

KIC 003545840

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})
003545840-01	OBS	No	5.835764	132.210680	7.1	1.184	8.3	1.1	3.56	6706	1.06	3699.04
003545840-02	OBS	No	5.836245	132.155637	123.1	2.742	8.1	4.0	3.56	6706	4.75	3698.63
003545840-03	OBS	No	7.781297	134.956873	32.0	17.925	7.6	7.6	3.56	6706	2.34	2520.48
003545840-04	OBS	No	303.301729	250.644473	198.5	27.918	14.4	6.9	3.56	6706	5.25	19.07
003545840-05	OBS	No	5.835450	133.118434	31.3	12.500	9.0	-1.0	3.56	6706	2.01	3699.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003545840-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003545840-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003545840-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003545840-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
003545840-05	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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.

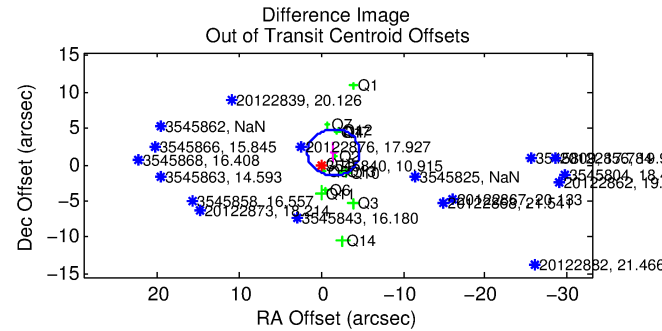
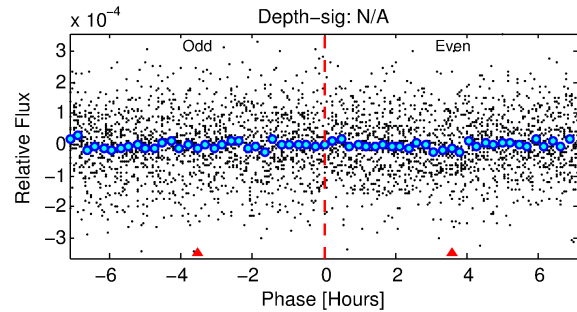
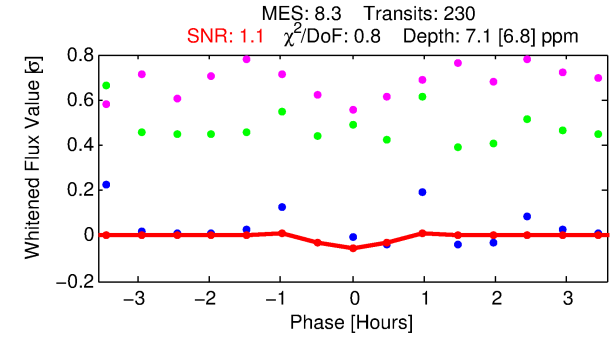
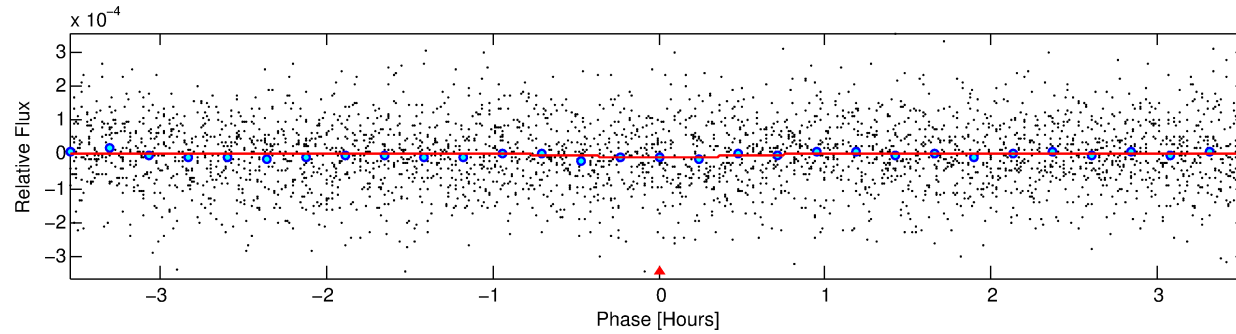
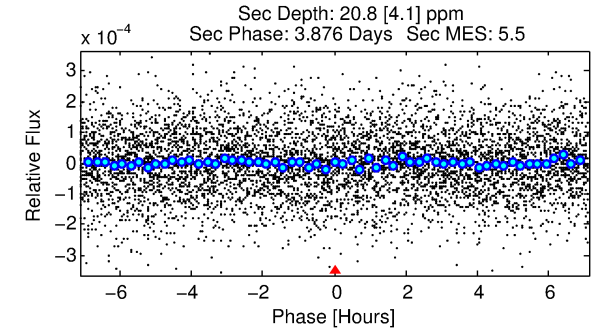
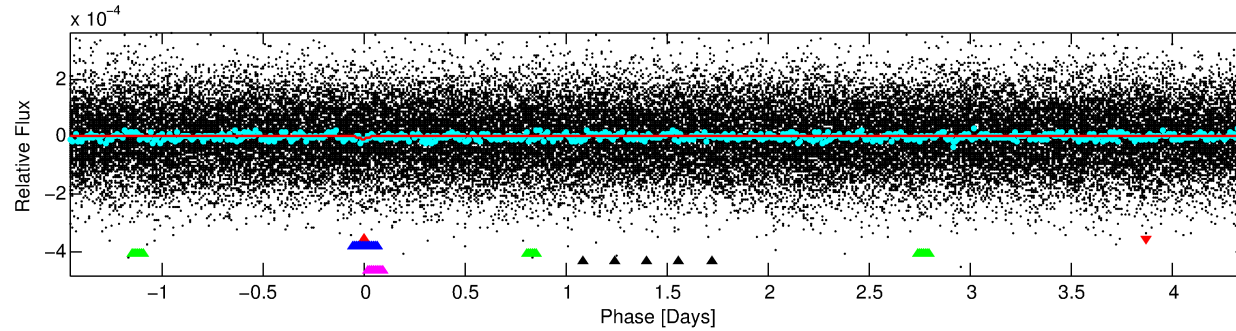
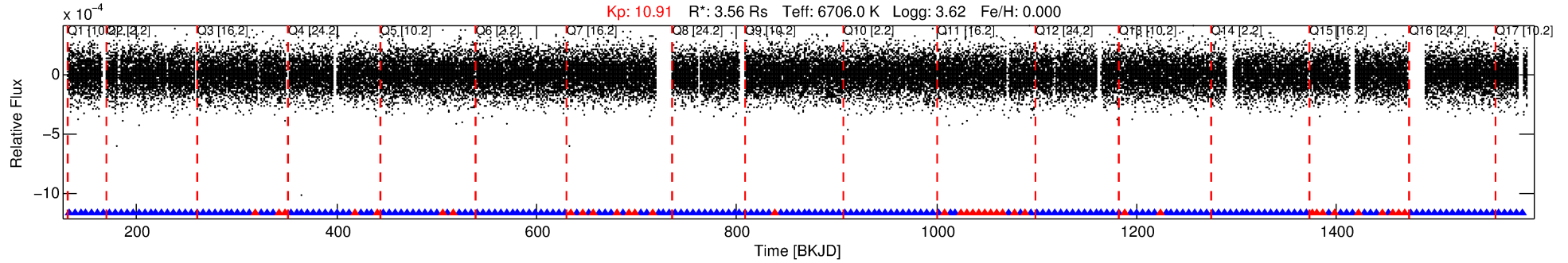
Ephemeris Match Information For 003545840-01

No Significant Match Found

DV One-Page Summary

KIC: 3545840 Candidate: 1 of 5 Period: 5.836 d

KOI: K06102 Corr: No Ephemeris Match



DV Fit Results:

Period = 5.83576 [0.00018] d
Epoch = 132.2107 [0.0210] BKJD
Rp/R* = 0.0027 [0.0020]
a/R* = 22.16 [67.76]
b = 0.81 [1.30]
Seff = 3699.04 [2022.24]
Teq = 1989 [272] K
Rp = 1.06 [0.86] Re
a = 0.0787 [0.0274] AU
Ag = 63.79 [98.95] [0.63σ]
Teffp = 8689 [3171] K [2.11σ]

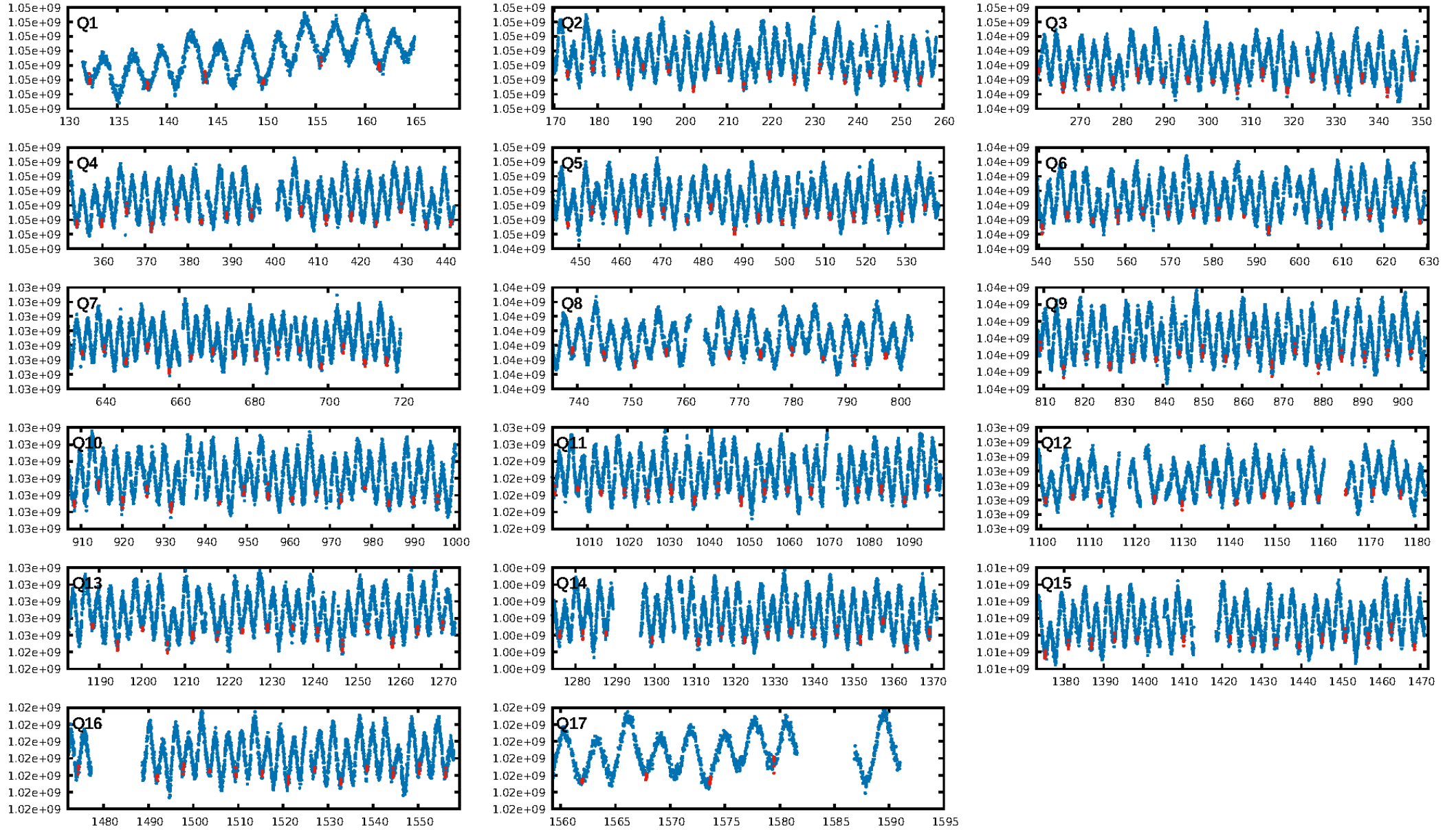
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 0.3% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.02e-09
RollingBand-fgt: 0.83 [183/220]
GhostDiagnostic-chr: -1.695
Centroid-sig: 86.8%
Centroid-so: 1.857 arcsec [0.26σ]
OotOffset-rm: 2.281 arcsec [2.14σ]
KicOffset-rm: 2.337 arcsec [1.93σ]
OotOffset-st: 4/4/2/4 [14]
KicOffset-st: 4/4/2/4 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 0.00 [0/17]

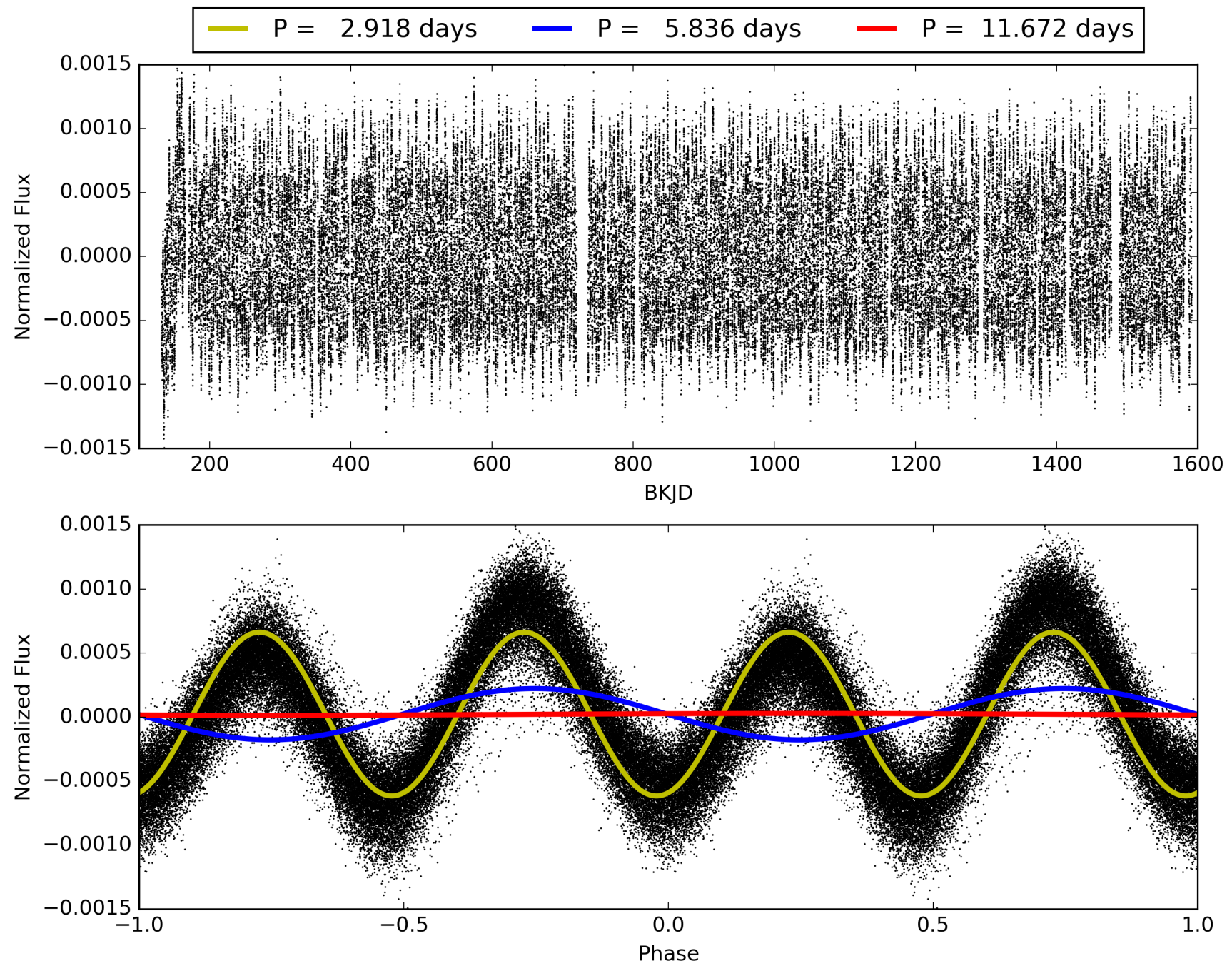
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:29:22 Z

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

TCE 003545840-01, PDC Light Curves

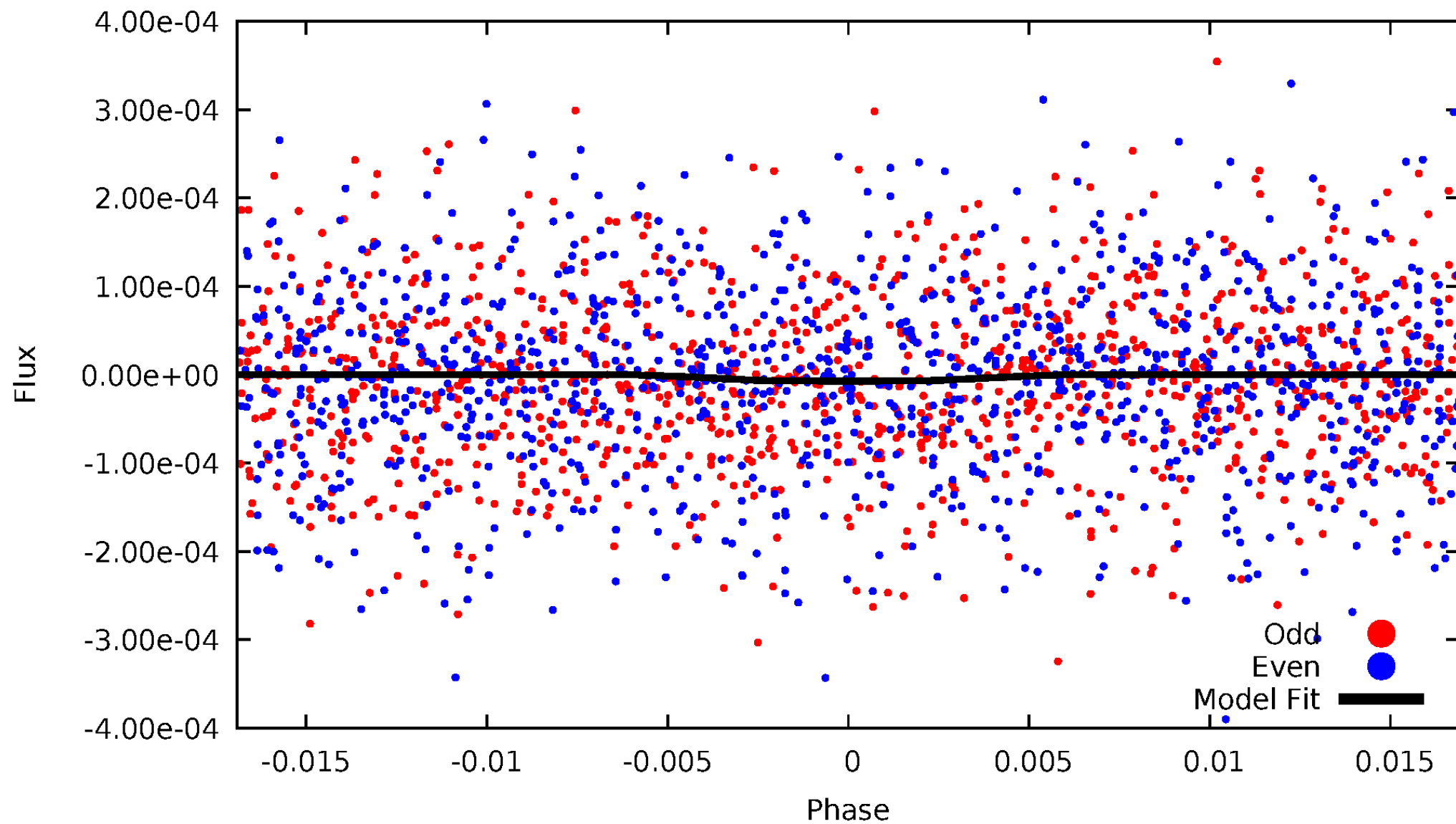


TCE 003545840-01



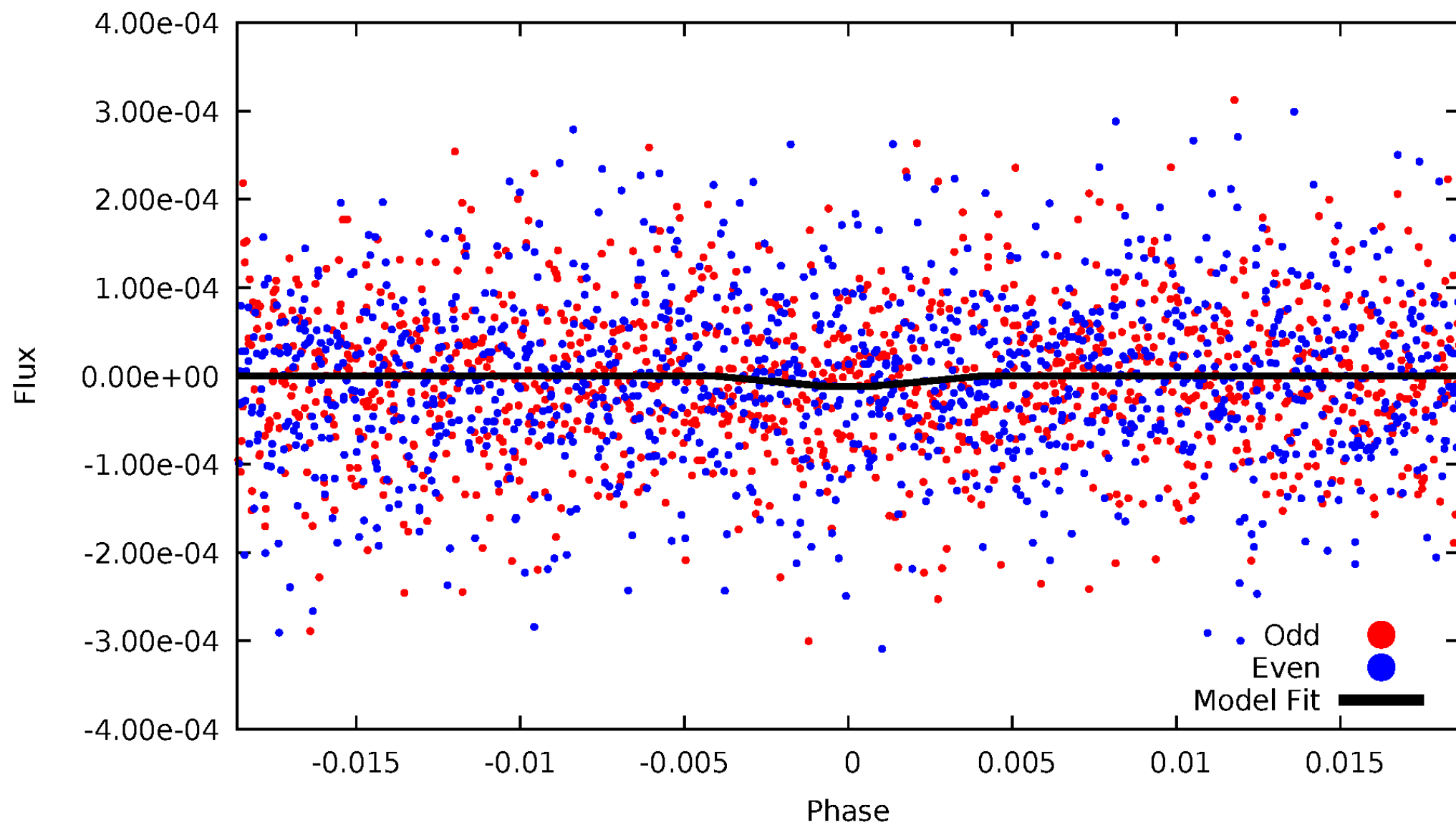
DV Odd/Even

TCE 003545840-01



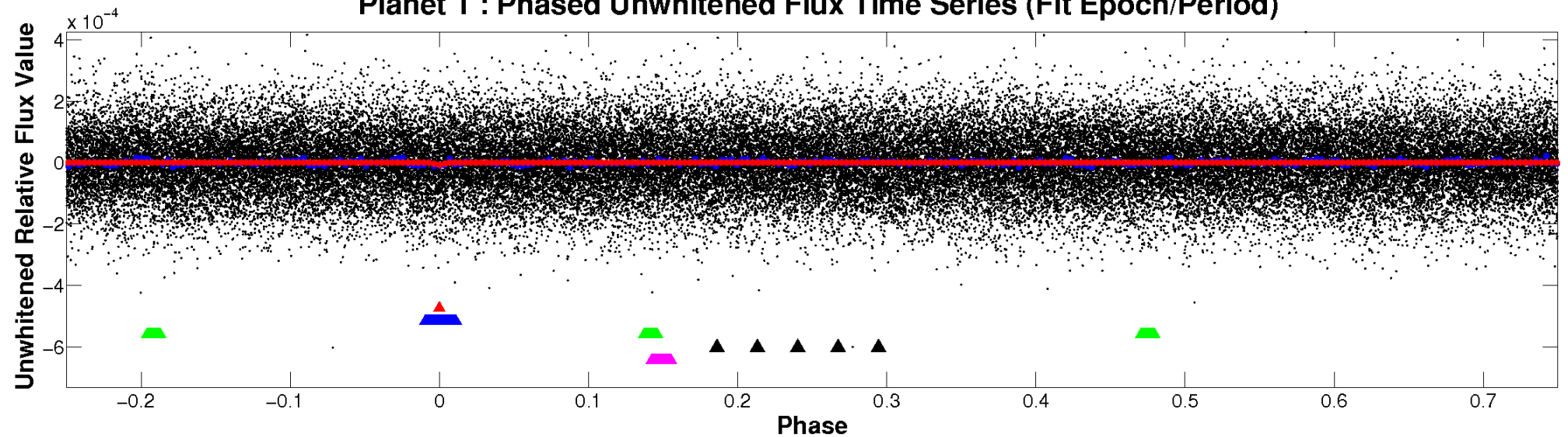
ALT Odd/Even

TCE 003545840-01

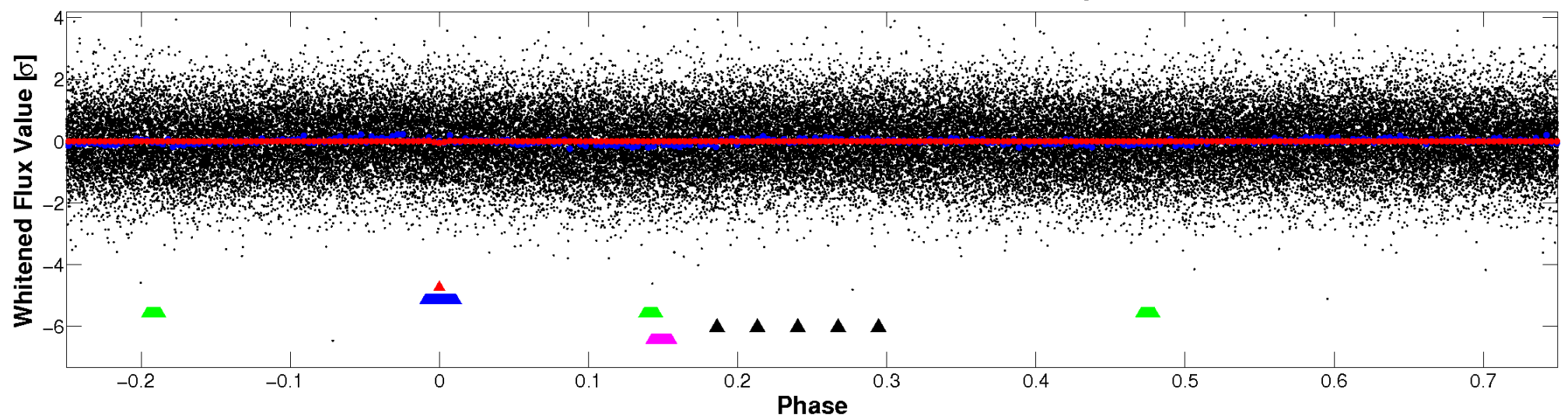


Non-Whitened Vs. Whitened Light Curve

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

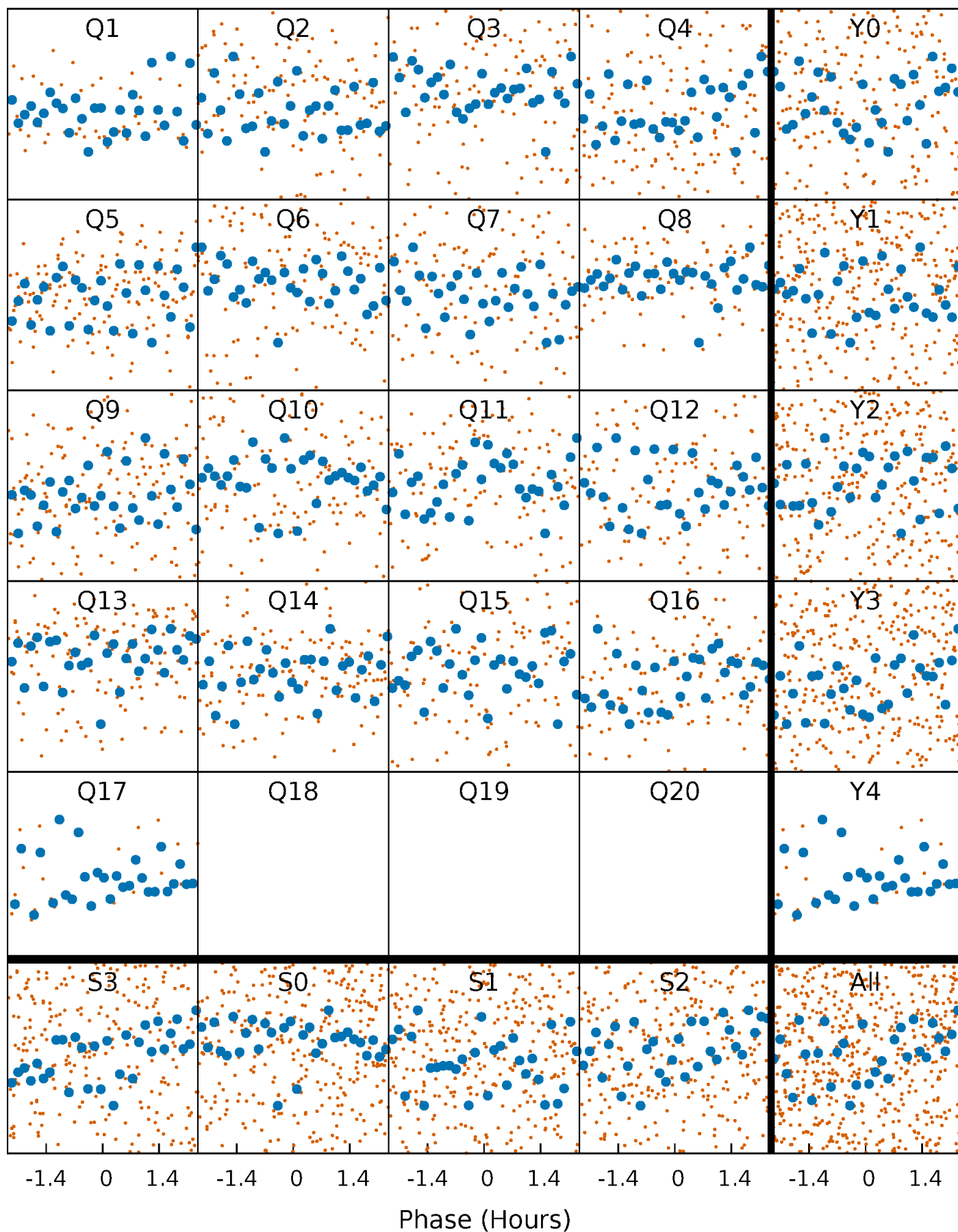


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



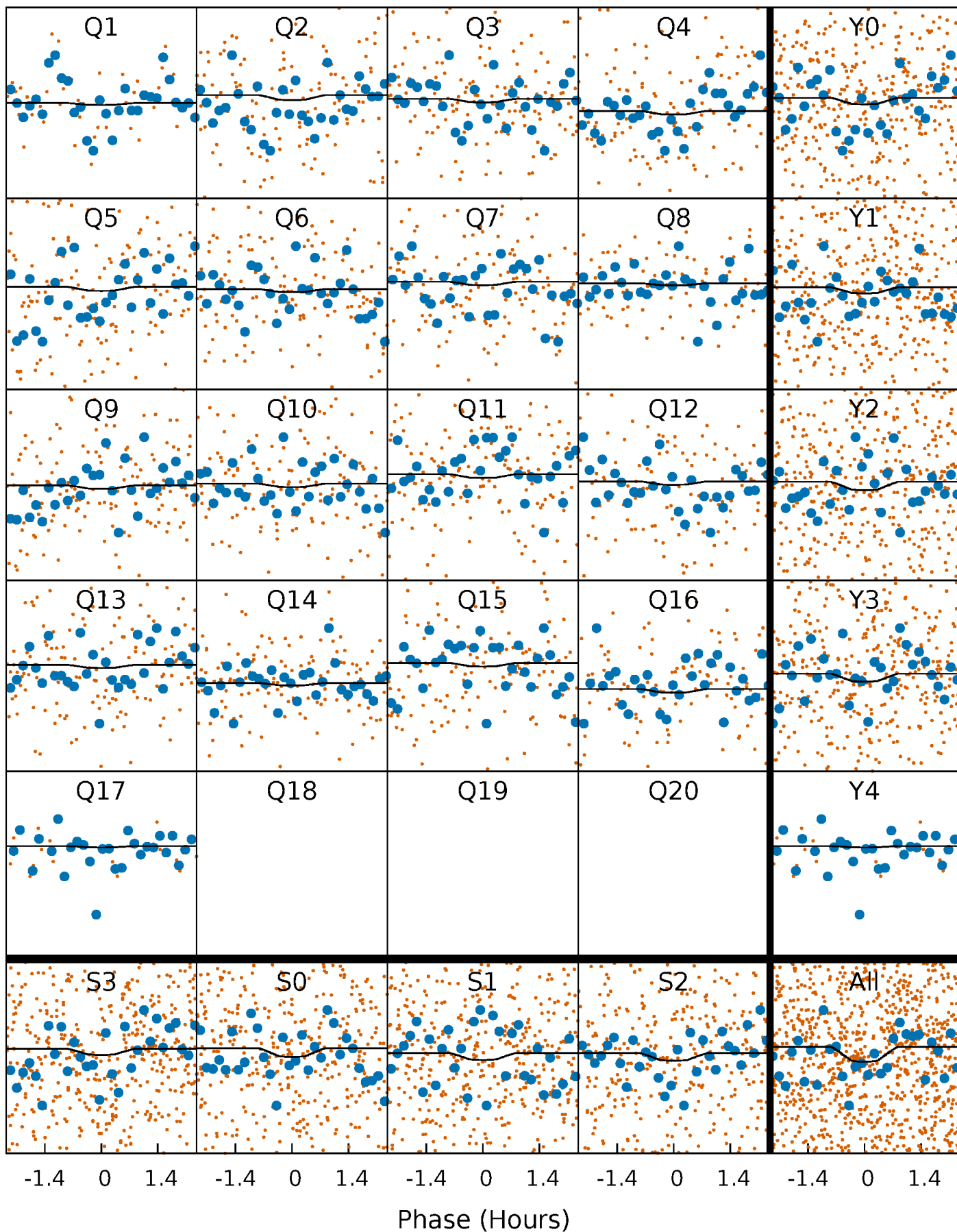
PDC Quarter-Phased Transit Curves

TCE 003545840-01 P= 5.835764 Days $T_0=132.210680$ (BKJD)



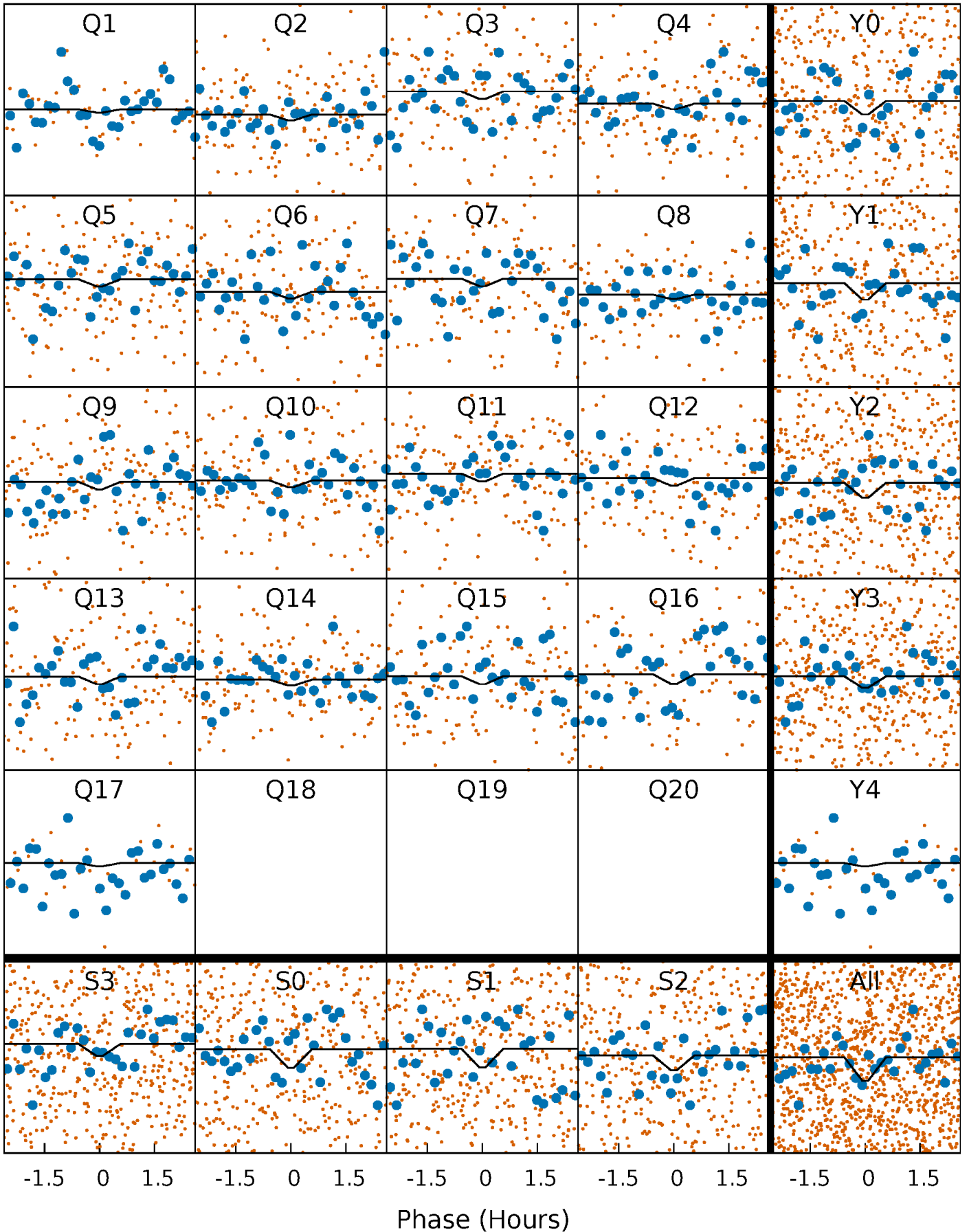
DV Quarter-Phased Transit Curves

TCE 003545840-01 P= 5.835764 Days $T_0=132.210680$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

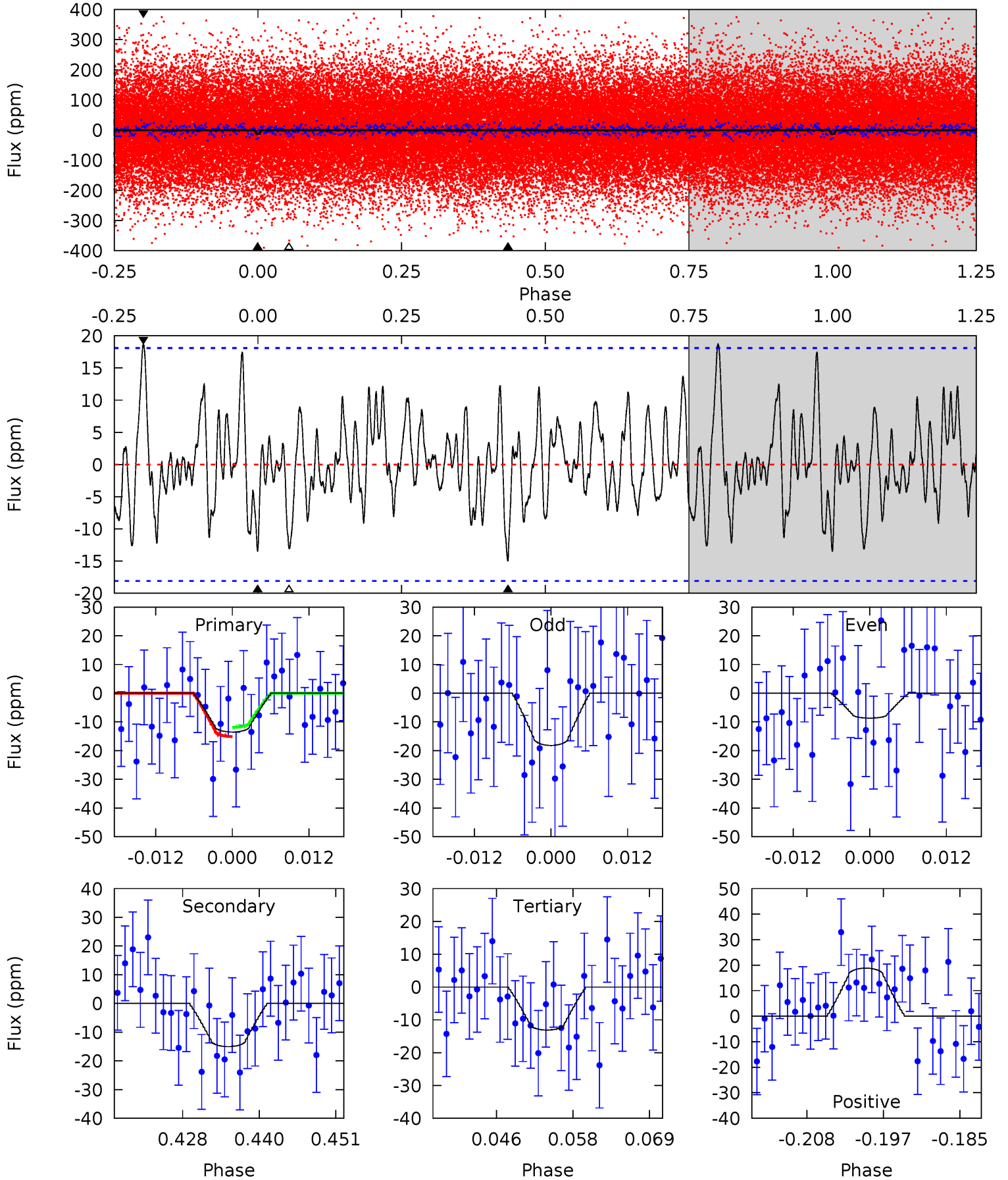
TCE 003545840-01 P= 5.835753 Days $T_0=132.203434$ (BKJD)



DV Model-Shift Uniqueness Test

003545840-01, P = 5.835764 Days, E = 126.374916 Days

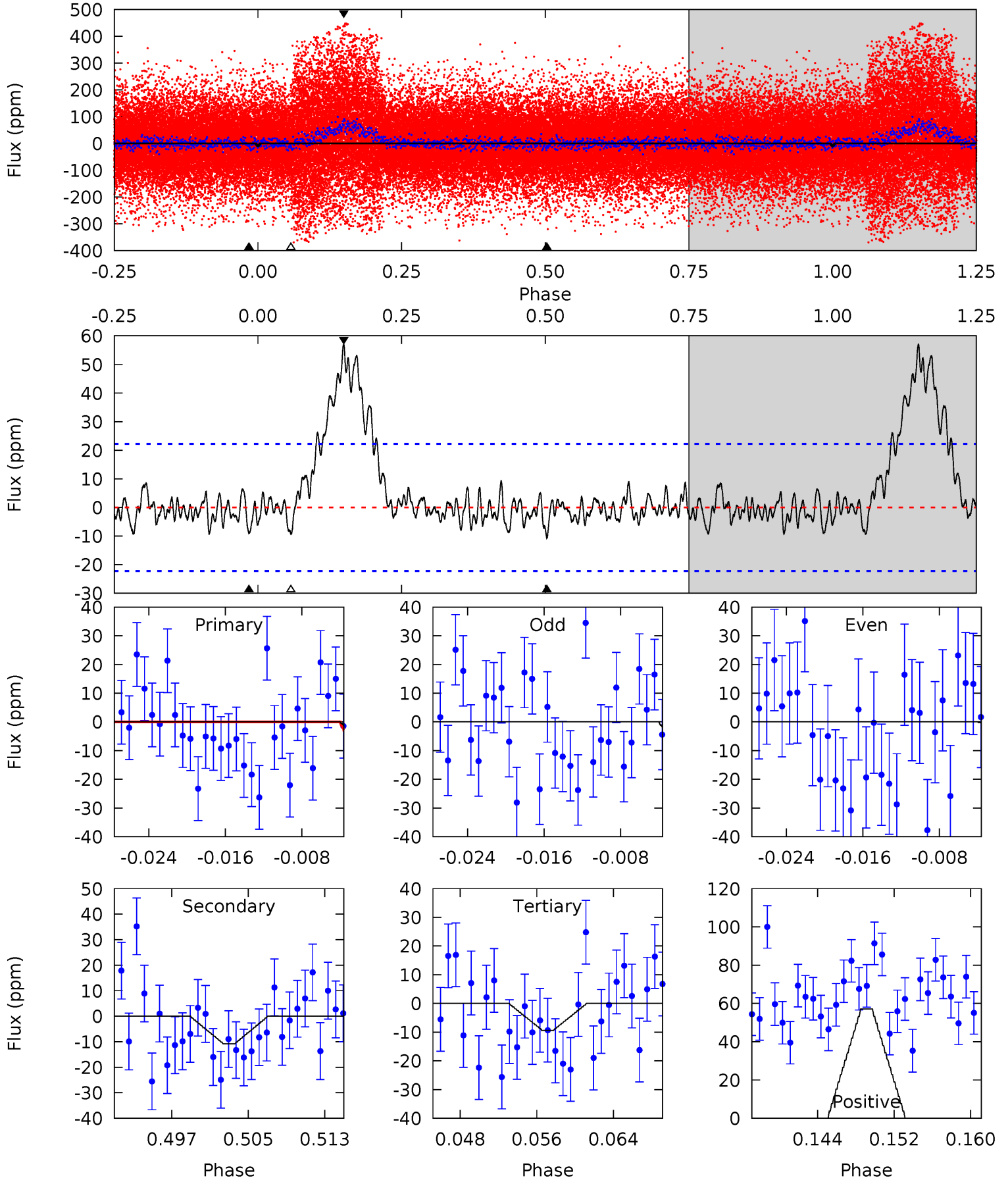
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.74	4.15	3.62	5.20	5.00	2.52	1.57	0.12	-1.46	0.53	-1.05	1.32	0.85	0.56	0.44



Alt Model-Shift Uniqueness Test

003545840-01, P = 5.835753 Days, E = 126.367681 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.07	2.47	2.13	13.0	5.07	2.65	2.89	-0.07	-10.9	0.33	-10.5	1.34	1.59	0.84	2.03



Stellar Parameters For KIC 003545840

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6706^{+151}_{-184}	$3.617^{+0.306}_{-0.054}$	$0.000^{+0.300}_{-0.250}$	$3.558^{+0.343}_{-1.373}$	$1.913^{+0.182}_{-0.426}$	$0.060^{+0.142}_{-0.012}$
	+2%/-3%	+8%/-1%	+inf%/-inf%	+10%/-39%	+10%/-22%	+238%/-19%
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 003545840-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-15 ± 4	$1.02^{+0.72}_{-0.58}$	2720^{+128}_{-255}	7846^{+6641}_{-1943}	48^{+214}_{-32}
Alt.	-11 ± 4	$1.28^{+0.70}_{-0.70}$	2706^{+132}_{-238}	6243^{+3735}_{-1240}	21^{+75}_{-13}

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 $A_{obs} \gg 1.0$

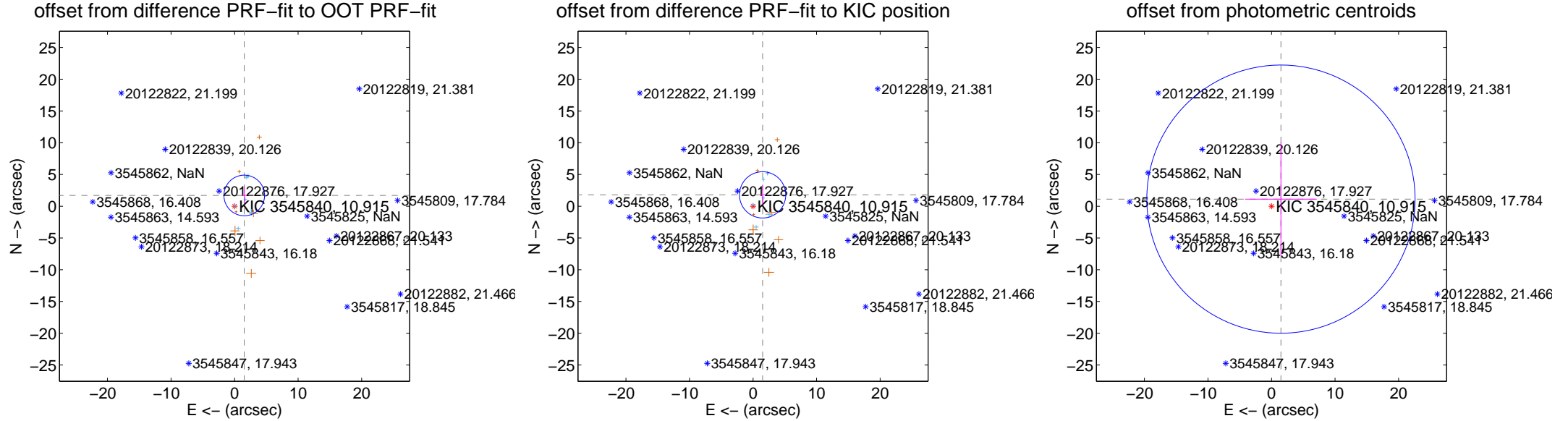
DV Centroid Data

Supplemental centroid analysis for 003545840-01. **Kepler magnitude: 10.91.** Transit SNR 1.12

There are 7 quarters with good PRF difference image offsets

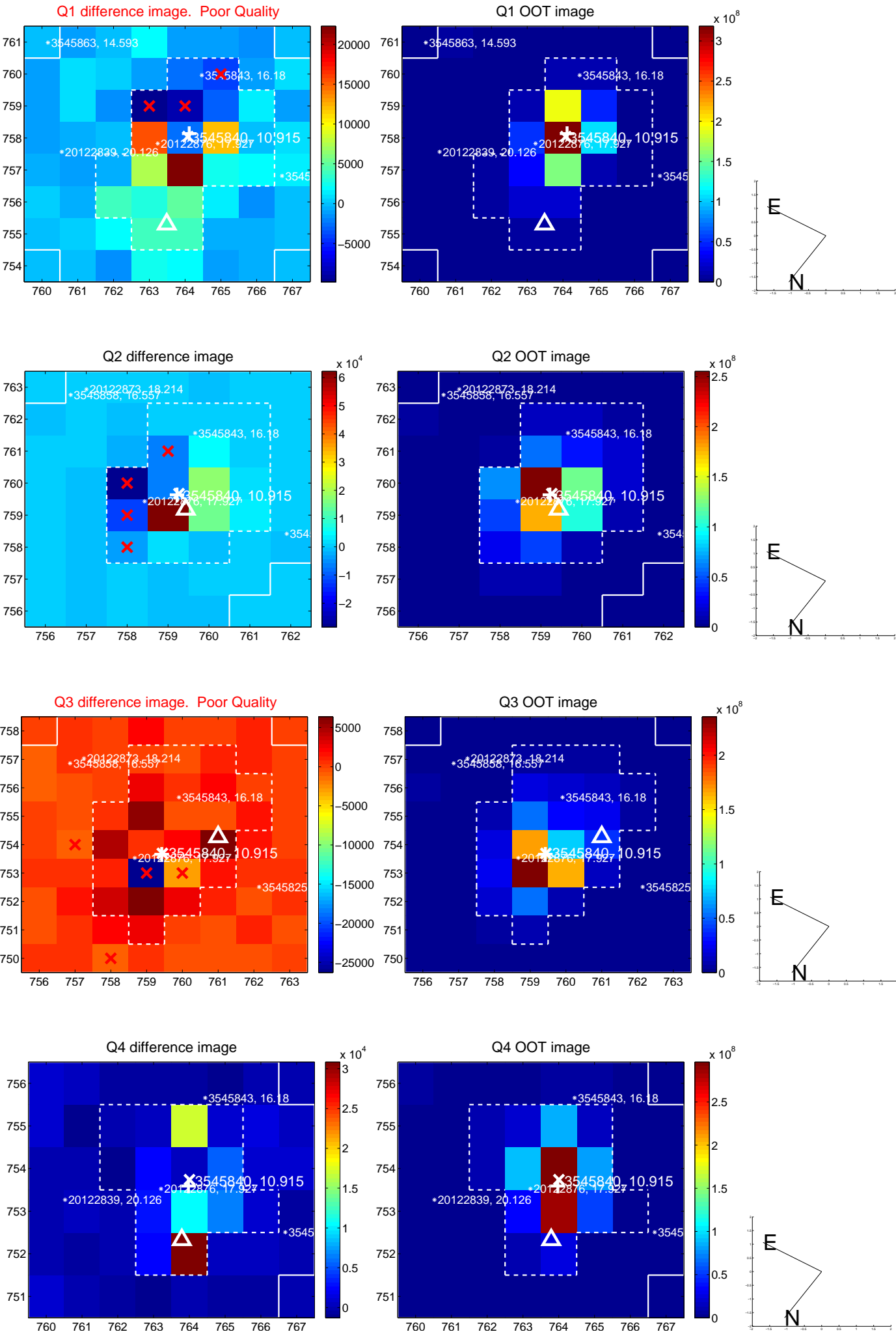
The direct PRF centroid is offset from the target star catalog position by about 0.40 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.281 ± 1.066	2.14	-1.523 ± 0.314	1.698 ± 1.377
PRF-fit source offset from KIC position	2.337 ± 1.214	1.93	-1.503 ± 0.370	1.789 ± 1.507
photometric centroid source offset	1.86 ± 7.04	0.26	-1.48 ± 5.65	1.12 ± 8.96

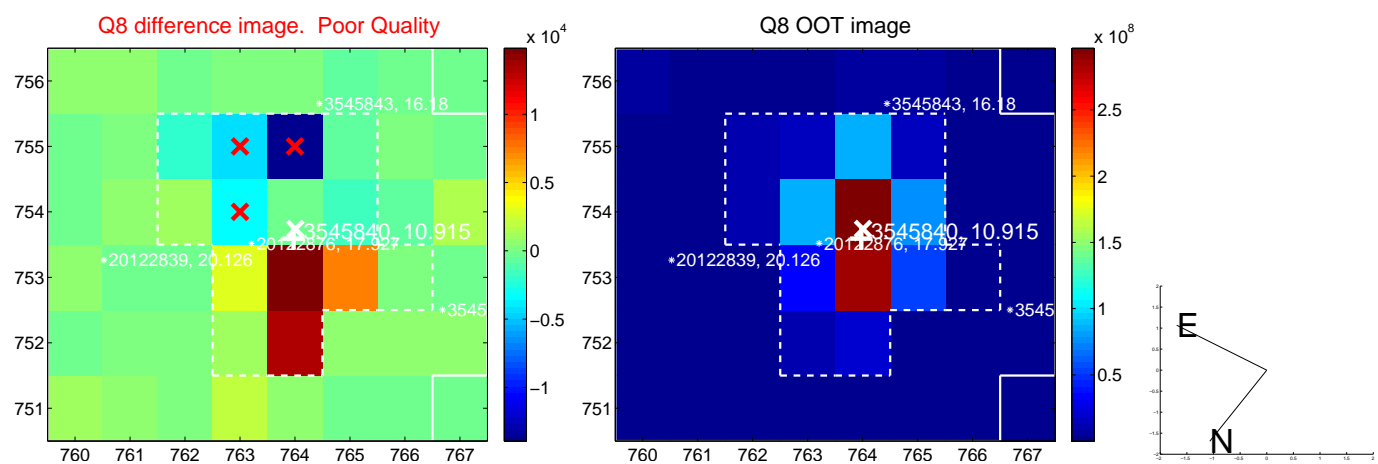
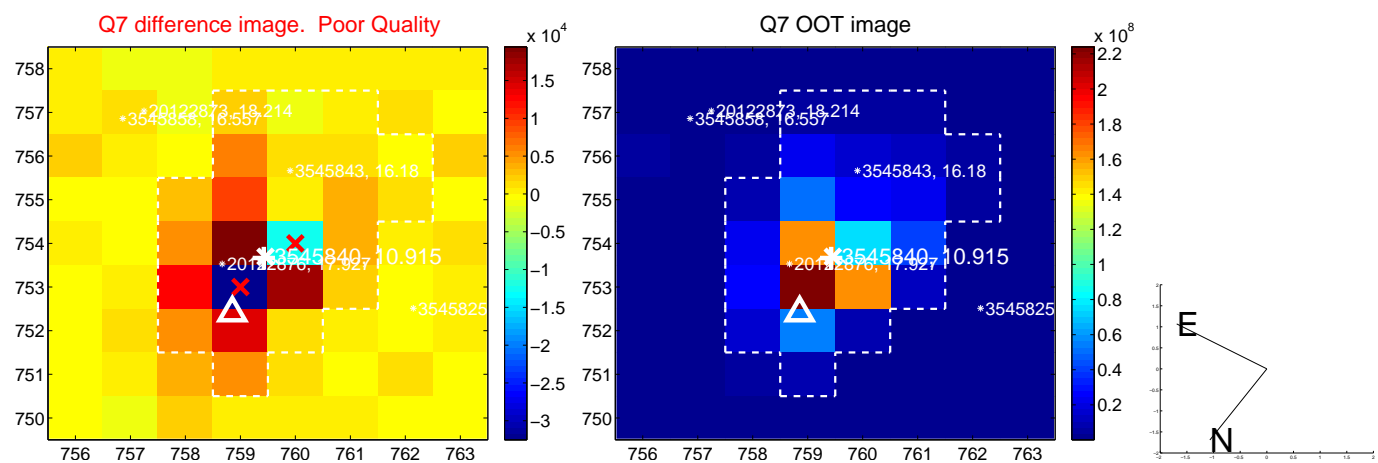
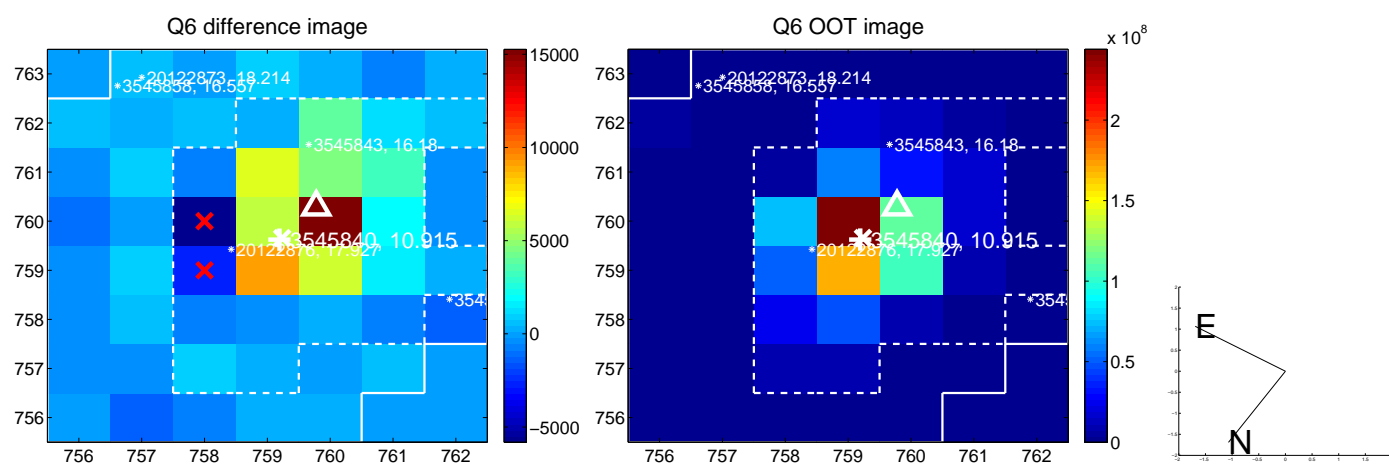
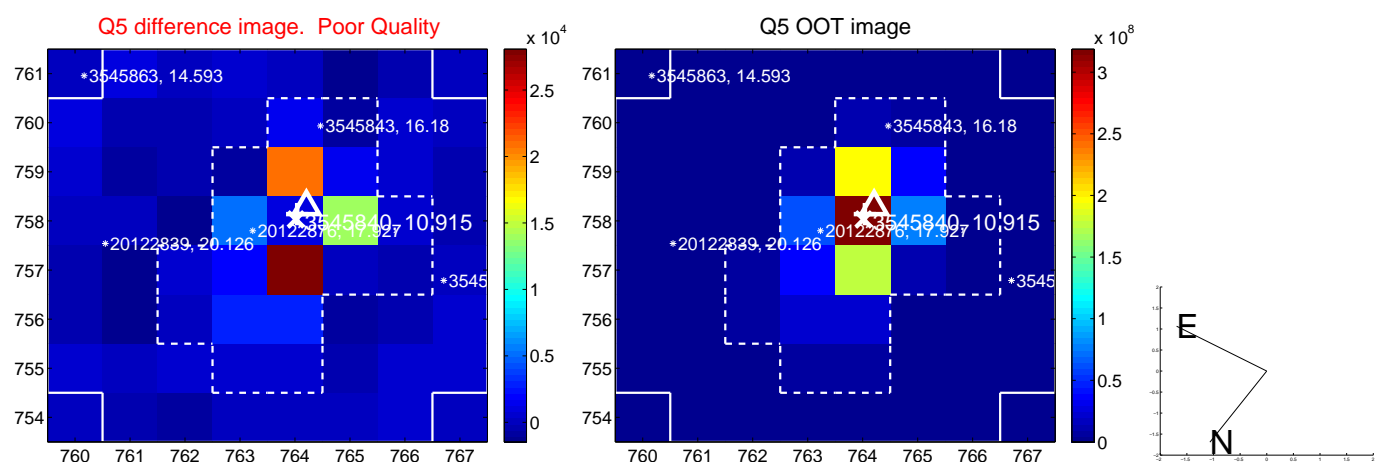


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

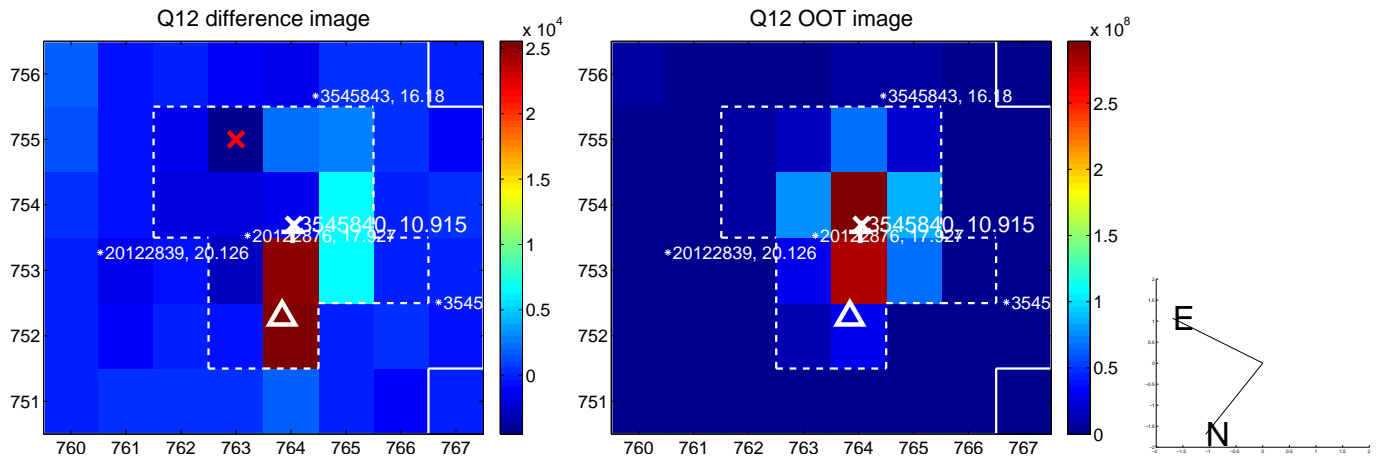
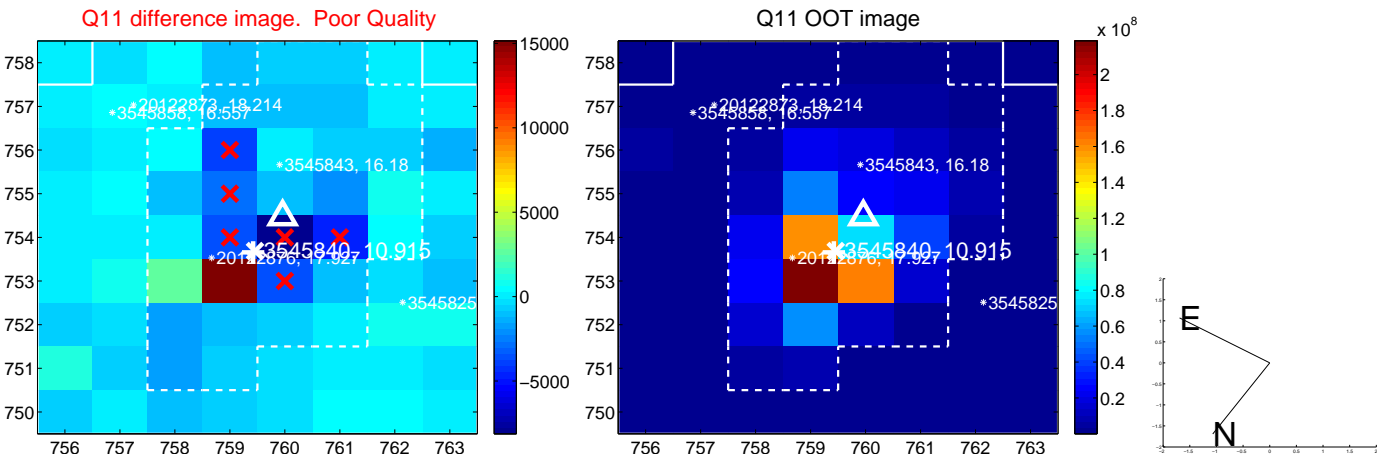
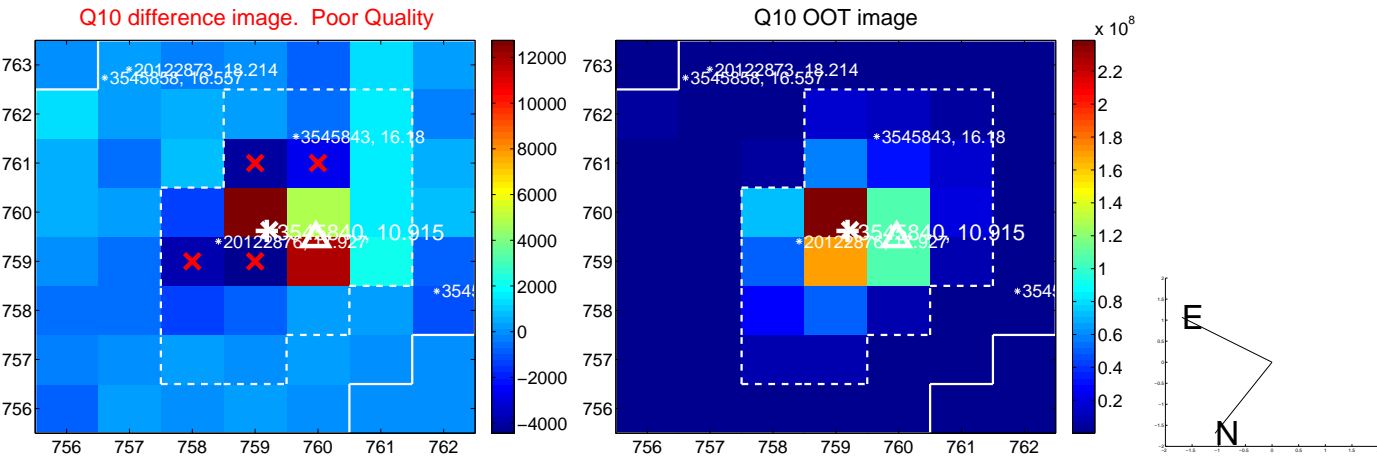
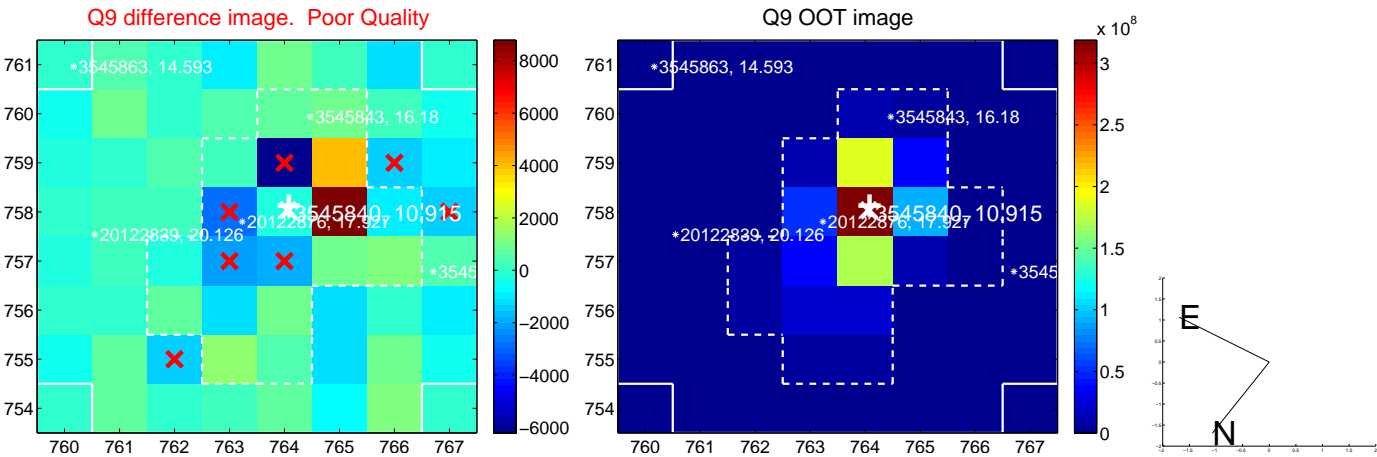
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



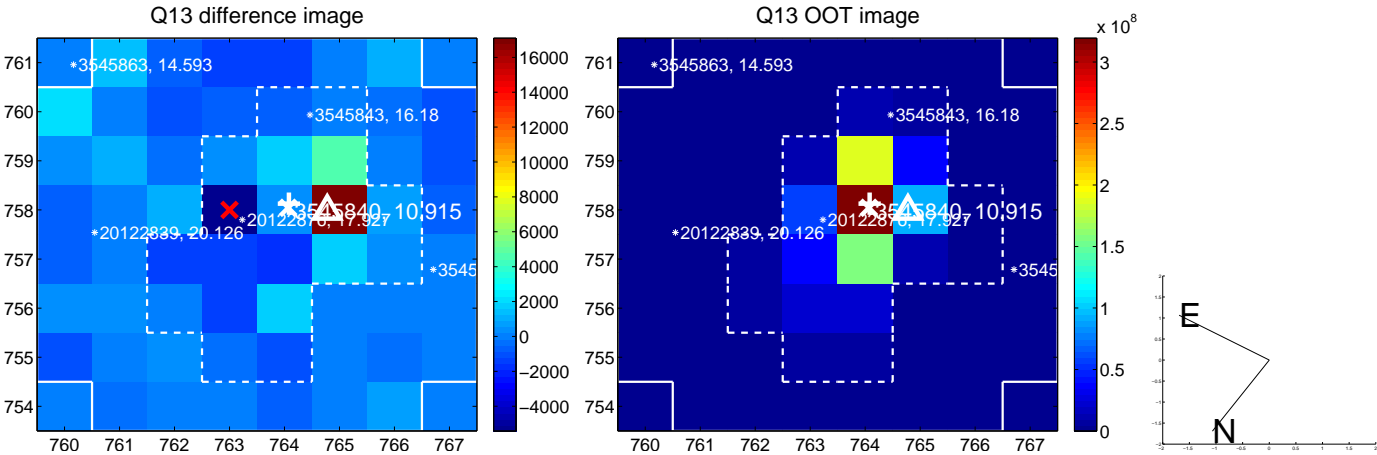
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



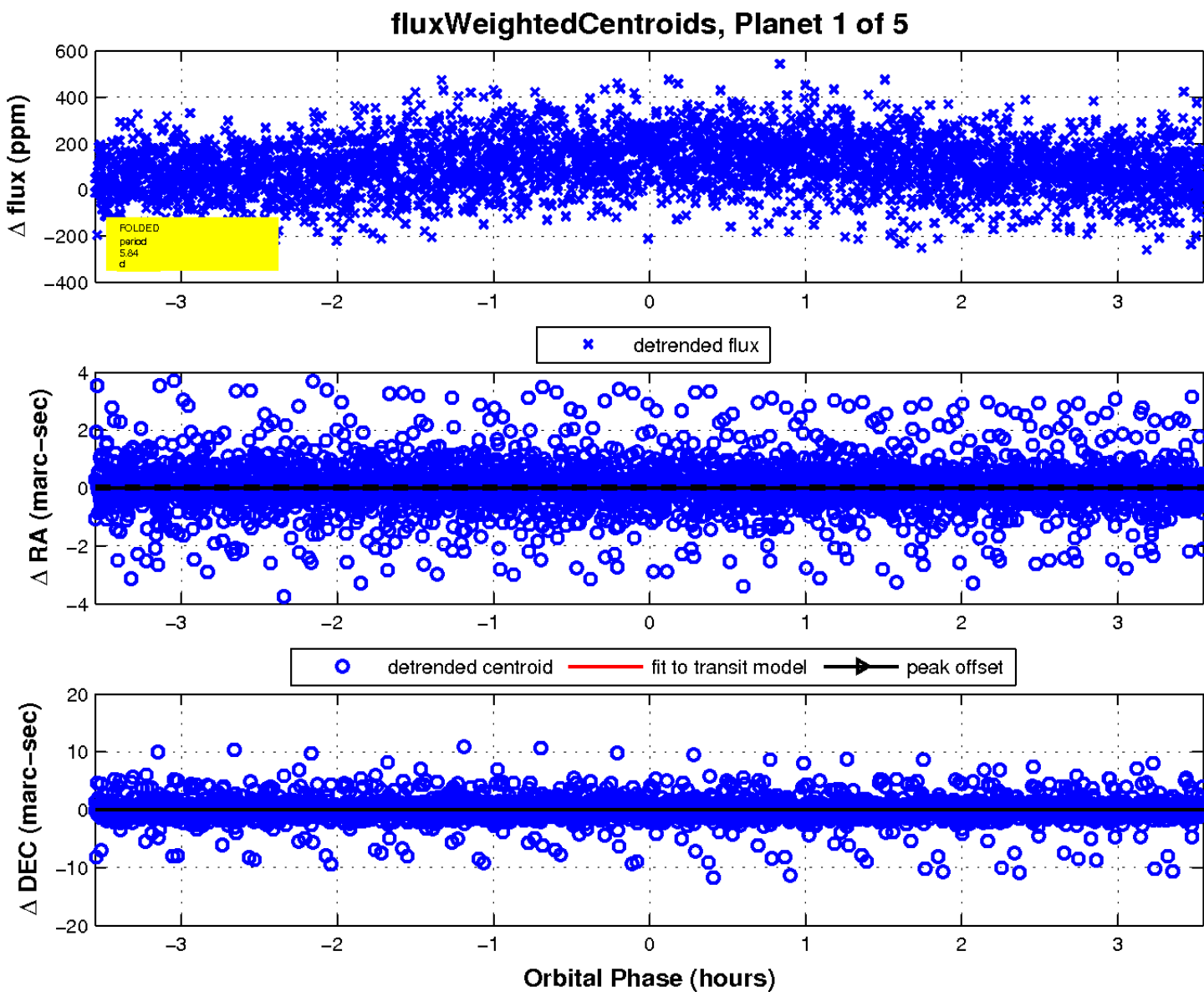
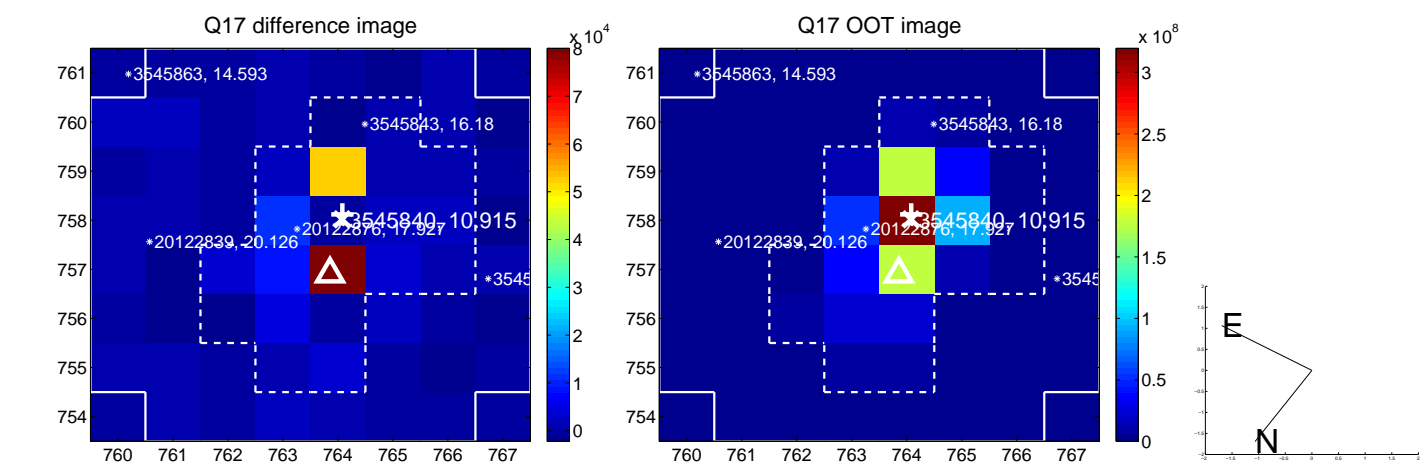
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



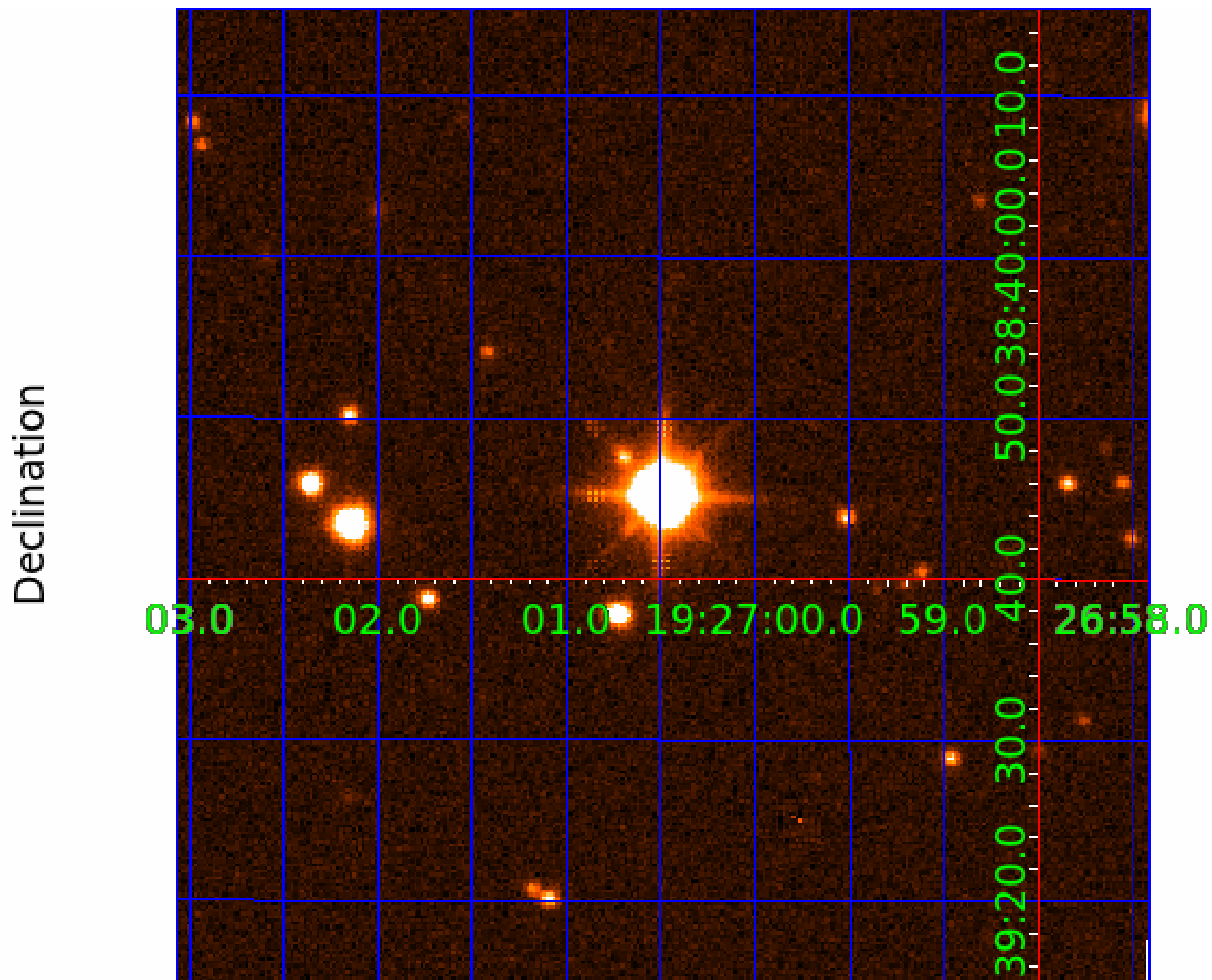
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 003545840

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})
003545840-01	OBS	No	5.835764	132.210680	7.1	1.184	8.3	1.1	3.56	6706	1.06	3699.04
003545840-02	OBS	No	5.836245	132.155637	123.1	2.742	8.1	4.0	3.56	6706	4.75	3698.63
003545840-03	OBS	No	7.781297	134.956873	32.0	17.925	7.6	7.6	3.56	6706	2.34	2520.48
003545840-04	OBS	No	303.301729	250.644473	198.5	27.918	14.4	6.9	3.56	6706	5.25	19.07
003545840-05	OBS	No	5.835450	133.118434	31.3	12.500	9.0	-1.0	3.56	6706	2.01	3699.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003545840-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003545840-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003545840-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003545840-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
003545840-05	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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.

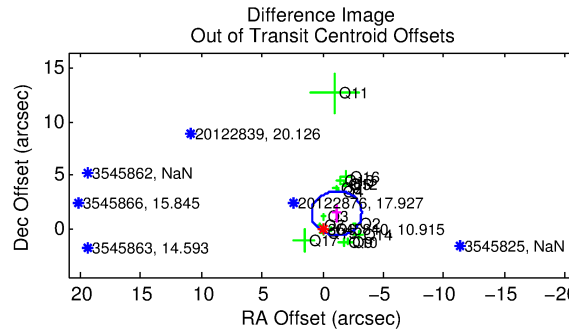
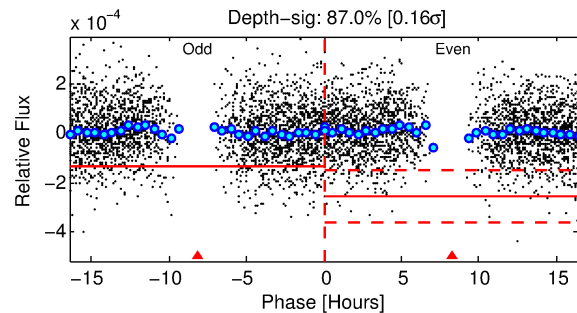
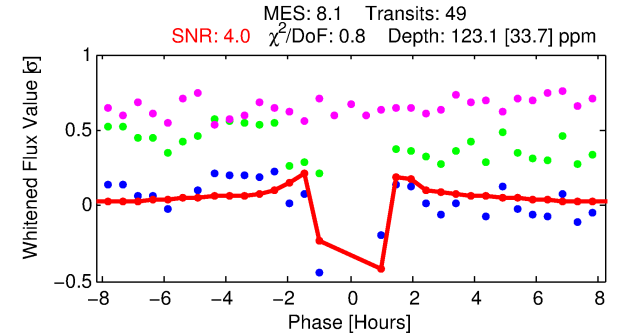
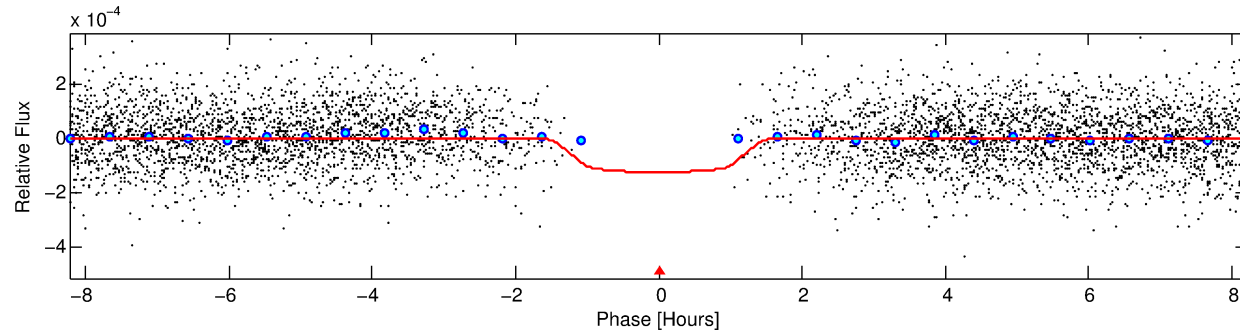
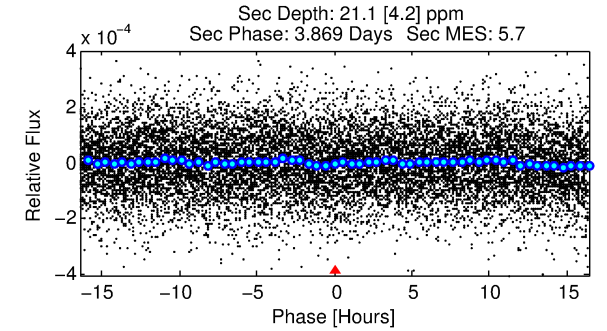
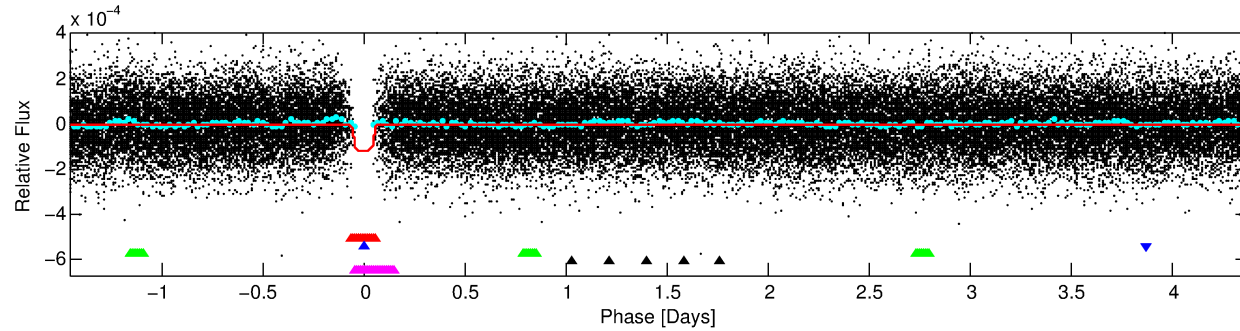
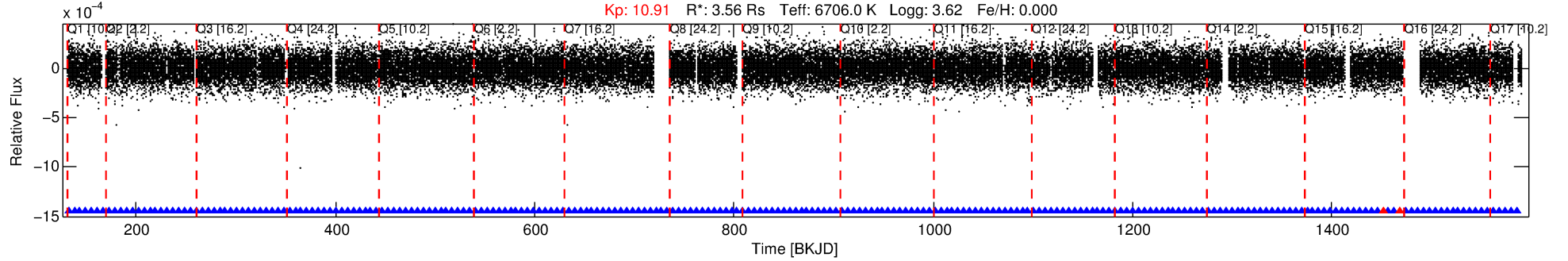
Ephemeris Match Information For 003545840-02

No Significant Match Found

DV One-Page Summary

KIC: 3545840 Candidate: 2 of 5 Period: 5.836 d

KOI: K06102 Corr: No Ephemeris Match



DV Fit Results:

Period = 5.83625 [0.00002] d
Epoch = 132.1556 [0.0051] BKJD
Rp/R* = 0.0122 [0.0048]
a/R* = 6.44 [13.07]
b = 0.93 [0.29]
Seff = 3698.63 [2022.01]
Teq = 1989 [272] K
Rp = 4.75 [2.62] Re
a = 0.0788 [0.0274] AU
Ag = 3.20 [3.12] [0.70σ]
Teffp = 4111 [845] K [2.39σ]

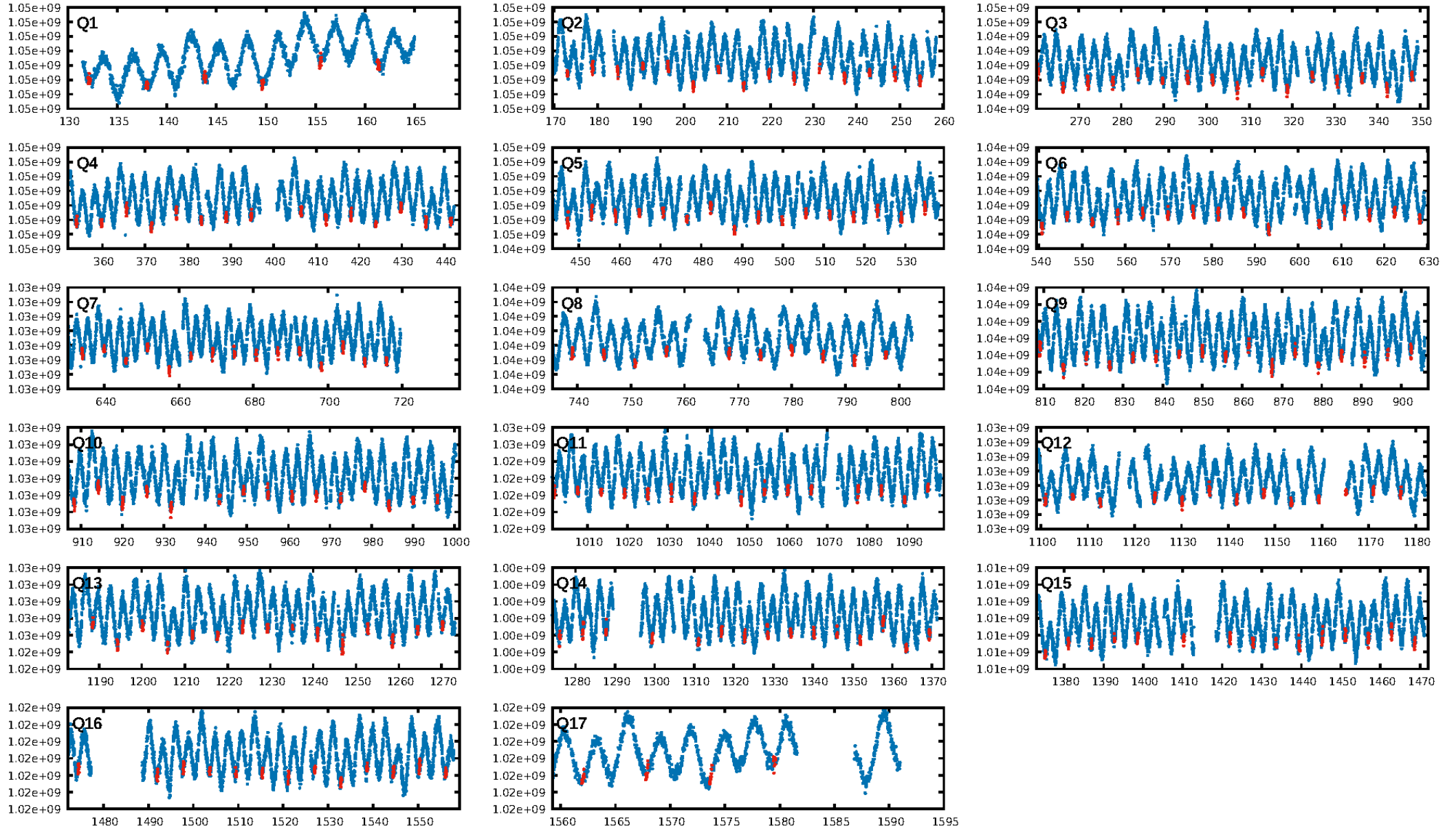
DV Diagnostic Results:

ShortPeriod-sig: 0.3% [0.00σ]
LongPeriod-sig: 99.0% [2.57σ]
ModelChiSquare2-sig: 98.2%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 3.52e-09
RollingBand-fgt: 0.95 [38/40]
GhostDiagnostic-chr: -2.127
Centroid-sig: 50.4%
Centroid-so: 0.373 arcsec [0.94σ]
OotOffset-rm: 1.868 arcsec [2.69σ]
KicOffset-rm: 2.117 arcsec [2.97σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.75 [12/16]
DiffImageOverlap-fno: 0.00 [0/17]

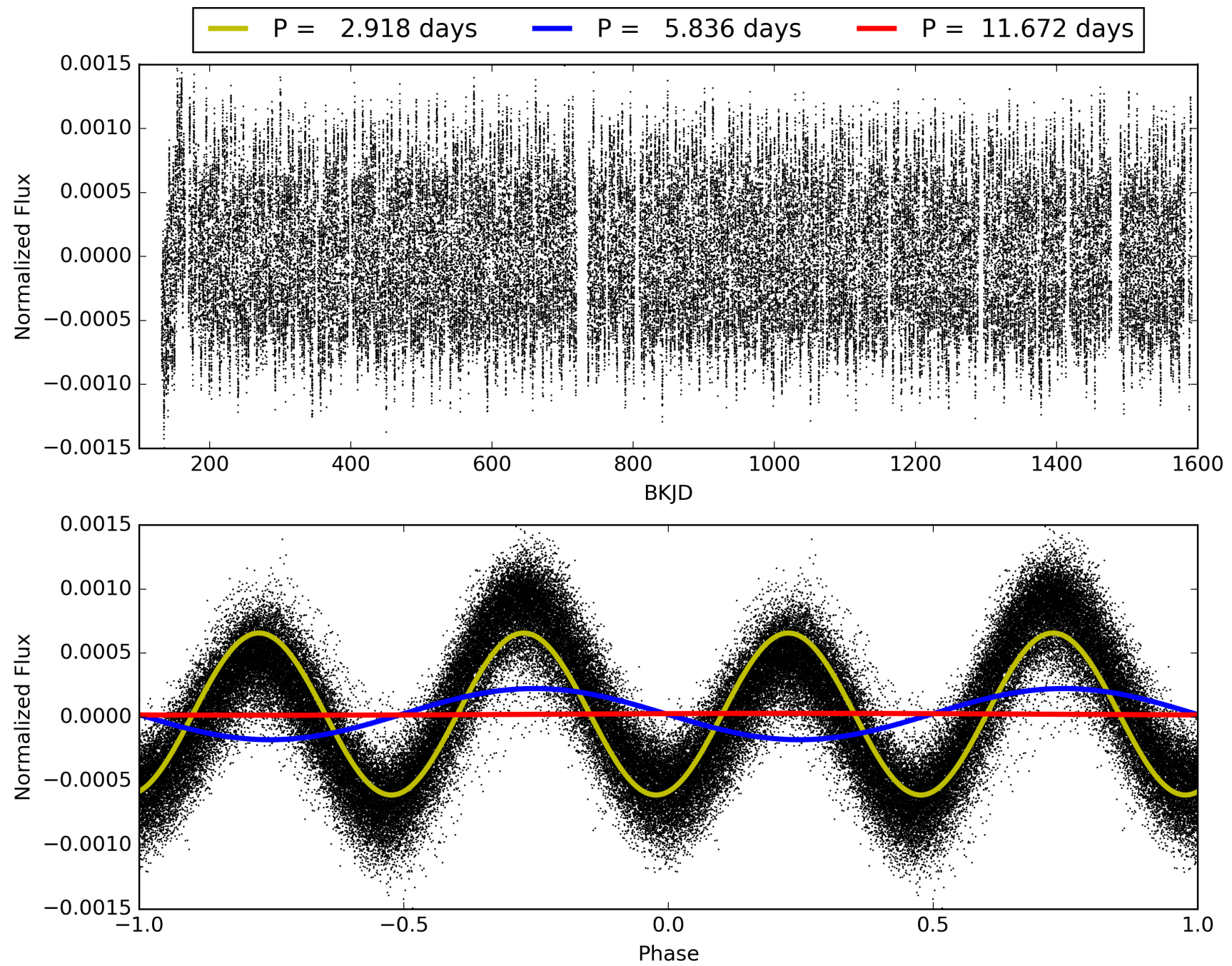
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:29:30 Z

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

TCE 003545840-02, PDC Light Curves

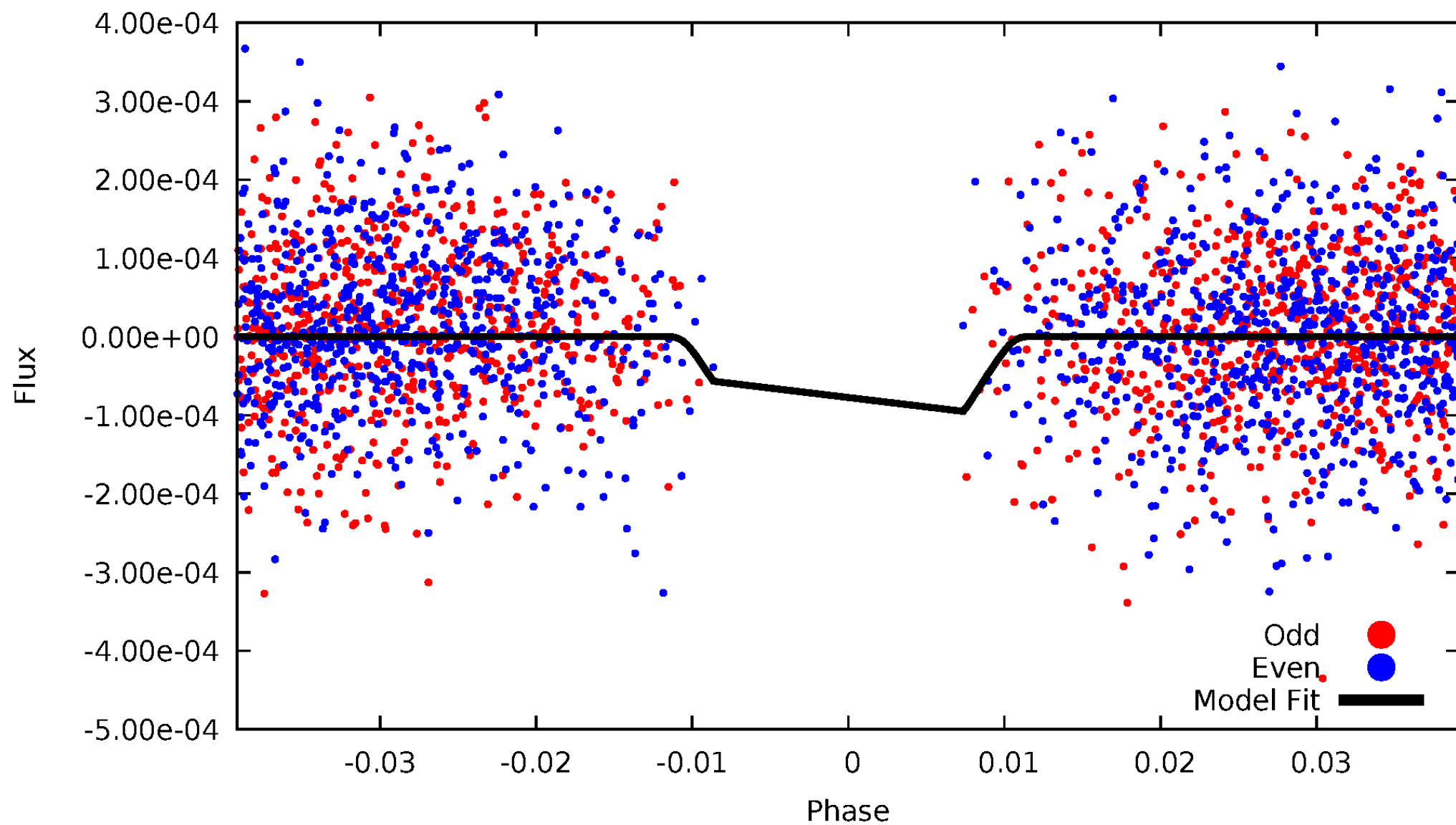


TCE 003545840-02



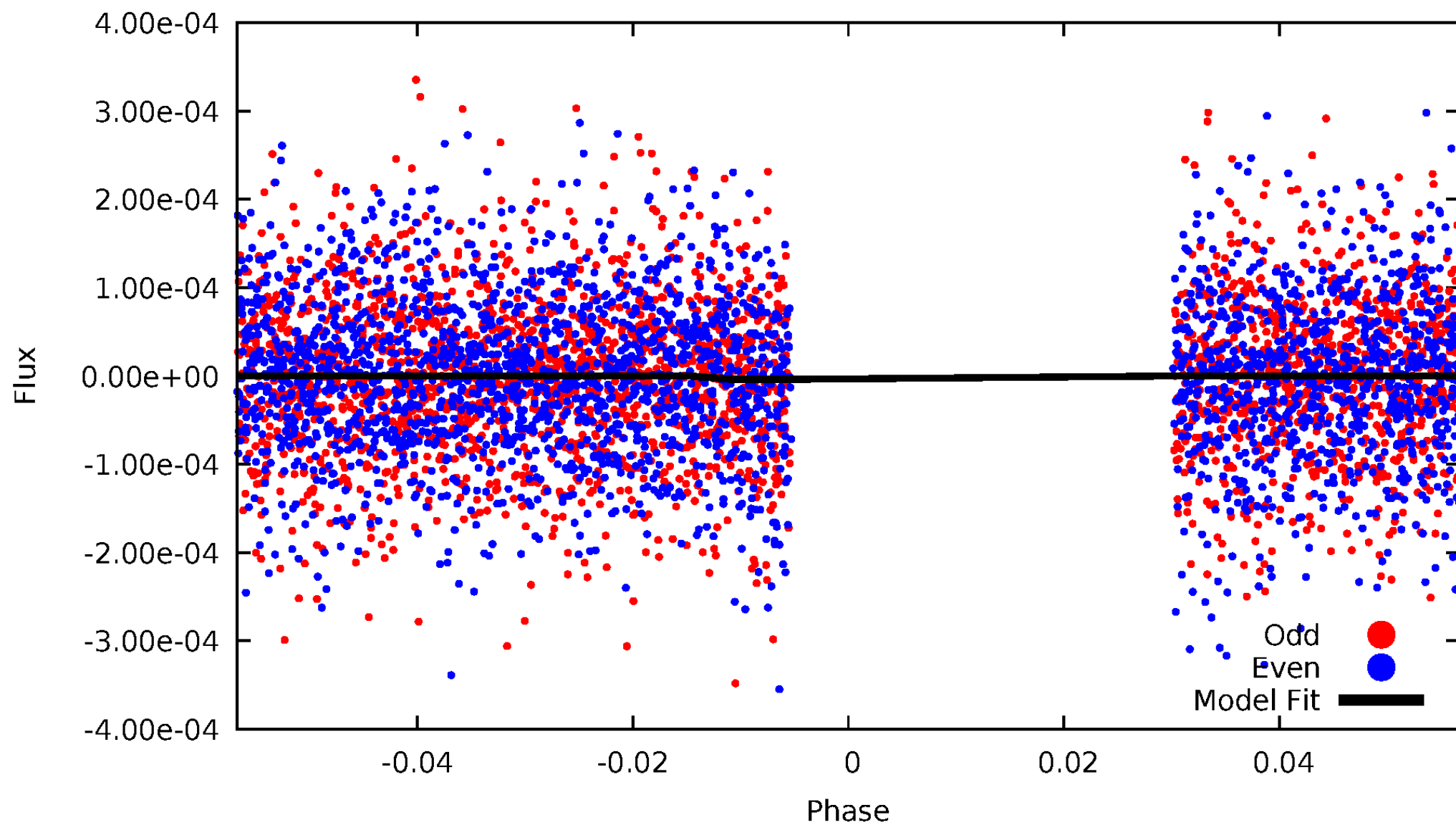
DV Odd/Even

TCE 003545840-02



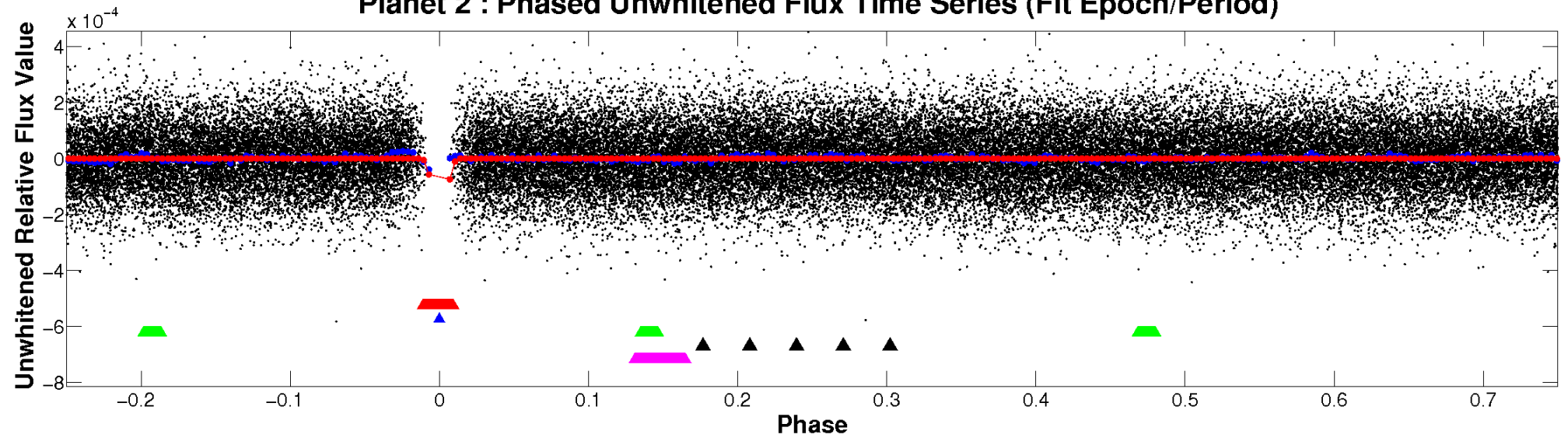
ALT Odd/Even

TCE 003545840-02

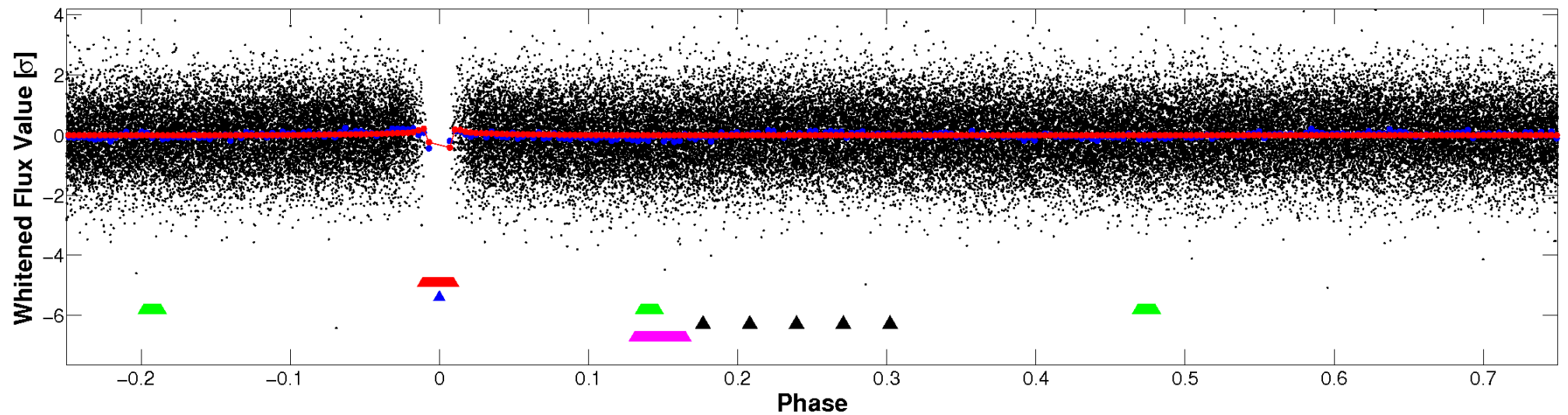


Non-Whitened Vs. Whitened Light Curve

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

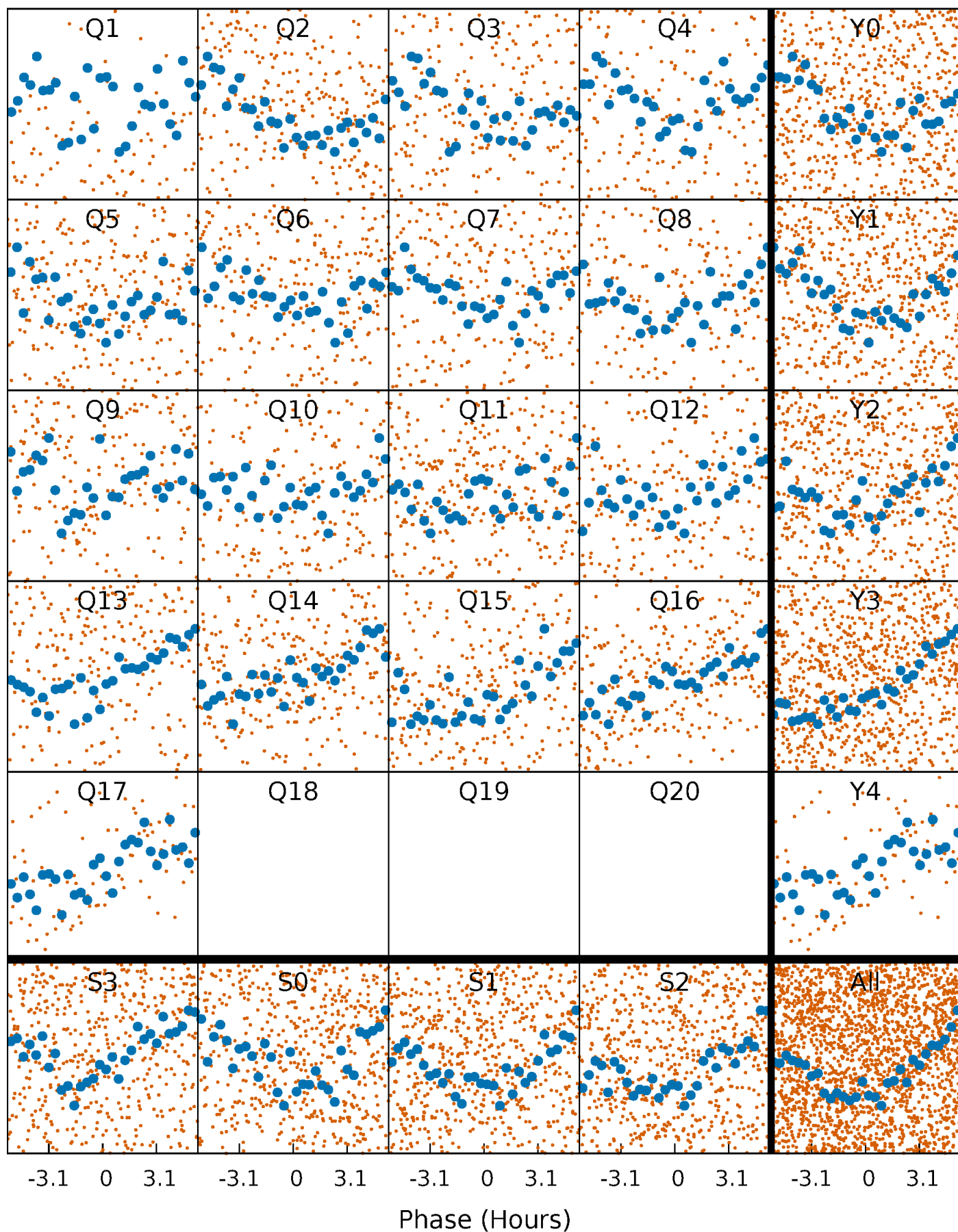


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



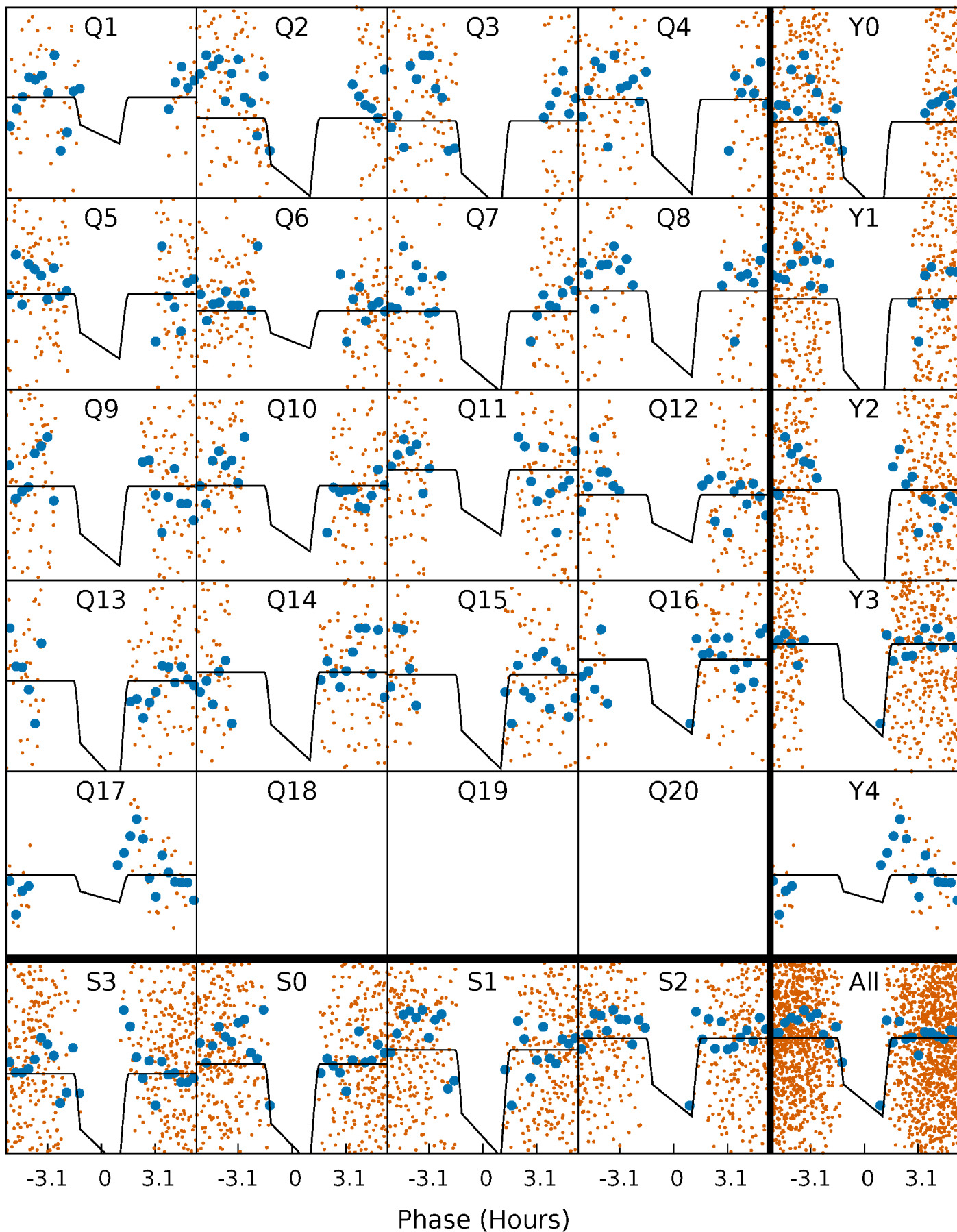
PDC Quarter-Phased Transit Curves

TCE 003545840-02 P= 5.836245 Days $T_0=132.155637$ (BKJD)



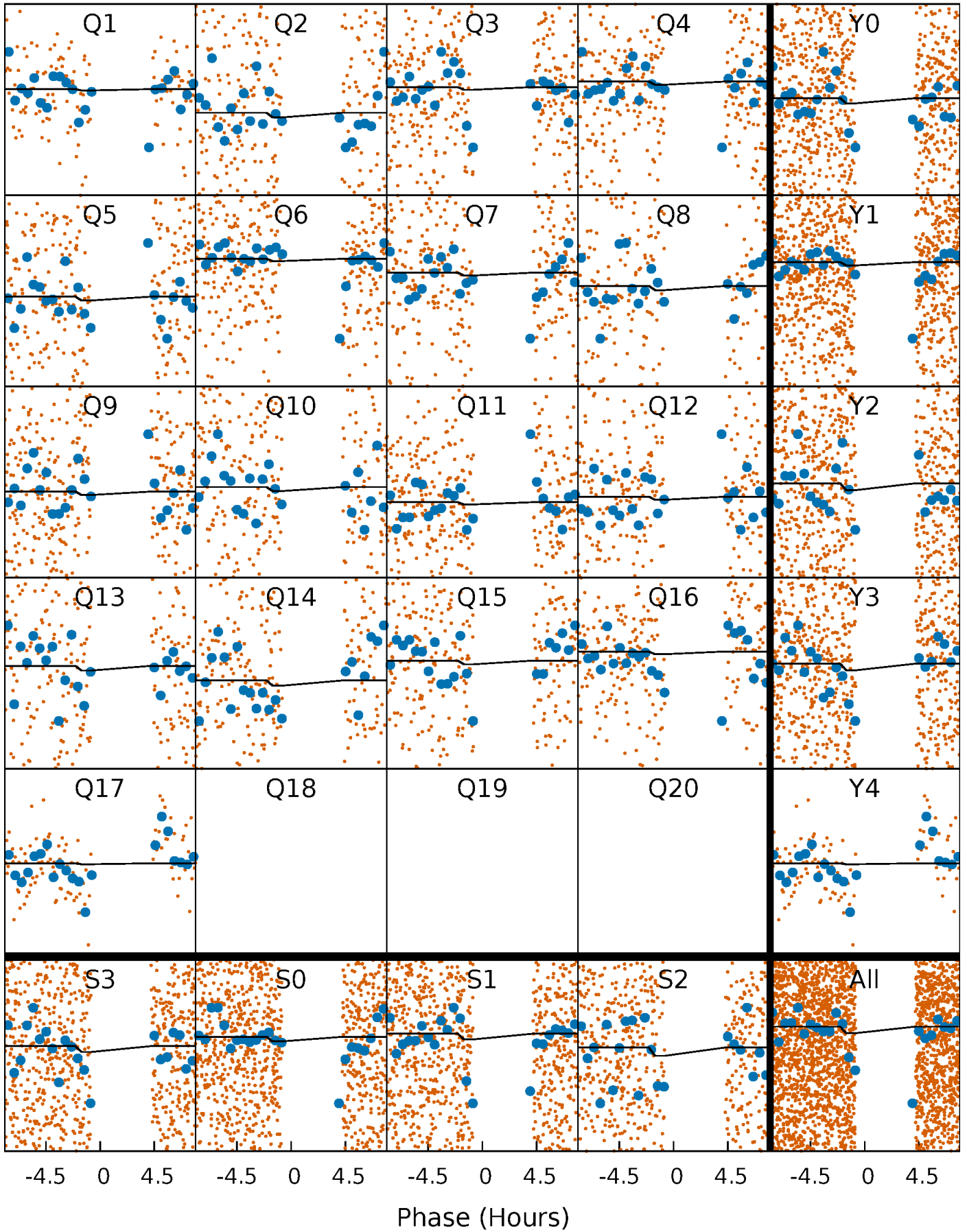
DV Quarter-Phased Transit Curves

TCE 003545840-02 P= 5.836245 Days $T_0=132.155637$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

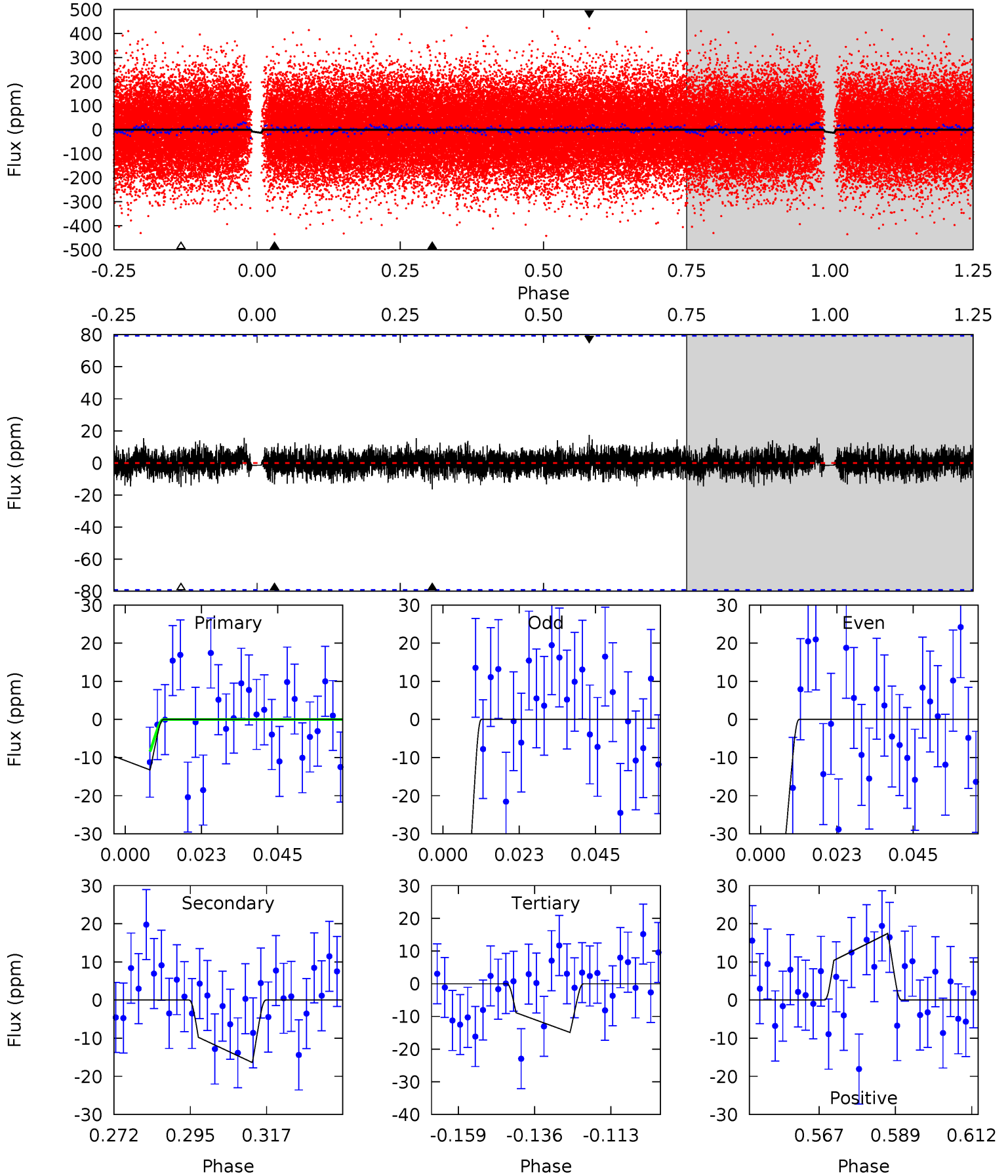
TCE 003545840-02 P= 5.835753 Days $T_0=132.139470$ (BKJD)



DV Model-Shift Uniqueness Test

003545840-02, P = 5.836245 Days, E = 126.319392 Days

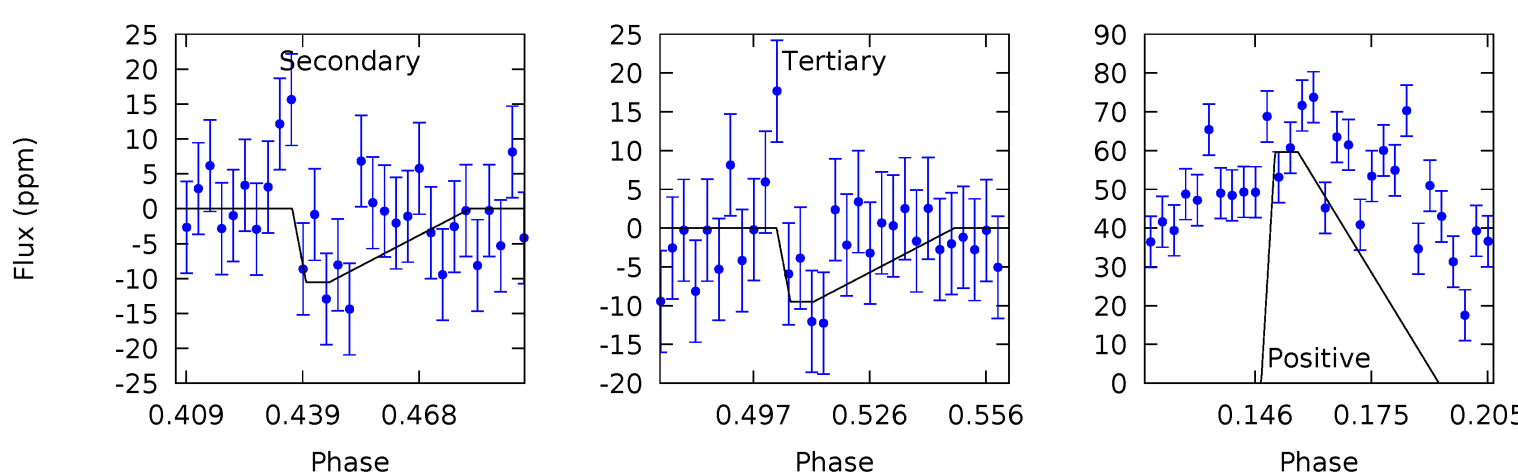
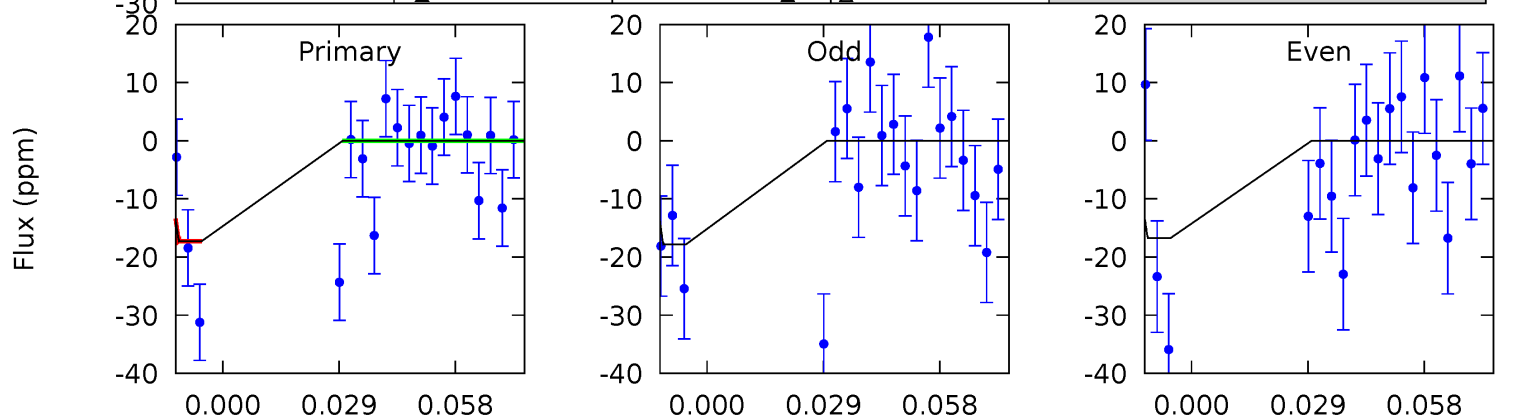
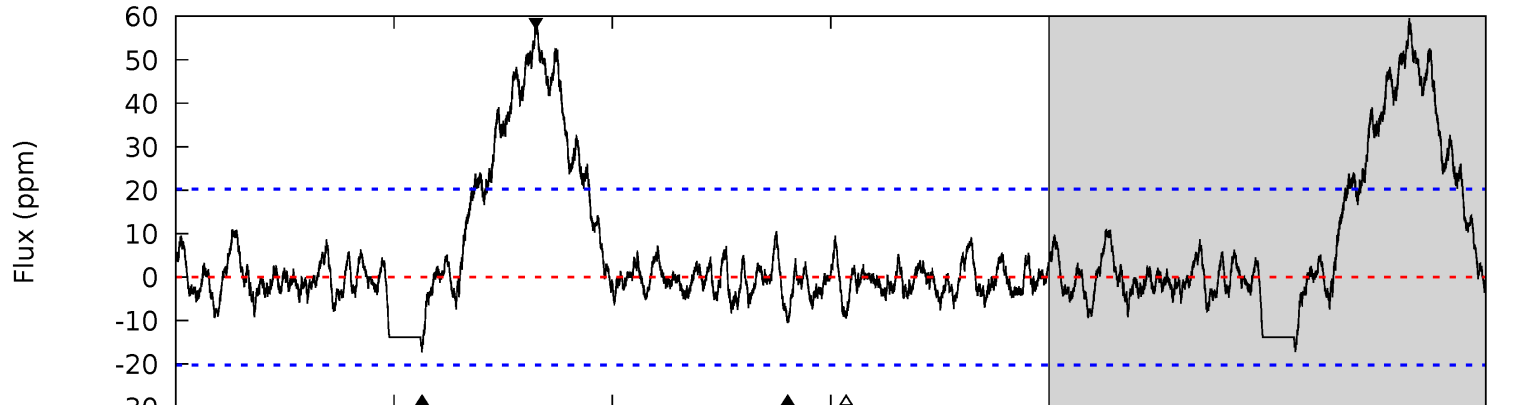
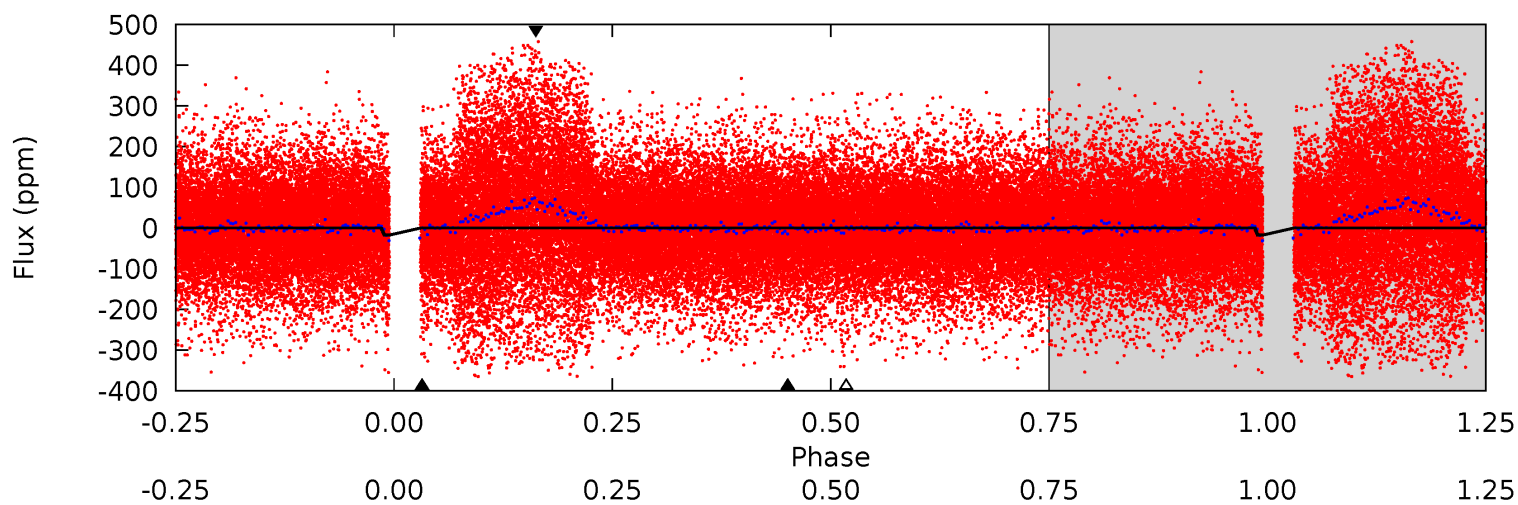
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.81	1.01	0.91	1.07	4.87	2.28	0.25	-0.10	-0.26	0.09	-0.07	0.51	1.00	0.52	0.68



Alt Model-Shift Uniqueness Test

003545840-02, P = 5.835753 Days, E = 126.303717 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.10	2.51	2.26	14.2	4.82	2.18	3.41	1.85	-10.1	0.25	-11.6	0.13	0	0.78	0



Stellar Parameters For KIC 003545840

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6706^{+151}_{-184}	$3.617^{+0.306}_{-0.054}$	$0.000^{+0.300}_{-0.250}$	$3.558^{+0.343}_{-1.373}$	$1.913^{+0.182}_{-0.426}$	$0.060^{+0.142}_{-0.012}$
	+2%/-3%	+8%/-1%	+inf%/-inf%	+10%/-39%	+10%/-22%	+238%/-19%
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 003545840-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-16 ± 16	$4.35^{+2.00}_{-1.69}$	2719^{+133}_{-239}	3937^{+1140}_{-6899}	$2.590^{+6.762}_{-2.644}$
Alt.	-11 ± 4	$1.39^{+1.47}_{-0.95}$	2725^{+116}_{-246}	5839^{+7418}_{-1618}	16^{+165}_{-12}

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

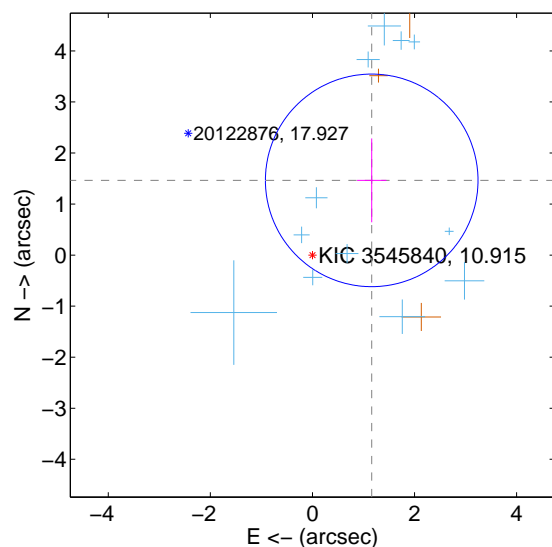
Supplemental centroid analysis for 003545840-02. **Kepler magnitude: 10.91.** Transit SNR 4.02

There are 12 quarters with good PRF difference image offsets

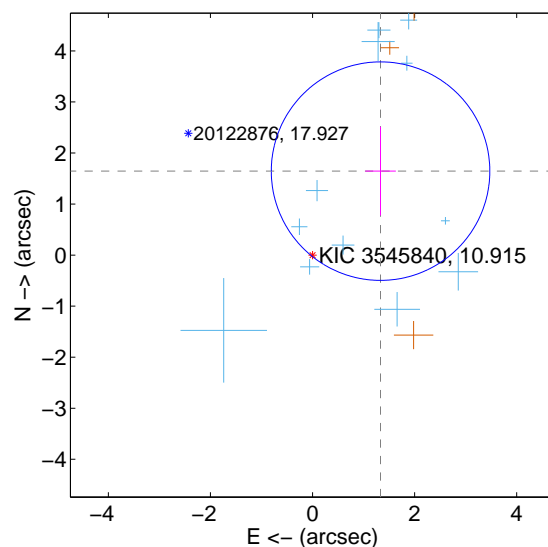
The direct PRF centroid is offset from the target star catalog position by about 0.40 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.868 ± 0.694	2.69	-1.161 ± 0.287	1.464 ± 0.821
PRF-fit source offset from KIC position	2.117 ± 0.713	2.97	-1.333 ± 0.300	1.645 ± 0.869
photometric centroid source offset	0.37 ± 0.40	0.94	-0.12 ± 0.25	0.35 ± 0.41

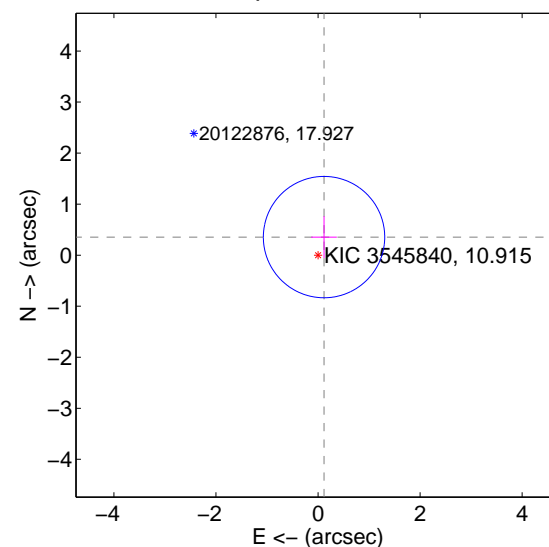
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

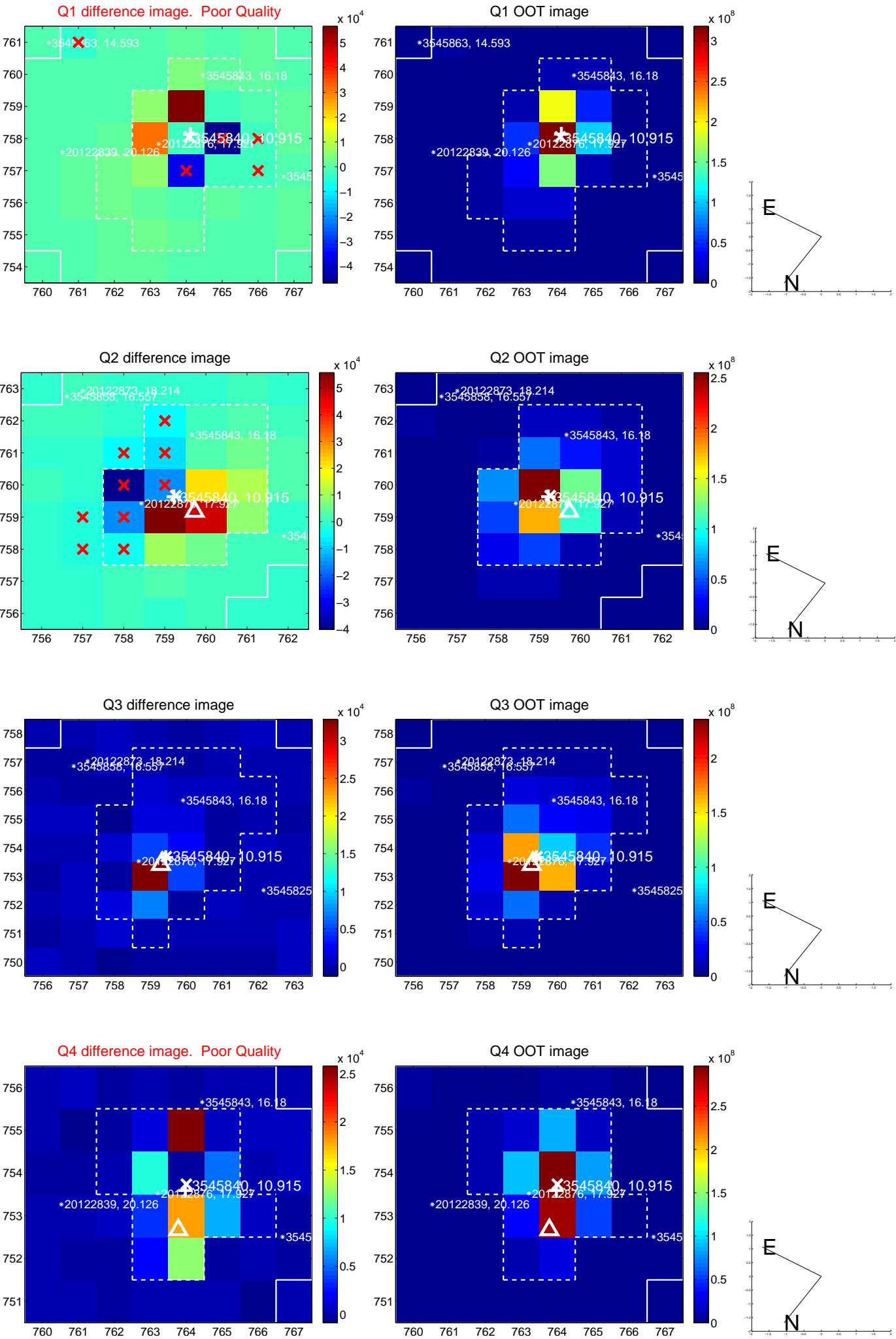


offset from photometric centroids

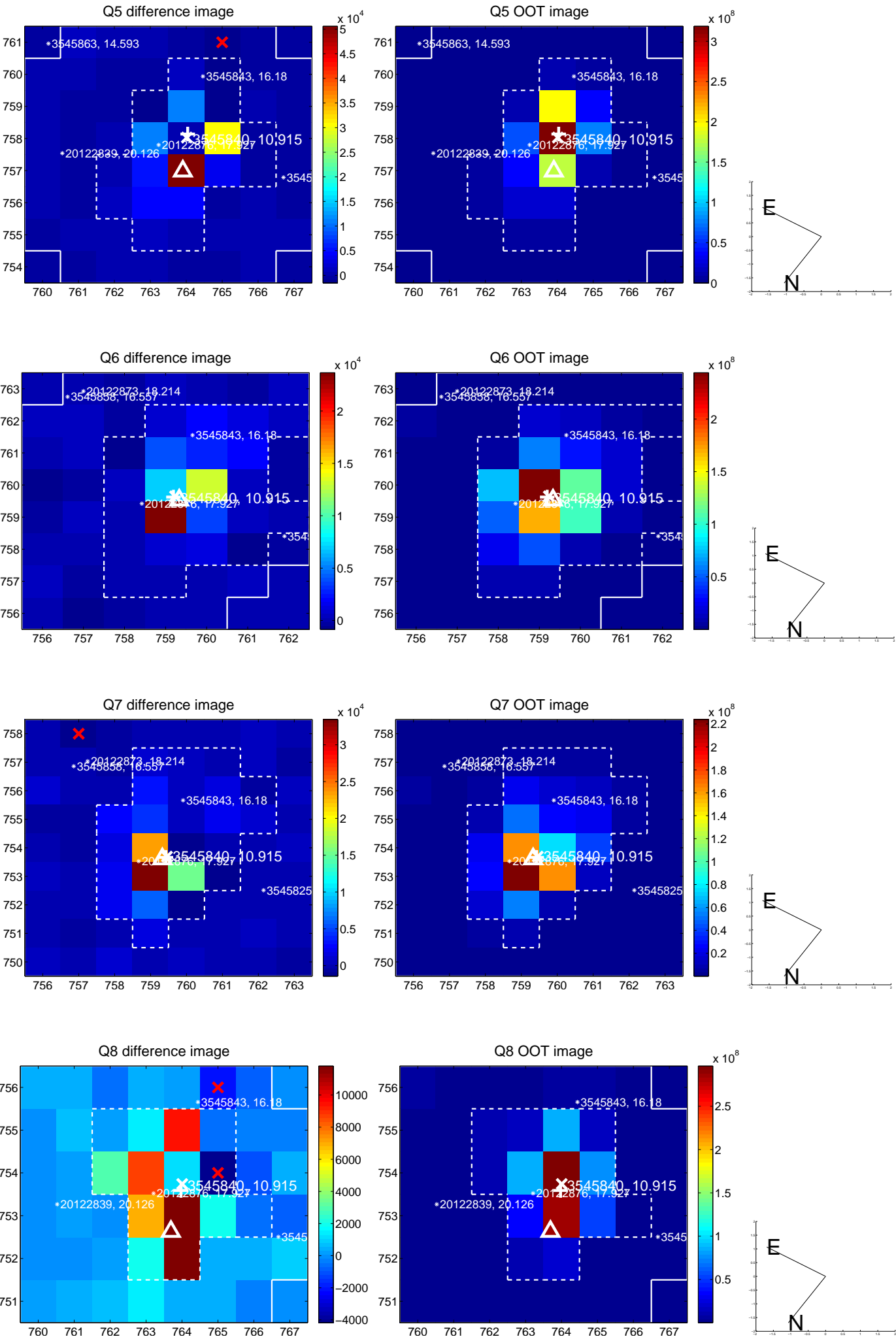


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

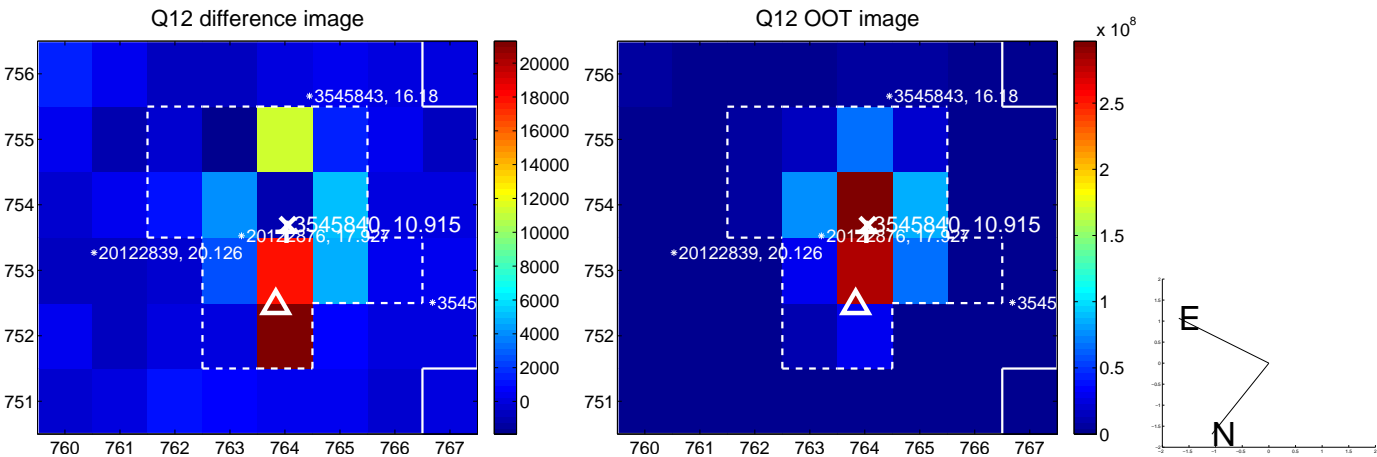
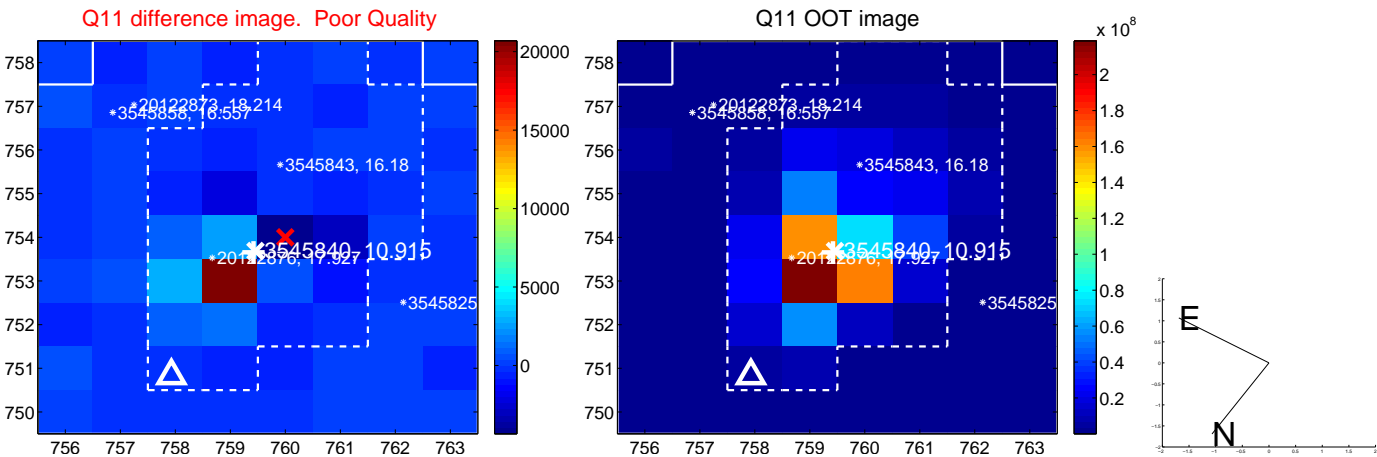
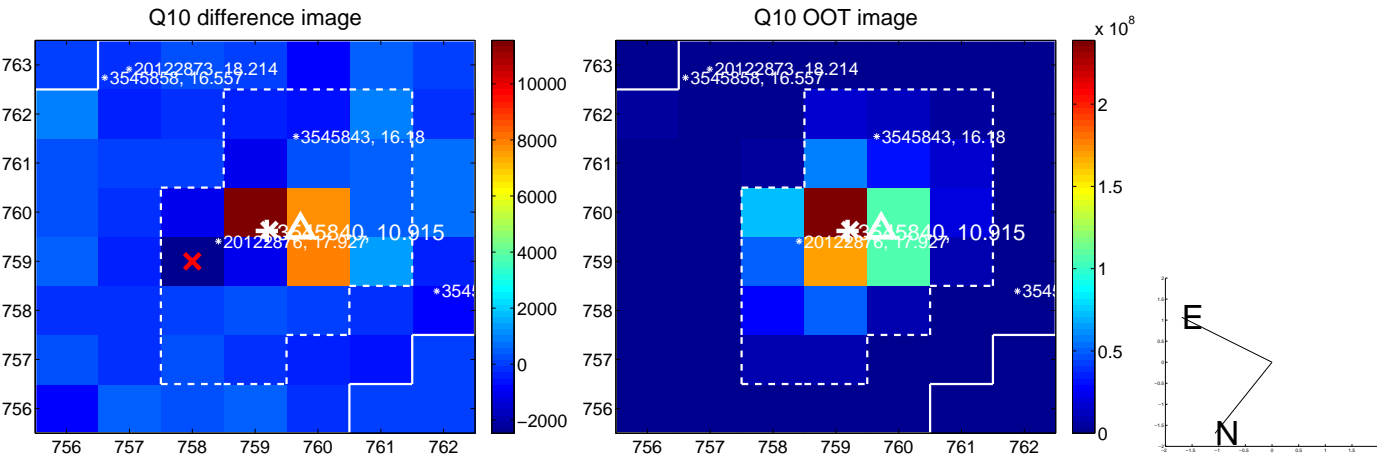
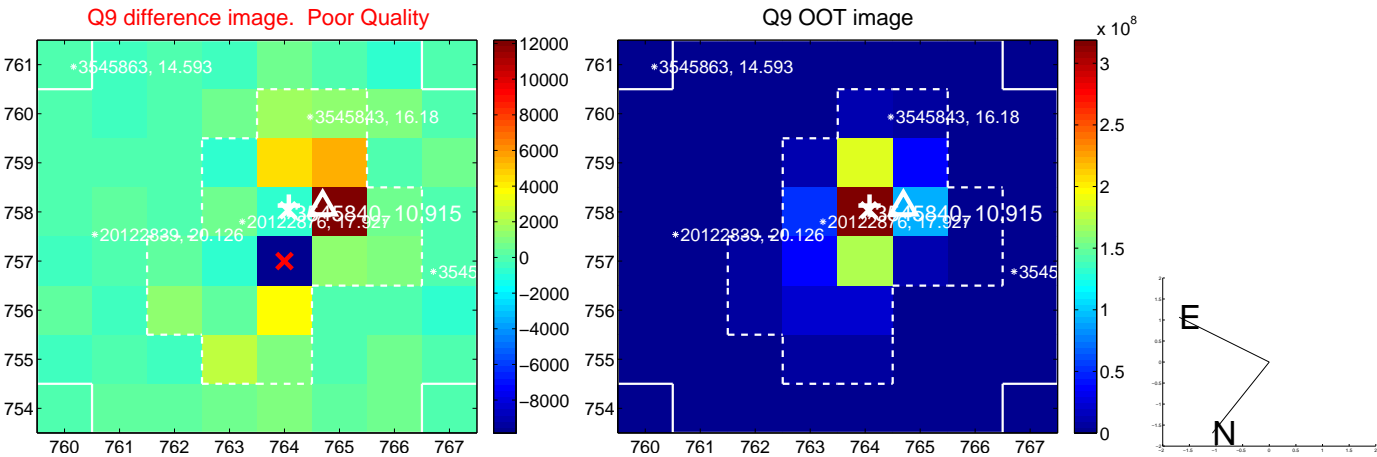
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



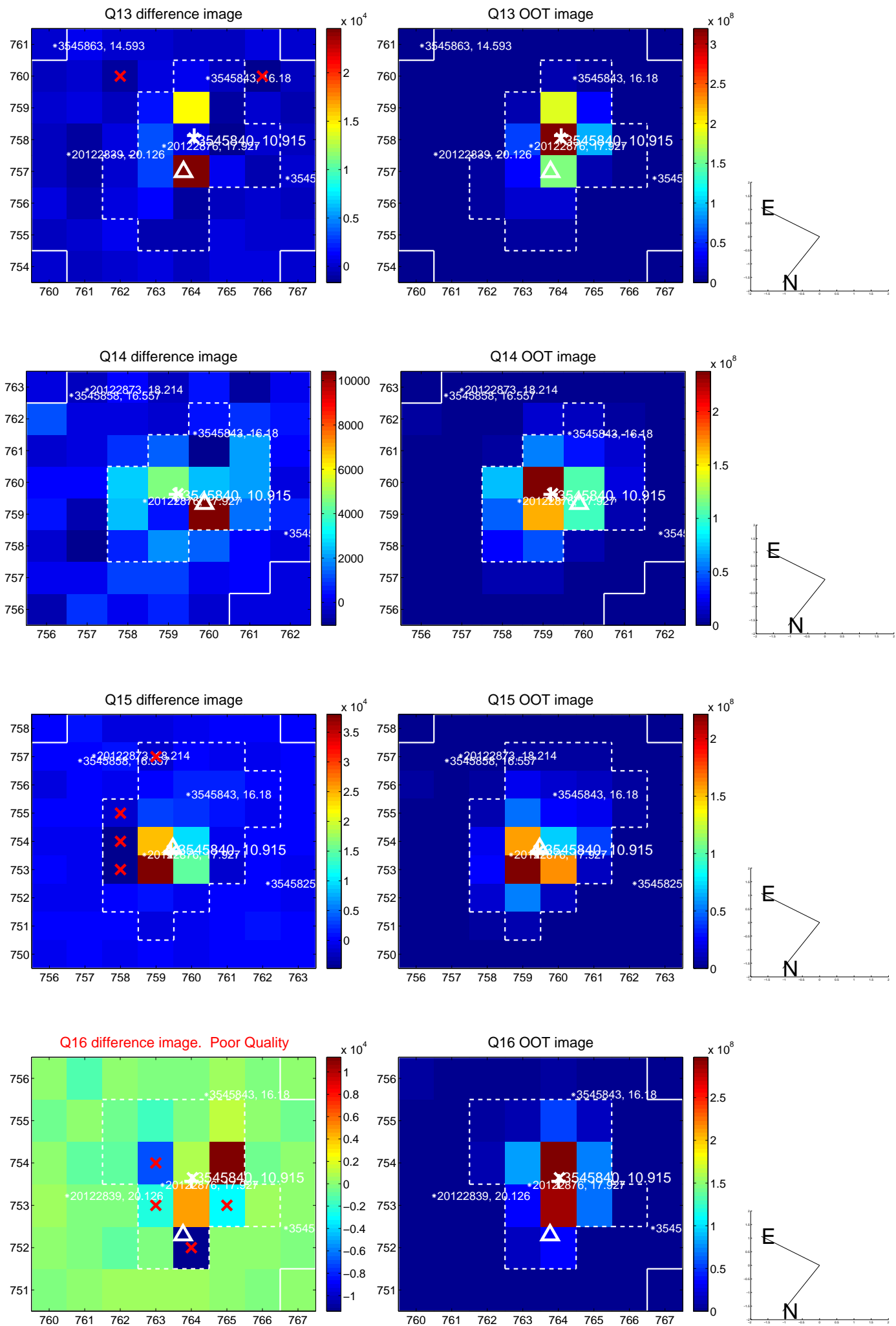
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



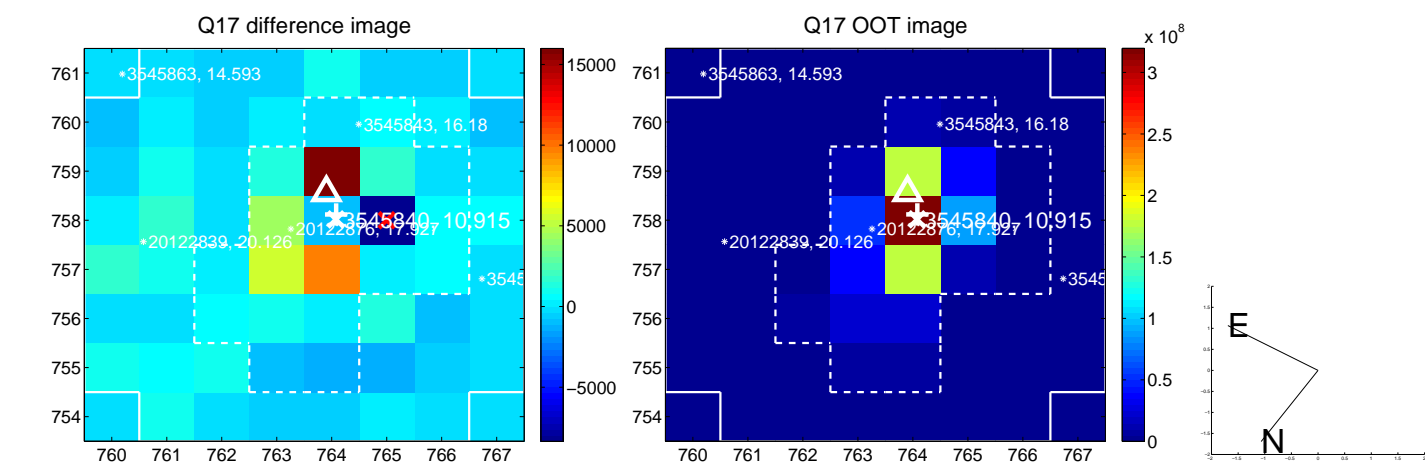
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



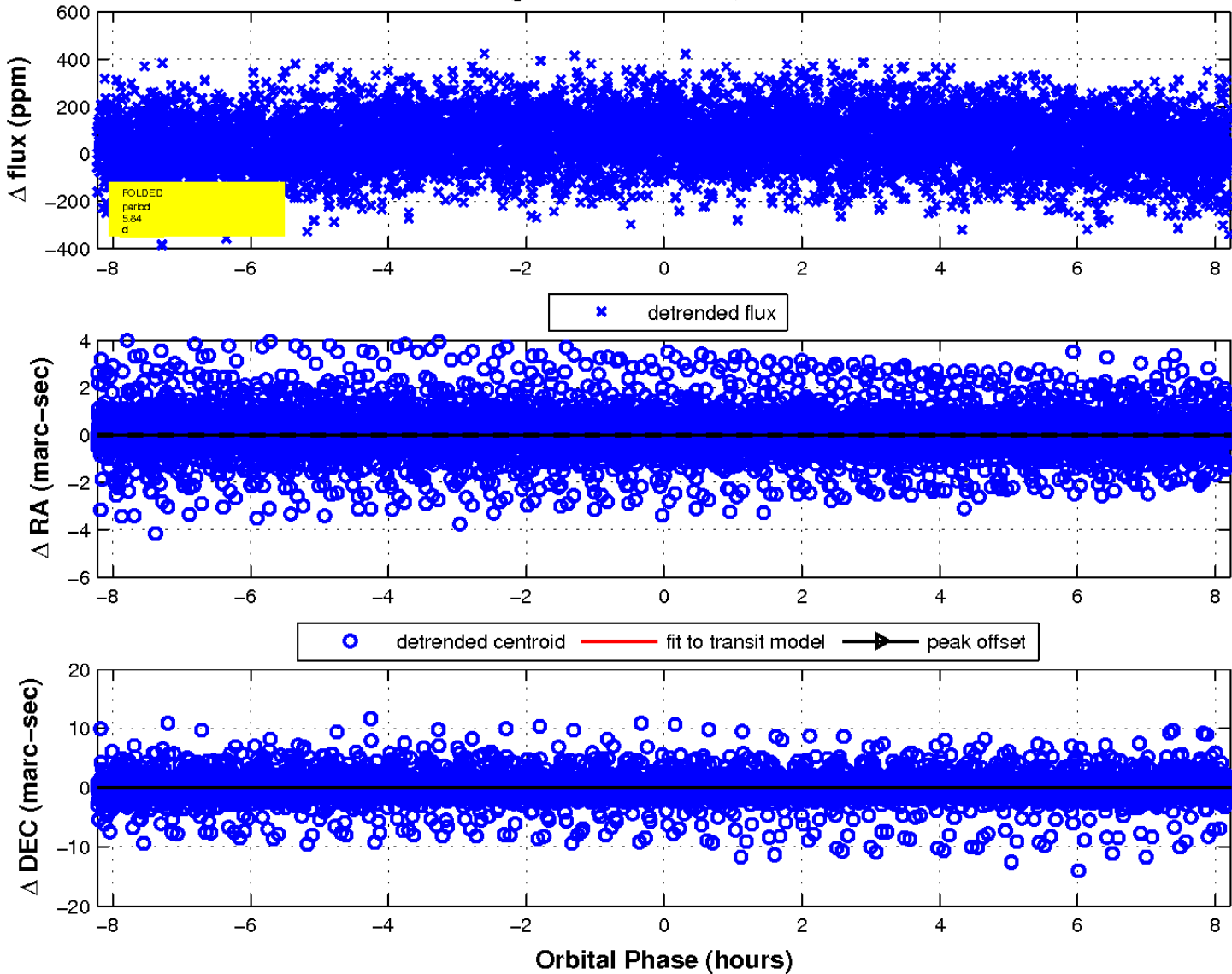
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



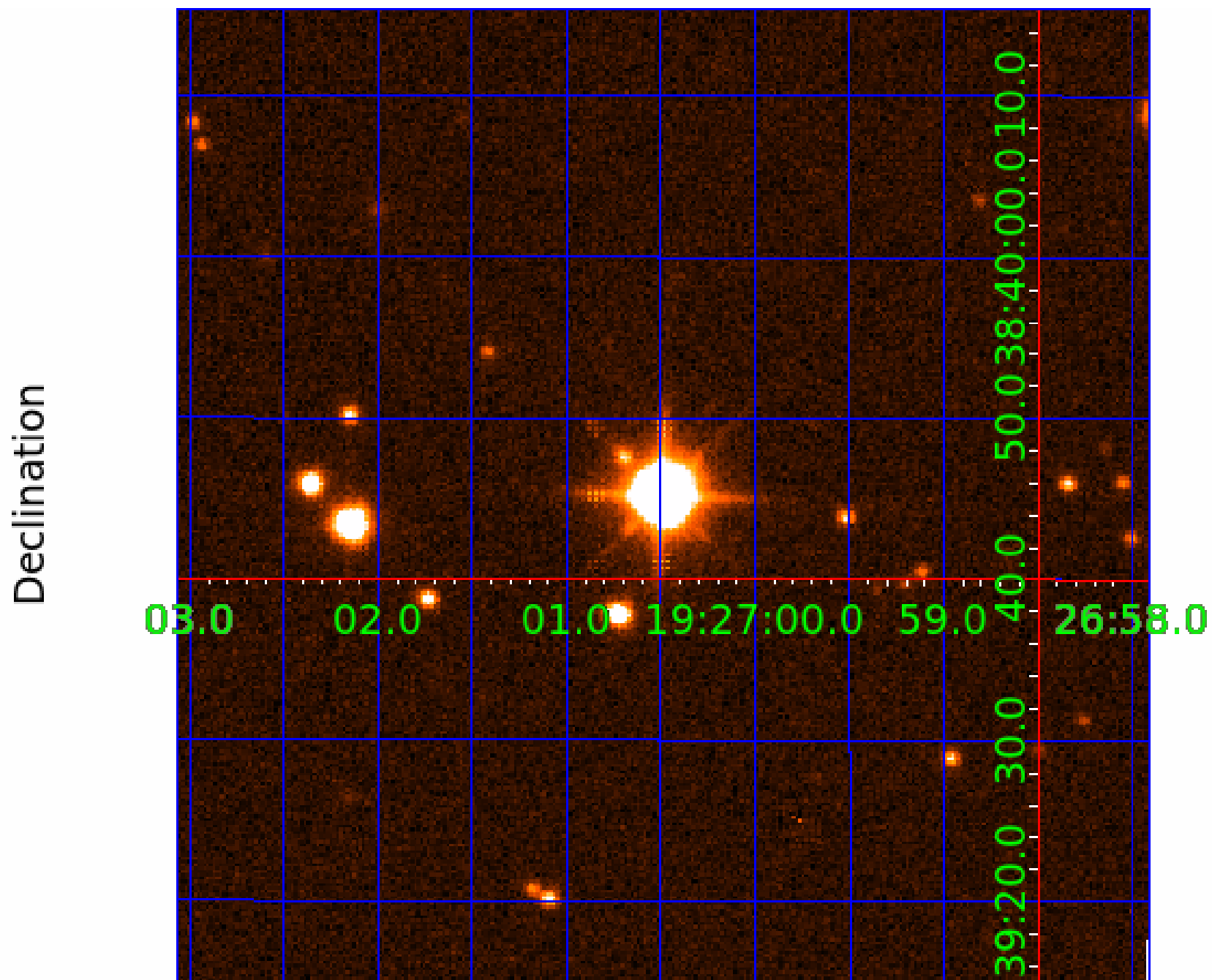
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 2 of 5



UKIRT Image



KIC 003545840

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})
003545840-01	OBS	No	5.835764	132.210680	7.1	1.184	8.3	1.1	3.56	6706	1.06	3699.04
003545840-02	OBS	No	5.836245	132.155637	123.1	2.742	8.1	4.0	3.56	6706	4.75	3698.63
003545840-03	OBS	No	7.781297	134.956873	32.0	17.925	7.6	7.6	3.56	6706	2.34	2520.48
003545840-04	OBS	No	303.301729	250.644473	198.5	27.918	14.4	6.9	3.56	6706	5.25	19.07
003545840-05	OBS	No	5.835450	133.118434	31.3	12.500	9.0	-1.0	3.56	6706	2.01	3699.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003545840-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003545840-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003545840-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003545840-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
003545840-05	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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.

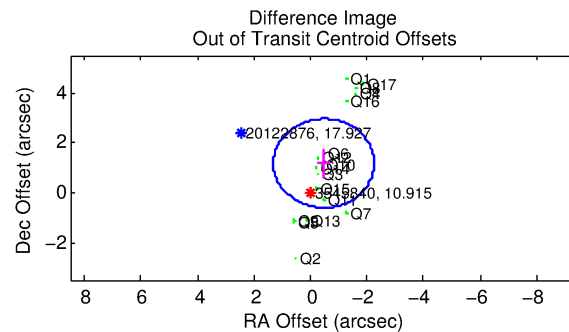
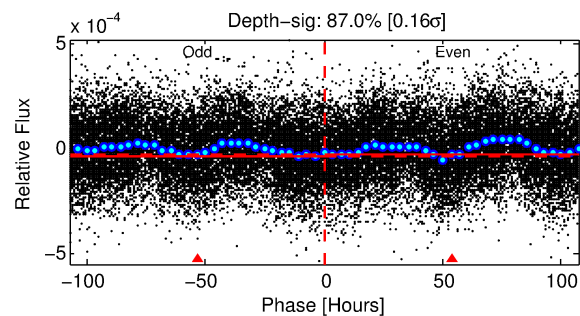
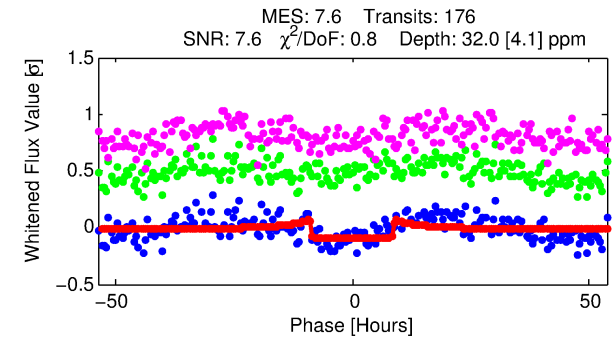
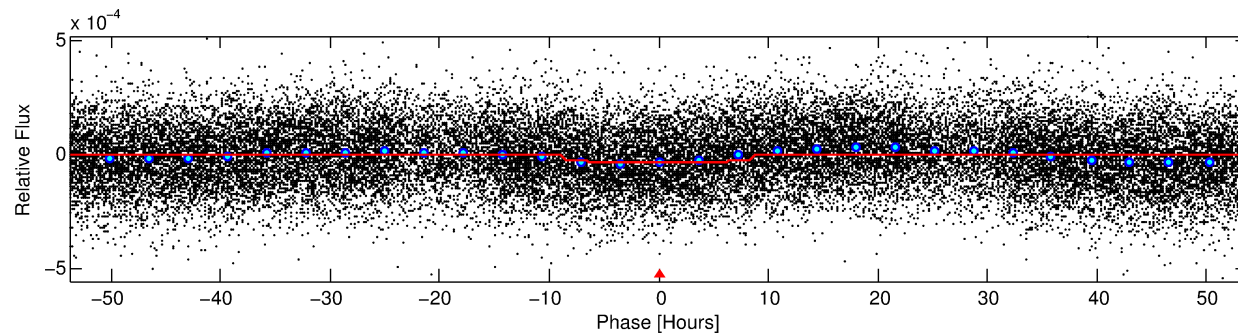
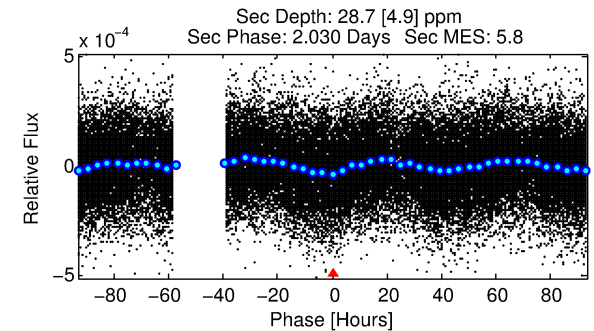
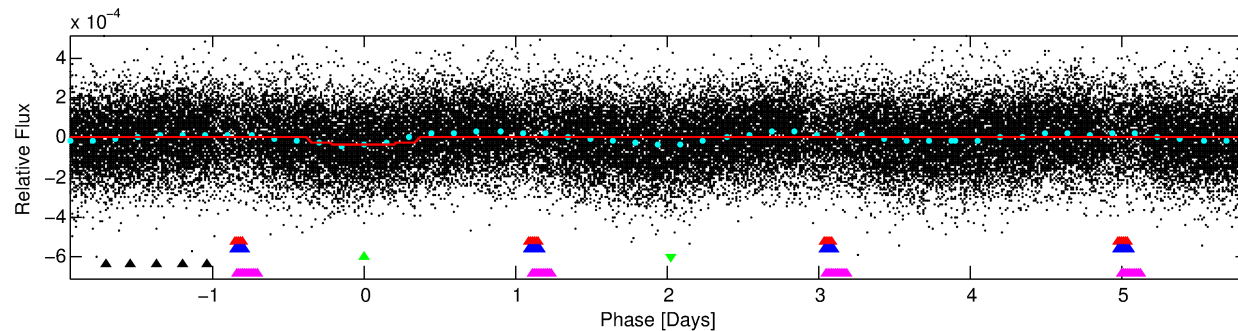
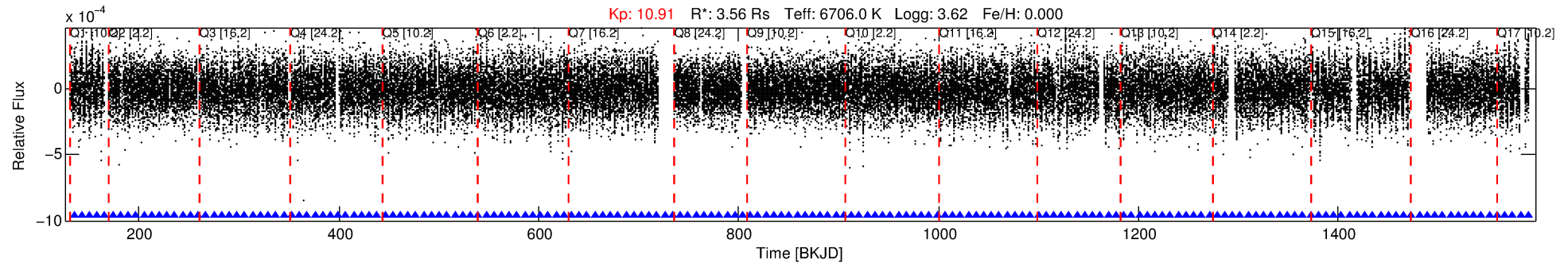
Ephemeris Match Information For 003545840-03

No Significant Match Found

DV One-Page Summary

KIC: 3545840 Candidate: 3 of 5 Period: 7.781 d

KOI: K06102 Corr: No Ephemeris Match



DV Fit Results:

Period = 7.78130 [0.00013] d
Epoch = 134.9569 [0.0122] BKJD
Rp/R* = 0.0060 [0.0006]
a/R* = 1.76 [0.49]
b = 0.90 [0.09]
Seff = 2520.48 [1377.93]
Teq = 1807 [247] K
Rp = 2.34 [0.93] Re
a = 0.0954 [0.0332] AU
Ag = 26.15 [15.57] [1.62σ]
Teffp = 6317 [446] K [8.85σ]

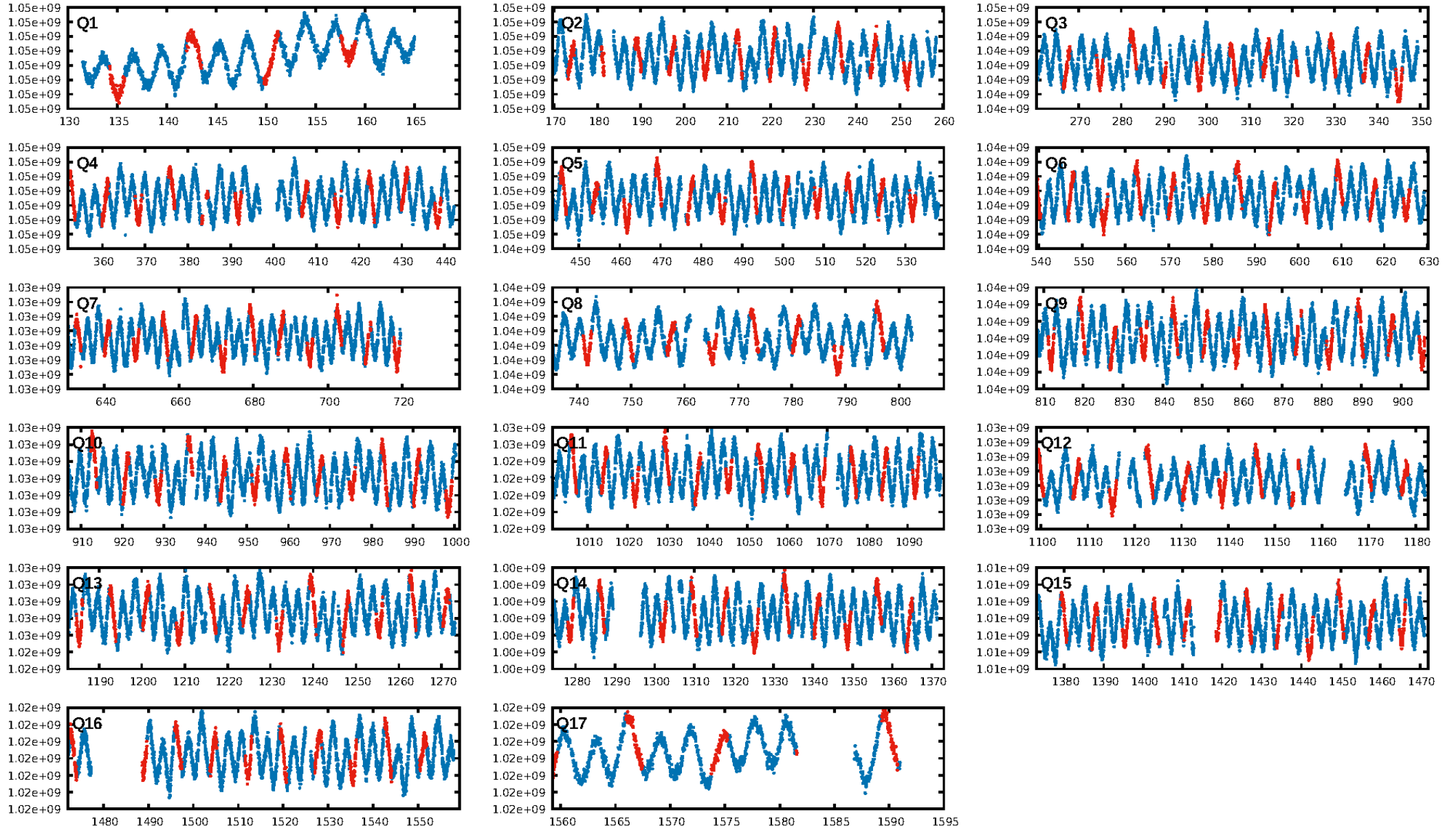
DV Diagnostic Results:

ShortPeriod-sig: 99.0% [2.57σ]
LongPeriod-sig: 100.0% [213.77σ]
ModelChiSquare2-sig: 99.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.31e-08
RollingBand-fgt: 1.00 [168/168]
GhostDiagnostic-chr: 3.925
Centroid-sig: 17.2%
Centroid-so: 1.105 arcsec [0.74σ]
OotOffset-rm: 1.262 arcsec [2.13σ]
KicOffset-rm: 1.339 arcsec [2.12σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.82 [14/17]
DiffImageOverlap-fno: 0.94 [16/17]

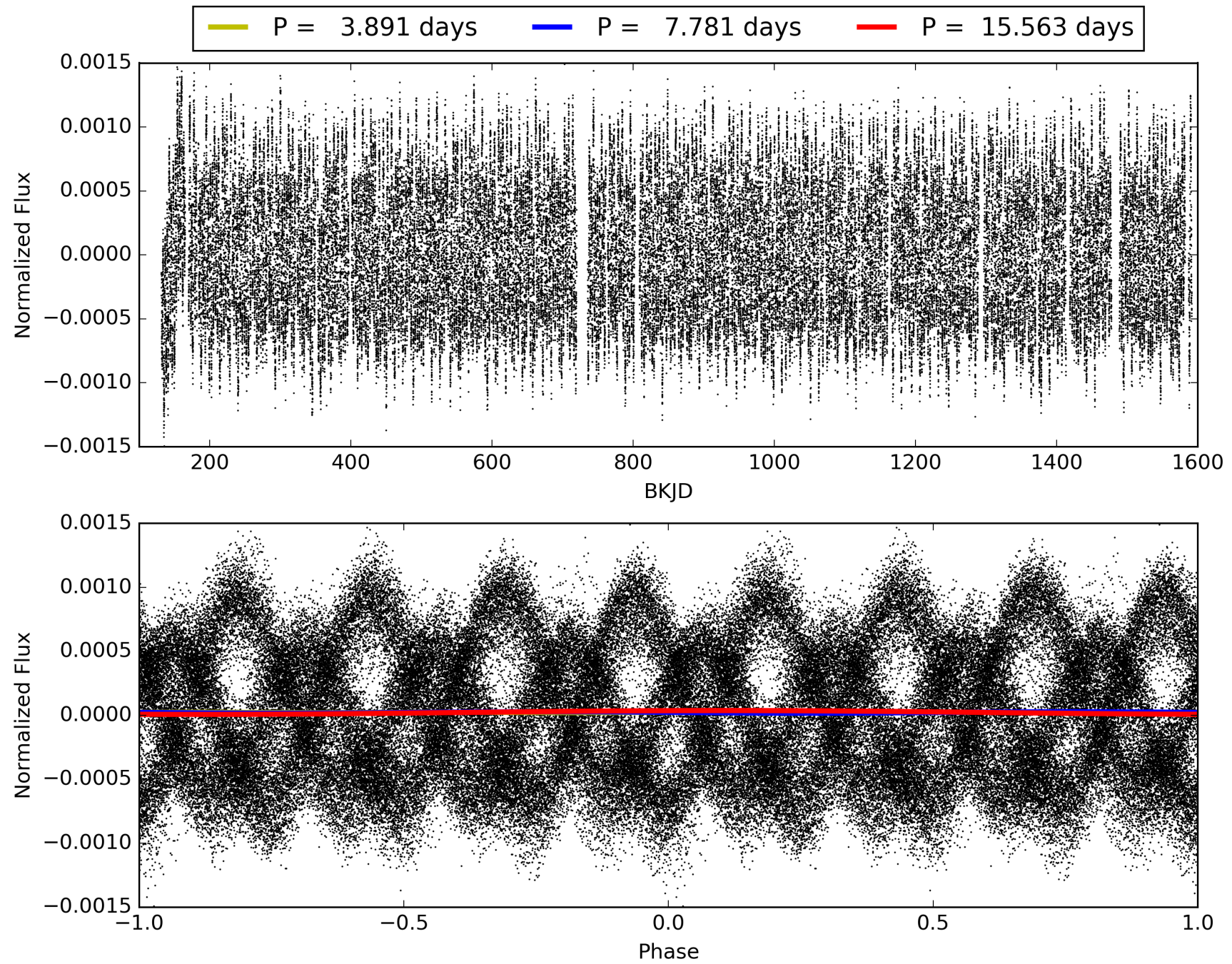
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:29:38 Z

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

TCE 003545840-03, PDC Light Curves

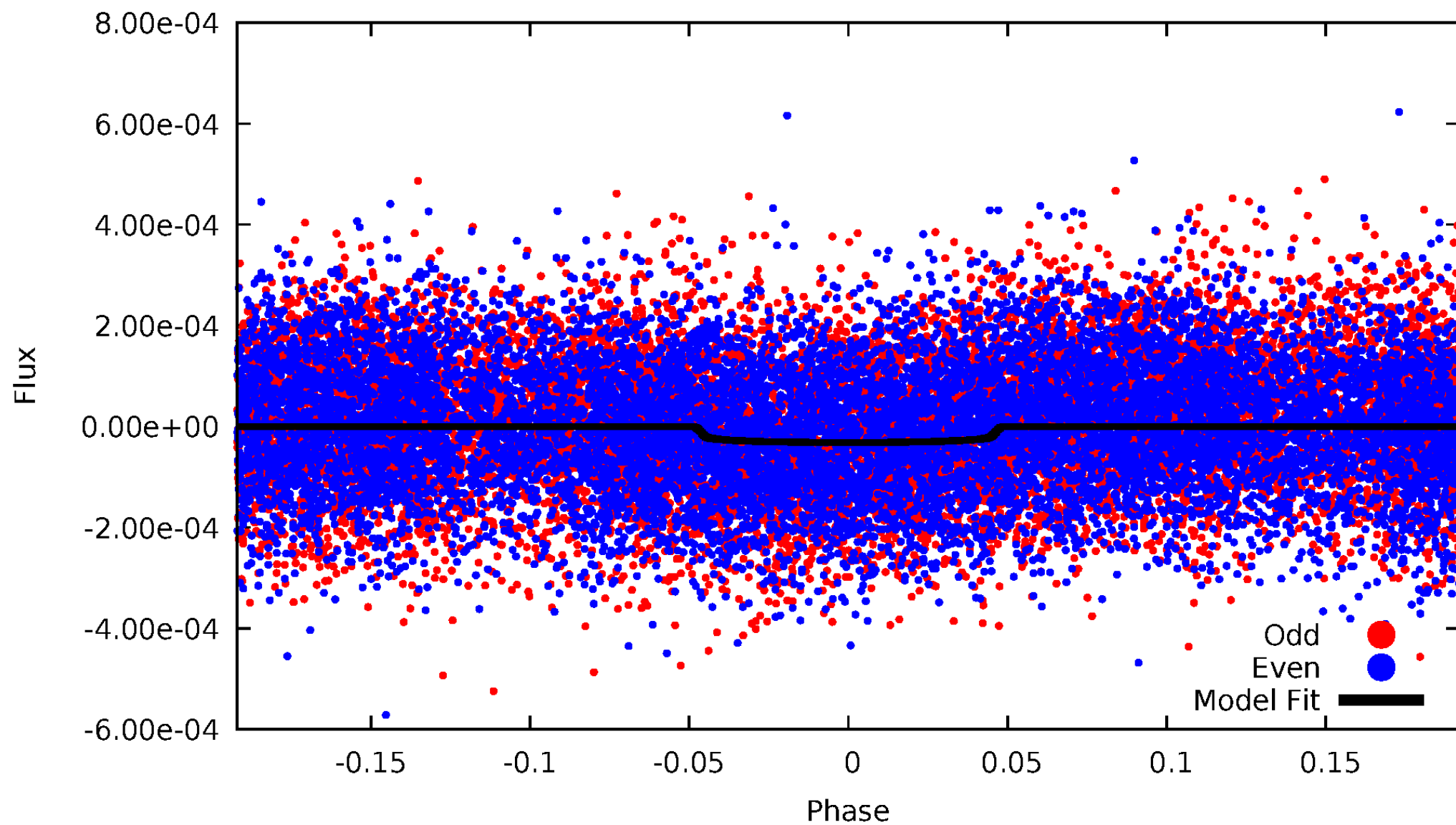


TCE 003545840-03



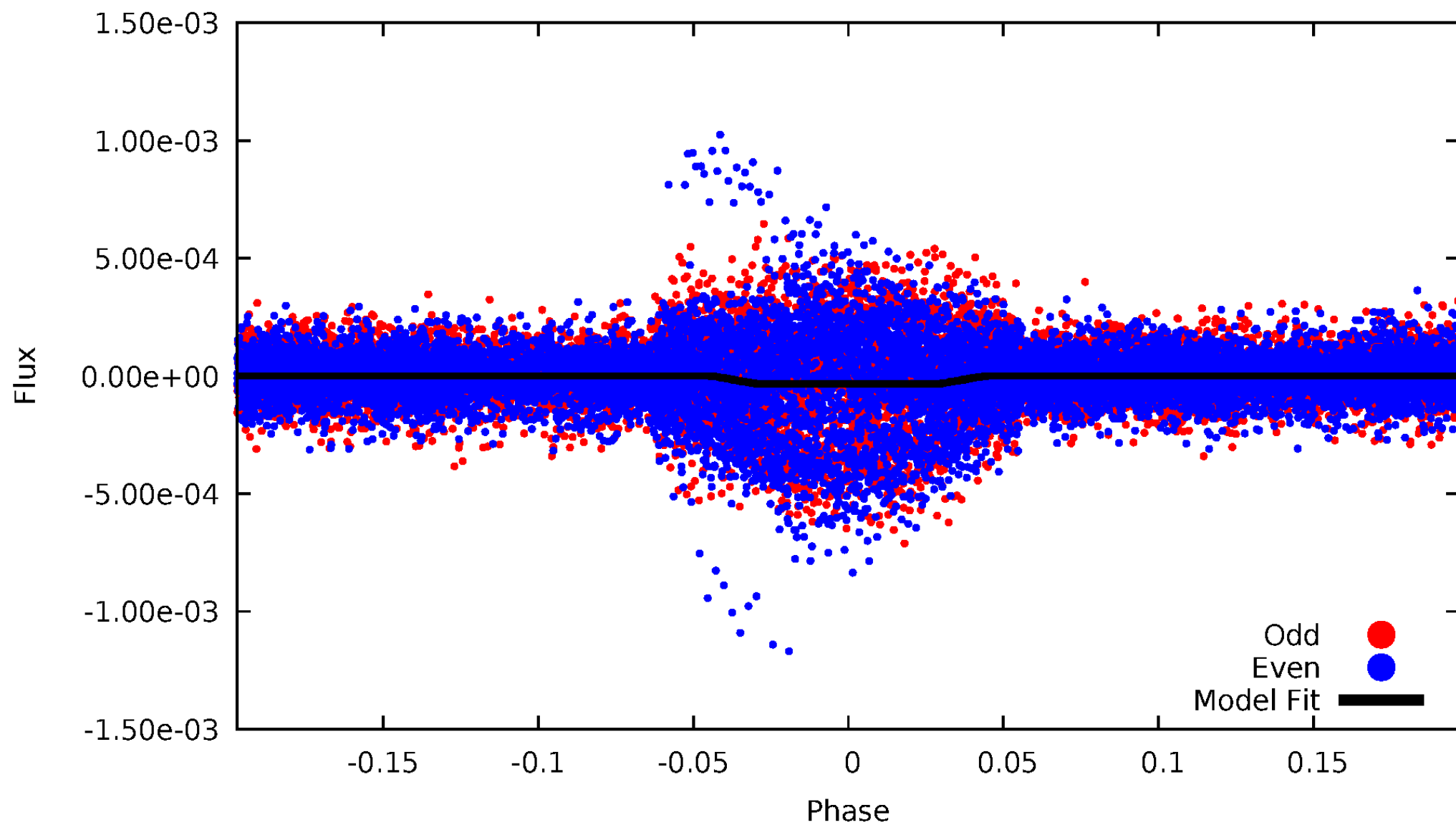
DV Odd/Even

TCE 003545840-03



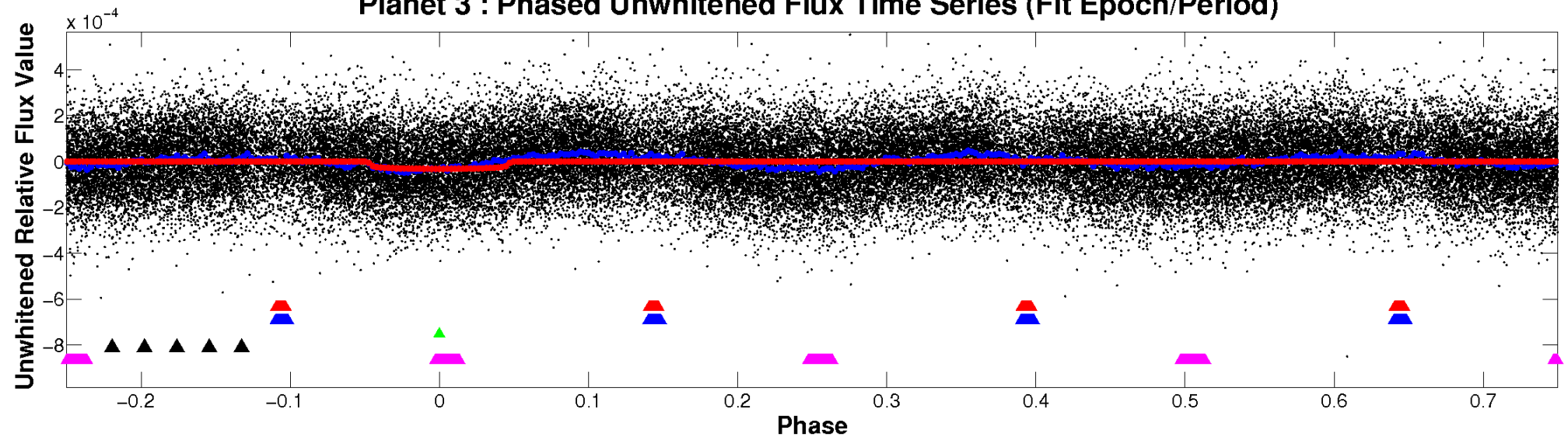
ALT Odd/Even

TCE 003545840-03

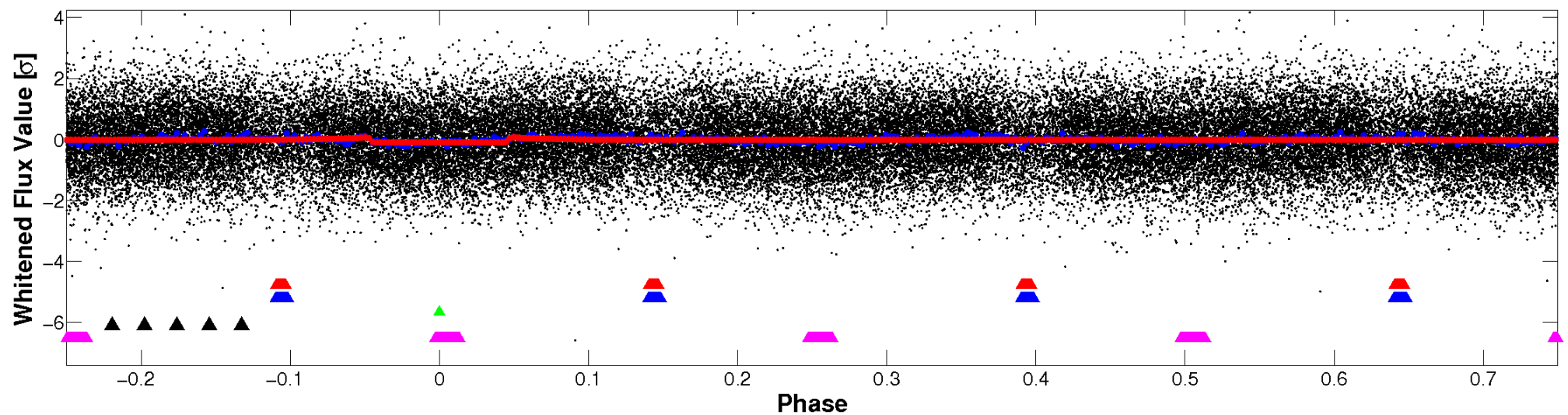


Non-Whitened Vs. Whitened Light Curve

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

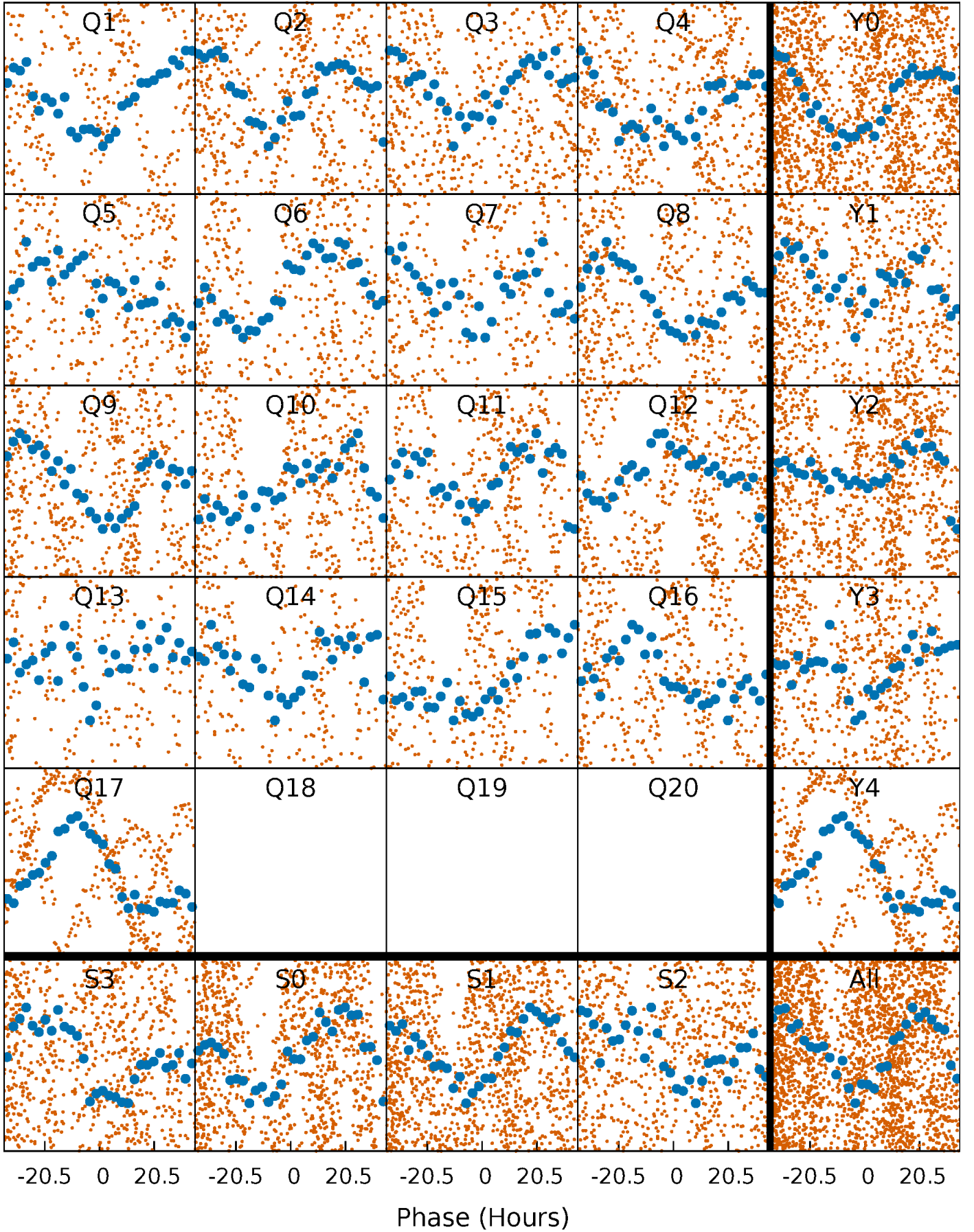


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



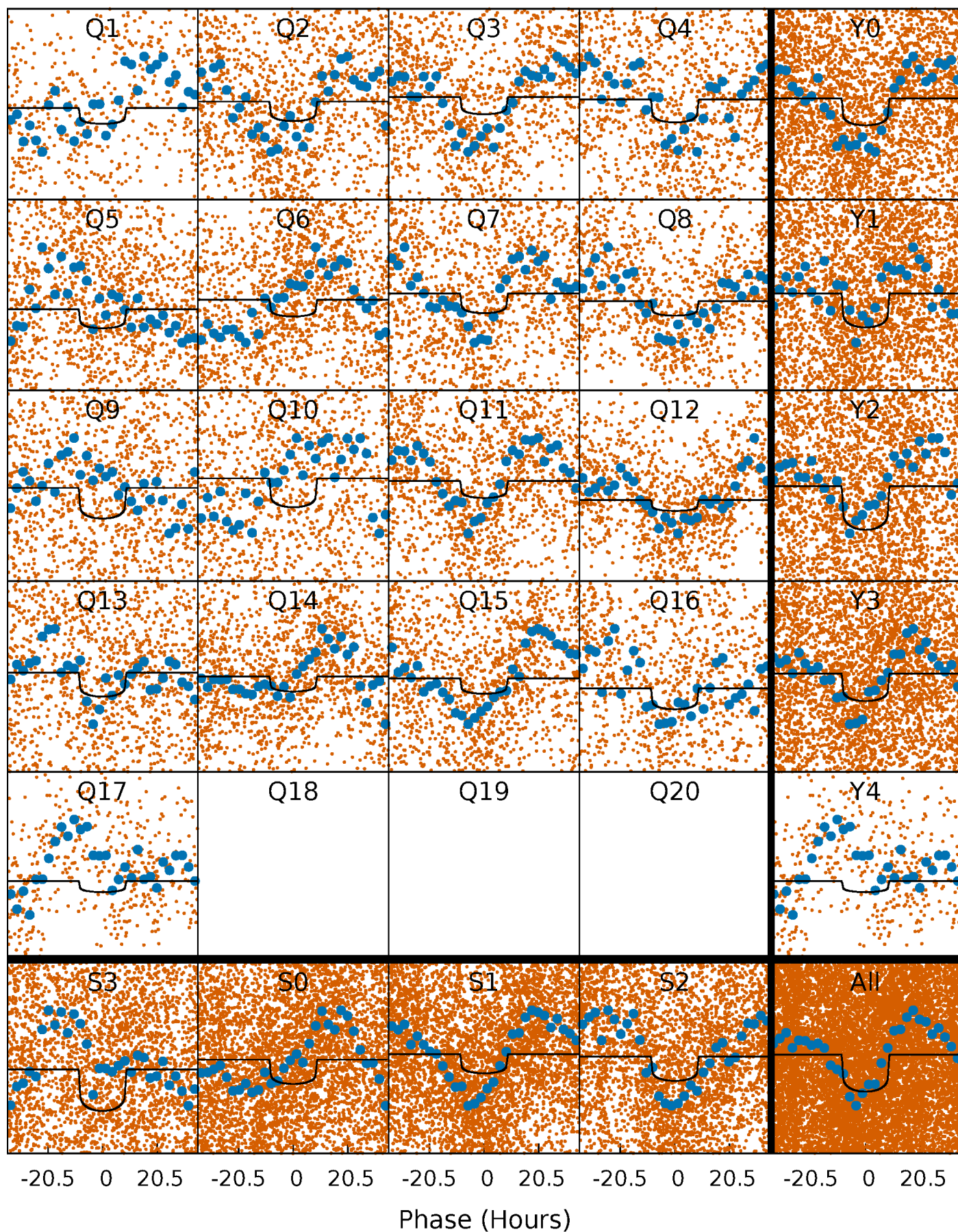
PDC Quarter-Phased Transit Curves

TCE 003545840-03 P= 7.781297 Days $T_0=134.956873$ (BKJD)



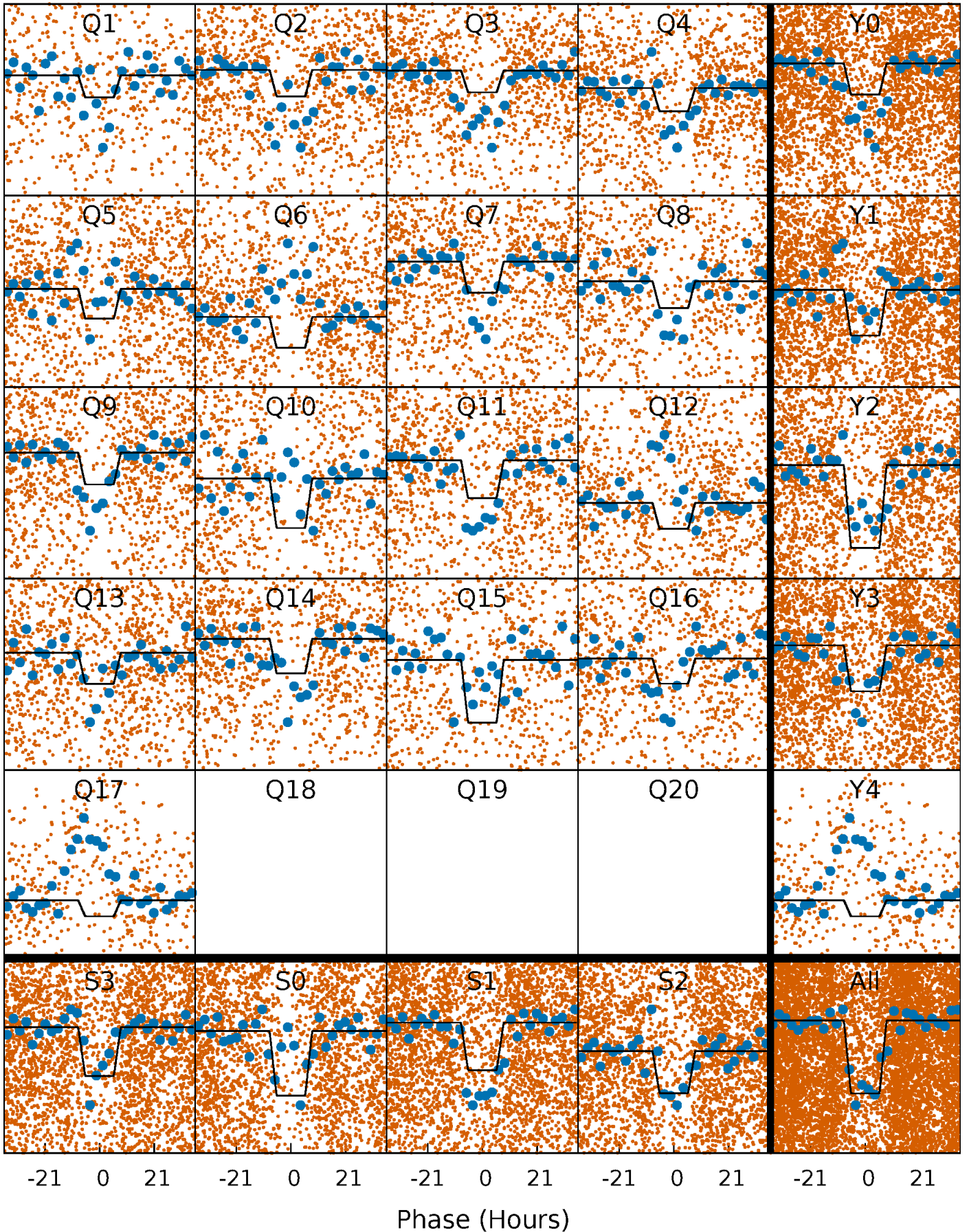
DV Quarter-Phased Transit Curves

TCE 003545840-03 P= 7.781297 Days $T_0=134.956873$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

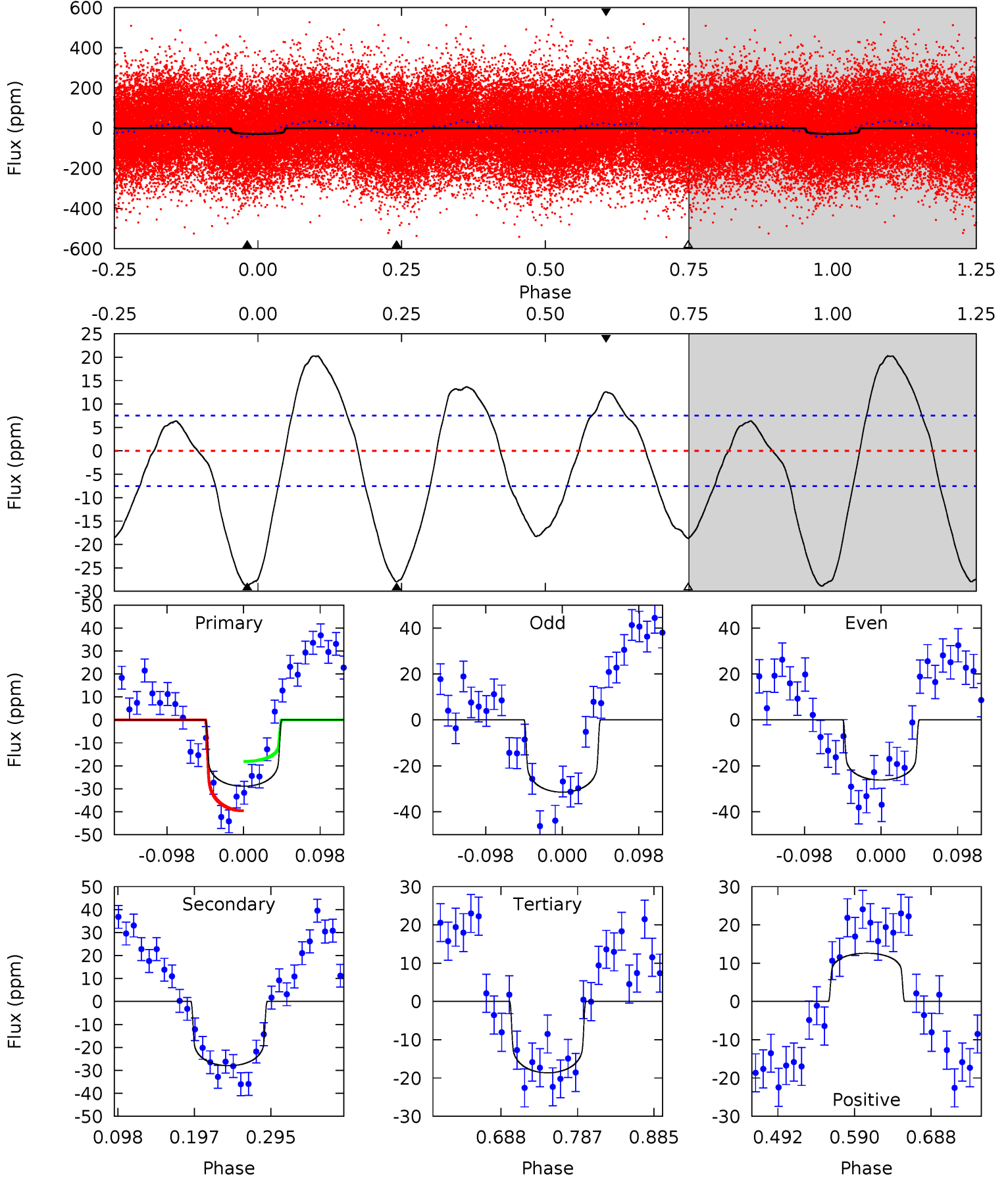
TCE 003545840-03 P= 7.781079 Days $T_0=134.977572$ (BKJD)



DV Model-Shift Uniqueness Test

003545840-03, P = 7.781297 Days, E = 127.175576 Days

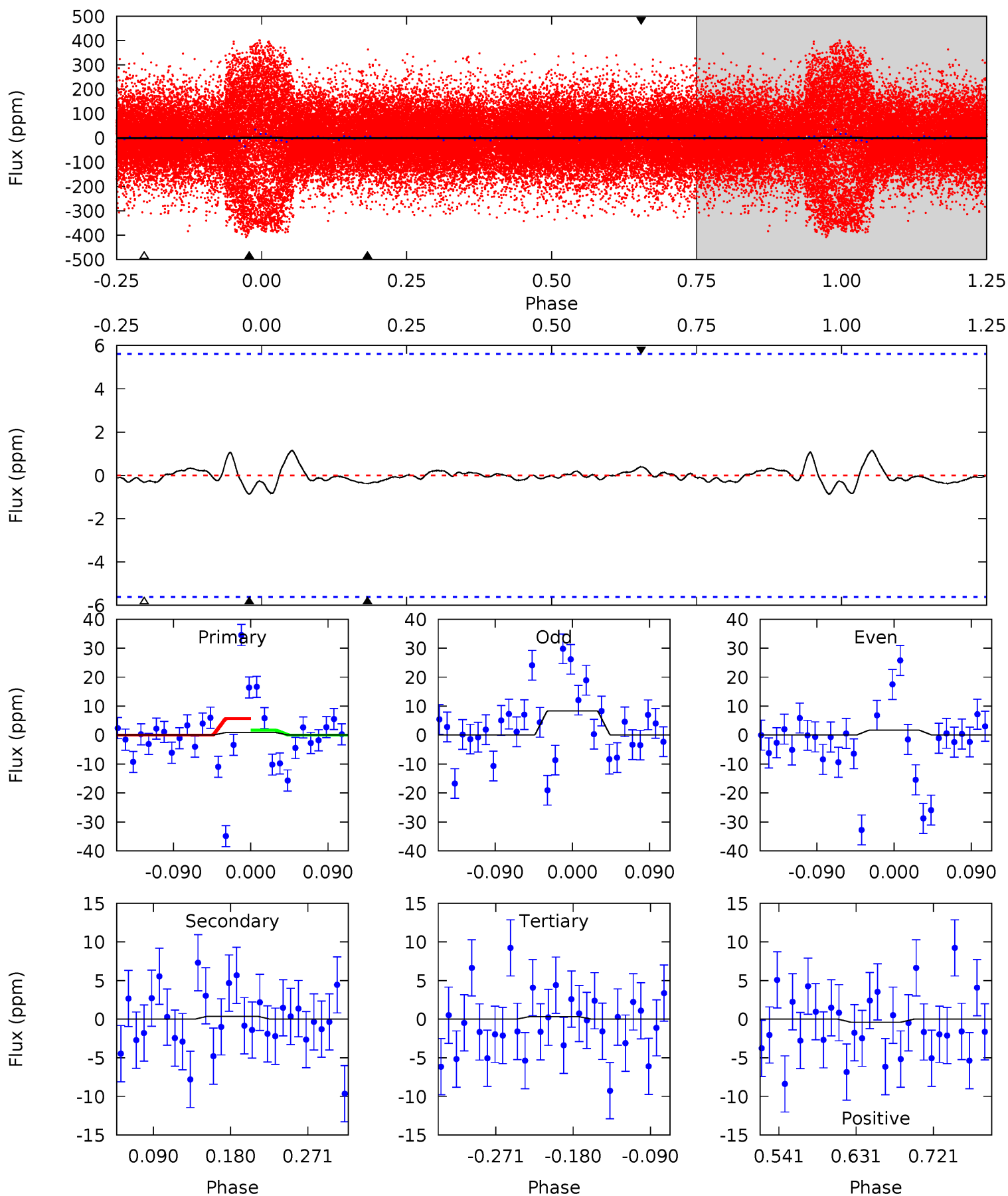
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.5	17.0	11.3	7.65	4.57	1.65	7.15	6.23	9.89	5.67	9.33	1.60	1.30	0.41	6.56



Alt Model-Shift Uniqueness Test

003545840-03, P = 7.781079 Days, E = 127.196493 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.70	0.31	0.26	0.32	4.59	1.69	0.13	0.44	0.38	0.05	-0.01	2.69	-2.56	0.57	1.40



Stellar Parameters For KIC 003545840

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6706^{+151}_{-184}	$3.617^{+0.306}_{-0.054}$	$0.000^{+0.300}_{-0.250}$	$3.558^{+0.343}_{-1.373}$	$1.913^{+0.182}_{-0.426}$	$0.060^{+0.142}_{-0.012}$
	+2%/-3%	+8%/-1%	+inf%/-inf%	+10%/-39%	+10%/-22%	+238%/-19%
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 003545840-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-28 ± 2	$2.19^{+0.34}_{-0.41}$	2461^{+113}_{-201}	6244^{+421}_{-351}	29^{+13}_{-7}
Alt.	-0 ± 1	$2.11^{+0.36}_{-0.42}$	2460^{+119}_{-216}	2335^{+1179}_{-5657}	$0.381^{+1.566}_{-1.282}$

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

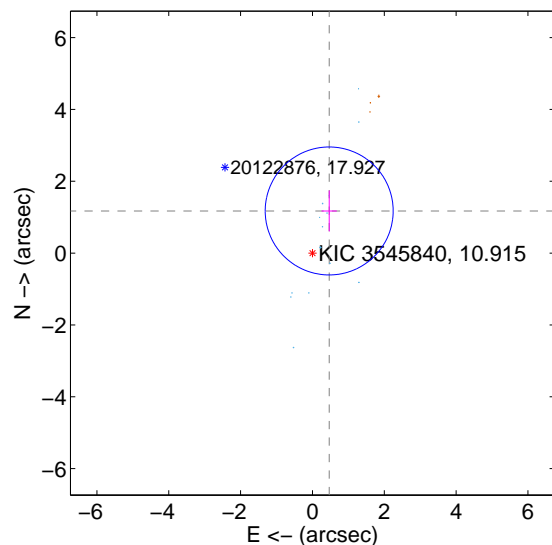
Supplemental centroid analysis for 003545840-03. **Kepler magnitude: 10.91.** Transit SNR 7.61

There are 14 quarters with good PRF difference image offsets

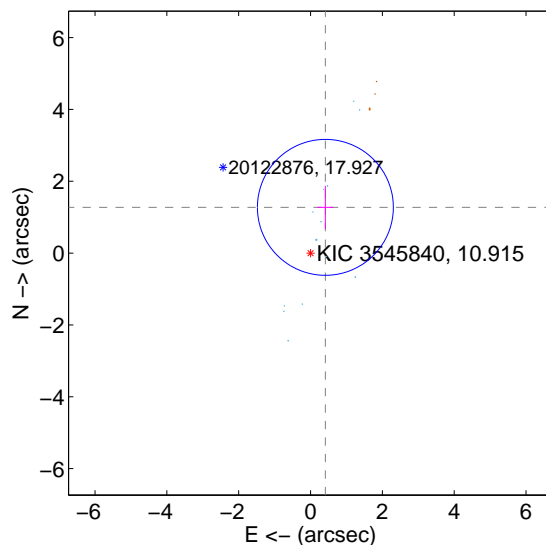
The direct PRF centroid is offset from the target star catalog position by about 0.41 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.262 ± 0.594	2.13	-0.466 ± 0.213	1.173 ± 0.568
PRF-fit source offset from KIC position	1.339 ± 0.631	2.12	-0.413 ± 0.223	1.274 ± 0.600
photometric centroid source offset	1.10 ± 1.50	0.74	-0.05 ± 0.79	-1.10 ± 1.50

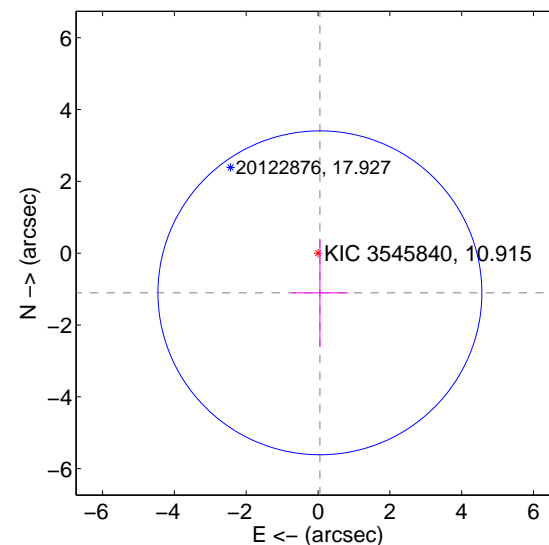
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

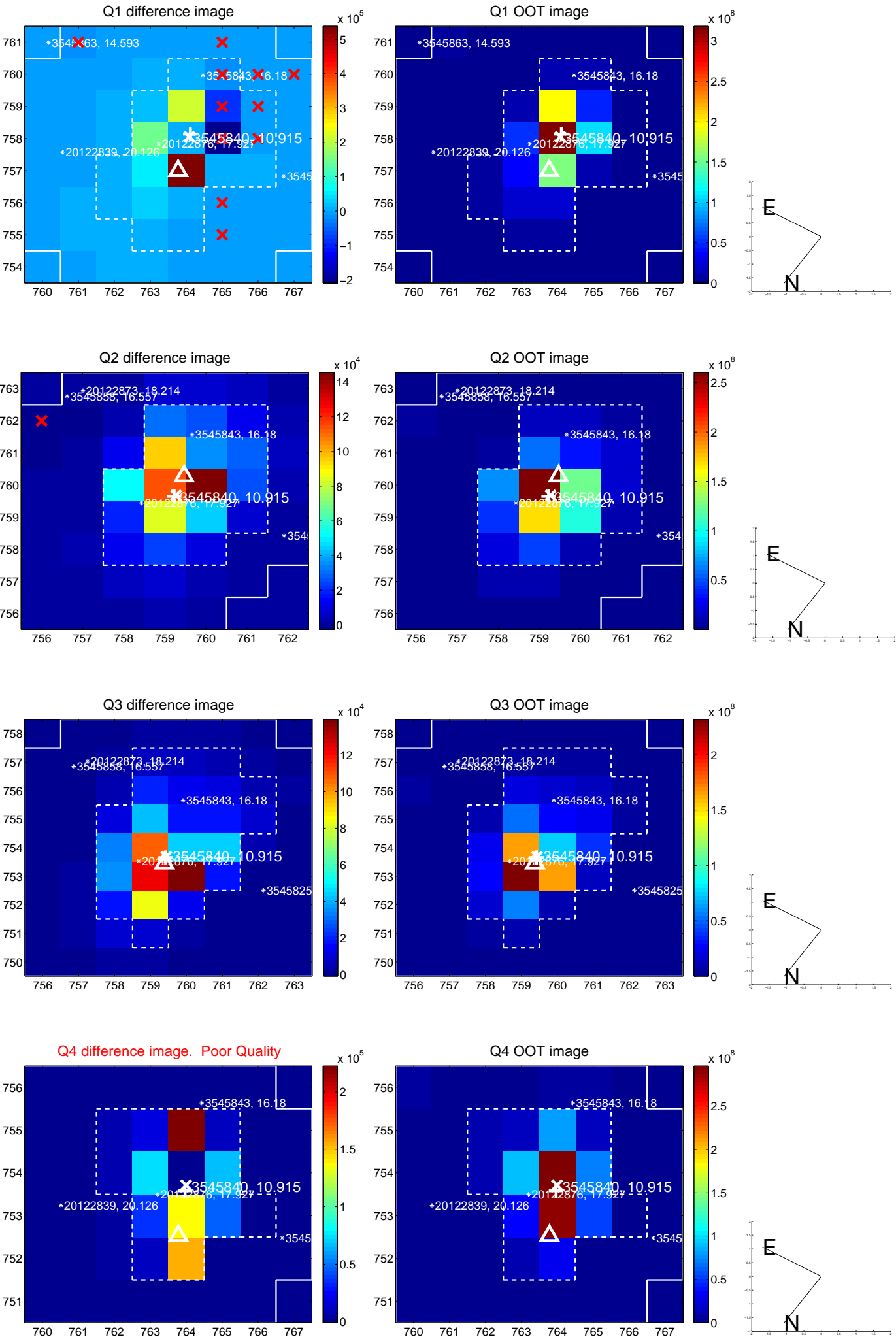


offset from photometric centroids

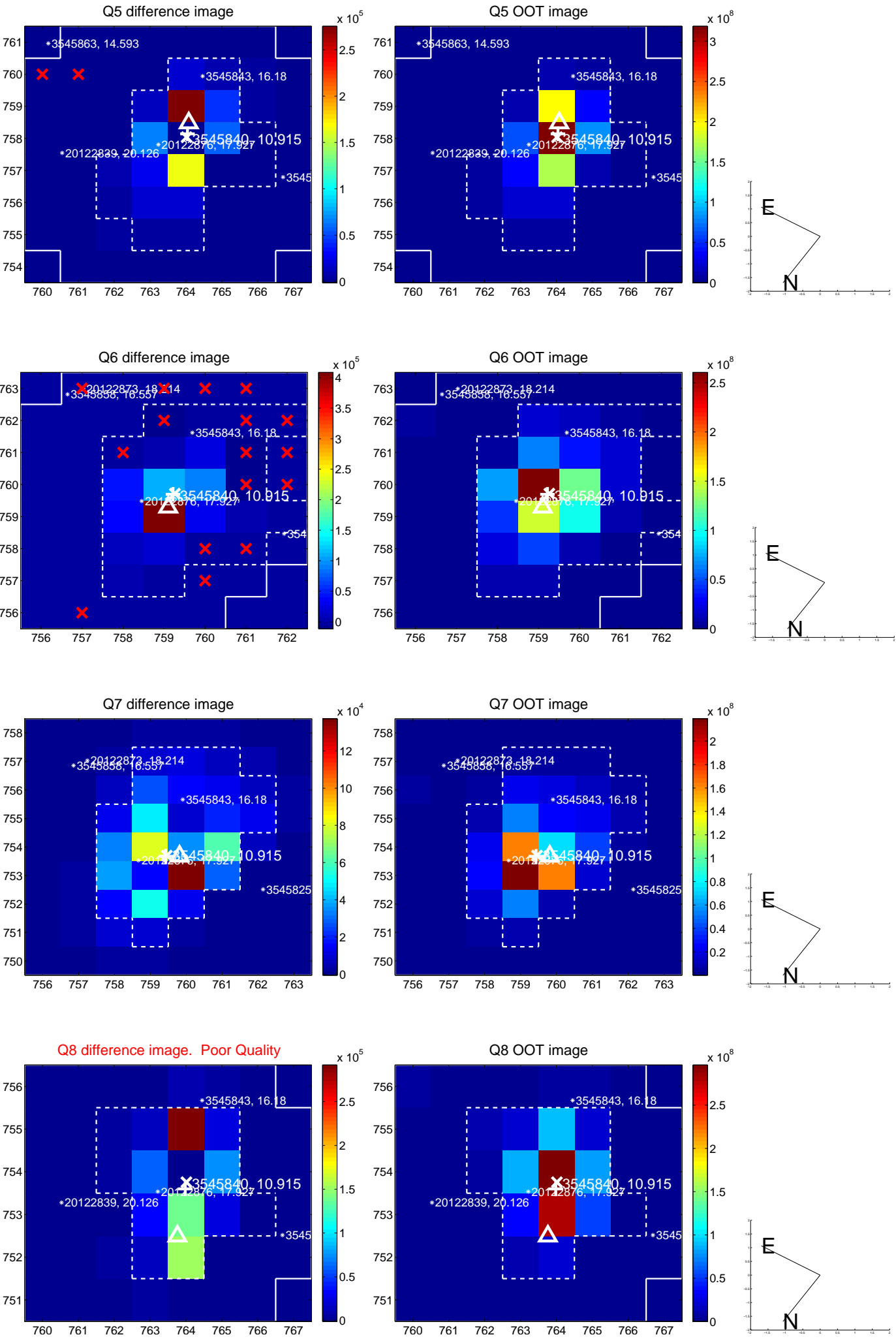


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

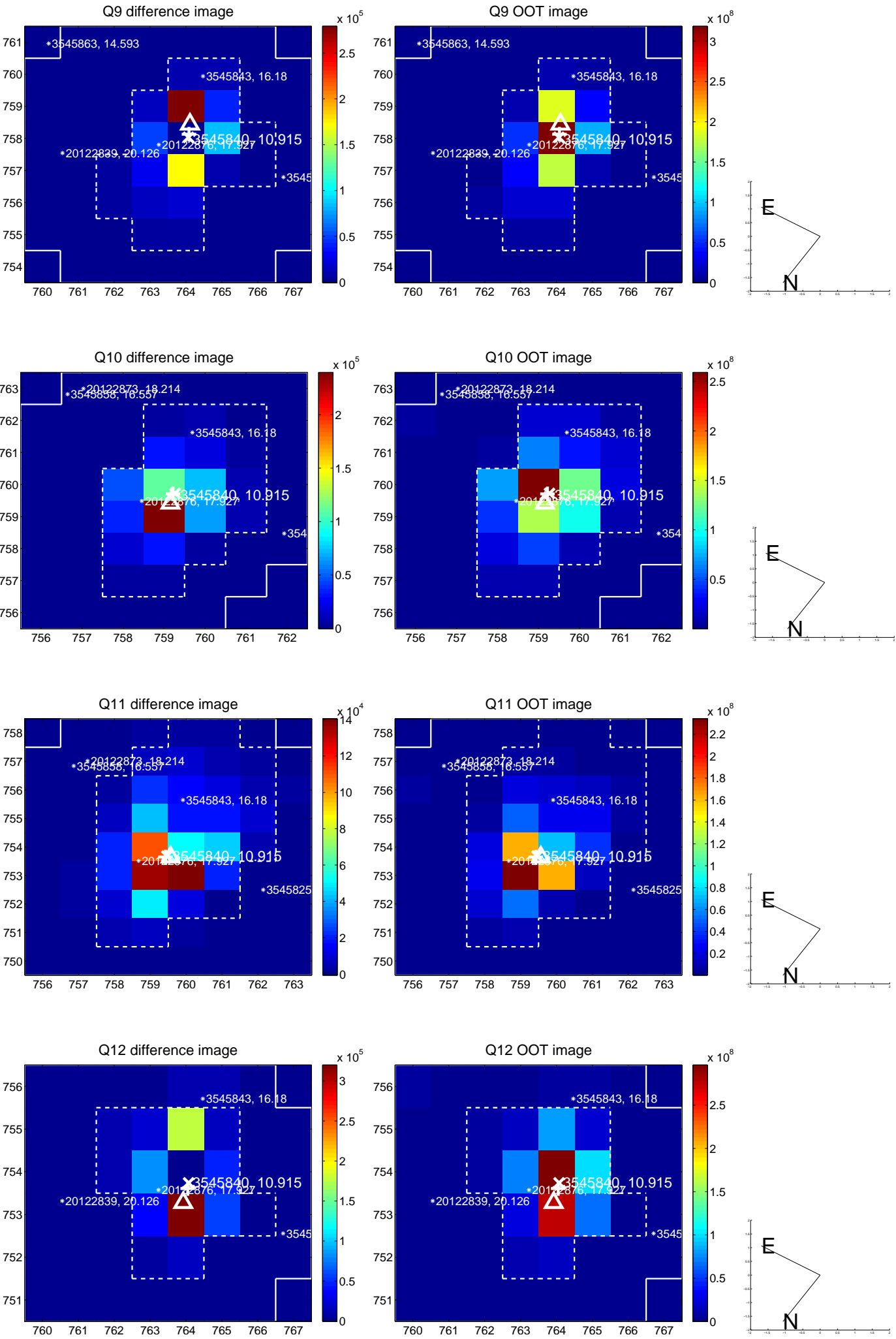
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



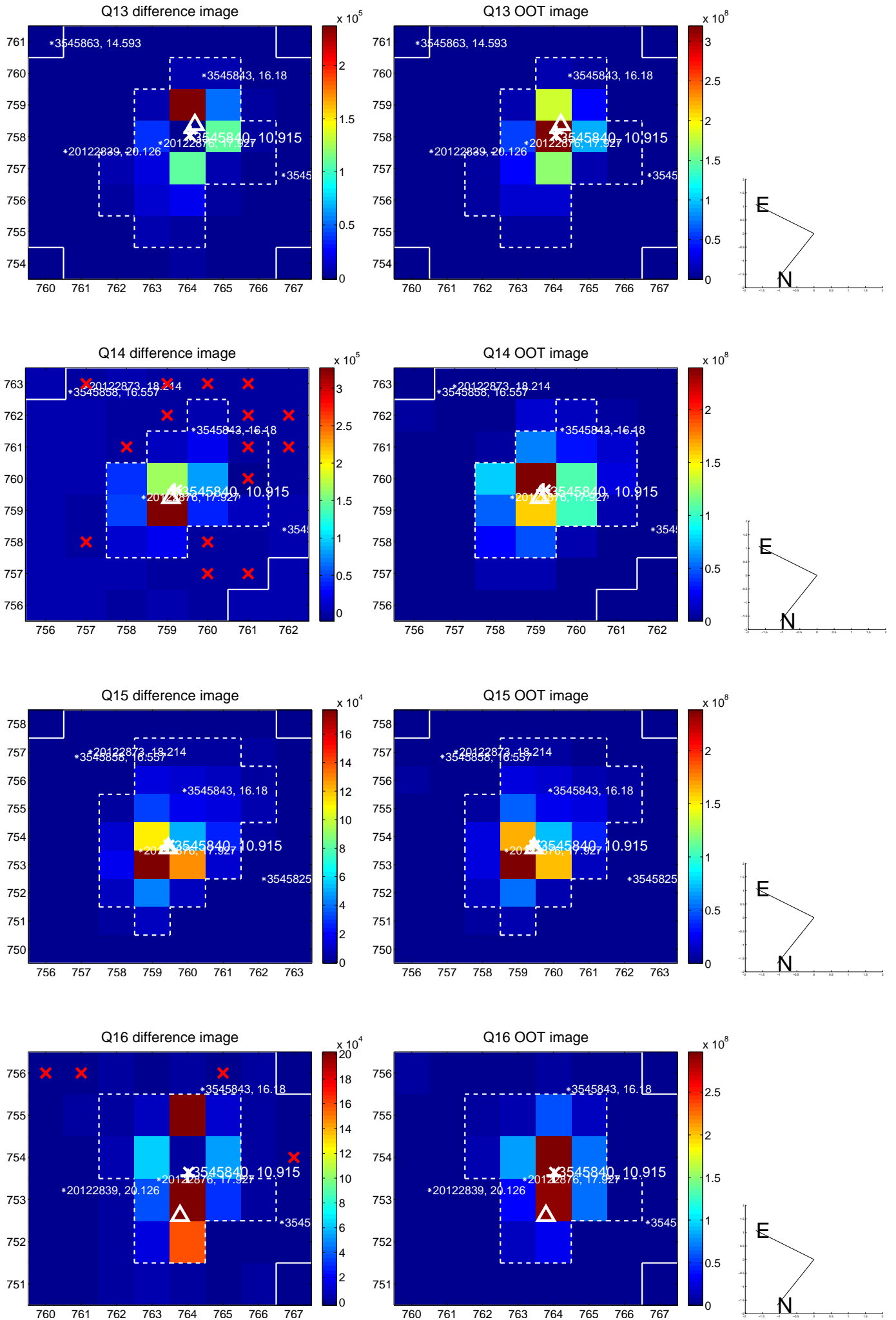
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



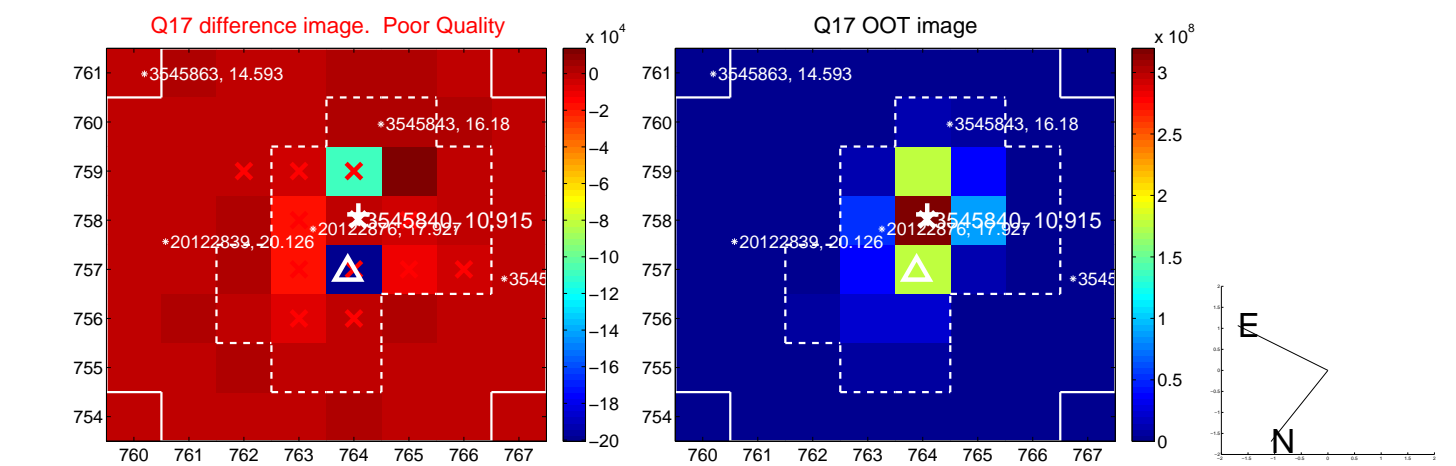
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



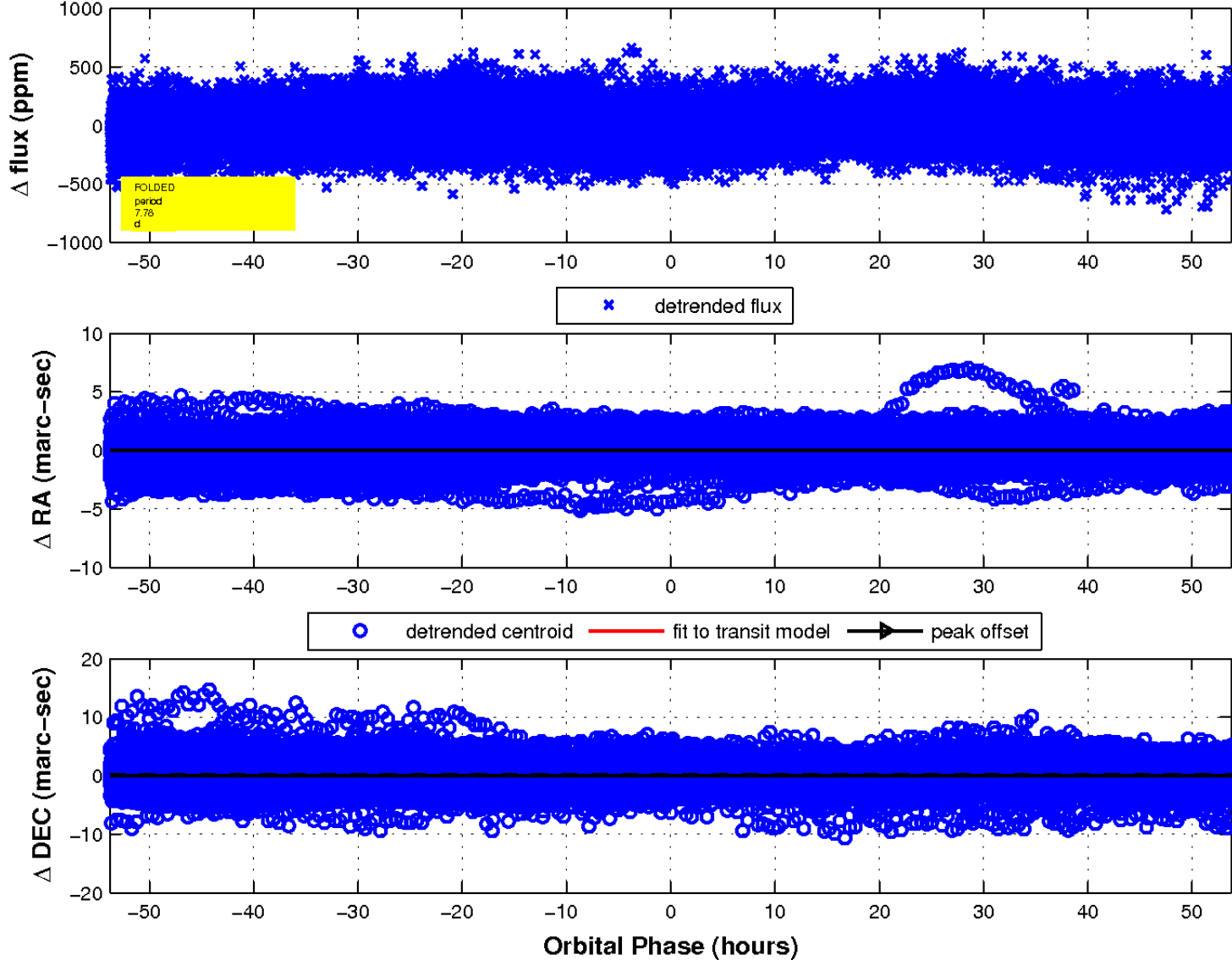
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



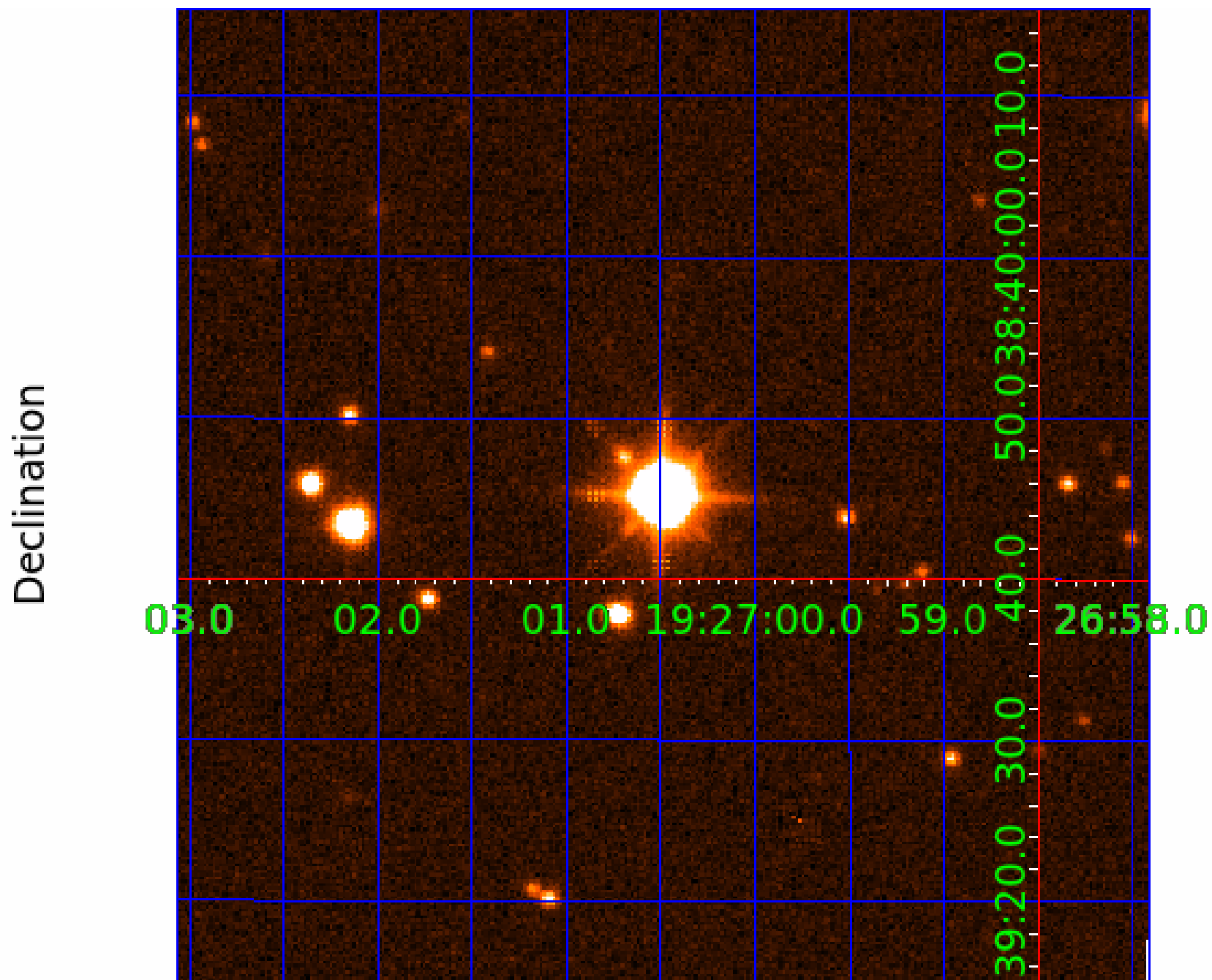
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 3 of 5



UKIRT Image



KIC 003545840

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})
003545840-01	OBS	No	5.835764	132.210680	7.1	1.184	8.3	1.1	3.56	6706	1.06	3699.04
003545840-02	OBS	No	5.836245	132.155637	123.1	2.742	8.1	4.0	3.56	6706	4.75	3698.63
003545840-03	OBS	No	7.781297	134.956873	32.0	17.925	7.6	7.6	3.56	6706	2.34	2520.48
003545840-04	OBS	No	303.301729	250.644473	198.5	27.918	14.4	6.9	3.56	6706	5.25	19.07
003545840-05	OBS	No	5.835450	133.118434	31.3	12.500	9.0	-1.0	3.56	6706	2.01	3699.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003545840-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003545840-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003545840-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003545840-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
003545840-05	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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 003545840-04

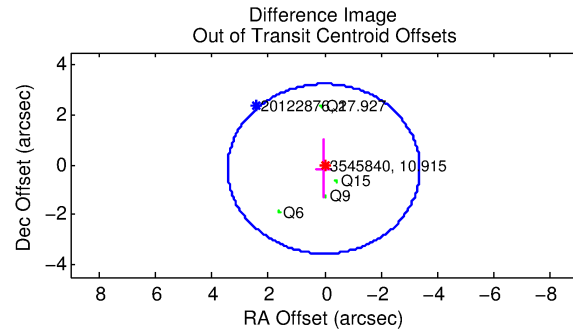
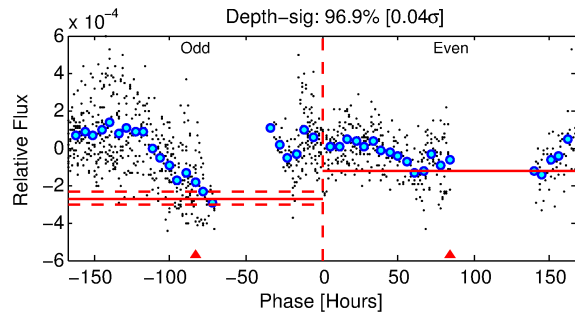
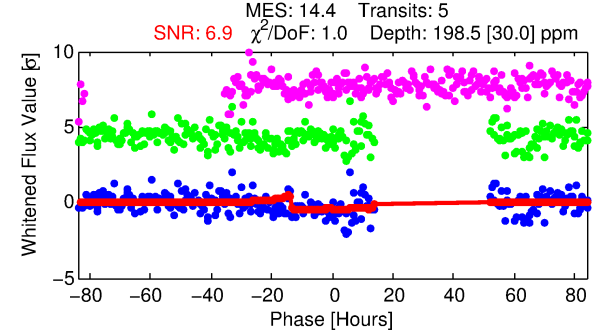
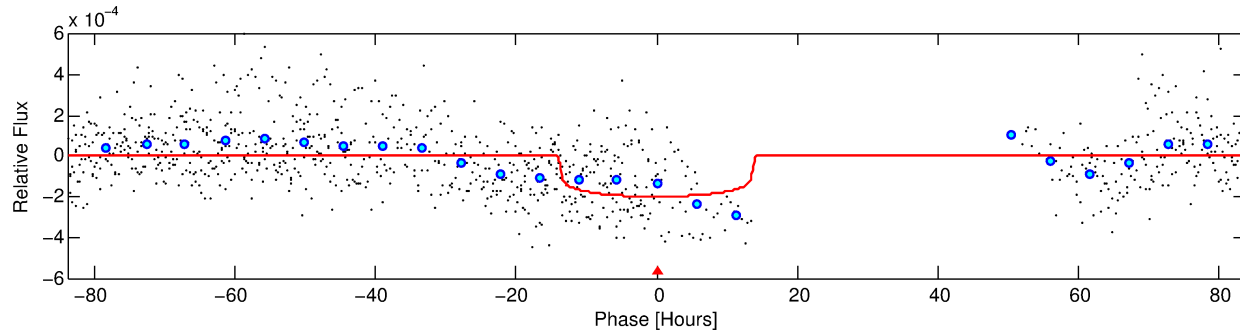
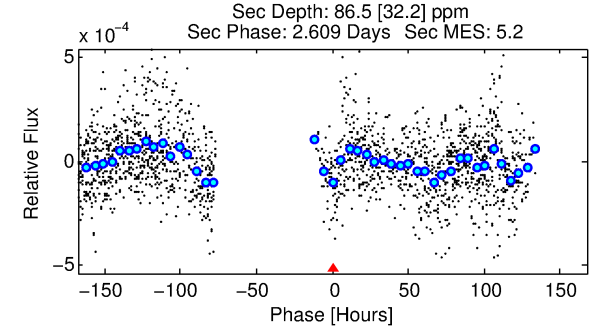
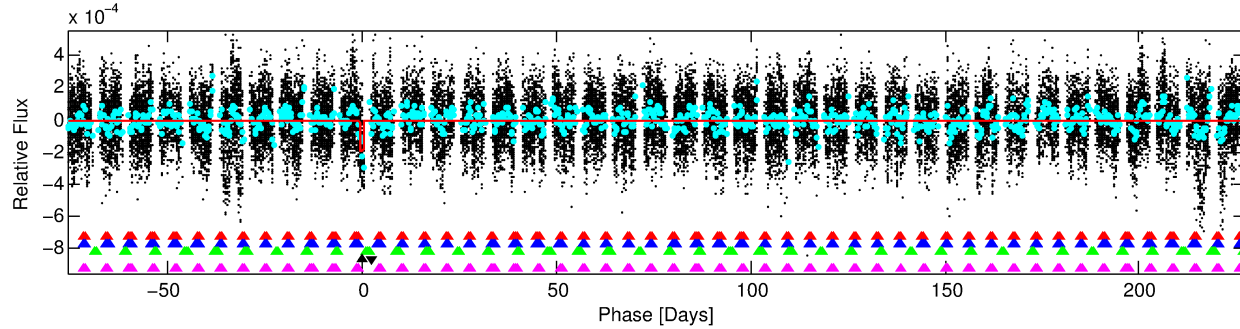
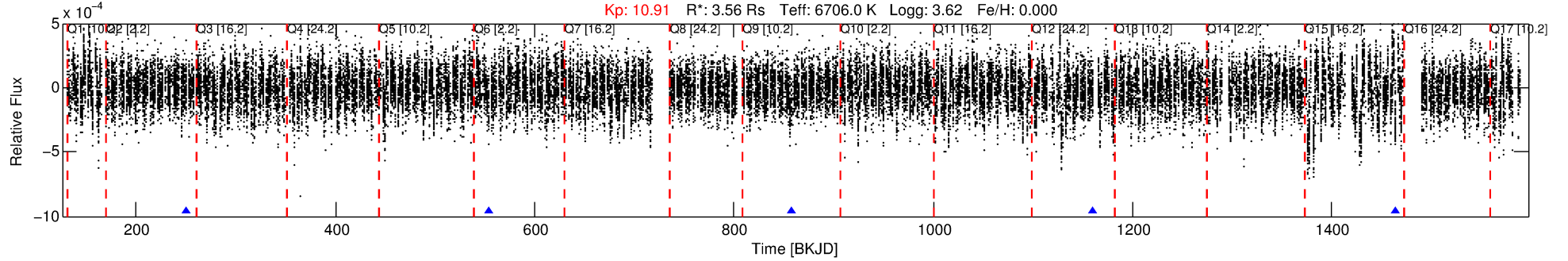
No Significant Match Found

DV One-Page Summary

KIC: 3545840 Candidate: 4 of 5 Period: 303.302 d

KOI: K06102 Corr: No Ephemeris Match

Kp: 10.91 R*: 3.56 Rs Teff: 6706.0 K Logg: 3.62 Fe/H: 0.000



DV Fit Results:

Period = 303.30173 [0.00840] d
Epoch = 250.6445 [0.0300] BKJD
Rp/R* = 0.0135 [0.0025]
a/R* = 68.53 [63.27]
b = 0.59 [1.03]
Seff = 19.07 [10.43]
Teq = 533 [73] K
Rp = 5.25 [2.25] Re
a = 1.0967 [0.3820] AU
Ag = 2077.68 [1560.05] [1.33σ]
Teffp = 5562 [748] K [6.70σ]

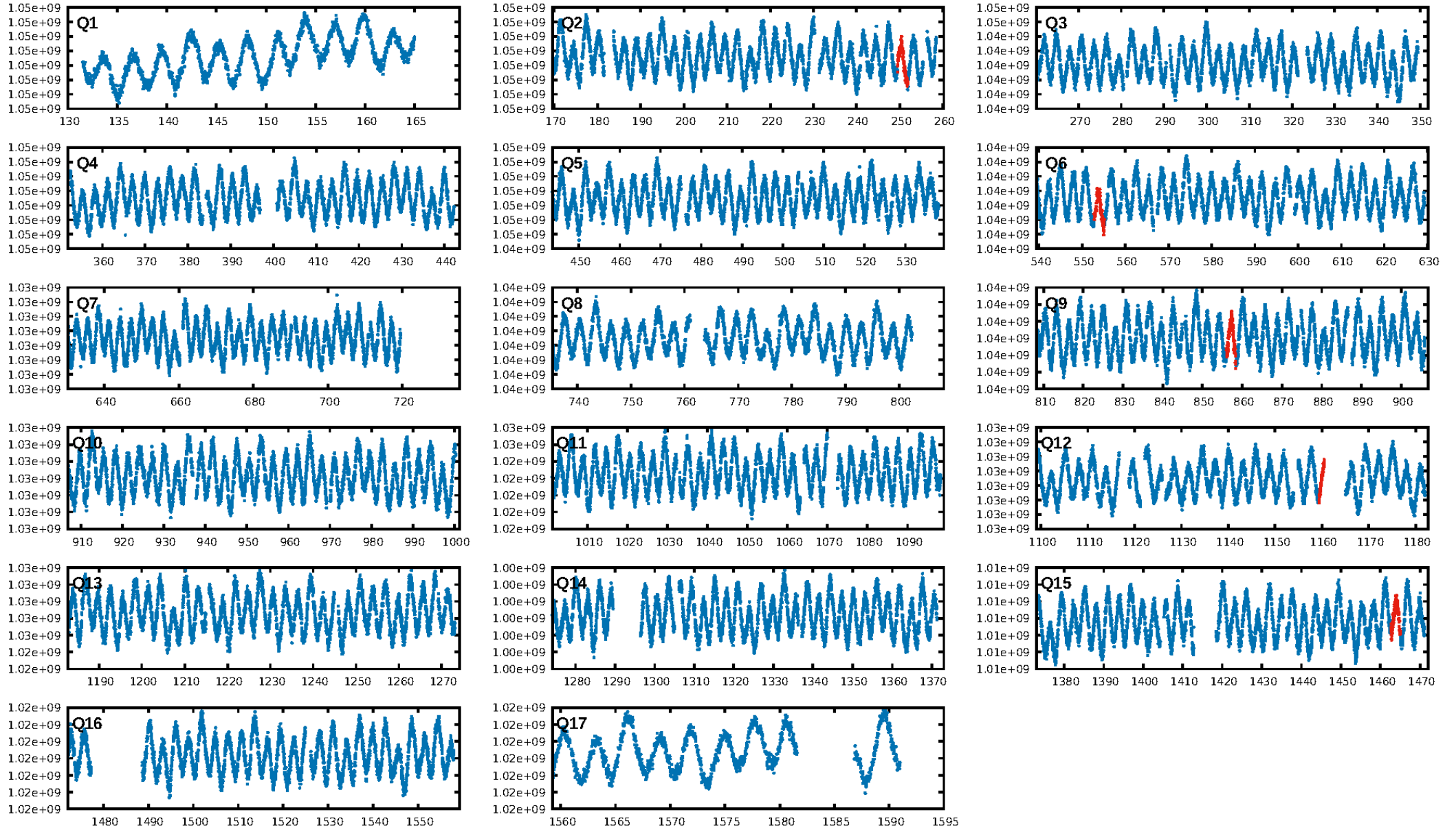
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [213.77σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.25e-29
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.09519
Centroid-sig: 10.7%
Centroid-so: 1.172 arcsec [1.22σ]
OotOffset-rm: 0.167 arcsec [0.15σ]
KicOffset-rm: 0.251 arcsec [0.24σ]
OotOffset-st: 2/1/0/1 [4]
KicOffset-st: 2/1/0/1 [4]
DiffImageQuality-fgm: 0.00 [0/4]
DiffImageOverlap-fno: 0.00 [0/4]

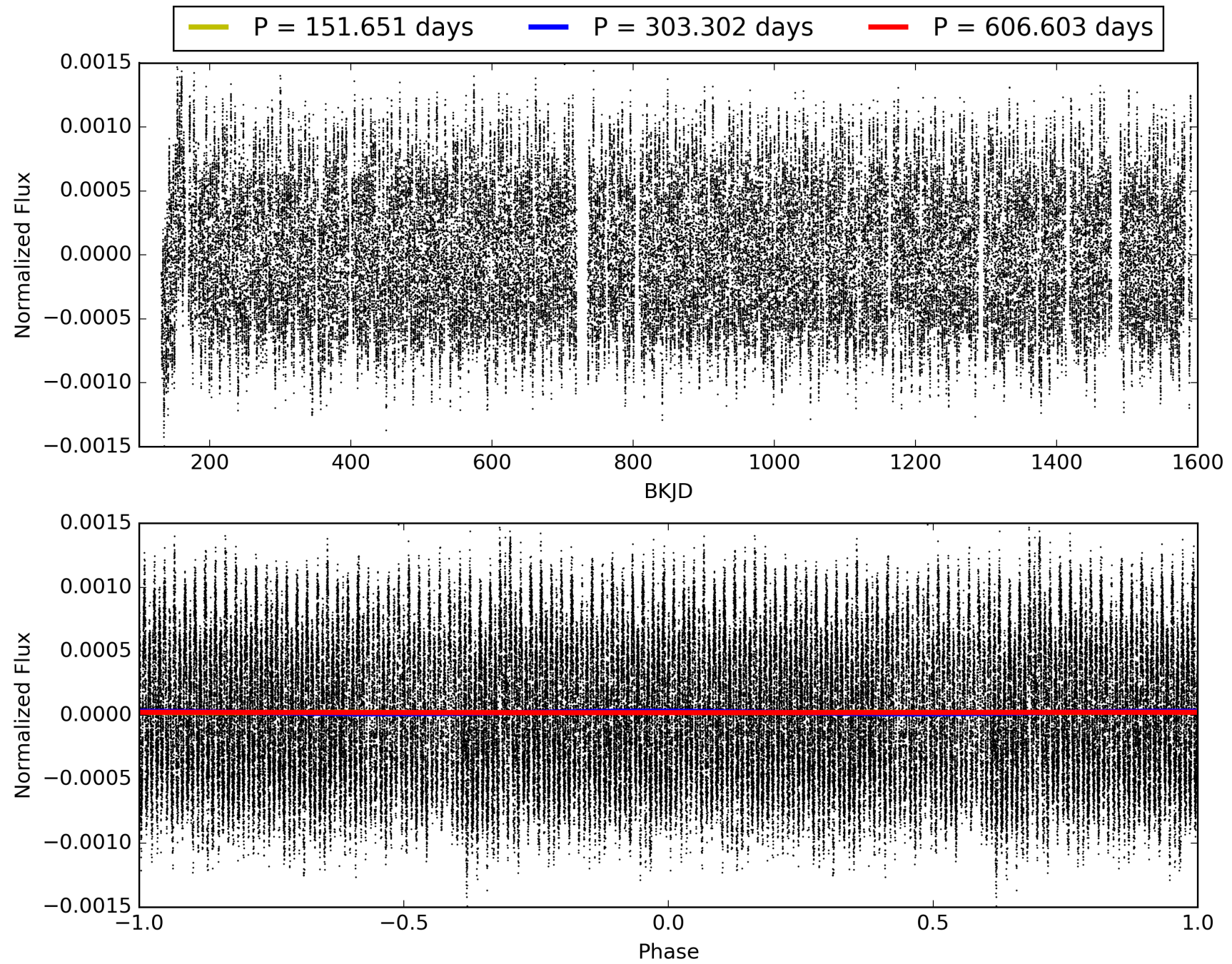
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:29:48 Z

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

TCE 003545840-04, PDC Light Curves

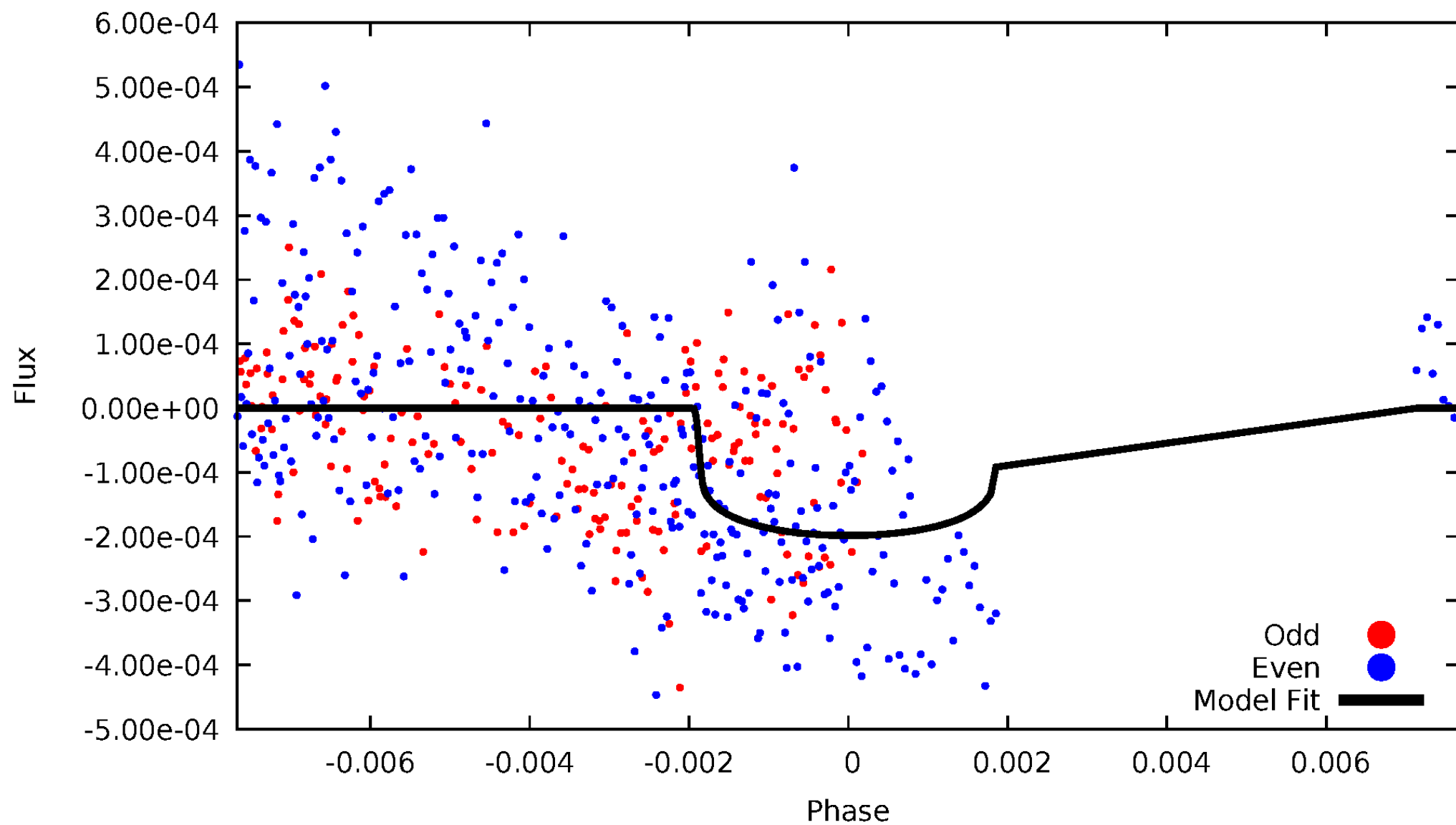


TCE 003545840-04



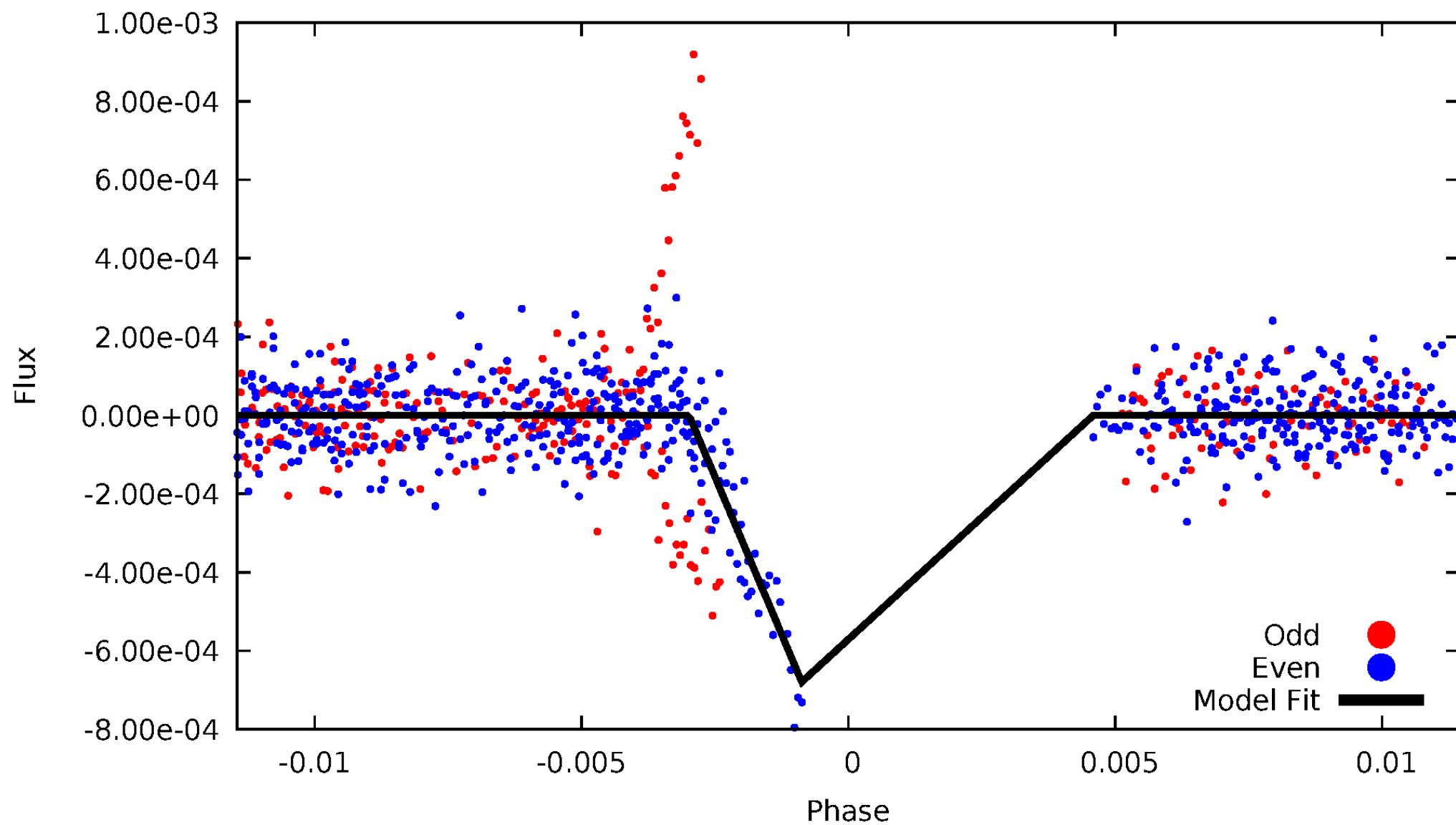
DV Odd/Even

TCE 003545840-04



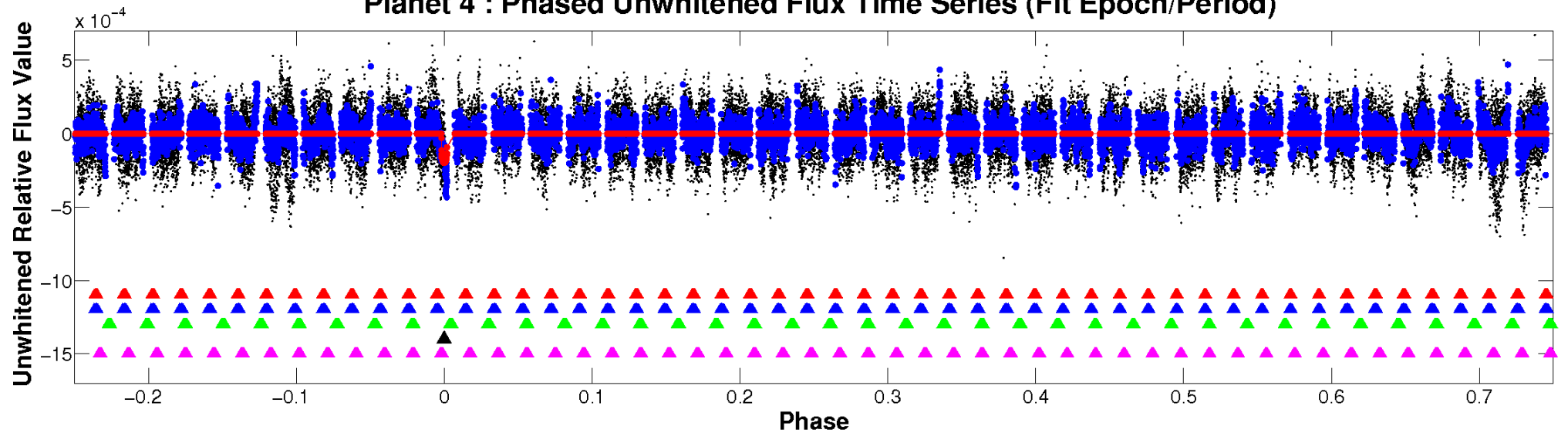
ALT Odd/Even

TCE 003545840-04

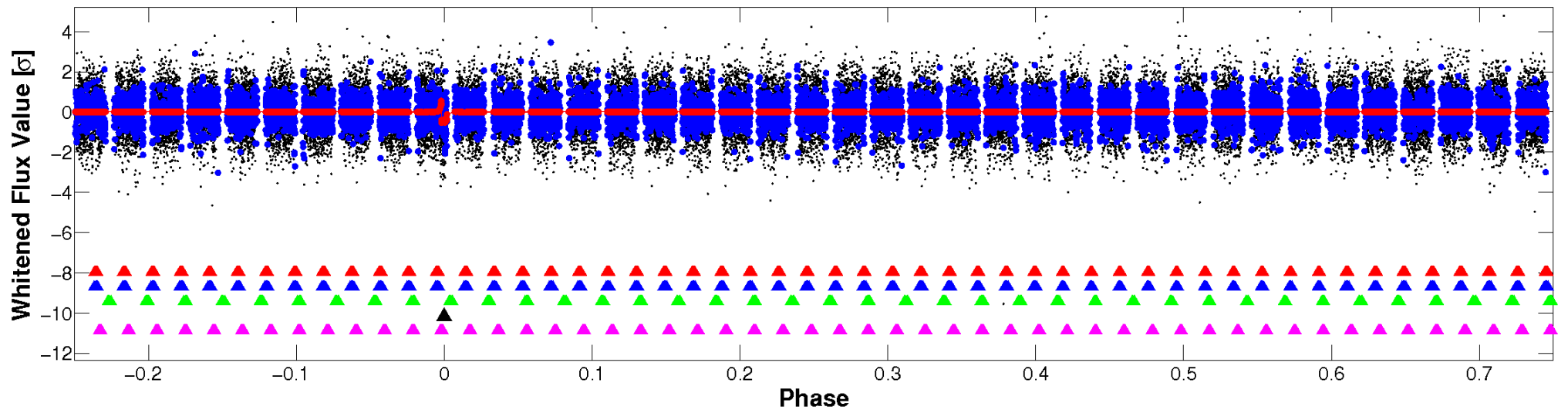


Non-Whitened Vs. Whitened Light Curve

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

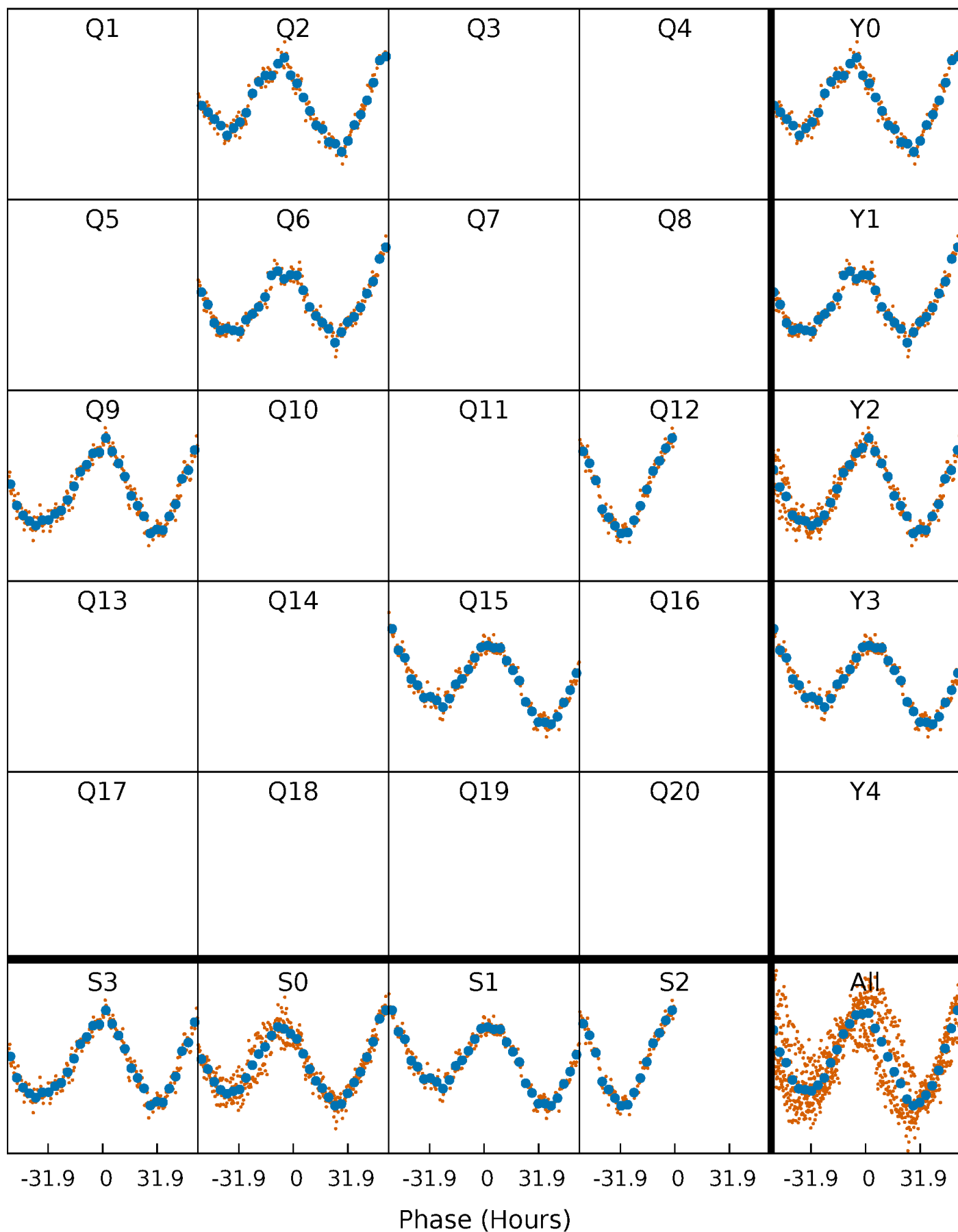


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



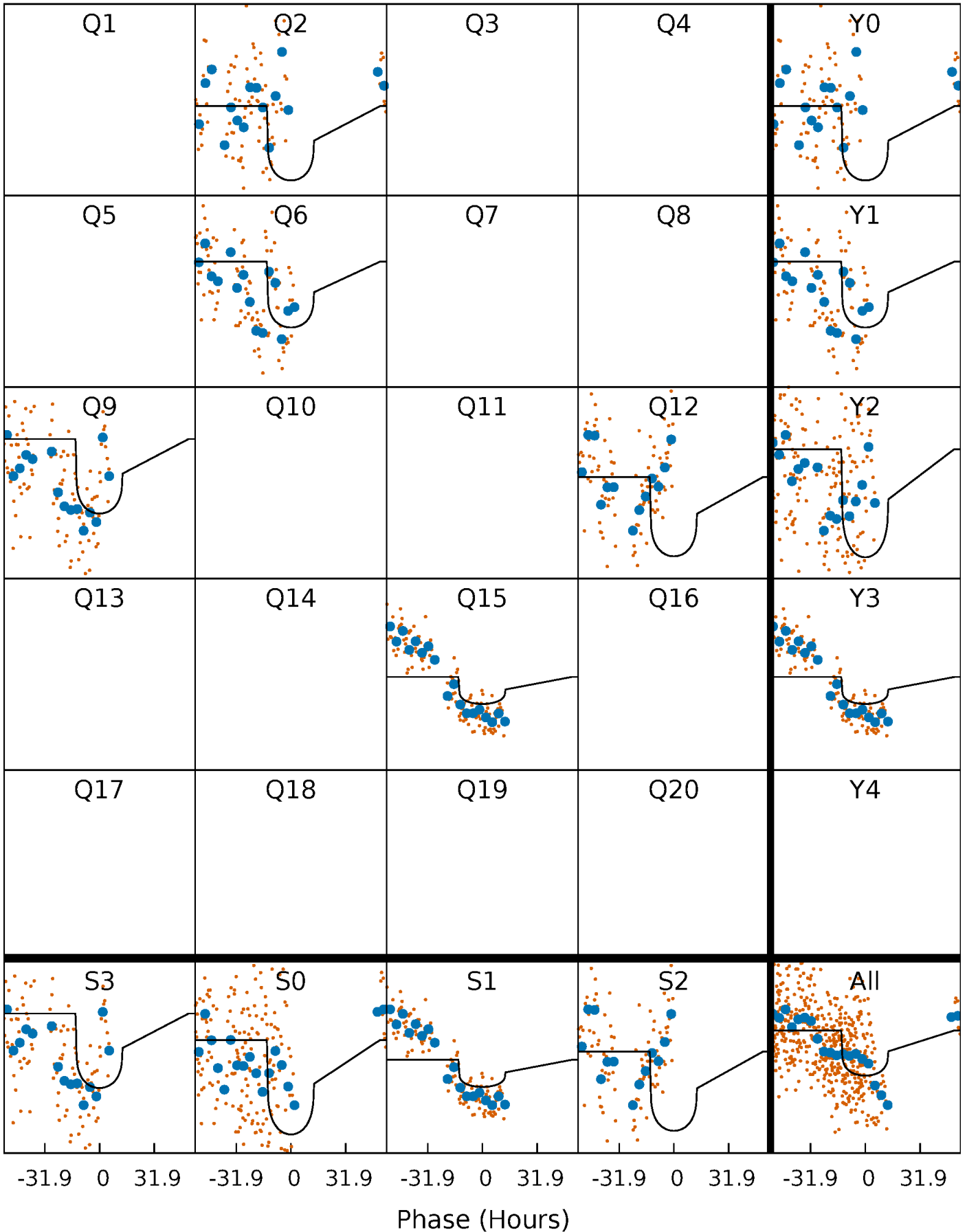
PDC Quarter-Phased Transit Curves

TCE 003545840-04 $P=303.301729$ Days $T_0=250.644473$ (BKJD)



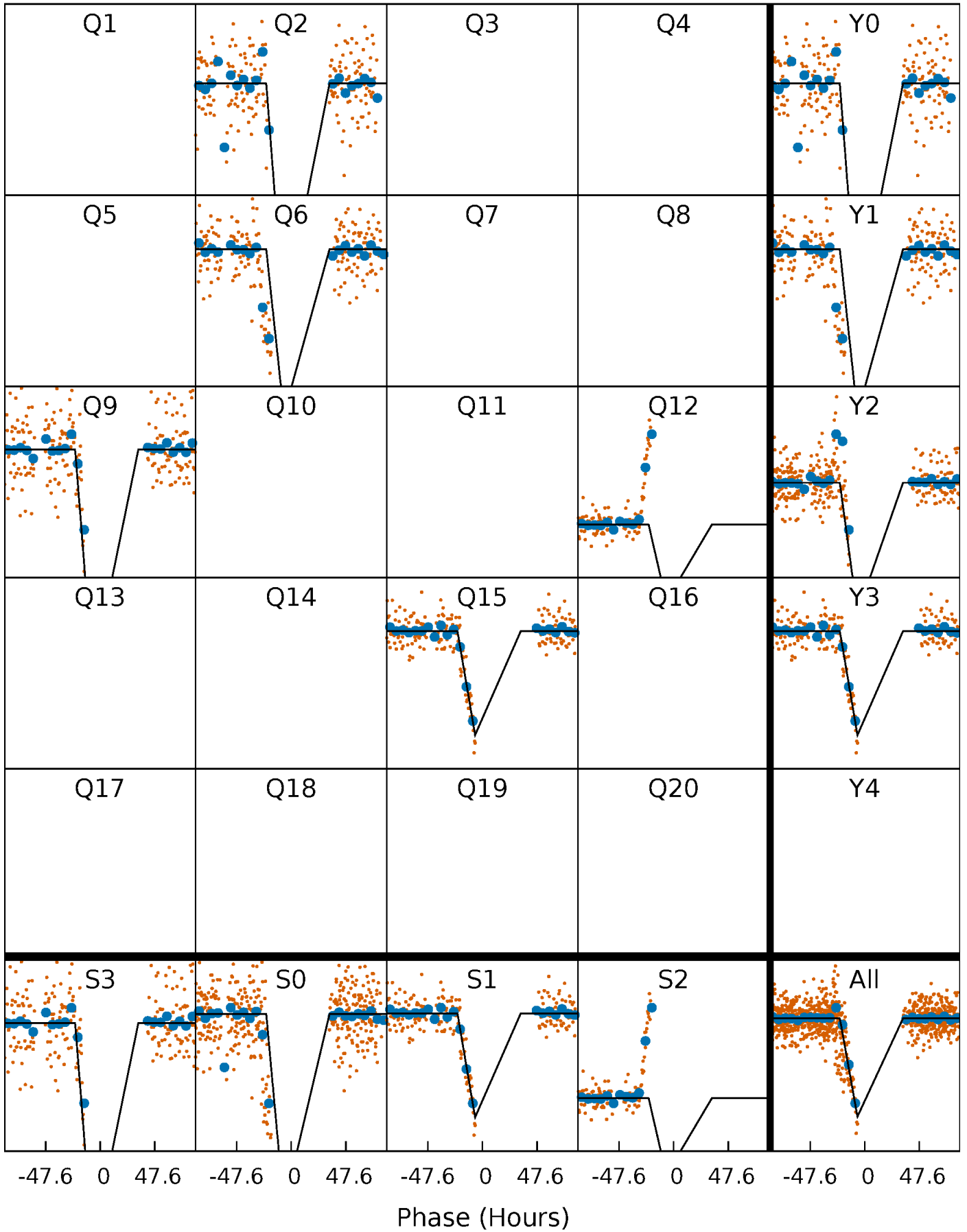
DV Quarter-Phased Transit Curves

TCE 003545840-04 $P=303.301729$ Days $T_0=250.644473$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

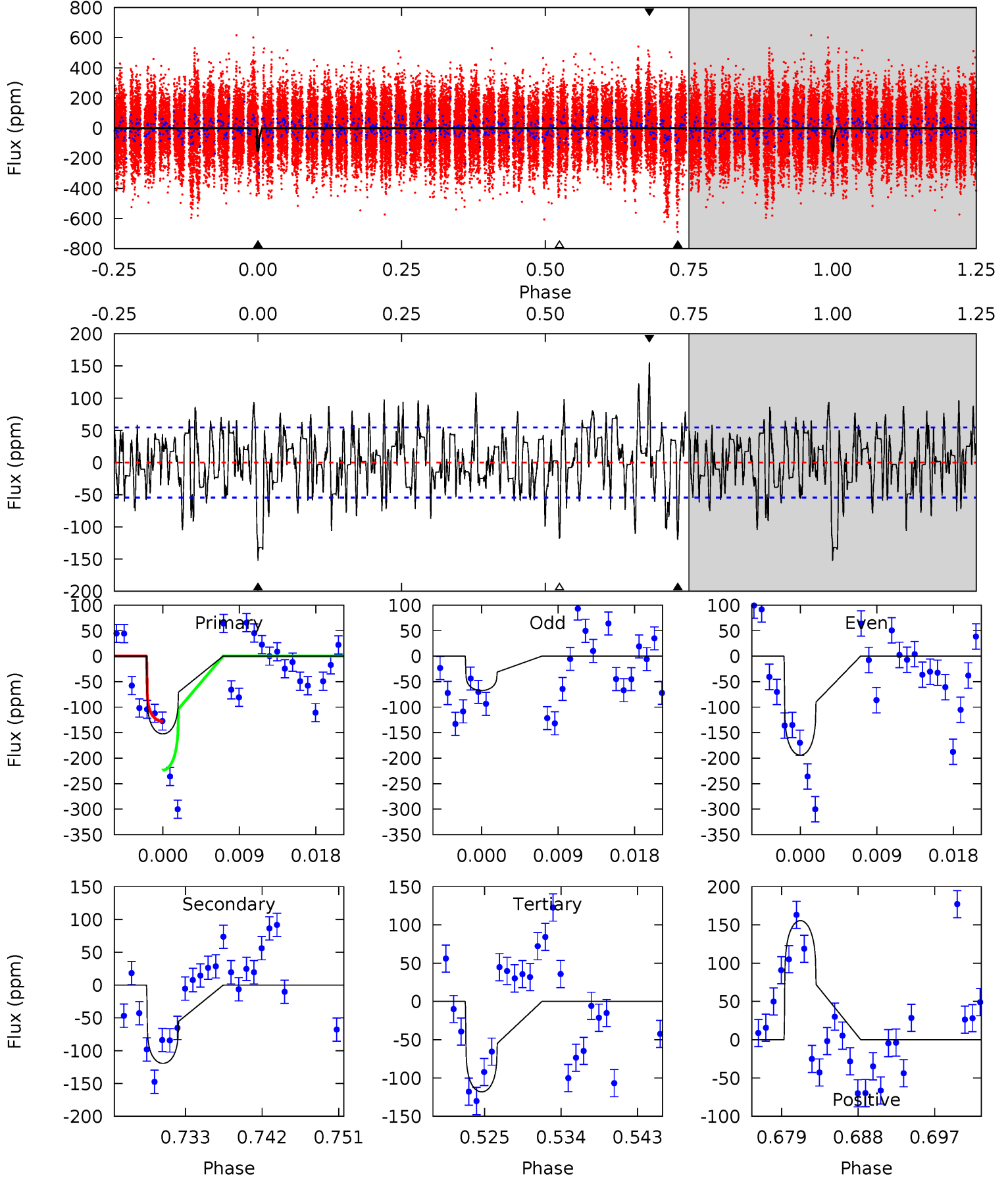
TCE 003545840-04 P=303.315765 Days $T_0=251.415457$ (BKJD)



DV Model-Shift Uniqueness Test

003545840-04, P = 303.301729 Days, E = 250.644473 Days

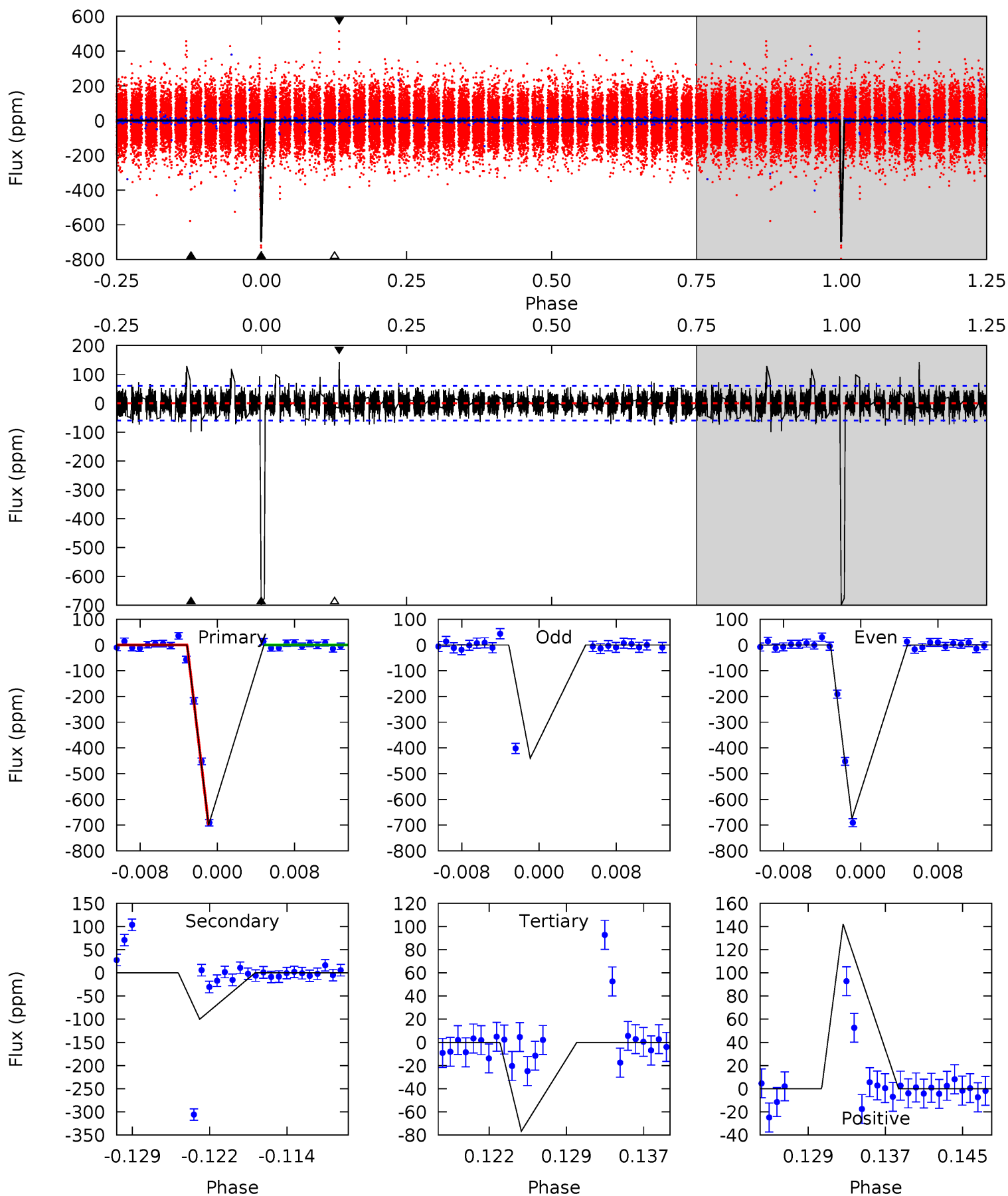
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	11.1	10.9	14.4	5.05	2.61	3.86	3.18	-0.29	0.12	-3.35	5.52	0.76	0.51	3.84



Alt Model-Shift Uniqueness Test

003545840-04, P = 303.315765 Days, E = 251.415457 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
59.3	8.50	6.51	12.1	5.08	2.67	1.67	52.8	47.3	1.99	-3.56	8.08	0	0.17	0



Stellar Parameters For KIC 003545840

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6706^{+151}_{-184}	$3.617^{+0.306}_{-0.054}$	$0.000^{+0.300}_{-0.250}$	$3.558^{+0.343}_{-1.373}$	$1.913^{+0.182}_{-0.426}$	$0.060^{+0.142}_{-0.012}$
	+2%/-3%	+8%/-1%	+inf%/-inf%	+10%/-39%	+10%/-22%	+238%/-19%
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 003545840-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-119 ± 11	$4.95^{+1.26}_{-1.29}$	725^{+36}_{-65}	5970^{+701}_{-518}	3269^{+2488}_{-1194}
Alt.	-100 ± 12	$9.91^{+1.62}_{-1.90}$	728^{+34}_{-65}	4292^{+207}_{-181}	682^{+330}_{-178}

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 $A_{obs} \gg 1.0$

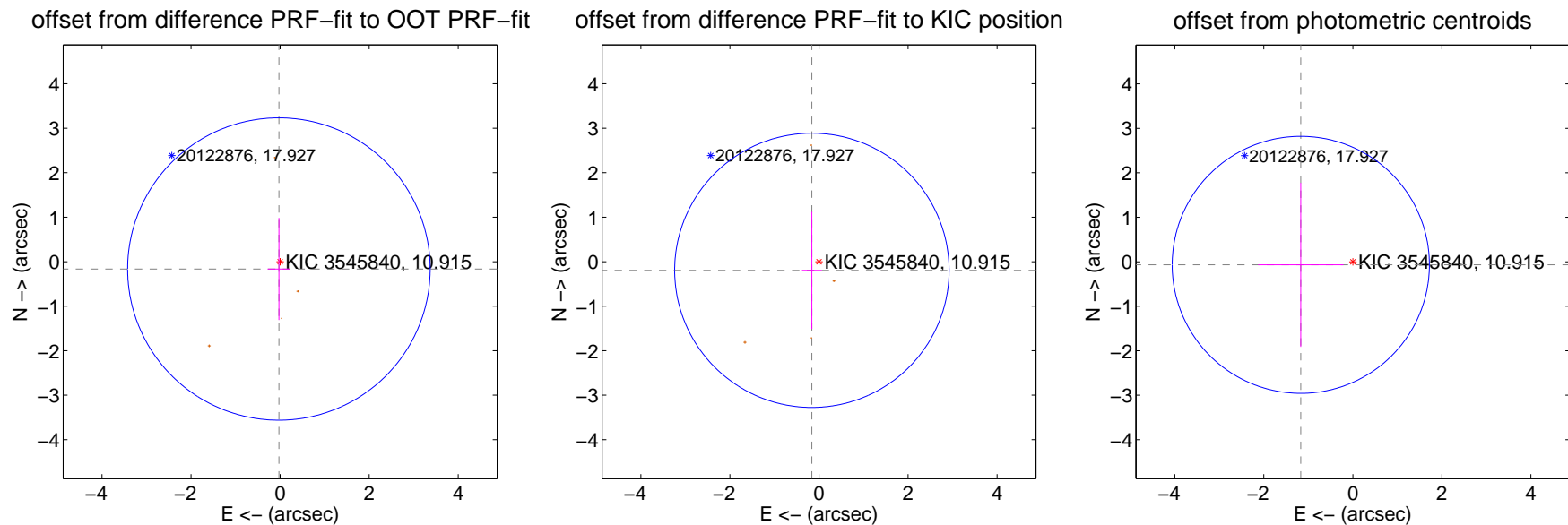
DV Centroid Data

Supplemental centroid analysis for 003545840-04. **Kepler magnitude: 10.91.** Transit SNR 6.89

There are 0 quarters with good PRF difference image offsets

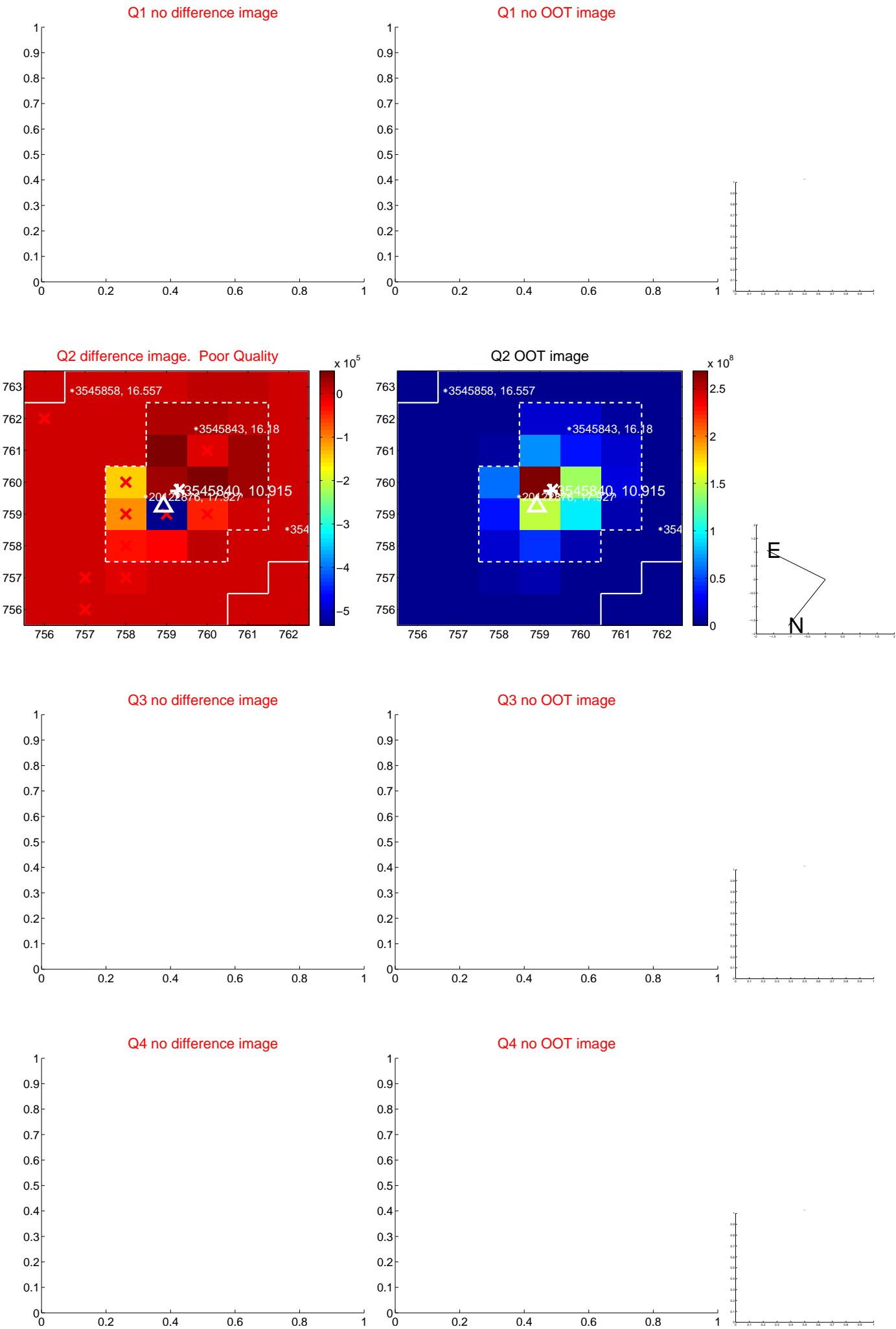
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.167 ± 1.133	0.15	0.027 ± 0.254	-0.164 ± 1.147
PRF-fit source offset from KIC position	0.251 ± 1.027	0.24	0.160 ± 0.222	-0.194 ± 1.317
photometric centroid source offset	1.17 ± 0.96	1.22	1.17 ± 0.96	-0.07 ± 1.84

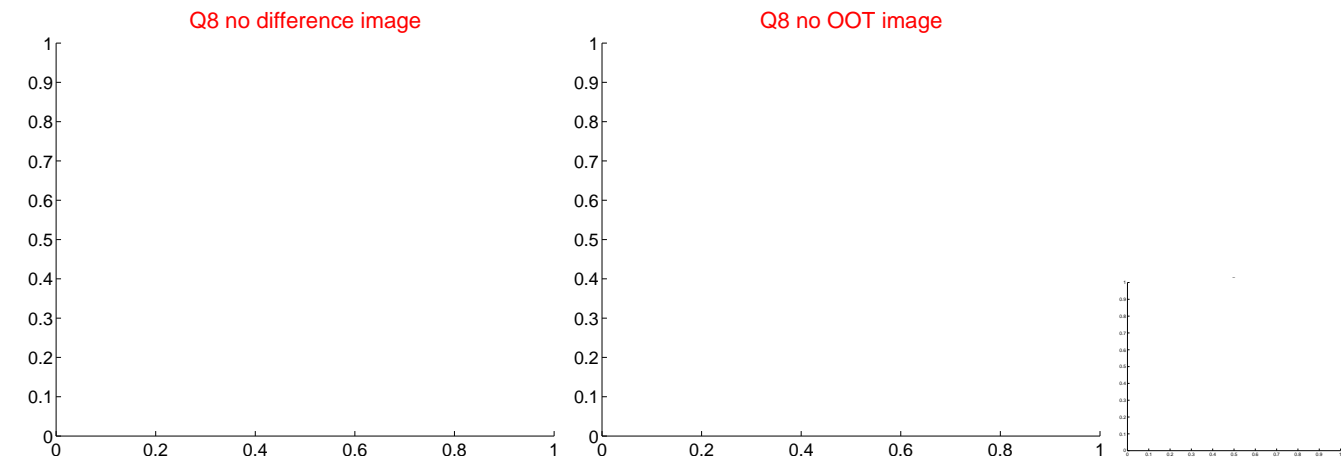
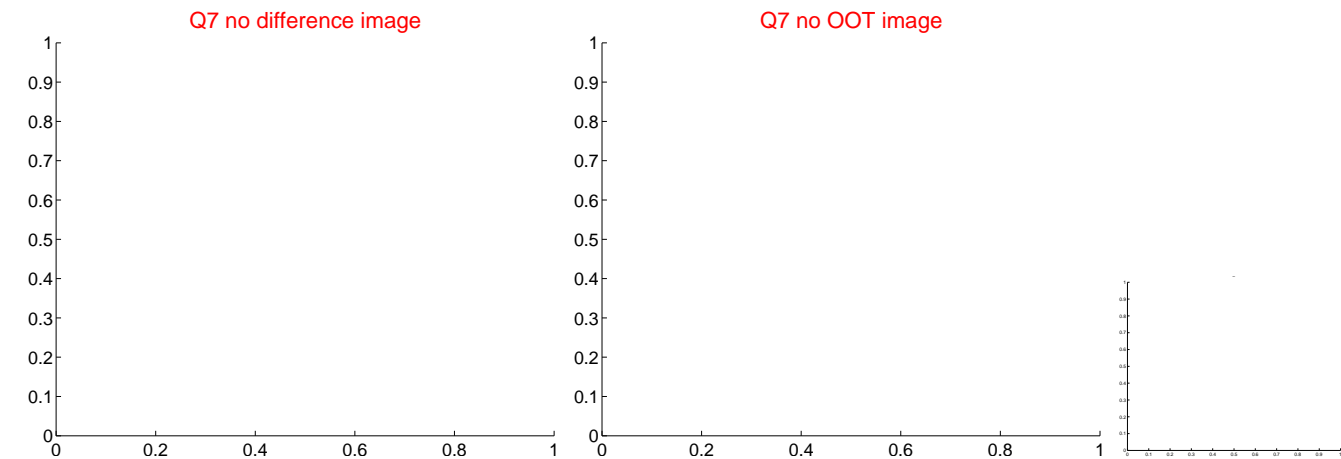
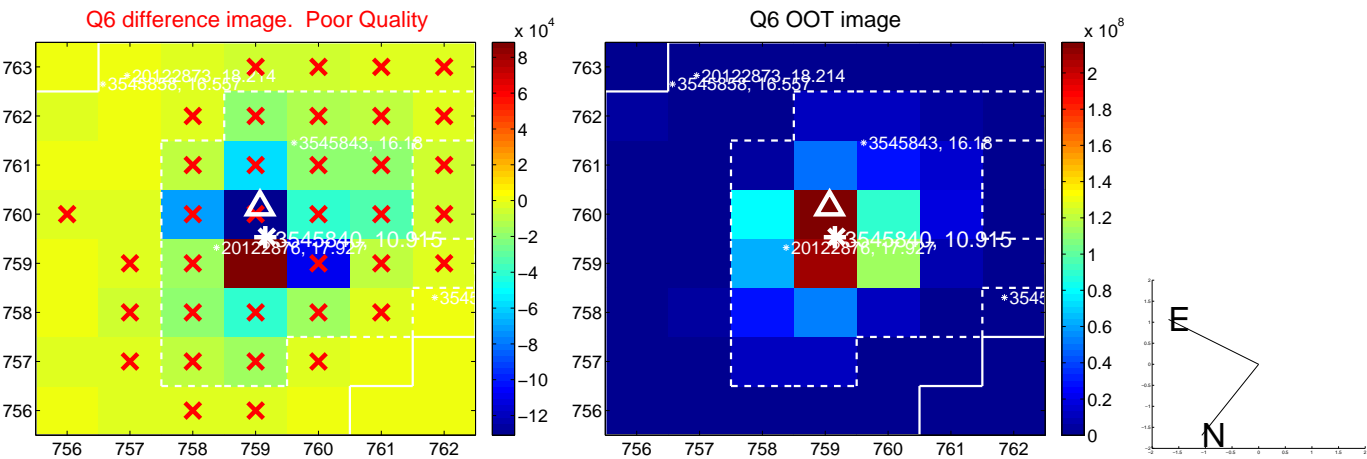
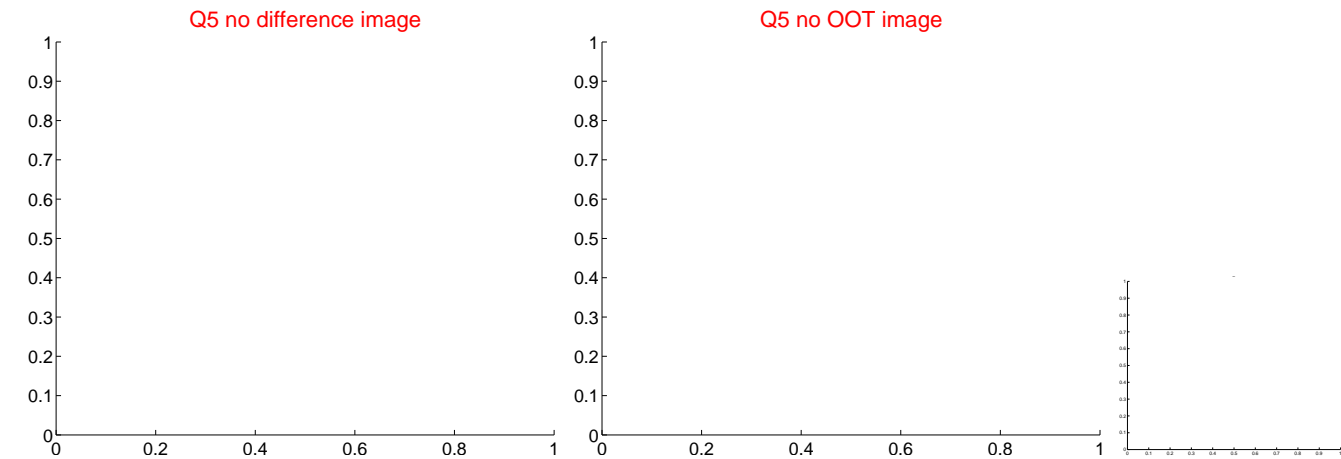


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

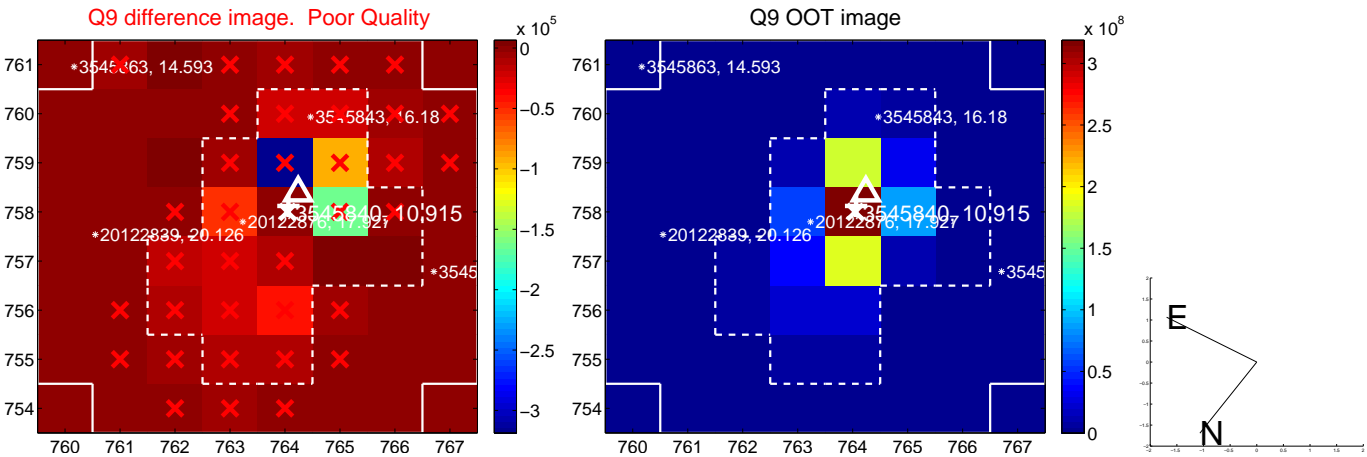
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



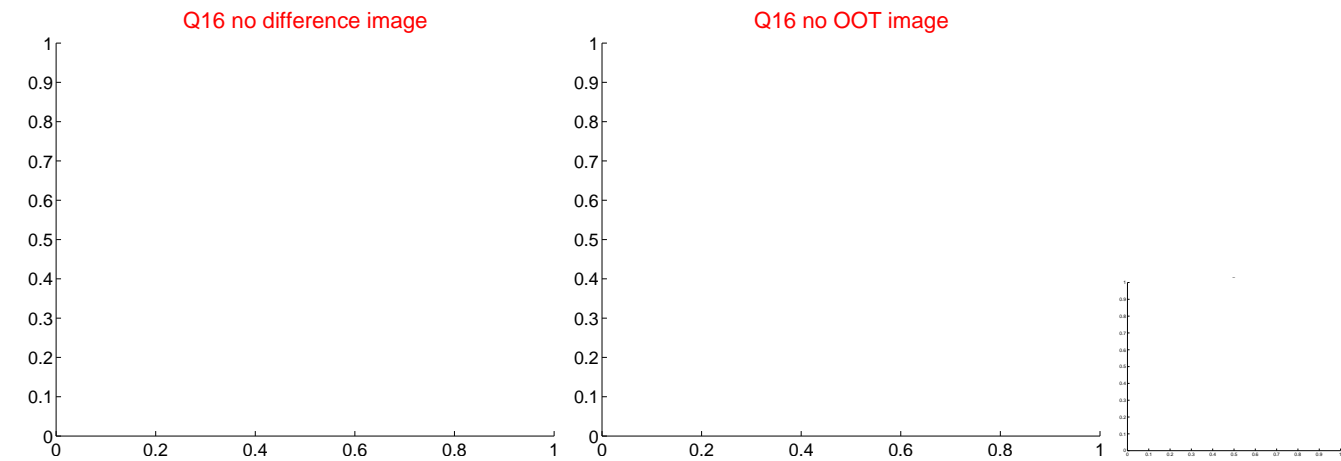
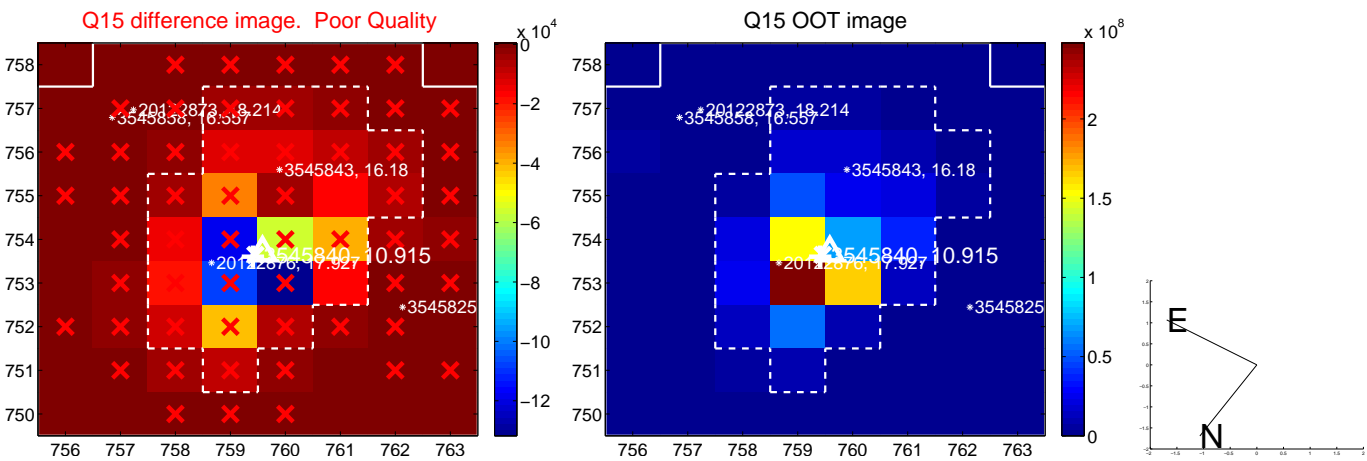
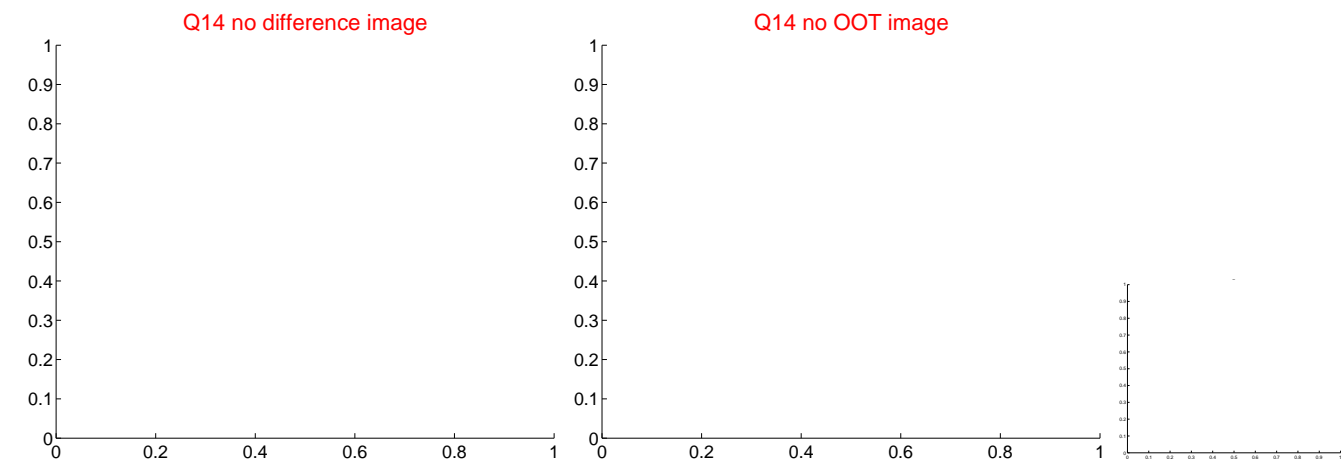
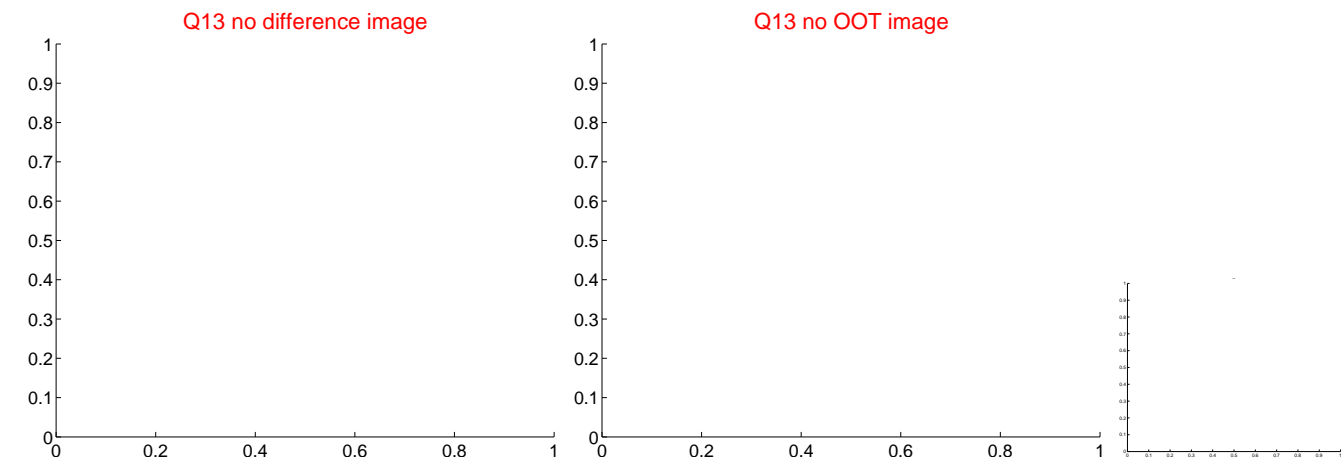
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



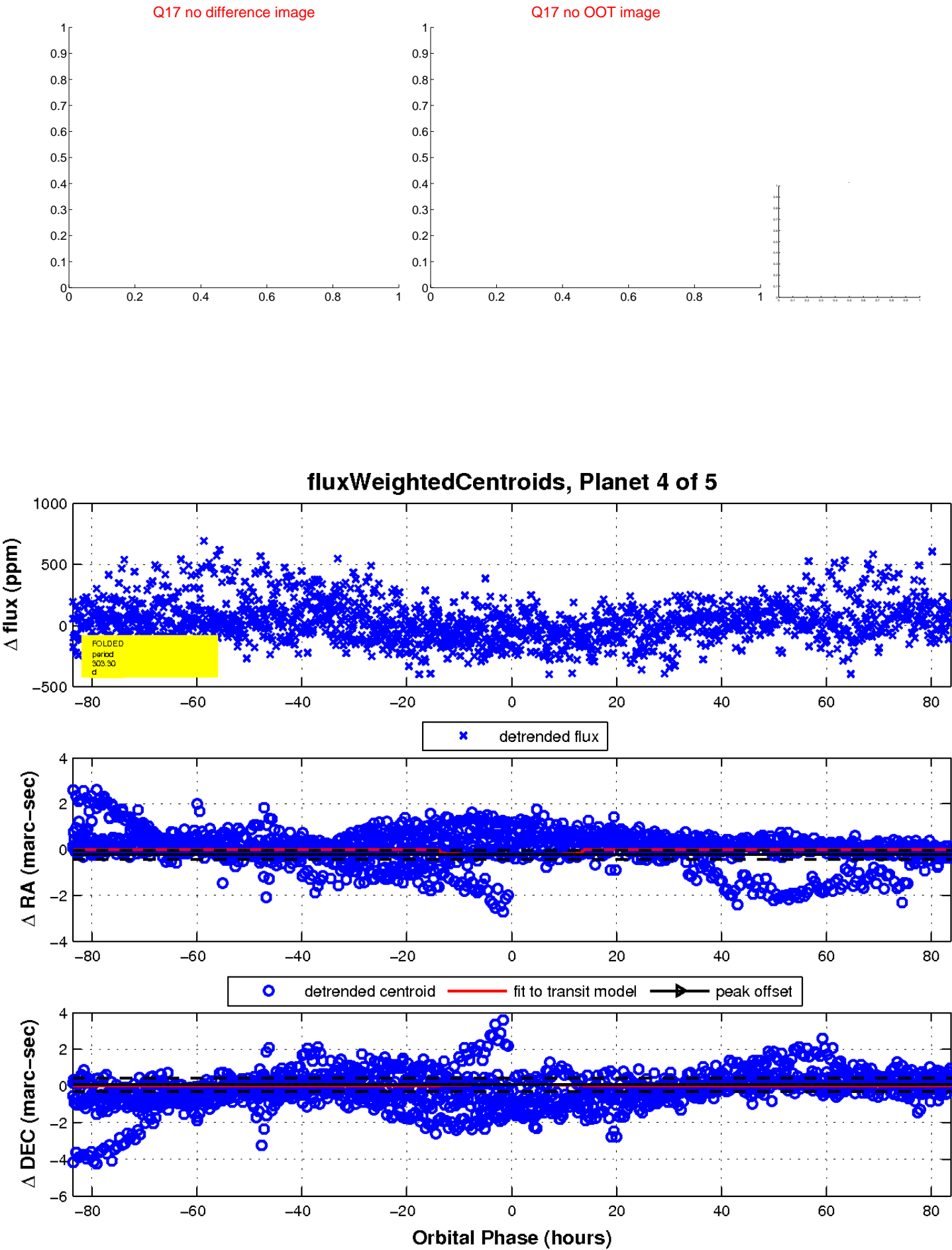
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



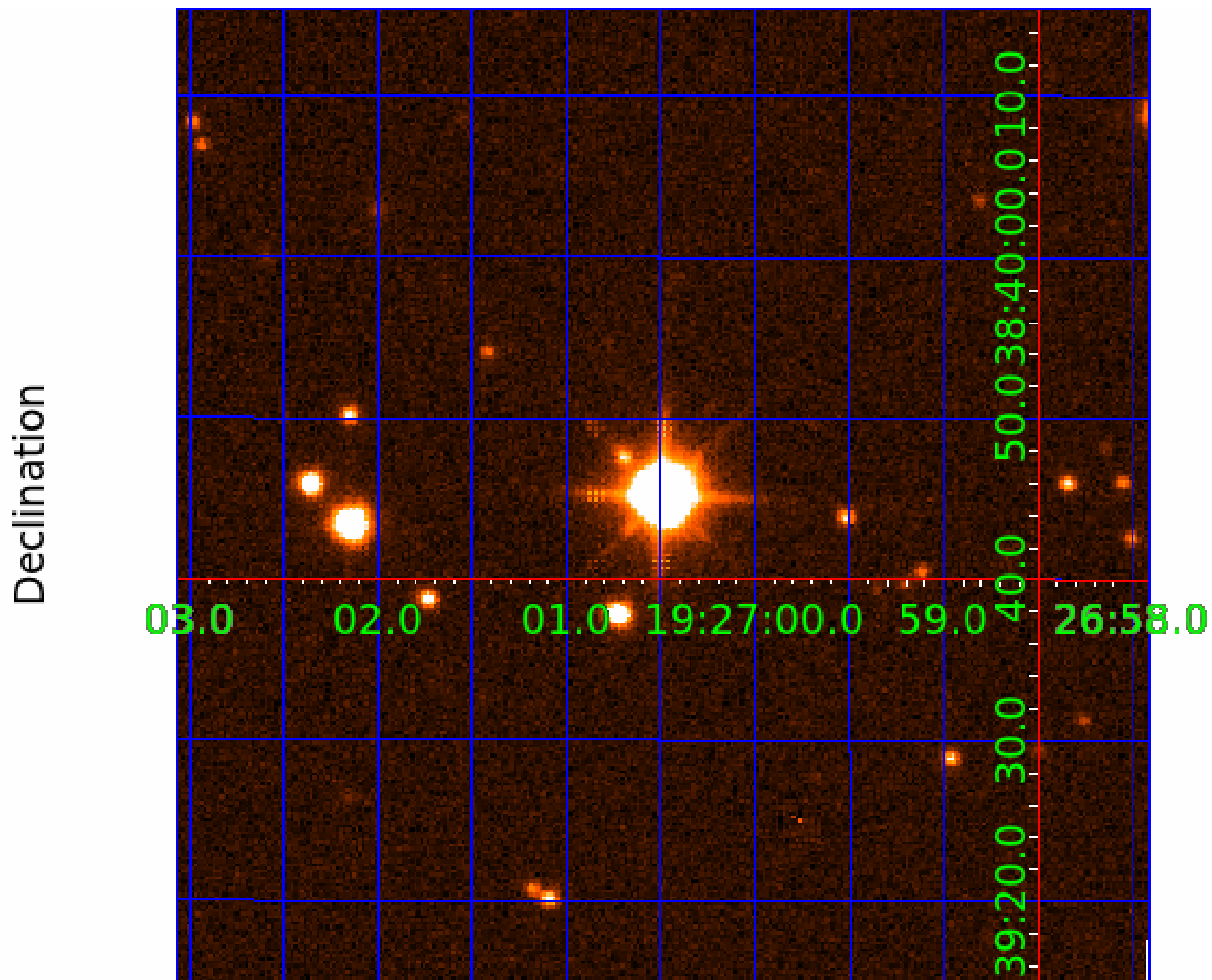
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 003545840

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})
003545840-01	OBS	No	5.835764	132.210680	7.1	1.184	8.3	1.1	3.56	6706	1.06	3699.04
003545840-02	OBS	No	5.836245	132.155637	123.1	2.742	8.1	4.0	3.56	6706	4.75	3698.63
003545840-03	OBS	No	7.781297	134.956873	32.0	17.925	7.6	7.6	3.56	6706	2.34	2520.48
003545840-04	OBS	No	303.301729	250.644473	198.5	27.918	14.4	6.9	3.56	6706	5.25	19.07
003545840-05	OBS	No	5.835450	133.118434	31.3	12.500	9.0	-1.0	3.56	6706	2.01	3699.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003545840-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003545840-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003545840-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003545840-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
003545840-05	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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.

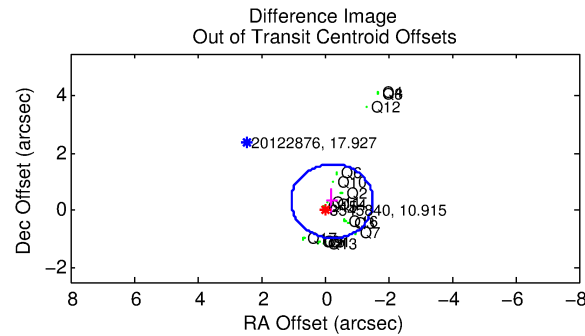
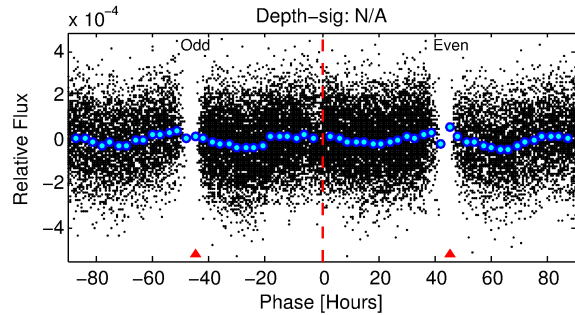
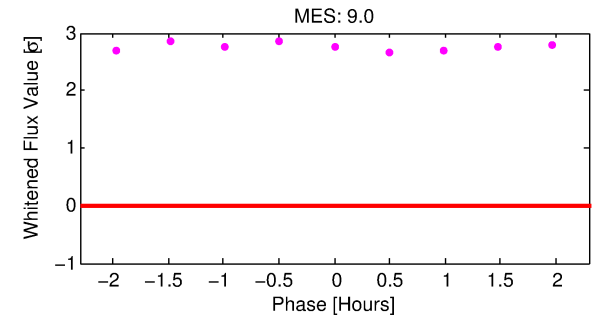
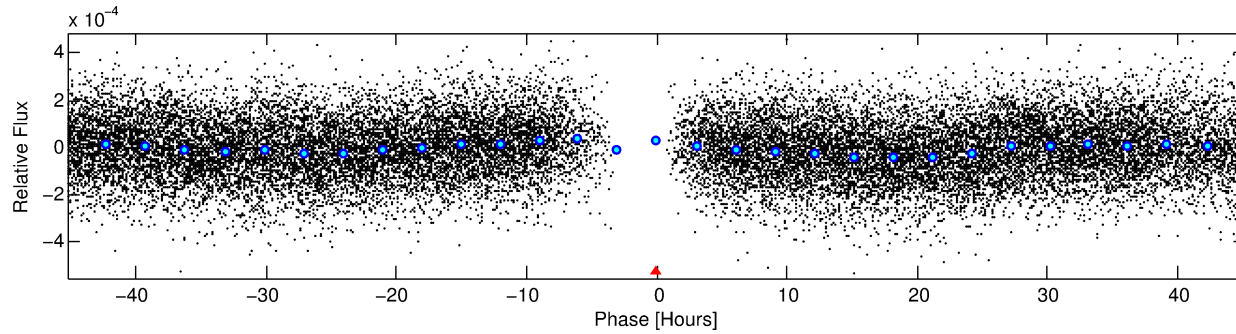
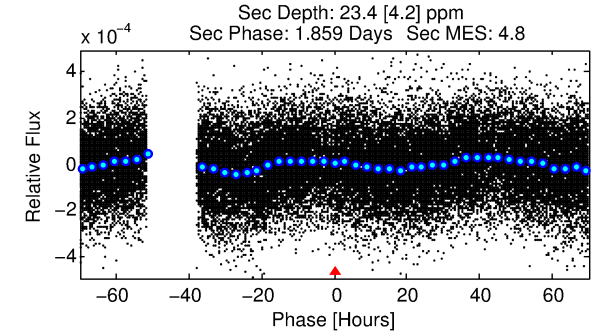
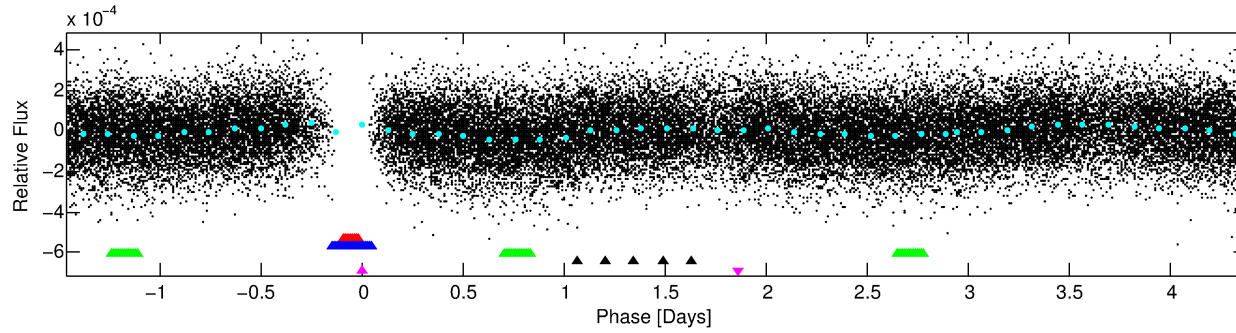
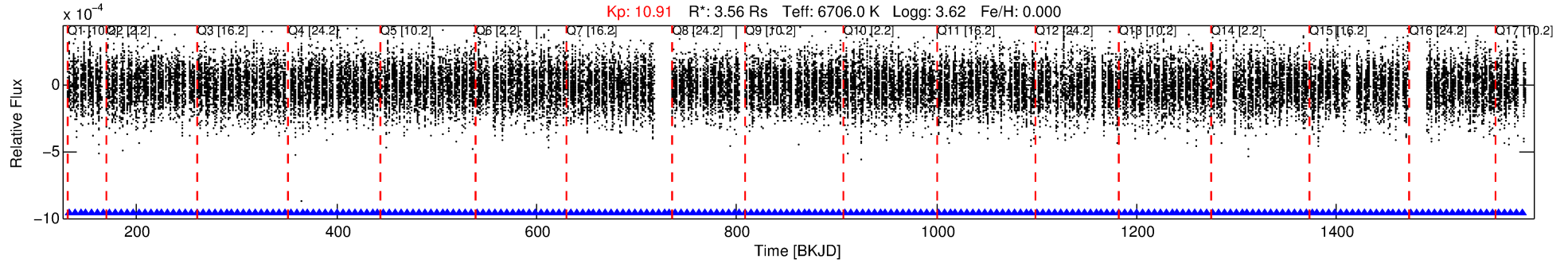
Ephemeris Match Information For 003545840-05

No Significant Match Found

DV One-Page Summary

KIC: 3545840 Candidate: 5 of 5 Period: 5.835 d

KOI: K06102 Corr: No Ephemeris Match



TPS TCE Results:

Period = 5.83545 d
Epoch = 133.1184 BKJD

DV fit results are unavailable

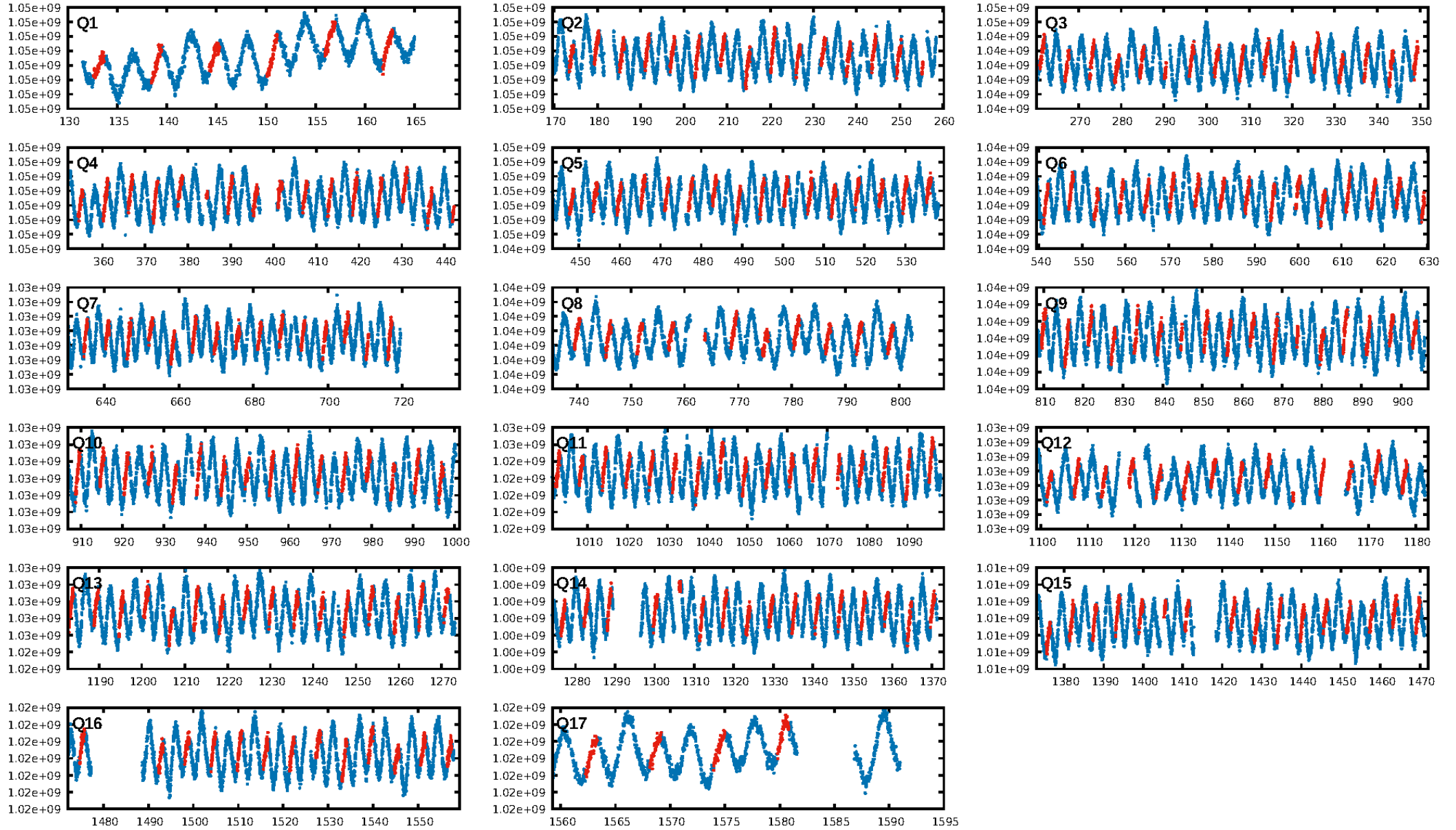
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.65e-11
RollingBand-fgt: 1.00 [172/172]
GhostDiagnostic-chr: -1.108
Centroid-sig: 25.6%
Centroid-so: 0.226 arcsec [0.41σ]
OotOffset-rm: 0.403 arcsec [0.94σ]
KicOffset-rm: 0.410 arcsec [0.71σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.76 [13/17]
DiffImageOverlap-fno: 0.00 [0/17]

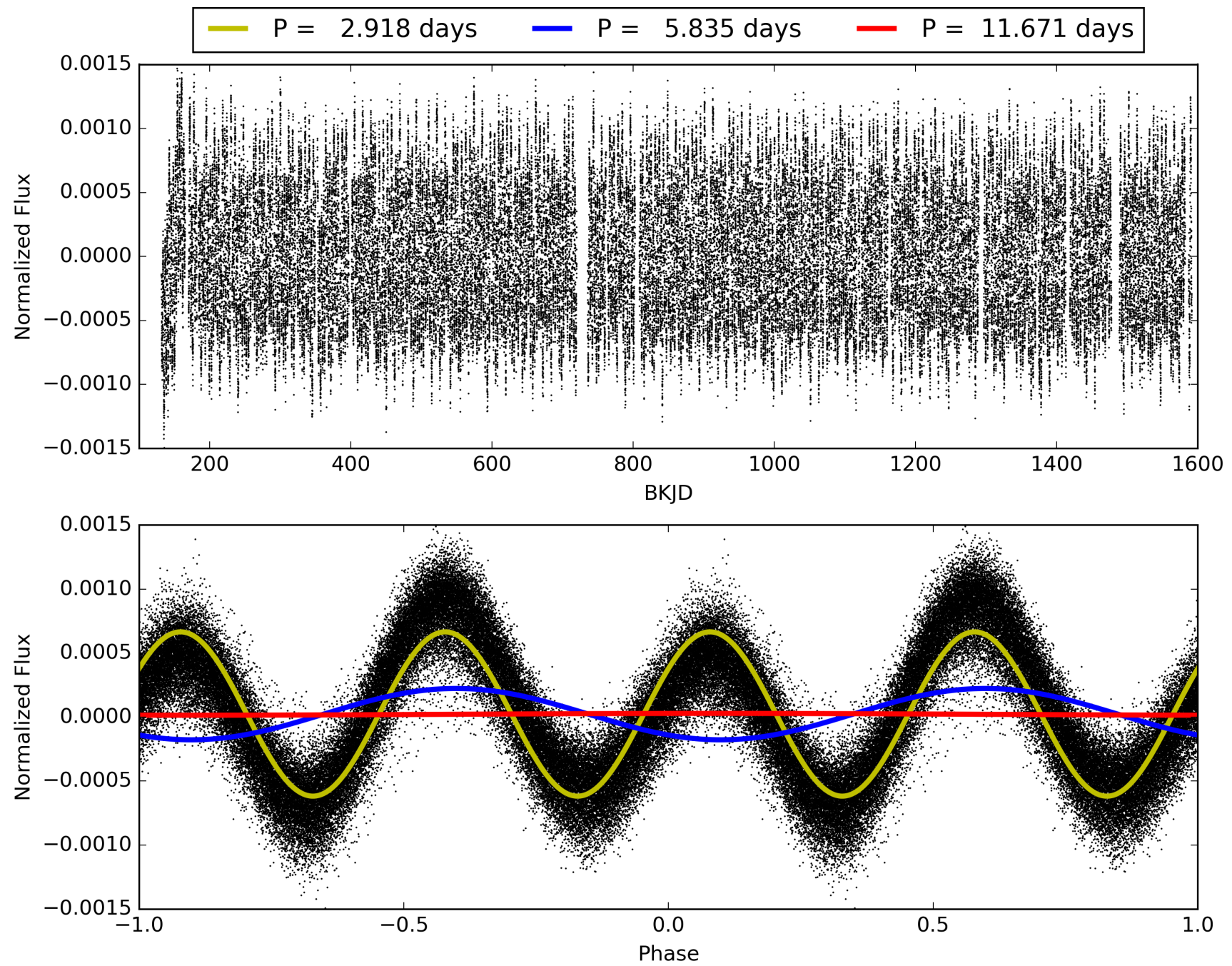
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:29:54 Z

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

TCE 003545840-05, PDC Light Curves

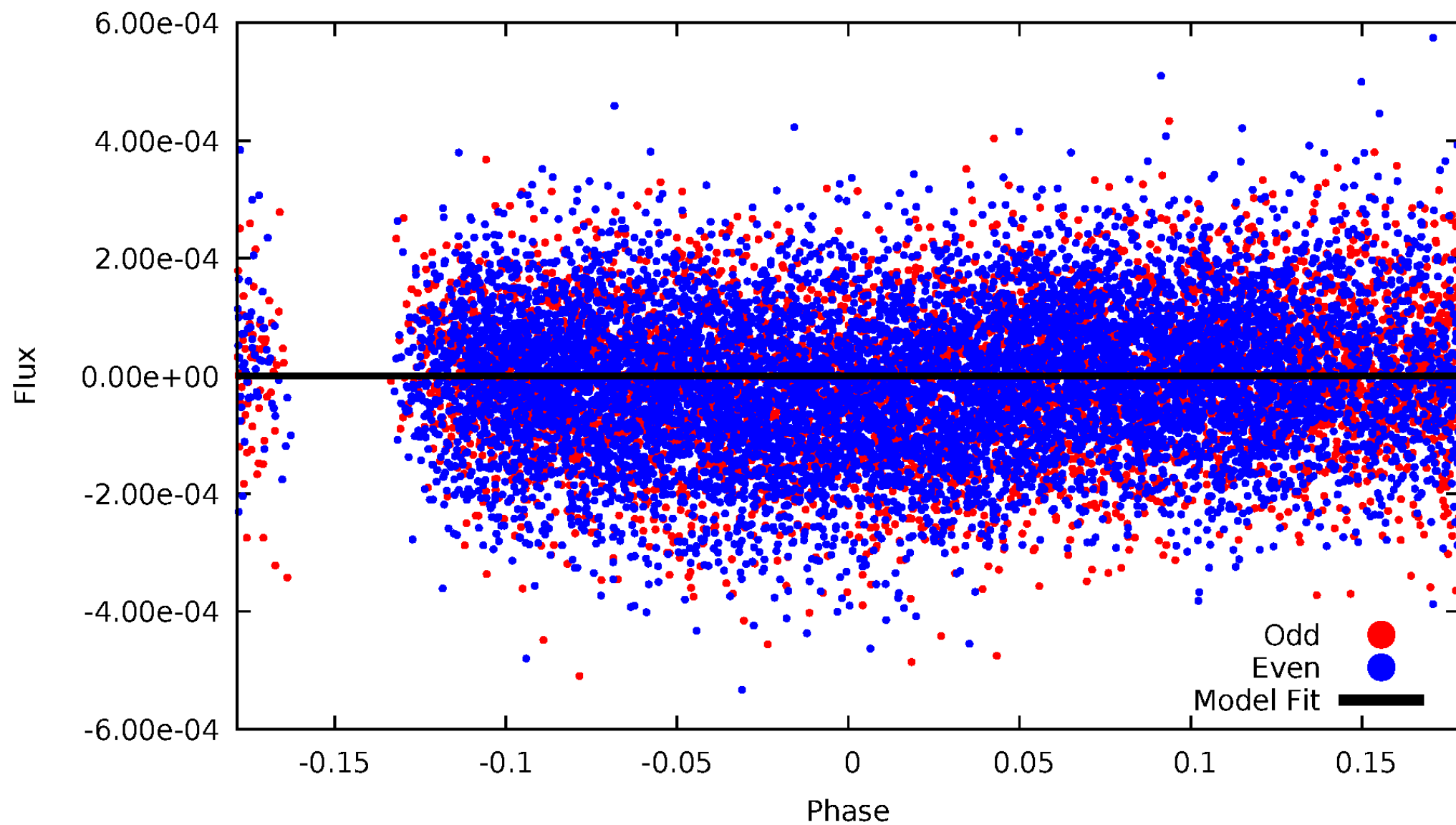


TCE 003545840-05



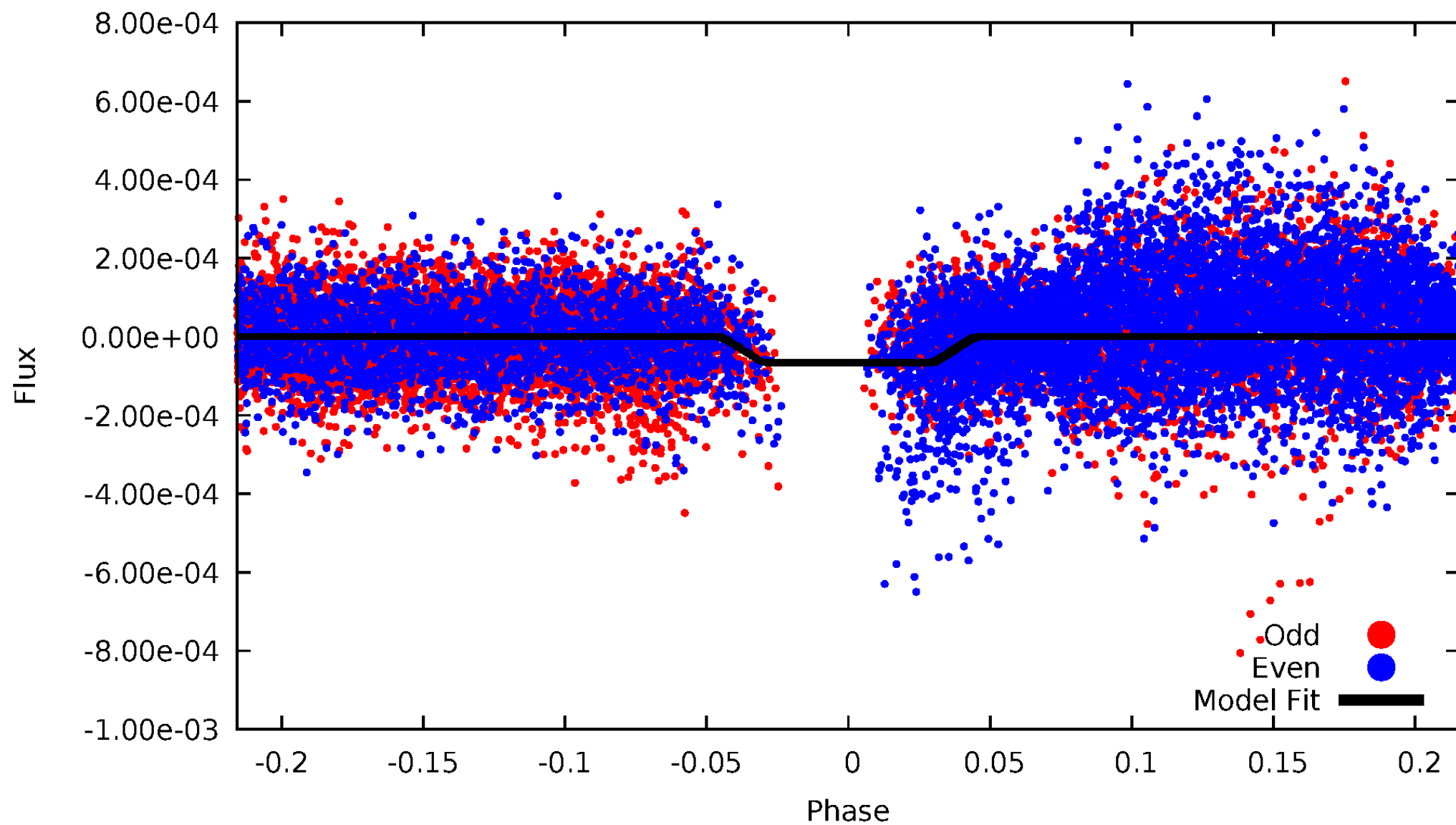
DV Odd/Even

TCE 003545840-05

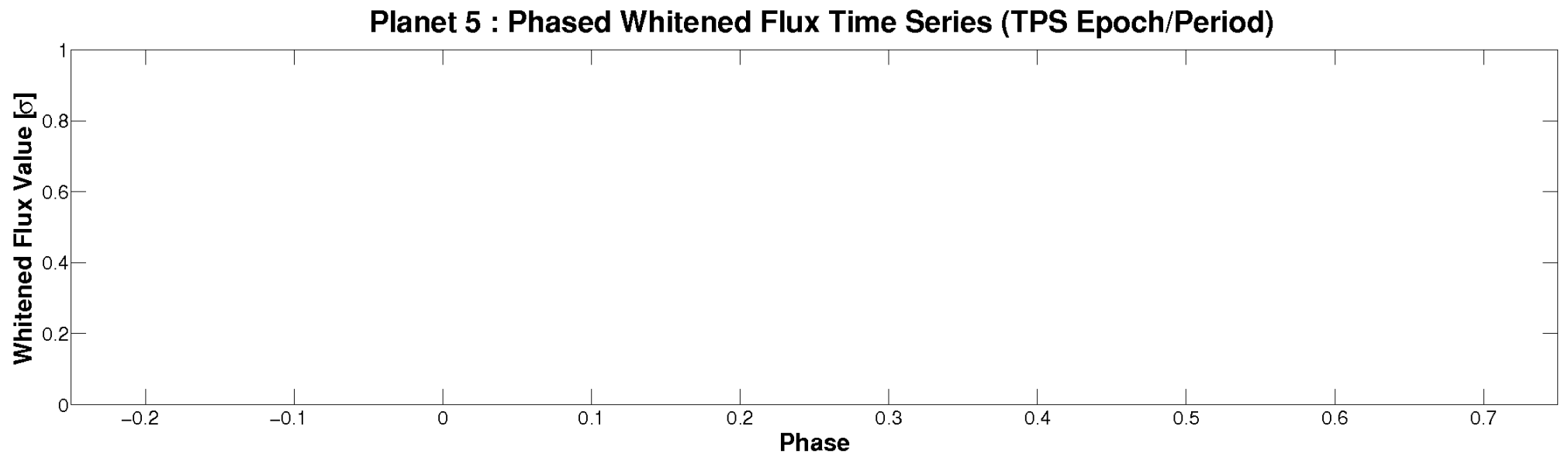
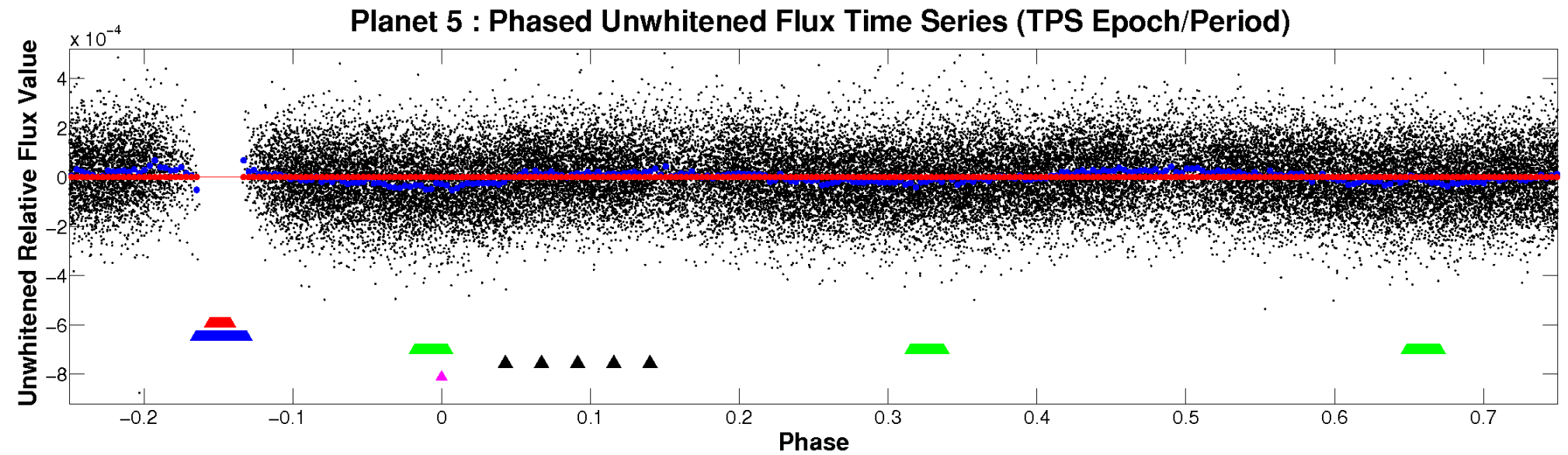


ALT Odd/Even

TCE 003545840-05

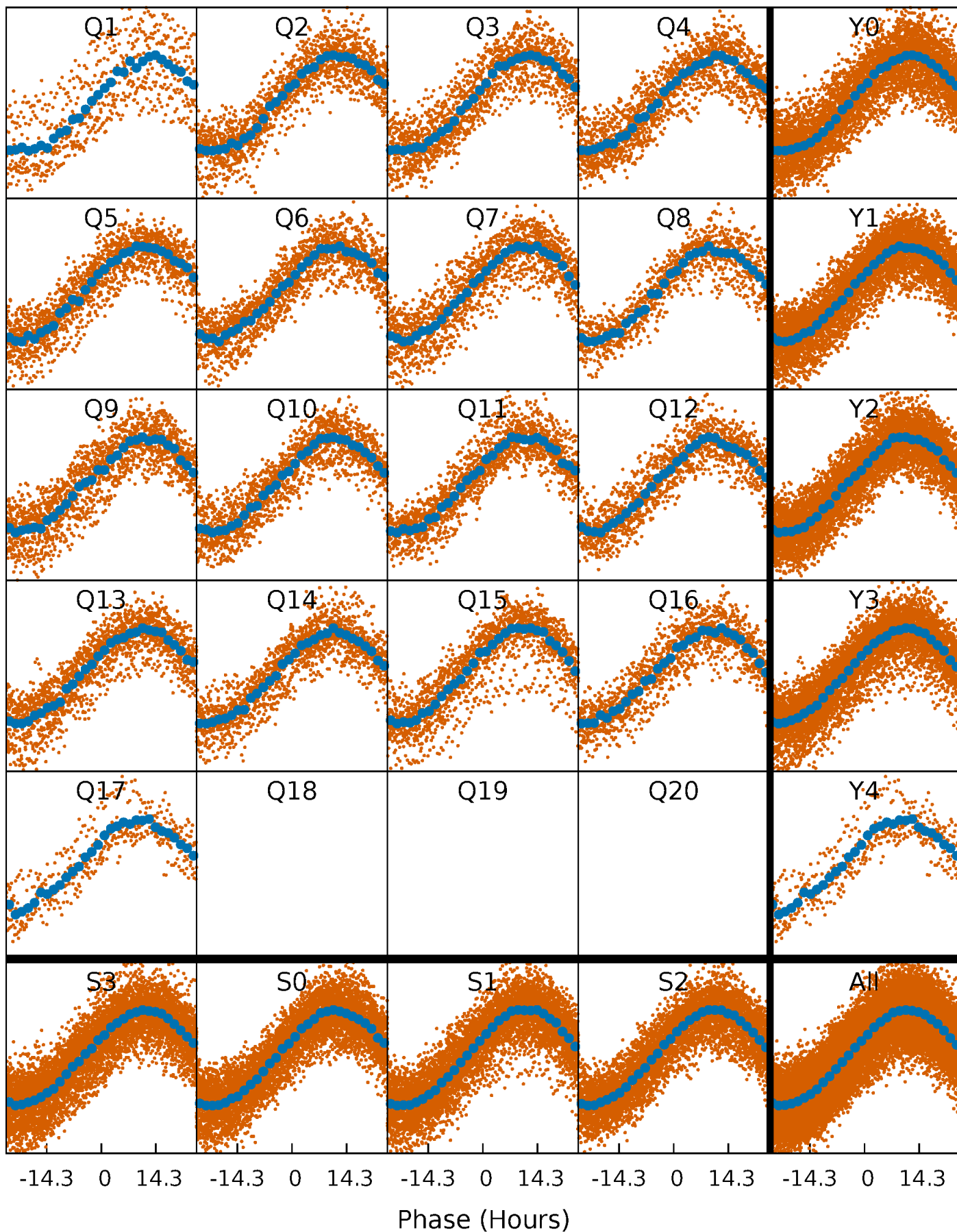


Non-Whitened Vs. Whitened Light Curve



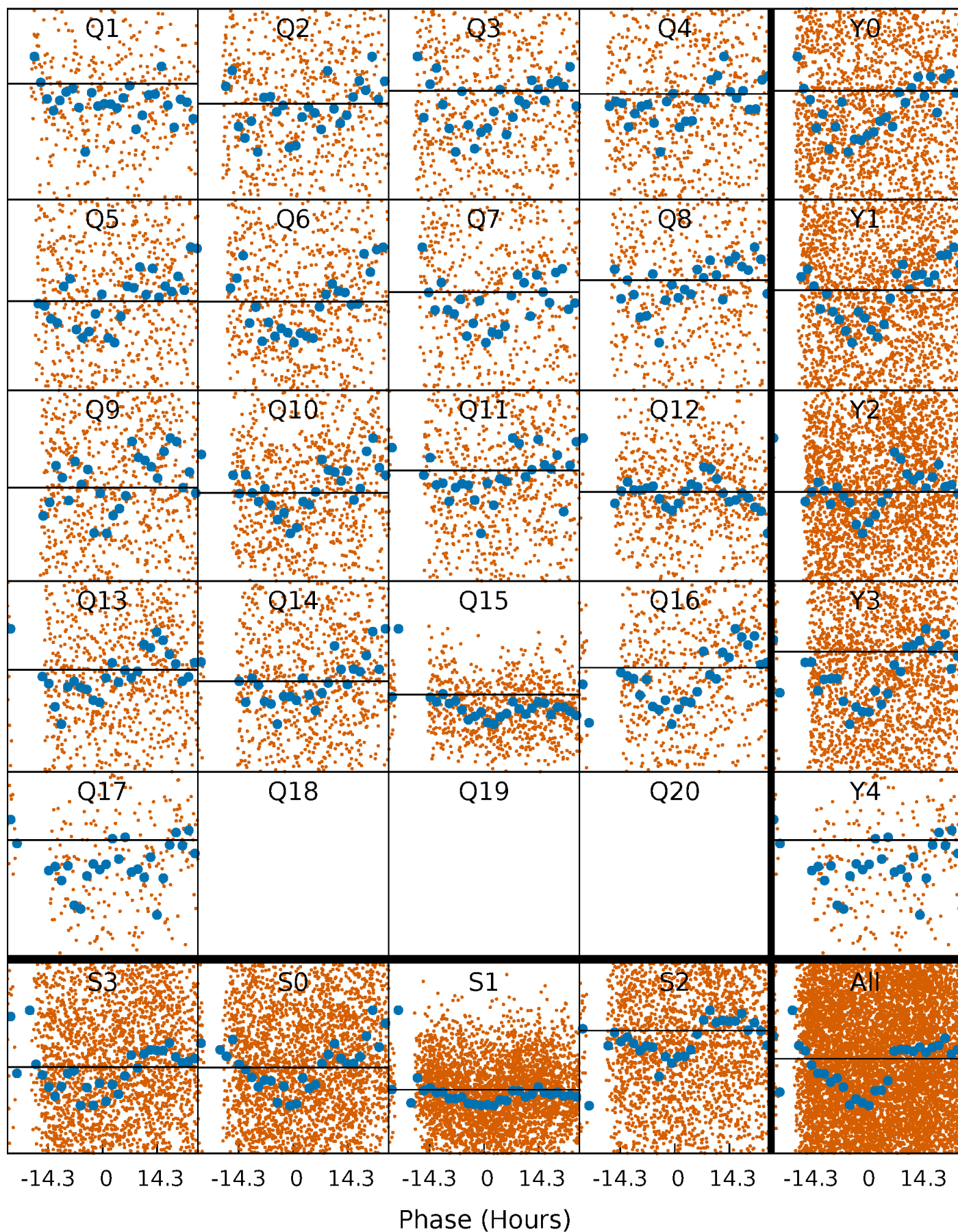
PDC Quarter-Phased Transit Curves

TCE 003545840-05 P= 5.835450 Days $T_0=133.118434$ (BKJD)



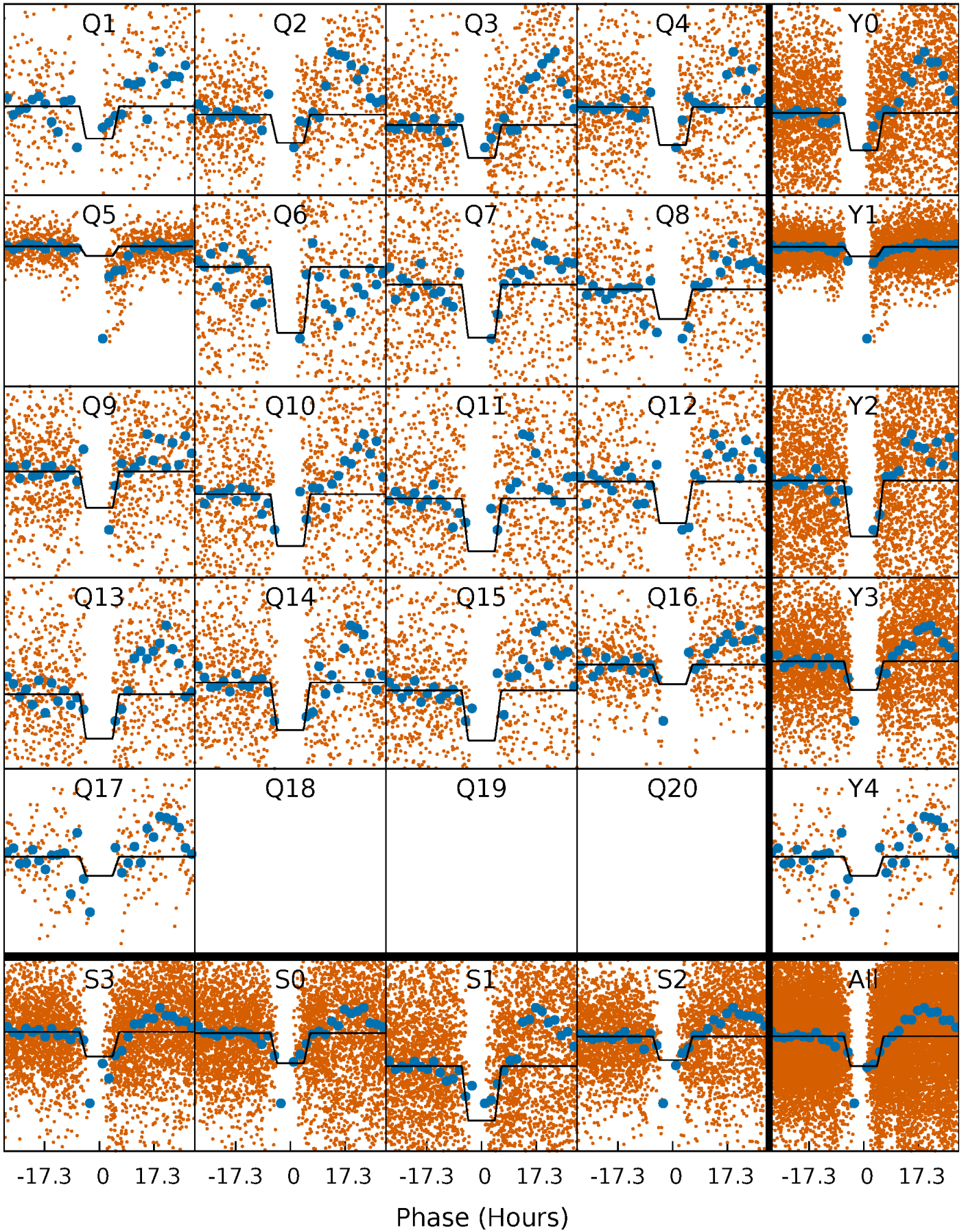
DV Quarter-Phased Transit Curves

TCE 003545840-05 $P = 5.835450$ Days $T_0 = 133.118434$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

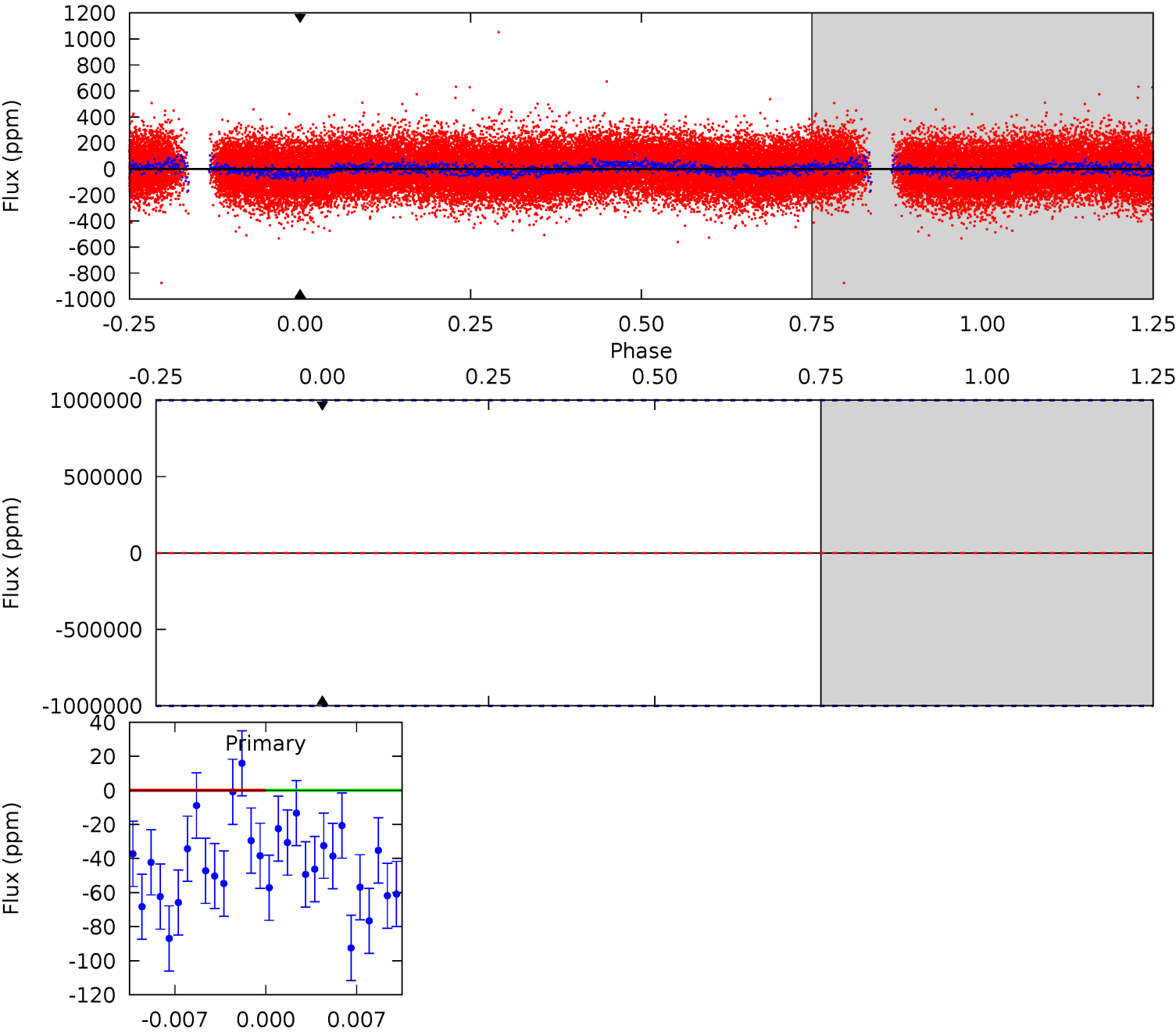
TCE 003545840-05 $P = 5.835450$ Days $T_0 = 132.306069$ (BKJD)



DV Model-Shift Uniqueness Test

003545840-05, P = 5.835450 Days, E = 127.282984 Days

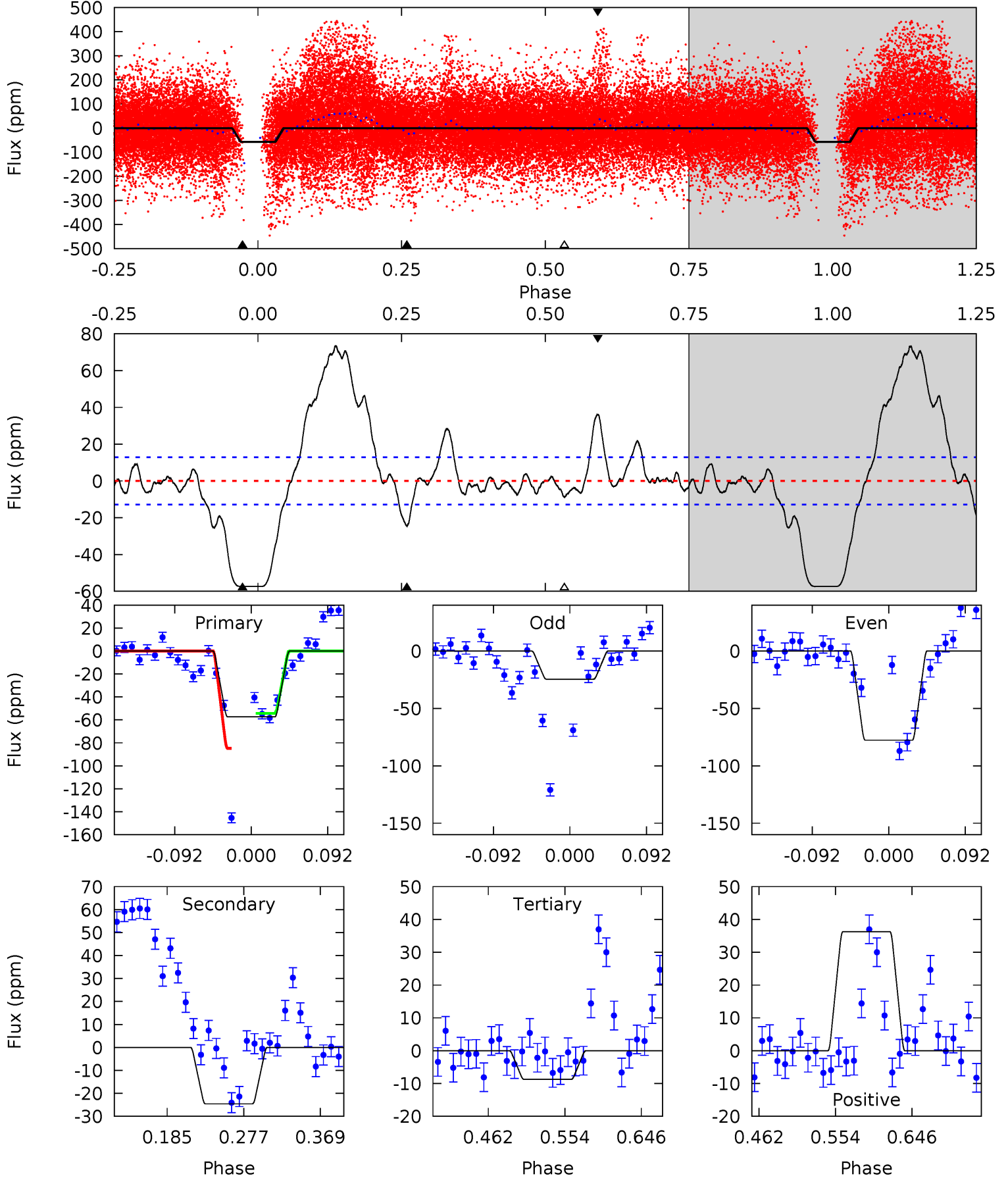
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003545840-05, P = 5.835450 Days, E = 126.470619 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.4	8.76	3.12	12.9	4.58	1.68	7.69	17.3	7.53	5.64	-4.15	9.17	2.59	0.56	4.36



Stellar Parameters For KIC 003545840

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6706^{+151}_{-184}	$3.617^{+0.306}_{-0.054}$	$0.000^{+0.300}_{-0.250}$	$3.558^{+0.343}_{-1.373}$	$1.913^{+0.182}_{-0.426}$	$0.060^{+0.142}_{-0.012}$
	+2%/-3%	+8%/-1%	+inf%/-inf%	+10%/-39%	+10%/-22%	+238%/-19%
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 003545840-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$23.77^{+29.35}_{-16.00}$	2708^{+139}_{-251}	4546^{+29668}_{-40478}	$6.053^{+1195.895}_{-1262.778}$
Alt.	-25 ± 3	$24.59^{+30.45}_{-18.42}$	2711^{+135}_{-239}	-2615^{+6363}_{-287}	$0.135^{+2.019}_{-0.106}$

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 $A_{obs} \gg 1.0$

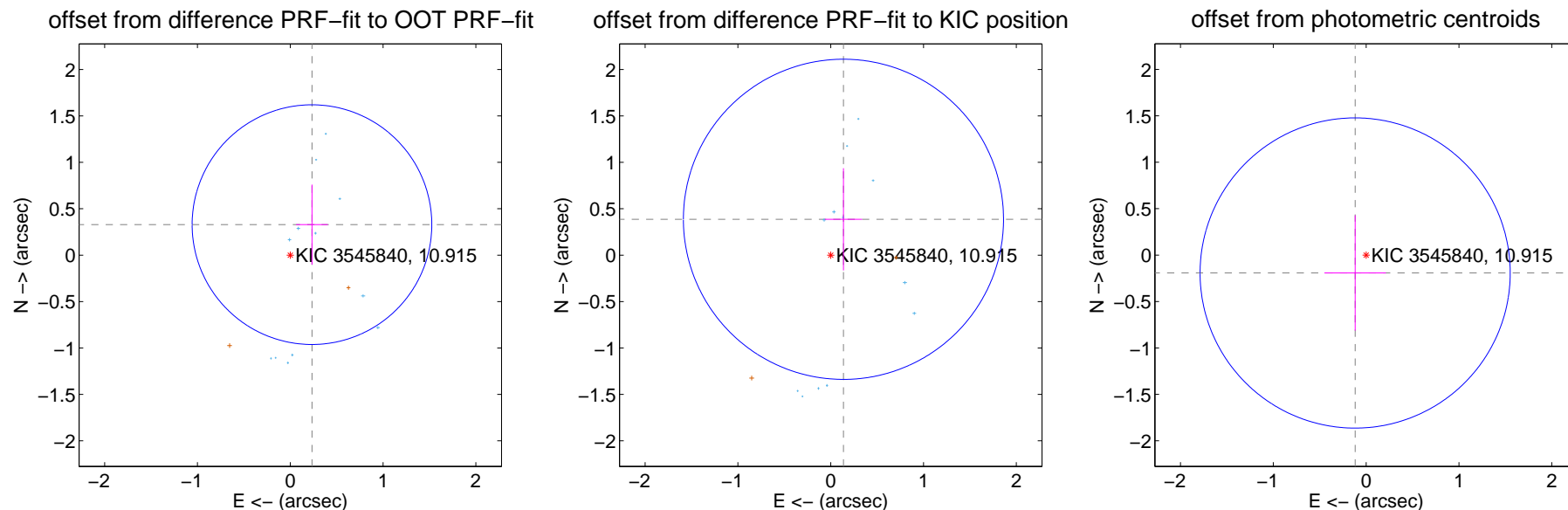
DV Centroid Data

Supplemental centroid analysis for 003545840-05. **Kepler magnitude: 10.91.** Transit SNR -1.00

There are 13 quarters with good PRF difference image offsets

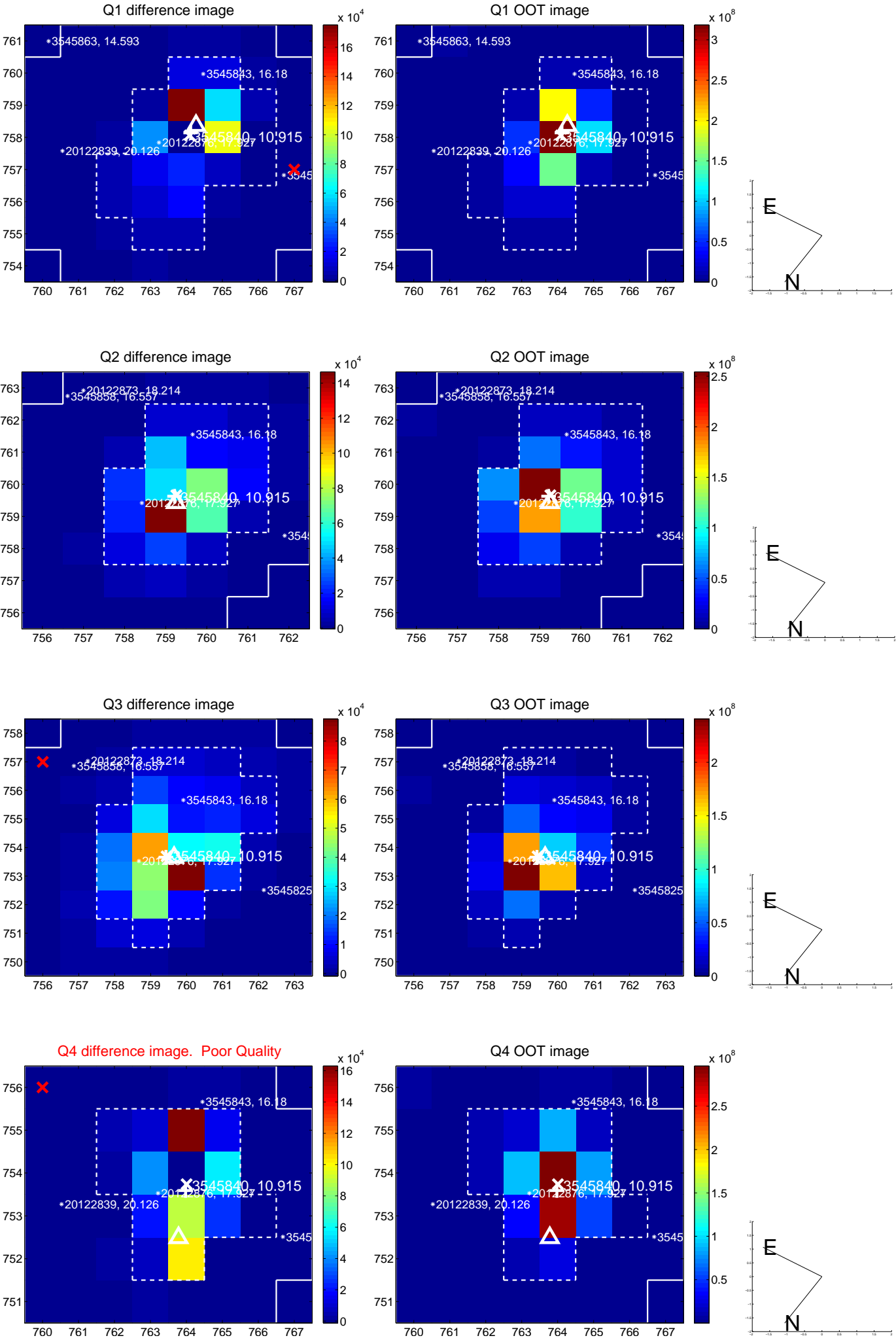
The direct PRF centroid is offset from the target star catalog position by about 0.40 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.403 ± 0.430	0.94	-0.234 ± 0.171	0.329 ± 0.431
PRF-fit source offset from KIC position	0.410 ± 0.575	0.71	-0.137 ± 0.201	0.386 ± 0.550
photometric centroid source offset	0.23 ± 0.56	0.41	0.12 ± 0.33	-0.19 ± 0.62

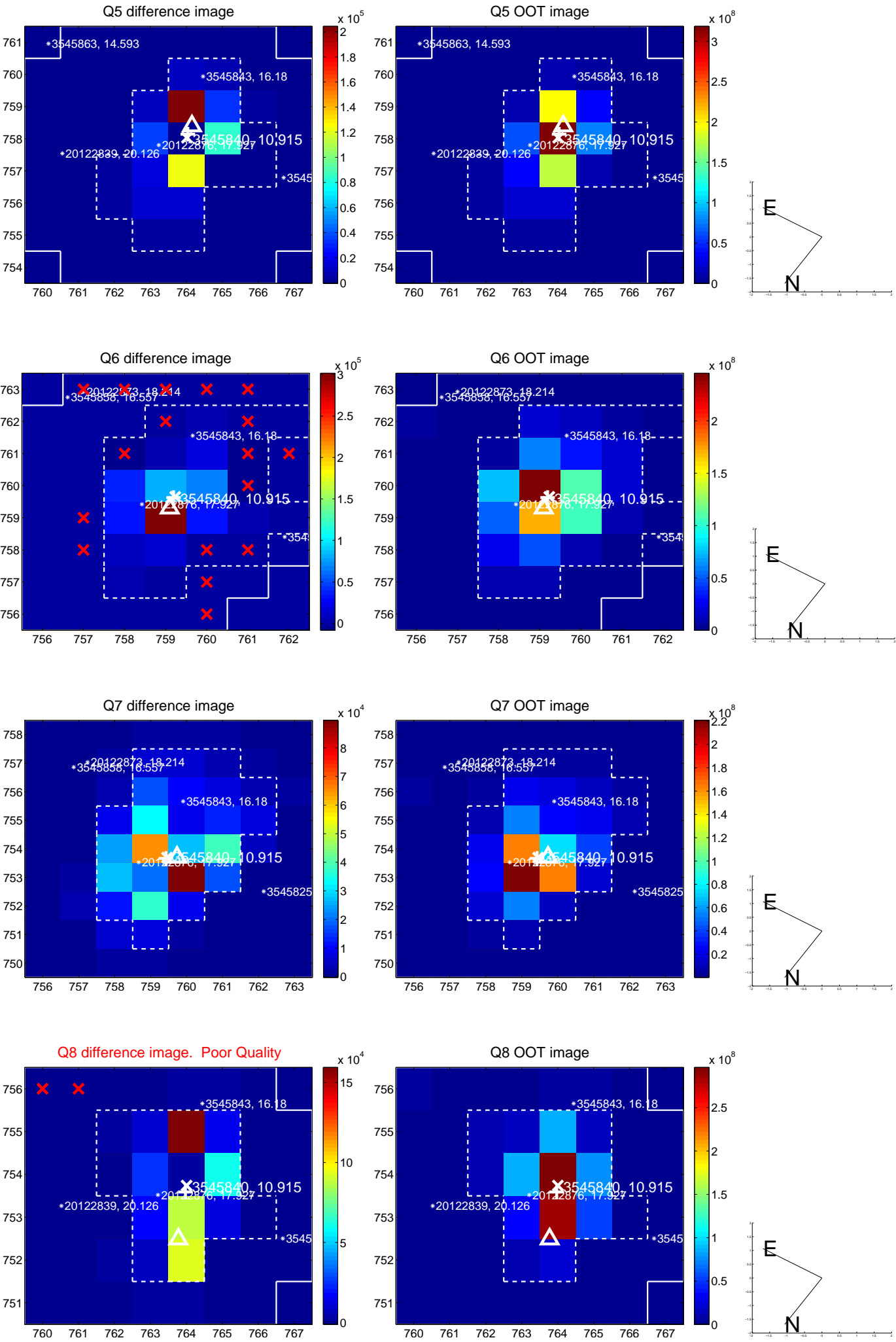


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

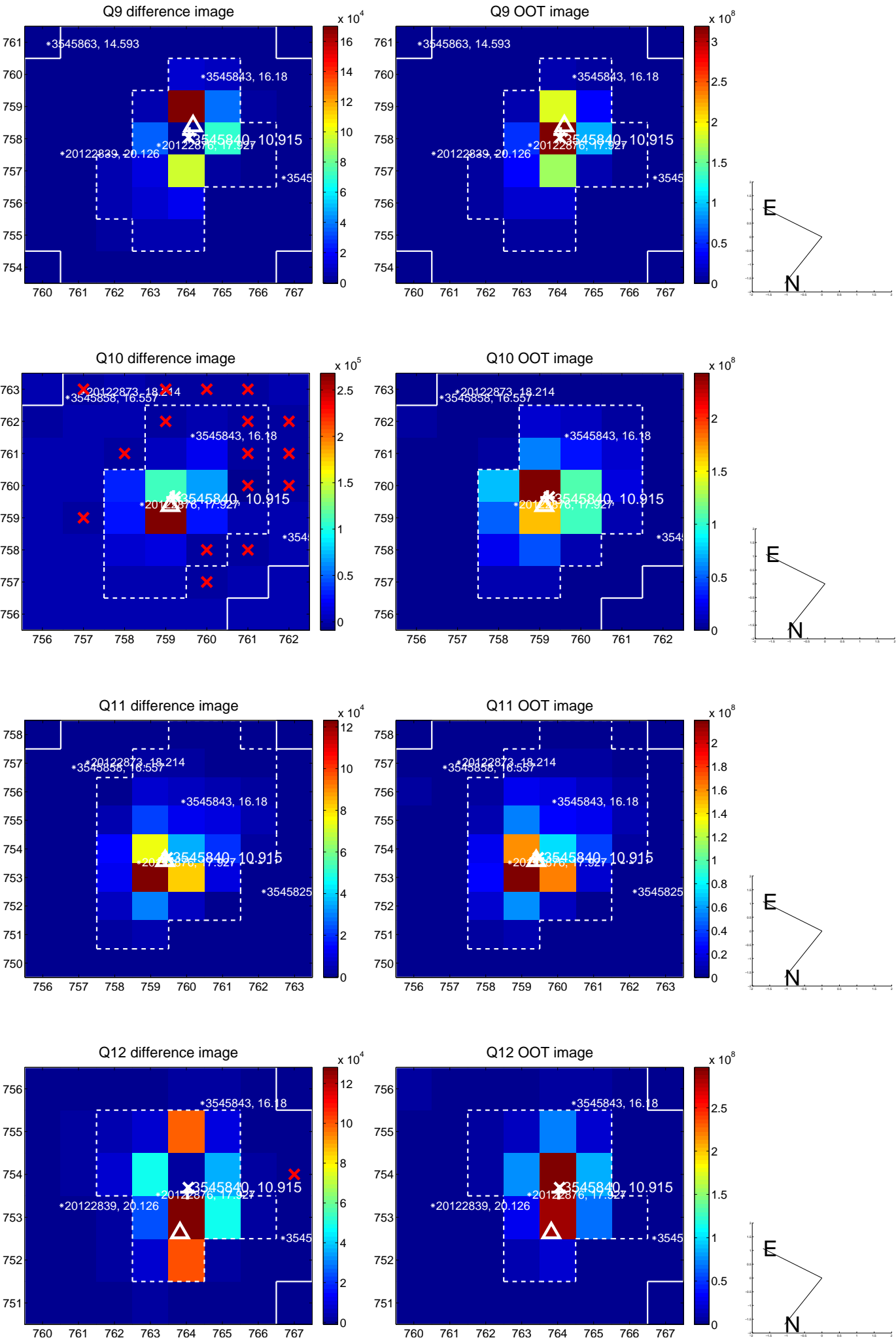
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



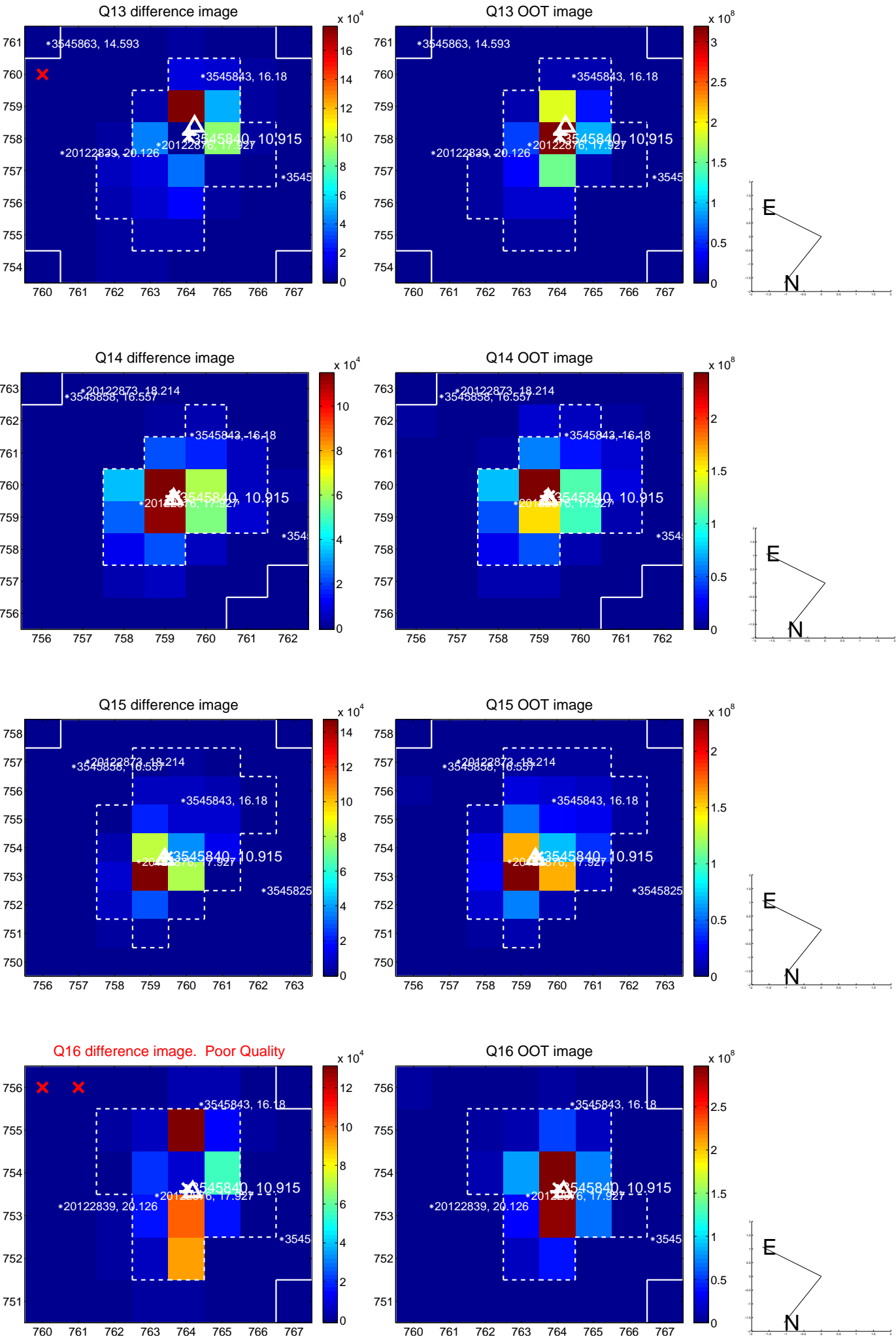
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



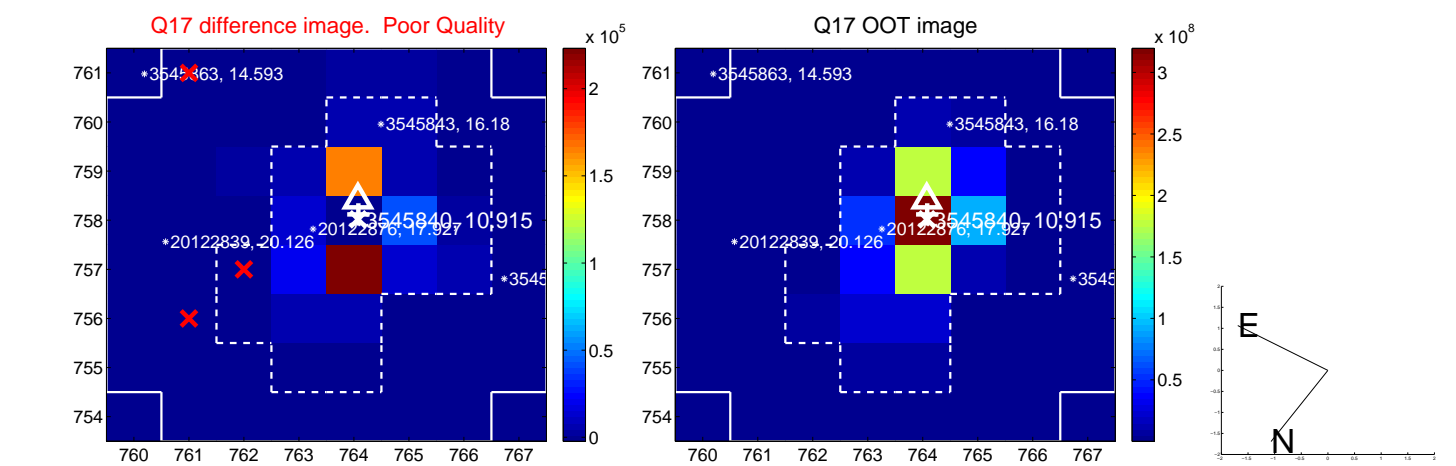
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



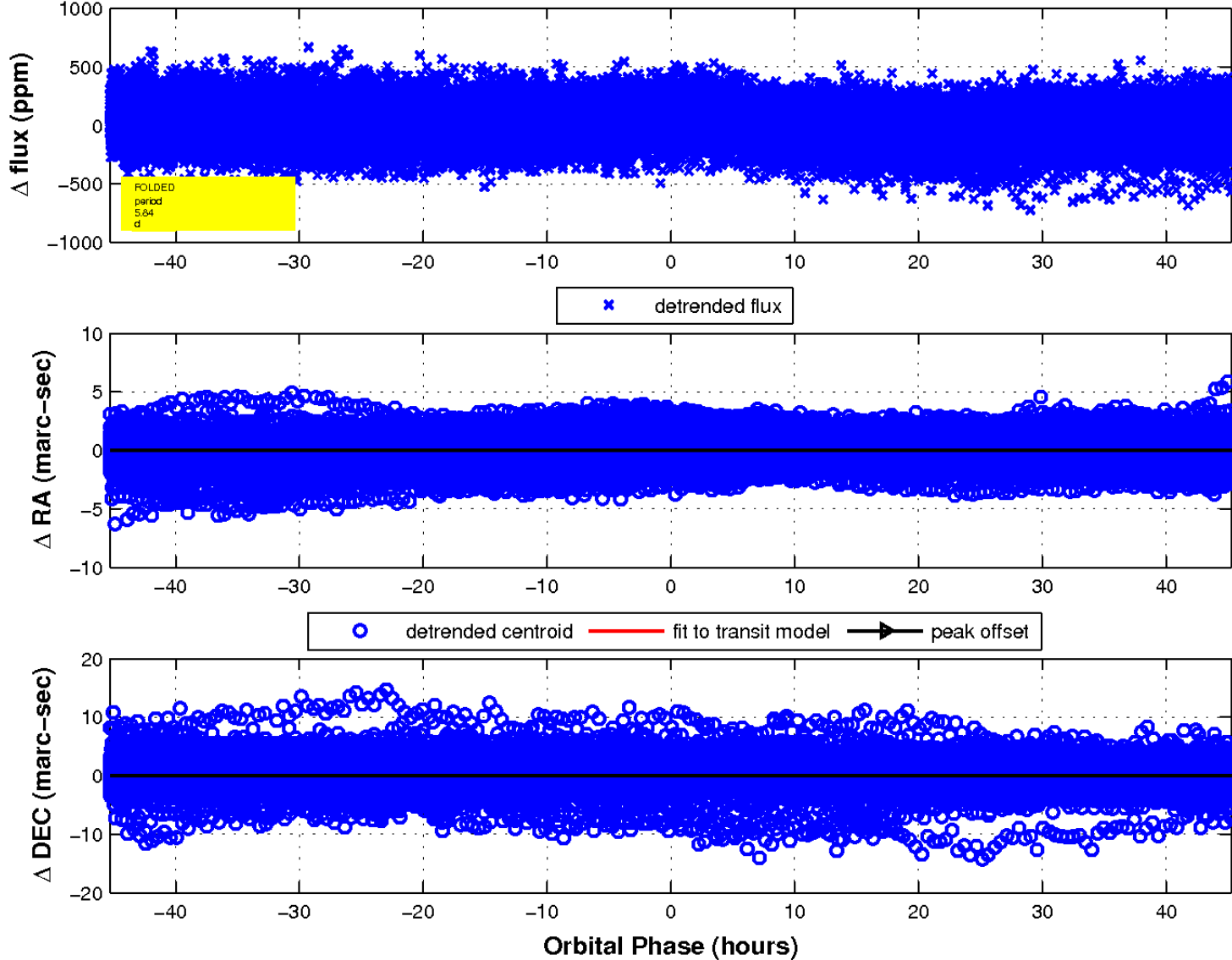
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 5 of 5



UKIRT Image

