

KIC 008390826

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})
008390826-01	OBS	No	280.510110	252.293083	11.4	7.444	103.8	2.7	1.99	8501	0.72	16.81
008390826-02	OBS	No	256.051037	328.908176	593.1	32.534	72.3	50.9	1.99	8501	5.21	18.99
008390826-03	OBS	No	385.580182	469.021516	395.2	1.959	34.2	8.8	1.99	8501	4.07	11.00
008390826-04	OBS	No	431.563937	501.327944	900.2	3.992	45.6	28.9	1.99	8501	6.28	9.47
008390826-05	OBS	No	253.192983	219.030173	719.4	1.788	33.5	23.2	1.99	8501	5.91	19.27
008390826-06	OBS	No	255.865661	208.144545	462.0	3.000	36.1	-1.0	1.99	8501	4.34	19.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008390826-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

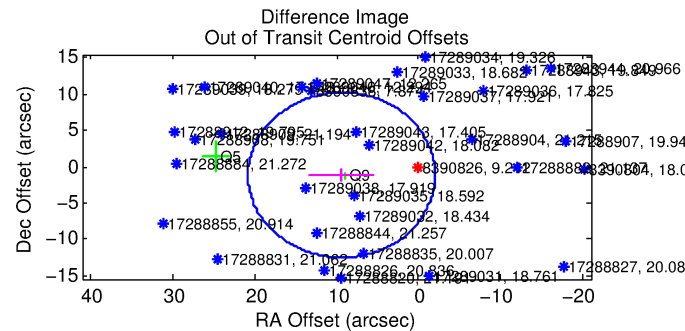
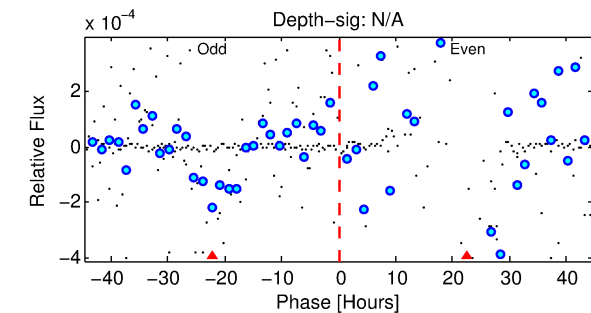
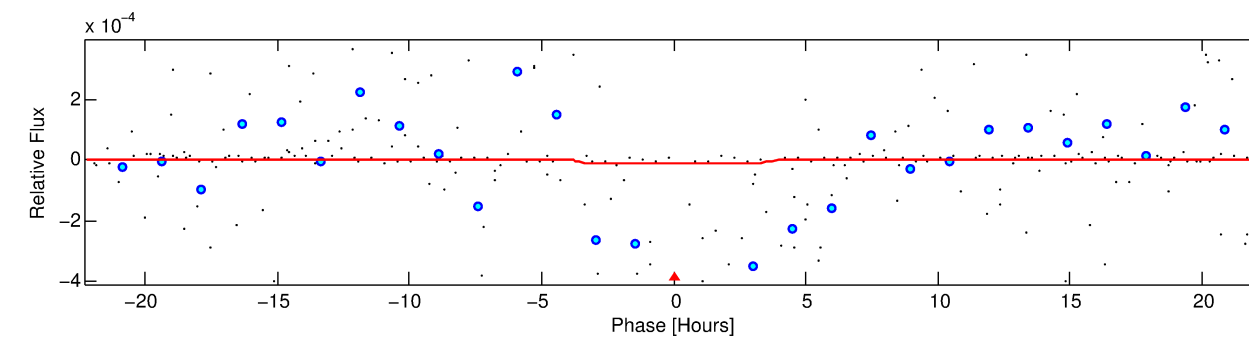
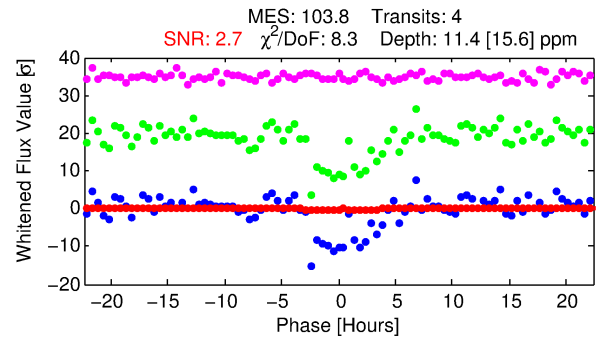
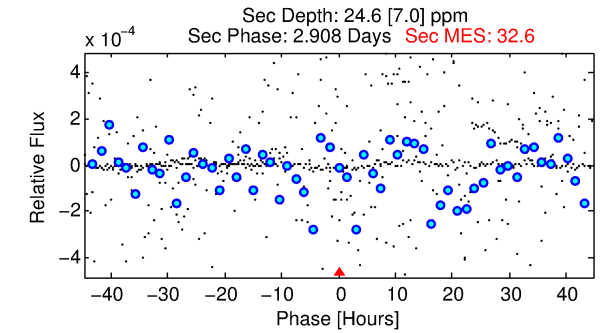
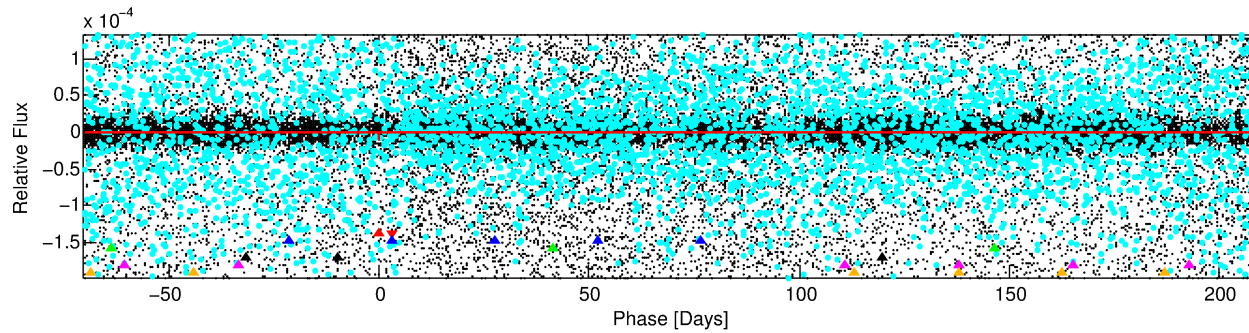
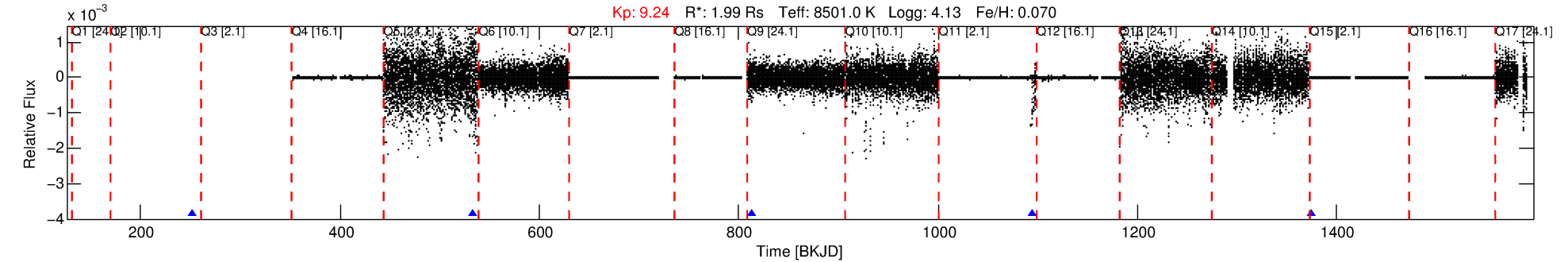
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008390826-01

No Significant Match Found

DV One-Page Summary

KIC: 8390826 Candidate: 1 of 6 Period: 280.510 d



DV Fit Results:

Period = 280.51011 [0.19602] d
Epoch = 252.2931 [0.6895] BKJD
Rp/R* = 0.0033 [0.0330]
a/R* = 198.49 [12009.54]
b = 0.73 [39.64]
Seff = 16.81 [5.56]
Teq = 516 [43] K
Rp = 0.72 [7.17] Re
a = 1.0482 [0.1955] AU
Ag = 28314.85 [560045.03] [0.05σ]
Teffp = 10356 [51203] K [0.19σ]

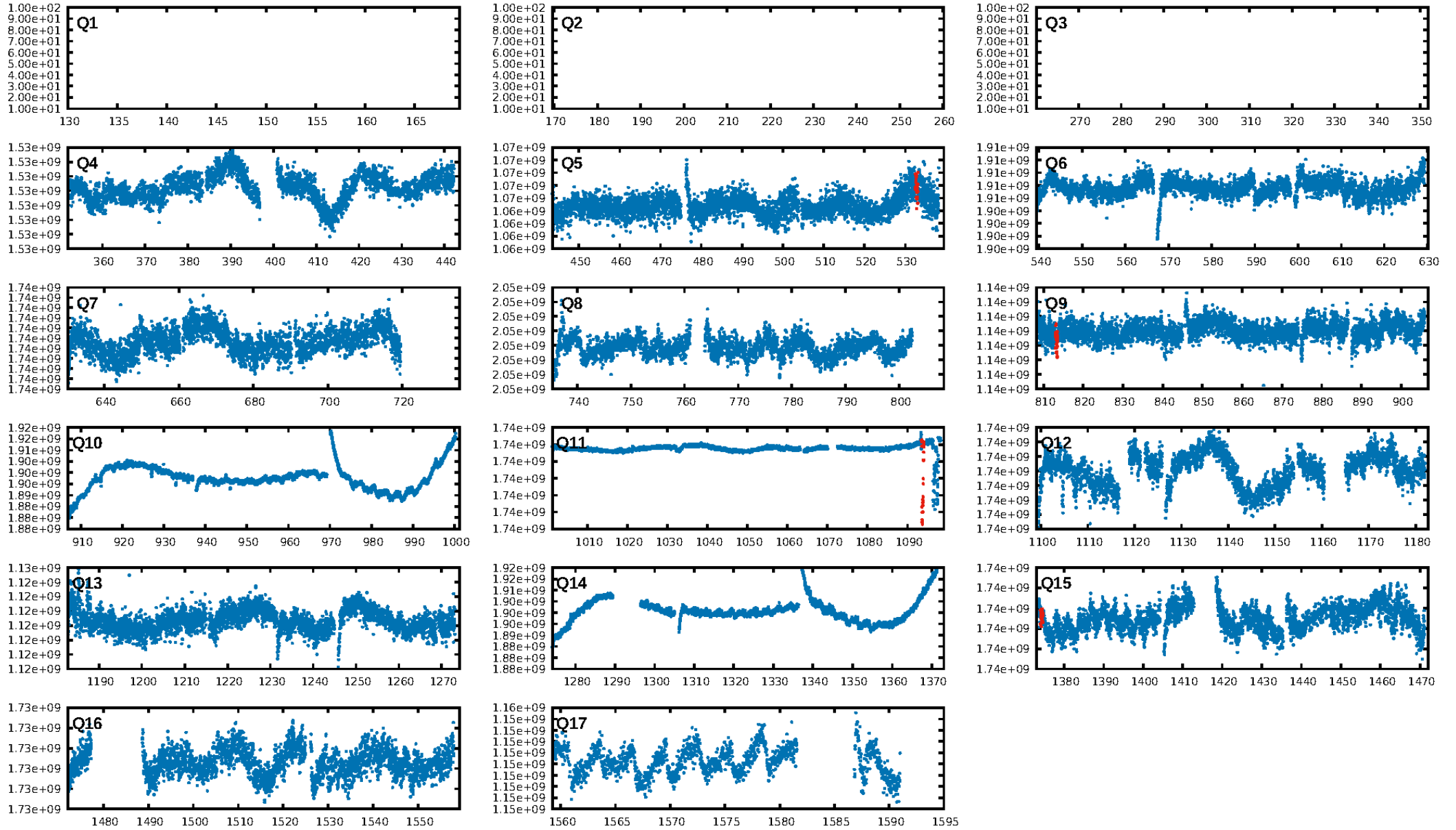
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [17.59σ]
LongPeriod-sig: 100.0% [327.58σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: N/A
Centroid-sig: 46.5%
Centroid-so: 3.758 arcsec [0.73σ]
OotOffset-rm: 9.468 arcsec [2.50σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-rm: 21.566 arcsec [3.46σ]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

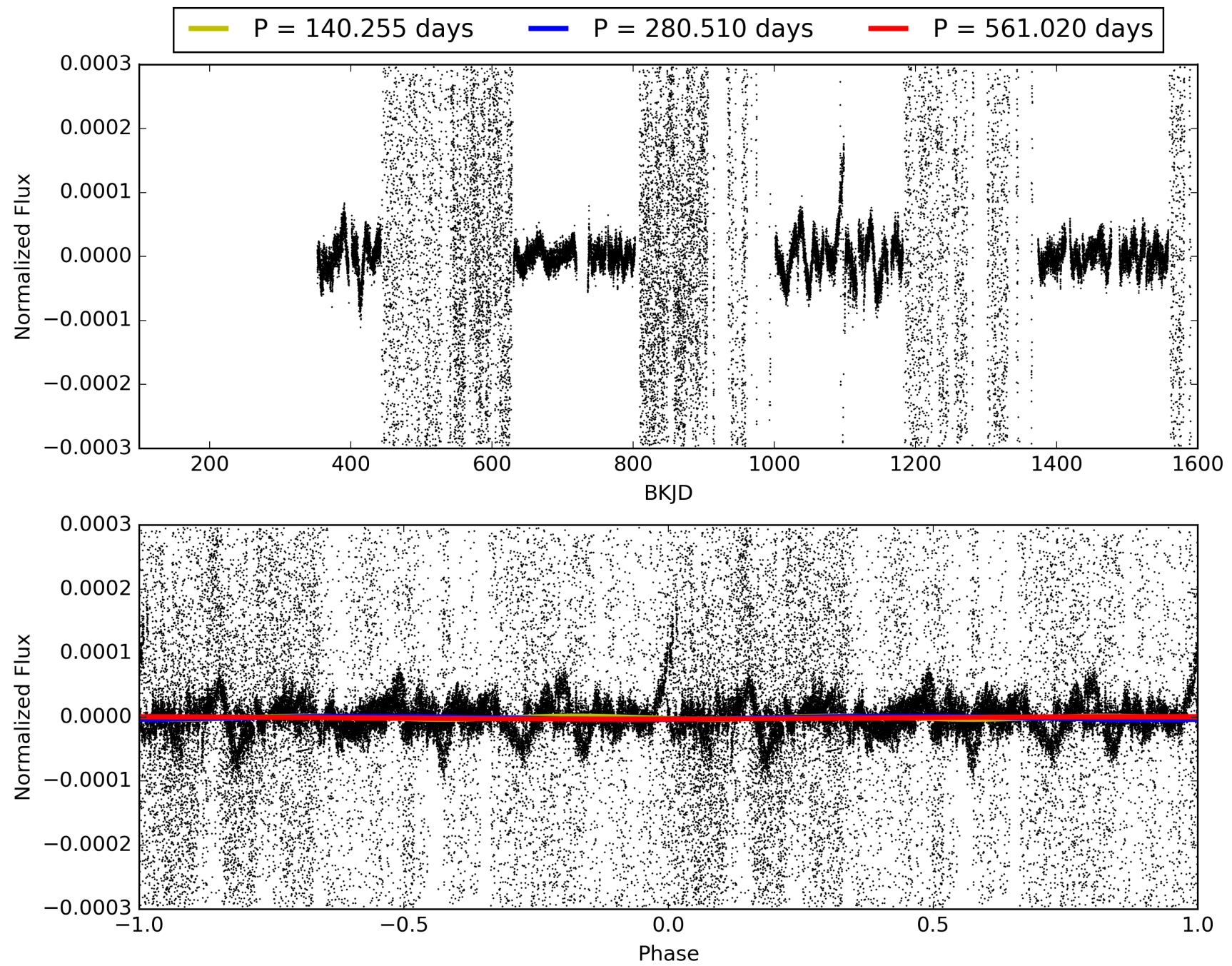
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:34:16 Z

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

TCE 008390826-01, PDC Light Curves

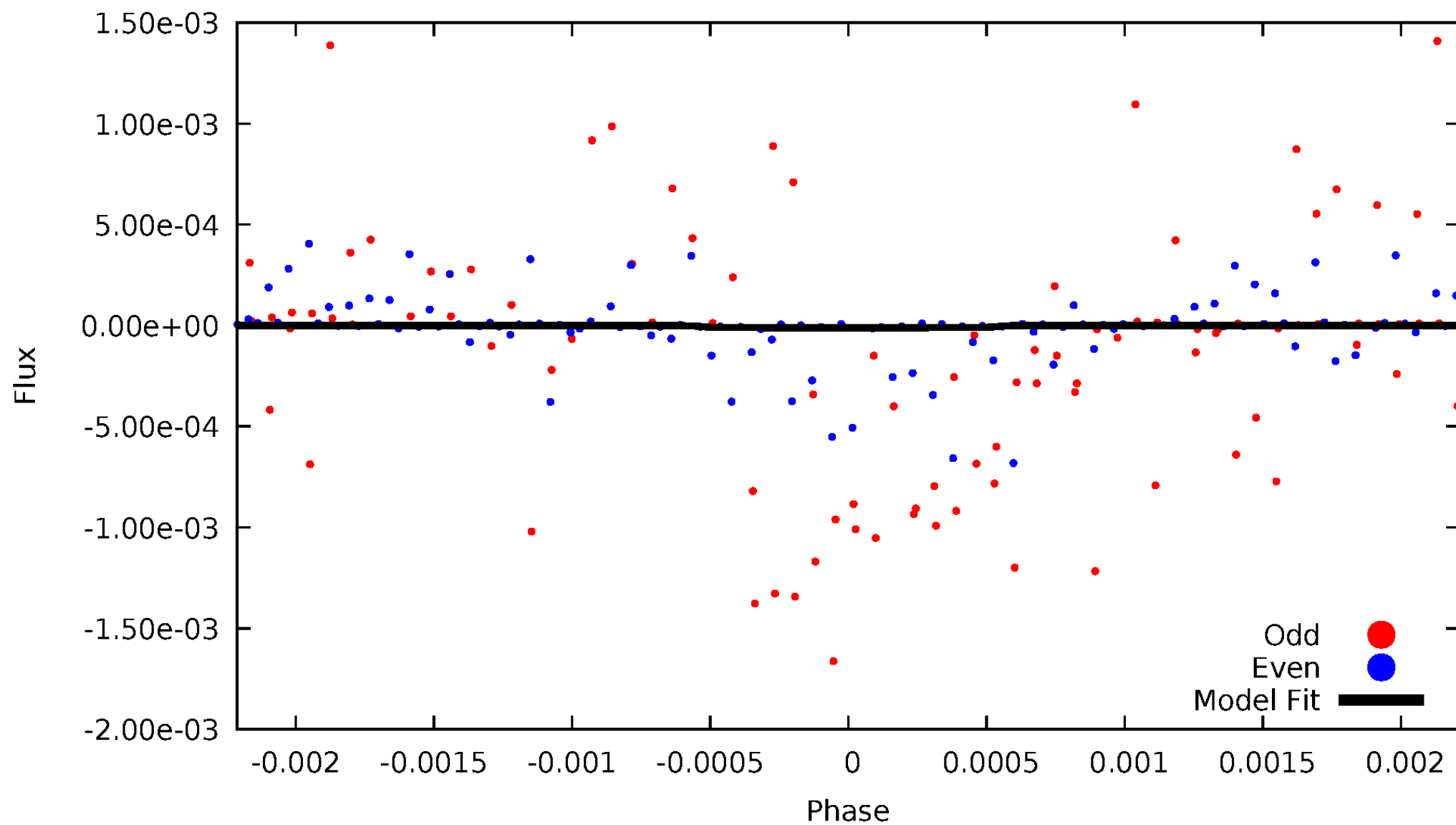


TCE 008390826-01



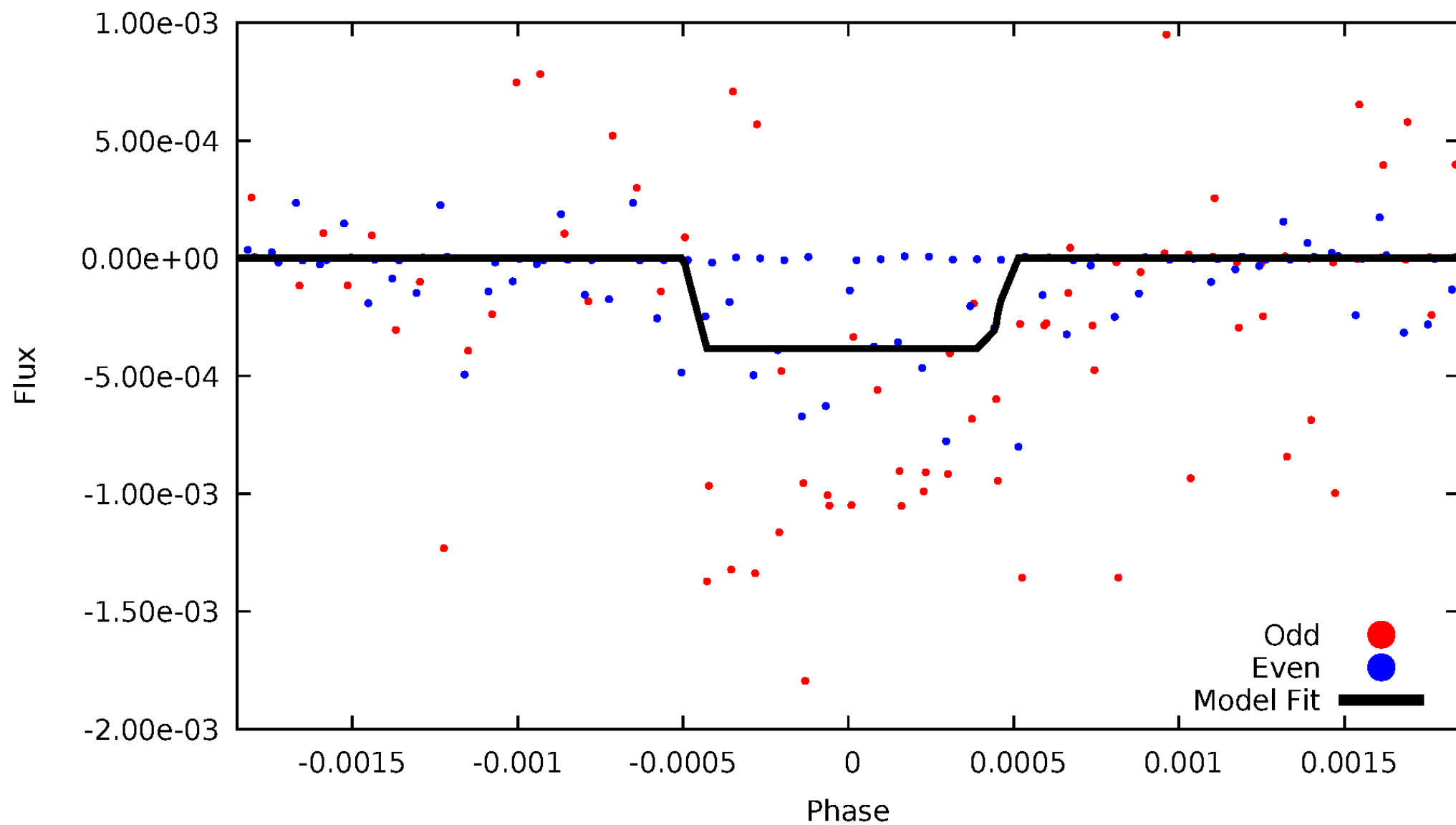
DV Odd/Even

TCE 008390826-01



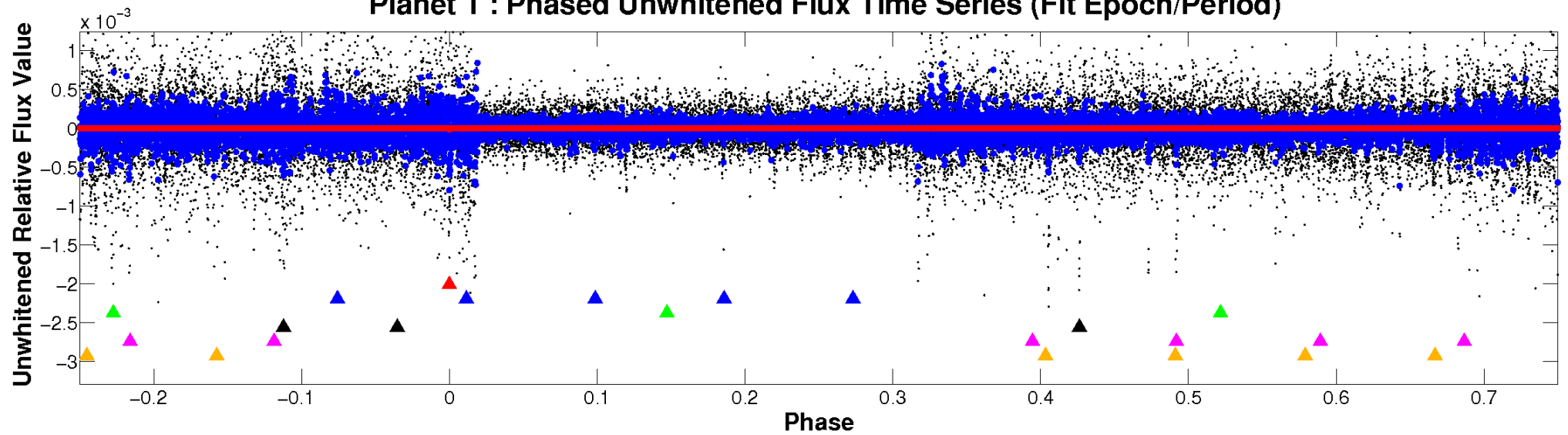
ALT Odd/Even

TCE 008390826-01

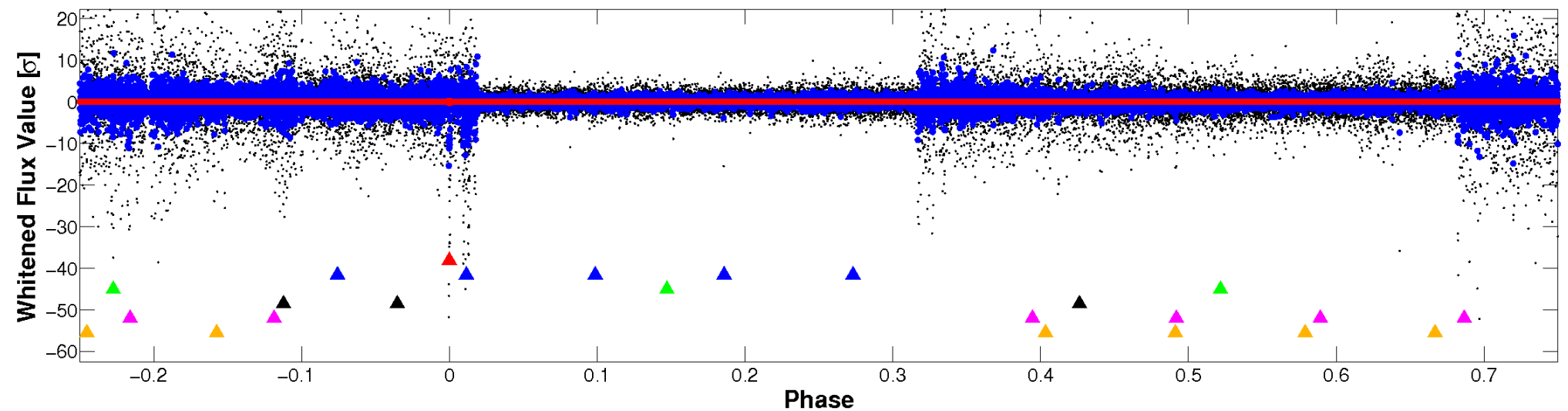


Non-Whitened Vs. Whitened Light Curve

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

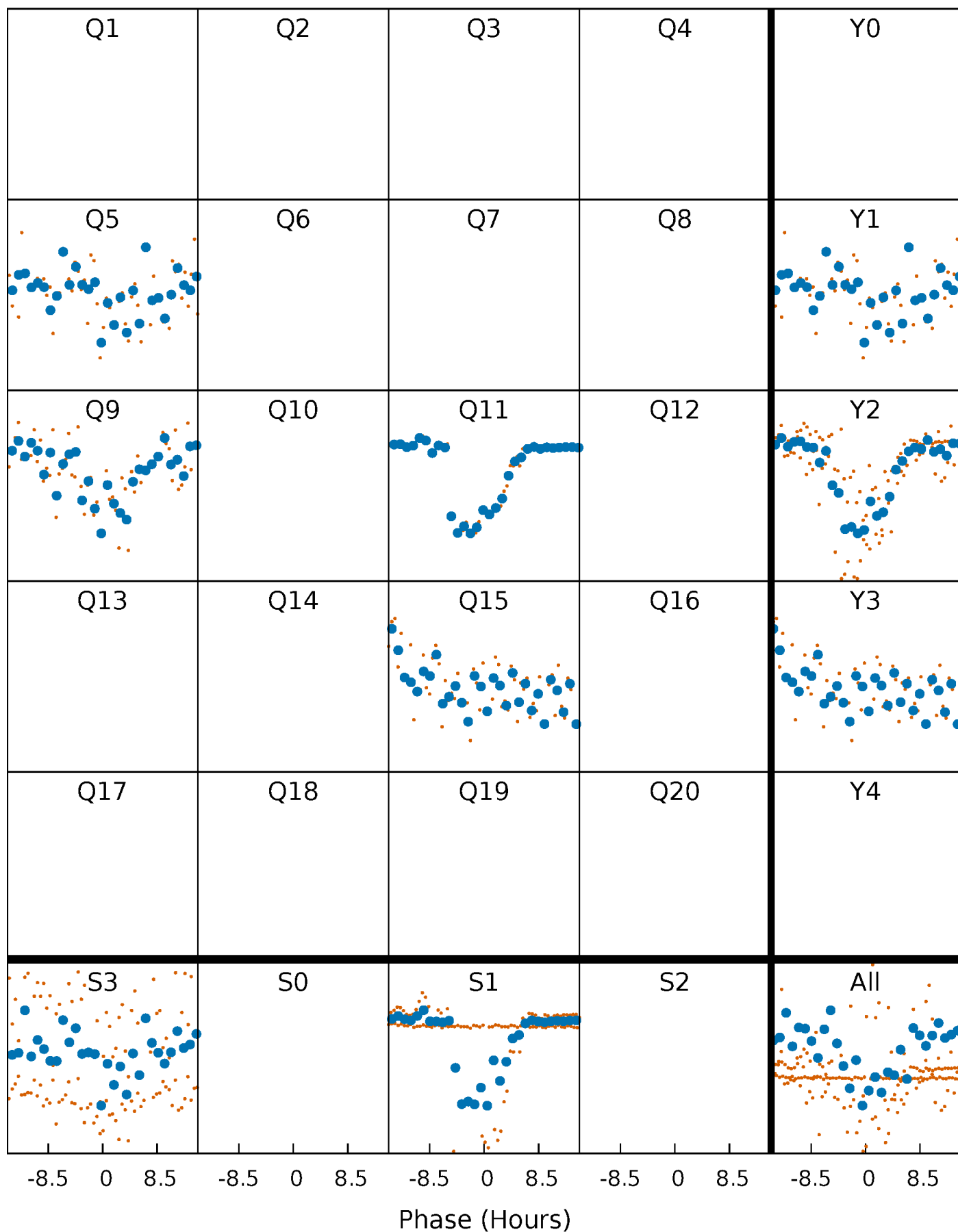


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



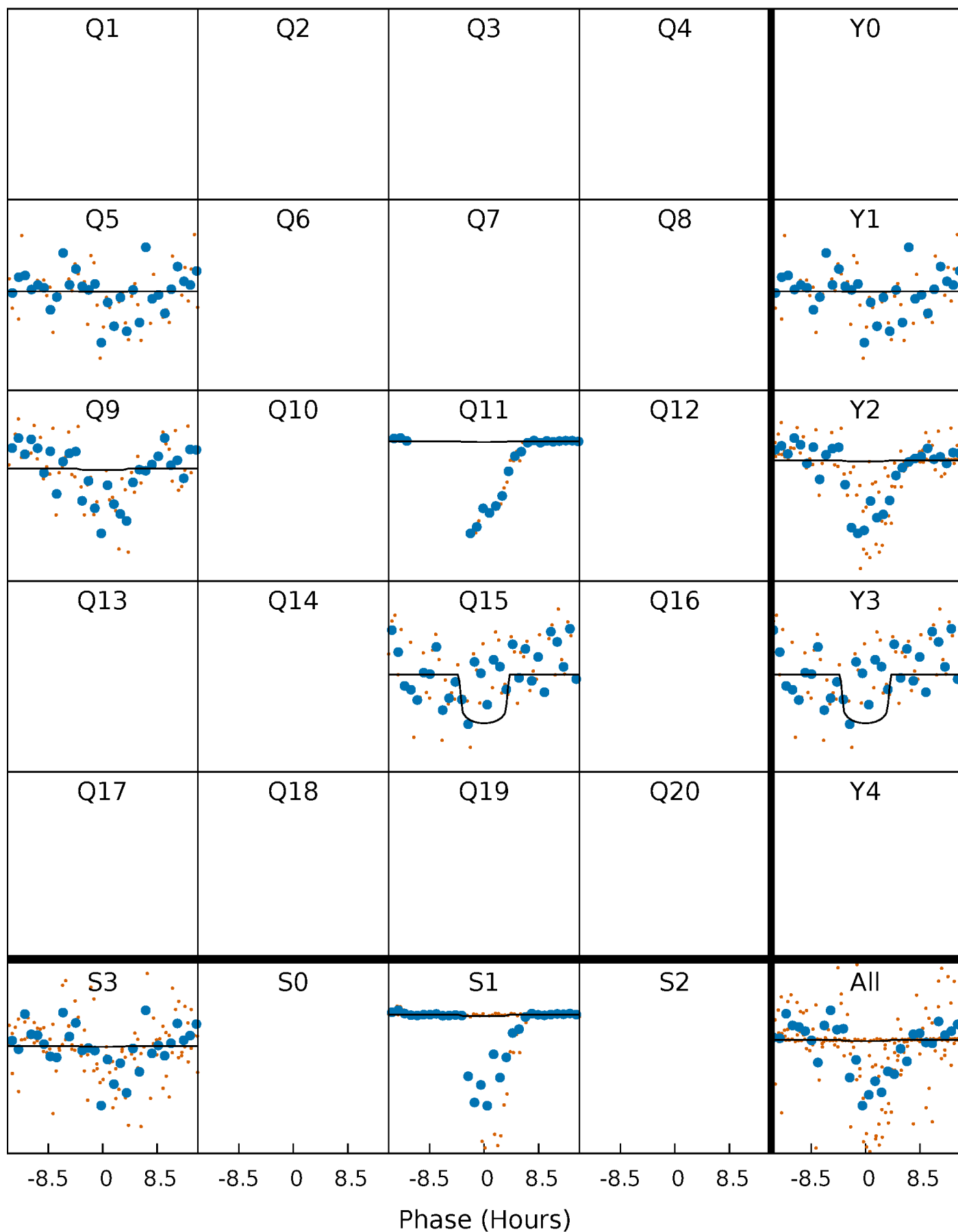
PDC Quarter-Phased Transit Curves

TCE 008390826-01 P=280.510110 Days $T_0=252.293083$ (BKJD)



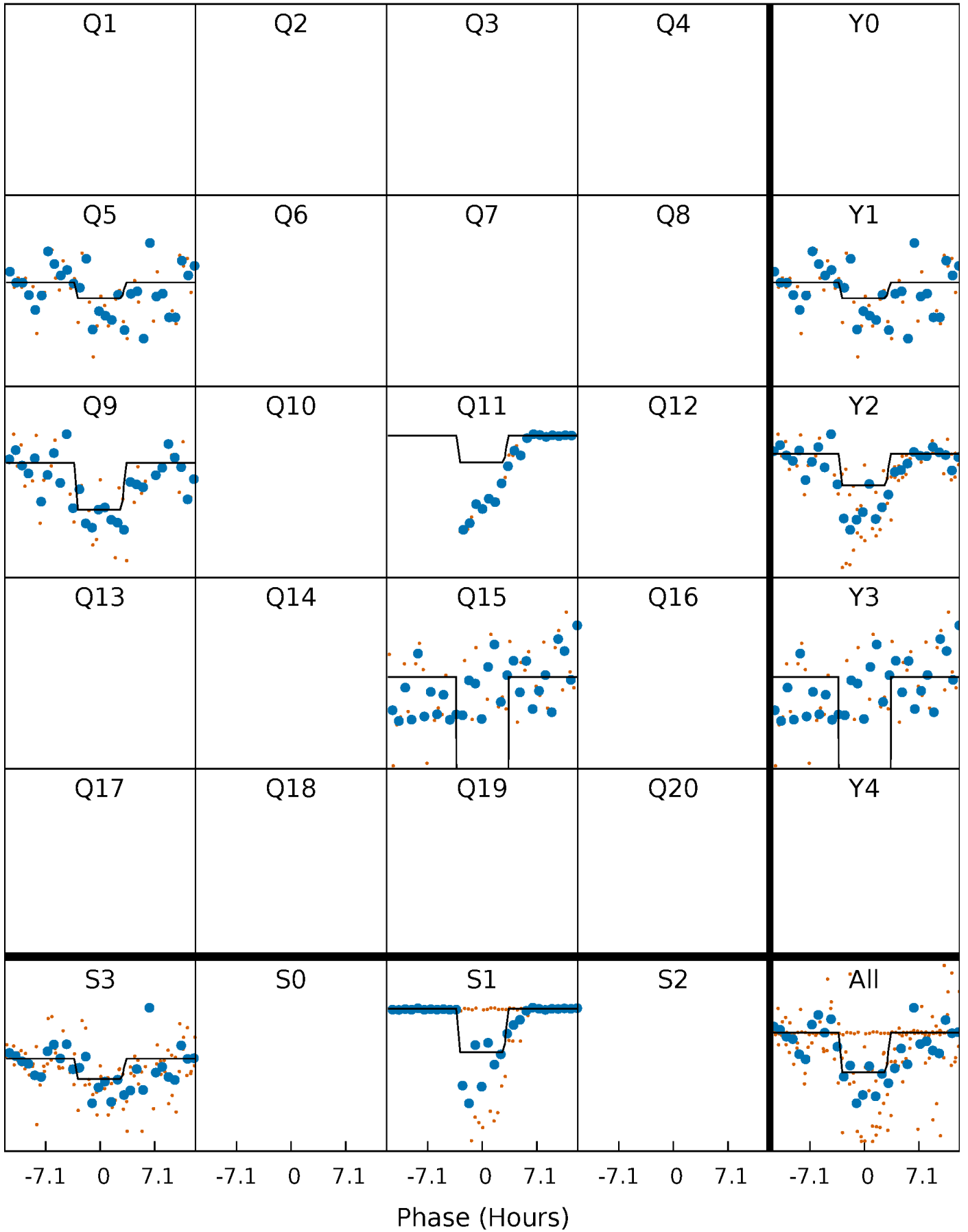
DV Quarter-Phased Transit Curves

TCE 008390826-01 P=280.510110 Days $T_0=252.293083$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

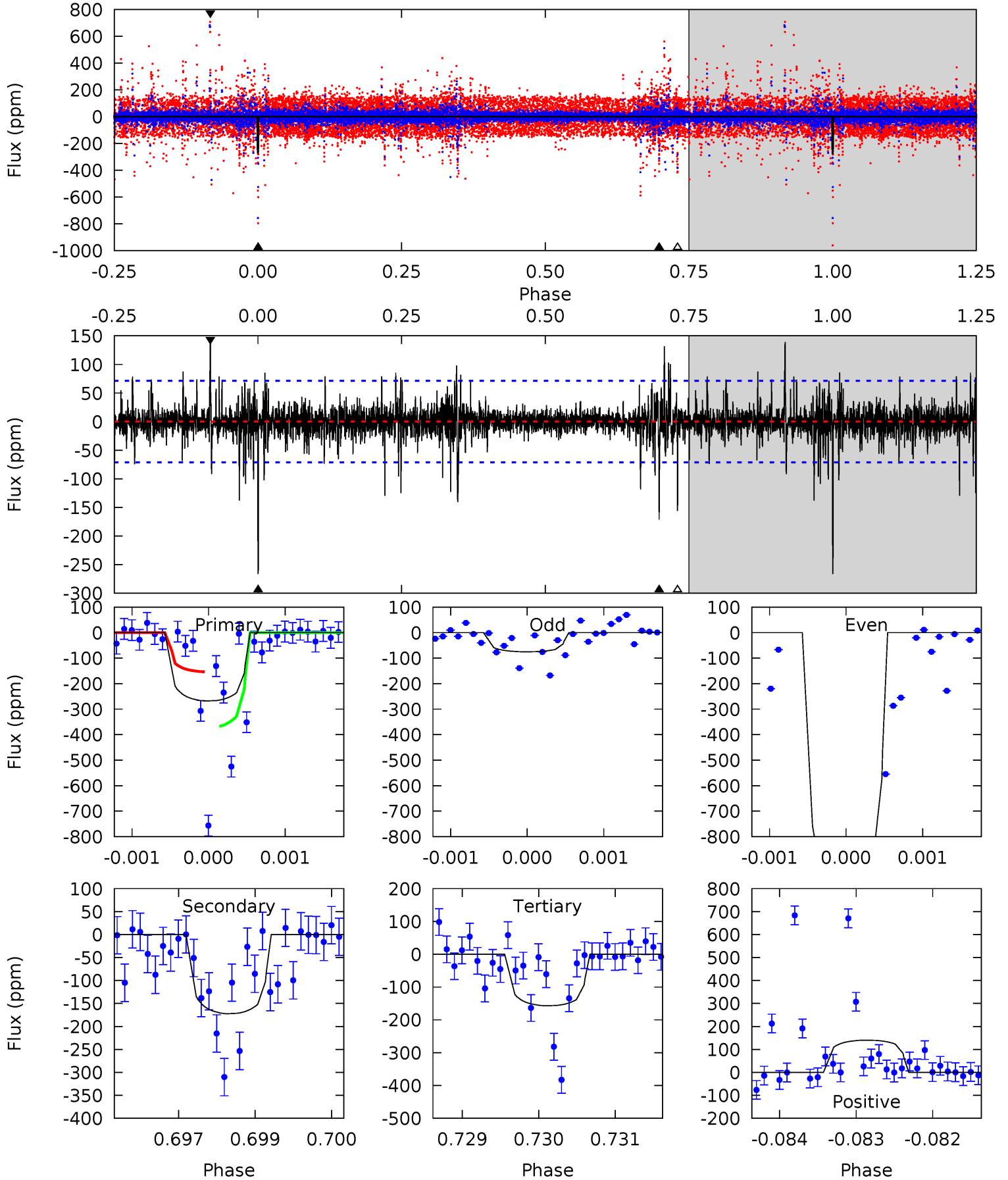
TCE 008390826-01 P=280.511912 Days $T_0=252.312680$ (BKJD)



DV Model-Shift Uniqueness Test

008390826-01, P = 280.510110 Days, E = 252.293083 Days

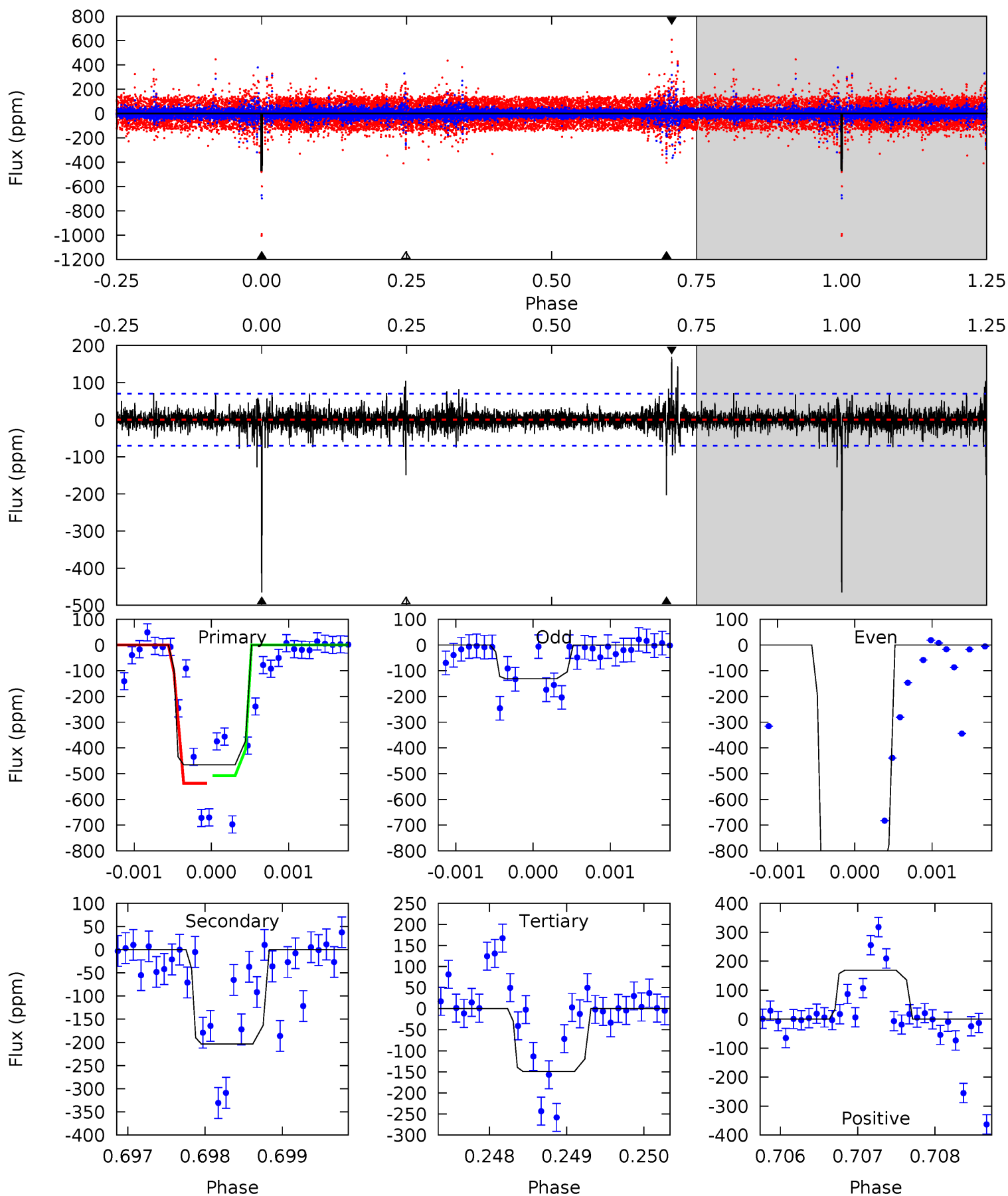
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.3	13.1	11.9	10.6	5.43	3.26	1.45	8.40	9.69	1.16	2.45	25.9	1.34	0.34	0



Alt Model-Shift Uniqueness Test

008390826-01, P = 280.511912 Days, E = 252.312680 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.2	15.8	11.6	13.1	5.45	3.29	1.23	24.6	23.1	4.23	2.69	27.6	1.04	0.27	1.19



Stellar Parameters For KIC 008390826

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8501^{+234}_{-402}	$4.132^{+0.121}_{-0.148}$	$0.070^{+0.250}_{-0.550}$	$1.987^{+0.441}_{-0.441}$	$1.953^{+0.343}_{-0.419}$	$0.351^{+0.243}_{-0.143}$
	+3%/-5%	+3%/-4%	+357%/-786%	+22%/-22%	+18%/-21%	+69%/-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 008390826-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-171 ± 13	$5.29^{+5.11}_{-3.42}$	724^{+45}_{-49}	6065^{+5392}_{-1599}	3723^{+25298}_{-2800}
Alt.	-203 ± 13	$7.36^{+6.43}_{-4.83}$	724^{+46}_{-46}	5349^{+4337}_{-1175}	2220^{+17092}_{-1585}

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 $A_{obs} \gg 1.0$

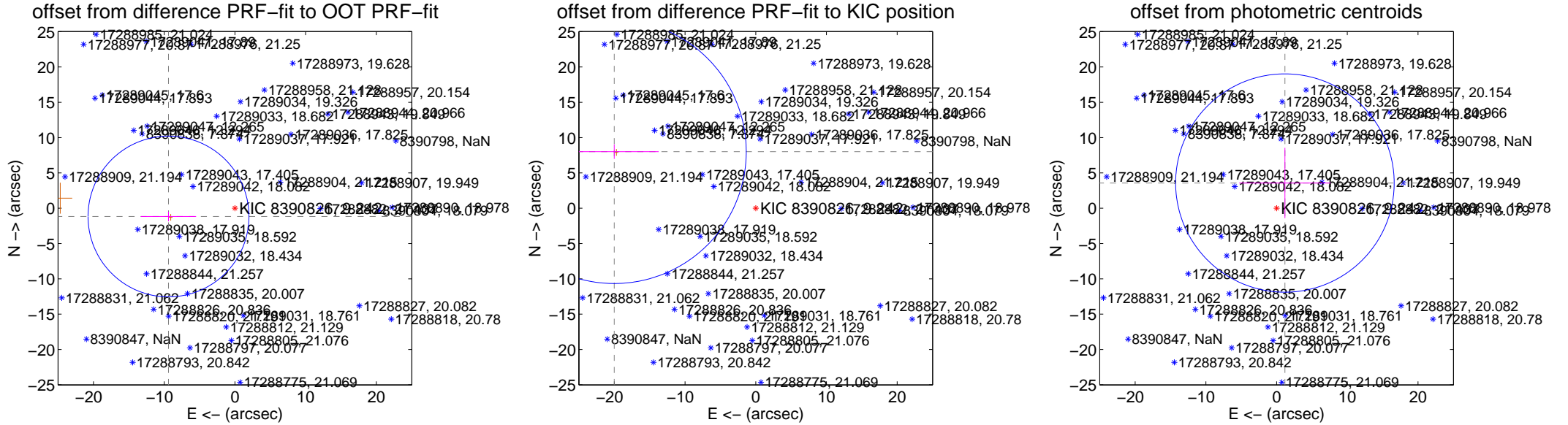
DV Centroid Data

Supplemental centroid analysis for 008390826-01. **Kepler magnitude: 9.24.** Transit SNR 2.70

There are 0 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 14.05 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.468 ± 3.794	2.50	9.396 ± 3.907	-1.169 ± 0.681
PRF-fit source offset from KIC position	21.566 ± 6.225	3.46	20.021 ± 6.295	8.015 ± 1.027
photometric centroid source offset	3.76 ± 5.15	0.73	-1.17 ± 6.47	3.57 ± 4.99

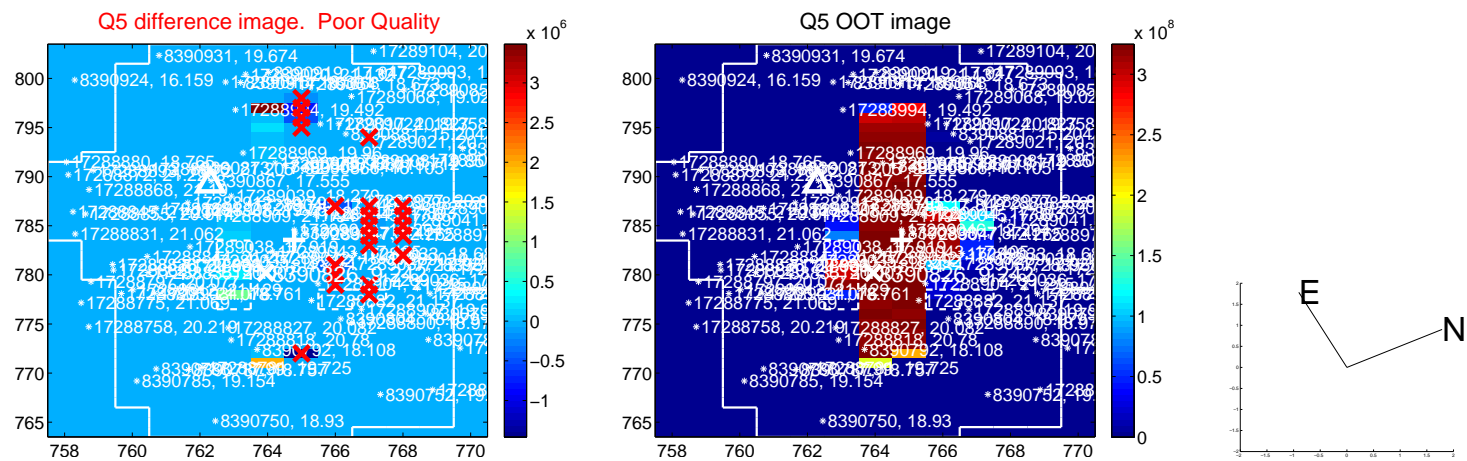


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

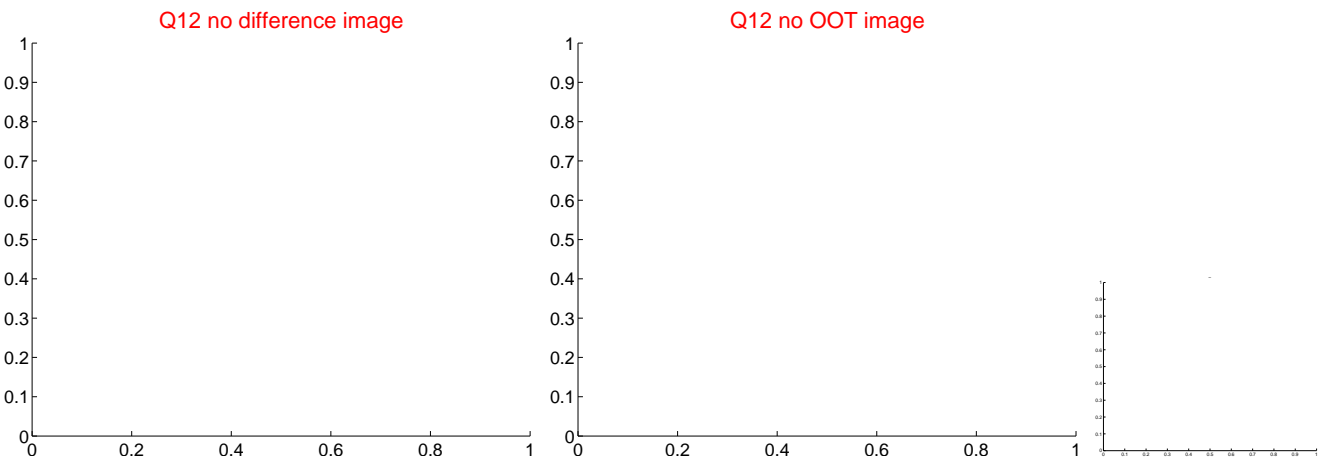
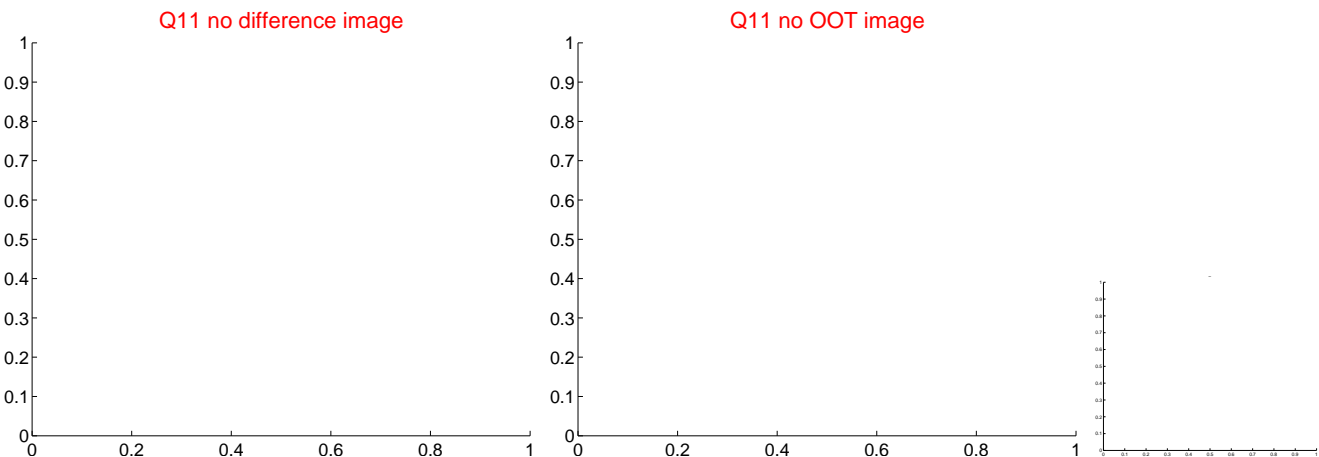
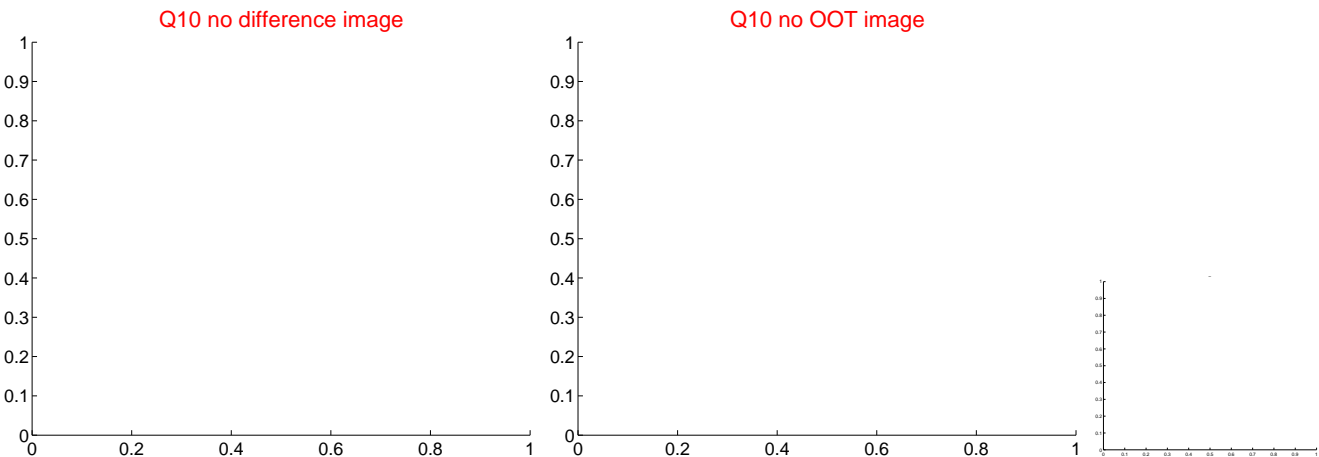
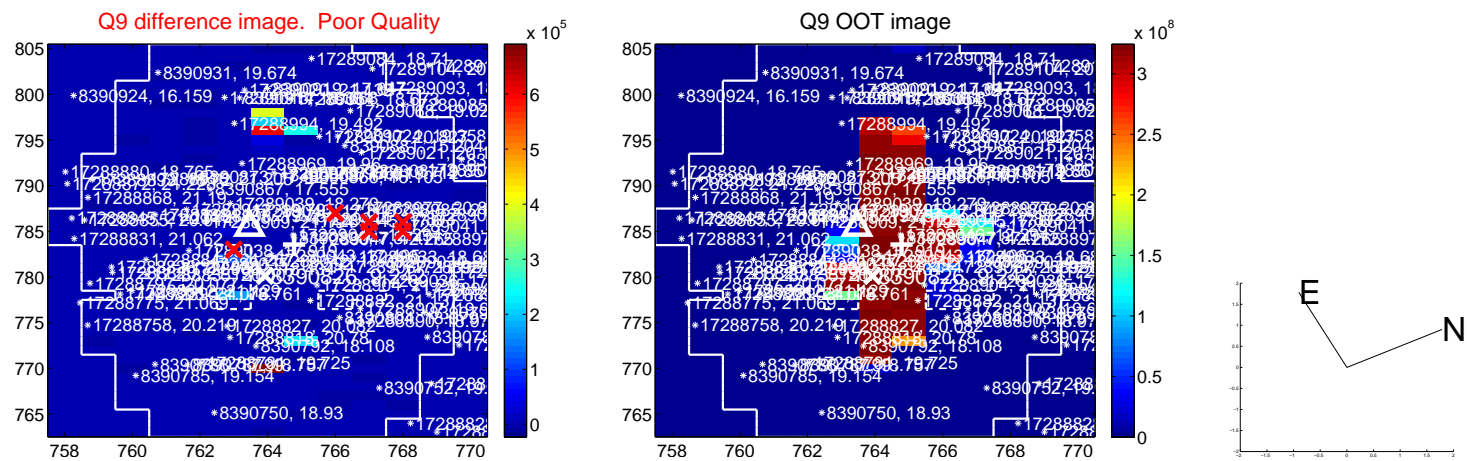
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



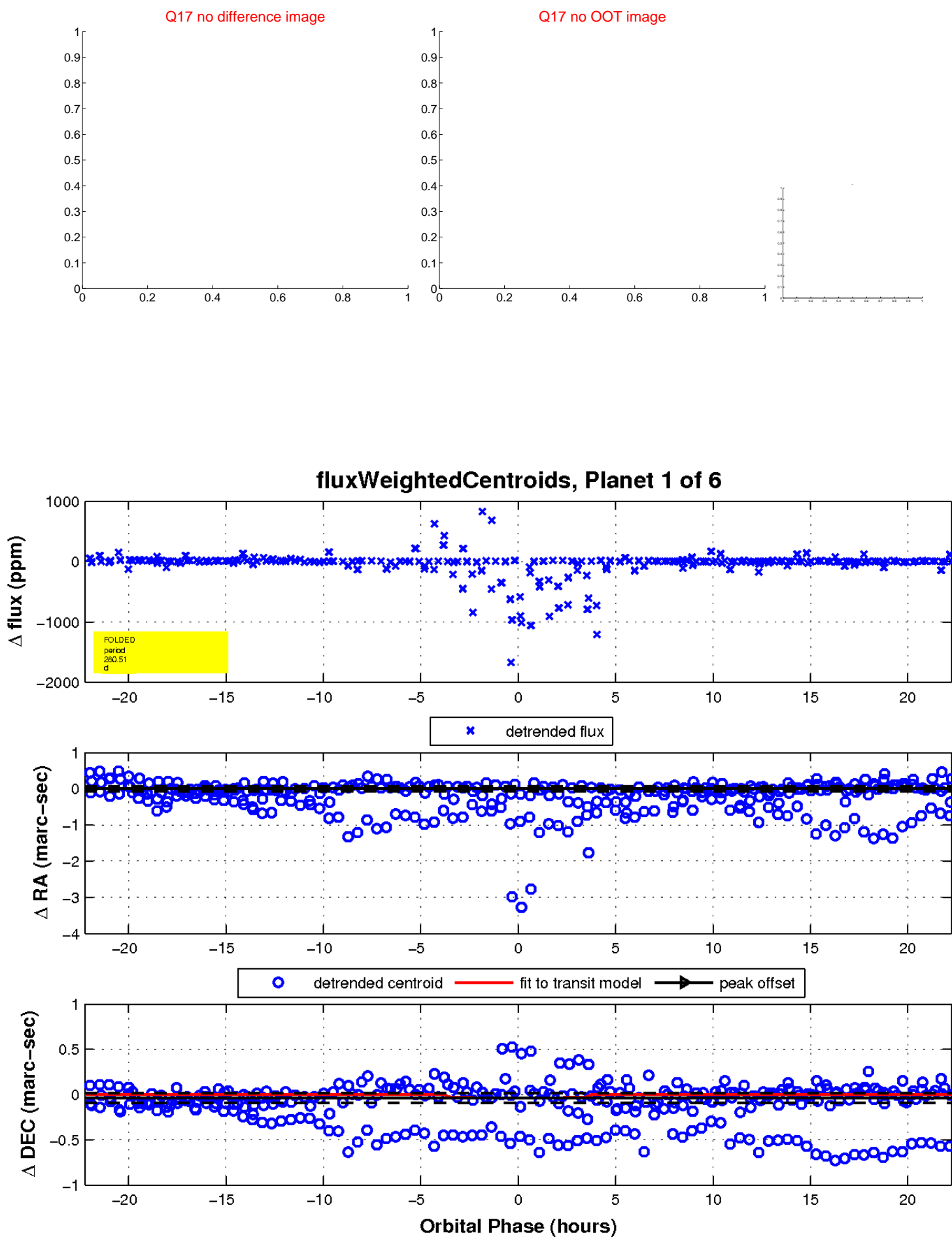
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



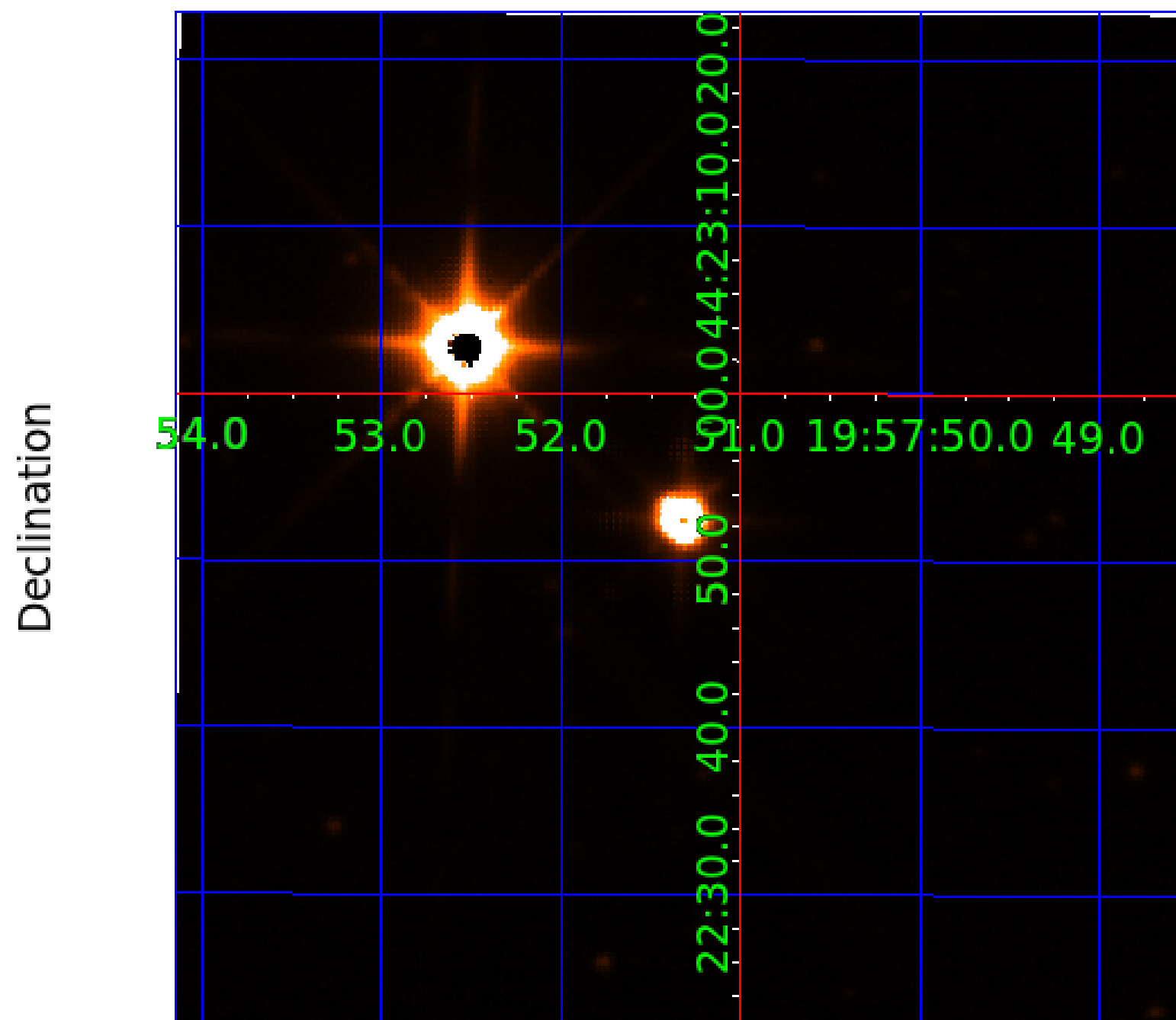
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008390826

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})
008390826-01	OBS	No	280.510110	252.293083	11.4	7.444	103.8	2.7	1.99	8501	0.72	16.81
008390826-02	OBS	No	256.051037	328.908176	593.1	32.534	72.3	50.9	1.99	8501	5.21	18.99
008390826-03	OBS	No	385.580182	469.021516	395.2	1.959	34.2	8.8	1.99	8501	4.07	11.00
008390826-04	OBS	No	431.563937	501.327944	900.2	3.992	45.6	28.9	1.99	8501	6.28	9.47
008390826-05	OBS	No	253.192983	219.030173	719.4	1.788	33.5	23.2	1.99	8501	5.91	19.27
008390826-06	OBS	No	255.865661	208.144545	462.0	3.000	36.1	-1.0	1.99	8501	4.34	19.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008390826-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

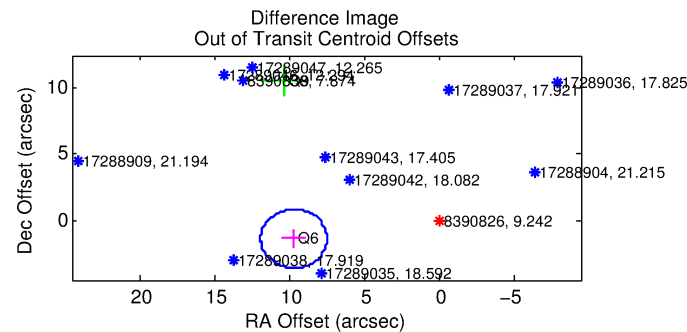
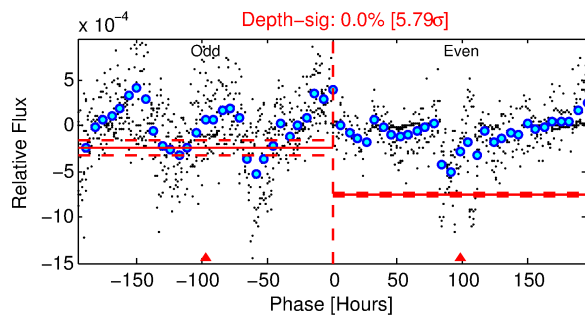
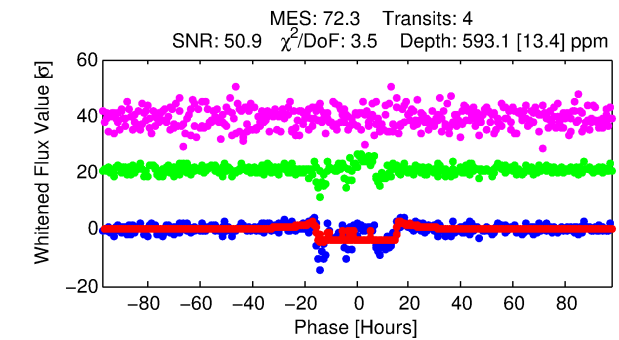
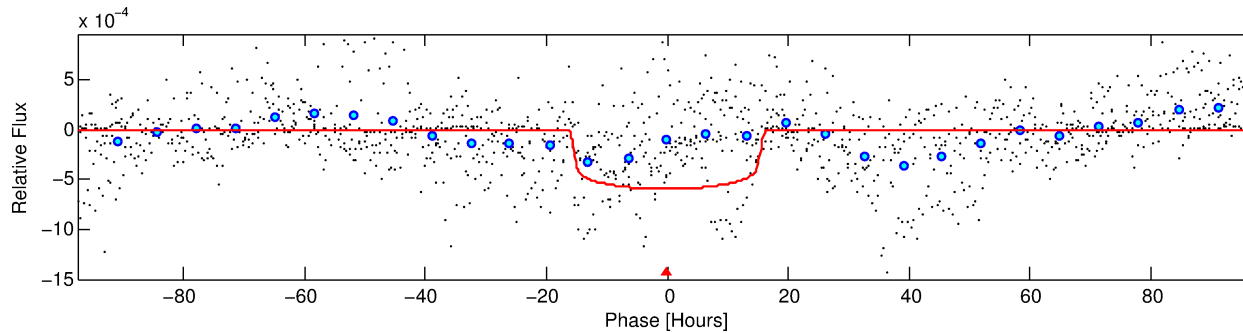
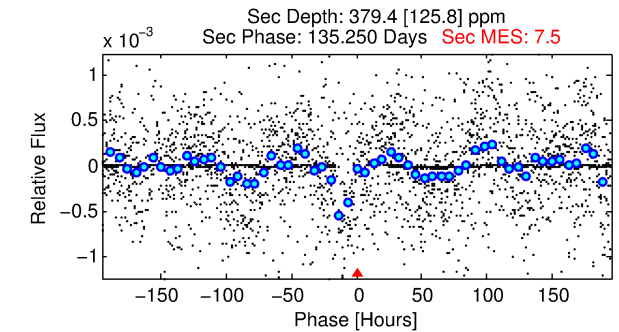
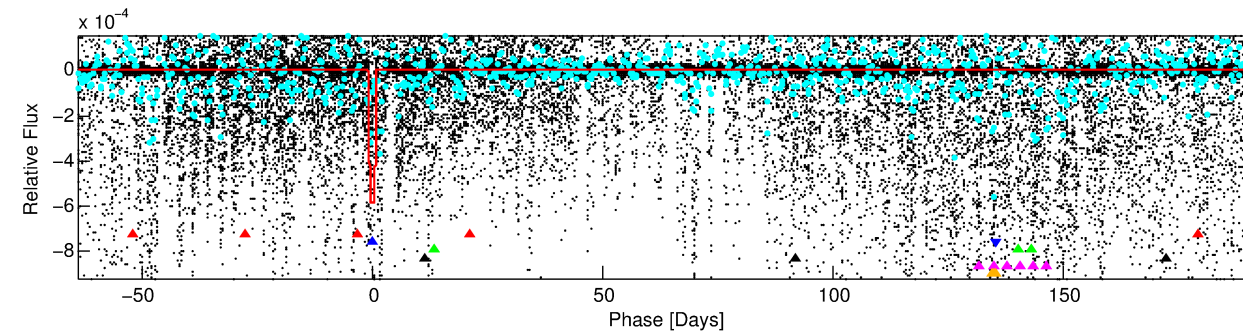
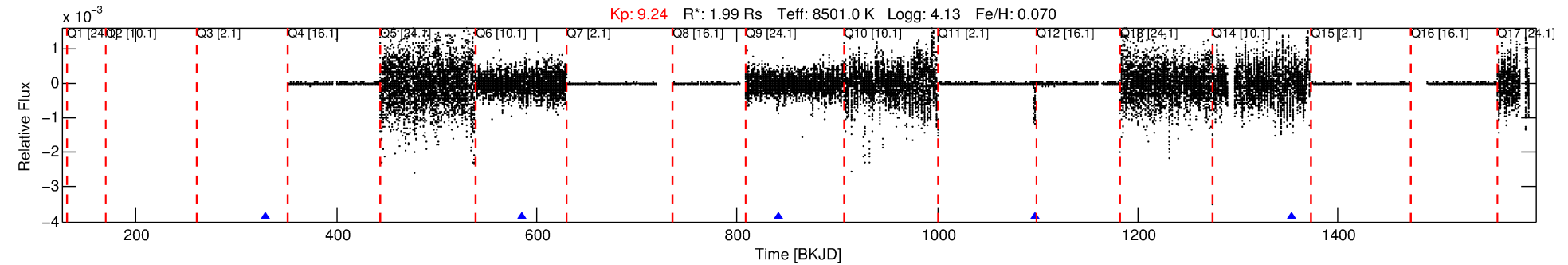
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008390826-02

No Significant Match Found

DV One-Page Summary

KIC: 8390826 Candidate: 2 of 6 Period: 256.051 d



DV Fit Results:

Period = 256.05104 [0.00624] d
Epoch = 328.9082 [0.0186] BKJD
Rp/R* = 0.0240 [0.0005]
a/R* = 43.84 [4.62]
b = 0.72 [0.07]
Seff = 18.99 [6.28]
Teq = 532 [44] K
Rp = 5.21 [1.16] Re
a = 0.9864 [0.1840] AU
Ag = 7477.37 [3218.55] [2.32σ]
Teffp = 7653 [735] K [9.67σ]

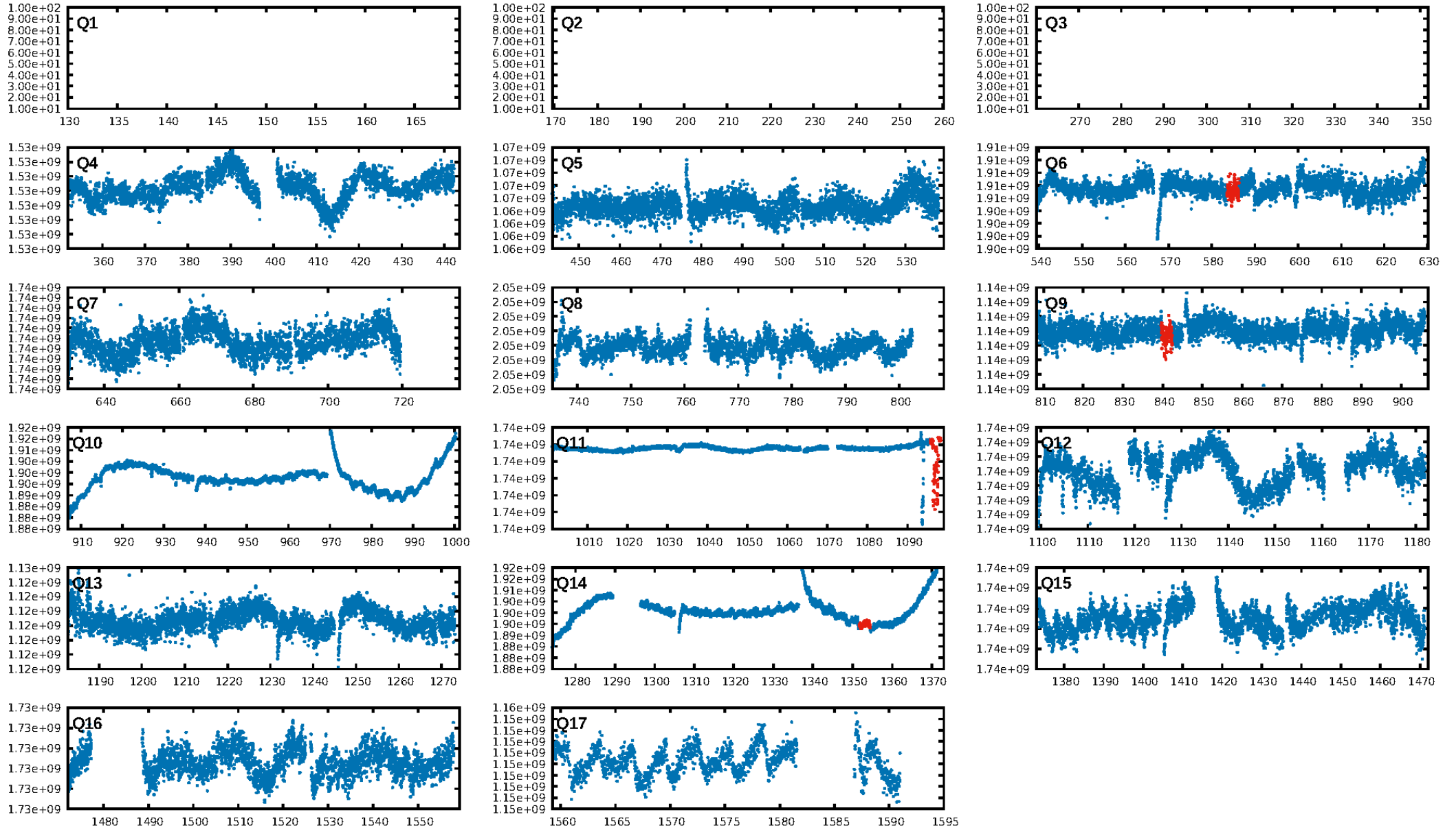
DV Diagnostic Results:

ShortPeriod-sig: 10.8% [0.14σ]
LongPeriod-sig: 100.0% [17.59σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: N/A
Centroid-sig: 29.5%
Centroid-so: 1.324 arcsec [3.29σ]
OotOffset-rm: 9.775 arcsec [13.24σ]
KicOffset-rm: 18.333 arcsec [5.30σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

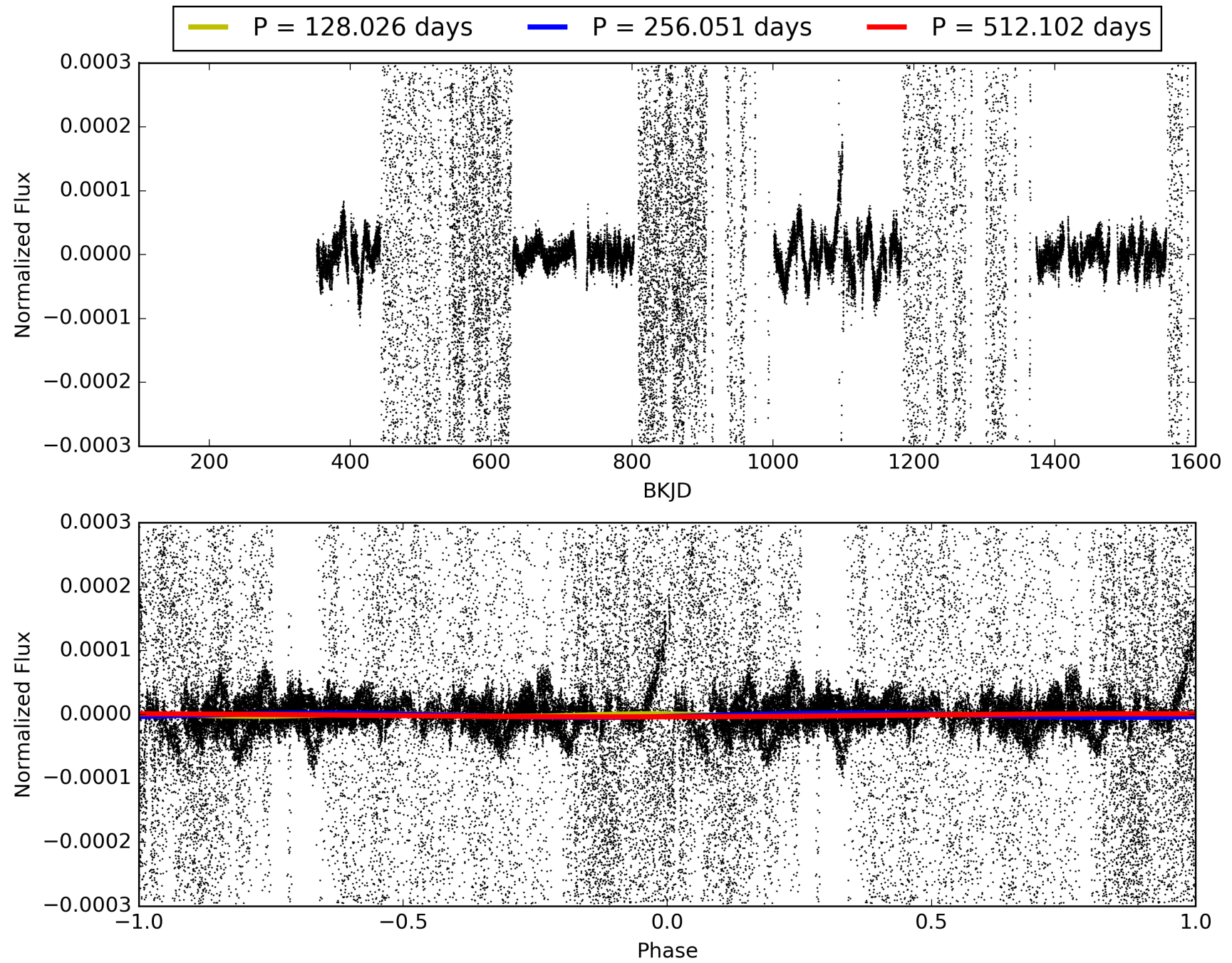
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:34:22 Z

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

TCE 008390826-02, PDC Light Curves

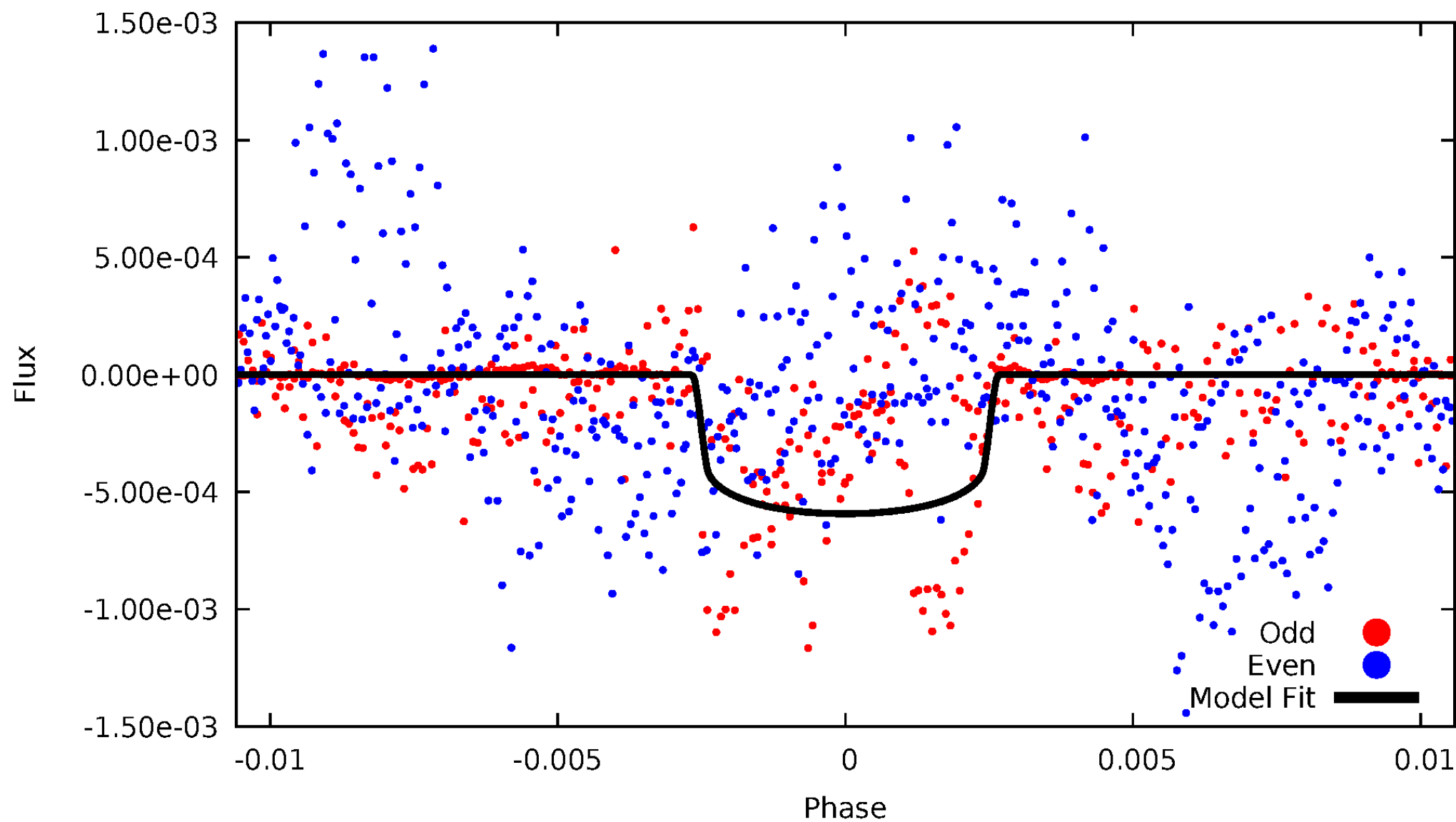


TCE 008390826-02



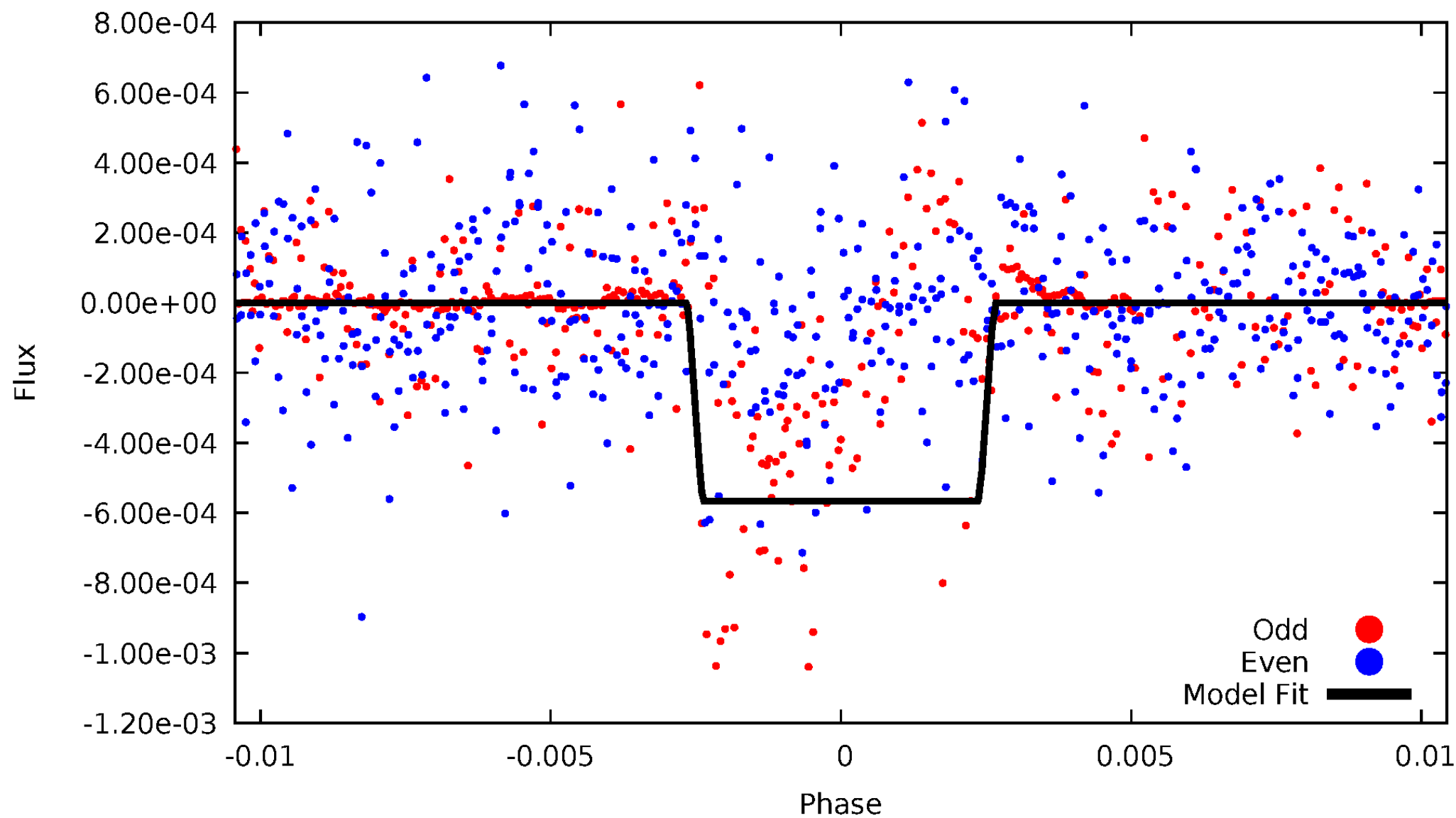
DV Odd/Even

TCE 008390826-02



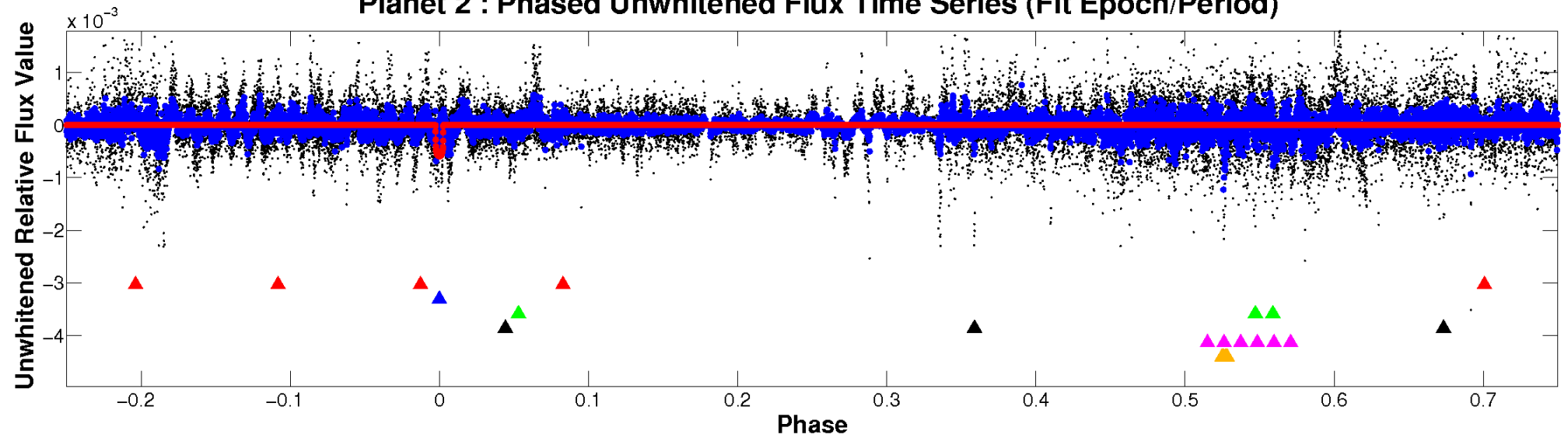
ALT Odd/Even

TCE 008390826-02

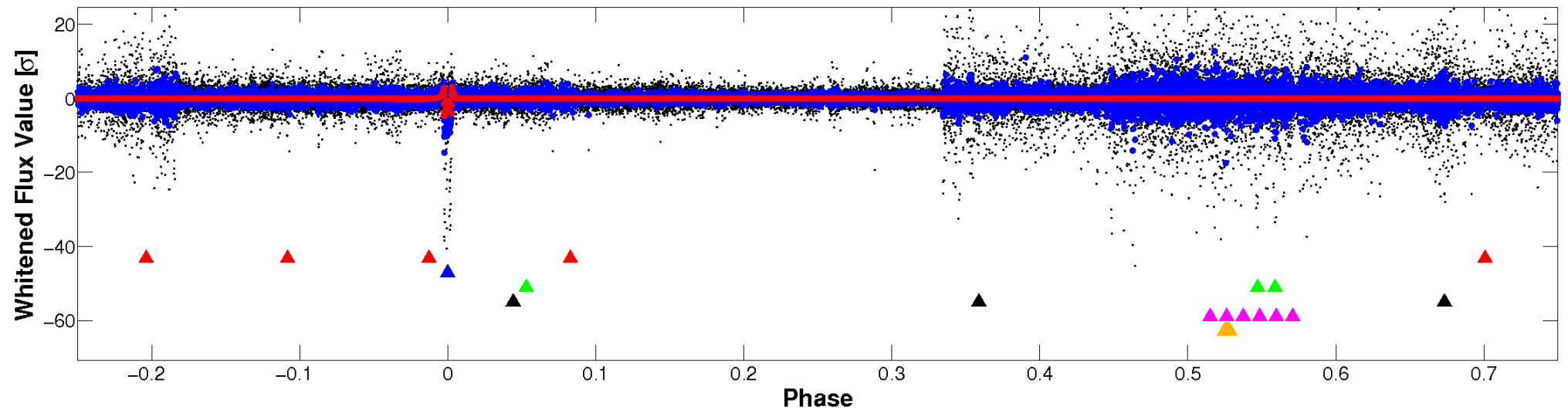


Non-Whitened Vs. Whitened Light Curve

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

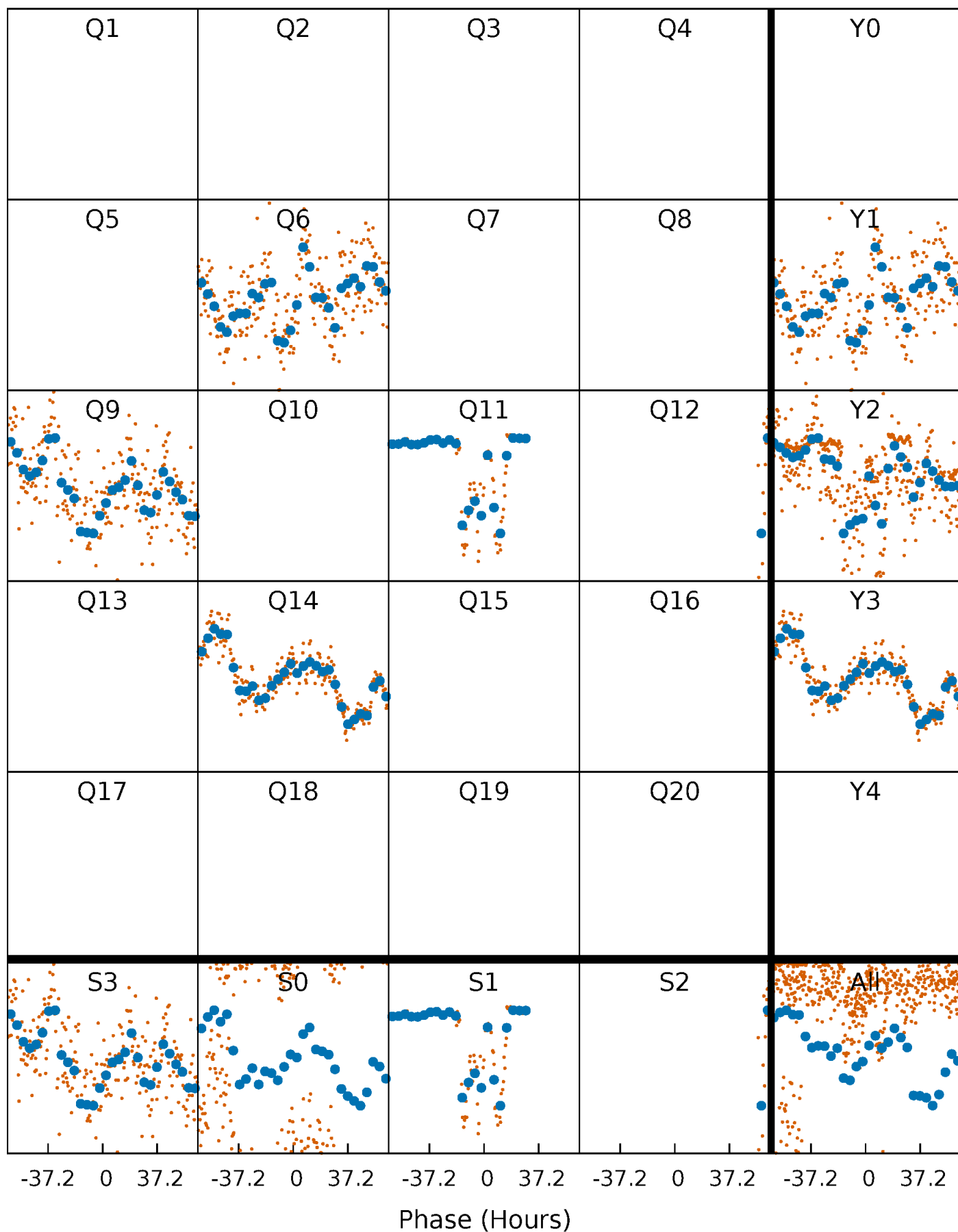


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



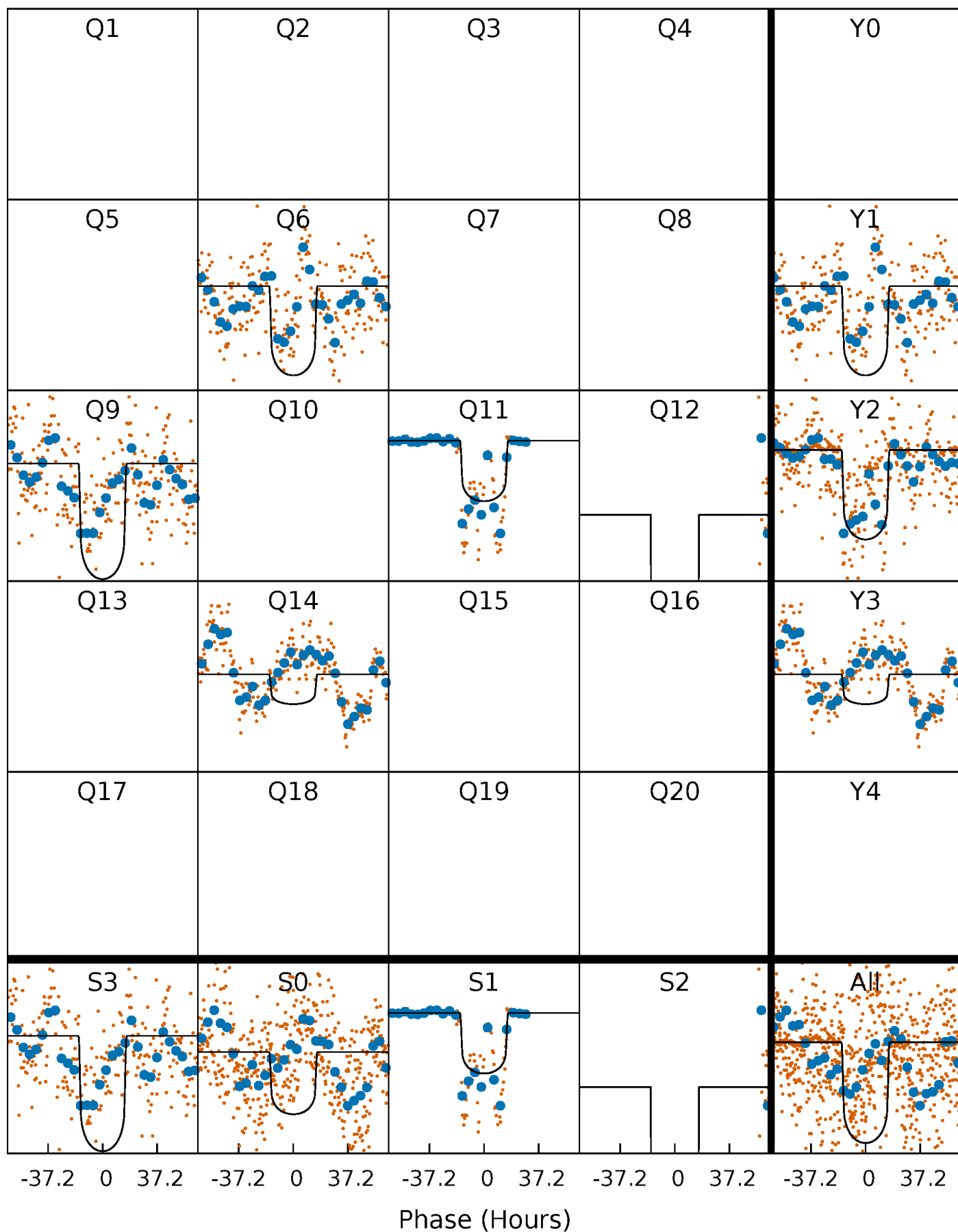
PDC Quarter-Phased Transit Curves

TCE 008390826-02 P=256.051037 Days $T_0=328.908176$ (BKJD)



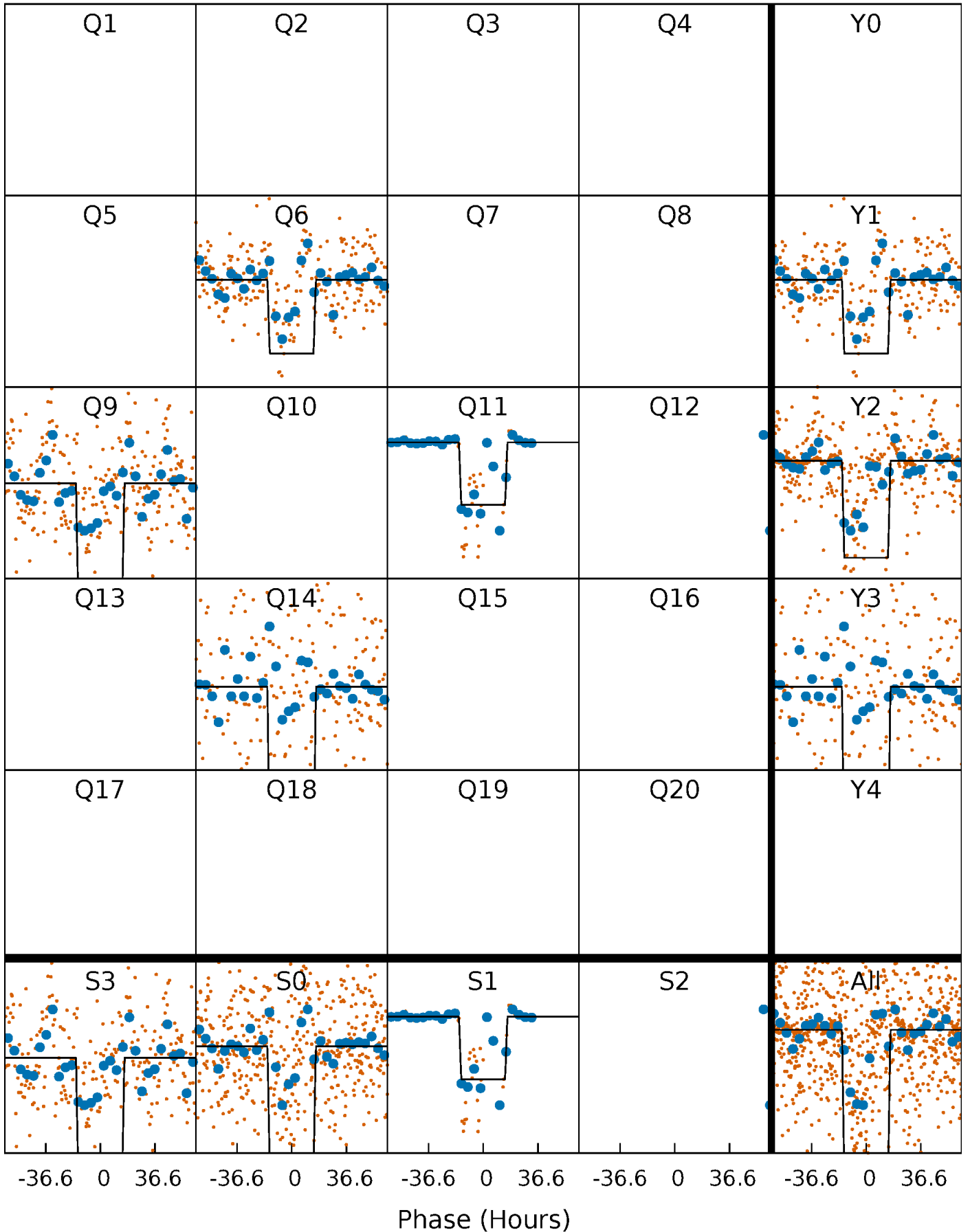
DV Quarter-Phased Transit Curves

TCE 008390826-02 P=256.051037 Days $T_0=328.908176$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

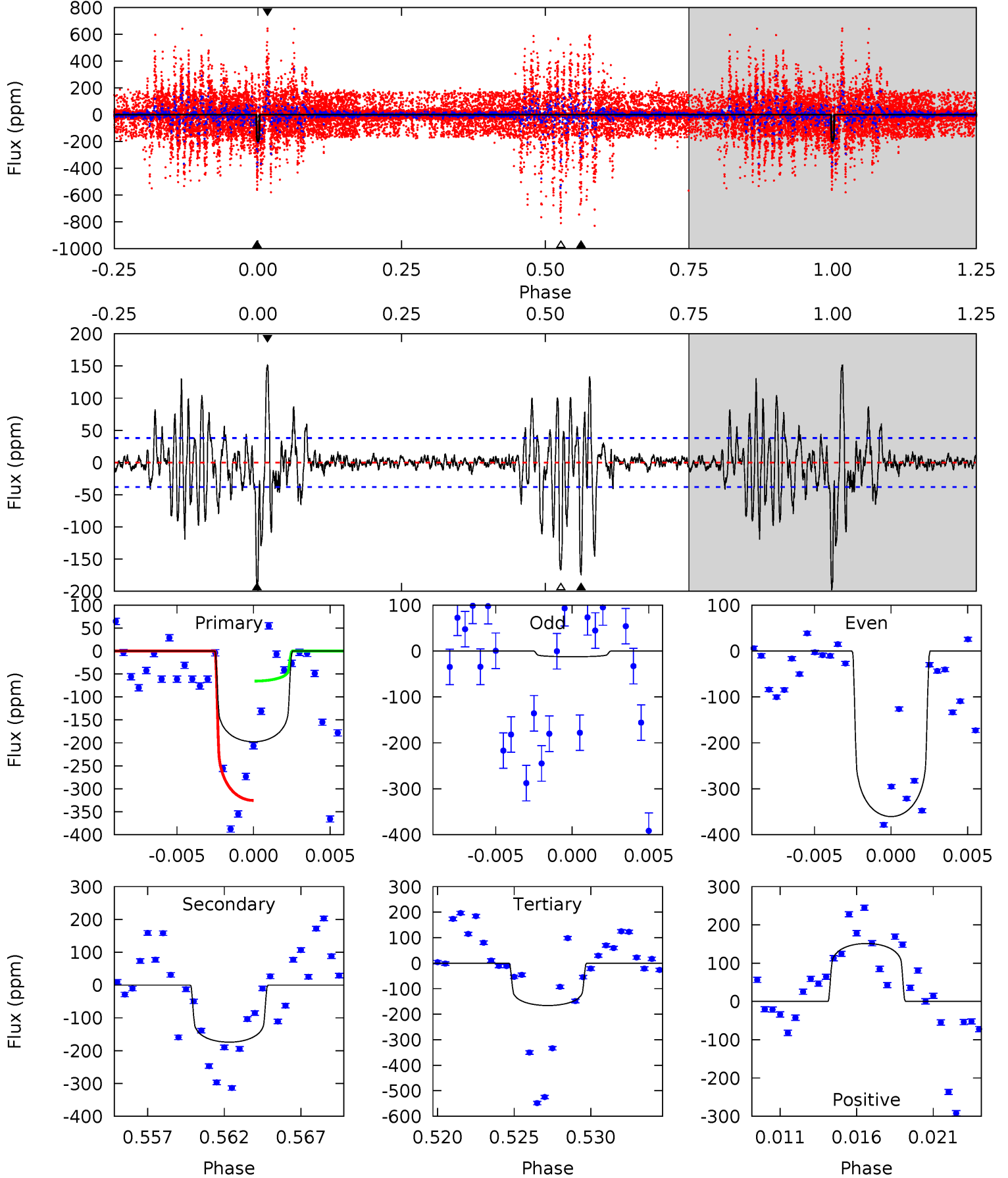
TCE 008390826-02 P=256.066563 Days $T_0=328.838827$ (BKJD)



DV Model-Shift Uniqueness Test

008390826-02, P = 256.051037 Days, E = 328.908176 Days

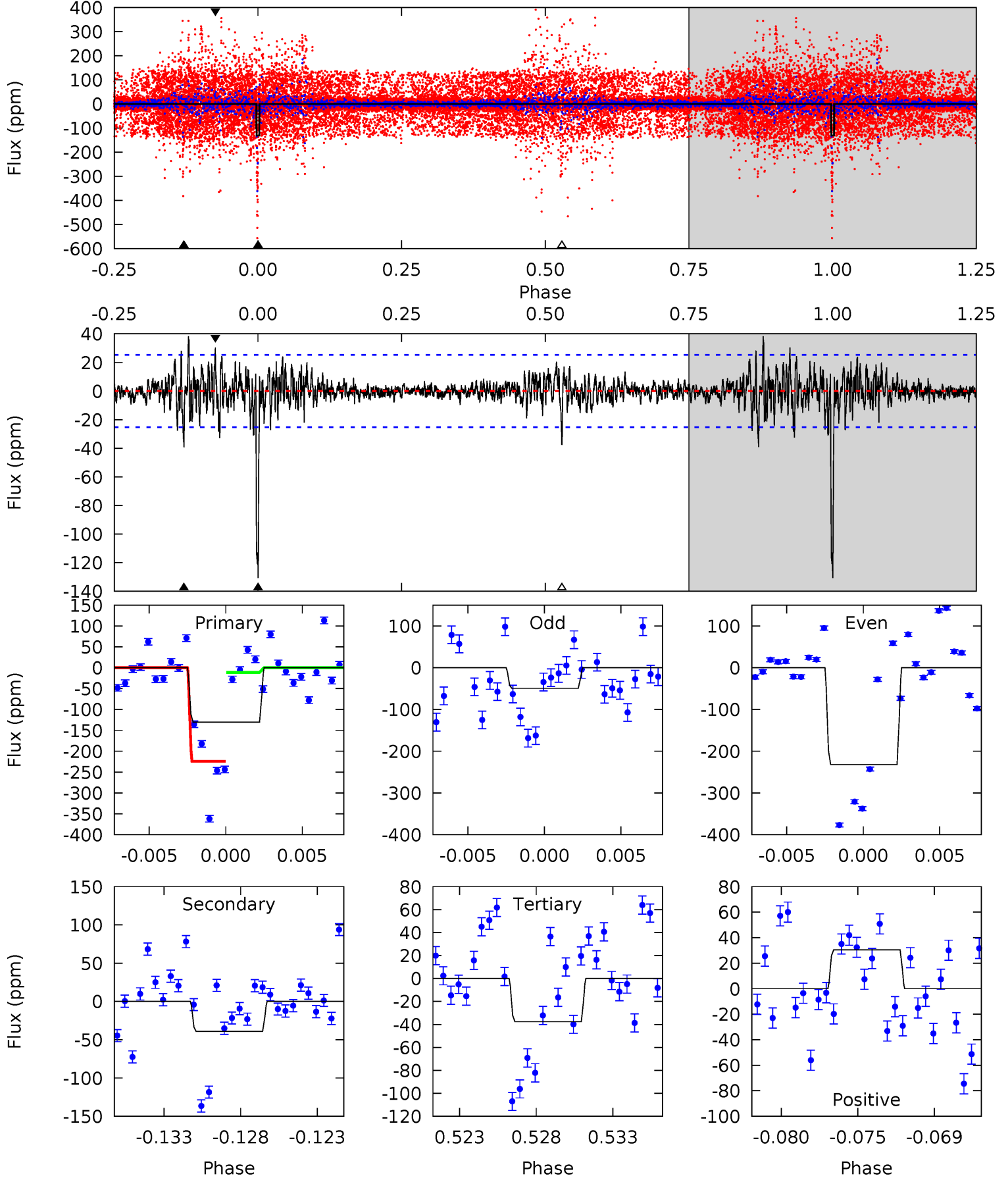
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.8	23.6	22.5	20.5	5.15	2.79	3.91	4.30	6.27	1.10	3.08	17.0	0.98	0.43	13.3



Alt Model-Shift Uniqueness Test

008390826-02, P = 256.066563 Days, E = 328.838827 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.5	7.97	7.64	6.19	5.15	2.79	1.25	18.9	20.4	0.32	1.78	14.7	1.75	0.23	16.2



Stellar Parameters For KIC 008390826

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8501^{+234}_{-402}	$4.132^{+0.121}_{-0.148}$	$0.070^{+0.250}_{-0.550}$	$1.987^{+0.441}_{-0.441}$	$1.953^{+0.343}_{-0.419}$	$0.351^{+0.243}_{-0.143}$
	+3%/-5%	+3%/-4%	+357%/-786%	+22%/-22%	+18%/-21%	+69%/-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 008390826-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-174 ± 7	$5.34^{+0.66}_{-0.69}$	749^{+44}_{-50}	6030^{+179}_{-202}	3235^{+851}_{-603}
Alt.	-39 ± 5	$5.26^{+0.64}_{-0.69}$	745^{+49}_{-45}	4392^{+137}_{-152}	760^{+201}_{-173}

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 $A_{obs} \gg 1.0$

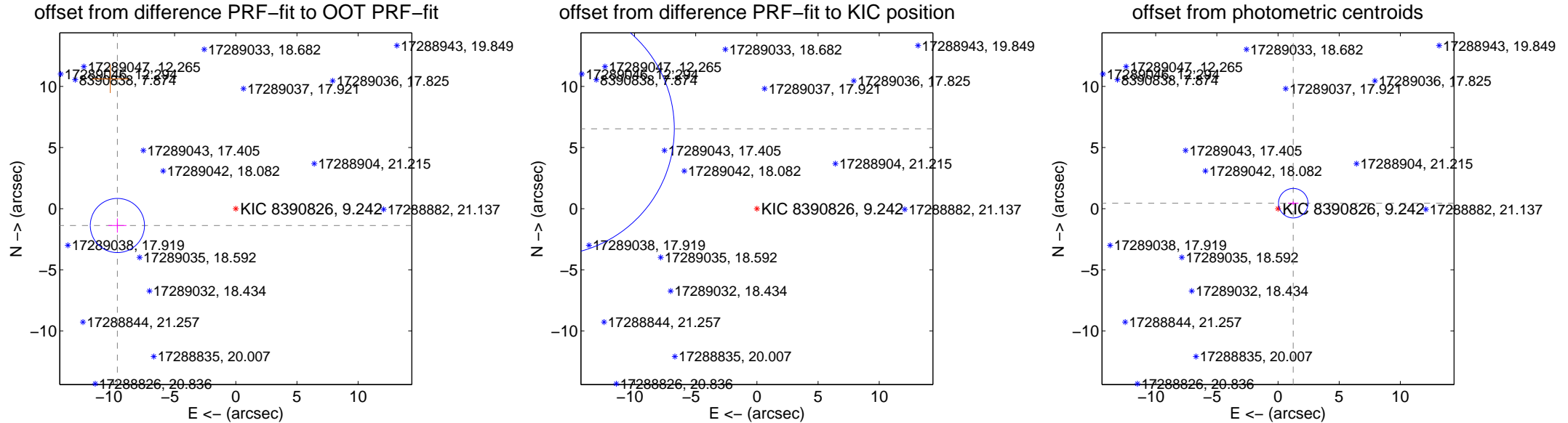
DV Centroid Data

Supplemental centroid analysis for 008390826-02. **Kepler magnitude: 9.24.** Transit SNR 50.88

There are 0 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 14.24 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.775 ± 0.739	13.24	9.677 ± 0.741	-1.377 ± 0.577
PRF-fit source offset from KIC position	18.333 ± 3.459	5.30	17.131 ± 1.639	6.530 ± 5.415
photometric centroid source offset	1.32 ± 0.40	3.29	-1.25 ± 0.42	0.45 ± 0.15



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

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



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

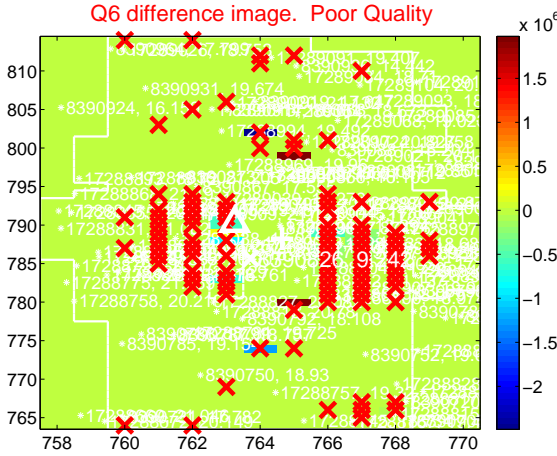
Q5 no difference image



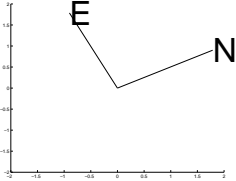
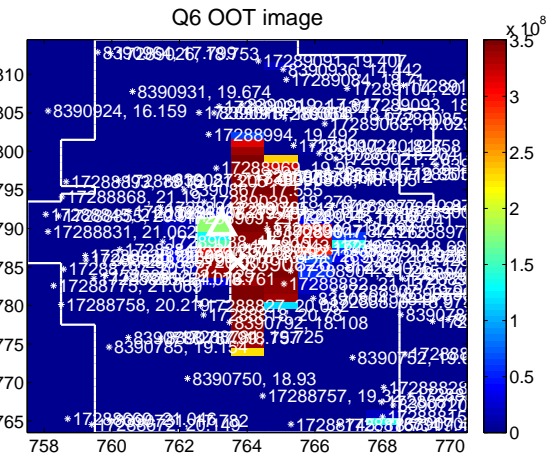
Q5 no OOT image



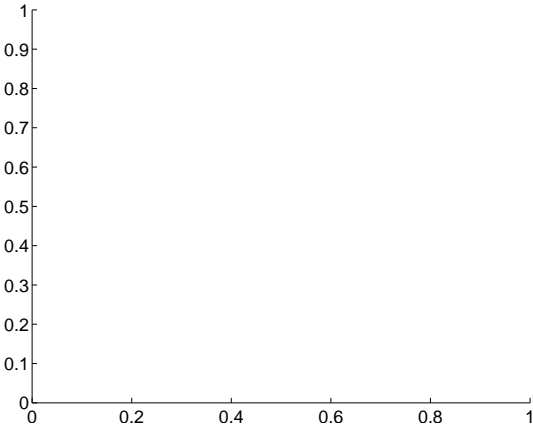
Q6 difference image. Poor Quality



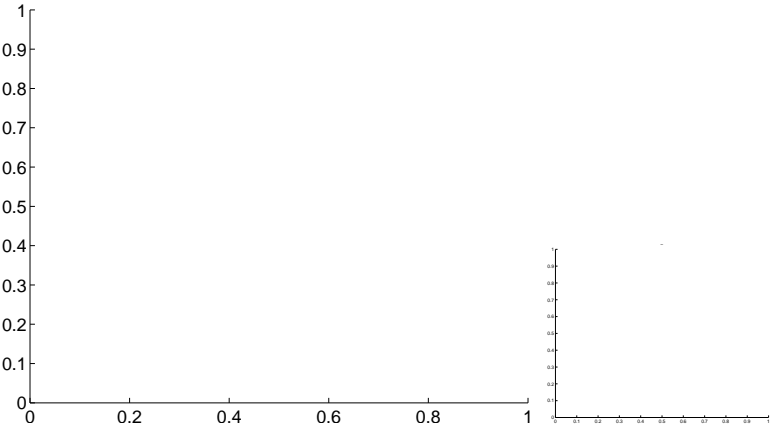
Q6 OOT image



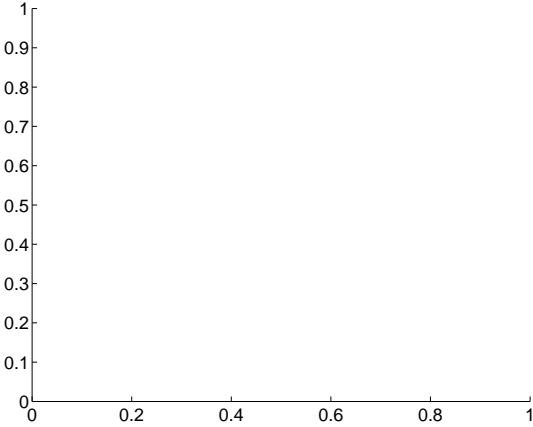
Q7 no difference image



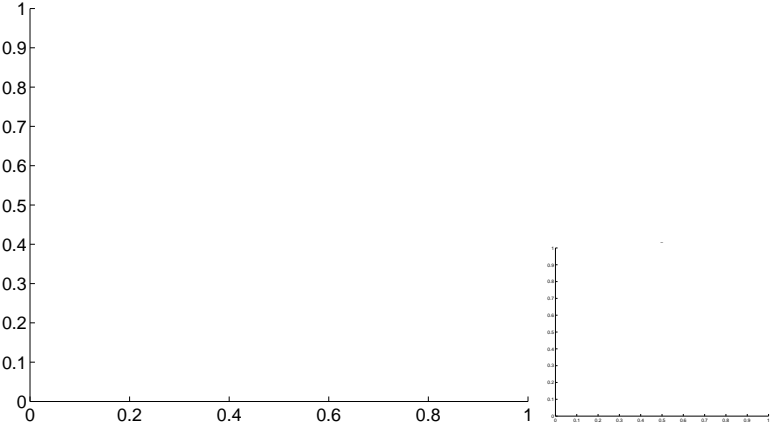
Q7 no OOT image



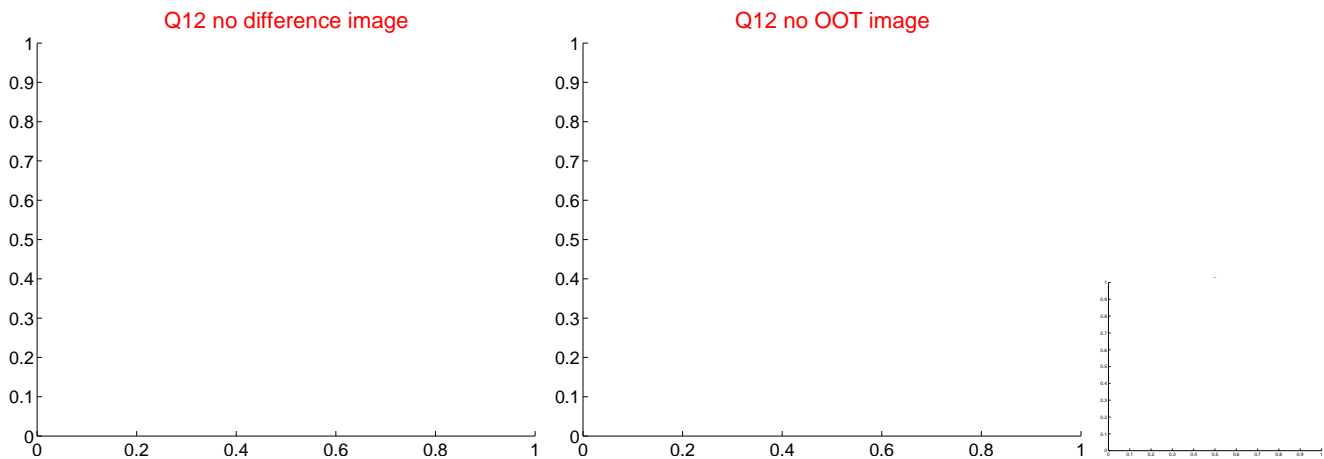
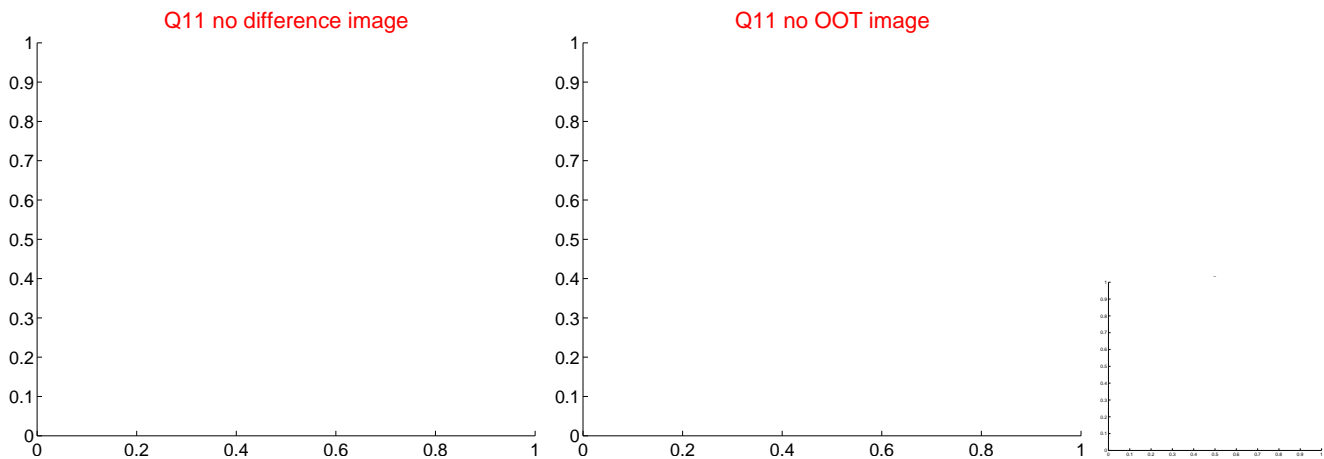
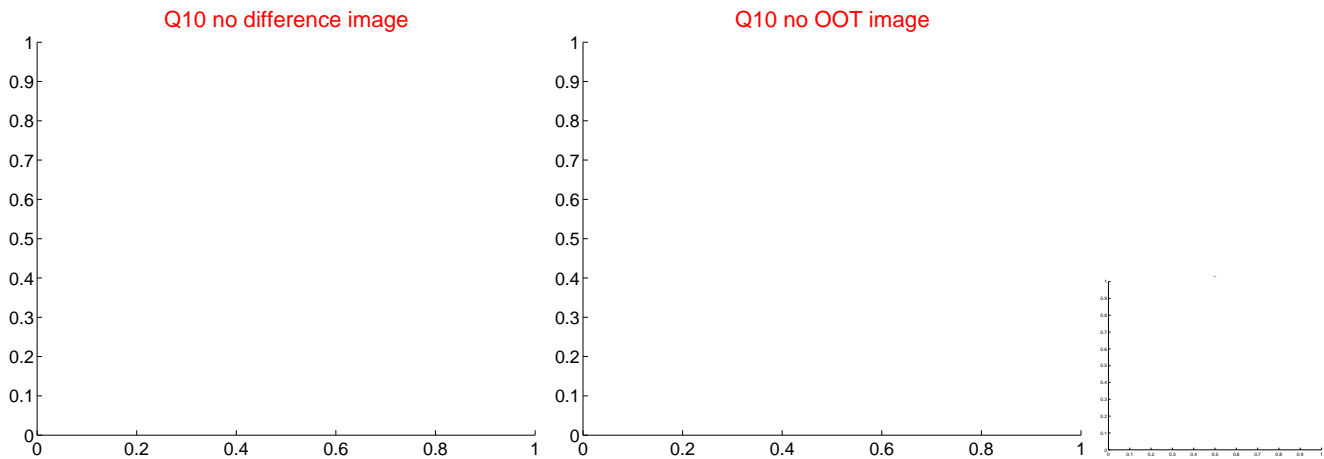
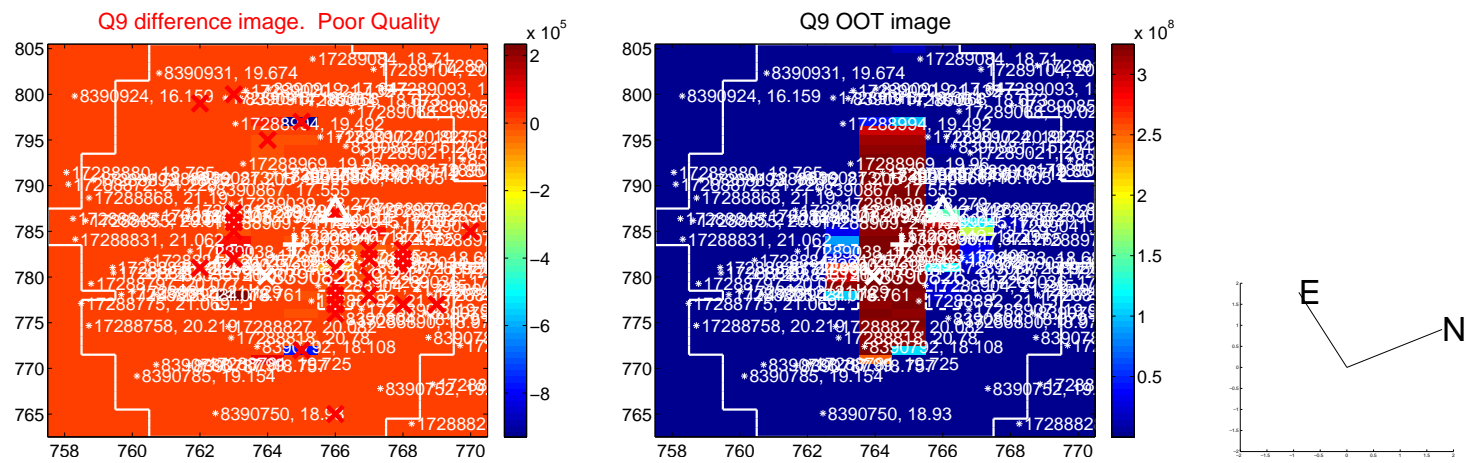
Q8 no difference image



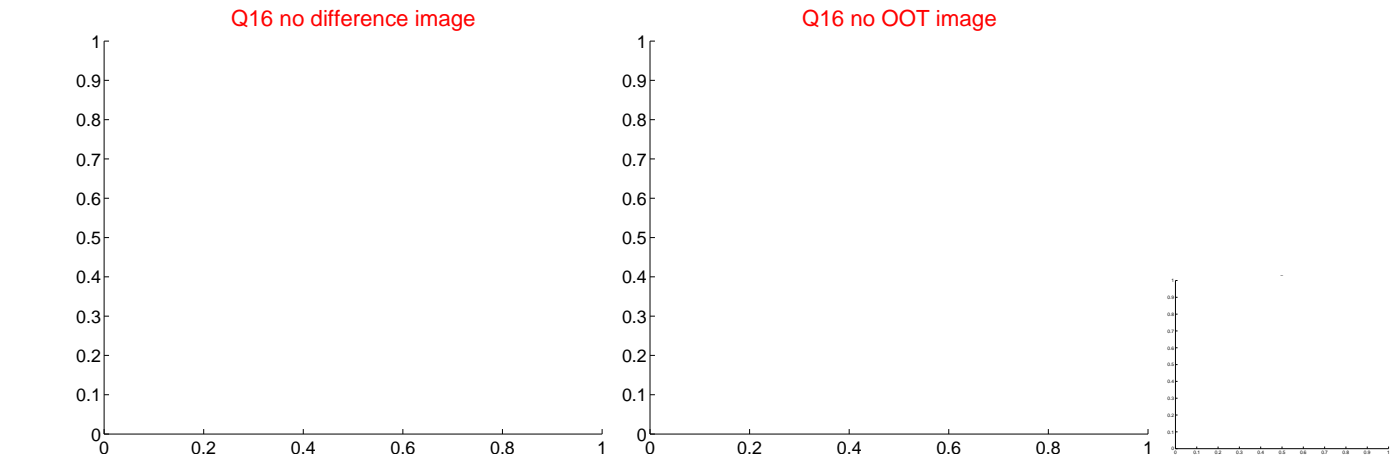
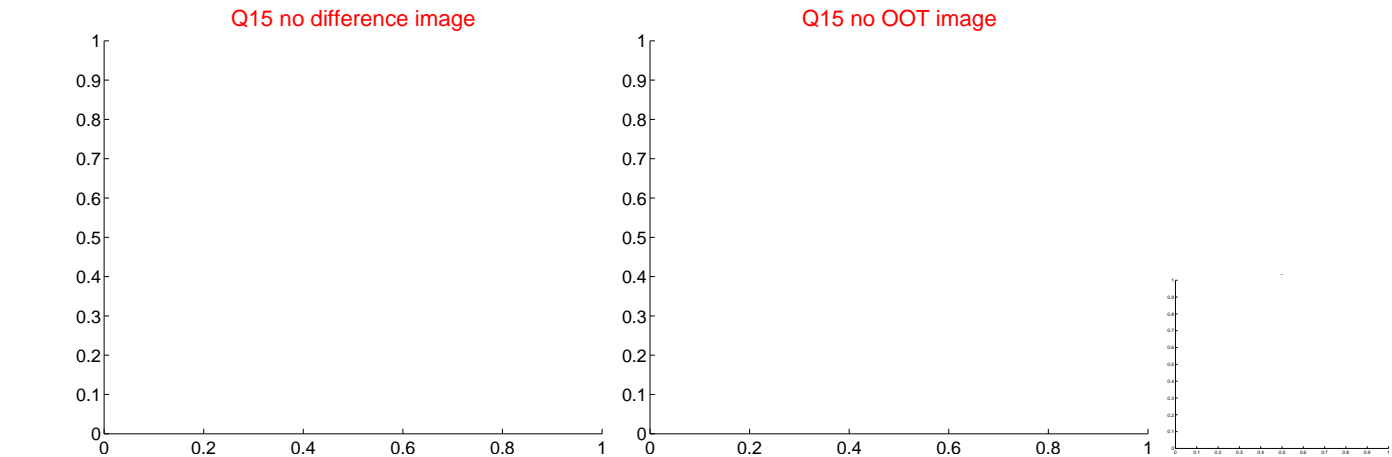
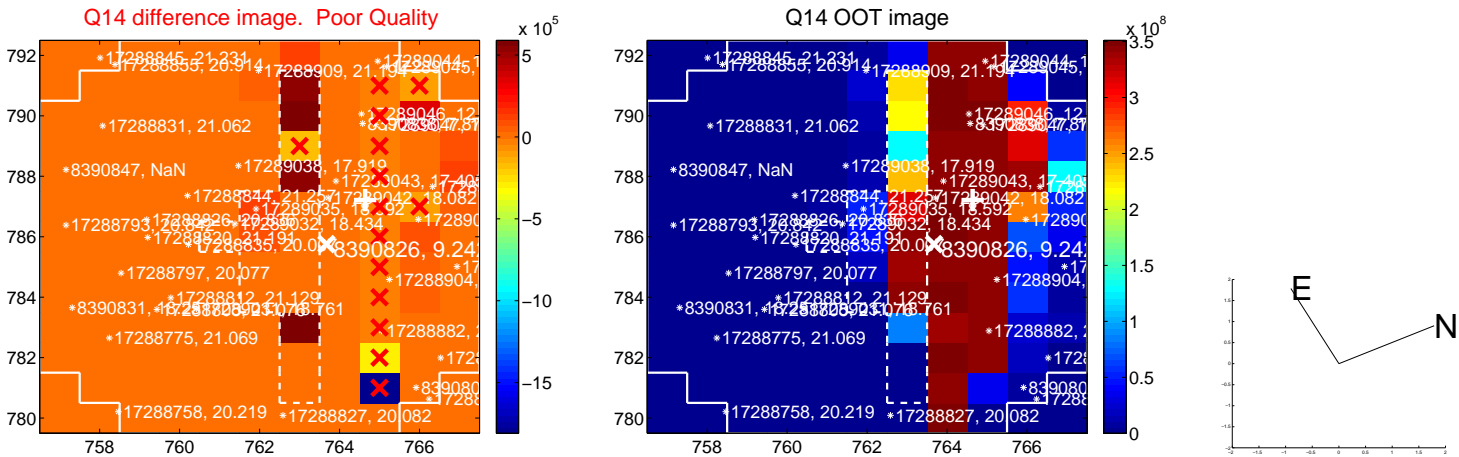
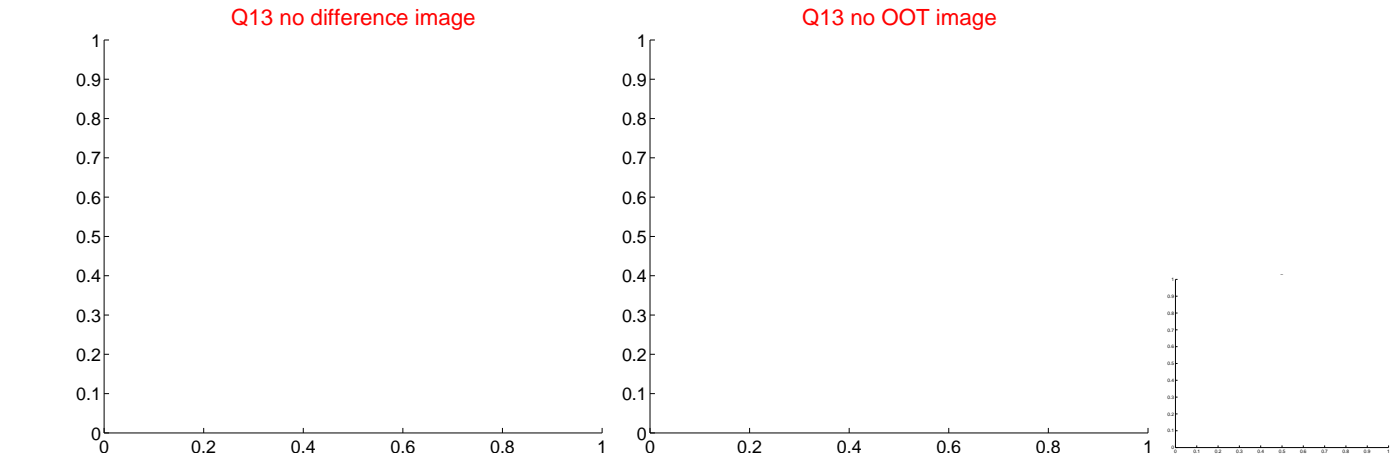
Q8 no OOT image



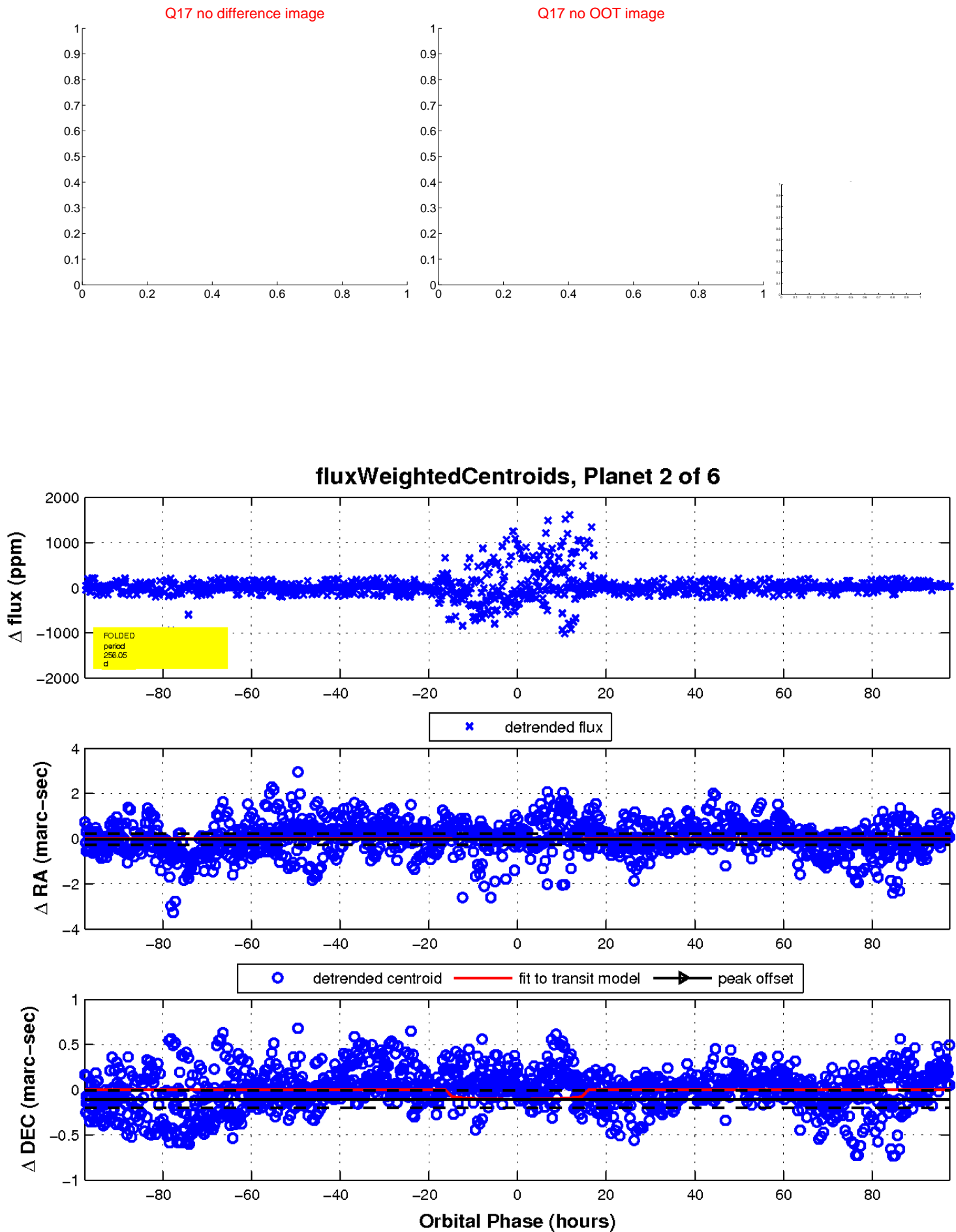
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



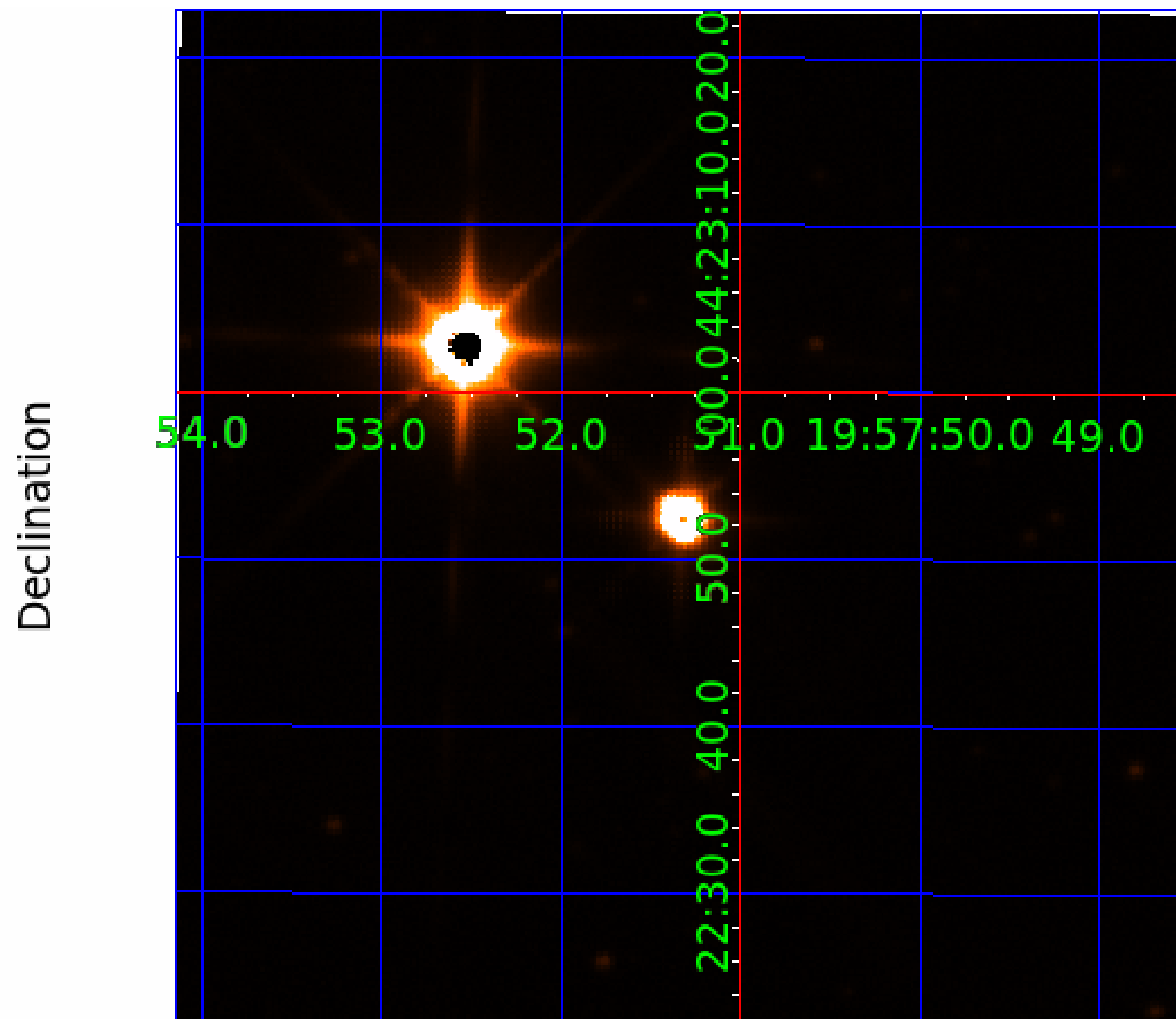
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image



KIC 008390826

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})
008390826-01	OBS	No	280.510110	252.293083	11.4	7.444	103.8	2.7	1.99	8501	0.72	16.81
008390826-02	OBS	No	256.051037	328.908176	593.1	32.534	72.3	50.9	1.99	8501	5.21	18.99
008390826-03	OBS	No	385.580182	469.021516	395.2	1.959	34.2	8.8	1.99	8501	4.07	11.00
008390826-04	OBS	No	431.563937	501.327944	900.2	3.992	45.6	28.9	1.99	8501	6.28	9.47
008390826-05	OBS	No	253.192983	219.030173	719.4	1.788	33.5	23.2	1.99	8501	5.91	19.27
008390826-06	OBS	No	255.865661	208.144545	462.0	3.000	36.1	-1.0	1.99	8501	4.34	19.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008390826-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

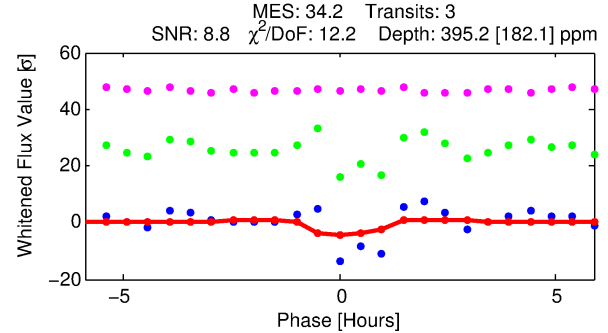
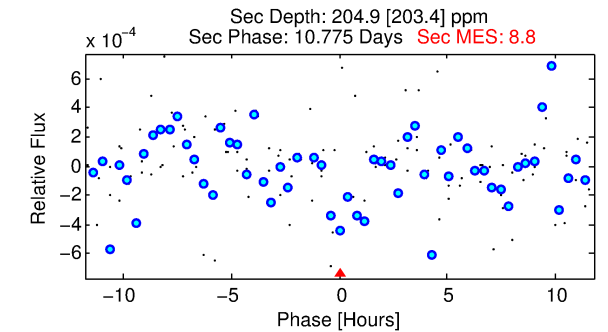
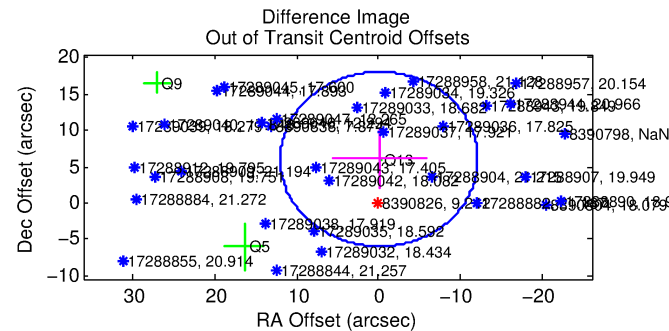
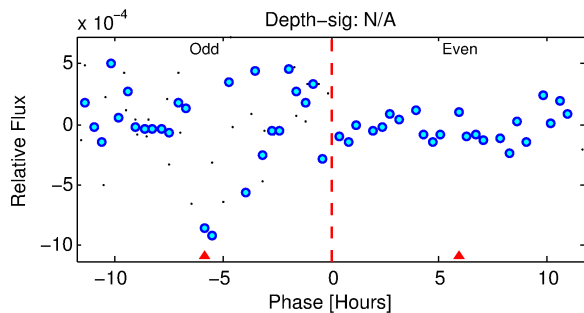
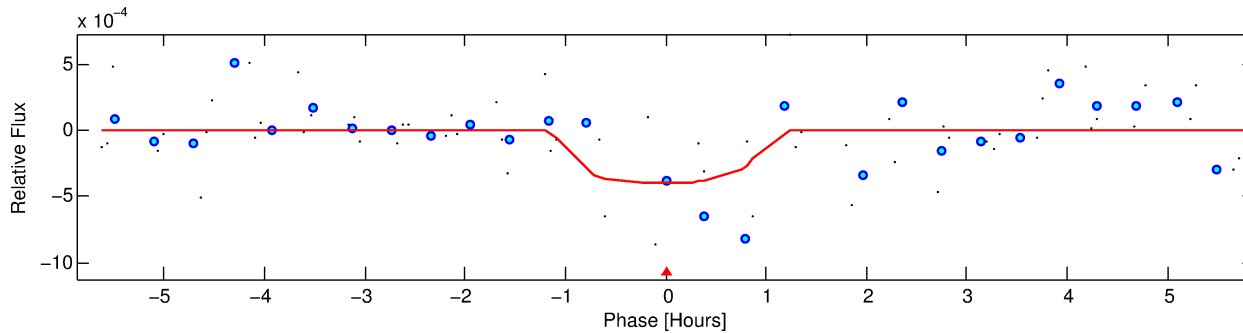
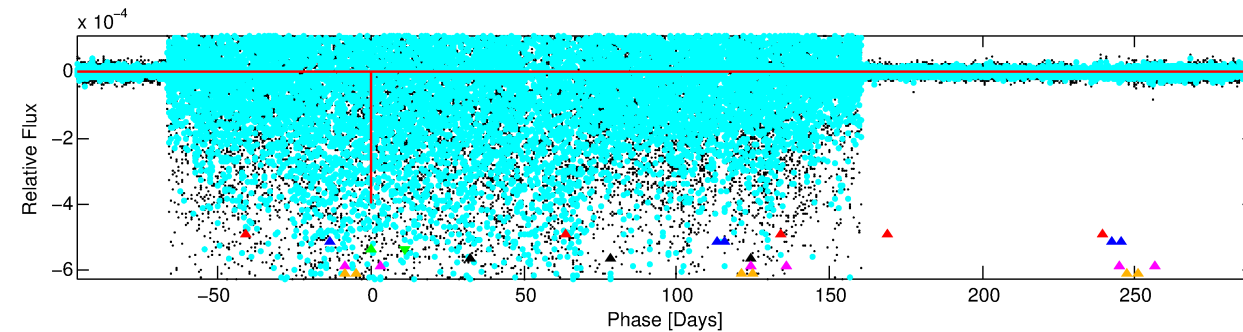
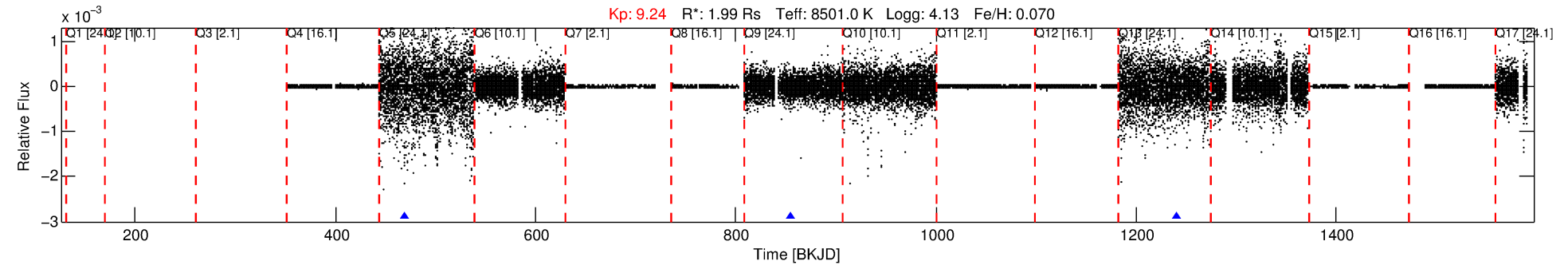
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008390826-03

No Significant Match Found

DV One-Page Summary

KIC: 8390826 Candidate: 3 of 6 Period: 385.580 d



DV Fit Results:

Period = 385.58018 [0.01333] d
Epoch = 469.0215 [0.0189] BKJD
Rp/R* = 0.0188 [0.0673]
a/R* = 1426.15 [30507.93]
b = 0.37 [49.96]
Seff = 11.00 [3.64]
Teq = 464 [38] K
Rp = 4.07 [14.63] Re
a = 1.2959 [0.2417] AU
Ag = 11446.92 [83028.11] [0.14] σ
Teffp = 7427 [13462] K [0.52] σ

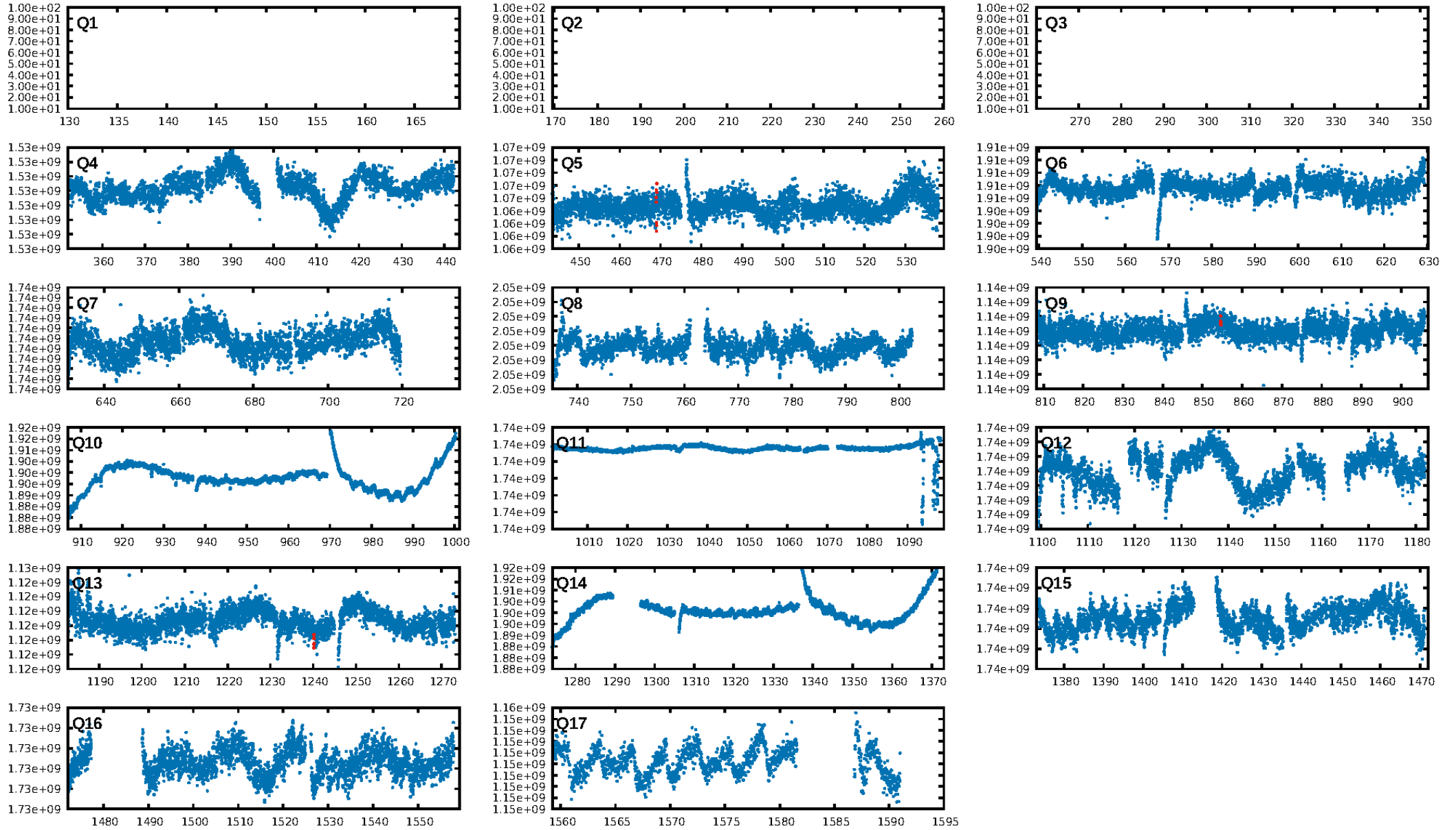
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [327.58] σ
LongPeriod-sig: 100.0% [248.21] σ
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 1.448 arcsec [2.10] σ
OotOffset-rm: 6.038 arcsec [1.50] σ
OotOffset-st: 0/0/0/3 [3]
KicOffset-rm: 9.676 arcsec [1.82] σ
KicOffset-st: 0/0/0/3 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [3/3]

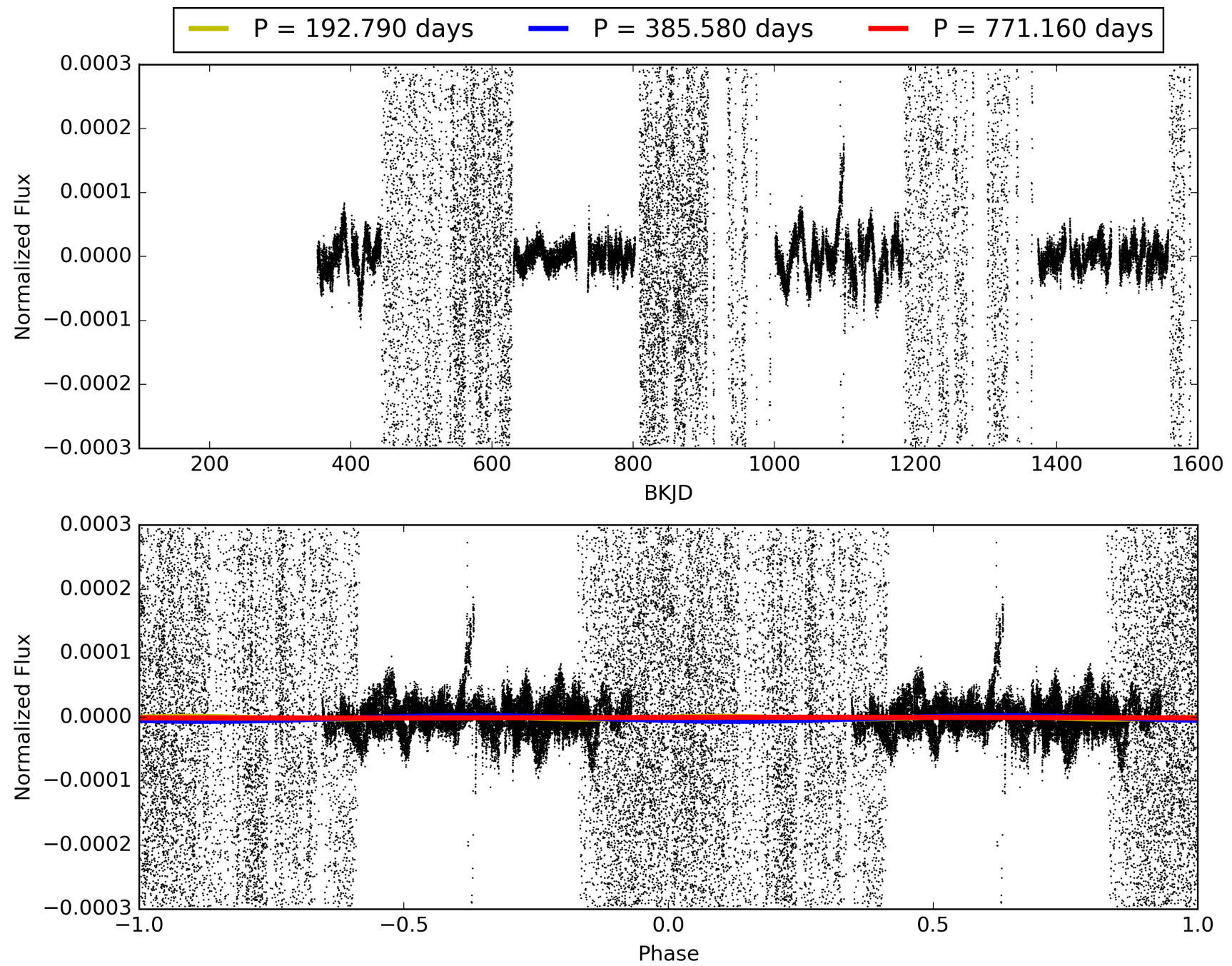
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:34:43 Z

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

TCE 008390826-03, PDC Light Curves

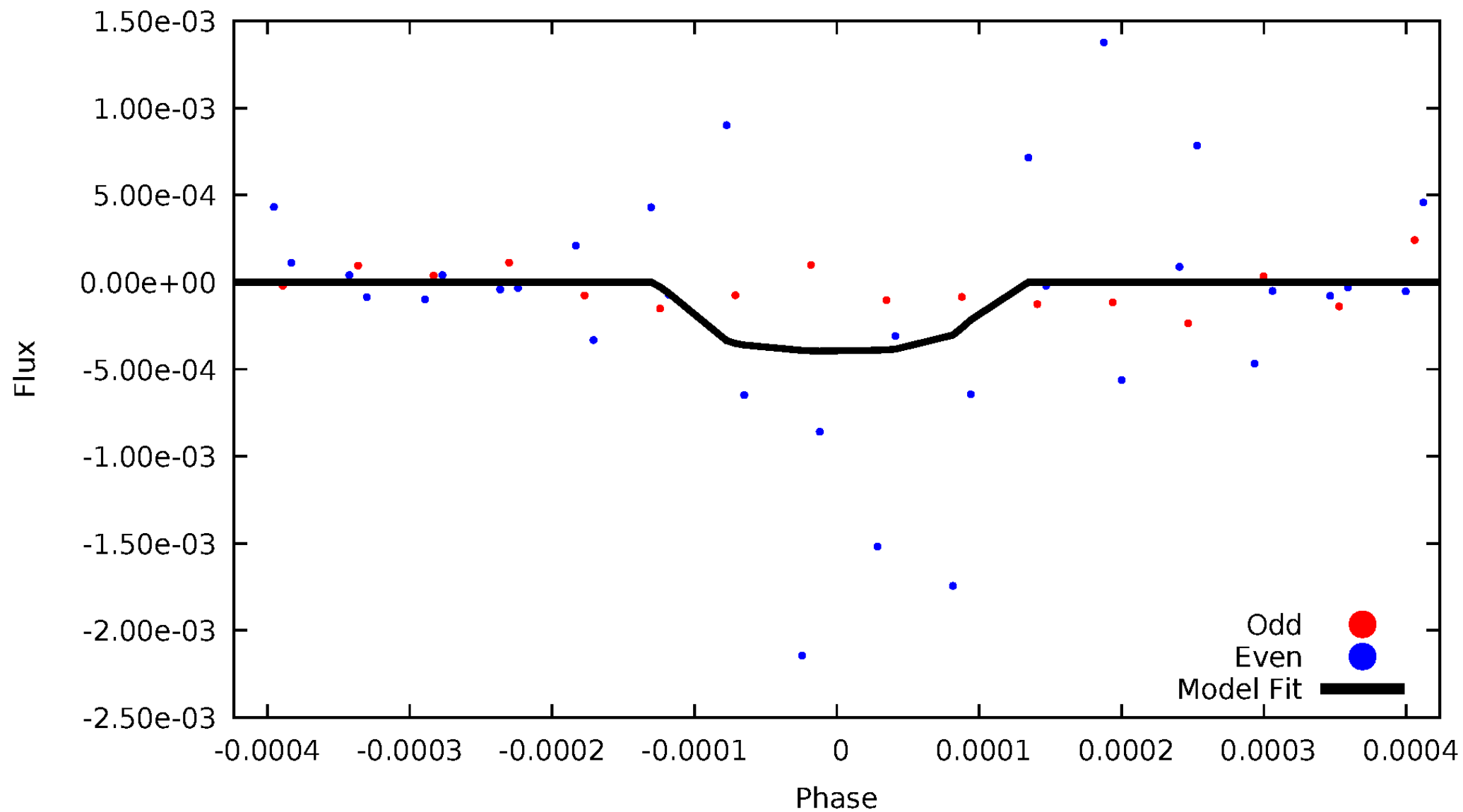


TCE 008390826-03



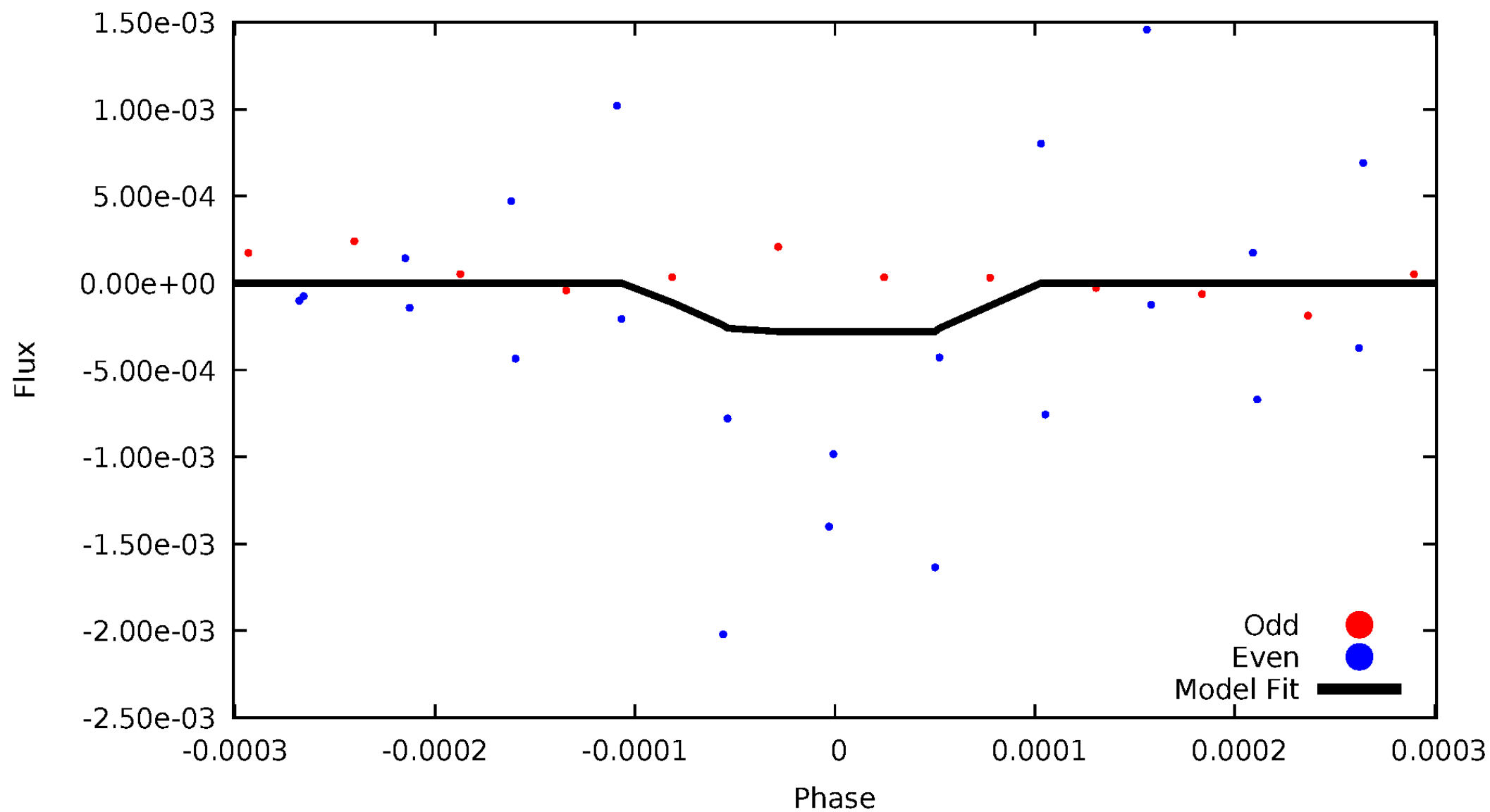
DV Odd/Even

TCE 008390826-03



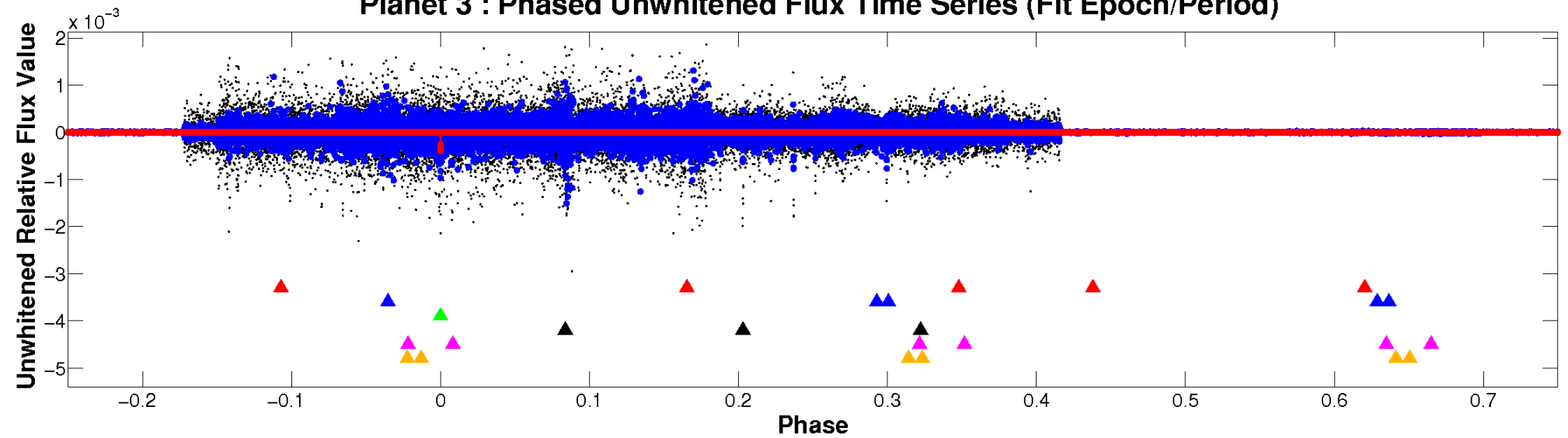
ALT Odd/Even

TCE 008390826-03

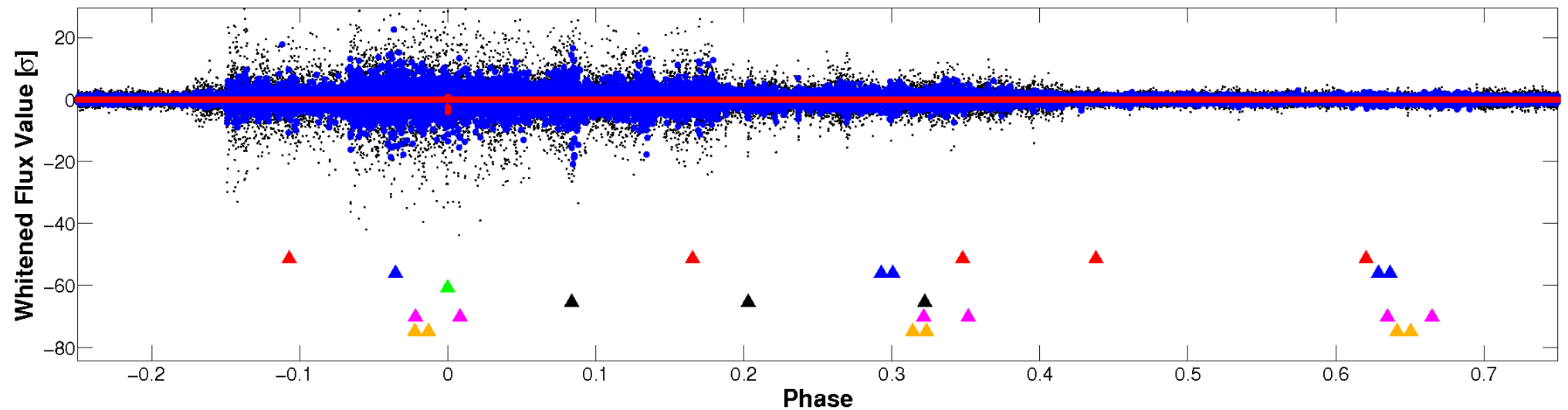


Non-Whitened Vs. Whitened Light Curve

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

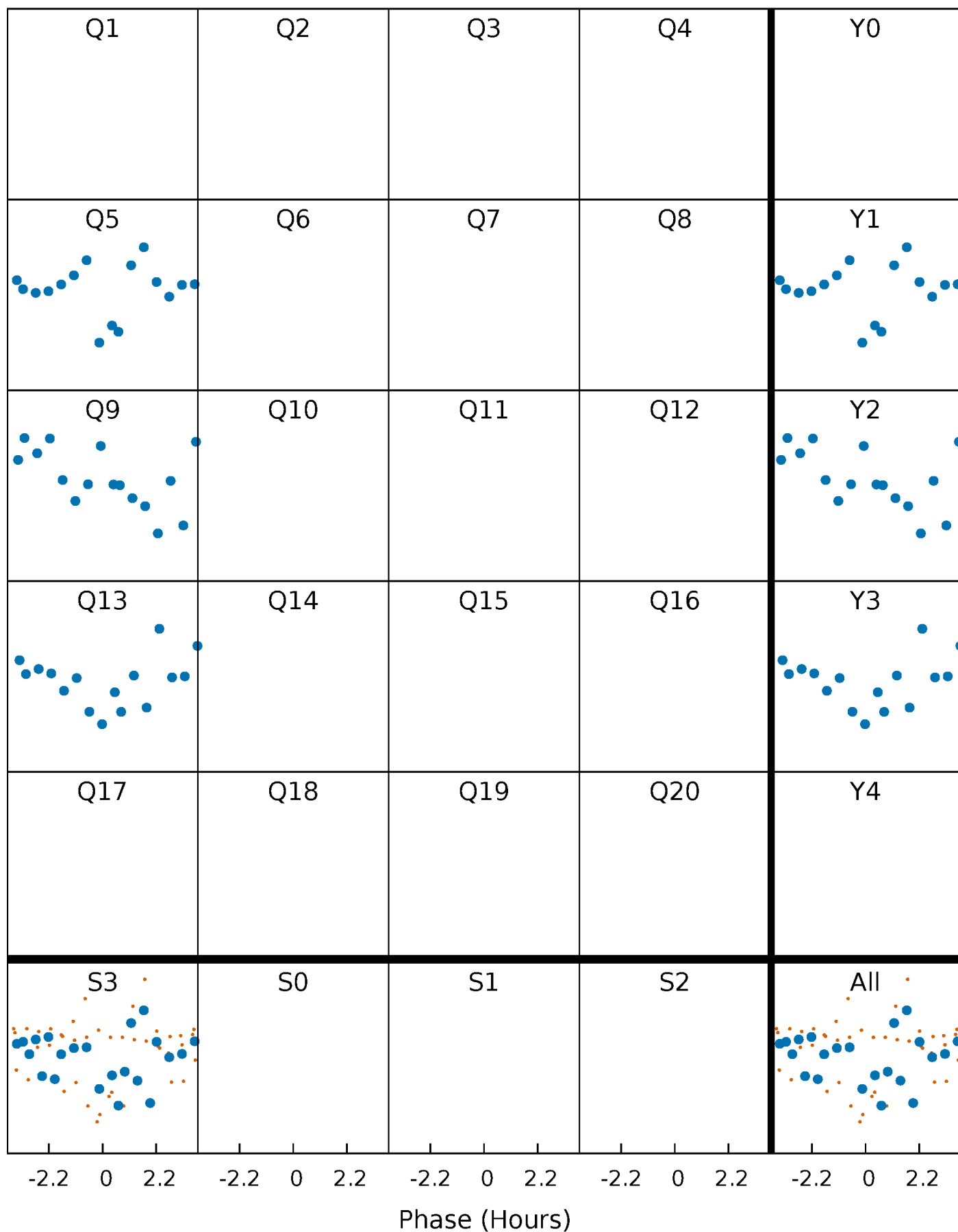


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



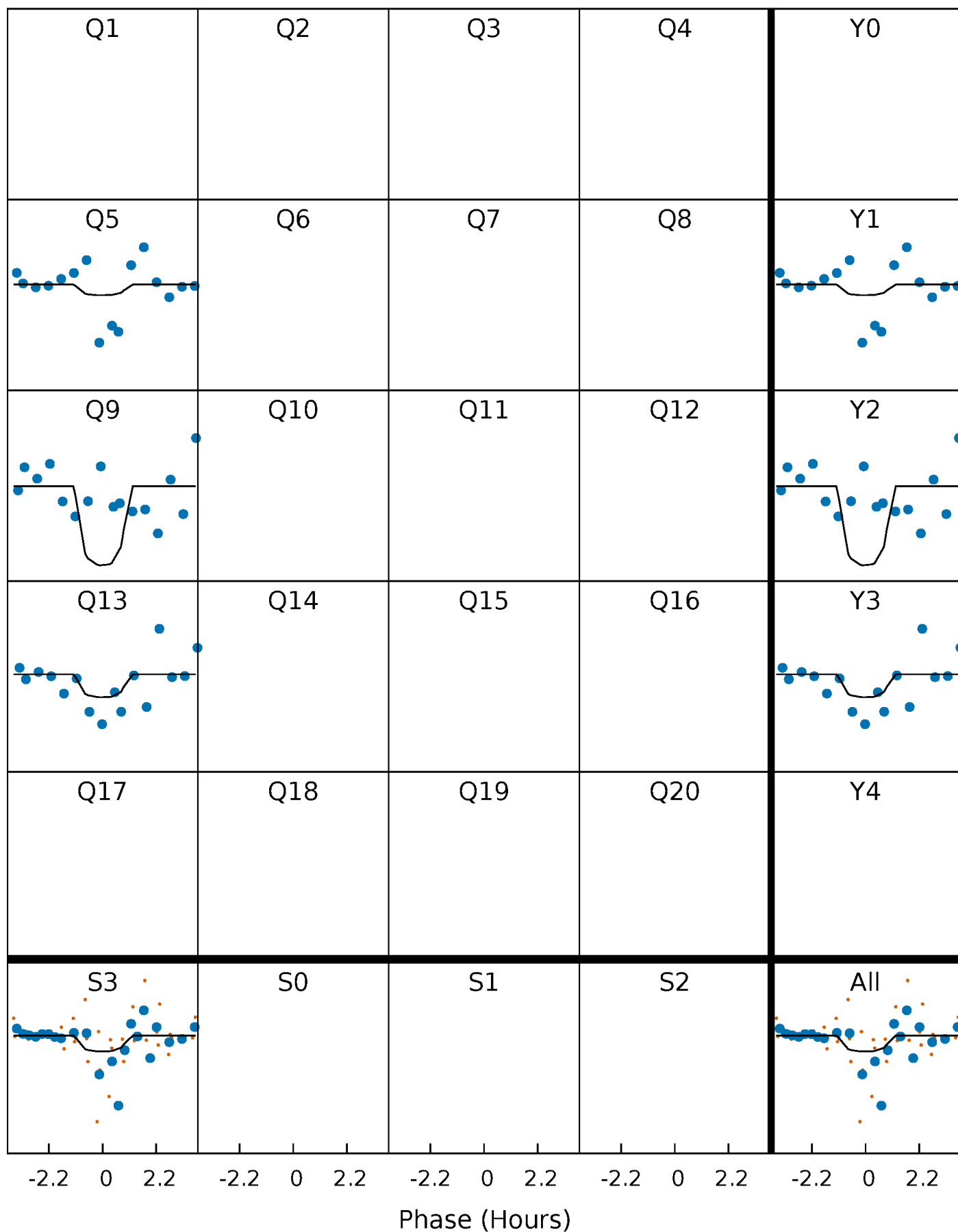
PDC Quarter-Phased Transit Curves

TCE 008390826-03 $P=385.580182$ Days $T_0=469.021516$ (BKJD)



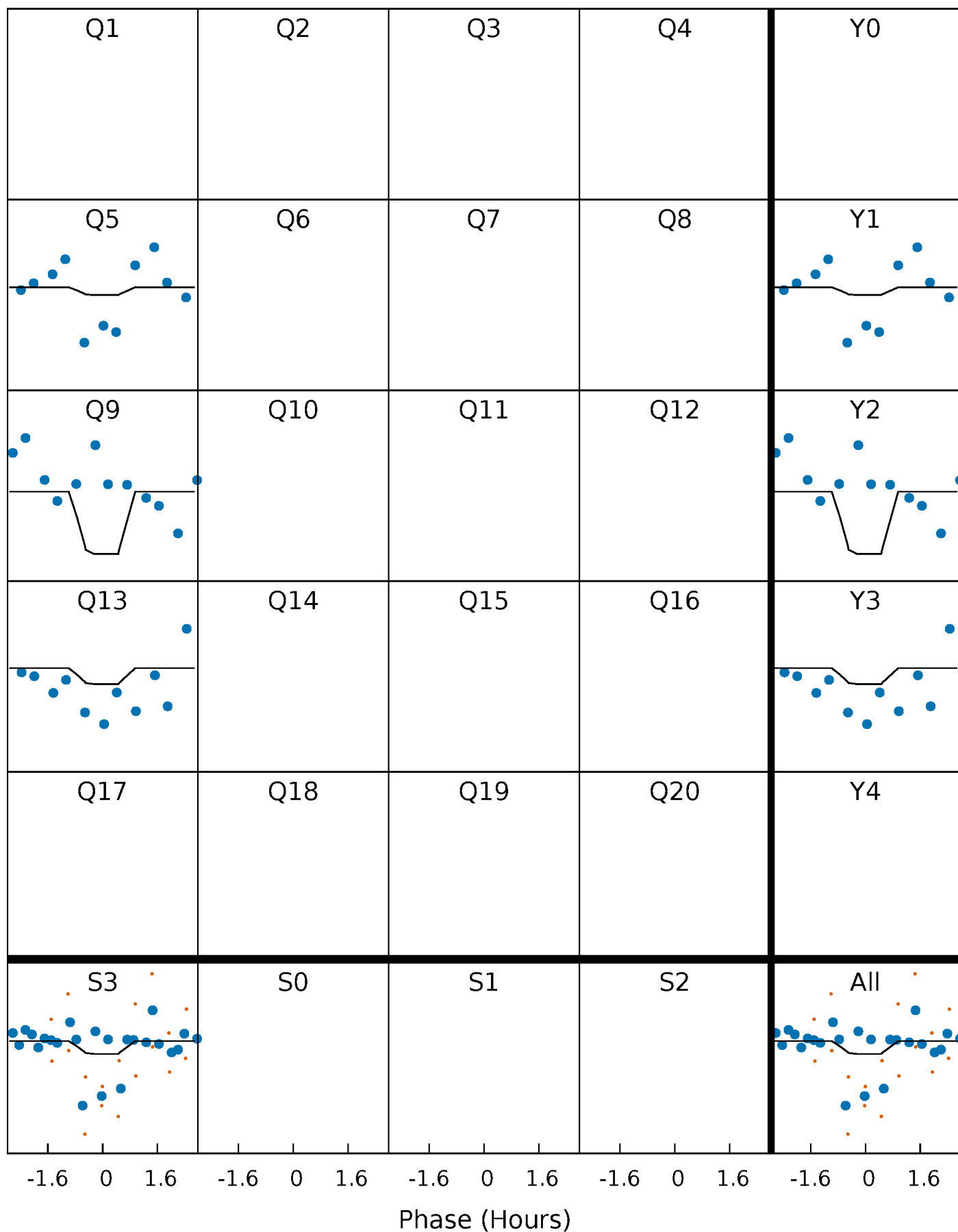
DV Quarter-Phased Transit Curves

TCE 008390826-03 $P=385.580182$ Days $T_0=469.021516$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

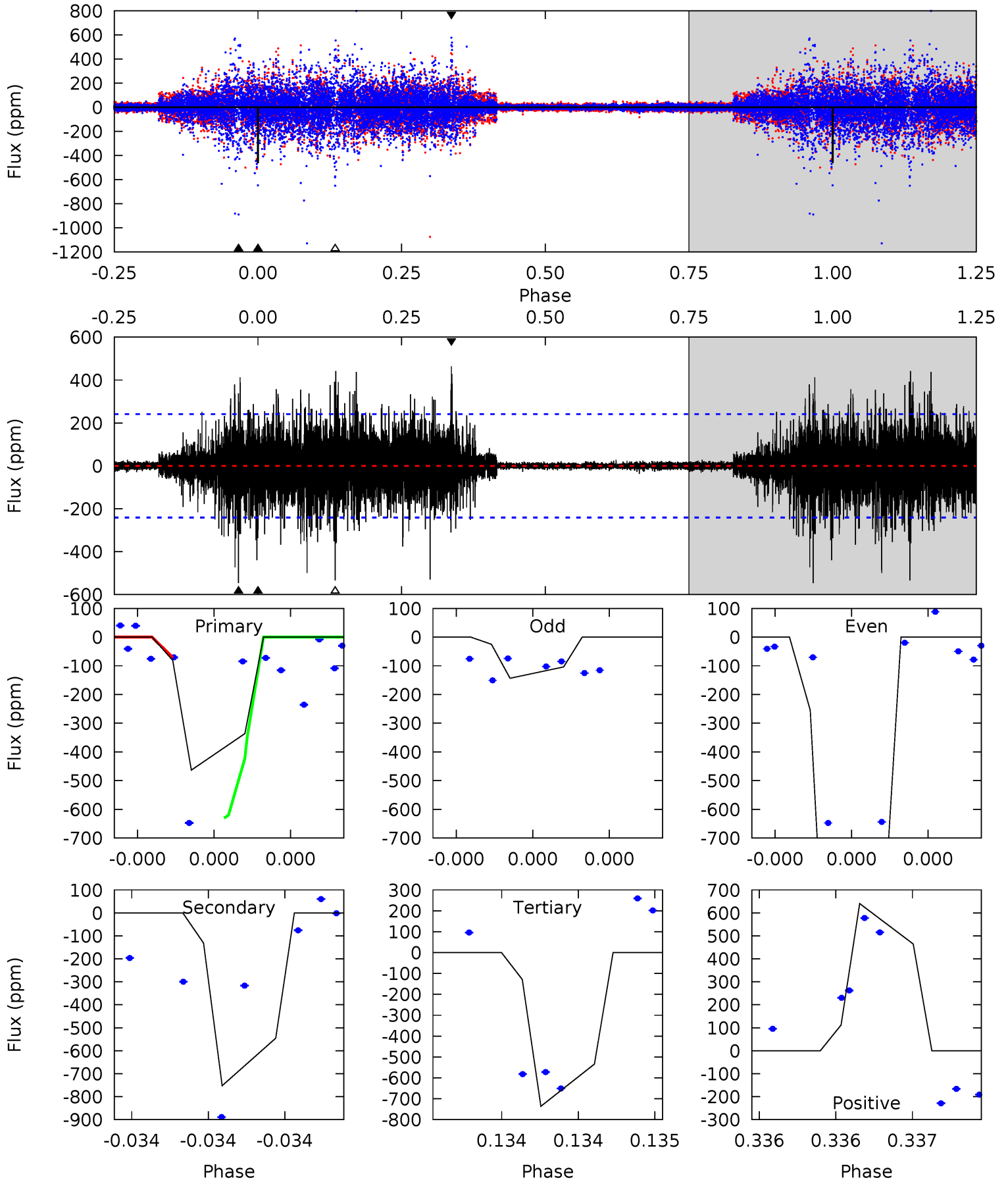
TCE 008390826-03 $P=385.571942$ Days $T_0=469.033673$ (BKJD)



DV Model-Shift Uniqueness Test

008390826-03, P = 385.580182 Days, E = 83.441334 Days

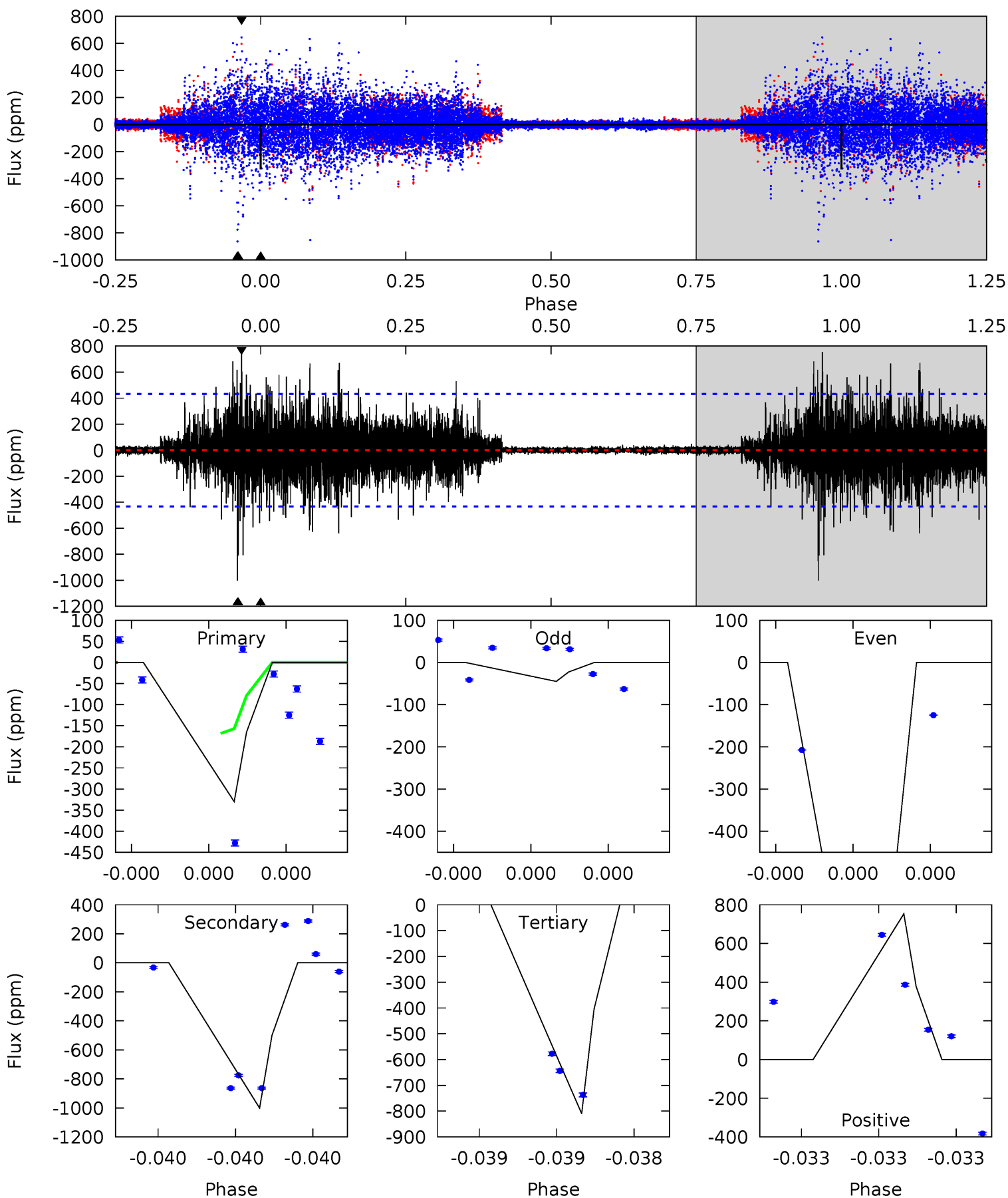
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.96	12.9	12.6	11.0	5.72	3.70	1.24	-4.69	-3.04	0.27	1.92	12.3	0.98	0.46	0



Alt Model-Shift Uniqueness Test

008390826-03, P = 385.571942 Days, E = 83.461731 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.40	13.3	10.8	10.0	5.77	3.78	1.04	-6.40	-5.65	2.55	3.30	9.56	1.04	0.43	0



Stellar Parameters For KIC 008390826

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8501^{+234}_{-402}	$4.132^{+0.121}_{-0.148}$	$0.070^{+0.250}_{-0.550}$	$1.987^{+0.441}_{-0.441}$	$1.953^{+0.343}_{-0.419}$	$0.351^{+0.243}_{-0.143}$
	+3%/-5%	+3%/-4%	+357%/-786%	+22%/-22%	+18%/-21%	+69%/-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 008390826-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-545 ± 42	$11.27^{+11.16}_{-7.82}$	652^{+44}_{-43}	5446^{+5732}_{-1288}	3880^{+37450}_{-2937}
Alt.	-1001 ± 75	$10.88^{+12.25}_{-7.59}$	652^{+43}_{-44}	6484^{+8773}_{-1839}	7955^{+77892}_{-6131}

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 $A_{obs} \gg 1.0$

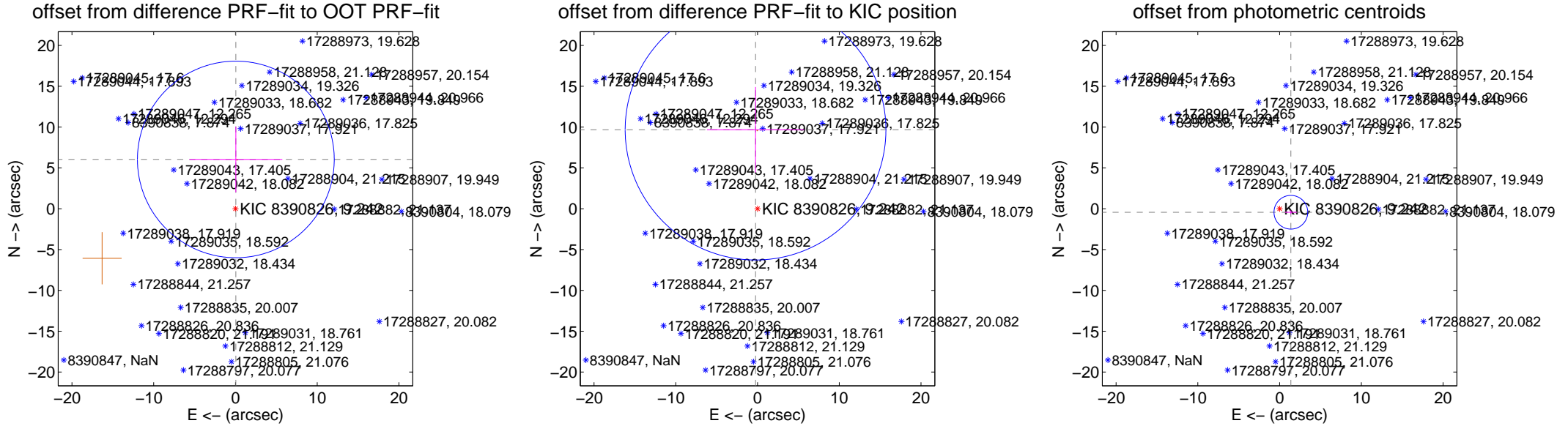
DV Centroid Data

Supplemental centroid analysis for 008390826-03. **Kepler magnitude: 9.24.** Transit SNR 8.77

There are 0 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 3.61 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.038 ± 4.013	1.50	-0.047 ± 5.684	6.038 ± 4.018
PRF-fit source offset from KIC position	9.676 ± 5.317	1.82	0.241 ± 5.942	9.673 ± 5.237
photometric centroid source offset	1.45 ± 0.69	2.10	-1.38 ± 0.72	-0.43 ± 0.22

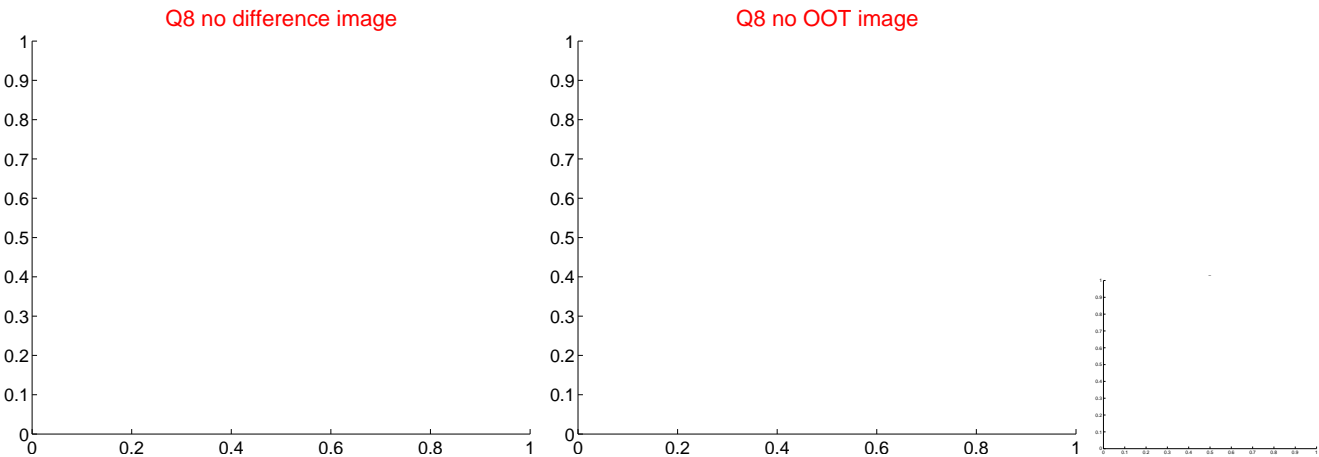
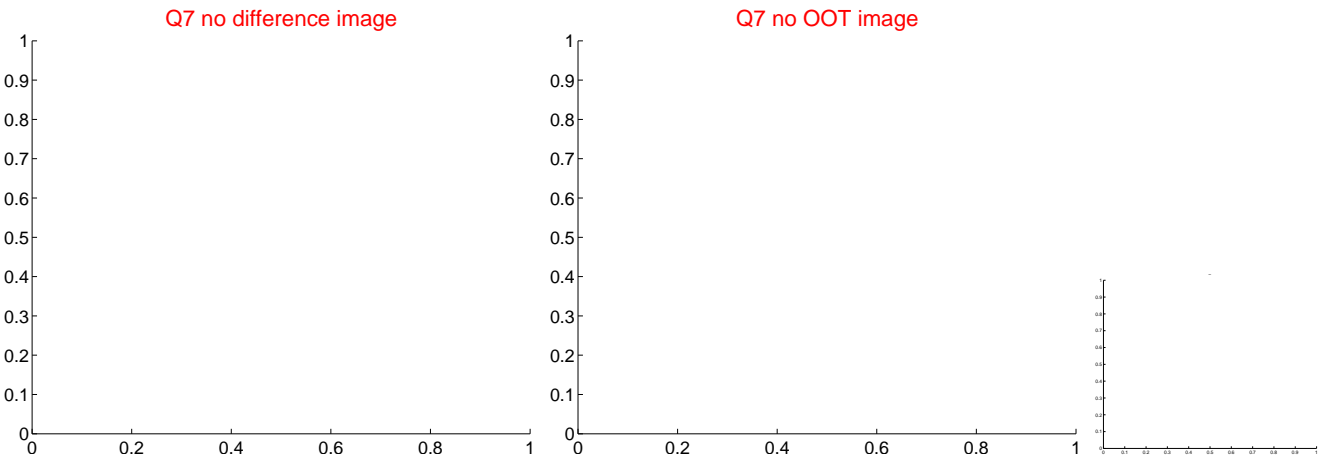
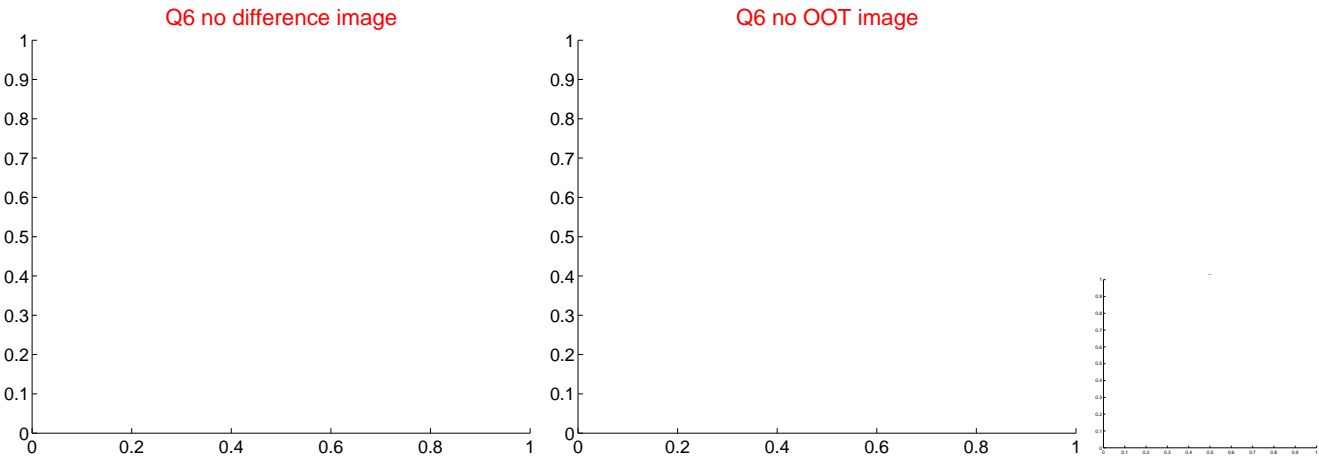
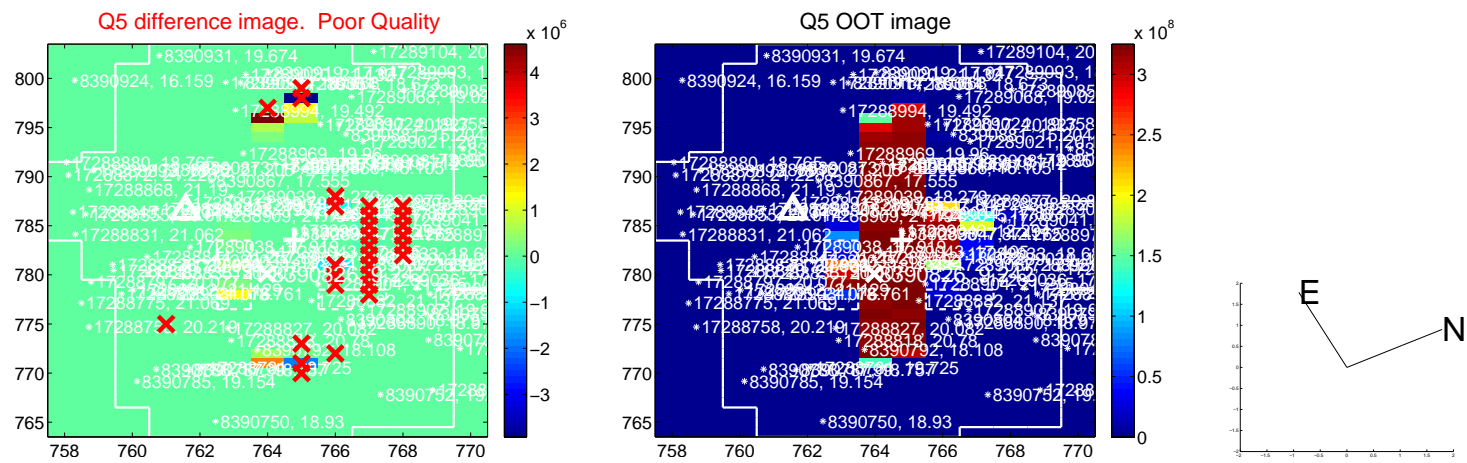


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

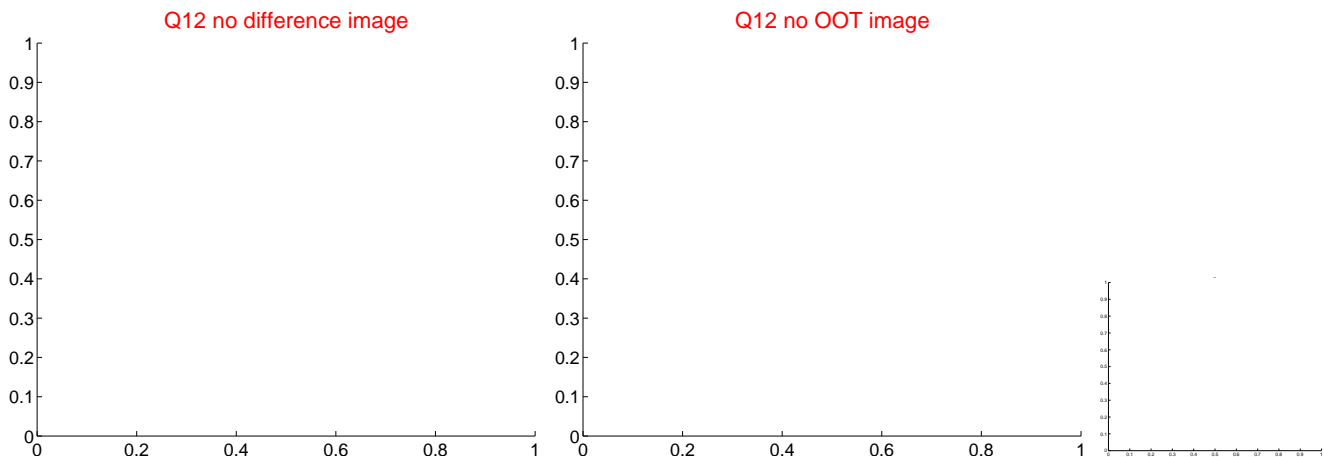
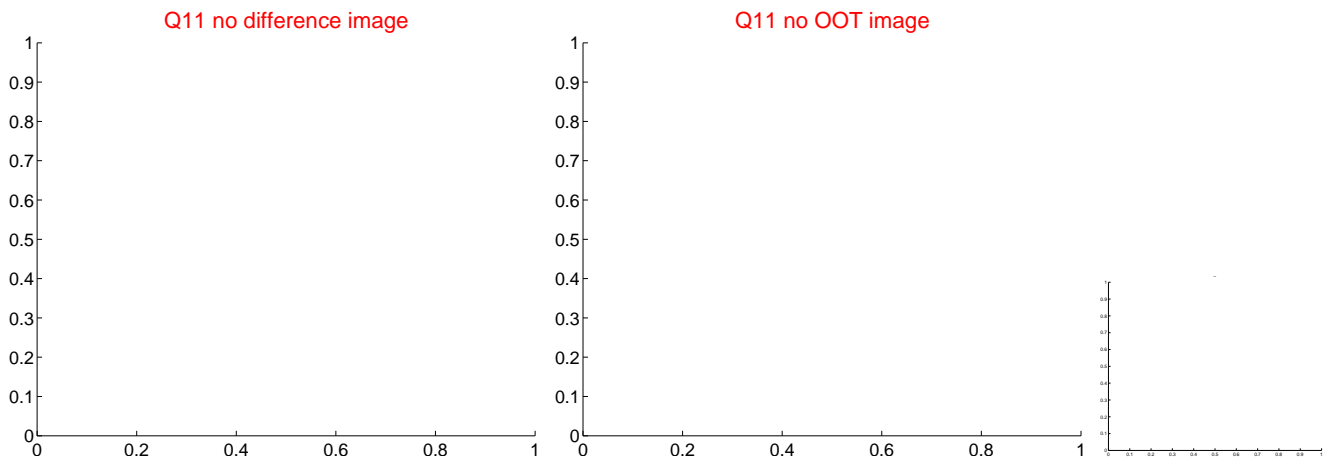
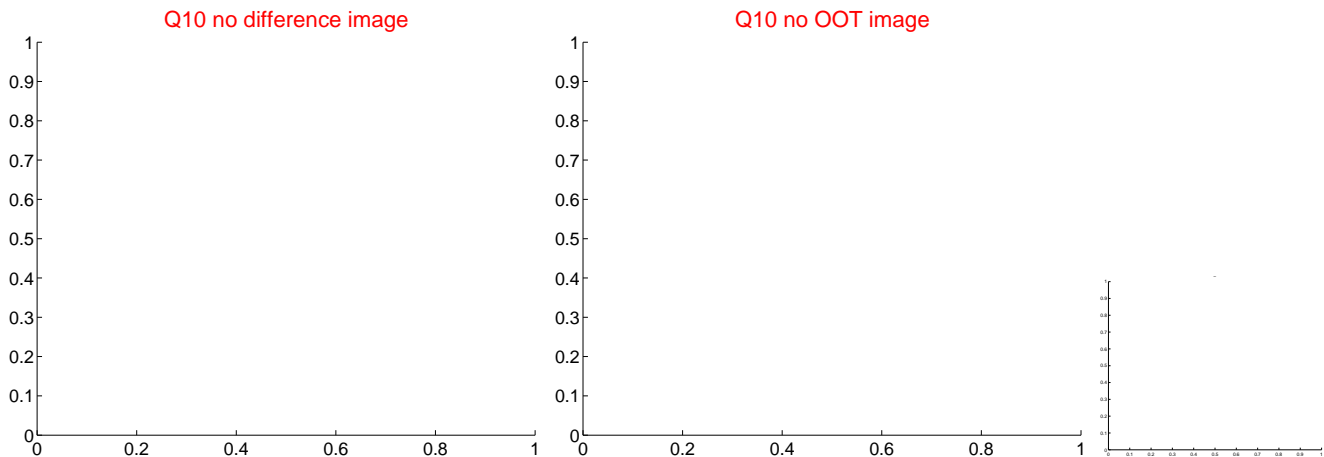
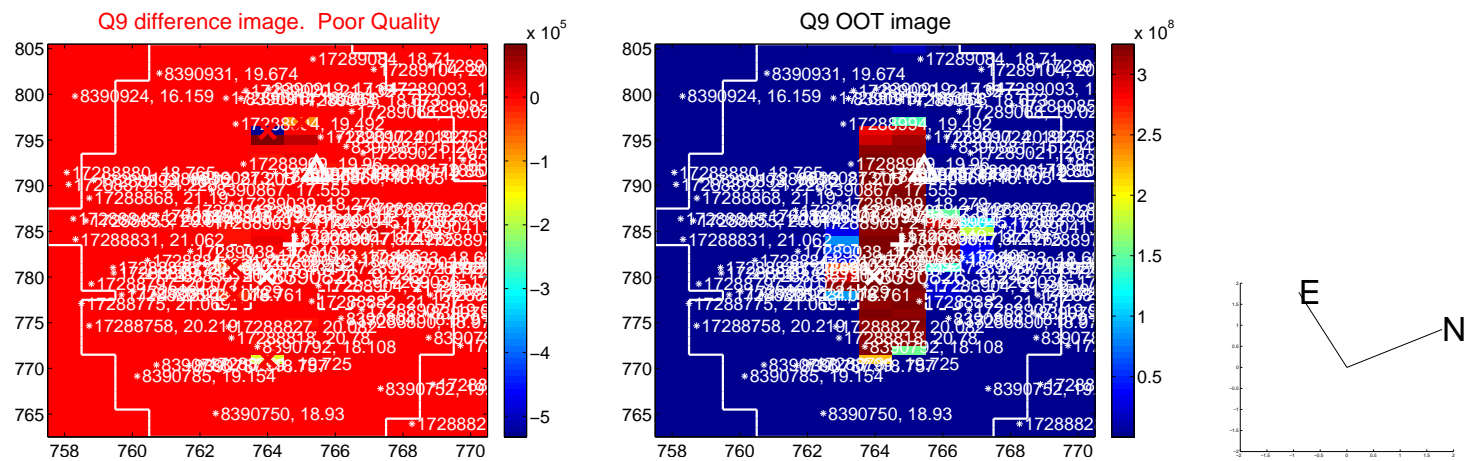
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



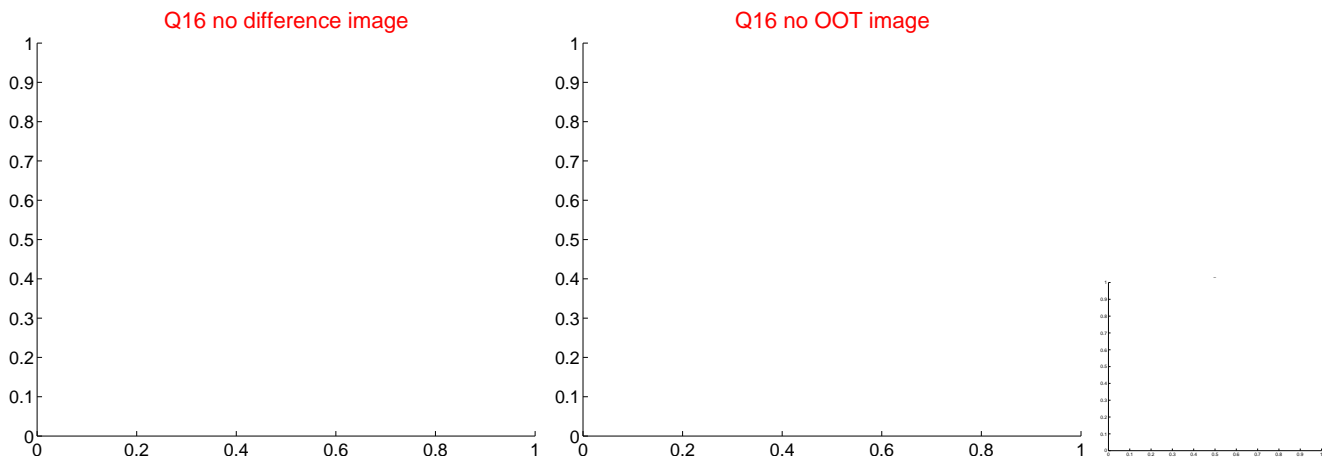
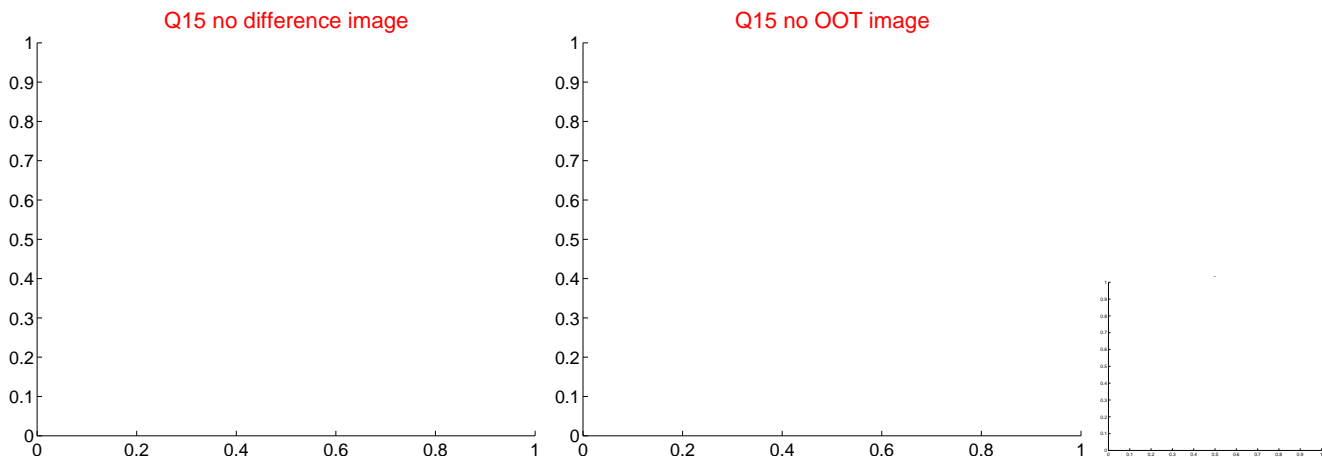
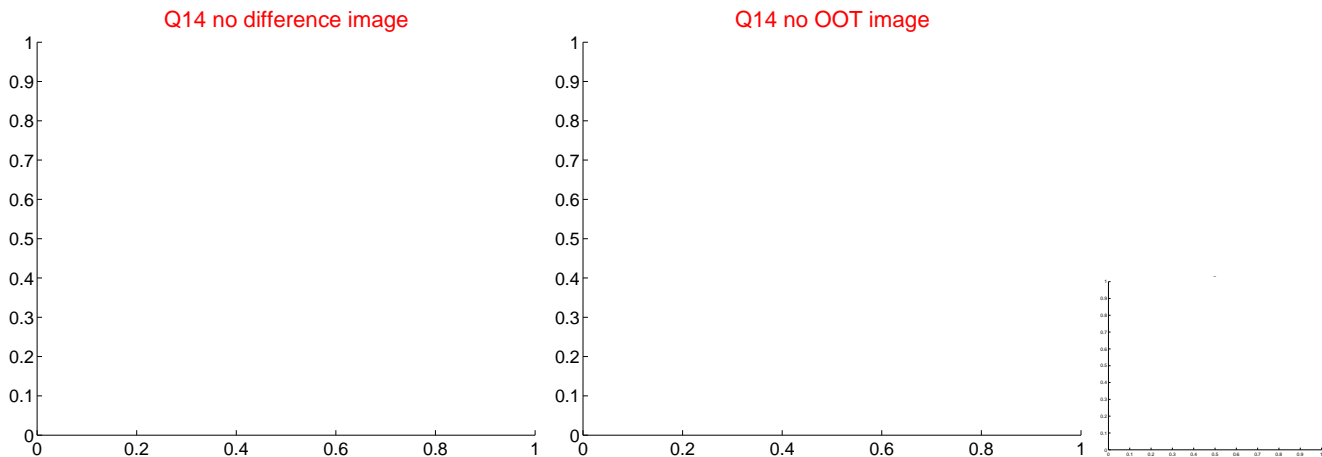
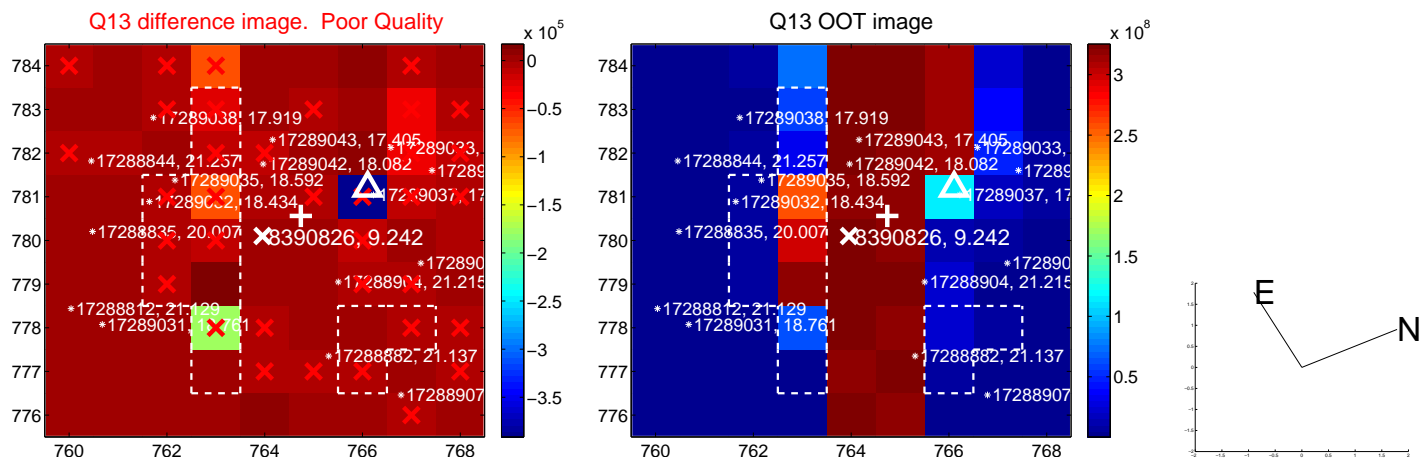
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



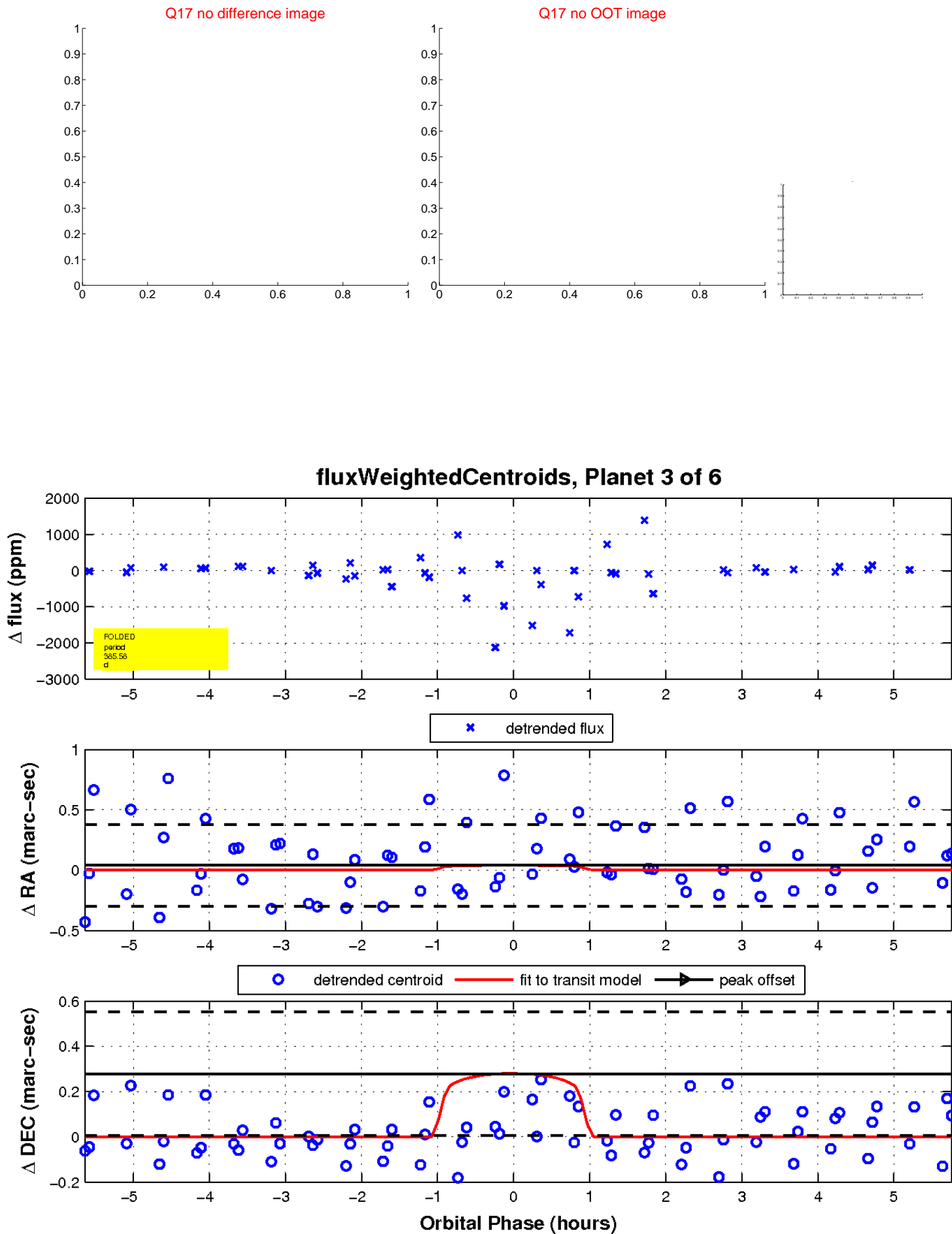
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



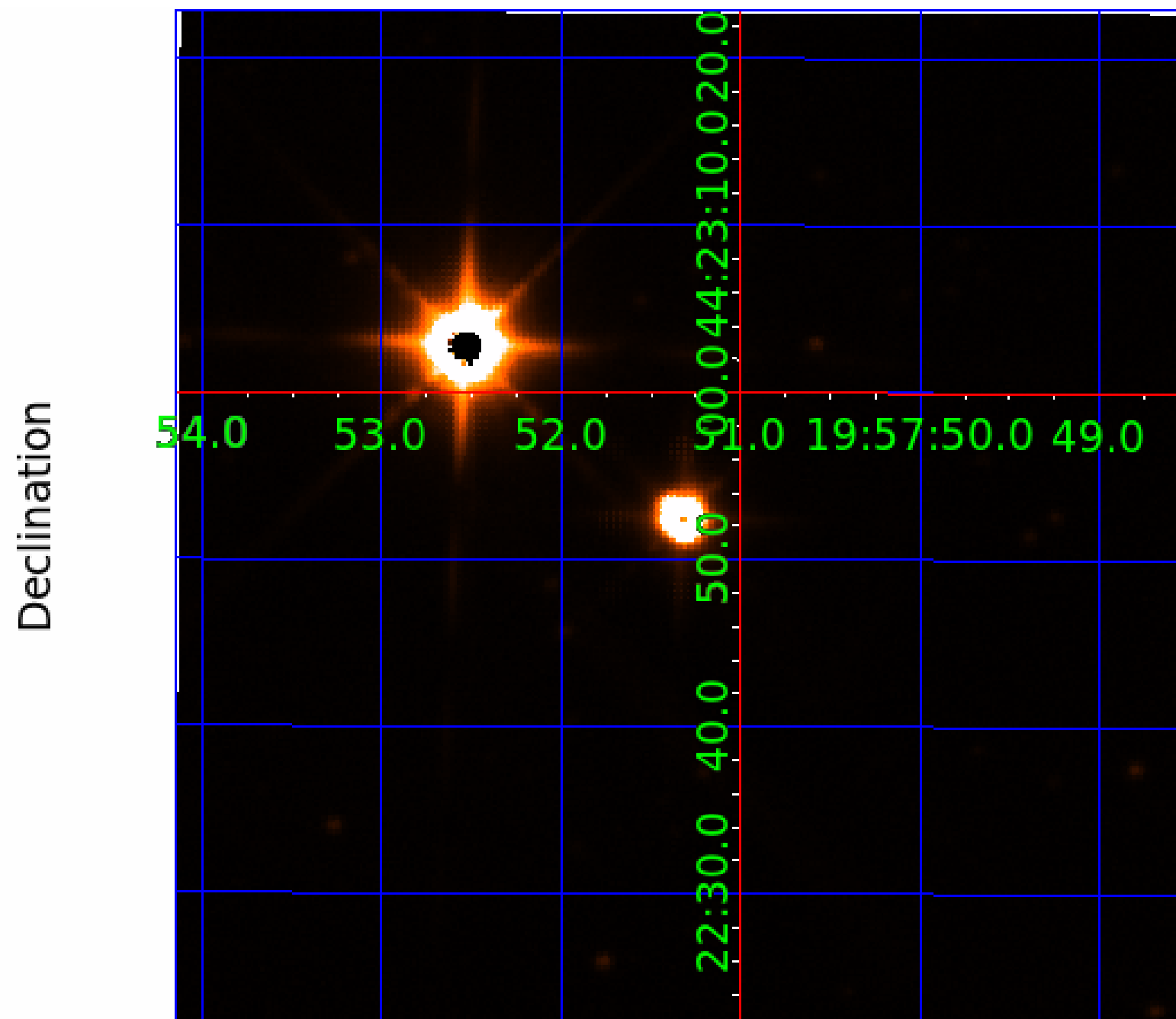
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008390826

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})
008390826-01	OBS	No	280.510110	252.293083	11.4	7.444	103.8	2.7	1.99	8501	0.72	16.81
008390826-02	OBS	No	256.051037	328.908176	593.1	32.534	72.3	50.9	1.99	8501	5.21	18.99
008390826-03	OBS	No	385.580182	469.021516	395.2	1.959	34.2	8.8	1.99	8501	4.07	11.00
008390826-04	OBS	No	431.563937	501.327944	900.2	3.992	45.6	28.9	1.99	8501	6.28	9.47
008390826-05	OBS	No	253.192983	219.030173	719.4	1.788	33.5	23.2	1.99	8501	5.91	19.27
008390826-06	OBS	No	255.865661	208.144545	462.0	3.000	36.1	-1.0	1.99	8501	4.34	19.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008390826-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

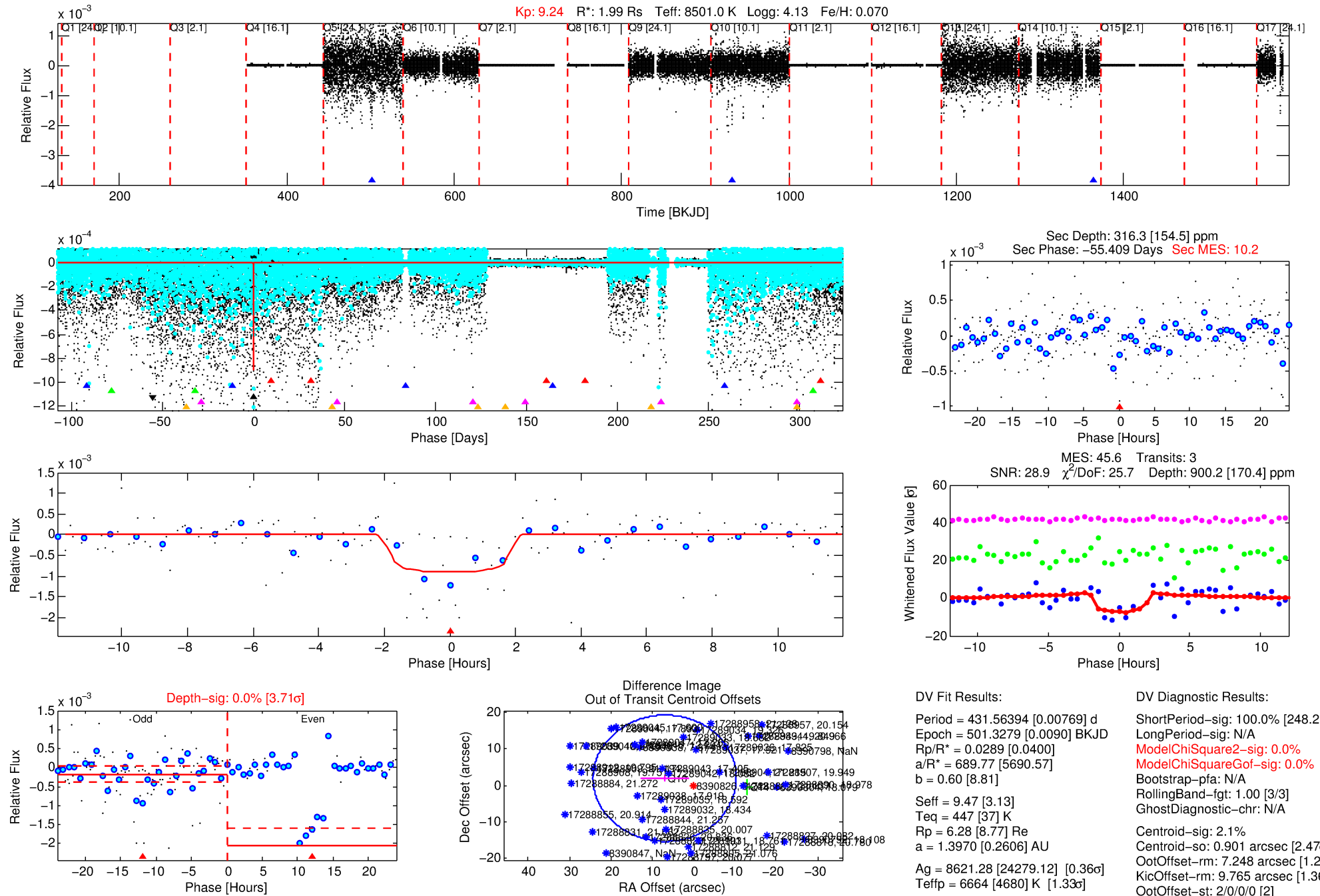
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008390826-04

No Significant Match Found

DV One-Page Summary

KIC: 8390826 Candidate: 4 of 6 Period: 431.564 d



DV Fit Results:

Period = 431.56394 [0.00769] d
Epoch = 501.3279 [0.0090] BKJD
 $R_p/R^* = 0.0289$ [0.0400]
 $a/R^* = 689.77$ [5690.57]
 $b = 0.60$ [8.81]
 $\text{Seff} = 9.47$ [3.13]
 $\text{Teq} = 447$ [37] K
 $R_p = 6.28$ [8.77] R_e
 $a = 1.3970$ [0.2606] AU
 $\text{Ag} = 8621.28$ [24279.12] [0.36 σ]
 $\text{Teff} = 6664$ [4680] K [1.33 σ]

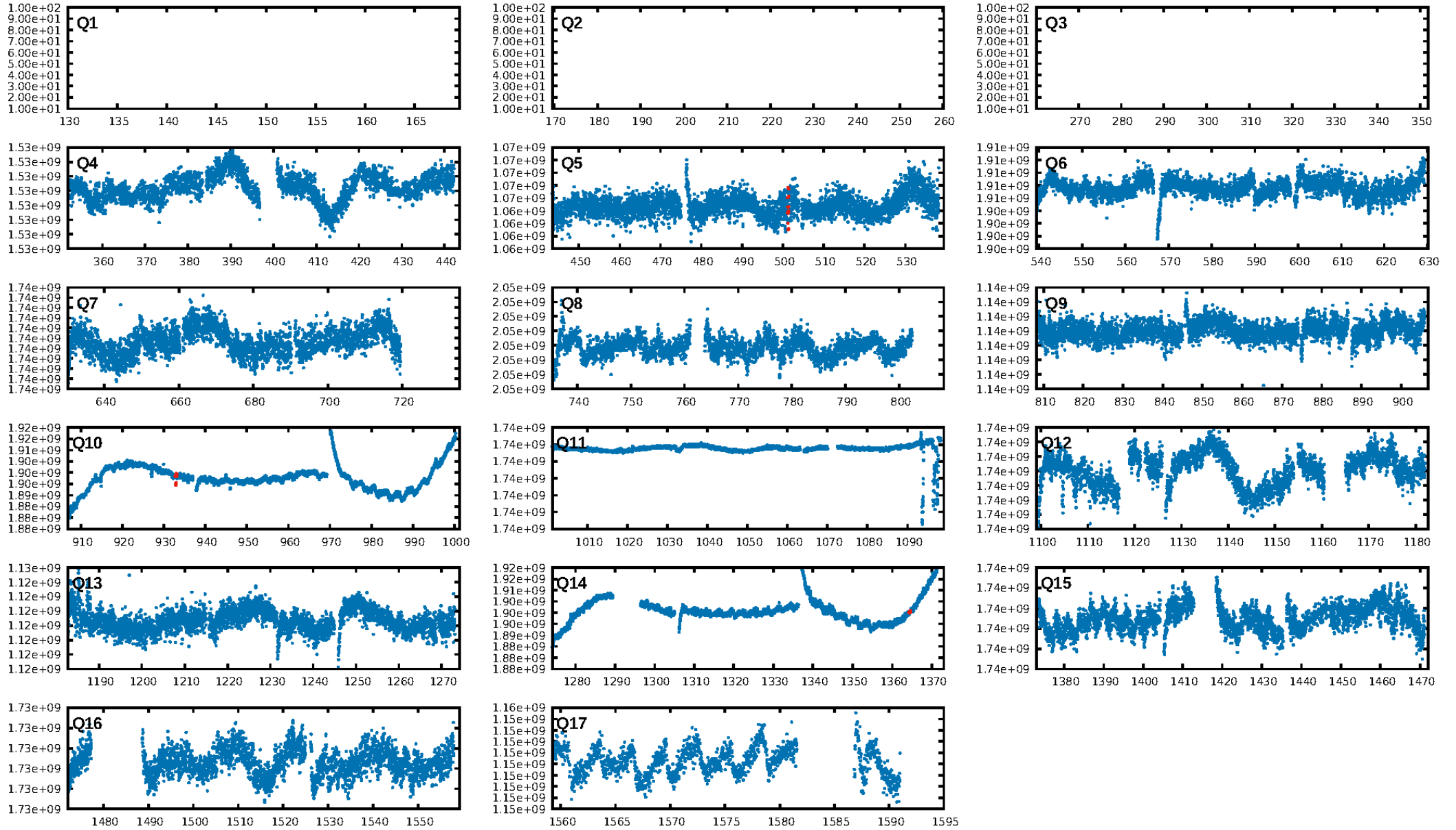
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [248.21 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 2.1%
Centroid-so: 0.901 arcsec [2.47 σ]
OotOffset-rm: 7.248 arcsec [1.26 σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-rm: 9.765 arcsec [1.36 σ]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

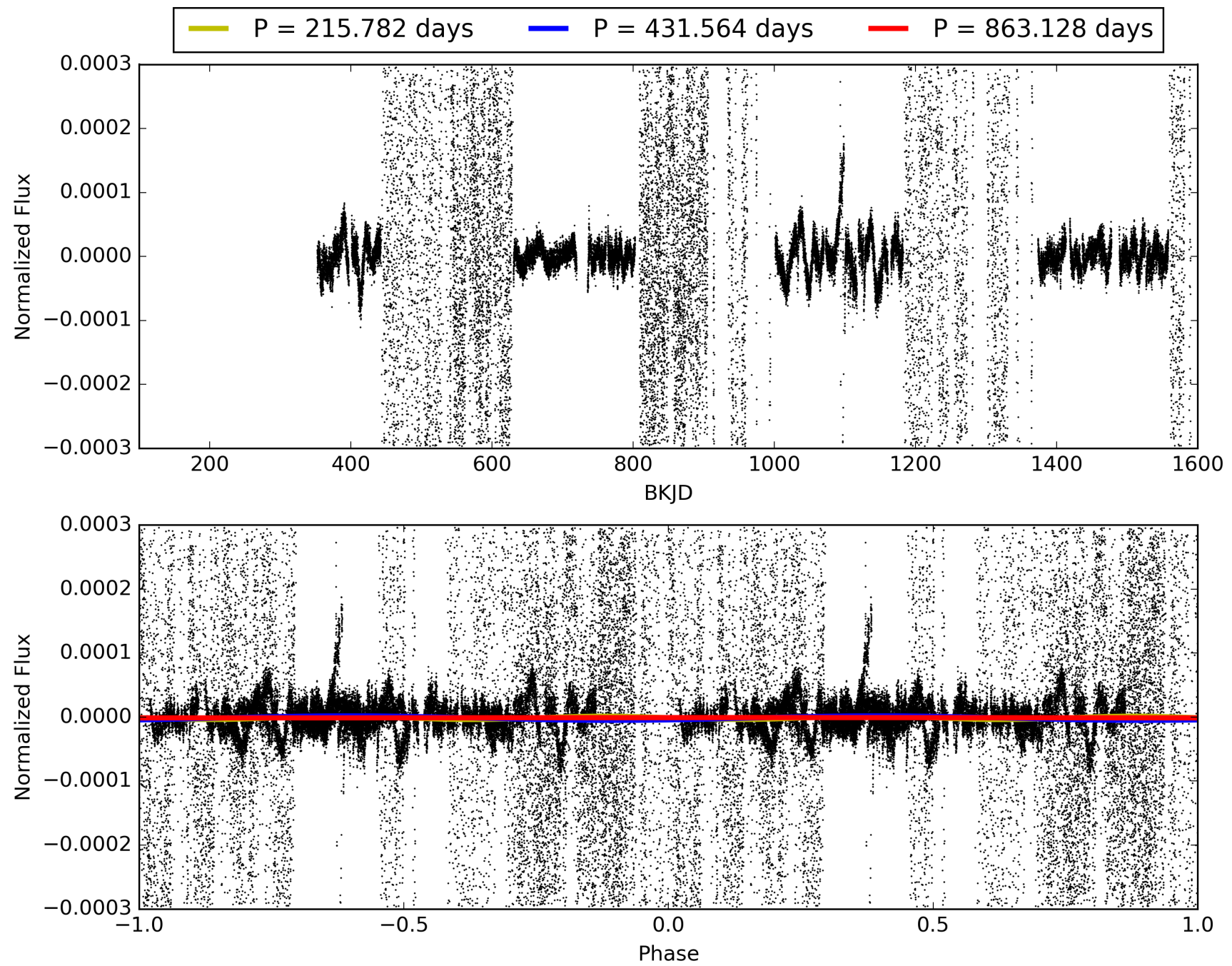
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:34:58 Z

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

TCE 008390826-04, PDC Light Curves

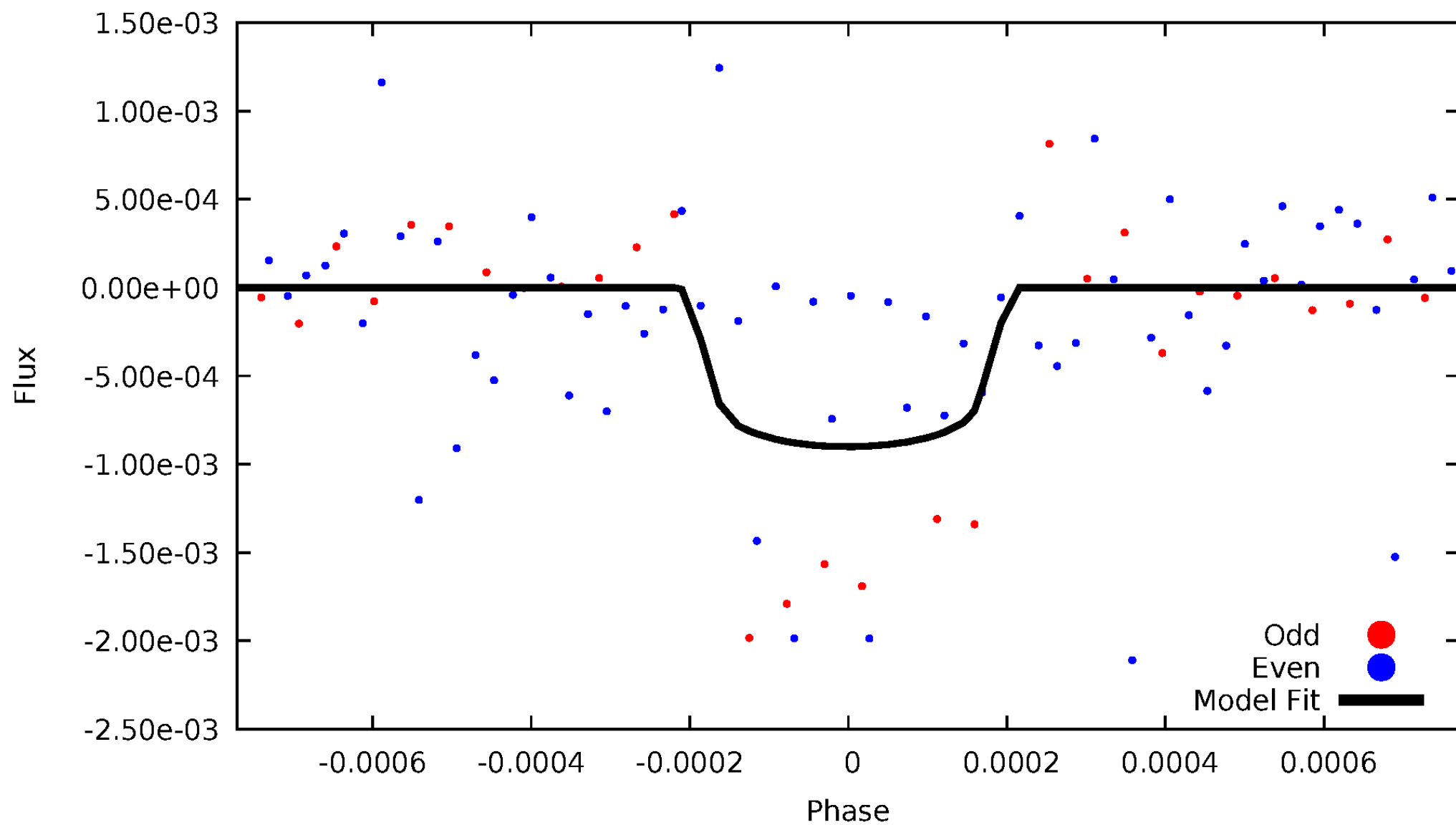


TCE 008390826-04



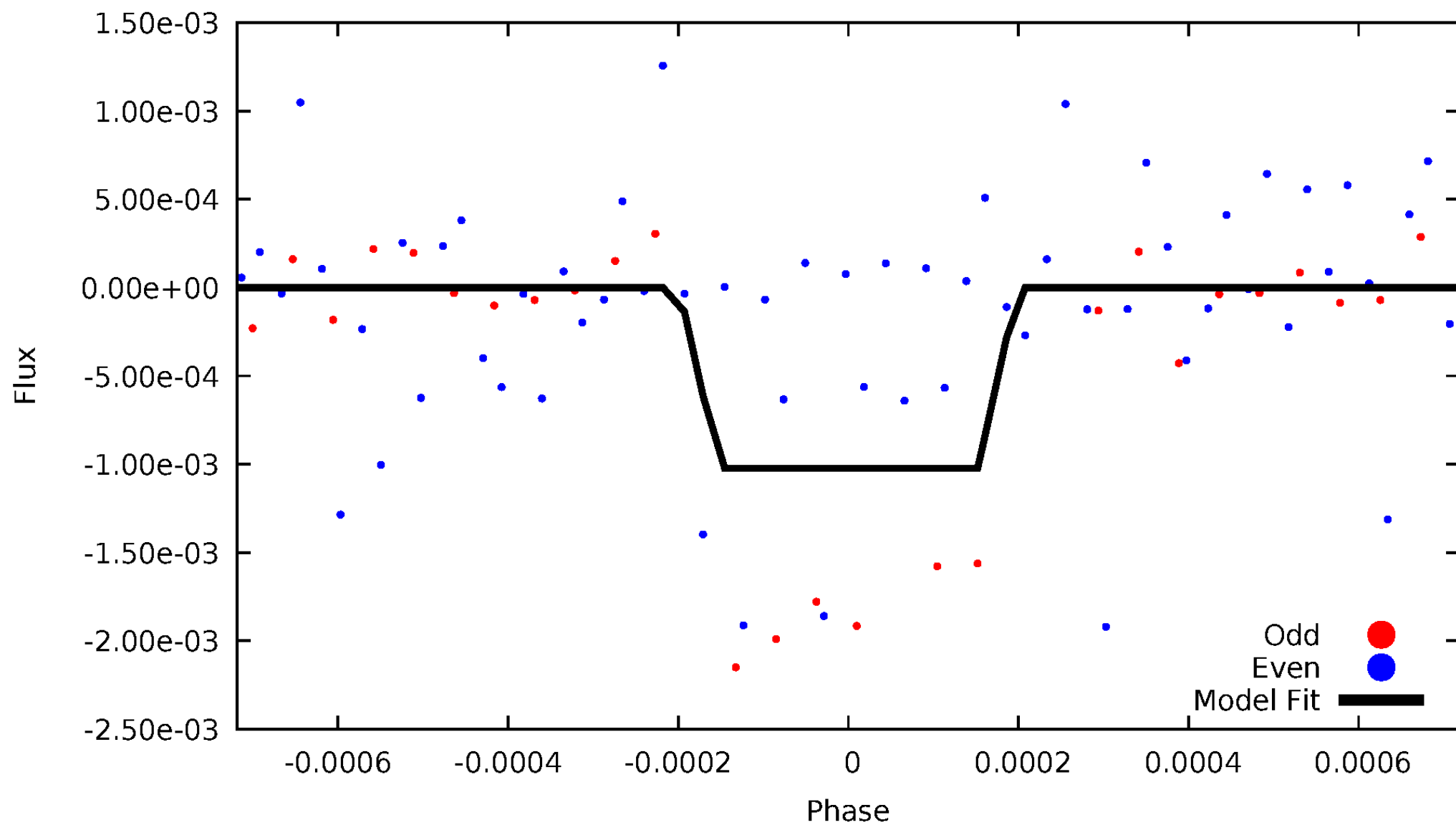
DV Odd/Even

TCE 008390826-04



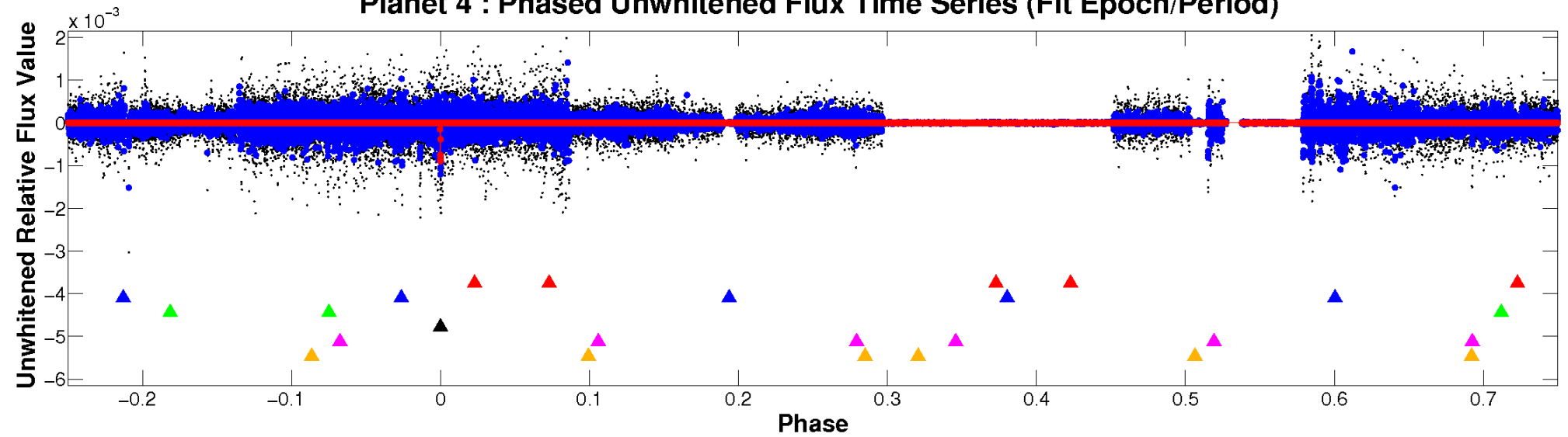
ALT Odd/Even

TCE 008390826-04

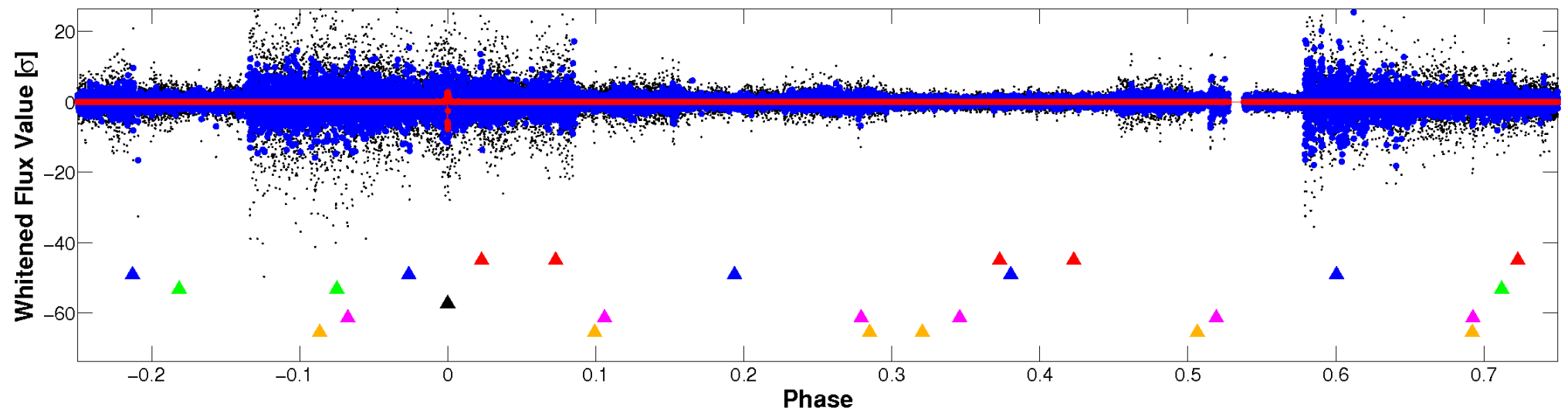


Non-Whitened Vs. Whitened Light Curve

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

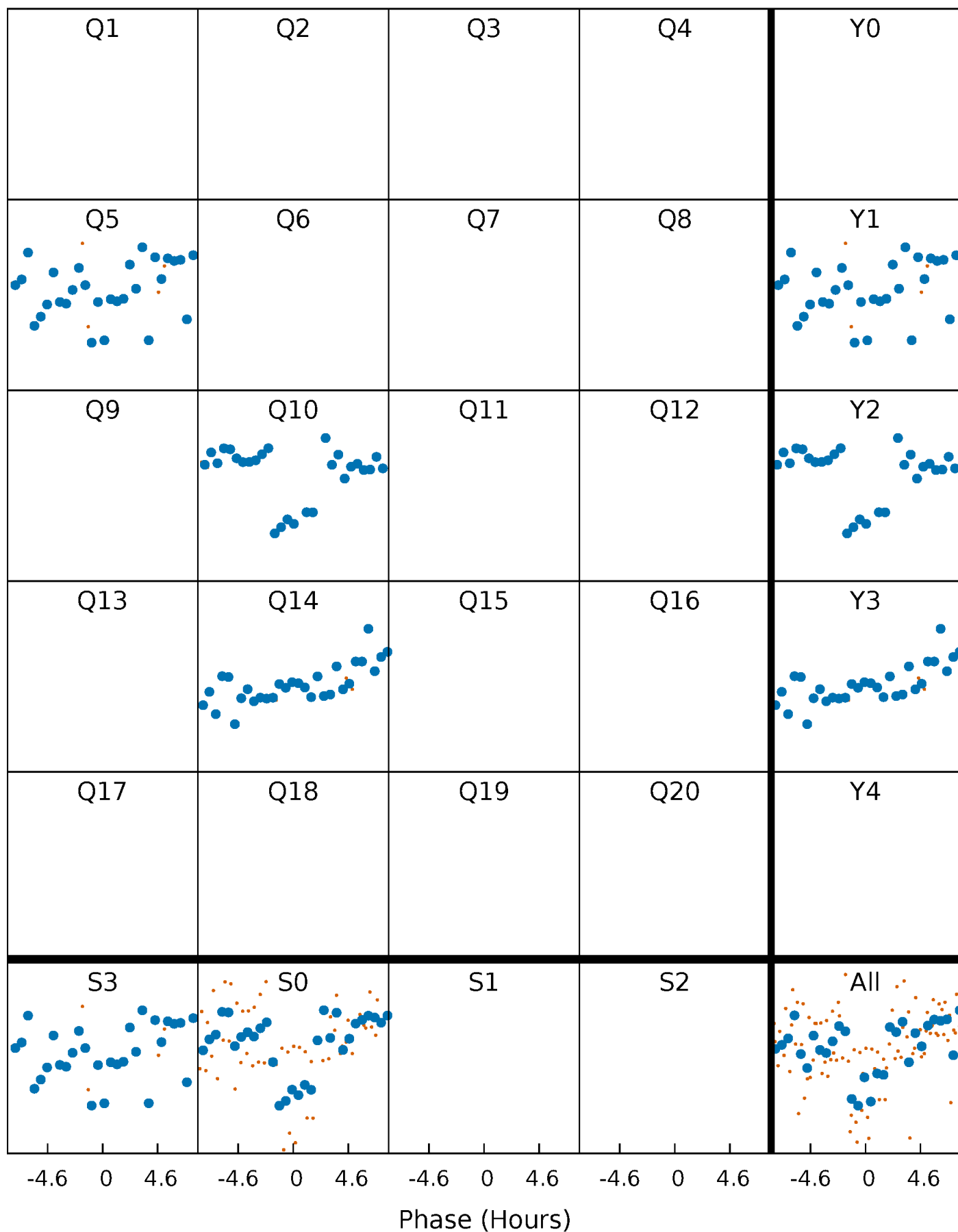


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



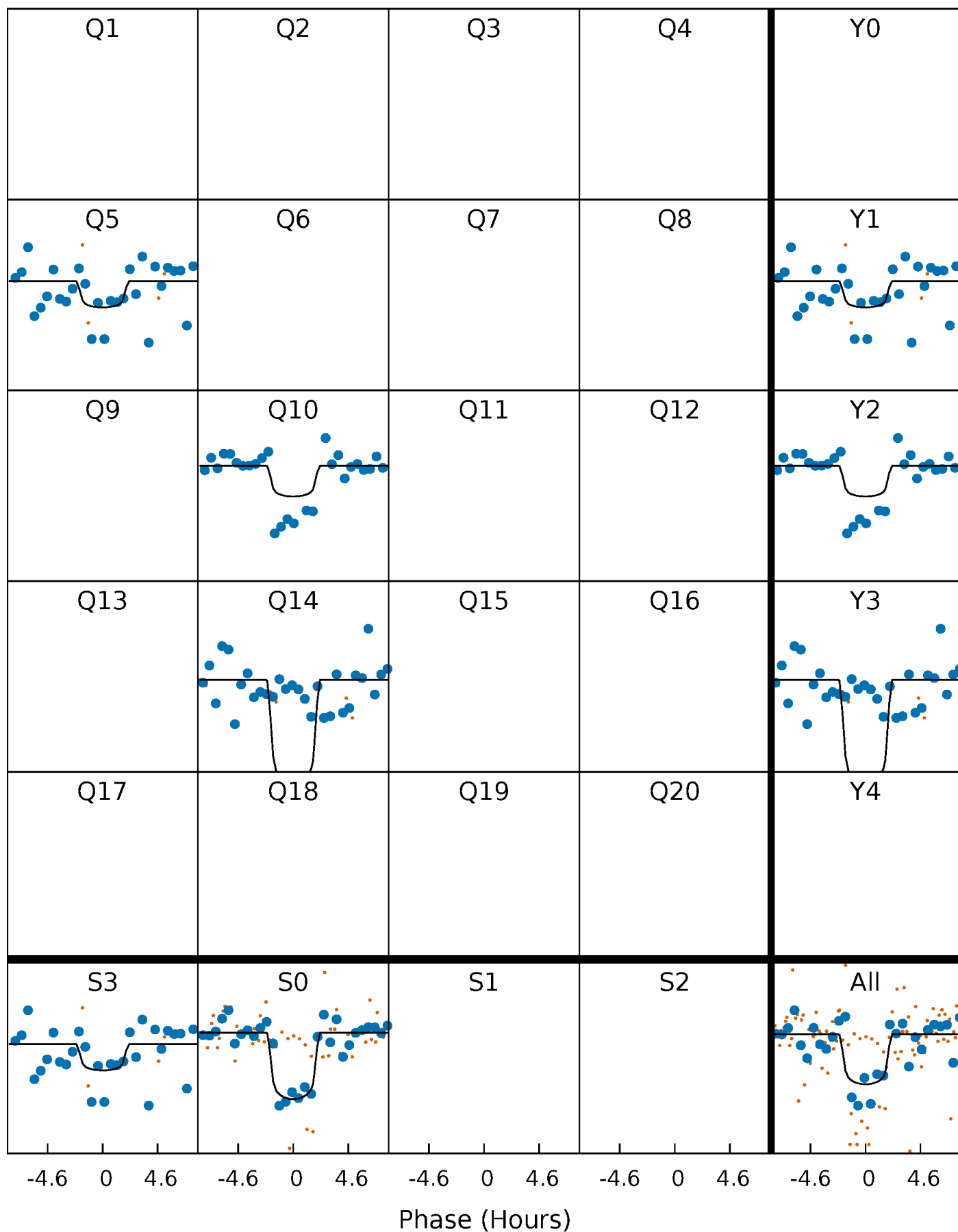
PDC Quarter-Phased Transit Curves

TCE 008390826-04 $P=431.563937$ Days $T_0=501.327945$ (BKJD)



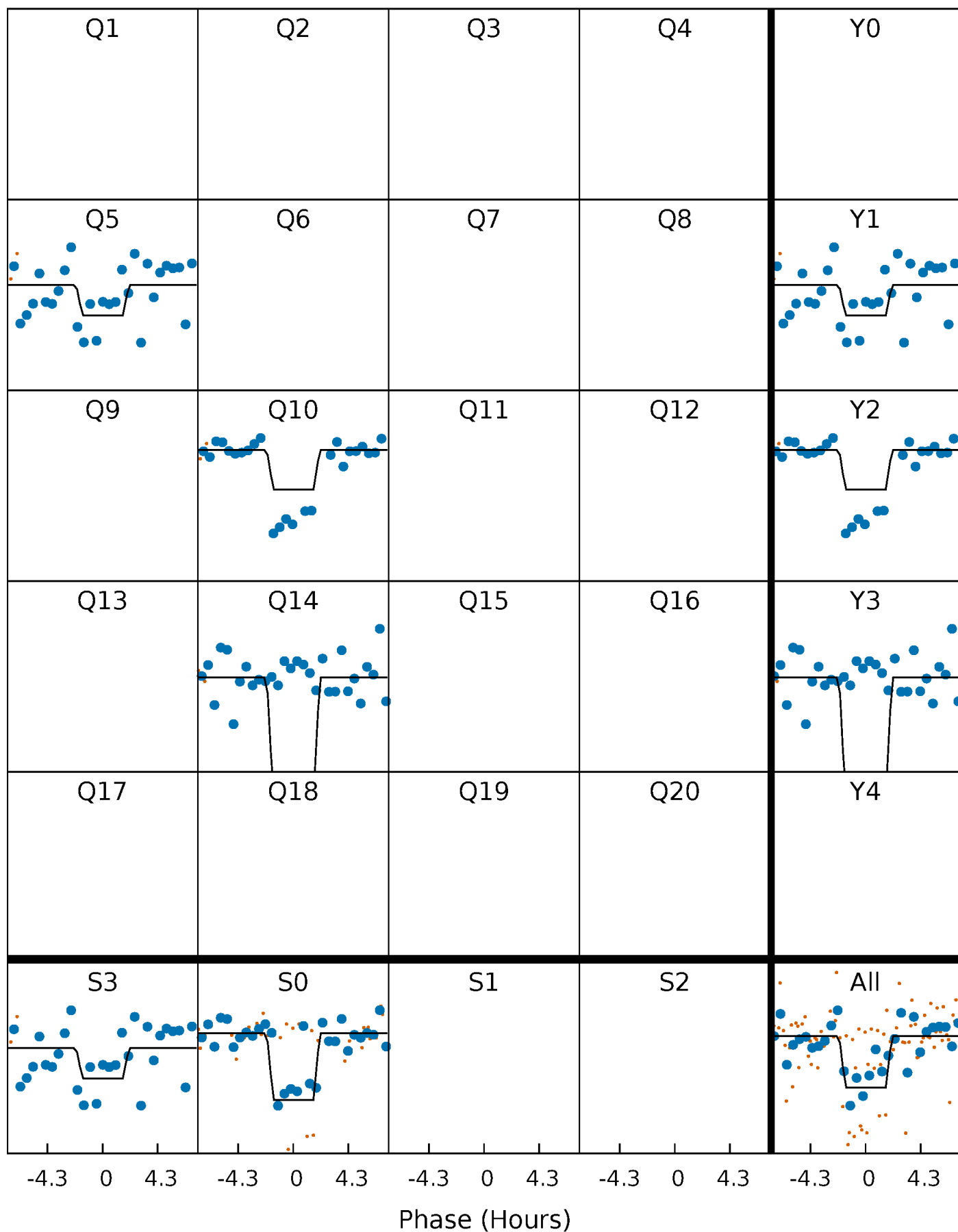
DV Quarter-Phased Transit Curves

TCE 008390826-04 $P=431.563937$ Days $T_0=501.327945$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

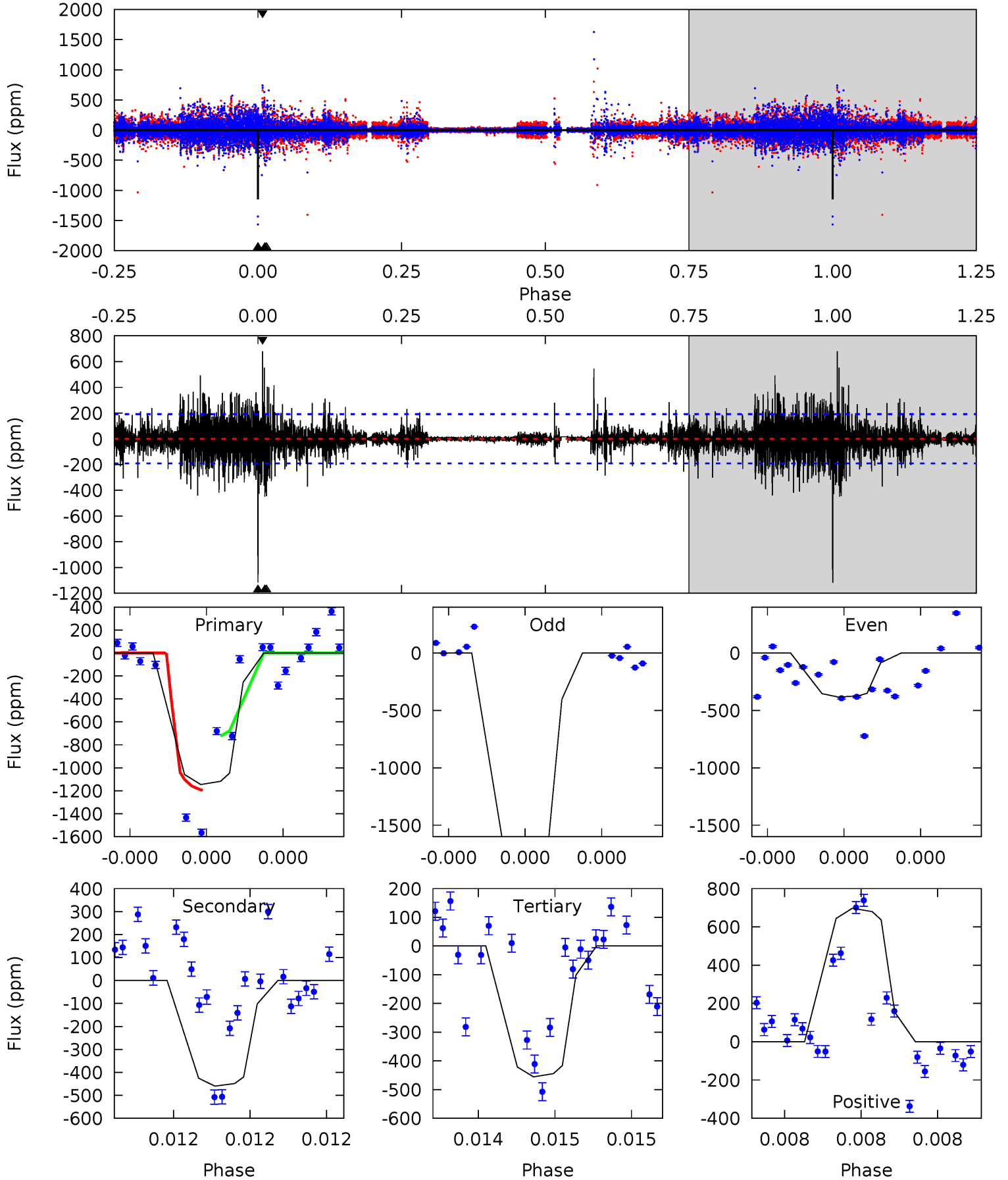
TCE 008390826-04 P=431.543165 Days $T_0=501.351835$ (BKJD)



DV Model-Shift Uniqueness Test

008390826-04, P = 431.563937 Days, E = 69.764008 Days

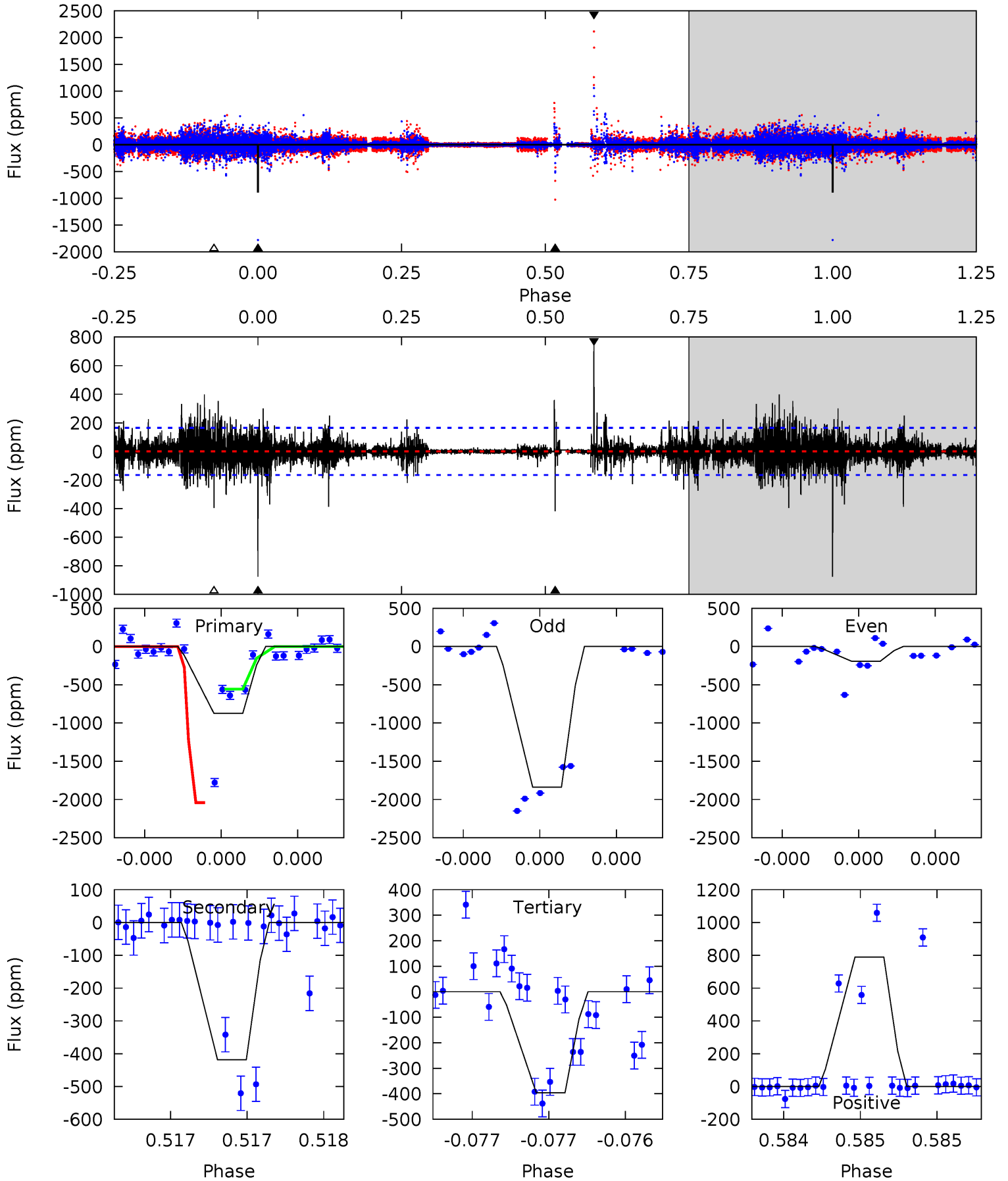
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.8	13.2	13.0	19.9	5.61	3.54	1.59	19.7	12.8	0.12	-6.78	15.4	0.93	0.38	5.20



Alt Model-Shift Uniqueness Test

008390826-04, P = 431.543165 Days, E = 69.808670 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.7	14.2	13.4	26.8	5.61	3.54	1.43	16.2	2.88	0.78	-12.6	30.3	0.96	0.47	0



Stellar Parameters For KIC 008390826

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8501^{+234}_{-402}	$4.132^{+0.121}_{-0.148}$	$0.070^{+0.250}_{-0.550}$	$1.987^{+0.441}_{-0.441}$	$1.953^{+0.343}_{-0.419}$	$0.351^{+0.243}_{-0.143}$
	+3%/-5%	+3%/-4%	+357%/-786%	+22%/-22%	+18%/-21%	+69%/-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 008390826-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-449 ± 34	$9.03^{+7.74}_{-6.38}$	626^{+37}_{-38}	5825^{+6636}_{-1358}	5892^{+64441}_{-4239}
Alt.	-419 ± 30	$9.20^{+7.90}_{-6.16}$	624^{+42}_{-39}	5713^{+5386}_{-1357}	5518^{+40593}_{-4003}

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 $A_{obs} \gg 1.0$

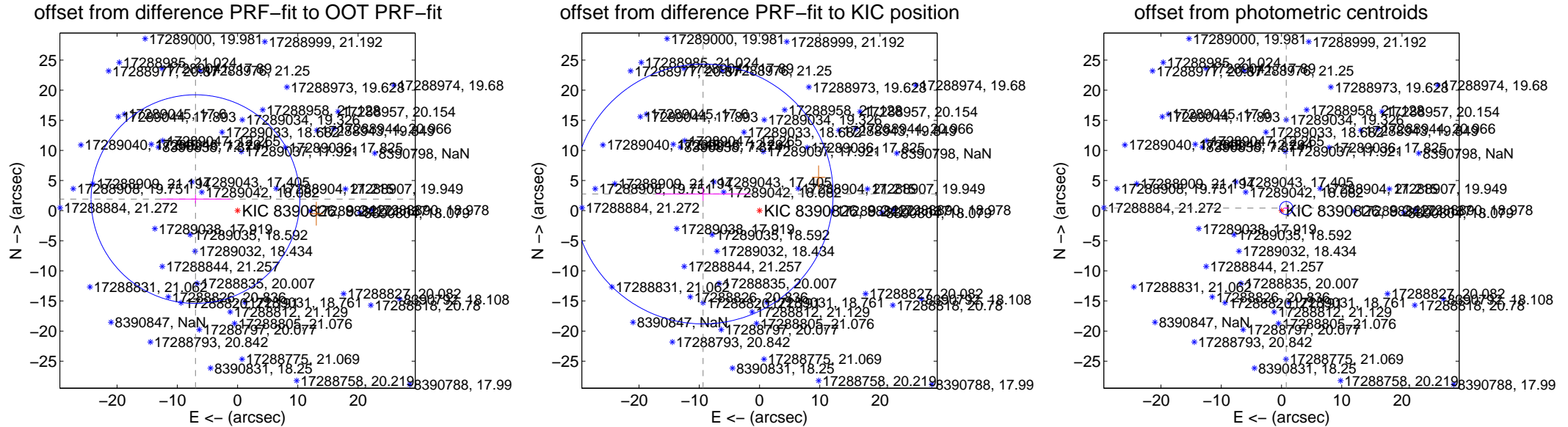
DV Centroid Data

Supplemental centroid analysis for 008390826-04. **Kepler magnitude: 9.24.** Transit SNR 28.86

There are 0 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 6.86 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.248 ± 5.776	1.26	6.990 ± 5.797	1.916 ± 0.703
PRF-fit source offset from KIC position	9.765 ± 7.192	1.36	9.365 ± 7.832	2.765 ± 1.130
photometric centroid source offset	0.90 ± 0.36	2.47	-0.79 ± 0.41	0.43 ± 0.14

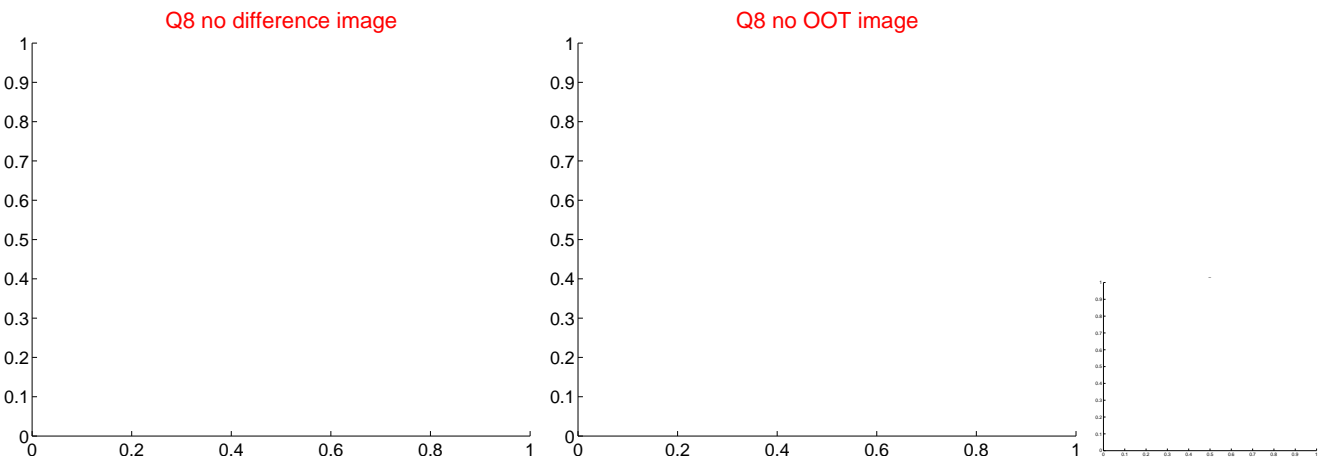
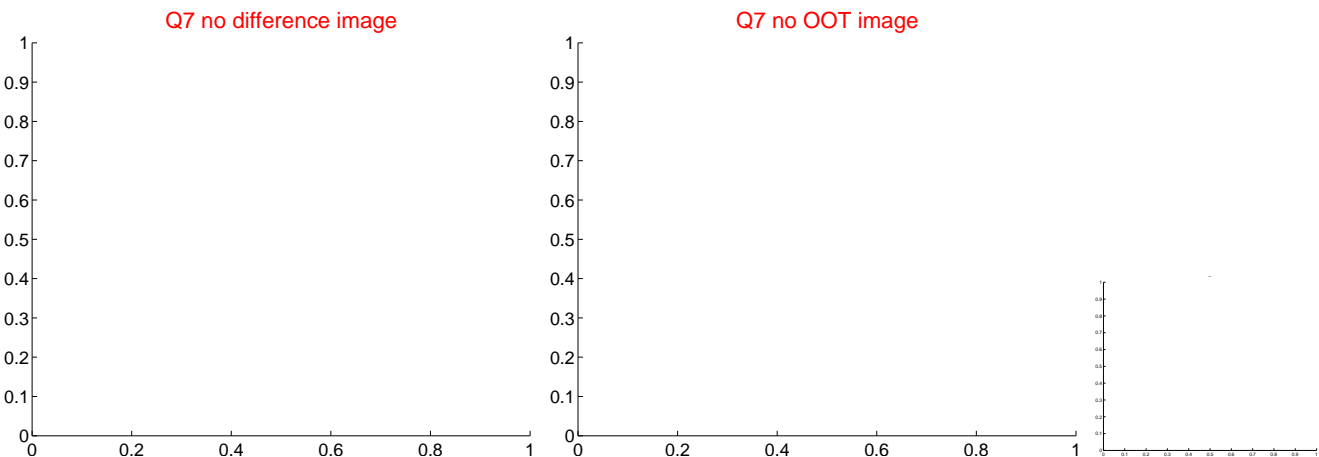
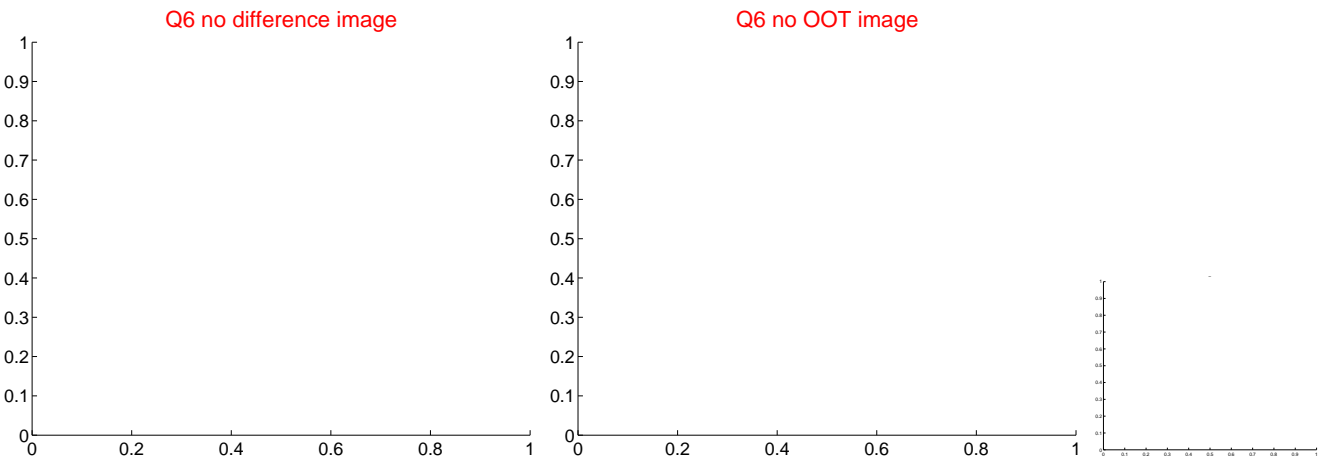
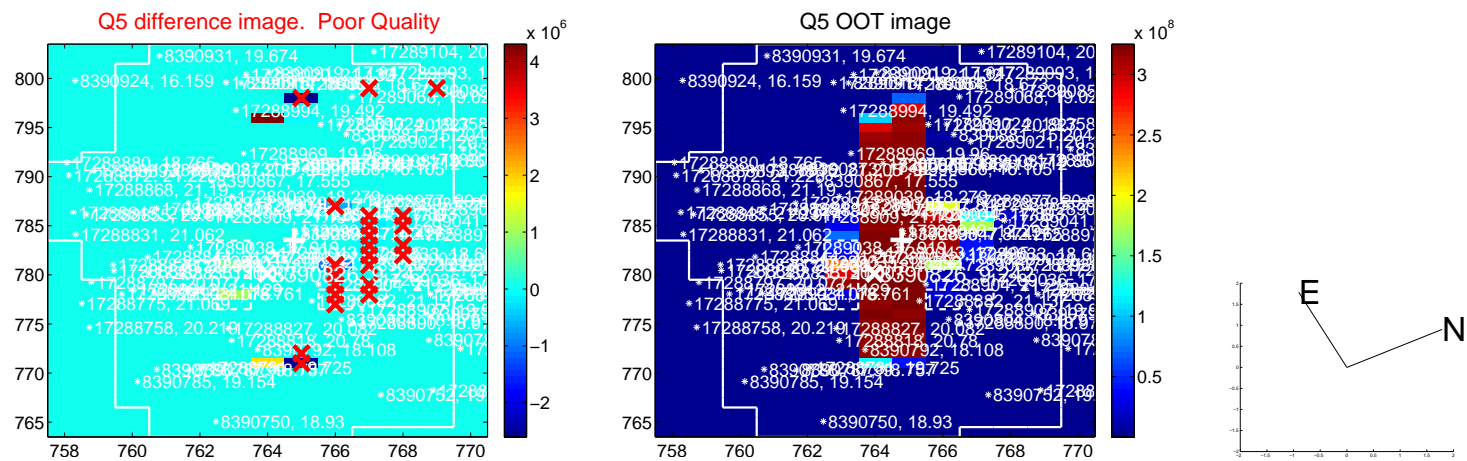


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



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

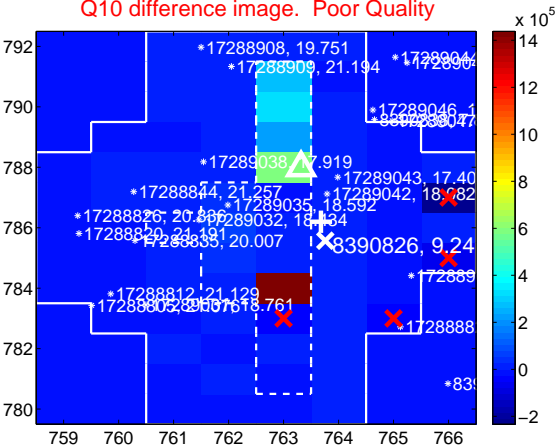
Q9 no difference image



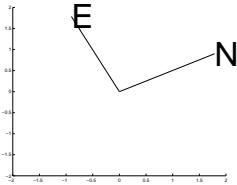
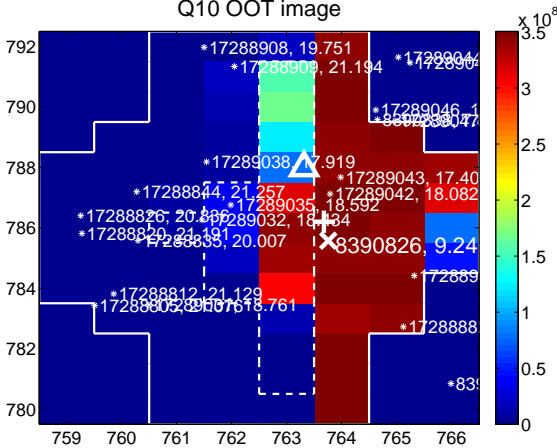
Q9 no OOT image



Q10 difference image. Poor Quality



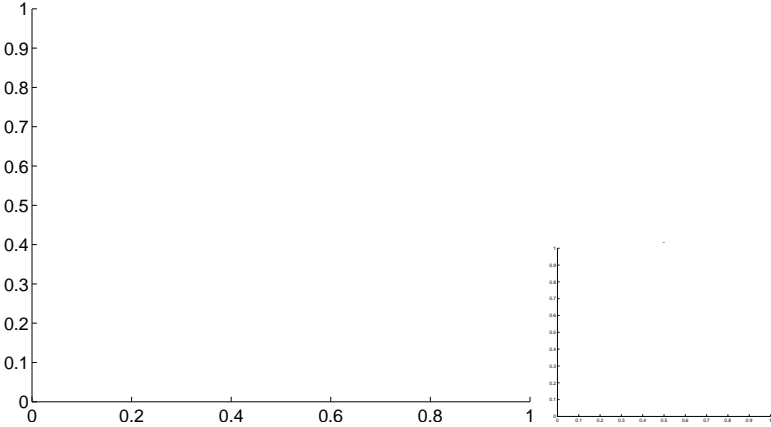
Q10 OOT image



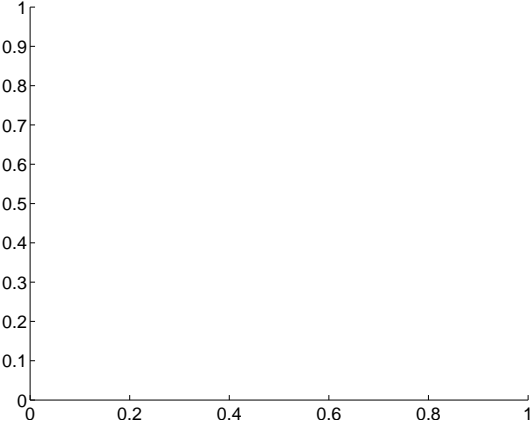
Q11 no difference image



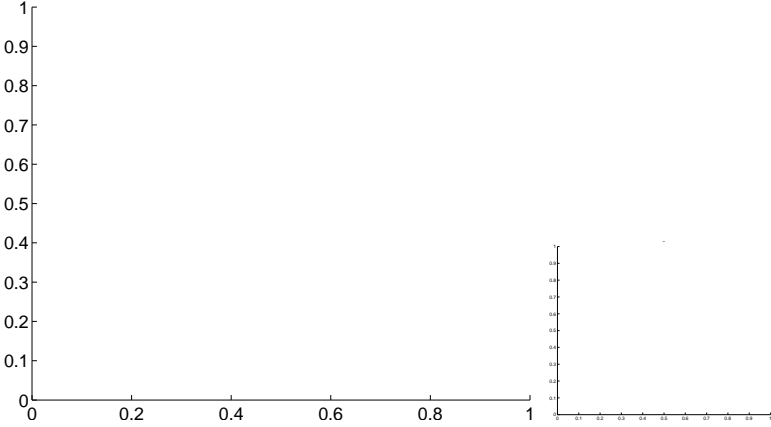
Q11 no OOT image



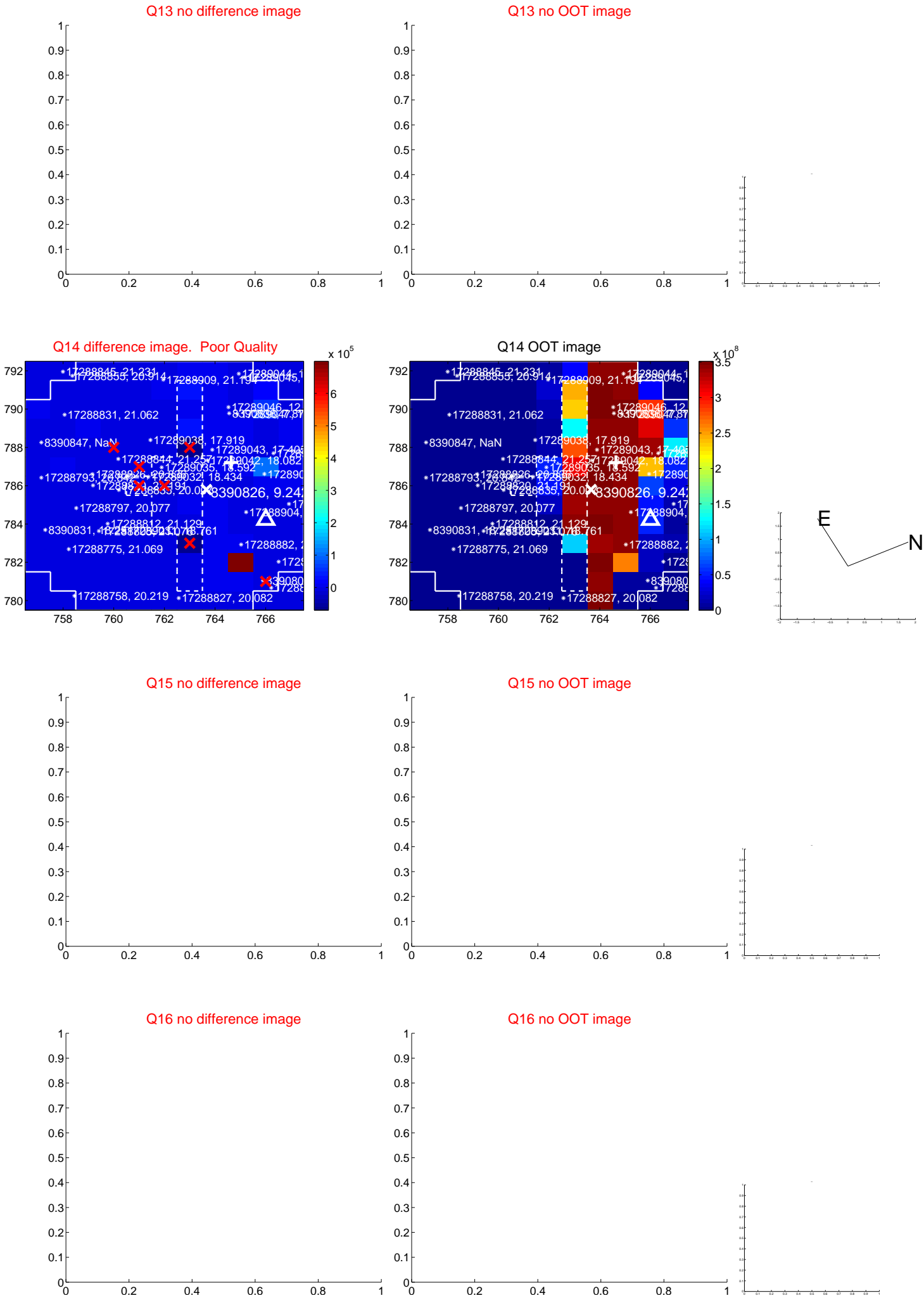
Q12 no difference image



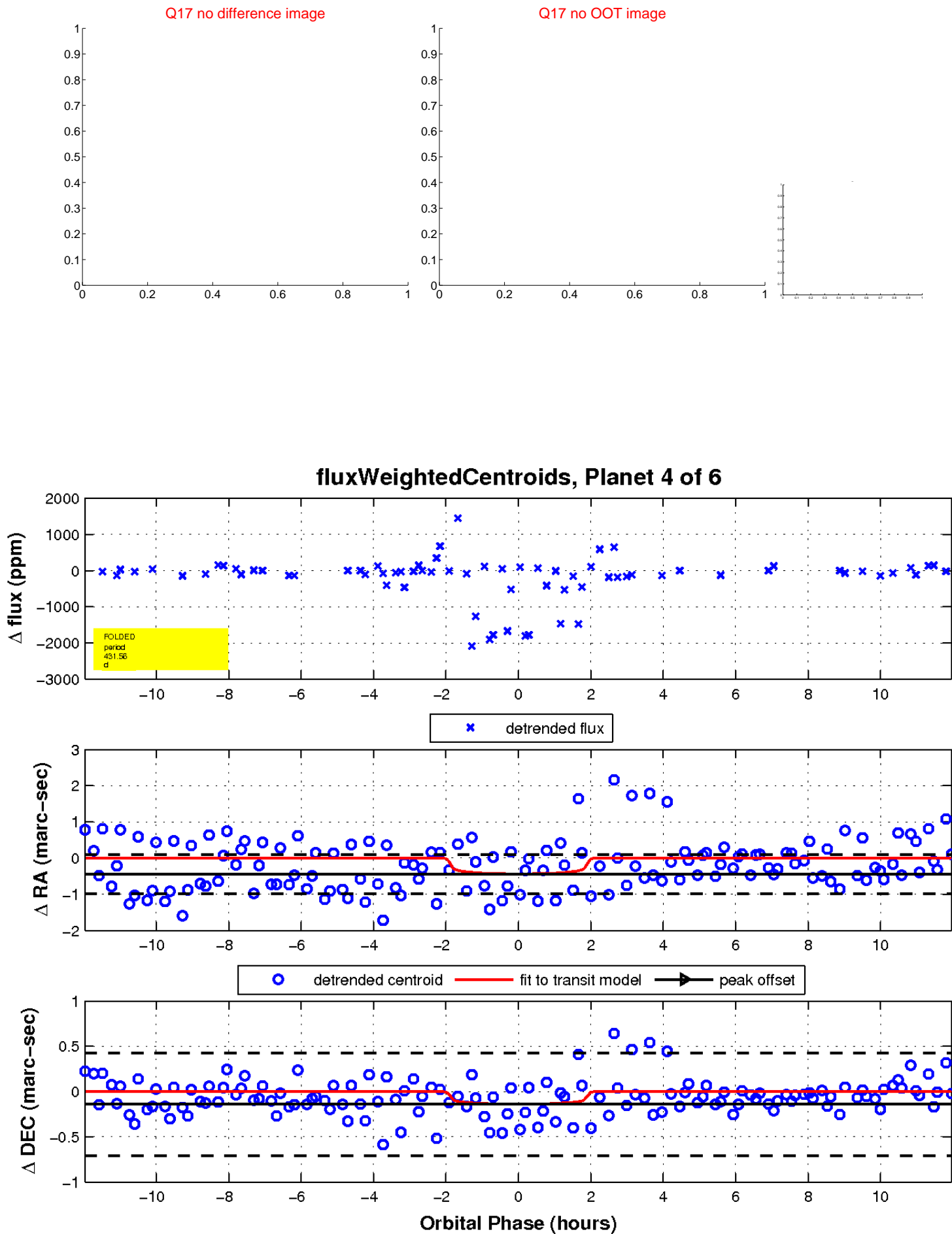
Q12 no OOT image



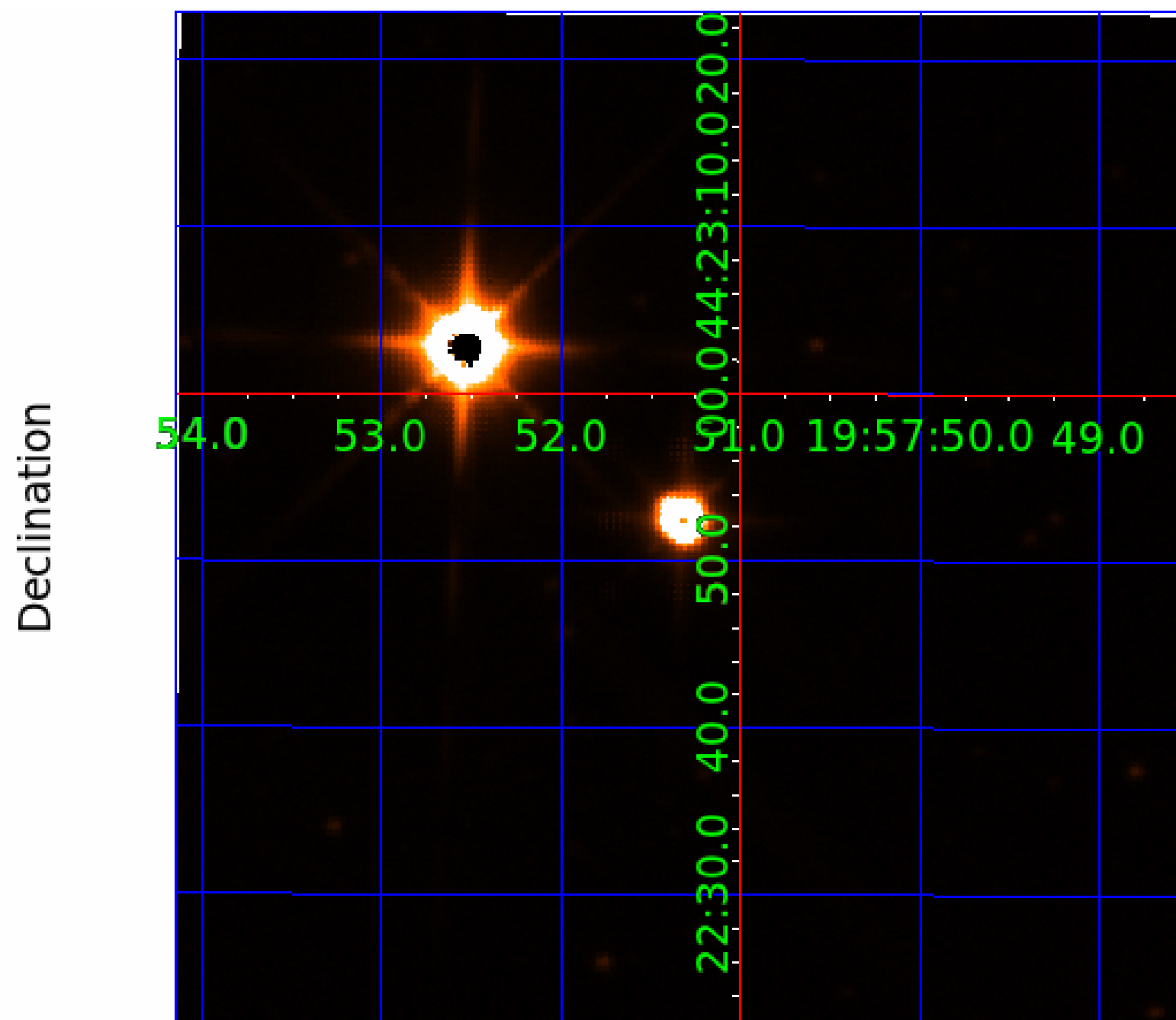
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image



KIC 008390826

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})
008390826-01	OBS	No	280.510110	252.293083	11.4	7.444	103.8	2.7	1.99	8501	0.72	16.81
008390826-02	OBS	No	256.051037	328.908176	593.1	32.534	72.3	50.9	1.99	8501	5.21	18.99
008390826-03	OBS	No	385.580182	469.021516	395.2	1.959	34.2	8.8	1.99	8501	4.07	11.00
008390826-04	OBS	No	431.563937	501.327944	900.2	3.992	45.6	28.9	1.99	8501	6.28	9.47
008390826-05	OBS	No	253.192983	219.030173	719.4	1.788	33.5	23.2	1.99	8501	5.91	19.27
008390826-06	OBS	No	255.865661	208.144545	462.0	3.000	36.1	-1.0	1.99	8501	4.34	19.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008390826-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

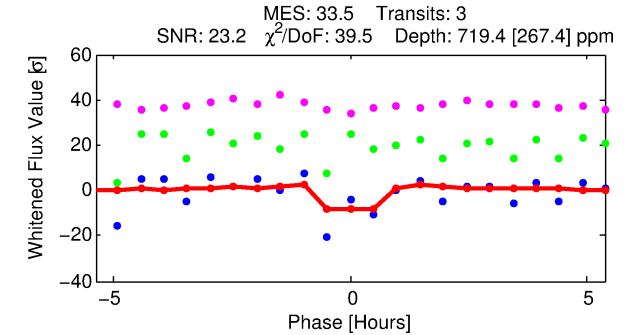
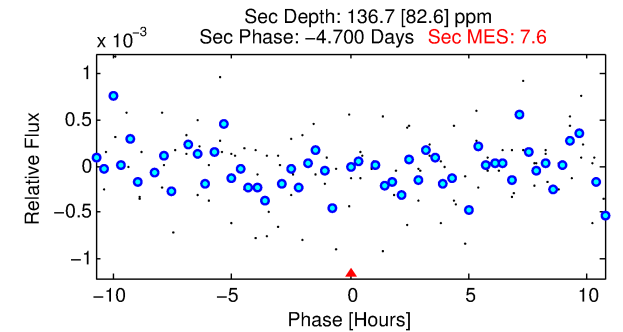
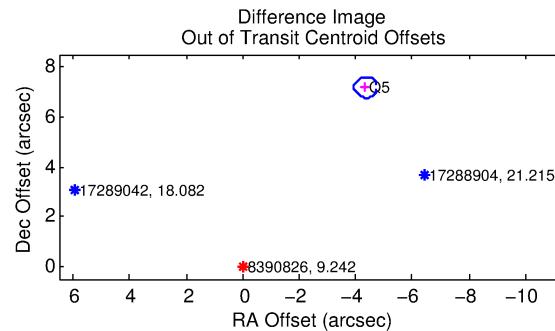
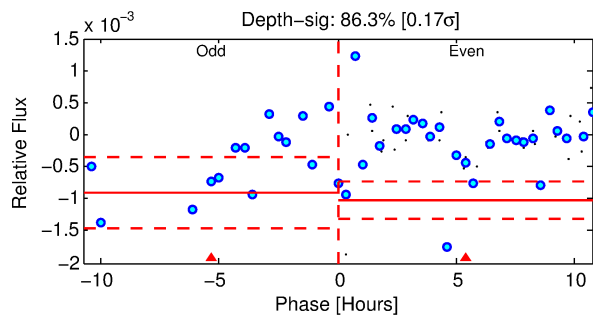
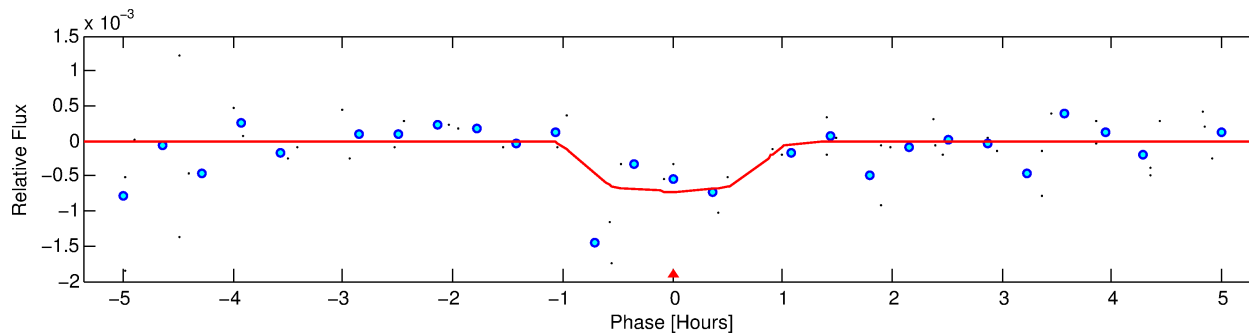
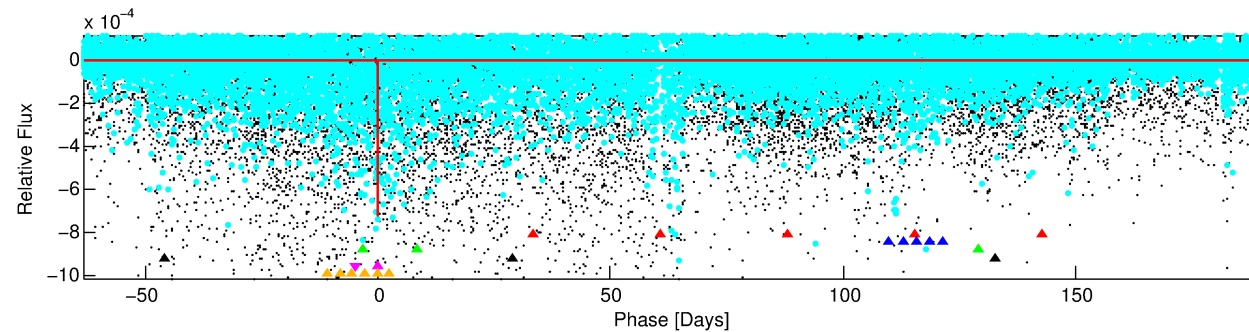
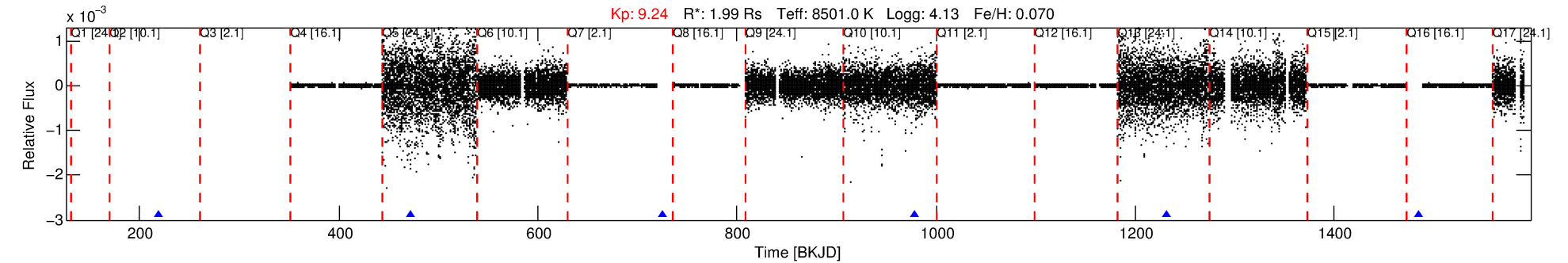
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008390826-05

No Significant Match Found

DV One-Page Summary

KIC: 8390826 Candidate: 5 of 6 Period: 253.193 d



DV Fit Results:

Period = 253.19298 [0.00567] d
Epoch = 219.0302 [0.0148] BKJD
 R_p/R^* = 0.0273 [0.0357]
 a/R^* = 684.73 [5384.84]
 b = 0.81 [3.37]
 Seff = 19.27 [6.37]
 Teq = 534 [44] K
 R_p = 5.91 [7.84] R_e
 a = 0.9790 [0.1826] AU
 Ag = 2062.12 [5564.91] [0.37 σ]
 Teff = 5567 [3746] K [1.34 σ]

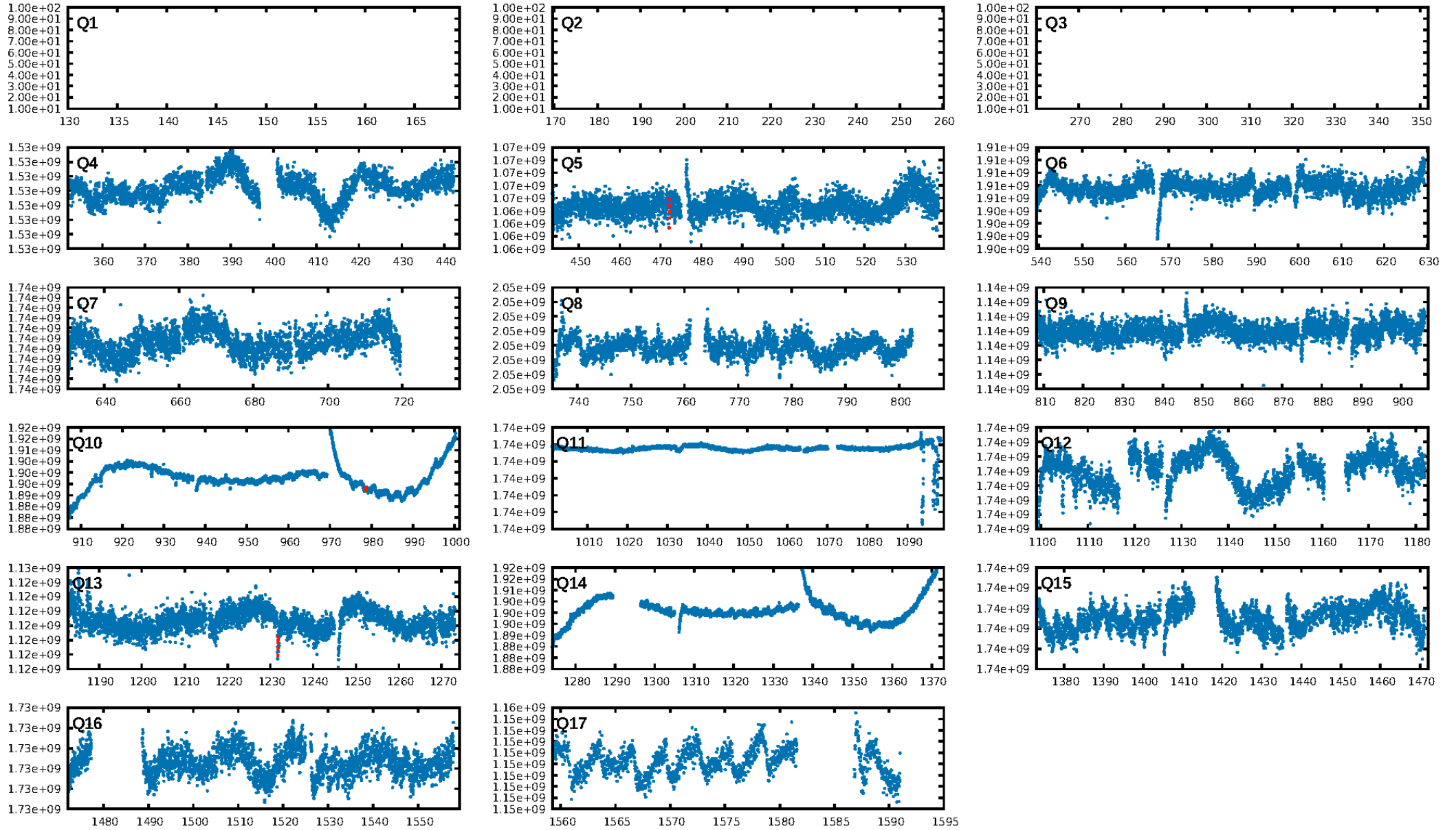
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [18.37 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 8.5%
Centroid-so: 1.592 arcsec [3.53 σ]
OotOffset-rm: 8.390 arcsec [61.91 σ]
KicOffset-rm: 17.485 arcsec [128.59 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

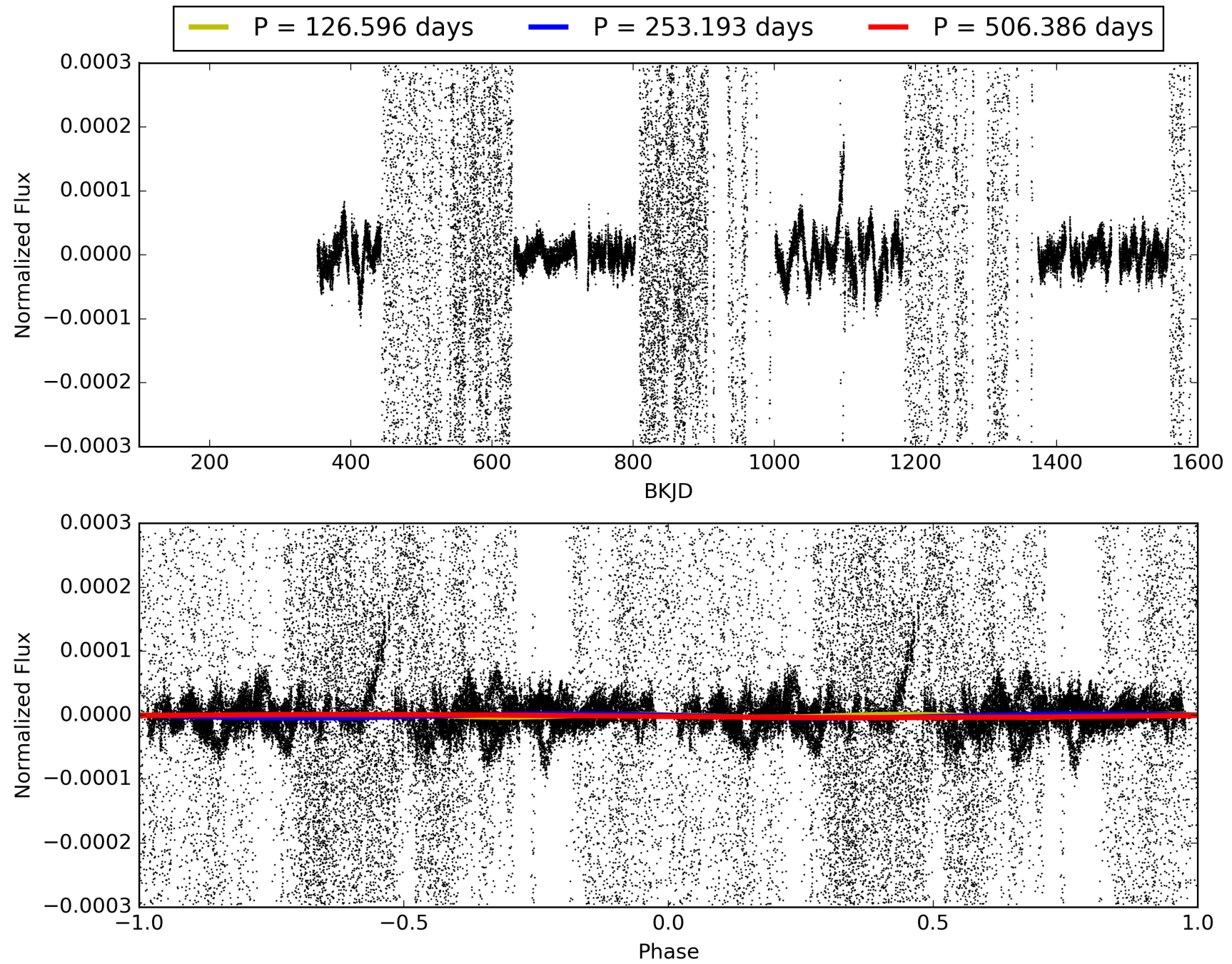
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:35:15 Z

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

TCE 008390826-05, PDC Light Curves

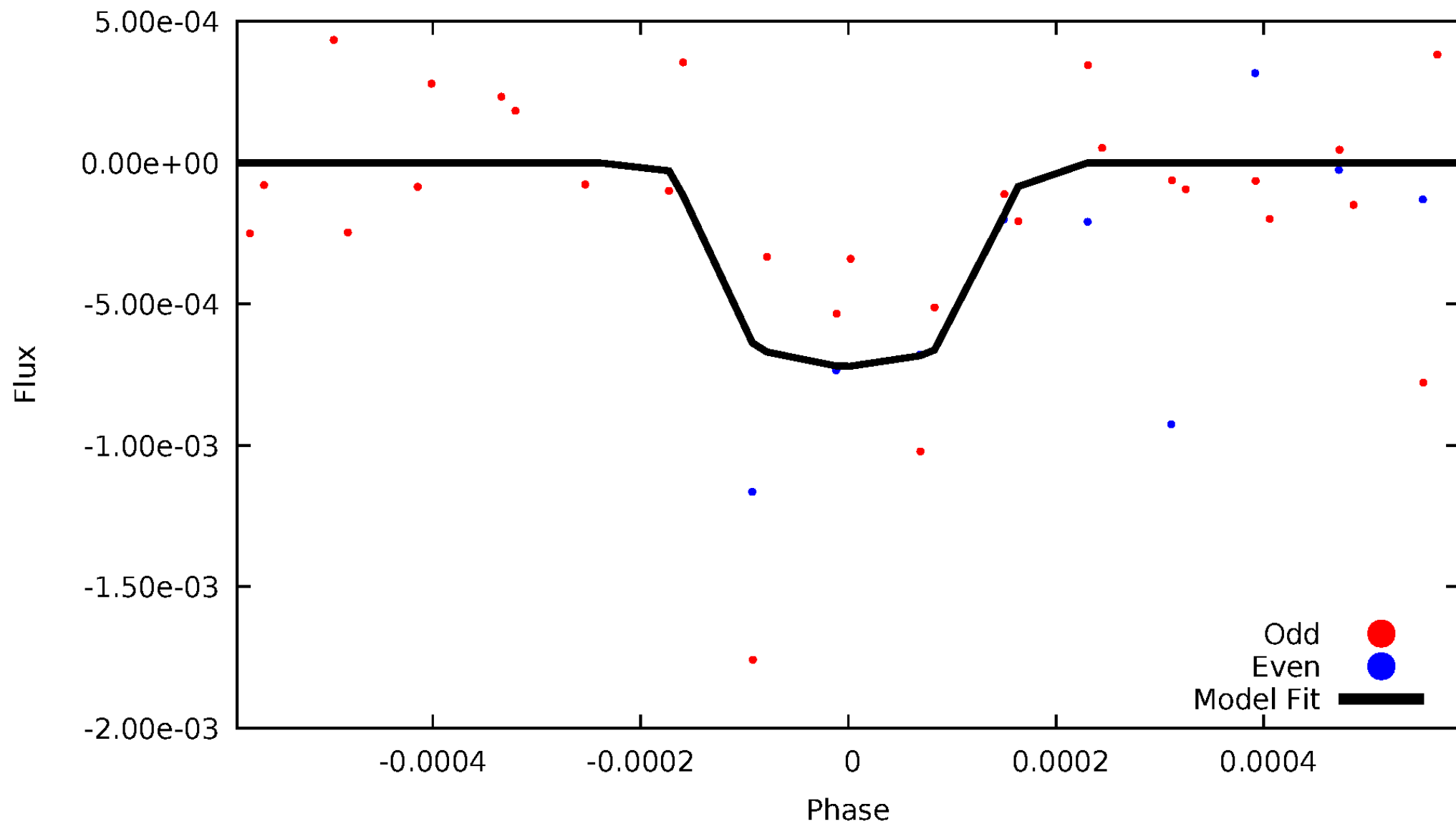


TCE 008390826-05



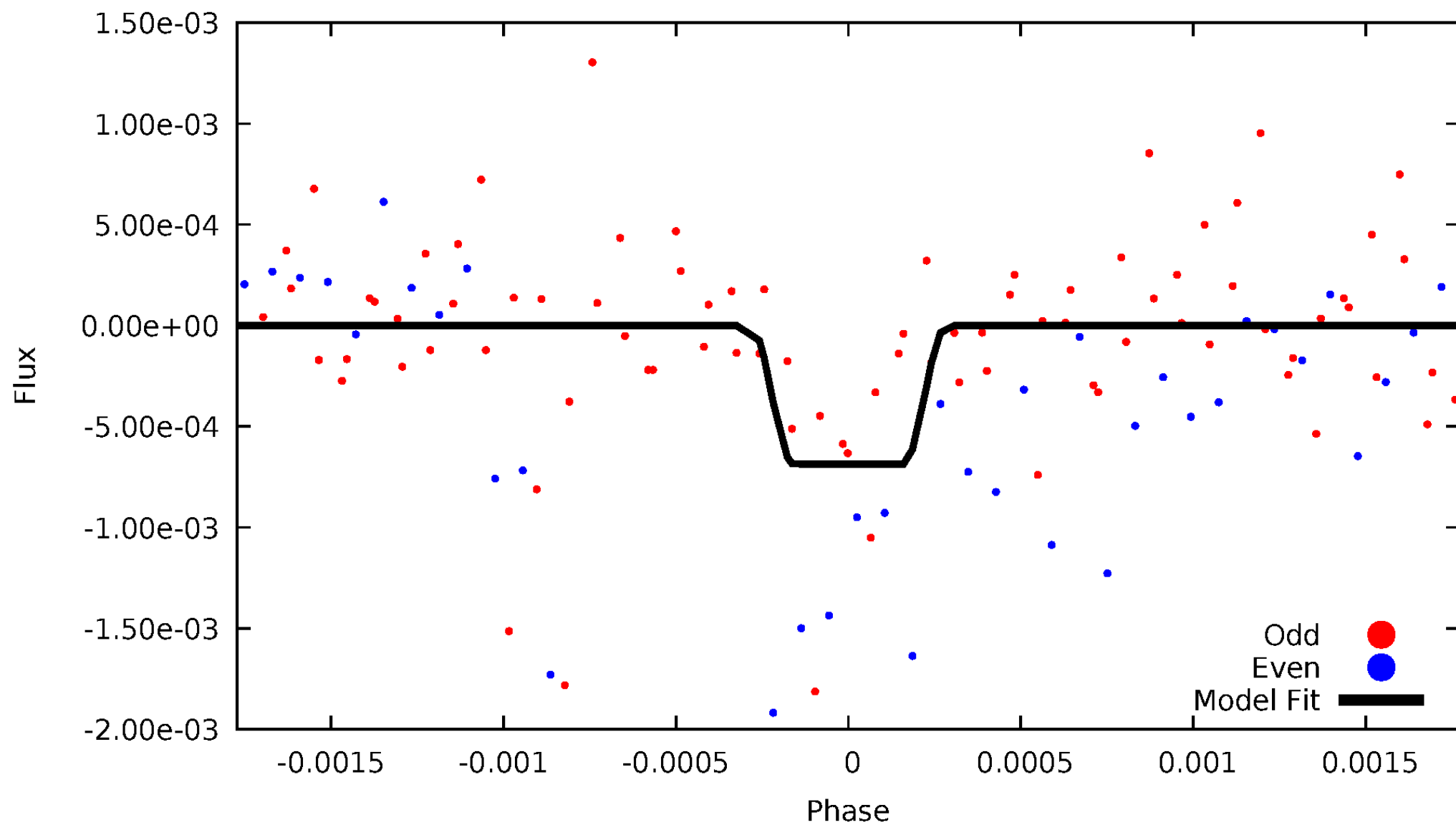
DV Odd/Even

TCE 008390826-05



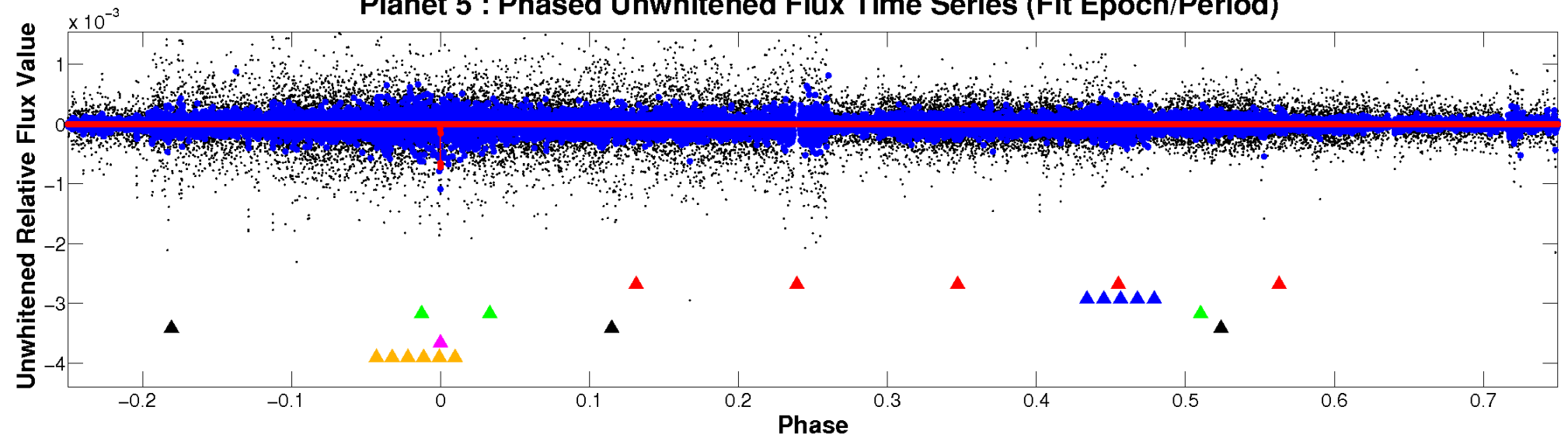
ALT Odd/Even

TCE 008390826-05

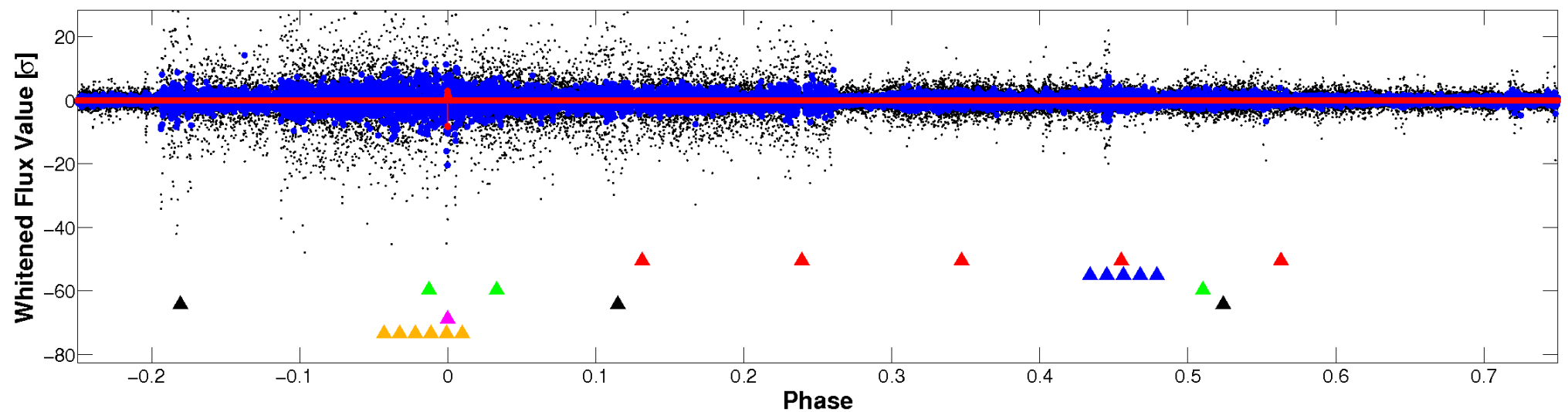


Non-Whitened Vs. Whitened Light Curve

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

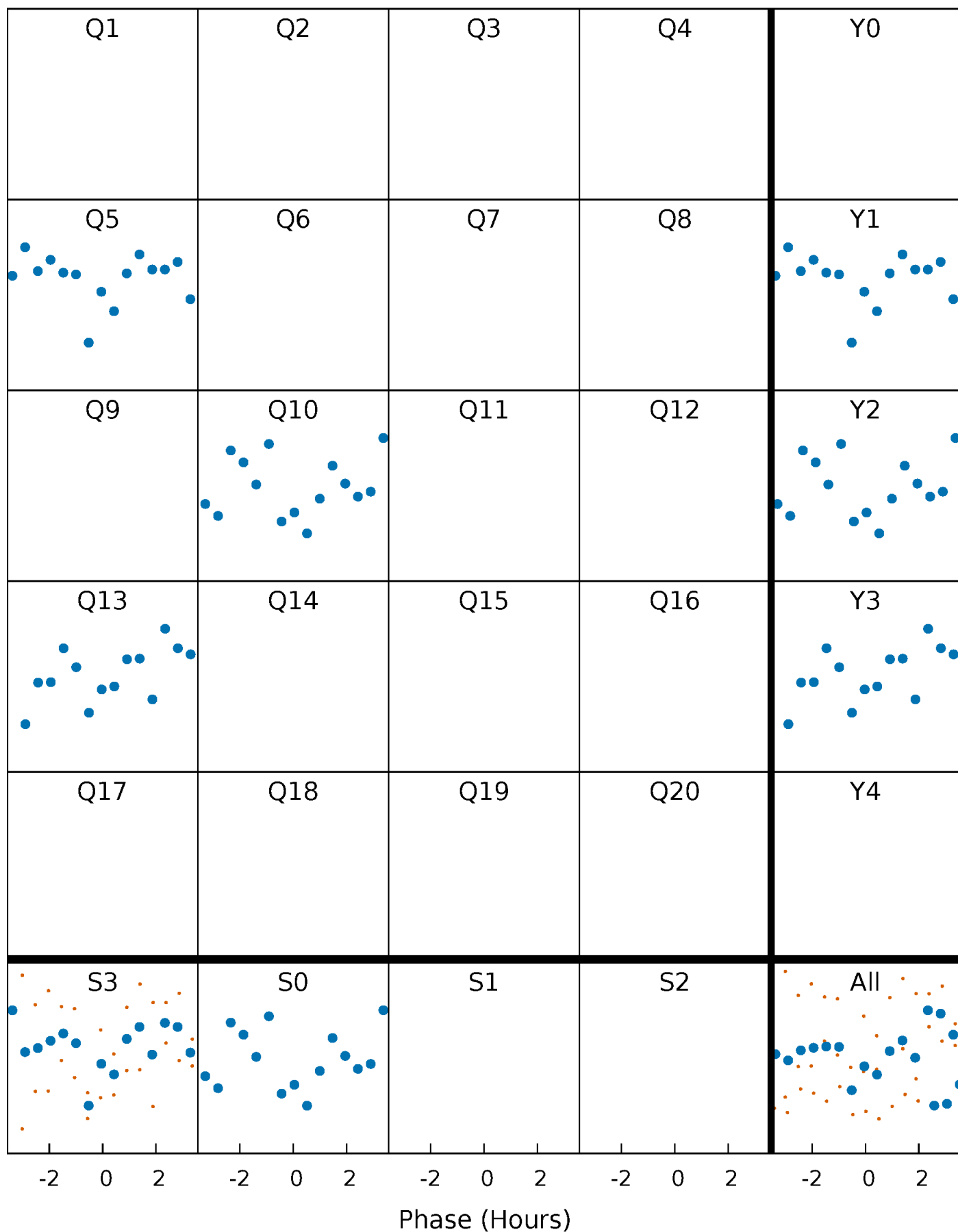


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



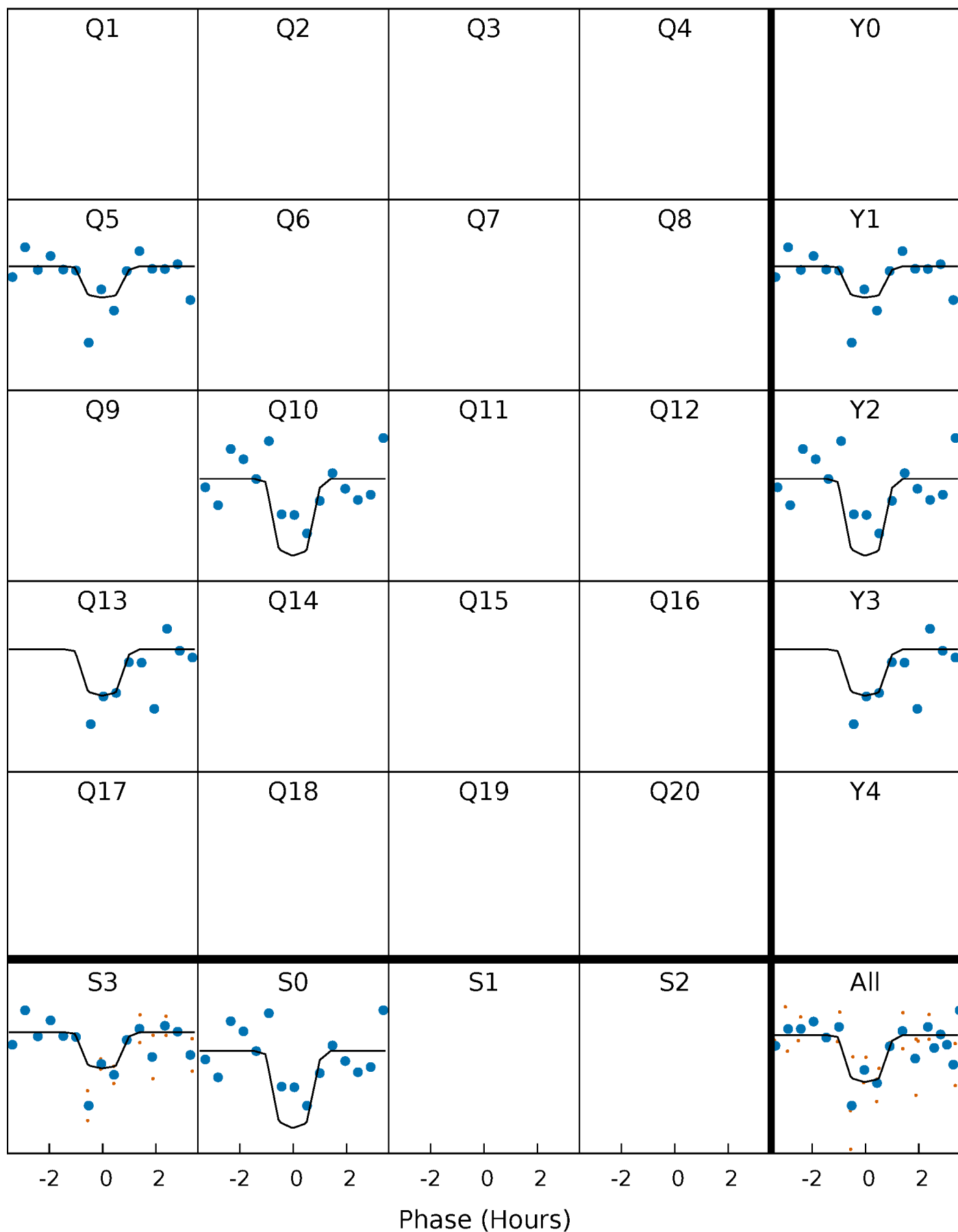
PDC Quarter-Phased Transit Curves

TCE 008390826-05 $P=253.192983$ Days $T_0=219.030173$ (BKJD)



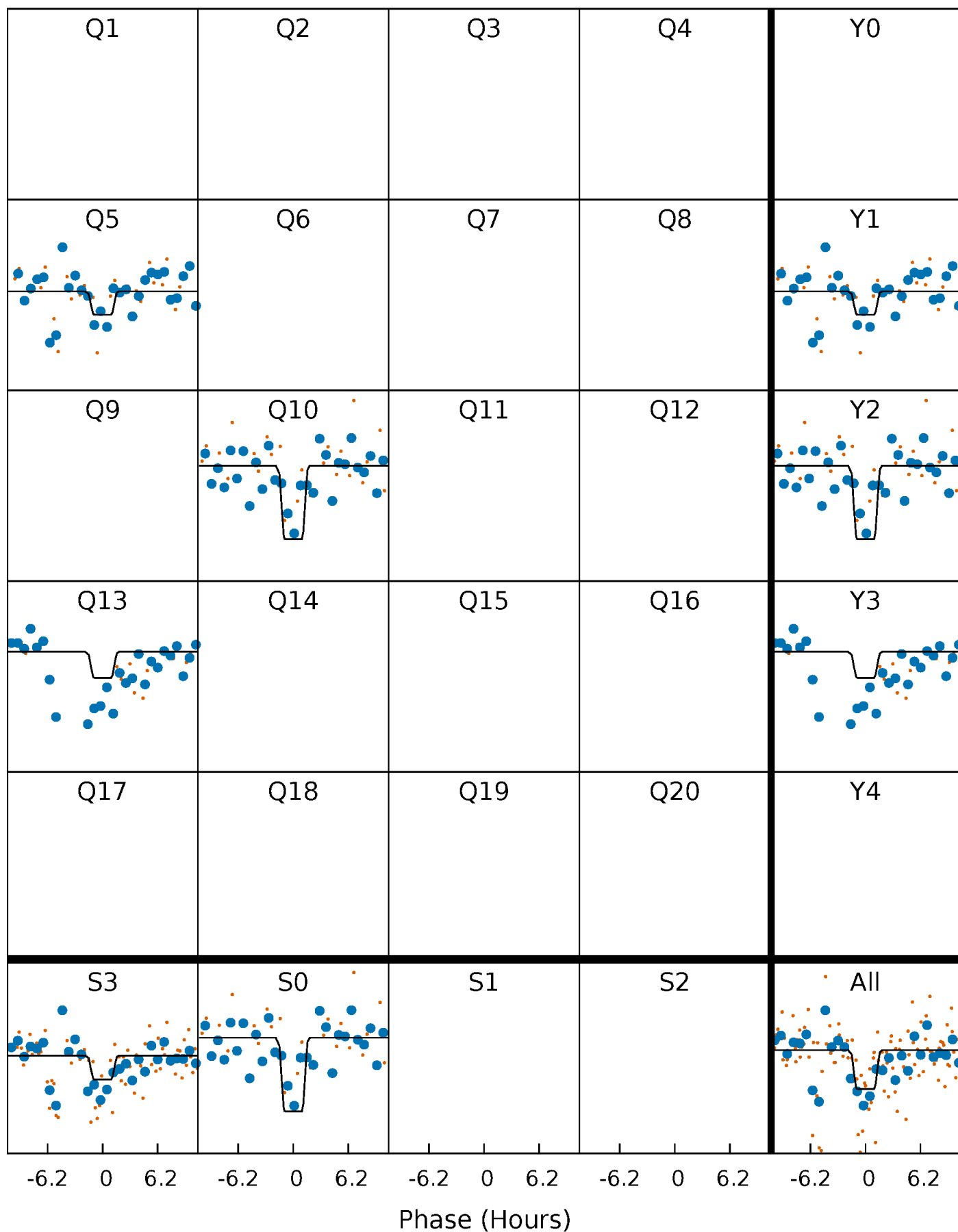
DV Quarter-Phased Transit Curves

TCE 008390826-05 $P=253.192983$ Days $T_0=219.030173$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

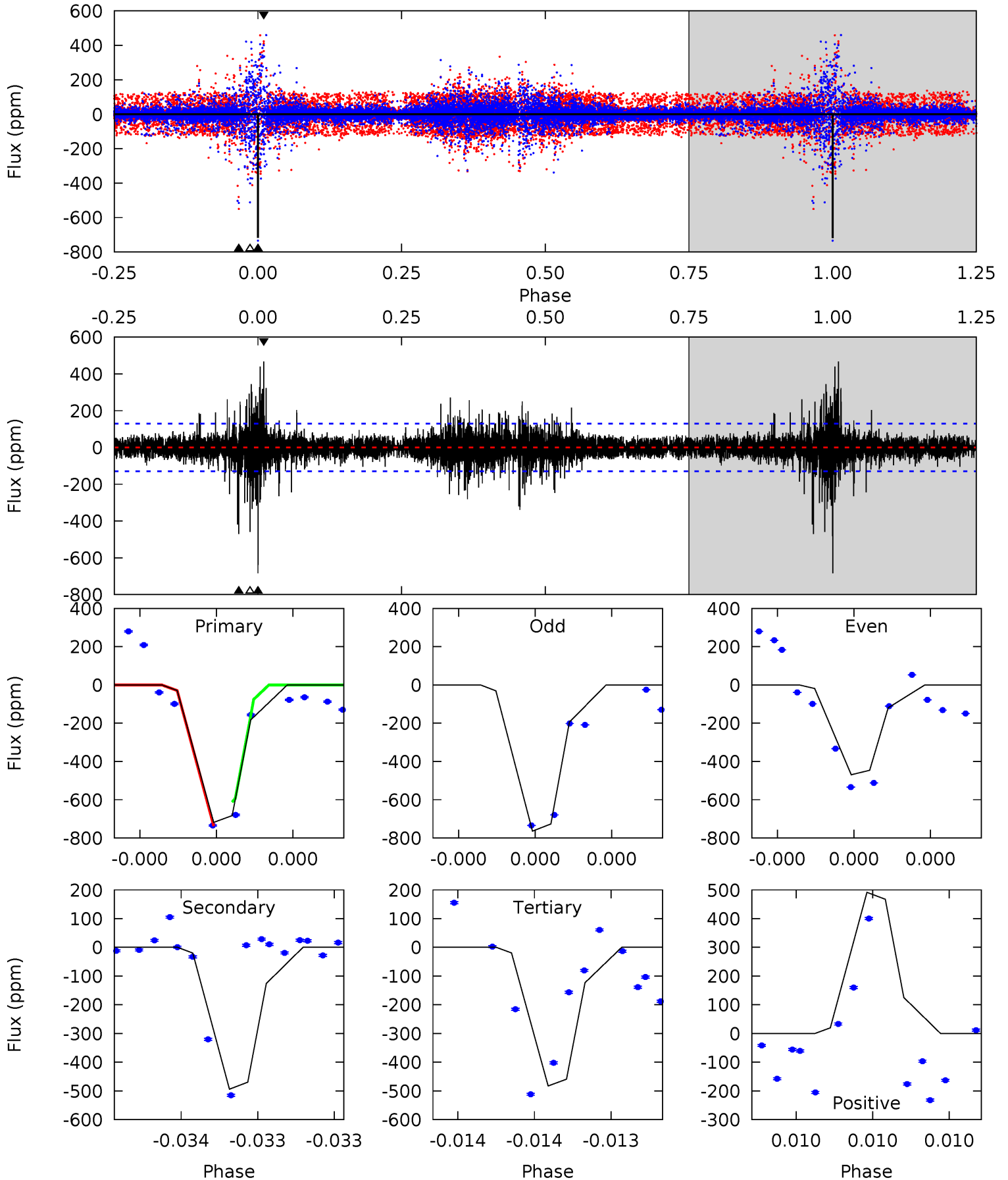
TCE 008390826-05 $P=253.203160$ Days $T_0=219.021097$ (BKJD)



DV Model-Shift Uniqueness Test

008390826-05, P = 253.192983 Days, E = 219.030173 Days

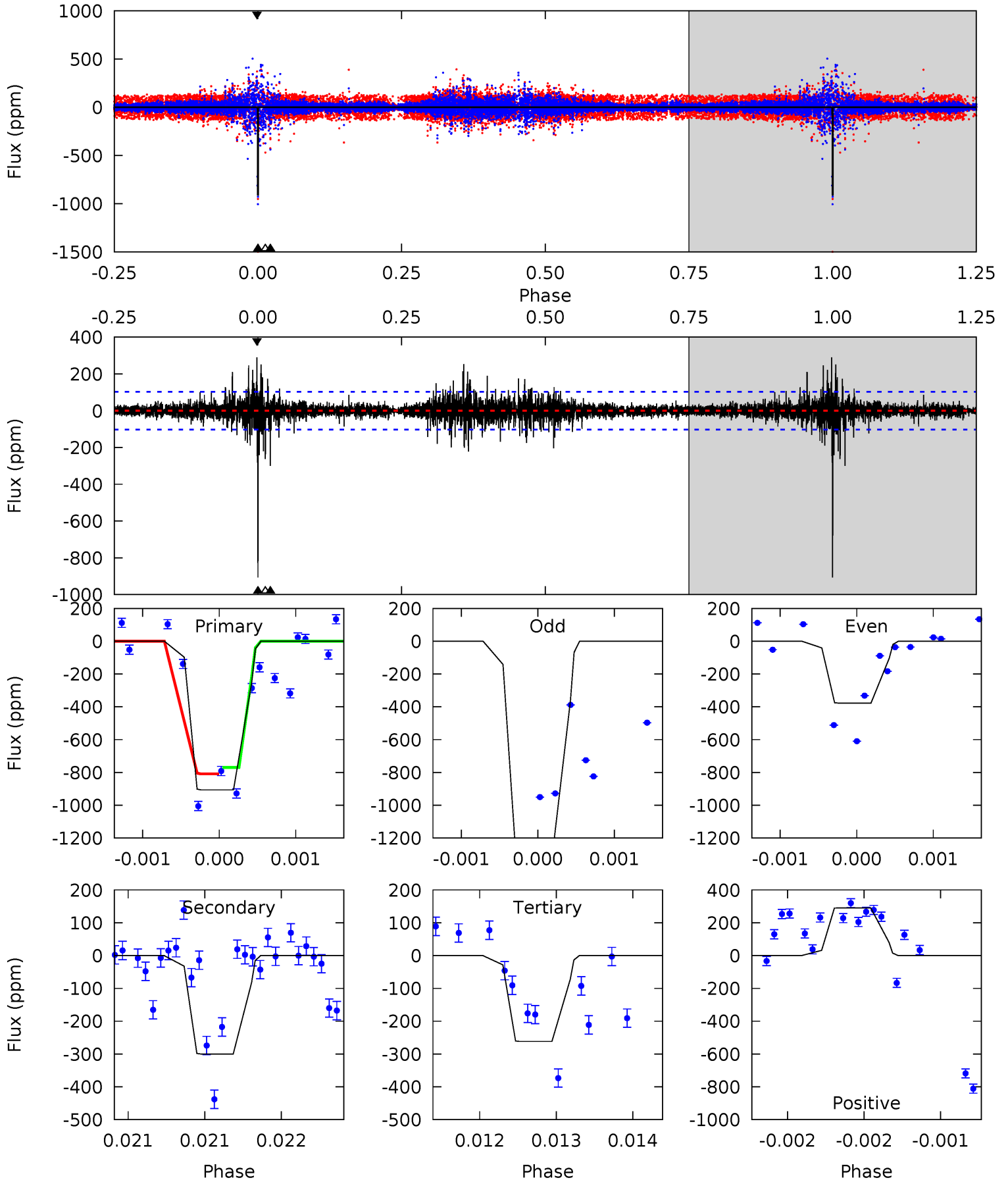
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.7	20.4	20.0	20.3	5.64	3.59	1.53	9.75	9.39	0.46	0.10	5.33	0.90	0.41	0



Alt Model-Shift Uniqueness Test

008390826-05, P = 253.203160 Days, E = 219.021097 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.9	16.2	14.1	15.6	5.55	3.45	1.49	34.8	33.2	2.06	0.51	22.6	1.19	0.24	0.87



Stellar Parameters For KIC 008390826

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8501^{+234}_{-402}	$4.132^{+0.121}_{-0.148}$	$0.070^{+0.250}_{-0.550}$	$1.987^{+0.441}_{-0.441}$	$1.953^{+0.343}_{-0.419}$	$0.351^{+0.243}_{-0.143}$
	+3%/-5%	+3%/-4%	+357%/-786%	+22%/-22%	+18%/-21%	+69%/-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 008390826-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-470 ± 23	$8.07^{+6.97}_{-5.04}$	748^{+50}_{-49}	6259^{+5302}_{-1530}	3787^{+23528}_{-2725}
Alt.	-300 ± 19	$8.15^{+6.51}_{-5.09}$	747^{+49}_{-46}	5541^{+4430}_{-1190}	2279^{+14191}_{-1557}

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 $A_{obs} \gg 1.0$

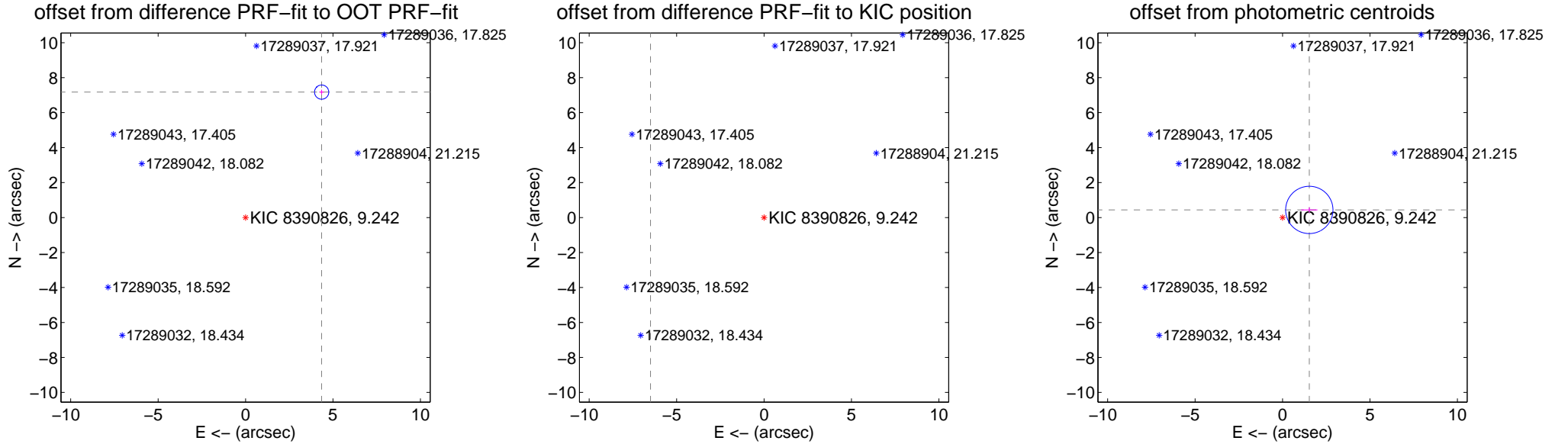
DV Centroid Data

Supplemental centroid analysis for 008390826-05. **Kepler magnitude: 9.24.** Transit SNR 23.17

There are 0 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 14.13 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.390 ± 0.136	61.91	-4.351 ± 0.133	7.174 ± 0.136
PRF-fit source offset from KIC position	17.485 ± 0.136	128.59	6.494 ± 0.133	16.235 ± 0.136
photometric centroid source offset	1.59 ± 0.45	3.53	-1.53 ± 0.47	0.44 ± 0.15

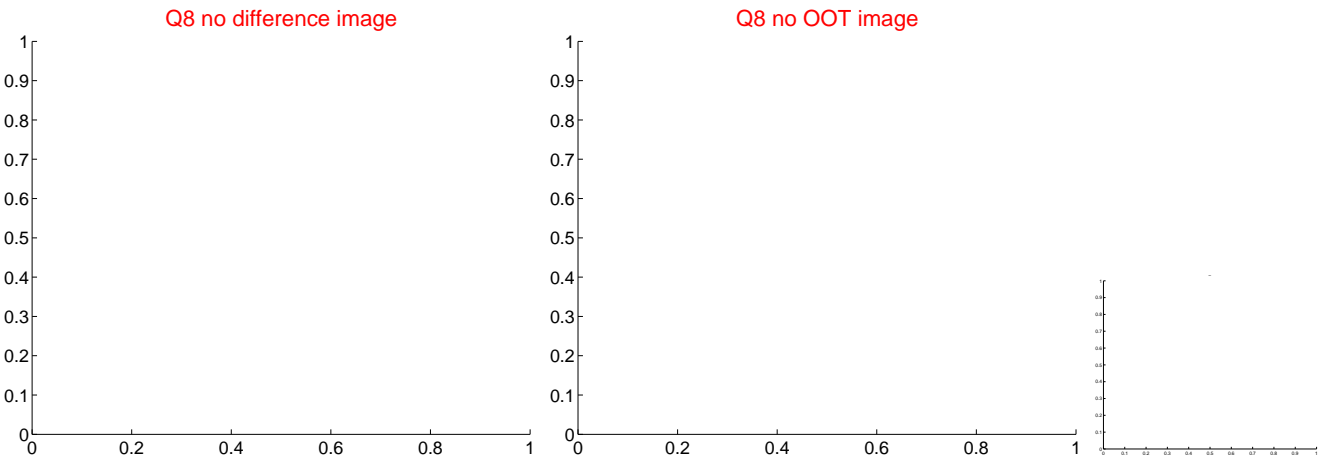
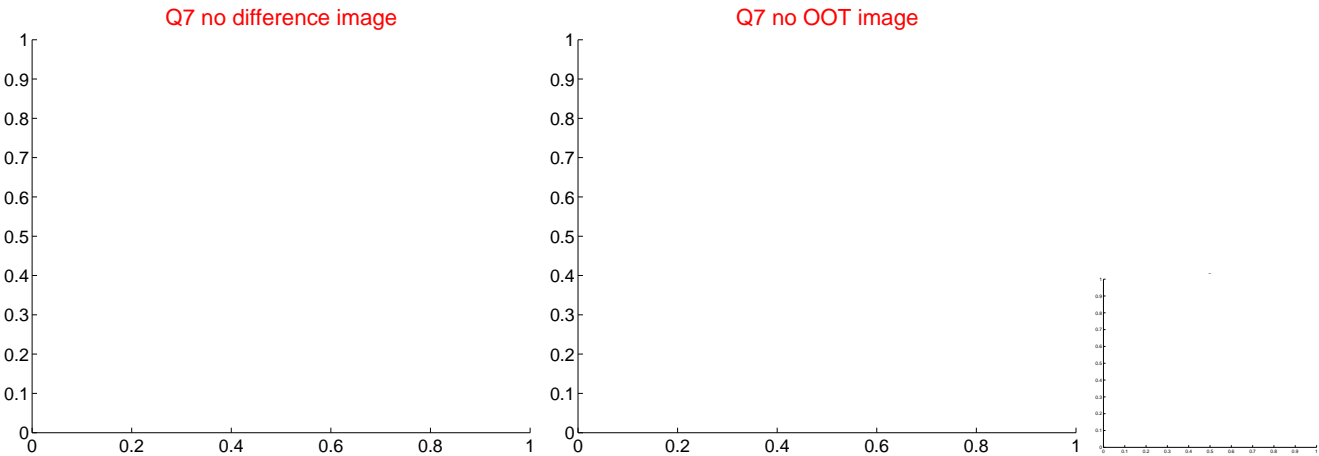
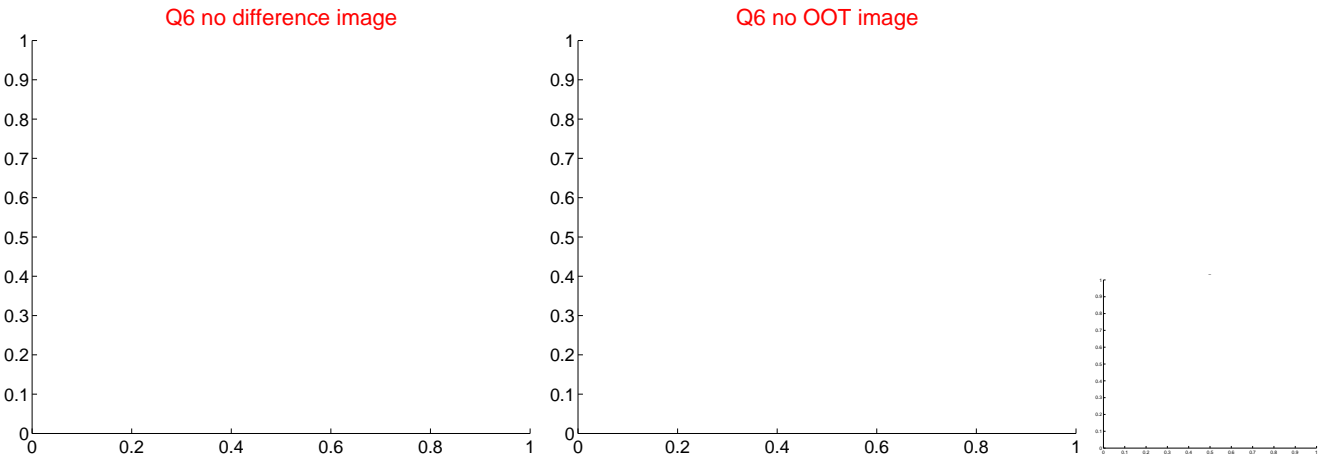
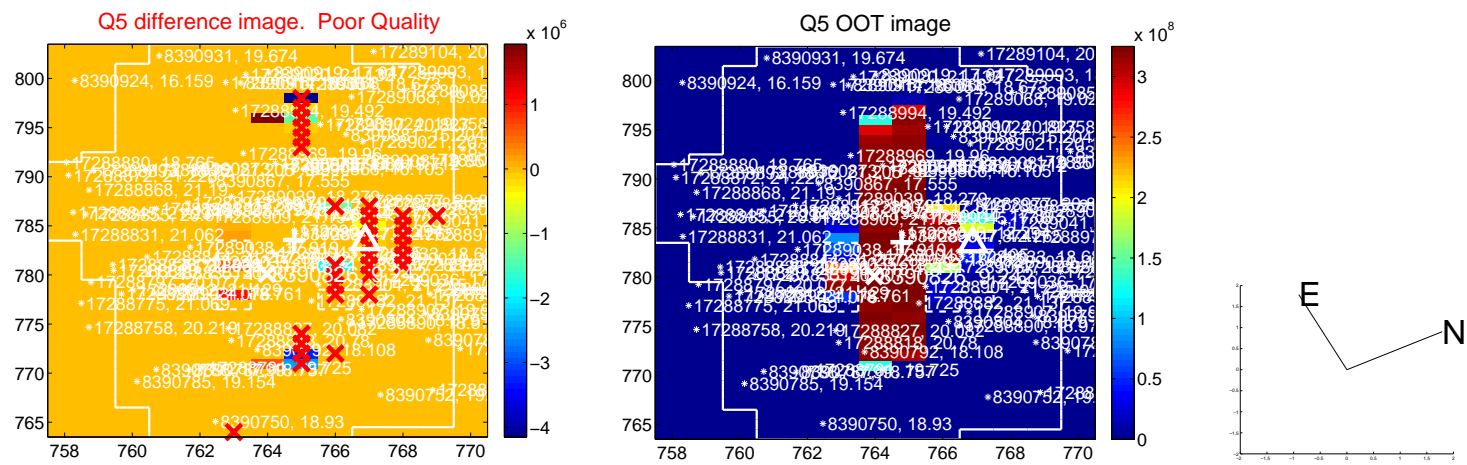


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

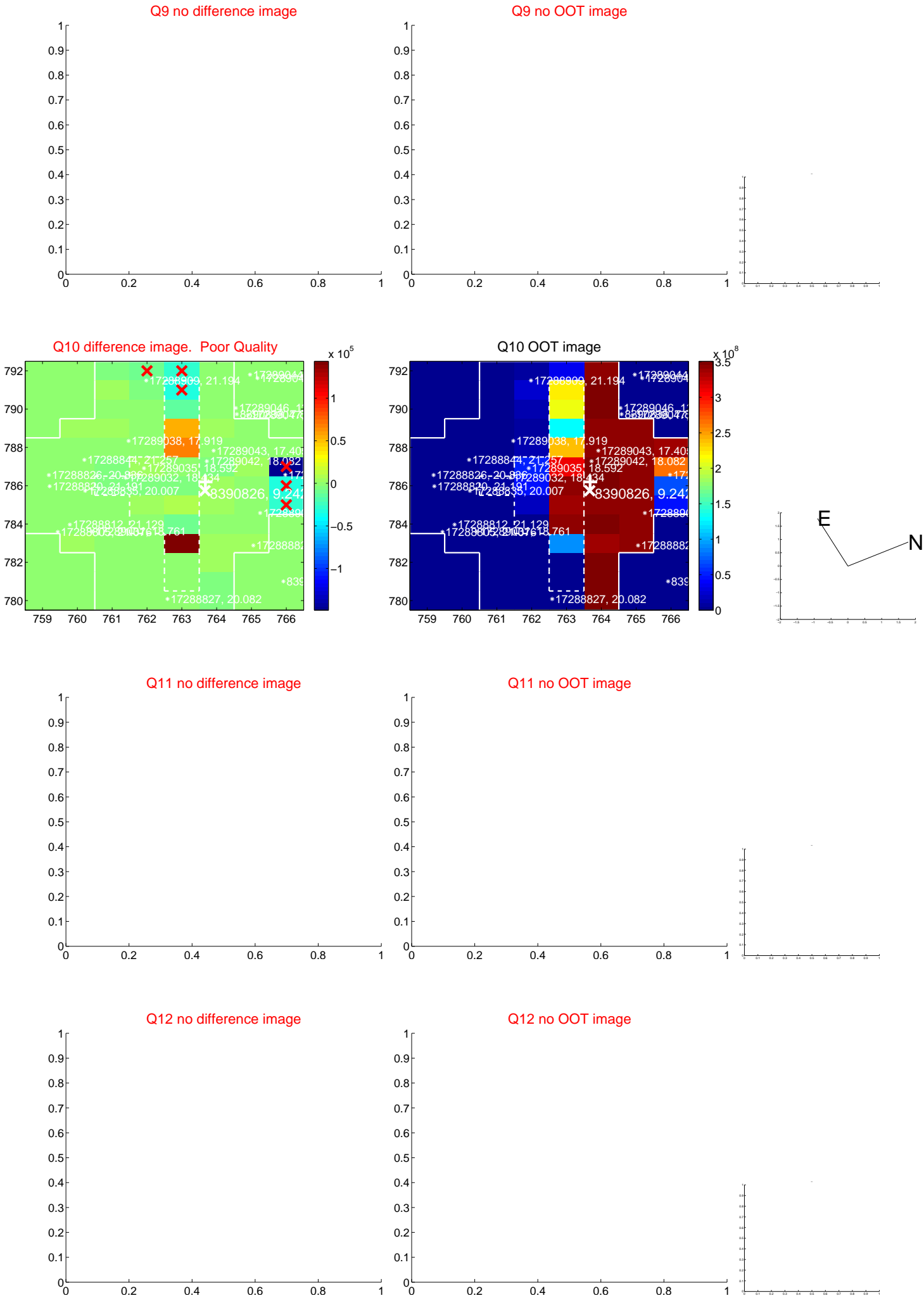
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



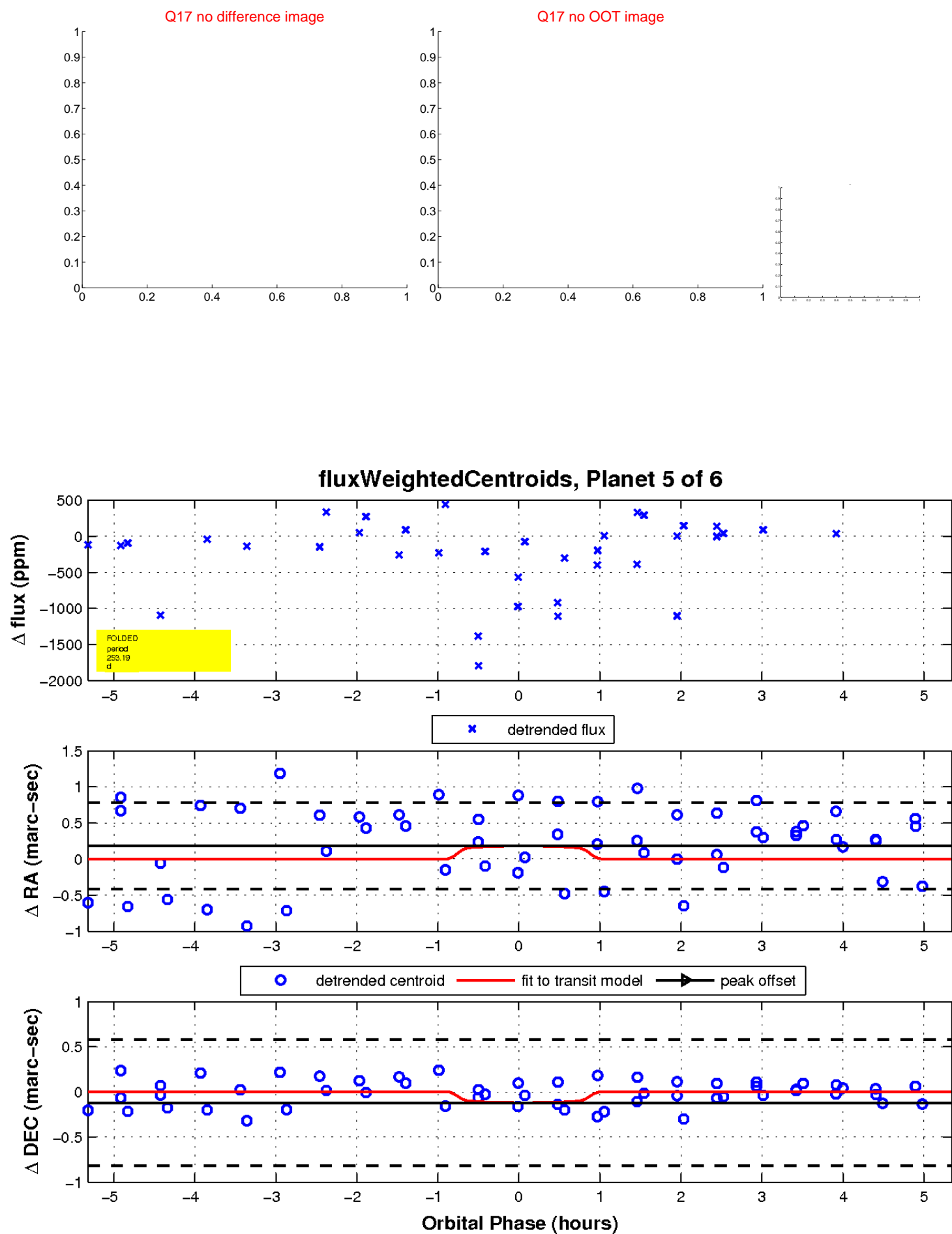
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



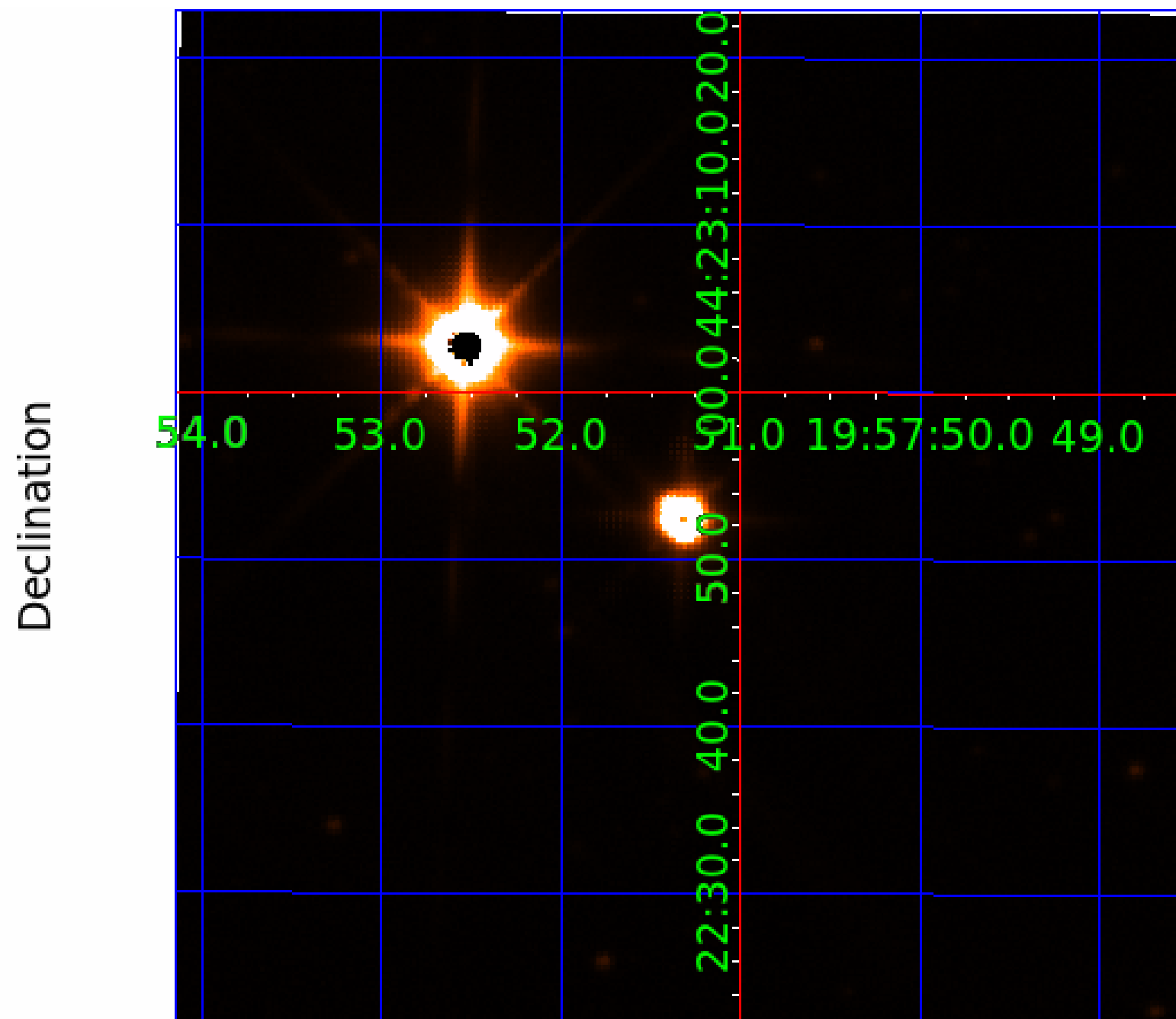
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008390826

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})
008390826-01	OBS	No	280.510110	252.293083	11.4	7.444	103.8	2.7	1.99	8501	0.72	16.81
008390826-02	OBS	No	256.051037	328.908176	593.1	32.534	72.3	50.9	1.99	8501	5.21	18.99
008390826-03	OBS	No	385.580182	469.021516	395.2	1.959	34.2	8.8	1.99	8501	4.07	11.00
008390826-04	OBS	No	431.563937	501.327944	900.2	3.992	45.6	28.9	1.99	8501	6.28	9.47
008390826-05	OBS	No	253.192983	219.030173	719.4	1.788	33.5	23.2	1.99	8501	5.91	19.27
008390826-06	OBS	No	255.865661	208.144545	462.0	3.000	36.1	-1.0	1.99	8501	4.34	19.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008390826-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008390826-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

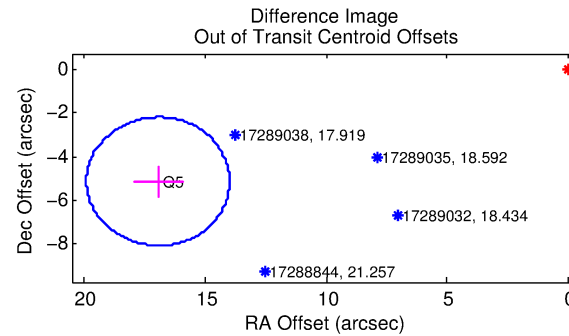
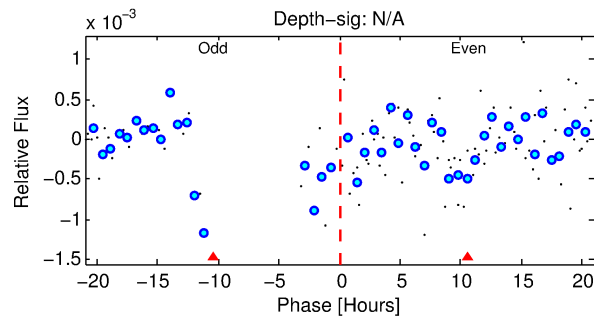
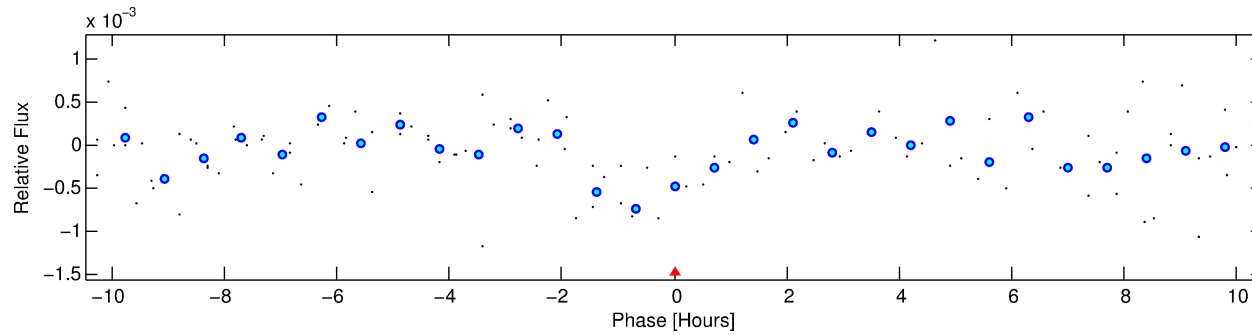
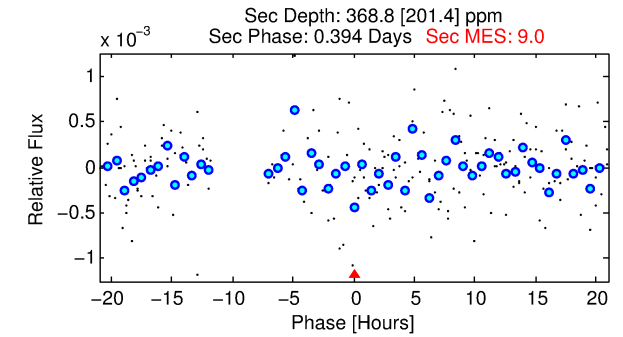
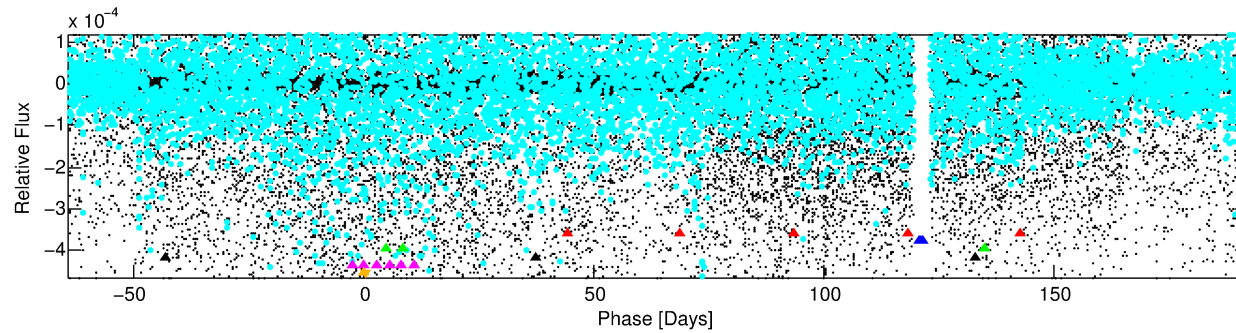
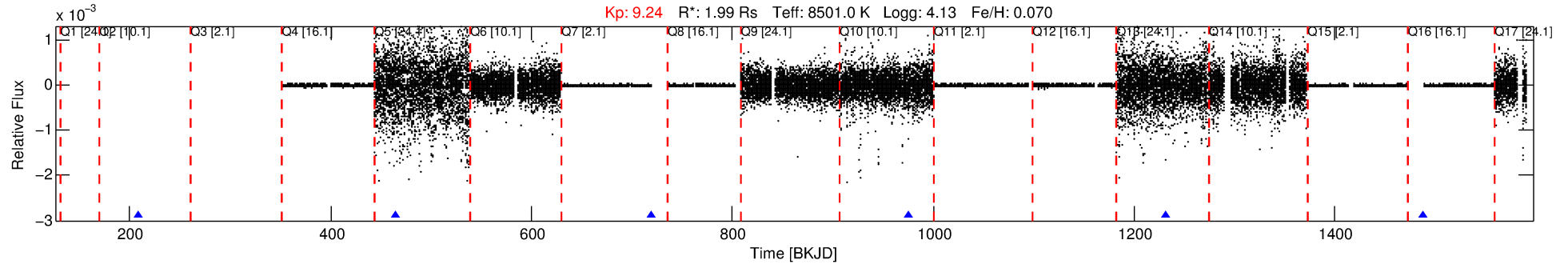
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008390826-06

No Significant Match Found

DV One-Page Summary

KIC: 8390826 Candidate: 6 of 6 Period: 255.866 d



TPS TCE Results:

Period = 255.86566 d
Epoch = 208.1445 BKJD

DV fit results are unavailable

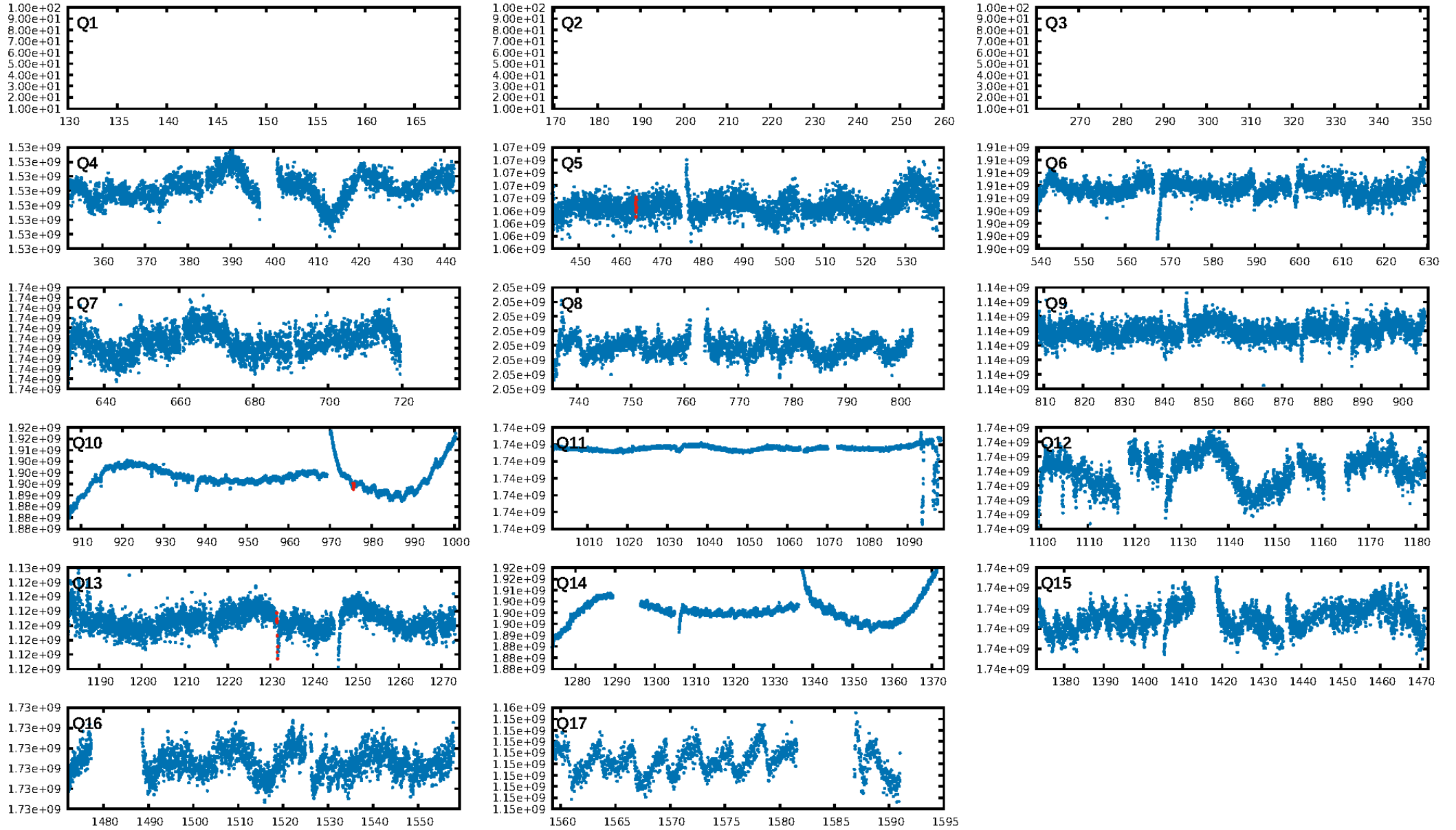
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [18.37 σ]
LongPeriod-sig: 10.8% [0.14 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 17.6%
Centroid-so: 0.525 arcsec [0.56 σ]
OotOffset-rm: 17.696 arcsec [17.97 σ]
KicOffset-rm: 28.015 arcsec [27.98 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

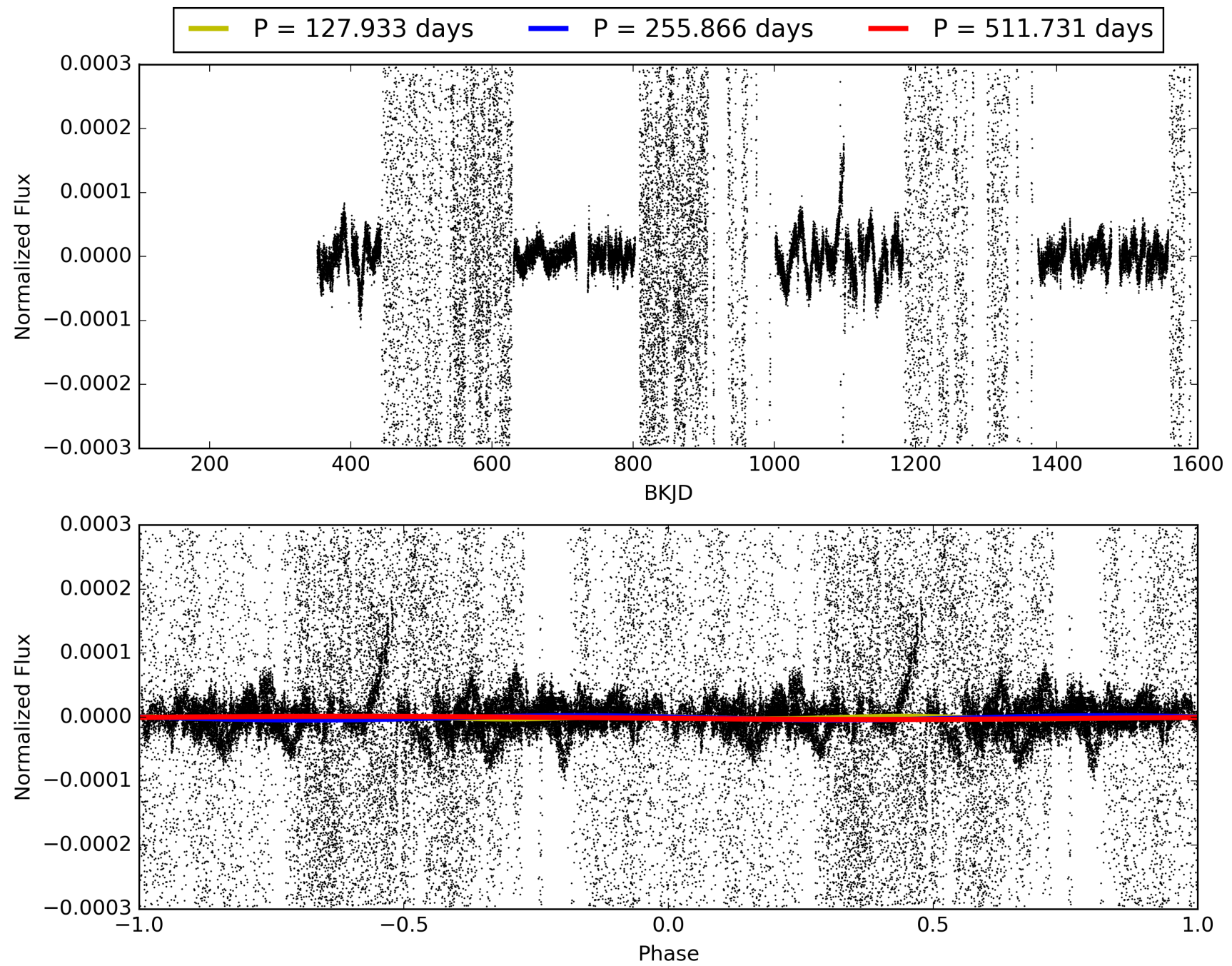
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:35:25 Z

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

TCE 008390826-06, PDC Light Curves

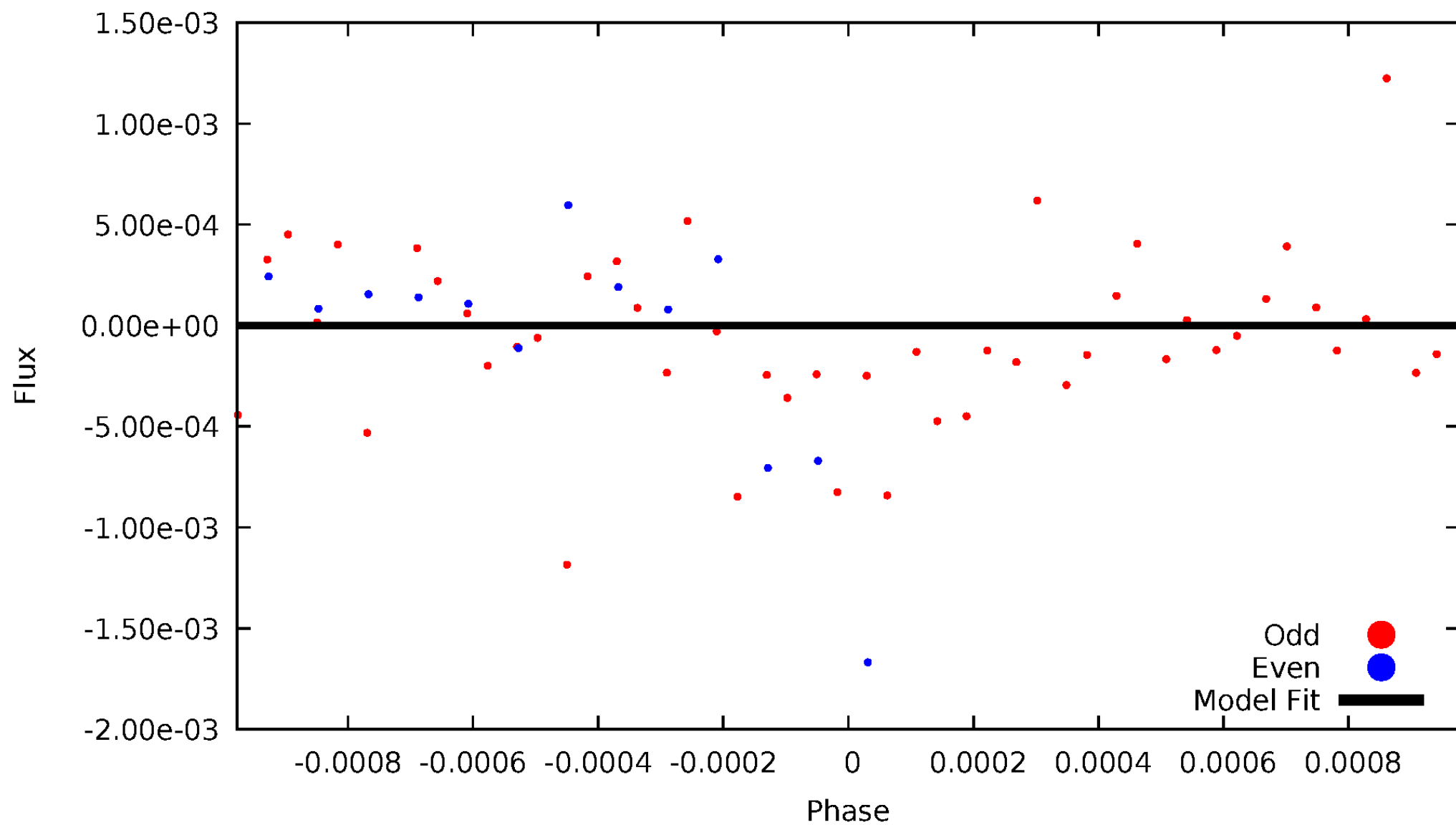


TCE 008390826-06



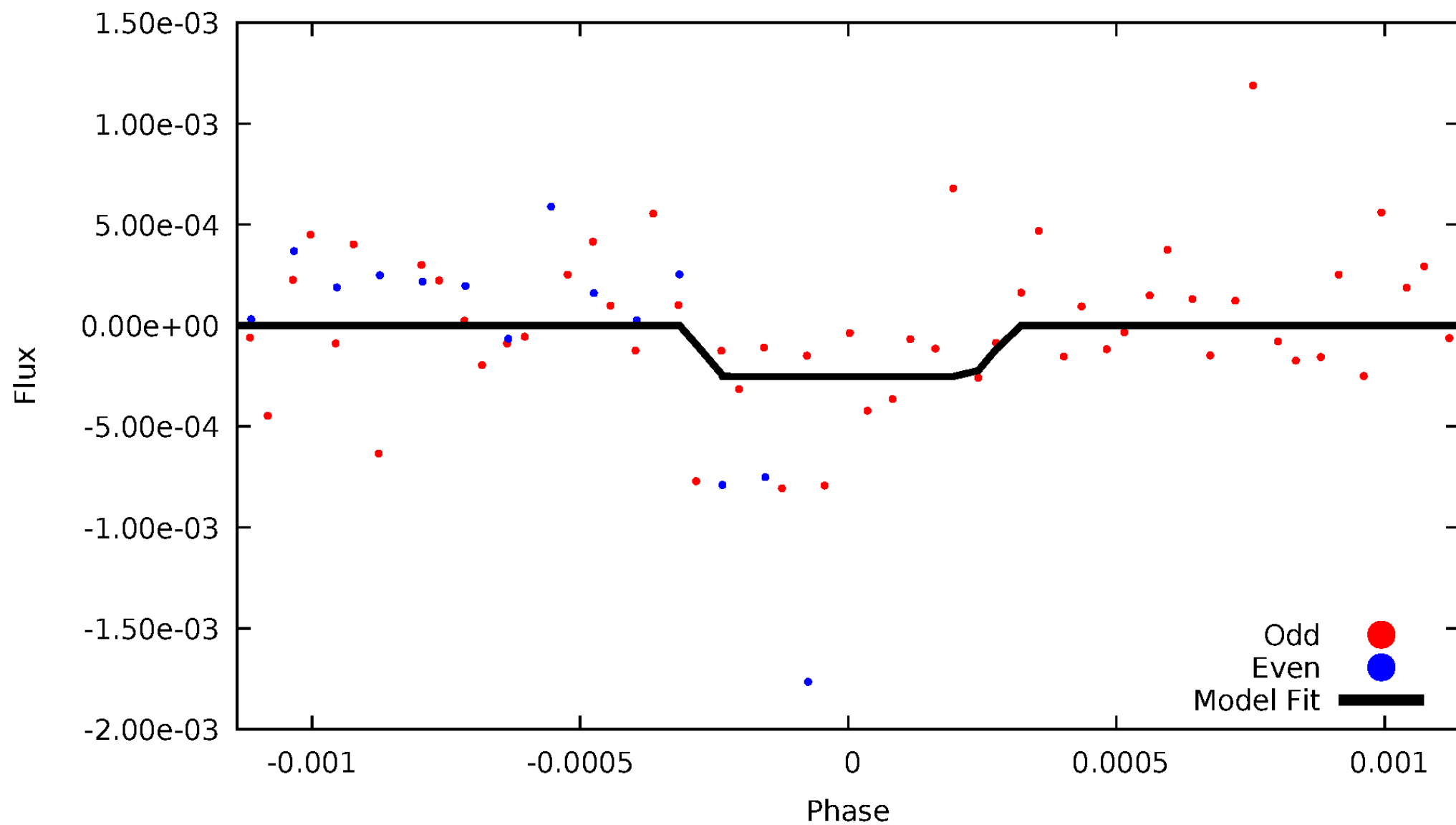
DV Odd/Even

TCE 008390826-06



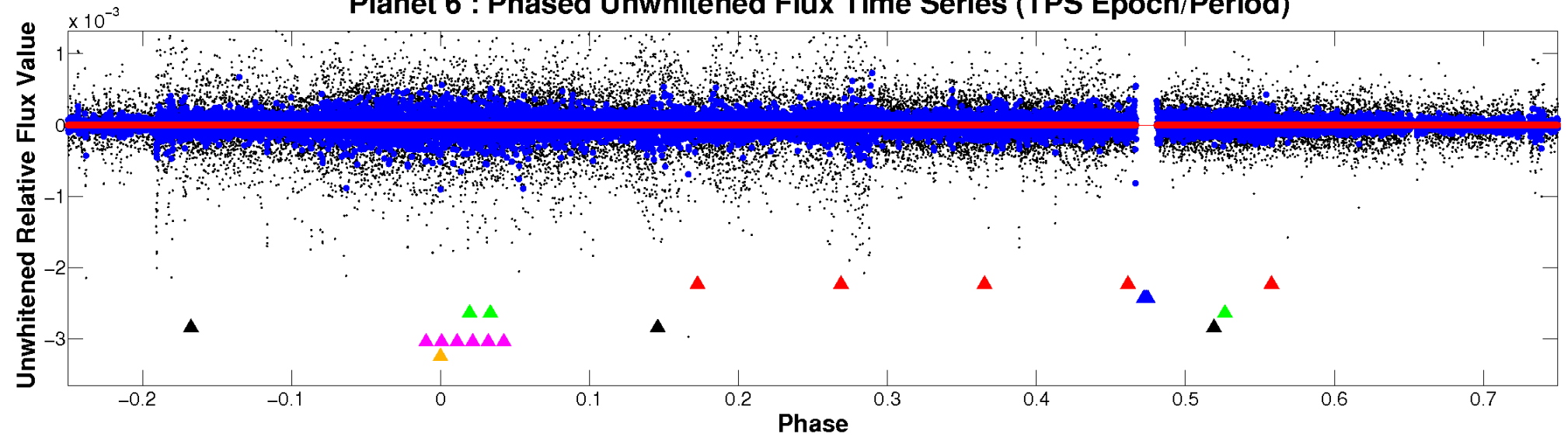
ALT Odd/Even

TCE 008390826-06

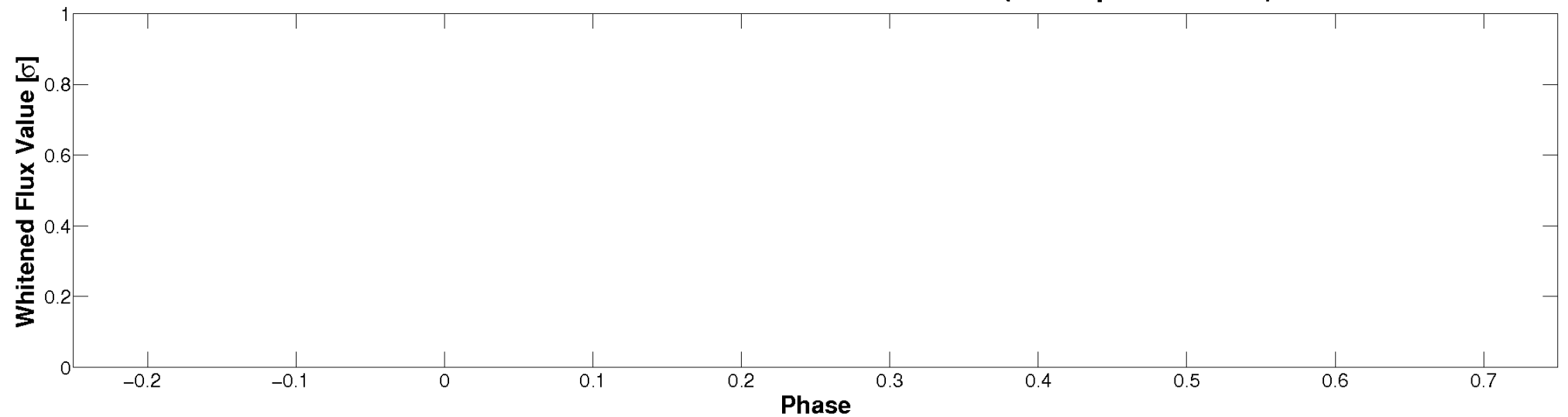


Non-Whitened Vs. Whitened Light Curve

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

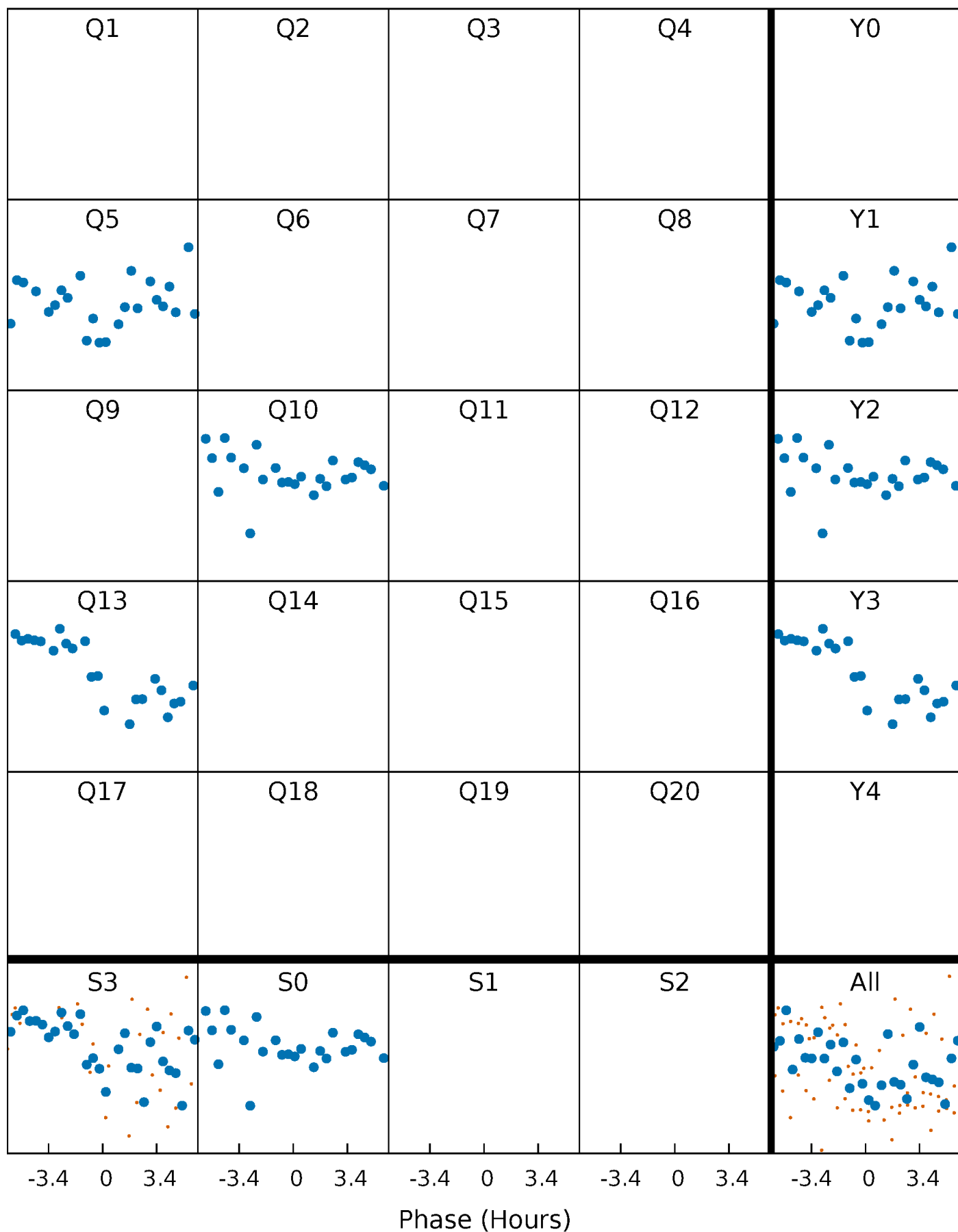


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



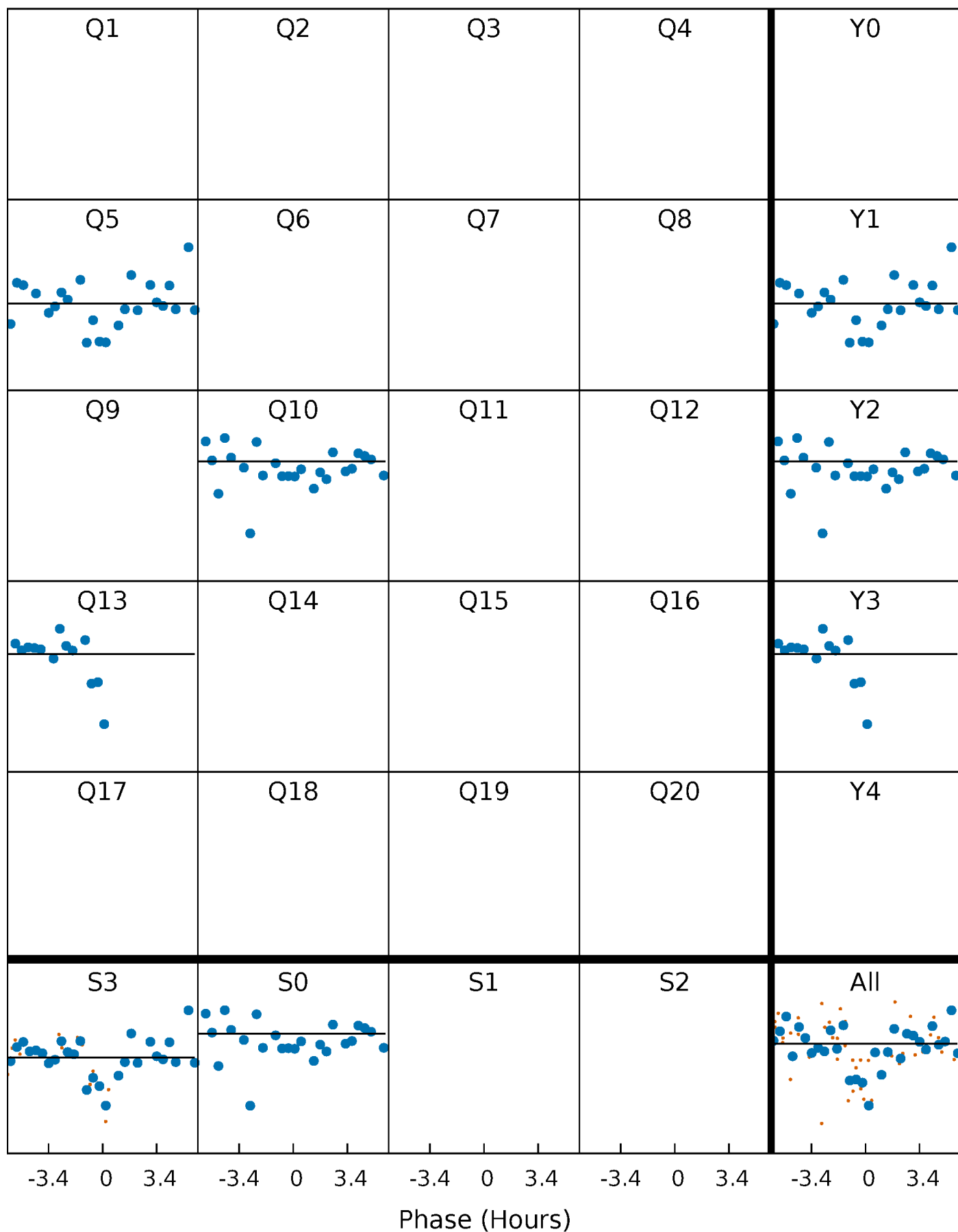
PDC Quarter-Phased Transit Curves

TCE 008390826-06 P=255.865661 Days $T_0=208.144545$ (BKJD)



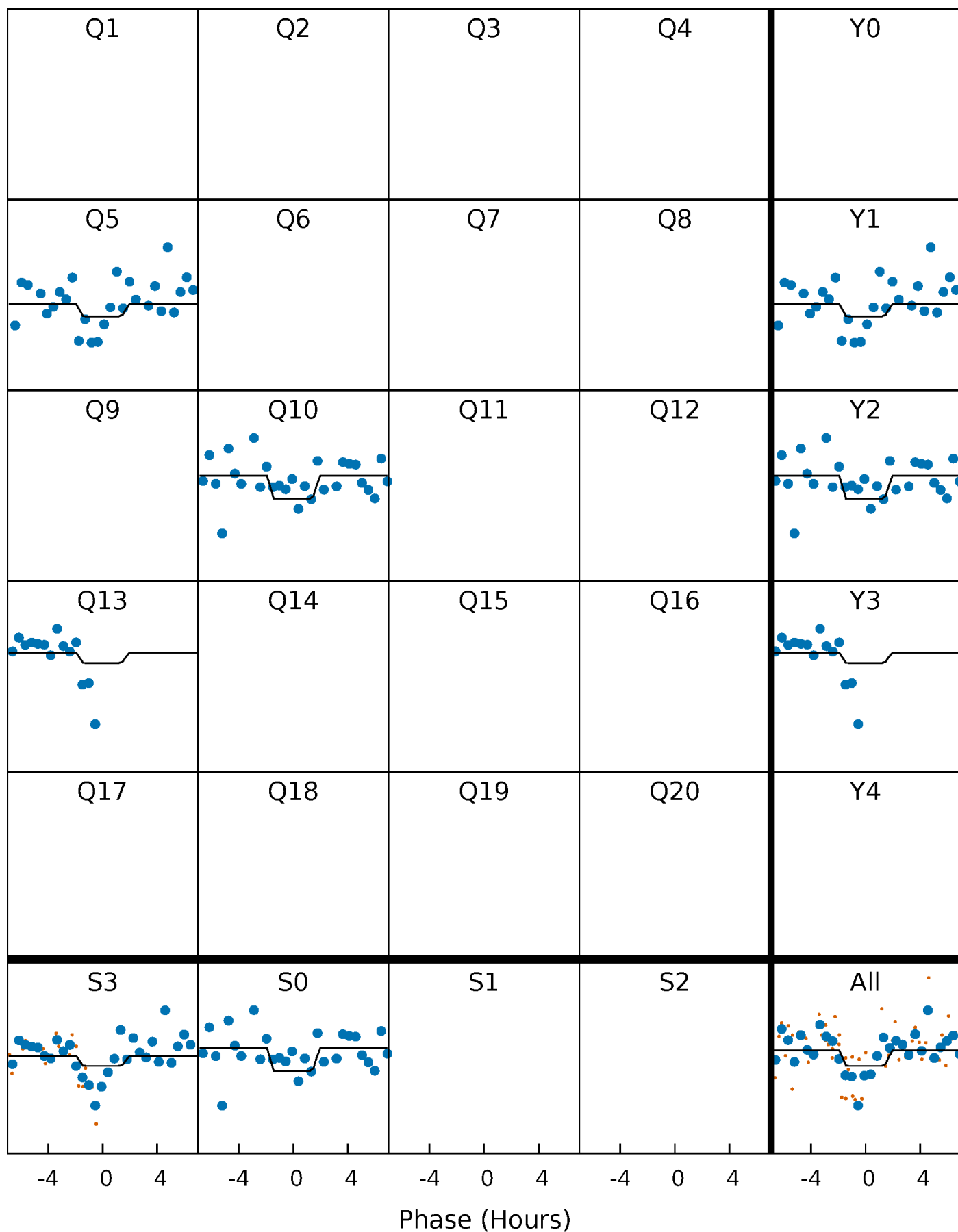
DV Quarter-Phased Transit Curves

TCE 008390826-06 P=255.865661 Days $T_0=208.144545$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

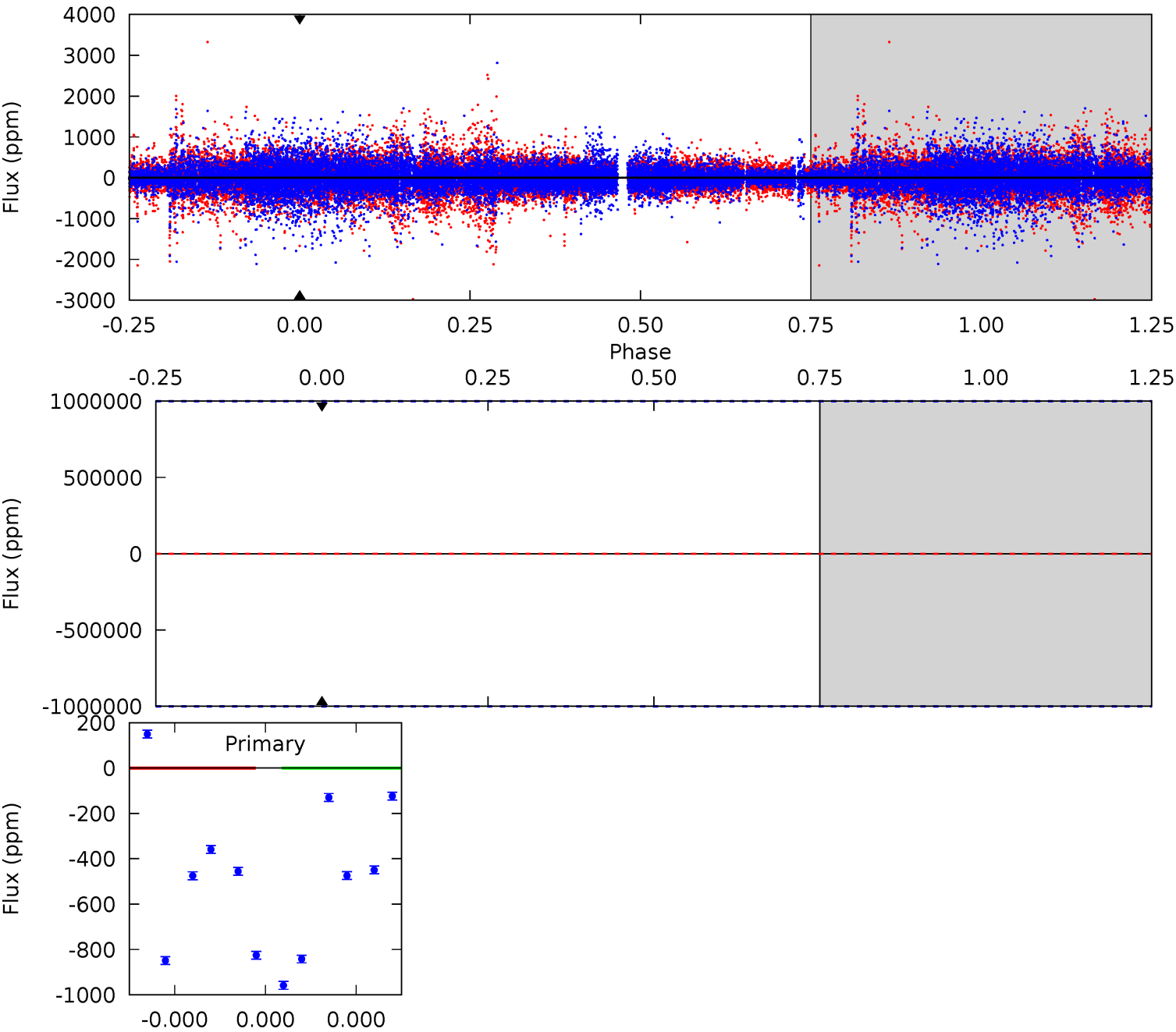
TCE 008390826-06 P=255.865661 Days $T_0=208.171777$ (BKJD)



DV Model-Shift Uniqueness Test

008390826-06, P = 255.865661 Days, E = 208.144545 Days

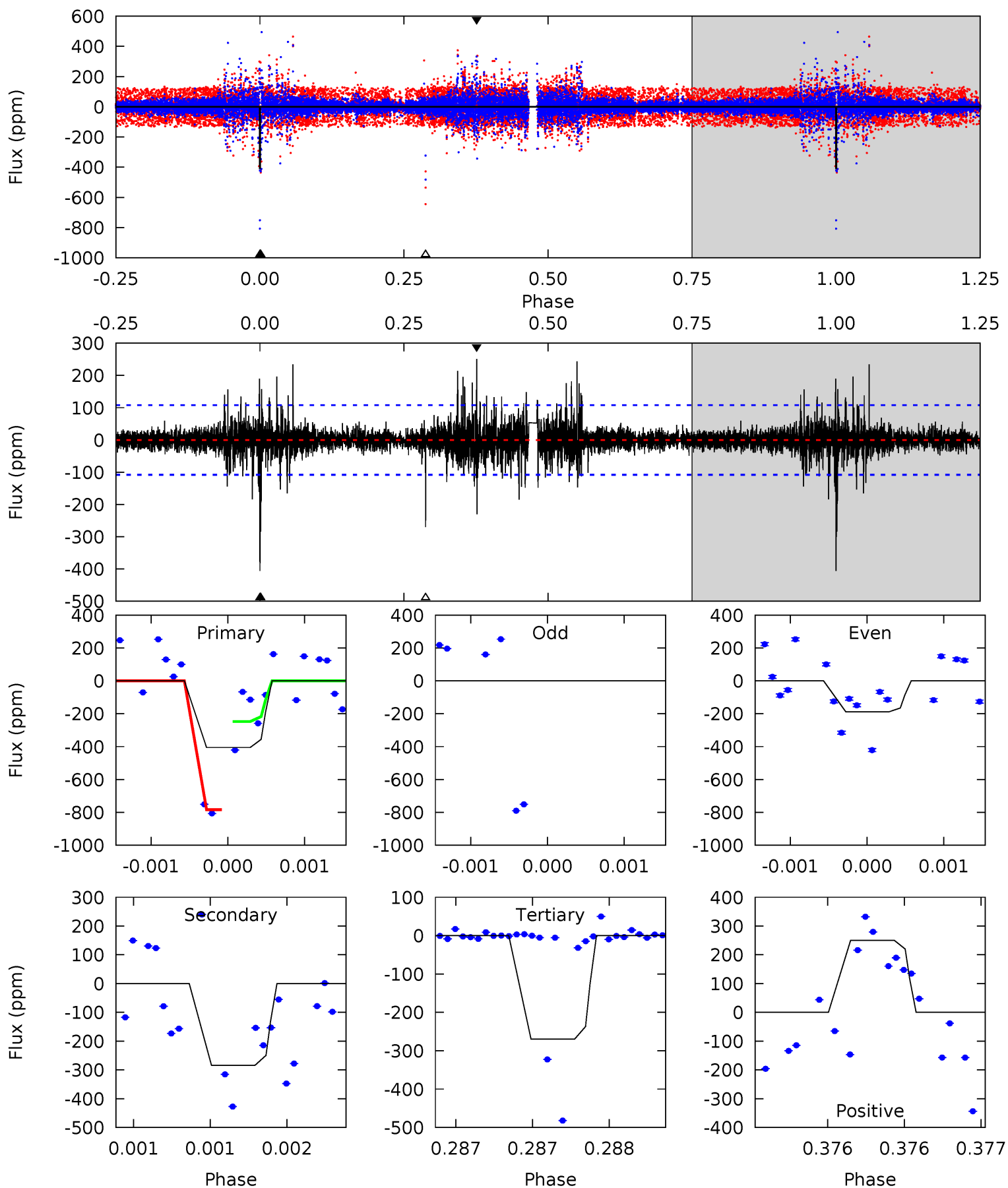
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008390826-06, P = 255.865661 Days, E = 208.171777 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.9	14.6	13.9	12.9	5.55	3.45	1.30	6.99	7.99	0.73	1.72	0	1.65	0.38	10.6



Stellar Parameters For KIC 008390826

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8501^{+234}_{-402}	$4.132^{+0.121}_{-0.148}$	$0.070^{+0.250}_{-0.550}$	$1.987^{+0.441}_{-0.441}$	$1.953^{+0.343}_{-0.419}$	$0.351^{+0.243}_{-0.143}$
	+3%/-5%	+3%/-4%	+357%/-786%	+22%/-22%	+18%/-21%	+69%/-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 008390826-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$16.77^{+17.71}_{-11.42}$	748^{+52}_{-51}	7424^{+55345}_{-51947}	$6921^{+428575}_{-273123}$
Alt.	-284 ± 19	$16.07^{+17.29}_{-11.48}$	744^{+47}_{-48}	4168^{+3041}_{-876}	607^{+6289}_{-470}

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 $A_{obs} \gg 1.0$

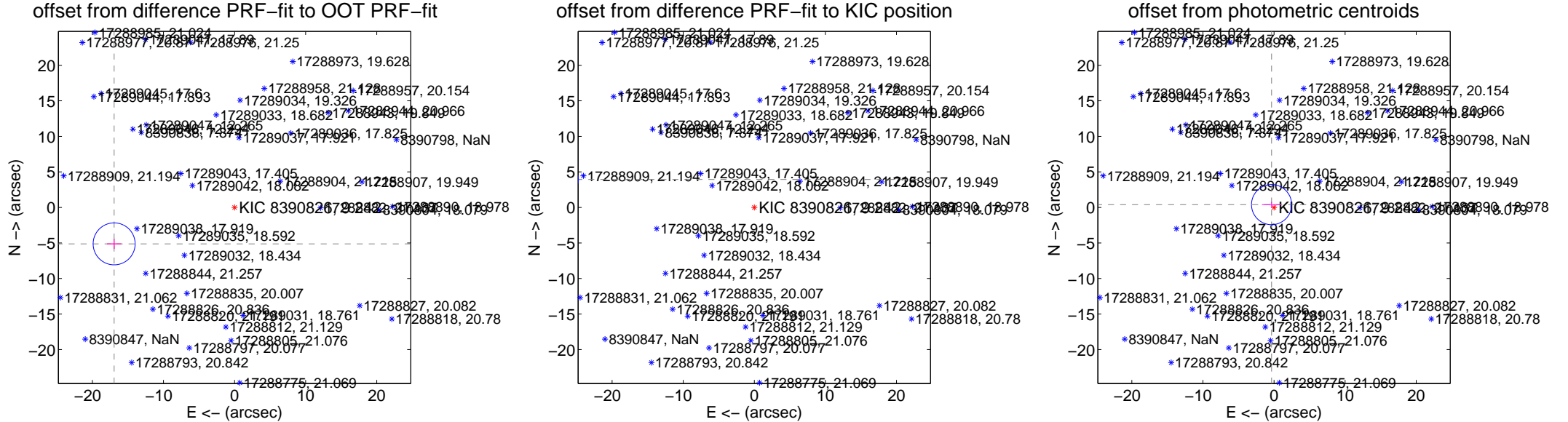
DV Centroid Data

Supplemental centroid analysis for 008390826-06. **Kepler magnitude: 9.24.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 14.10 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	17.696 \pm 0.985	17.97	16.938 \pm 1.006	-5.126 \pm 0.707
PRF-fit source offset from KIC position	28.015 \pm 1.001	27.98	27.737 \pm 1.006	3.940 \pm 0.707
photometric centroid source offset	0.53 \pm 0.94	0.56	0.35 \pm 1.35	0.40 \pm 0.41

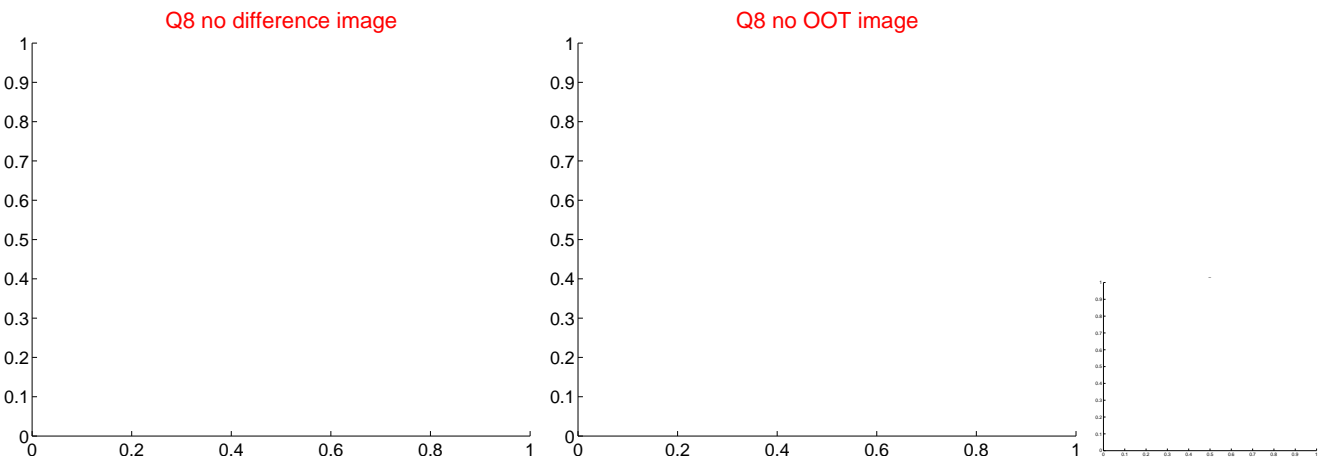
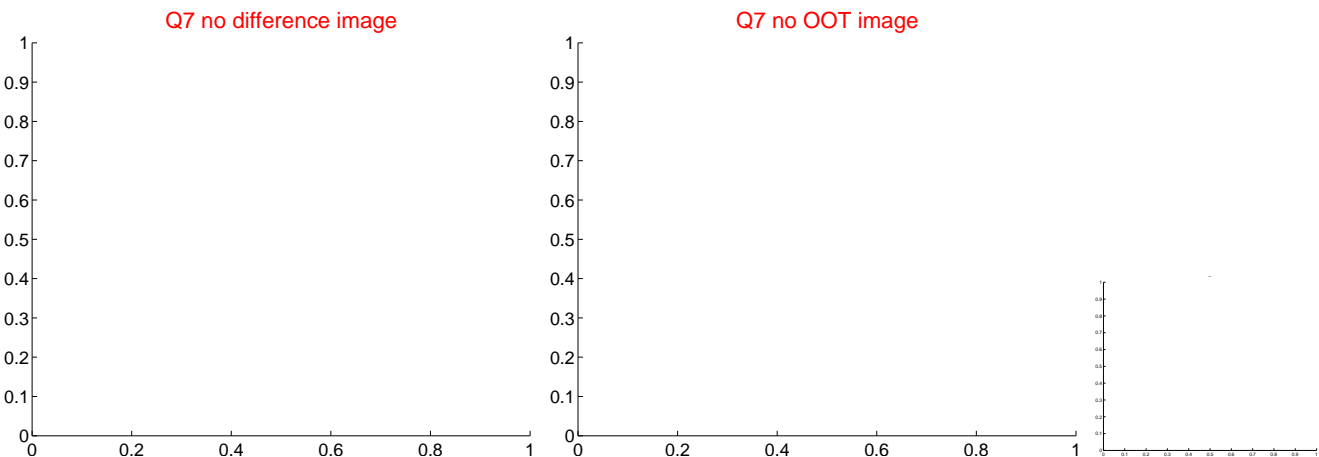
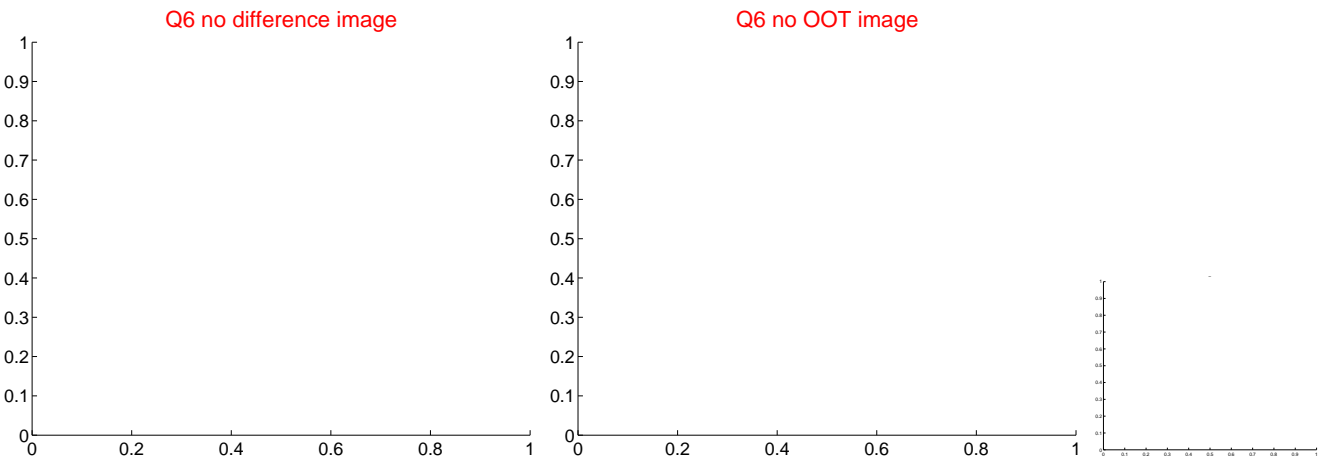
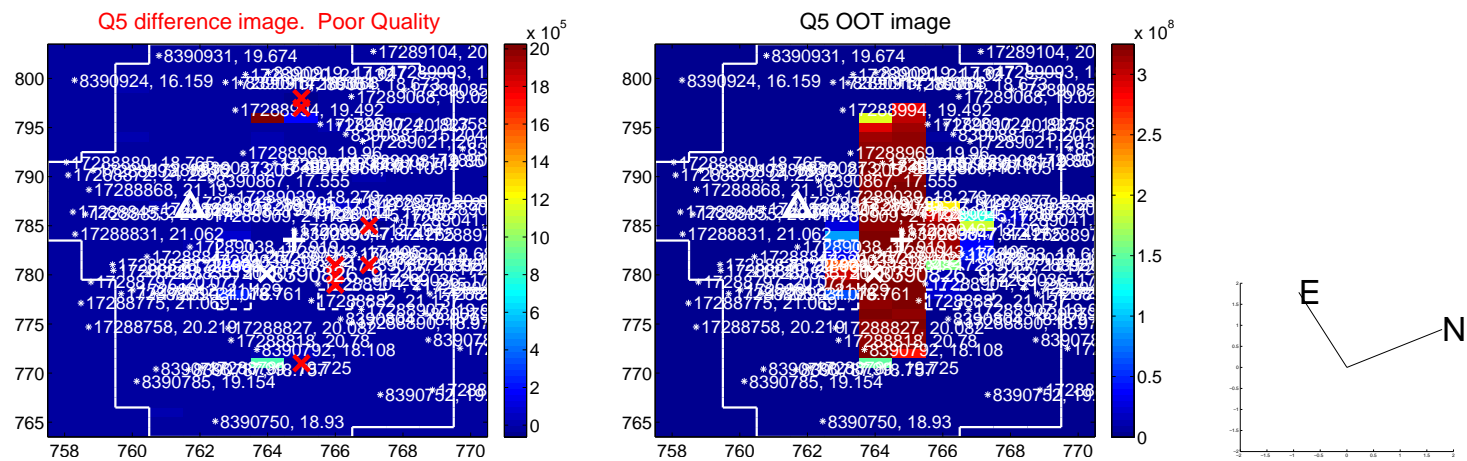


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

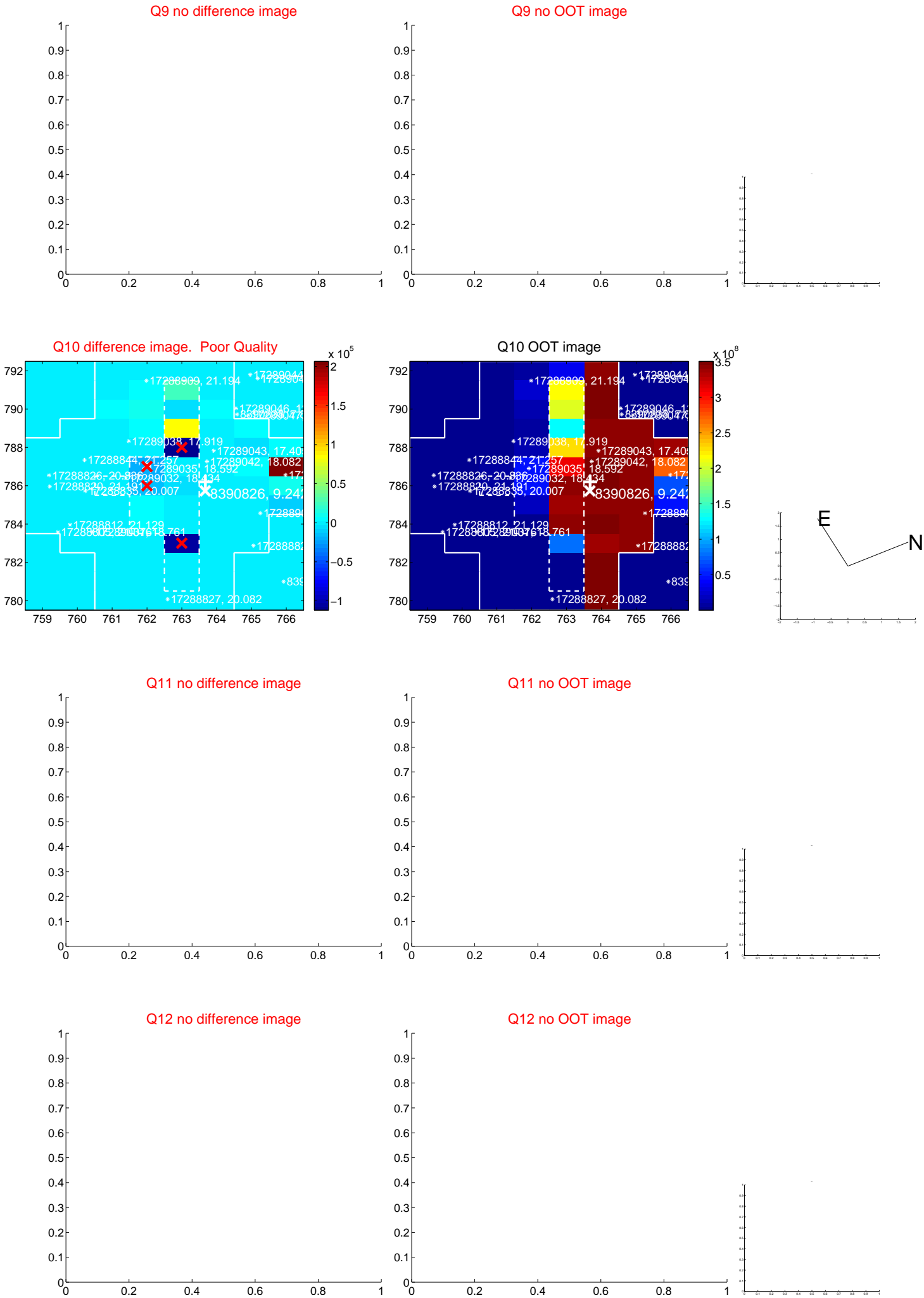
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



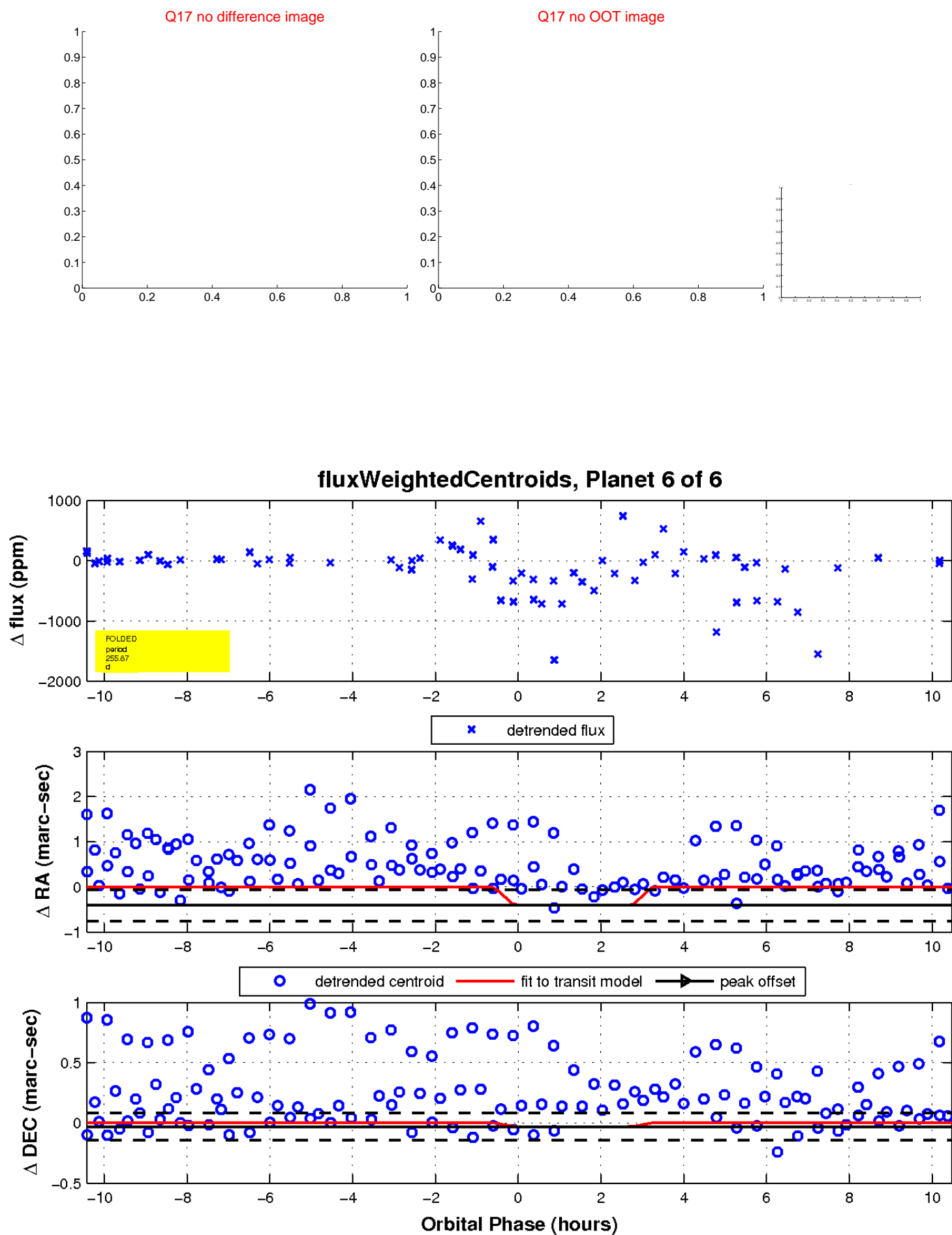
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

