

KIC 008164262

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})
008164262-01	OBS	1810.01	87.455497	136.245745	1550.7	16.981	75.8	84.6	2.11	7700	15.29	66.39
008164262-02	OBS	No	2.998115	133.019634	5.3	0.643	10.9	0.3	2.11	7700	0.52	5961.91
008164262-03	OBS	No	2.989781	133.444681	30.6	6.094	10.3	9.6	2.11	7700	1.33	5984.07
008164262-04	OBS	No	2.989302	133.043204	38.1	20.004	12.4	14.8	2.11	7700	1.75	5985.35
008164262-06	OBS	No	60.077771	171.669520	105.0	8.993	9.6	6.3	2.11	7700	2.44	109.54
008164262-07	OBS	No	78.631463	205.944685	272.5	1.760	7.9	8.2	2.11	7700	3.86	76.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008164262-01	OBS	FP	0.00	1	0	0	0	LPP_ALT—MOD_NONUNIQ_ALT
008164262-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008164262-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008164262-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008164262-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008164262-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

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

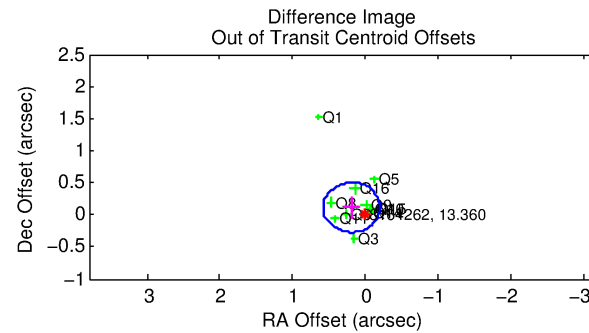
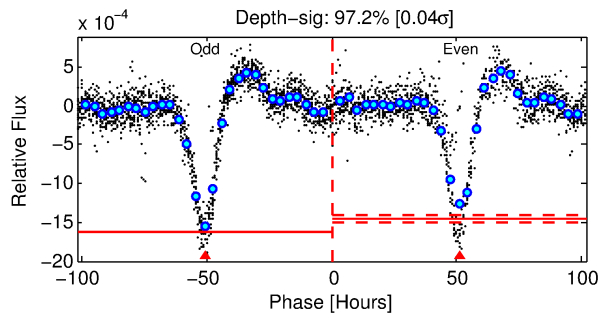
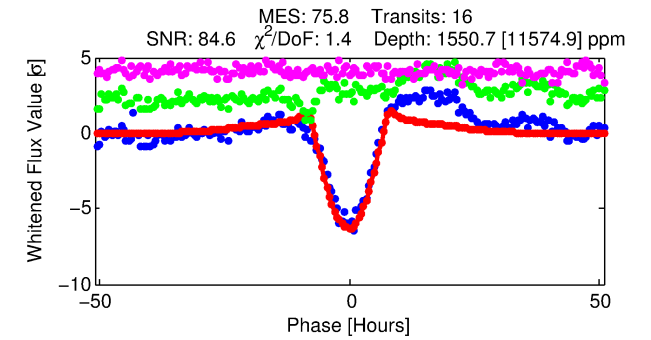
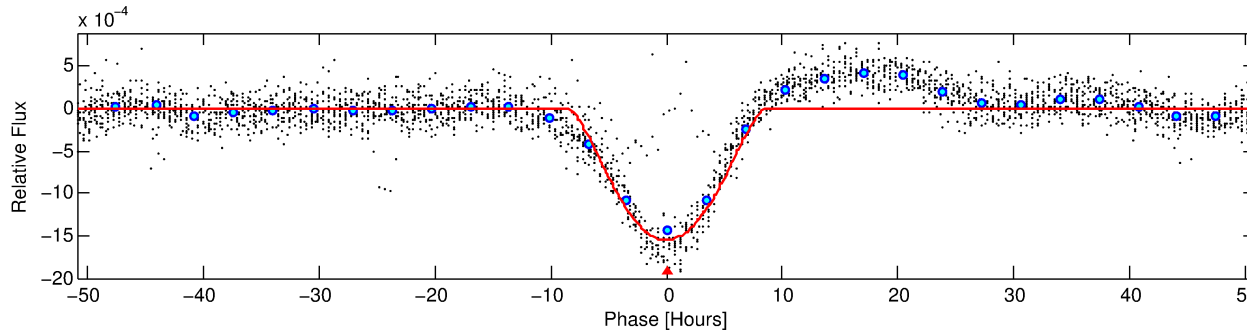
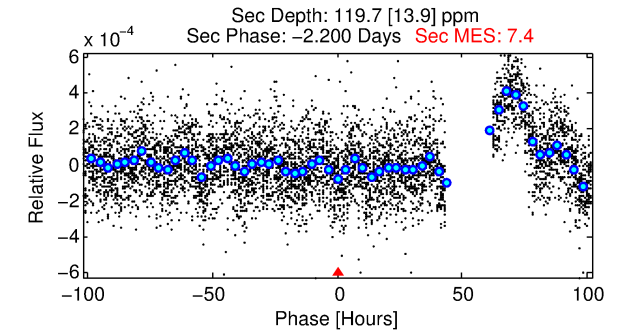
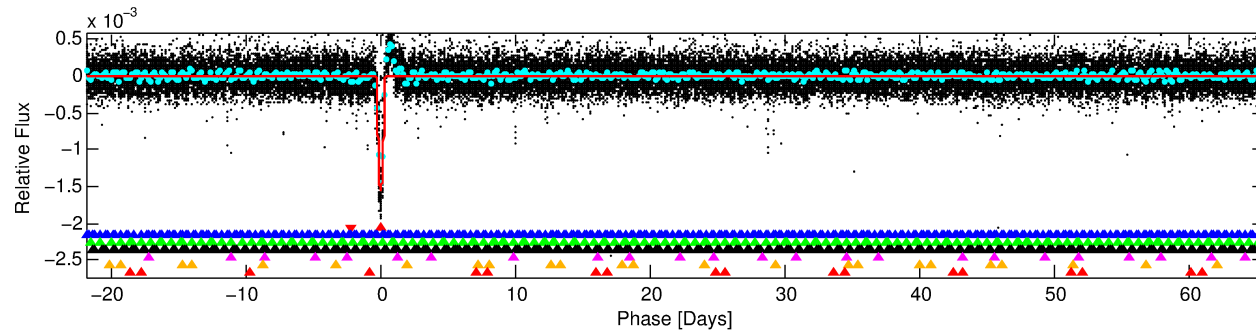
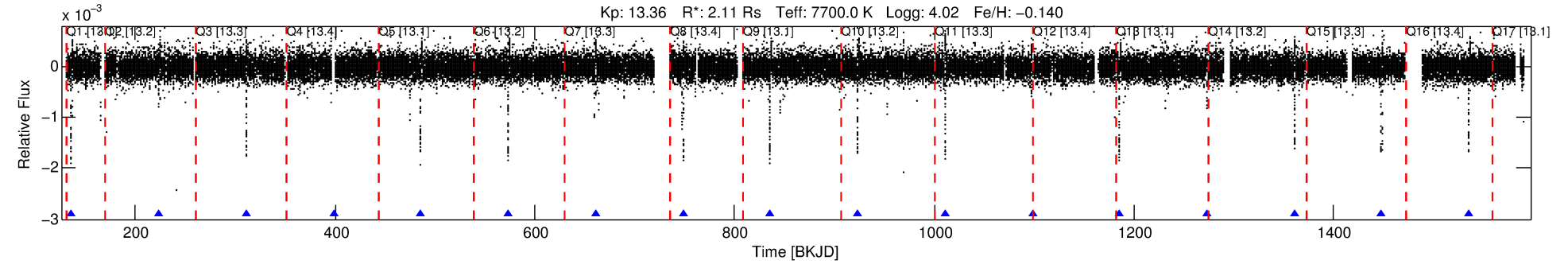
Ephemeris Match Information For 008164262-01

No Significant Match Found

DV One-Page Summary

KIC: 8164262 Candidate: 1 of 7 Period: 87.455 d

KOI: K01810.01 Corr: 0.902



DV Fit Results:

Period = 87.45550 [0.00050] d
Epoch = 136.2457 [0.0048] BKJD
Rp/R* = 0.0664 [0.0253]
a/R* = 14.61 [1.28]
b = 1.00 [0.30]
Seff = 66.39 [25.55]
Teq = 728 [70] K
Rp = 15.29 [7.17] Re
a = 0.4598 [0.1081] AU
Ag = 59.55 [50.35] [1.16σ]
Teffp = 3126 [616] K [3.87σ]

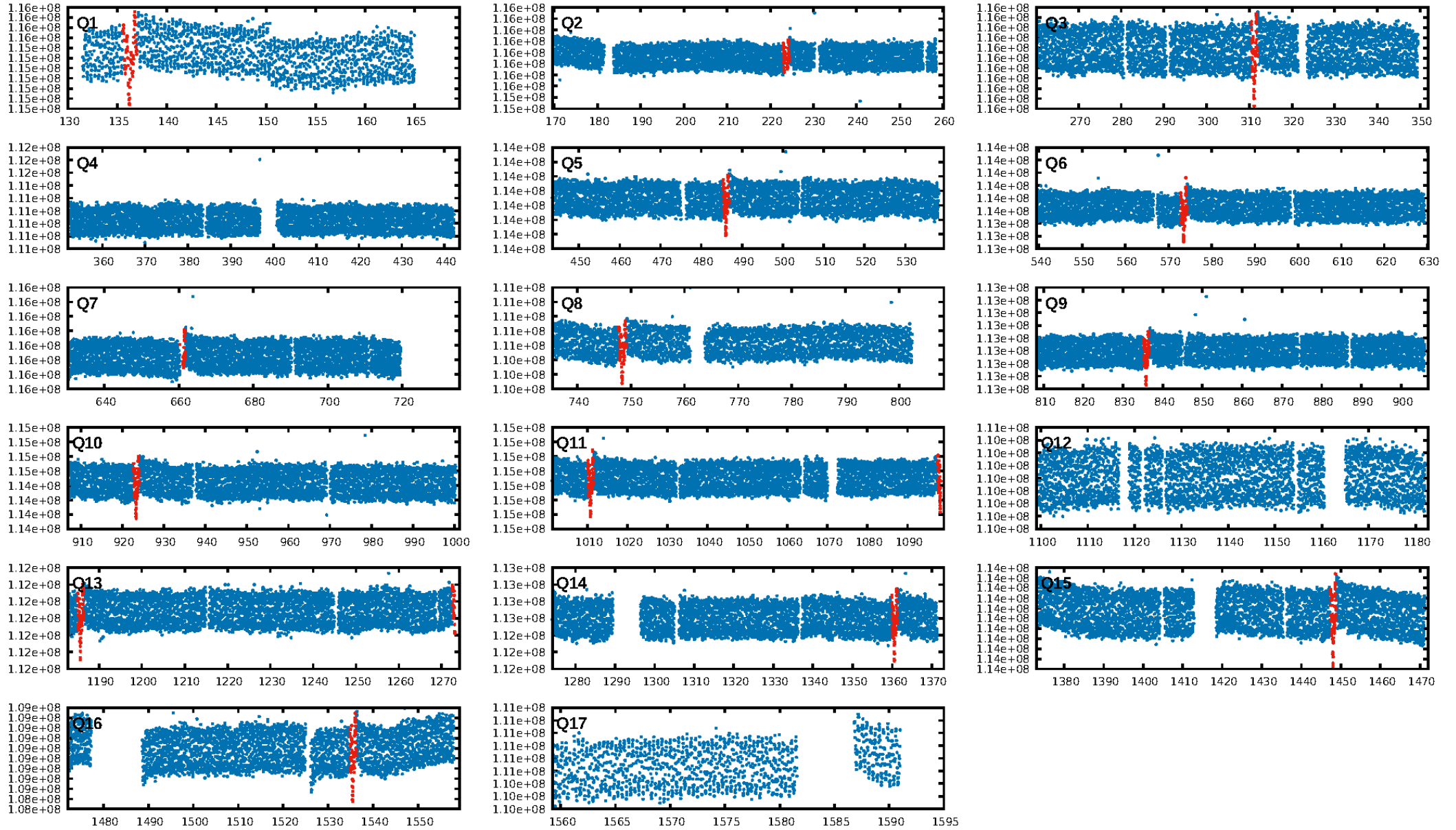
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [12.41σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: 7.265
Centroid-sig: 23.8%
Centroid-so: 0.148 arcsec [1.55σ]
OotOffset-rm: 0.223 arcsec [1.72σ]
KicOffset-rm: 0.129 arcsec [1.04σ]
OotOffset-st: 3/3/2/3 [11]
KicOffset-st: 3/3/2/3 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 0.00 [0/11]

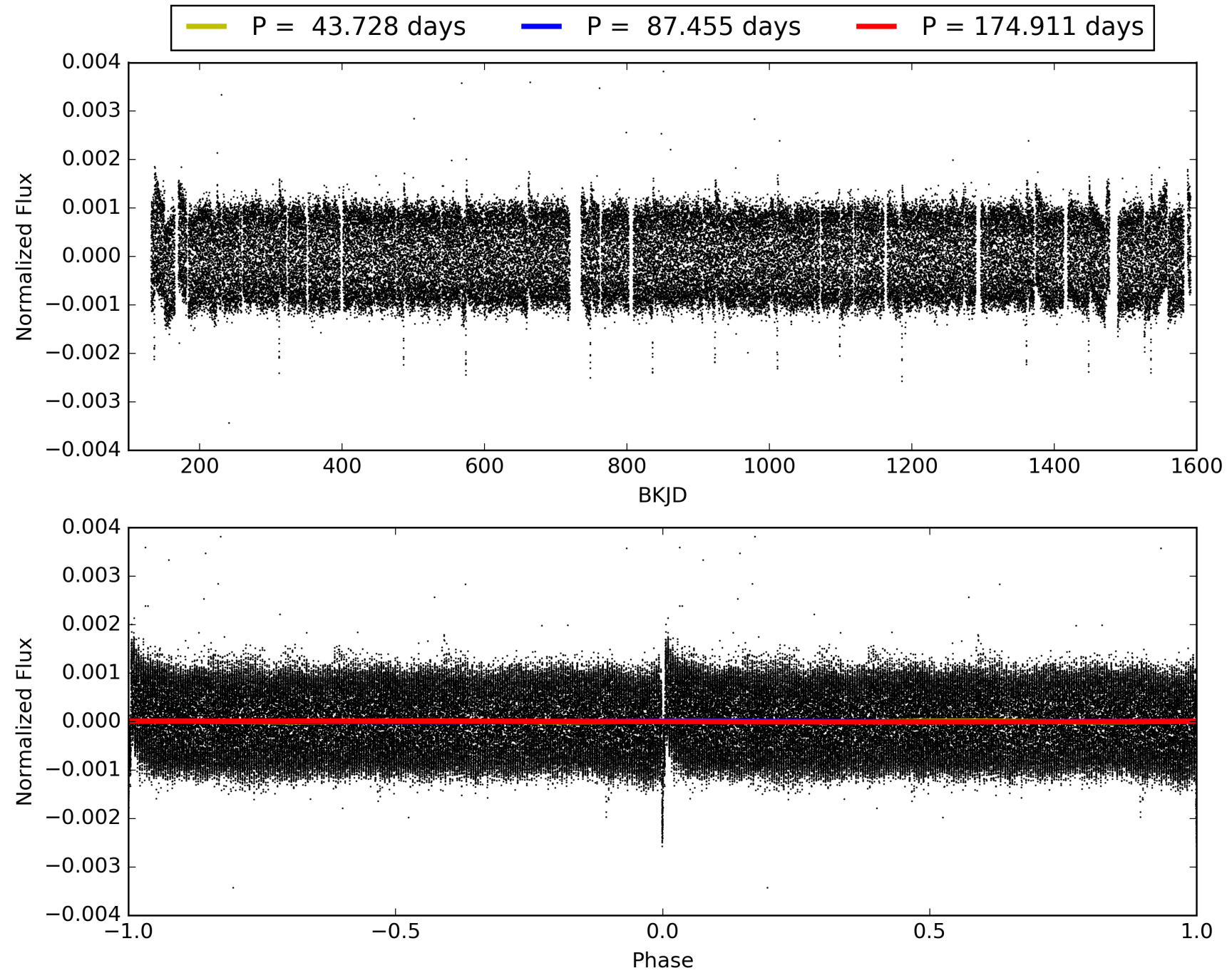
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:25:54 Z

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

TCE 008164262-01, PDC Light Curves

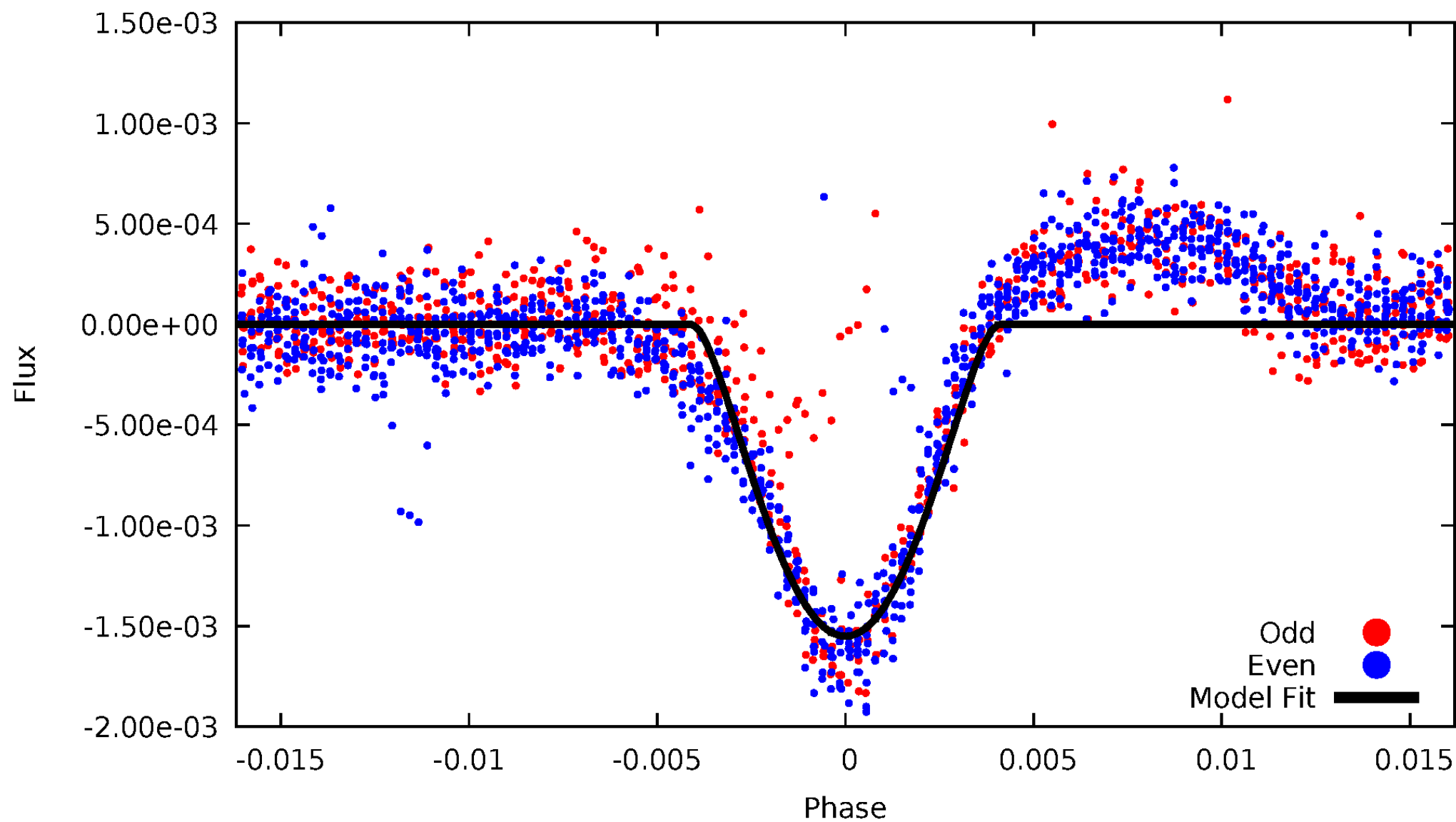


TCE 008164262-01



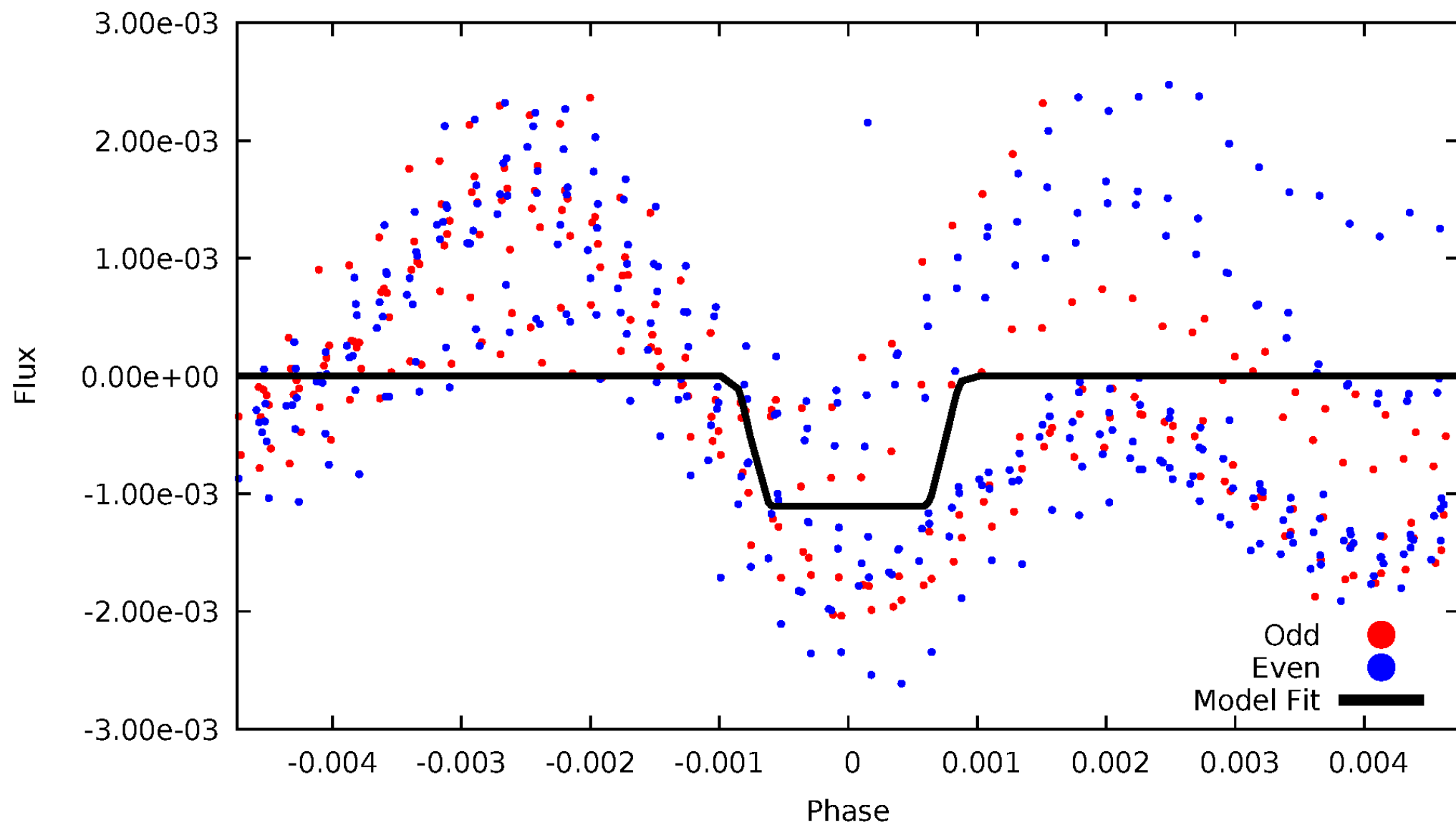
DV Odd/Even

TCE 008164262-01



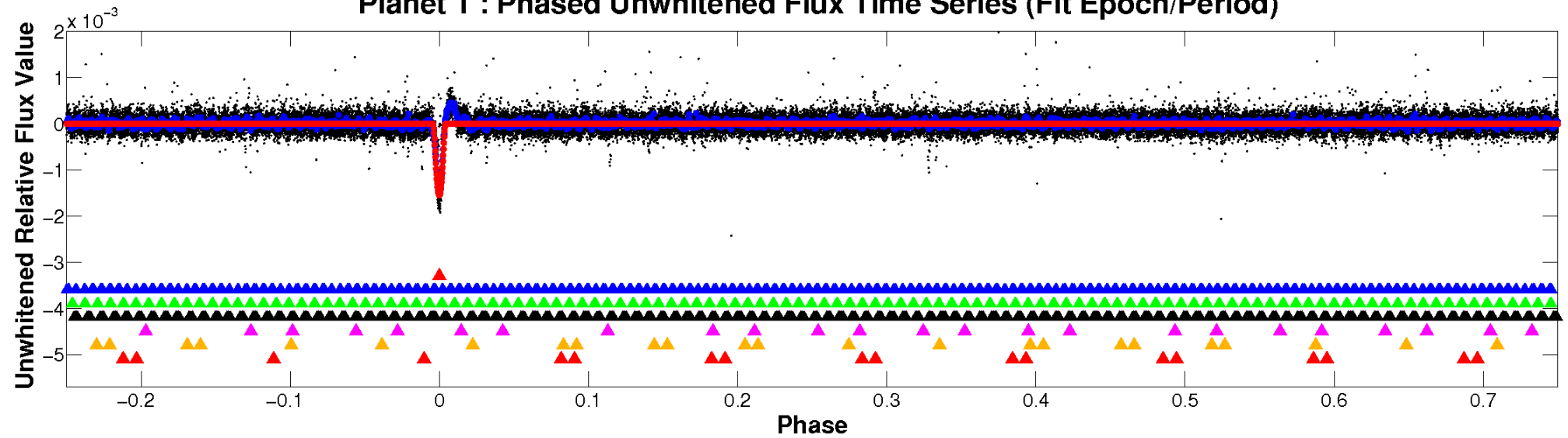
ALT Odd/Even

TCE 008164262-01

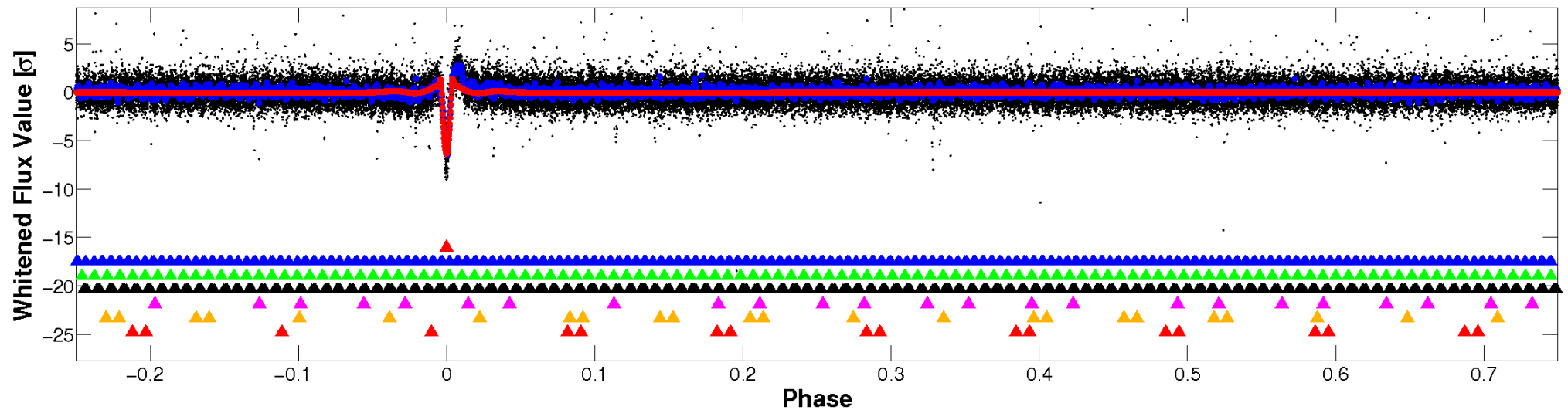


Non-Whitened Vs. Whitened Light Curve

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

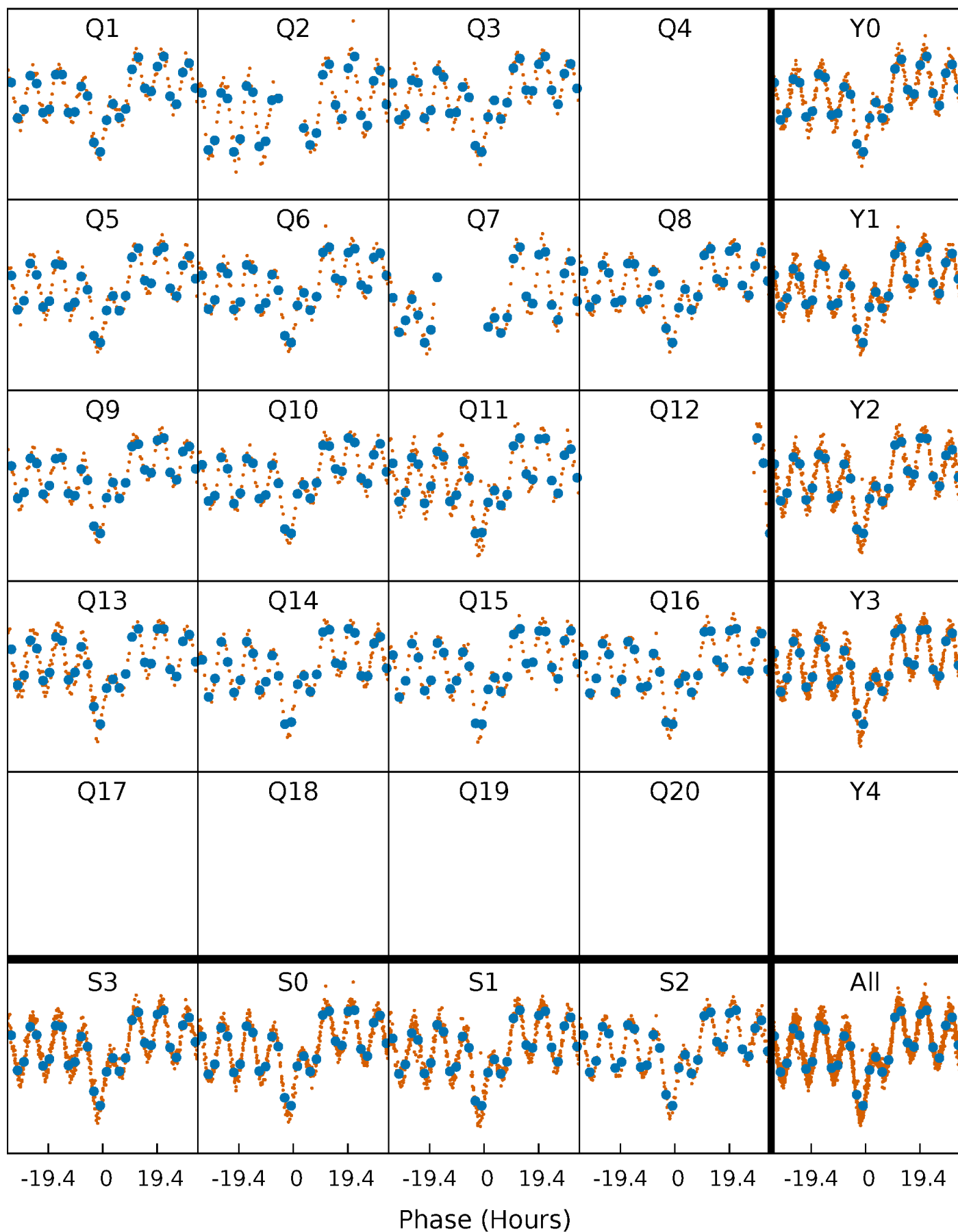


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



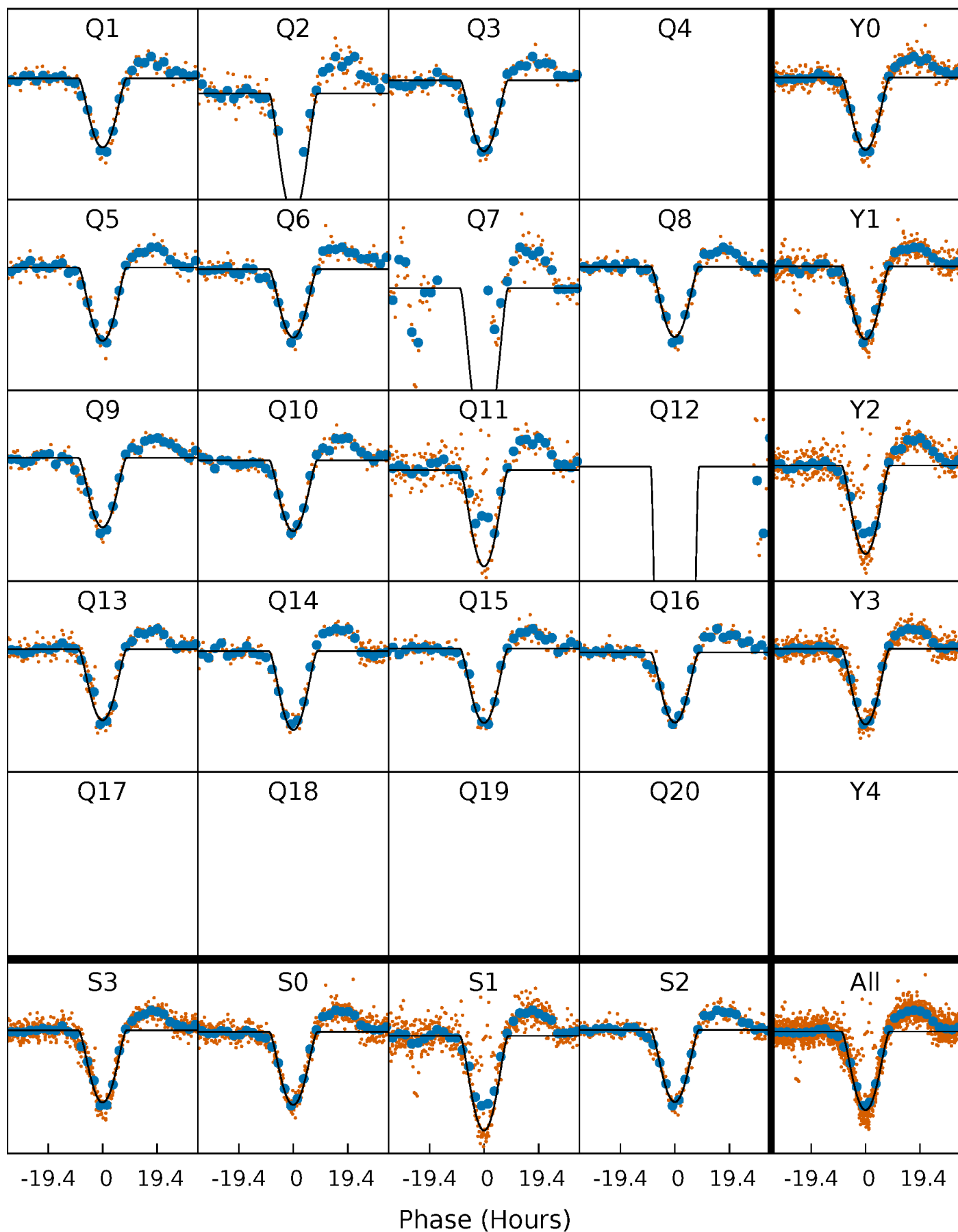
PDC Quarter-Phased Transit Curves

TCE 008164262-01 P= 87.455497 Days $T_0=136.245745$ (BKJD)



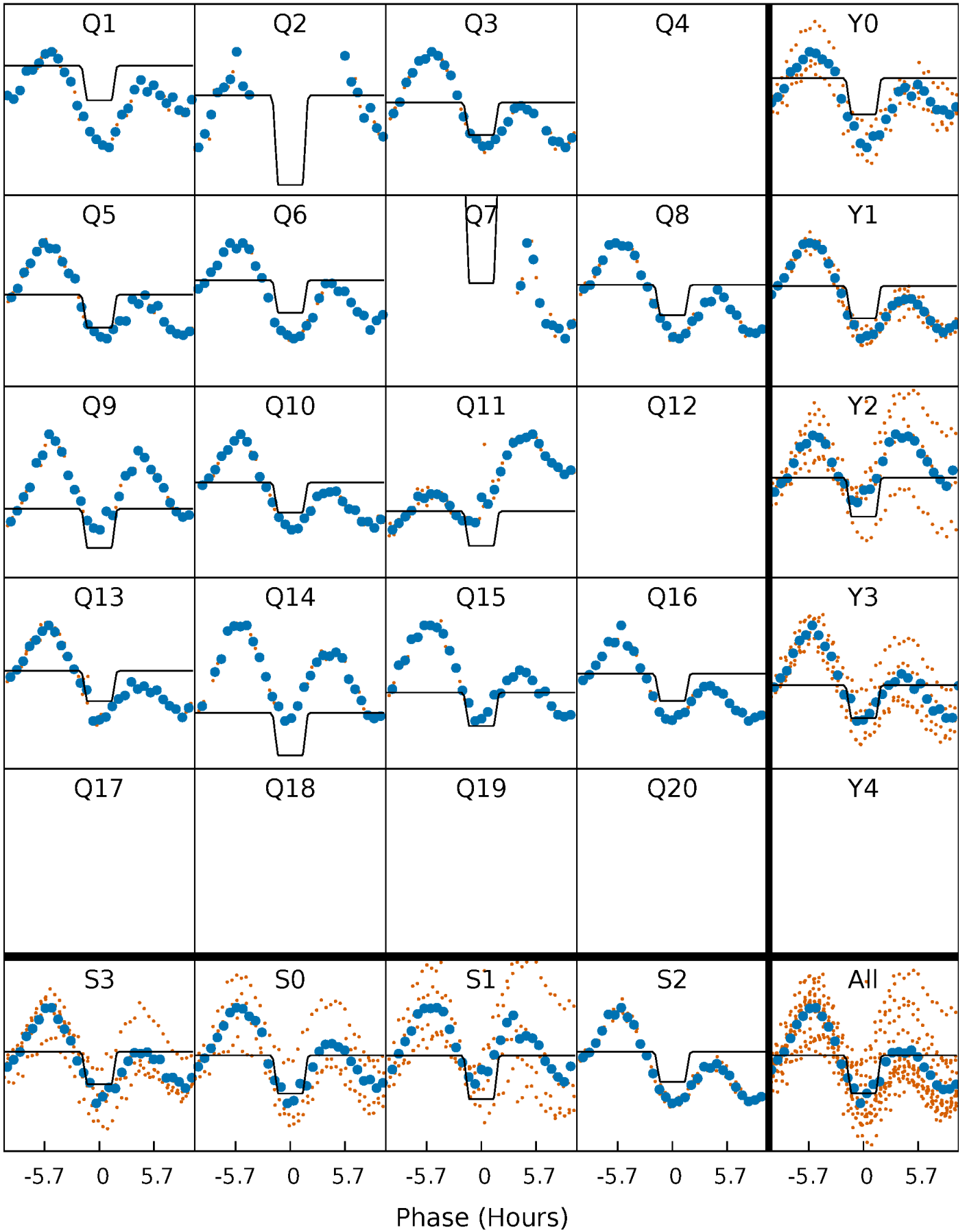
DV Quarter-Phased Transit Curves

TCE 008164262-01 P= 87.455497 Days $T_0=136.245745$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

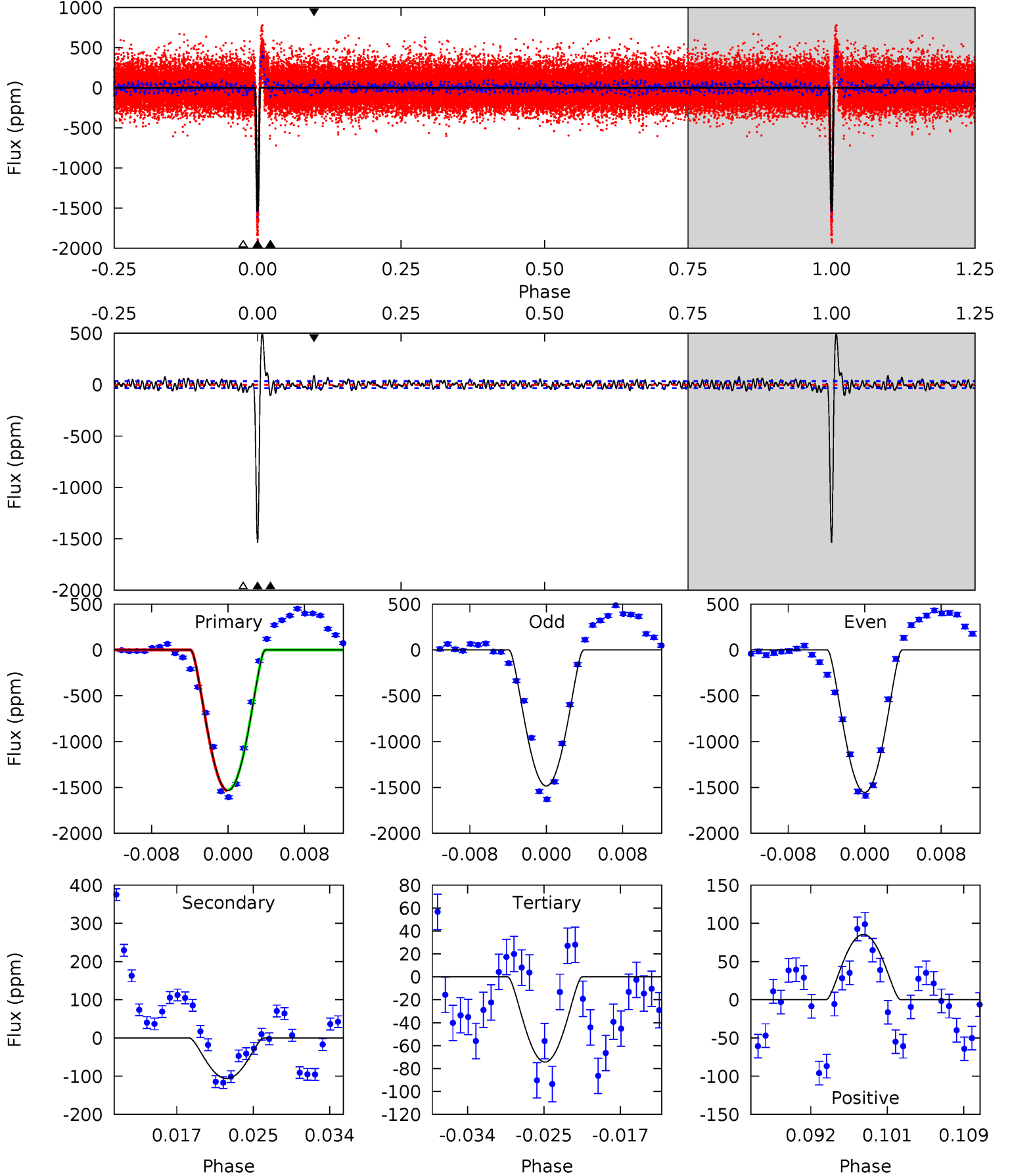
TCE 008164262-01 P= 87.456139 Days $T_0=136.176208$ (BKJD)



DV Model-Shift Uniqueness Test

008164262-01, P = 87.455497 Days, E = 48.790248 Days

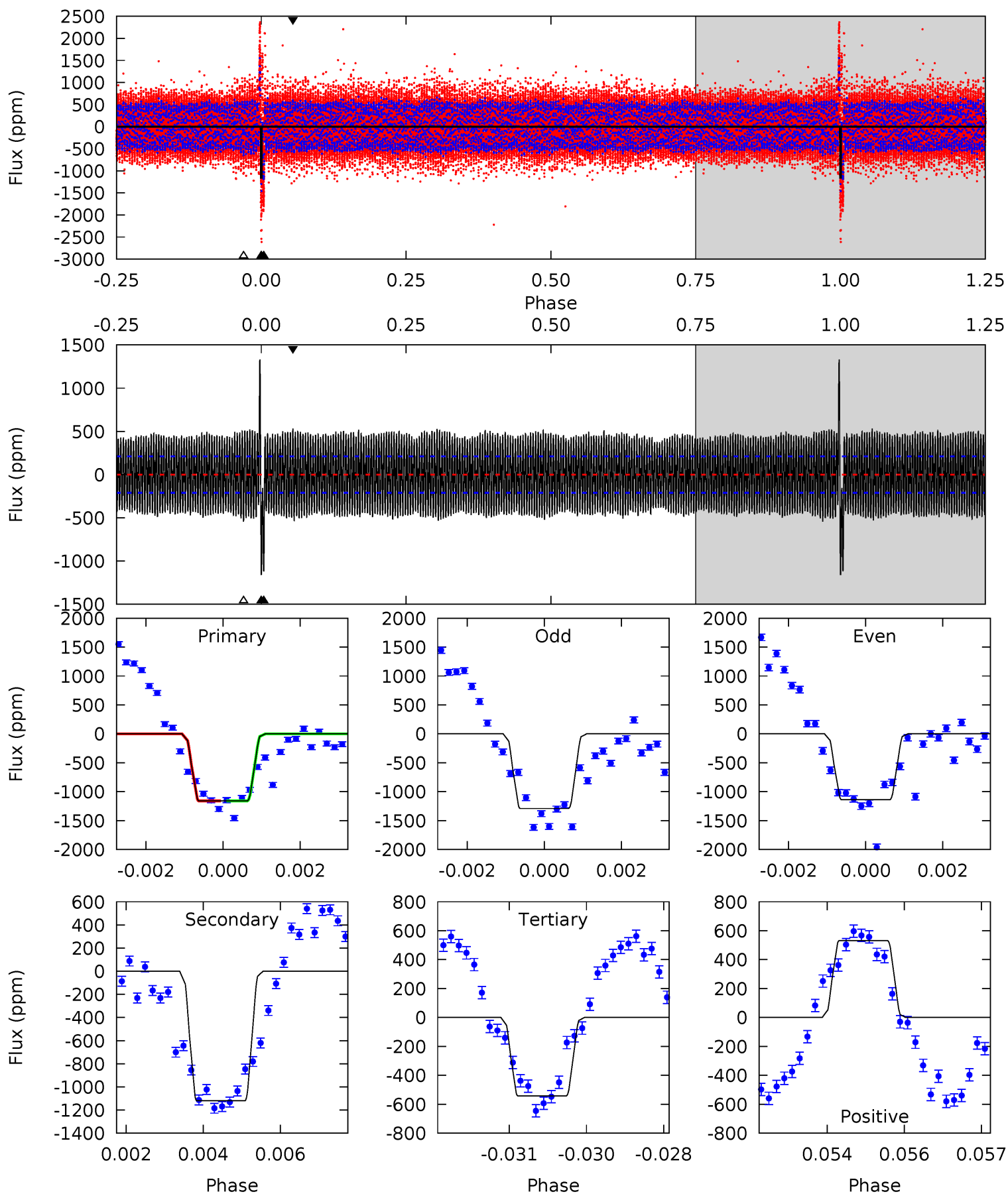
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
229.1	15.9	11.1	12.8	5.06	2.64	5.12	218.0	216.4	4.74	3.08	5.11	0.87	0.24	0.86



Alt Model-Shift Uniqueness Test

008164262-01, P = 87.456139 Days, E = 48.720069 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.3	28.3	13.7	13.4	5.34	3.11	8.26	15.6	15.9	14.6	14.9	1.89	0.78	0.53	0.00



Stellar Parameters For KIC 008164262

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7700^{+237}_{-316}	$4.018^{+0.193}_{-0.140}$	$-0.140^{+0.200}_{-0.350}$	$2.111^{+0.525}_{-0.578}$	$1.692^{+0.198}_{-0.298}$	$0.254^{+0.309}_{-0.104}$
	+3%/-4%	+5%/-3%	+143%/-250%	+25%/-27%	+12%/-18%	+122%/-41%
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 008164262-01 / KOI 1810.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-106 ± 7	$15.08^{+6.37}_{-5.88}$	1007^{+72}_{-68}	3450^{+576}_{-327}	54^{+89}_{-28}
Alt.	-1120 ± 40	$8.20^{+5.50}_{-4.60}$	1006^{+71}_{-74}	7247^{+5532}_{-1587}	1901^{+8360}_{-1218}

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

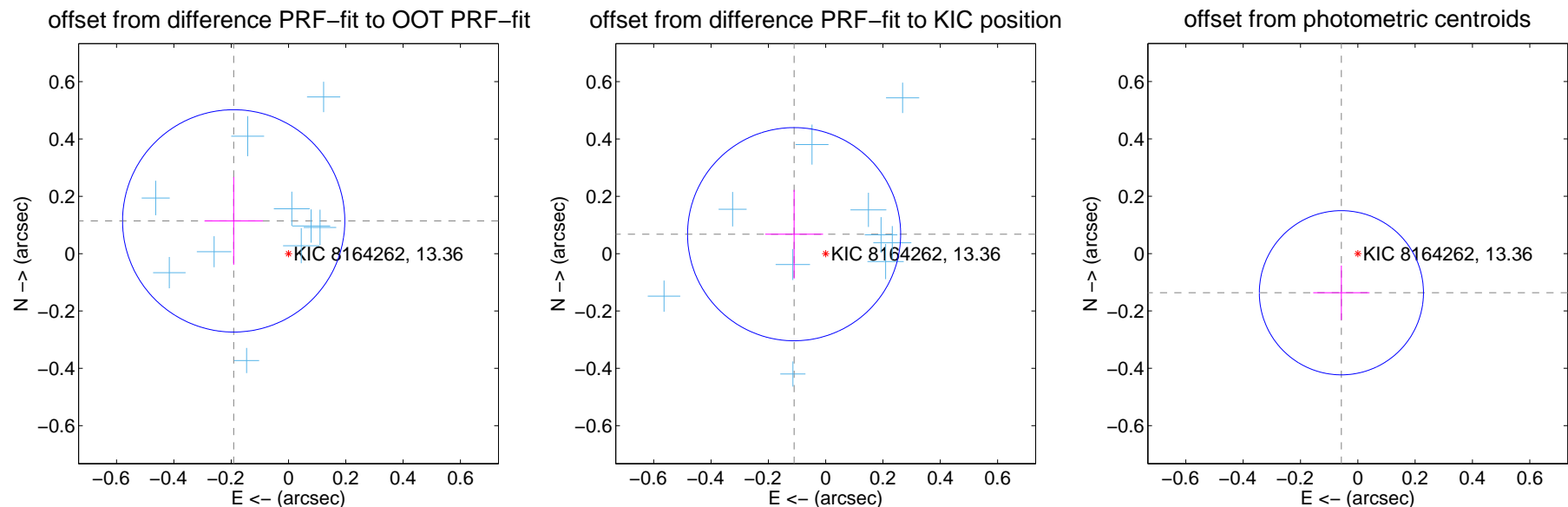
DV Centroid Data

Supplemental centroid analysis for 008164262-01. Kepler magnitude: 13.36. Transit SNR 84.63

There are 11 quarters with good PRF difference image offsets

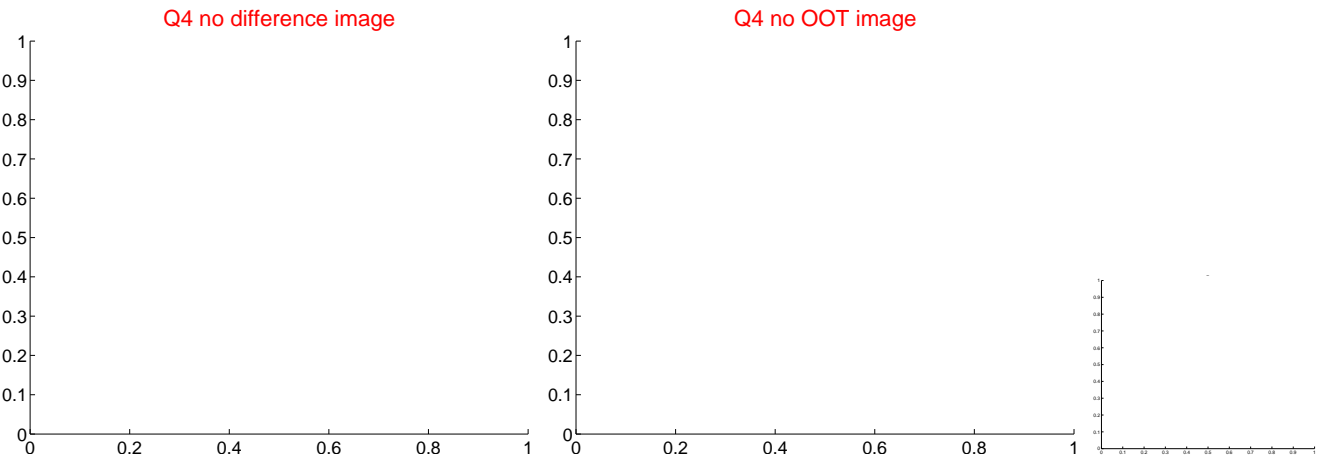
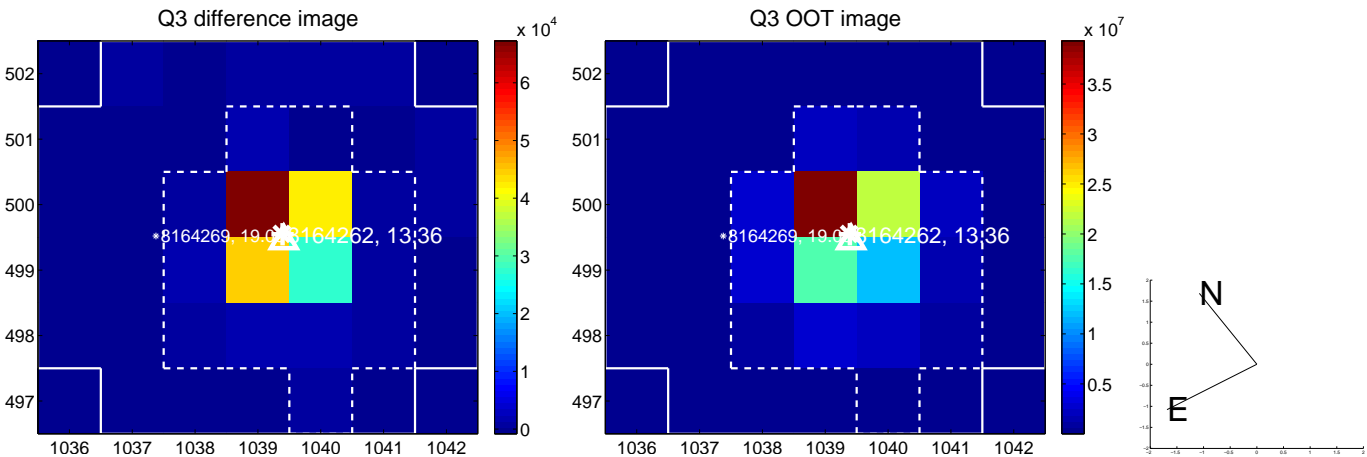
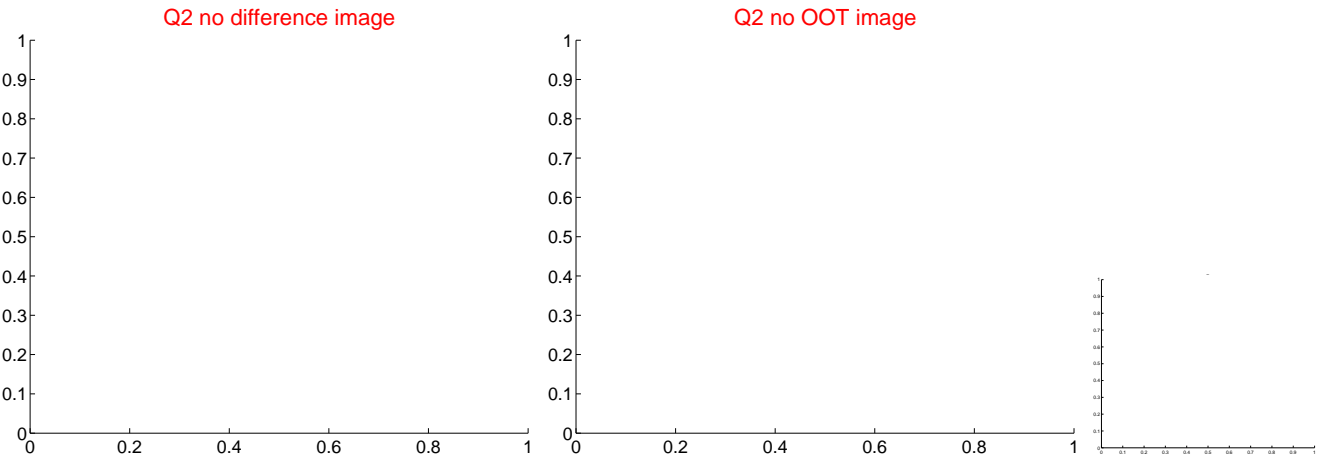
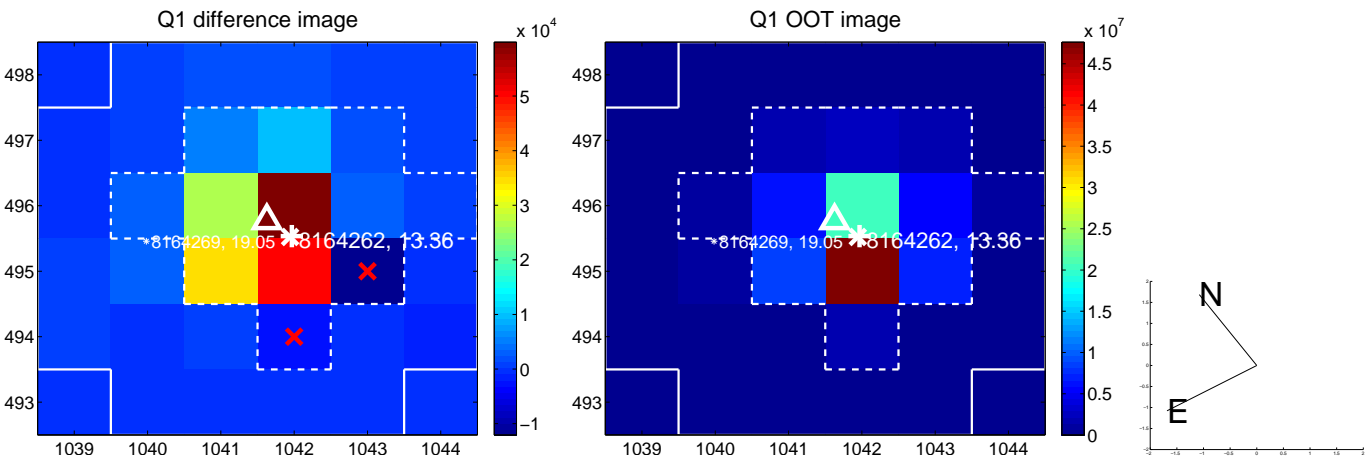
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.223 ± 0.129	1.72	0.191 ± 0.102	0.114 ± 0.153
PRF-fit source offset from KIC position	0.129 ± 0.124	1.04	0.110 ± 0.101	0.068 ± 0.155
photometric centroid source offset	0.15 ± 0.10	1.55	0.06 ± 0.10	-0.14 ± 0.09

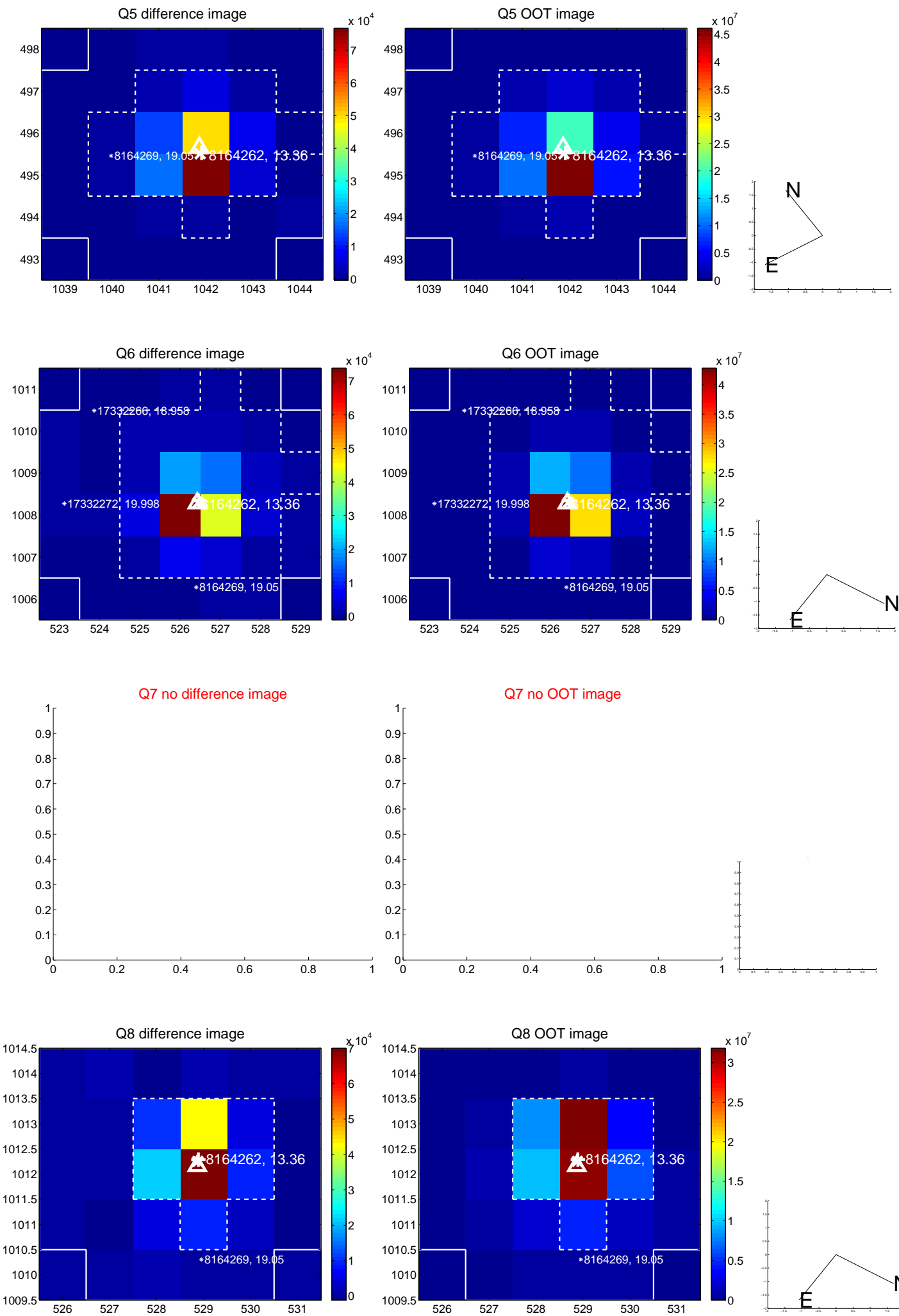


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

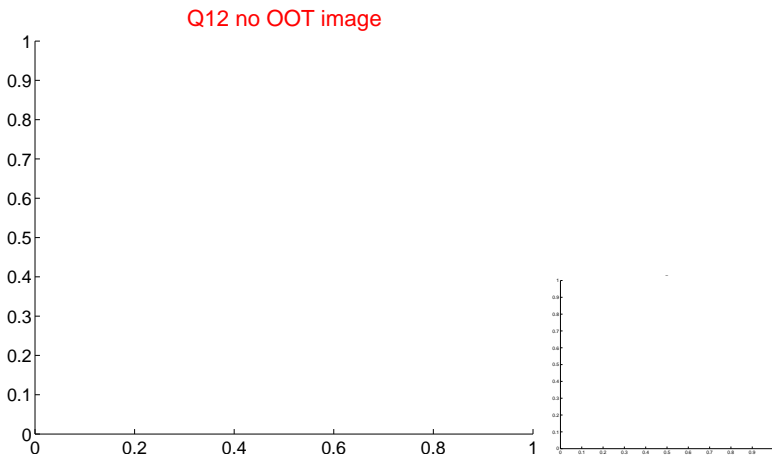
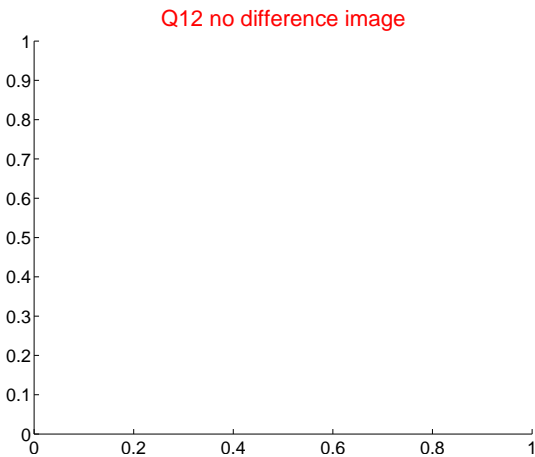
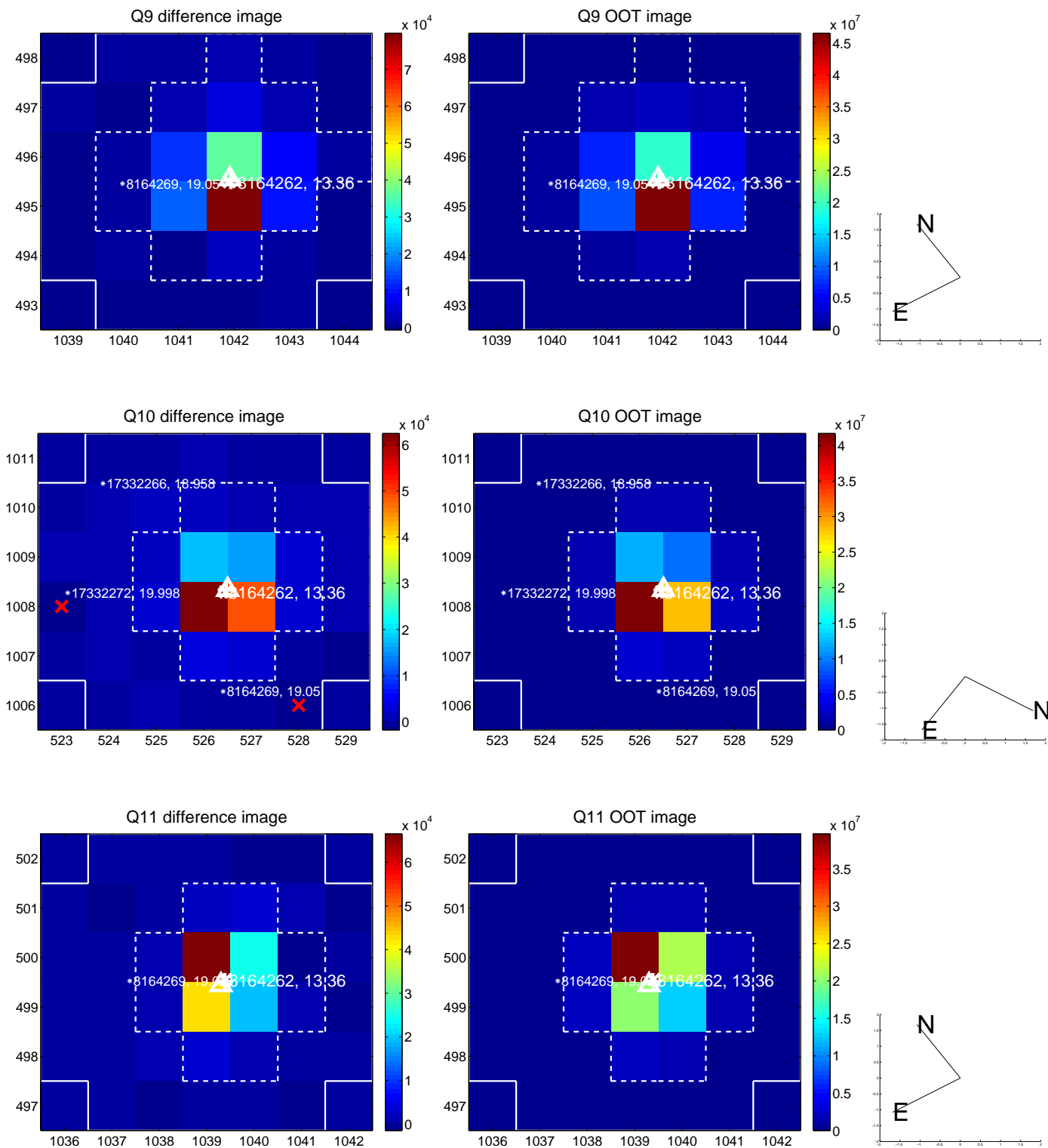
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



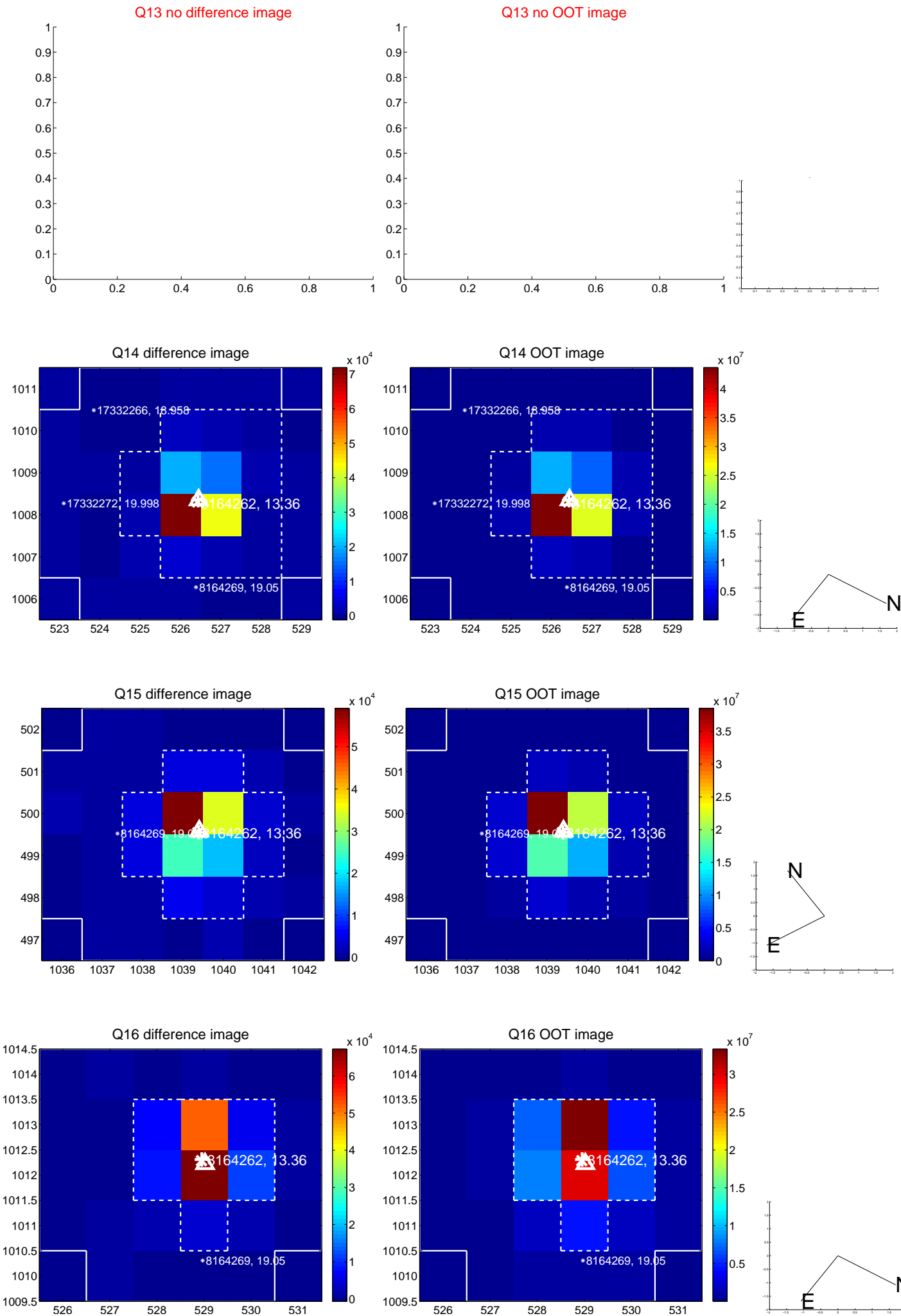
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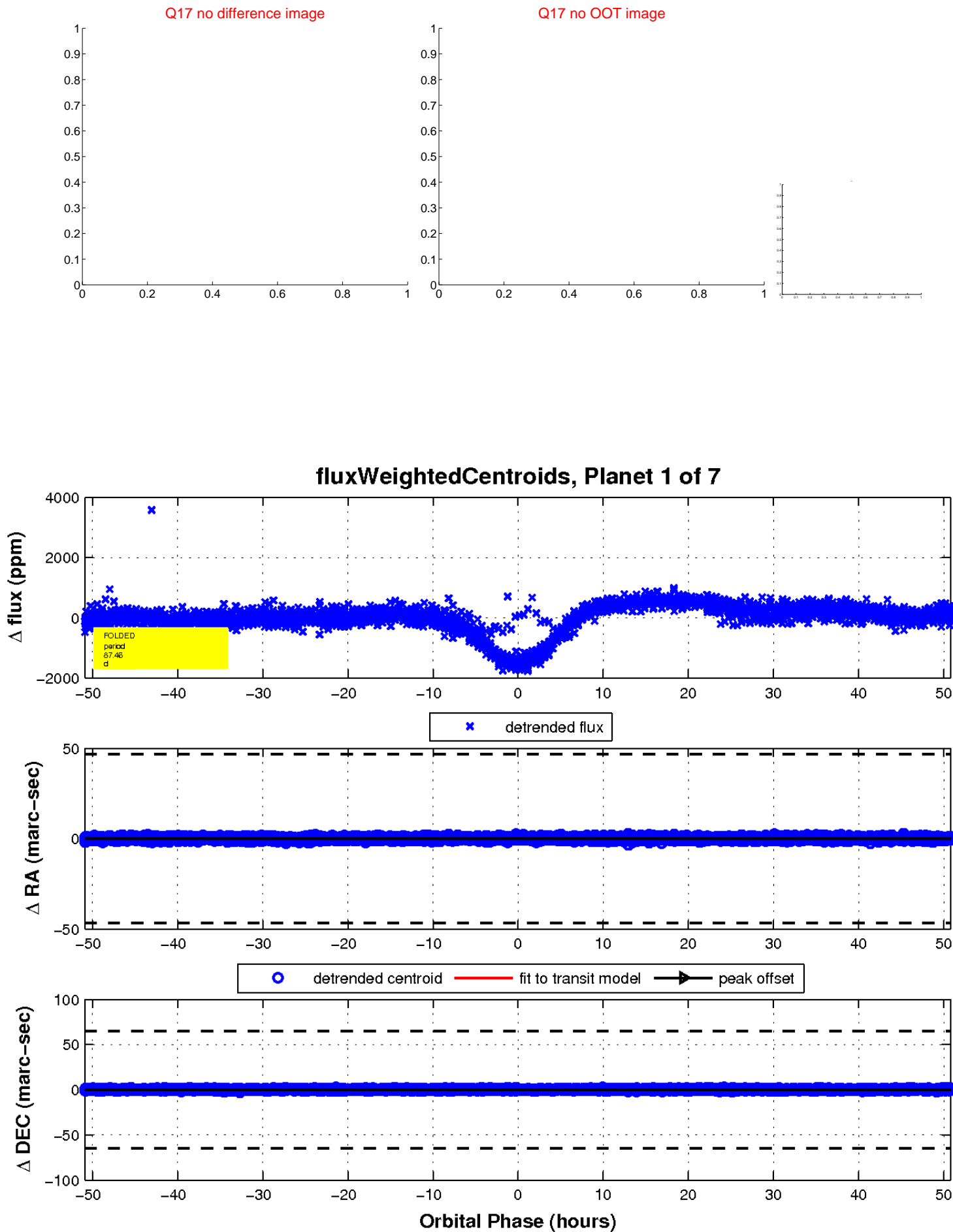
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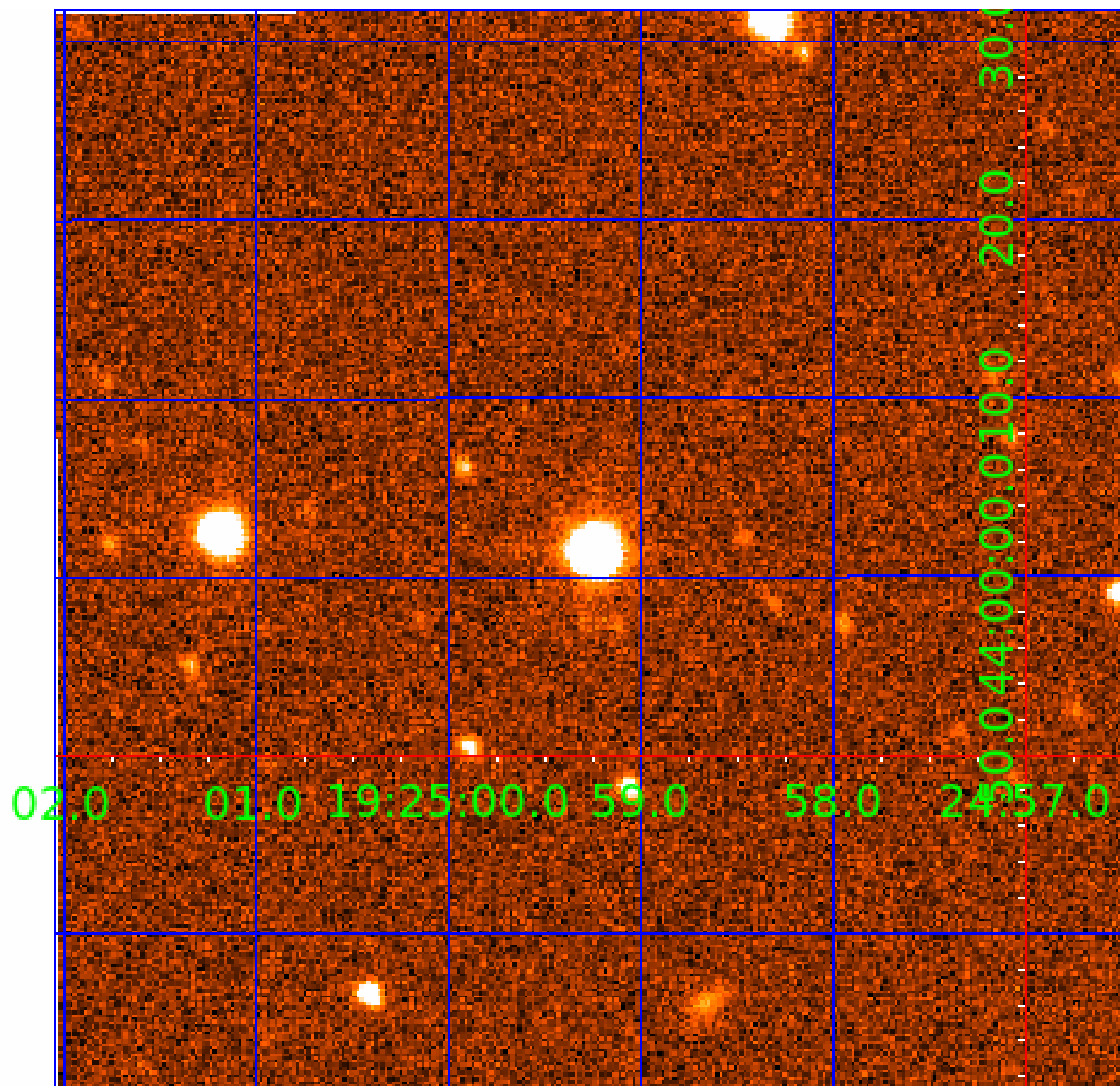


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008164262

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})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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008164262-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008164262-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008164262-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008164262-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008164262-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

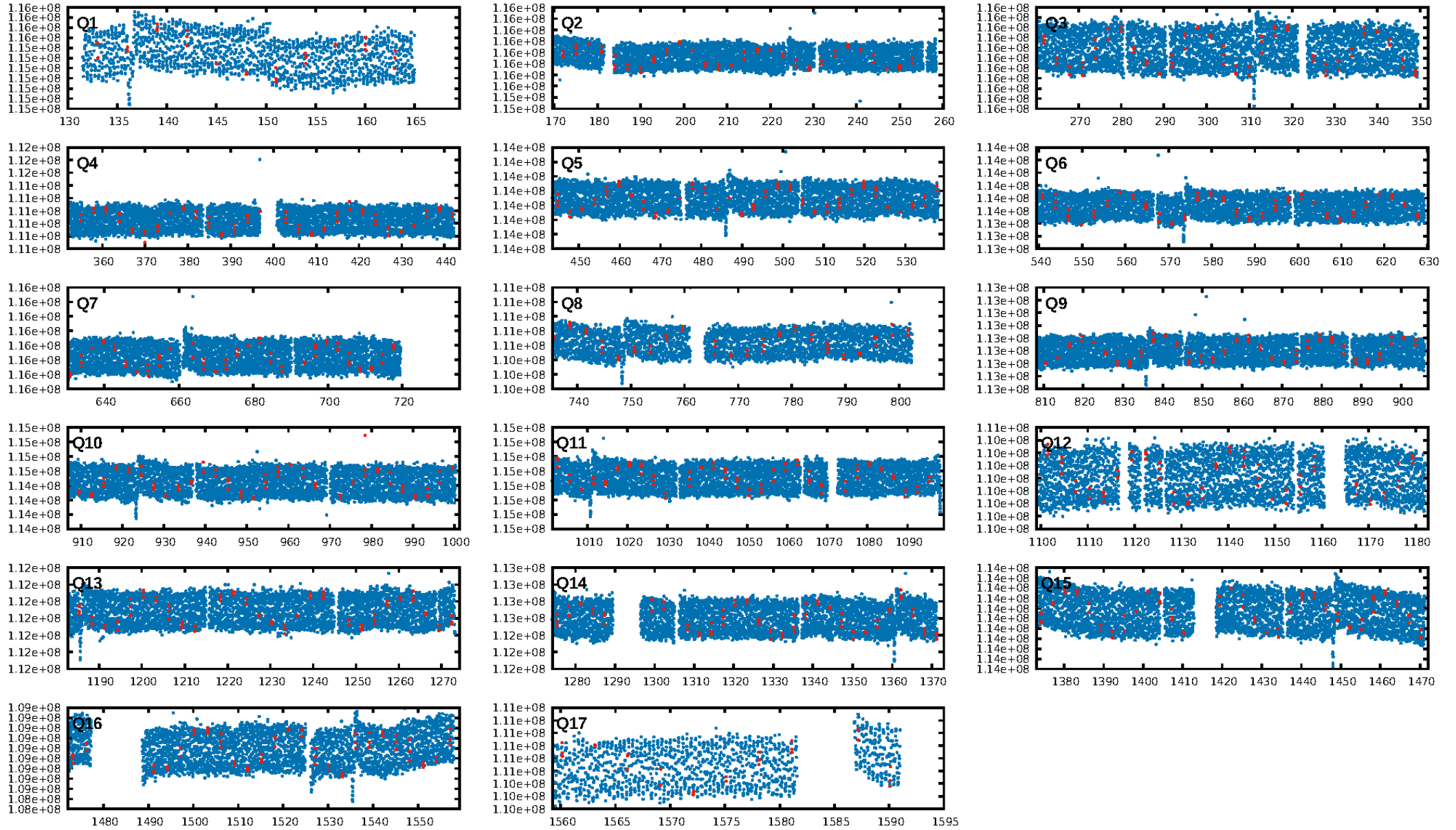
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008164262-02

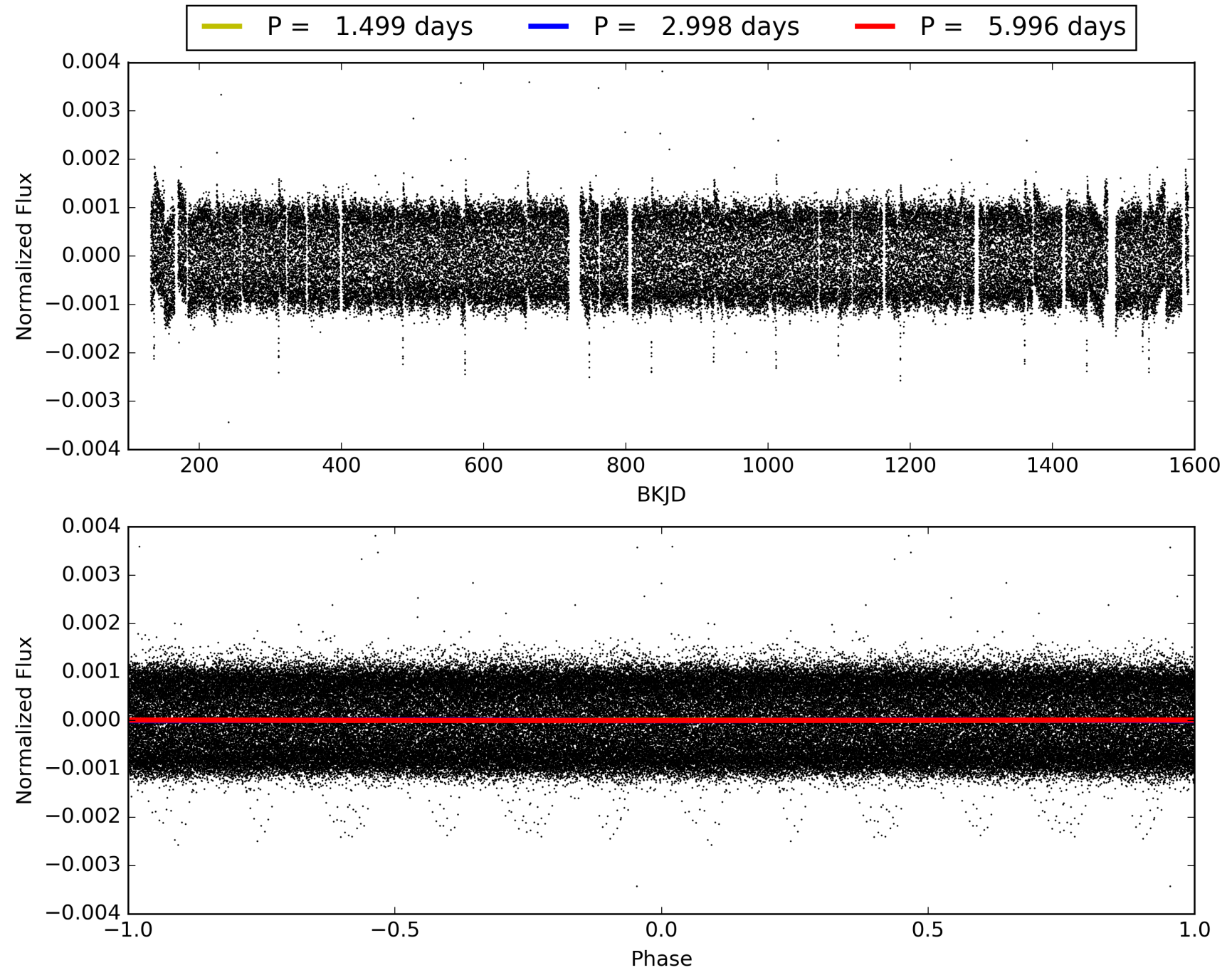
No Significant Match Found

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

TCE 008164262-02, PDC Light Curves

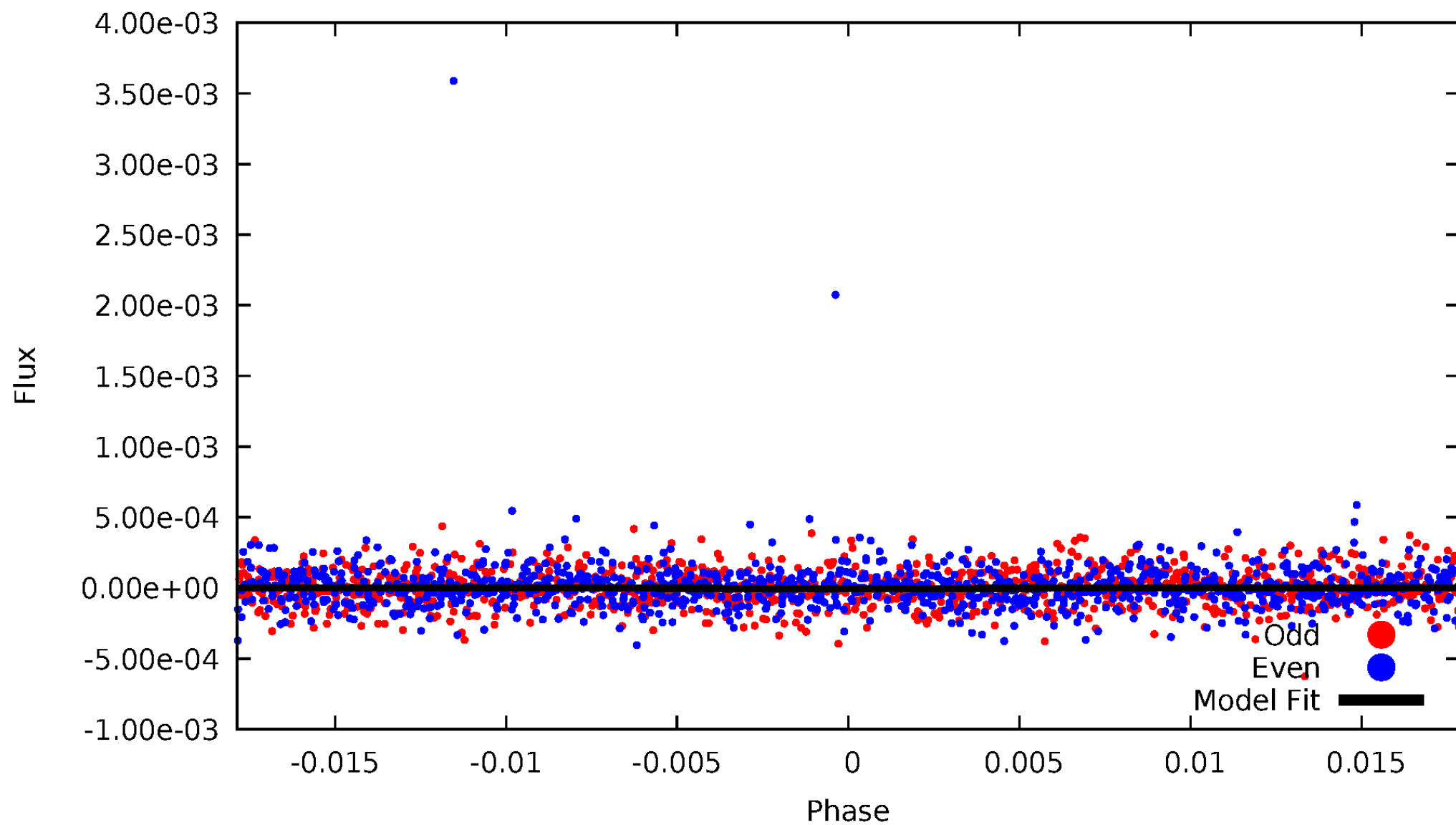


TCE 008164262-02



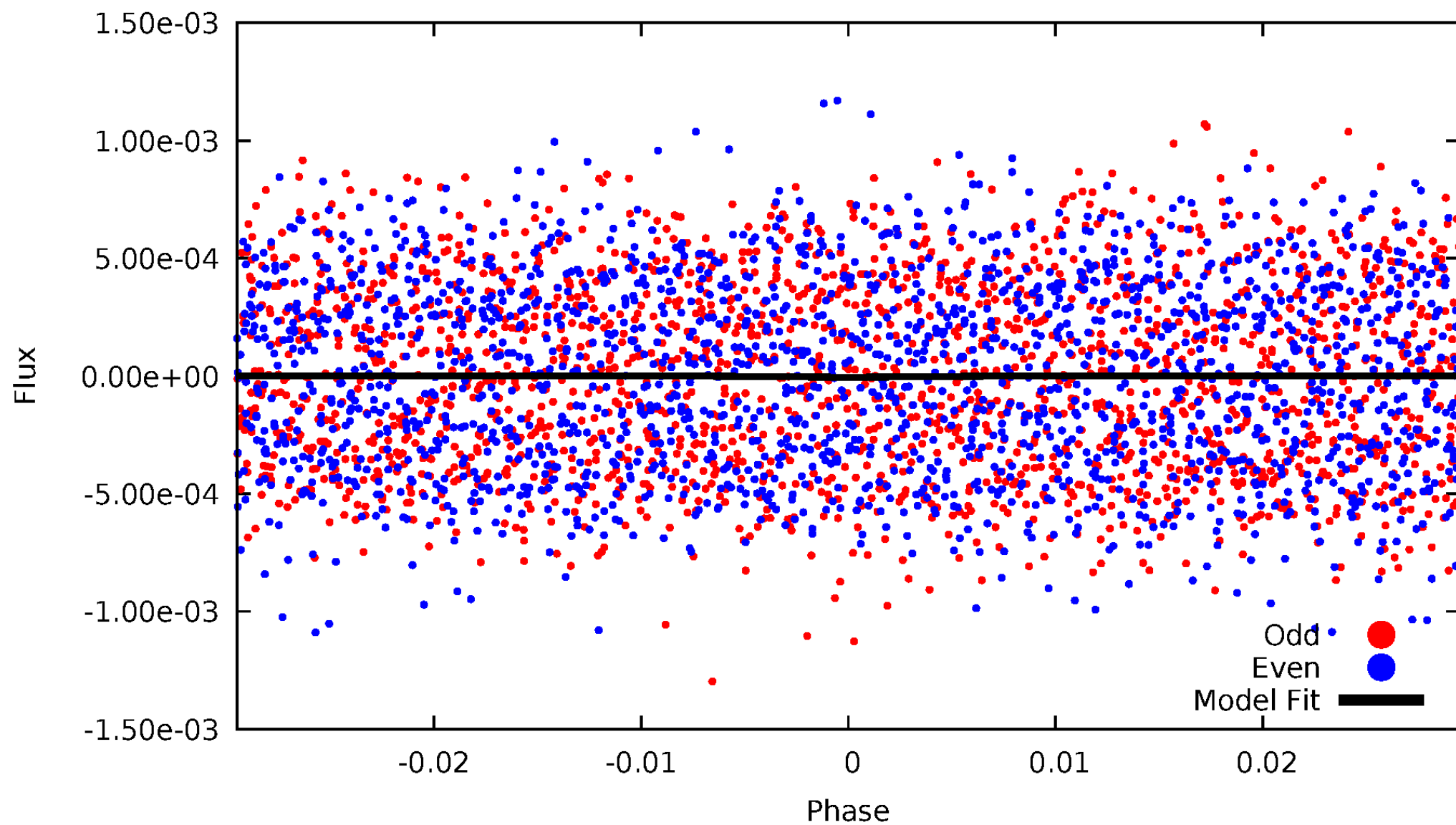
DV Odd/Even

TCE 008164262-02



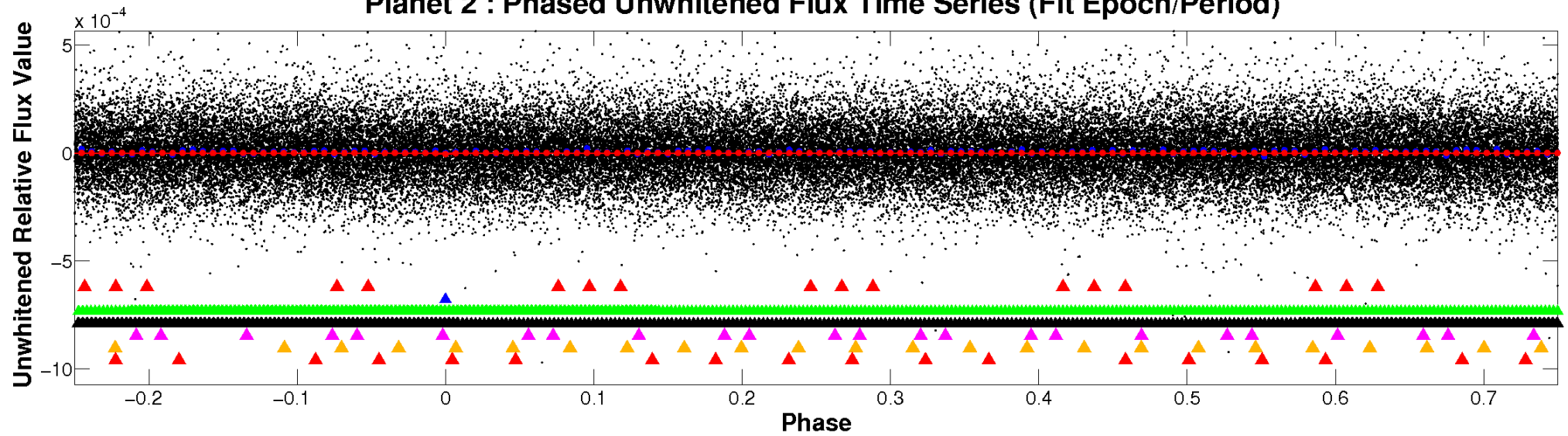
ALT Odd/Even

TCE 008164262-02

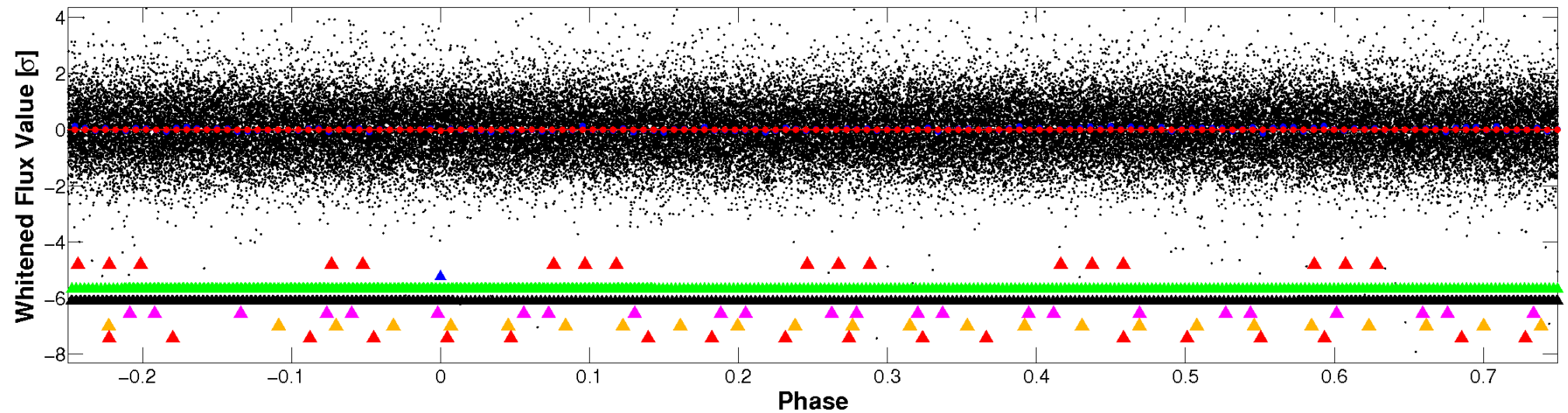


Non-Whitened Vs. Whitened Light Curve

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

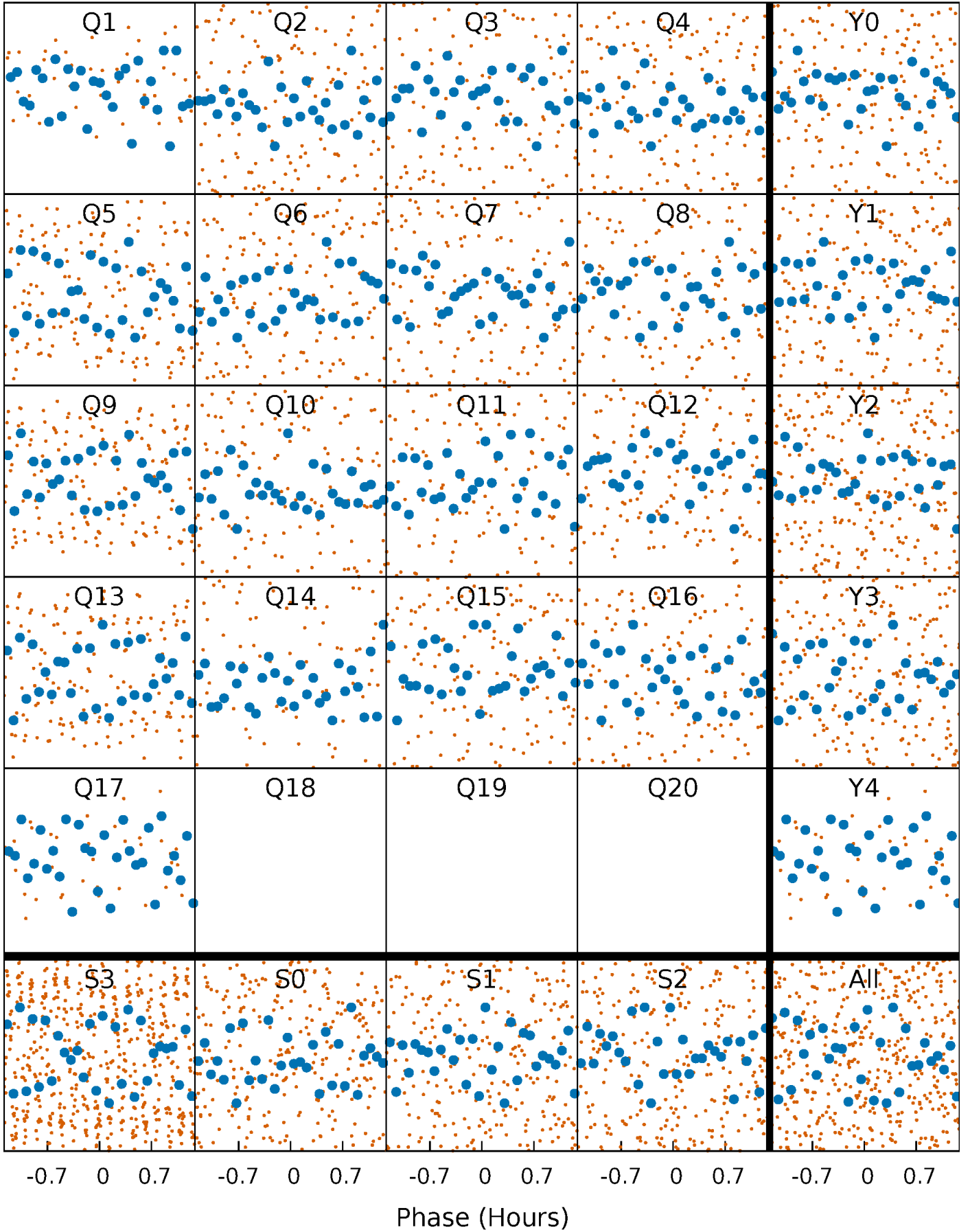


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



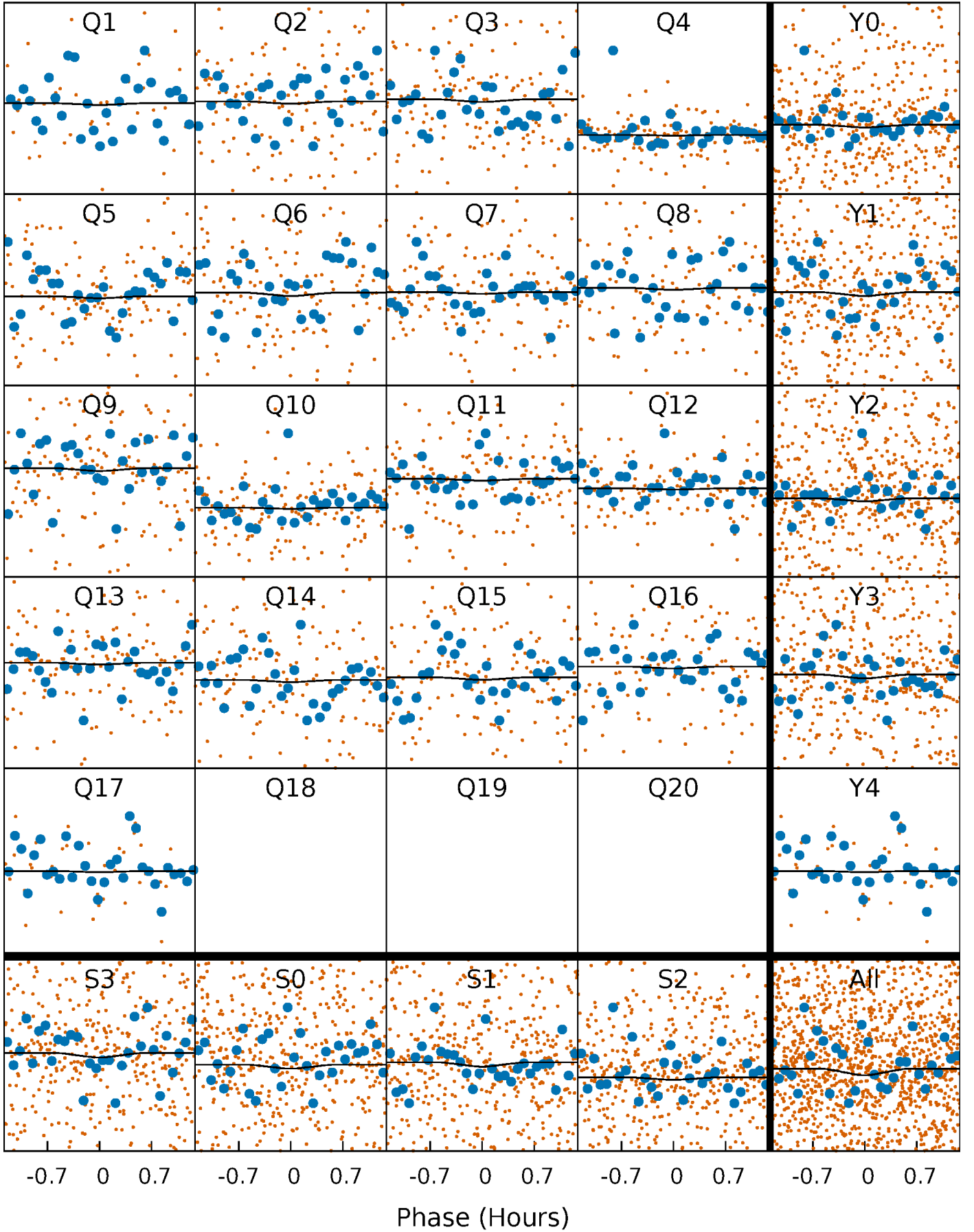
PDC Quarter-Phased Transit Curves

TCE 008164262-02 P= 2.998115 Days $T_0=133.019634$ (BKJD)



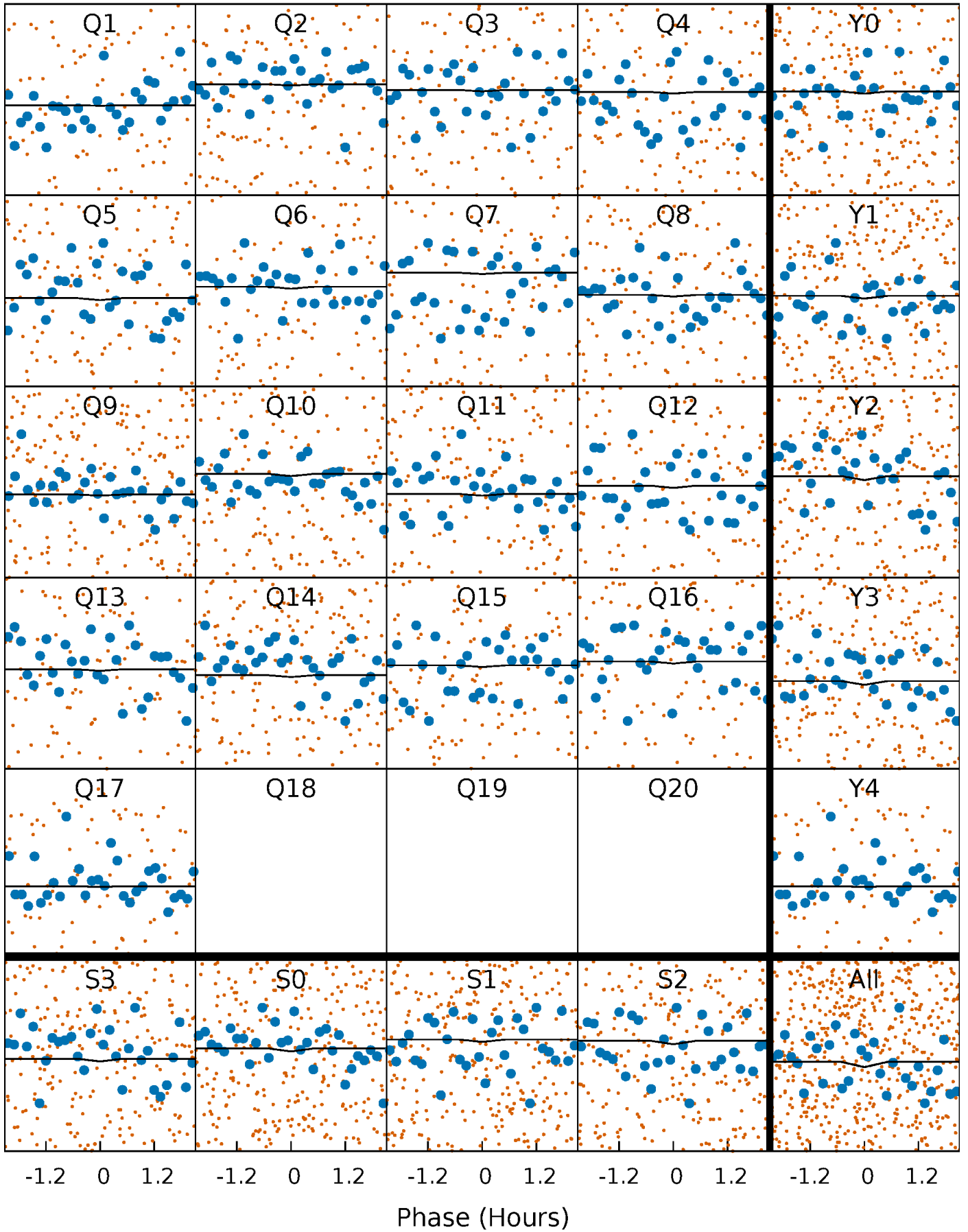
DV Quarter-Phased Transit Curves

TCE 008164262-02 P= 2.998115 Days $T_0=133.019634$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

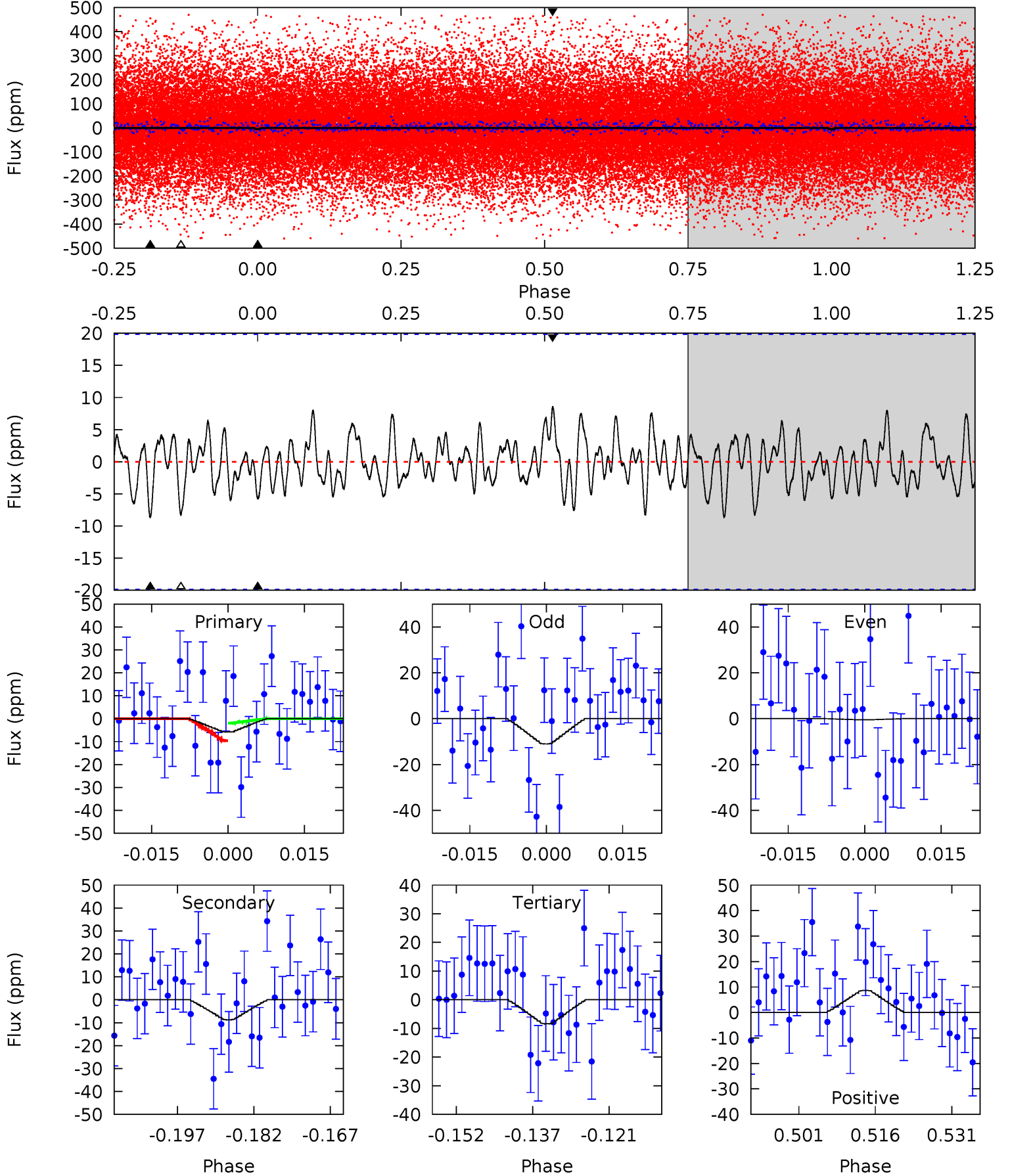
TCE 008164262-02 P= 2.989425 Days $T_0=134.150722$ (BKJD)



DV Model-Shift Uniqueness Test

008164262-02, P = 2.998115 Days, E = 130.021519 Days

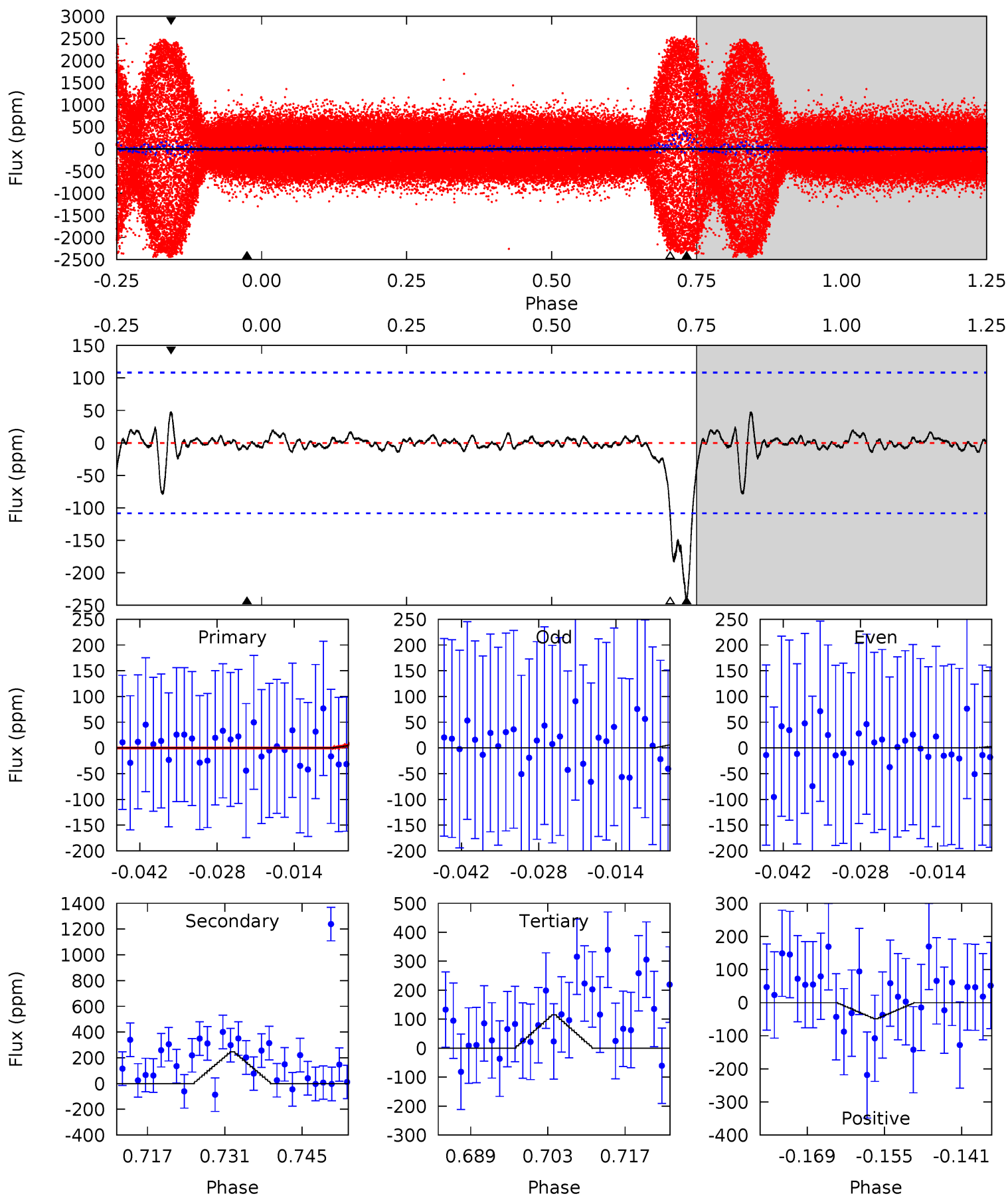
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.44	2.17	2.08	2.15	4.95	2.43	0.80	-0.64	-0.71	0.09	0.02	1.31	0.14	0.50	0.96



Alt Model-Shift Uniqueness Test

008164262-02, P = 2.989425 Days, E = 131.161297 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.47	11.3	5.27	2.22	4.96	2.46	1.06	-4.80	-1.75	6.06	9.12	0.17	-1.72	0.16	0.11



Stellar Parameters For KIC 008164262

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7700^{+237}_{-316}	$4.018^{+0.193}_{-0.140}$	$-0.140^{+0.200}_{-0.350}$	$2.111^{+0.525}_{-0.578}$	$1.692^{+0.198}_{-0.298}$	$0.254^{+0.309}_{-0.104}$
	+3%/-4%	+5%/-3%	+143%/-250%	+25%/-27%	+12%/-18%	+122%/-41%
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 008164262-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-9 ± 4	$1.70^{+1.73}_{-1.16}$	3095^{+214}_{-206}	4612^{+4339}_{-1275}	$3.324^{+36.356}_{-2.585}$
Alt.	-248 ± 22	$1.76^{+1.68}_{-1.21}$	3111^{+224}_{-221}	12421^{+39486}_{-4705}	100^{+966}_{-74}

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

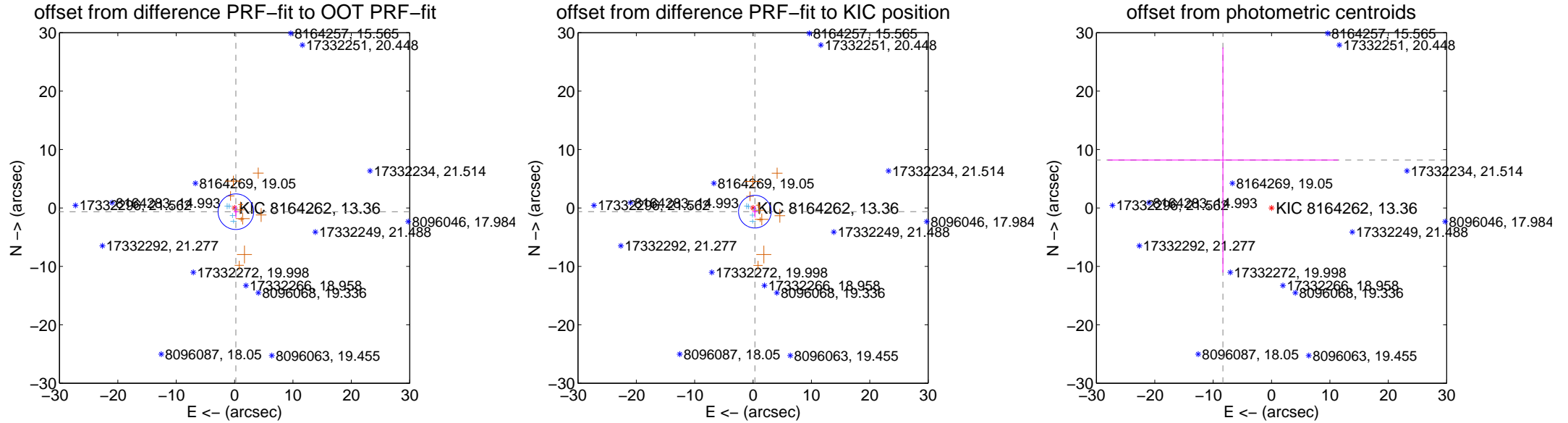
DV Centroid Data

Supplemental centroid analysis for 008164262-02. Kepler magnitude: 13.36. Transit SNR 0.28

There are 5 quarters with good PRF difference image offsets

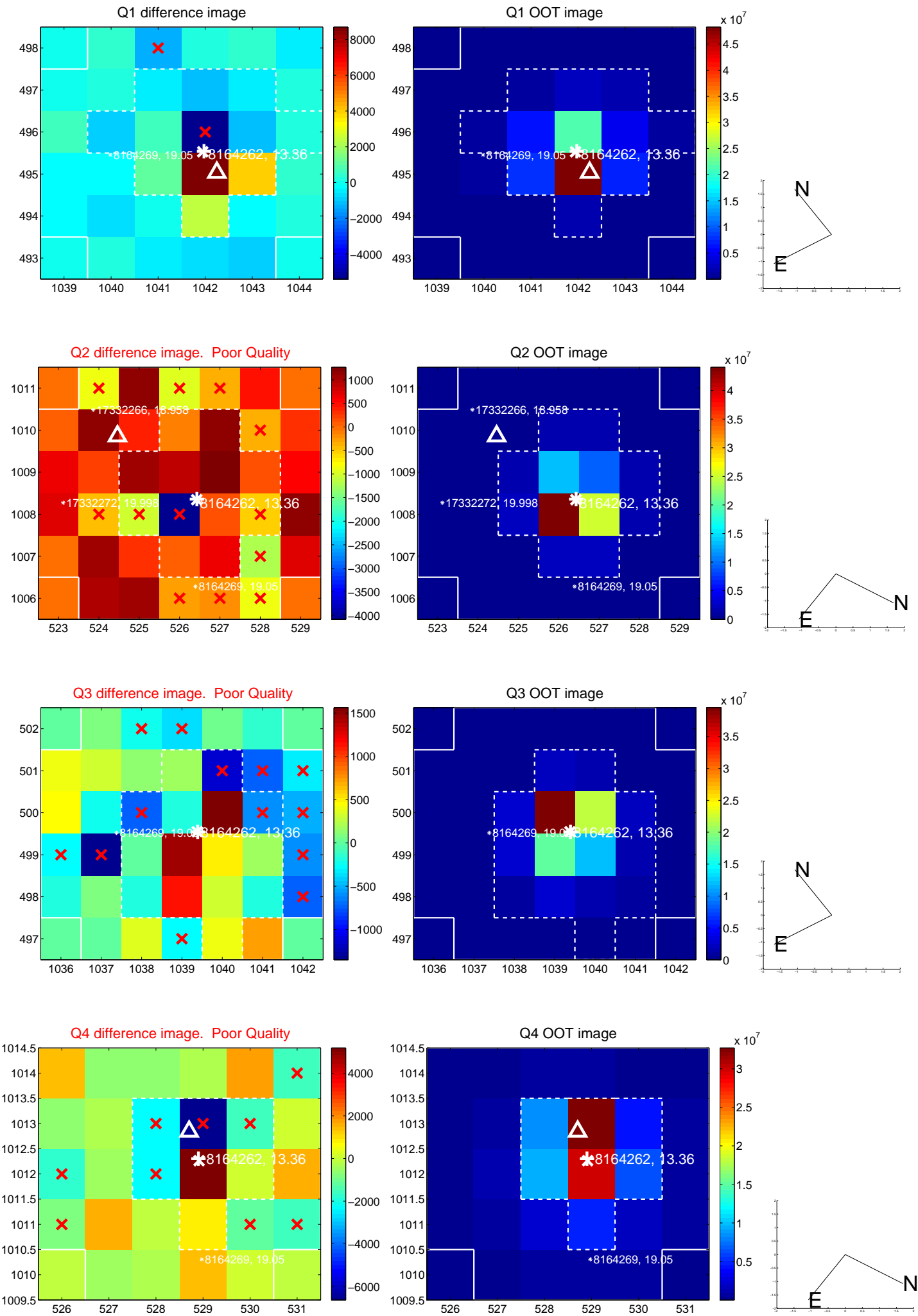
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.679 ± 1.015	0.67	-0.217 ± 0.381	-0.643 ± 1.055
PRF-fit source offset from KIC position	0.708 ± 0.932	0.76	-0.313 ± 0.443	-0.635 ± 1.002
photometric centroid source offset	11.69 ± 19.50	0.60	8.33 ± 19.74	8.20 ± 19.26

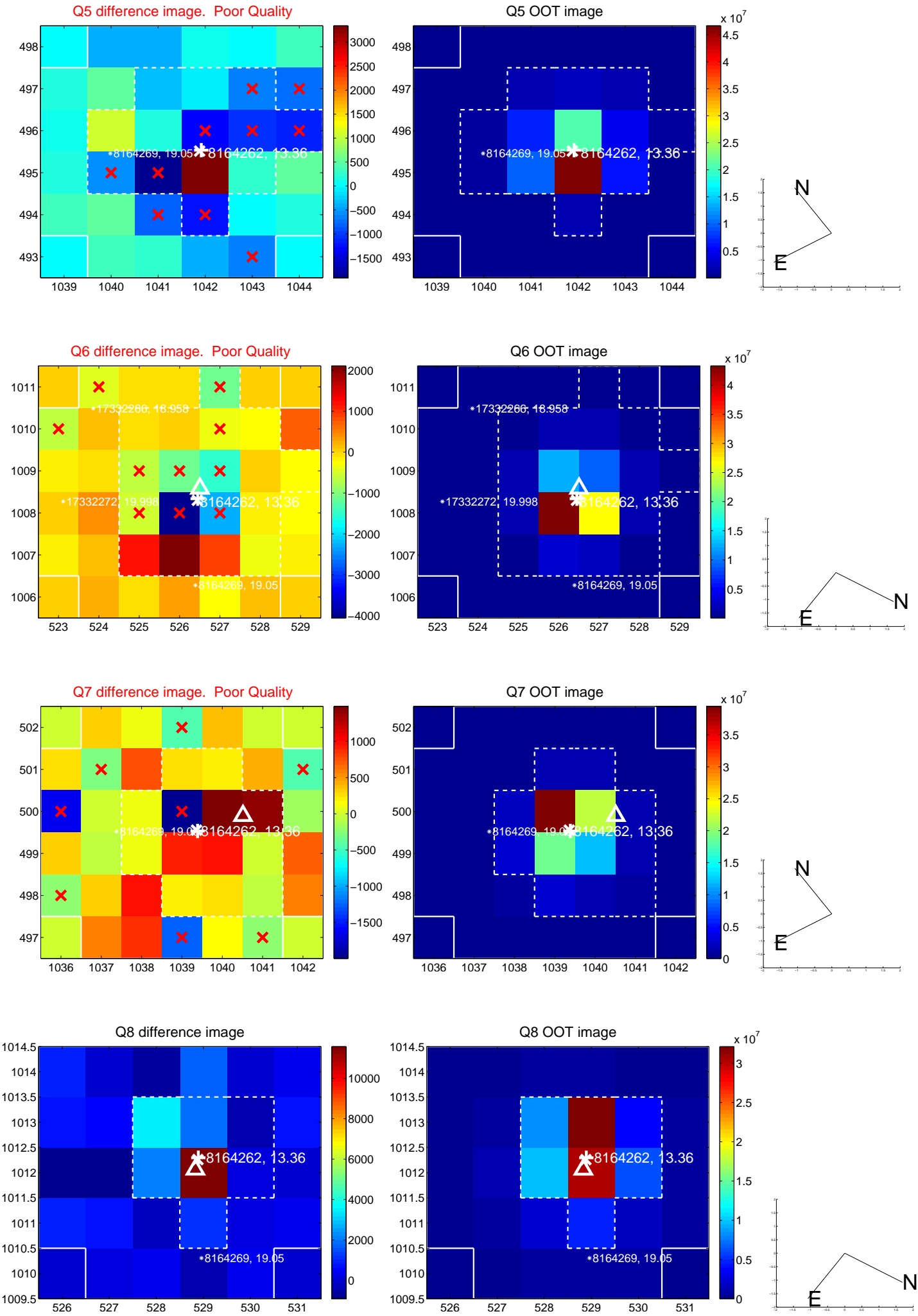


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

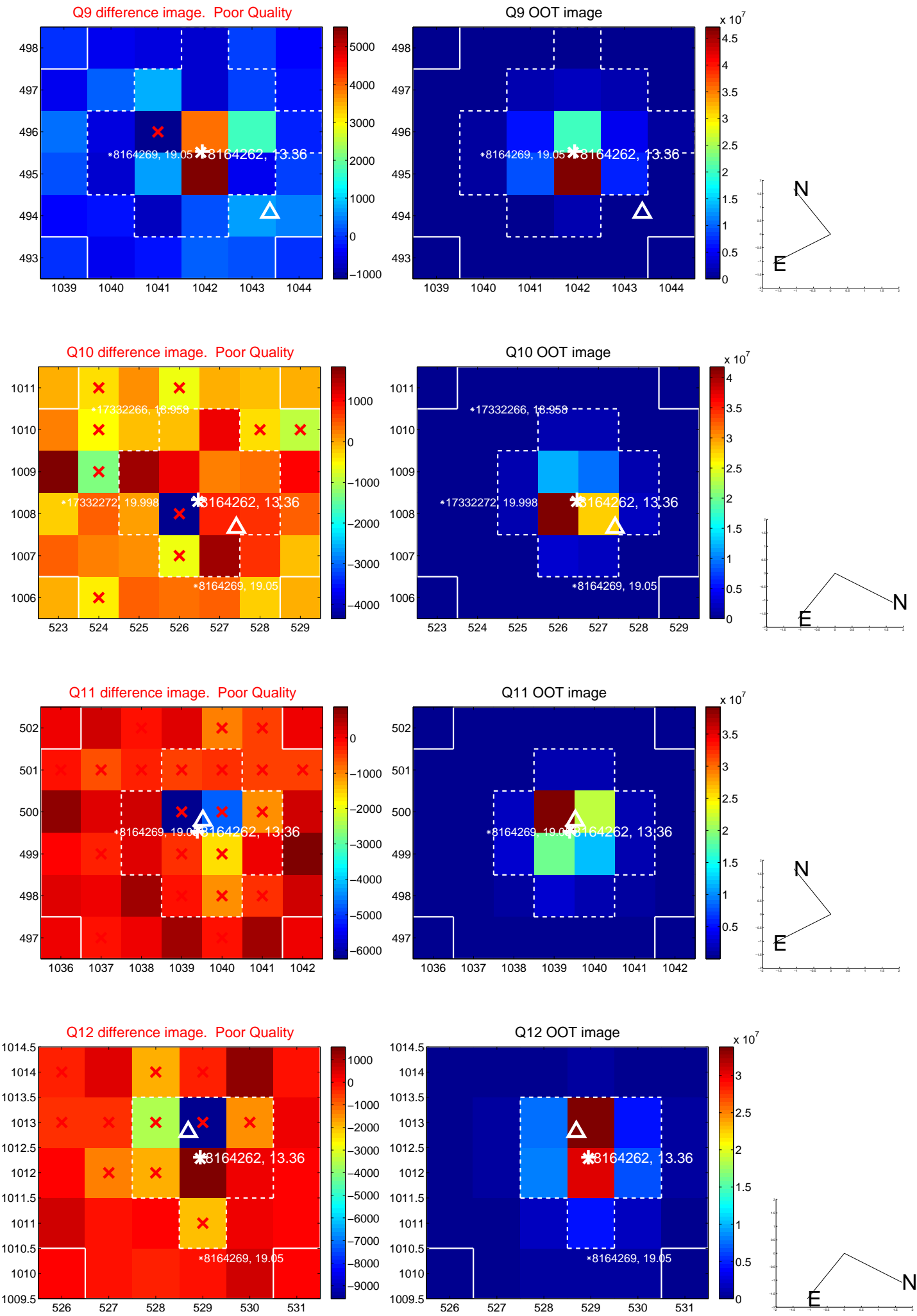
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



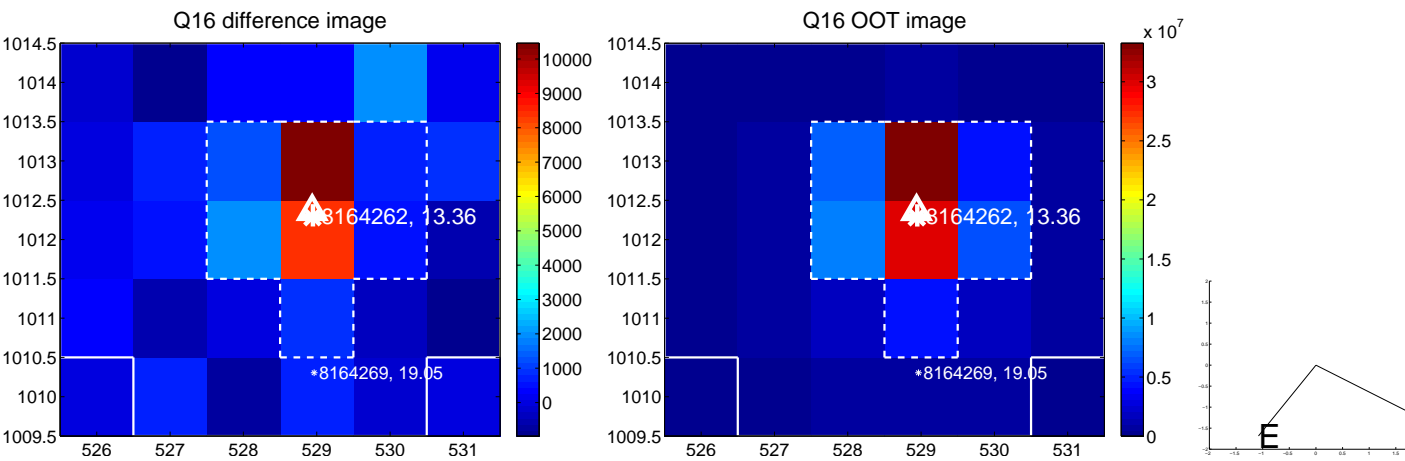
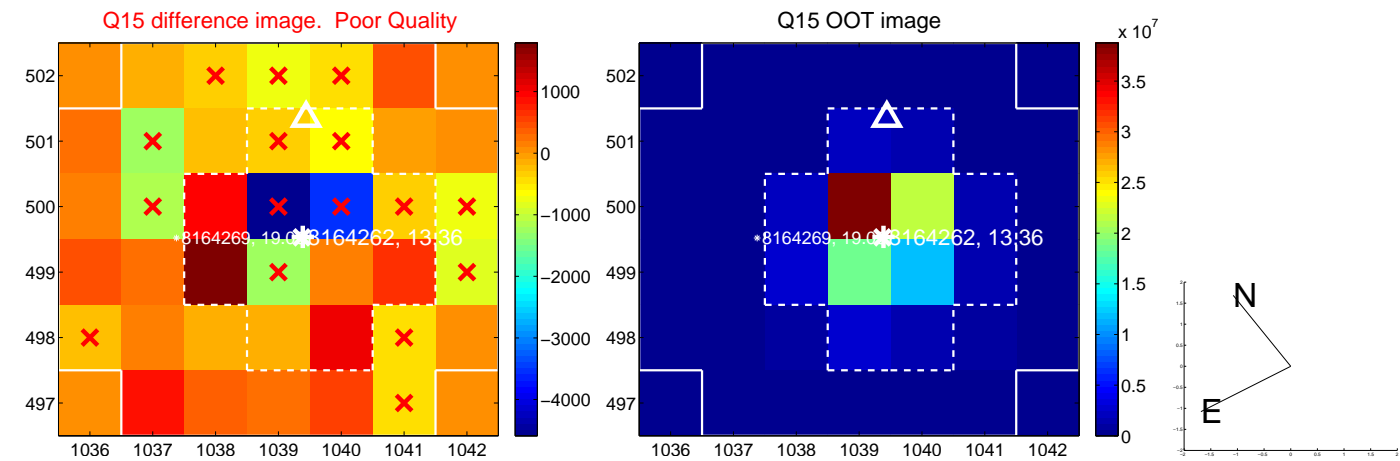
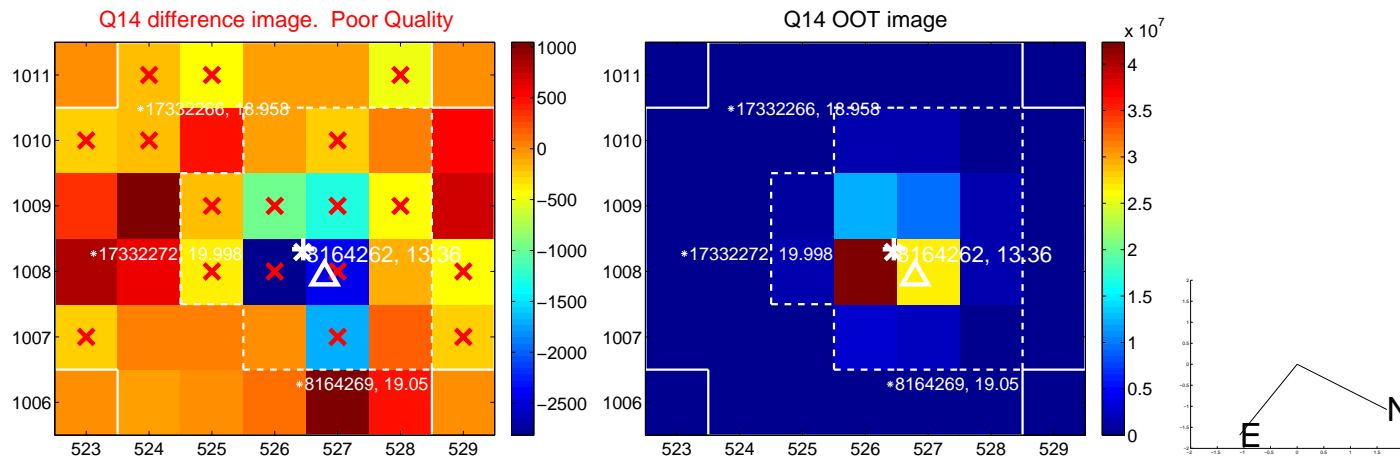
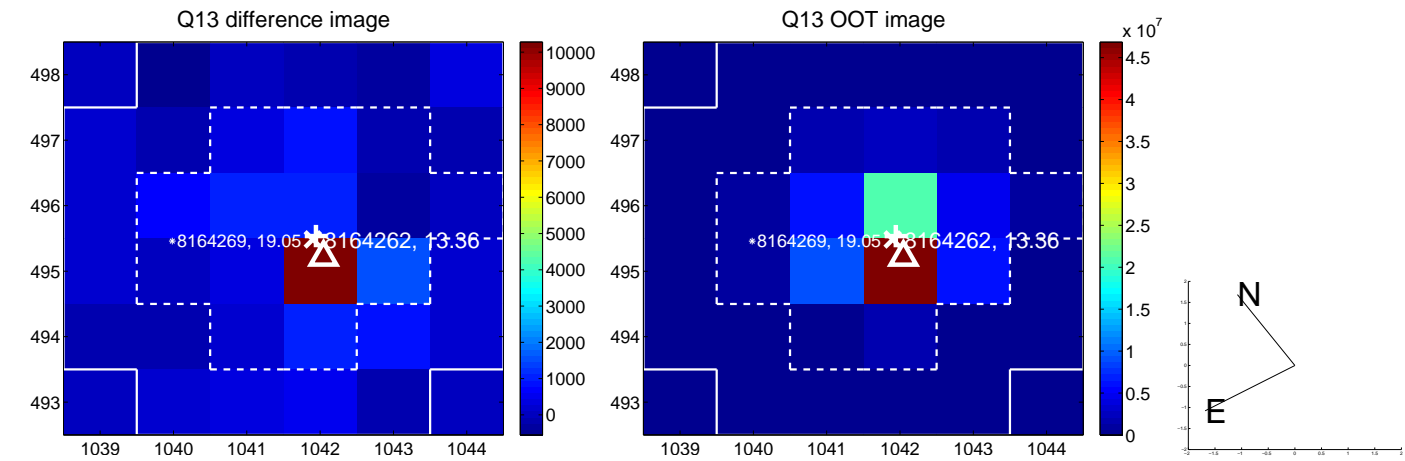
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



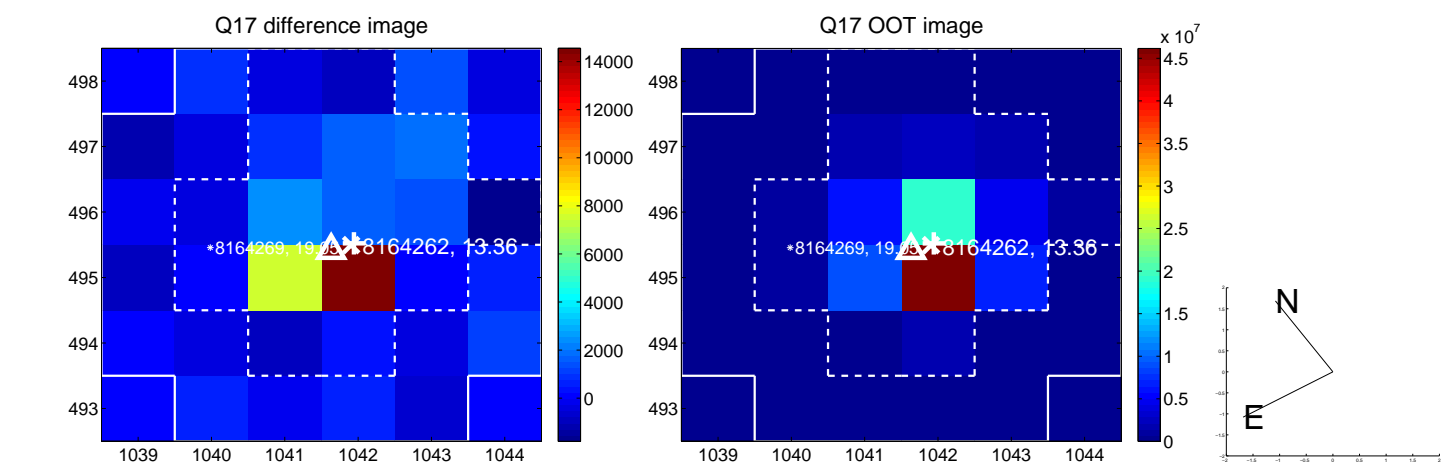
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



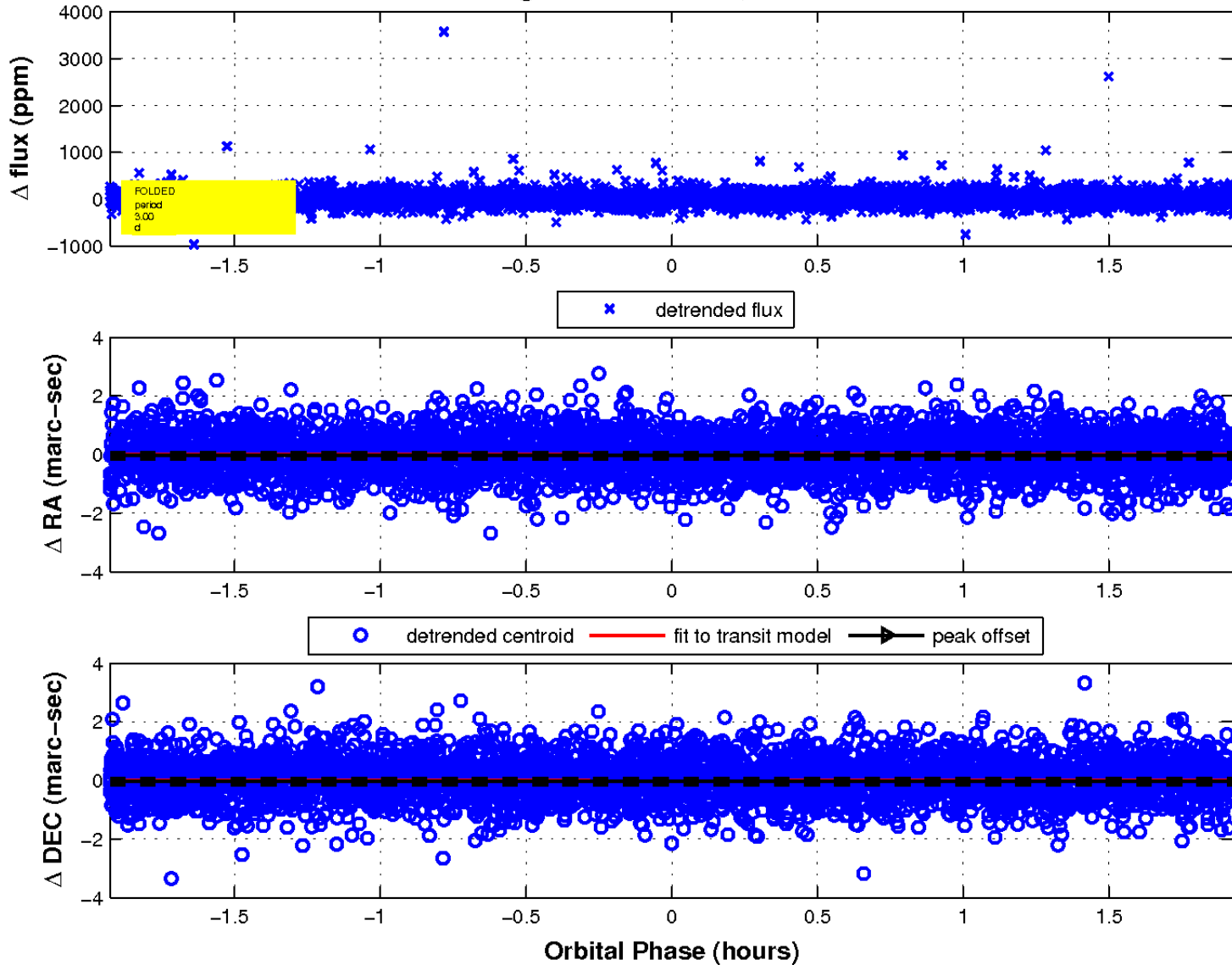
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

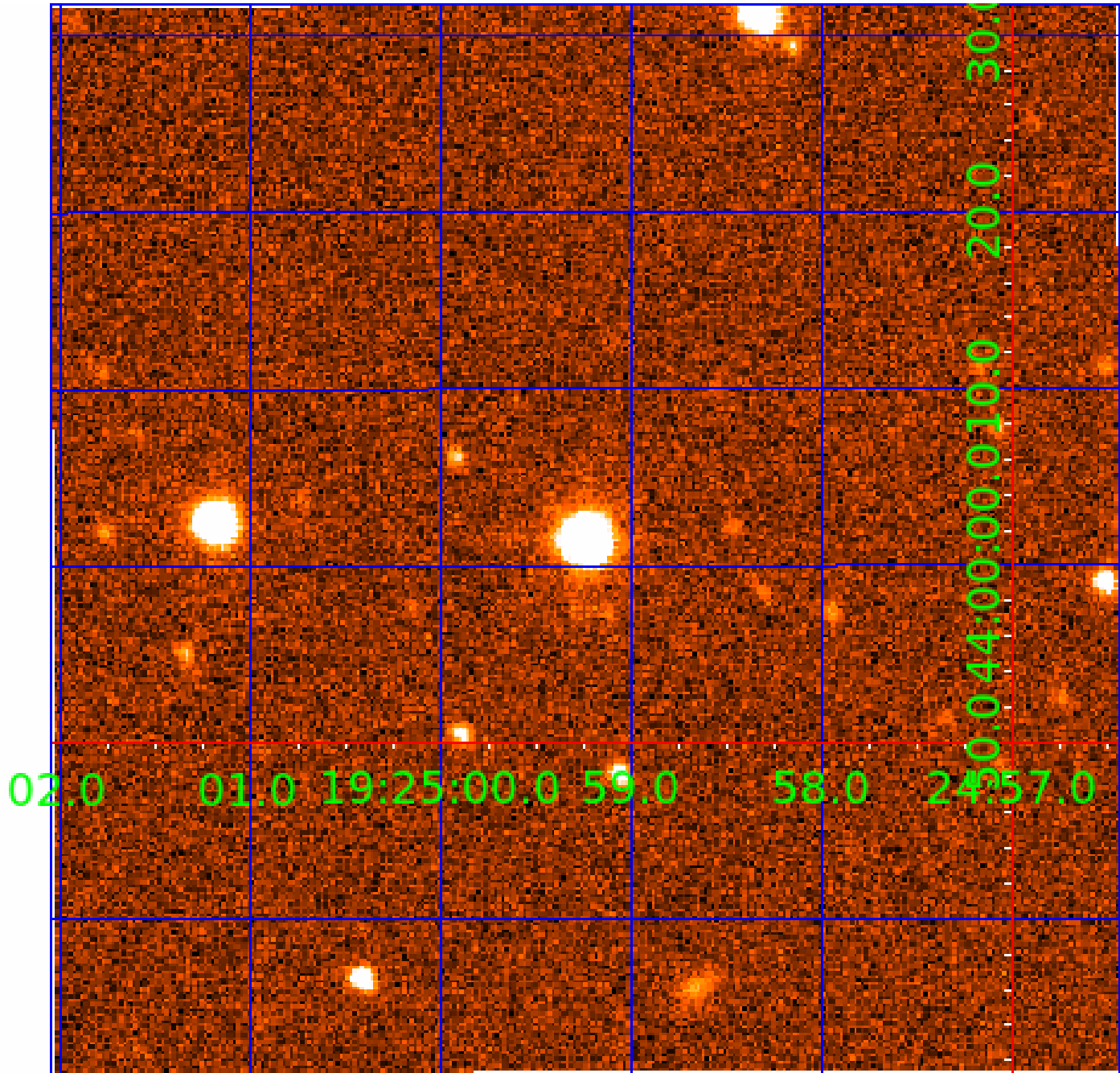


fluxWeightedCentroids, Planet 2 of 7



UKIRT Image

Declination



KIC 008164262

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})
008164262-01	OBS	1810.01	87.455497	136.245745	1550.7	16.981	75.8	84.6	2.11	7700	15.29	66.39
008164262-02	OBS	No	2.998115	133.019634	5.3	0.643	10.9	0.3	2.11	7700	0.52	5961.91
008164262-03	OBS	No	2.989781	133.444681	30.6	6.094	10.3	9.6	2.11	7700	1.33	5984.07
008164262-04	OBS	No	2.989302	133.043204	38.1	20.004	12.4	14.8	2.11	7700	1.75	5985.35
008164262-06	OBS	No	60.077771	171.669520	105.0	8.993	9.6	6.3	2.11	7700	2.44	109.54
008164262-07	OBS	No	78.631463	205.944685	272.5	1.760	7.9	8.2	2.11	7700	3.86	76.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008164262-01	OBS	FP	0.00	1	0	0	0	LPP_ALT—MOD_NONUNIQ_ALT
008164262-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008164262-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008164262-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008164262-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008164262-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

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

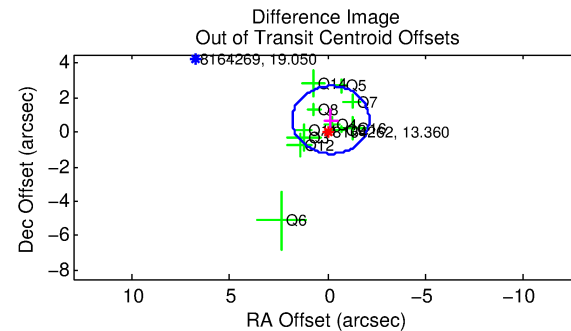
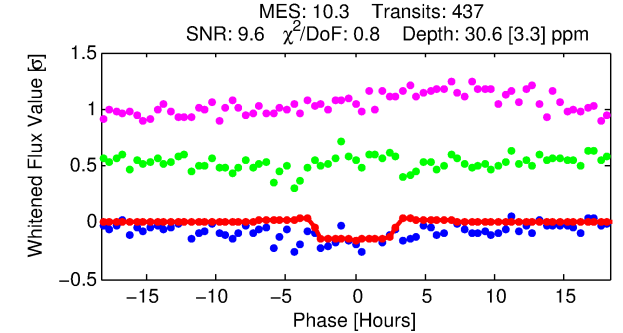
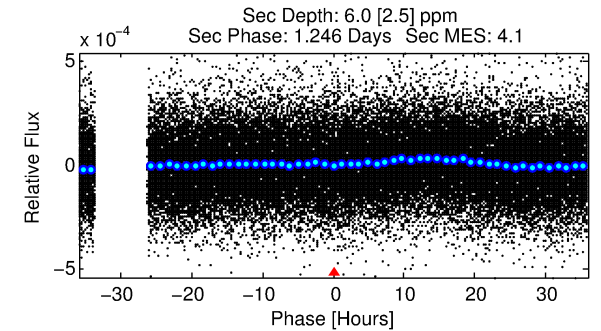
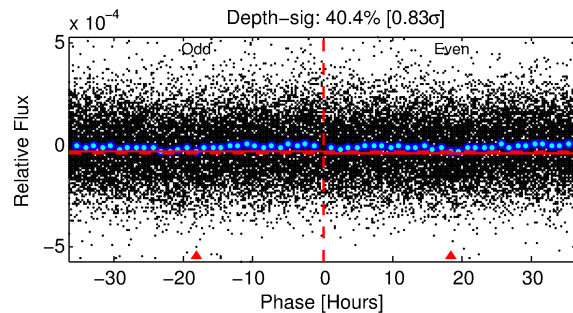
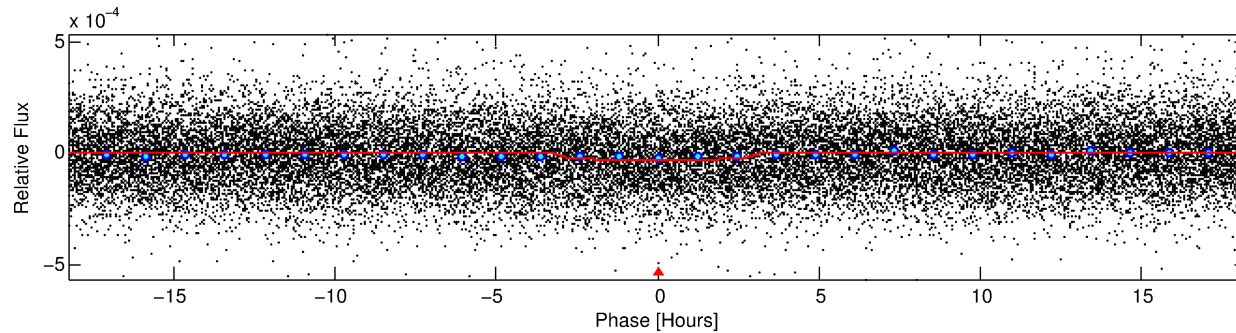
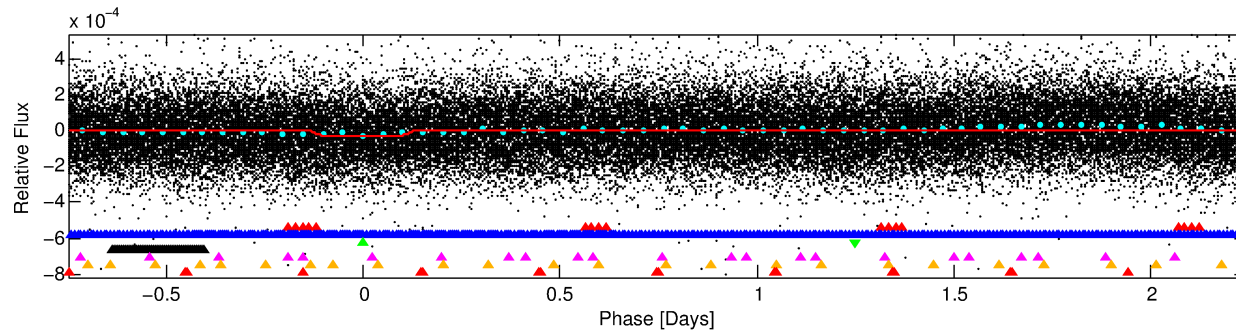
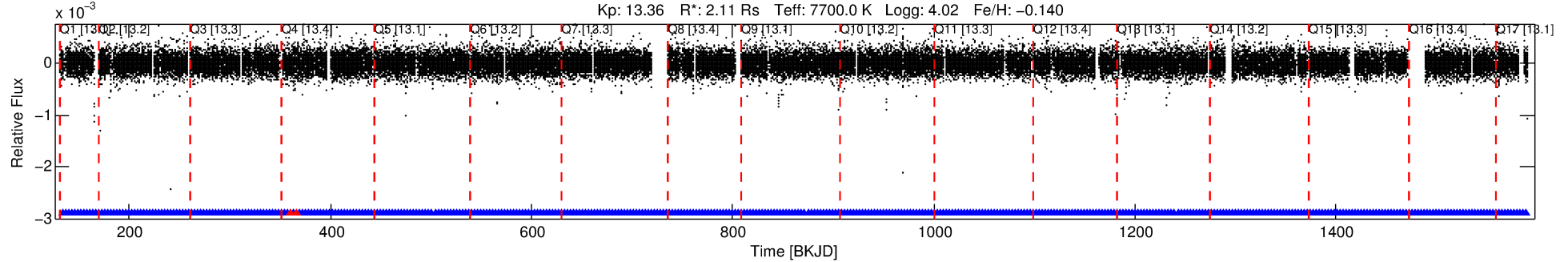
Ephemeris Match Information For 008164262-03

No Significant Match Found

DV One-Page Summary

KIC: 8164262 Candidate: 3 of 7 Period: 2.990 d
KOI: K01810 Corr: No Ephemeris Match

Kp: 13.36 R*: 2.11 Rs Teff: 7700.0 K Logg: 4.02 Fe/H: -0.140



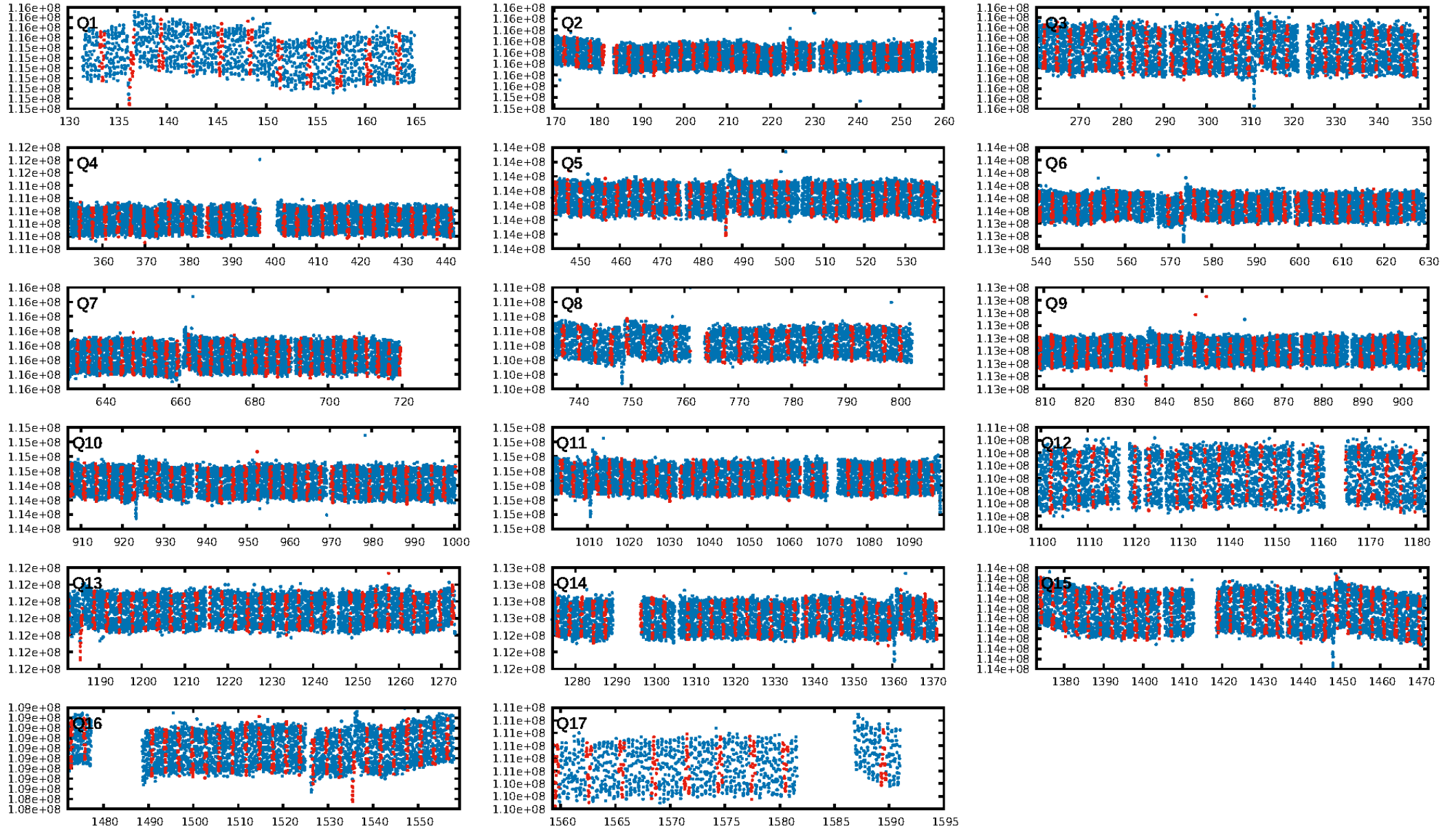
DV Fit Results:

Period = 2.98978 [0.00003] d
Epoch = 133.4447 [0.0058] BKJD
Rp/R* = 0.0058 [0.0016]
a/R* = 2.11 [2.73]
b = 0.87 [0.47]
Seff = 5984.07 [2302.43]
Teq = 2243 [216] K
Rp = 1.33 [0.52] Re
a = 0.0484 [0.0114] AU
Ag = 4.38 [3.40] [1.00σ]
Teffp = 5016 [893] K [3.02σ]

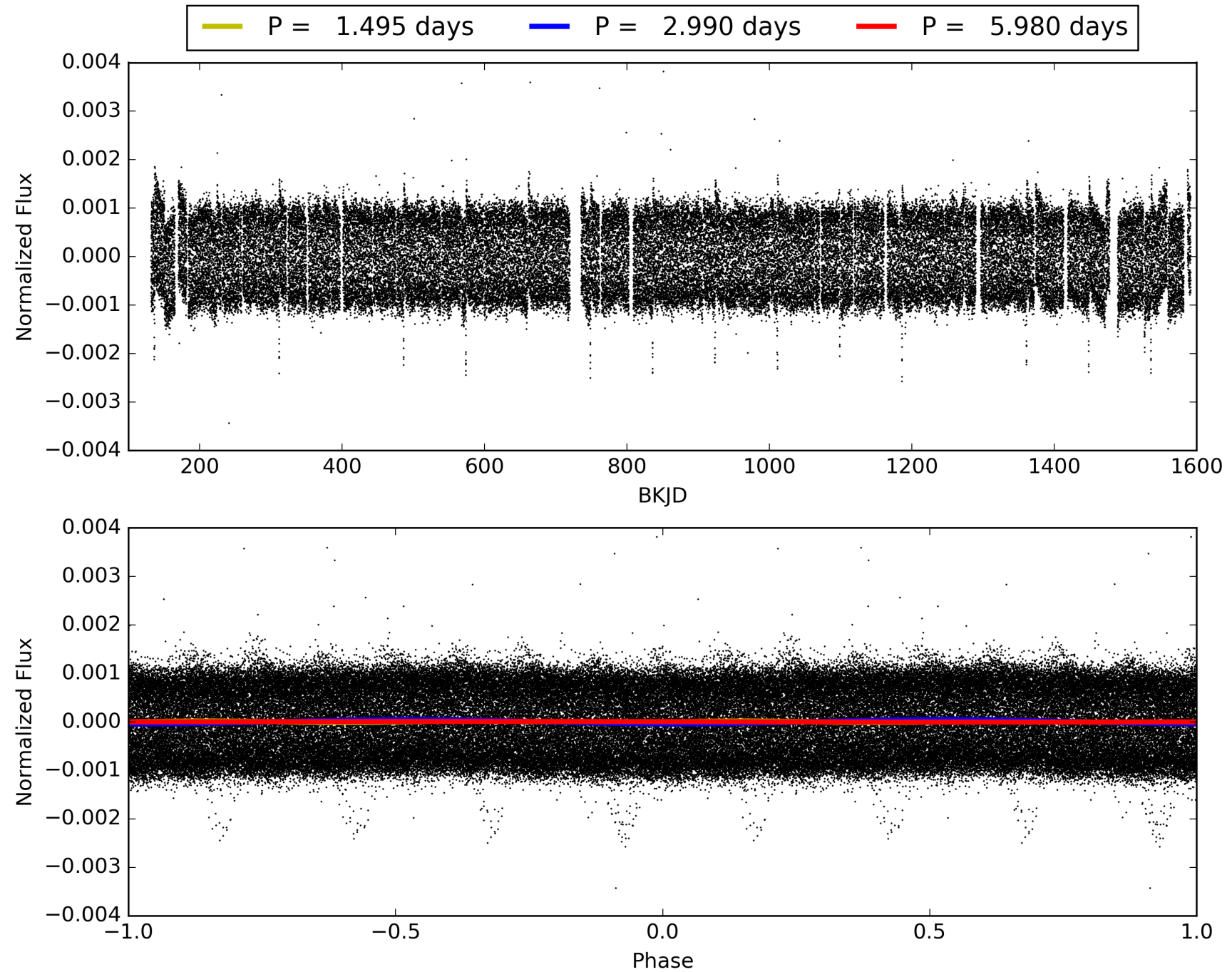
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 2.6% [0.03σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.54e-12
RollingBand-fgt: 1.00 [416/418]
GhostDiagnostic-chr: -12.3
Centroid-sig: 3.7%
Centroid-so: 1.954 arcsec [1.86σ]
OotOffset-rm: 0.725 arcsec [1.11σ]
KicOffset-rm: 0.709 arcsec [0.99σ]
OotOffset-st: 2/3/4/2 [11]
KicOffset-st: 2/3/4/2 [11]
DiffImageQuality-fgm: 0.64 [7/11]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 008164262-03, PDC Light Curves

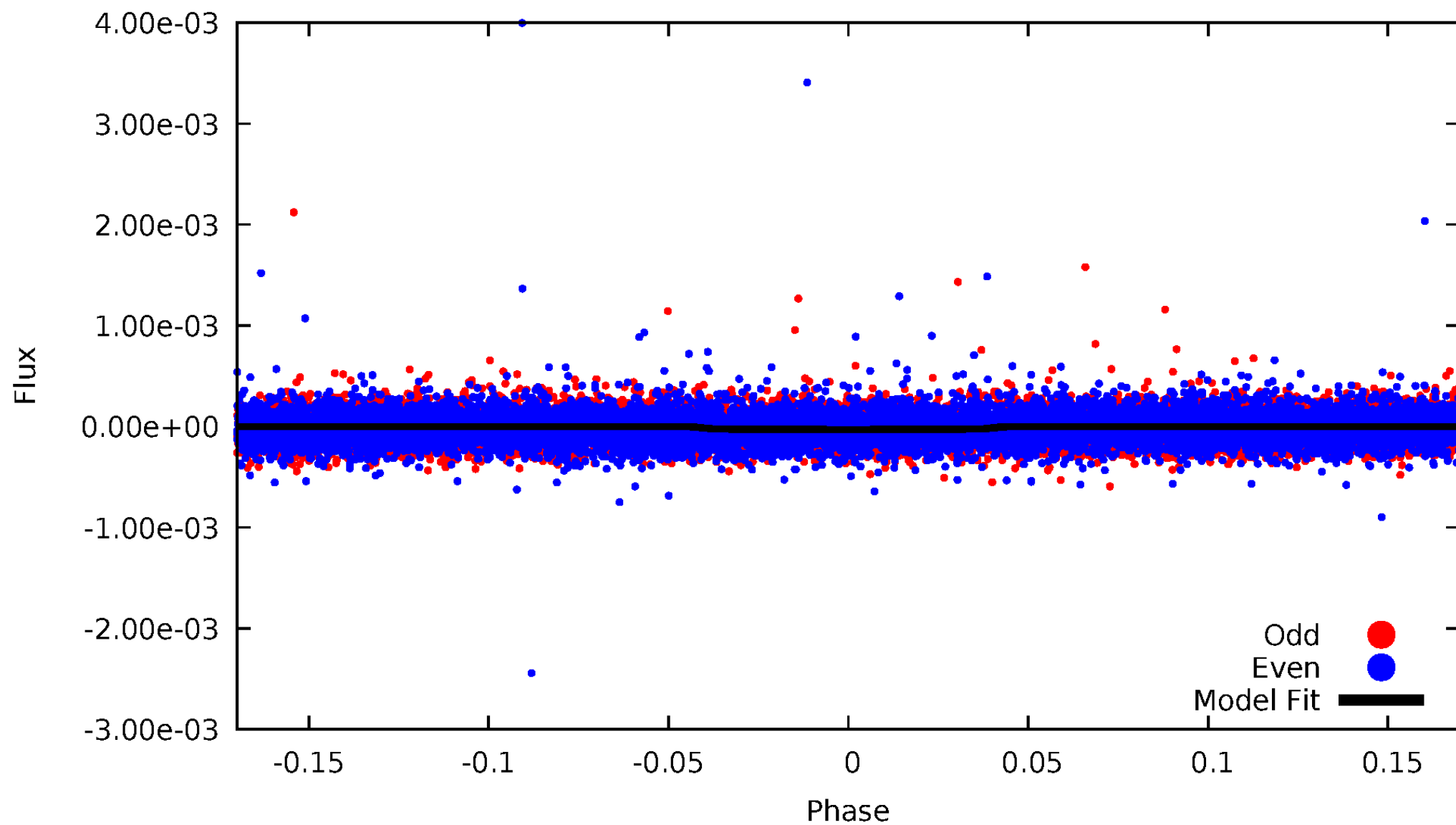


TCE 008164262-03



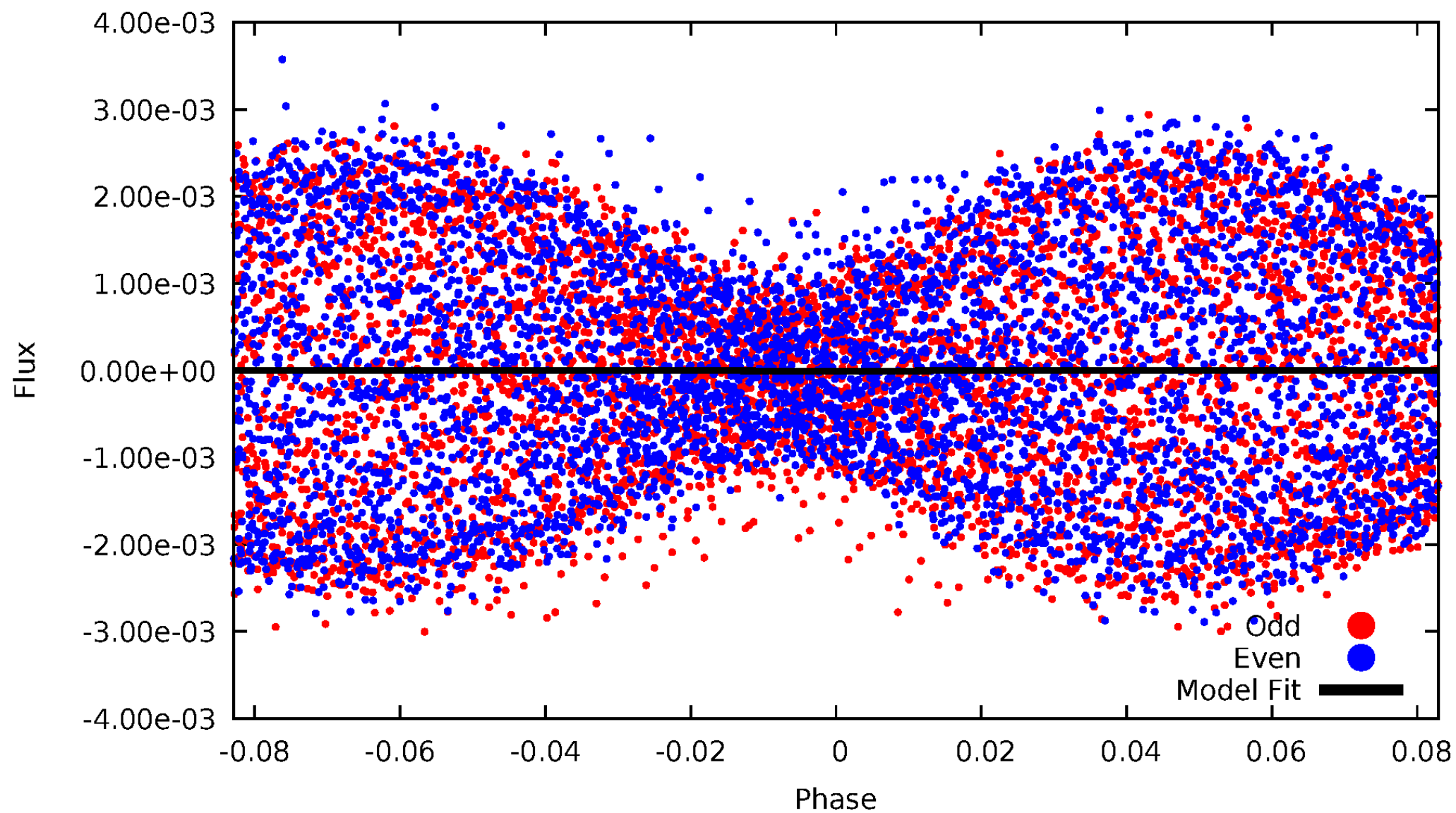
DV Odd/Even

TCE 008164262-03



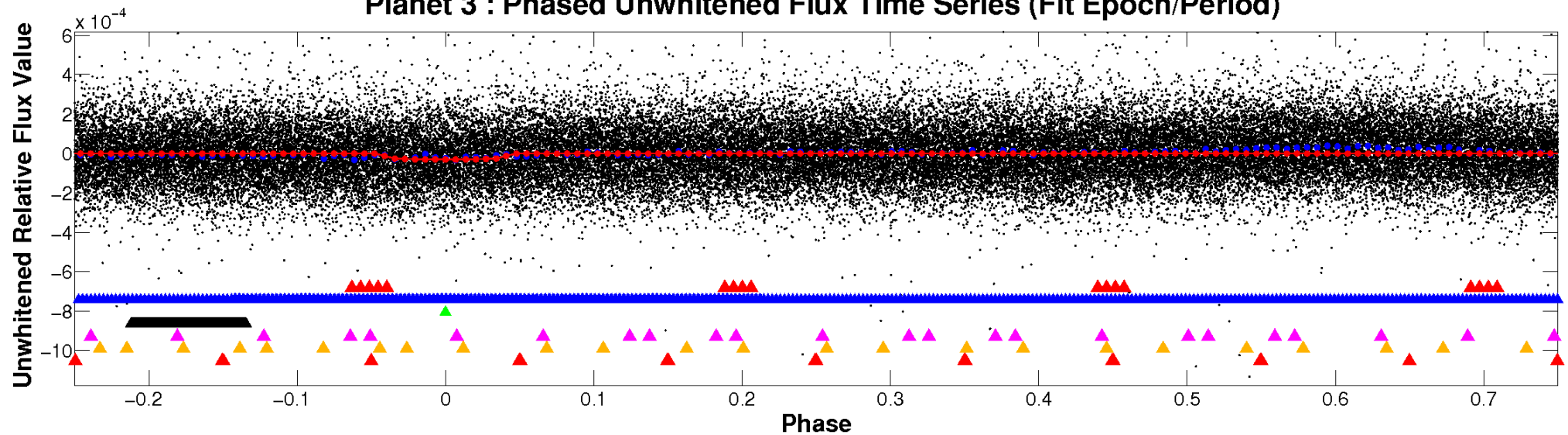
ALT Odd/Even

TCE 008164262-03

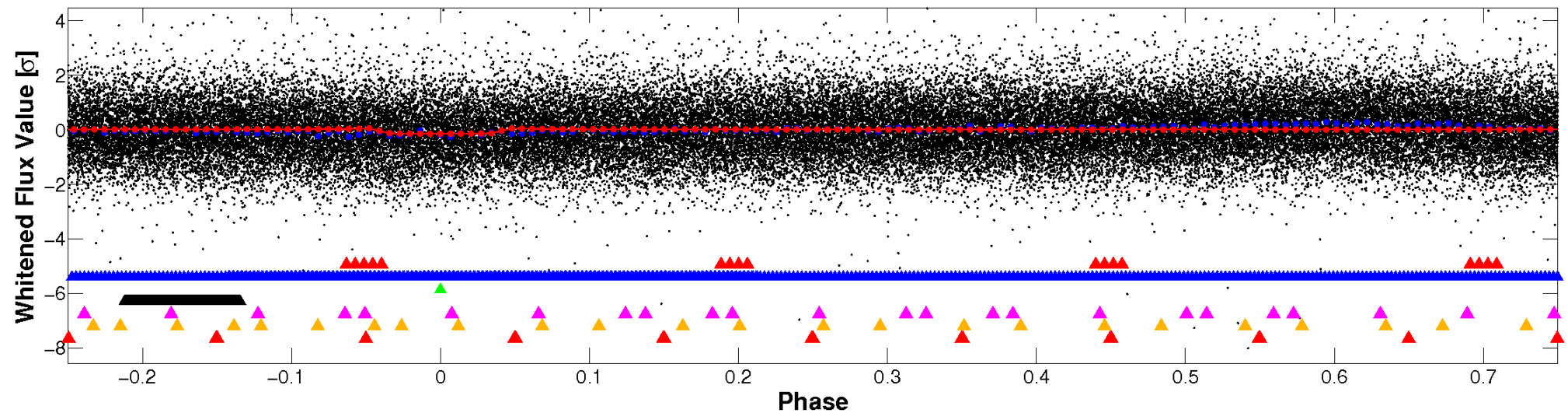


Non-Whitened Vs. Whitened Light Curve

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

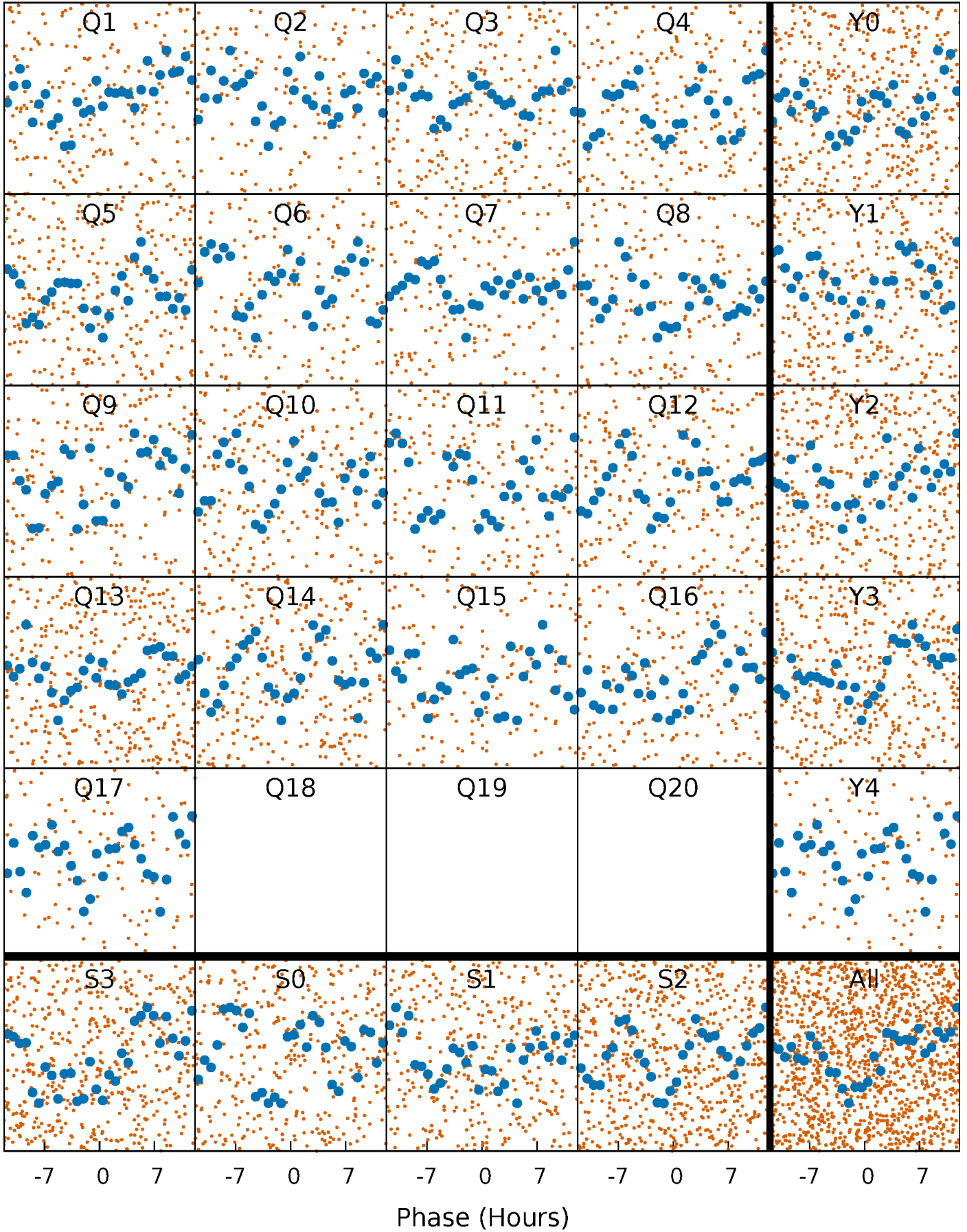


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



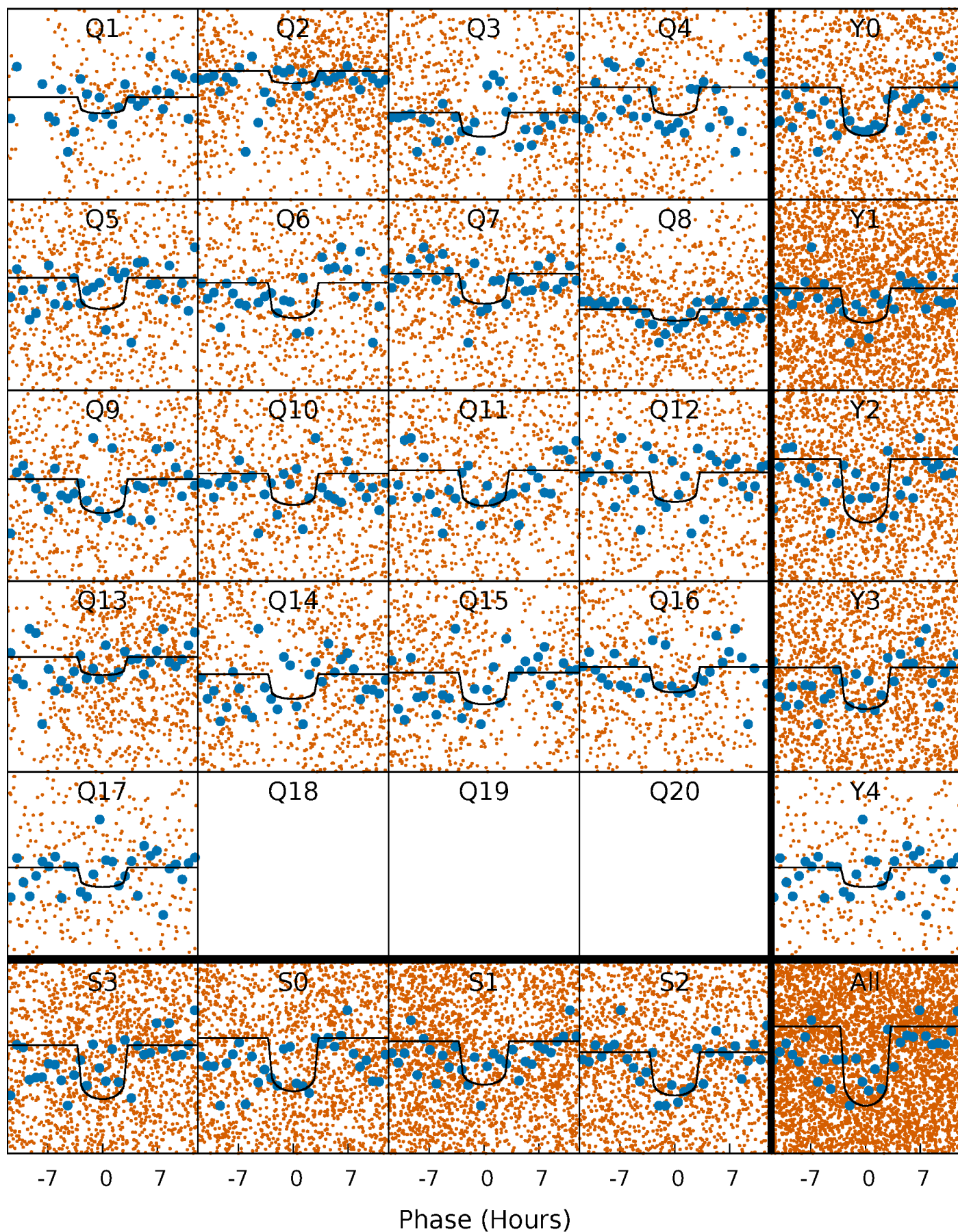
PDC Quarter-Phased Transit Curves

TCE 008164262-03 P= 2.989781 Days $T_0=133.444681$ (BKJD)



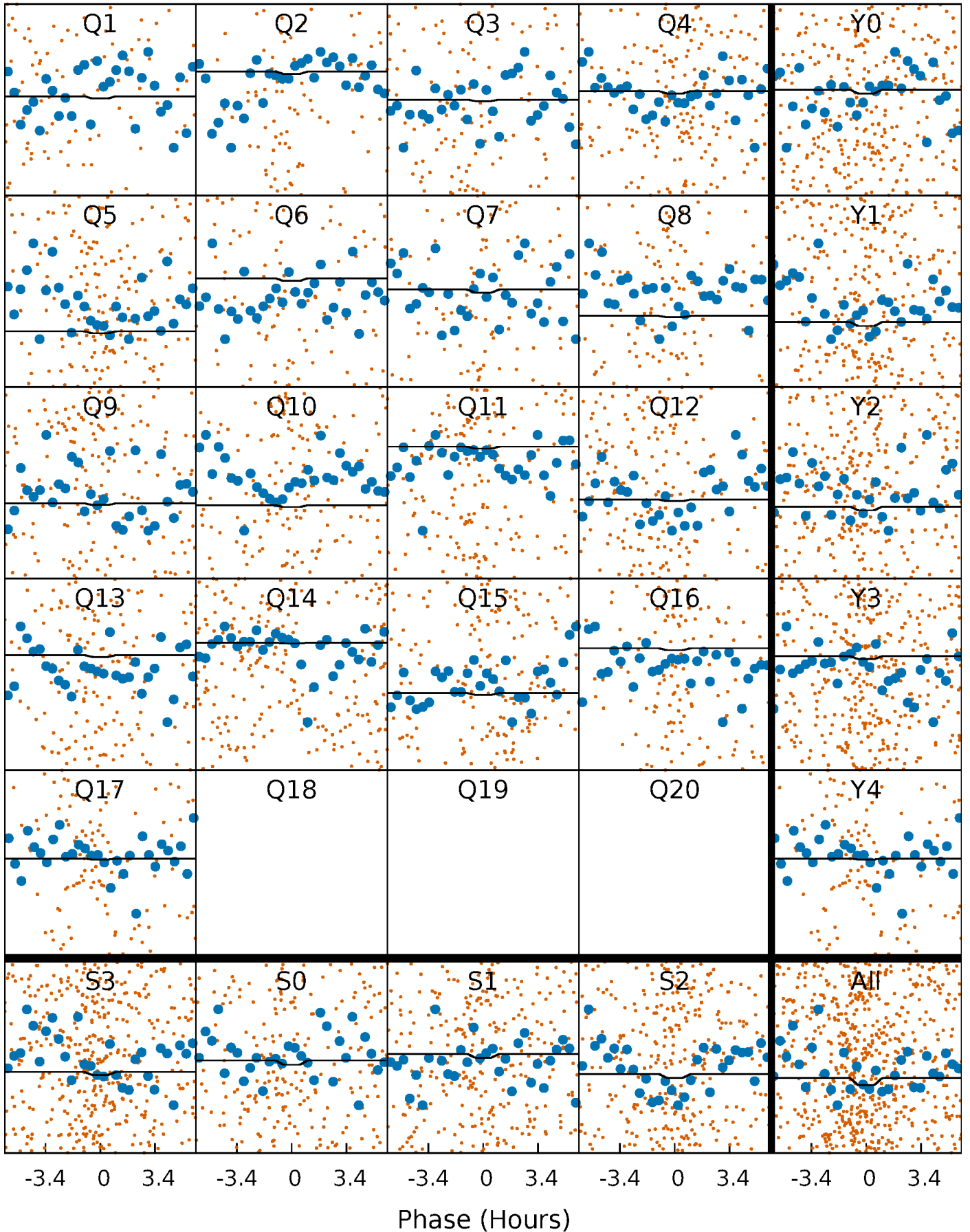
DV Quarter-Phased Transit Curves

TCE 008164262-03 P= 2.989781 Days $T_0=133.444681$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

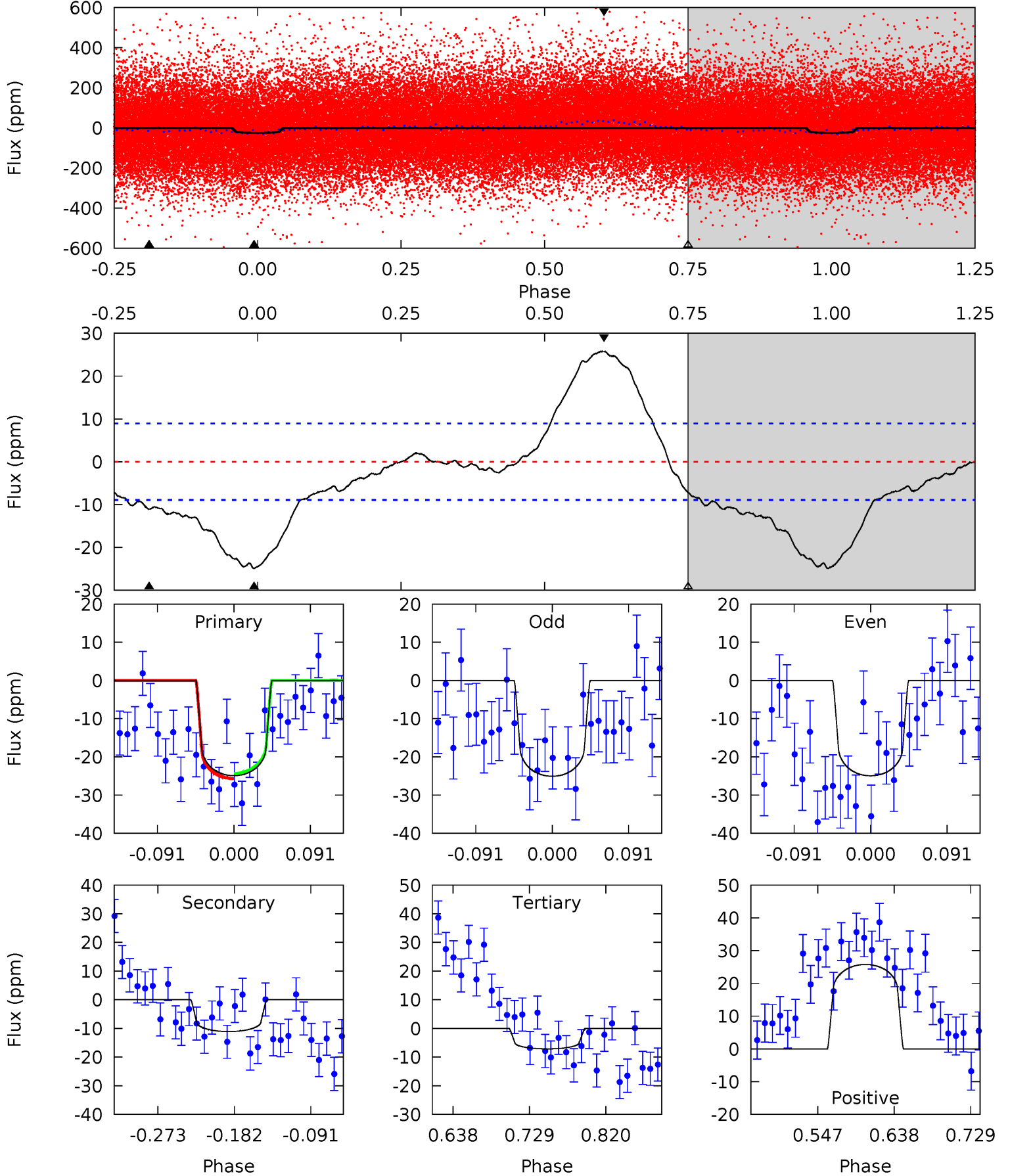
TCE 008164262-03 P= 2.989425 Days $T_0=133.476320$ (BKJD)



DV Model-Shift Uniqueness Test

008164262-03, P = 2.989781 Days, E = 130.454900 Days

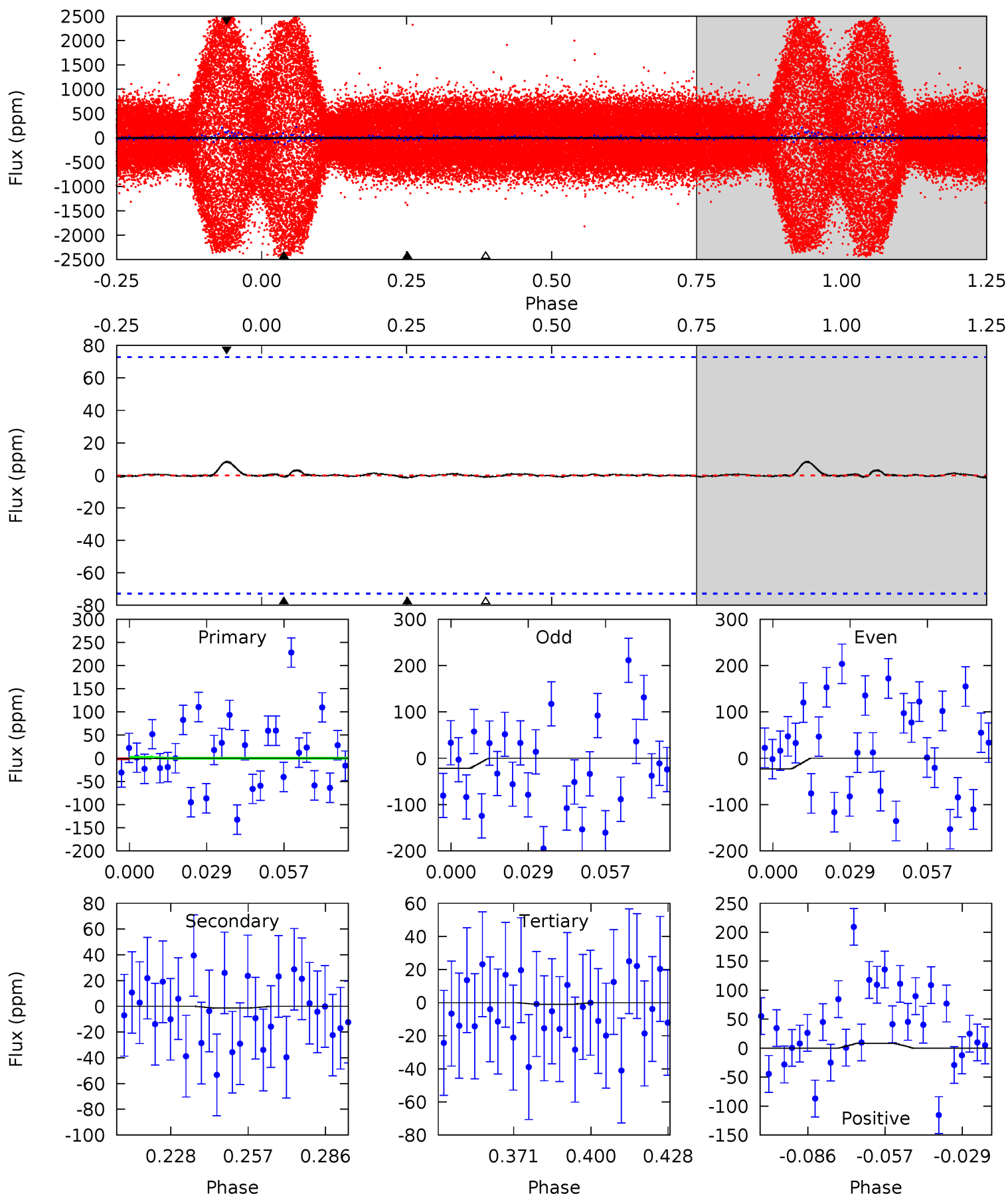
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	5.70	3.67	13.2	4.58	1.69	5.20	9.13	-0.44	2.02	-7.54	0.03	0.95	0.51	0.35



Alt Model-Shift Uniqueness Test

008164262-03, P = 2.989425 Days, E = 130.486895 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.06	0.09	0.07	0.56	4.82	2.19	0.09	-0.01	-0.49	0.02	-0.47	0.03	0.75	0.87	0.03



Stellar Parameters For KIC 008164262

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7700^{+237}_{-316}	$4.018^{+0.193}_{-0.140}$	$-0.140^{+0.200}_{-0.350}$	$2.111^{+0.525}_{-0.578}$	$1.692^{+0.198}_{-0.298}$	$0.254^{+0.309}_{-0.104}$
	+3%/-4%	+5%/-3%	+143%/-250%	+25%/-27%	+12%/-18%	+122%/-41%
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 008164262-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-11 ± 2	$1.28^{+0.40}_{-0.40}$	3103^{+224}_{-240}	5708^{+1146}_{-692}	$8.570^{+9.612}_{-3.705}$
Alt.	-1 ± 15	$0.69^{+0.39}_{-0.34}$	3102^{+225}_{-232}	4596^{+5398}_{-13980}	$3.430^{+54.781}_{-48.208}$

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

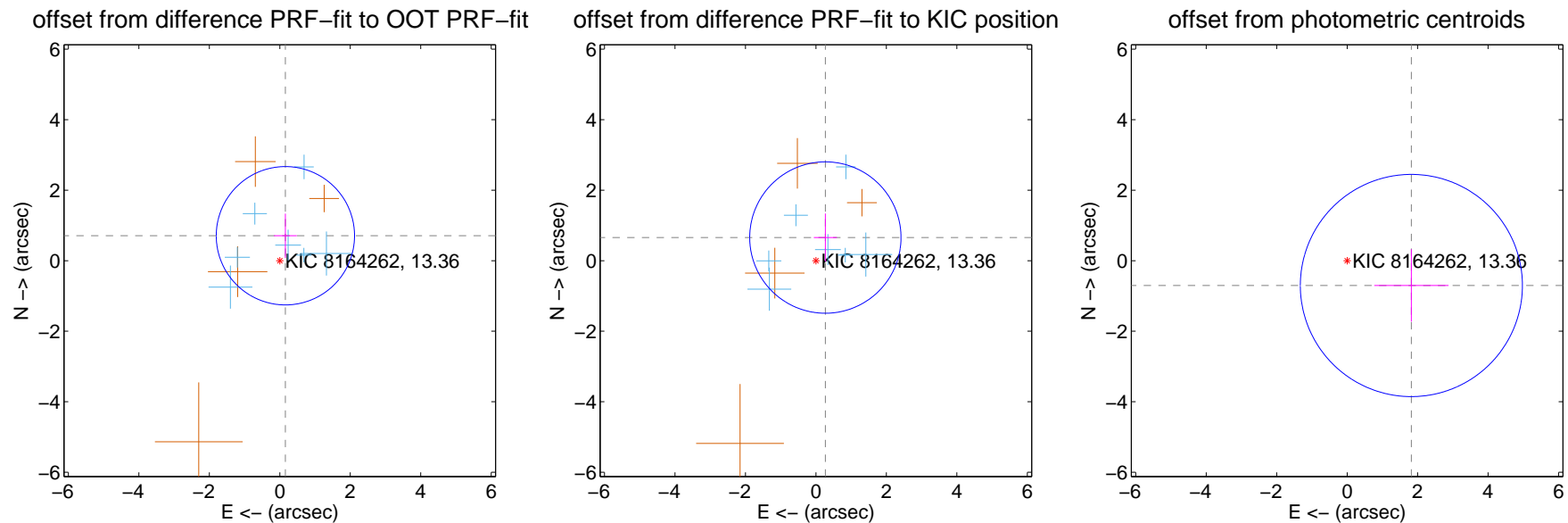
DV Centroid Data

Supplemental centroid analysis for 008164262-03. Kepler magnitude: 13.36. Transit SNR 9.61

There are 7 quarters with good PRF difference image offsets

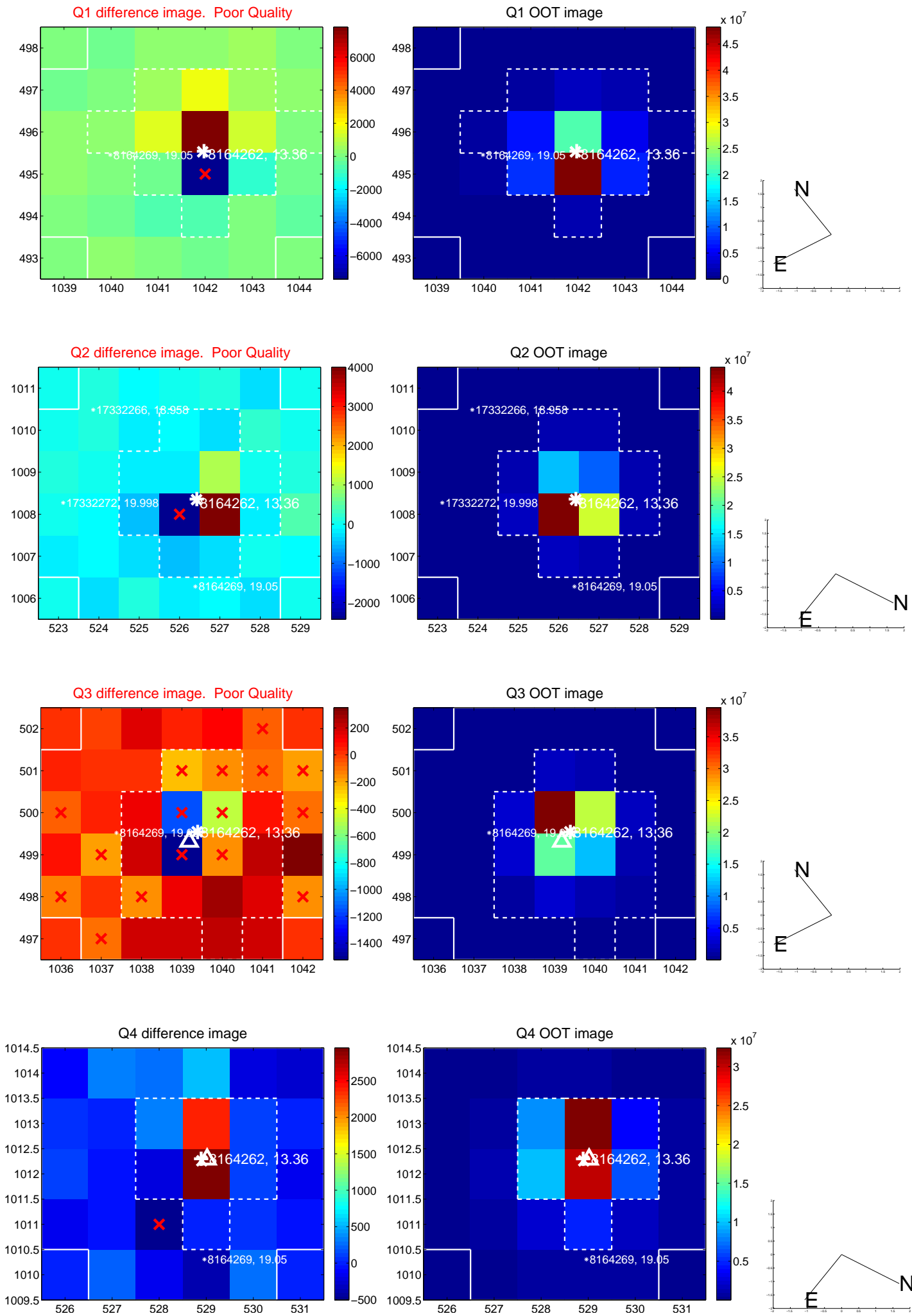
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.725 ± 0.654	1.11	-0.159 ± 0.323	0.708 ± 0.629
PRF-fit source offset from KIC position	0.709 ± 0.716	0.99	-0.268 ± 0.327	0.657 ± 0.682
photometric centroid source offset	1.95 ± 1.05	1.86	-1.82 ± 1.05	-0.70 ± 1.03

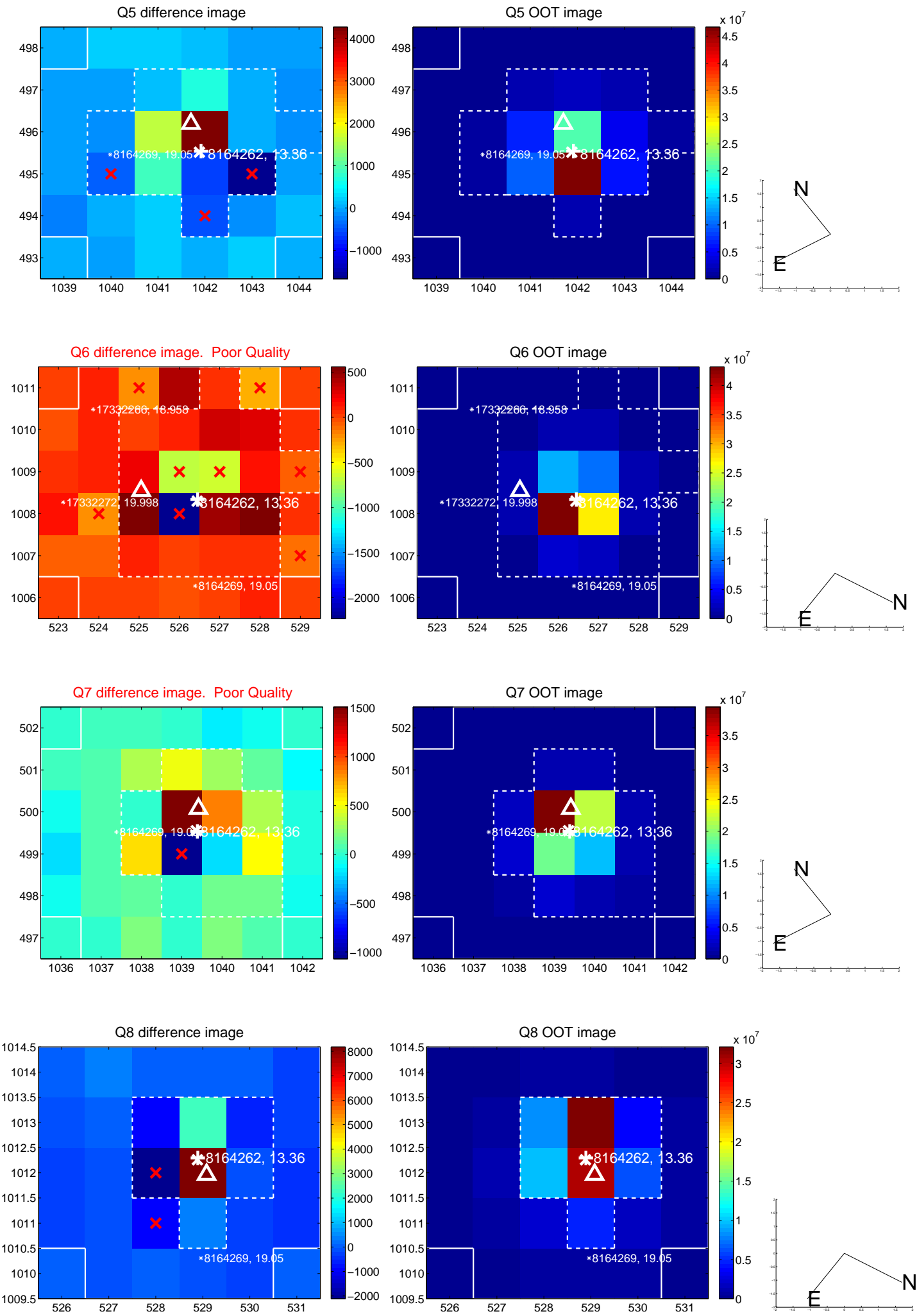


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

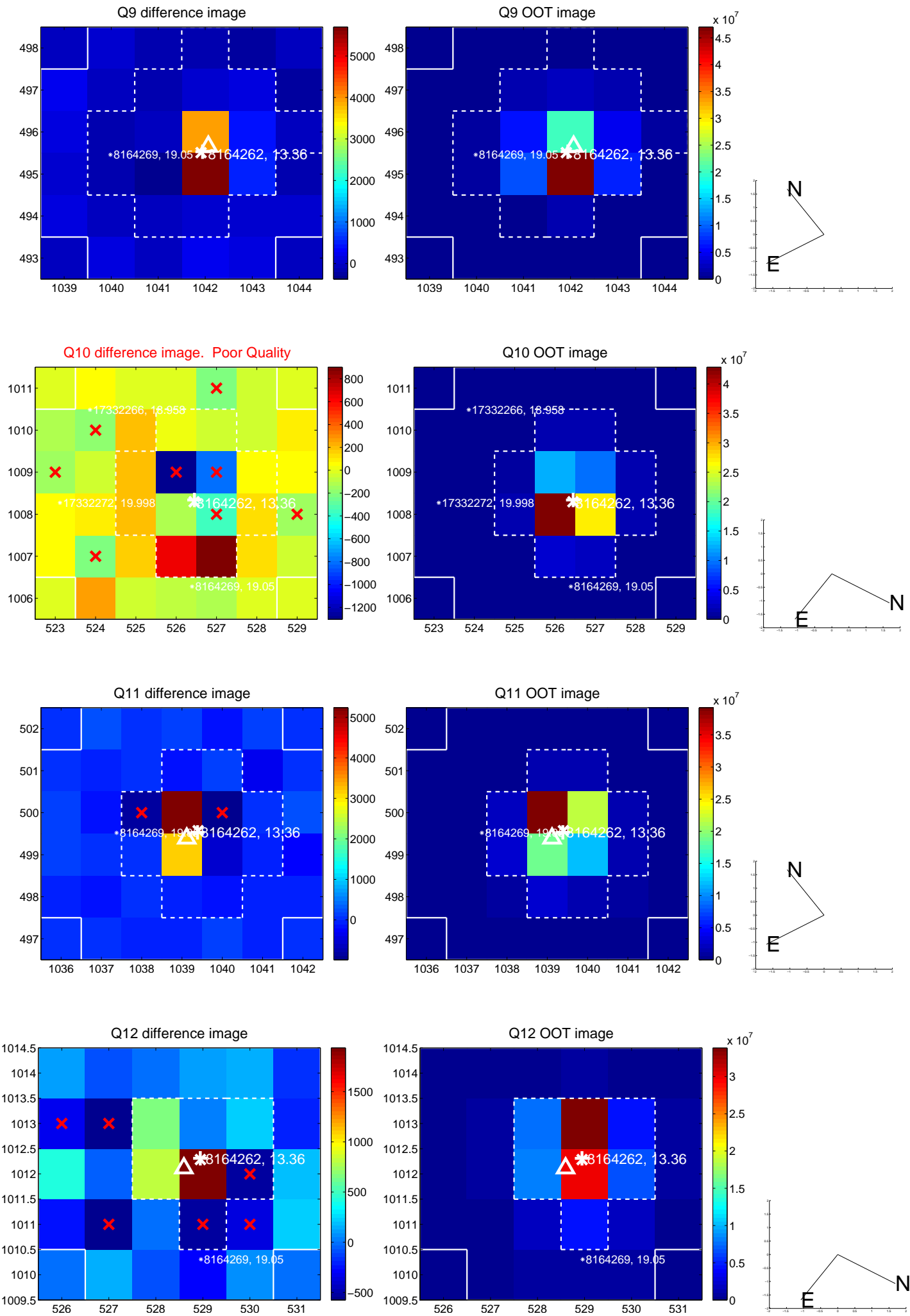
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



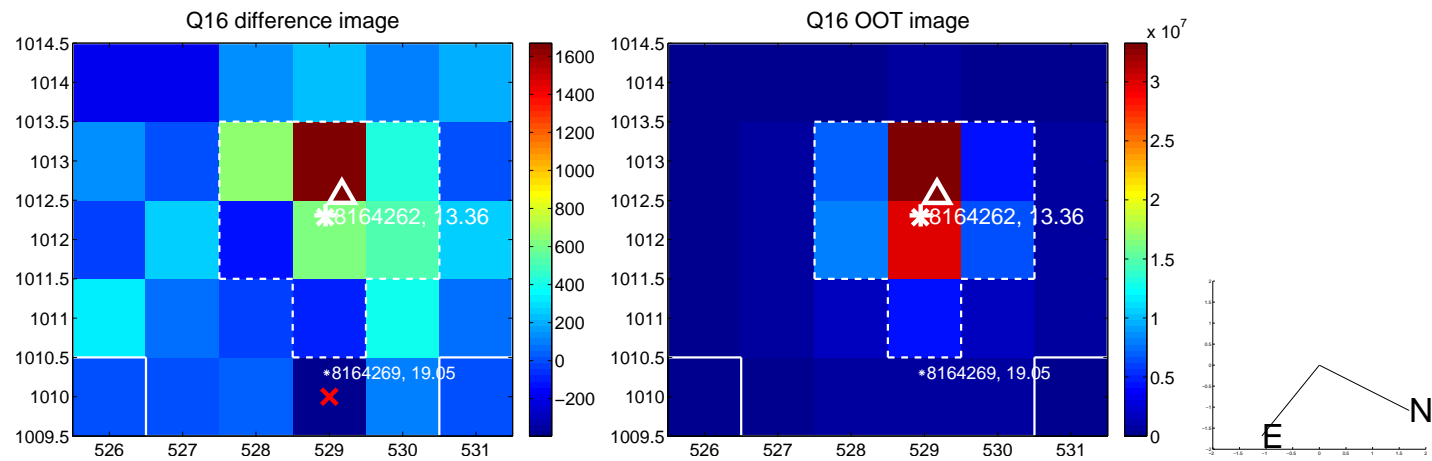
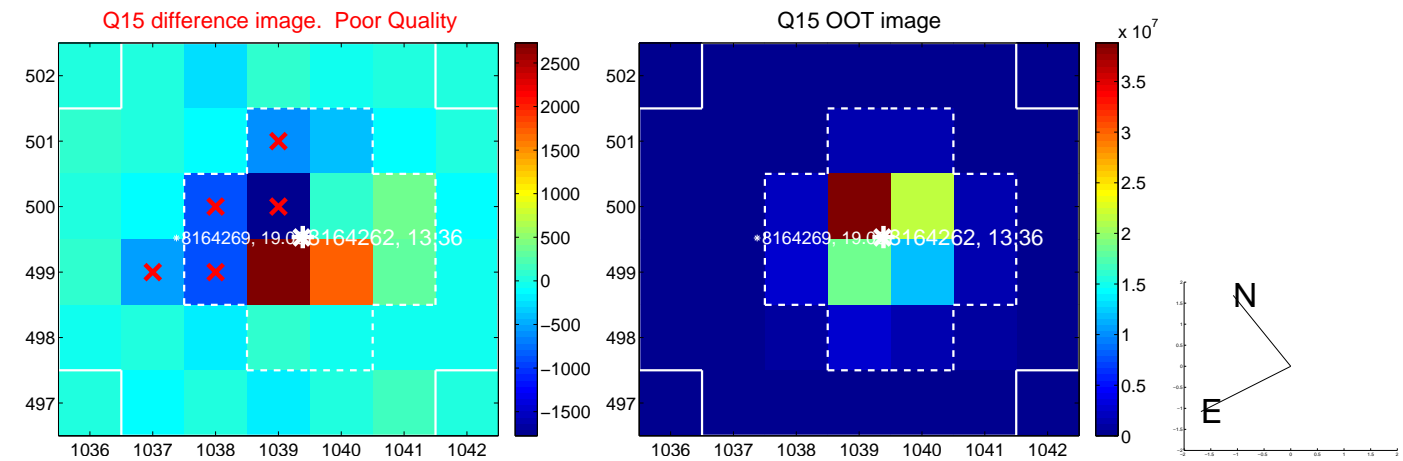
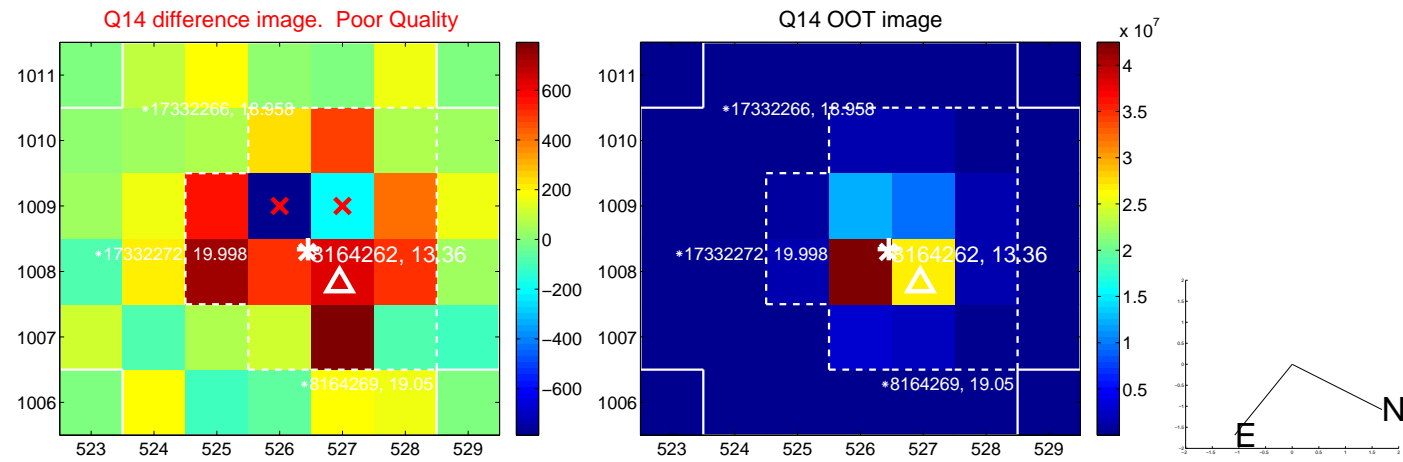
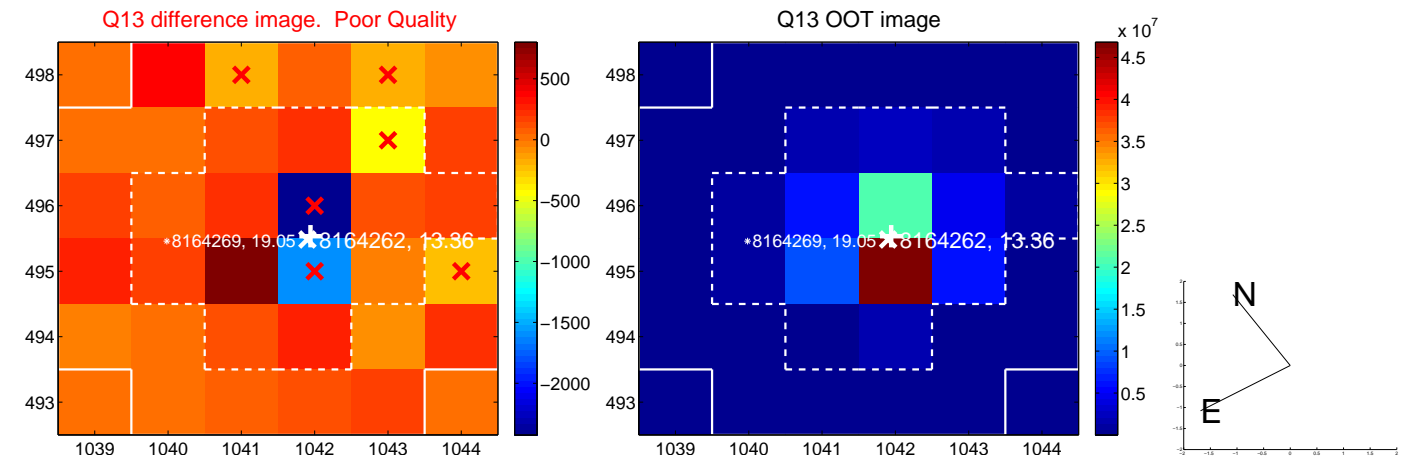
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



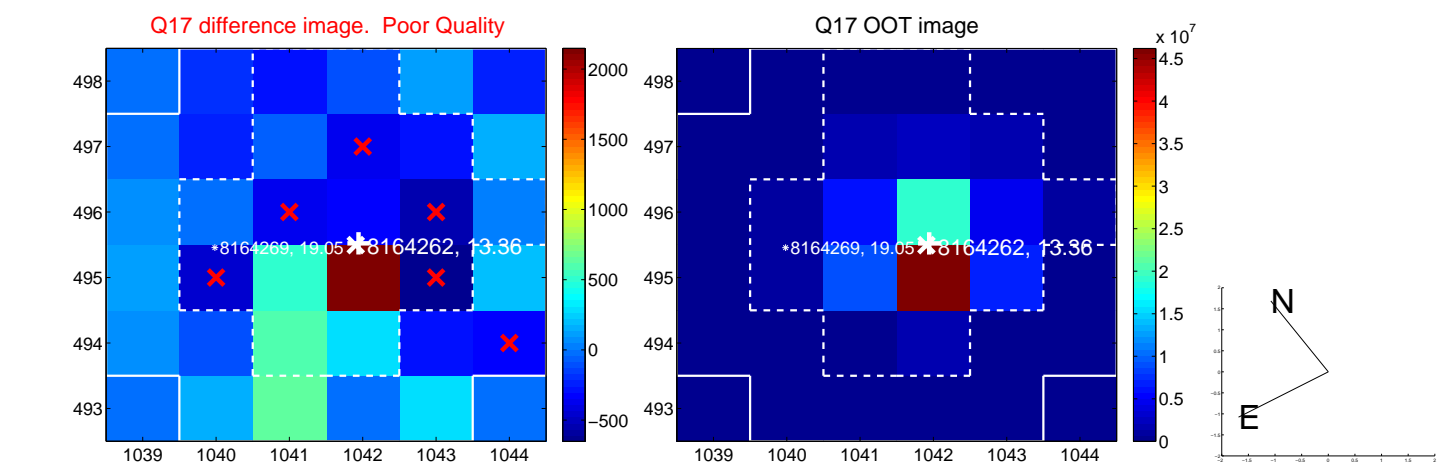
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



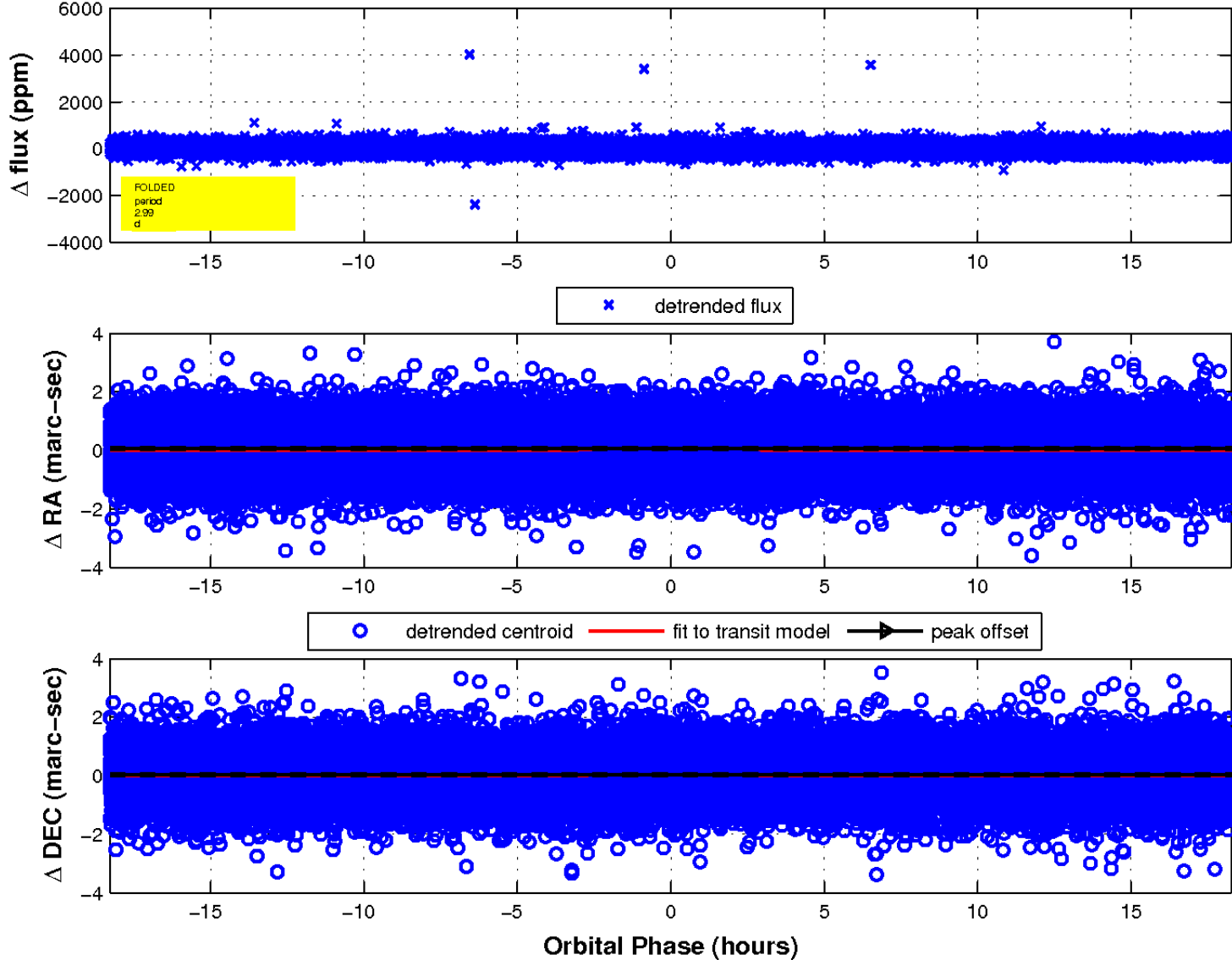
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

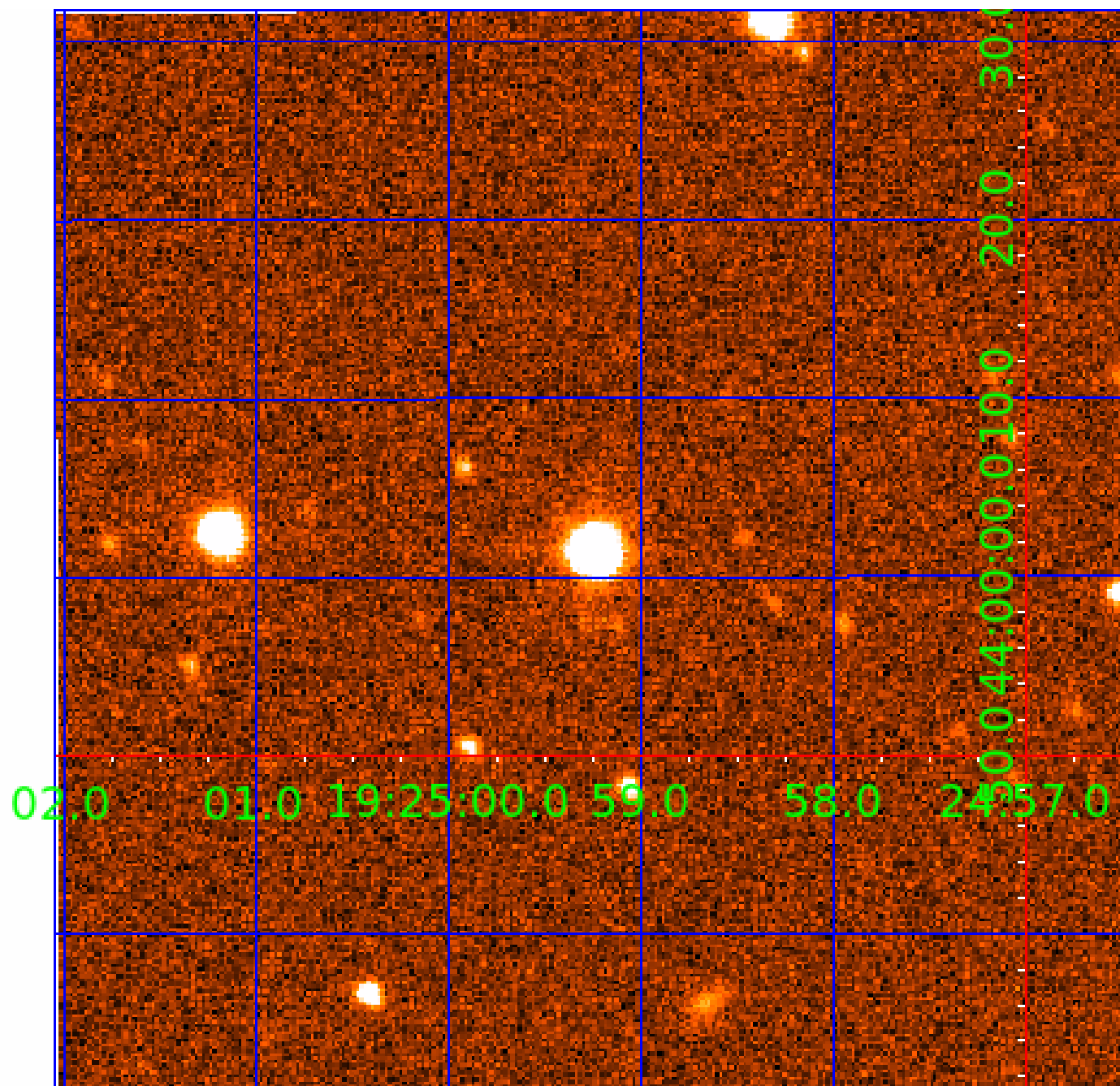


fluxWeightedCentroids, Planet 3 of 7



UKIRT Image

Declination



KIC 008164262

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})
008164262-01	OBS	1810.01	87.455497	136.245745	1550.7	16.981	75.8	84.6	2.11	7700	15.29	66.39
008164262-02	OBS	No	2.998115	133.019634	5.3	0.643	10.9	0.3	2.11	7700	0.52	5961.91
008164262-03	OBS	No	2.989781	133.444681	30.6	6.094	10.3	9.6	2.11	7700	1.33	5984.07
008164262-04	OBS	No	2.989302	133.043204	38.1	20.004	12.4	14.8	2.11	7700	1.75	5985.35
008164262-06	OBS	No	60.077771	171.669520	105.0	8.993	9.6	6.3	2.11	7700	2.44	109.54
008164262-07	OBS	No	78.631463	205.944685	272.5	1.760	7.9	8.2	2.11	7700	3.86	76.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008164262-01	OBS	FP	0.00	1	0	0	0	LPP_ALT—MOD_NONUNIQ_ALT
008164262-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008164262-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008164262-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008164262-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008164262-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

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

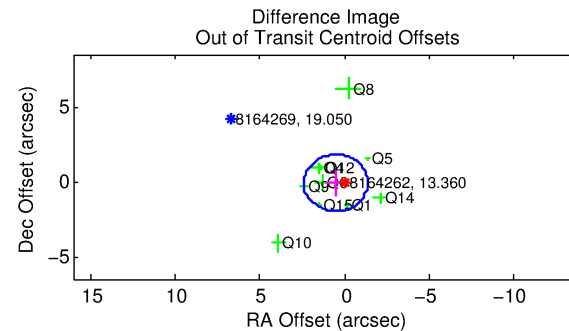
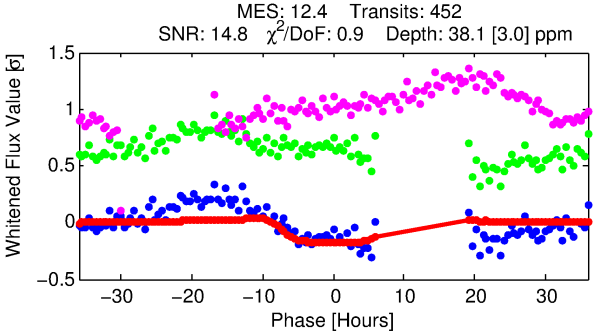
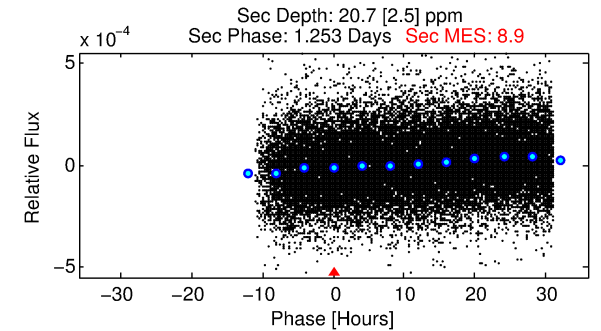
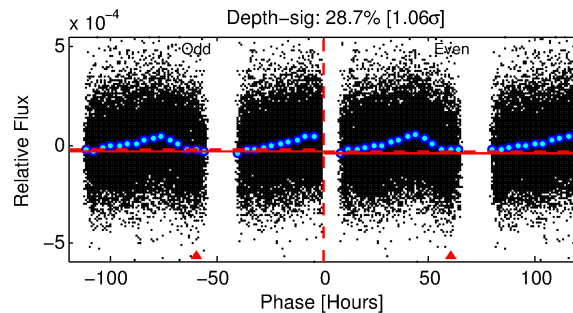
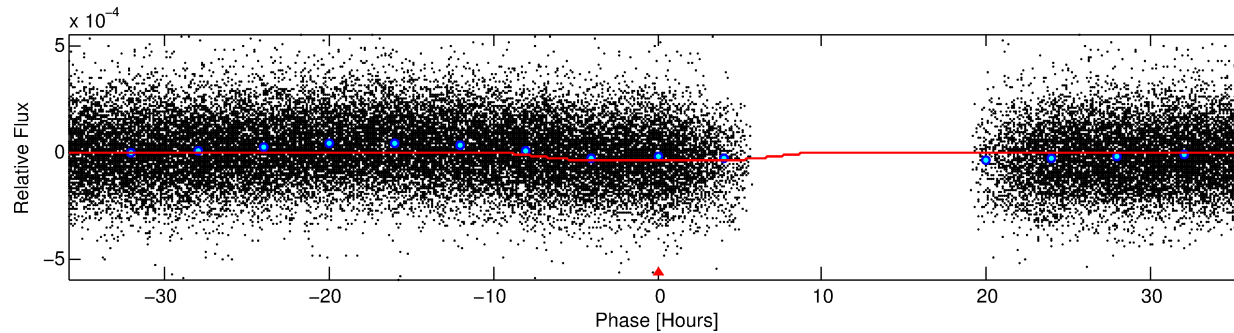
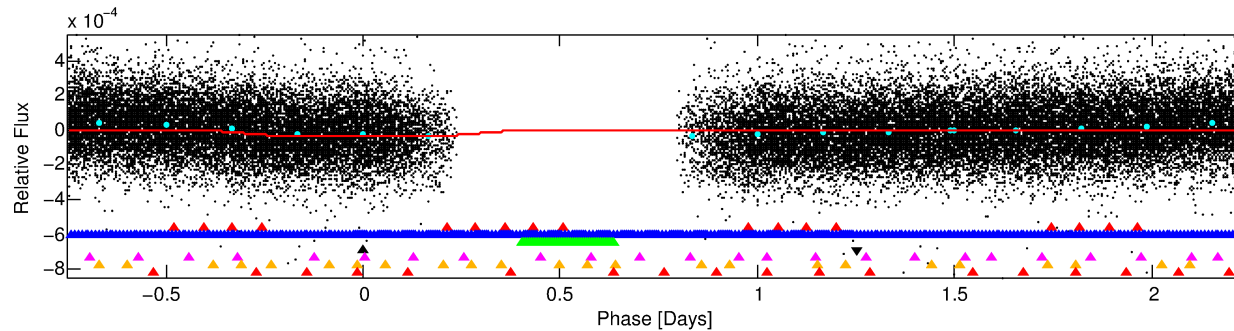
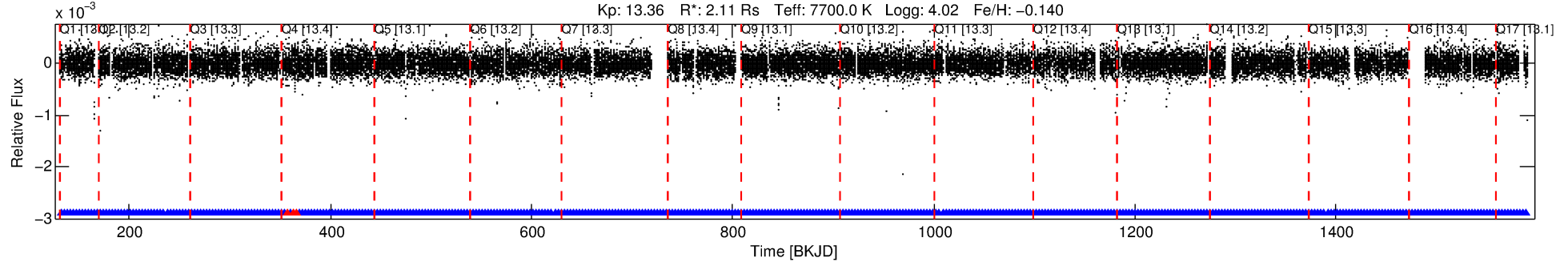
Ephemeris Match Information For 008164262-04

No Significant Match Found

DV One-Page Summary

KIC: 8164262 Candidate: 4 of 7 Period: 2.989 d
KOI: K01810 Corr: No Ephemeris Match

Kp: 13.36 R*: 2.11 Rs Teff: 7700.0 K Logg: 4.02 Fe/H: -0.140



DV Fit Results:

Period = 2.98930 [0.00011] d
Epoch = 133.0432 [0.0653] BKJD
Rp/R* = 0.0076 [0.0003]
a/R* = 1.02 [0.01]
b = 0.99 [0.01]
Seff = 5985.35 [2302.92]
Teq = 2243 [216] K
Rp = 1.75 [0.49] Re
a = 0.0484 [0.0114] AU
Ag = 8.72 [3.32] [2.33σ]
Teff = 5959 [335] K [9.33σ]

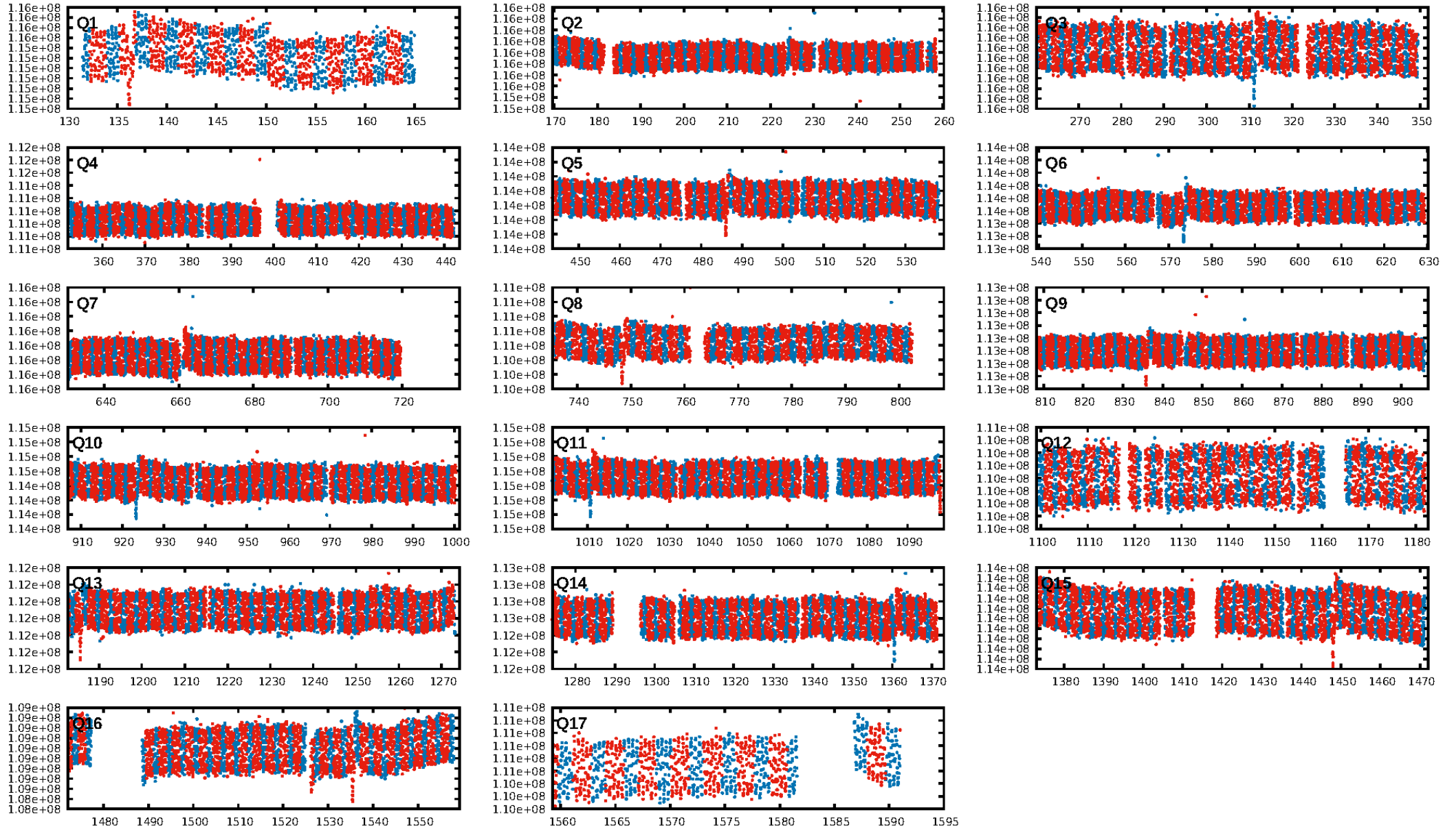
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.45e-16
RollingBand-fgt: 0.99 [431/434]
GhostDiagnostic-chr: 20.26
Centroid-sig: 71.0%
Centroid-so: 0.245 arcsec [0.44σ]
OotOffset-rm: 0.524 arcsec [0.83σ]
OotOffset-st: 3/1/3/3 [10]
KicOffset-rm: 0.427 arcsec [0.61σ]
KicOffset-st: 3/1/3/3 [10]
DiffImageQuality-fgm: 0.70 [7/10]
DiffImageOverlap-fno: 0.00 [0/17]

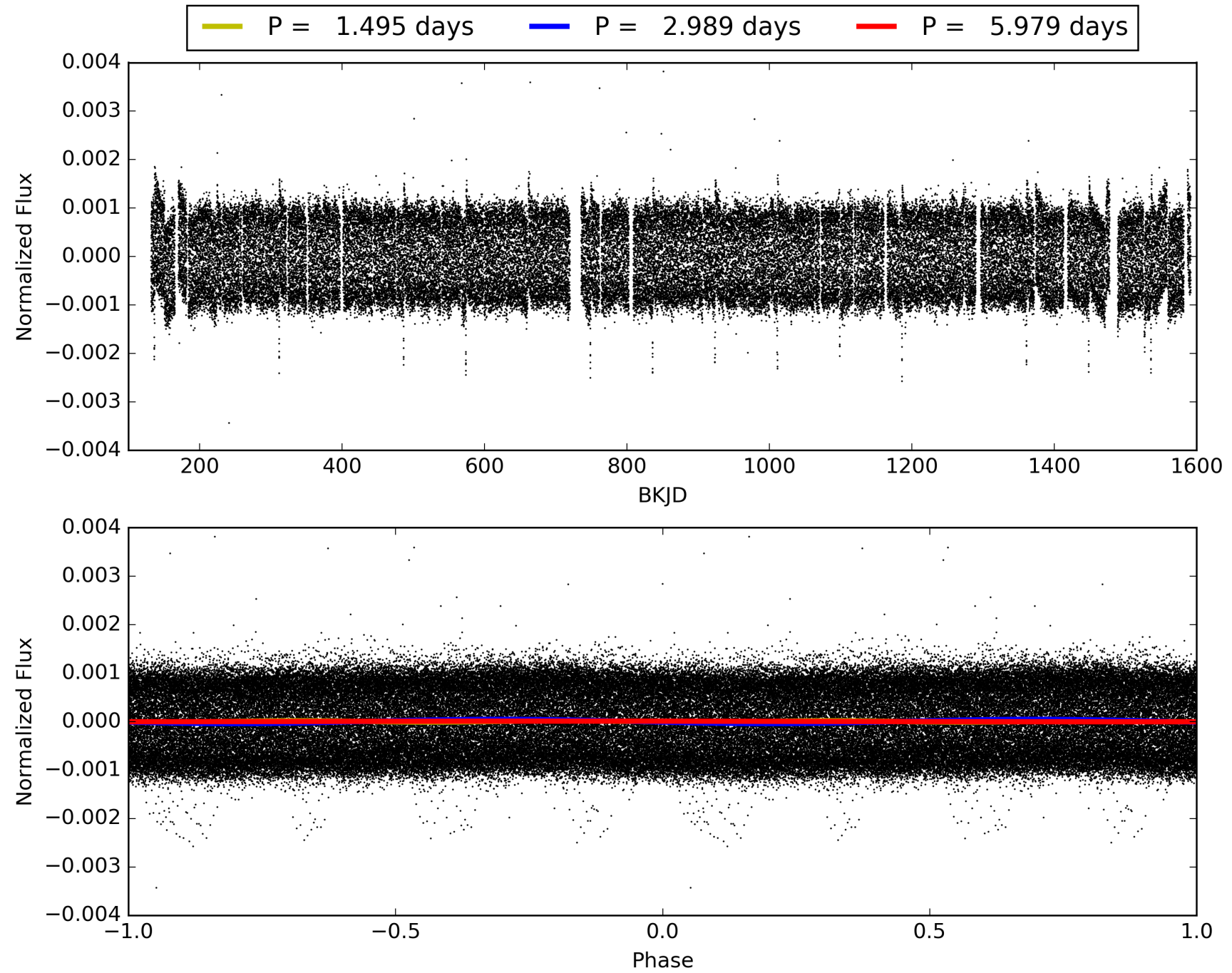
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:26:20 Z

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

TCE 008164262-04, PDC Light Curves

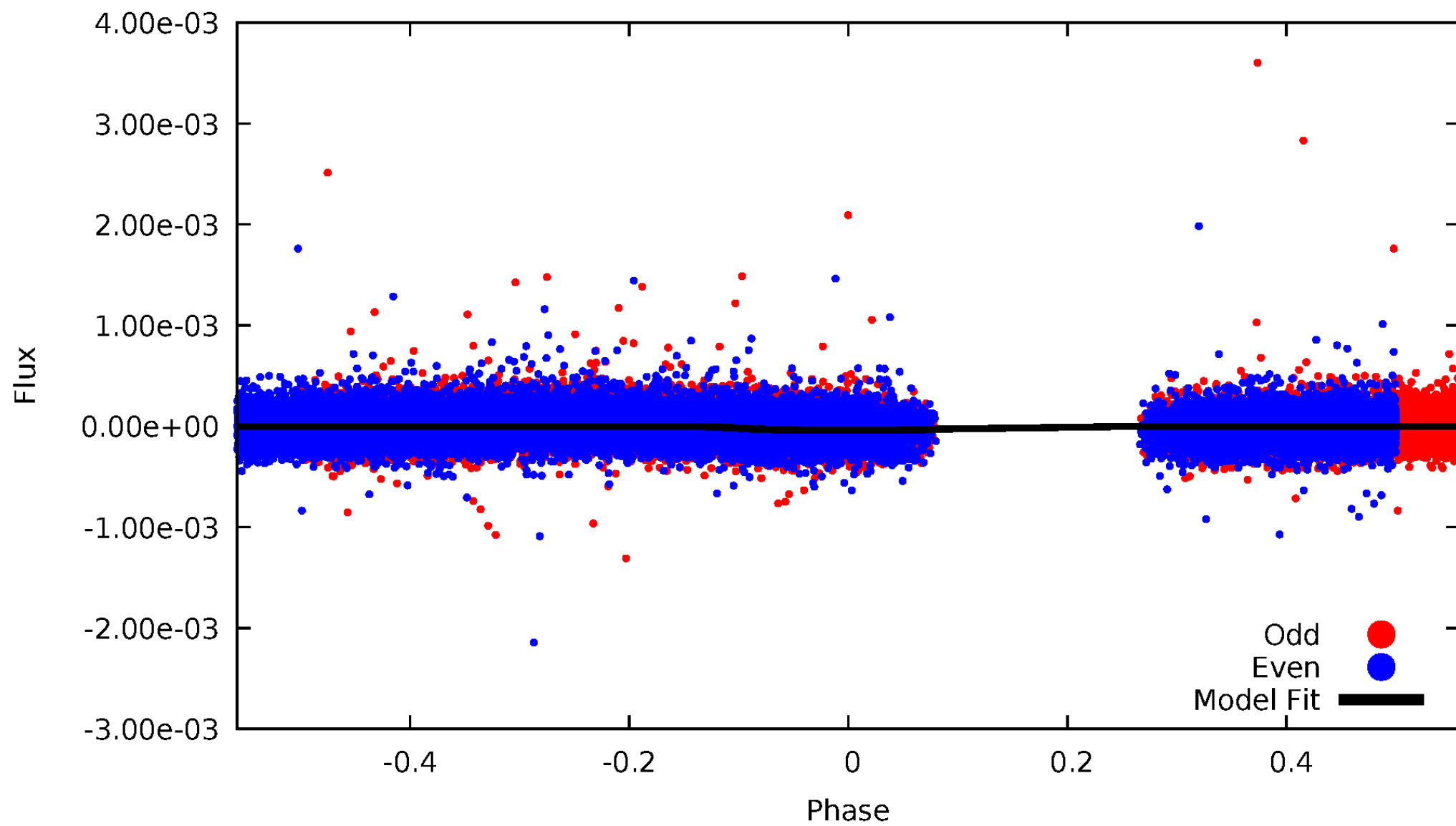


TCE 008164262-04



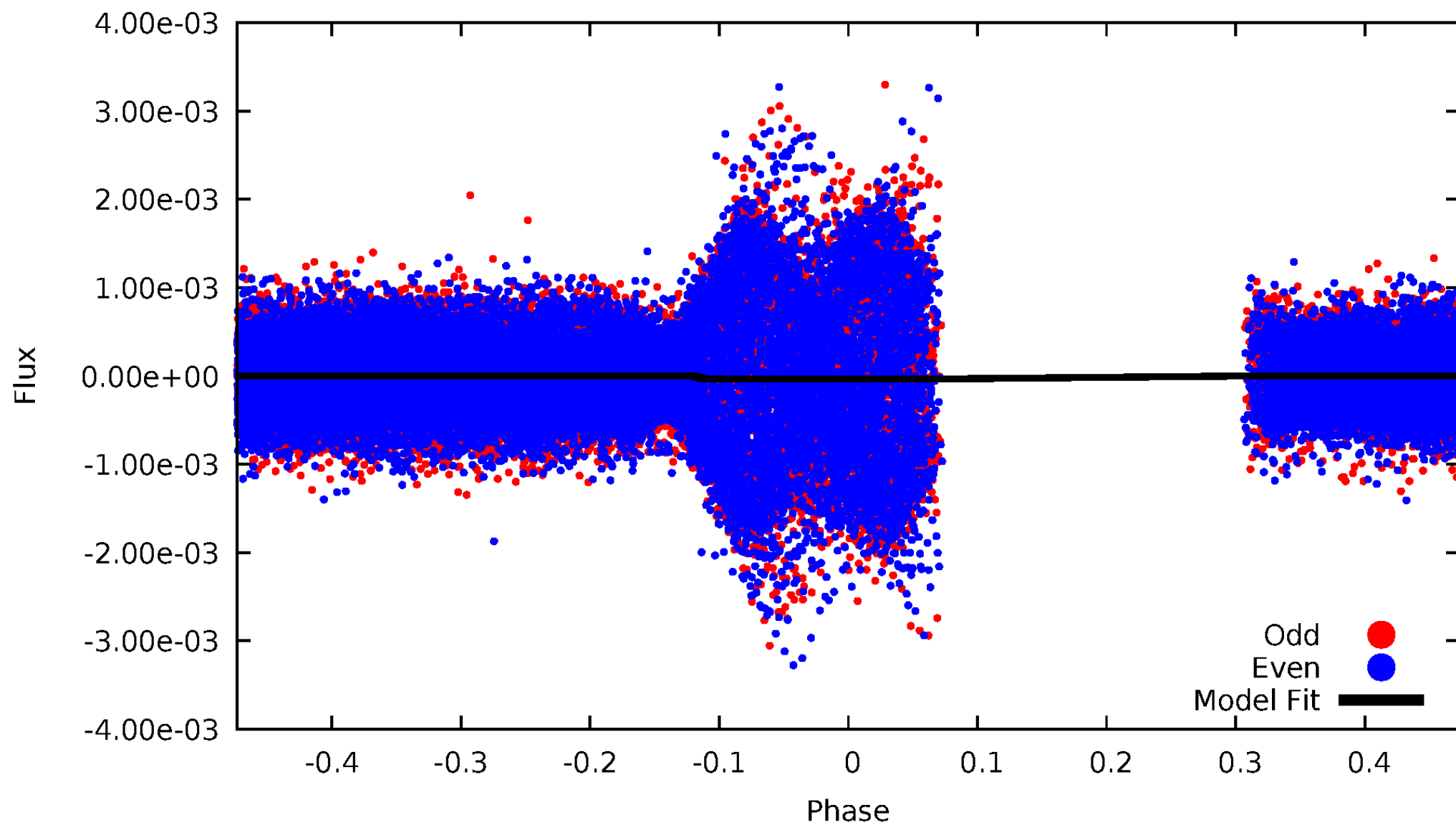
DV Odd/Even

TCE 008164262-04



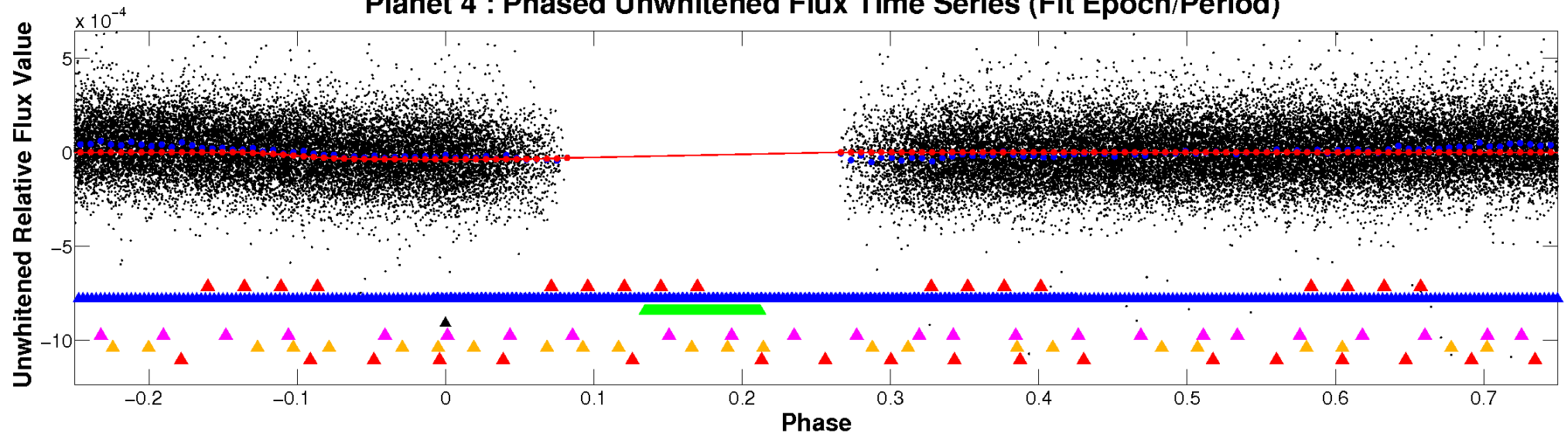
ALT Odd/Even

TCE 008164262-04

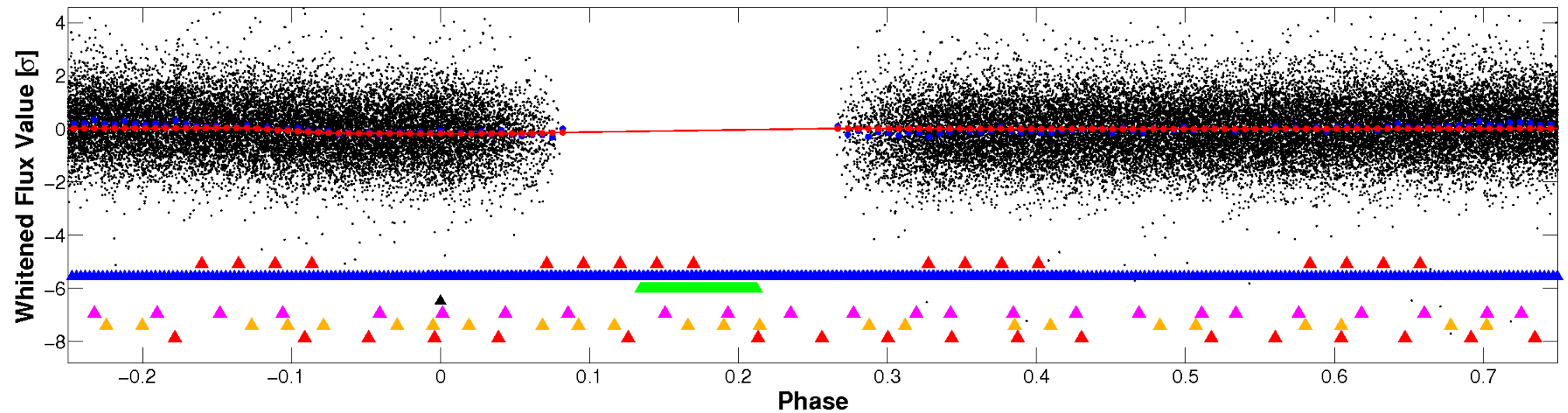


Non-Whitened Vs. Whitened Light Curve

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

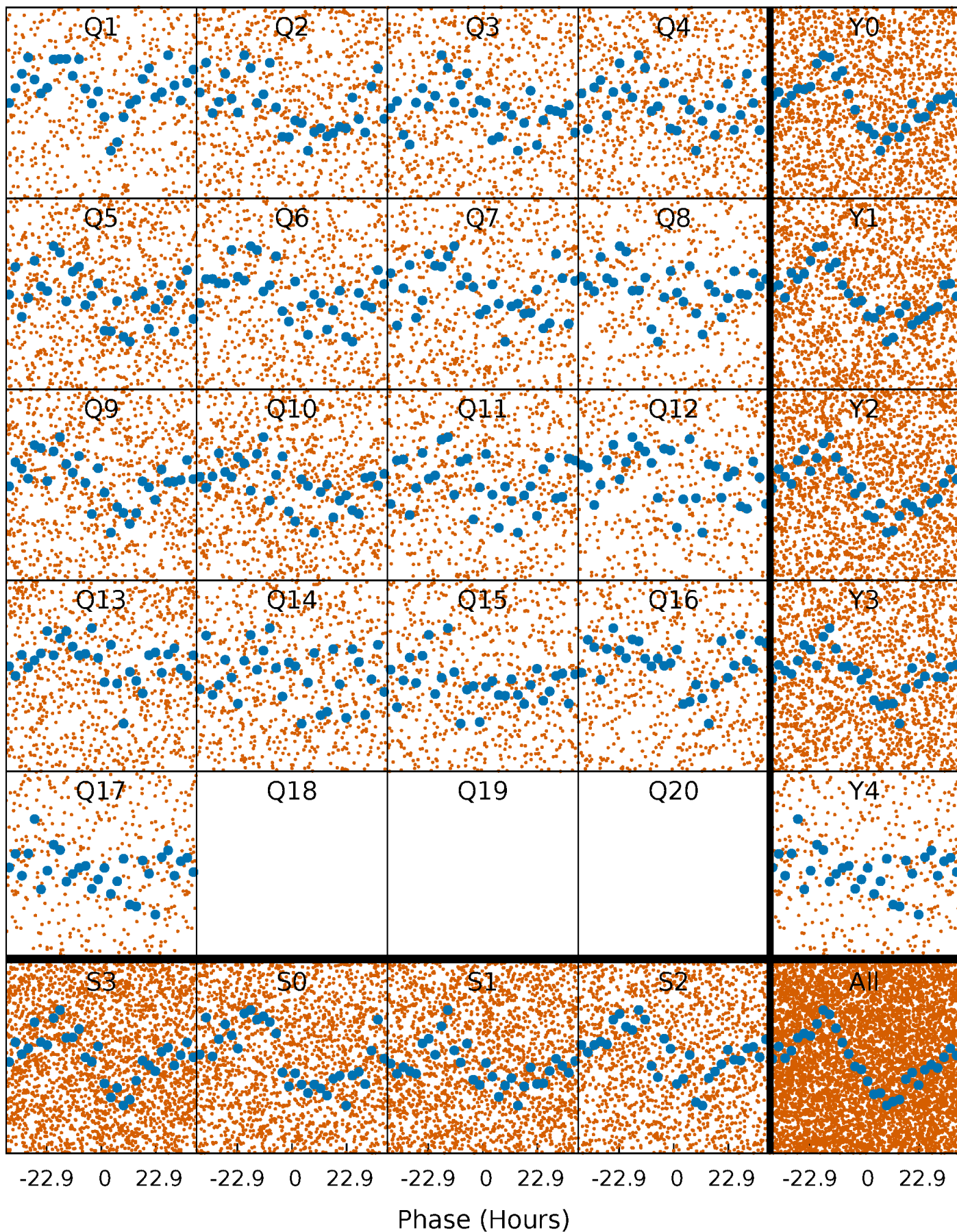


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



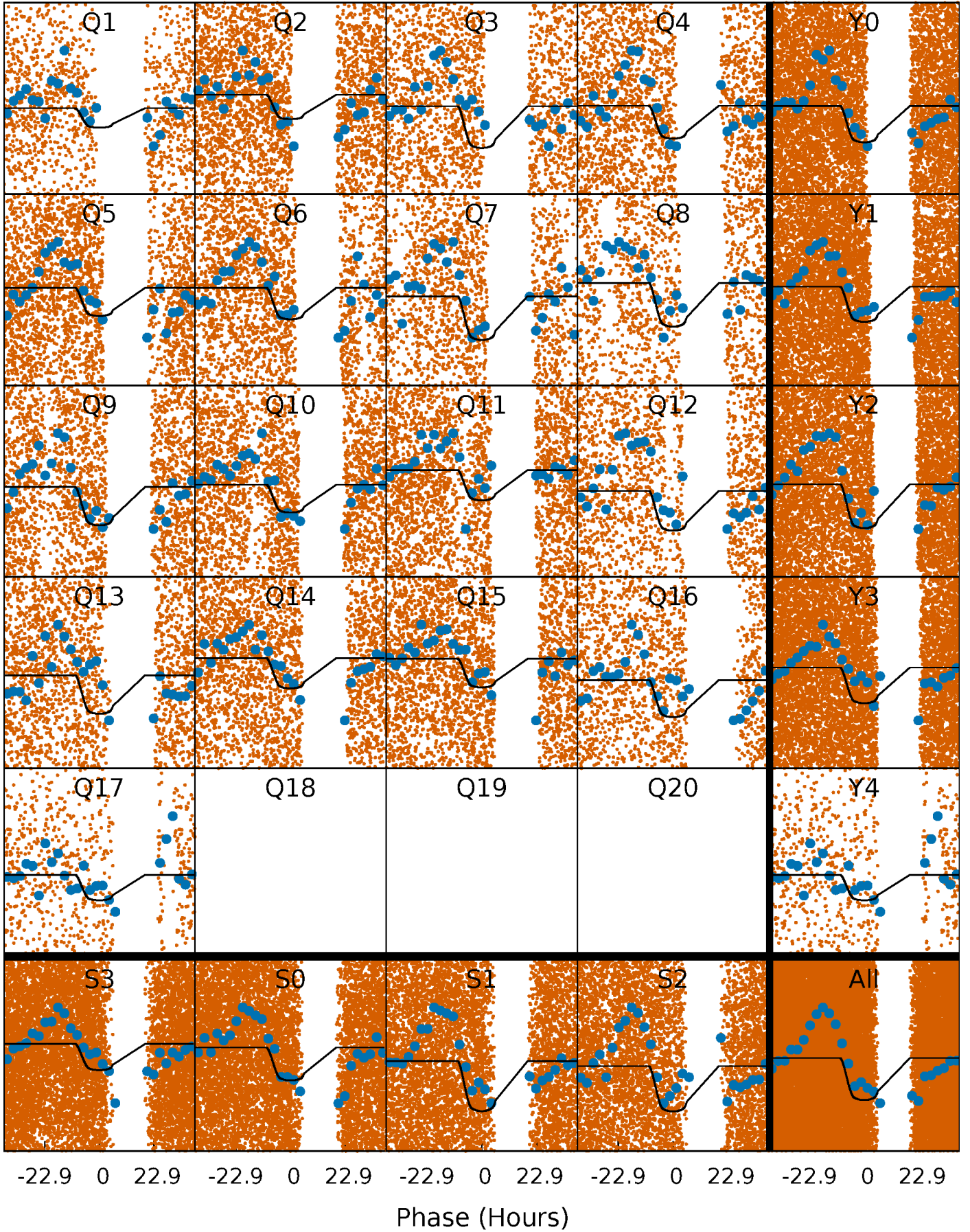
PDC Quarter-Phased Transit Curves

TCE 008164262-04 P= 2.989302 Days $T_0=133.043204$ (BKJD)



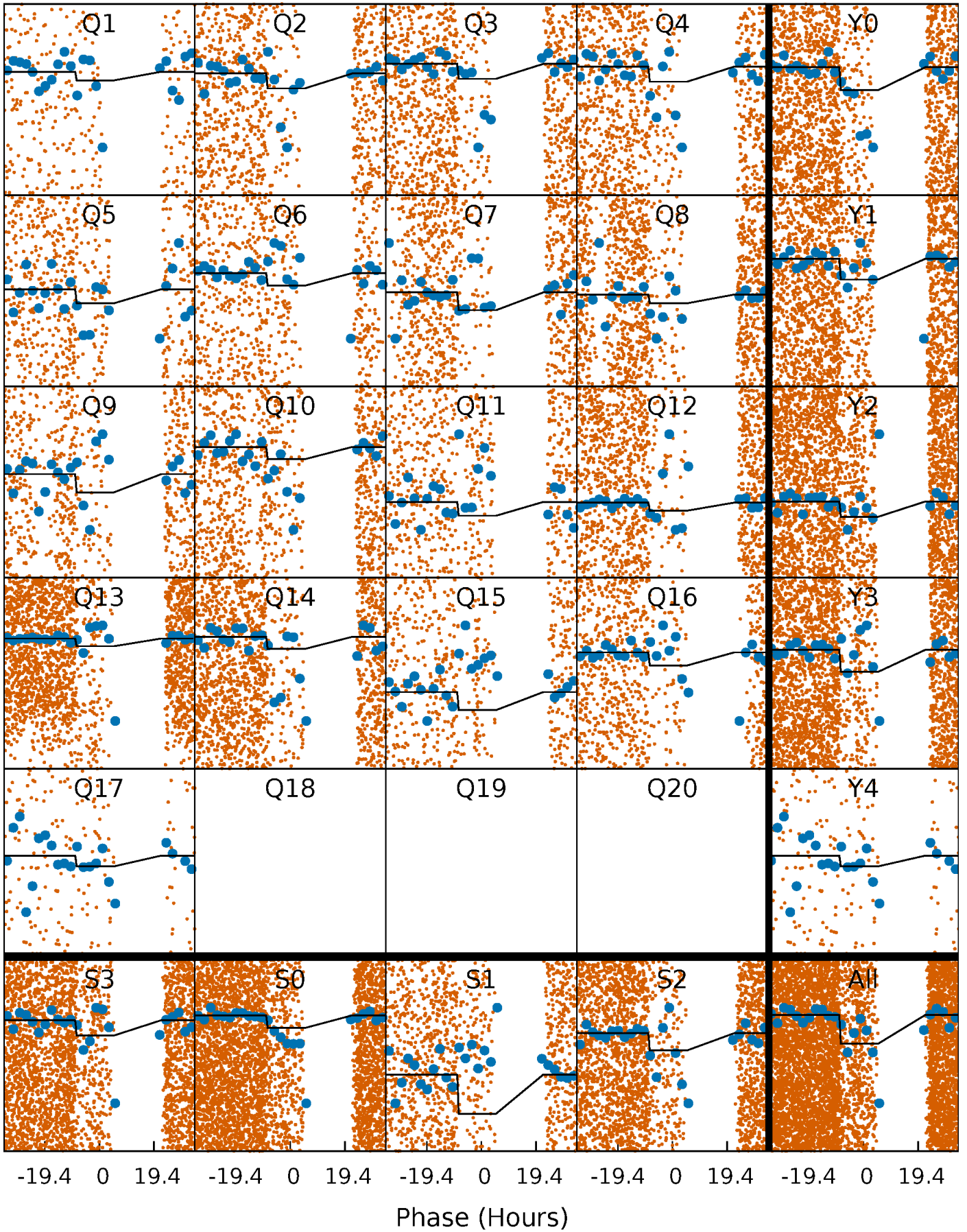
DV Quarter-Phased Transit Curves

TCE 008164262-04 P= 2.989302 Days $T_0=133.043204$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

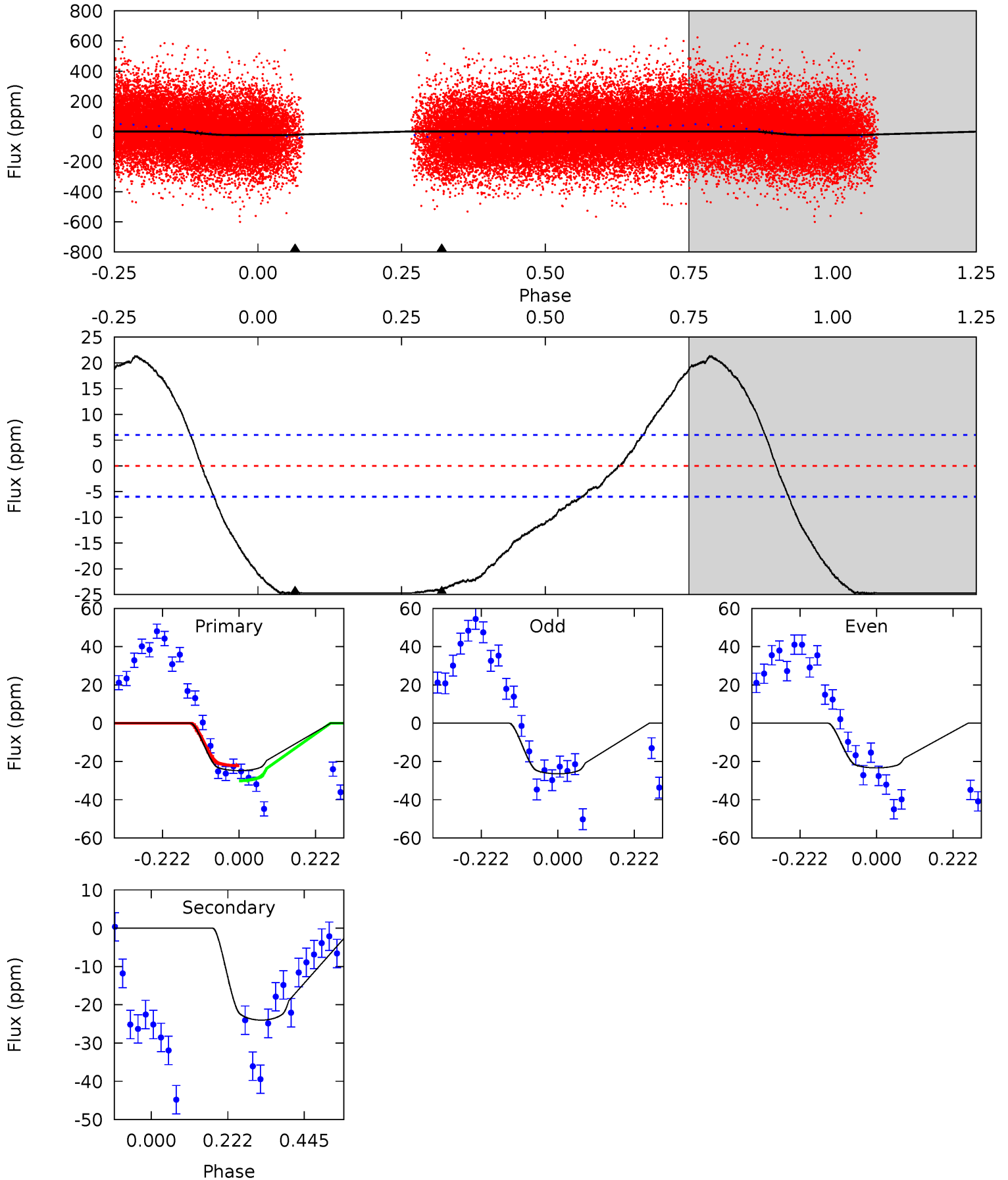
TCE 008164262-04 P= 2.989603 Days $T_0=132.920941$ (BKJD)



DV Model-Shift Uniqueness Test

008164262-04, P = 2.989302 Days, E = 130.053902 Days

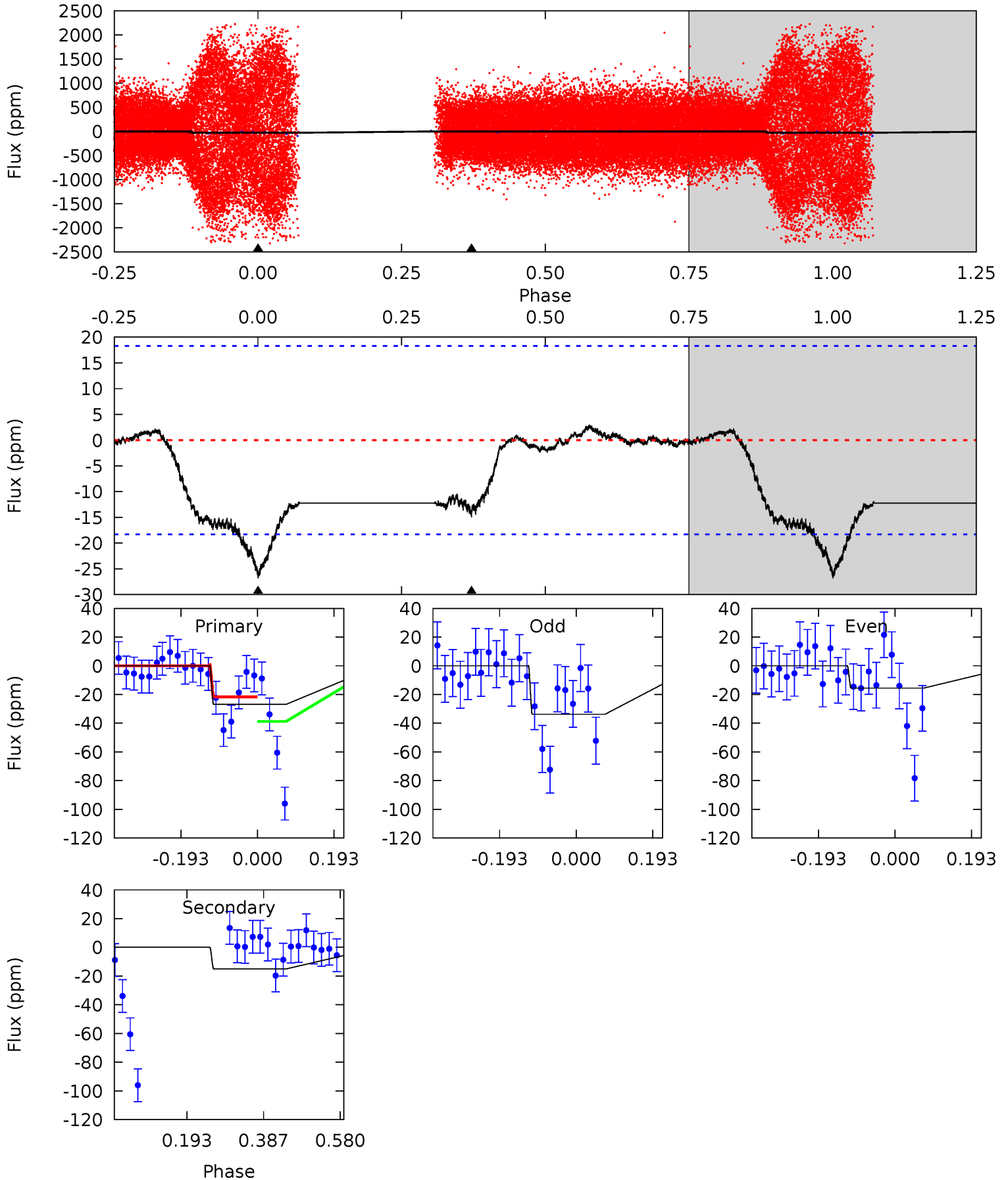
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	17.6	0	0	4.39	1.22	7.60	18.2	18.2	17.6	17.6	1.14	0.80	0.46	2.47



Alt Model-Shift Uniqueness Test

008164262-04, P = 2.989603 Days, E = 129.931338 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.49	3.62	0	0	4.42	1.30	0.22	6.49	6.49	3.62	3.62	2.21	0.46	0.10	2.05



Stellar Parameters For KIC 008164262

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7700^{+237}_{-316}	$4.018^{+0.193}_{-0.140}$	$-0.140^{+0.200}_{-0.350}$	$2.111^{+0.525}_{-0.578}$	$1.692^{+0.198}_{-0.298}$	$0.254^{+0.309}_{-0.104}$
	+3%/-4%	+5%/-3%	+143%/-250%	+25%/-27%	+12%/-18%	+122%/-41%
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 008164262-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-24 ± 1	$1.73^{+0.25}_{-0.26}$	3101^{+232}_{-240}	5997^{+252}_{-255}	10^{+4}_{-2}
Alt.	-15 ± 4	$1.31^{+0.20}_{-0.19}$	3112^{+210}_{-234}	6115^{+510}_{-528}	11^{+5}_{-4}

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

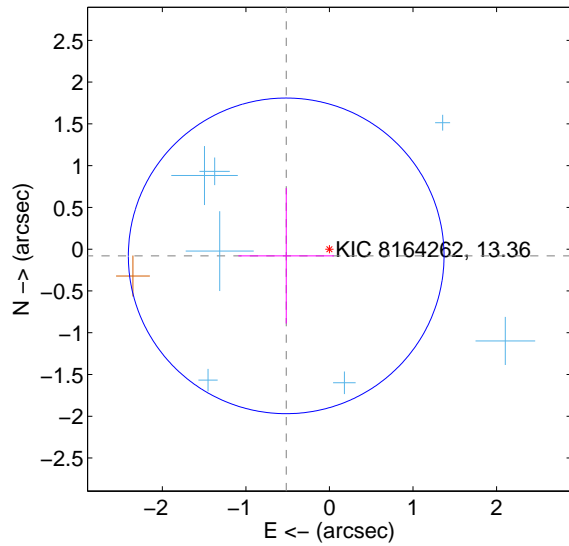
Supplemental centroid analysis for 008164262-04. Kepler magnitude: 13.36. Transit SNR 14.77

There are 7 quarters with good PRF difference image offsets

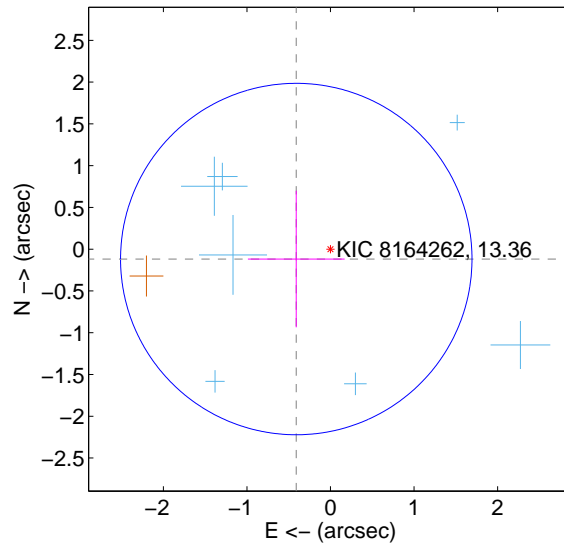
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.524 ± 0.630	0.83	0.518 ± 0.572	-0.080 ± 0.811
PRF-fit source offset from KIC position	0.427 ± 0.701	0.61	0.410 ± 0.580	-0.118 ± 0.818
photometric centroid source offset	0.24 ± 0.56	0.44	0.20 ± 0.57	0.14 ± 0.55

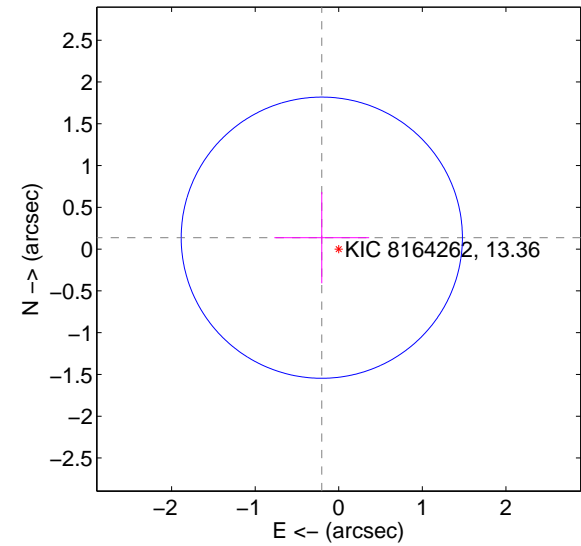
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

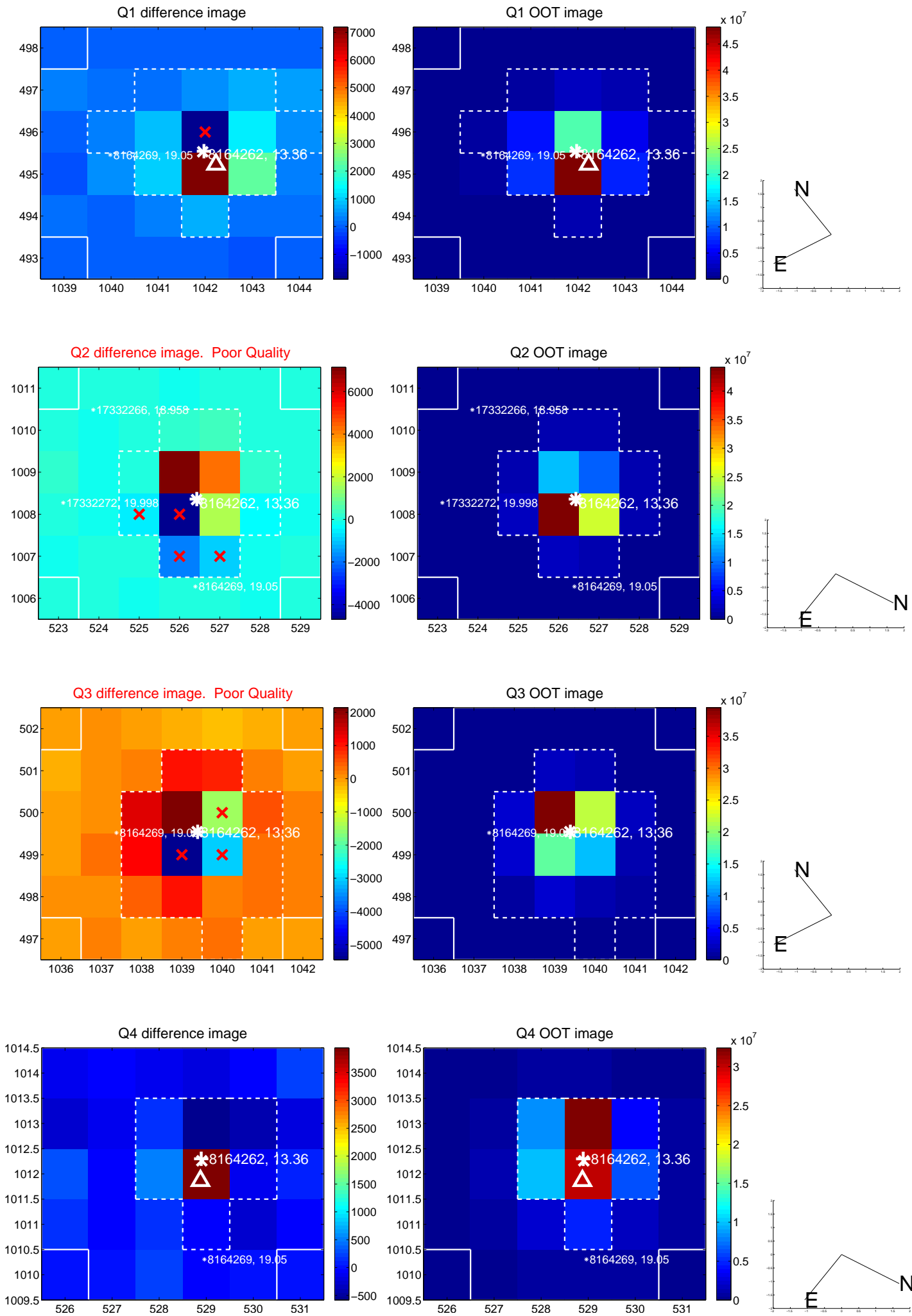


offset from photometric centroids

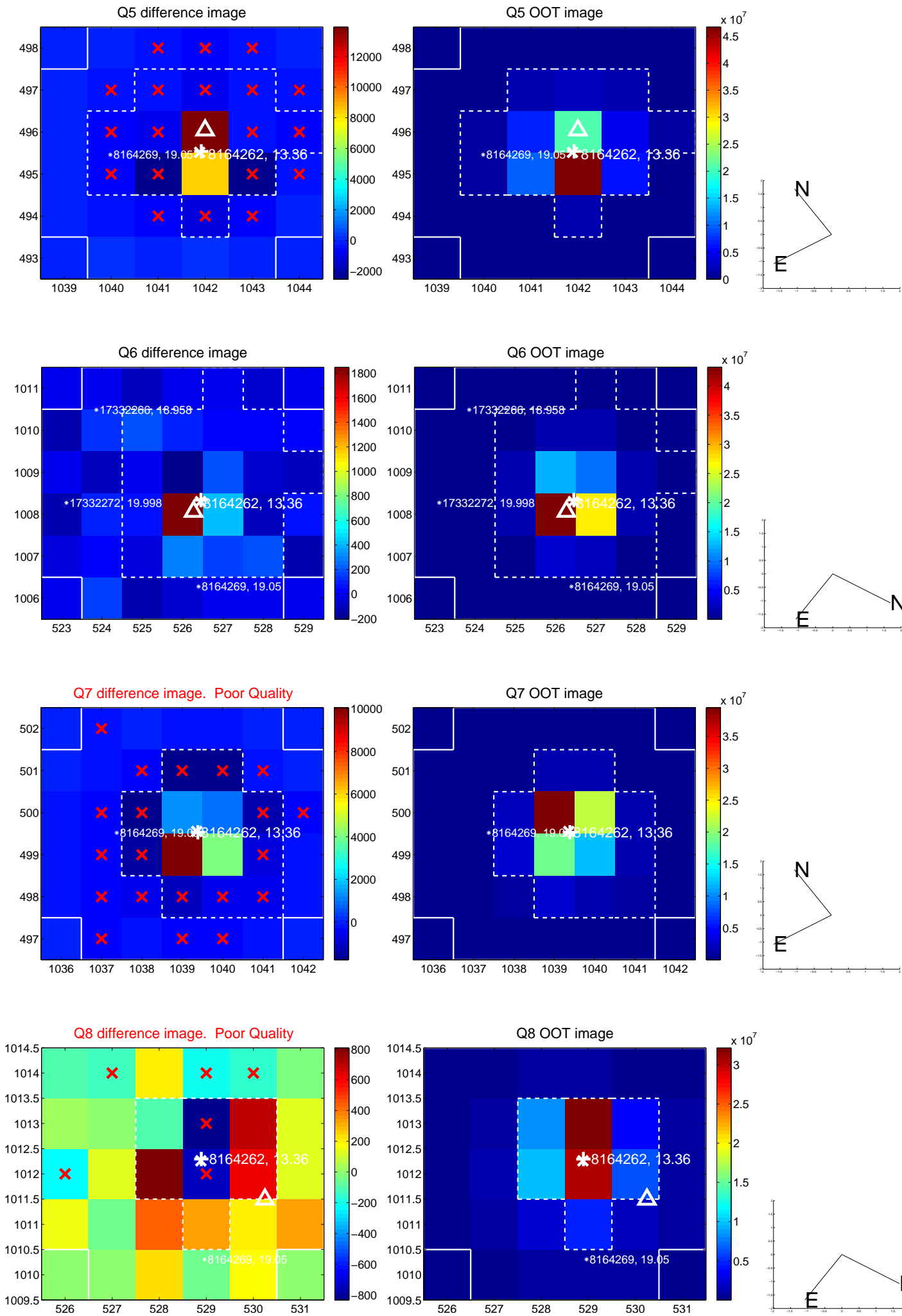


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

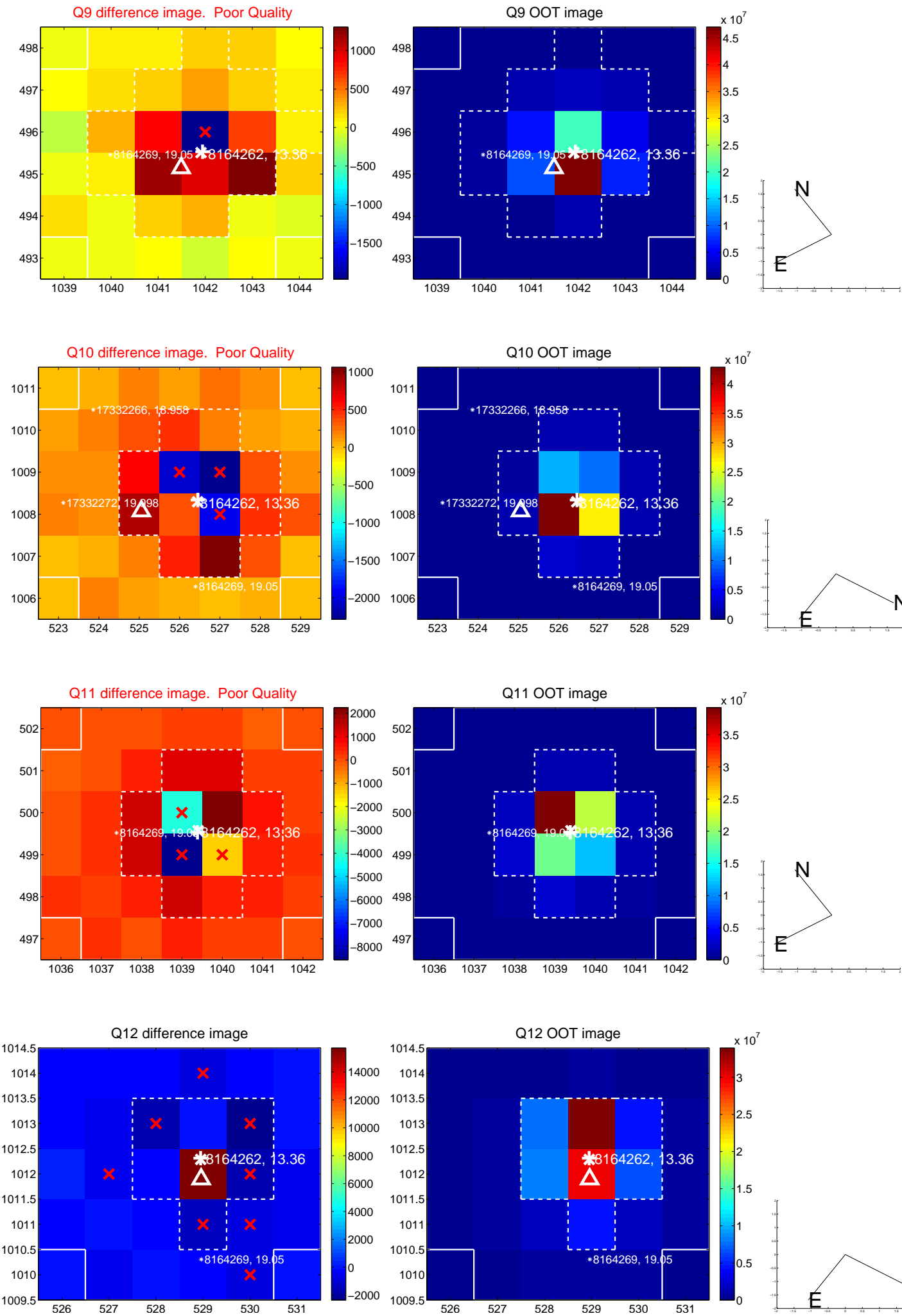
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



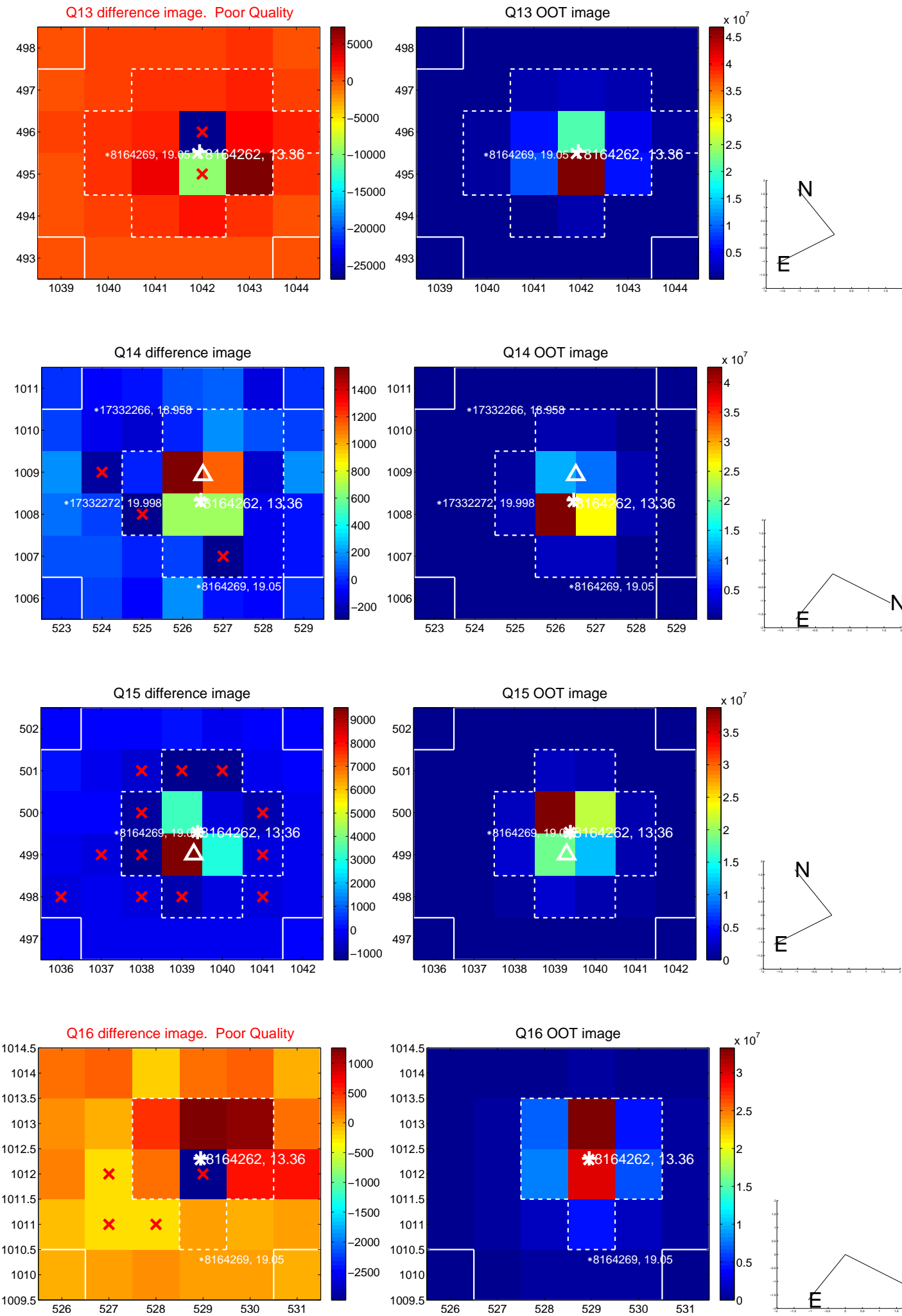
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



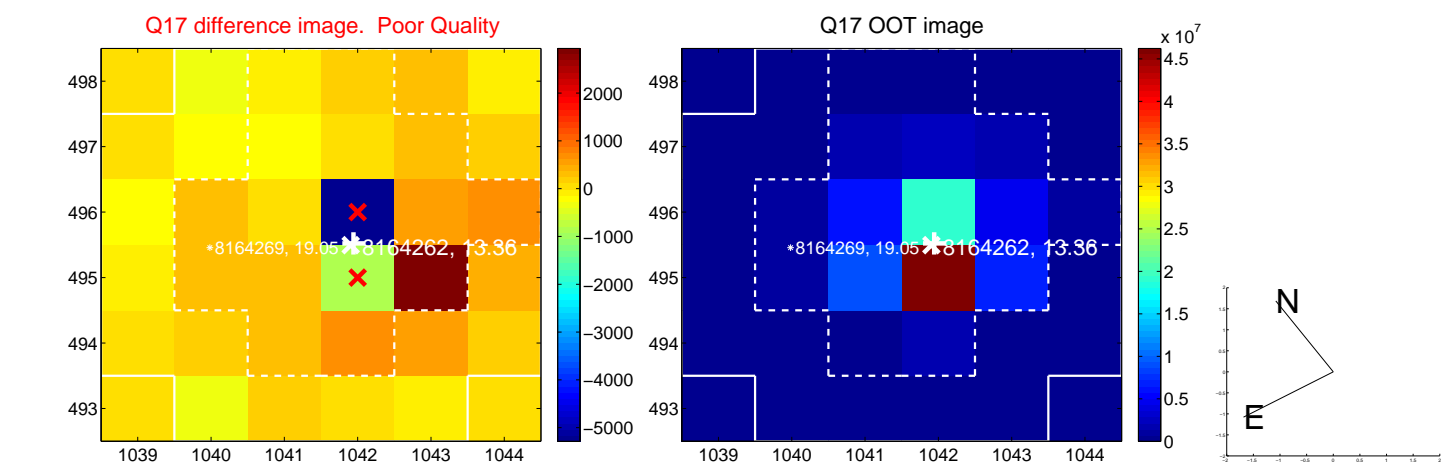
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



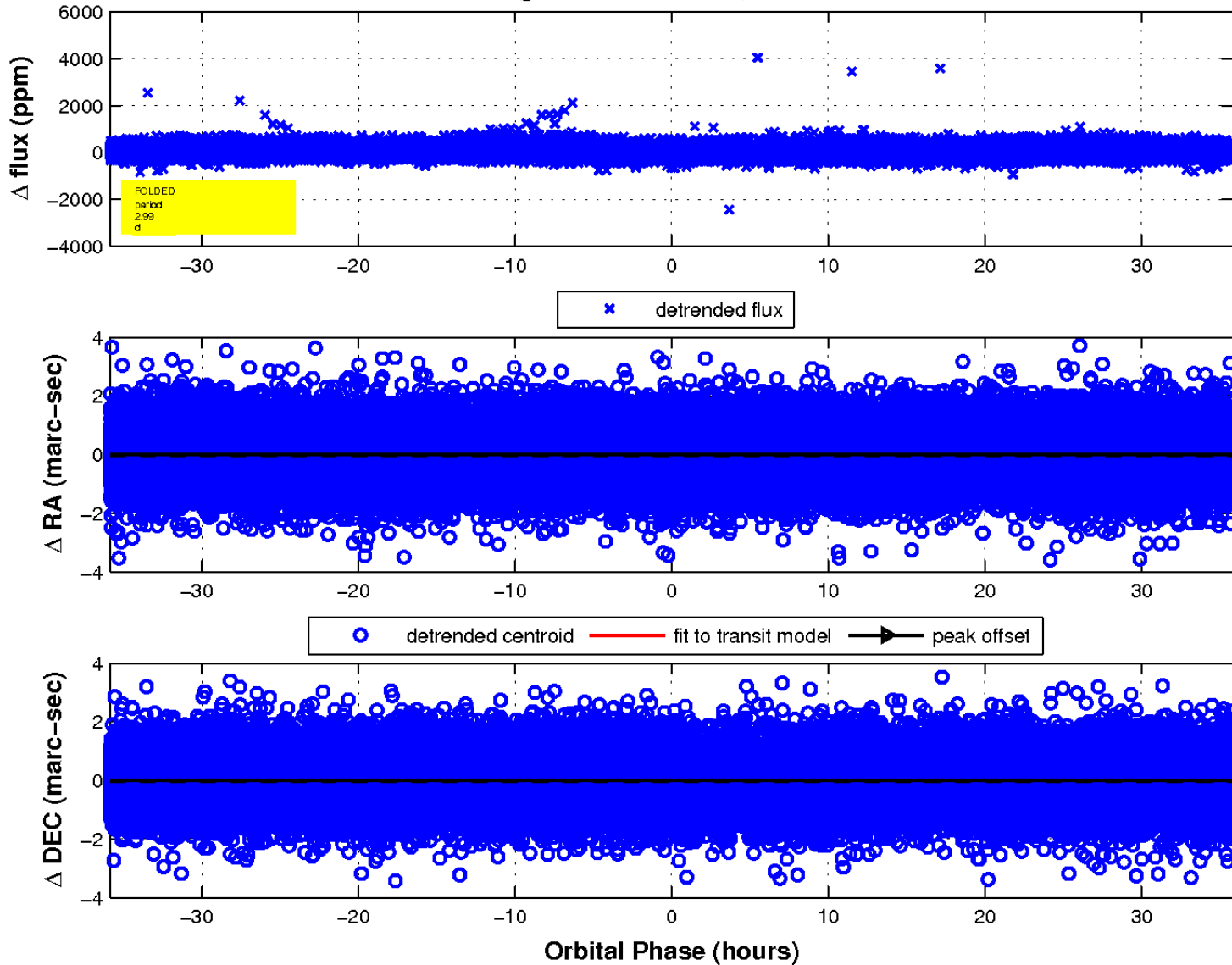
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



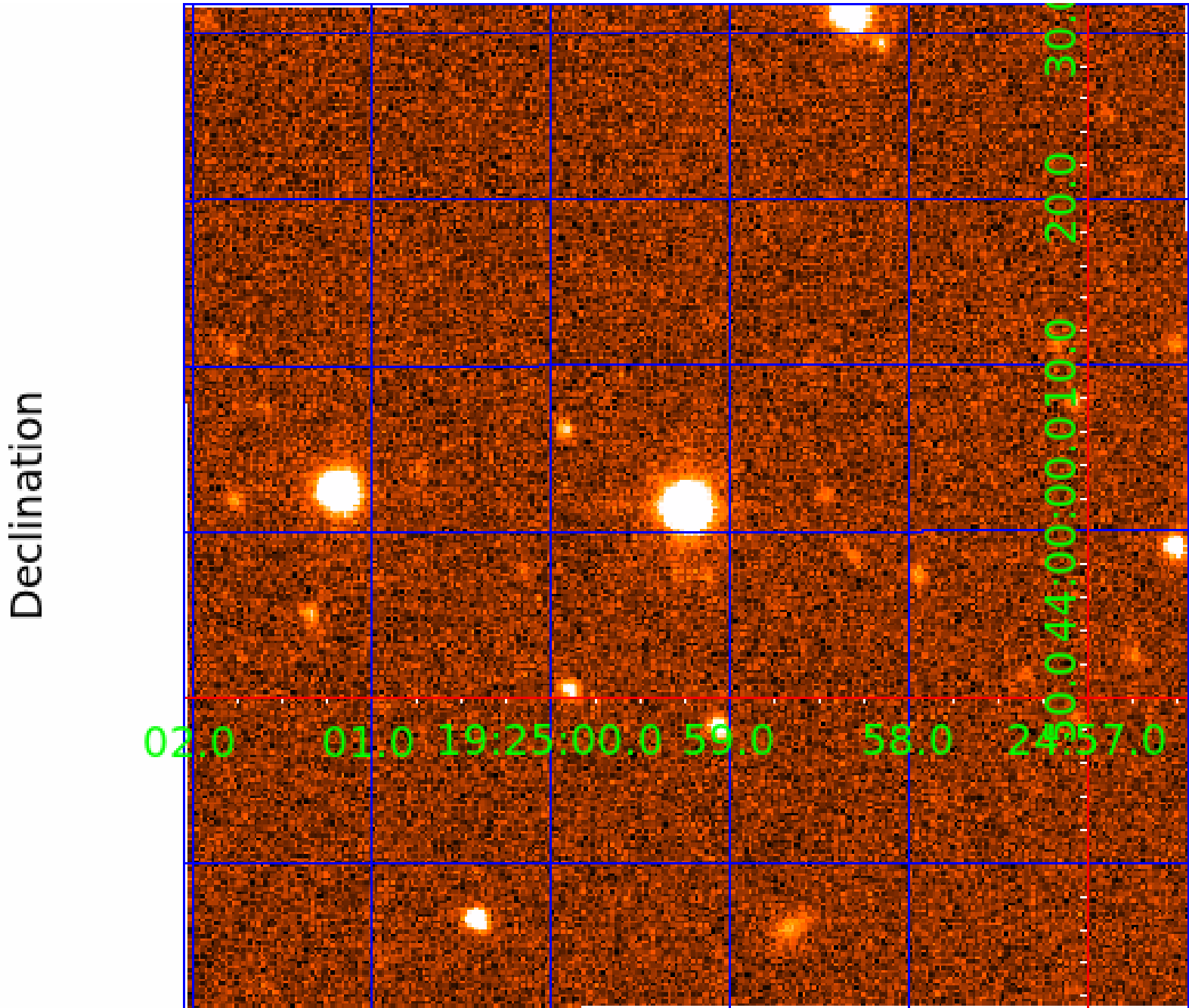
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 4 of 7



UKIRT Image



KIC 008164262

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})
008164262-01	OBS	1810.01	87.455497	136.245745	1550.7	16.981	75.8	84.6	2.11	7700	15.29	66.39
008164262-02	OBS	No	2.998115	133.019634	5.3	0.643	10.9	0.3	2.11	7700	0.52	5961.91
008164262-03	OBS	No	2.989781	133.444681	30.6	6.094	10.3	9.6	2.11	7700	1.33	5984.07
008164262-04	OBS	No	2.989302	133.043204	38.1	20.004	12.4	14.8	2.11	7700	1.75	5985.35
008164262-06	OBS	No	60.077771	171.669520	105.0	8.993	9.6	6.3	2.11	7700	2.44	109.54
008164262-07	OBS	No	78.631463	205.944685	272.5	1.760	7.9	8.2	2.11	7700	3.86	76.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008164262-01	OBS	FP	0.00	1	0	0	0	LPP_ALT—MOD_NONUNIQ_ALT
008164262-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008164262-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008164262-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008164262-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008164262-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

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

Ephemeris Match Information For 008164262-06

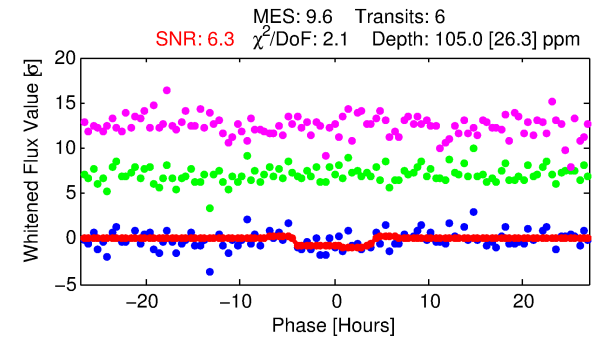
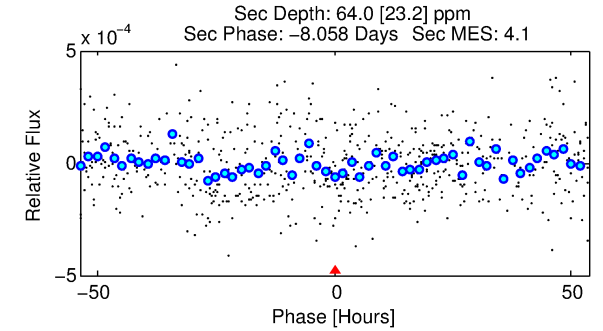
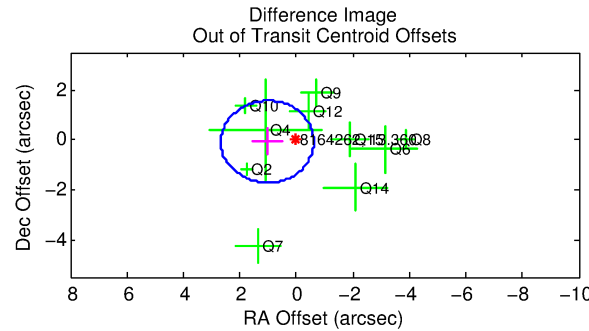
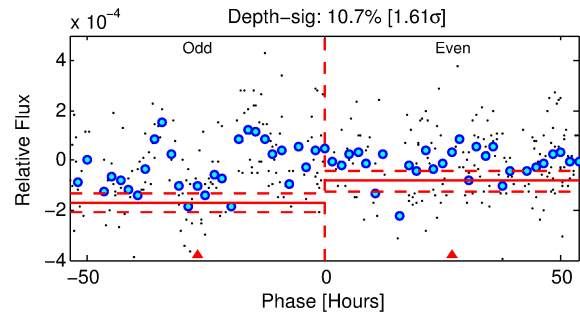
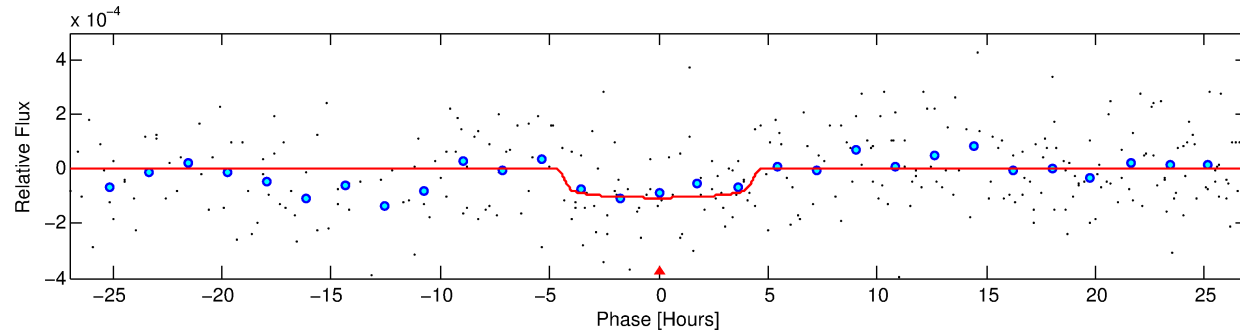
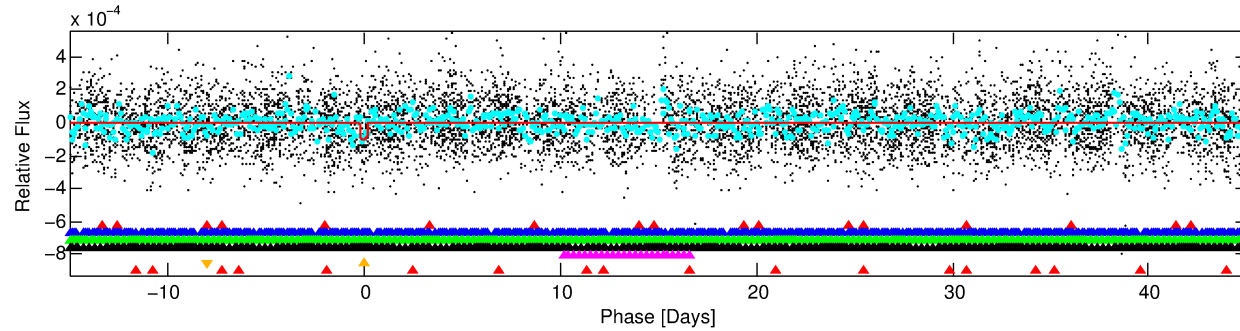
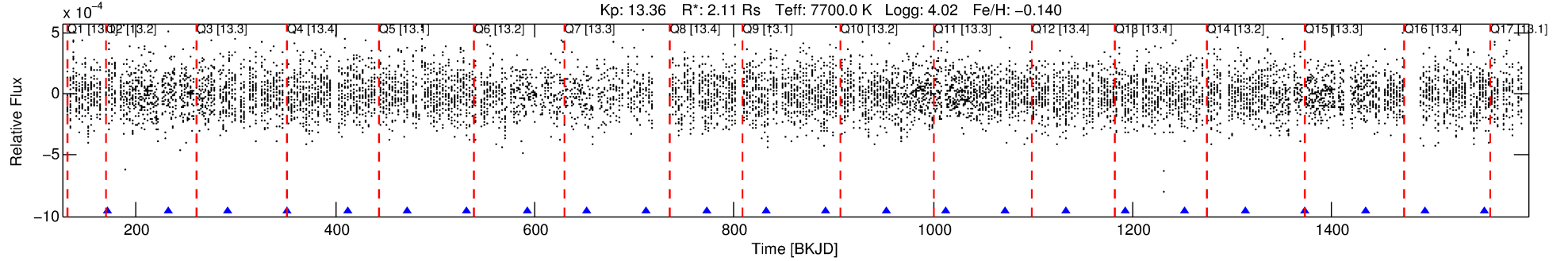
No Significant Match Found

DV One-Page Summary

KIC: 8164262 Candidate: 6 of 7 Period: 60.078 d

KOI: K01810 Corr: No Ephemeris Match

Kp: 13.36 R*: 2.11 Rs Teff: 7700.0 K Logg: 4.02 Fe/H: -0.140



DV Fit Results:

Period = 60.07777 [0.00274] d
Epoch = 171.6695 [0.0344] BKJD
Rp/R* = 0.0106 [0.0058]
a/R* = 27.65 [89.00]
b = 0.85 [1.03]
Seff = 109.54 [42.15]
Teq = 825 [79] K
Rp = 2.44 [1.49] Re
a = 0.3580 [0.0841] AU
Ag = 756.34 [910.99] [0.83σ]
Teff = 6689 [1948] K [3.01σ]

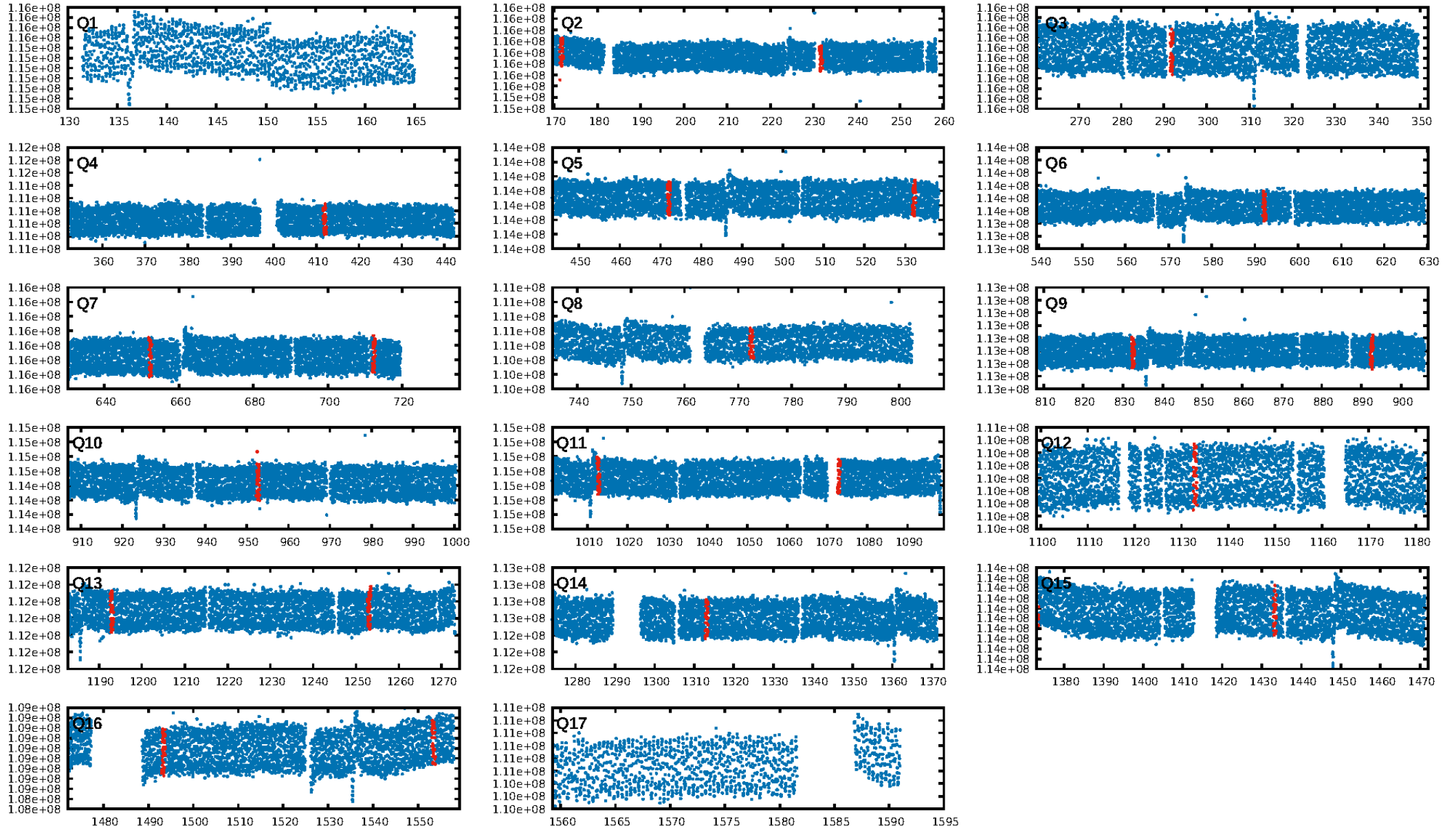
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [151.95σ]
LongPeriod-sig: 33.1% [0.43σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.1%
Bootstrap-pfa: 1.36e-09
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -1.326
Centroid-sig: 20.7%
Centroid-so: 1.507 arcsec [1.30σ]
OotOffset-rm: 1.032 arcsec [1.88σ]
KicOffset-rm: 0.930 arcsec [1.50σ]
OotOffset-st: 4/2/3/1 [10]
KicOffset-st: 4/2/3/1 [10]
DiffImageQuality-fgm: 0.40 [4/10]
DiffImageOverlap-fno: 0.07 [1/14]

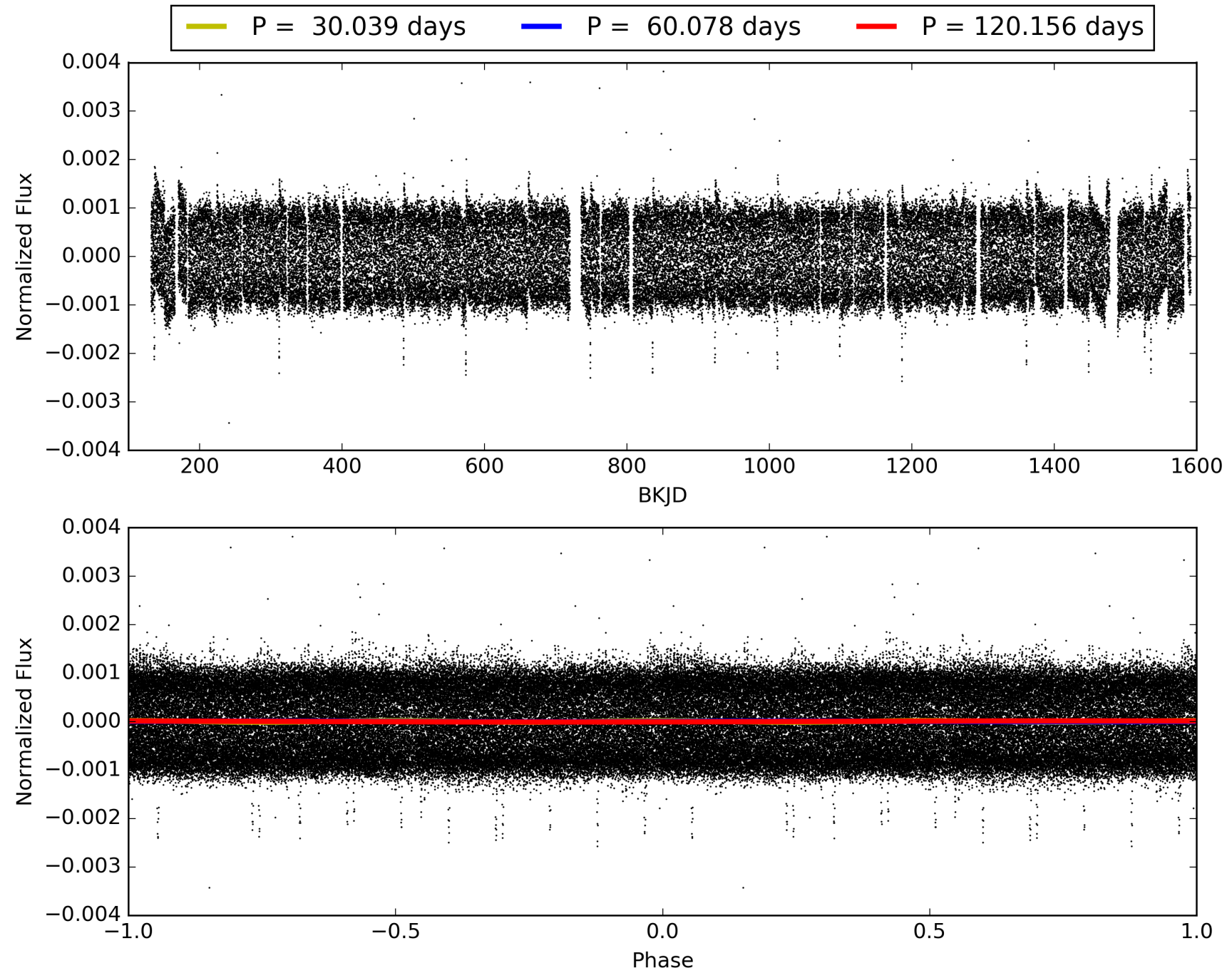
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:26:33 Z

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

TCE 008164262-06, PDC Light Curves

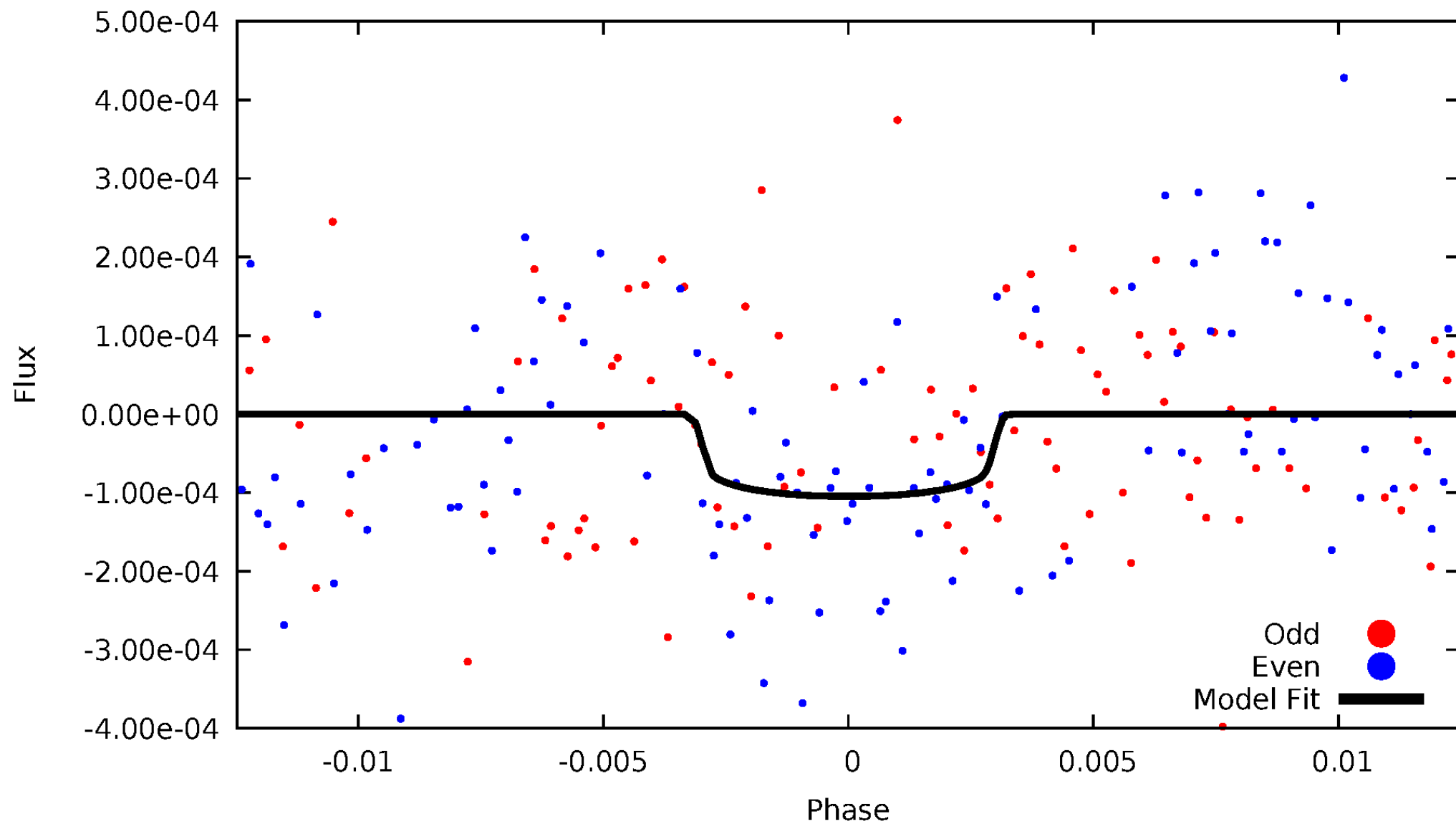


TCE 008164262-06



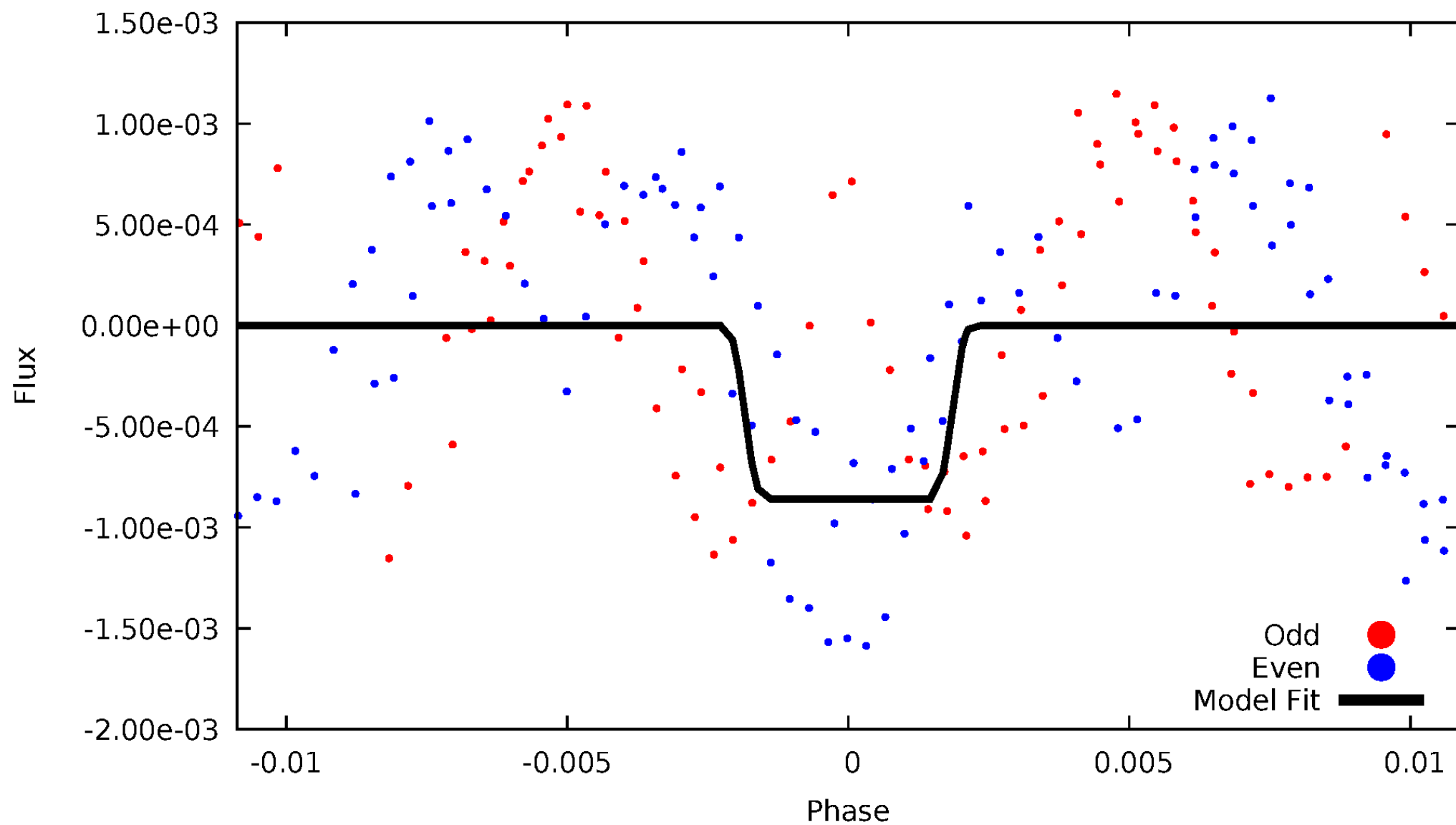
DV Odd/Even

TCE 008164262-06



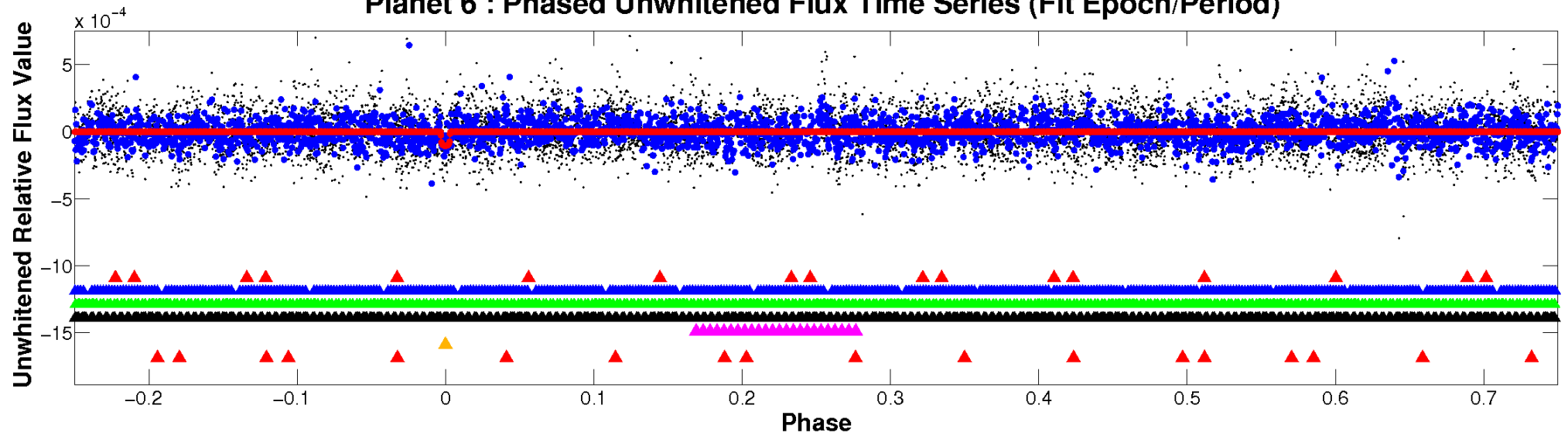
ALT Odd/Even

TCE 008164262-06

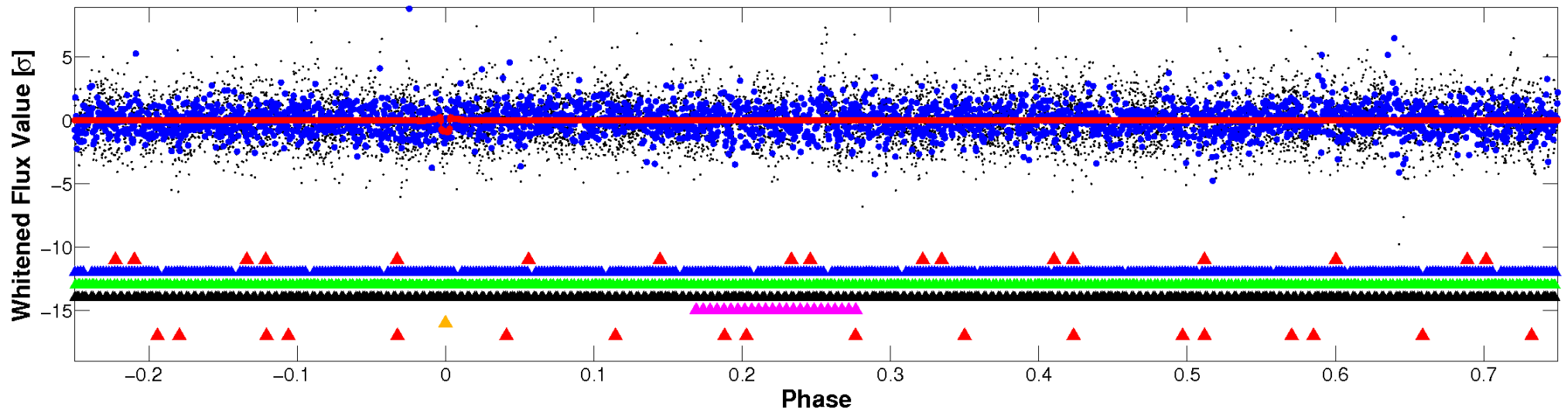


Non-Whitened Vs. Whitened Light Curve

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

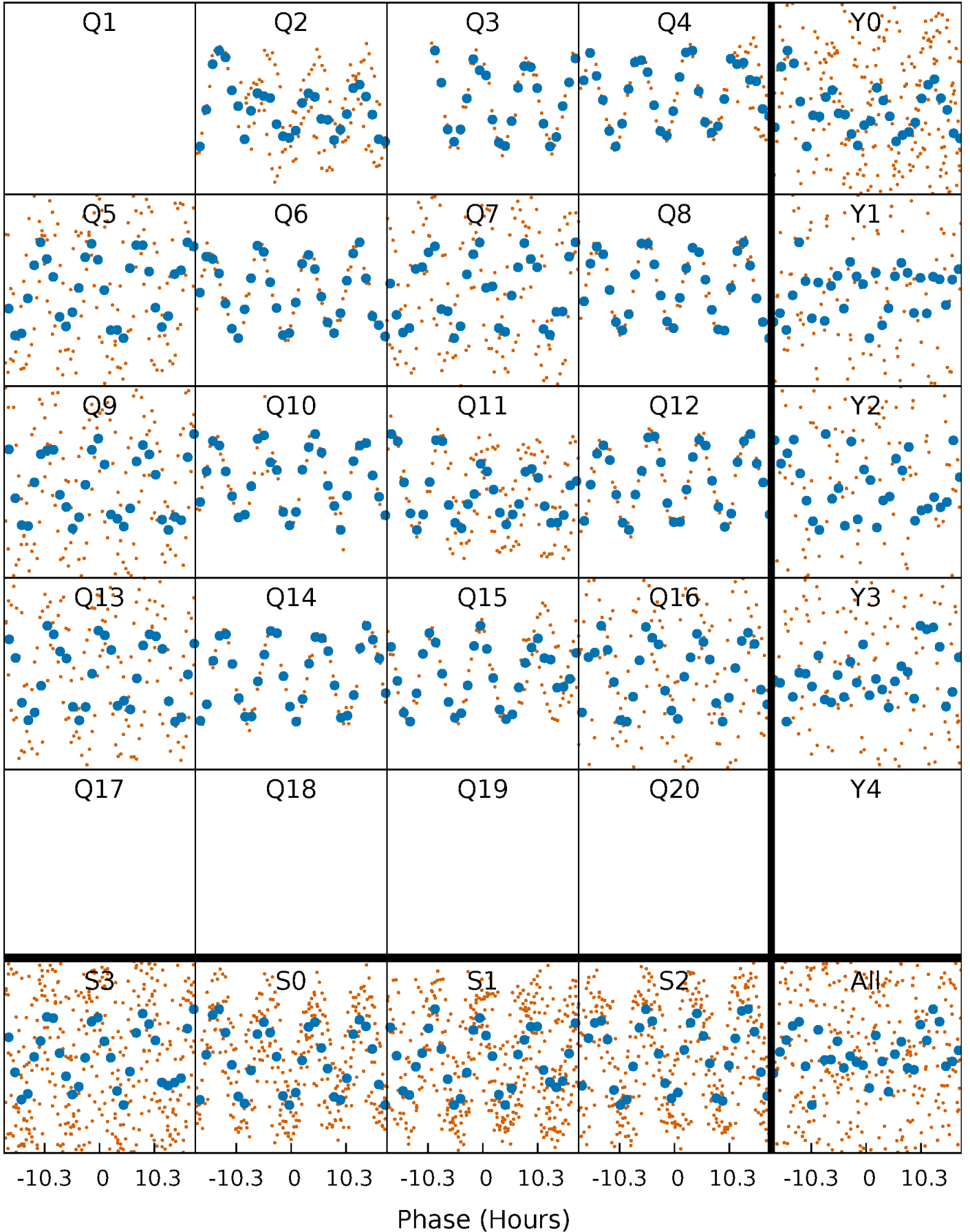


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



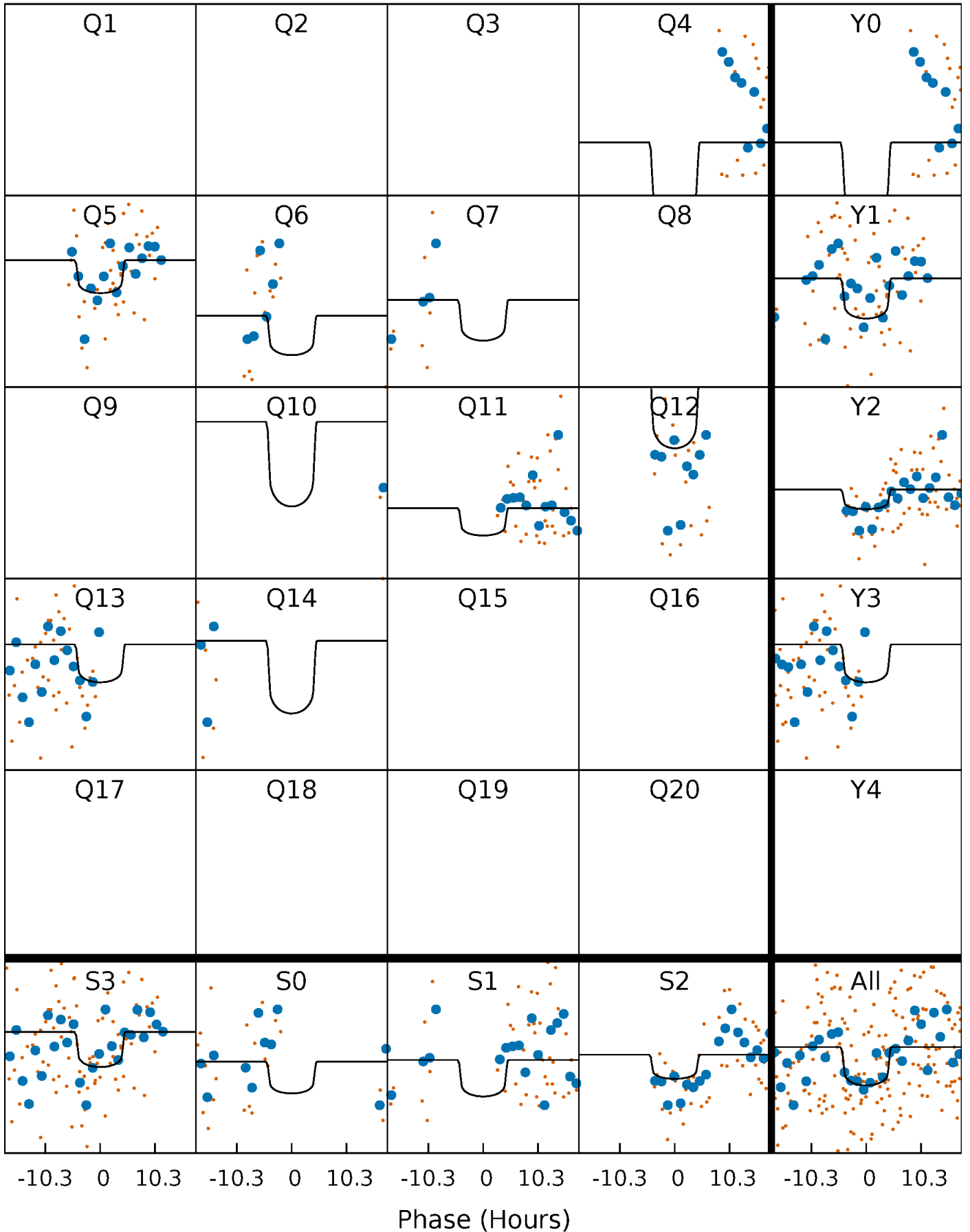
PDC Quarter-Phased Transit Curves

TCE 008164262-06 P= 60.077771 Days $T_0=171.669520$ (BKJD)



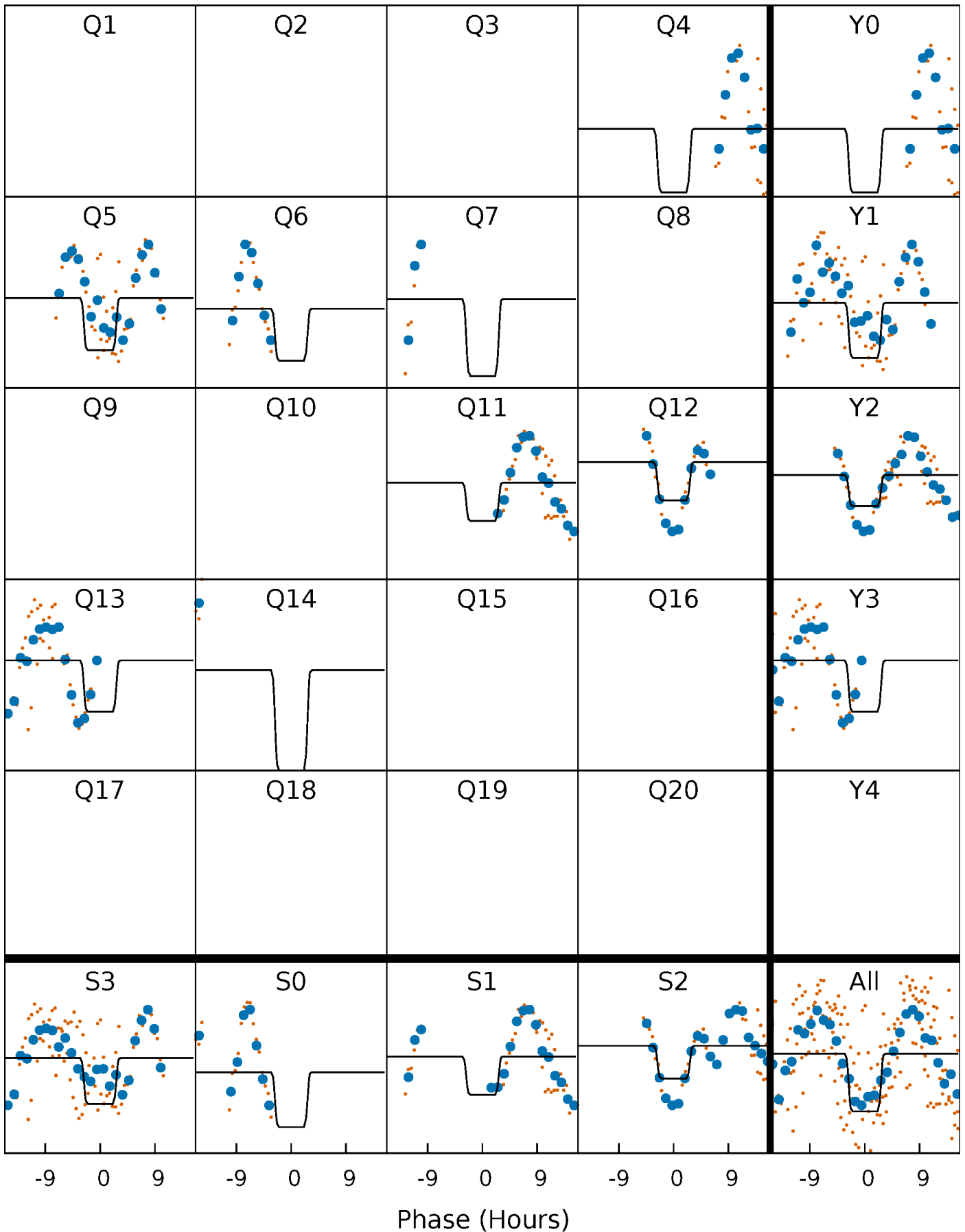
DV Quarter-Phased Transit Curves

TCE 008164262-06 P= 60.077771 Days $T_0=171.669520$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

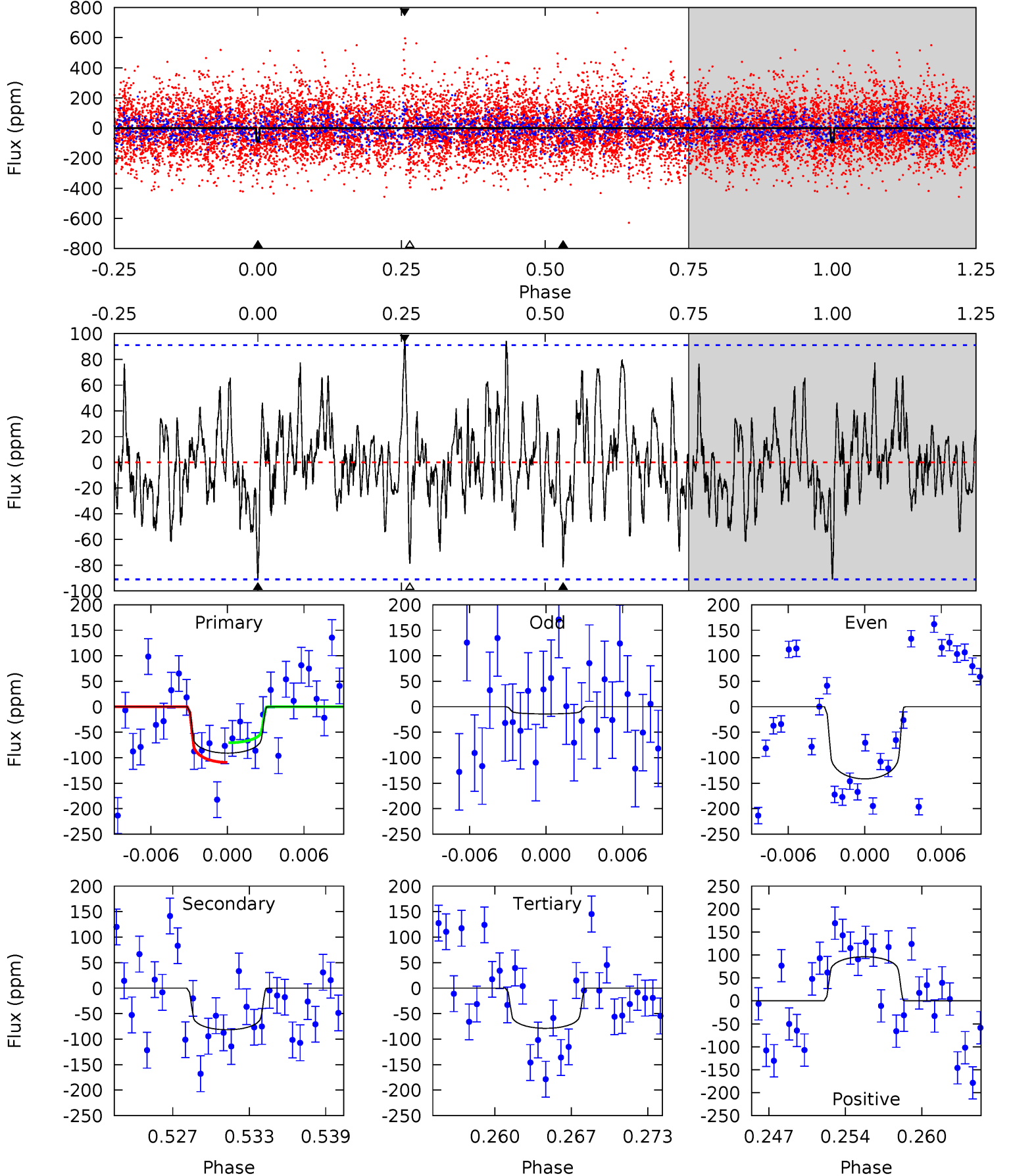
TCE 008164262-06 P= 60.075049 Days $T_0=171.739982$ (BKJD)



DV Model-Shift Uniqueness Test

008164262-06, P = 60.077771 Days, E = 111.591749 Days

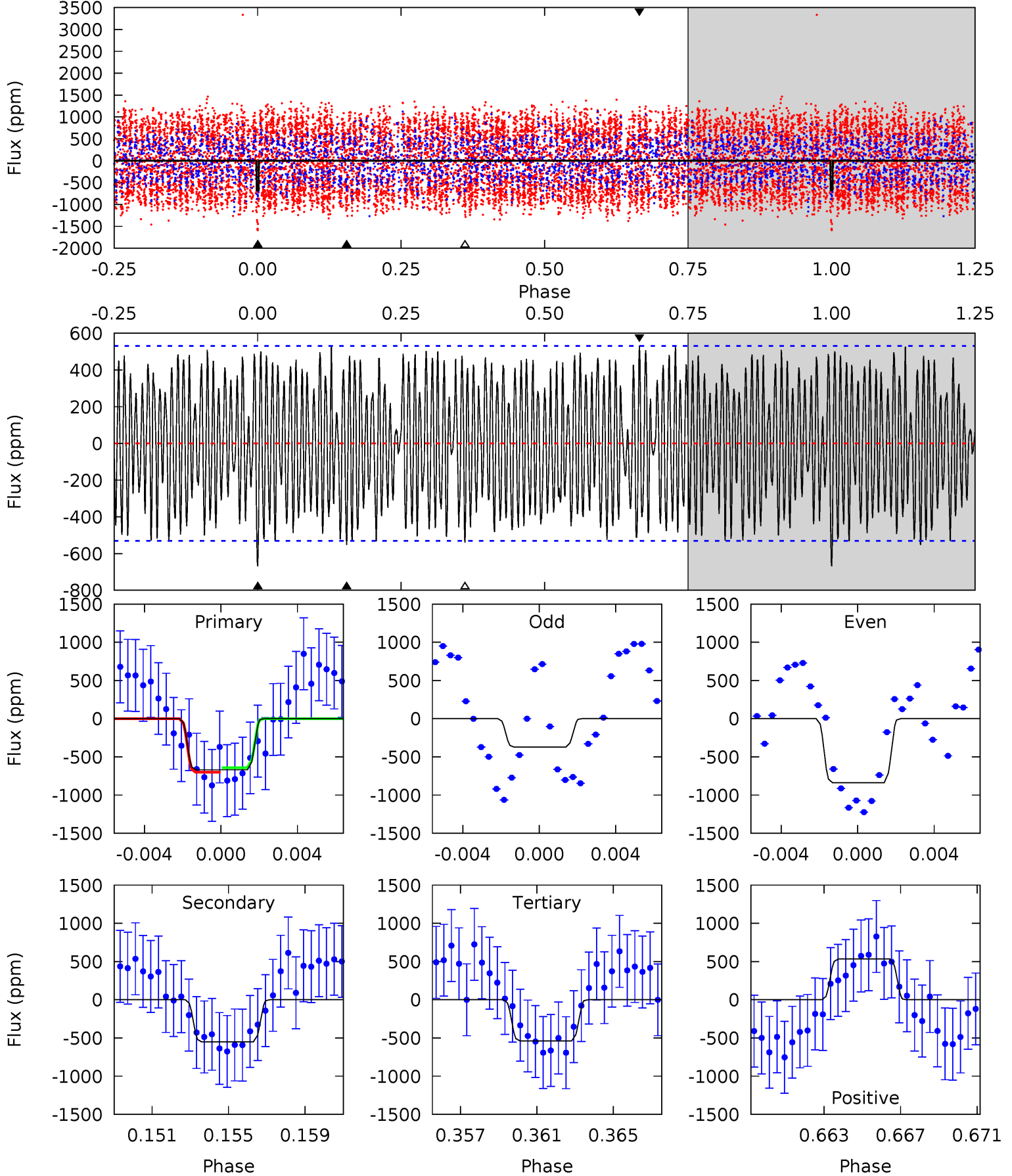
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.11	4.58	4.42	5.39	5.11	2.73	1.62	0.68	-0.29	0.16	-0.81	3.51	0.66	0.51	1.09



Alt Model-Shift Uniqueness Test

008164262-06, P = 60.075049 Days, E = 111.664933 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.55	5.40	5.27	5.22	5.19	2.86	2.84	1.27	1.33	0.12	0.18	2.24	1.20	0.44	0.29



Stellar Parameters For KIC 008164262

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7700^{+237}_{-316}	$4.018^{+0.193}_{-0.140}$	$-0.140^{+0.200}_{-0.350}$	$2.111^{+0.525}_{-0.578}$	$1.692^{+0.198}_{-0.298}$	$0.254^{+0.309}_{-0.104}$
	+3%/-4%	+5%/-3%	+143%/-250%	+25%/-27%	+12%/-18%	+122%/-41%
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 008164262-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-82 ± 18	$2.40^{+1.36}_{-1.17}$	1146^{+74}_{-89}	6836^{+4156}_{-1319}	968^{+2857}_{-586}
Alt.	-552 ± 102	$6.45^{+1.76}_{-1.43}$	1137^{+87}_{-78}	6790^{+1019}_{-732}	921^{+655}_{-370}

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

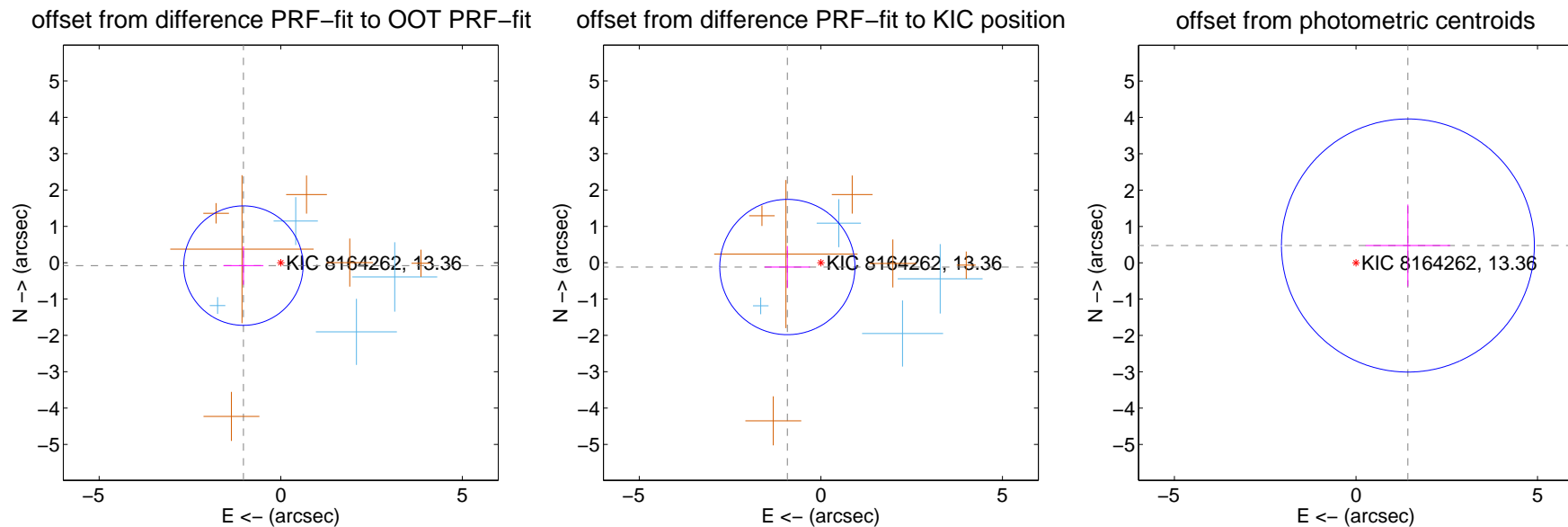
DV Centroid Data

Supplemental centroid analysis for 008164262-06. Kepler magnitude: 13.36. Transit SNR 6.32

There are 4 quarters with good PRF difference image offsets

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

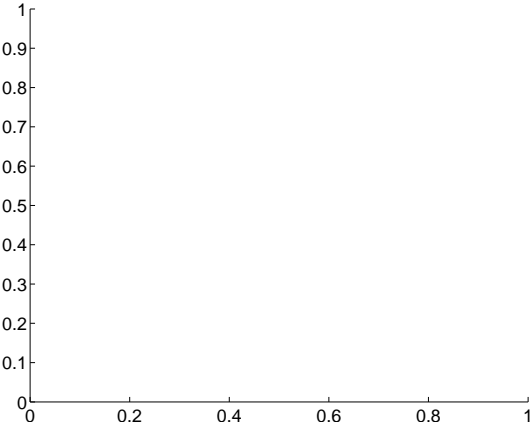
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.032 ± 0.548	1.88	1.028 ± 0.550	-0.080 ± 0.529
PRF-fit source offset from KIC position	0.930 ± 0.620	1.50	0.922 ± 0.623	-0.119 ± 0.580
photometric centroid source offset	1.51 ± 1.16	1.30	-1.43 ± 1.16	0.47 ± 1.13



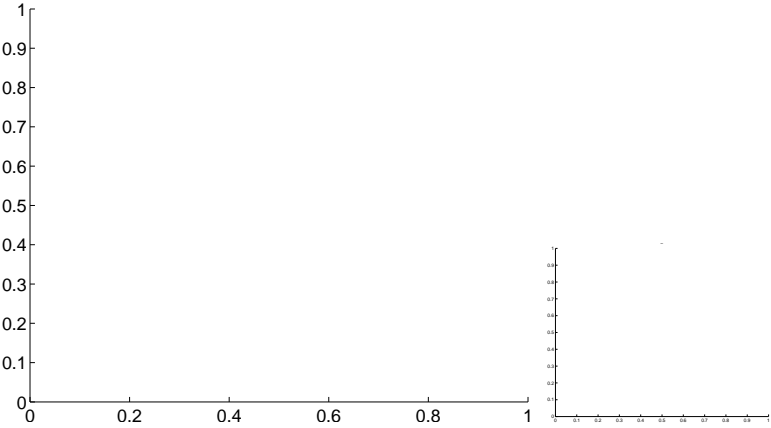
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

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

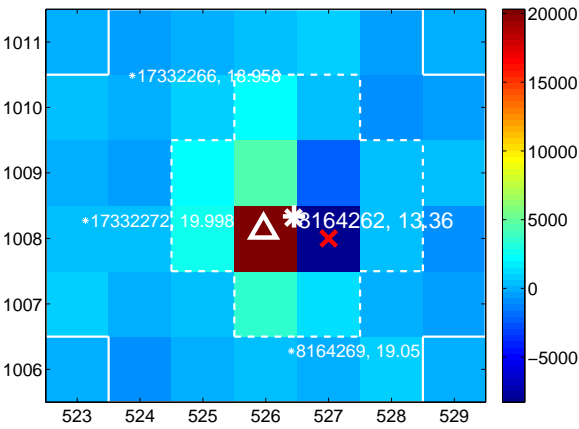
Q1 no difference image



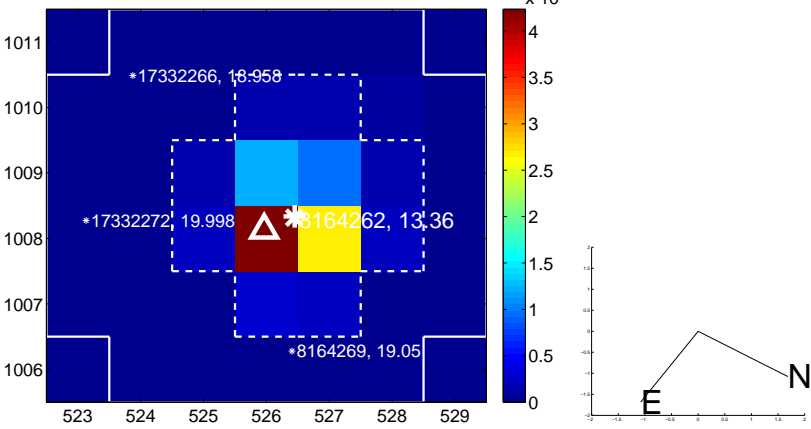
Q1 no OOT image



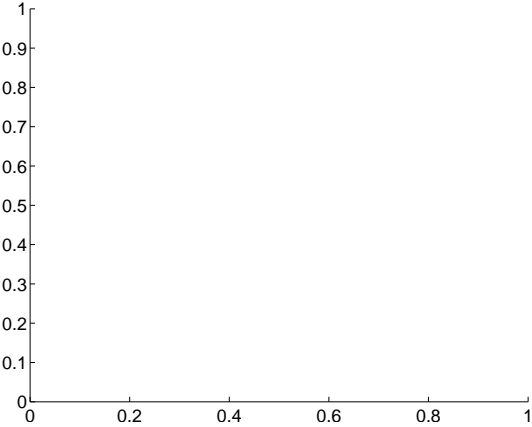
Q2 difference image



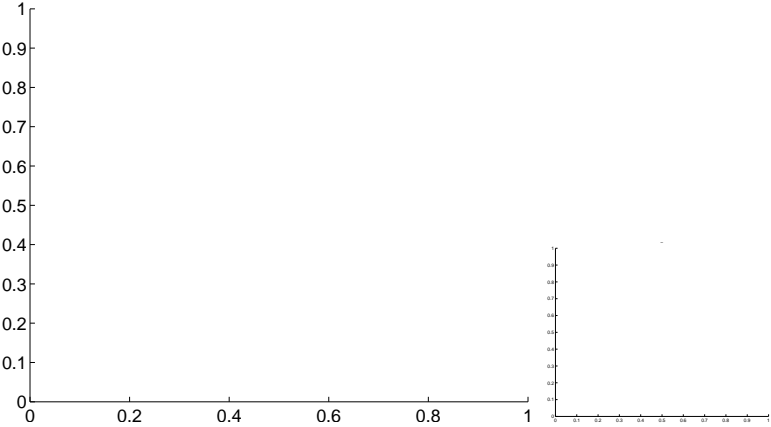
Q2 OOT image



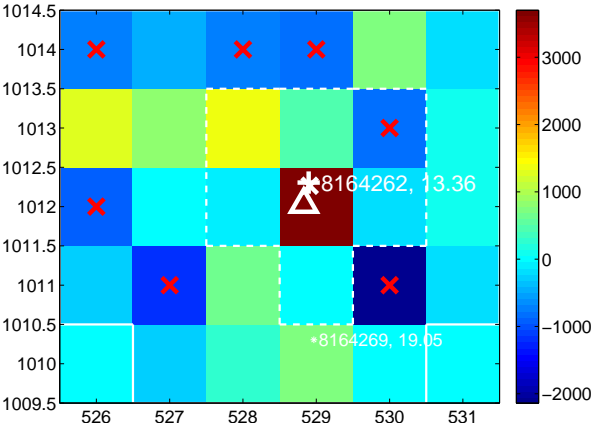
Q3 no difference image



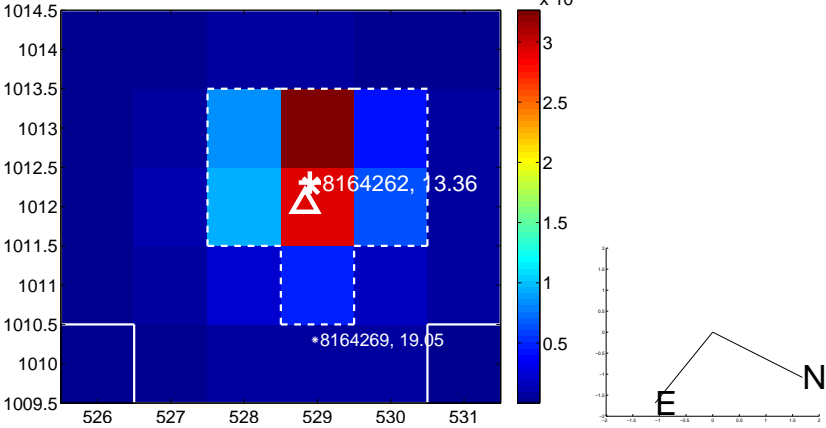
Q3 no OOT image



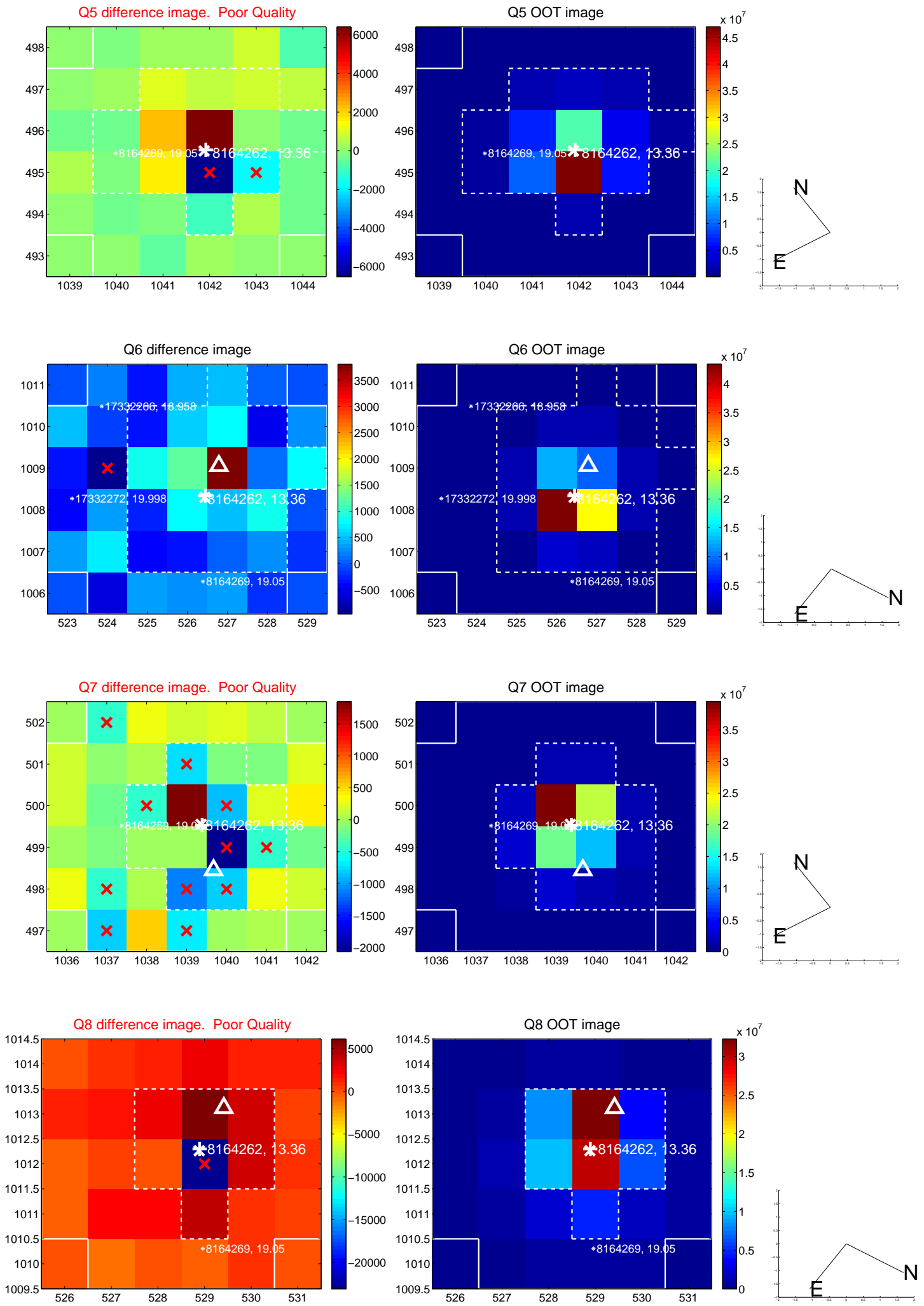
Q4 difference image. Poor Quality



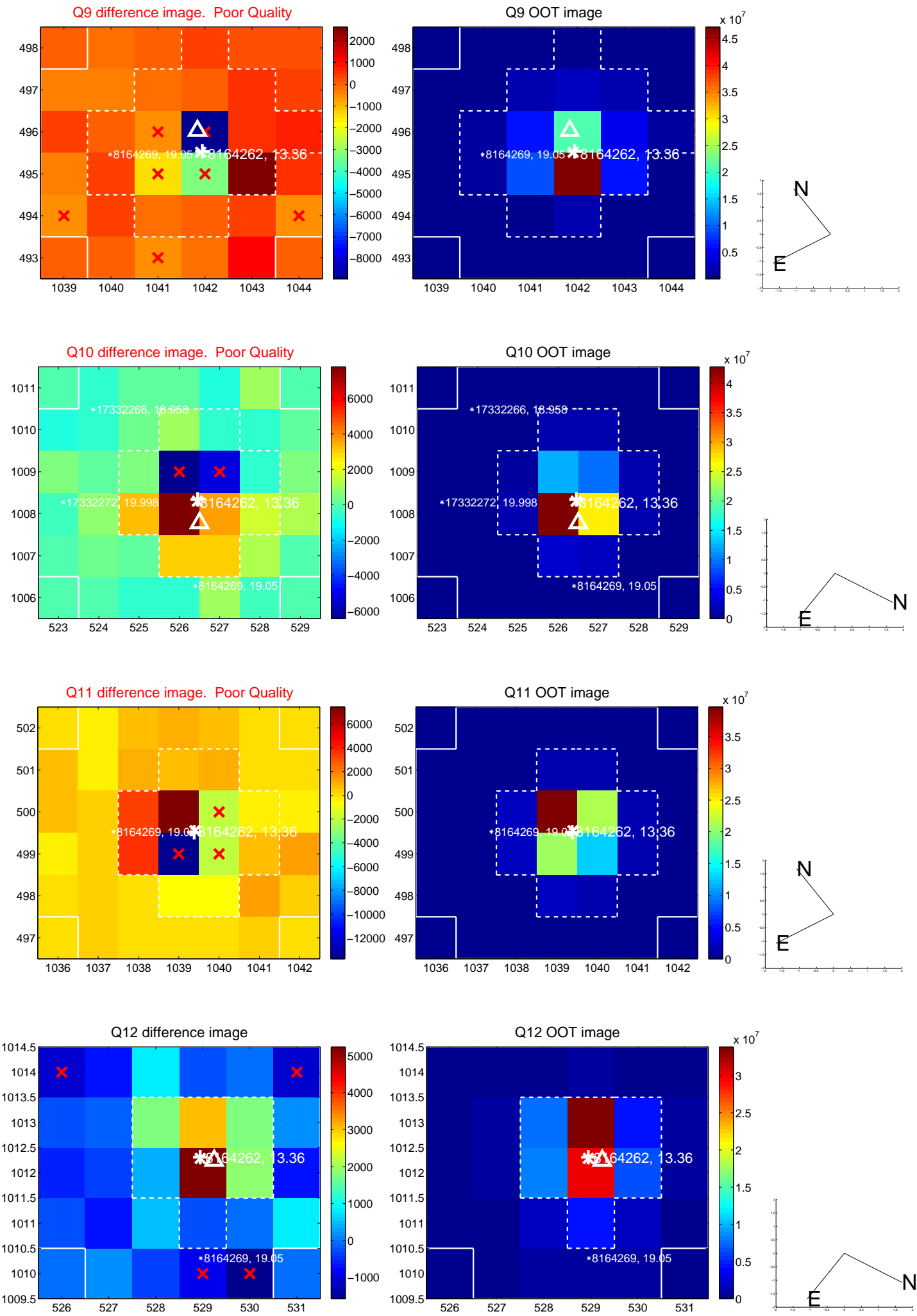
Q4 OOT image



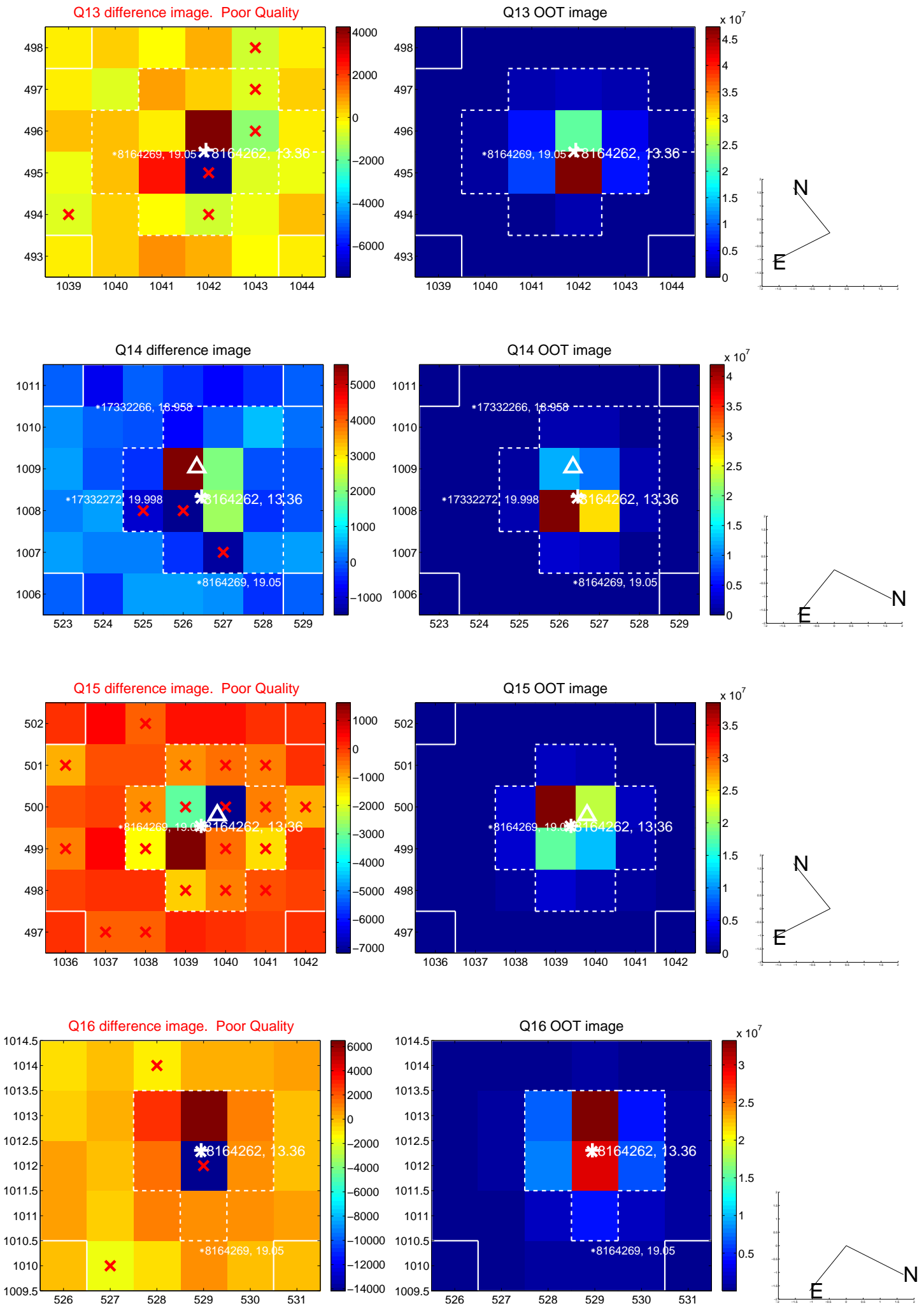
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



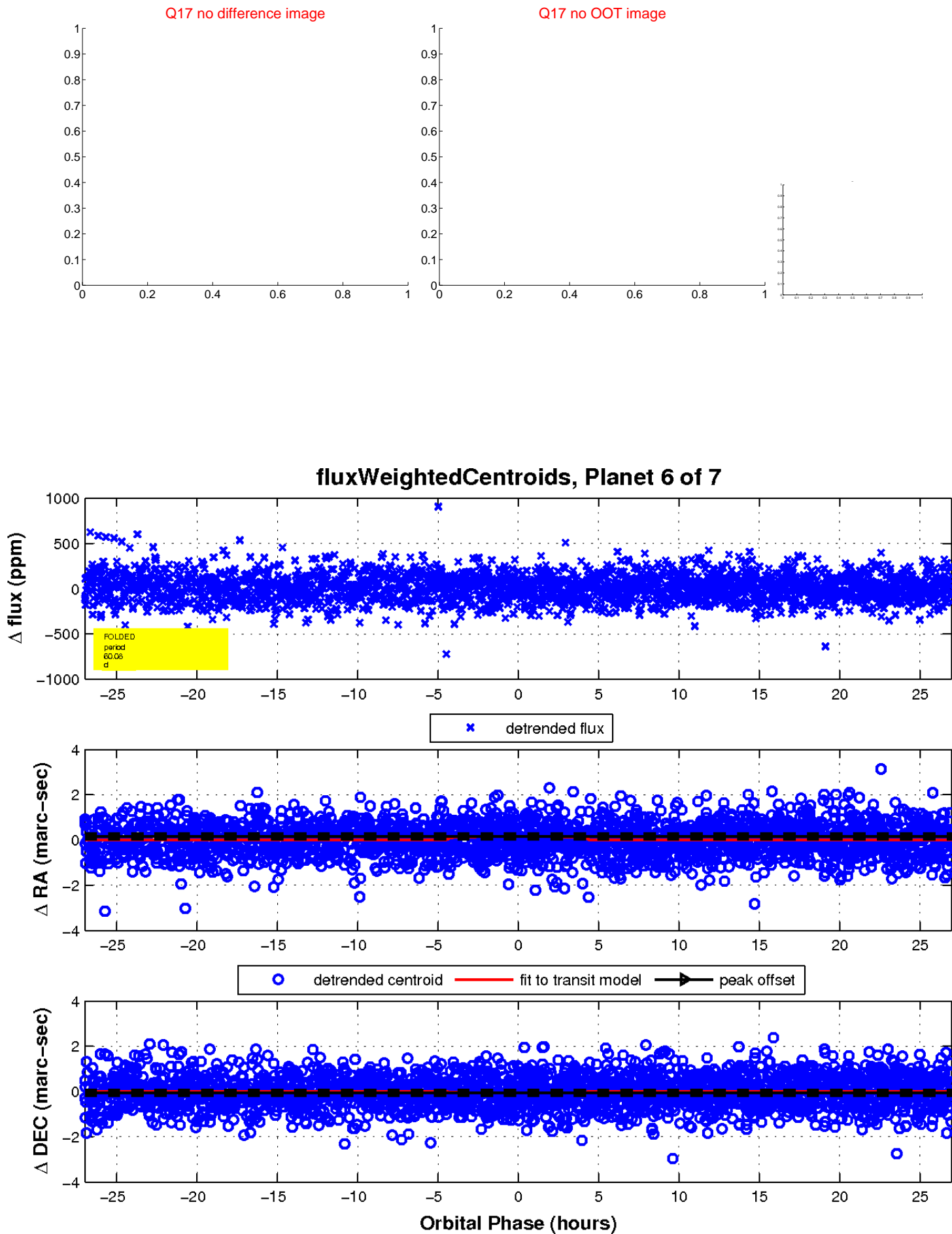
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

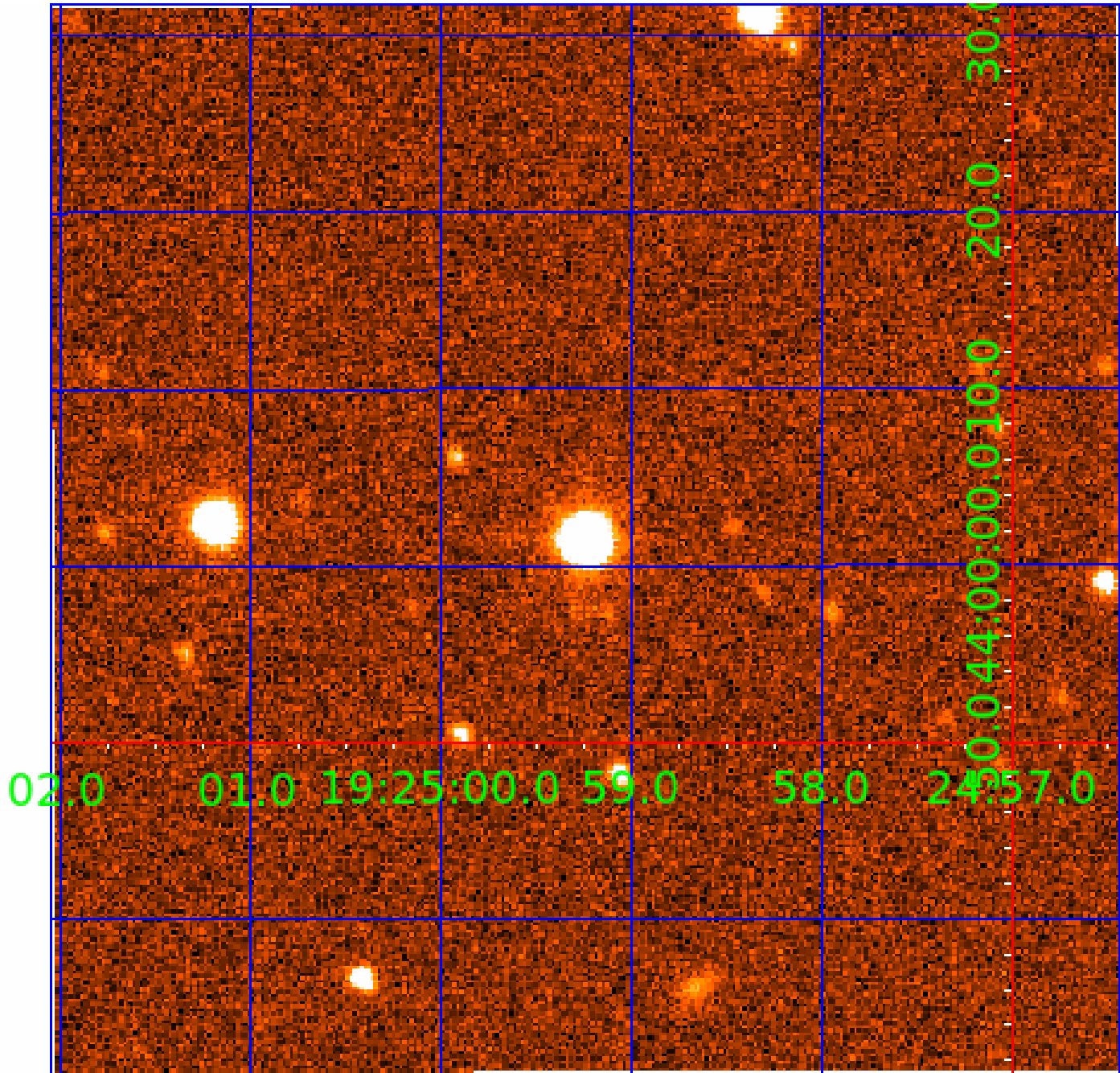


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008164262

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})
008164262-01	OBS	1810.01	87.455497	136.245745	1550.7	16.981	75.8	84.6	2.11	7700	15.29	66.39
008164262-02	OBS	No	2.998115	133.019634	5.3	0.643	10.9	0.3	2.11	7700	0.52	5961.91
008164262-03	OBS	No	2.989781	133.444681	30.6	6.094	10.3	9.6	2.11	7700	1.33	5984.07
008164262-04	OBS	No	2.989302	133.043204	38.1	20.004	12.4	14.8	2.11	7700	1.75	5985.35
008164262-06	OBS	No	60.077771	171.669520	105.0	8.993	9.6	6.3	2.11	7700	2.44	109.54
008164262-07	OBS	No	78.631463	205.944685	272.5	1.760	7.9	8.2	2.11	7700	3.86	76.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008164262-01	OBS	FP	0.00	1	0	0	0	LPP_ALT—MOD_NONUNIQ_ALT
008164262-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008164262-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008164262-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008164262-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008164262-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

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

Ephemeris Match Information For 008164262-07

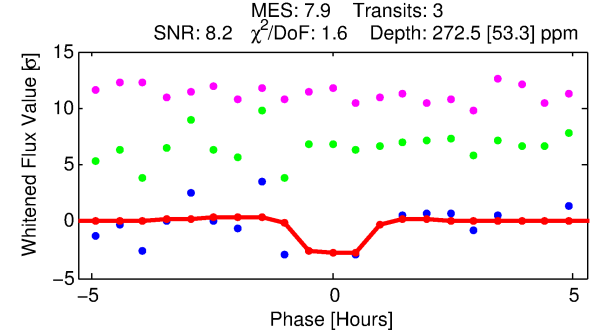
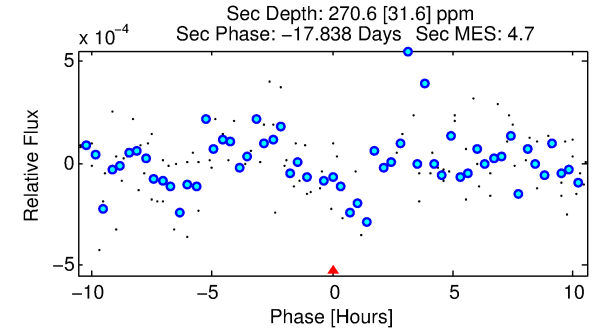
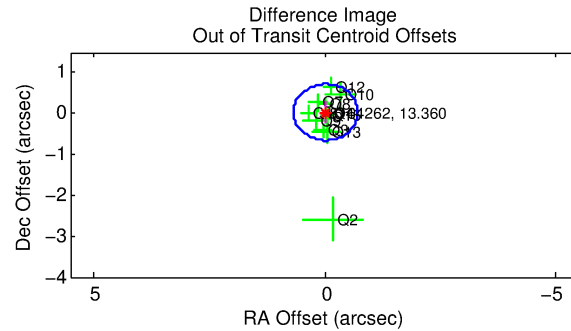
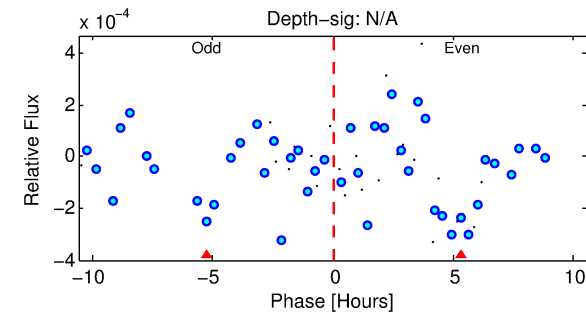
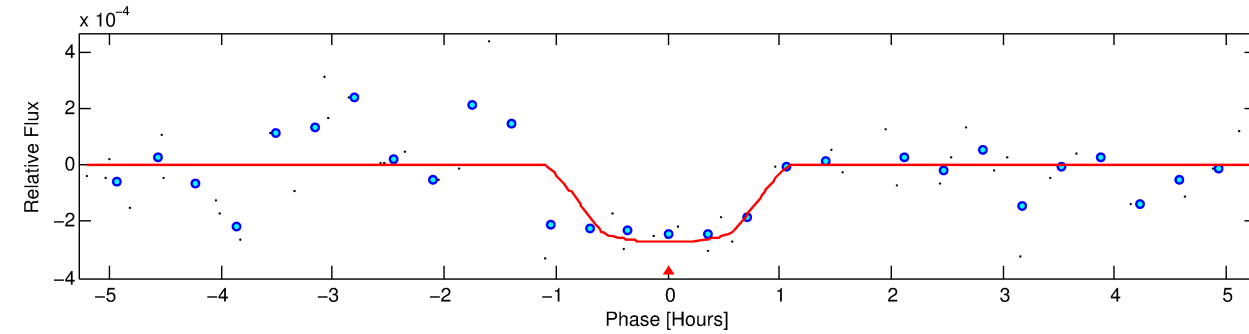
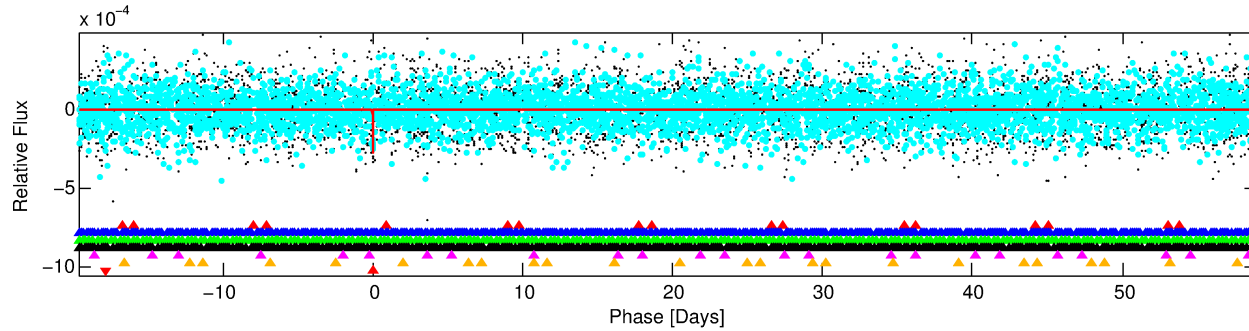
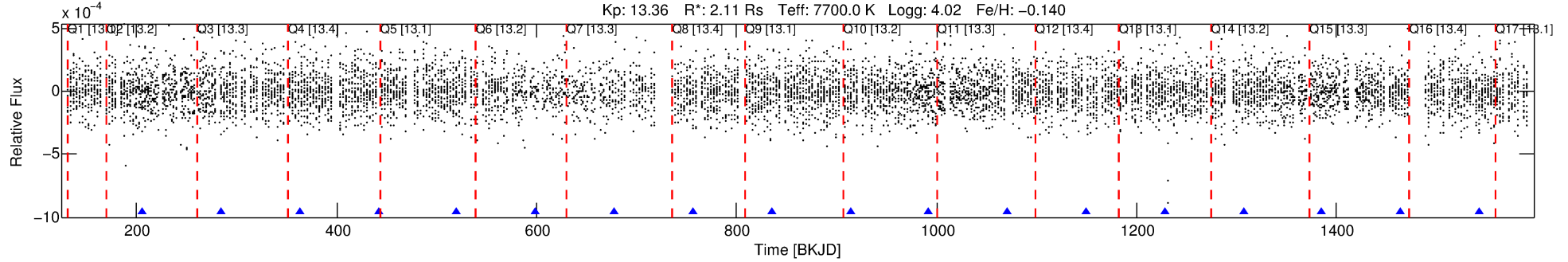
No Significant Match Found

DV One-Page Summary

KIC: 8164262 Candidate: 7 of 7 Period: 78.631 d

KOI: K01810 Corr: No Ephemeris Match

Kp: 13.36 R*: 2.11 Rs Teff: 7700.0 K Logg: 4.02 Fe/H: -0.140



DV Fit Results:

Period = 78.63146 [0.00097] d
Epoch = 205.9447 [0.0131] BKJD
Rp/R* = 0.0167 [0.0188]
a/R* = 213.42 [1389.78]
b = 0.80 [2.94]
Seff = 76.51 [29.44]
Teq = 754 [73] K
Rp = 3.86 [4.45] Re
a = 0.4283 [0.1007] AU
Ag = 1836.78 [4175.22] [0.44σ]
Teffp = 7633 [4298] K [1.60σ]

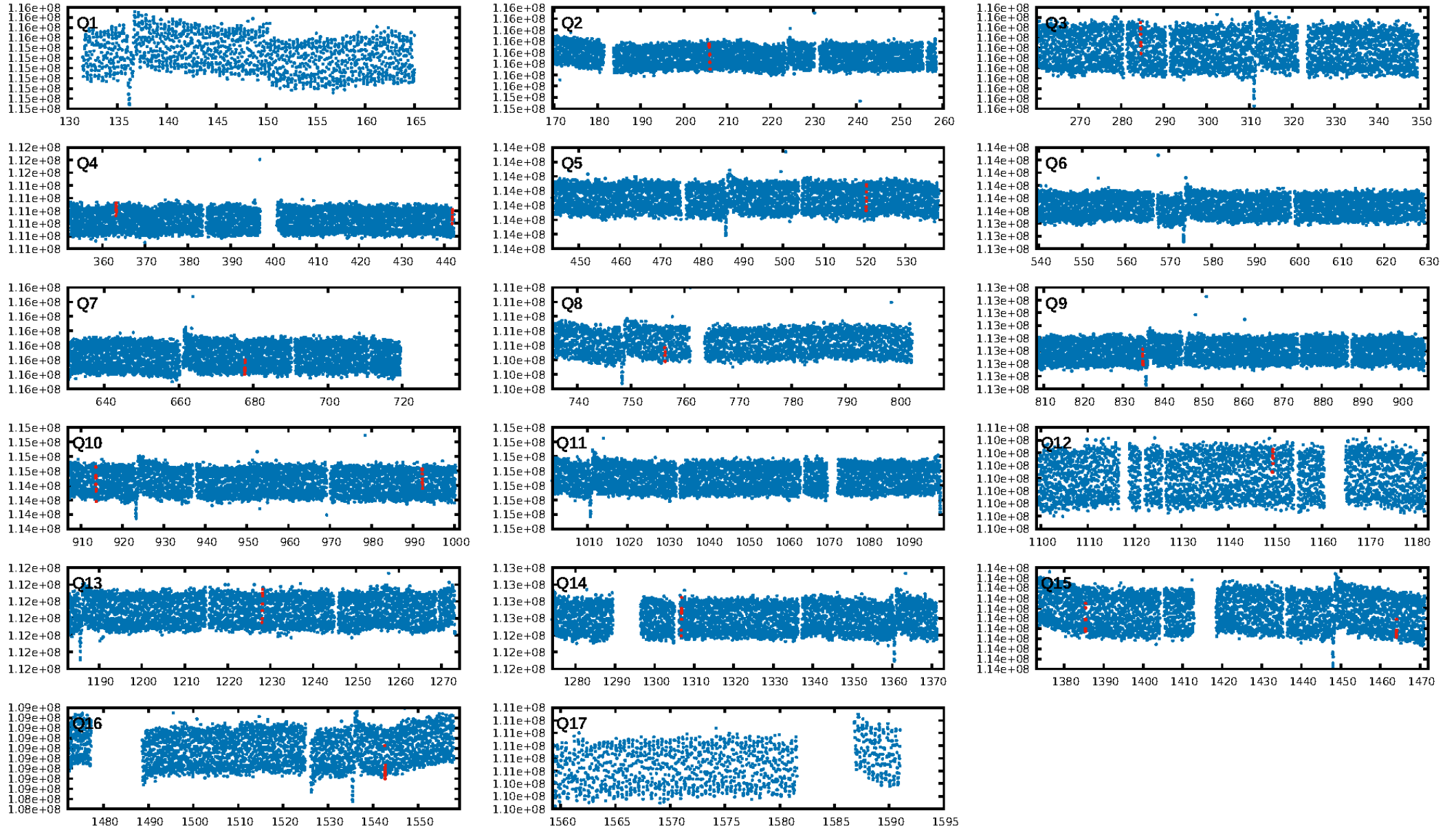
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [33.49σ]
LongPeriod-sig: 100.0% [12.41σ]
ModelChiSquare2-sig: 24.7%
ModelChiSquareGof-sig: 98.1%
Bootstrap-pfa: 1.26e-06
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.064
Centroid-sig: 2.3%
Centroid-so: 1.748 arcsec [1.50σ]
OotOffset-rm: 0.038 arcsec [0.16σ]
KicOffset-rm: 0.120 arcsec [1.13σ]
OotOffset-st: 2/3/4/2 [11]
KicOffset-st: 2/3/4/2 [11]
DiffImageQuality-fgm: 0.45 [5/11]
DiffImageOverlap-fno: 0.50 [6/12]

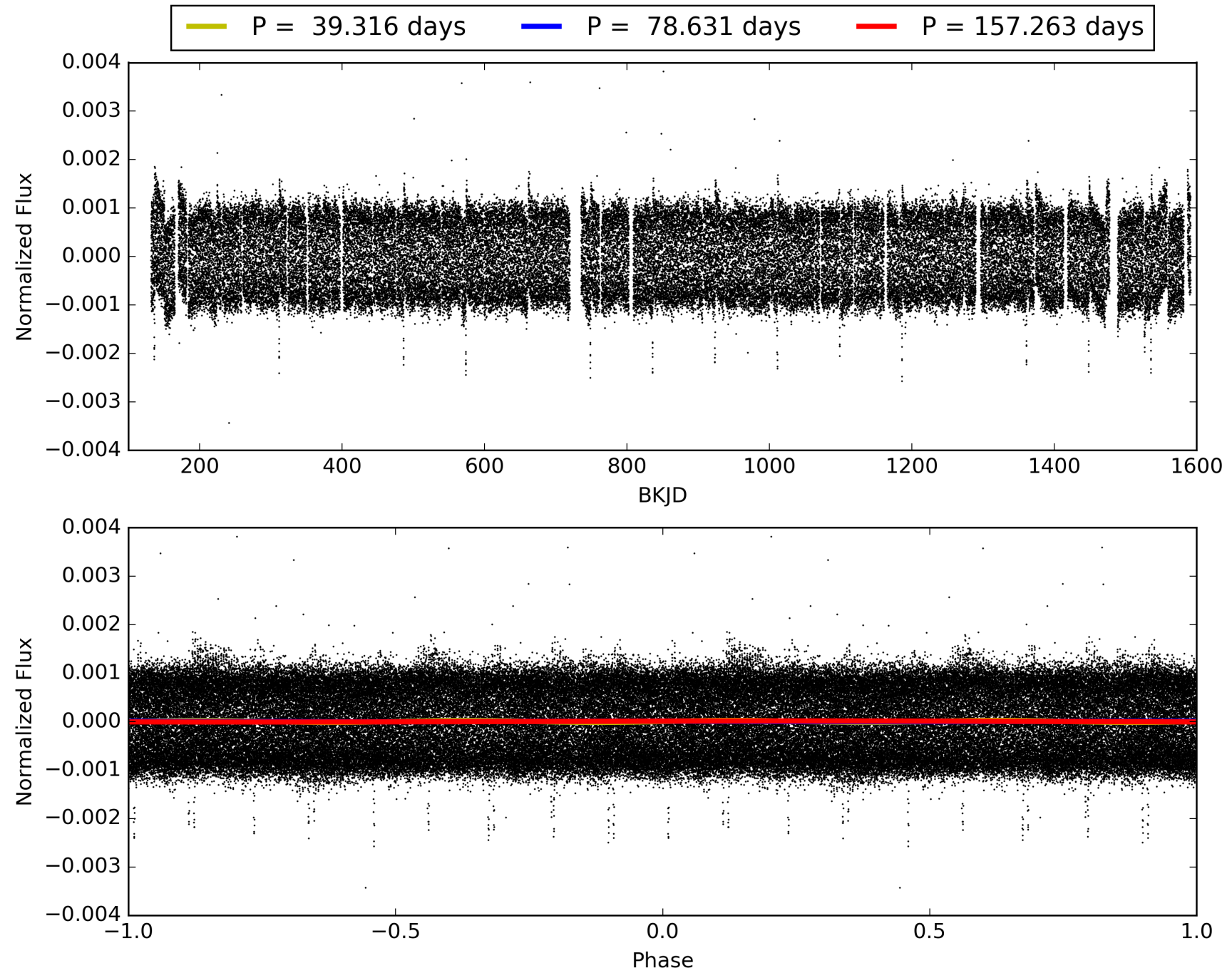
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:26:36 Z

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

TCE 008164262-07, PDC Light Curves

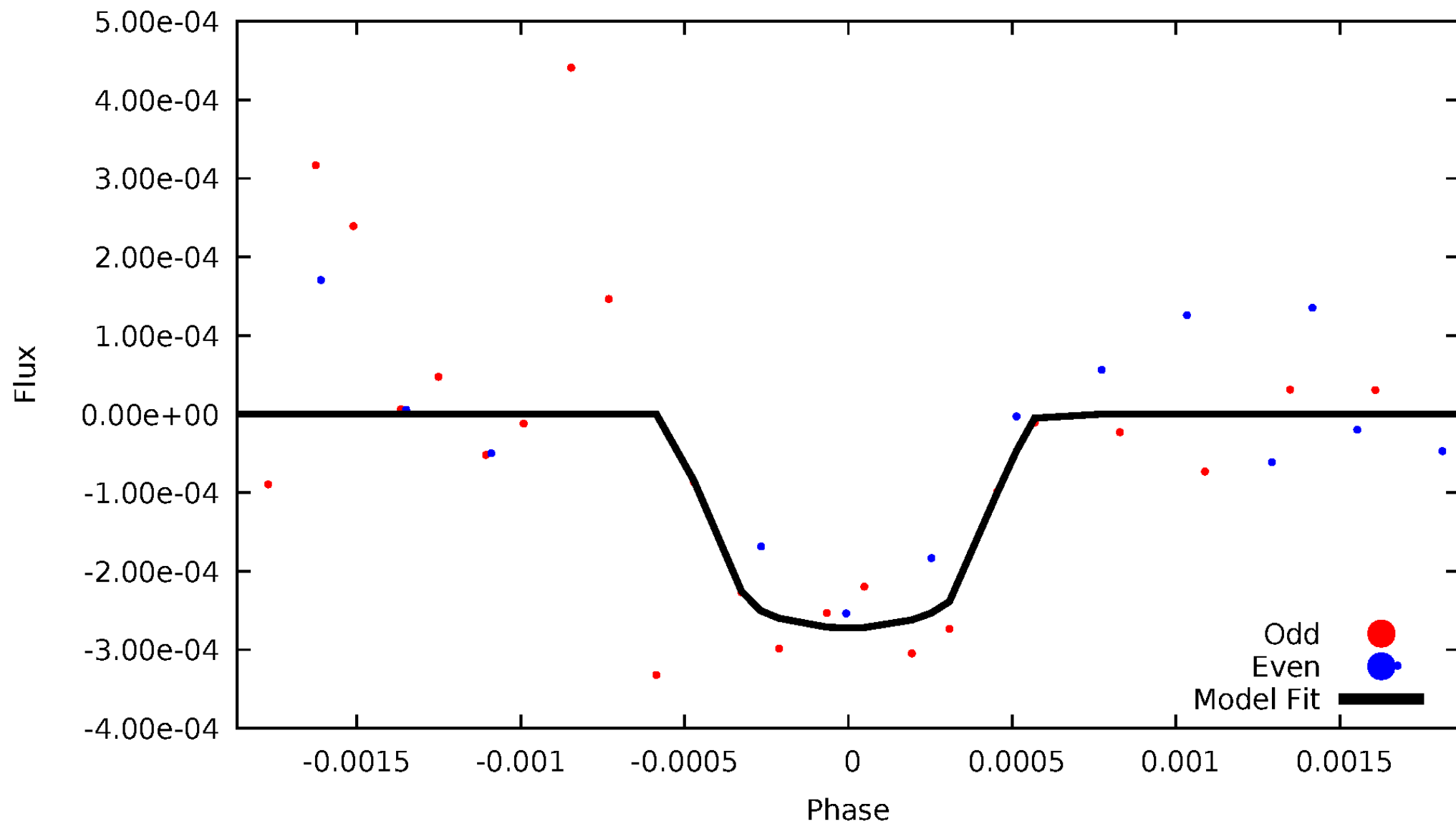


TCE 008164262-07



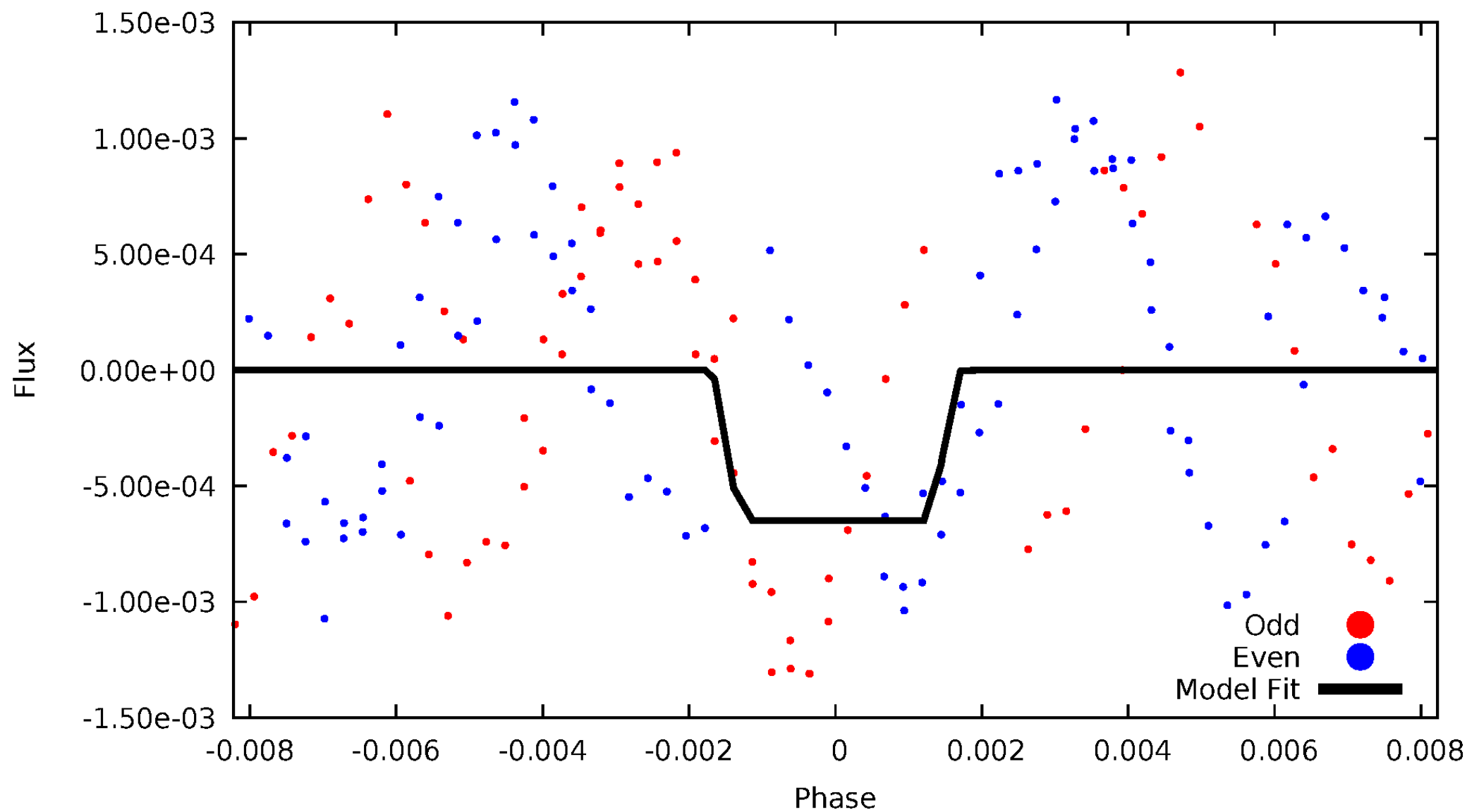
DV Odd/Even

TCE 008164262-07



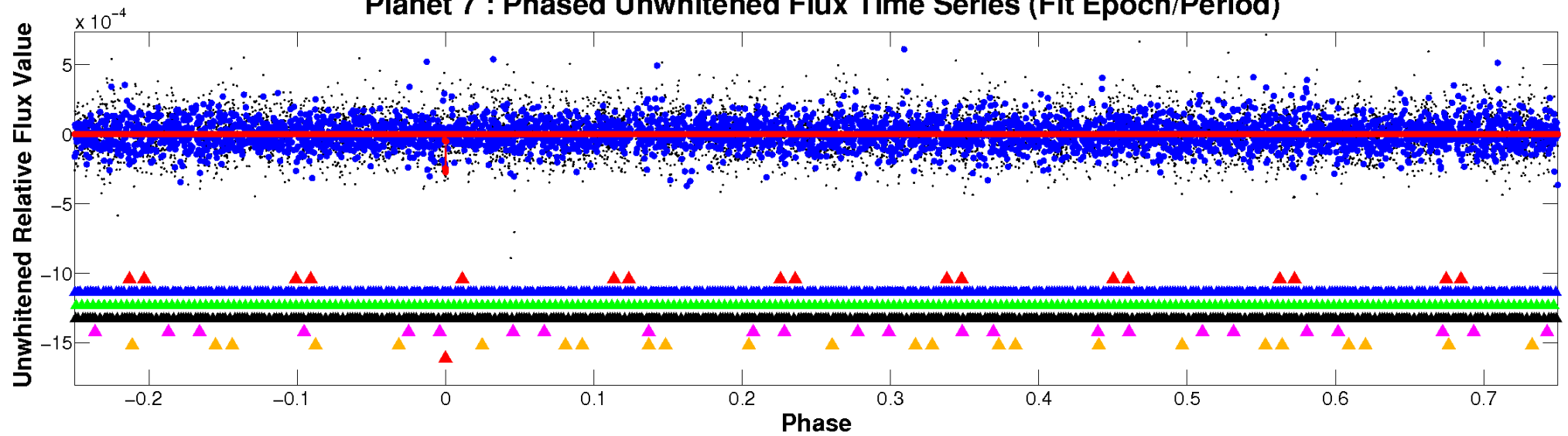
ALT Odd/Even

TCE 008164262-07

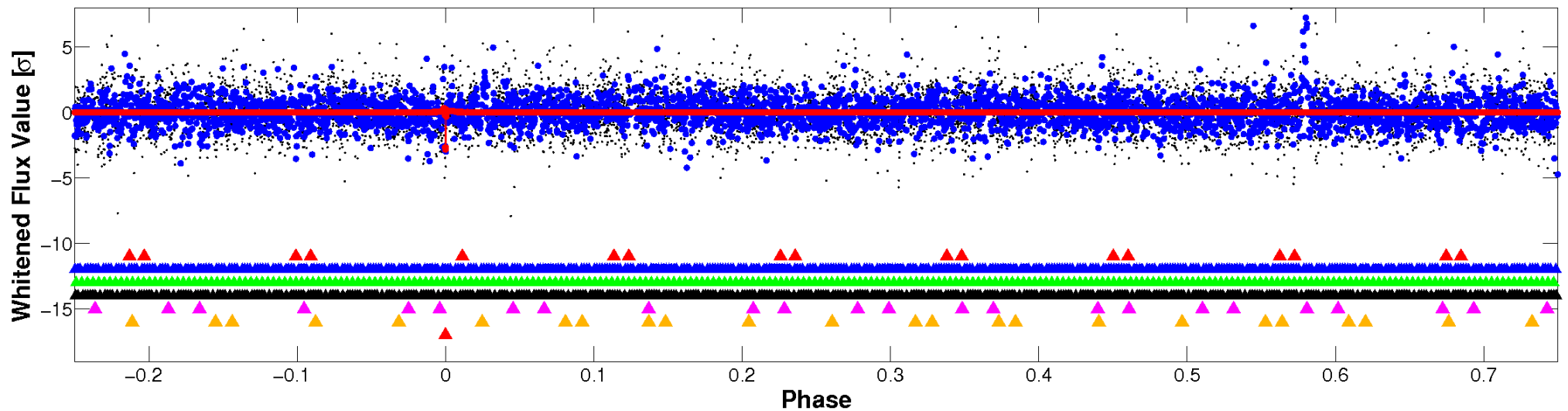


Non-Whitened Vs. Whitened Light Curve

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

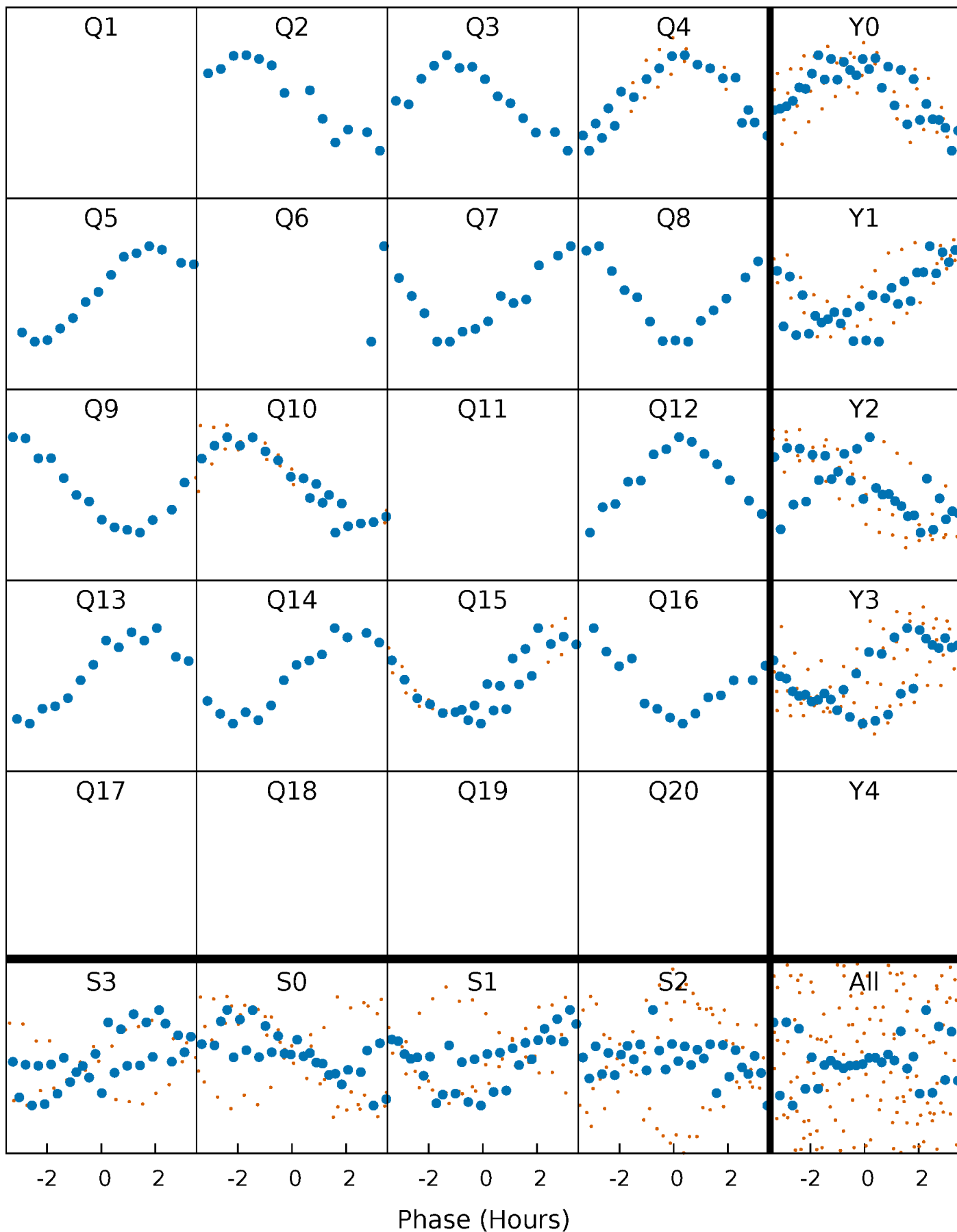


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



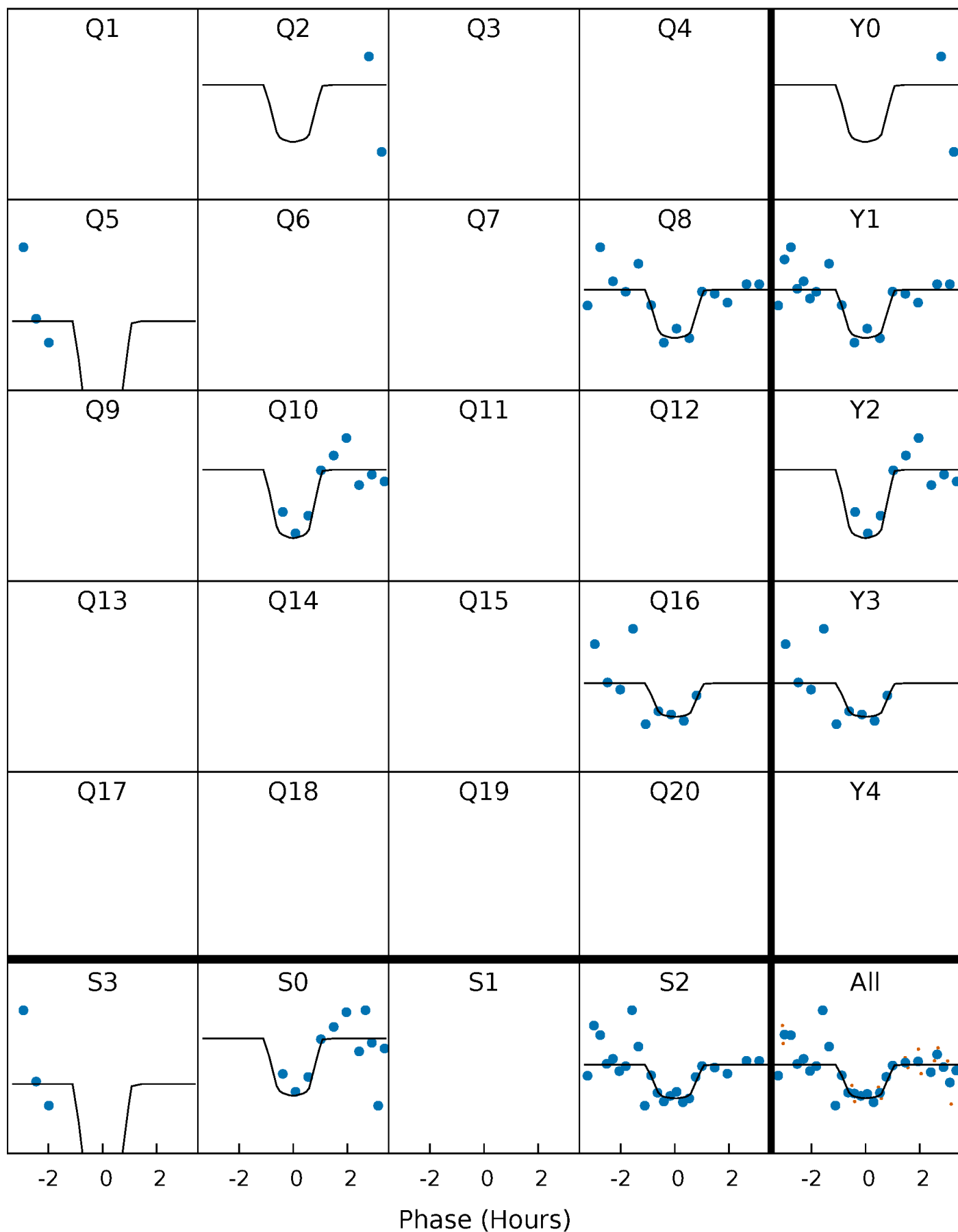
PDC Quarter-Phased Transit Curves

TCE 008164262-07 P= 78.631463 Days $T_0=205.944685$ (BKJD)



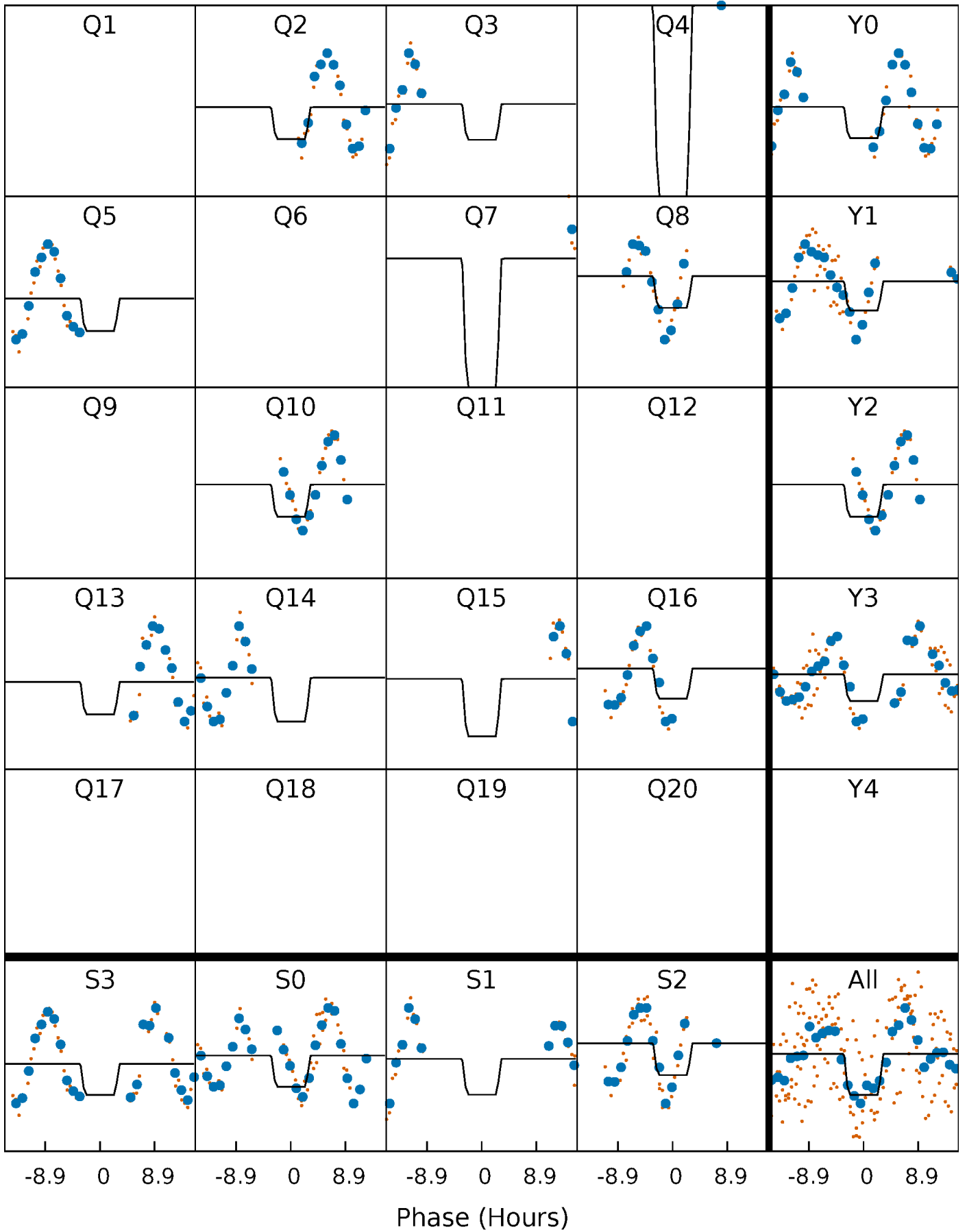
DV Quarter-Phased Transit Curves

TCE 008164262-07 P= 78.631463 Days $T_0=205.944685$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

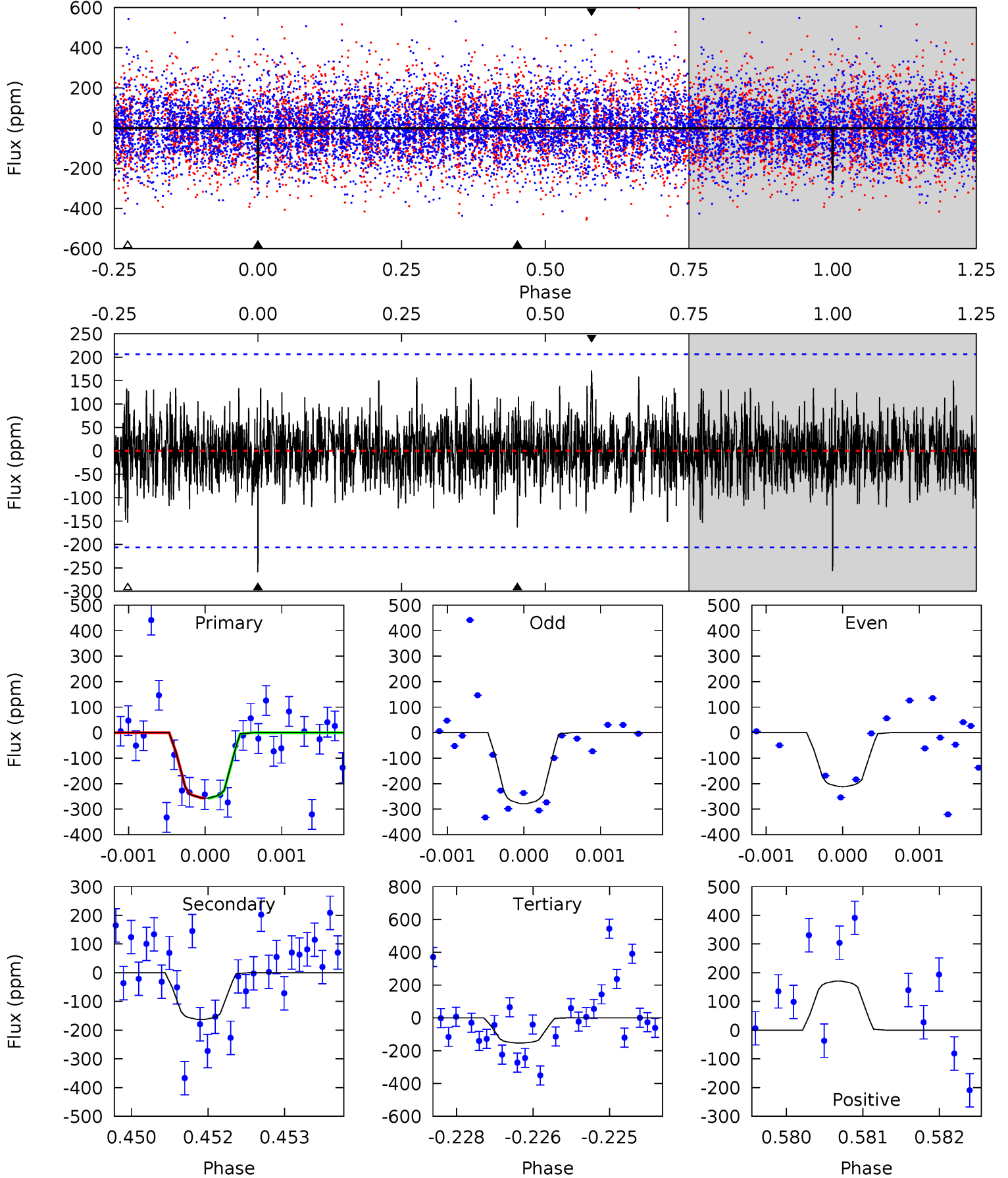
TCE 008164262-07 P= 78.630596 Days $T_0=206.002650$ (BKJD)



DV Model-Shift Uniqueness Test

008164262-07, P = 78.631463 Days, E = 127.313222 Days

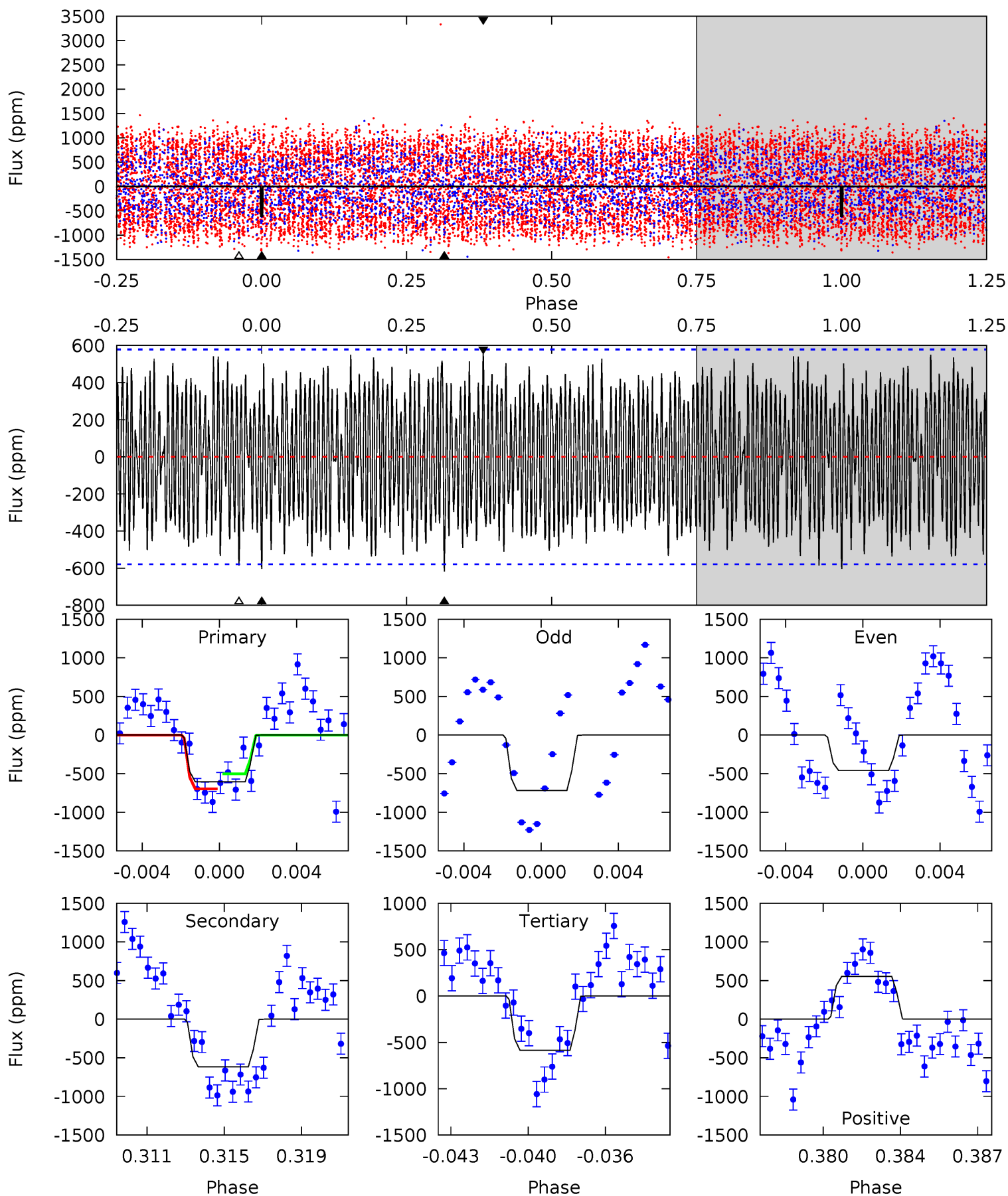
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.74	4.28	4.03	4.49	5.41	3.23	1.21	2.72	2.25	0.25	-0.22	0.83	0.92	0.40	0.02



Alt Model-Shift Uniqueness Test

008164262-07, P = 78.630596 Days, E = 127.372054 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.45	5.57	5.27	4.99	5.22	2.91	2.50	0.17	0.46	0.29	0.58	1.16	0.97	0.47	0.87



Stellar Parameters For KIC 008164262

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7700^{+237}_{-316}	$4.018^{+0.193}_{-0.140}$	$-0.140^{+0.200}_{-0.350}$	$2.111^{+0.525}_{-0.578}$	$1.692^{+0.198}_{-0.298}$	$0.254^{+0.309}_{-0.104}$
	+3%/-4%	+5%/-3%	+143%/-250%	+25%/-27%	+12%/-18%	+122%/-41%
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 008164262-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-163 ± 38	$4.74^{+3.91}_{-3.01}$	1046^{+71}_{-76}	5770^{+4809}_{-1267}	705^{+4762}_{-491}
Alt.	-618 ± 111	$6.20^{+4.01}_{-3.48}$	1044^{+76}_{-75}	7205^{+5511}_{-1636}	1597^{+6471}_{-1023}

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

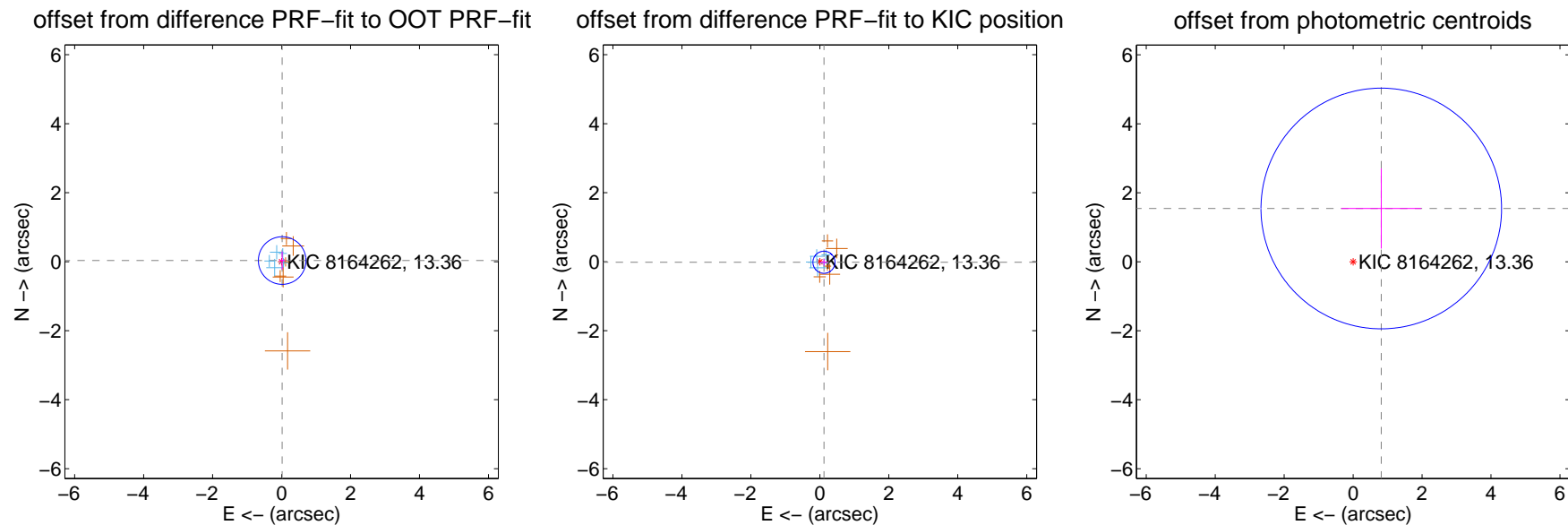
DV Centroid Data

Supplemental centroid analysis for 008164262-07. Kepler magnitude: 13.36. Transit SNR 8.23

There are 5 quarters with good PRF difference image offsets

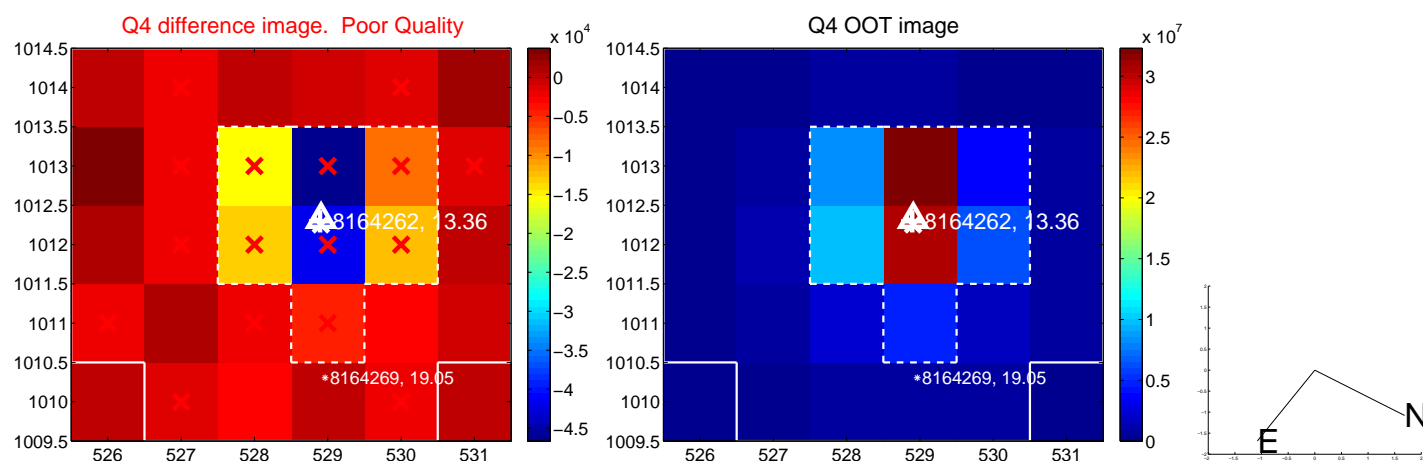
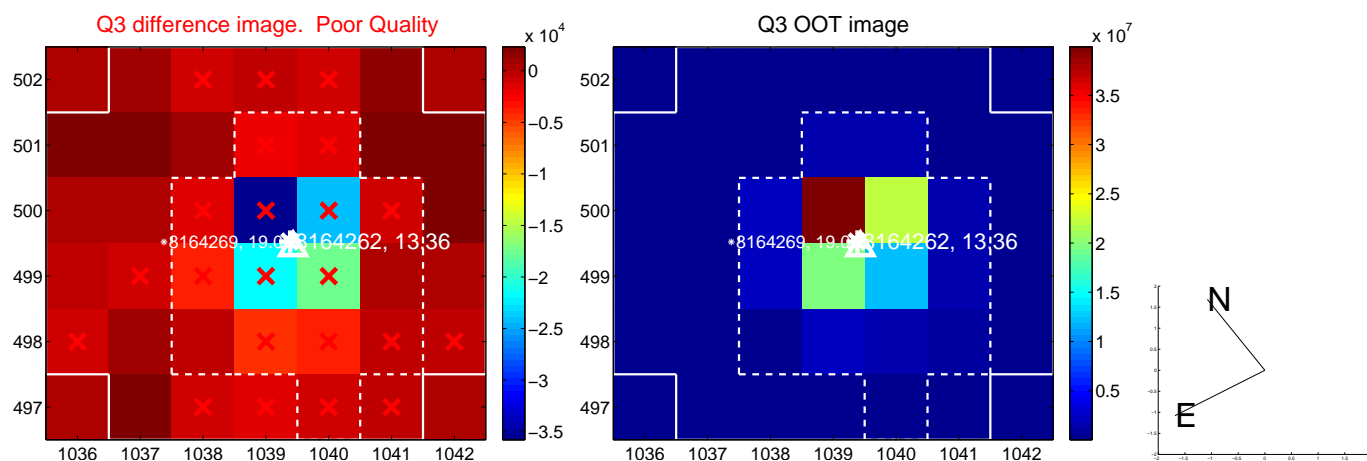
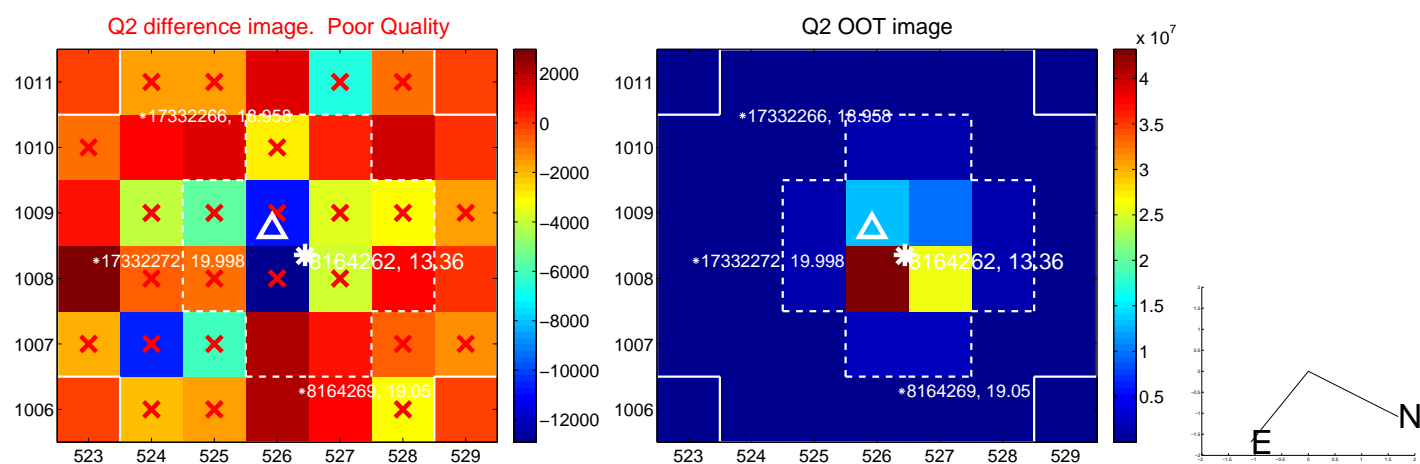
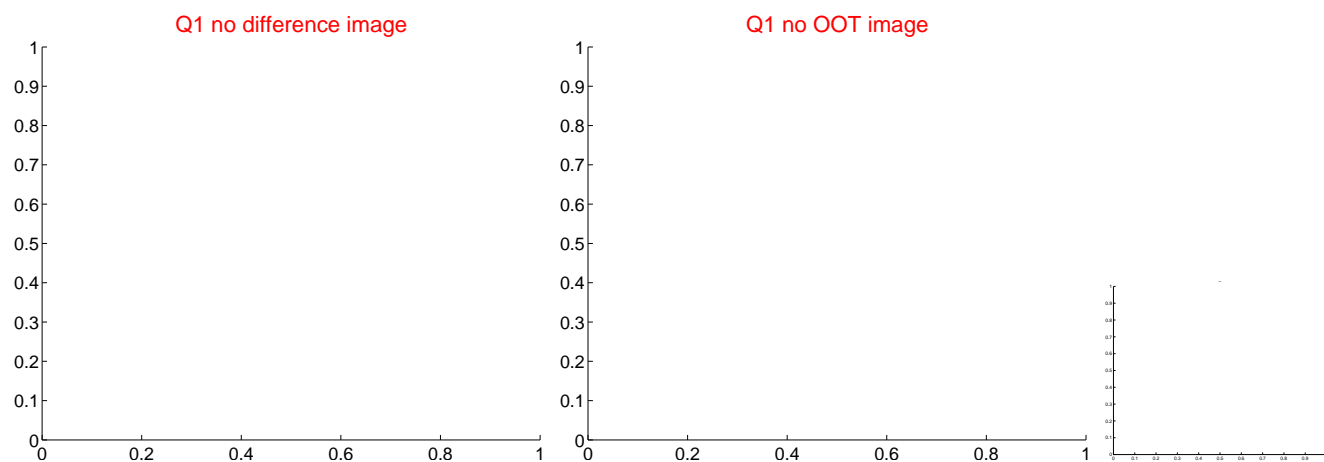
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.038 ± 0.230	0.16	-0.017 ± 0.088	0.033 ± 0.264
PRF-fit source offset from KIC position	0.120 ± 0.107	1.13	-0.119 ± 0.107	-0.016 ± 0.102
photometric centroid source offset	1.75 ± 1.16	1.50	-0.82 ± 1.16	1.55 ± 1.16

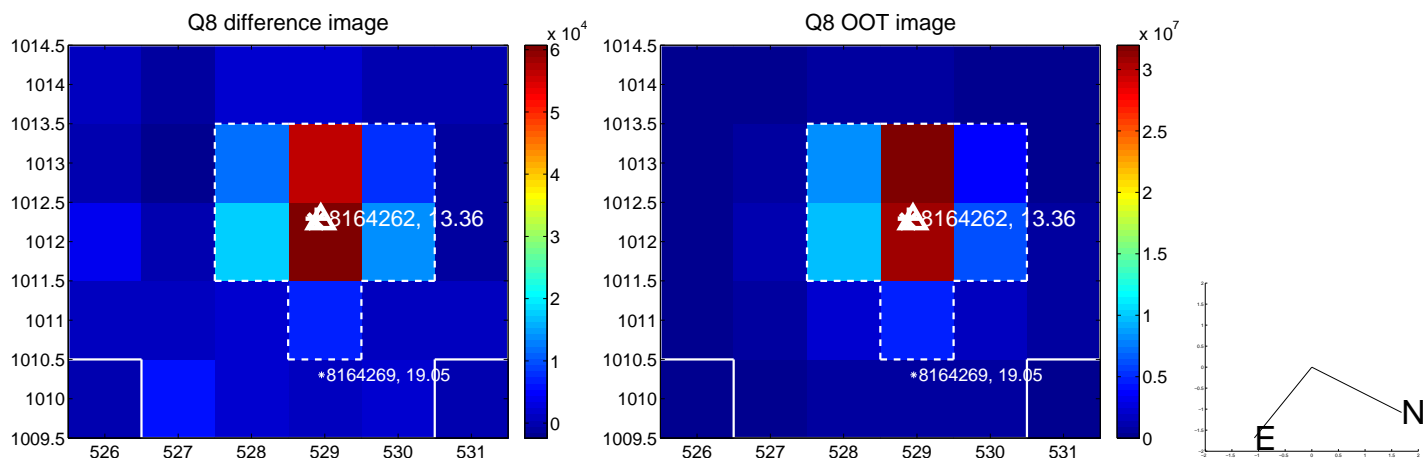
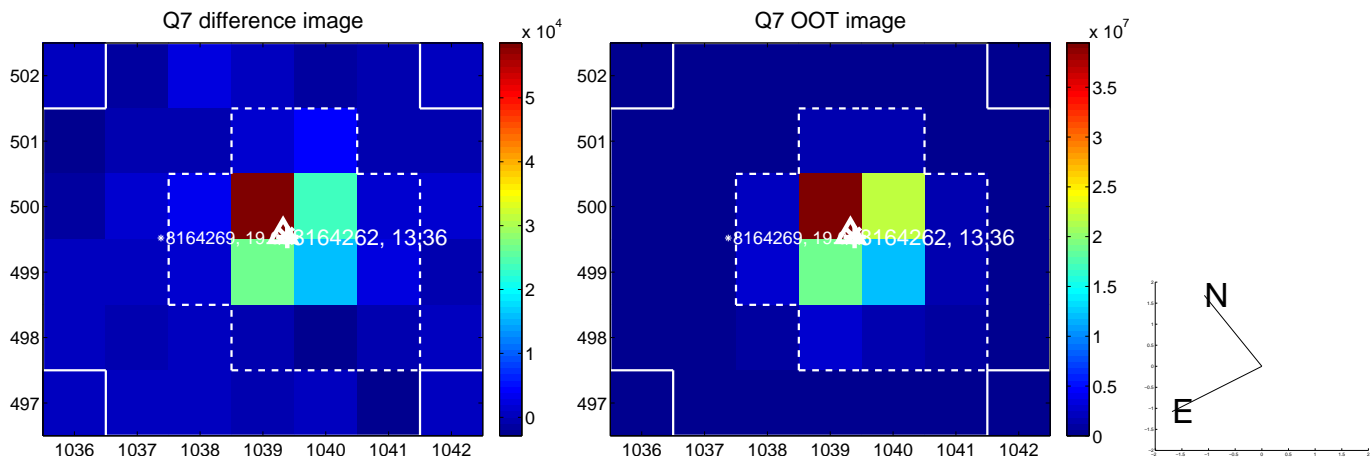
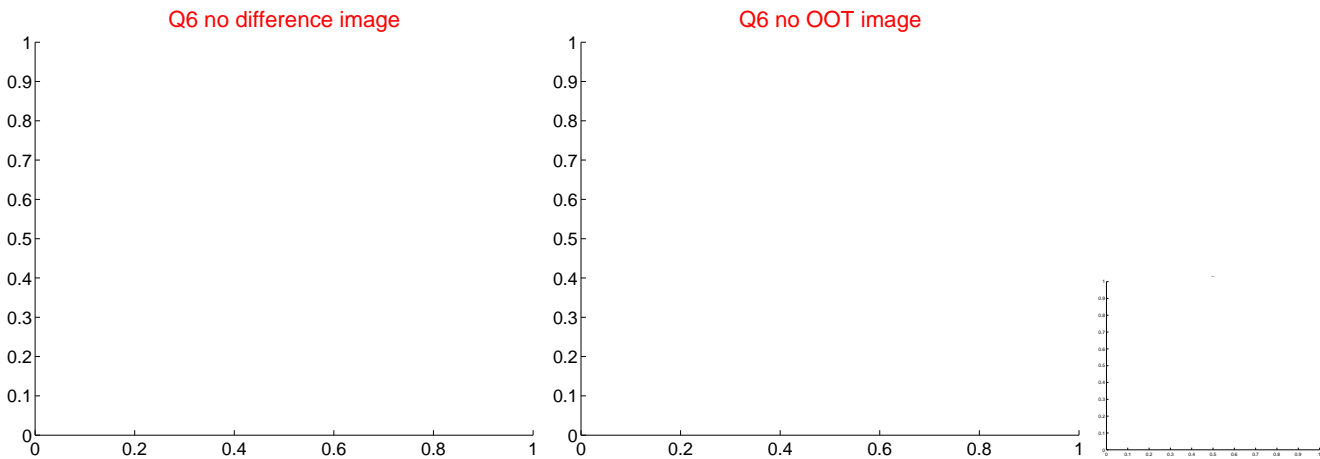
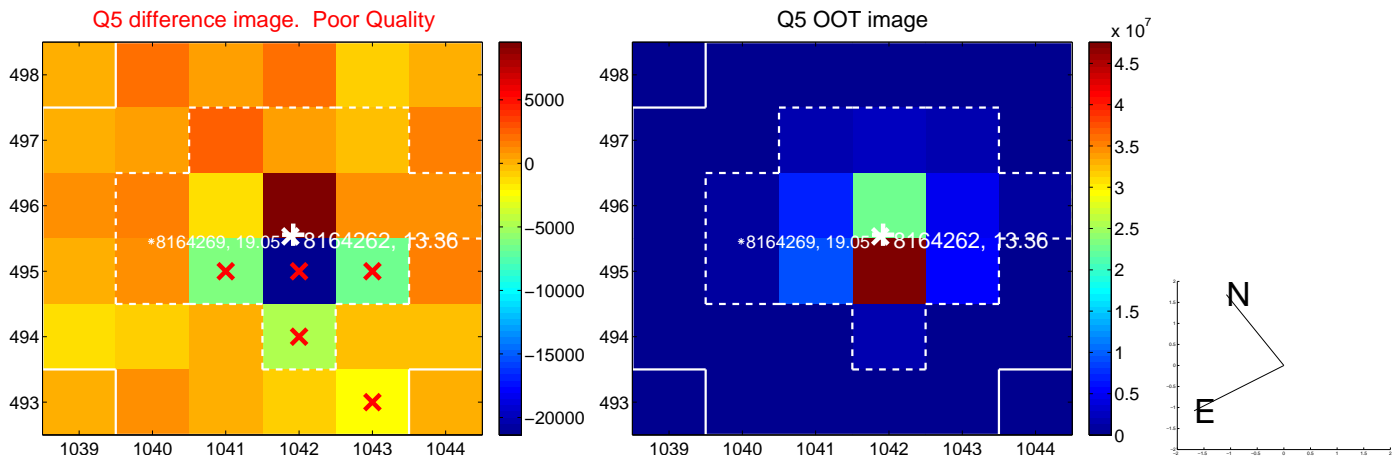


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

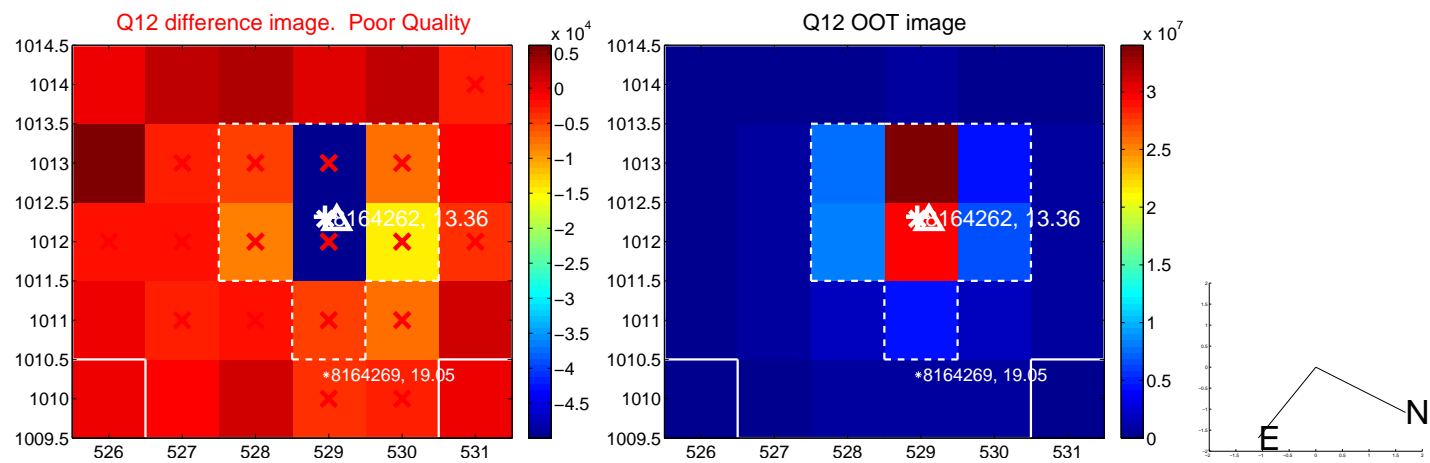
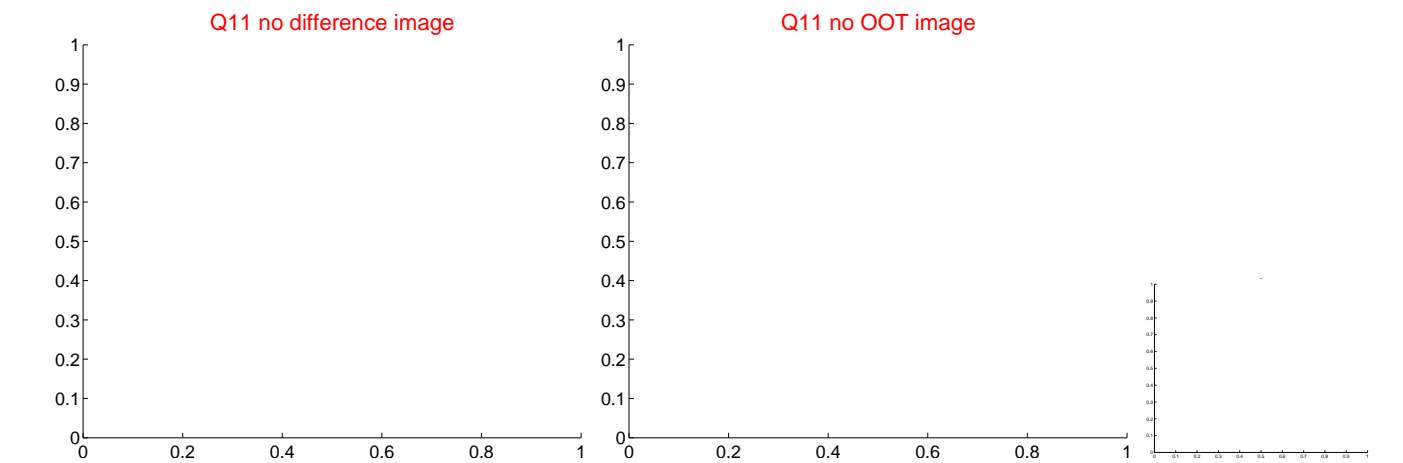
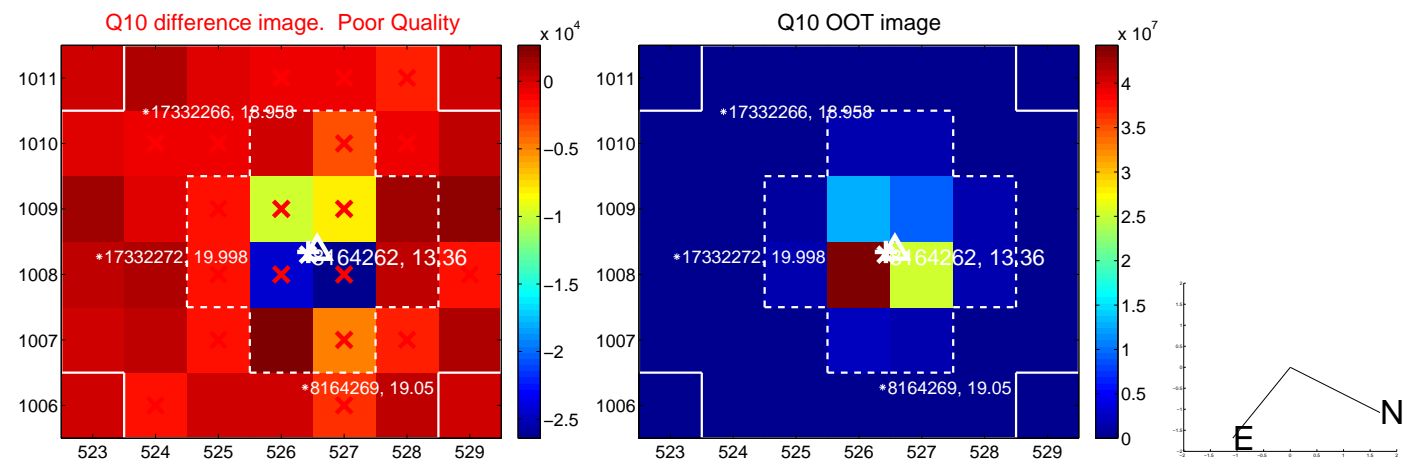
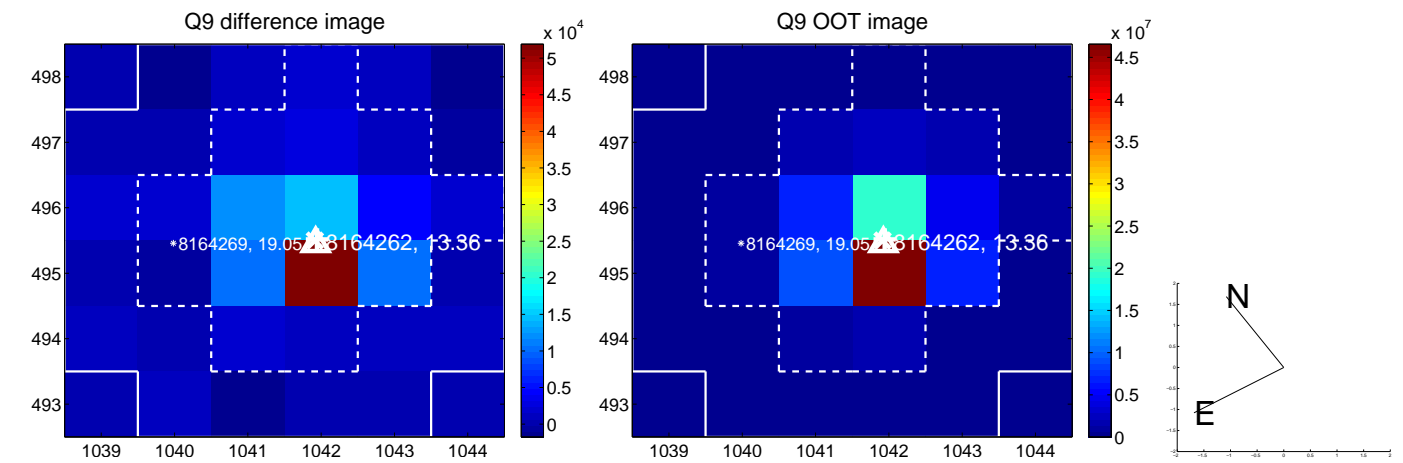
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



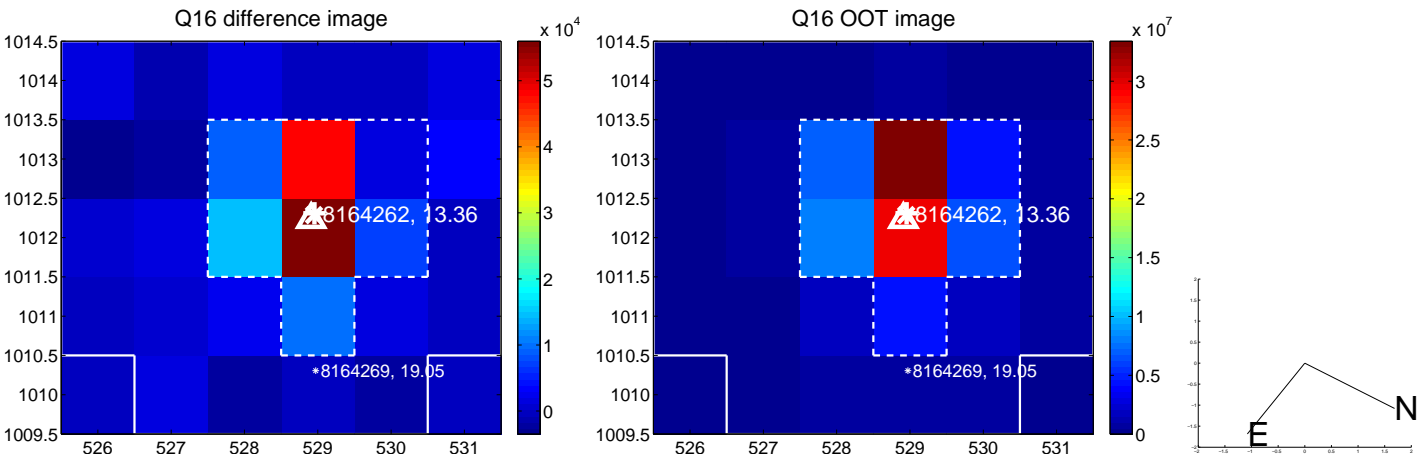
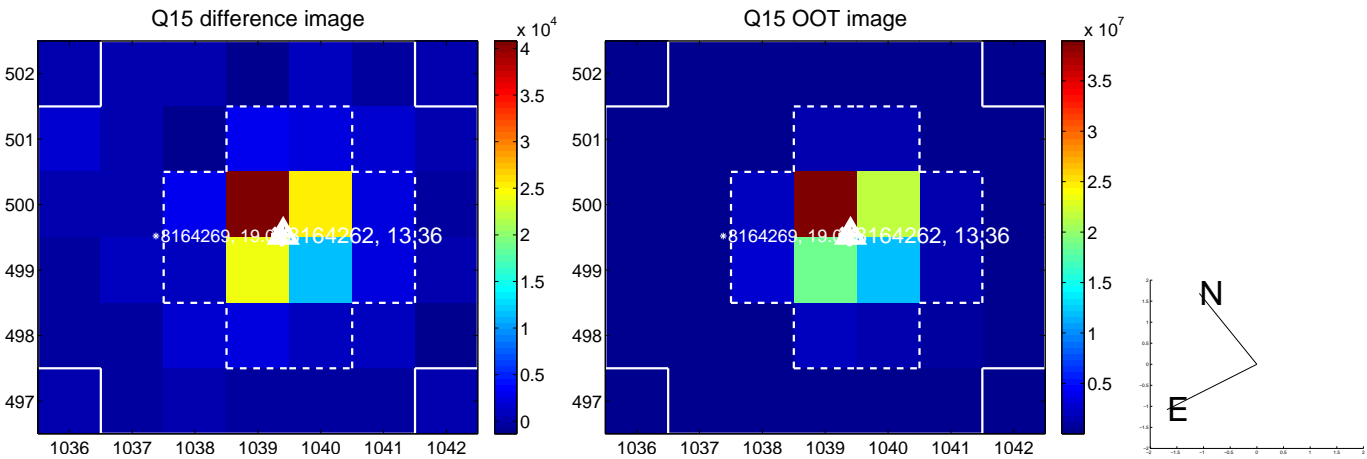
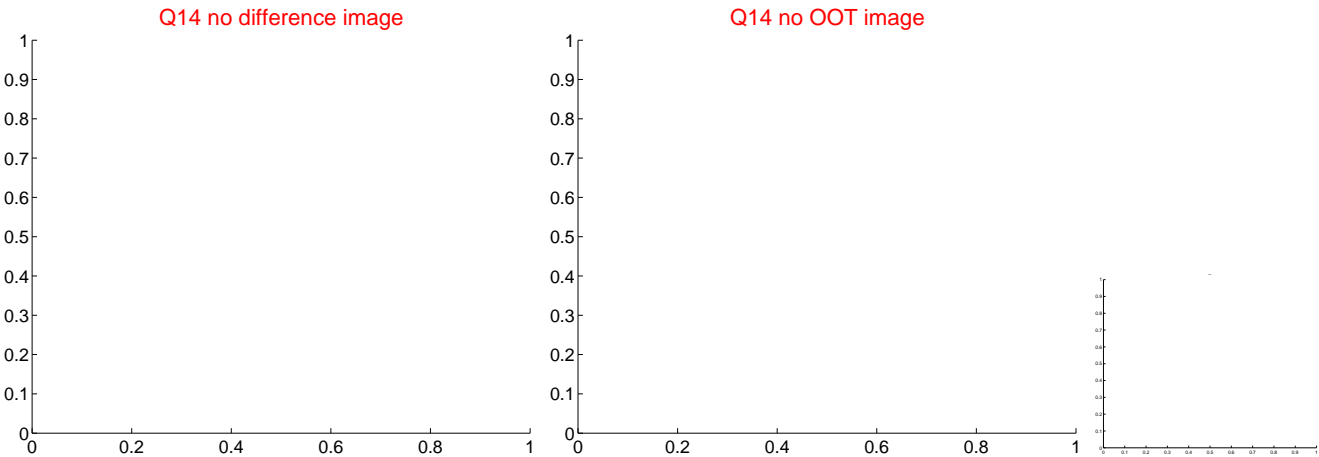
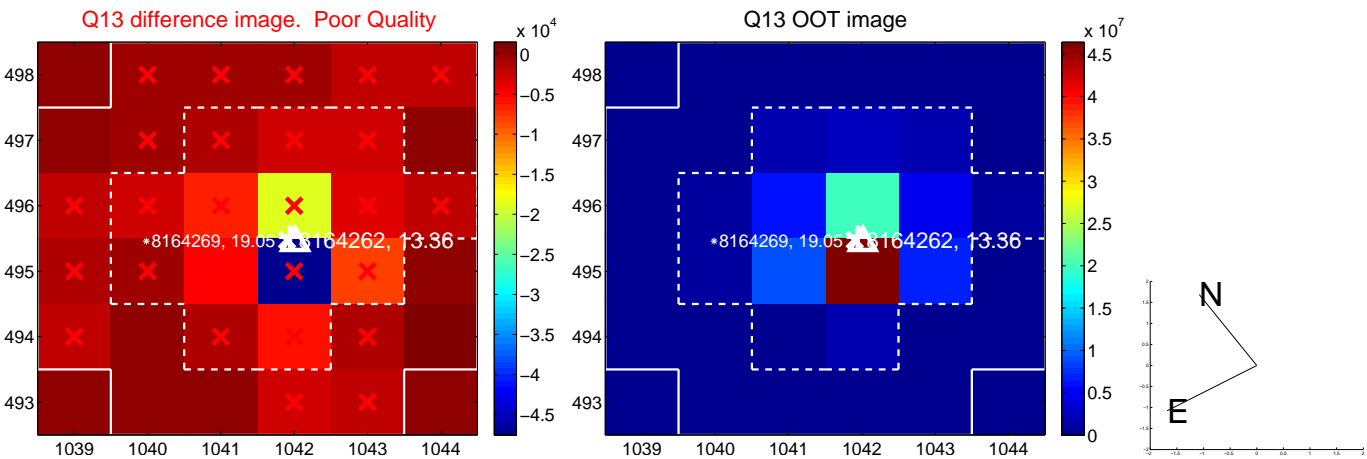
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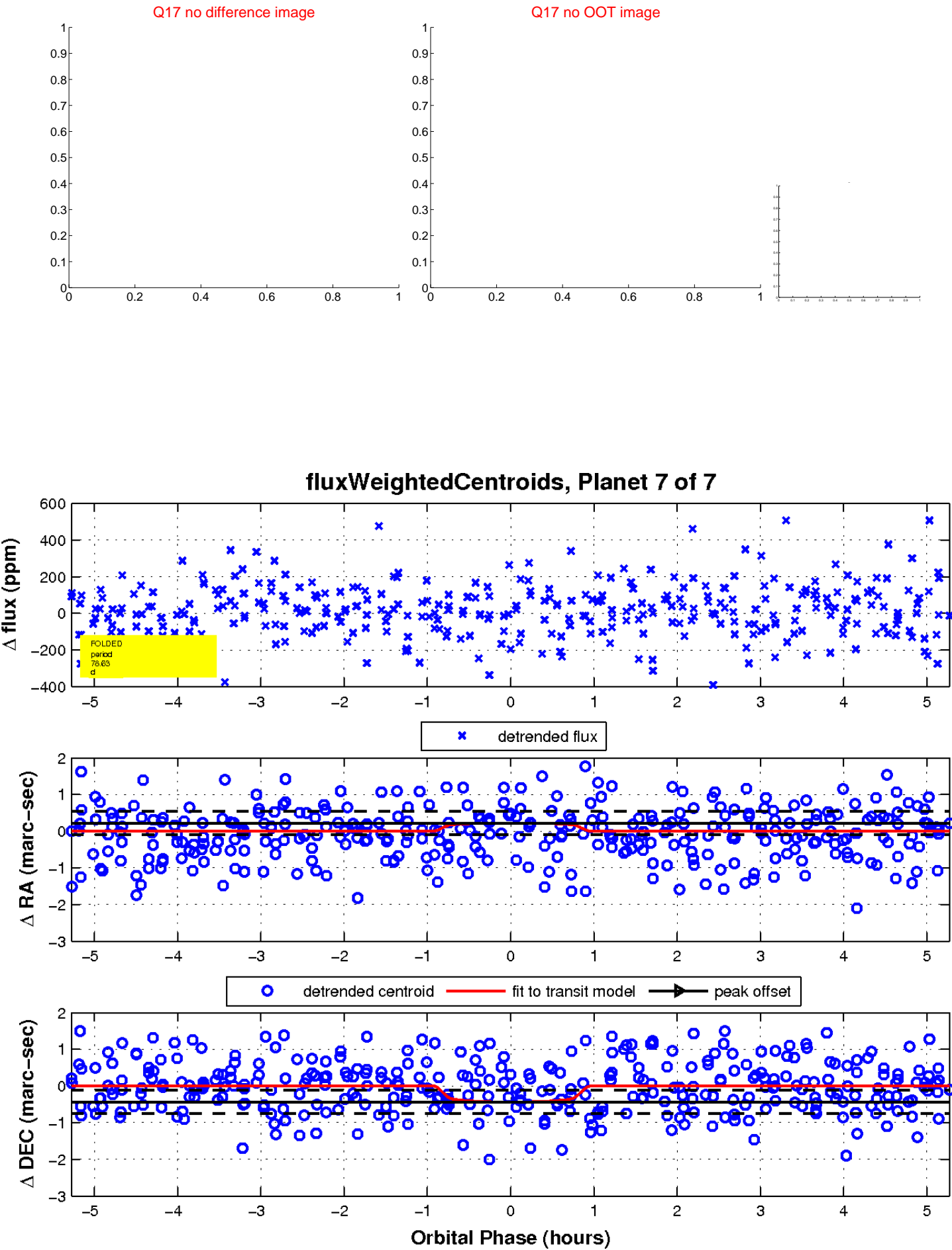
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

