

KIC 008826317

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})
008826317-01	OBS	No	0.879096	132.002057	23.9	5.477	10.7	6.9	1.96	7328	1.11	23239.10
008826317-03	OBS	No	143.410534	236.990340	565.0	6.549	11.8	10.5	1.96	7328	5.71	26.07
008826317-04	OBS	No	74.126069	155.266746	530.4	2.048	8.6	8.6	1.96	7328	4.98	62.85
008826317-05	OBS	No	125.681519	154.438959	480.2	6.507	8.7	8.8	1.96	7328	7.12	31.09
008826317-06	OBS	No	122.921425	160.628393	578.6	4.204	9.2	8.5	1.96	7328	5.94	32.02
008826317-08	OBS	No	81.440440	163.544659	392.4	5.186	8.7	7.8	1.96	7328	4.40	55.44
008826317-09	OBS	No	486.194127	521.851652	590.8	5.419	8.4	8.9	1.96	7328	5.08	5.12
008826317-10	OBS	No	52.143594	163.019543	180.0	4.500	8.3	-1.0	1.96	7328	2.65	100.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008826317-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008826317-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
008826317-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008826317-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT
008826317-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
008826317-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008826317-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
008826317-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

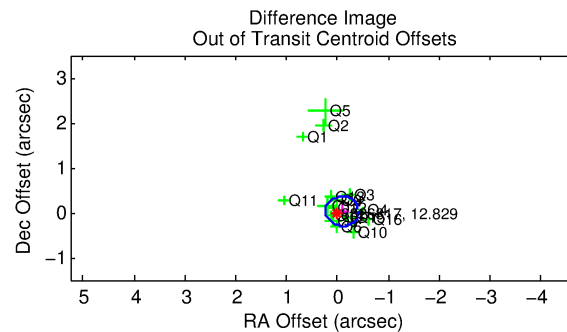
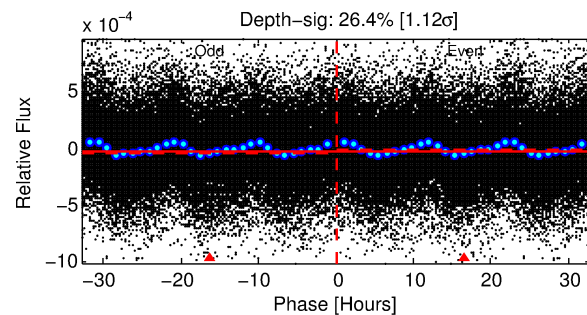
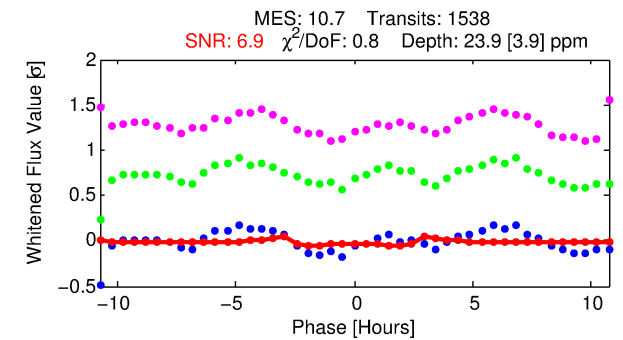
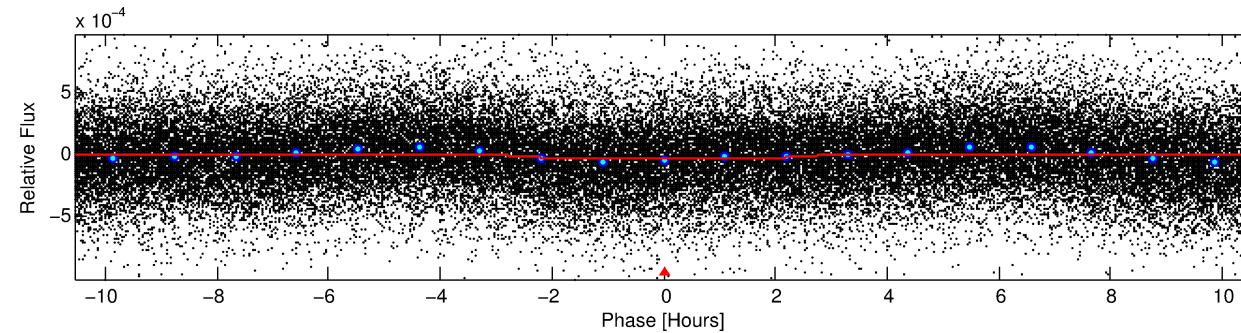
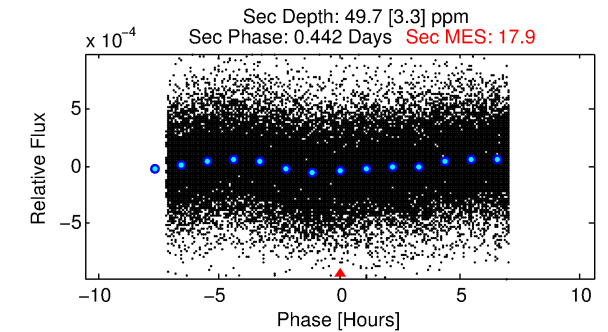
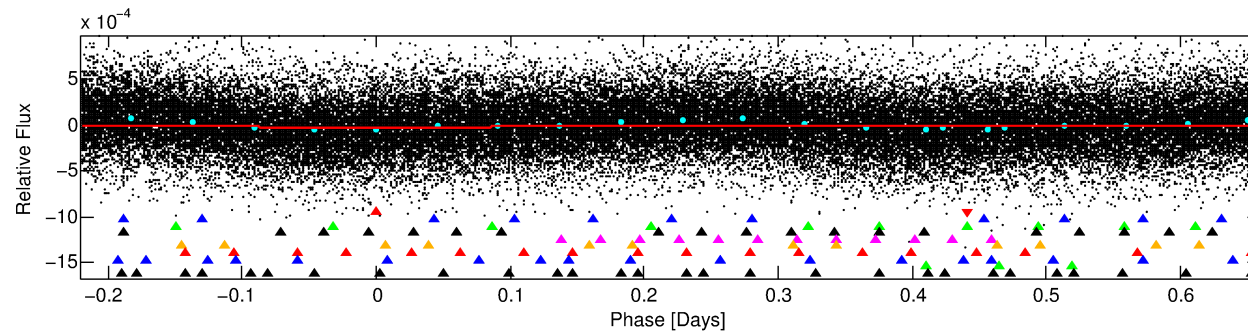
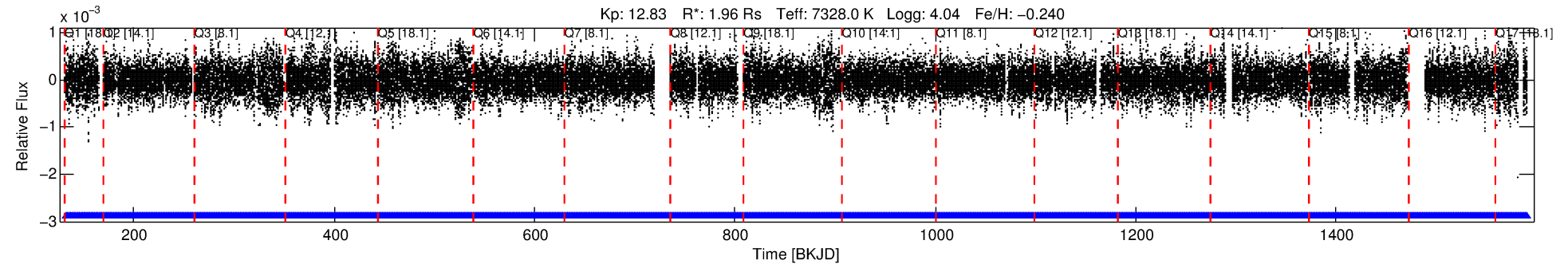
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008826317-01

No Significant Match Found

DV One-Page Summary

KIC: 8826317 Candidate: 1 of 10 Period: 0.879 d



DV Fit Results:

Period = 0.87910 [0.00002] d
Epoch = 132.0021 [0.0030] BKJD
Rp/R* = 0.0052 [0.0015]
a/R* = 1.09 [0.29]
b = 0.90 [0.36]
Seff = 23239.09 [9646.83]
Teq = 3148 [327] K
Rp = 1.11 [0.46] Re
a = 0.0206 [0.0053] AU
Ag = 9.41 [6.44] [1.31σ]
Teffp = 8525 [1264] K [4.12σ]

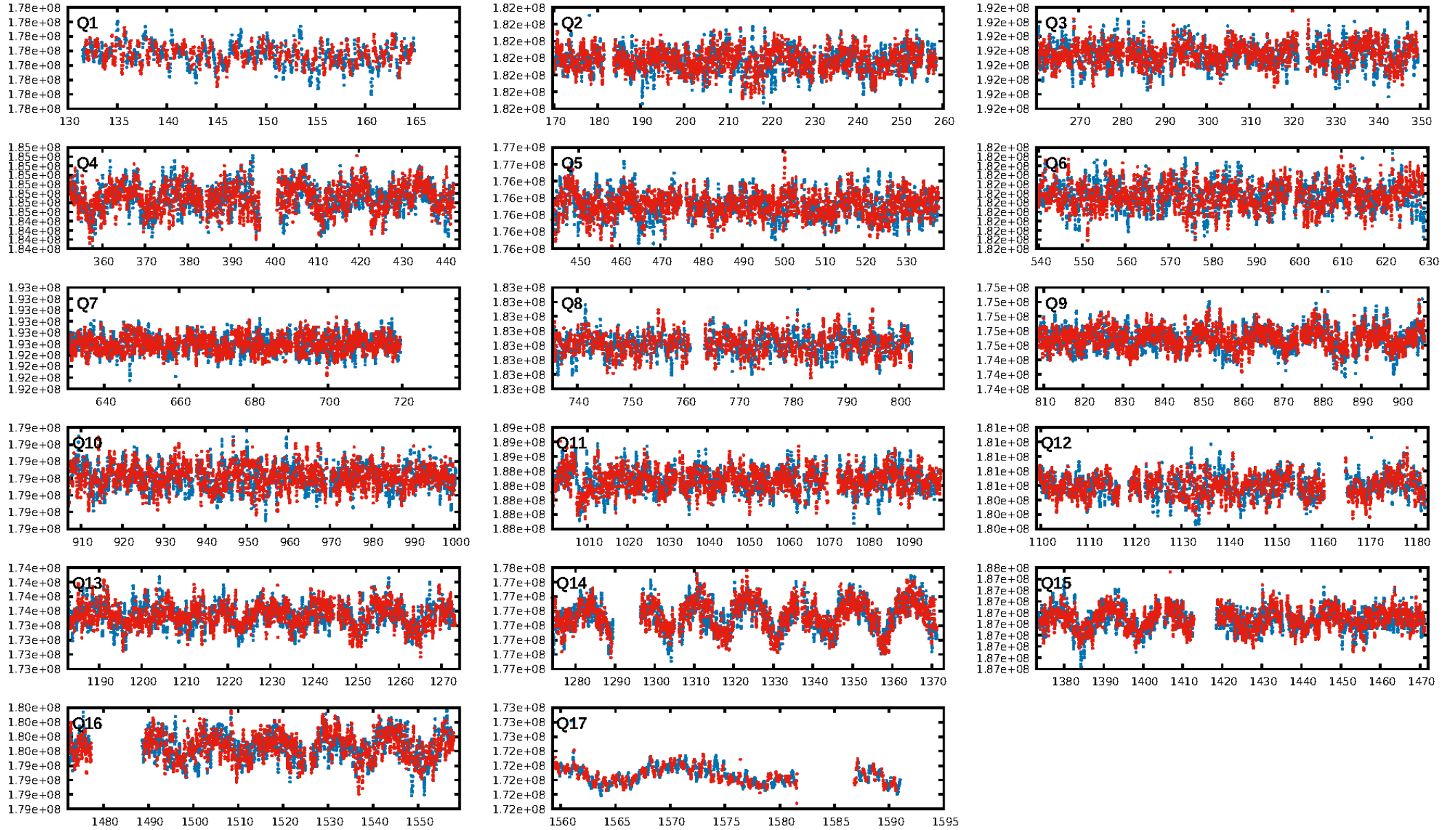
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [173.56σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1469/1469]
GhostDiagnostic-chr: 1.639
Centroid-sig: 13.6%
Centroid-so: 0.451 arcsec [0.99σ]
OotOffset-rm: 0.091 arcsec [0.84σ]
KicOffset-rm: 0.124 arcsec [1.11σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

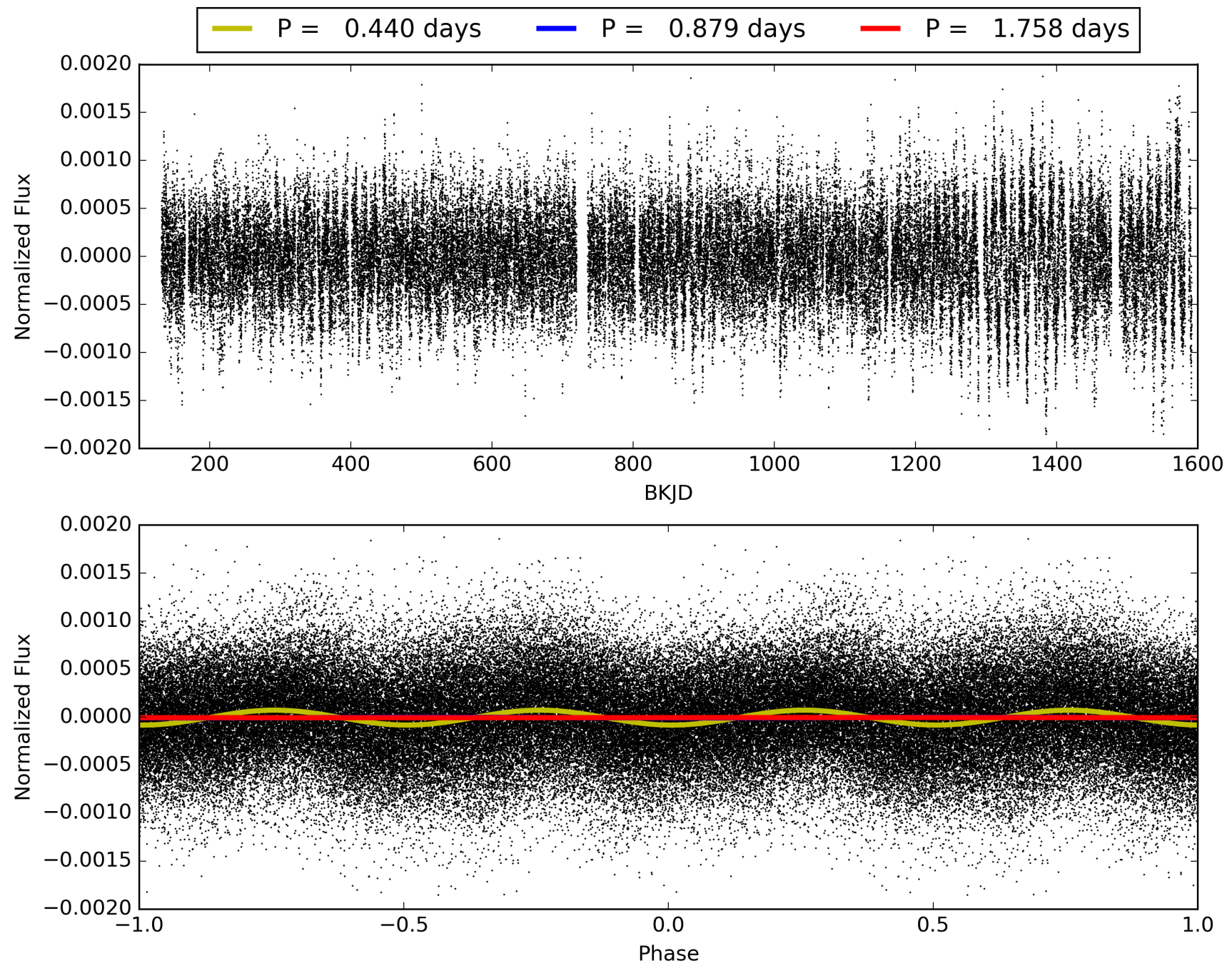
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008826317-01, PDC Light Curves

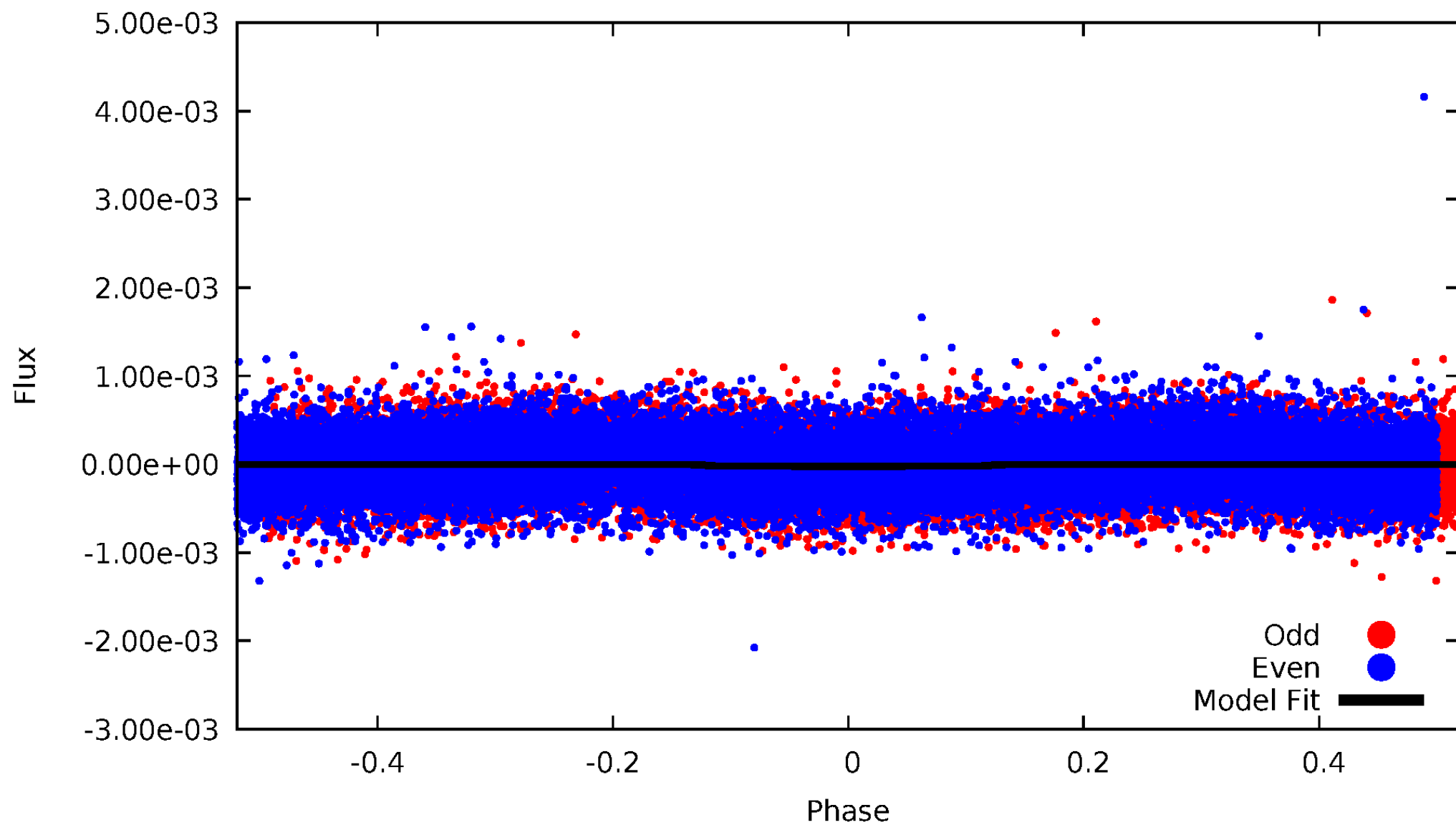


TCE 008826317-01



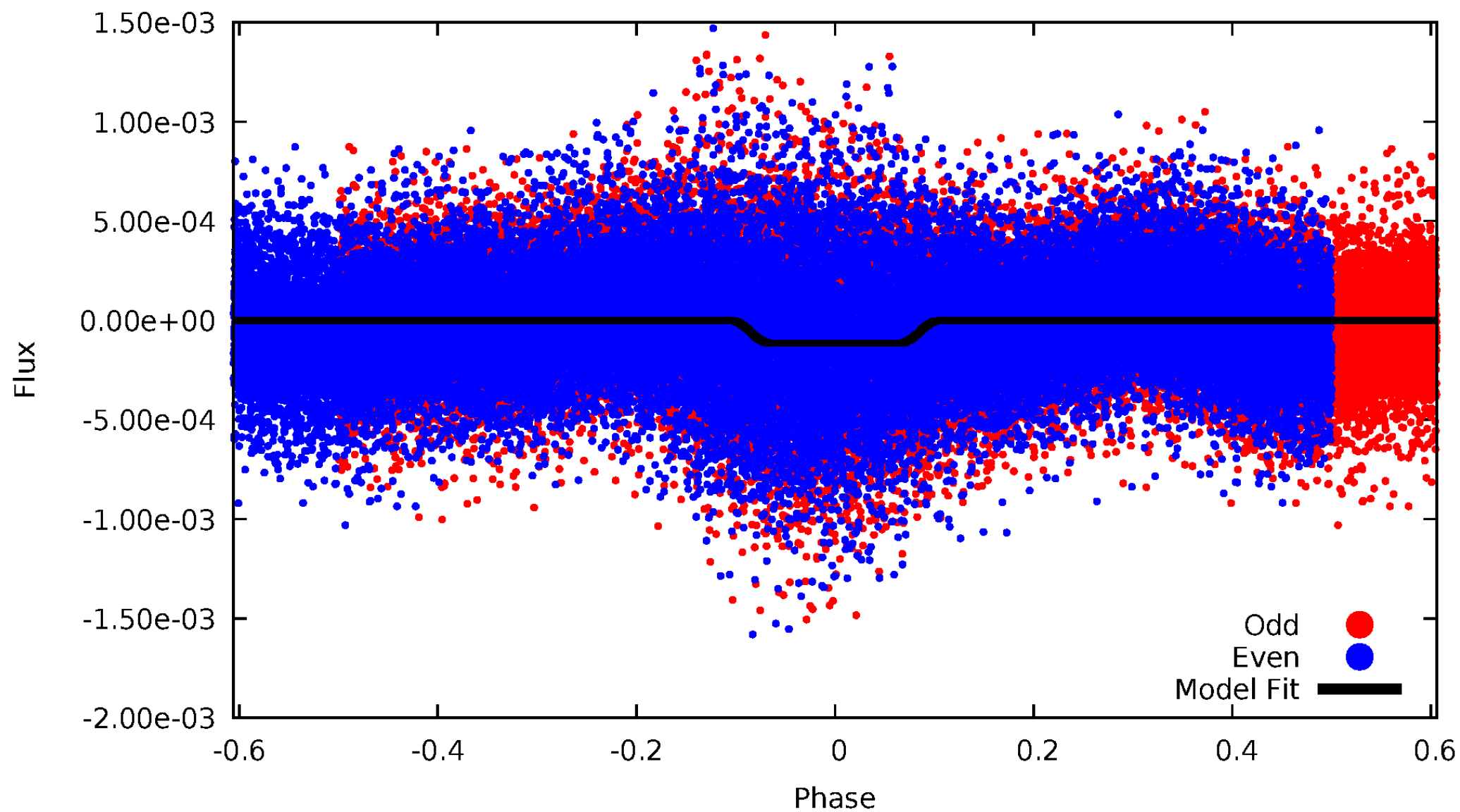
DV Odd/Even

TCE 008826317-01



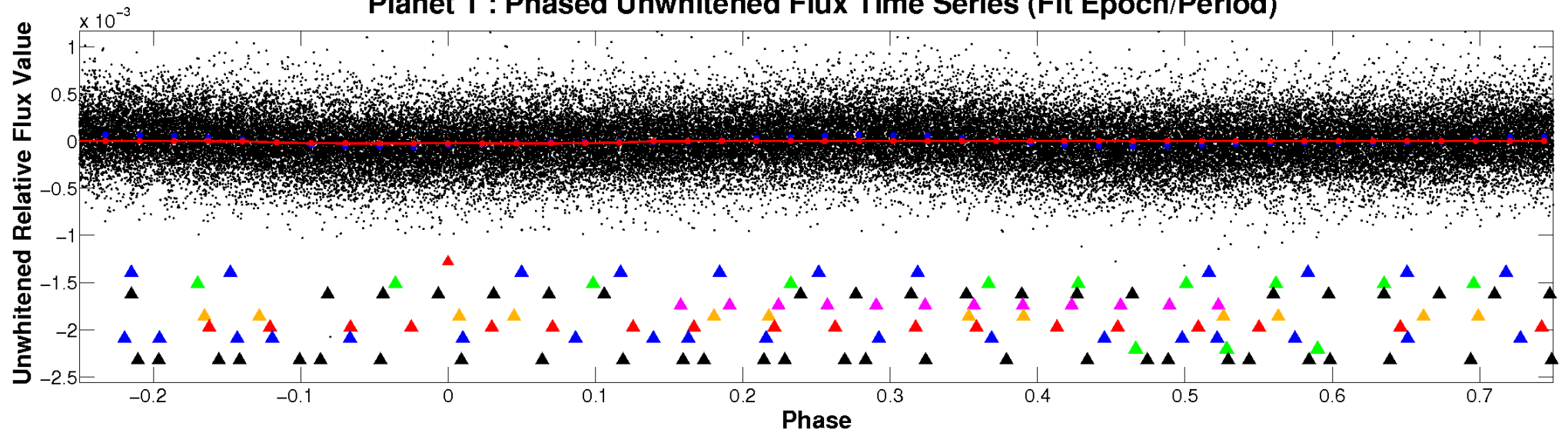
ALT Odd/Even

TCE 008826317-01

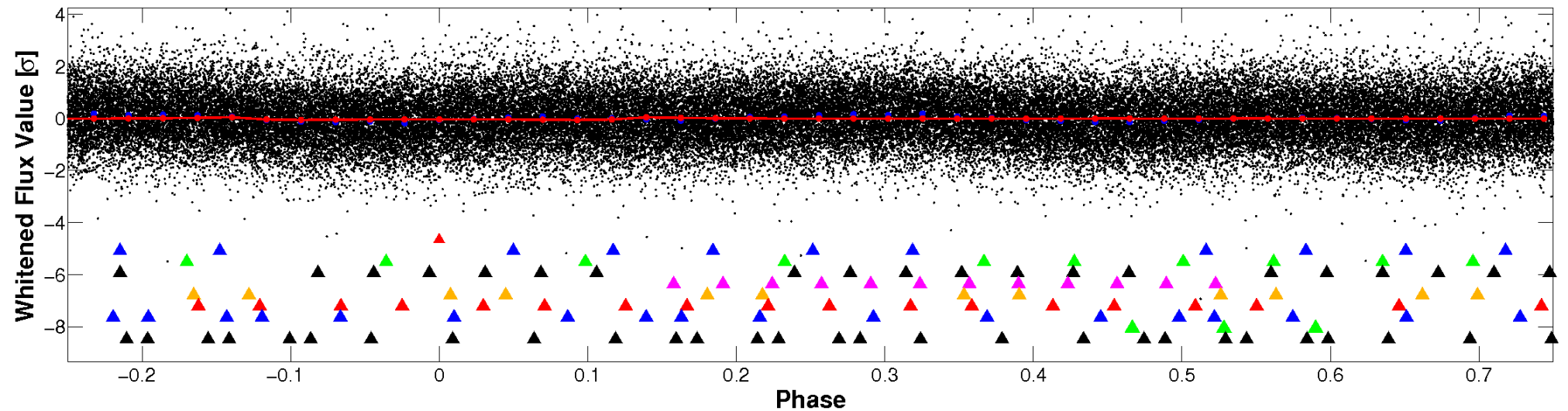


Non-Whitened Vs. Whitened Light Curve

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

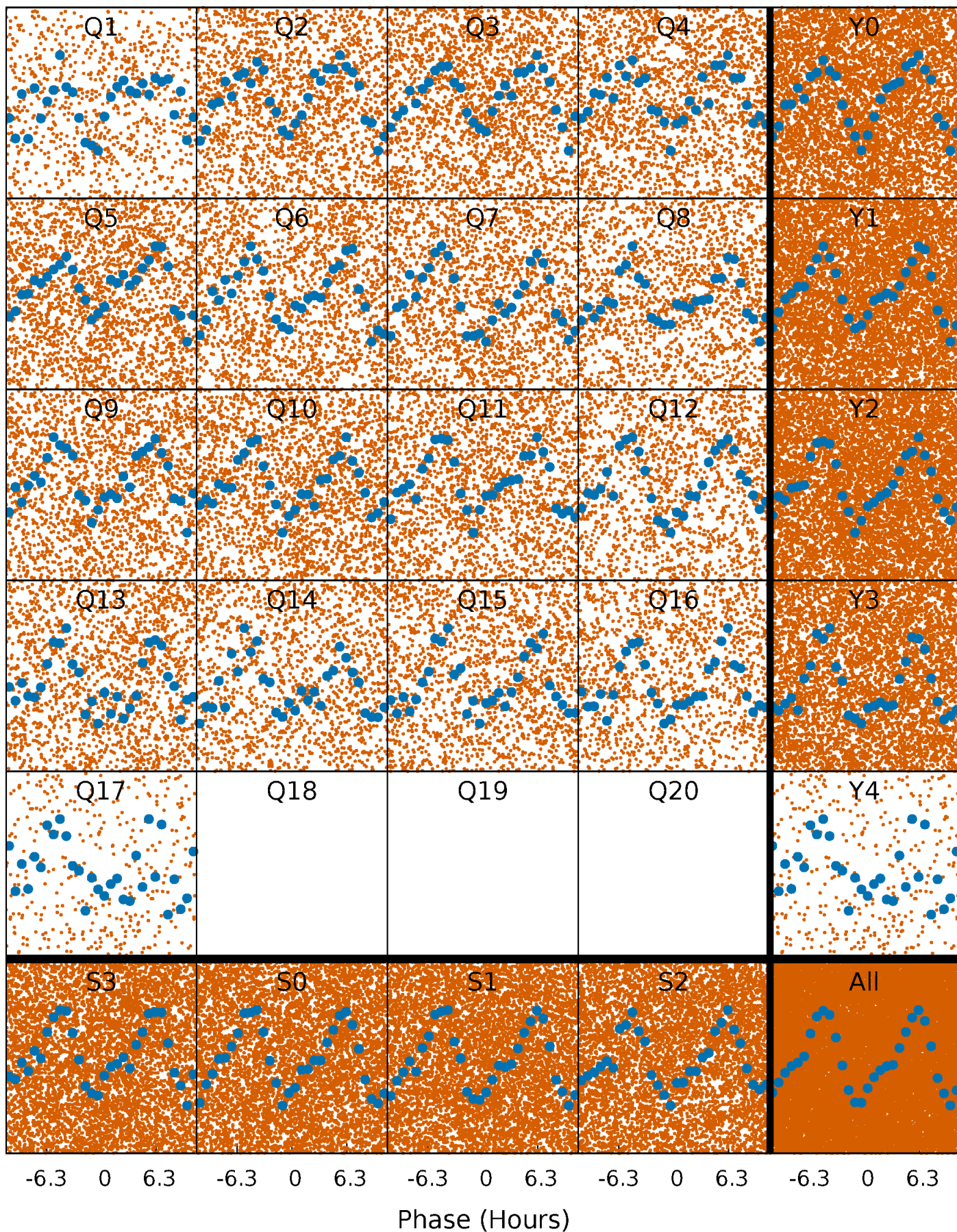


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



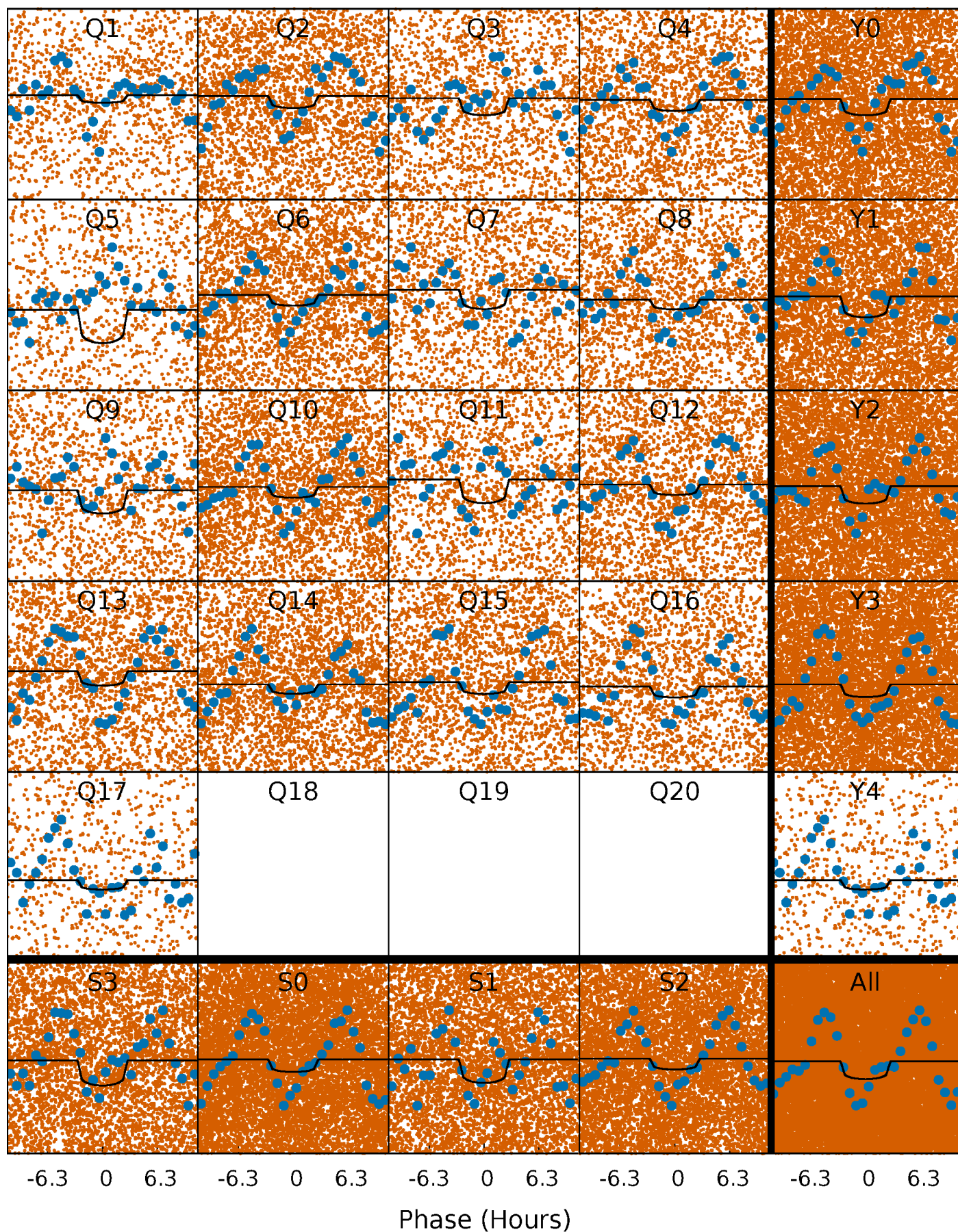
PDC Quarter-Phased Transit Curves

TCE 008826317-01 P= 0.879096 Days $T_0=132.002057$ (BKJD)



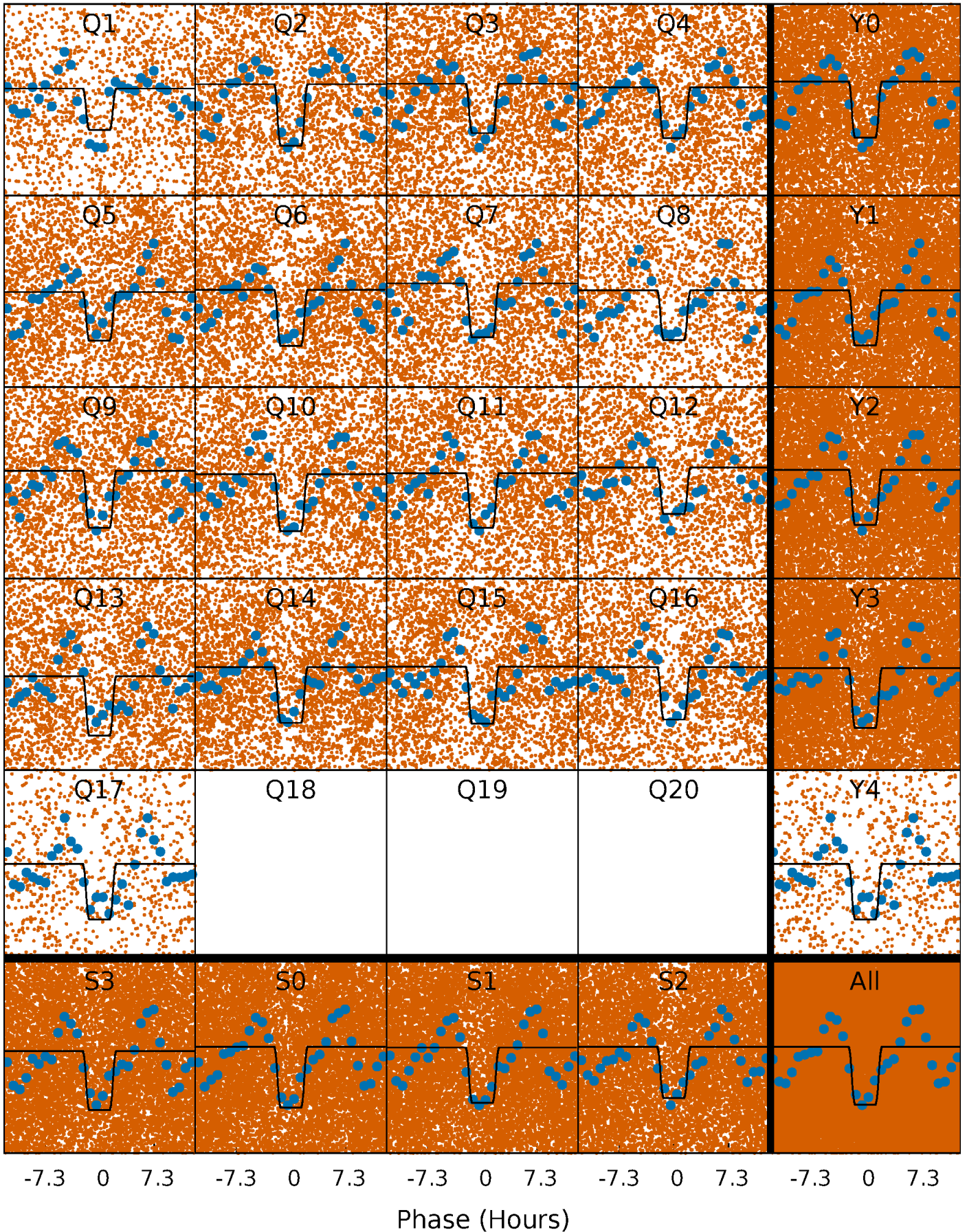
DV Quarter-Phased Transit Curves

TCE 008826317-01 P= 0.879096 Days $T_0=132.002057$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

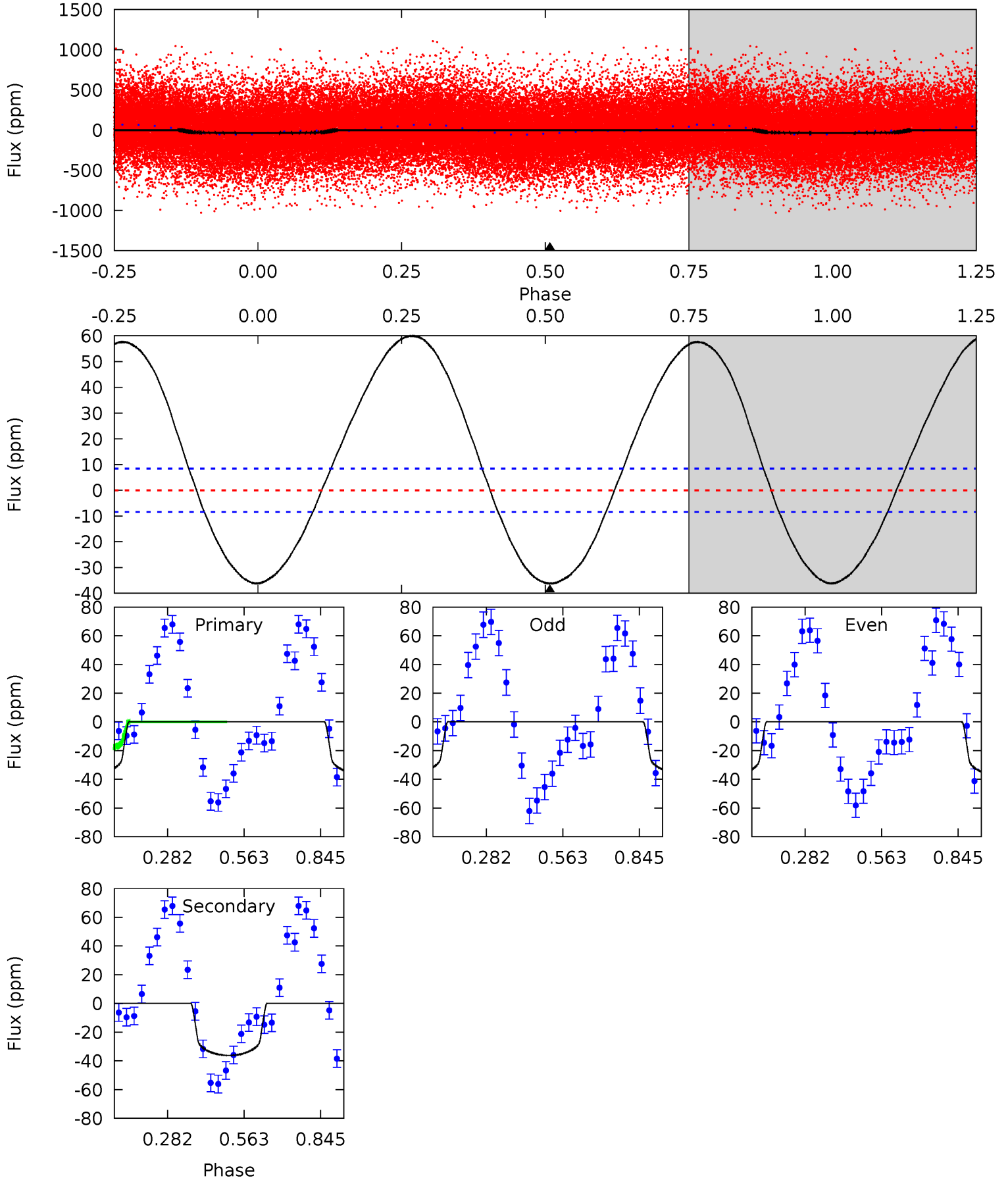
TCE 008826317-01 P= 0.879084 Days $T_0=131.992569$ (BKJD)



DV Model-Shift Uniqueness Test

008826317-01, P = 0.879096 Days, E = 131.122961 Days

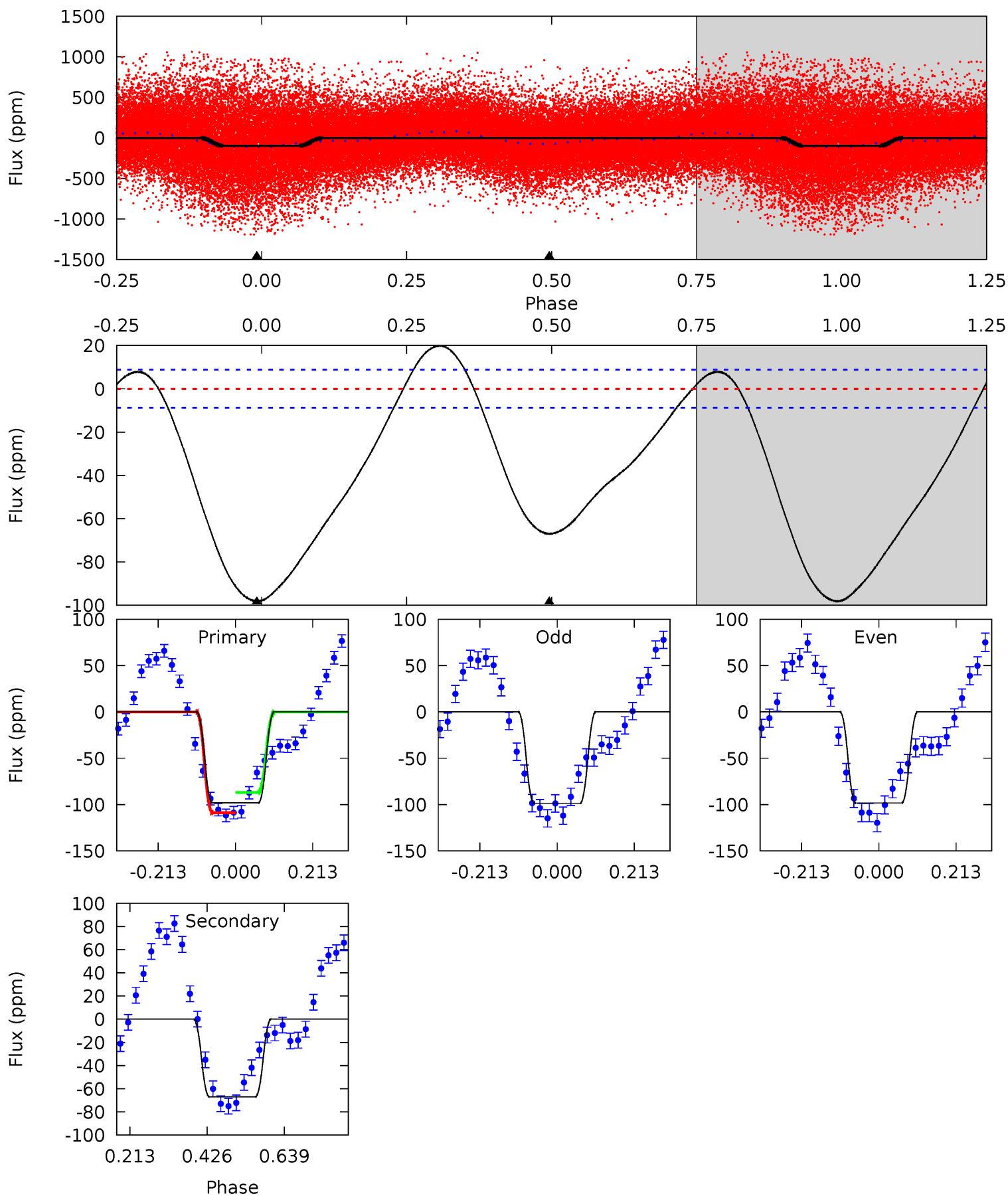
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.7	18.7	0	0	4.34	1.08	15.7	18.7	18.7	18.7	18.7	0.46	1.09	0.62	8.45



Alt Model-Shift Uniqueness Test

008826317-01, P = 0.879084 Days, E = 131.113485 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.1	33.5	0	0	4.40	1.25	4.56	49.1	49.1	33.5	33.5	0.11	0.99	0.17	5.44



Stellar Parameters For KIC 008826317

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7328^{+230}_{-307}	$4.035^{+0.209}_{-0.171}$	$-0.240^{+0.250}_{-0.350}$	$1.955^{+0.542}_{-0.596}$	$1.510^{+0.209}_{-0.279}$	$0.284^{+0.390}_{-0.122}$
	+3%/-4%	+5%/-4%	+104%/-146%	+28%/-30%	+14%/-18%	+137%/-43%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008826317-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-36 ± 2	$1.09^{+0.40}_{-0.31}$	4386^{+365}_{-361}	7842^{+2133}_{-1155}	$7.054^{+7.092}_{-3.093}$
Alt.	-67 ± 2	$2.26^{+0.51}_{-0.42}$	4389^{+339}_{-351}	6143^{+546}_{-484}	$3.011^{+1.469}_{-0.956}$

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

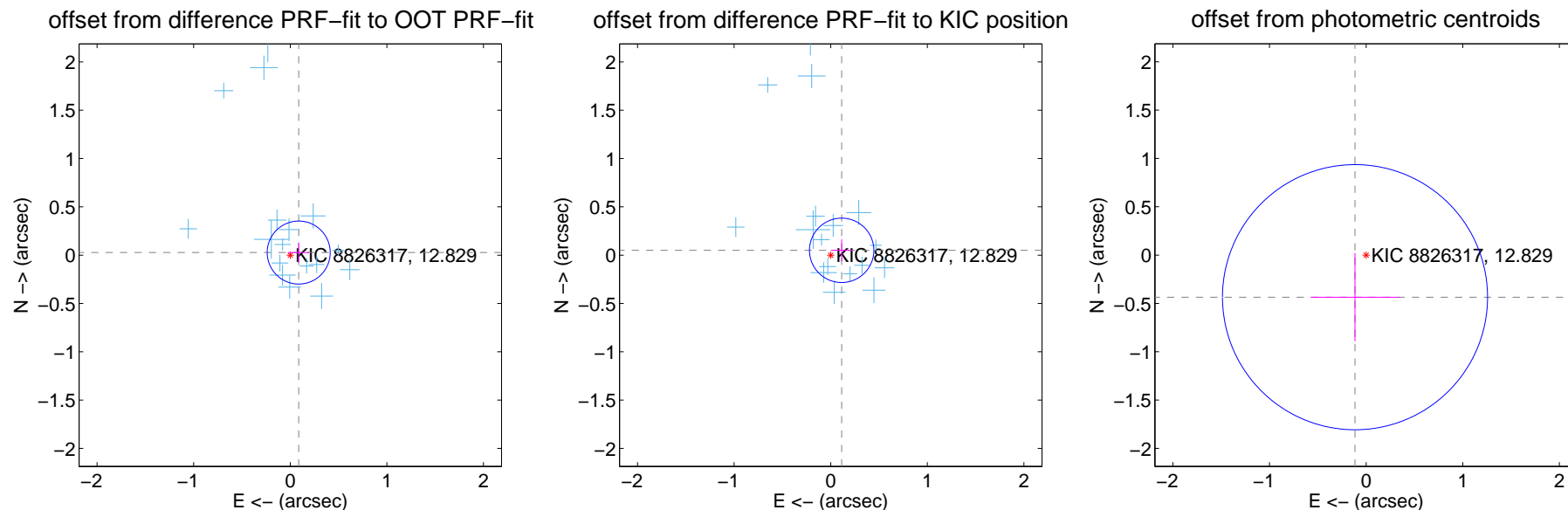
DV Centroid Data

Supplemental centroid analysis for 008826317-01. Kepler magnitude: 12.83. Transit SNR 6.89

There are 17 quarters with good PRF difference image offsets

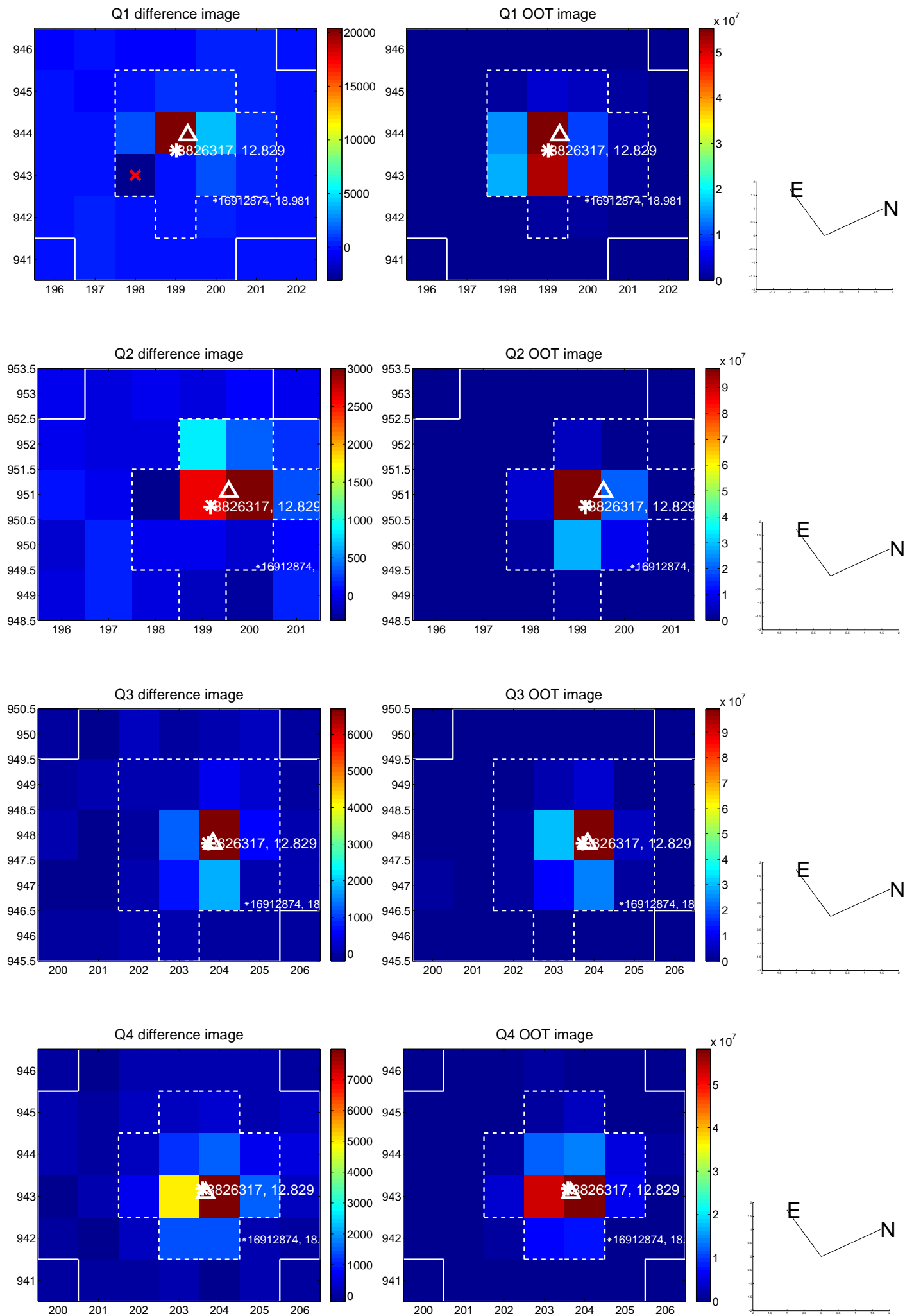
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.091 ± 0.109	0.84	-0.087 ± 0.109	0.027 ± 0.104
PRF-fit source offset from KIC position	0.124 ± 0.111	1.11	-0.113 ± 0.110	0.050 ± 0.115
photometric centroid source offset	0.45 ± 0.46	0.99	0.11 ± 0.46	-0.44 ± 0.46

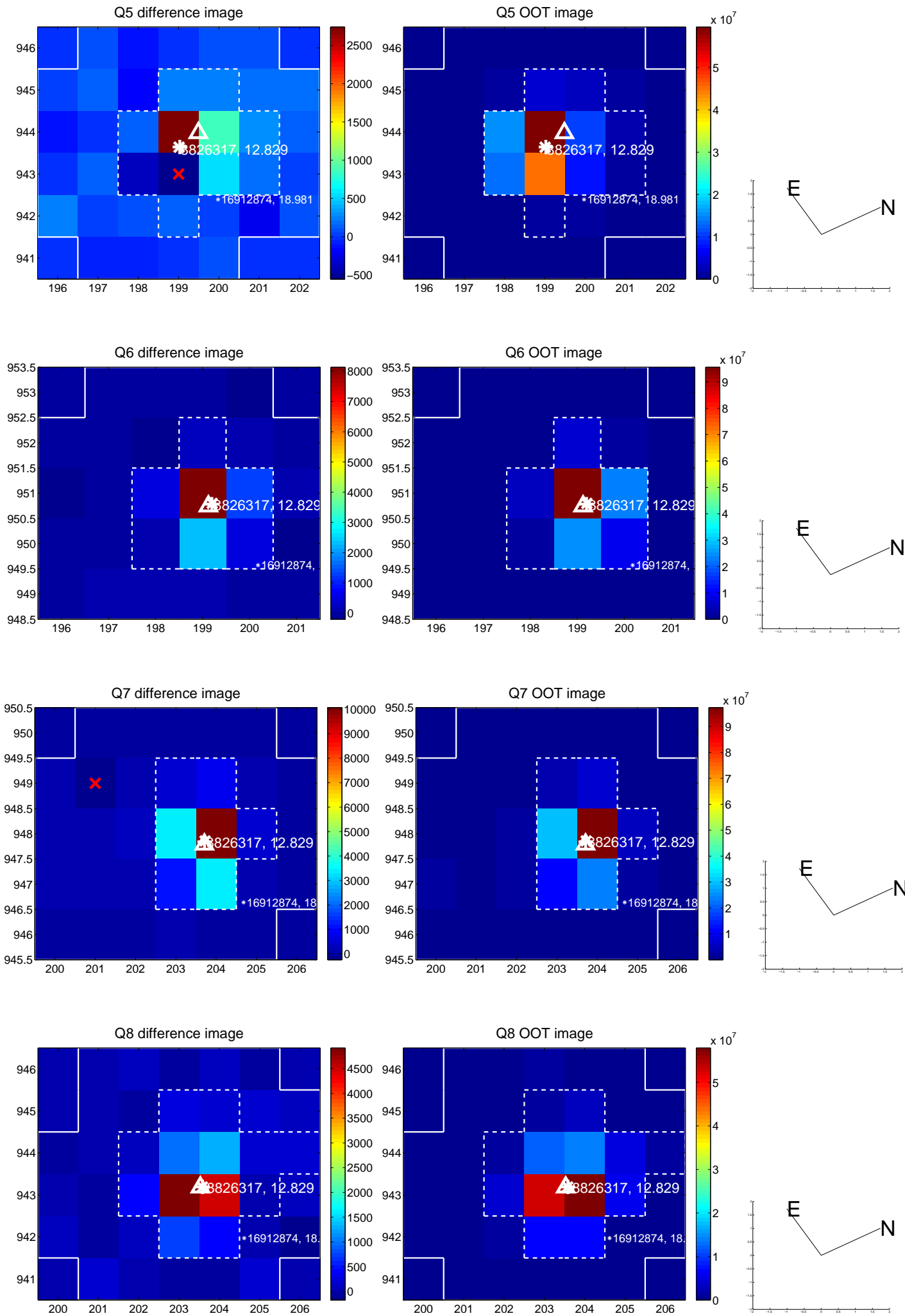


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

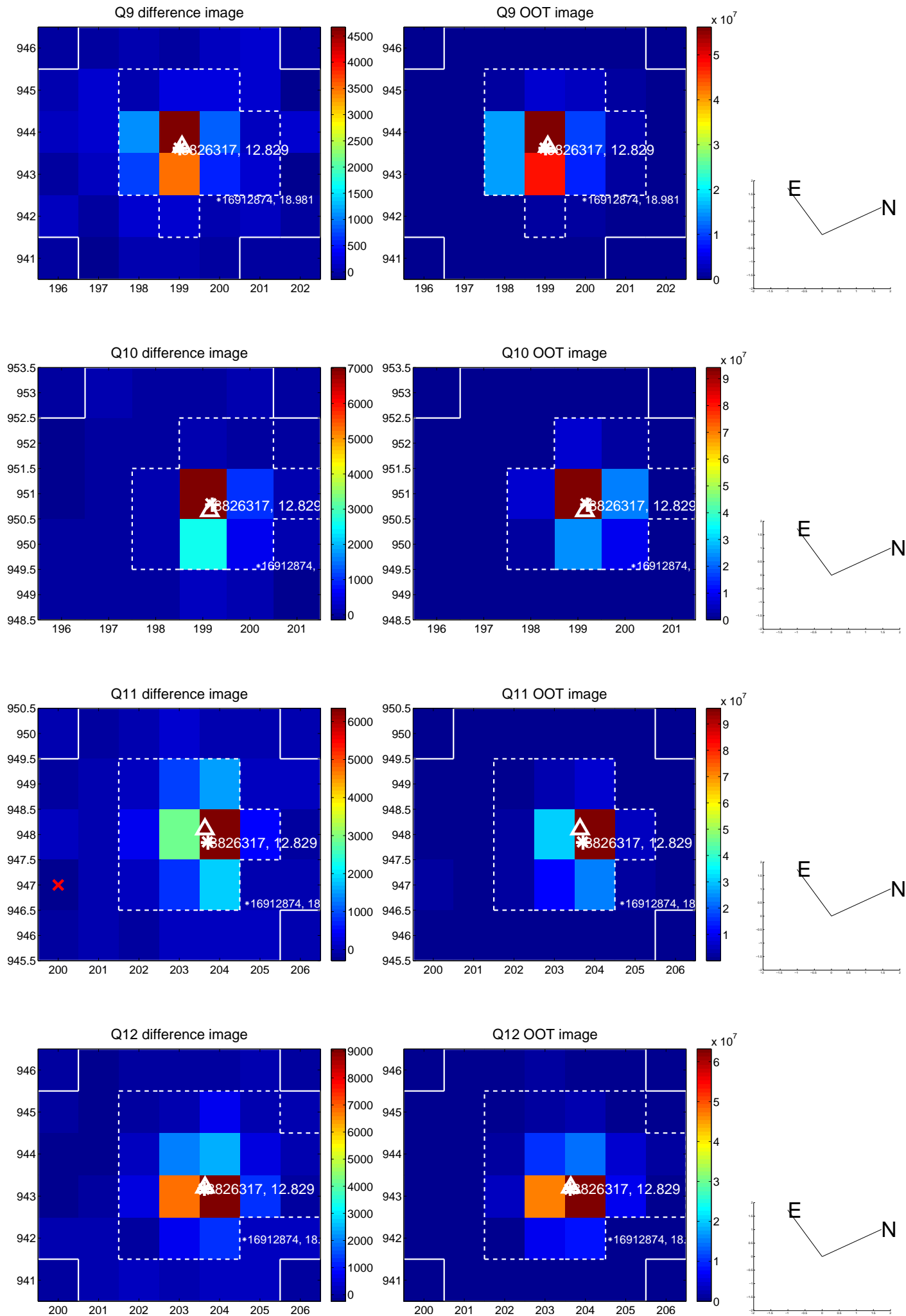
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



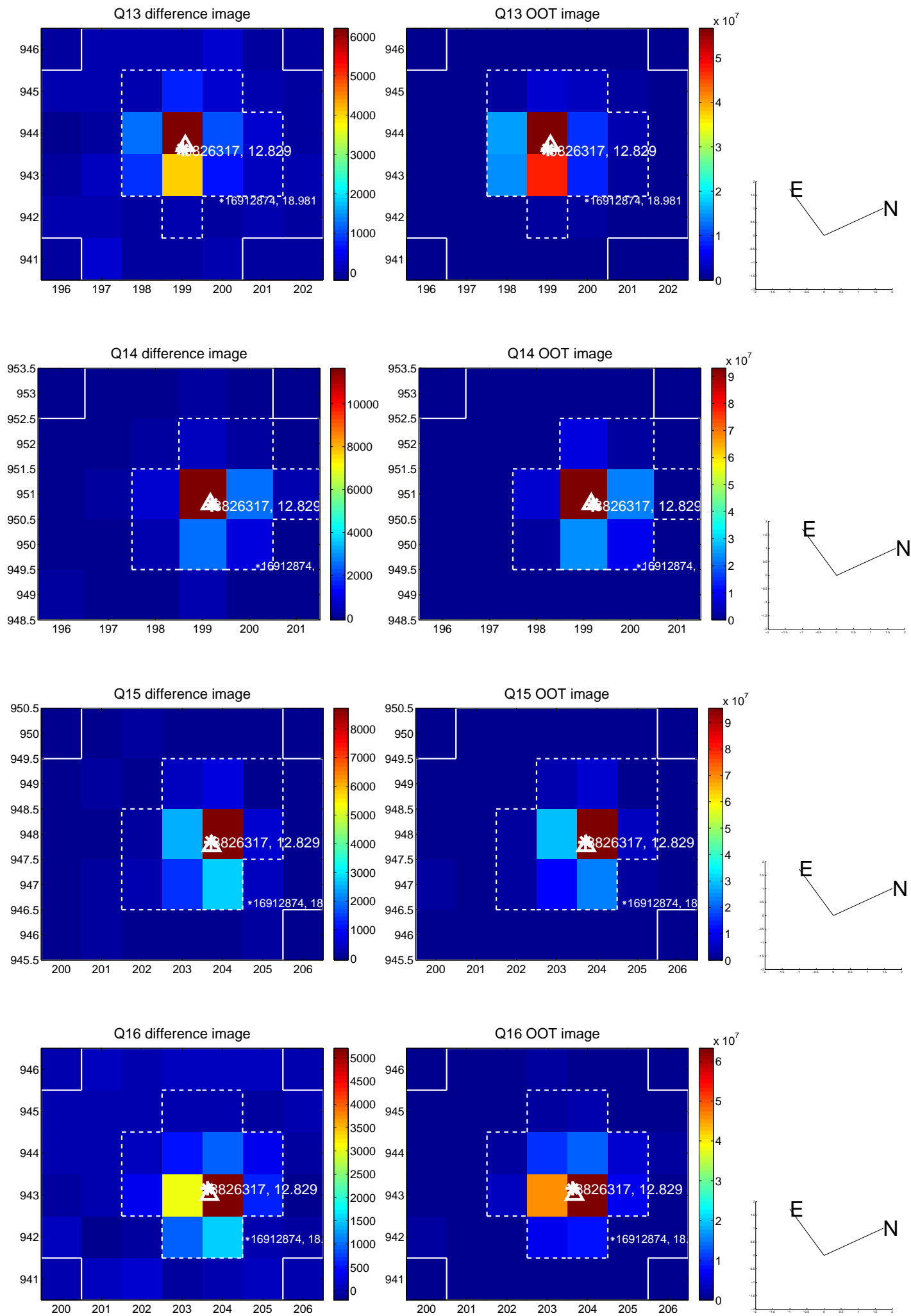
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



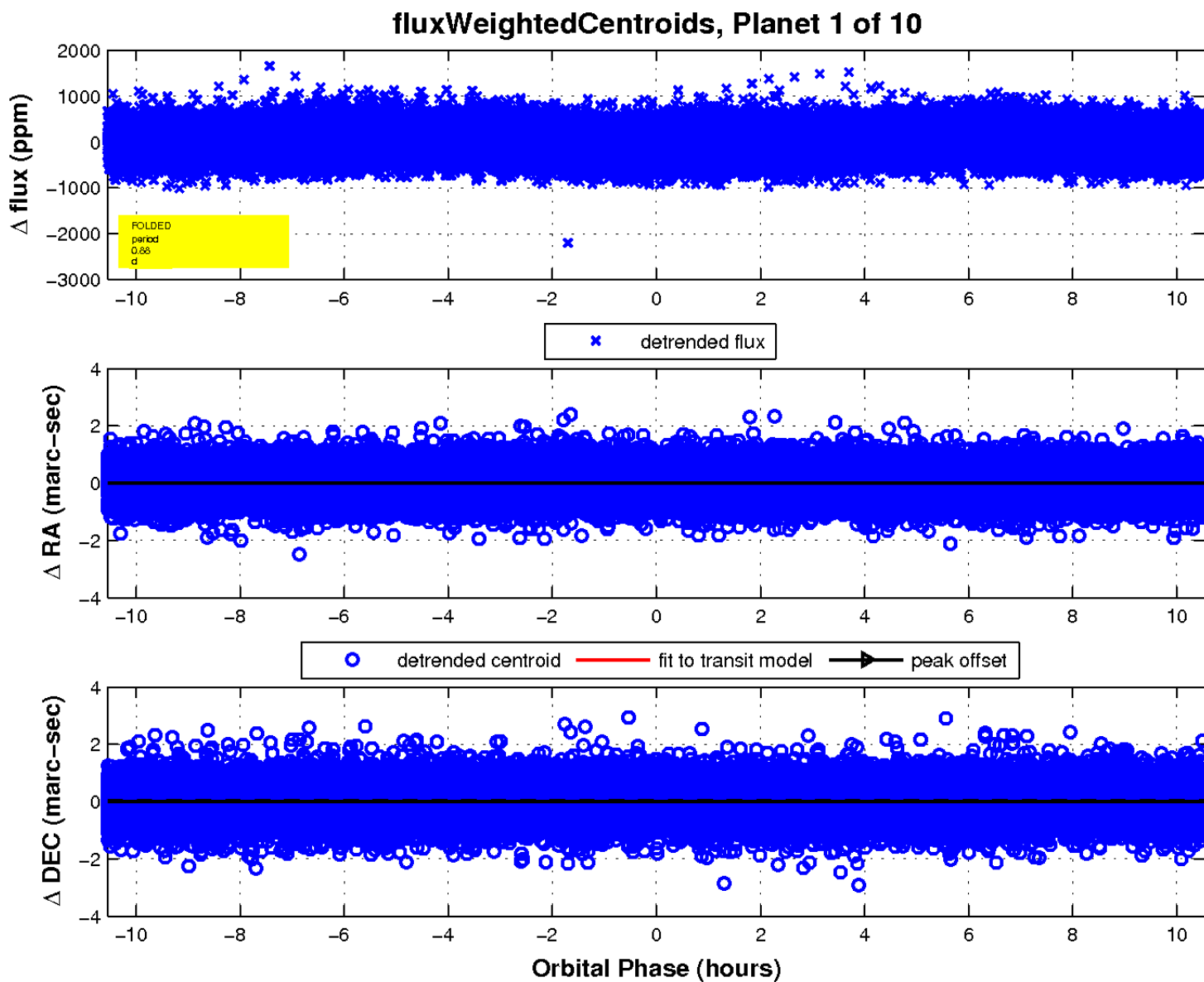
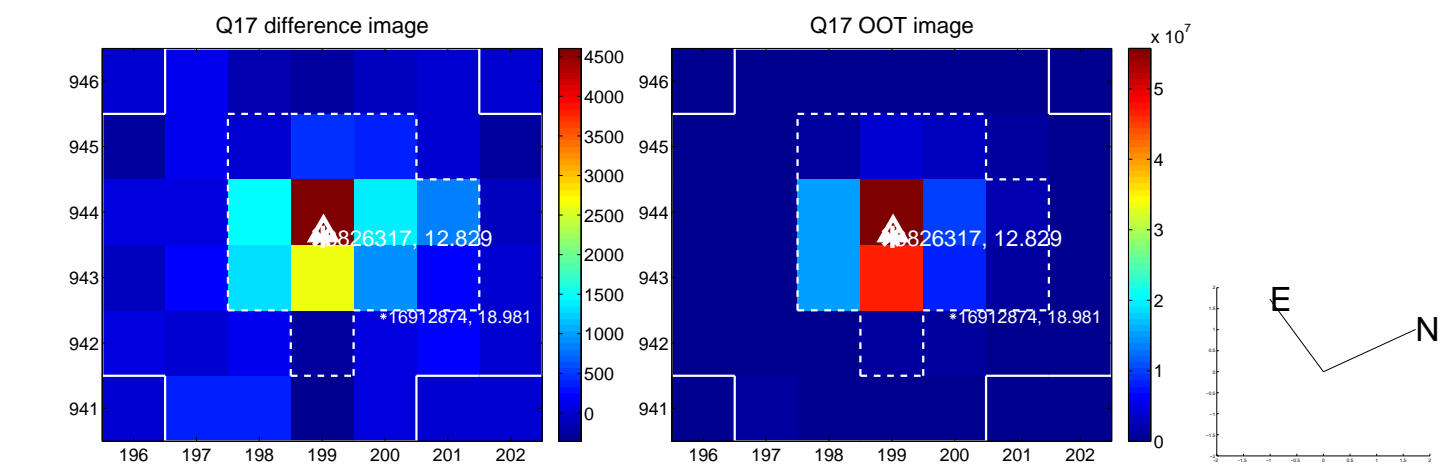
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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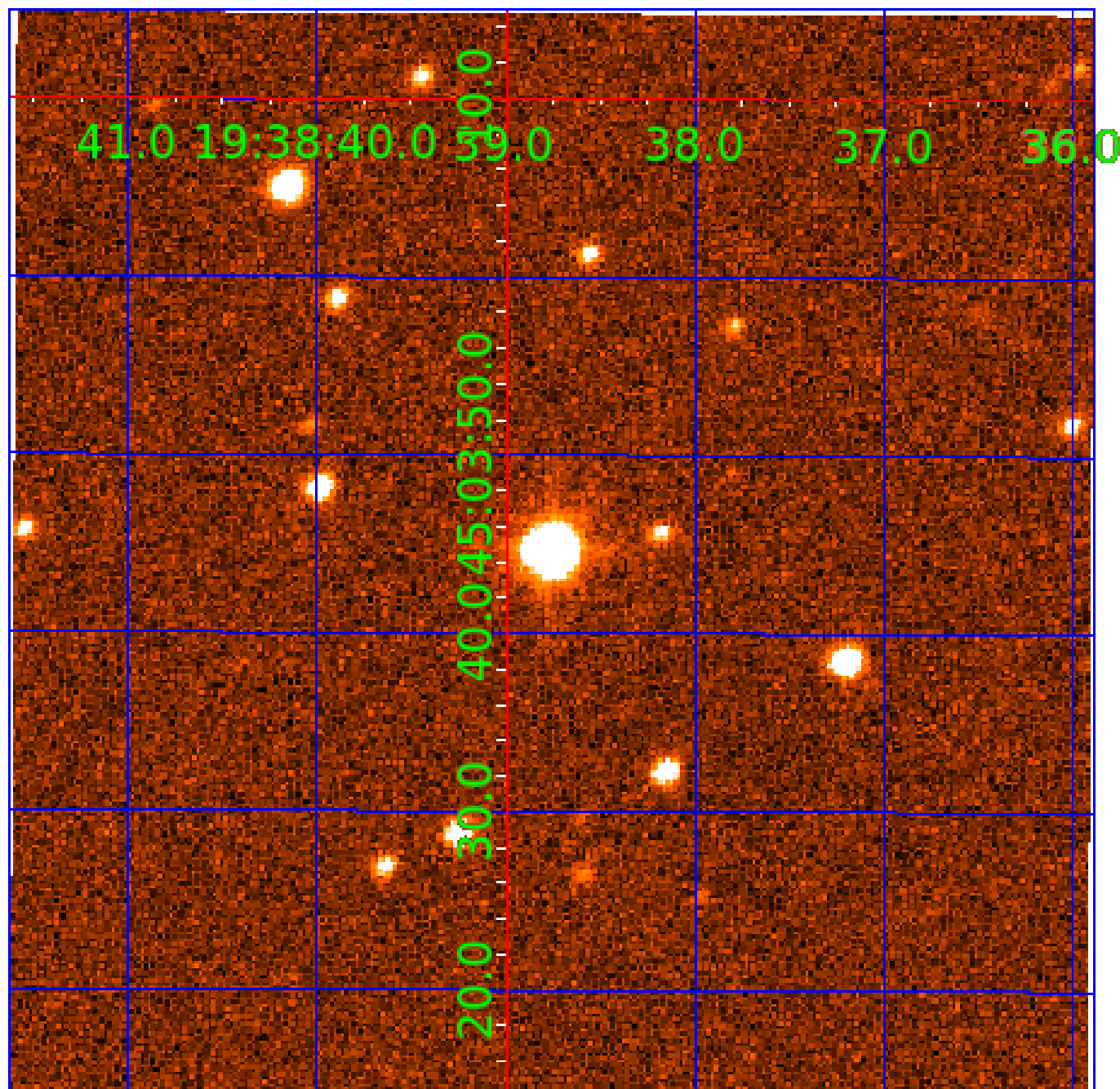


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008826317

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})
008826317-01	OBS	No	0.879096	132.002057	23.9	5.477	10.7	6.9	1.96	7328	1.11	23239.10
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008826317-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008826317-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
008826317-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008826317-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT
008826317-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
008826317-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008826317-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
008826317-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

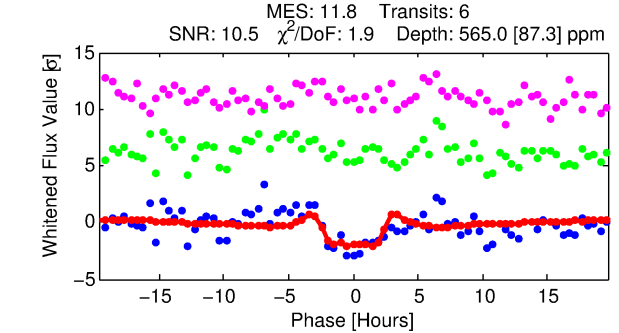
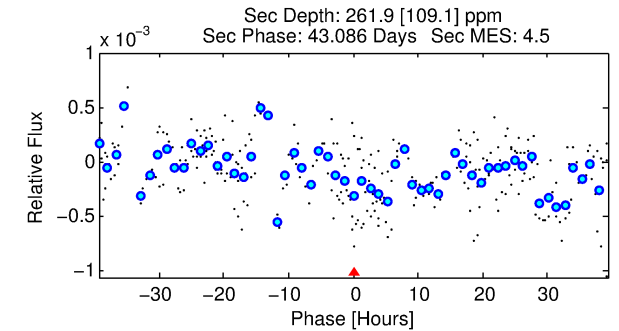
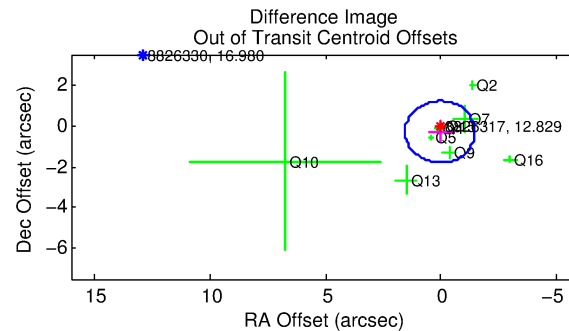
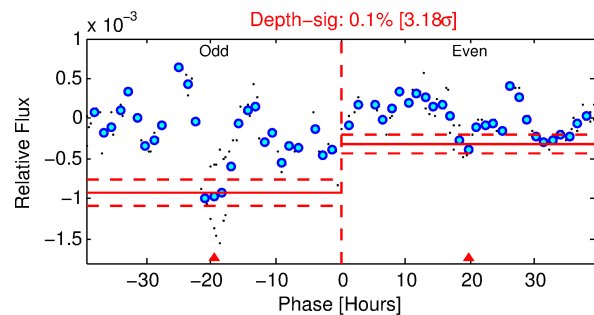
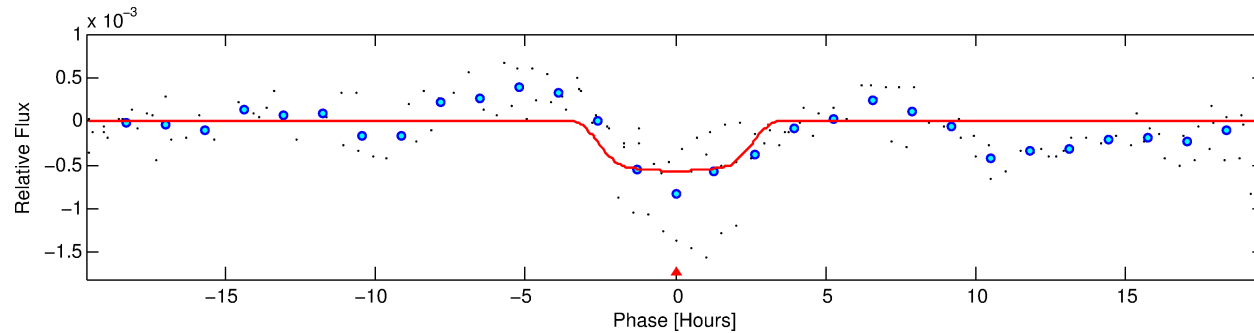
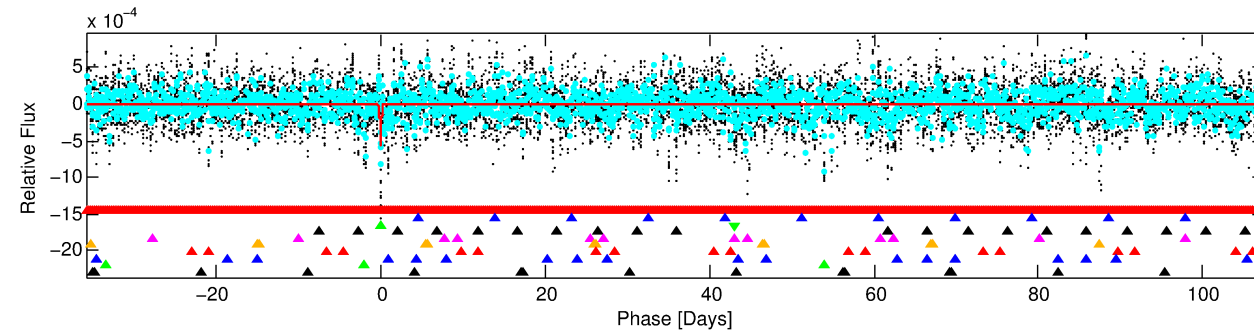
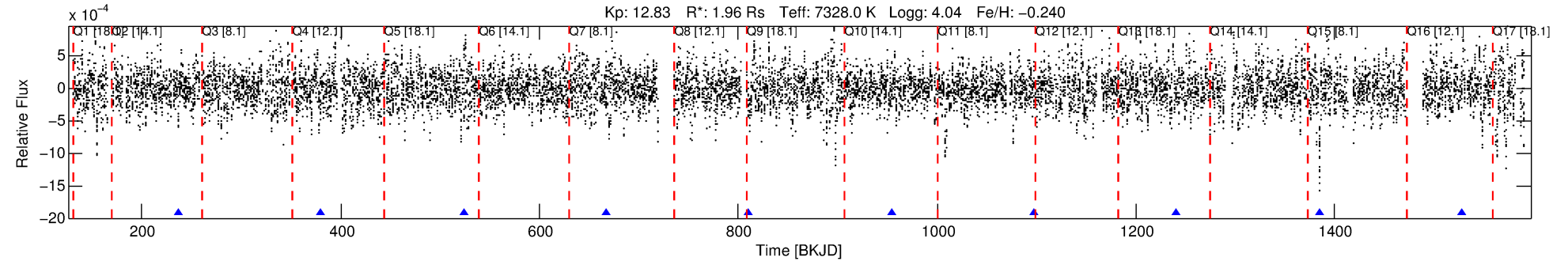
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008826317-03

No Significant Match Found

DV One-Page Summary

KIC: 8826317 Candidate: 3 of 10 Period: 143.411 d



DV Fit Results:

Period = 143.41053 [0.00214] d
Epoch = 236.9903 [0.0113] BKJD
Rp/R* = 0.0267 [0.0025]
a/R* = 64.90 [15.68]
b = 0.95 [0.02]
Seff = 26.07 [10.82]
Teq = 576 [60] K
Rp = 5.71 [1.82] Re
a = 0.6154 [0.1593] AU
Ag = 1676.38 [996.61] [1.68 σ]
Teffp = 5700 [694] K [7.35 σ]

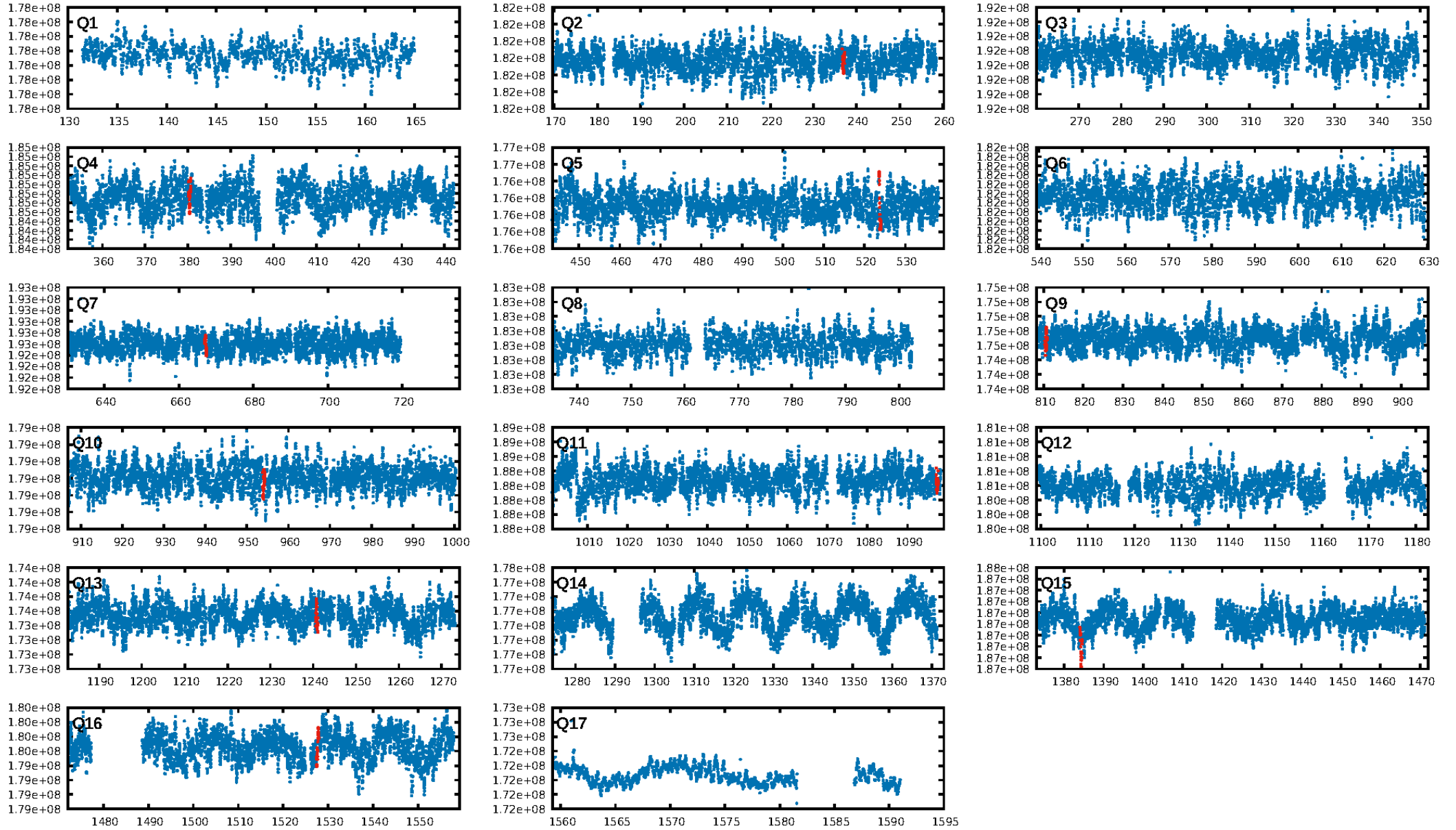
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [15.40 σ]
LongPeriod-sig: 100.0% [967.84 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 98.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.3629
Centroid-sig: 90.7%
Centroid-so: 0.017 arcsec [0.06 σ]
OotOffset-rm: 0.302 arcsec [0.60 σ]
KicOffset-rm: 0.307 arcsec [0.61 σ]
OotOffset-st: 2/2/2/3 [9]
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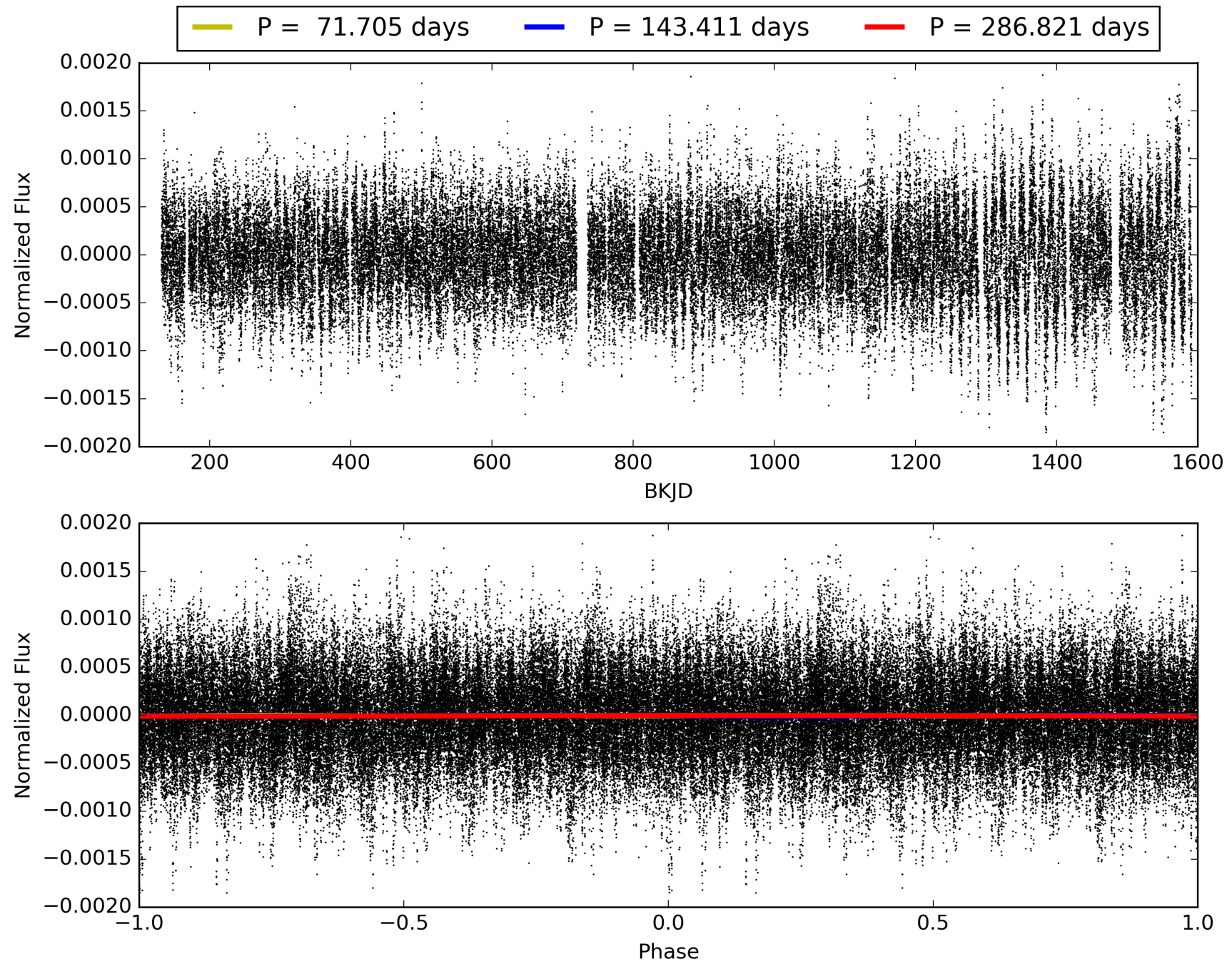
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008826317-03, PDC Light Curves

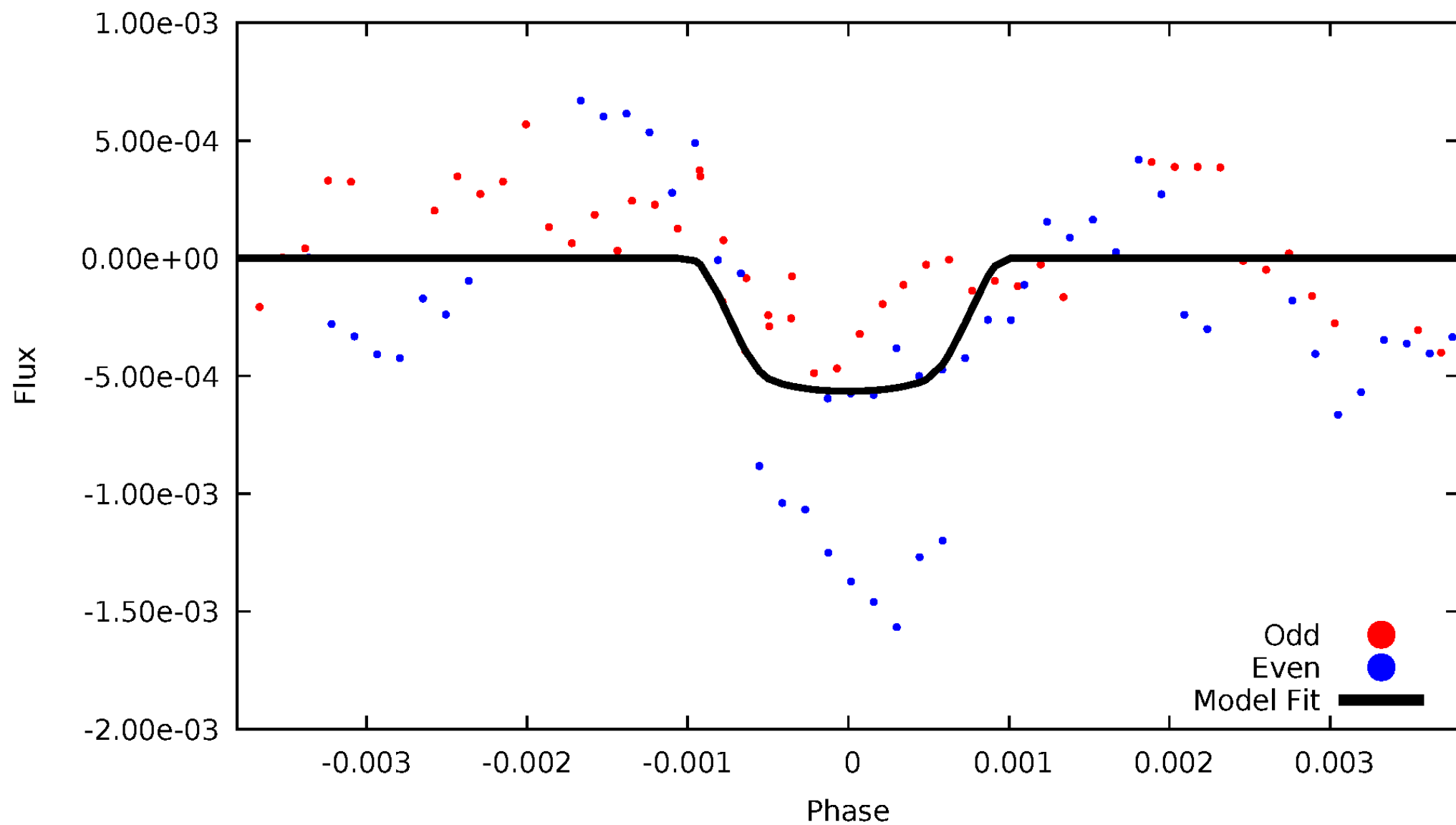


TCE 008826317-03



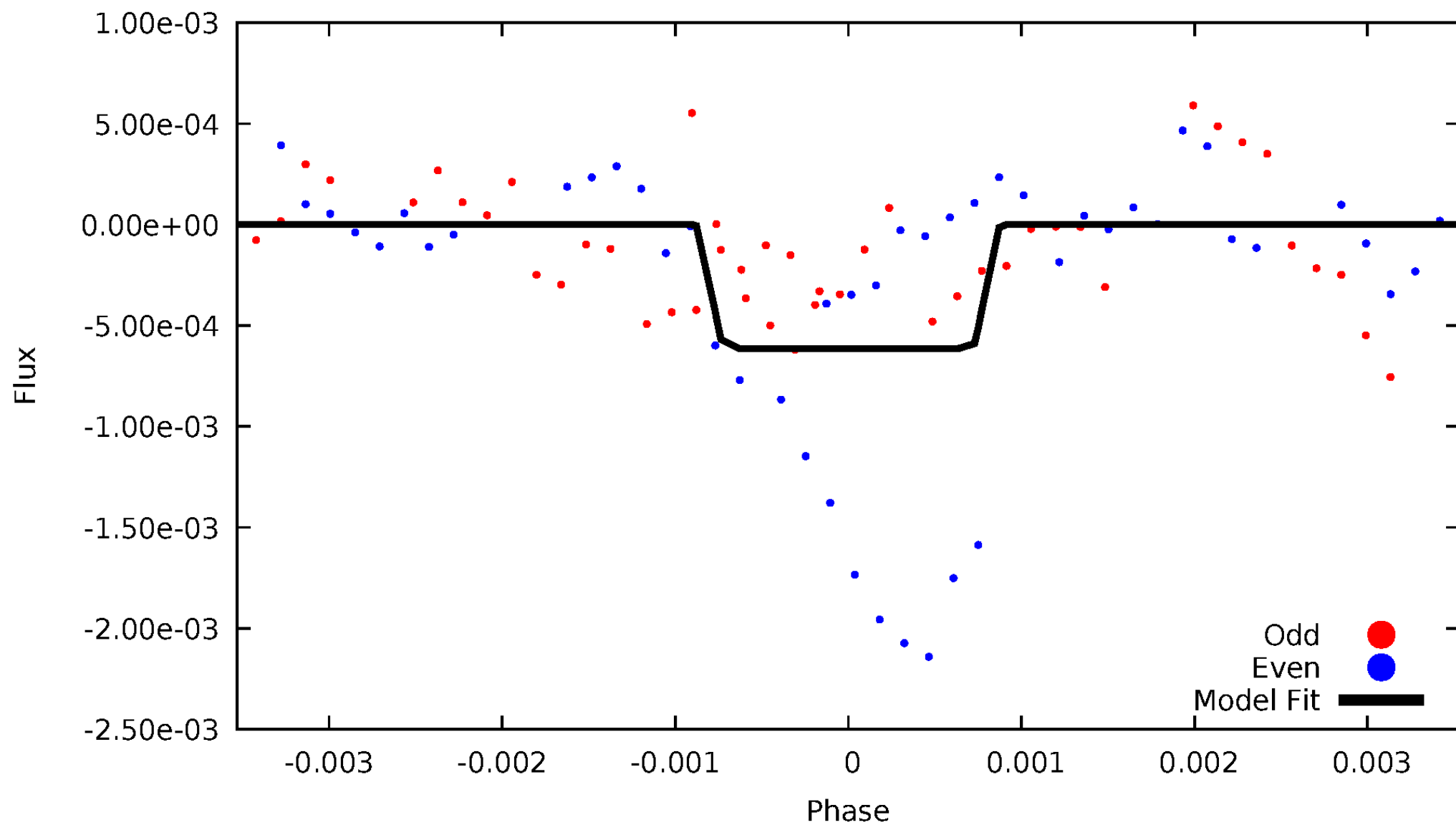
DV Odd/Even

TCE 008826317-03



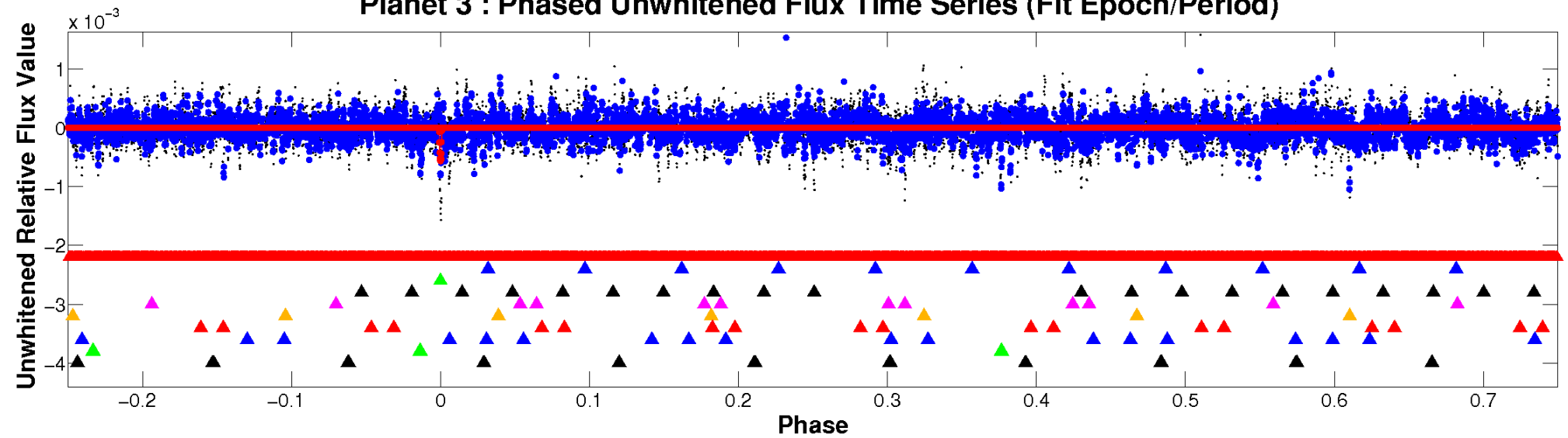
ALT Odd/Even

TCE 008826317-03

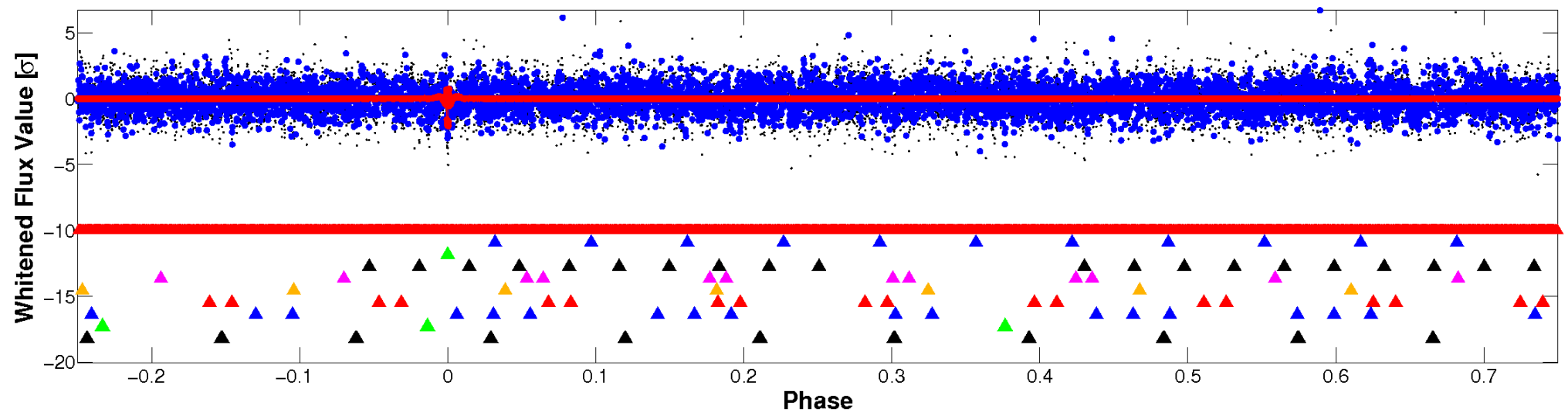


Non-Whitened Vs. Whitened Light Curve

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

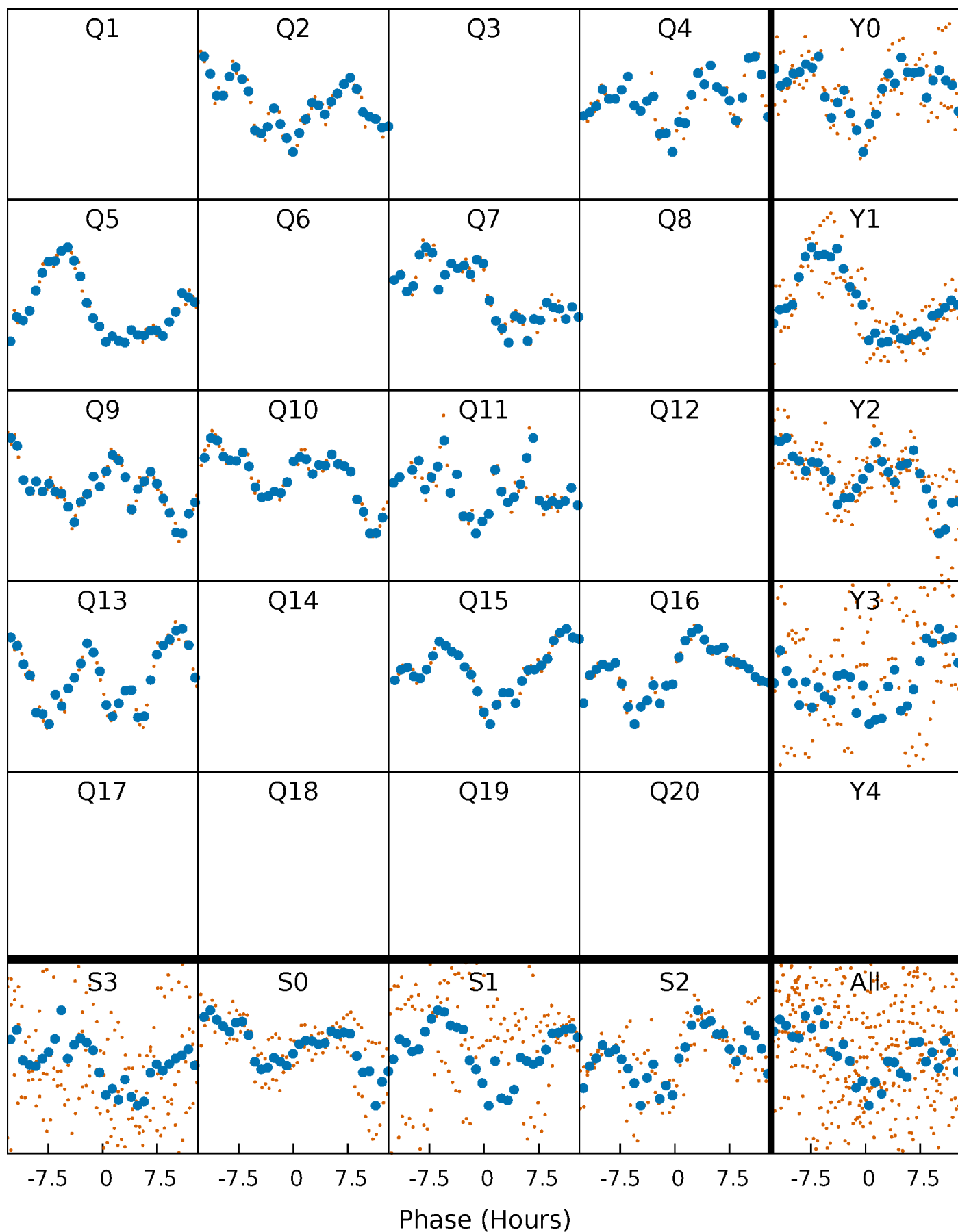


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



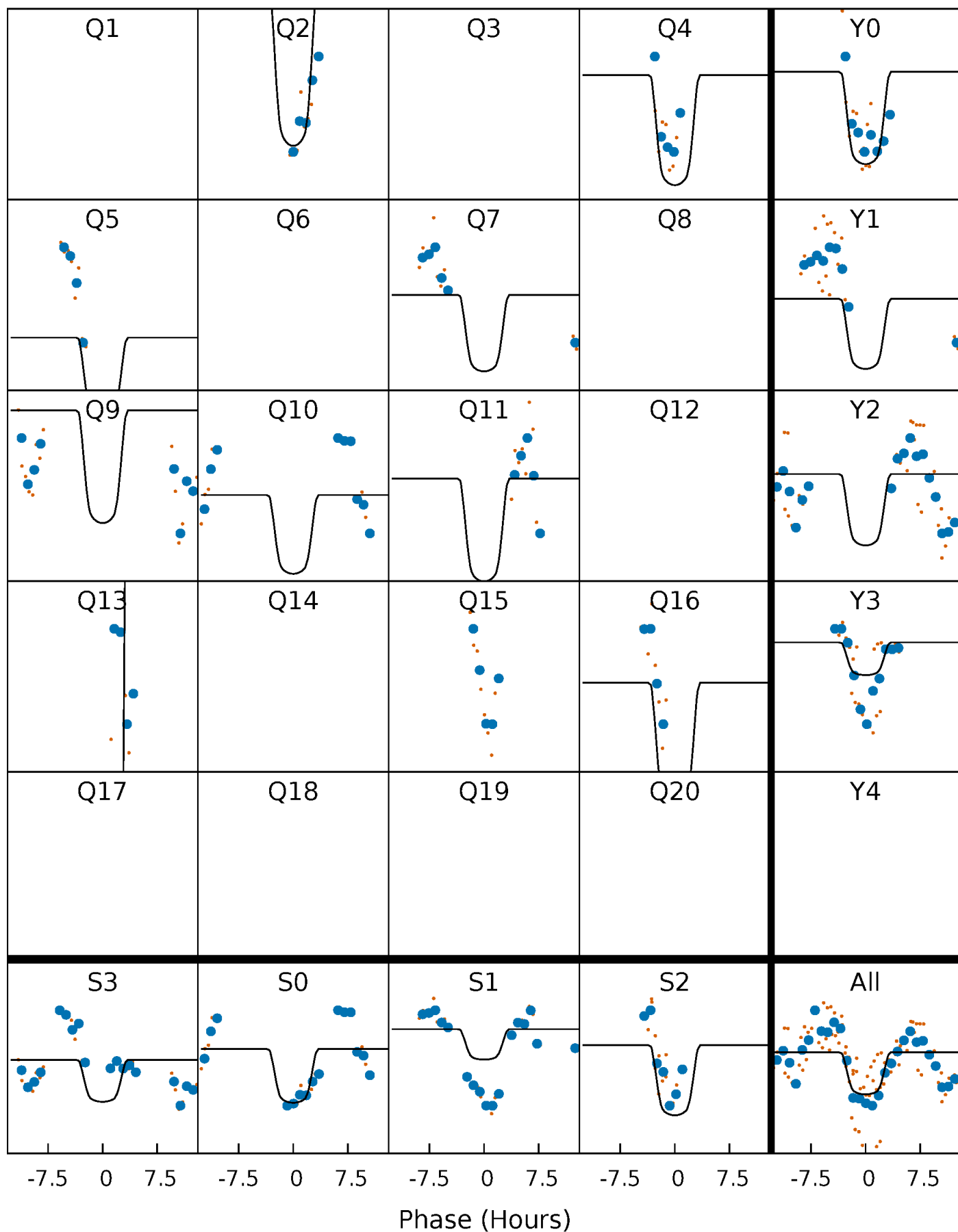
PDC Quarter-Phased Transit Curves

TCE 008826317-03 P=143.410534 Days $T_0=236.990340$ (BKJD)



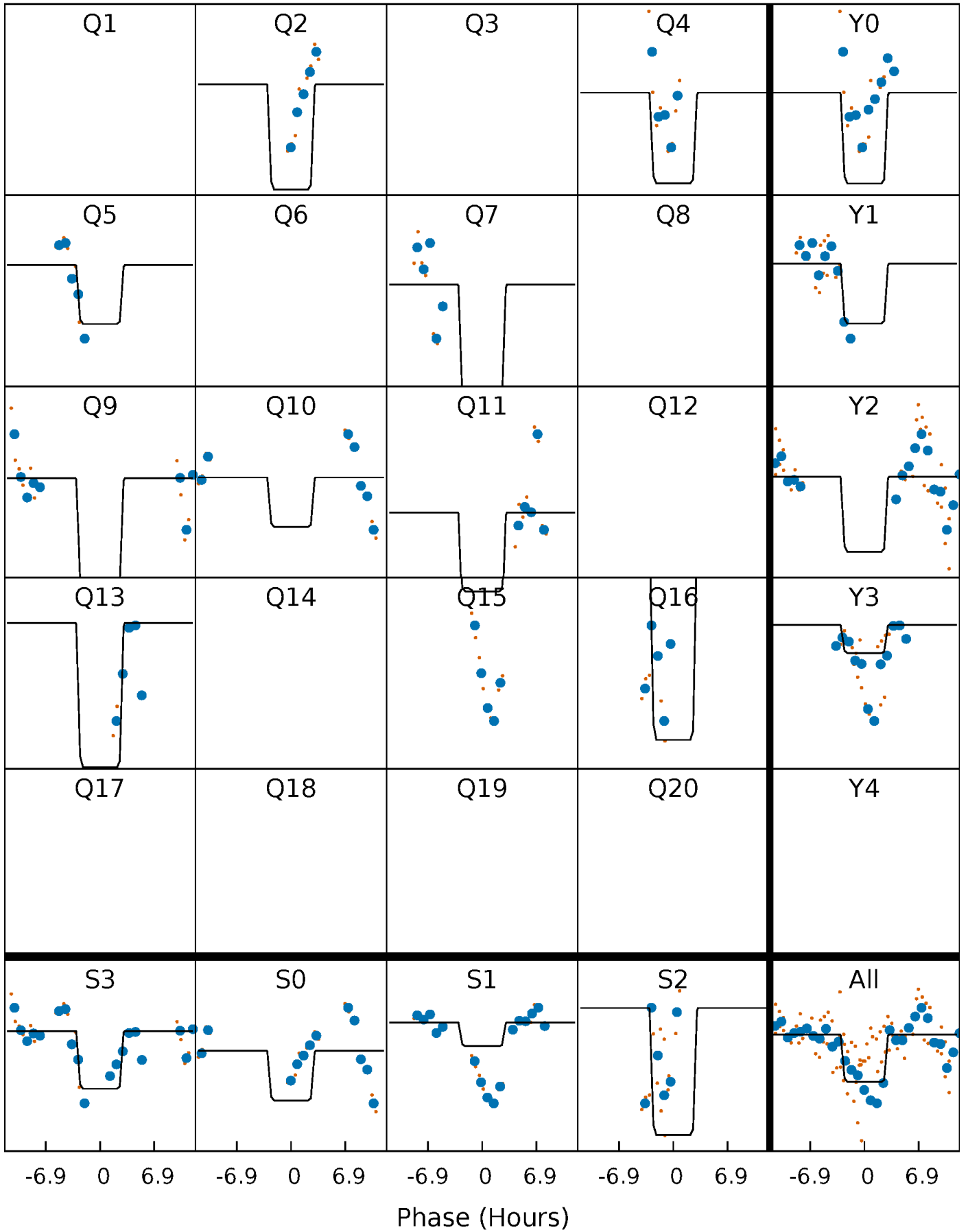
DV Quarter-Phased Transit Curves

TCE 008826317-03 P=143.410534 Days $T_0=236.990340$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

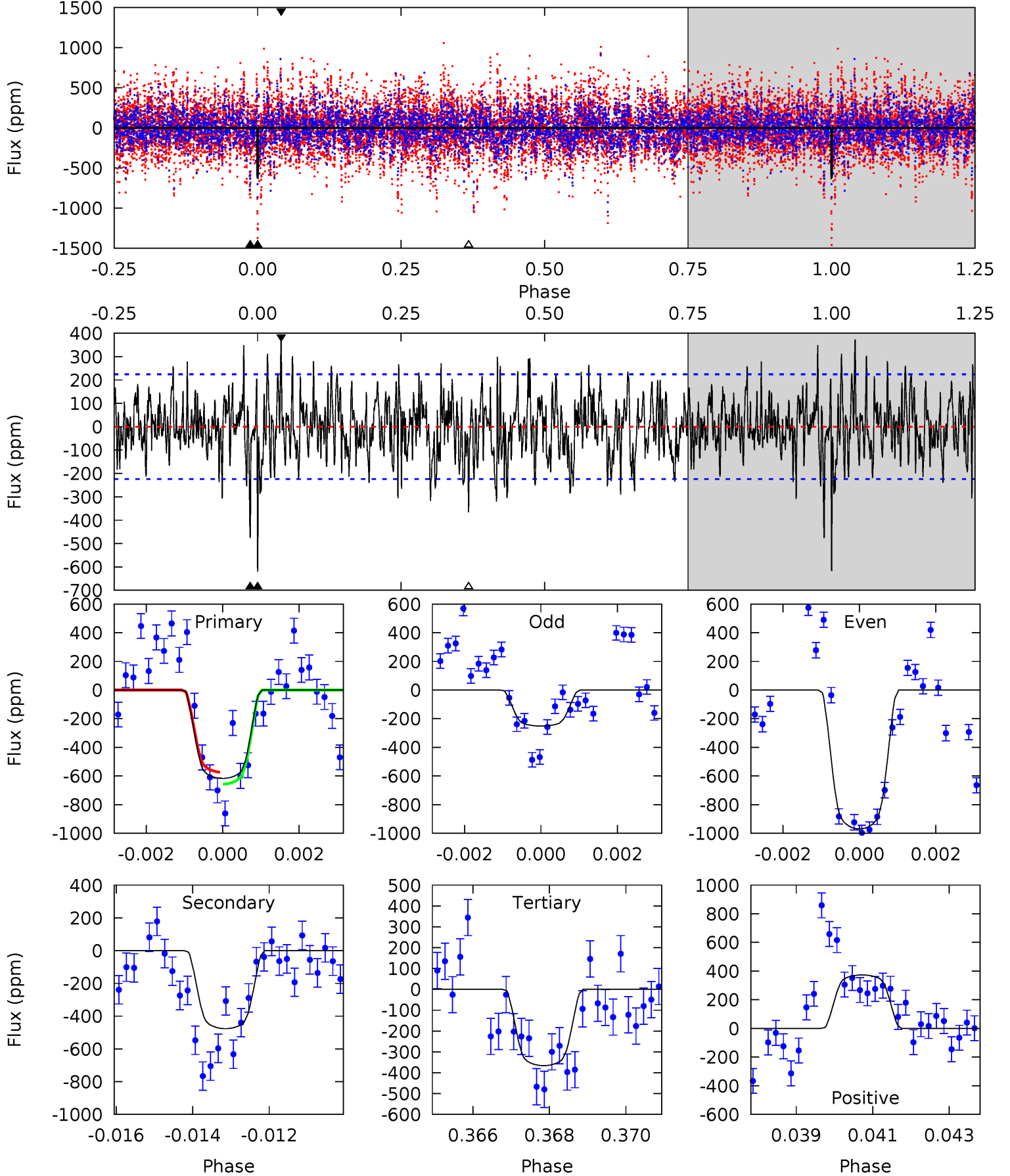
TCE 008826317-03 P=143.407631 Days $T_0=236.990051$ (BKJD)



DV Model-Shift Uniqueness Test

008826317-03, P = 143.410534 Days, E = 93.579806 Days

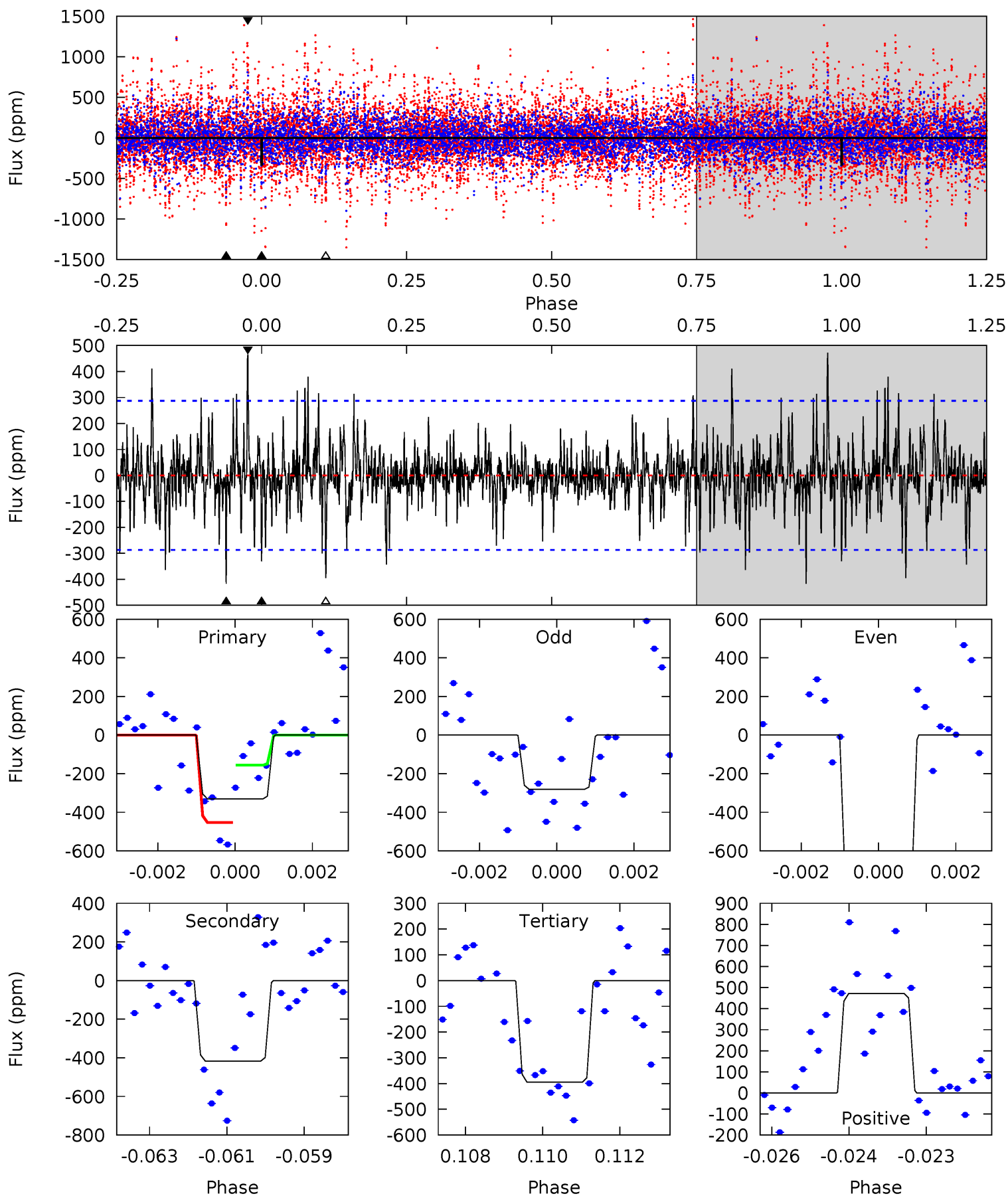
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	11.3	8.70	8.86	5.33	3.10	2.64	5.97	5.80	2.62	2.45	8.64	1.67	0.38	1.00



Alt Model-Shift Uniqueness Test

008826317-03, $P = 143.407631$ Days, $E = 93.582420$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.17	7.77	7.36	8.80	5.35	3.13	1.77	-1.18	-2.63	0.42	-1.03	7.18	1.48	0.53	2.73



Stellar Parameters For KIC 008826317

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7328^{+230}_{-307}	$4.035^{+0.209}_{-0.171}$	$-0.240^{+0.250}_{-0.350}$	$1.955^{+0.542}_{-0.596}$	$1.510^{+0.209}_{-0.279}$	$0.284^{+0.390}_{-0.122}$
	+3%/-4%	+5%/-4%	+104%/-146%	+28%/-30%	+14%/-18%	+137%/-43%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008826317-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-476 ± 42	$5.75^{+1.07}_{-1.03}$	805^{+60}_{-68}	6498^{+440}_{-372}	3028^{+1286}_{-885}
Alt.	-417 ± 54	$5.25^{+1.02}_{-0.97}$	799^{+66}_{-68}	6540^{+471}_{-465}	3120^{+1446}_{-953}

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 $A_{obs} \gg 1.0$

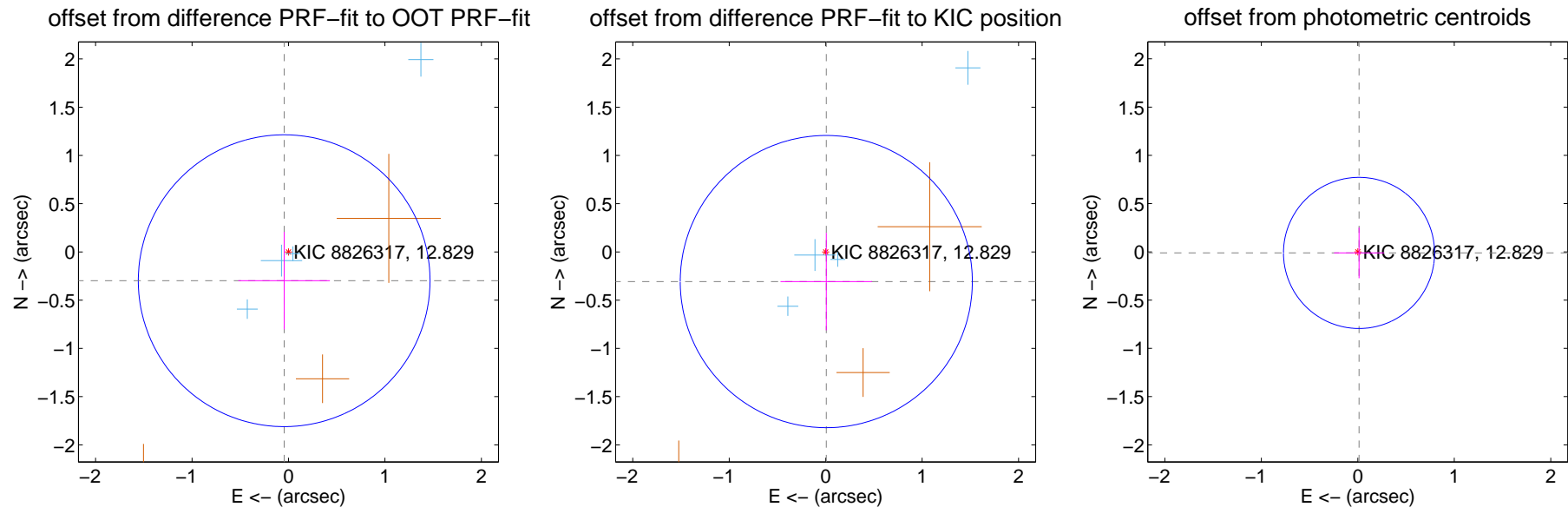
DV Centroid Data

Supplemental centroid analysis for 008826317-03. Kepler magnitude: 12.83. Transit SNR 10.47

There are 4 quarters with good PRF difference image offsets

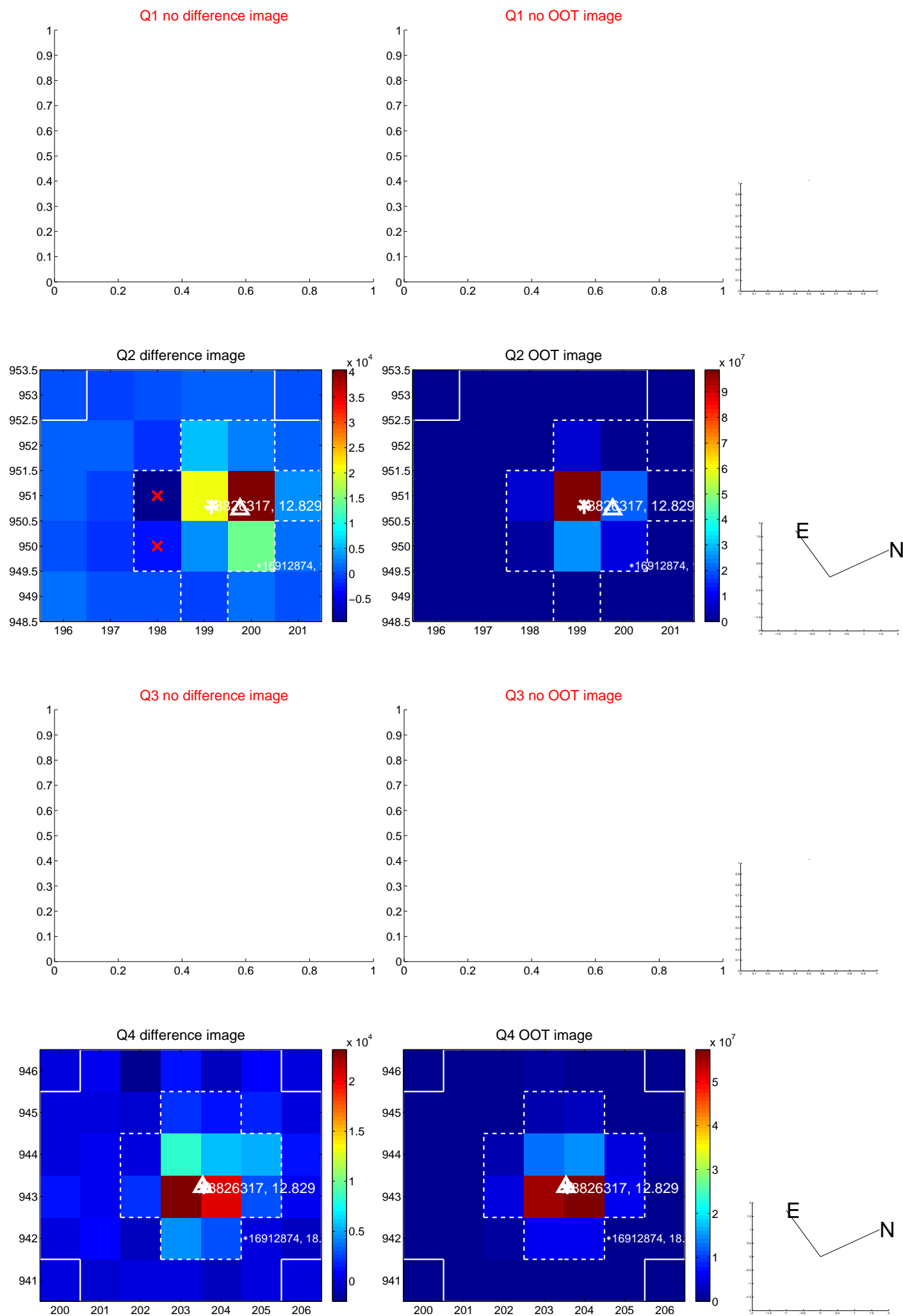
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.302 ± 0.504	0.60	0.045 ± 0.474	-0.298 ± 0.505
PRF-fit source offset from KIC position	0.307 ± 0.505	0.61	-0.006 ± 0.474	-0.307 ± 0.505
photometric centroid source offset	0.02 ± 0.26	0.06	-0.01 ± 0.26	-0.01 ± 0.26

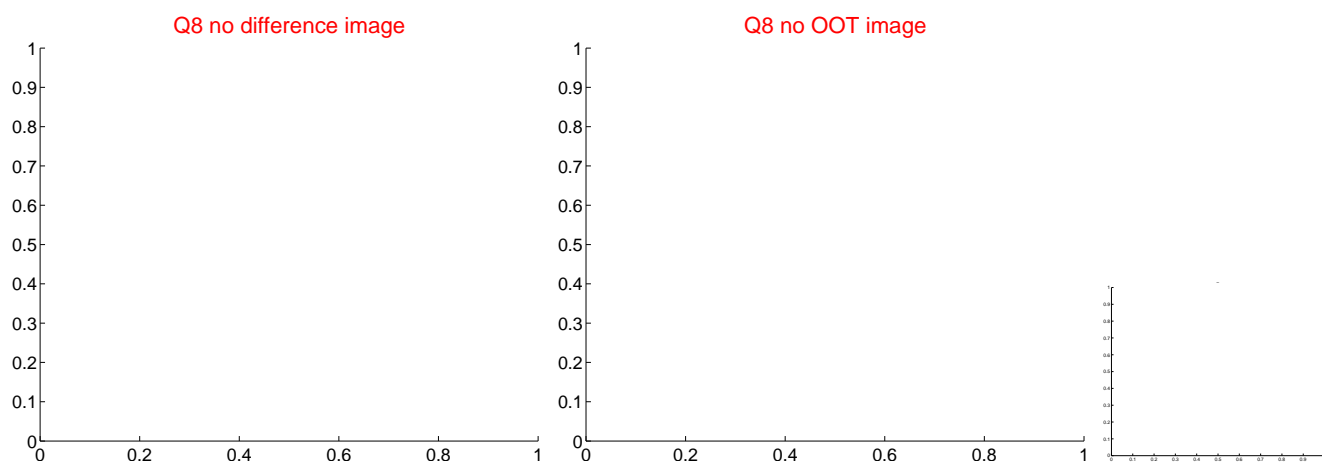
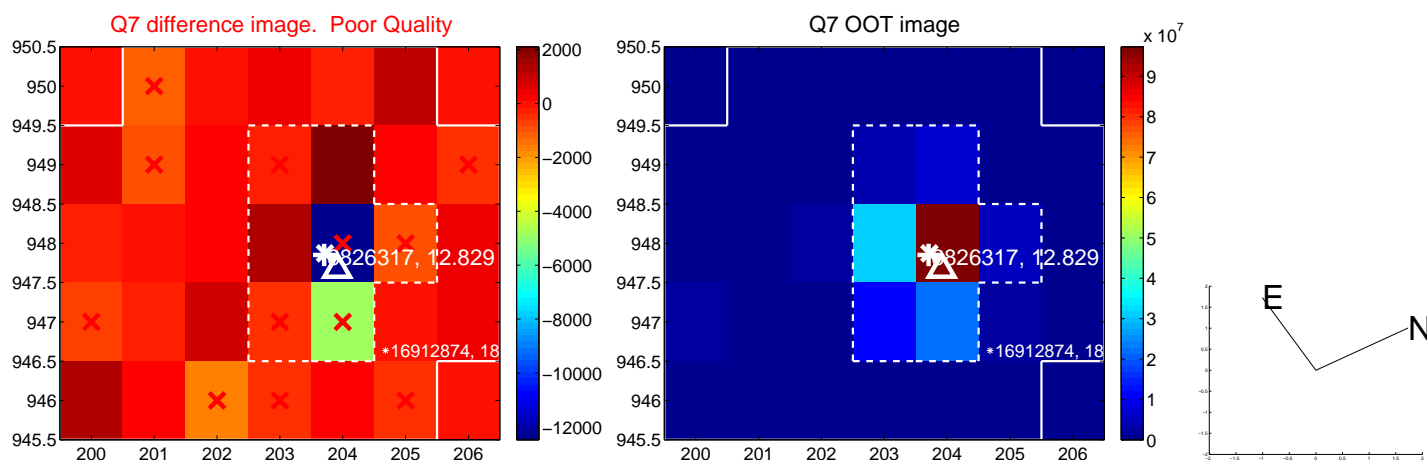
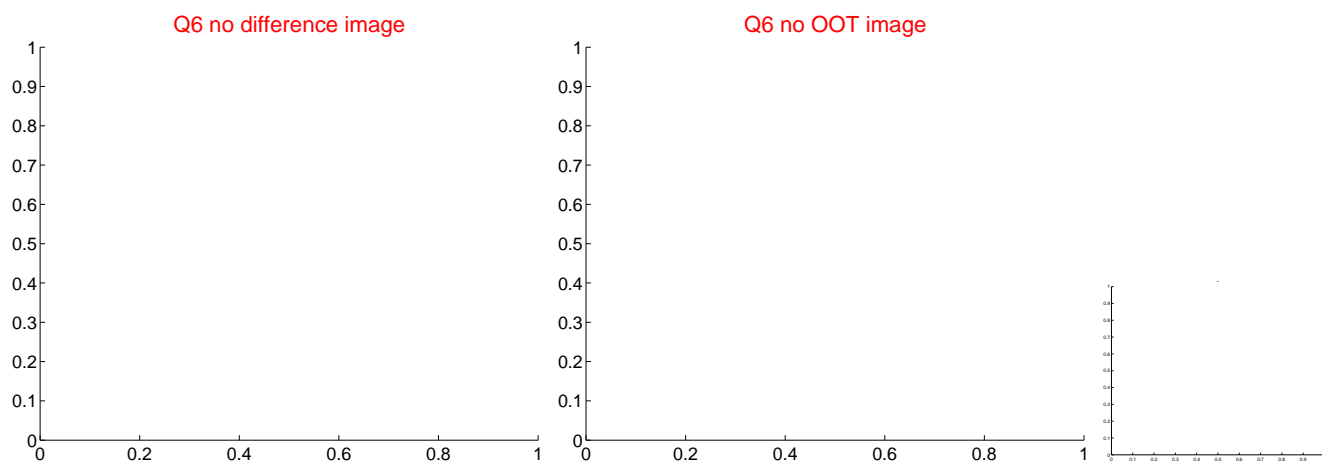
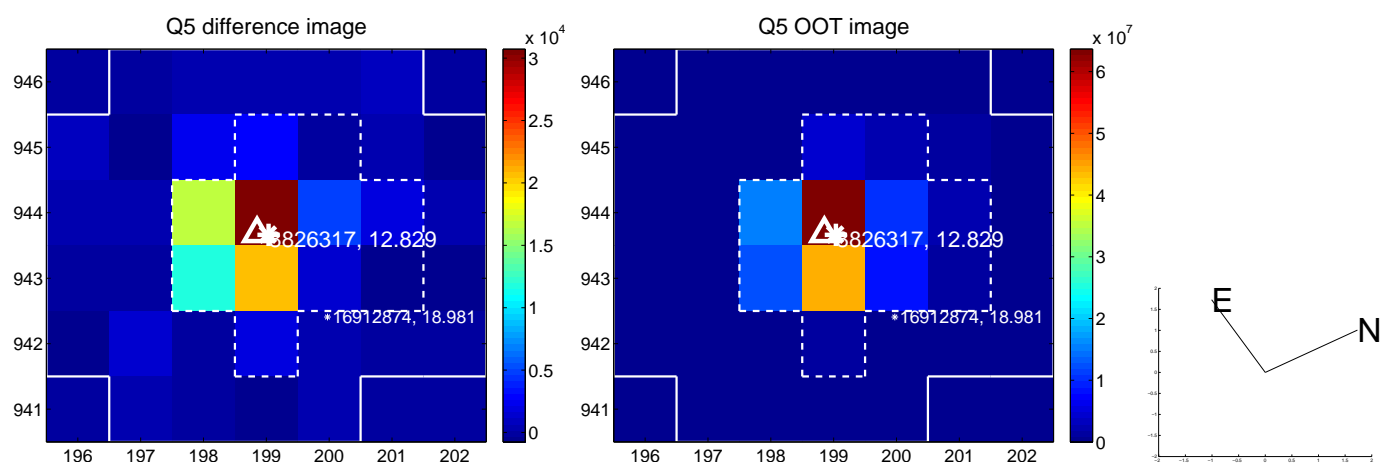


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

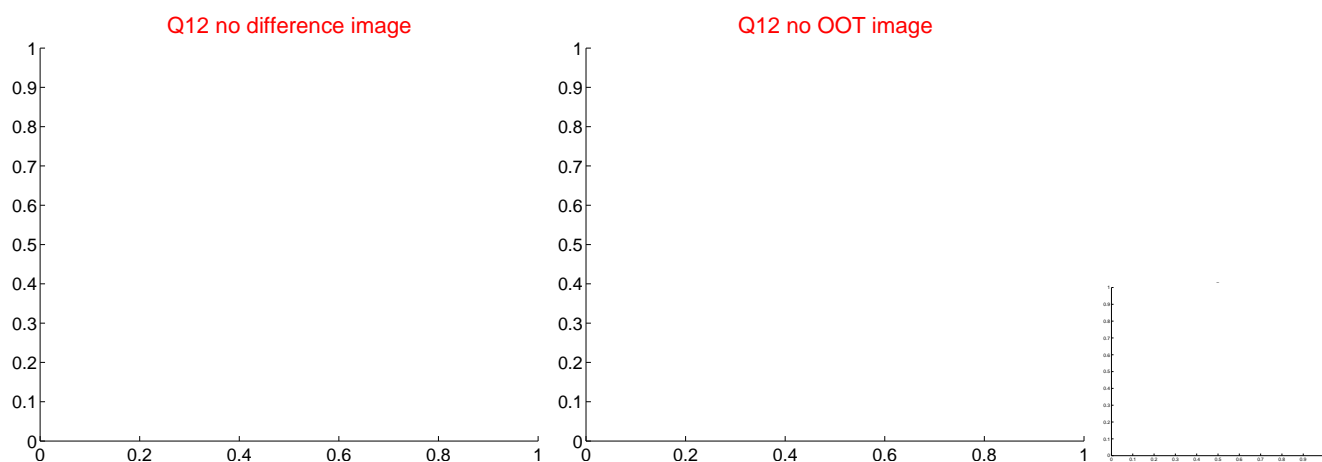
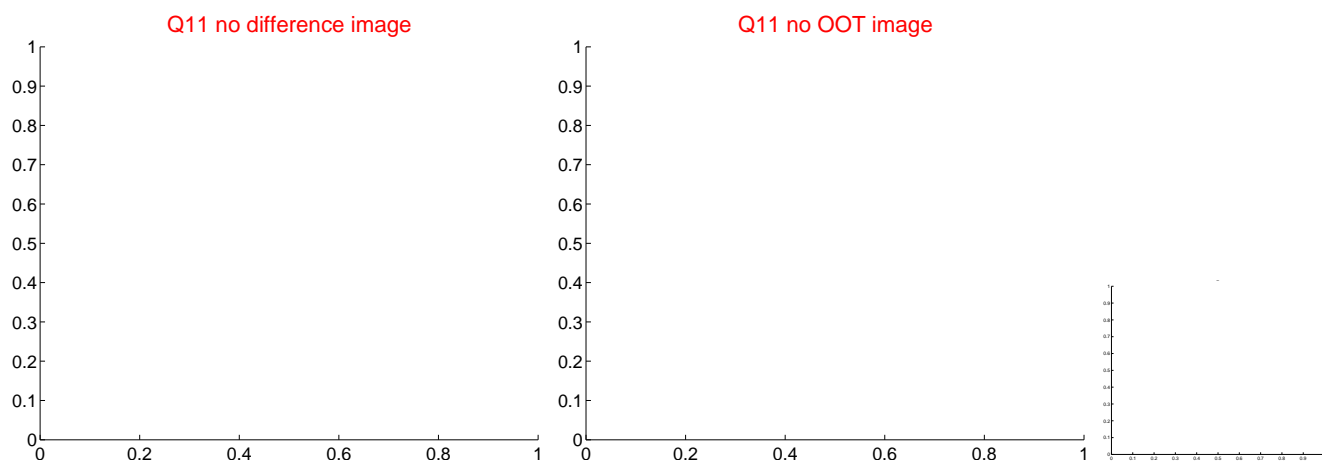
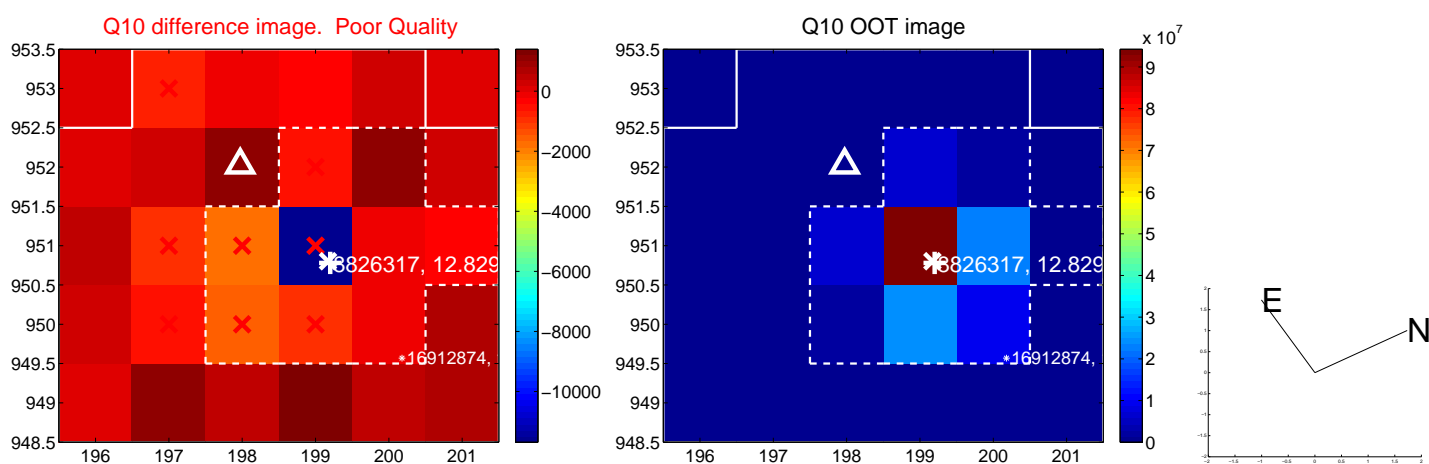
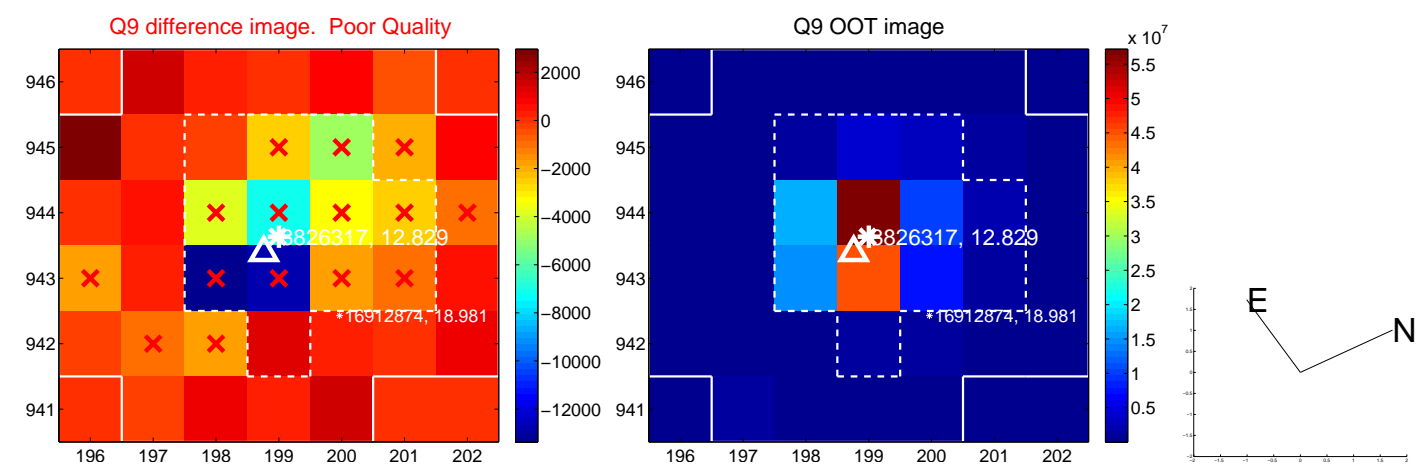
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



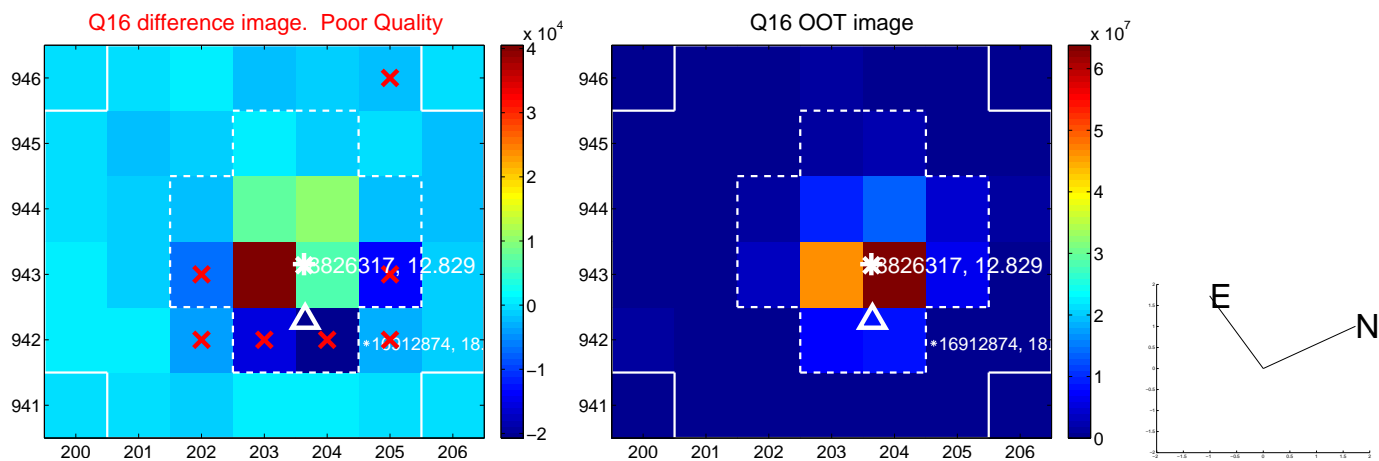
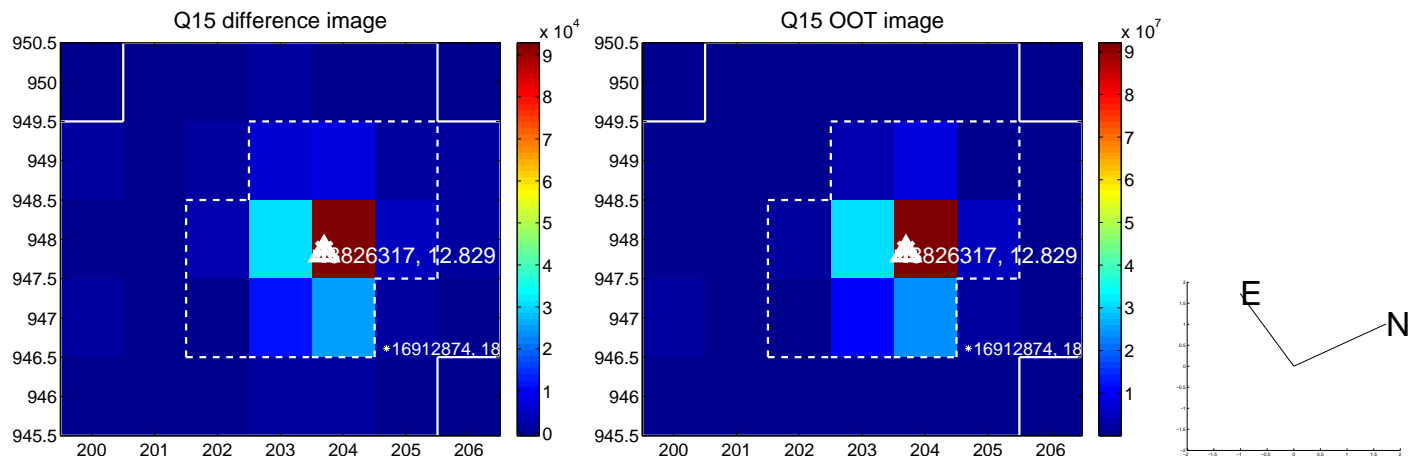
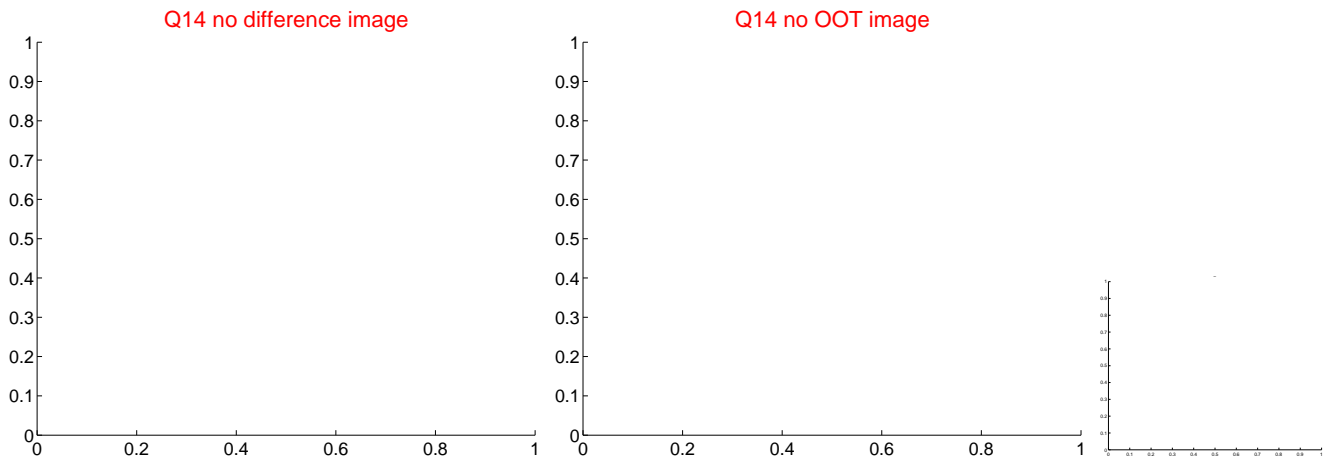
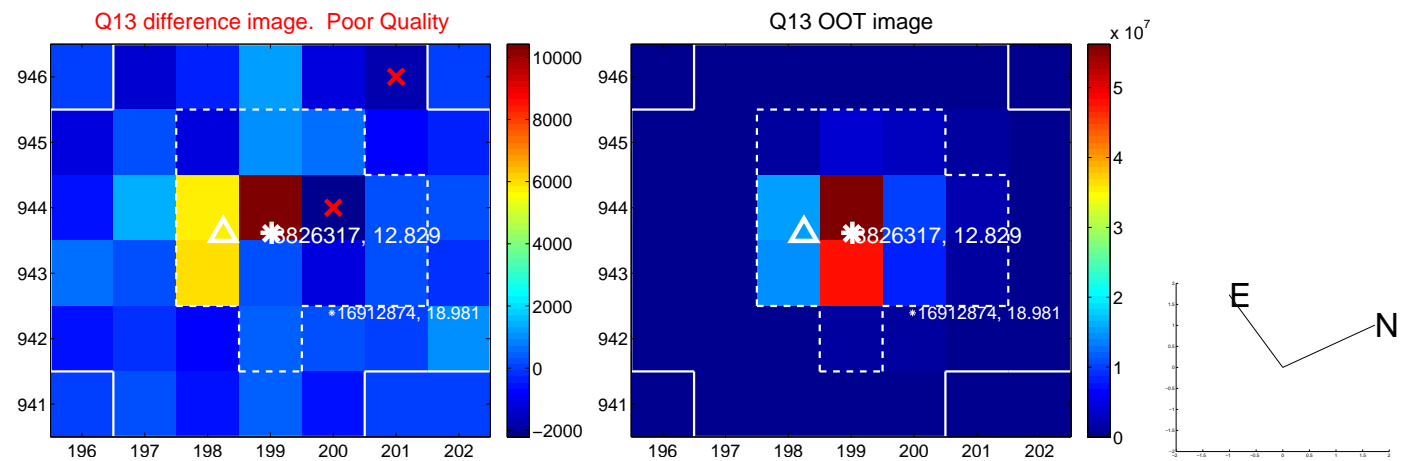
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



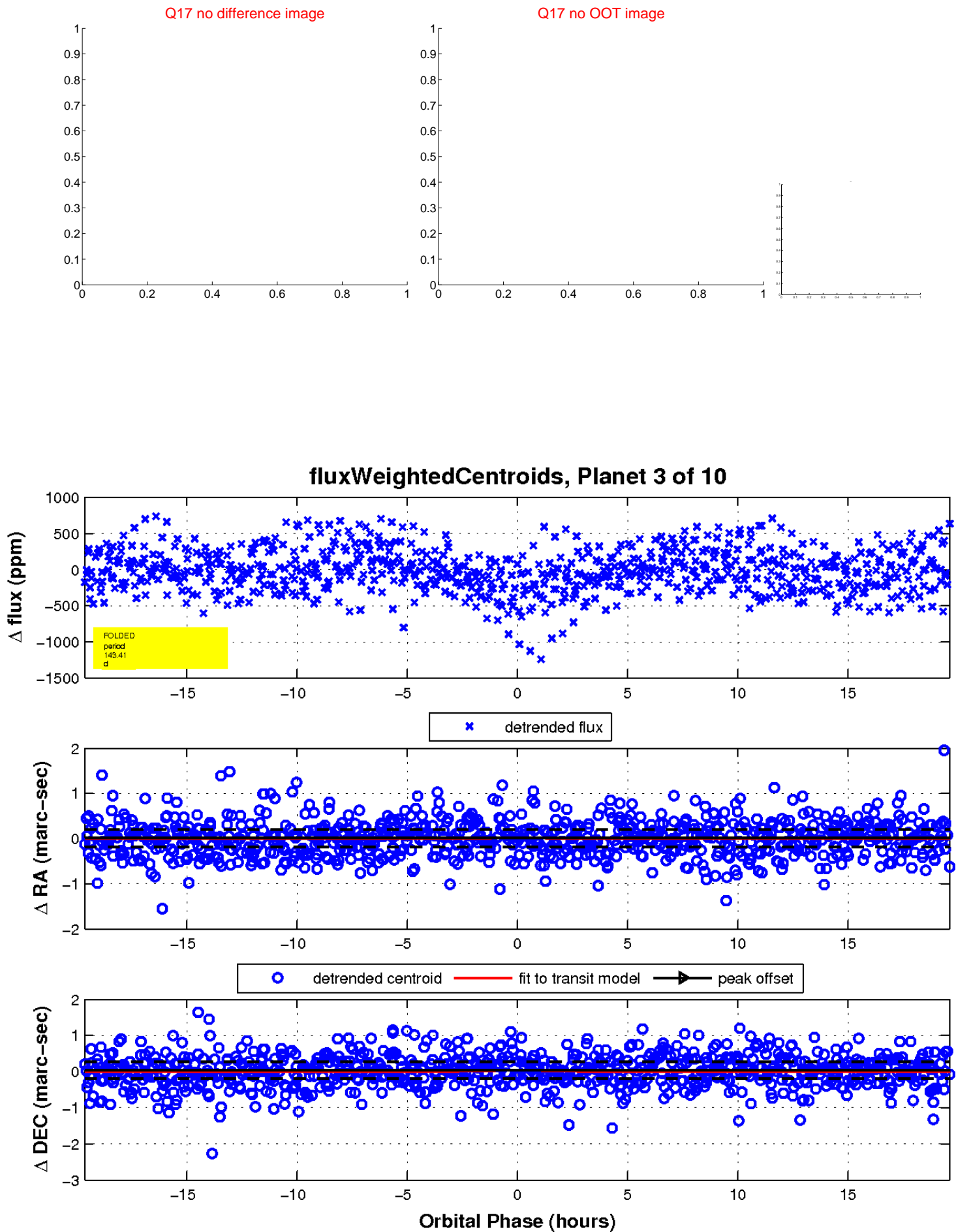
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

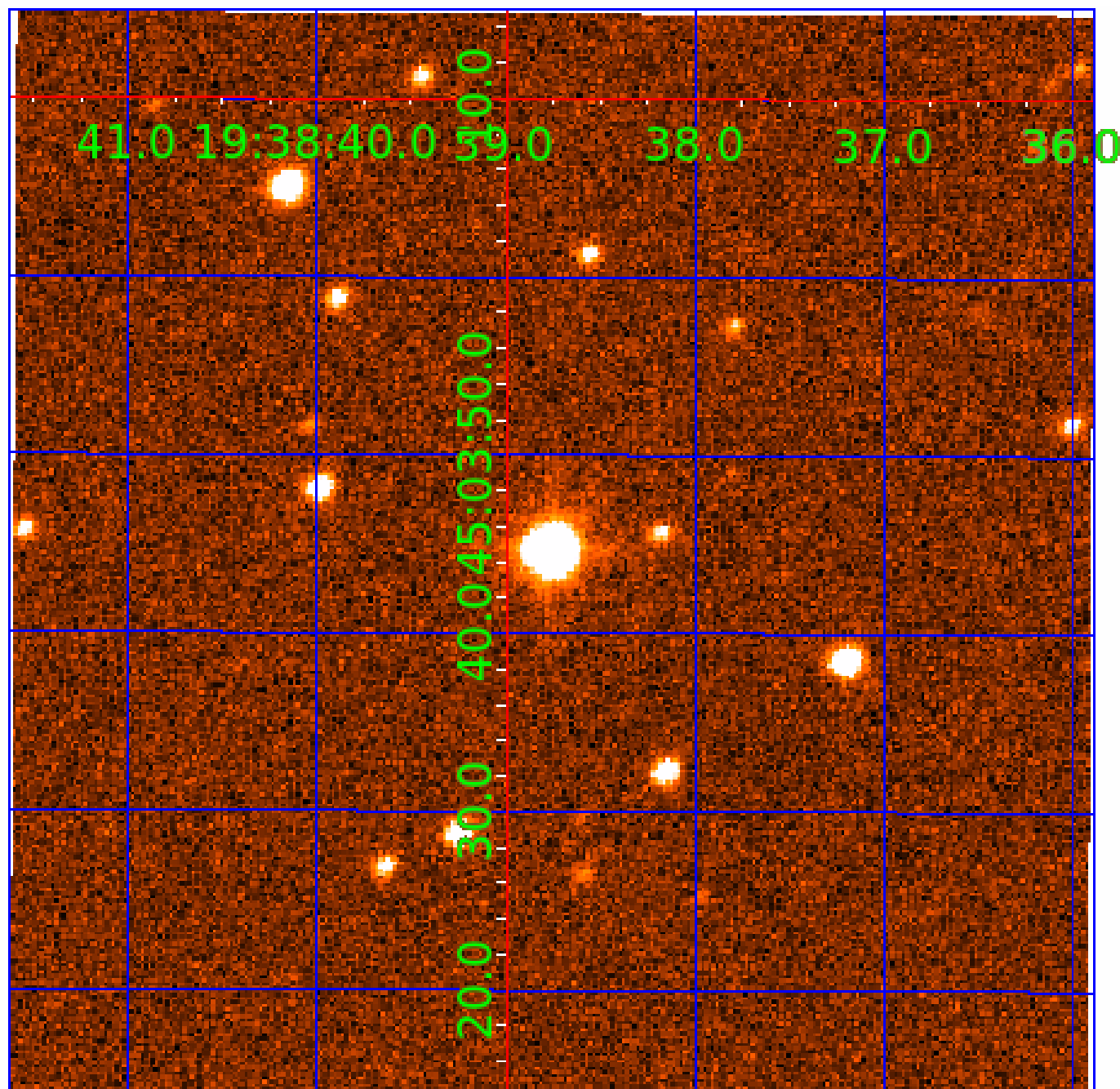


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008826317

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})
008826317-01	OBS	No	0.879096	132.002057	23.9	5.477	10.7	6.9	1.96	7328	1.11	23239.10
008826317-03	OBS	No	143.410534	236.990340	565.0	6.549	11.8	10.5	1.96	7328	5.71	26.07
008826317-04	OBS	No	74.126069	155.266746	530.4	2.048	8.6	8.6	1.96	7328	4.98	62.85
008826317-05	OBS	No	125.681519	154.438959	480.2	6.507	8.7	8.8	1.96	7328	7.12	31.09
008826317-06	OBS	No	122.921425	160.628393	578.6	4.204	9.2	8.5	1.96	7328	5.94	32.02
008826317-08	OBS	No	81.440440	163.544659	392.4	5.186	8.7	7.8	1.96	7328	4.40	55.44
008826317-09	OBS	No	486.194127	521.851652	590.8	5.419	8.4	8.9	1.96	7328	5.08	5.12
008826317-10	OBS	No	52.143594	163.019543	180.0	4.500	8.3	-1.0	1.96	7328	2.65	100.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008826317-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008826317-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
008826317-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008826317-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT
008826317-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
008826317-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008826317-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
008826317-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

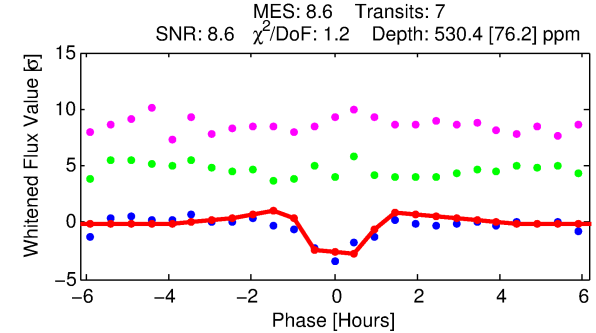
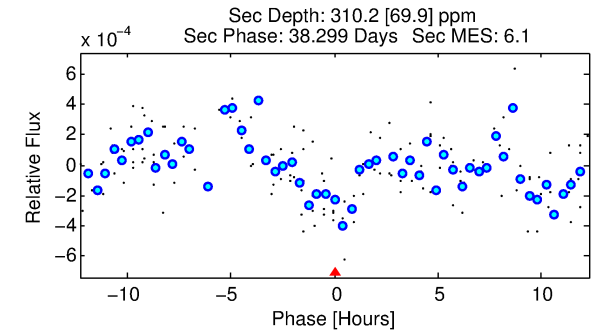
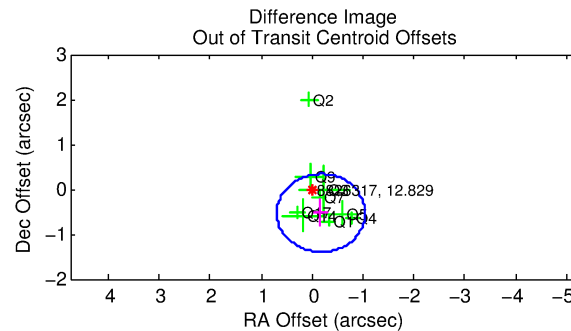
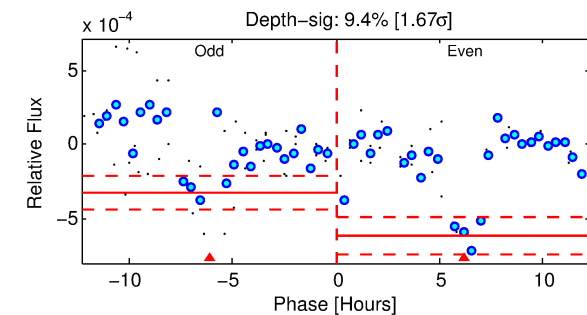
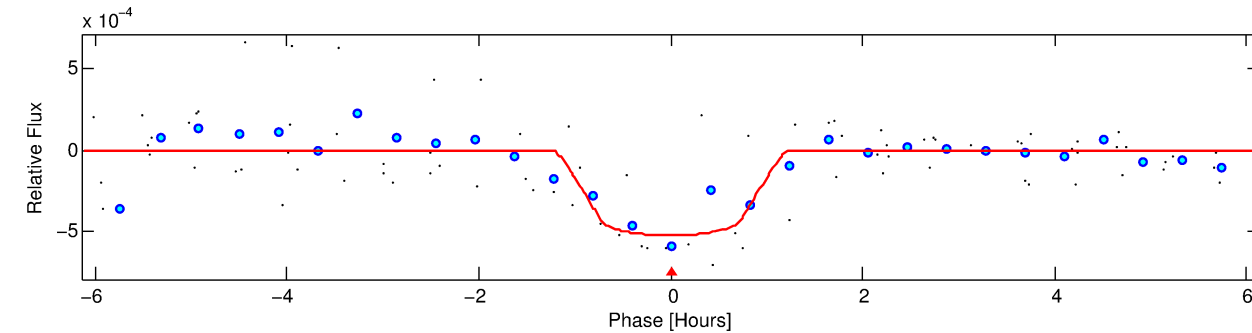
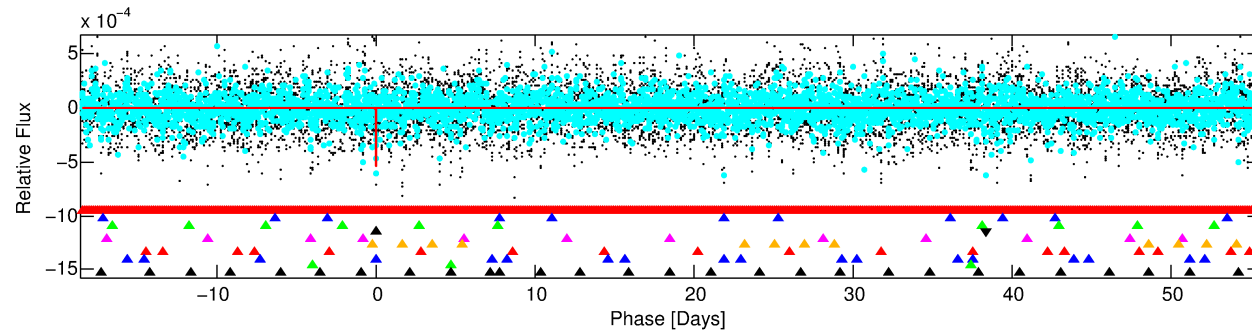
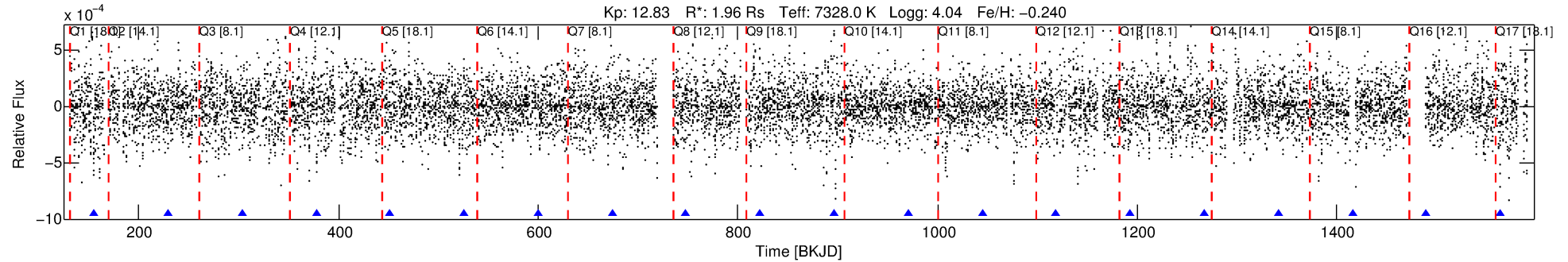
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008826317-04

No Significant Match Found

DV One-Page Summary

KIC: 8826317 Candidate: 4 of 10 Period: 74.126 d



DV Fit Results:

Period = 74.12607 [0.00052] d
Epoch = 155.2667 [0.0053] BKJD
Rp/R* = 0.0233 [0.0163]
a/R* = 176.29 [708.42]
b = 0.80 [1.80]
Seff = 62.85 [26.09]
Teq = 718 [75] K
Rp = 4.98 [3.79] Re
a = 0.3964 [0.1026] AU
Ag = 1082.68 [1585.72] [0.68 σ]
Teffp = 6367 [2268] K [2.49 σ]

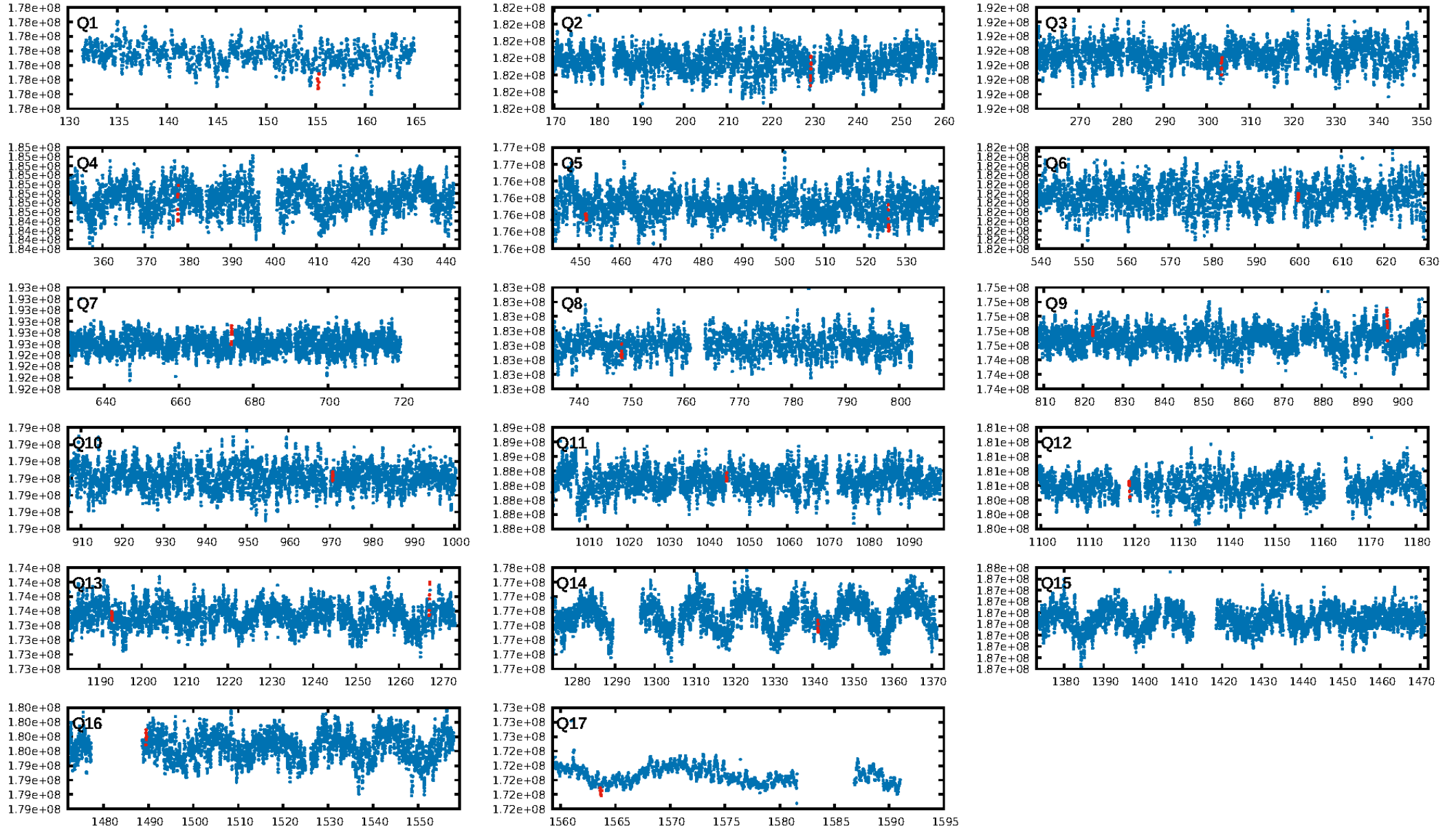
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [106.71 σ]
LongPeriod-sig: 100.0% [39.49 σ]
ModelChiSquare2-sig: 1.5%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -1.286
Centroid-sig: 2.4%
Centroid-so: 0.528 arcsec [1.63 σ]
OotOffset-rm: 0.560 arcsec [1.94 σ]
OotOffset-st: 2/2/1/4 [9]
KicOffset-rm: 0.529 arcsec [2.32 σ]
KicOffset-st: 2/2/1/4 [9]
DiffImageQuality-fgm: 0.67 [6/9]
DiffImageOverlap-fno: 0.17 [2/12]

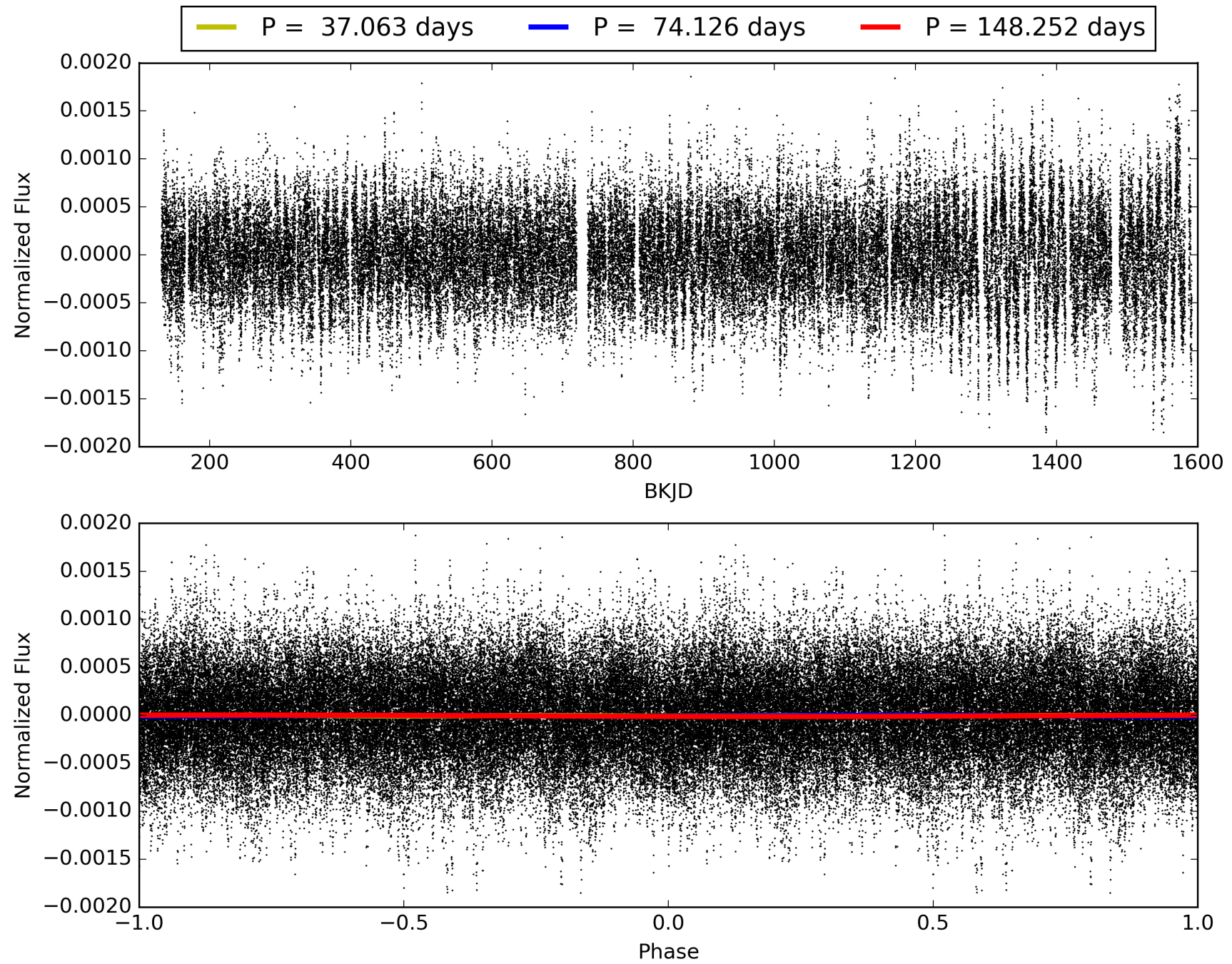
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:59:36 Z

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

TCE 008826317-04, PDC Light Curves

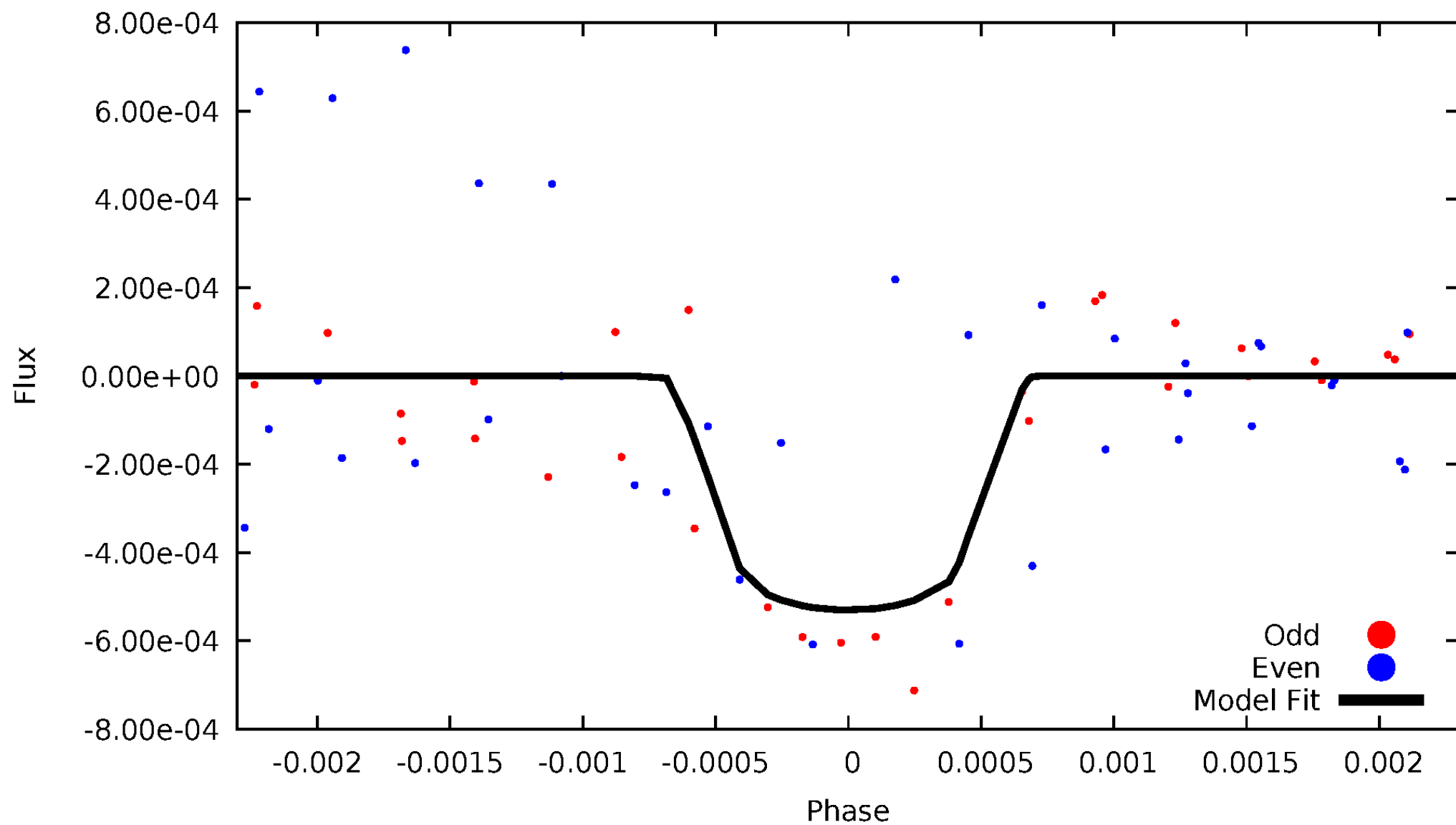


TCE 008826317-04



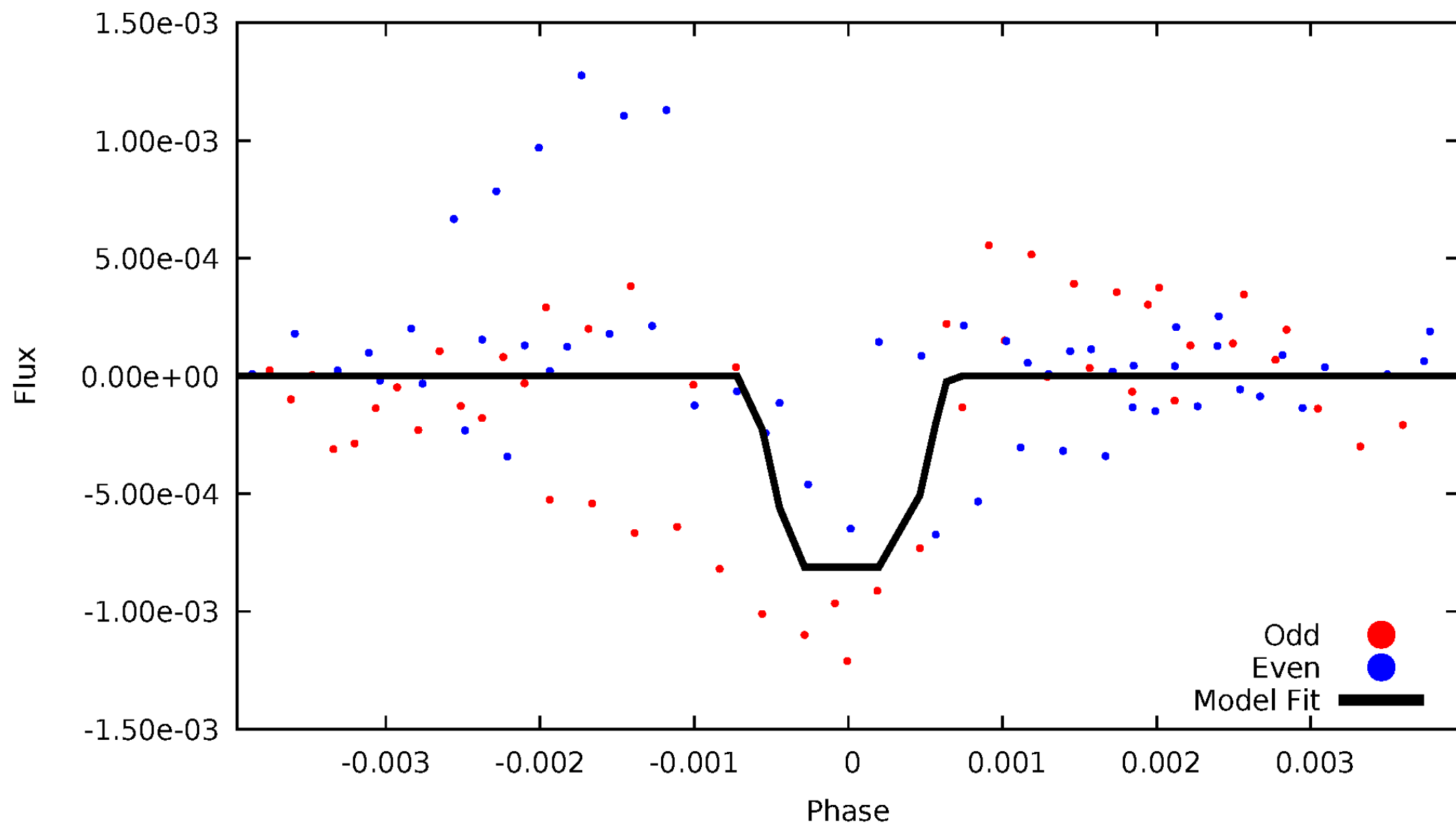
DV Odd/Even

TCE 008826317-04



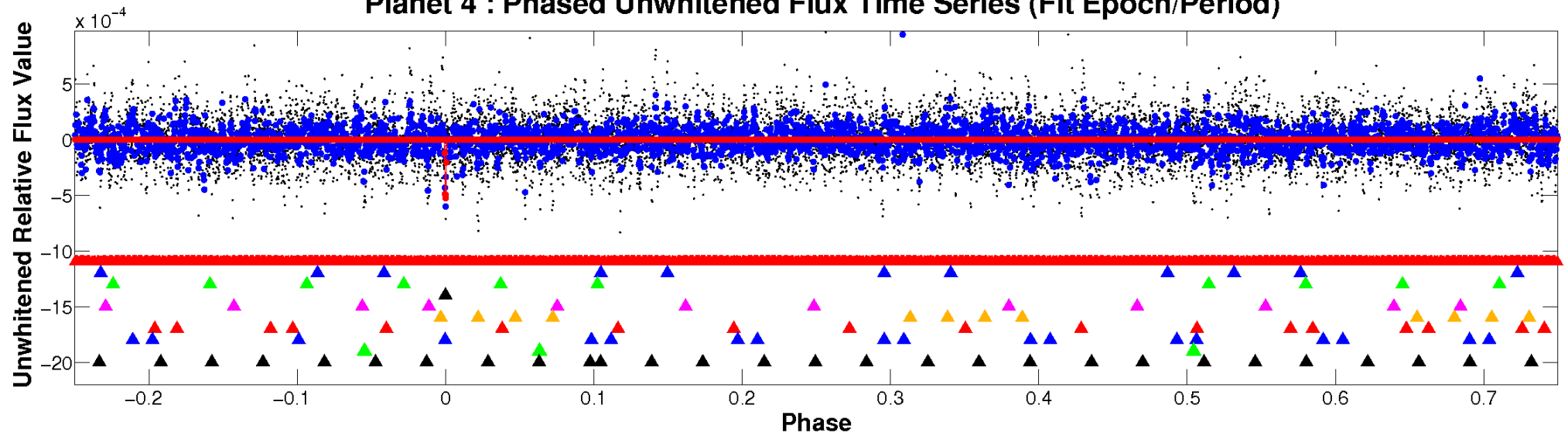
ALT Odd/Even

TCE 008826317-04

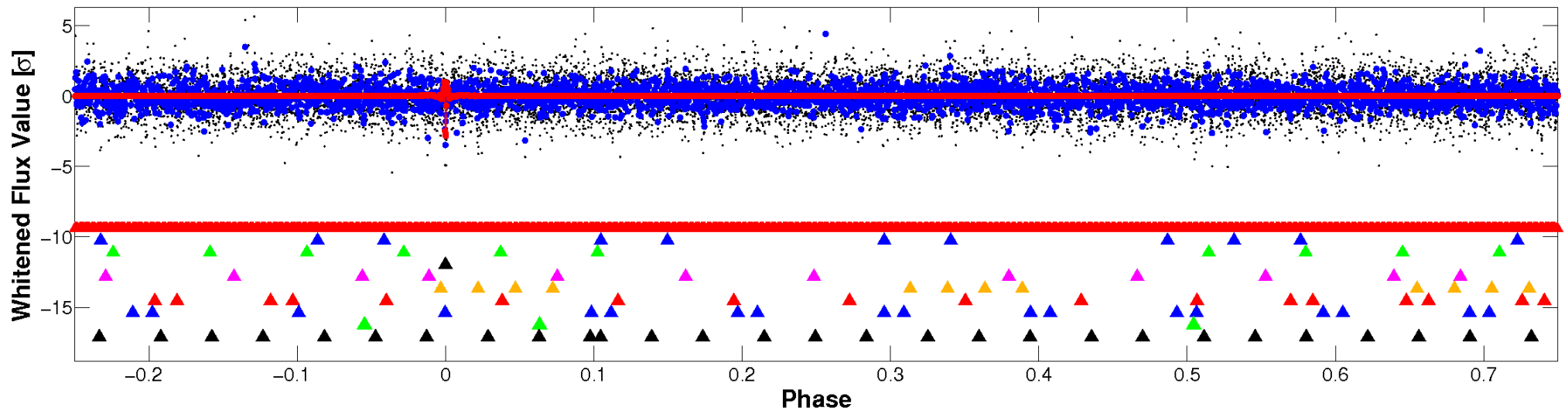


Non-Whitened Vs. Whitened Light Curve

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

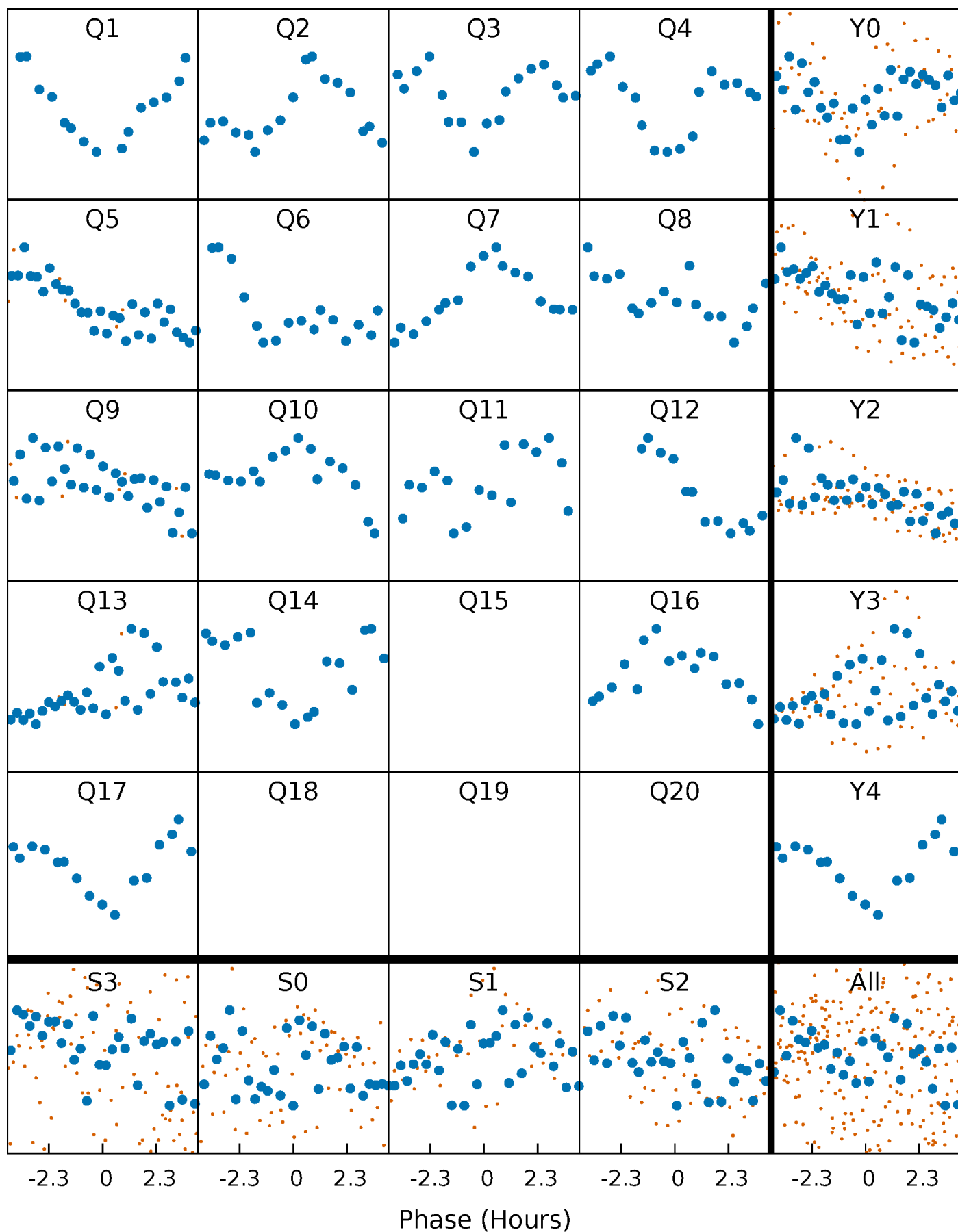


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



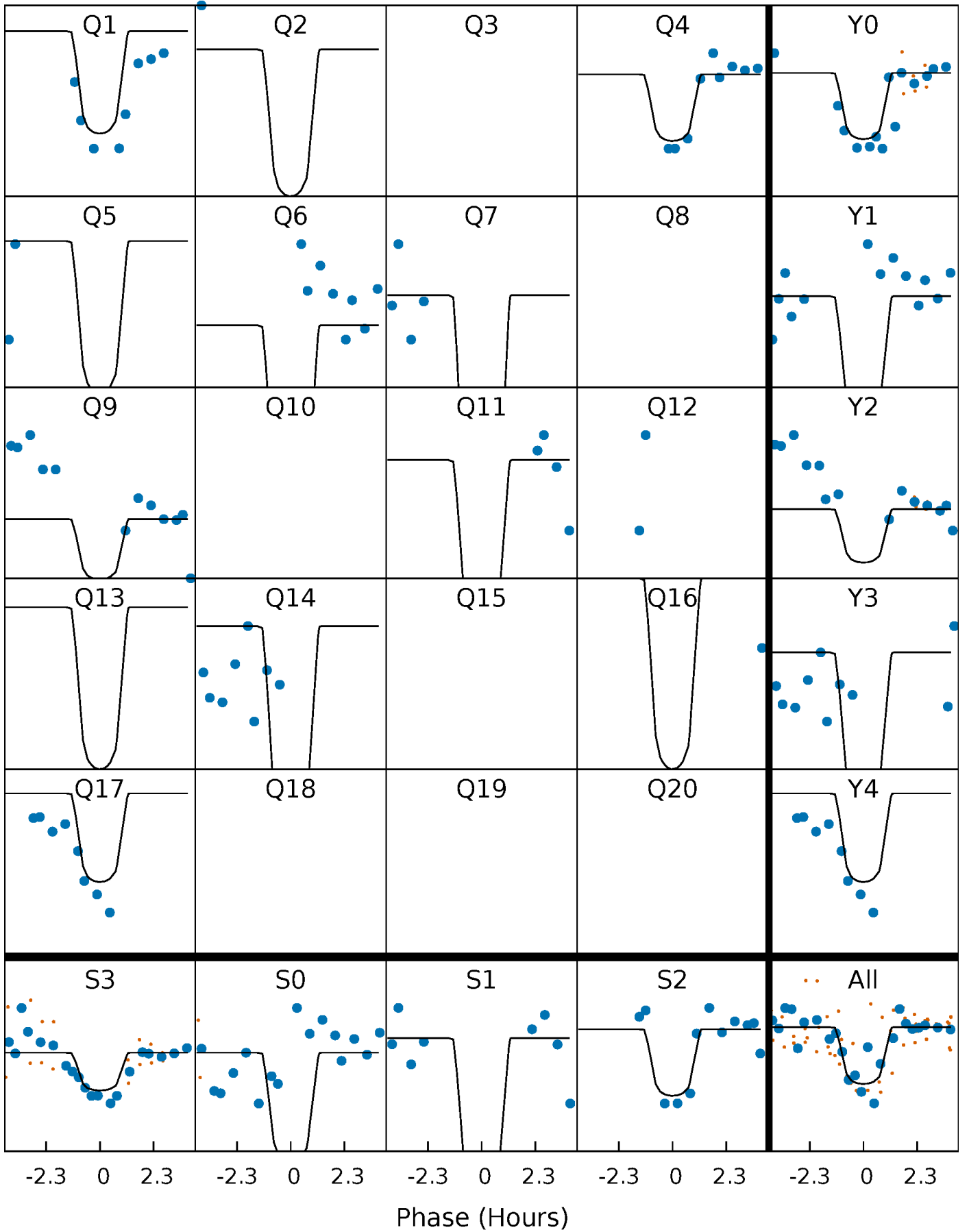
PDC Quarter-Phased Transit Curves

TCE 008826317-04 $P = 74.126069$ Days $T_0 = 155.266746$ (BKJD)



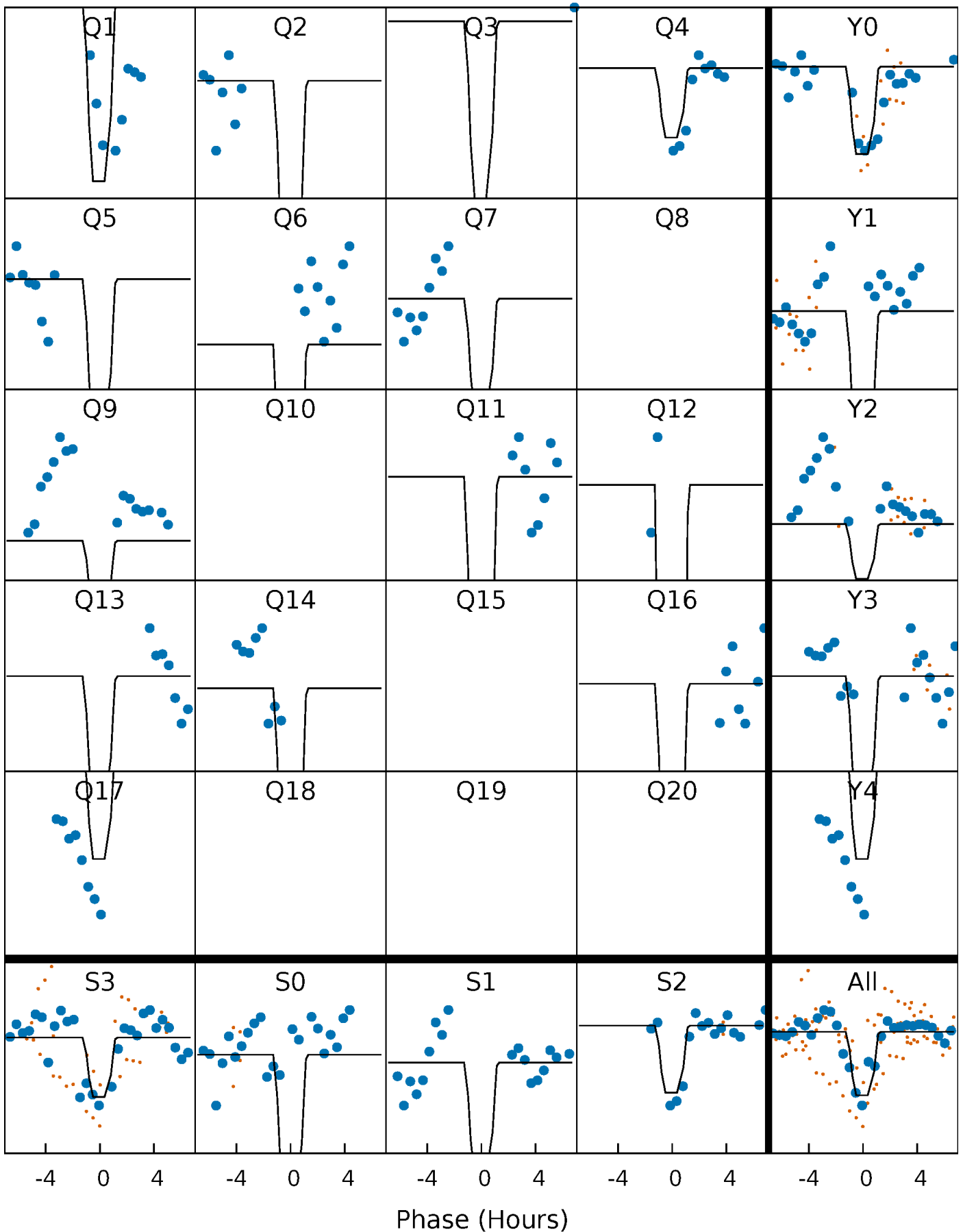
DV Quarter-Phased Transit Curves

TCE 008826317-04 P= 74.126069 Days $T_0=155.266746$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

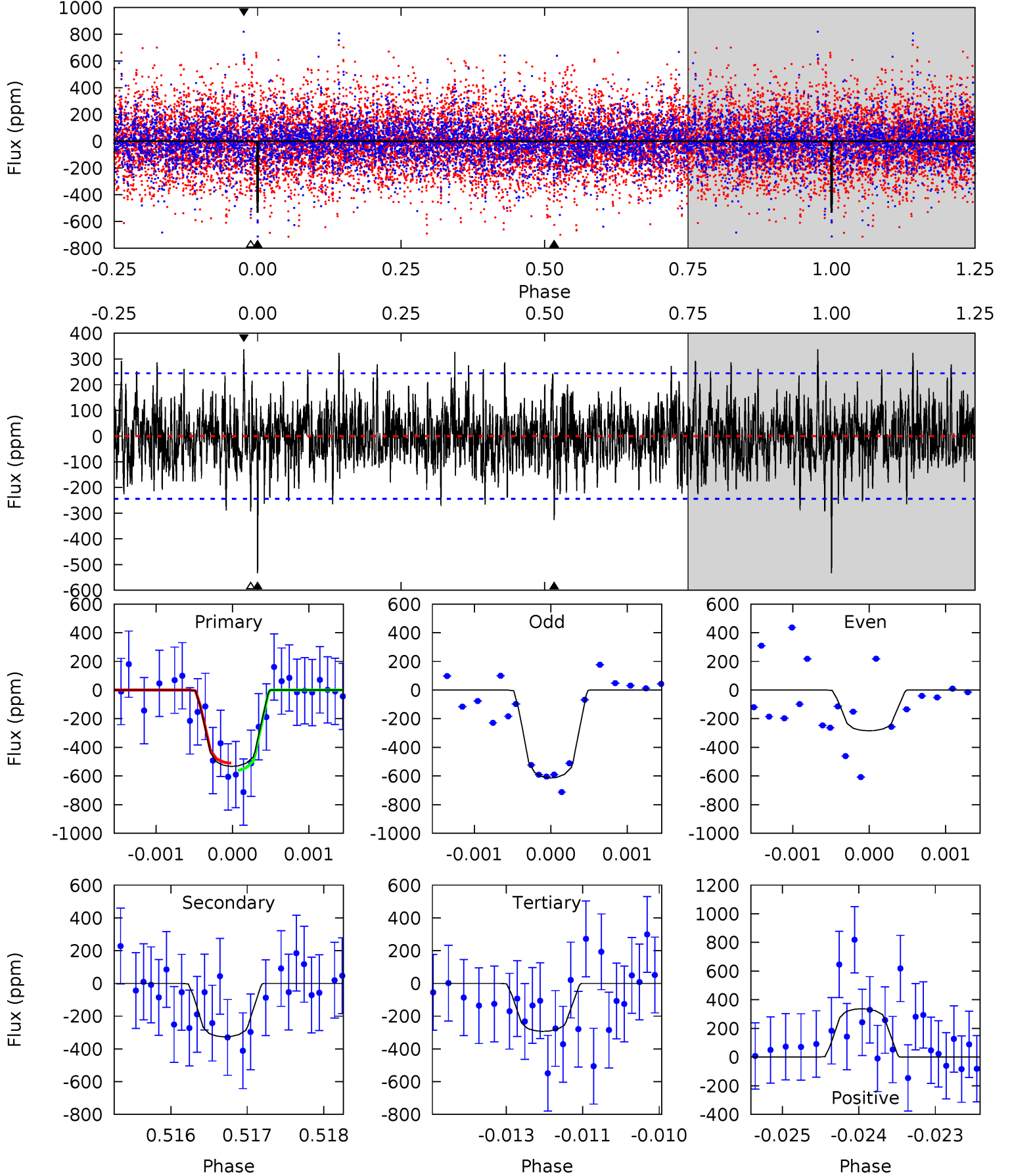
TCE 008826317-04 P= 74.127646 Days $T_0=155.255746$ (BKJD)



DV Model-Shift Uniqueness Test

008826317-04, P = 74.126069 Days, E = 81.140677 Days

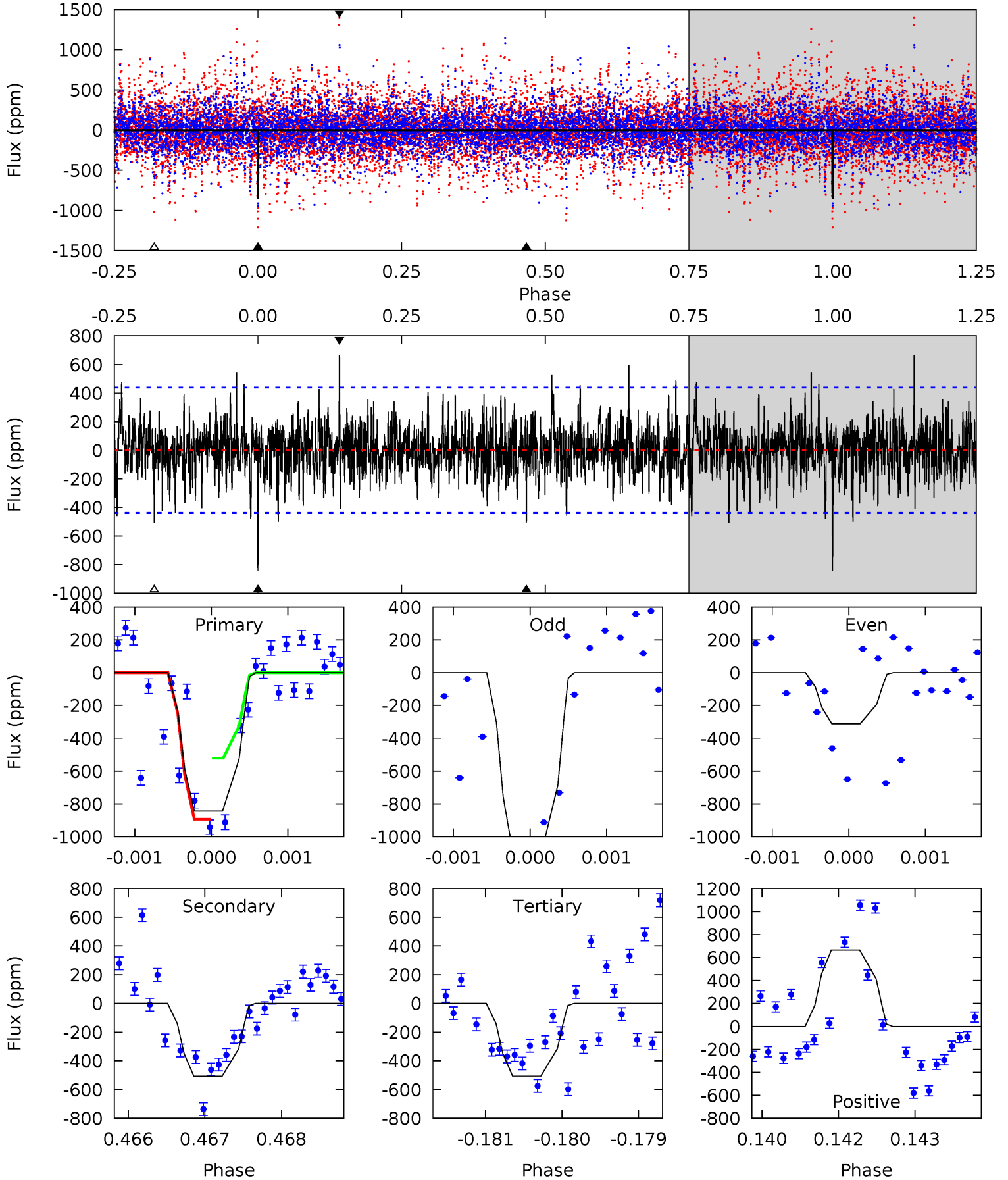
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	7.20	6.46	7.44	5.39	3.19	1.91	5.30	4.32	0.74	-0.24	3.83	0.63	0.39	0.57



Alt Model-Shift Uniqueness Test

008826317-04, P = 74.127646 Days, E = 81.128100 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	6.26	6.25	8.22	5.41	3.22	1.75	4.16	2.19	0.01	-1.96	5.02	0.84	0.44	2.37



Stellar Parameters For KIC 008826317

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7328^{+230}_{-307}	$4.035^{+0.209}_{-0.171}$	$-0.240^{+0.250}_{-0.350}$	$1.955^{+0.542}_{-0.596}$	$1.510^{+0.209}_{-0.279}$	$0.284^{+0.390}_{-0.122}$
	+3%/-4%	+5%/-4%	+104%/-146%	+28%/-30%	+14%/-18%	+137%/-43%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008826317-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-326 ± 45	$5.21^{+3.61}_{-3.04}$	993^{+79}_{-74}	6142^{+3947}_{-1264}	1035^{+4610}_{-677}
Alt.	-507 ± 81	$6.06^{+3.61}_{-3.01}$	1001^{+76}_{-76}	6356^{+3446}_{-1145}	1162^{+3542}_{-695}

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

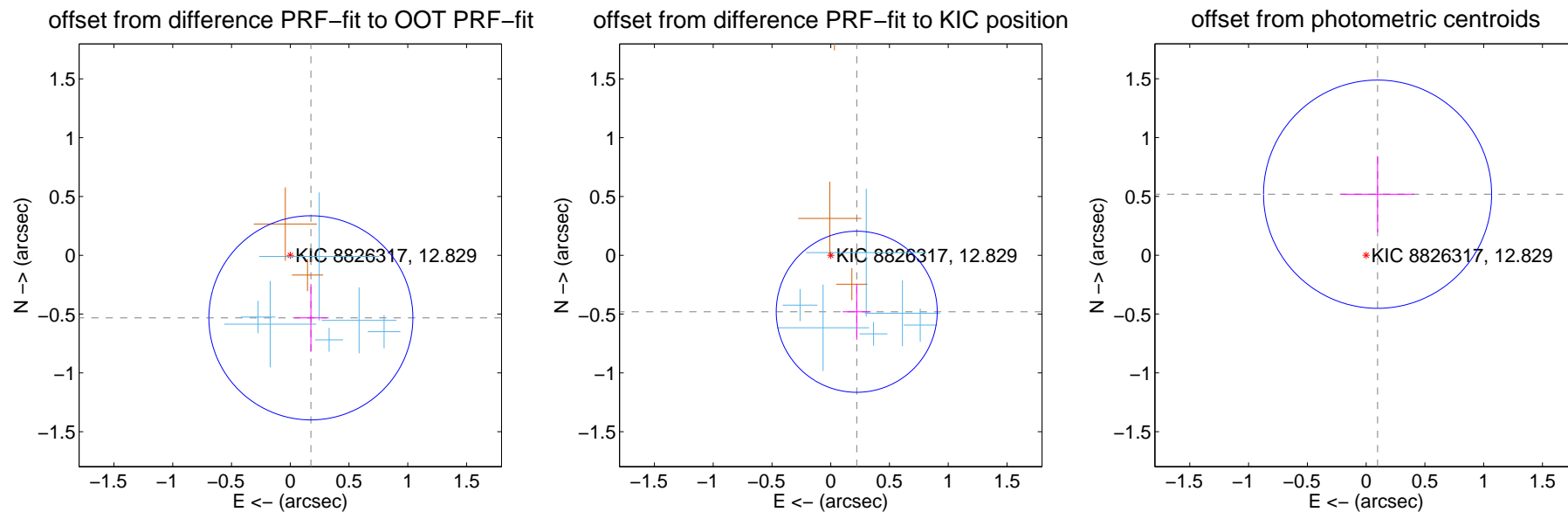
DV Centroid Data

Supplemental centroid analysis for 008826317-04. Kepler magnitude: 12.83. Transit SNR 8.62

There are 6 quarters with good PRF difference image offsets

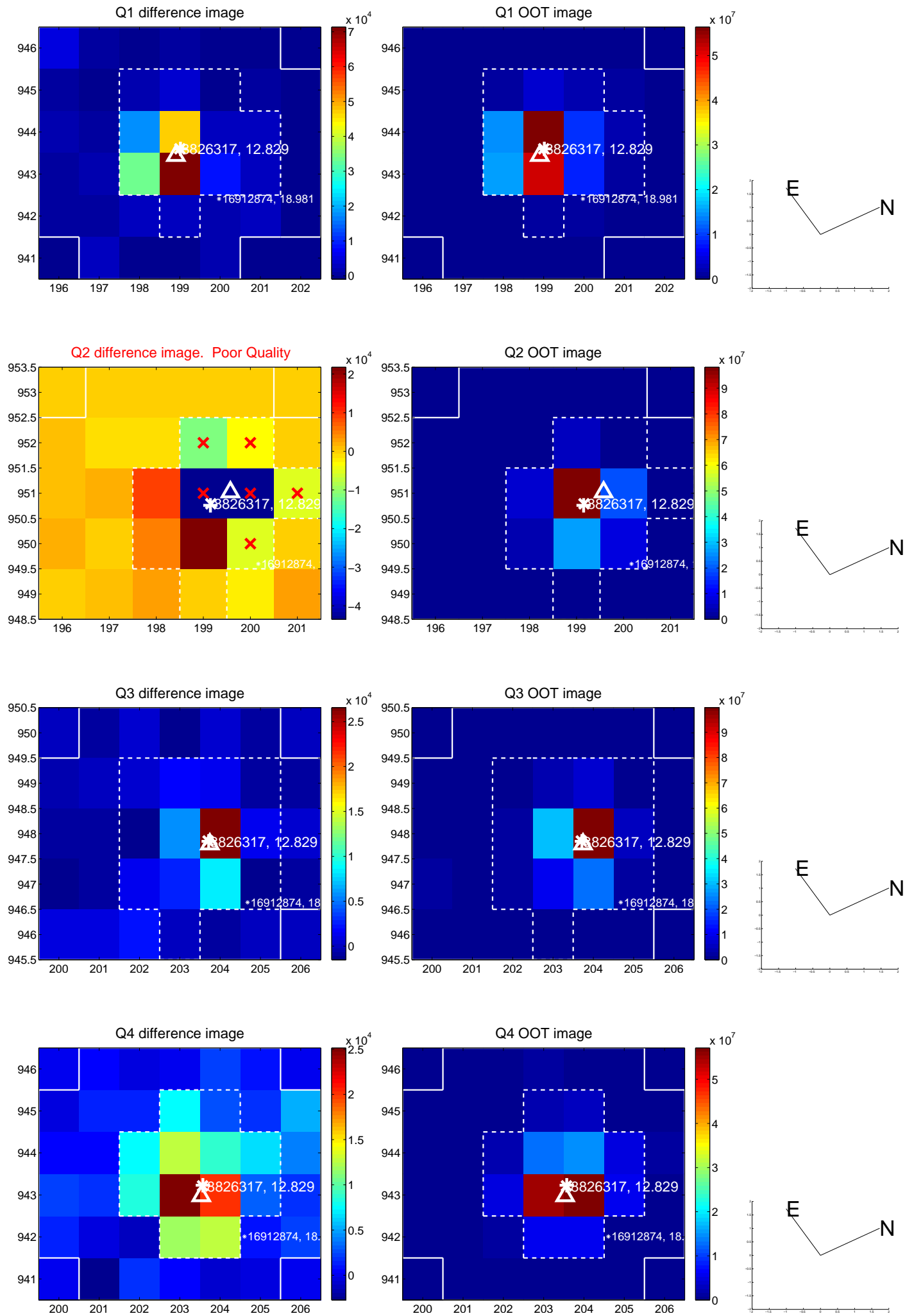
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.560 ± 0.289	1.94	-0.175 ± 0.140	-0.532 ± 0.287
PRF-fit source offset from KIC position	0.529 ± 0.228	2.32	-0.221 ± 0.119	-0.480 ± 0.238
photometric centroid source offset	0.53 ± 0.32	1.63	-0.10 ± 0.31	0.52 ± 0.32

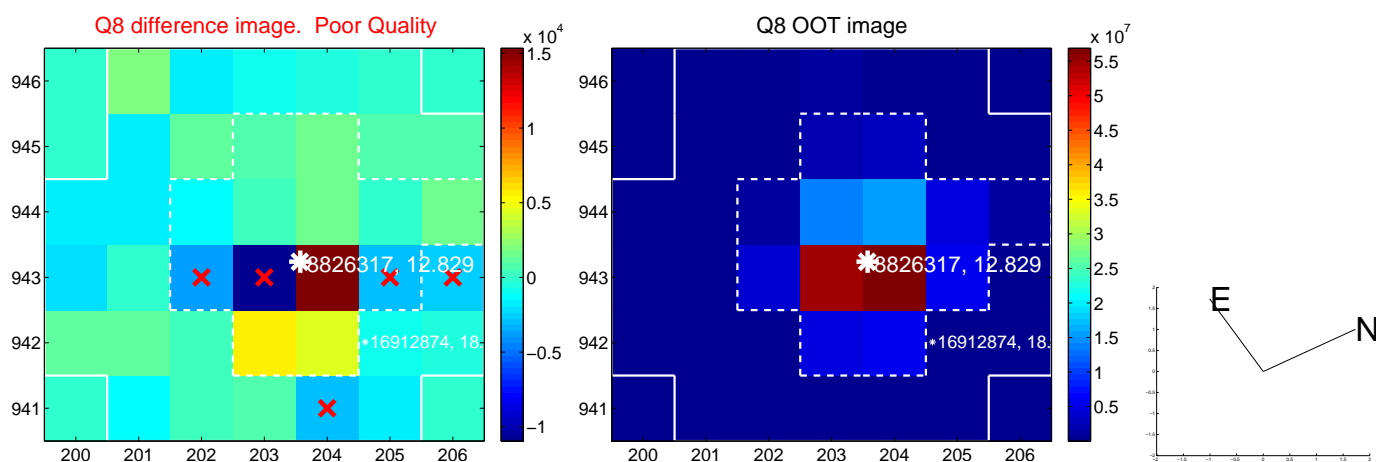
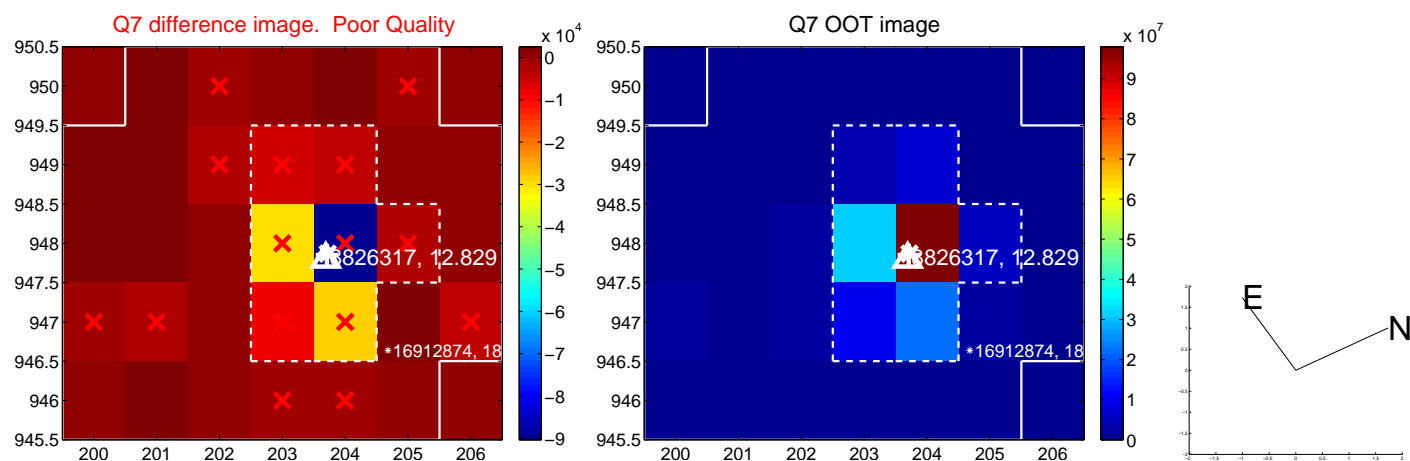
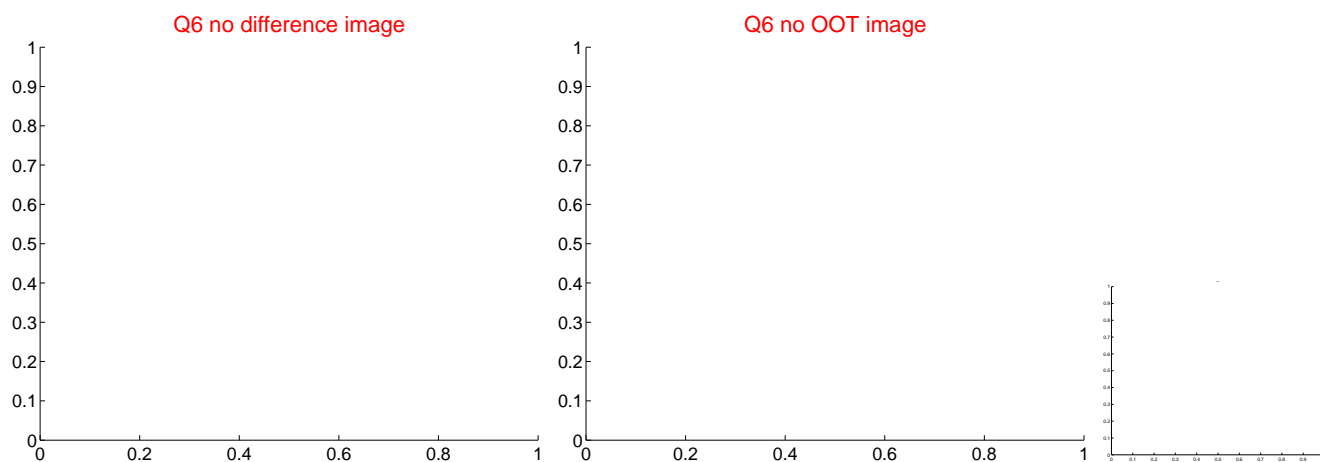
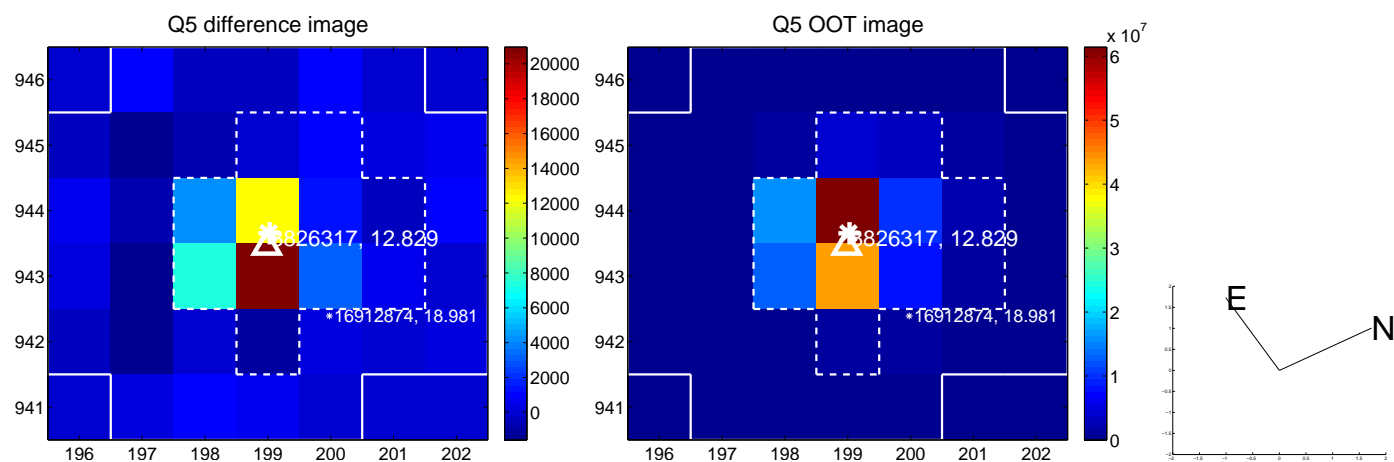


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

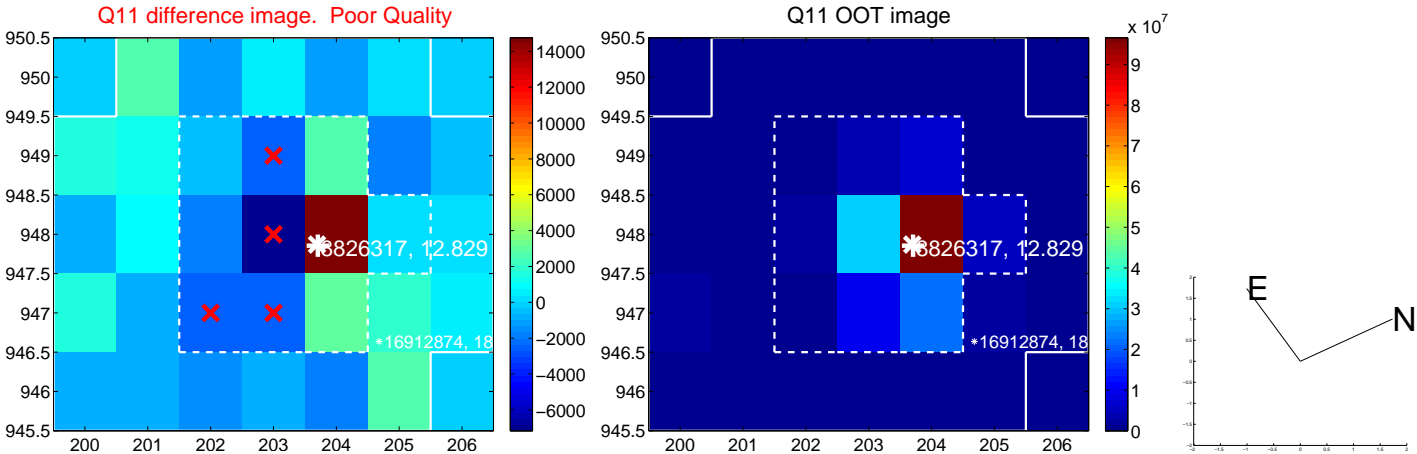
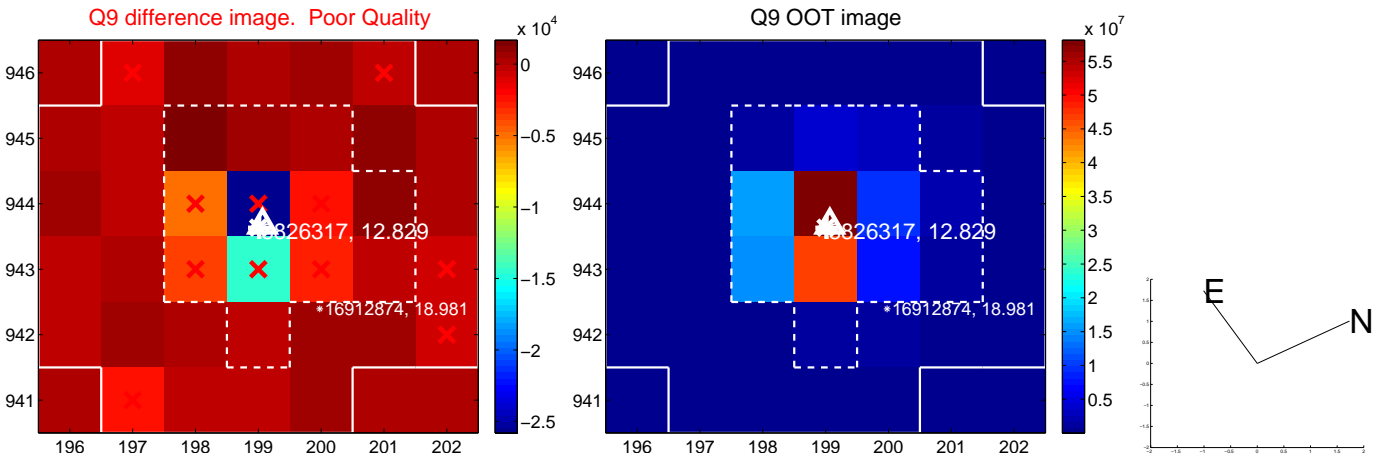
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



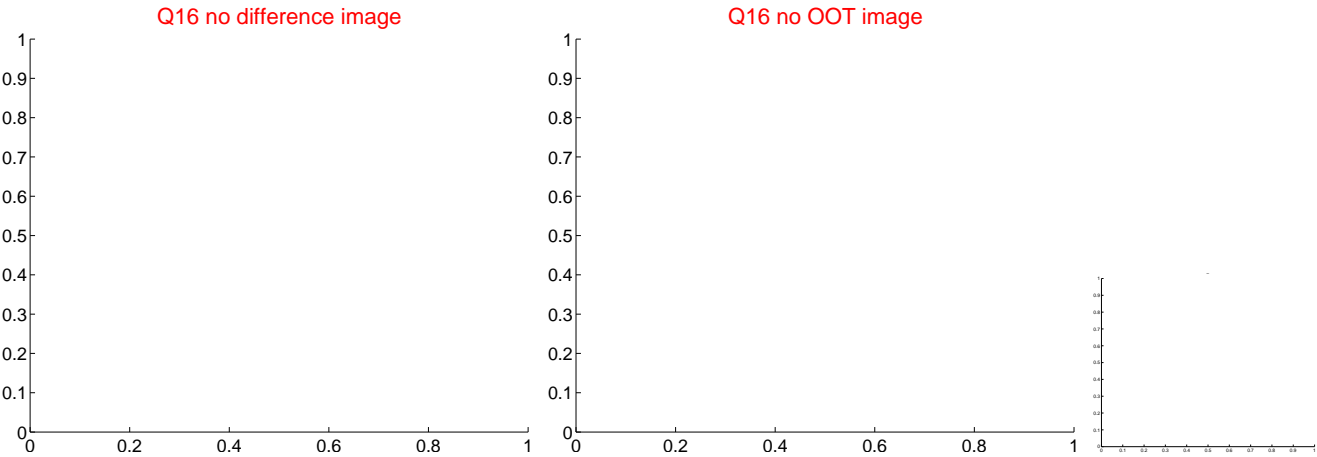
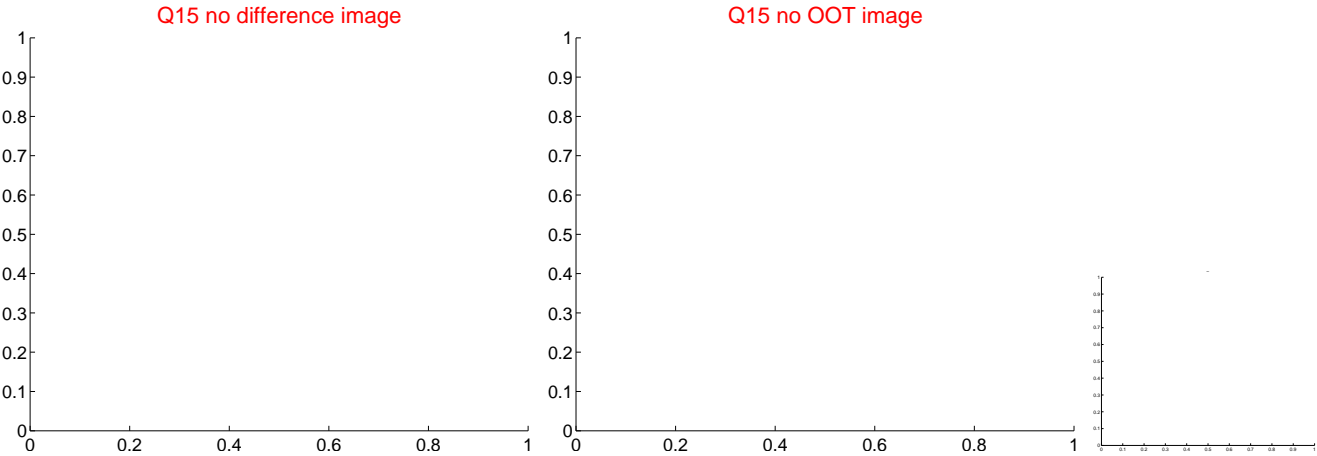
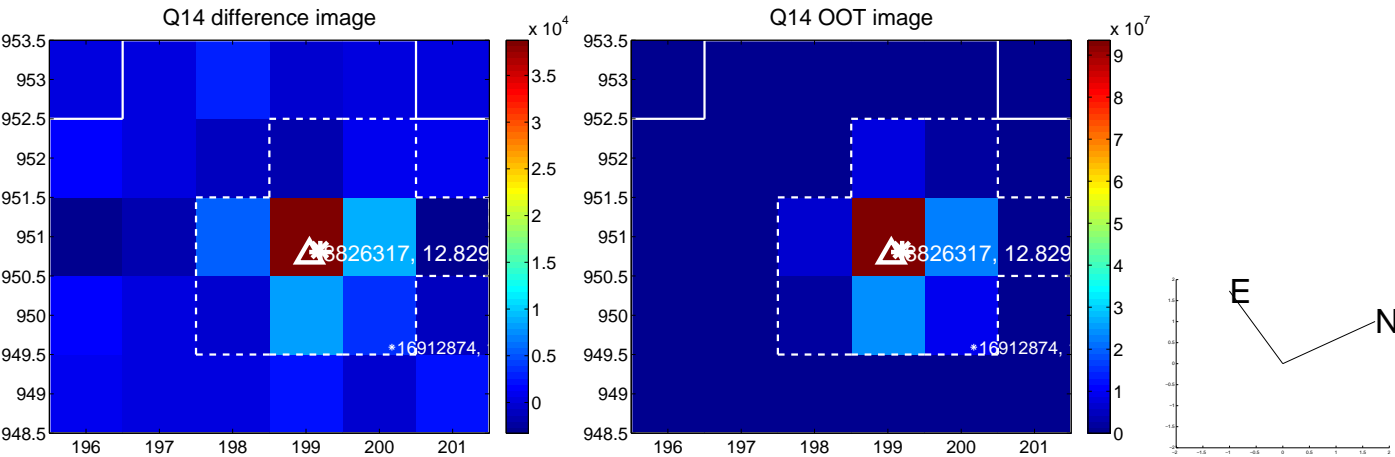
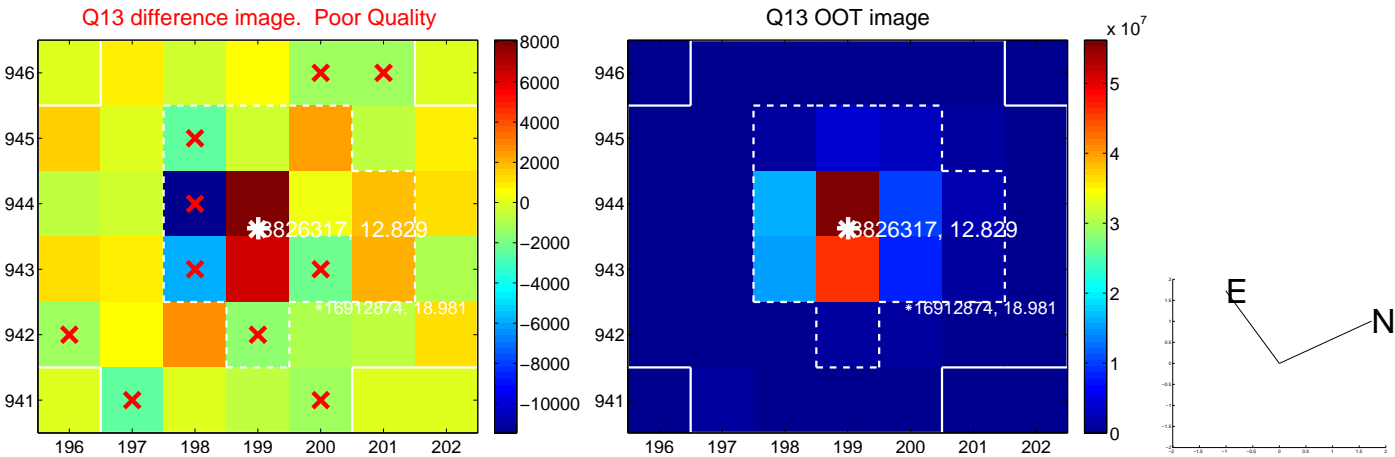
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



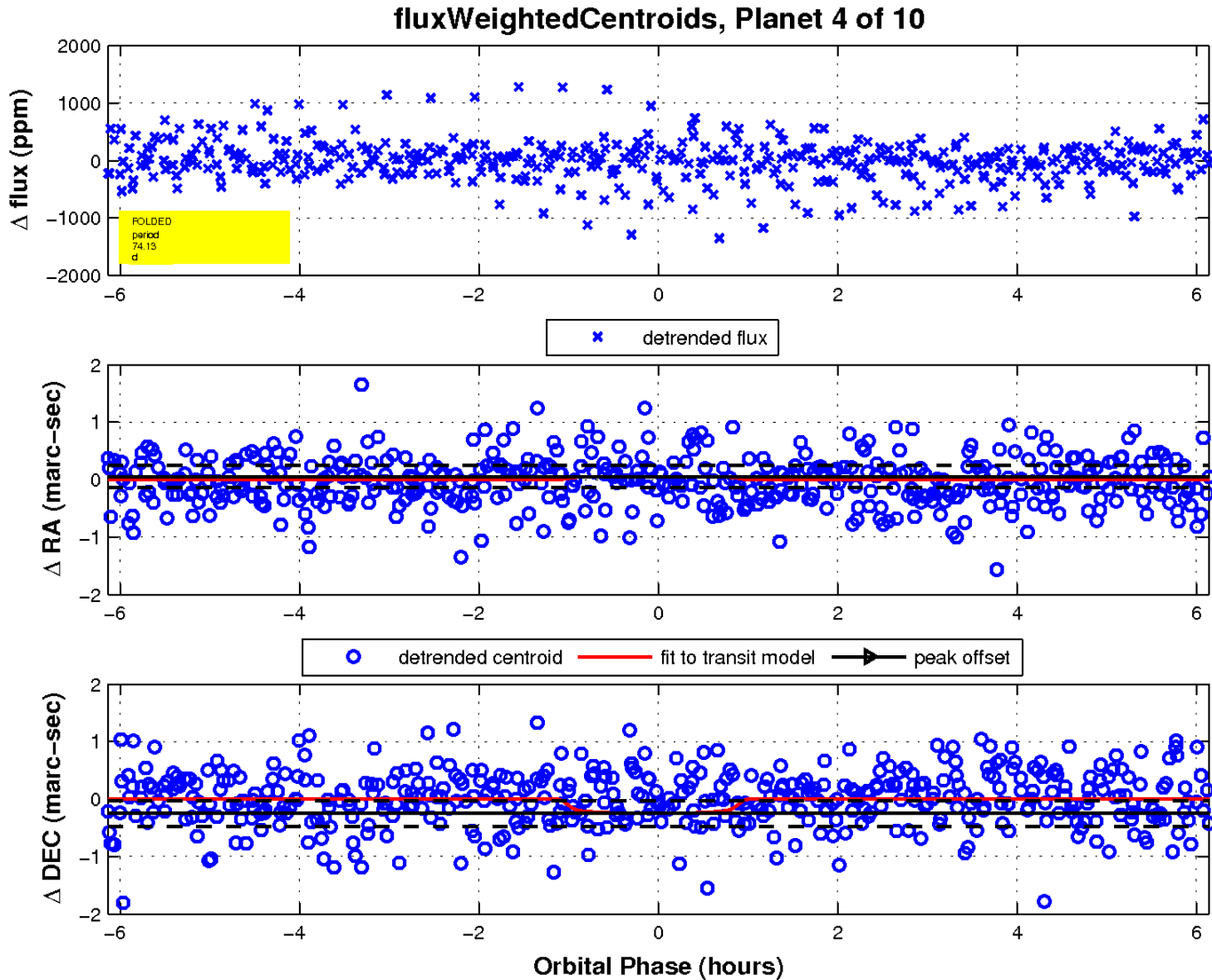
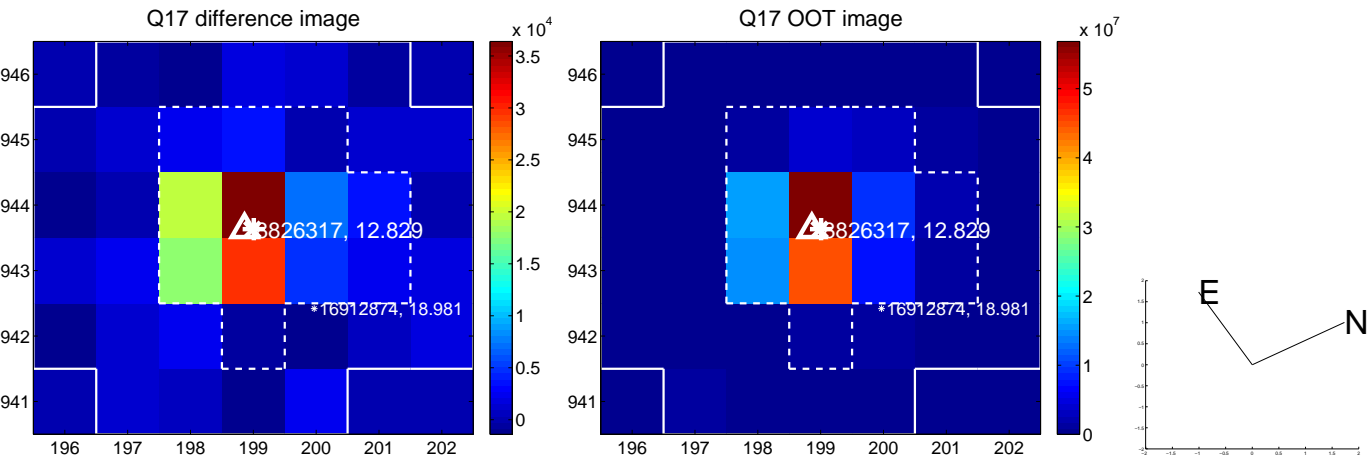
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

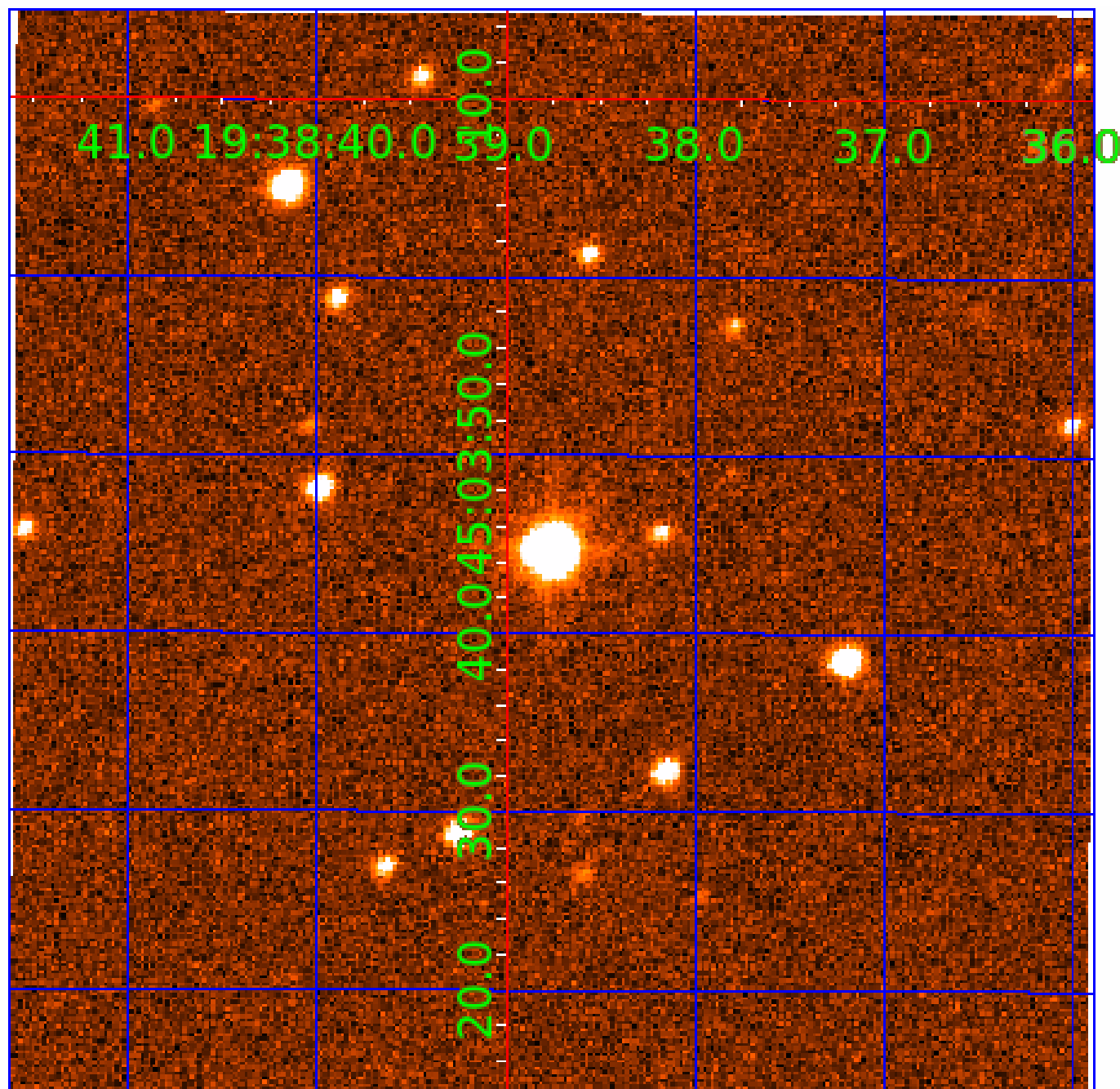


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008826317

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})
008826317-01	OBS	No	0.879096	132.002057	23.9	5.477	10.7	6.9	1.96	7328	1.11	23239.10
008826317-03	OBS	No	143.410534	236.990340	565.0	6.549	11.8	10.5	1.96	7328	5.71	26.07
008826317-04	OBS	No	74.126069	155.266746	530.4	2.048	8.6	8.6	1.96	7328	4.98	62.85
008826317-05	OBS	No	125.681519	154.438959	480.2	6.507	8.7	8.8	1.96	7328	7.12	31.09
008826317-06	OBS	No	122.921425	160.628393	578.6	4.204	9.2	8.5	1.96	7328	5.94	32.02
008826317-08	OBS	No	81.440440	163.544659	392.4	5.186	8.7	7.8	1.96	7328	4.40	55.44
008826317-09	OBS	No	486.194127	521.851652	590.8	5.419	8.4	8.9	1.96	7328	5.08	5.12
008826317-10	OBS	No	52.143594	163.019543	180.0	4.500	8.3	-1.0	1.96	7328	2.65	100.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008826317-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008826317-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
008826317-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008826317-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT
008826317-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
008826317-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008826317-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
008826317-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

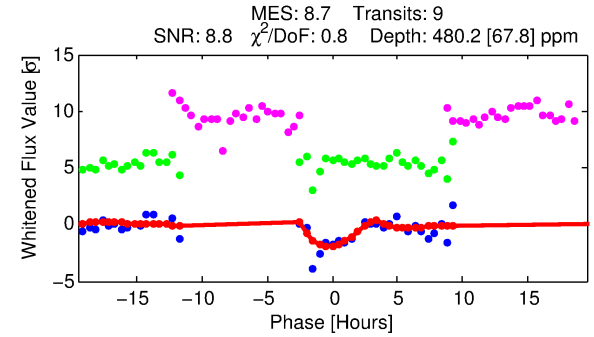
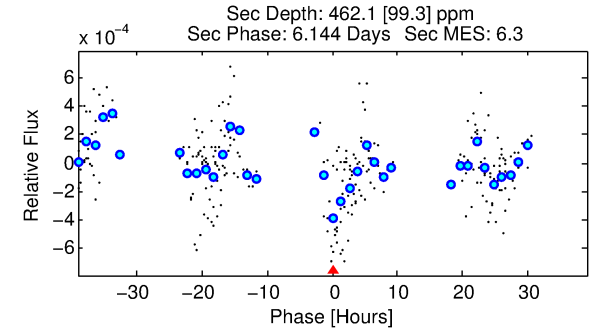
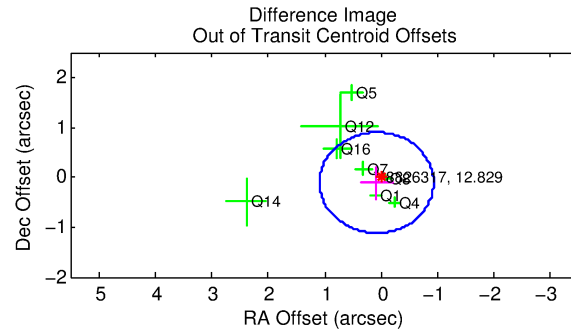
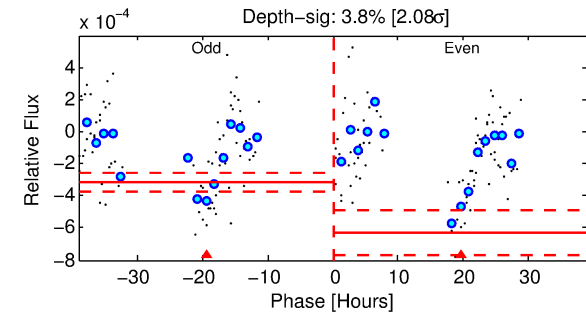
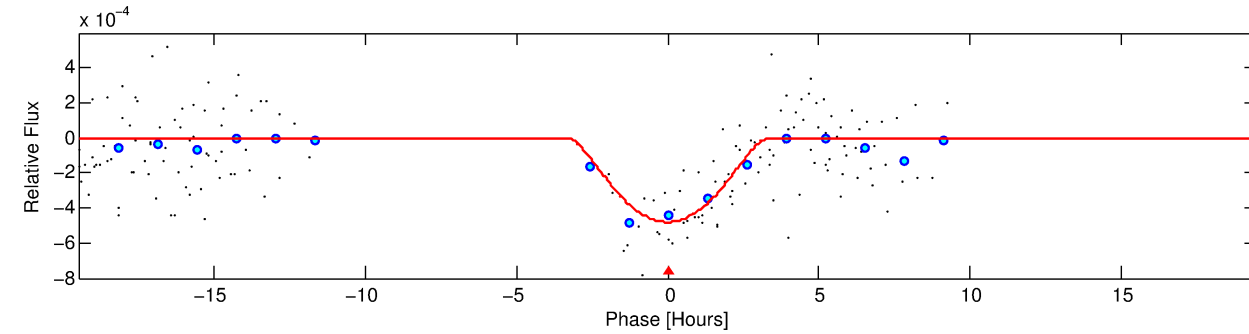
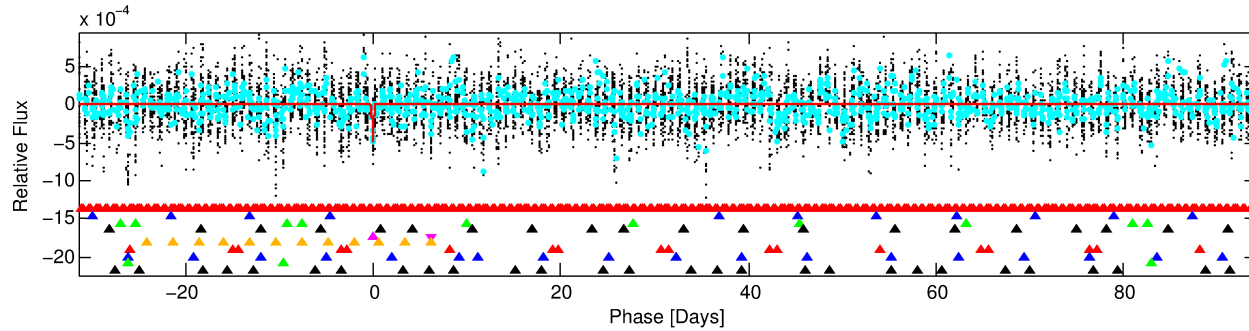
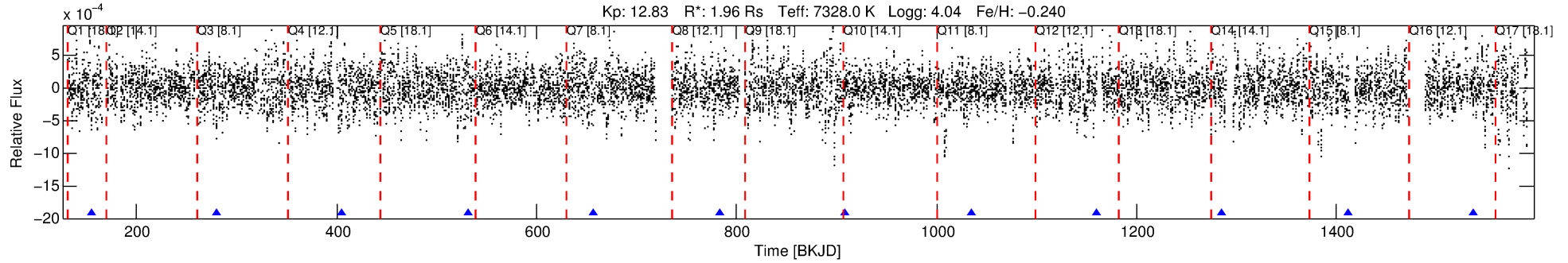
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008826317-05

No Significant Match Found

DV One-Page Summary

KIC: 8826317 Candidate: 5 of 10 Period: 125.682 d



DV Fit Results:

Period = 125.68152 [0.00342] d
Epoch = 154.4390 [0.0096] BKJD
Rp/R* = 0.0334 [0.0396]
a/R* = 42.57 [17.57]
b = 0.99 [0.07]
Seff = 31.09 [12.90]
Teq = 602 [62] K
Rp = 7.12 [8.71] Re
a = 0.5636 [0.1459] AU
Ag = 1592.15 [3835.84] [0.41 σ]
Teffp = 5880 [3506] K [1.51 σ]

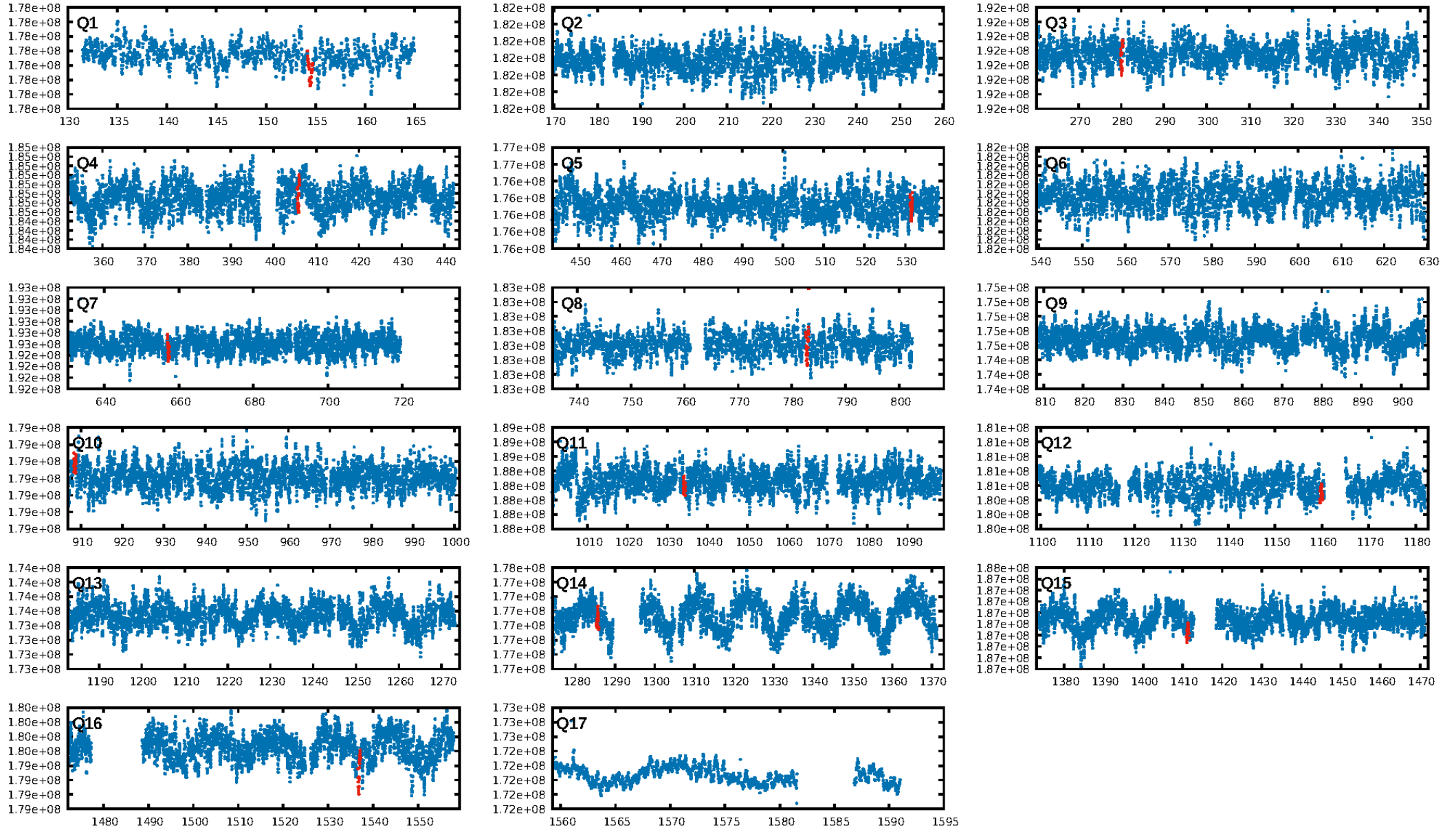
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [8.55 σ]
LongPeriod-sig: 100.0% [13.91 σ]
ModelChiSquare2-sig: 30.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 1.428
Centroid-sig: 24.6%
Centroid-so: 0.364 arcsec [1.13 σ]
OotOffset-rm: 0.140 arcsec [0.42 σ]
KicOffset-rm: 0.137 arcsec [0.44 σ]
OotOffset-st: 1/1/4/2 [8]
KicOffset-st: 1/1/4/2 [8]
DiffImageQuality-fgm: 0.75 [6/8]
DiffImageOverlap-fno: 0.00 [0/10]

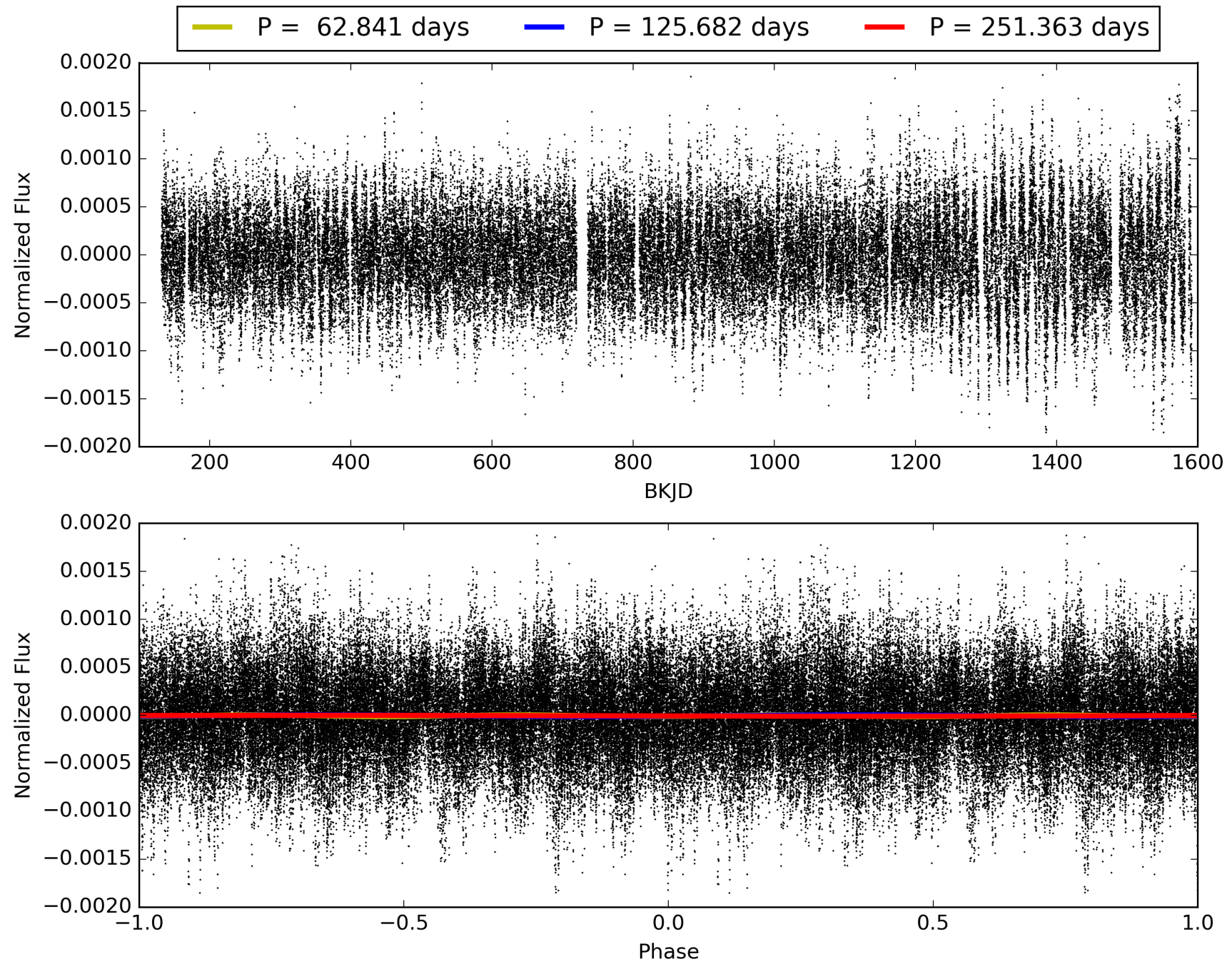
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:59:40 Z

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

TCE 008826317-05, PDC Light Curves

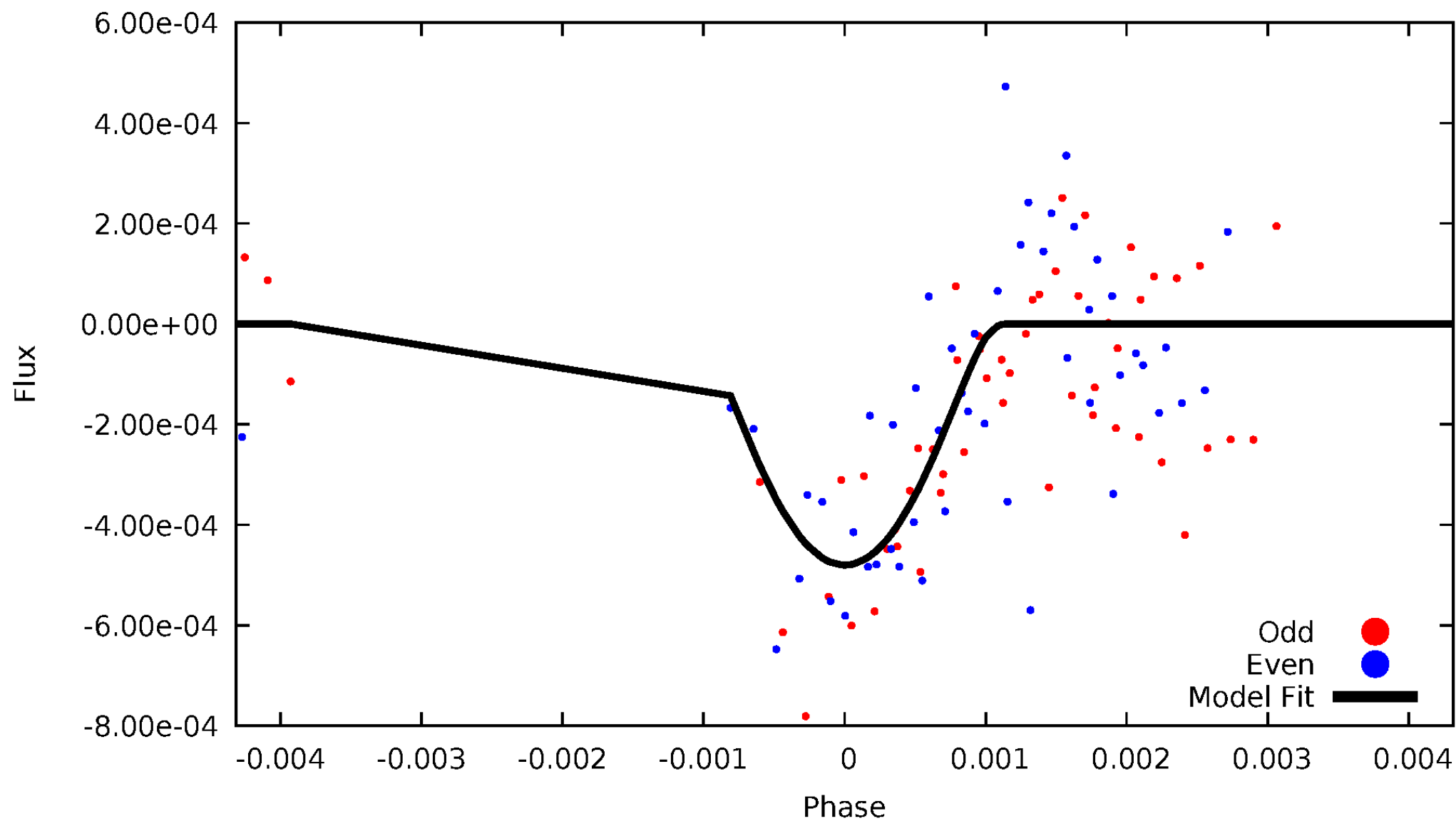


TCE 008826317-05



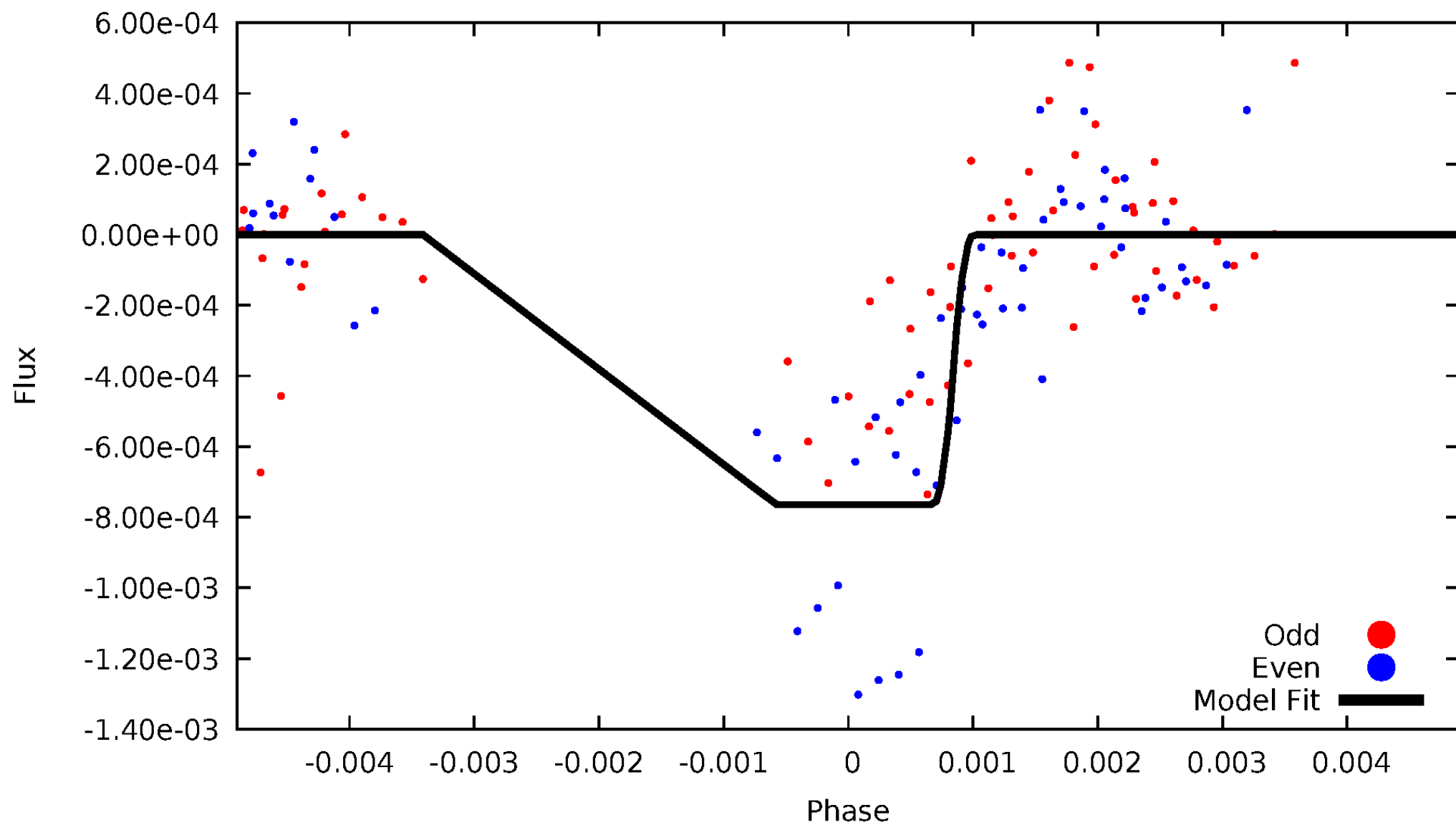
DV Odd/Even

TCE 008826317-05



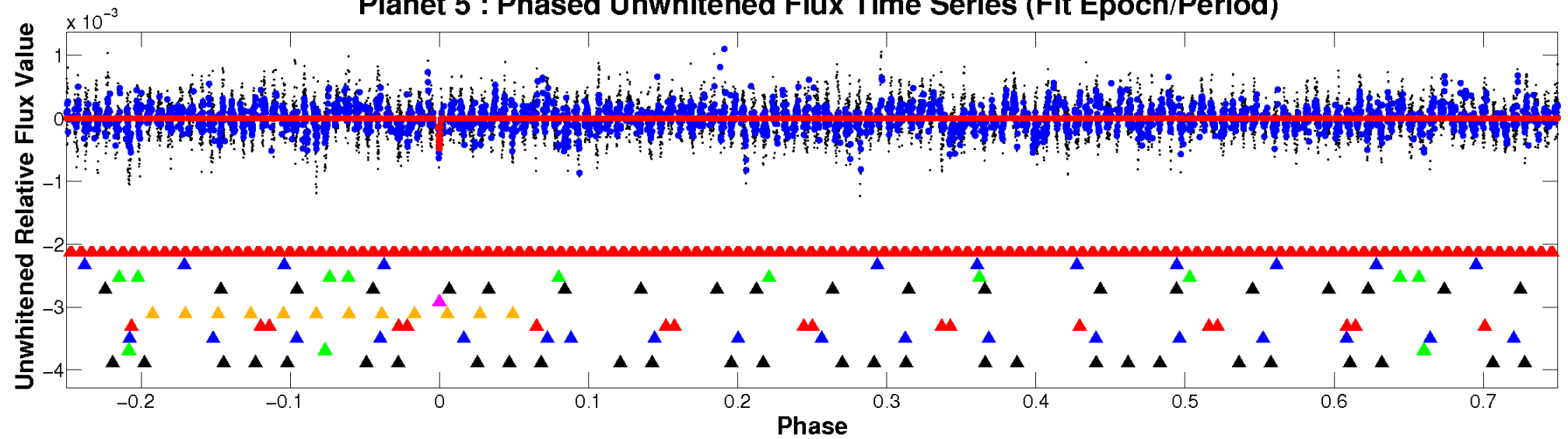
ALT Odd/Even

TCE 008826317-05

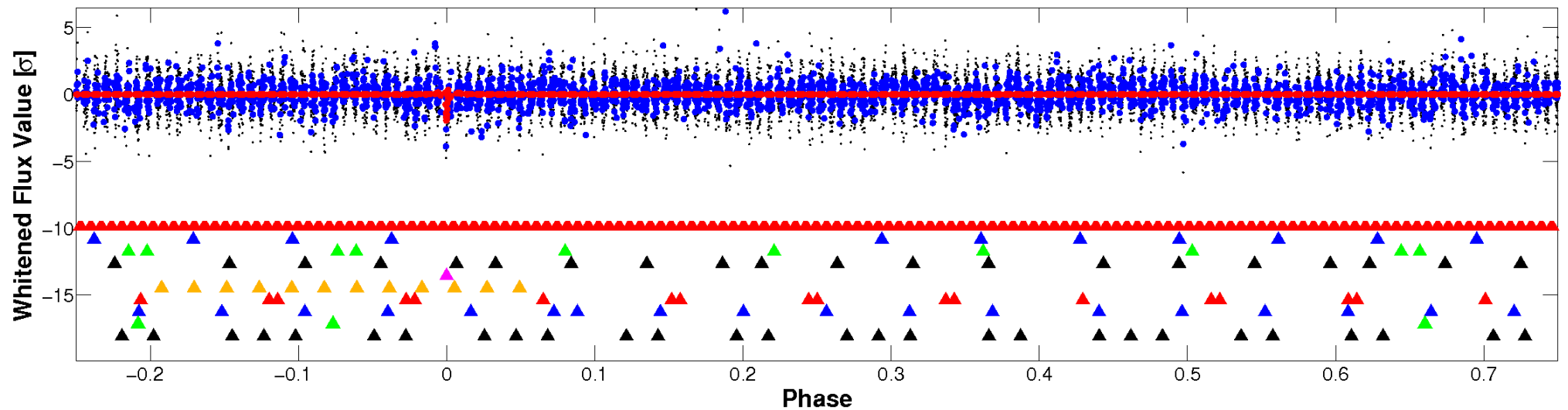


Non-Whitened Vs. Whitened Light Curve

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

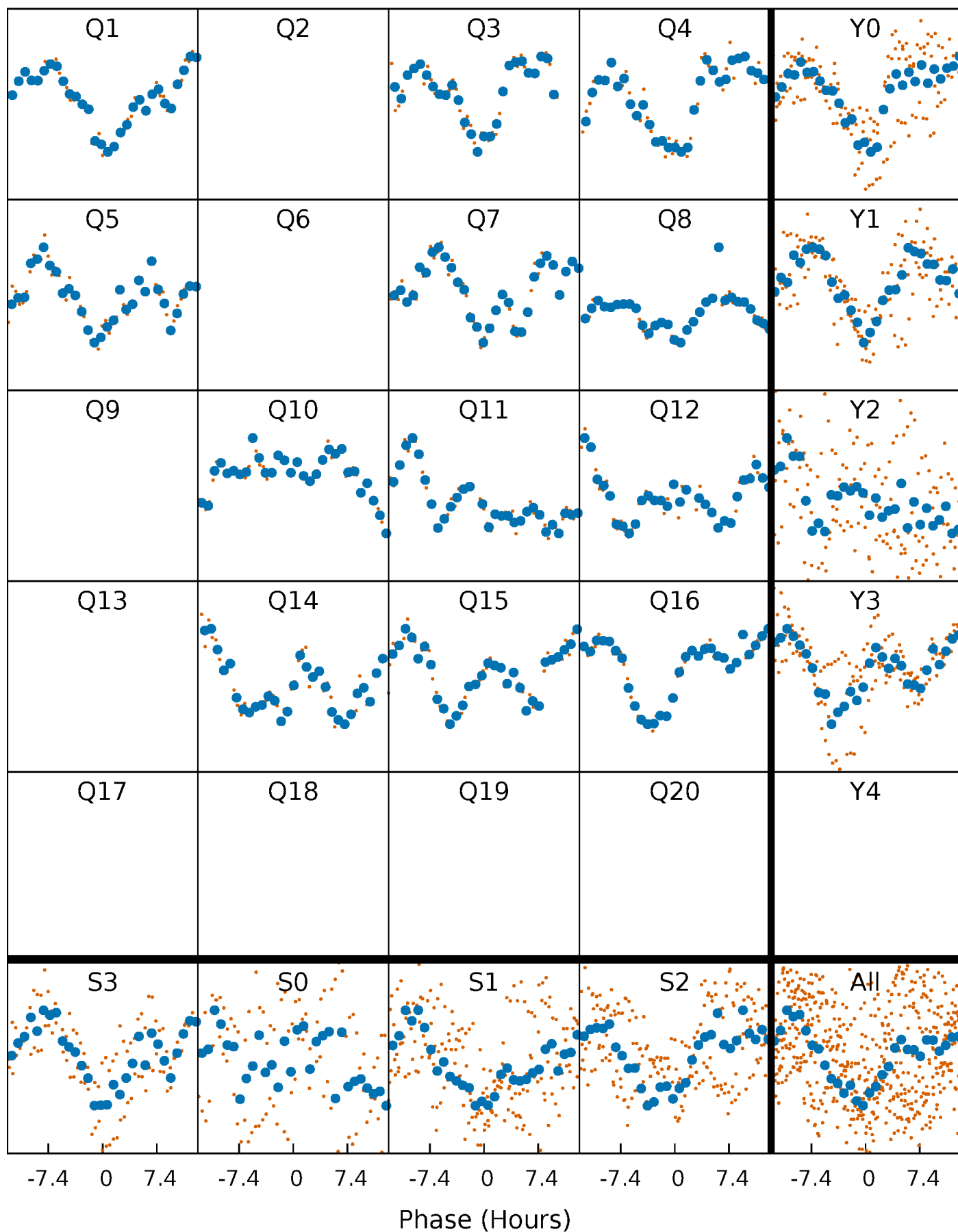


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



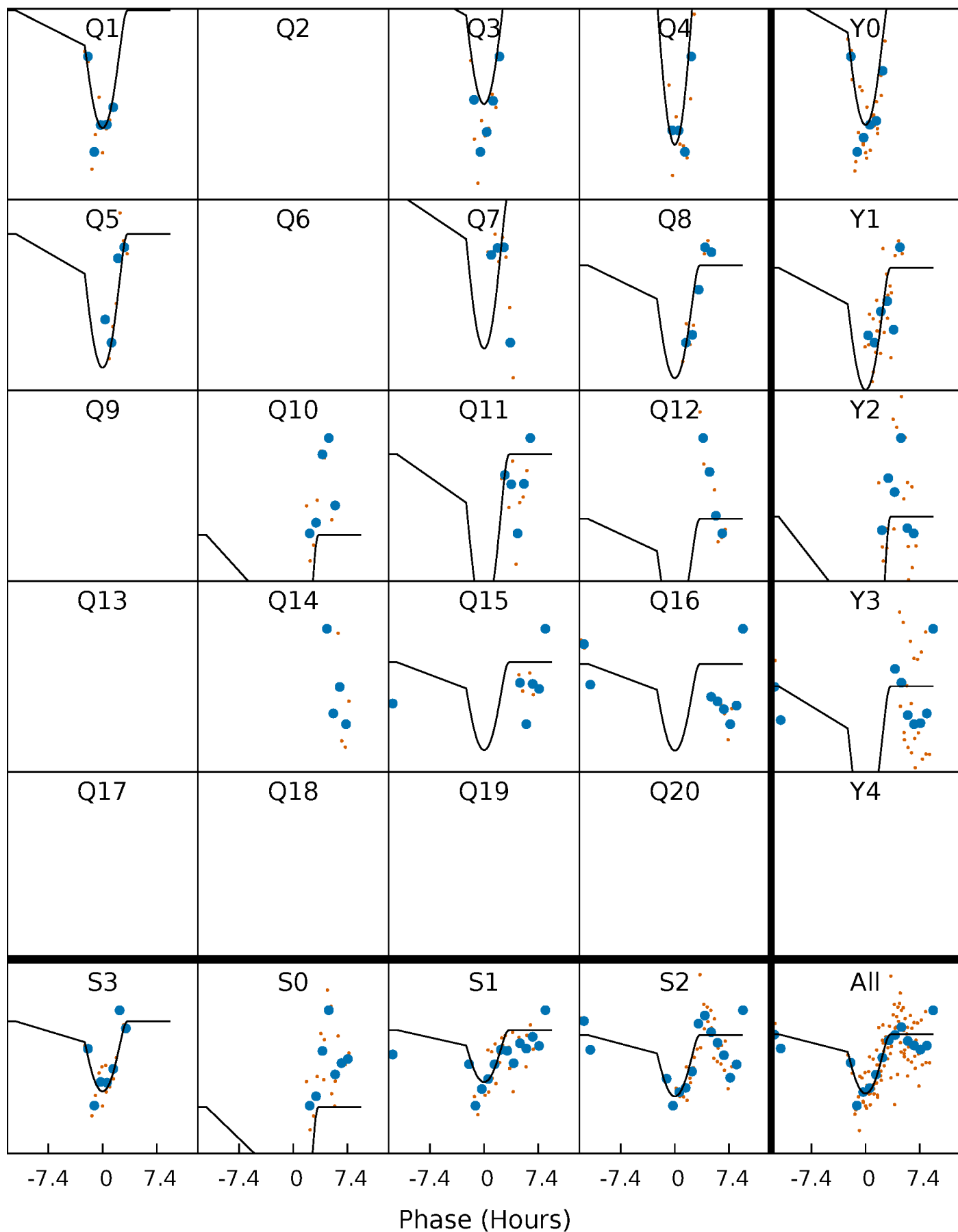
PDC Quarter-Phased Transit Curves

TCE 008826317-05 $P=125.681519$ Days $T_0=154.438959$ (BKJD)



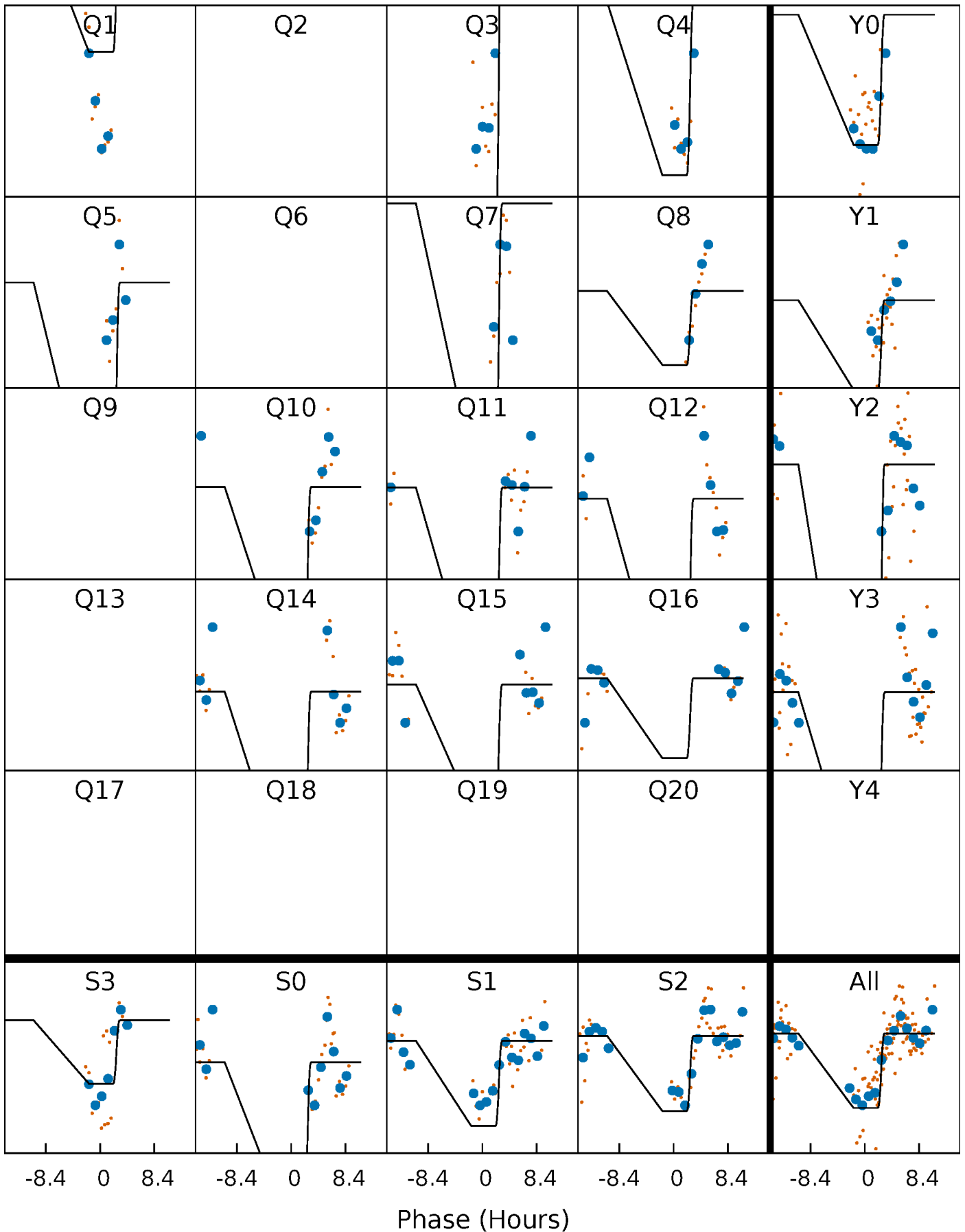
DV Quarter-Phased Transit Curves

TCE 008826317-05 $P=125.681519$ Days $T_0=154.438959$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

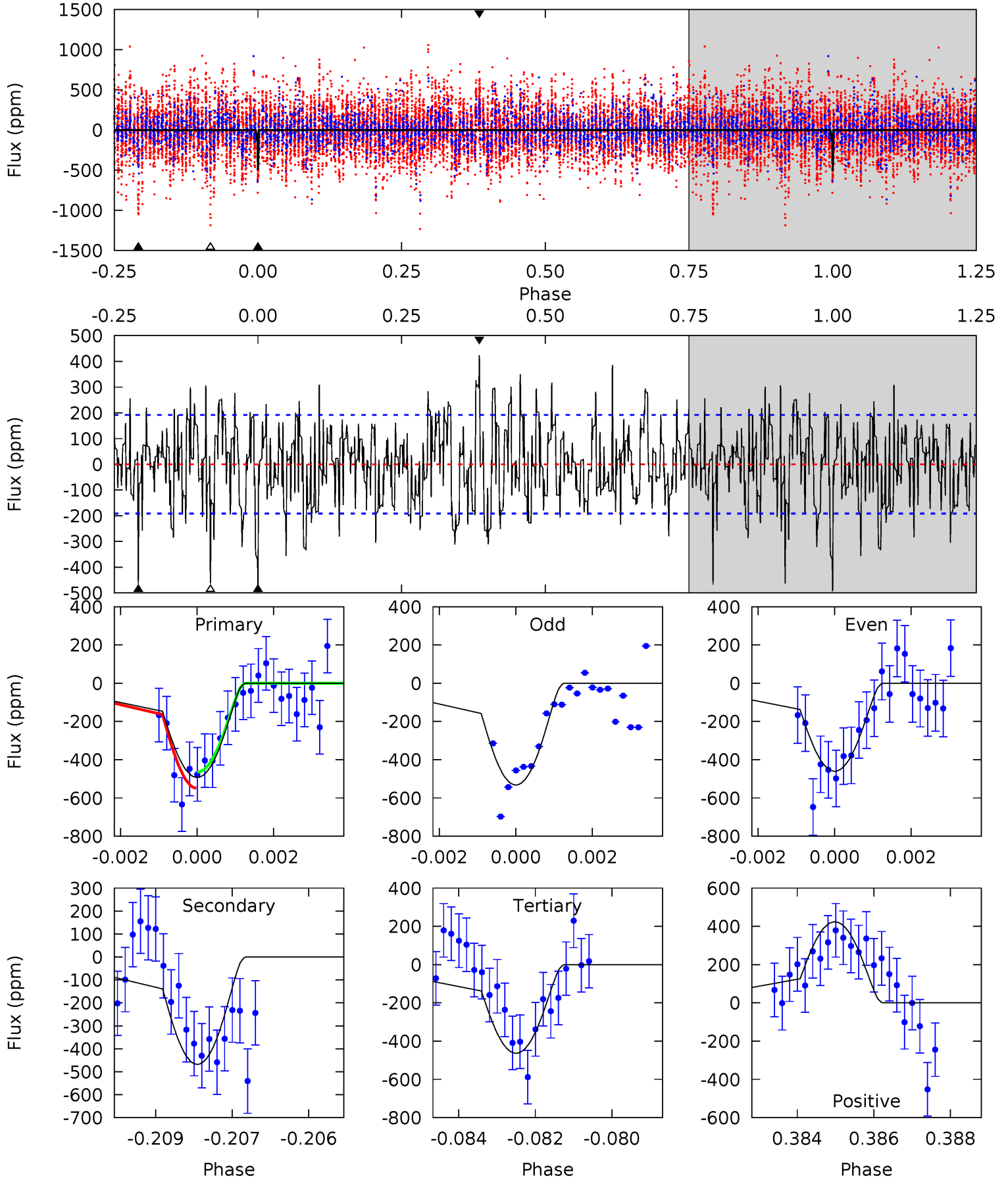
TCE 008826317-05 $P=125.676465$ Days $T_0=154.429466$ (BKJD)



DV Model-Shift Uniqueness Test

008826317-05, $P = 125.681519$ Days, $E = 28.757440$ Days

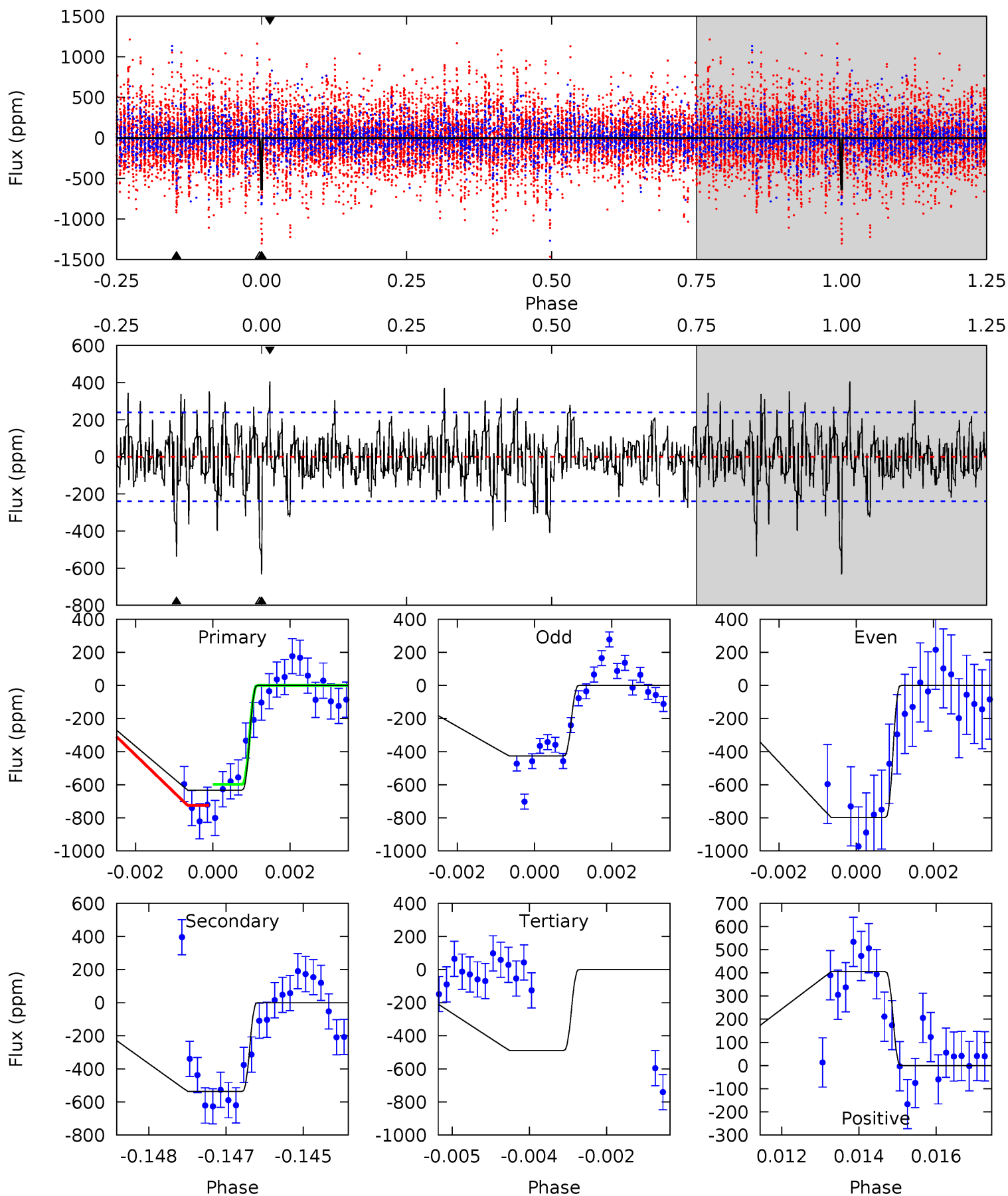
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	13.0	12.9	11.8	5.35	3.12	3.62	0.82	1.93	0.13	1.23	1.00	0.88	0.46	0.94



Alt Model-Shift Uniqueness Test

008826317-05, $P = 125.676465$ Days, $E = 28.753001$ 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	12.0	10.9	9.05	5.35	3.13	2.36	3.20	5.09	1.06	2.95	4.11	1.01	0.39	1.18



Stellar Parameters For KIC 008826317

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7328^{+230}_{-307}	$4.035^{+0.209}_{-0.171}$	$-0.240^{+0.250}_{-0.350}$	$1.955^{+0.542}_{-0.596}$	$1.510^{+0.209}_{-0.279}$	$0.284^{+0.390}_{-0.122}$
	+3%/-4%	+5%/-4%	+104%/-146%	+28%/-30%	+14%/-18%	+137%/-43%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008826317-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-468 ± 36	$8.96^{+7.83}_{-5.79}$	837^{+71}_{-68}	5193^{+3935}_{-1155}	994^{+7106}_{-710}
Alt.	-537 ± 45	$8.70^{+7.06}_{-5.65}$	837^{+69}_{-70}	5403^{+4423}_{-1107}	1200^{+9043}_{-831}

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

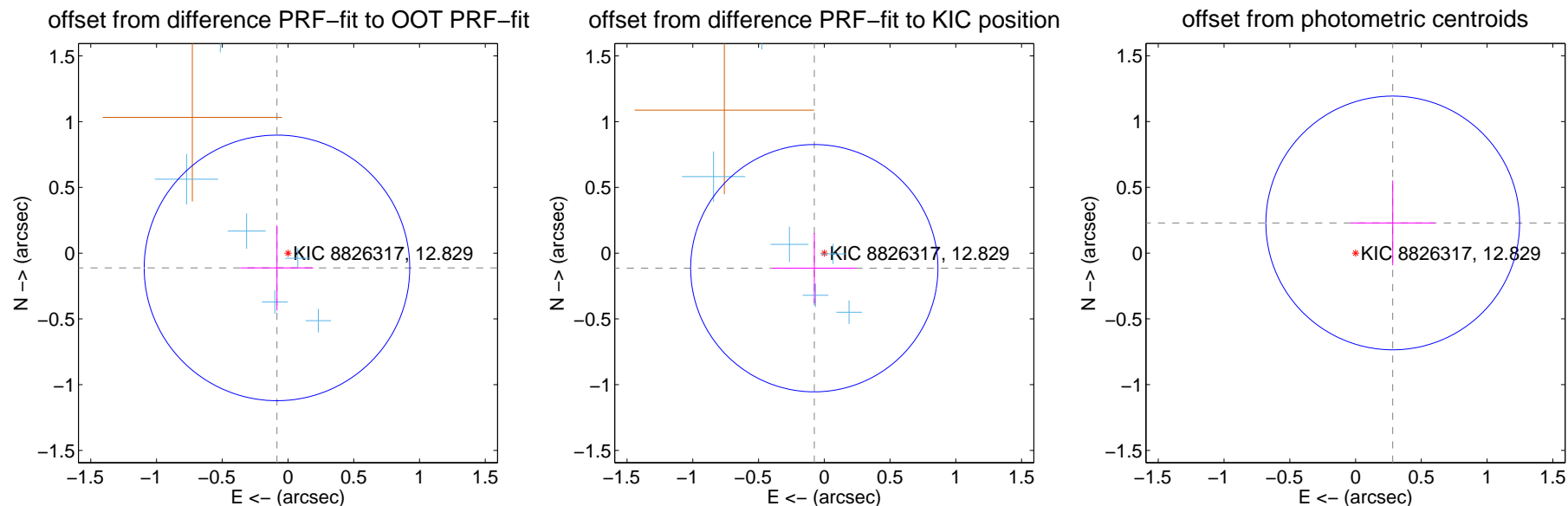
DV Centroid Data

Supplemental centroid analysis for 008826317-05. Kepler magnitude: 12.83. Transit SNR 8.77

There are 6 quarters with good PRF difference image offsets

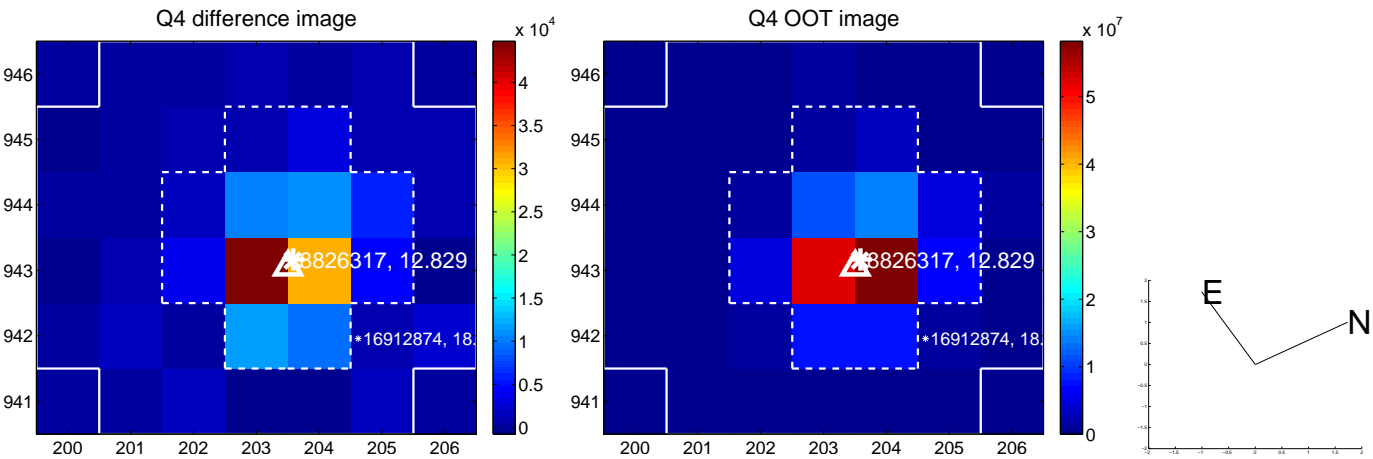
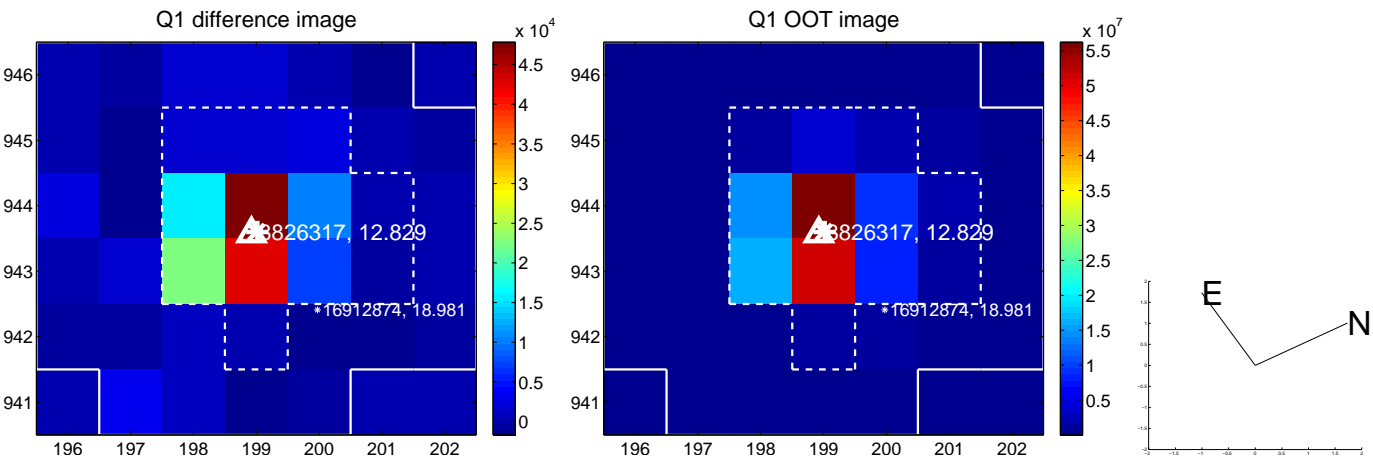
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.140 ± 0.337	0.42	0.084 ± 0.277	-0.112 ± 0.324
PRF-fit source offset from KIC position	0.137 ± 0.313	0.44	0.076 ± 0.319	-0.114 ± 0.268
photometric centroid source offset	0.36 ± 0.32	1.13	-0.28 ± 0.32	0.23 ± 0.32

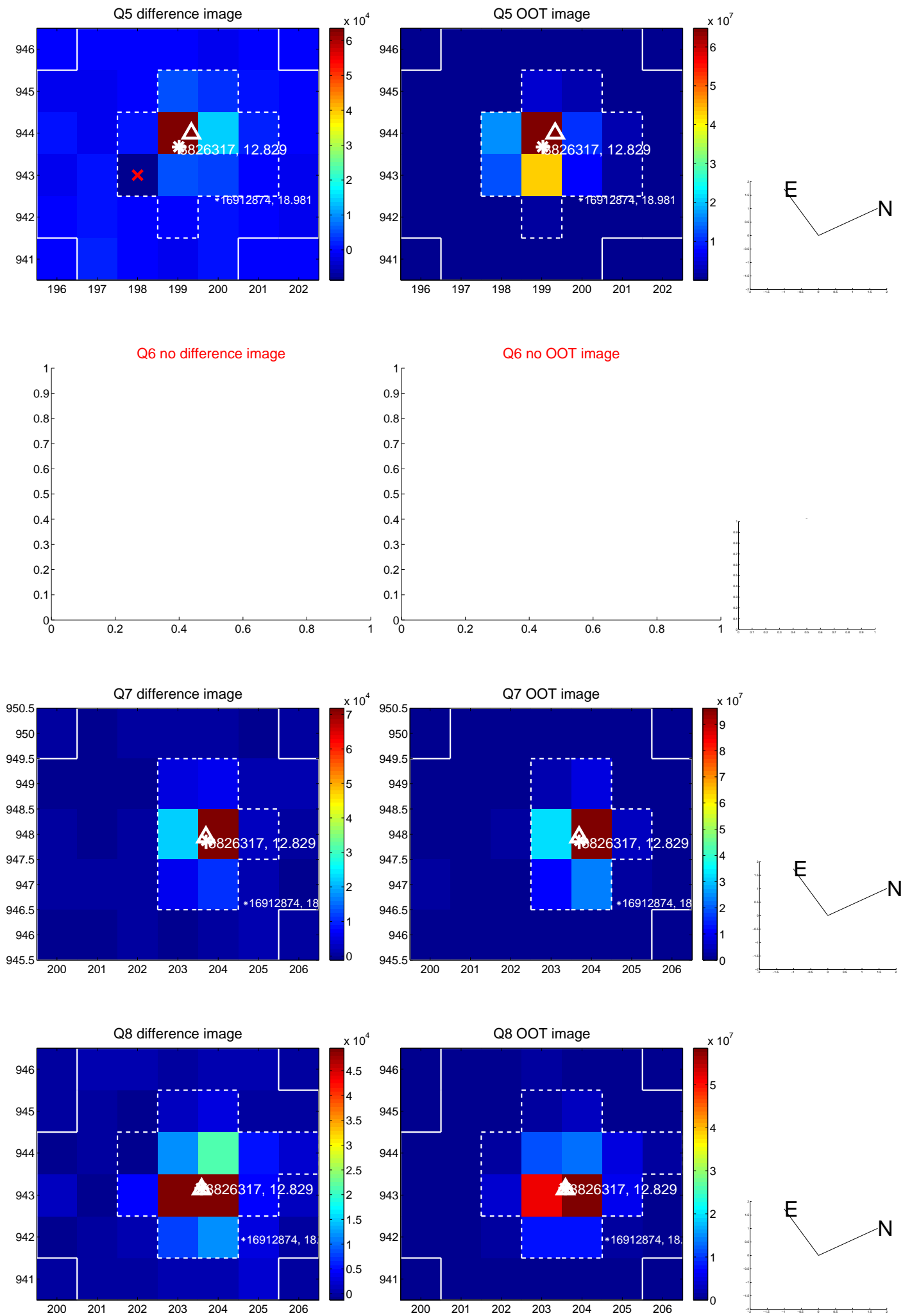


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

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



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



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

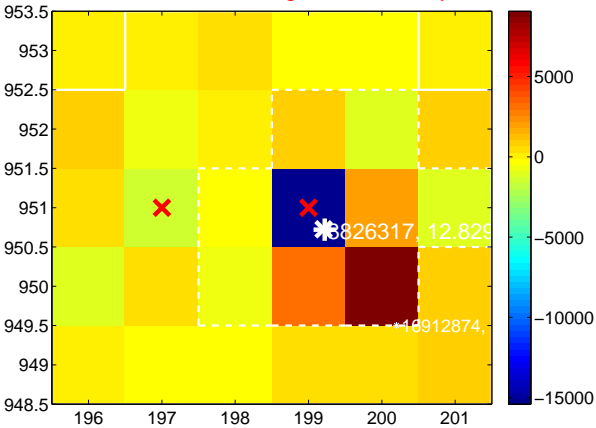
Q9 no difference image



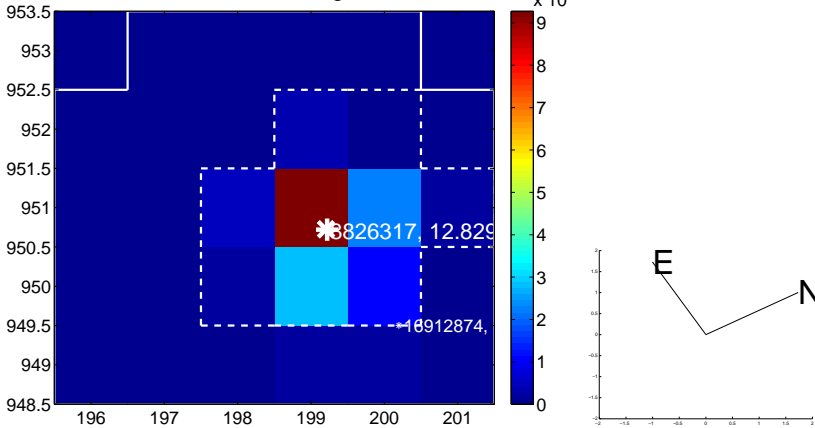
Q9 no OOT image



Q10 difference image. Poor Quality



Q10 OOT image



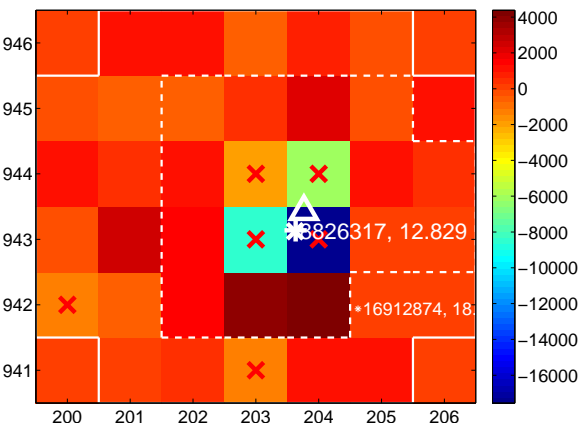
Q11 no difference image



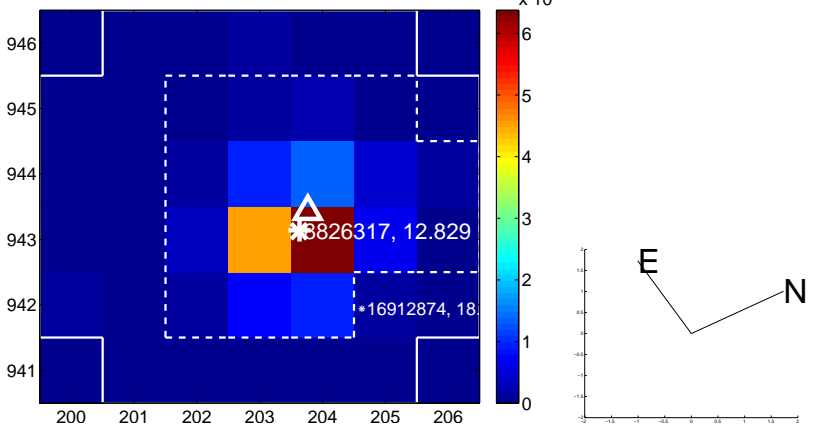
Q11 no OOT image



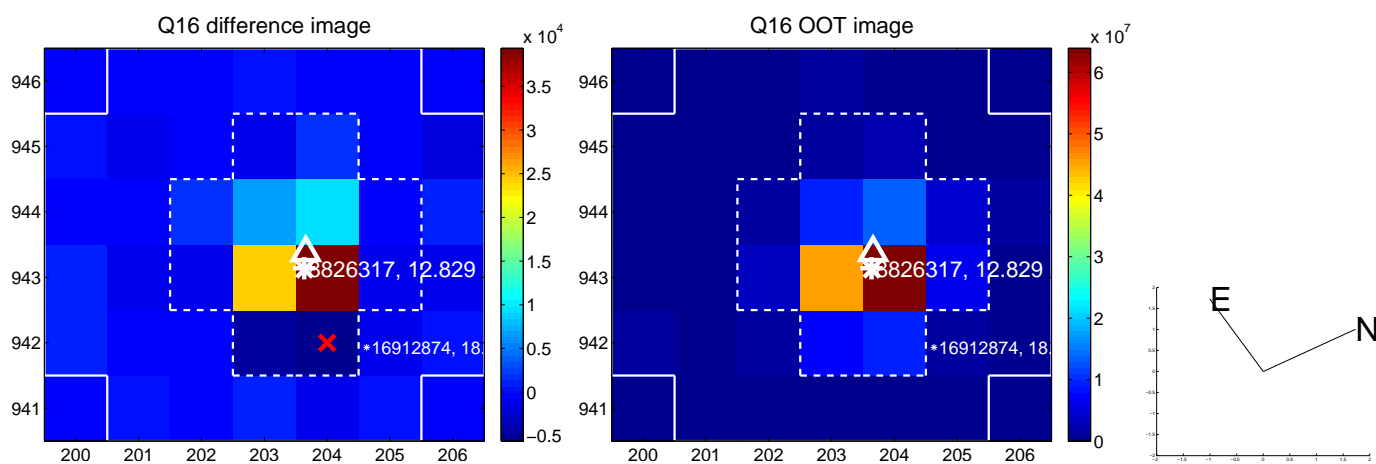
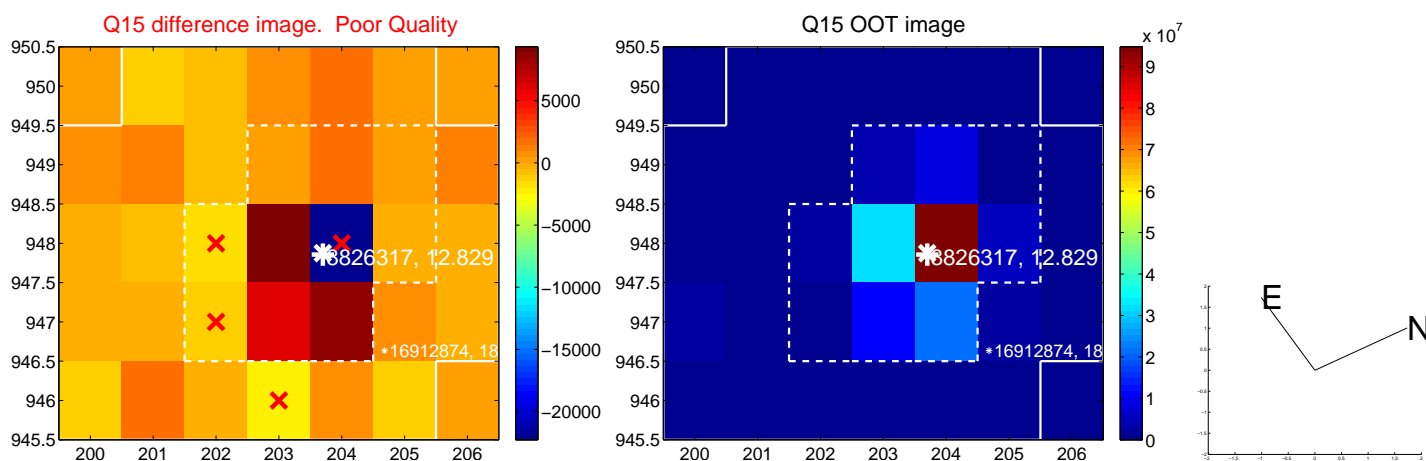
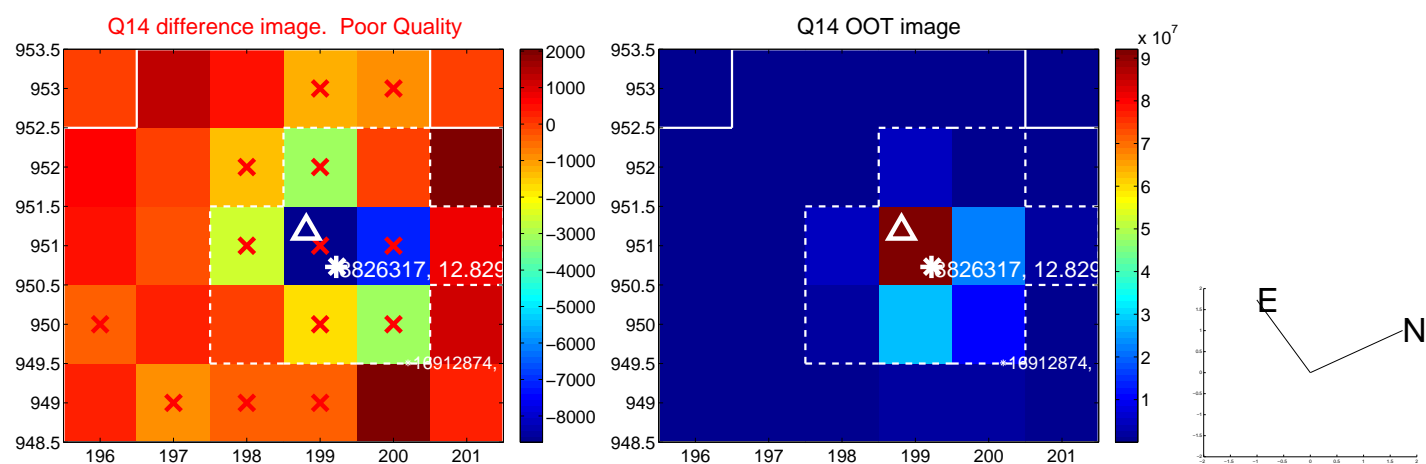
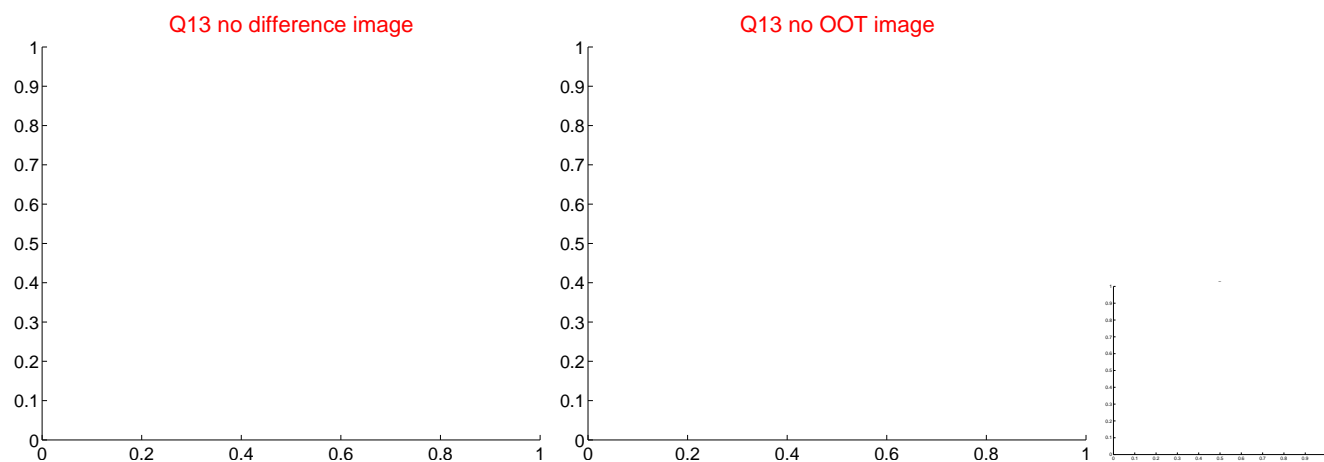
Q12 difference image. Poor Quality



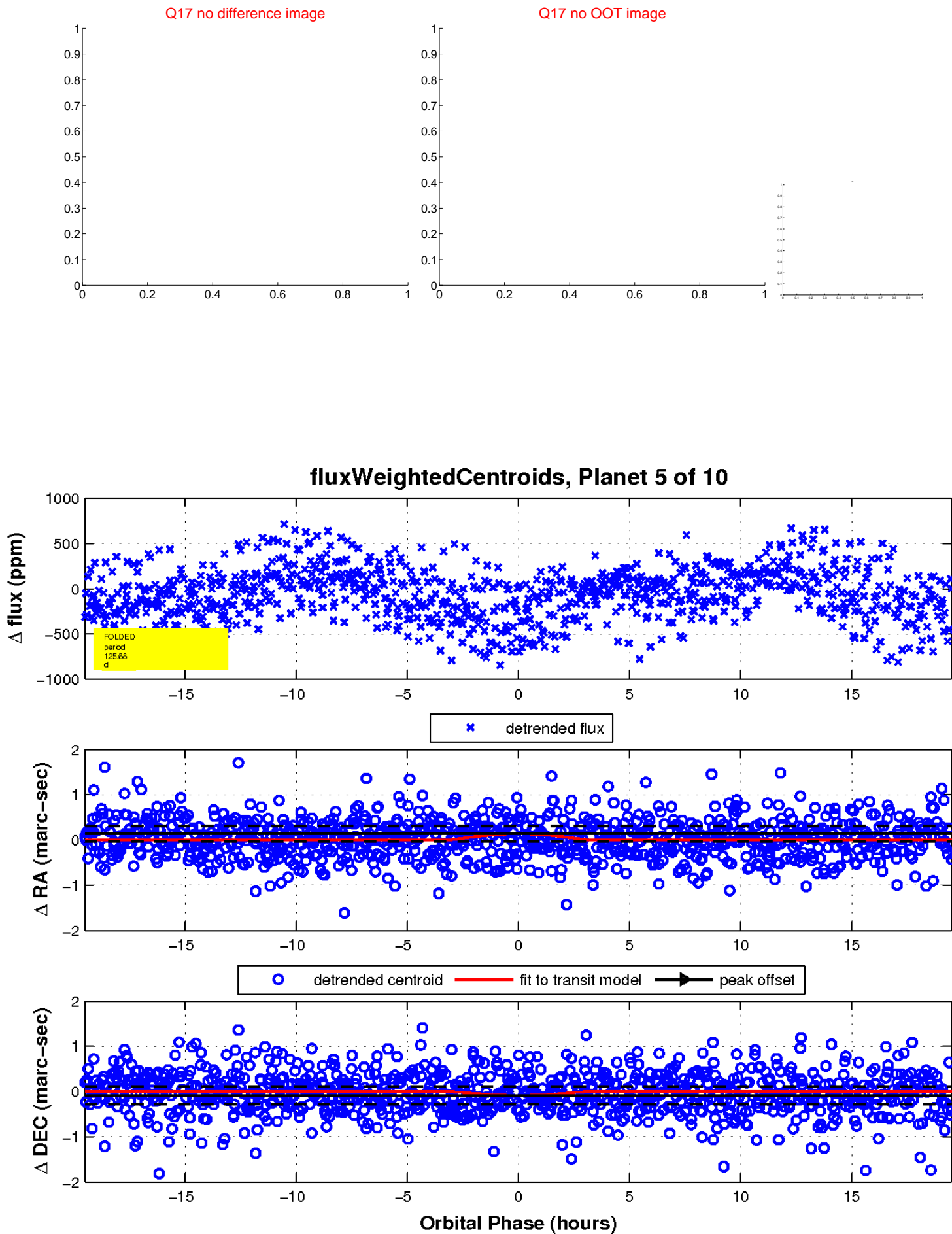
Q12 OOT image



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

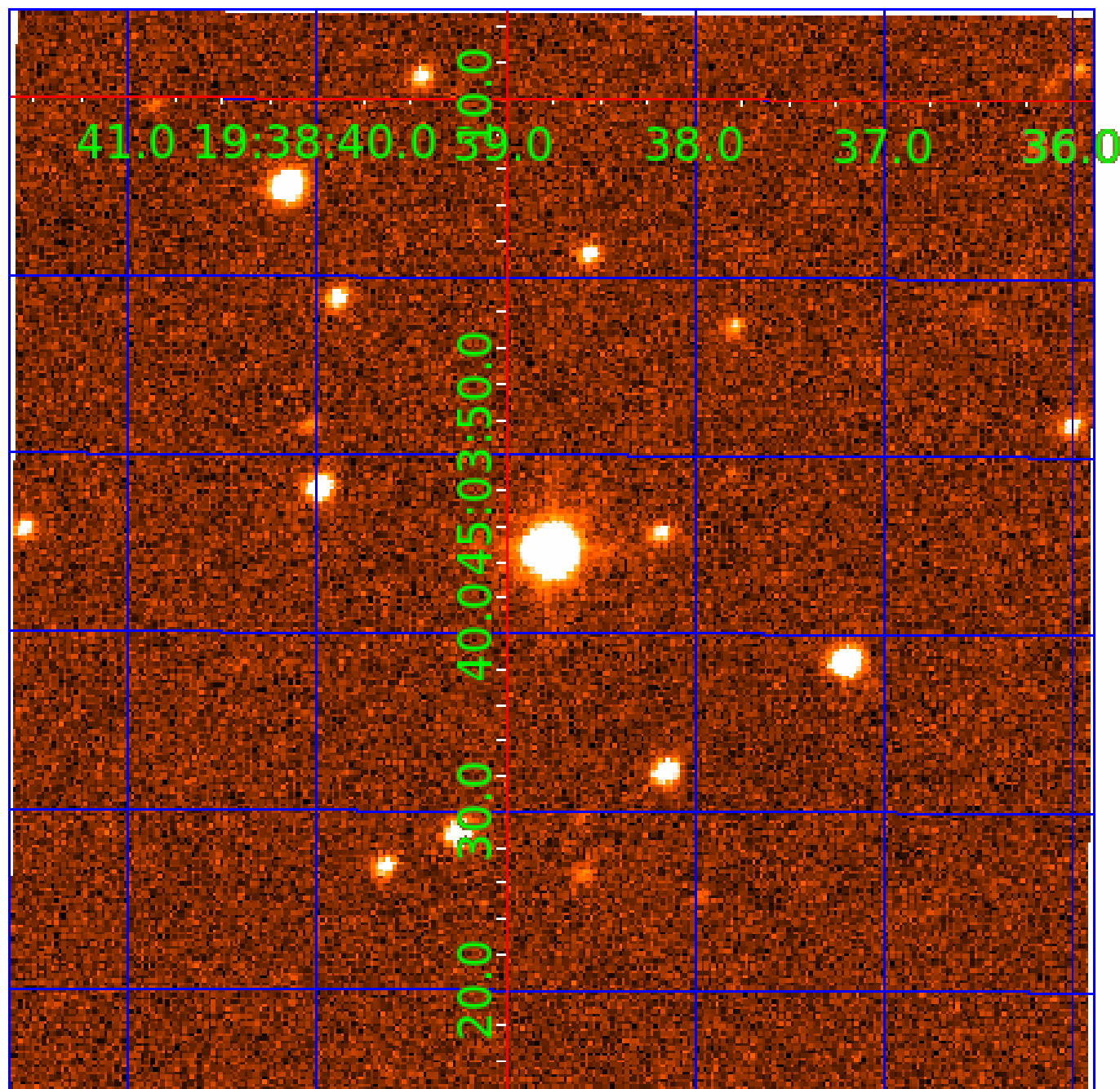


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008826317

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})
008826317-01	OBS	No	0.879096	132.002057	23.9	5.477	10.7	6.9	1.96	7328	1.11	23239.10
008826317-03	OBS	No	143.410534	236.990340	565.0	6.549	11.8	10.5	1.96	7328	5.71	26.07
008826317-04	OBS	No	74.126069	155.266746	530.4	2.048	8.6	8.6	1.96	7328	4.98	62.85
008826317-05	OBS	No	125.681519	154.438959	480.2	6.507	8.7	8.8	1.96	7328	7.12	31.09
008826317-06	OBS	No	122.921425	160.628393	578.6	4.204	9.2	8.5	1.96	7328	5.94	32.02
008826317-08	OBS	No	81.440440	163.544659	392.4	5.186	8.7	7.8	1.96	7328	4.40	55.44
008826317-09	OBS	No	486.194127	521.851652	590.8	5.419	8.4	8.9	1.96	7328	5.08	5.12
008826317-10	OBS	No	52.143594	163.019543	180.0	4.500	8.3	-1.0	1.96	7328	2.65	100.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008826317-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008826317-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
008826317-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008826317-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT
008826317-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
008826317-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008826317-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
008826317-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

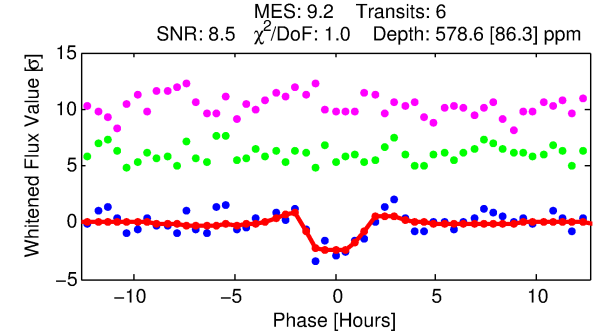
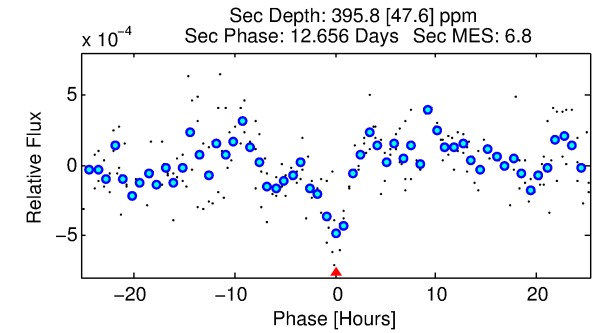
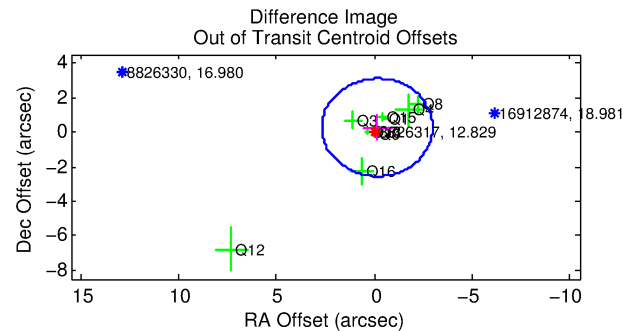
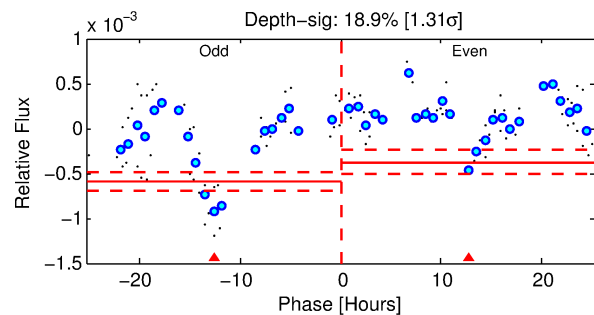
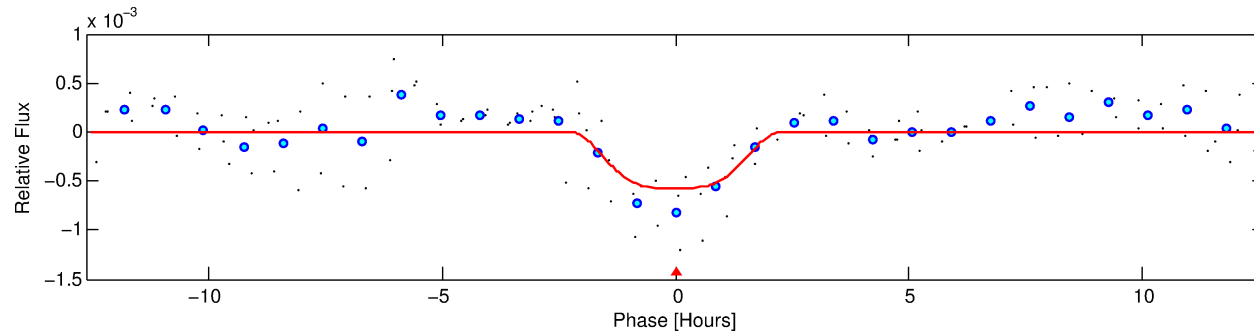
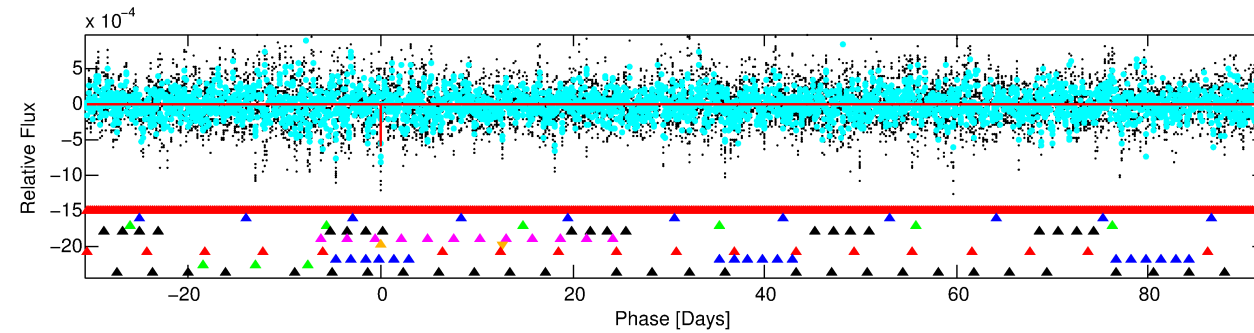
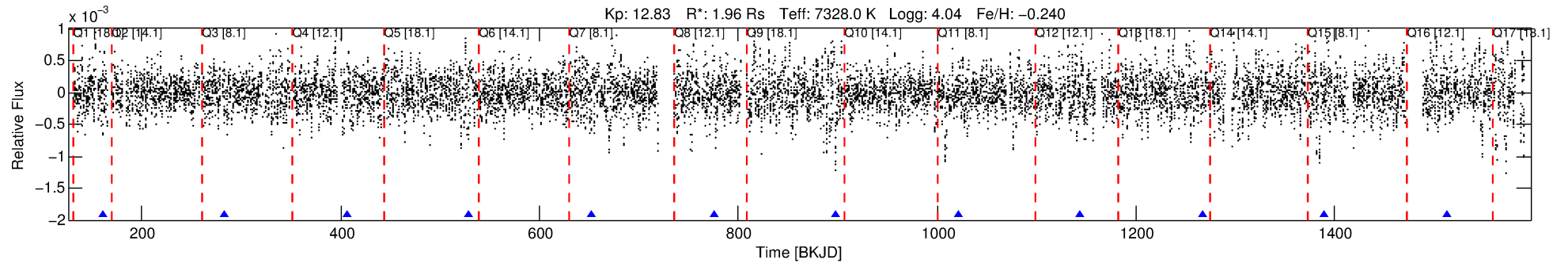
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008826317-06

No Significant Match Found

DV One-Page Summary

KIC: 8826317 Candidate: 6 of 10 Period: 122.921 d



DV Fit Results:

Period = 122.92142 [0.00116] d
Epoch = 160.6284 [0.0075] BKJD
Rp/R* = 0.0279 [0.0026]
a/R* = 78.82 [14.86]
b = 0.97 [0.01]
Seff = 32.02 [13.29]
Teq = 607 [63] K
Rp = 5.94 [1.89] Re
a = 0.5553 [0.1438] AU
Ag = 1901.11 [834.58] [2.28 σ]
Teffp = 6193 [428] K [12.90 σ]

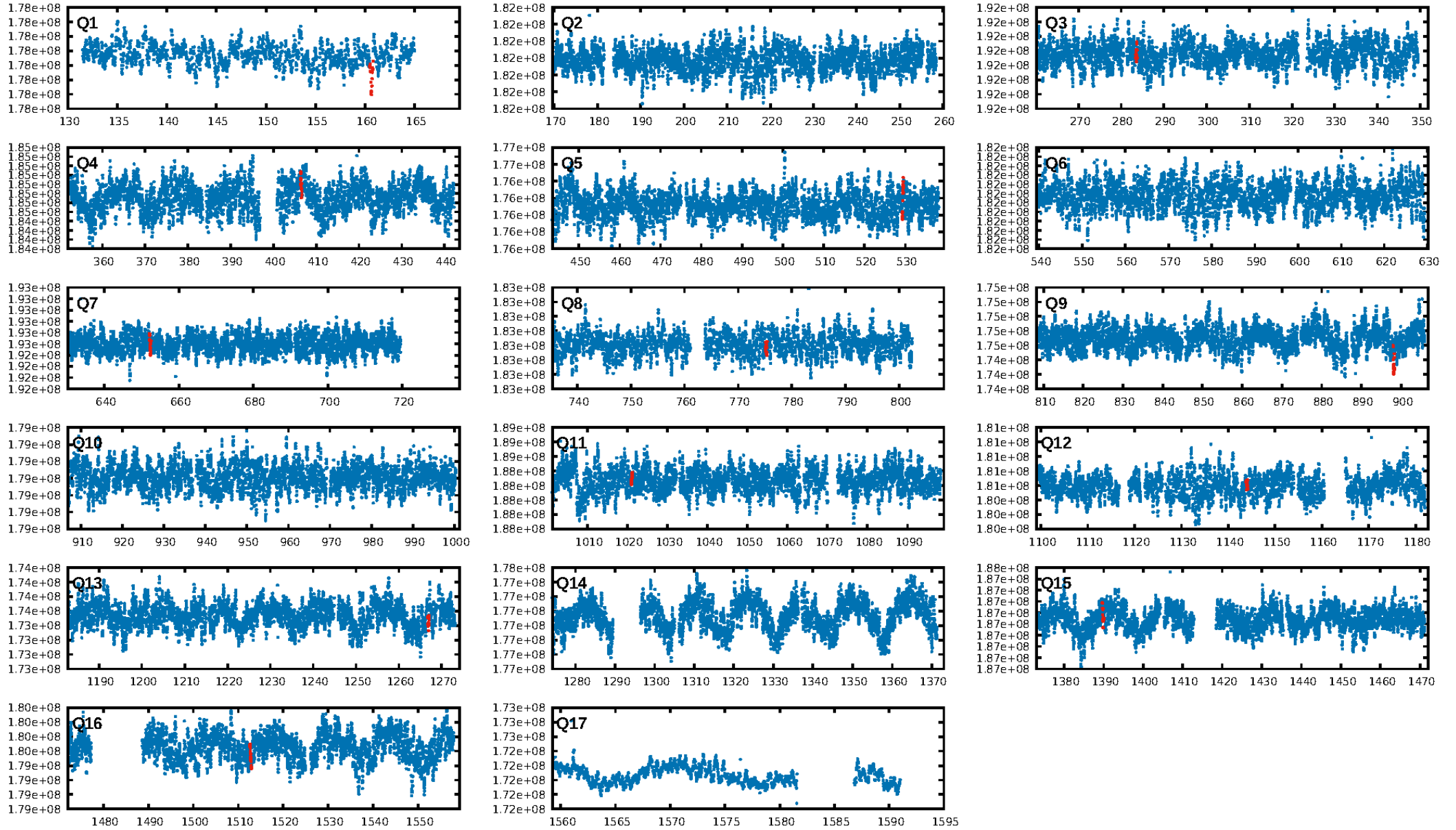
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [149.13 σ]
LongPeriod-sig: 100.0% [8.55 σ]
ModelChiSquare2-sig: 18.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -7.6
Centroid-sig: 10.0%
Centroid-so: 0.509 arcsec [1.71 σ]
OotOffset-rm: 0.308 arcsec [0.33 σ]
KicOffset-rm: 0.314 arcsec [0.32 σ]
OotOffset-st: 0/3/4/3 [10]
KicOffset-st: 0/3/4/3 [10]
DiffImageQuality-fgm: 0.70 [7/10]
DiffImageOverlap-fno: 0.00 [0/11]

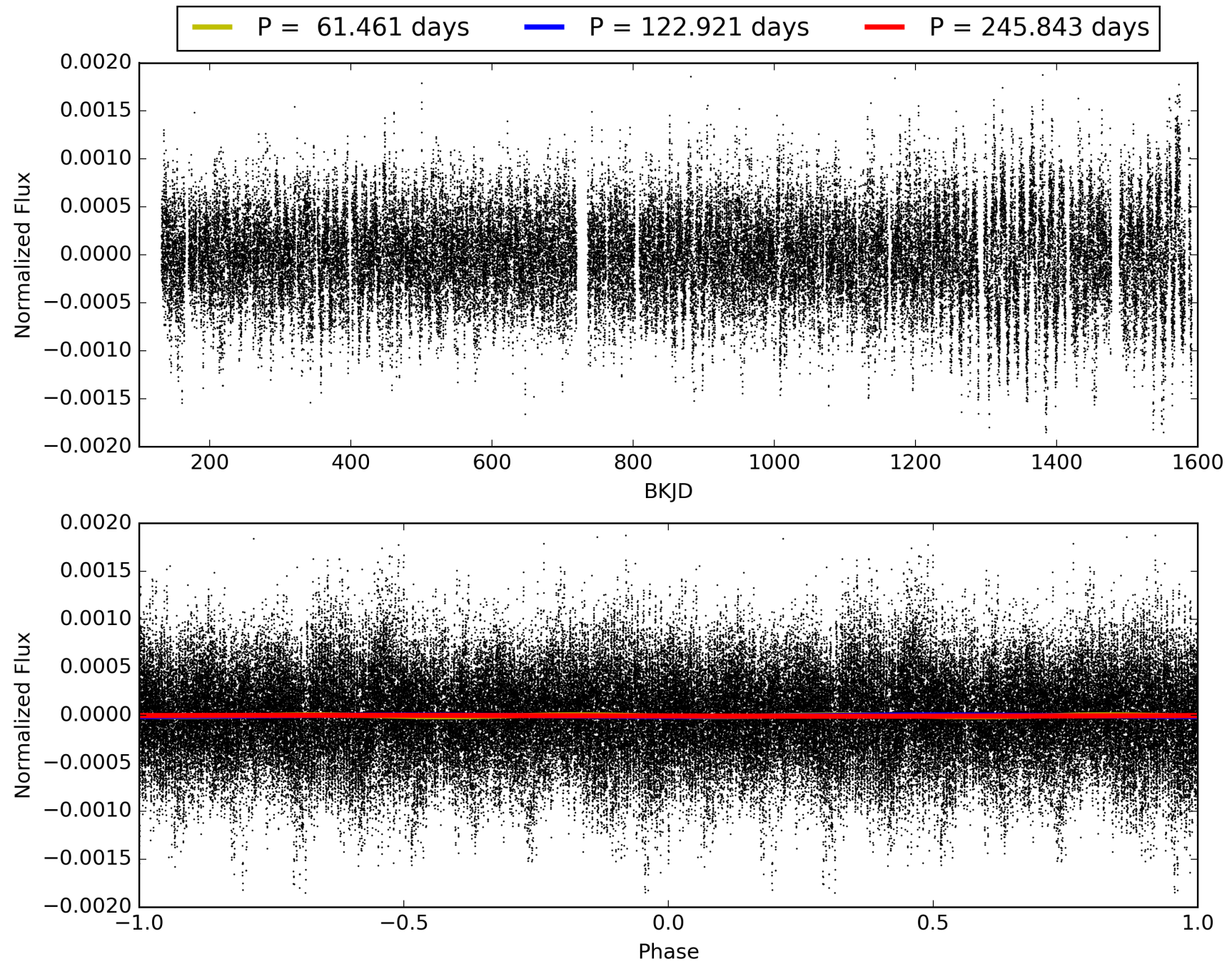
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:59:44 Z

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

TCE 008826317-06, PDC Light Curves

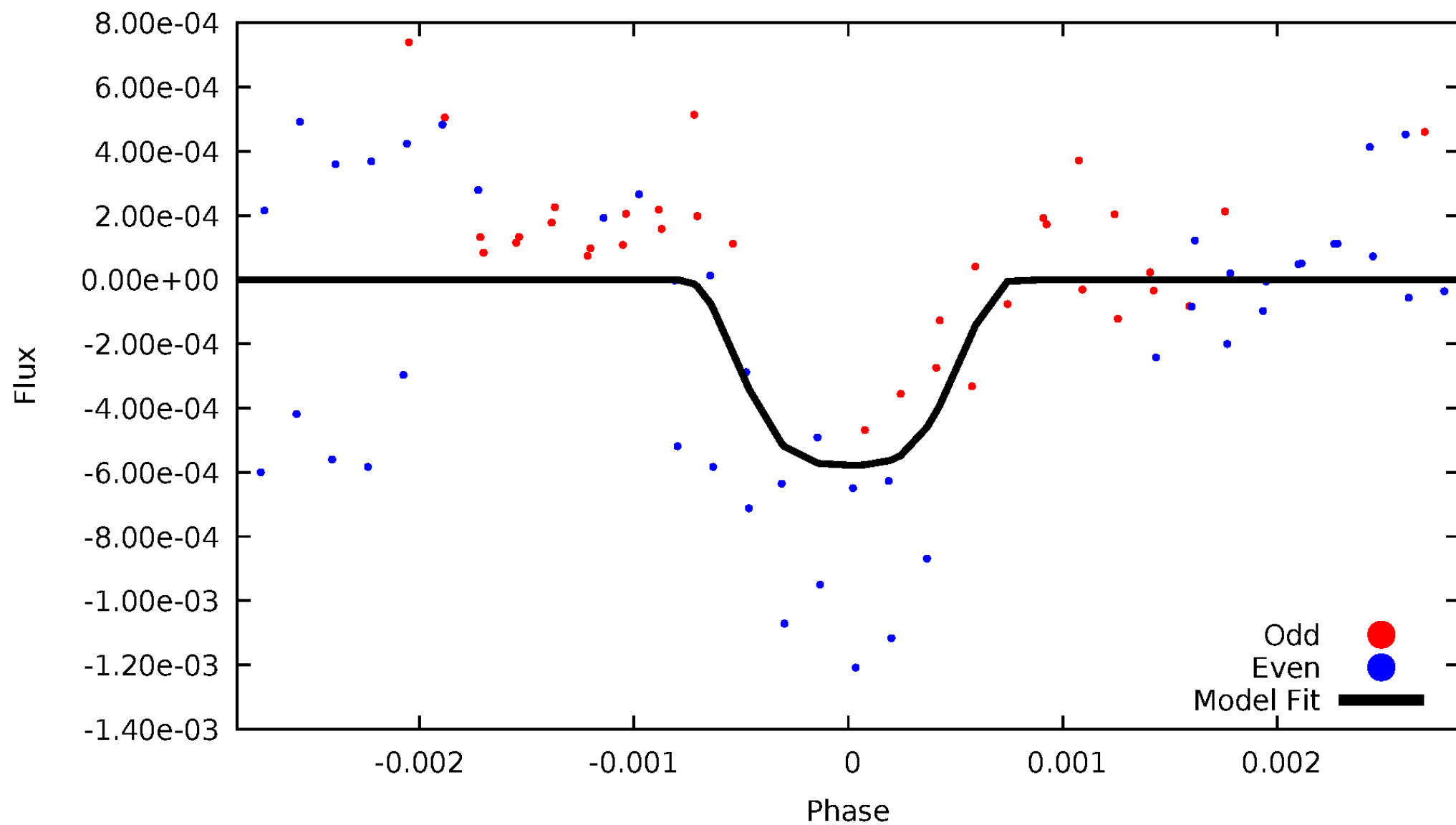


TCE 008826317-06



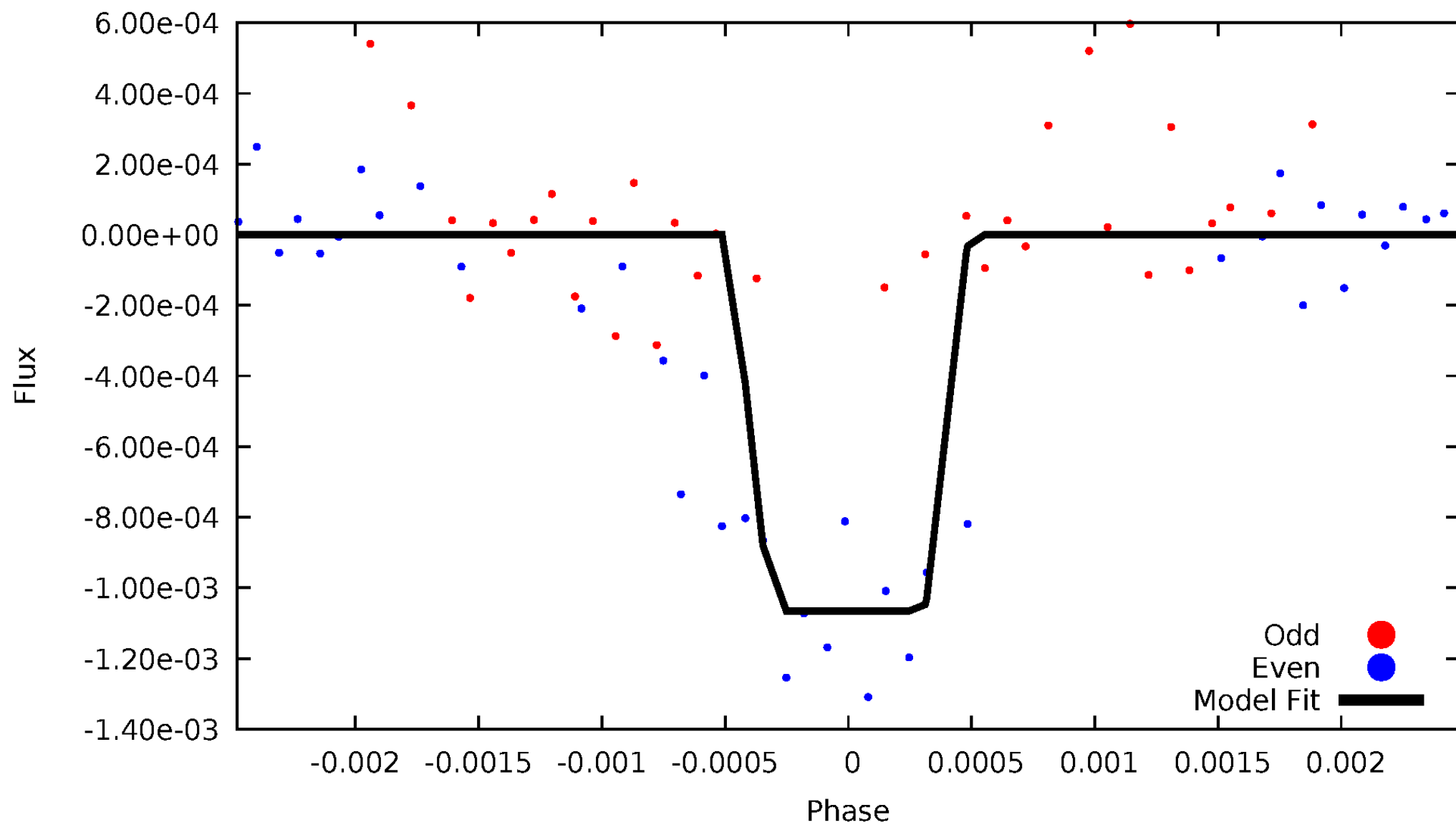
DV Odd/Even

TCE 008826317-06



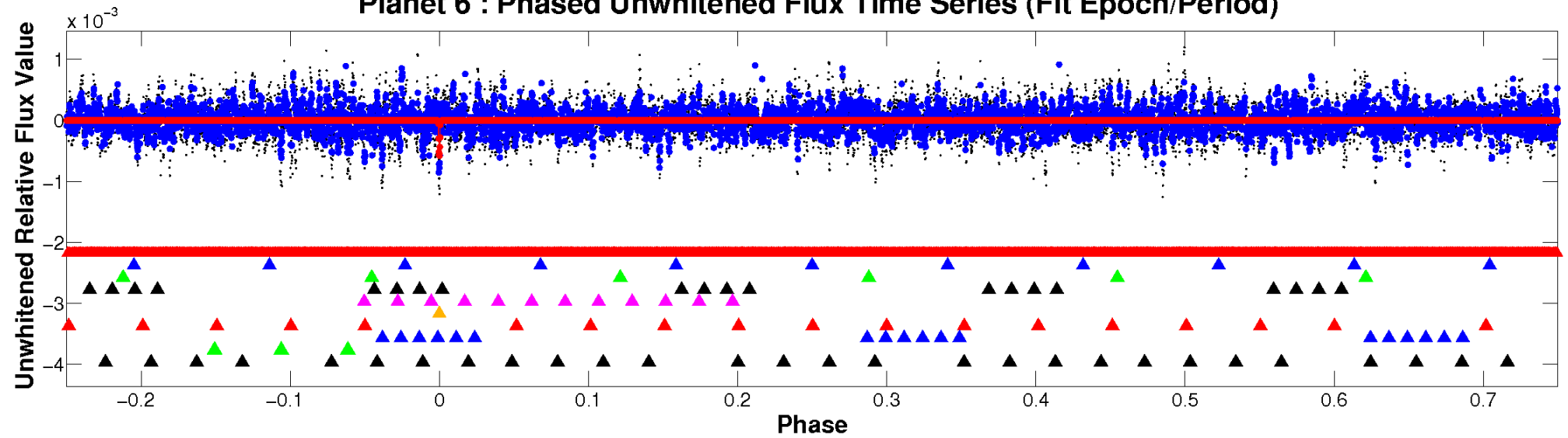
ALT Odd/Even

TCE 008826317-06

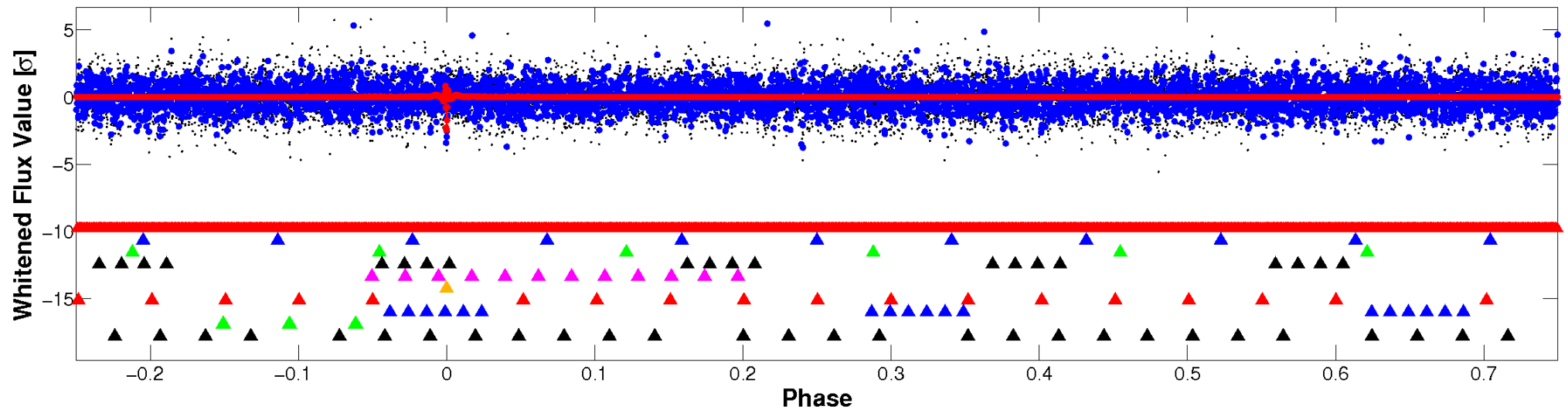


Non-Whitened Vs. Whitened Light Curve

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

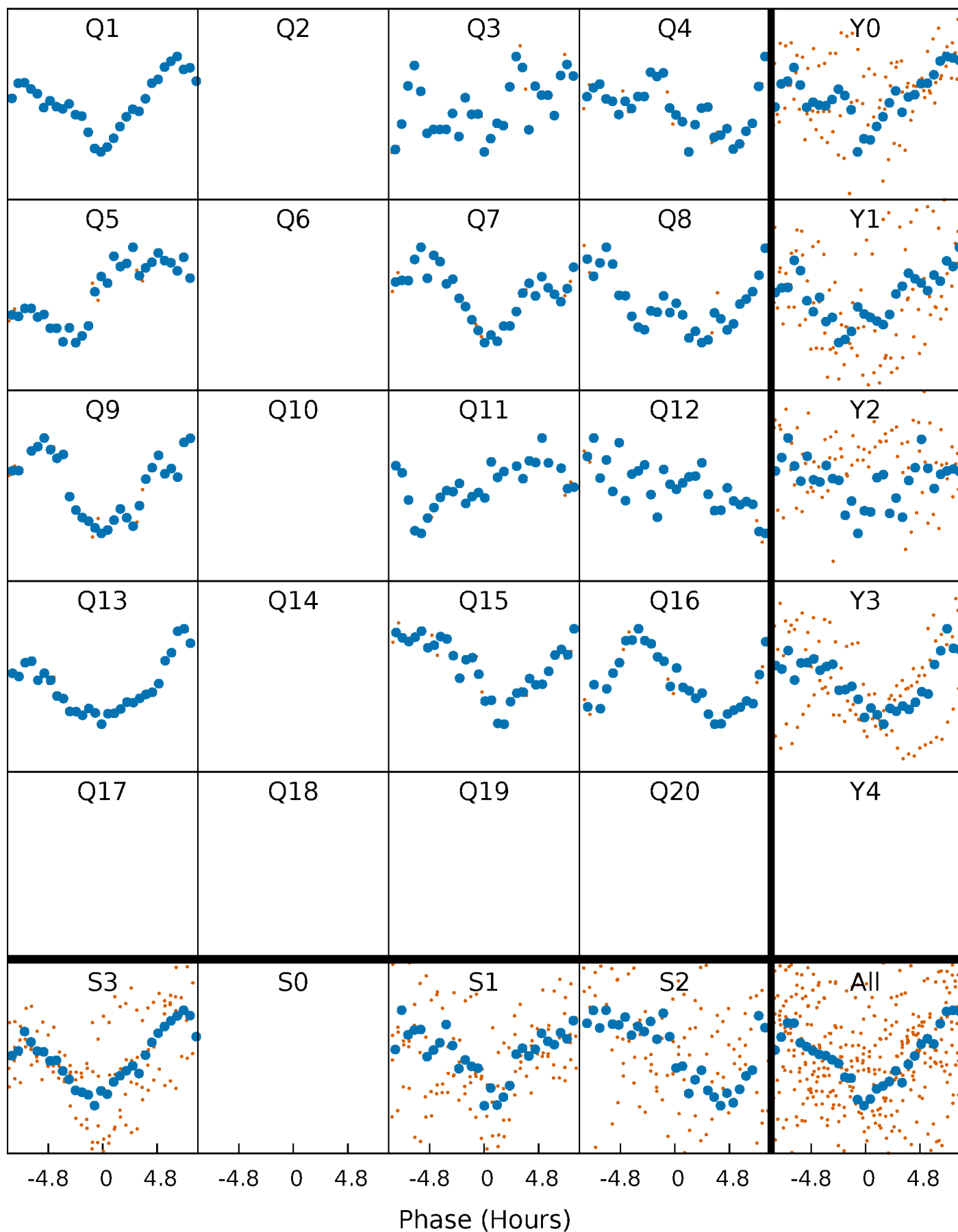


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



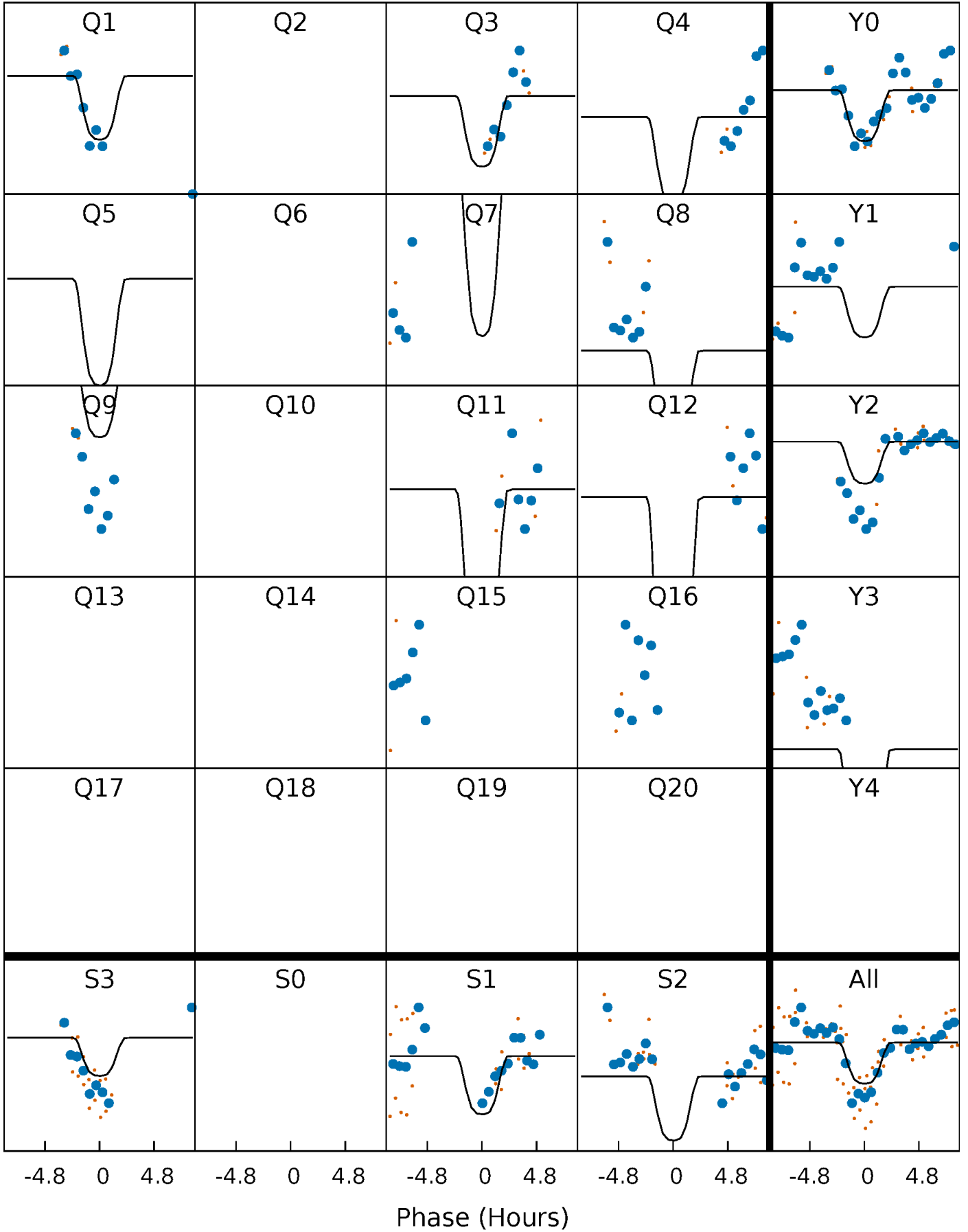
PDC Quarter-Phased Transit Curves

TCE 008826317-06 P=122.921425 Days $T_0=160.628393$ (BKJD)



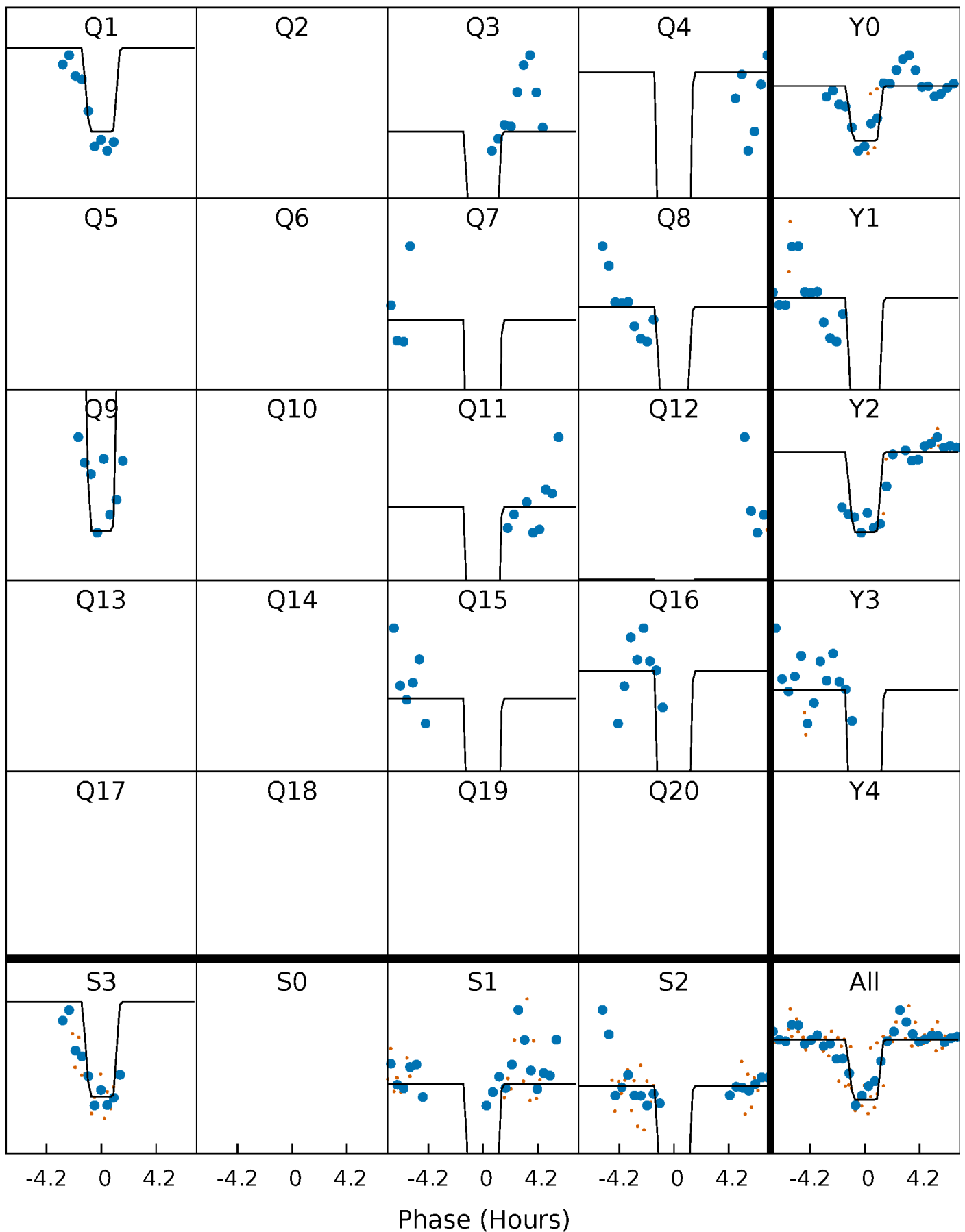
DV Quarter-Phased Transit Curves

TCE 008826317-06 P=122.921425 Days $T_0=160.628393$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

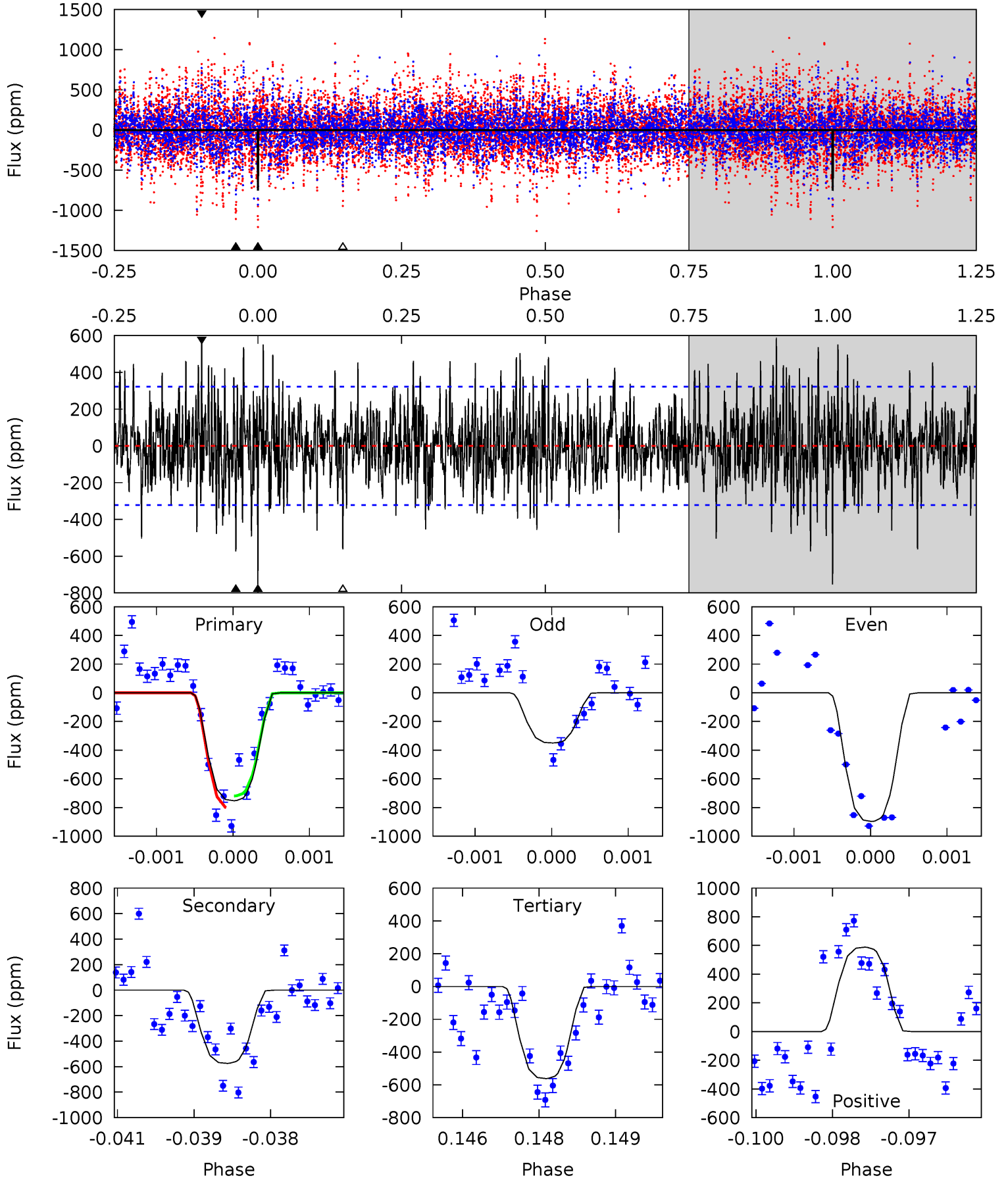
TCE 008826317-06 P=122.920225 Days $T_0=160.621160$ (BKJD)



DV Model-Shift Uniqueness Test

008826317-06, $P = 122.921425$ Days, $E = 37.706968$ Days

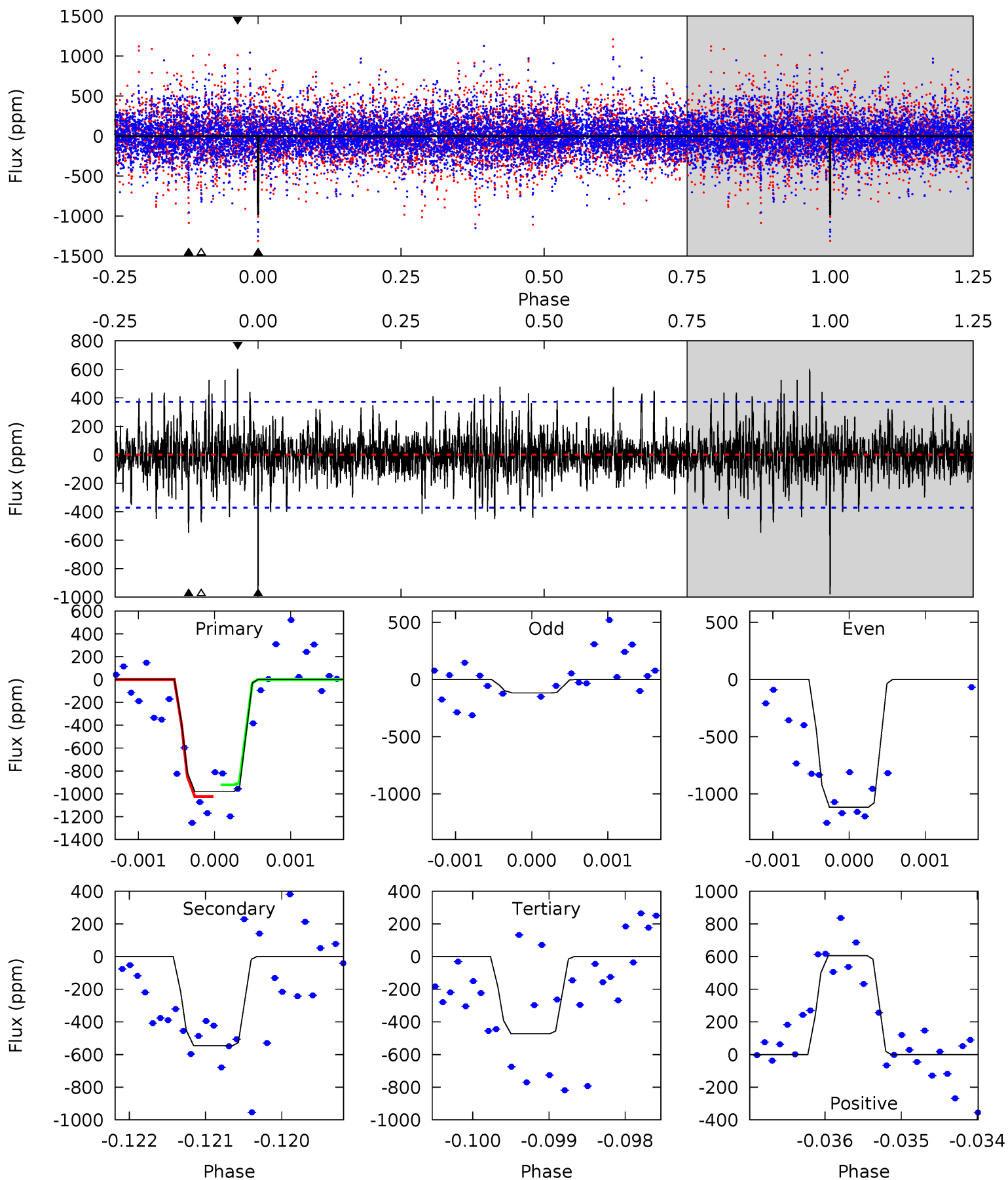
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	9.61	9.39	9.84	5.39	3.19	2.64	3.20	2.75	0.21	-0.23	4.35	0.91	0.44	0.67



Alt Model-Shift Uniqueness Test

008826317-06, P = 122.920225 Days, E = 37.700935 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	8.01	6.94	8.88	5.46	3.30	1.82	7.46	5.52	1.07	-0.87	6.73	0.79	0.38	0.75



Stellar Parameters For KIC 008826317

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7328^{+230}_{-307}	$4.035^{+0.209}_{-0.171}$	$-0.240^{+0.250}_{-0.350}$	$1.955^{+0.542}_{-0.596}$	$1.510^{+0.209}_{-0.279}$	$0.284^{+0.390}_{-0.122}$
	+3%/-4%	+5%/-4%	+104%/-146%	+28%/-30%	+14%/-18%	+137%/-43%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008826317-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-574 ± 60	$6.00^{+1.20}_{-0.98}$	852^{+64}_{-69}	6719^{+482}_{-467}	2702^{+1137}_{-827}
Alt.	-545 ± 68	$6.93^{+1.23}_{-1.16}$	842^{+70}_{-66}	6098^{+385}_{-353}	1905^{+814}_{-528}

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

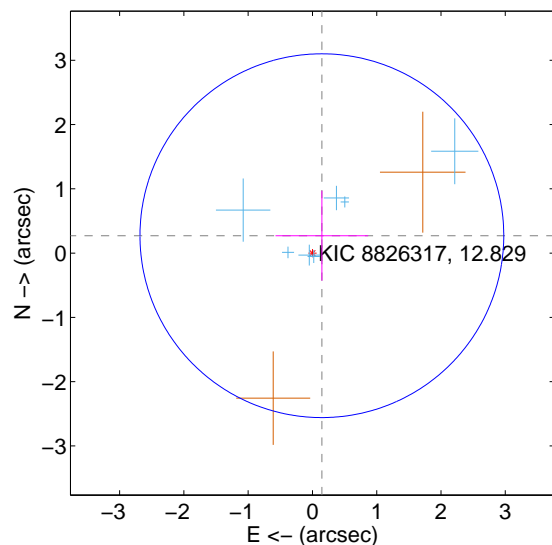
Supplemental centroid analysis for 008826317-06. Kepler magnitude: 12.83. Transit SNR 8.51

There are 7 quarters with good PRF difference image offsets

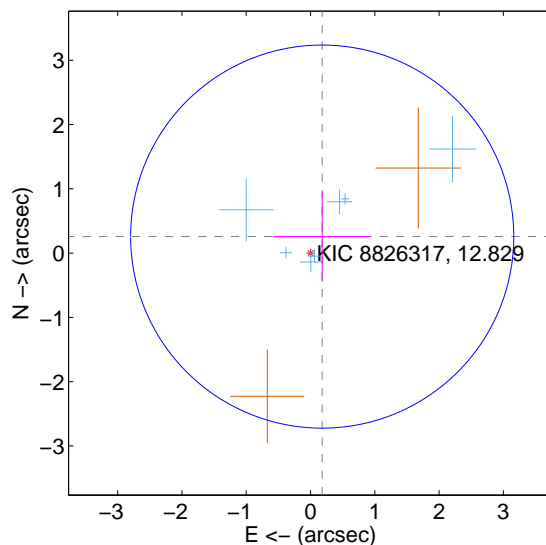
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.308 ± 0.943	0.33	-0.147 ± 0.721	0.271 ± 0.699
PRF-fit source offset from KIC position	0.314 ± 0.993	0.32	-0.182 ± 0.762	0.257 ± 0.700
photometric centroid source offset	0.51 ± 0.30	1.71	-0.51 ± 0.30	0.05 ± 0.31

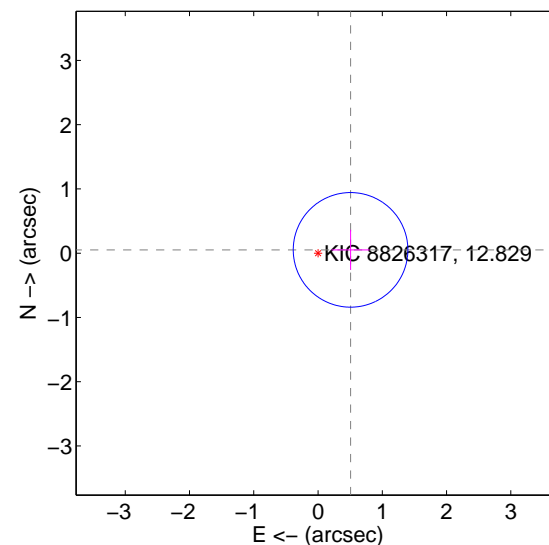
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

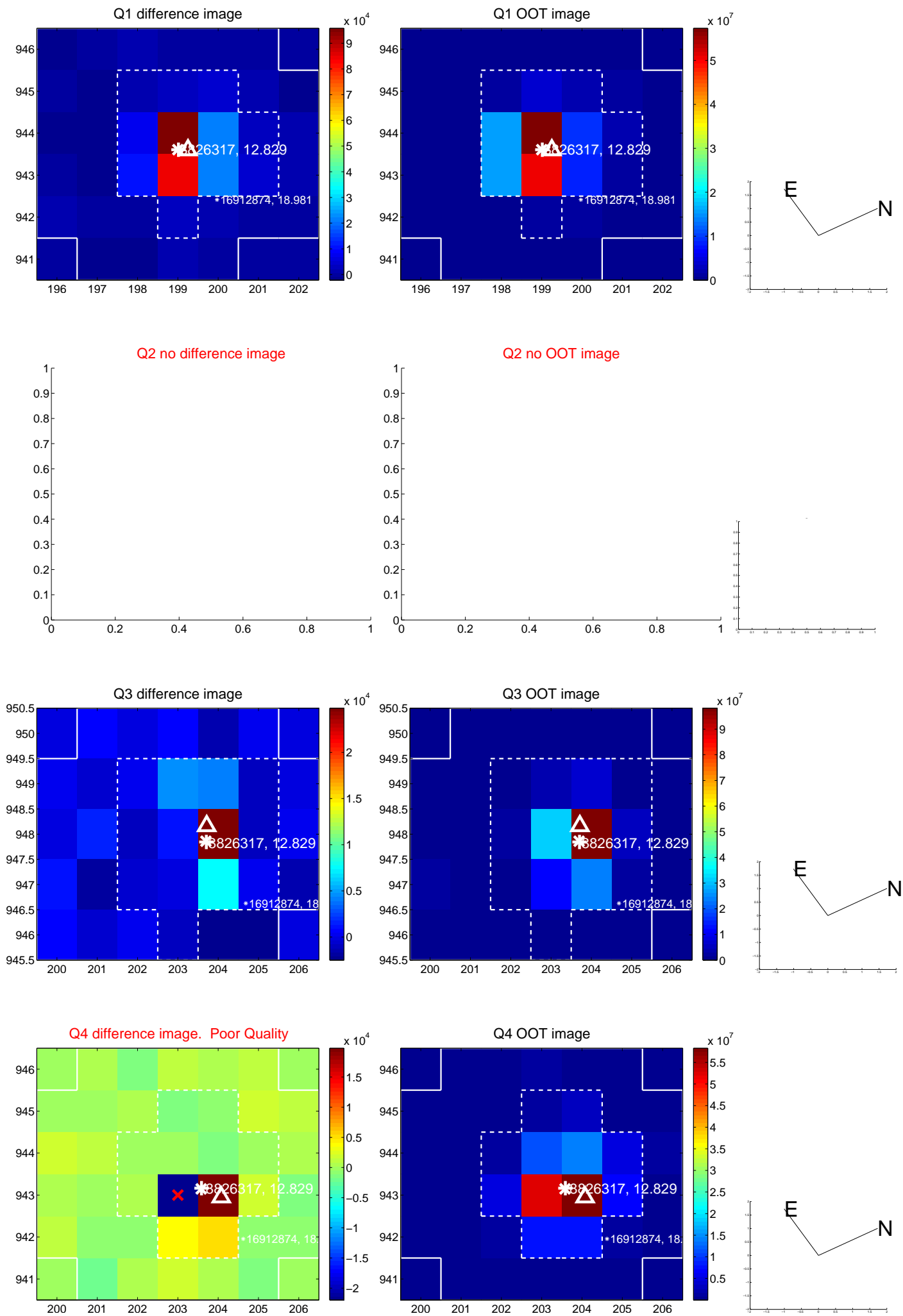


offset from photometric centroids

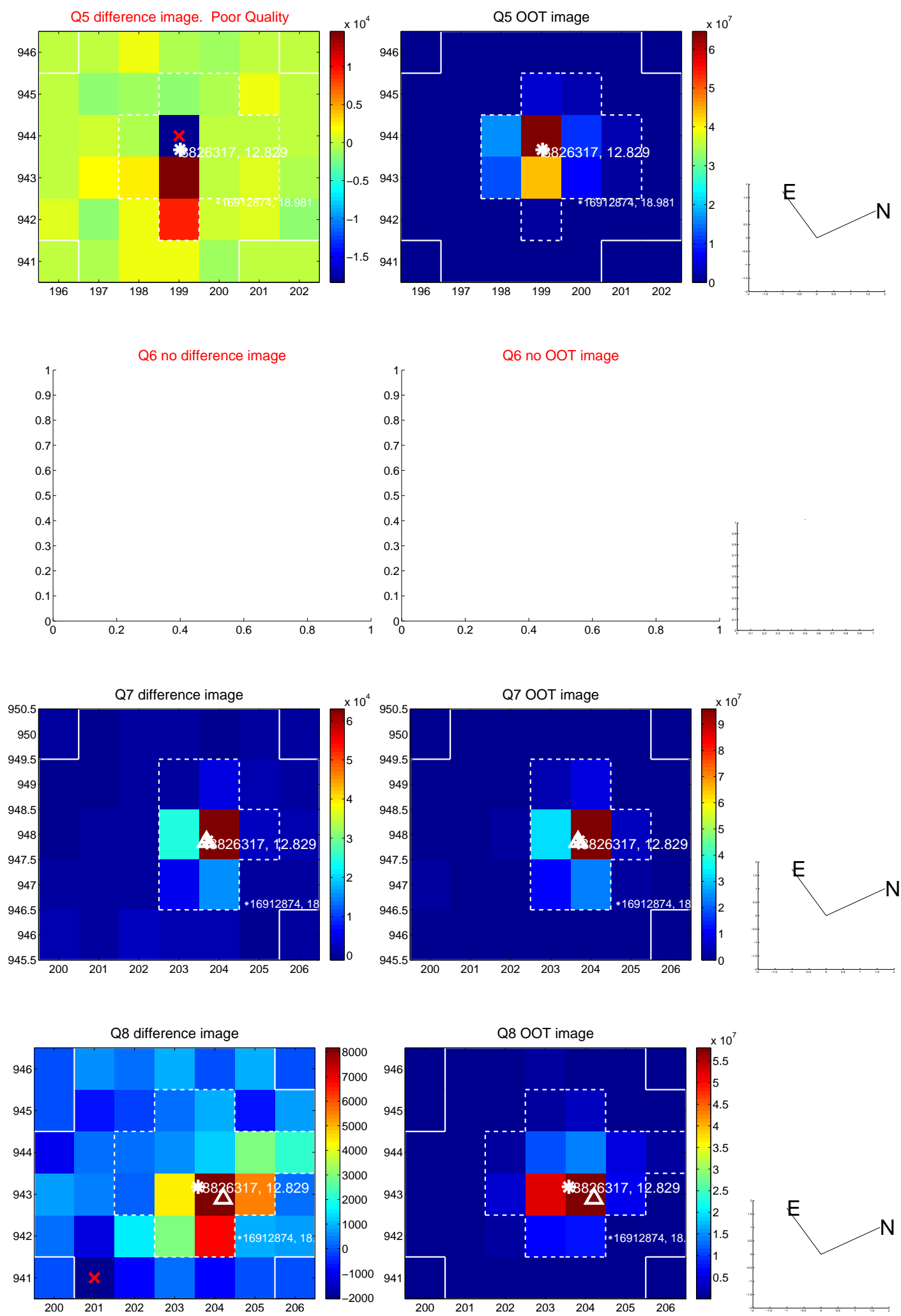


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

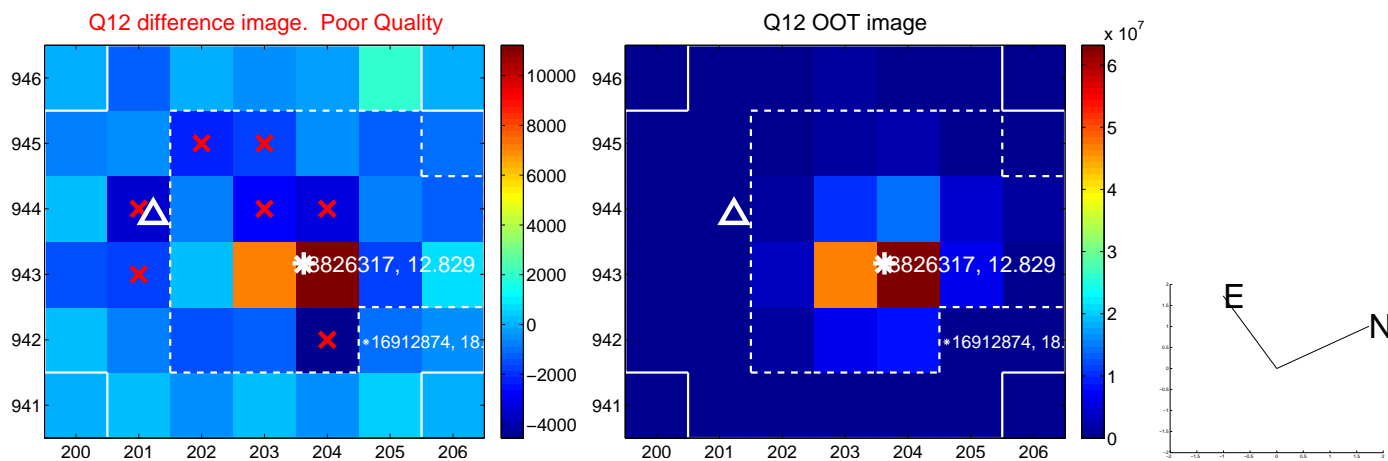
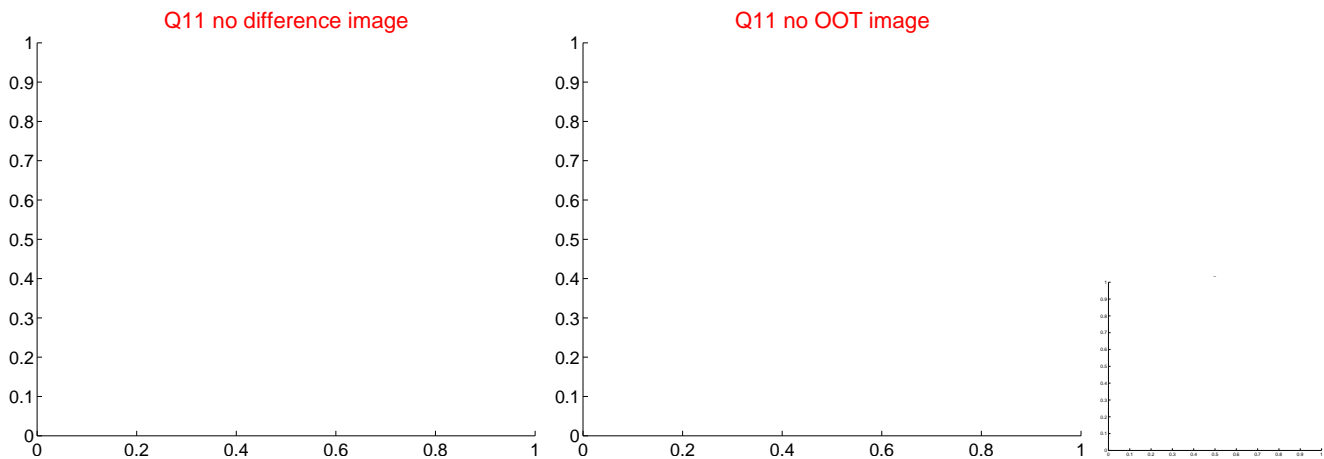
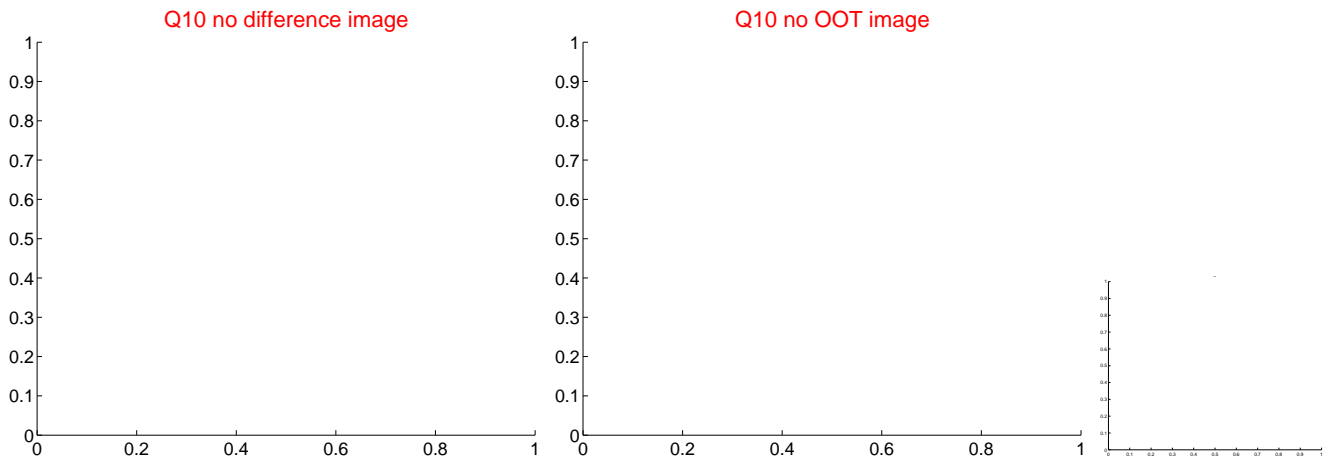
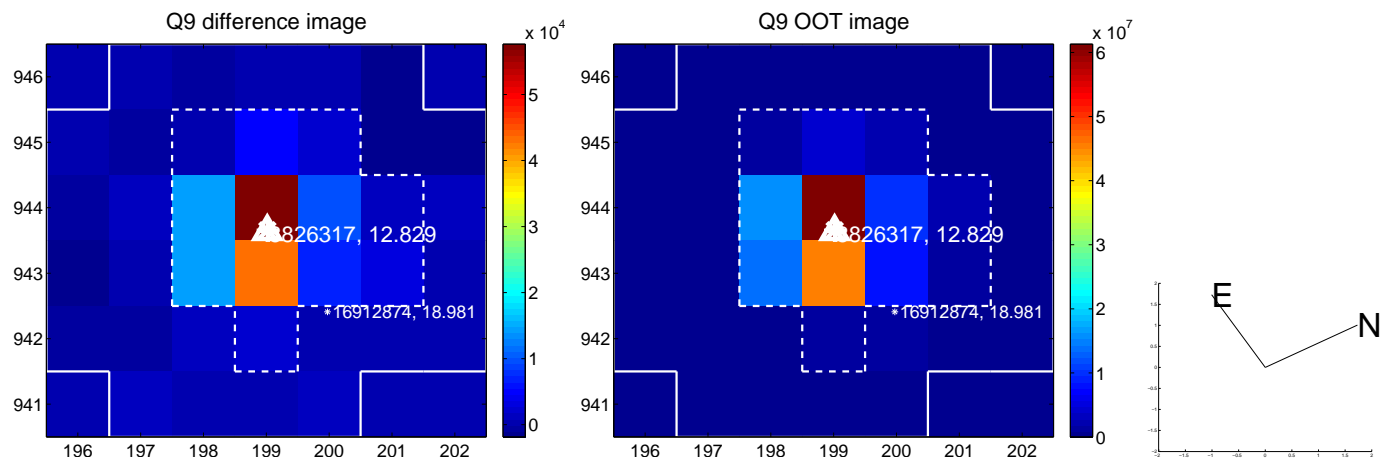
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



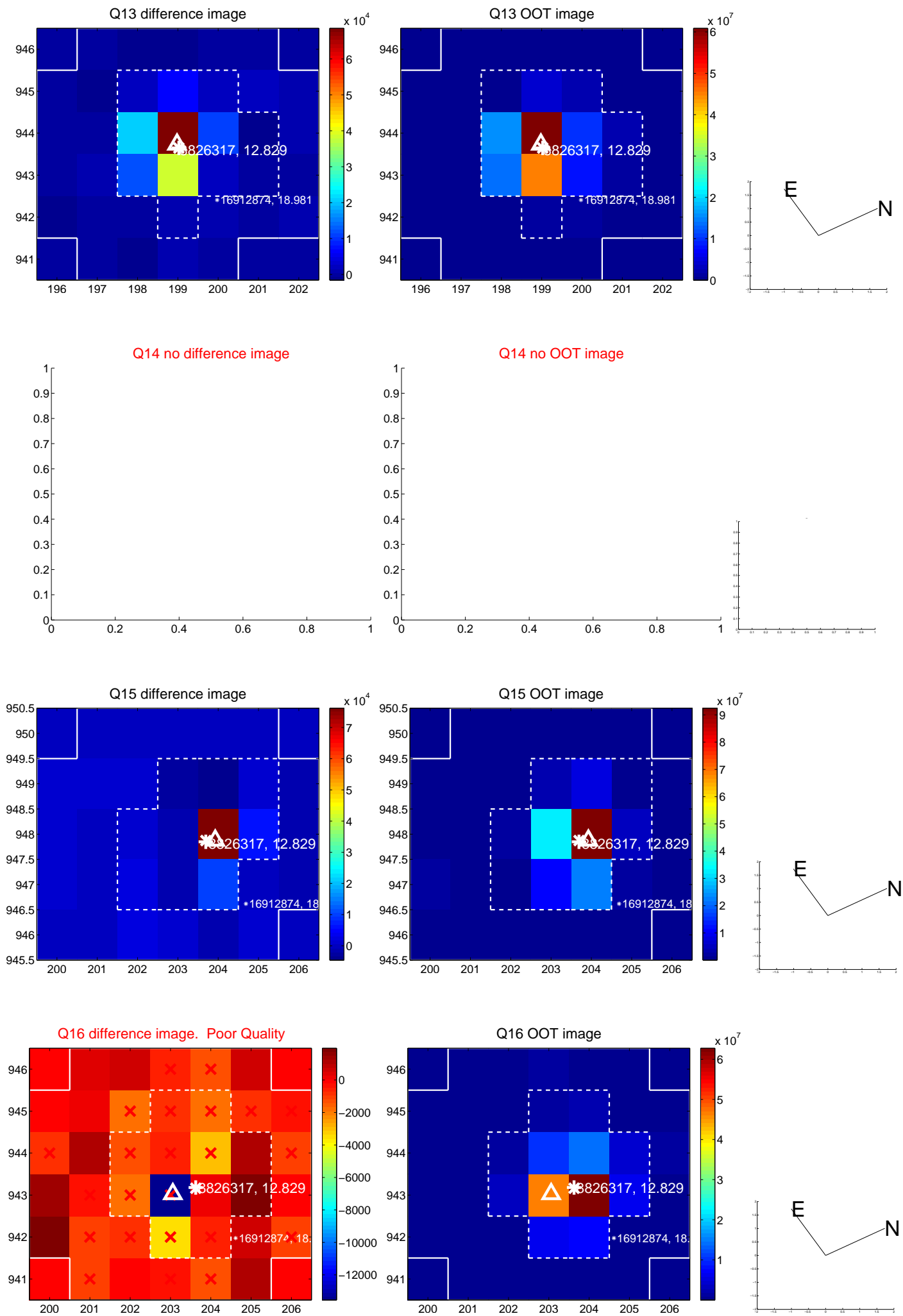
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



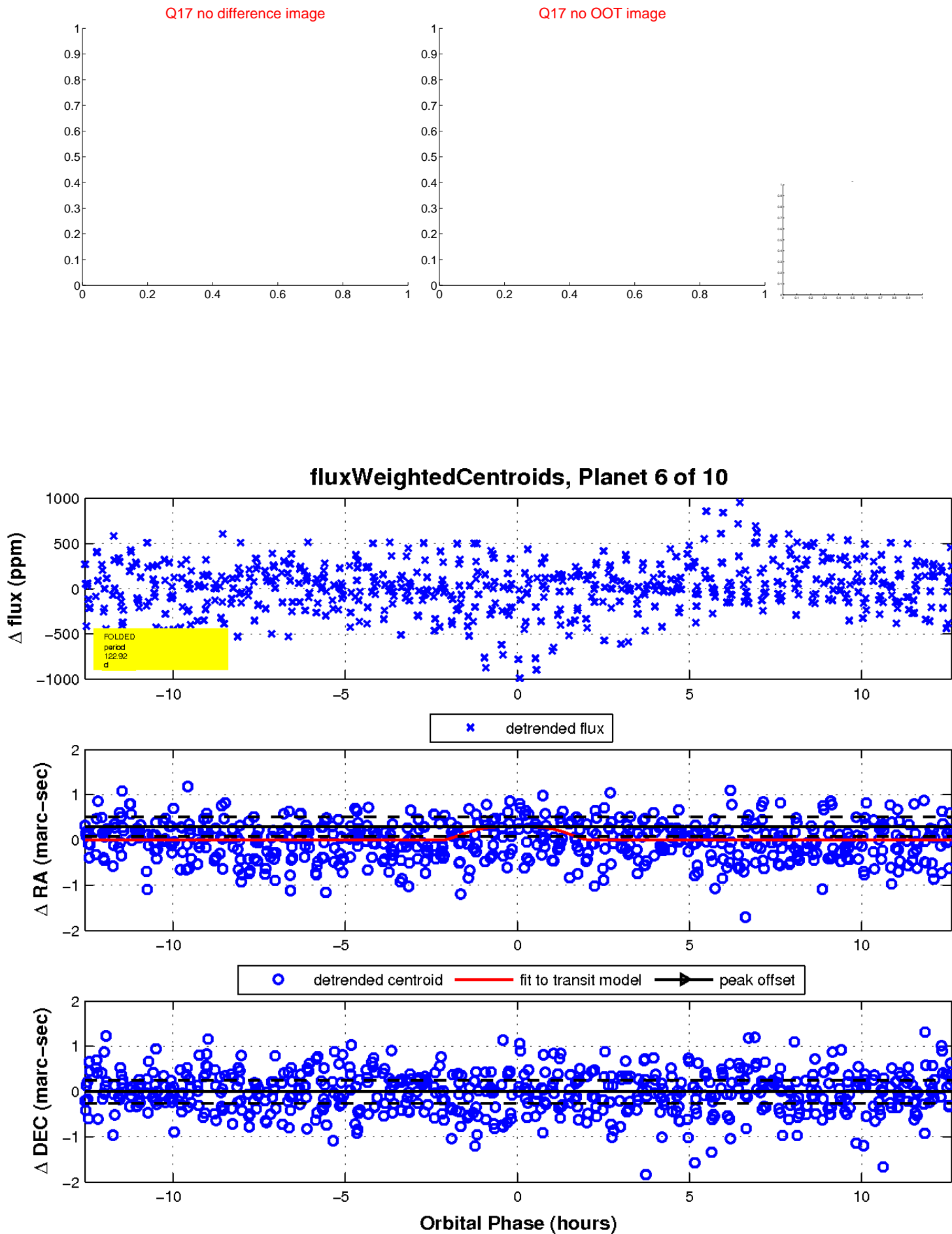
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

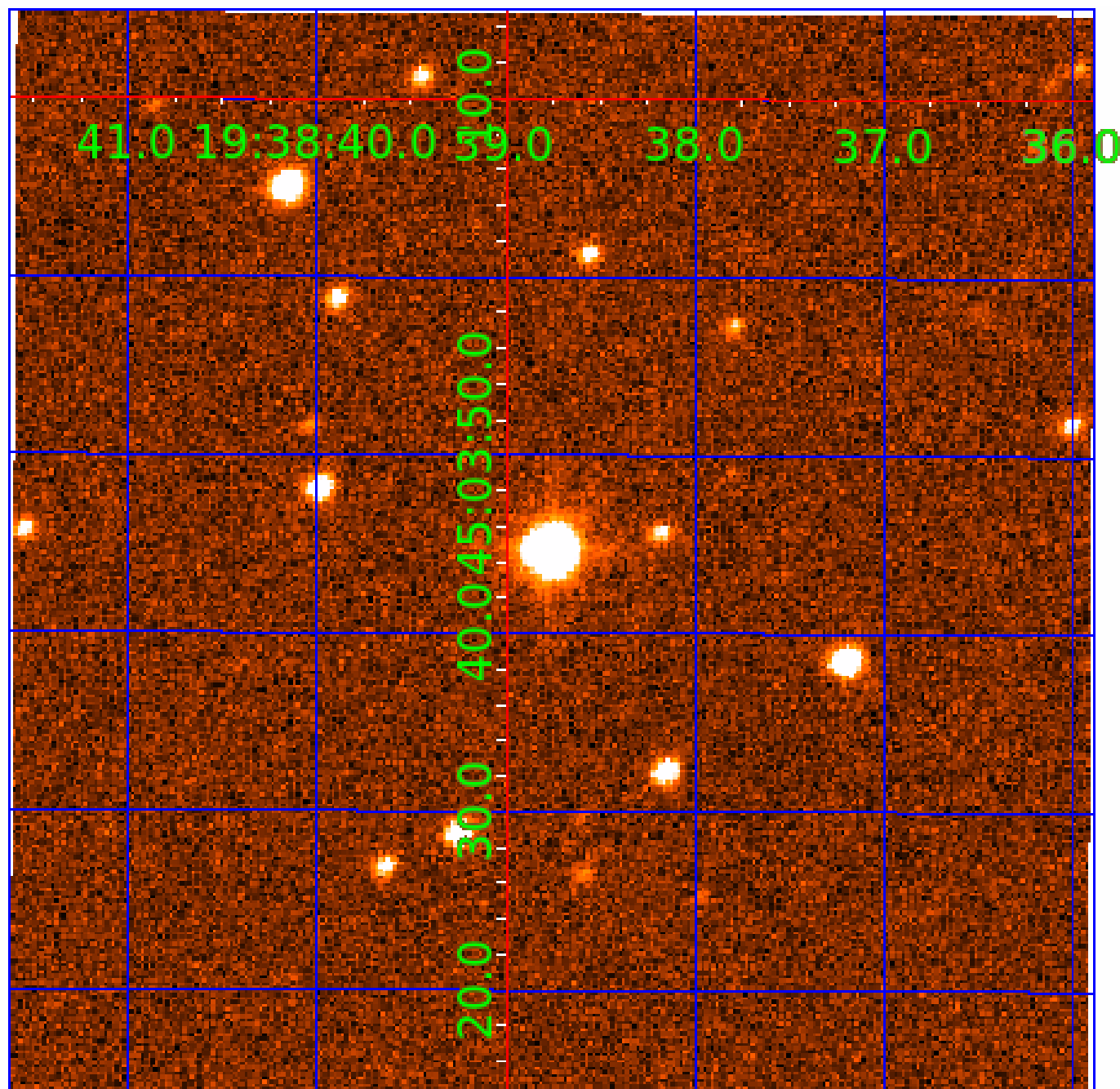


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008826317

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})
008826317-01	OBS	No	0.879096	132.002057	23.9	5.477	10.7	6.9	1.96	7328	1.11	23239.10
008826317-03	OBS	No	143.410534	236.990340	565.0	6.549	11.8	10.5	1.96	7328	5.71	26.07
008826317-04	OBS	No	74.126069	155.266746	530.4	2.048	8.6	8.6	1.96	7328	4.98	62.85
008826317-05	OBS	No	125.681519	154.438959	480.2	6.507	8.7	8.8	1.96	7328	7.12	31.09
008826317-06	OBS	No	122.921425	160.628393	578.6	4.204	9.2	8.5	1.96	7328	5.94	32.02
008826317-08	OBS	No	81.440440	163.544659	392.4	5.186	8.7	7.8	1.96	7328	4.40	55.44
008826317-09	OBS	No	486.194127	521.851652	590.8	5.419	8.4	8.9	1.96	7328	5.08	5.12
008826317-10	OBS	No	52.143594	163.019543	180.0	4.500	8.3	-1.0	1.96	7328	2.65	100.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008826317-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008826317-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
008826317-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008826317-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT
008826317-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
008826317-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008826317-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
008826317-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

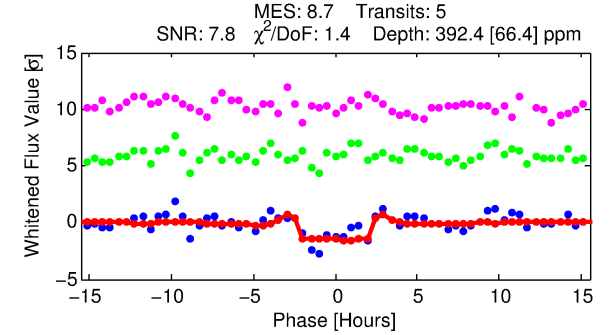
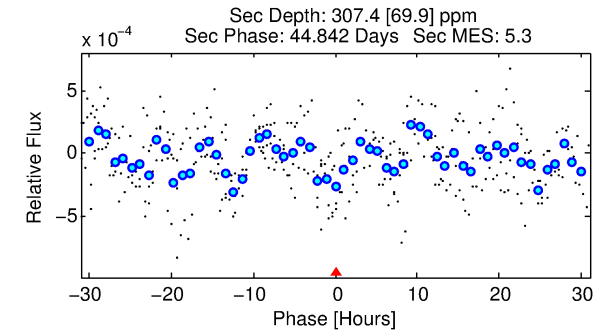
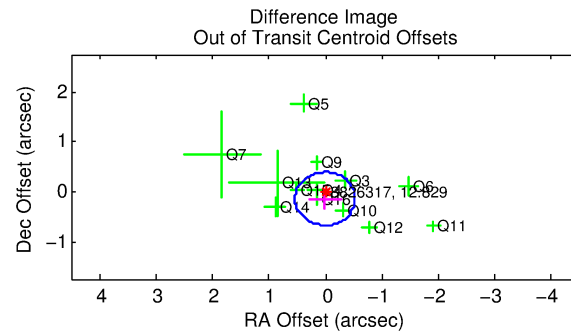
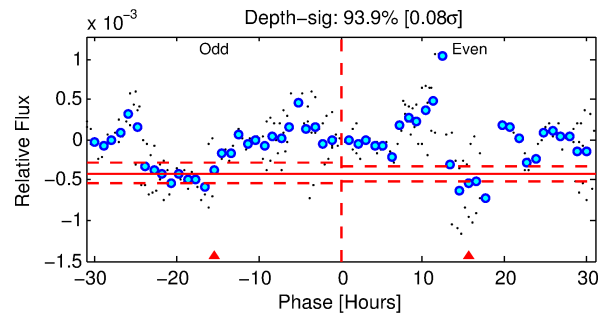
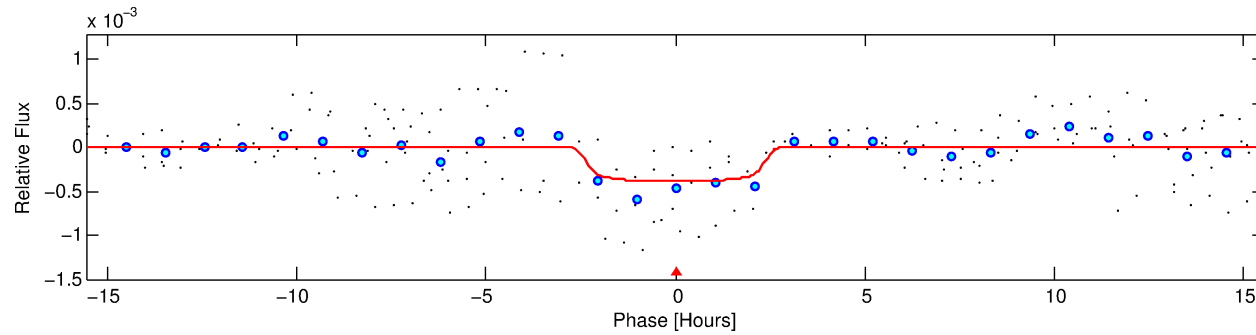
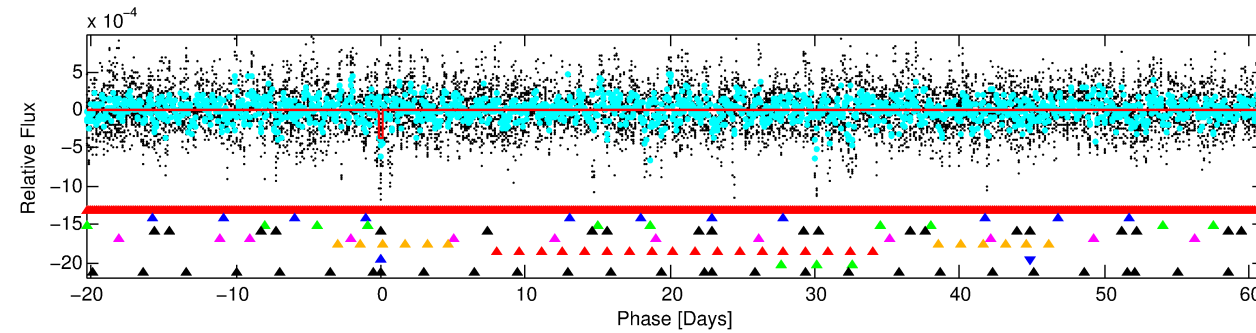
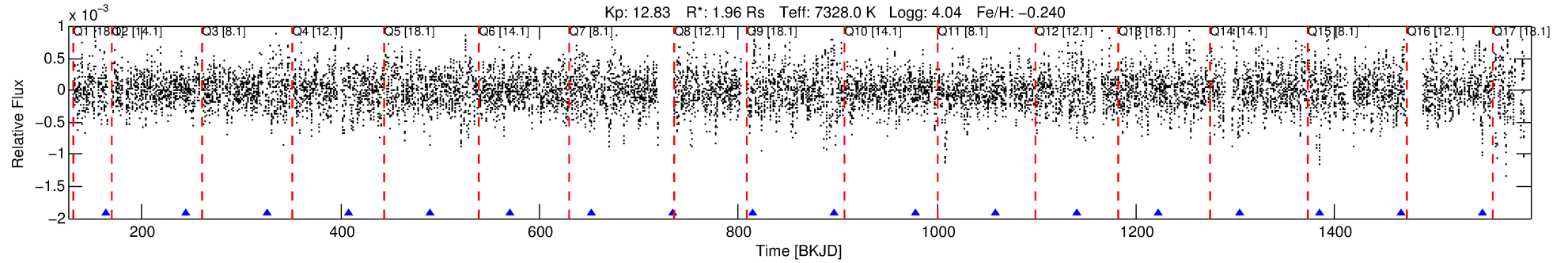
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008826317-08

No Significant Match Found

DV One-Page Summary

KIC: 8826317 Candidate: 8 of 10 Period: 81.440 d



DV Fit Results:

Period = 81.44044 [0.00158] d
Epoch = 163.5447 [0.0119] BKJD
Rp/R* = 0.0206 [0.0055]
a/R* = 65.00 [92.68]
b = 0.86 [0.42]
Seff = 55.44 [23.01]
Teff = 696 [72] K
Rp = 4.40 [1.78] Re
a = 0.4220 [0.1093] AU
Ag = 1555.43 [1076.76] [1.44 σ]
Teffp = 6756 [1018] K [5.94 σ]

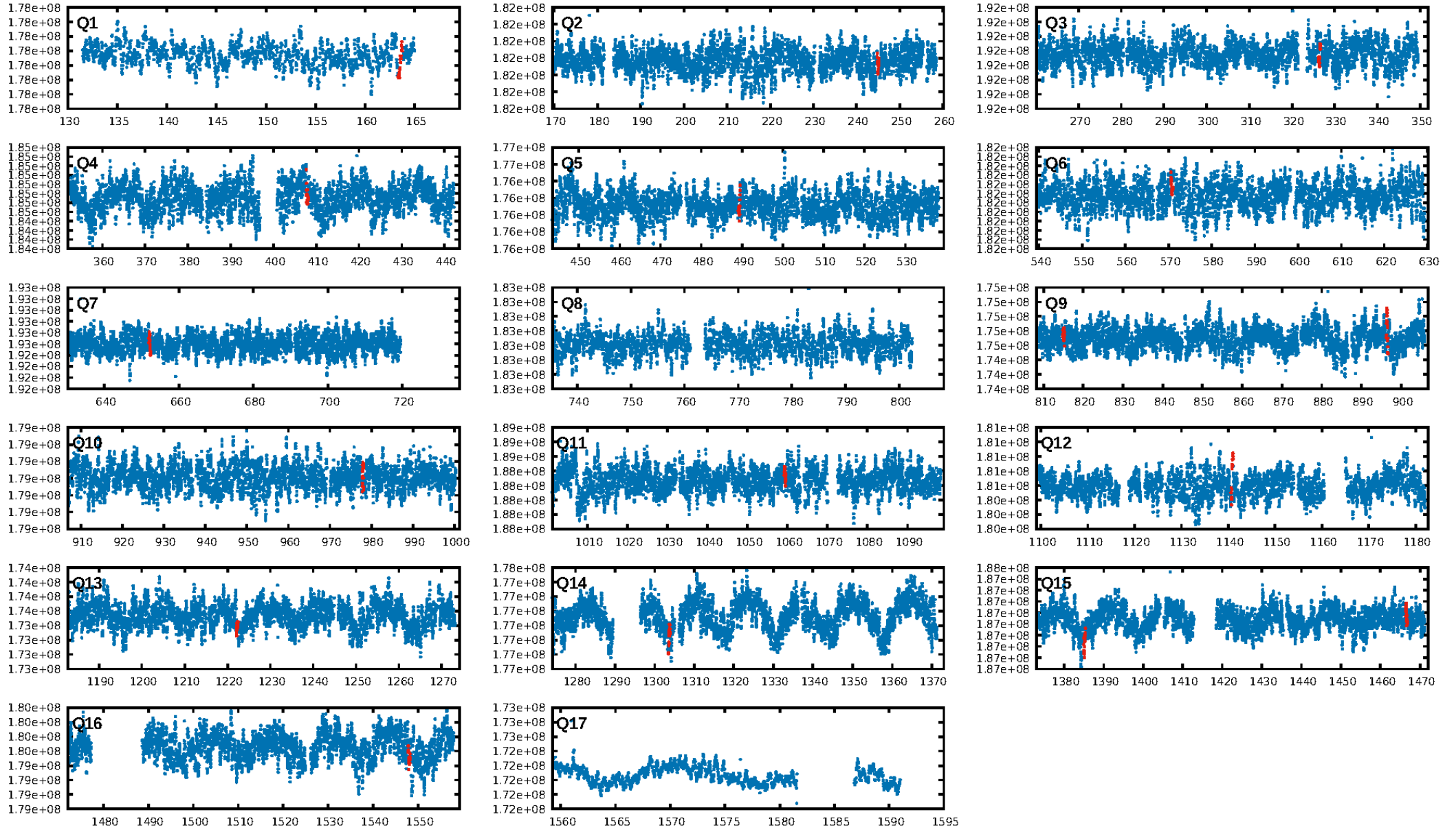
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.19 σ]
LongPeriod-sig: 100.0% [149.13 σ]
ModelChiSquare2-sig: 28.1%
ModelChiSquareGof-sig: 97.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -2.625
Centroid-sig: 59.9%
Centroid-so: 0.194 arcsec [0.67 σ]
OotOffset-rm: 0.143 arcsec [0.81 σ]
OotOffset-st: 3/4/3/3 [13]
KicOffset-rm: 0.129 arcsec [0.65 σ]
KicOffset-st: 3/4/3/3 [13]
DiffImageQuality-fgm: 0.62 [8/13]
DiffImageOverlap-fno: 0.00 [0/15]

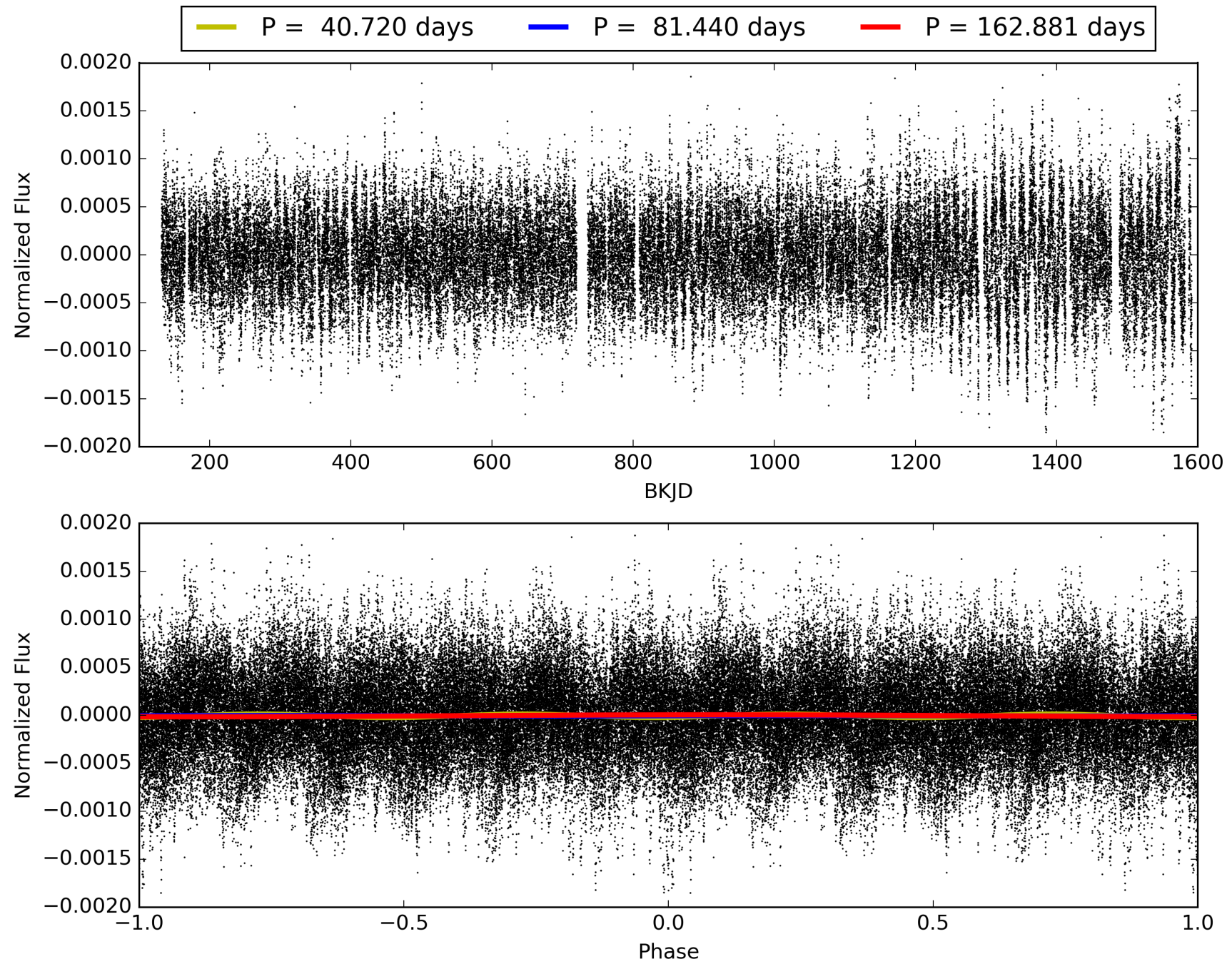
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:59:51 Z

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

TCE 008826317-08, PDC Light Curves

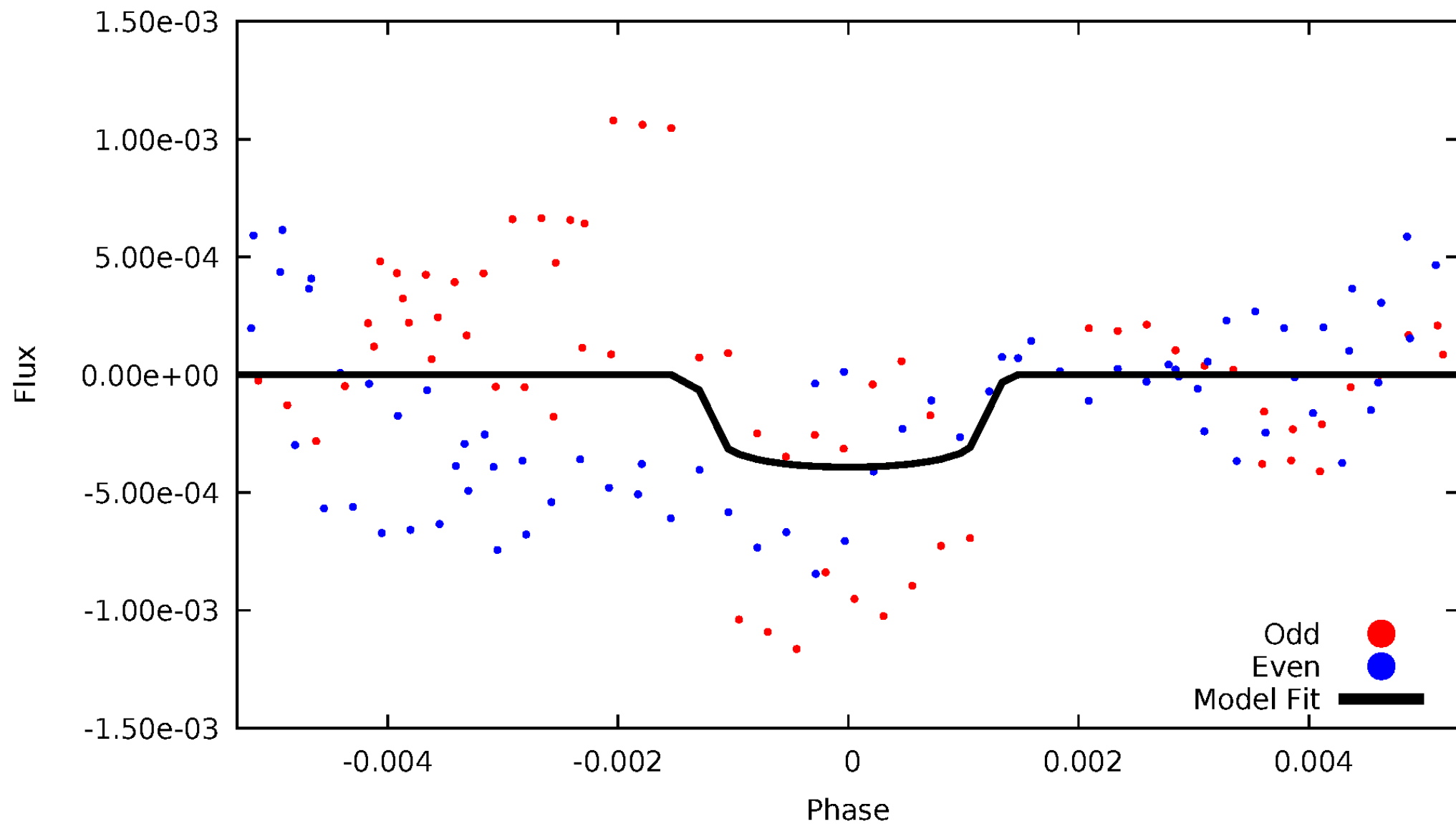


TCE 008826317-08



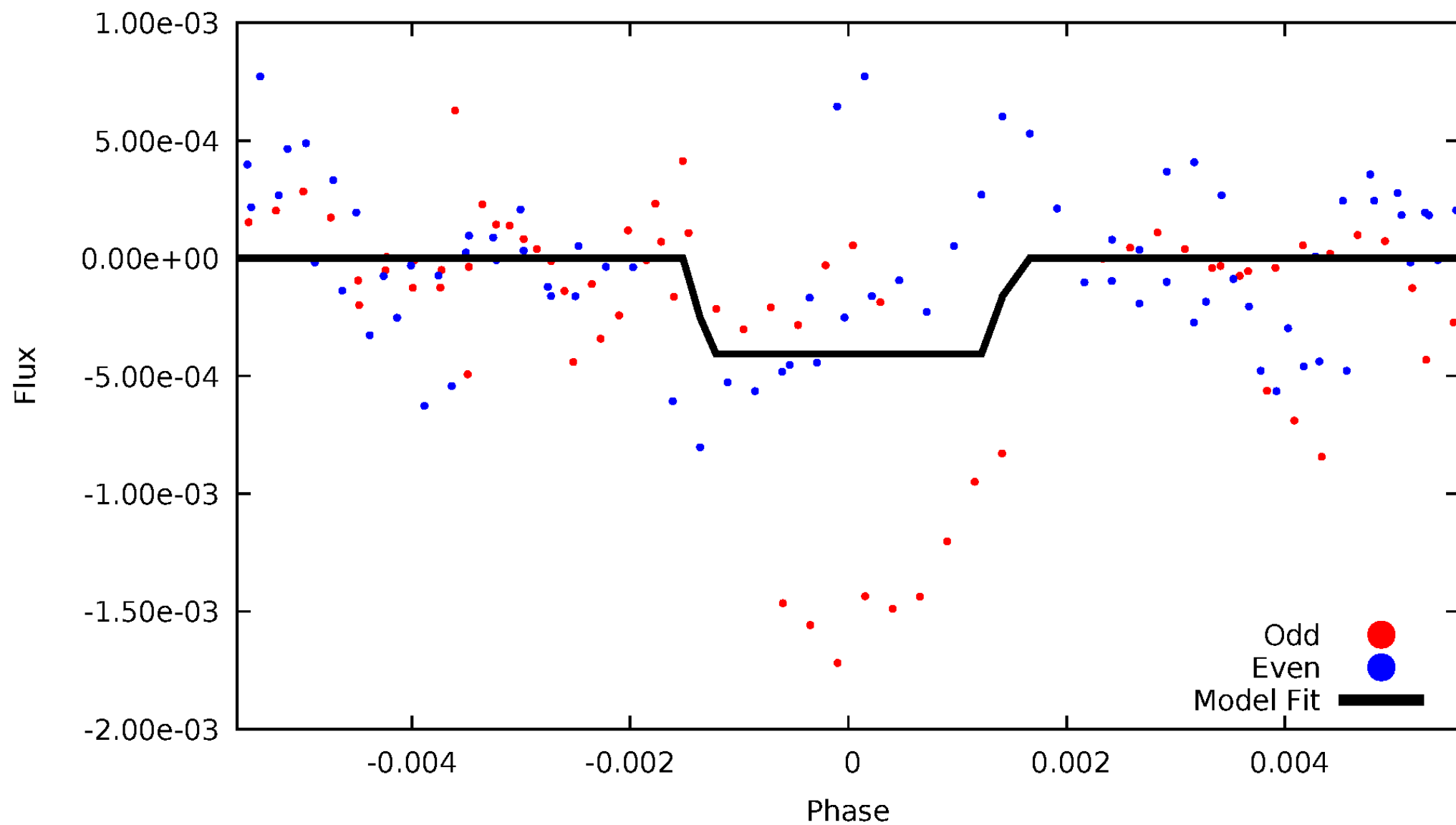
DV Odd/Even

TCE 008826317-08



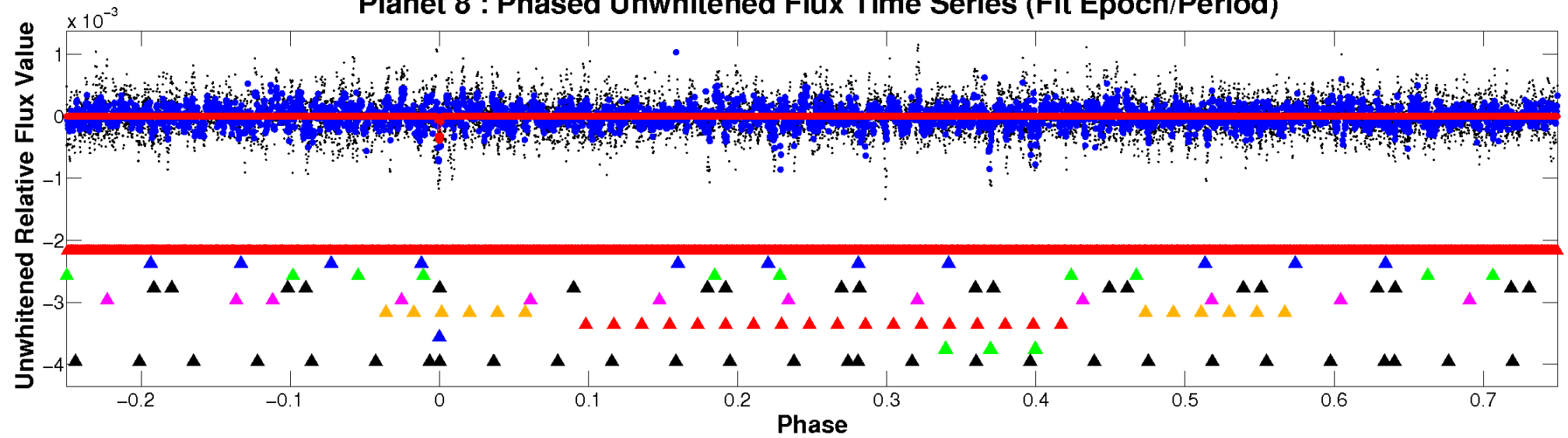
ALT Odd/Even

TCE 008826317-08

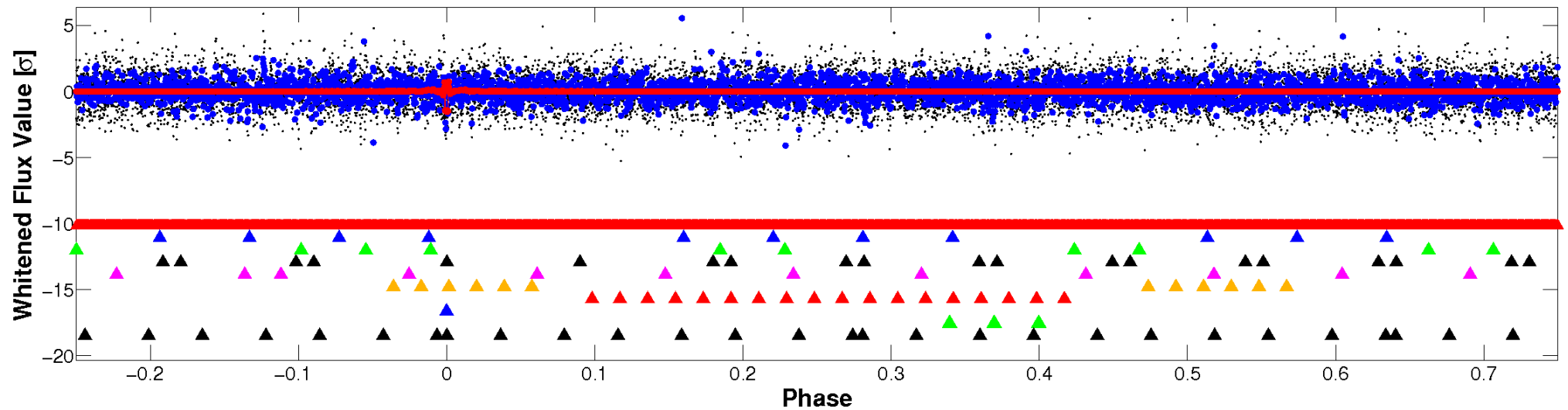


Non-Whitened Vs. Whitened Light Curve

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

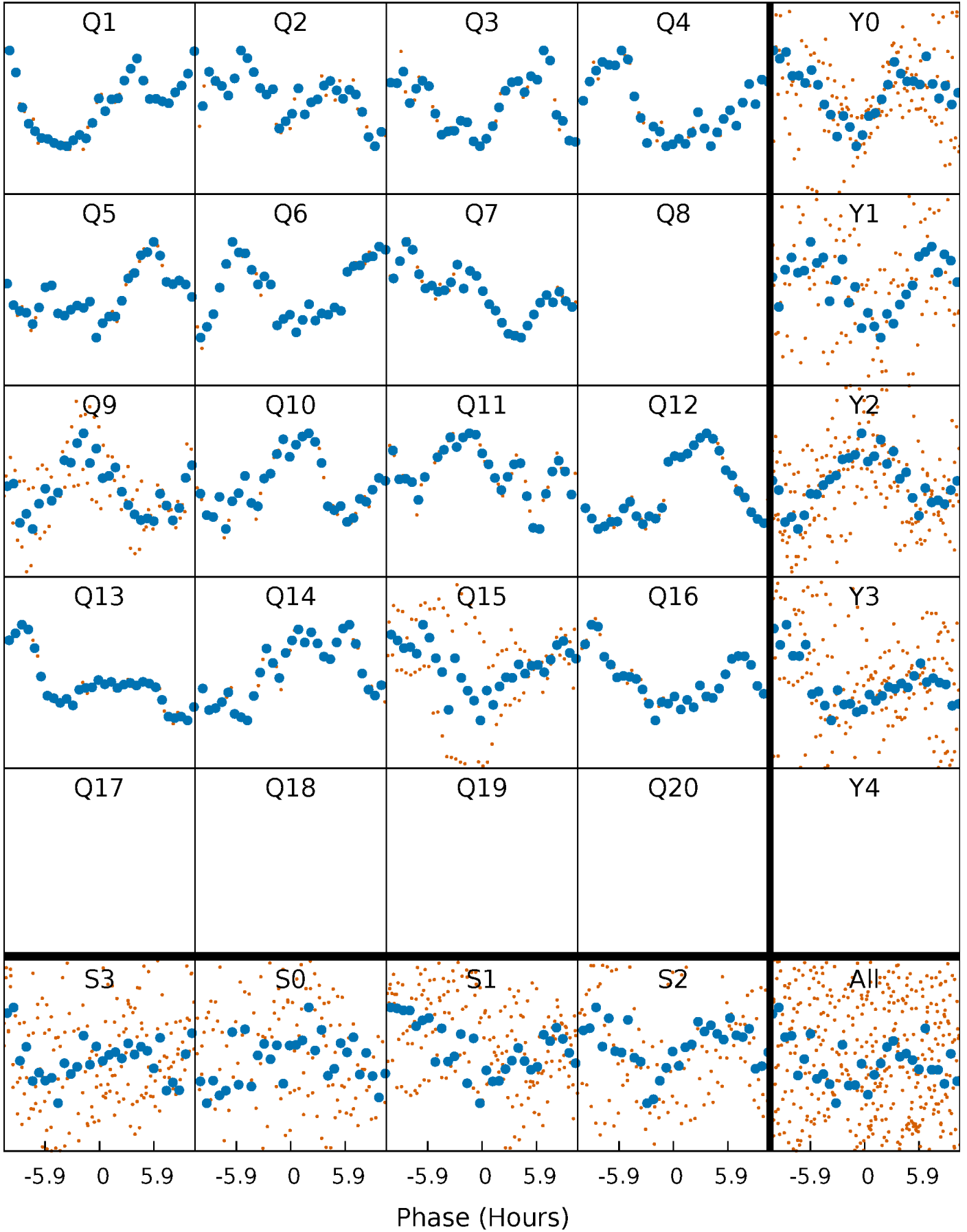


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



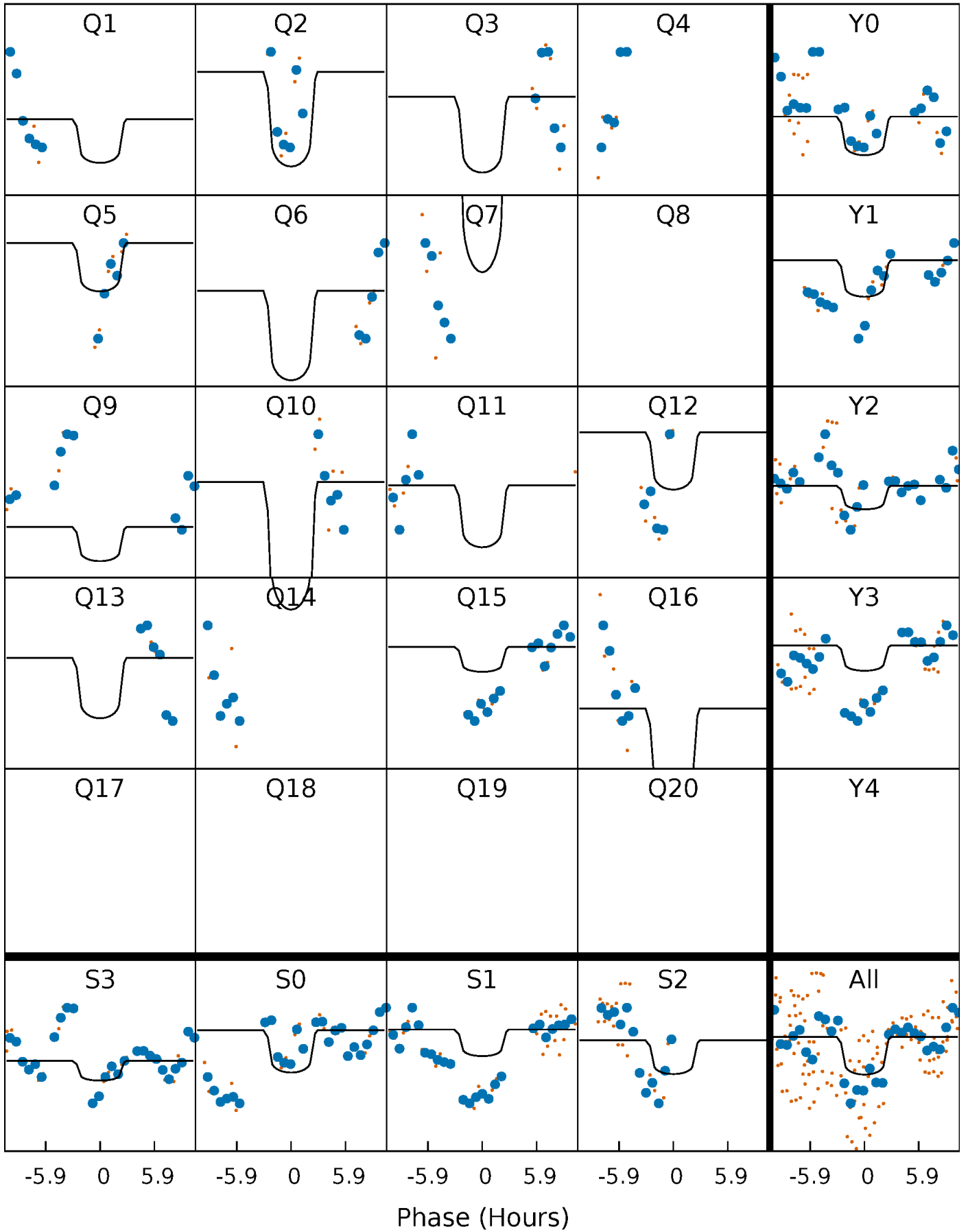
PDC Quarter-Phased Transit Curves

TCE 008826317-08 P= 81.440440 Days $T_0=163.544659$ (BKJD)



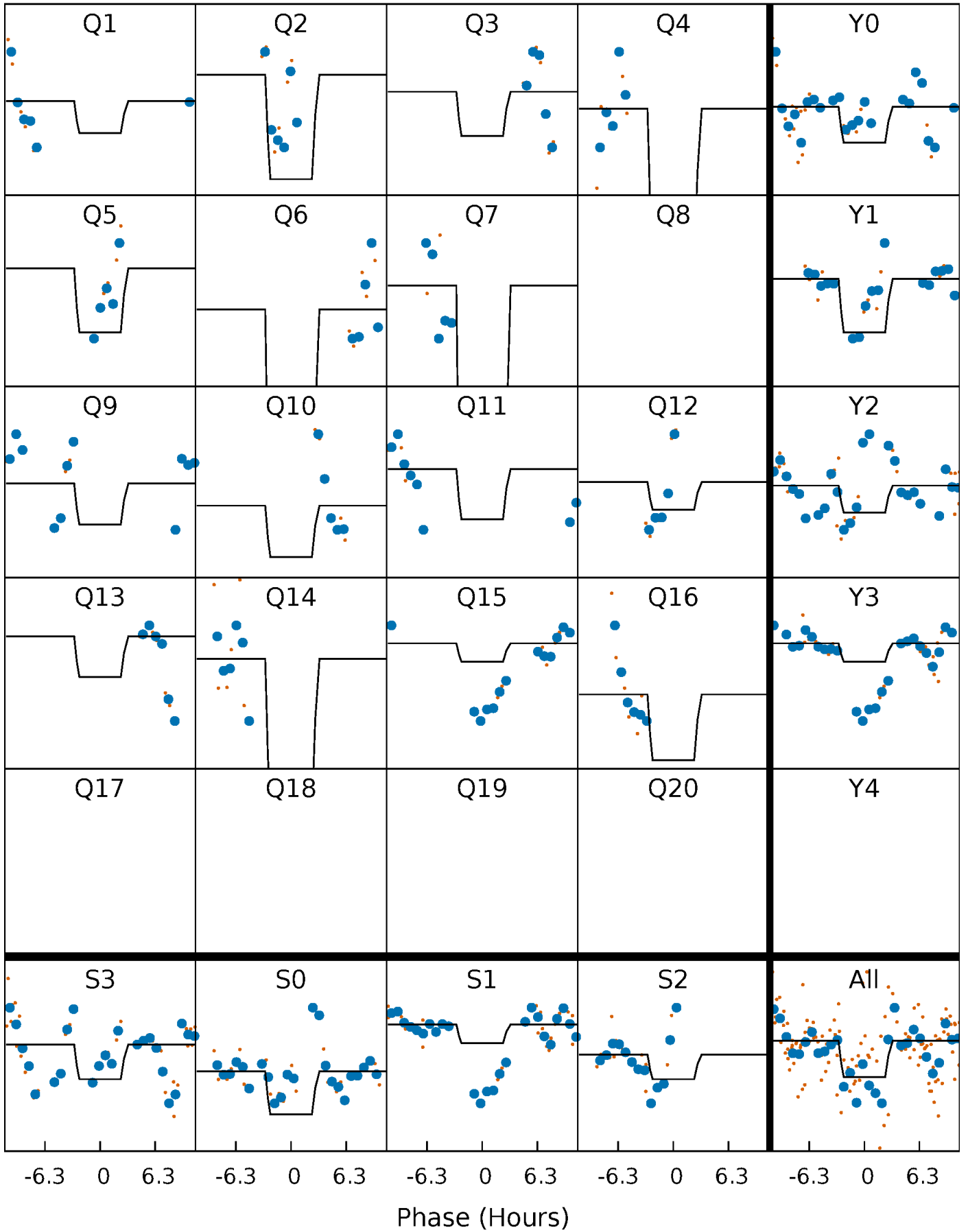
DV Quarter-Phased Transit Curves

TCE 008826317-08 P= 81.440440 Days $T_0=163.544659$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

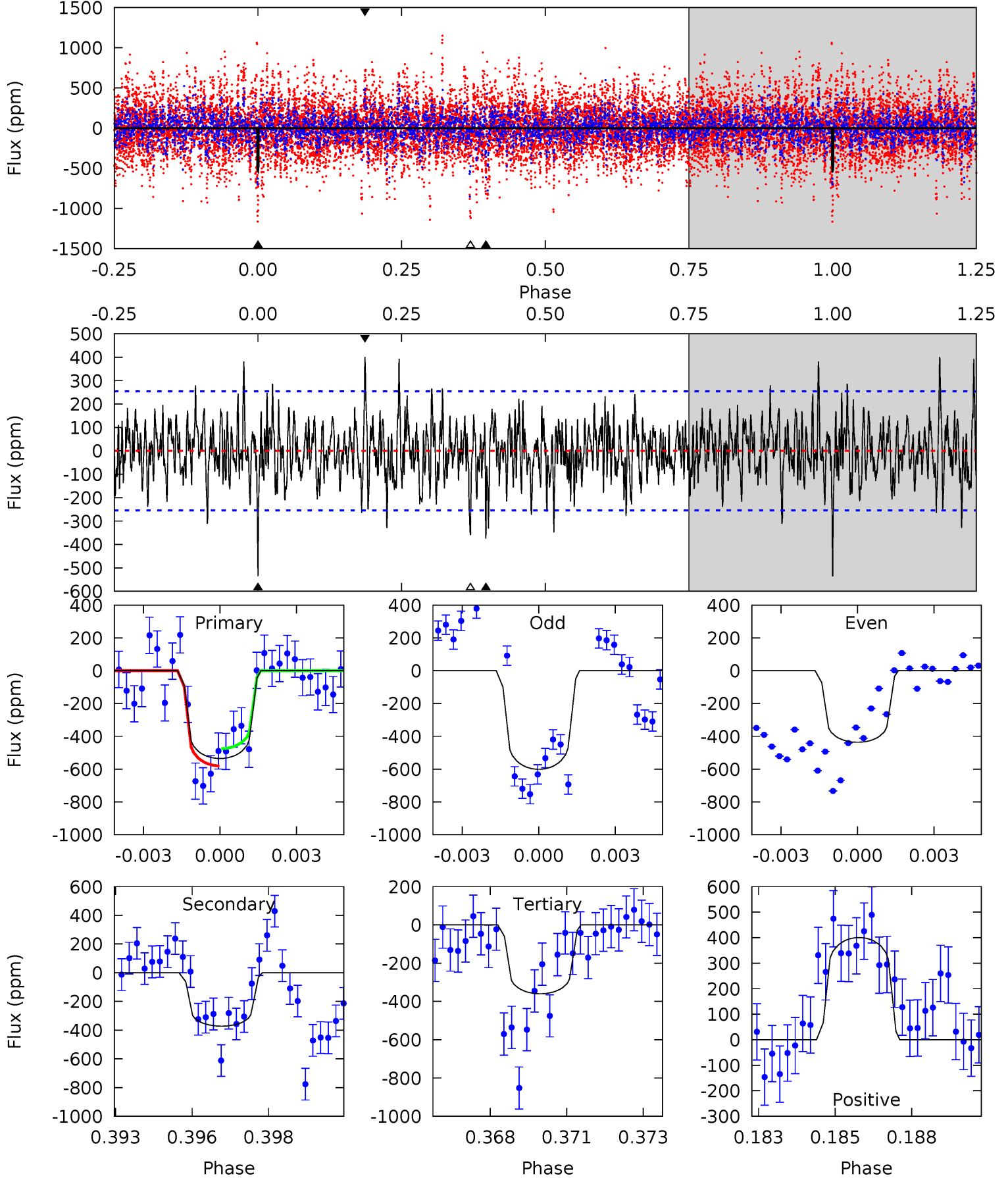
TCE 008826317-08 P= 81.435957 Days $T_0=163.583331$ (BKJD)



DV Model-Shift Uniqueness Test

008826317-08, P = 81.440440 Days, E = 82.104219 Days

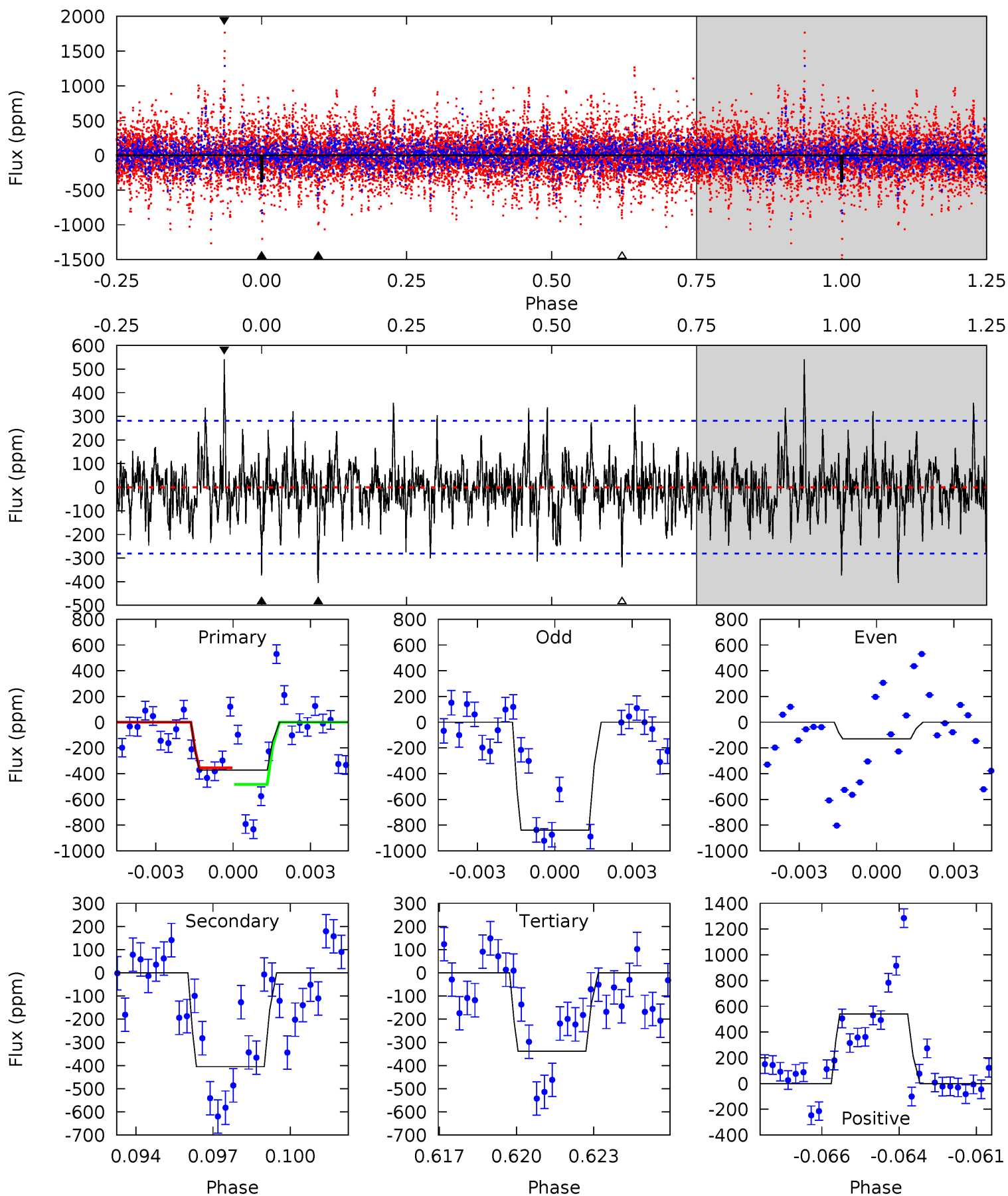
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	7.71	7.46	8.30	5.27	2.99	2.12	3.64	2.80	0.25	-0.59	1.73	1.17	0.43	1.08



Alt Model-Shift Uniqueness Test

008826317-08, P = 81.435957 Days, E = 82.147374 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.99	7.59	6.34	10.1	5.27	2.99	1.70	0.65	-3.15	1.25	-2.55	7.12	2.87	0.57	1.19



Stellar Parameters For KIC 008826317

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7328^{+230}_{-307}	$4.035^{+0.209}_{-0.171}$	$-0.240^{+0.250}_{-0.350}$	$1.955^{+0.542}_{-0.596}$	$1.510^{+0.209}_{-0.279}$	$0.284^{+0.390}_{-0.122}$
	+3%/-4%	+5%/-4%	+104%/-146%	+28%/-30%	+14%/-18%	+137%/-43%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008826317-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-372 ± 48	$4.30^{+1.36}_{-1.25}$	966^{+82}_{-72}	7087^{+1456}_{-947}	1980^{+1803}_{-892}
Alt.	-405 ± 53	$4.17^{+1.56}_{-1.24}$	972^{+77}_{-76}	7343^{+1567}_{-1012}	2272^{+2307}_{-1064}

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

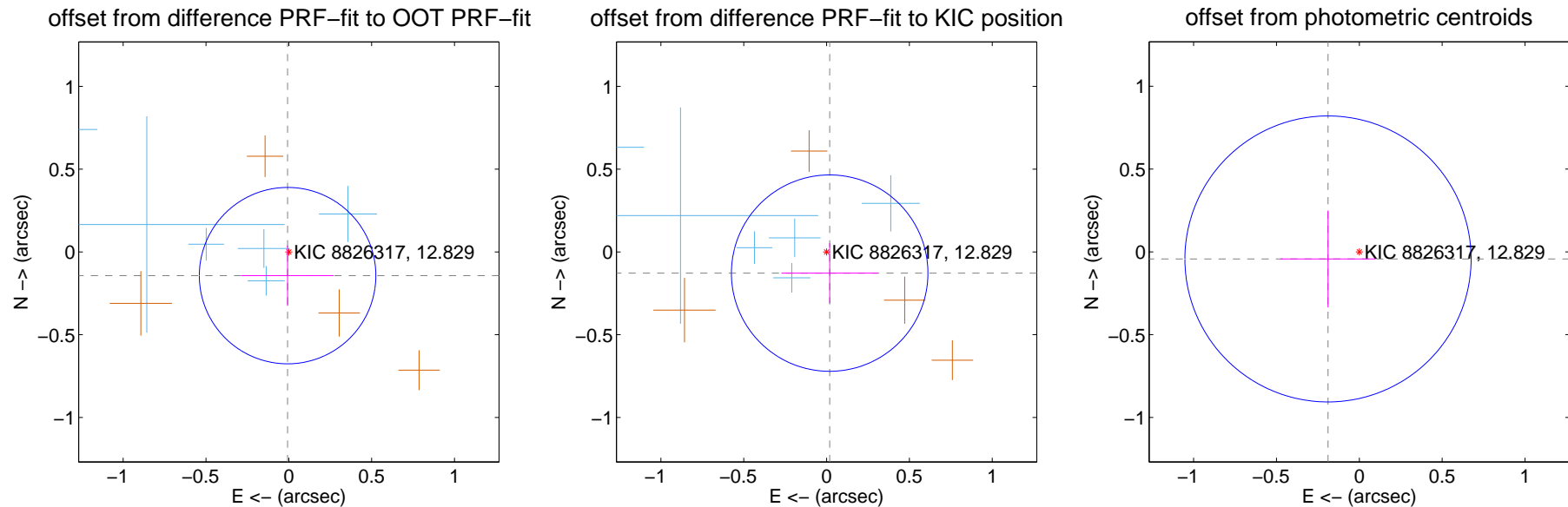
DV Centroid Data

Supplemental centroid analysis for 008826317-08. Kepler magnitude: 12.83. Transit SNR 7.82

There are 8 quarters with good PRF difference image offsets

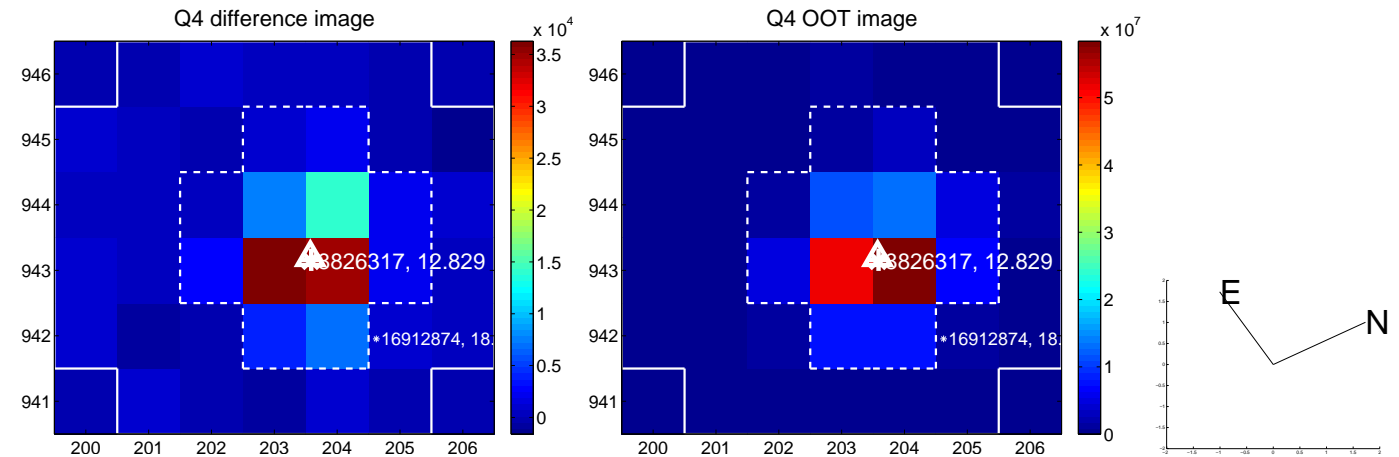
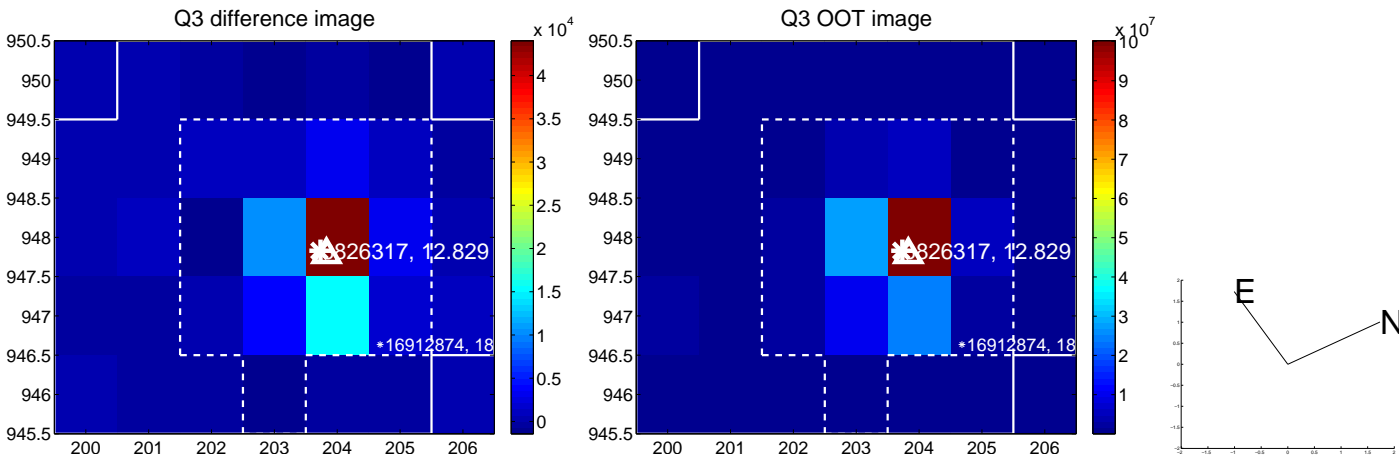
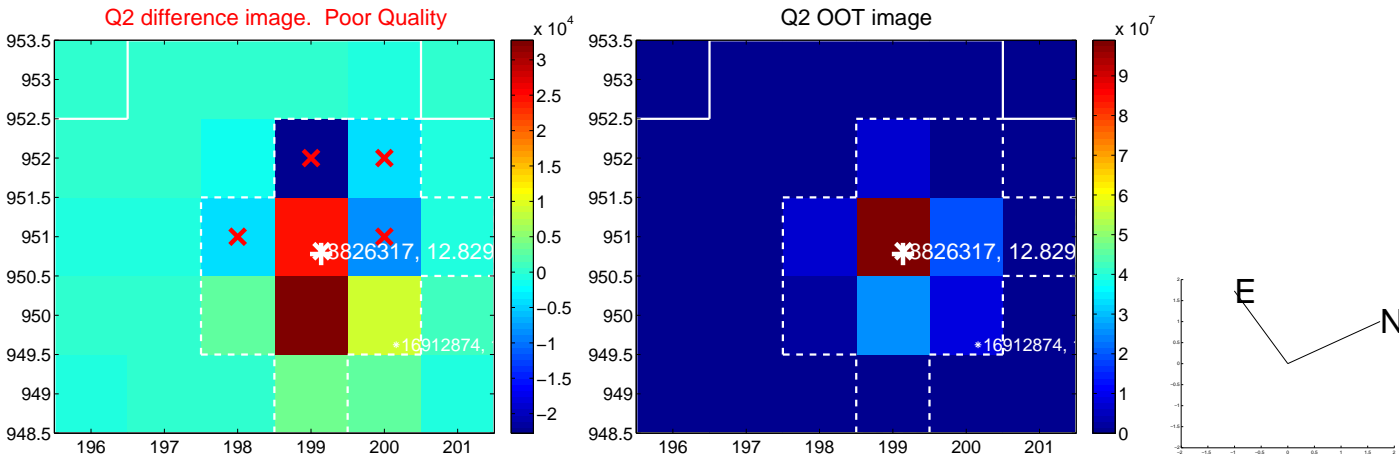
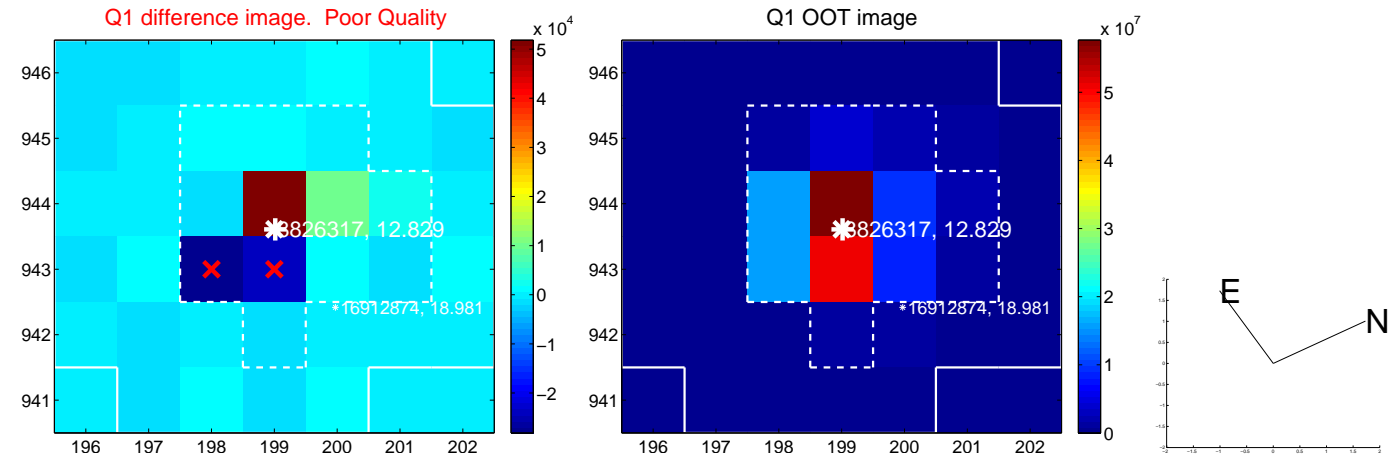
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.143 ± 0.178	0.81	0.007 ± 0.279	-0.143 ± 0.183
PRF-fit source offset from KIC position	0.129 ± 0.198	0.65	-0.019 ± 0.291	-0.128 ± 0.181
photometric centroid source offset	0.19 ± 0.29	0.67	0.19 ± 0.29	-0.04 ± 0.29

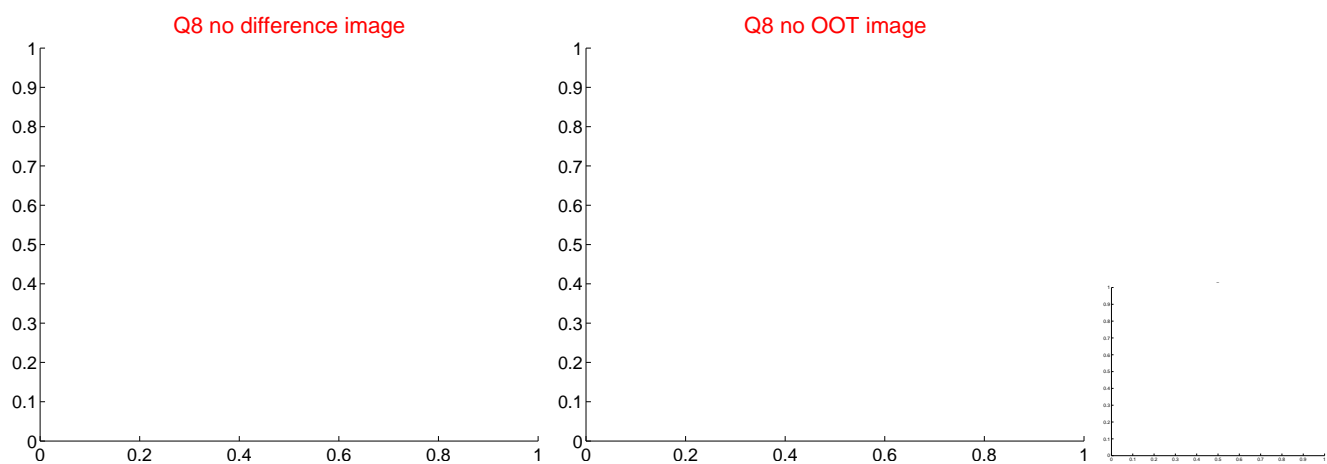
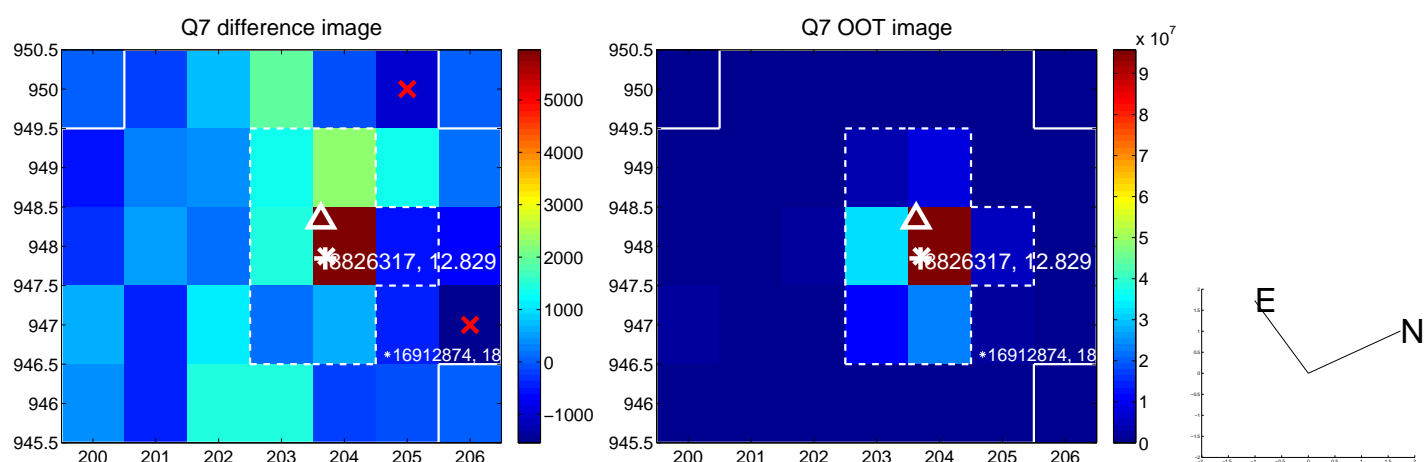
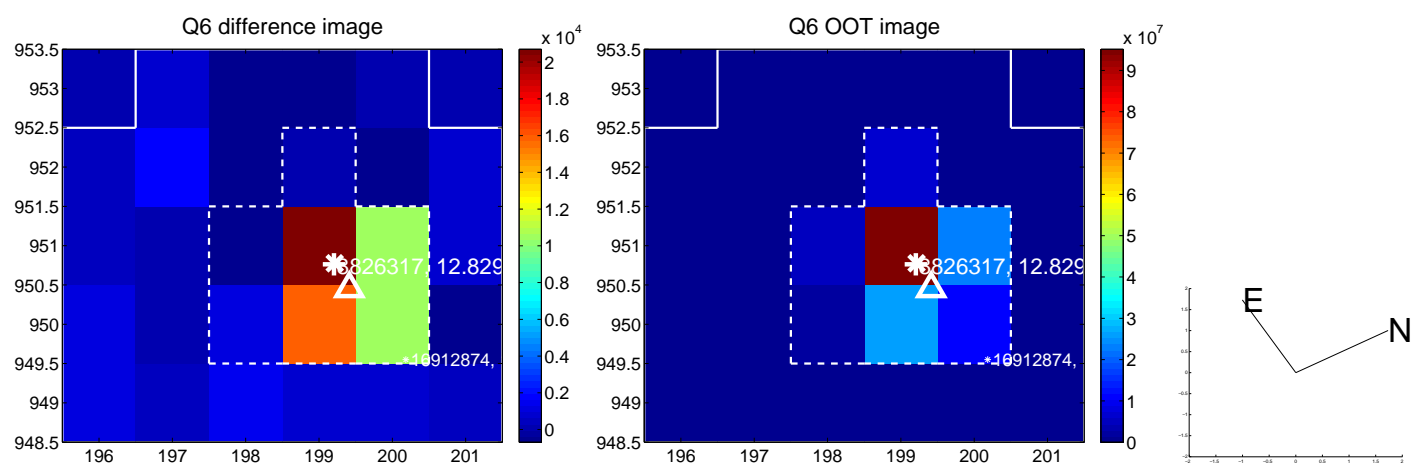
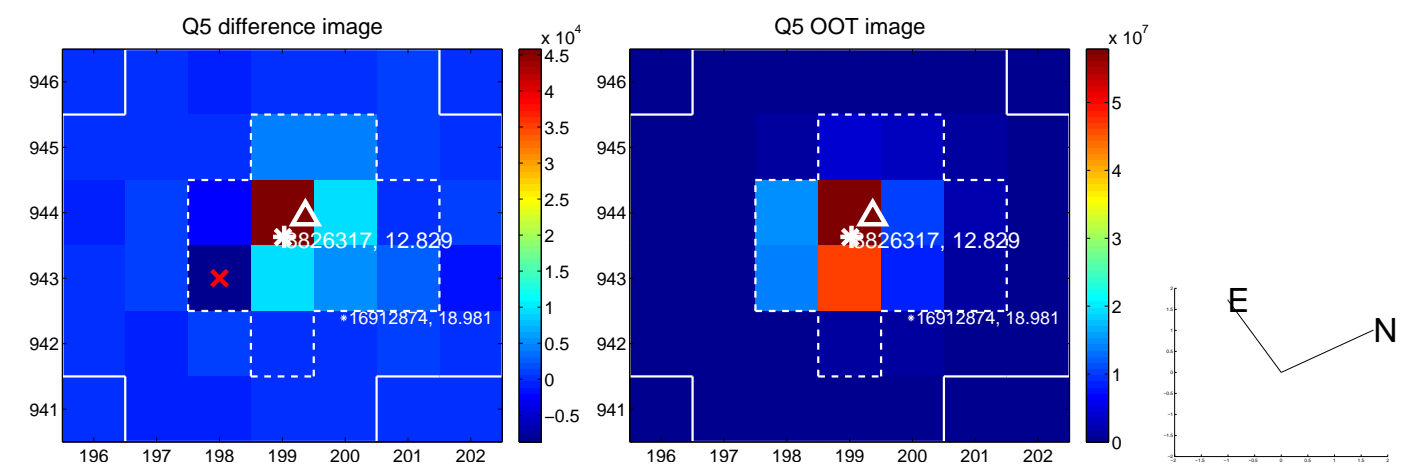


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

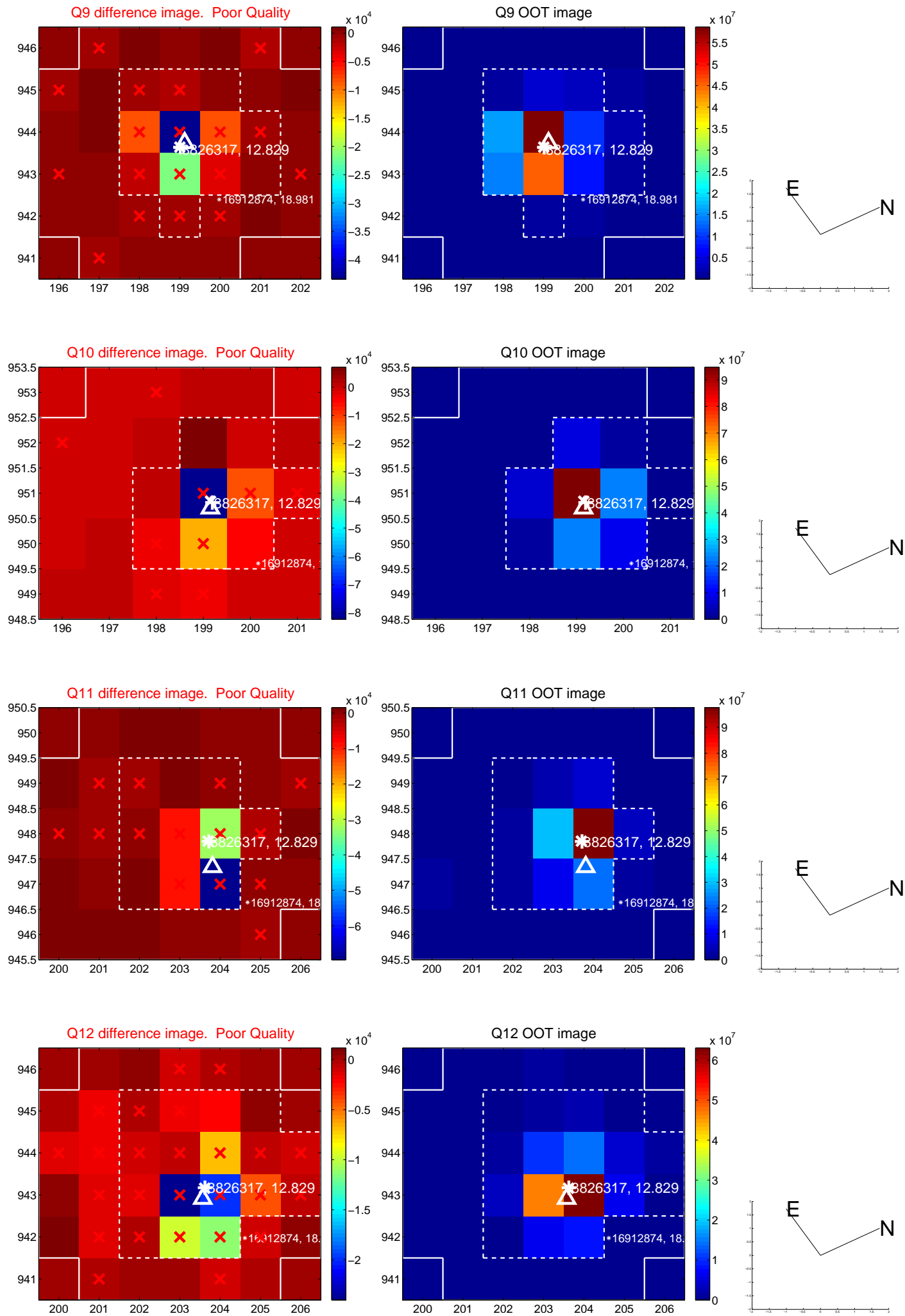
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



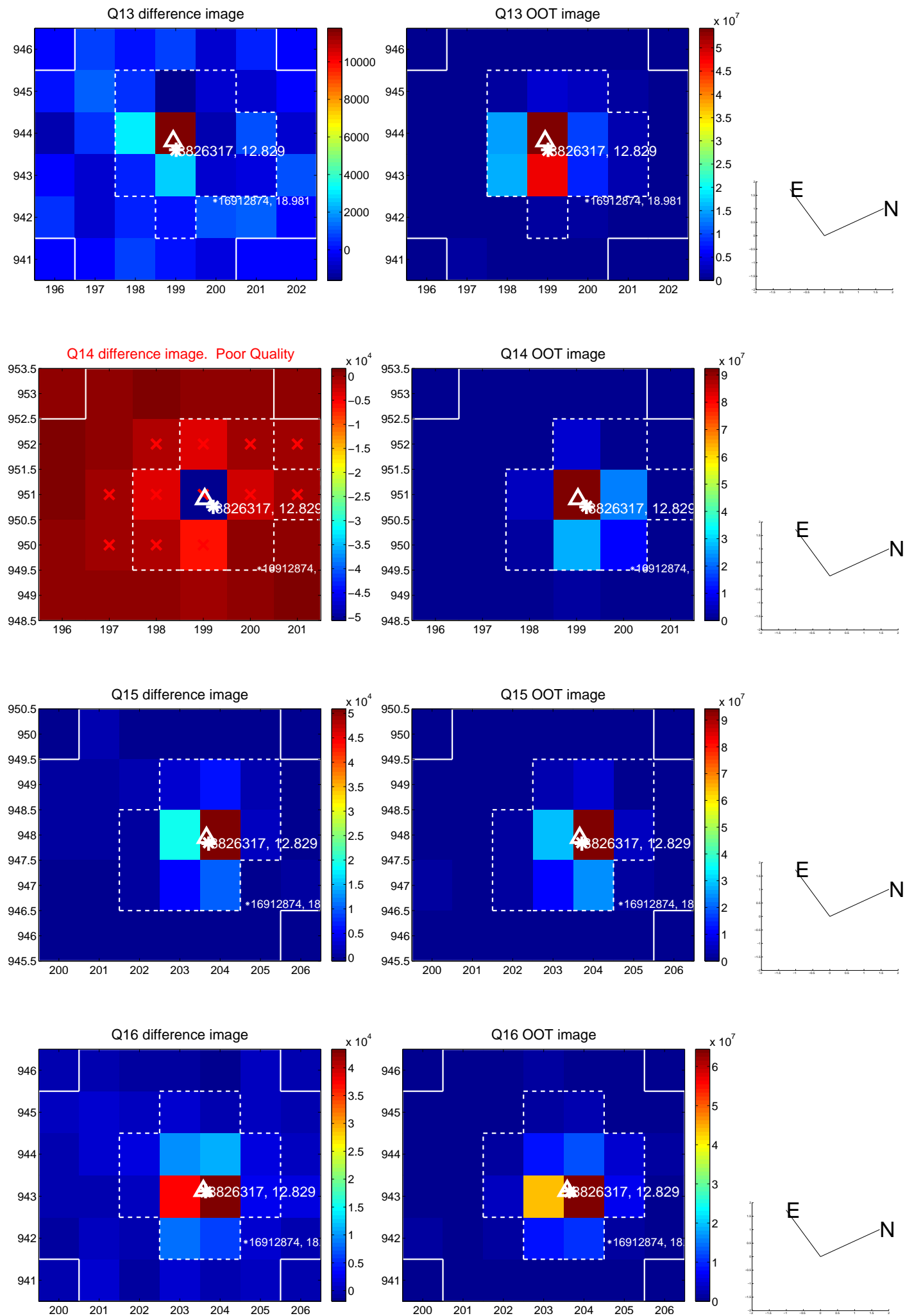
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



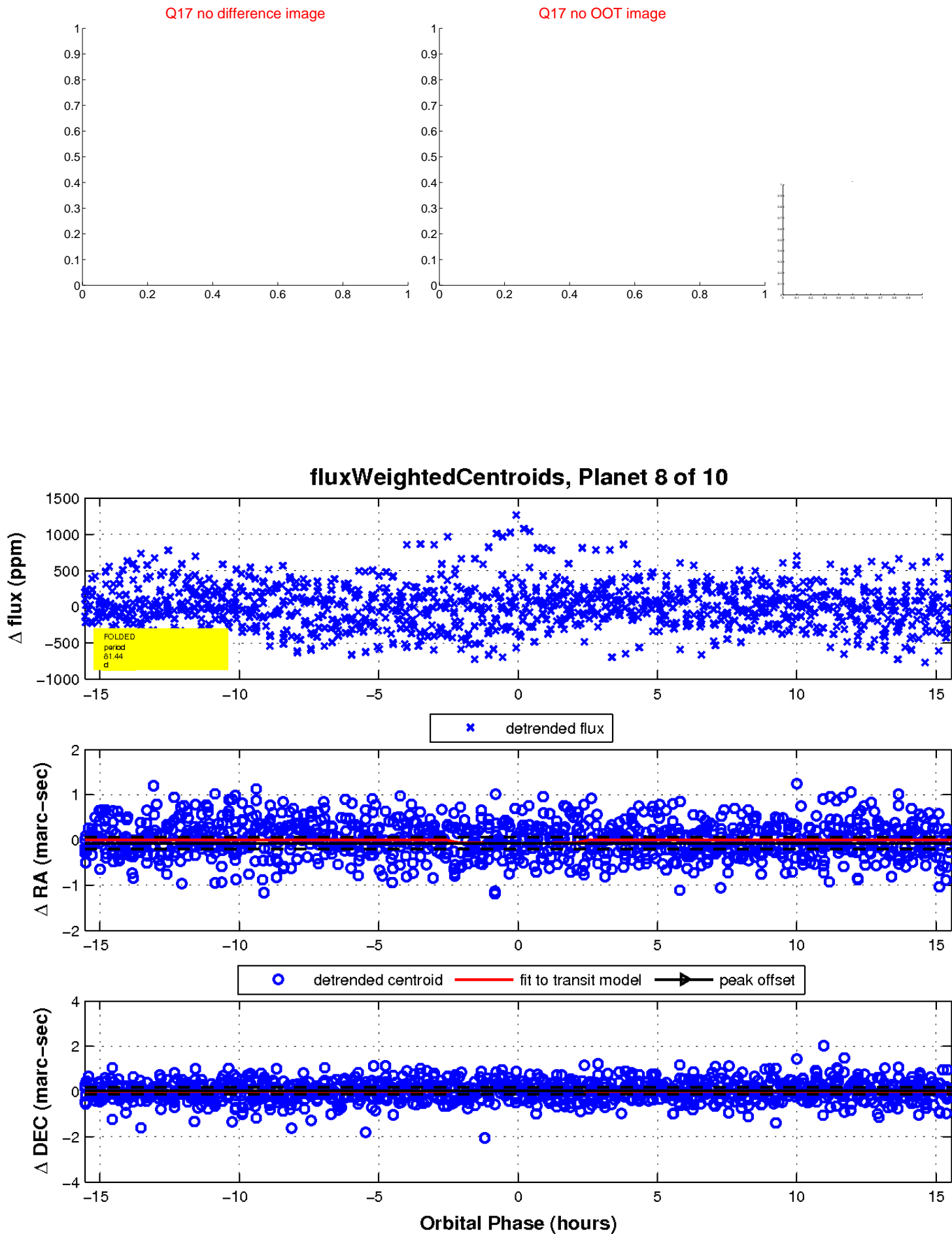
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

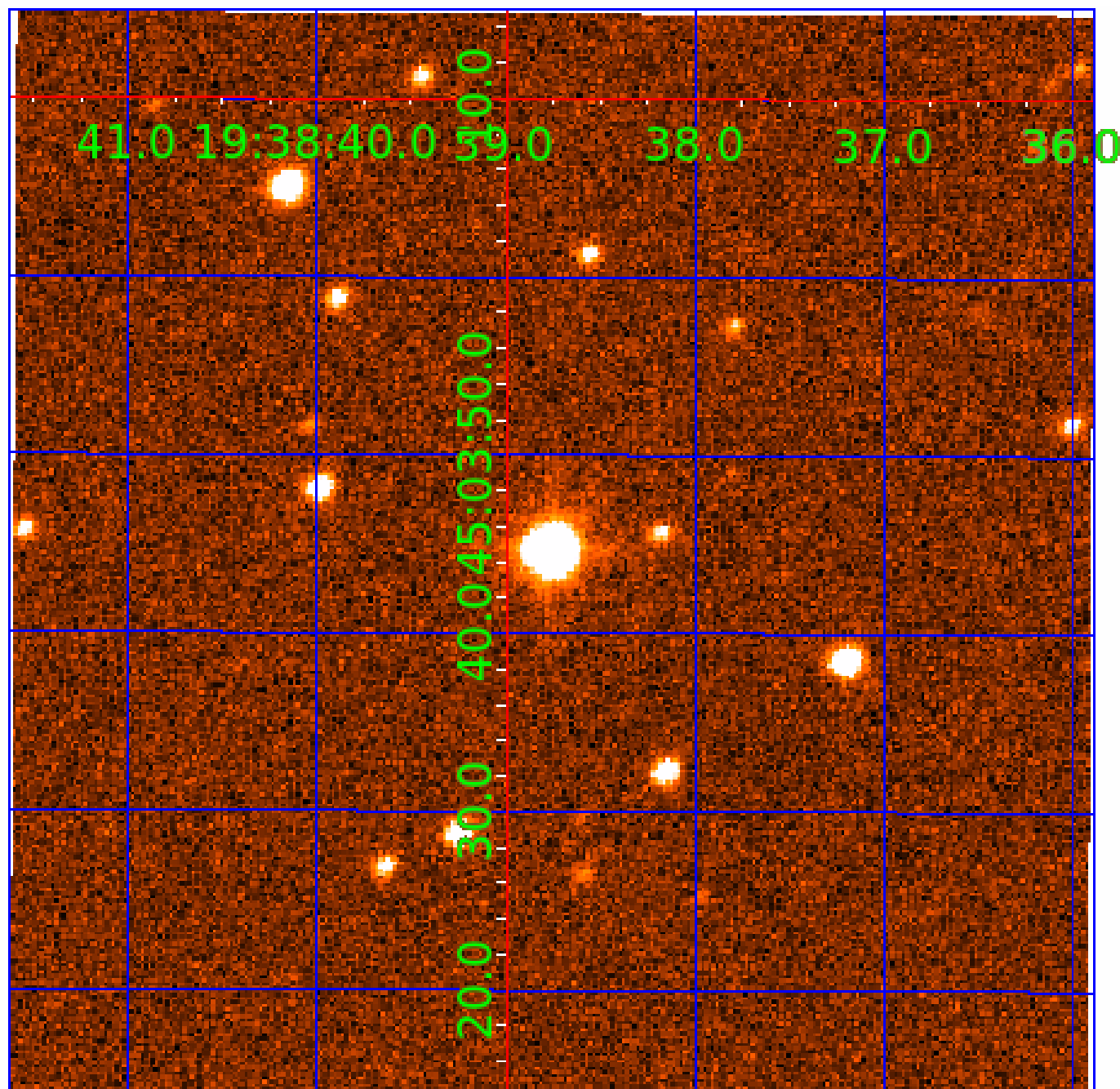


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008826317

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})
008826317-01	OBS	No	0.879096	132.002057	23.9	5.477	10.7	6.9	1.96	7328	1.11	23239.10
008826317-03	OBS	No	143.410534	236.990340	565.0	6.549	11.8	10.5	1.96	7328	5.71	26.07
008826317-04	OBS	No	74.126069	155.266746	530.4	2.048	8.6	8.6	1.96	7328	4.98	62.85
008826317-05	OBS	No	125.681519	154.438959	480.2	6.507	8.7	8.8	1.96	7328	7.12	31.09
008826317-06	OBS	No	122.921425	160.628393	578.6	4.204	9.2	8.5	1.96	7328	5.94	32.02
008826317-08	OBS	No	81.440440	163.544659	392.4	5.186	8.7	7.8	1.96	7328	4.40	55.44
008826317-09	OBS	No	486.194127	521.851652	590.8	5.419	8.4	8.9	1.96	7328	5.08	5.12
008826317-10	OBS	No	52.143594	163.019543	180.0	4.500	8.3	-1.0	1.96	7328	2.65	100.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008826317-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008826317-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
008826317-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008826317-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT
008826317-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
008826317-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008826317-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
008826317-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

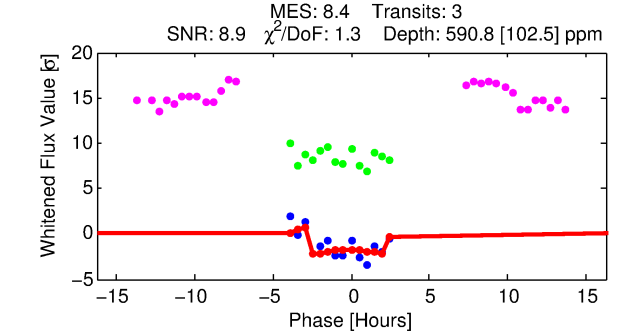
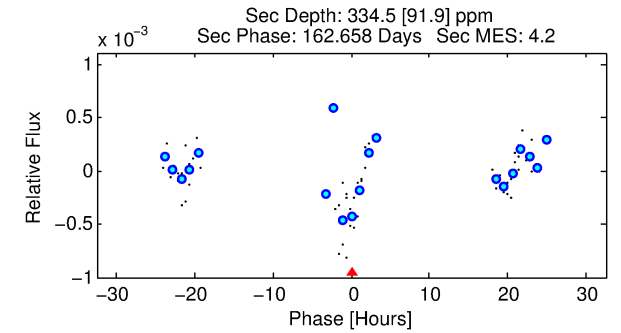
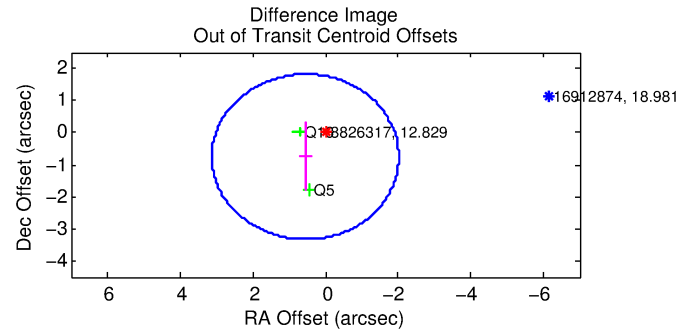
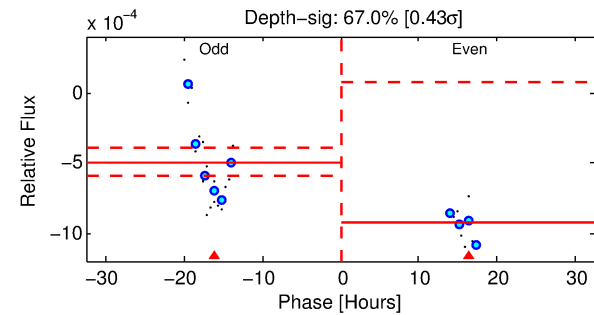
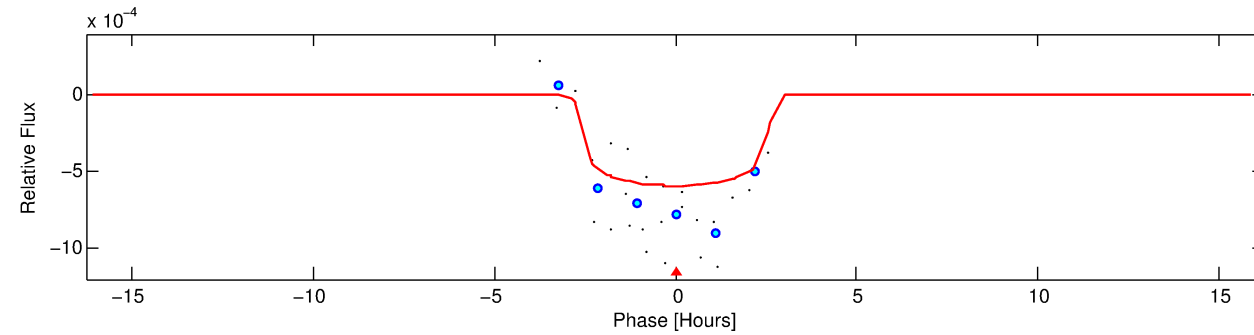
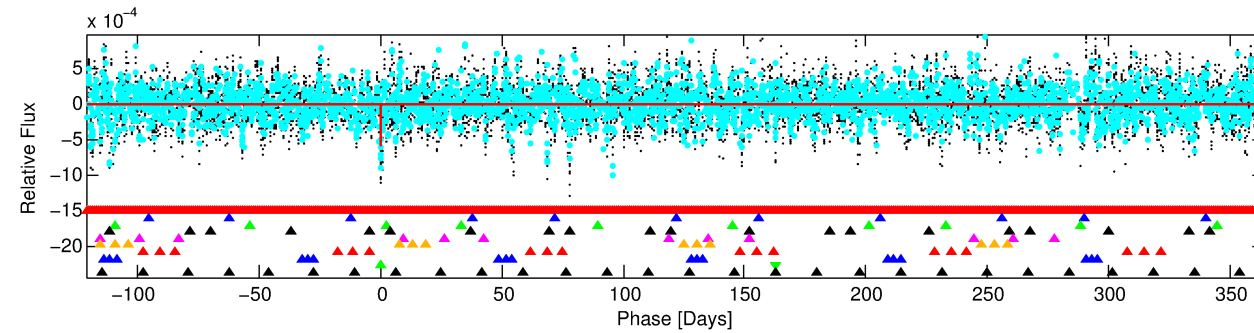
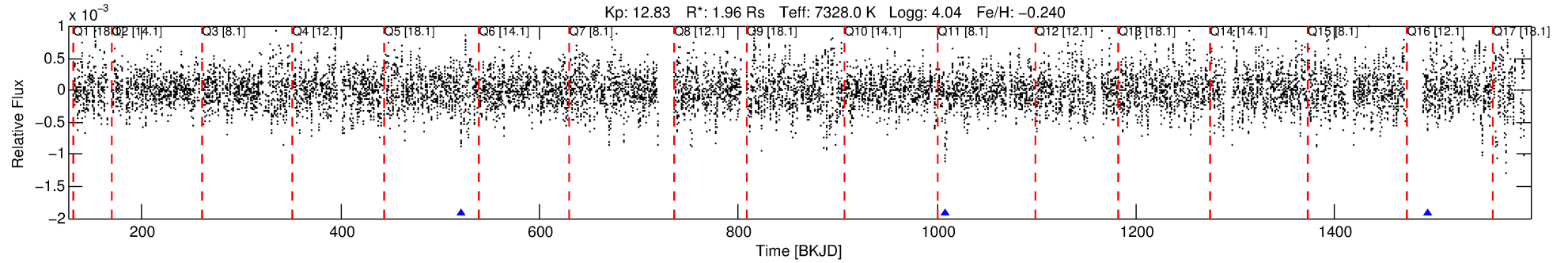
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008826317-09

No Significant Match Found

DV One-Page Summary

KIC: 8826317 Candidate: 9 of 10 Period: 486.194 d



DV Fit Results:

Period = 486.19413 [0.02249] d
Epoch = 521.8517 [0.0195] BKJD
Rp/R* = 0.0238 [0.0235]
a/R* = 519.85 [2911.05]
b = 0.69 [4.22]
Seff = 5.12 [2.12]
Teq = 384 [40] K
Rp = 5.08 [5.25] Re
a = 1.3889 [0.3596] AU
Ag = 13774.35 [27966.90] [0.49 σ]
Teffp = 6424 [3215] K [1.88 σ]

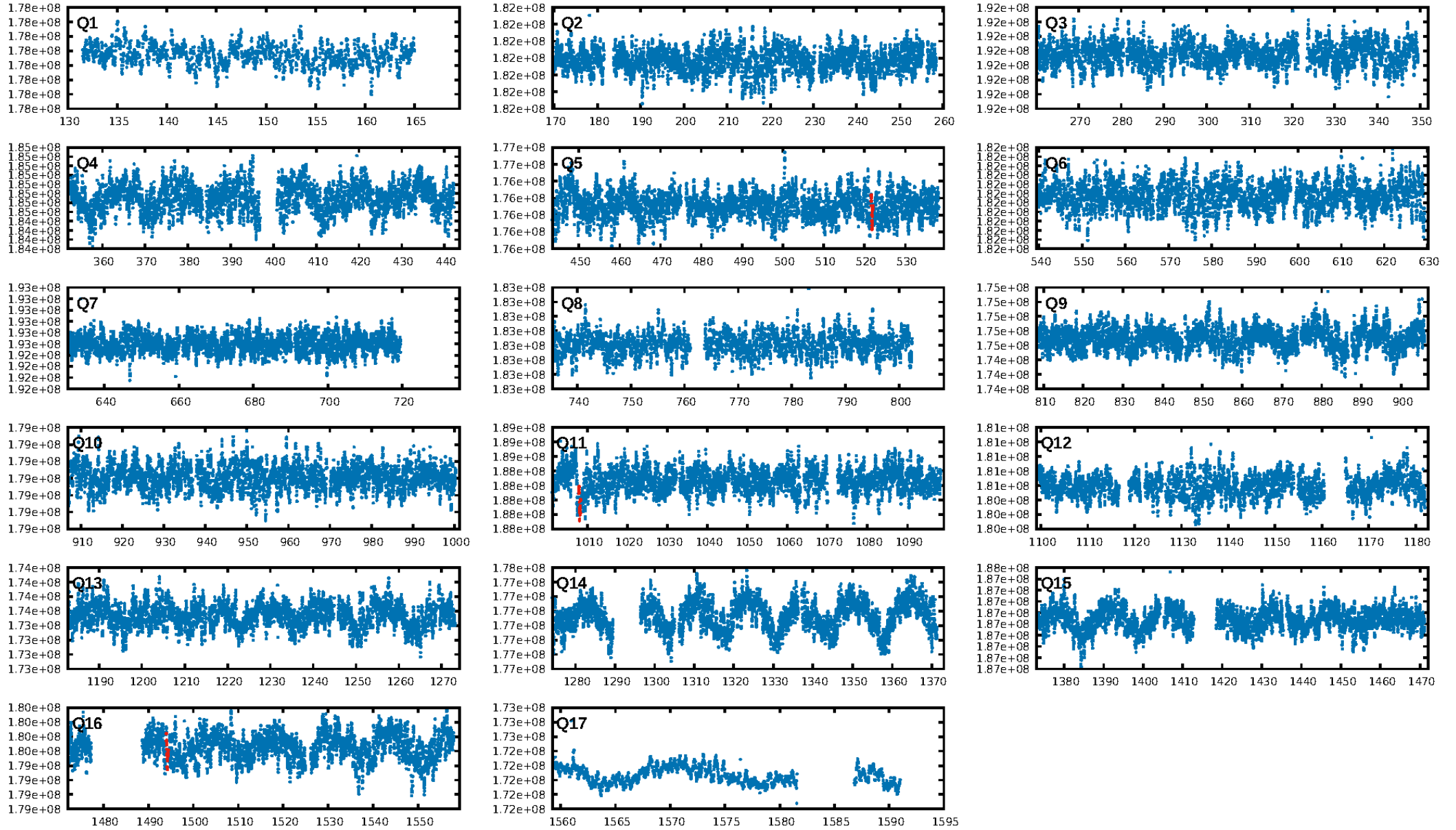
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [967.84 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 28.9%
ModelChiSquareGof-sig: 98.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 229.9
Centroid-sig: 19.8%
Centroid-so: 0.423 arcsec [0.80 σ]
OotOffset-rm: 0.936 arcsec [1.09 σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-rm: 0.910 arcsec [1.07 σ]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.00 [0/2]

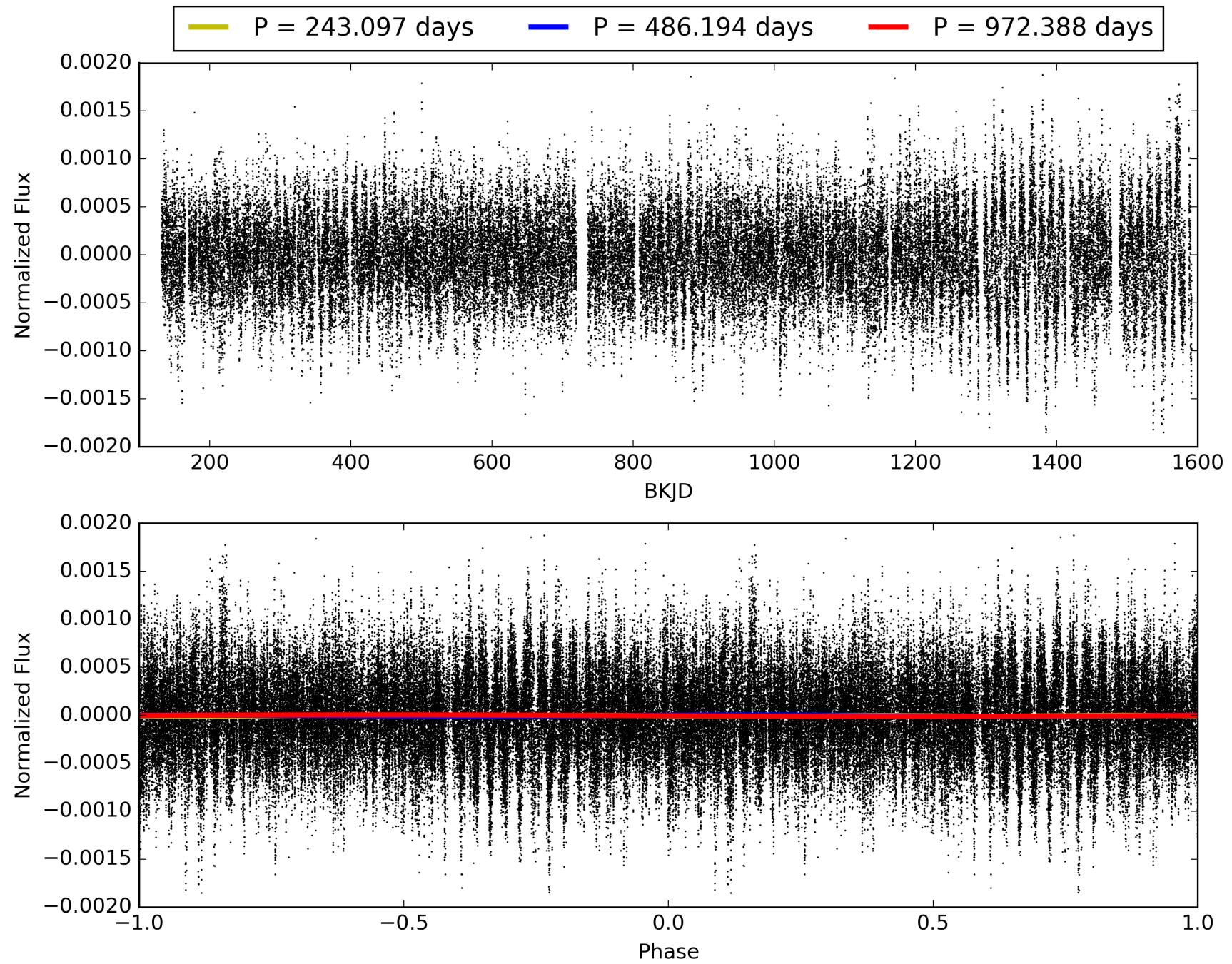
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:59:57 Z

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

TCE 008826317-09, PDC Light Curves

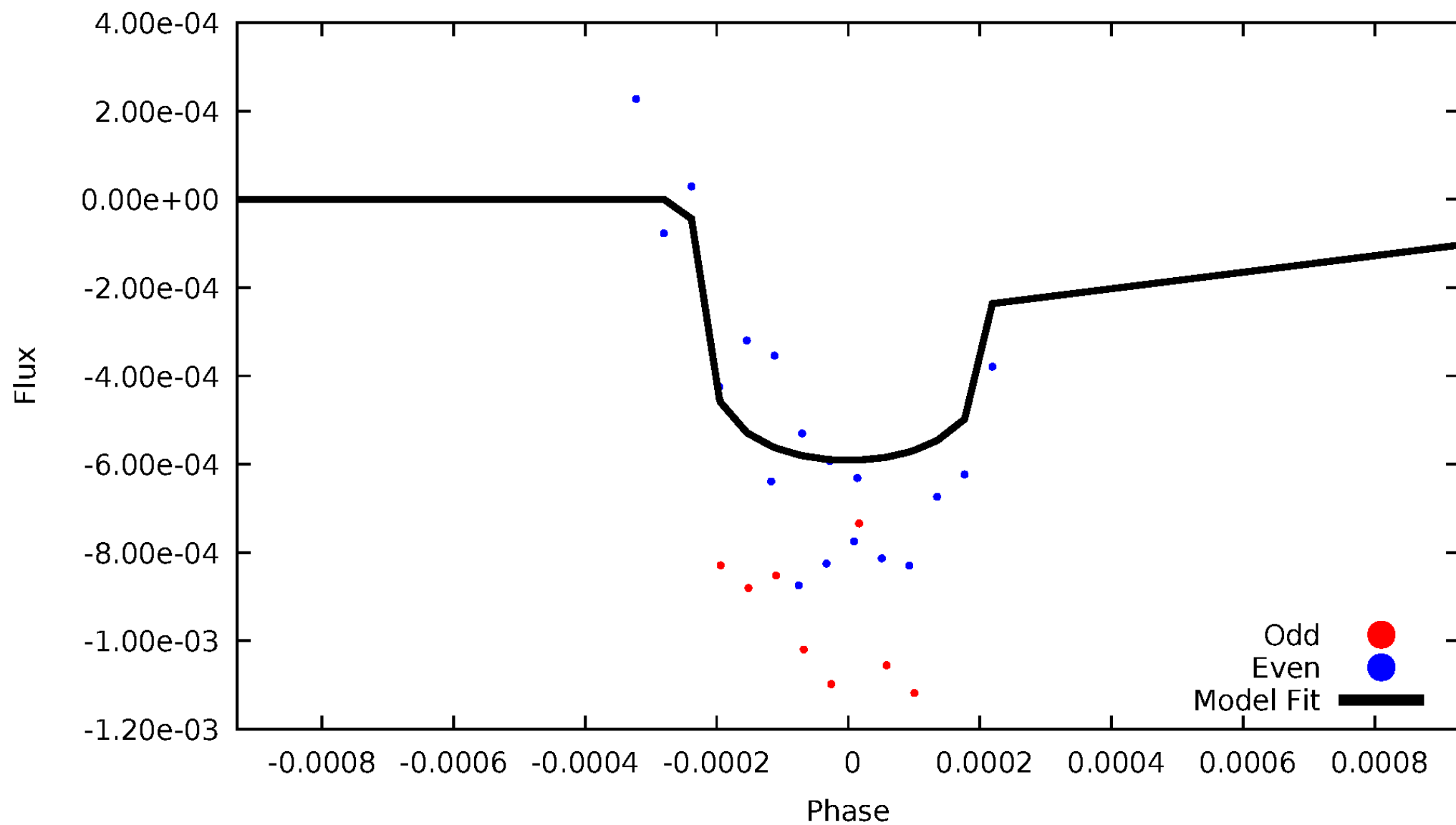


TCE 008826317-09



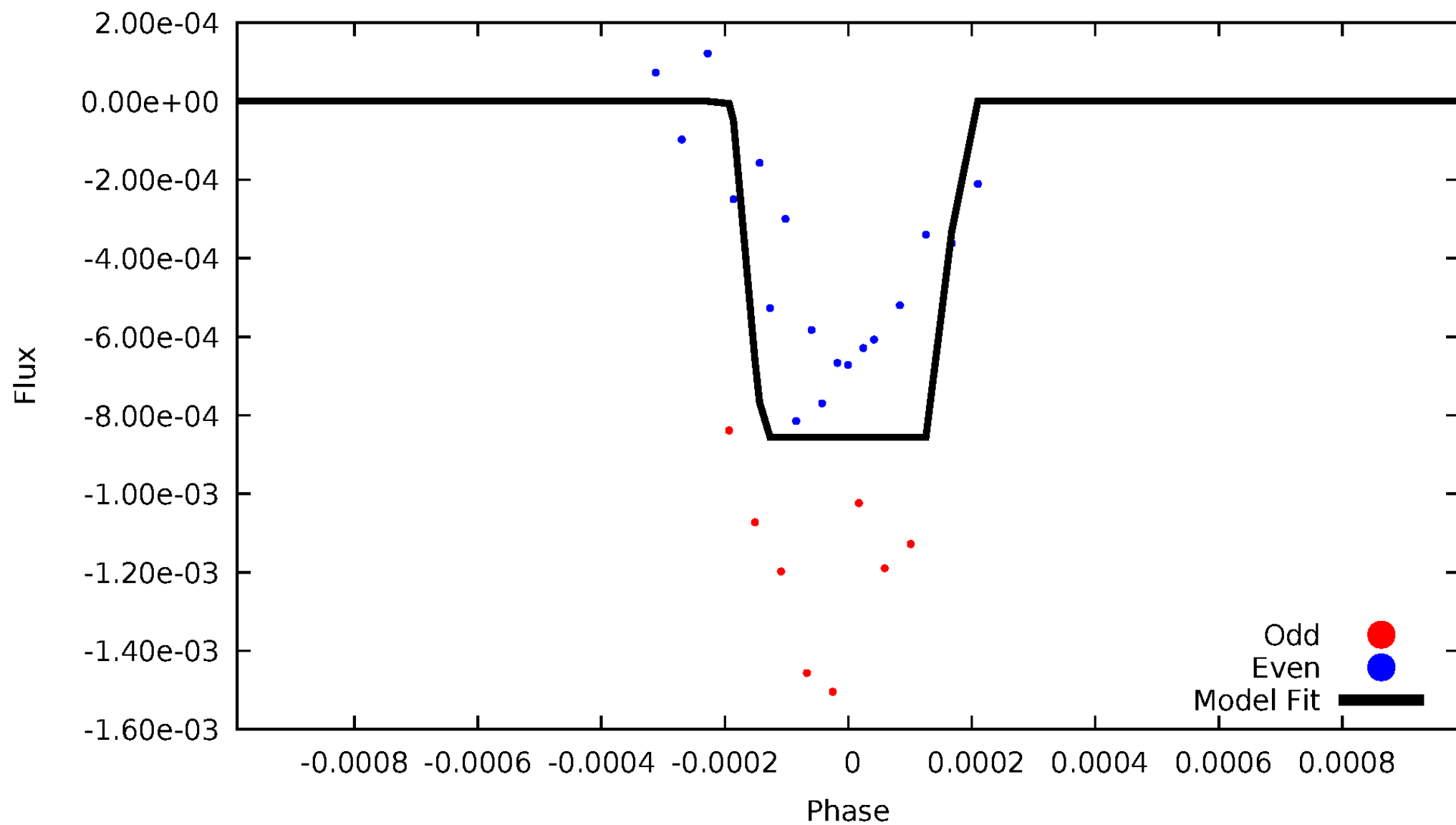
DV Odd/Even

TCE 008826317-09



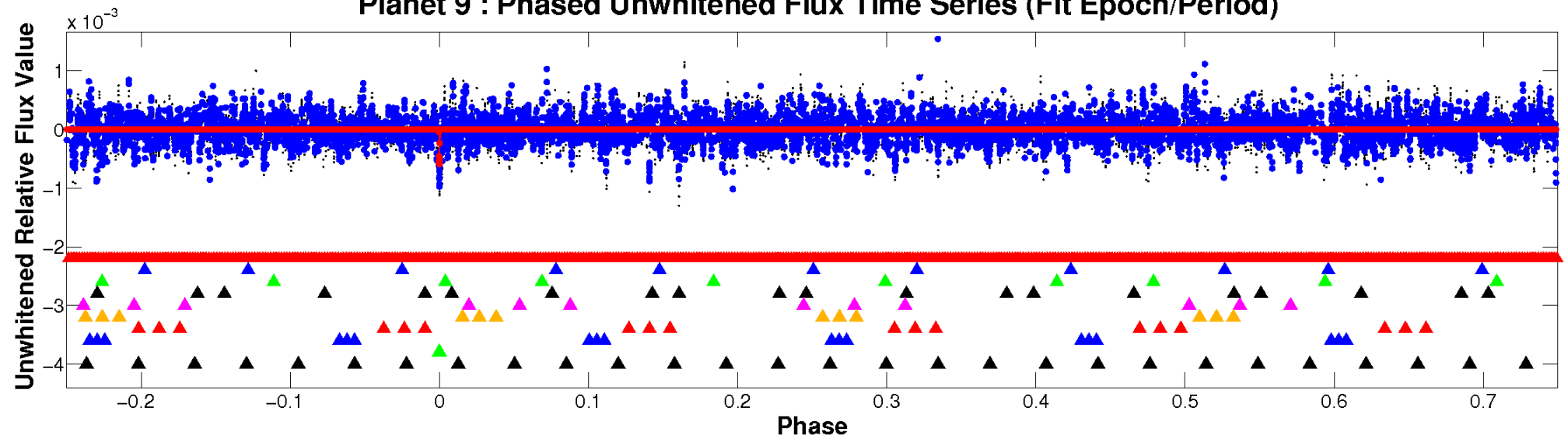
ALT Odd/Even

TCE 008826317-09

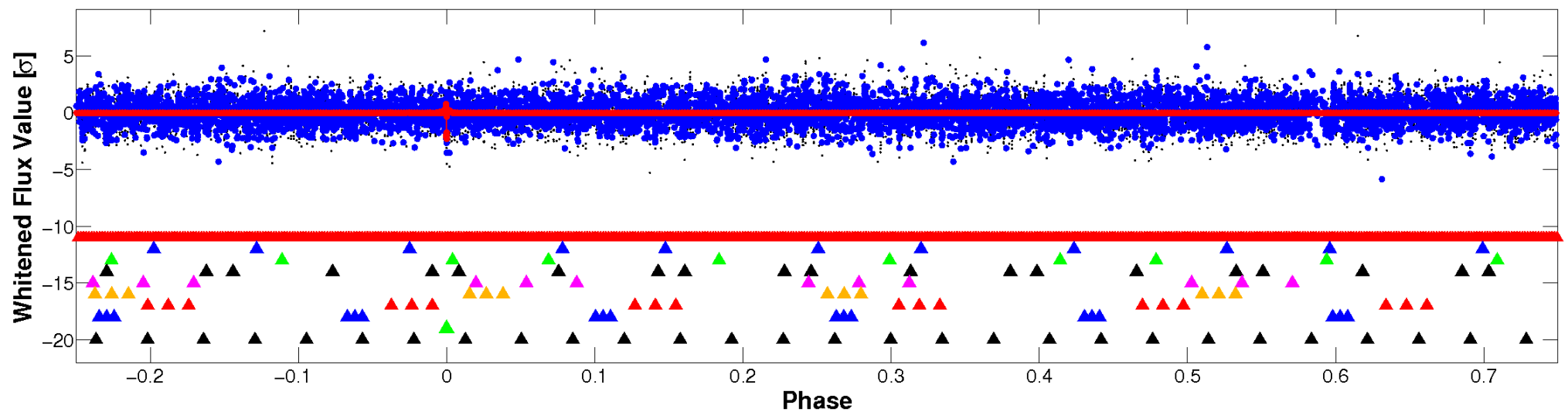


Non-Whitened Vs. Whitened Light Curve

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

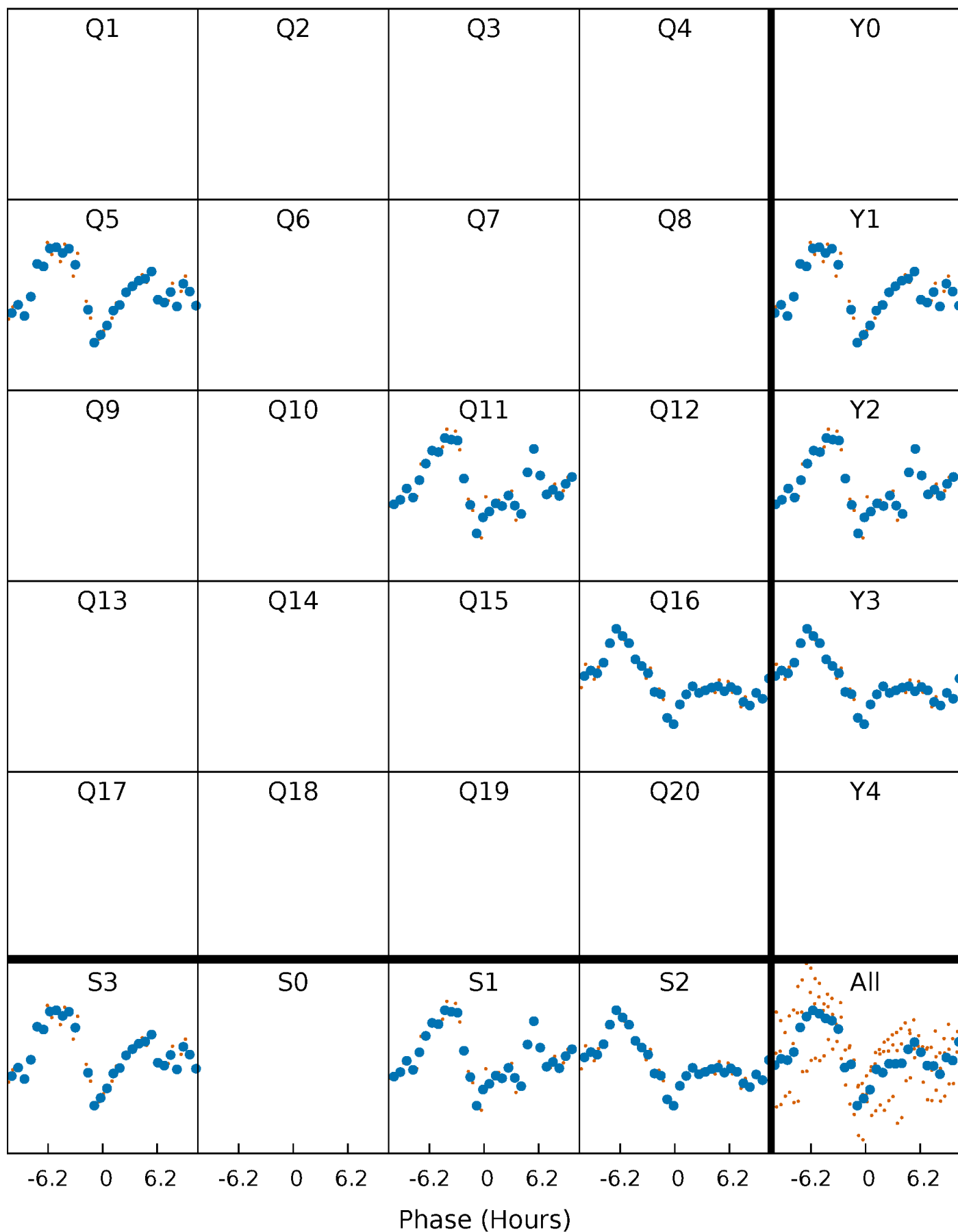


Planet 9 : Phased Whitened Flux Time Series (Fit Epoch/Period)



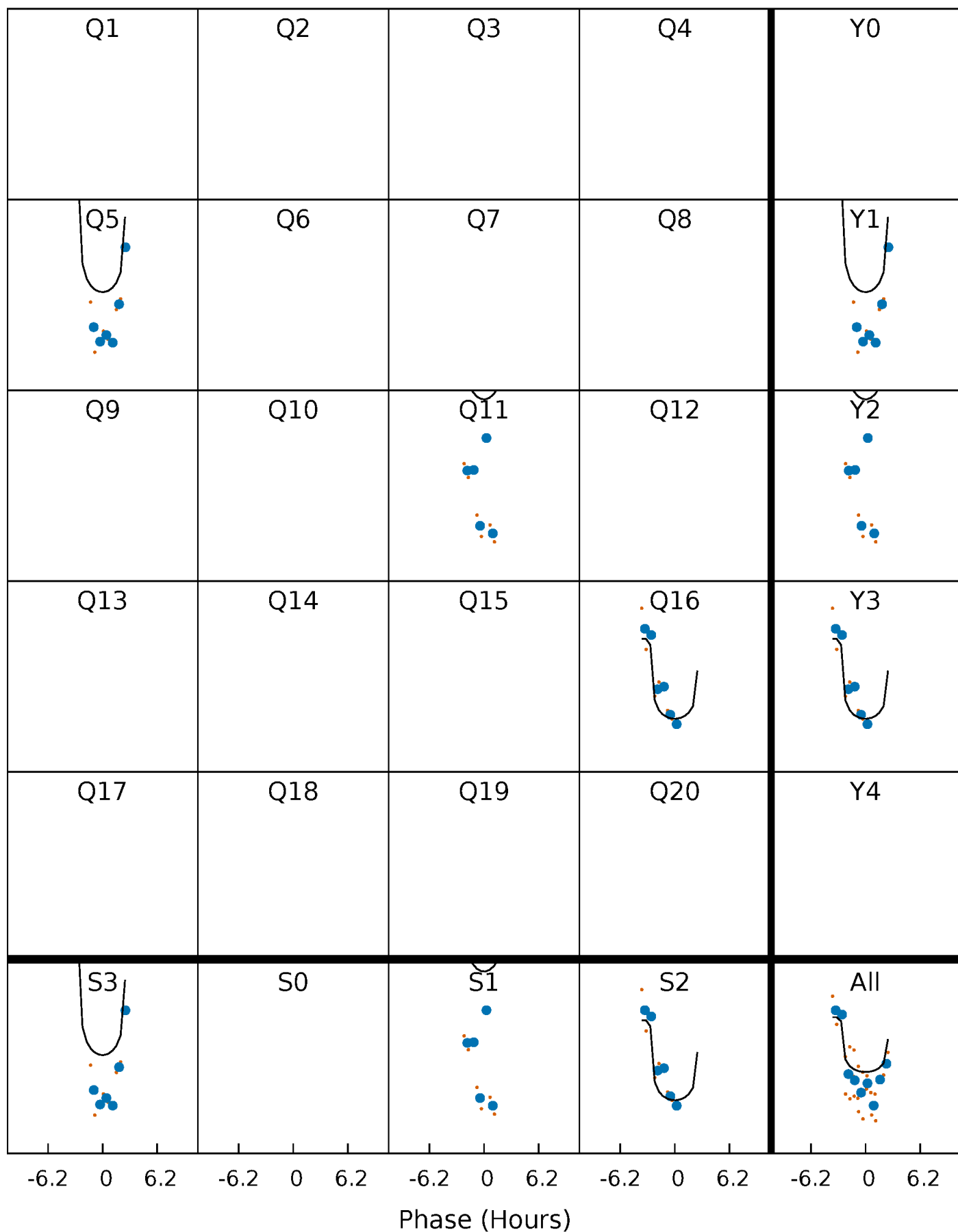
PDC Quarter-Phased Transit Curves

TCE 008826317-09 P=486.194127 Days $T_0=521.851652$ (BKJD)



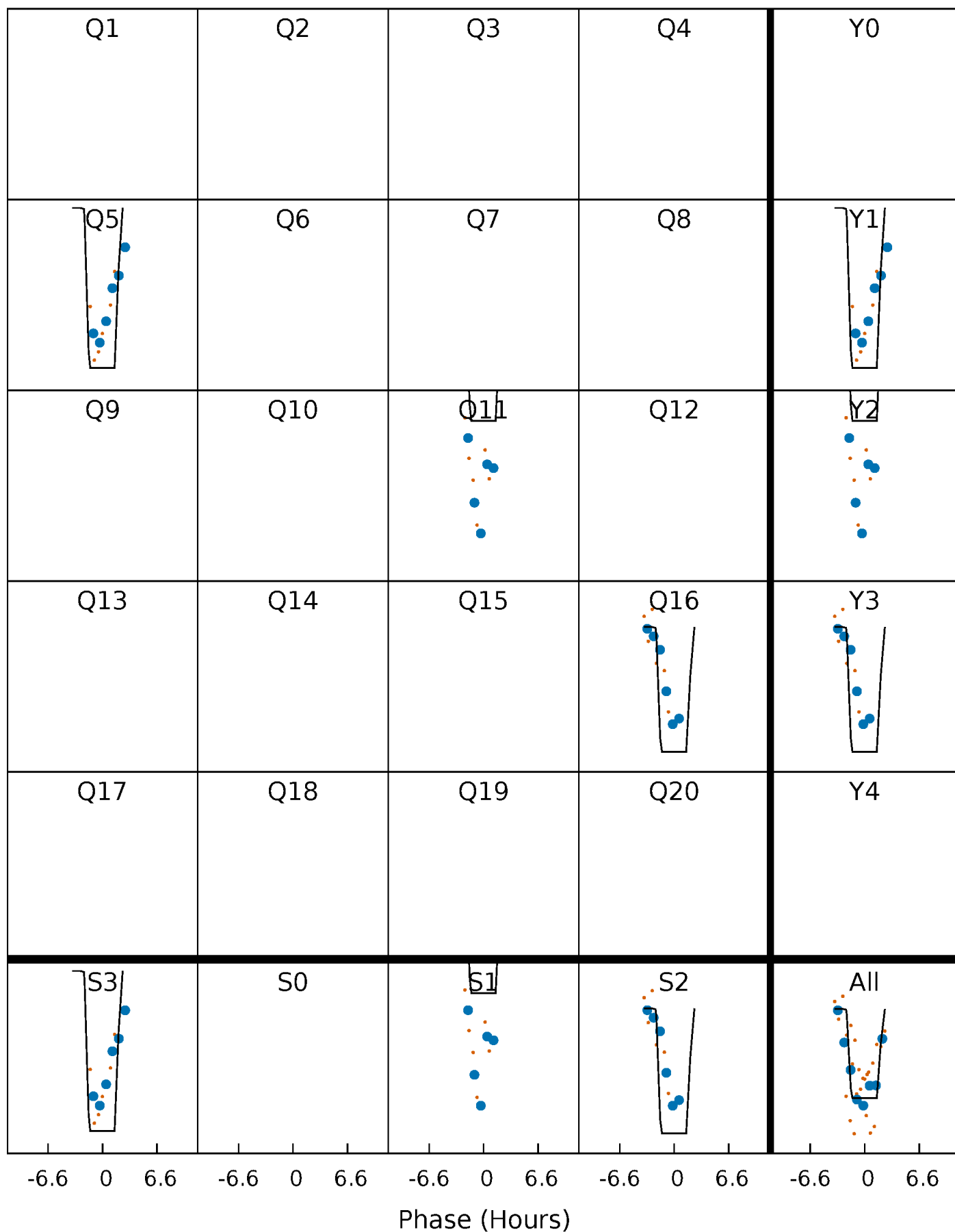
DV Quarter-Phased Transit Curves

TCE 008826317-09 $P=486.194127$ Days $T_0=521.851652$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

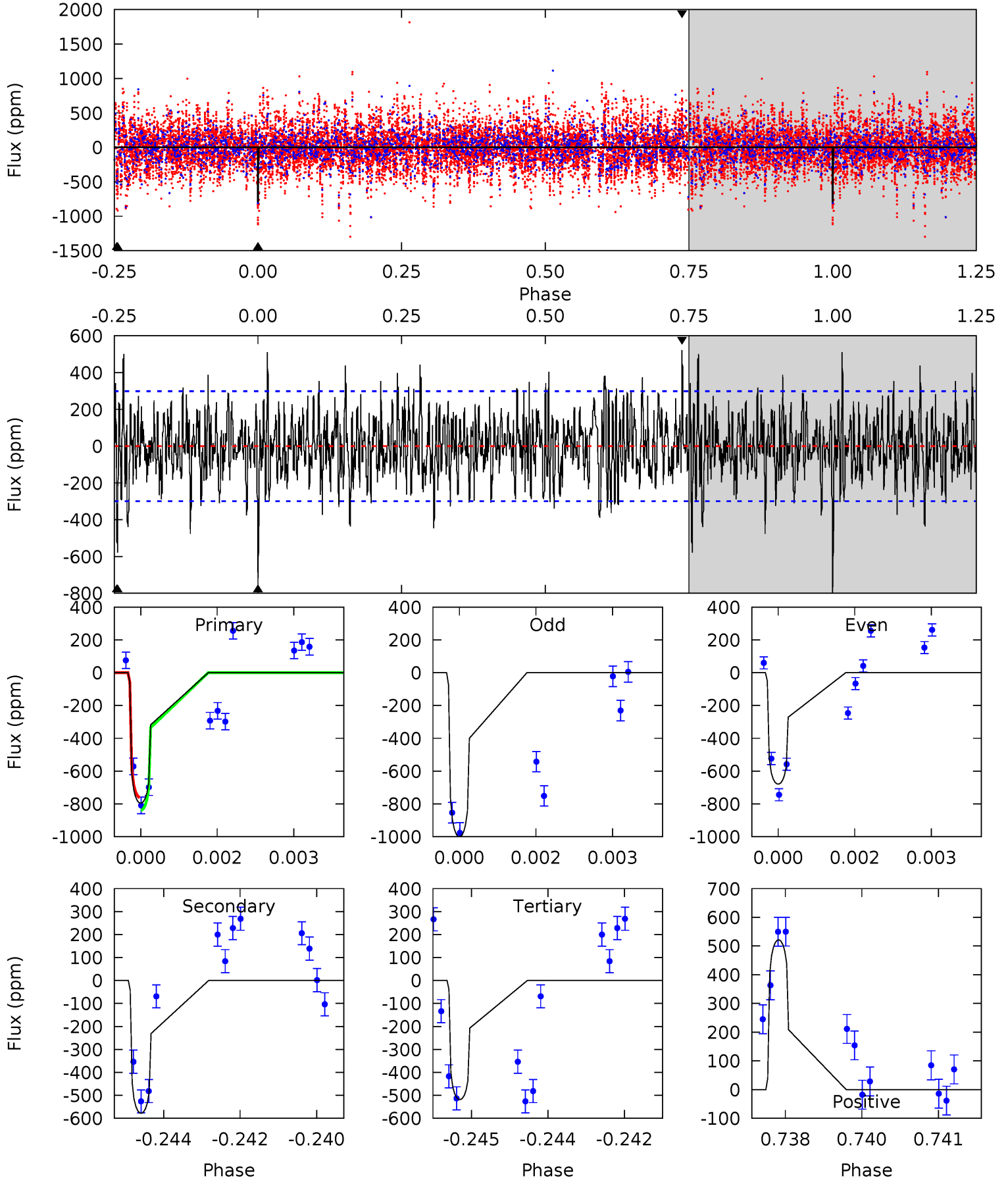
TCE 008826317-09 P=486.189315 Days $T_0=521.856127$ (BKJD)



DV Model-Shift Uniqueness Test

008826317-09, P = 486.194127 Days, E = 35.657525 Days

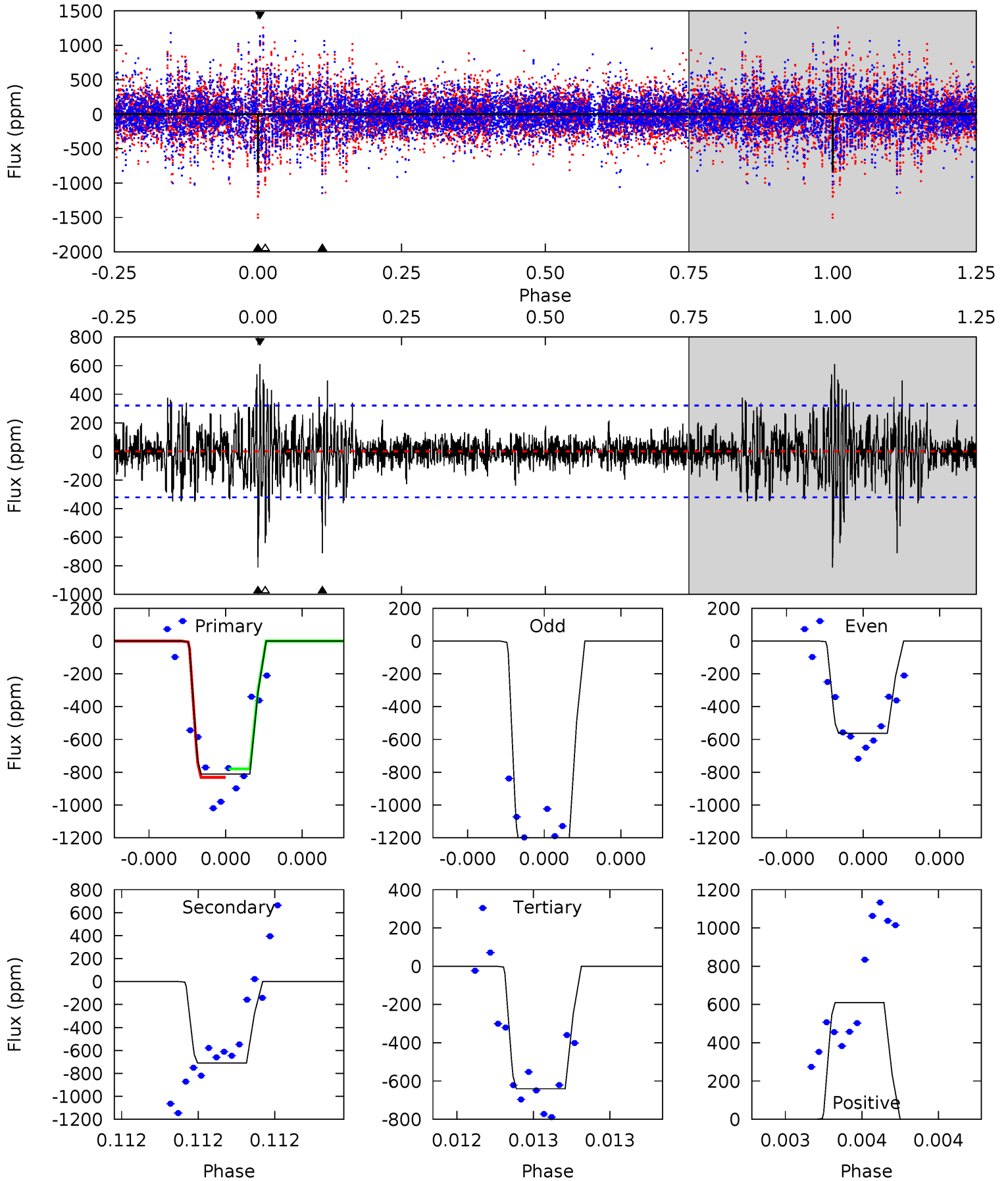
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	10.4	9.29	9.35	5.36	3.14	2.63	4.97	4.91	1.07	1.01	2.83	0.97	0.40	0.69



Alt Model-Shift Uniqueness Test

008826317-09, P = 486.189315 Days, E = 35.666812 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	12.4	11.2	10.7	5.61	3.54	1.97	3.00	3.53	1.23	1.76	5.92	1.28	0.43	0.44



Stellar Parameters For KIC 008826317

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7328^{+230}_{-307}	$4.035^{+0.209}_{-0.171}$	$-0.240^{+0.250}_{-0.350}$	$1.955^{+0.542}_{-0.596}$	$1.510^{+0.209}_{-0.279}$	$0.284^{+0.390}_{-0.122}$
	+3%/-4%	+5%/-4%	+104%/-146%	+28%/-30%	+14%/-18%	+137%/-43%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008826317-09 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-578 ± 56	$5.87^{+4.66}_{-3.58}$	530^{+44}_{-41}	6774^{+5746}_{-1713}	17830^{+94779}_{-12552}
Alt.	-710 ± 57	$6.85^{+5.32}_{-3.93}$	537^{+40}_{-40}	6523^{+5154}_{-1466}	15712^{+72473}_{-10516}

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

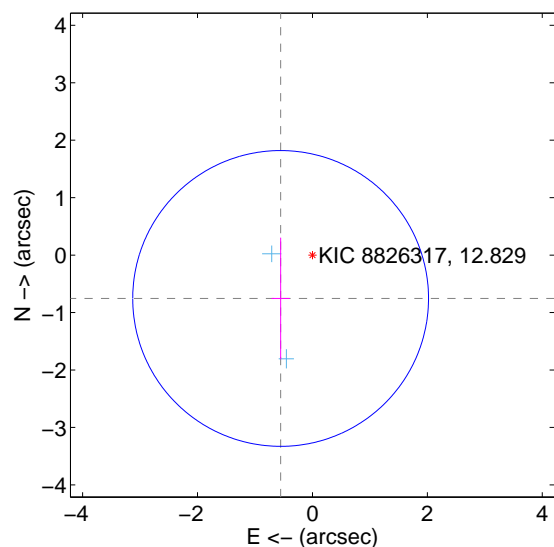
Supplemental centroid analysis for 008826317-09. Kepler magnitude: 12.83. Transit SNR 8.86

There are 2 quarters with good PRF difference image offsets

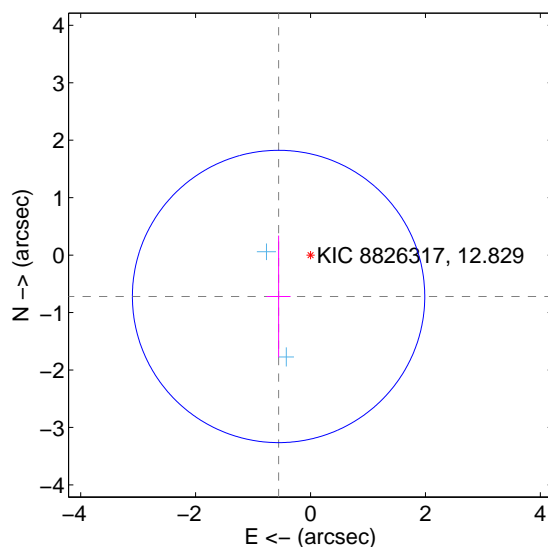
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.936 ± 0.858	1.09	0.554 ± 0.160	-0.755 ± 1.058
PRF-fit source offset from KIC position	0.910 ± 0.848	1.07	0.556 ± 0.208	-0.720 ± 1.059
photometric centroid source offset	0.42 ± 0.53	0.80	-0.01 ± 0.48	-0.42 ± 0.53

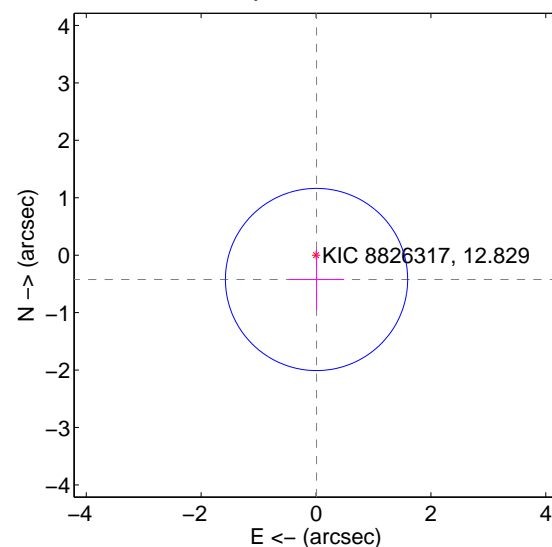
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

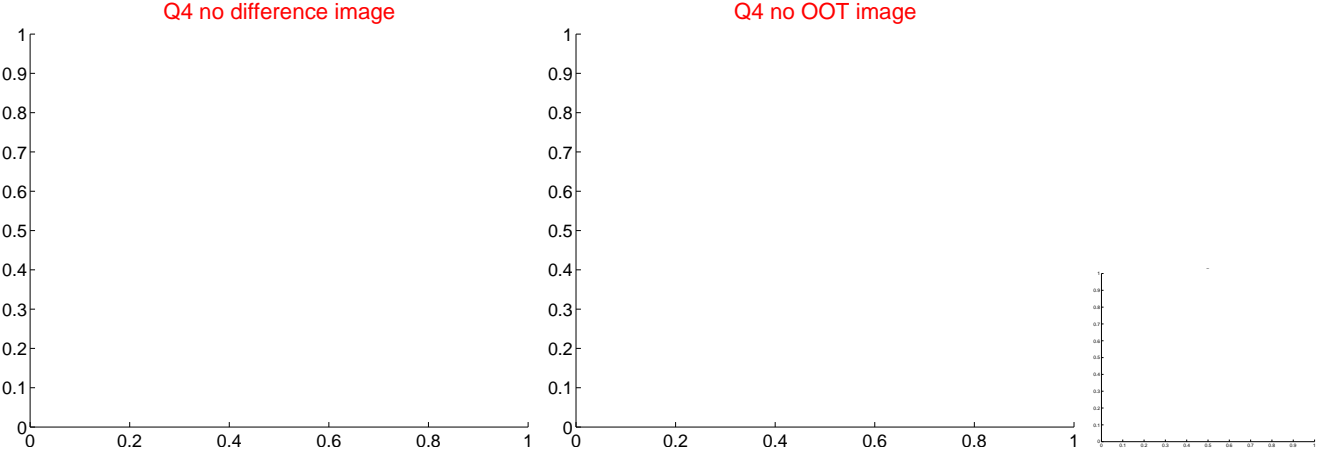
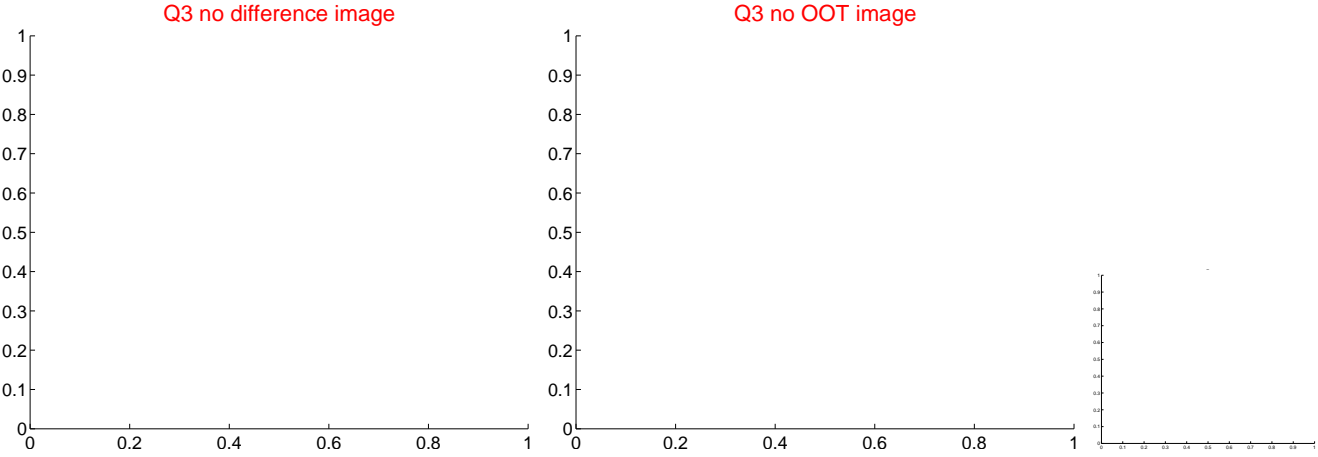


offset from photometric centroids

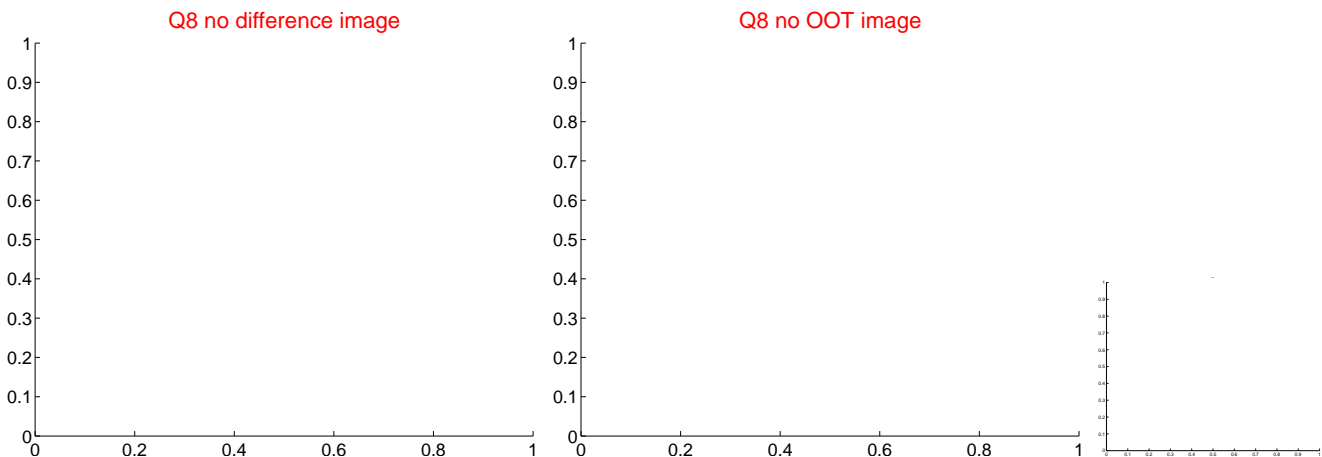
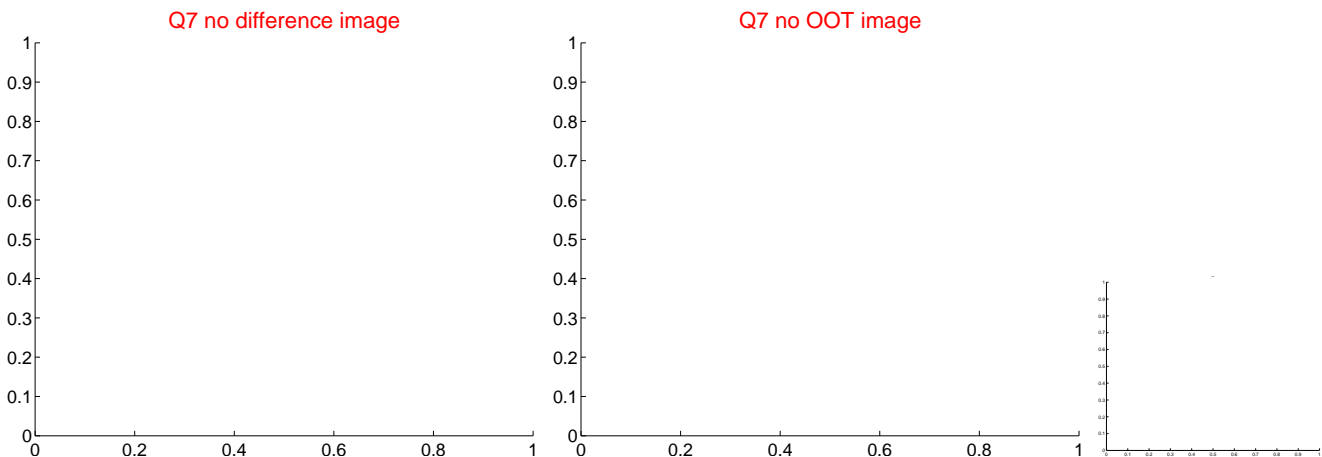
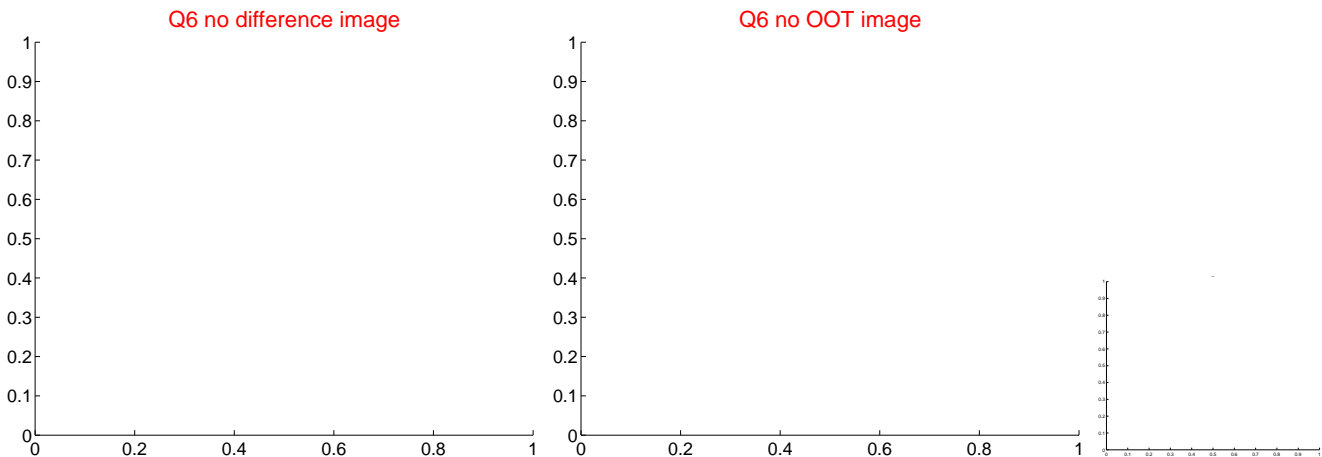
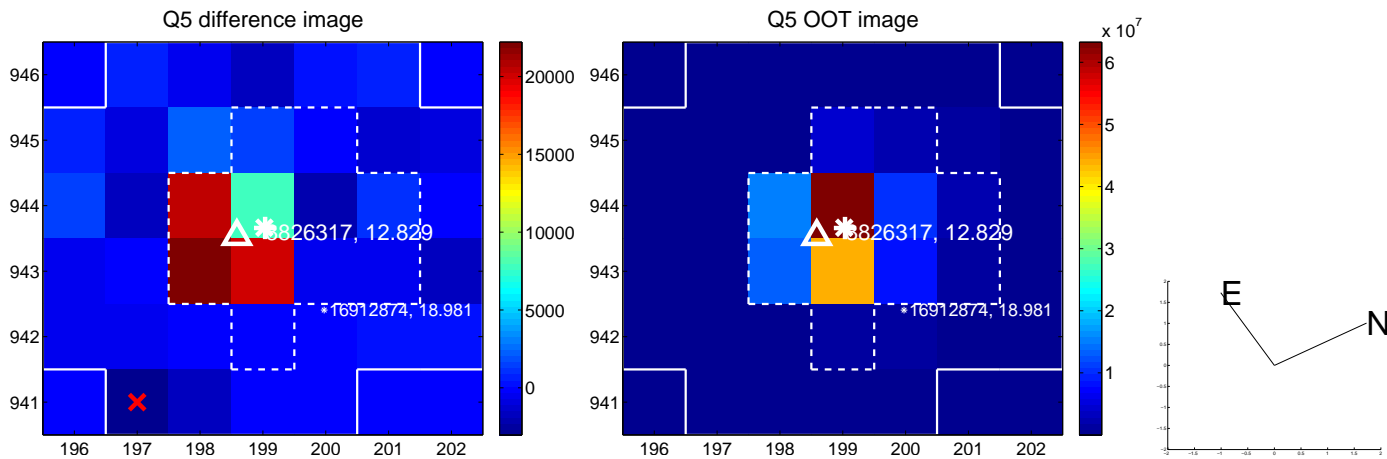


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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



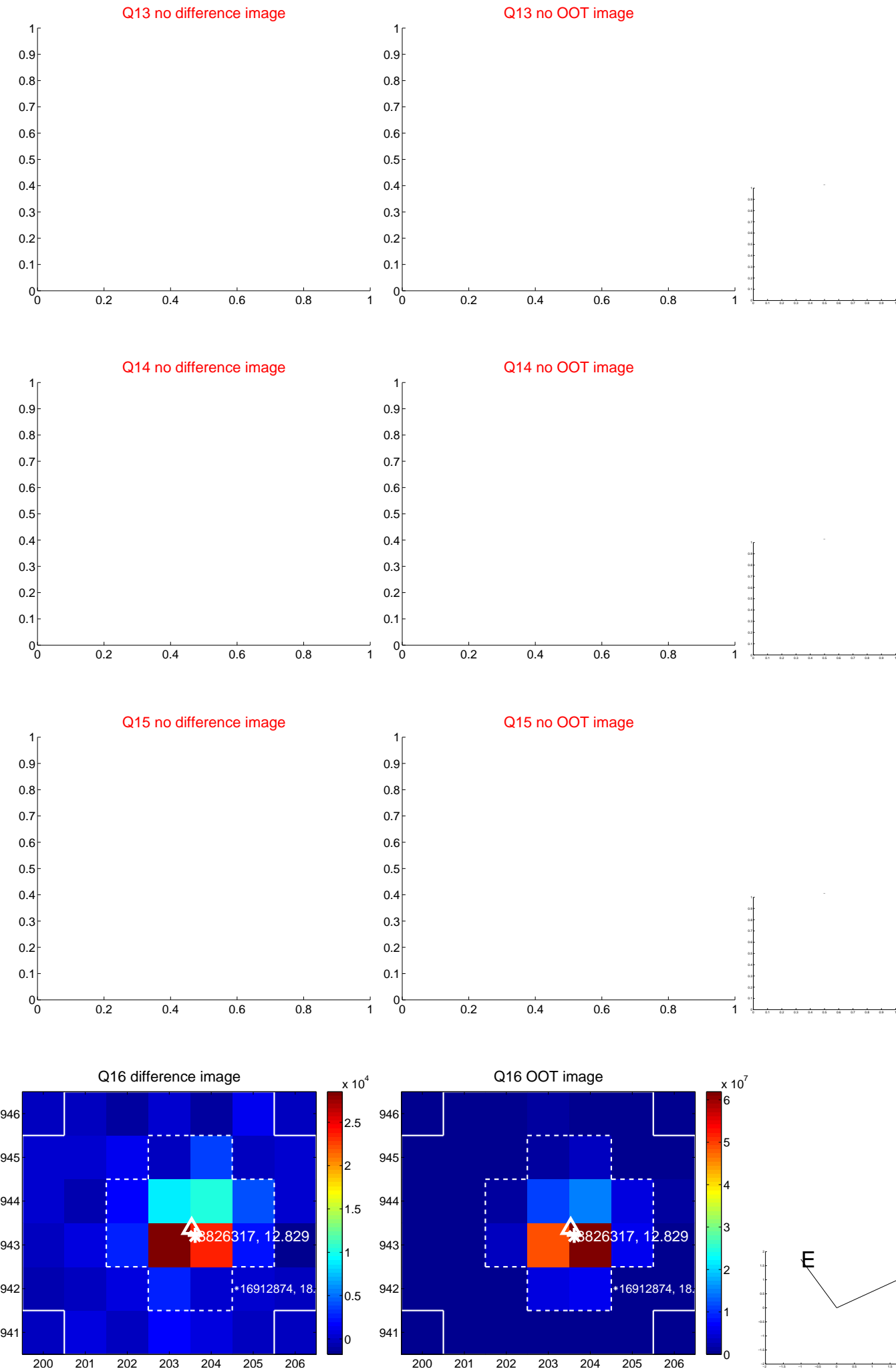
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



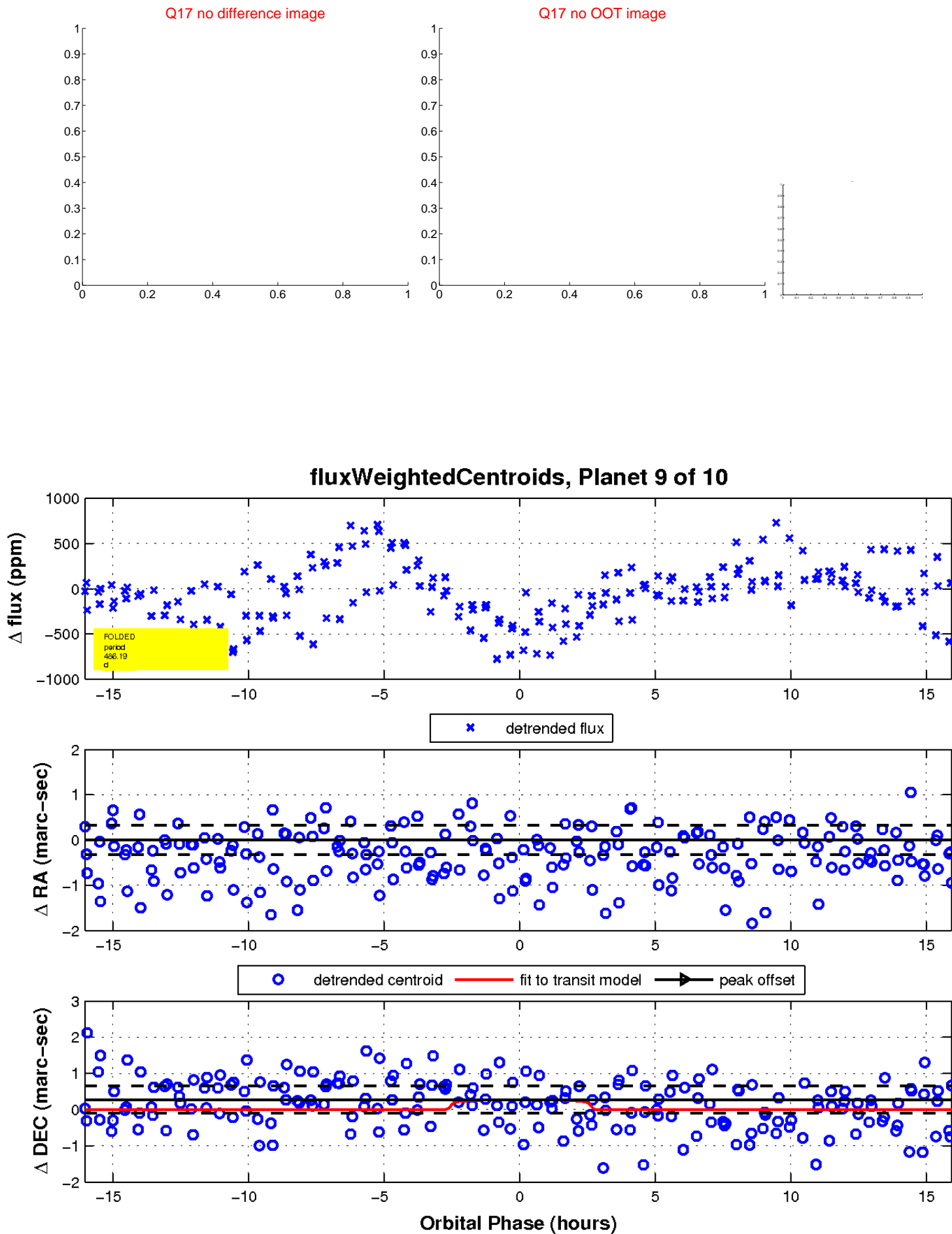
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

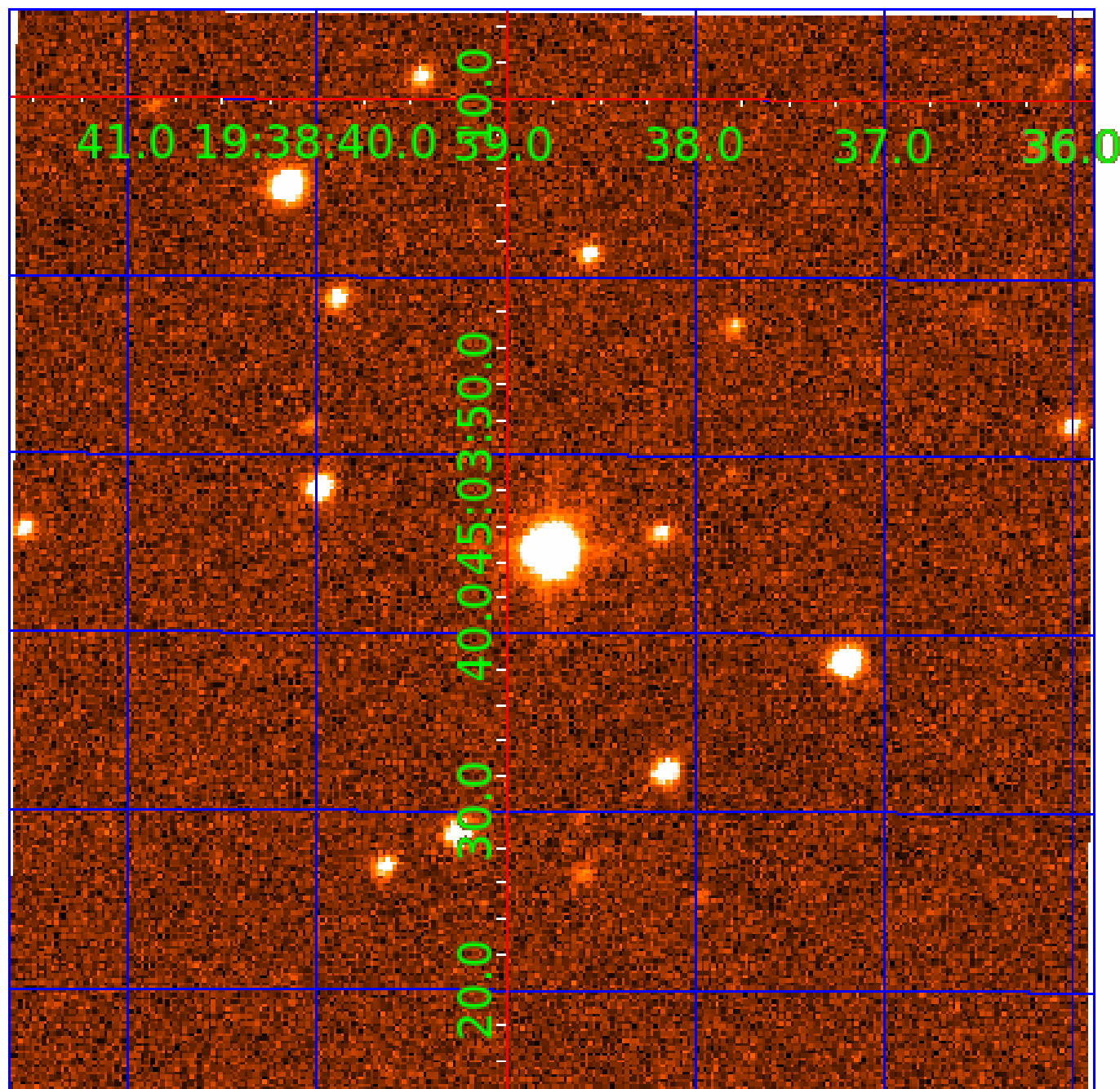


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008826317

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})
008826317-01	OBS	No	0.879096	132.002057	23.9	5.477	10.7	6.9	1.96	7328	1.11	23239.10
008826317-03	OBS	No	143.410534	236.990340	565.0	6.549	11.8	10.5	1.96	7328	5.71	26.07
008826317-04	OBS	No	74.126069	155.266746	530.4	2.048	8.6	8.6	1.96	7328	4.98	62.85
008826317-05	OBS	No	125.681519	154.438959	480.2	6.507	8.7	8.8	1.96	7328	7.12	31.09
008826317-06	OBS	No	122.921425	160.628393	578.6	4.204	9.2	8.5	1.96	7328	5.94	32.02
008826317-08	OBS	No	81.440440	163.544659	392.4	5.186	8.7	7.8	1.96	7328	4.40	55.44
008826317-09	OBS	No	486.194127	521.851652	590.8	5.419	8.4	8.9	1.96	7328	5.08	5.12
008826317-10	OBS	No	52.143594	163.019543	180.0	4.500	8.3	-1.0	1.96	7328	2.65	100.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008826317-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008826317-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
008826317-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
008826317-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT
008826317-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
008826317-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008826317-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
008826317-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

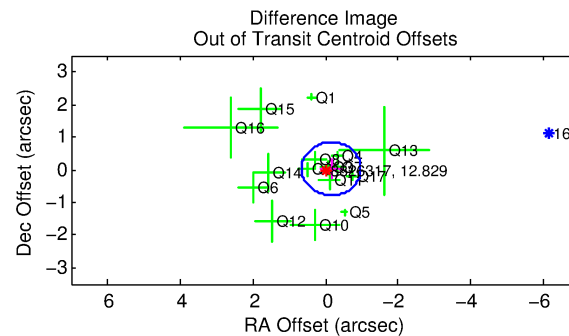
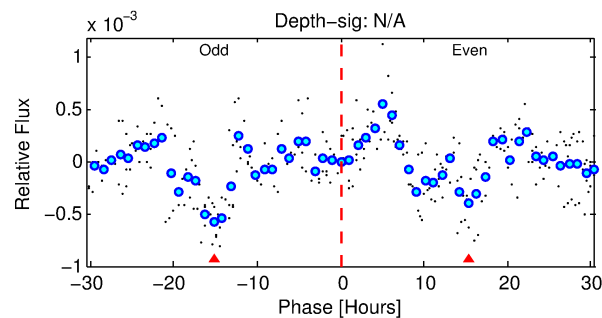
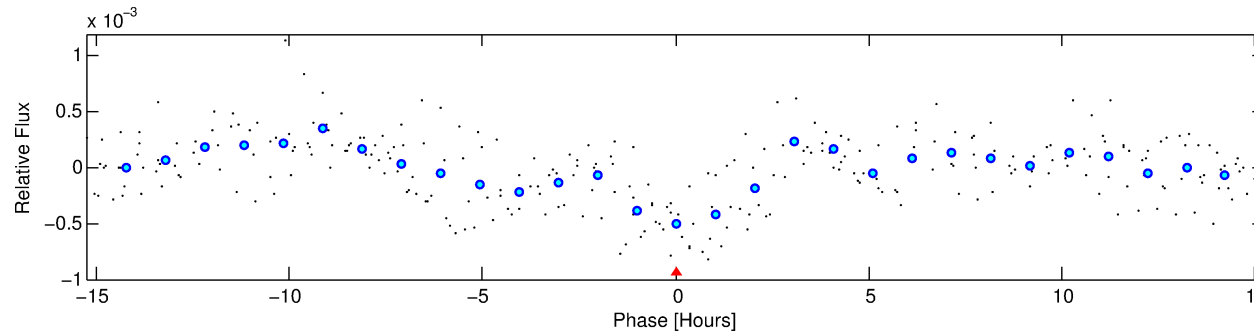
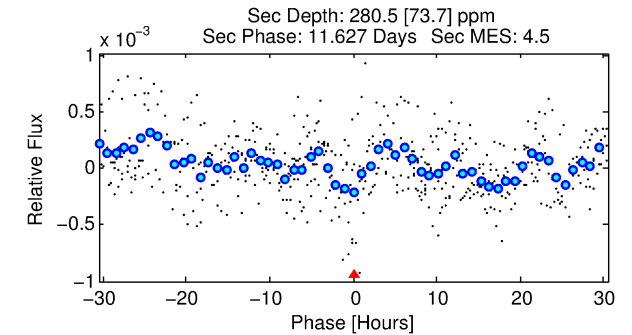
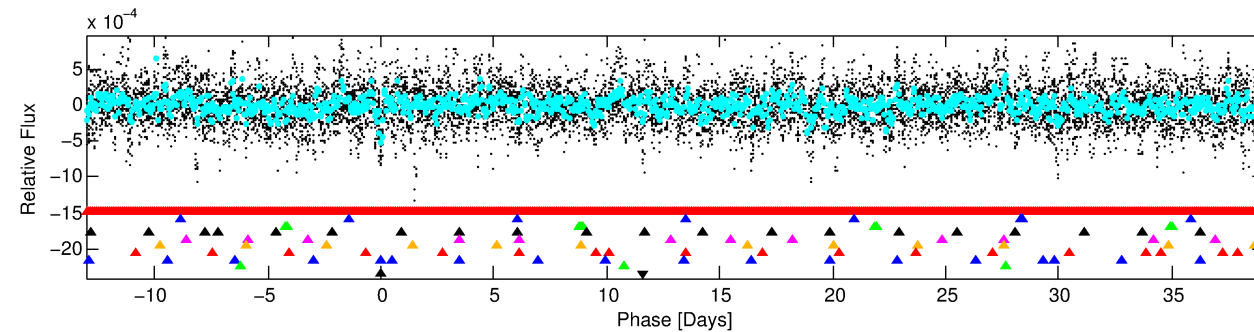
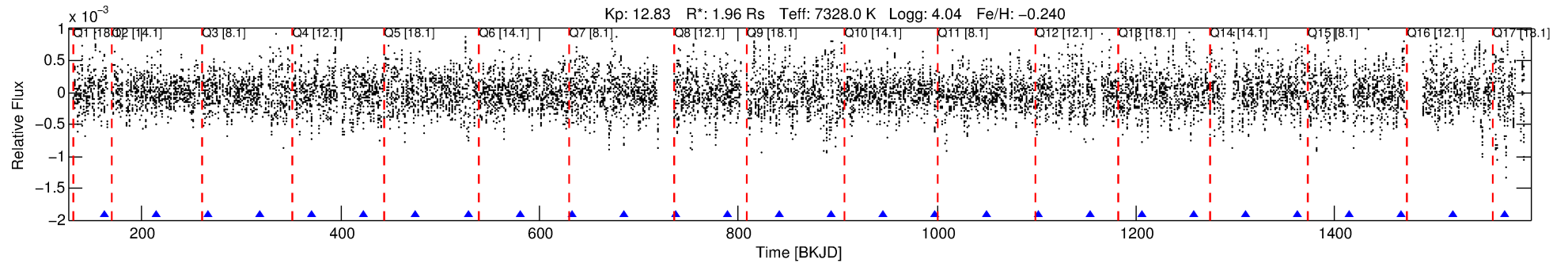
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008826317-10

No Significant Match Found

DV One-Page Summary

KIC: 8826317 Candidate: 10 of 10 Period: 52.144 d



TPS TCE Results:

Period = 52.14359 d
Epoch = 163.0195 BKJD

DV fit results are unavailable

DV Diagnostic Results:

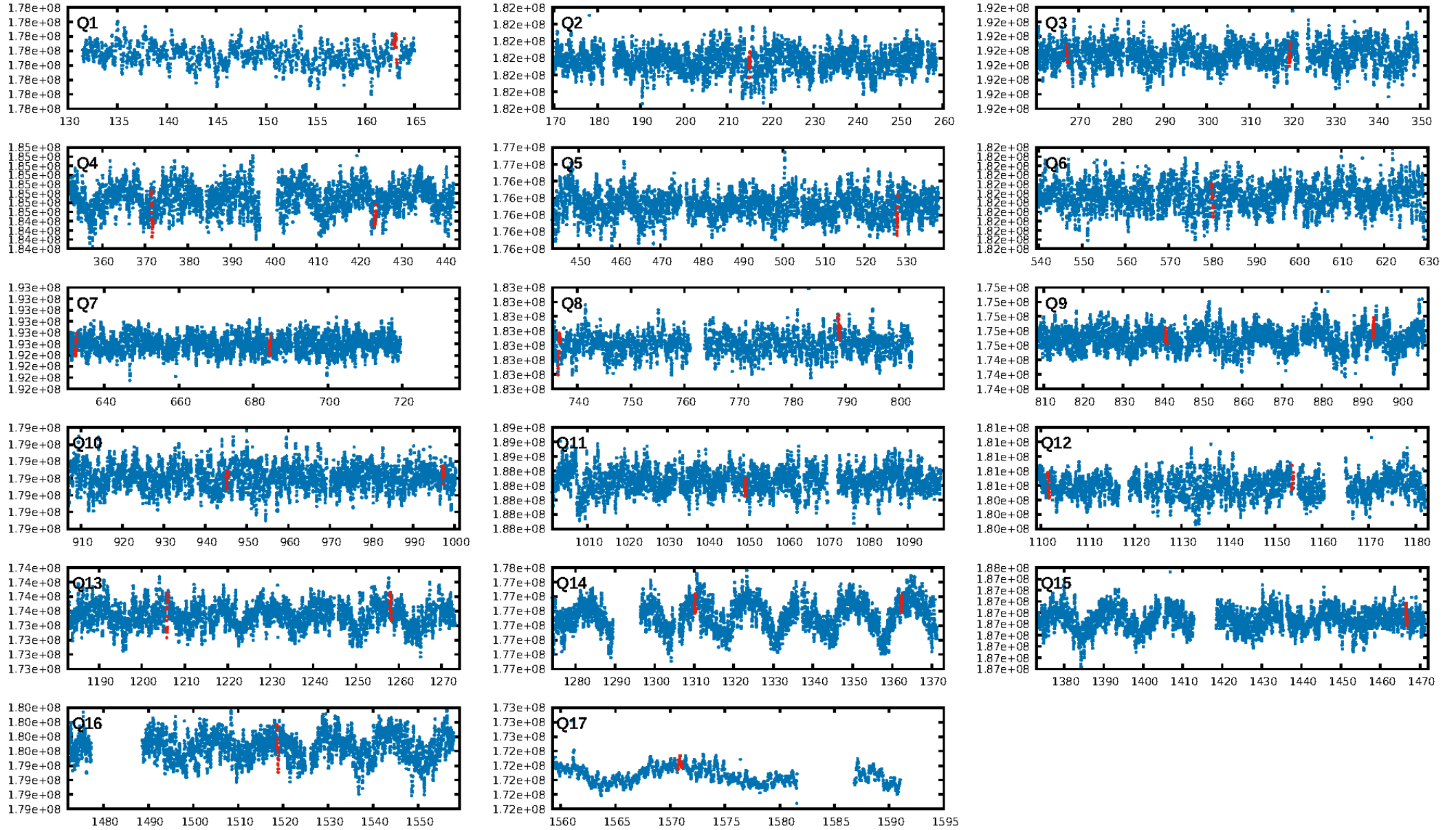
ShortPeriod-sig: 100.0% [173.56σ]
LongPeriod-sig: 100.0% [106.71σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [11/11]
GhostDiagnostic-chr: -0.284

Centroid-sig: 2.6%
Centroid-so: 0.260 arcsec [1.26σ]
OotOffset-rm: 0.158 arcsec [0.58σ]
KicOffset-rm: 0.195 arcsec [0.79σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 0.00 [0/17]

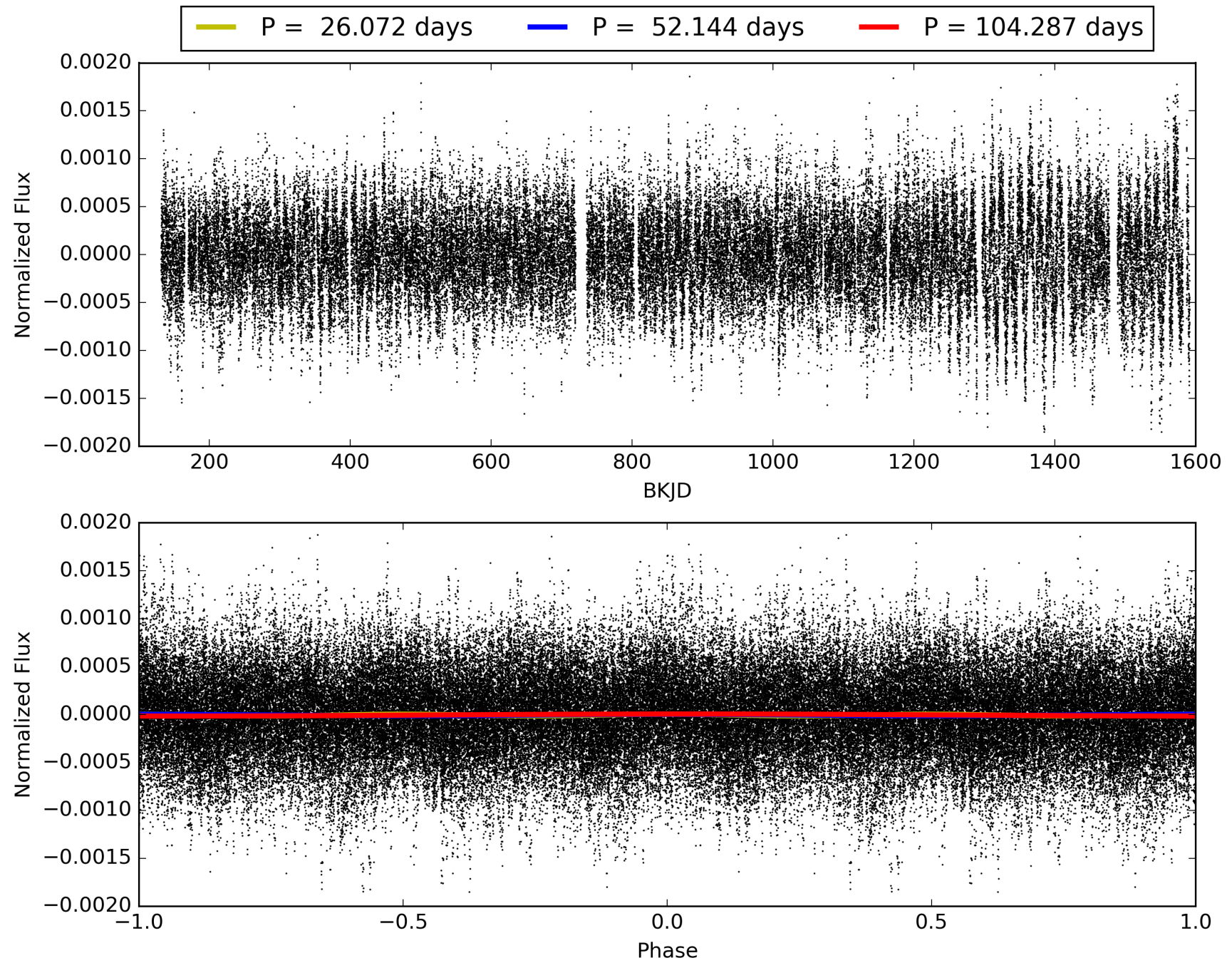
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:00:00 Z

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

TCE 008826317-10, PDC Light Curves

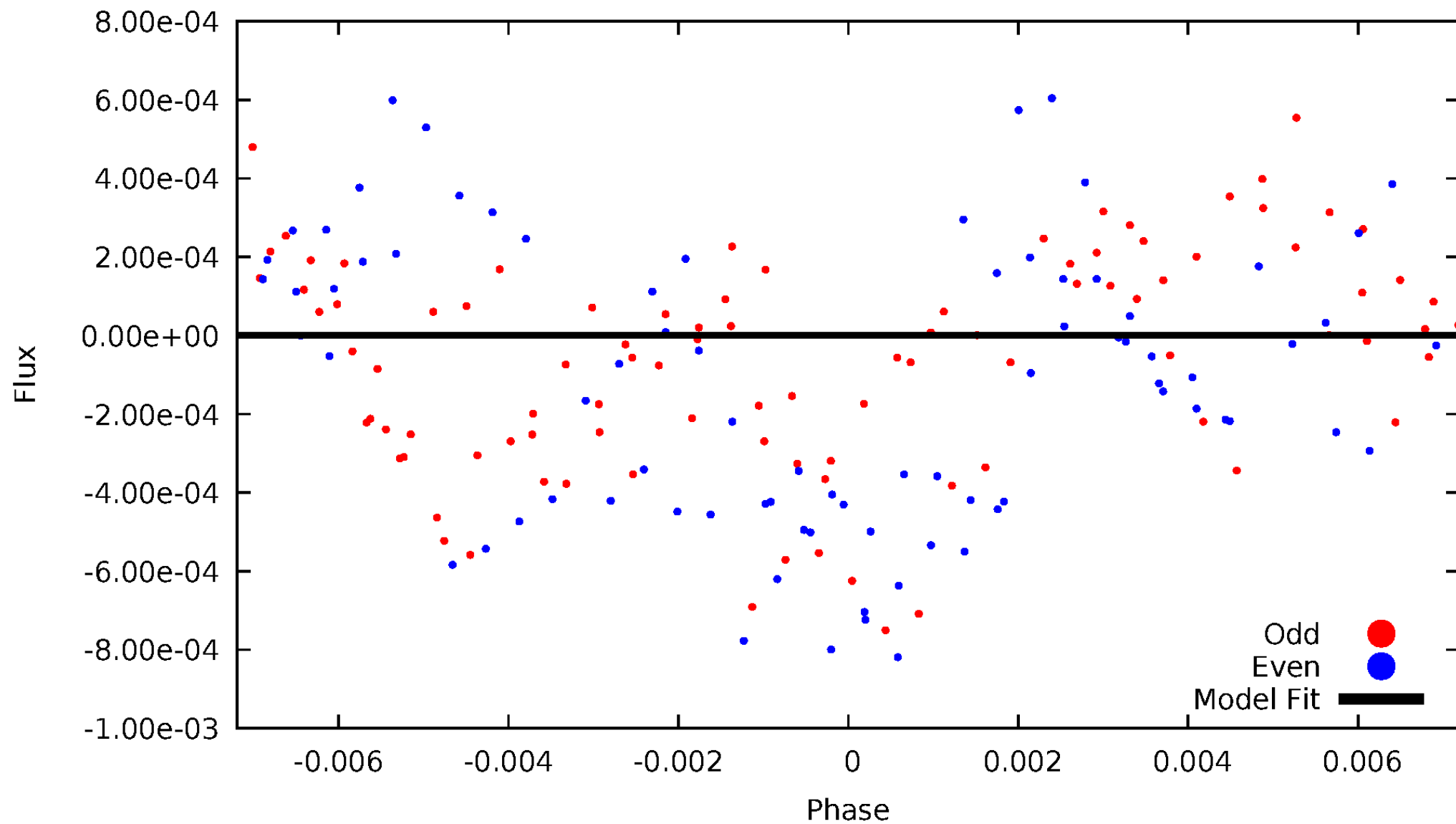


TCE 008826317-10



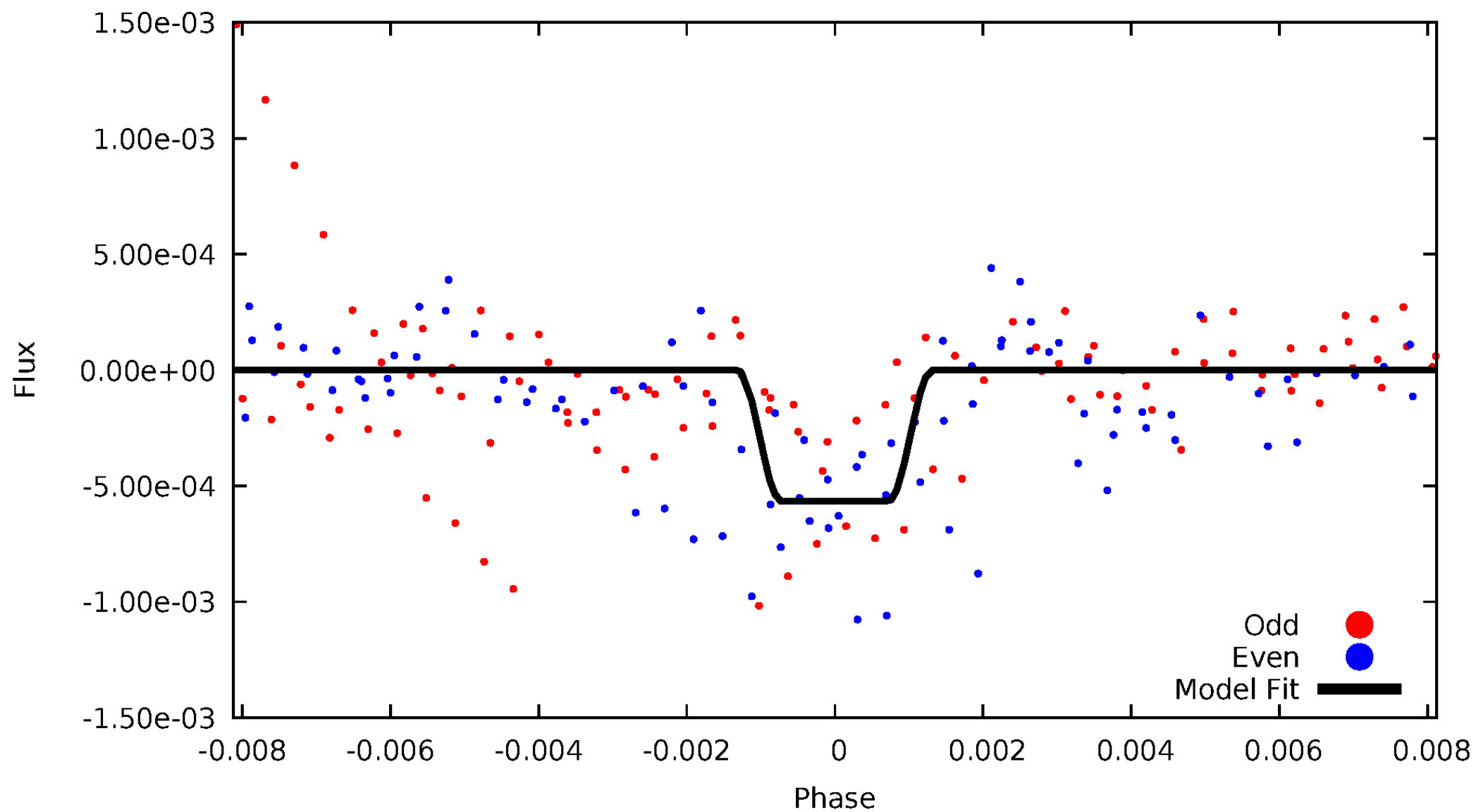
DV Odd/Even

TCE 008826317-10



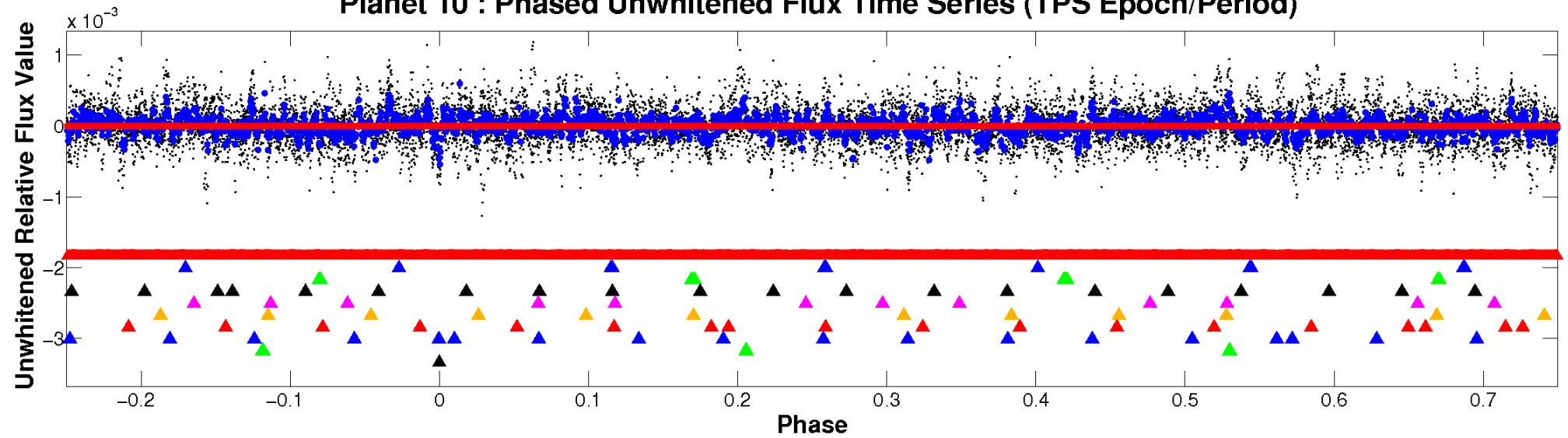
ALT Odd/Even

TCE 008826317-10

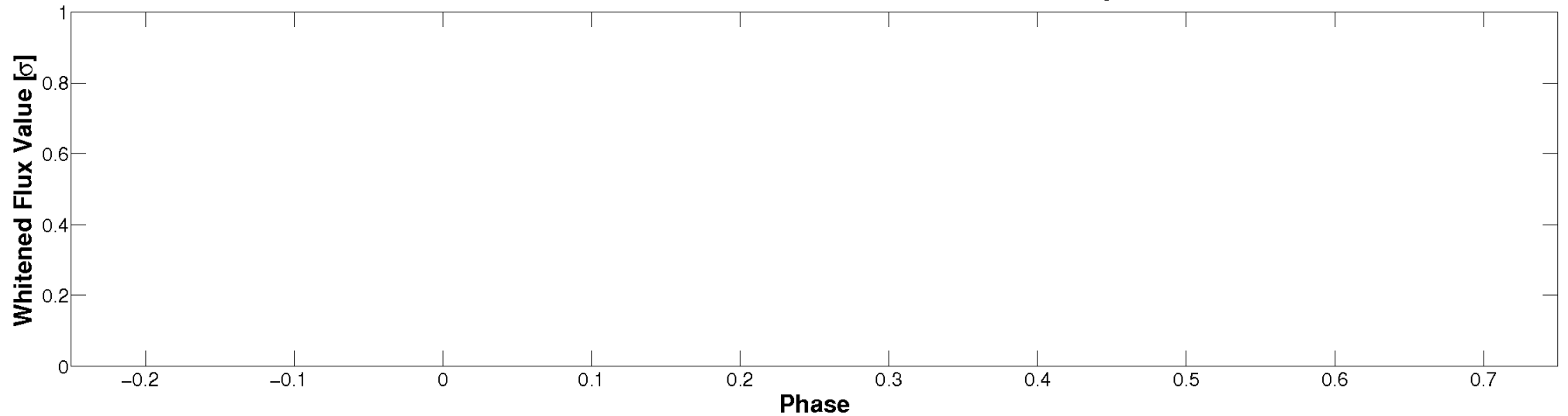


Non-Whitened Vs. Whitened Light Curve

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

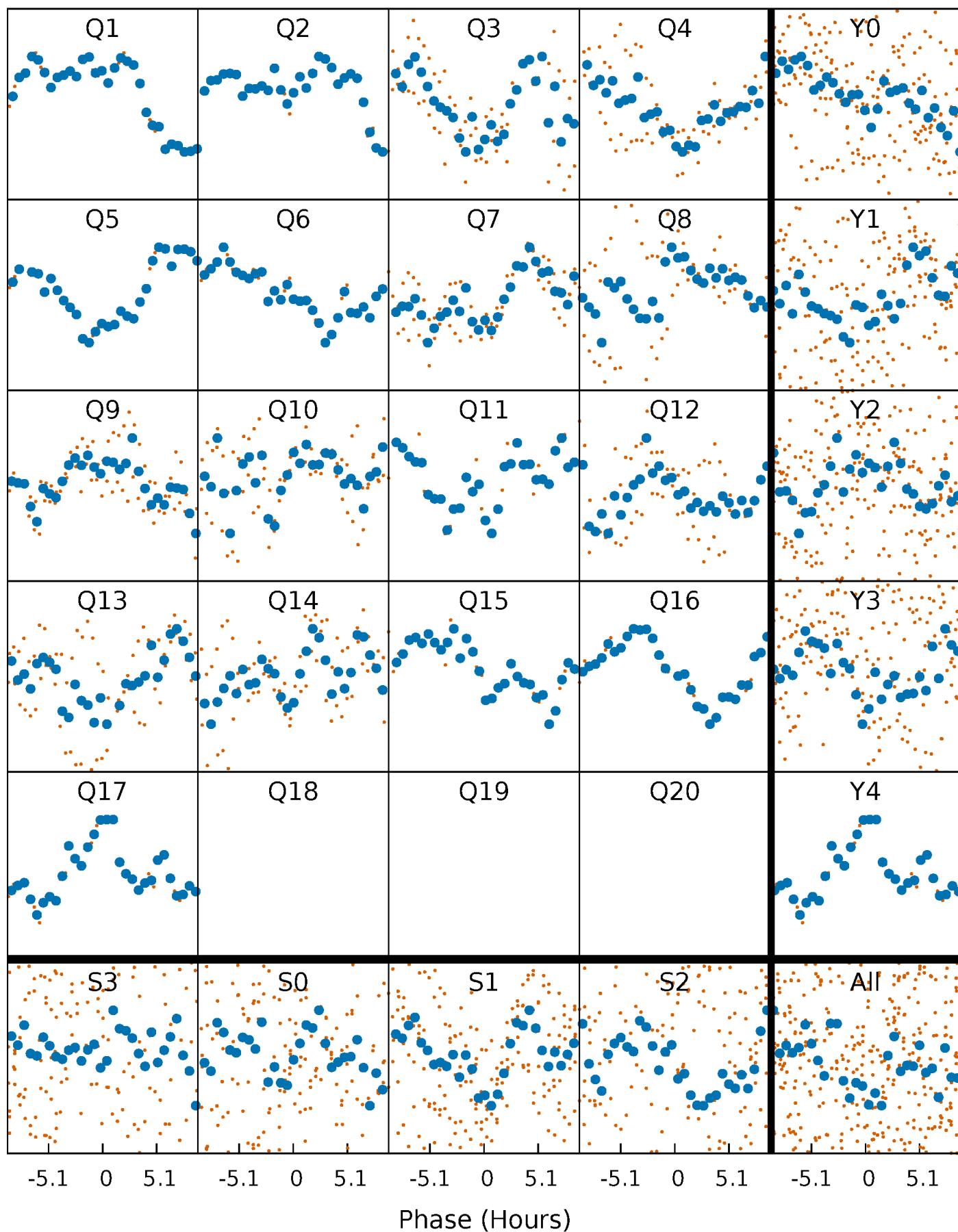


Planet 10 : Phased Whitened Flux Time Series (TPS Epoch/Period)



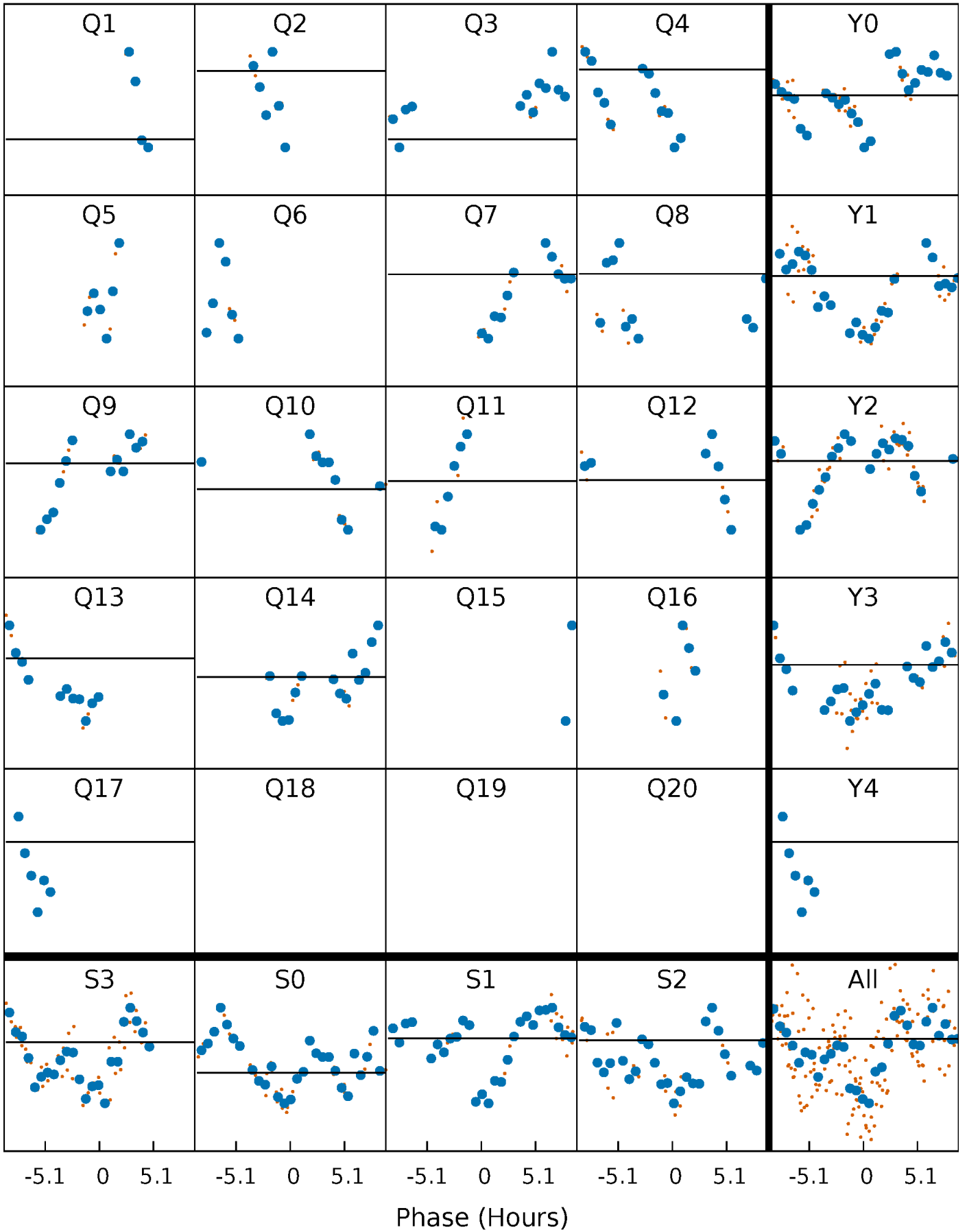
PDC Quarter-Phased Transit Curves

TCE 008826317-10 P= 52.143594 Days $T_0=163.019543$ (BKJD)



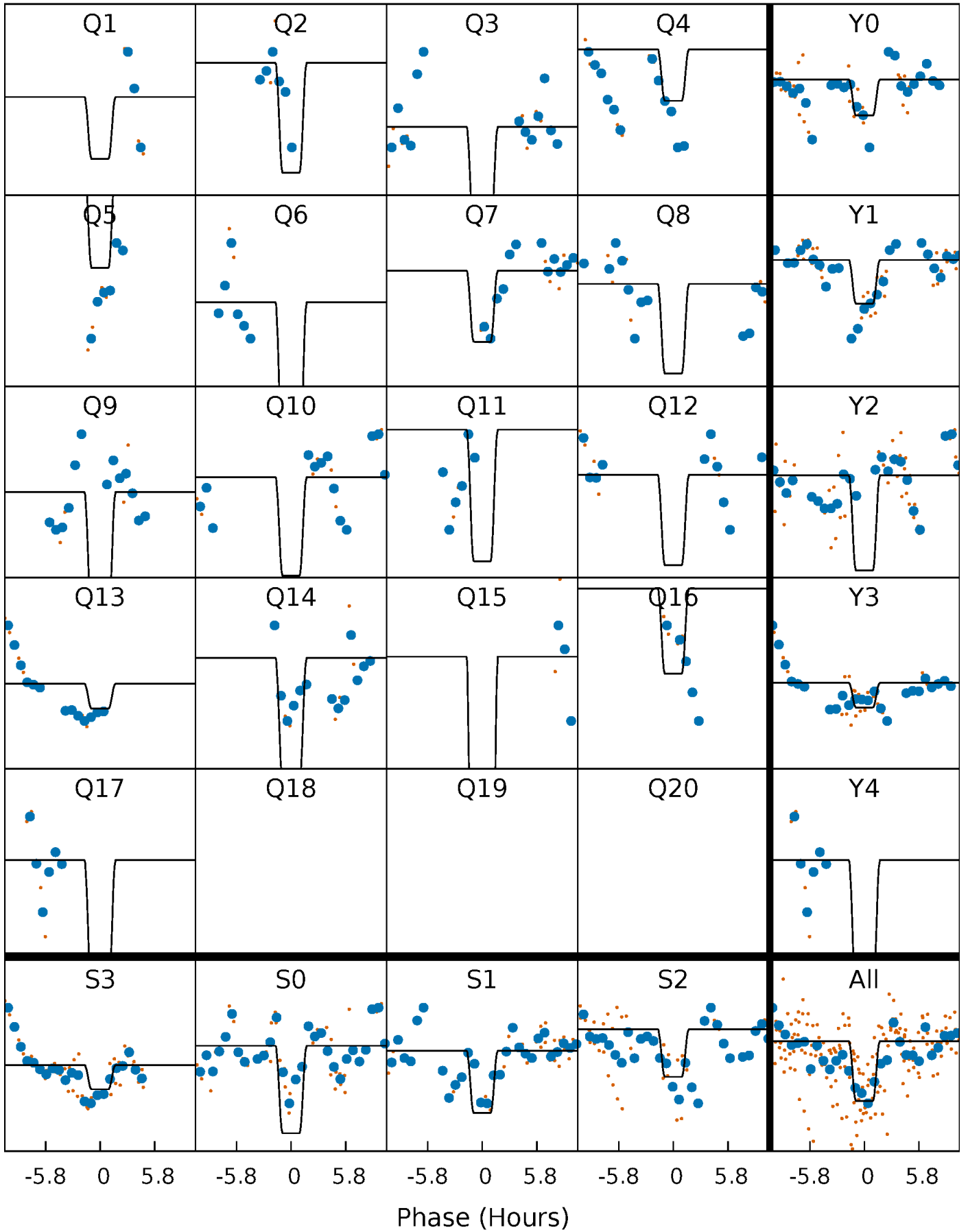
DV Quarter-Phased Transit Curves

TCE 008826317-10 P= 52.143594 Days $T_0=163.019543$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

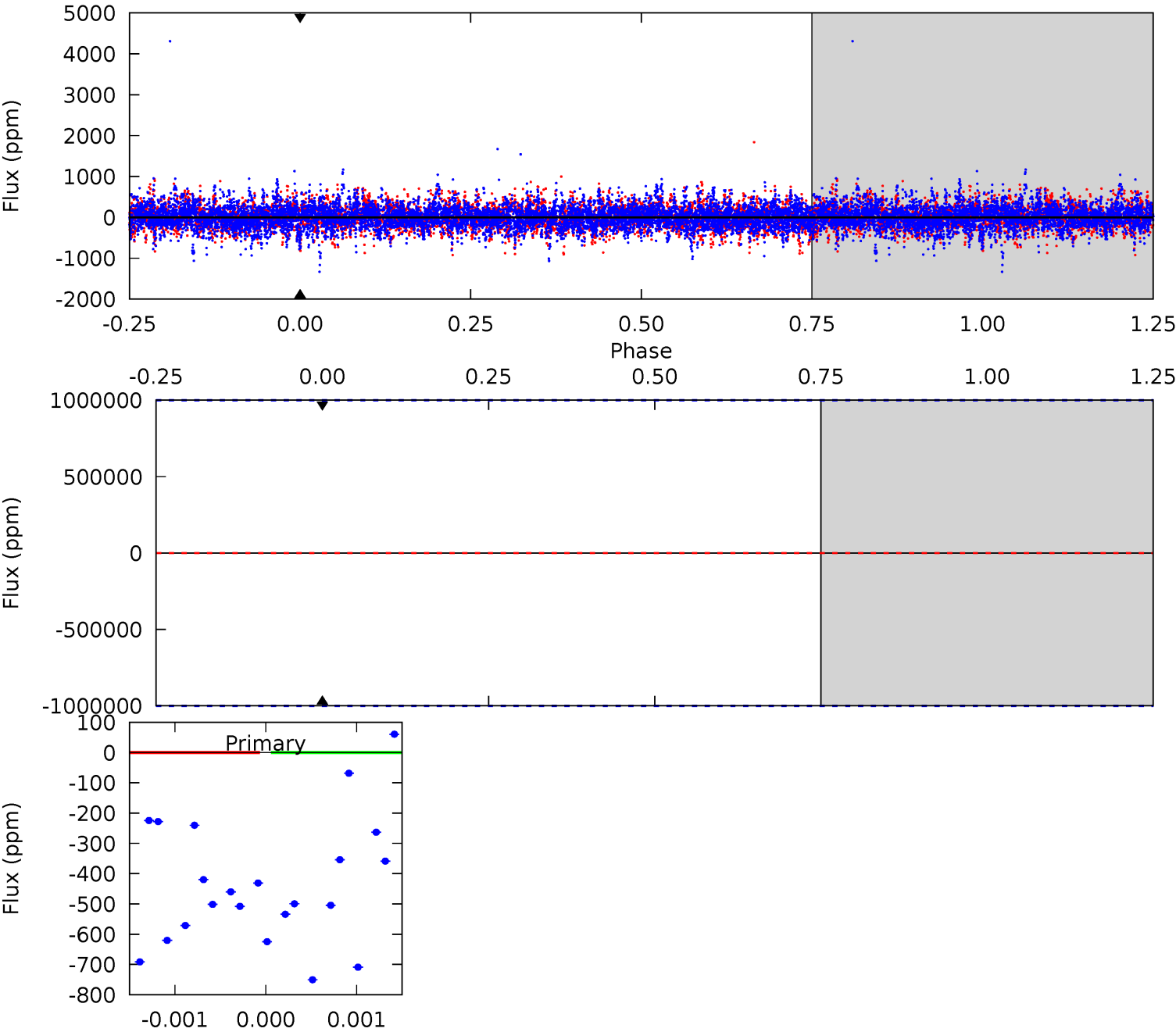
TCE 008826317-10 P= 52.143594 Days $T_0=163.014084$ (BKJD)



DV Model-Shift Uniqueness Test

008826317-10, P = 52.143594 Days, E = 110.875949 Days

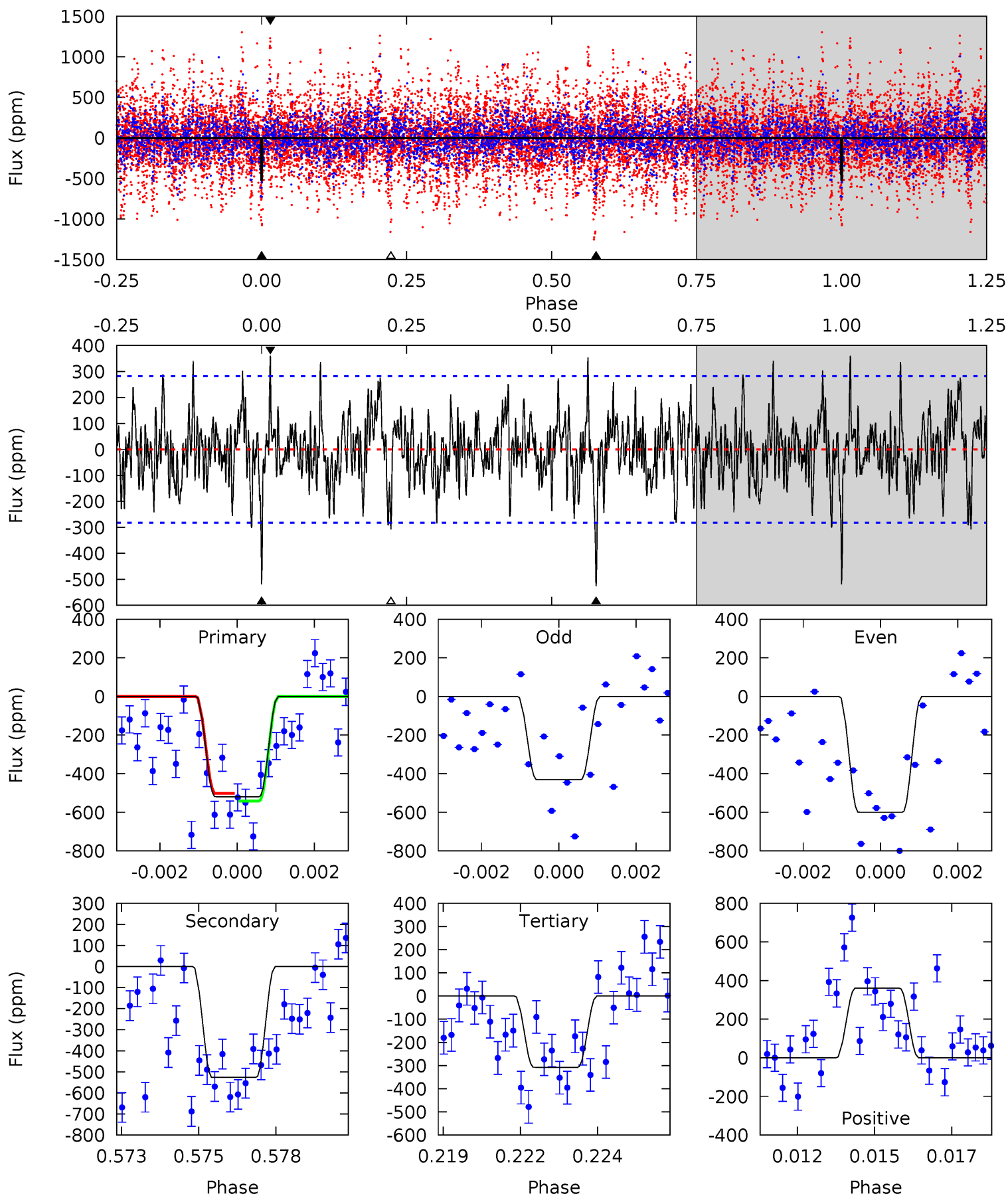
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008826317-10, $P = 52.143594$ Days, $E = 110.870490$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.74	9.87	5.77	6.77	5.29	3.02	1.99	3.97	2.97	4.10	3.11	1.57	1.33	0.41	0.37



Stellar Parameters For KIC 008826317

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7328^{+230}_{-307}	$4.035^{+0.209}_{-0.171}$	$-0.240^{+0.250}_{-0.350}$	$1.955^{+0.542}_{-0.596}$	$1.510^{+0.209}_{-0.279}$	$0.284^{+0.390}_{-0.122}$
	+3%/-4%	+5%/-4%	+104%/-146%	+28%/-30%	+14%/-18%	+137%/-43%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008826317-10 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$15.26^{+16.32}_{-10.20}$	1121^{+84}_{-90}	-4351^{+43169}_{-33200}	$-114.691^{+42598.568}_{-39087.081}$
Alt.	-527 ± 53	$15.86^{+16.82}_{-11.07}$	1121^{+96}_{-79}	4196^{+3065}_{-868}	108^{+1089}_{-82}

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

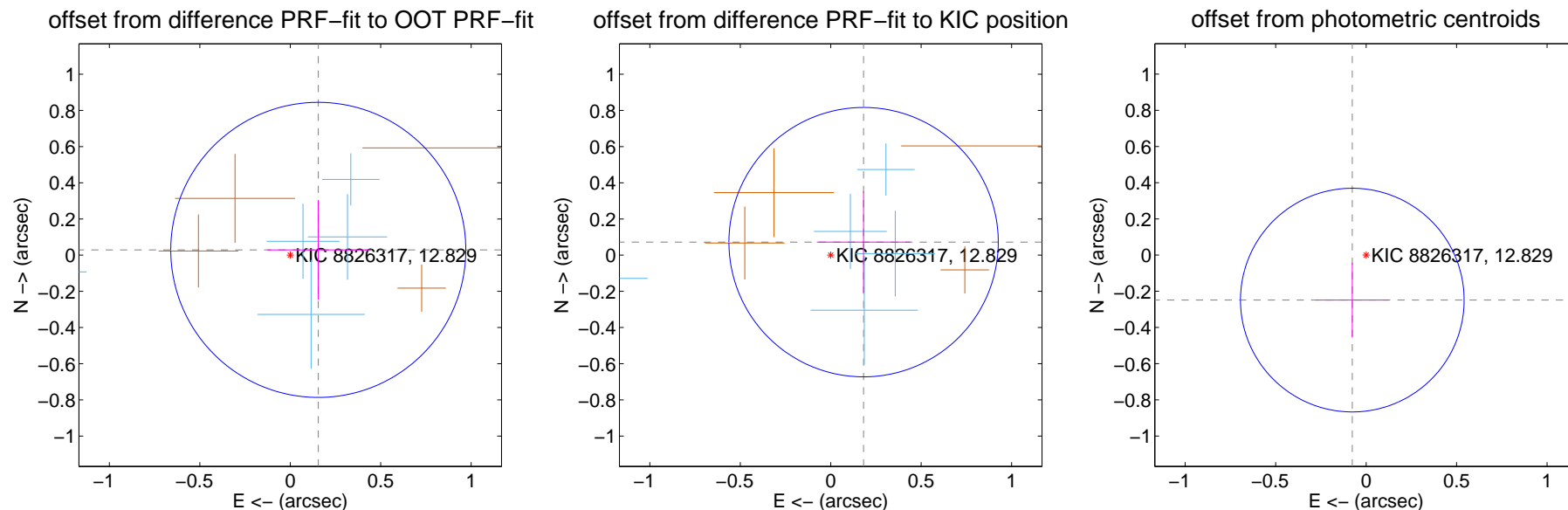
DV Centroid Data

Supplemental centroid analysis for 008826317-10. Kepler magnitude: 12.83. Transit SNR -1.00

There are 8 quarters with good PRF difference image offsets

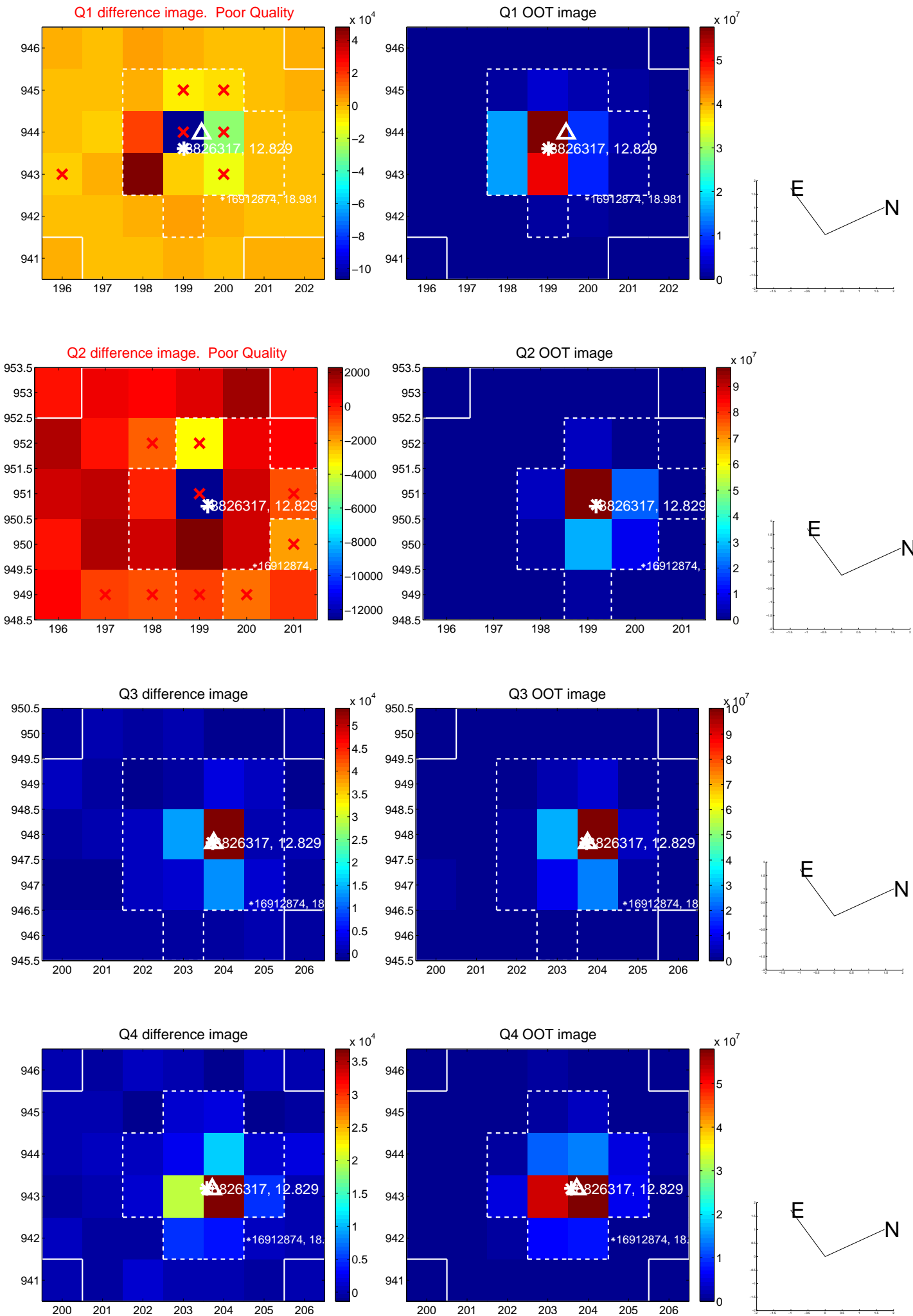
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.158 ± 0.272	0.58	-0.155 ± 0.283	0.029 ± 0.275
PRF-fit source offset from KIC position	0.195 ± 0.248	0.79	-0.182 ± 0.258	0.072 ± 0.281
photometric centroid source offset	0.26 ± 0.21	1.26	0.08 ± 0.20	-0.25 ± 0.21

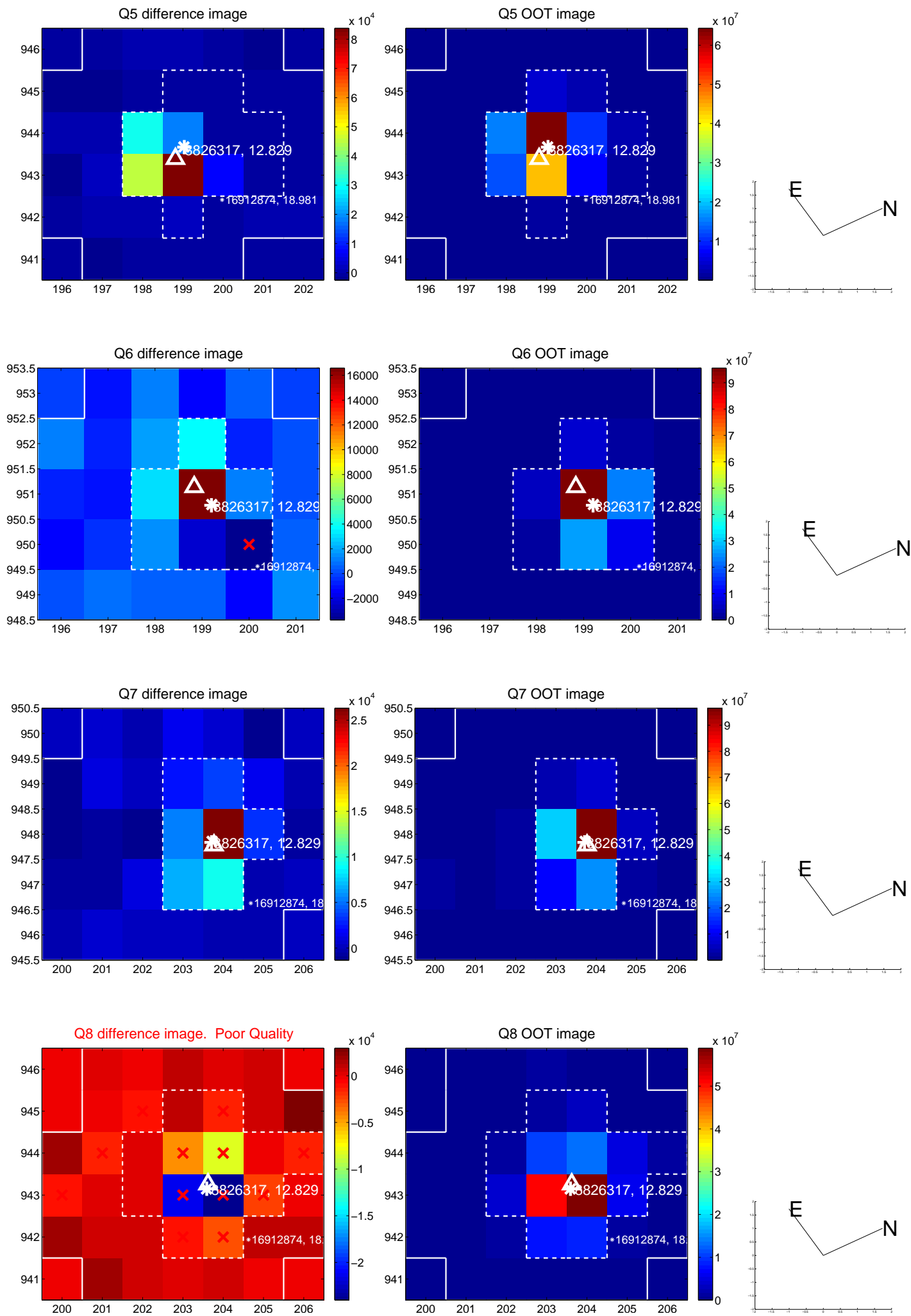


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

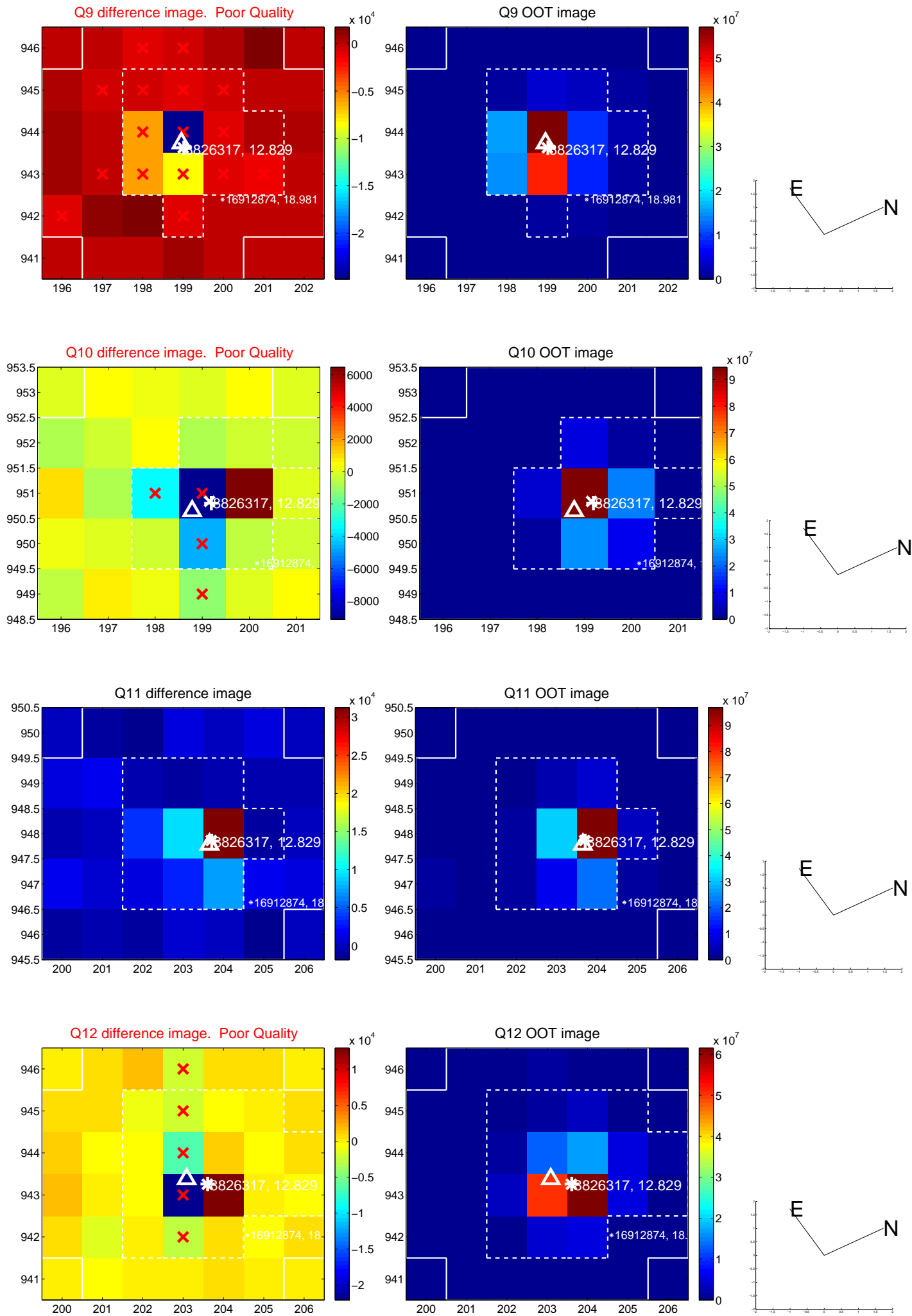
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



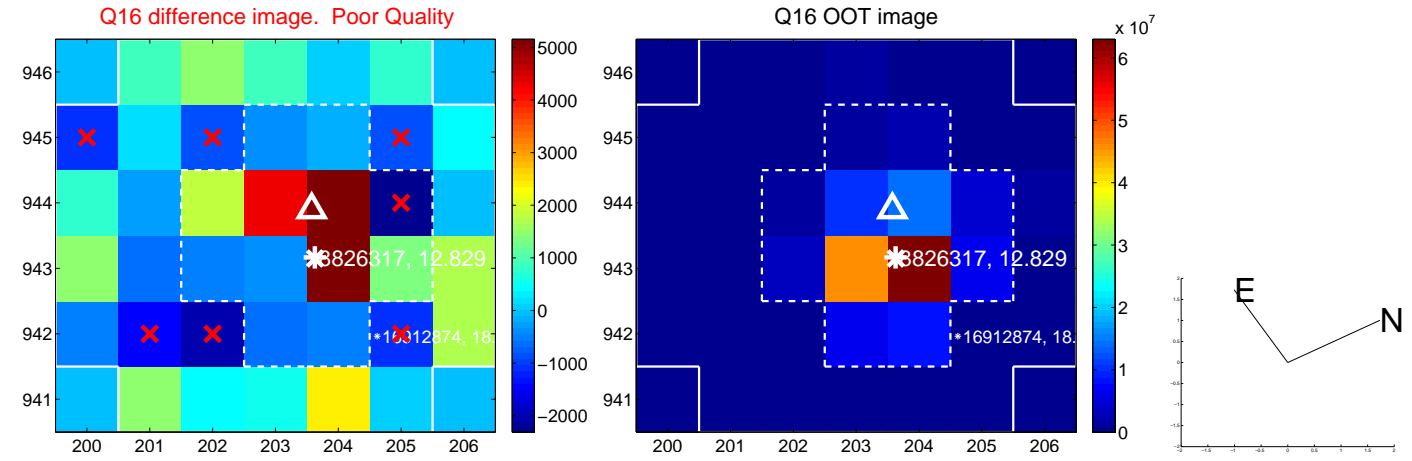
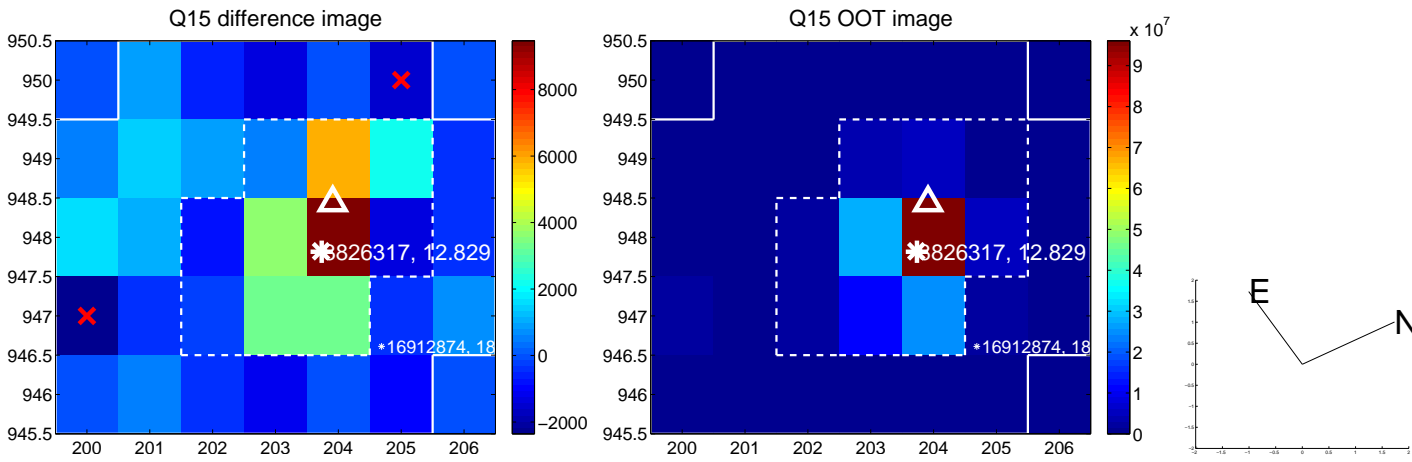
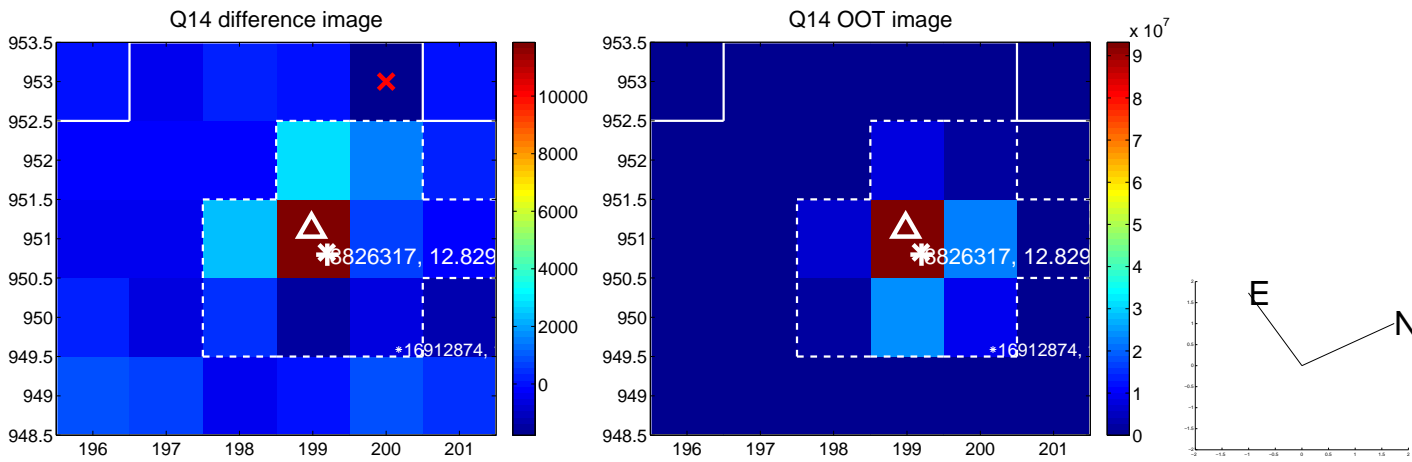
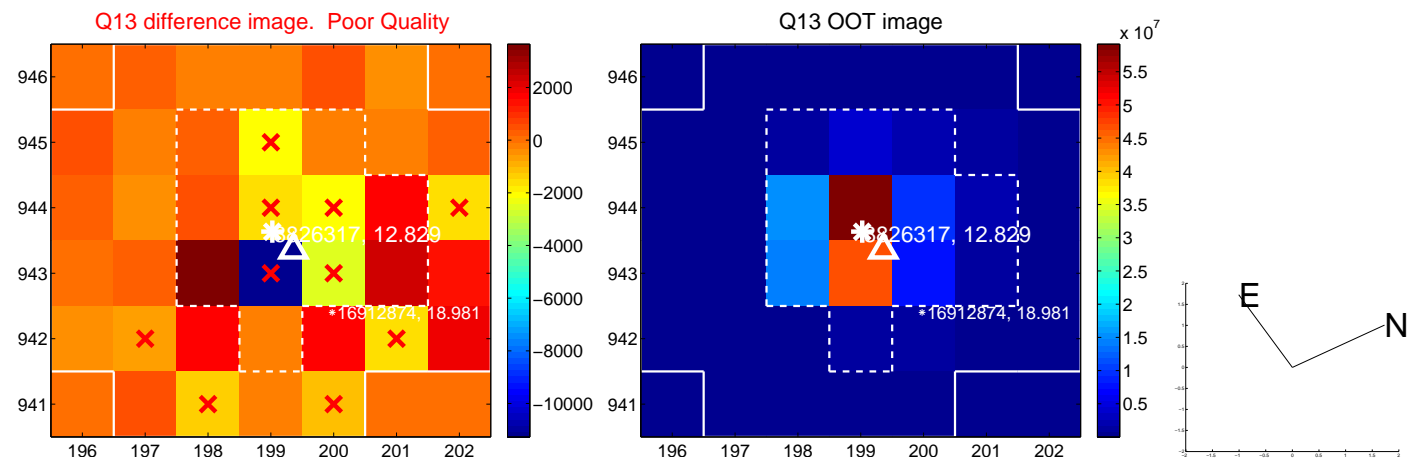
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



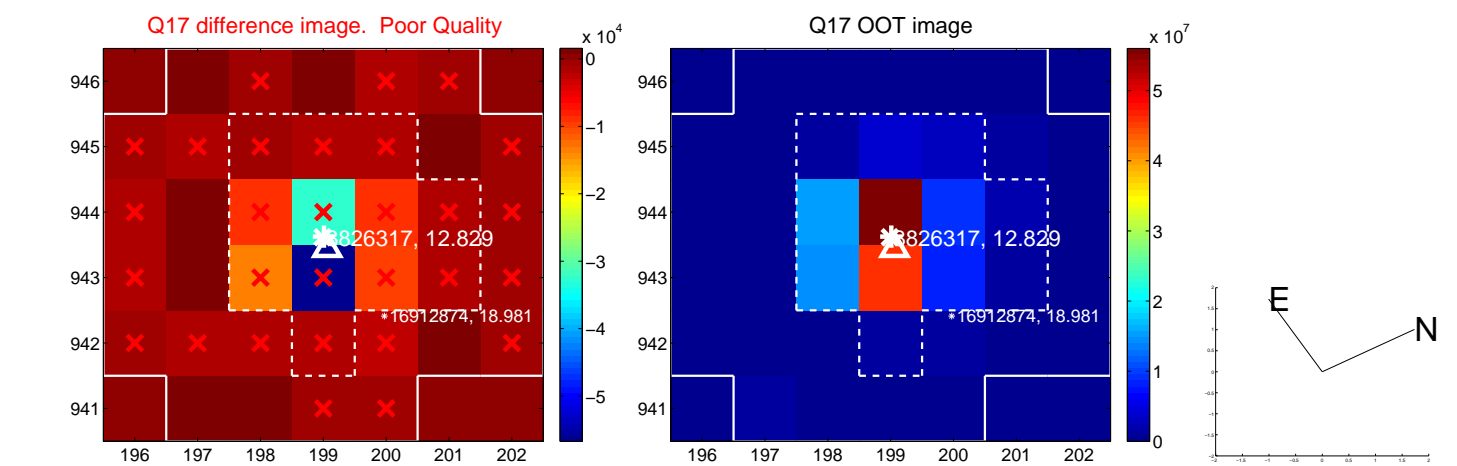
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



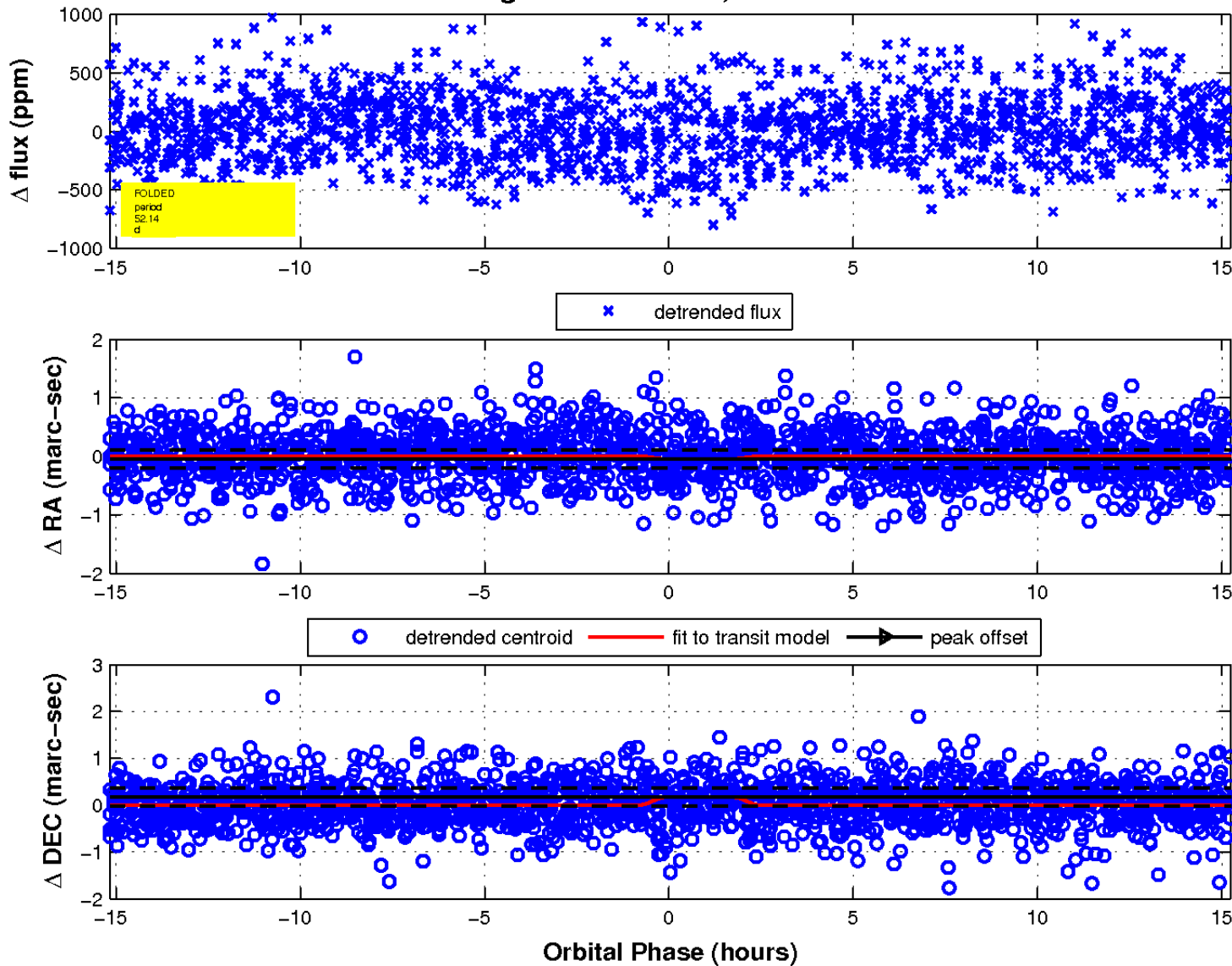
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 10 of 10



UKIRT Image

Declination

