

KIC 008818497

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})
008818497-01	OBS	No	3.266470	134.627180	47.6	5.620	14.9	12.1	2.91	6908	2.95	6127.19
008818497-02	OBS	No	3.266492	134.411859	104.0	12.795	14.4	17.8	2.91	6908	3.45	6127.14
008818497-03	OBS	No	356.217446	308.761017	194.0	3.974	8.2	6.9	2.91	6908	5.20	11.76
008818497-04	OBS	No	139.687713	153.278713	101.7	24.944	7.6	6.6	2.91	6908	3.21	40.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008818497-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008818497-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—HALO_GHOST
008818497-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008818497-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST

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

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

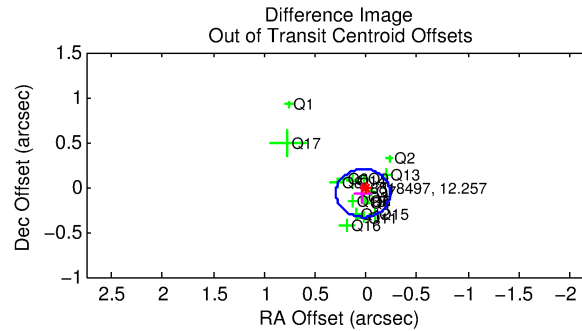
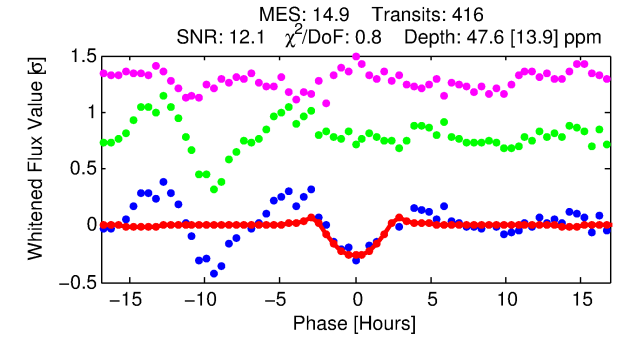
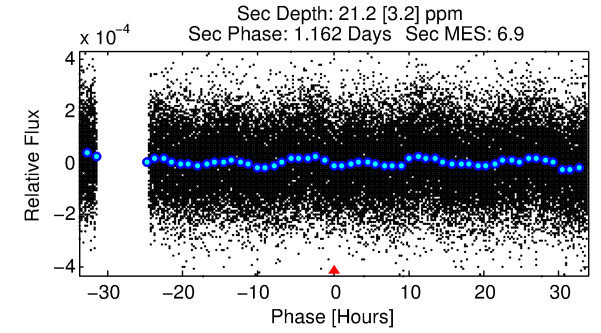
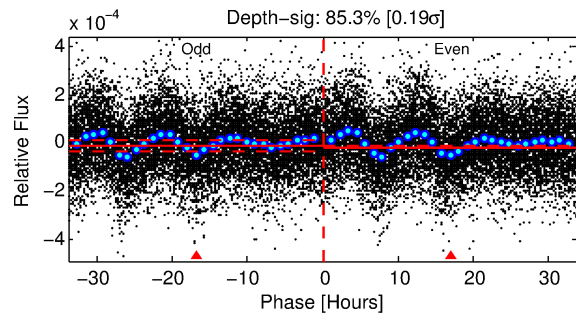
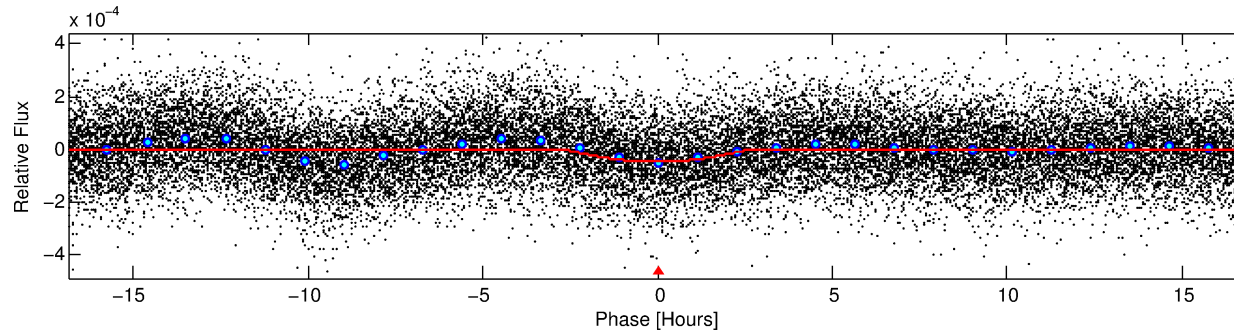
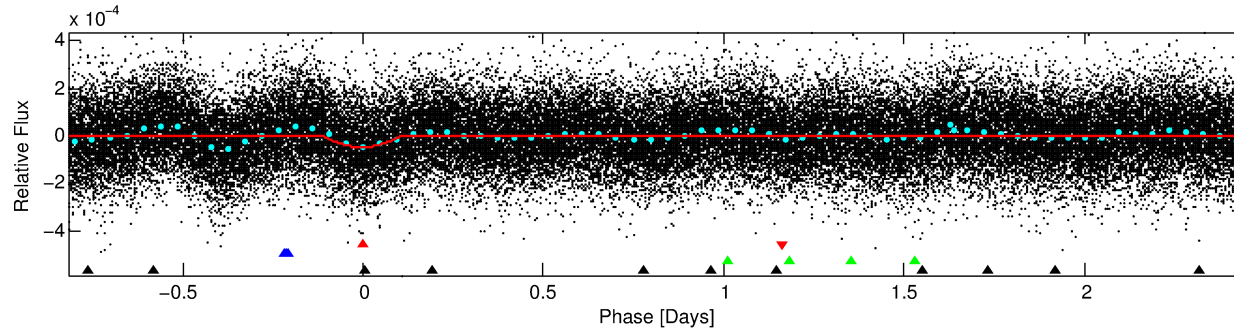
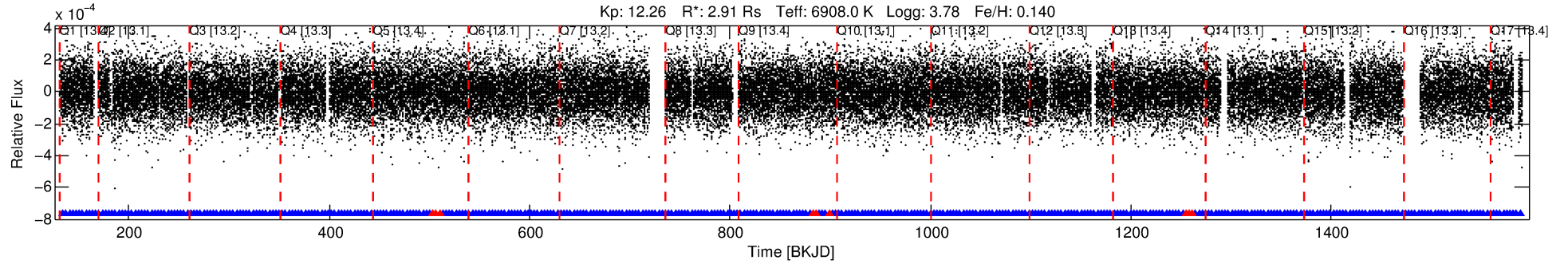
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008818497-01

No Significant Match Found

DV One-Page Summary

KIC: 8818497 Candidate: 1 of 4 Period: 3.266 d



DV Fit Results:

Period = 3.26647 [0.00003] d
Epoch = 134.6272 [0.0074] BKJD
Rp/R* = 0.0093 [0.0023]
a/R* = 1.28 [0.09]
b = 0.99 [0.01]
Seff = 6127.19 [2926.43]
Teq = 2256 [269] K
Rp = 2.95 [1.26] Re
a = 0.0531 [0.0161] AU
Ag = 3.76 [2.62] [1.05 σ]
Teffp = 4859 [656] K [3.67 σ]

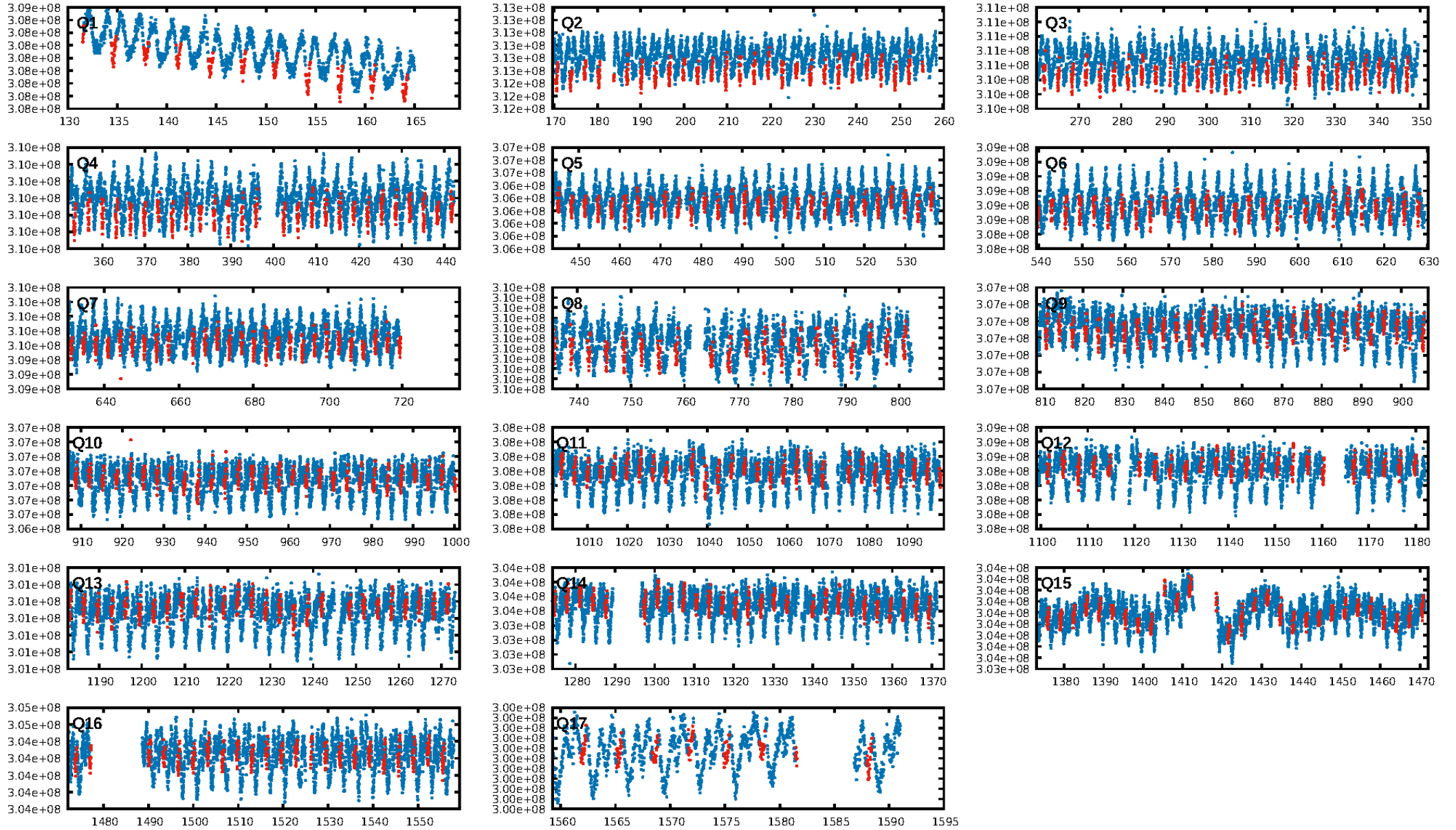
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.58e-29
RollingBand-fgt: 0.98 [389/398]
GhostDiagnostic-chr: 1.227
Centroid-sig: 0.0%
Centroid-so: 1.429 arcsec [2.62 σ]
OotOffset-rm: 0.074 arcsec [0.83 σ]
KicOffset-rm: 0.096 arcsec [1.16 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

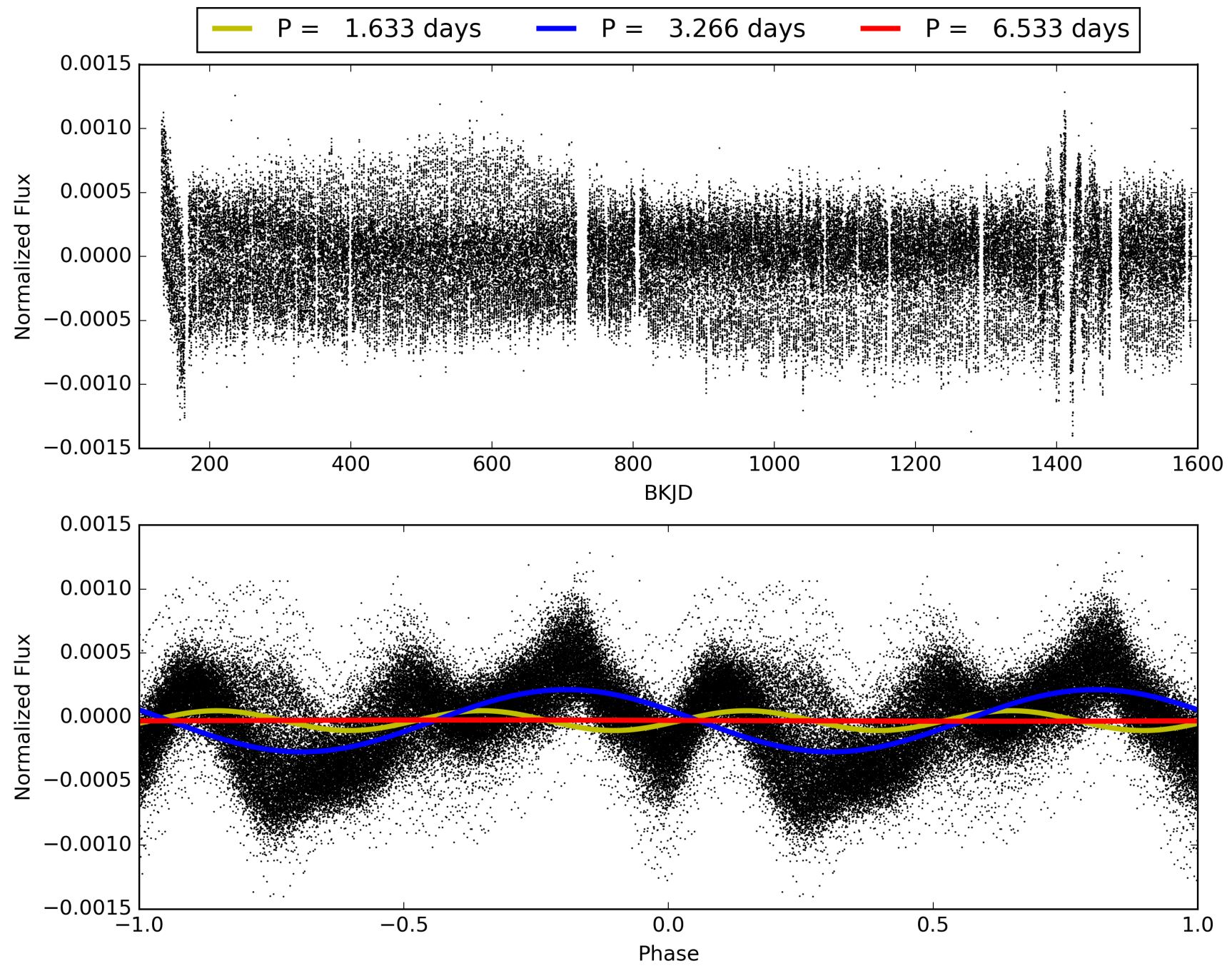
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008818497-01, PDC Light Curves

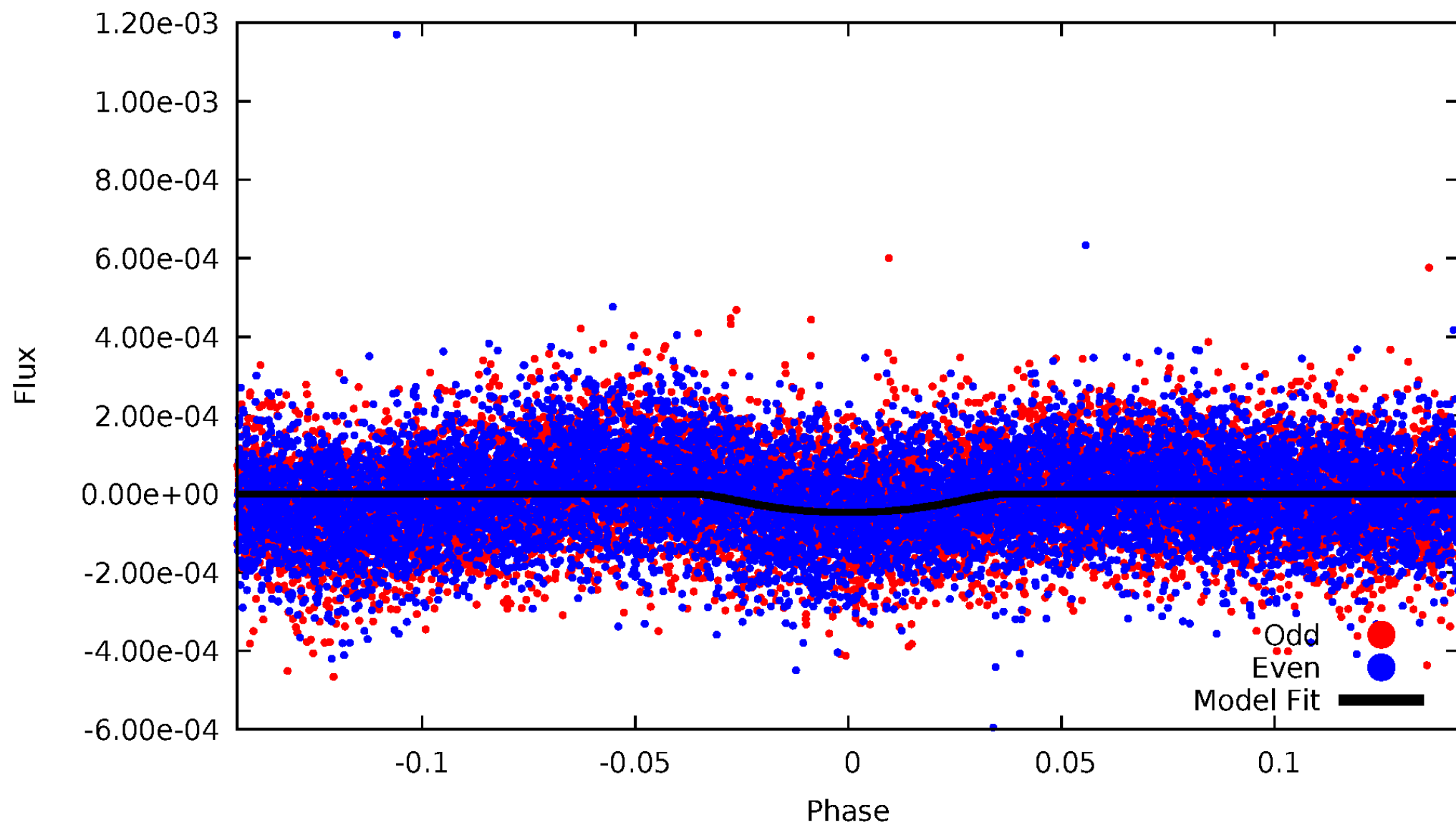


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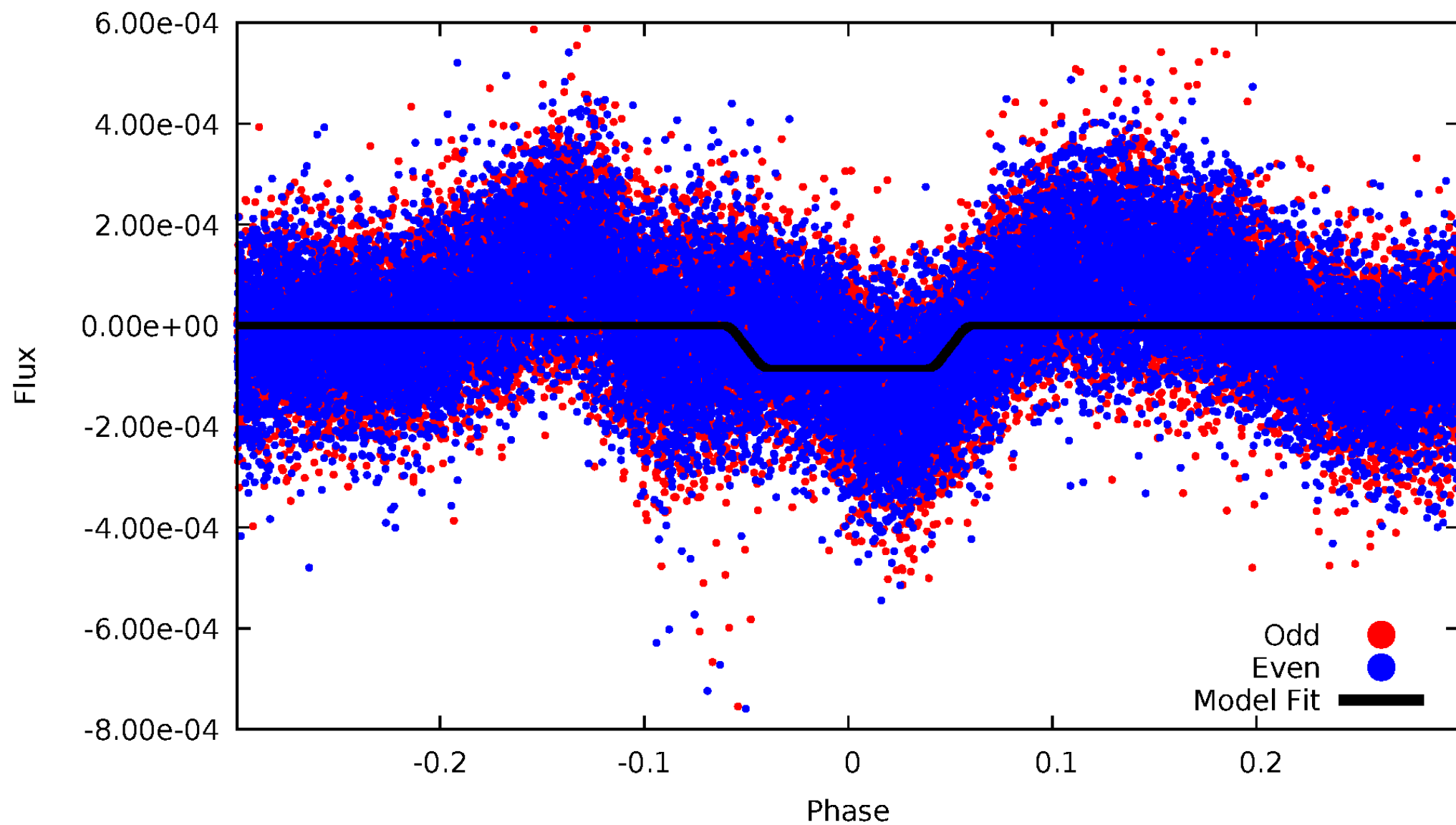
DV Odd/Even

TCE 008818497-01

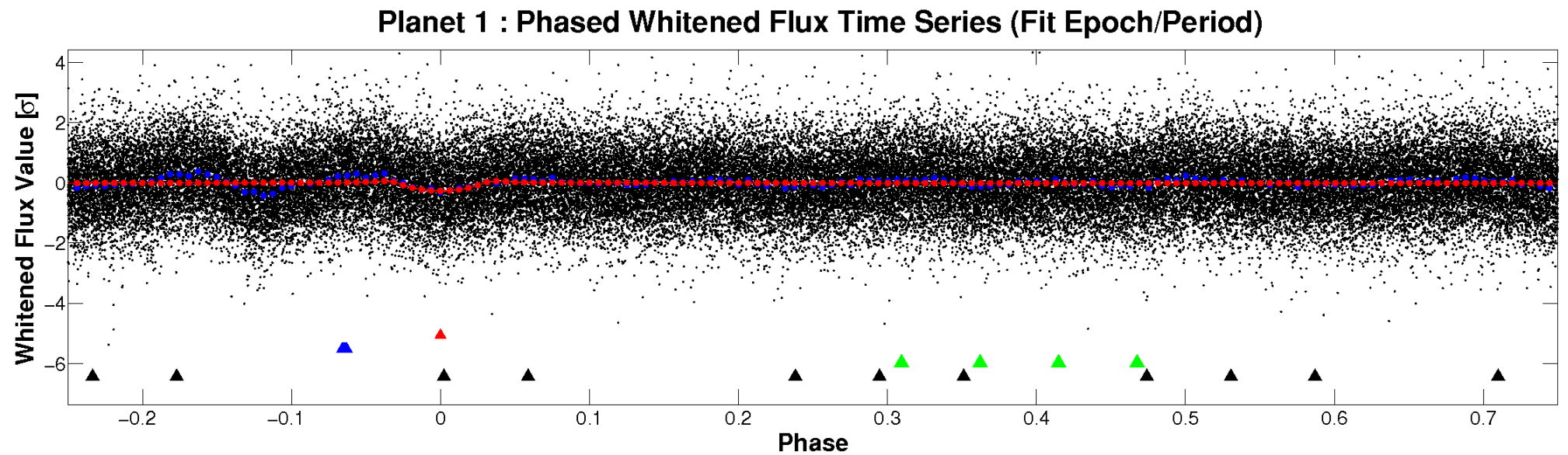
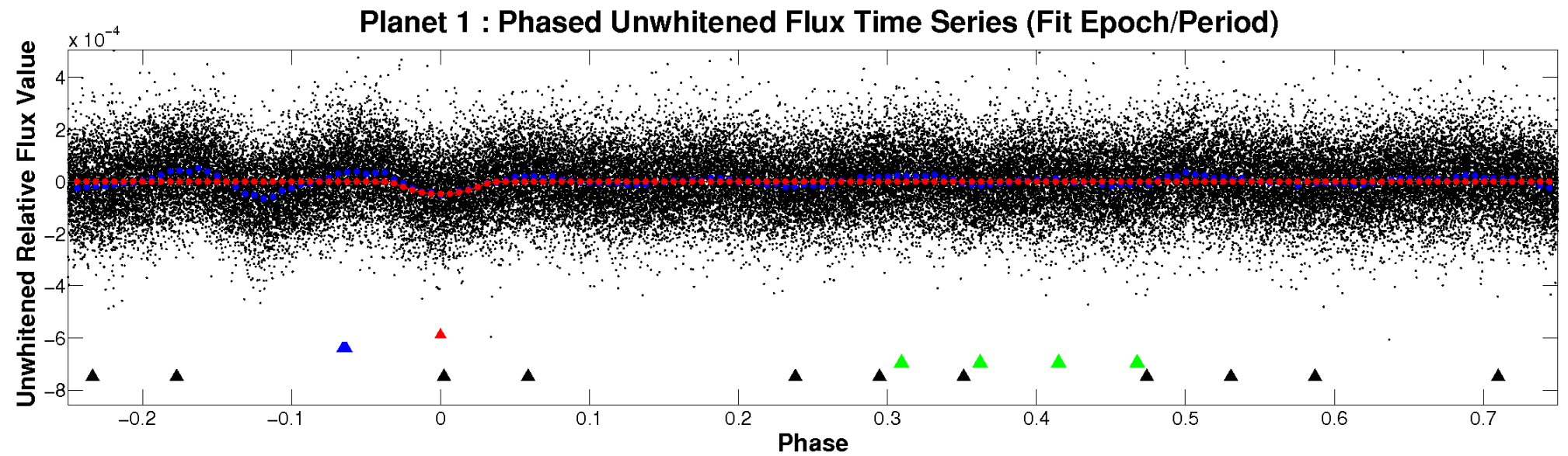


ALT Odd/Even

TCE 008818497-01

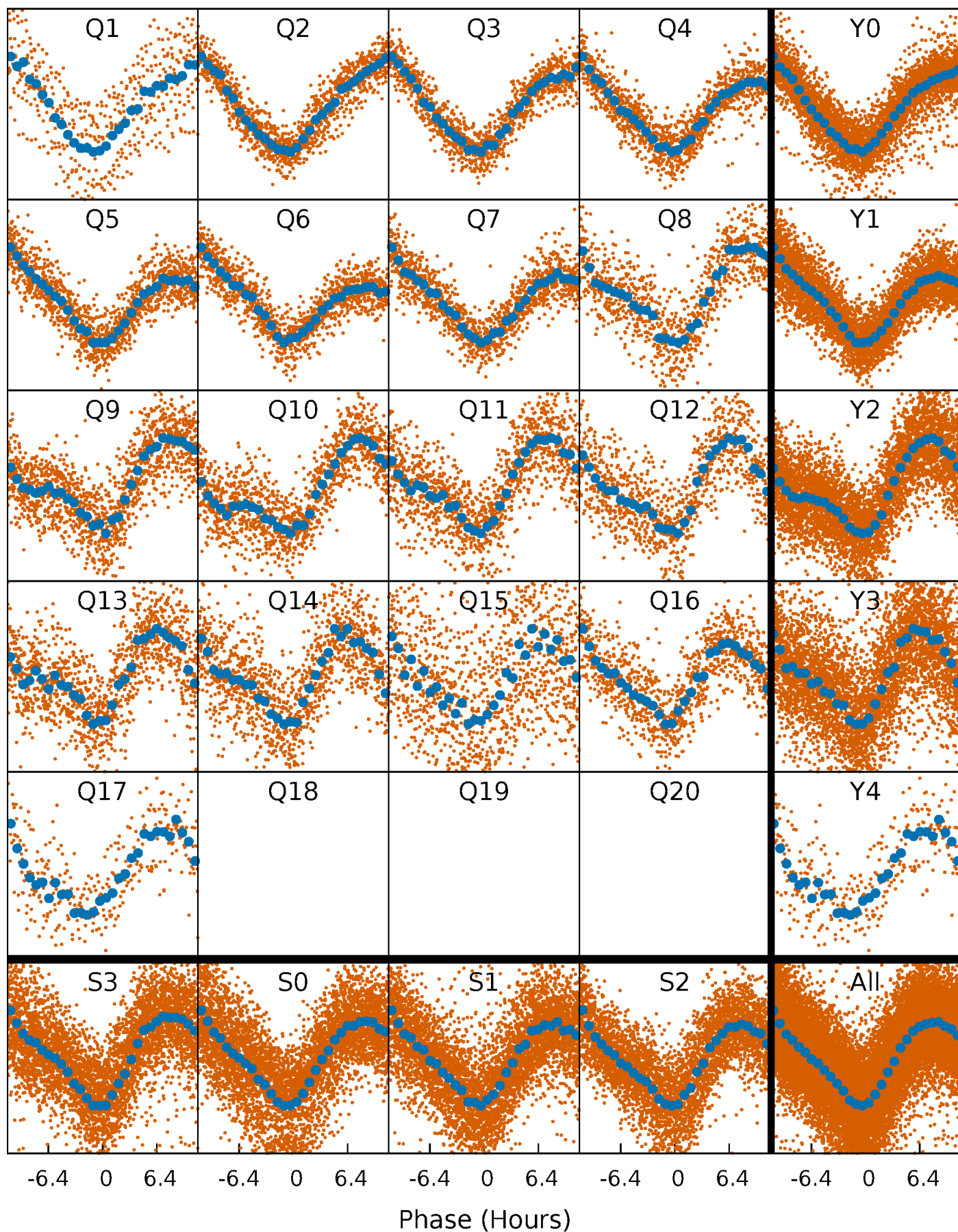


Non-Whitened Vs. Whitened Light Curve



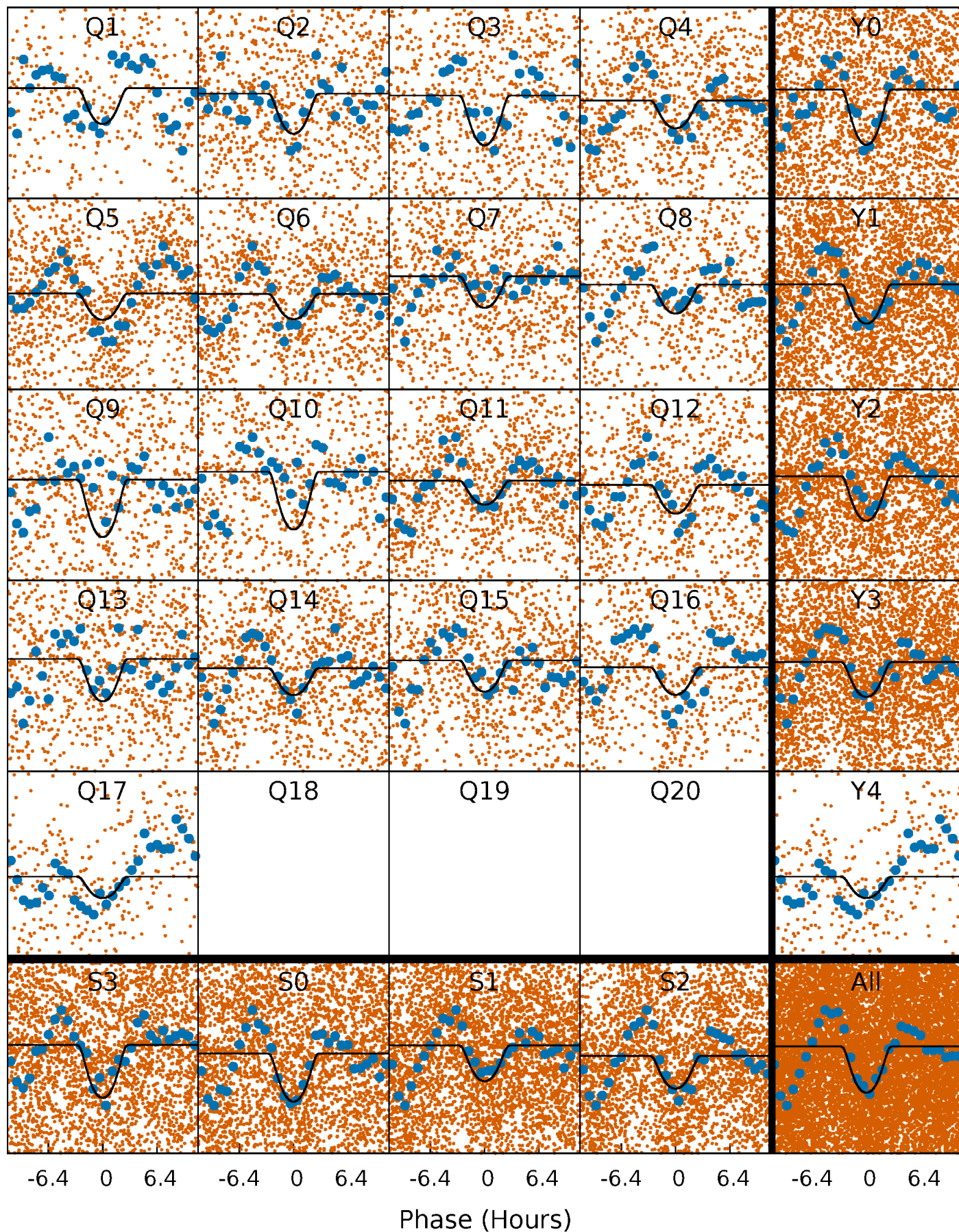
PDC Quarter-Phased Transit Curves

TCE 008818497-01 P= 3.266470 Days $T_0=134.627180$ (BKJD)



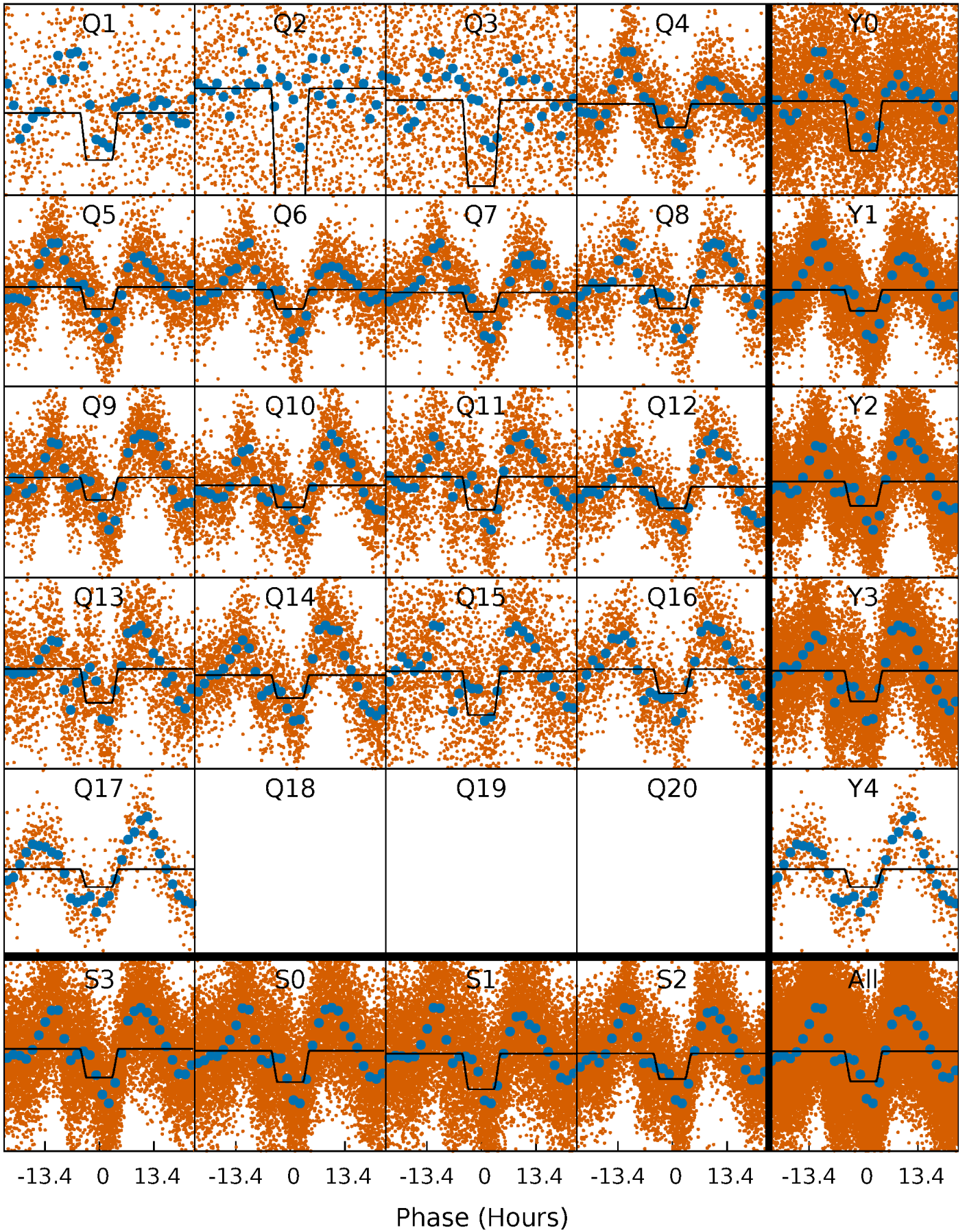
DV Quarter-Phased Transit Curves

TCE 008818497-01 P= 3.266470 Days $T_0=134.627180$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

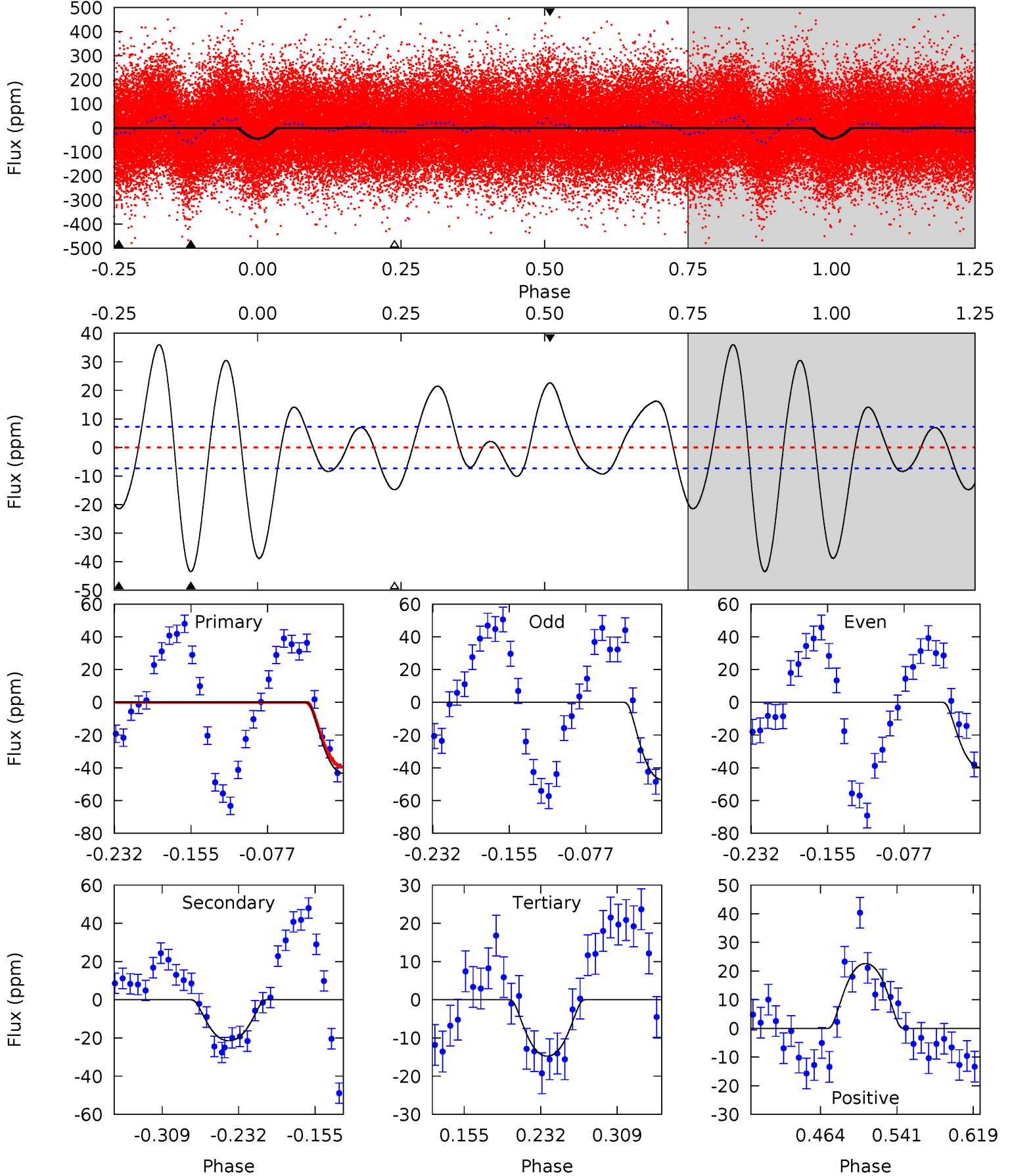
TCE 008818497-01 P= 3.266494 Days $T_0=134.531707$ (BKJD)



DV Model-Shift Uniqueness Test

008818497-01, P = 3.266470 Days, E = 131.360710 Days

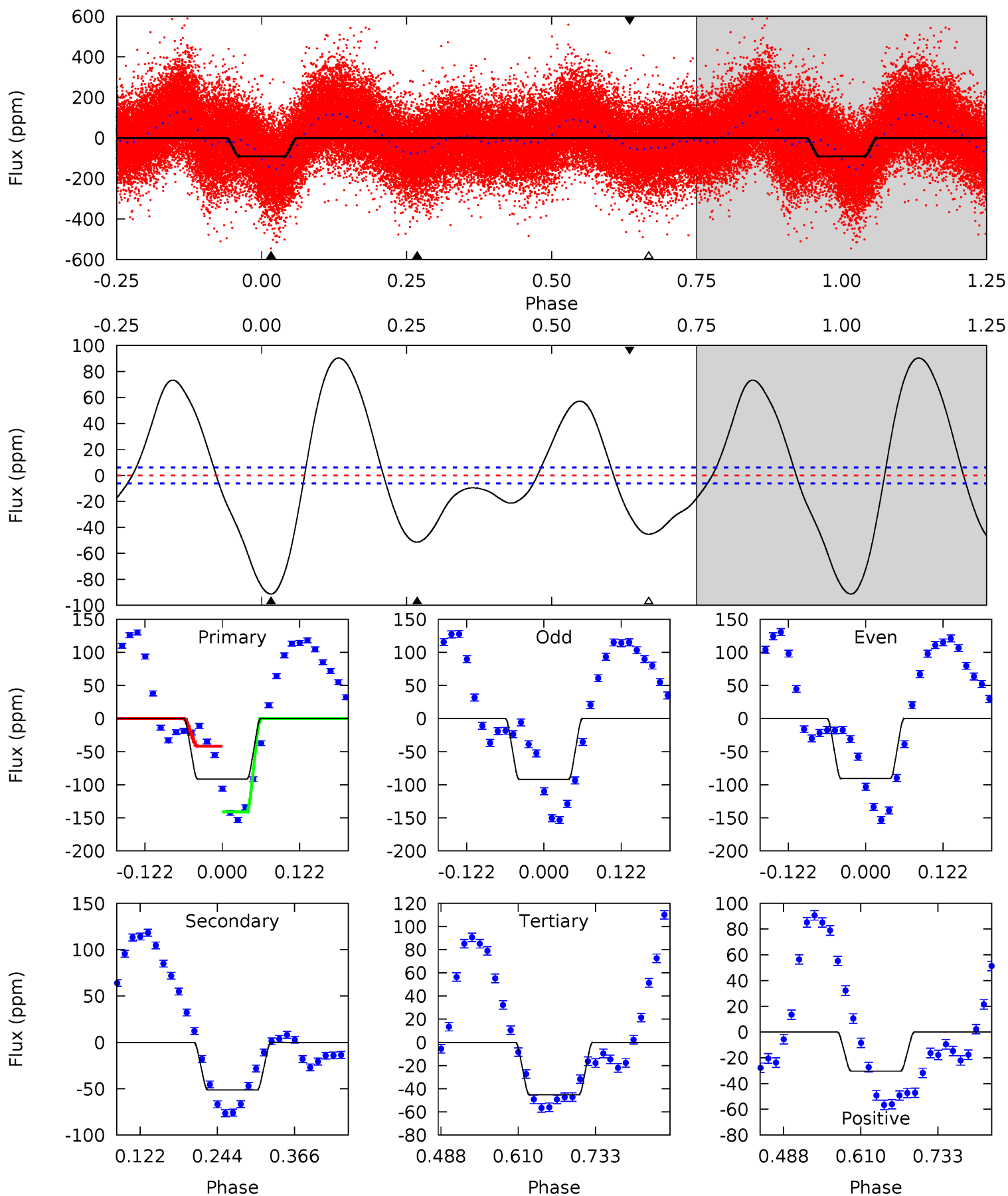
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.5	13.6	9.35	14.3	4.62	1.77	8.03	18.2	13.2	4.25	-0.74	2.35	0.95	0.45	2.41



Alt Model-Shift Uniqueness Test

008818497-01, P = 3.266494 Days, E = 131.265213 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
67.6	38.0	33.5	-22.5	4.52	1.55	28.1	34.1	90.0	4.52	60.5	0.50	0.99	0.50	33.4



Stellar Parameters For KIC 008818497

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6908^{+165}_{-227}	$3.782^{+0.259}_{-0.111}$	$0.140^{+0.200}_{-0.300}$	$2.908^{+0.501}_{-1.002}$	$1.868^{+0.165}_{-0.358}$	$0.107^{+0.185}_{-0.038}$
	+2%/-3%	+7%/-3%	+143%/-214%	+17%/-34%	+9%/-19%	+173%/-35%
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 008818497-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-21 \pm 2	$2.79^{+0.86}_{-0.82}$	3104^{+191}_{-261}	4870^{+722}_{-507}	$4.211^{+4.066}_{-1.736}$
Alt.	-51 \pm 1	$2.80^{+0.89}_{-0.86}$	3131^{+172}_{-264}	5984^{+1063}_{-641}	$9.961^{+10.309}_{-4.260}$

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

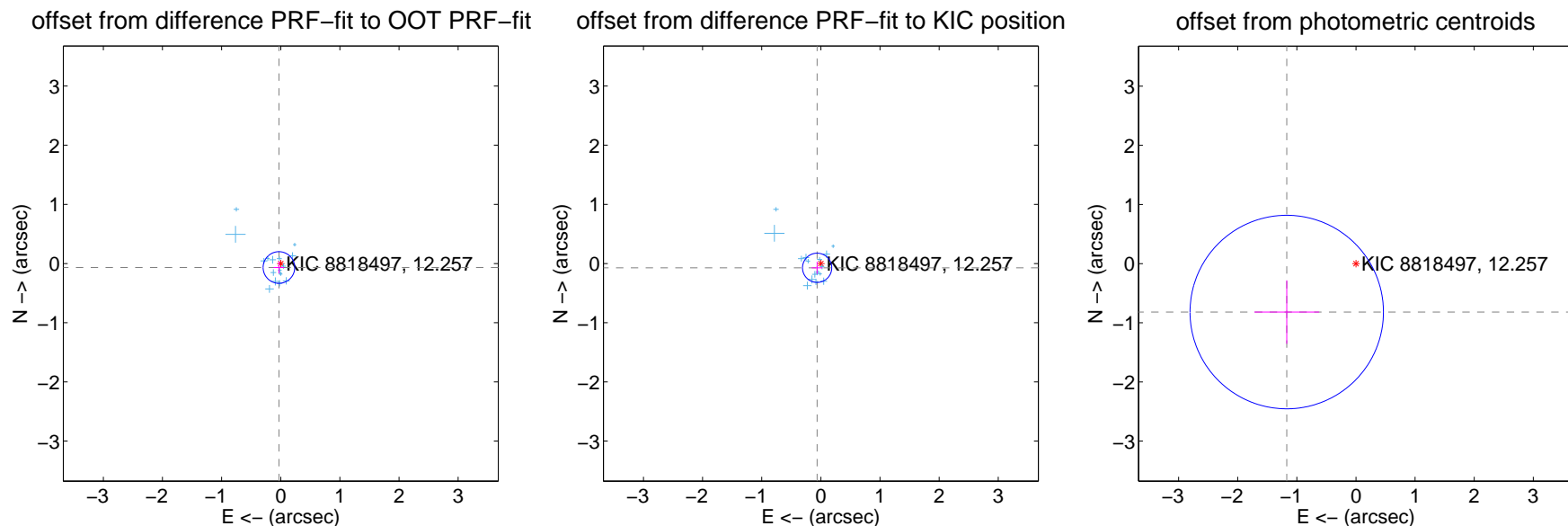
DV Centroid Data

Supplemental centroid analysis for 008818497-01. Kepler magnitude: 12.26. Transit SNR 12.09

There are 17 quarters with good PRF difference image offsets

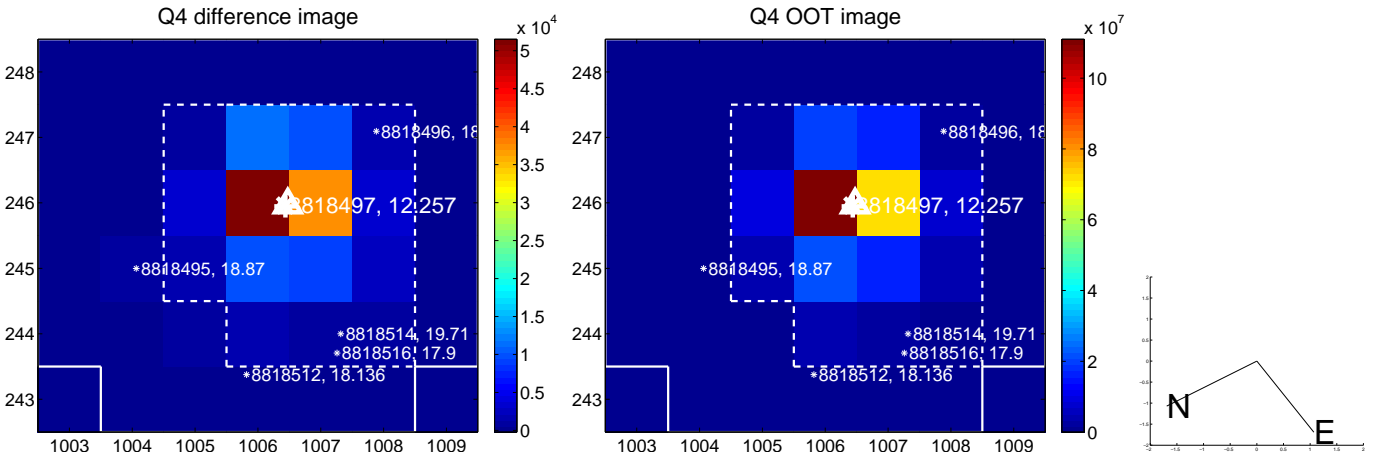
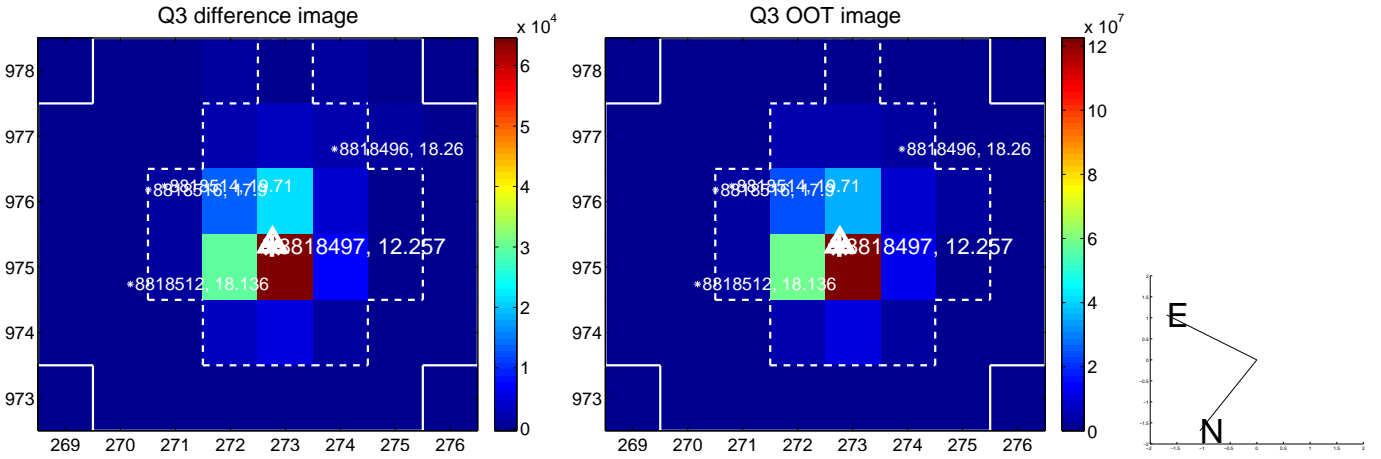
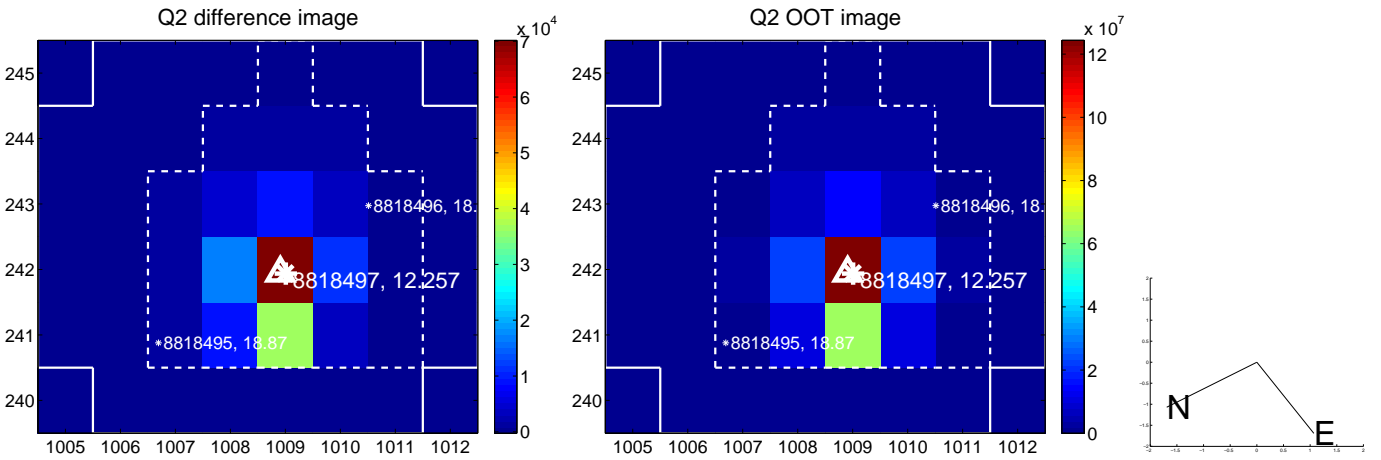
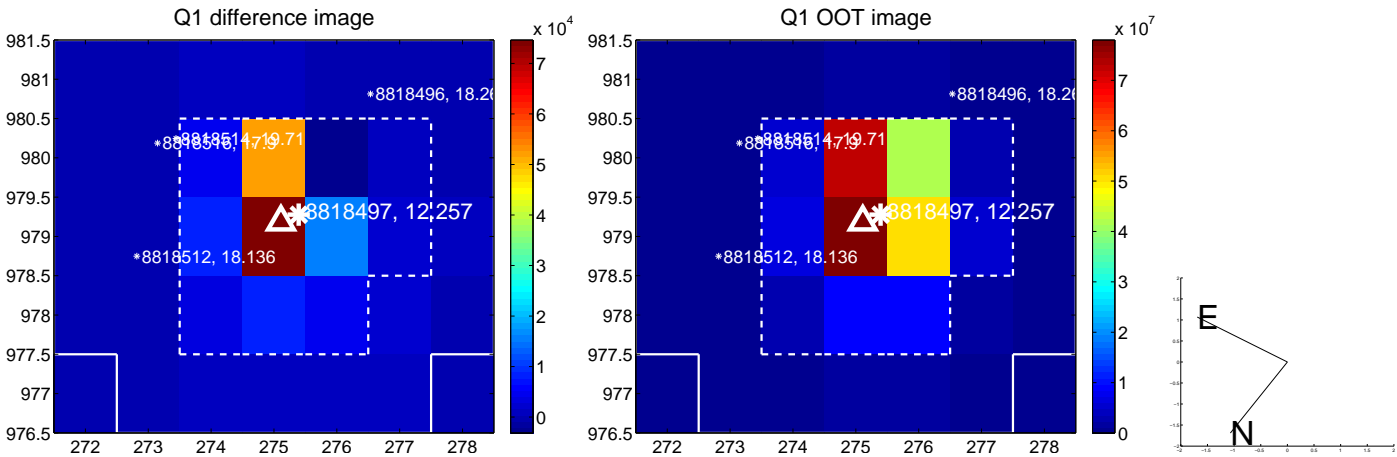
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.074 ± 0.089	0.83	0.031 ± 0.090	-0.067 ± 0.101
PRF-fit source offset from KIC position	0.096 ± 0.082	1.16	0.063 ± 0.091	-0.072 ± 0.103
photometric centroid source offset	1.43 ± 0.55	2.62	1.17 ± 0.55	-0.82 ± 0.54

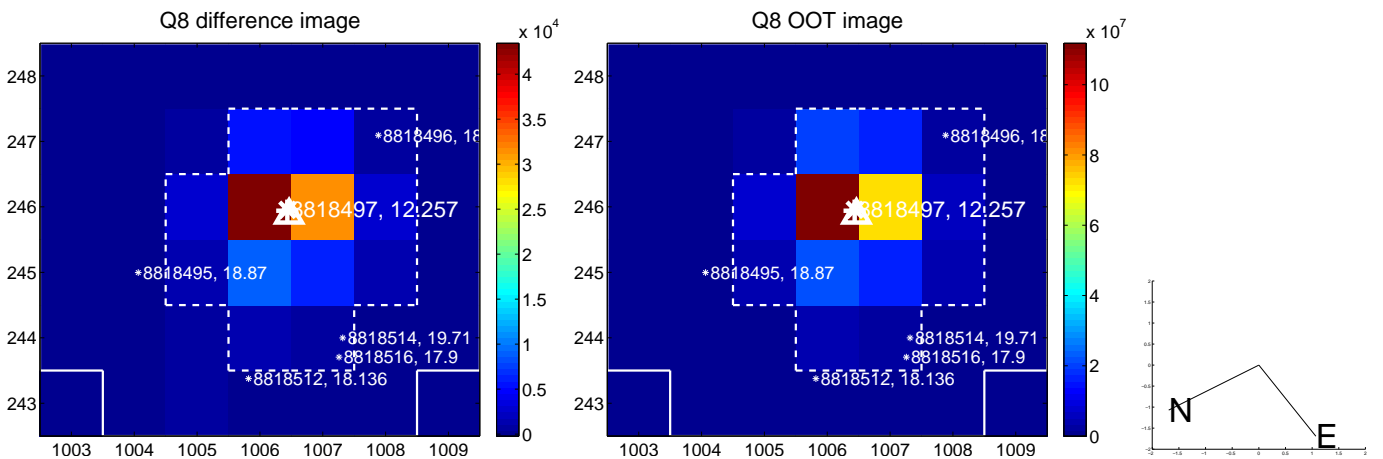
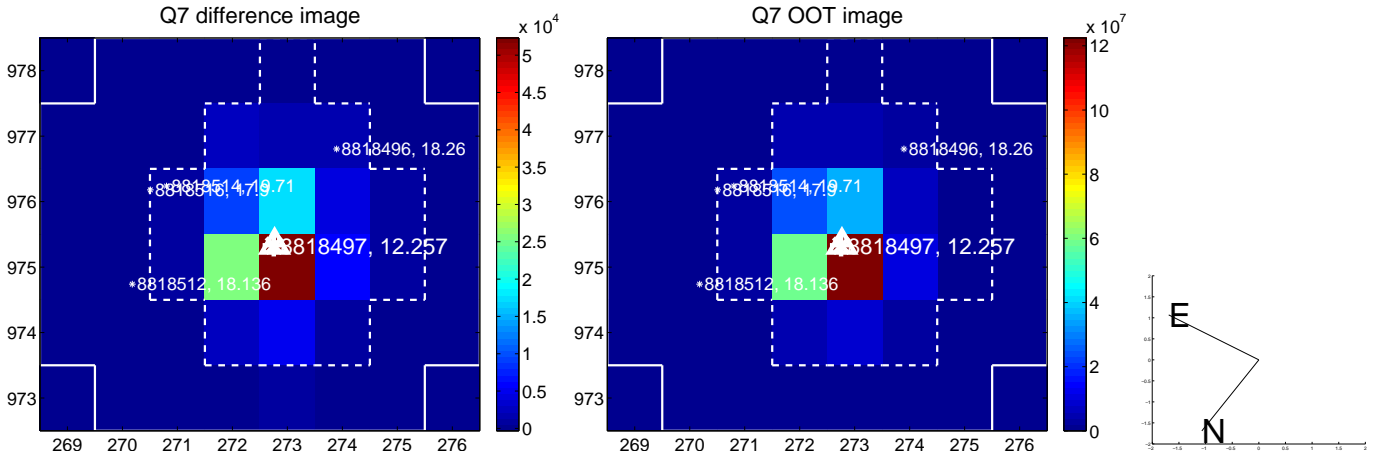
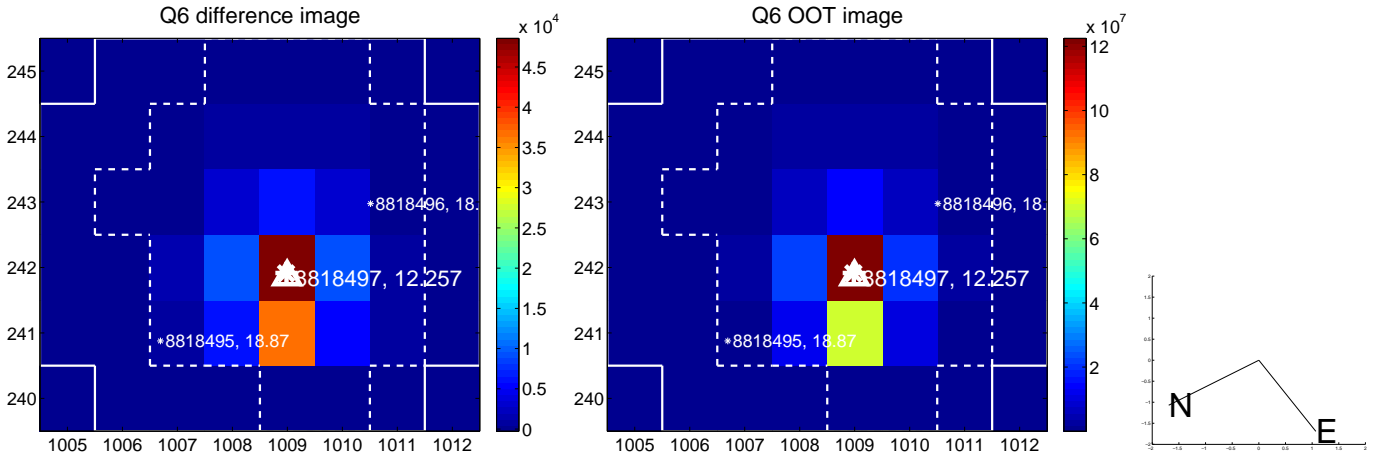
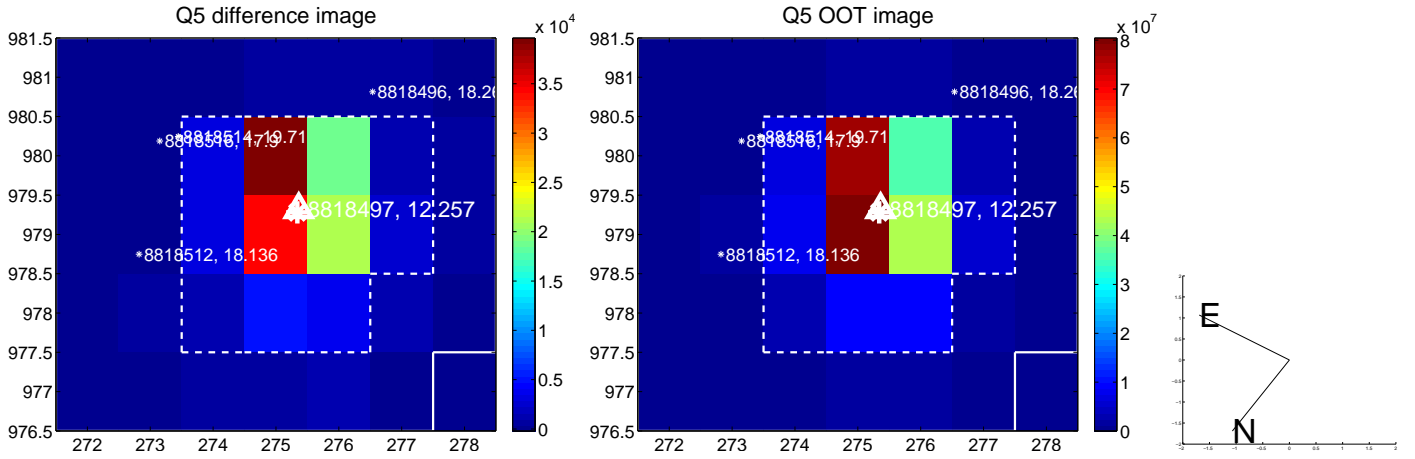


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

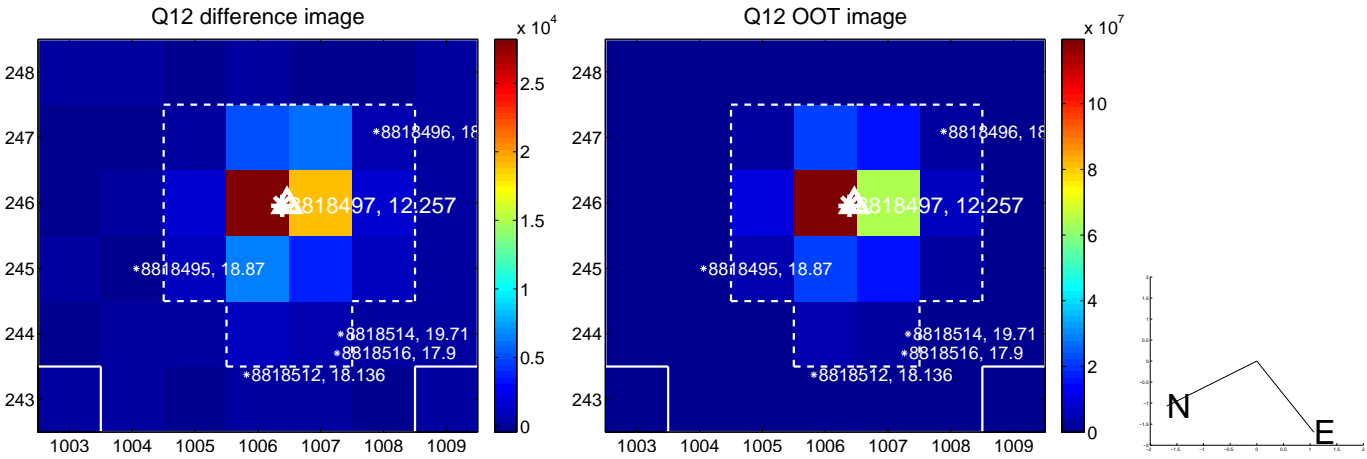
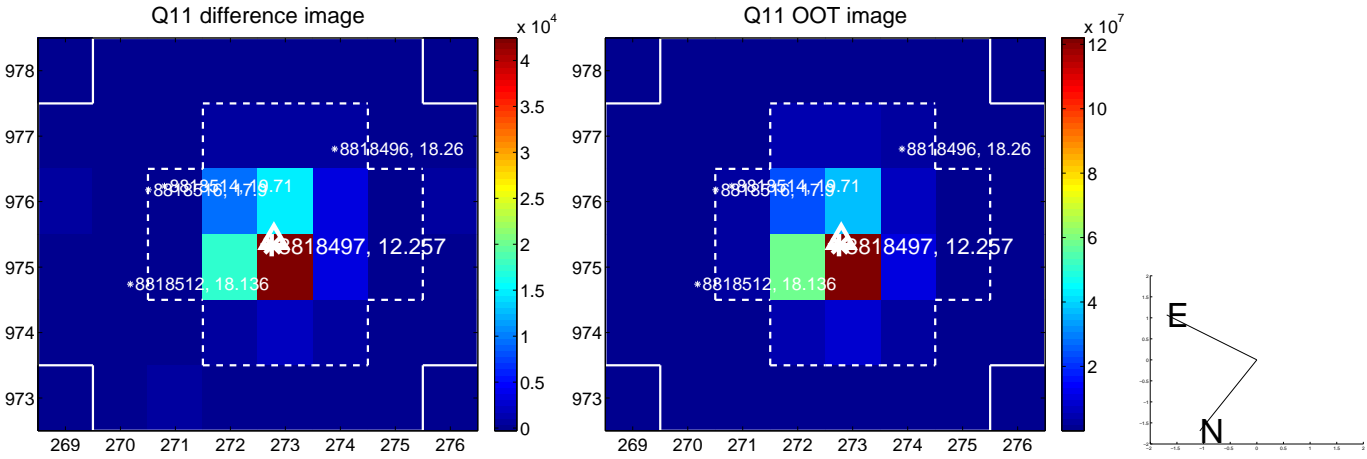
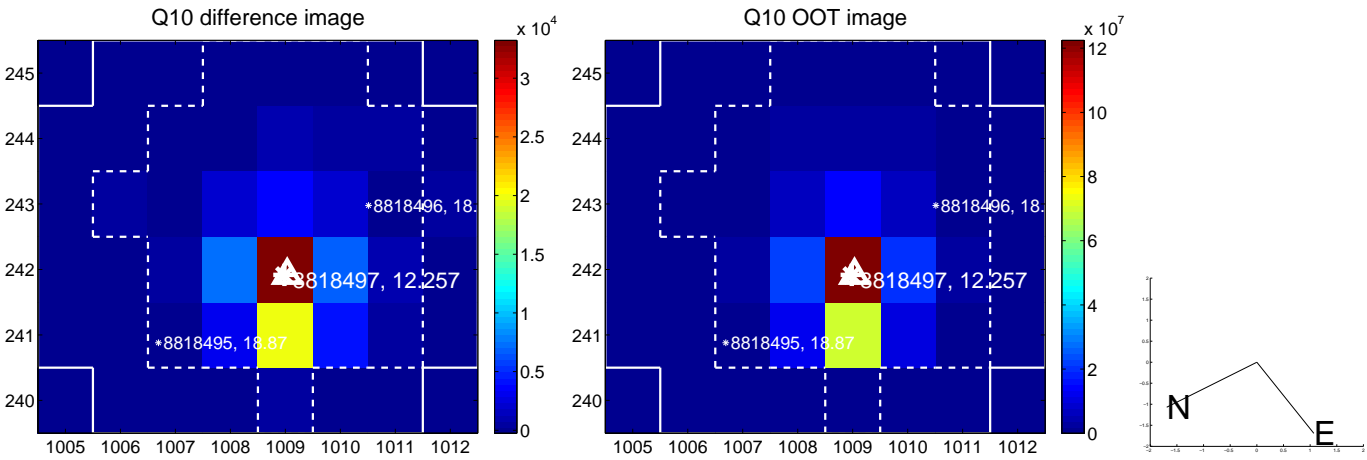
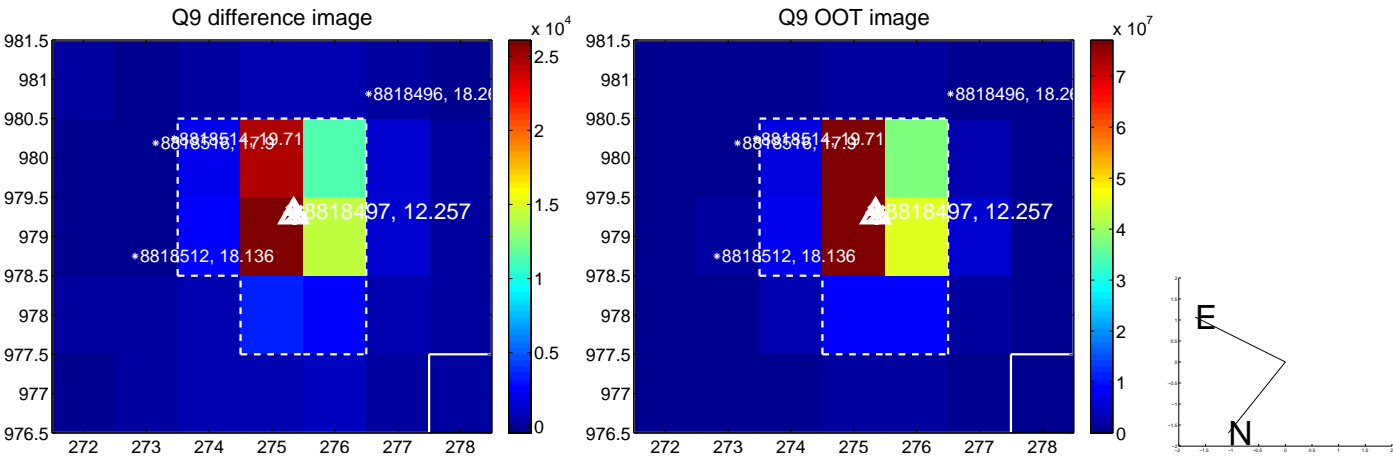
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



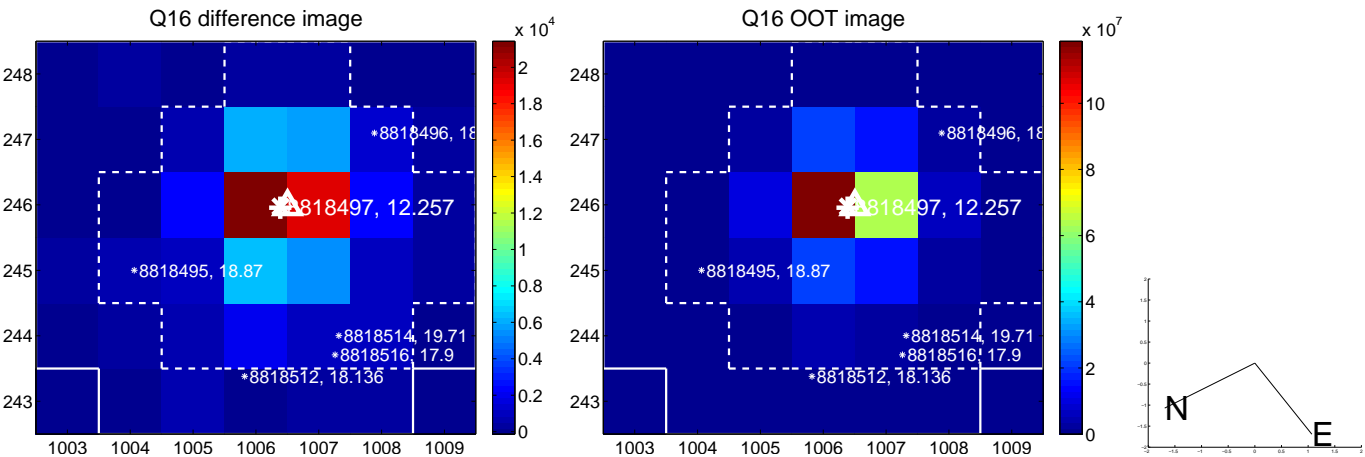
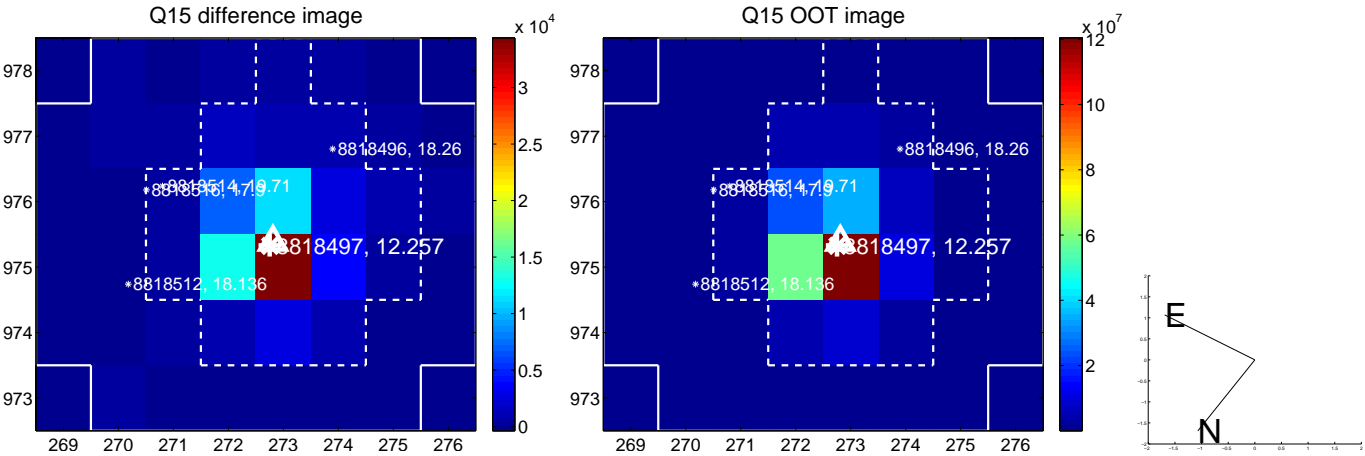
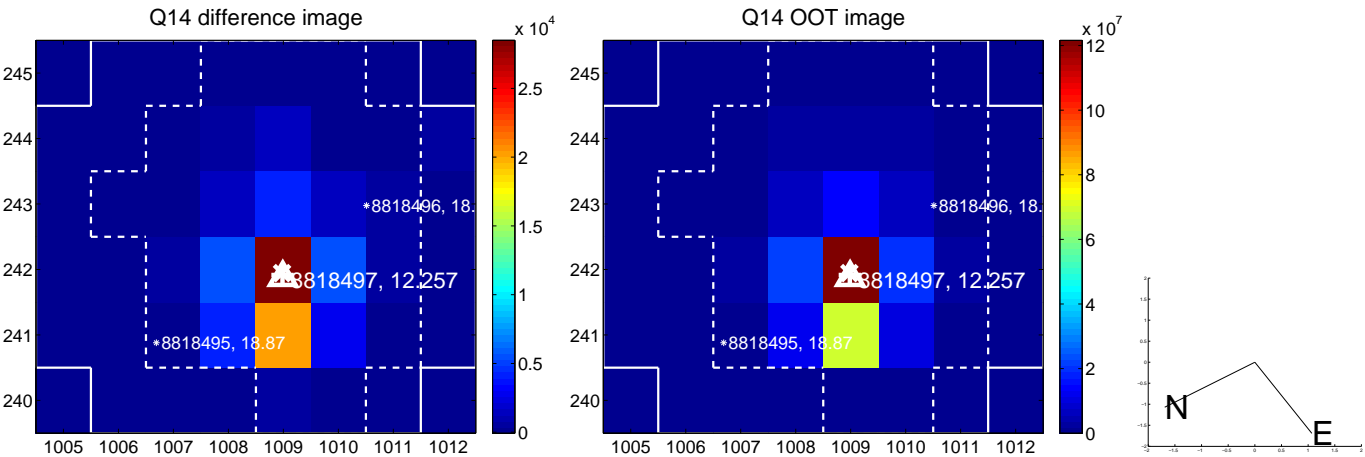
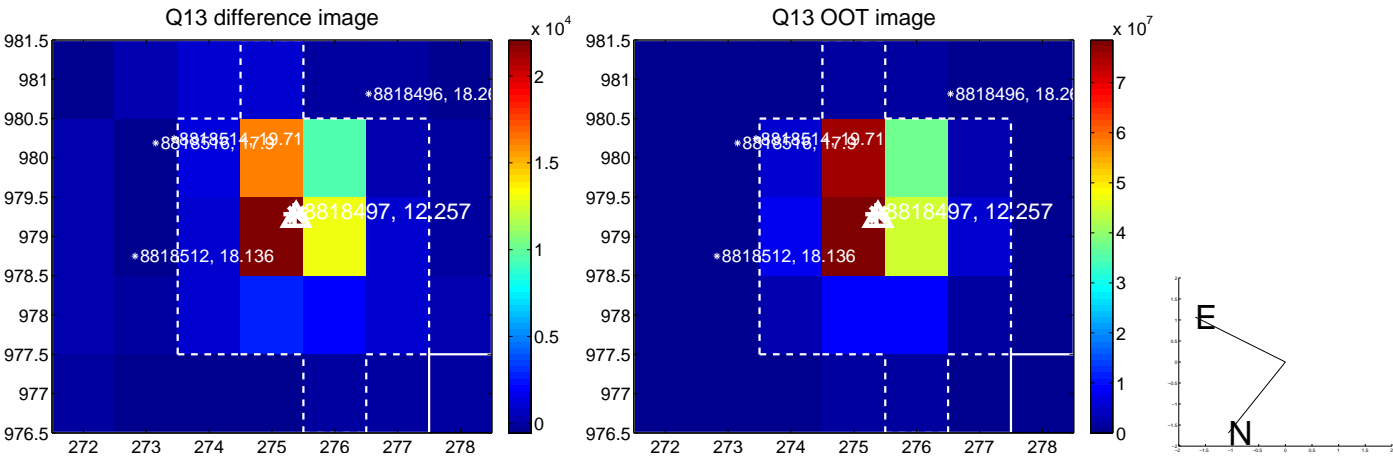
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



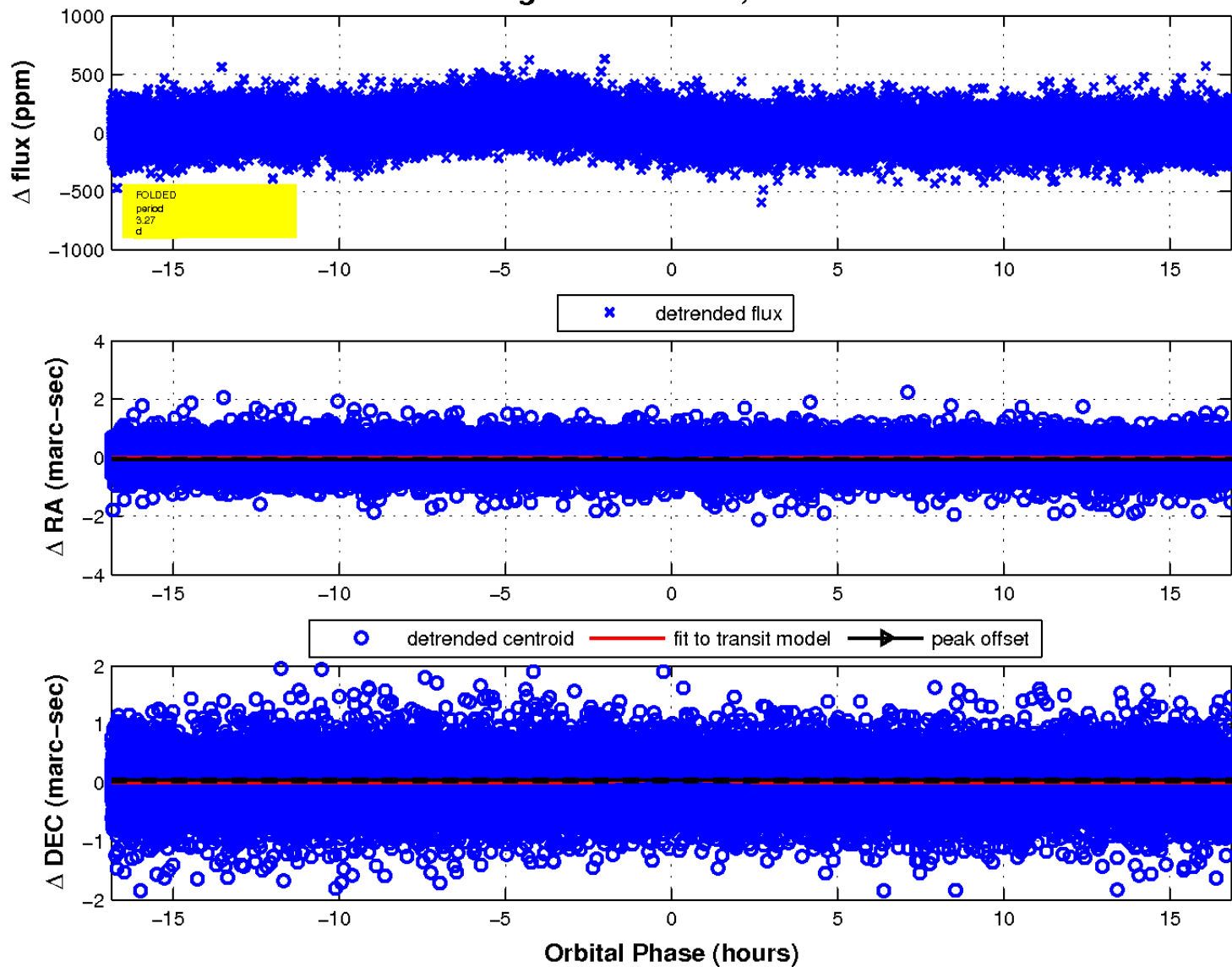
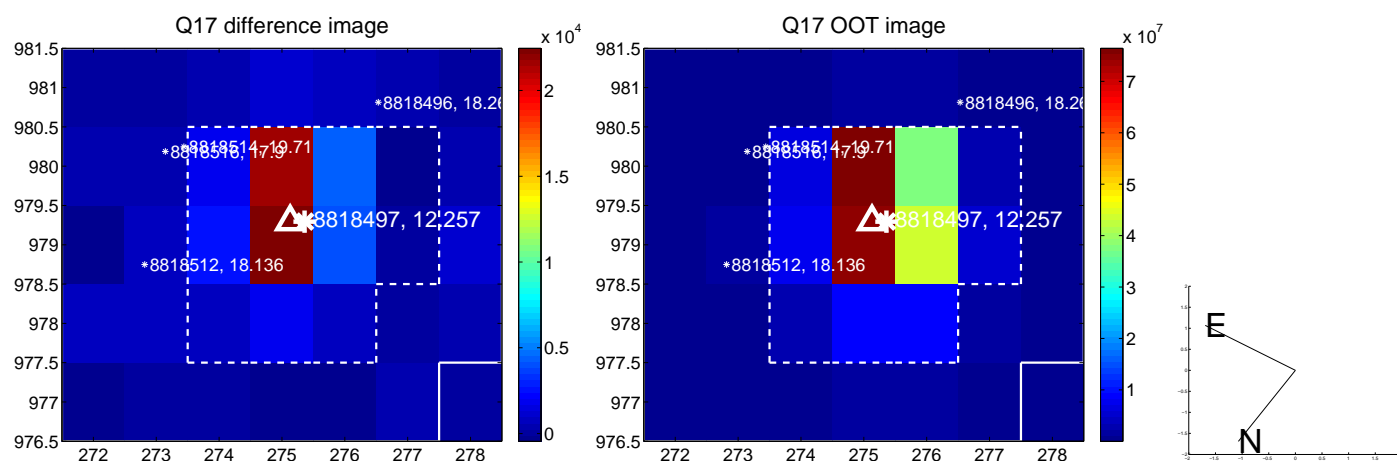
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

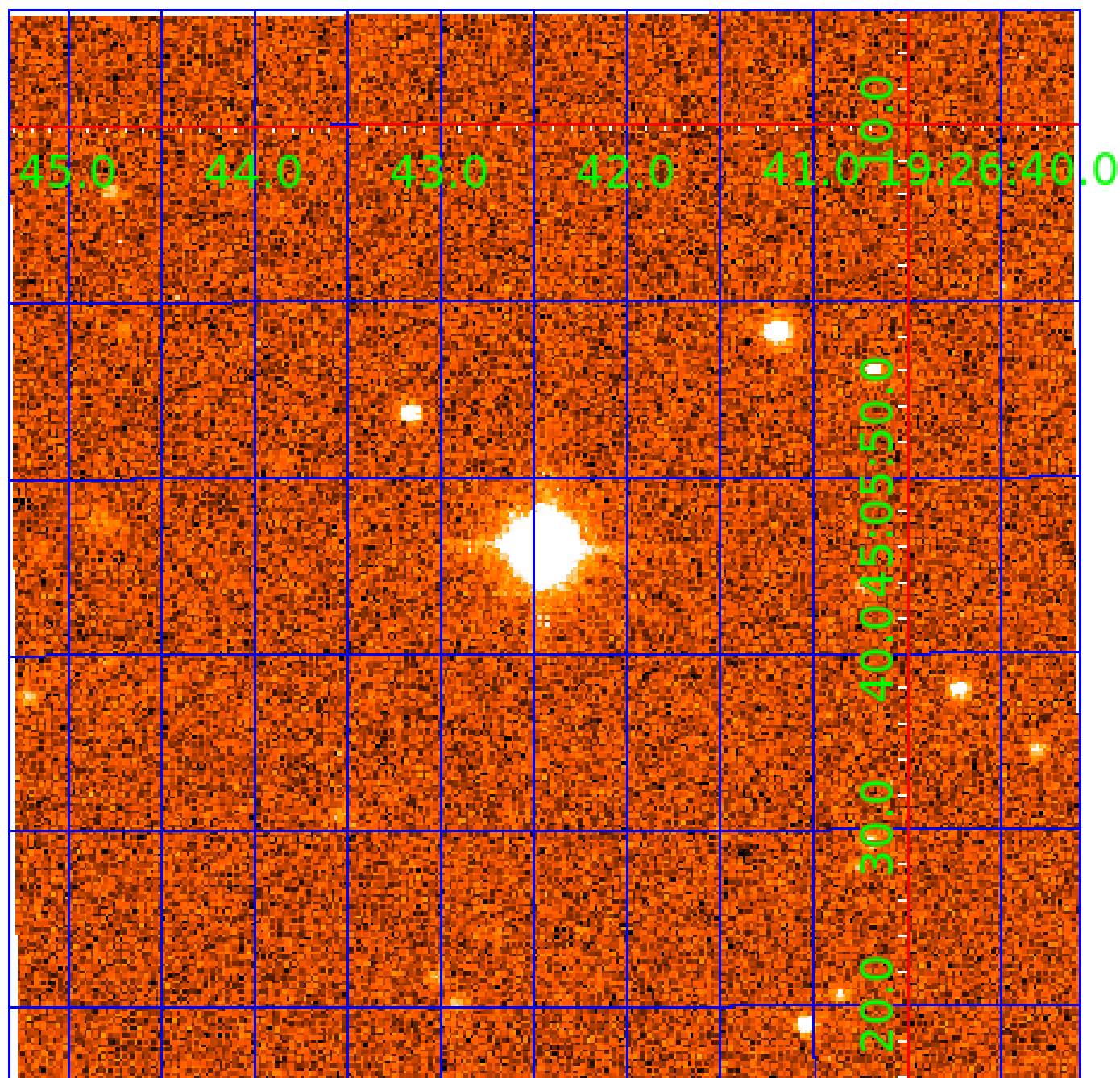


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008818497

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})
008818497-01	OBS	No	3.266470	134.627180	47.6	5.620	14.9	12.1	2.91	6908	2.95	6127.19
008818497-02	OBS	No	3.266492	134.411859	104.0	12.795	14.4	17.8	2.91	6908	3.45	6127.14
008818497-03	OBS	No	356.217446	308.761017	194.0	3.974	8.2	6.9	2.91	6908	5.20	11.76
008818497-04	OBS	No	139.687713	153.278713	101.7	24.944	7.6	6.6	2.91	6908	3.21	40.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008818497-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008818497-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—HALO_GHOST
008818497-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008818497-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST

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

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

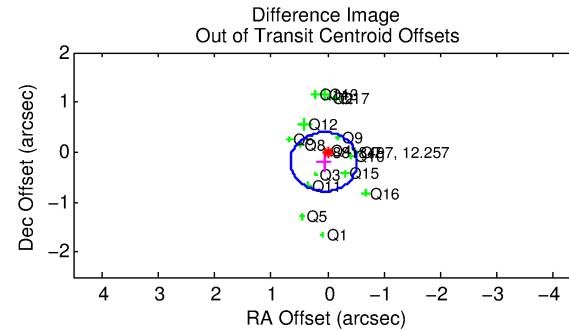
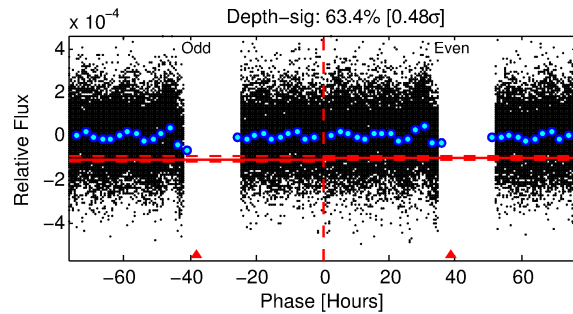
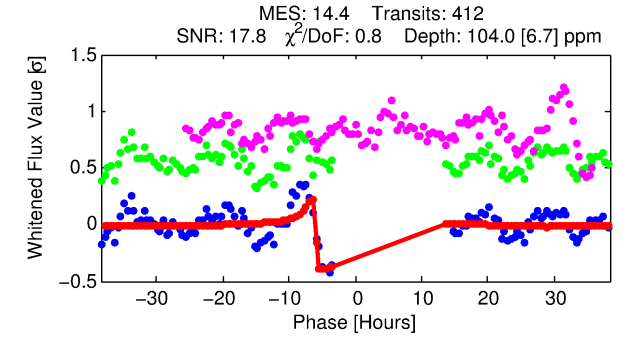
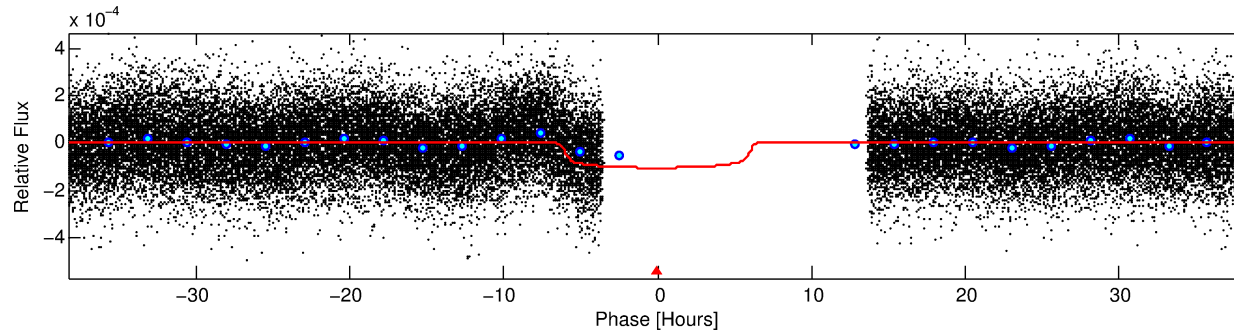
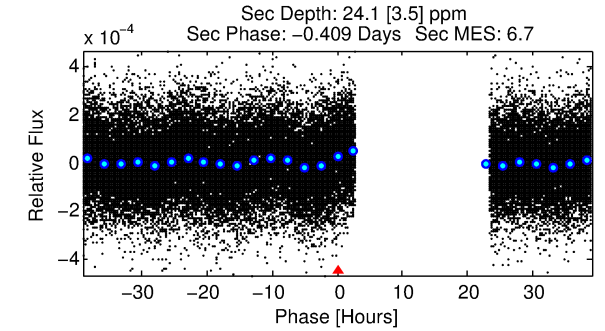
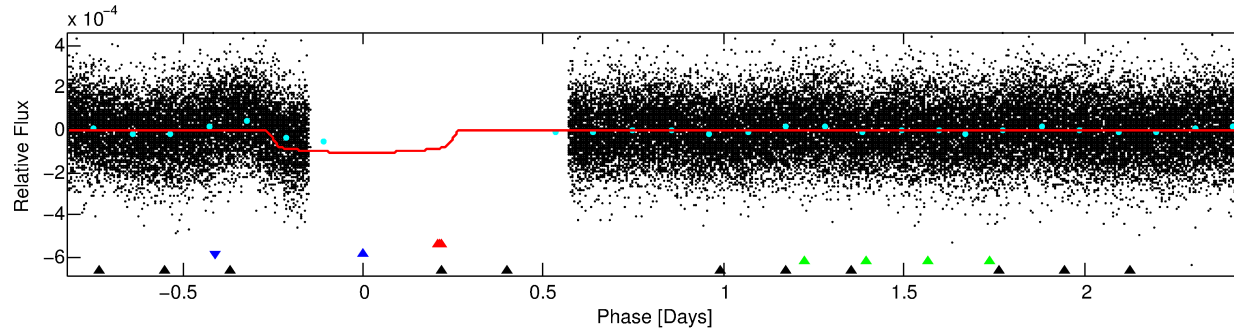
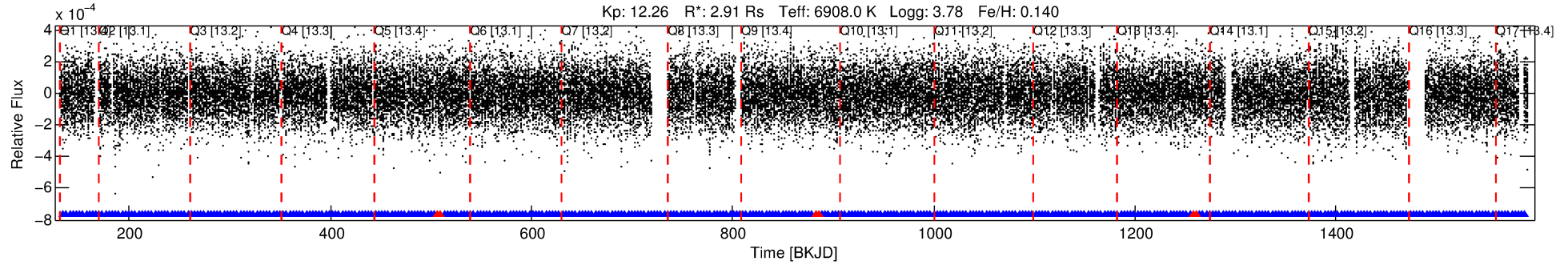
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008818497-02

No Significant Match Found

DV One-Page Summary

KIC: 8818497 Candidate: 2 of 4 Period: 3.266 d



DV Fit Results:

Period = 3.26649 [0.00001] d
Epoch = 134.4119 [0.0301] BKJD
Rp/R* = 0.0109 [0.0006]
a/R* = 1.30 [0.13]
b = 0.90 [0.08]
Seff = 6127.14 [2926.40]
Teq = 2256 [269] K
Rp = 3.45 [1.20] Re
a = 0.0531 [0.0161] AU
Ag = 3.14 [1.55] [1.38σ]
Teffp = 4644 [262] K [6.36σ]

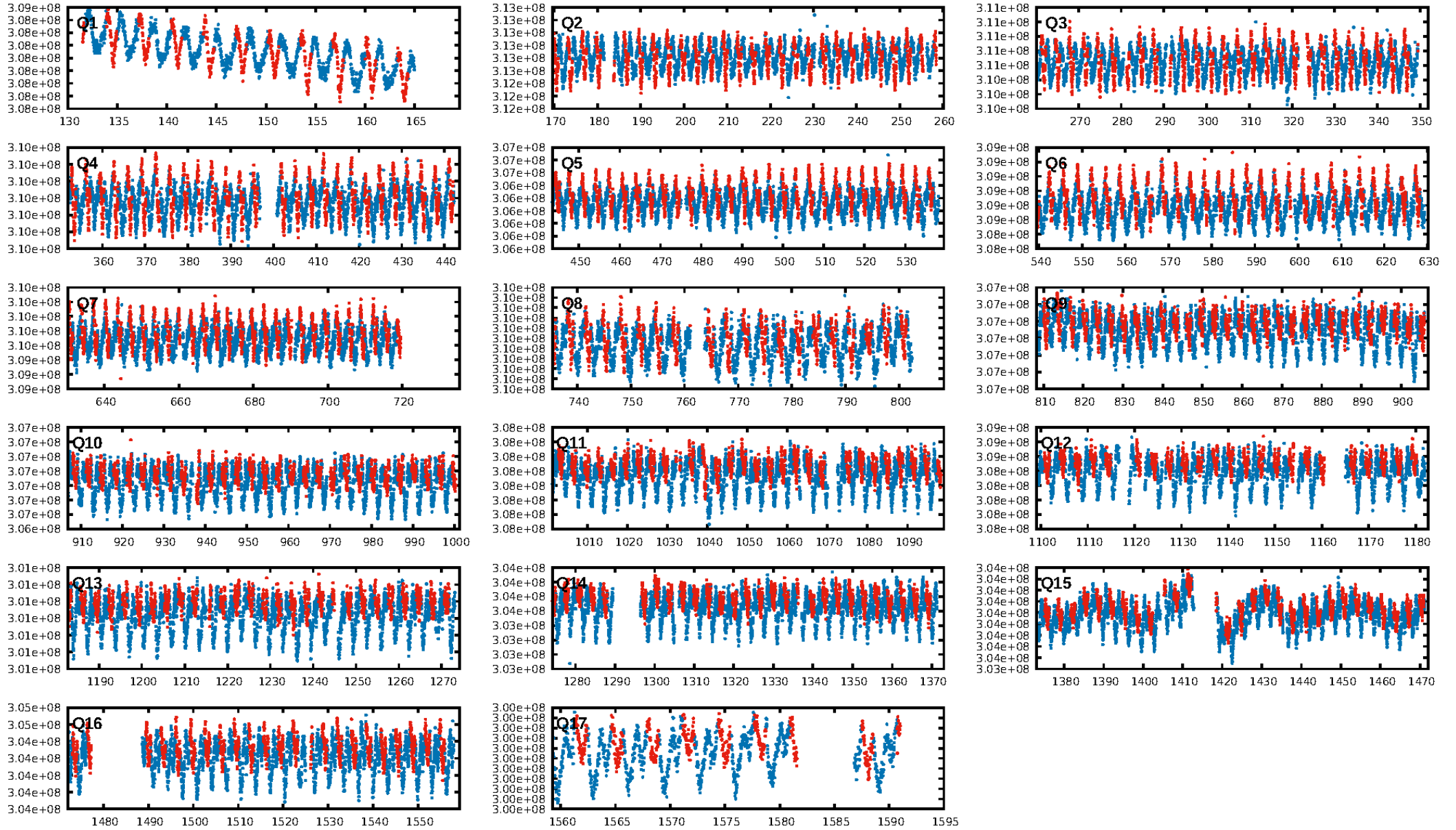
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [116.79σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.06e-29
RollingBand-fgt: 0.98 [387/393]
GhostDiagnostic-chr: -0.04284
Centroid-sig: 98.6%
Centroid-so: 0.149 arcsec [0.99σ]
OotOffset-rm: 0.203 arcsec [1.03σ]
KicOffset-rm: 0.206 arcsec [1.08σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
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DiffImageOverlap-fno: 0.00 [0/17]

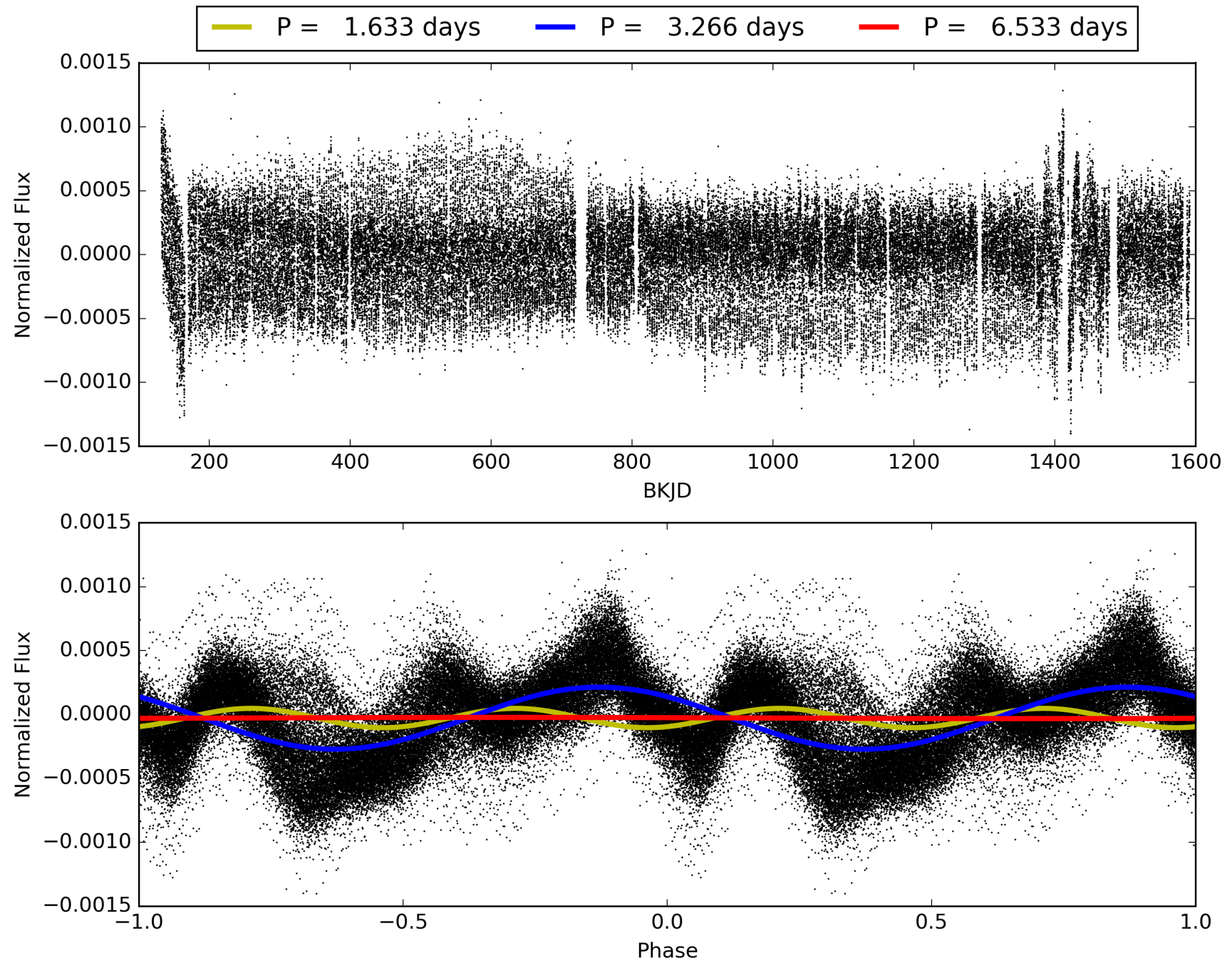
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008818497-02, PDC Light Curves

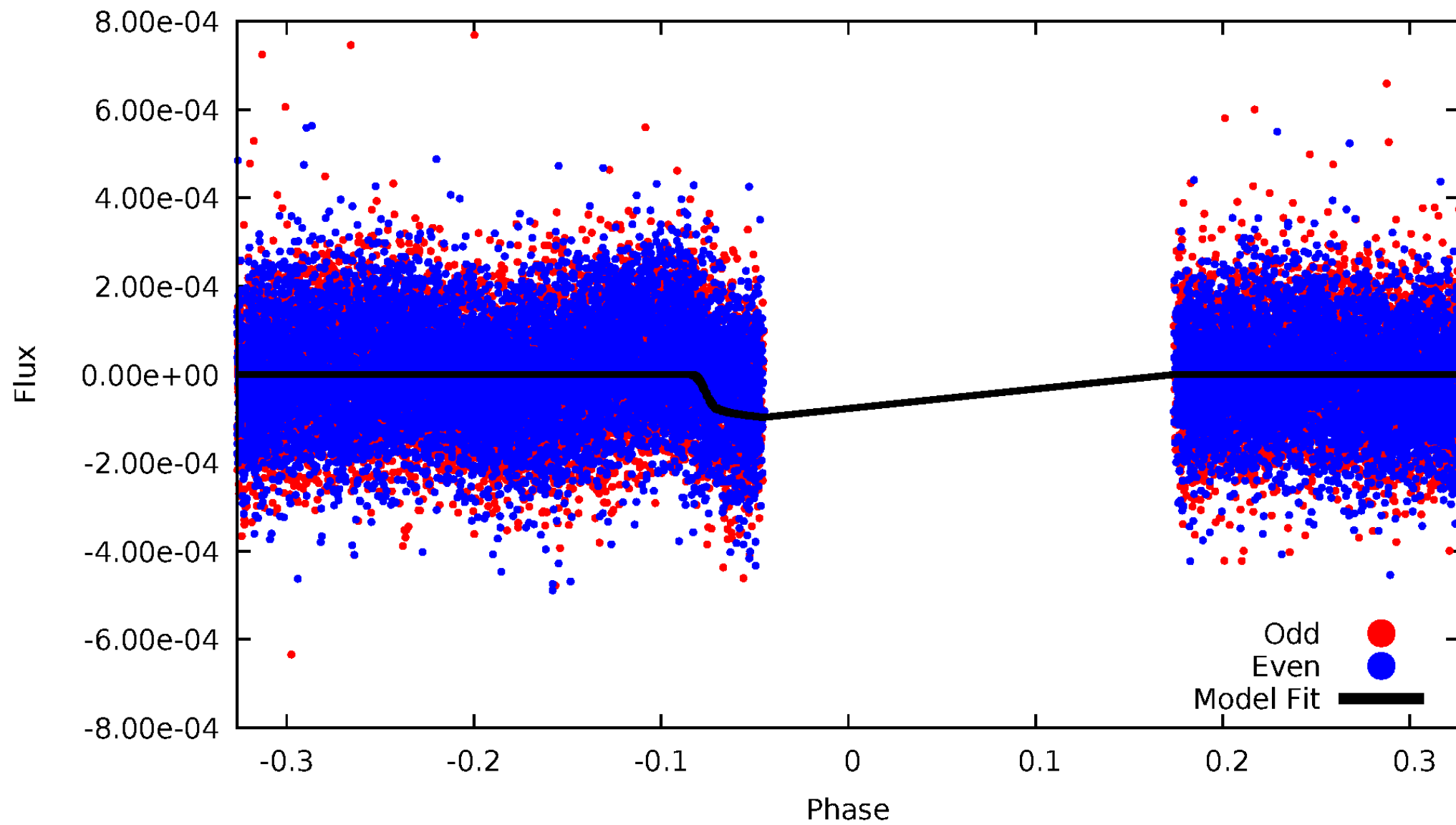


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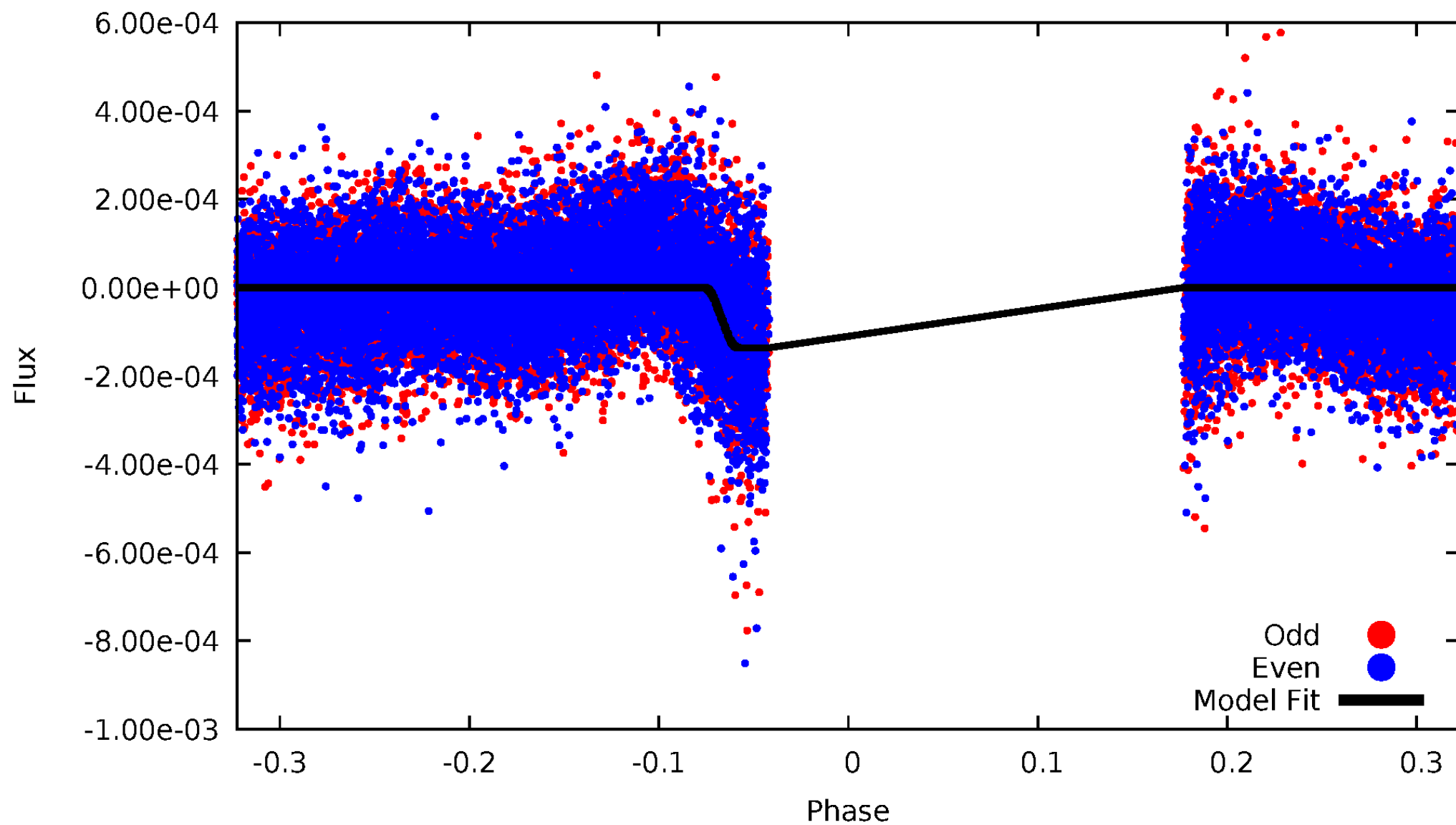
DV Odd/Even

TCE 008818497-02



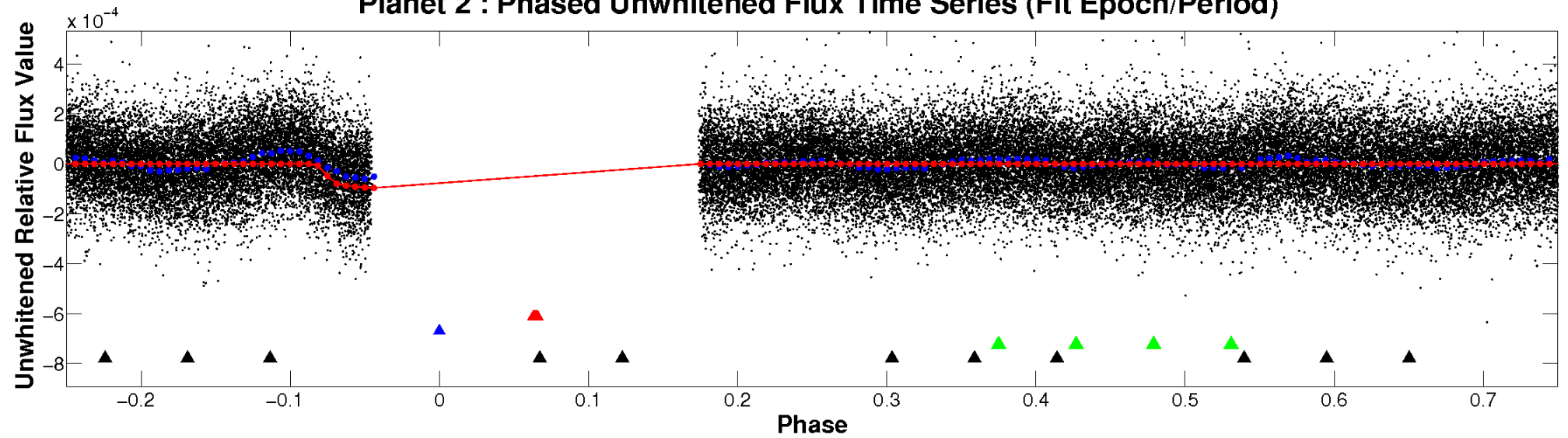
ALT Odd/Even

TCE 008818497-02

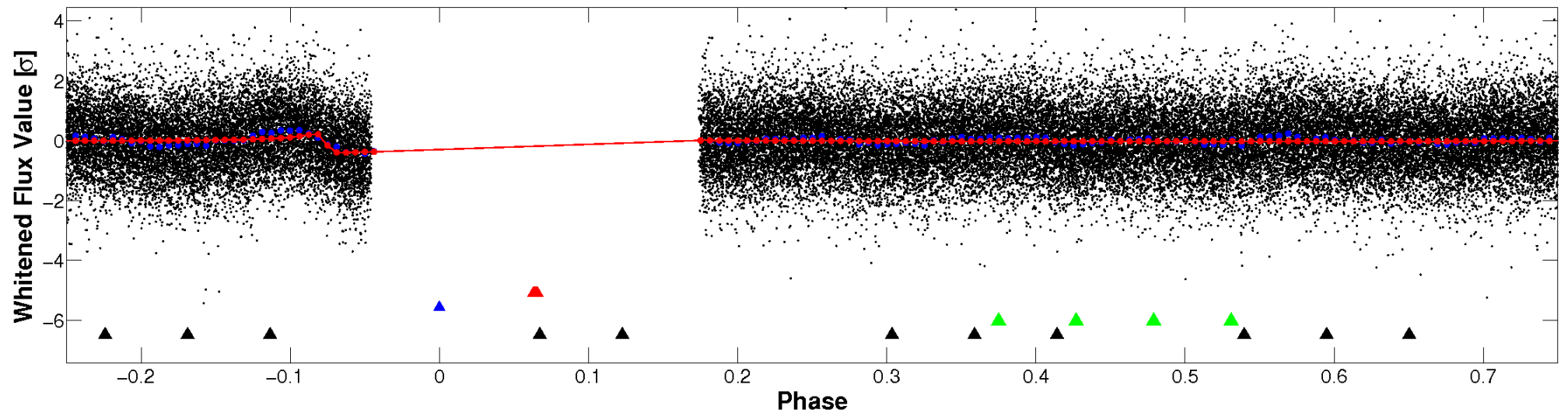


Non-Whitened Vs. Whitened Light Curve

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

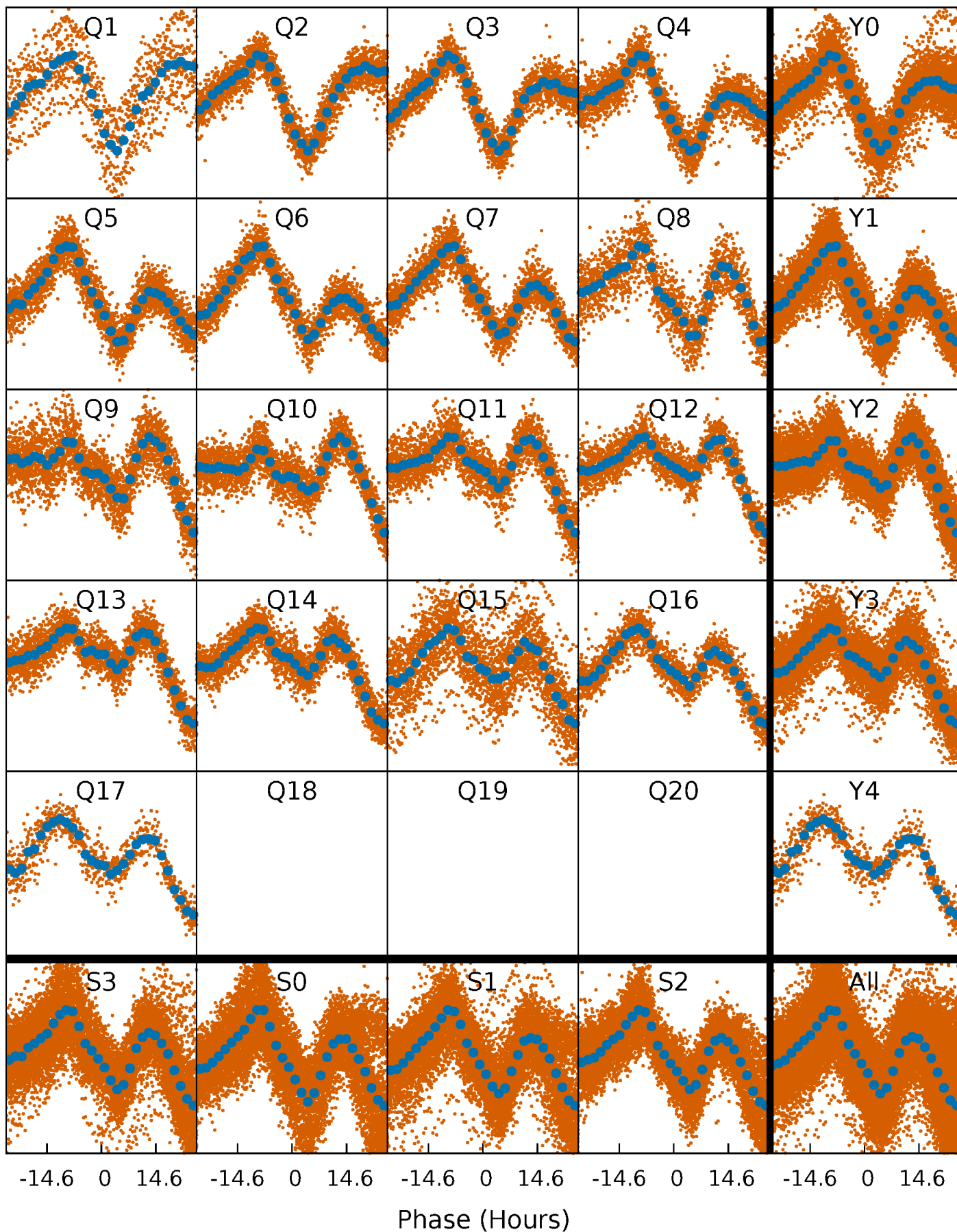


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



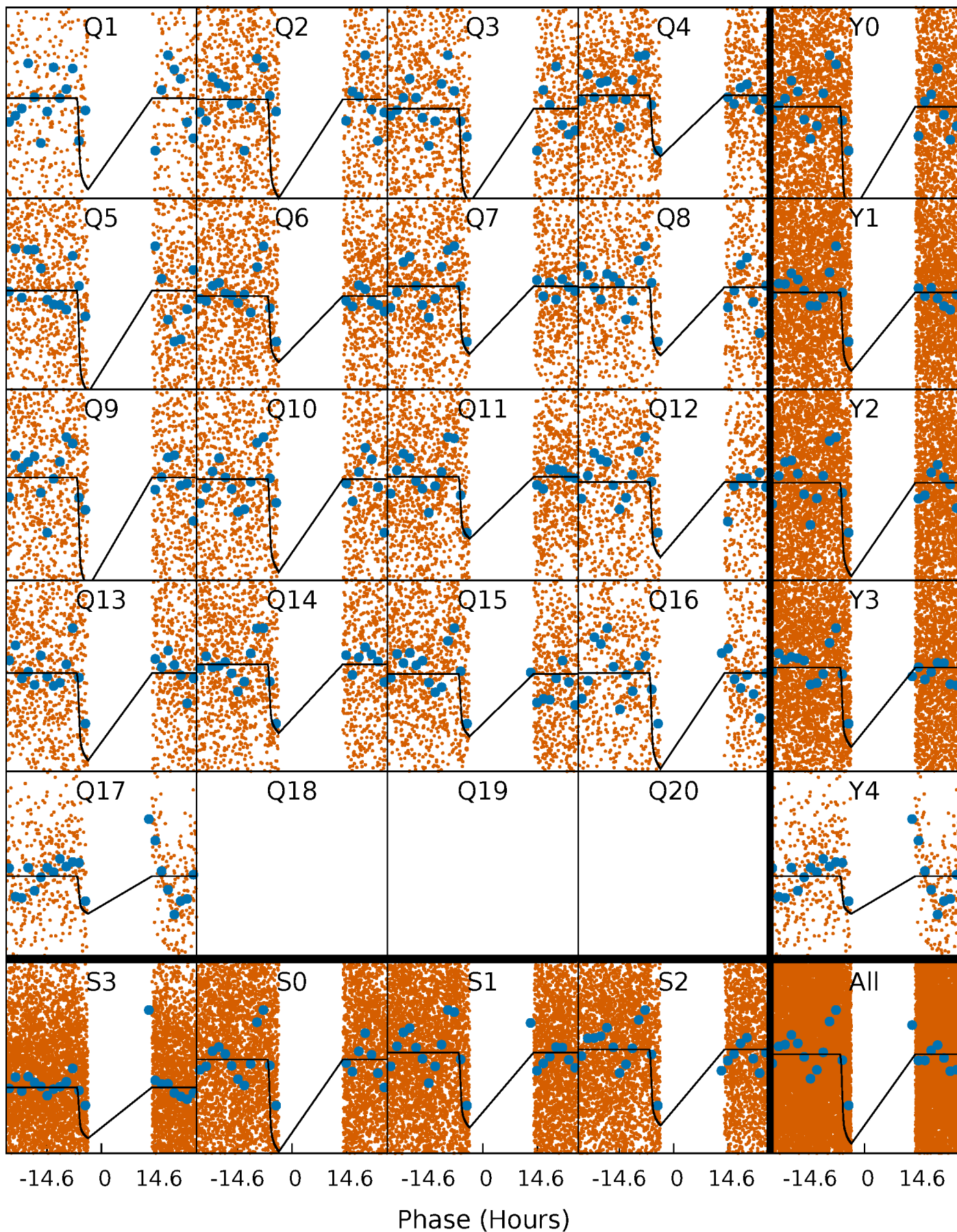
PDC Quarter-Phased Transit Curves

TCE 008818497-02 P= 3.266492 Days $T_0=134.411859$ (BKJD)



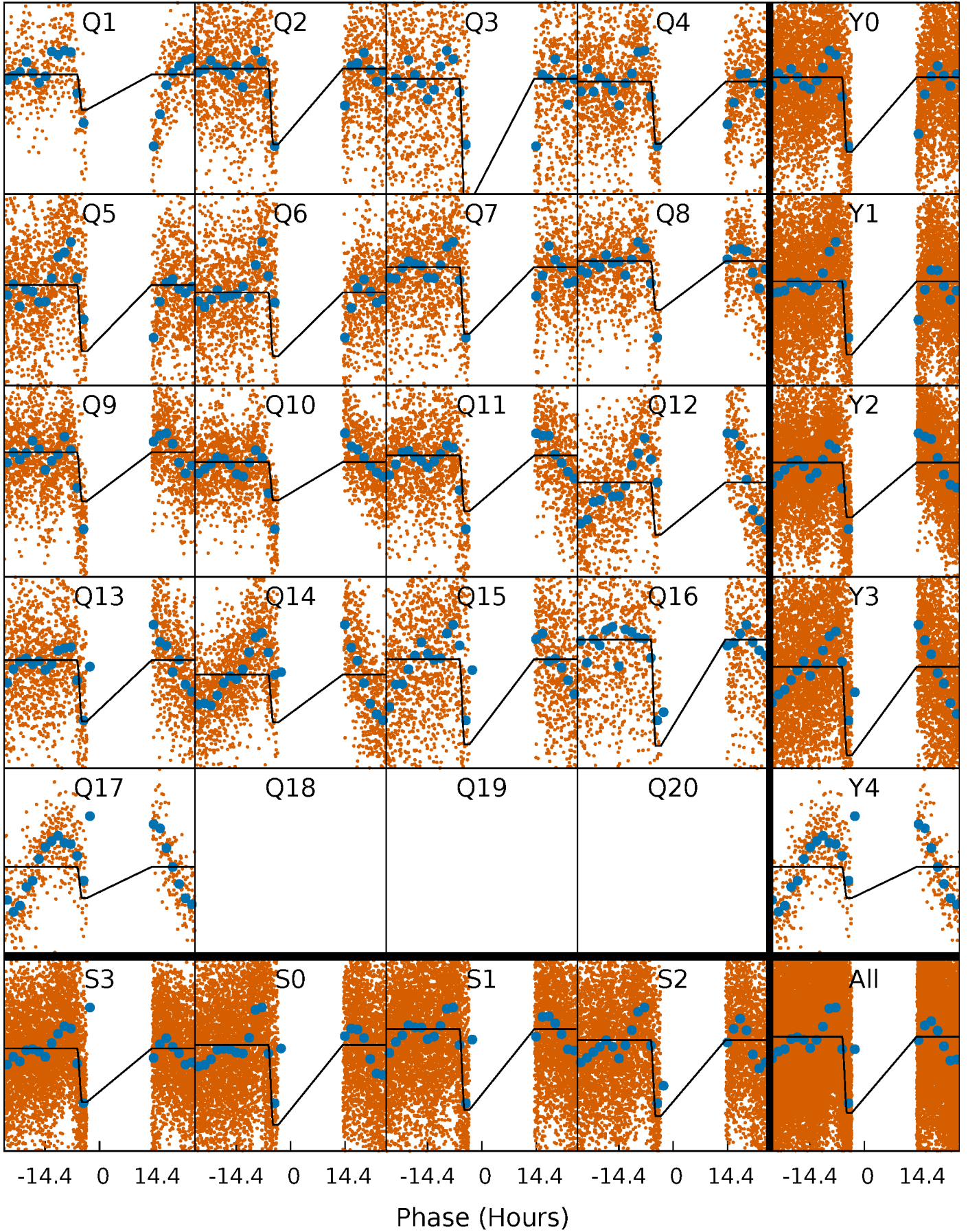
DV Quarter-Phased Transit Curves

TCE 008818497-02 P= 3.266492 Days $T_0=134.411859$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

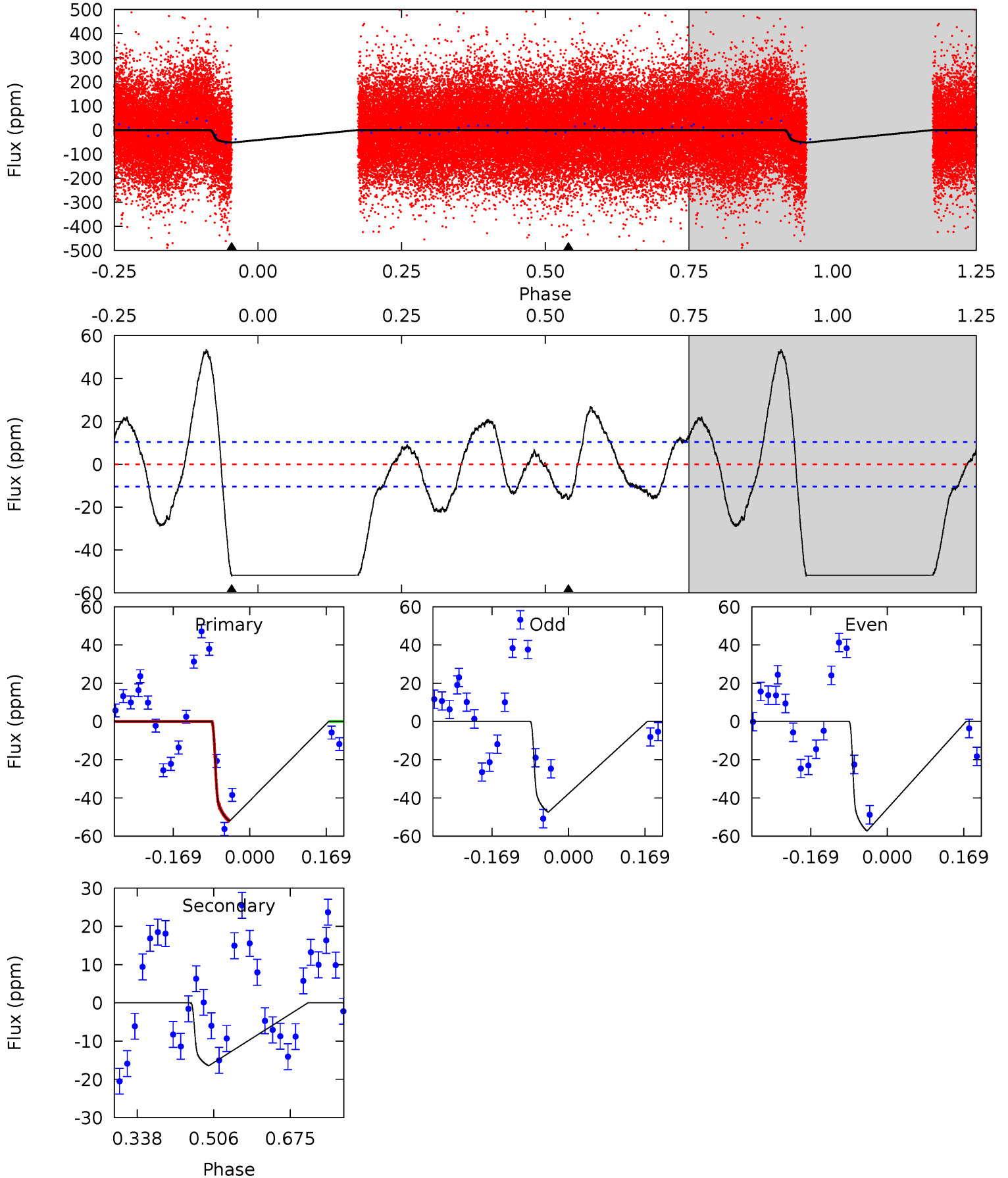
TCE 008818497-02 P= 3.266446 Days $T_0=134.412558$ (BKJD)



DV Model-Shift Uniqueness Test

008818497-02, P = 3.266492 Days, E = 131.145367 Days

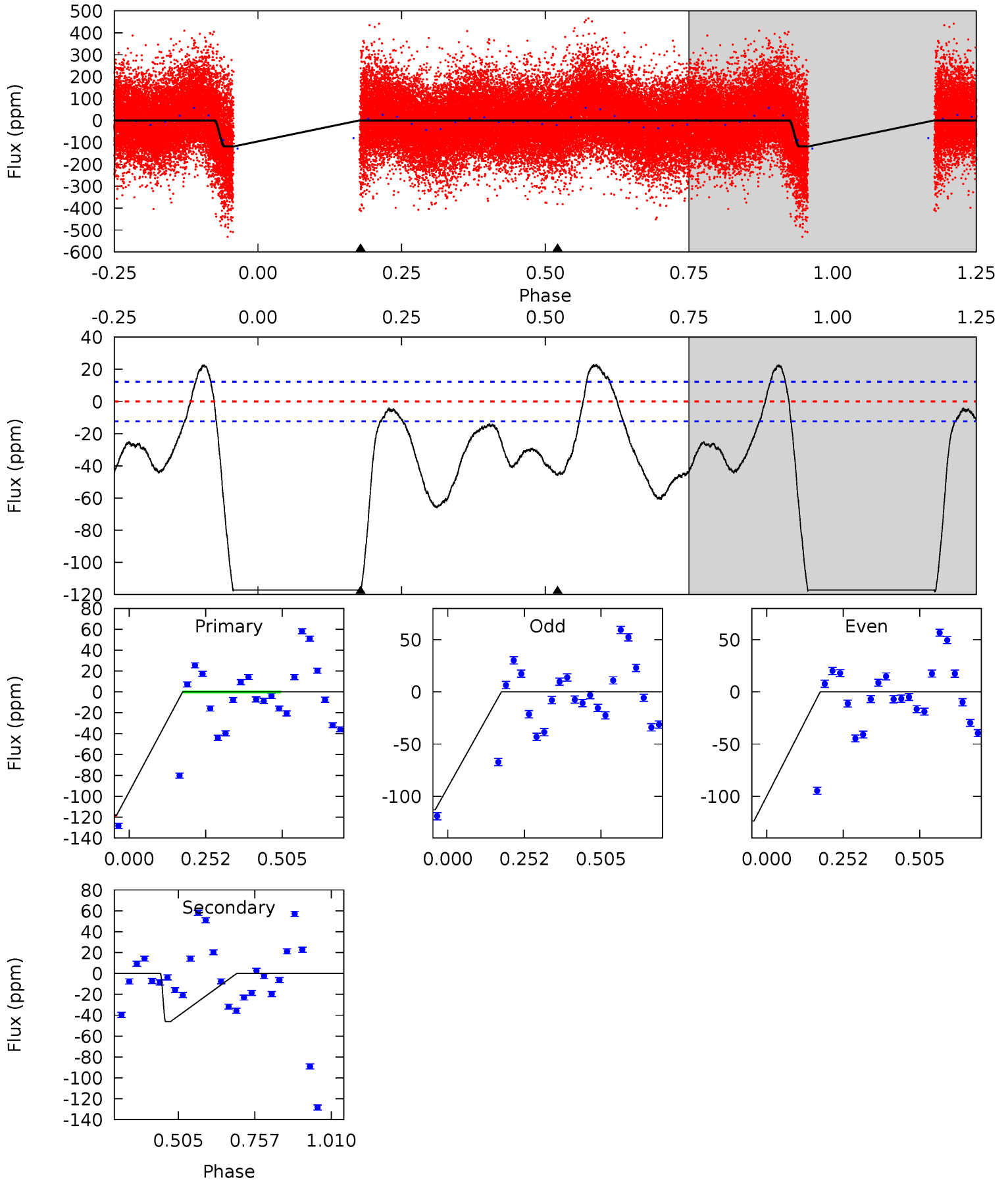
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.3	7.04	0	0	4.45	1.38	7.03	22.3	22.3	7.04	7.04	2.07	0	0.51	0



Alt Model-Shift Uniqueness Test

008818497-02, P = 3.266446 Days, E = 131.146112 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.2	16.4	0	0	4.37	1.14	15.0	42.2	42.2	16.4	16.4	1.92	0	0.16	0



Stellar Parameters For KIC 008818497

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6908^{+165}_{-227}	$3.782^{+0.259}_{-0.111}$	$0.140^{+0.200}_{-0.300}$	$2.908^{+0.501}_{-1.002}$	$1.868^{+0.165}_{-0.358}$	$0.107^{+0.185}_{-0.038}$
	+2%/-3%	+7%/-3%	+143%/-214%	+17%/-34%	+9%/-19%	+173%/-35%
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 008818497-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-16 ± 2	$3.41^{+0.42}_{-0.63}$	3124^{+186}_{-250}	4281^{+201}_{-196}	$2.220^{+0.986}_{-0.558}$
Alt.	-46 ± 3	$3.62^{+0.48}_{-0.58}$	3114^{+185}_{-257}	5218^{+187}_{-212}	$5.409^{+2.144}_{-1.206}$

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

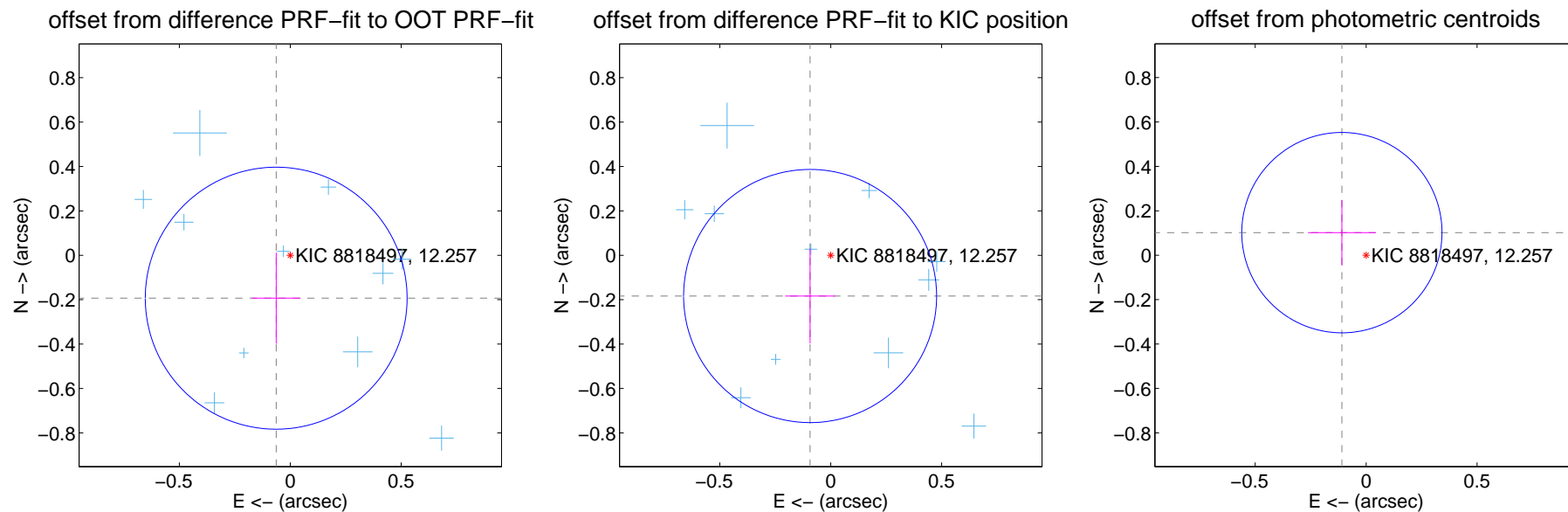
DV Centroid Data

Supplemental centroid analysis for 008818497-02. Kepler magnitude: 12.26. Transit SNR 17.81

There are 17 quarters with good PRF difference image offsets

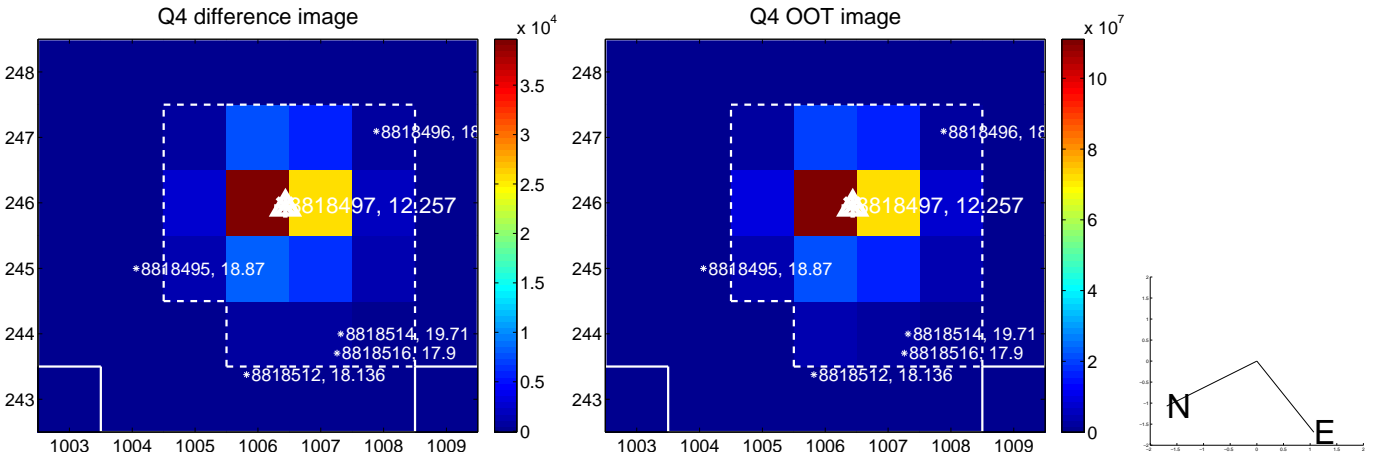
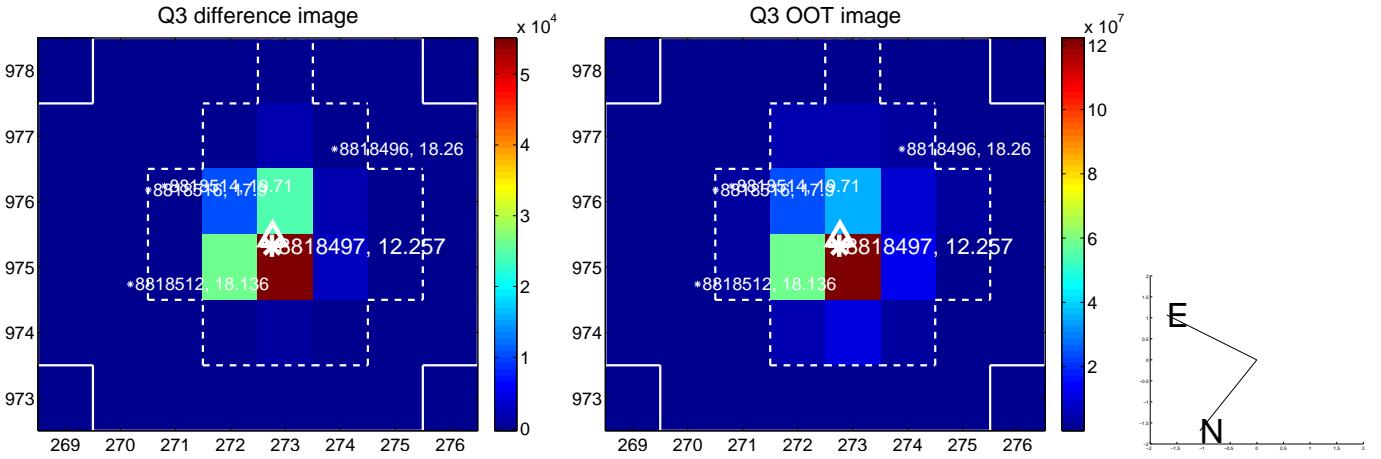
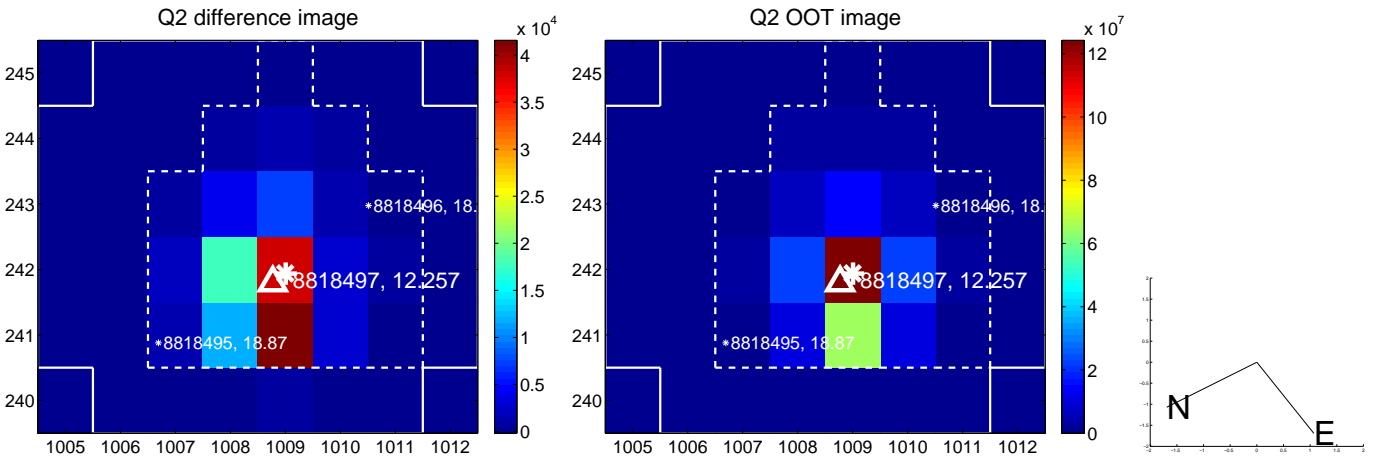
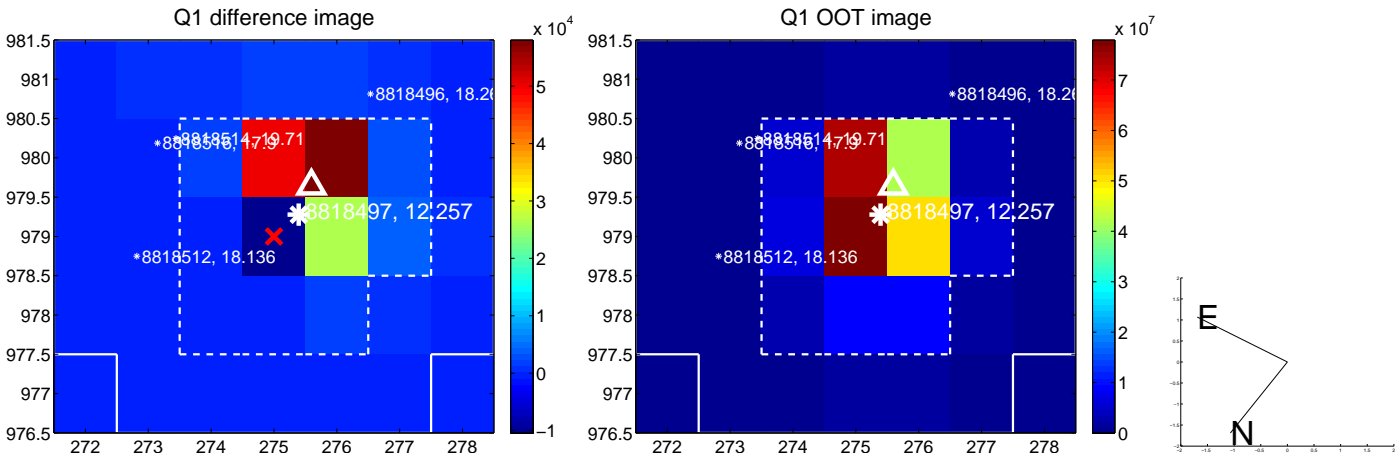
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.203 ± 0.197	1.03	0.063 ± 0.109	-0.193 ± 0.205
PRF-fit source offset from KIC position	0.206 ± 0.190	1.08	0.093 ± 0.112	-0.183 ± 0.213
photometric centroid source offset	0.15 ± 0.15	0.99	0.11 ± 0.15	0.10 ± 0.15

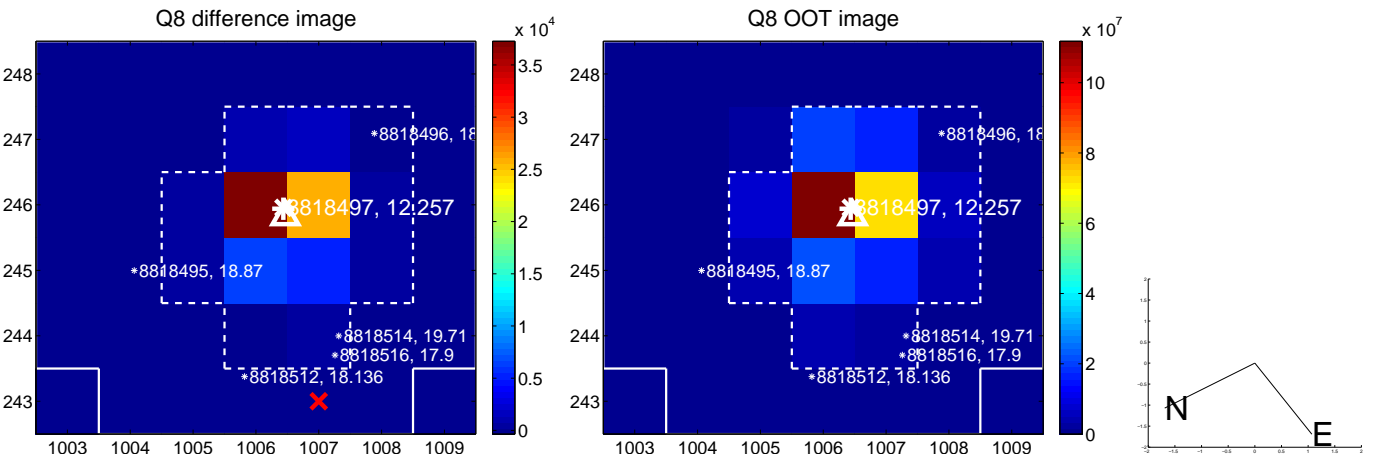
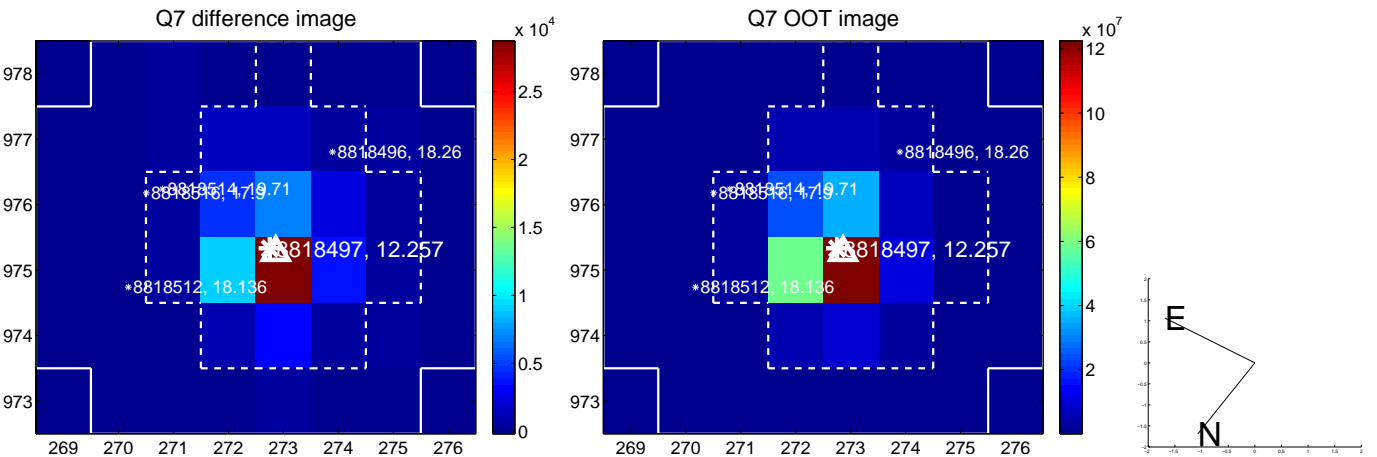
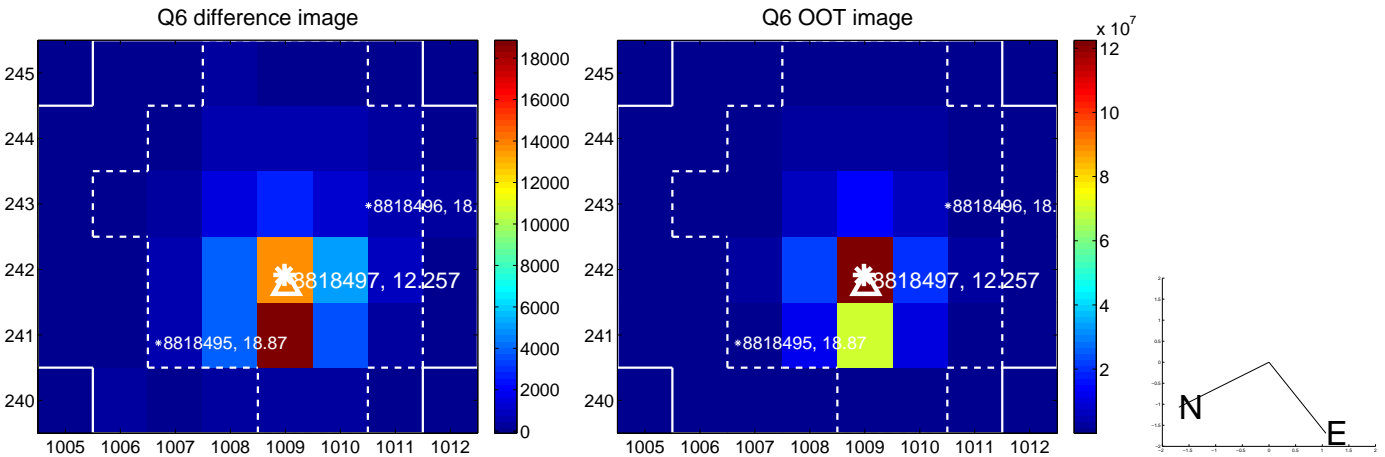
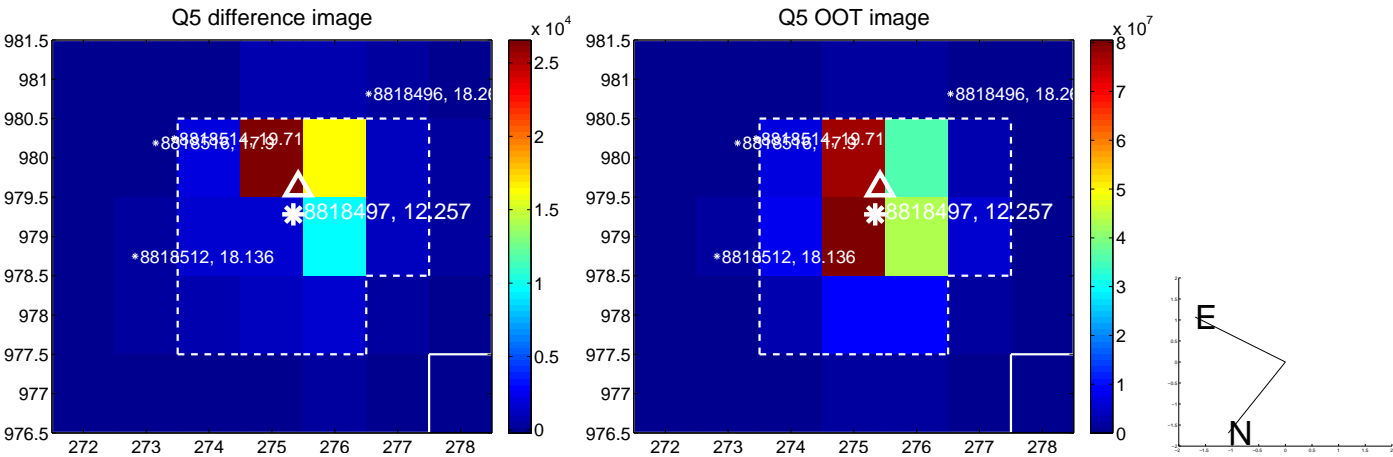


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

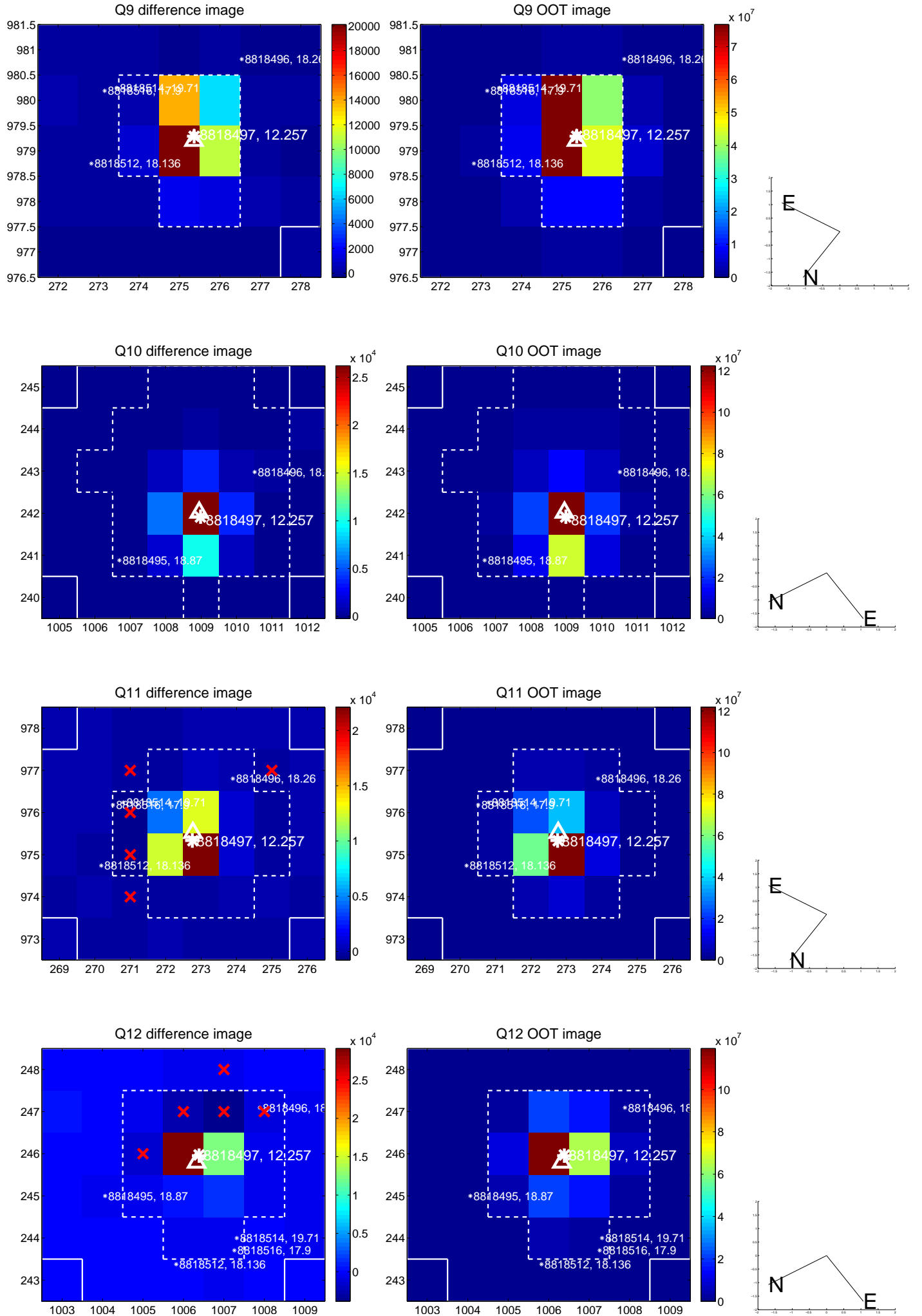
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



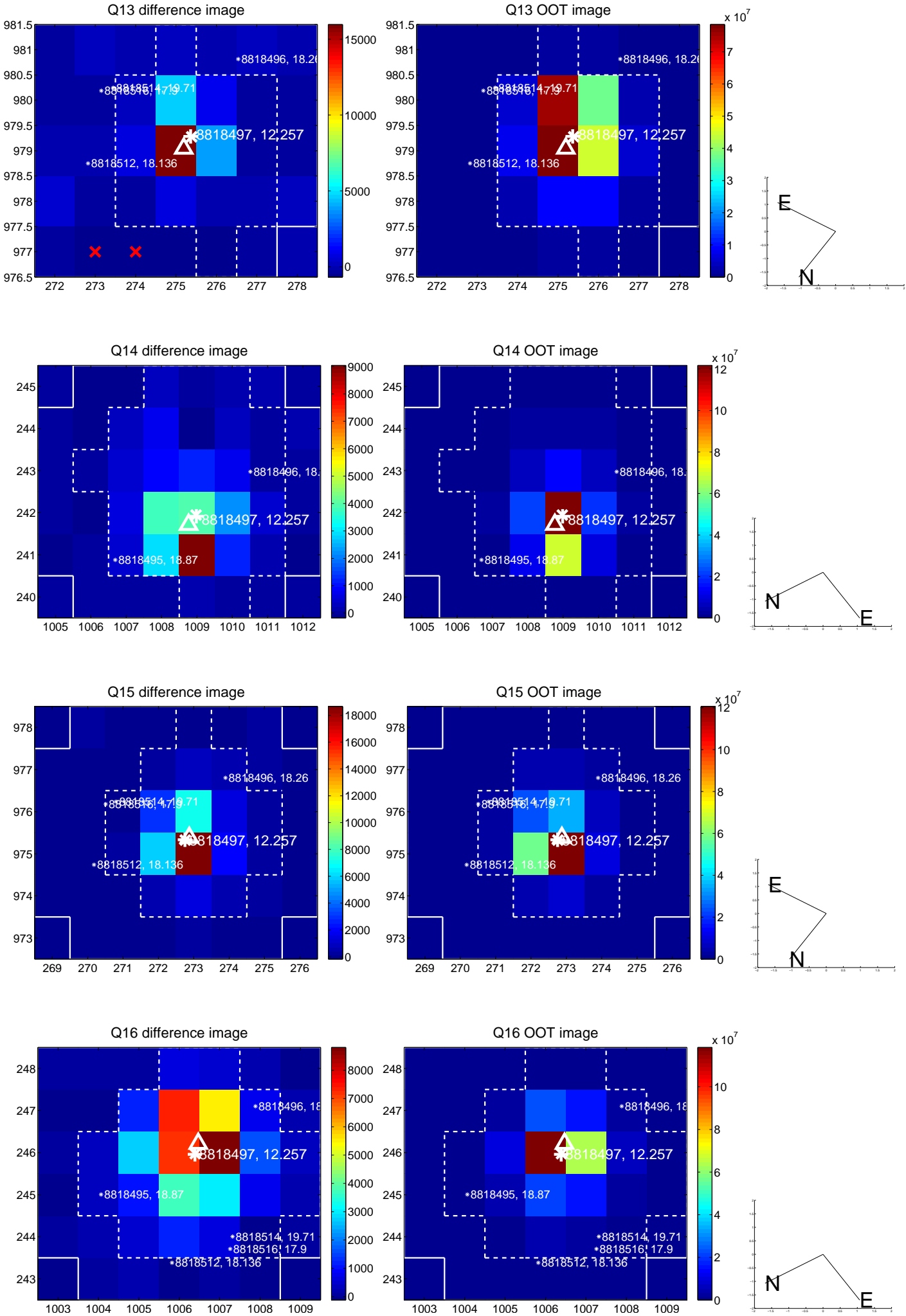
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



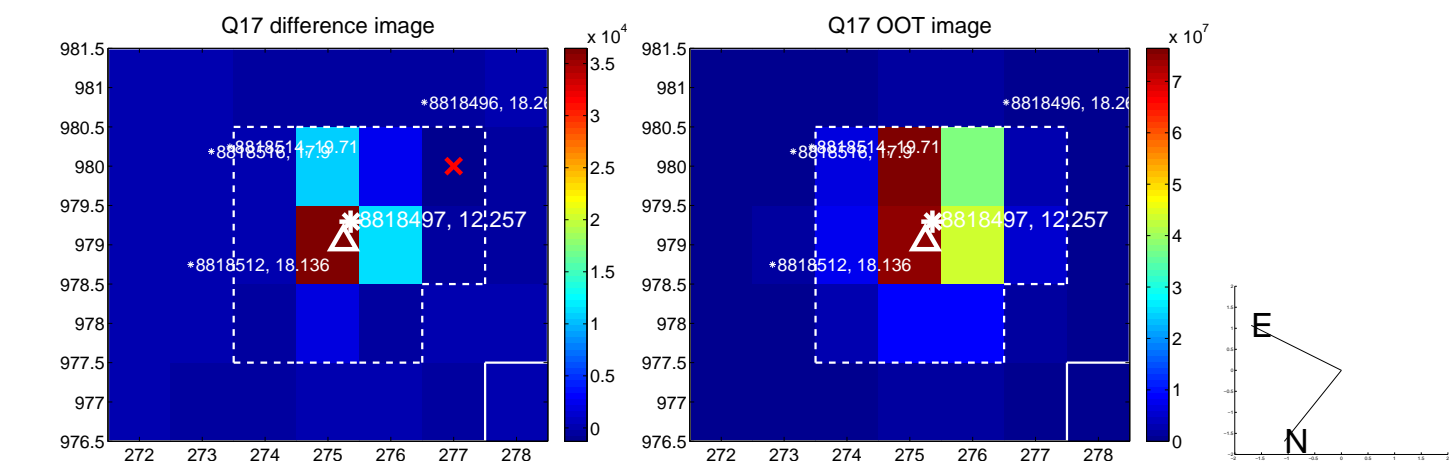
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



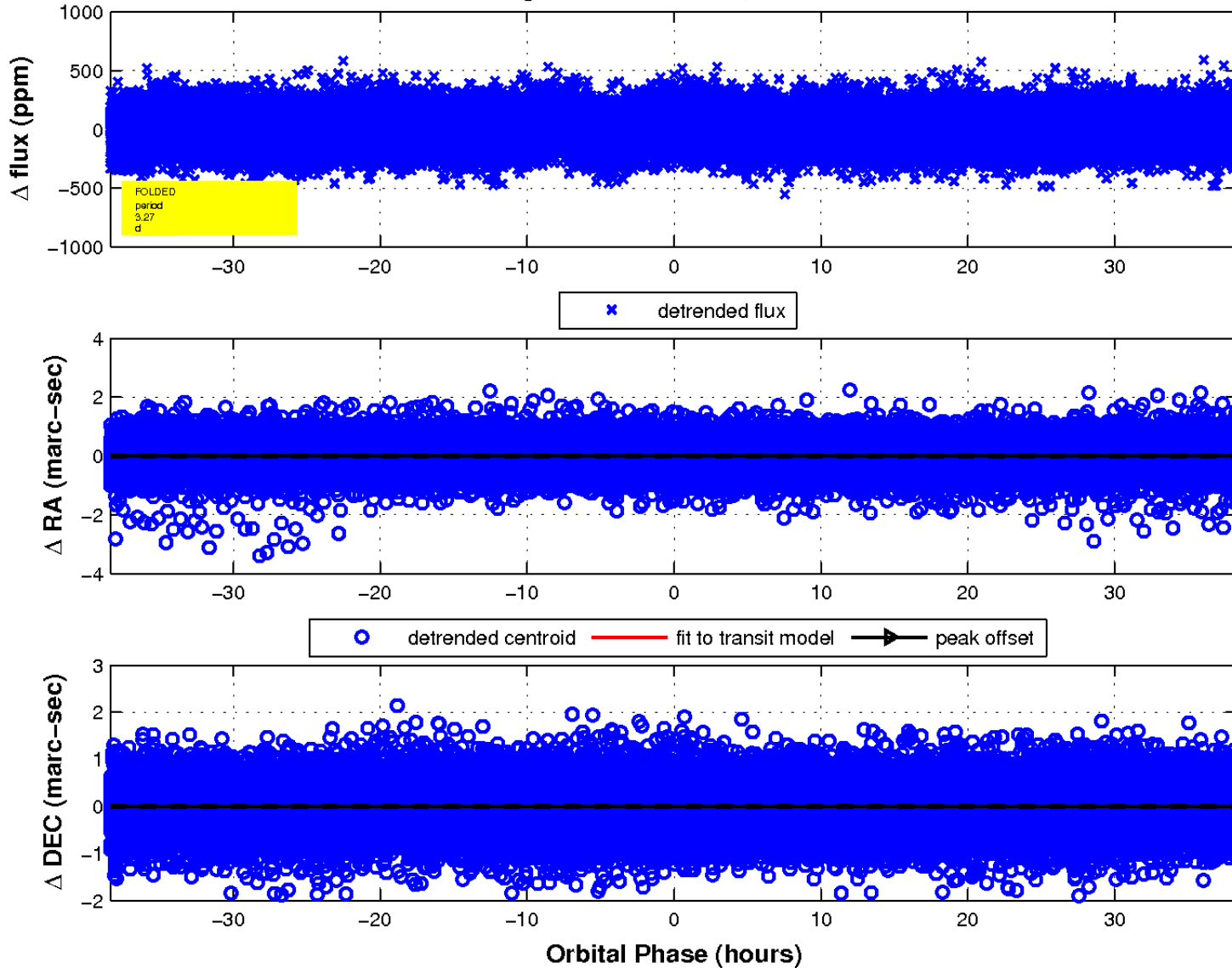
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

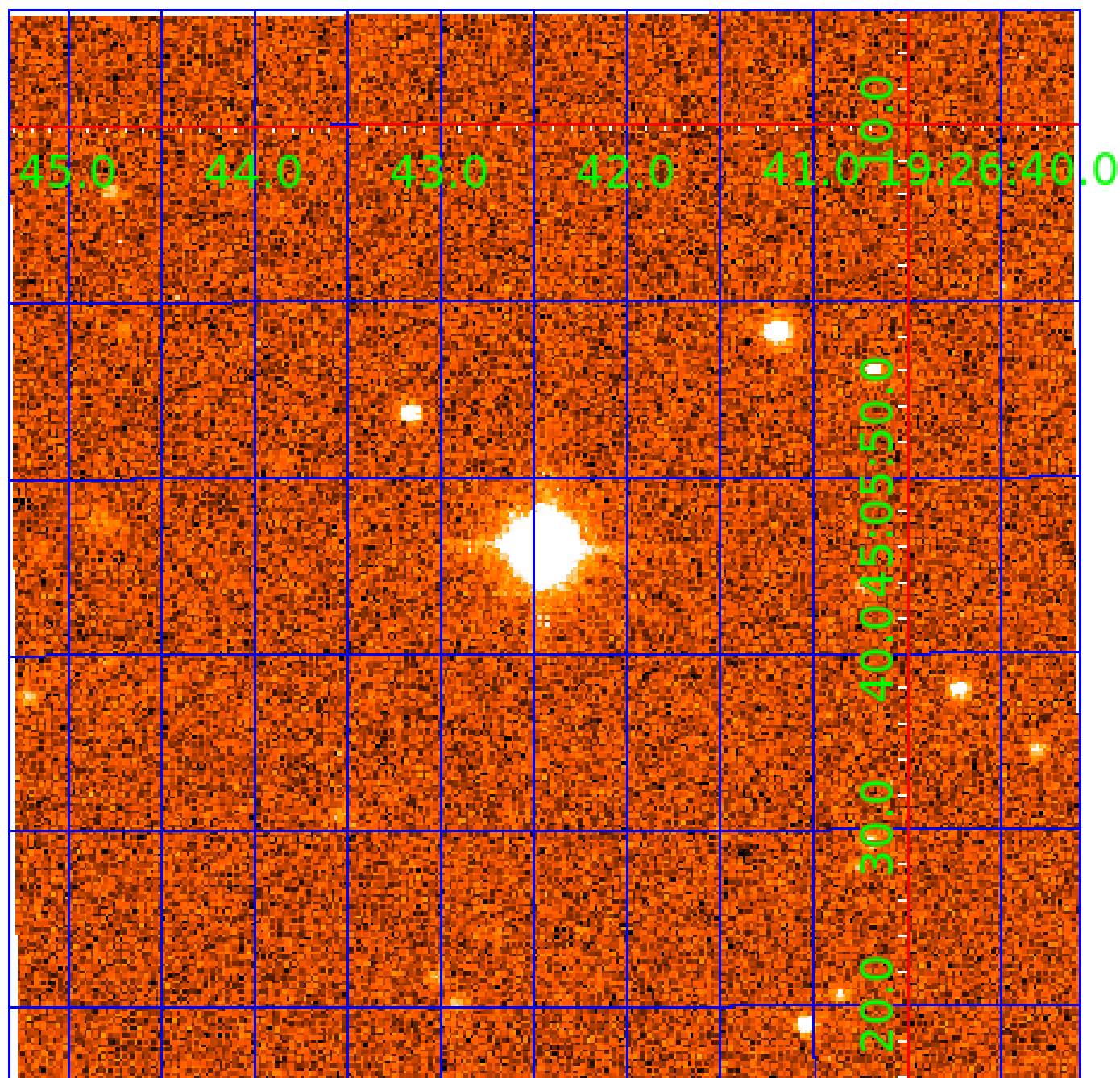


fluxWeightedCentroids, Planet 2 of 4



UKIRT Image

Declination



KIC 008818497

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})
008818497-01	OBS	No	3.266470	134.627180	47.6	5.620	14.9	12.1	2.91	6908	2.95	6127.19
008818497-02	OBS	No	3.266492	134.411859	104.0	12.795	14.4	17.8	2.91	6908	3.45	6127.14
008818497-03	OBS	No	356.217446	308.761017	194.0	3.974	8.2	6.9	2.91	6908	5.20	11.76
008818497-04	OBS	No	139.687713	153.278713	101.7	24.944	7.6	6.6	2.91	6908	3.21	40.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008818497-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008818497-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—HALO_GHOST
008818497-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008818497-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST

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

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

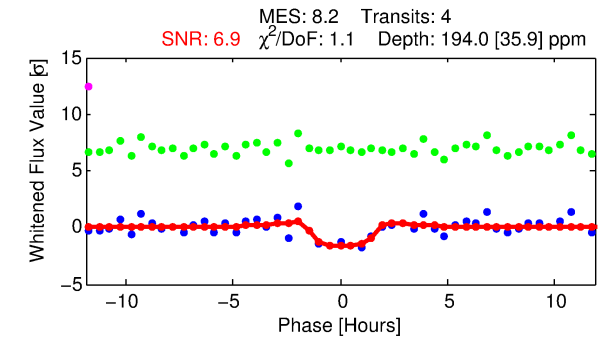
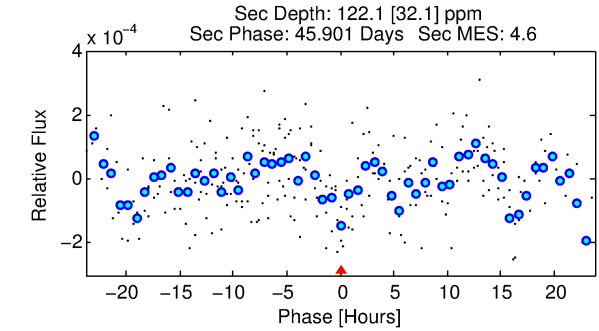
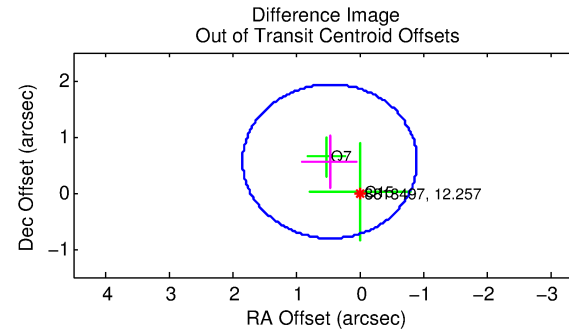
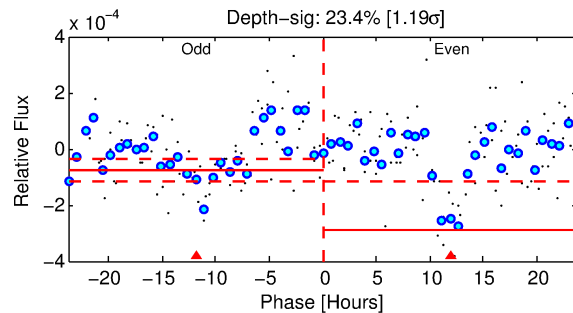
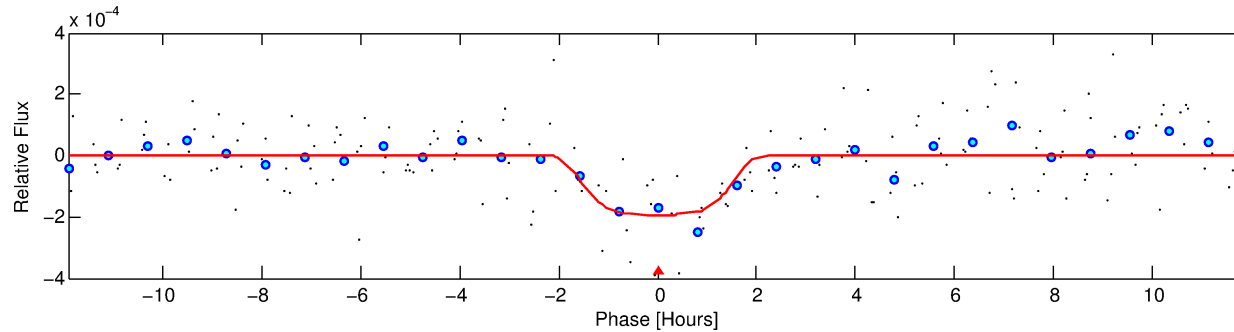
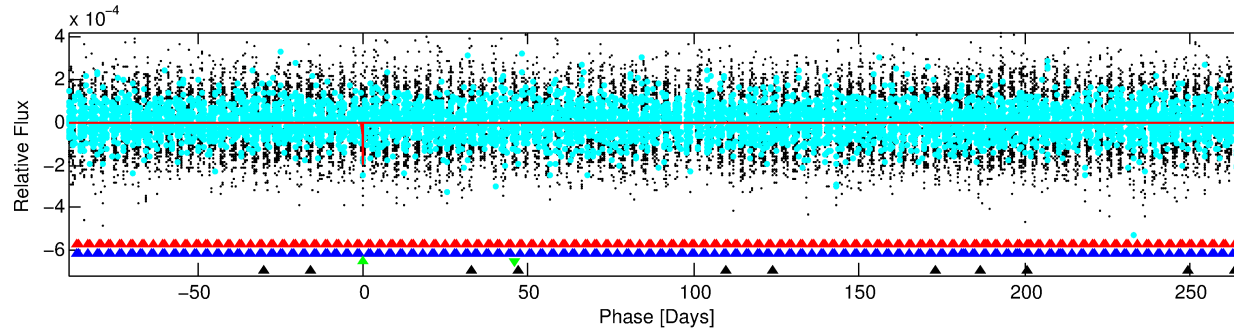
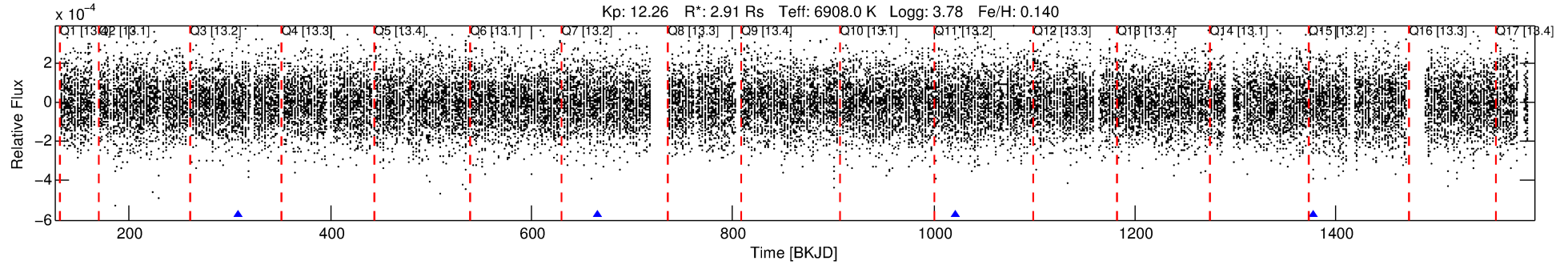
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008818497-03

No Significant Match Found

DV One-Page Summary

KIC: 8818497 Candidate: 3 of 4 Period: 356.217 d



DV Fit Results:

Period = 356.21745 [0.00566] d
Epoch = 308.7610 [0.0096] BKJD
Rp/R* = 0.0164 [0.0021]
a/R* = 203.23 [83.90]
b = 0.97 [0.02]
Seff = 11.76 [5.62]
Teff = 472 [56] K
Rp = 5.20 [1.91] Re
a = 1.2113 [0.3680] AU
Ag = 3648.21 [2149.98] [1.70 σ]
Teffp = 5674 [556] K [9.30 σ]

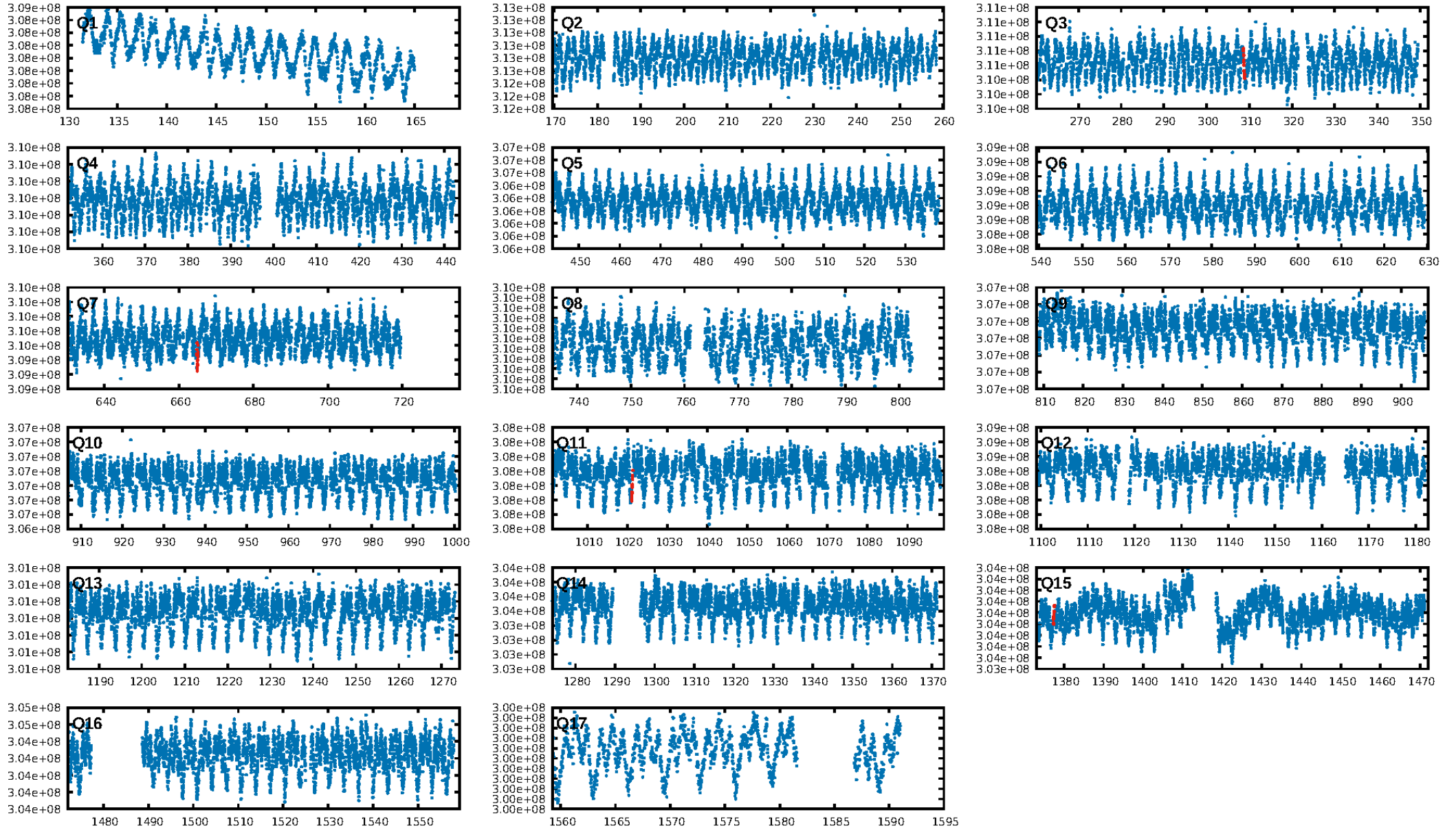
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [205.74 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.2%
ModelChiSquareGof-sig: 97.4%
Bootstrap-pfa: 5.18e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 8.226
Centroid-sig: 83.2%
Centroid-so: 0.472 arcsec [0.38 σ]
OotOffset-rm: 0.724 arcsec [1.59 σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-rm: 0.739 arcsec [1.62 σ]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

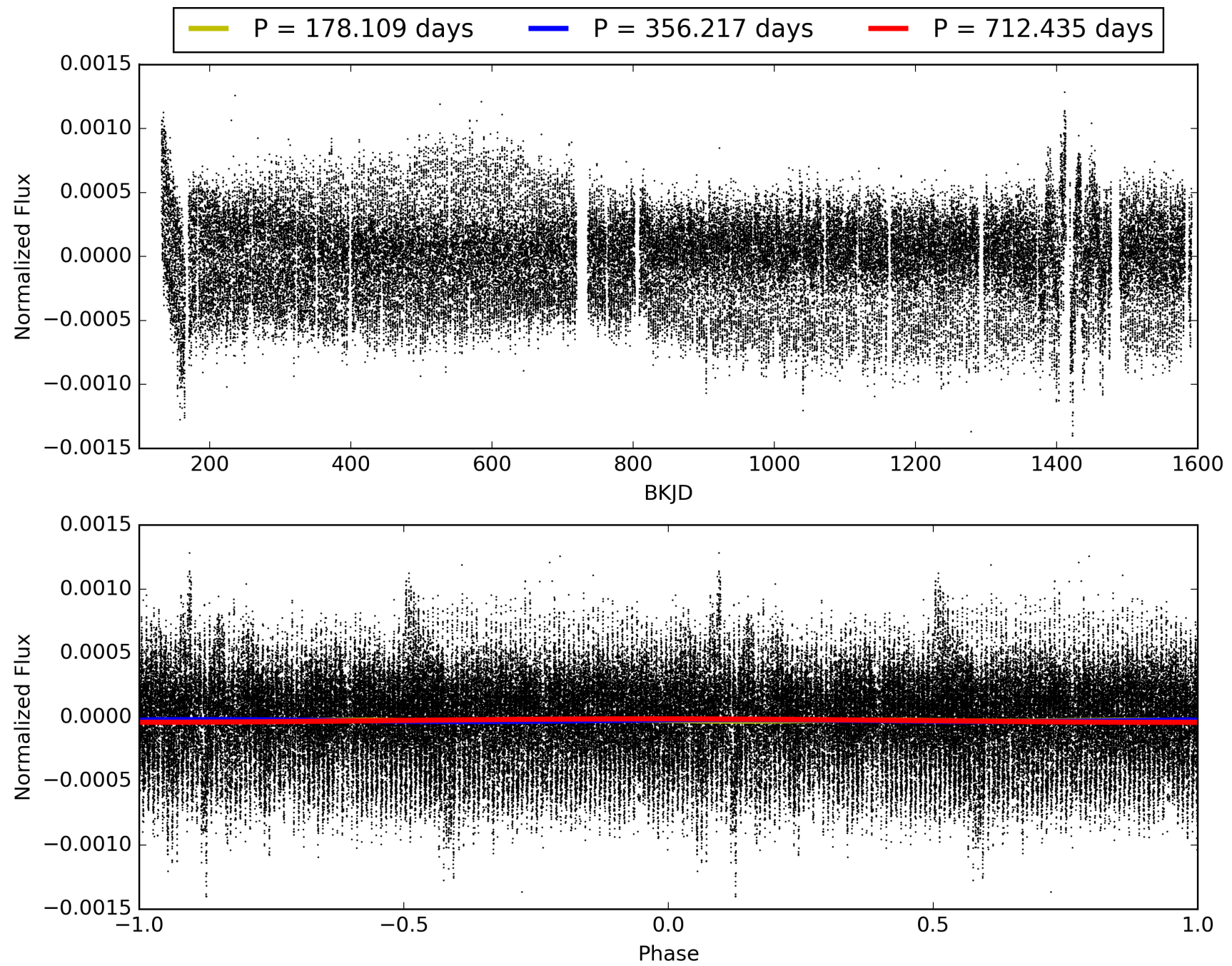
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:32:09 Z

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

TCE 008818497-03, PDC Light Curves

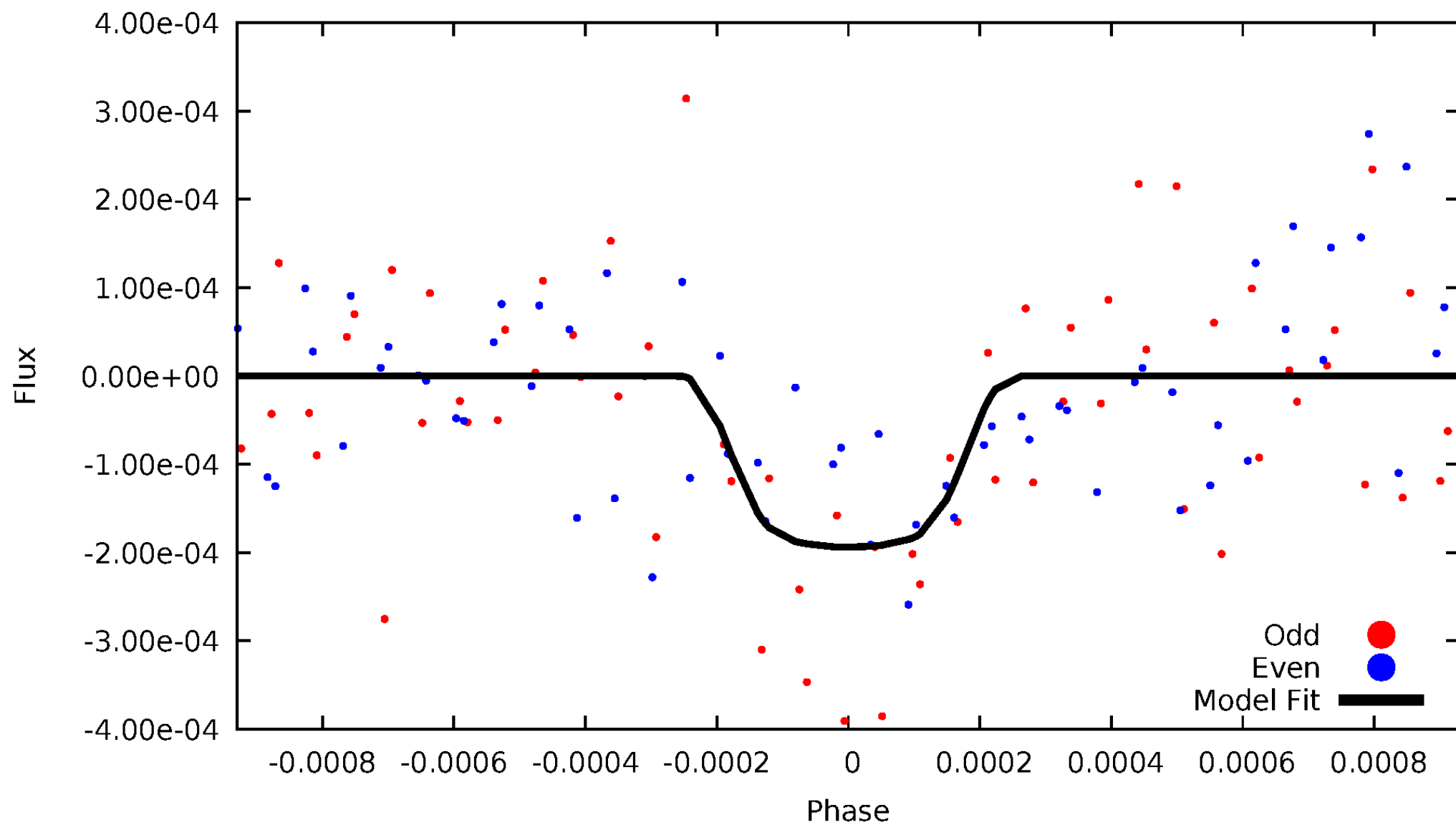


TCE 008818497-03



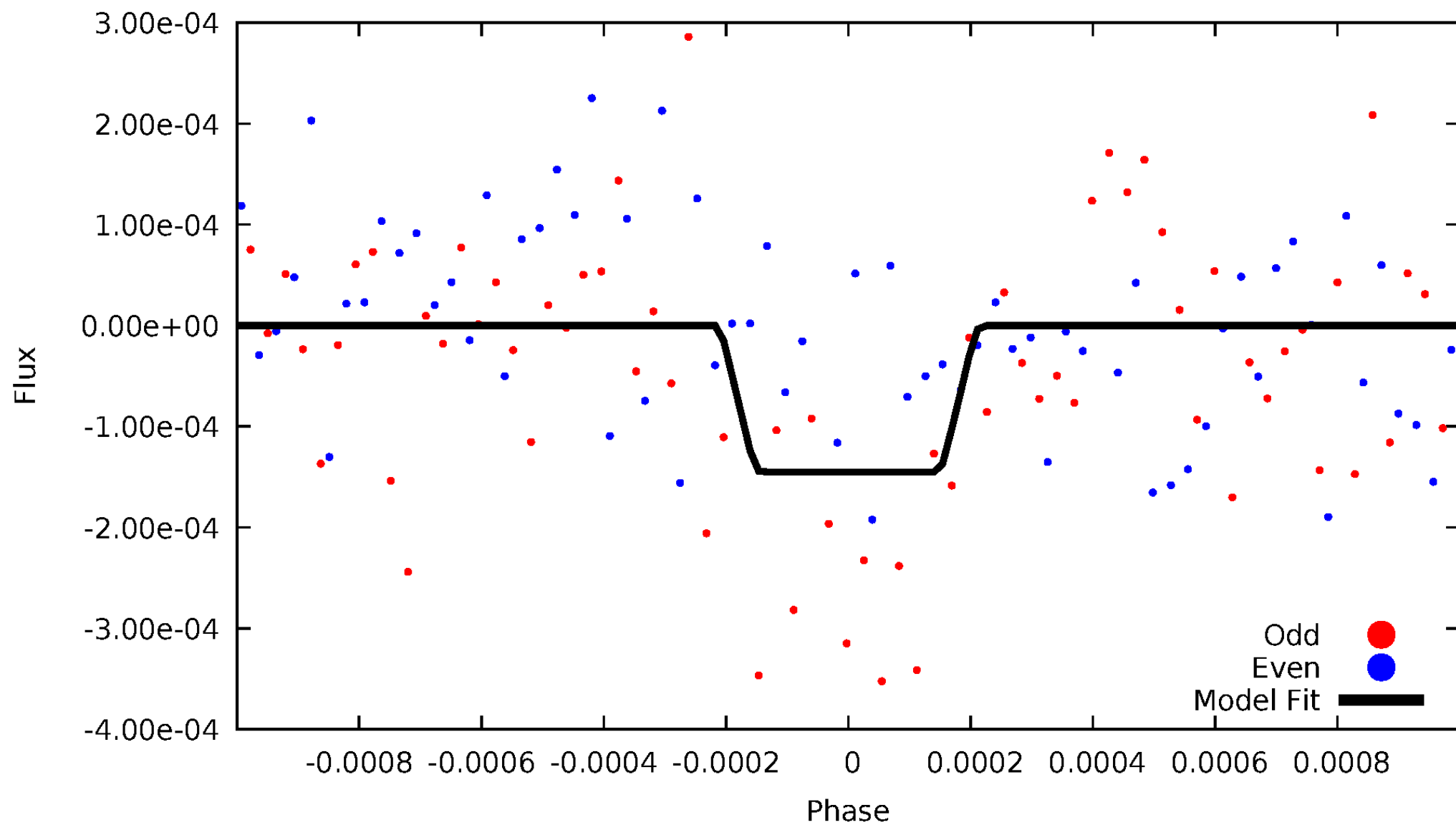
DV Odd/Even

TCE 008818497-03



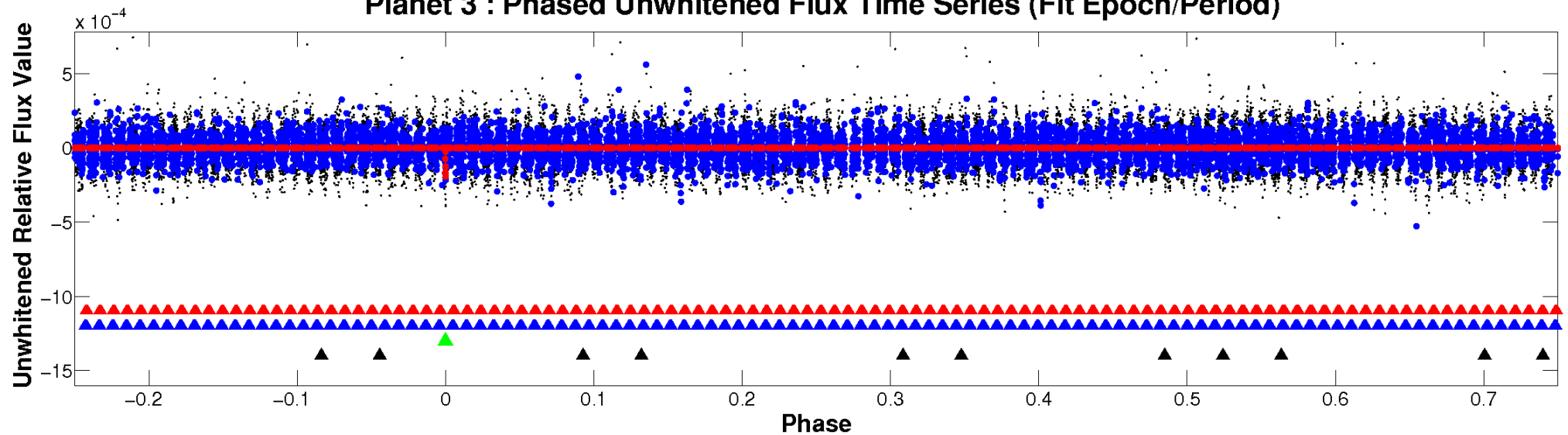
ALT Odd/Even

TCE 008818497-03

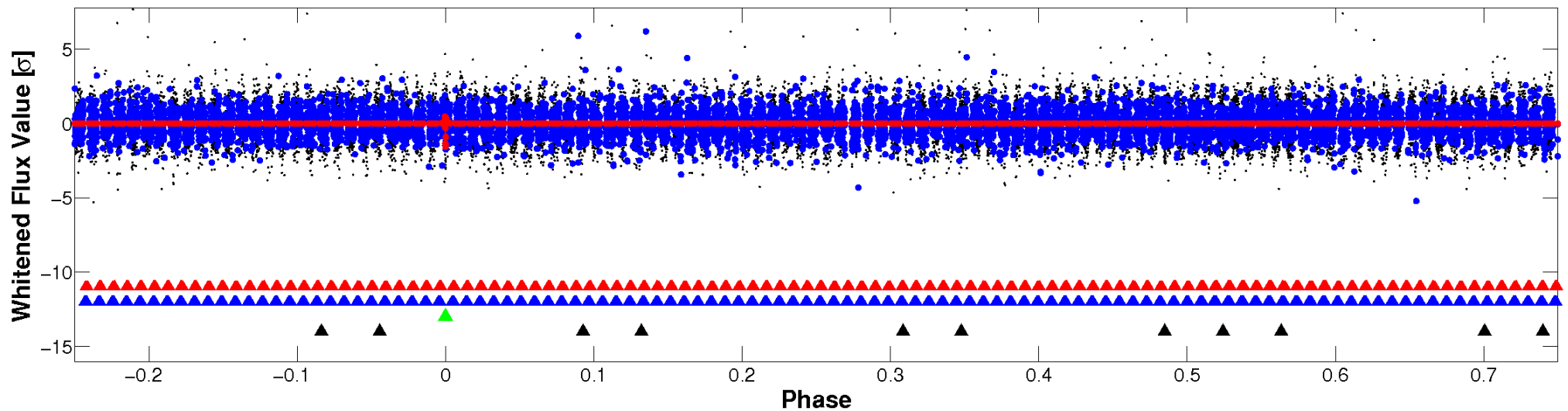


Non-Whitened Vs. Whitened Light Curve

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

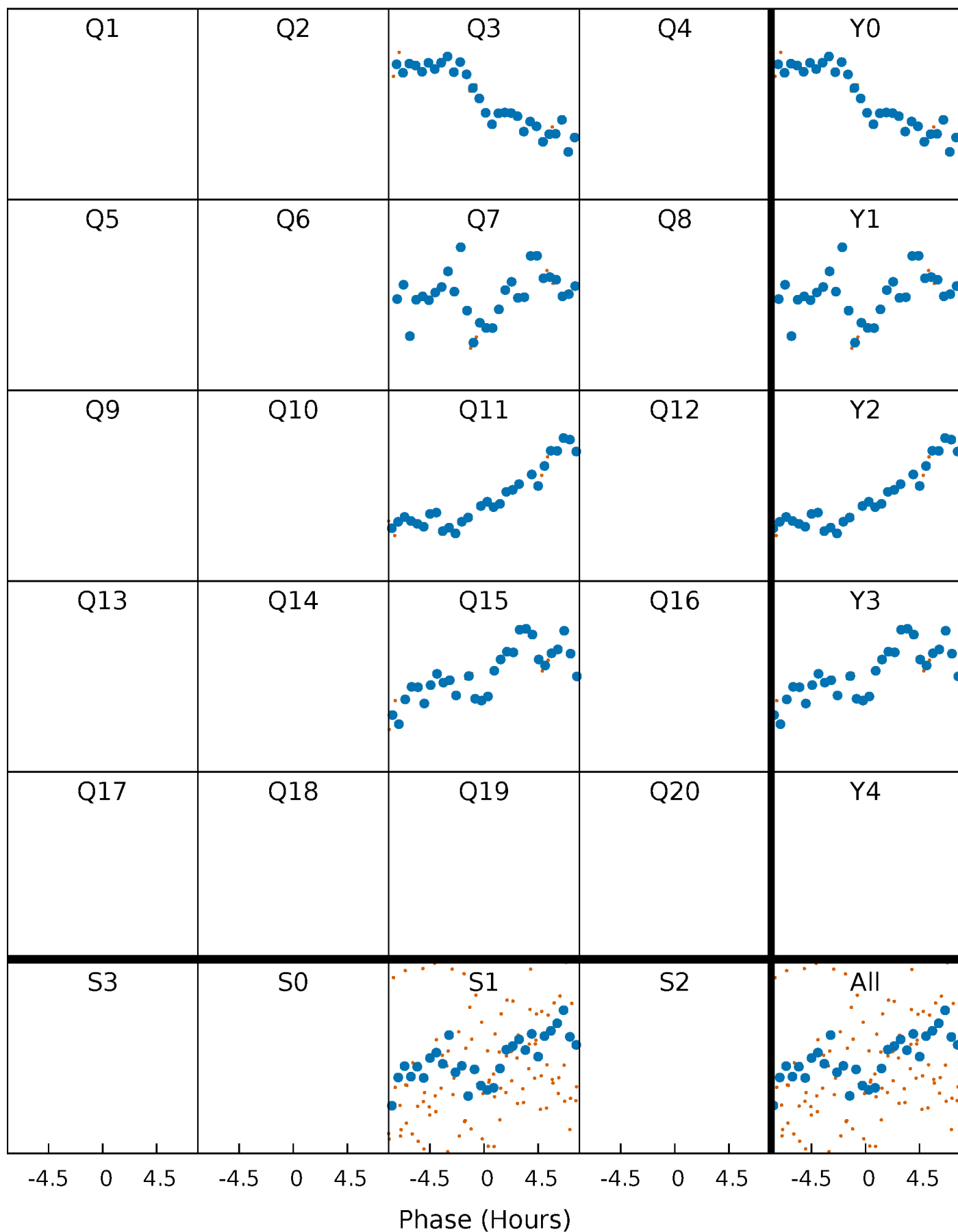


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



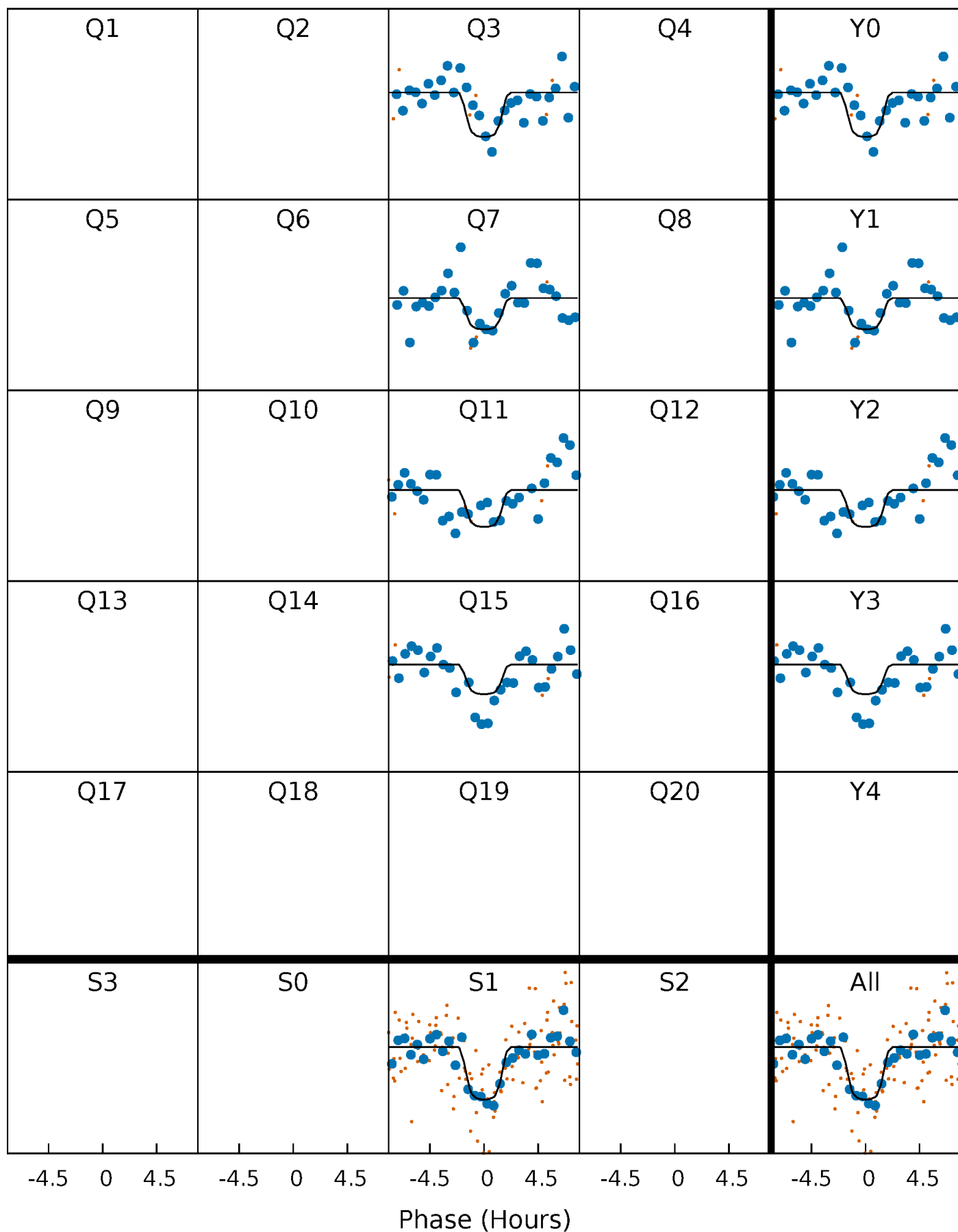
PDC Quarter-Phased Transit Curves

TCE 008818497-03 $P=356.217446$ Days $T_0=308.761017$ (BKJD)



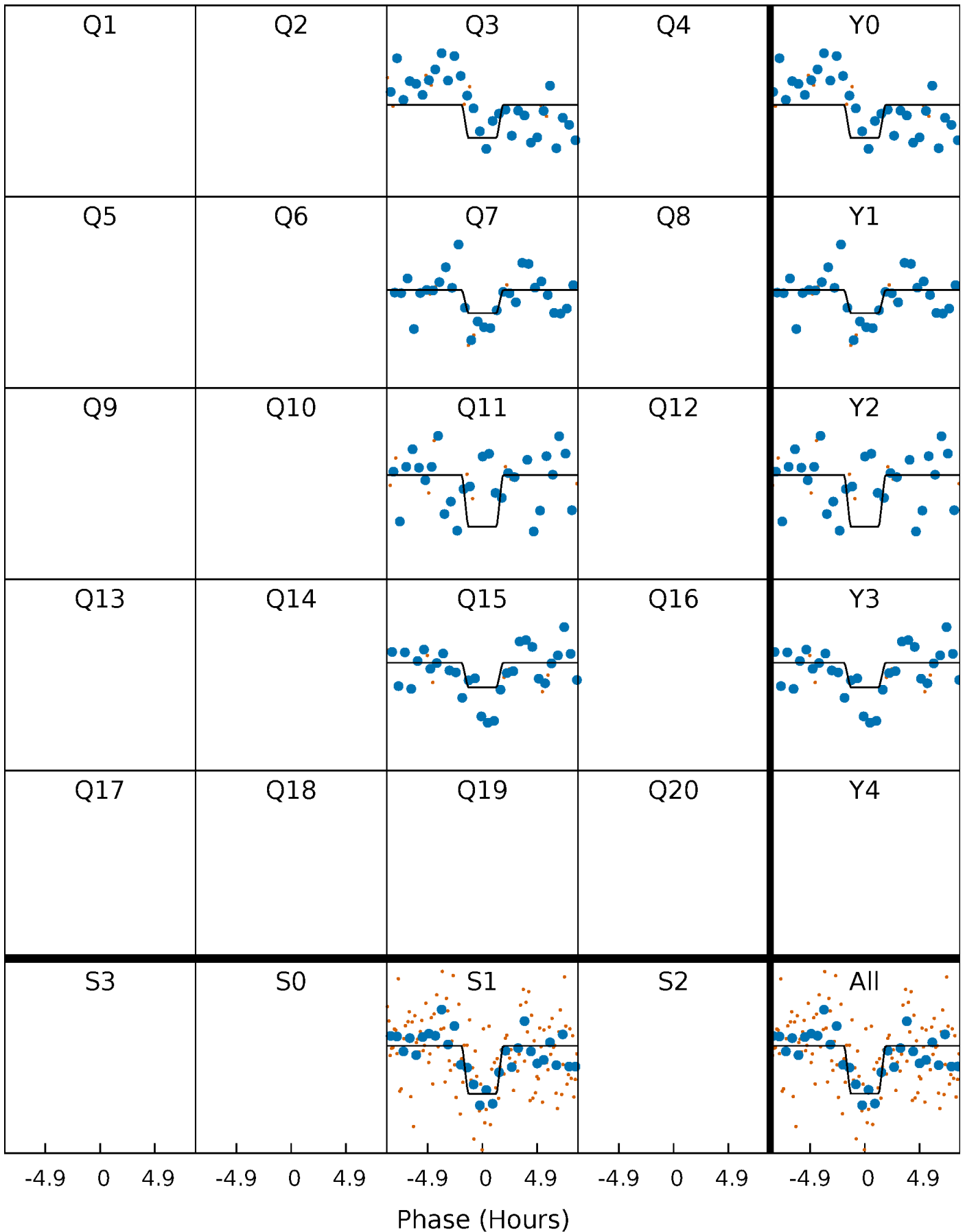
DV Quarter-Phased Transit Curves

TCE 008818497-03 $P=356.217446$ Days $T_0=308.761017$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

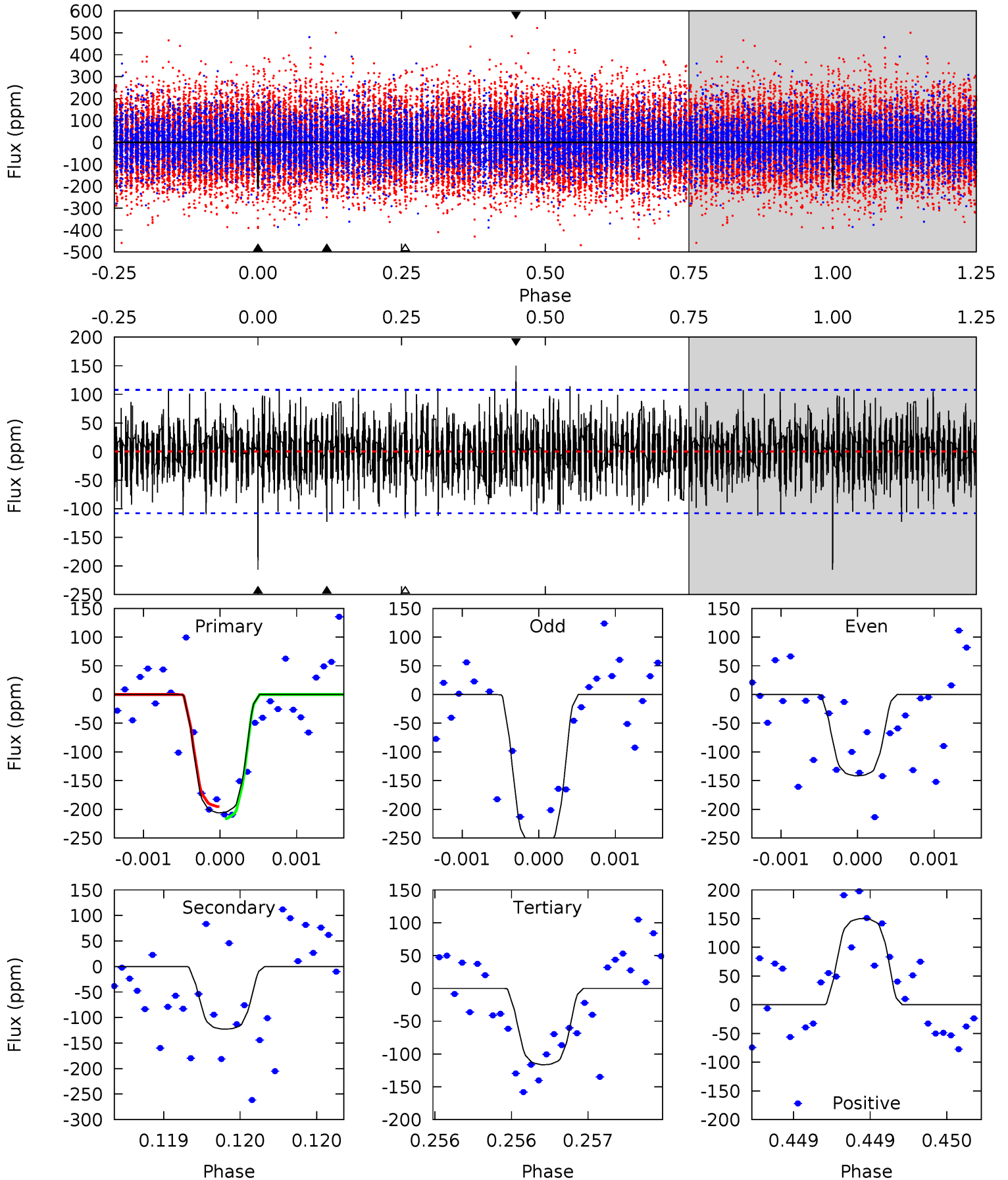
TCE 008818497-03 $P=356.204078$ Days $T_0=308.779639$ (BKJD)



DV Model-Shift Uniqueness Test

008818497-03, P = 356.217446 Days, E = 308.761017 Days

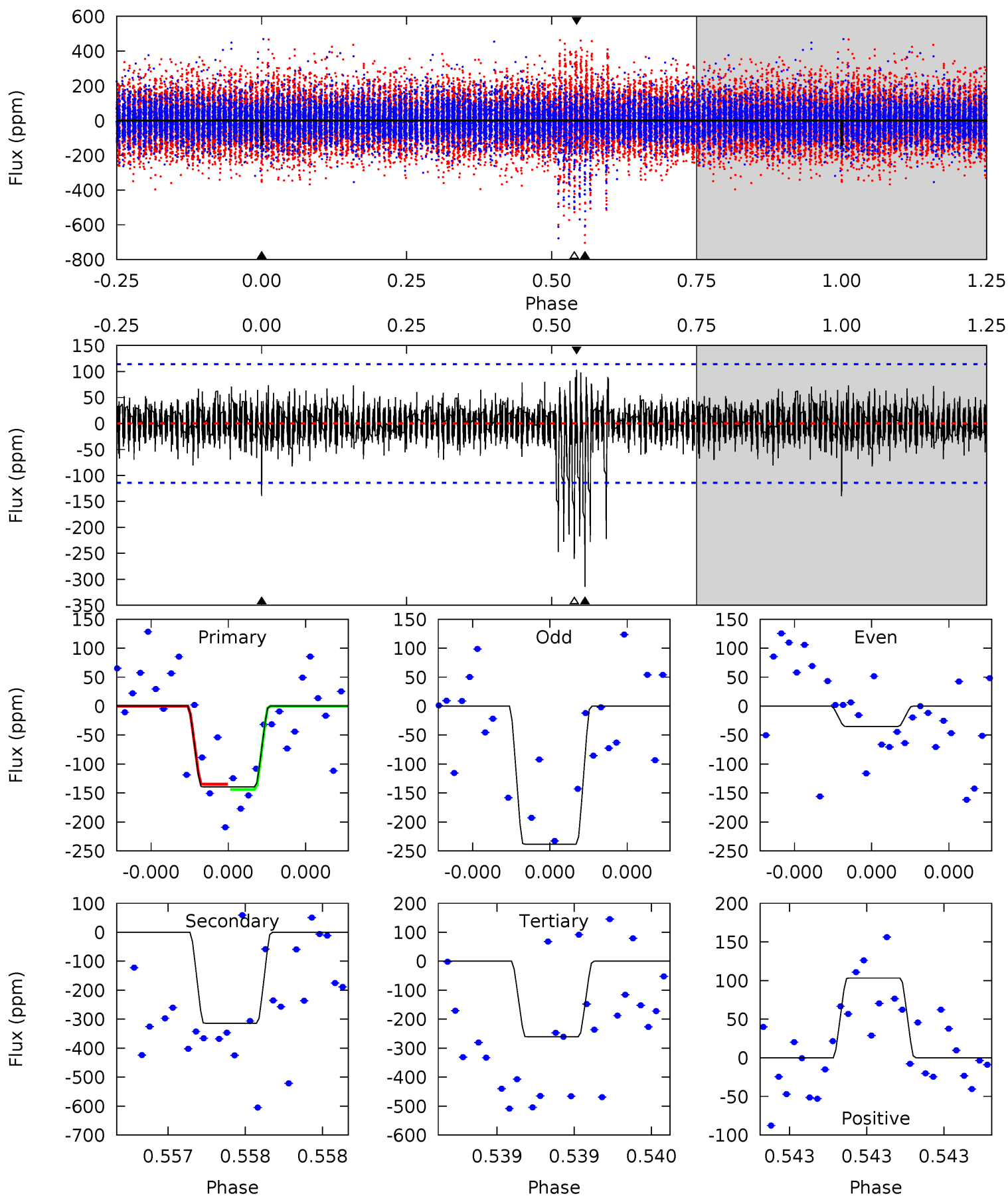
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	6.35	6.02	7.76	5.57	3.48	1.83	4.64	2.89	0.33	-1.41	3.17	1.13	0.42	0.56



Alt Model-Shift Uniqueness Test

008818497-03, P = 356.204078 Days, E = 308.779639 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.85	15.4	12.8	5.07	5.61	3.53	1.39	-5.95	1.78	2.62	10.4	5.05	0.92	0.25	0.22



Stellar Parameters For KIC 008818497

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6908^{+165}_{-227}	$3.782^{+0.259}_{-0.111}$	$0.140^{+0.200}_{-0.300}$	$2.908^{+0.501}_{-1.002}$	$1.868^{+0.165}_{-0.358}$	$0.107^{+0.185}_{-0.038}$
	+2%/-3%	+7%/-3%	+143%/-214%	+17%/-34%	+9%/-19%	+173%/-35%
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 008818497-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-123 ± 19	$4.97^{+0.96}_{-0.97}$	648^{+42}_{-55}	5619^{+490}_{-373}	3907^{+2202}_{-1249}
Alt.	-314 ± 20	$3.67^{+0.86}_{-0.83}$	651^{+41}_{-50}	8692^{+1308}_{-883}	18792^{+12025}_{-6609}

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

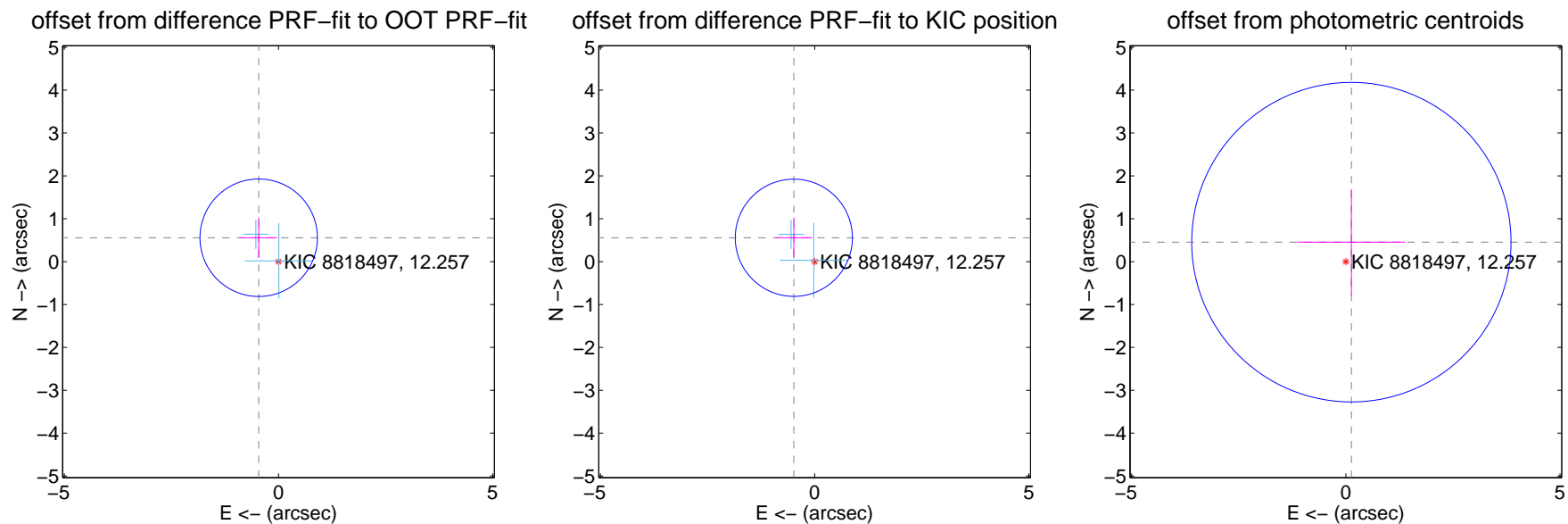
DV Centroid Data

Supplemental centroid analysis for 008818497-03. Kepler magnitude: 12.26. Transit SNR 6.87

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.724 ± 0.457	1.59	0.462 ± 0.430	0.558 ± 0.474
PRF-fit source offset from KIC position	0.739 ± 0.456	1.62	0.485 ± 0.430	0.557 ± 0.474
photometric centroid source offset	0.47 ± 1.24	0.38	-0.13 ± 1.26	0.45 ± 1.24



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

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

Q1 no difference image



Q1 no OOT image



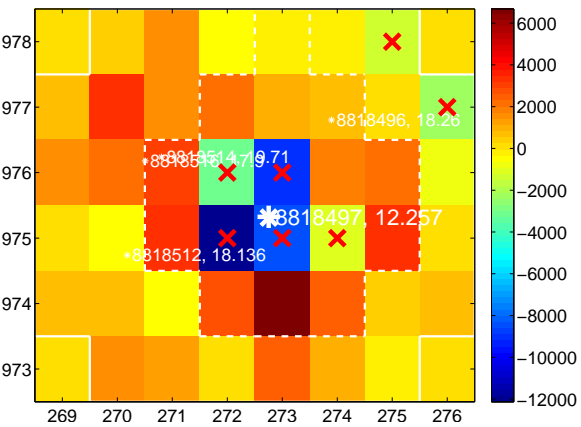
Q2 no difference image



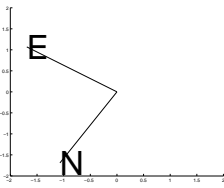
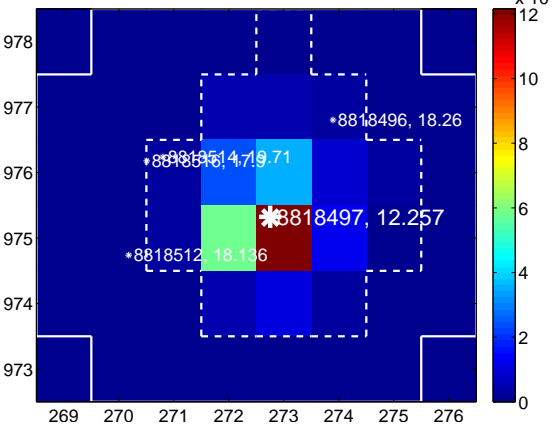
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



Q4 no difference image



Q4 no OOT image



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

Q5 no difference image



Q5 no OOT image



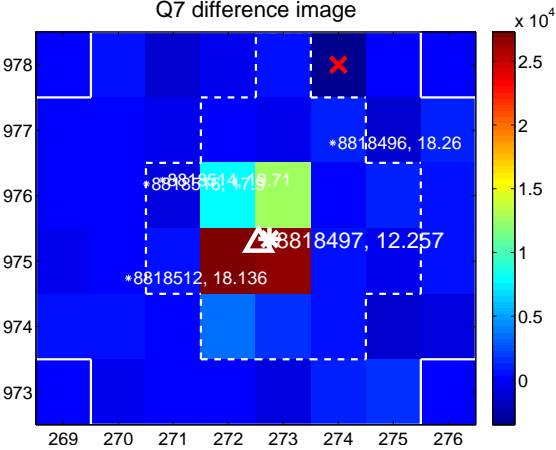
Q6 no difference image



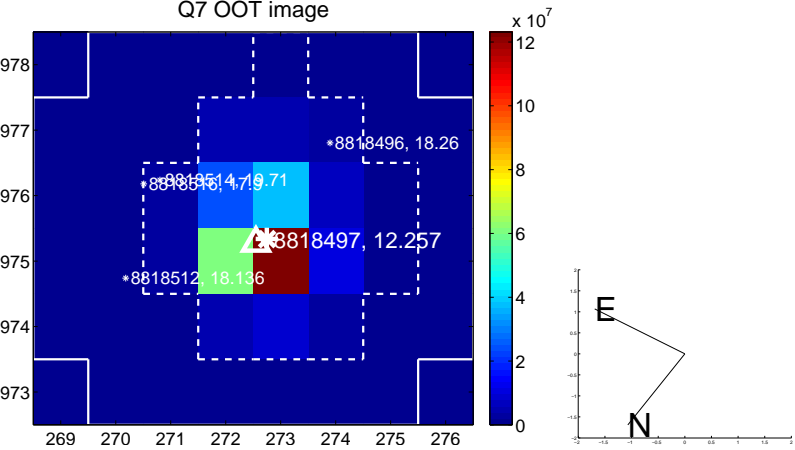
Q6 no OOT image



Q7 difference image



Q7 OOT image



Q8 no difference image



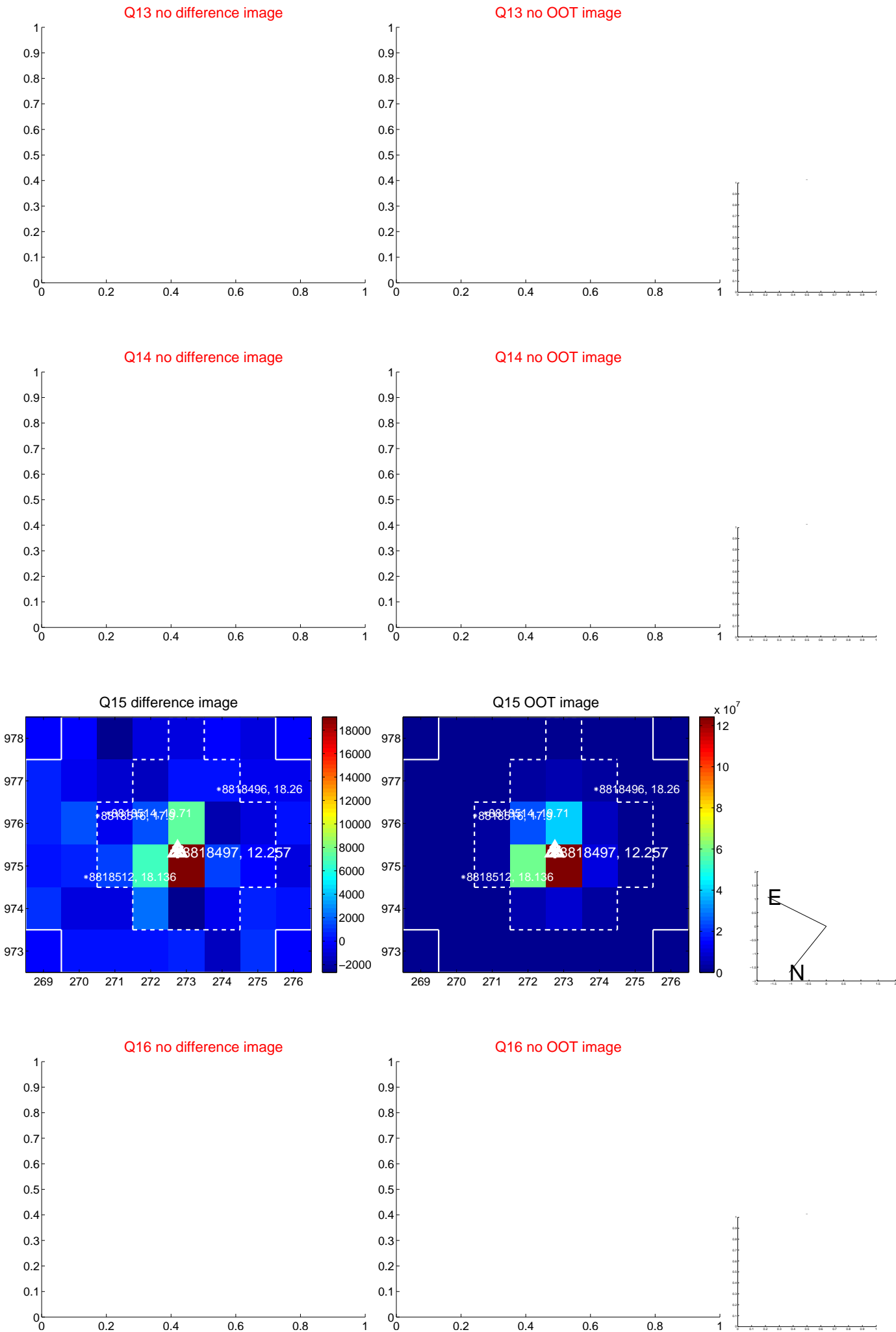
Q8 no OOT image



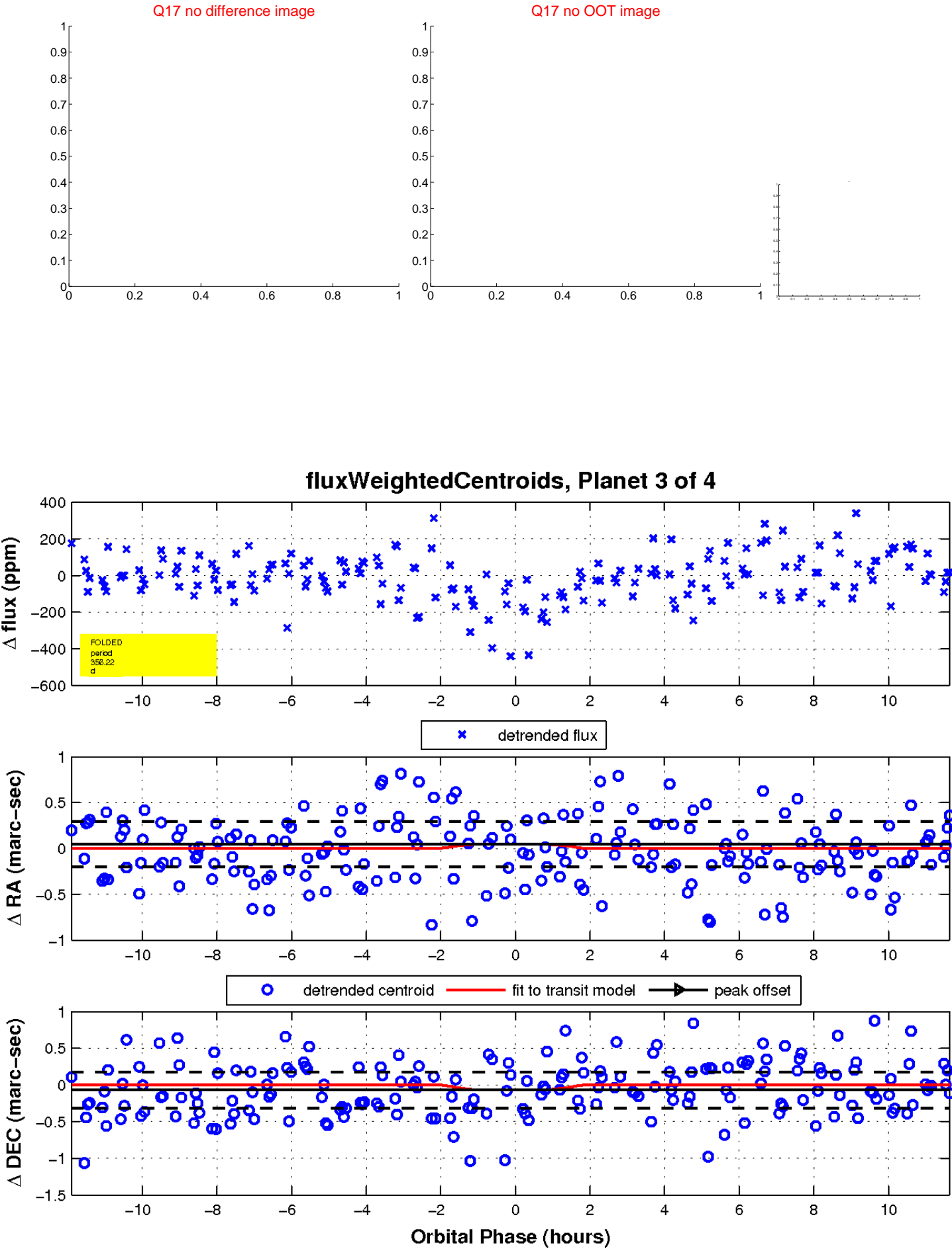
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

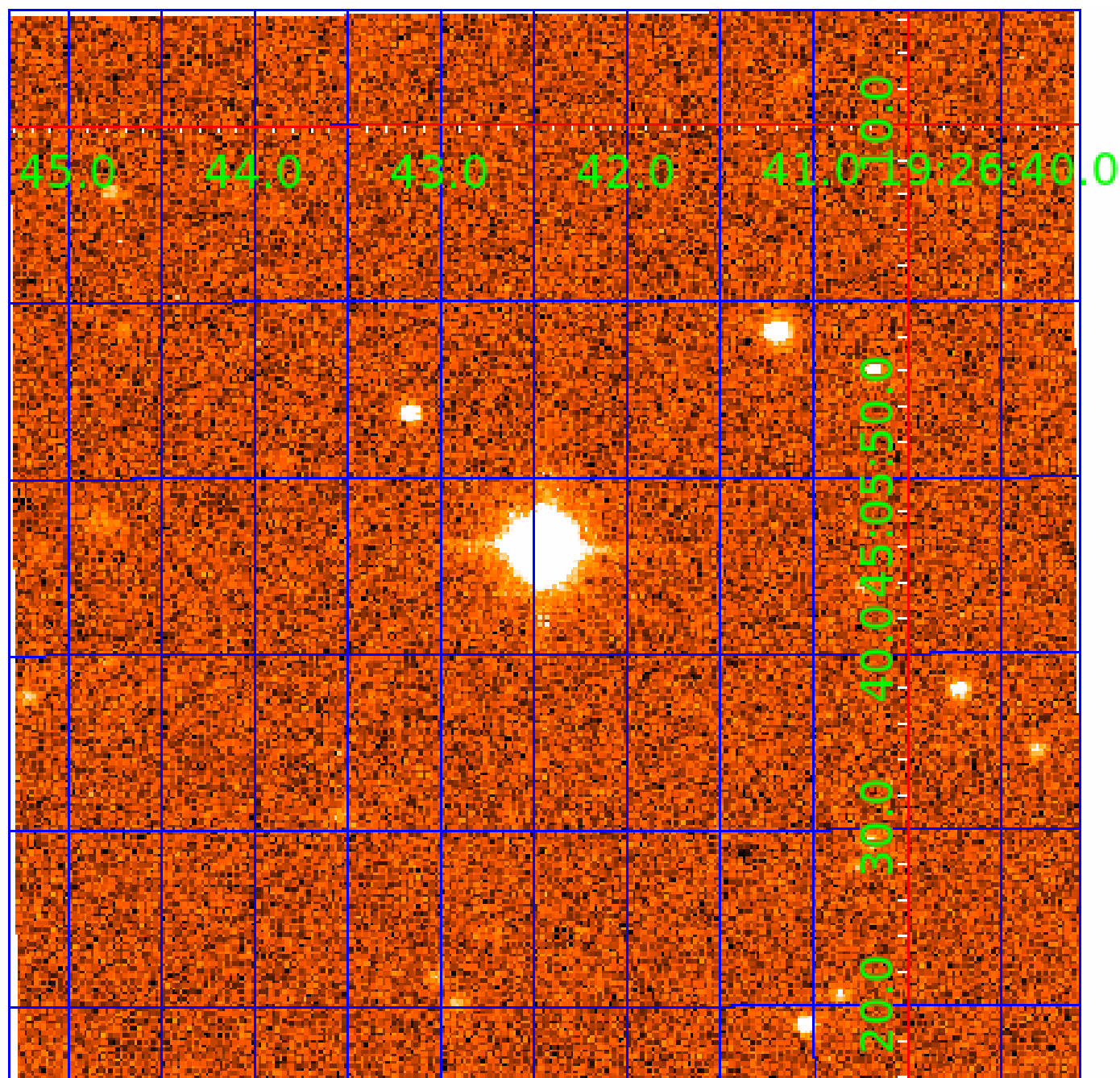


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008818497

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})
008818497-01	OBS	No	3.266470	134.627180	47.6	5.620	14.9	12.1	2.91	6908	2.95	6127.19
008818497-02	OBS	No	3.266492	134.411859	104.0	12.795	14.4	17.8	2.91	6908	3.45	6127.14
008818497-03	OBS	No	356.217446	308.761017	194.0	3.974	8.2	6.9	2.91	6908	5.20	11.76
008818497-04	OBS	No	139.687713	153.278713	101.7	24.944	7.6	6.6	2.91	6908	3.21	40.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008818497-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008818497-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—HALO_GHOST
008818497-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008818497-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST

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

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

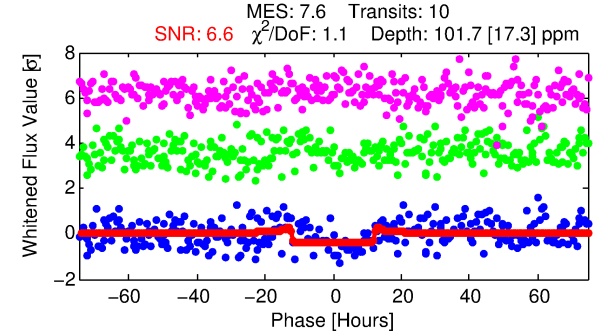
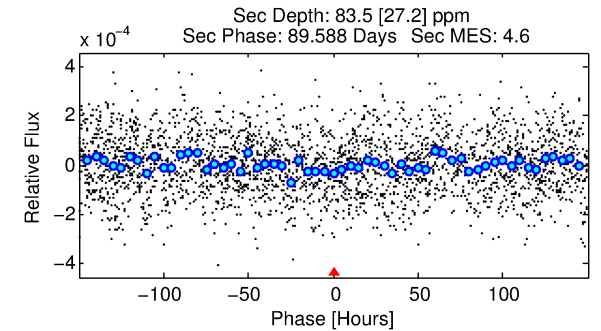
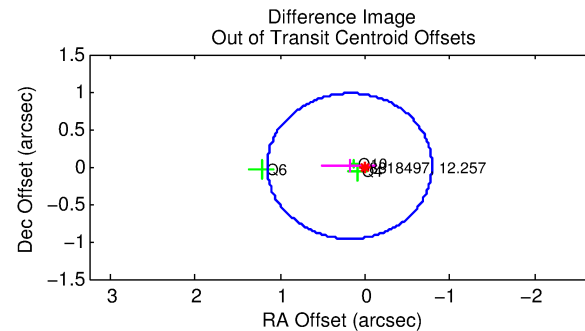
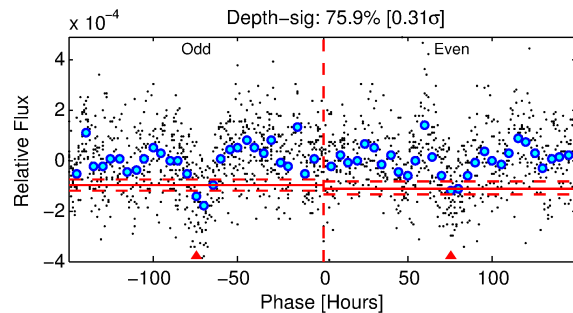
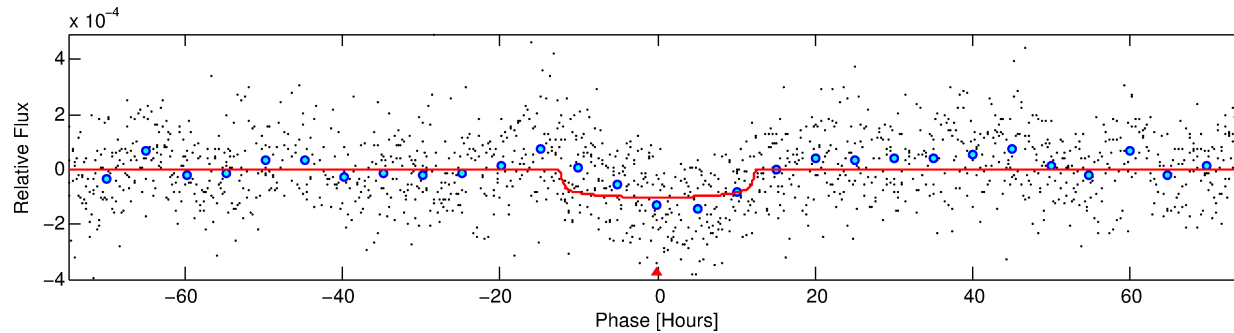
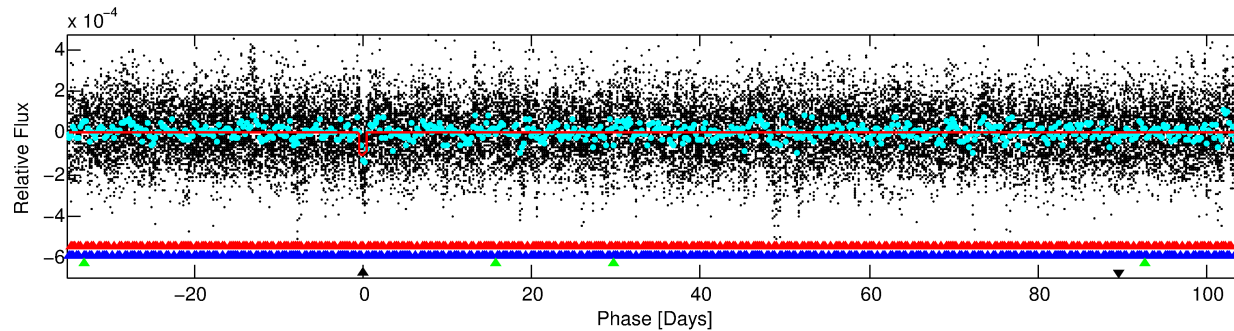
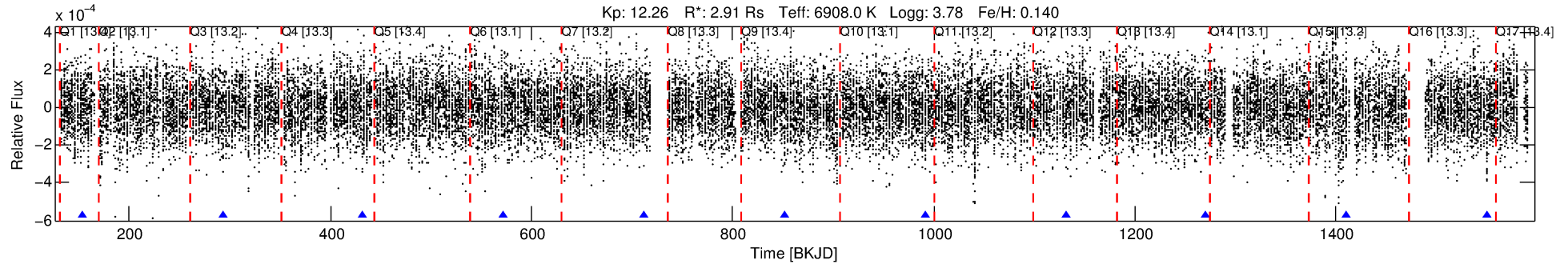
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008818497-04

No Significant Match Found

DV One-Page Summary

KIC: 8818497 Candidate: 4 of 4 Period: 139.688 d



DV Fit Results:

Period = 139.68771 [0.00357] d
Epoch = 153.2787 [0.0238] BKJD
Rp/R* = 0.0101 [0.0015]
a/R* = 27.79 [19.33]
b = 0.77 [0.36]
Seff = 40.97 [19.57]
Teq = 645 [77] K
Rp = 3.20 [1.21] Re
a = 0.6489 [0.1971] AU
Ag = 1882.68 [1206.37] [1.56 σ]
Teffp = 6570 [765] K [7.70 σ]

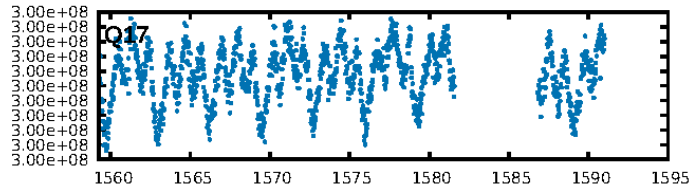
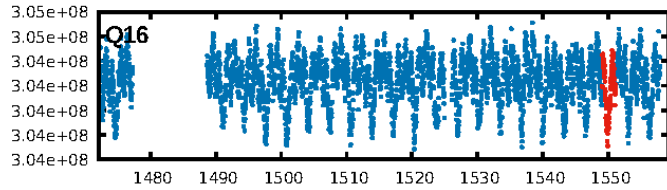
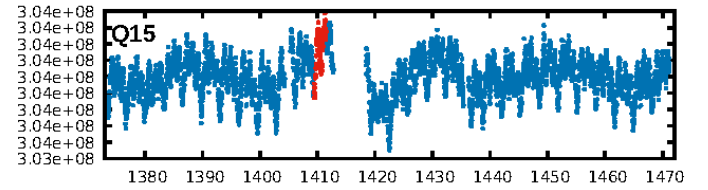
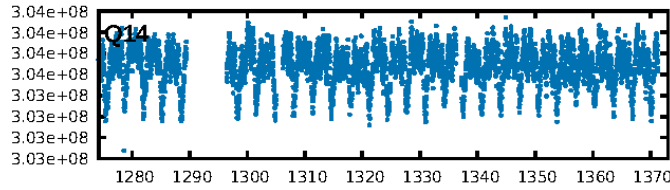
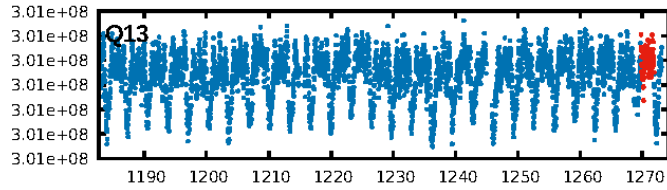
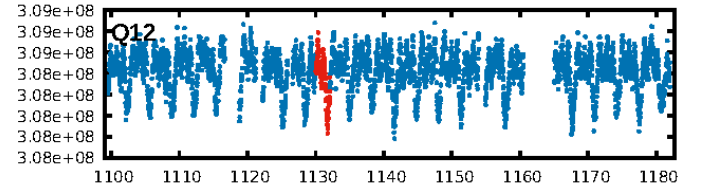
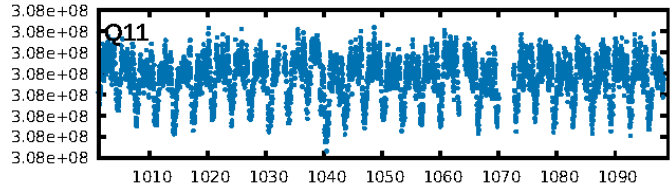
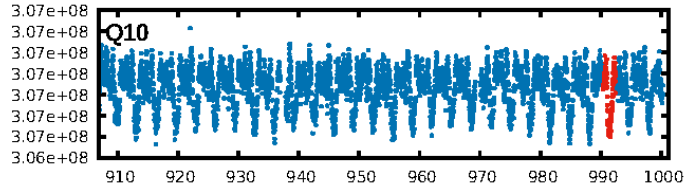
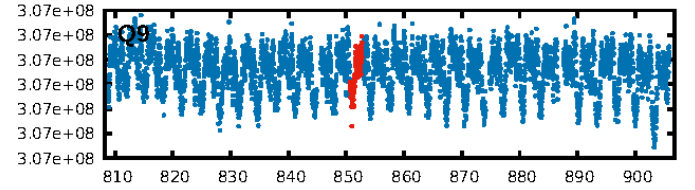
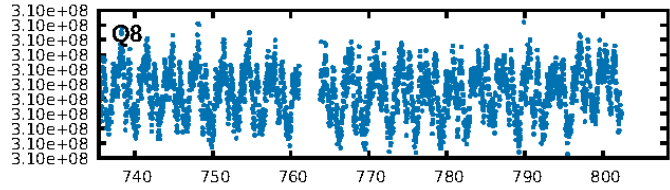
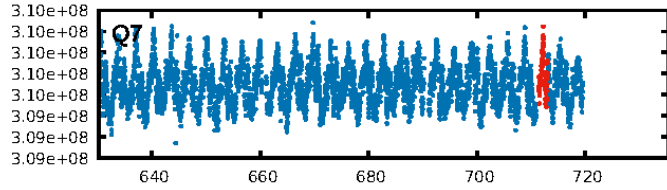
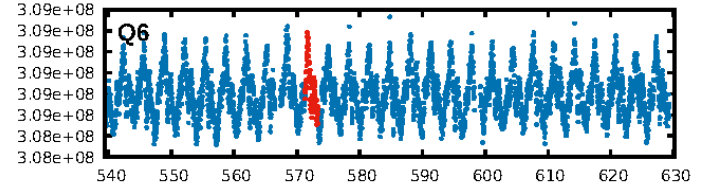
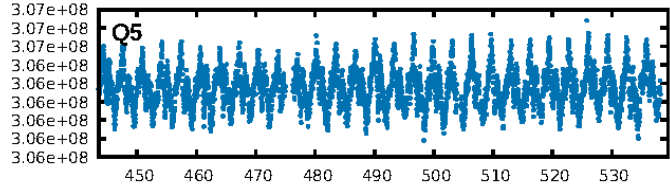
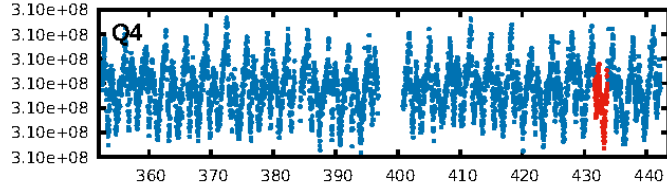
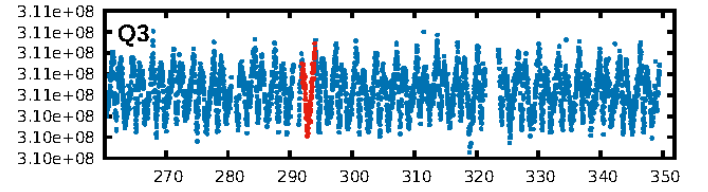
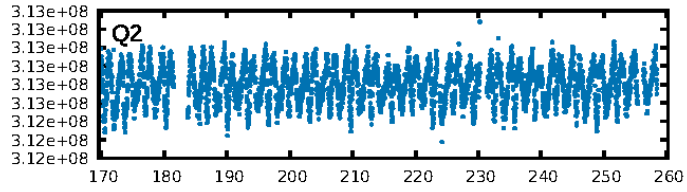
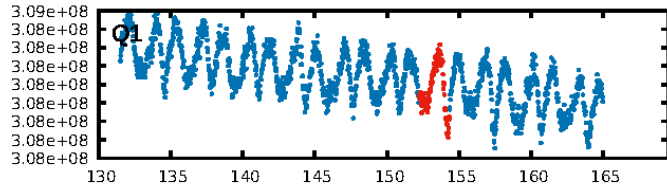
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [116.79 σ]
LongPeriod-sig: 100.0% [205.74 σ]
ModelChiSquare2-sig: 22.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.03e-09
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: -0.1683
Centroid-sig: 0.0%
Centroid-so: 2.682 arcsec [3.78 σ]
OotOffset-rm: 0.179 arcsec [0.55 σ]
KicOffset-rm: 0.172 arcsec [0.64 σ]
OotOffset-st: 2/0/1/0 [3]
KicOffset-st: 2/0/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/5]

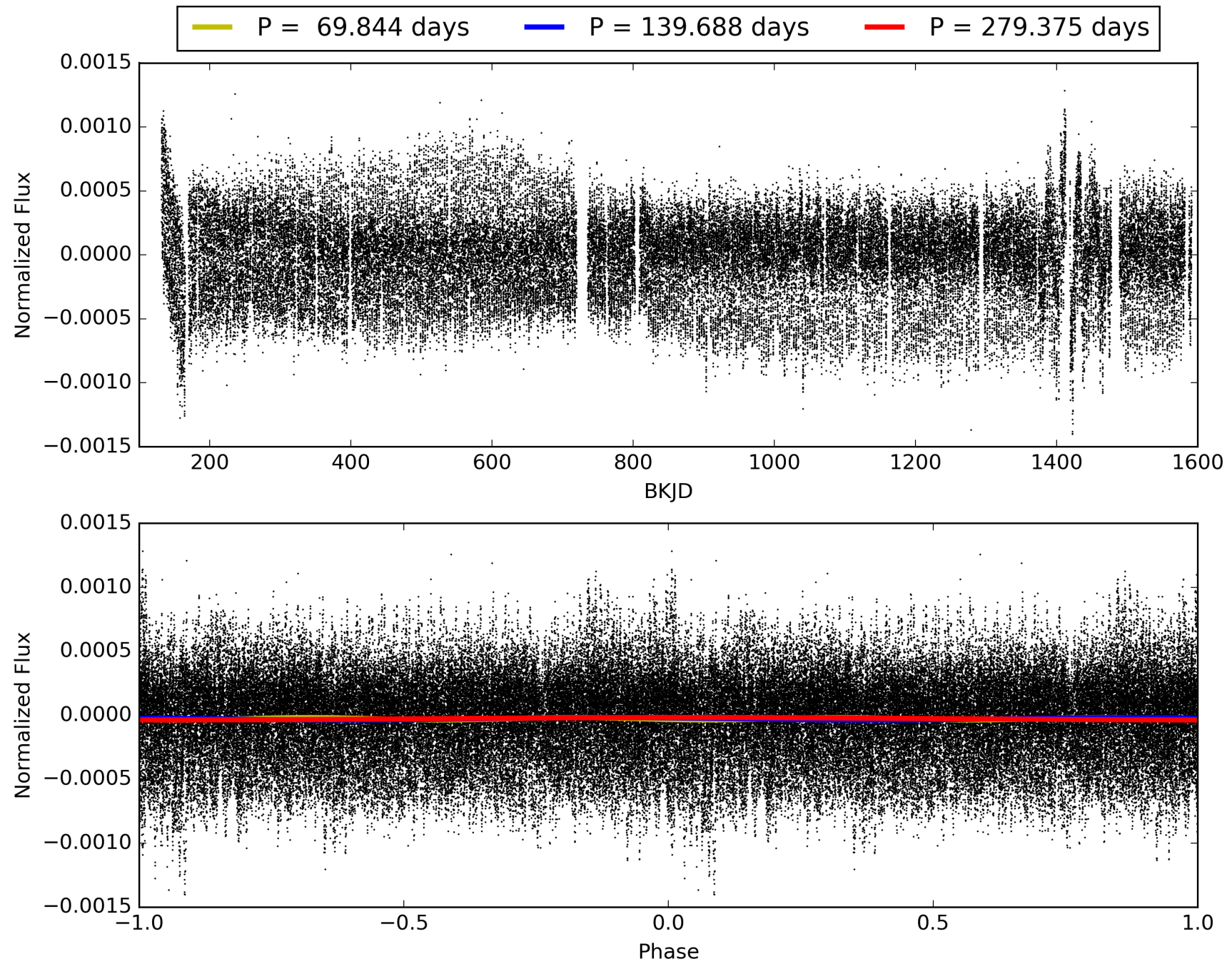
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:32:14 Z

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

TCE 008818497-04, PDC Light Curves

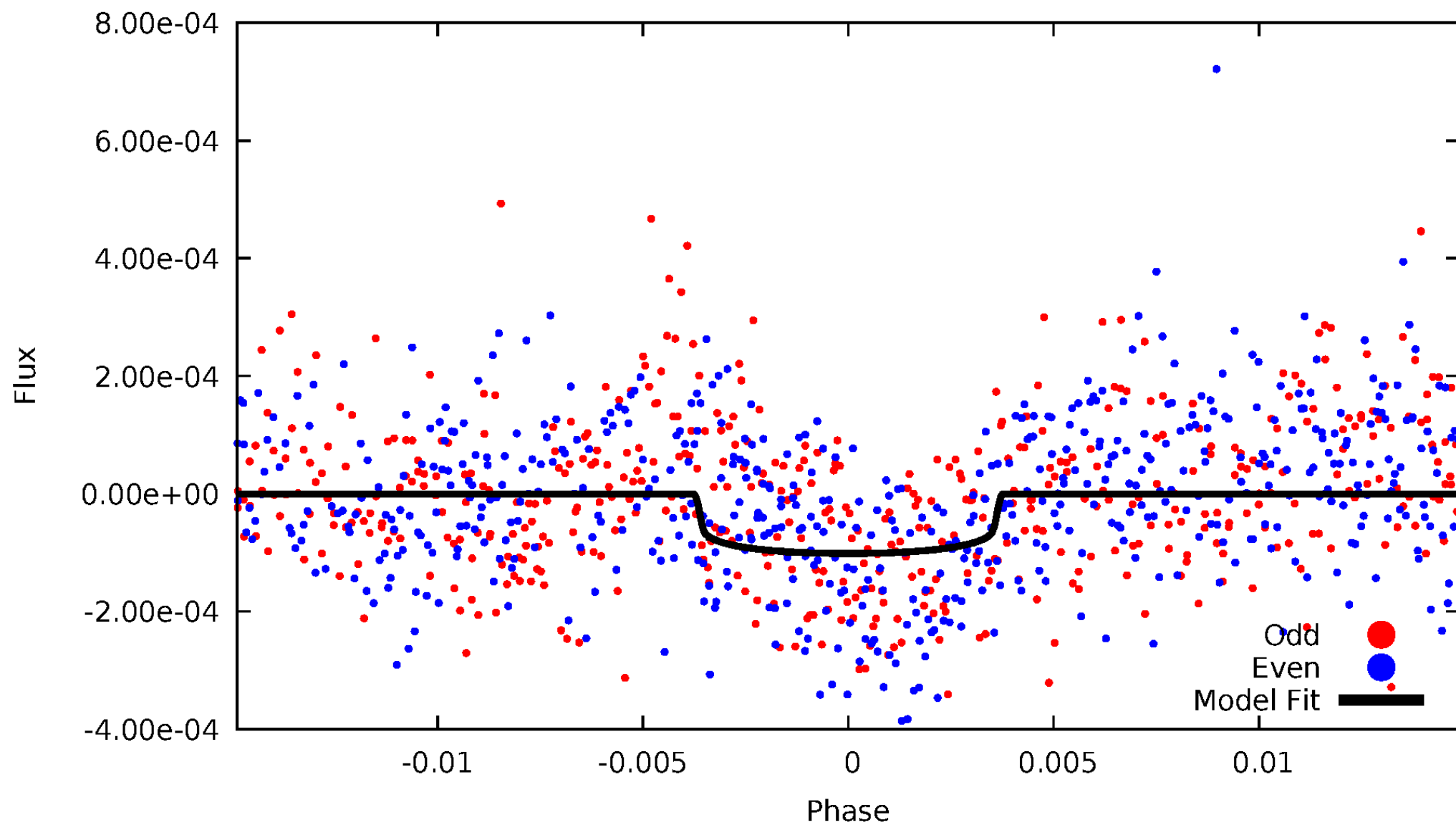


TCE 008818497-04



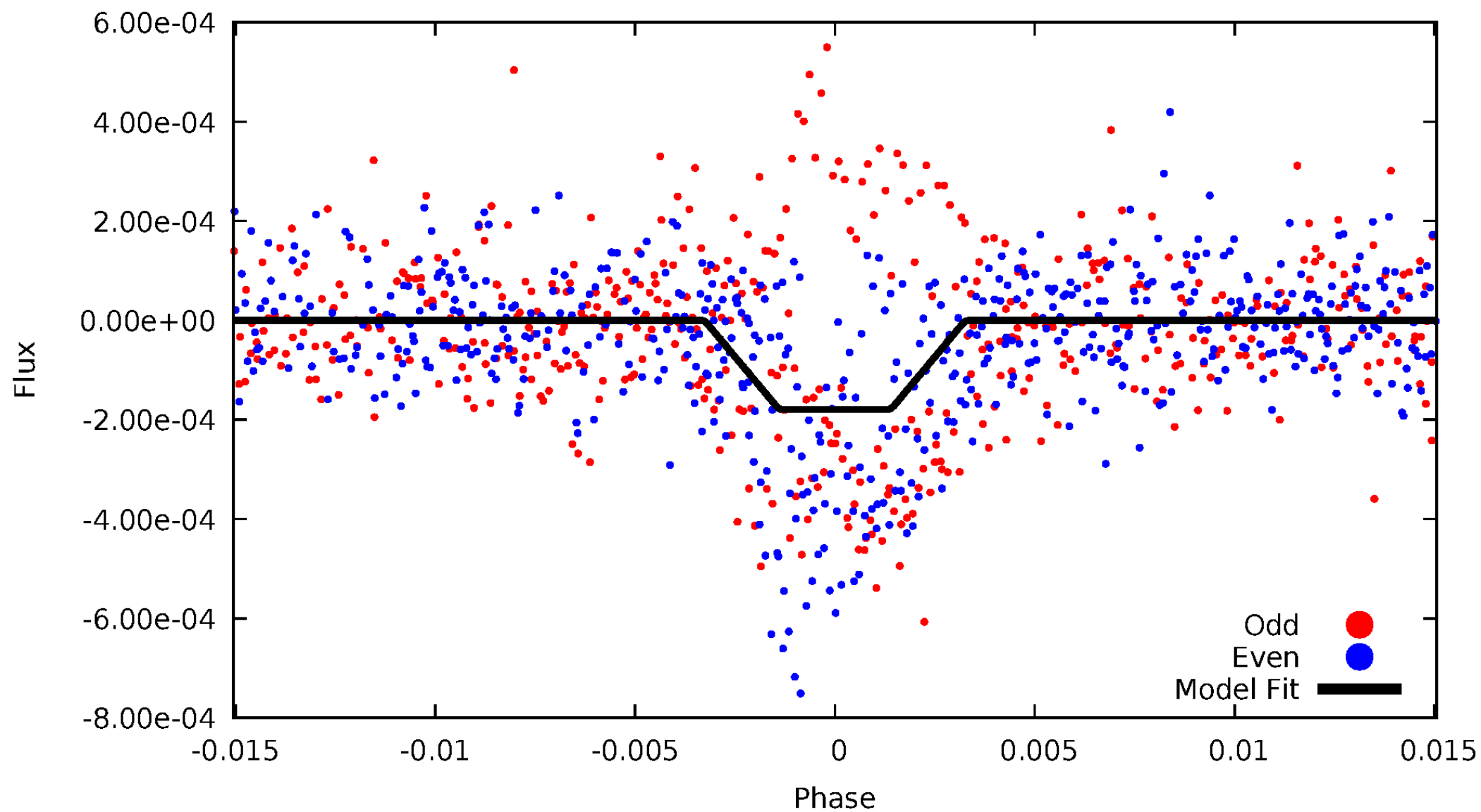
DV Odd/Even

TCE 008818497-04



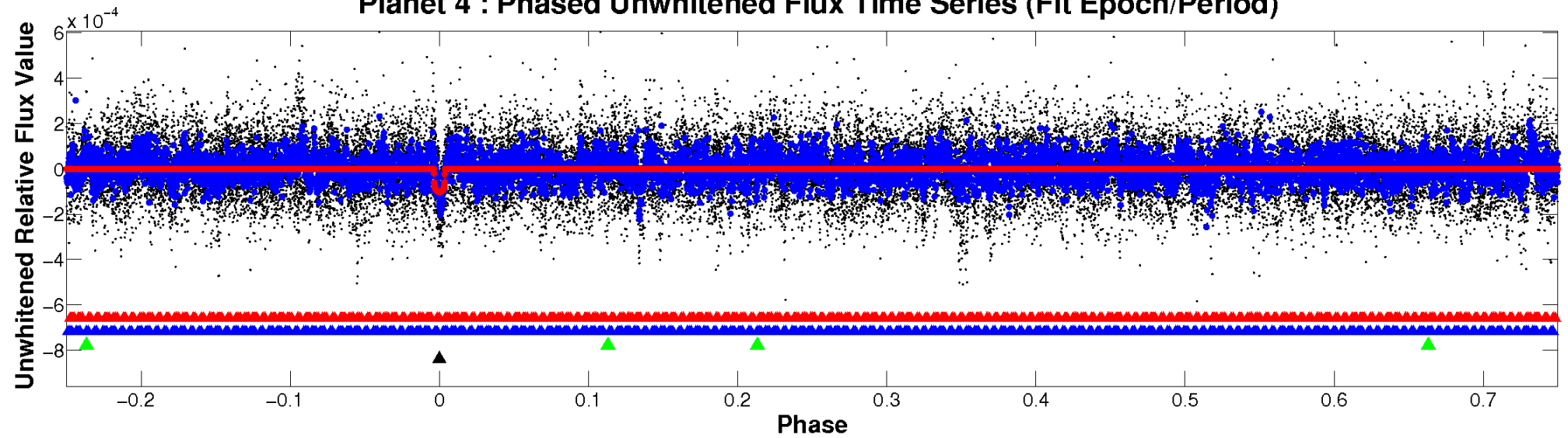
ALT Odd/Even

TCE 008818497-04

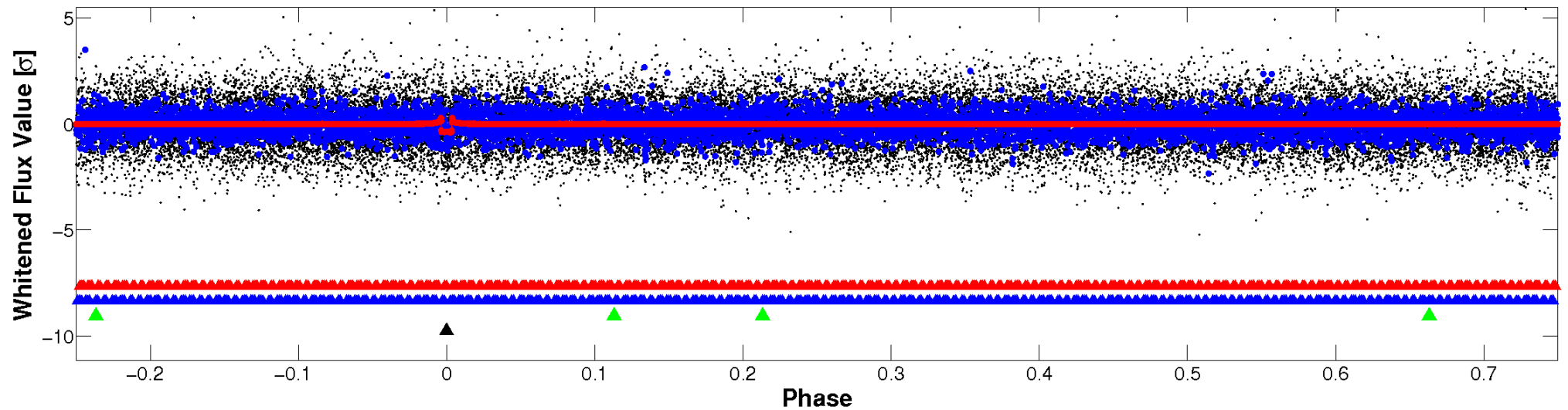


Non-Whitened Vs. Whitened Light Curve

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

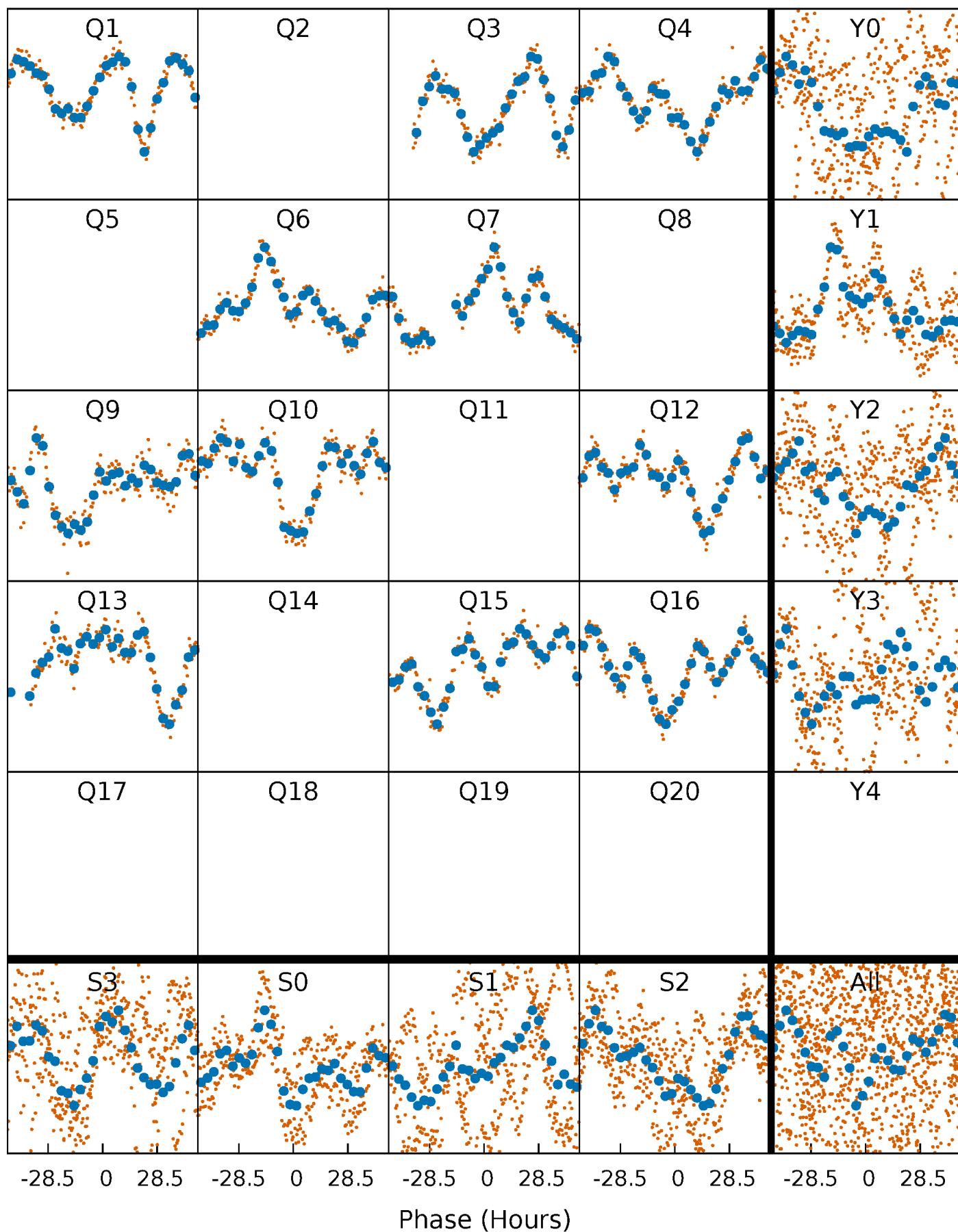


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



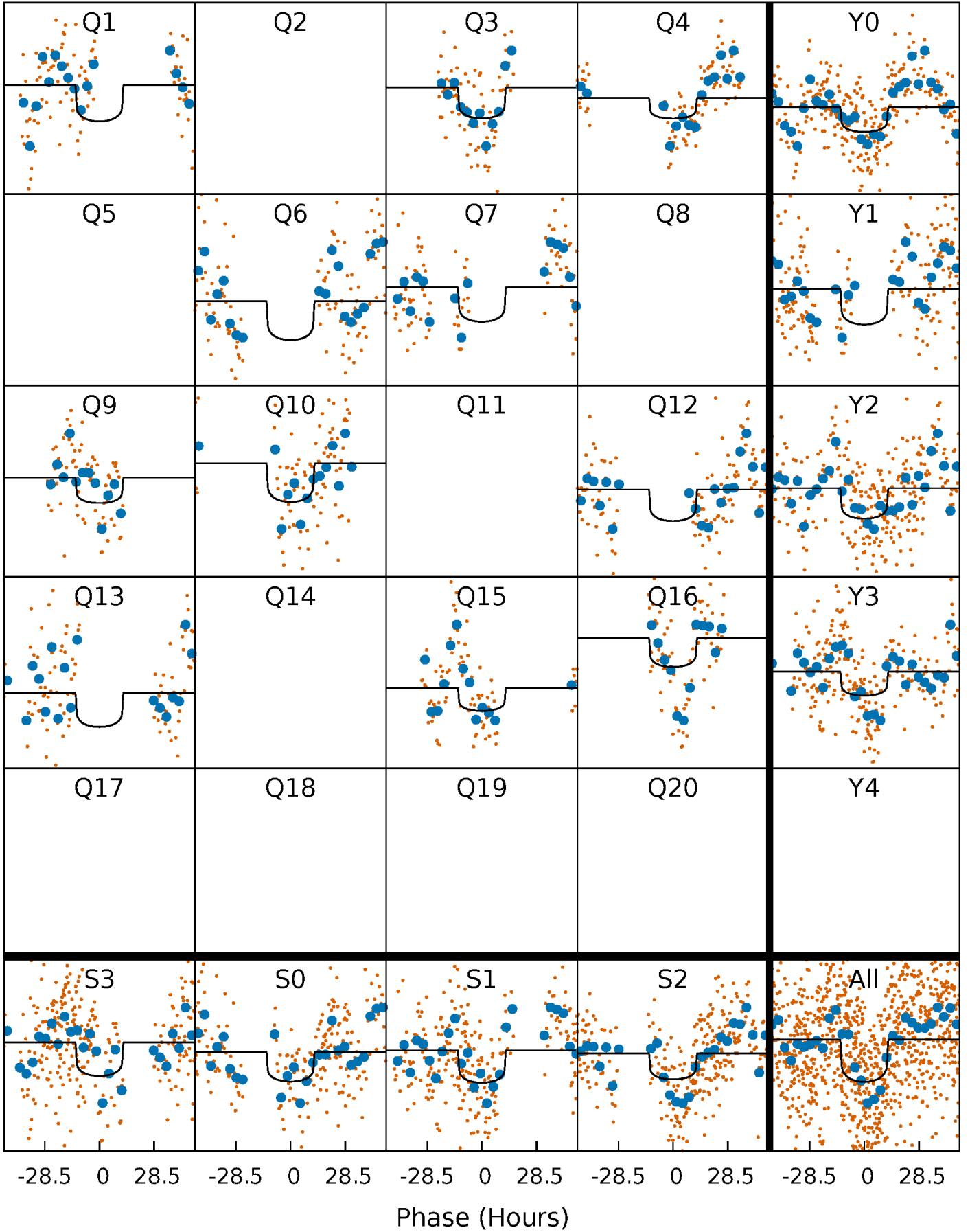
PDC Quarter-Phased Transit Curves

TCE 008818497-04 $P=139.687713$ Days $T_0=153.278713$ (BKJD)



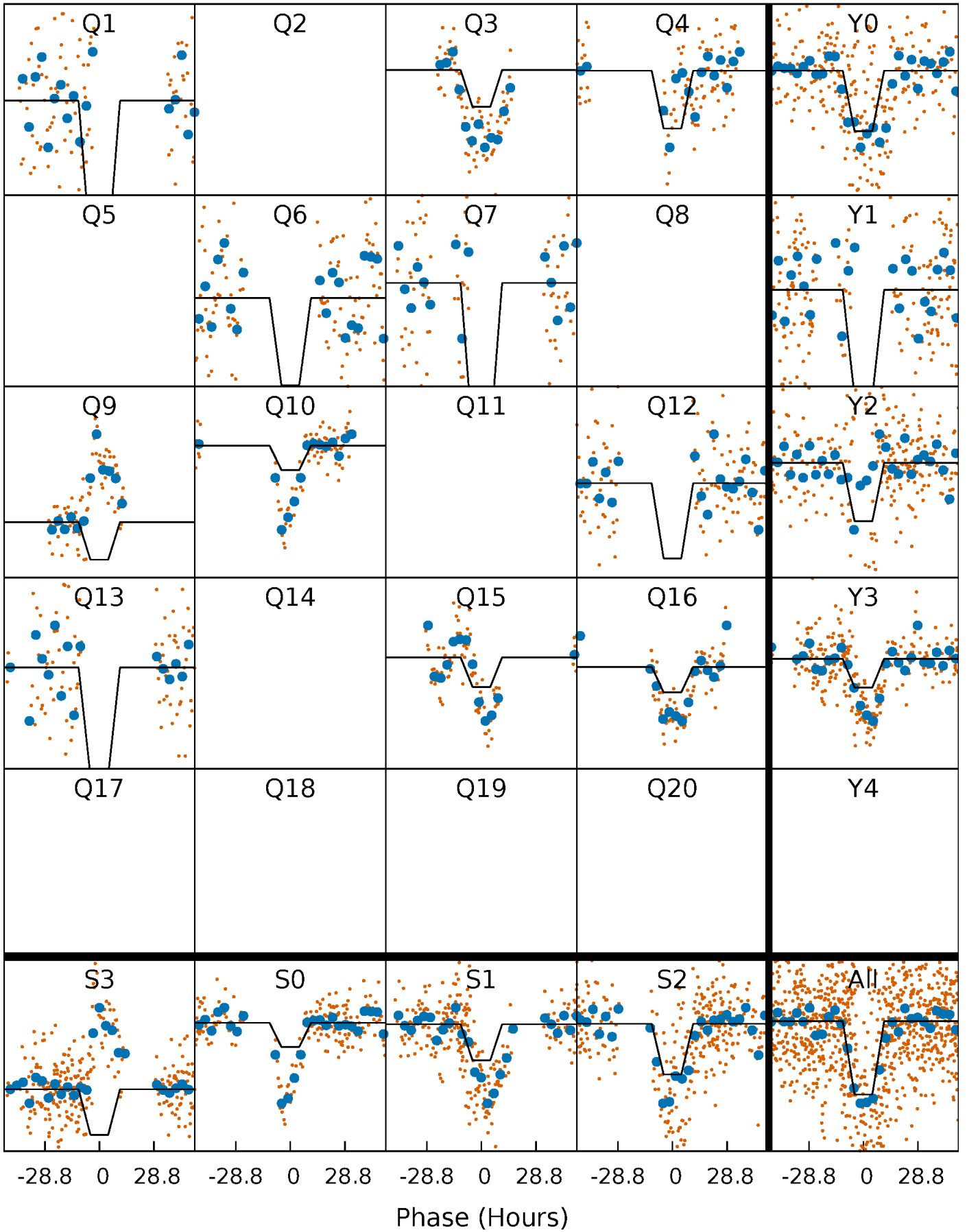
DV Quarter-Phased Transit Curves

TCE 008818497-04 $P=139.687713$ Days $T_0=153.278713$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

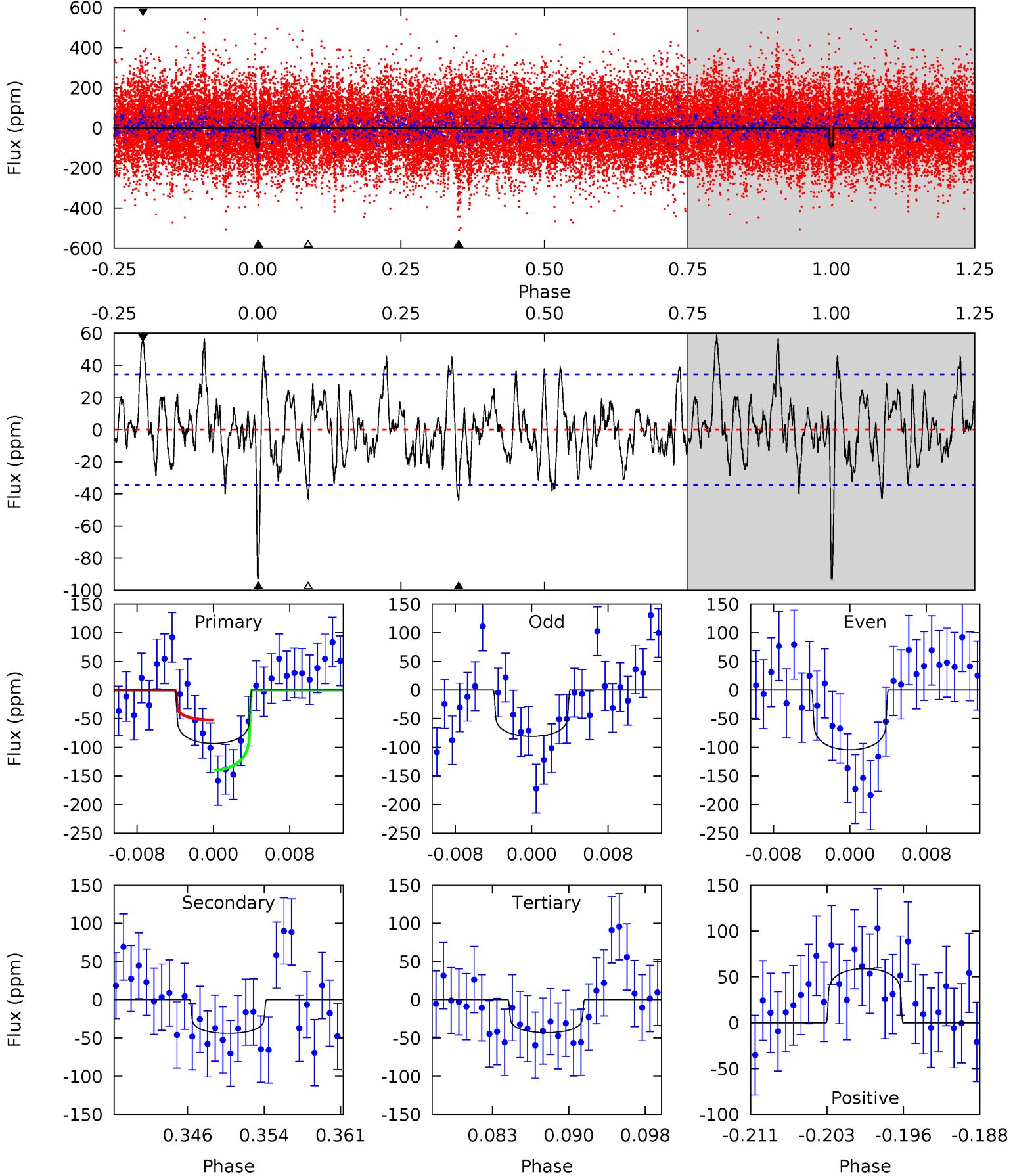
TCE 008818497-04 P=139.677005 Days $T_0=153.315759$ (BKJD)



DV Model-Shift Uniqueness Test

008818497-04, $P = 139.687713$ Days, $E = 13.591000$ Days

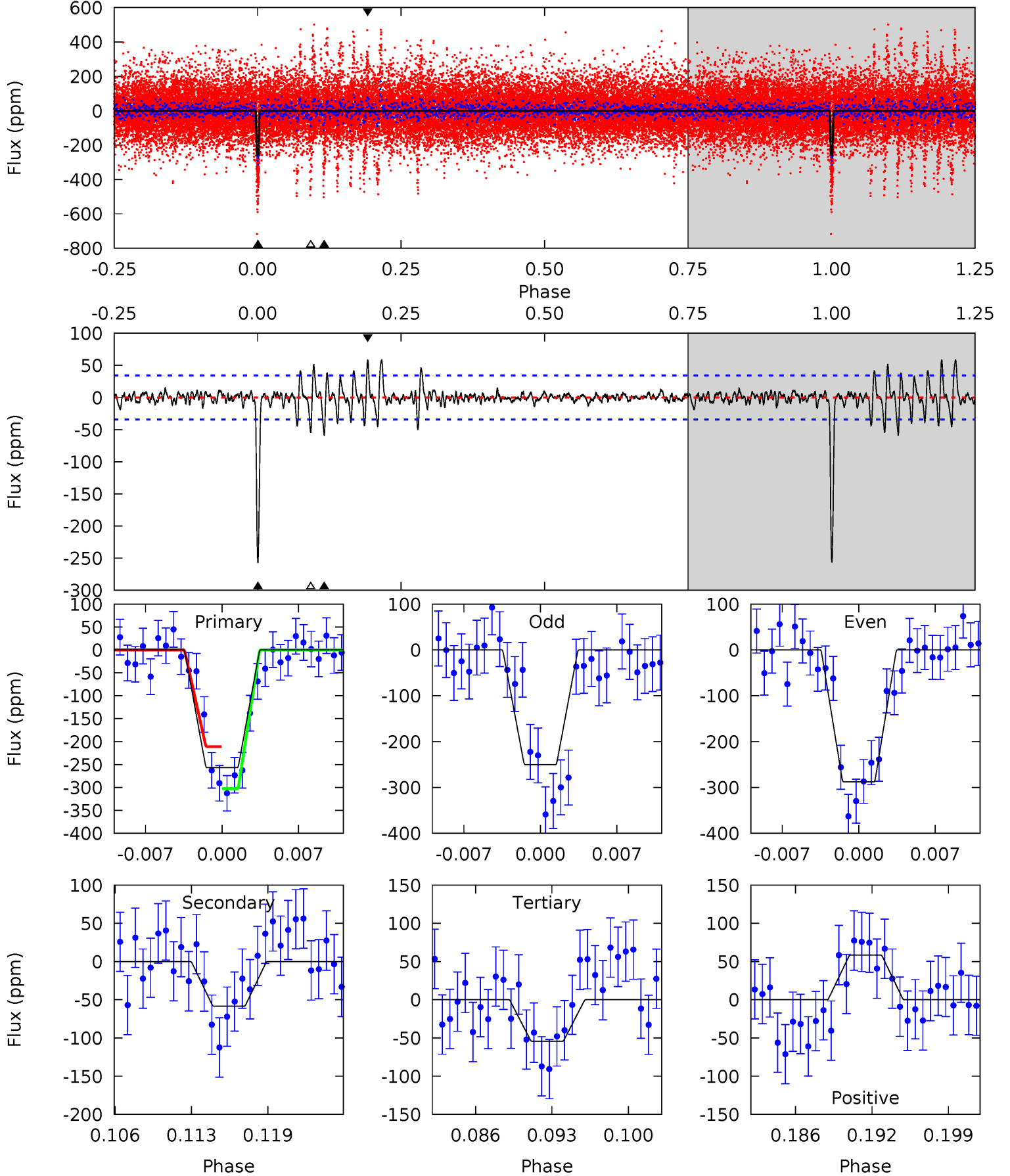
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	6.51	6.36	8.72	5.08	2.67	2.46	7.44	5.08	0.15	-2.21	1.73	0.61	0.39	6.41



Alt Model-Shift Uniqueness Test

008818497-04, $P = 139.677005$ Days, $E = 13.638754$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.2	8.70	8.09	8.69	5.10	2.71	1.71	30.1	29.5	0.61	0.01	2.74	1.10	0.19	0



Stellar Parameters For KIC 008818497

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6908^{+165}_{-227}	$3.782^{+0.259}_{-0.111}$	$0.140^{+0.200}_{-0.300}$	$2.908^{+0.501}_{-1.002}$	$1.868^{+0.165}_{-0.358}$	$0.107^{+0.185}_{-0.038}$
	+2%/-3%	+7%/-3%	+143%/-214%	+17%/-34%	+9%/-19%	+173%/-35%
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 008818497-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-44 ± 7	$3.06^{+0.68}_{-0.70}$	888^{+52}_{-75}	5556^{+577}_{-450}	1068^{+723}_{-382}
Alt.	-58 ± 7	$4.12^{+0.72}_{-0.77}$	892^{+49}_{-74}	5238^{+348}_{-313}	789^{+424}_{-220}

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 $A_{obs} \gg 1.0$

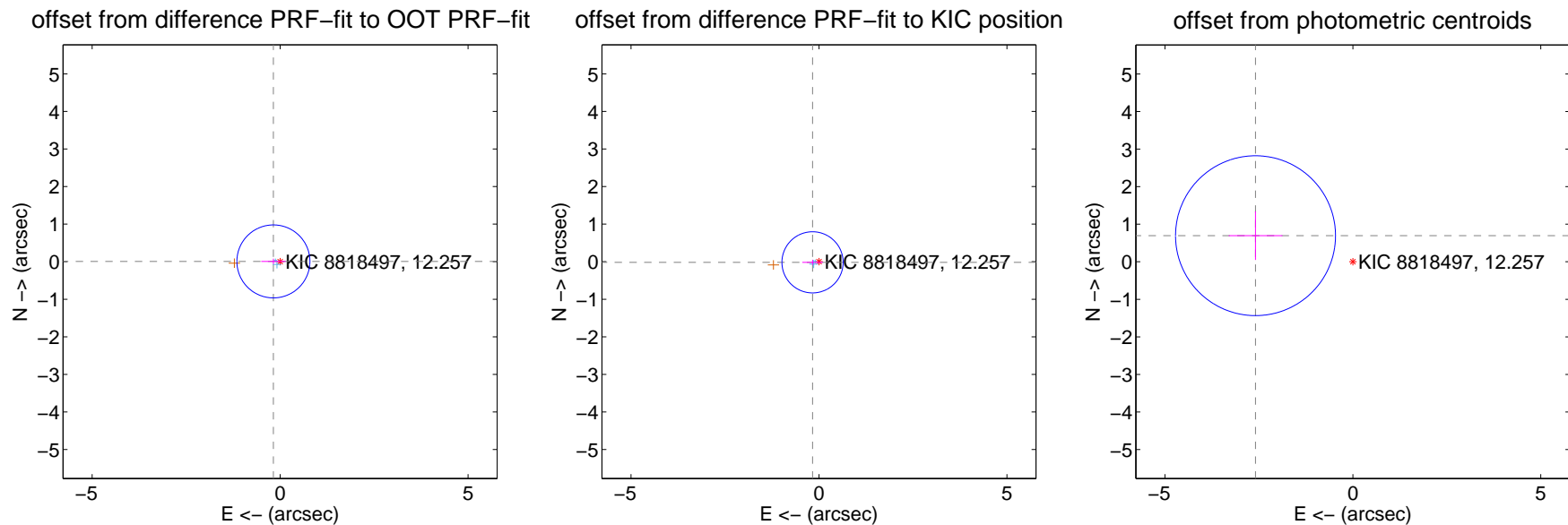
DV Centroid Data

Supplemental centroid analysis for 008818497-04. Kepler magnitude: 12.26. Transit SNR 6.63

There are 2 quarters with good PRF difference image offsets

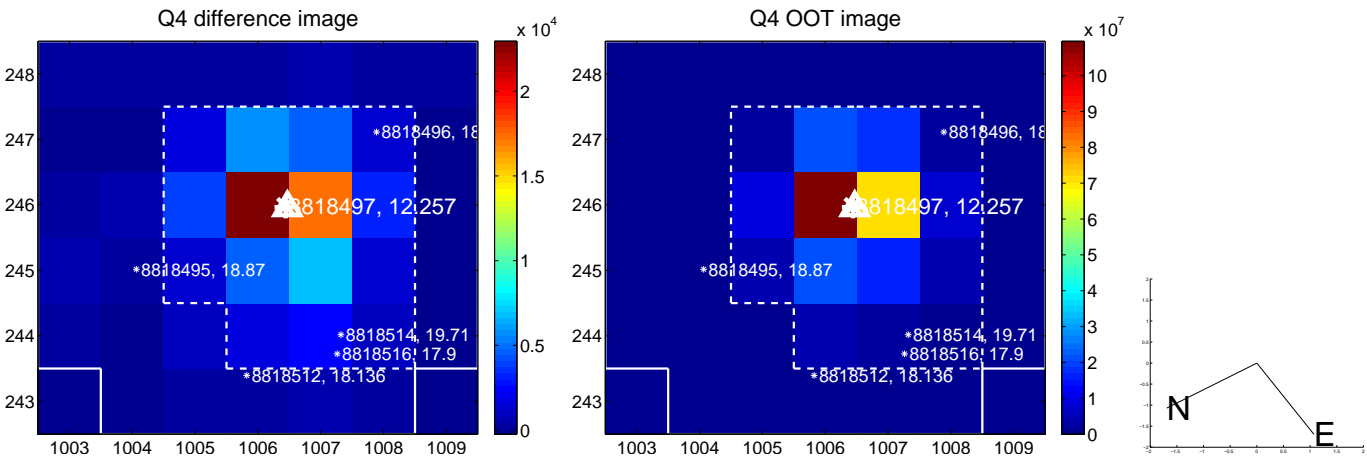
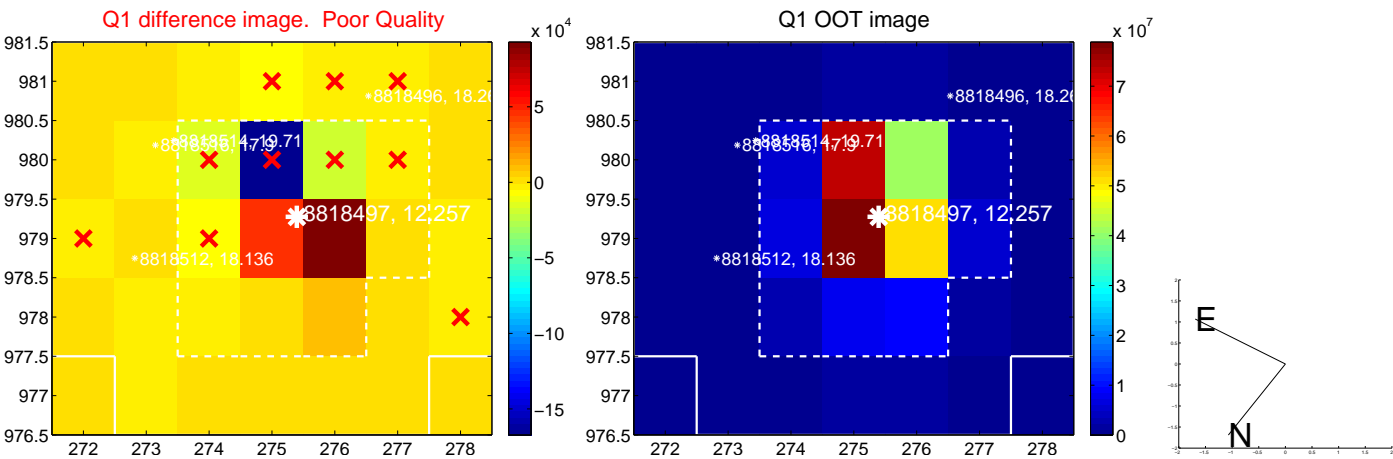
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.179 ± 0.324	0.55	0.178 ± 0.323	0.008 ± 0.073
PRF-fit source offset from KIC position	0.172 ± 0.271	0.64	0.172 ± 0.271	-0.017 ± 0.070
photometric centroid source offset	2.68 ± 0.71	3.78	2.59 ± 0.71	0.69 ± 0.65

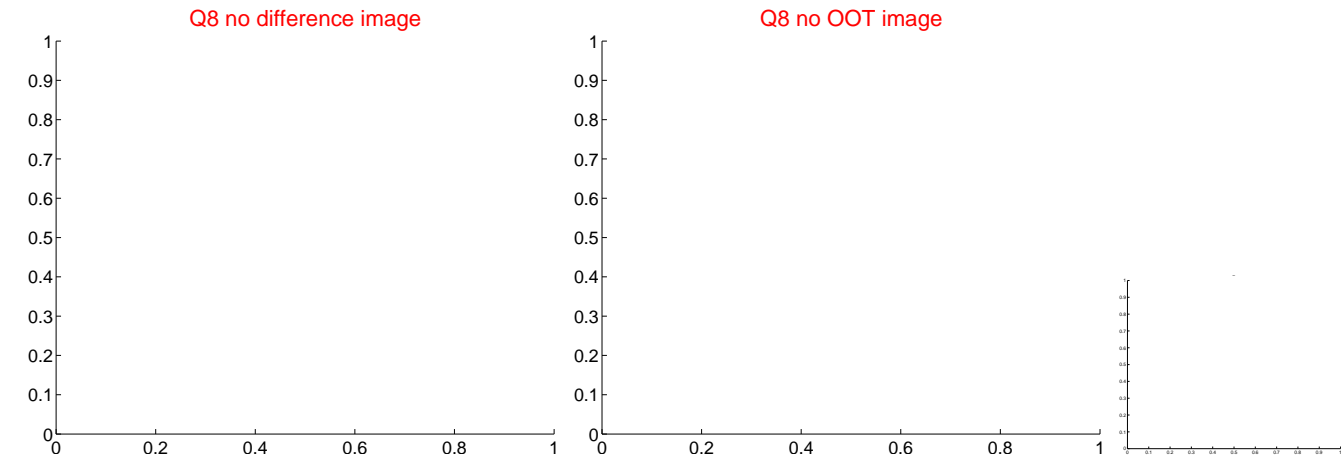
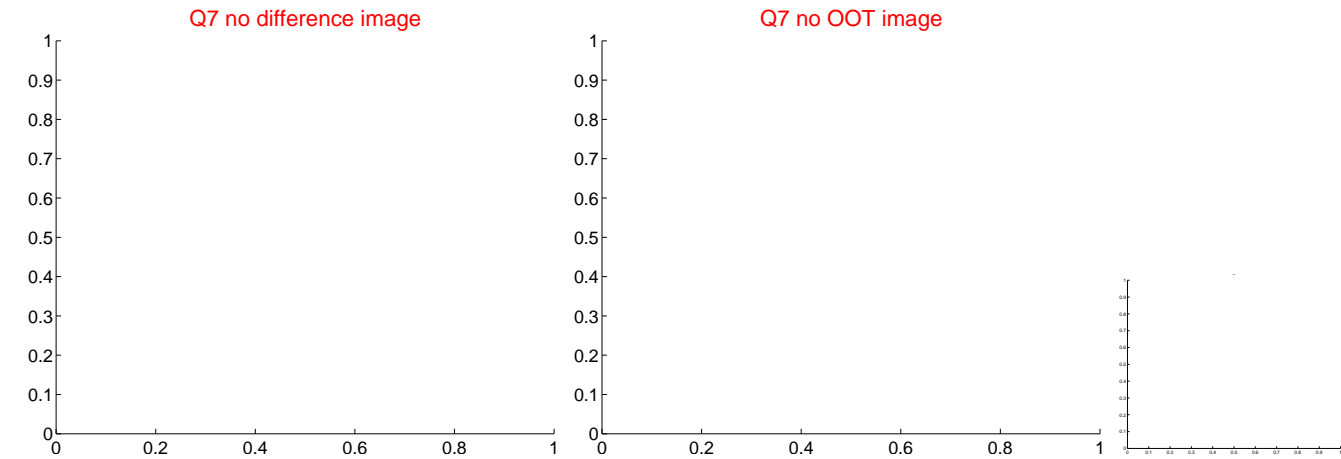
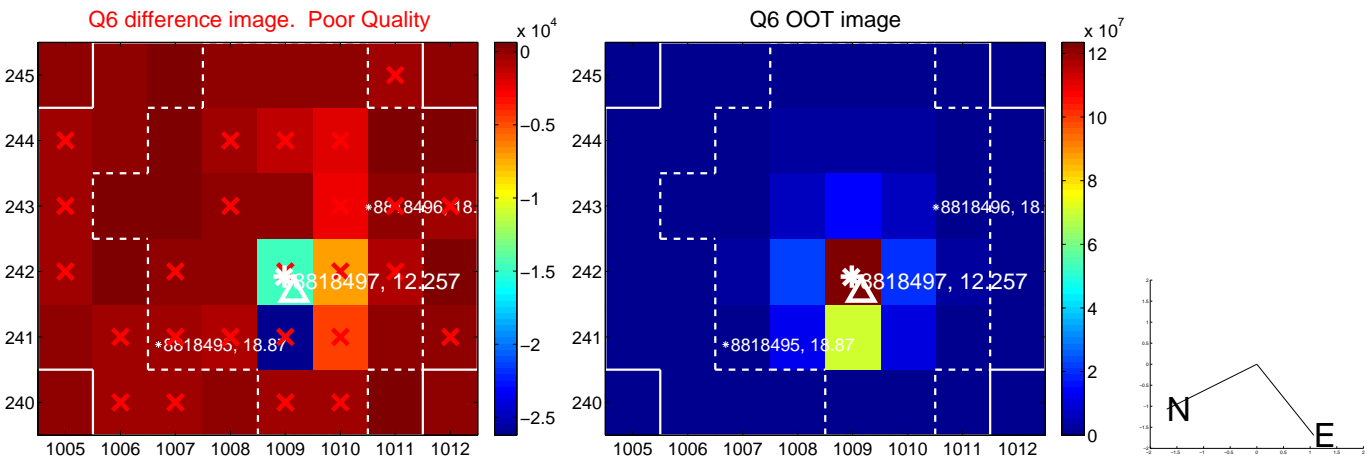
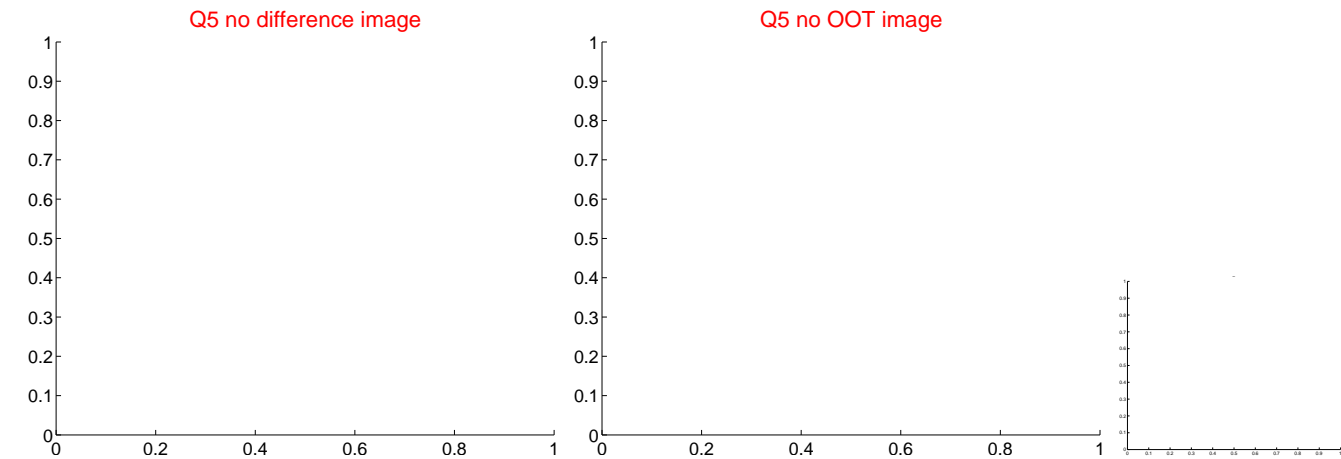


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

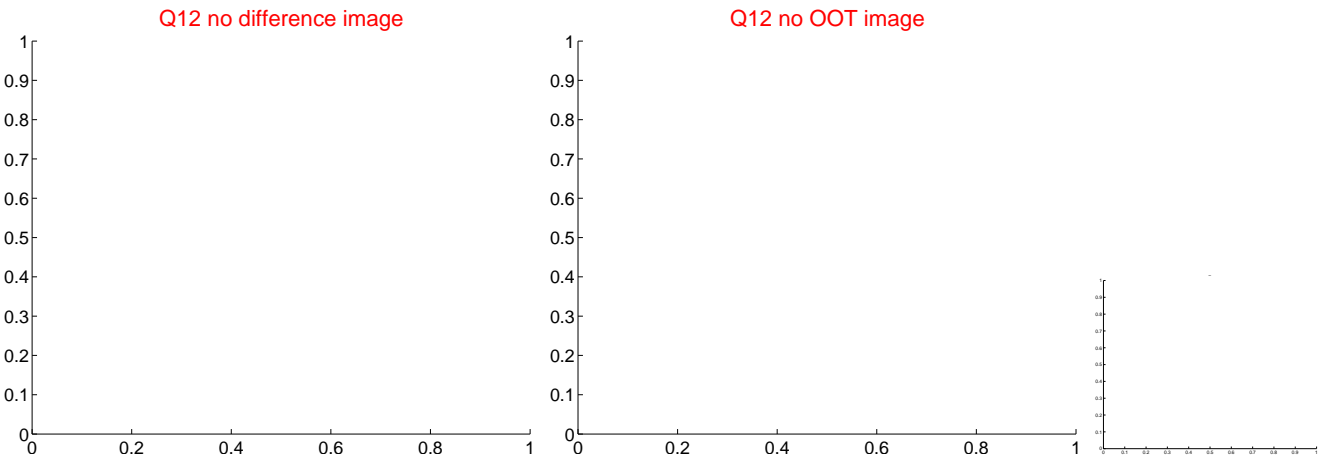
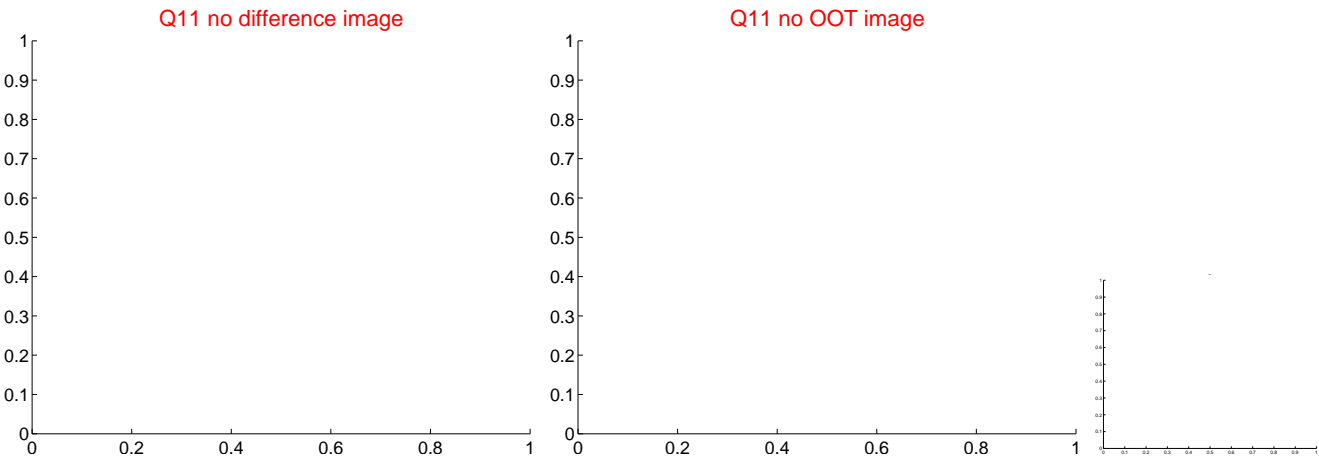
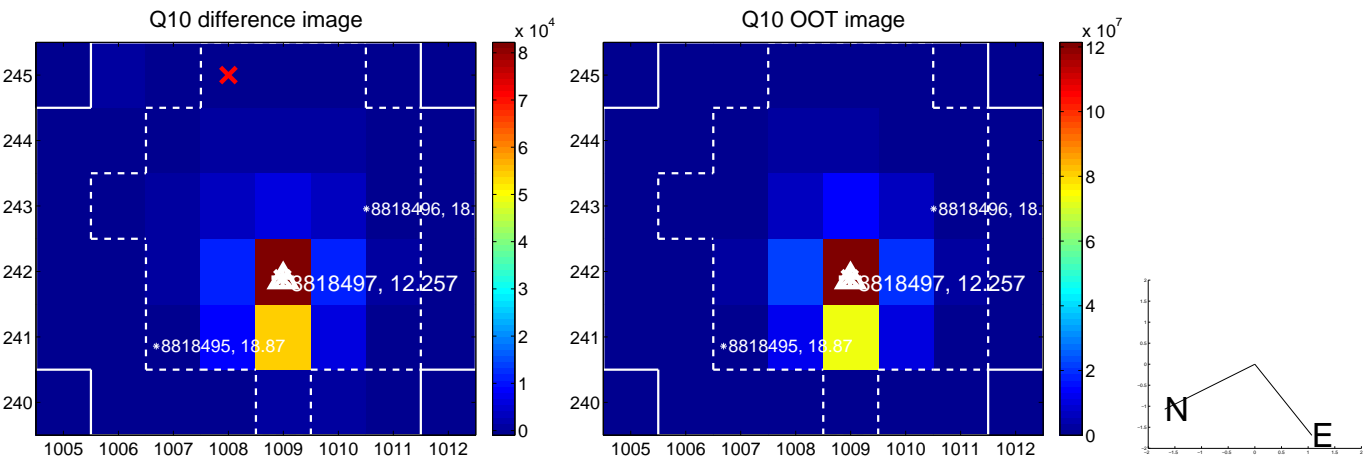
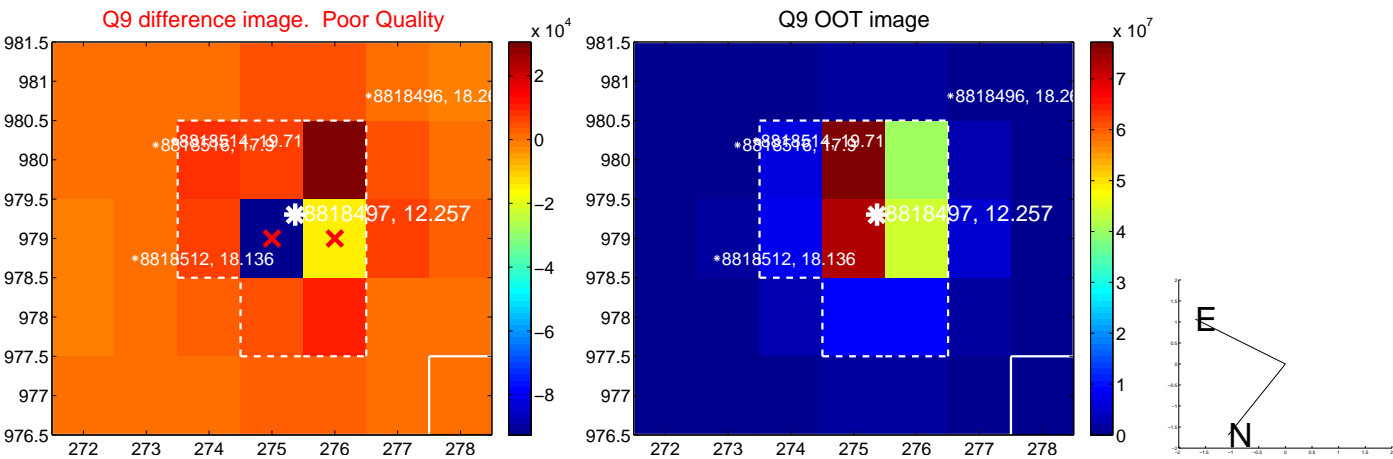
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



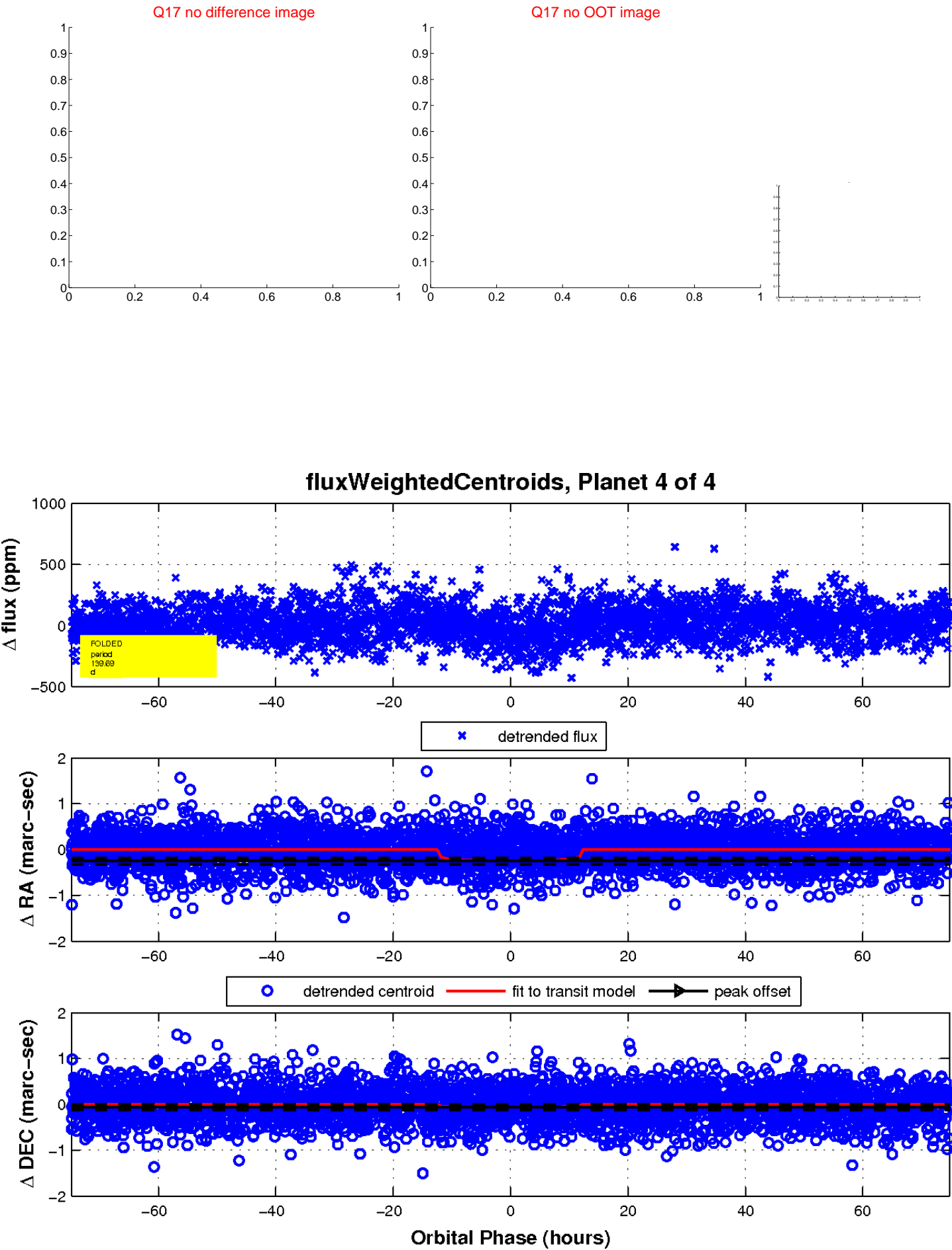
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

