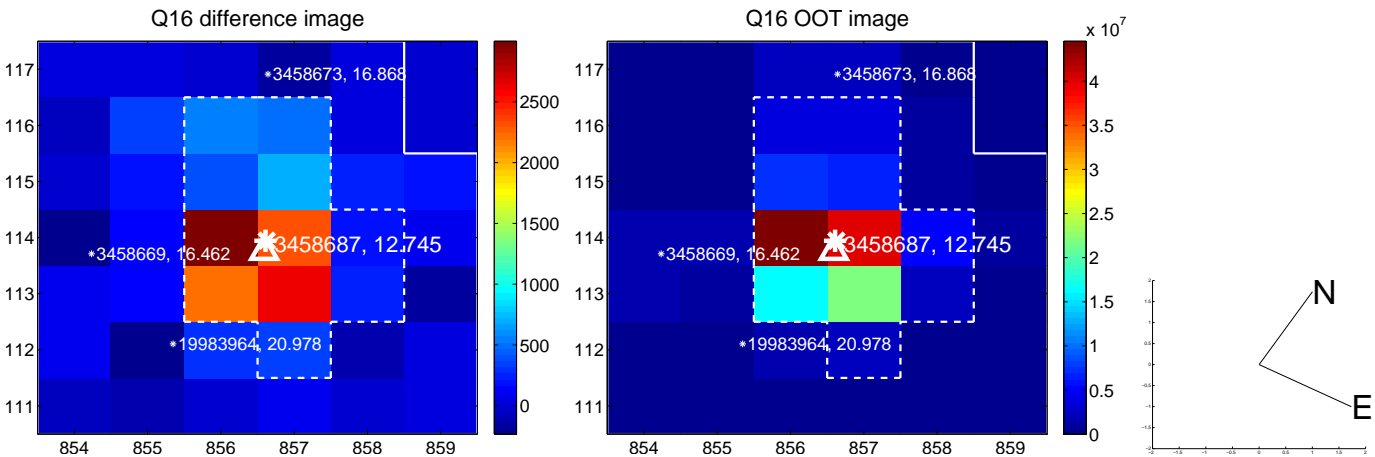
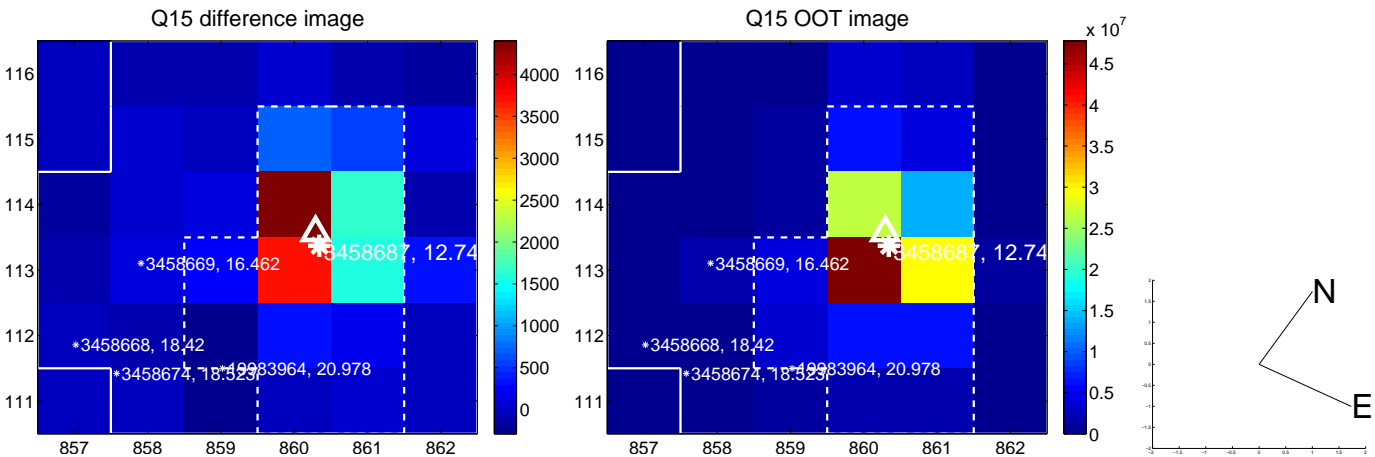
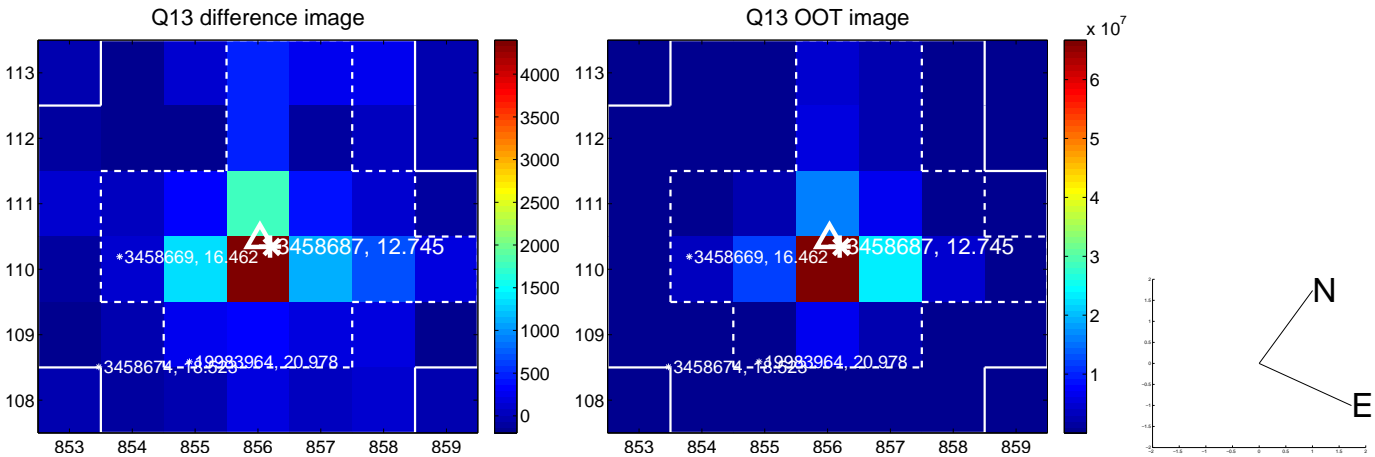
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



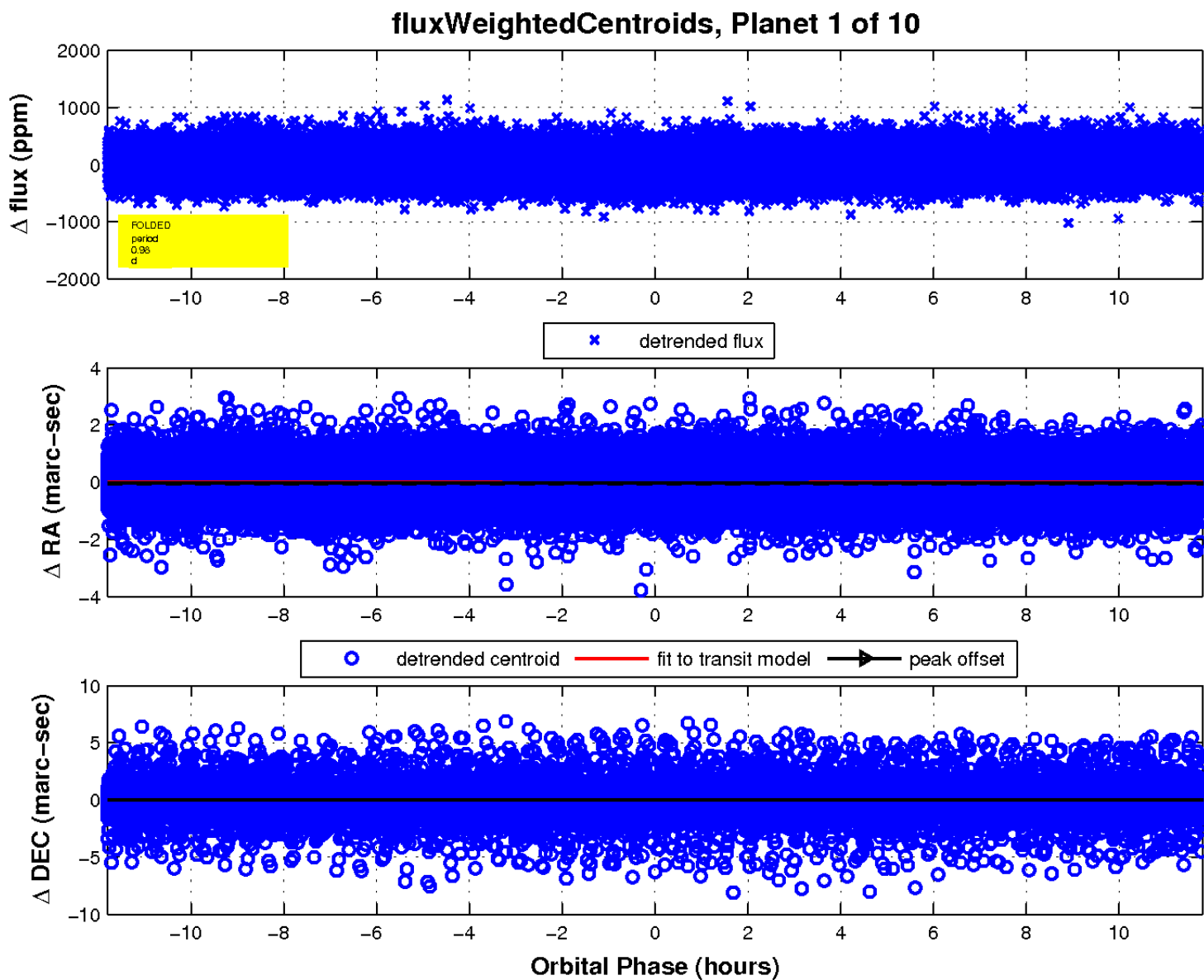
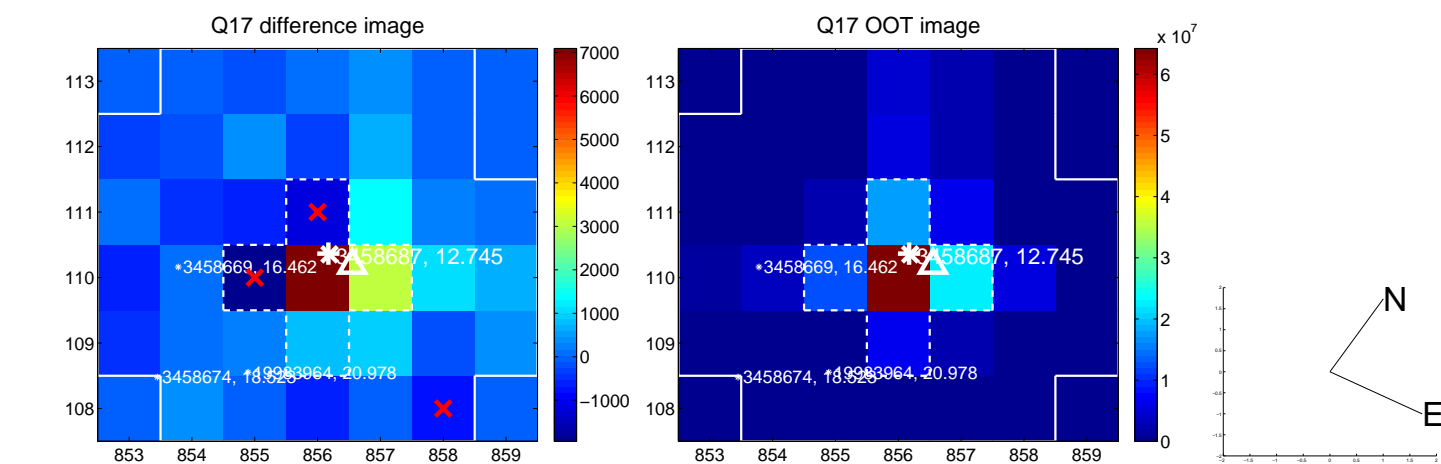
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

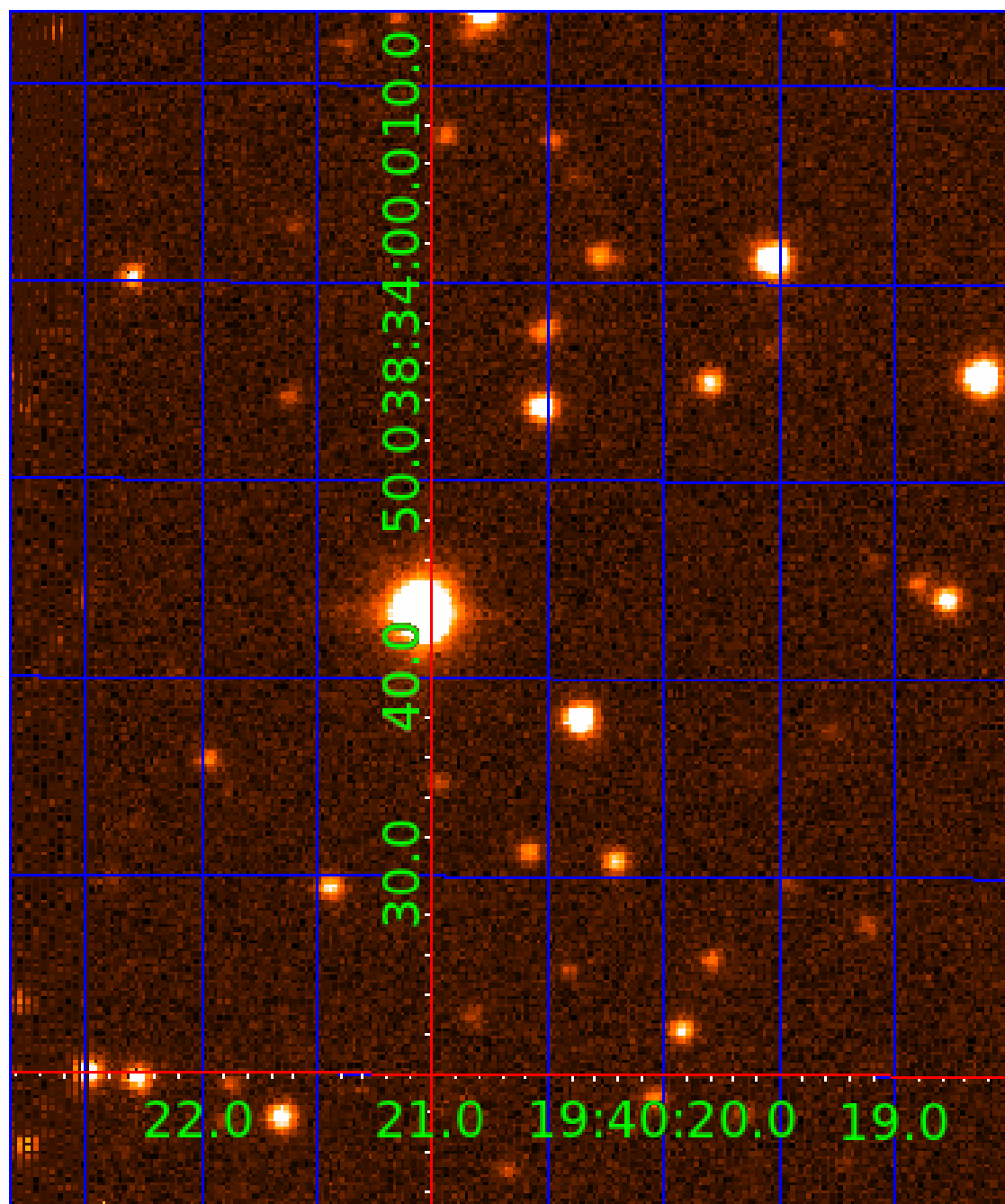


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003458687

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})
003458687-01	OBS	7543.01	0.983762	132.289383	23.9	6.743	8.8	9.1	5.29	6431	2.63	0.00
003458687-03	OBS	No	37.921542	137.409403	251.9	4.719	12.5	9.1	5.29	6431	8.85	567.57
003458687-04	OBS	No	34.338166	164.199165	317.7	2.327	11.8	9.4	5.29	6431	10.68	647.88
003458687-05	OBS	No	27.757951	139.496836	409.1	1.913	11.3	12.4	5.29	6431	11.27	860.36
003458687-06	OBS	No	27.834187	137.823236	336.6	1.997	10.7	10.9	5.29	6431	10.97	857.22
003458687-07	OBS	No	11.691953	138.628806	197.9	4.490	9.7	12.3	5.29	6431	8.70	2724.89
003458687-08	OBS	No	14.488233	137.905875	271.0	1.438	10.2	10.5	5.29	6431	9.13	2047.28
003458687-09	OBS	No	28.101709	140.458736	305.4	3.602	10.3	11.9	5.29	6431	9.65	846.36
003458687-10	OBS	No	29.681505	136.537650	270.5	3.500	9.5	-1.0	5.29	6431	8.76	786.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003458687-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
003458687-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003458687-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003458687-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
003458687-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-10	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_NOFITS—HALO_GHOST

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

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

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

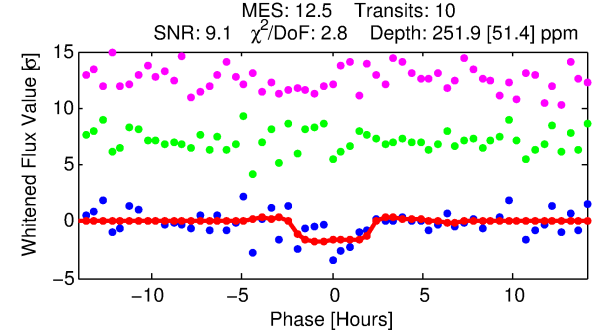
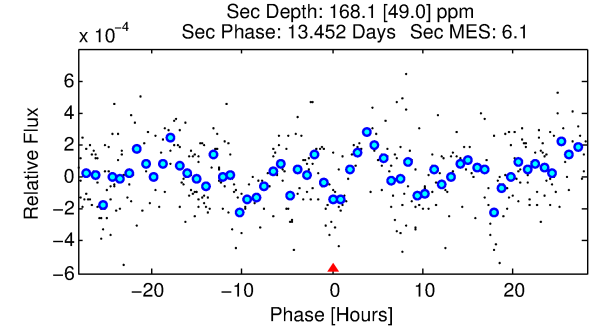
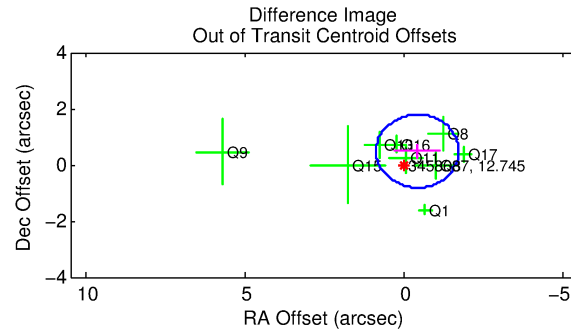
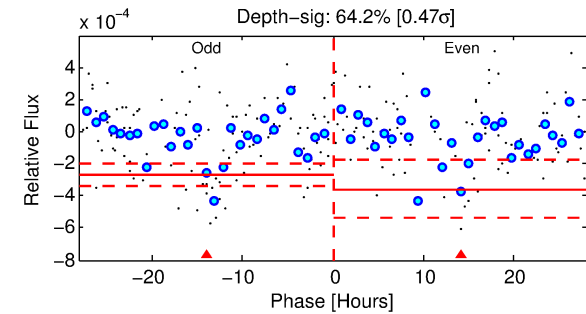
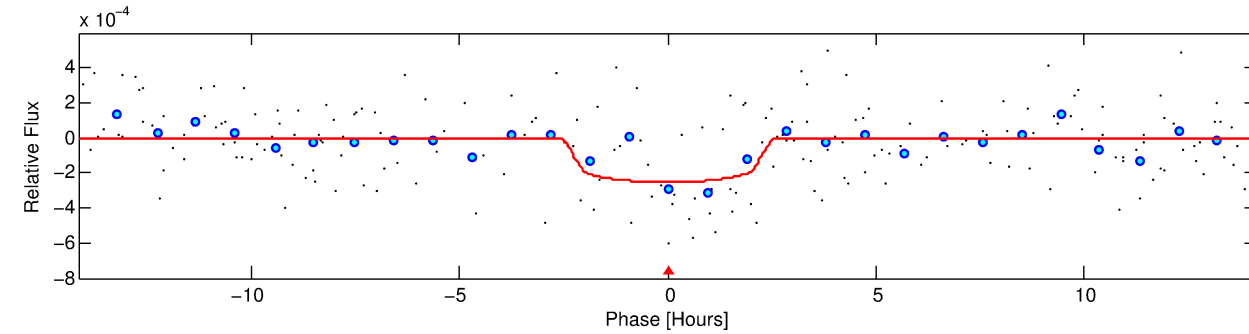
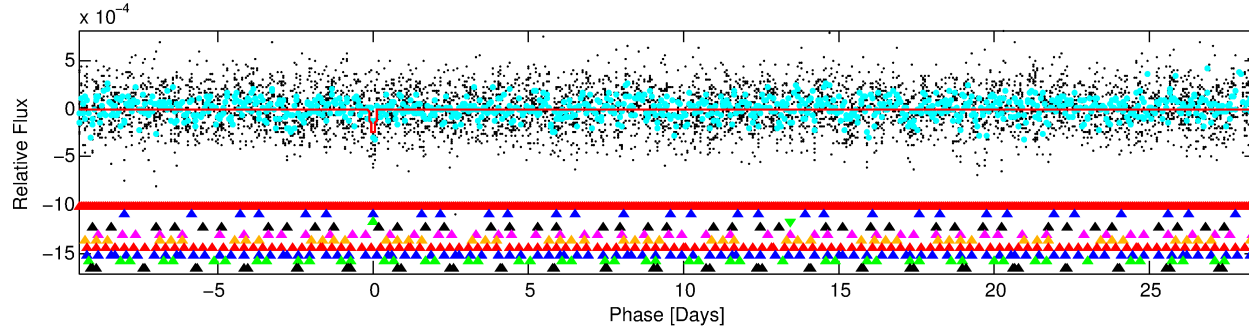
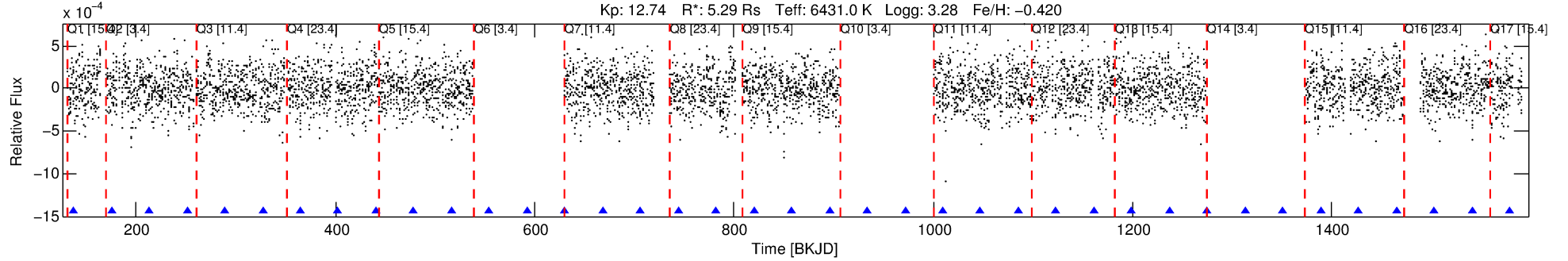
Ephemeris Match Information For 003458687-03

No Significant Match Found

DV One-Page Summary

KIC: 3458687 Candidate: 3 of 10 Period: 37.922 d
KOI: K07543 Corr: No Ephemeris Match

Kp: 12.74 R*: 5.29 Rs Teff: 6431.0 K Logg: 3.28 Fe/H: -0.420



DV Fit Results:

Period = 37.92154 [0.00079] d
Epoch = 137.4094 [0.0183] BKJD
Rp/R* = 0.0153 [0.0281]
a/R* = 49.21 [491.50]
b = 0.62 [9.89]
Seff = 567.57 [460.12]
Teq = 1245 [252] K
Rp = 8.85 [16.88] Re
a = 0.2751 [0.1383] AU
Ag = 89.37 [336.37] [0.26σ]
Teffp = 5916 [5444] K [0.86σ]

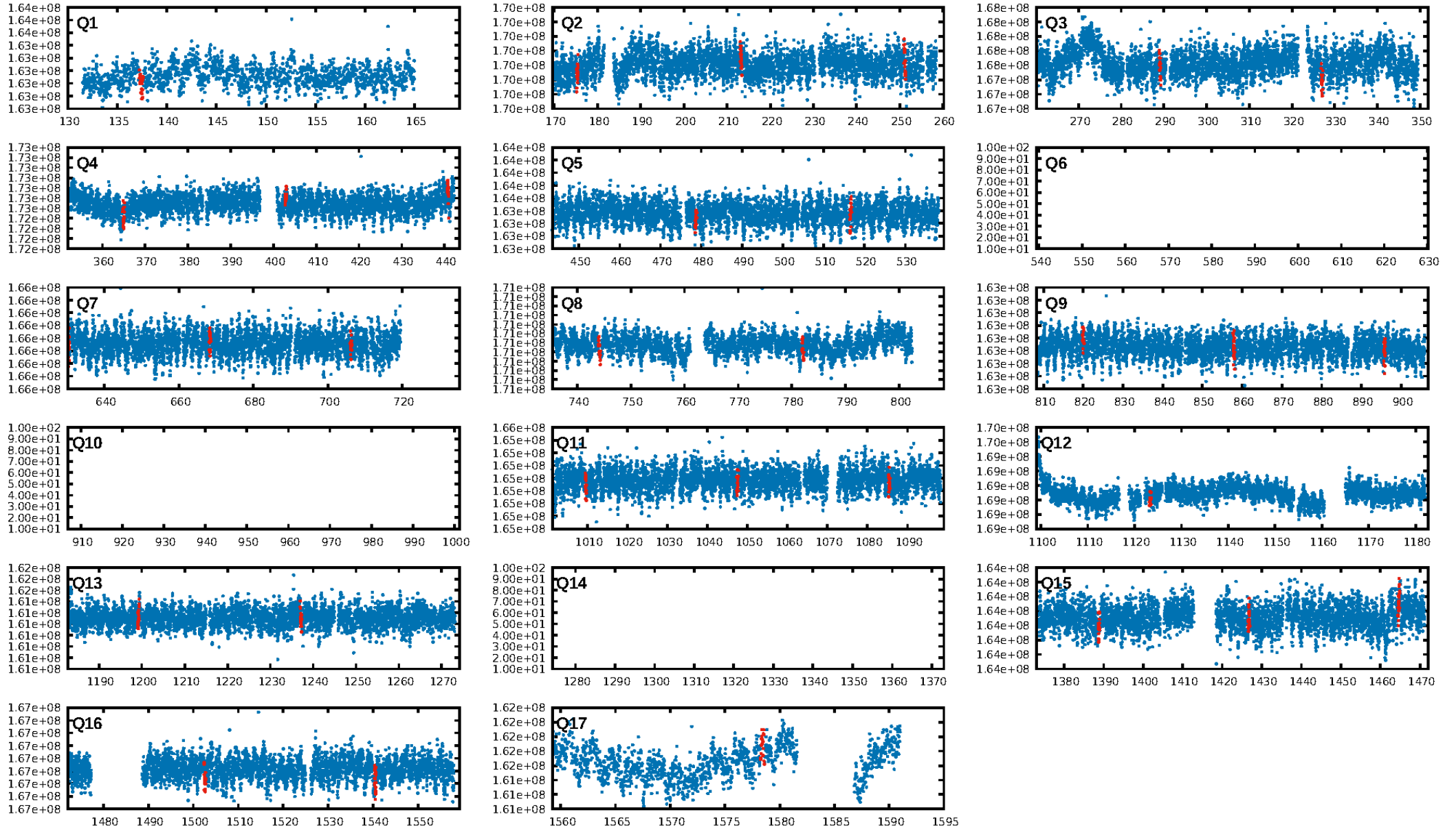
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [16.35σ]
LongPeriod-sig: 100.0% [32.83σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 31.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: -0.3269
Centroid-sig: 6.9%
Centroid-so: 0.887 arcsec [2.21σ]
OotOffset-rm: 0.633 arcsec [1.46σ]
OotOffset-st: 0/3/2/4 [9]
KicOffset-rm: 0.657 arcsec [1.32σ]
KicOffset-st: 0/3/2/4 [9]
DiffImageQuality-fgm: 0.67 [6/9]
DiffImageOverlap-fno: 0.00 [0/13]

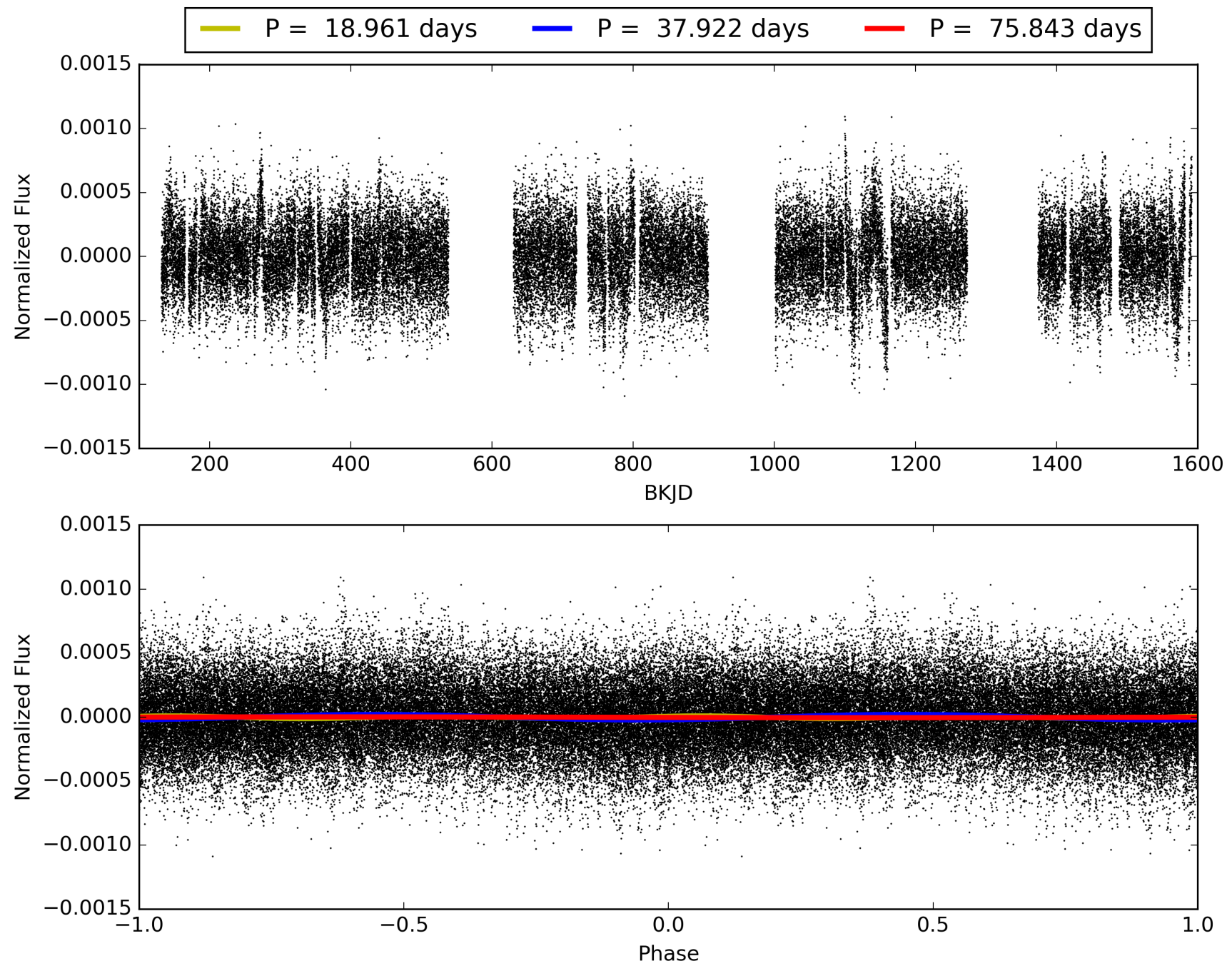
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:32:36 Z

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

TCE 003458687-03, PDC Light Curves

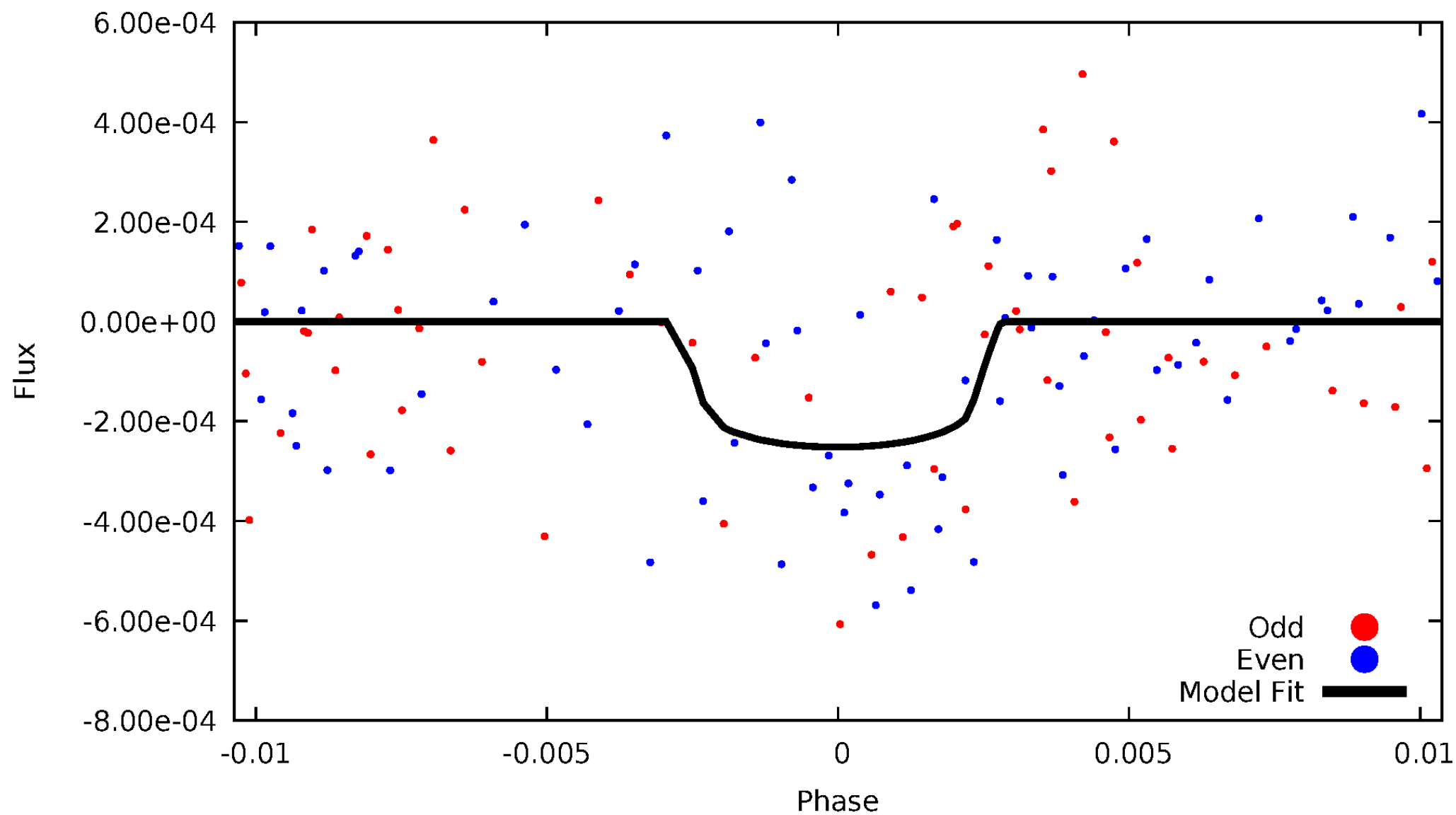


TCE 003458687-03



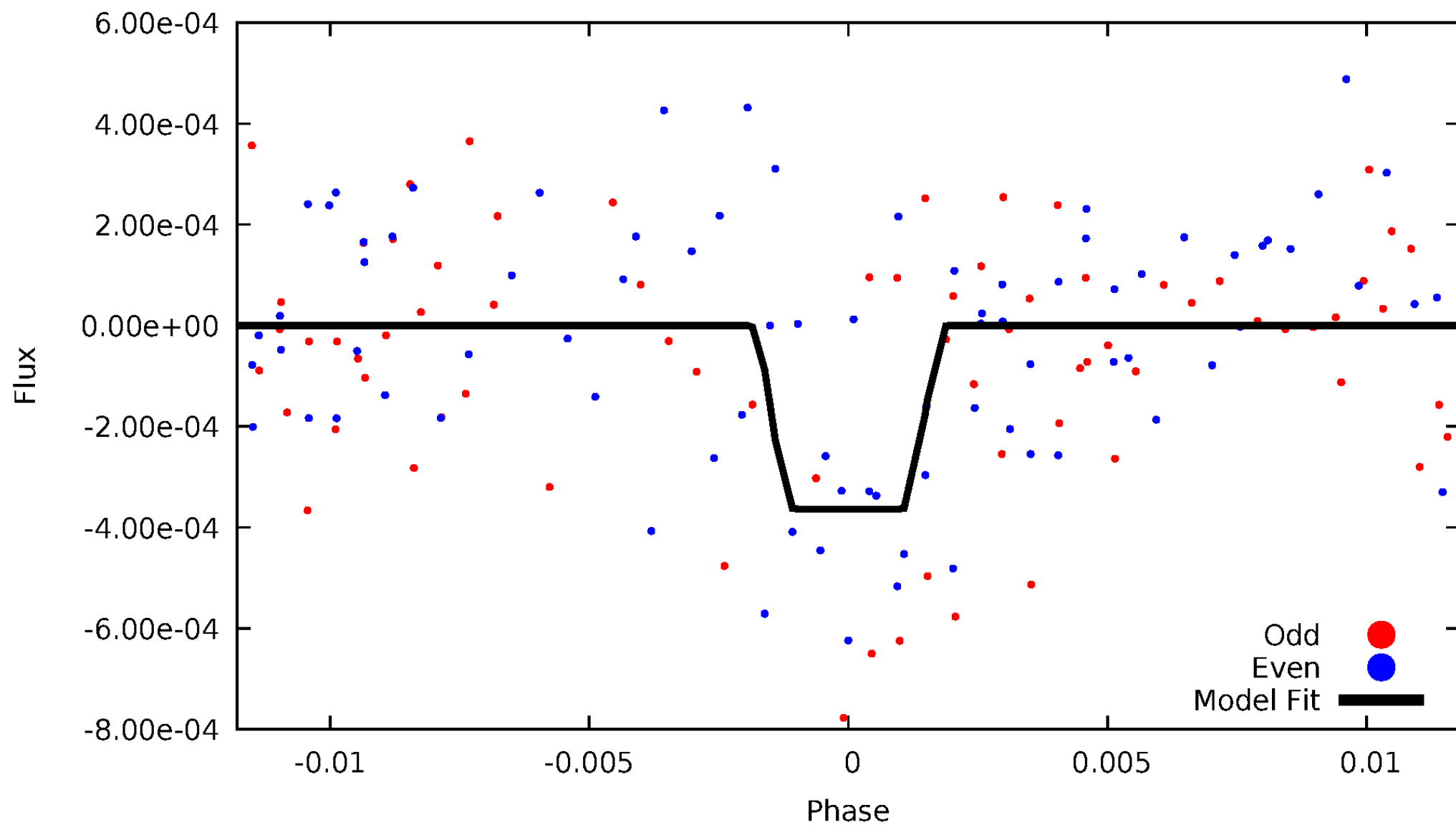
DV Odd/Even

TCE 003458687-03



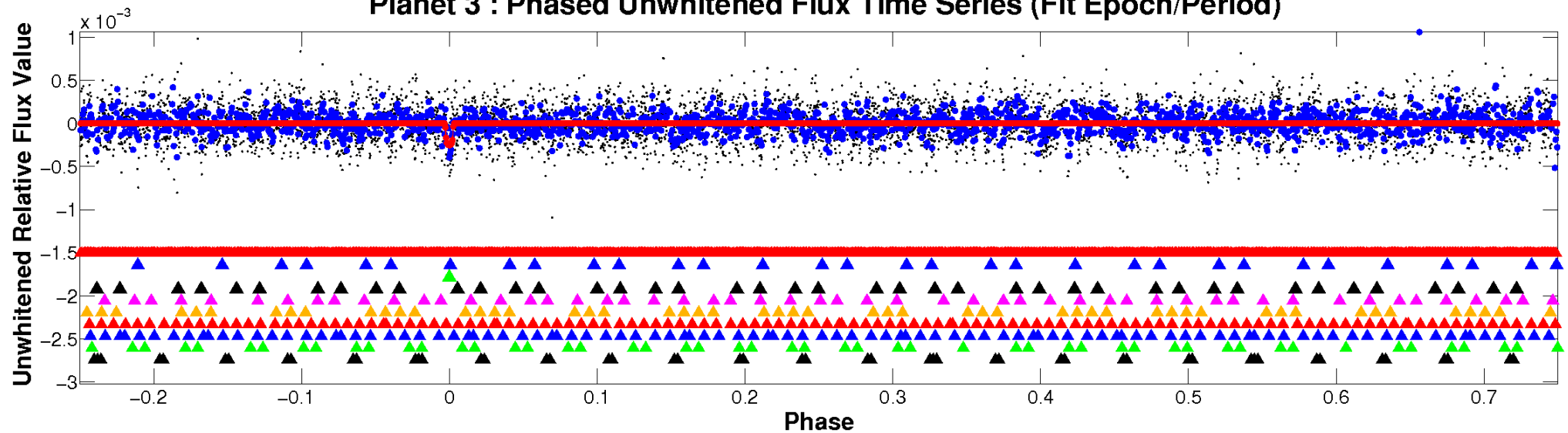
ALT Odd/Even

TCE 003458687-03

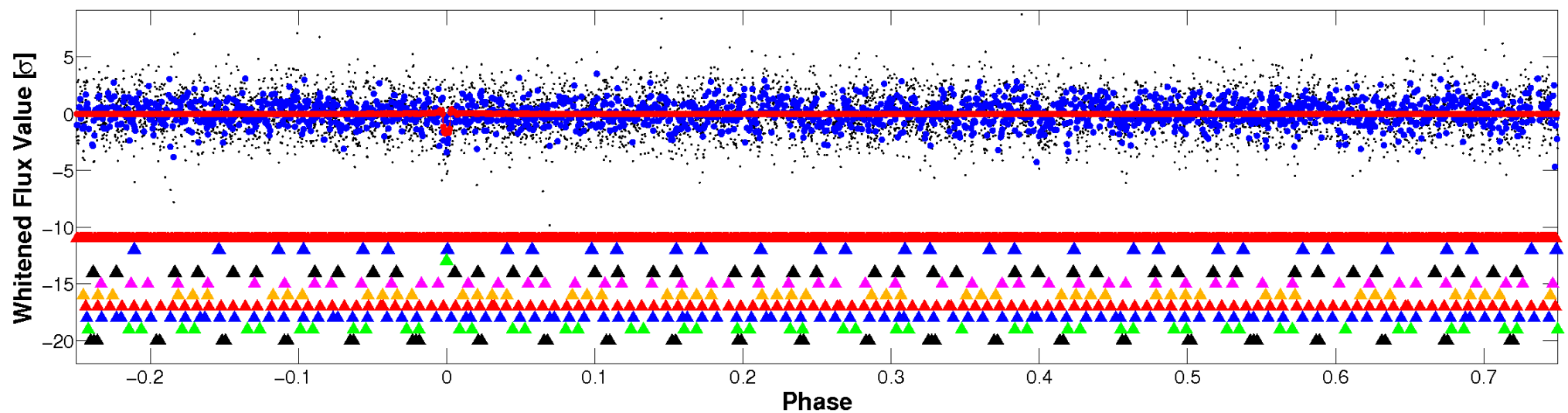


Non-Whitened Vs. Whitened Light Curve

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

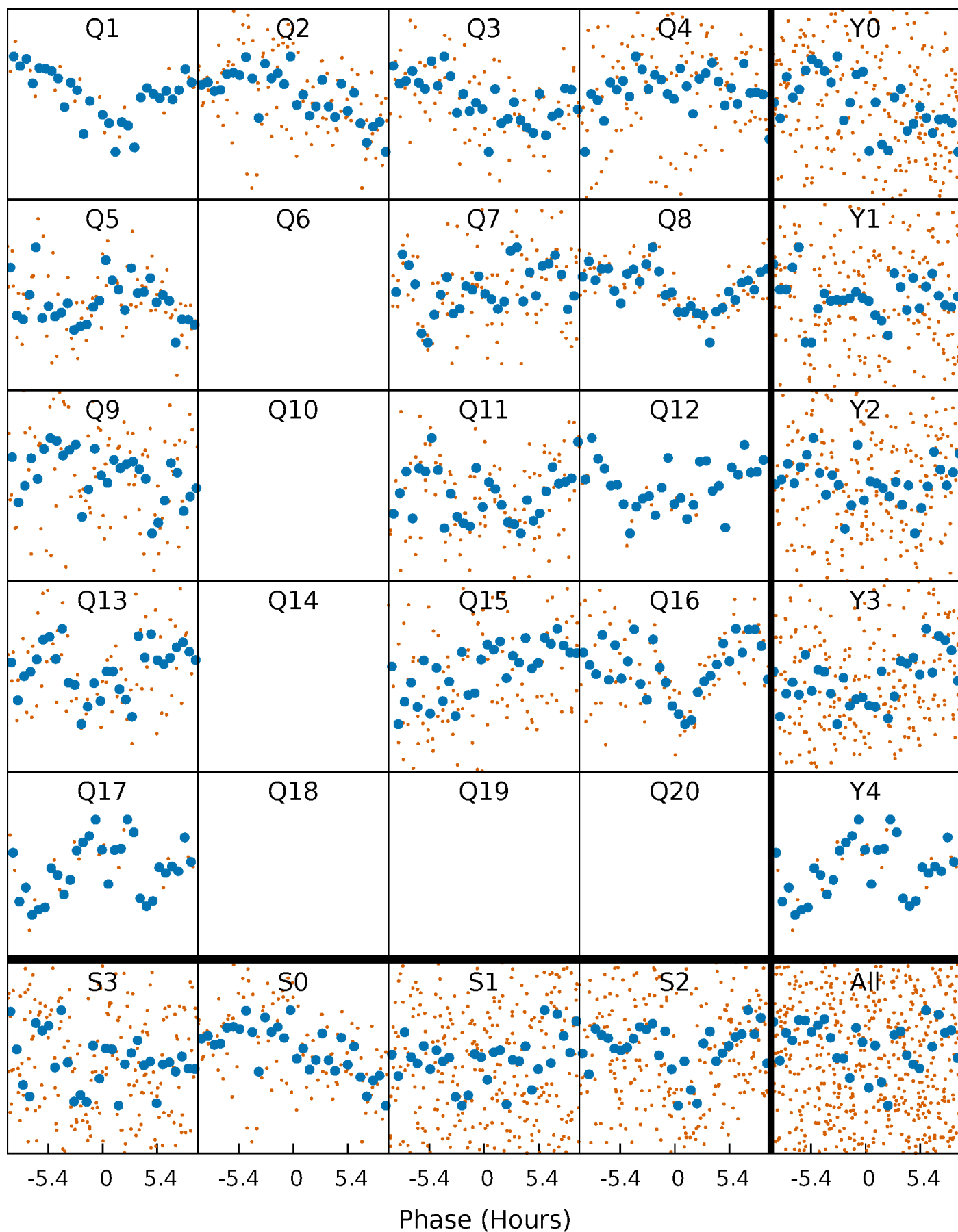


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



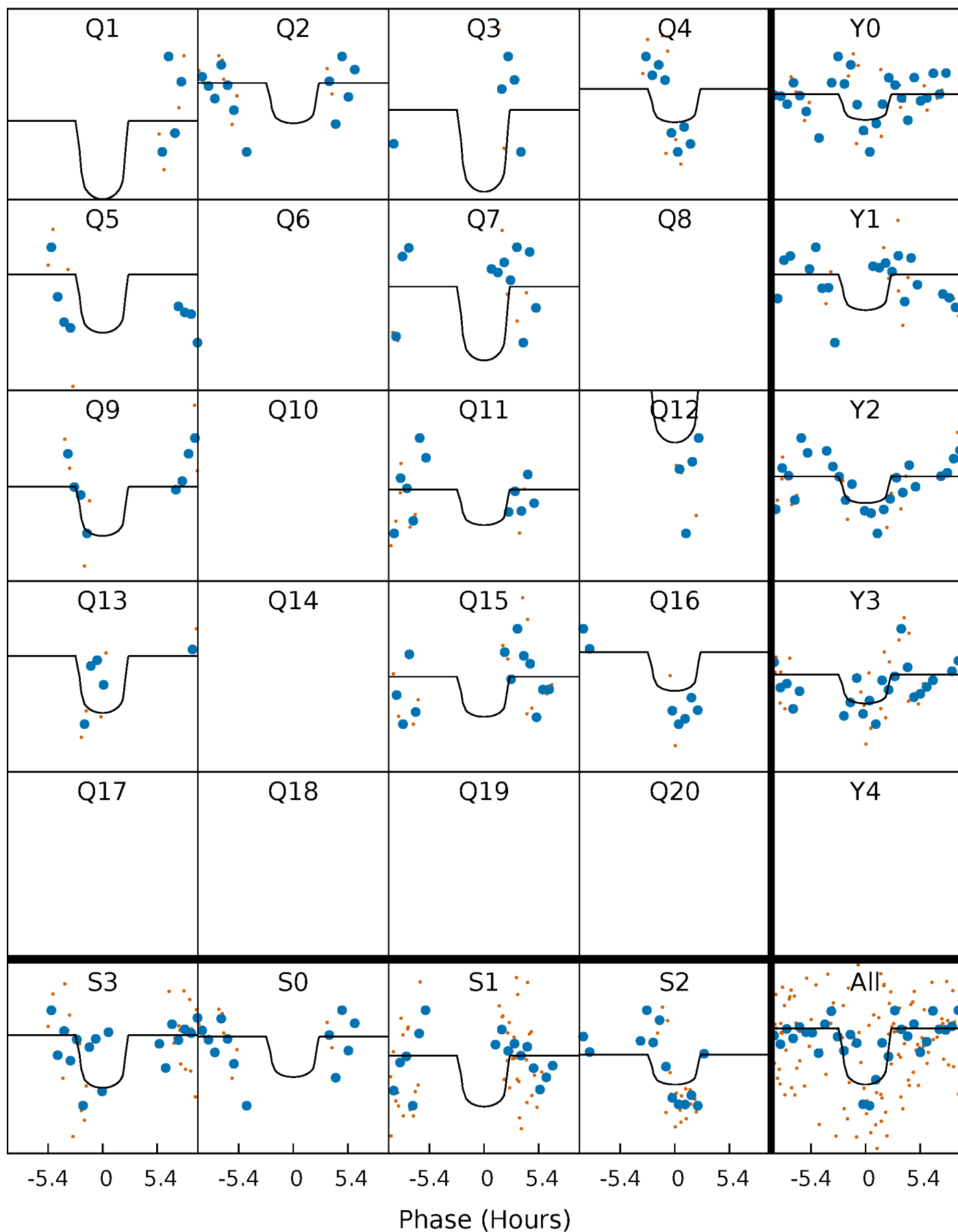
PDC Quarter-Phased Transit Curves

TCE 003458687-03 P= 37.921542 Days $T_0=137.409403$ (BKJD)



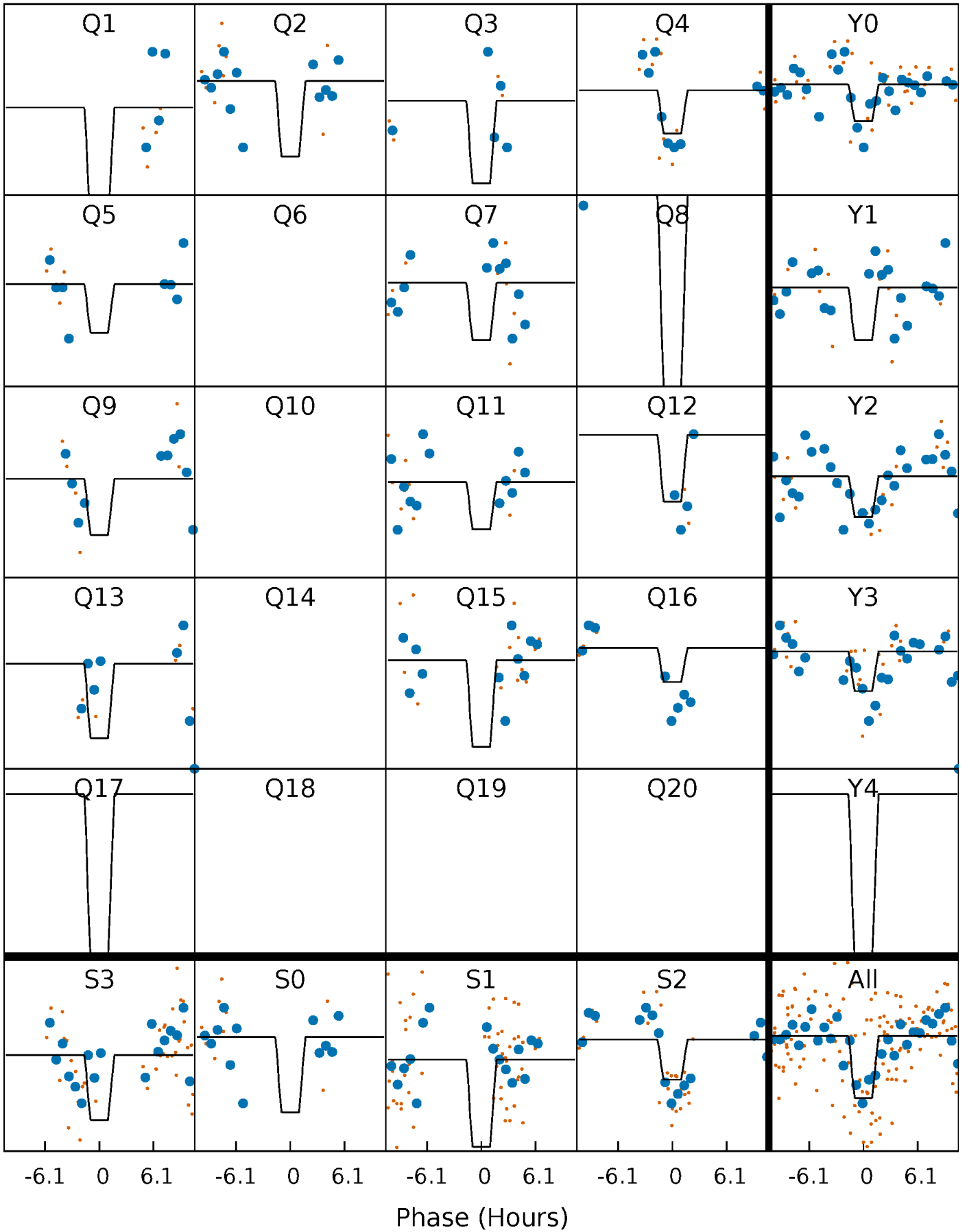
DV Quarter-Phased Transit Curves

TCE 003458687-03 P= 37.921542 Days $T_0=137.409403$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

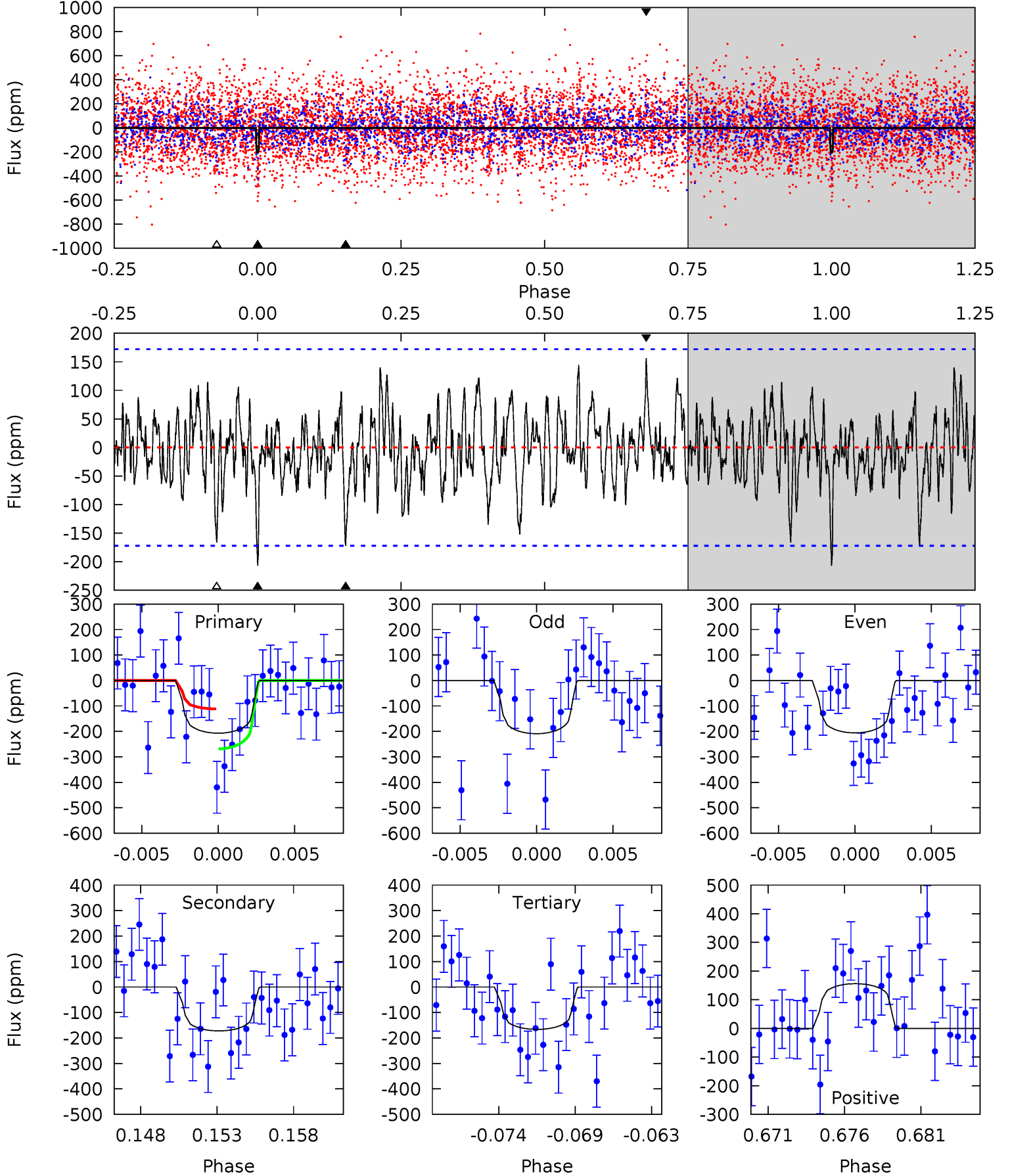
TCE 003458687-03 $P = 37.920904$ Days $T_0 = 137.437717$ (BKJD)



DV Model-Shift Uniqueness Test

003458687-03, P = 37.921542 Days, E = 99.487861 Days

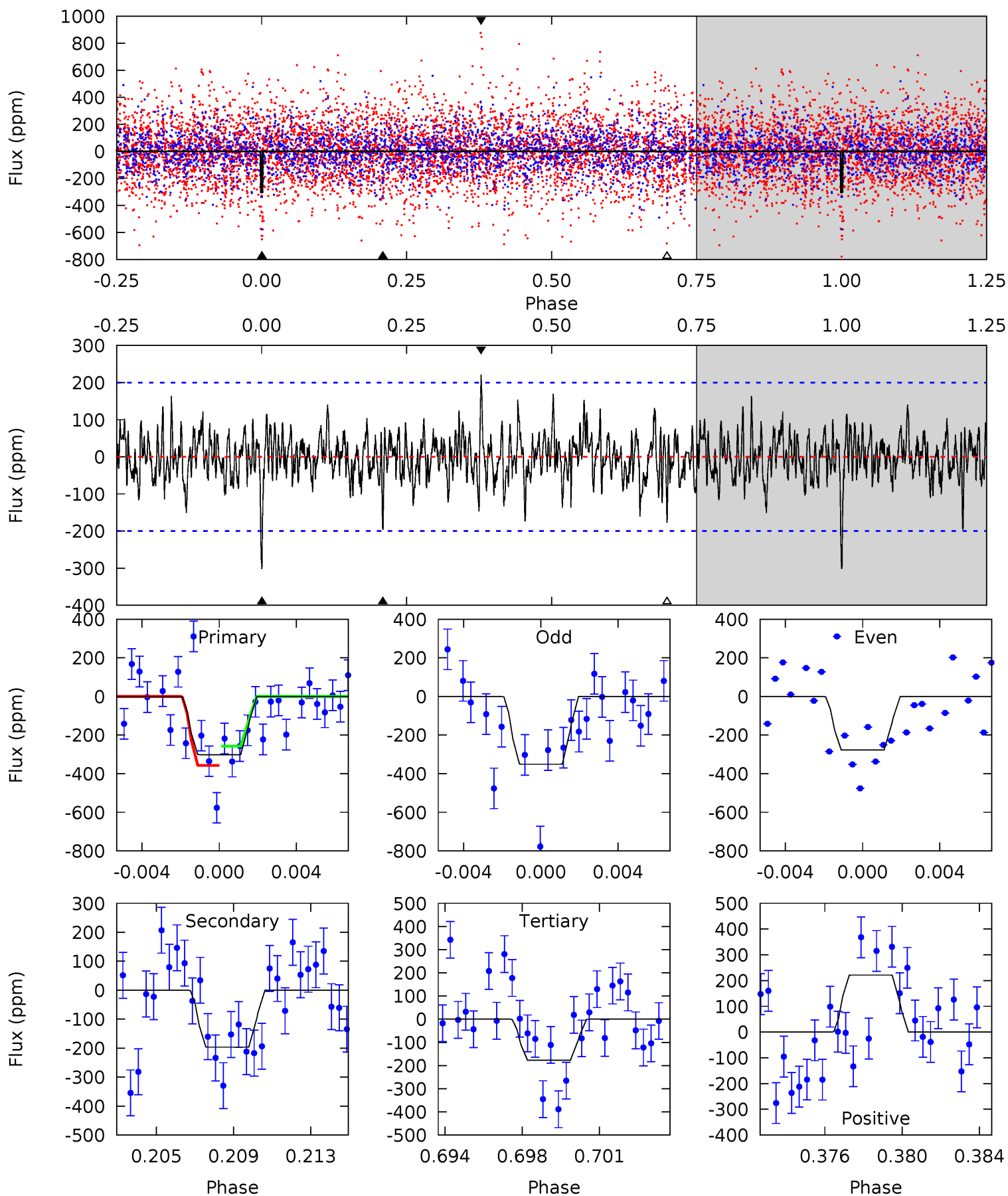
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.20	5.16	4.98	4.67	5.15	2.79	1.56	1.22	1.52	0.18	0.49	0.05	0.68	0.43	2.22



Alt Model-Shift Uniqueness Test

003458687-03, P = 37.920904 Days, E = 99.516813 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.87	5.13	4.63	5.77	5.21	2.89	1.39	3.24	2.09	0.50	-0.65	0.91	0.91	0.42	1.30



Stellar Parameters For KIC 003458687

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6431^{+172}_{-211}	$3.276^{+0.468}_{-0.052}$	$-0.420^{+0.400}_{-0.300}$	$5.294^{+0.294}_{-2.795}$	$1.932^{+0.069}_{-0.590}$	$0.018^{+0.090}_{-0.003}$
	+3%/-3%	+14%/-2%	+95%/-71%	+6%/-53%	+4%/-31%	+491%/-18%
Source	PHO1	FLK73	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 003458687-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-172 ± 33	$13.20^{+12.59}_{-8.99}$	1701^{+82}_{-207}	4681^{+3532}_{-1007}	40^{+346}_{-30}
Alt.	-197 ± 38	$13.71^{+12.95}_{-8.89}$	1700^{+89}_{-194}	4685^{+3590}_{-958}	40^{+304}_{-28}

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 $A_{obs} \gg 1.0$

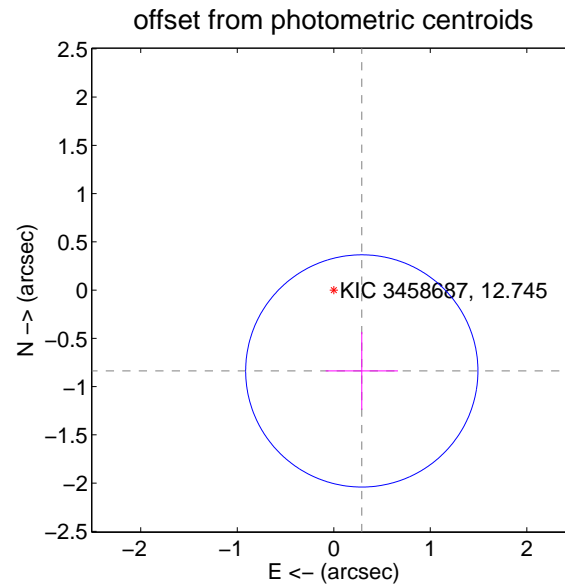
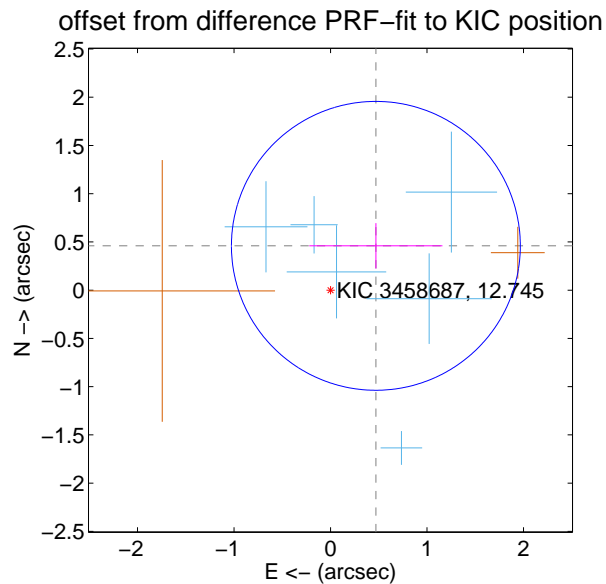
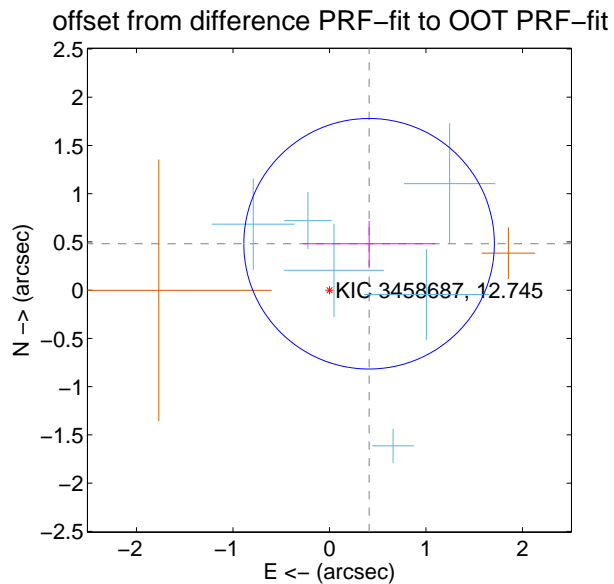
DV Centroid Data

Supplemental centroid analysis for 003458687-03. Kepler magnitude: 12.74. Transit SNR 9.12

There are 6 quarters with good PRF difference image offsets

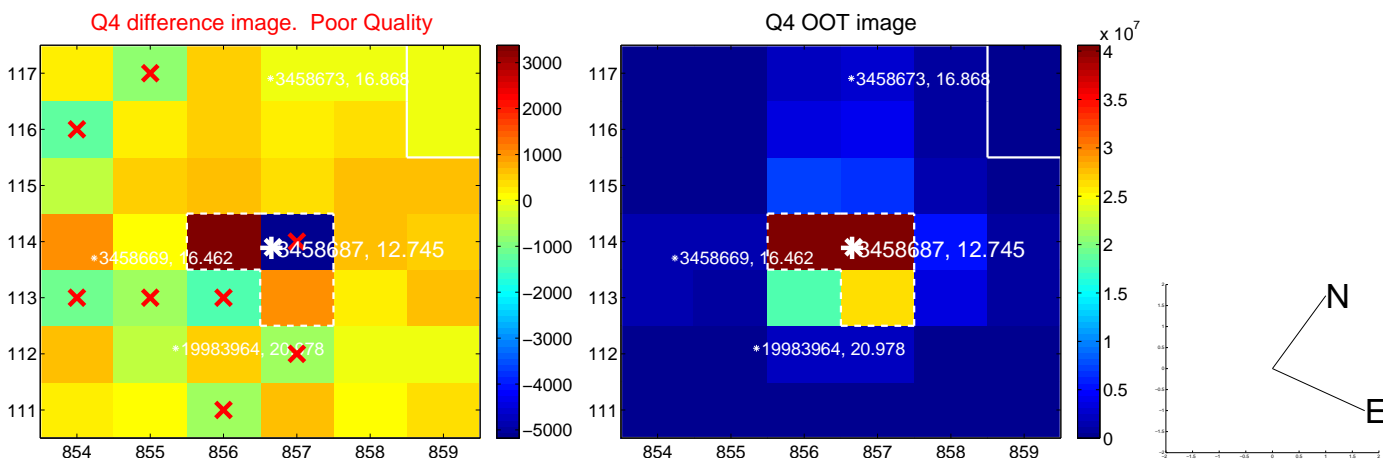
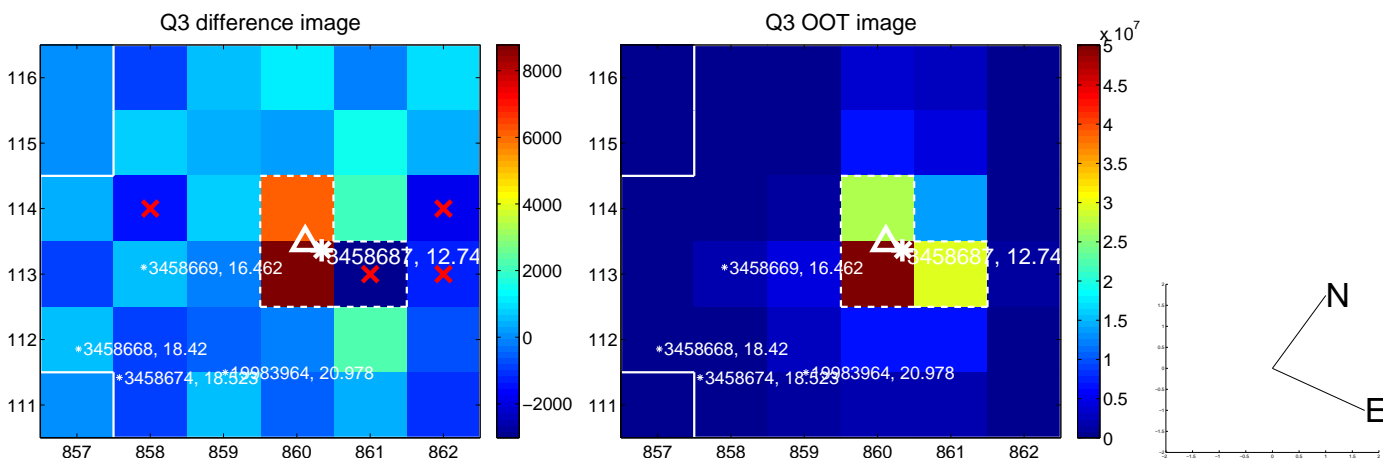
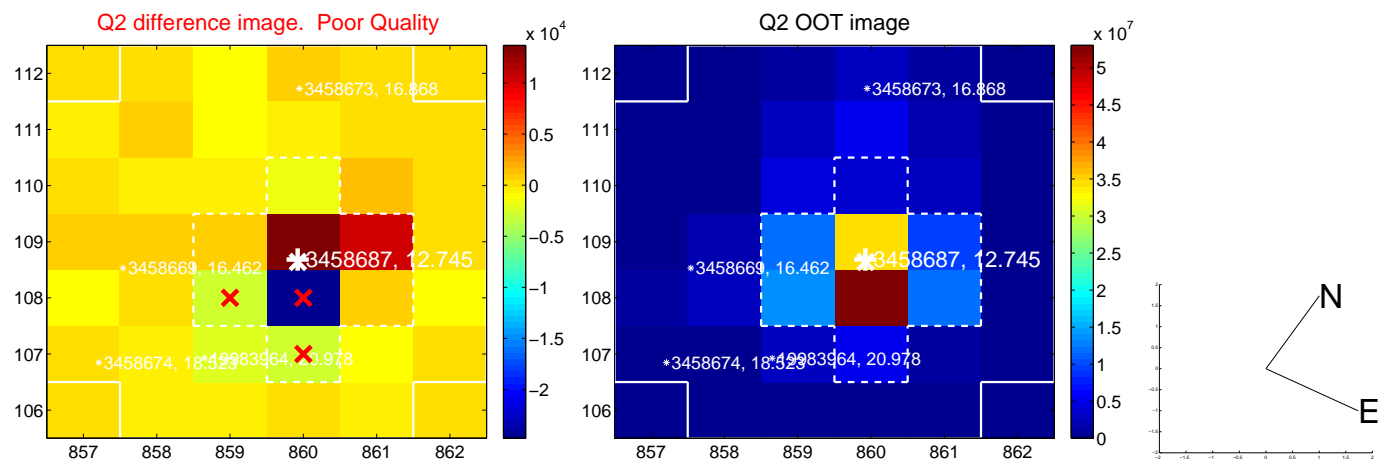
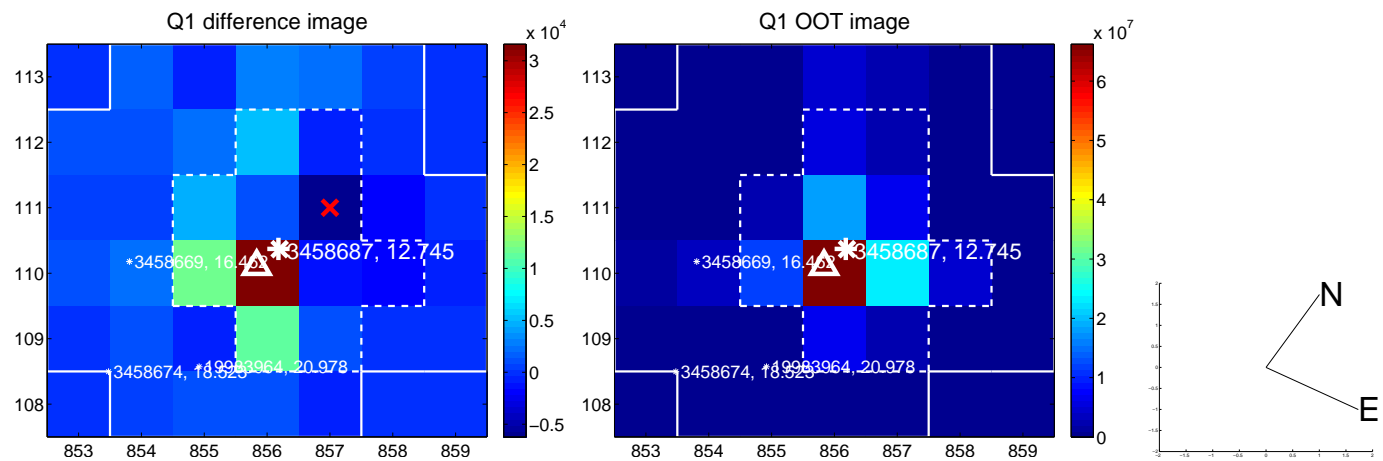
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.633 ± 0.433	1.46	-0.411 ± 0.687	0.481 ± 0.236
PRF-fit source offset from KIC position	0.657 ± 0.499	1.32	-0.470 ± 0.691	0.460 ± 0.236
photometric centroid source offset	0.89 ± 0.40	2.21	-0.29 ± 0.37	-0.84 ± 0.40

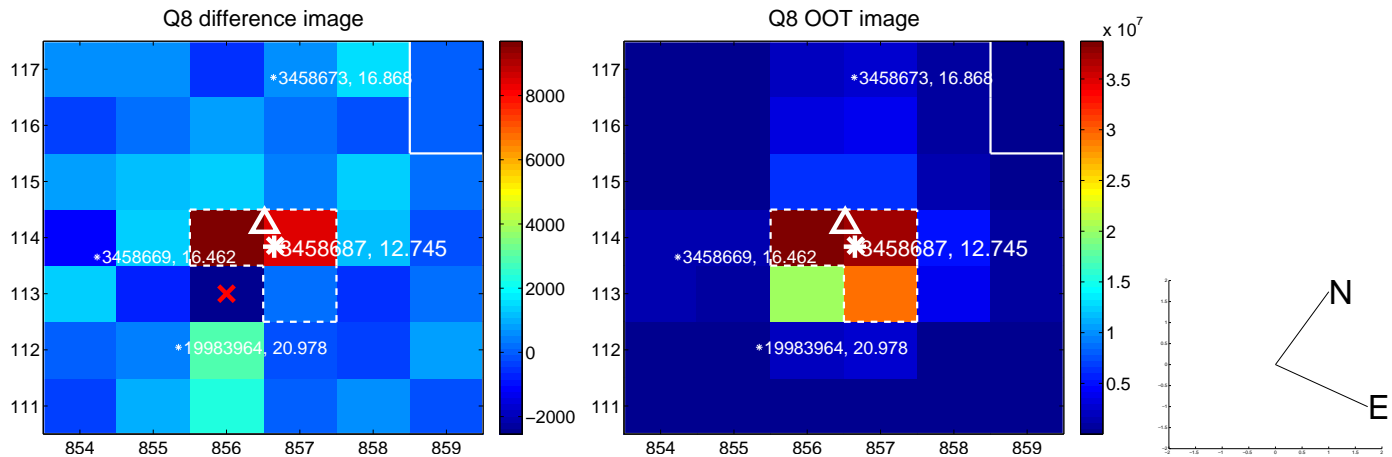
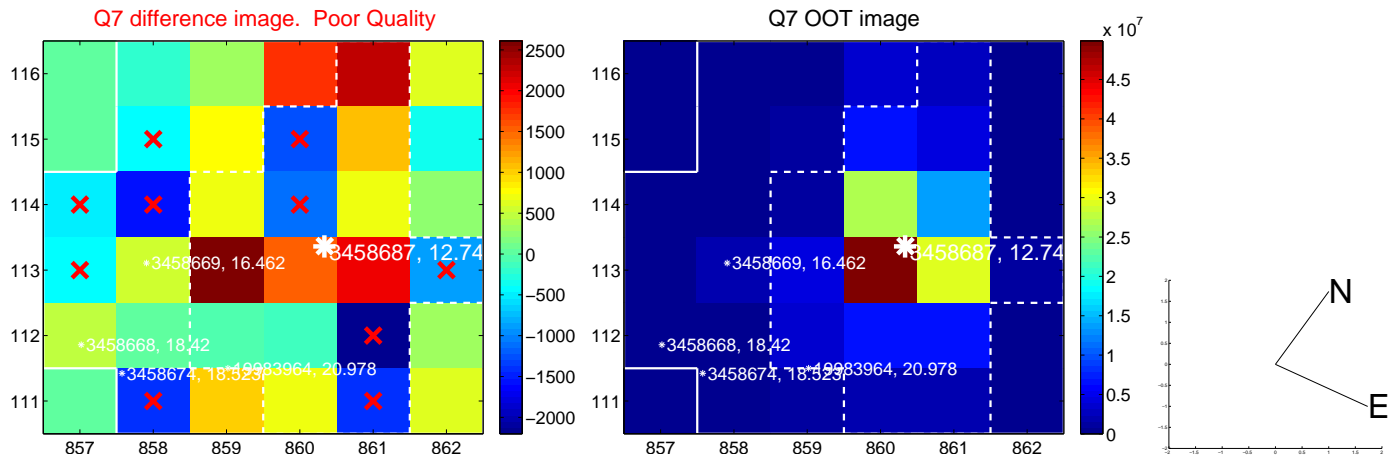
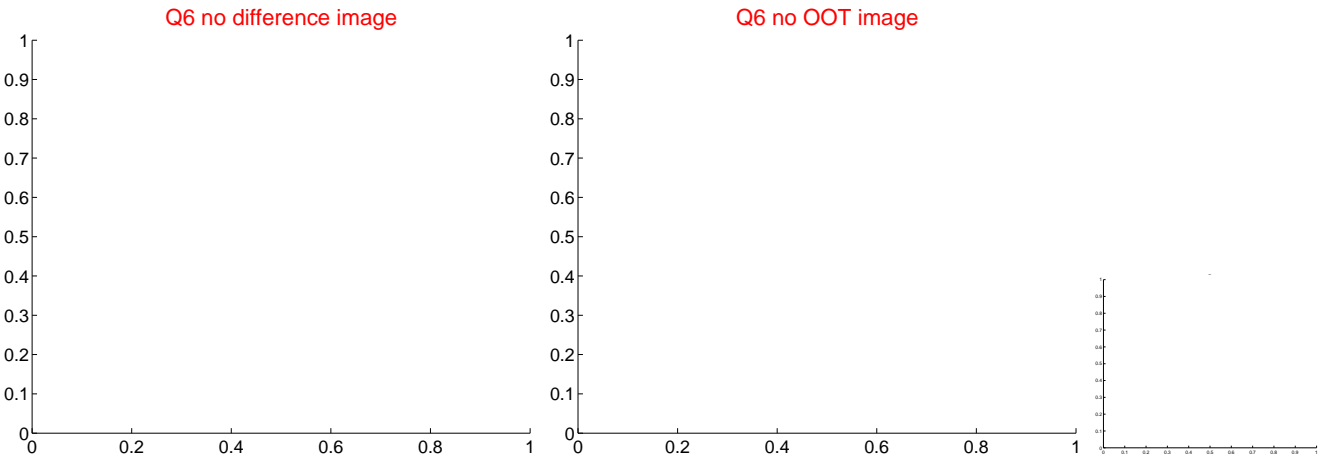
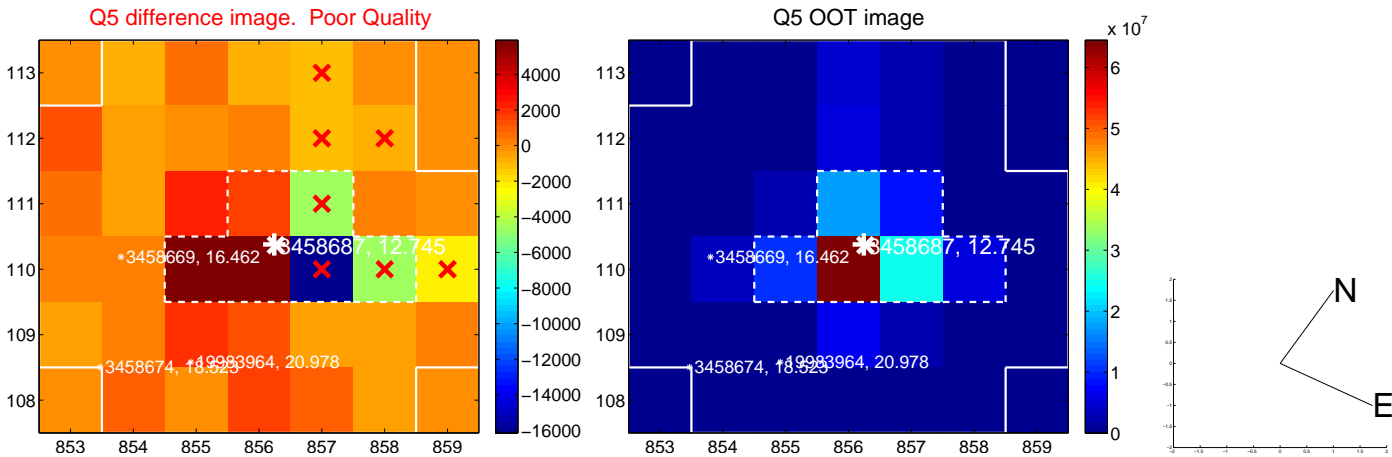


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

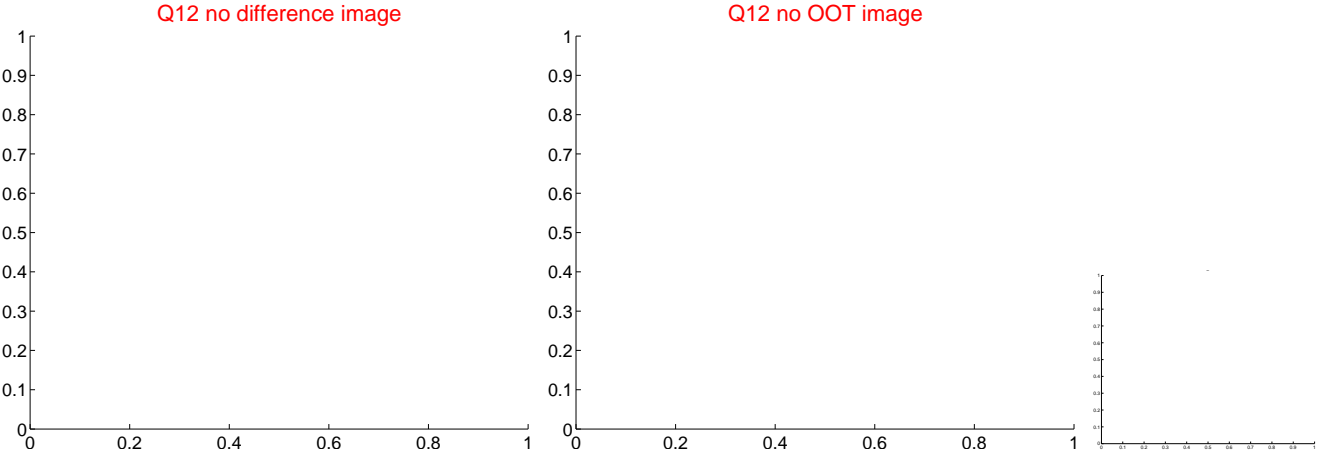
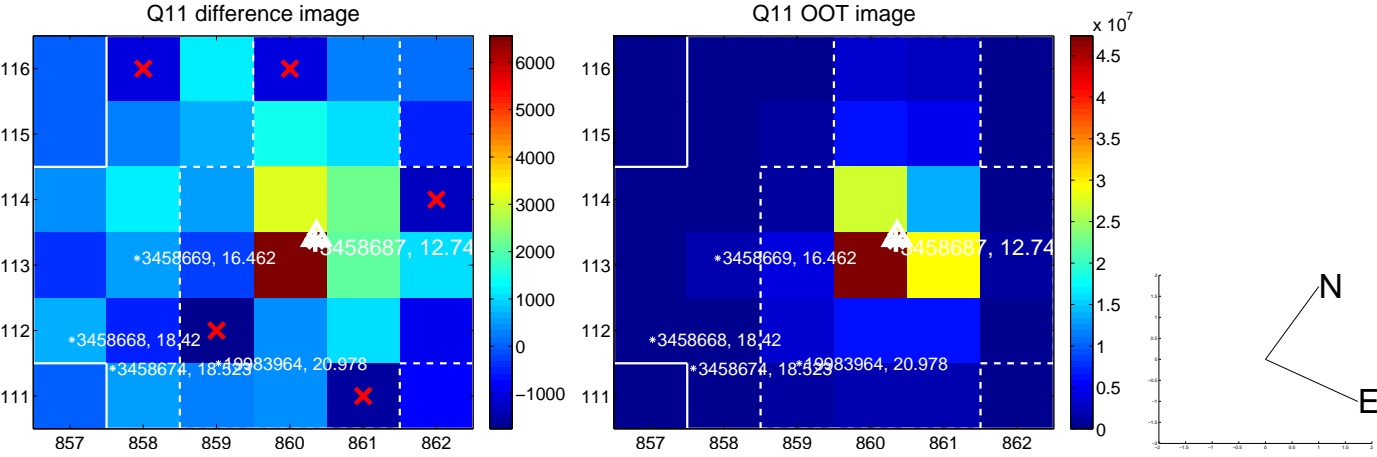
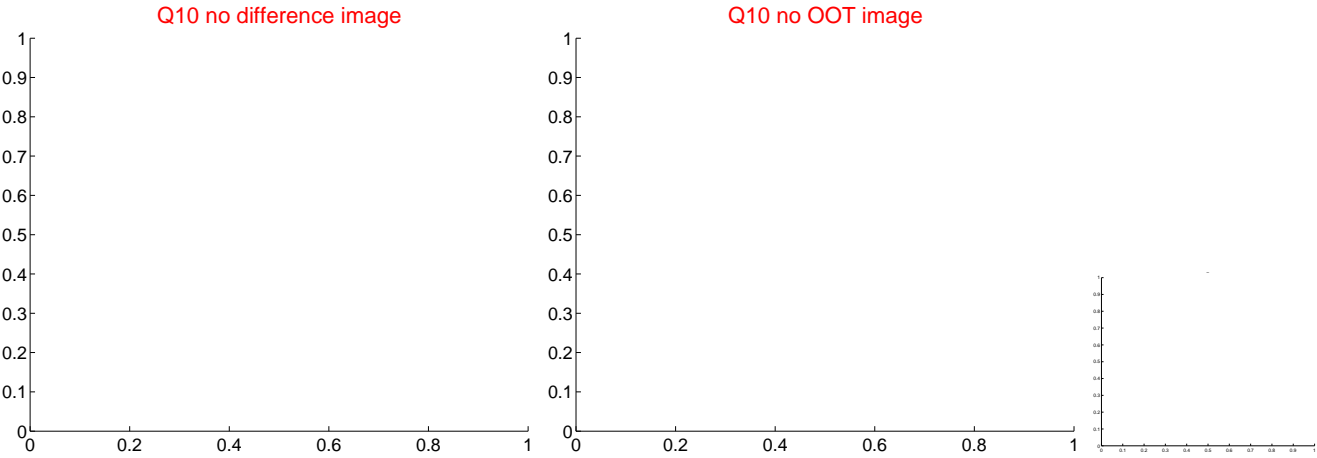
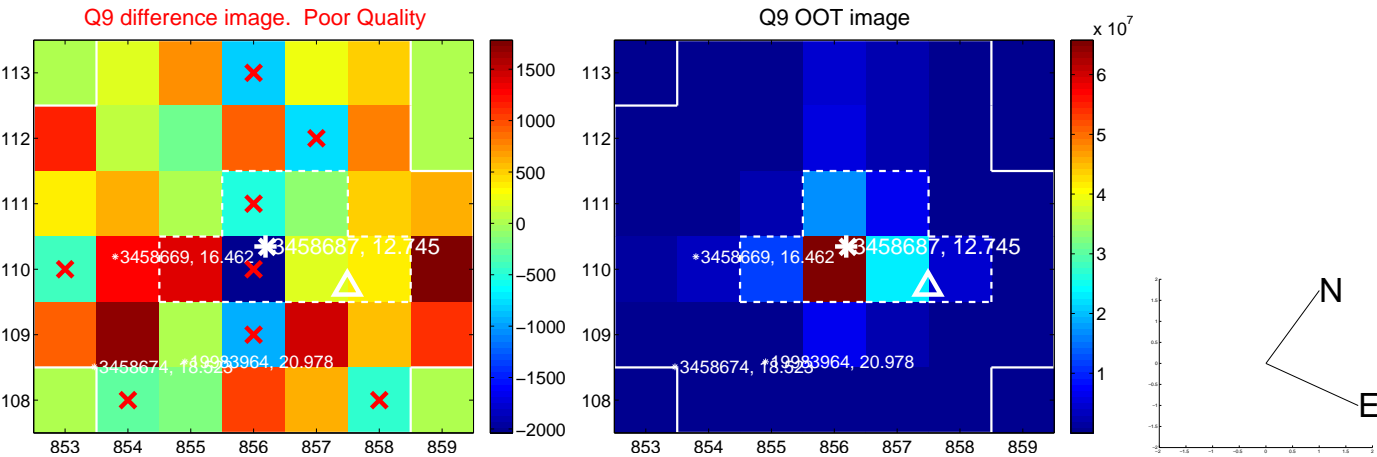
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



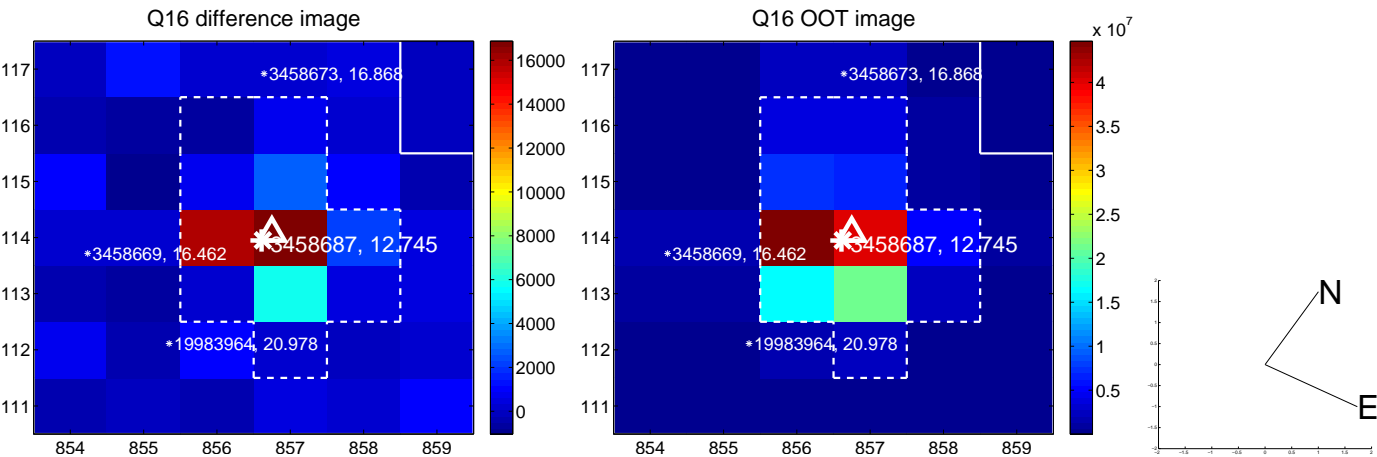
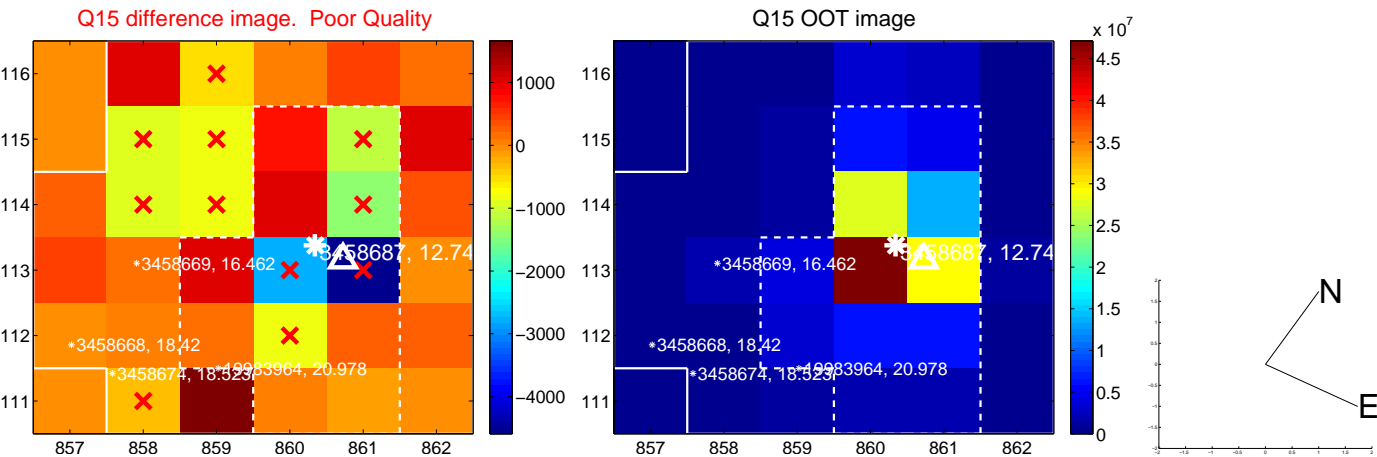
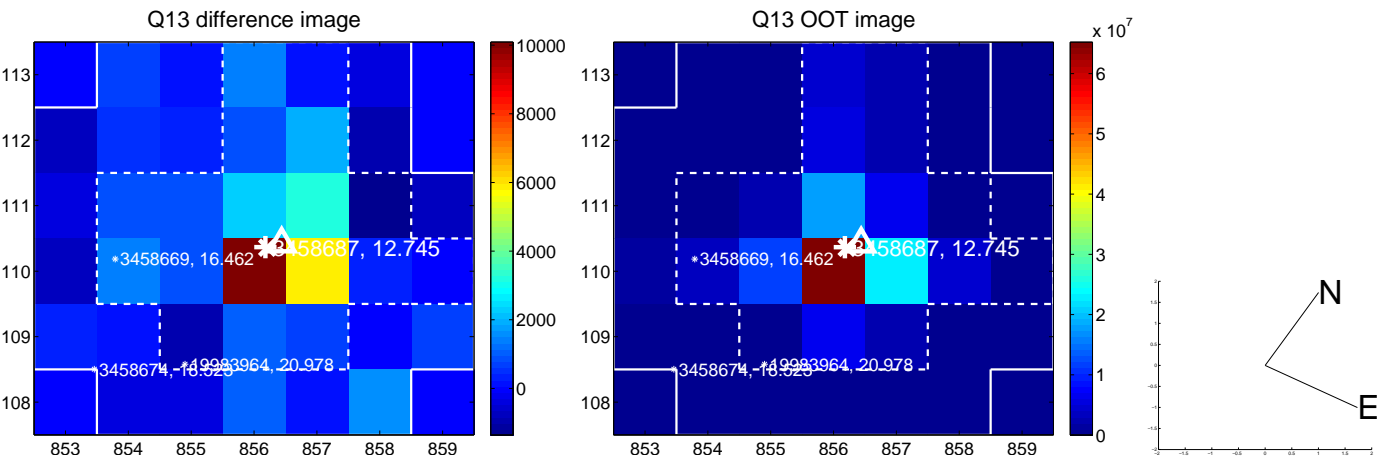
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



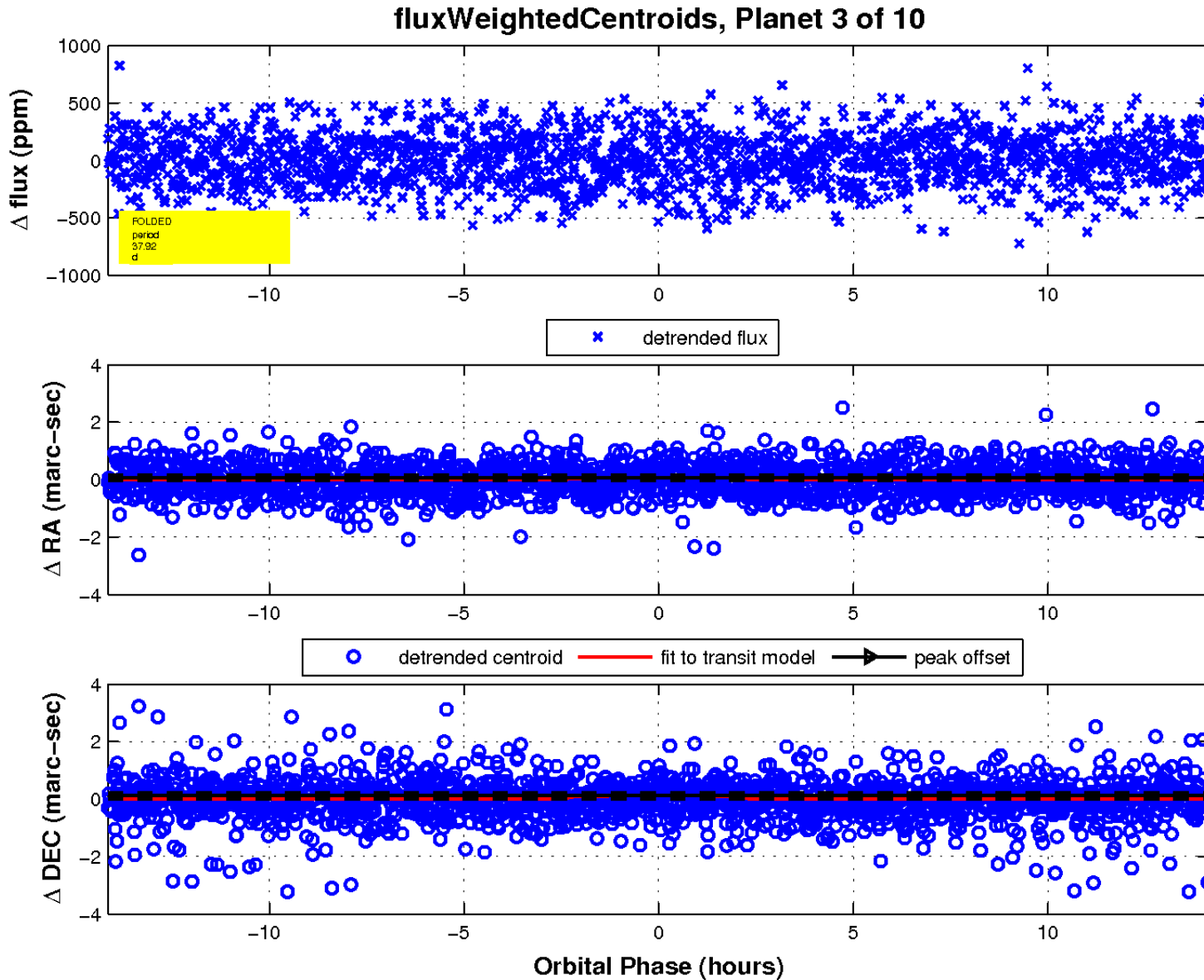
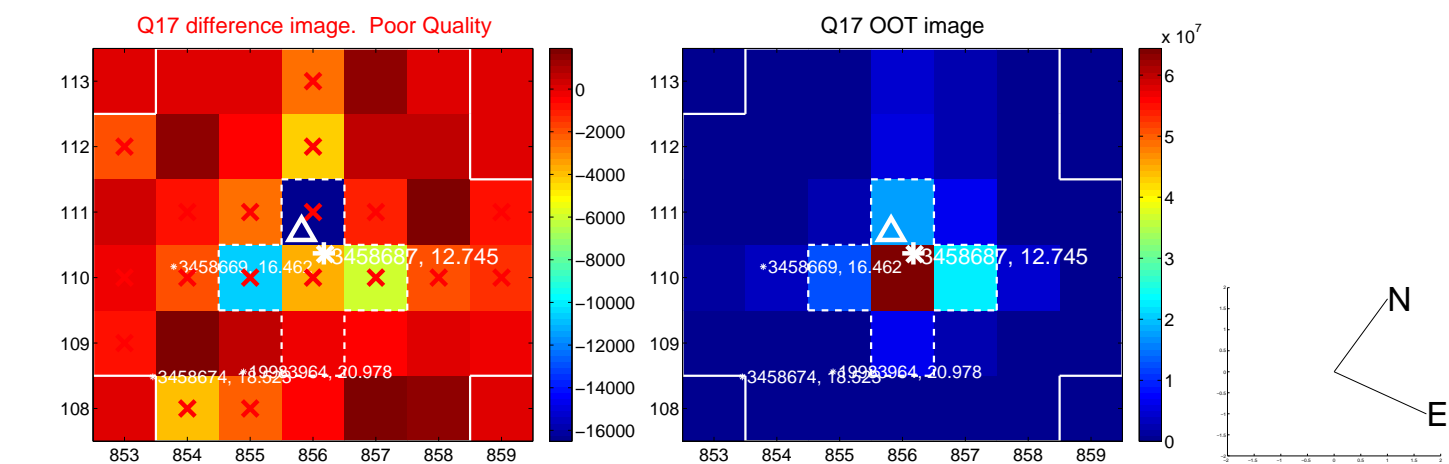
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

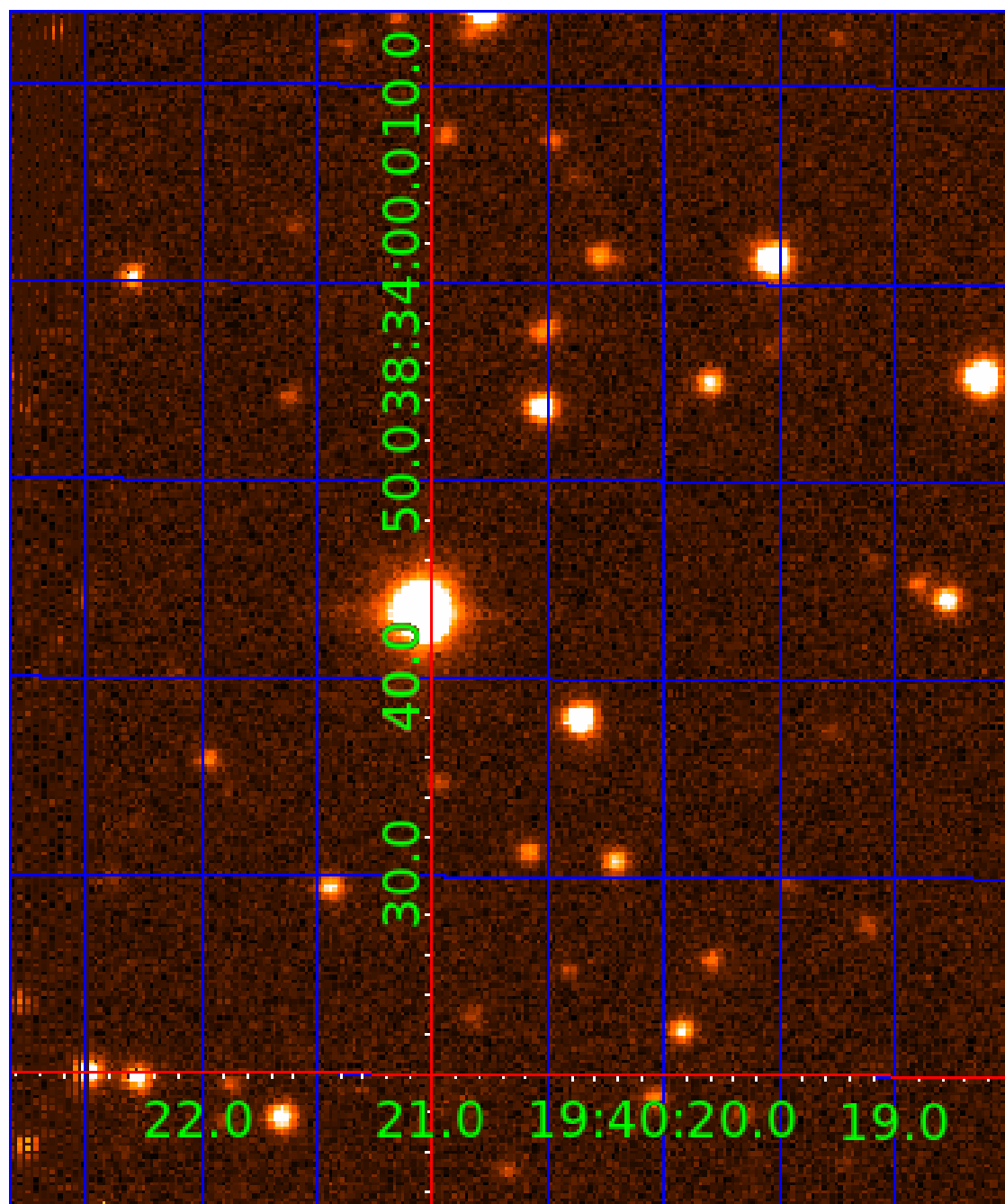


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003458687

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})
003458687-01	OBS	7543.01	0.983762	132.289383	23.9	6.743	8.8	9.1	5.29	6431	2.63	0.00
003458687-03	OBS	No	37.921542	137.409403	251.9	4.719	12.5	9.1	5.29	6431	8.85	567.57
003458687-04	OBS	No	34.338166	164.199165	317.7	2.327	11.8	9.4	5.29	6431	10.68	647.88
003458687-05	OBS	No	27.757951	139.496836	409.1	1.913	11.3	12.4	5.29	6431	11.27	860.36
003458687-06	OBS	No	27.834187	137.823236	336.6	1.997	10.7	10.9	5.29	6431	10.97	857.22
003458687-07	OBS	No	11.691953	138.628806	197.9	4.490	9.7	12.3	5.29	6431	8.70	2724.89
003458687-08	OBS	No	14.488233	137.905875	271.0	1.438	10.2	10.5	5.29	6431	9.13	2047.28
003458687-09	OBS	No	28.101709	140.458736	305.4	3.602	10.3	11.9	5.29	6431	9.65	846.36
003458687-10	OBS	No	29.681505	136.537650	270.5	3.500	9.5	-1.0	5.29	6431	8.76	786.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003458687-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
003458687-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003458687-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003458687-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
003458687-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-10	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_NOFITS—HALO_GHOST

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

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

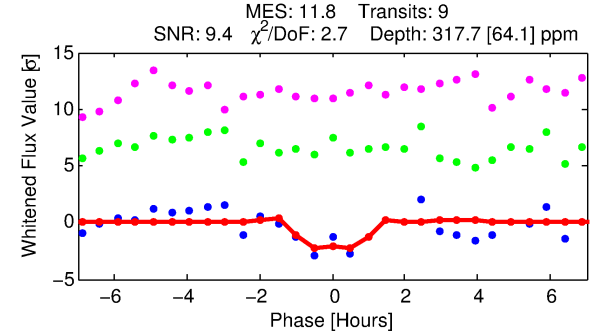
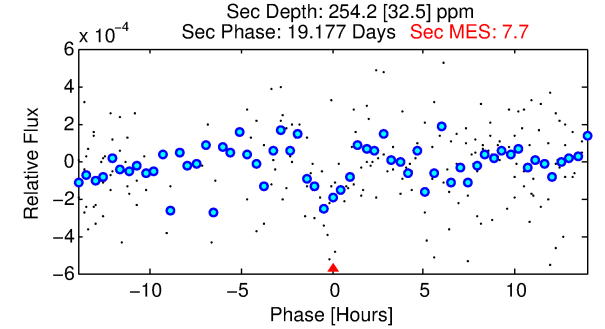
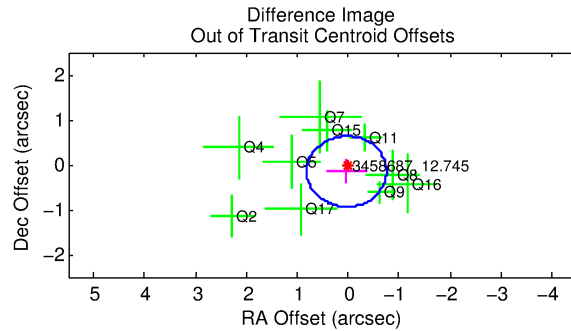
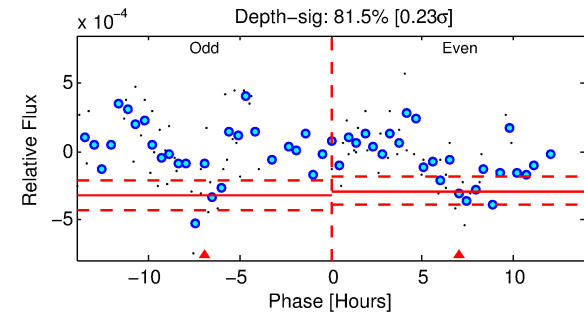
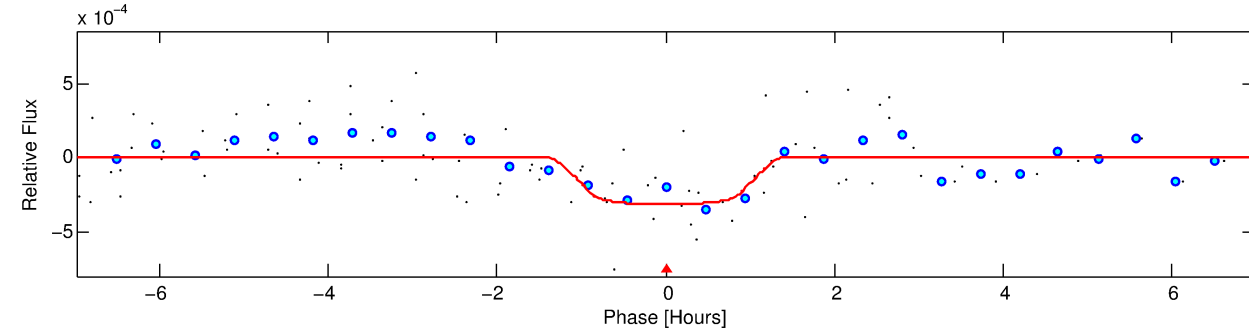
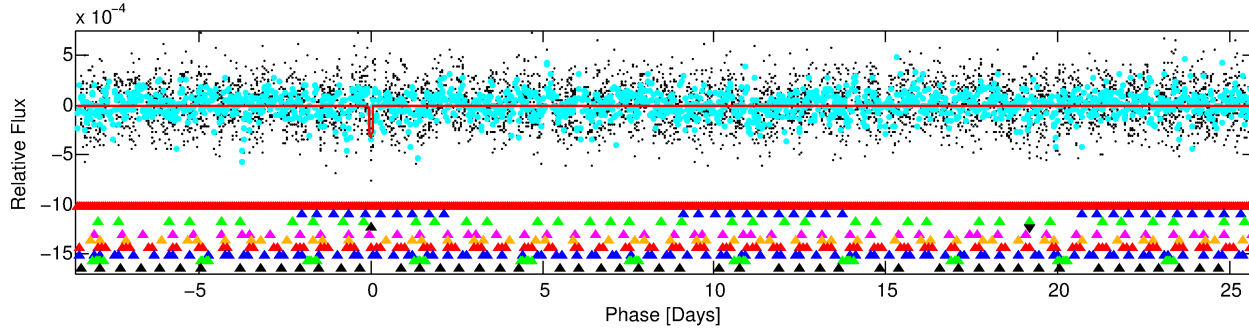
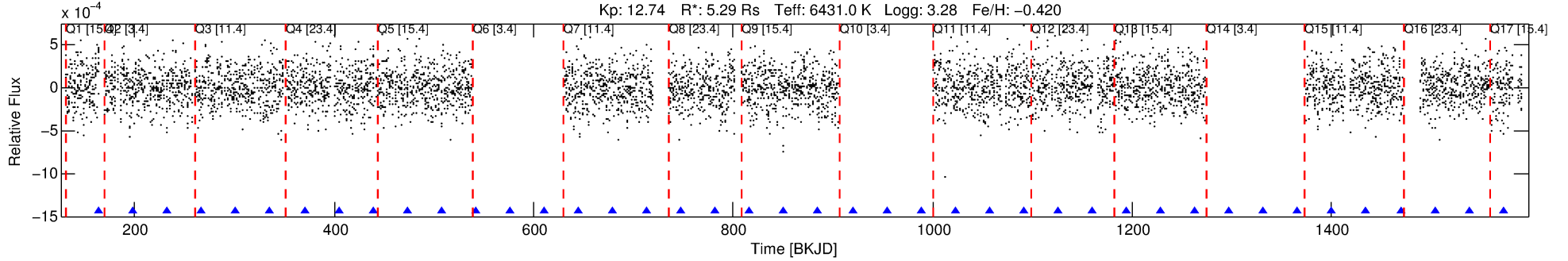
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003458687-04

No Significant Match Found

DV One-Page Summary

KIC: 3458687 Candidate: 4 of 10 Period: 34.338 d
KOI: K07543 Corr: No Ephemeris Match



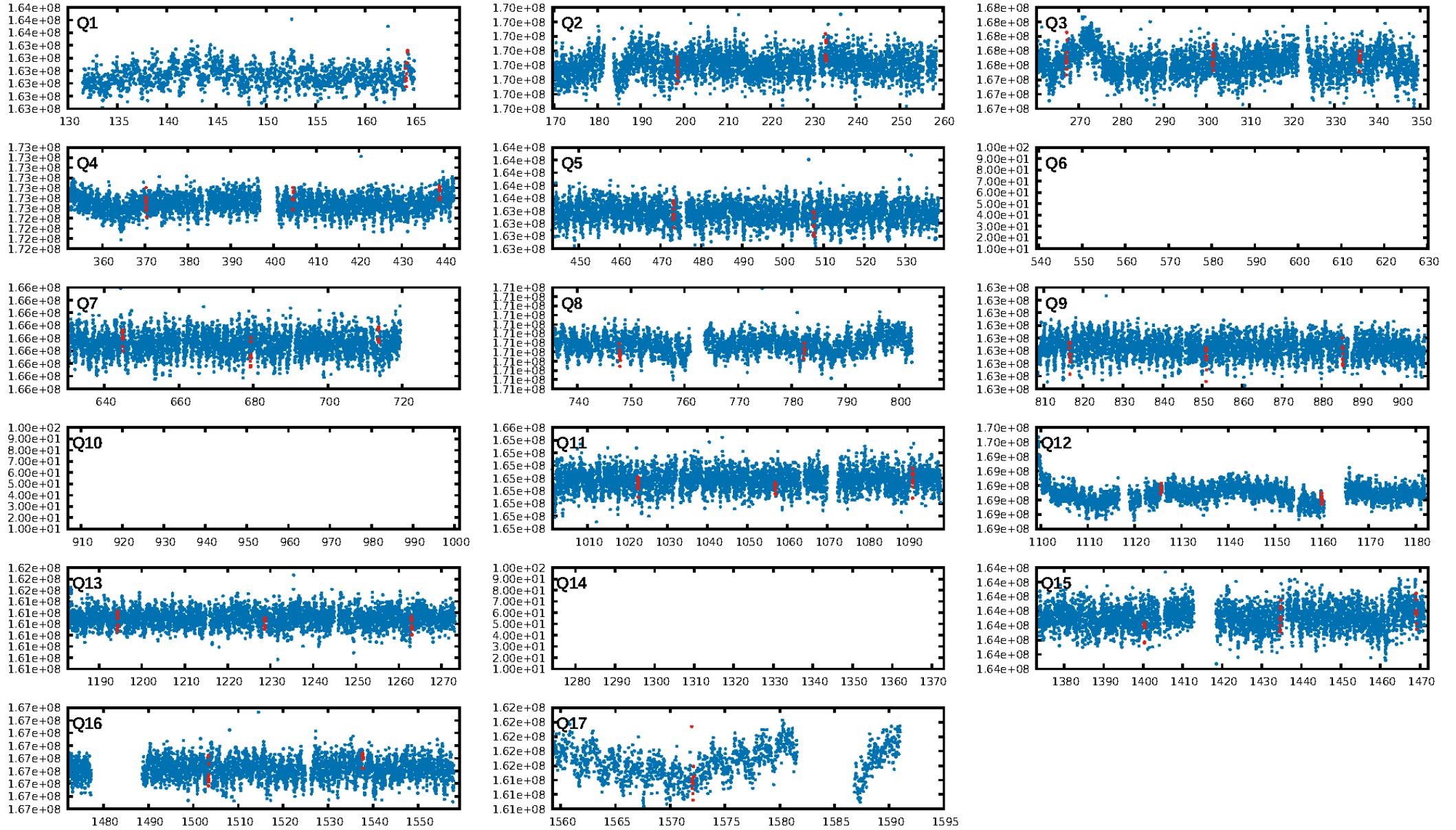
DV Fit Results:

Period = 34.33817 [0.00050] d
Epoch = 164.1992 [0.0126] BKJD
Rp/R* = 0.0185 [0.0437]
a/R* = 63.07 [855.74]
b = 0.85 [4.45]
Seff = 647.88 [525.23]
Teq = 1286 [261] K
Rp = 10.68 [25.89] Re
a = 0.2575 [0.1295] AU
Ag = 81.21 [389.77] [0.21σ]
Teffp = 5971 [7067] K [0.66σ]

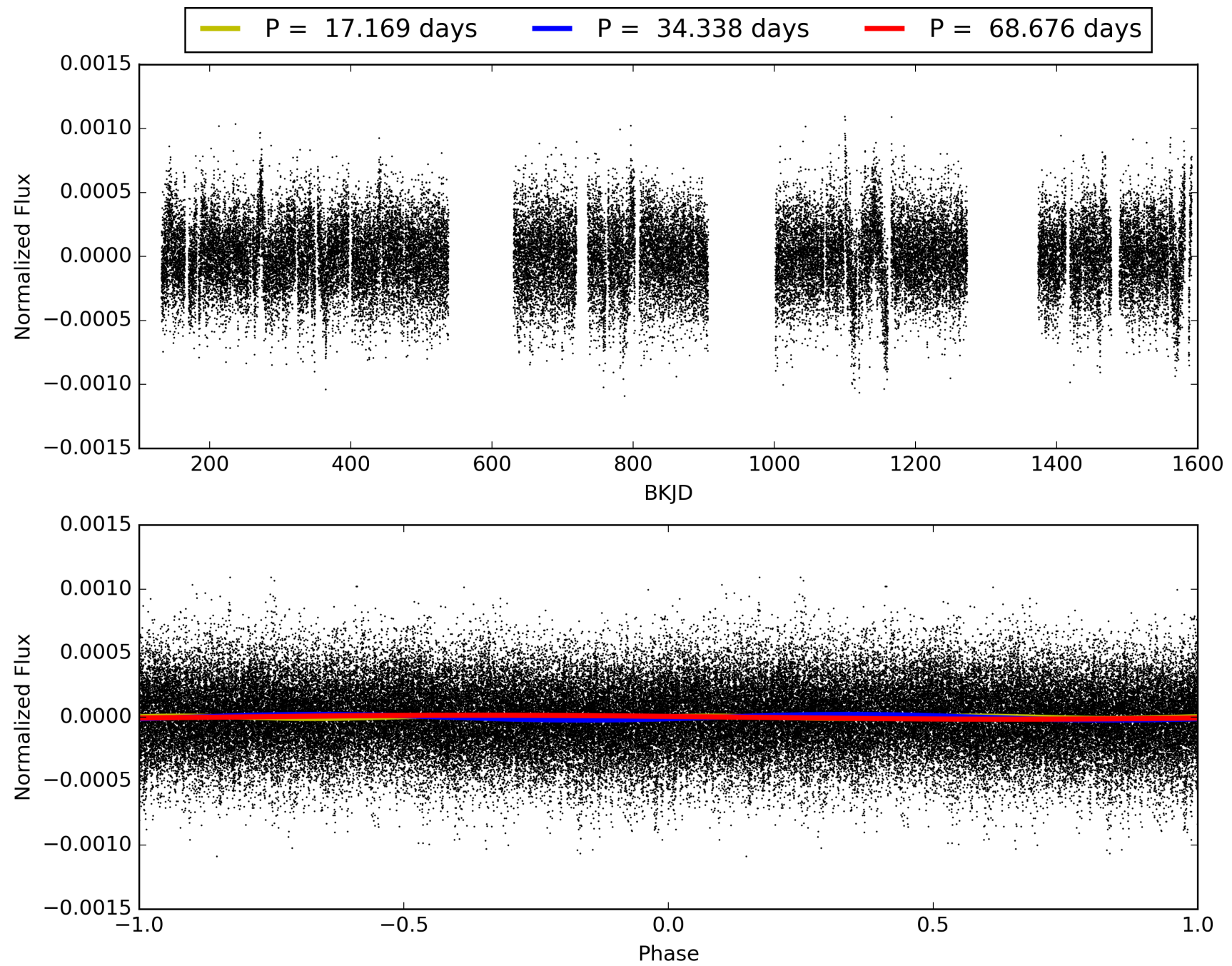
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [26.59σ]
LongPeriod-sig: 100.0% [16.35σ]
ModelChiSquare2-sig: 0.4%
ModelChiSquareGof-sig: 95.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 2.269
Centroid-sig: 20.0%
Centroid-so: 0.388 arcsec [0.94σ]
OotOffset-rm: 0.157 arcsec [0.60σ]
KicOffset-rm: 0.173 arcsec [0.67σ]
OotOffset-st: 1/3/3/3 [10]
KicOffset-st: 1/3/3/3 [10]
DiffImageQuality-fgm: 0.70 [7/10]
DiffImageOverlap-fno: 0.21 [3/14]

TCE 003458687-04, PDC Light Curves

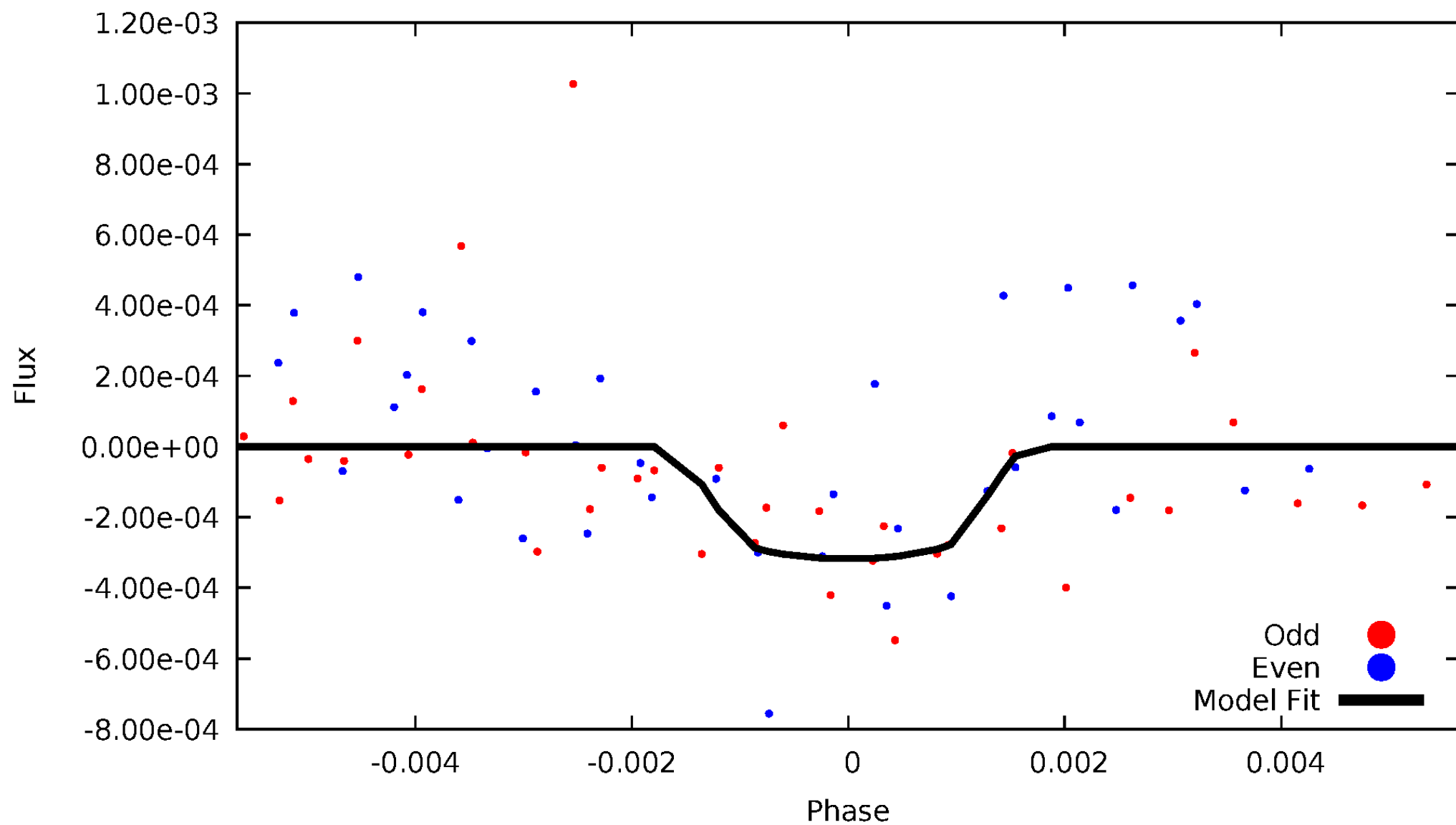


TCE 003458687-04



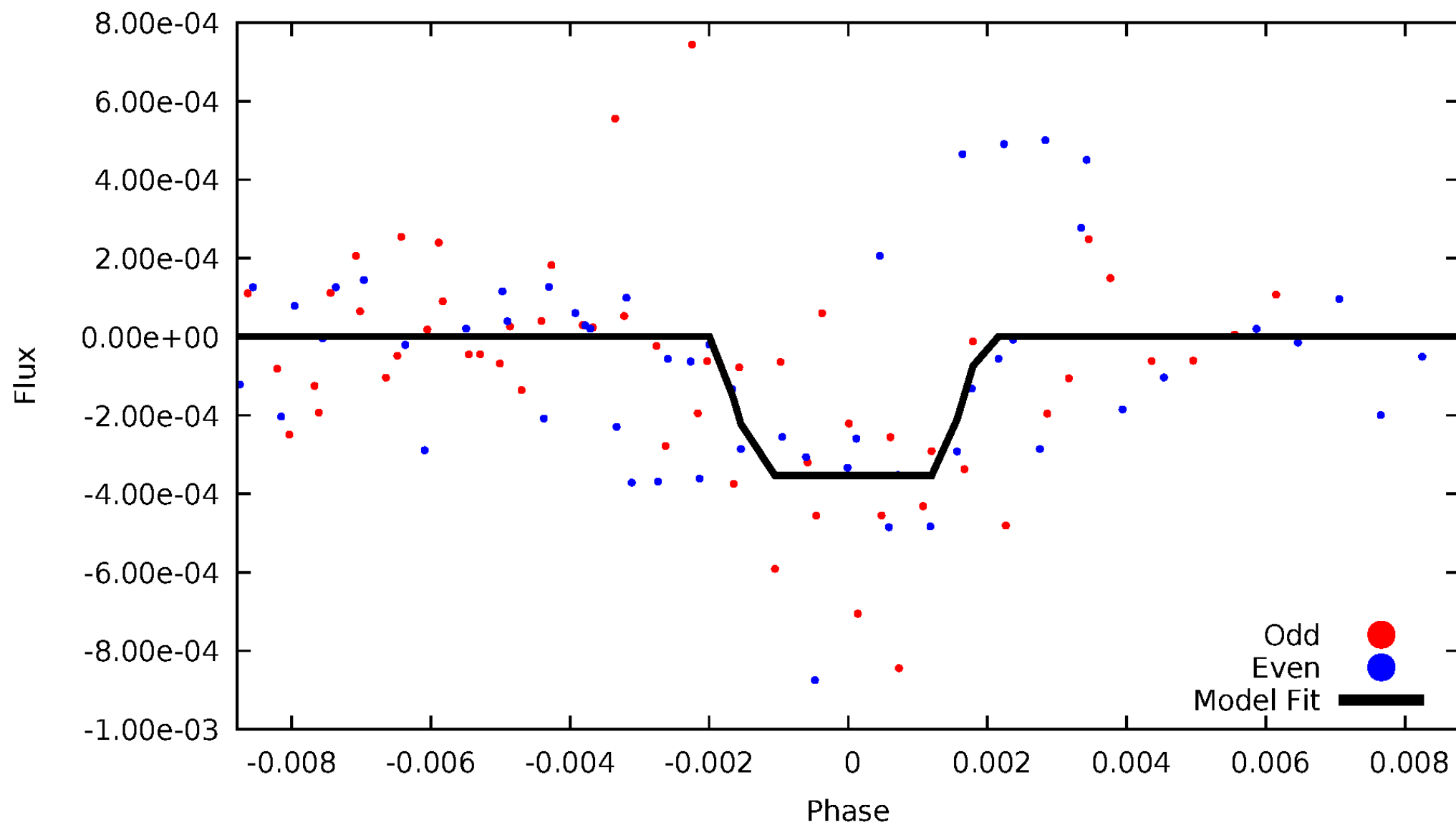
DV Odd/Even

TCE 003458687-04



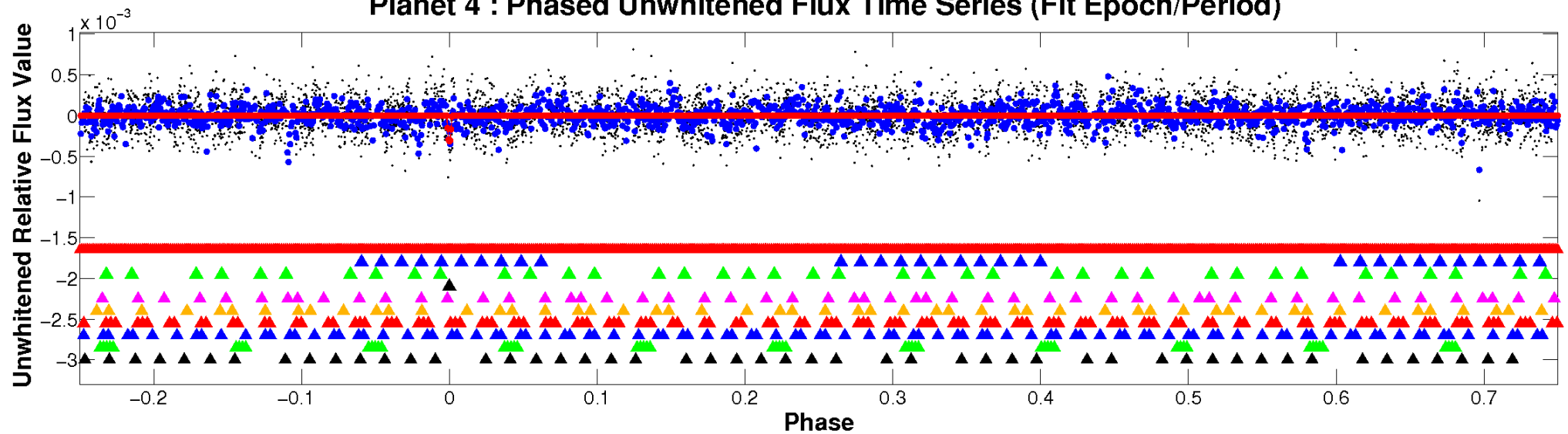
ALT Odd/Even

TCE 003458687-04

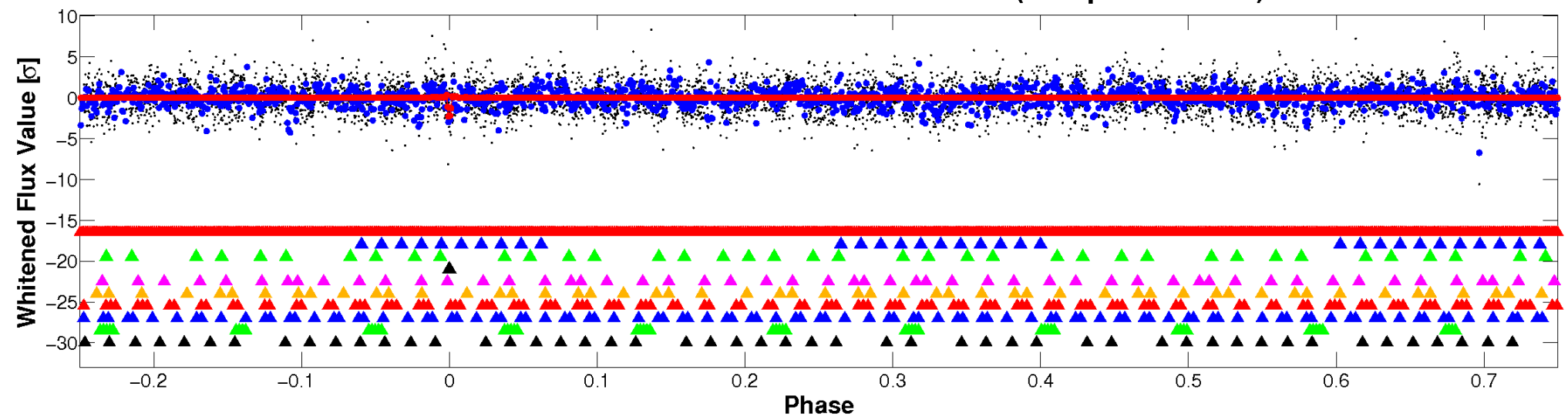


Non-Whitened Vs. Whitened Light Curve

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

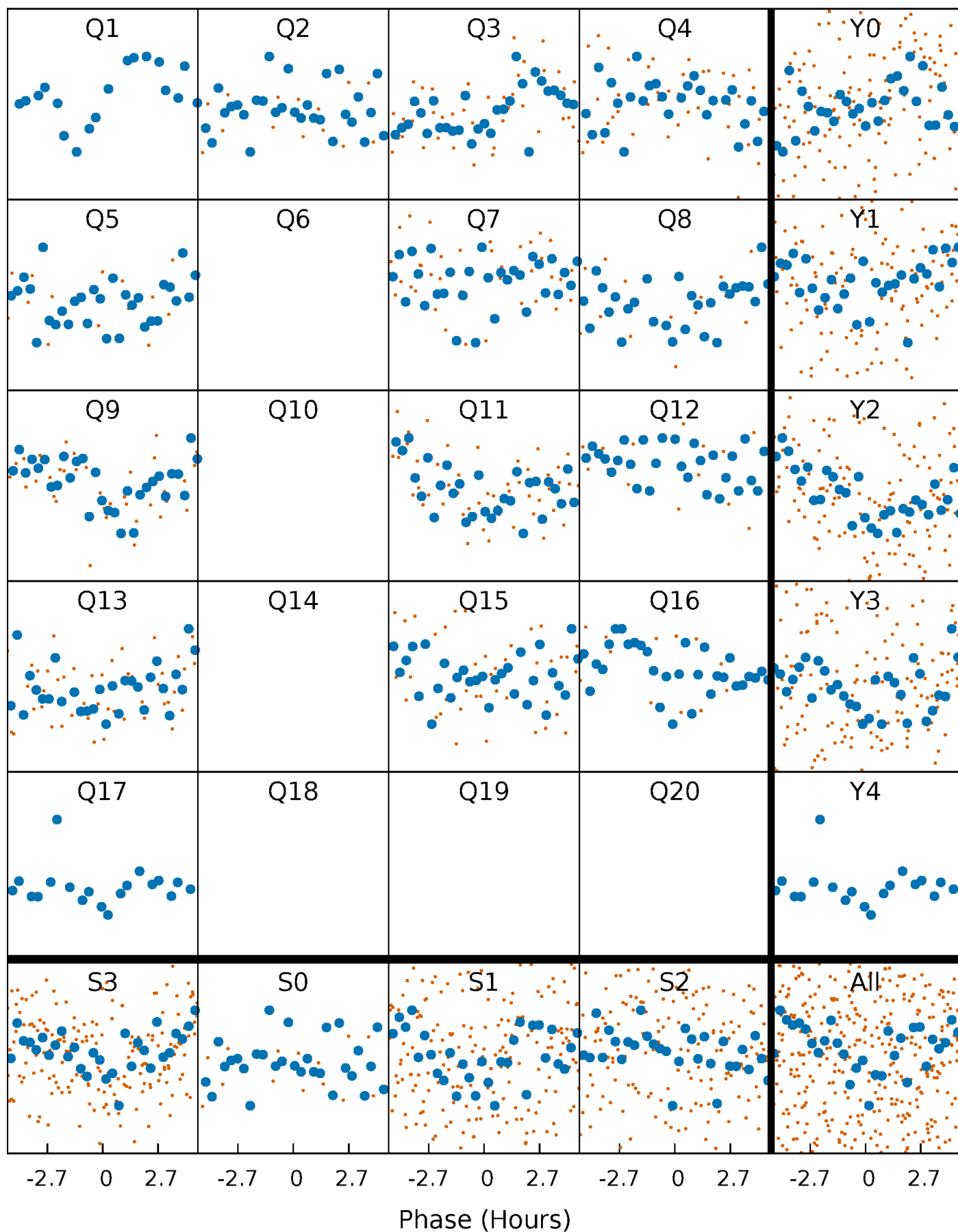


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



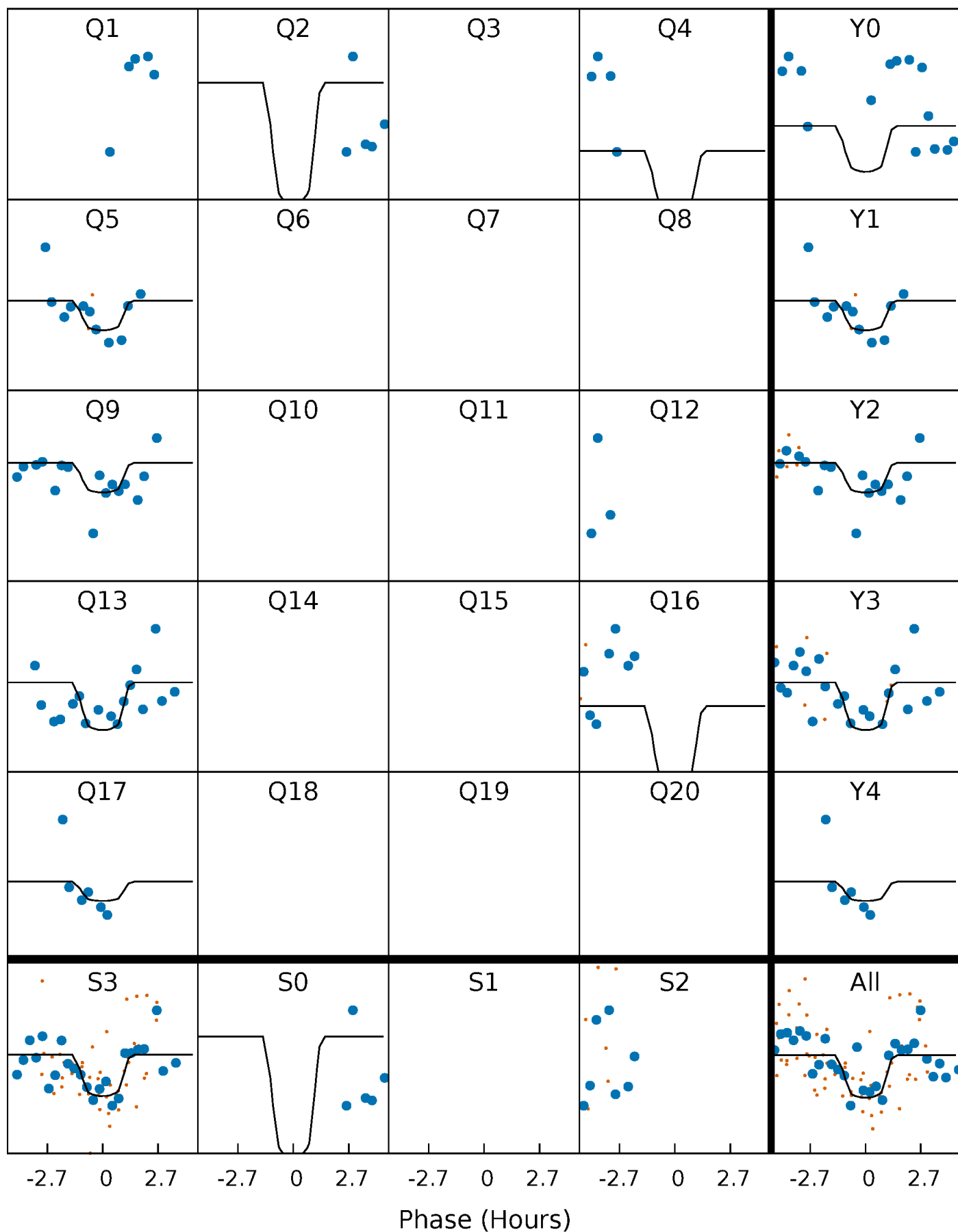
PDC Quarter-Phased Transit Curves

TCE 003458687-04 P= 34.338166 Days $T_0=164.199165$ (BKJD)



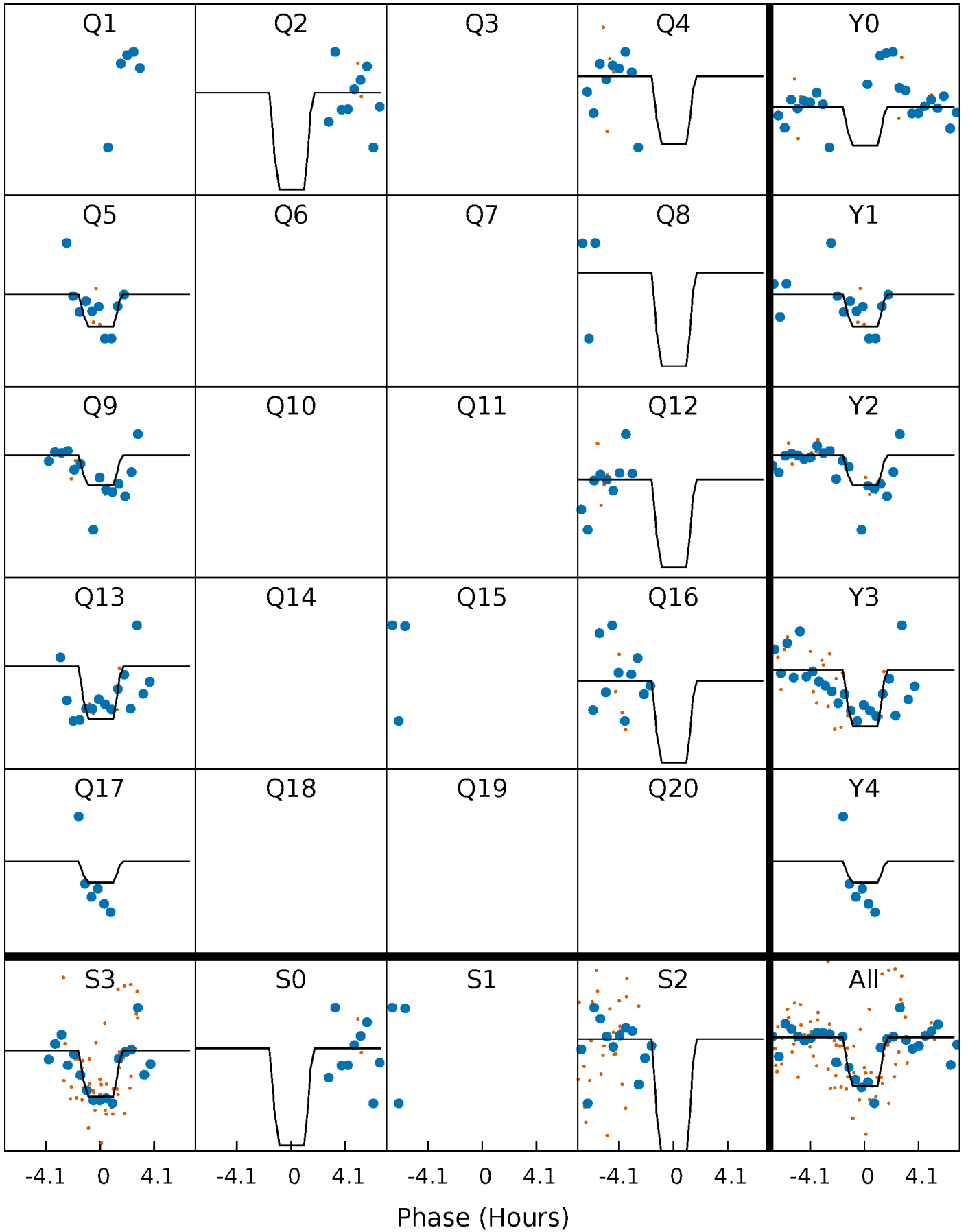
DV Quarter-Phased Transit Curves

TCE 003458687-04 P= 34.338166 Days $T_0=164.199165$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

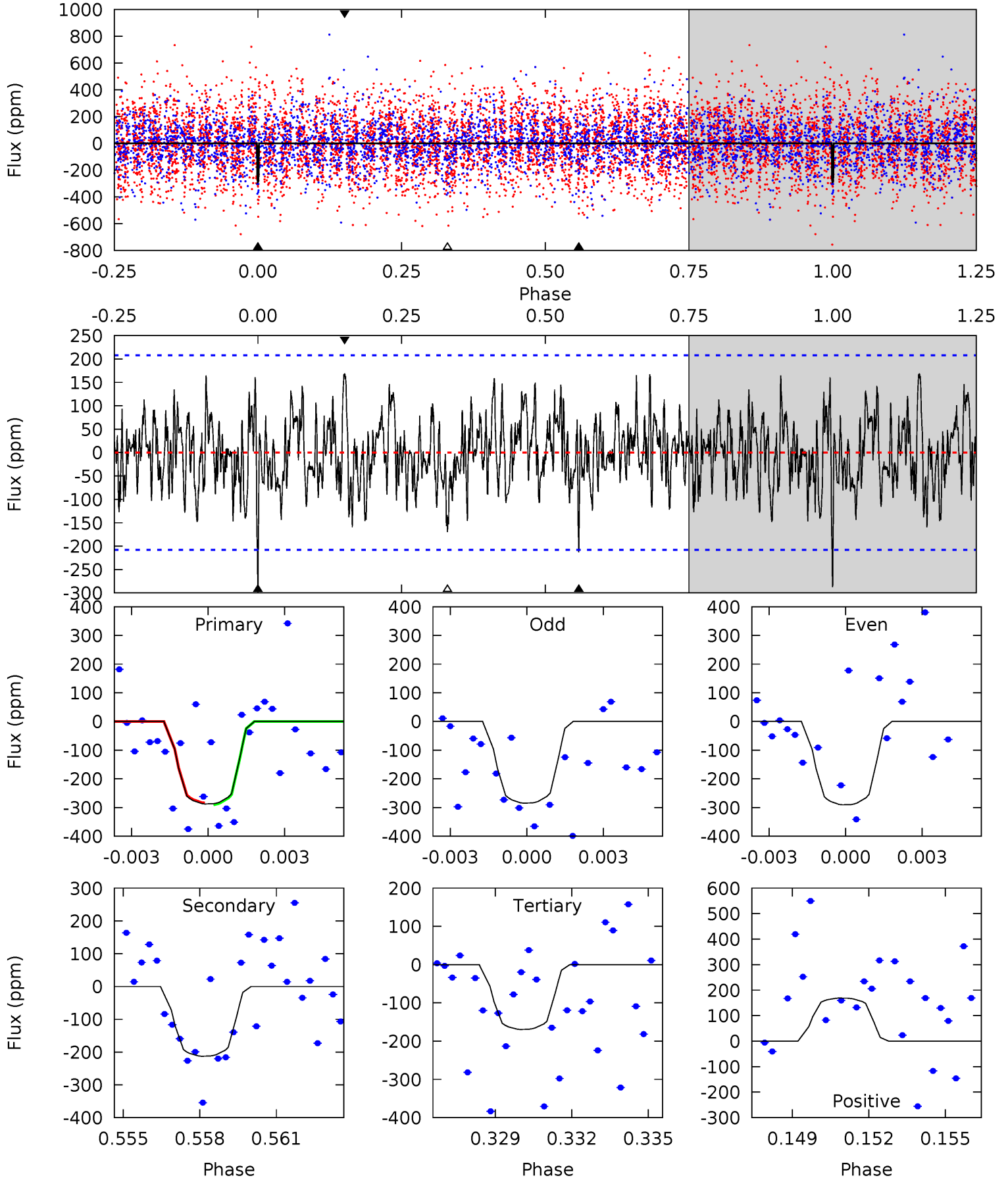
TCE 003458687-04 P= 34.338088 Days $T_0=164.192112$ (BKJD)



DV Model-Shift Uniqueness Test

003458687-04, P = 34.338166 Days, E = 129.860999 Days

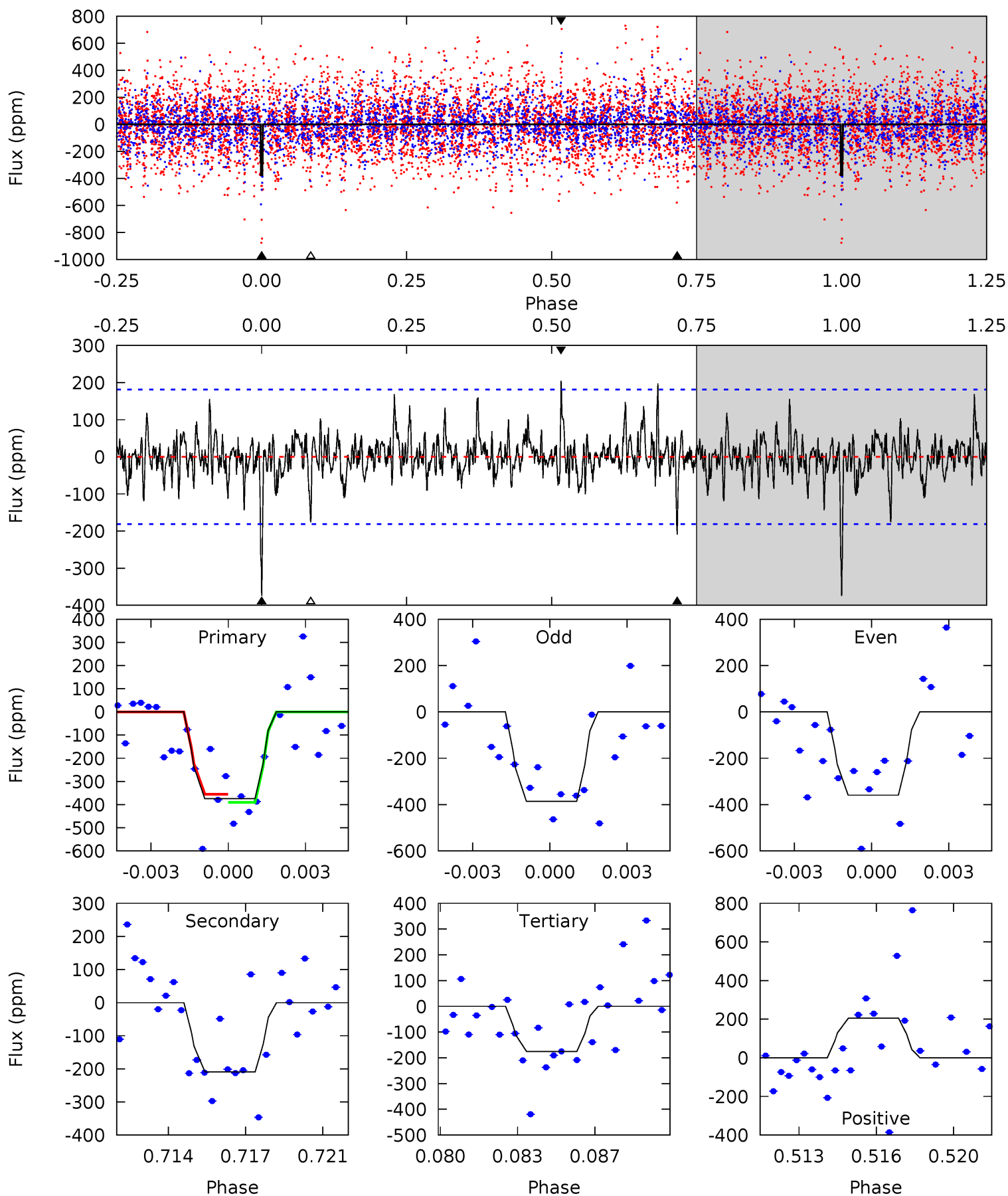
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.26	5.37	4.28	4.26	5.25	2.96	1.55	2.98	3.00	1.09	1.11	0.07	0.62	0.37	0.07



Alt Model-Shift Uniqueness Test

003458687-04, P = 34.338088 Days, E = 129.854024 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	6.02	5.07	5.90	5.23	2.92	1.34	5.74	4.90	0.96	0.12	0.39	0.80	0.35	0.50



Stellar Parameters For KIC 003458687

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6431^{+172}_{-211}	$3.276^{+0.468}_{-0.052}$	$-0.420^{+0.400}_{-0.300}$	$5.294^{+0.294}_{-2.795}$	$1.932^{+0.069}_{-0.590}$	$0.018^{+0.090}_{-0.003}$
	+3%/-3%	+14%/-2%	+95%/-71%	+6%/-53%	+4%/-31%	+491%/-18%
Source	PHO1	FLK73	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 003458687-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-213 ± 40	$18.58^{+19.57}_{-12.39}$	1750^{+96}_{-220}	4220^{+2906}_{-883}	21^{+179}_{-16}
Alt.	-209 ± 35	$19.13^{+21.34}_{-12.68}$	1747^{+100}_{-207}	4220^{+2479}_{-927}	20^{+156}_{-16}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming A=0.3)

A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

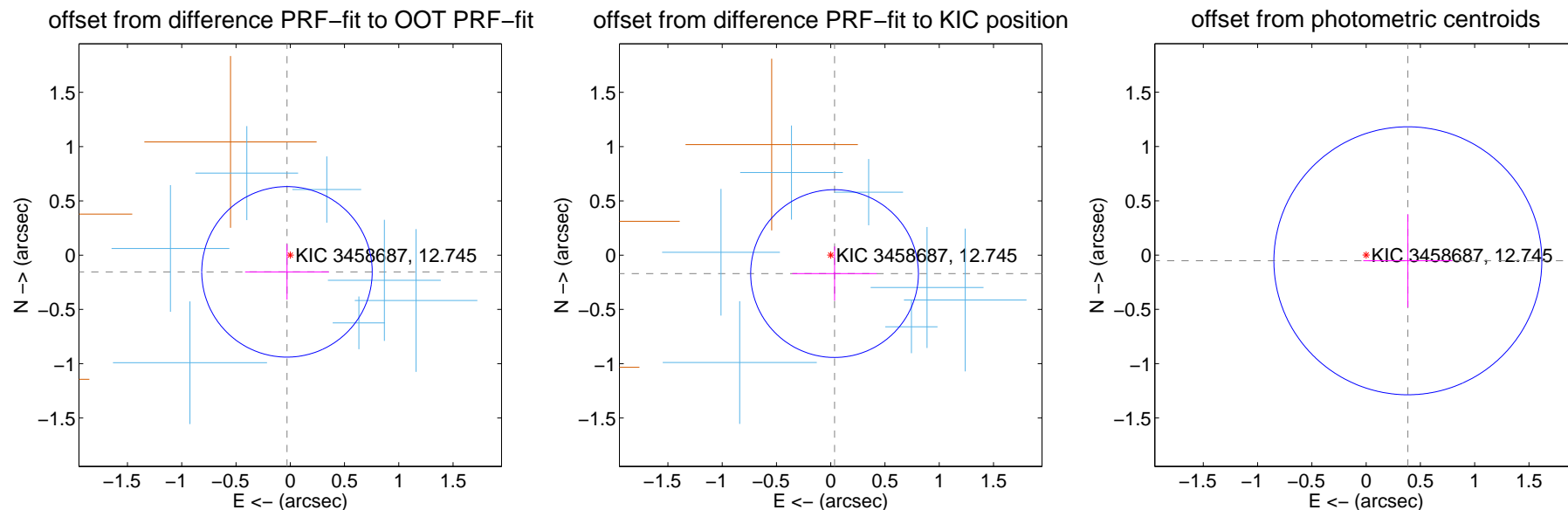
DV Centroid Data

Supplemental centroid analysis for 003458687-04. Kepler magnitude: 12.74. Transit SNR 9.44

There are 7 quarters with good PRF difference image offsets

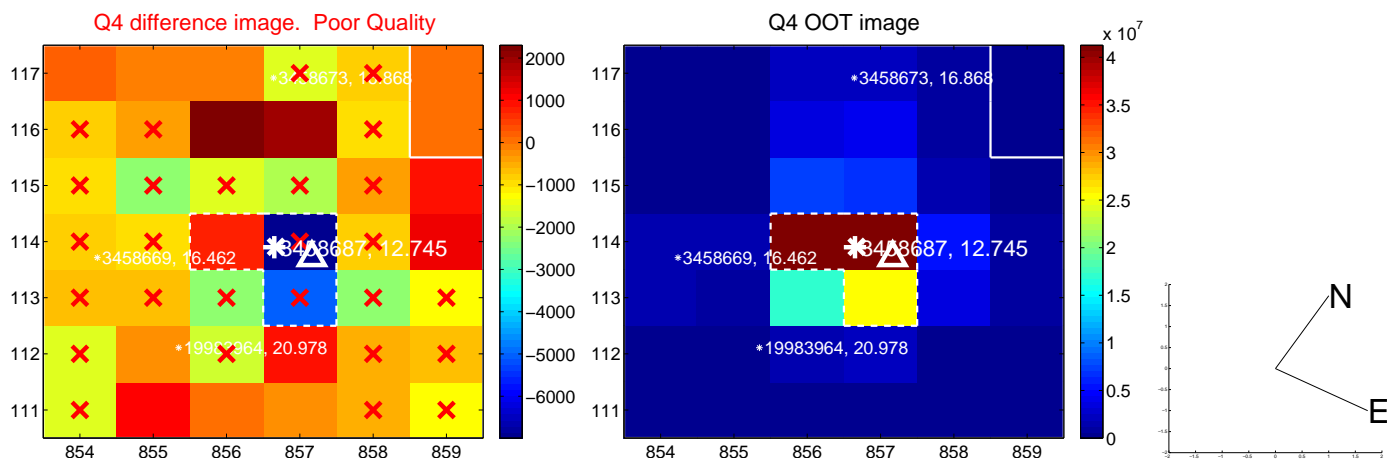
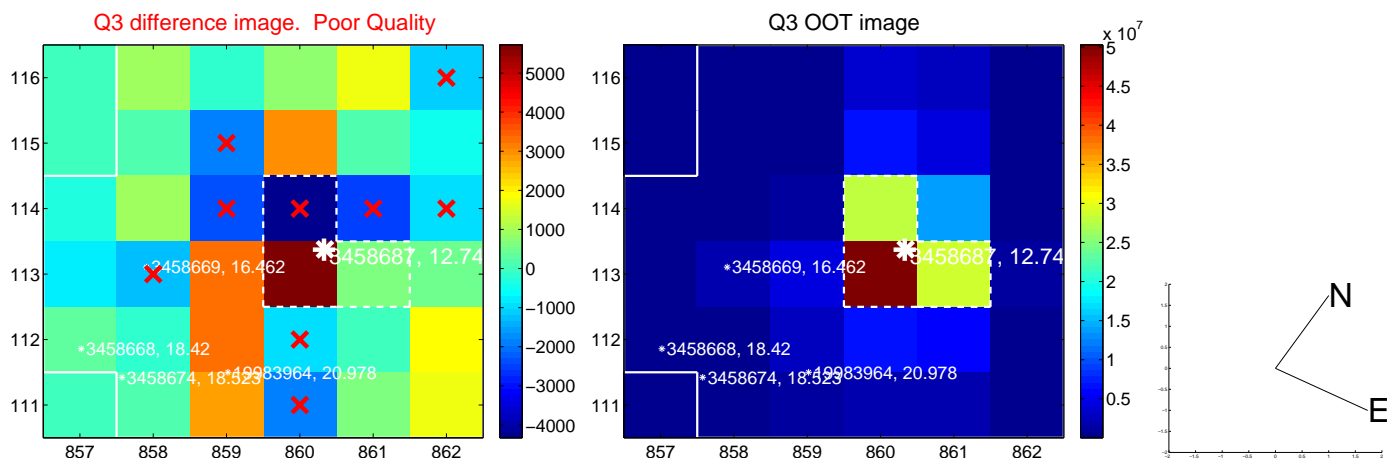
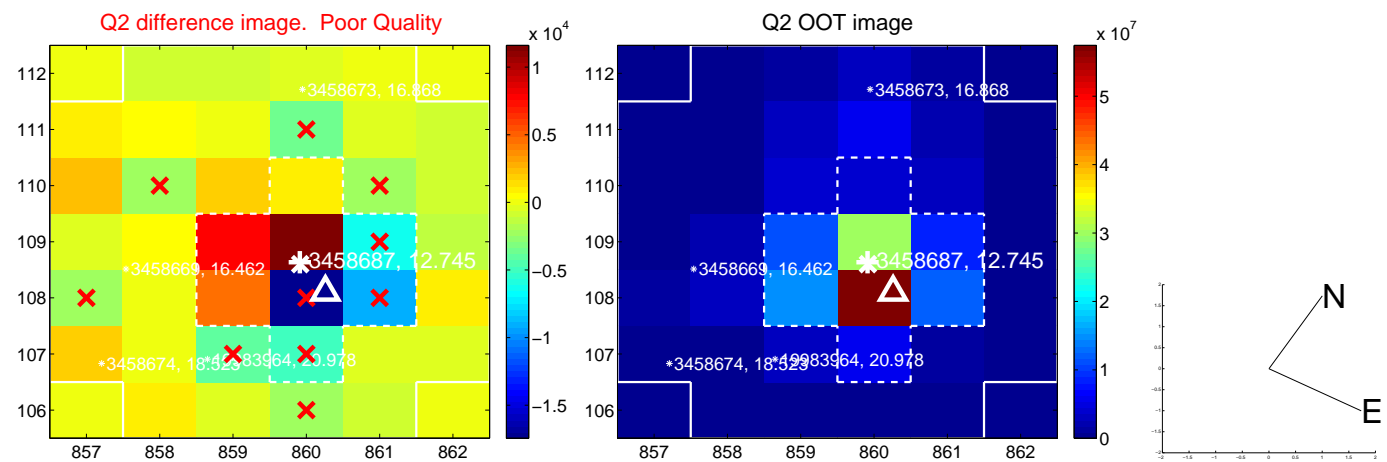
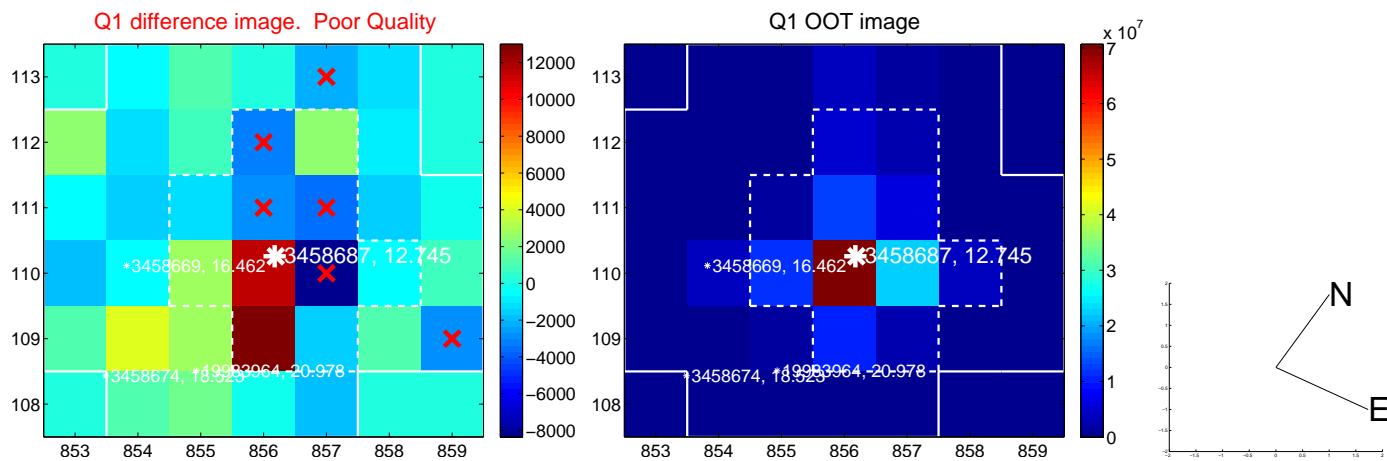
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.157 ± 0.262	0.60	0.030 ± 0.386	-0.154 ± 0.256
PRF-fit source offset from KIC position	0.173 ± 0.258	0.67	-0.035 ± 0.389	-0.170 ± 0.250
photometric centroid source offset	0.39 ± 0.41	0.94	-0.38 ± 0.41	-0.05 ± 0.43

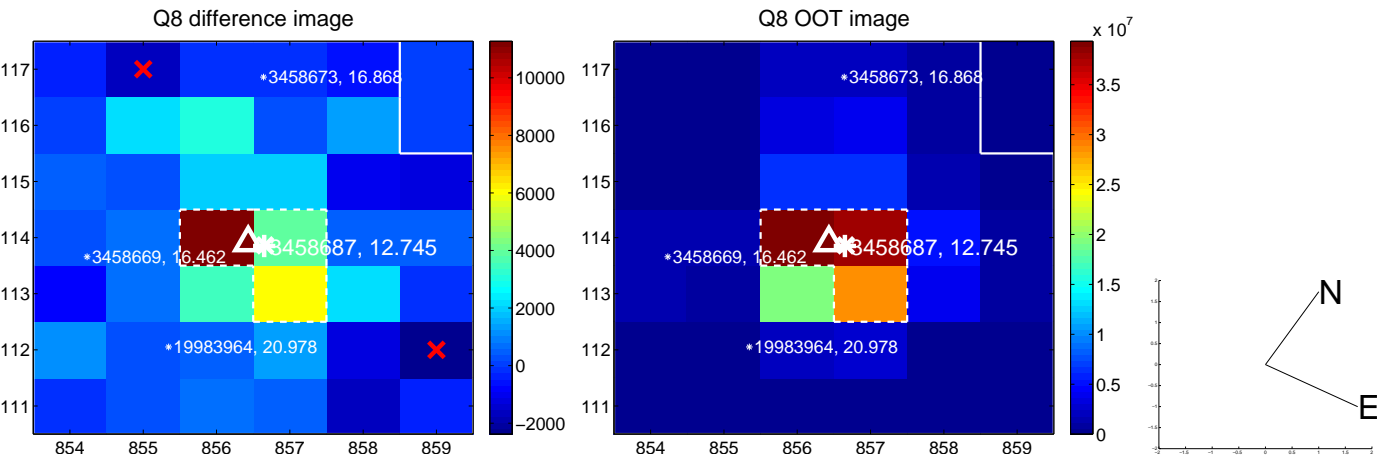
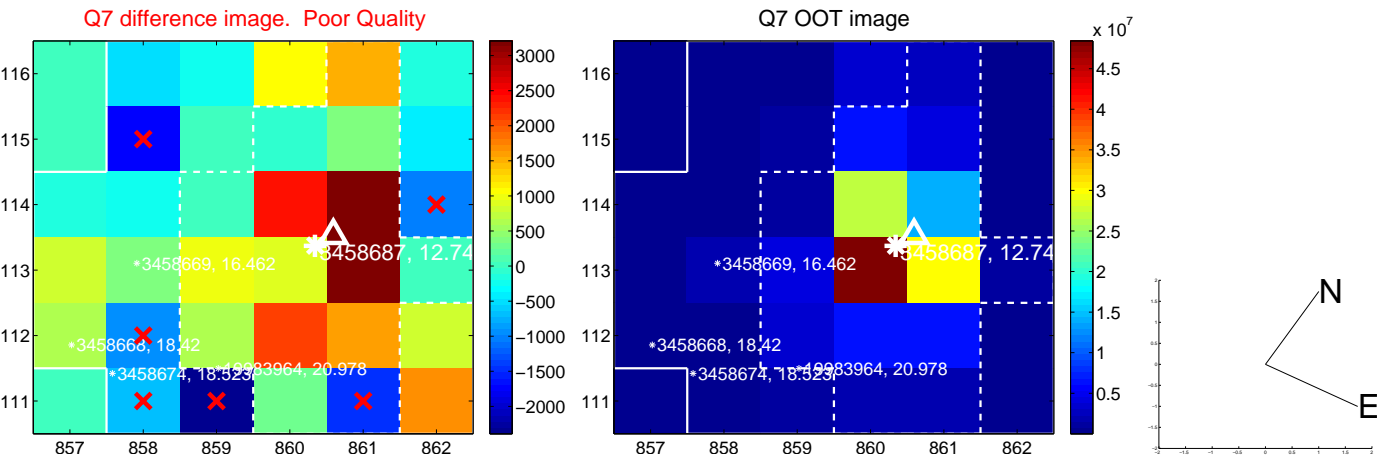
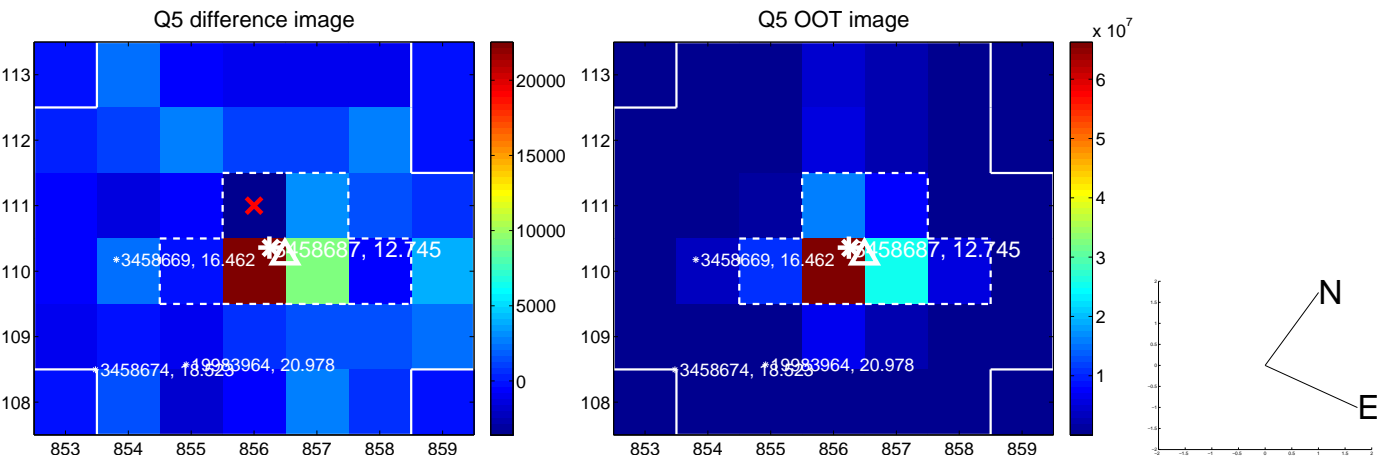


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

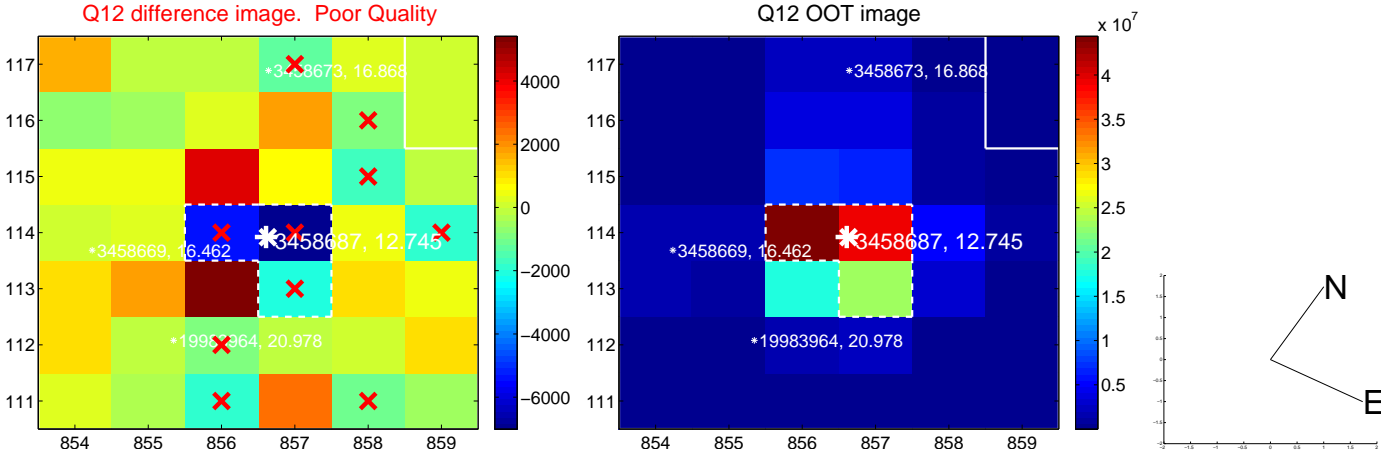
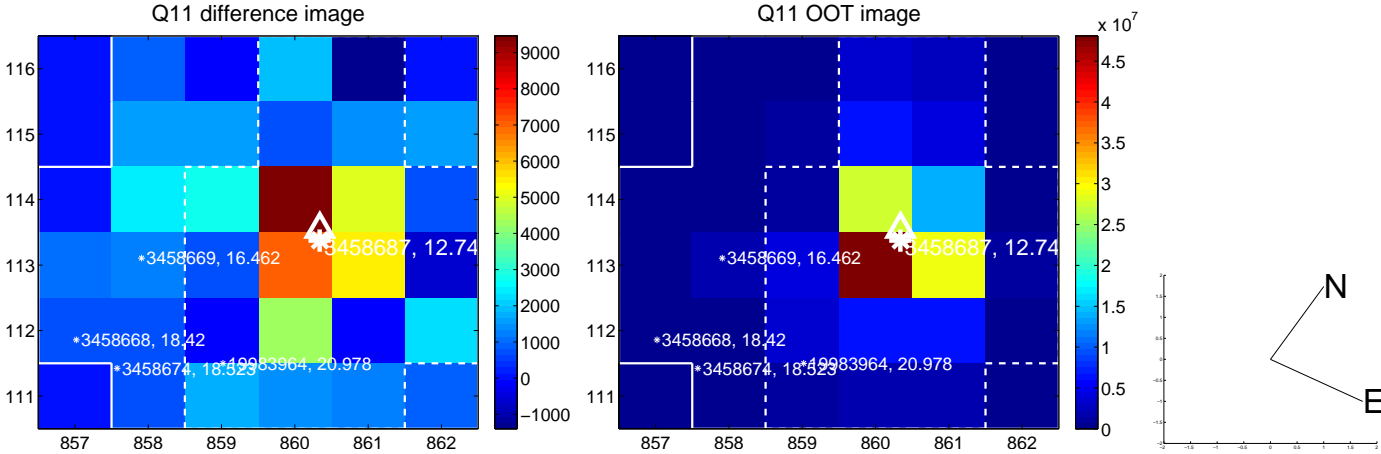
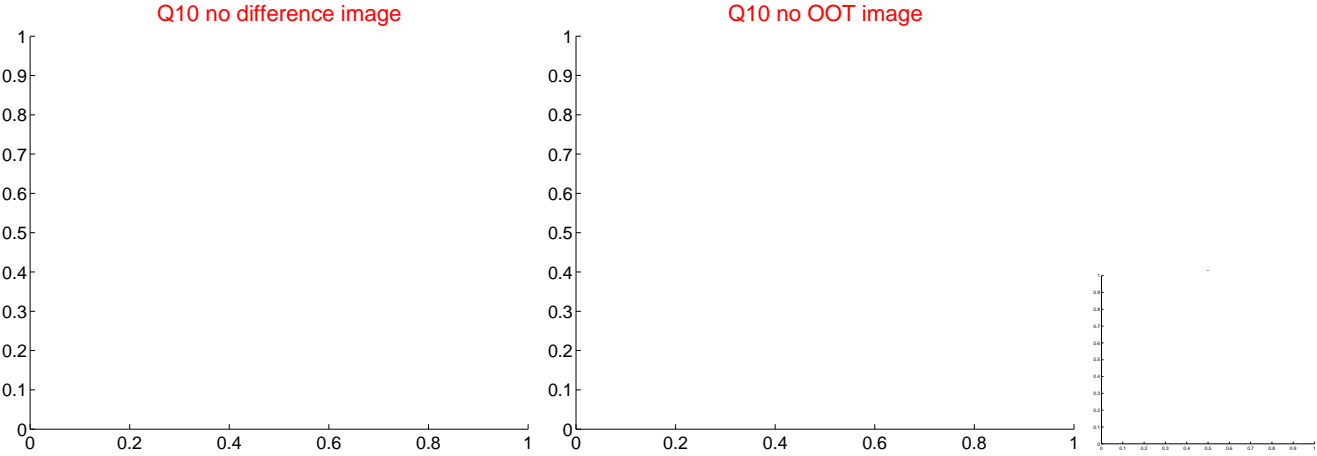
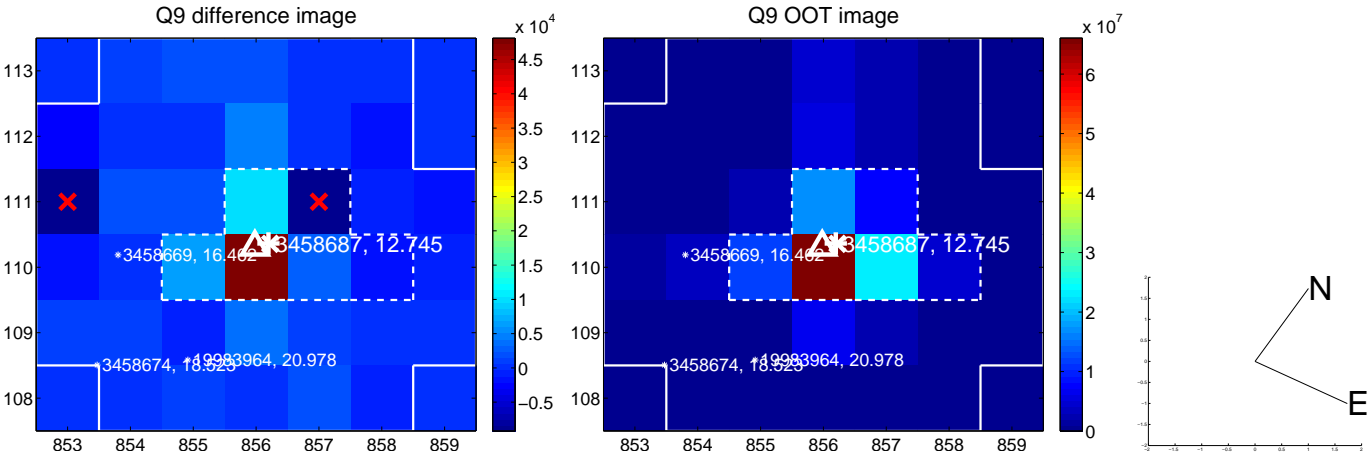
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



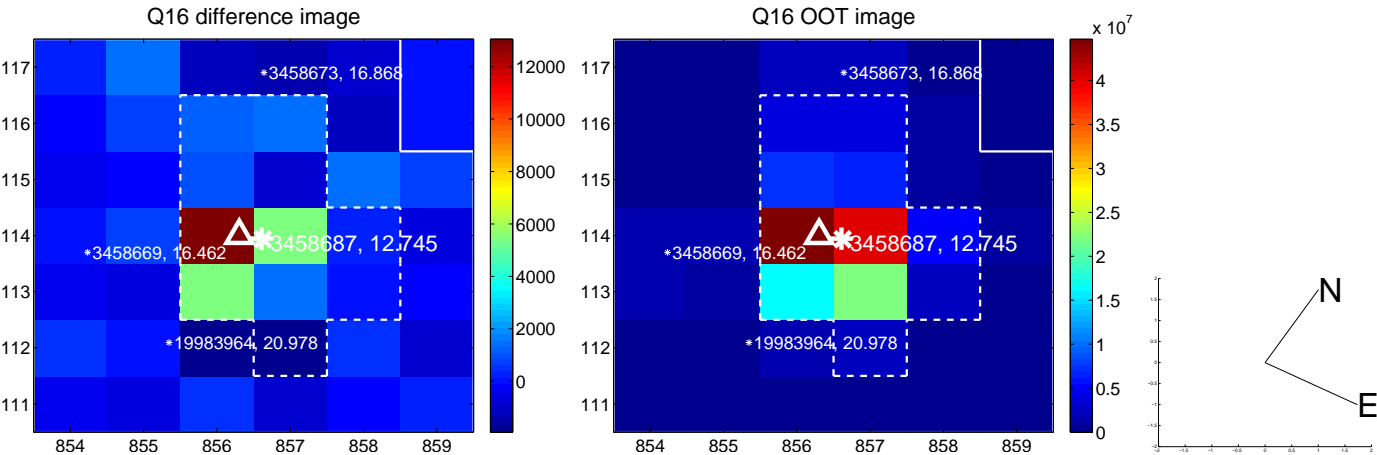
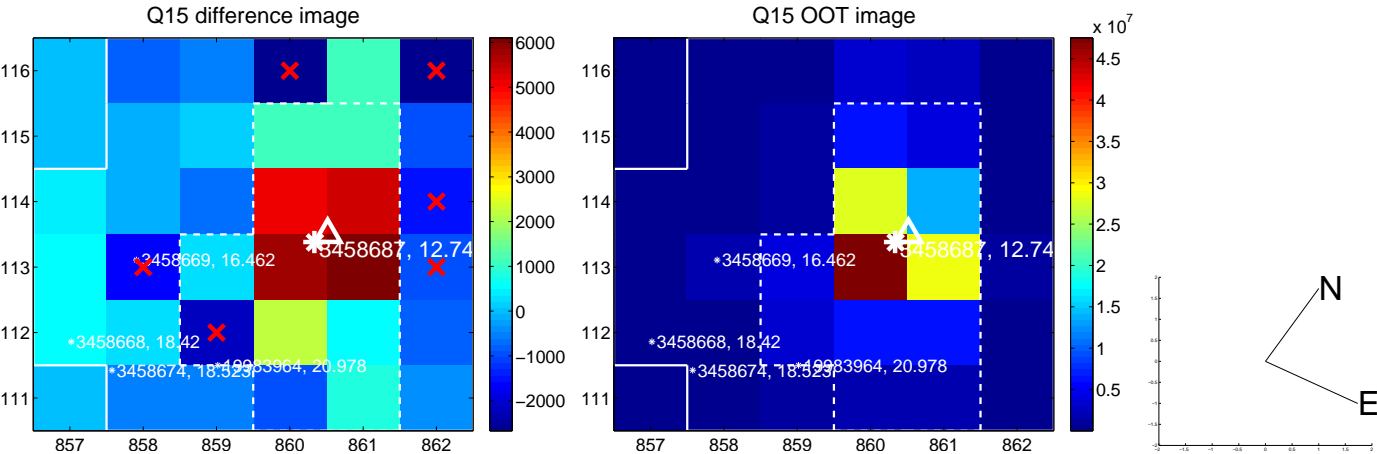
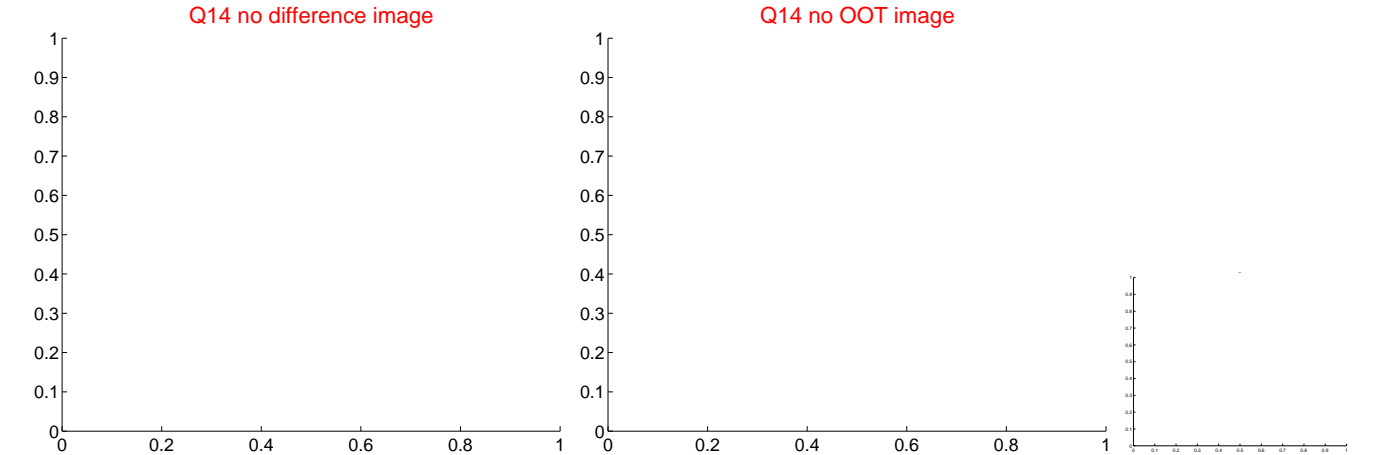
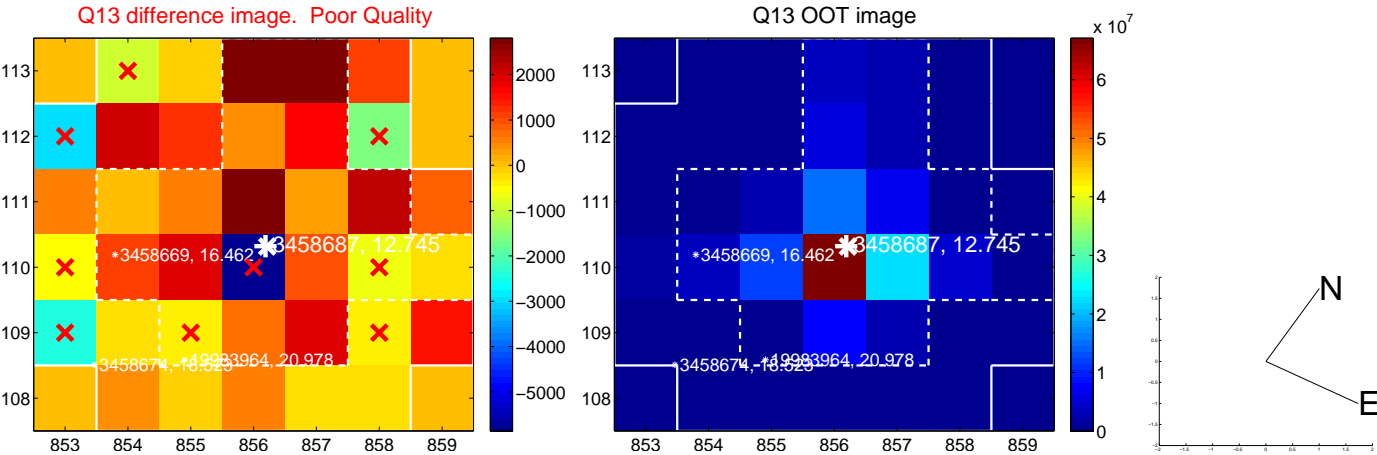
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



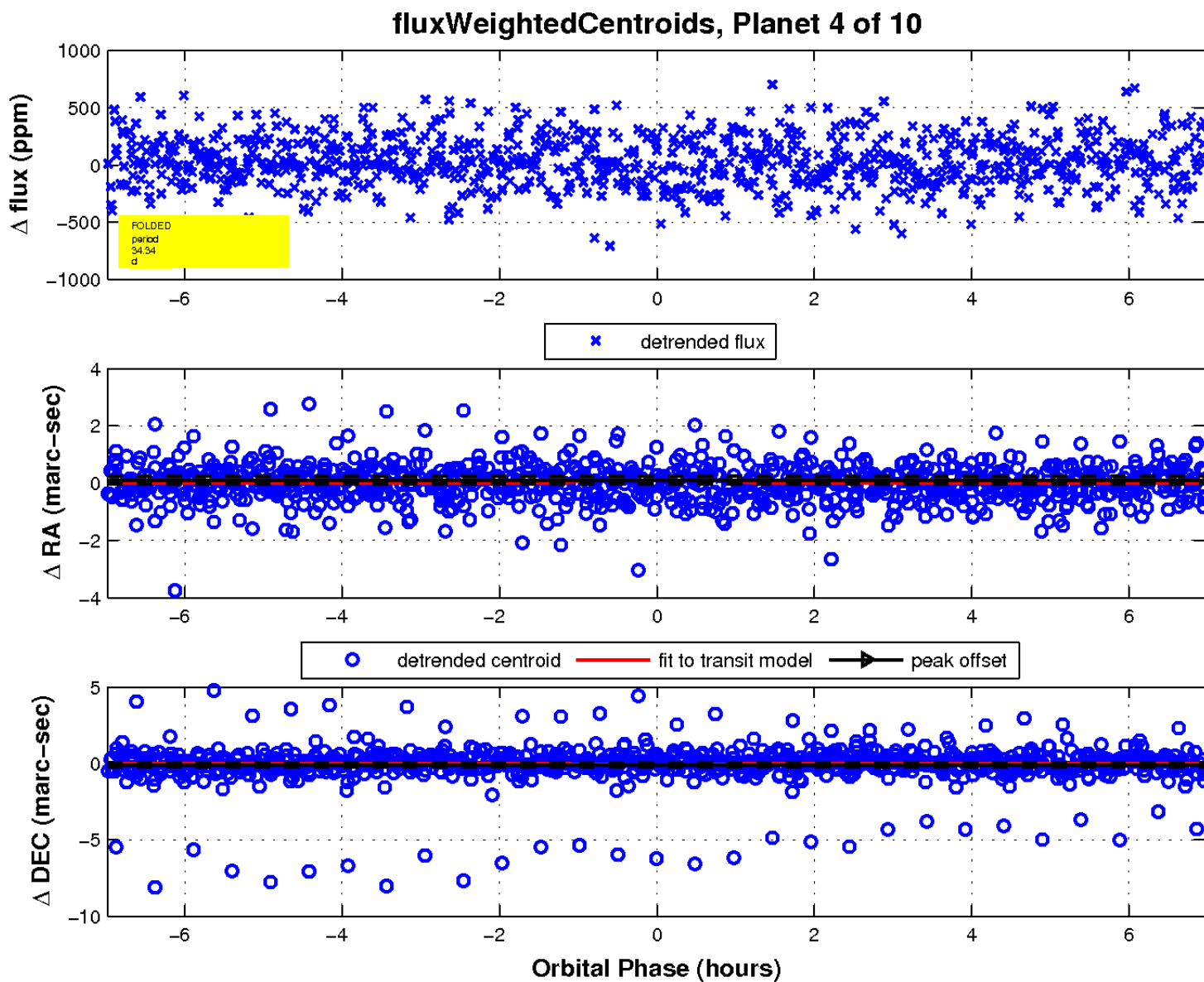
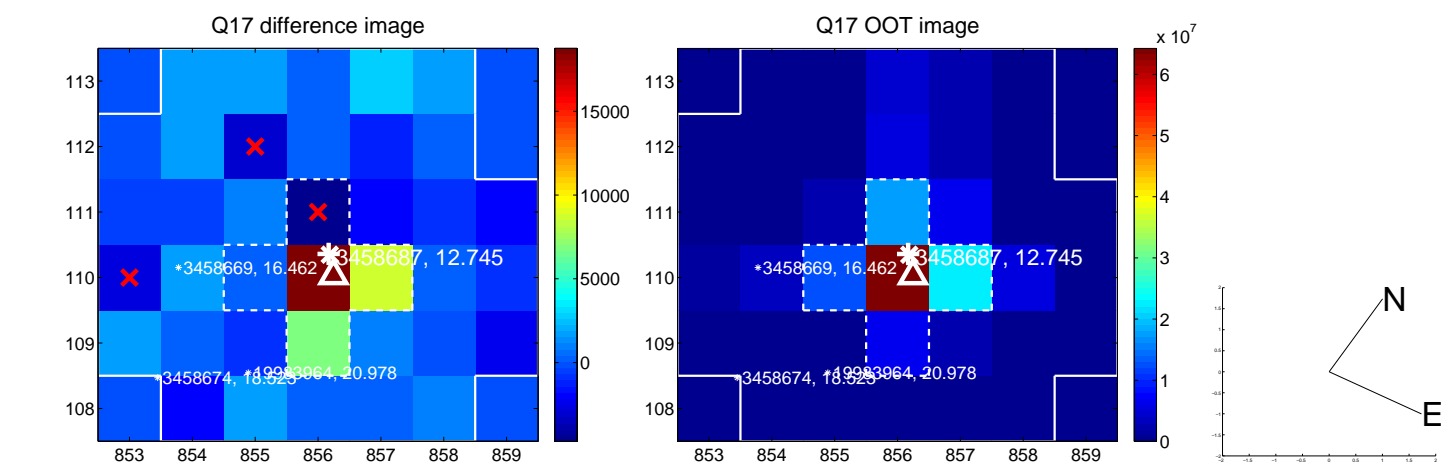
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

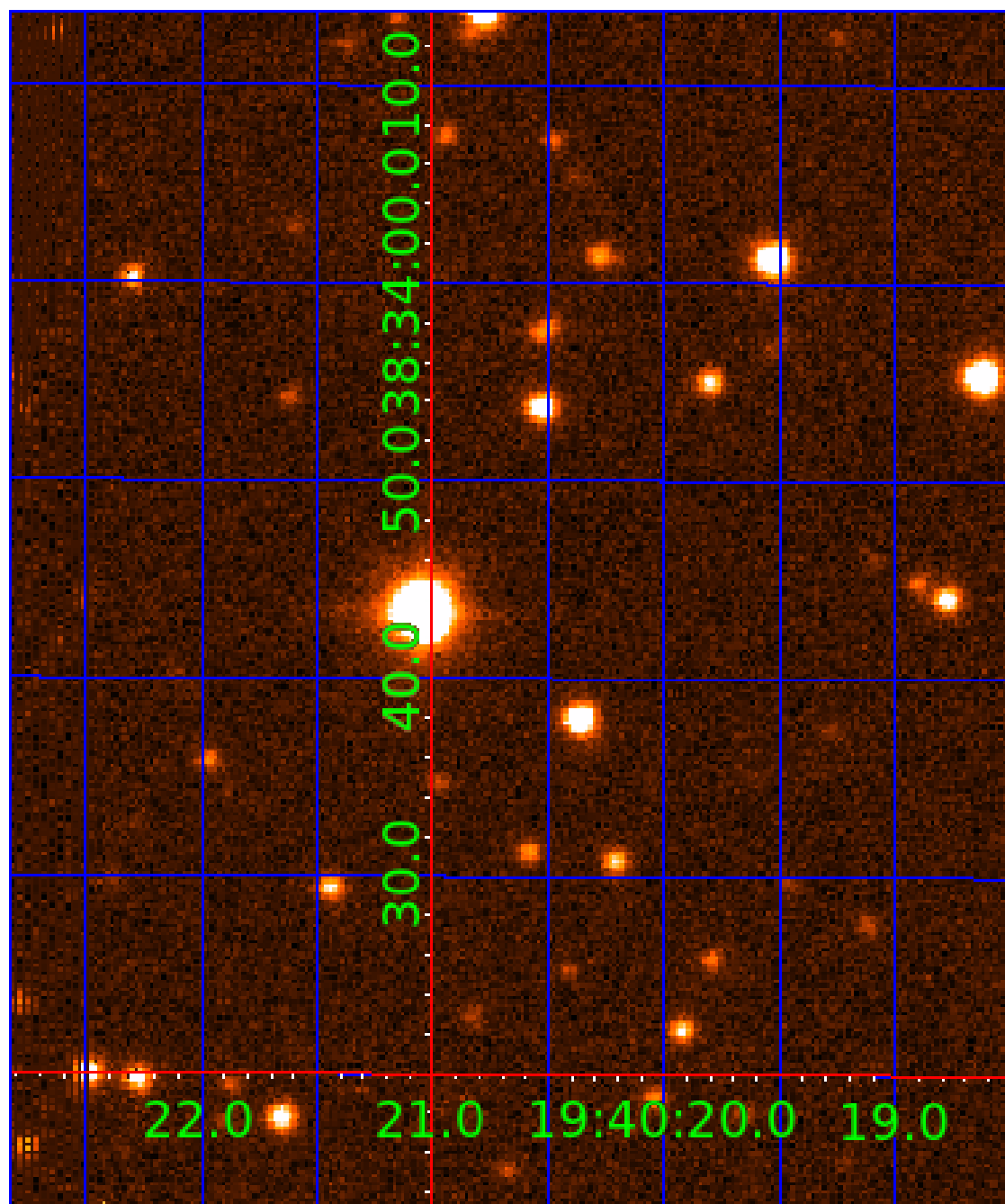


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003458687

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})
003458687-01	OBS	7543.01	0.983762	132.289383	23.9	6.743	8.8	9.1	5.29	6431	2.63	0.00
003458687-03	OBS	No	37.921542	137.409403	251.9	4.719	12.5	9.1	5.29	6431	8.85	567.57
003458687-04	OBS	No	34.338166	164.199165	317.7	2.327	11.8	9.4	5.29	6431	10.68	647.88
003458687-05	OBS	No	27.757951	139.496836	409.1	1.913	11.3	12.4	5.29	6431	11.27	860.36
003458687-06	OBS	No	27.834187	137.823236	336.6	1.997	10.7	10.9	5.29	6431	10.97	857.22
003458687-07	OBS	No	11.691953	138.628806	197.9	4.490	9.7	12.3	5.29	6431	8.70	2724.89
003458687-08	OBS	No	14.488233	137.905875	271.0	1.438	10.2	10.5	5.29	6431	9.13	2047.28
003458687-09	OBS	No	28.101709	140.458736	305.4	3.602	10.3	11.9	5.29	6431	9.65	846.36
003458687-10	OBS	No	29.681505	136.537650	270.5	3.500	9.5	-1.0	5.29	6431	8.76	786.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003458687-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
003458687-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003458687-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003458687-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
003458687-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-10	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_NOFITS—HALO_GHOST

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

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

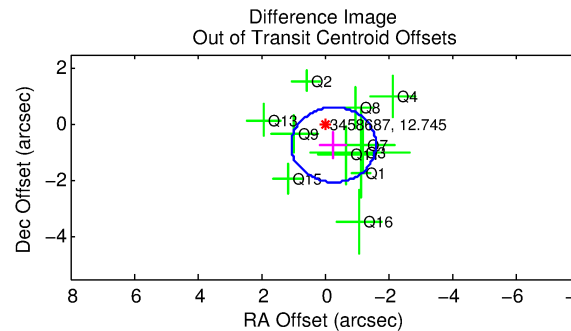
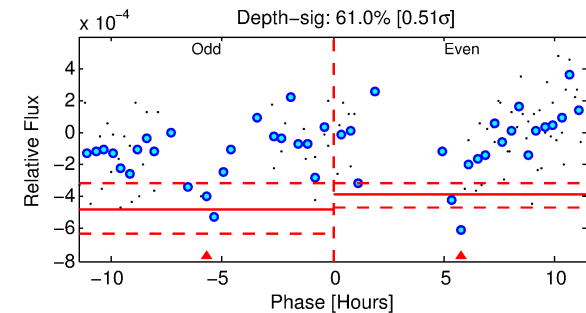
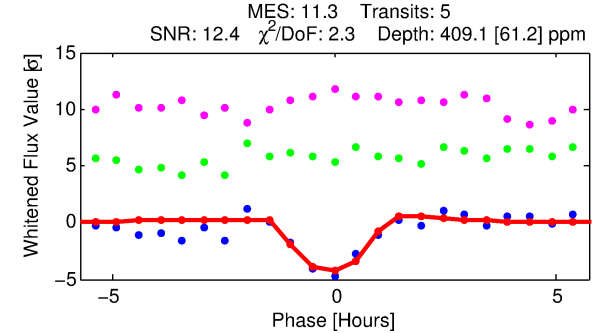
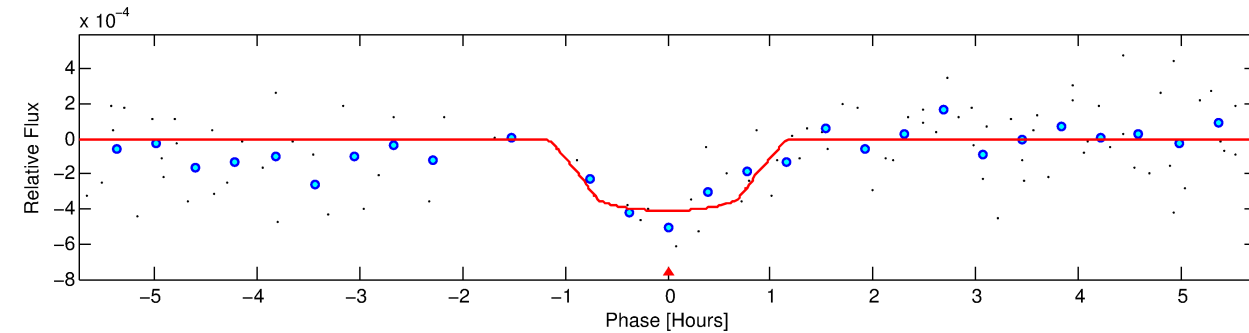
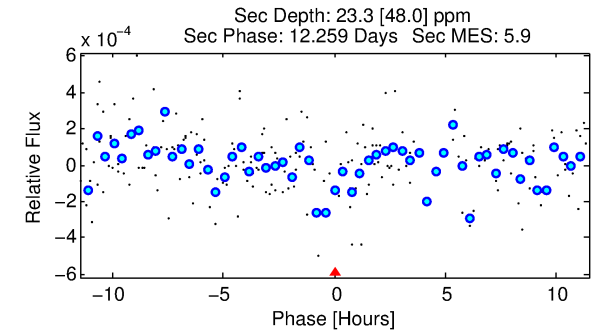
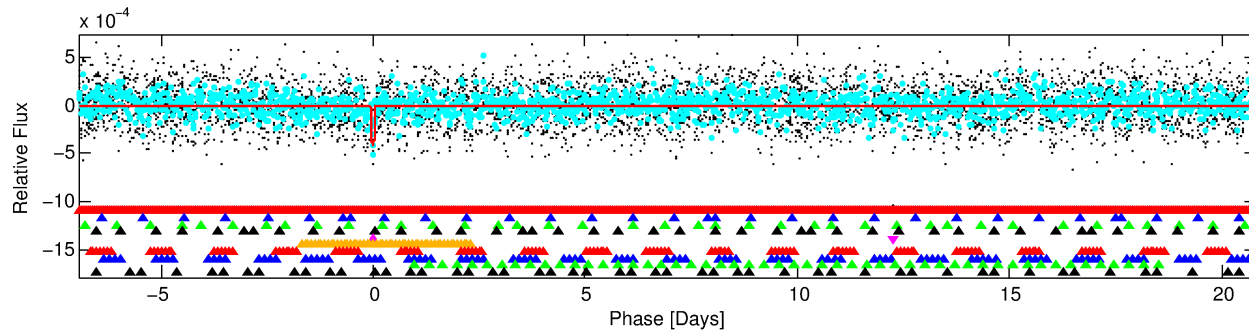
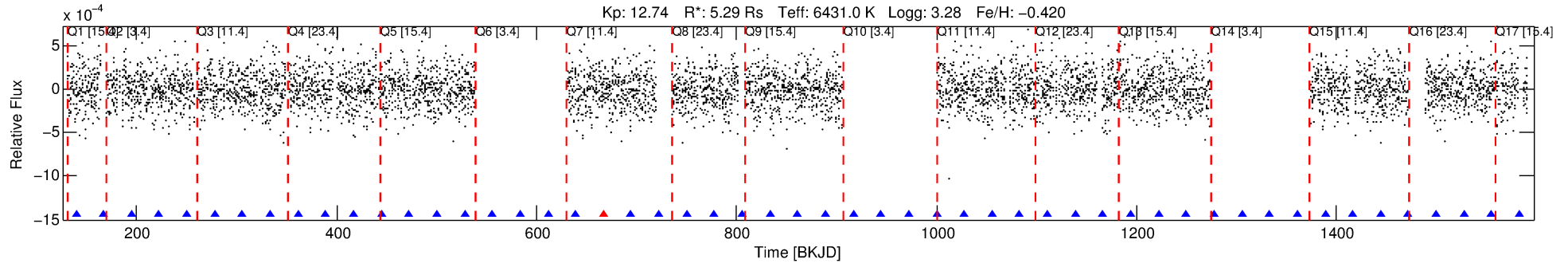
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003458687-05

No Significant Match Found

DV One-Page Summary

KIC: 3458687 Candidate: 5 of 10 Period: 27.758 d
KOI: K07543 Corr: No Ephemeris Match



DV Fit Results:

Period = 27.75795 [0.00022] d
Epoch = 139.4968 [0.0072] BKJD
Rp/R* = 0.0195 [0.0256]
a/R* = 90.42 [639.67]
b = 0.61 [7.29]
Seff = 860.36 [697.49]
Teq = 1381 [280] K
Rp = 11.27 [15.96] Re
a = 0.2234 [0.1124] AU
Ag = 5.03 [17.28] [0.23σ]
Teffp = 3198 [2672] K [0.68σ]

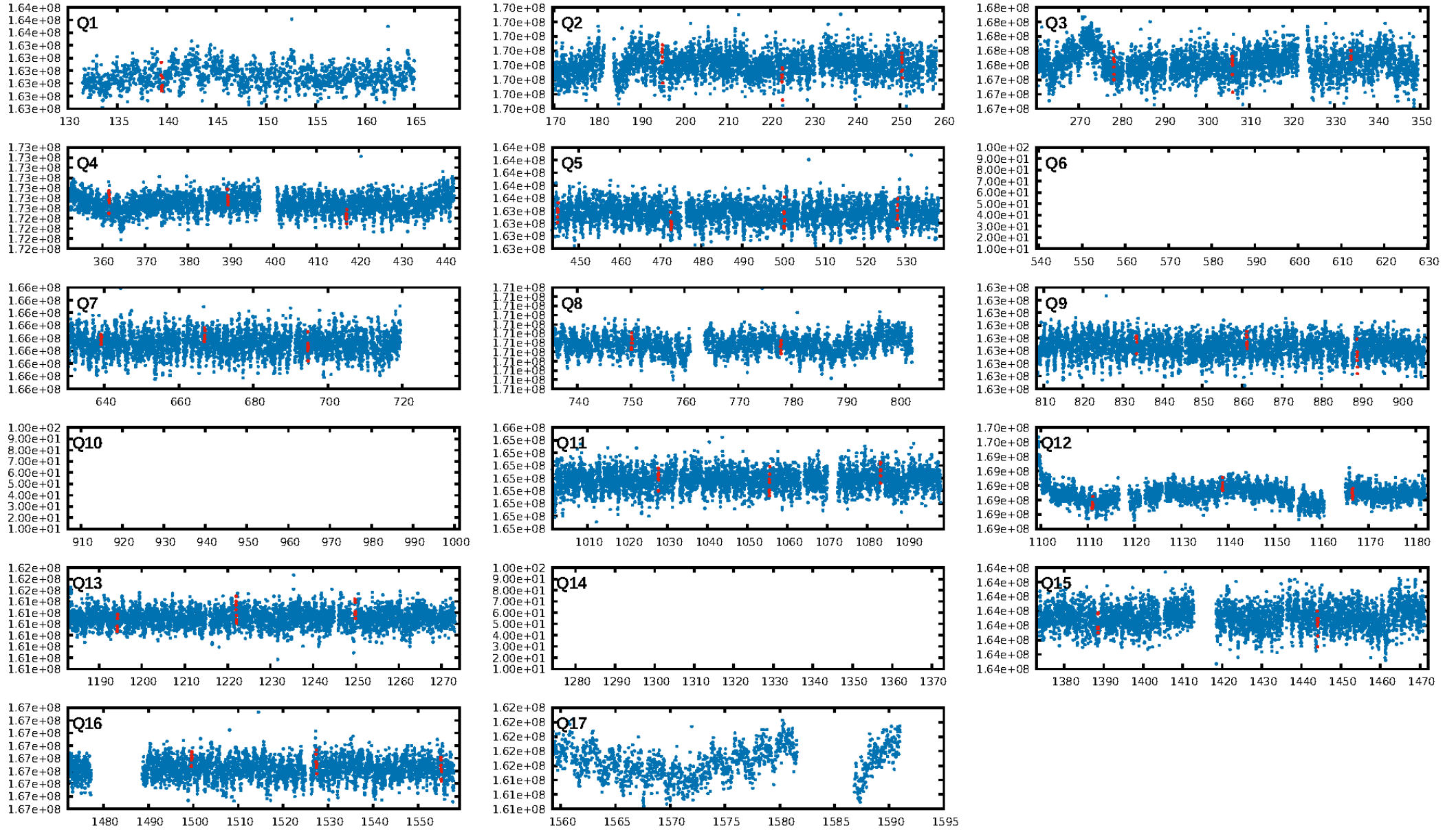
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [133.08σ]
LongPeriod-sig: 49.2% [0.66σ]
ModelChiSquare2-sig: 1.5%
ModelChiSquareGof-sig: 84.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.80 [4/5]
GhostDiagnostic-chr: -0.2861
Centroid-sig: 6.8%
Centroid-so: 0.823 arcsec [2.47σ]
OotOffset-rm: 0.774 arcsec [1.74σ]
KicOffset-rm: 0.862 arcsec [1.94σ]
OotOffset-st: 1/4/3/3 [11]
KicOffset-st: 1/4/3/3 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 0.31 [4/13]

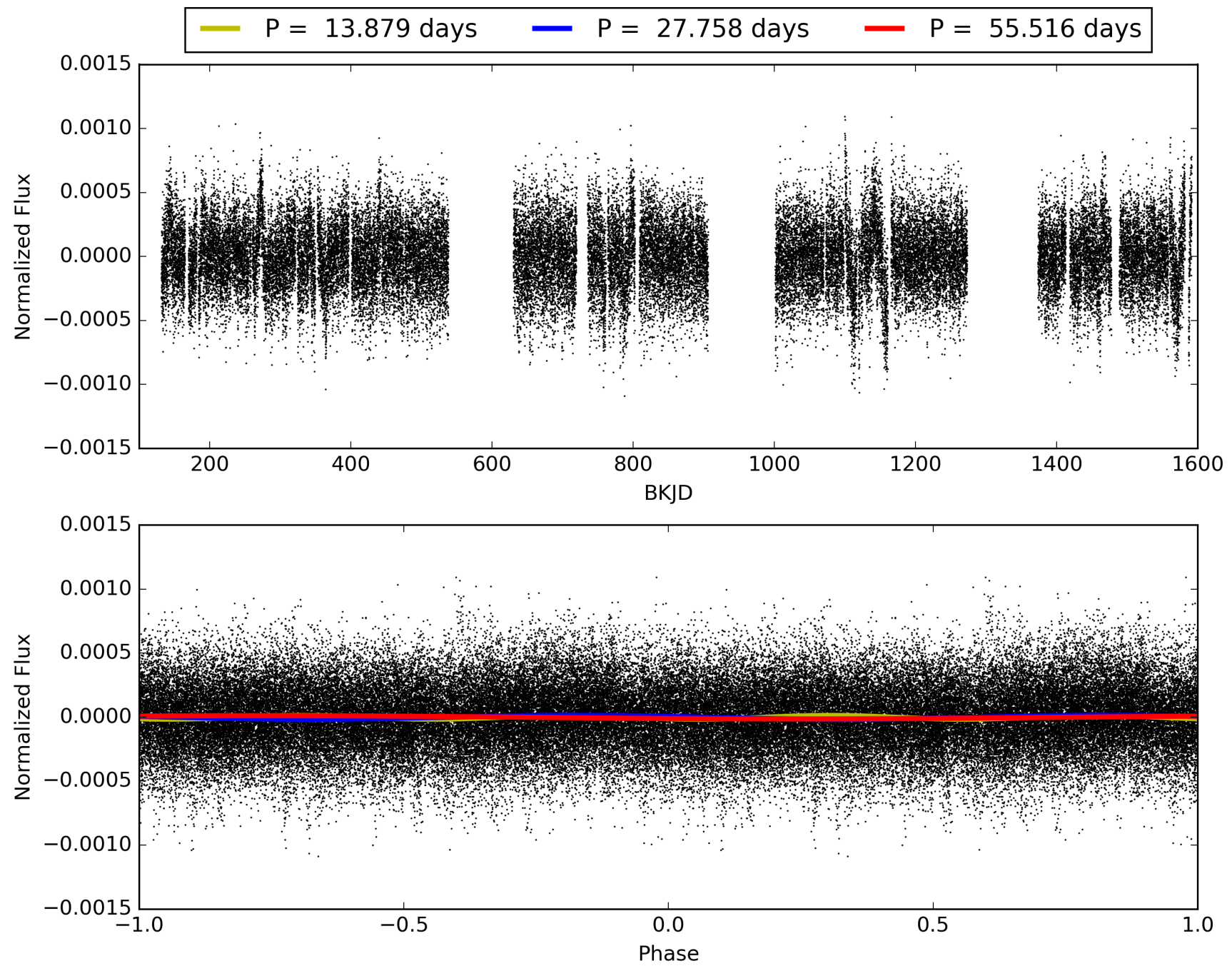
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:32:42 Z

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

TCE 003458687-05, PDC Light Curves

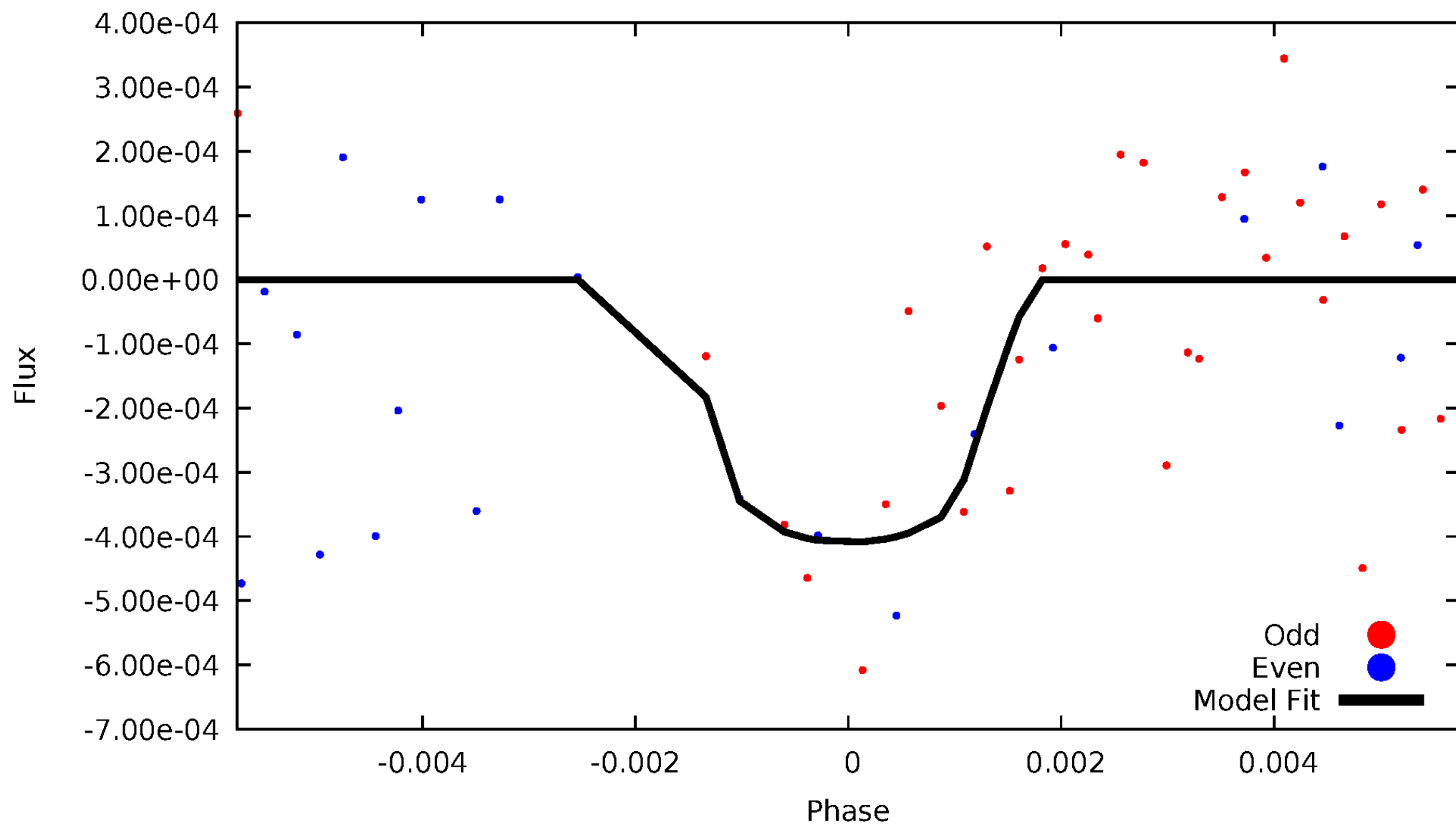


TCE 003458687-05



DV Odd/Even

TCE 003458687-05

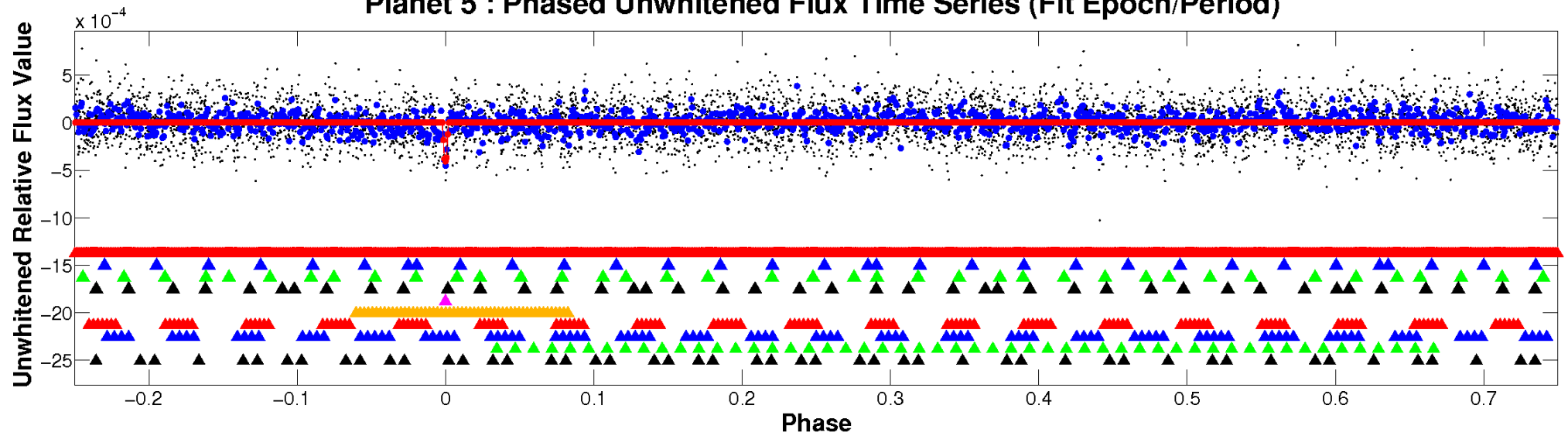


ALT Odd/Even

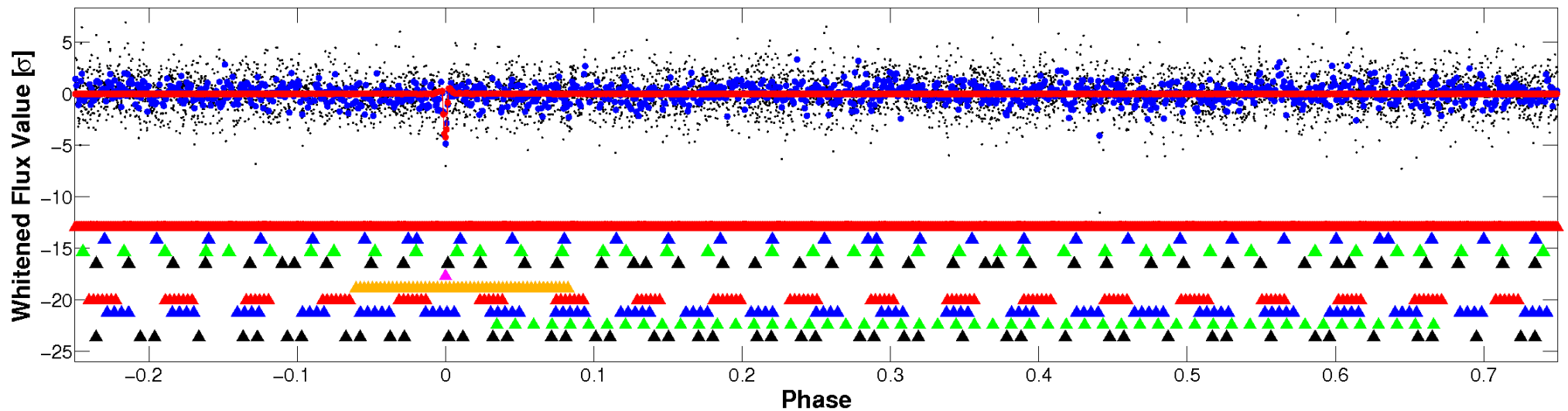
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

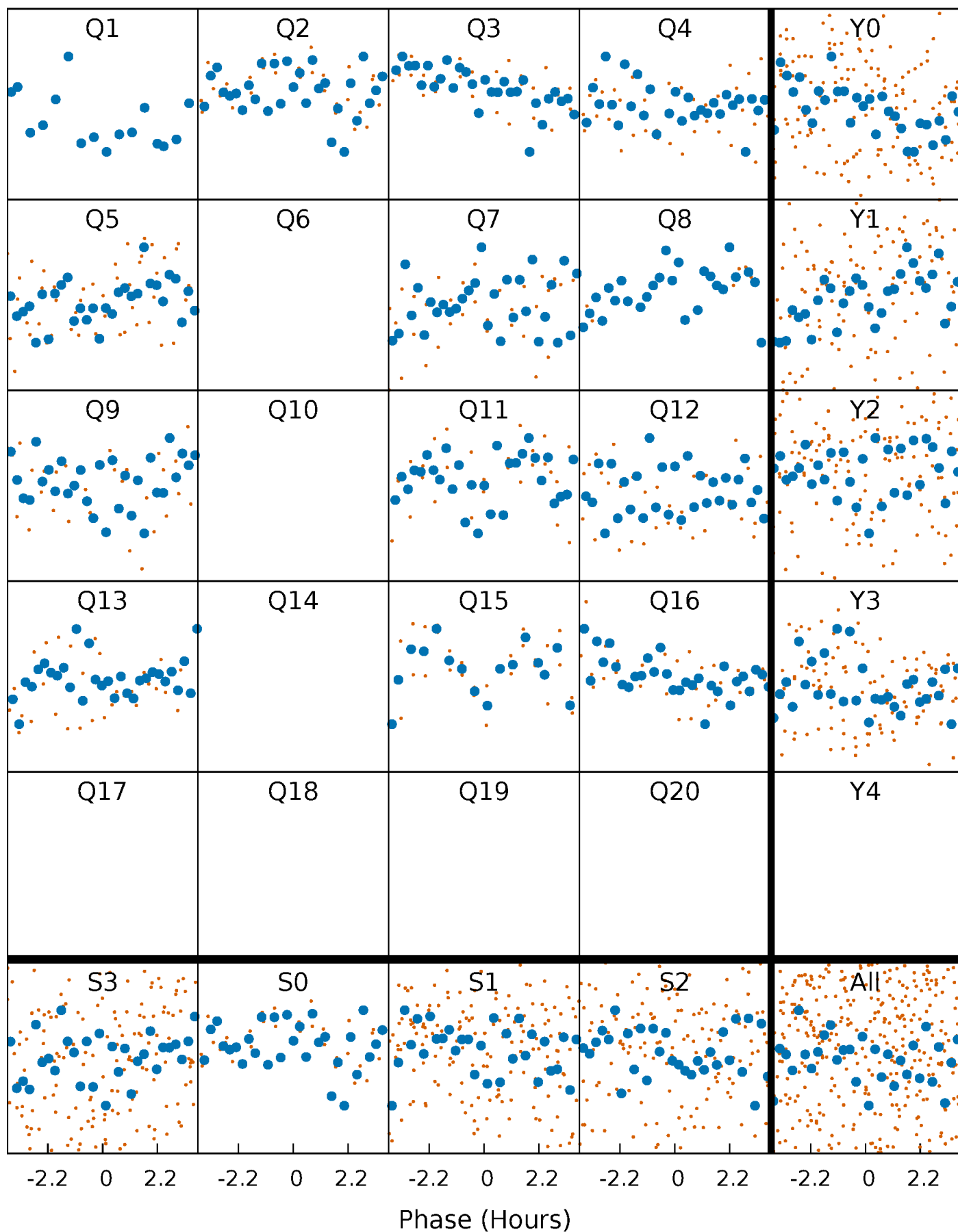


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



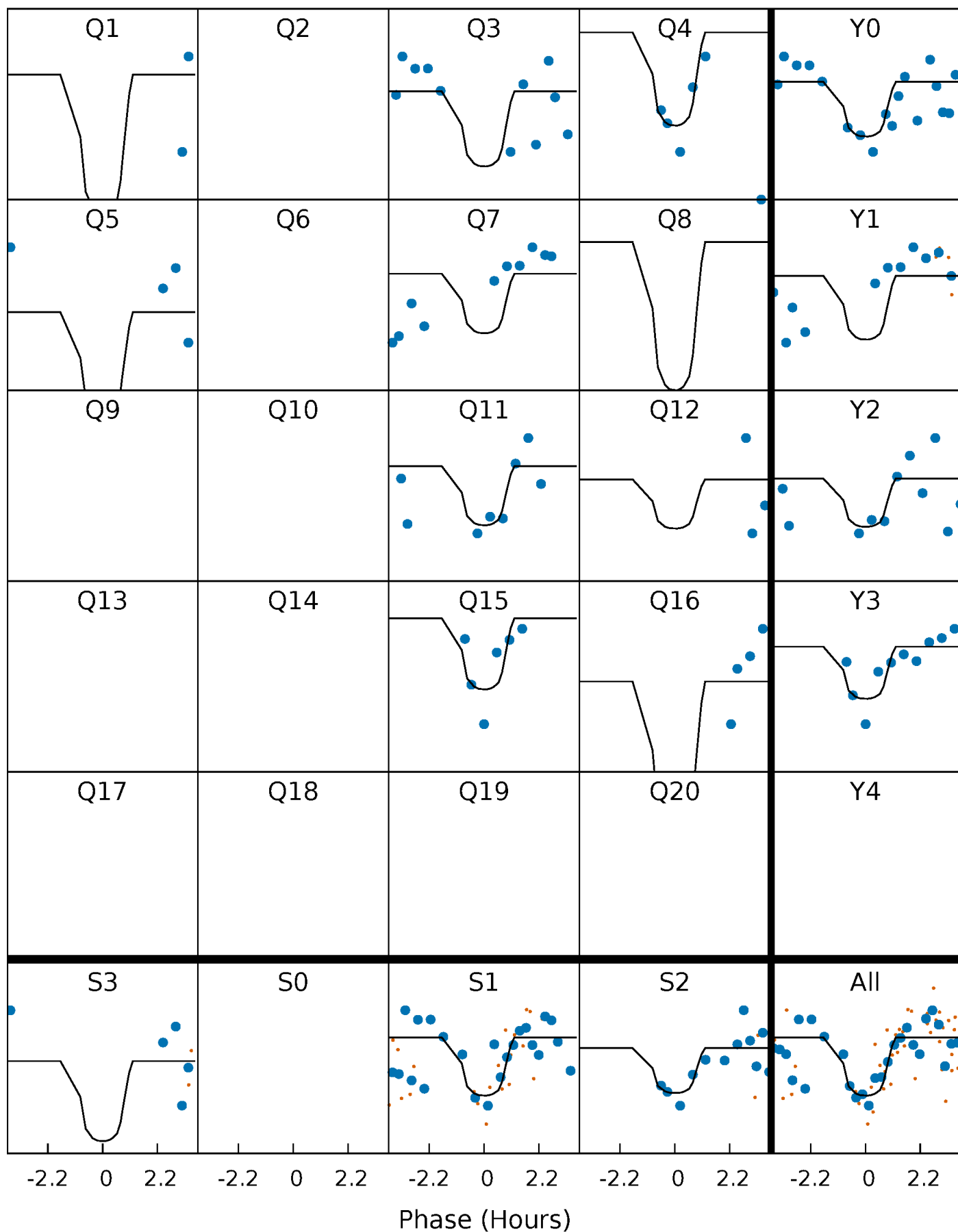
PDC Quarter-Phased Transit Curves

TCE 003458687-05 $P = 27.757951$ Days $T_0 = 139.496836$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 003458687-05 $P = 27.757951$ Days $T_0 = 139.496836$ (BKJD)

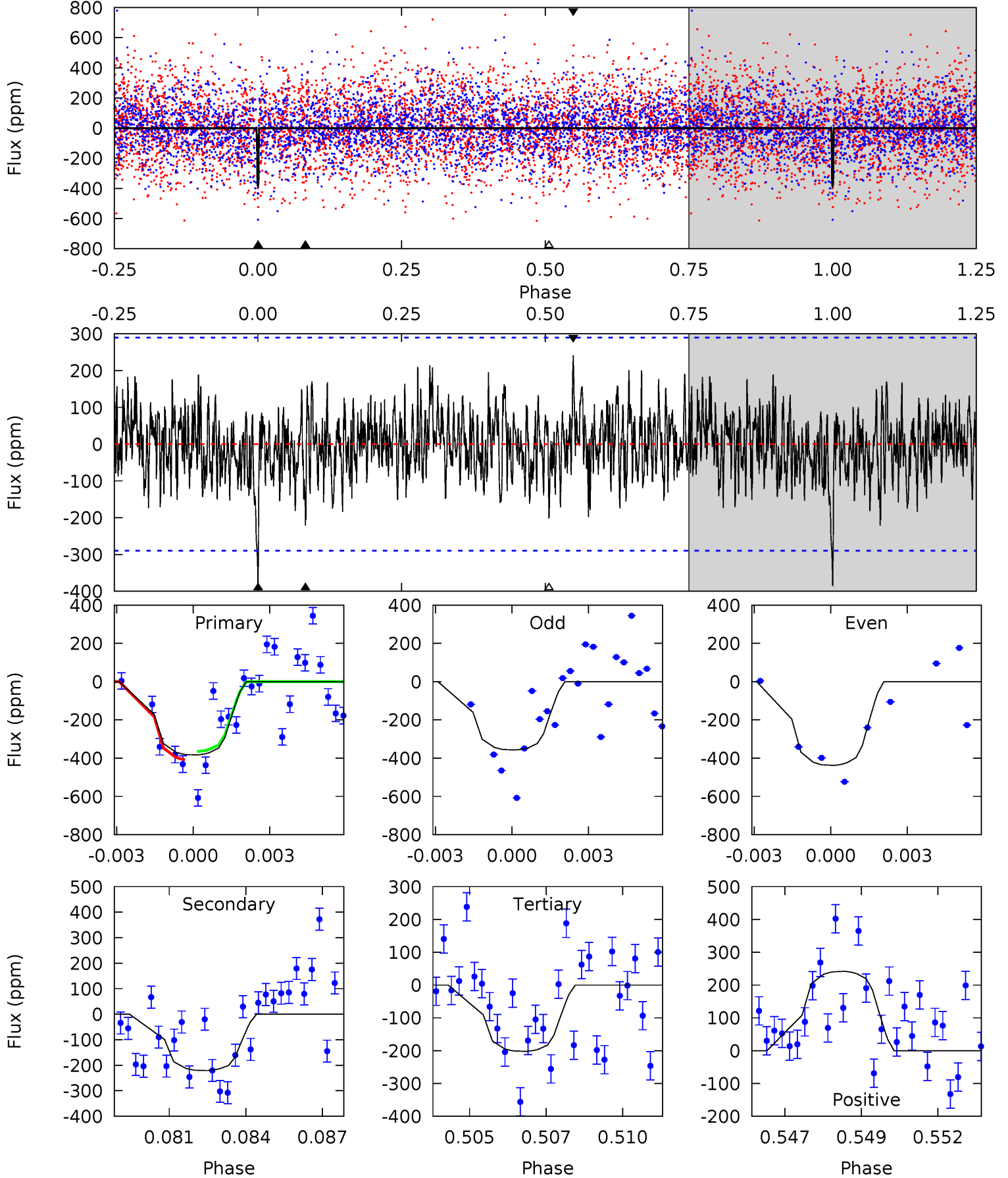


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

003458687-05, P = 27.757951 Days, E = 111.738885 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.98	4.02	3.68	4.40	5.28	3.01	1.30	3.30	2.57	0.34	-0.38	0.71	0.77	0.39	0.34



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 003458687

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6431^{+172}_{-211}	$3.276^{+0.468}_{-0.052}$	$-0.420^{+0.400}_{-0.300}$	$5.294^{+0.294}_{-2.795}$	$1.932^{+0.069}_{-0.590}$	$0.018^{+0.090}_{-0.003}$
	+3%/-3%	+14%/-2%	+95%/-71%	+6%/-53%	+4%/-31%	+491%/-18%
Source	PHO1	FLK73	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 003458687-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-221 ± 55	$13.57^{+13.14}_{-8.98}$	1889^{+94}_{-232}	4865^{+3573}_{-1106}	32^{+240}_{-24}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

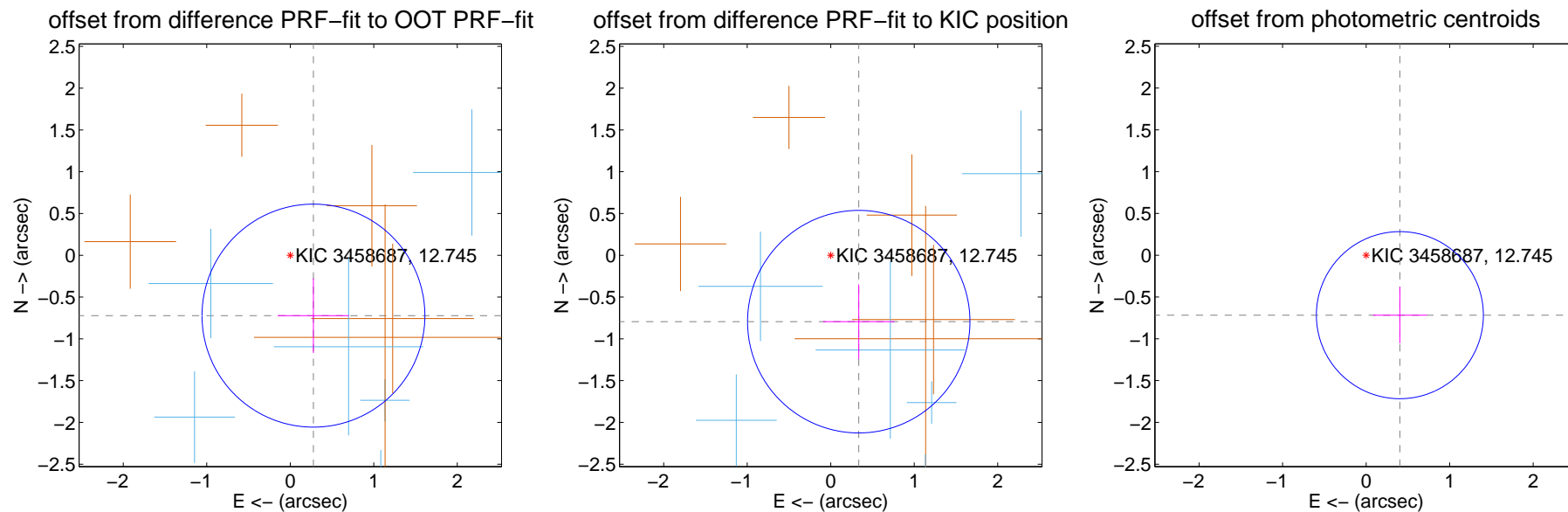
DV Centroid Data

Supplemental centroid analysis for 003458687-05. Kepler magnitude: 12.74. Transit SNR 12.40

There are 6 quarters with good PRF difference image offsets

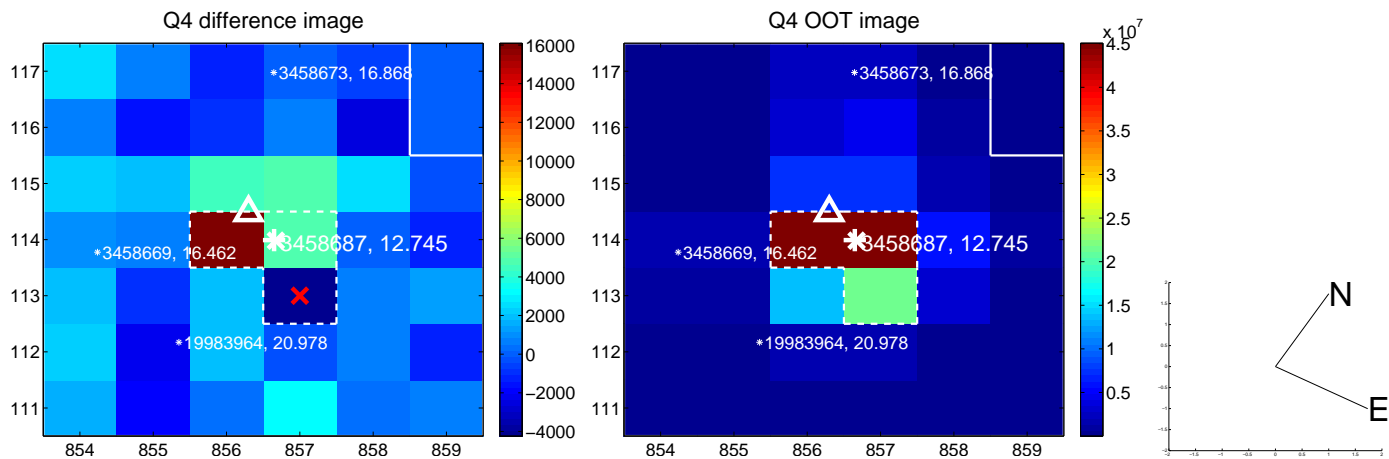
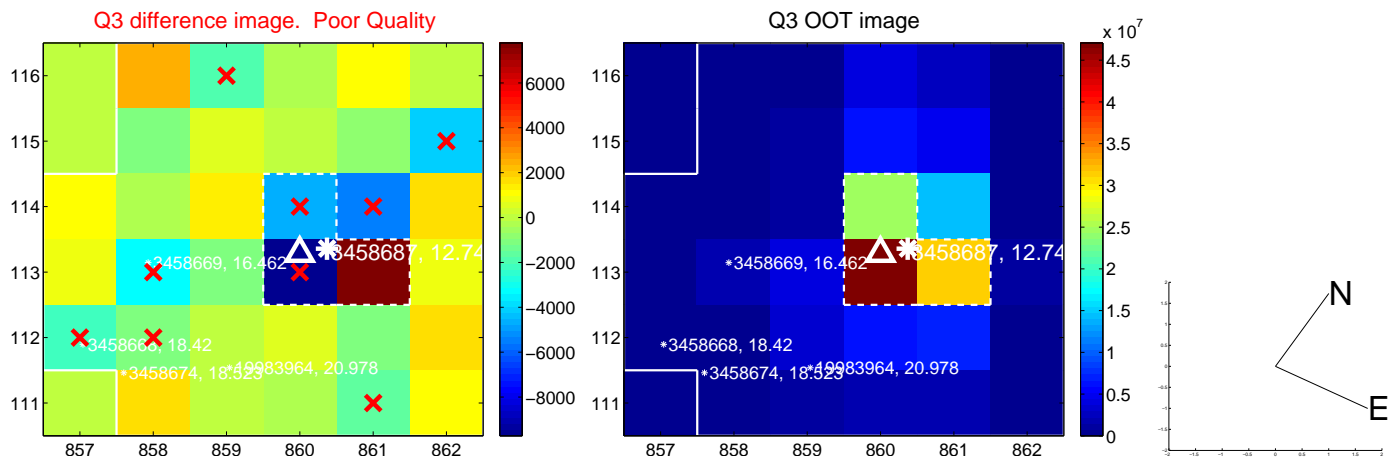
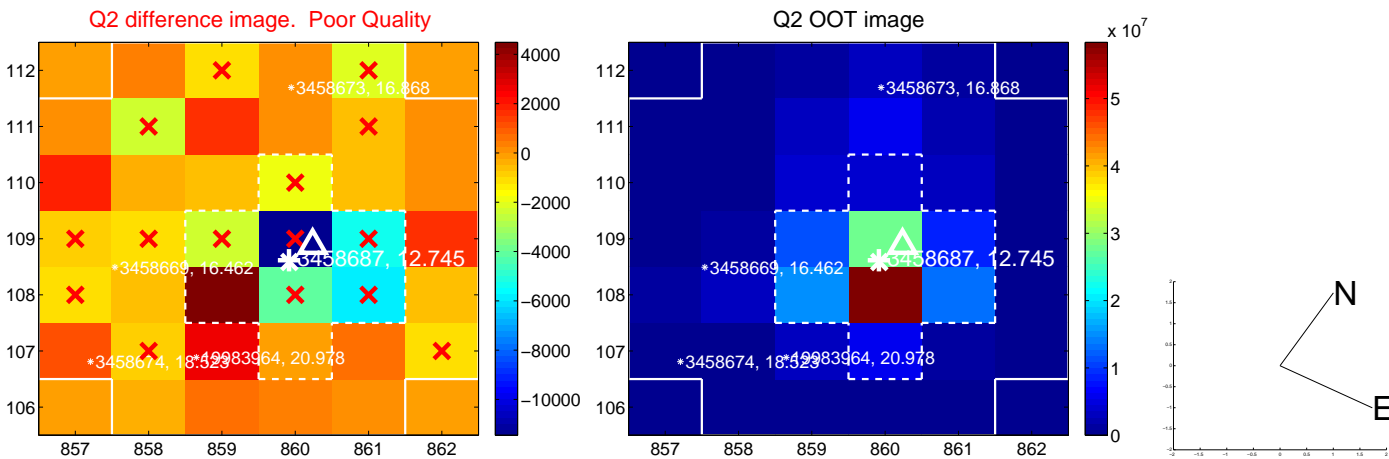
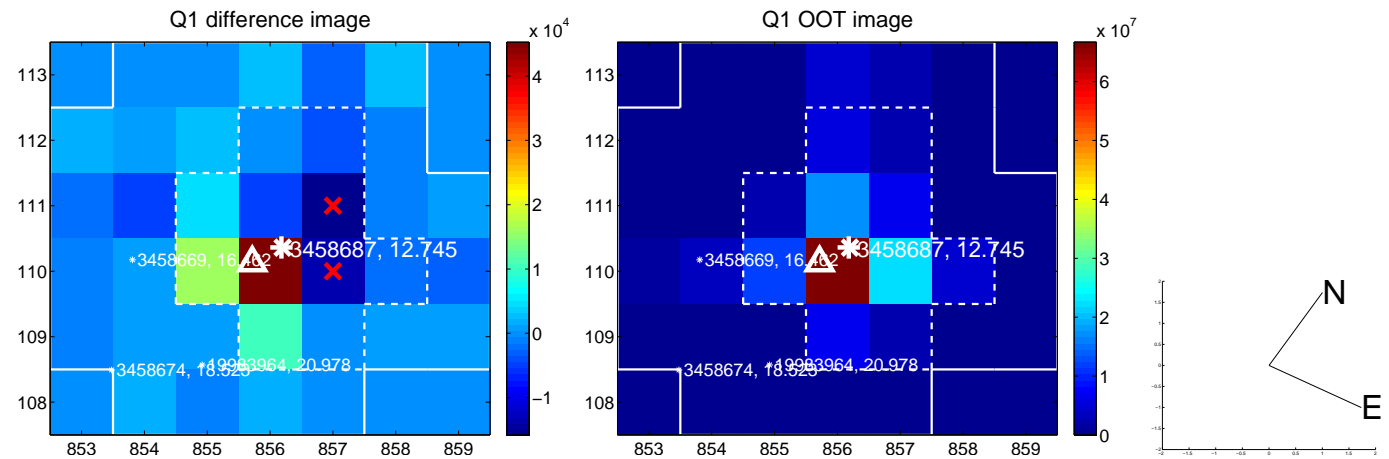
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.774 ± 0.445	1.74	-0.278 ± 0.428	-0.722 ± 0.447
PRF-fit source offset from KIC position	0.862 ± 0.444	1.94	-0.336 ± 0.429	-0.794 ± 0.447
photometric centroid source offset	0.82 ± 0.33	2.47	-0.40 ± 0.32	-0.72 ± 0.34

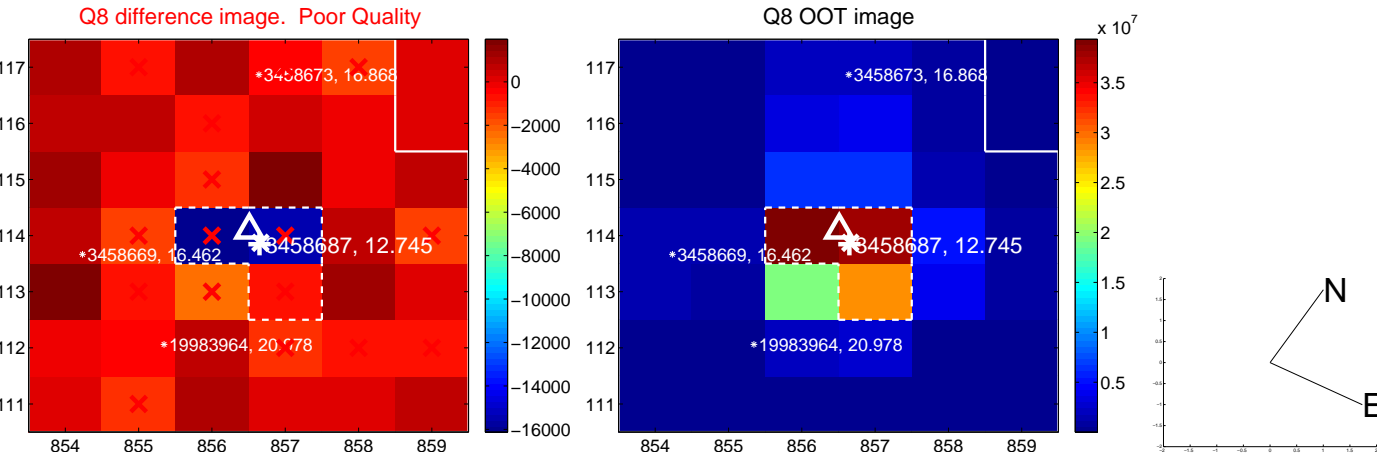
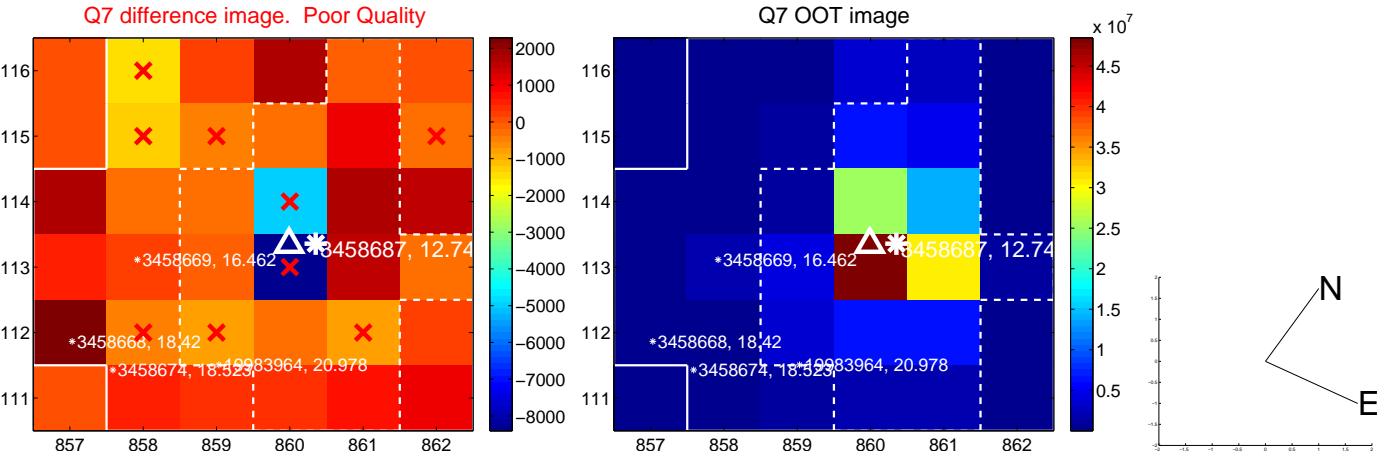
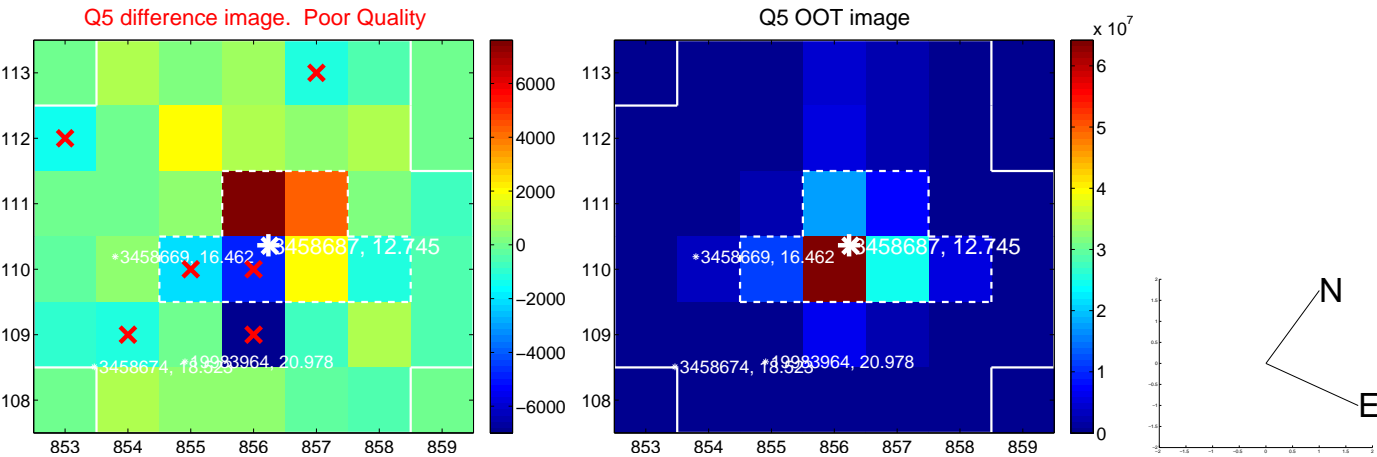


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

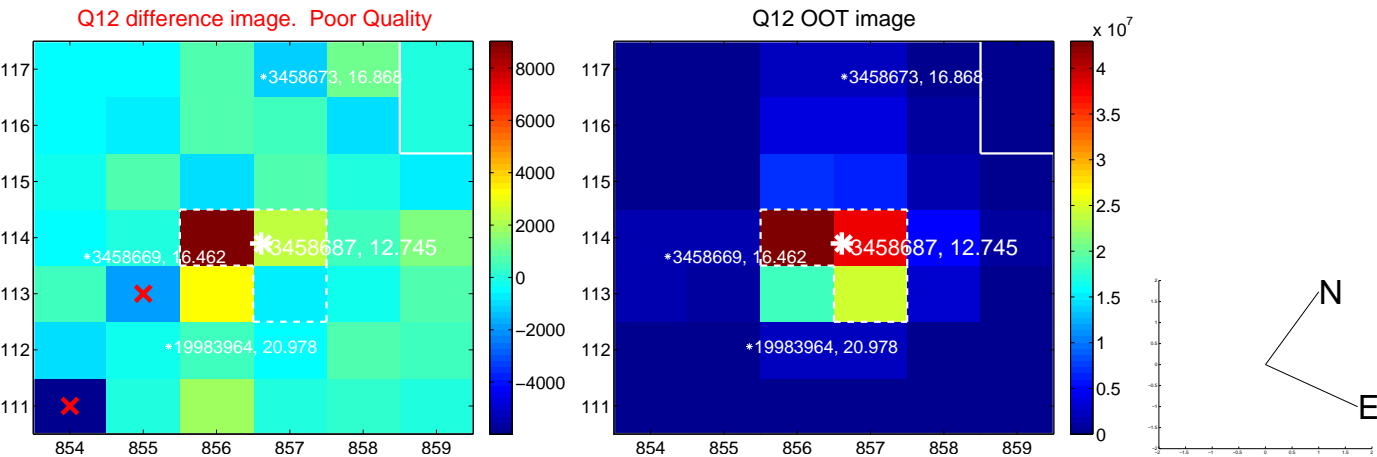
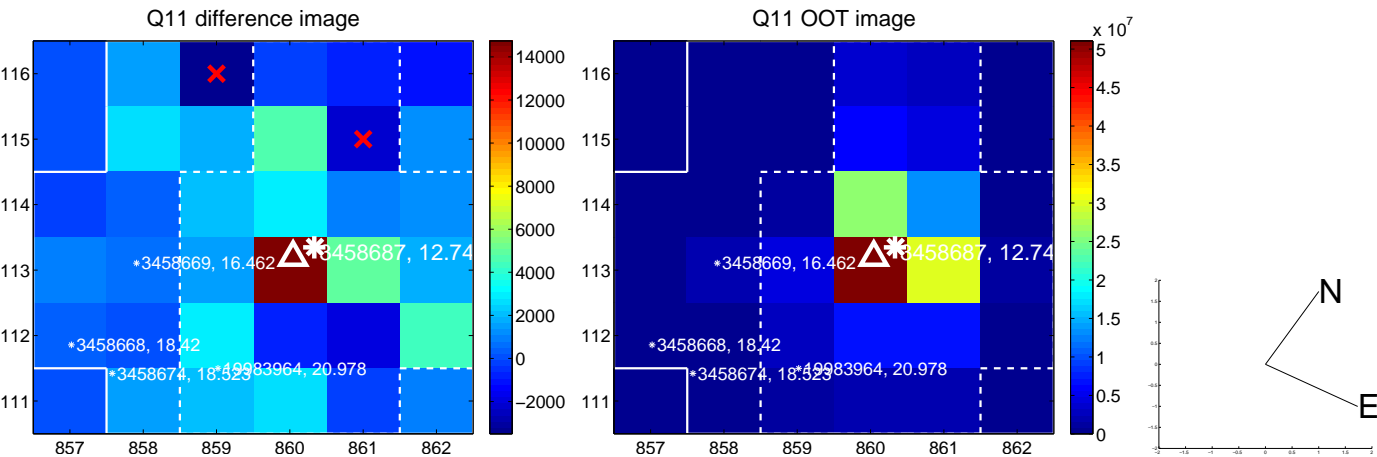
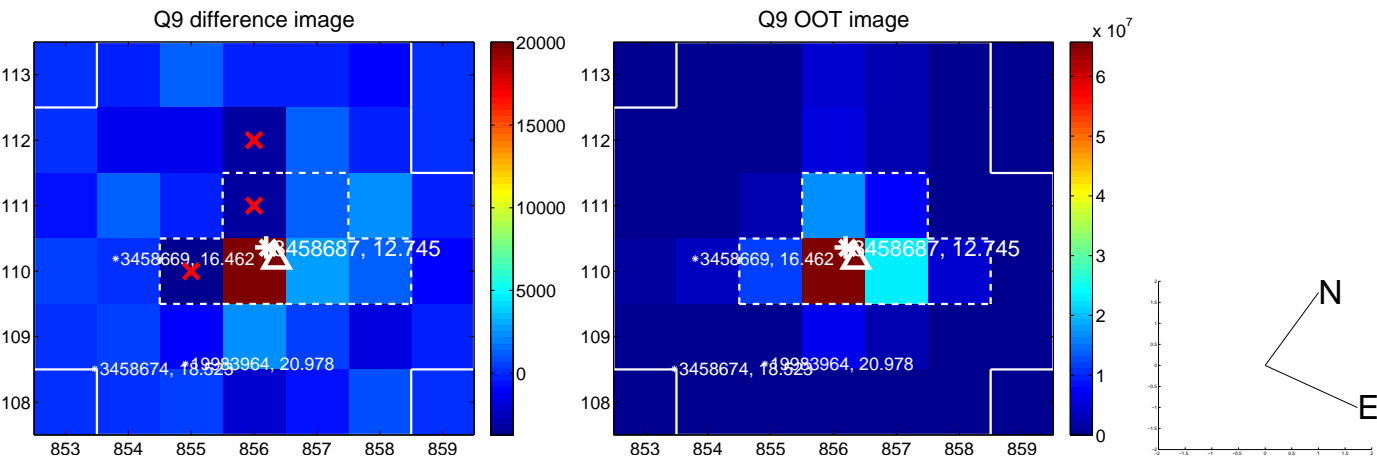
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



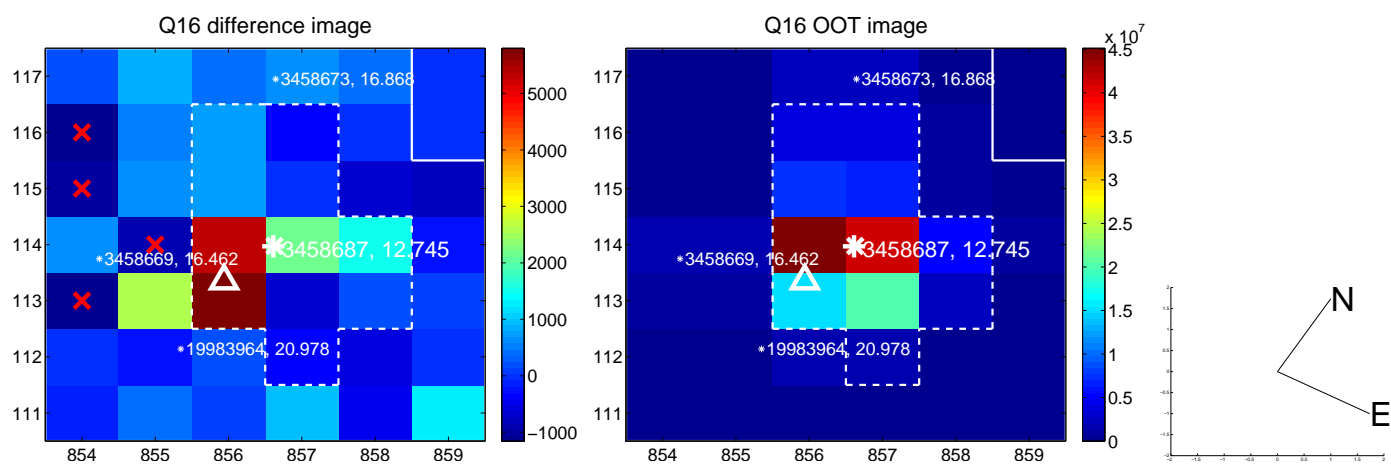
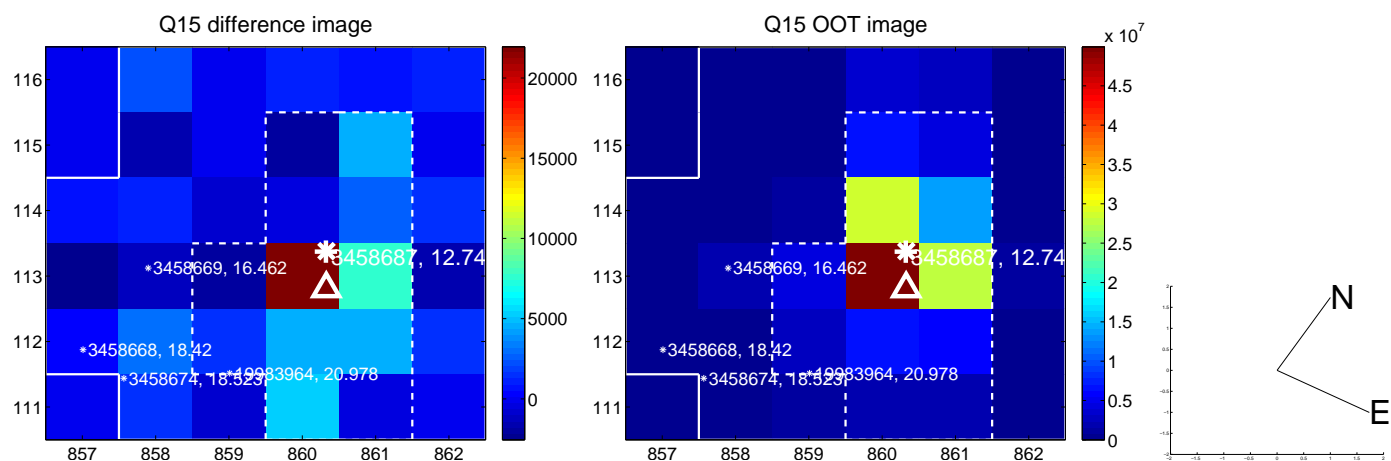
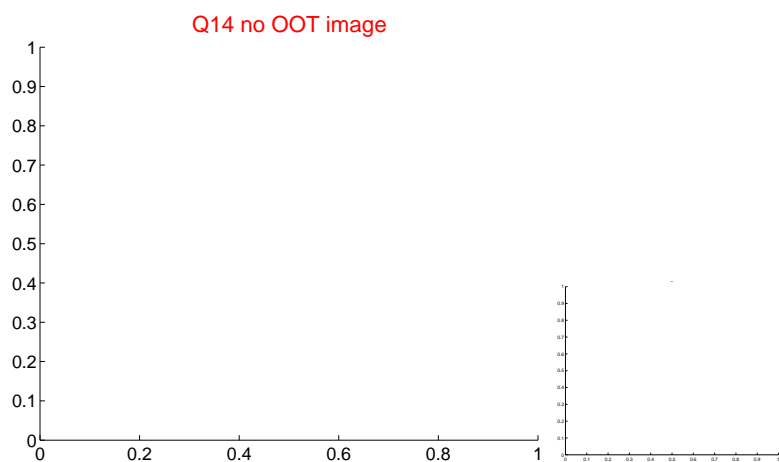
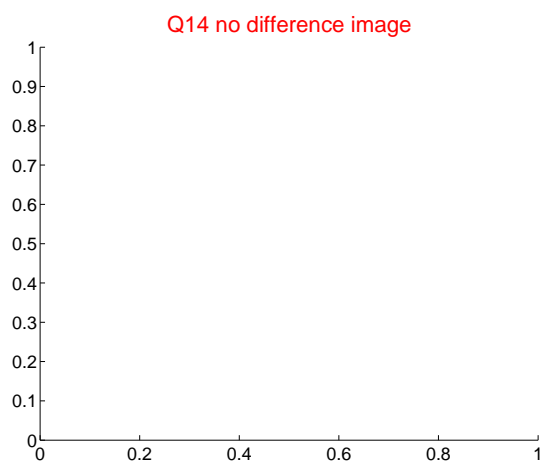
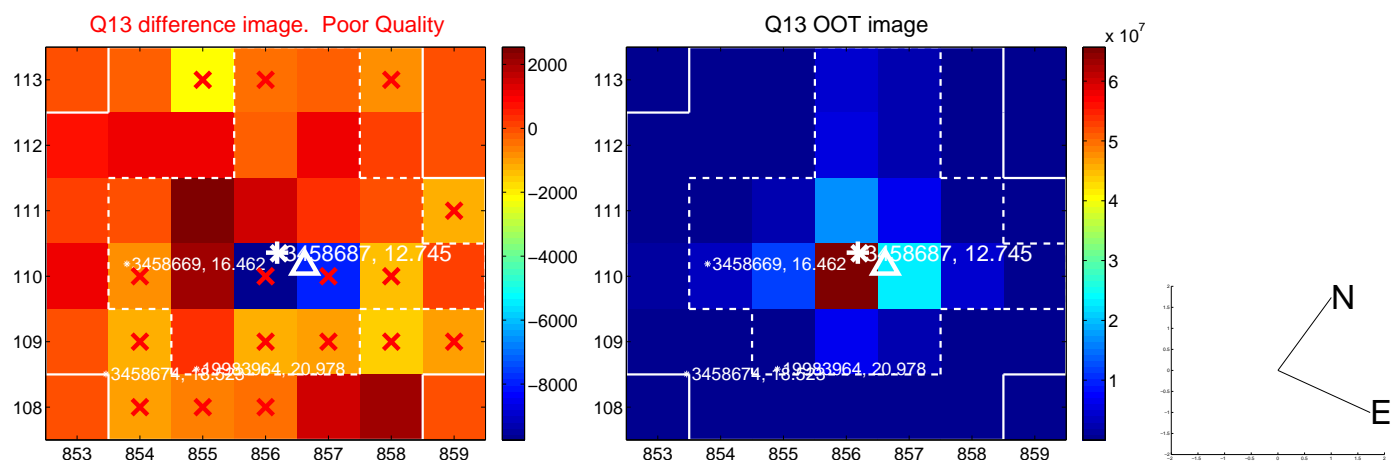
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



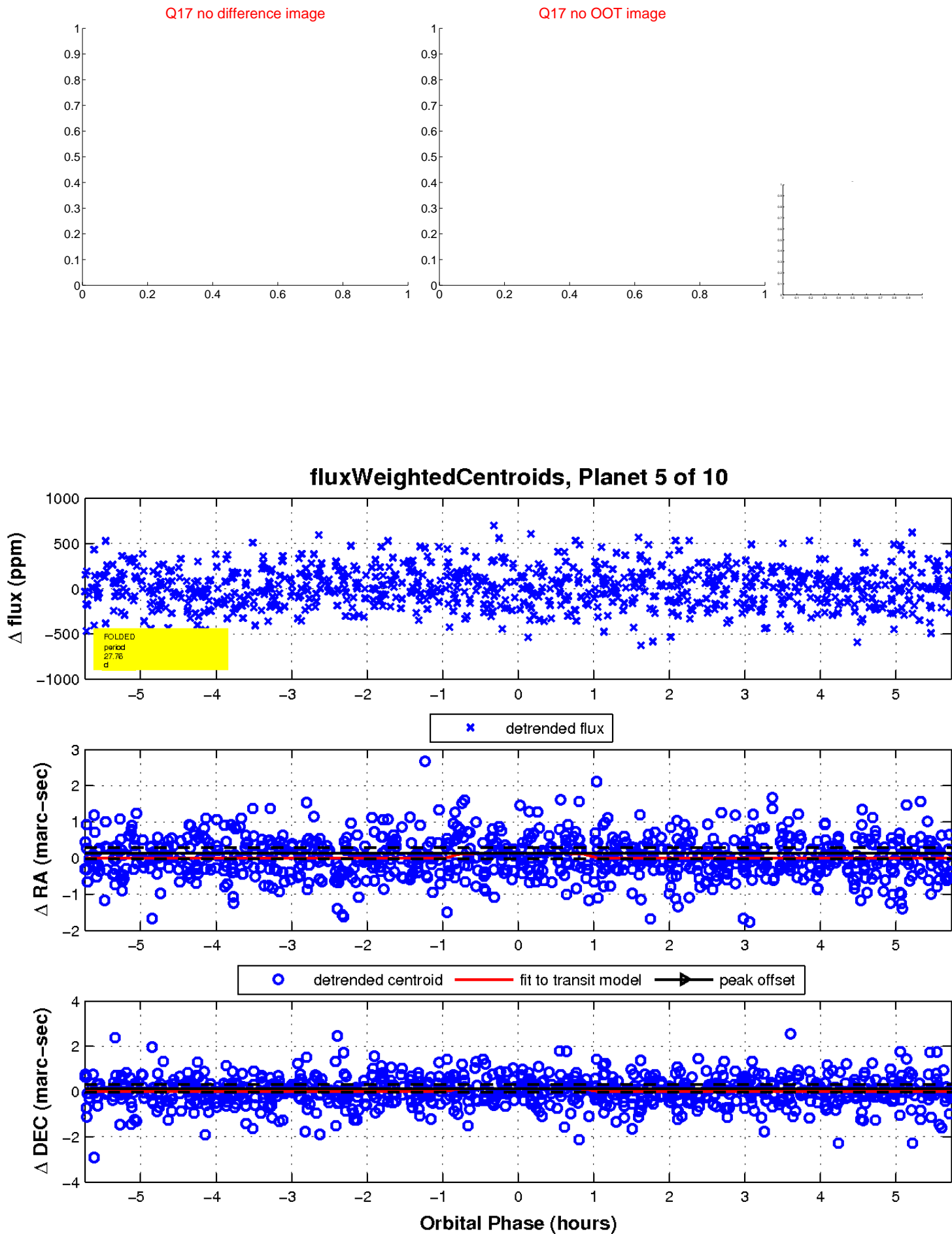
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

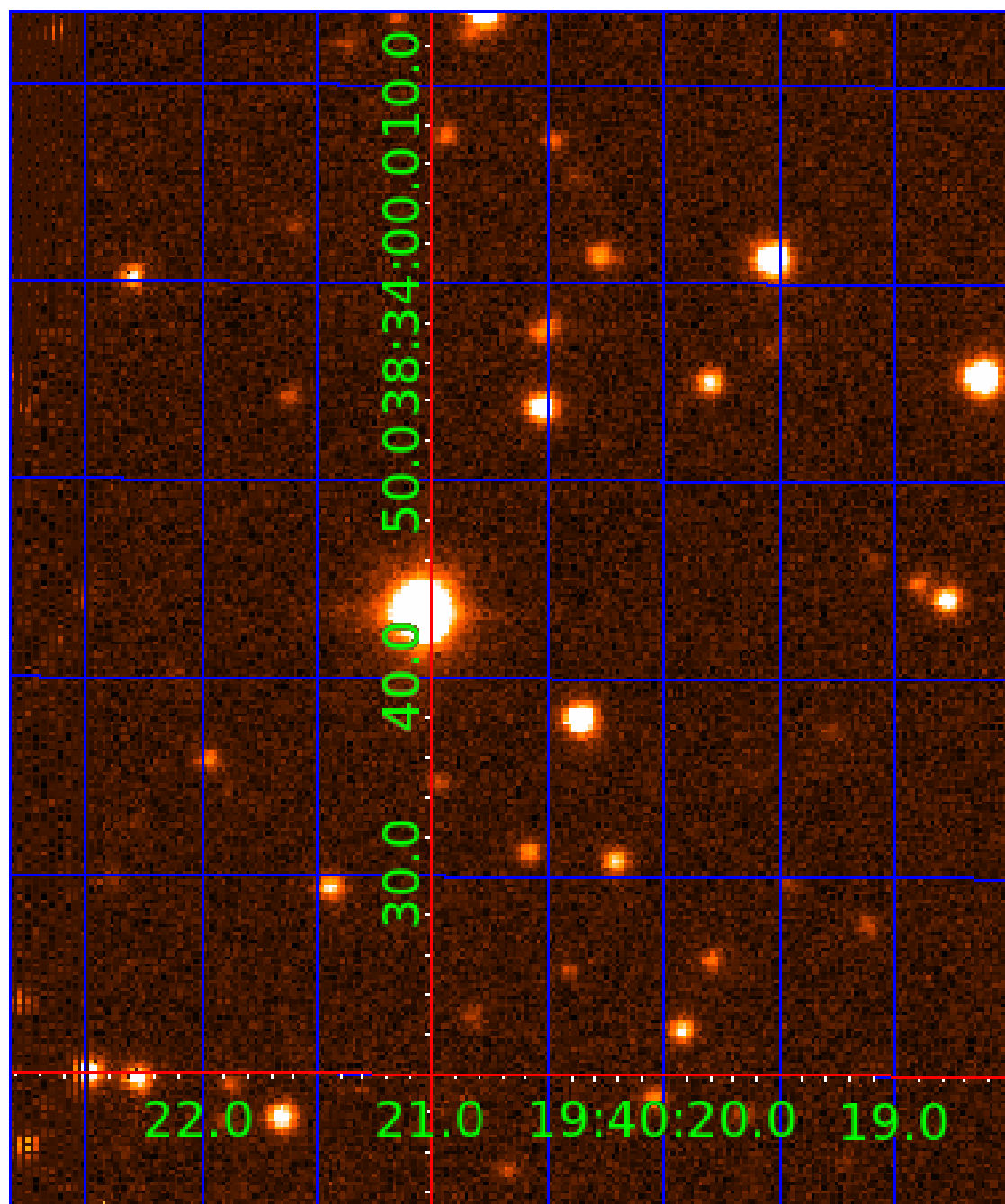


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003458687

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})
003458687-01	OBS	7543.01	0.983762	132.289383	23.9	6.743	8.8	9.1	5.29	6431	2.63	0.00
003458687-03	OBS	No	37.921542	137.409403	251.9	4.719	12.5	9.1	5.29	6431	8.85	567.57
003458687-04	OBS	No	34.338166	164.199165	317.7	2.327	11.8	9.4	5.29	6431	10.68	647.88
003458687-05	OBS	No	27.757951	139.496836	409.1	1.913	11.3	12.4	5.29	6431	11.27	860.36
003458687-06	OBS	No	27.834187	137.823236	336.6	1.997	10.7	10.9	5.29	6431	10.97	857.22
003458687-07	OBS	No	11.691953	138.628806	197.9	4.490	9.7	12.3	5.29	6431	8.70	2724.89
003458687-08	OBS	No	14.488233	137.905875	271.0	1.438	10.2	10.5	5.29	6431	9.13	2047.28
003458687-09	OBS	No	28.101709	140.458736	305.4	3.602	10.3	11.9	5.29	6431	9.65	846.36
003458687-10	OBS	No	29.681505	136.537650	270.5	3.500	9.5	-1.0	5.29	6431	8.76	786.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003458687-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
003458687-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003458687-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003458687-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
003458687-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-10	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_NOFITS—HALO_GHOST

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

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

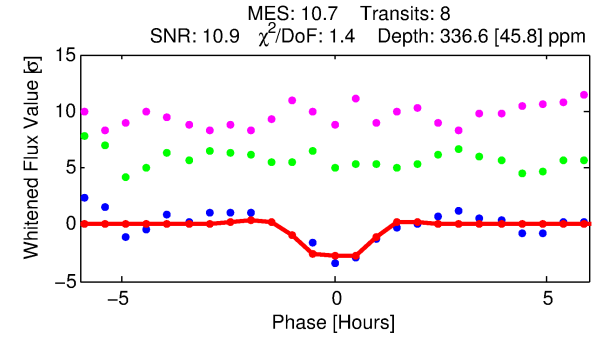
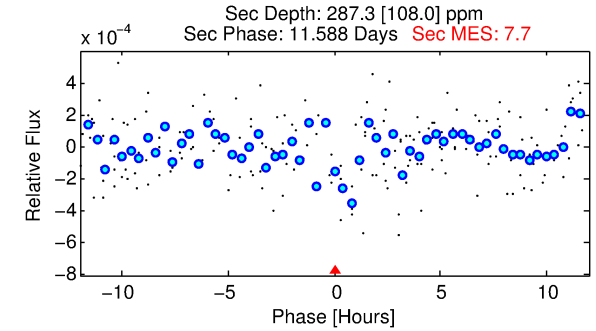
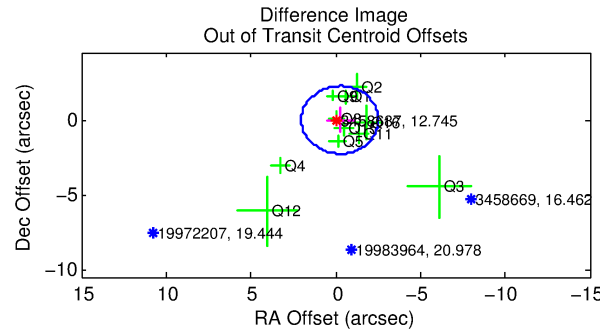
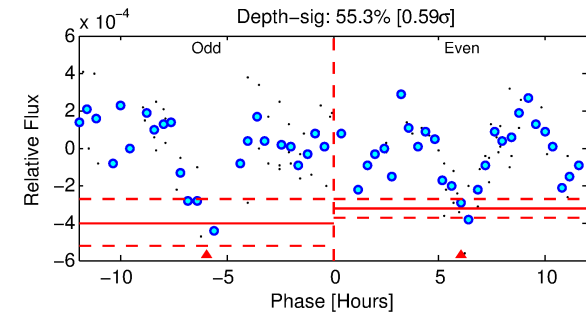
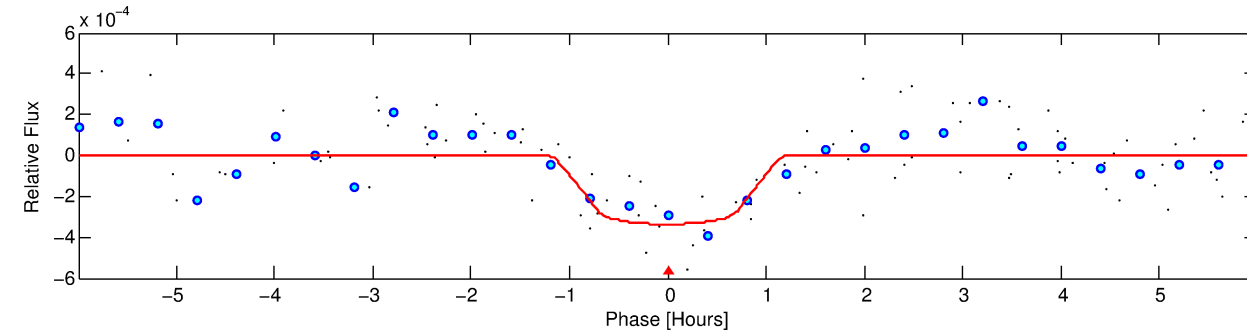
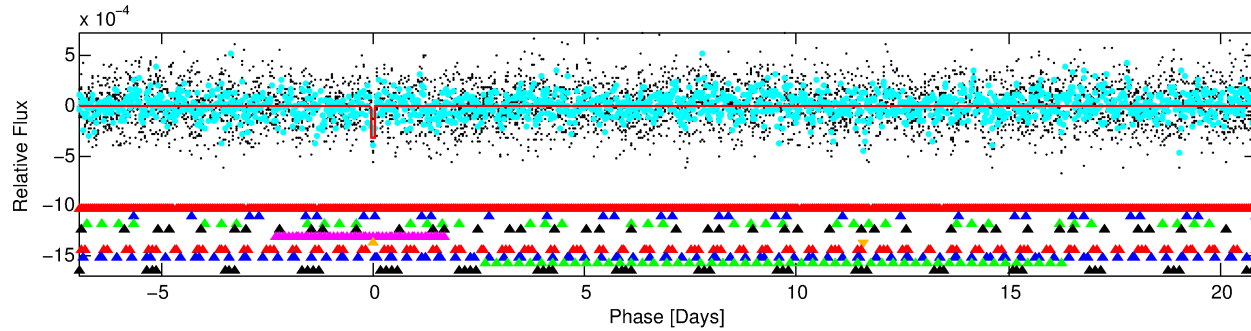
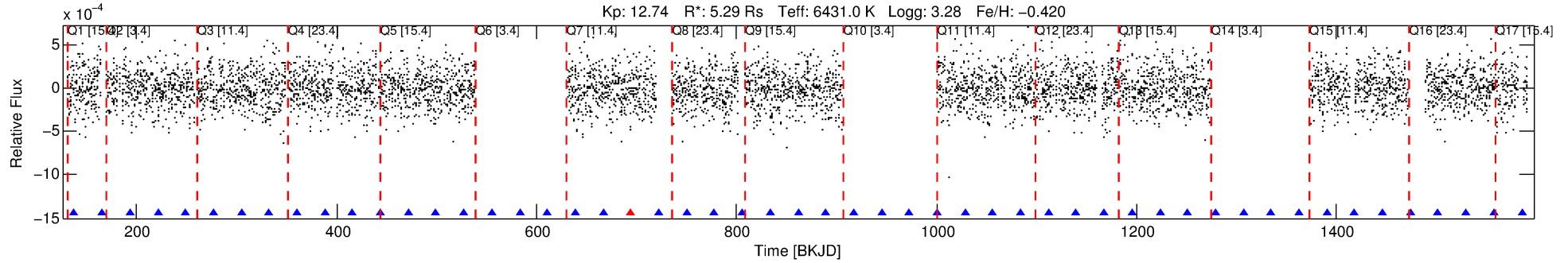
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003458687-06

No Significant Match Found

DV One-Page Summary

KIC: 3458687 Candidate: 6 of 10 Period: 27.834 d
KOI: K07543 Corr: No Ephemeris Match



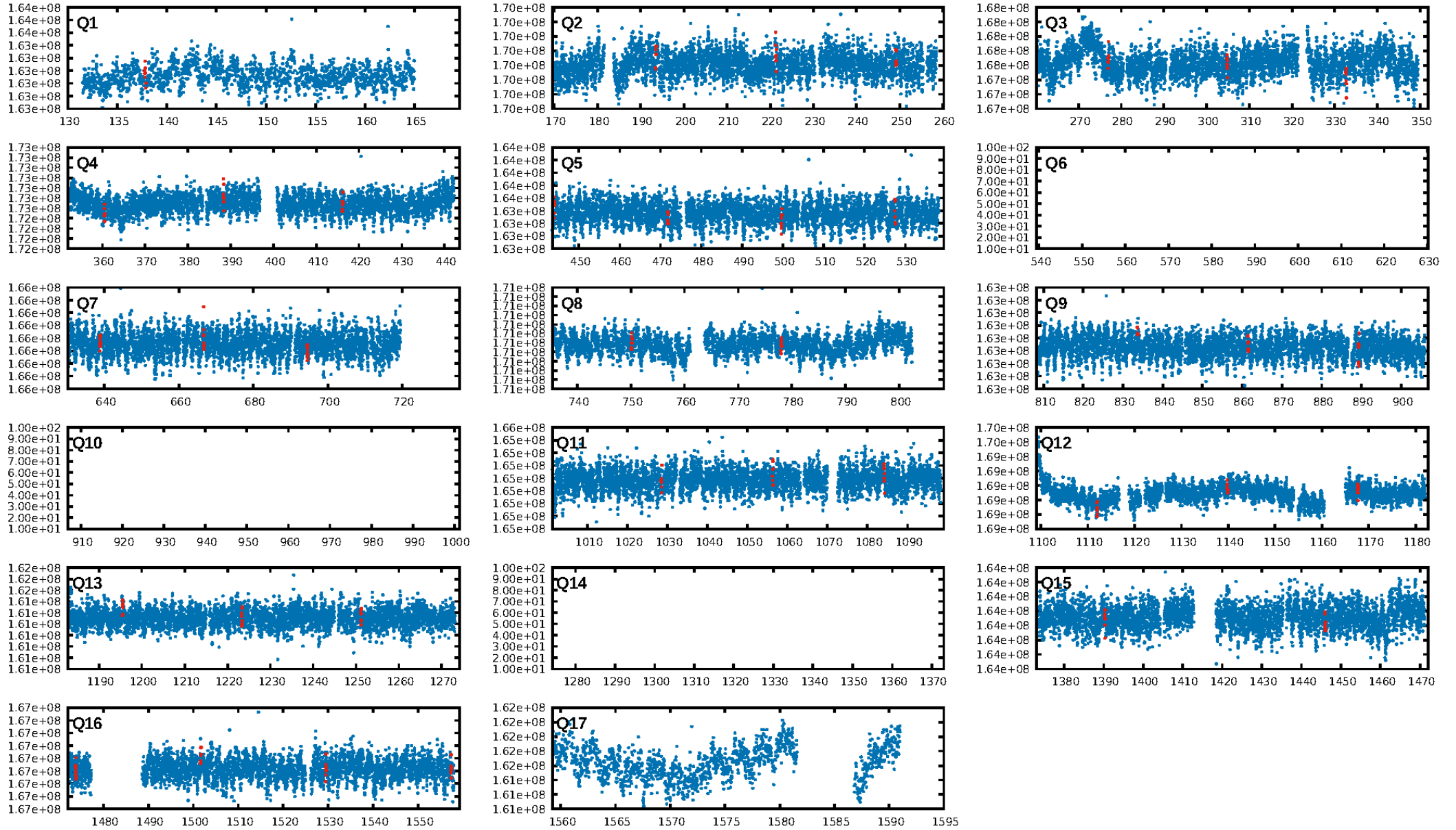
DV Fit Results:

Period = 27.83419 [0.00021] d
Epoch = 137.8232 [0.0061] BKJD
Rp/R* = 0.0190 [0.0166]
a/R* = 60.48 [296.26]
b = 0.85 [1.67]
Seff = 857.22 [694.94]
Teq = 1380 [280] K
Rp = 10.97 [11.19] Re
a = 0.2238 [0.1126] AU
Ag = 65.76 [128.56] [0.50σ]
Teffp = 6075 [2716] K [1.72σ]

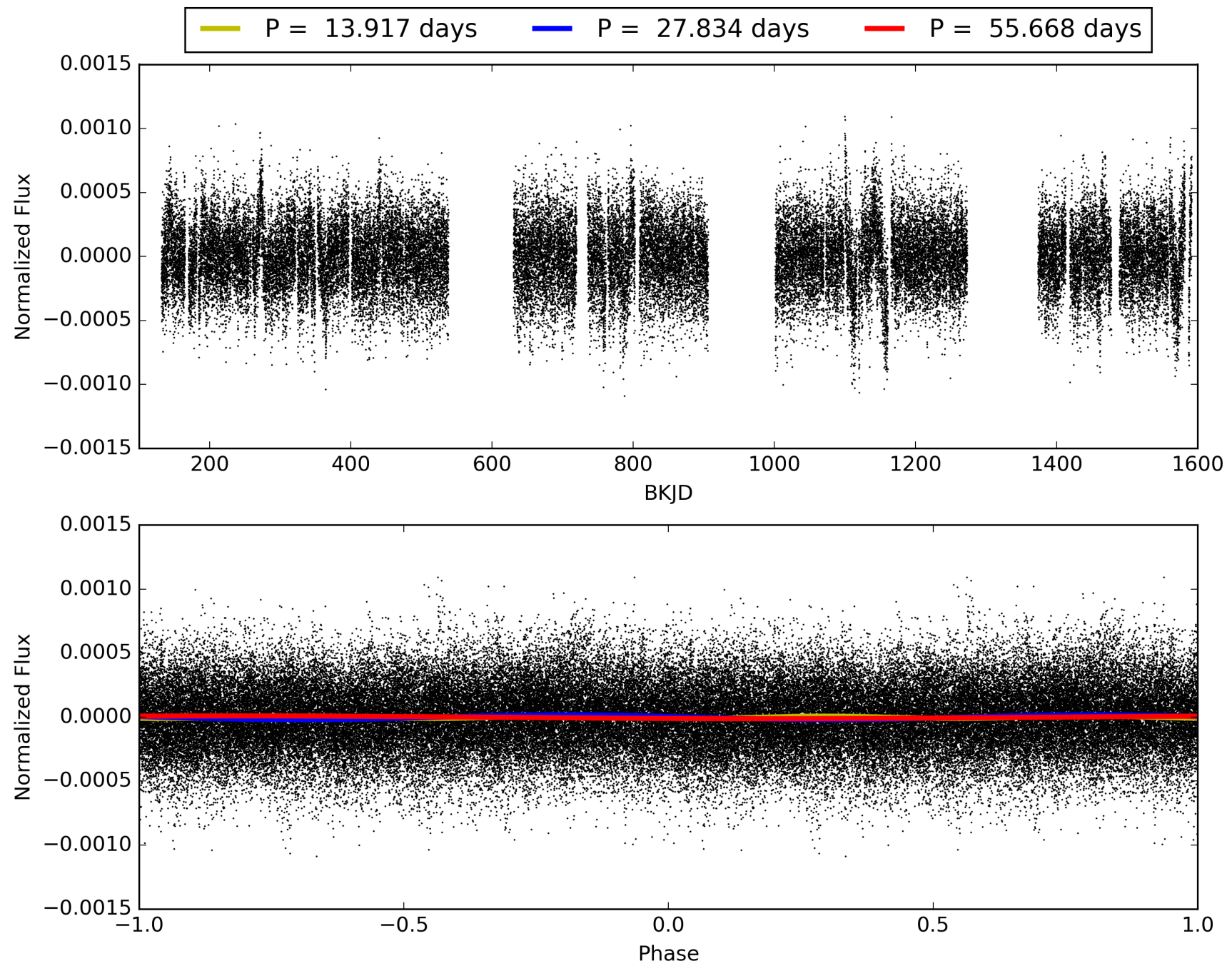
DV Diagnostic Results:

ShortPeriod-sig: 49.2% [0.66σ]
LongPeriod-sig: 88.1% [1.56σ]
ModelChiSquare2-sig: 40.4%
ModelChiSquareGof-sig: 99.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.88 [7/8]
GhostDiagnostic-chr: -5.591
Centroid-sig: 4.9%
Centroid-so: 0.927 arcsec [2.34σ]
OotOffset-rm: 0.244 arcsec [0.32σ]
KicOffset-rm: 0.307 arcsec [0.40σ]
OotOffset-st: 1/3/4/3 [11]
KicOffset-st: 1/3/4/3 [11]
DiffImageQuality-fgm: 0.36 [4/11]
DiffImageOverlap-fno: 0.38 [5/13]

TCE 003458687-06, PDC Light Curves

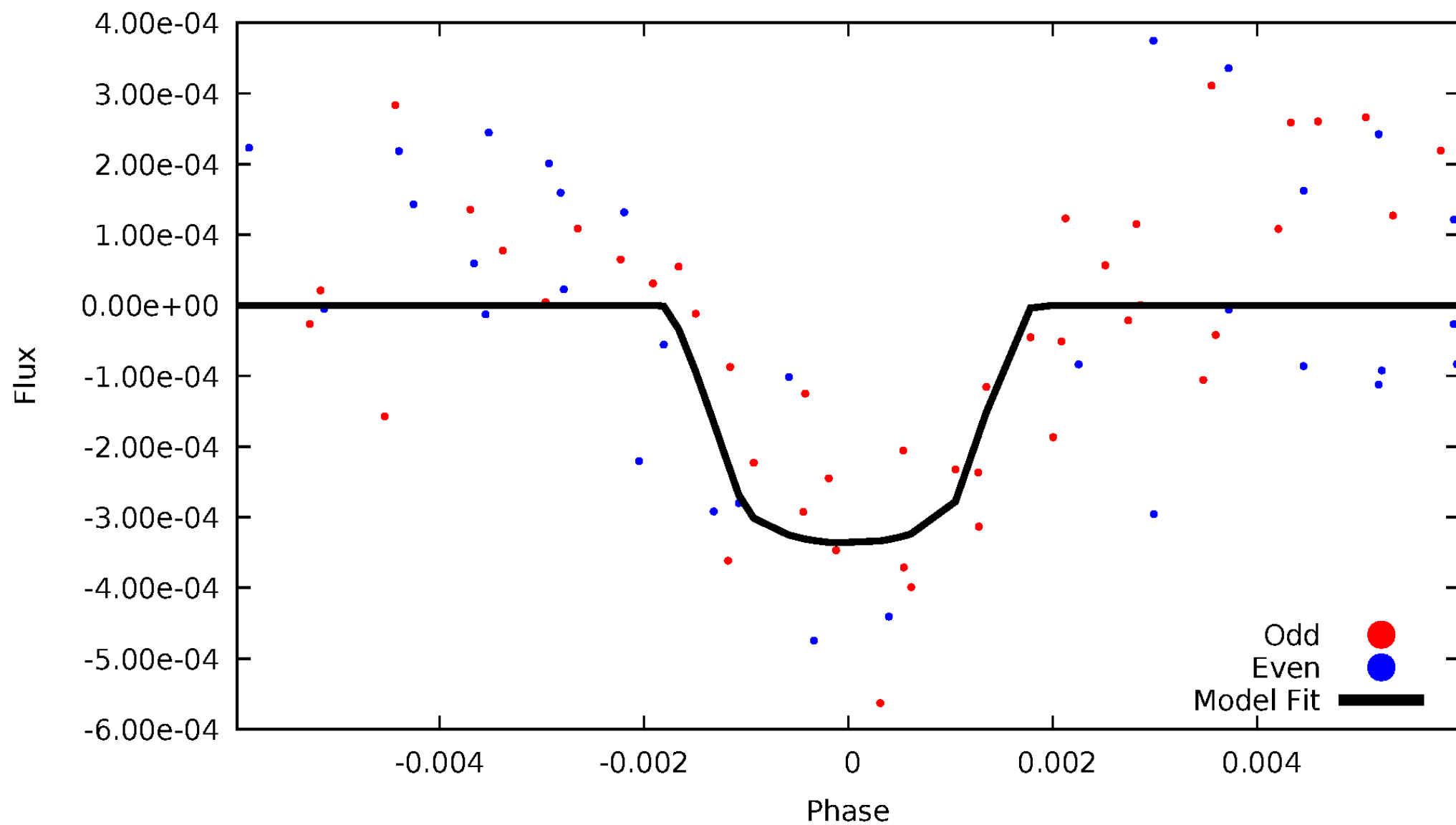


TCE 003458687-06



DV Odd/Even

TCE 003458687-06

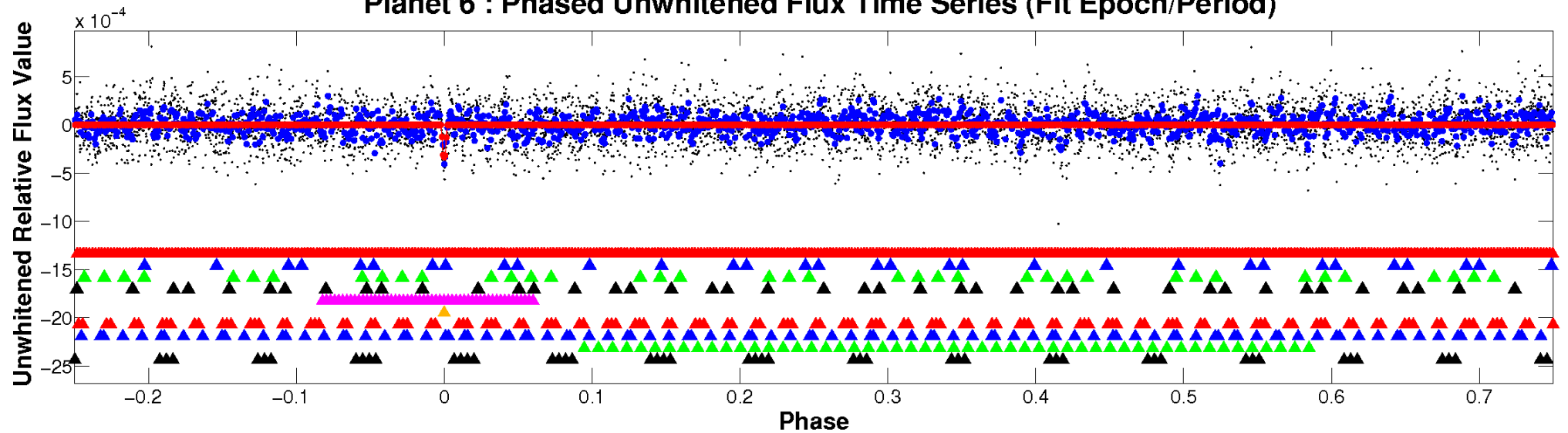


ALT Odd/Even

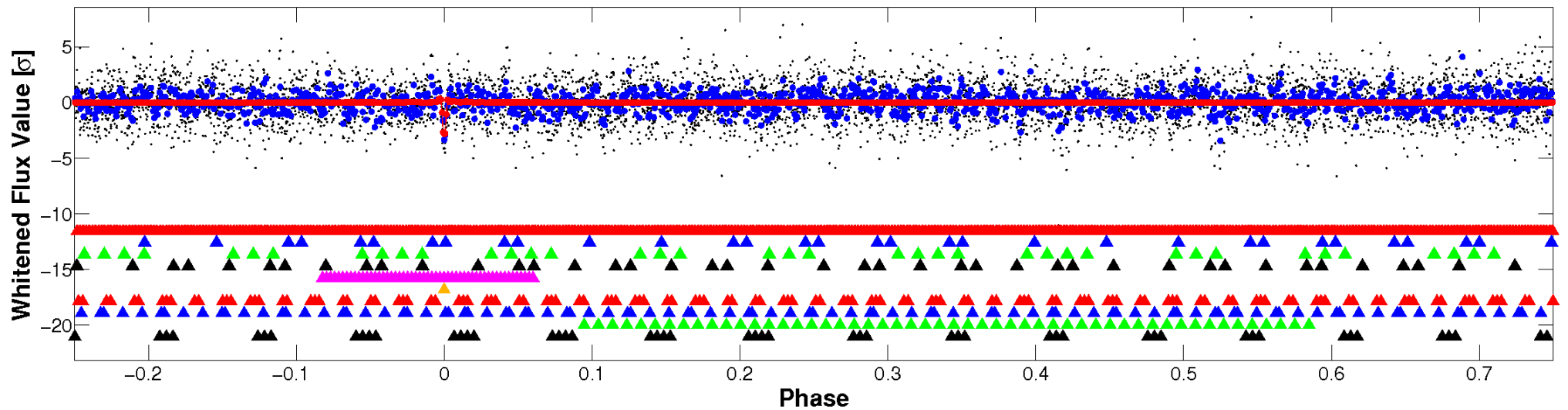
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

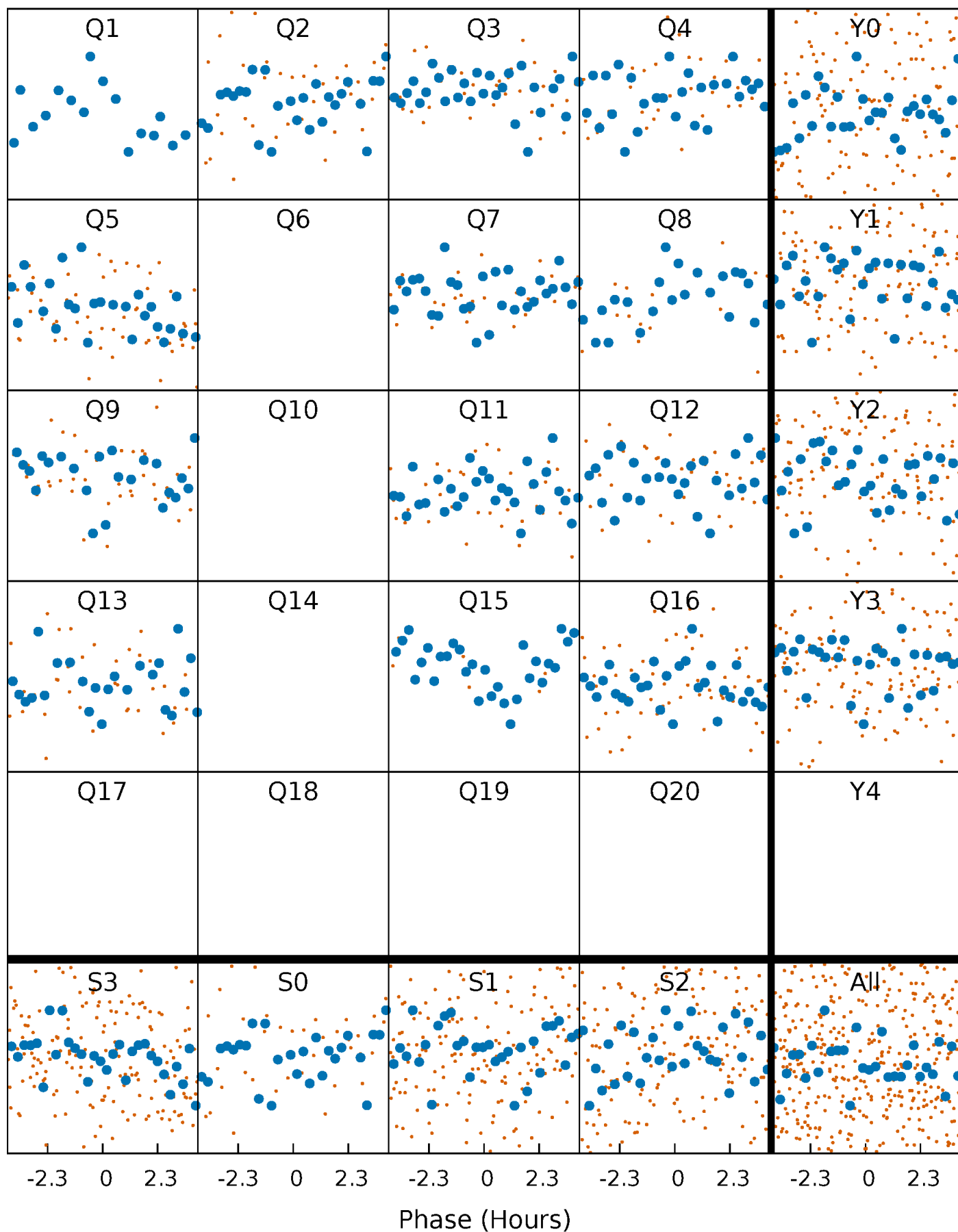


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



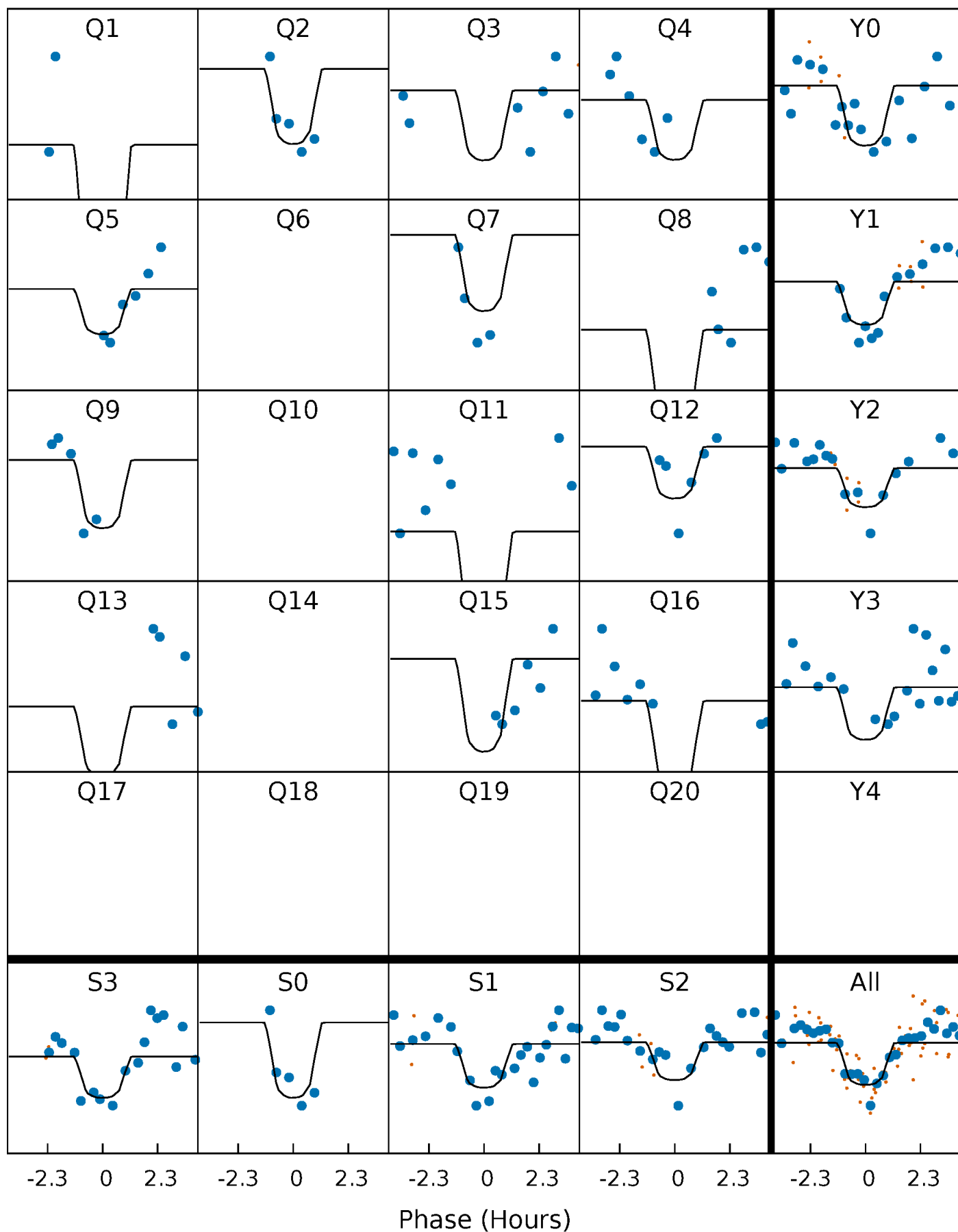
PDC Quarter-Phased Transit Curves

TCE 003458687-06 P= 27.834187 Days $T_0=137.823236$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 003458687-06 P= 27.834187 Days $T_0=137.823236$ (BKJD)

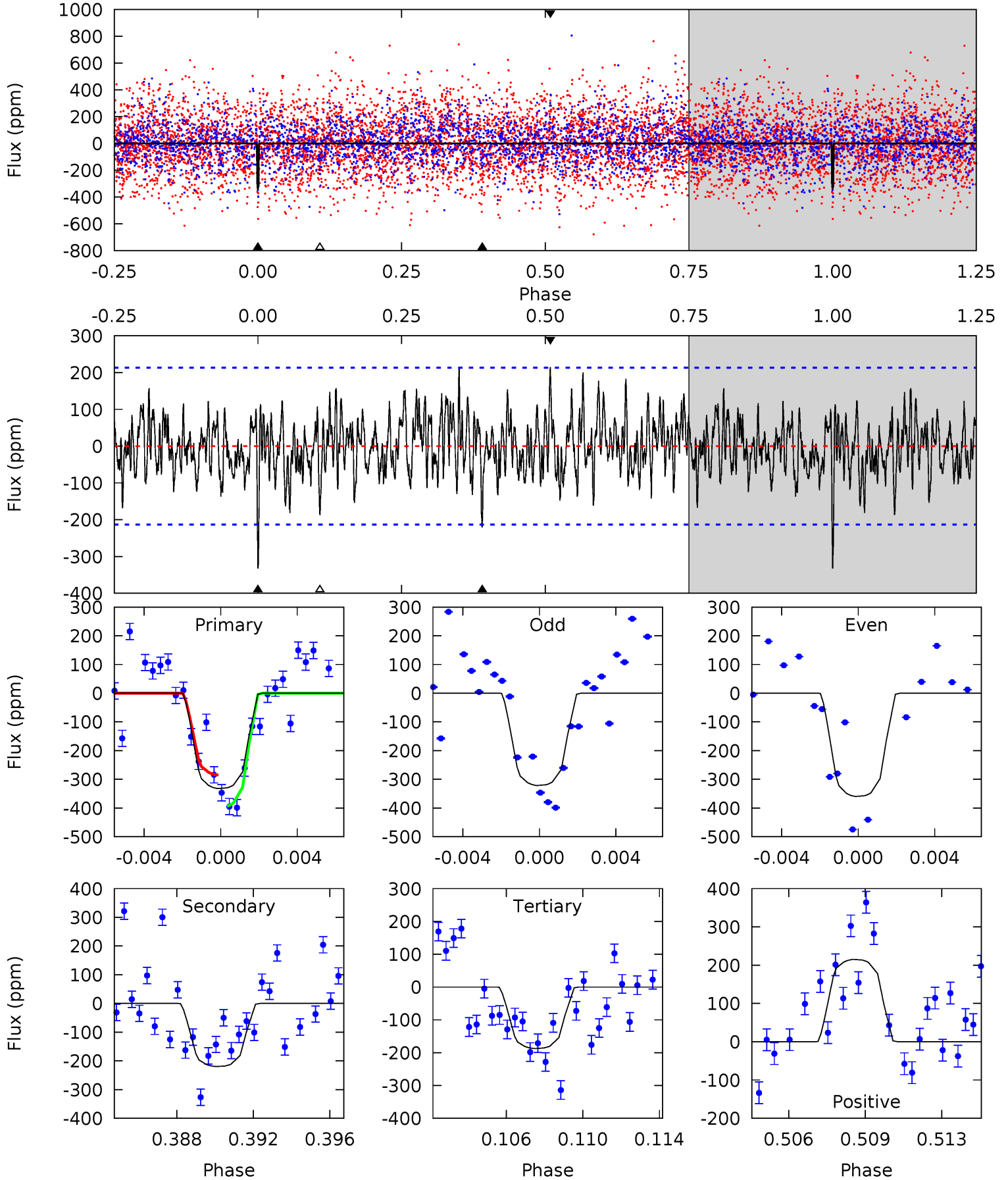


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

003458687-06, P = 27.834187 Days, E = 109.989049 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.12	5.37	4.57	5.26	5.22	2.91	1.61	3.54	2.86	0.79	0.11	0.40	1.02	0.39	1.32



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 003458687

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6431^{+172}_{-211}	$3.276^{+0.468}_{-0.052}$	$-0.420^{+0.400}_{-0.300}$	$5.294^{+0.294}_{-2.795}$	$1.932^{+0.069}_{-0.590}$	$0.018^{+0.090}_{-0.003}$
	+3%/-3%	+14%/-2%	+95%/-71%	+6%/-53%	+4%/-31%	+491%/-18%
Source	PHO1	FLK73	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 003458687-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-220 ± 41	$11.12^{+8.98}_{-6.86}$	1875^{+102}_{-224}	5337^{+3442}_{-1102}	48^{+276}_{-34}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

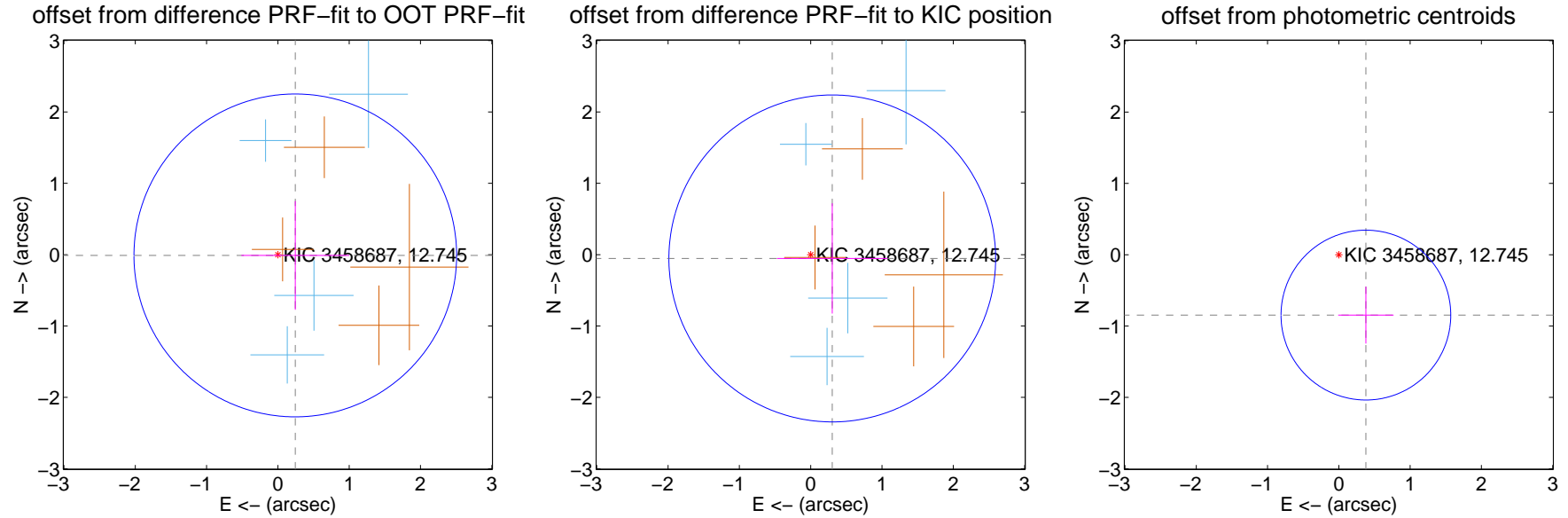
DV Centroid Data

Supplemental centroid analysis for 003458687-06. Kepler magnitude: 12.74. Transit SNR 10.94

There are 4 quarters with good PRF difference image offsets

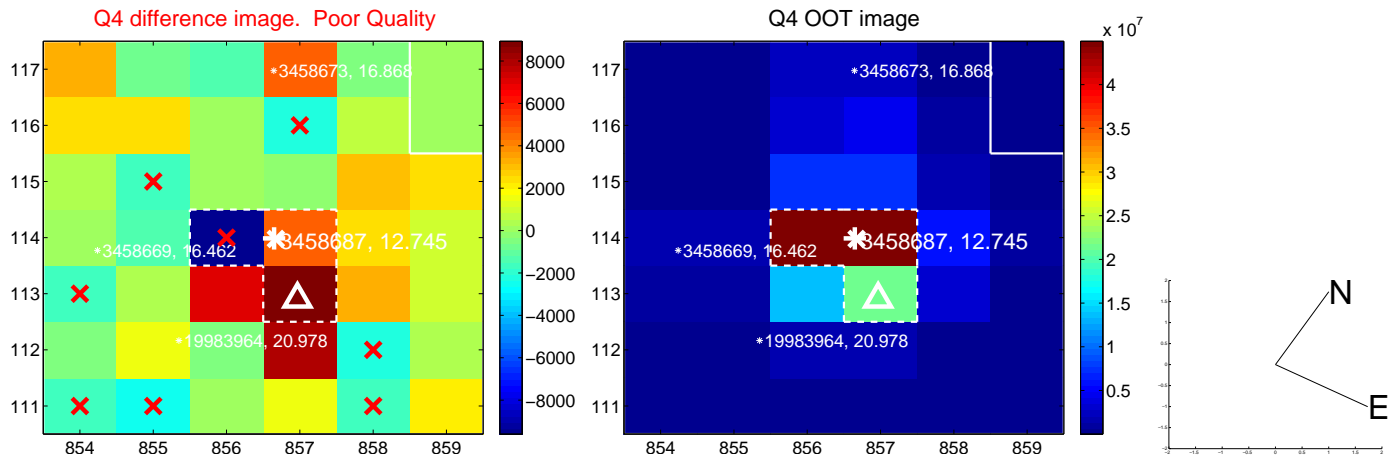
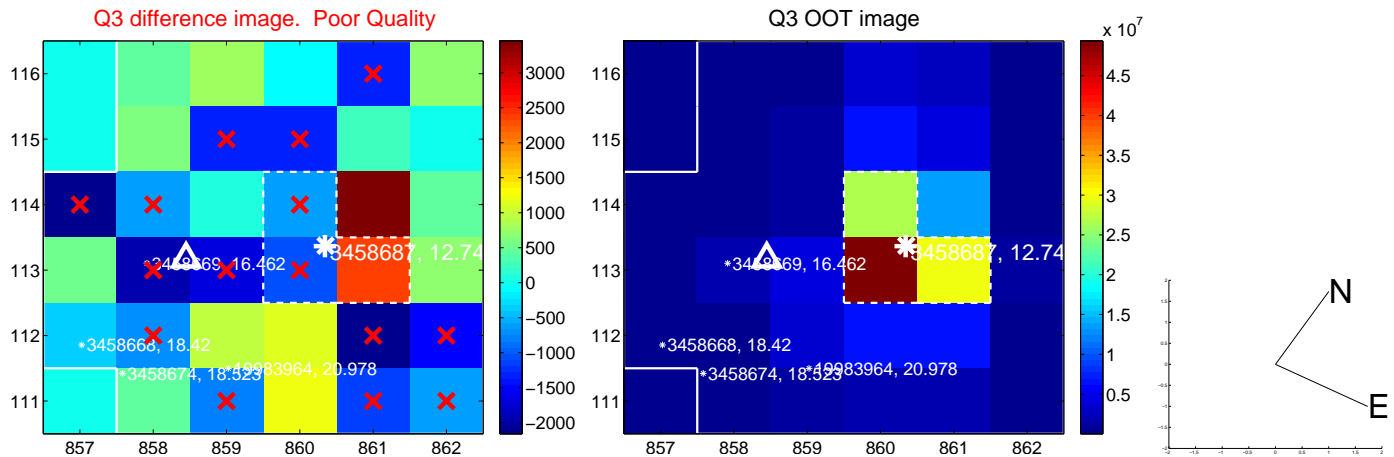
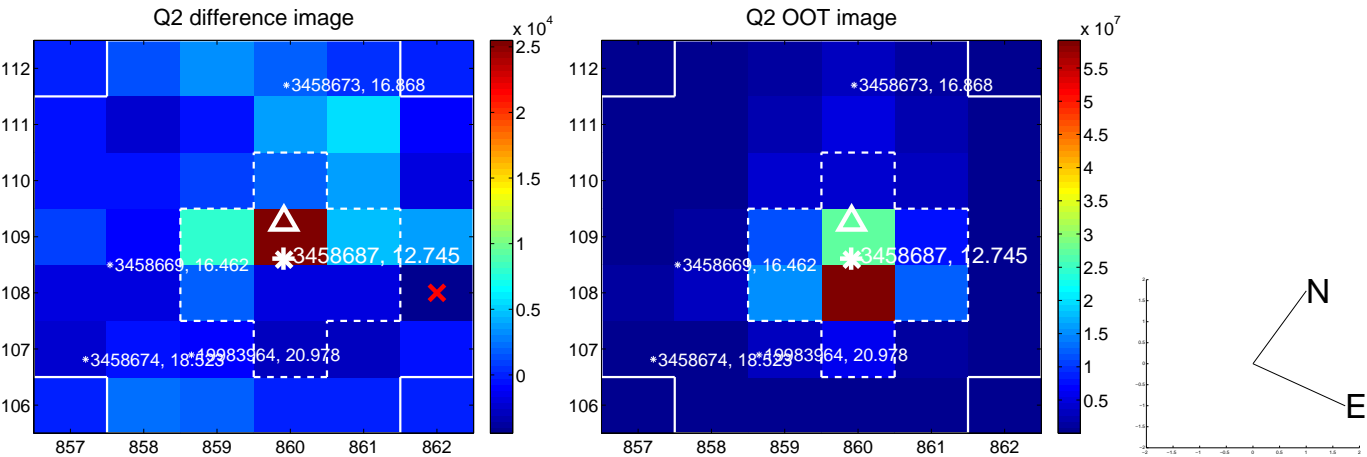
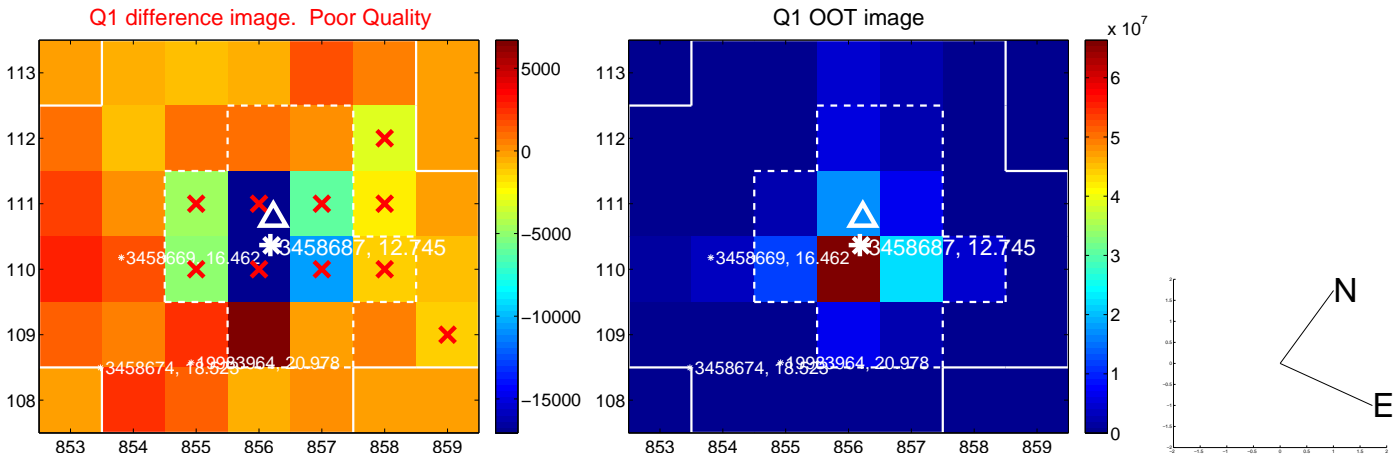
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.244 ± 0.754	0.32	-0.244 ± 0.756	-0.011 ± 0.762
PRF-fit source offset from KIC position	0.307 ± 0.764	0.40	-0.303 ± 0.775	-0.053 ± 0.773
photometric centroid source offset	0.93 ± 0.40	2.34	-0.38 ± 0.39	-0.85 ± 0.40

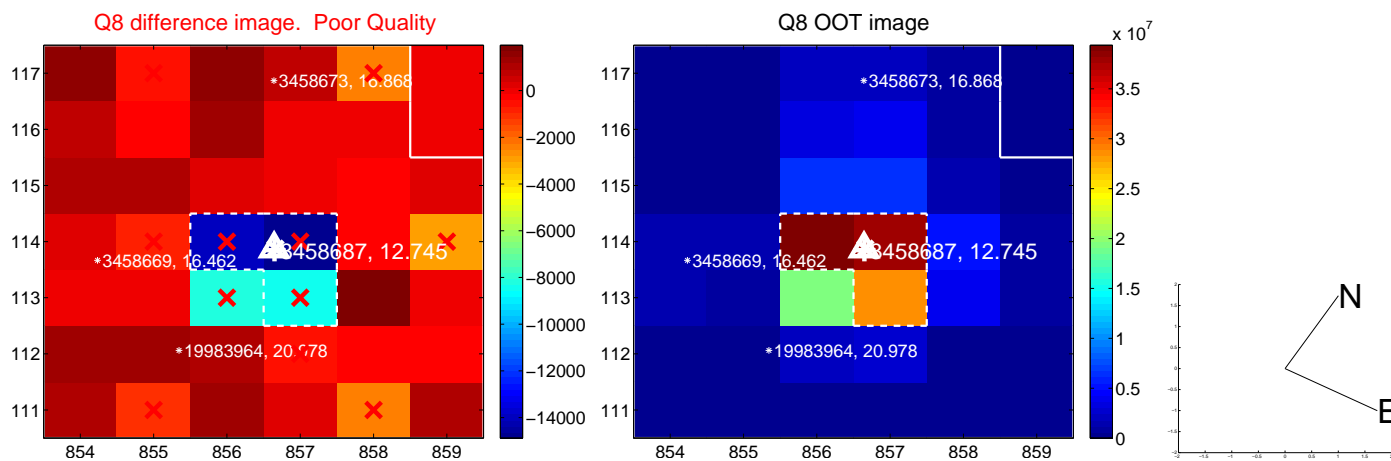
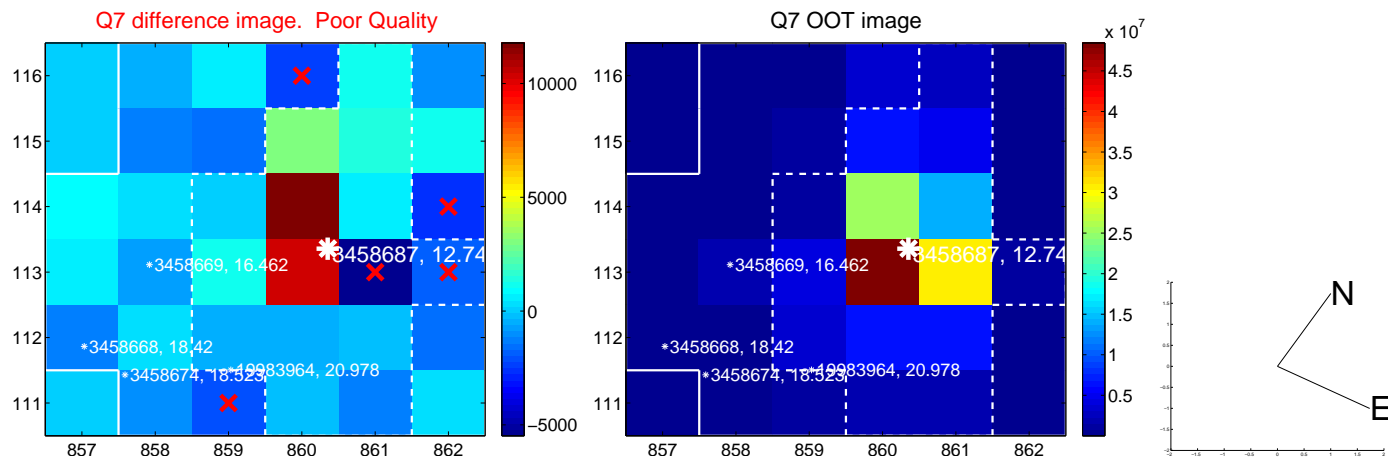
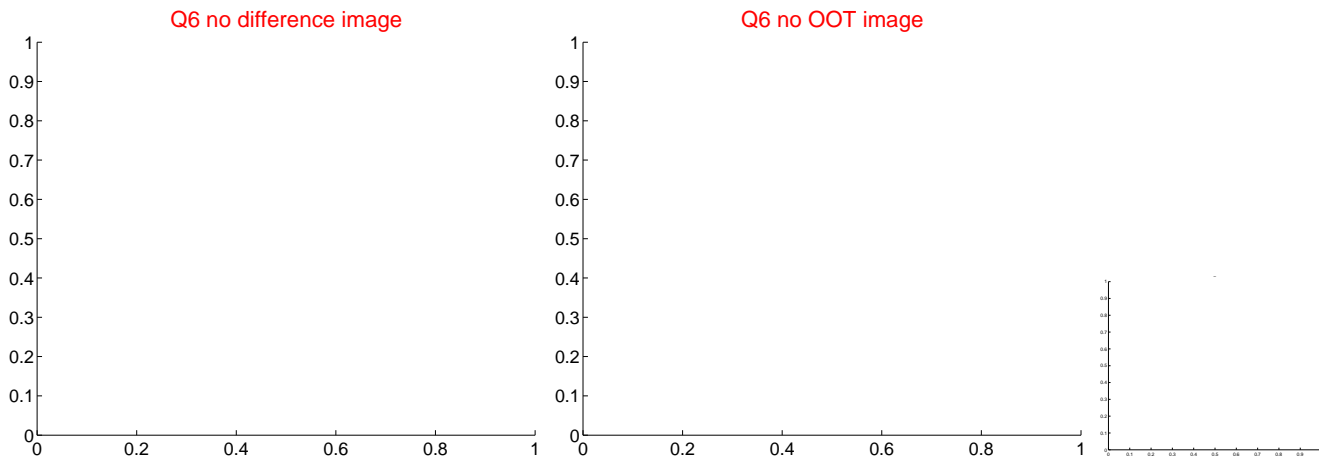
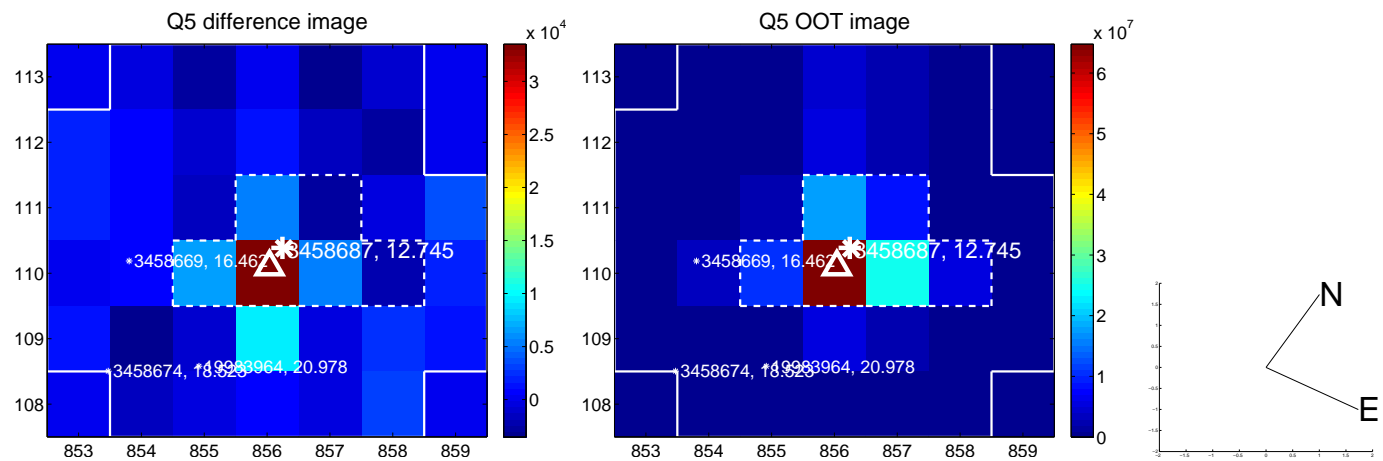


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

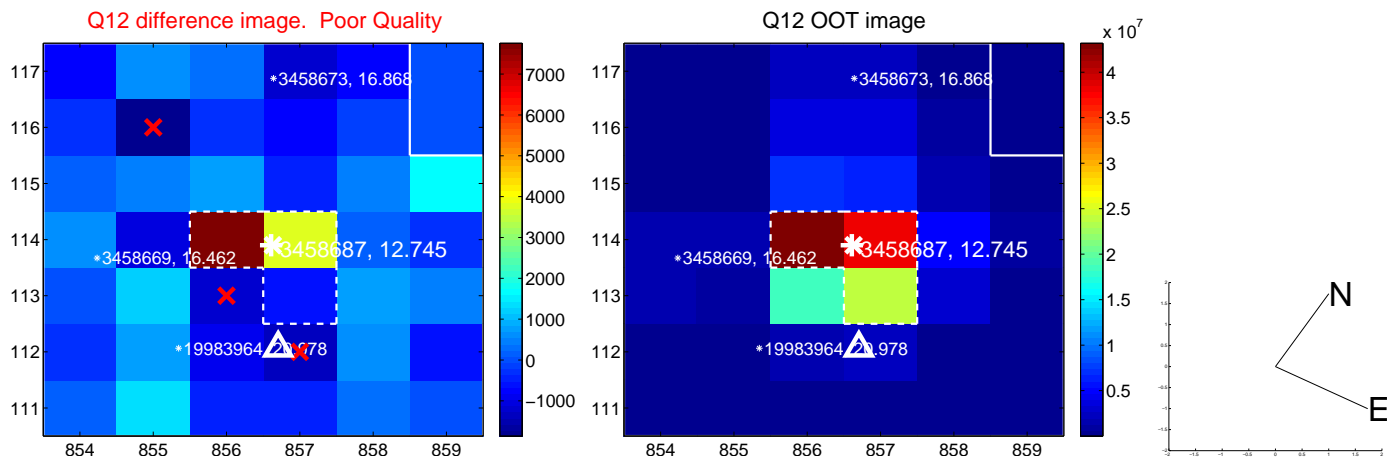
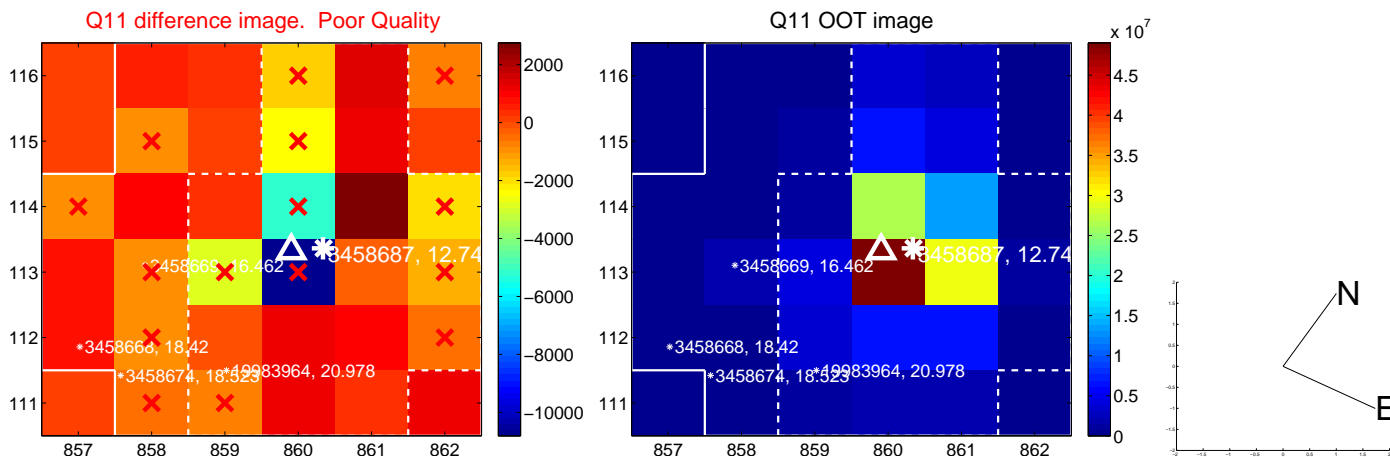
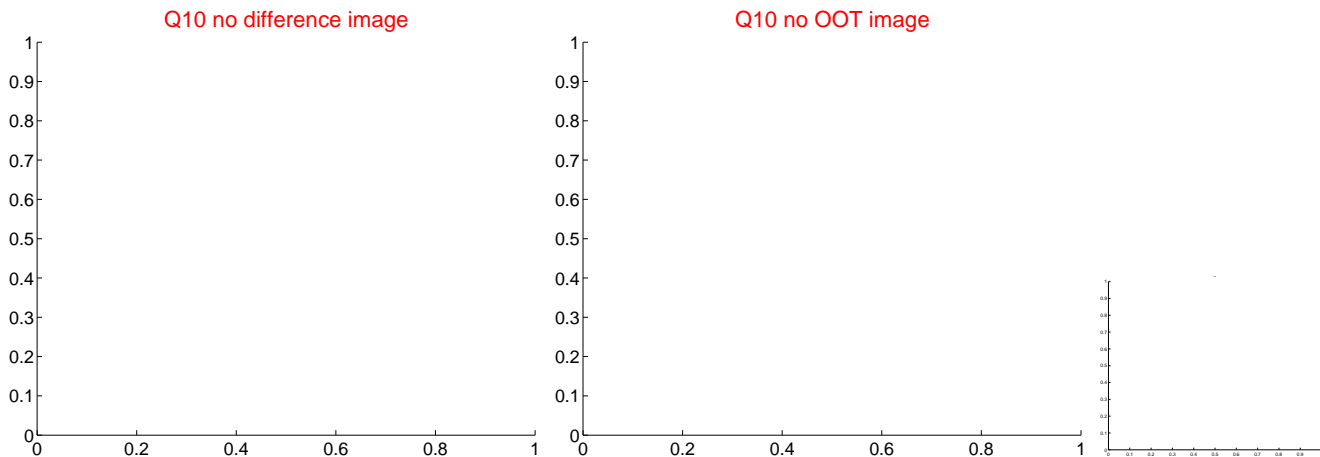
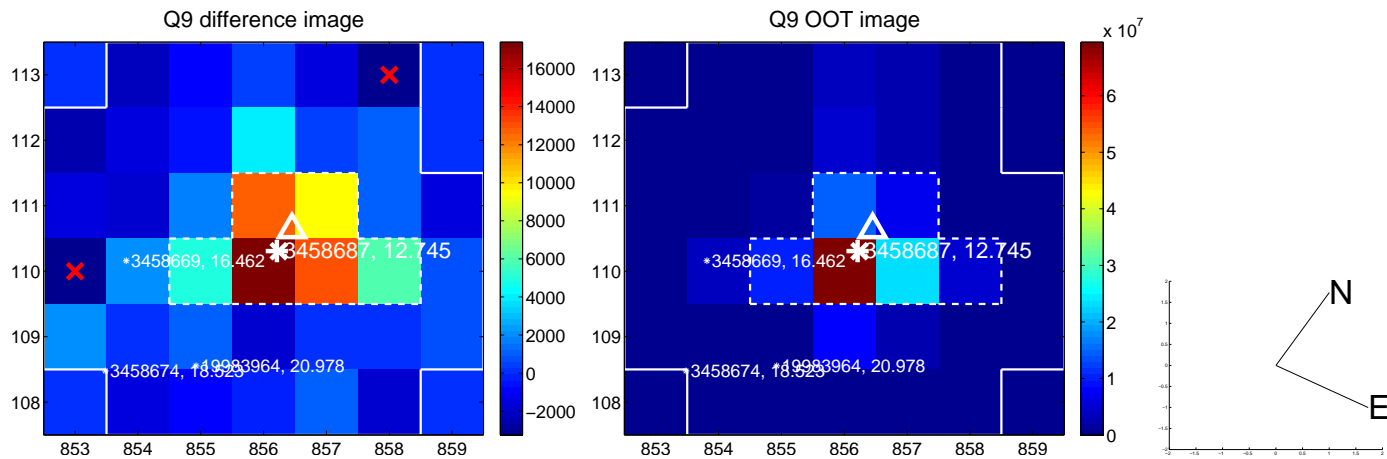
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



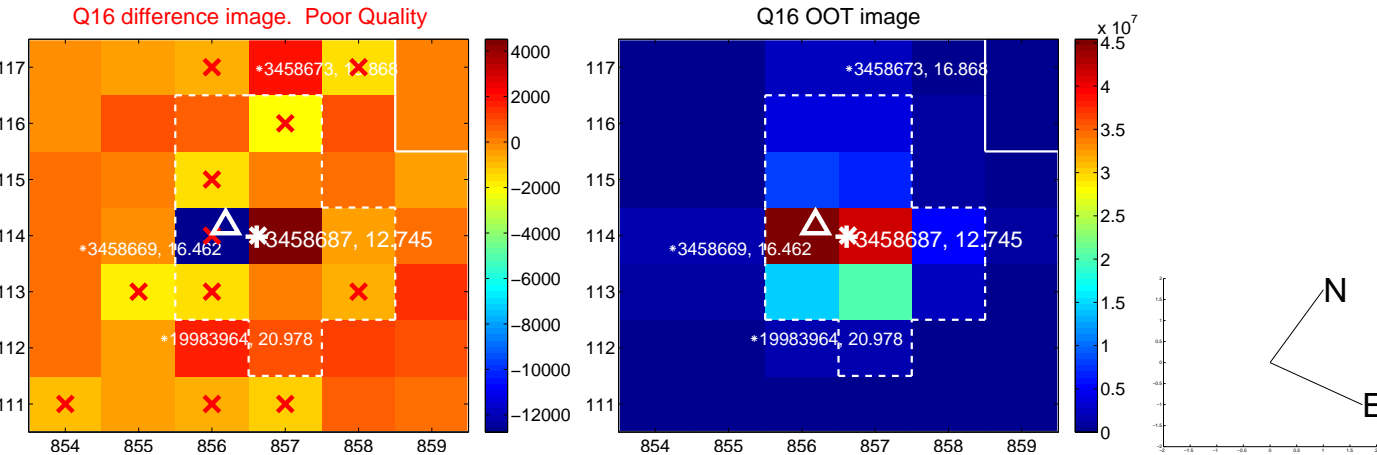
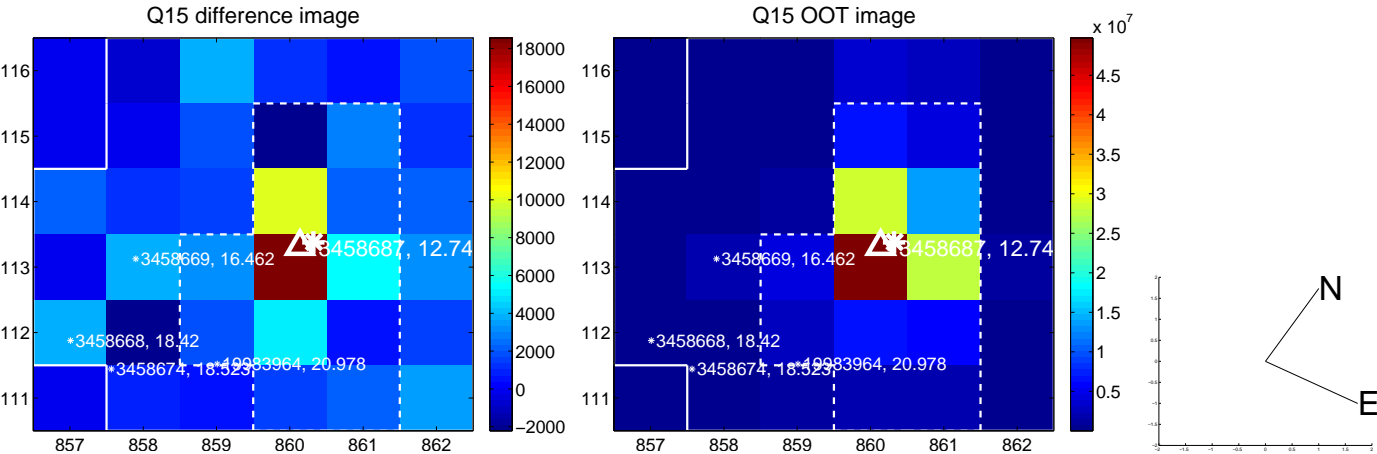
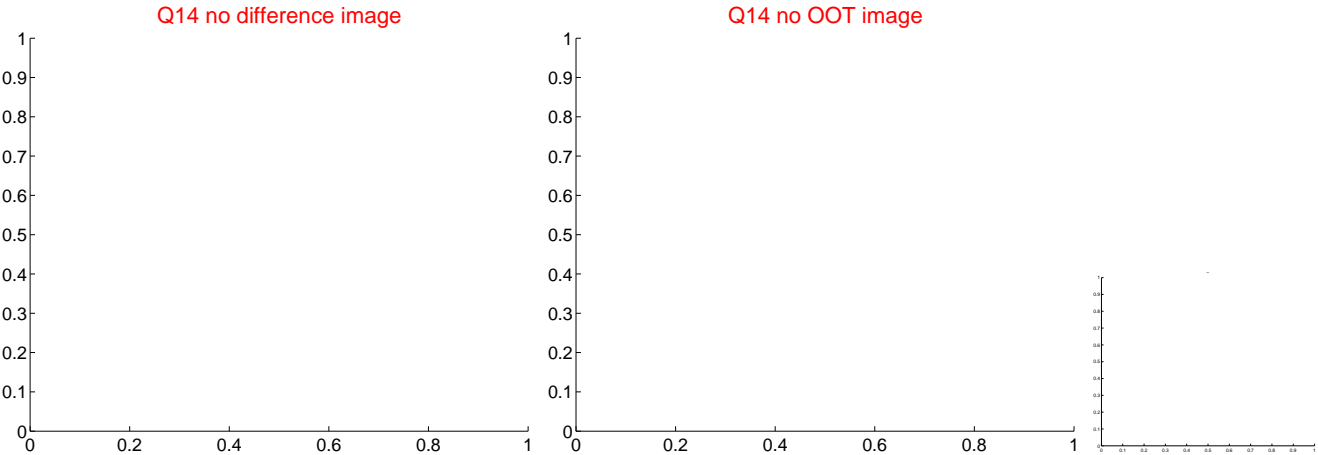
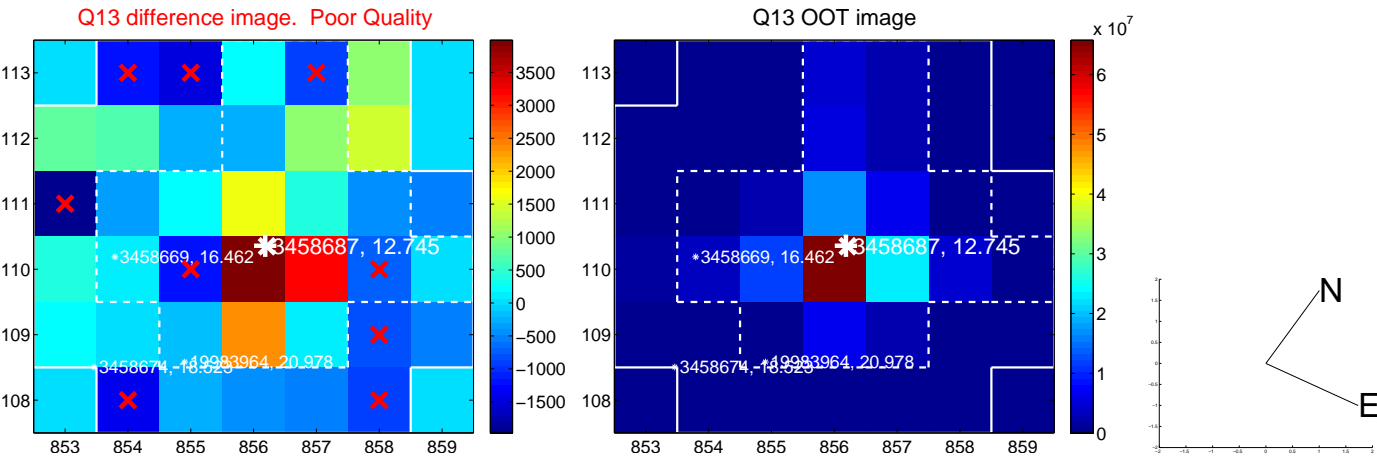
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



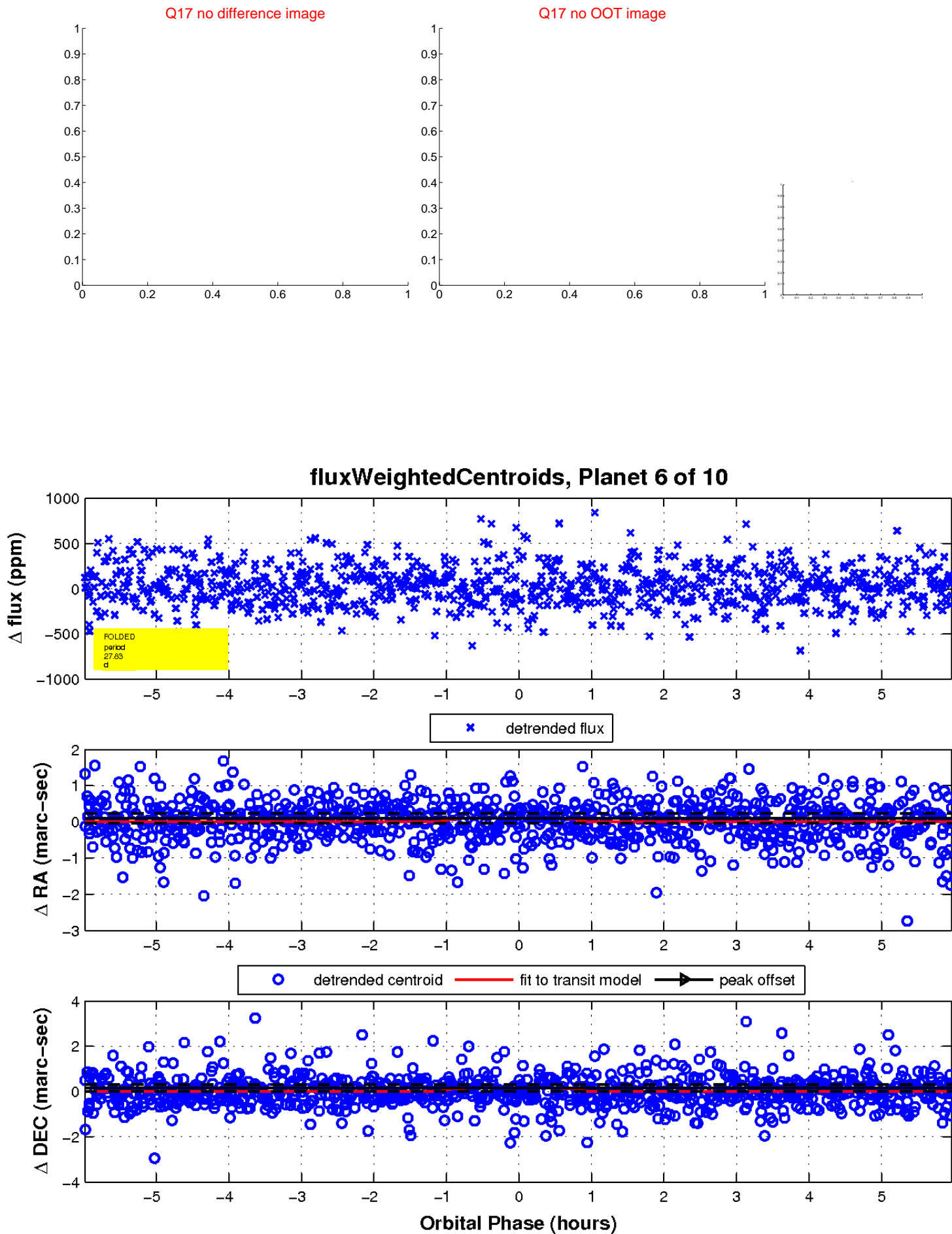
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

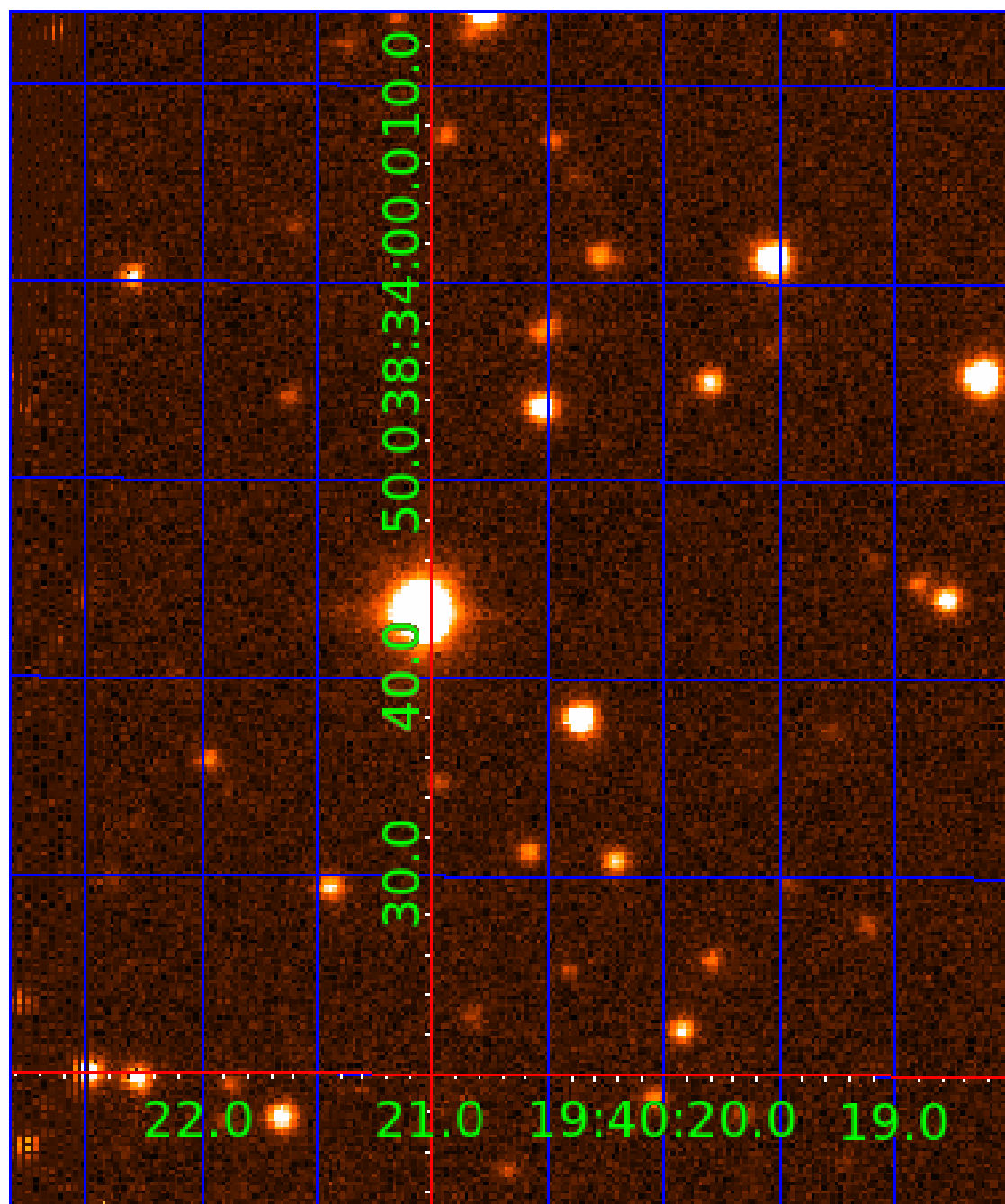


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003458687

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})
003458687-01	OBS	7543.01	0.983762	132.289383	23.9	6.743	8.8	9.1	5.29	6431	2.63	0.00
003458687-03	OBS	No	37.921542	137.409403	251.9	4.719	12.5	9.1	5.29	6431	8.85	567.57
003458687-04	OBS	No	34.338166	164.199165	317.7	2.327	11.8	9.4	5.29	6431	10.68	647.88
003458687-05	OBS	No	27.757951	139.496836	409.1	1.913	11.3	12.4	5.29	6431	11.27	860.36
003458687-06	OBS	No	27.834187	137.823236	336.6	1.997	10.7	10.9	5.29	6431	10.97	857.22
003458687-07	OBS	No	11.691953	138.628806	197.9	4.490	9.7	12.3	5.29	6431	8.70	2724.89
003458687-08	OBS	No	14.488233	137.905875	271.0	1.438	10.2	10.5	5.29	6431	9.13	2047.28
003458687-09	OBS	No	28.101709	140.458736	305.4	3.602	10.3	11.9	5.29	6431	9.65	846.36
003458687-10	OBS	No	29.681505	136.537650	270.5	3.500	9.5	-1.0	5.29	6431	8.76	786.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003458687-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
003458687-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003458687-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003458687-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
003458687-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-10	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_NOFITS—HALO_GHOST

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

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

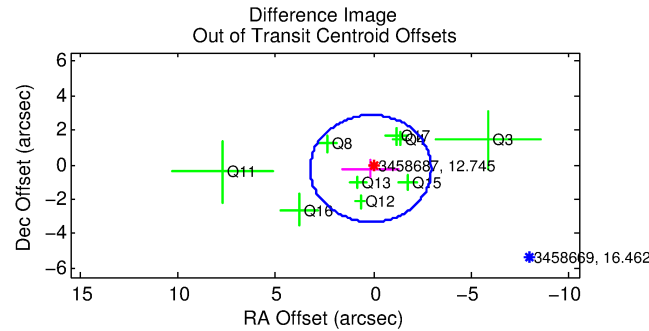
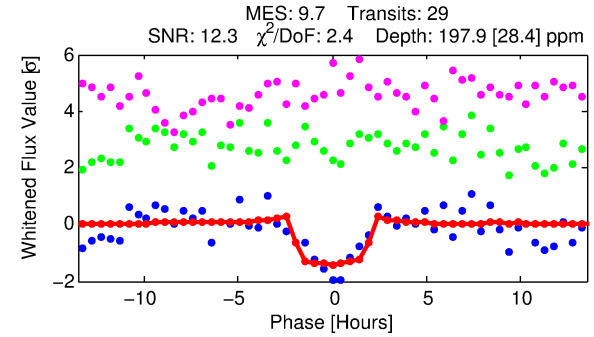
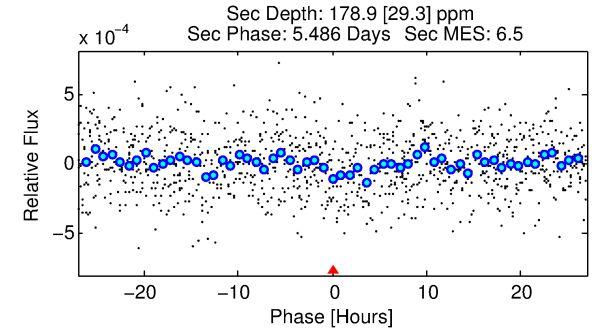
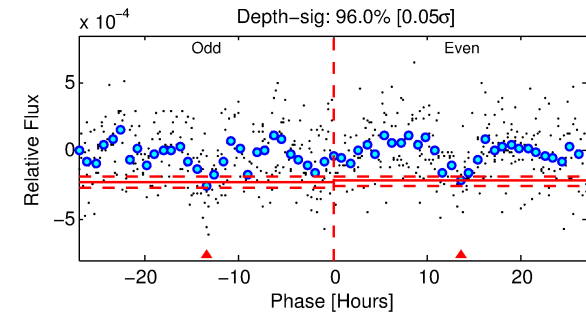
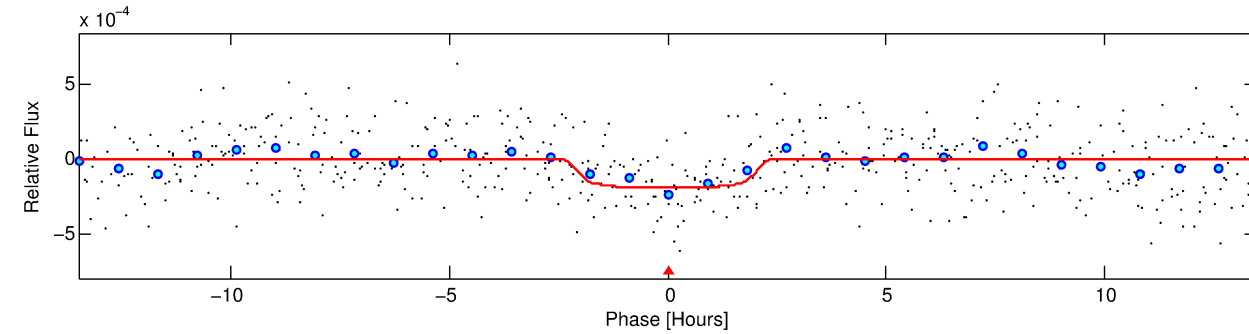
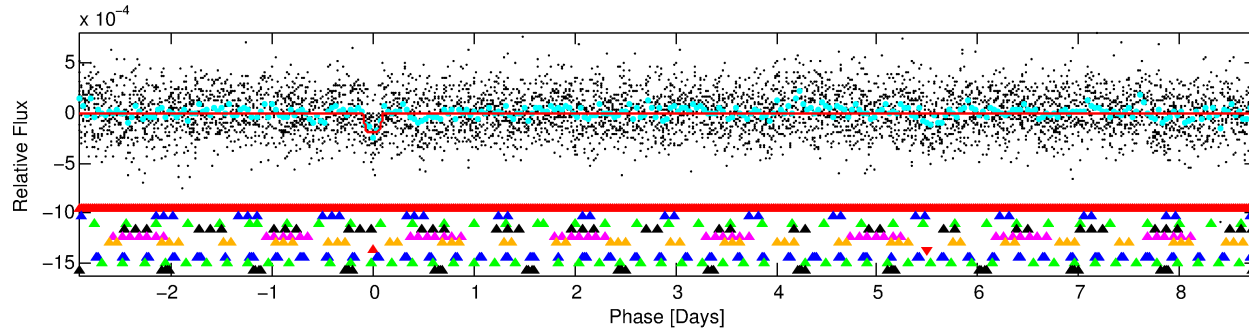
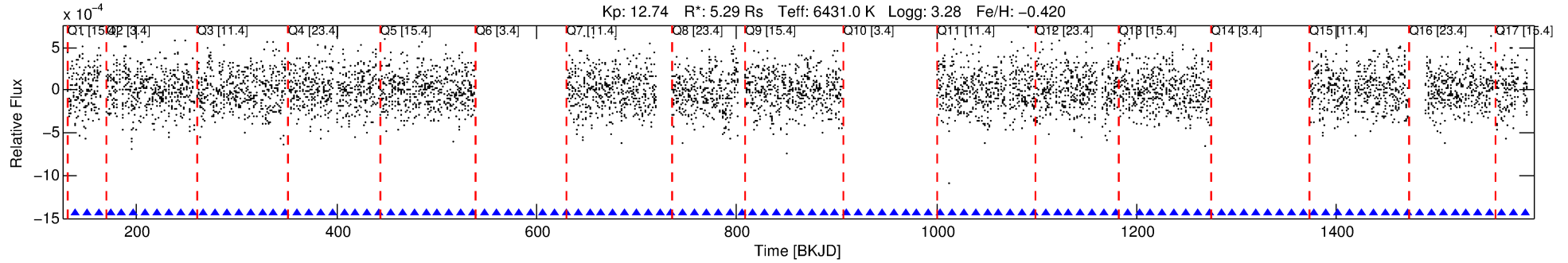
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003458687-07

No Significant Match Found

DV One-Page Summary

KIC: 3458687 Candidate: 7 of 10 Period: 11.692 d
KOI: K07543 Corr: No Ephemeris Match



DV Fit Results:

Period = 11.69195 [0.00015] d
Epoch = 138.6288 [0.0101] BKJD
Rp/R* = 0.0151 [0.0049]
a/R* = 9.36 [16.76]
b = 0.90 [0.38]
Seff = 2724.89 [2209.03]
Teq = 1842 [373] K
Rp = 8.70 [5.40] Re
a = 0.1255 [0.0631] AU
Ag = 20.50 [21.45] [0.91 σ]
Teffp = 6061 [1041] K [3.81 σ]

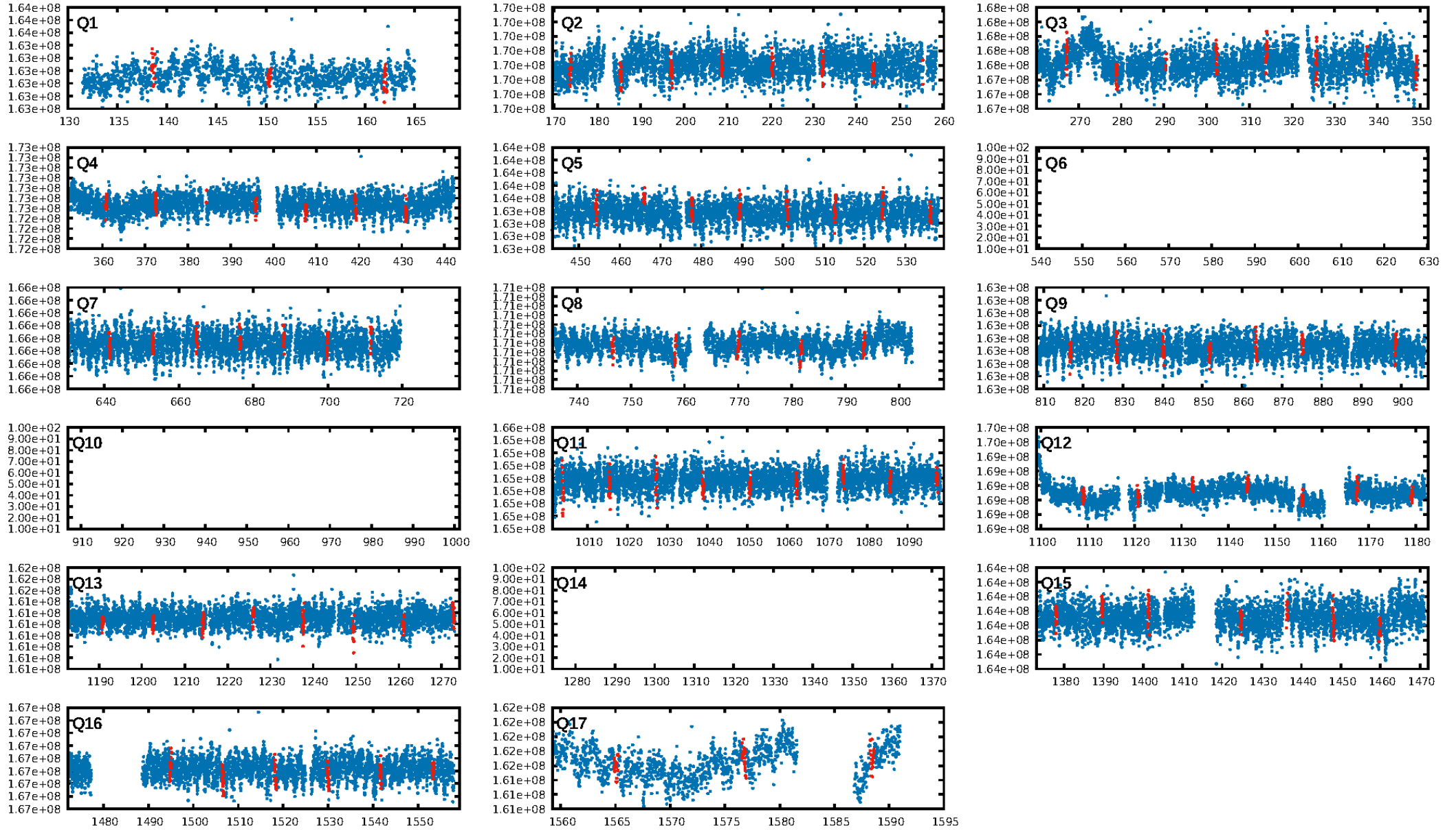
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [31.72 σ]
LongPeriod-sig: 100.0% [14.24 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [27/27]
GhostDiagnostic-chr: 0.9328
Centroid-sig: 0.0%
Centroid-so: 0.518 arcsec [1.67 σ]
OotOffset-rm: 0.267 arcsec [0.26 σ]
KicOffset-rm: 0.267 arcsec [0.37 σ]
OotOffset-st: 0/3/4/2 [9]
KicOffset-st: 0/3/4/2 [9]
DiffImageQuality-fgm: 0.33 [3/9]
DiffImageOverlap-fno: 0.00 [0/14]

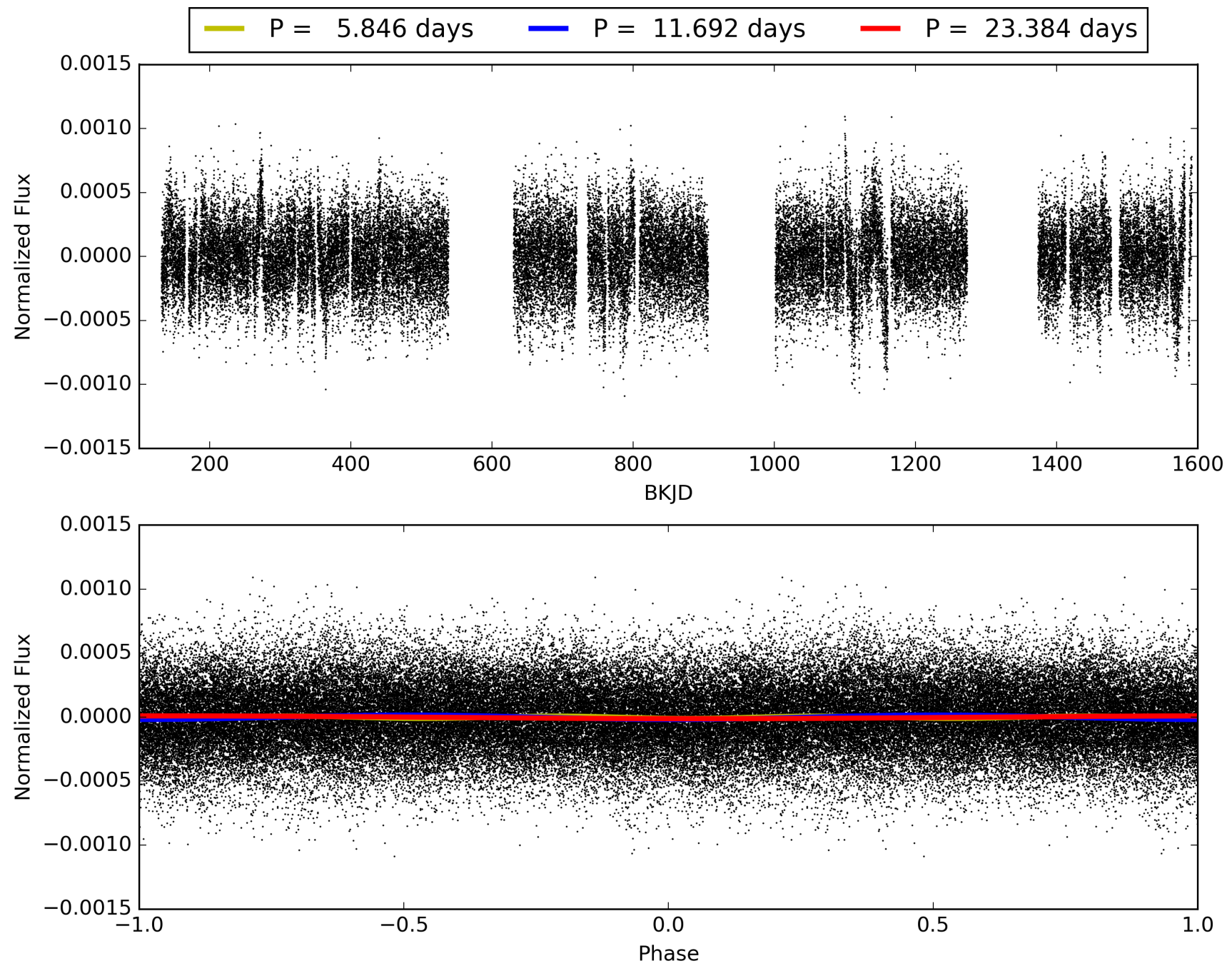
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:32:49 Z

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

TCE 003458687-07, PDC Light Curves

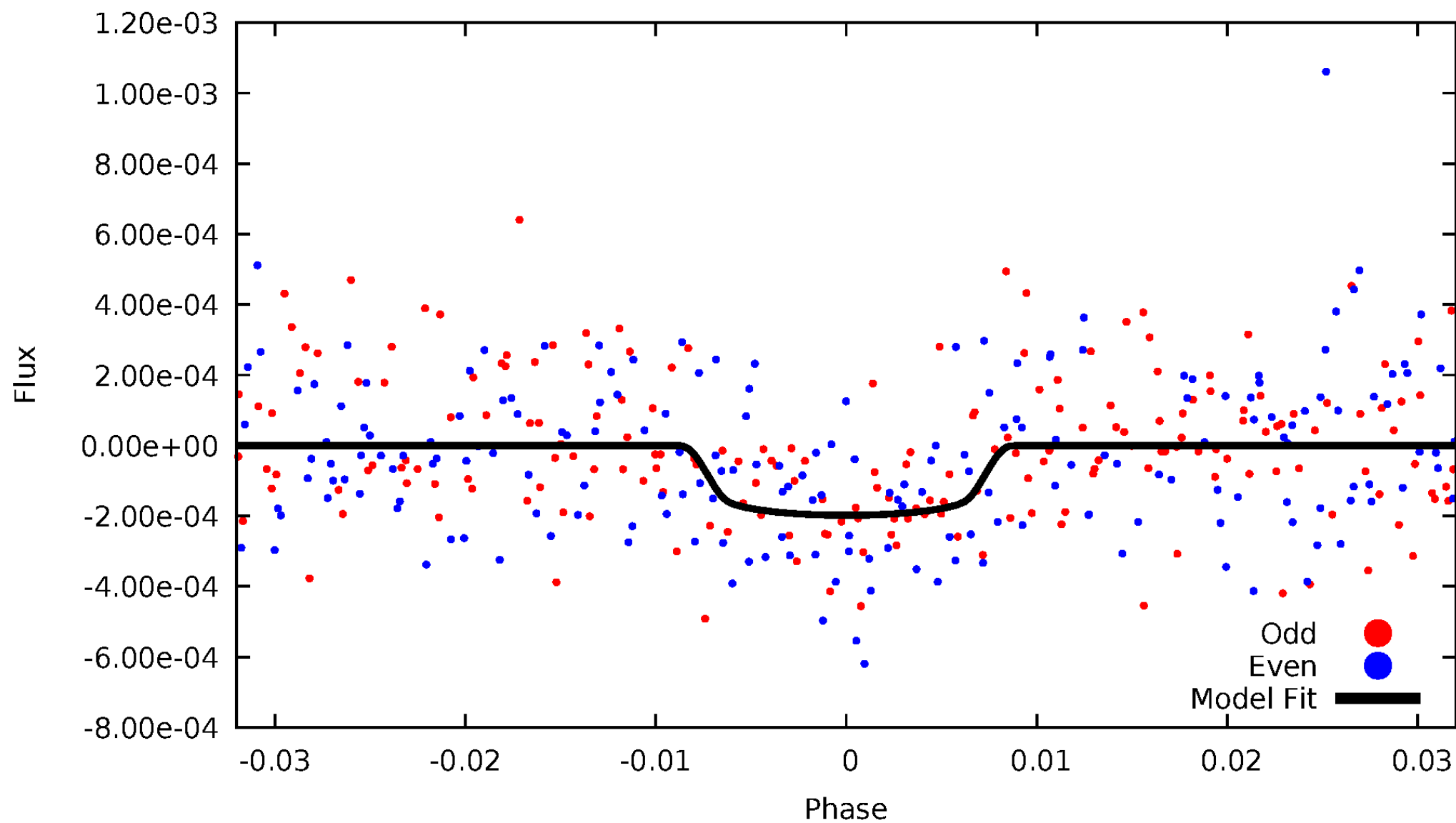


TCE 003458687-07



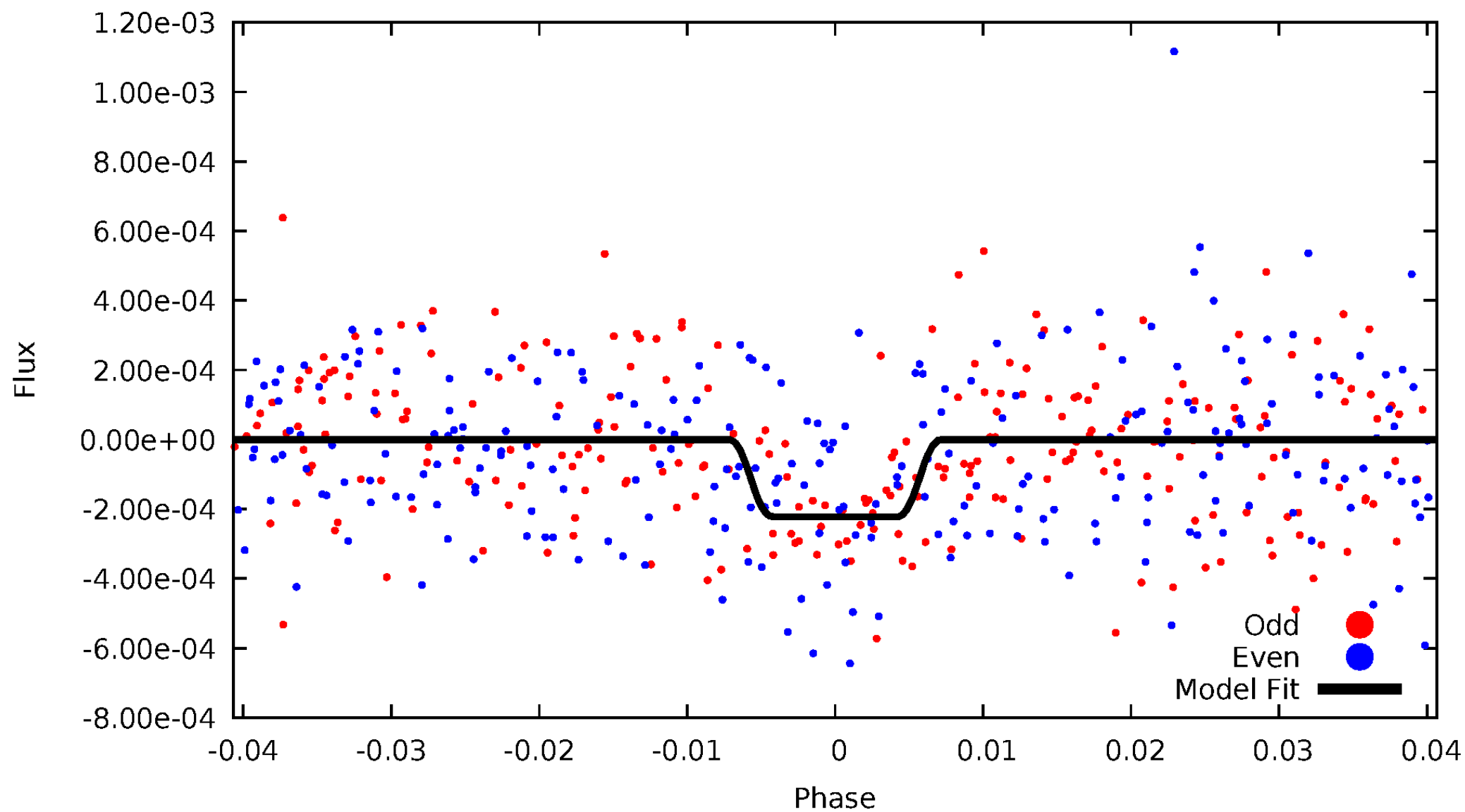
DV Odd/Even

TCE 003458687-07



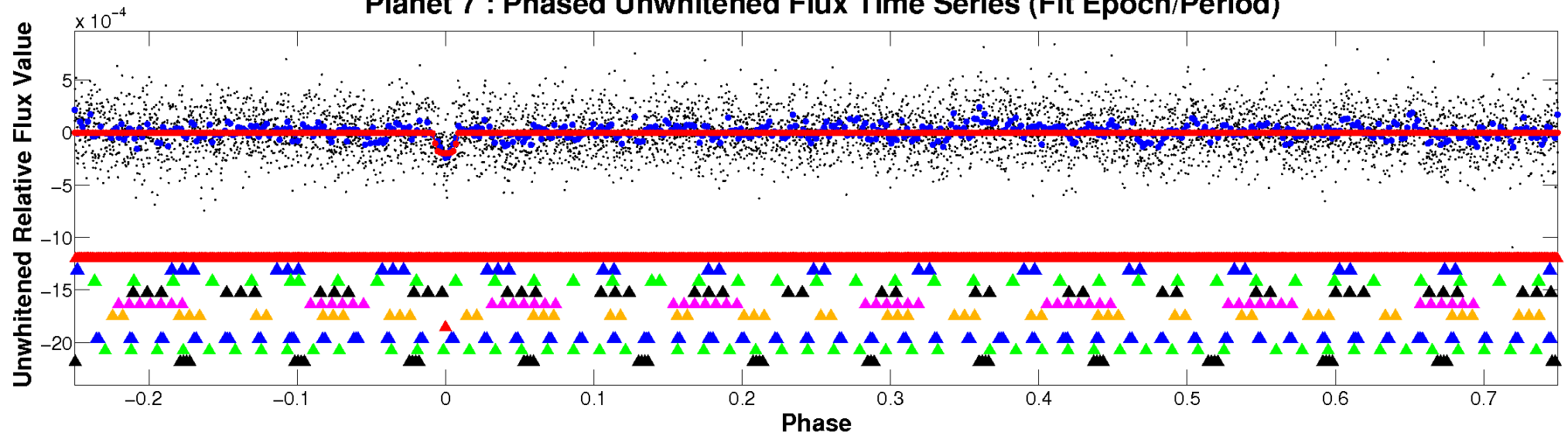
ALT Odd/Even

TCE 003458687-07

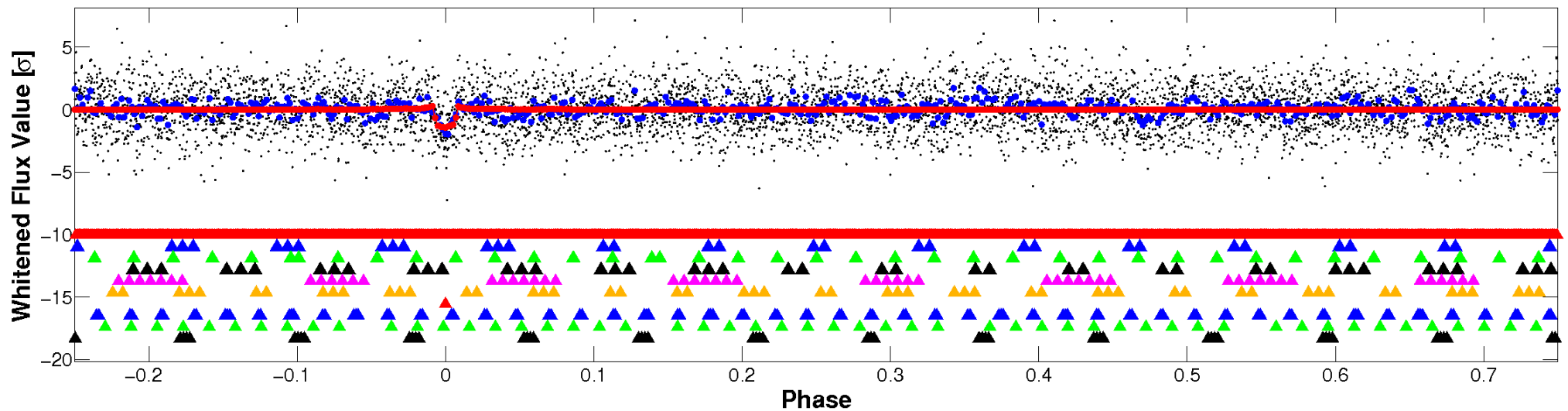


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

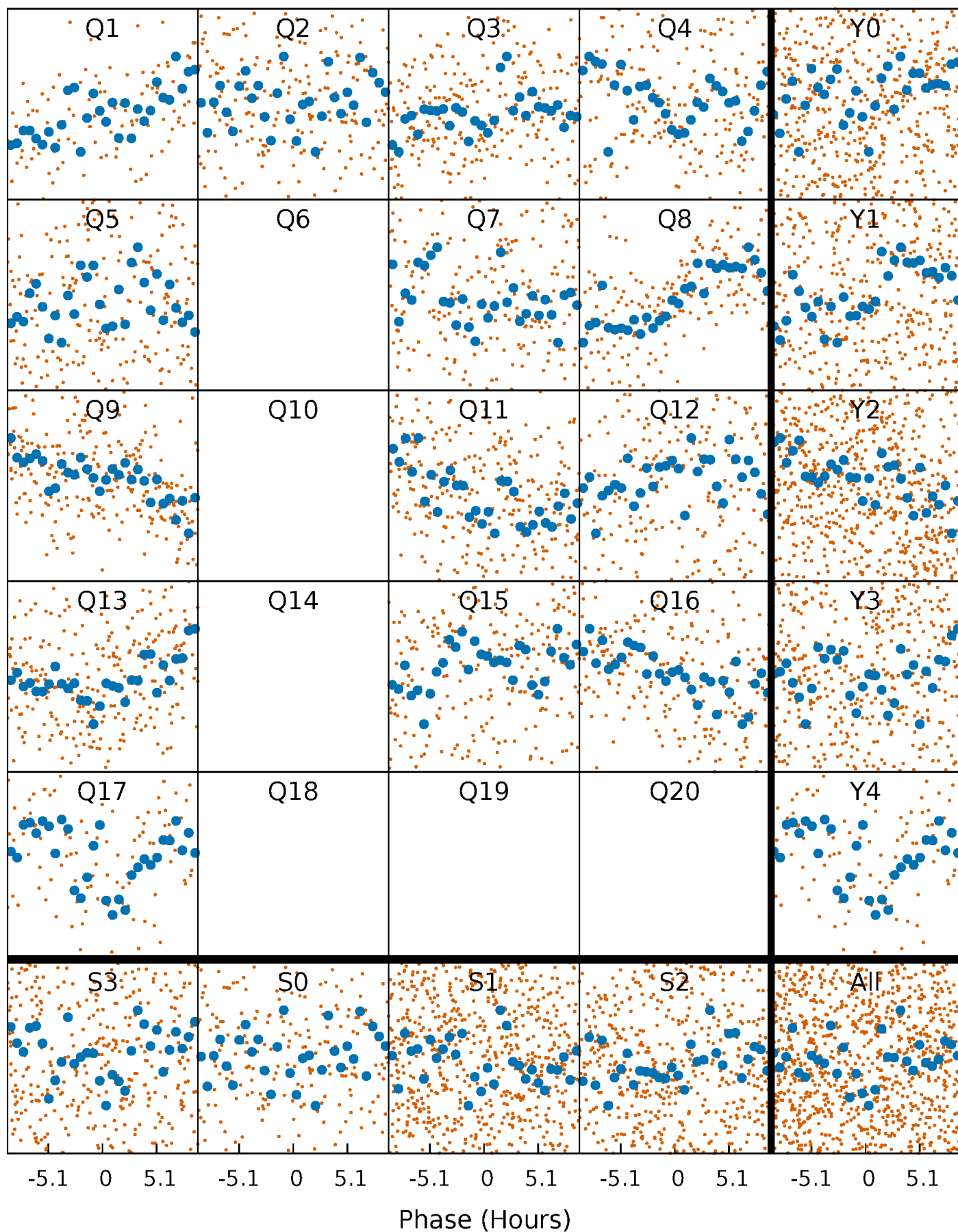


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



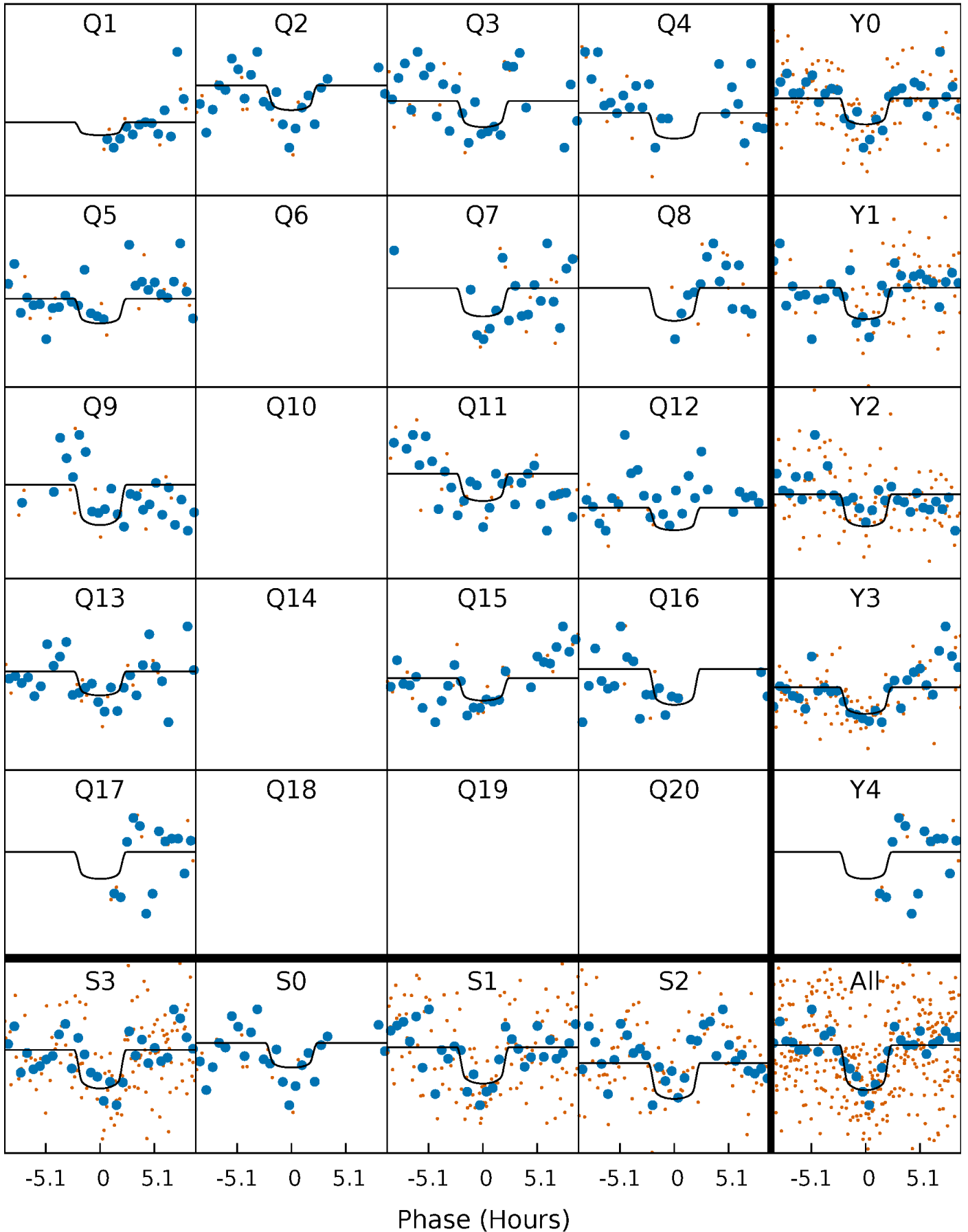
PDC Quarter-Phased Transit Curves

TCE 003458687-07 P= 11.691953 Days $T_0=138.628806$ (BKJD)



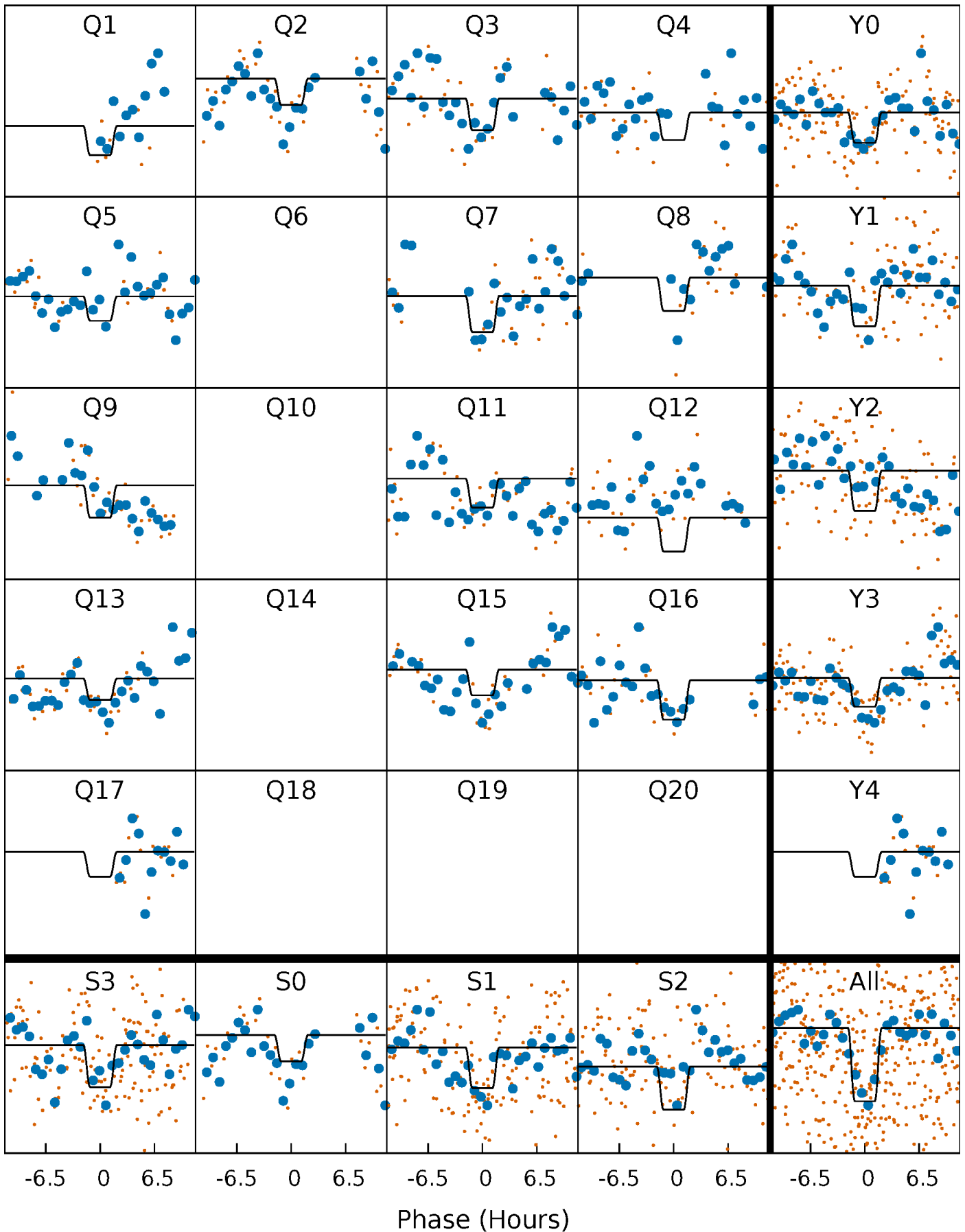
DV Quarter-Phased Transit Curves

TCE 003458687-07 $P = 11.691953$ Days $T_0 = 138.628806$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

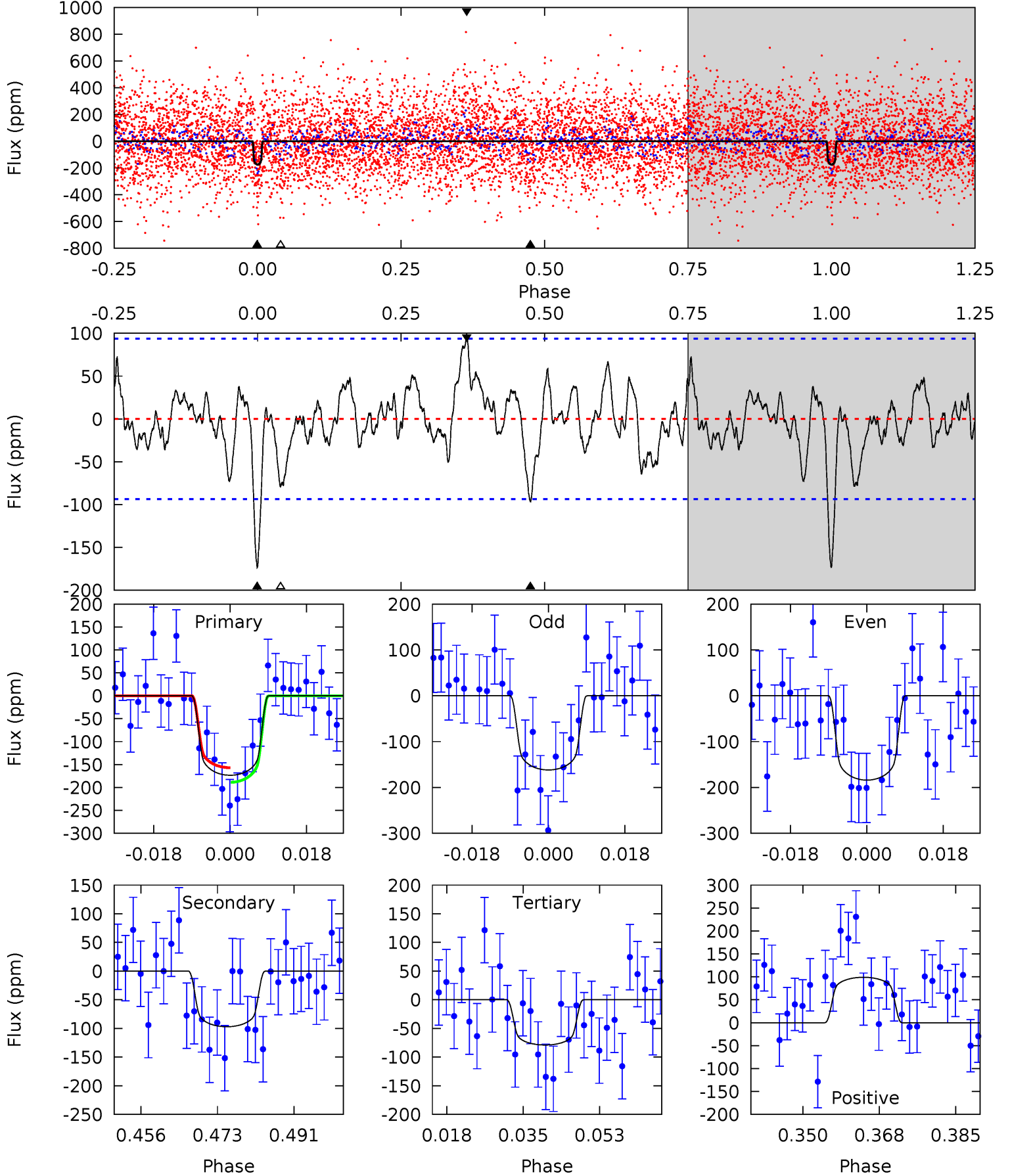
TCE 003458687-07 $P = 11.691411$ Days $T_0 = 138.656433$ (BKJD)



DV Model-Shift Uniqueness Test

003458687-07, P = 11.691953 Days, E = 126.936853 Days

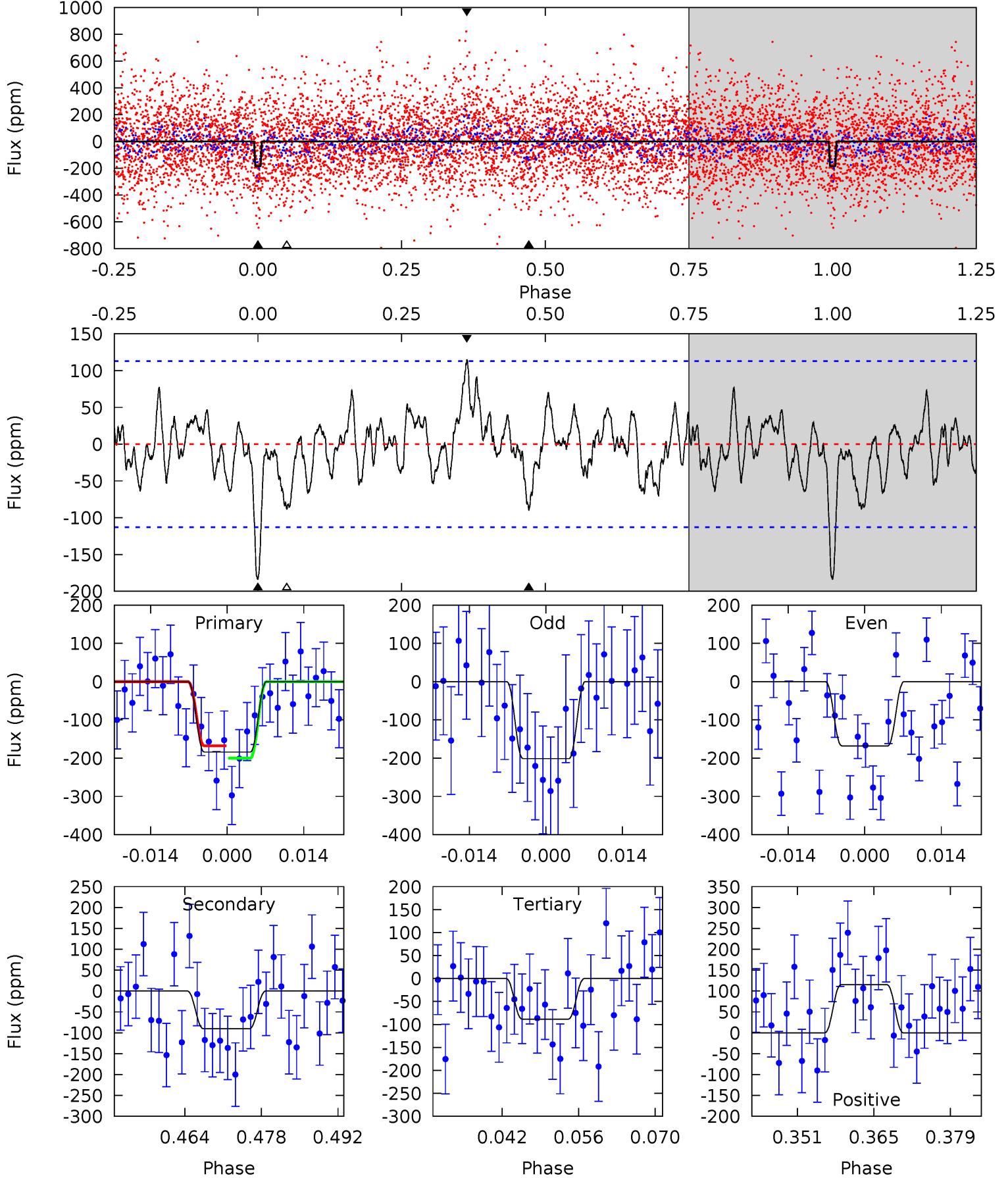
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.11	5.10	4.15	5.20	4.92	2.38	1.56	4.96	3.91	0.95	-0.10	0.58	0.84	0.36	0.84



Alt Model-Shift Uniqueness Test

003458687-07, P = 11.691411 Days, E = 126.965022 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.10	3.97	3.89	5.05	4.96	2.46	1.48	4.20	3.05	0.08	-1.08	0.73	0.85	0.38	0.71



Stellar Parameters For KIC 003458687

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6431^{+172}_{-211}	$3.276^{+0.468}_{-0.052}$	$-0.420^{+0.400}_{-0.300}$	$5.294^{+0.294}_{-2.795}$	$1.932^{+0.069}_{-0.590}$	$0.018^{+0.090}_{-0.003}$
	+3%/-3%	+14%/-2%	+95%/-71%	+6%/-53%	+4%/-31%	+491%/-18%
Source	PHO1	FLK73	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 003458687-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-97 ± 19	$7.80^{+2.99}_{-3.15}$	2510^{+132}_{-308}	5235^{+1173}_{-686}	14^{+22}_{-7}
Alt.	-90 ± 23	$7.61^{+3.45}_{-3.00}$	2499^{+135}_{-318}	5121^{+1094}_{-670}	13^{+22}_{-7}

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

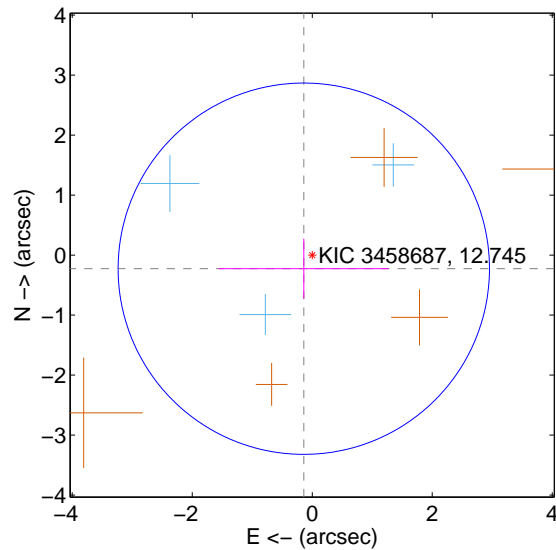
Supplemental centroid analysis for 003458687-07. Kepler magnitude: 12.74. Transit SNR 12.33

There are 3 quarters with good PRF difference image offsets

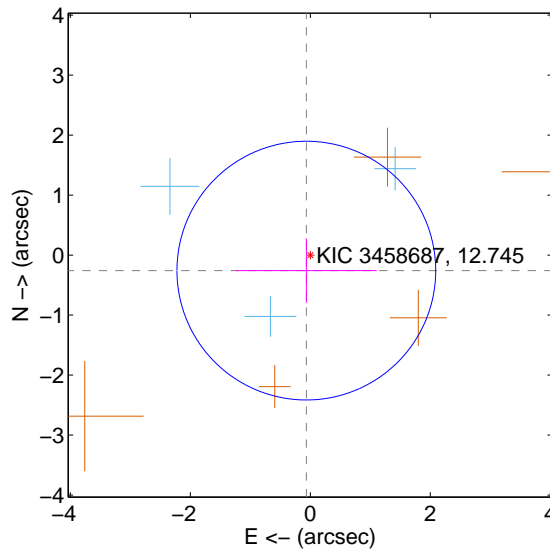
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.267 ± 1.031	0.26	0.141 ± 1.417	-0.227 ± 0.500
PRF-fit source offset from KIC position	0.267 ± 0.719	0.37	0.067 ± 1.173	-0.258 ± 0.536
photometric centroid source offset	0.52 ± 0.31	1.67	0.02 ± 0.29	0.52 ± 0.31

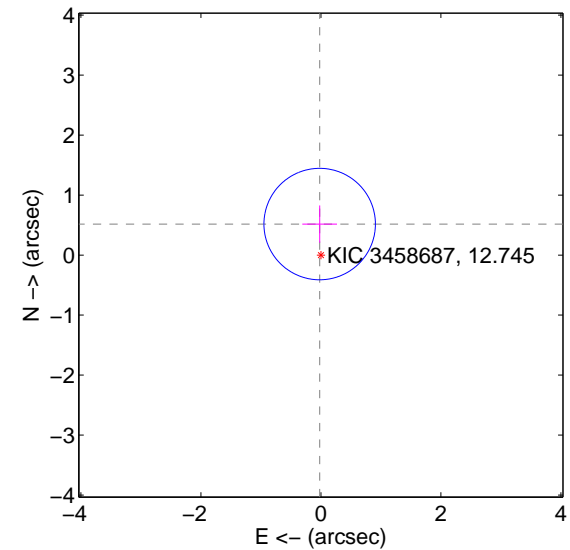
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

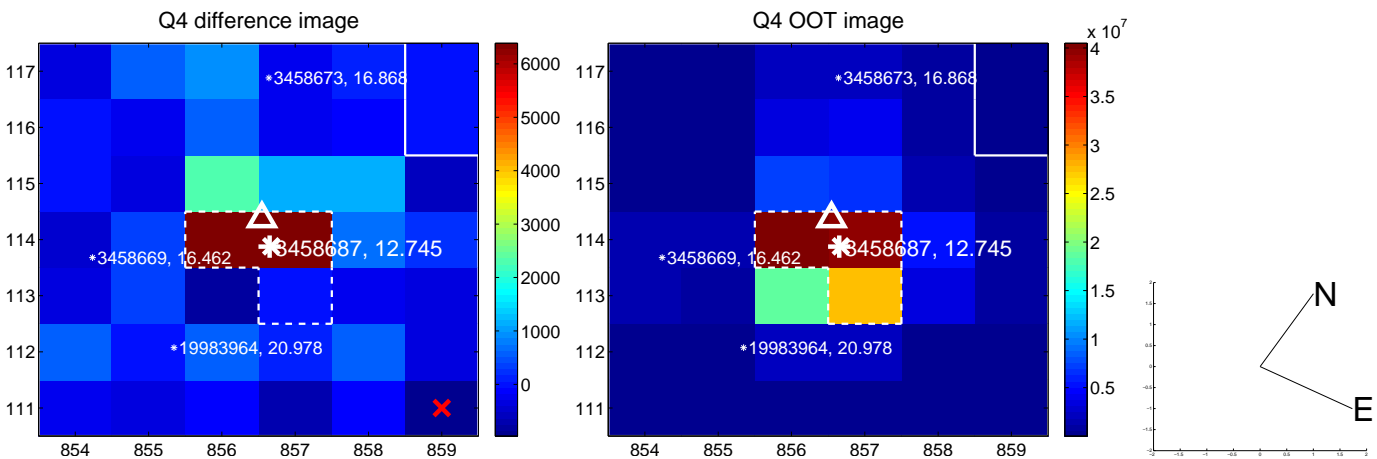
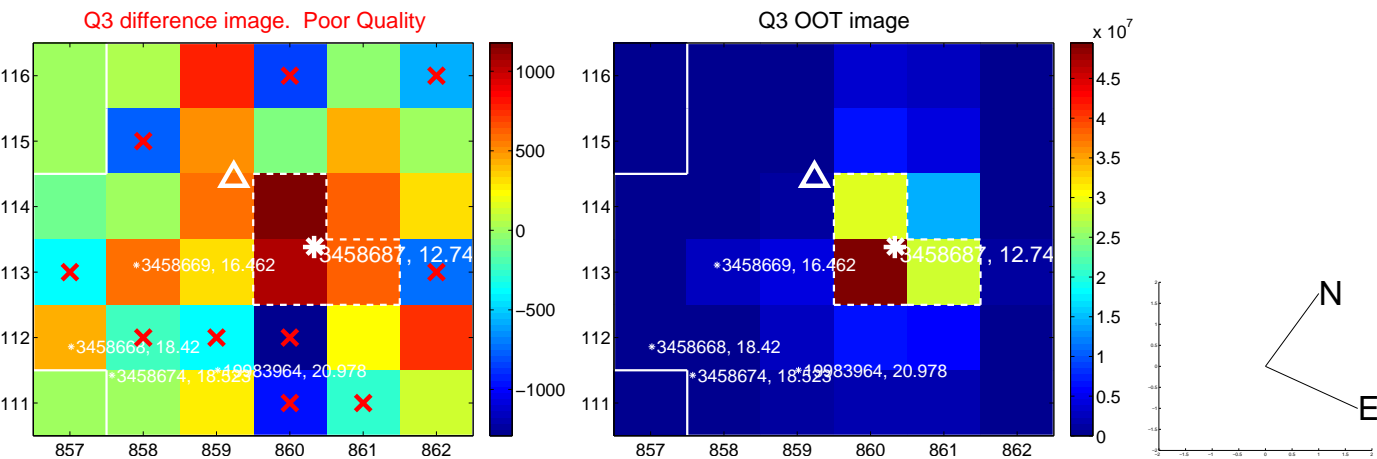
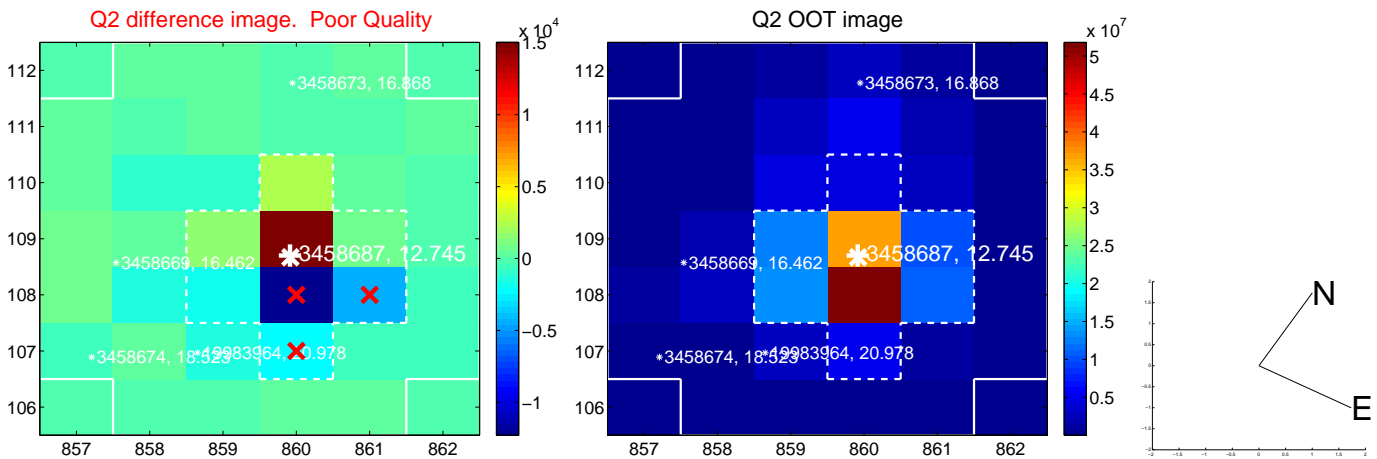
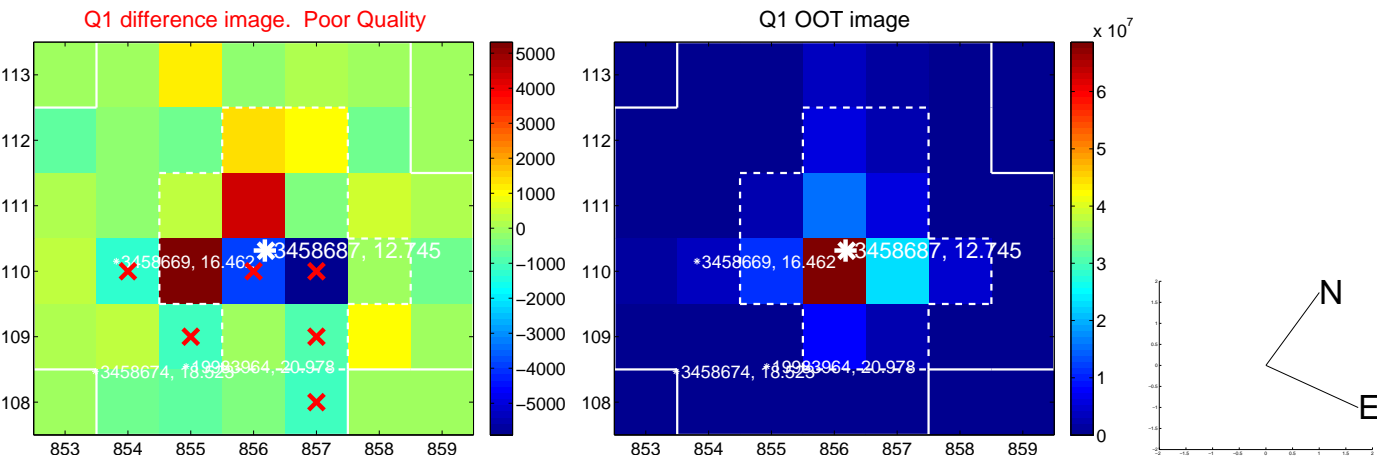


offset from photometric centroids

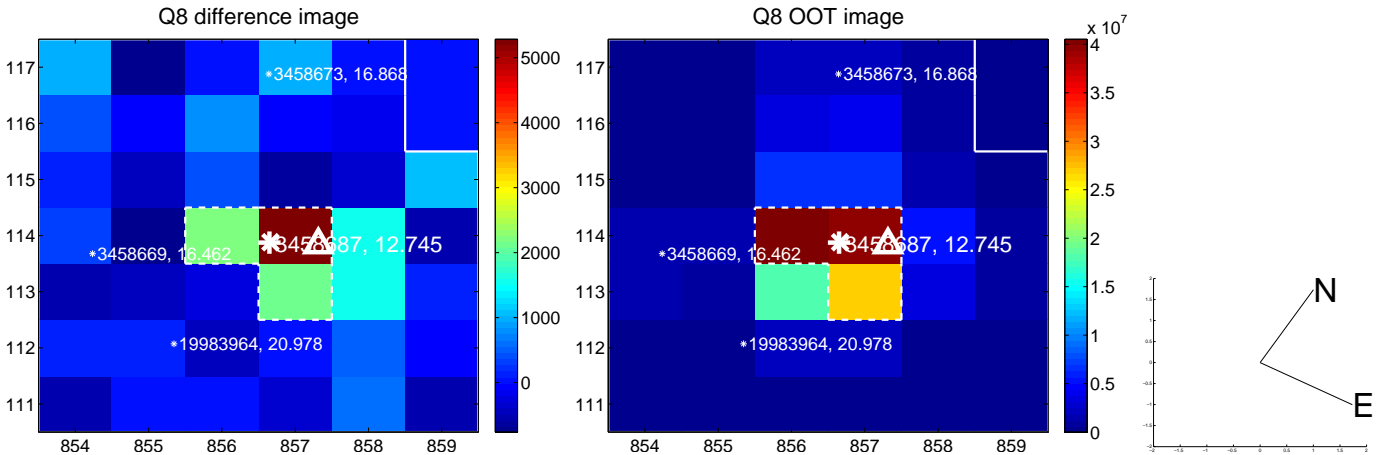
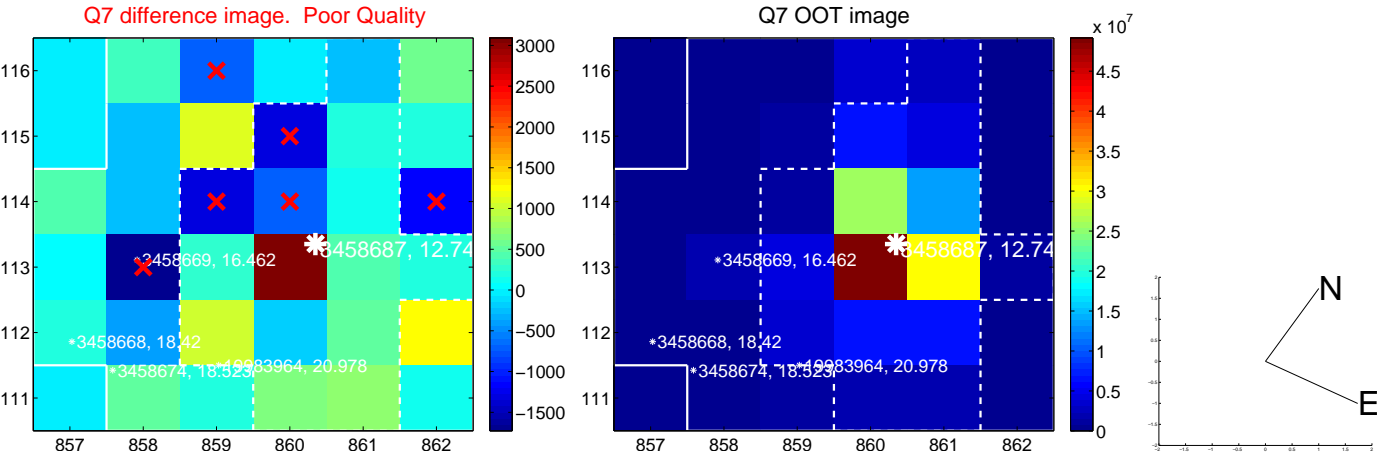
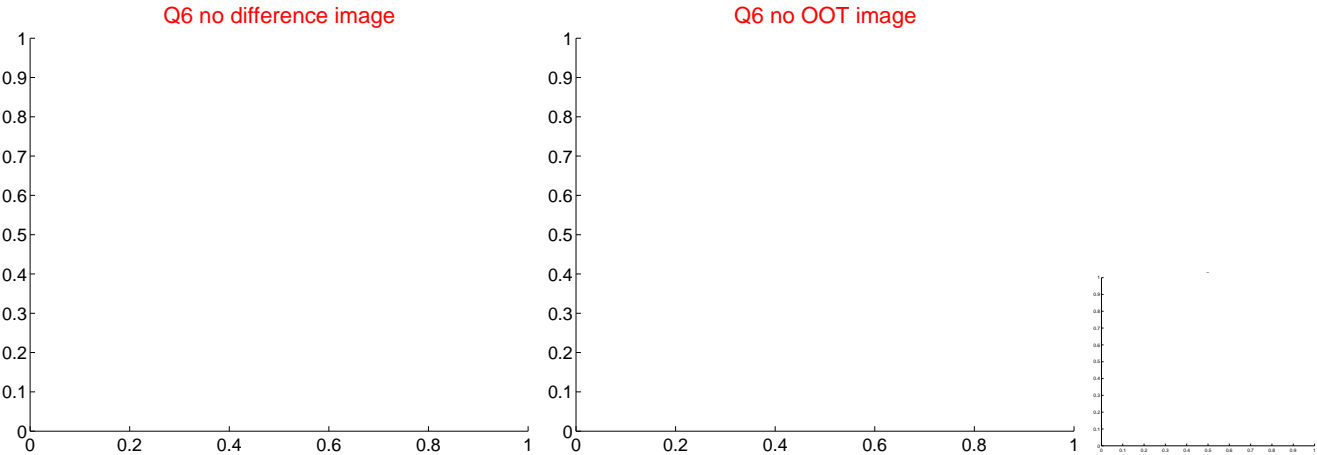
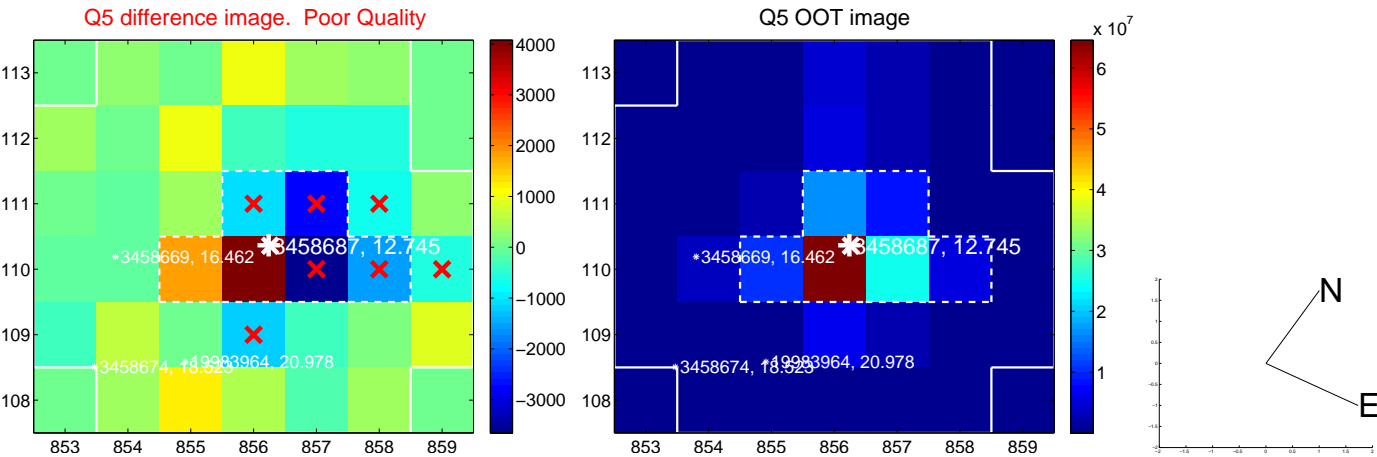


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

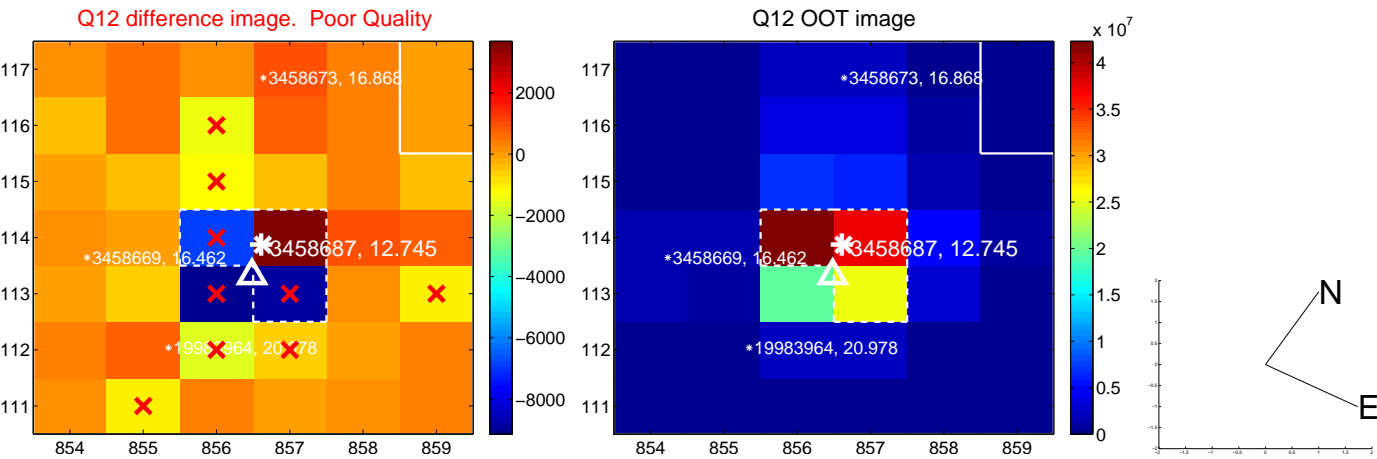
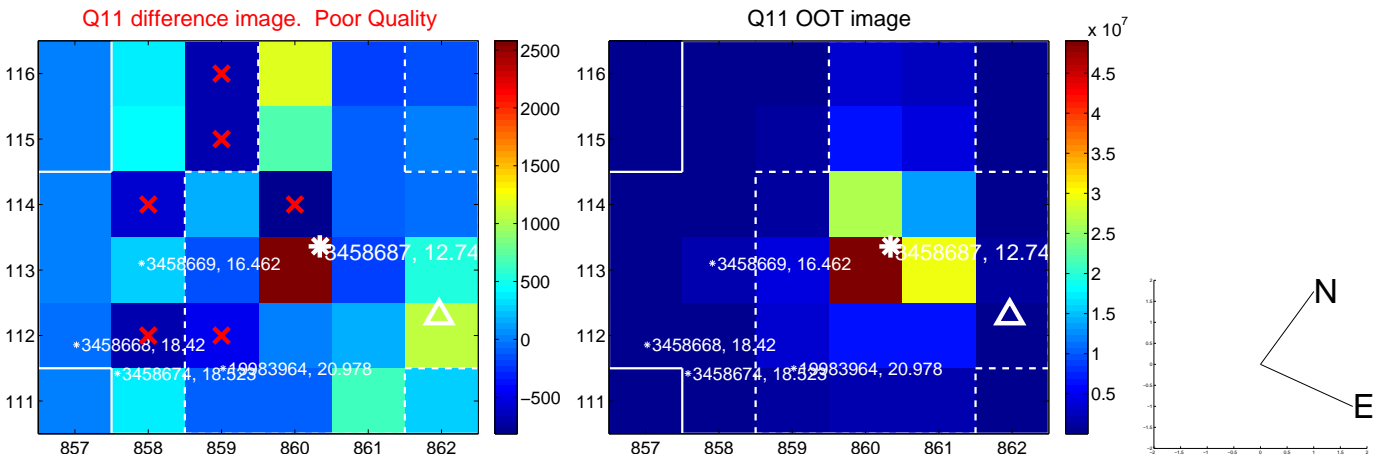
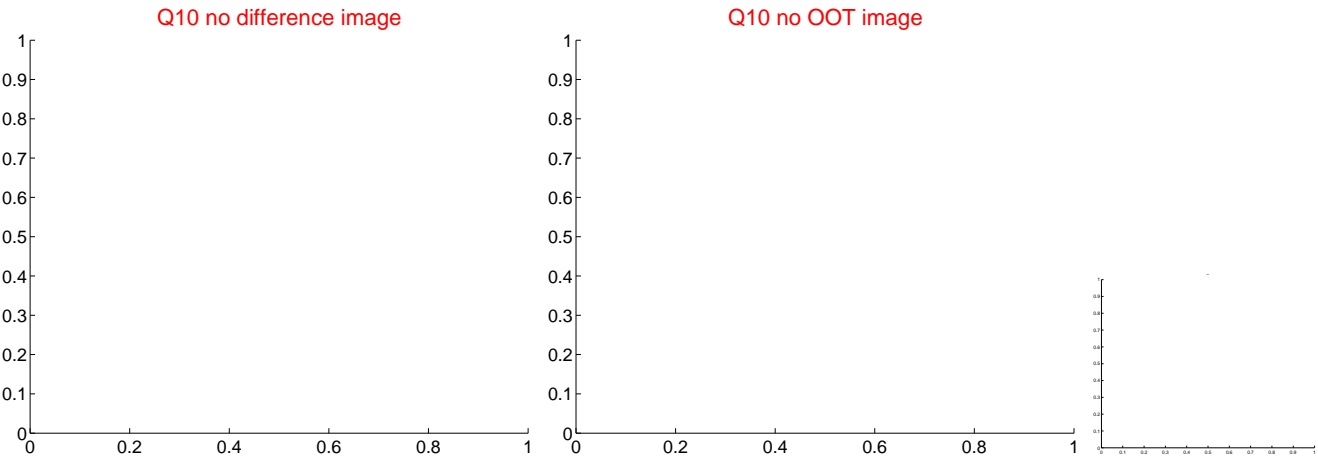
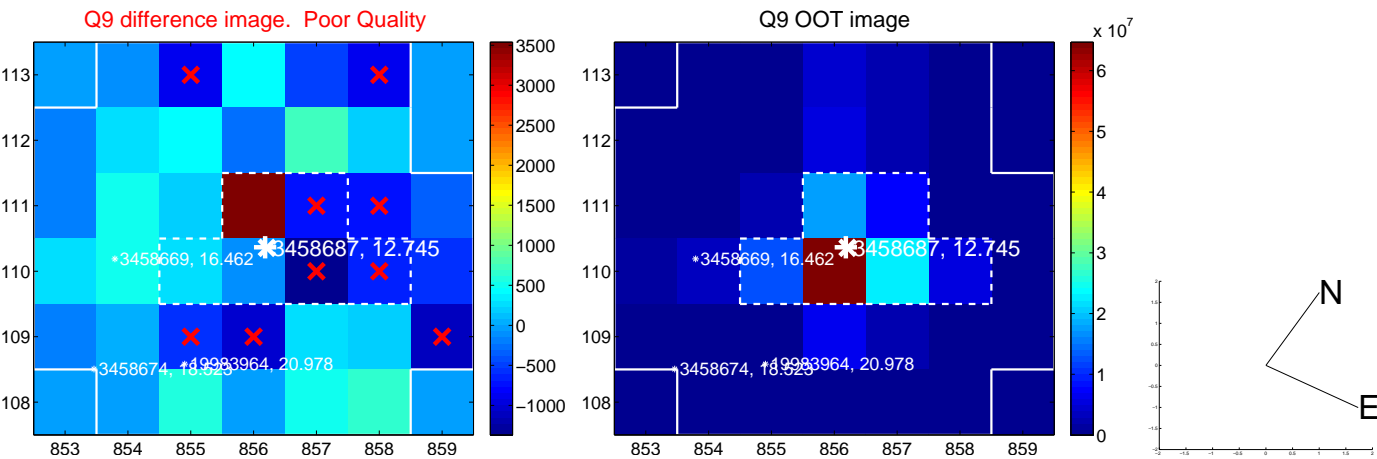
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



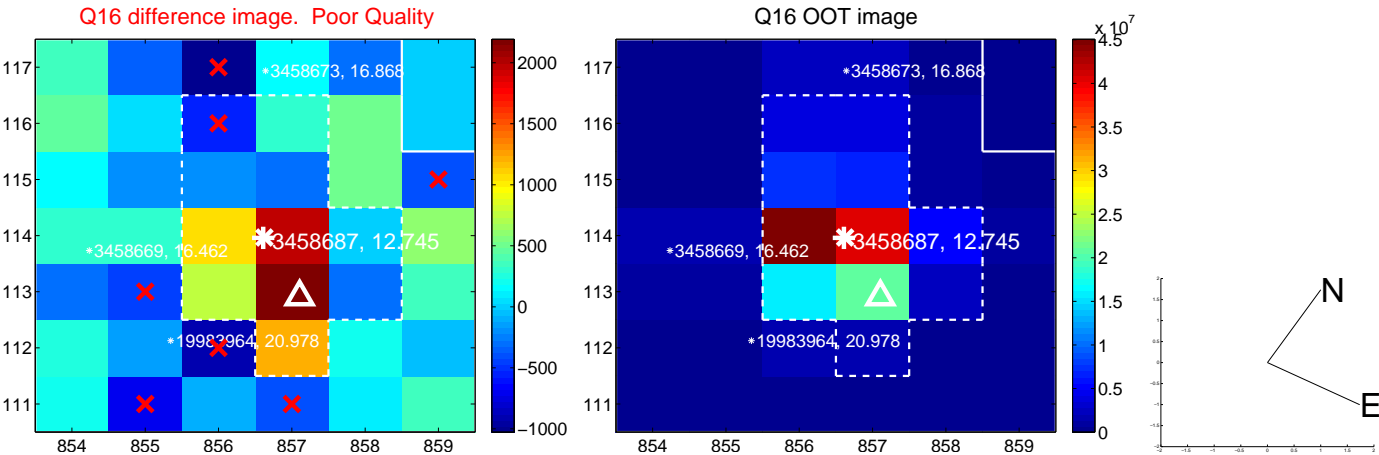
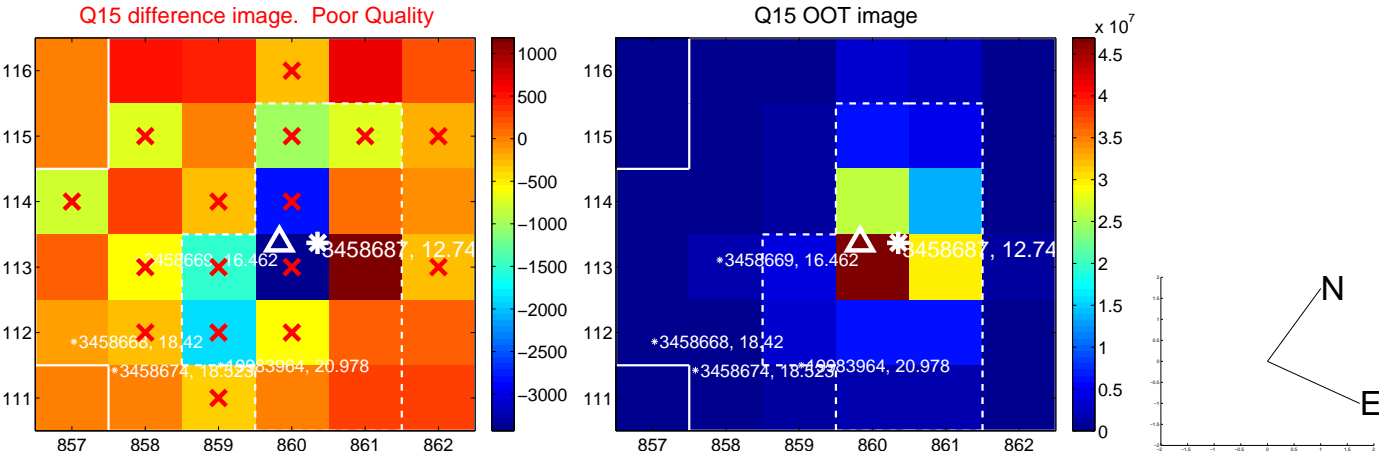
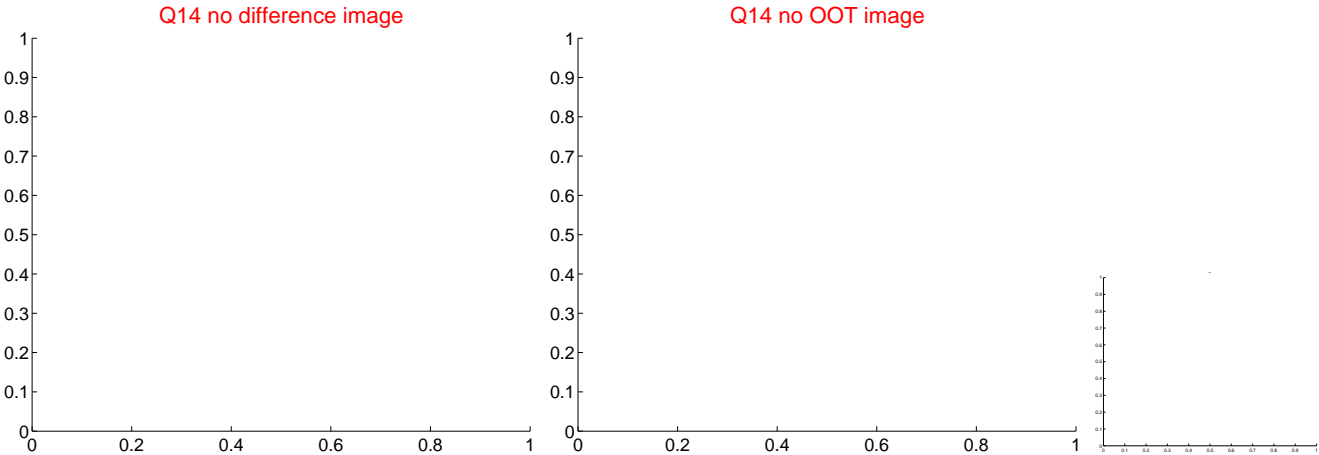
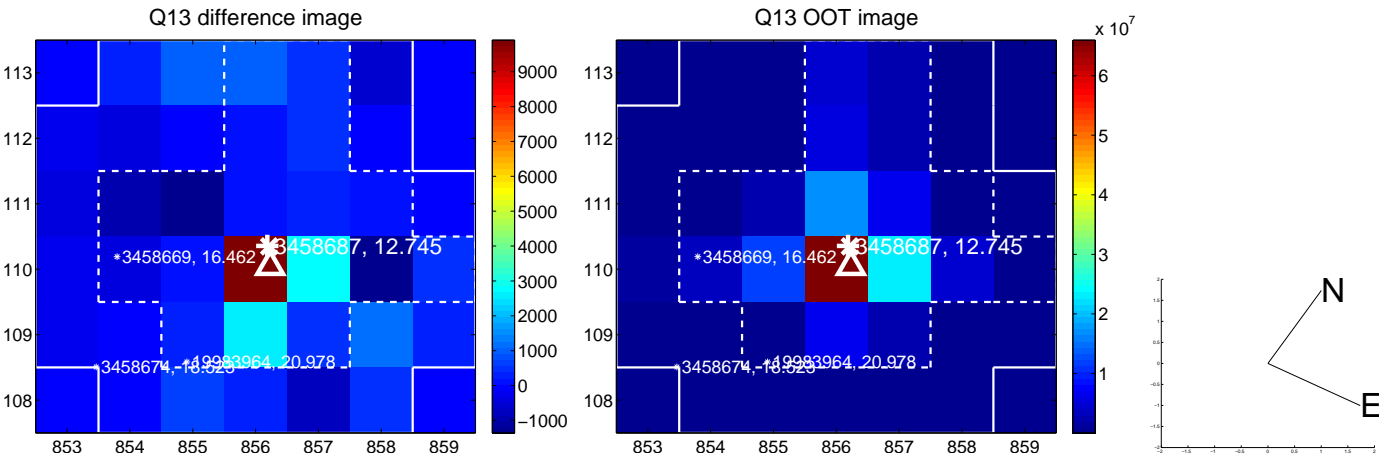
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



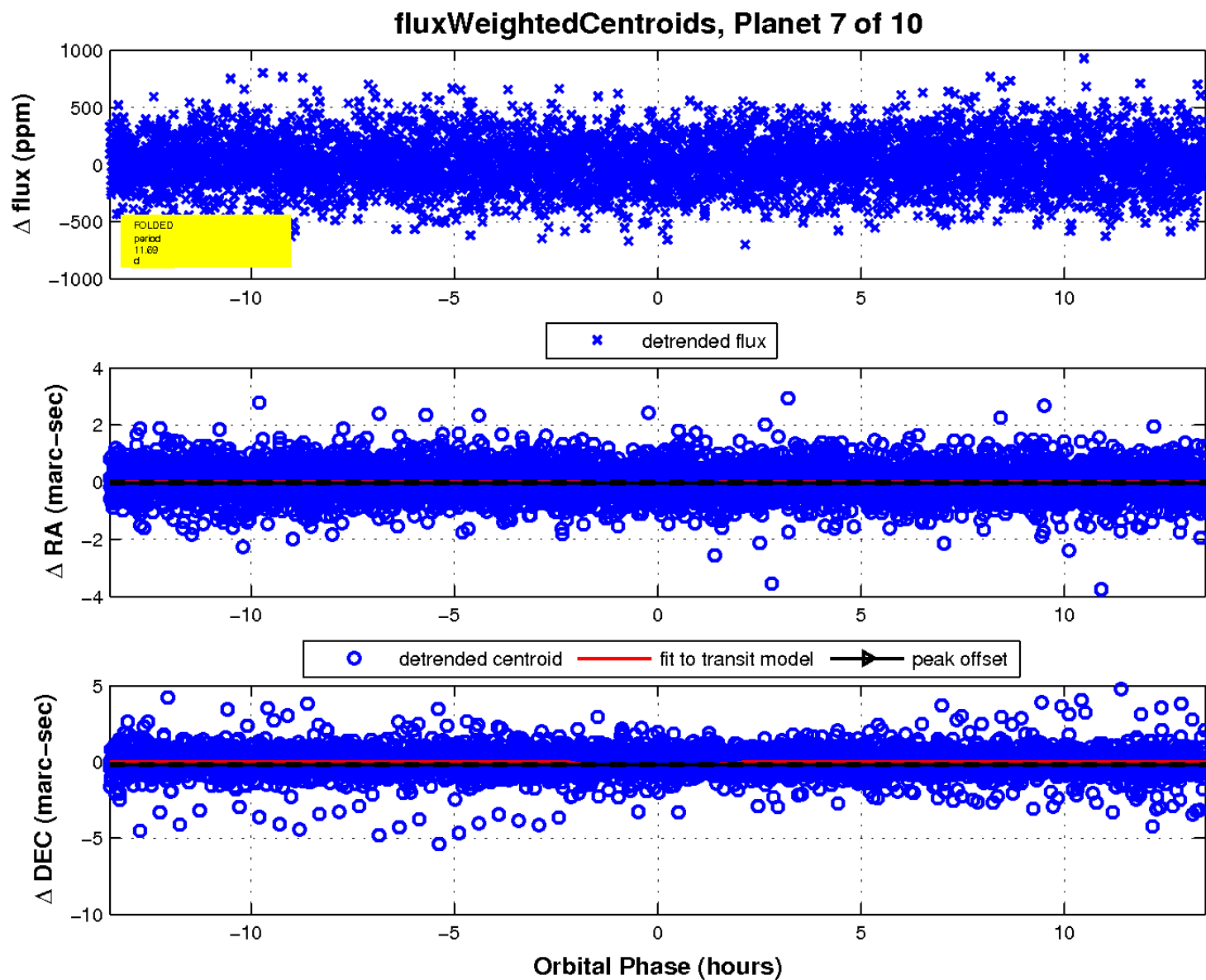
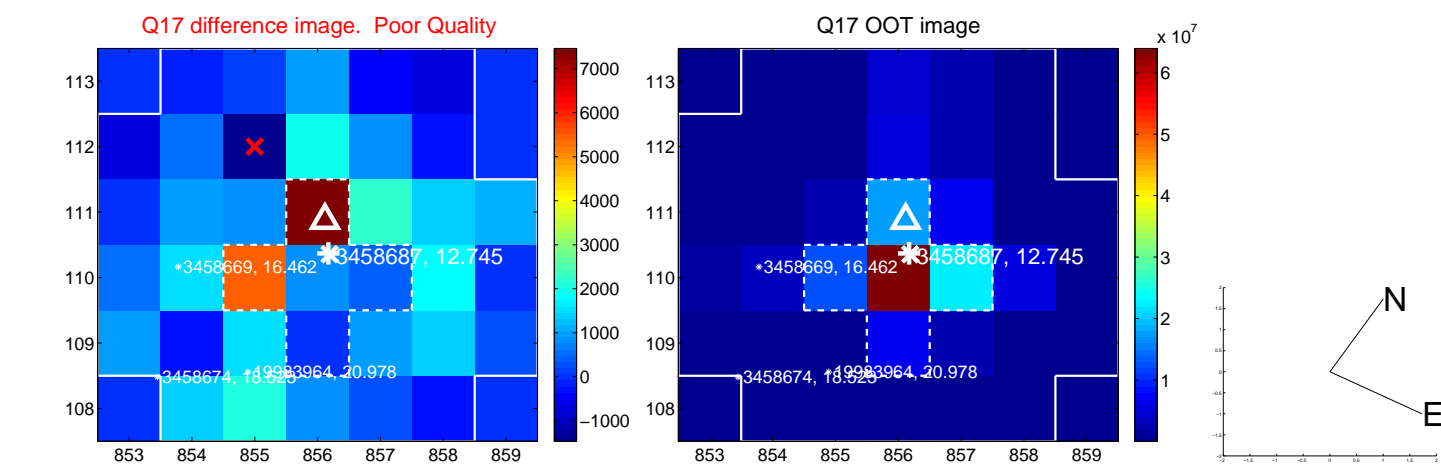
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

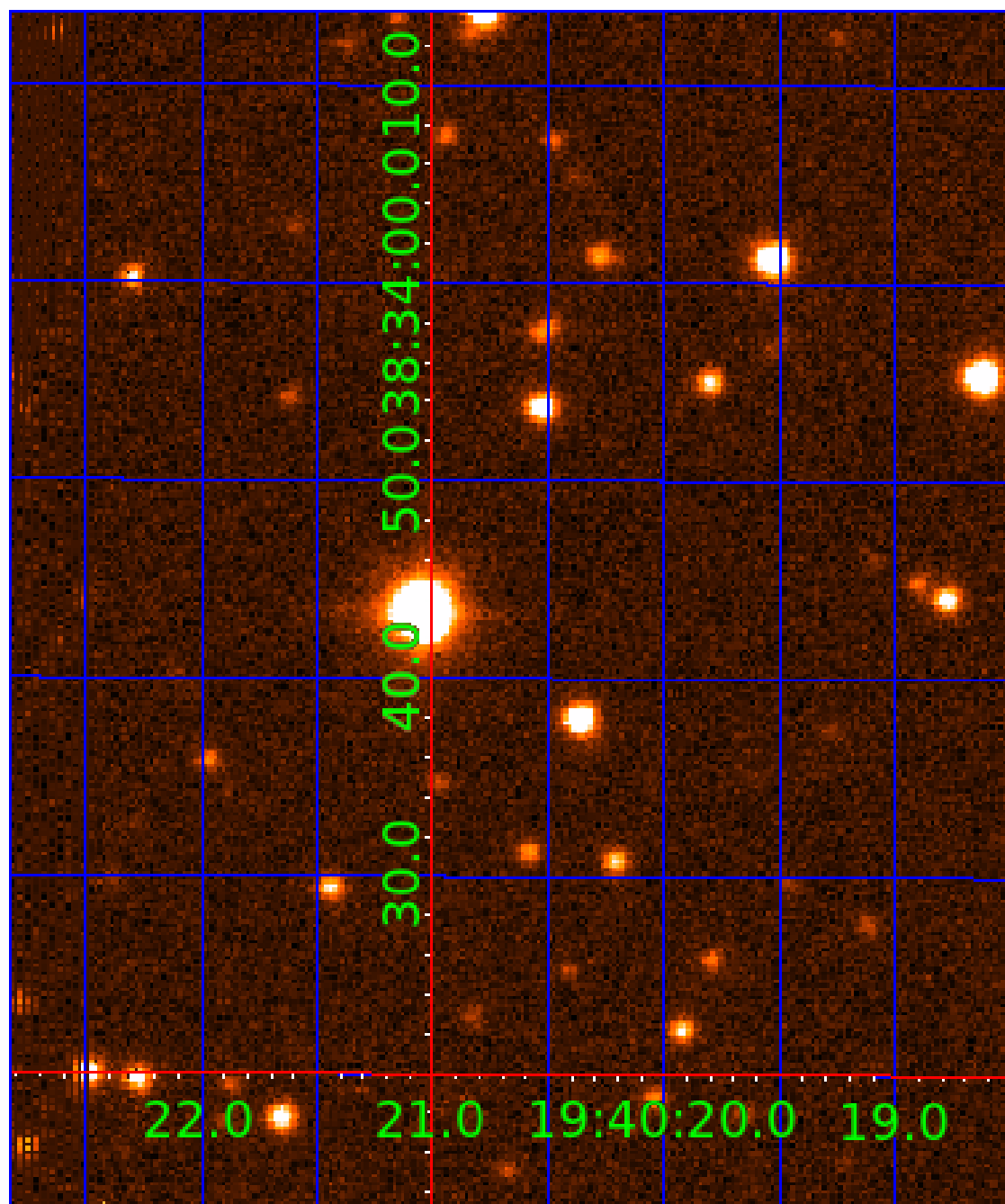


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003458687

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})
003458687-01	OBS	7543.01	0.983762	132.289383	23.9	6.743	8.8	9.1	5.29	6431	2.63	0.00
003458687-03	OBS	No	37.921542	137.409403	251.9	4.719	12.5	9.1	5.29	6431	8.85	567.57
003458687-04	OBS	No	34.338166	164.199165	317.7	2.327	11.8	9.4	5.29	6431	10.68	647.88
003458687-05	OBS	No	27.757951	139.496836	409.1	1.913	11.3	12.4	5.29	6431	11.27	860.36
003458687-06	OBS	No	27.834187	137.823236	336.6	1.997	10.7	10.9	5.29	6431	10.97	857.22
003458687-07	OBS	No	11.691953	138.628806	197.9	4.490	9.7	12.3	5.29	6431	8.70	2724.89
003458687-08	OBS	No	14.488233	137.905875	271.0	1.438	10.2	10.5	5.29	6431	9.13	2047.28
003458687-09	OBS	No	28.101709	140.458736	305.4	3.602	10.3	11.9	5.29	6431	9.65	846.36
003458687-10	OBS	No	29.681505	136.537650	270.5	3.500	9.5	-1.0	5.29	6431	8.76	786.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003458687-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
003458687-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003458687-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003458687-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
003458687-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-10	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_NOFITS—HALO_GHOST

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

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

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

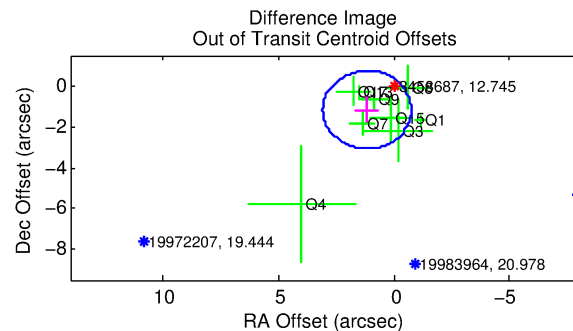
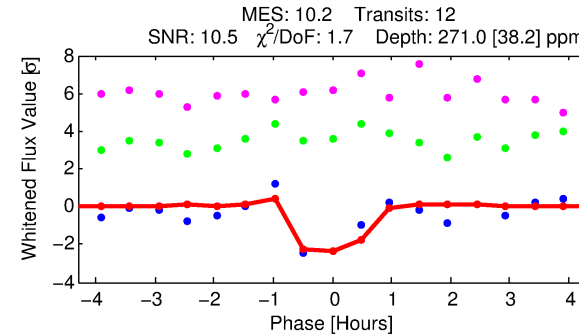
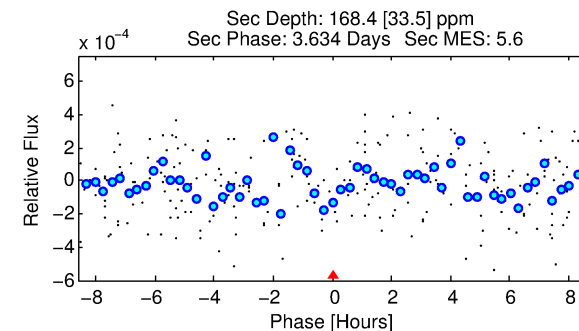
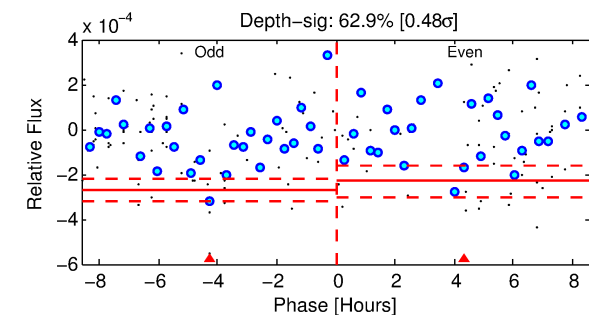
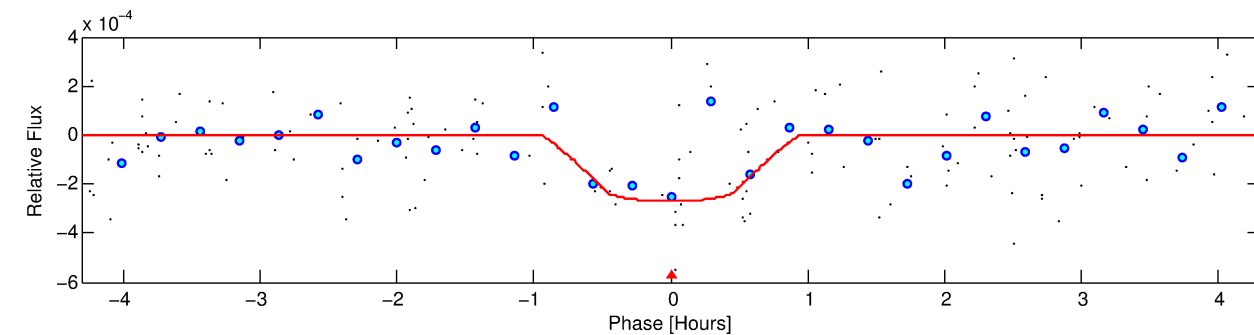
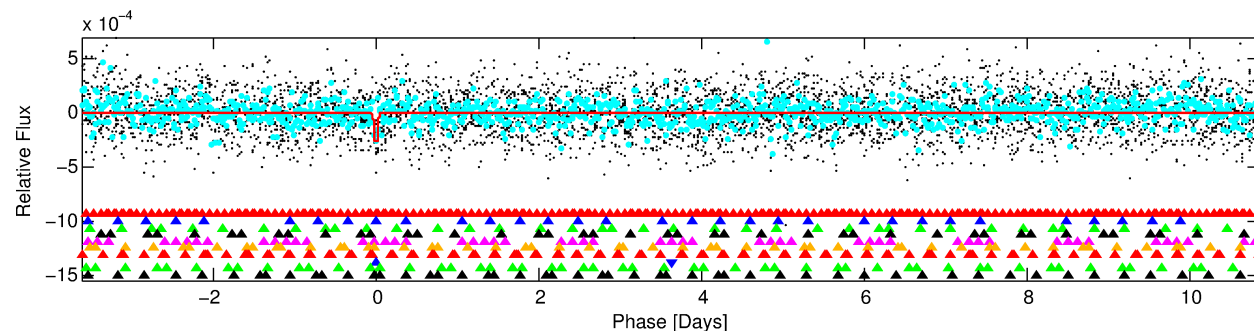
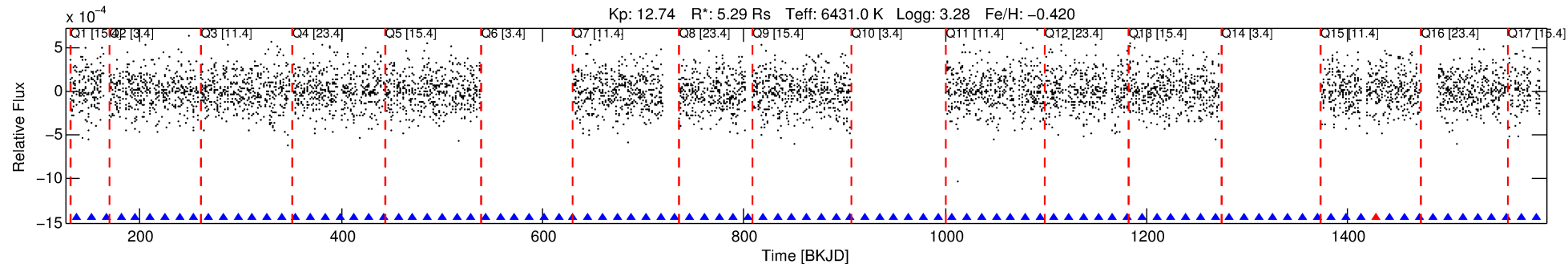
Ephemeris Match Information For 003458687-08

No Significant Match Found

DV One-Page Summary

KIC: 3458687 Candidate: 8 of 10 Period: 14.488 d
KOI: K07543 Corr: No Ephemeris Match

Kp: 12.74 R*: 5.29 Rs Teff: 6431.0 K Logg: 3.28 Fe/H: -0.420



DV Fit Results:

Period = 14.48823 [0.00010] d
Epoch = 137.9059 [0.0057] BKJD
Rp/R* = 0.0158 [0.0101]
a/R* = 64.45 [212.00]
b = 0.58 [3.92]
Teff = 2047.28 [1659.70]
Teq = 1715 [348] K
Rp = 9.13 [7.56] Re
a = 0.1448 [0.0728] AU
Ag = 23.30 [35.36] [0.63σ]
Teffp = 5826 [1888] K [2.14σ]

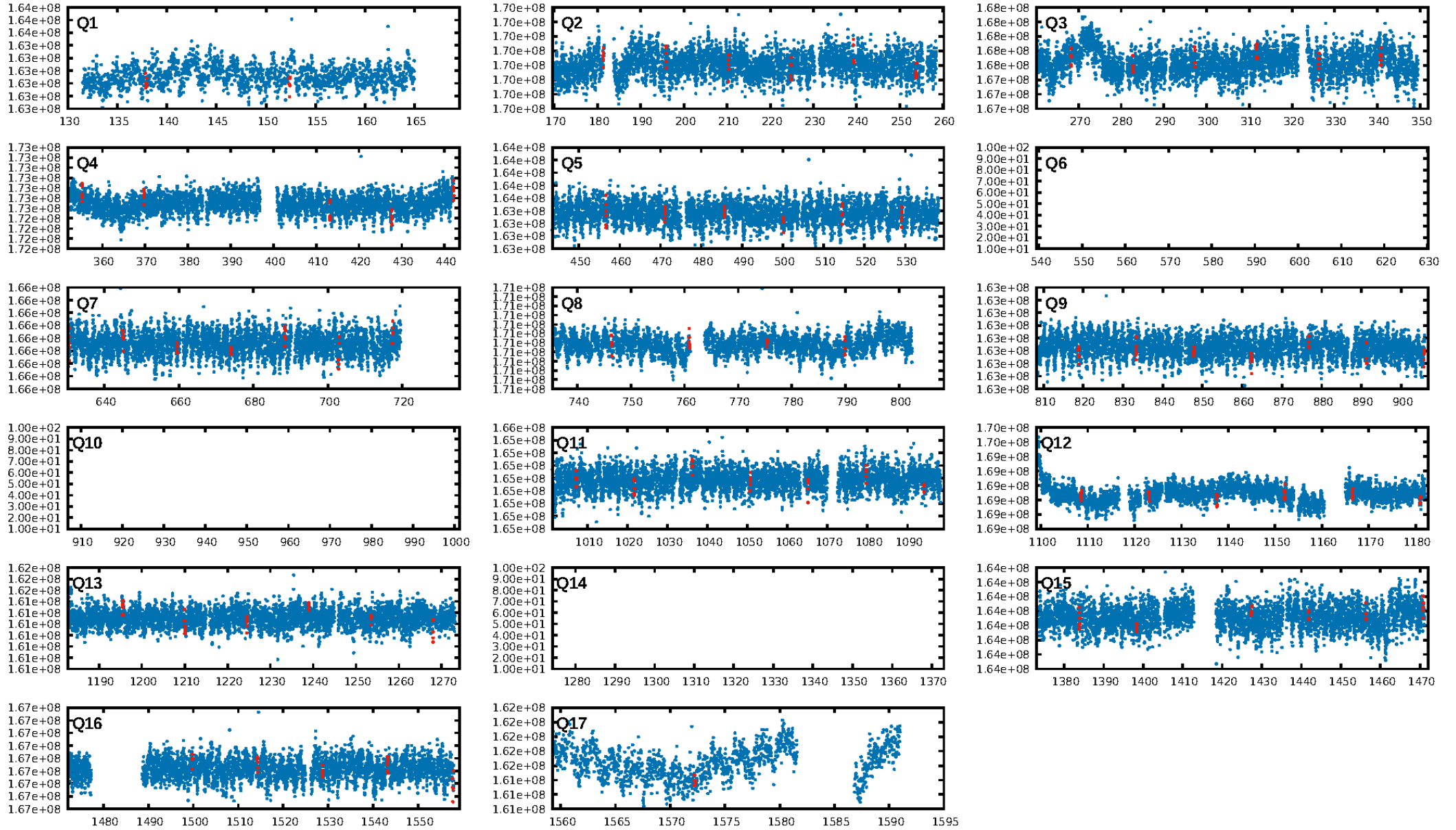
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [14.24σ]
LongPeriod-sig: 100.0% [133.08σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 32.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.91 [10/11]
GhostDiagnostic-chr: -1.11
Centroid-sig: 22.6%
Centroid-so: 0.704 arcsec [1.74σ]
OotOffset-rm: 1.652 arcsec [2.59σ]
OotOffset-st: 0/3/2/4 [9]
KicOffset-rm: 1.616 arcsec [2.65σ]
KicOffset-st: 0/3/2/4 [9]
DiffImageQuality-fgm: 0.44 [4/9]
DiffImageOverlap-fno: 0.86 [12/14]

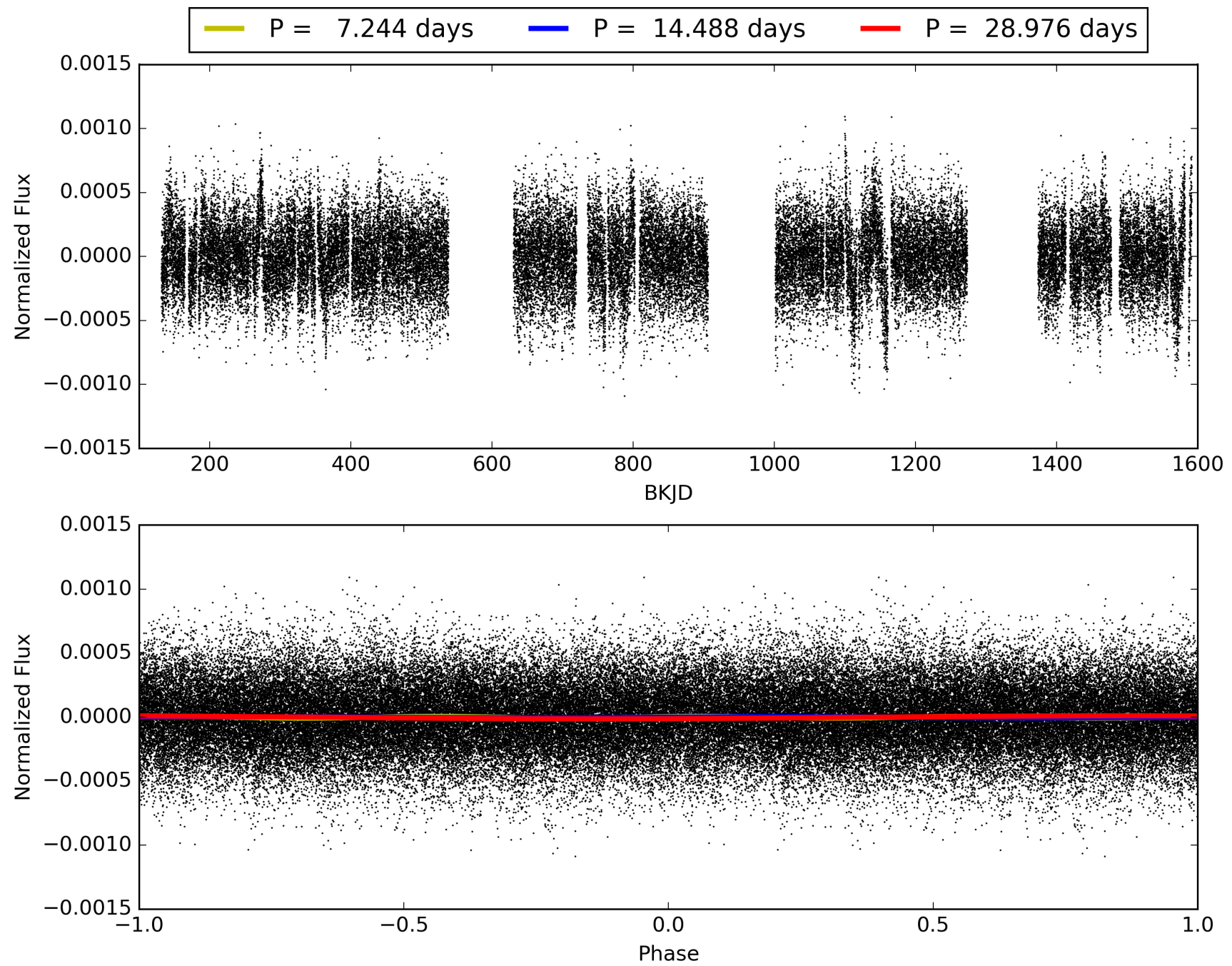
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:32:52 Z

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

TCE 003458687-08, PDC Light Curves

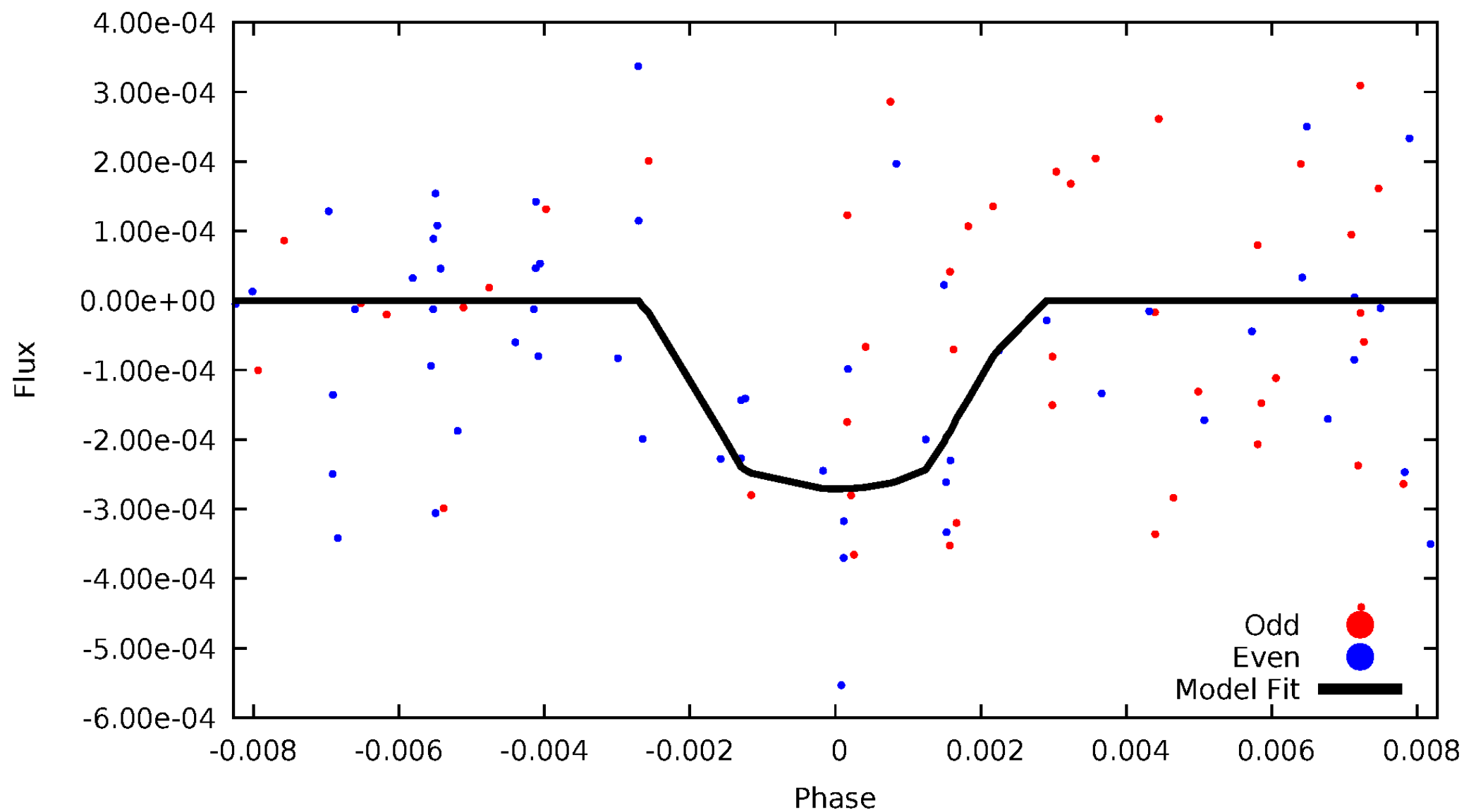


TCE 003458687-08



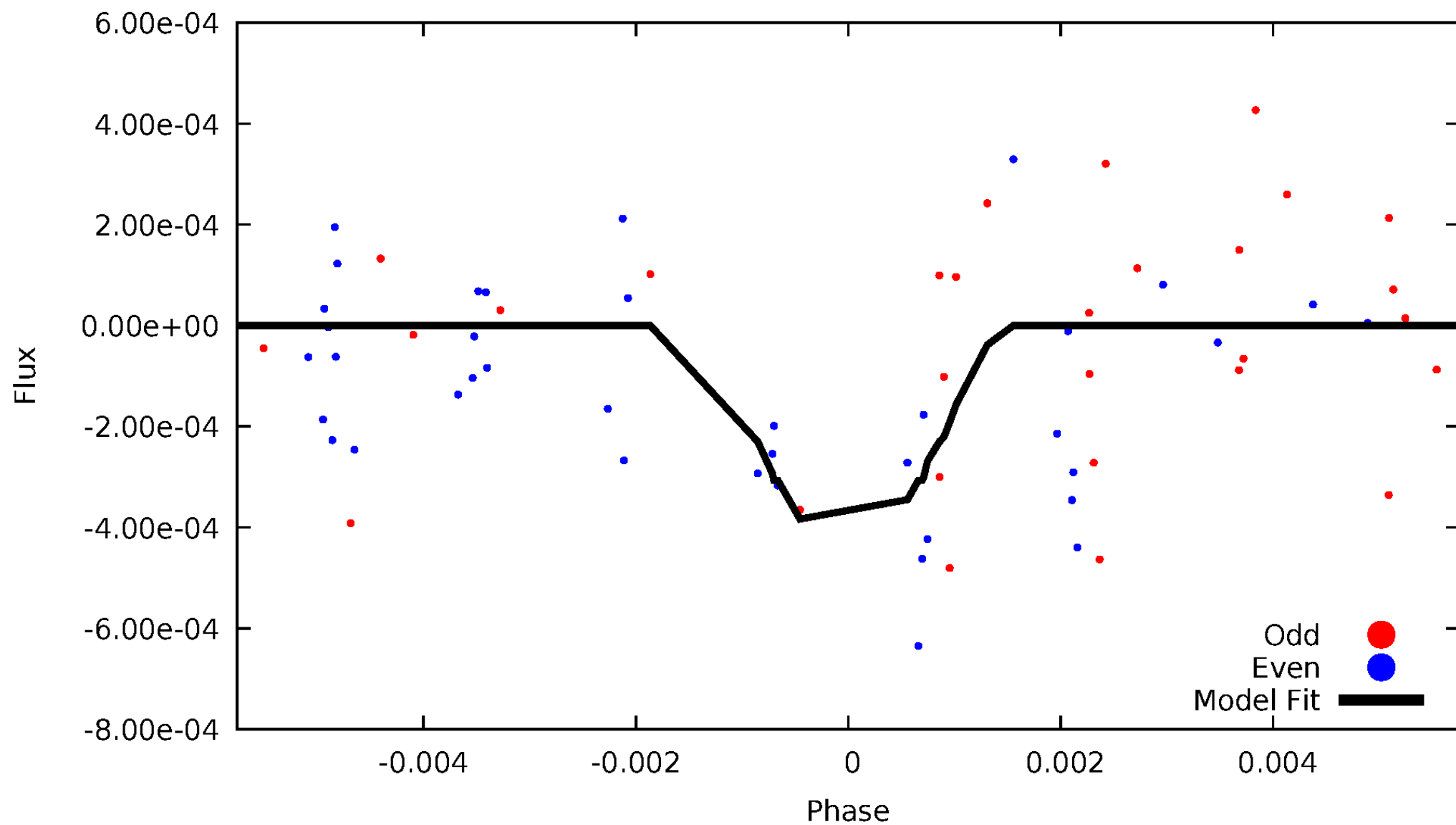
DV Odd/Even

TCE 003458687-08



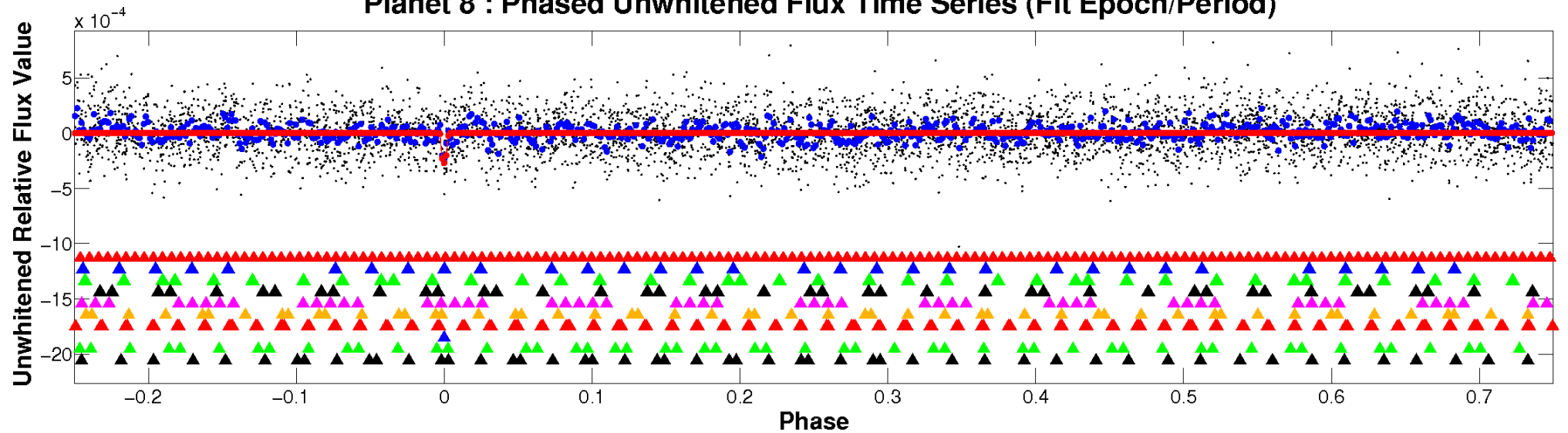
ALT Odd/Even

TCE 003458687-08

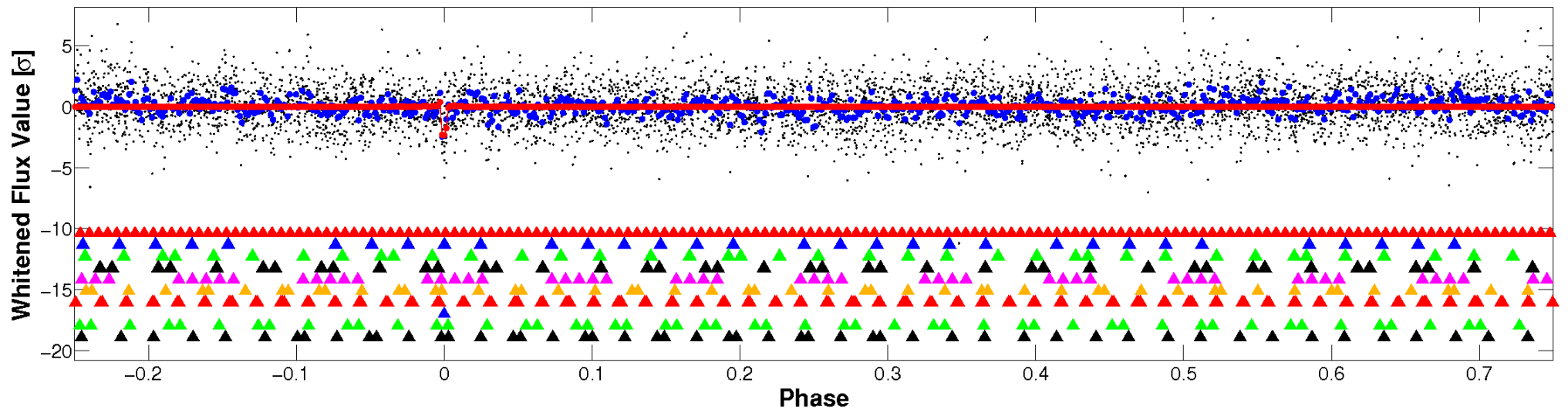


Non-Whitened Vs. Whitened Light Curve

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

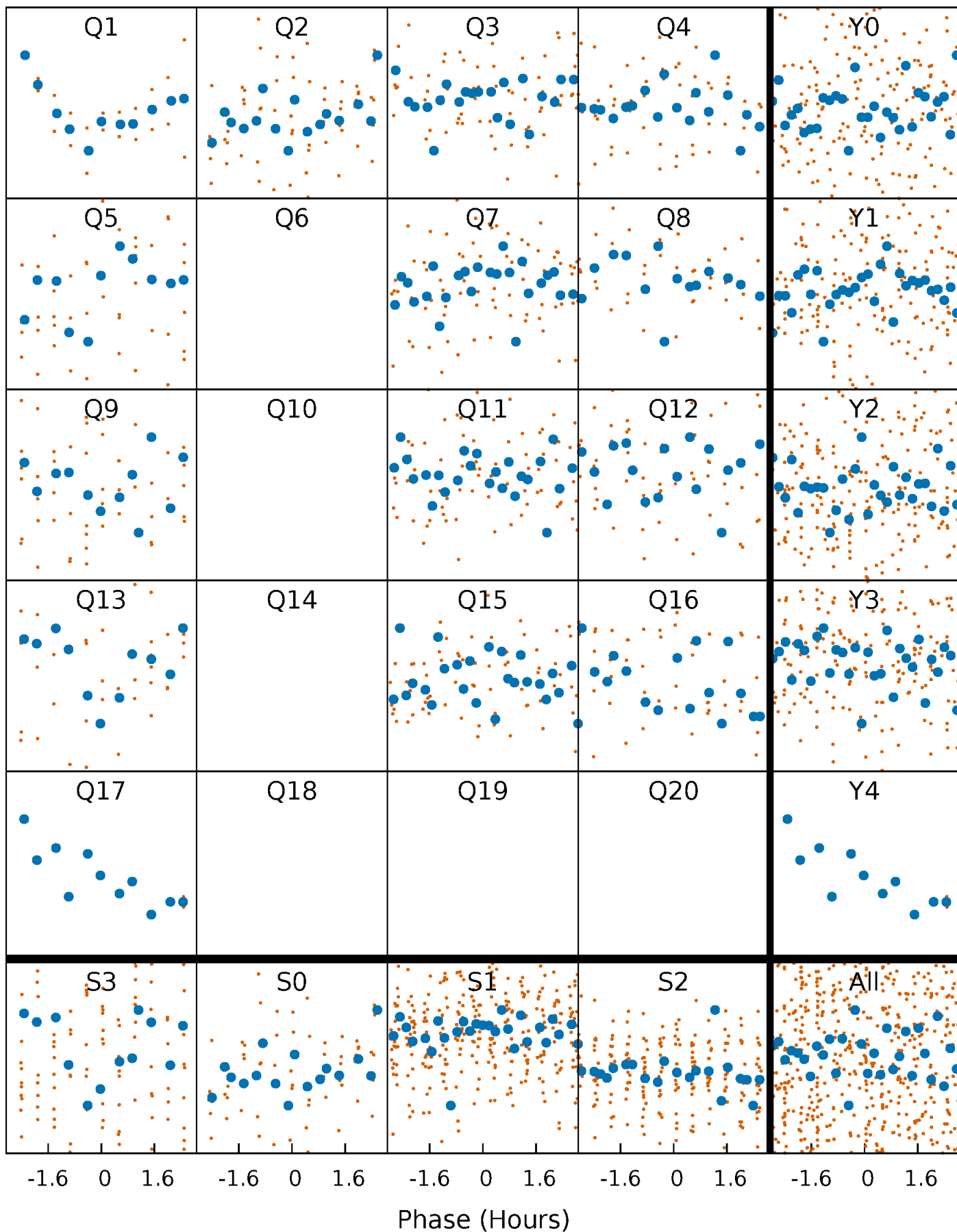


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



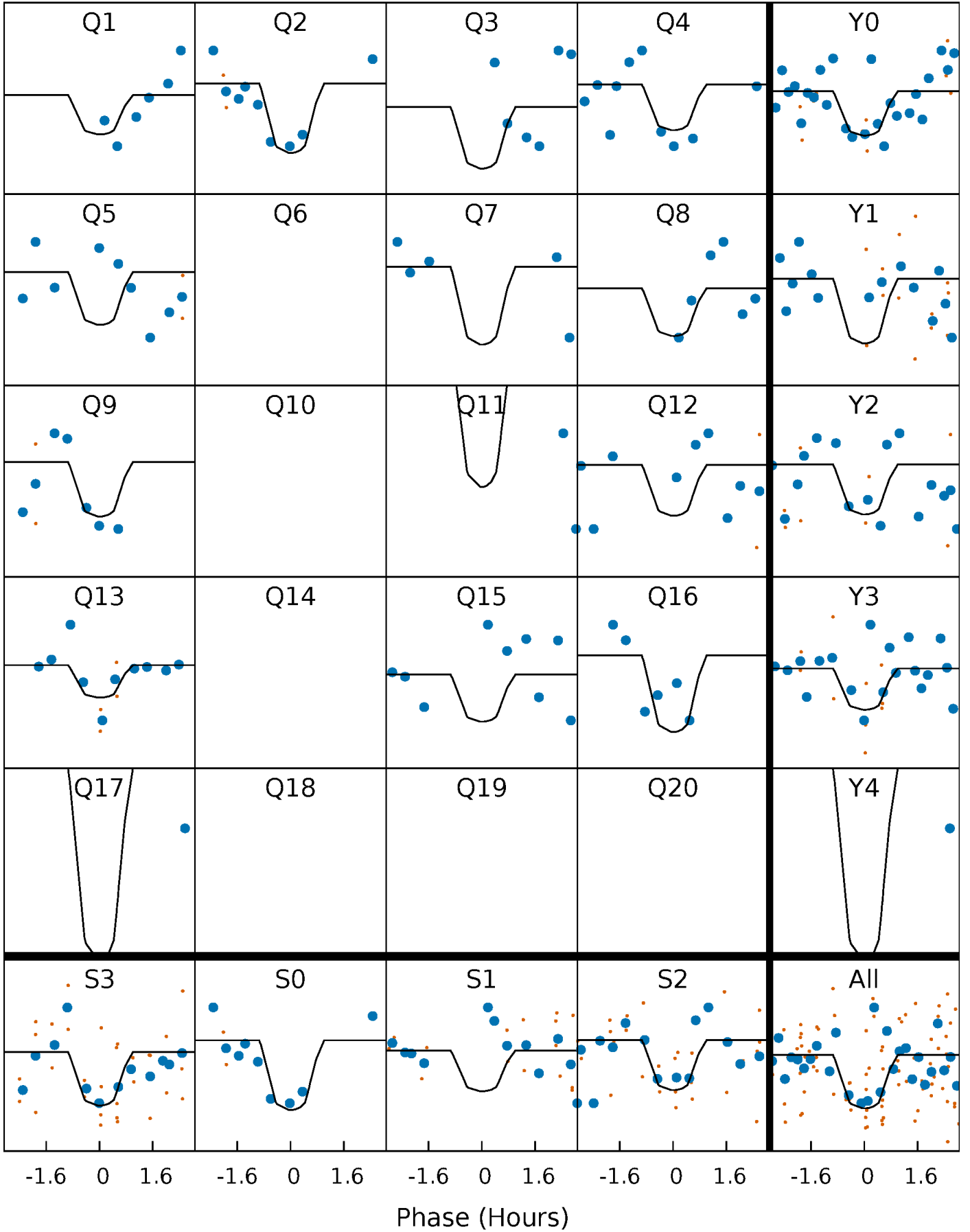
PDC Quarter-Phased Transit Curves

TCE 003458687-08 P= 14.488233 Days $T_0=137.905875$ (BKJD)



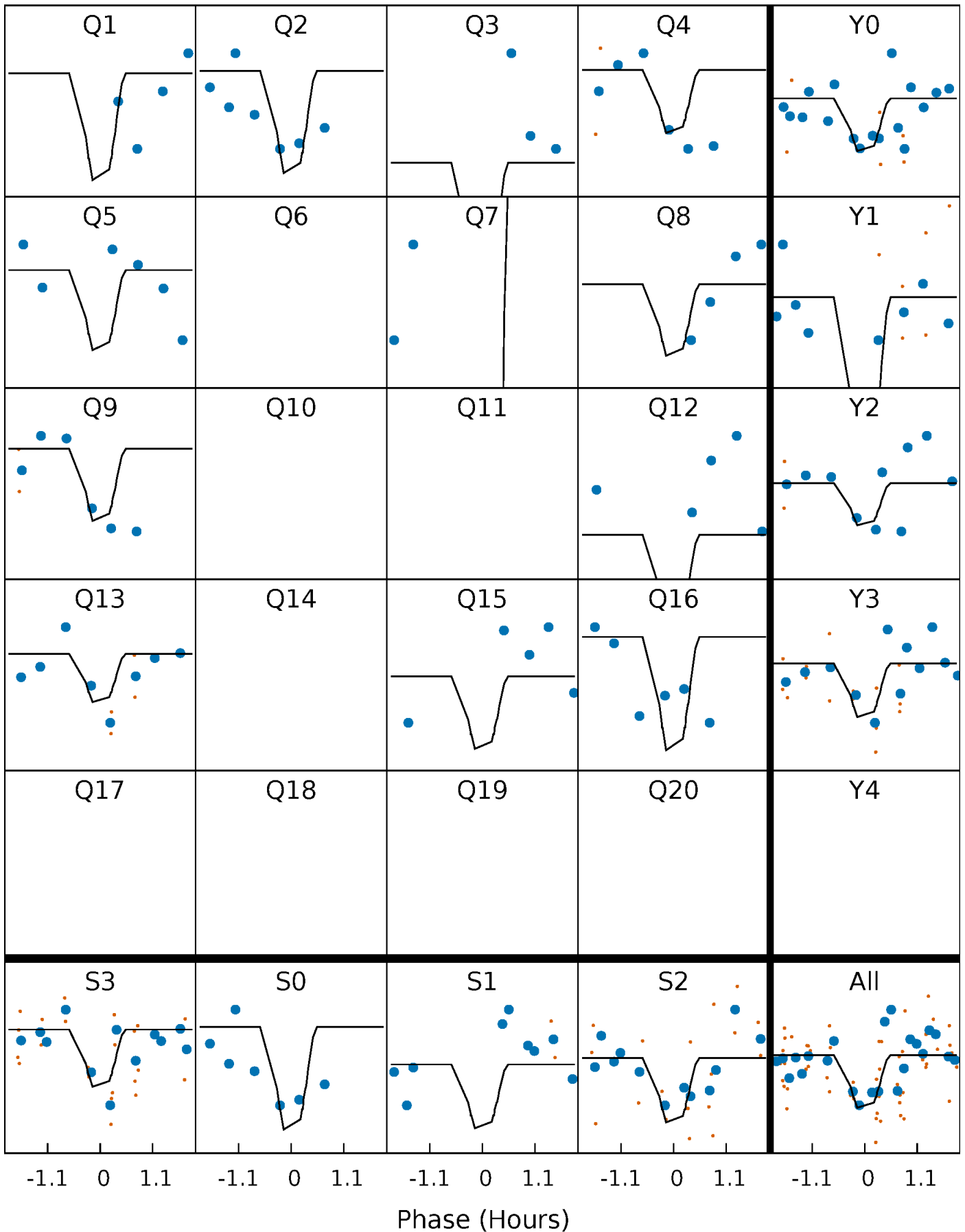
DV Quarter-Phased Transit Curves

TCE 003458687-08 $P = 14.488233$ Days $T_0 = 137.905875$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

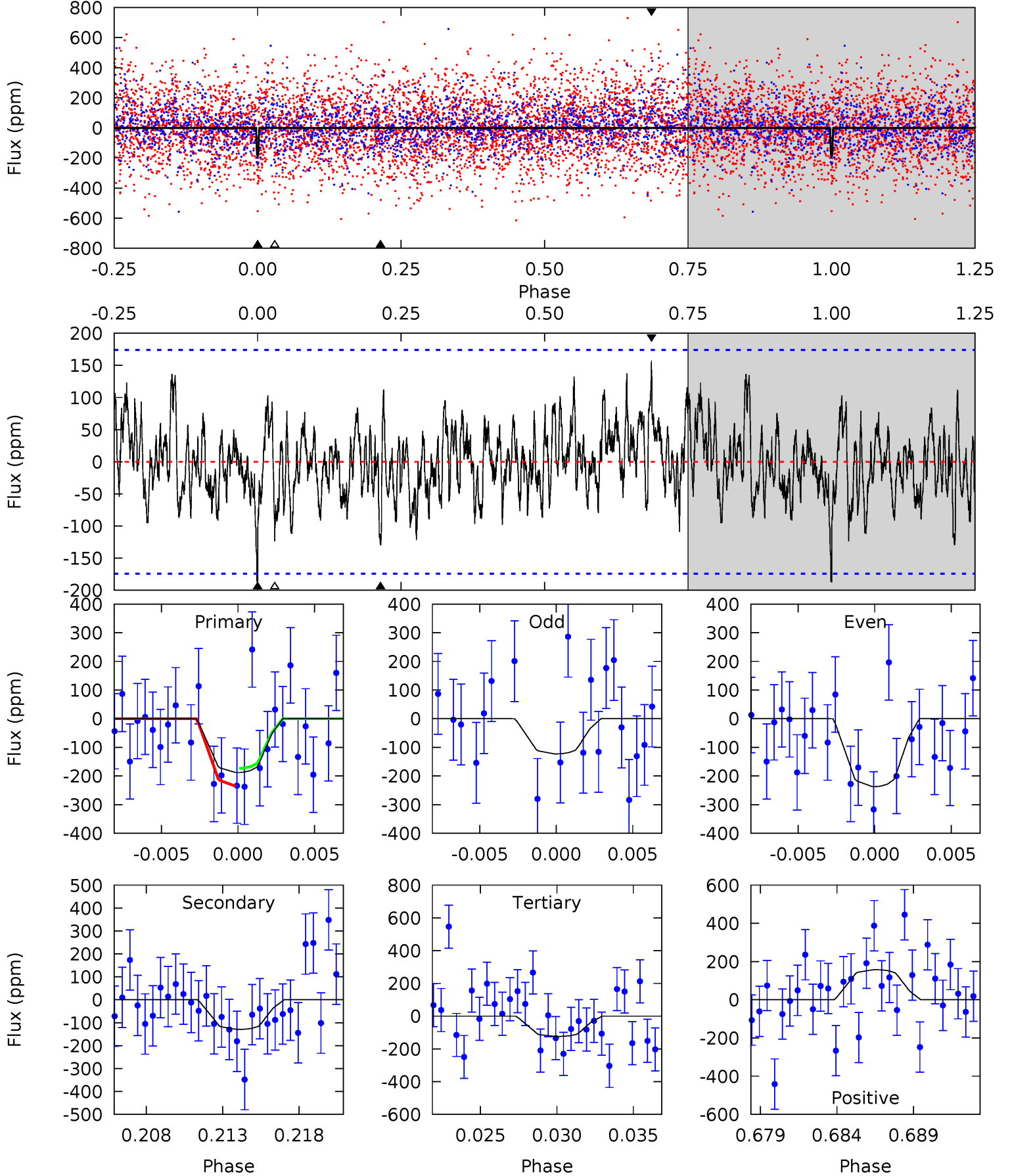
TCE 003458687-08 P= 14.488264 Days $T_0=137.895157$ (BKJD)



DV Model-Shift Uniqueness Test

003458687-08, $P = 14.488233$ Days, $E = 123.417642$ Days

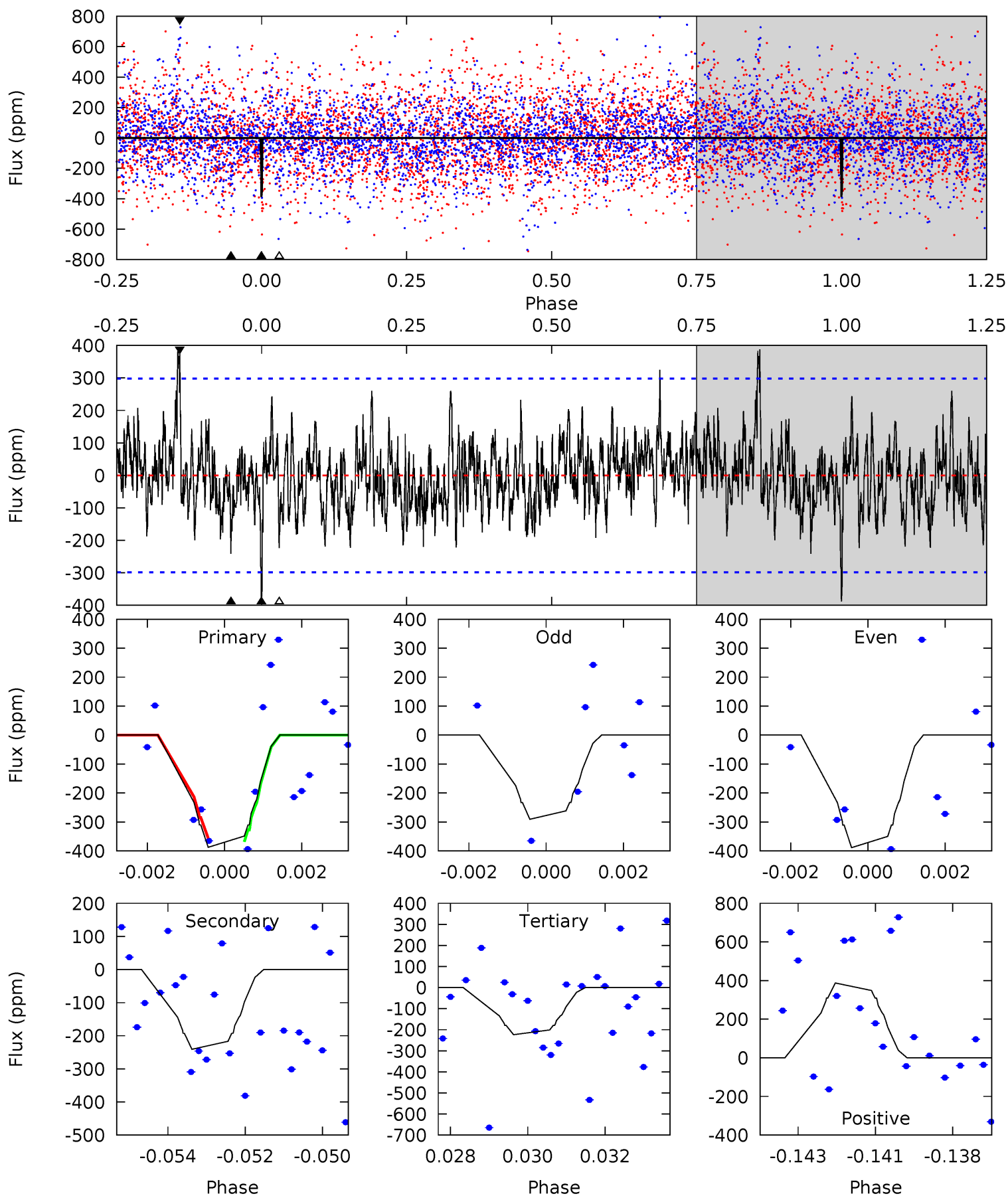
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.57	3.83	3.67	4.66	5.16	2.81	1.39	1.90	0.91	0.16	-0.83	1.70	0.59	0.46	0.81



Alt Model-Shift Uniqueness Test

003458687-08, P = 14.488264 Days, E = 123.406893 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.90	4.29	3.98	6.90	5.31	3.07	1.55	2.92	0.00	0.31	-2.61	0.86	0.88	0.50	0.10



Stellar Parameters For KIC 003458687

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6431^{+172}_{-211}	$3.276^{+0.468}_{-0.052}$	$-0.420^{+0.400}_{-0.300}$	$5.294^{+0.294}_{-2.795}$	$1.932^{+0.069}_{-0.590}$	$0.018^{+0.090}_{-0.003}$
	+3%/-3%	+14%/-2%	+95%/-71%	+6%/-53%	+4%/-31%	+491%/-18%
Source	PHO1	FLK73	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 003458687-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-129 ± 34	$8.39^{+5.64}_{-4.72}$	2332^{+129}_{-297}	5324^{+2692}_{-998}	20^{+78}_{-13}
Alt.	-241 ± 56	$12.82^{+6.20}_{-5.69}$	2329^{+127}_{-289}	5077^{+1419}_{-714}	17^{+37}_{-10}

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

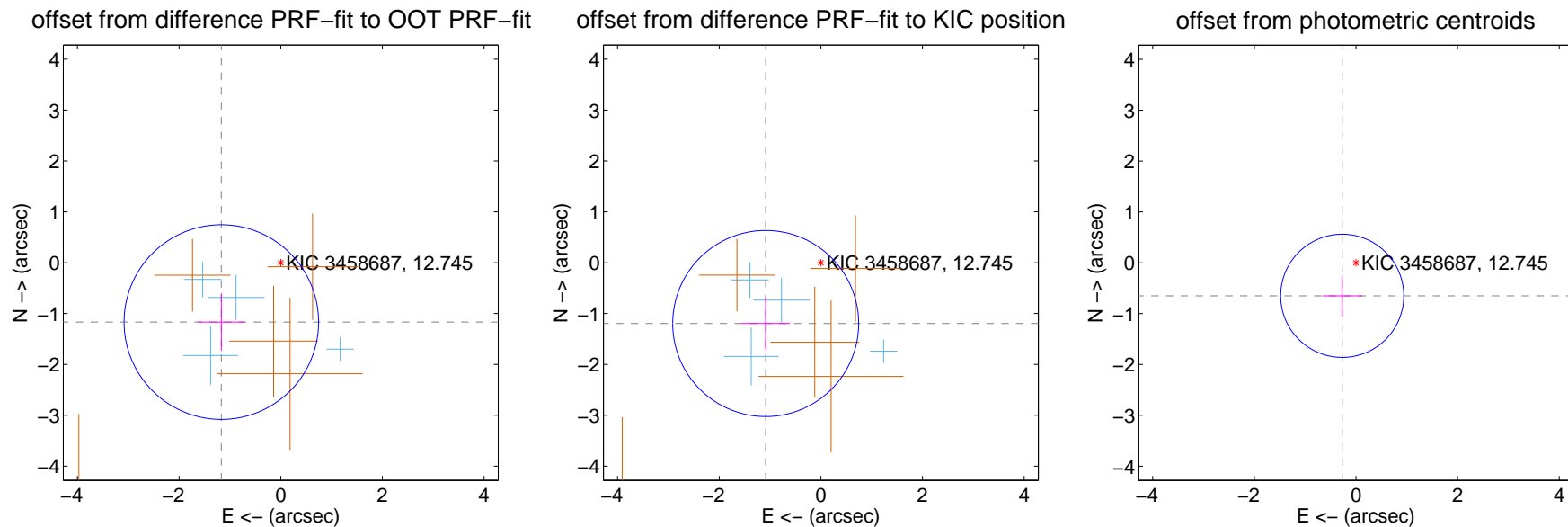
DV Centroid Data

Supplemental centroid analysis for 003458687-08. Kepler magnitude: 12.74. Transit SNR 10.48

There are 4 quarters with good PRF difference image offsets

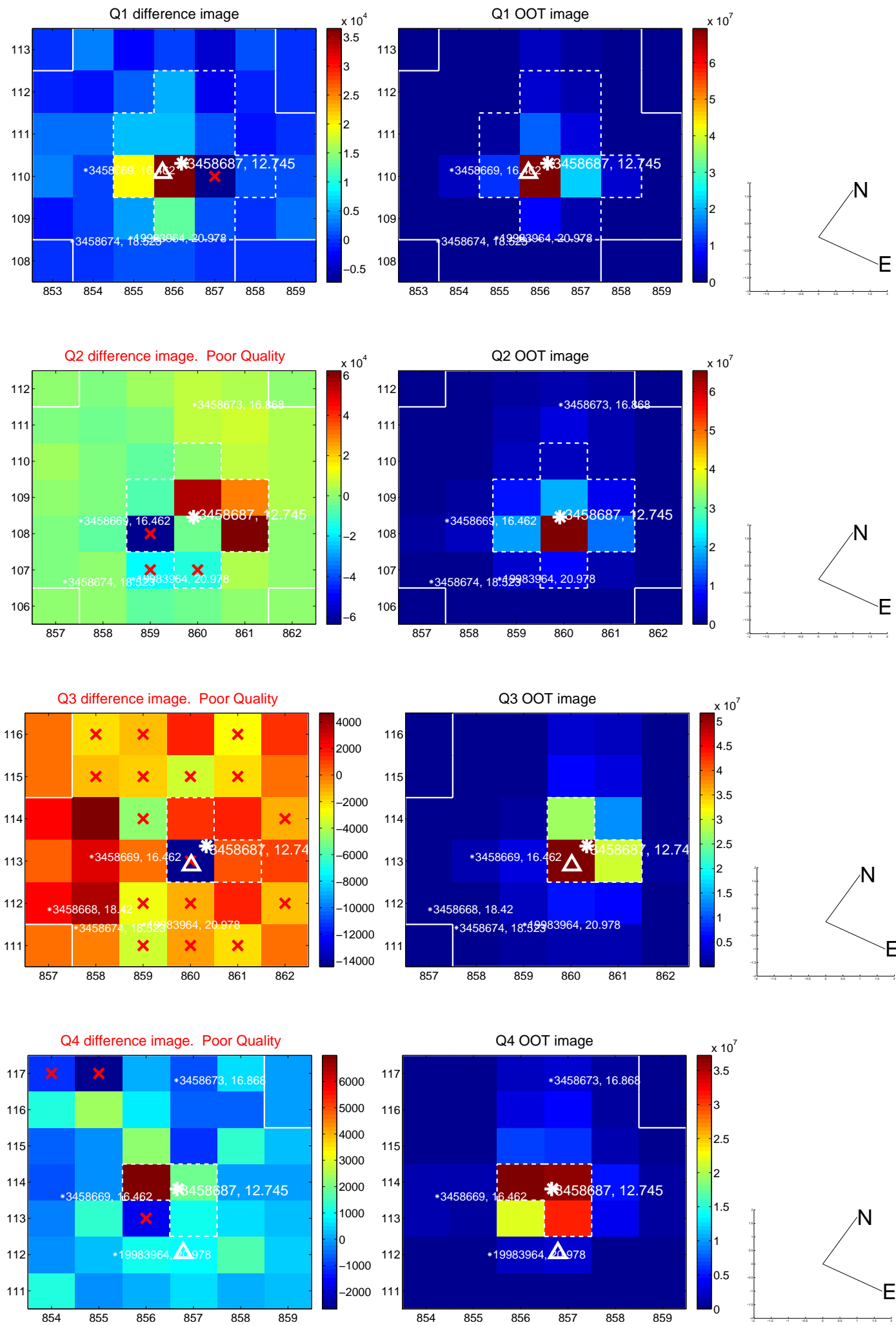
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.652 ± 0.638	2.59	1.169 ± 0.460	-1.168 ± 0.564
PRF-fit source offset from KIC position	1.616 ± 0.610	2.65	1.086 ± 0.477	-1.196 ± 0.514
photometric centroid source offset	0.70 ± 0.40	1.74	0.27 ± 0.39	-0.65 ± 0.41

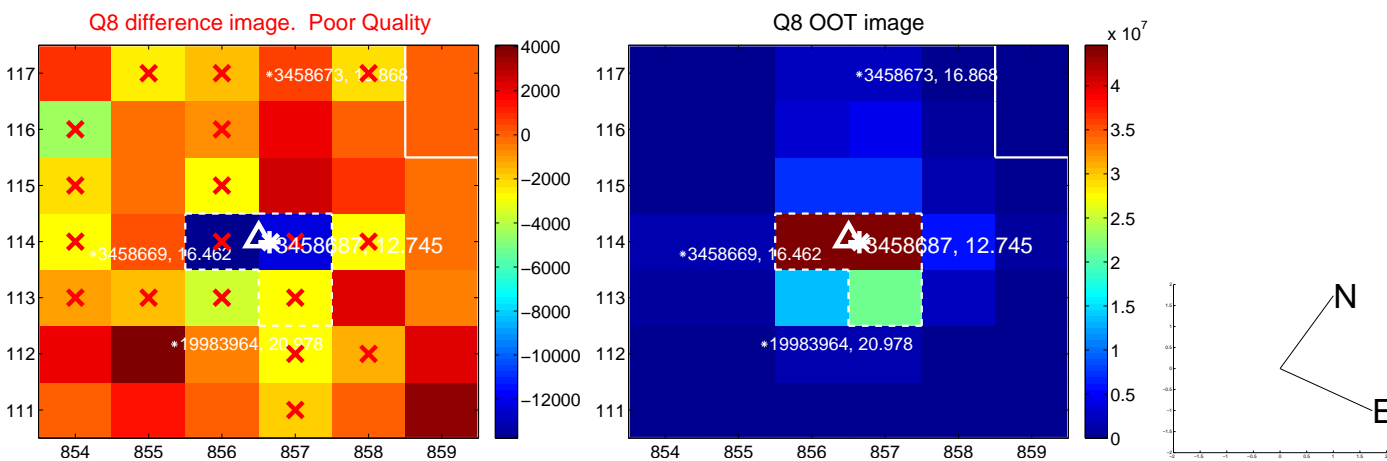
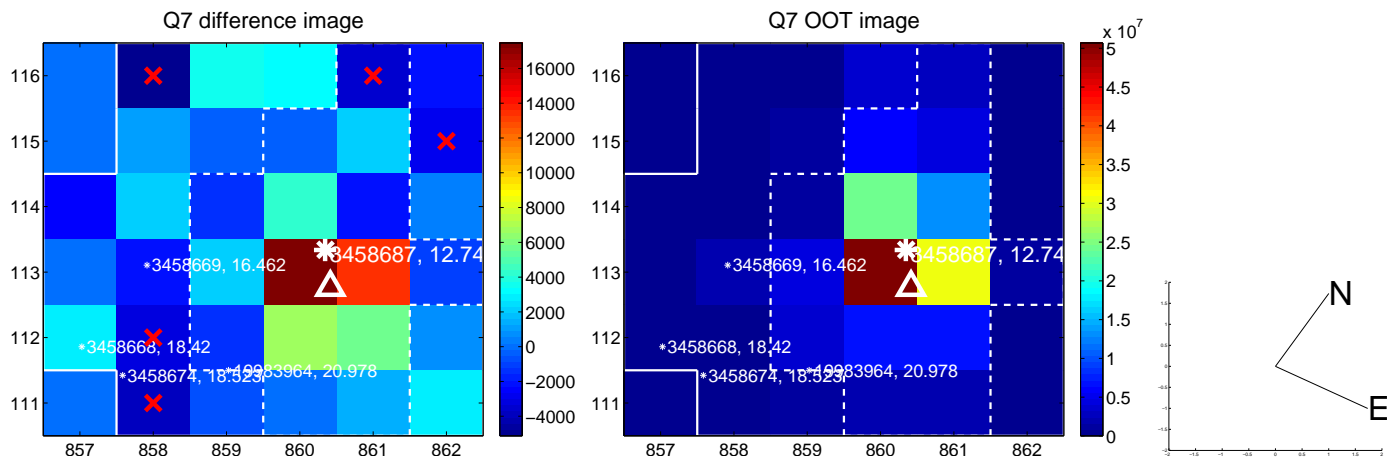
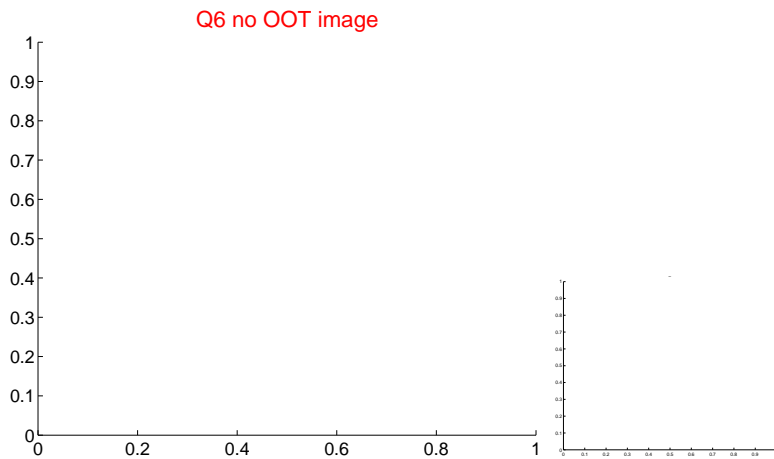
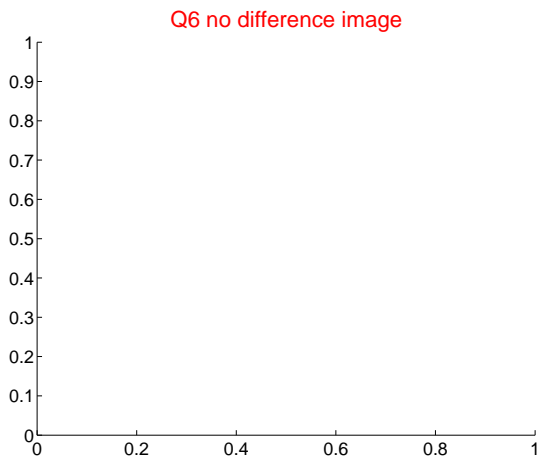
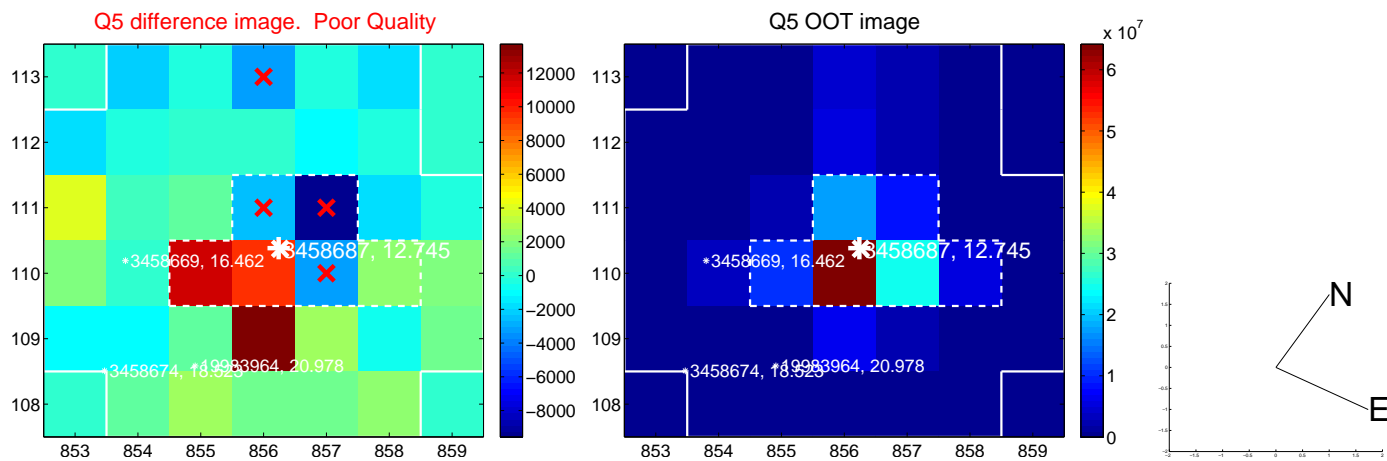


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

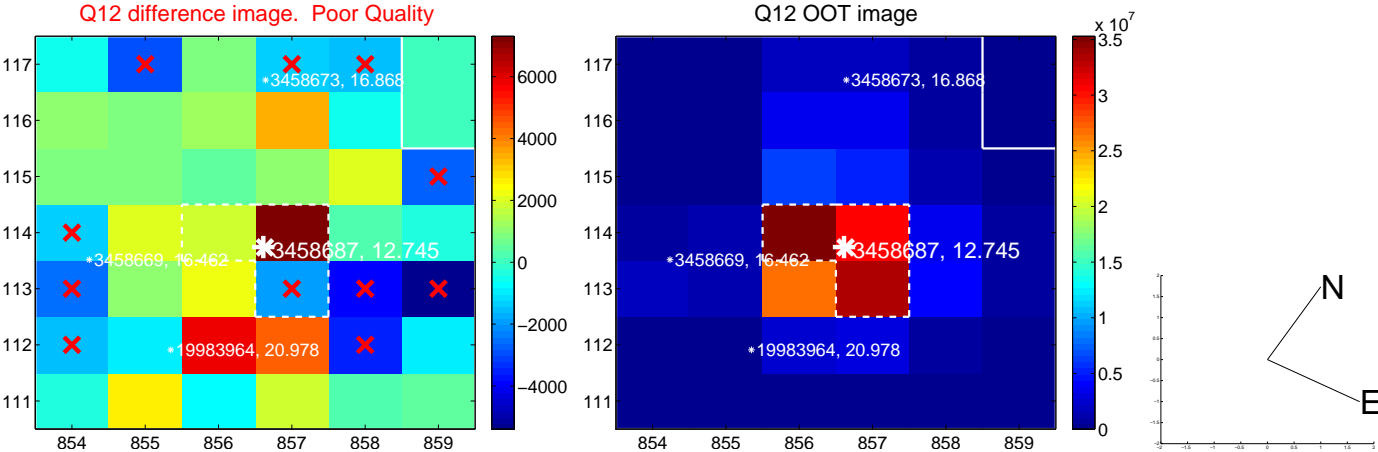
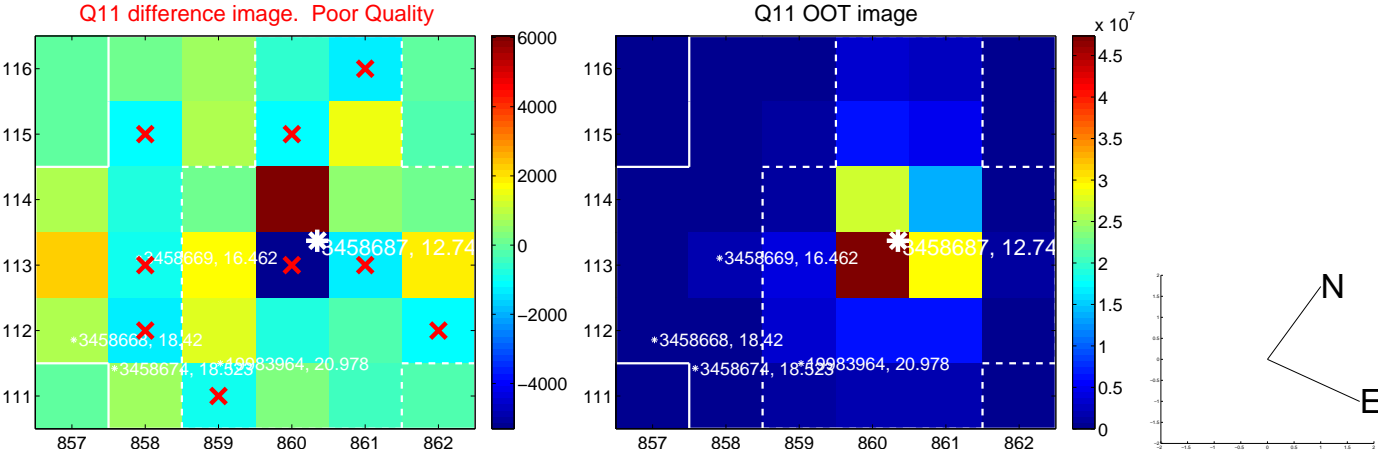
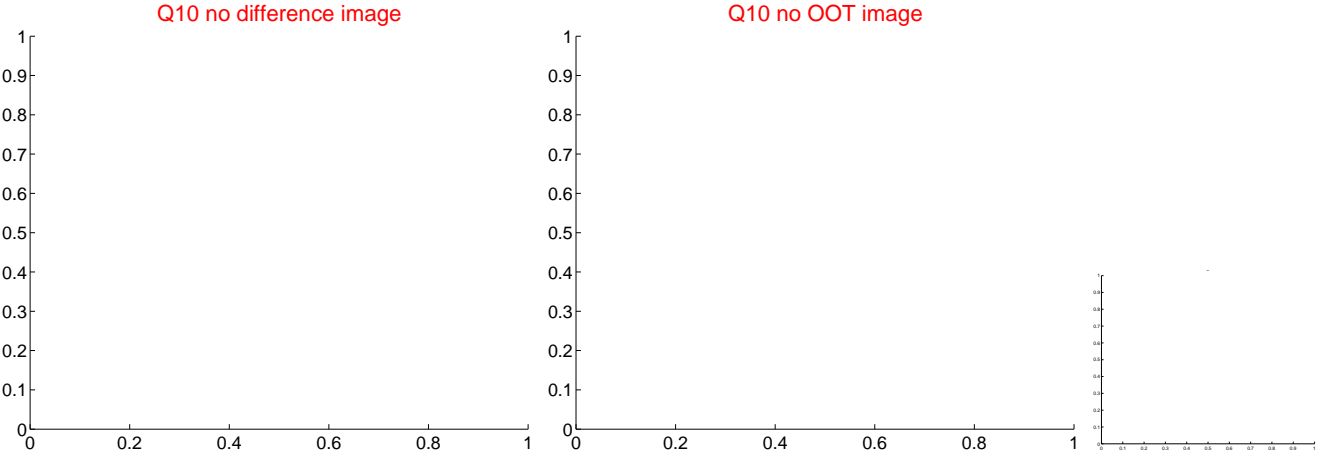
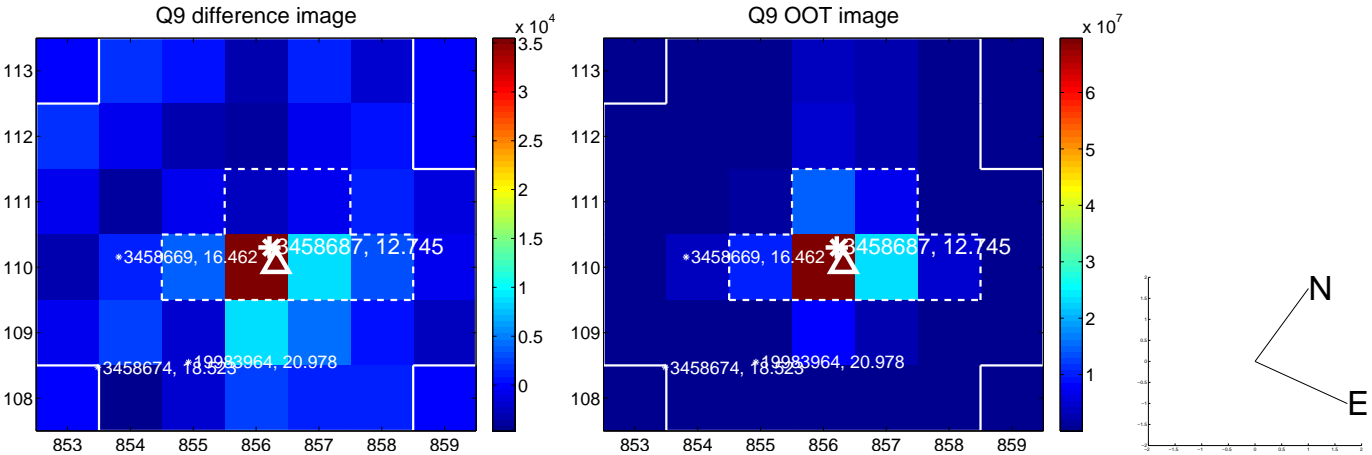
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



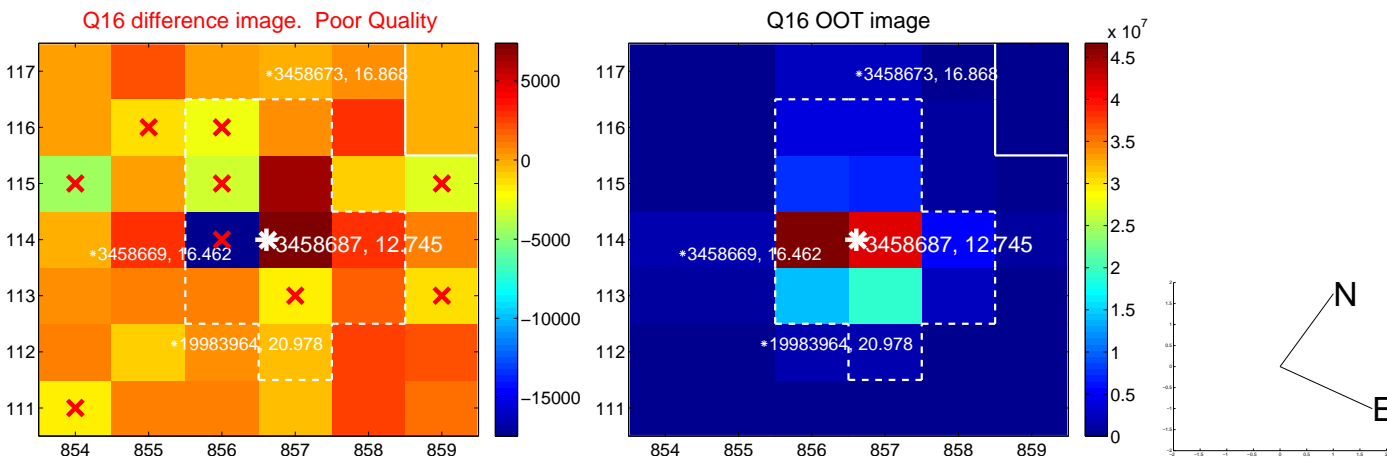
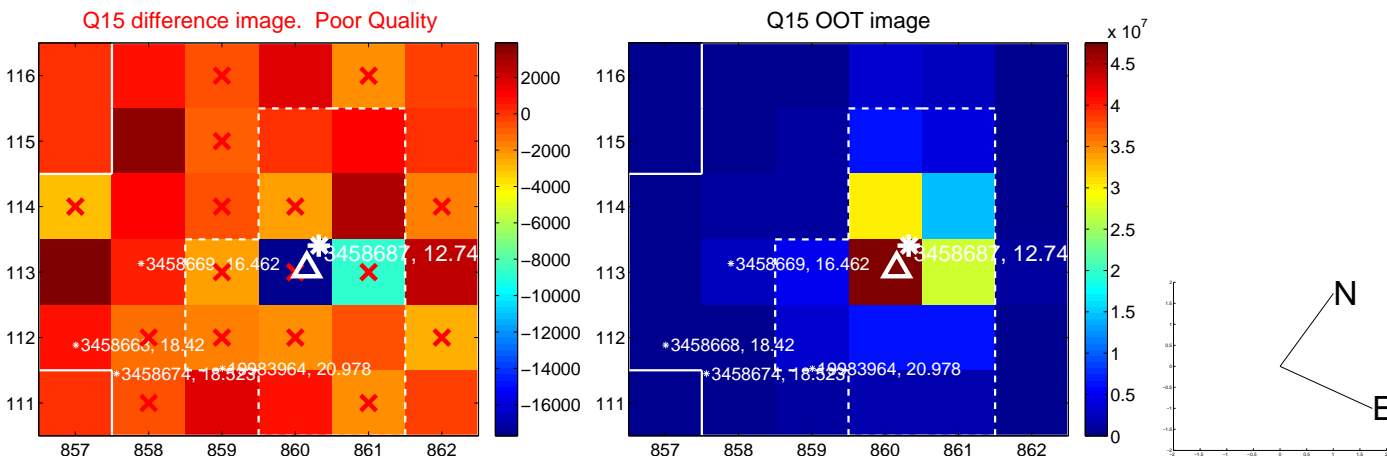
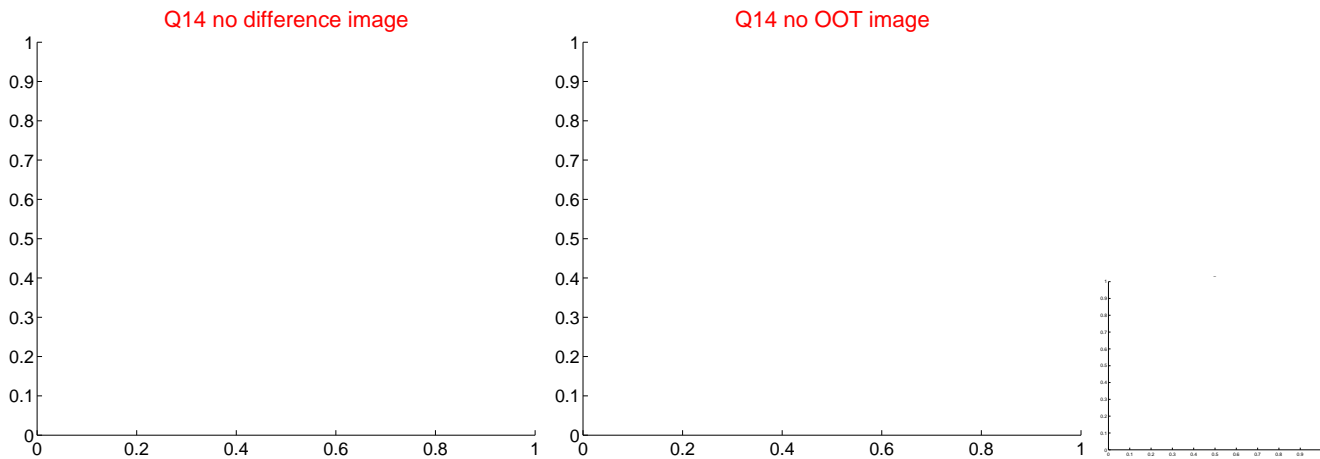
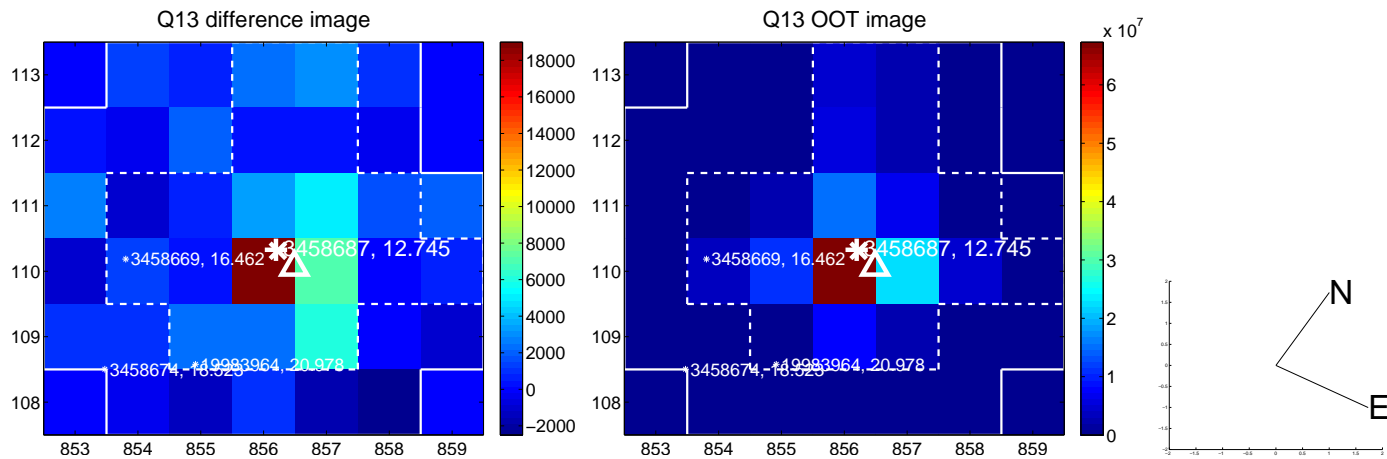
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



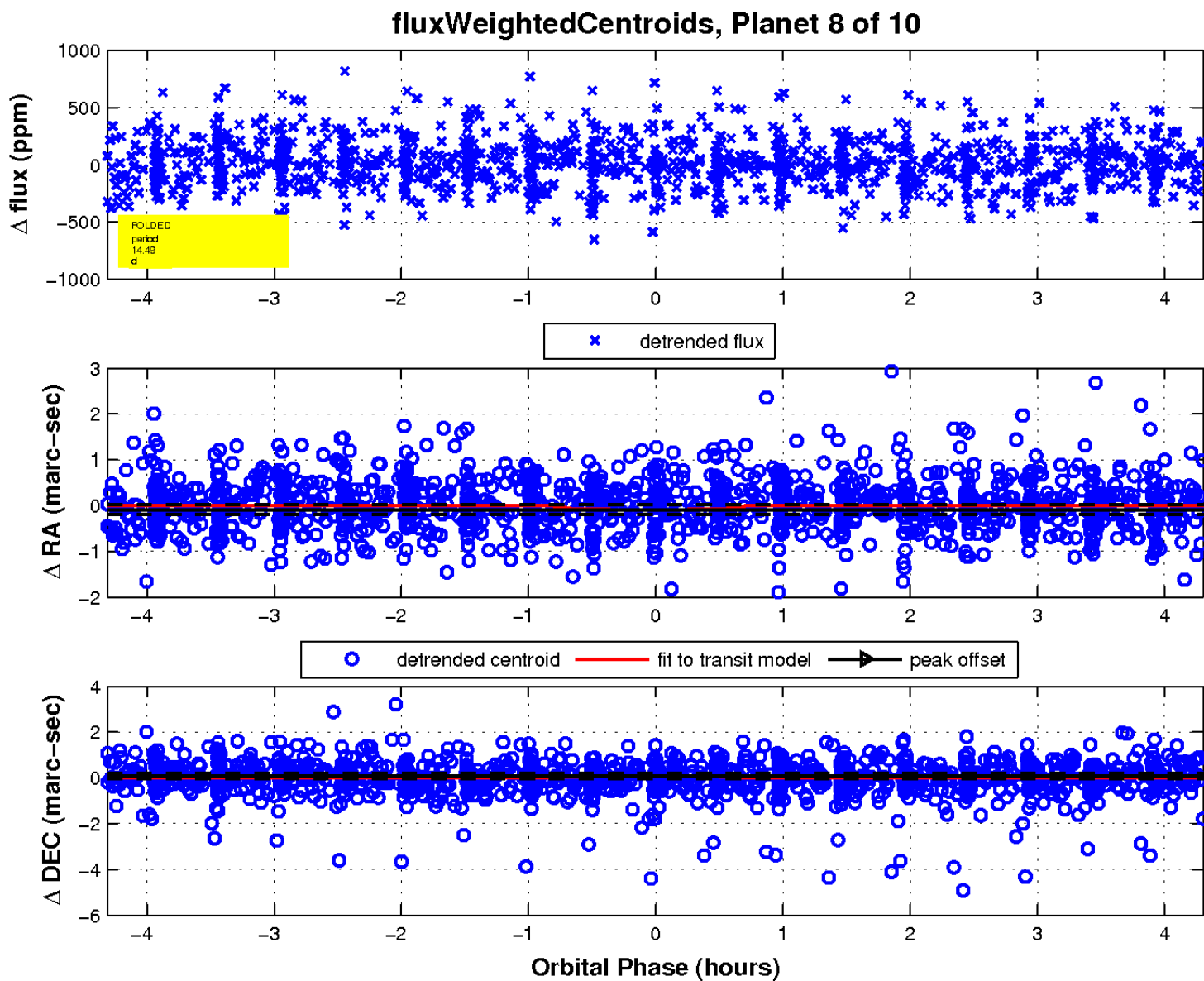
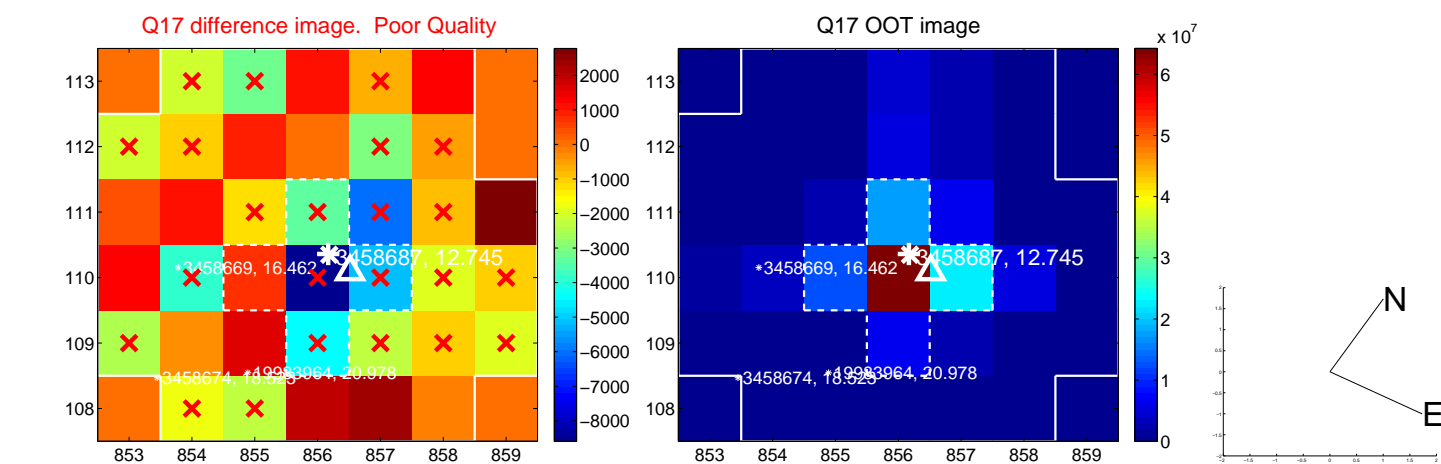
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

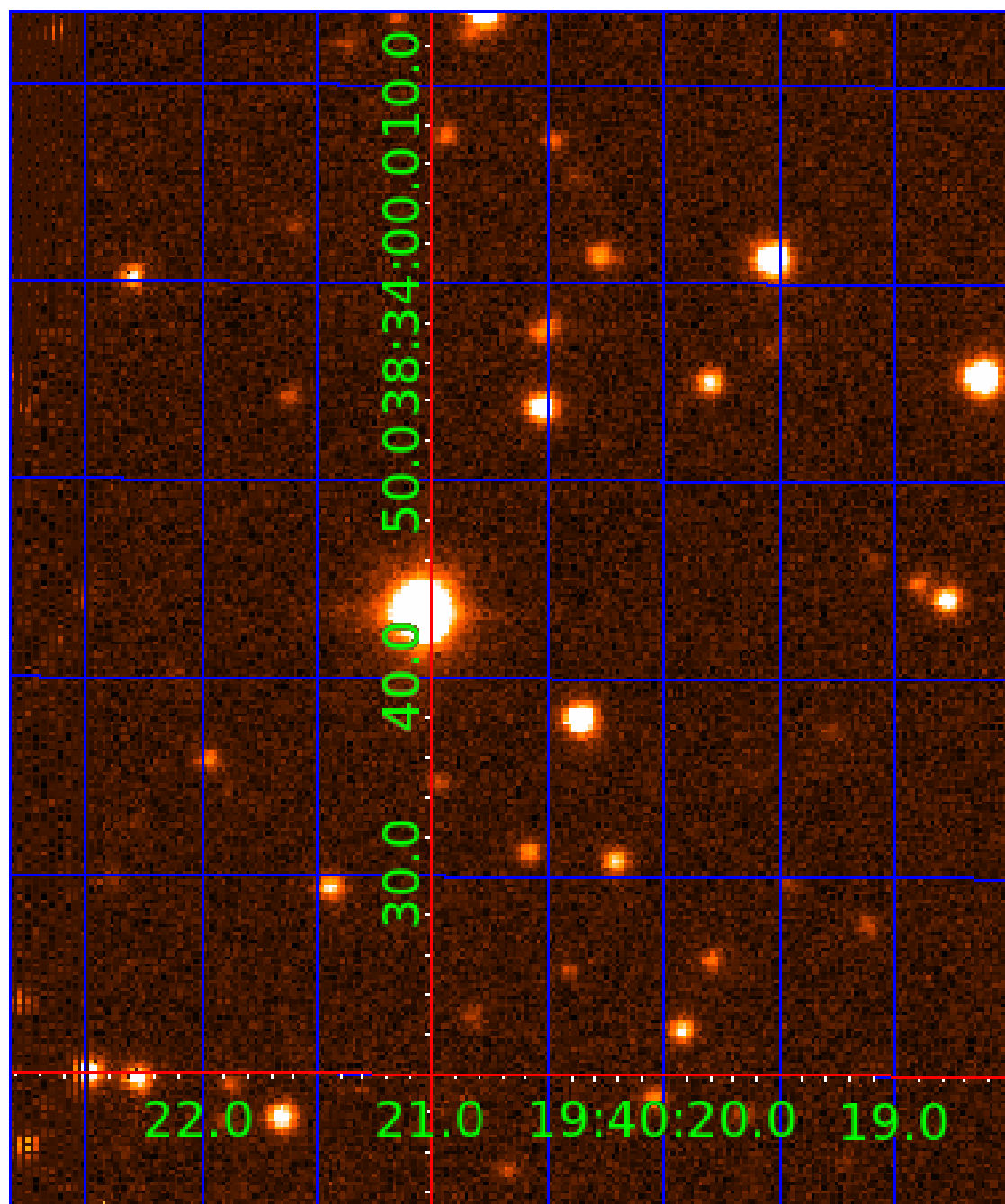


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003458687

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})
003458687-01	OBS	7543.01	0.983762	132.289383	23.9	6.743	8.8	9.1	5.29	6431	2.63	0.00
003458687-03	OBS	No	37.921542	137.409403	251.9	4.719	12.5	9.1	5.29	6431	8.85	567.57
003458687-04	OBS	No	34.338166	164.199165	317.7	2.327	11.8	9.4	5.29	6431	10.68	647.88
003458687-05	OBS	No	27.757951	139.496836	409.1	1.913	11.3	12.4	5.29	6431	11.27	860.36
003458687-06	OBS	No	27.834187	137.823236	336.6	1.997	10.7	10.9	5.29	6431	10.97	857.22
003458687-07	OBS	No	11.691953	138.628806	197.9	4.490	9.7	12.3	5.29	6431	8.70	2724.89
003458687-08	OBS	No	14.488233	137.905875	271.0	1.438	10.2	10.5	5.29	6431	9.13	2047.28
003458687-09	OBS	No	28.101709	140.458736	305.4	3.602	10.3	11.9	5.29	6431	9.65	846.36
003458687-10	OBS	No	29.681505	136.537650	270.5	3.500	9.5	-1.0	5.29	6431	8.76	786.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003458687-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
003458687-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003458687-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003458687-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
003458687-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-10	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_NOFITS—HALO_GHOST

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

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

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

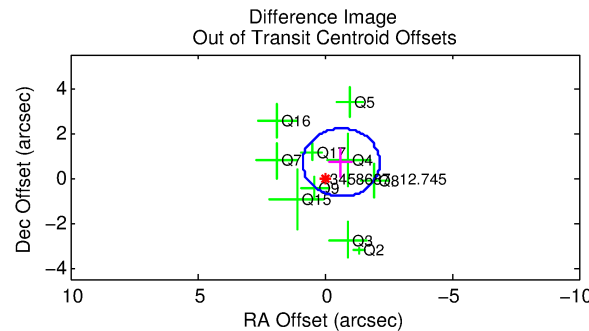
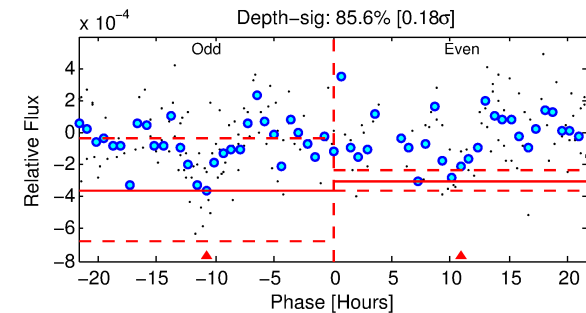
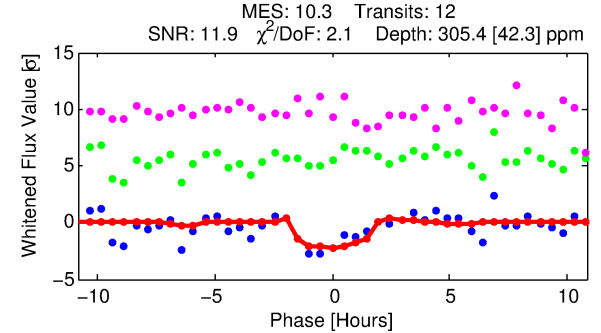
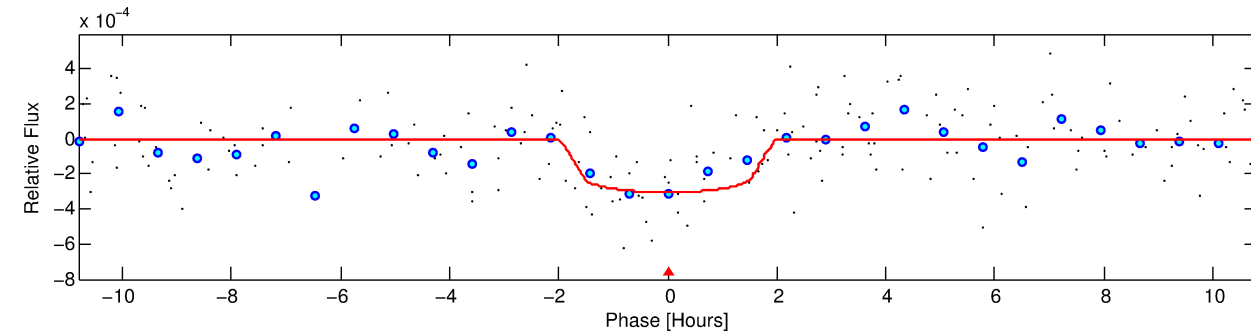
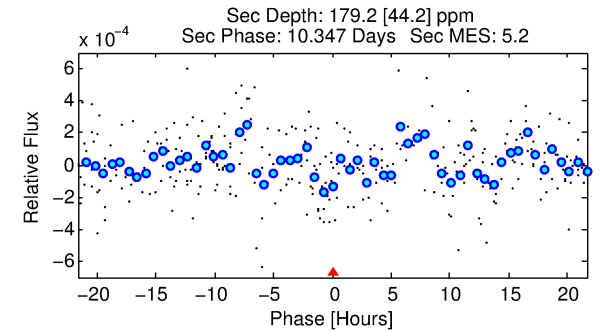
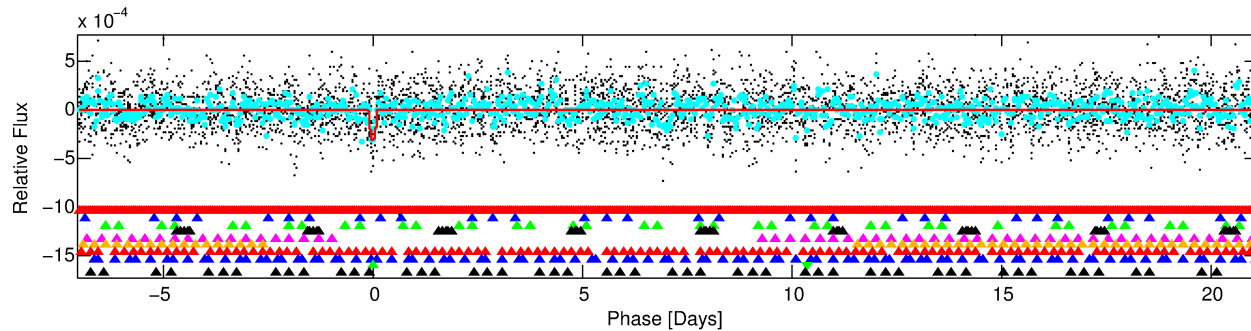
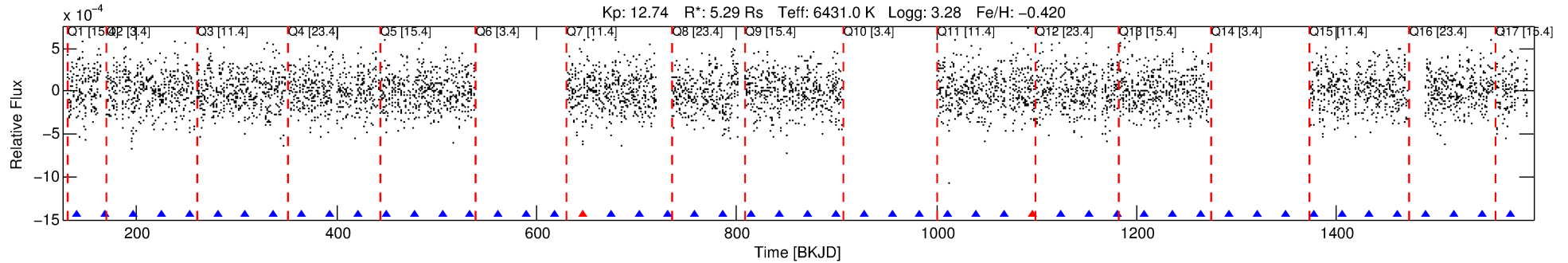
Ephemeris Match Information For 003458687-09

No Significant Match Found

DV One-Page Summary

KIC: 3458687 Candidate: 9 of 10 Period: 28.102 d
KOI: K07543 Corr: No Ephemeris Match

Kp: 12.74 R*: 5.29 Rs Teff: 6431.0 K Logg: 3.28 Fe/H: -0.420



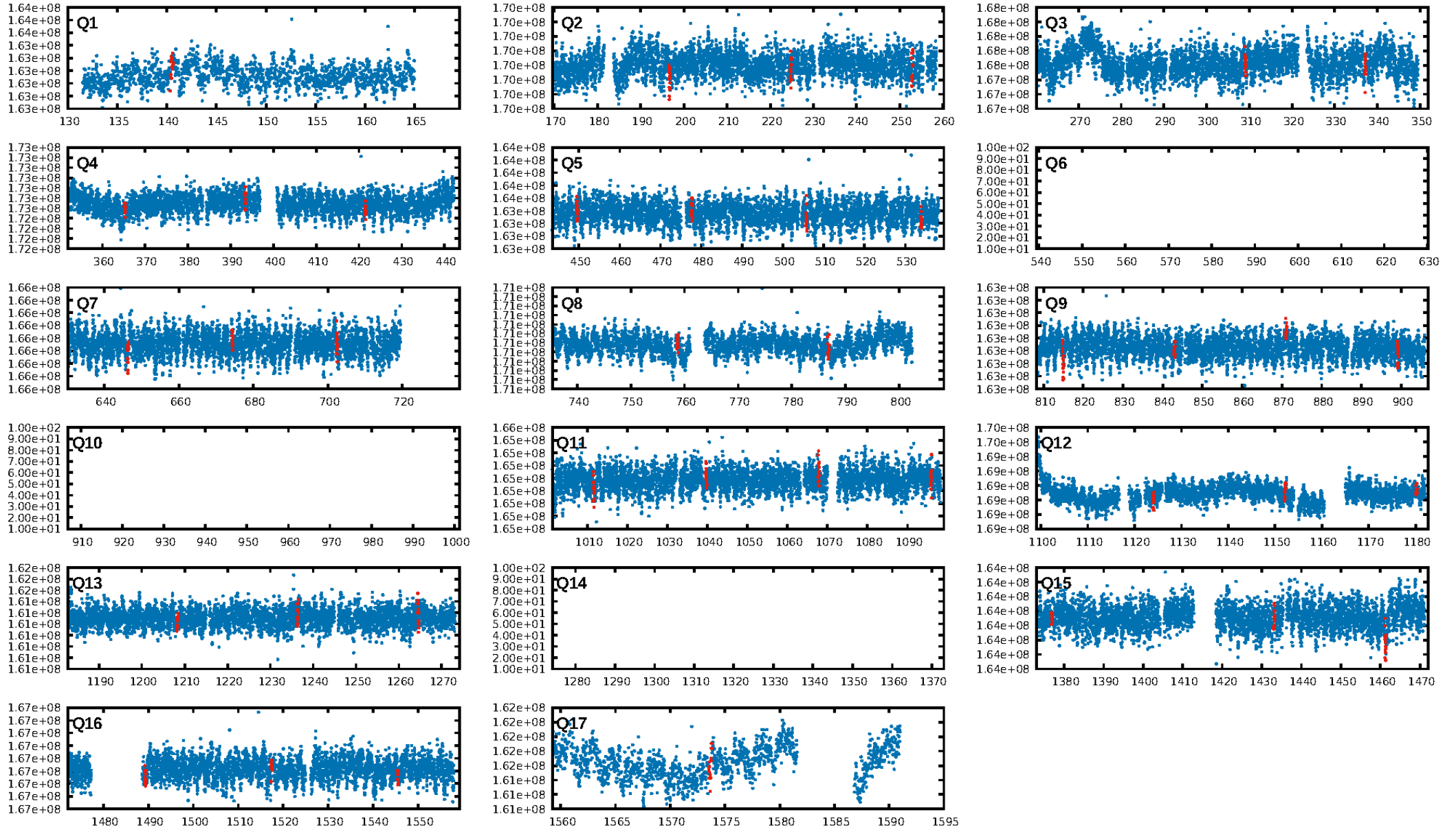
DV Fit Results:

Period = 28.10171 [0.00026] d
Epoch = 140.4587 [0.0086] BKJD
Rp/R* = 0.0167 [0.0189]
a/R* = 50.40 [304.09]
b = 0.56 [7.37]
Seff = 846.36 [686.13]
Teq = 1375 [279] K
Rp = 9.65 [12.07] Re
a = 0.2253 [0.1133] AU
Ag = 53.73 [129.91] [0.41 σ]
Teffp = 5757 [3289] K [1.33 σ]

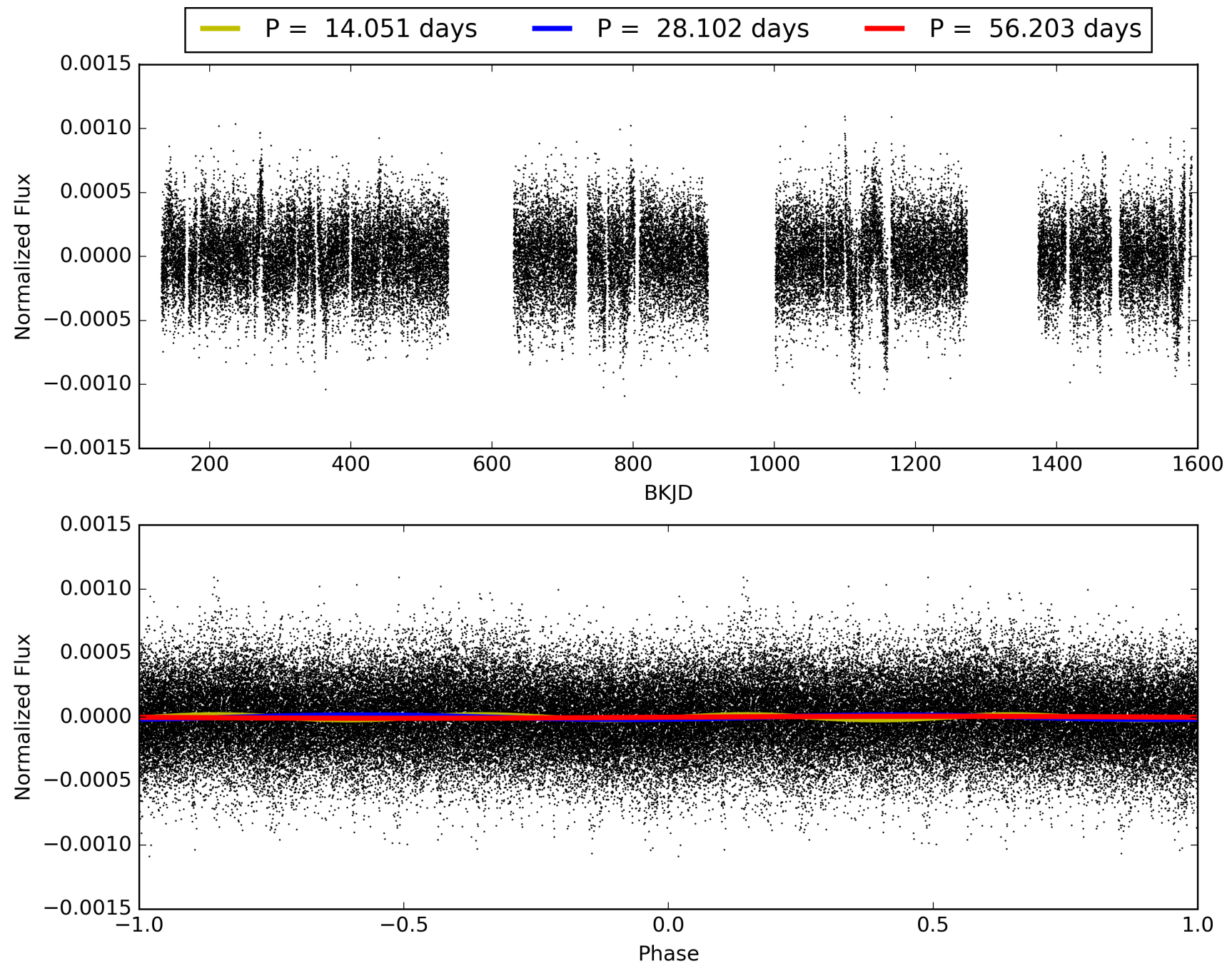
DV Diagnostic Results:

ShortPeriod-sig: 88.1% [1.56 σ]
LongPeriod-sig: 100.0% [7.55 σ]
ModelChiSquare2-sig: 2.4%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.83 [10/12]
GhostDiagnostic-chr: 0.5091
Centroid-sig: 89.1%
Centroid-so: 0.343 arcsec [1.02 σ]
OotOffset-rm: 0.939 arcsec [1.86 σ]
OotOffset-st: 1/3/3/3 [10]
KicOffset-rm: 0.980 arcsec [2.27 σ]
KicOffset-st: 1/3/3/3 [10]
DiffImageQuality-fgm: 0.40 [4/10]
DiffImageOverlap-fno: 0.00 [0/14]

TCE 003458687-09, PDC Light Curves

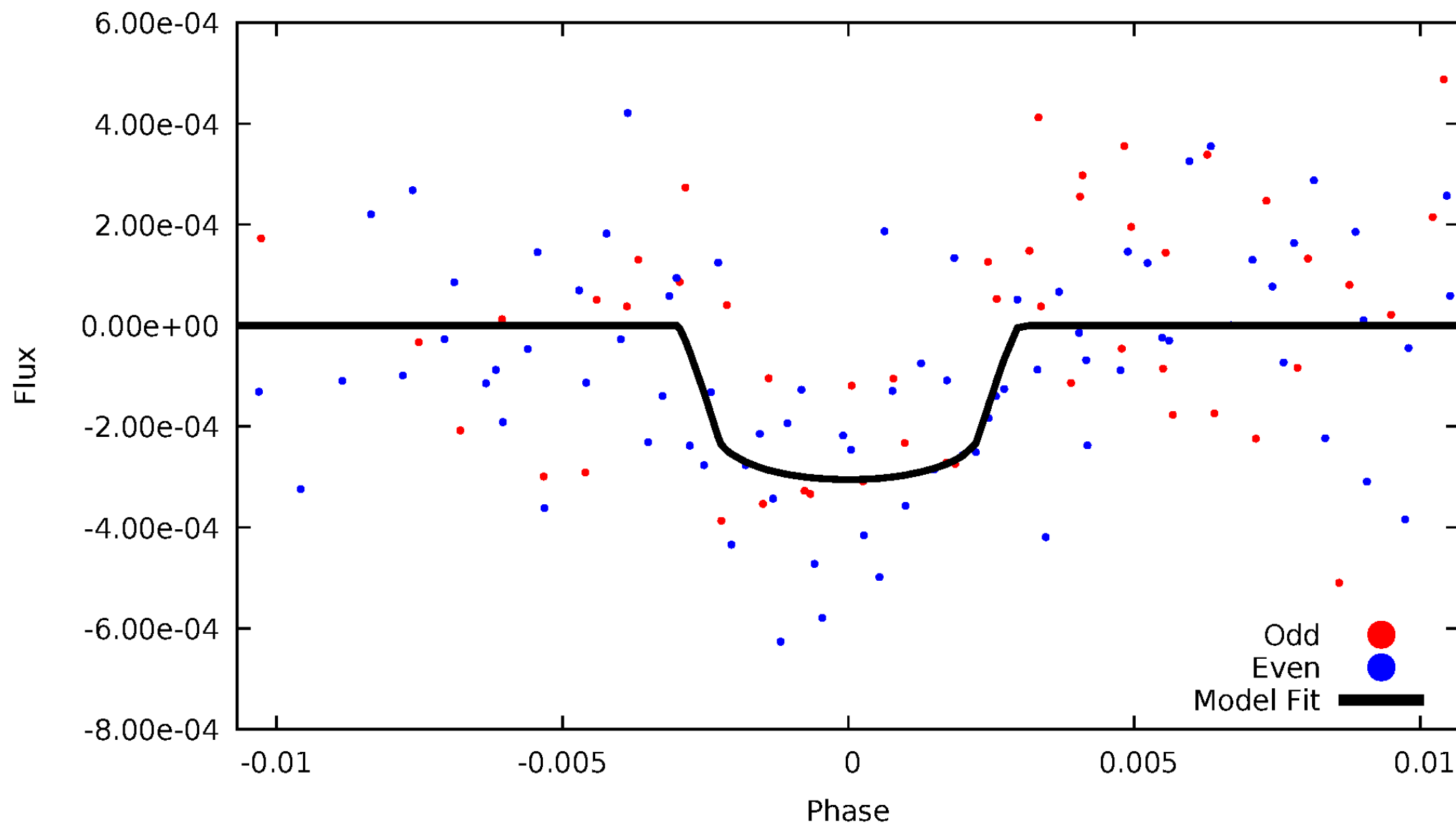


TCE 003458687-09



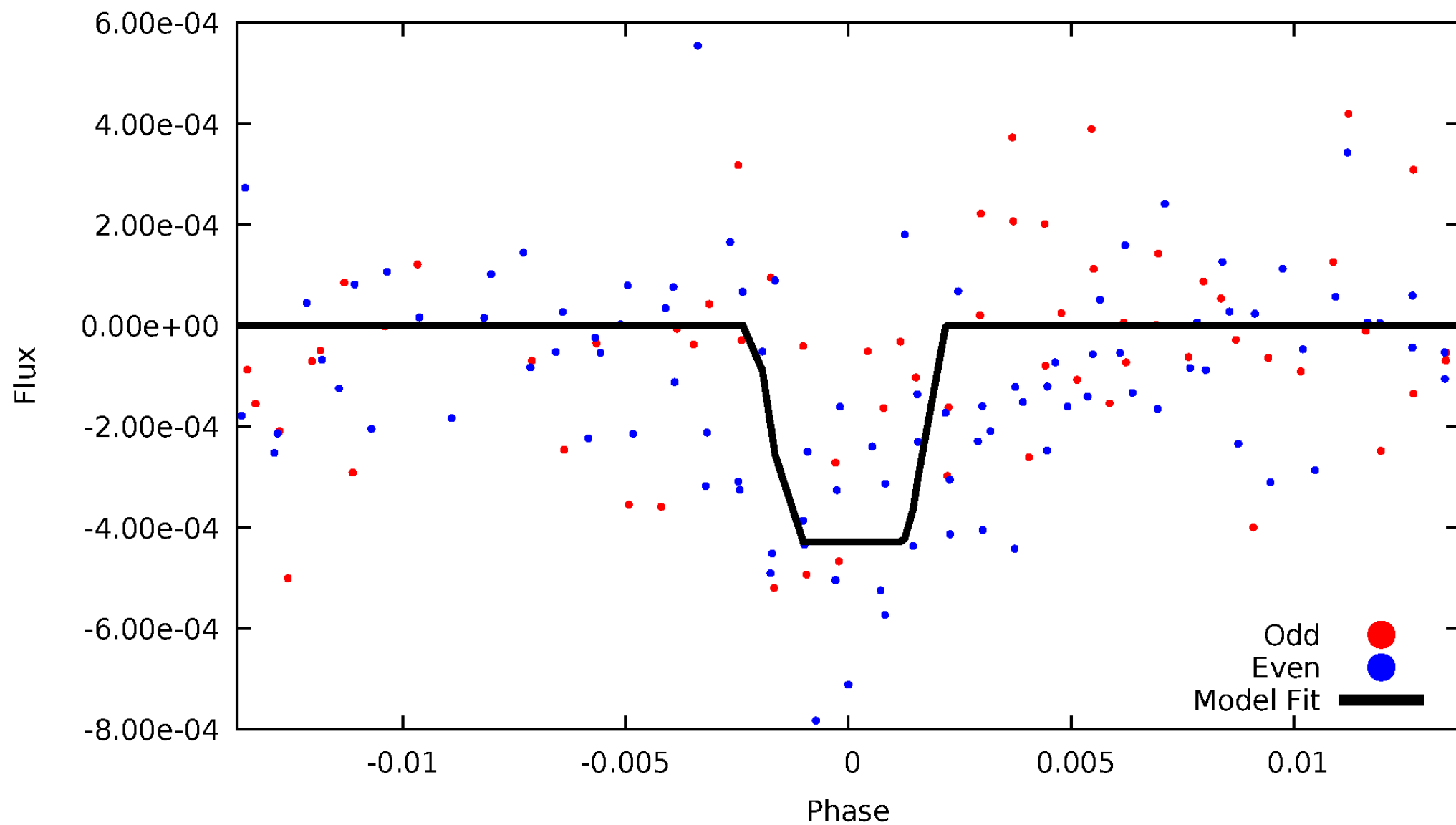
DV Odd/Even

TCE 003458687-09



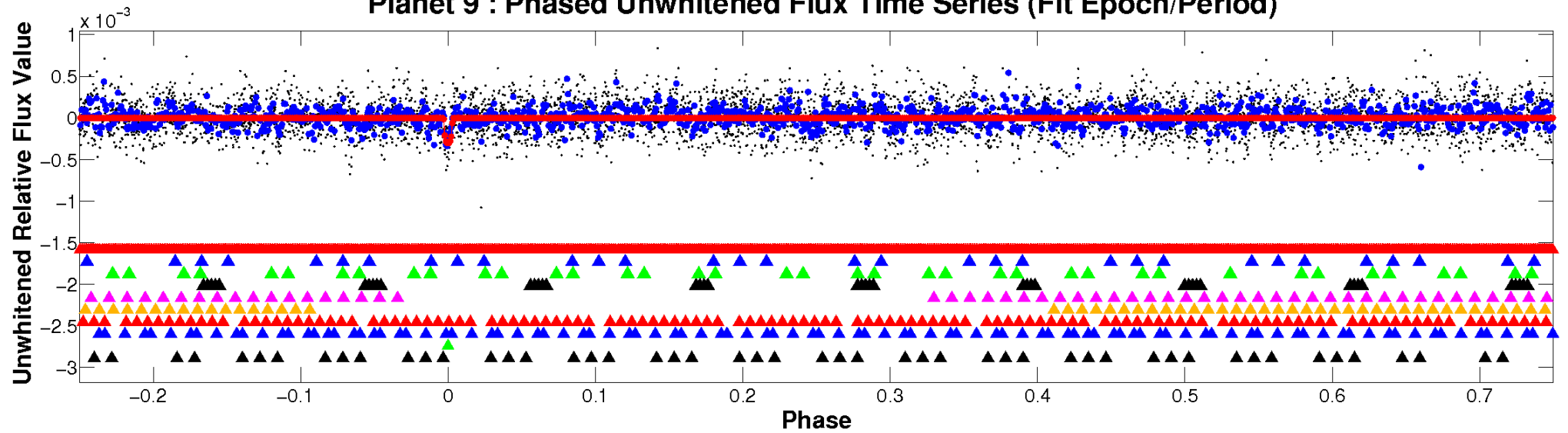
ALT Odd/Even

TCE 003458687-09

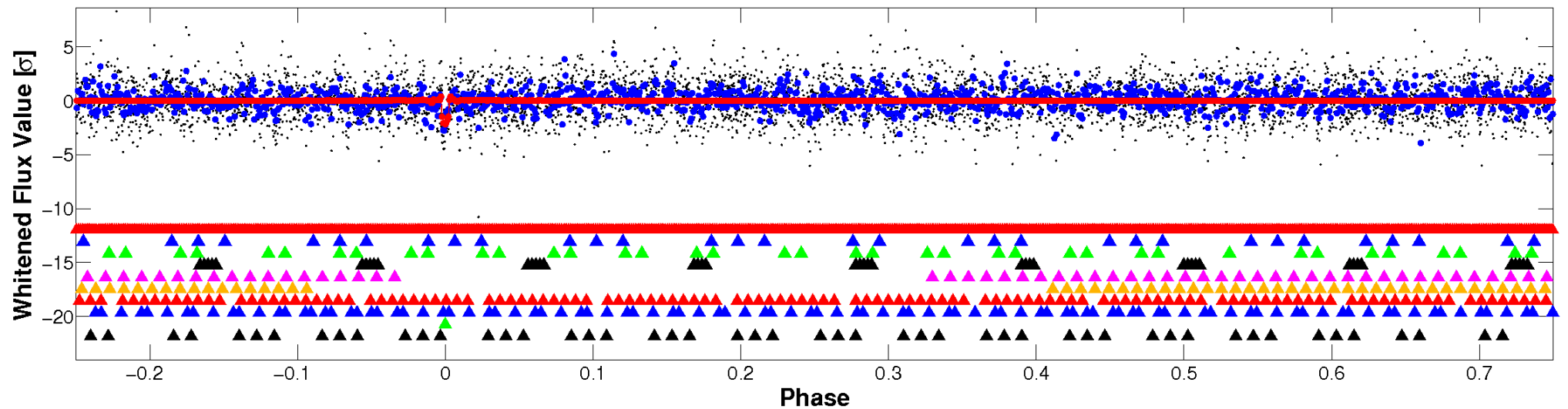


Non-Whitened Vs. Whitened Light Curve

Planet 9 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

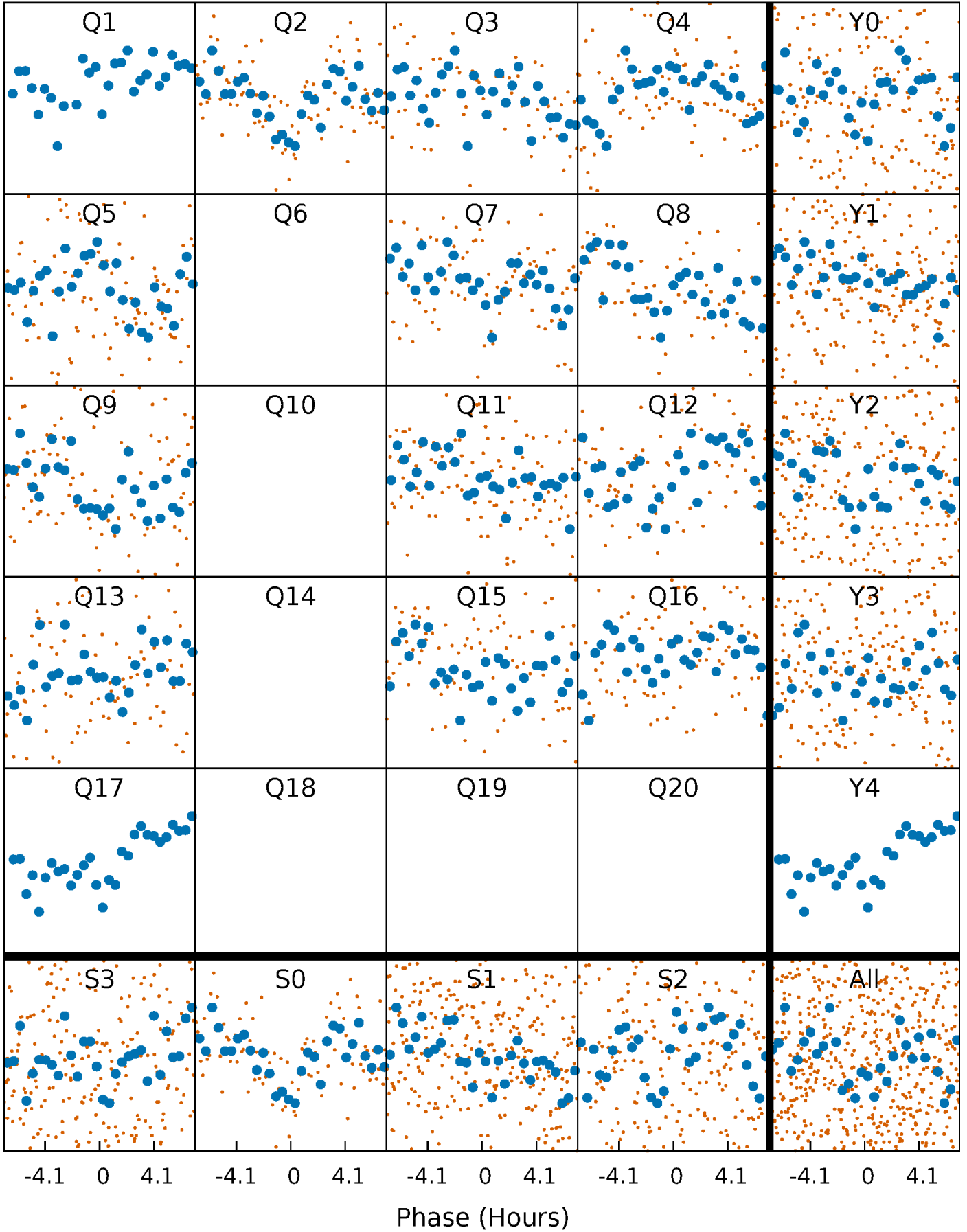


Planet 9 : Phased Whitened Flux Time Series (Fit Epoch/Period)



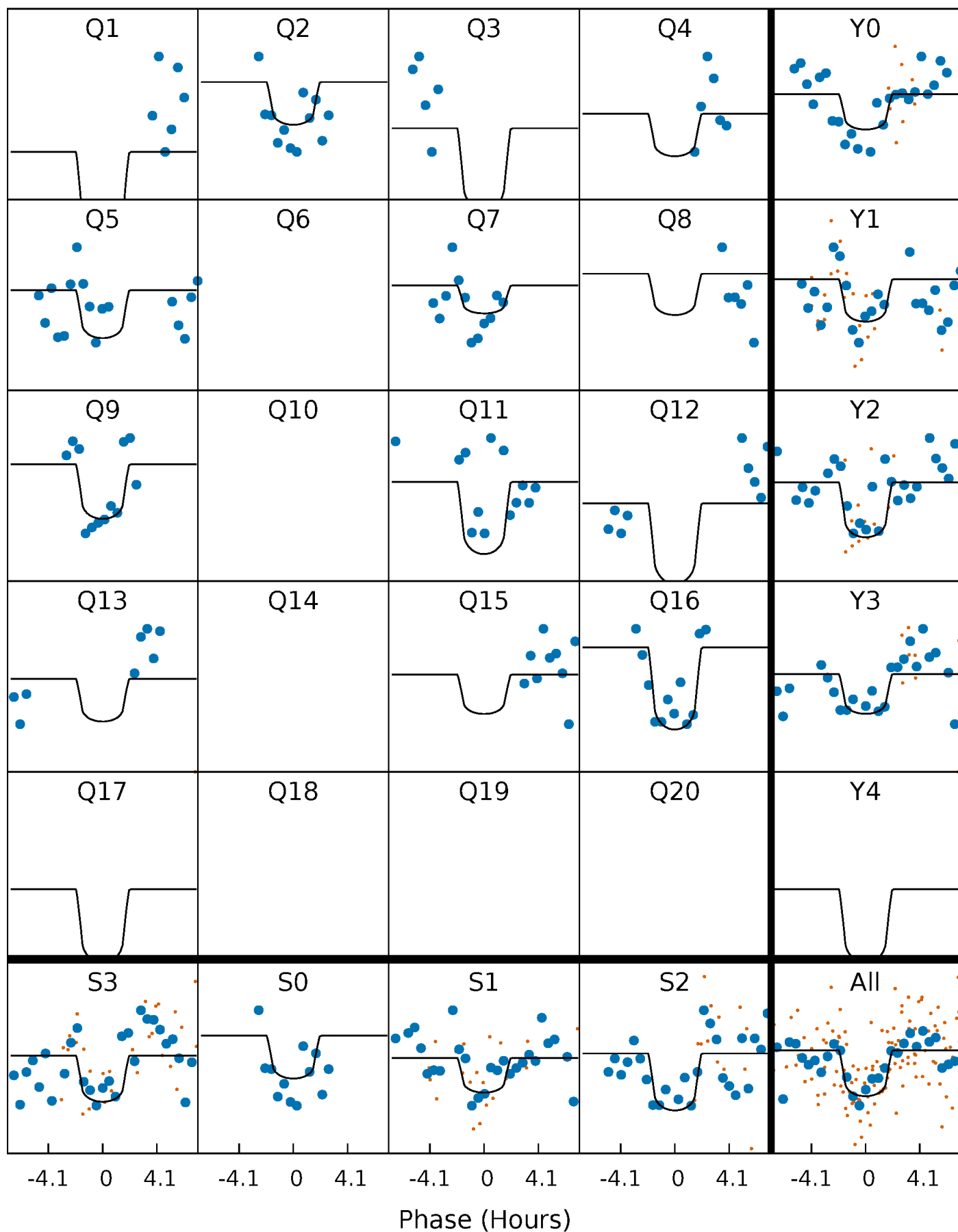
PDC Quarter-Phased Transit Curves

TCE 003458687-09 P= 28.101709 Days $T_0=140.458736$ (BKJD)



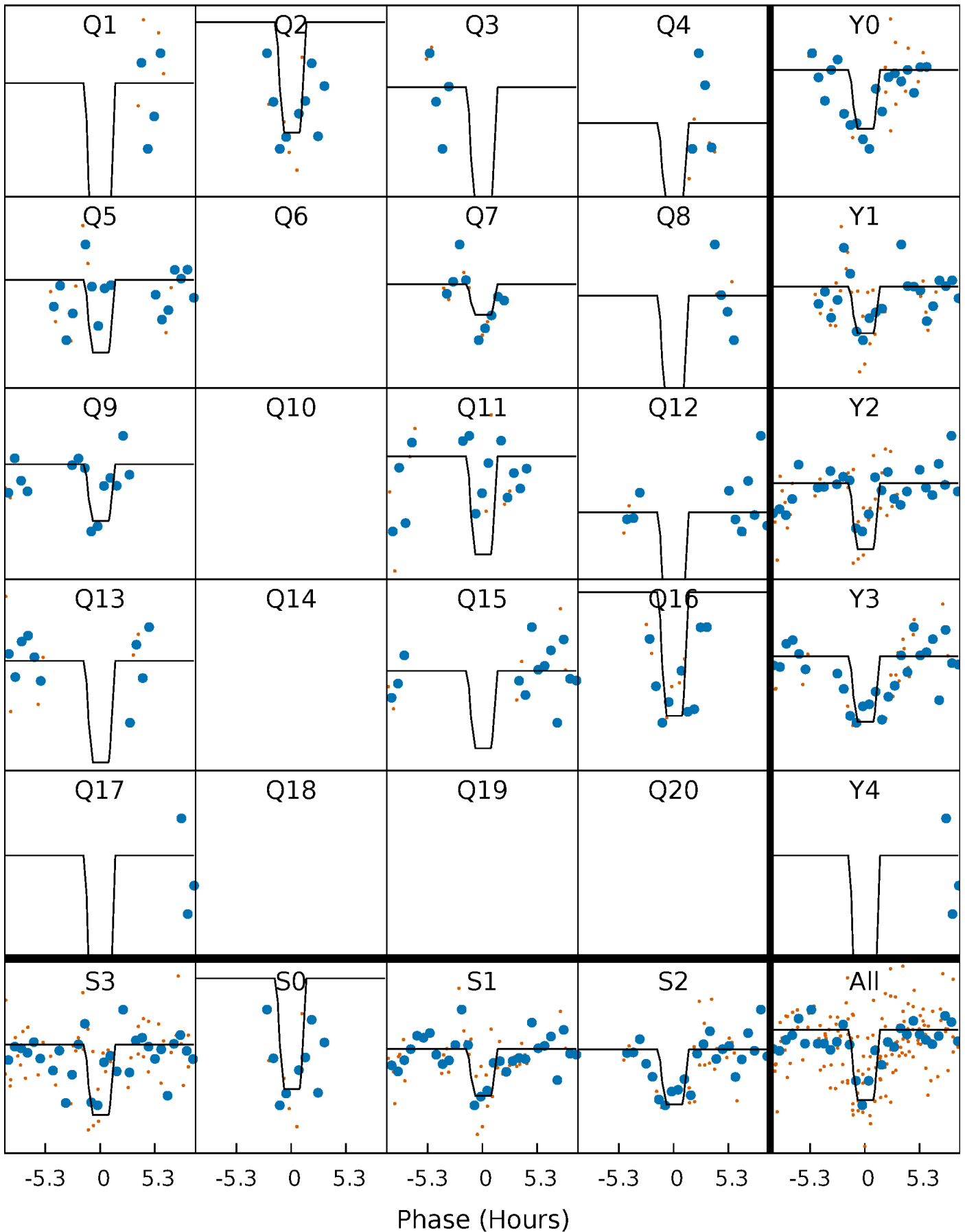
DV Quarter-Phased Transit Curves

TCE 003458687-09 P= 28.101709 Days $T_0=140.458736$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

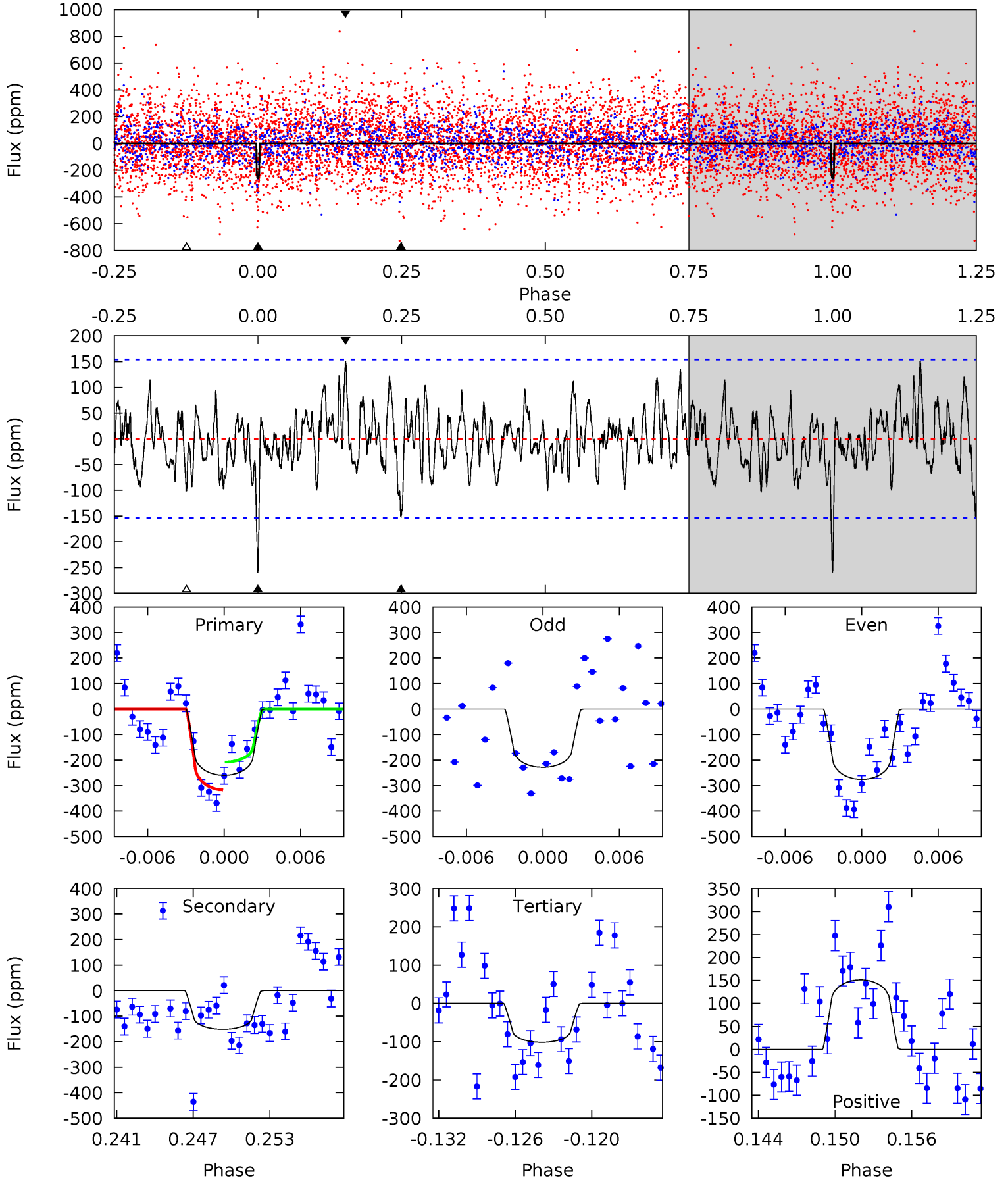
TCE 003458687-09 P= 28.101400 Days $T_0=140.451511$ (BKJD)



DV Model-Shift Uniqueness Test

003458687-09, P = 28.101709 Days, E = 112.357027 Days

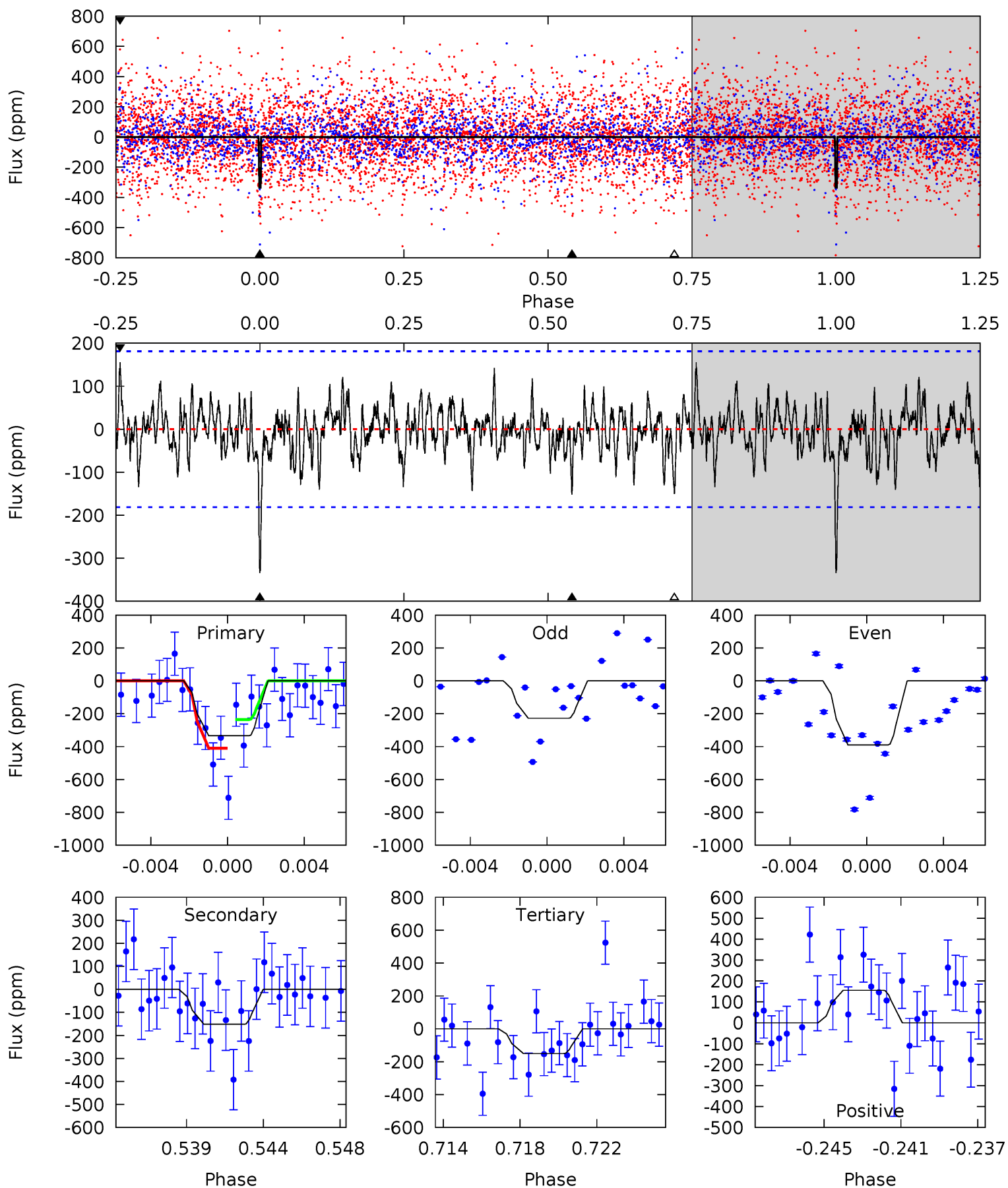
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.62	5.03	3.37	5.03	5.12	2.75	1.52	5.24	3.59	1.66	-0.00	0.73	1.00	0.37	1.81



Alt Model-Shift Uniqueness Test

003458687-09, P = 28.101400 Days, E = 112.350111 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.57	4.35	4.32	4.45	5.19	2.87	1.33	5.26	5.12	0.04	-0.10	2.18	0.82	0.32	2.48



Stellar Parameters For KIC 003458687

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6431^{+172}_{-211}	$3.276^{+0.468}_{-0.052}$	$-0.420^{+0.400}_{-0.300}$	$5.294^{+0.294}_{-2.795}$	$1.932^{+0.069}_{-0.590}$	$0.018^{+0.090}_{-0.003}$
	+3%/-3%	+14%/-2%	+95%/-71%	+6%/-53%	+4%/-31%	+491%/-18%
Source	PHO1	FLK73	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 003458687-09 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-151 ± 30	$11.17^{+9.08}_{-7.18}$	1877^{+96}_{-208}	4906^{+3113}_{-959}	33^{+206}_{-22}
Alt.	-152 ± 35	$12.10^{+8.55}_{-7.05}$	1867^{+105}_{-213}	4745^{+2391}_{-889}	28^{+131}_{-18}

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 $A_{obs} \gg 1.0$

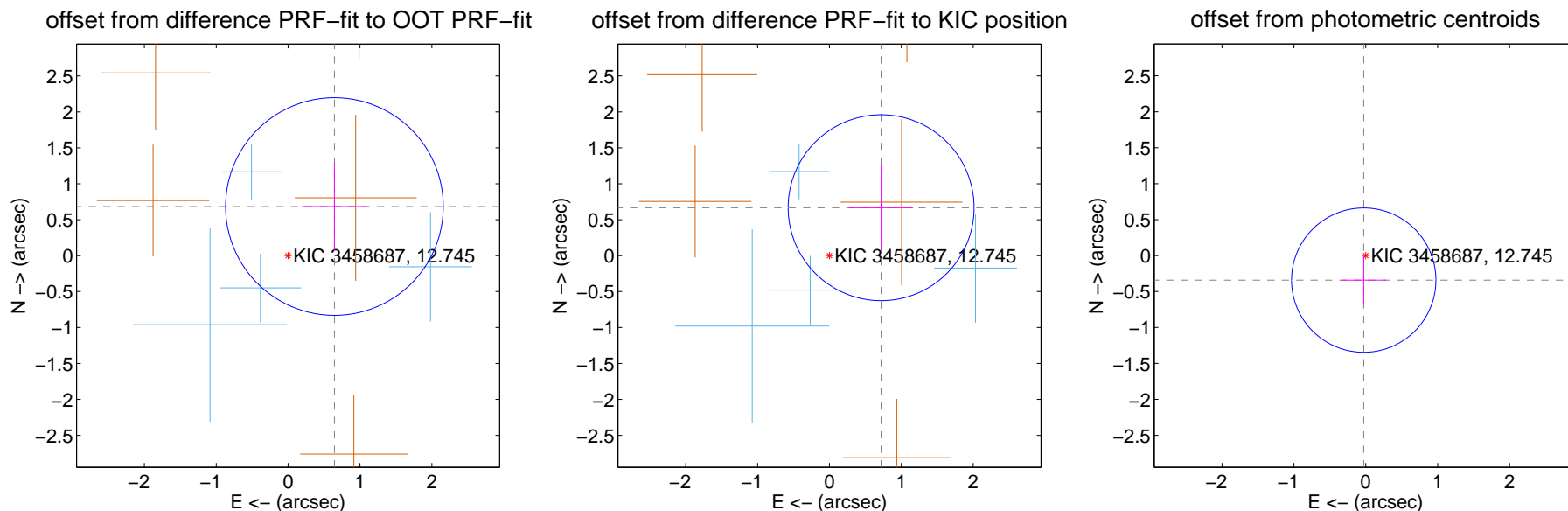
DV Centroid Data

Supplemental centroid analysis for 003458687-09. Kepler magnitude: 12.74. Transit SNR 11.87

There are 4 quarters with good PRF difference image offsets

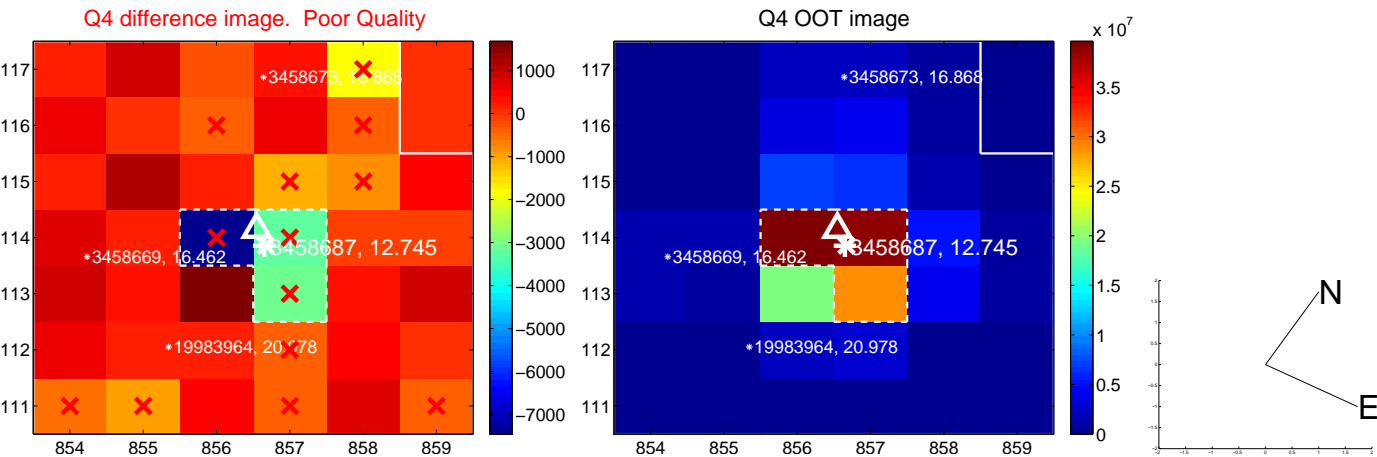
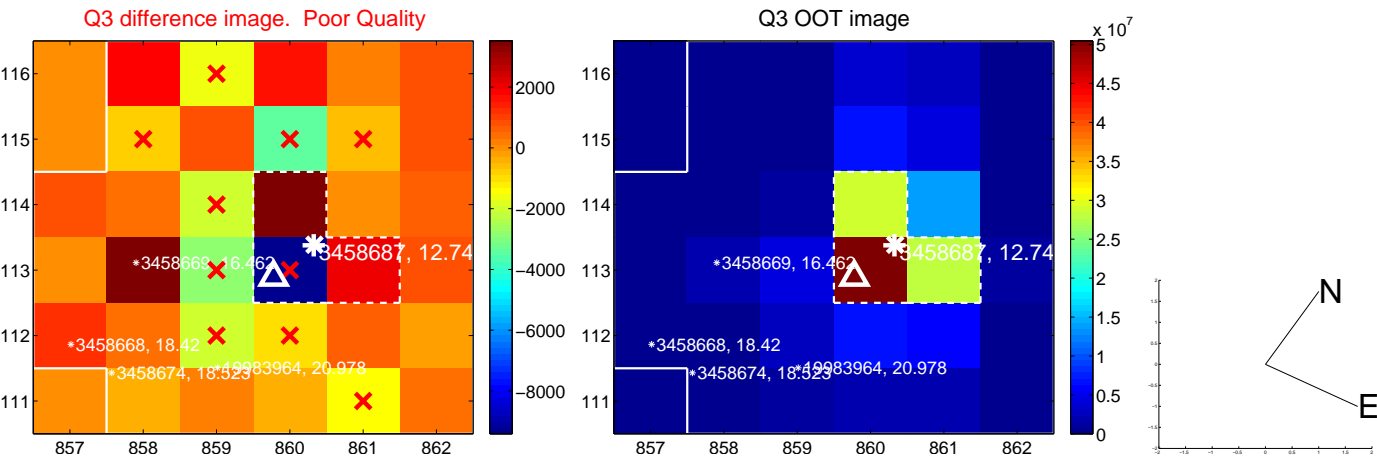
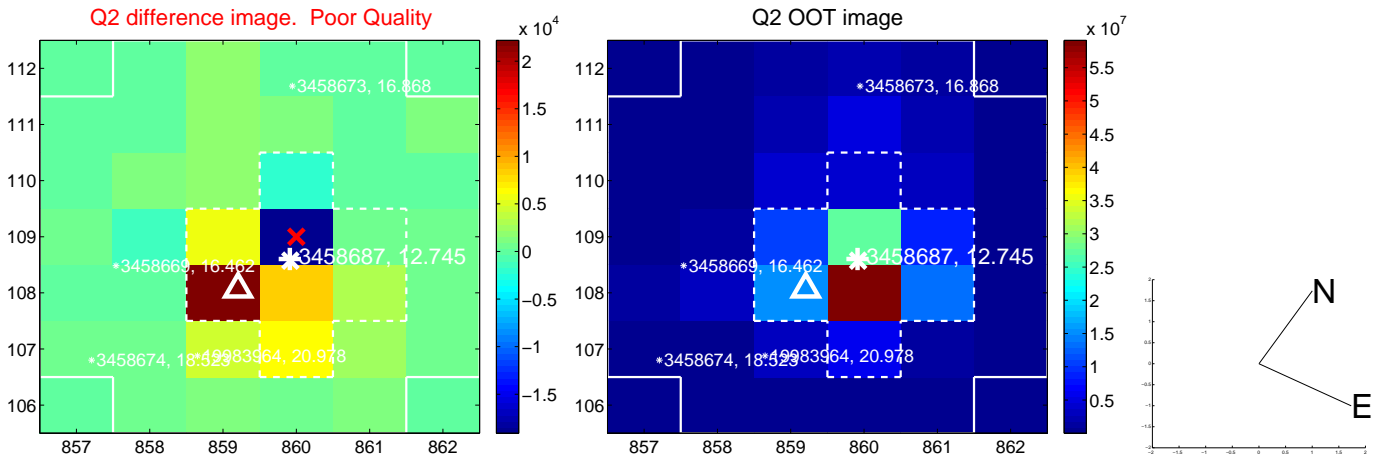
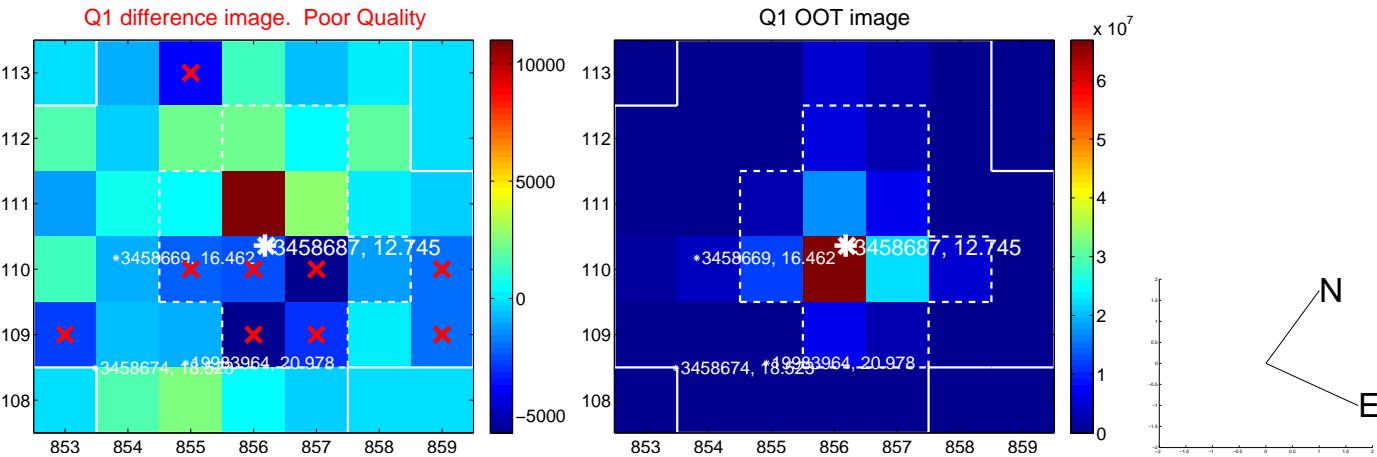
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.939 ± 0.505	1.86	-0.644 ± 0.455	0.683 ± 0.615
PRF-fit source offset from KIC position	0.980 ± 0.431	2.27	-0.718 ± 0.444	0.667 ± 0.589
photometric centroid source offset	0.34 ± 0.33	1.02	0.03 ± 0.31	-0.34 ± 0.33

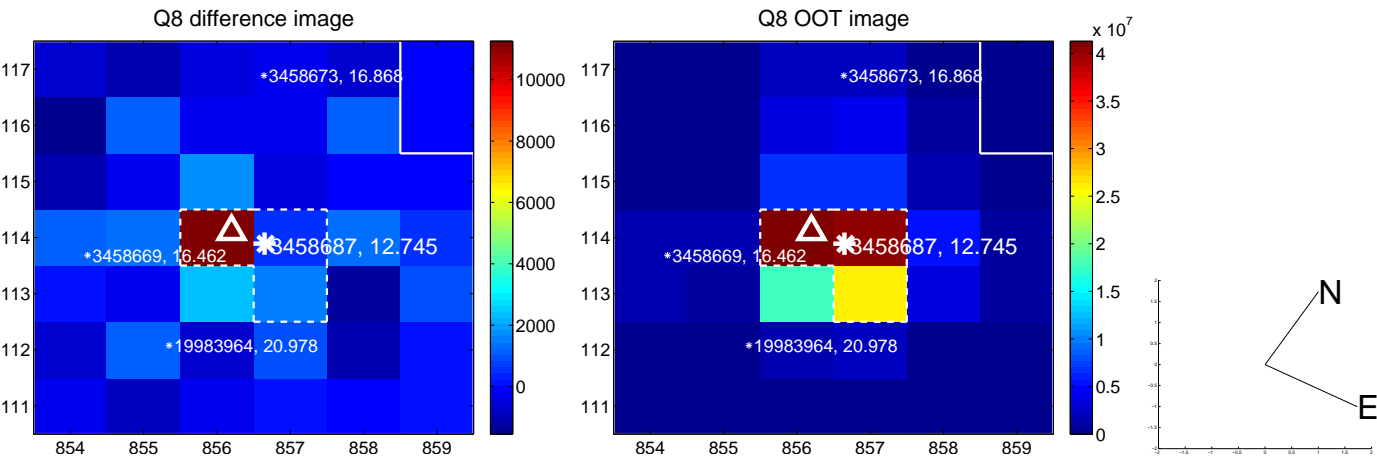
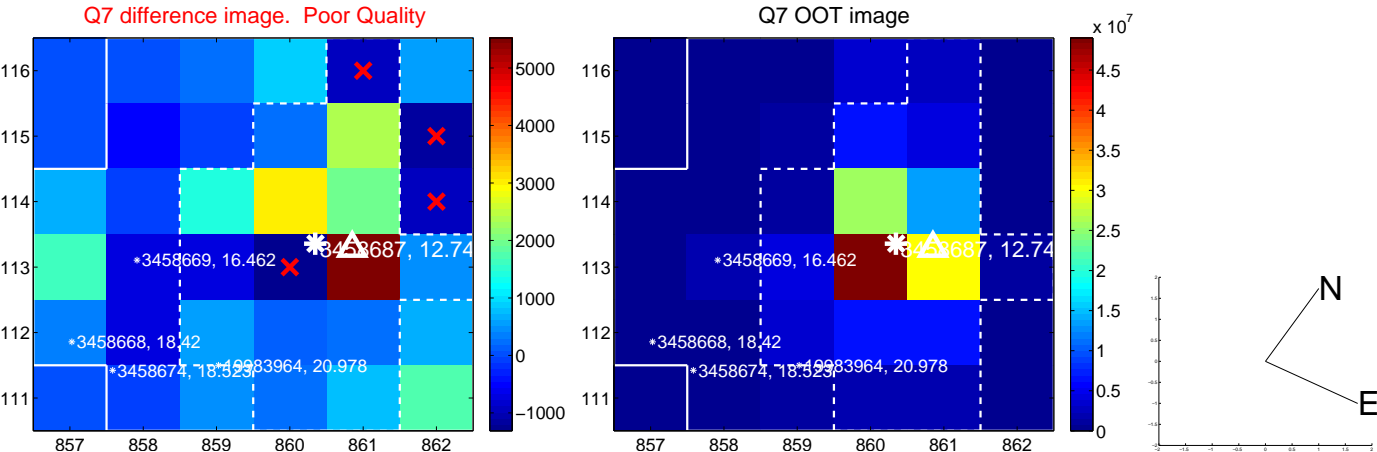
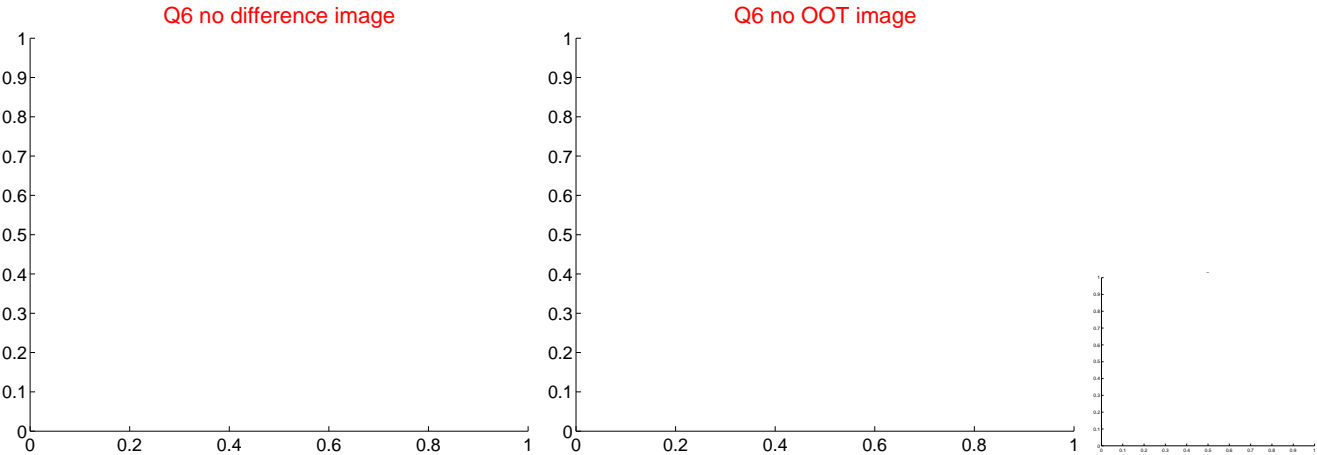
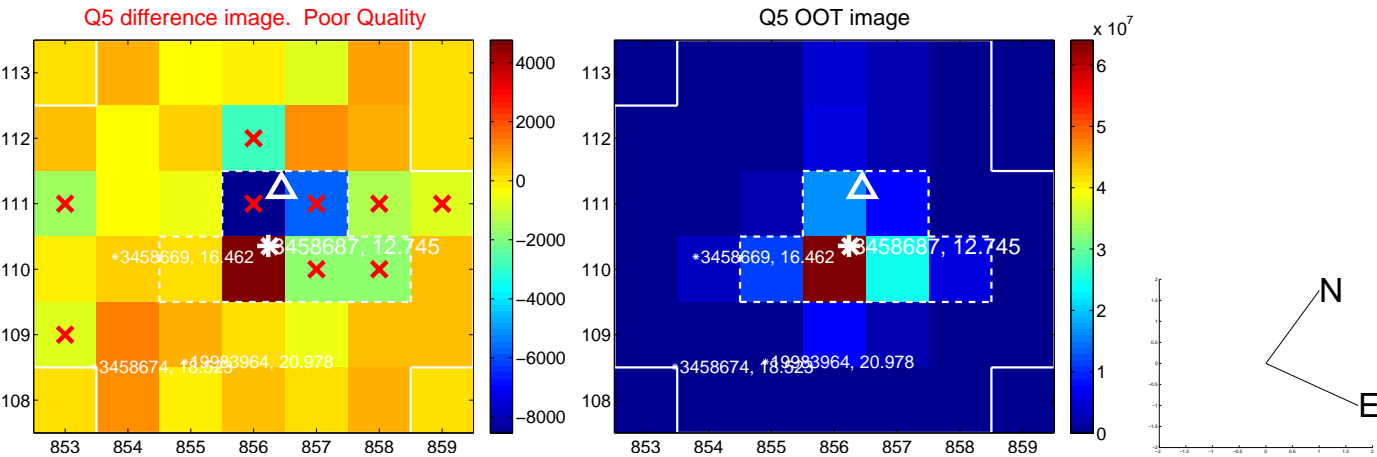


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

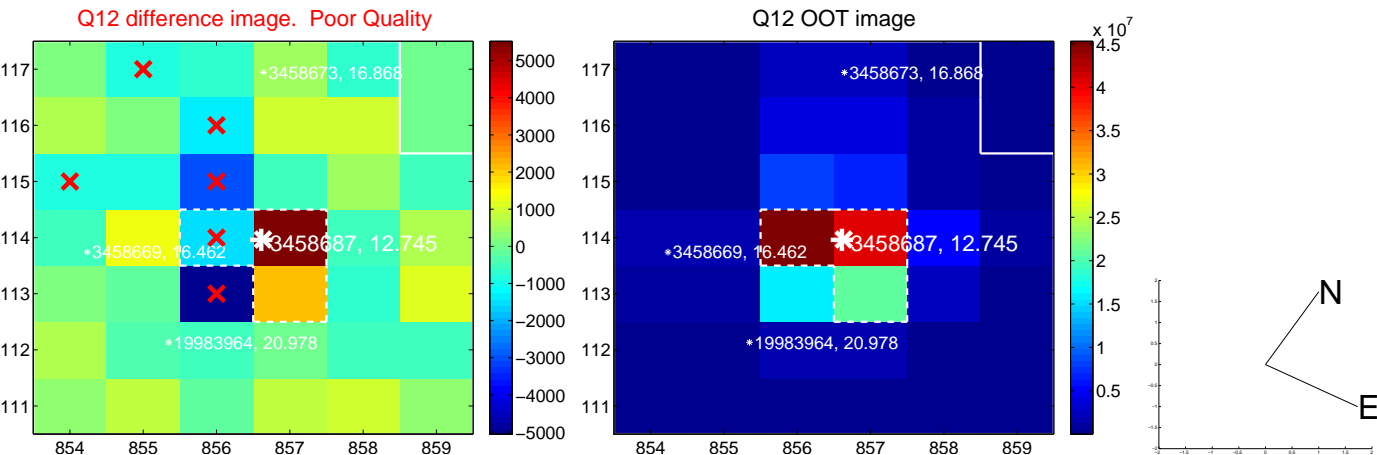
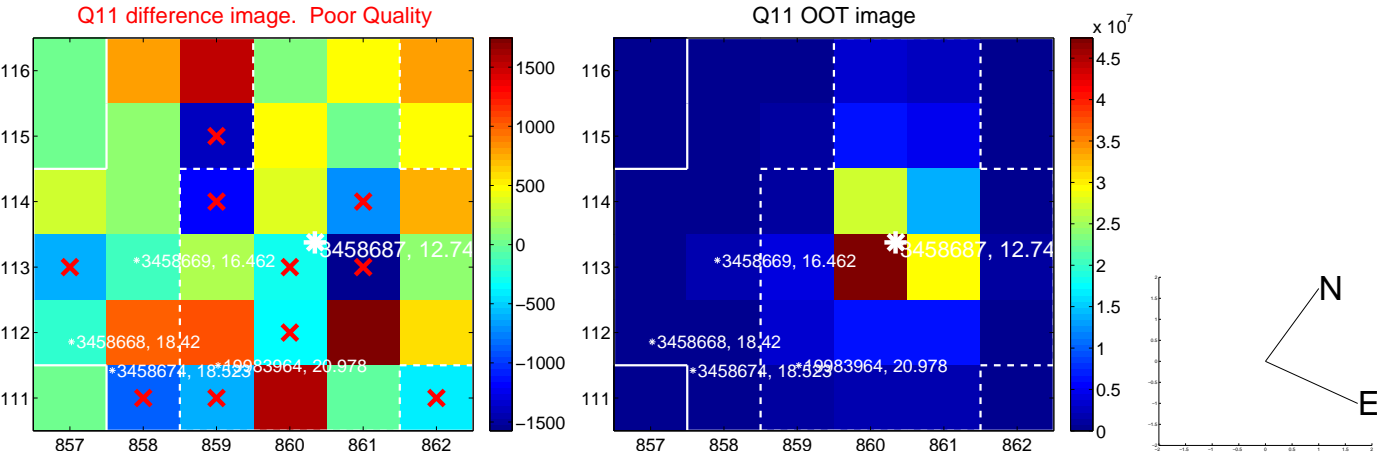
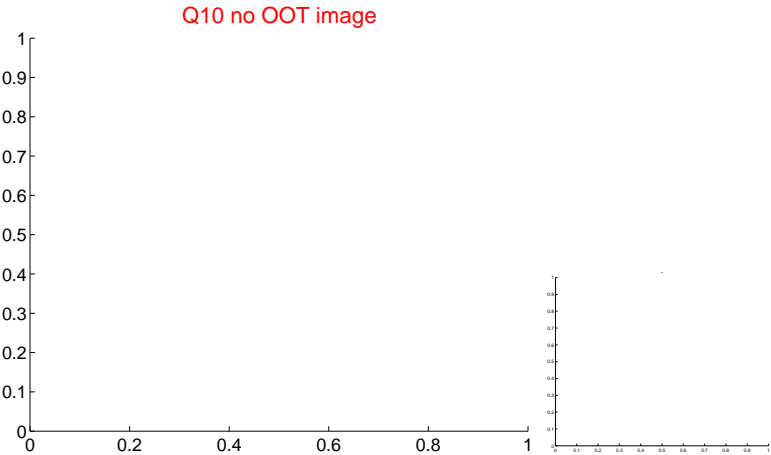
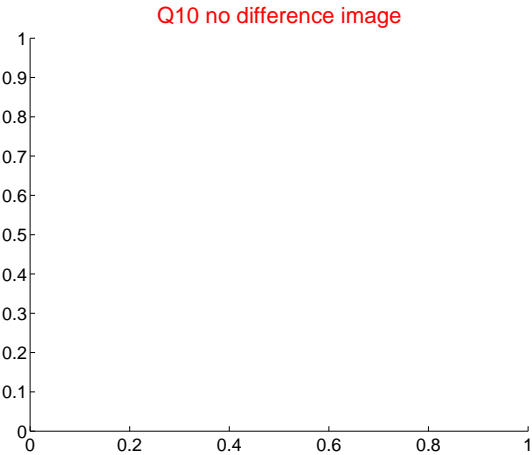
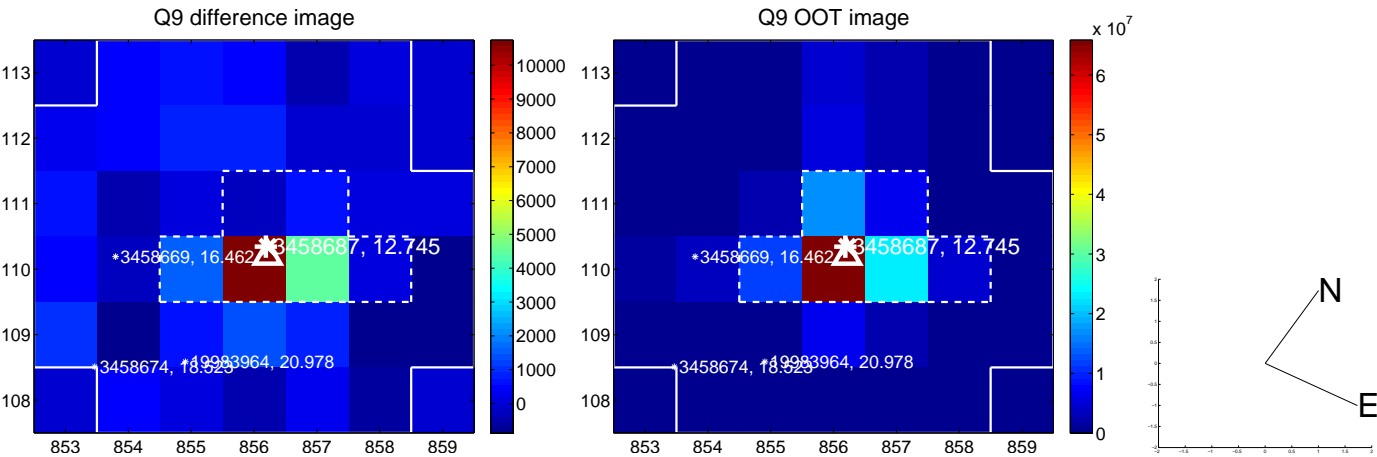
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



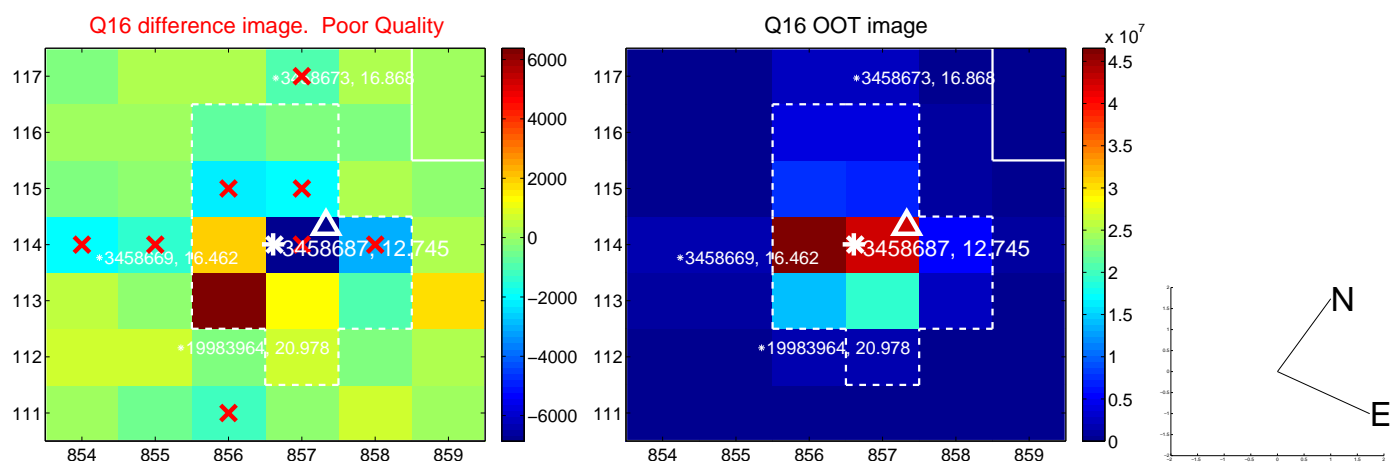
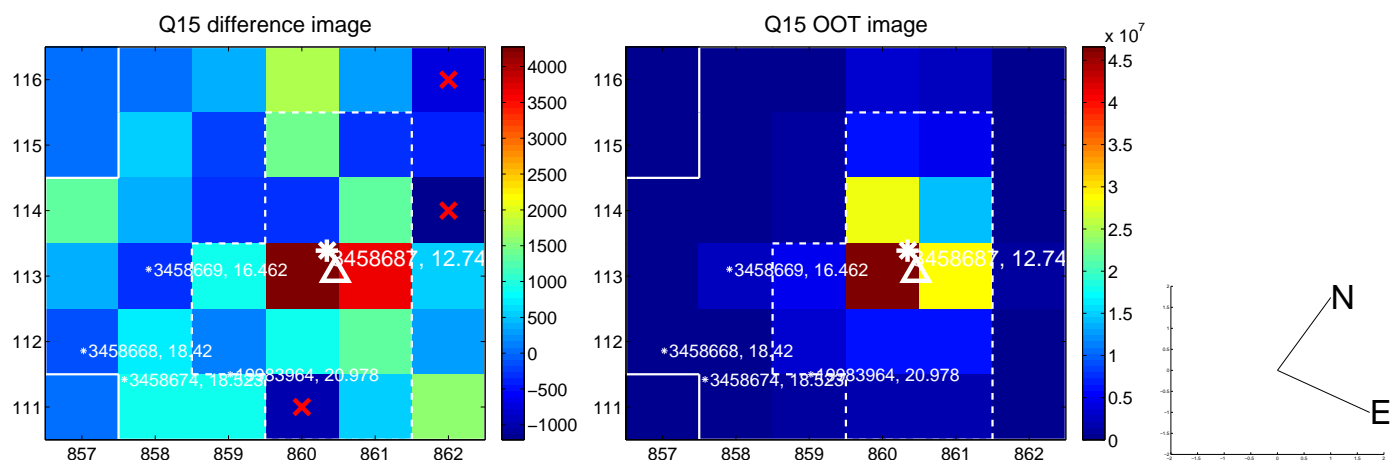
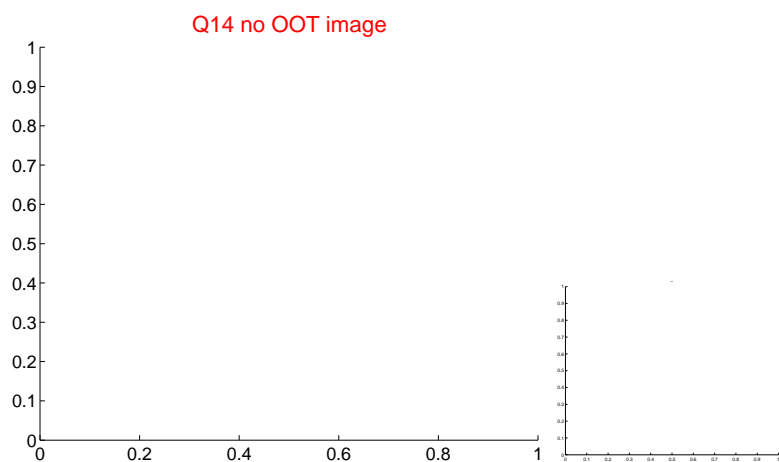
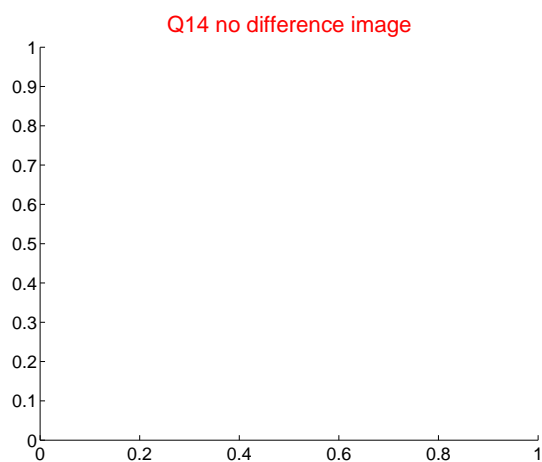
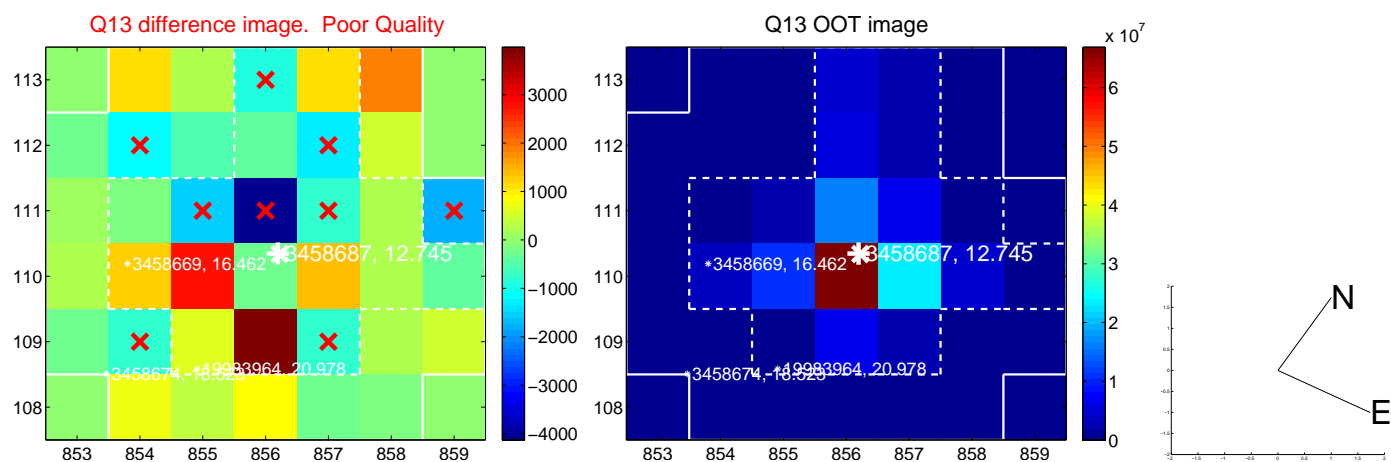
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



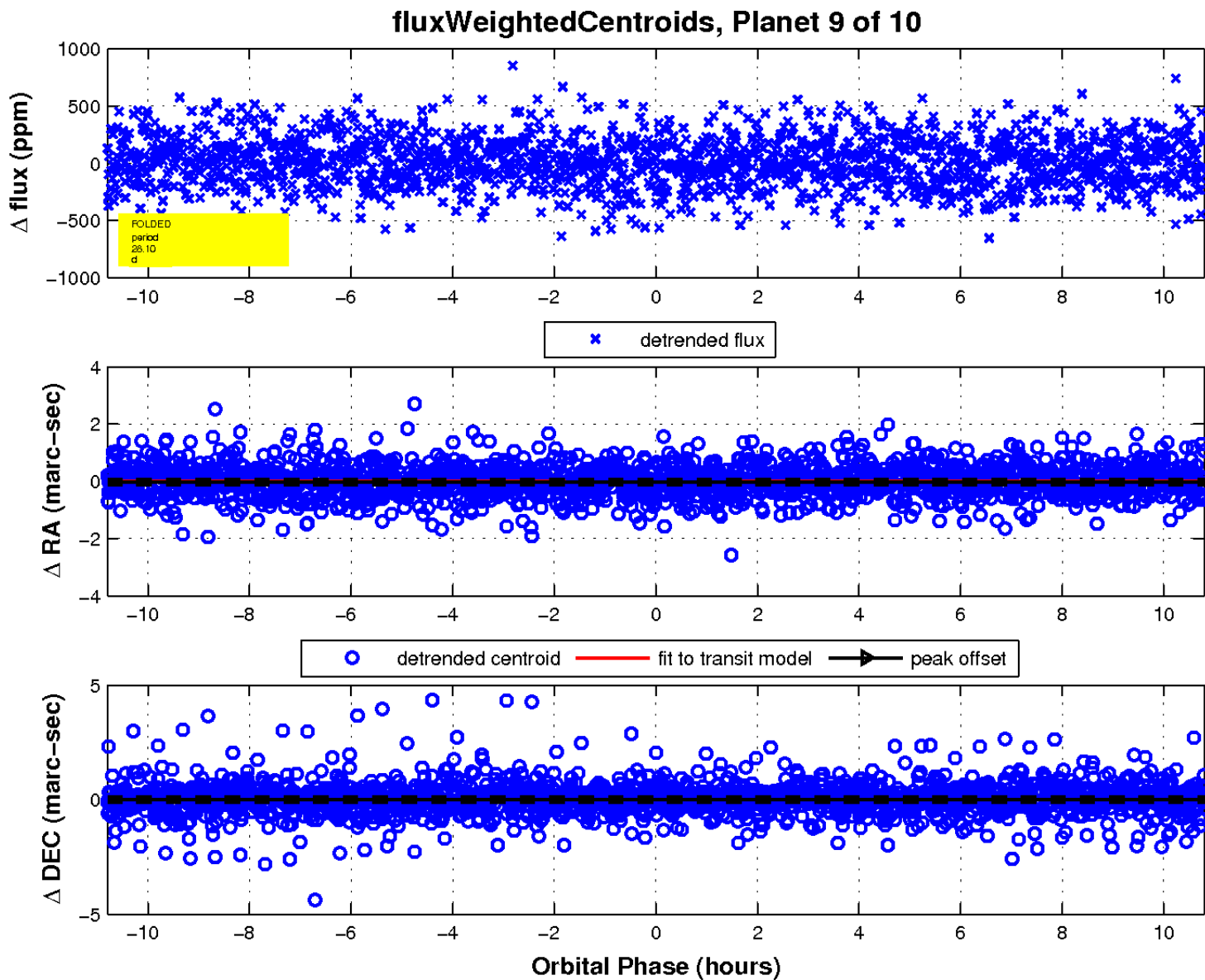
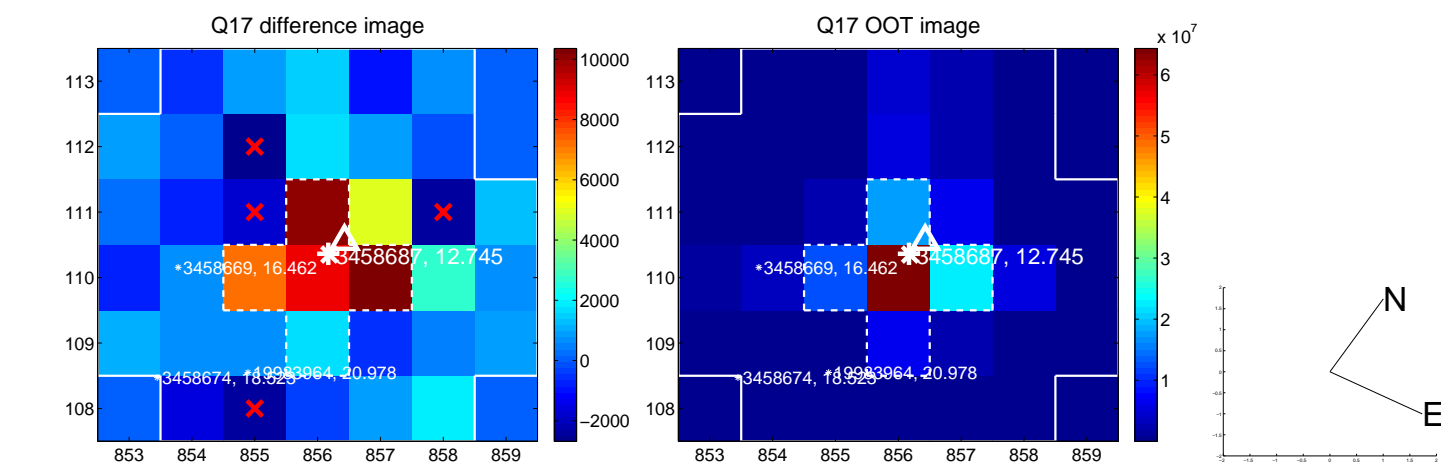
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

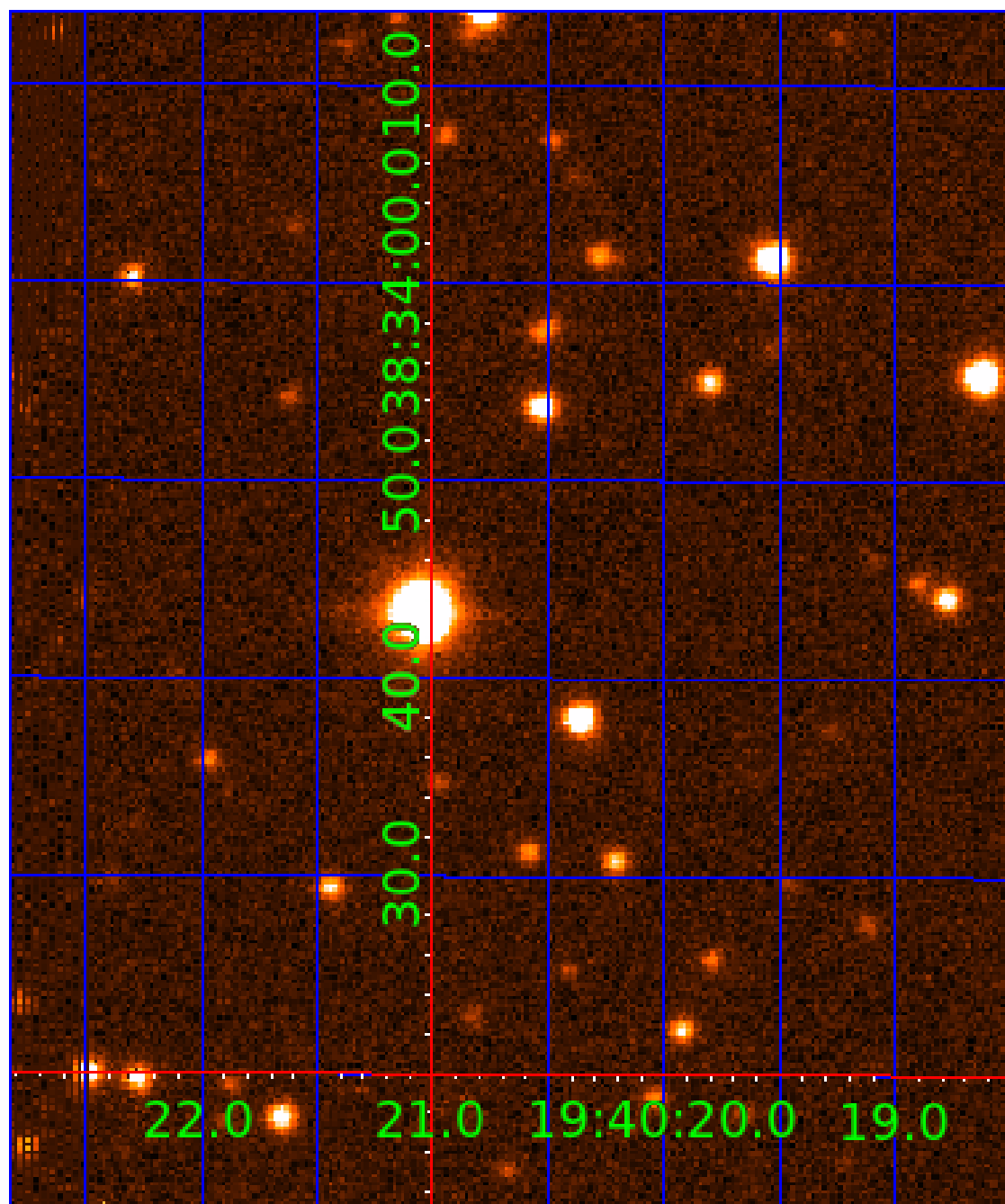


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003458687

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})
003458687-01	OBS	7543.01	0.983762	132.289383	23.9	6.743	8.8	9.1	5.29	6431	2.63	0.00
003458687-03	OBS	No	37.921542	137.409403	251.9	4.719	12.5	9.1	5.29	6431	8.85	567.57
003458687-04	OBS	No	34.338166	164.199165	317.7	2.327	11.8	9.4	5.29	6431	10.68	647.88
003458687-05	OBS	No	27.757951	139.496836	409.1	1.913	11.3	12.4	5.29	6431	11.27	860.36
003458687-06	OBS	No	27.834187	137.823236	336.6	1.997	10.7	10.9	5.29	6431	10.97	857.22
003458687-07	OBS	No	11.691953	138.628806	197.9	4.490	9.7	12.3	5.29	6431	8.70	2724.89
003458687-08	OBS	No	14.488233	137.905875	271.0	1.438	10.2	10.5	5.29	6431	9.13	2047.28
003458687-09	OBS	No	28.101709	140.458736	305.4	3.602	10.3	11.9	5.29	6431	9.65	846.36
003458687-10	OBS	No	29.681505	136.537650	270.5	3.500	9.5	-1.0	5.29	6431	8.76	786.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003458687-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
003458687-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003458687-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003458687-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
003458687-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003458687-10	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT—CENT_NOFITS—HALO_GHOST

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

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

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

Ephemeris Match Information For 003458687-10

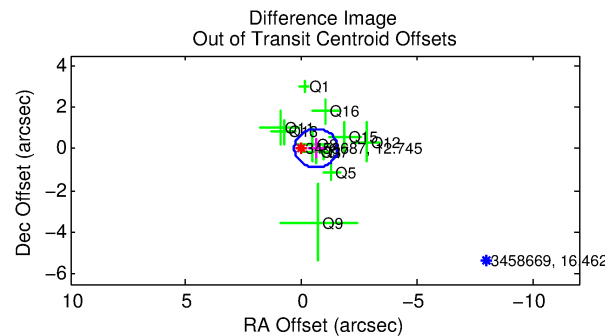
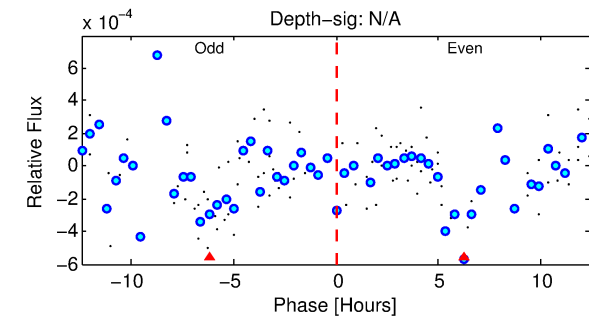
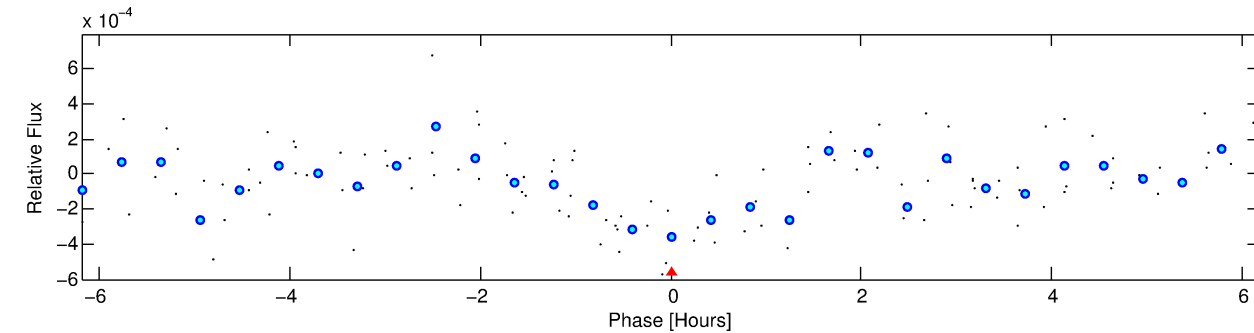
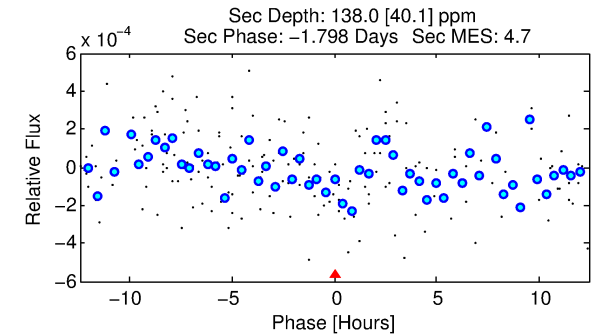
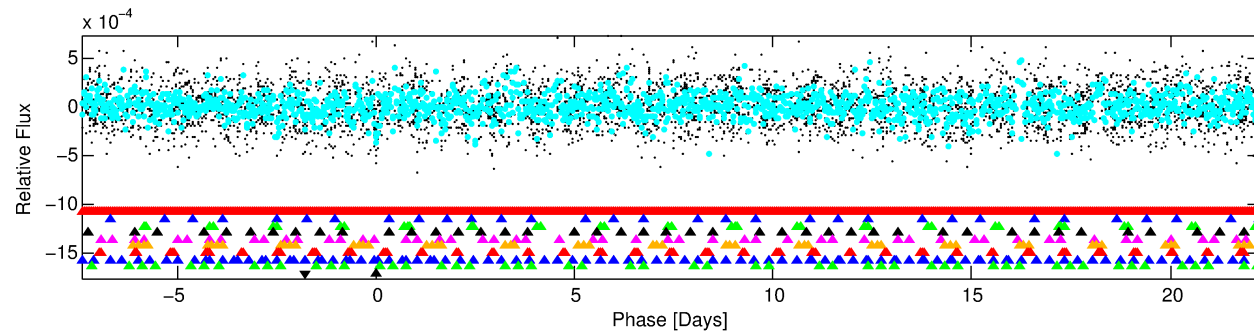
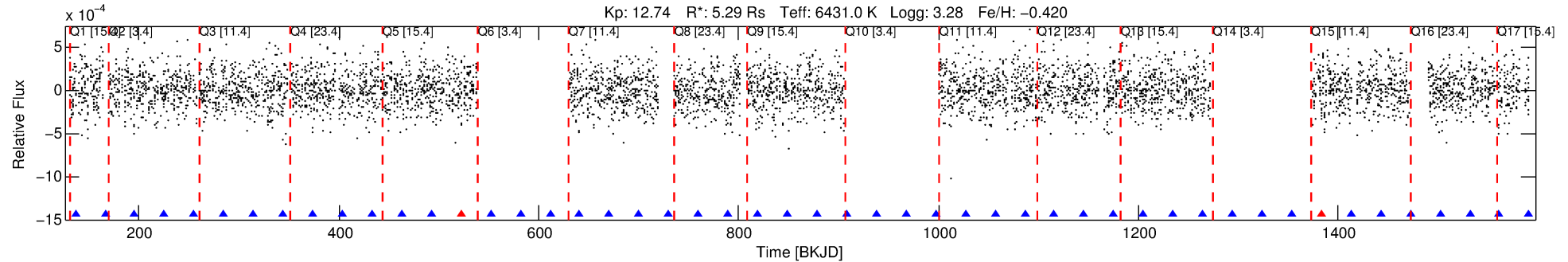
No Significant Match Found

DV One-Page Summary

KIC: 3458687 Candidate: 10 of 10 Period: 29.682 d

KOI: K07543 Corr: No Ephemeris Match

Kp: 12.74 R*: 5.29 Rs Teff: 6431.0 K Logg: 3.28 Fe/H: -0.420



TPS TCE Results:

Period = 29.68151 d
Epoch = 136.5376 BKJD

DV fit results are unavailable

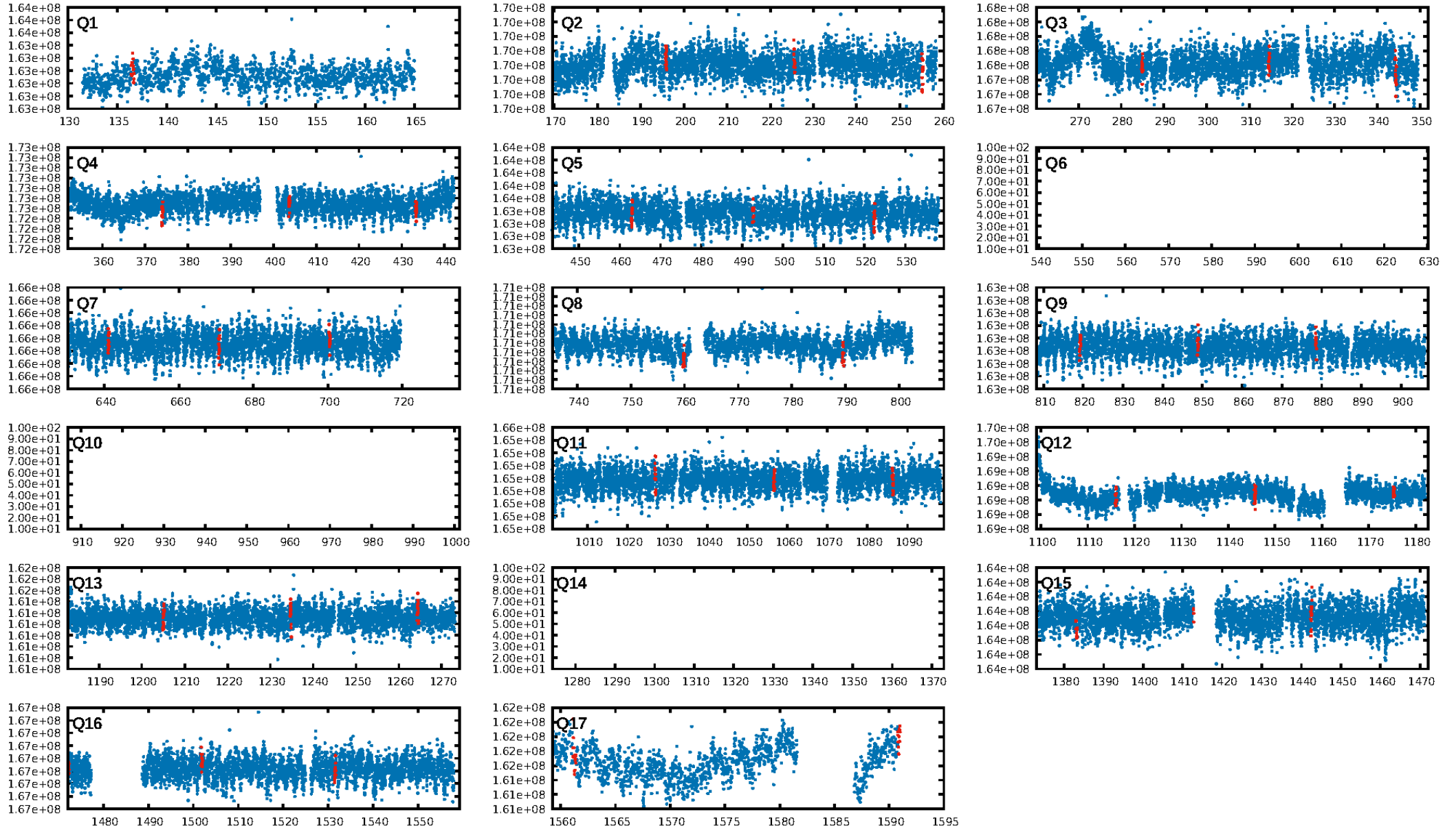
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.55σ]
LongPeriod-sig: 100.0% [26.59σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.75 [6/8]
GhostDiagnostic-chr: -0.1901
Centroid-sig: 40.6%
Centroid-so: 0.621 arcsec [2.01σ]
OotOffset-rm: 0.616 arcsec [1.98σ]
KicOffset-rm: 0.676 arcsec [2.03σ]
OotOffset-st: 0/4/3/4 [11]
KicOffset-st: 0/4/3/4 [11]
DiffImageQuality-fgm: 0.64 [7/11]
DiffImageOverlap-fno: 0.50 [7/14]

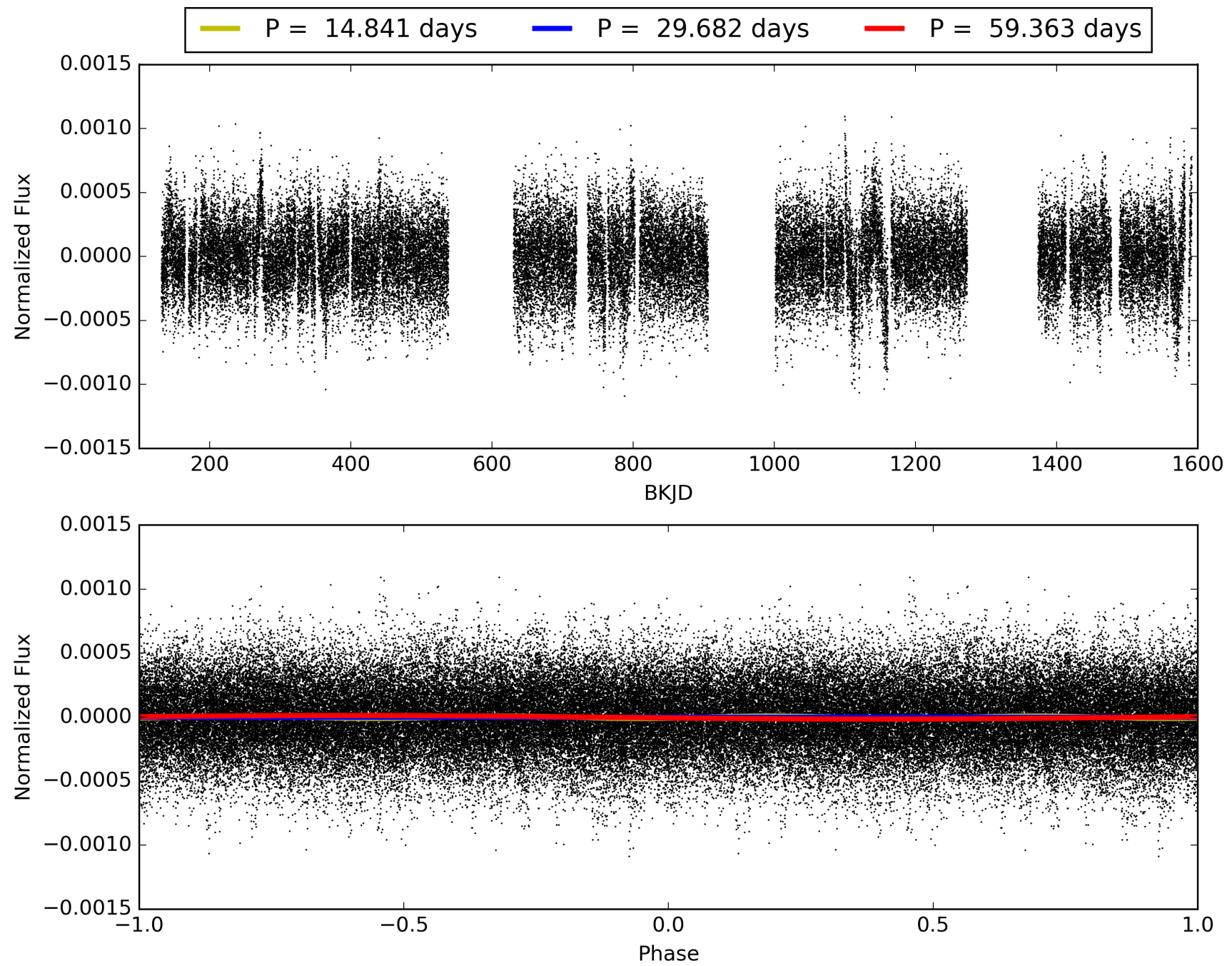
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:32:58 Z

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

TCE 003458687-10, PDC Light Curves

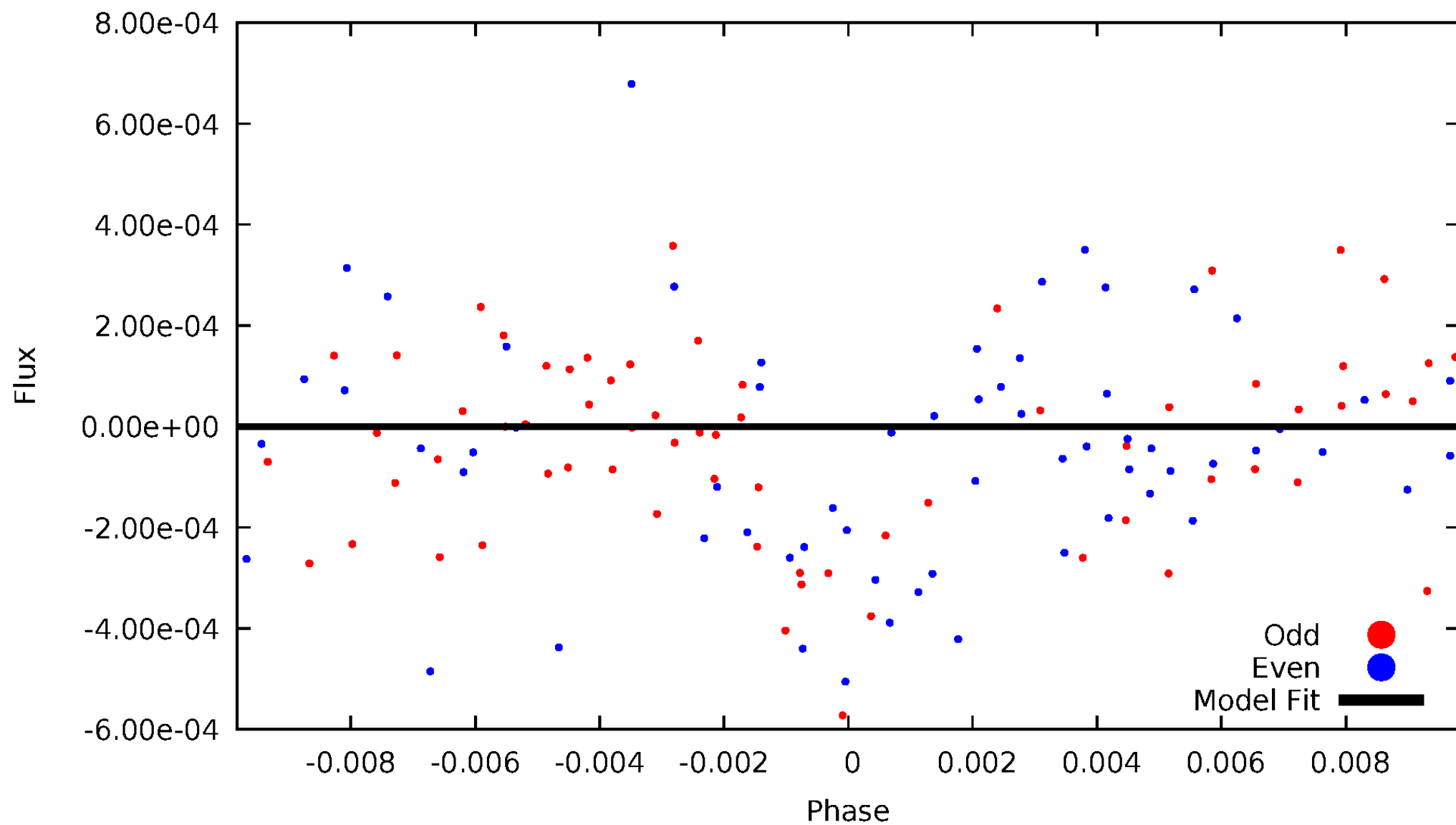


TCE 003458687-10



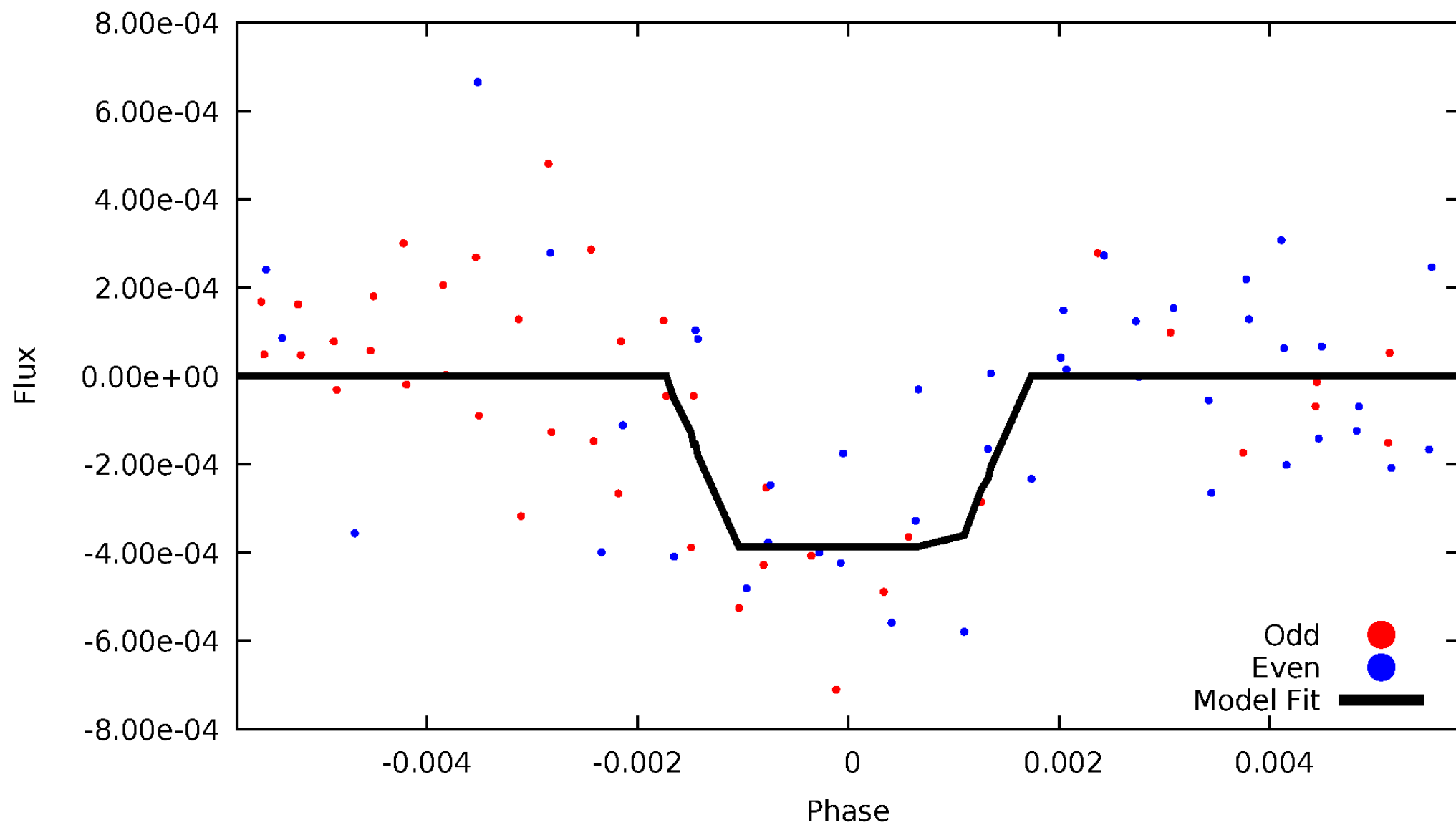
DV Odd/Even

TCE 003458687-10



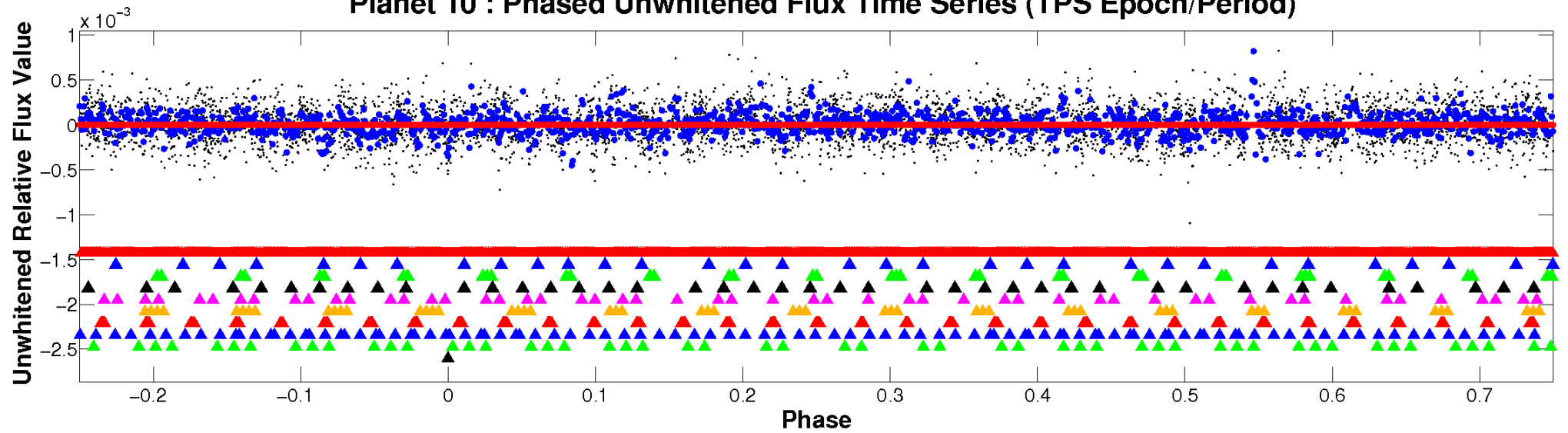
ALT Odd/Even

TCE 003458687-10

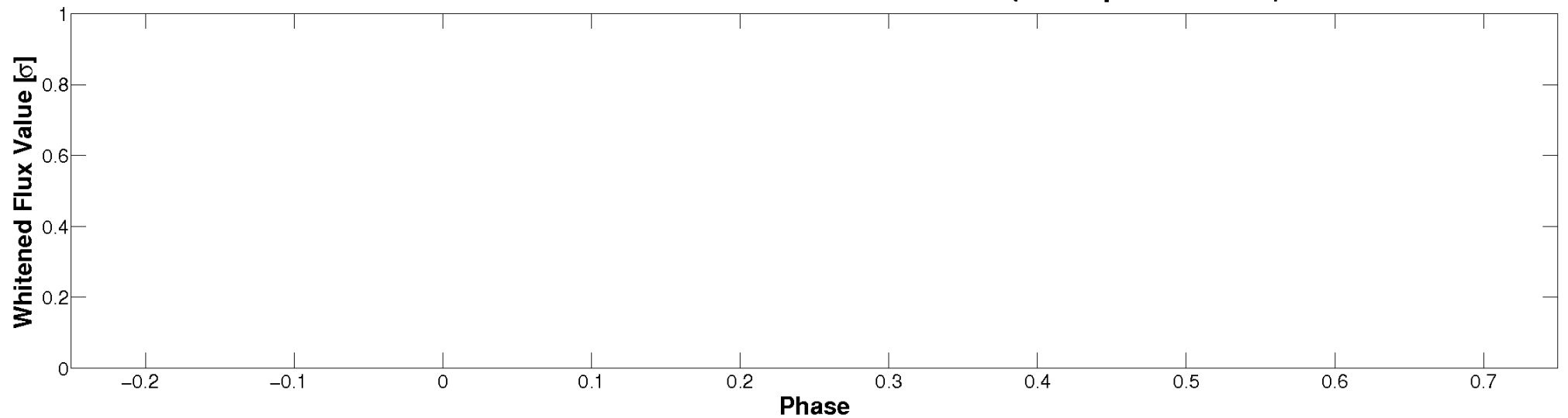


Non-Whitened Vs. Whitened Light Curve

Planet 10 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

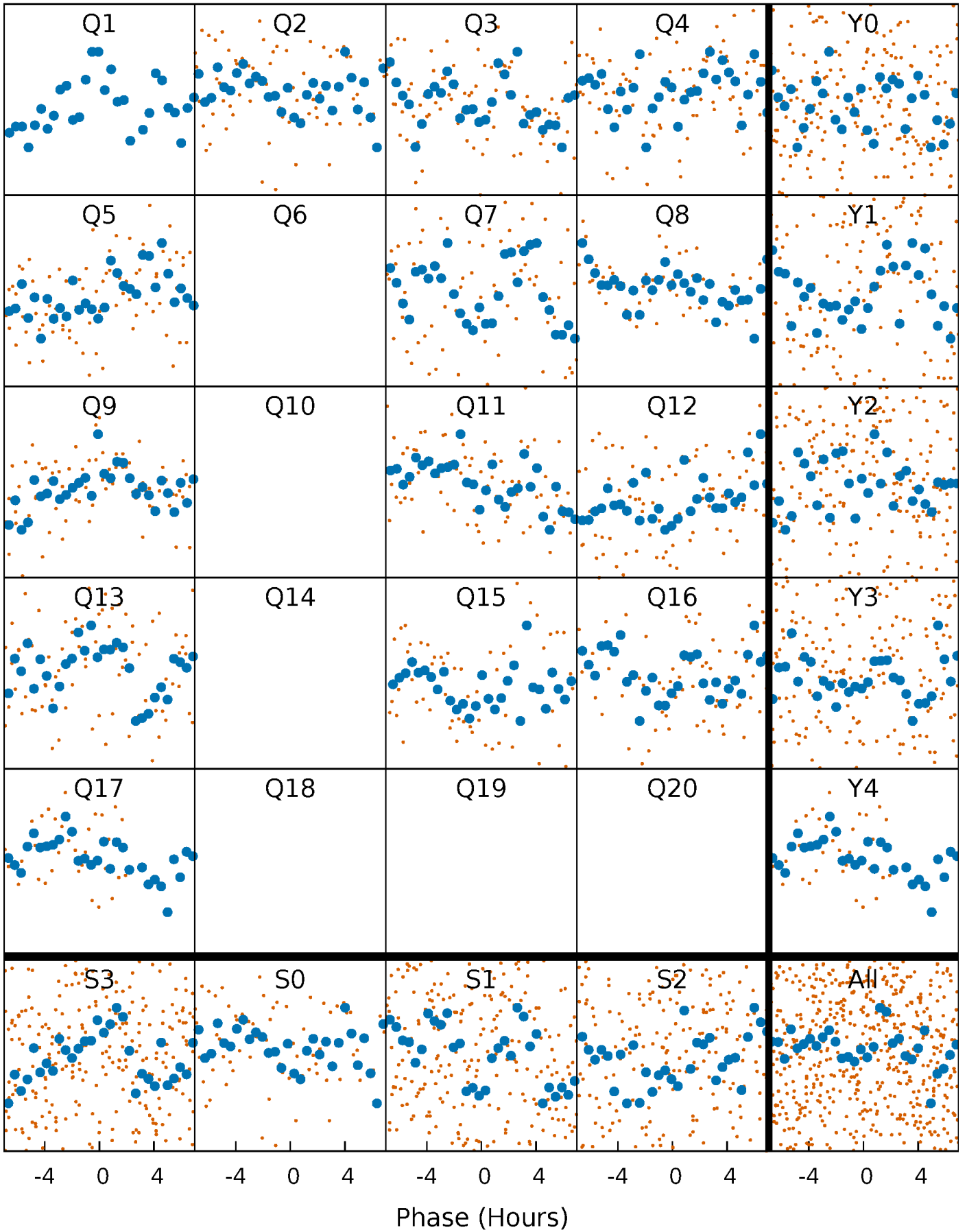


Planet 10 : Phased Whitened Flux Time Series (TPS Epoch/Period)



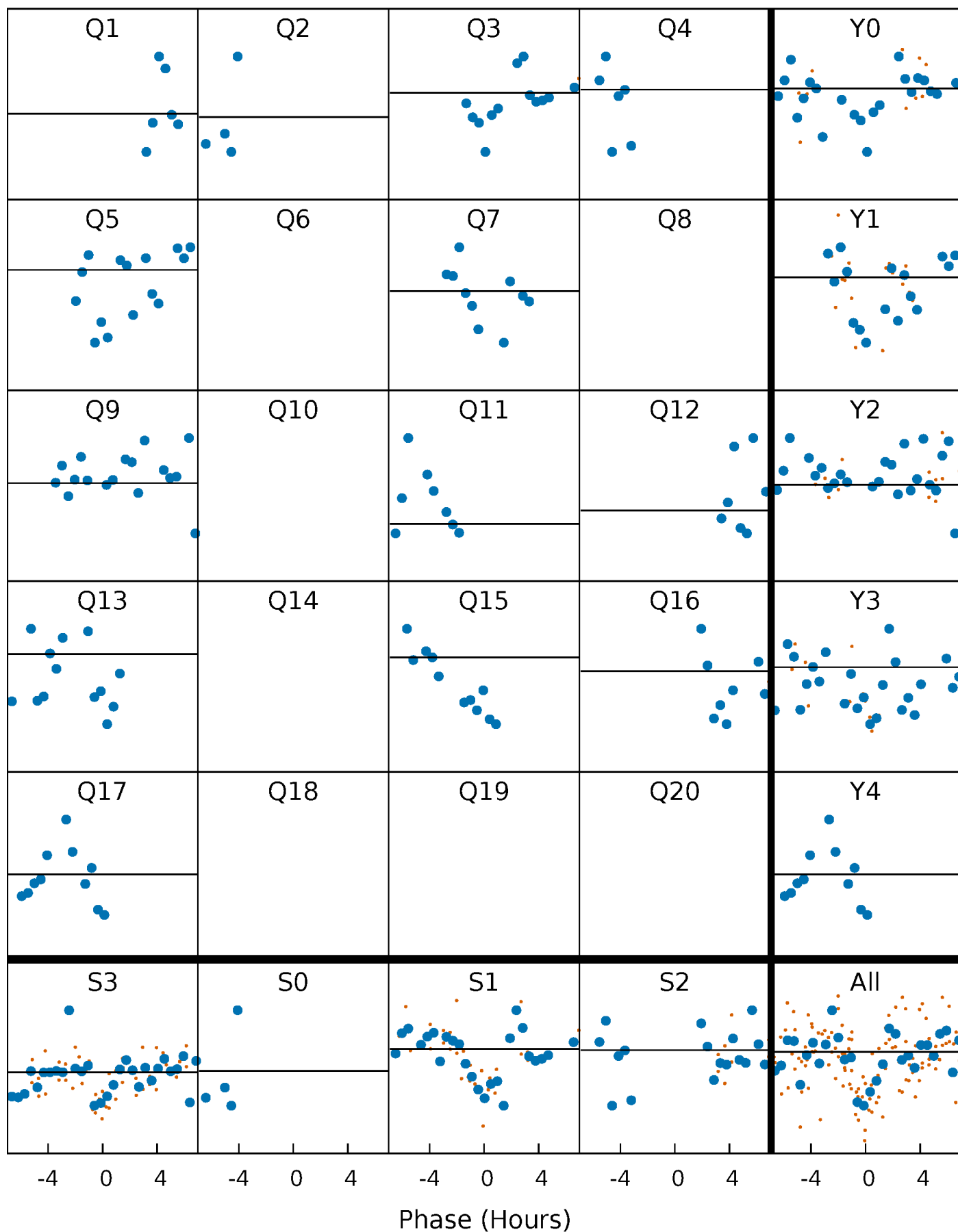
PDC Quarter-Phased Transit Curves

TCE 003458687-10 P= 29.681505 Days $T_0=136.537650$ (BKJD)



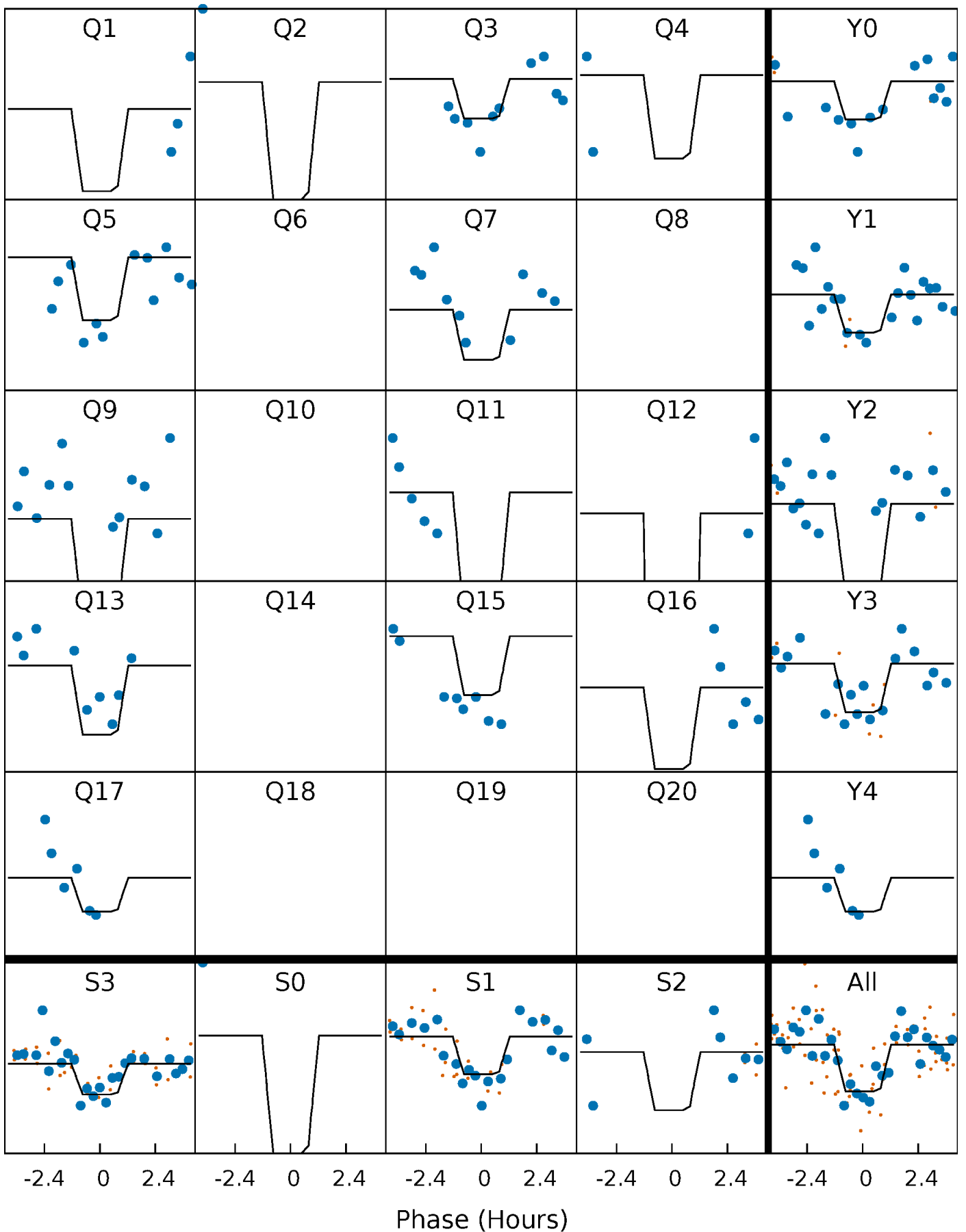
DV Quarter-Phased Transit Curves

TCE 003458687-10 $P = 29.681505$ Days $T_0 = 136.537650$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

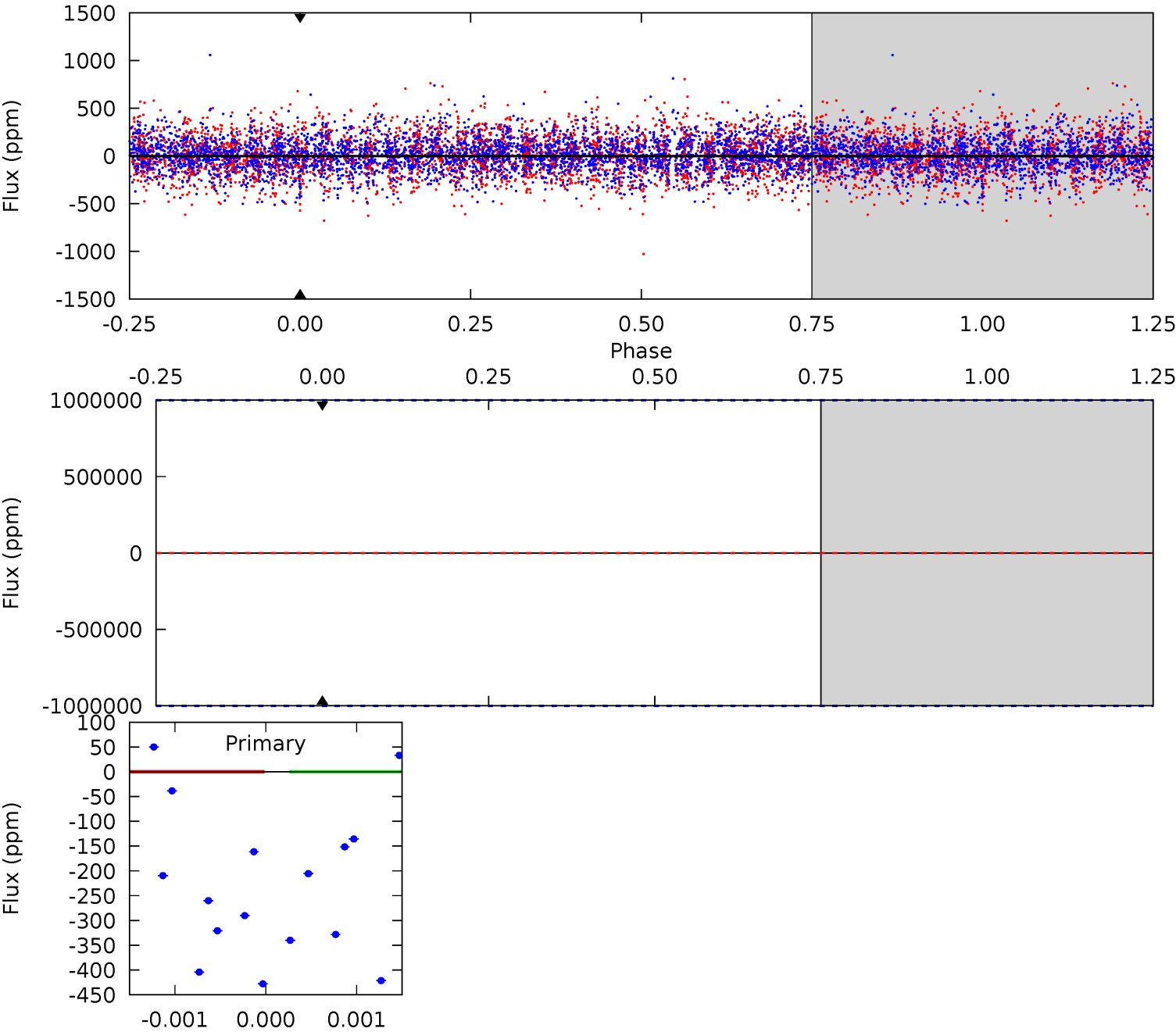
TCE 003458687-10 P= 29.681505 Days $T_0=136.538435$ (BKJD)



DV Model-Shift Uniqueness Test

003458687-10, P = 29.681505 Days, E = 106.856145 Days

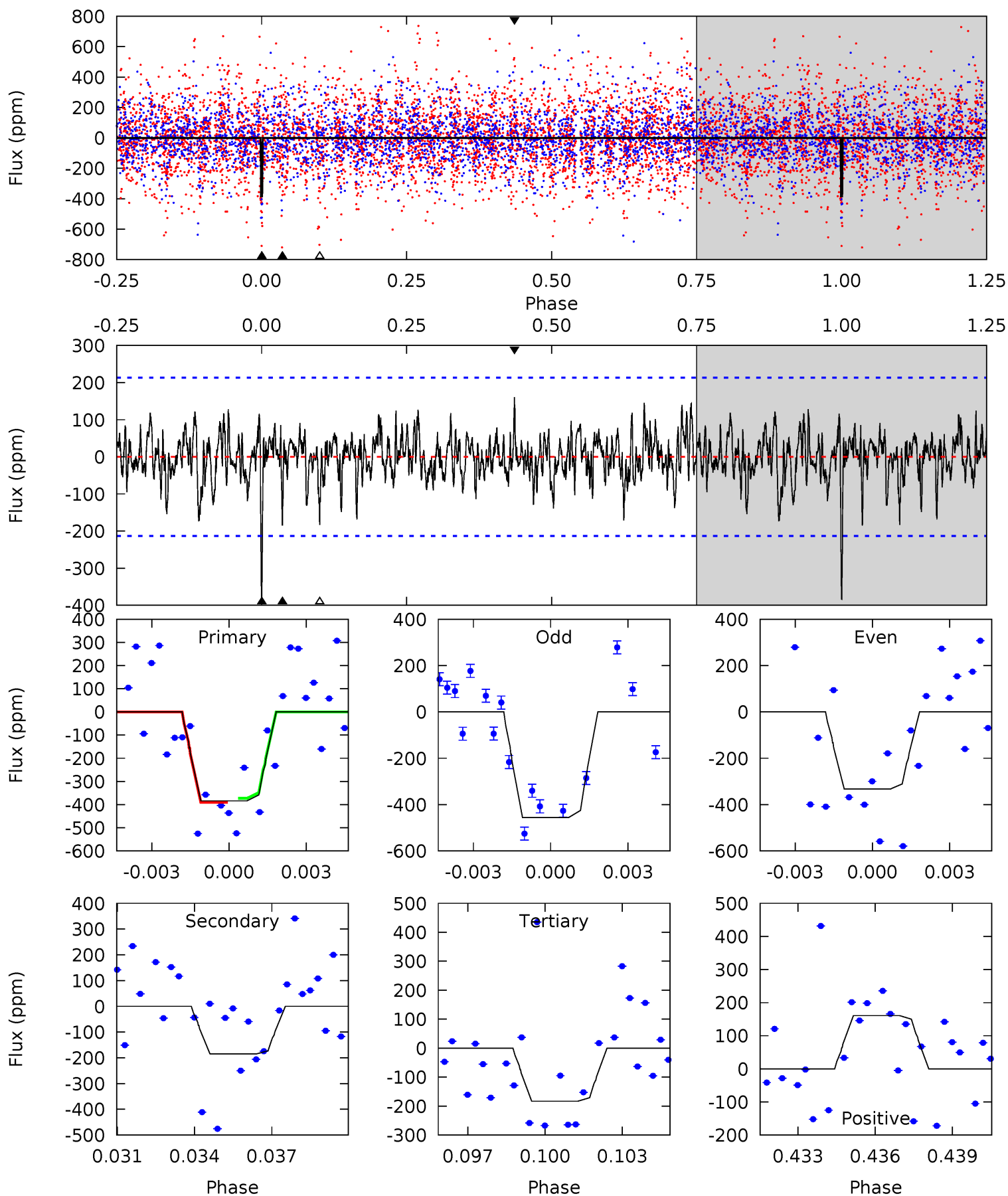
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003458687-10, $P = 29.681505$ Days, $E = 106.856930$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.47	4.57	4.52	3.97	5.26	2.98	1.30	4.95	5.51	0.04	0.60	1.49	0.95	0.30	0.20



Stellar Parameters For KIC 003458687

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6431^{+172}_{-211}	$3.276^{+0.468}_{-0.052}$	$-0.420^{+0.400}_{-0.300}$	$5.294^{+0.294}_{-2.795}$	$1.932^{+0.069}_{-0.590}$	$0.018^{+0.090}_{-0.003}$
	+3%/-3%	+14%/-2%	+95%/-71%	+6%/-53%	+4%/-31%	+491%/-18%
Source	PHO1	FLK73	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 003458687-10 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$37.02^{+39.66}_{-25.65}$	1841^{+96}_{-238}	4688^{+26776}_{-30562}	27^{+4932}_{-3134}
Alt.	-185 ± 41	$36.22^{+42.10}_{-24.44}$	1833^{+101}_{-225}	3261^{+1588}_{-737}	$3.849^{+32.594}_{-3.053}$

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

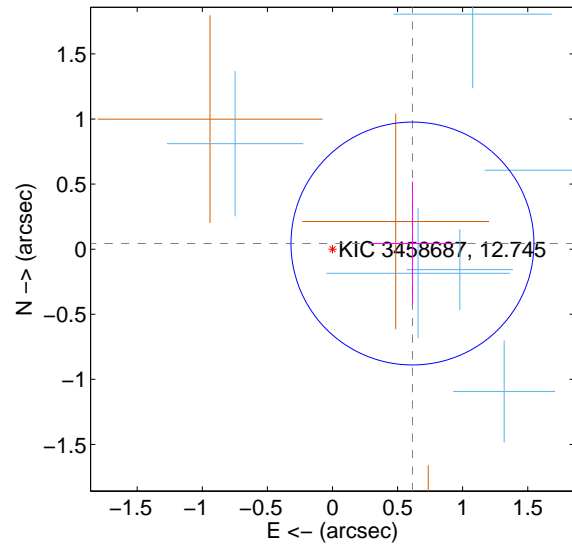
Supplemental centroid analysis for 003458687-10. Kepler magnitude: 12.74. Transit SNR -1.00

There are 7 quarters with good PRF difference image offsets

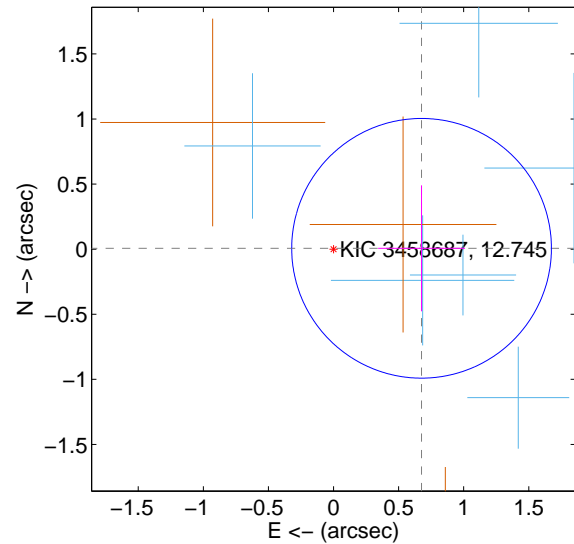
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.616 ± 0.311	1.98	-0.614 ± 0.317	0.044 ± 0.476
PRF-fit source offset from KIC position	0.676 ± 0.333	2.03	-0.676 ± 0.333	0.007 ± 0.484
photometric centroid source offset	0.62 ± 0.31	2.01	-0.19 ± 0.31	-0.59 ± 0.31

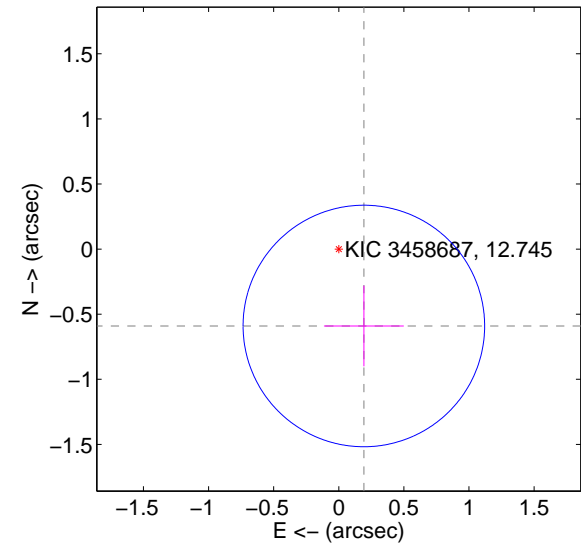
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

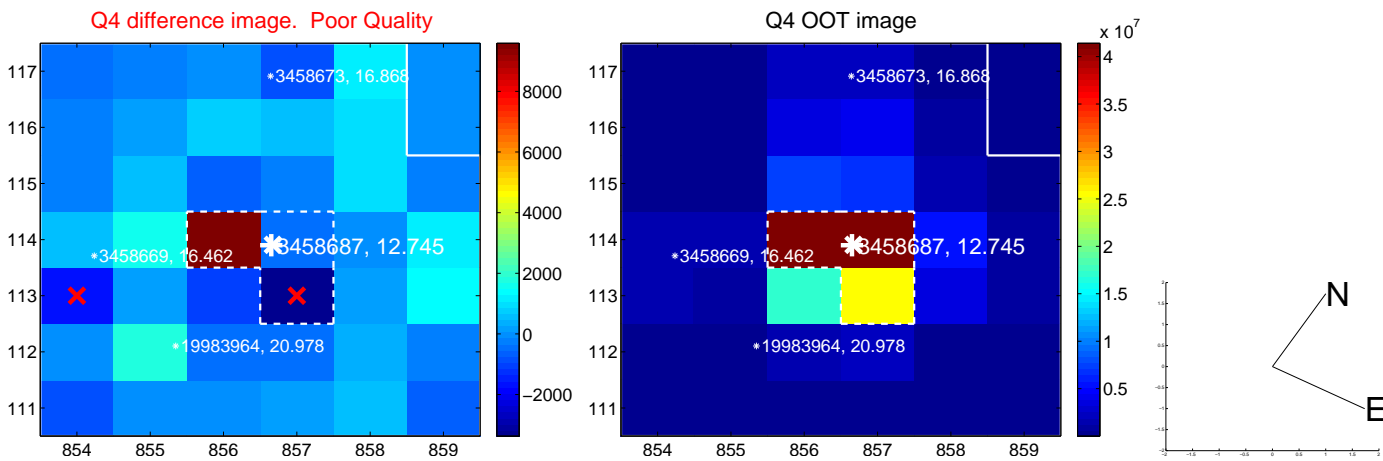
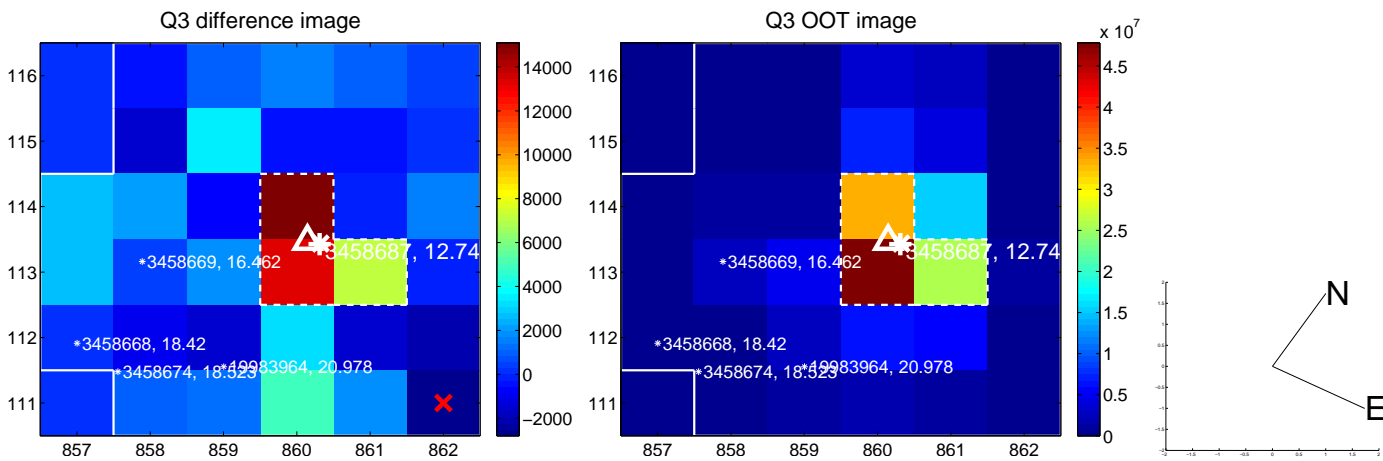
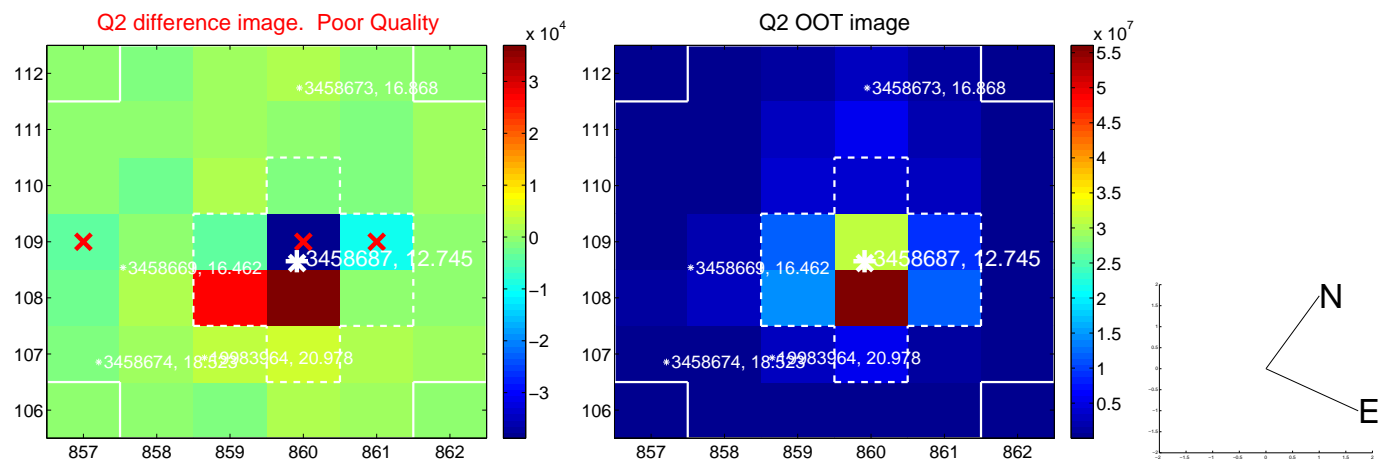
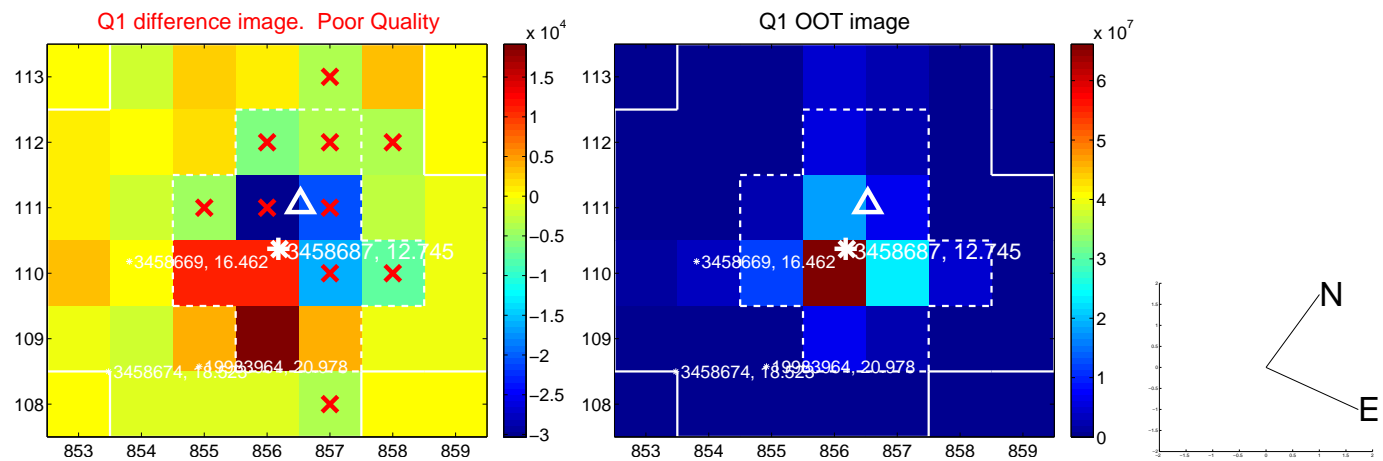


offset from photometric centroids

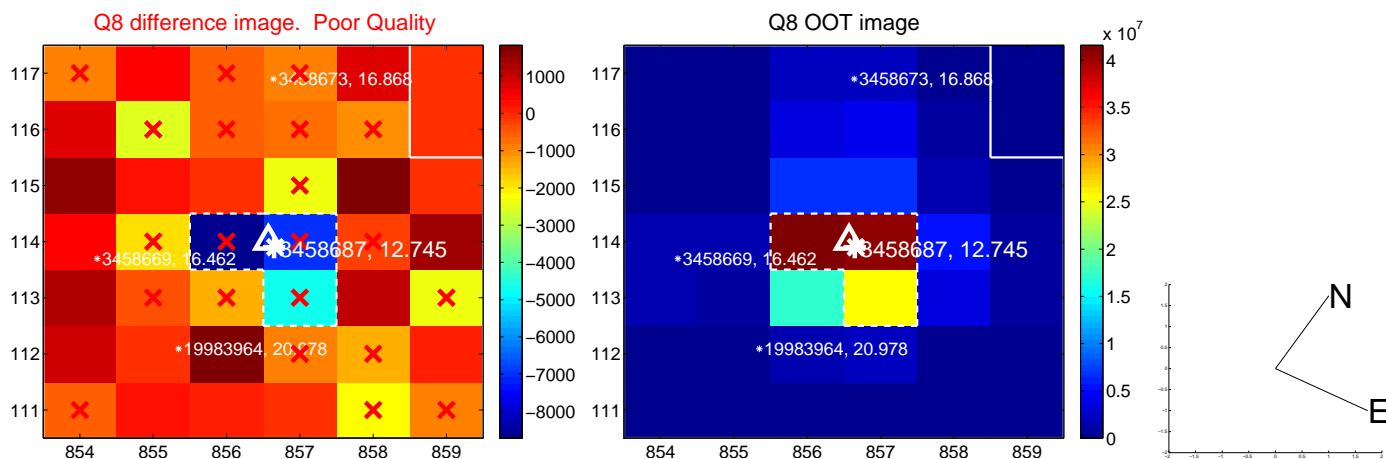
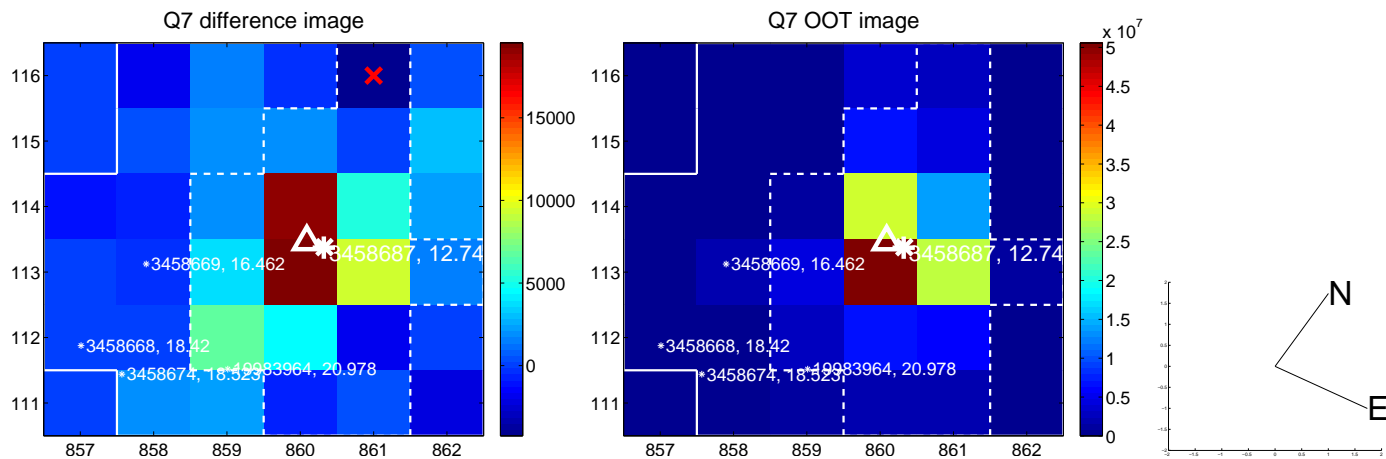
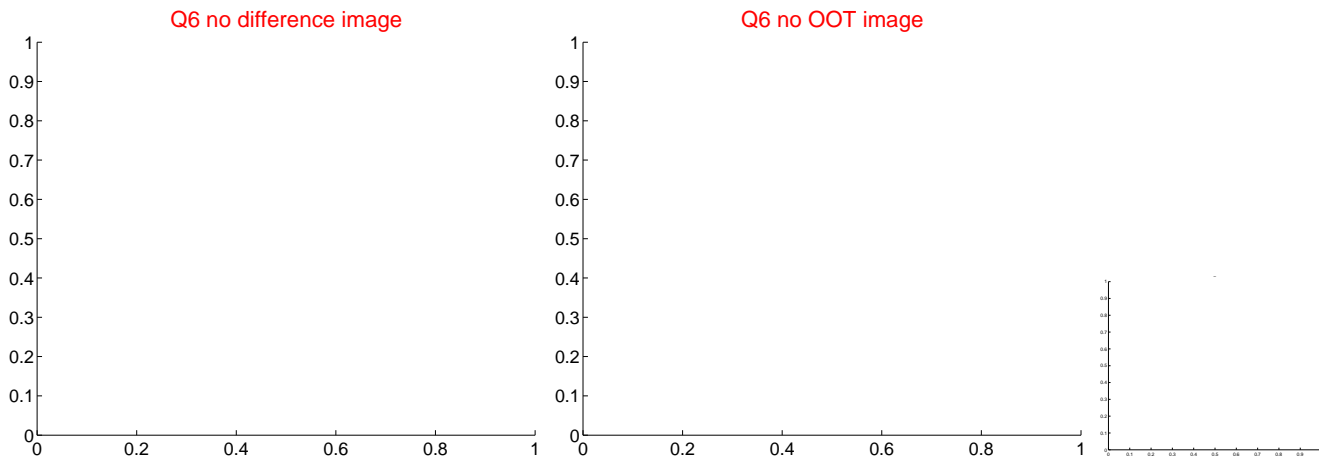
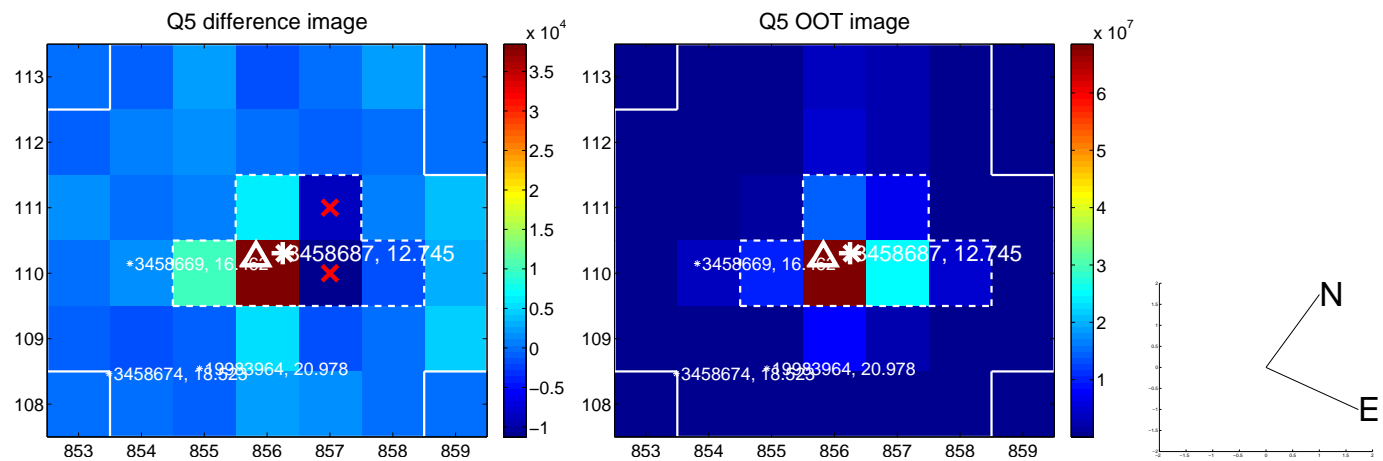


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

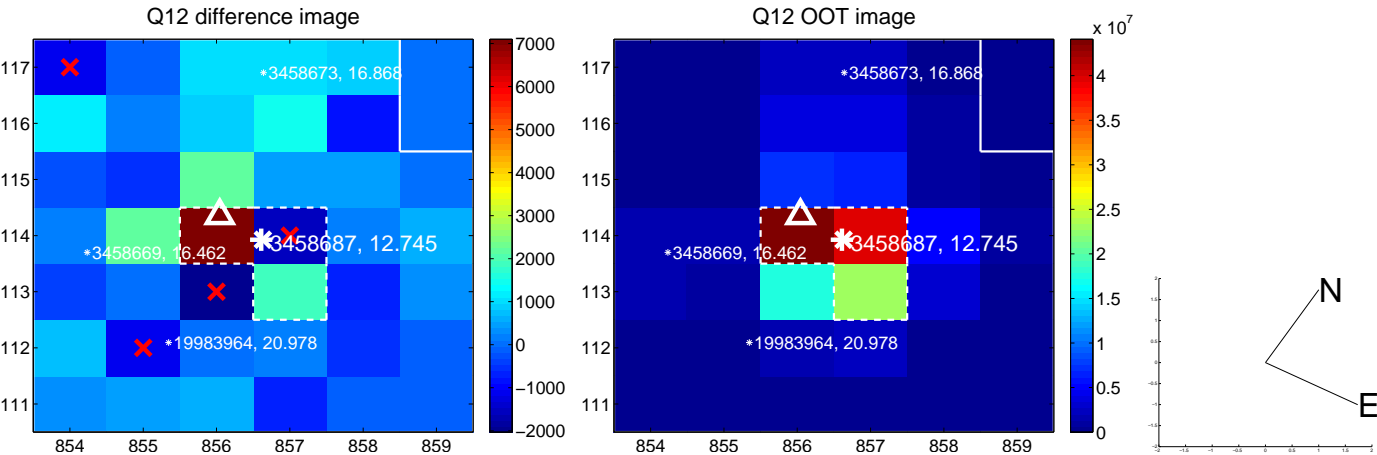
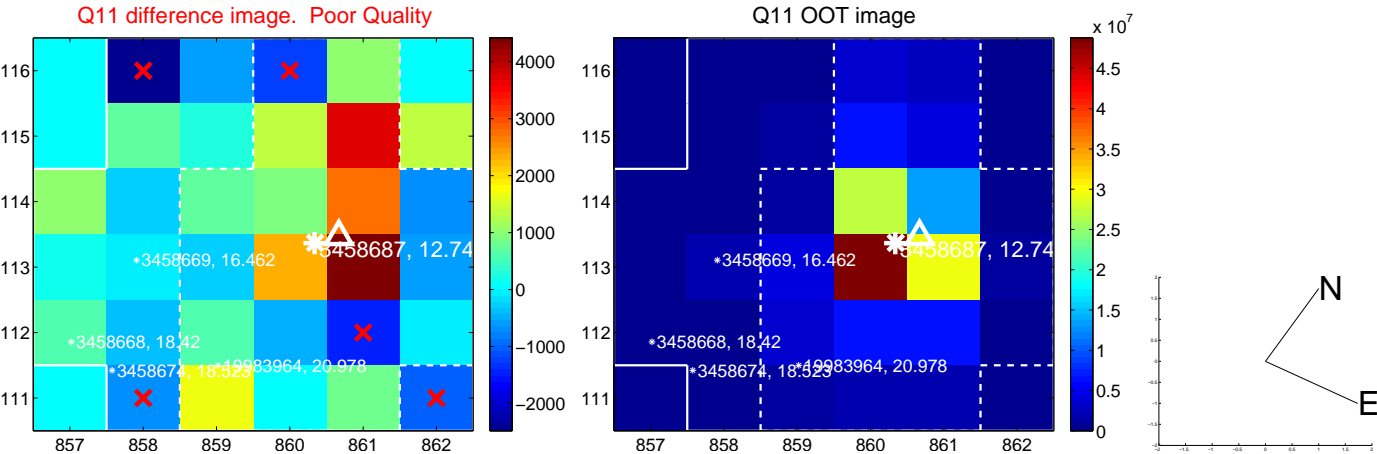
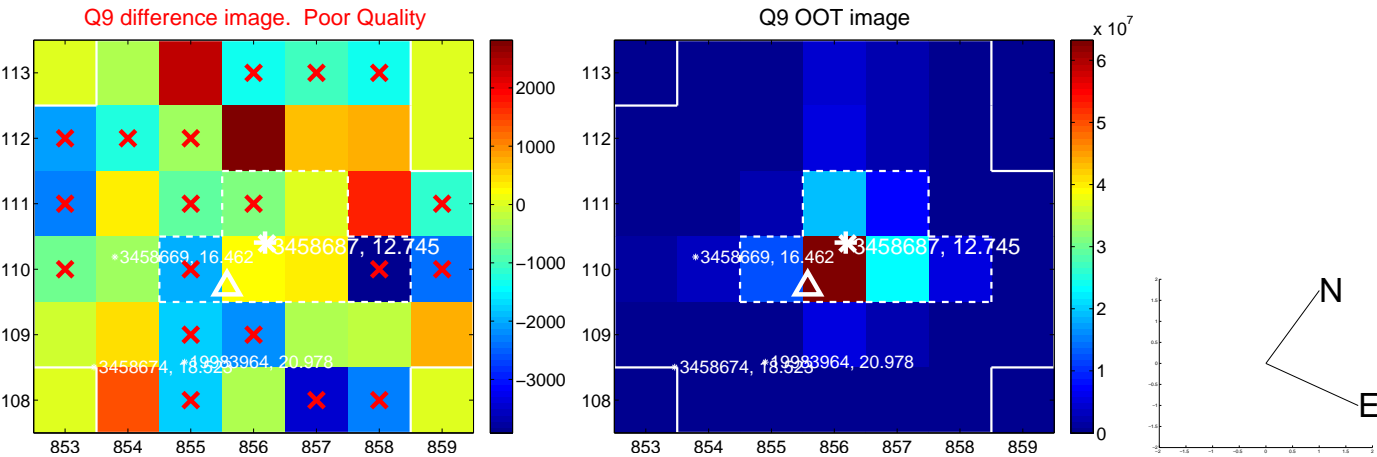
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



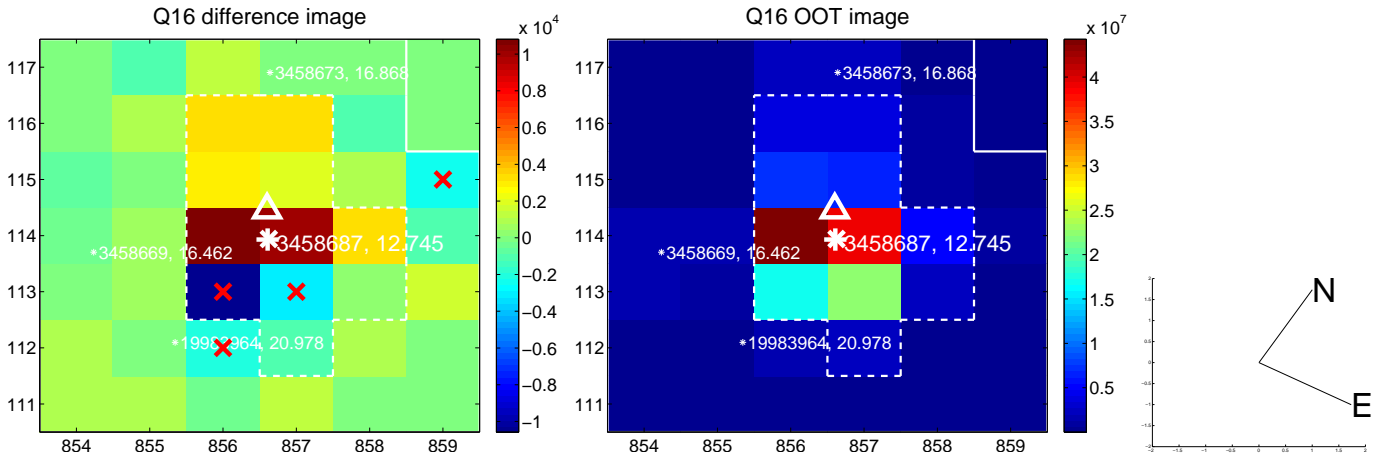
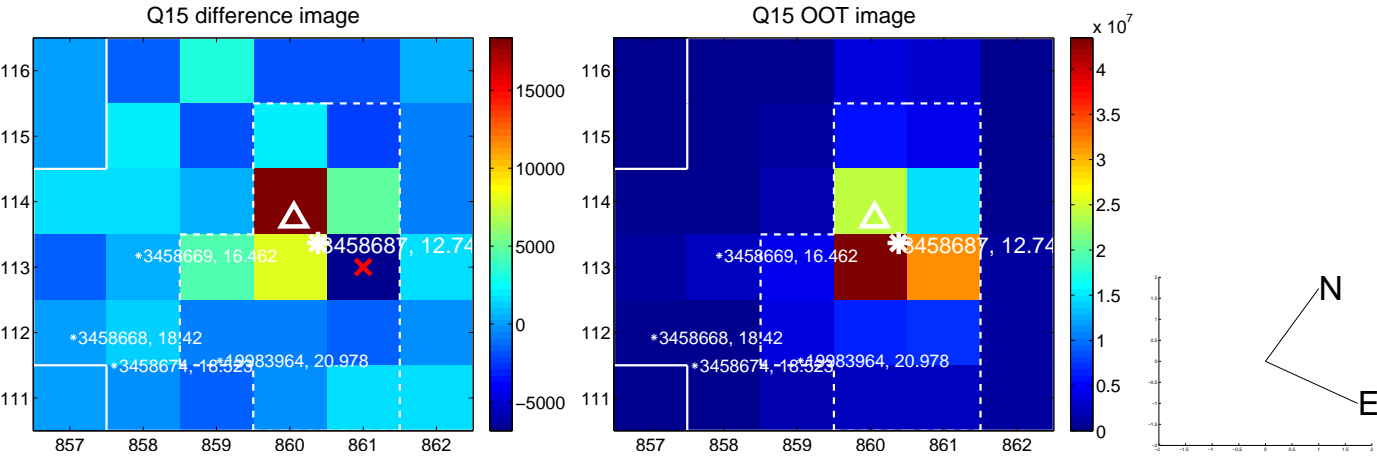
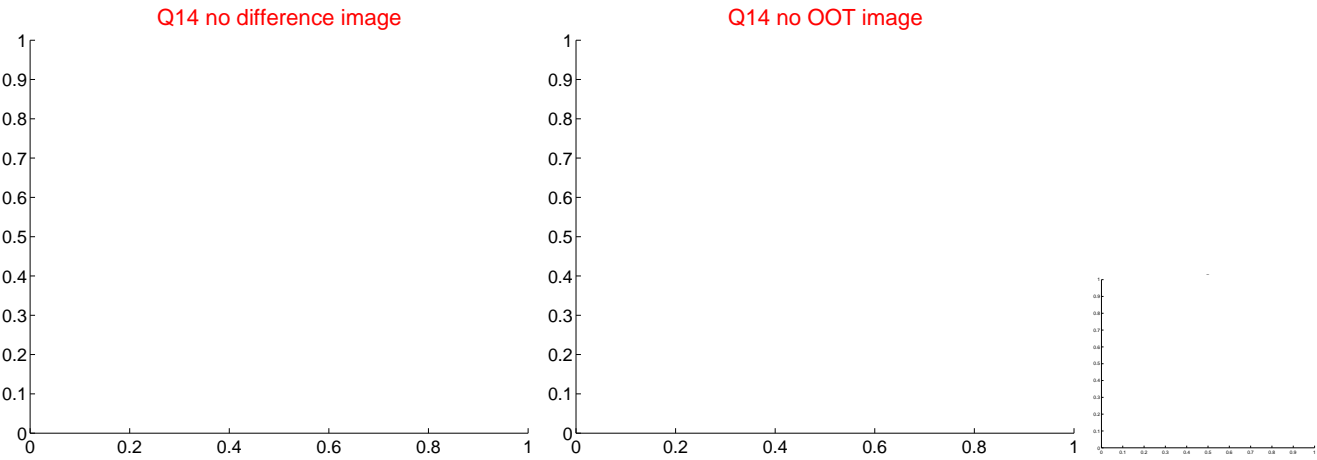
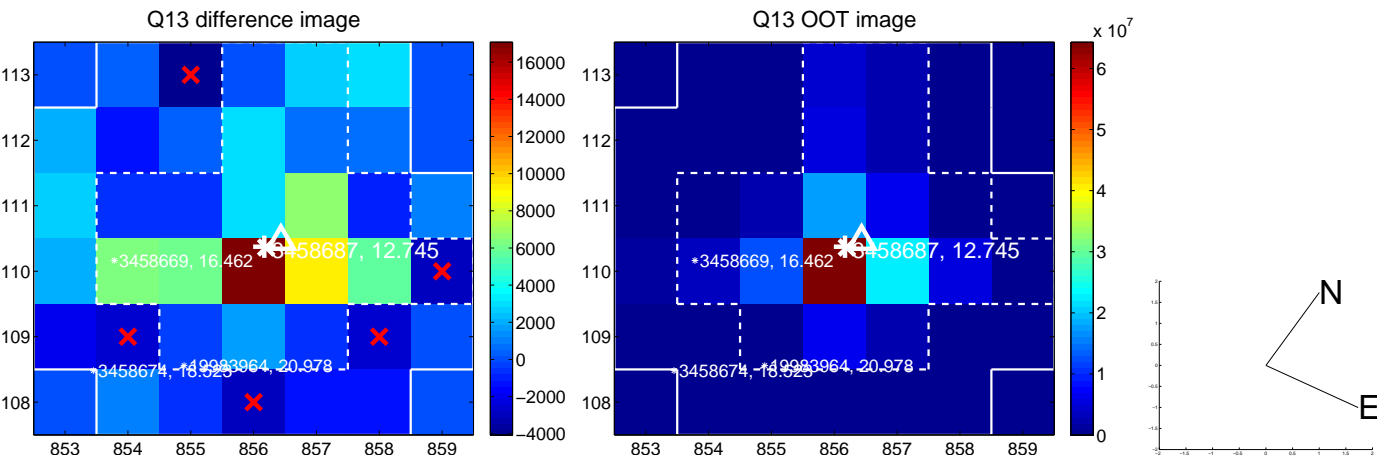
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



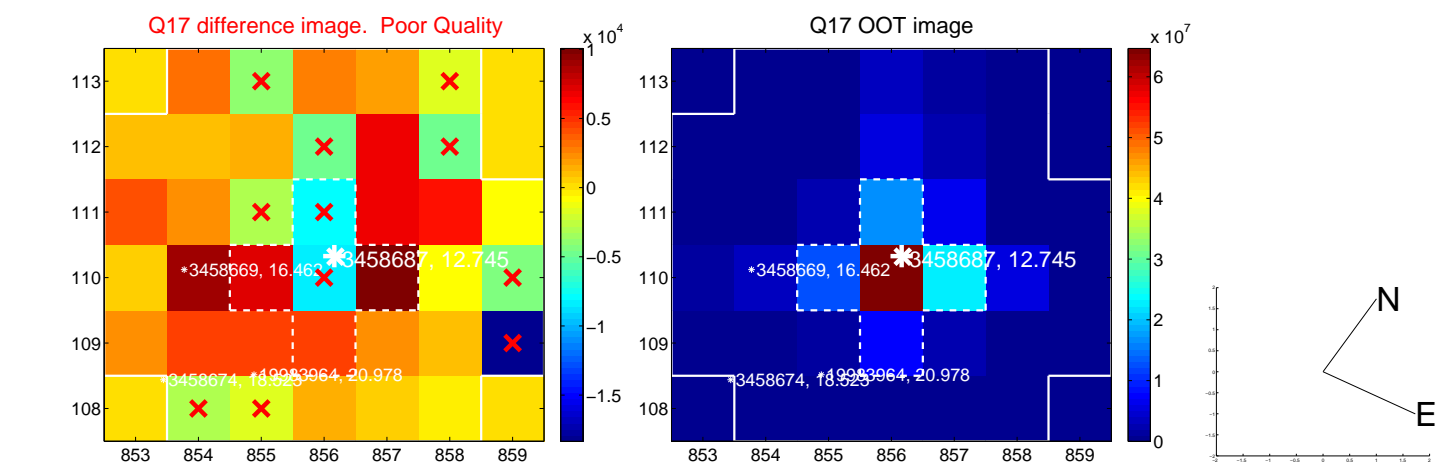
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



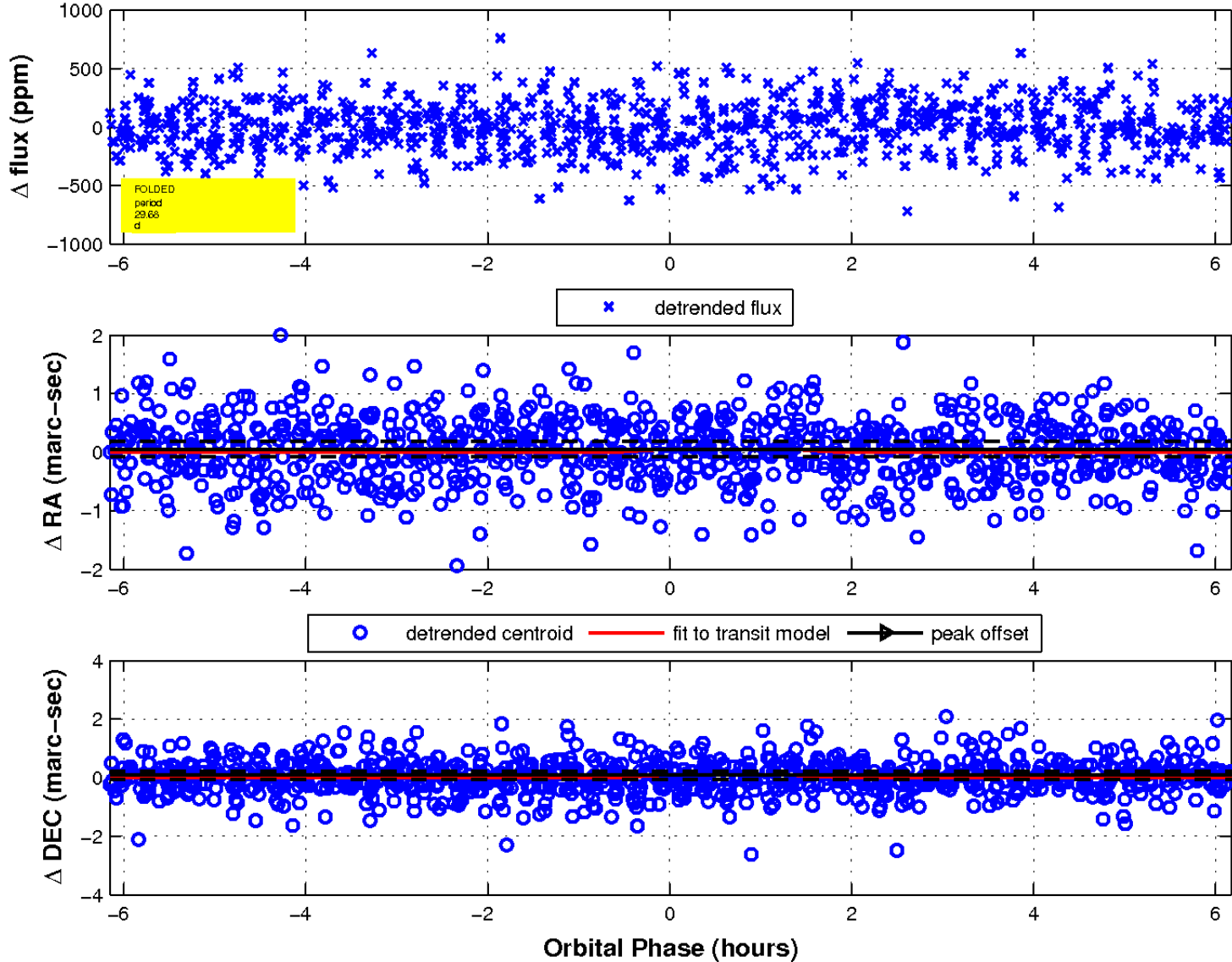
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 10 of 10



UKIRT Image

Declination

