

KIC 008093473

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})
008093473-01	OBS	No	178.562825	294.200732	2681.6	8.399	13.1	10.8	0.29	3360	1.76	0.06
008093473-02	OBS	No	326.901260	173.887993	3022.6	12.061	13.6	7.5	0.29	3360	1.56	0.03
008093473-03	OBS	No	214.280181	192.083764	1940.8	13.376	12.9	6.8	0.29	3360	1.25	0.04
008093473-05	OBS	No	523.692877	156.070778	2764.6	6.545	13.2	7.8	0.29	3360	1.50	0.01
008093473-06	OBS	No	276.431591	185.904897	2032.0	10.945	12.9	6.2	0.29	3360	1.27	0.03
008093473-07	OBS	No	308.313173	326.194573	1362.4	3.000	12.7	-1.0	0.29	3360	1.05	0.03
008093473-08	OBS	No	188.685218	163.698501	1217.3	2.500	11.3	-1.0	0.29	3360	0.99	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008093473-01	OBS	FP	0.00	1	0	1	0	LPP_DV—INCONSISTENT_TRANS—HALO_GHOST
008093473-02	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_FEW_DIFFS—HALO_GHOST
008093473-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_TER_ALT
008093473-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
008093473-06	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
008093473-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
008093473-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

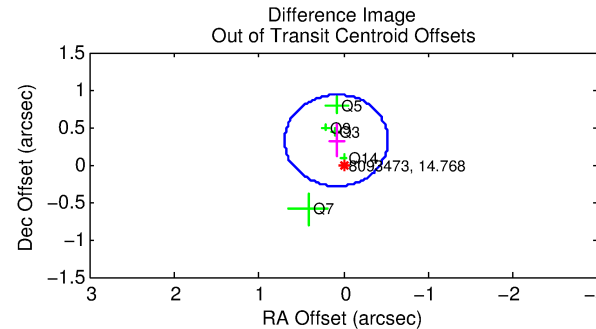
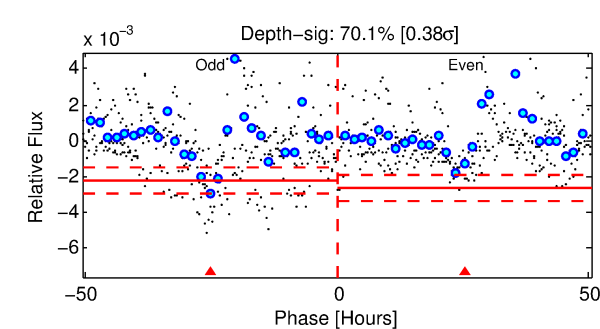
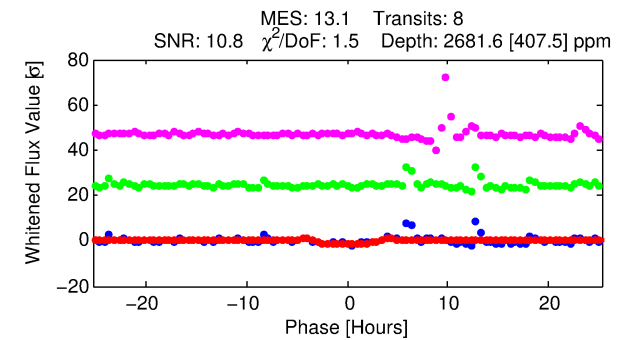
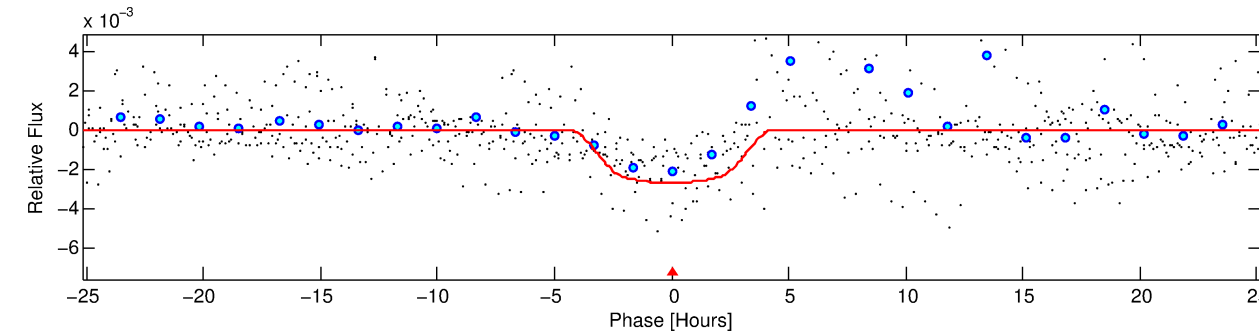
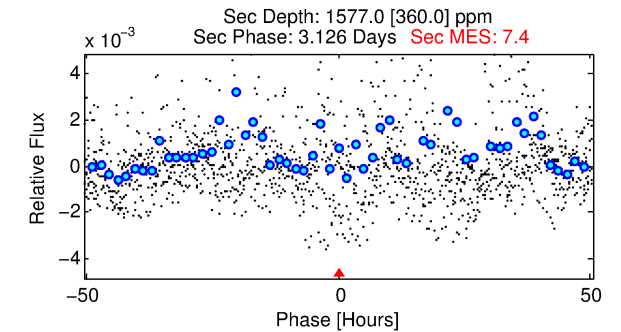
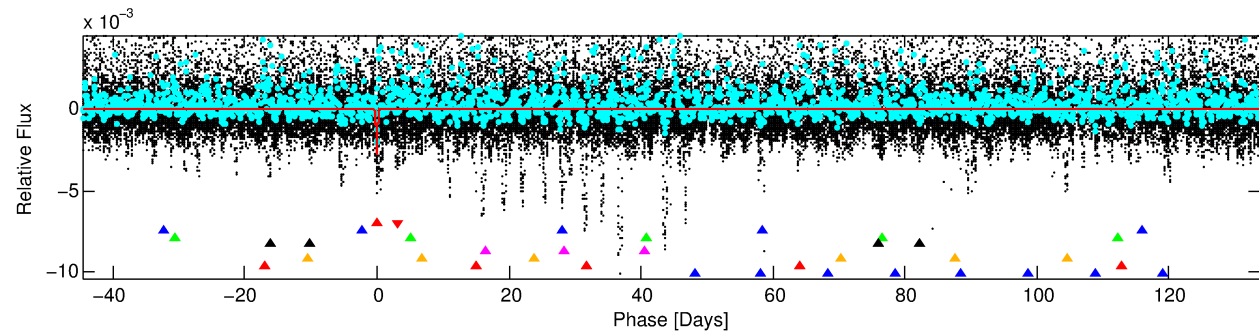
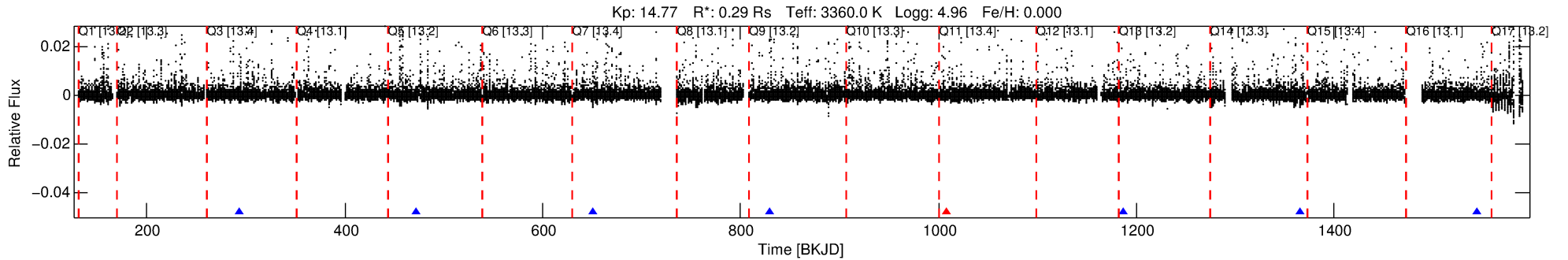
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008093473-01

No Significant Match Found

DV One-Page Summary

KIC: 8093473 Candidate: 1 of 8 Period: 178.563 d



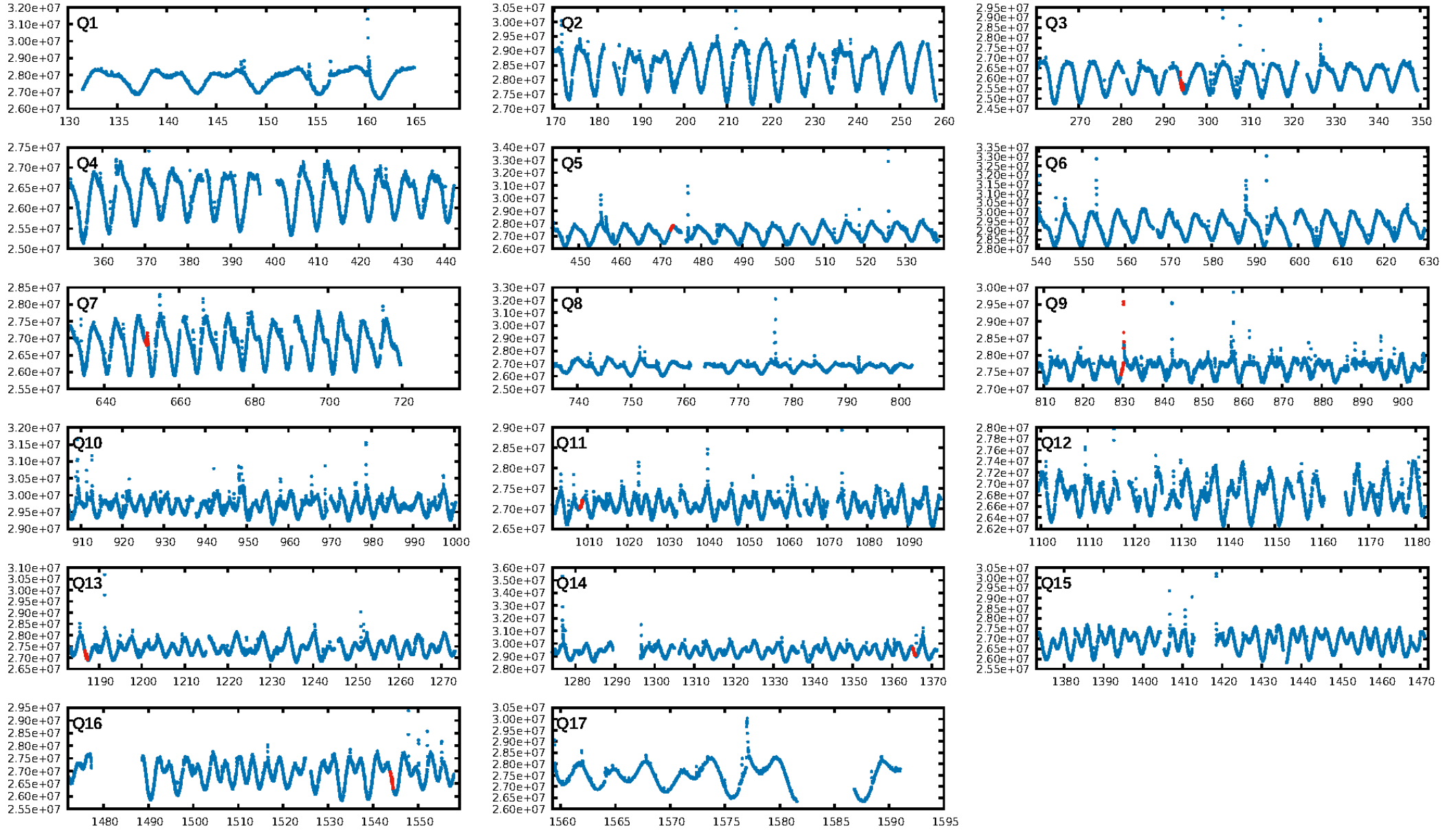
DV Fit Results:

Period = 178.56282 [0.00343] d
Epoch = 294.2007 [0.0140] BKJD
Rp/R* = 0.0563 [0.0053]
a/R* = 91.77 [15.80]
b = 0.89 [0.04]
Seff = 0.06 [0.01]
Teq = 125 [4] K
Rp = 1.76 [0.30] Re
a = 0.4035 [0.0399] AU
Ag = 45403.72 [14423.64] [3.15σ]
Teffp = 2822 [212] K [12.7σ]

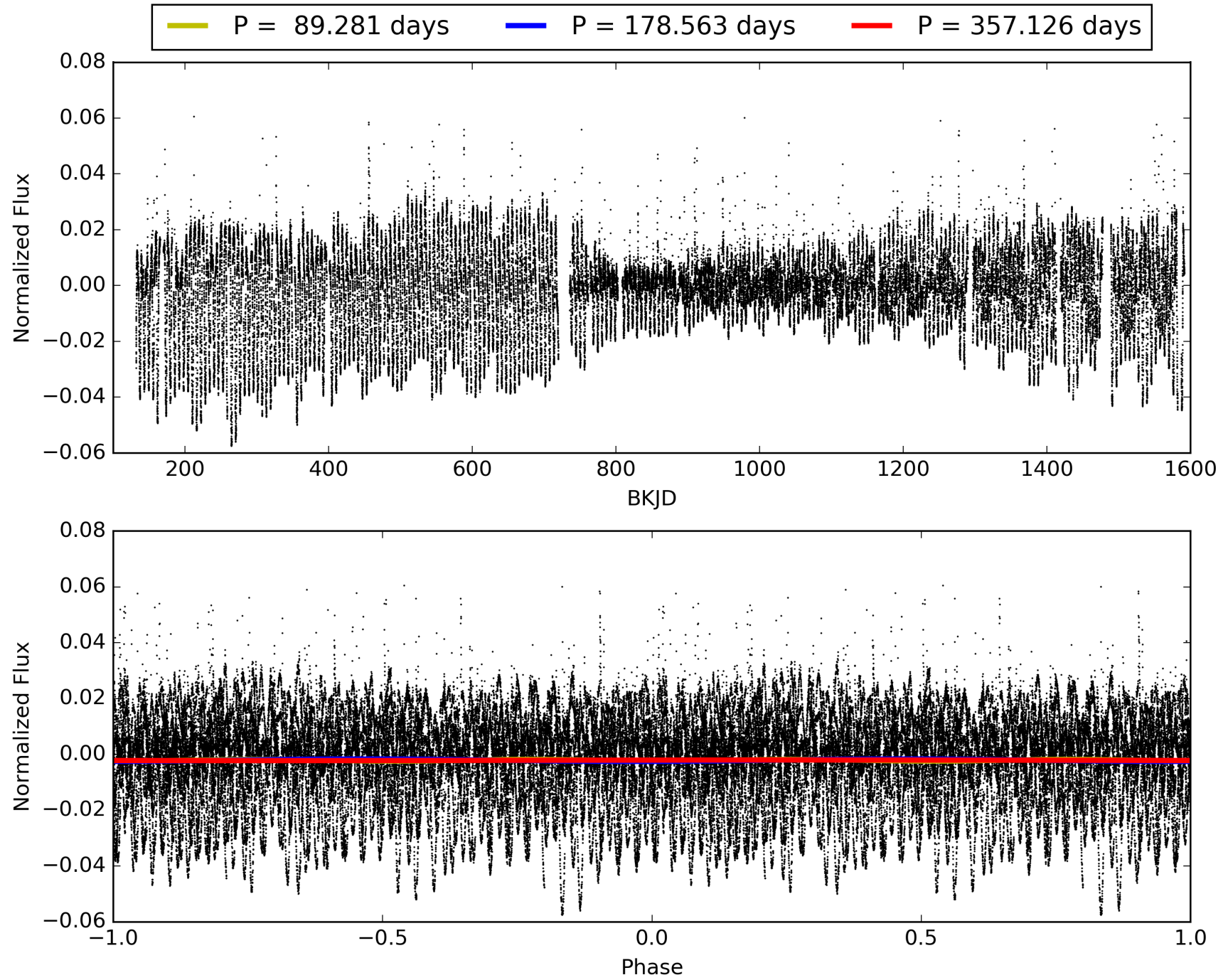
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [27.72σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 14.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.88 [7/8]
GhostDiagnostic-chr: 0.07255
Centroid-sig: 89.3%
Centroid-so: 0.590 arcsec [1.11σ]
OotOffset-rm: 0.334 arcsec [1.64σ]
KicOffset-rm: 0.174 arcsec [1.73σ]
OotOffset-st: 1/2/0/2 [5]
KicOffset-st: 1/2/0/2 [5]
DiffImageQuality-fgm: 0.80 [4/5]
DiffImageOverlap-fno: 1.00 [6/6]

TCE 008093473-01, PDC Light Curves

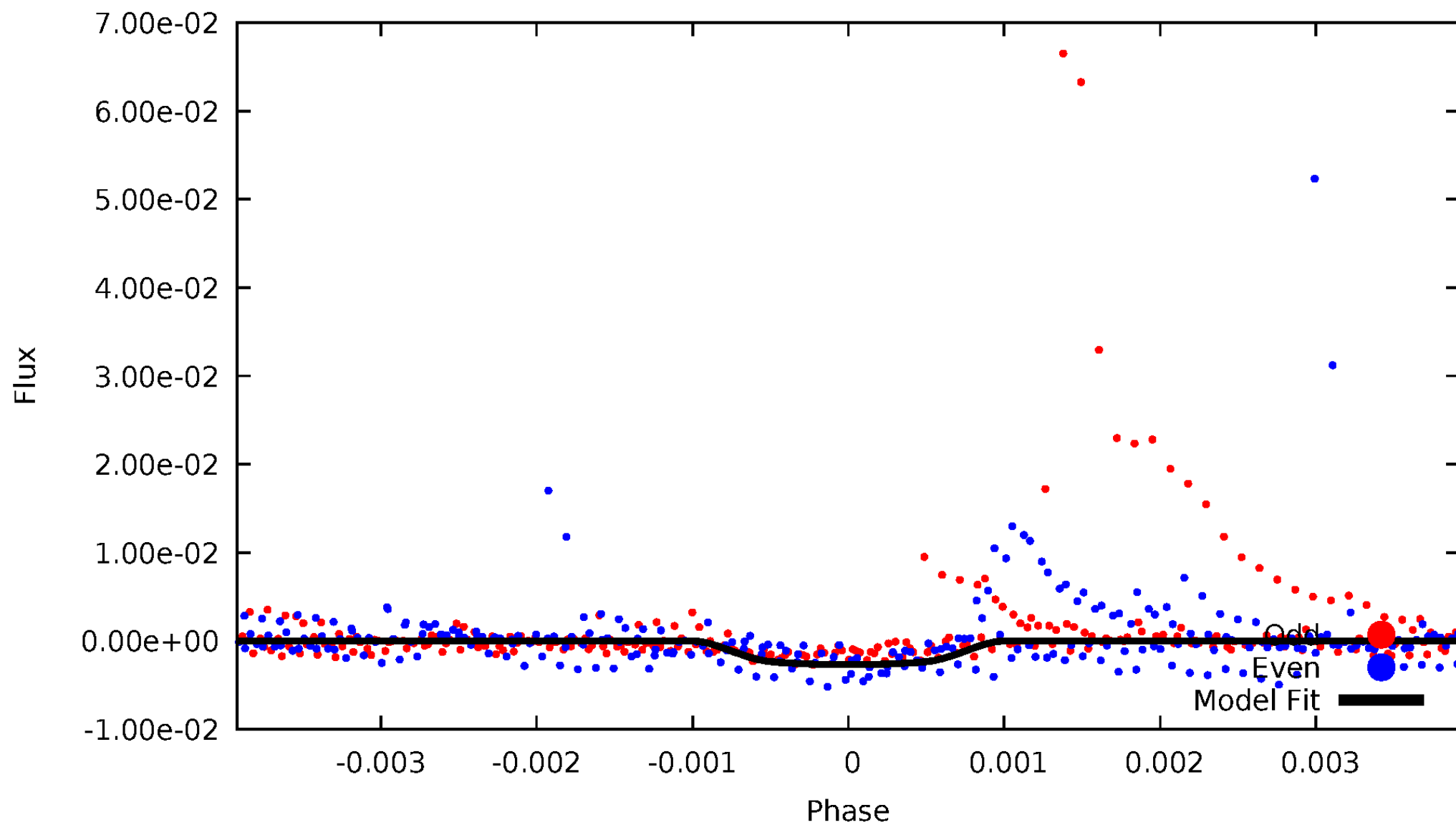


TCE 008093473-01



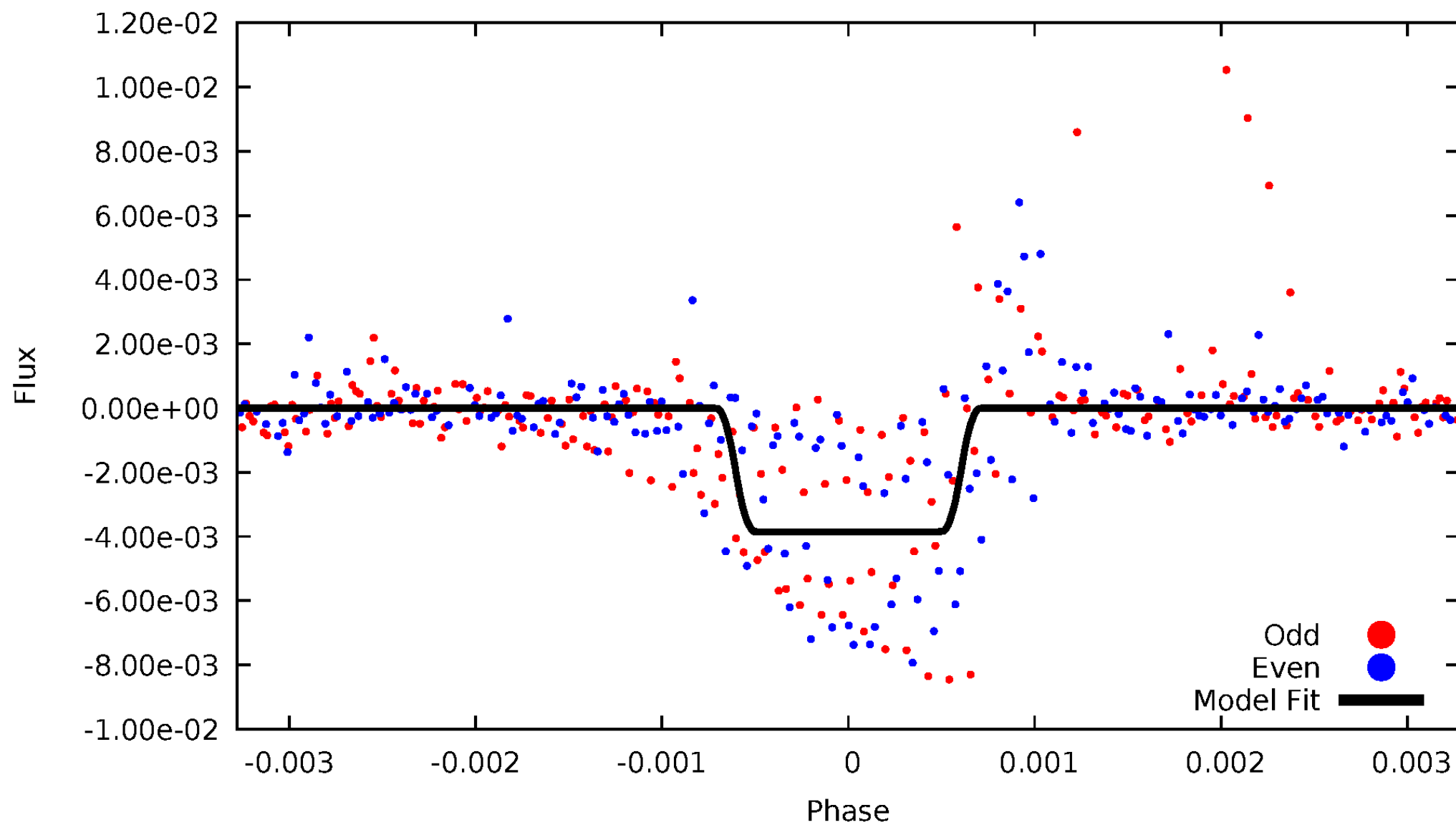
DV Odd/Even

TCE 008093473-01



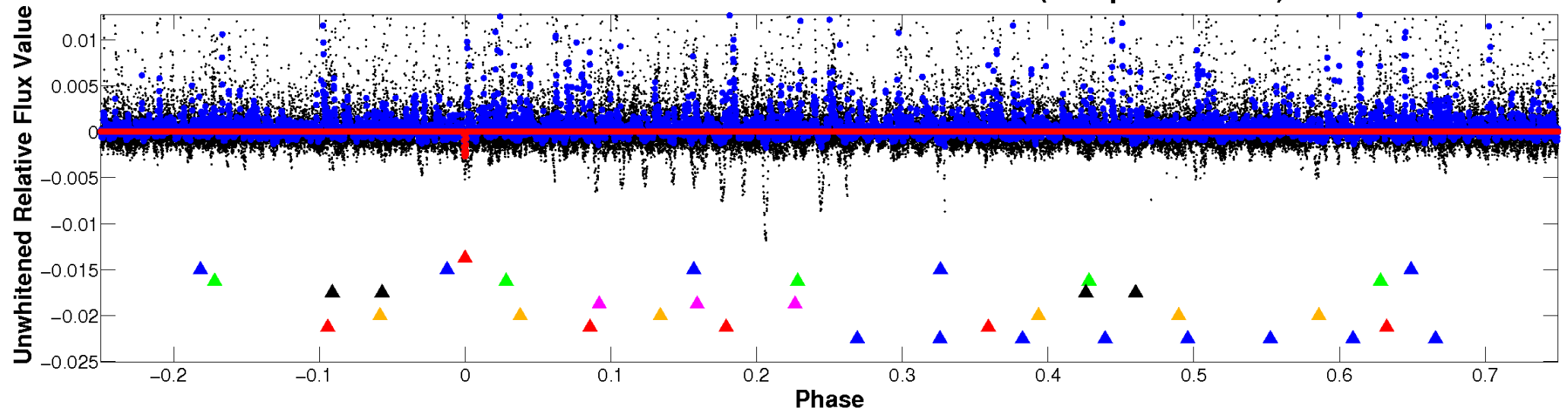
ALT Odd/Even

TCE 008093473-01

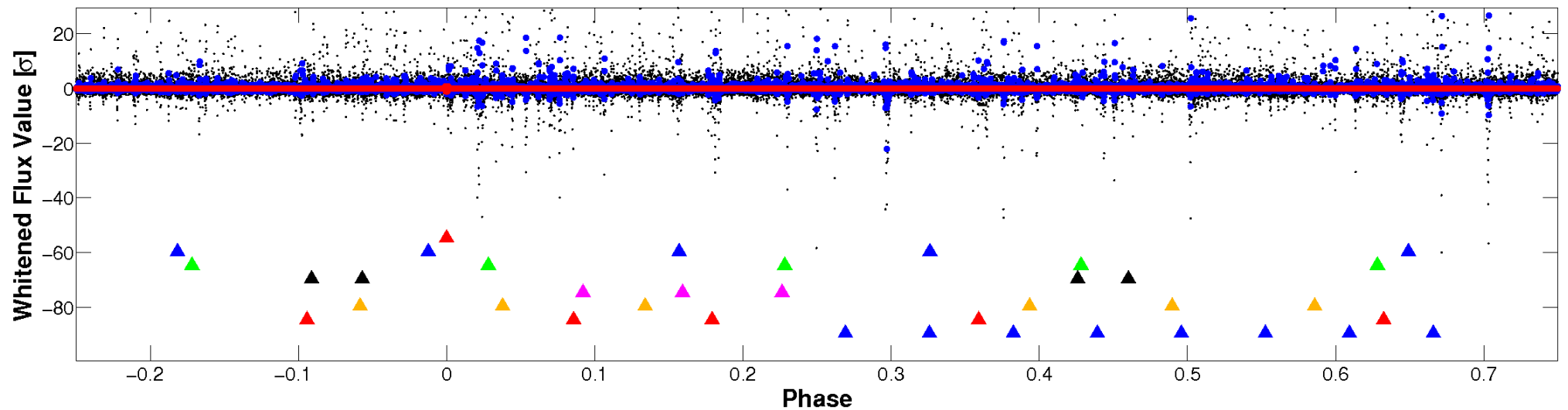


Non-Whitened Vs. Whitened Light Curve

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

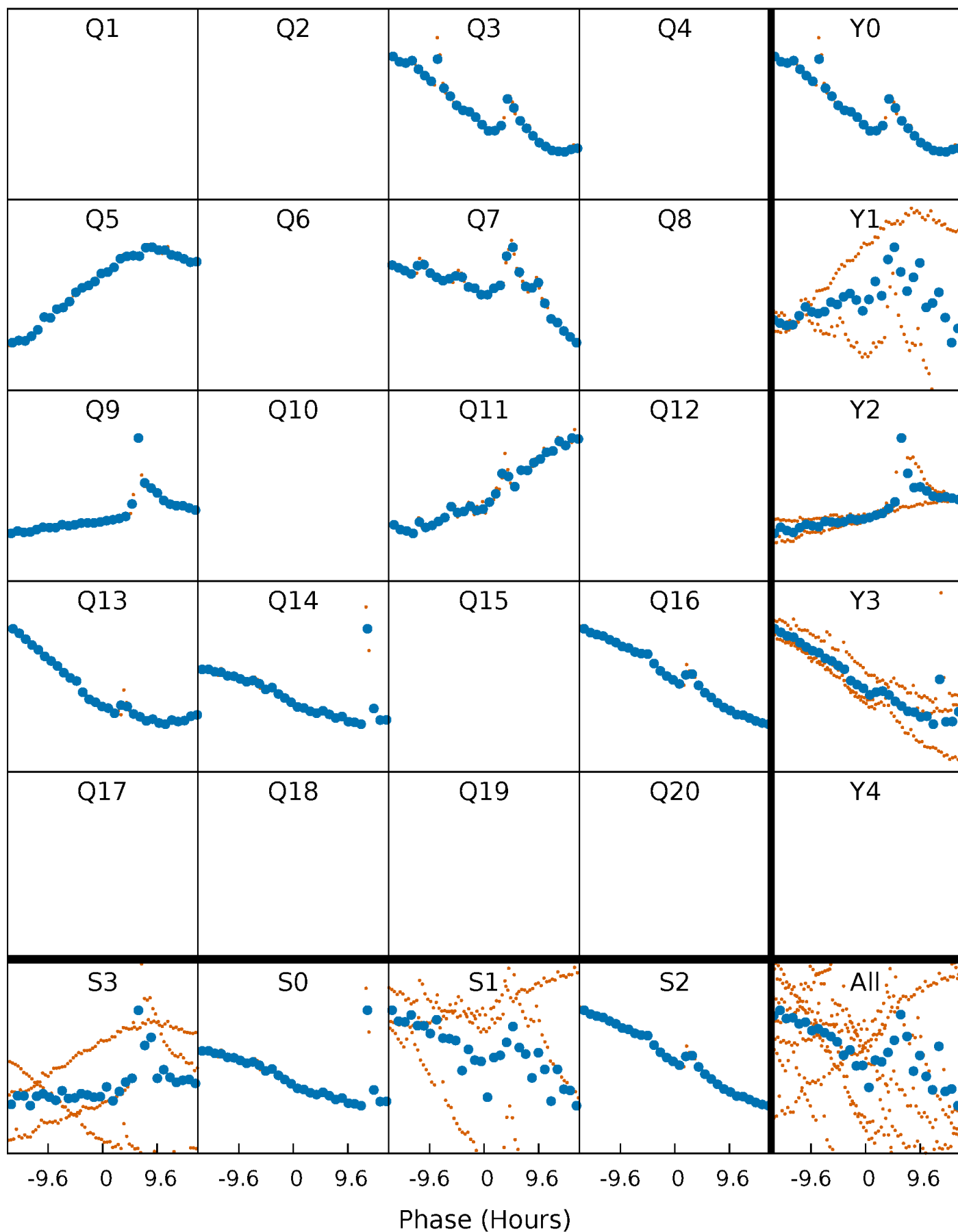


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



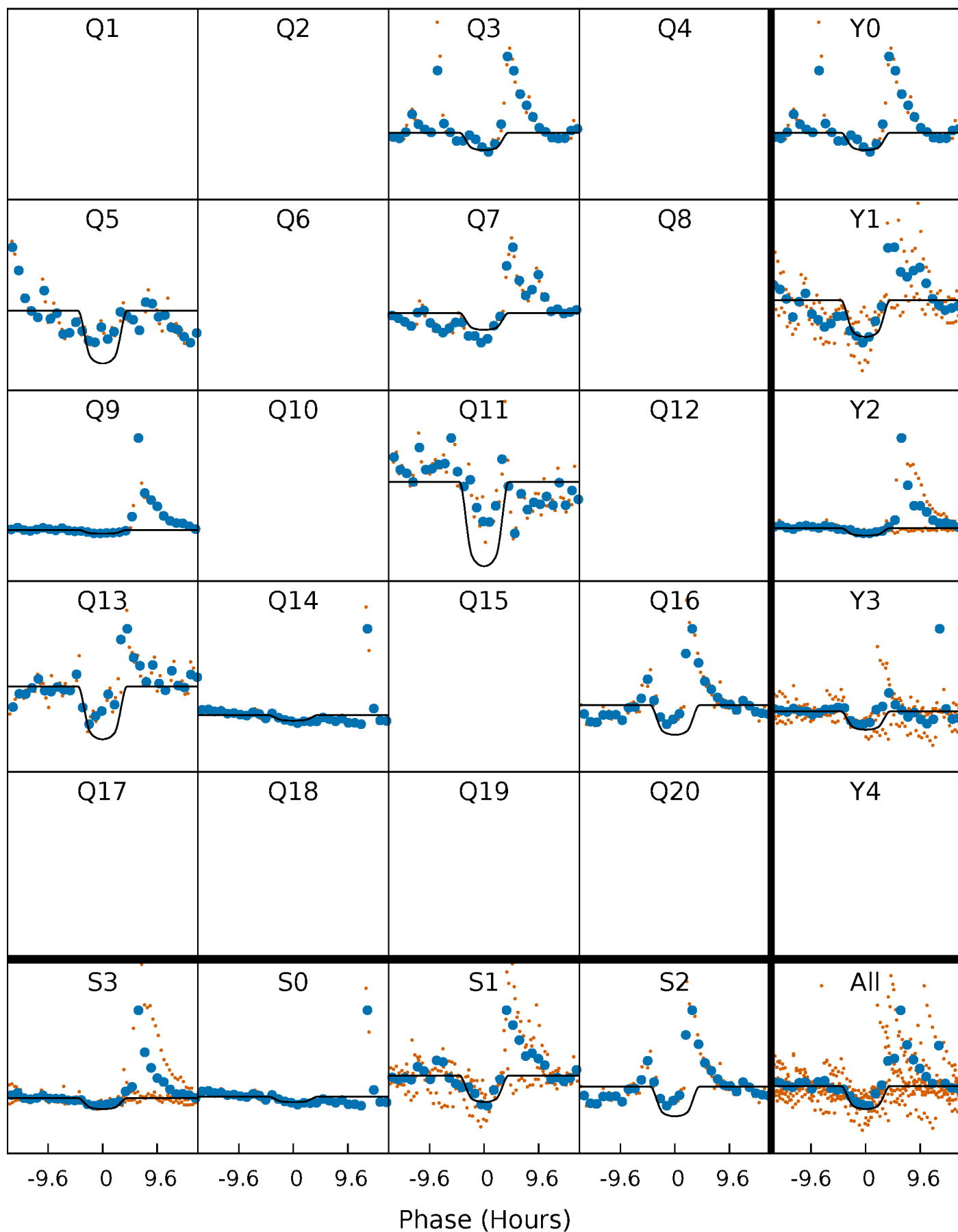
PDC Quarter-Phased Transit Curves

TCE 008093473-01 P=178.562825 Days $T_0=294.200732$ (BKJD)



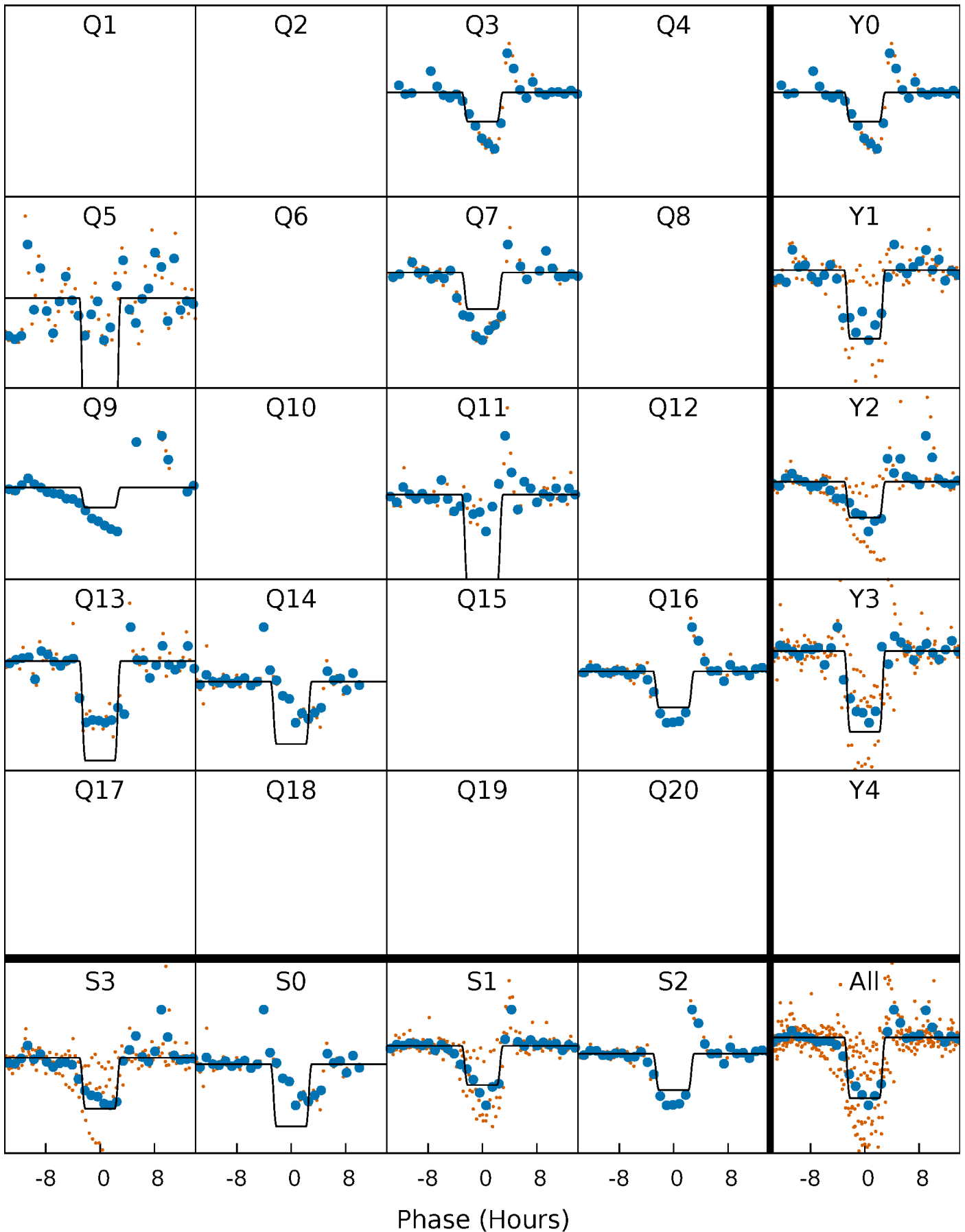
DV Quarter-Phased Transit Curves

TCE 008093473-01 P=178.562825 Days $T_0=294.200732$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

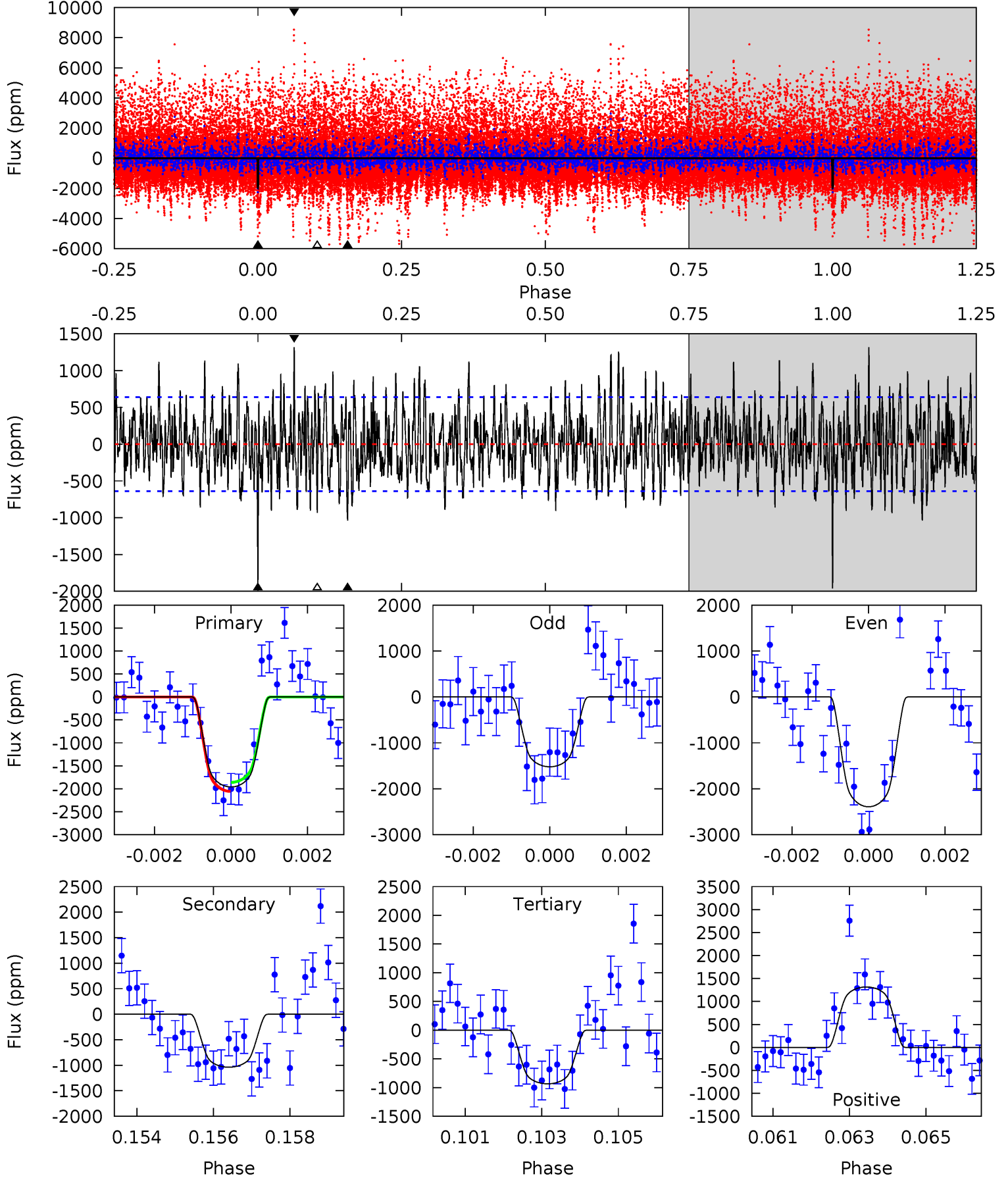
TCE 008093473-01 P=178.556983 Days $T_0=294.224609$ (BKJD)



DV Model-Shift Uniqueness Test

008093473-01, P = 178.562825 Days, E = 115.637907 Days

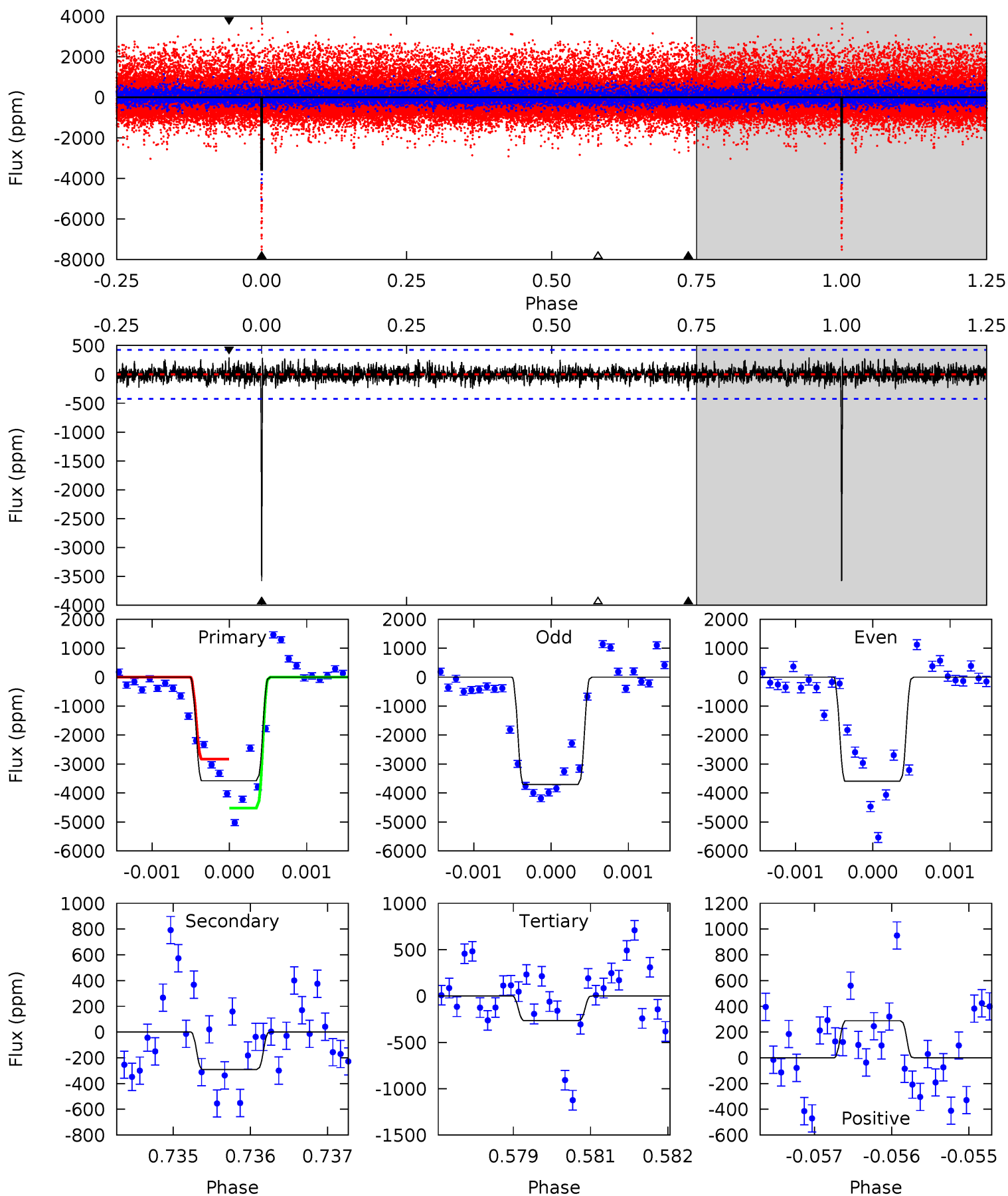
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.3	8.64	7.78	11.0	5.32	3.09	3.13	8.54	5.36	0.86	-2.31	3.50	1.12	0.40	0.83



Alt Model-Shift Uniqueness Test

008093473-01, P = 178.556983 Days, E = 115.667626 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.5	3.69	3.37	3.67	5.39	3.19	0.98	42.1	41.8	0.32	0.02	0.72	1.03	0.07	10.3



Stellar Parameters For KIC 008093473

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3360^{+43}_{-40}	$4.961^{+0.044}_{-0.044}$	$0.000^{+0.100}_{-0.100}$	$0.287^{+0.040}_{-0.033}$	$0.274^{+0.052}_{-0.034}$	$16.380^{+4.222}_{-3.354}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+14%/-11%	+19%/-12%	+26%/-20%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 008093473-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1038 ± 120	$1.79^{+0.20}_{-0.22}$	175^{+4}_{-4}	2860^{+96}_{-97}	29646^{+7991}_{-6397}
Alt.	-290 ± 79	$1.95^{+0.23}_{-0.21}$	175^{+4}_{-4}	2377^{+89}_{-95}	6851^{+2574}_{-2049}

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 $A_{obs} \gg 1.0$

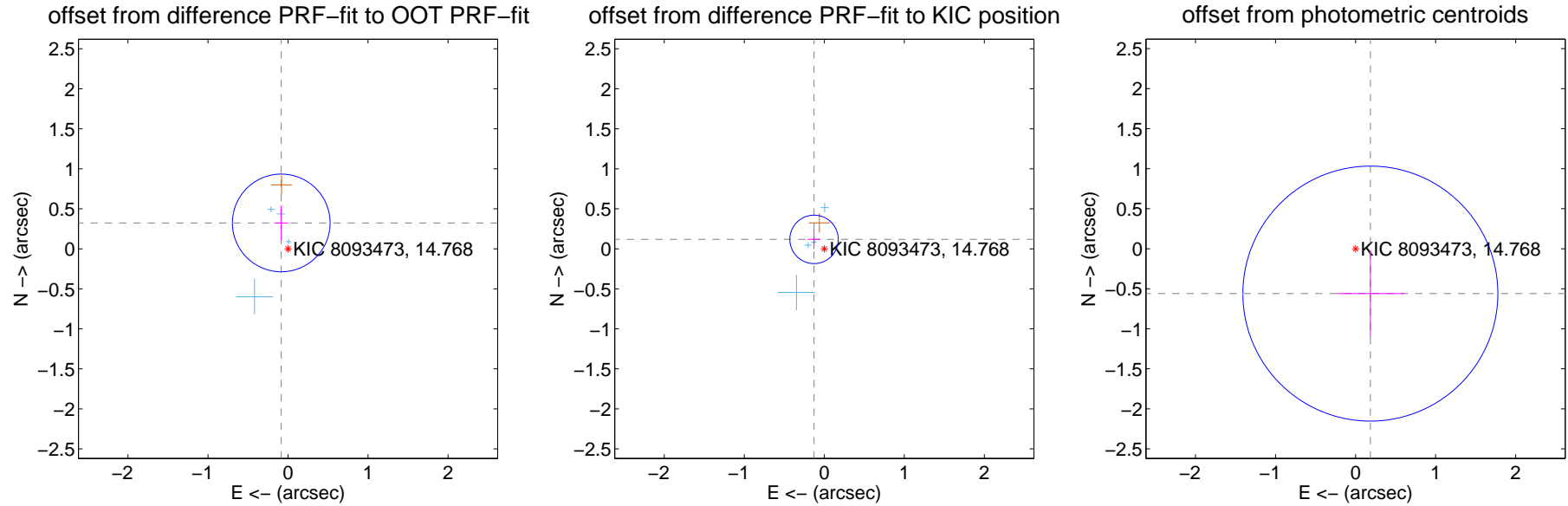
DV Centroid Data

Supplemental centroid analysis for 008093473-01. Kepler magnitude: 14.77. Transit SNR 10.81

There are 4 quarters with good PRF difference image offsets

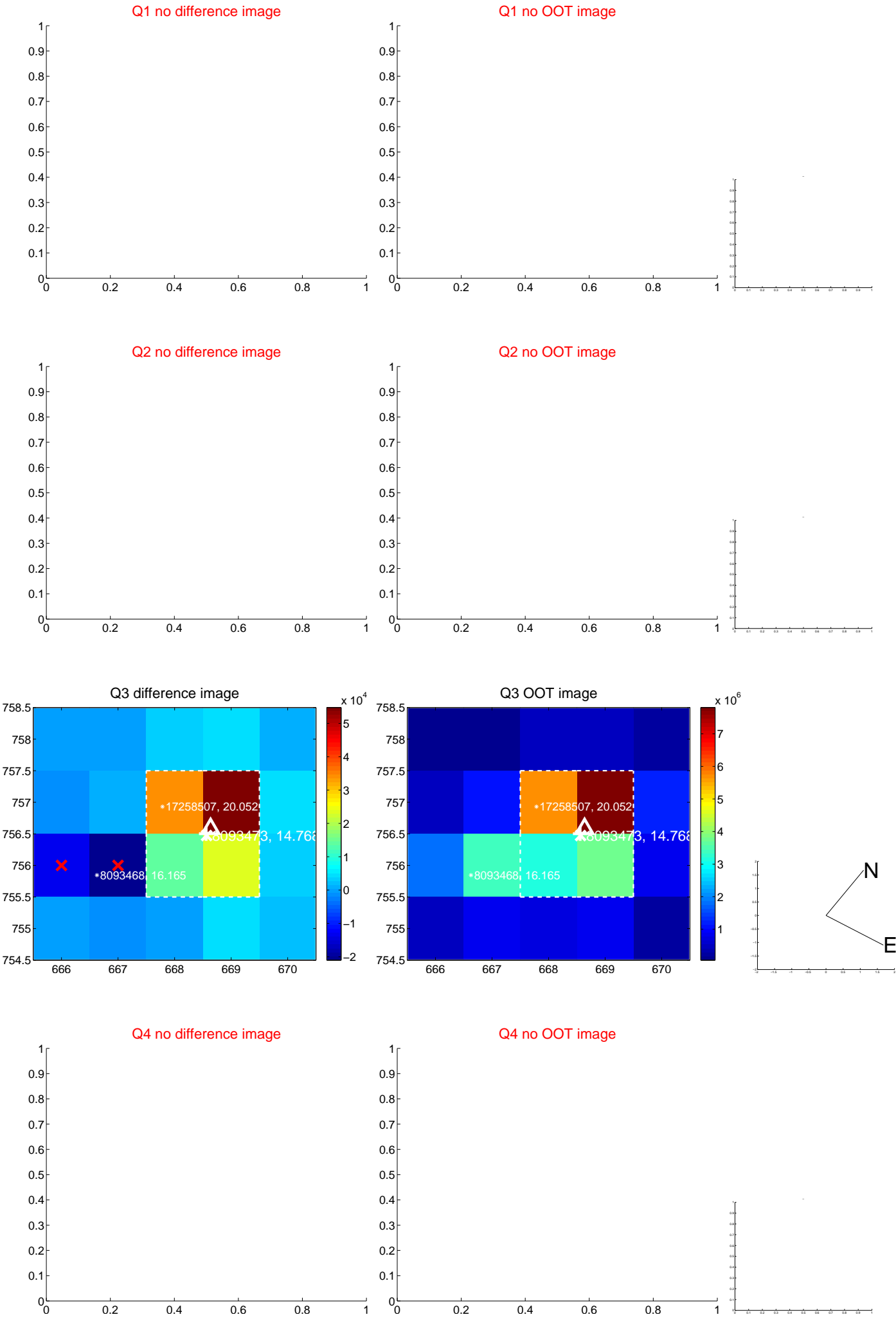
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.334 ± 0.203	1.64	0.085 ± 0.088	0.324 ± 0.218
PRF-fit source offset from KIC position	0.174 ± 0.101	1.73	0.128 ± 0.081	0.118 ± 0.120
photometric centroid source offset	0.59 ± 0.53	1.11	-0.19 ± 0.42	-0.56 ± 0.54

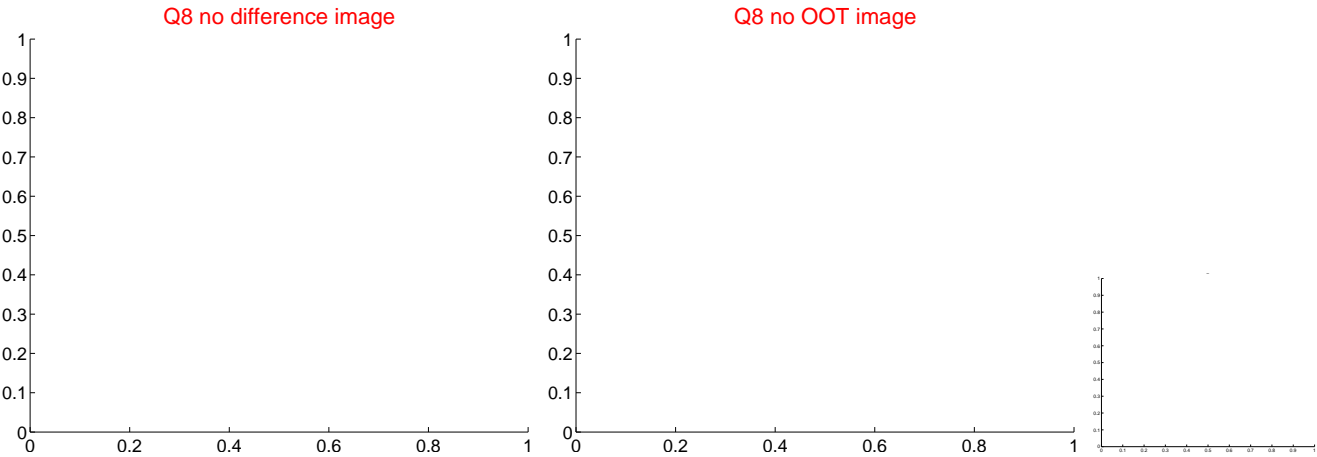
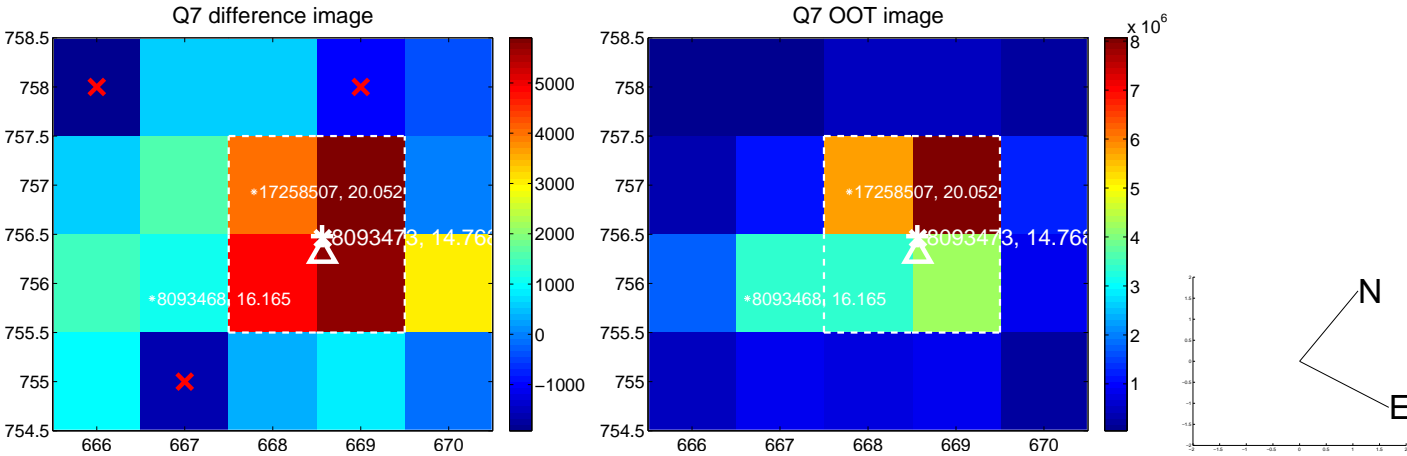
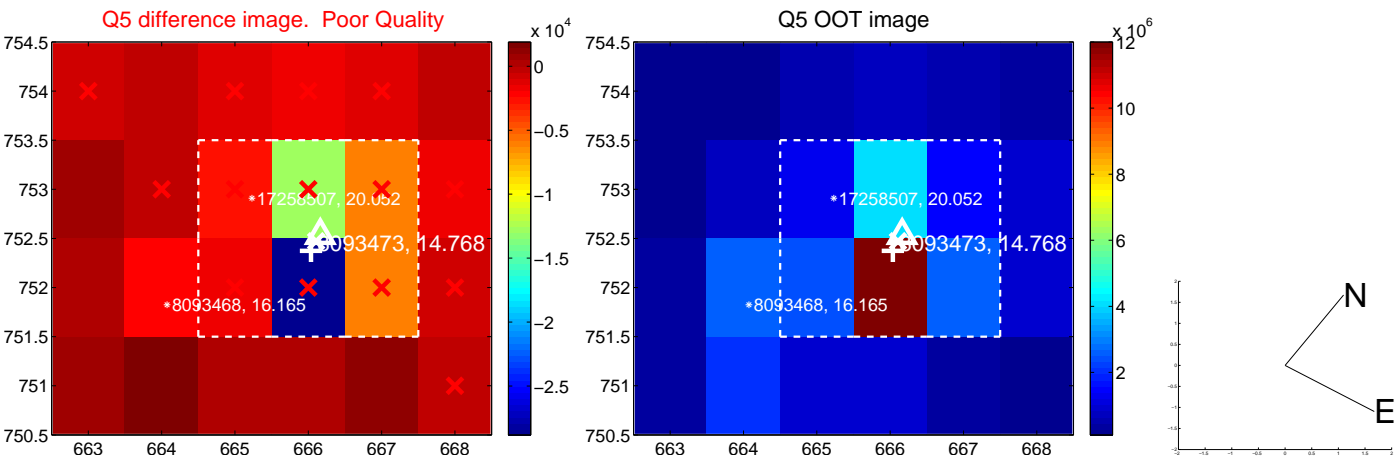


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

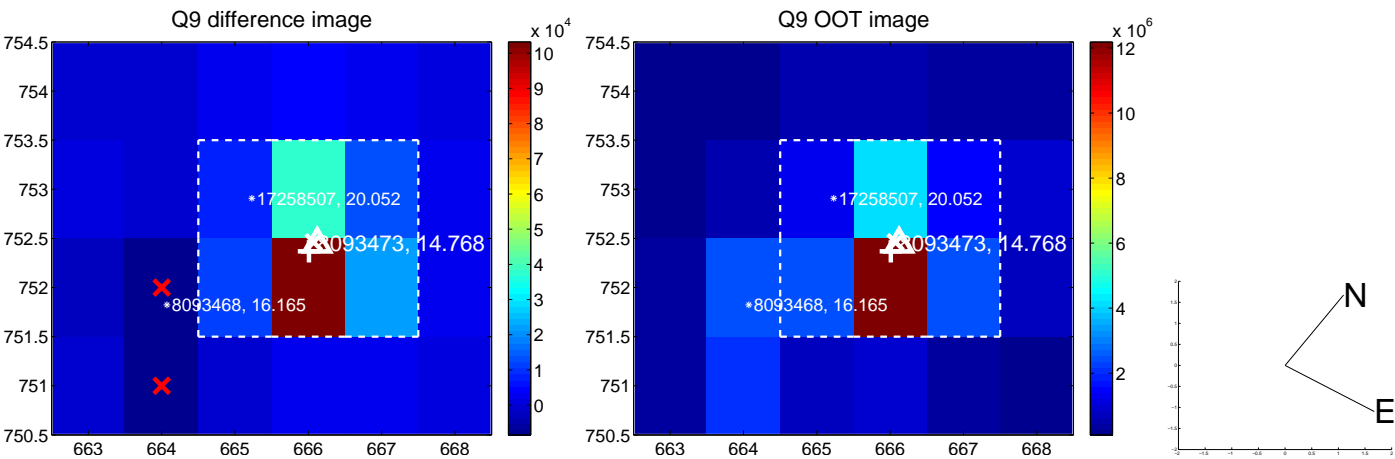
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



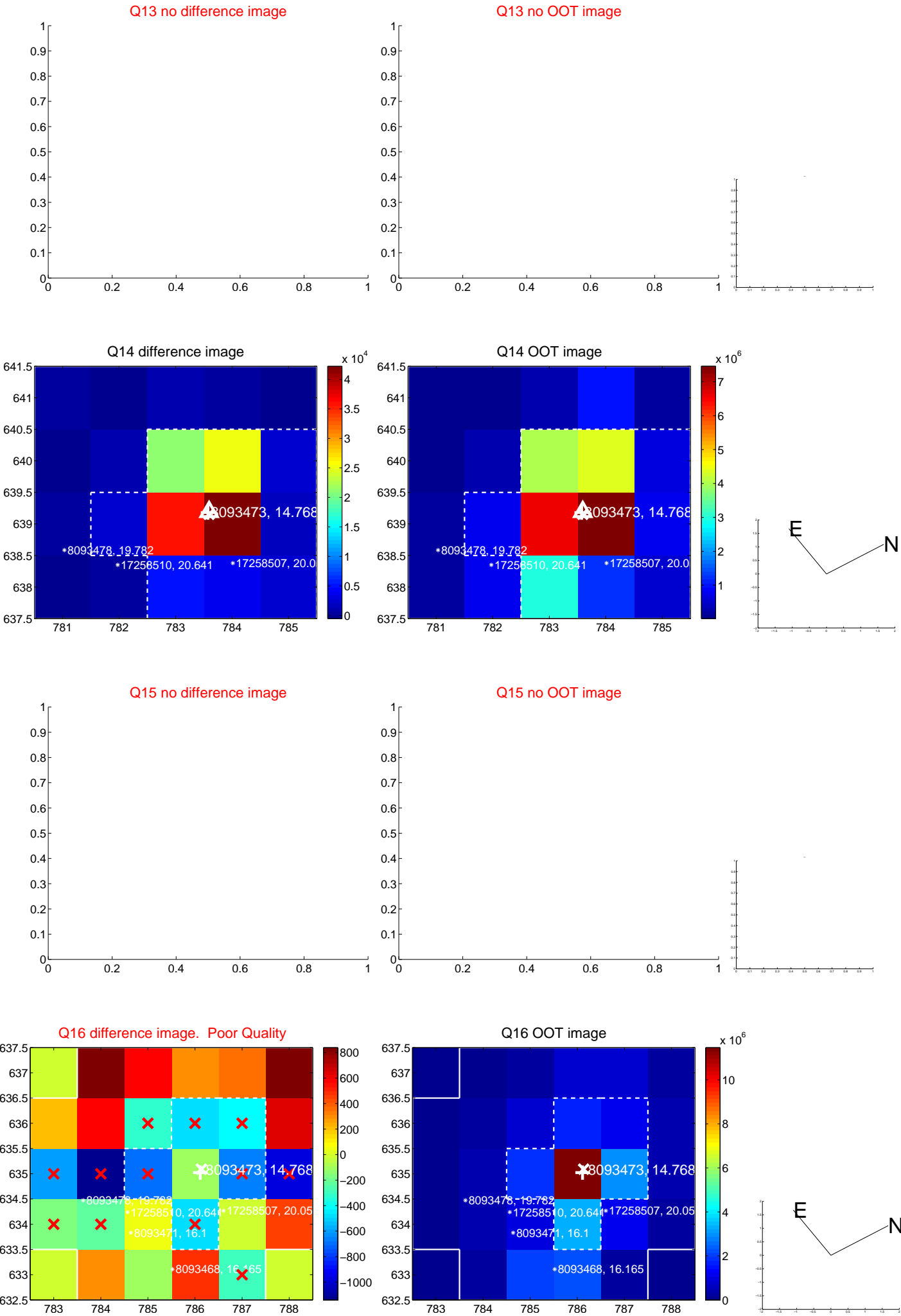
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



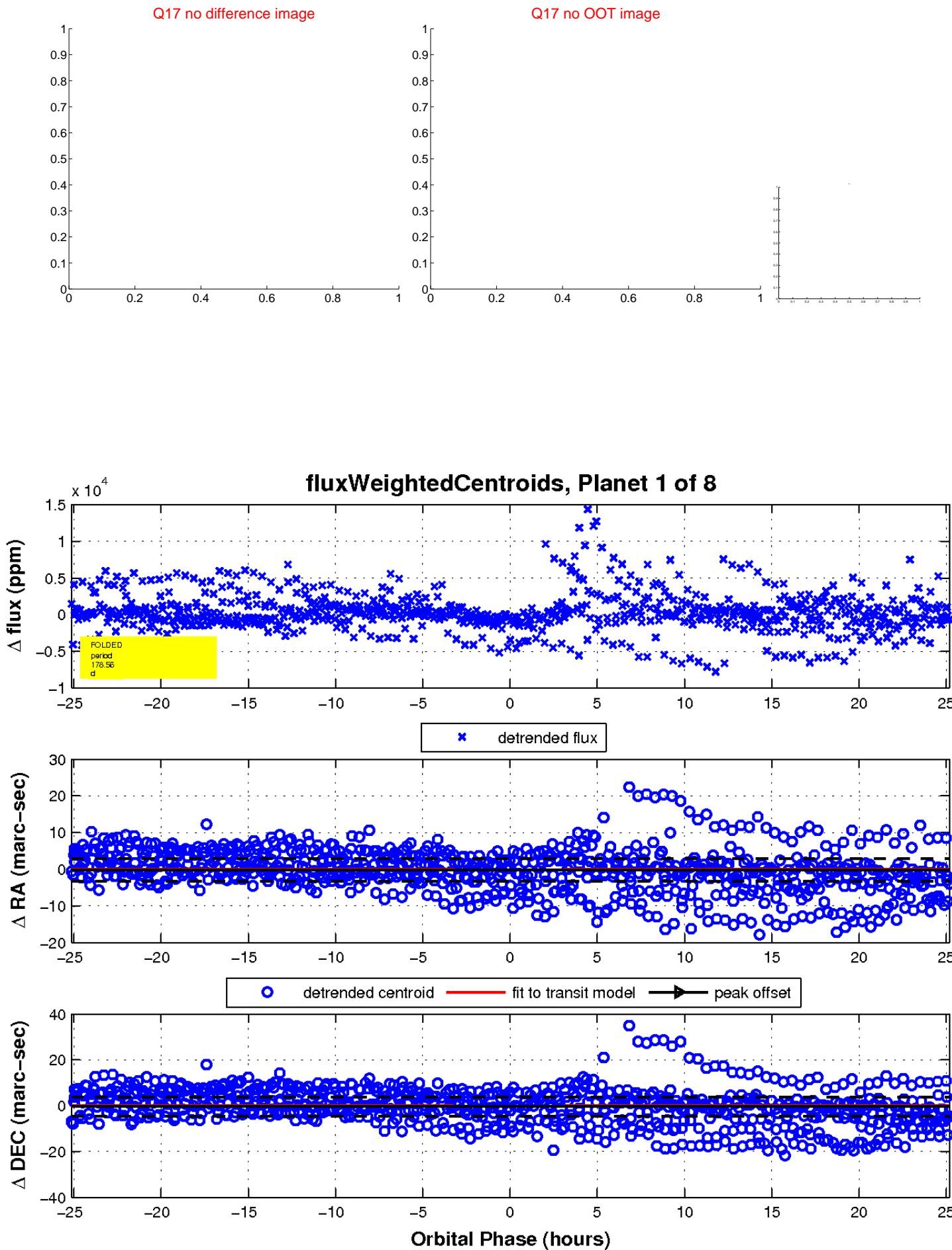
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

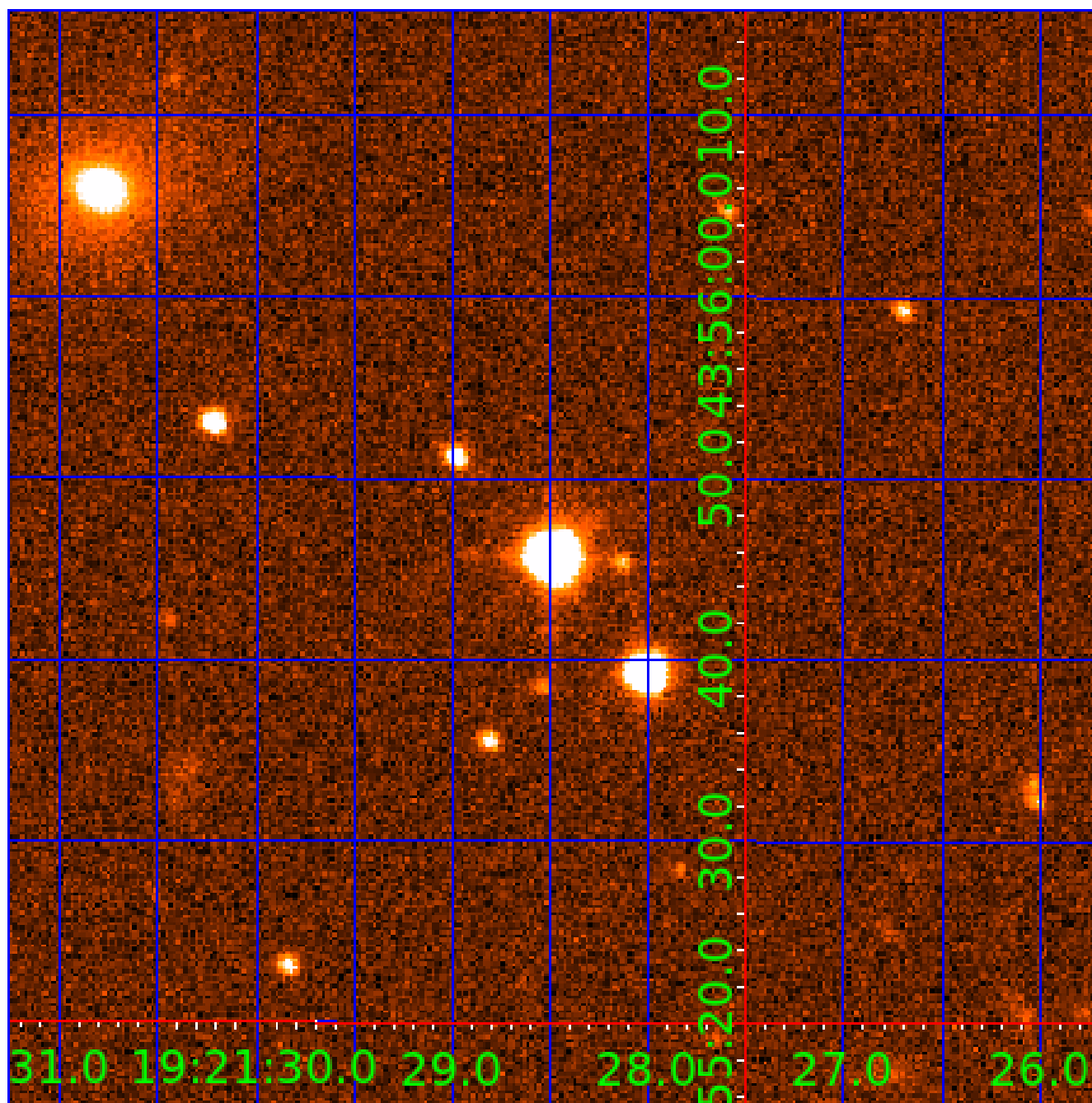


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008093473

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})
008093473-01	OBS	No	178.562825	294.200732	2681.6	8.399	13.1	10.8	0.29	3360	1.76	0.06
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008093473-03	OBS	No	214.280181	192.083764	1940.8	13.376	12.9	6.8	0.29	3360	1.25	0.04
008093473-05	OBS	No	523.692877	156.070778	2764.6	6.545	13.2	7.8	0.29	3360	1.50	0.01
008093473-06	OBS	No	276.431591	185.904897	2032.0	10.945	12.9	6.2	0.29	3360	1.27	0.03
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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008093473-02	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_FEW_DIFFS—HALO_GHOST
008093473-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_TER_ALT
008093473-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
008093473-06	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
008093473-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
008093473-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

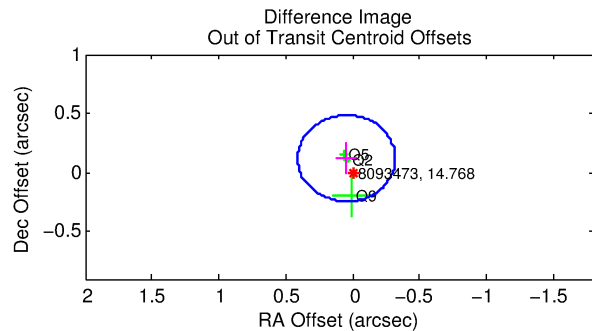
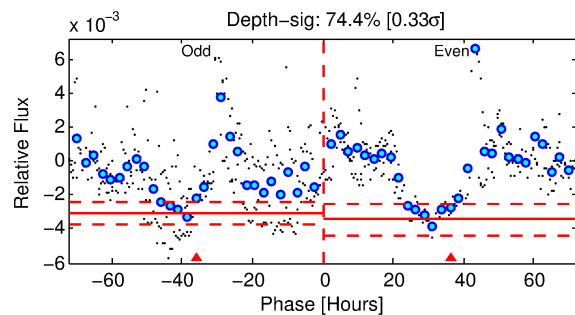
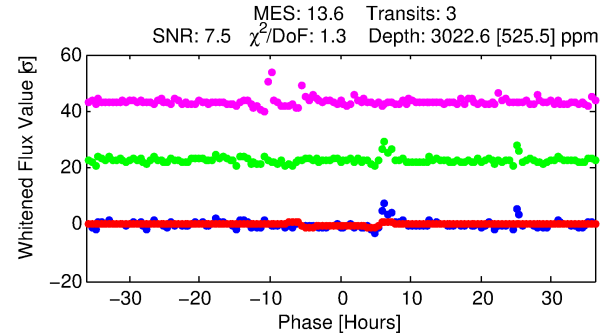
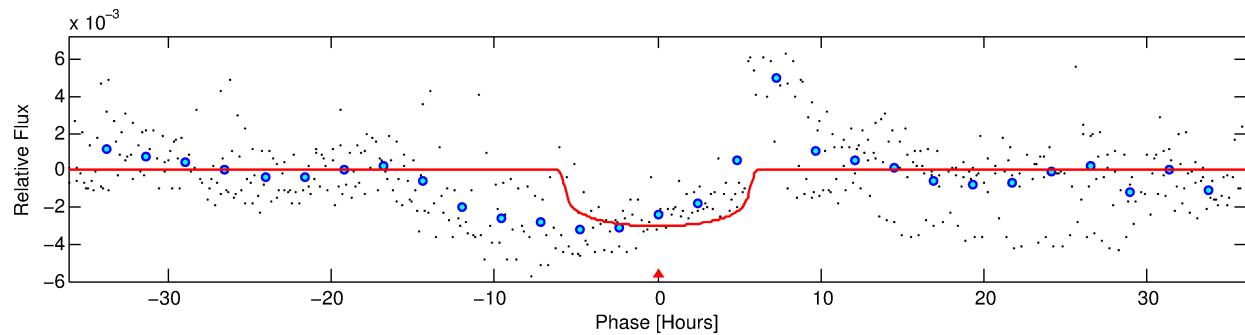
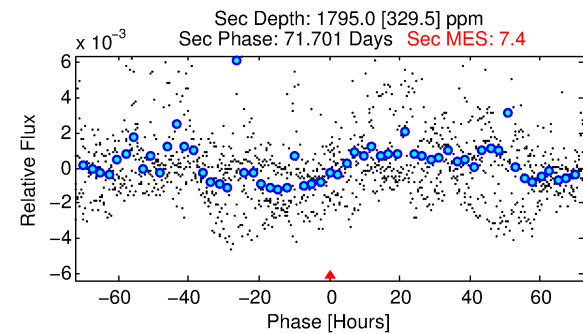
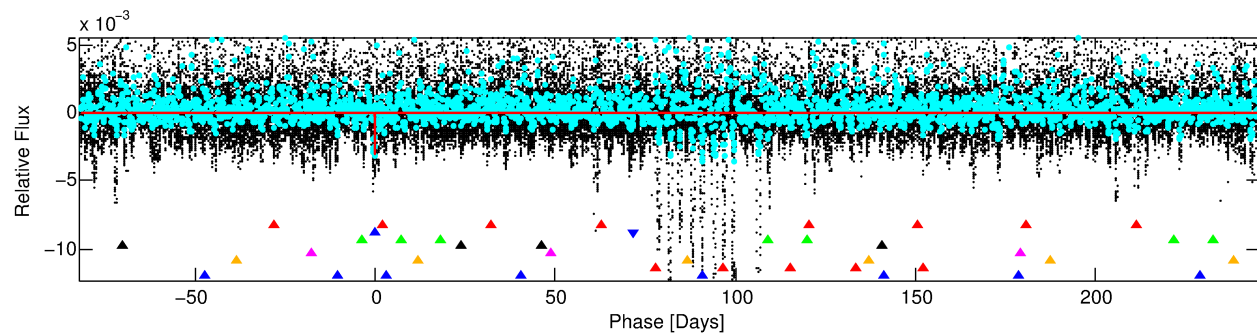
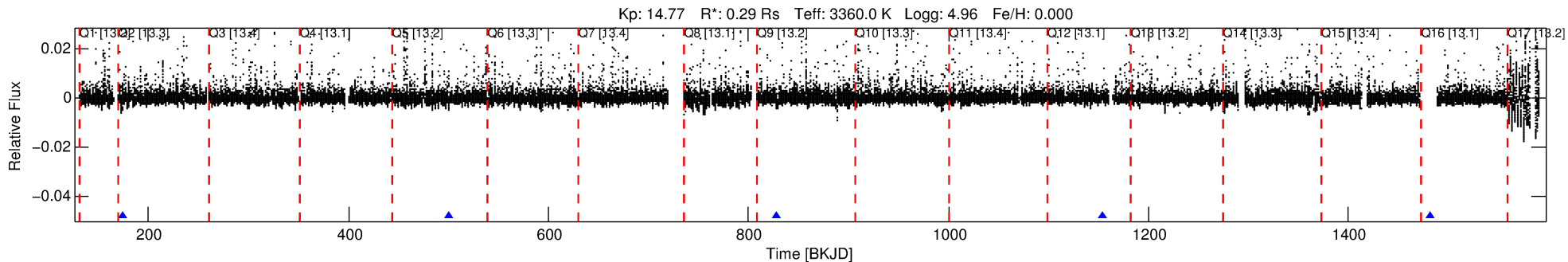
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008093473-02

No Significant Match Found

DV One-Page Summary

KIC: 8093473 Candidate: 2 of 8 Period: 326.901 d



DV Fit Results:

Period = 326.90126 [0.00694] d
Epoch = 173.8880 [0.0098] BKJD
Rp/R* = 0.0497 [0.0100]
a/R* = 215.95 [149.39]
b = 0.12 [5.71]
Seff = 0.03 [0.00]
Teq = 102 [3] K
Rp = 1.56 [0.38] Re
a = 0.6038 [0.0597] AU
Ag = 148359.78 [67506.99] [2.20σ]
Teffp = 3101 [344] K [8.73σ]

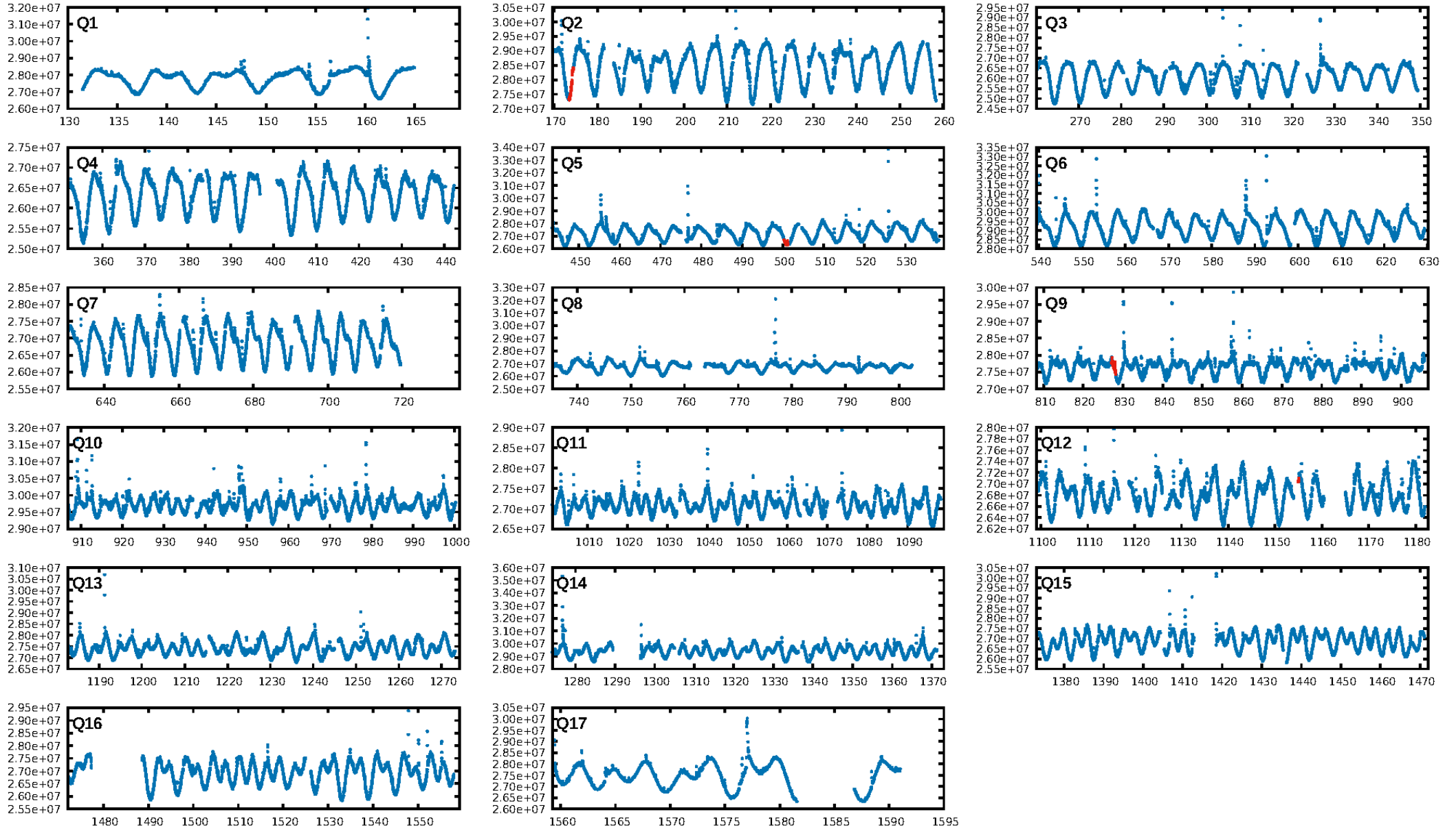
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [35.90σ]
LongPeriod-sig: 100.0% [214.45σ]
ModelChiSquare2-sig: 94.0%
ModelChiSquareGof-sig: 95.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.04581
Centroid-sig: 0.4%
Centroid-so: 2.124 arcsec [3.28σ]
OotOffset-rm: 0.129 arcsec [1.06σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-rm: 0.117 arcsec [1.20σ]
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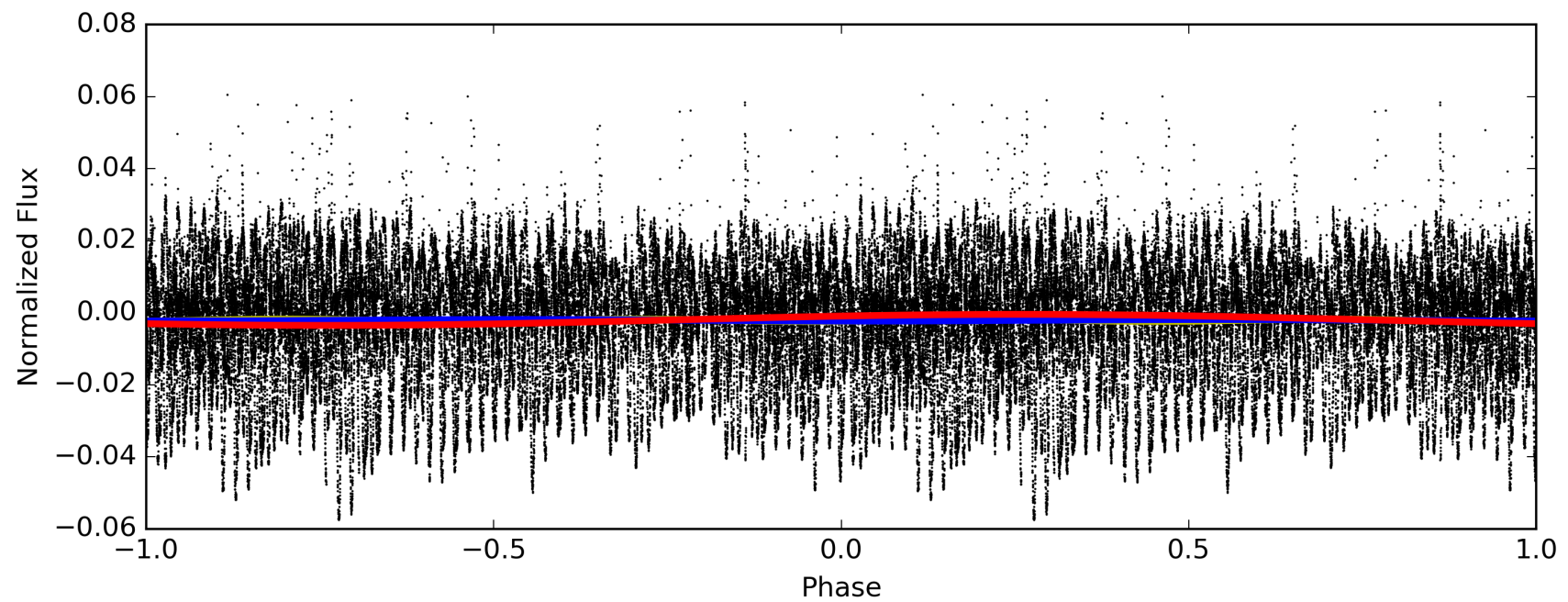
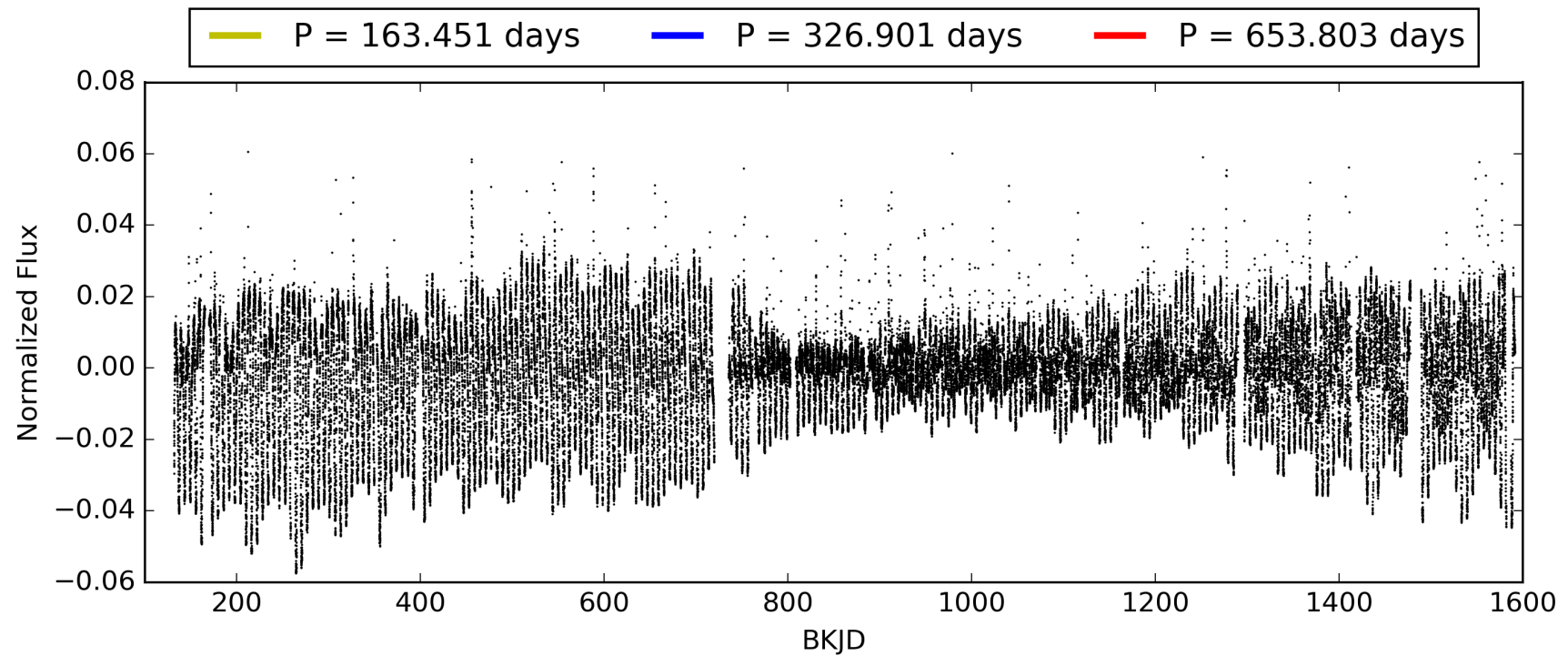
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:35:17 Z

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

TCE 008093473-02, PDC Light Curves

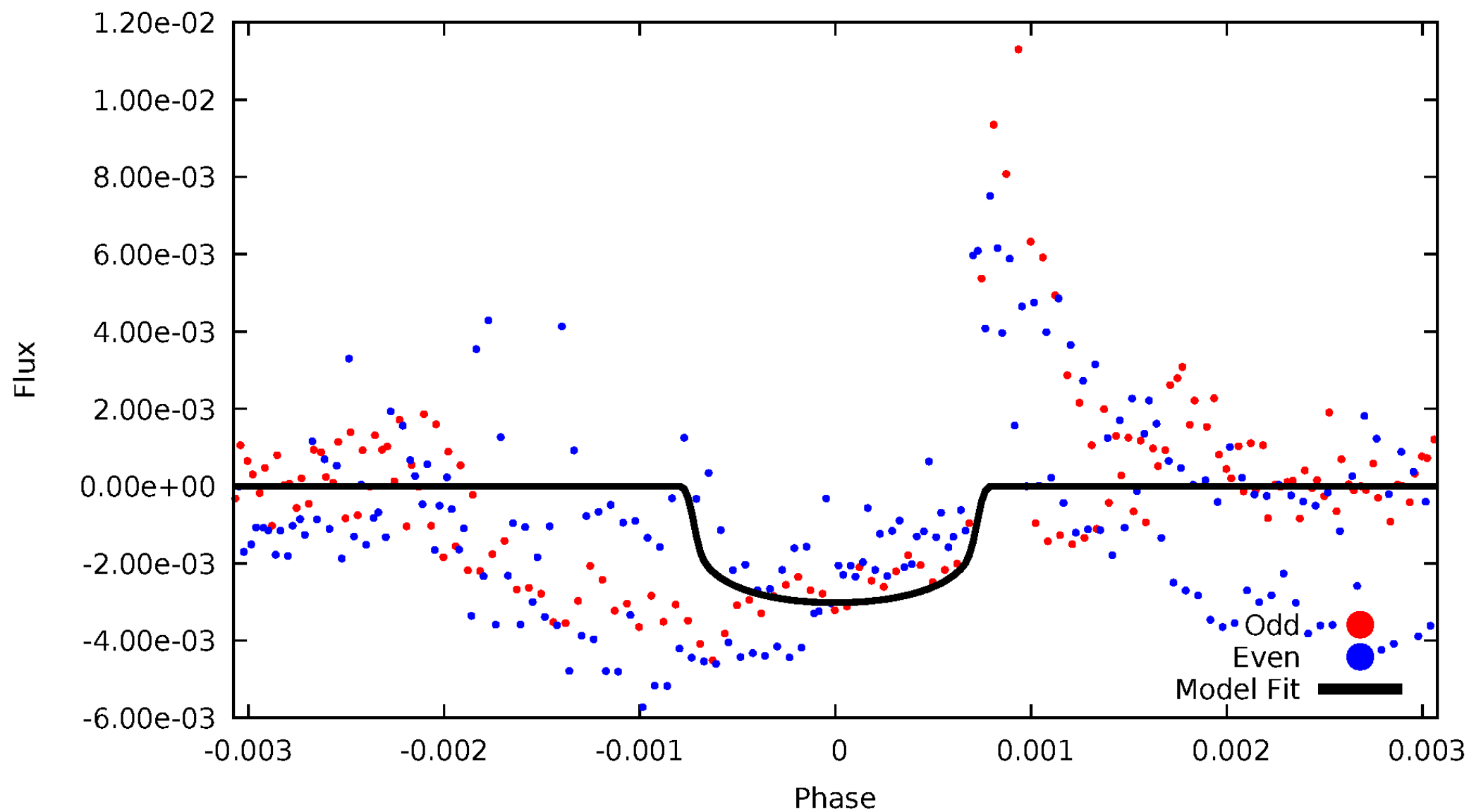


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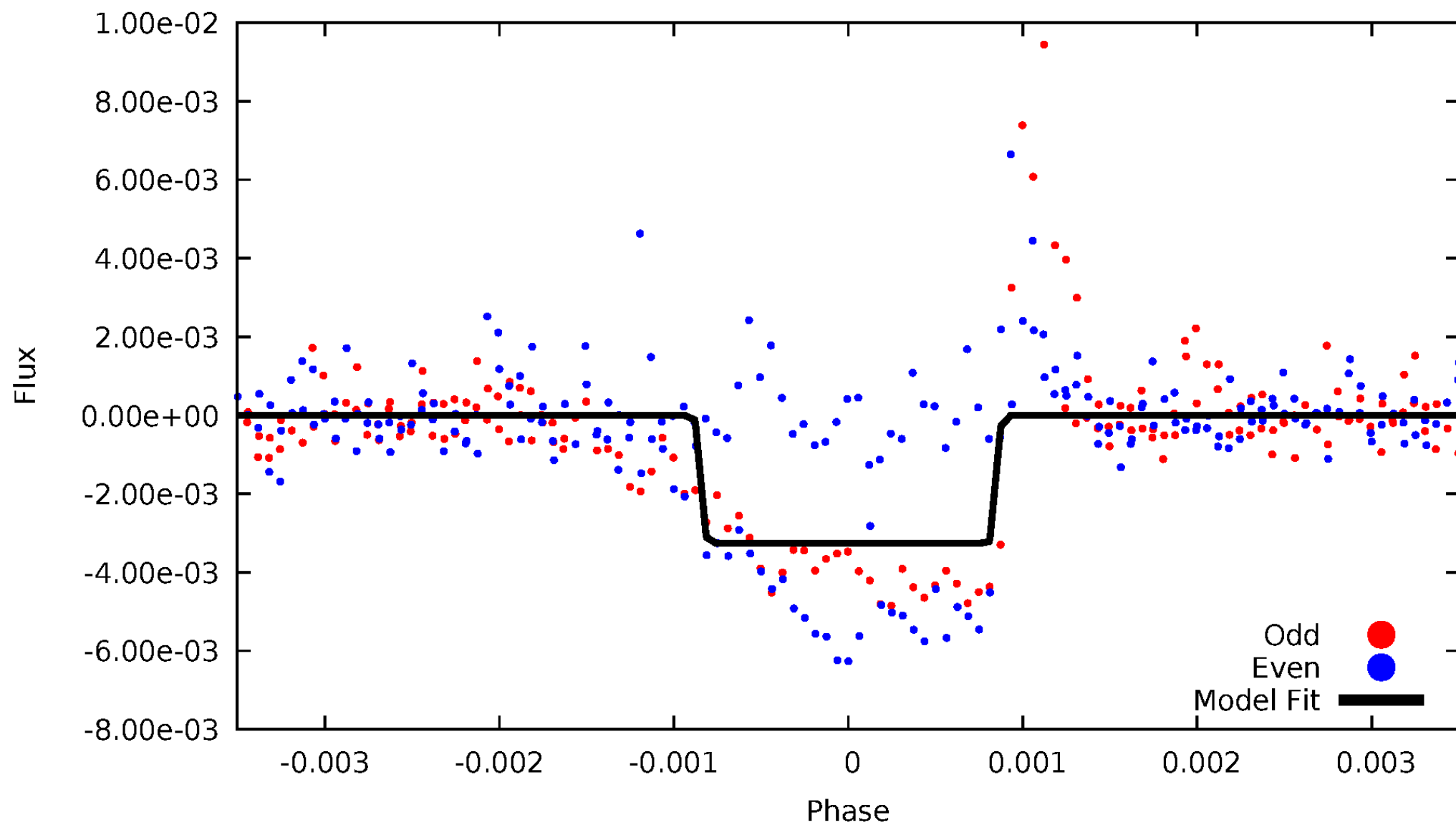
DV Odd/Even

TCE 008093473-02



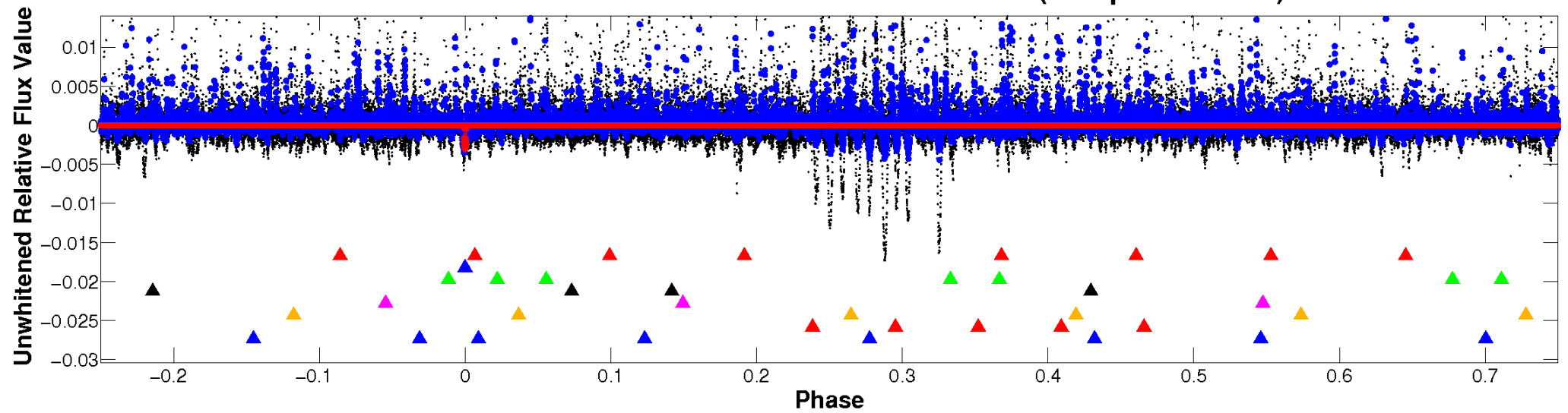
ALT Odd/Even

TCE 008093473-02

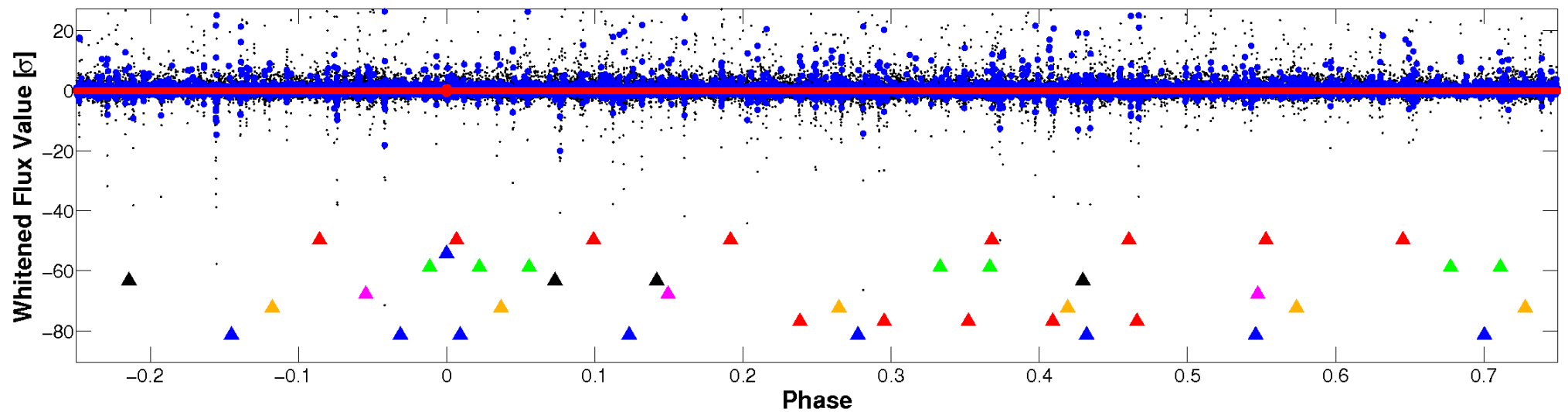


Non-Whitened Vs. Whitened Light Curve

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

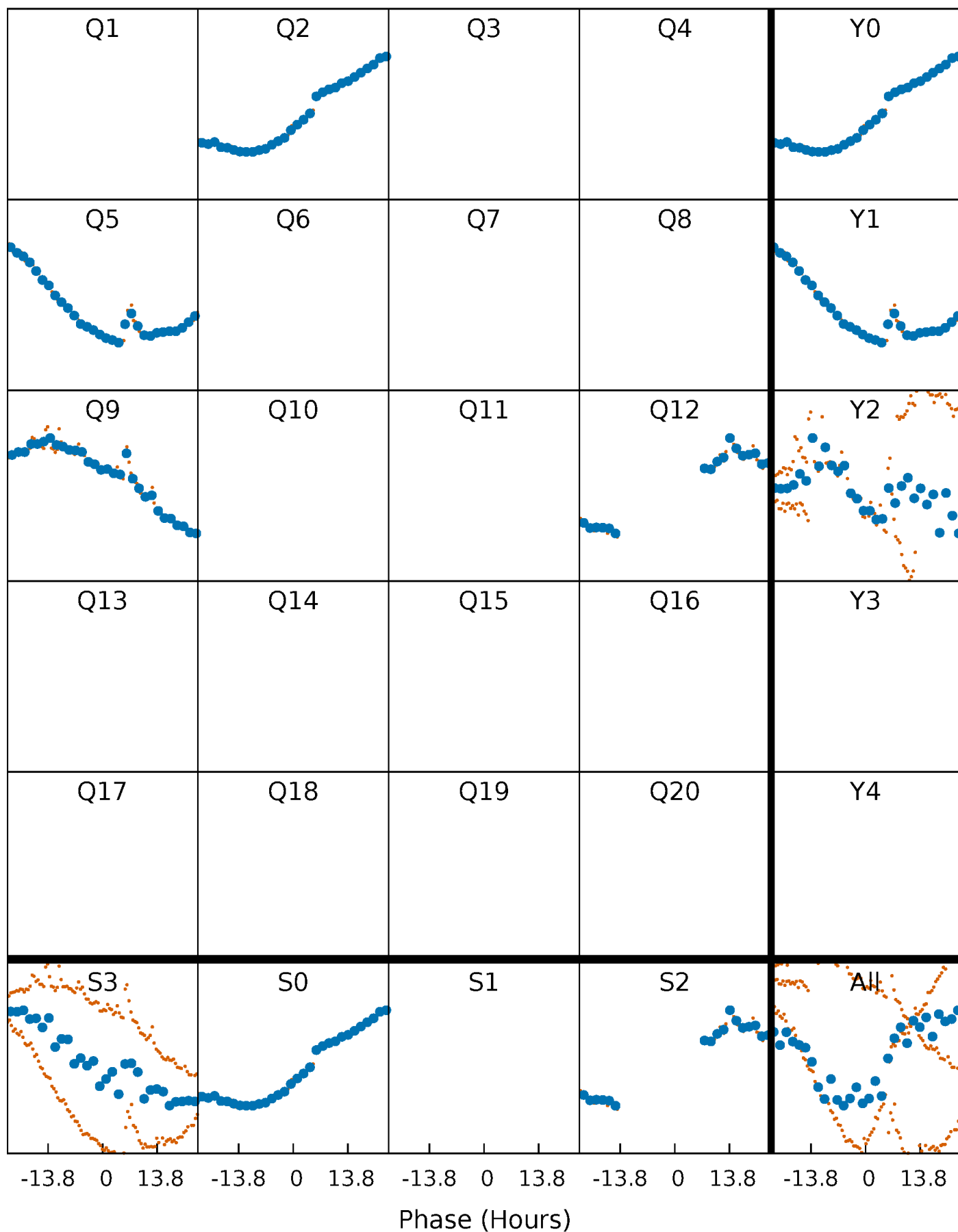


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 008093473-02 $P=326.901260$ Days $T_0=173.887993$ (BKJD)



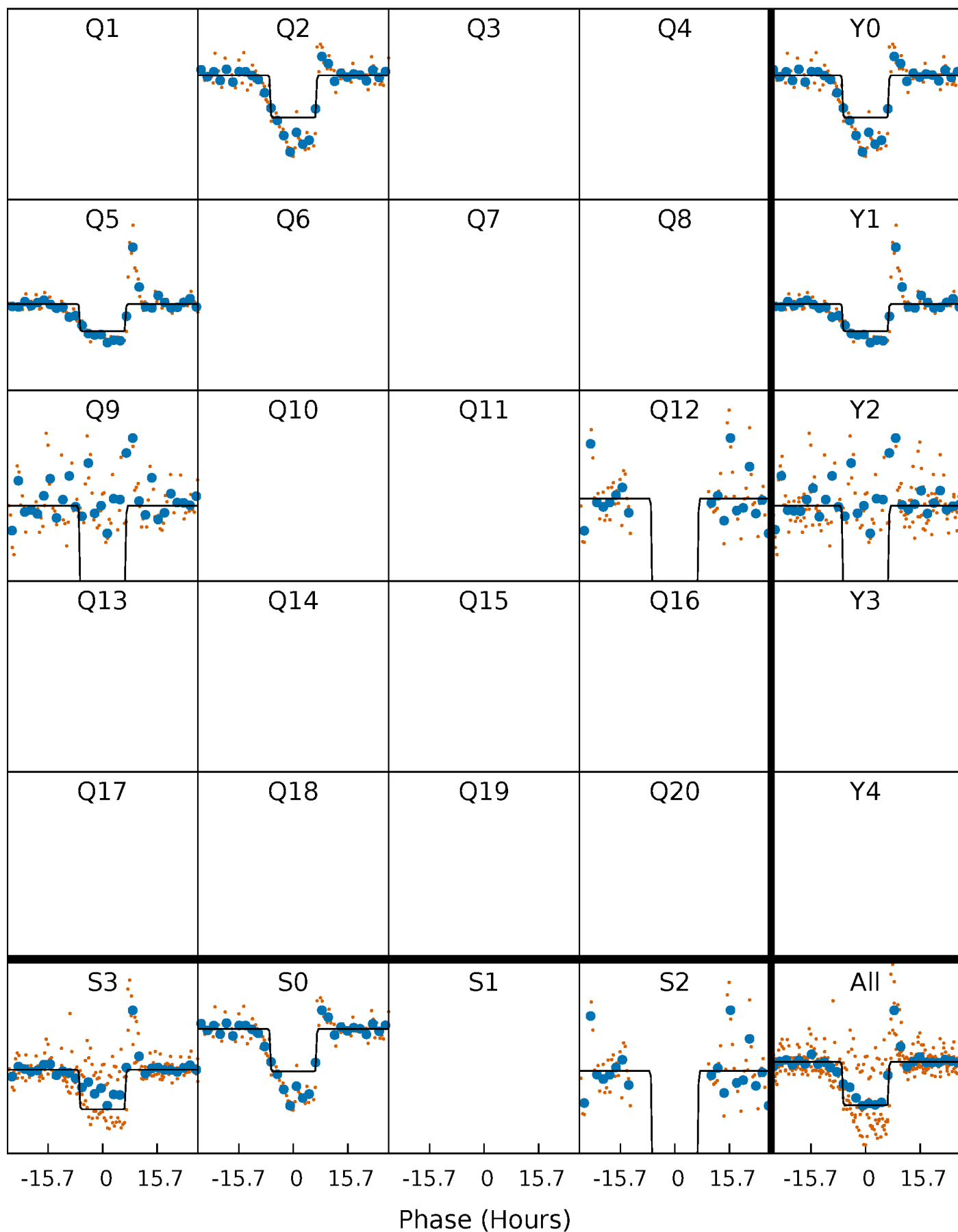
DV Quarter-Phased Transit Curves

TCE 008093473-02 P=326.901260 Days $T_0=173.887993$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

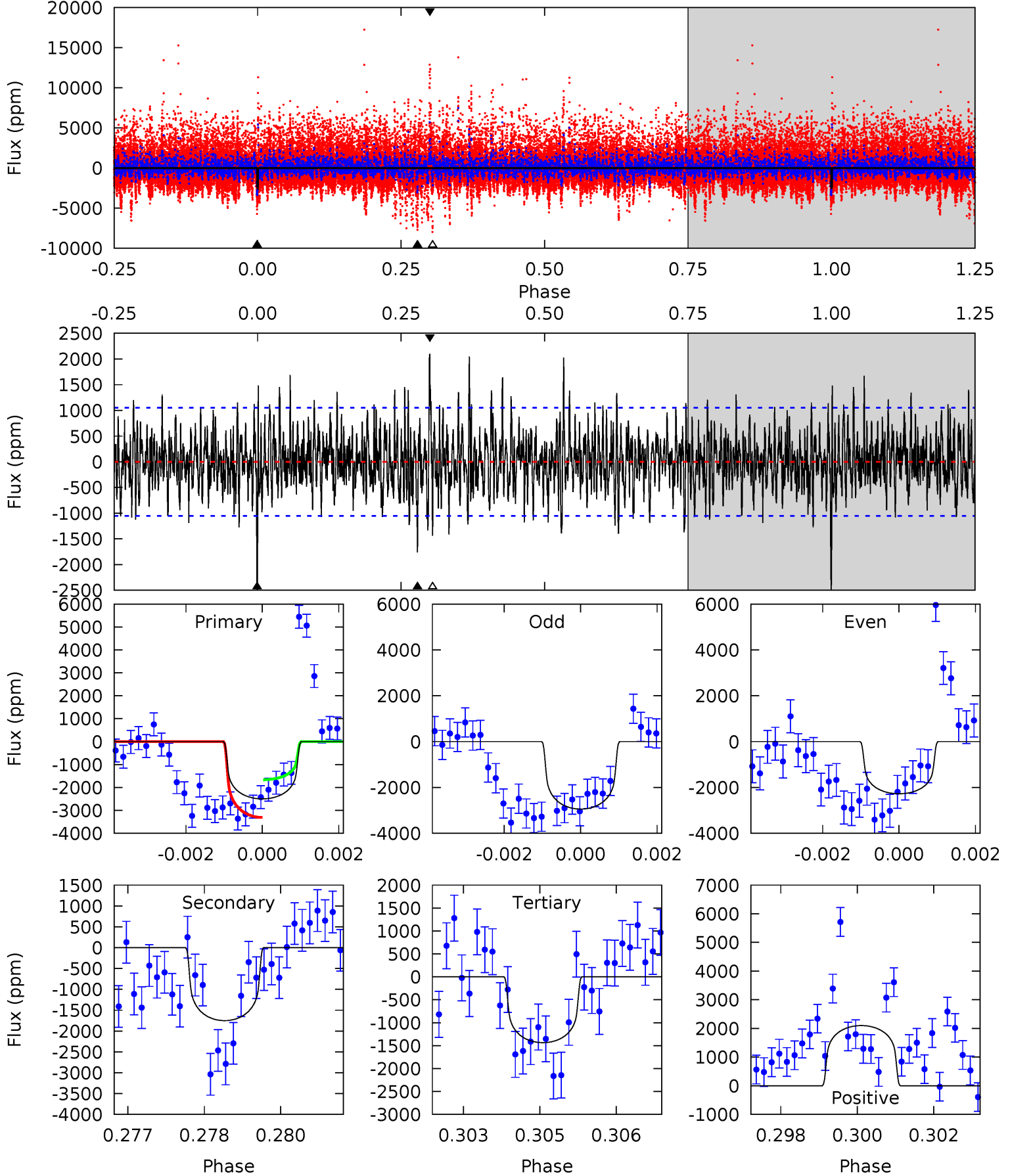
TCE 008093473-02 P=326.896093 Days $T_0=173.831800$ (BKJD)



DV Model-Shift Uniqueness Test

008093473-02, P = 326.901260 Days, E = 173.887993 Days

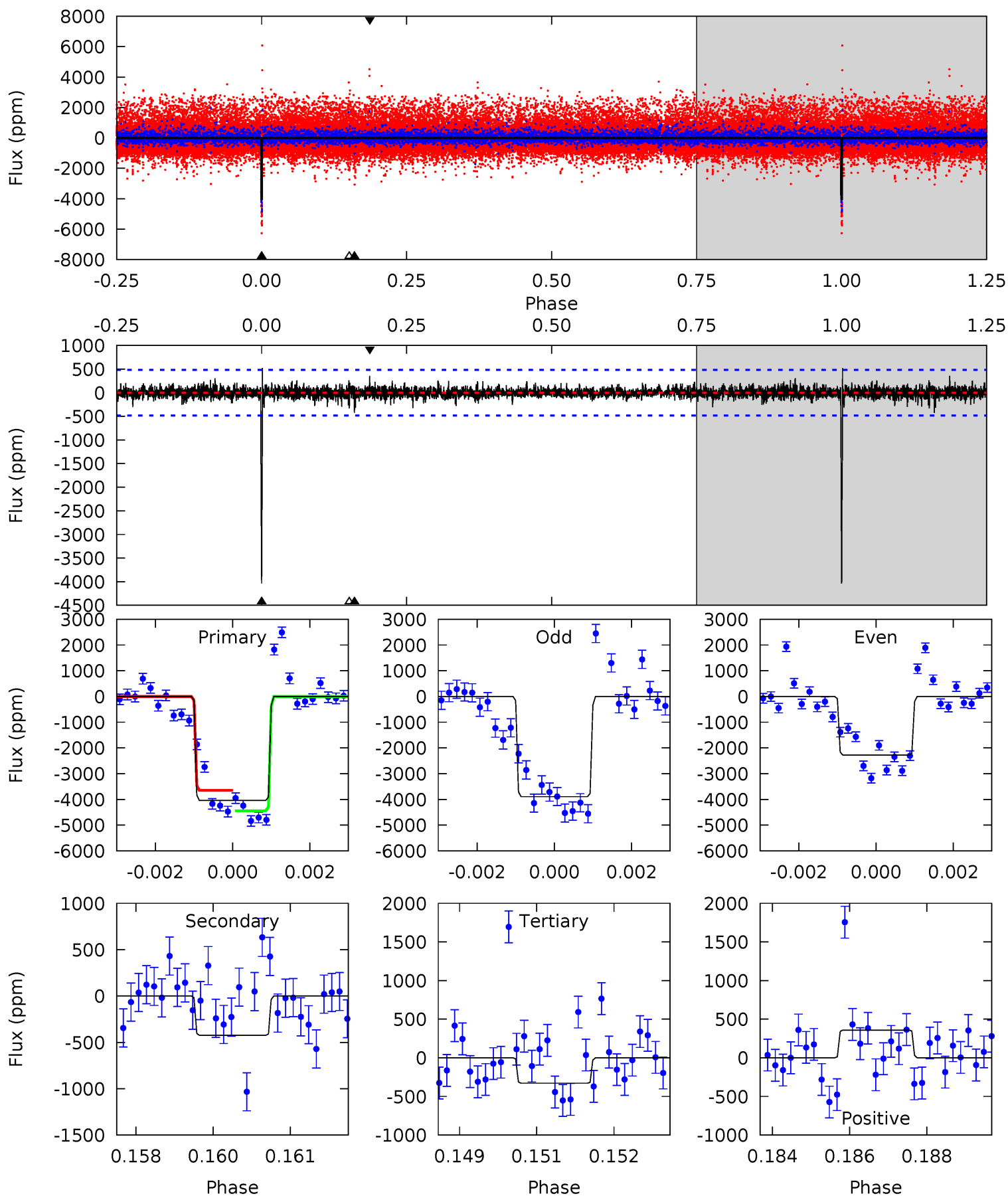
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	8.94	7.33	10.7	5.37	3.16	2.45	5.43	2.04	1.61	-1.78	1.30	0.88	0.46	4.24



Alt Model-Shift Uniqueness Test

008093473-02, P = 326.896093 Days, E = 173.831800 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.8	4.70	3.65	3.98	5.35	3.13	0.76	41.1	40.8	1.06	0.73	9.49	0.73	0.11	4.41



Stellar Parameters For KIC 008093473

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3360^{+43}_{-40}	$4.961^{+0.044}_{-0.044}$	$0.000^{+0.100}_{-0.100}$	$0.287^{+0.040}_{-0.033}$	$0.274^{+0.052}_{-0.034}$	$16.380^{+4.222}_{-3.354}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+14%/-11%	+19%/-12%	+26%/-20%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 008093473-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1751 ± 196	$1.57^{+0.32}_{-0.31}$	143^{+4}_{-3}	3187^{+216}_{-184}	145002^{+73620}_{-48783}
Alt.	-424 ± 90	$1.77^{+0.37}_{-0.31}$	143^{+4}_{-3}	2546^{+148}_{-122}	26674^{+15287}_{-8766}

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 $A_{obs} \gg 1.0$

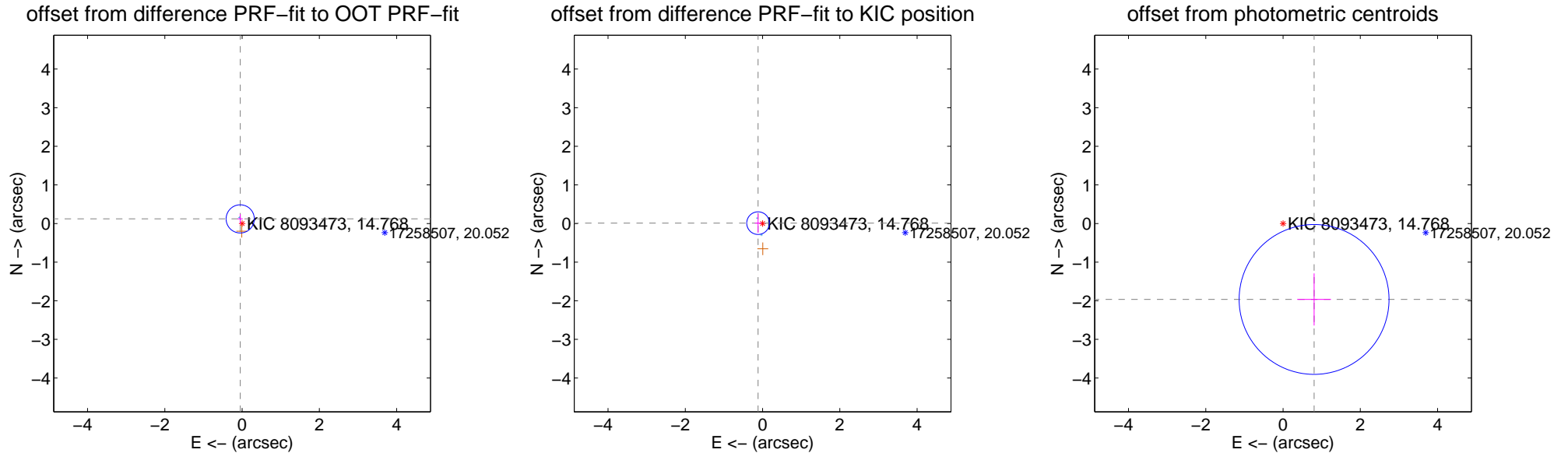
DV Centroid Data

Supplemental centroid analysis for 008093473-02. Kepler magnitude: 14.77. Transit SNR 7.49

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.129 ± 0.122	1.06	0.048 ± 0.068	0.120 ± 0.123
PRF-fit source offset from KIC position	0.117 ± 0.098	1.20	0.117 ± 0.084	0.010 ± 0.250
photometric centroid source offset	2.12 ± 0.65	3.28	-0.80 ± 0.44	-1.97 ± 0.68



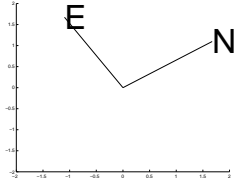
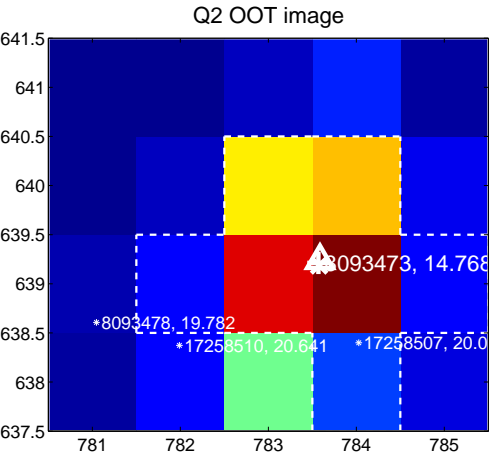
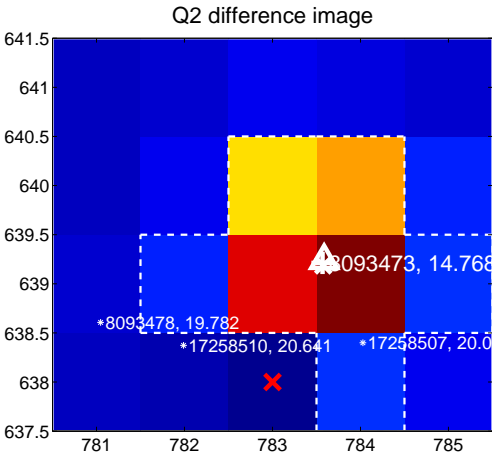
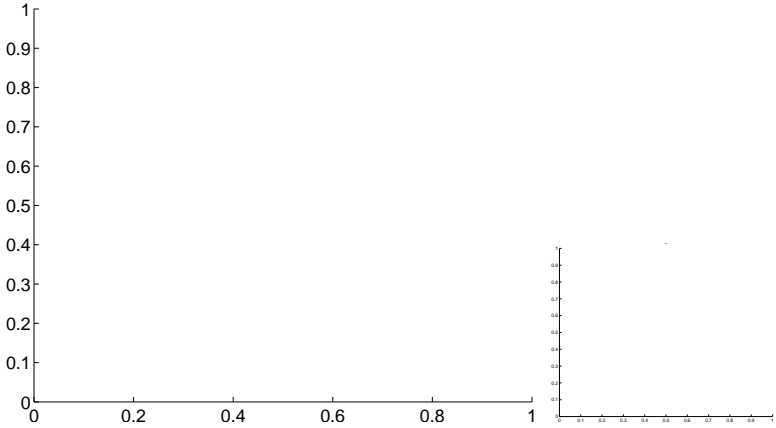
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

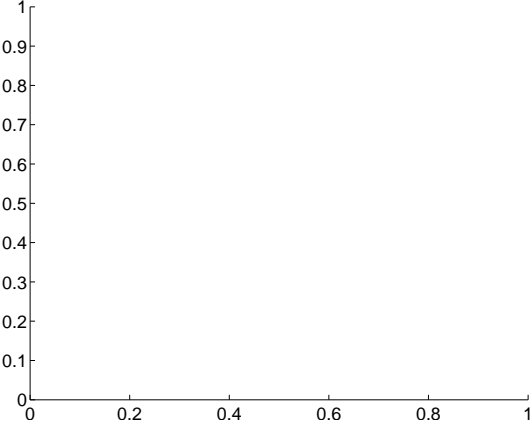
Q1 no difference image



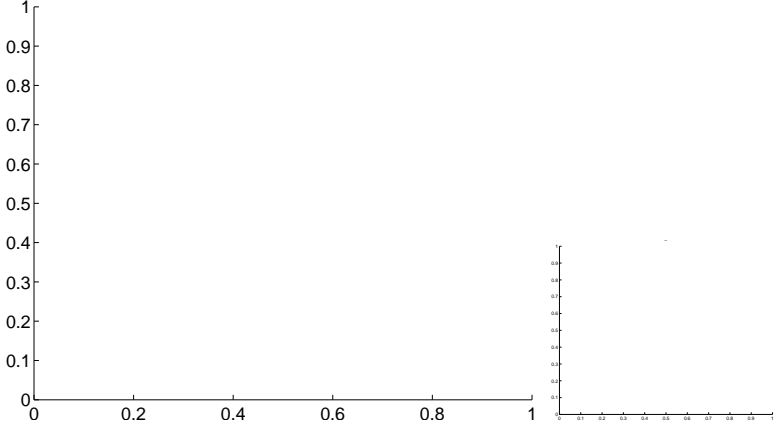
Q1 no OOT image



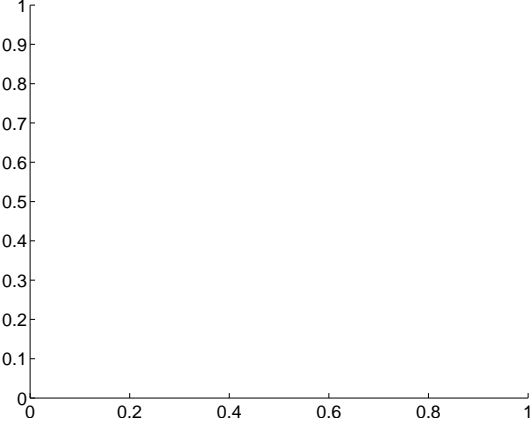
Q3 no difference image



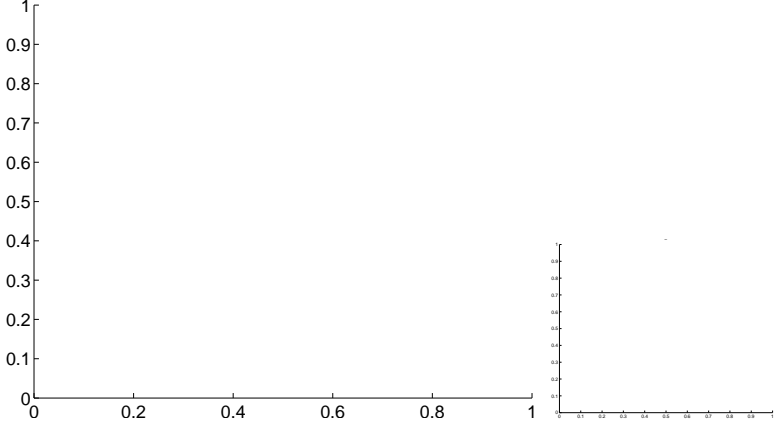
Q3 no OOT image



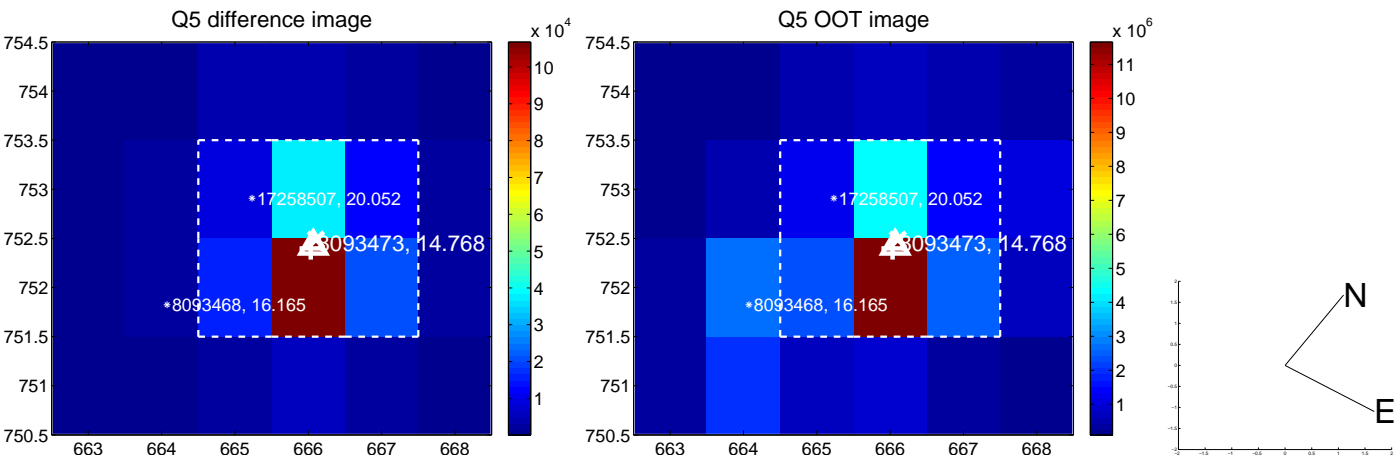
Q4 no difference image



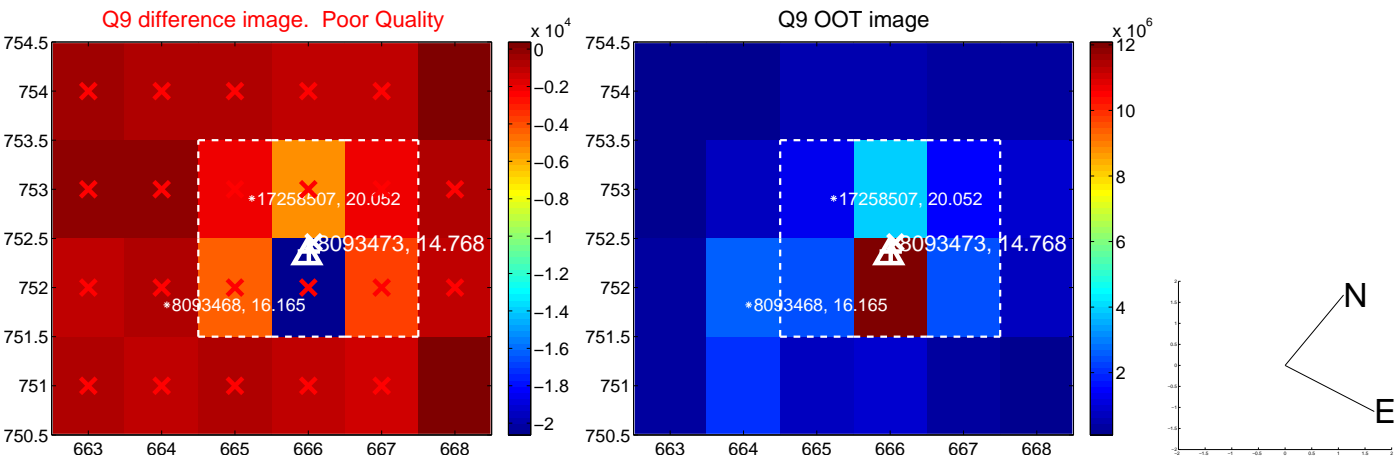
Q4 no OOT image



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



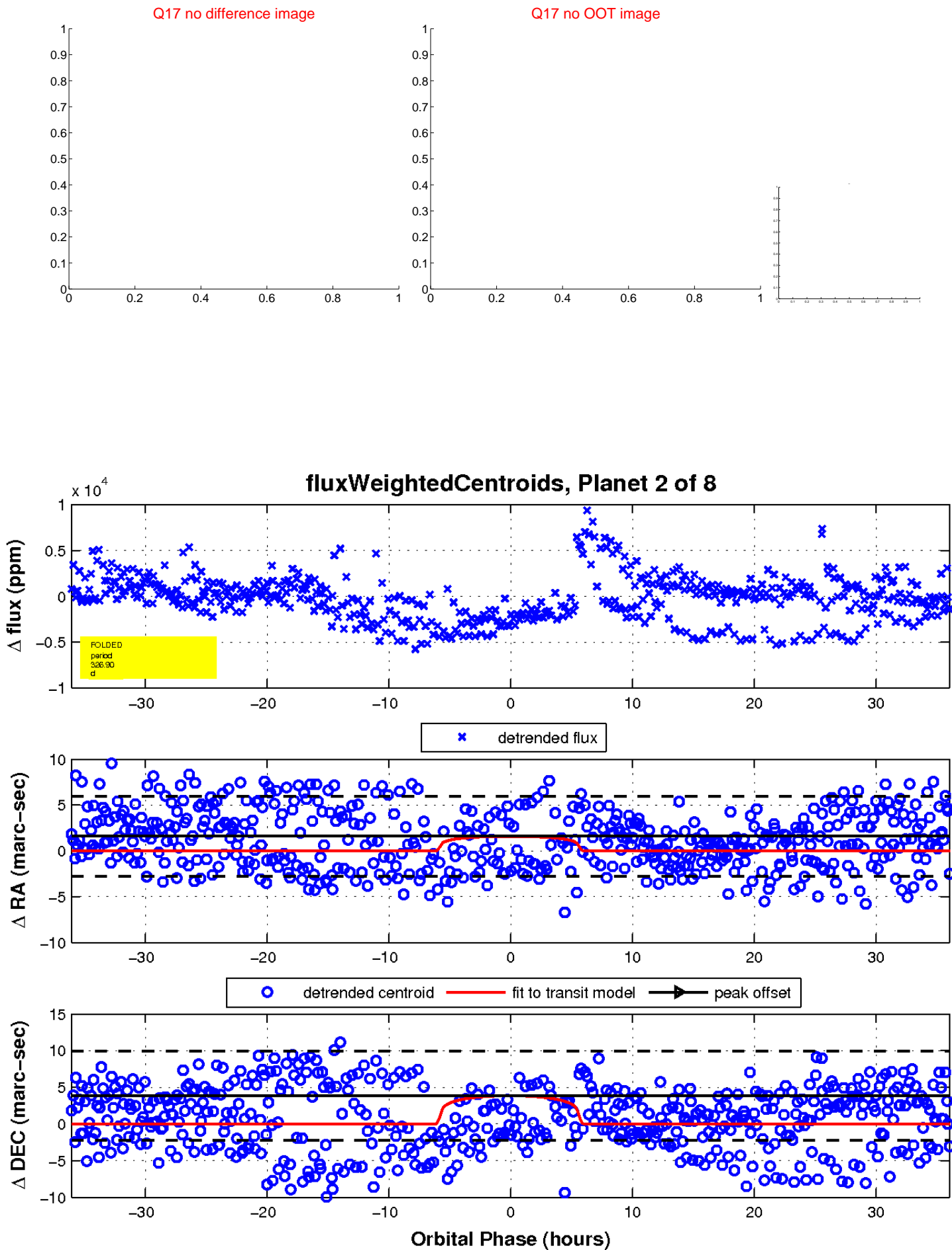
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

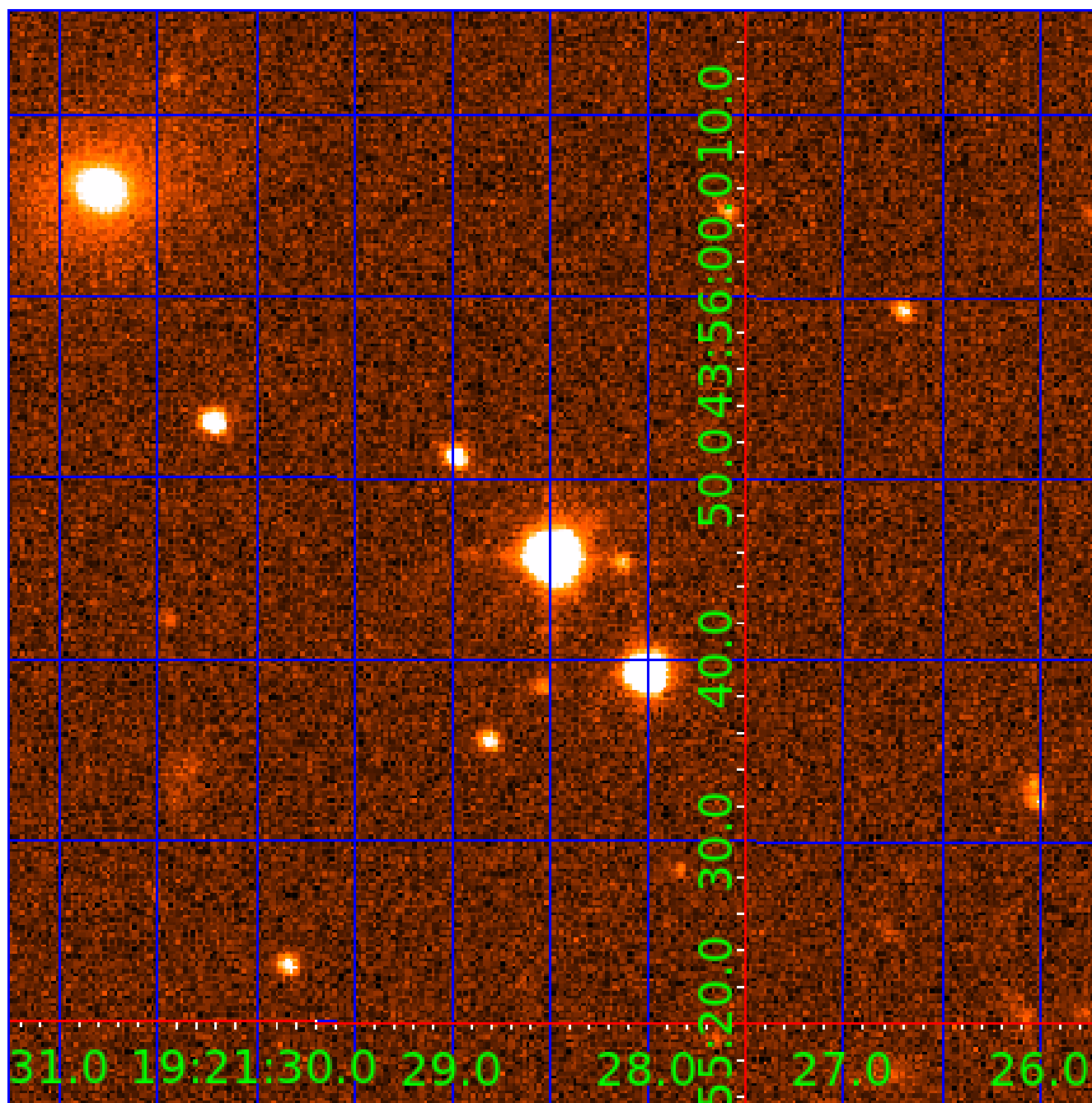


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008093473

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})
008093473-01	OBS	No	178.562825	294.200732	2681.6	8.399	13.1	10.8	0.29	3360	1.76	0.06
008093473-02	OBS	No	326.901260	173.887993	3022.6	12.061	13.6	7.5	0.29	3360	1.56	0.03
008093473-03	OBS	No	214.280181	192.083764	1940.8	13.376	12.9	6.8	0.29	3360	1.25	0.04
008093473-05	OBS	No	523.692877	156.070778	2764.6	6.545	13.2	7.8	0.29	3360	1.50	0.01
008093473-06	OBS	No	276.431591	185.904897	2032.0	10.945	12.9	6.2	0.29	3360	1.27	0.03
008093473-07	OBS	No	308.313173	326.194573	1362.4	3.000	12.7	-1.0	0.29	3360	1.05	0.03
008093473-08	OBS	No	188.685218	163.698501	1217.3	2.500	11.3	-1.0	0.29	3360	0.99	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008093473-01	OBS	FP	0.00	1	0	1	0	LPP_DV—INCONSISTENT_TRANS—HALO_GHOST
008093473-02	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_FEW_DIFFS—HALO_GHOST
008093473-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_TER_ALT
008093473-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
008093473-06	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
008093473-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
008093473-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

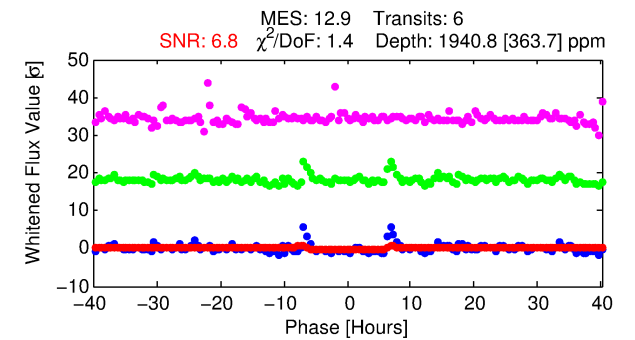
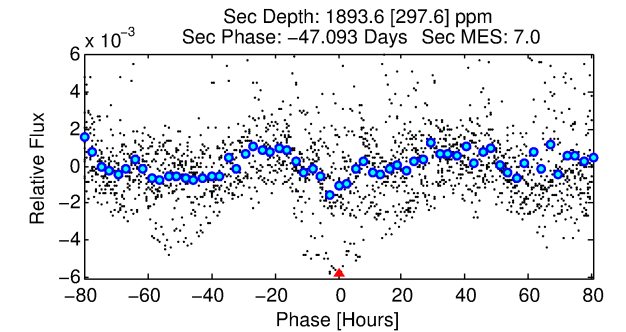
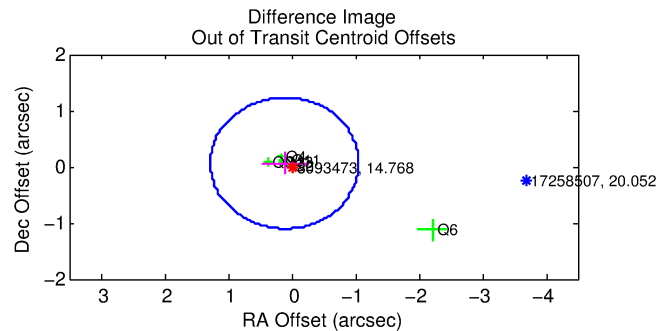
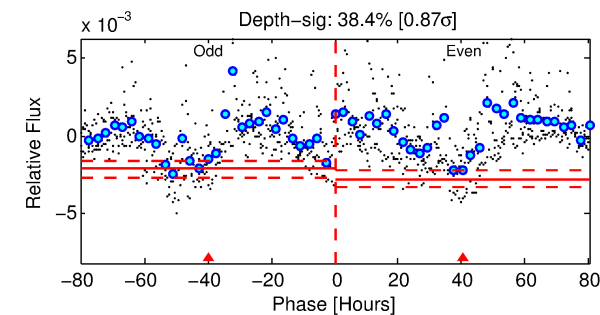
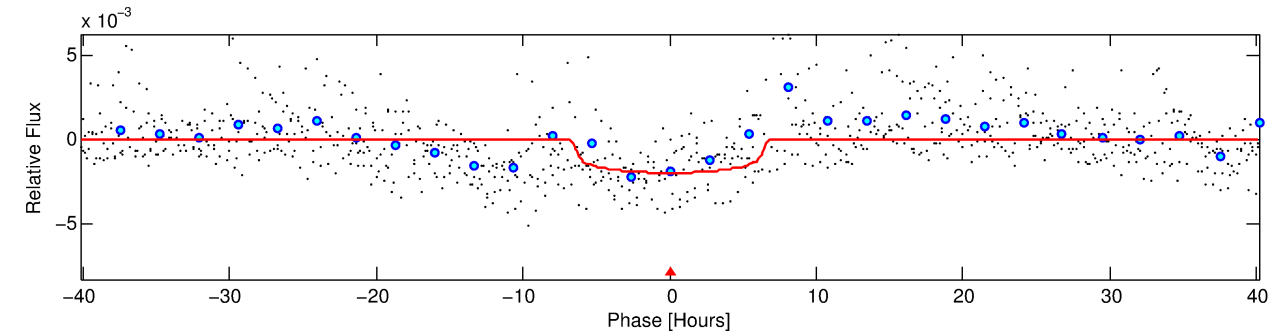
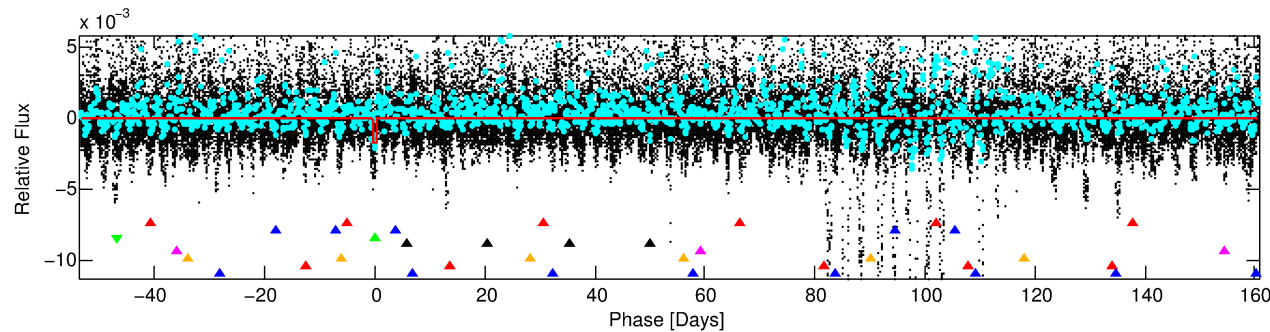
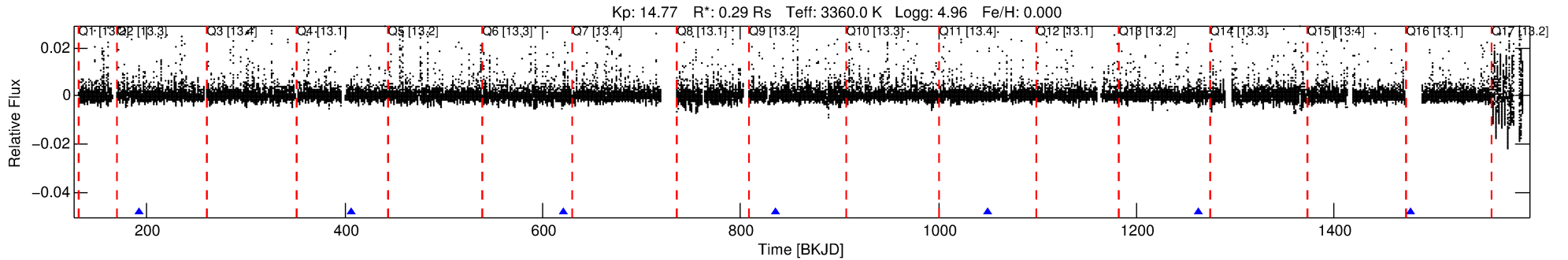
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008093473-03

No Significant Match Found

DV One-Page Summary

KIC: 8093473 Candidate: 3 of 8 Period: 214.280 d



DV Fit Results:

Period = 214.28018 [0.00390] d
Epoch = 192.0838 [0.0120] BKJD
Rp/R* = 0.0398 [0.0106]
a/R* = 127.06 [126.02]
b = 0.06 [17.33]
Seff = 0.05 [0.01]
Teq = 118 [4] K
Rp = 1.25 [0.38] Re
a = 0.4556 [0.0450] AU
Ag = 139165.97 [79141.64] [1.76 σ]
Teffp = 3513 [491] K [6.91 σ]

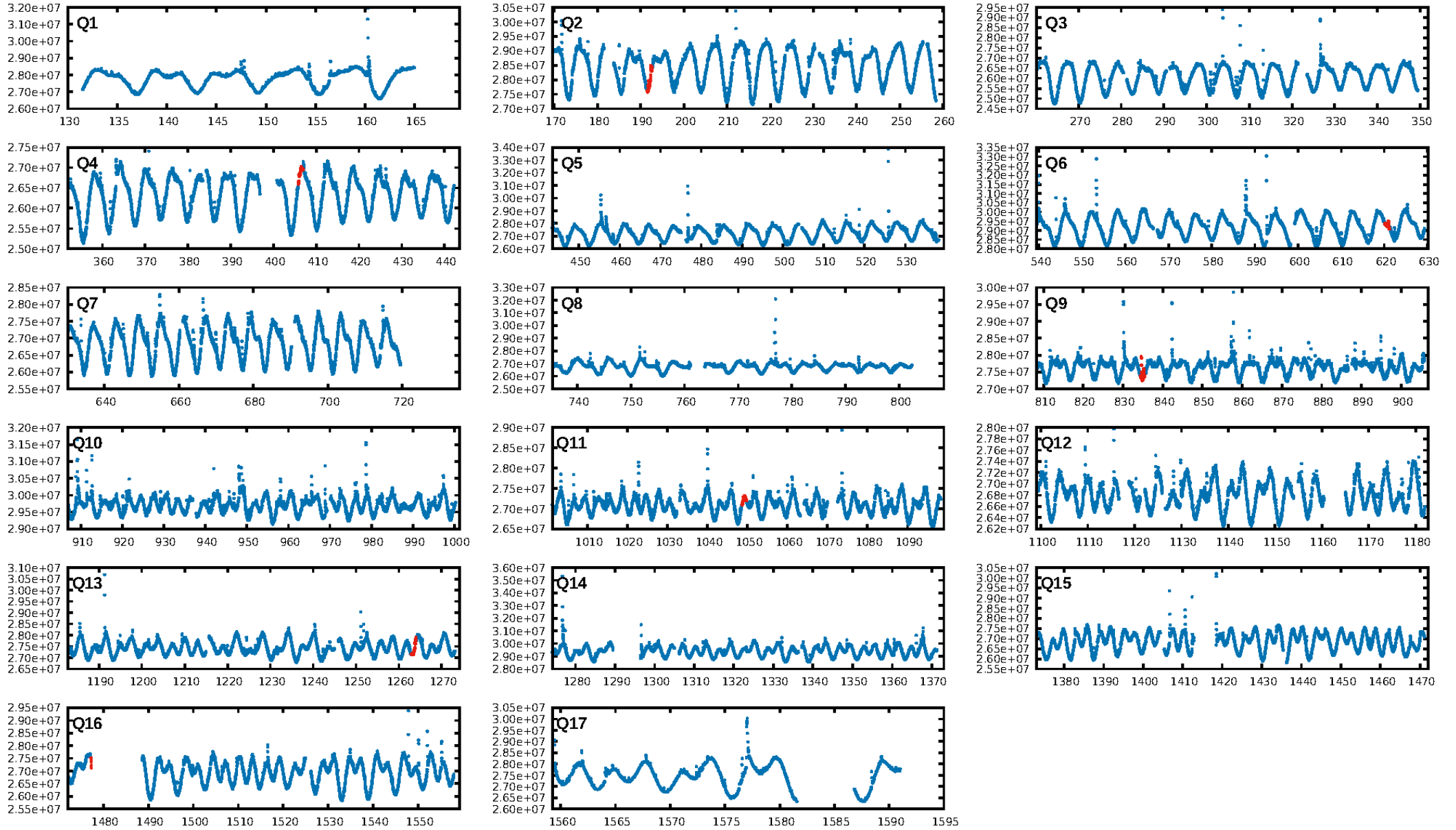
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [45.14 σ]
LongPeriod-sig: 100.0% [86.30 σ]
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 87.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 1.22
Centroid-sig: 39.5%
Centroid-so: 1.350 arcsec [1.87 σ]
OotOffset-rm: 0.129 arcsec [0.33 σ]
KicOffset-rm: 0.136 arcsec [0.50 σ]
OotOffset-st: 2/1/1/2 [6]
KicOffset-st: 2/1/1/2 [6]
DiffImageQuality-fgm: 0.67 [4/6]
DiffImageOverlap-fno: 1.00 [6/6]

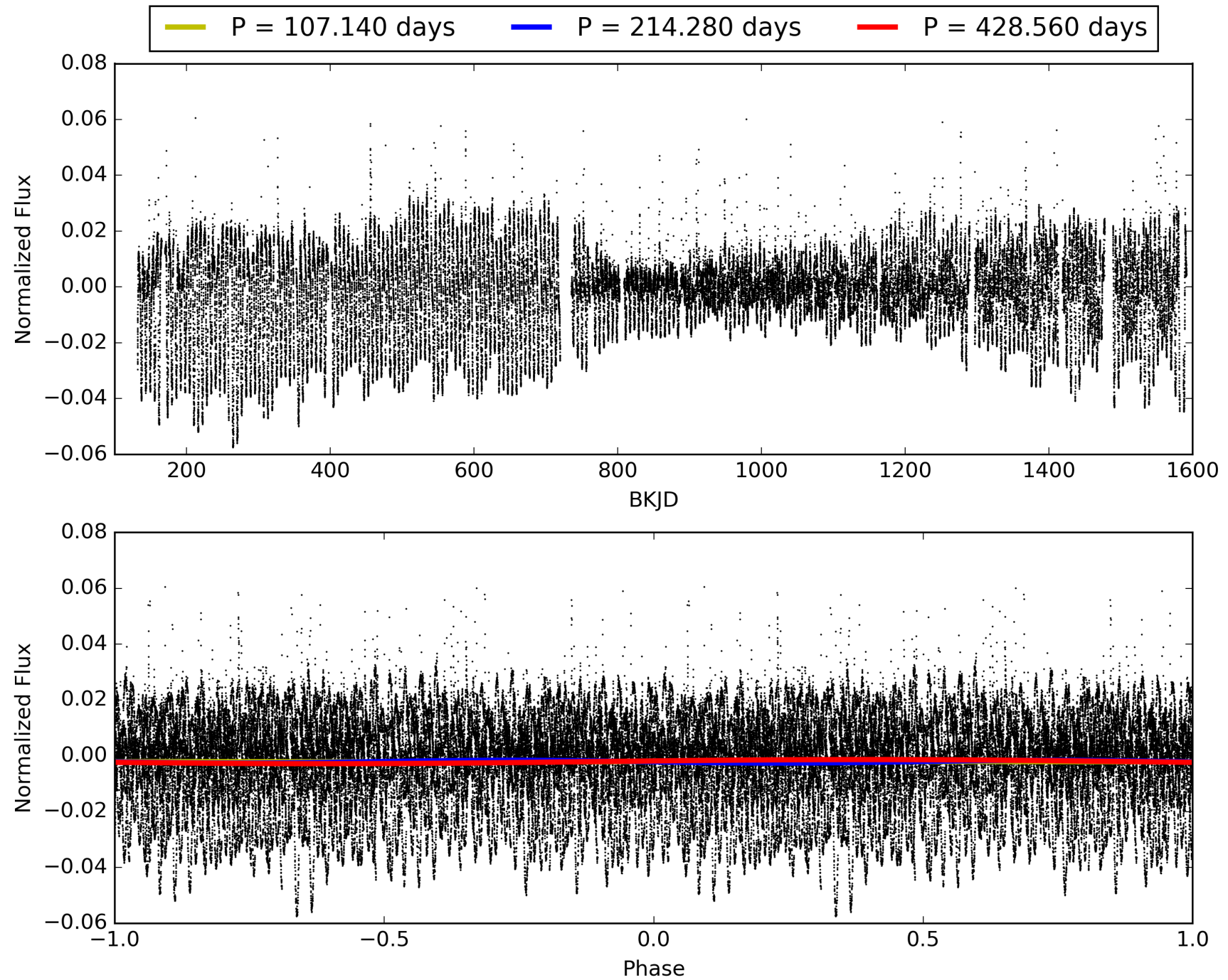
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:35:24 Z

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

TCE 008093473-03, PDC Light Curves

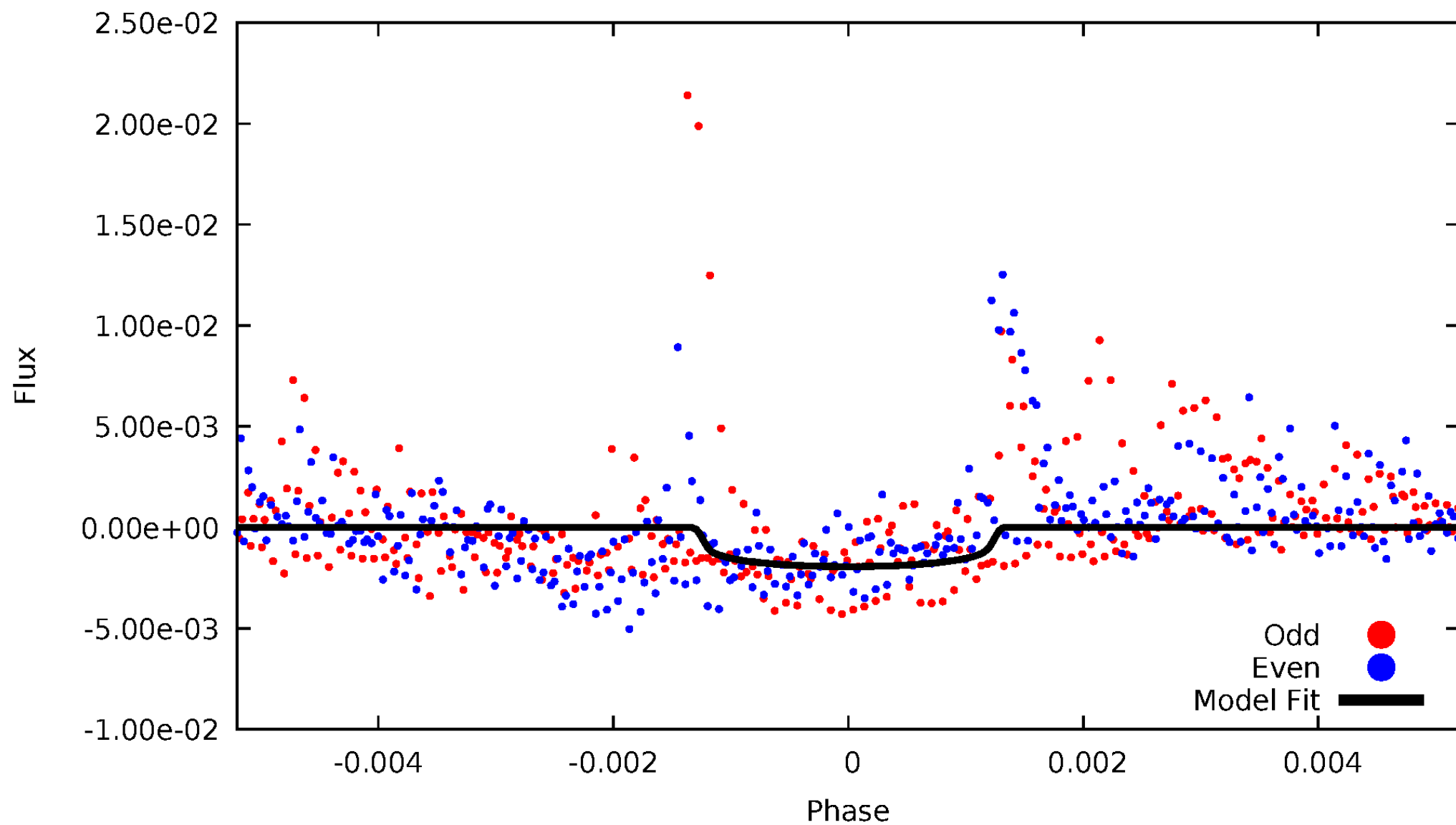


TCE 008093473-03



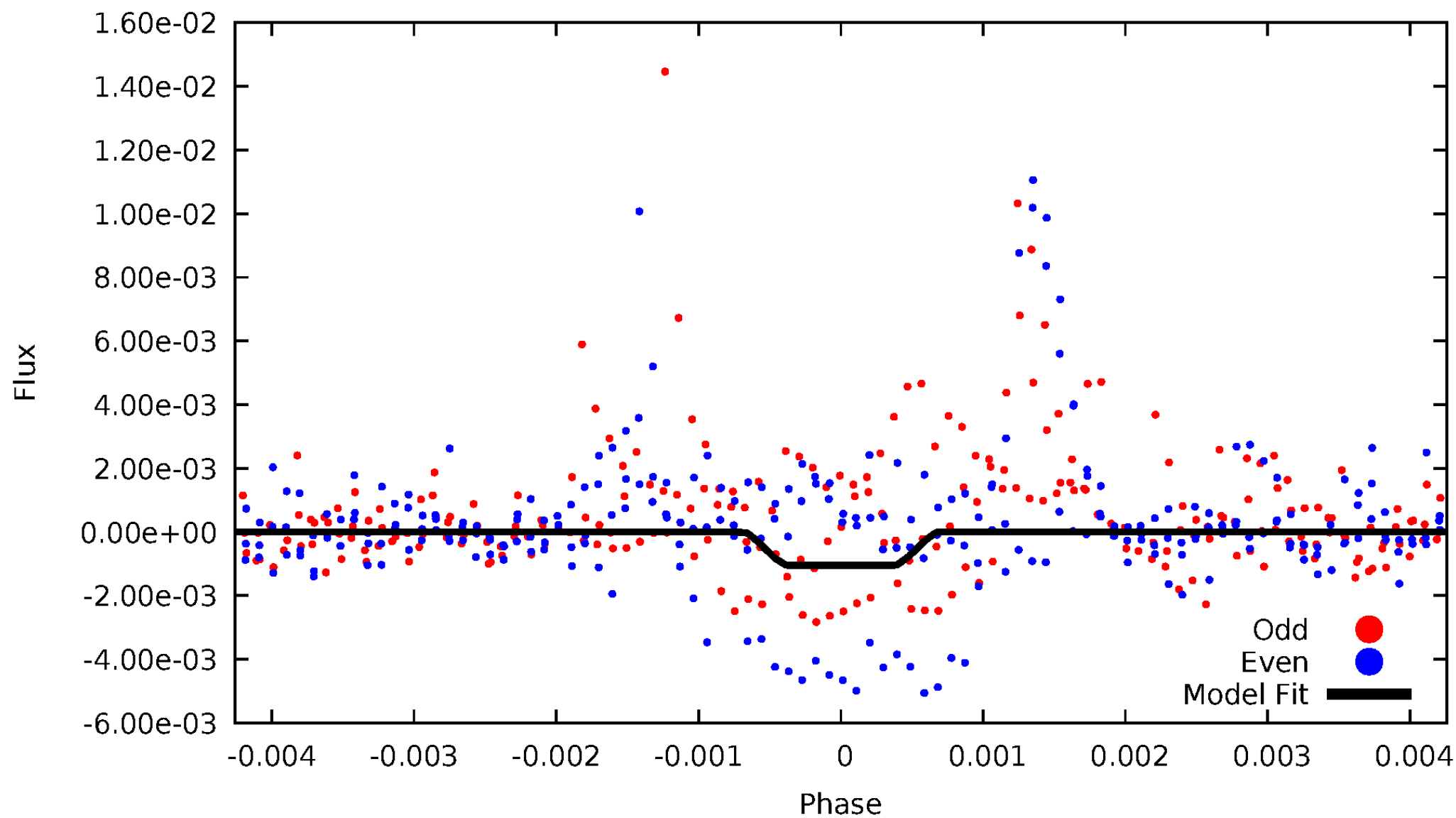
DV Odd/Even

TCE 008093473-03



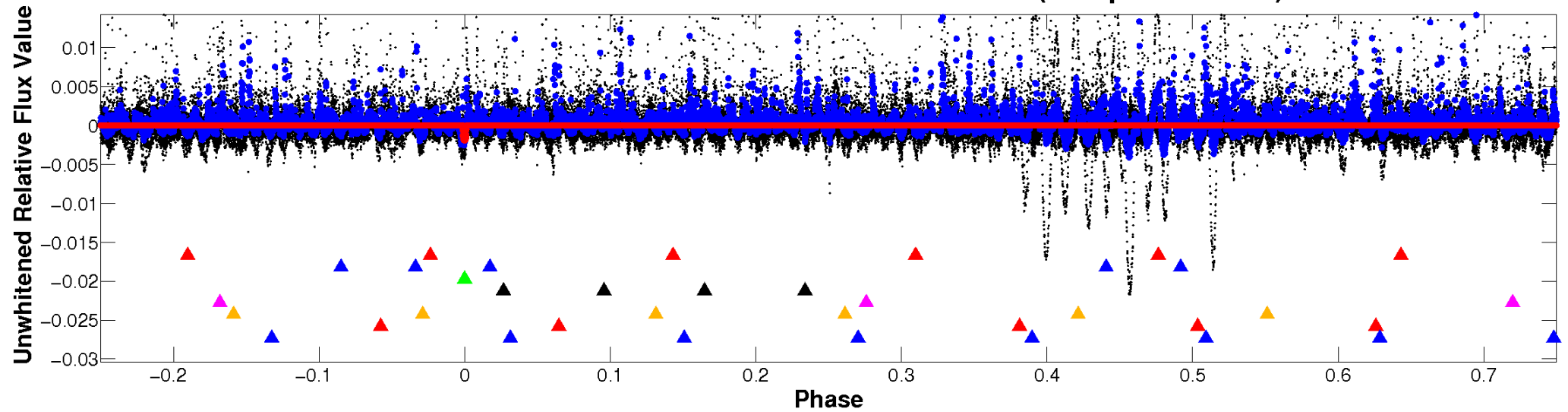
ALT Odd/Even

TCE 008093473-03

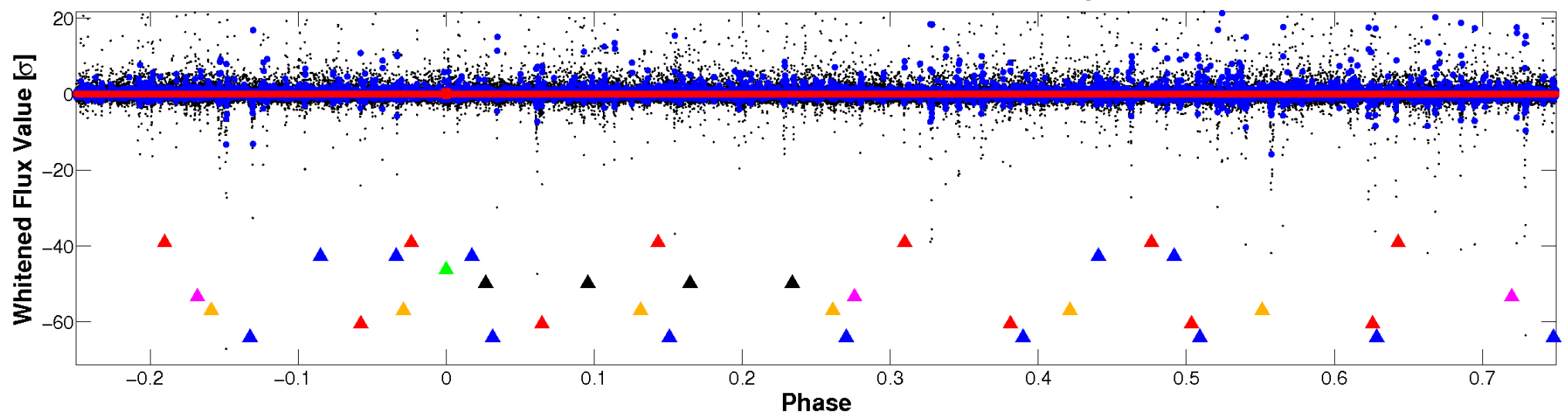


Non-Whitened Vs. Whitened Light Curve

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

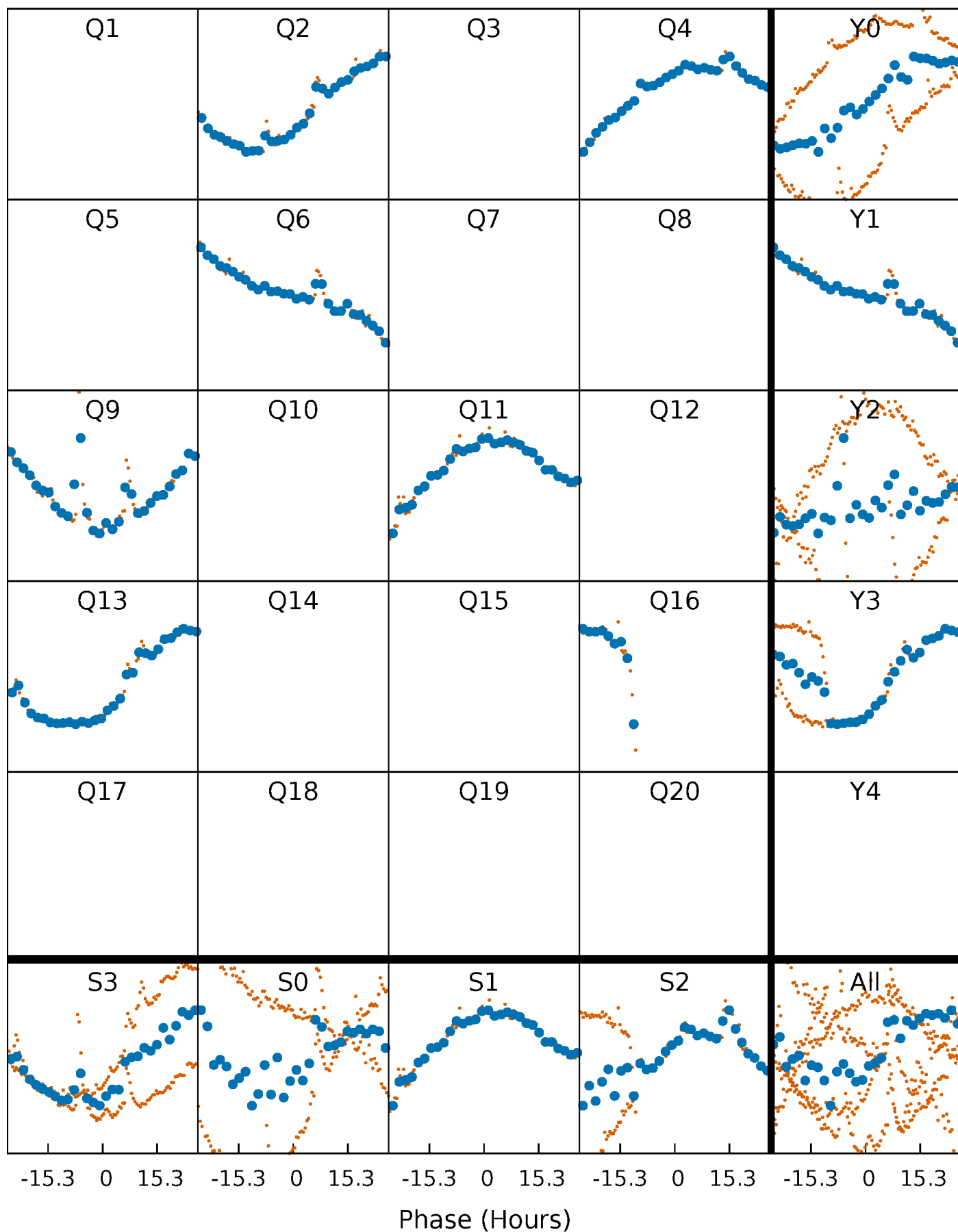


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



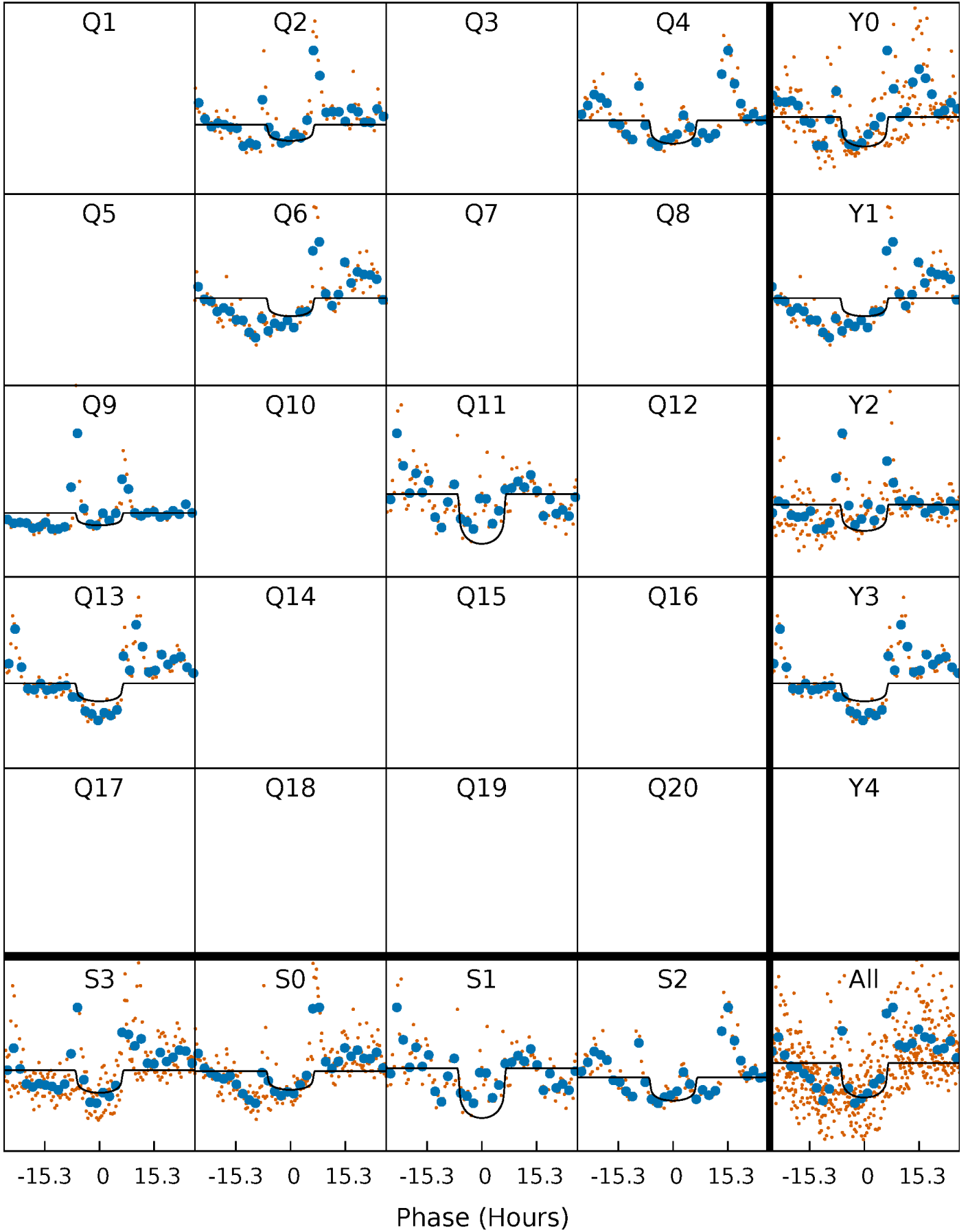
PDC Quarter-Phased Transit Curves

TCE 008093473-03 P=214.280181 Days $T_0=192.083764$ (BKJD)



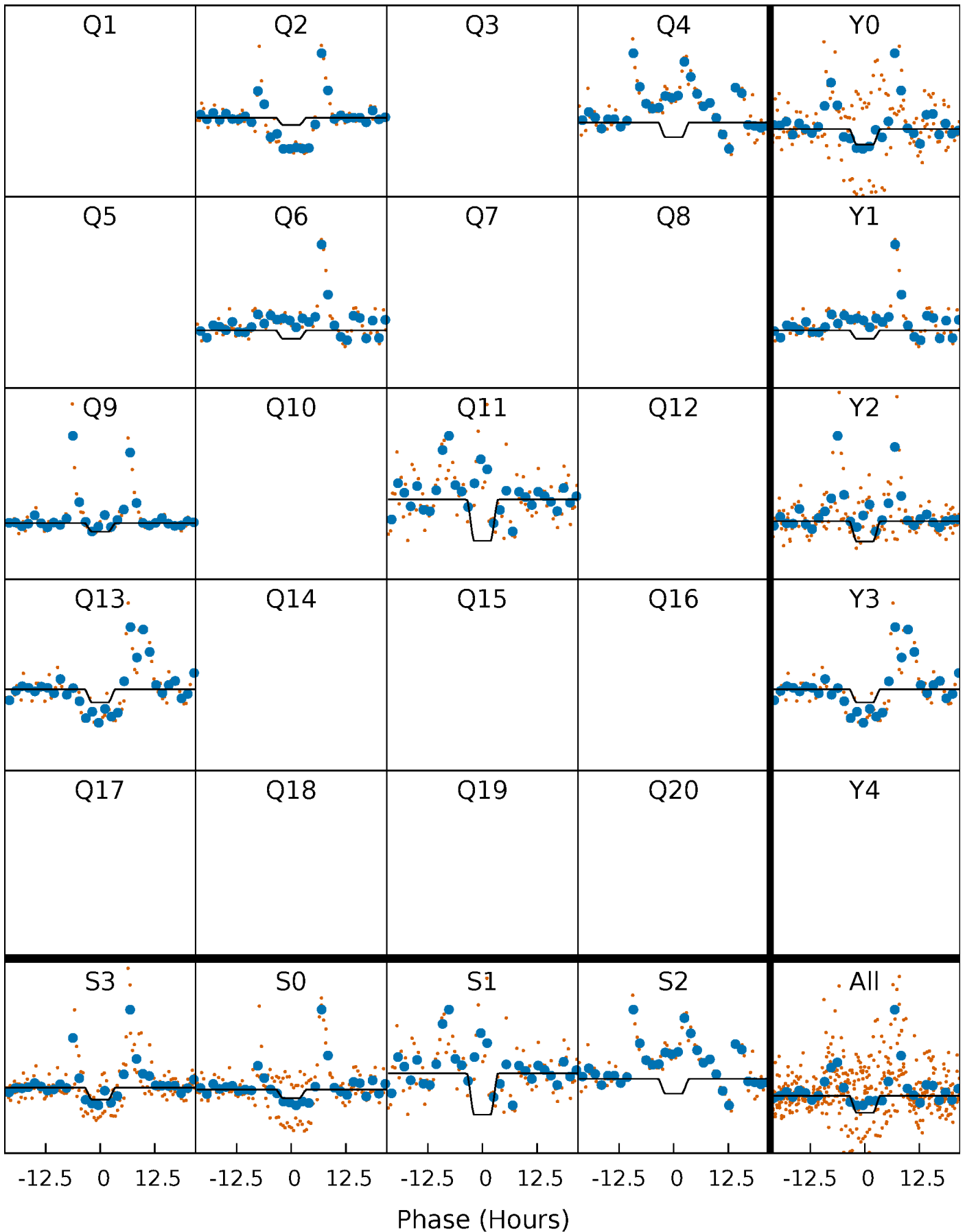
DV Quarter-Phased Transit Curves

TCE 008093473-03 $P=214.280181$ Days $T_0=192.083764$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

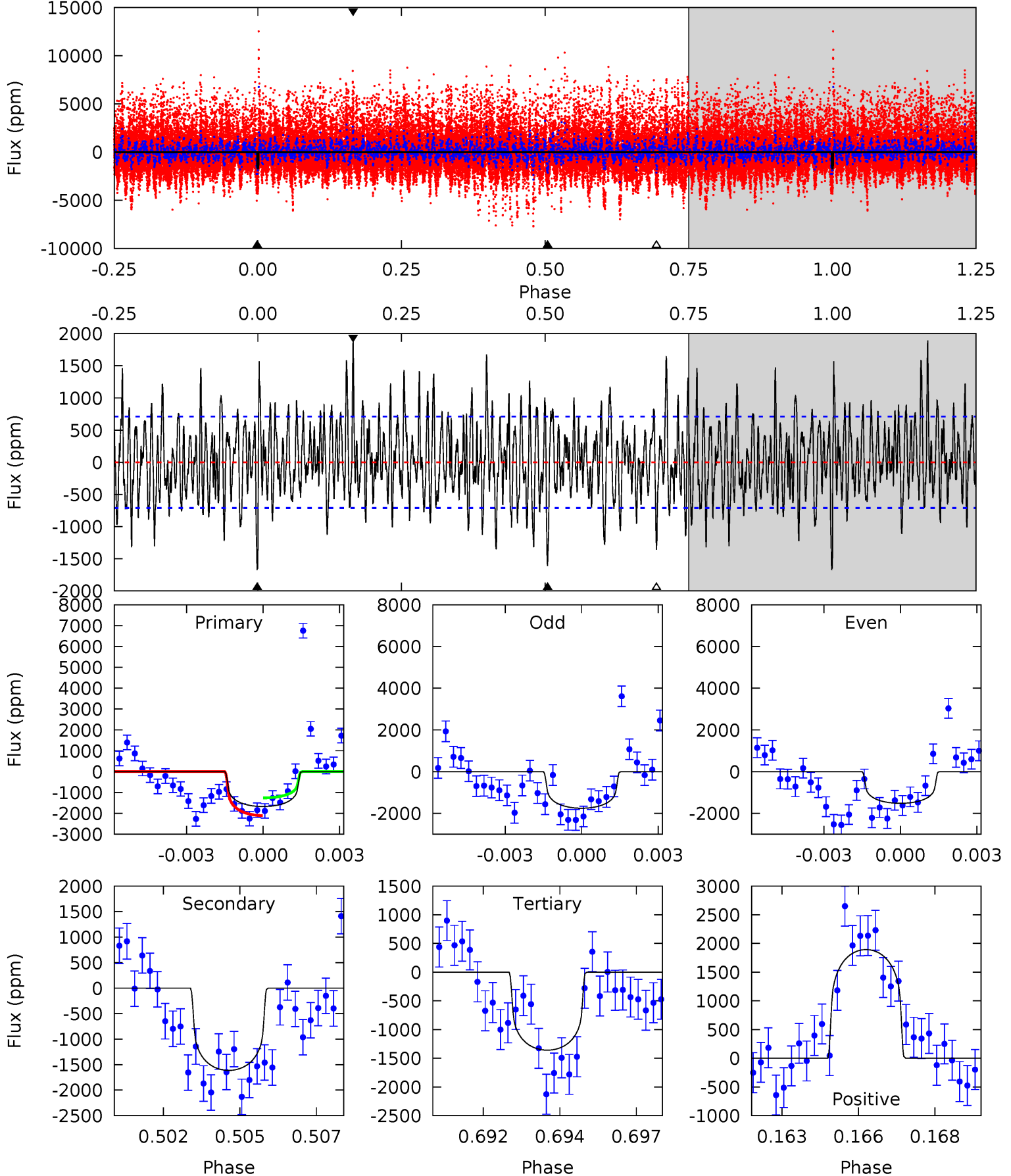
TCE 008093473-03 $P=214.286744$ Days $T_0=192.076483$ (BKJD)



DV Model-Shift Uniqueness Test

008093473-03, P = 214.280181 Days, E = 192.083764 Days

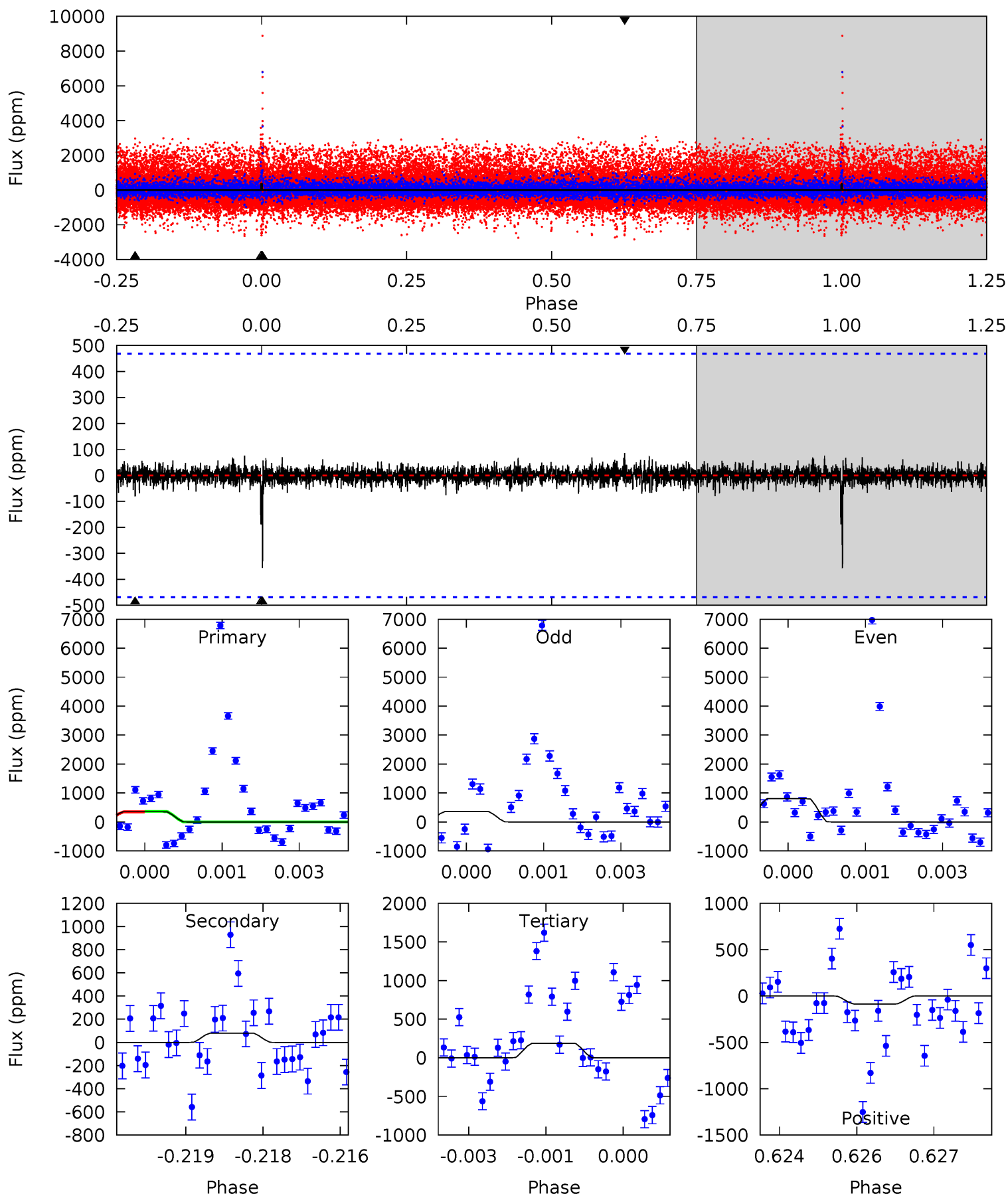
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	12.0	10.1	14.1	5.27	3.00	3.91	2.33	-1.64	1.89	-2.09	0.79	1.28	0.53	3.18



Alt Model-Shift Uniqueness Test

008093473-03, P = 214.286744 Days, E = 192.076483 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.09	0.92	2.16	0.99	5.40	3.20	0.23	1.93	3.10	-1.24	-0.07	2.47	-3.20	0.19	0.09



Stellar Parameters For KIC 008093473

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3360^{+43}_{-40}	$4.961^{+0.044}_{-0.044}$	$0.000^{+0.100}_{-0.100}$	$0.287^{+0.040}_{-0.033}$	$0.274^{+0.052}_{-0.034}$	$16.380^{+4.222}_{-3.354}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+14%/-11%	+19%/-12%	+26%/-20%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 008093473-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1613 ± 135	$1.27^{+0.34}_{-0.34}$	165^{+4}_{-4}	3355^{+374}_{-230}	$115371^{+105171}_{-43428}$
Alt.	-80 ± 87	$1.01^{+0.37}_{-0.33}$	164^{+4}_{-4}	2344^{+356}_{-4176}	7795^{+16454}_{-8500}

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

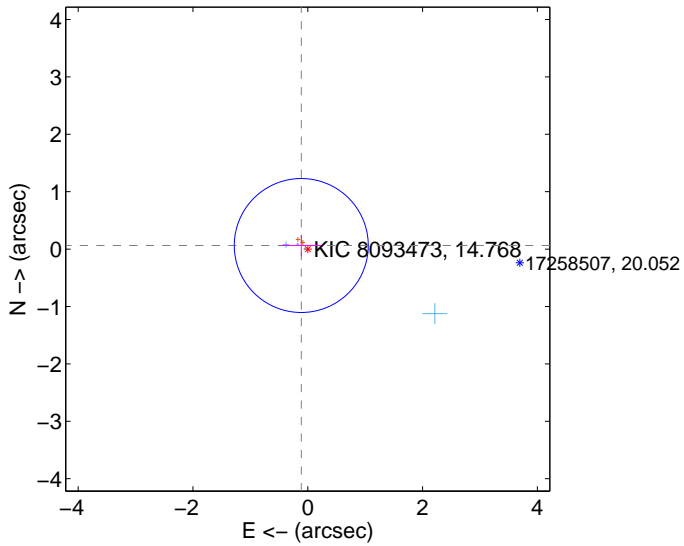
Supplemental centroid analysis for 008093473-03. Kepler magnitude: 14.77. Transit SNR 6.79

There are 4 quarters with good PRF difference image offsets

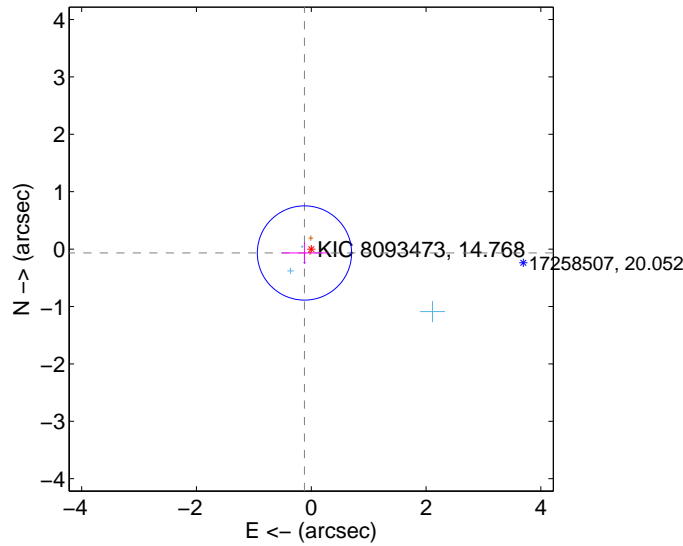
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.129 ± 0.389	0.33	0.113 ± 0.348	0.063 ± 0.187
PRF-fit source offset from KIC position	0.136 ± 0.274	0.50	0.118 ± 0.398	-0.068 ± 0.190
photometric centroid source offset	1.35 ± 0.72	1.87	-0.58 ± 0.48	-1.22 ± 0.77

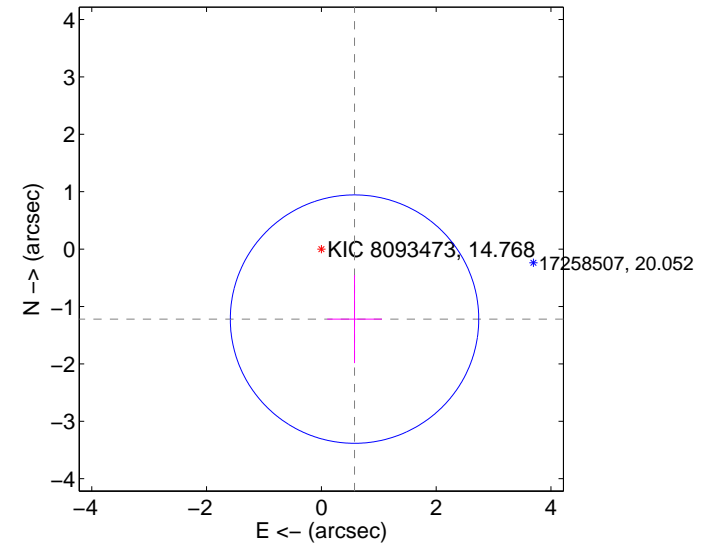
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

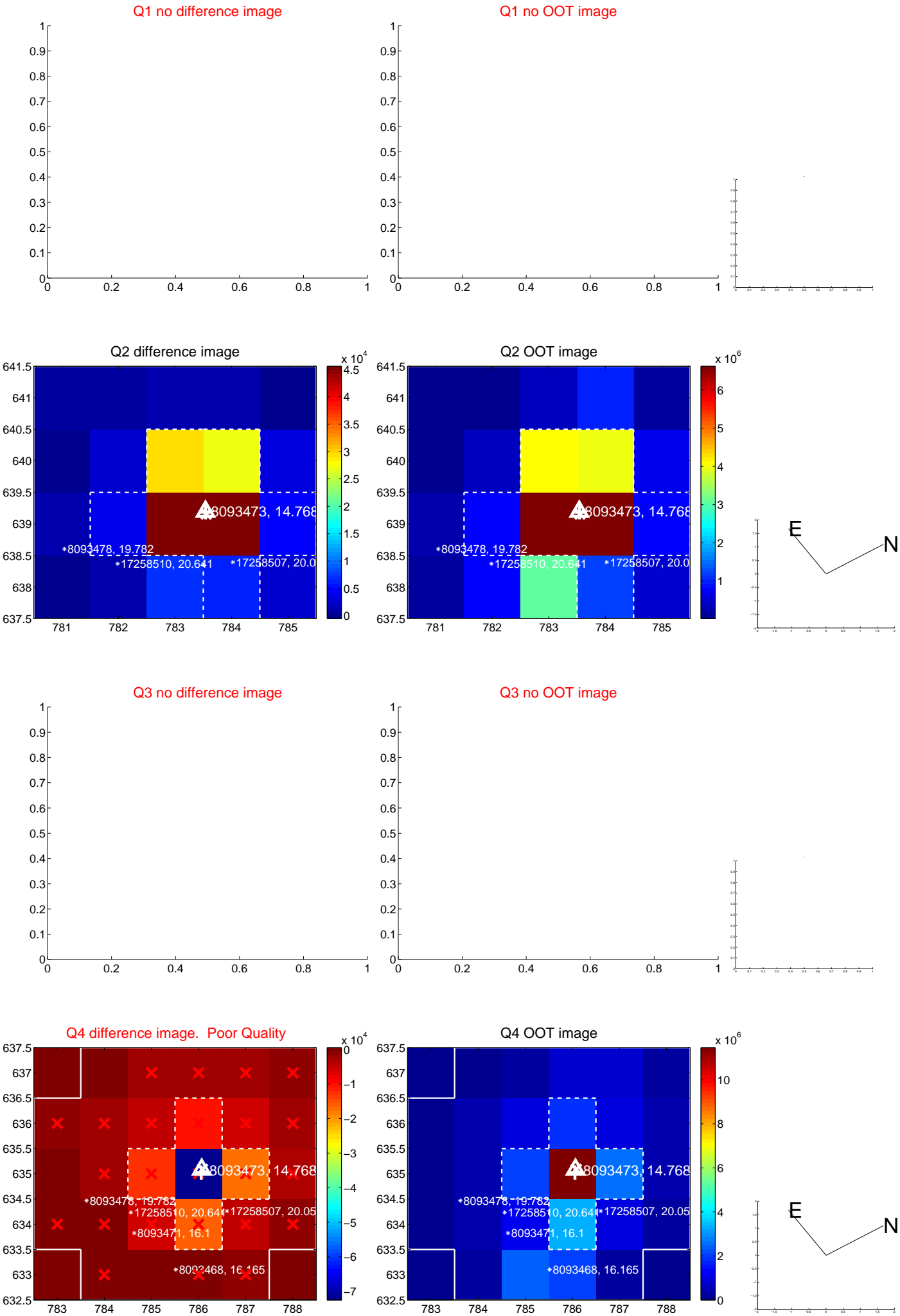


offset from photometric centroids

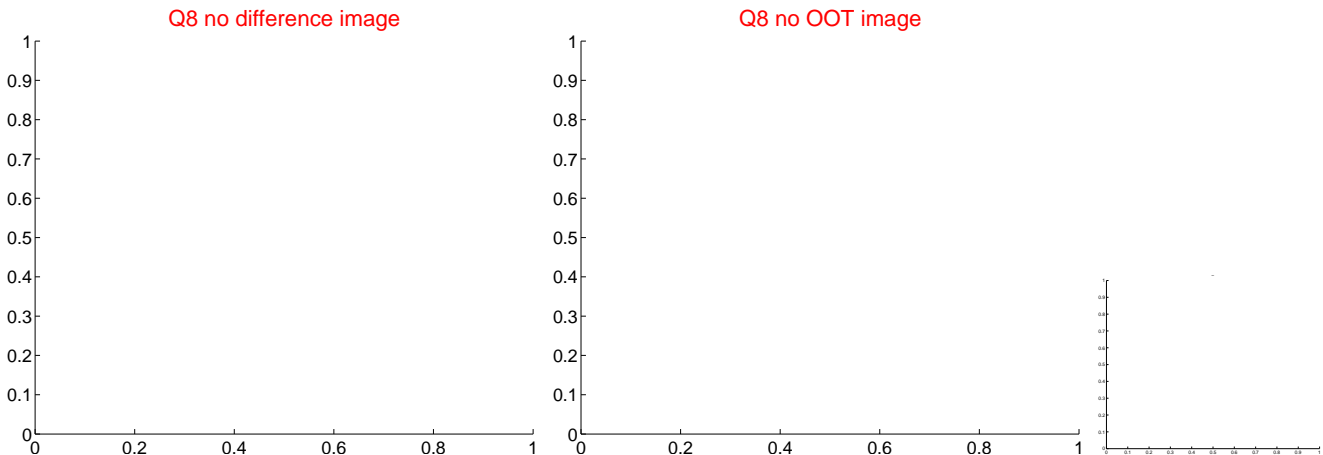
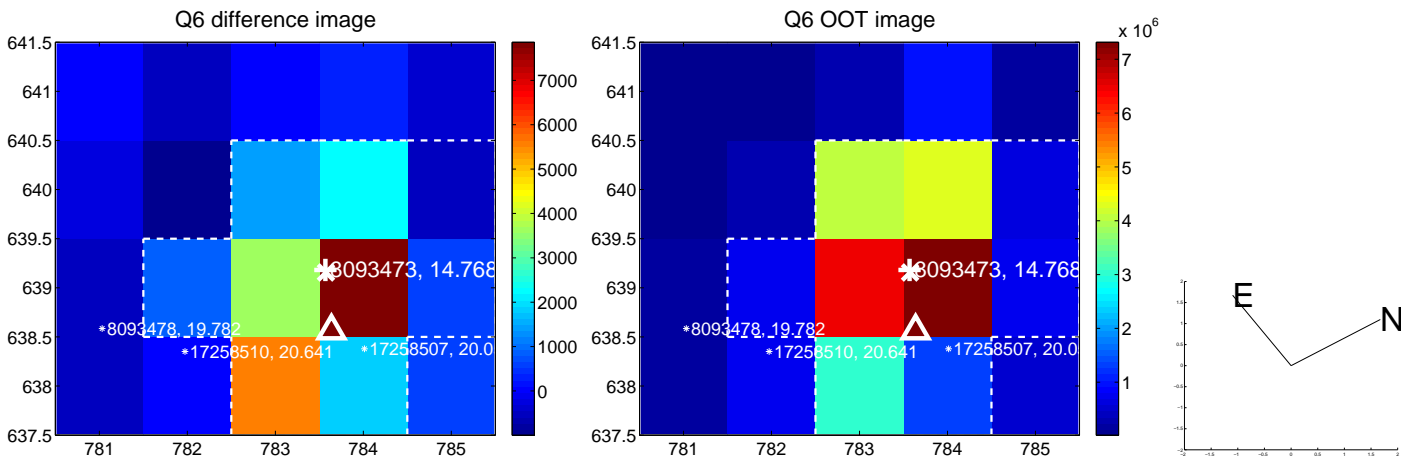


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

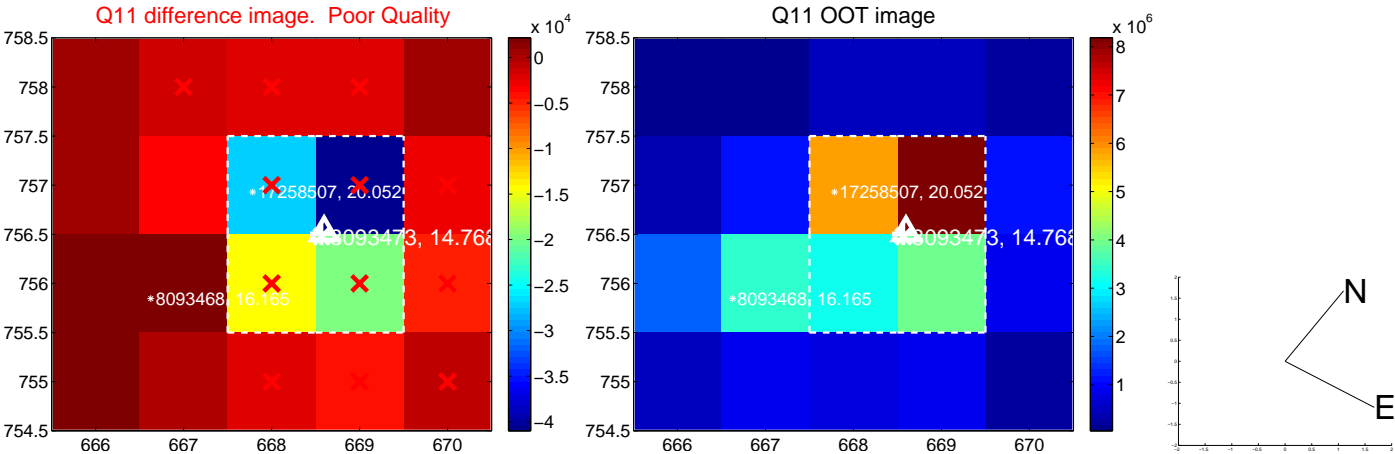
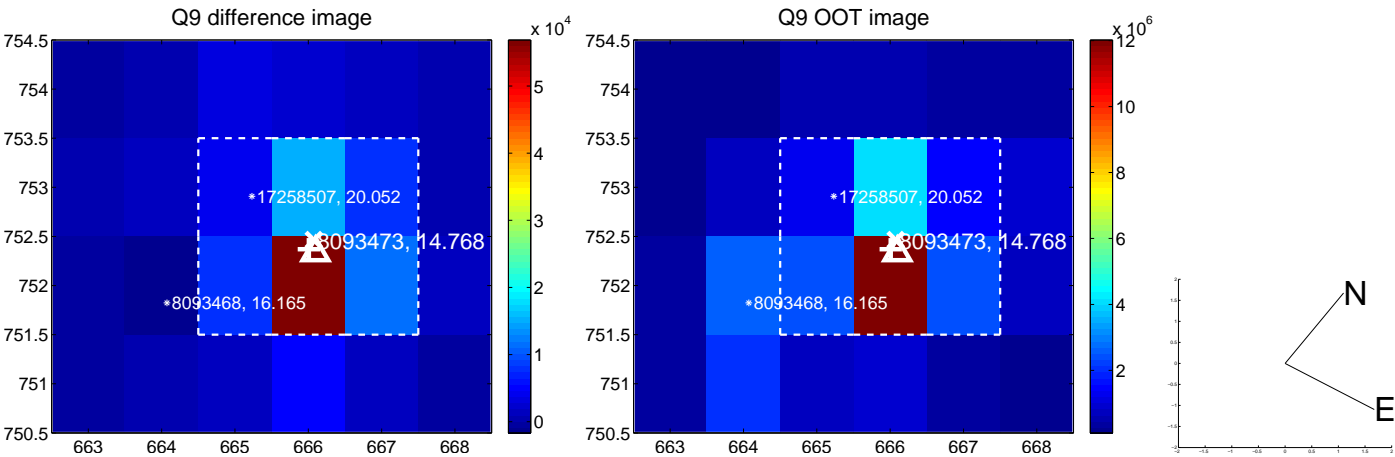
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



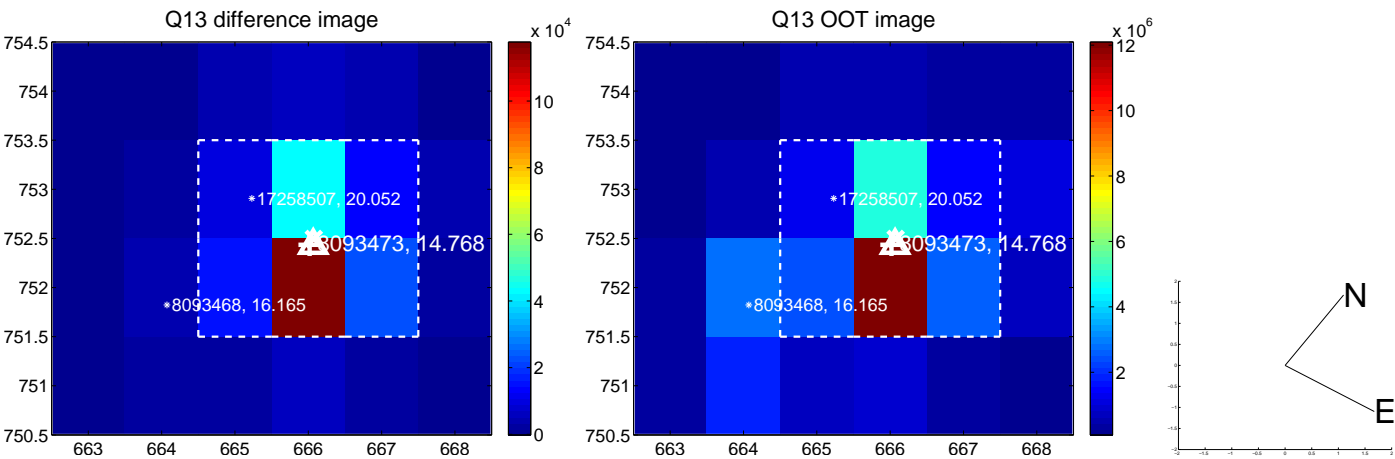
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



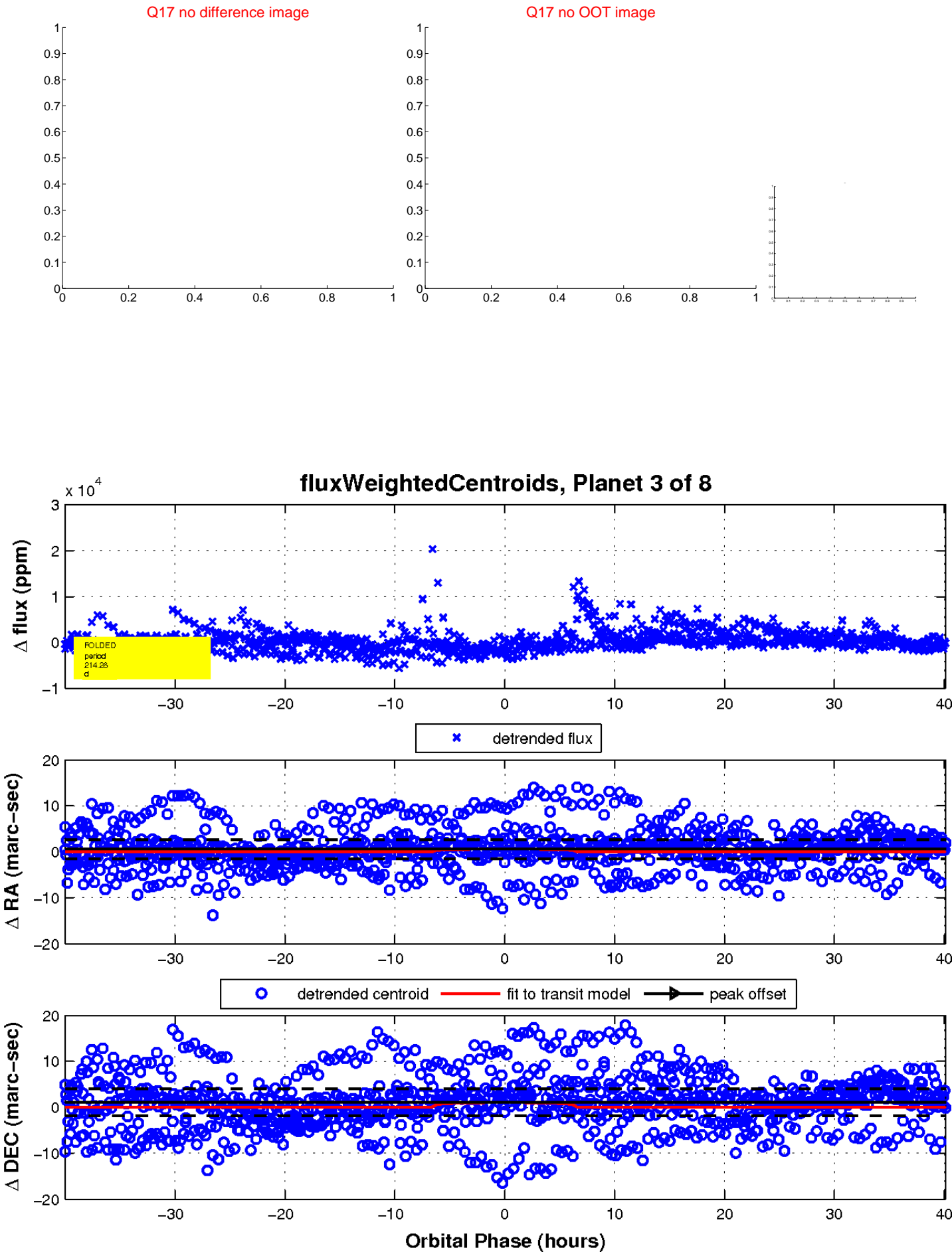
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

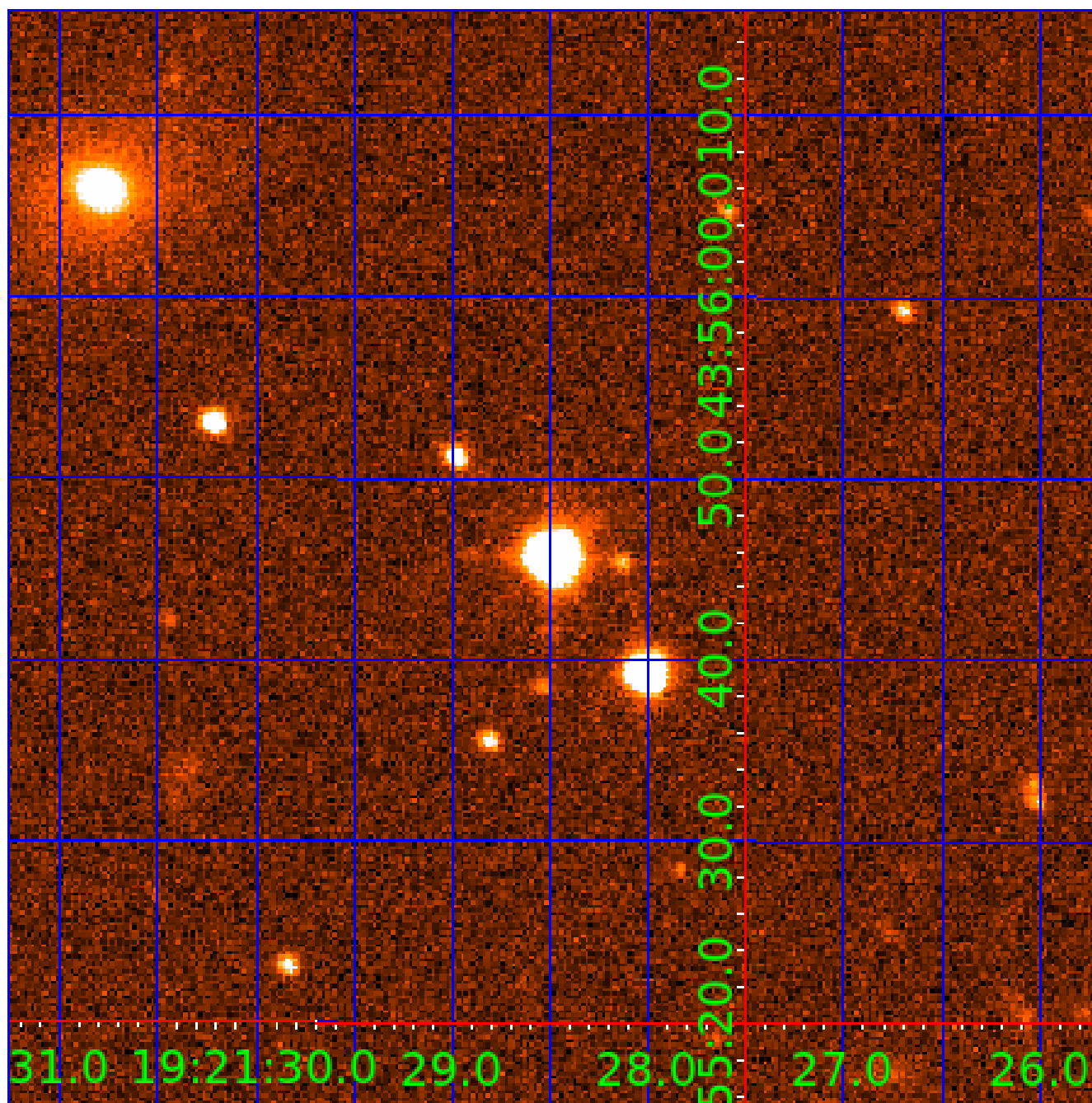


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008093473

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})
008093473-01	OBS	No	178.562825	294.200732	2681.6	8.399	13.1	10.8	0.29	3360	1.76	0.06
008093473-02	OBS	No	326.901260	173.887993	3022.6	12.061	13.6	7.5	0.29	3360	1.56	0.03
008093473-03	OBS	No	214.280181	192.083764	1940.8	13.376	12.9	6.8	0.29	3360	1.25	0.04
008093473-05	OBS	No	523.692877	156.070778	2764.6	6.545	13.2	7.8	0.29	3360	1.50	0.01
008093473-06	OBS	No	276.431591	185.904897	2032.0	10.945	12.9	6.2	0.29	3360	1.27	0.03
008093473-07	OBS	No	308.313173	326.194573	1362.4	3.000	12.7	-1.0	0.29	3360	1.05	0.03
008093473-08	OBS	No	188.685218	163.698501	1217.3	2.500	11.3	-1.0	0.29	3360	0.99	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008093473-01	OBS	FP	0.00	1	0	1	0	LPP_DV—INCONSISTENT_TRANS—HALO_GHOST
008093473-02	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_FEW_DIFFS—HALO_GHOST
008093473-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_TER_ALT
008093473-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
008093473-06	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
008093473-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
008093473-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

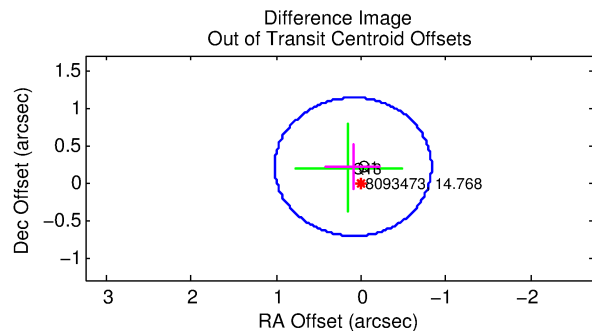
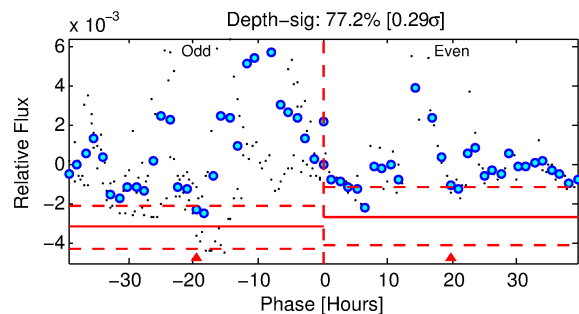
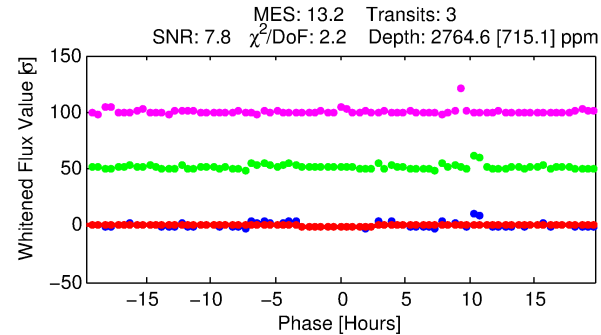
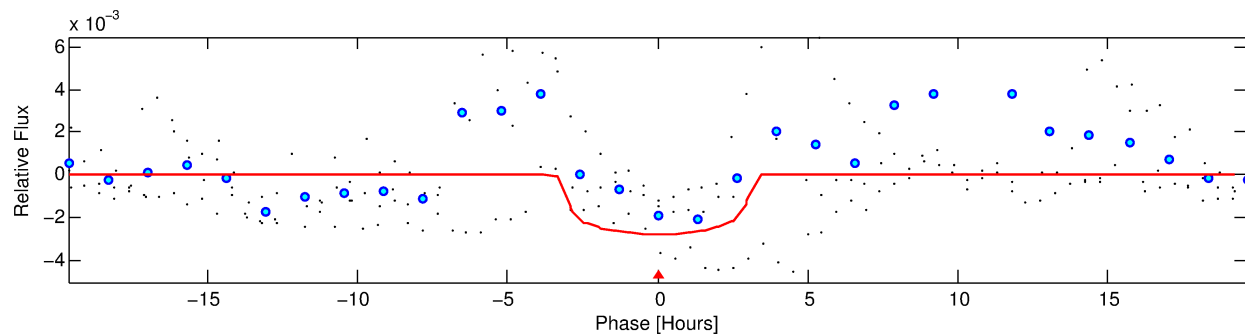
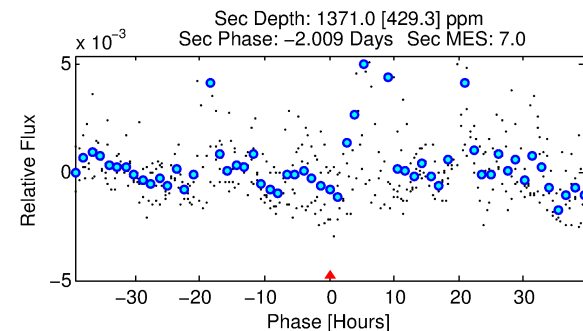
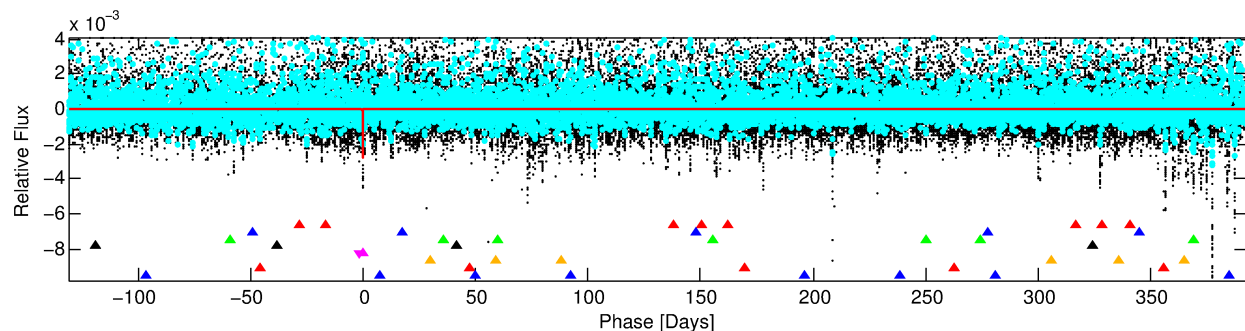
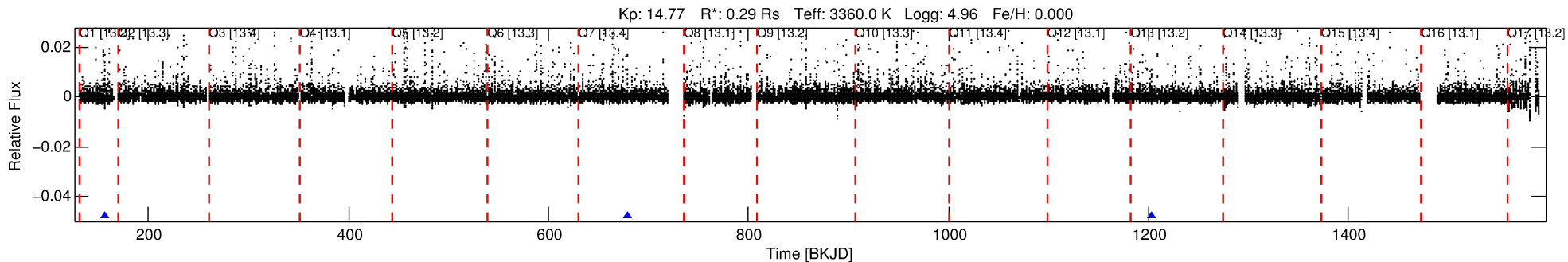
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008093473-05

No Significant Match Found

DV One-Page Summary

KIC: 8093473 Candidate: 5 of 8 Period: 523.693 d



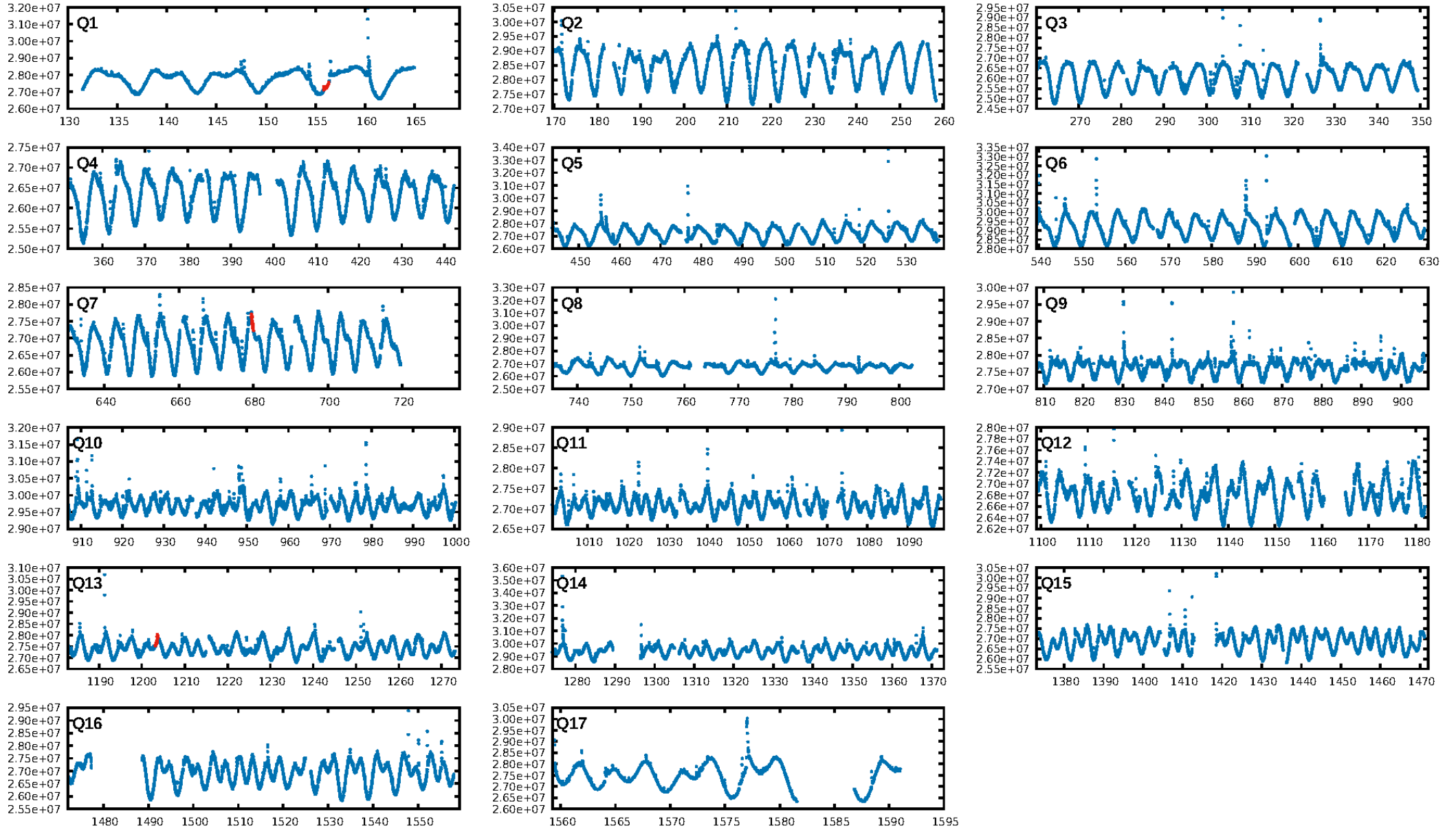
DV Fit Results:

Period = 523.69288 [0.00937] d
Epoch = 156.0708 [0.0144] BKJD
Rp/R* = 0.0479 [0.0419]
a/R* = 618.68 [2247.79]
b = 0.27 [12.32]
Seff = 0.01 [0.00]
Teq = 87 [3] K
Rp = 1.50 [1.33] Re
a = 0.8267 [0.0817] AU
Ag = 228889.43 [407897.99] [0.56σ]
Teffp = 2954 [1314] K [2.18σ]

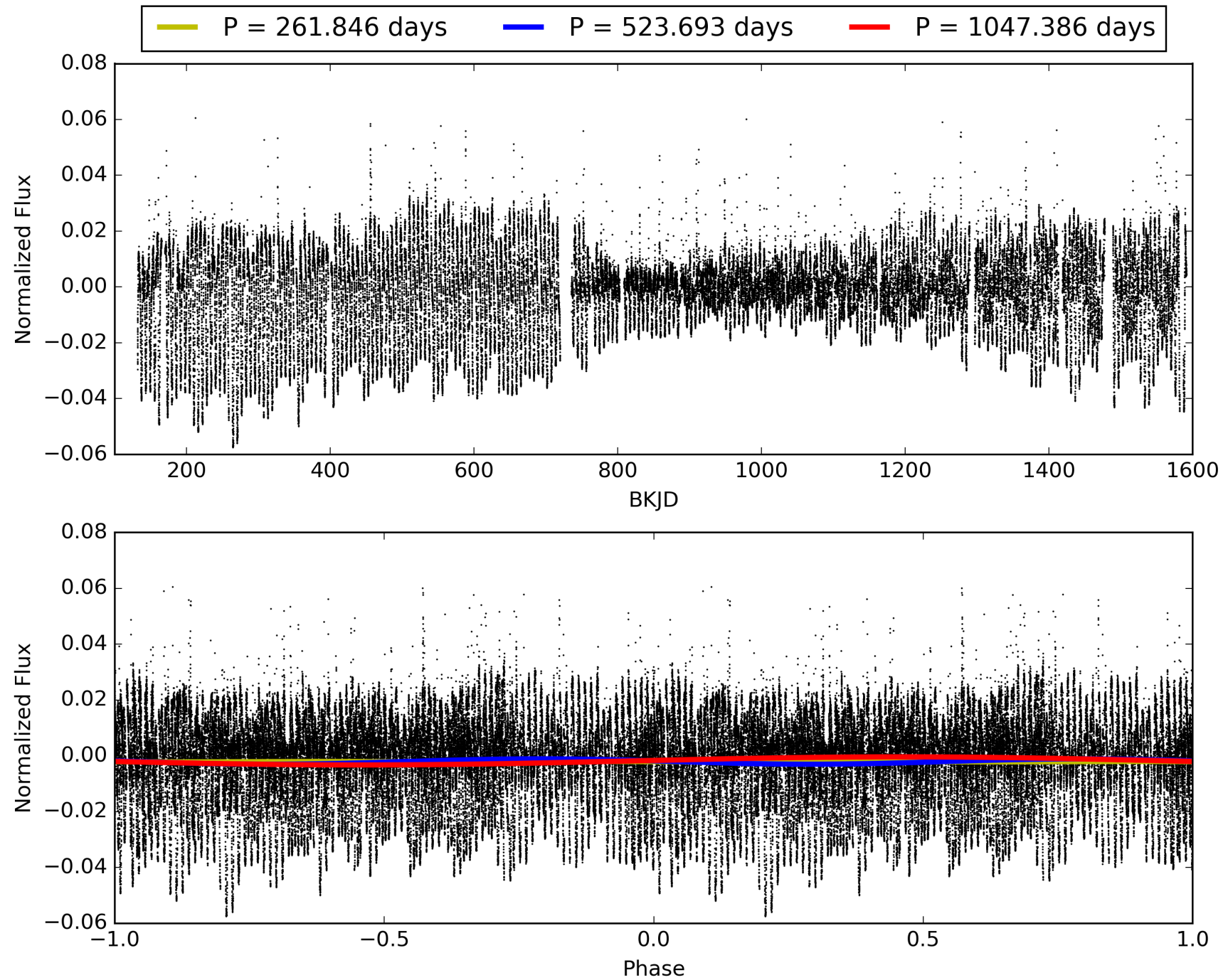
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [235.16σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 65.1%
ModelChiSquareGof-sig: 88.1%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 1.007
Centroid-sig: 84.4%
Centroid-so: 0.656 arcsec [1.25σ]
OotOffset-rm: 0.229 arcsec [0.74σ]
KicOffset-rm: 0.181 arcsec [0.59σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 008093473-05, PDC Light Curves

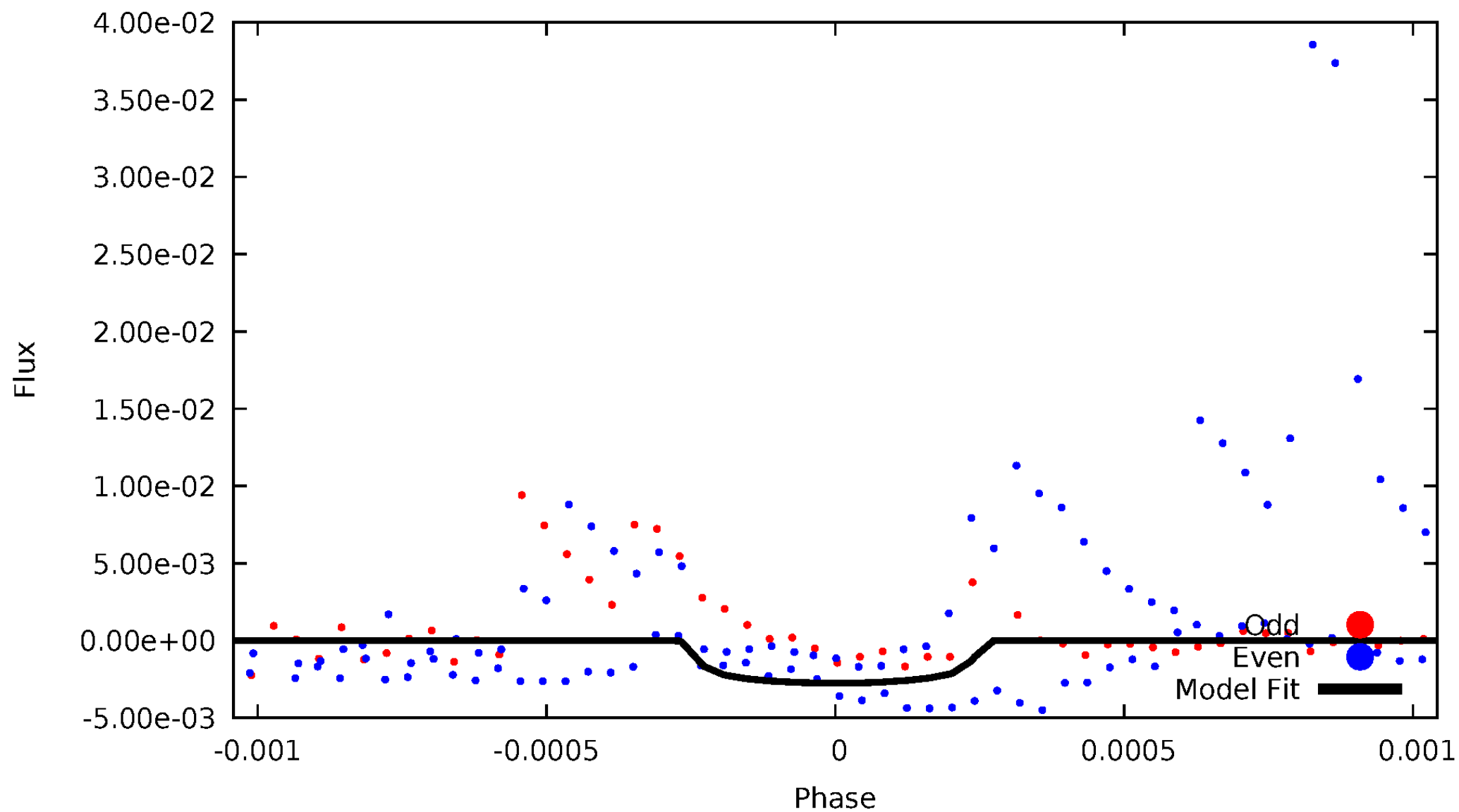


TCE 008093473-05



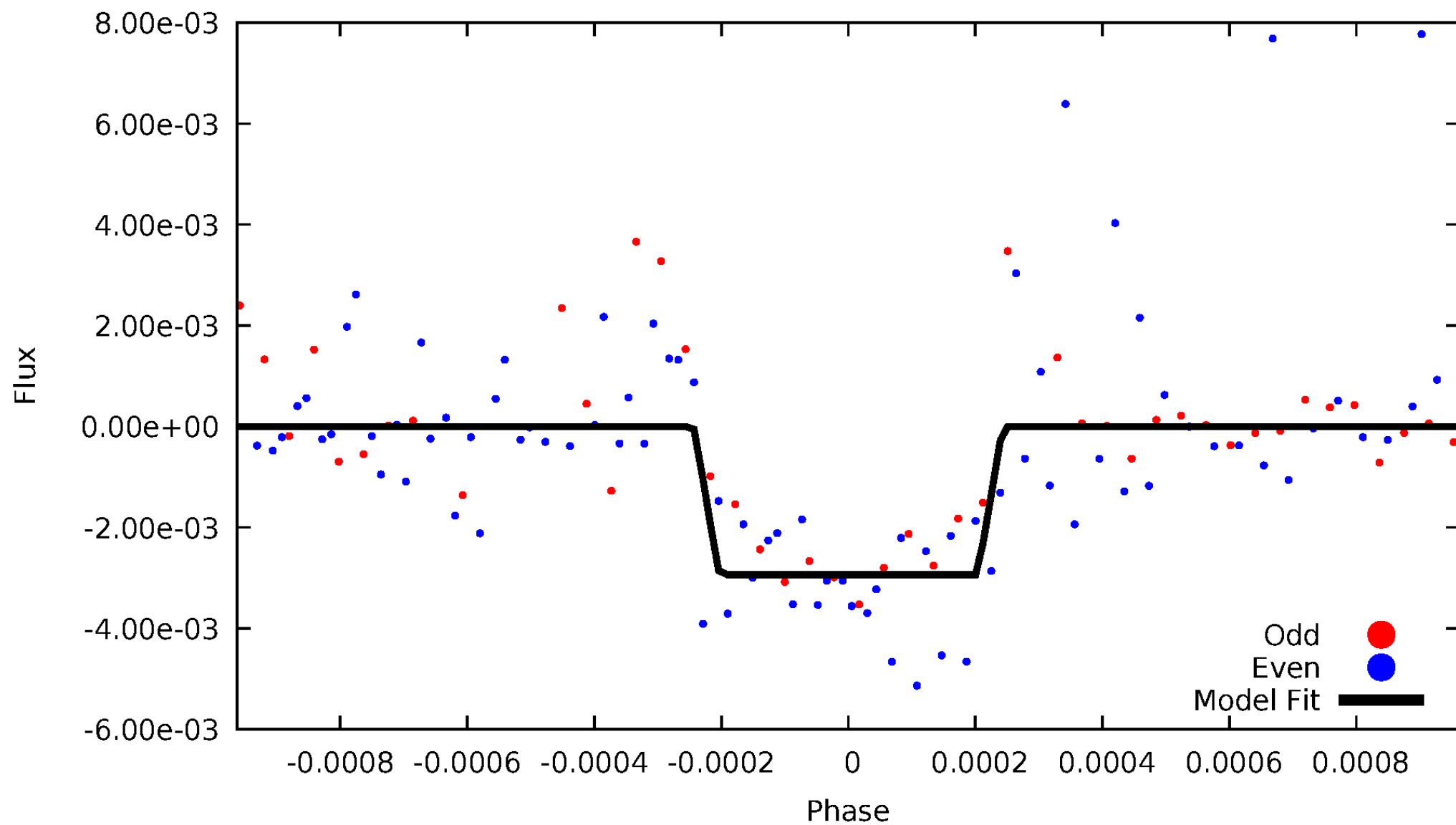
DV Odd/Even

TCE 008093473-05



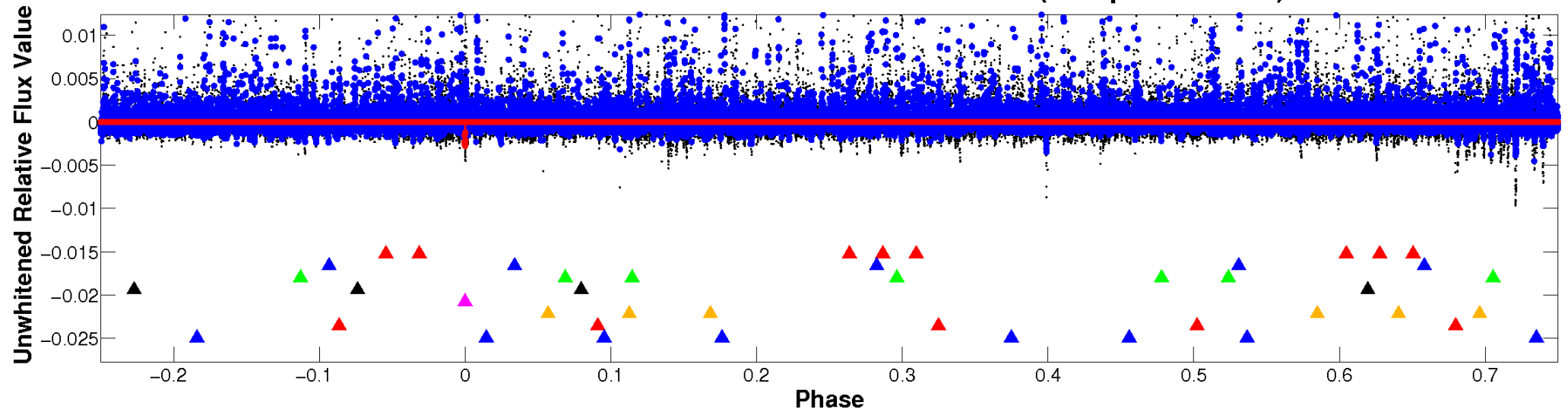
ALT Odd/Even

TCE 008093473-05

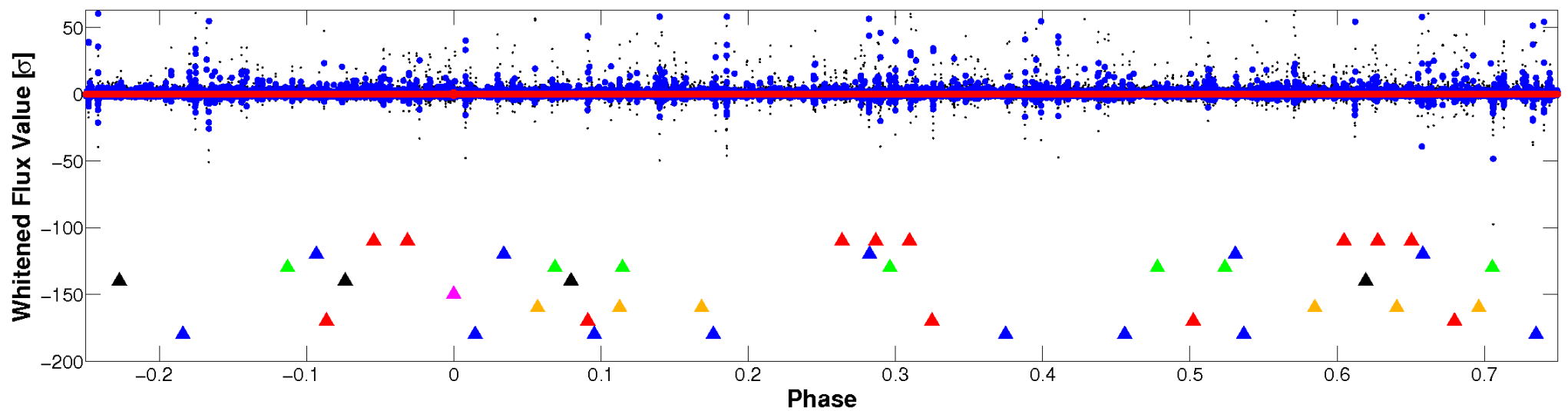


Non-Whitened Vs. Whitened Light Curve

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

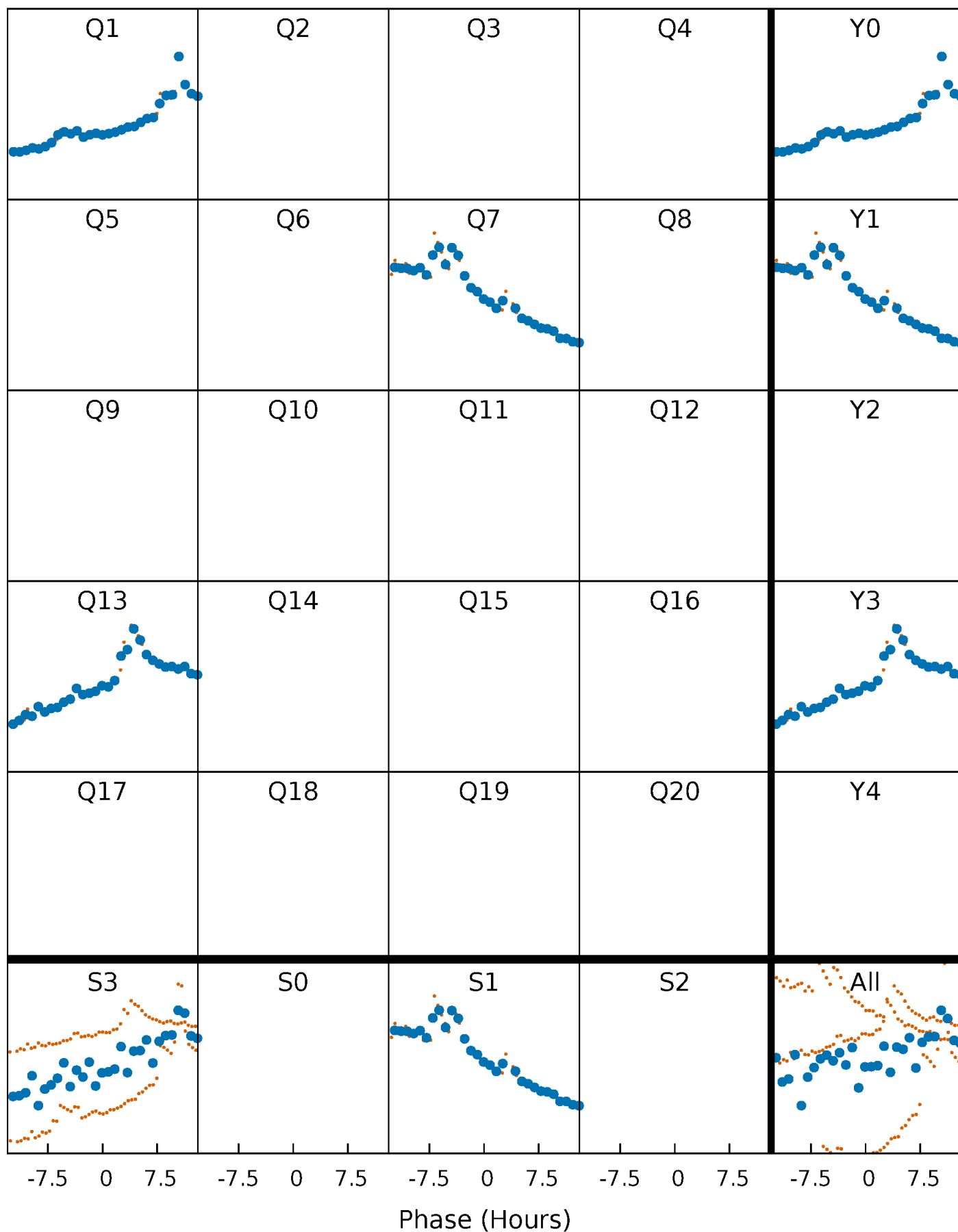


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



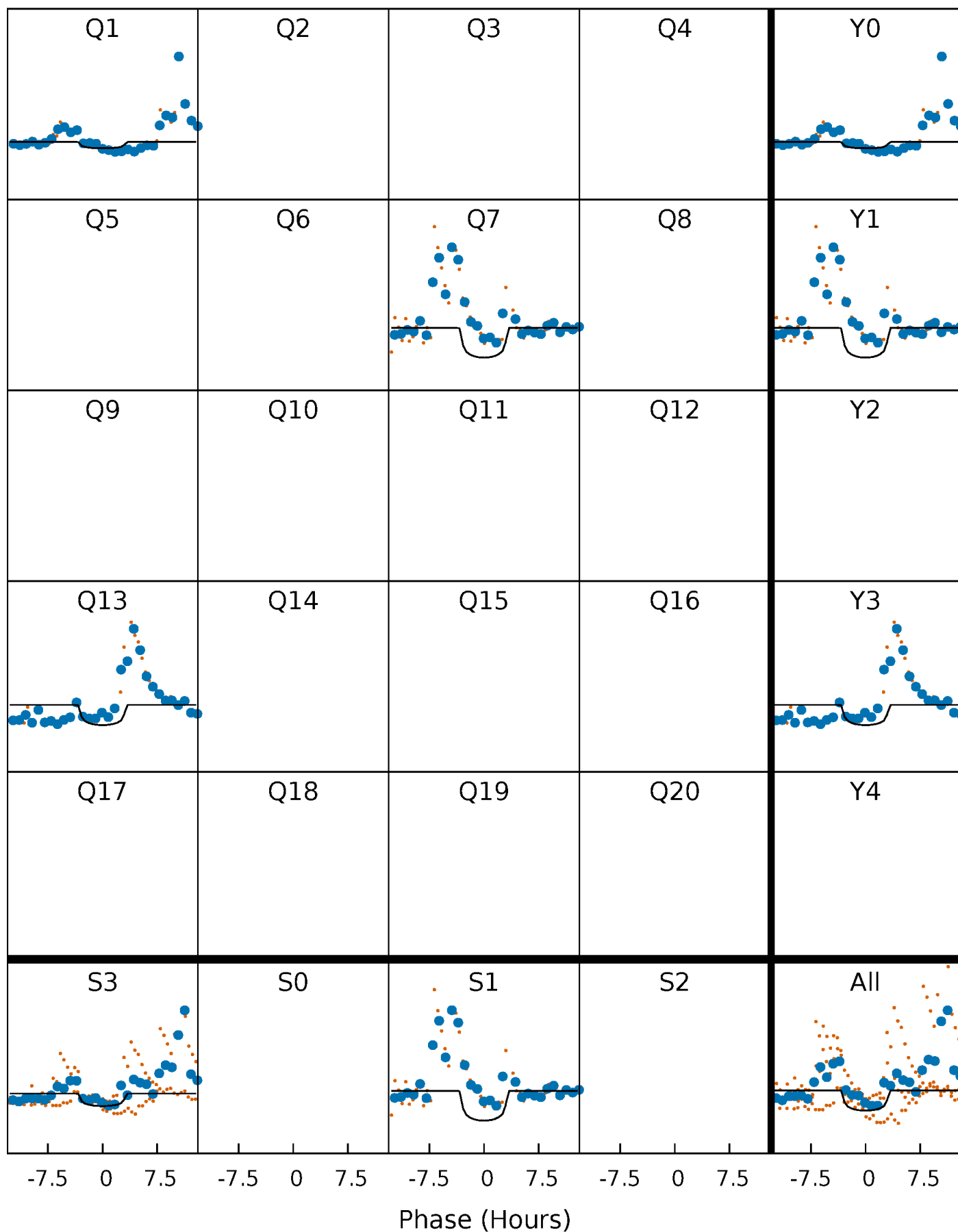
PDC Quarter-Phased Transit Curves

TCE 008093473-05 $P=523.692878$ Days $T_0=156.070778$ (BKJD)



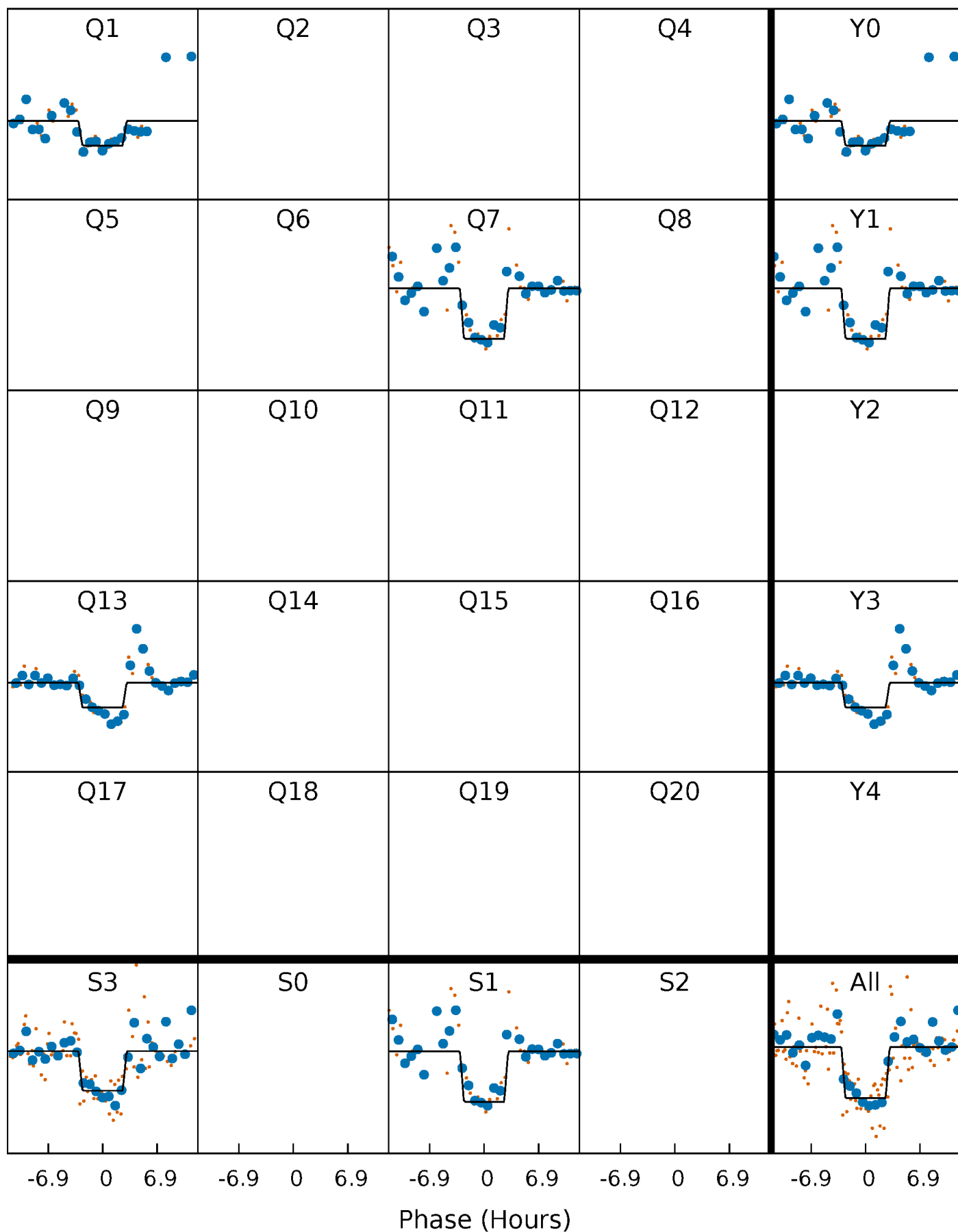
DV Quarter-Phased Transit Curves

TCE 008093473-05 $P=523.692878$ Days $T_0=156.070778$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

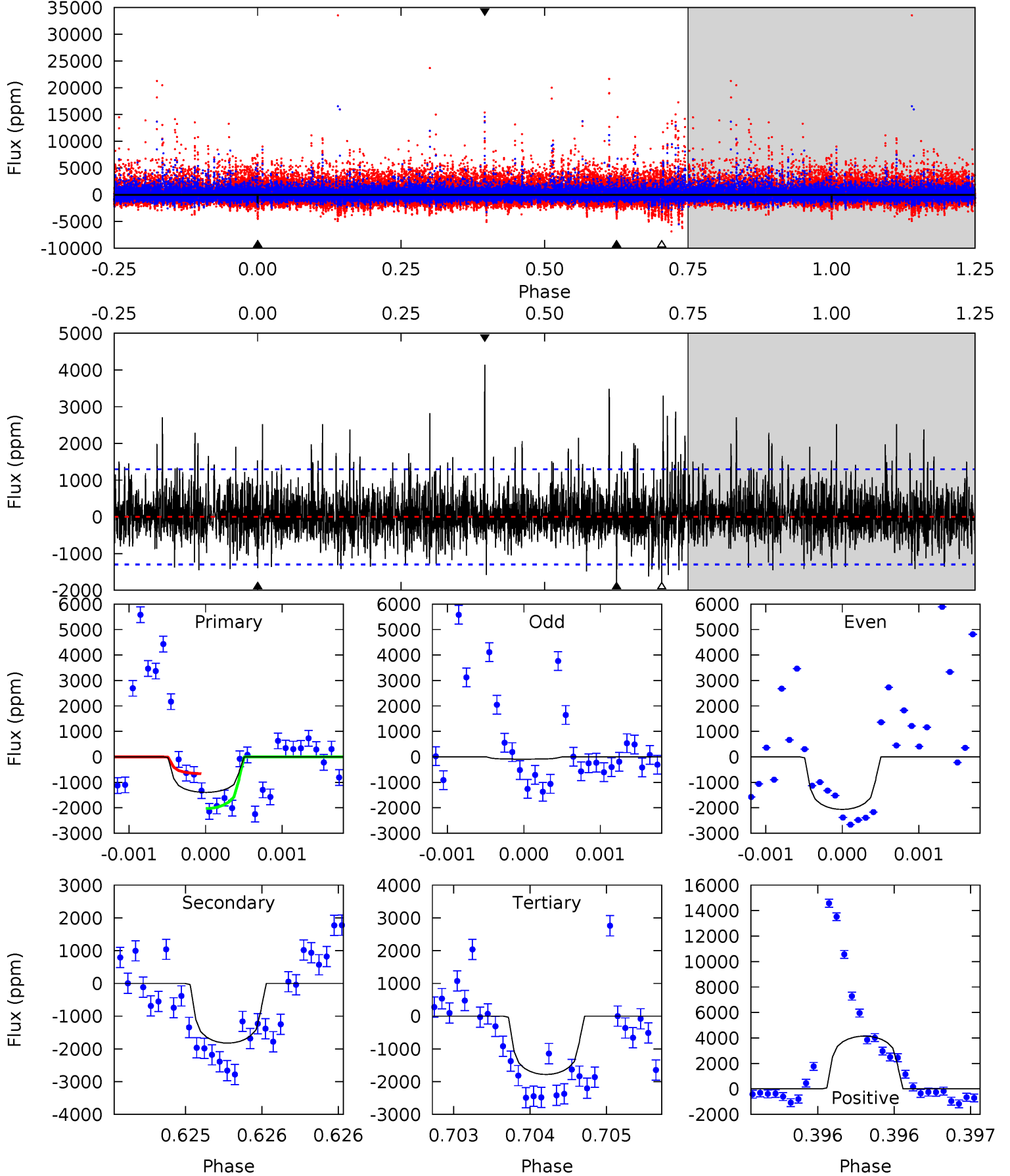
TCE 008093473-05 $P=523.684898$ Days $T_0=156.071775$ (BKJD)



DV Model-Shift Uniqueness Test

008093473-05, P = 523.692878 Days, E = 156.070778 Days

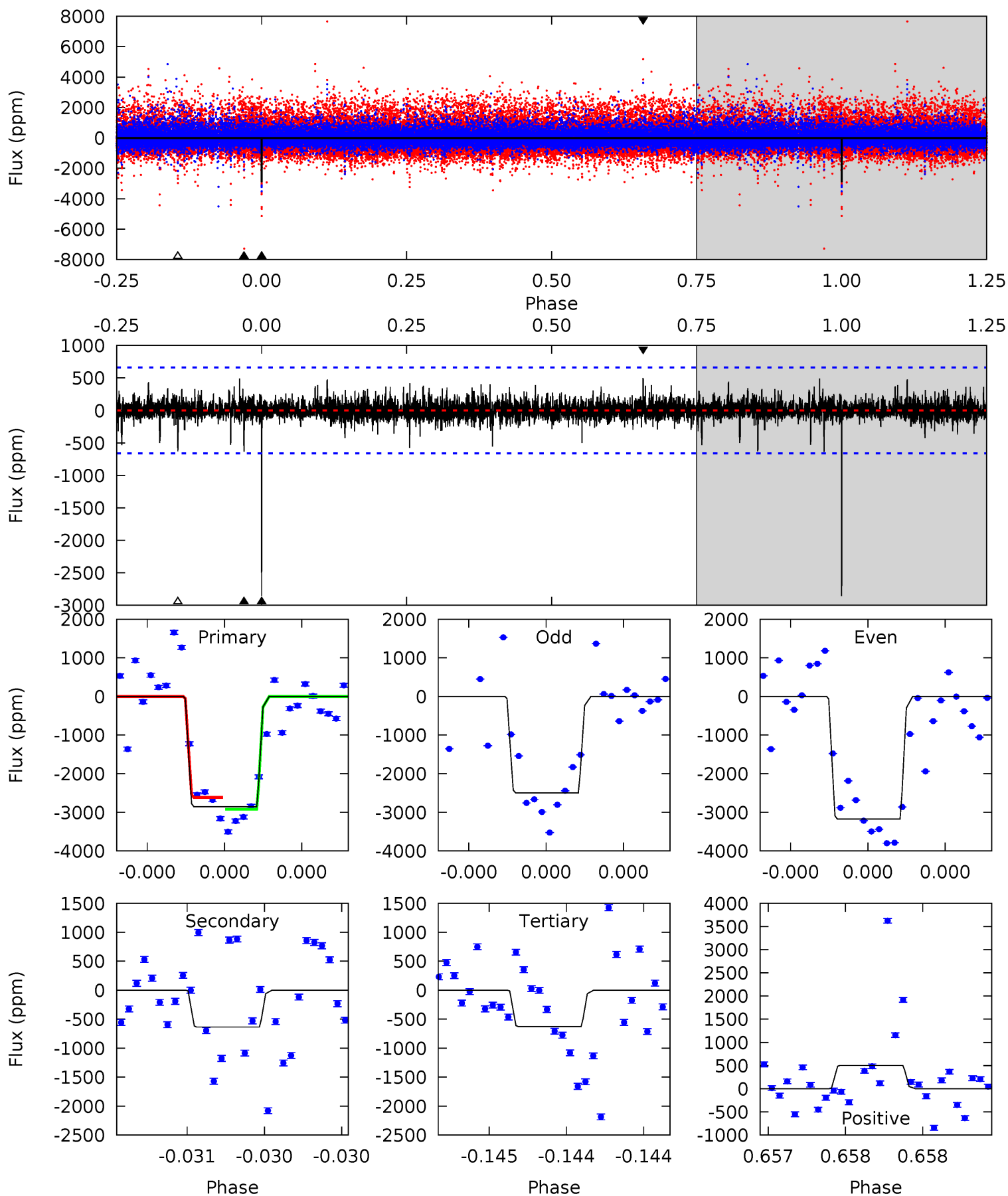
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.98	7.82	7.64	17.8	5.56	3.46	2.20	-1.66	-11.8	0.18	-9.95	2.24	1.49	0.69	2.95



Alt Model-Shift Uniqueness Test

008093473-05, P = 523.684898 Days, E = 156.071775 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.1	5.36	5.30	4.23	5.58	3.49	0.82	18.8	19.9	0.06	1.13	2.38	1.06	0.15	1.27



Stellar Parameters For KIC 008093473

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3360^{+43}_{-40}	$4.961^{+0.044}_{-0.044}$	$0.000^{+0.100}_{-0.100}$	$0.287^{+0.040}_{-0.033}$	$0.274^{+0.052}_{-0.034}$	$16.380^{+4.222}_{-3.354}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+14%/-11%	+19%/-12%	+26%/-20%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 008093473-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1824 ± 233	$1.80^{+1.25}_{-1.08}$	122^{+3}_{-3}	3083^{+1078}_{-419}	$212524^{+1151375}_{-138400}$
Alt.	-636 ± 119	$1.94^{+1.26}_{-1.05}$	122^{+3}_{-3}	2640^{+588}_{-327}	$66790^{+219788}_{-44017}$

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 $A_{obs} \gg 1.0$

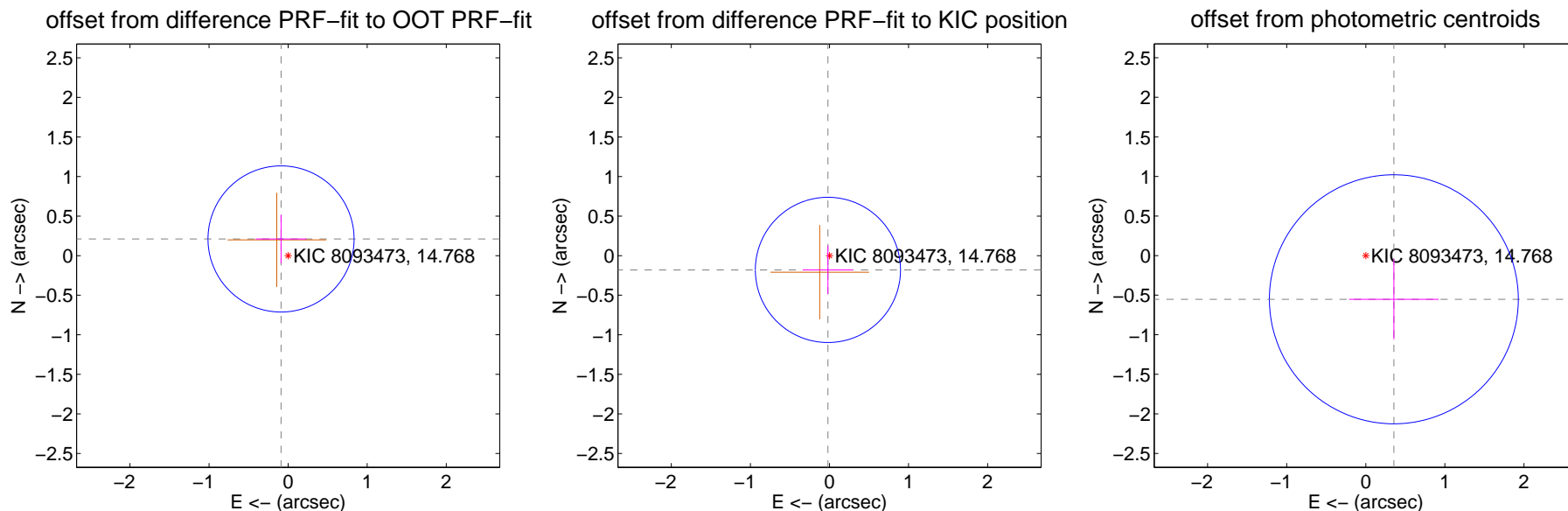
DV Centroid Data

Supplemental centroid analysis for 008093473-05. Kepler magnitude: 14.77. Transit SNR 7.77

There are 1 quarters with good PRF difference image offsets

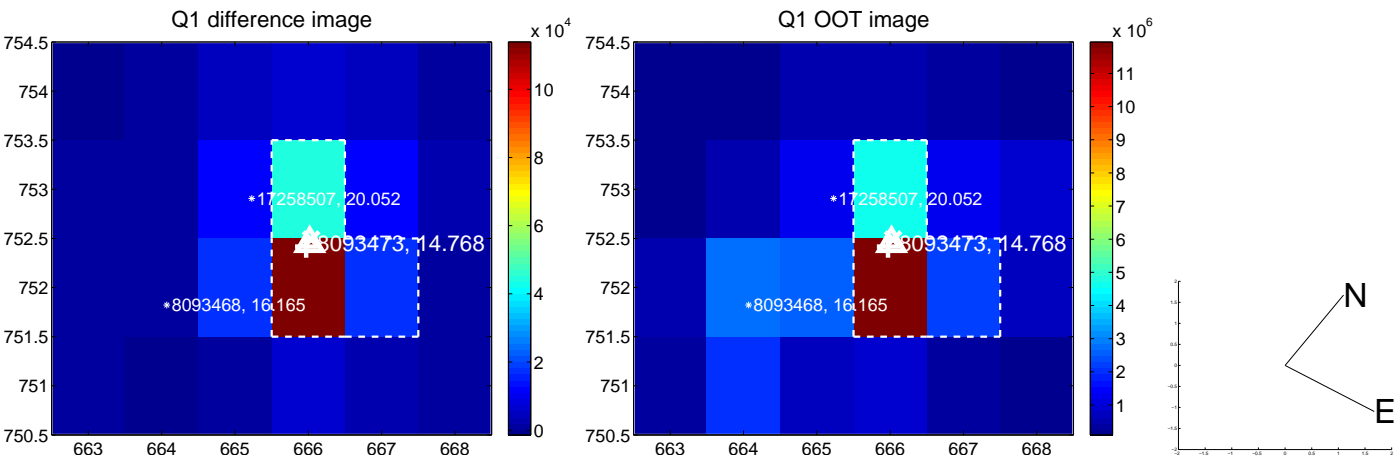
The direct PRF centroid is offset from the target star catalog position by about 0.41 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.229 ± 0.308	0.74	0.090 ± 0.319	0.211 ± 0.306
PRF-fit source offset from KIC position	0.181 ± 0.306	0.59	0.020 ± 0.319	-0.180 ± 0.306
photometric centroid source offset	0.66 ± 0.52	1.25	-0.35 ± 0.57	-0.55 ± 0.51



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.

Q5 no difference image



Q5 no OOT image



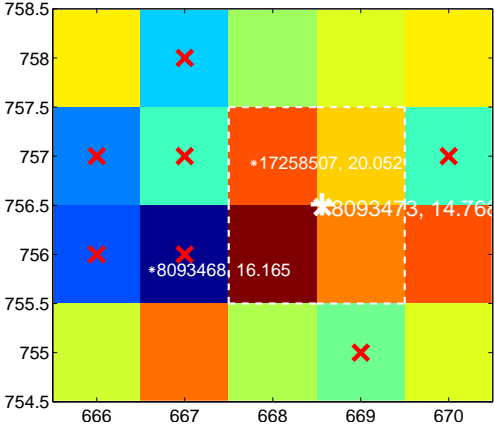
Q6 no difference image



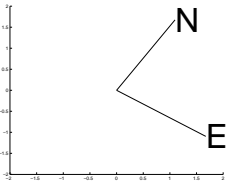
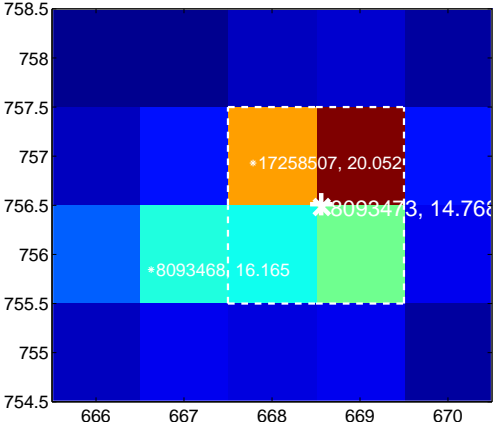
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



Q8 no difference image



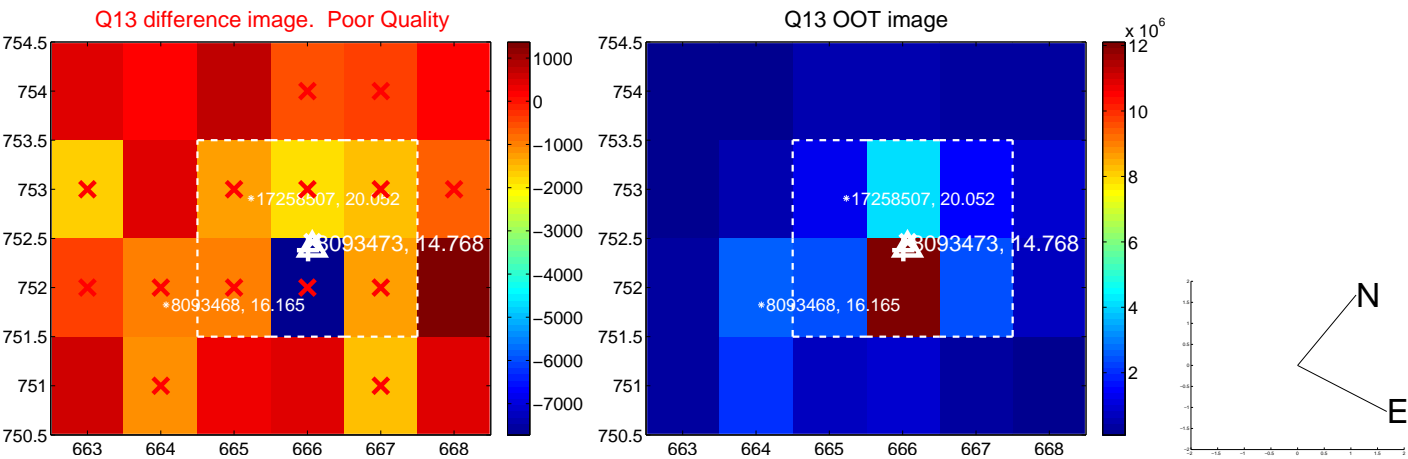
Q8 no OOT image



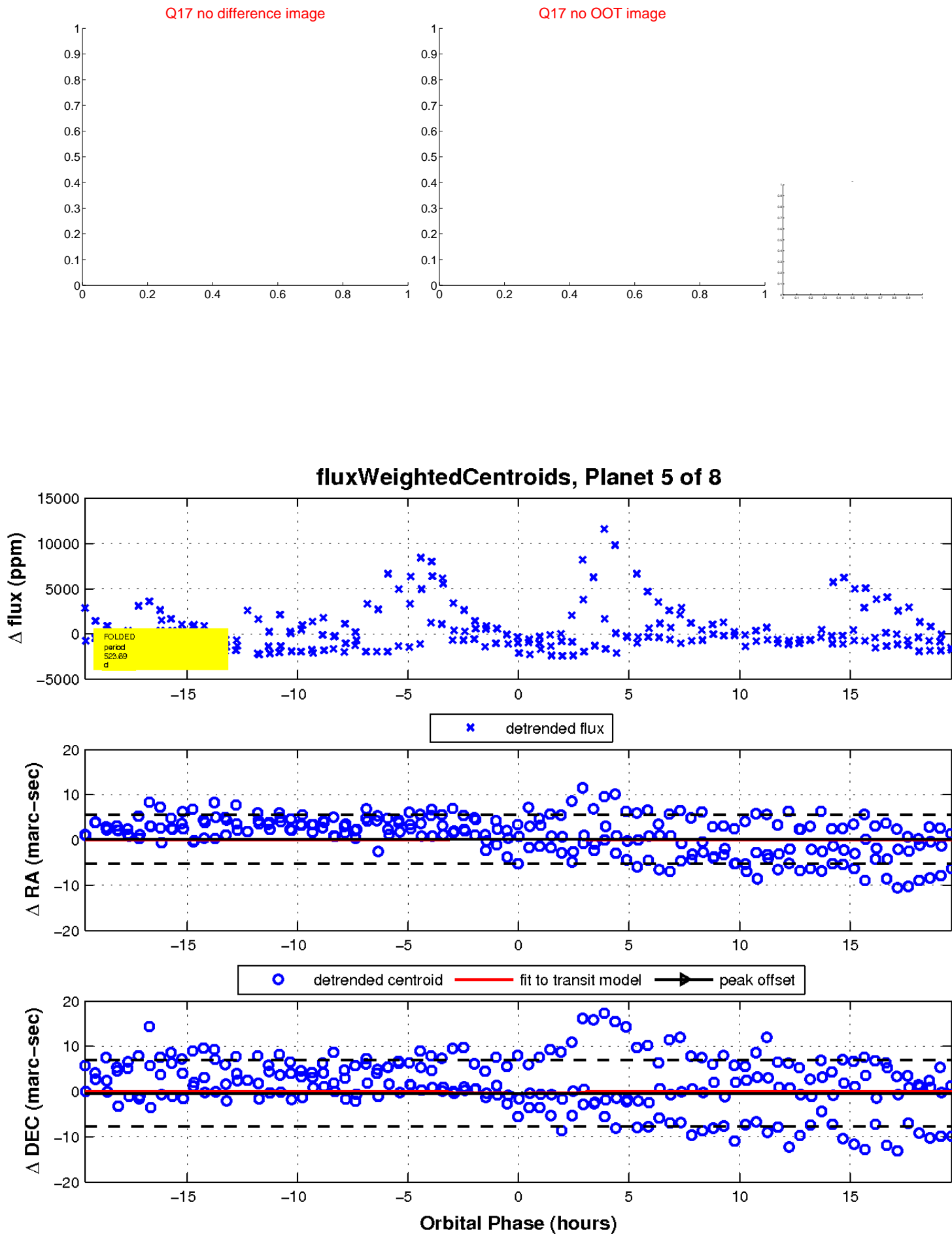
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

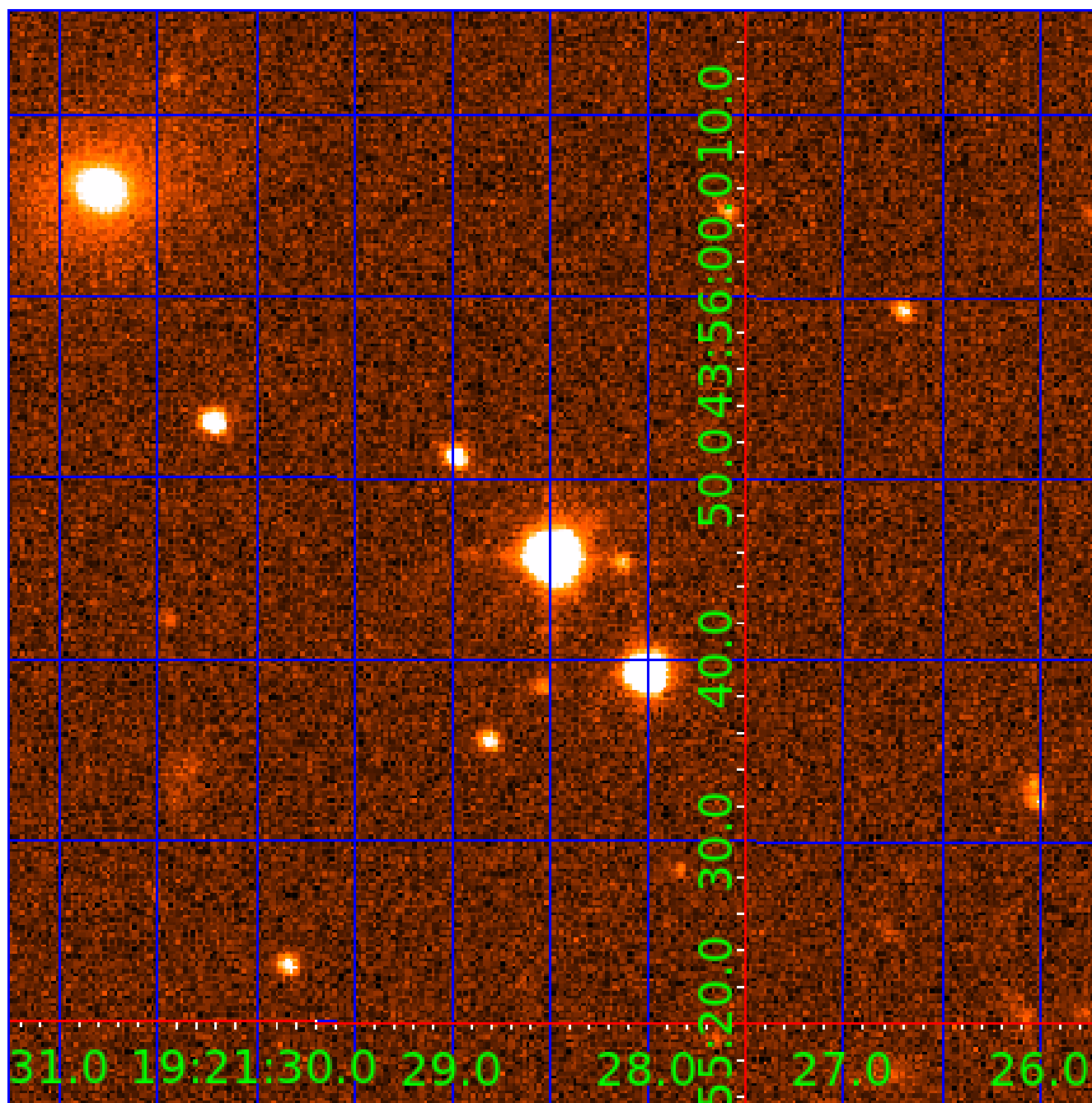


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008093473

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})
008093473-01	OBS	No	178.562825	294.200732	2681.6	8.399	13.1	10.8	0.29	3360	1.76	0.06
008093473-02	OBS	No	326.901260	173.887993	3022.6	12.061	13.6	7.5	0.29	3360	1.56	0.03
008093473-03	OBS	No	214.280181	192.083764	1940.8	13.376	12.9	6.8	0.29	3360	1.25	0.04
008093473-05	OBS	No	523.692877	156.070778	2764.6	6.545	13.2	7.8	0.29	3360	1.50	0.01
008093473-06	OBS	No	276.431591	185.904897	2032.0	10.945	12.9	6.2	0.29	3360	1.27	0.03
008093473-07	OBS	No	308.313173	326.194573	1362.4	3.000	12.7	-1.0	0.29	3360	1.05	0.03
008093473-08	OBS	No	188.685218	163.698501	1217.3	2.500	11.3	-1.0	0.29	3360	0.99	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008093473-01	OBS	FP	0.00	1	0	1	0	LPP_DV—INCONSISTENT_TRANS—HALO_GHOST
008093473-02	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_FEW_DIFFS—HALO_GHOST
008093473-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_TER_ALT
008093473-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
008093473-06	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
008093473-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
008093473-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

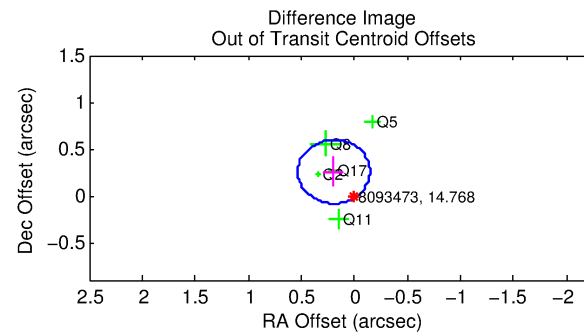
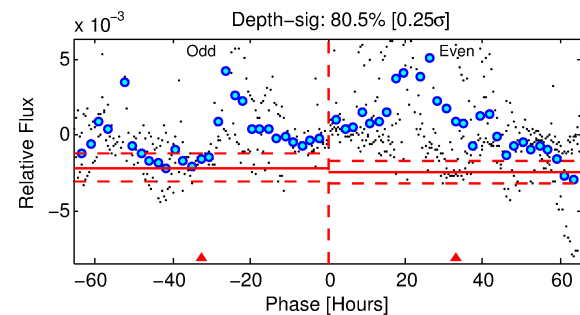
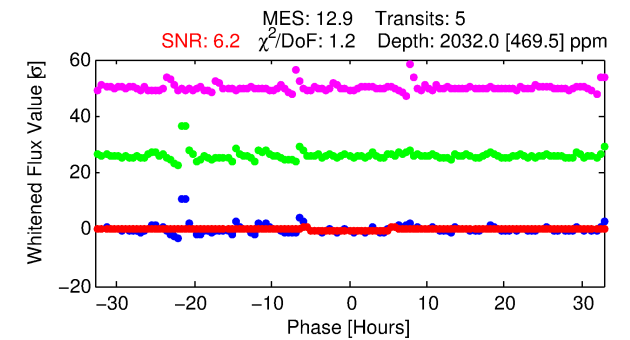
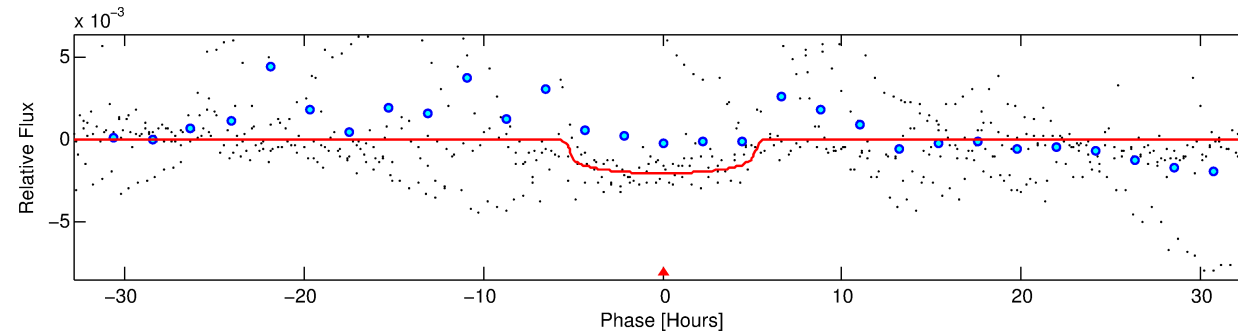
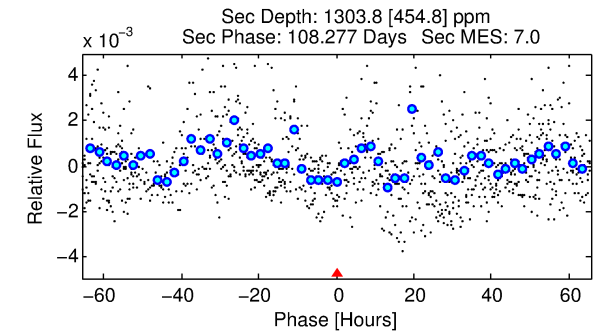
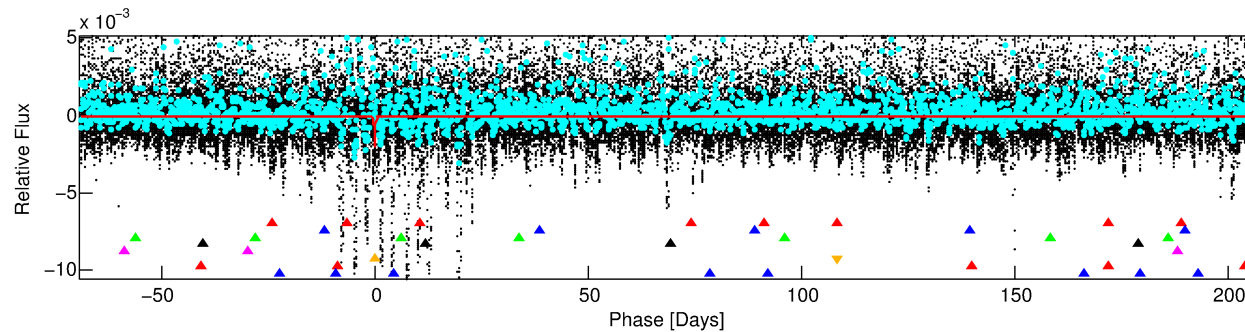
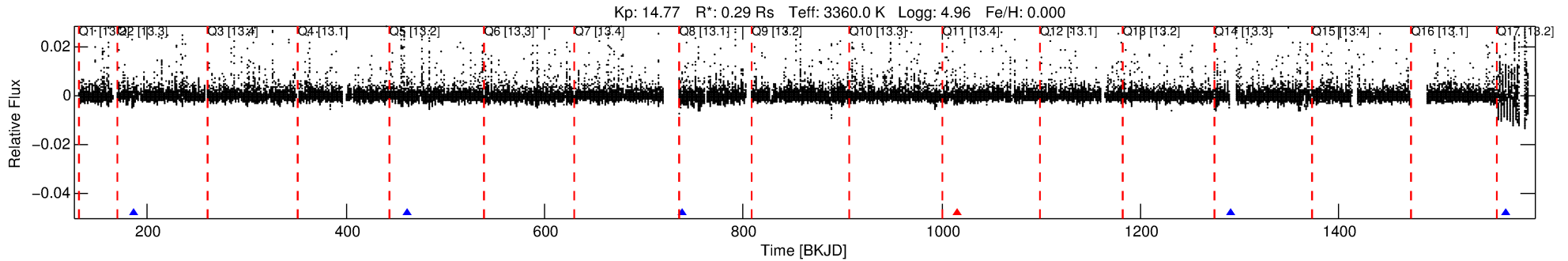
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008093473-06

No Significant Match Found

DV One-Page Summary

KIC: 8093473 Candidate: 6 of 8 Period: 276.432 d



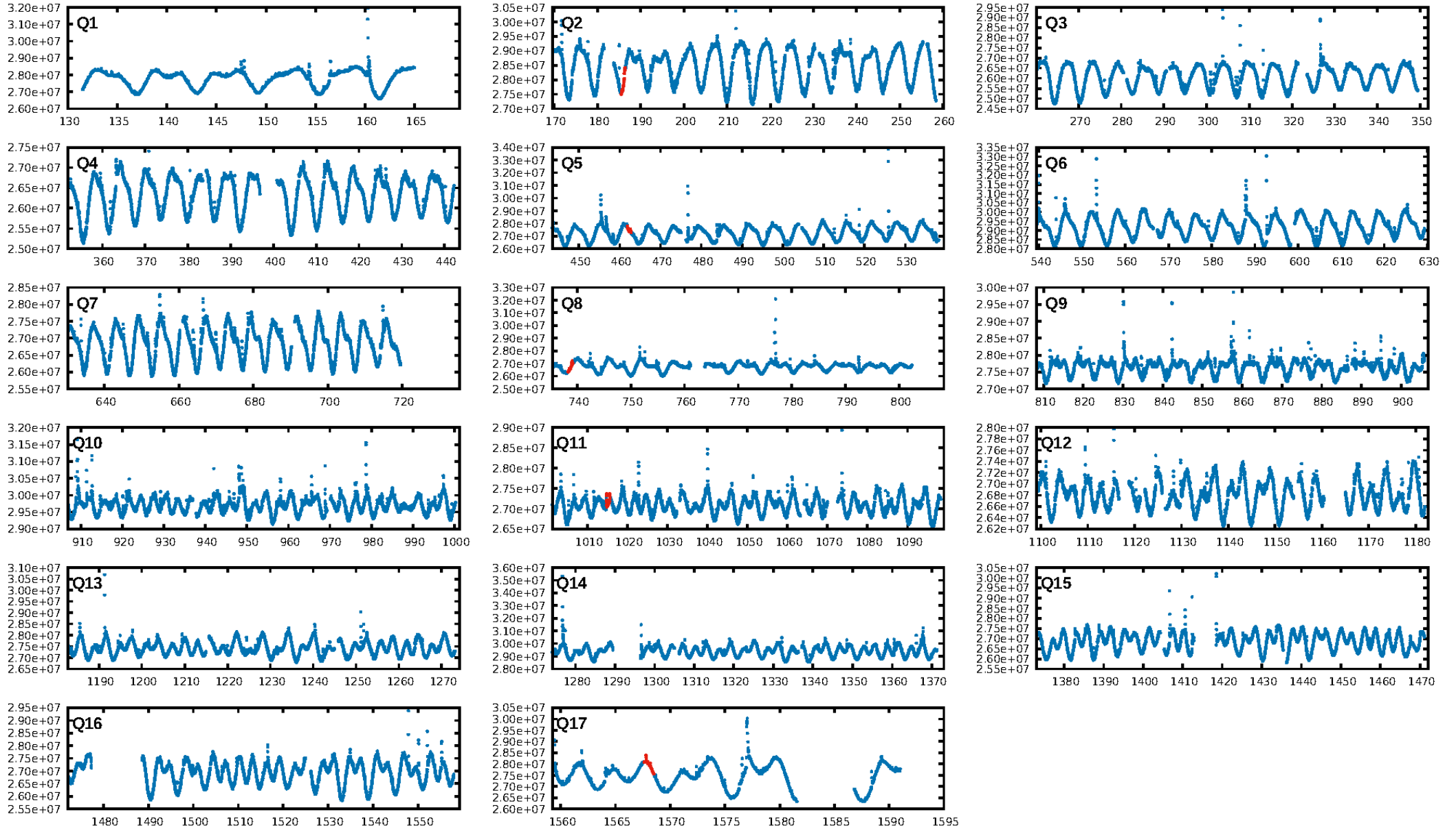
DV Fit Results:

Period = 276.43159 [0.00335] d
Epoch = 185.9049 [0.0113] BKJD
Rp/R* = 0.0407 [0.0182]
a/R* = 200.71 [349.89]
b = 0.03 [55.50]
Seff = 0.03 [0.00]
Teq = 108 [3] K
Rp = 1.28 [0.60] Re
a = 0.5399 [0.0534] AU
Ag = 128581.03 [124066.06] [1.04σ]
Teffp = 3164 [759] K [4.03σ]

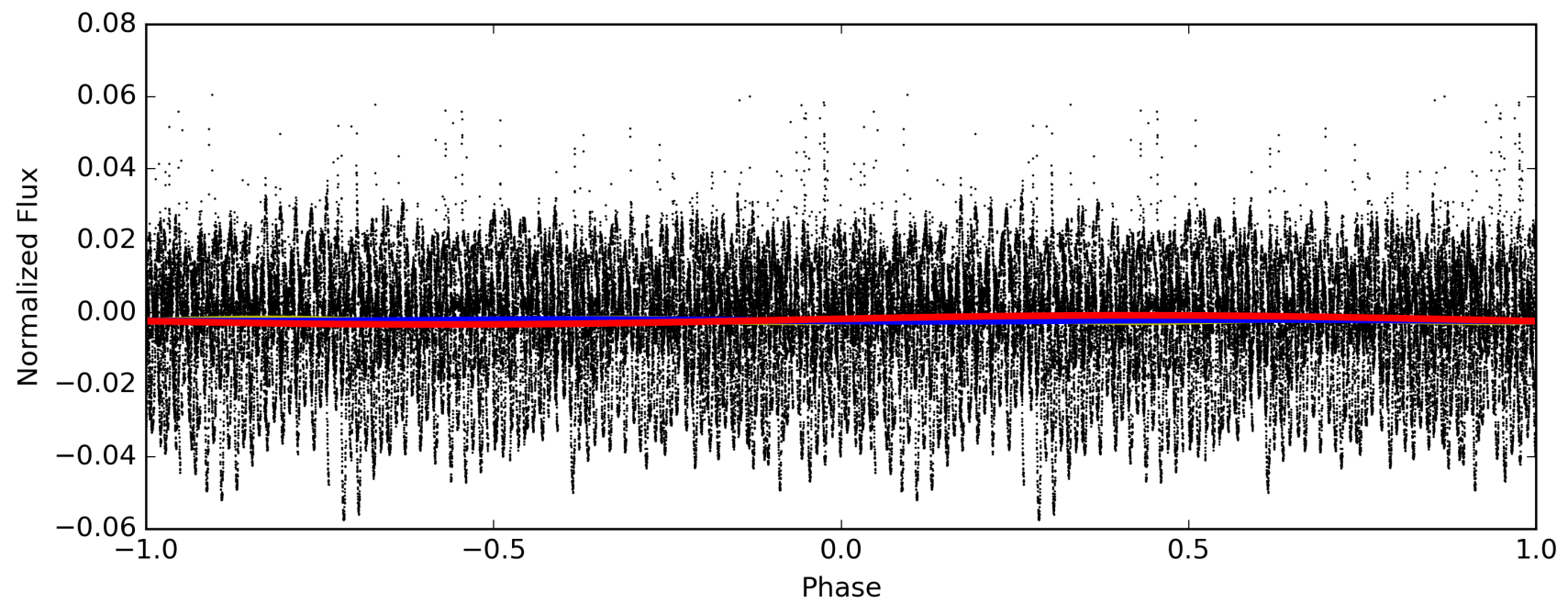
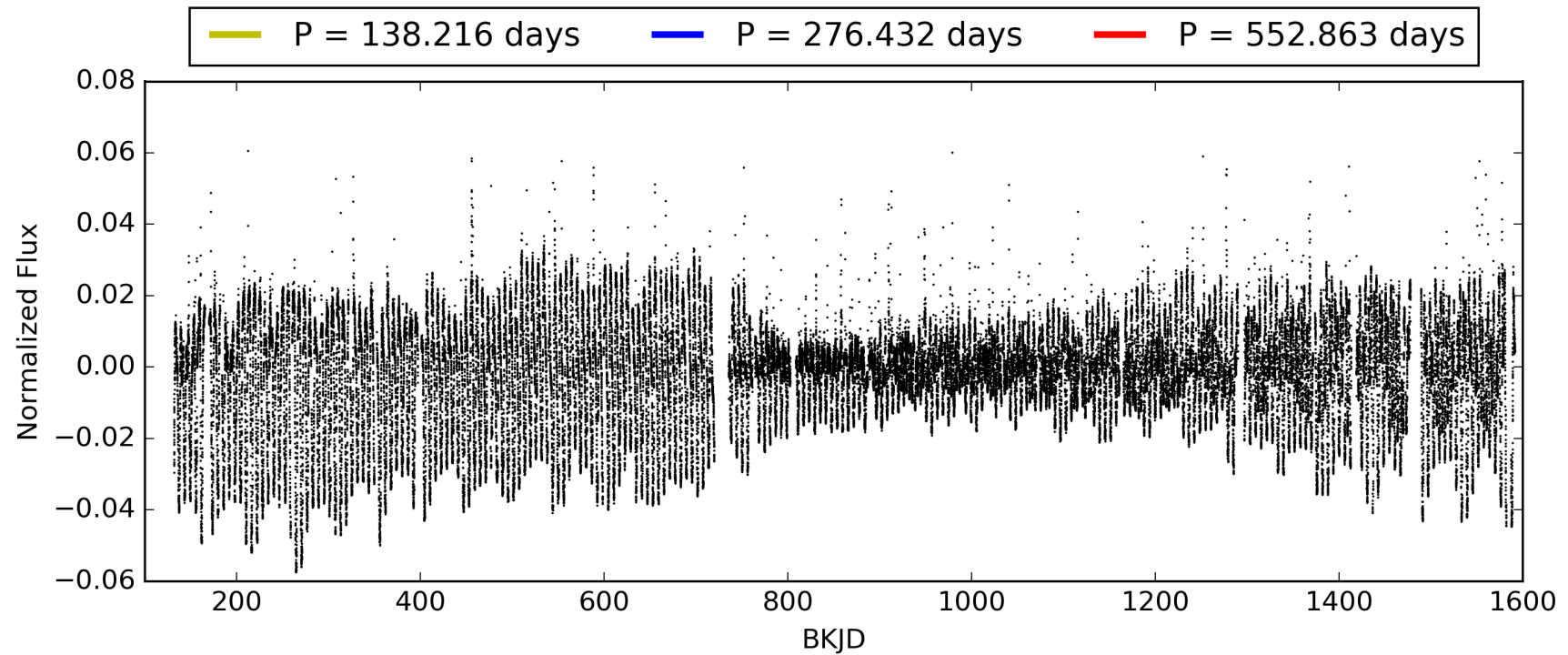
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [86.30σ]
LongPeriod-sig: 100.0% [67.42σ]
ModelChiSquare2-sig: 28.8σ
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.75 [3/4]
GhostDiagnostic-chr: 7.696
Centroid-sig: 0.2%
Centroid-so: 1.178 arcsec [2.00σ]
OotOffset-rm: 0.320 arcsec [2.82σ]
KicOffset-rm: 0.375 arcsec [3.01σ]
OotOffset-st: 1/1/1/2 [5]
KicOffset-st: 1/1/1/2 [5]
DiffImageQuality-fgm: 0.80 [4/5]
DiffImageOverlap-fno: 1.00 [5/5]

TCE 008093473-06, PDC Light Curves

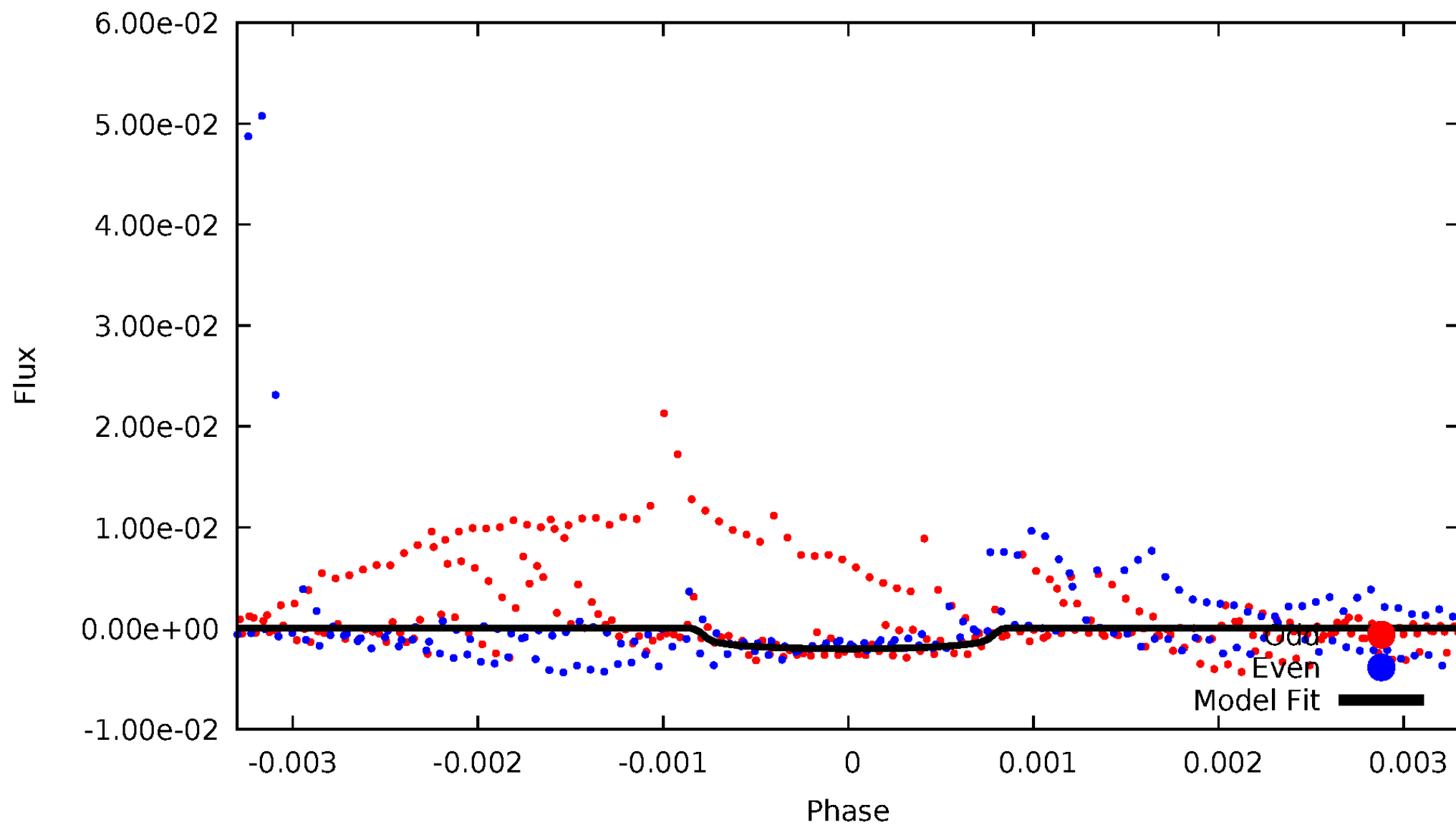


TCE 008093473-06



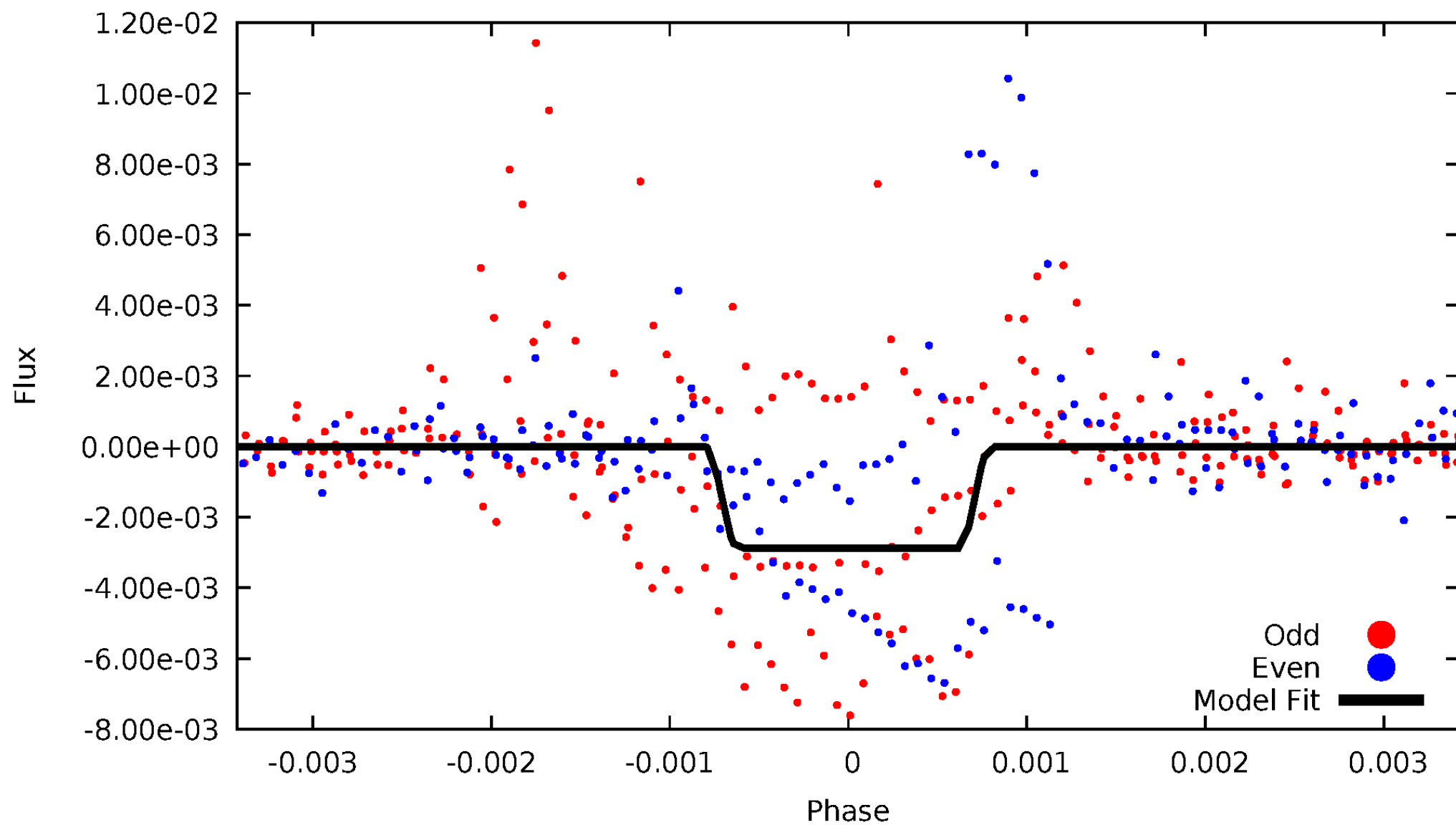
DV Odd/Even

TCE 008093473-06



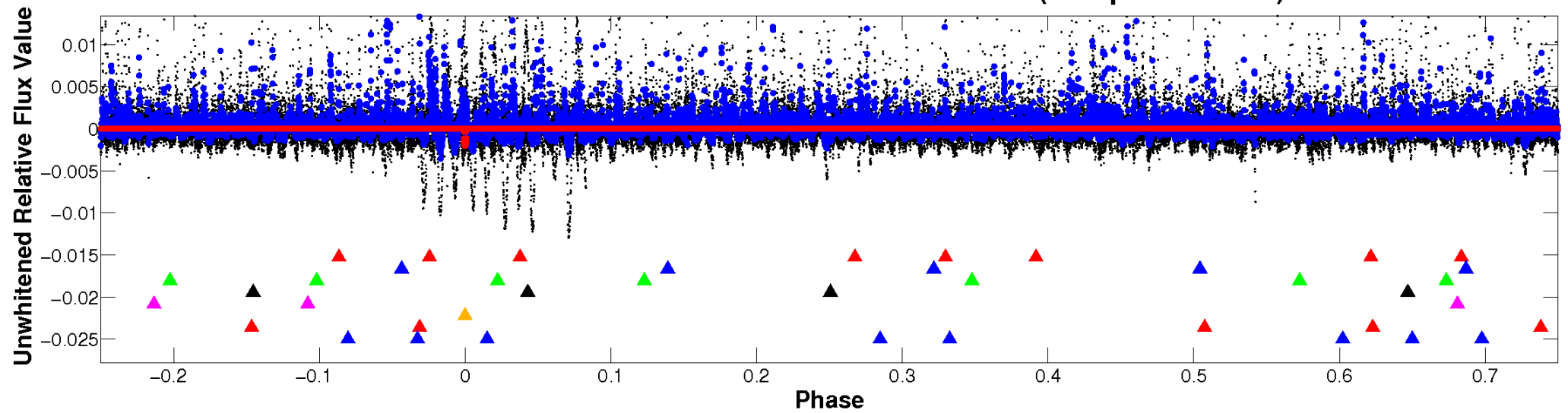
ALT Odd/Even

TCE 008093473-06

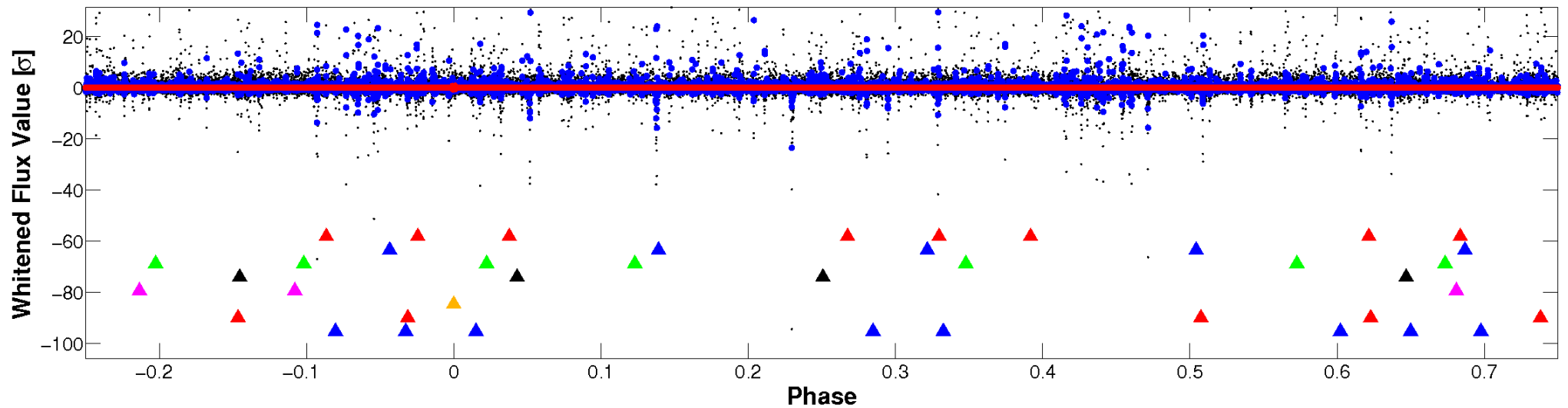


Non-Whitened Vs. Whitened Light Curve

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

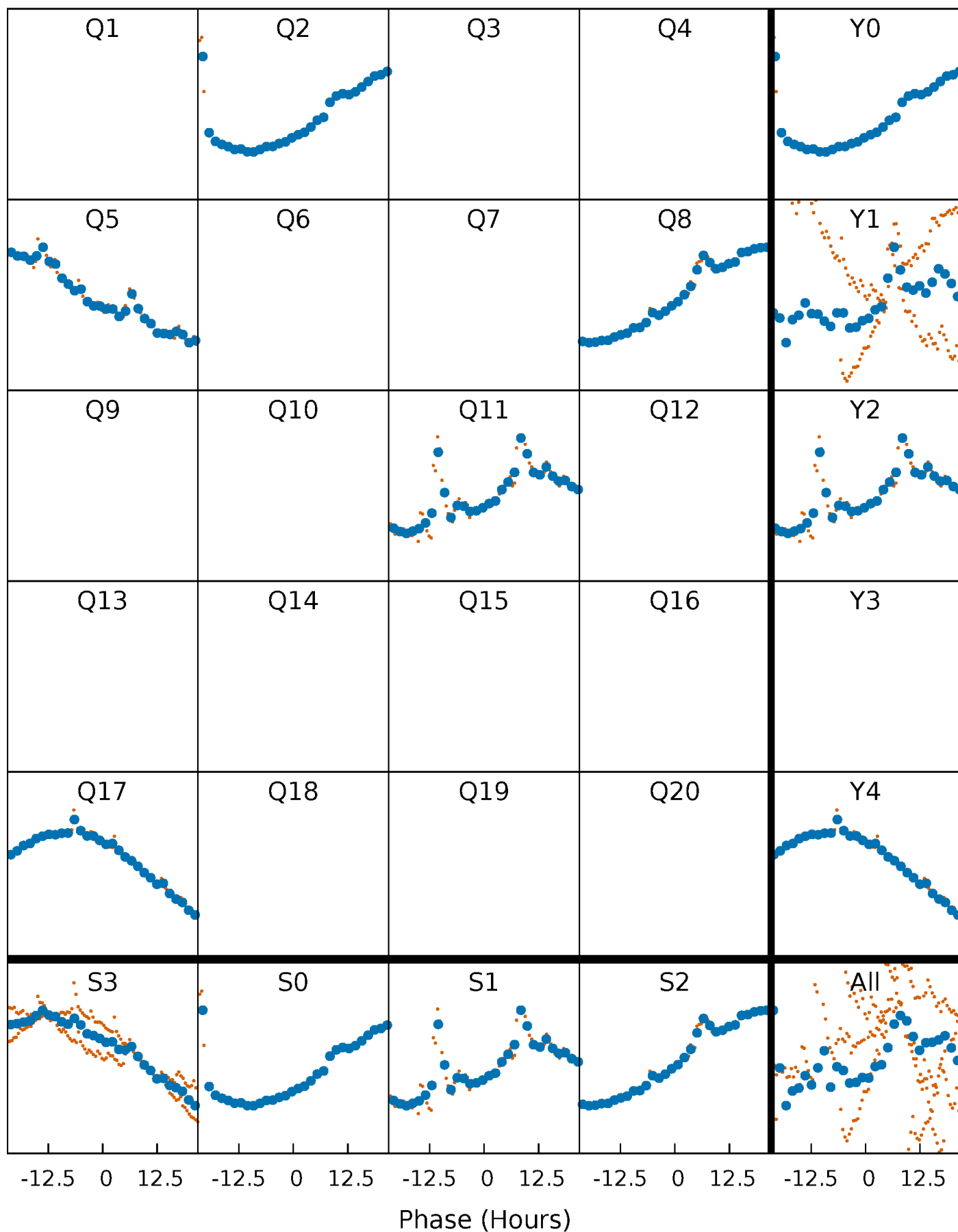


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



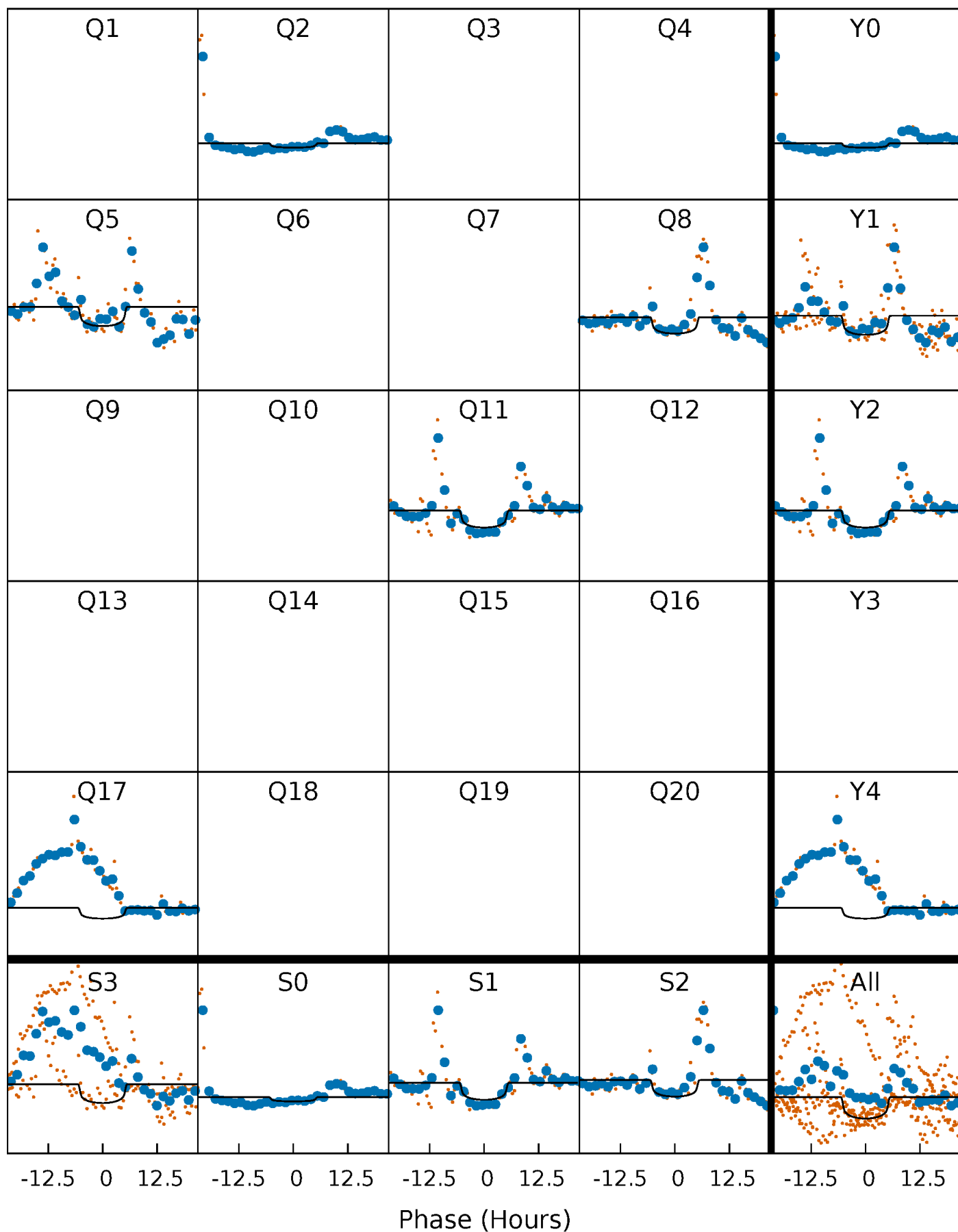
PDC Quarter-Phased Transit Curves

TCE 008093473-06 P=276.431591 Days $T_0=185.904897$ (BKJD)



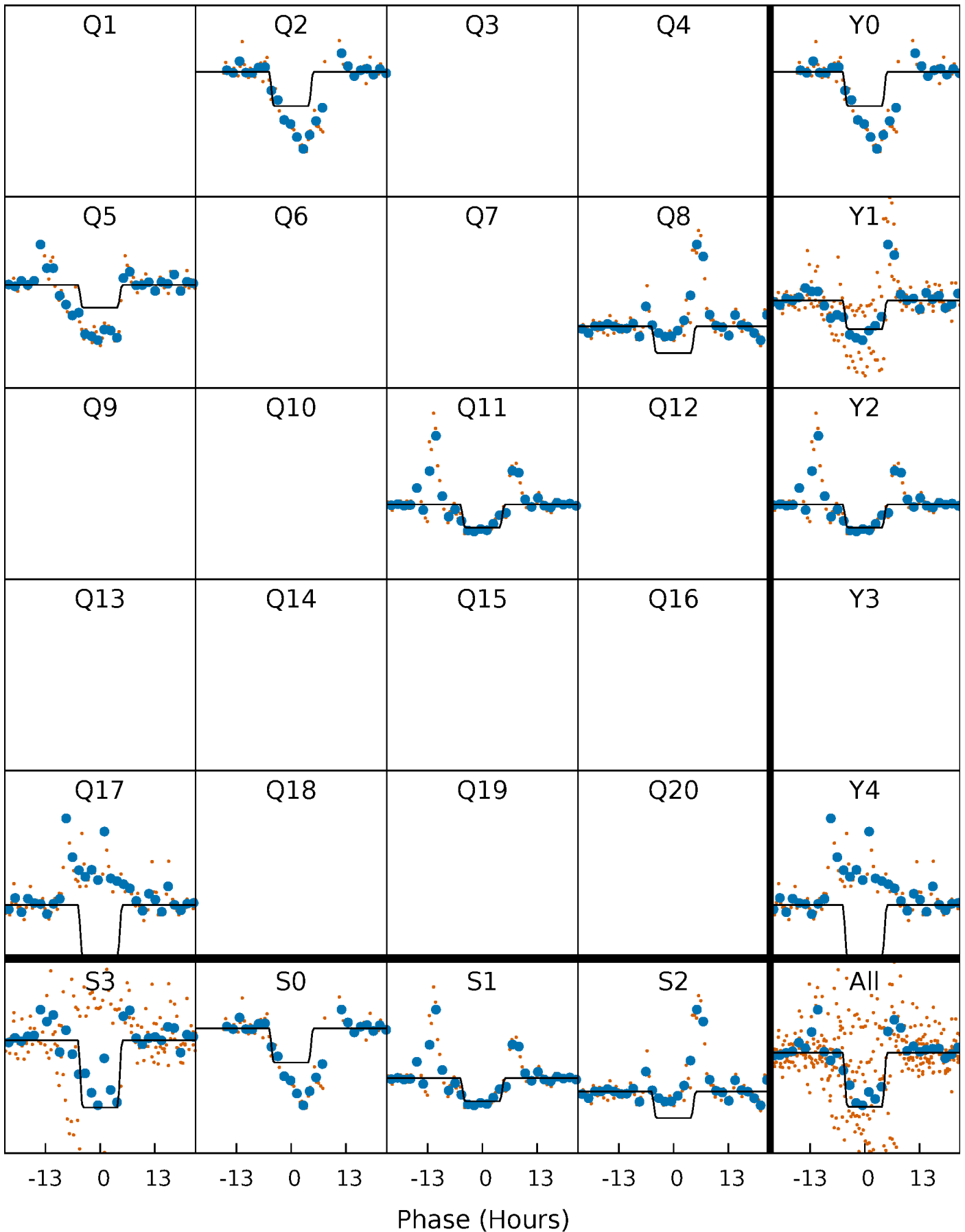
DV Quarter-Phased Transit Curves

TCE 008093473-06 $P=276.431591$ Days $T_0=185.904897$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

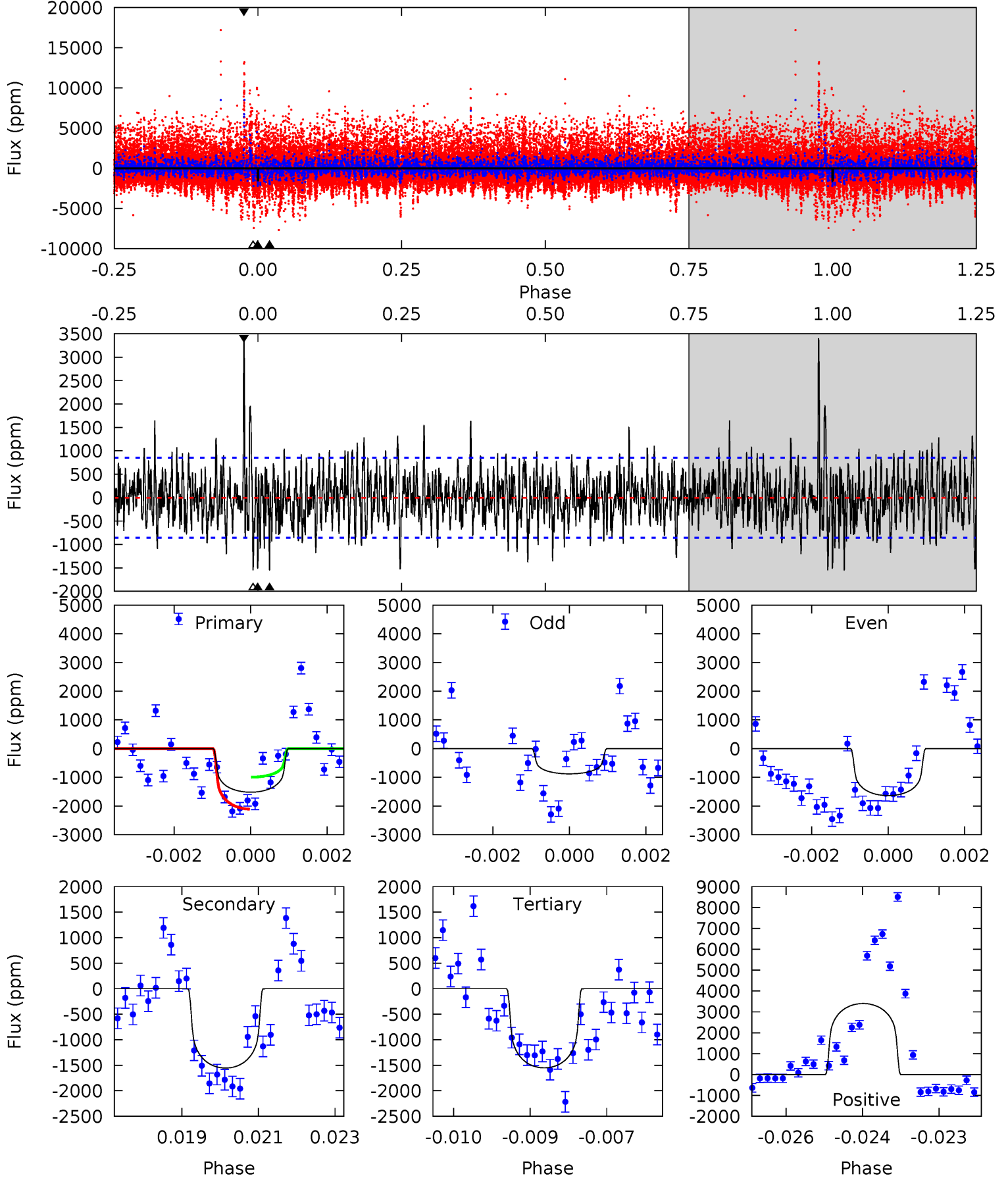
TCE 008093473-06 P=276.445633 Days $T_0=185.902541$ (BKJD)



DV Model-Shift Uniqueness Test

008093473-06, P = 276.431591 Days, E = 185.904897 Days

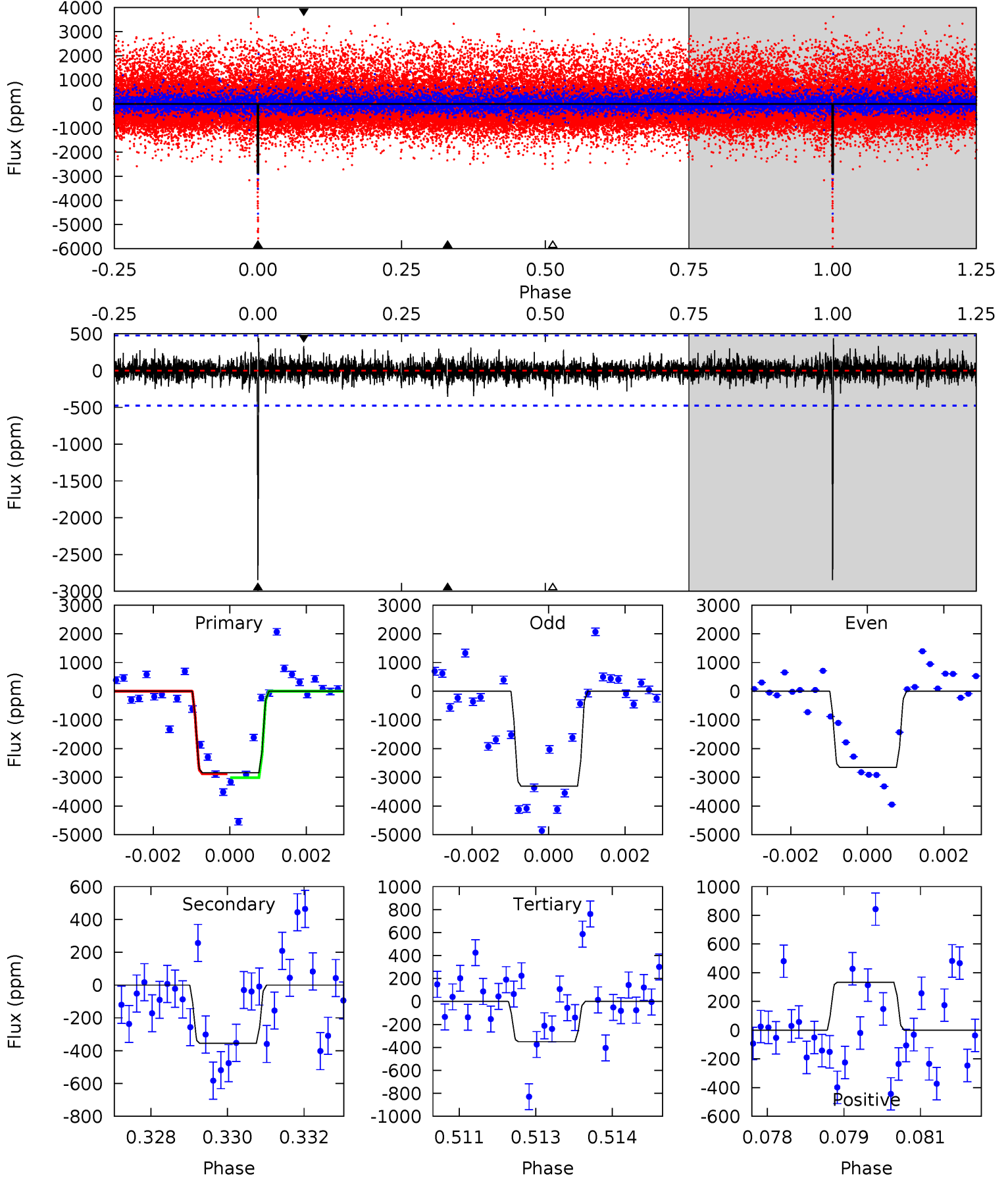
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.51	9.73	9.71	21.3	5.35	3.13	2.93	-0.20	-11.8	0.02	-11.6	2.03	0.01	0.69	3.52



Alt Model-Shift Uniqueness Test

008093473-06, $P = 276.445633$ Days, $E = 185.902541$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.0	3.99	3.94	3.75	5.37	3.15	0.86	28.1	28.3	0.05	0.24	3.96	0.81	0.13	0.79



Stellar Parameters For KIC 008093473

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3360^{+43}_{-40}	$4.961^{+0.044}_{-0.044}$	$0.000^{+0.100}_{-0.100}$	$0.287^{+0.040}_{-0.033}$	$0.274^{+0.052}_{-0.034}$	$16.380^{+4.222}_{-3.354}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+14%/-11%	+19%/-12%	+26%/-20%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 008093473-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1555 ± 160	$1.32^{+0.54}_{-0.56}$	151^{+4}_{-4}	3286^{+662}_{-308}	$143303^{+298681}_{-71224}$
Alt.	-355 ± 89	$1.69^{+0.62}_{-0.55}$	151^{+4}_{-3}	2517^{+292}_{-189}	19557^{+27034}_{-9583}

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

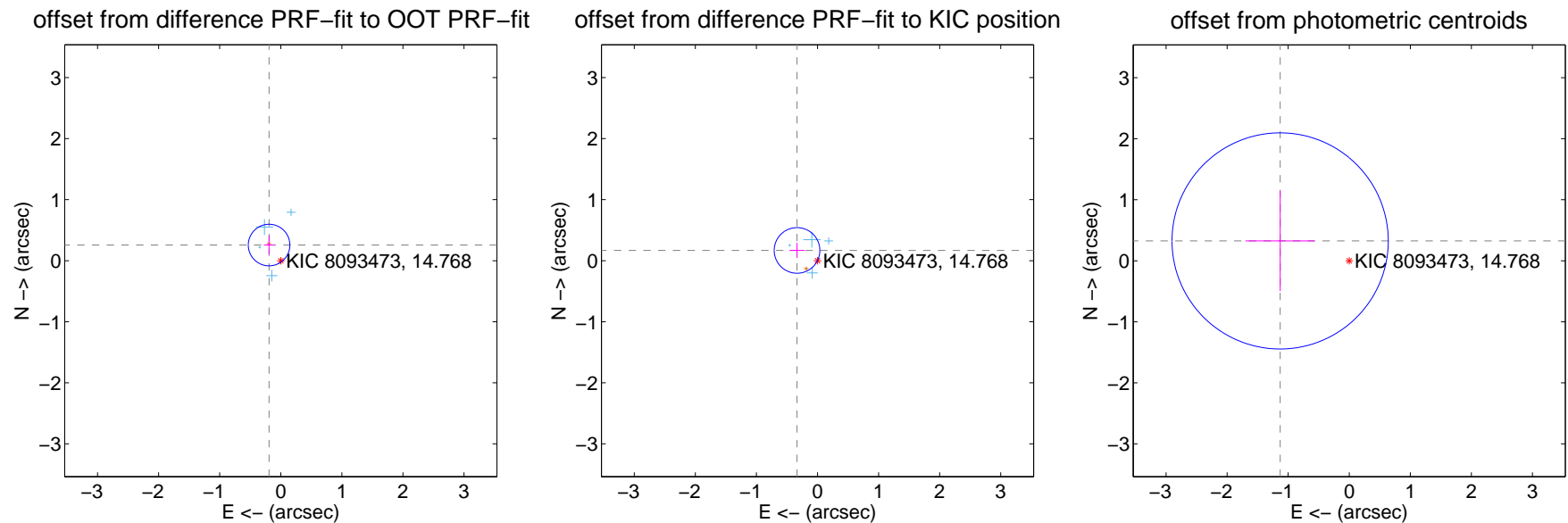
DV Centroid Data

Supplemental centroid analysis for 008093473-06. Kepler magnitude: 14.77. Transit SNR 6.17

There are 4 quarters with good PRF difference image offsets

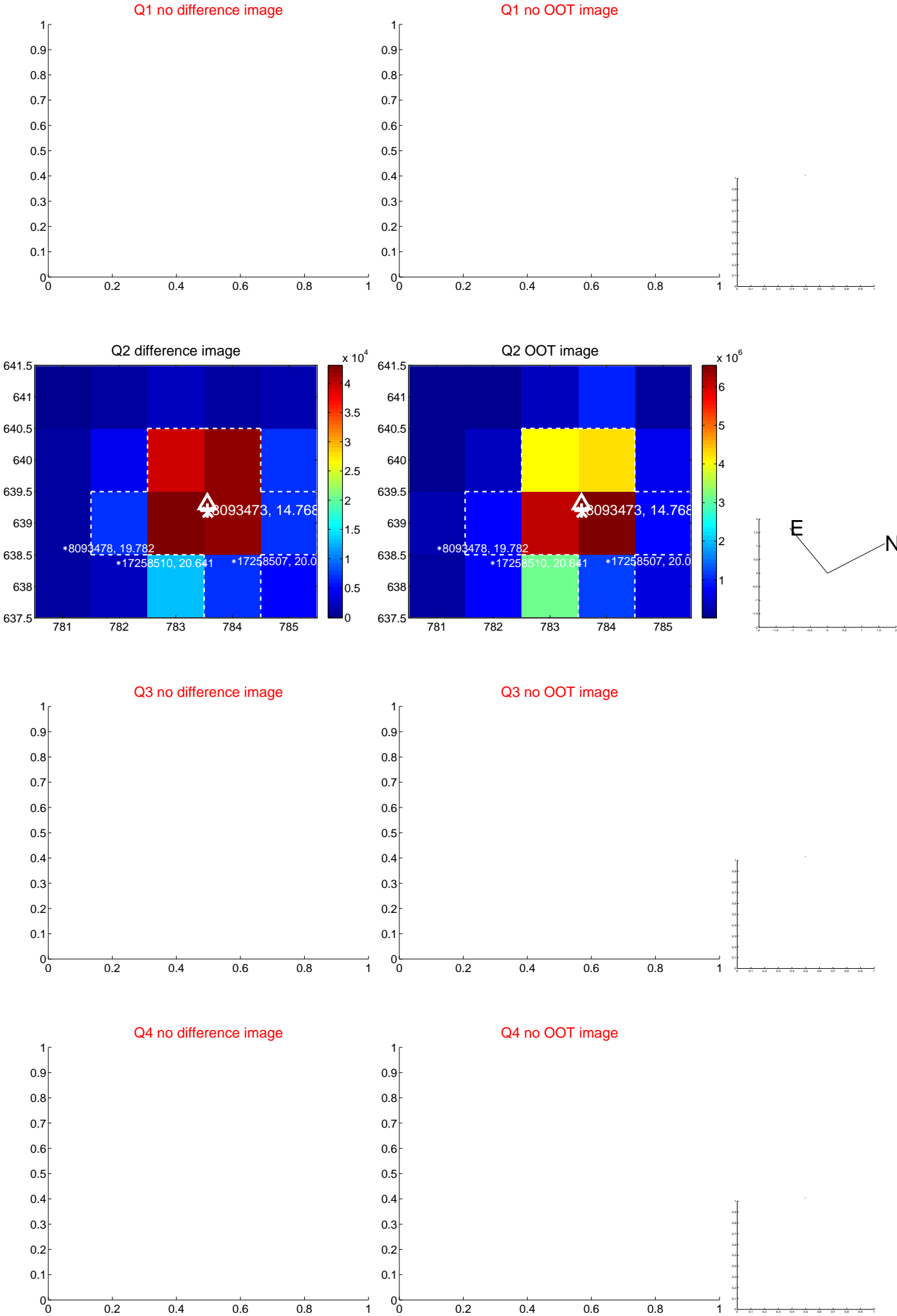
The direct PRF centroid is offset from the target star catalog position by about 0.41 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.320 ± 0.114	2.82	0.192 ± 0.086	0.256 ± 0.153
PRF-fit source offset from KIC position	0.375 ± 0.125	3.01	0.335 ± 0.125	0.168 ± 0.124
photometric centroid source offset	1.18 ± 0.59	2.00	1.13 ± 0.57	0.33 ± 0.82

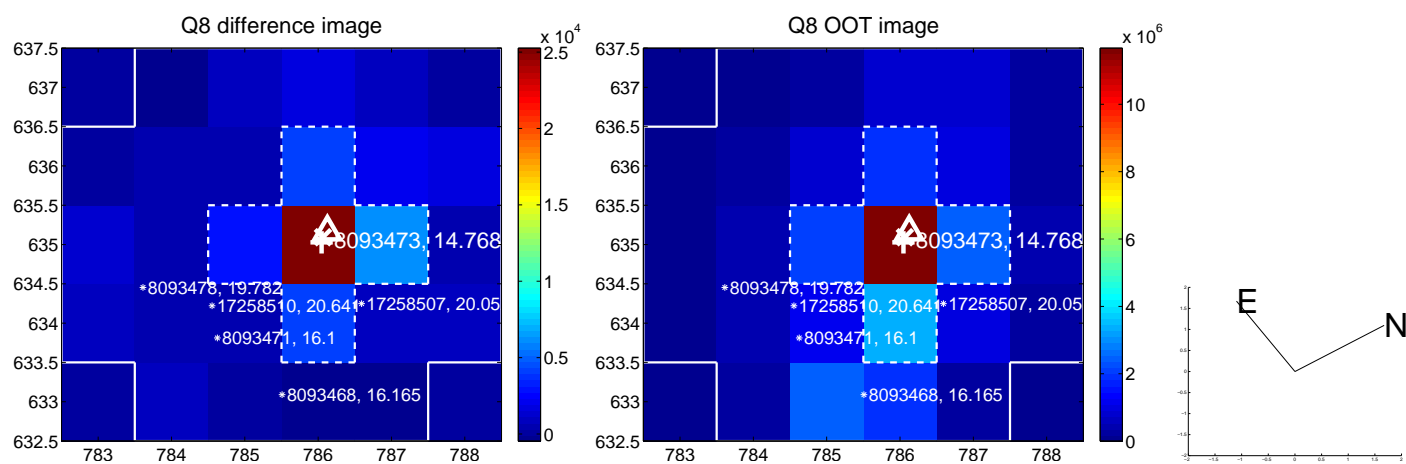
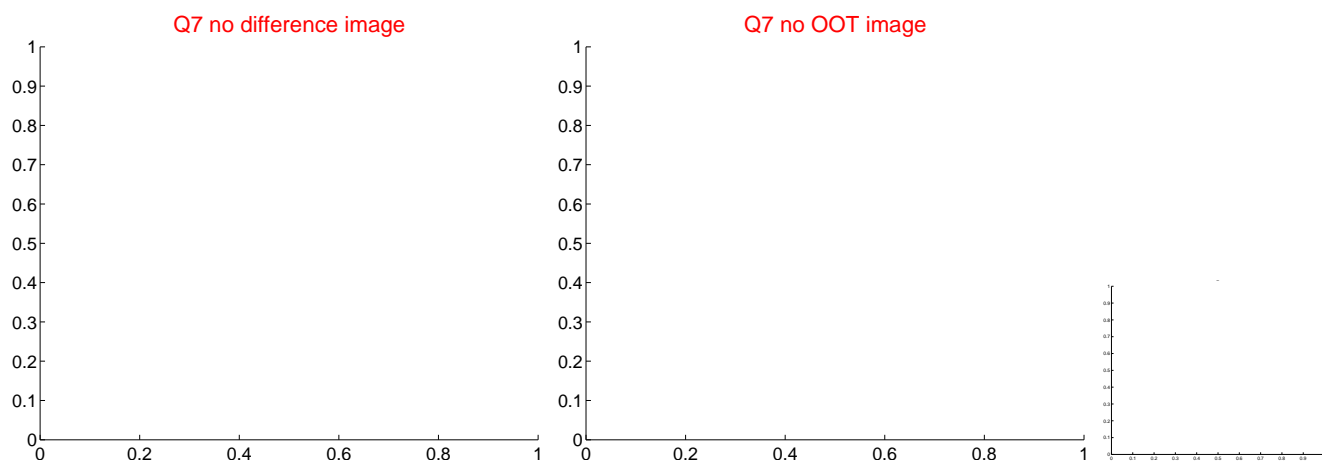
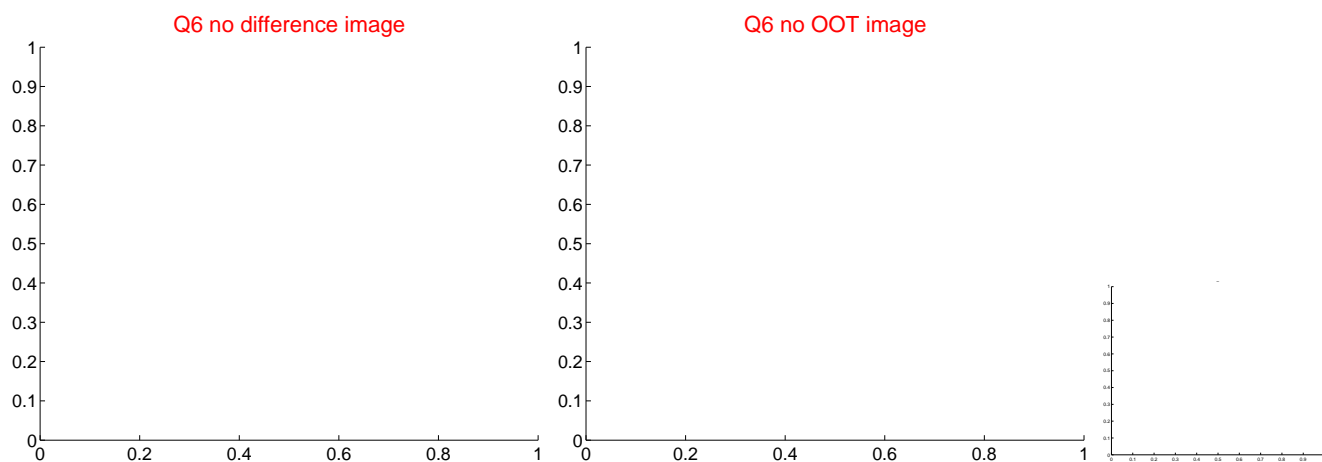
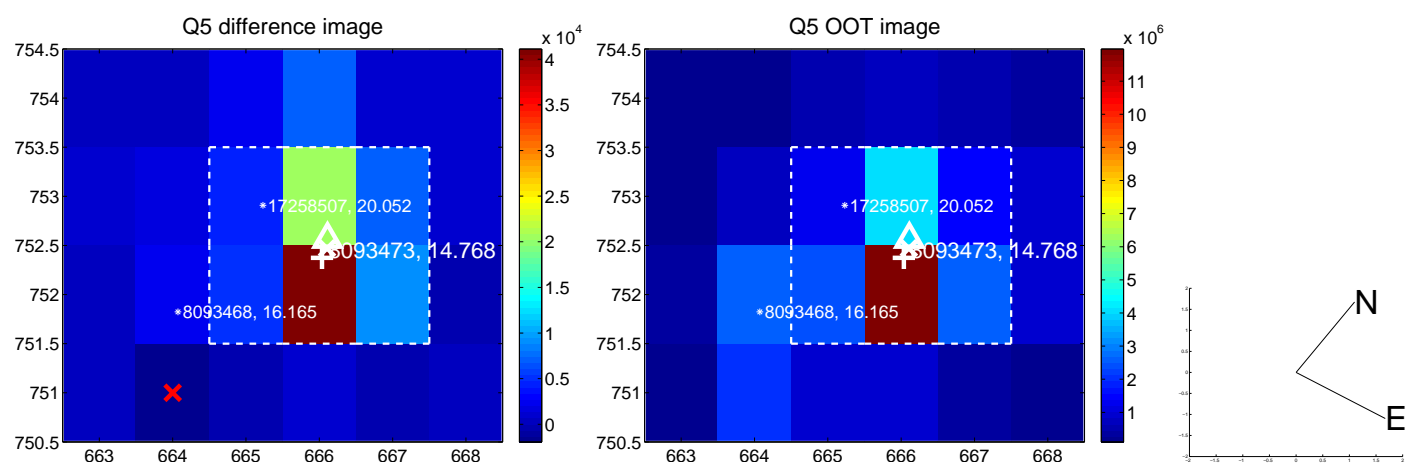


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

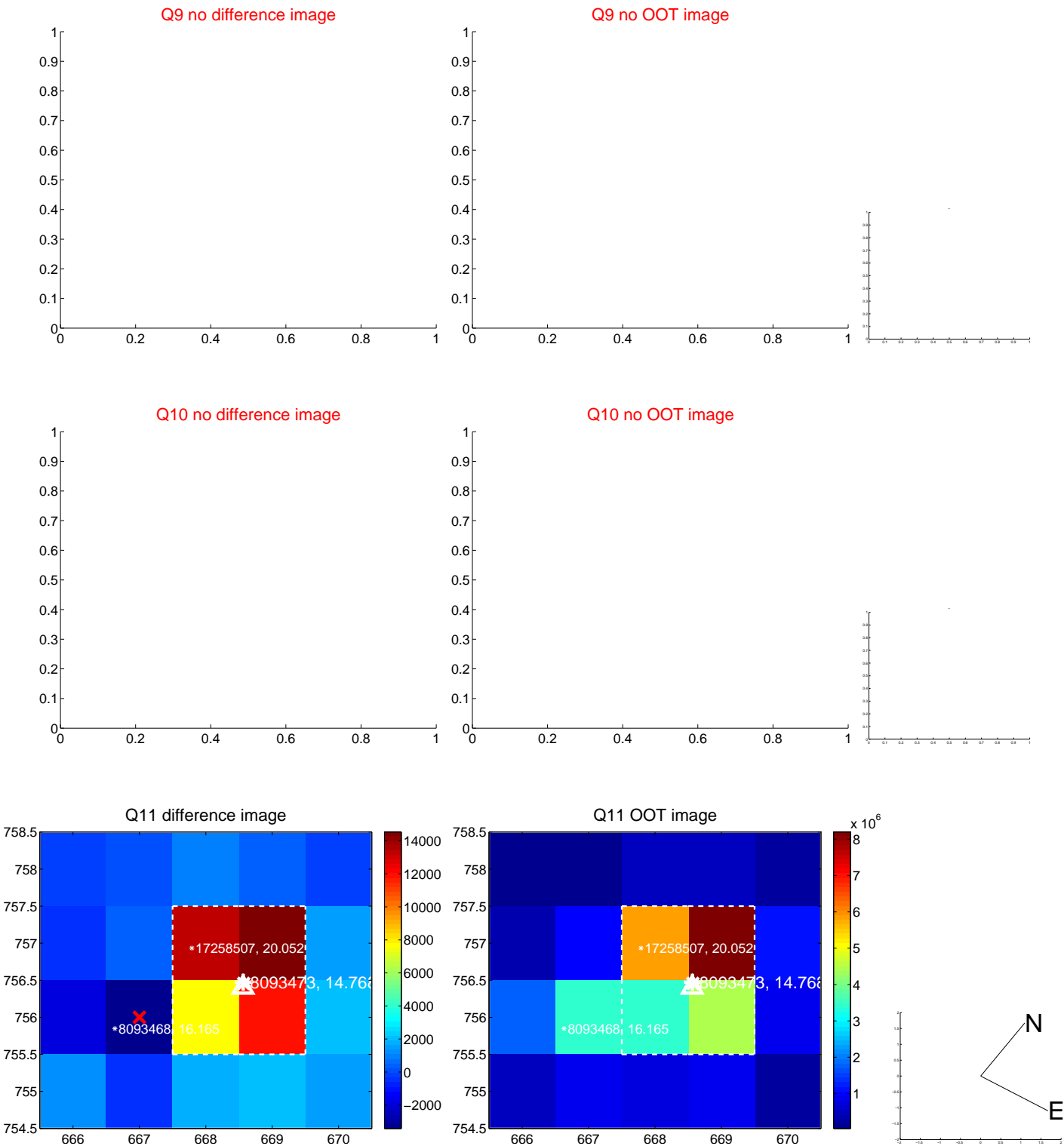
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



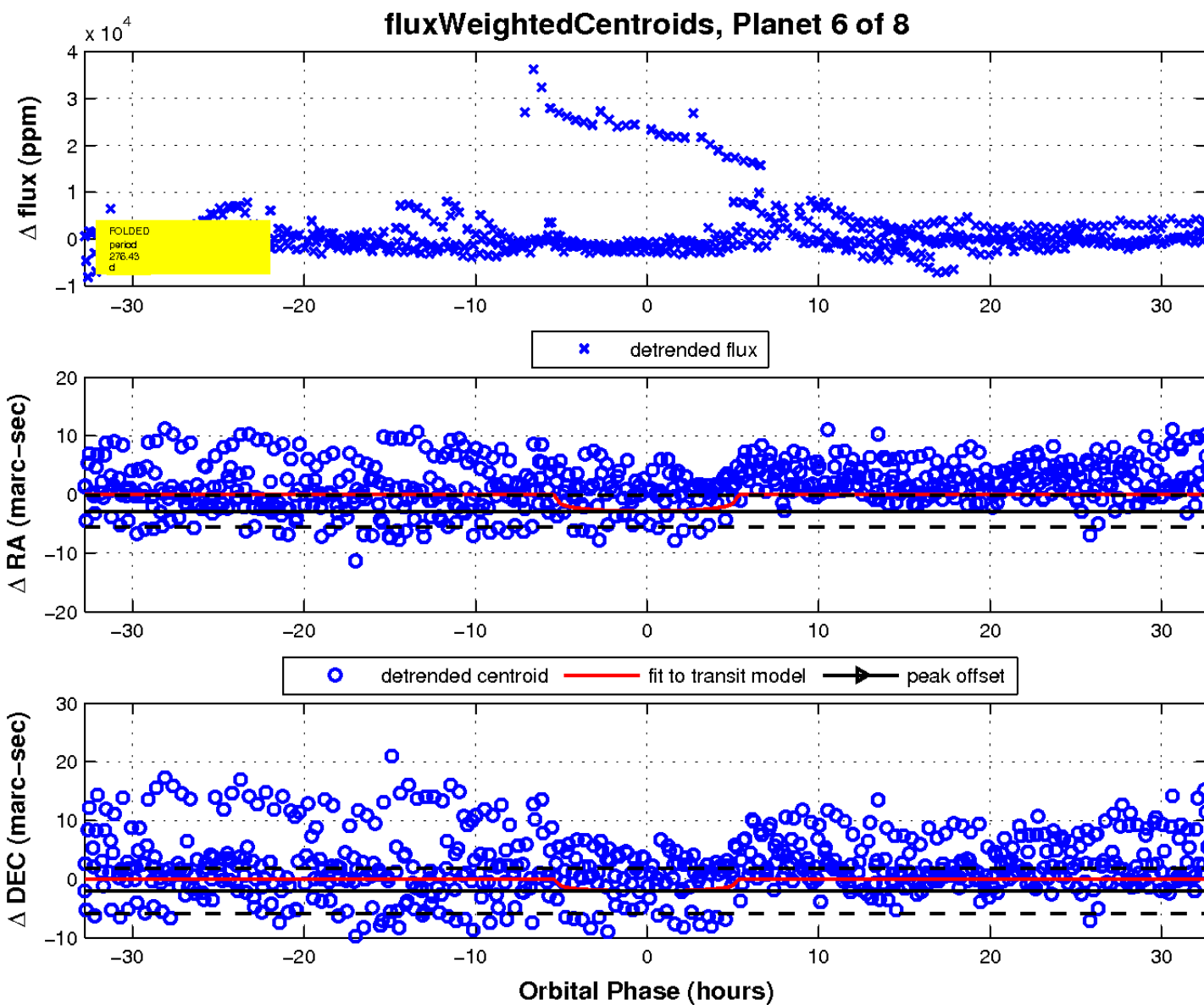
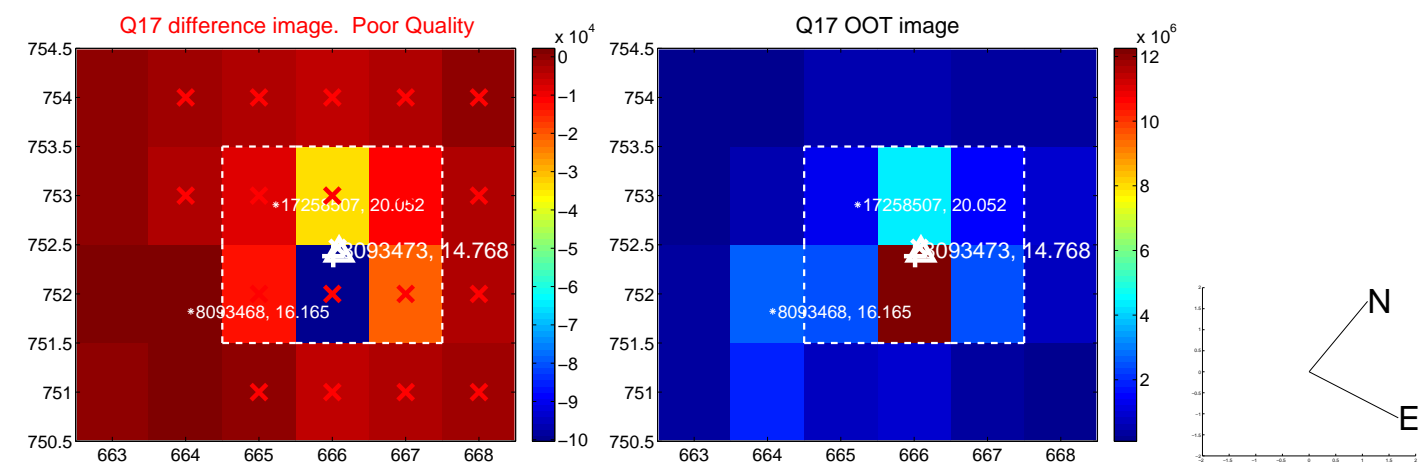
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

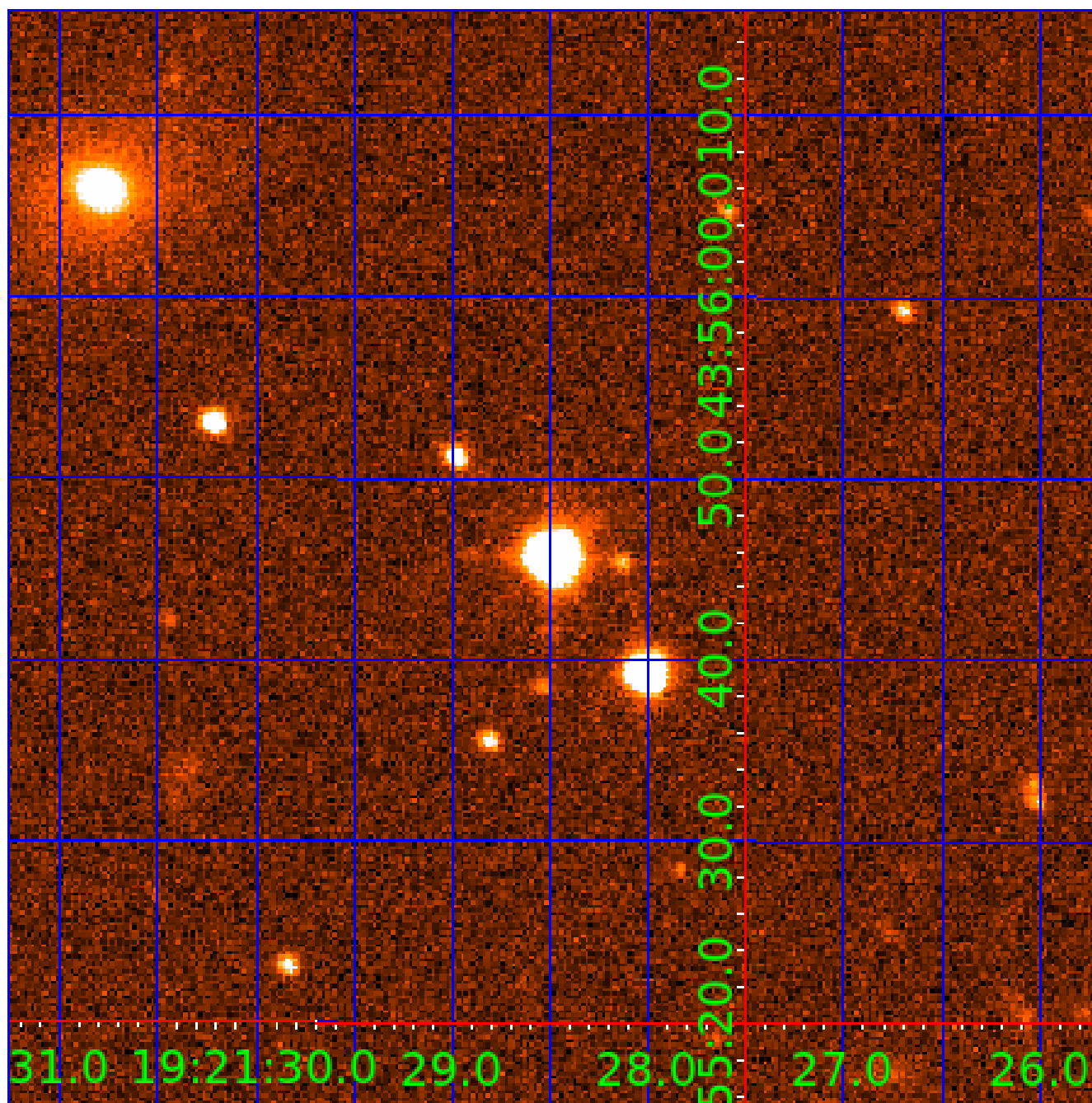


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008093473

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})
008093473-01	OBS	No	178.562825	294.200732	2681.6	8.399	13.1	10.8	0.29	3360	1.76	0.06
008093473-02	OBS	No	326.901260	173.887993	3022.6	12.061	13.6	7.5	0.29	3360	1.56	0.03
008093473-03	OBS	No	214.280181	192.083764	1940.8	13.376	12.9	6.8	0.29	3360	1.25	0.04
008093473-05	OBS	No	523.692877	156.070778	2764.6	6.545	13.2	7.8	0.29	3360	1.50	0.01
008093473-06	OBS	No	276.431591	185.904897	2032.0	10.945	12.9	6.2	0.29	3360	1.27	0.03
008093473-07	OBS	No	308.313173	326.194573	1362.4	3.000	12.7	-1.0	0.29	3360	1.05	0.03
008093473-08	OBS	No	188.685218	163.698501	1217.3	2.500	11.3	-1.0	0.29	3360	0.99	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008093473-01	OBS	FP	0.00	1	0	1	0	LPP_DV—INCONSISTENT_TRANS—HALO_GHOST
008093473-02	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_FEW_DIFFS—HALO_GHOST
008093473-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_TER_ALT
008093473-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
008093473-06	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
008093473-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
008093473-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

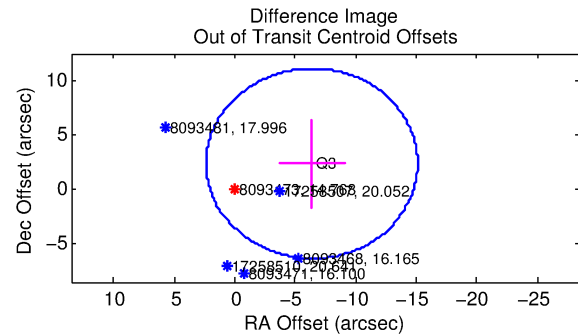
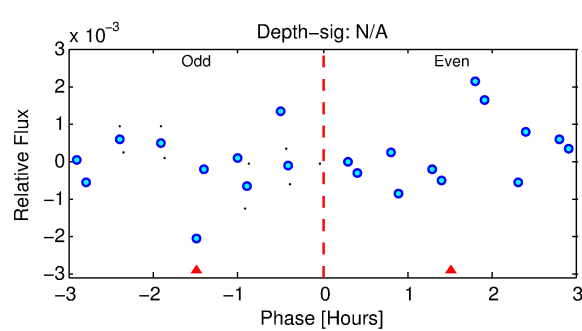
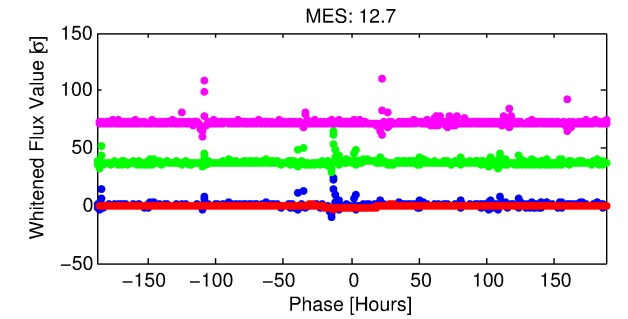
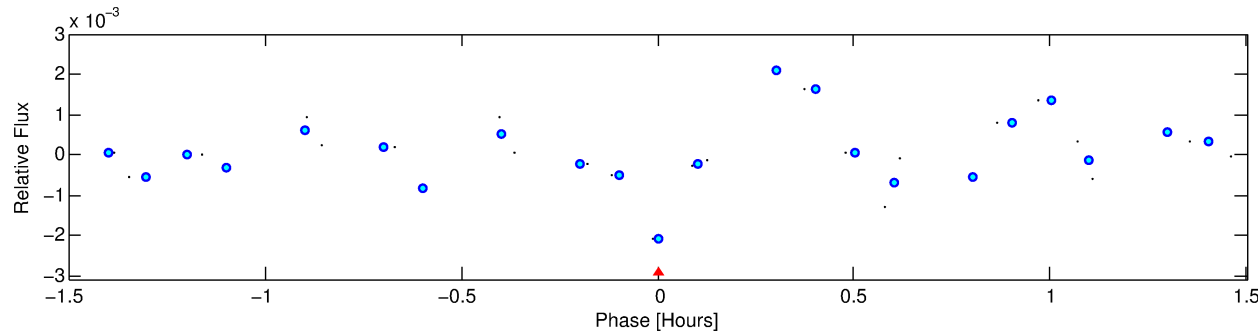
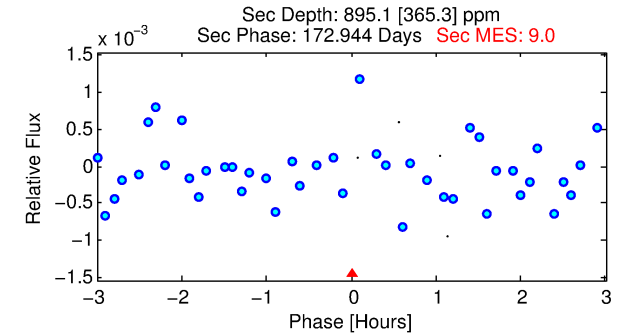
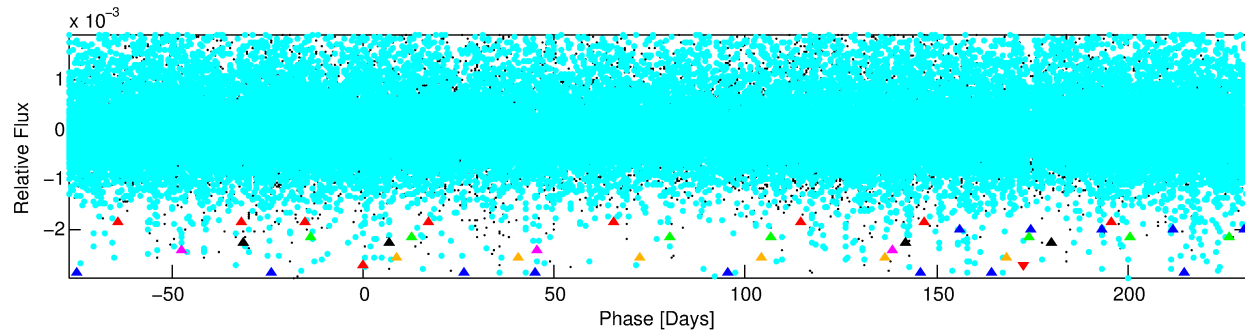
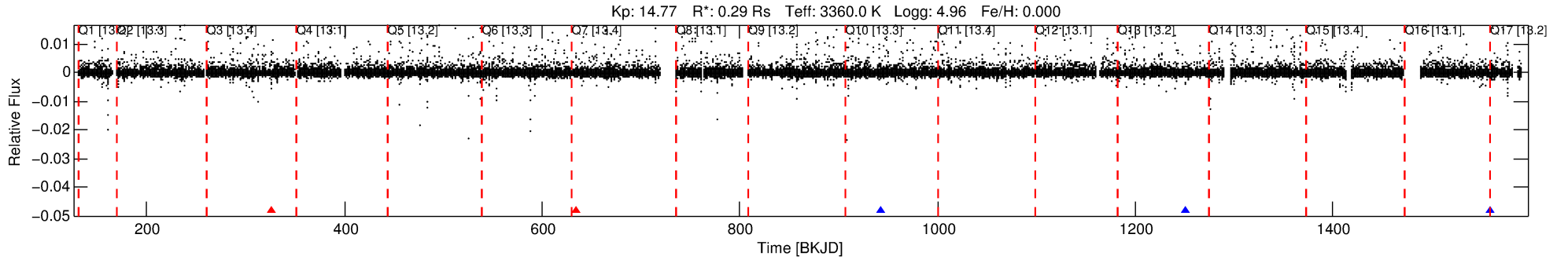
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008093473-07

No Significant Match Found

DV One-Page Summary

KIC: 8093473 Candidate: 7 of 8 Period: 308.313 d



TPS TCE Results:

Period = 308.31317 d
Epoch = 326.1946 BKJD

DV fit results are unavailable

DV Diagnostic Results:

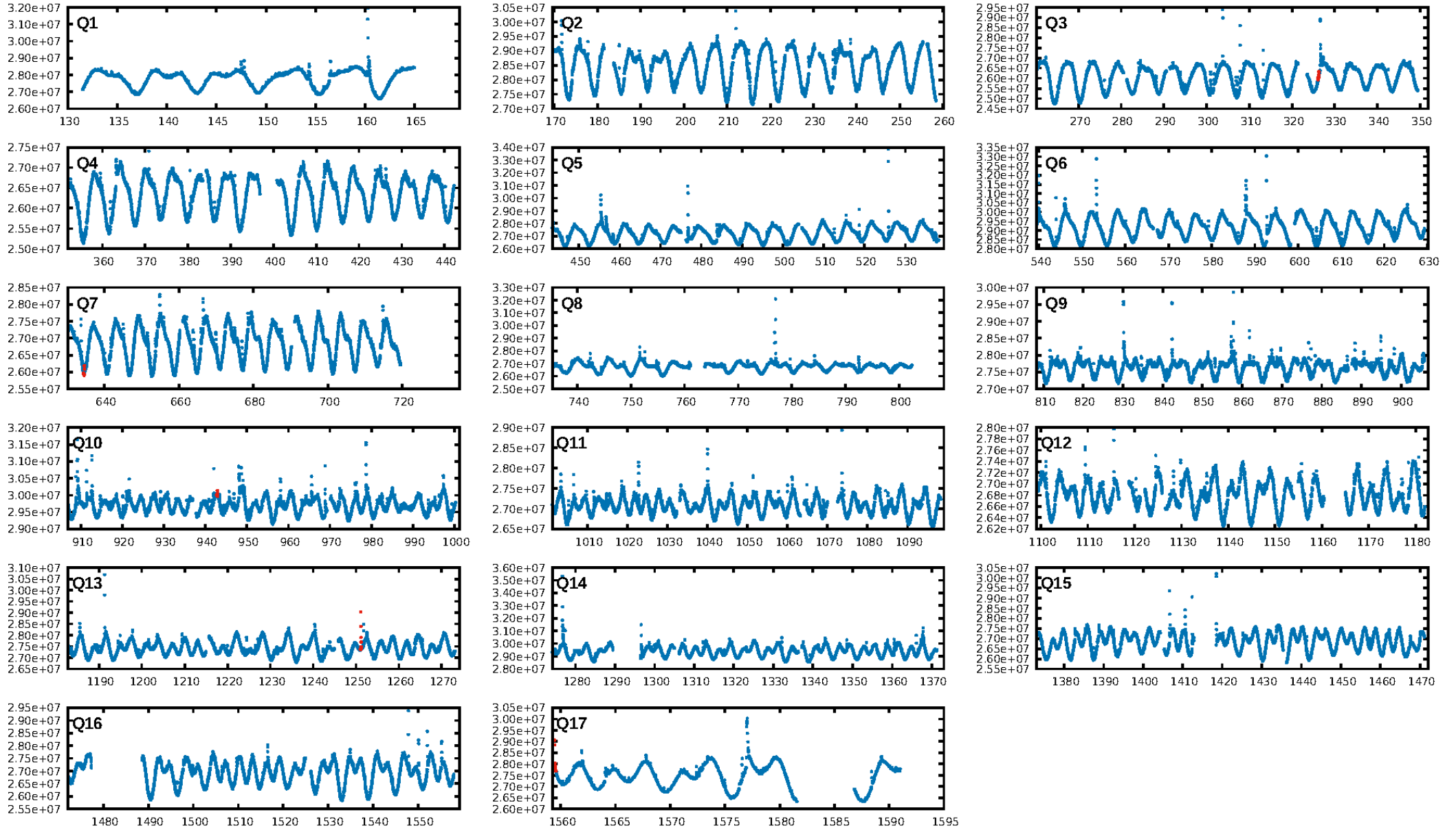
ShortPeriod-sig: 100.0% [67.42σ]
LongPeriod-sig: 100.0% [35.90σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.50 [2/4]
GhostDiagnostic-chr: 1.119

Centroid-sig: 64.1%
Centroid-so: 94.498 arcsec [0.66σ]
OotOffset-rm: 6.805 arcsec [2.34σ]
KicOffset-rm: 6.930 arcsec [2.38σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

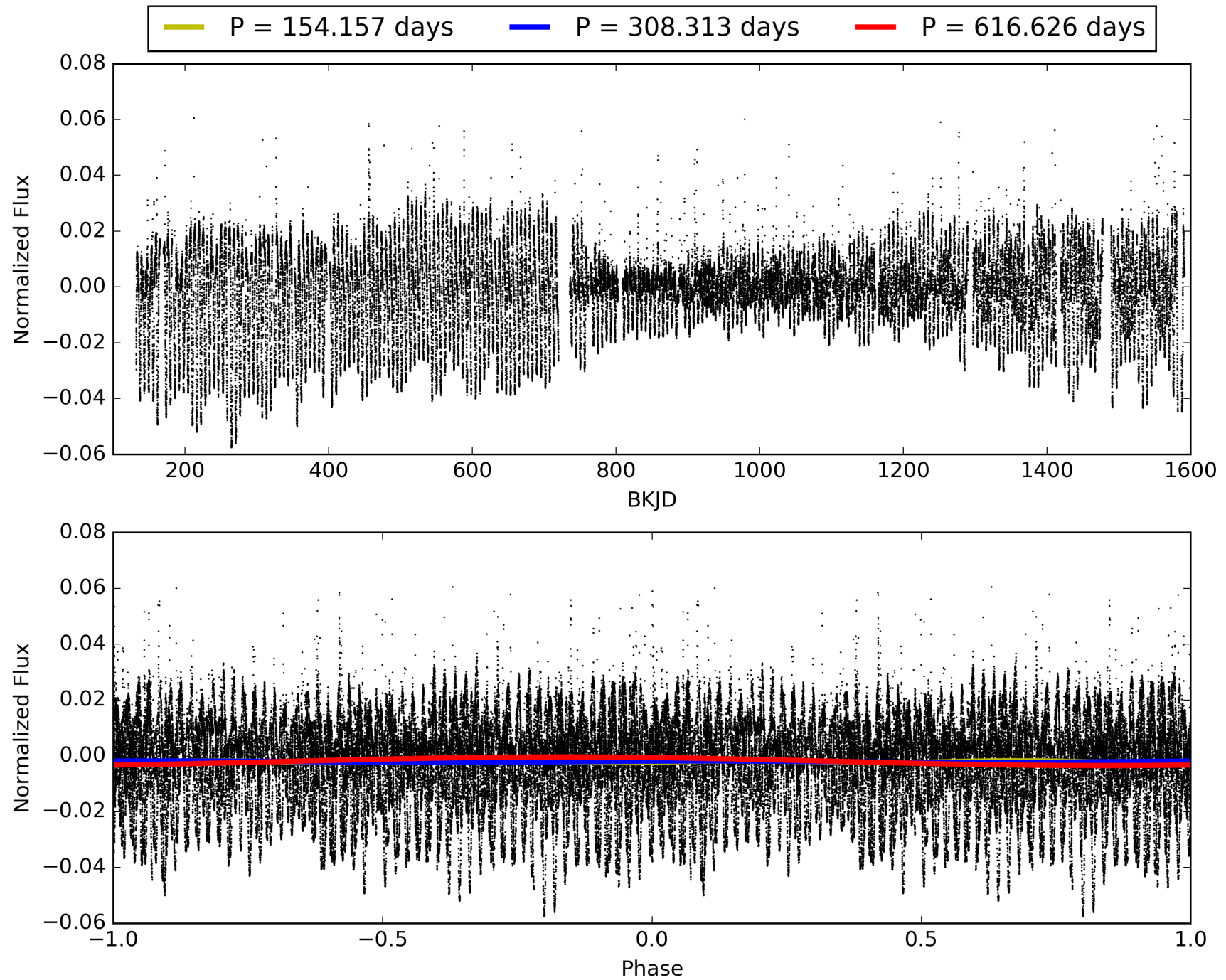
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:37:03 Z

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

TCE 008093473-07, PDC Light Curves

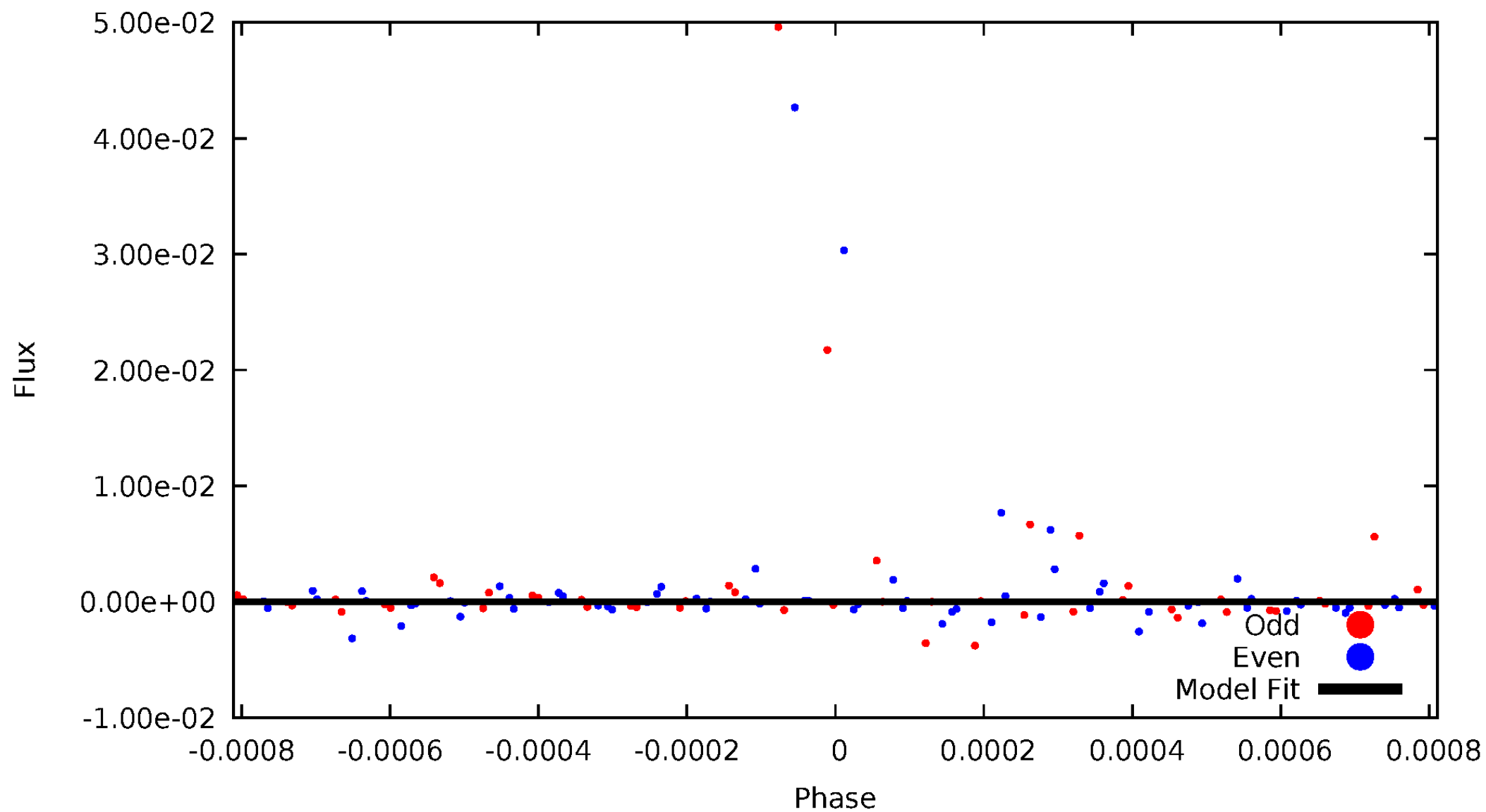


TCE 008093473-07



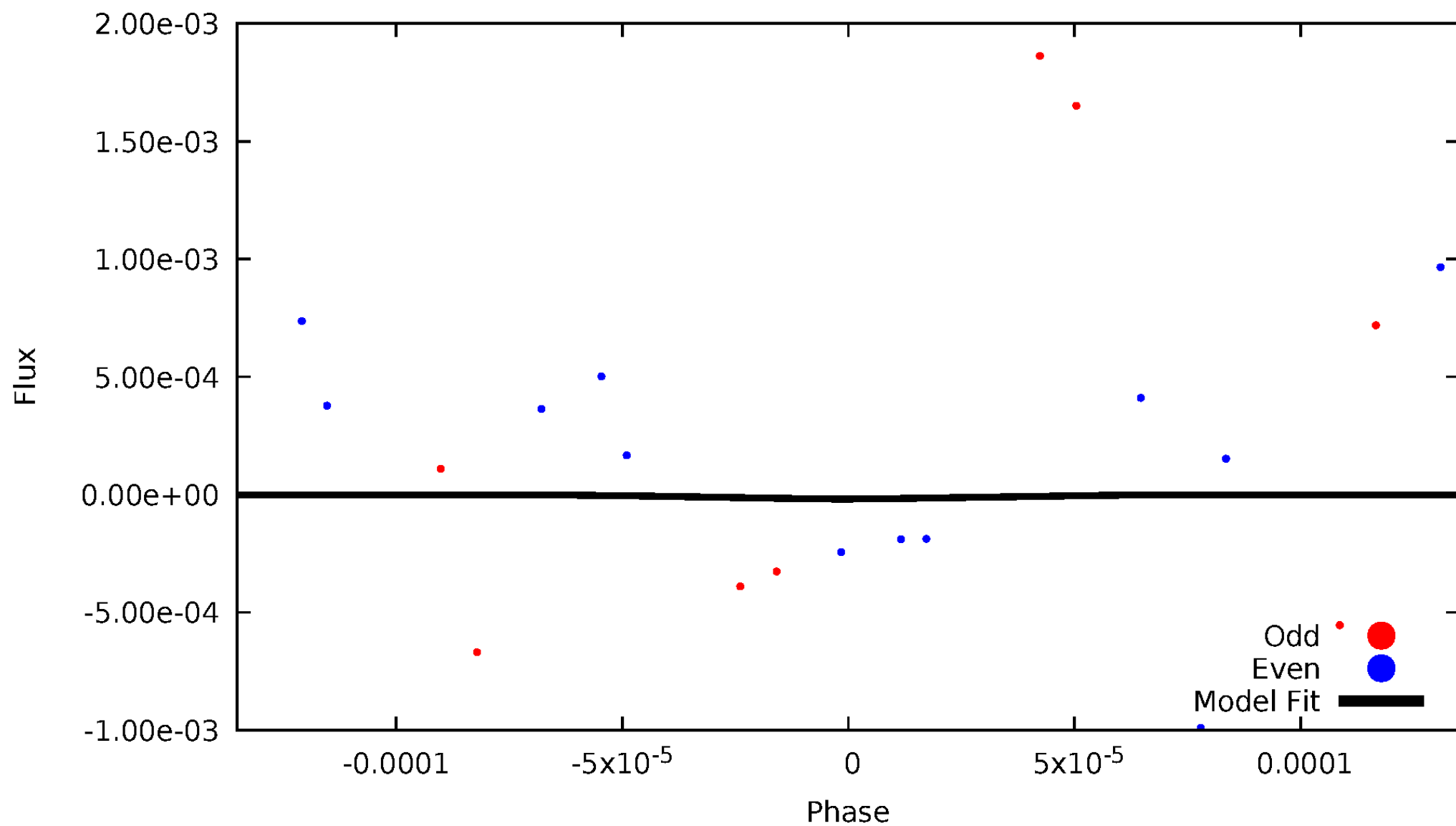
DV Odd/Even

TCE 008093473-07



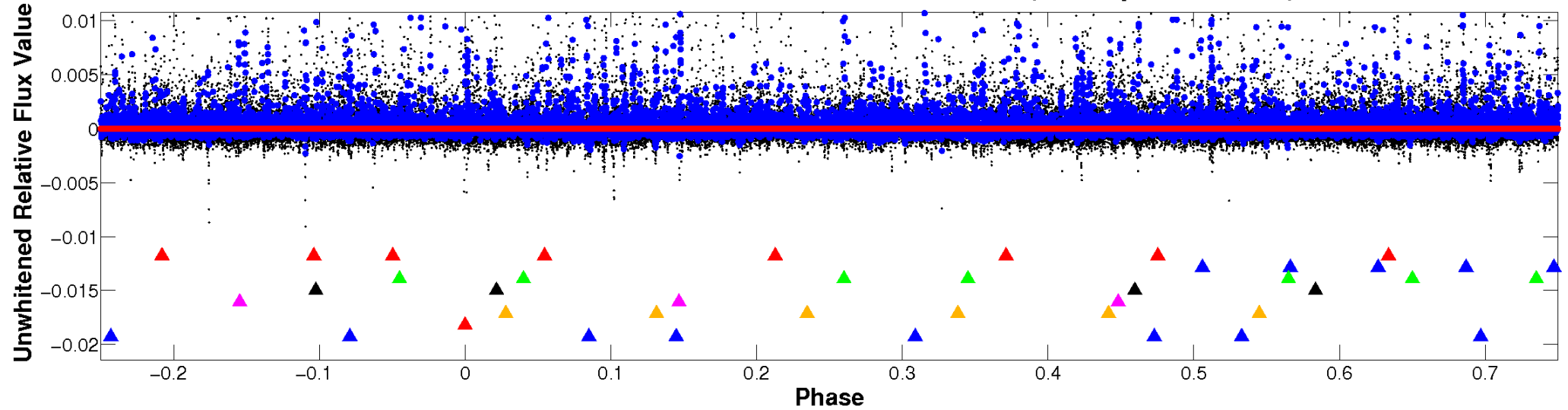
ALT Odd/Even

TCE 008093473-07

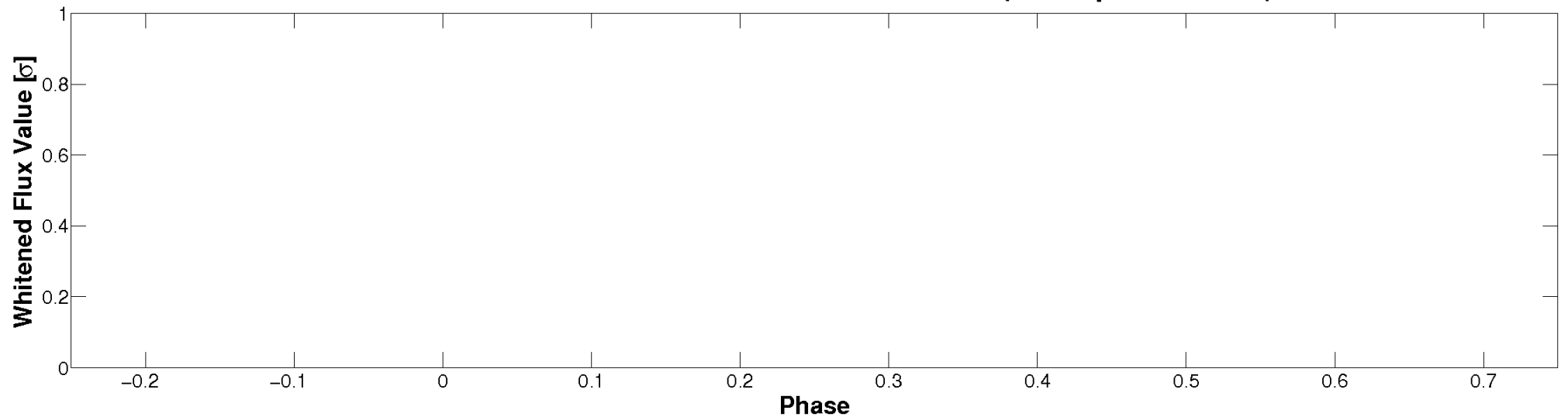


Non-Whitened Vs. Whitened Light Curve

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

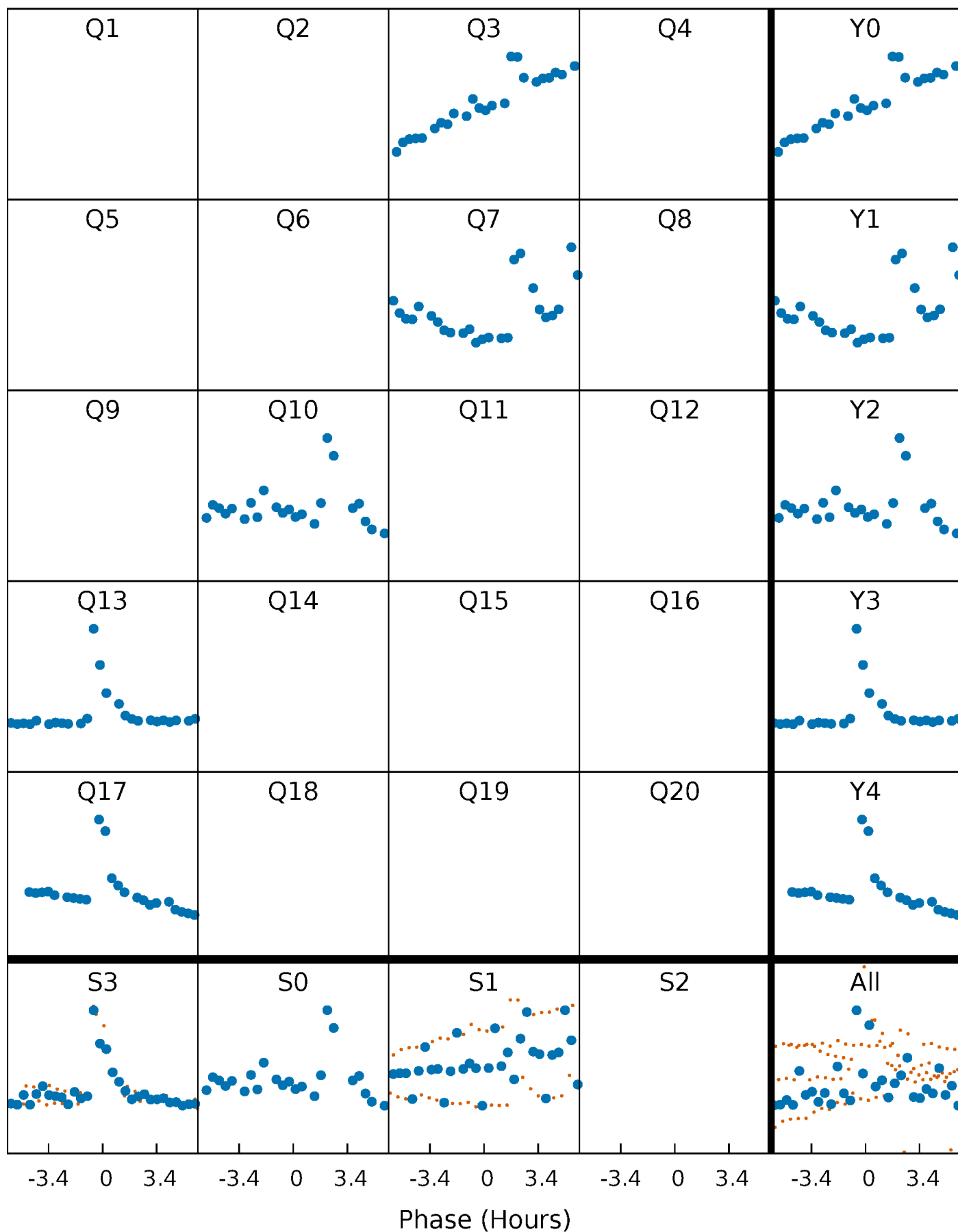


Planet 7 : Phased Whitened Flux Time Series (TPS Epoch/Period)



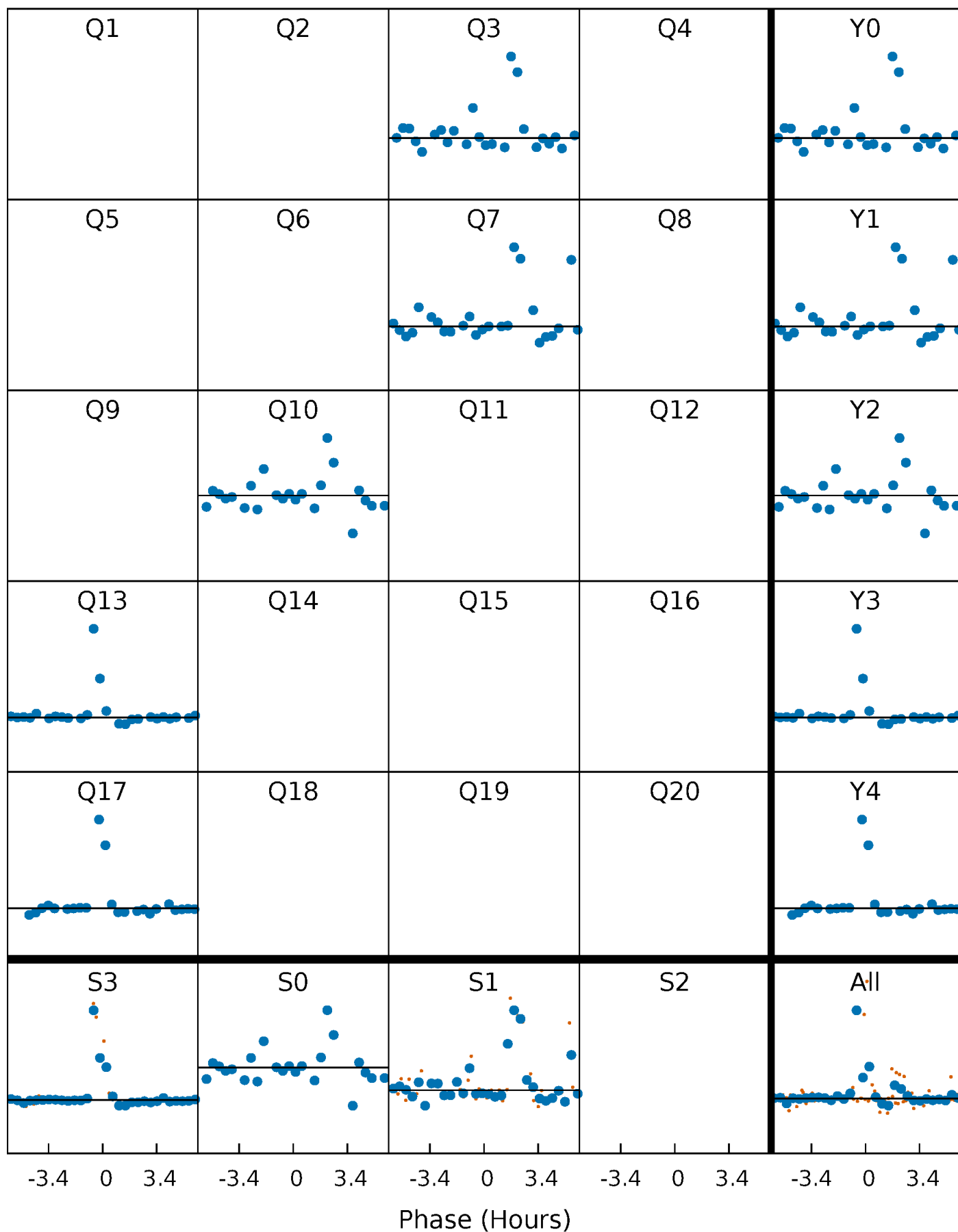
PDC Quarter-Phased Transit Curves

TCE 008093473-07 $P=308.313173$ Days $T_0=326.194573$ (BKJD)



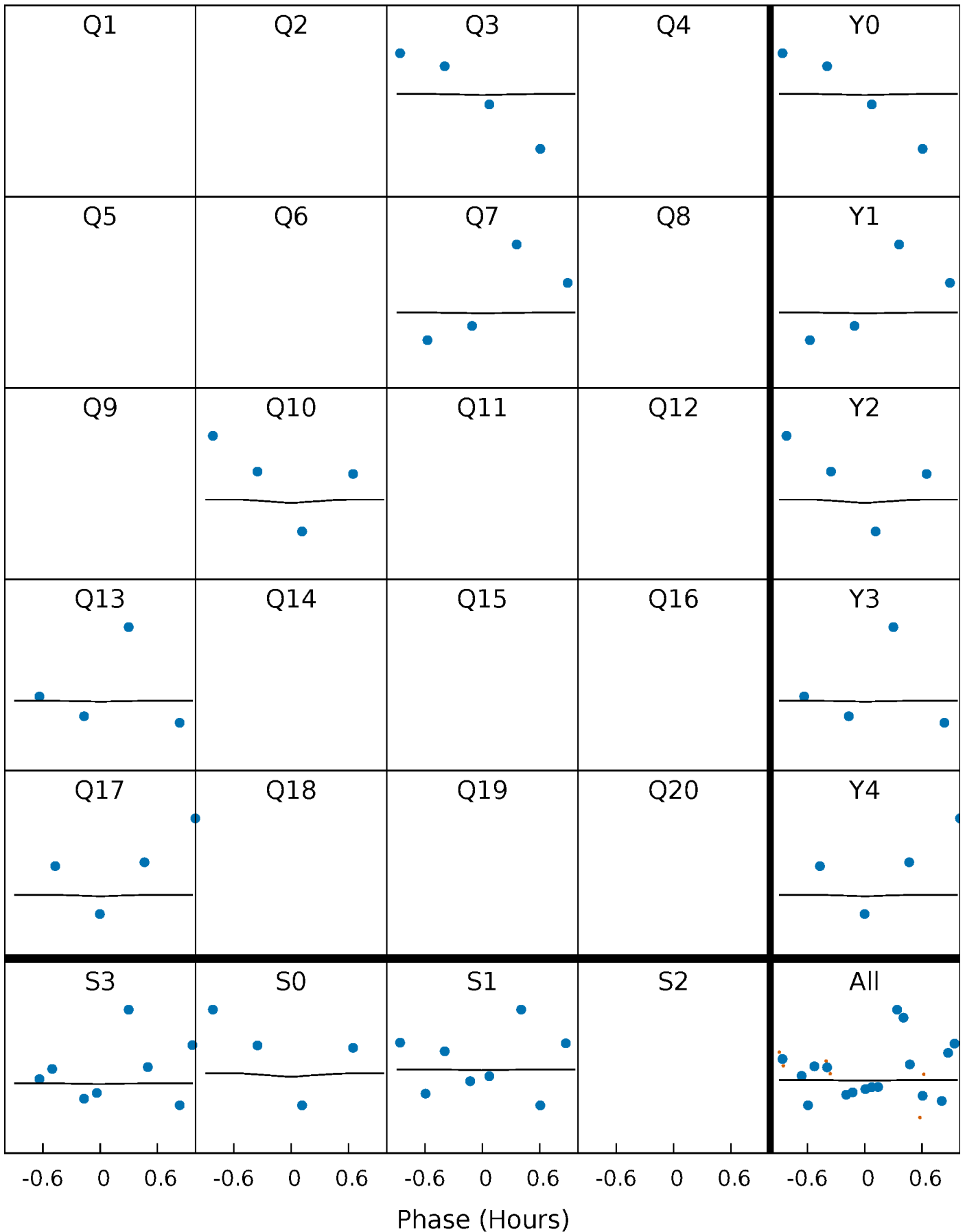
DV Quarter-Phased Transit Curves

TCE 008093473-07 $P=308.313173$ Days $T_0=326.194573$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

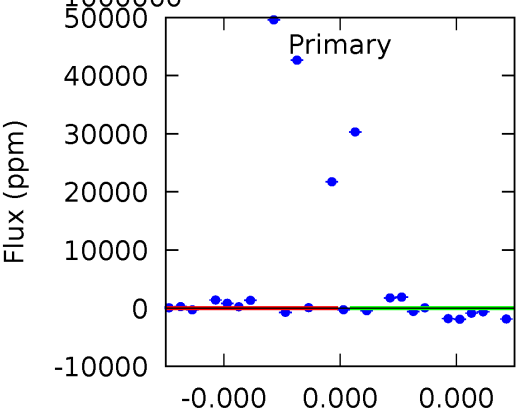
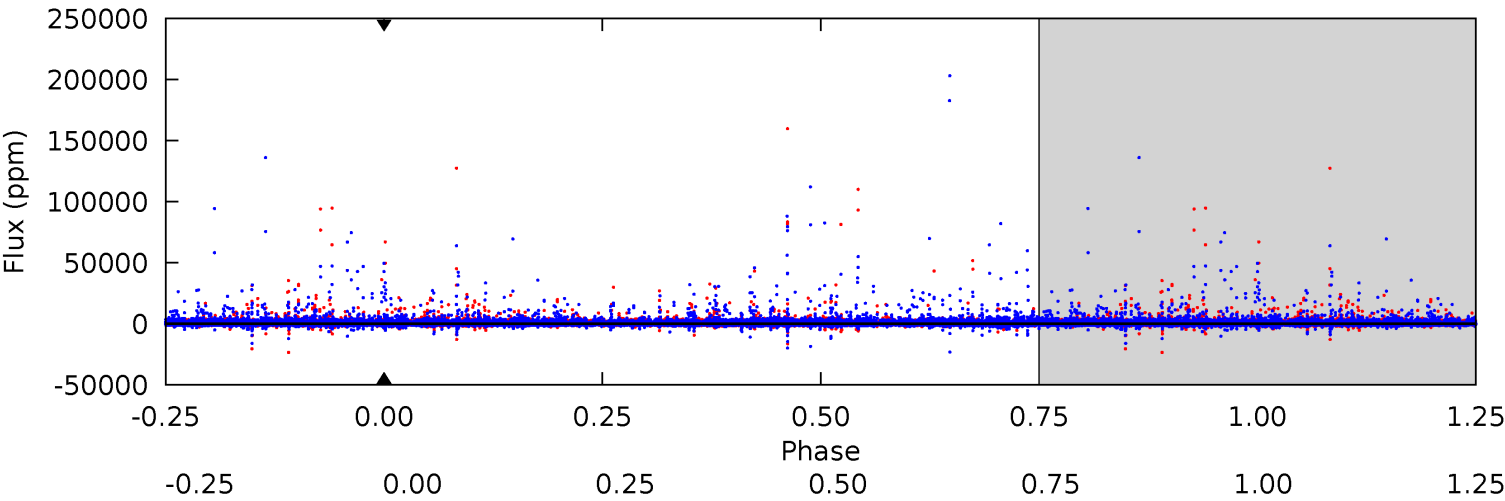
TCE 008093473-07 $P=308.313173$ Days $T_0=326.014709$ (BKJD)



DV Model-Shift Uniqueness Test

008093473-07, P = 308.313173 Days, E = 17.881400 Days

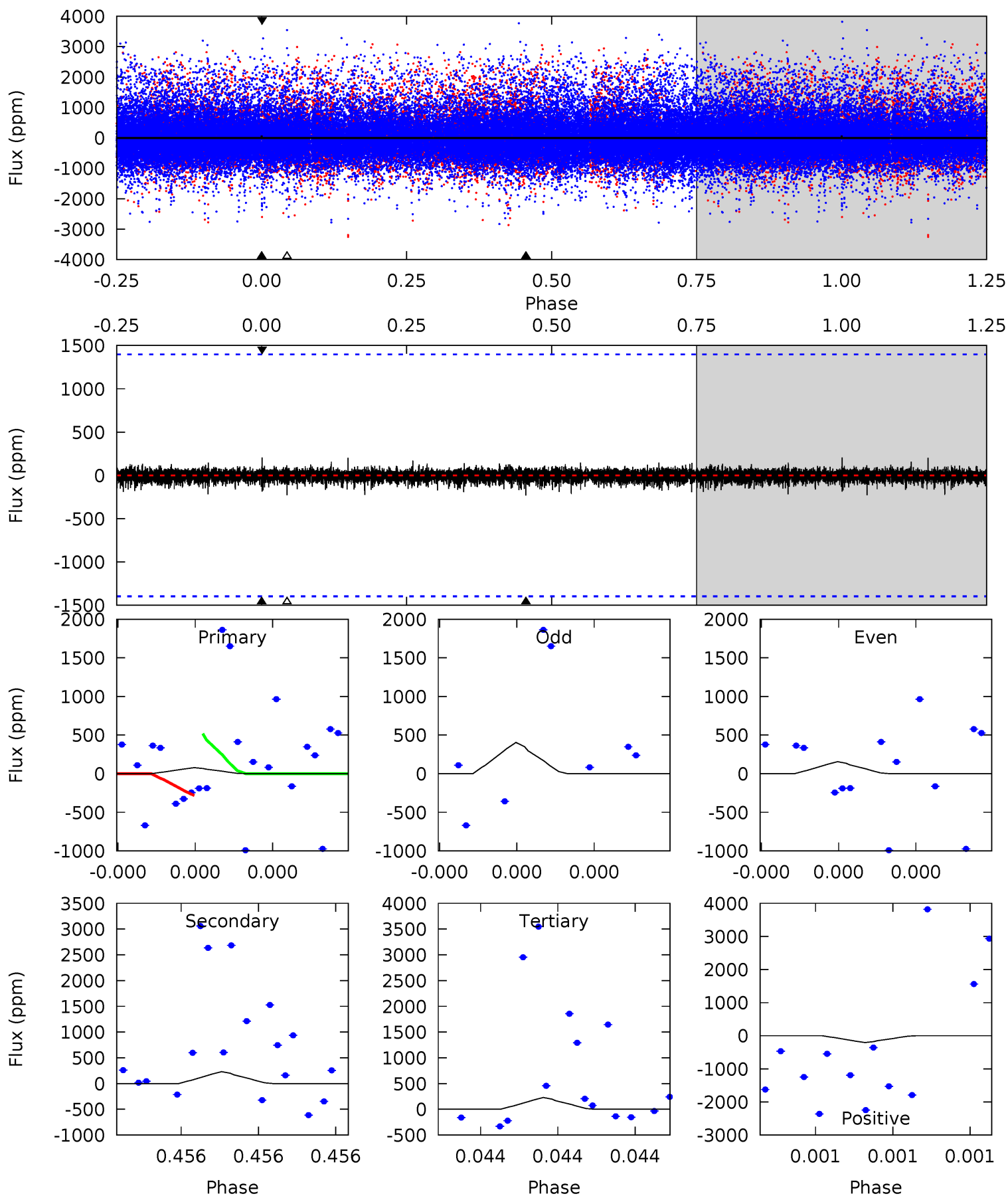
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008093473-07, P = 308.313173 Days, E = 17.701536 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.32	0.96	0.95	0.85	5.82	3.85	0.17	-0.63	-0.53	0.01	0.11	0.48	-1.49	0.47	0.49



Stellar Parameters For KIC 008093473

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3360^{+43}_{-40}	$4.961^{+0.044}_{-0.044}$	$0.000^{+0.100}_{-0.100}$	$0.287^{+0.040}_{-0.033}$	$0.274^{+0.052}_{-0.034}$	$16.380^{+4.222}_{-3.354}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+14%/-11%	+19%/-12%	+26%/-20%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 008093473-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$2.49^{+2.51}_{-1.71}$	146^{+4}_{-3}	-3332^{+9494}_{-3233}	$-170608.061^{+4271940.325}_{-5349522.169}$
Alt.	-231 ± 240	$2.22^{+2.55}_{-1.63}$	146^{+4}_{-3}	2170^{+978}_{-3616}	$6183^{+110261}_{-6262}$

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 $A_{obs} \gg 1.0$

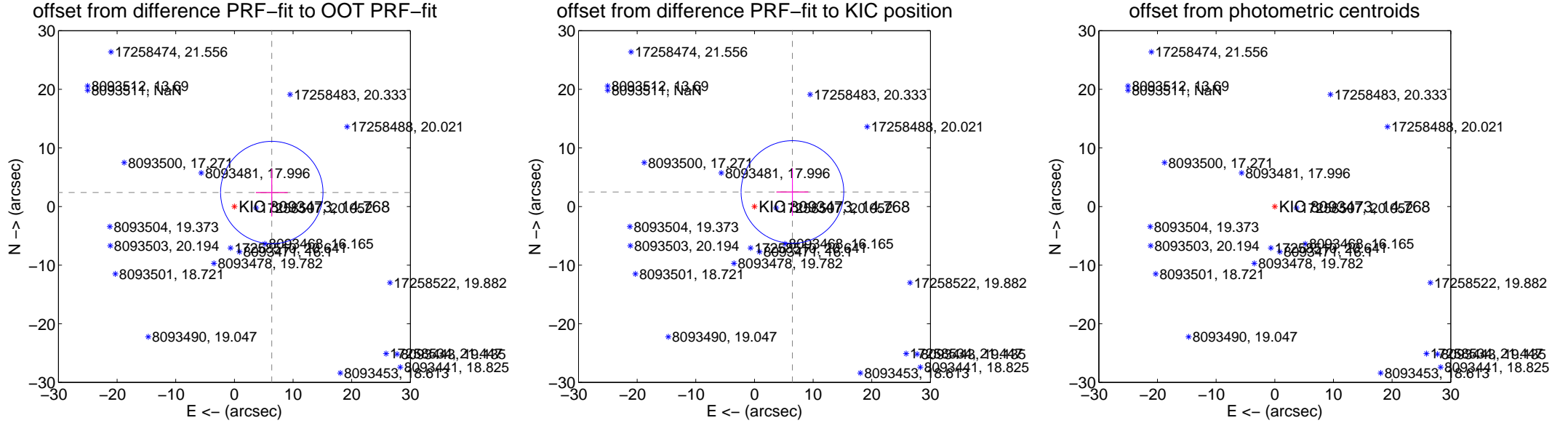
DV Centroid Data

Supplemental centroid analysis for 008093473-07. Kepler magnitude: 14.77. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

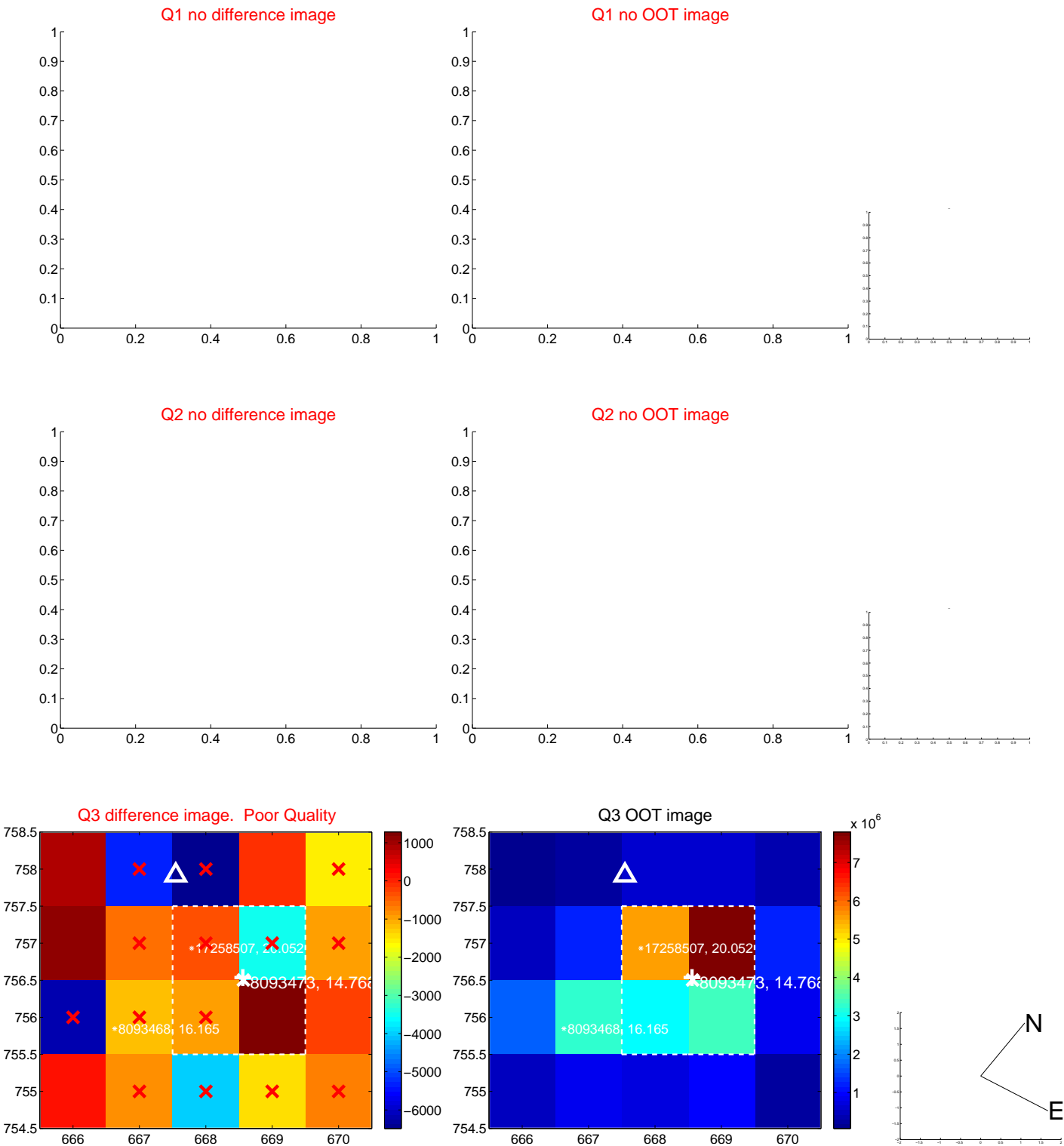
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.805 ± 2.910	2.34	-6.372 ± 2.709	2.390 ± 4.062
PRF-fit source offset from KIC position	6.930 ± 2.918	2.38	-6.470 ± 2.709	2.482 ± 4.062
photometric centroid source offset	94.48 ± 144.13	0.66	-82.96 ± 142.56	45.21 ± 149.32



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

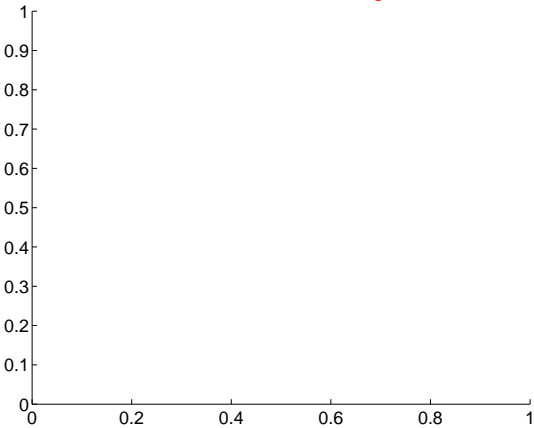
Q5 no difference image



Q5 no OOT image



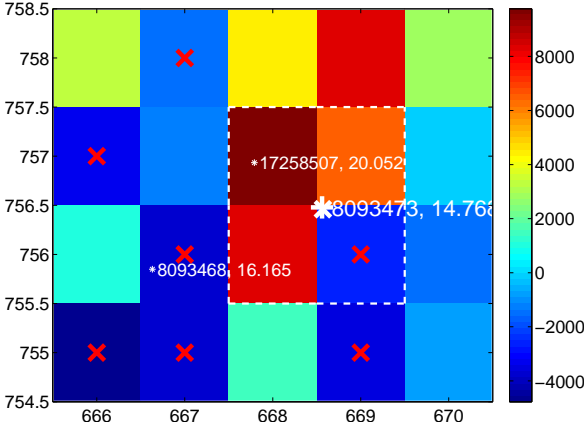
Q6 no difference image



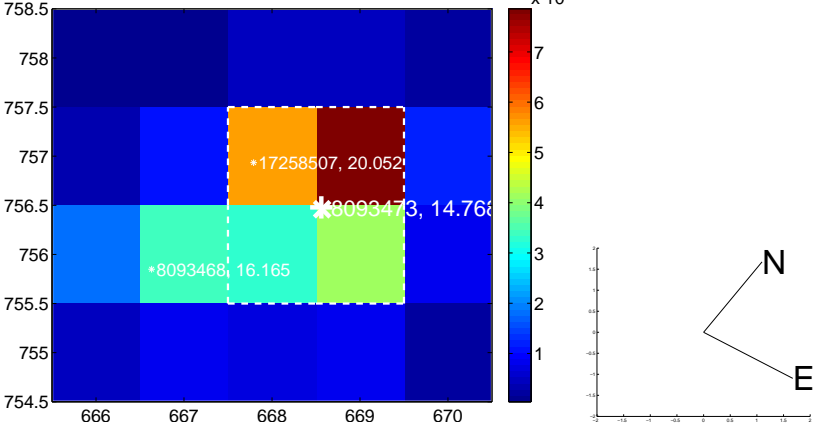
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



Q8 no difference image



Q8 no OOT image



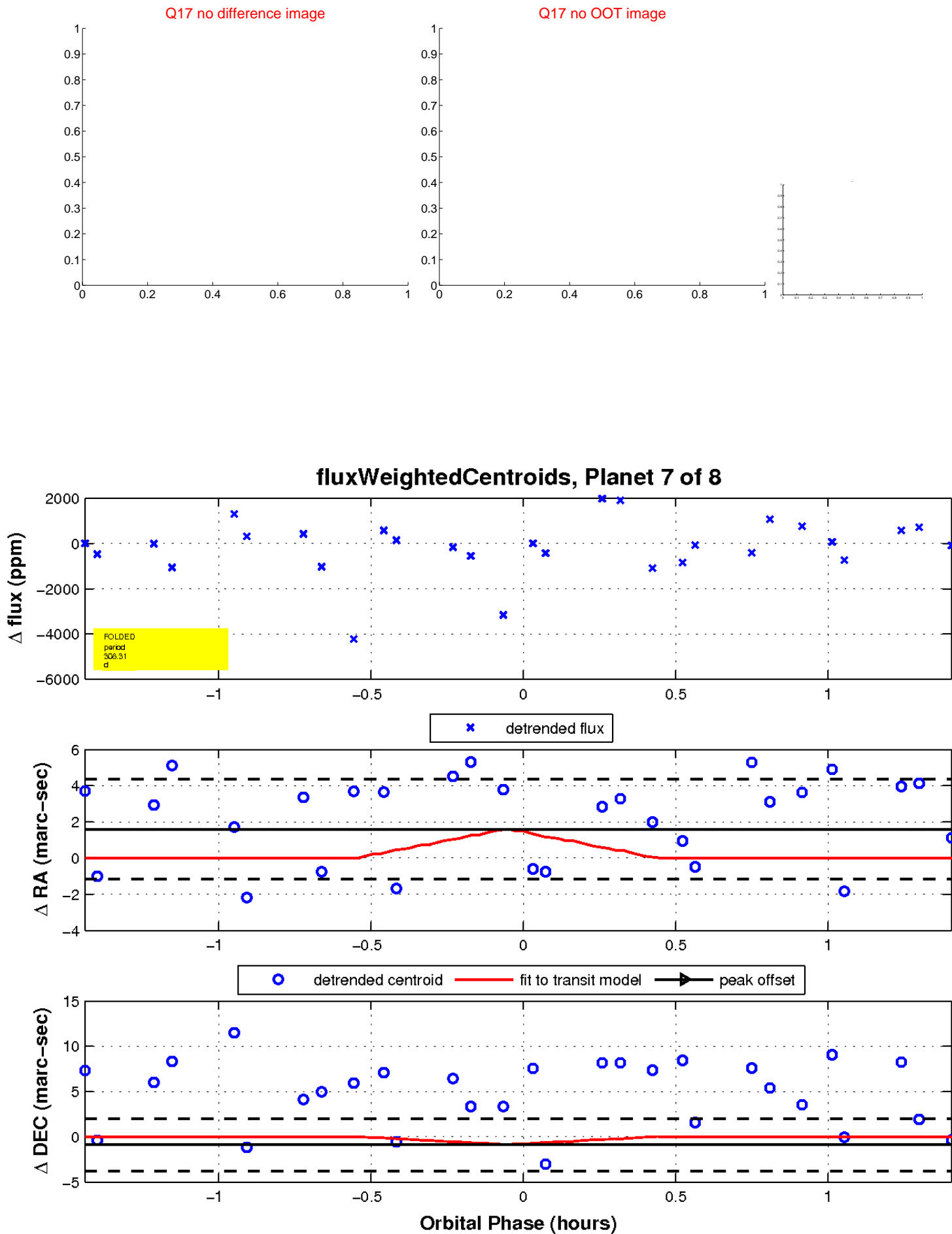
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

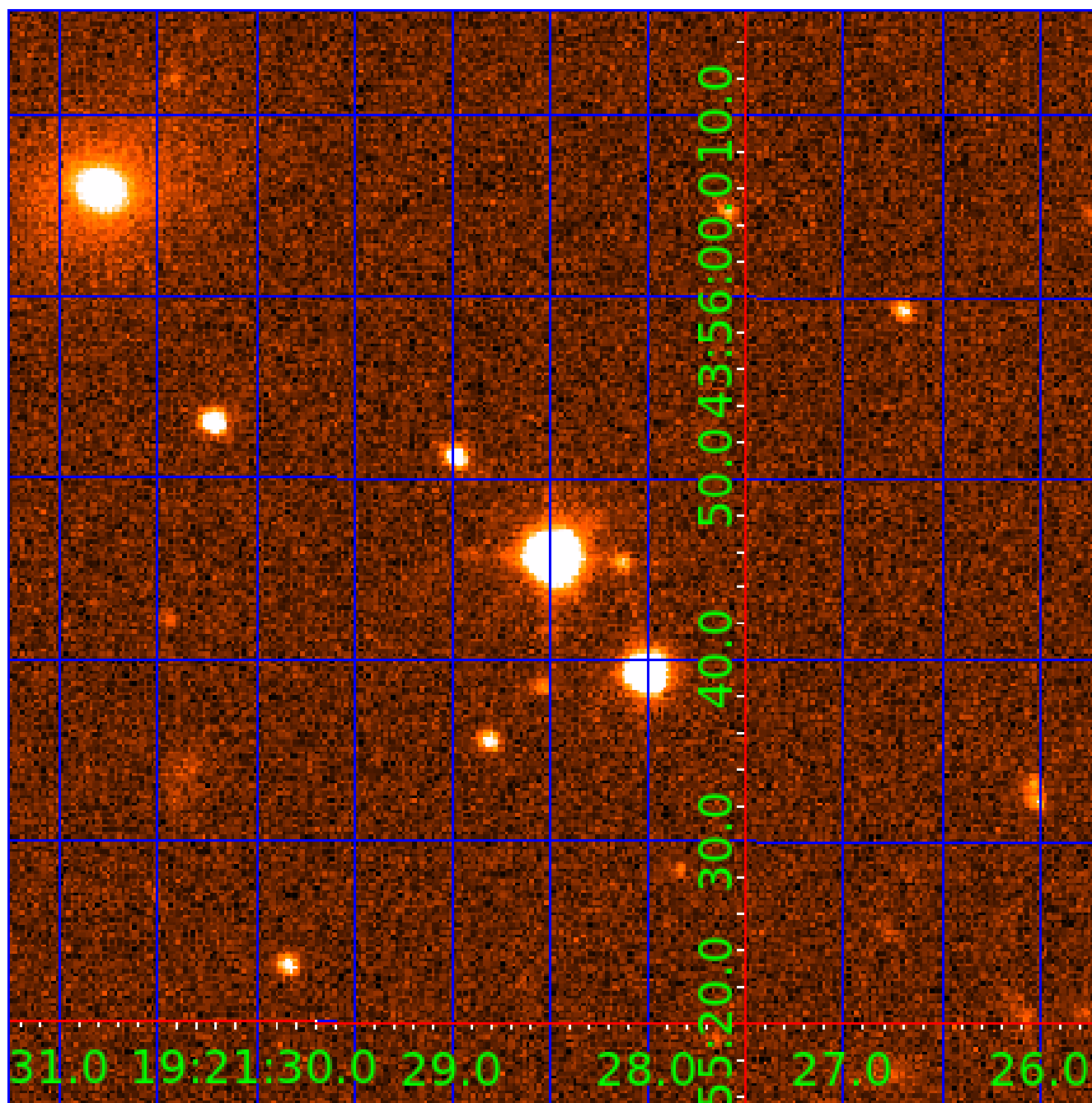


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008093473

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})
008093473-01	OBS	No	178.562825	294.200732	2681.6	8.399	13.1	10.8	0.29	3360	1.76	0.06
008093473-02	OBS	No	326.901260	173.887993	3022.6	12.061	13.6	7.5	0.29	3360	1.56	0.03
008093473-03	OBS	No	214.280181	192.083764	1940.8	13.376	12.9	6.8	0.29	3360	1.25	0.04
008093473-05	OBS	No	523.692877	156.070778	2764.6	6.545	13.2	7.8	0.29	3360	1.50	0.01
008093473-06	OBS	No	276.431591	185.904897	2032.0	10.945	12.9	6.2	0.29	3360	1.27	0.03
008093473-07	OBS	No	308.313173	326.194573	1362.4	3.000	12.7	-1.0	0.29	3360	1.05	0.03
008093473-08	OBS	No	188.685218	163.698501	1217.3	2.500	11.3	-1.0	0.29	3360	0.99	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008093473-01	OBS	FP	0.00	1	0	1	0	LPP_DV—INCONSISTENT_TRANS—HALO_GHOST
008093473-02	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_FEW_DIFFS—HALO_GHOST
008093473-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_TER_ALT
008093473-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
008093473-06	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
008093473-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
008093473-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

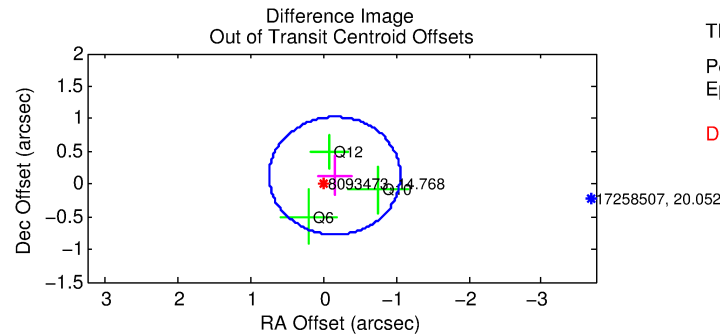
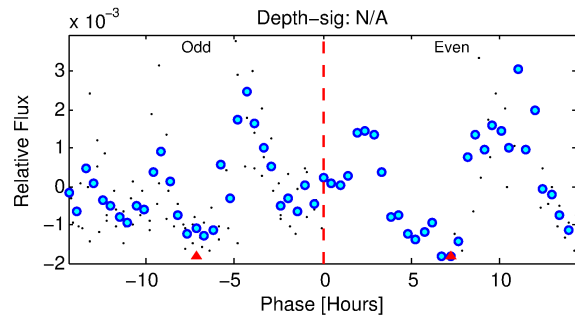
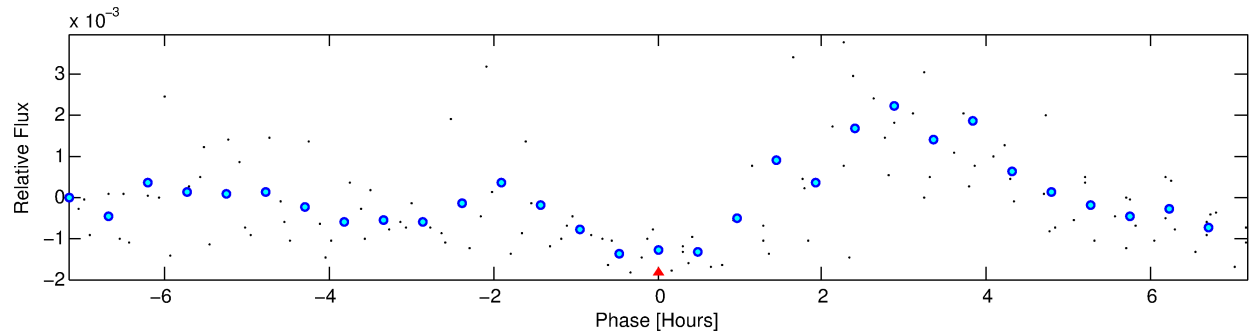
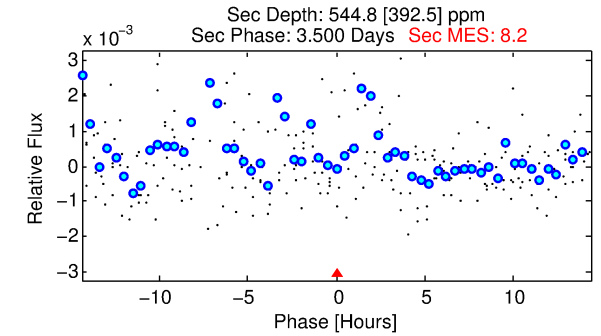
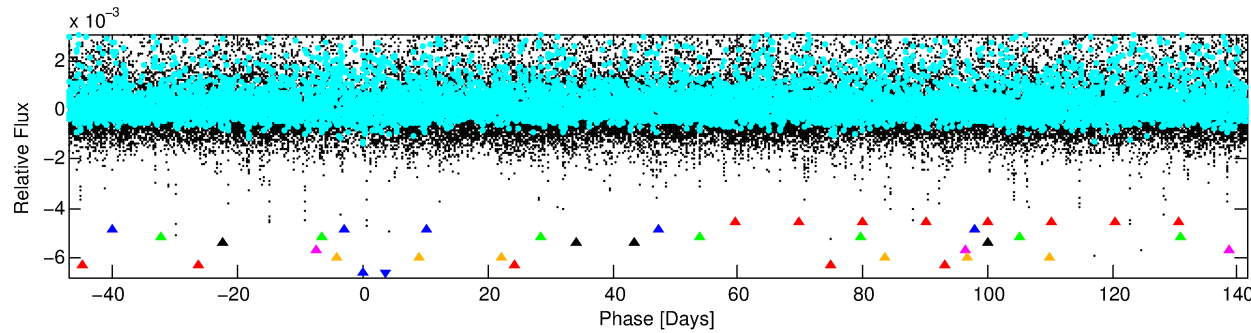
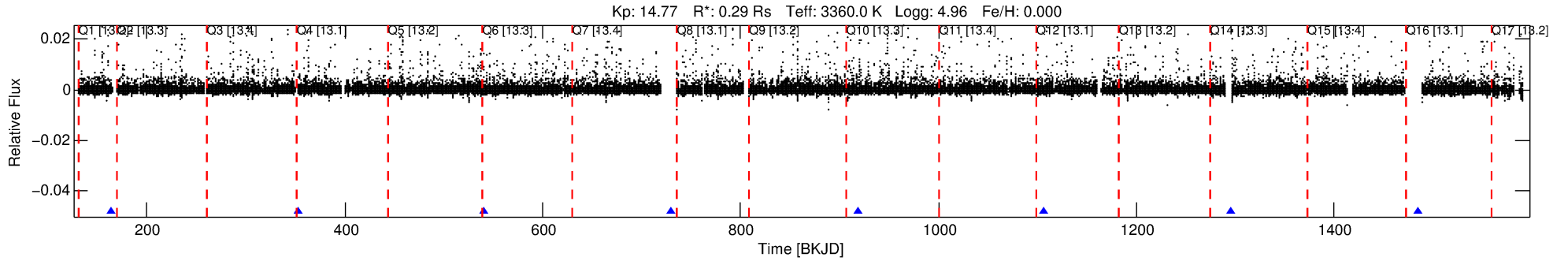
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008093473-08

No Significant Match Found

DV One-Page Summary

KIC: 8093473 Candidate: 8 of 8 Period: 188.685 d



TPS TCE Results:

Period = 188.68522 d
Epoch = 163.6985 BKJD

DV fit results are unavailable

DV Diagnostic Results:

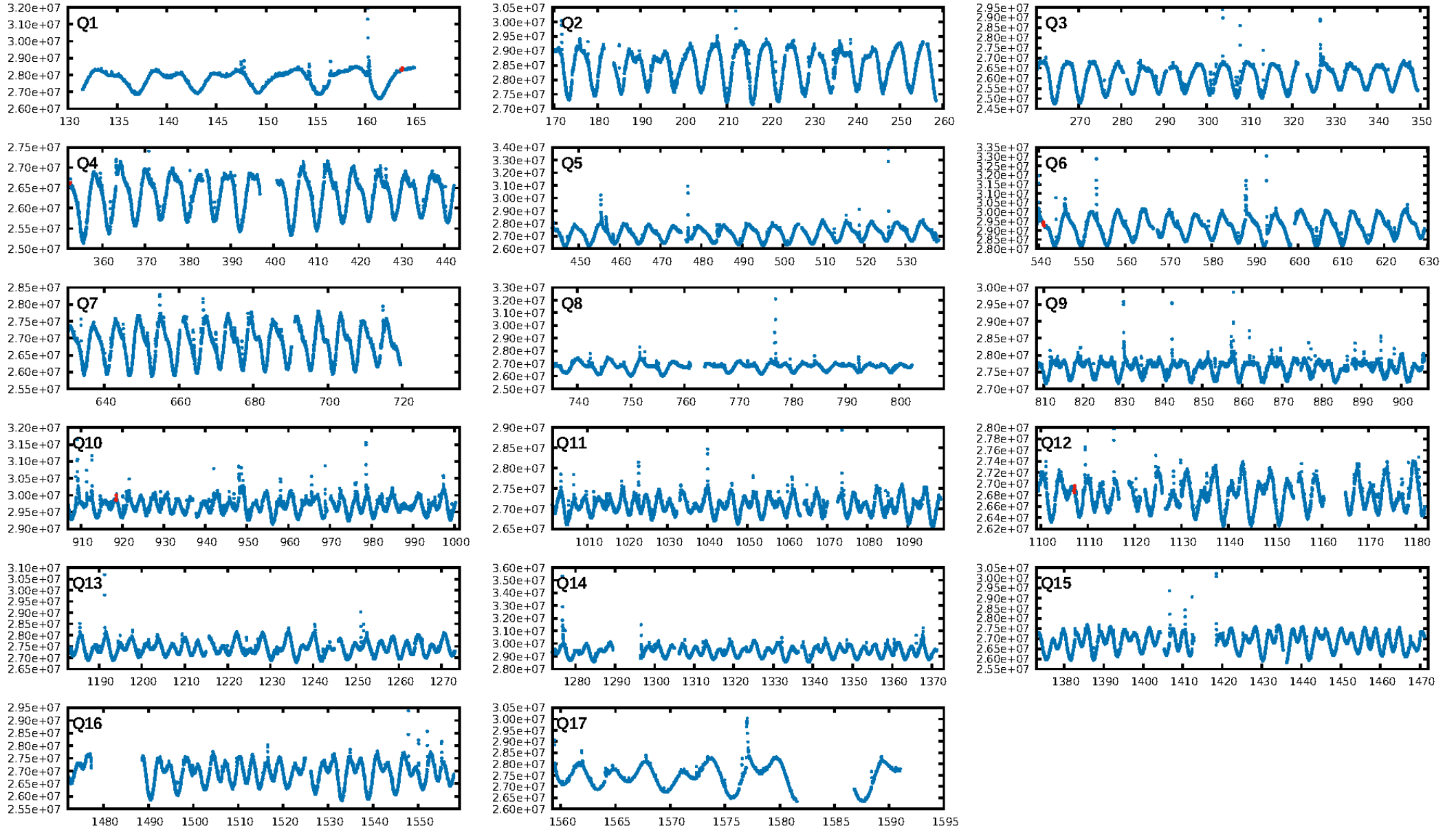
ShortPeriod-sig: 100.0% [27.72σ]
LongPeriod-sig: 100.0% [45.14σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.86

Centroid-sig: 34.9%
Centroid-so: 0.158 arcsec [0.22σ]
OotOffset-rm: 0.201 arcsec [0.67σ]
KicOffset-rm: 0.202 arcsec [0.77σ]
OotOffset-st: 2/0/1/0 [3]
KicOffset-st: 2/0/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [4/4]

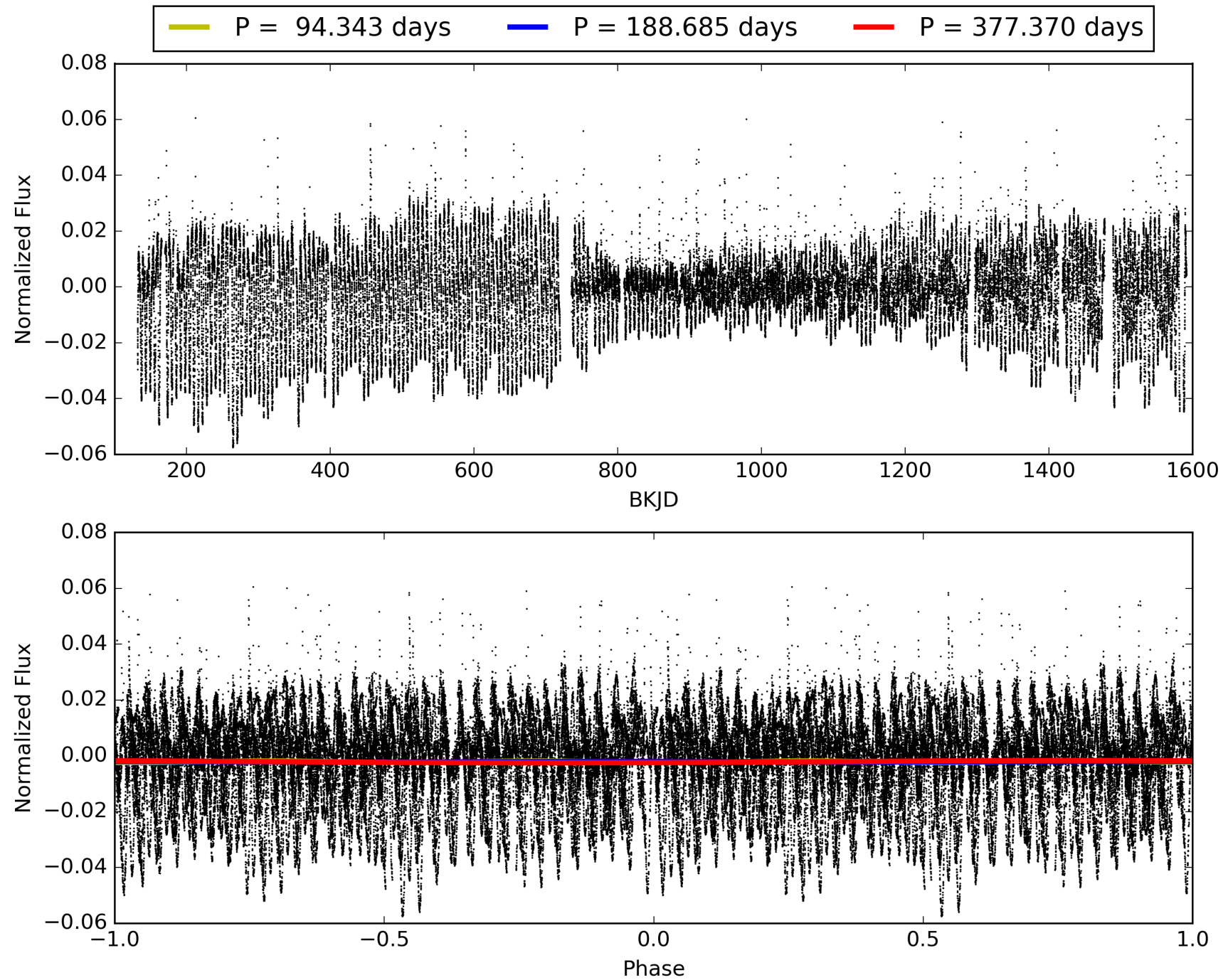
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:37:18 Z

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

TCE 008093473-08, PDC Light Curves

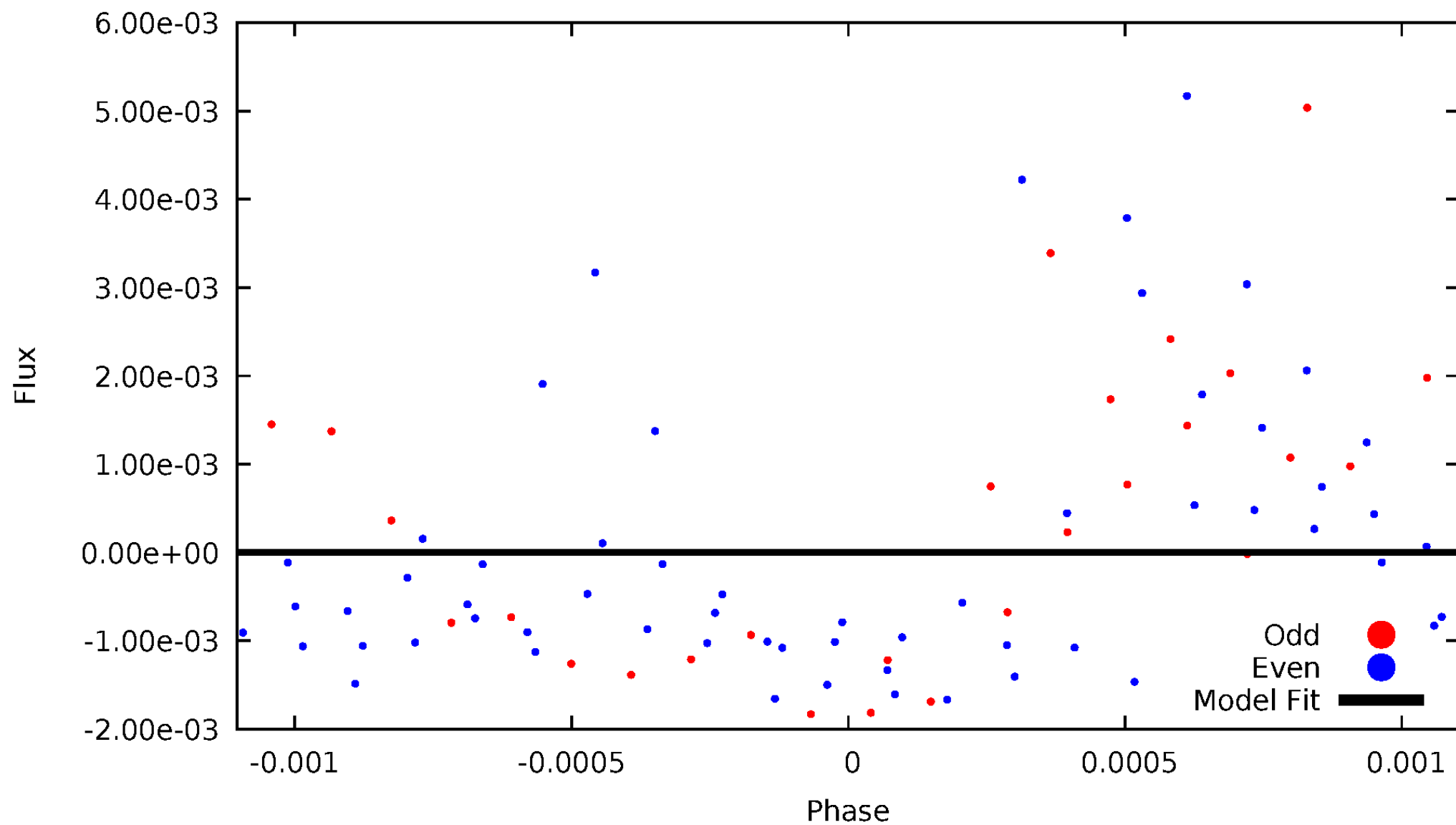


TCE 008093473-08



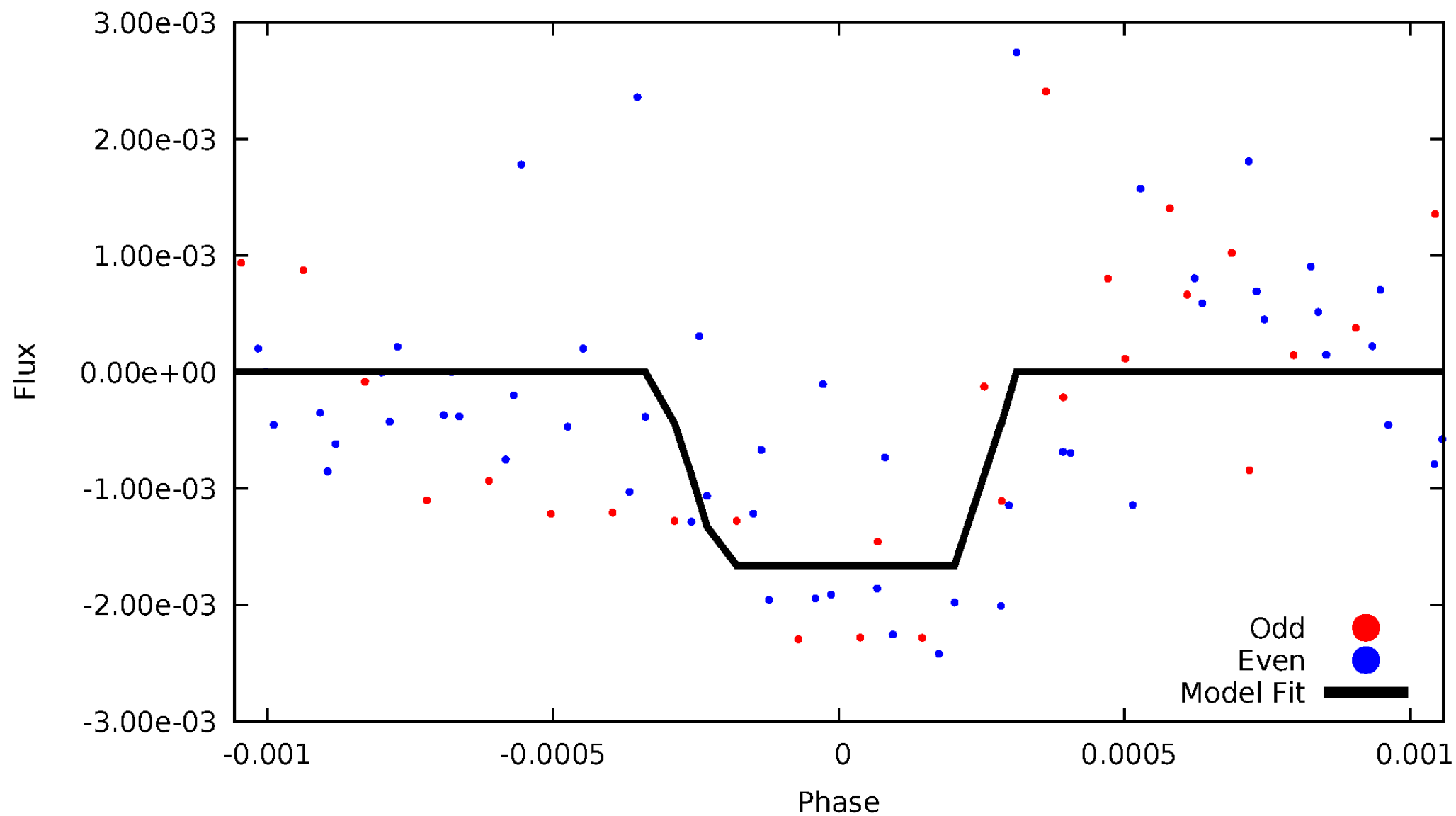
DV Odd/Even

TCE 008093473-08



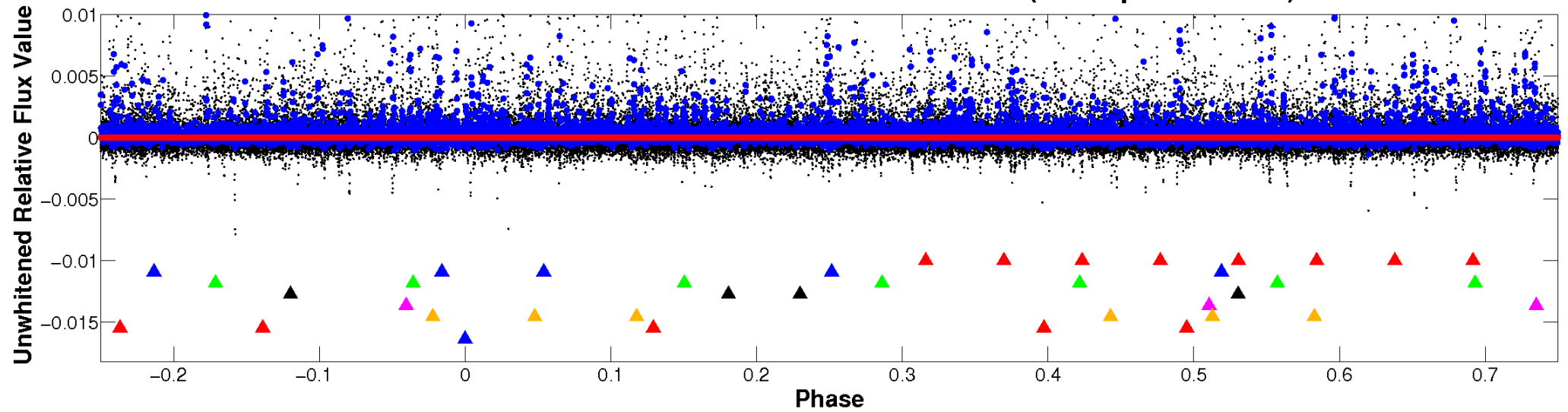
ALT Odd/Even

TCE 008093473-08

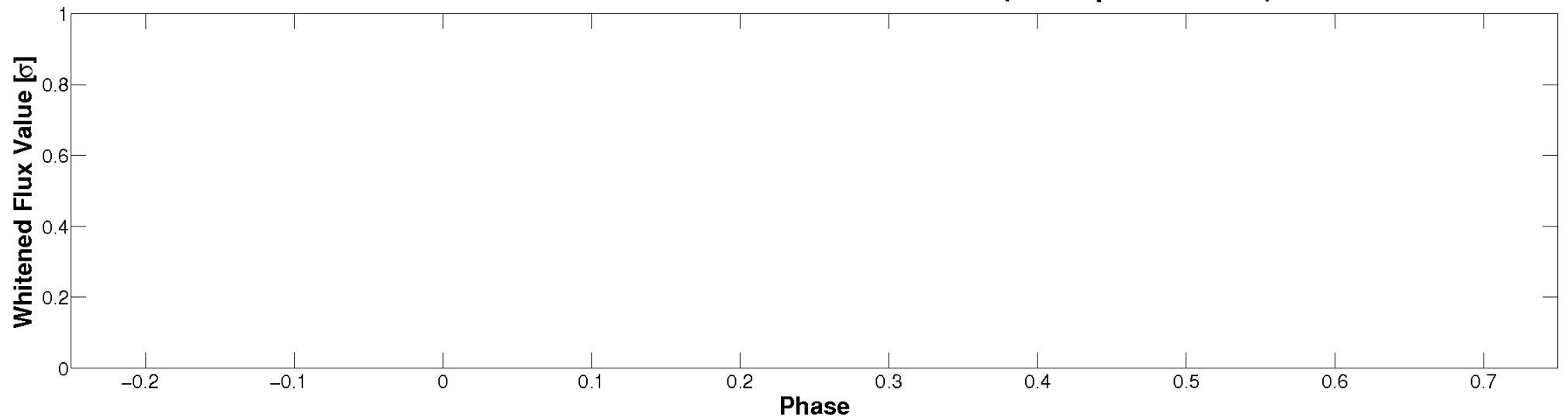


Non-Whitened Vs. Whitened Light Curve

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

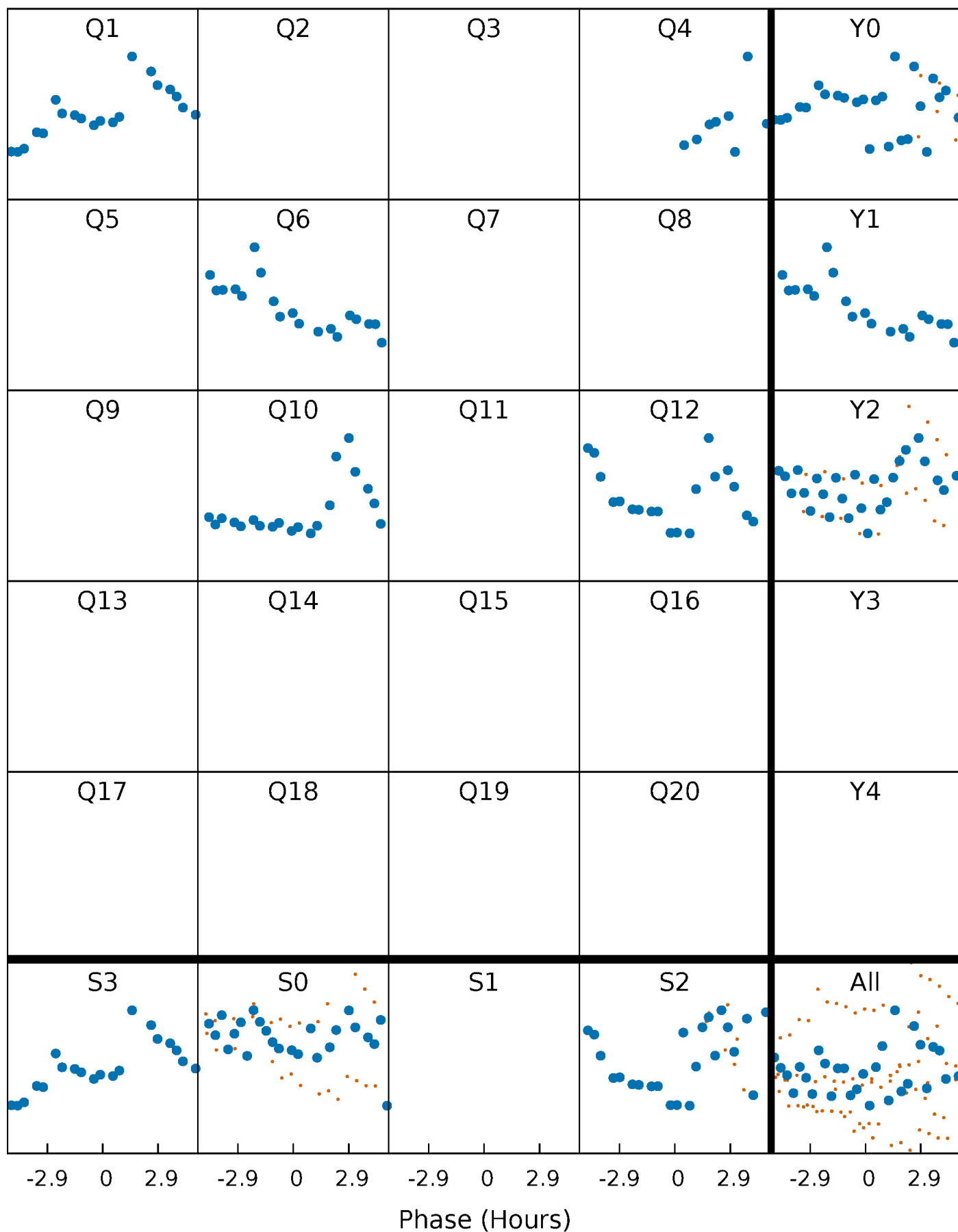


Planet 8 : Phased Whitened Flux Time Series (TPS Epoch/Period)



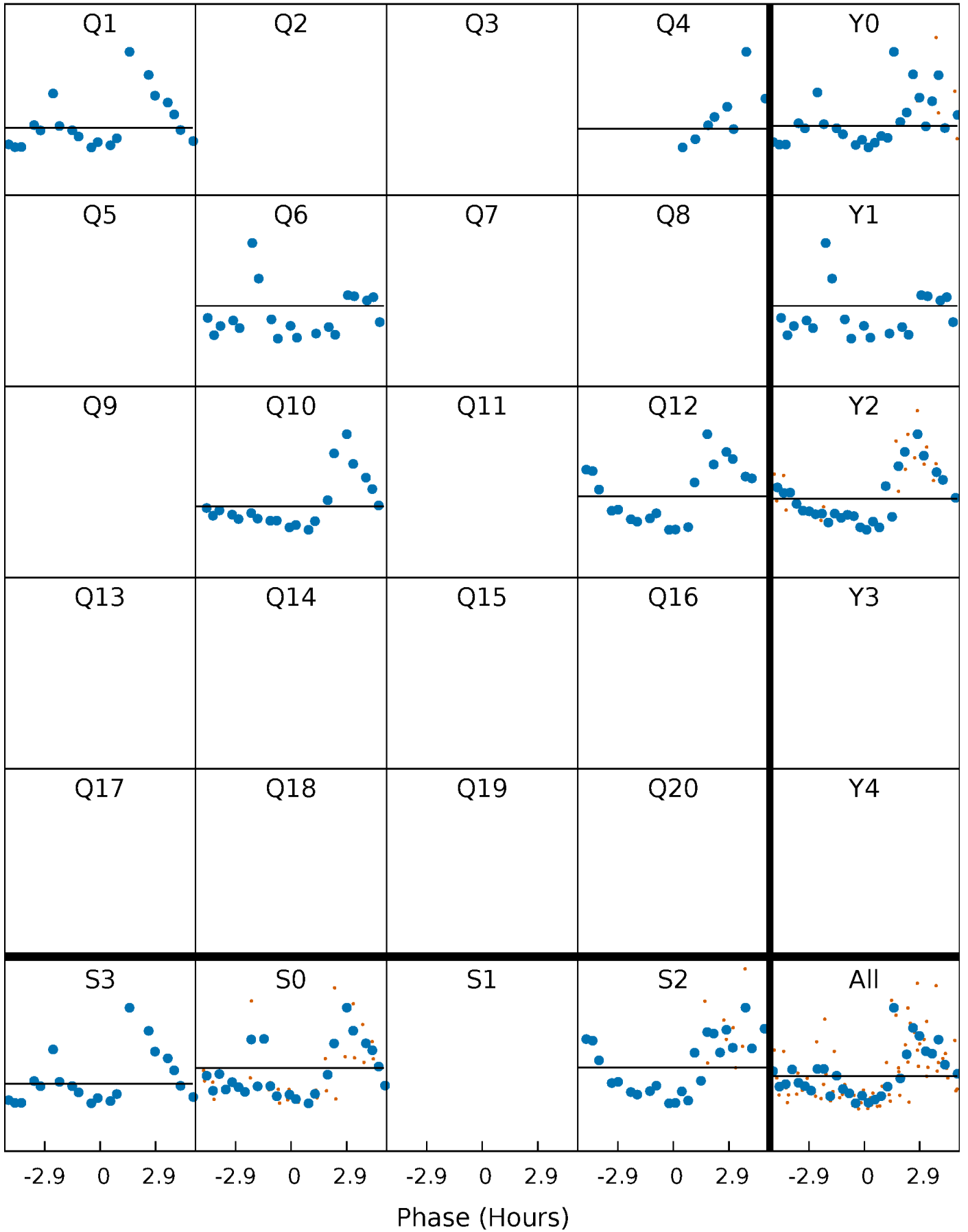
PDC Quarter-Phased Transit Curves

TCE 008093473-08 P=188.685218 Days $T_0=163.698501$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008093473-08 P=188.685218 Days $T_0=163.698501$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

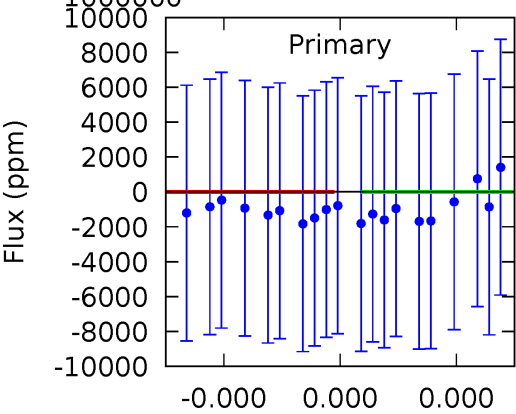
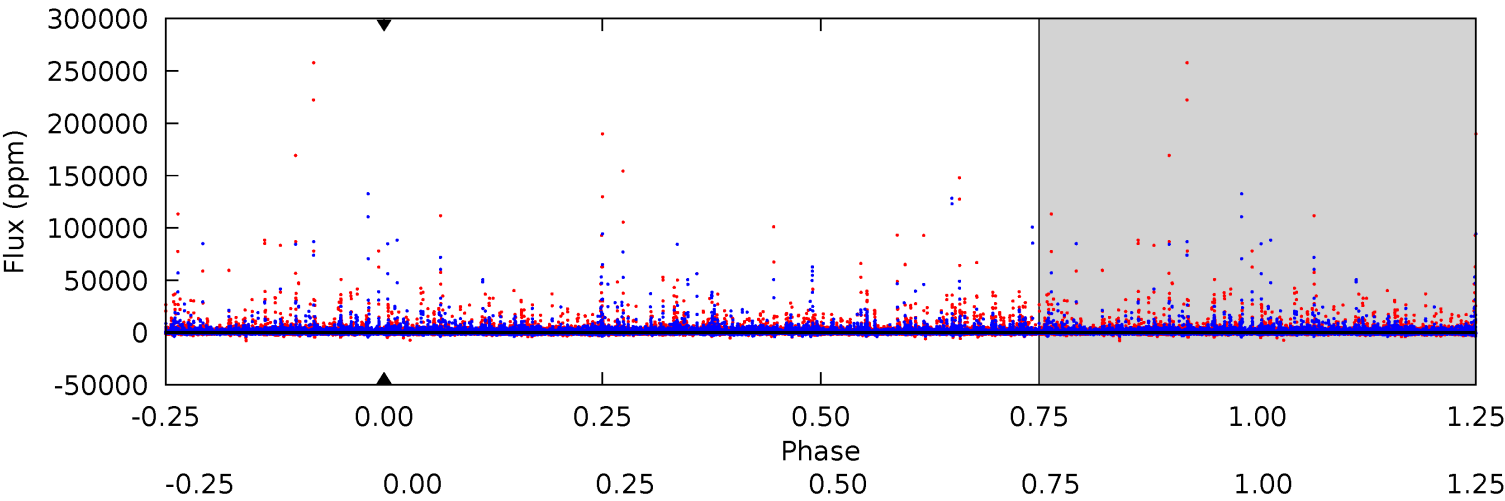
TCE 008093473-08 P=188.685218 Days $T_0=163.699075$ (BKJD)



DV Model-Shift Uniqueness Test

008093473-08, P = 188.685218 Days, E = 163.698501 Days

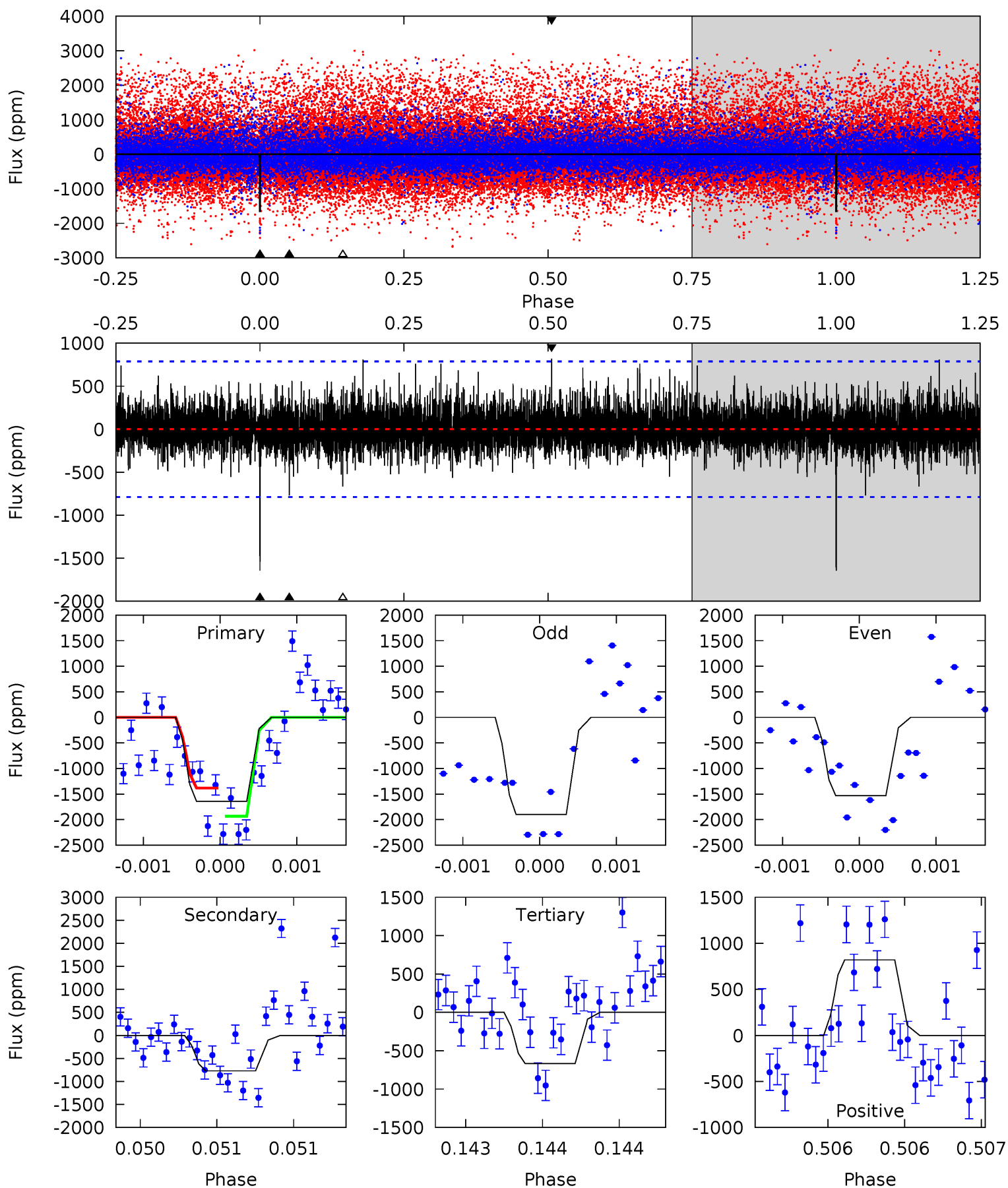
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008093473-08, P = 188.685218 Days, E = 163.699075 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	5.43	4.69	5.77	5.55	3.44	1.23	6.87	5.79	0.74	-0.34	1.21	0.82	0.33	1.96



Stellar Parameters For KIC 008093473

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3360^{+43}_{-40}	$4.961^{+0.044}_{-0.044}$	$0.000^{+0.100}_{-0.100}$	$0.287^{+0.040}_{-0.033}$	$0.274^{+0.052}_{-0.034}$	$16.380^{+4.222}_{-3.354}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+14%/-11%	+19%/-12%	+26%/-20%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 008093473-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$2.50^{+2.57}_{-1.80}$	172^{+4}_{-4}	2549^{+4354}_{-8689}	$13366^{+3124031}_{-2257715}$
Alt.	-771 ± 142	$2.85^{+2.35}_{-1.96}$	172^{+4}_{-4}	2456^{+902}_{-335}	9749^{+84049}_{-6997}

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

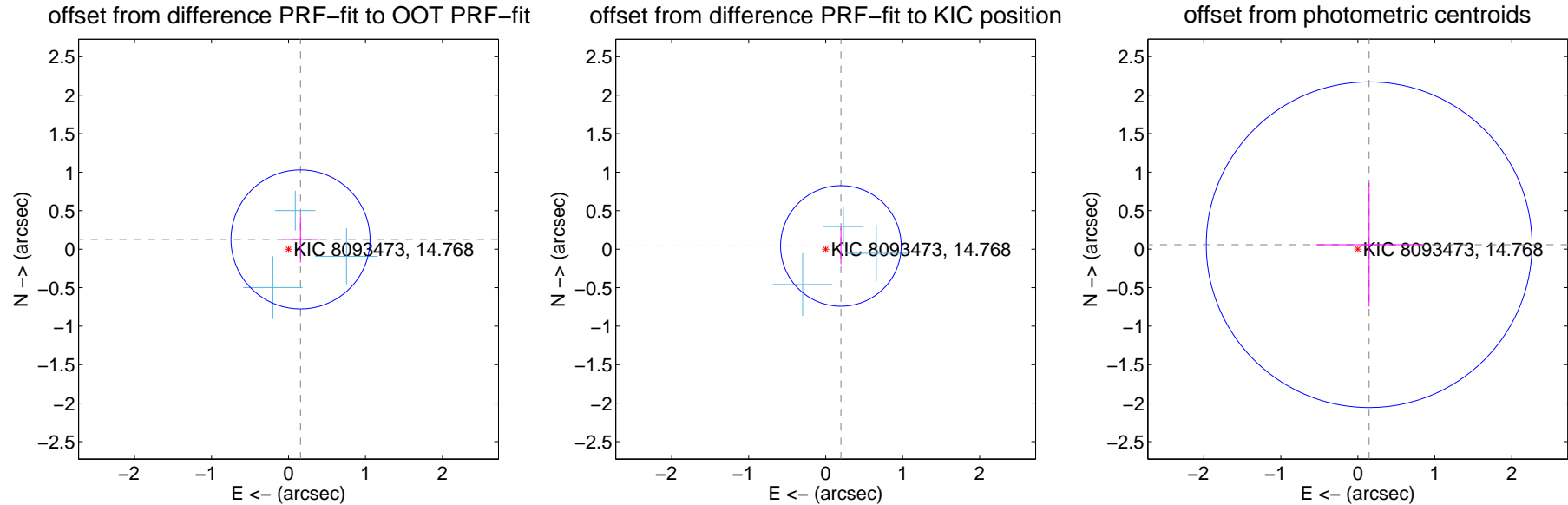
DV Centroid Data

Supplemental centroid analysis for 008093473-08. Kepler magnitude: 14.77. Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

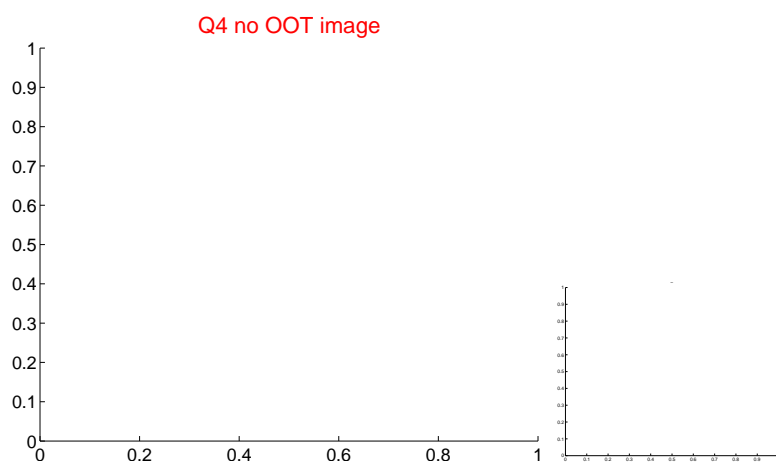
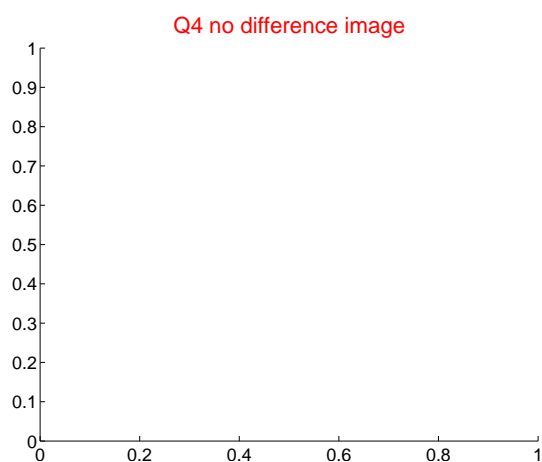
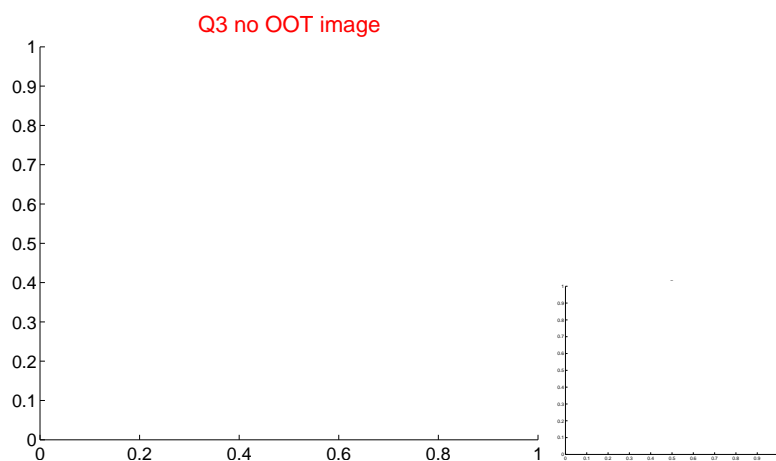
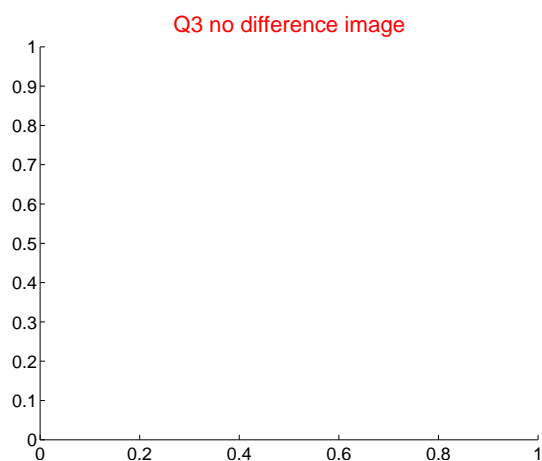
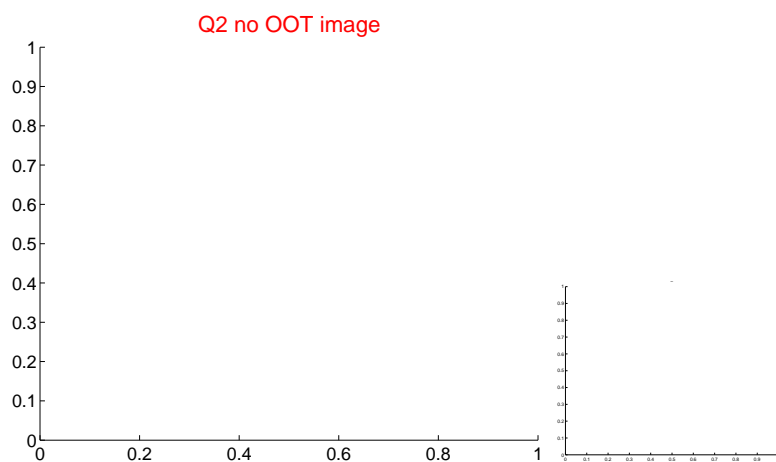
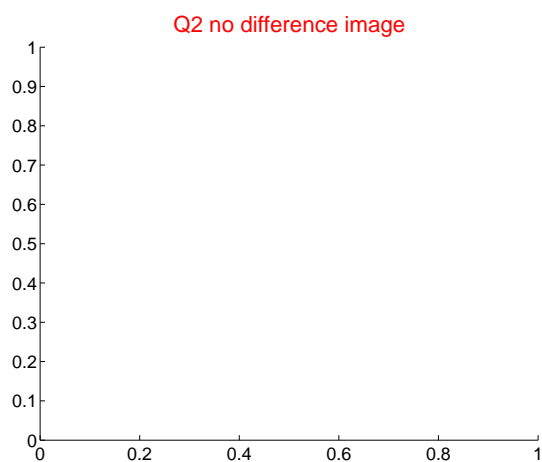
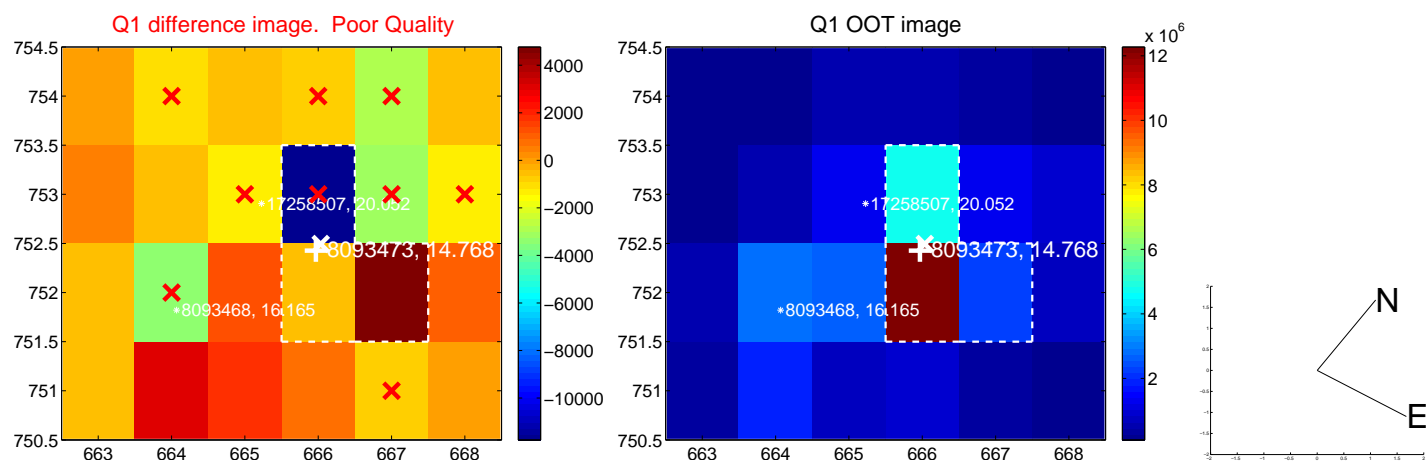
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.201 ± 0.301	0.67	-0.156 ± 0.225	0.127 ± 0.301
PRF-fit source offset from KIC position	0.202 ± 0.261	0.77	-0.198 ± 0.262	0.042 ± 0.237
photometric centroid source offset	0.16 ± 0.70	0.22	-0.15 ± 0.69	0.06 ± 0.80

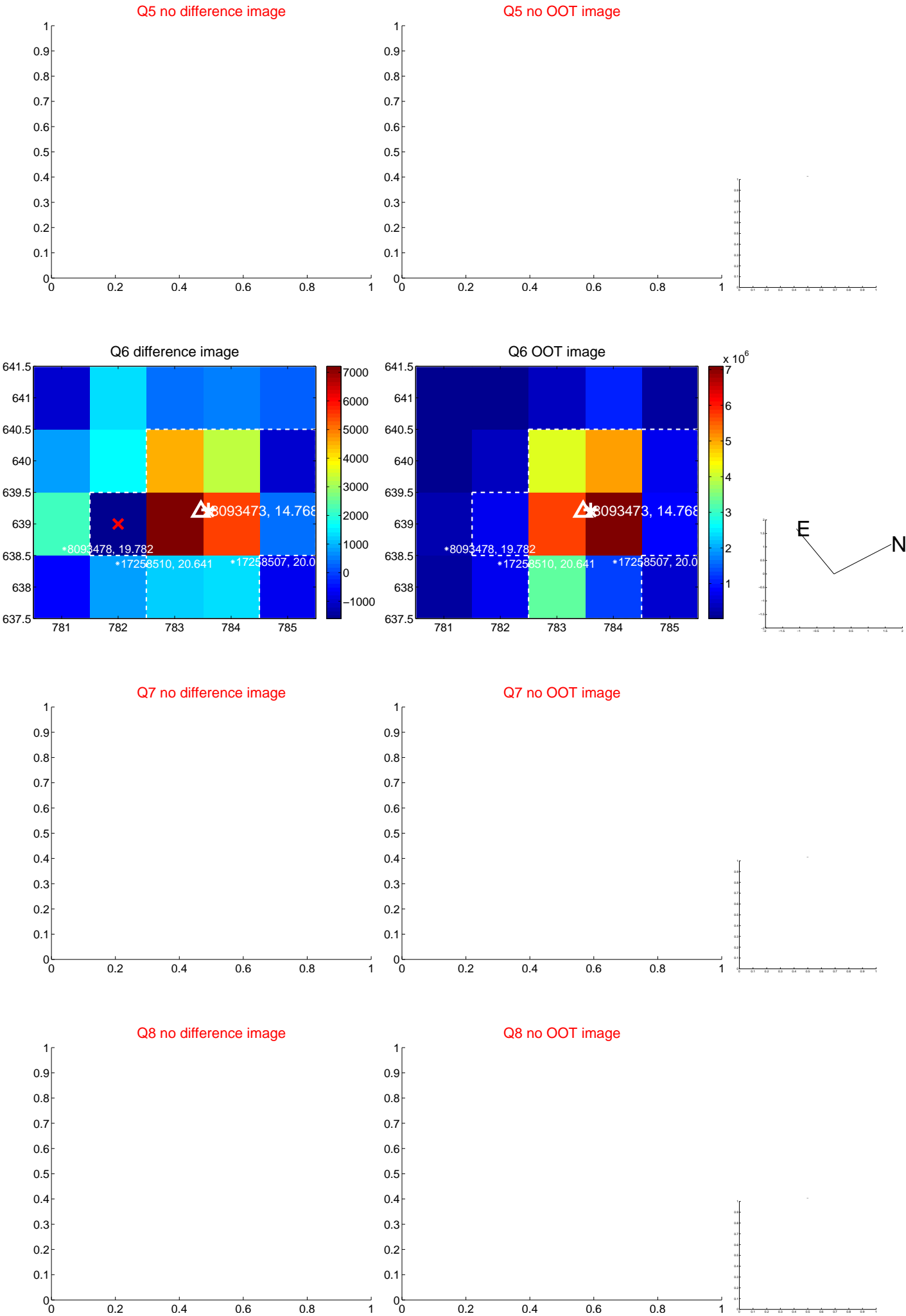


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

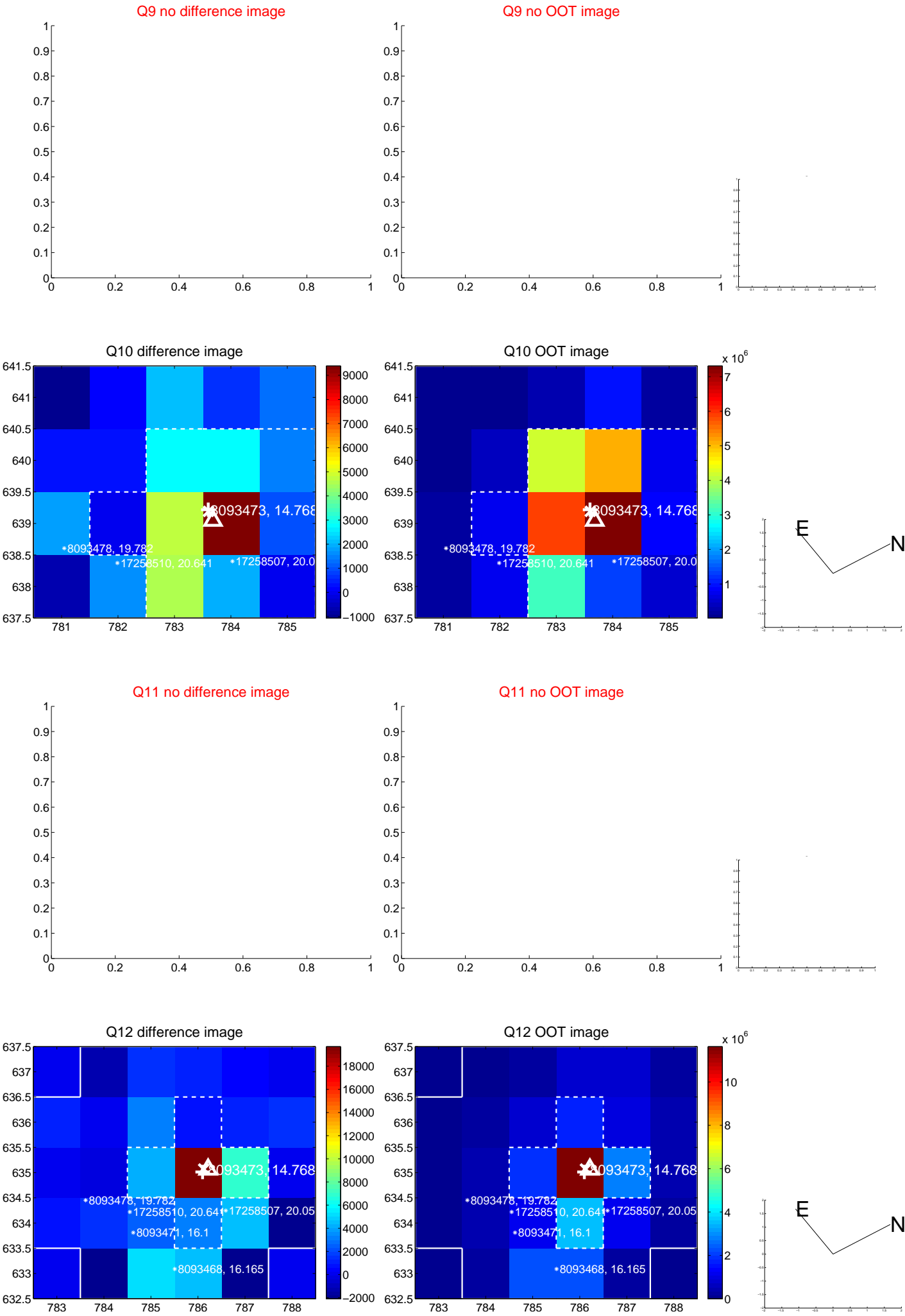
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



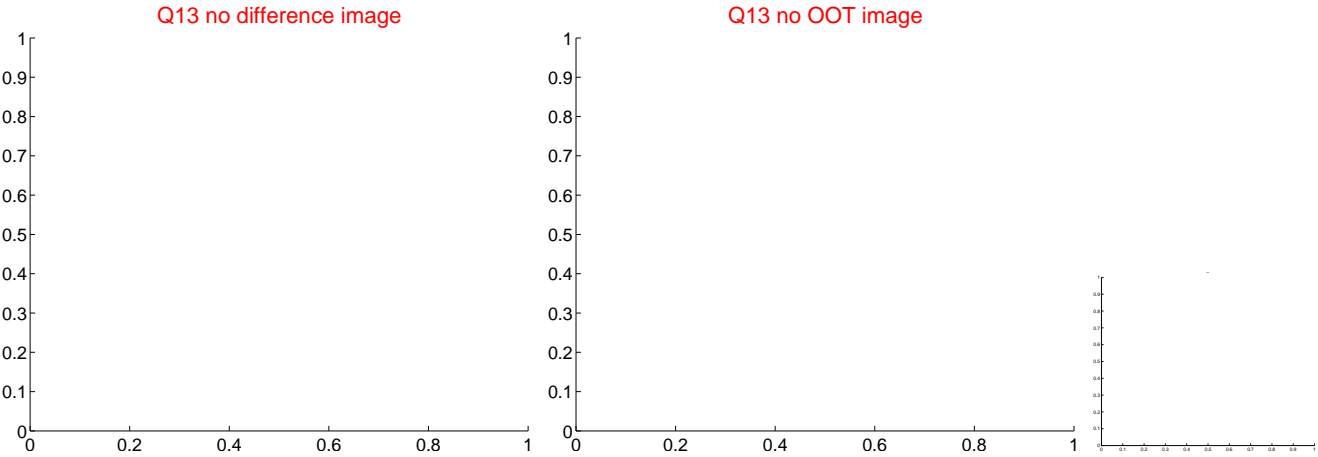
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



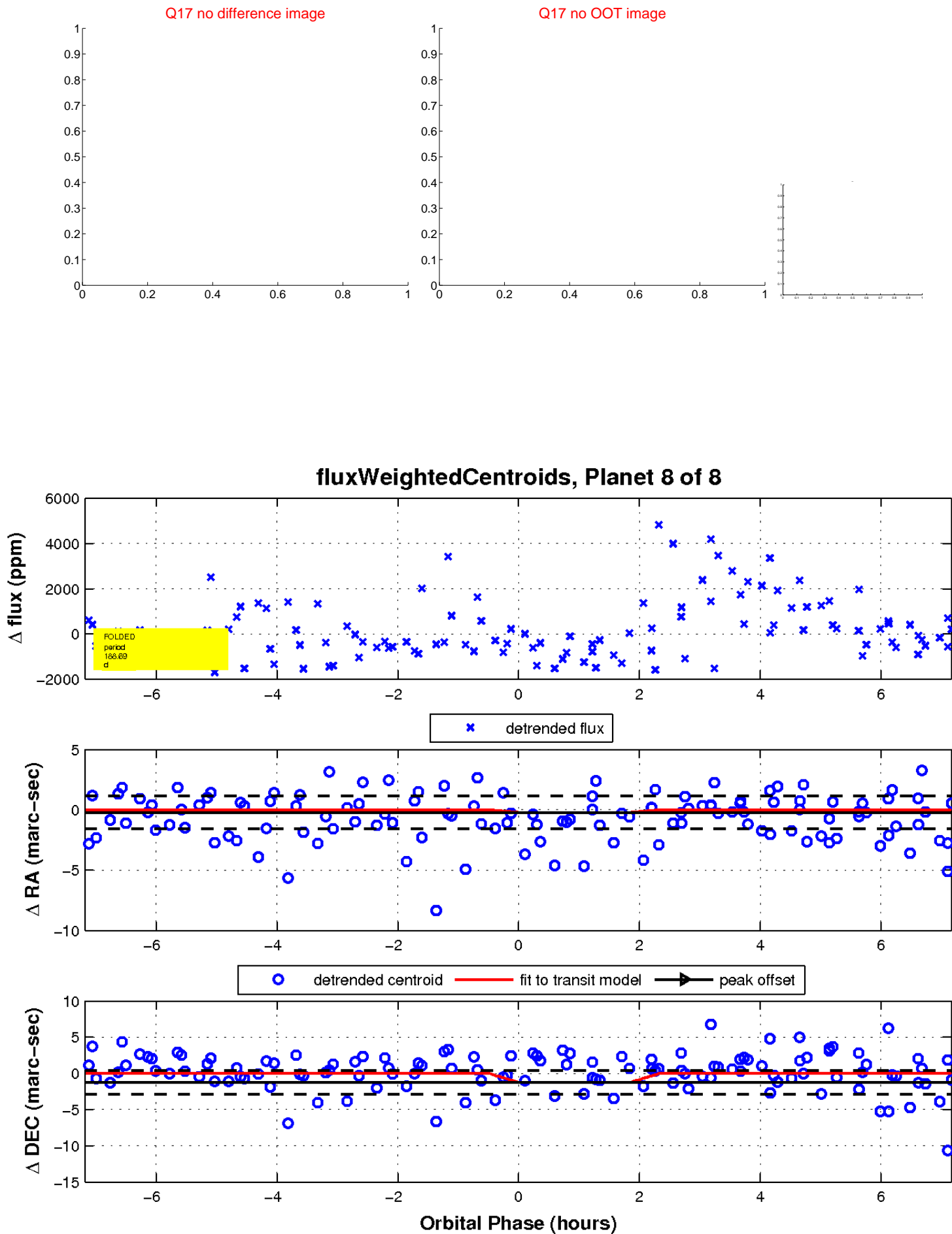
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

