

KIC 010068383

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})
010068383-01	OBS	0725.01	7.304978	133.120951	10800.6	4.539	289.1	245.8	0.74	5247	11.33	78.96
010068383-02	OBS	No	7.304885	136.782889	853.5	4.636	20.8	23.0	0.74	5247	4.37	78.97
010068383-03	OBS	No	539.919844	486.876925	1914.3	4.771	13.6	6.7	0.74	5247	3.46	0.26
010068383-04	OBS	No	586.020217	274.367065	2308.4	6.320	15.6	7.8	0.74	5247	3.58	0.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010068383-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
010068383-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
010068383-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010068383-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS

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

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

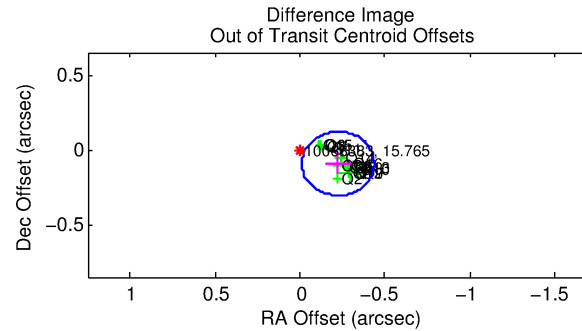
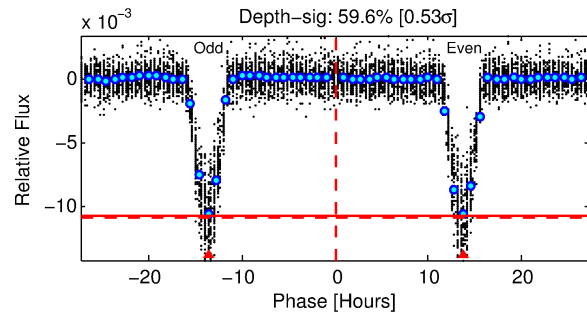
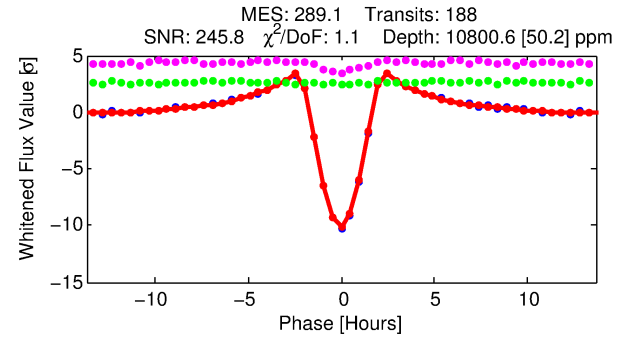
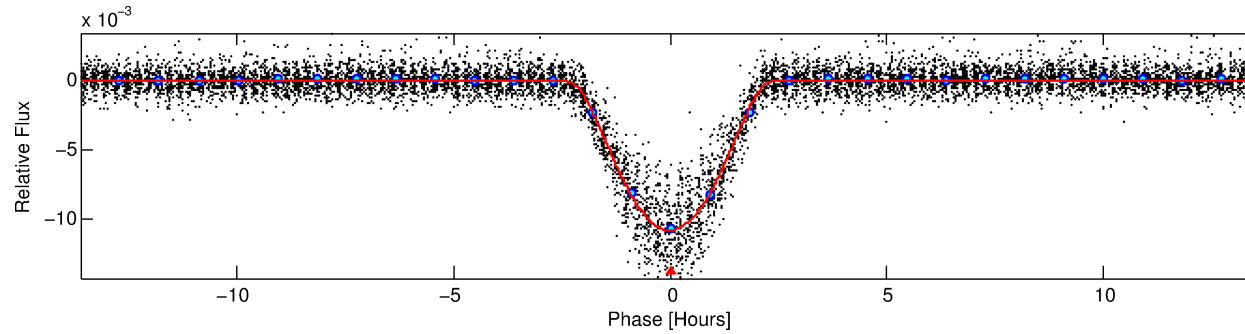
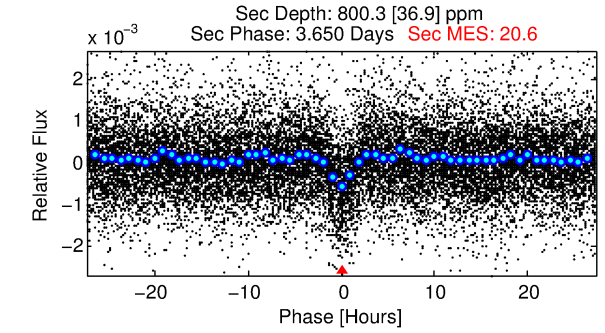
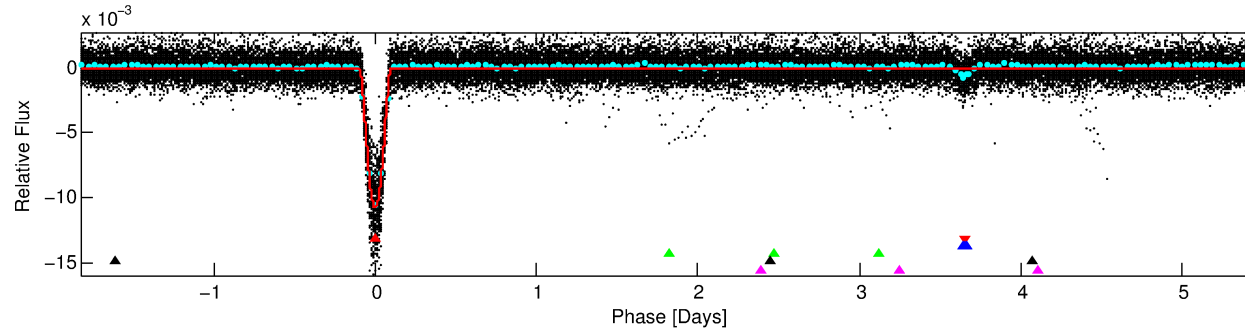
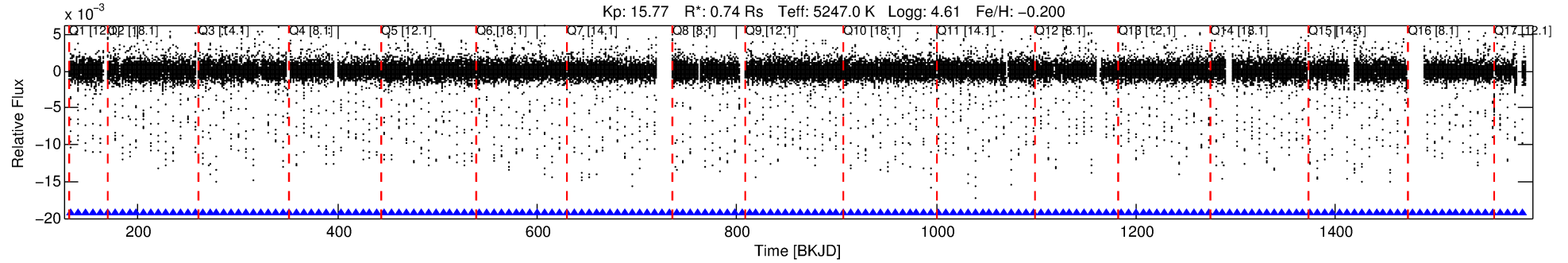
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010068383-01

No Significant Match Found

DV One-Page Summary

KIC: 10068383 Candidate: 1 of 5 Period: 7.305 d
KOI: K00725.01 Corr: 0.997



DV Fit Results:

Period = 7.30498 [0.00000] d
Epoch = 133.1210 [0.0003] BKJD
Rp/R* = 0.1395 [0.0082]
a/R* = 7.89 [0.12]
b = 0.95 [0.01]
Seff = 78.96 [17.07]
Teff = 760 [41] K
Rp = 11.33 [1.83] Re
a = 0.0690 [0.0086] AU
Ag = 16.34 [3.58] [4.28 σ]
Teffp = 2363 [103] K [14.47 σ]

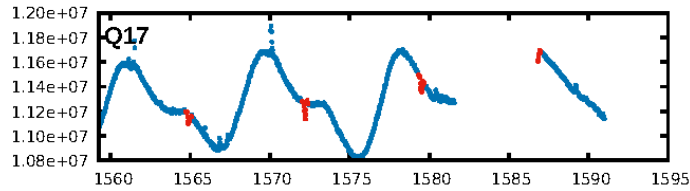
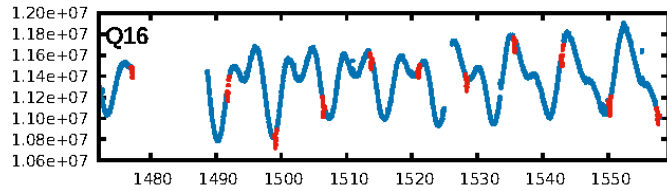
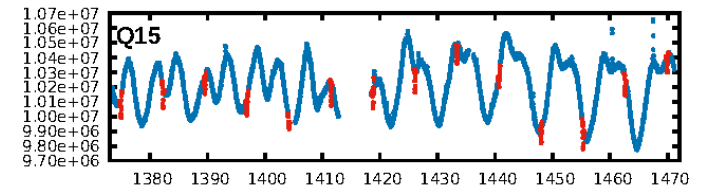
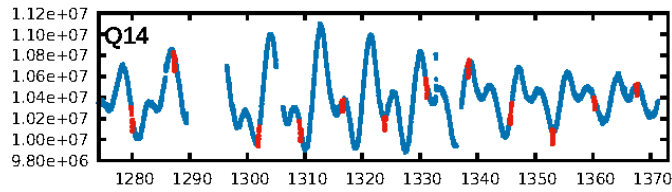
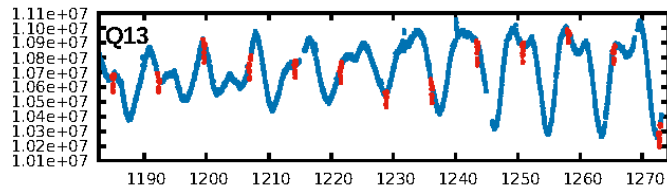
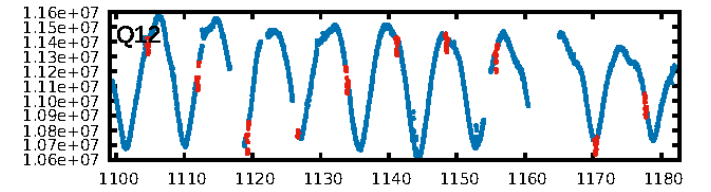
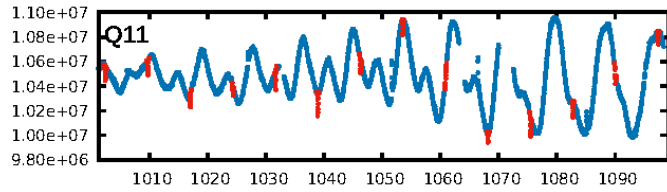
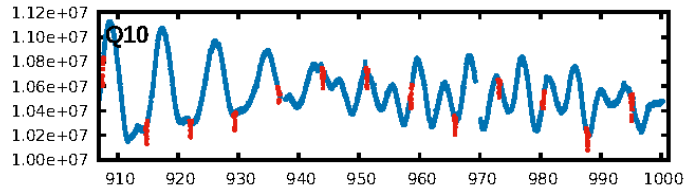
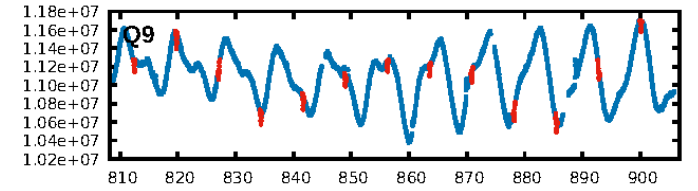
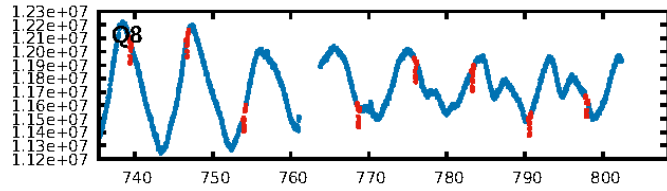
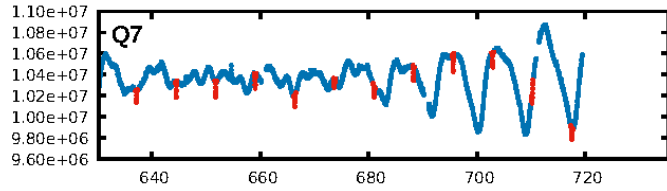
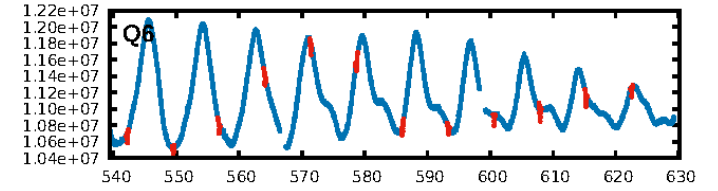
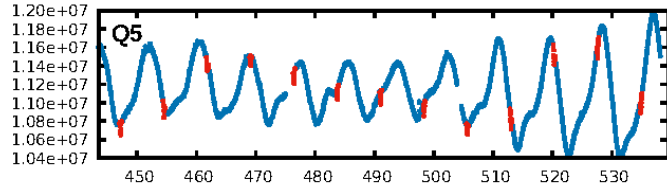
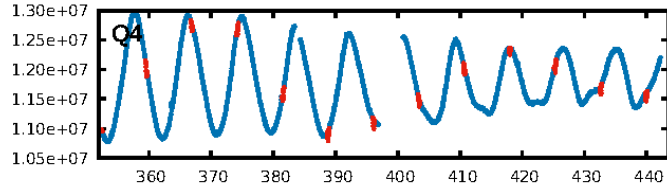
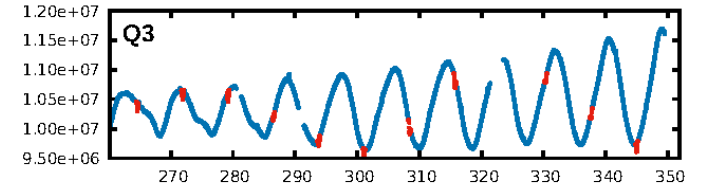
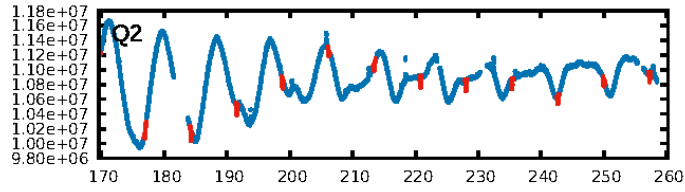
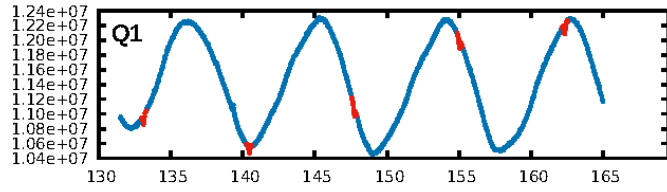
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 100.0% [1337.80 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 92.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [179/179]
GhostDiagnostic-chr: 1.577
Centroid-sig: 0.0%
Centroid-so: 0.222 arcsec [7.84 σ]
OotOffset-rm: 0.244 arcsec [3.43 σ]
KicOffset-rm: 0.234 arcsec [3.33 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

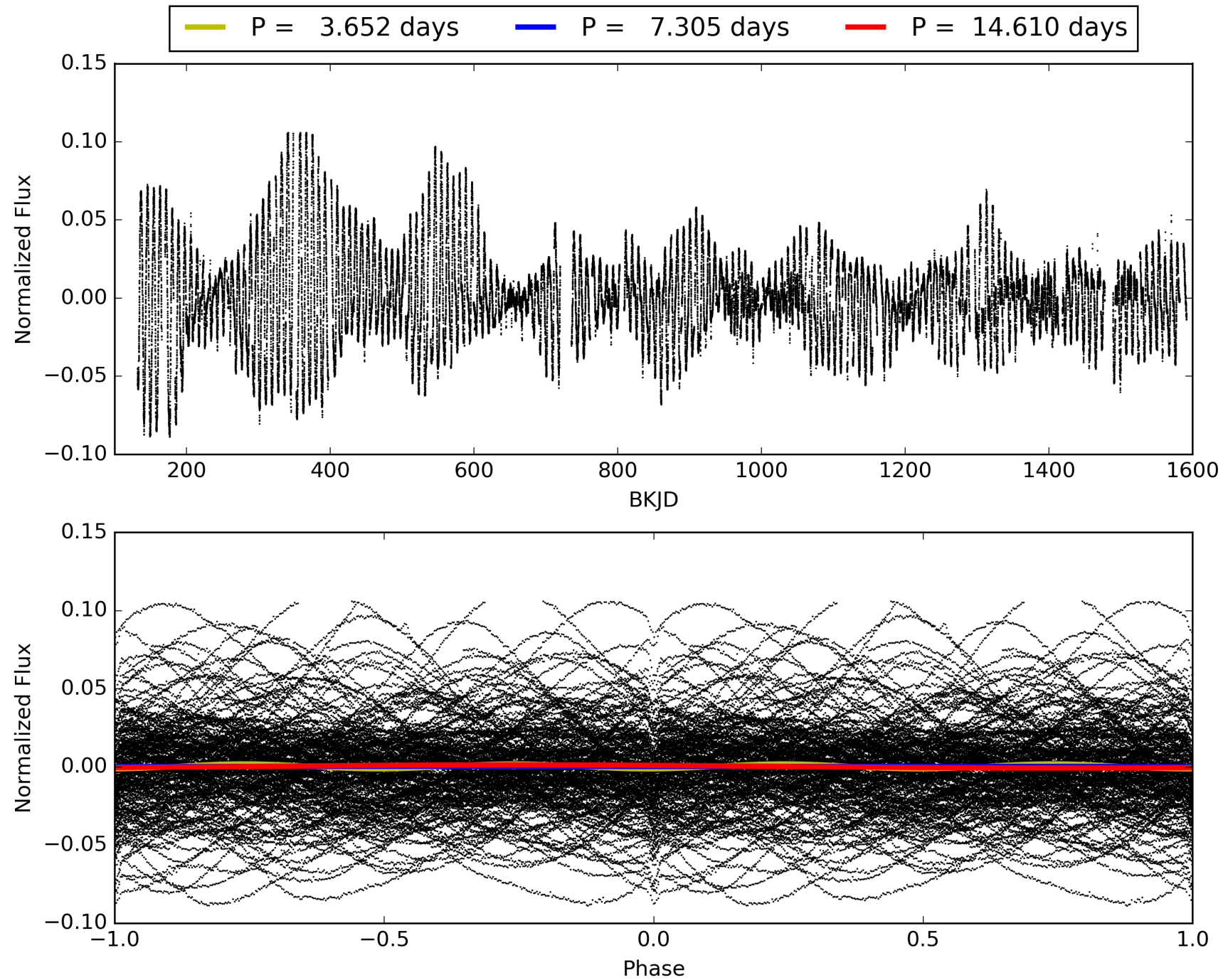
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010068383-01, PDC Light Curves

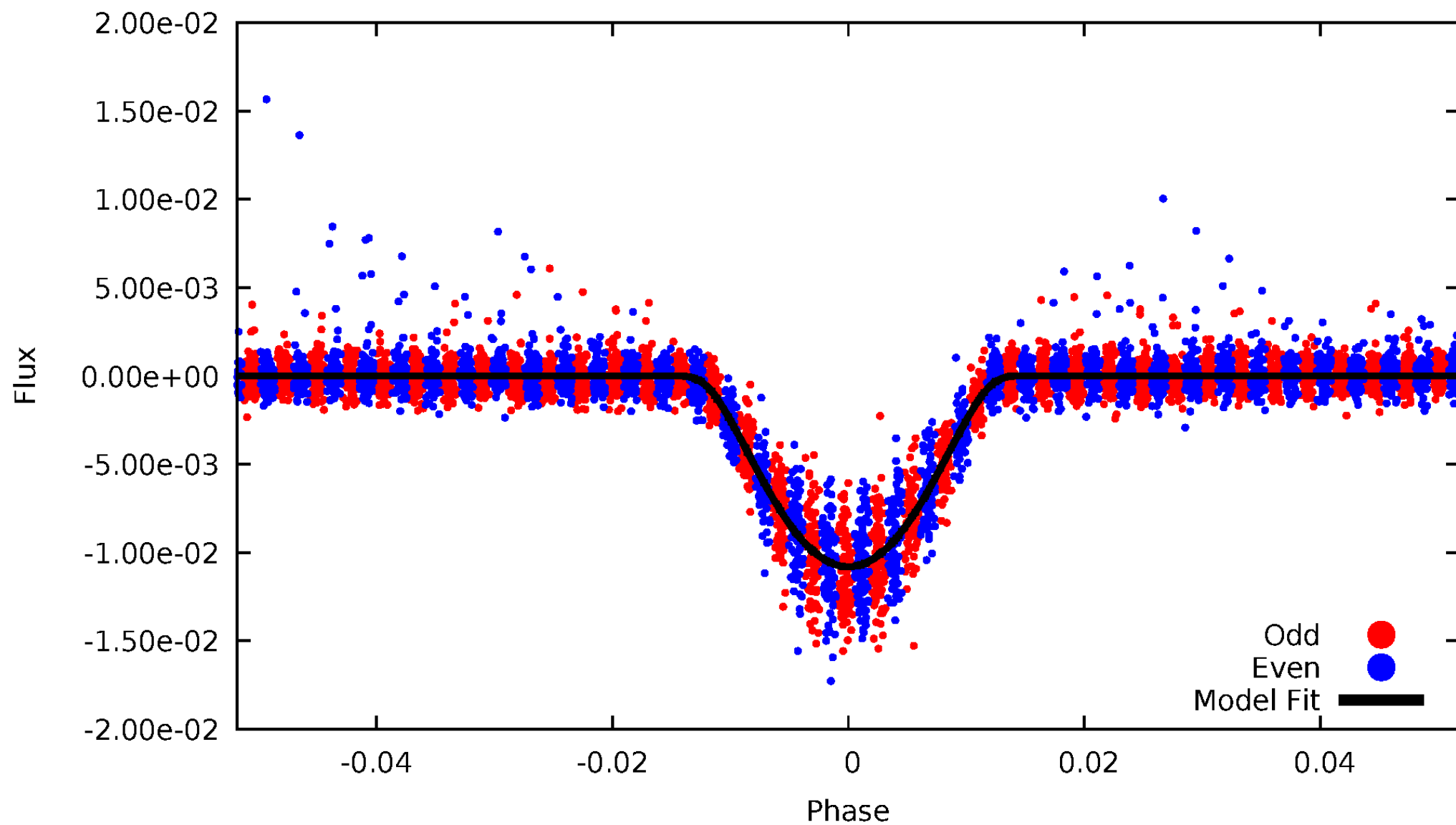


TCE 010068383-01



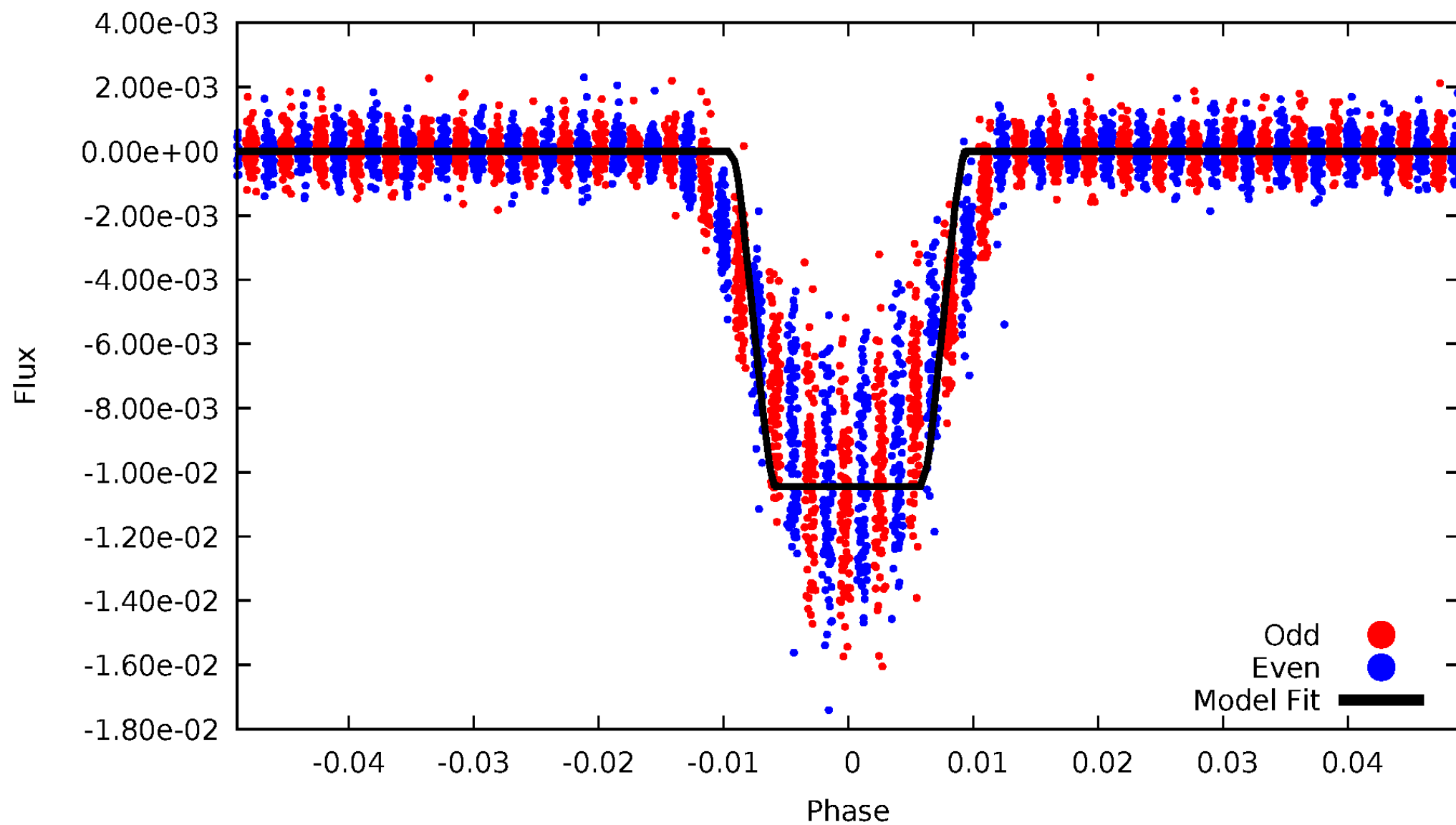
DV Odd/Even

TCE 010068383-01



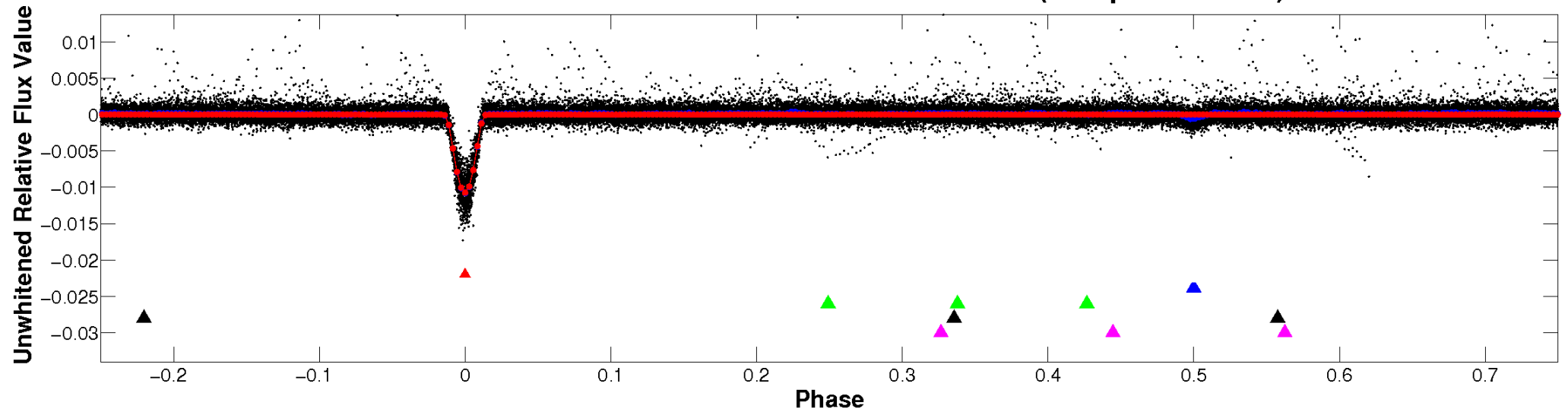
ALT Odd/Even

TCE 010068383-01

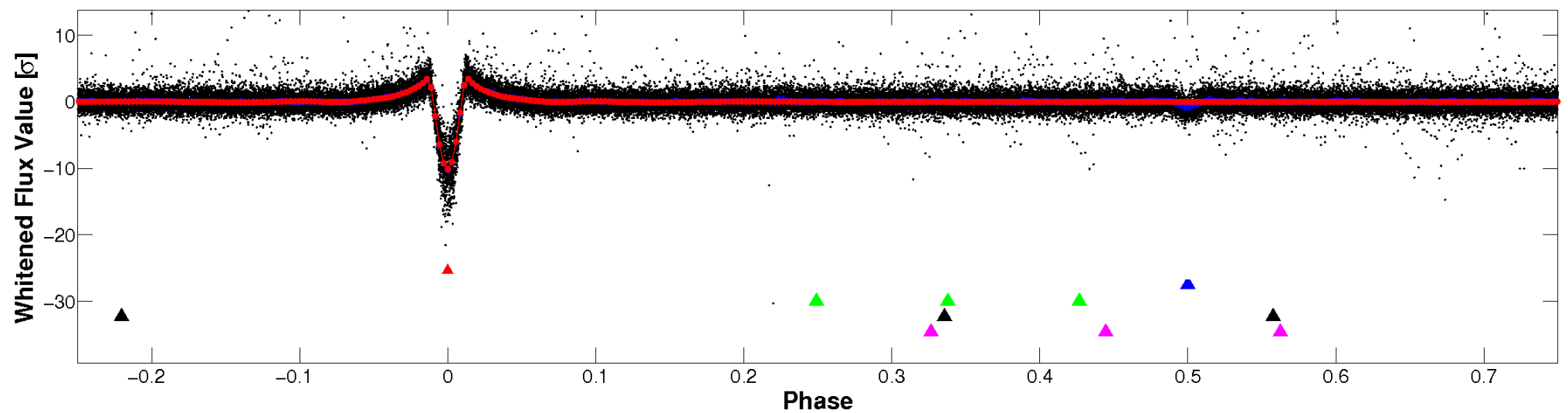


Non-Whitened Vs. Whitened Light Curve

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

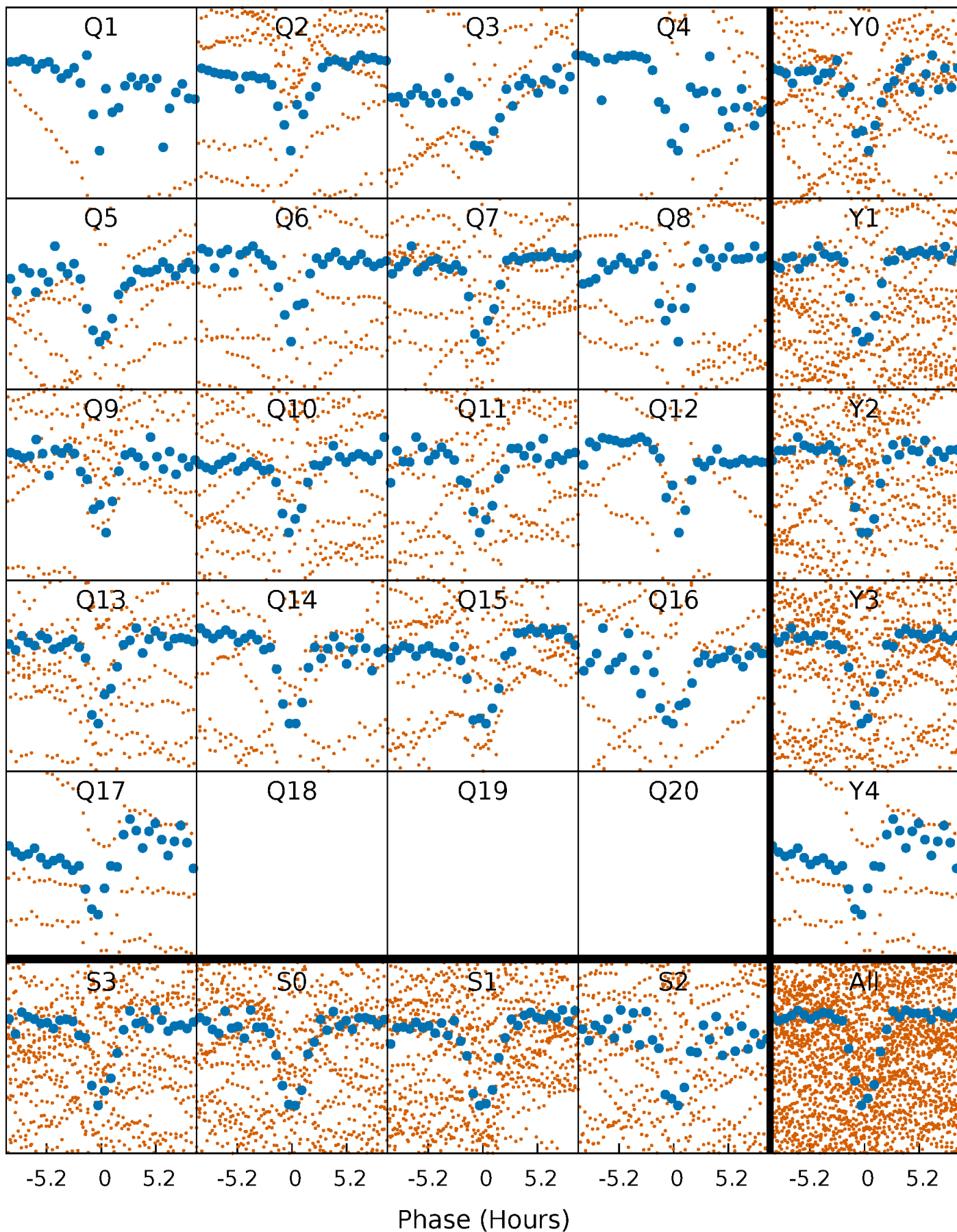


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



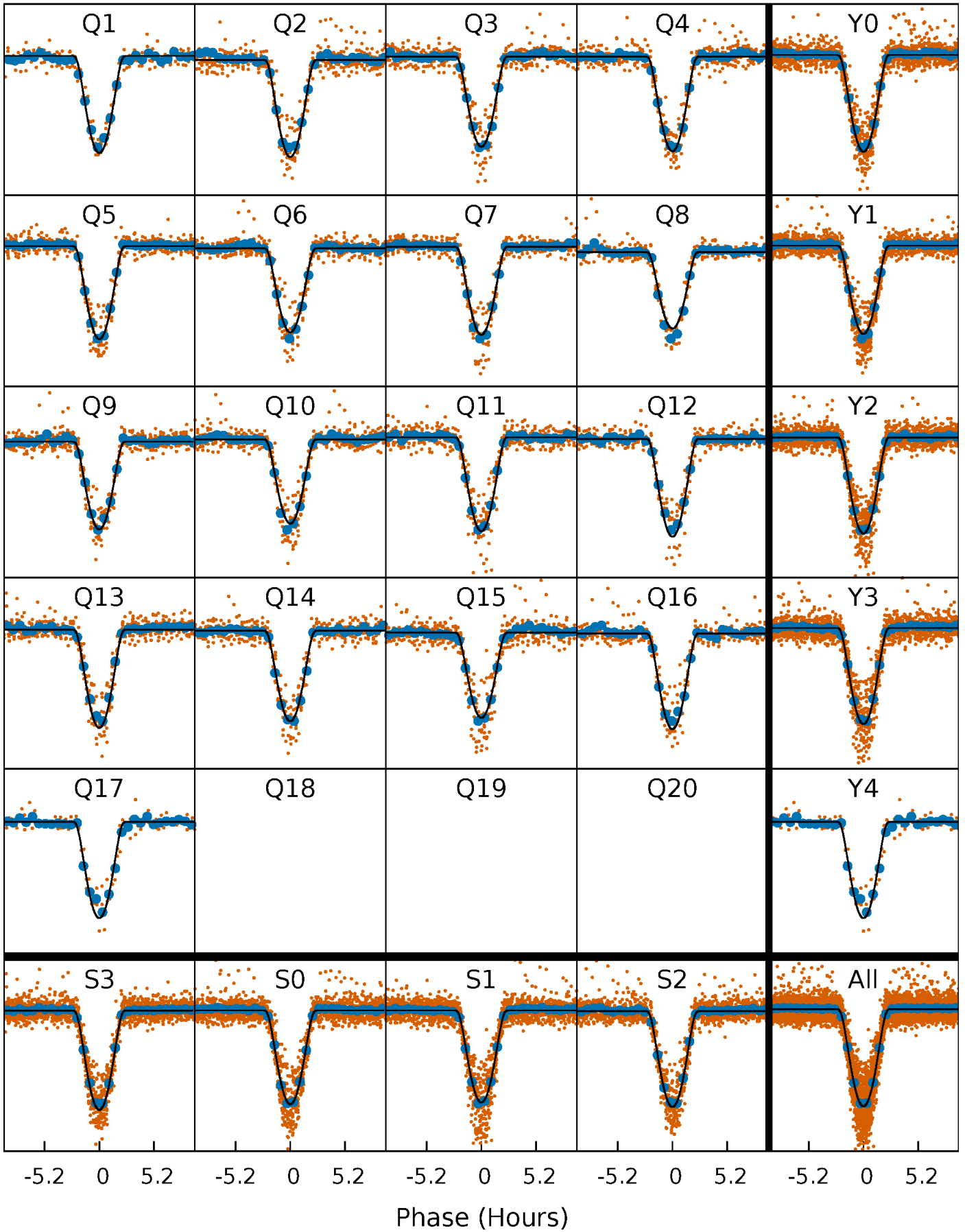
PDC Quarter-Phased Transit Curves

TCE 010068383-01 P= 7.304978 Days $T_0=133.120951$ (BKJD)



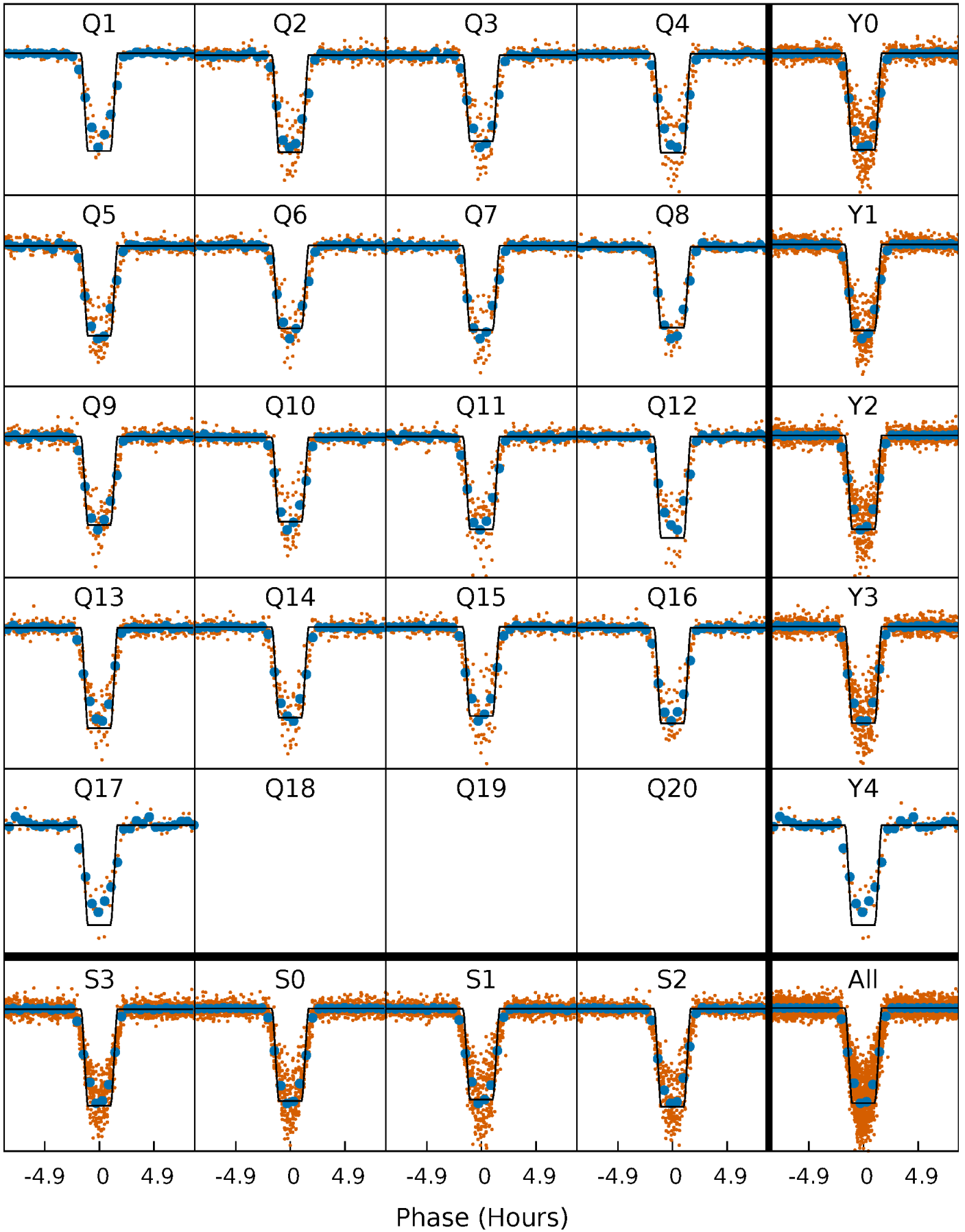
DV Quarter-Phased Transit Curves

TCE 010068383-01 P= 7.304978 Days $T_0=133.120951$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

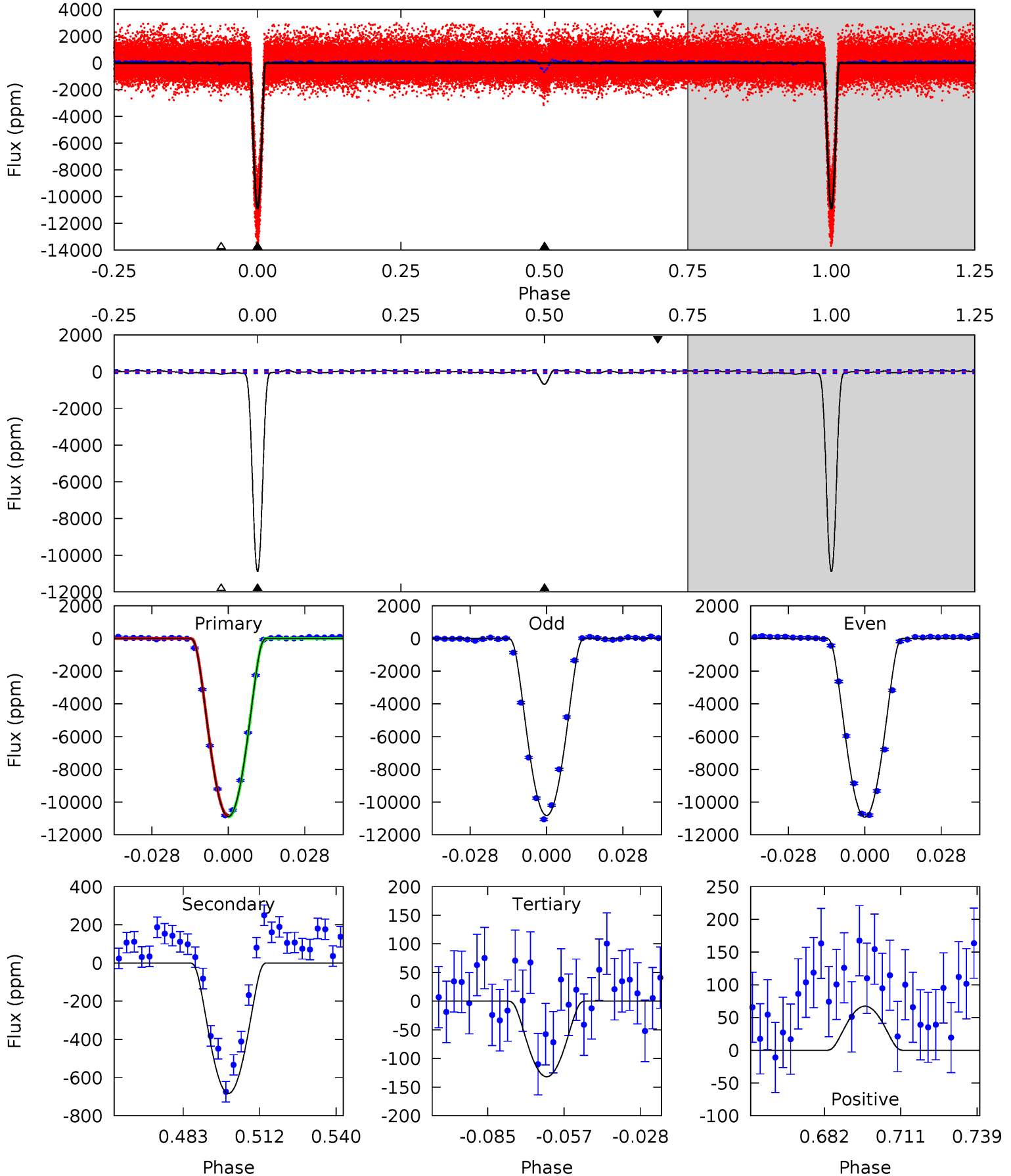
TCE 010068383-01 P= 7.304996 Days $T_0=133.119298$ (BKJD)



DV Model-Shift Uniqueness Test

010068383-01, P = 7.304978 Days, E = 125.815973 Days

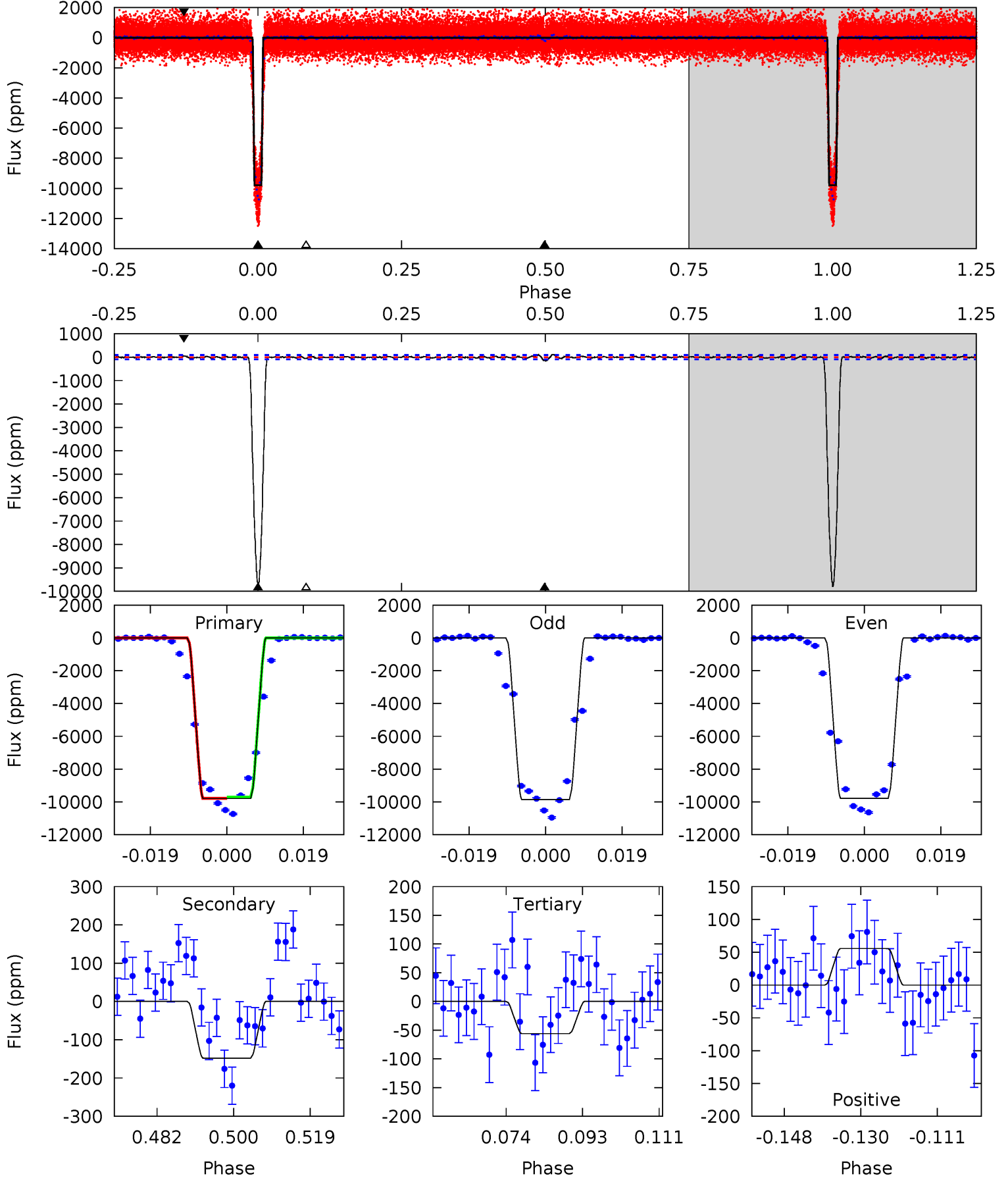
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
614.5	38.6	7.45	3.80	4.82	2.19	2.44	607.0	610.7	31.1	34.8	2.78	1.00	0.01	0



Alt Model-Shift Uniqueness Test

010068383-01, P = 7.304996 Days, E = 125.814302 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
524.9	7.93	3.01	2.99	4.91	2.35	0.98	521.9	522.0	4.92	4.94	2.07	1.00	0.01	2.17



Stellar Parameters For KIC 010068383

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5247^{+158}_{-158}	$4.609^{+0.032}_{-0.097}$	$-0.200^{+0.300}_{-0.300}$	$0.744^{+0.112}_{-0.060}$	$0.833^{+0.069}_{-0.095}$	$2.848^{+0.488}_{-0.825}$
	+3%/-3%	+1%/-2%	+150%/-150%	+15%/-8%	+8%/-11%	+17%/-29%
Source	PHO1	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 010068383-01 / KOI 0725.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-683 ± 18	$11.54^{+1.16}_{-0.86}$	1076^{+44}_{-36}	2936^{+73}_{-76}	13^{+2}_{-2}
Alt.	-148 ± 19	$8.46^{+0.93}_{-0.75}$	1075^{+44}_{-41}	2587^{+86}_{-77}	$5.331^{+1.279}_{-1.120}$

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

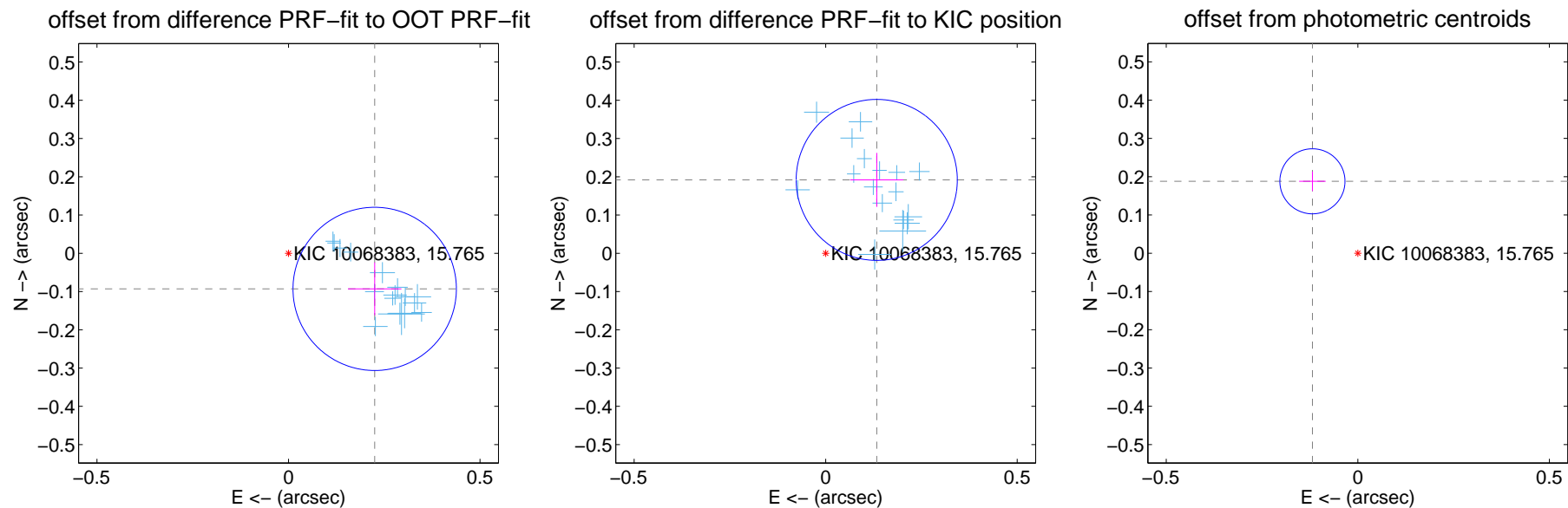
DV Centroid Data

Supplemental centroid analysis for 010068383-01. Kepler magnitude: 15.77. Transit SNR 245.82

There are 17 quarters with good PRF difference image offsets

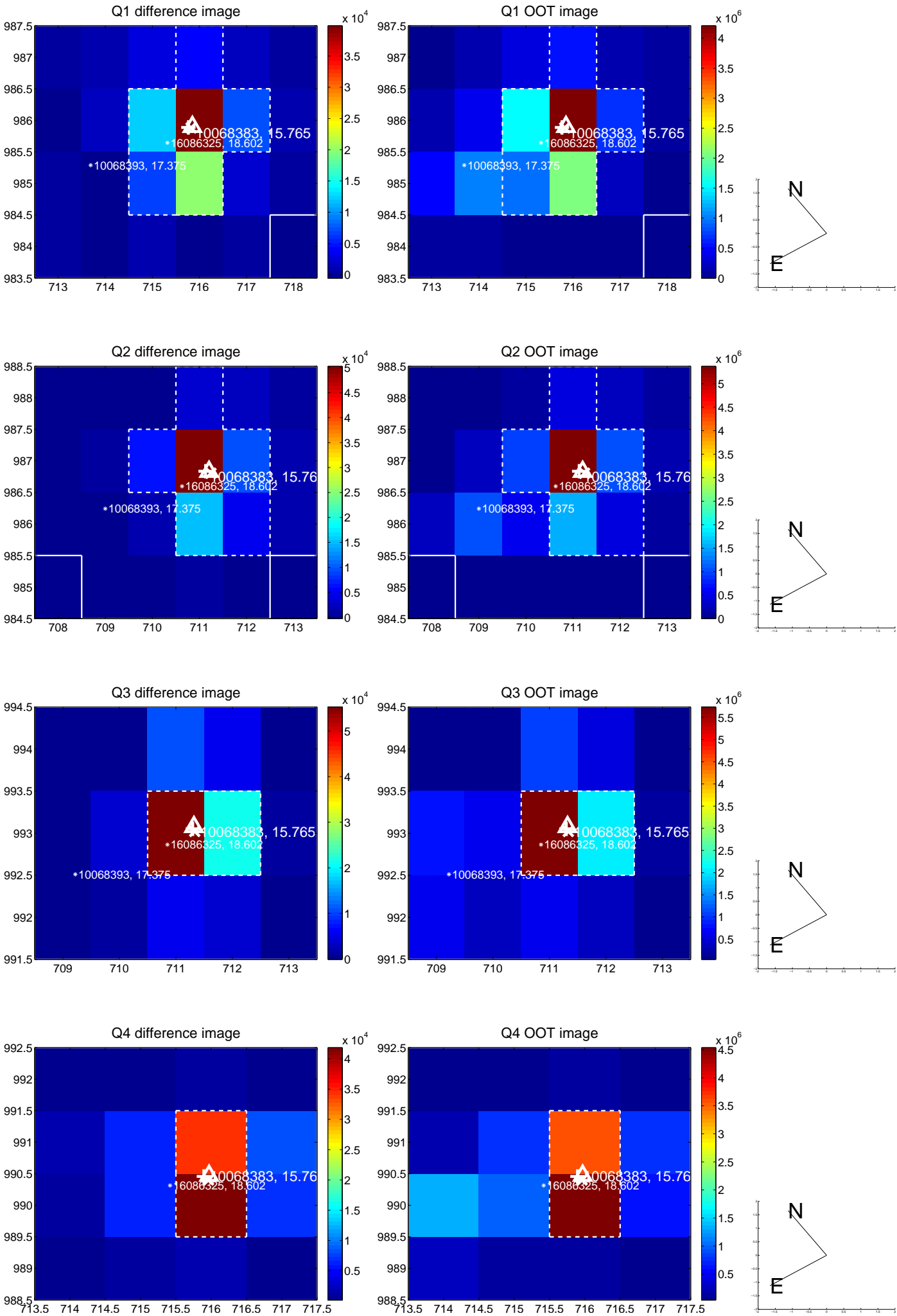
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.244 ± 0.071	3.43	-0.225 ± 0.070	-0.093 ± 0.069
PRF-fit source offset from KIC position	0.234 ± 0.070	3.33	-0.133 ± 0.069	0.192 ± 0.071
photometric centroid source offset	0.22 ± 0.03	7.84	0.12 ± 0.03	0.19 ± 0.03

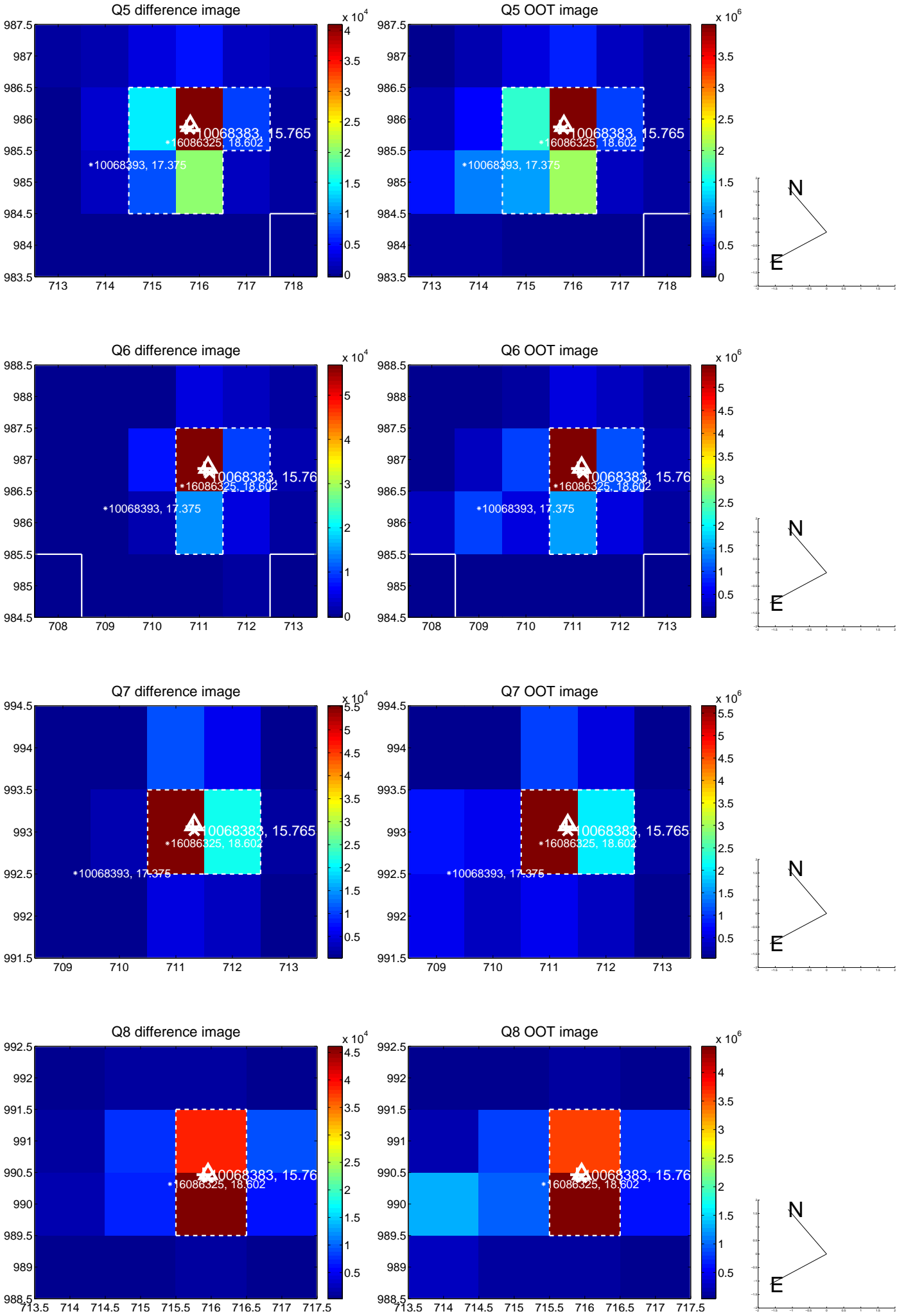


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

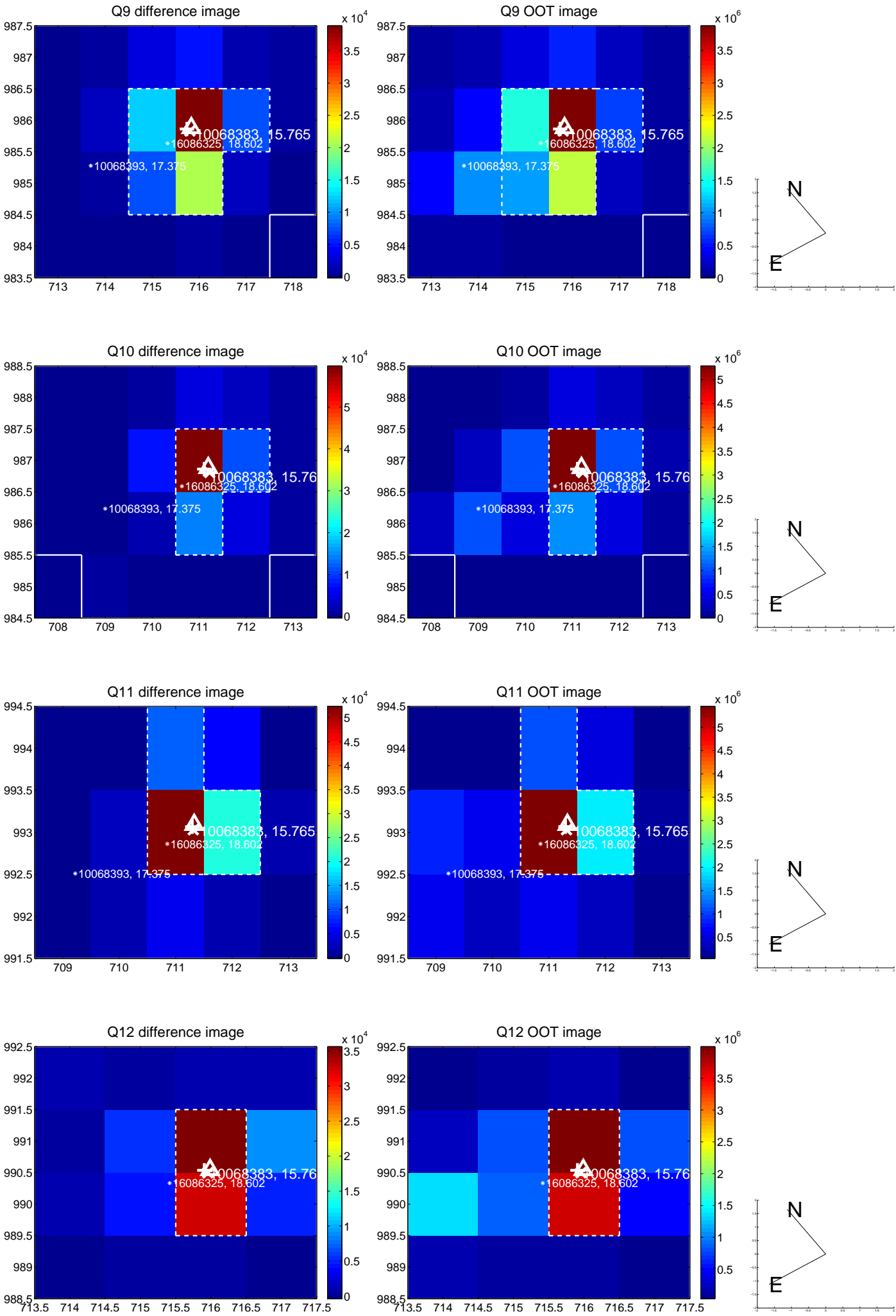
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



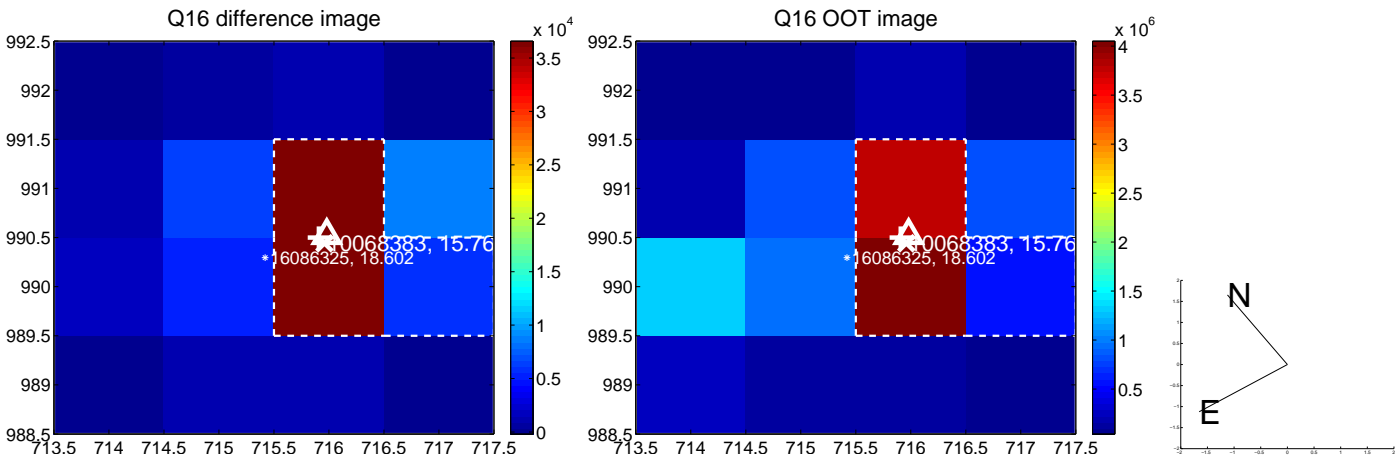
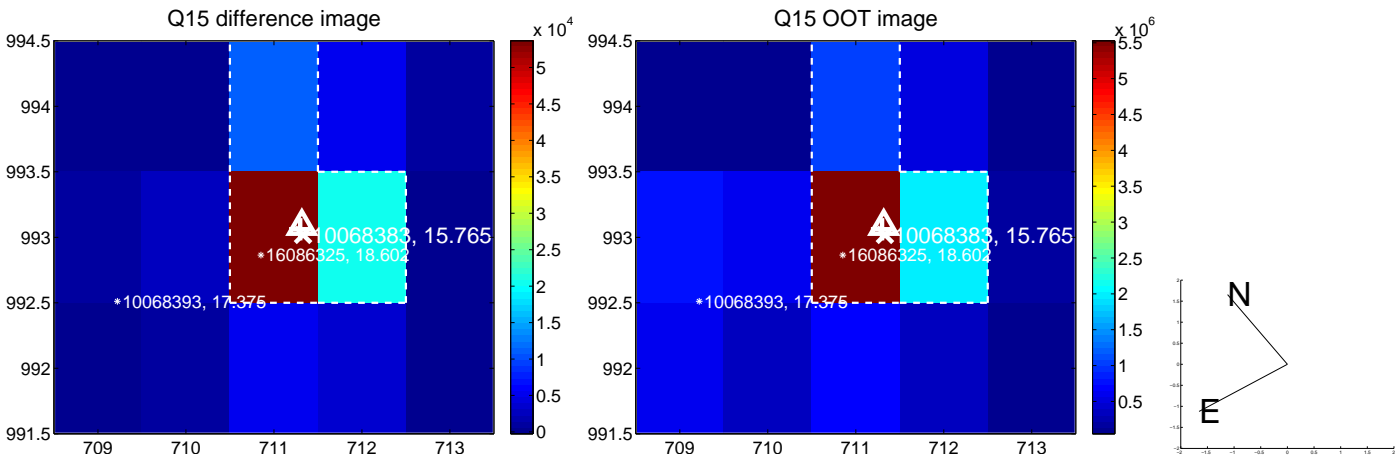
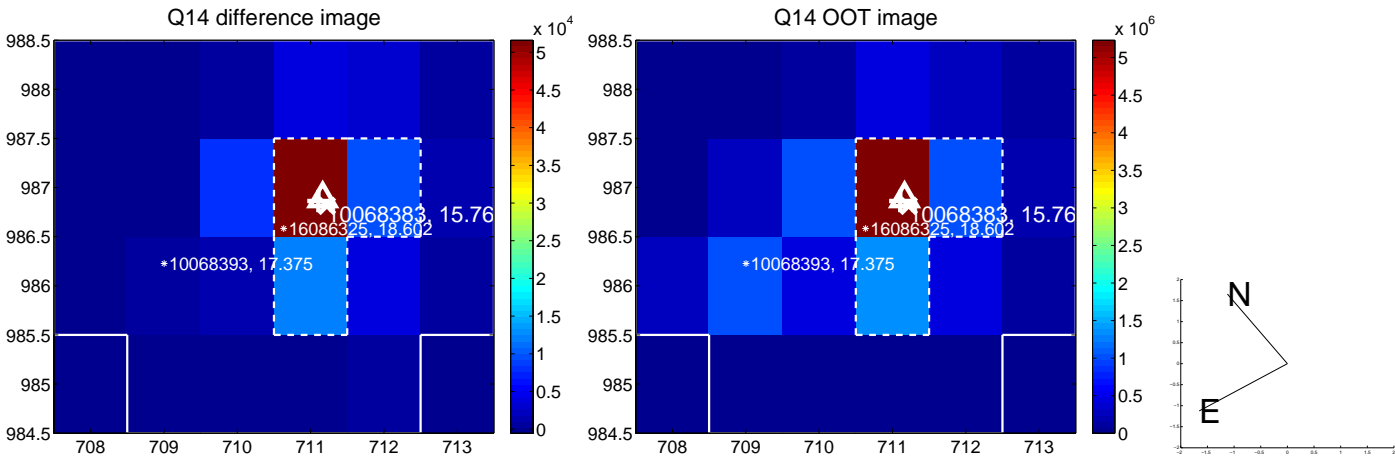
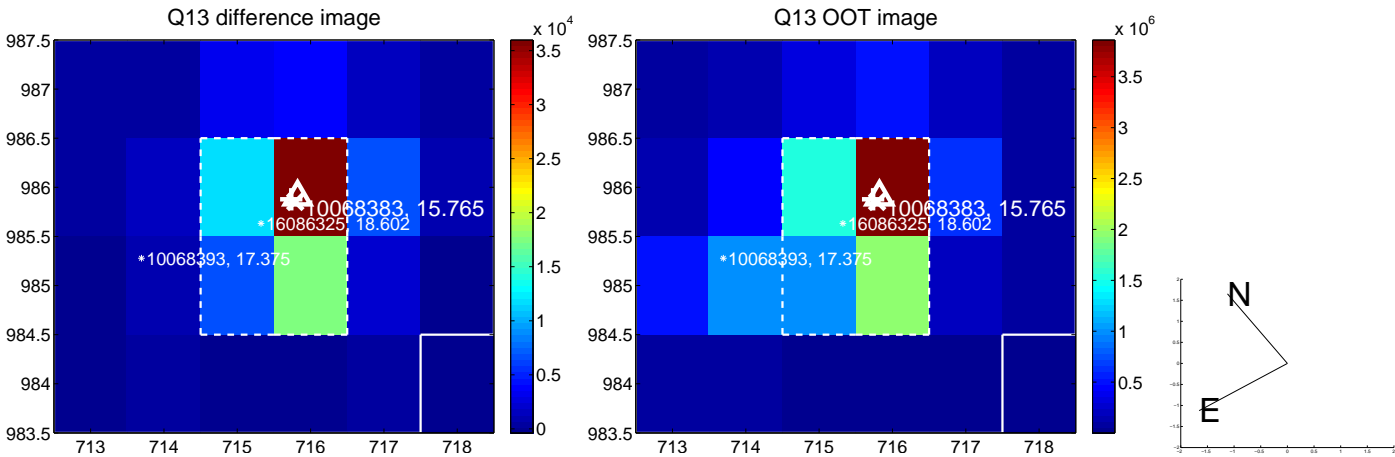
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

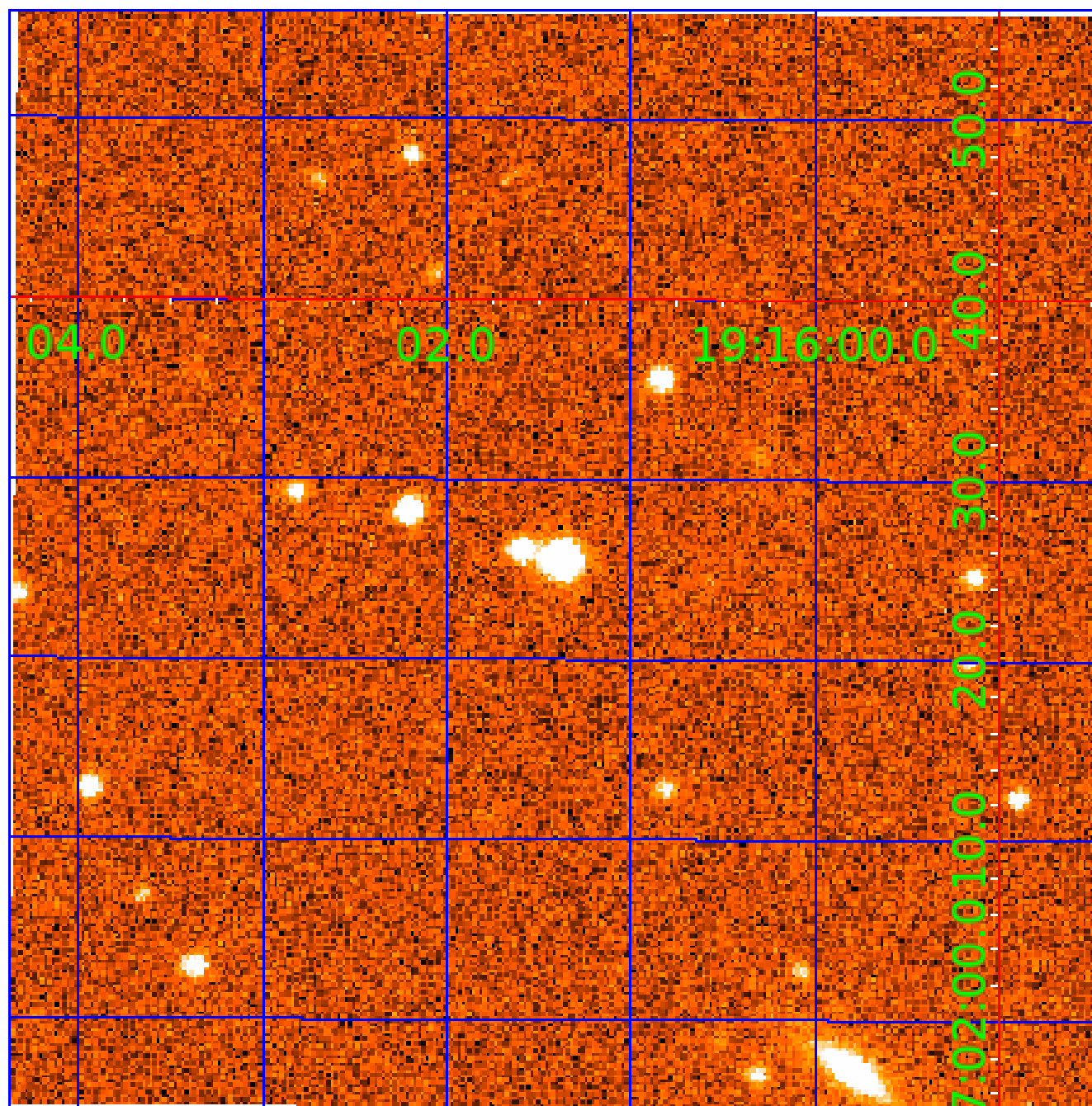


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010068383

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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010068383-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
010068383-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010068383-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS

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 010068383-02

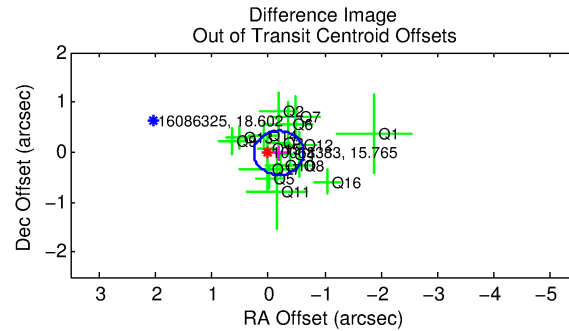
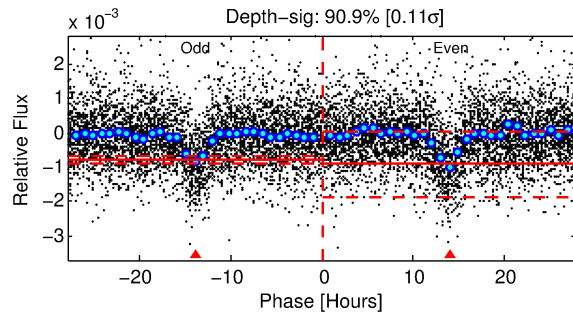
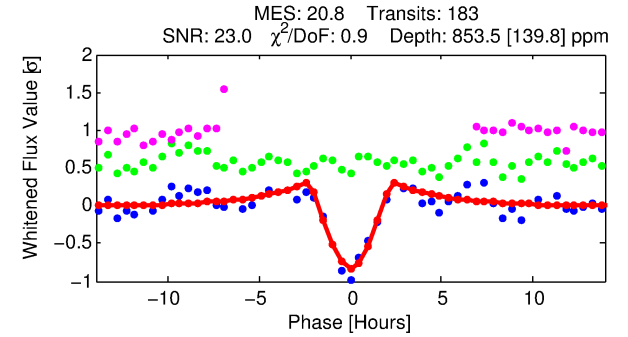
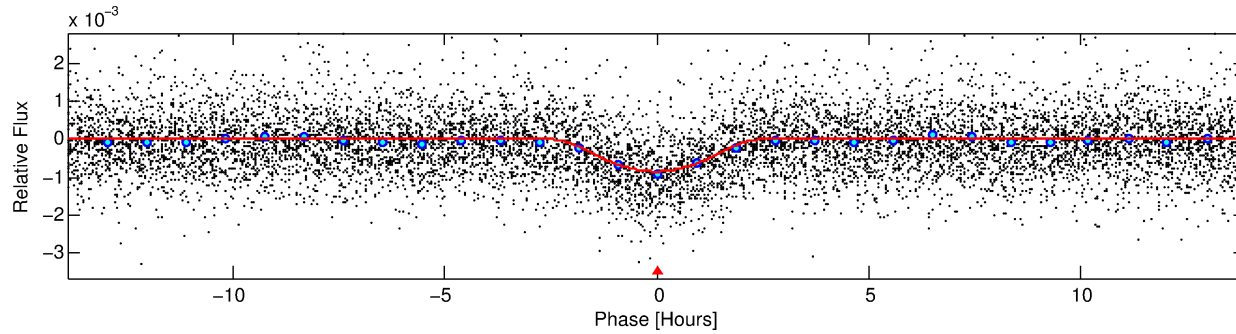
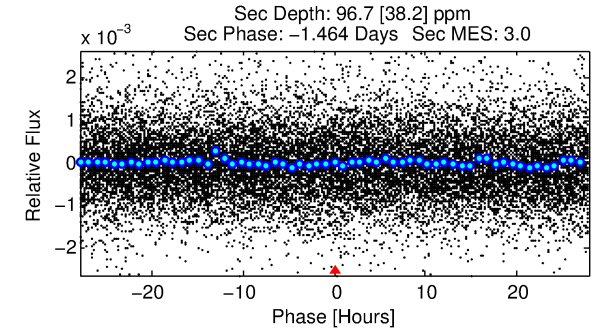
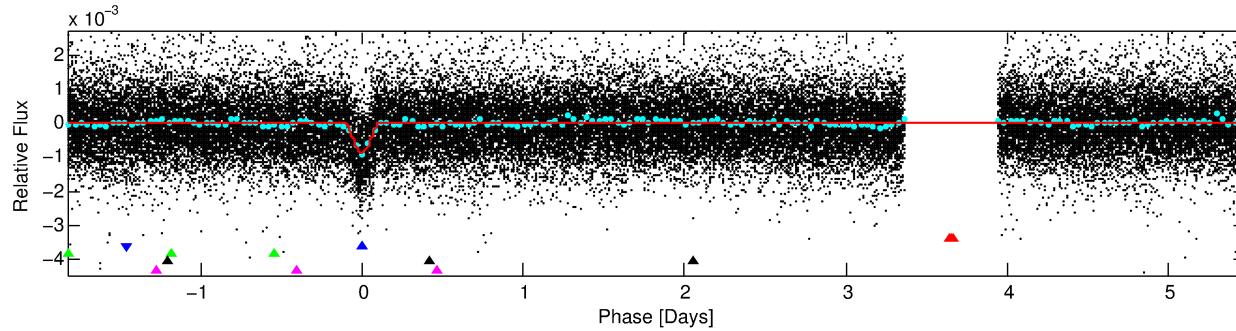
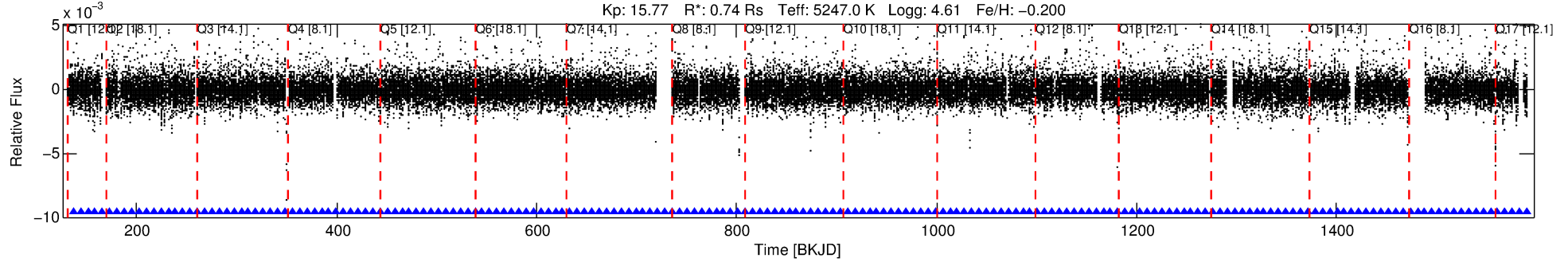
No Significant Match Found

DV One-Page Summary

KIC: 10068383 Candidate: 2 of 5 Period: 7.305 d

KOI: K00725 Corr: No Ephemeris Match

Kp: 15.77 R*: 0.74 Rs Teff: 5247.0 K Logg: 4.61 Fe/H: -0.200



DV Fit Results:

Period = 7.30489 [0.00003] d
Epoch = 136.7829 [0.0036] BKJD
Rp/R* = 0.0538 [0.0683]
a/R* = 4.14 [1.15]
b = 1.00 [0.10]
Seff = 78.97 [17.07]
Teq = 760 [41] K
Rp = 4.37 [5.58] Re
a = 0.0690 [0.0086] AU
Ag = 13.28 [34.21] [0.36σ]
Teffp = 2244 [1443] K [1.03σ]

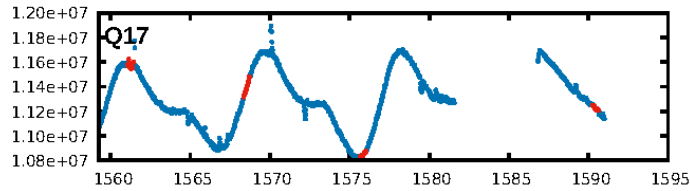
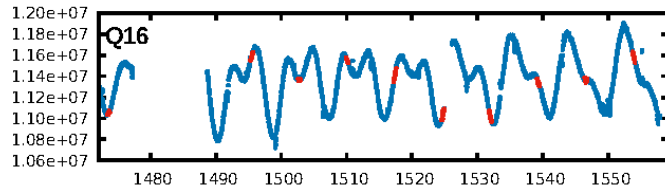
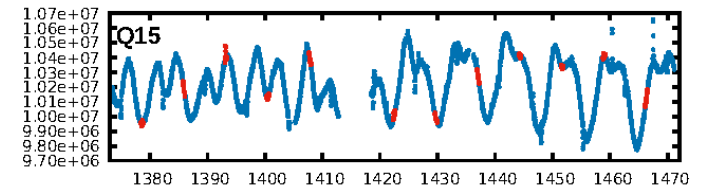
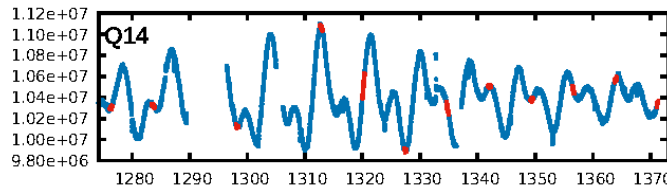
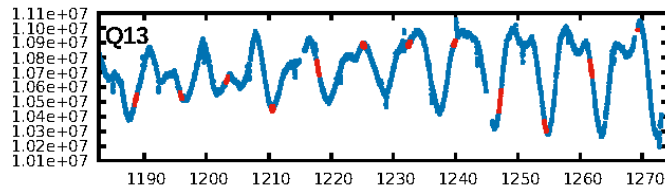
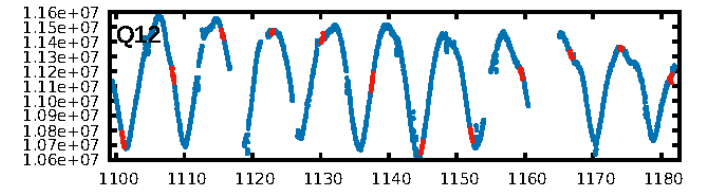
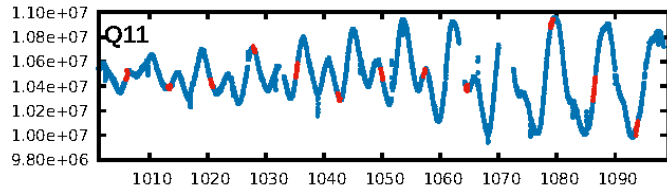
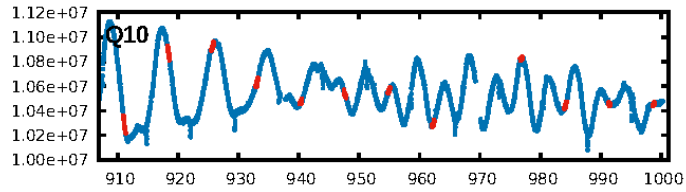
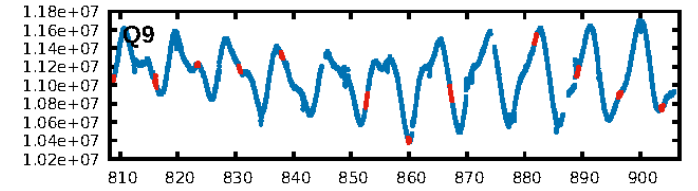
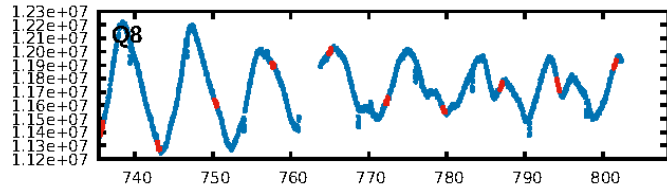
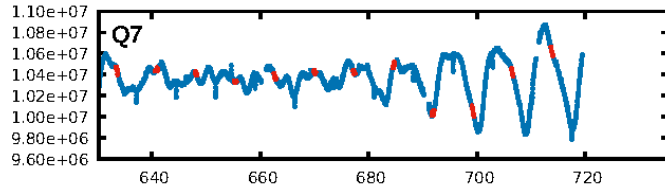
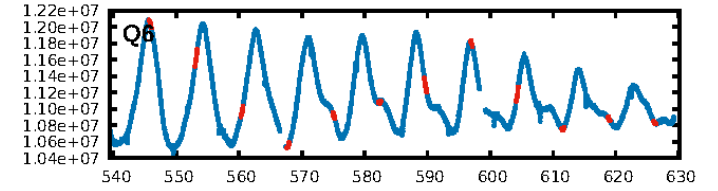
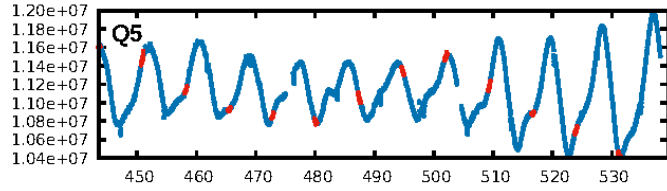
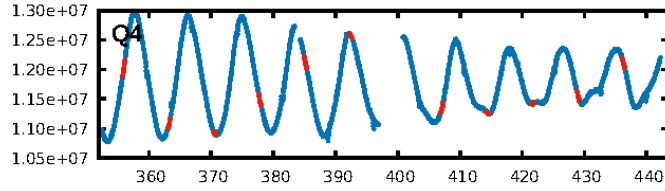
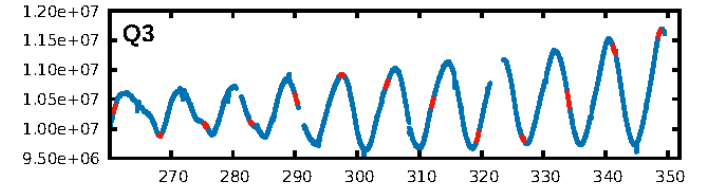
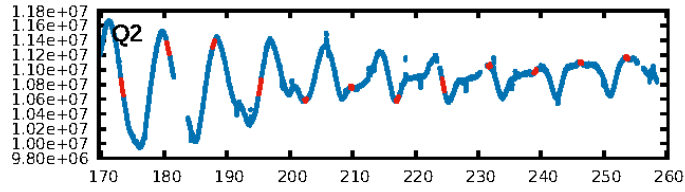
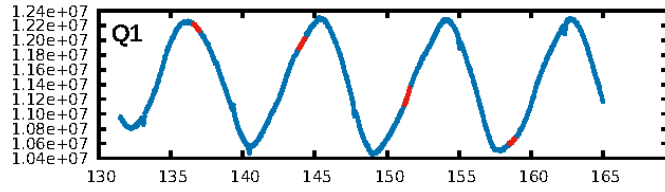
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 99.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [175/175]
GhostDiagnostic-chr: 5.405
Centroid-sig: 5.1%
Centroid-so: 0.389 arcsec [0.90σ]
OotOffset-rm: 0.187 arcsec [1.27σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.279 arcsec [2.13σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

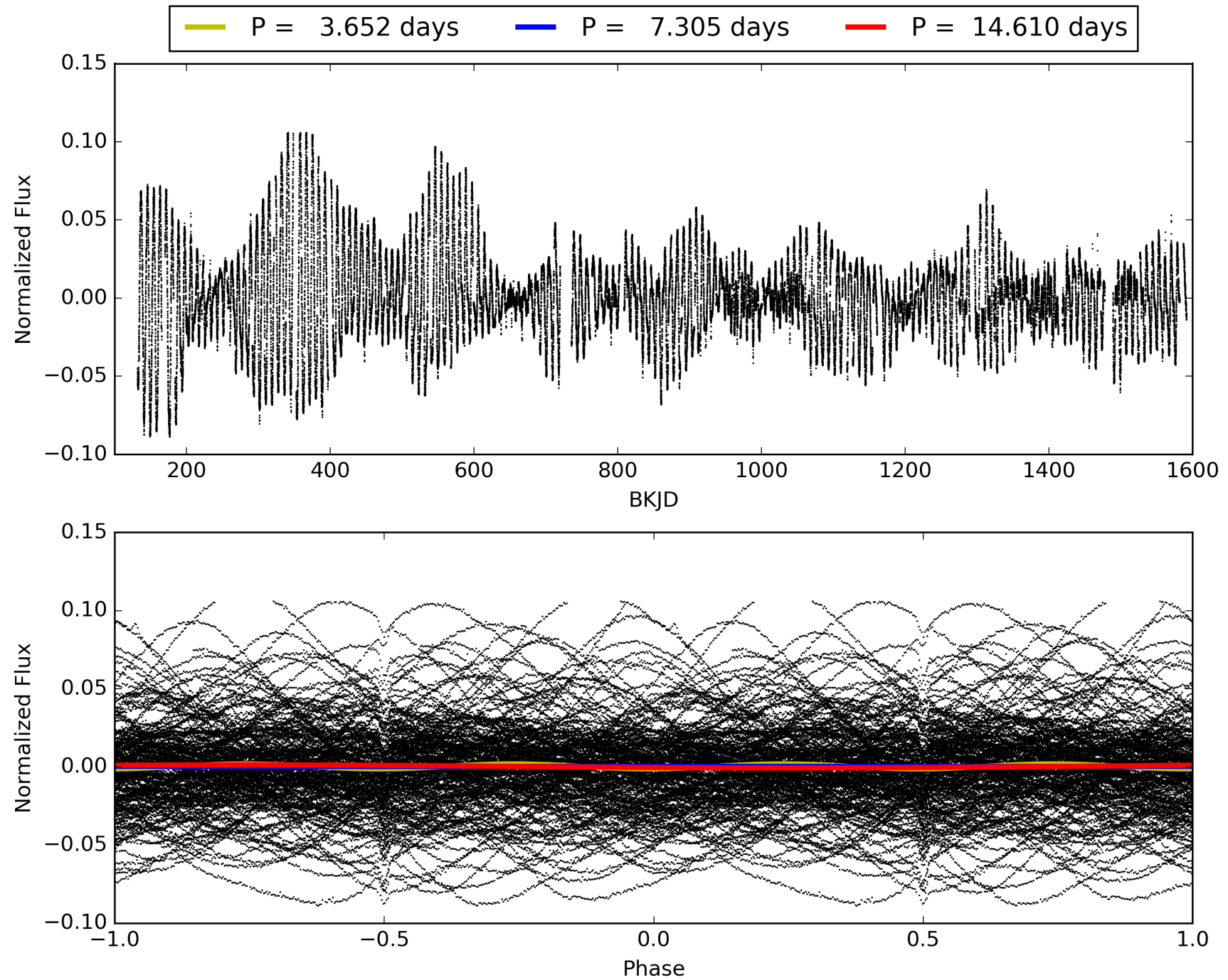
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:10:58 Z

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

TCE 010068383-02, PDC Light Curves

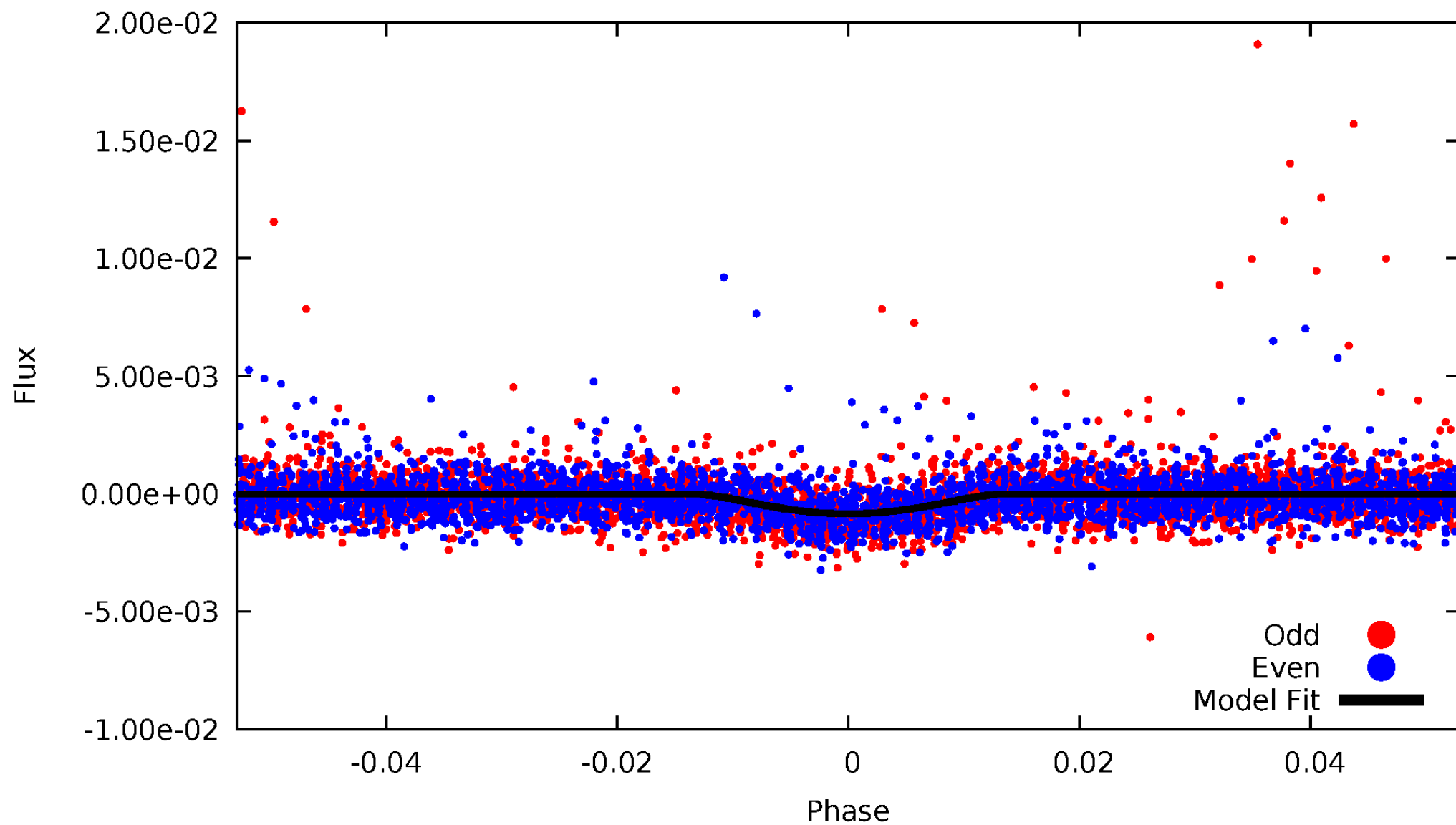


TCE 010068383-02



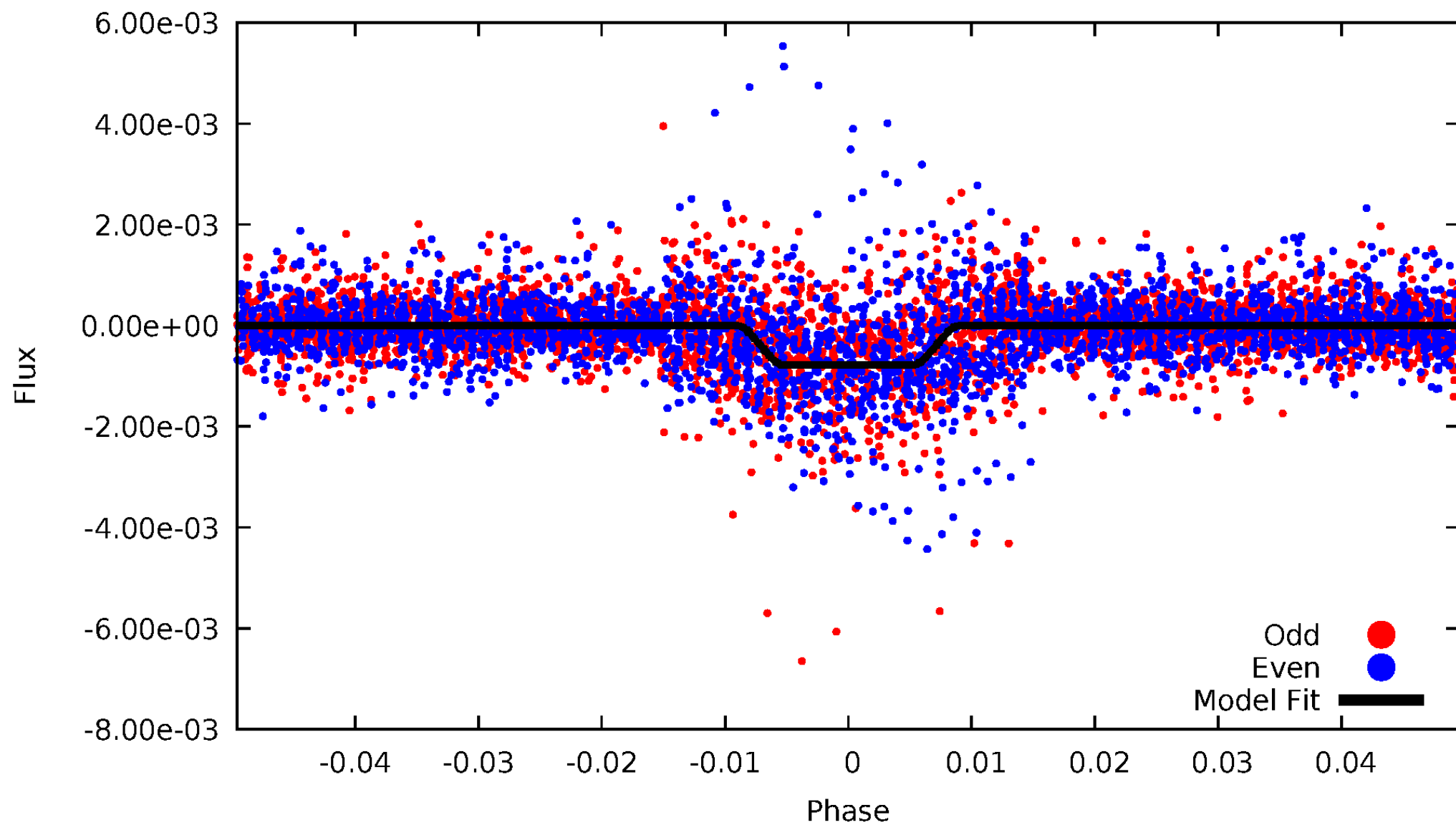
DV Odd/Even

TCE 010068383-02



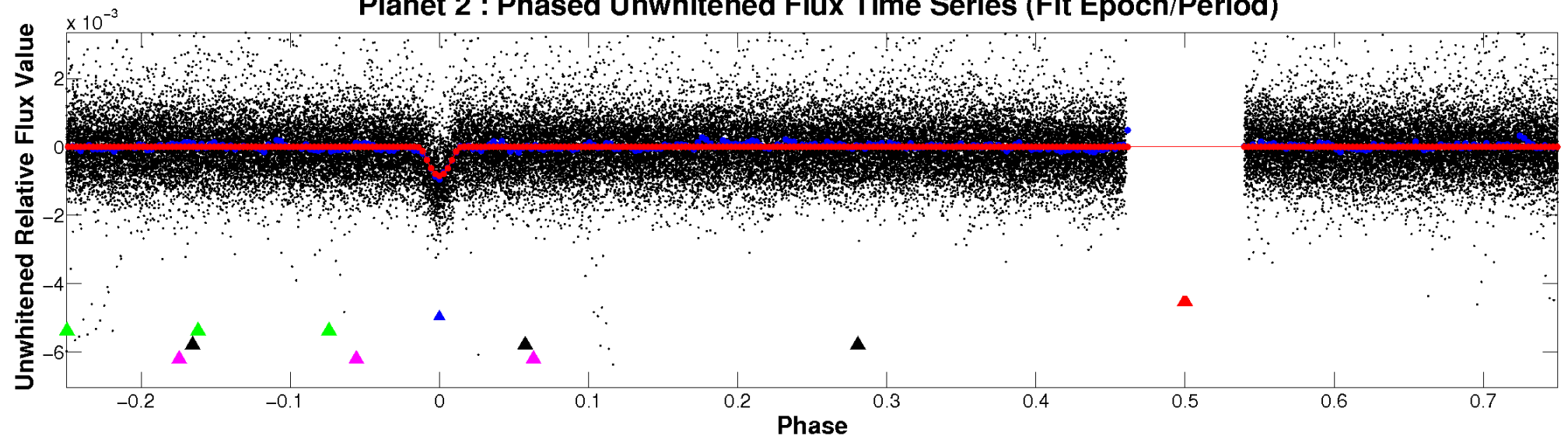
ALT Odd/Even

TCE 010068383-02

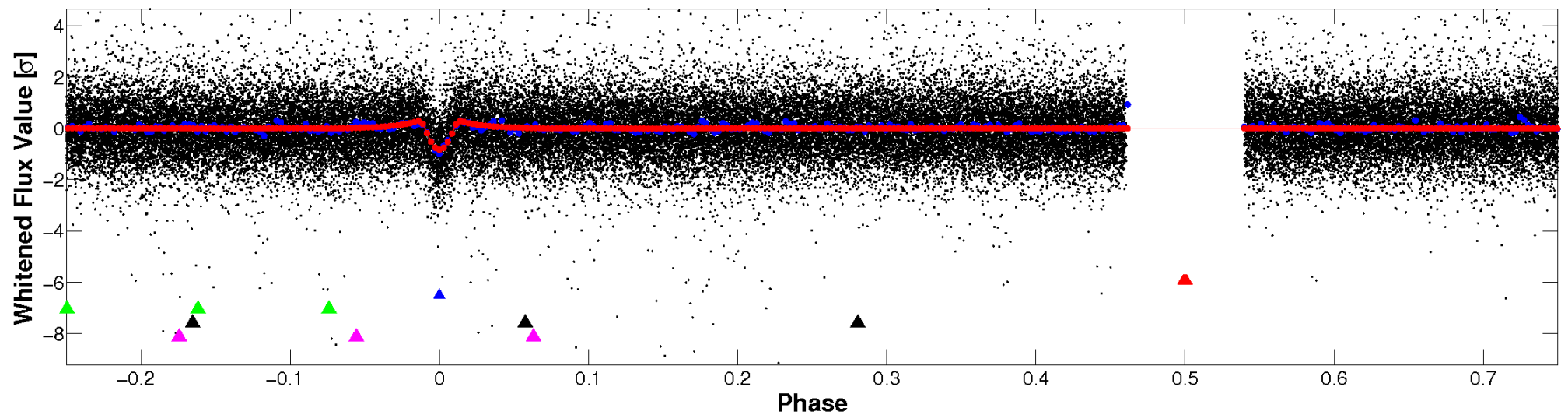


Non-Whitened Vs. Whitened Light Curve

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

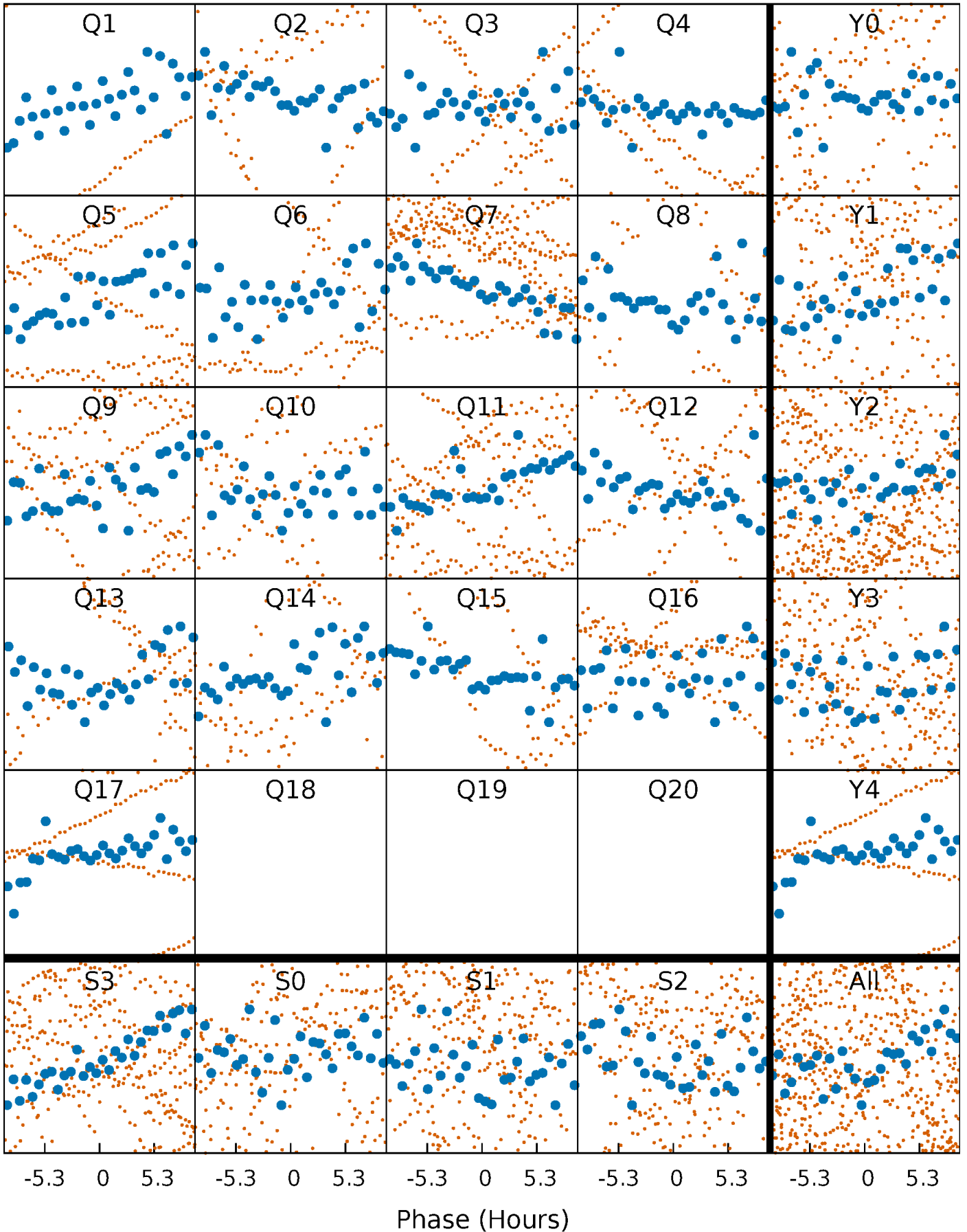


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



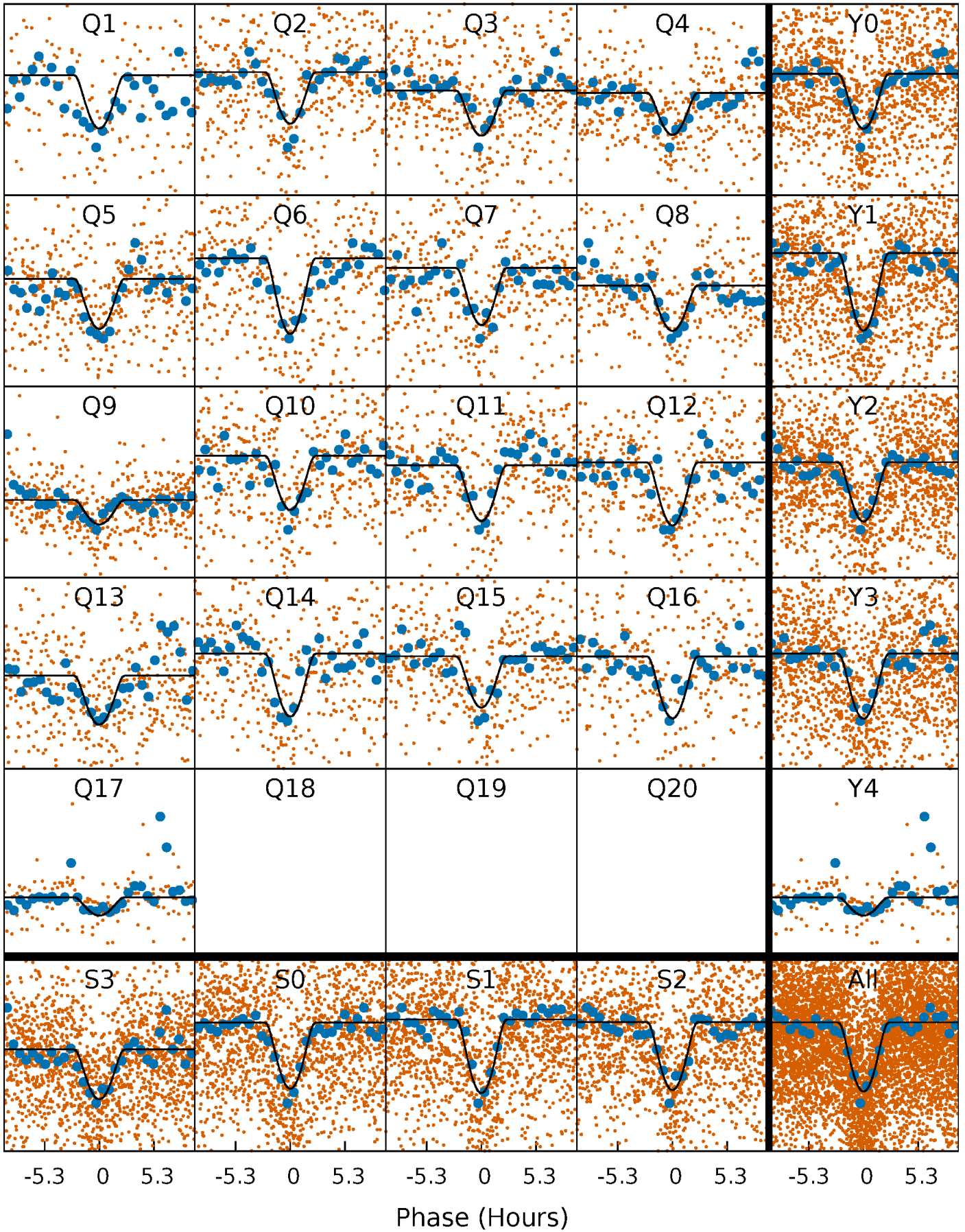
PDC Quarter-Phased Transit Curves

TCE 010068383-02 P= 7.304885 Days $T_0=136.782889$ (BKJD)



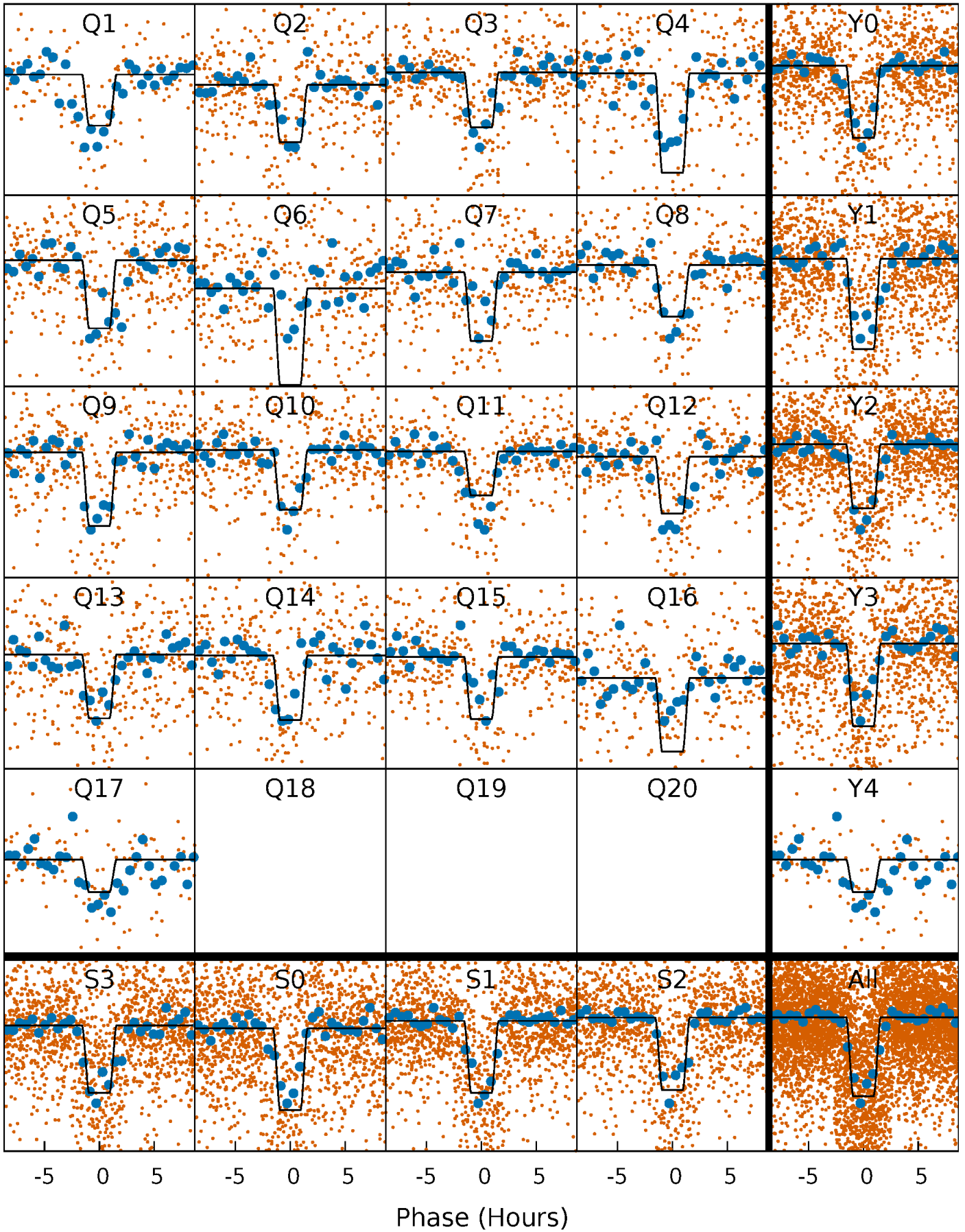
DV Quarter-Phased Transit Curves

TCE 010068383-02 P= 7.304885 Days $T_0=136.782889$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

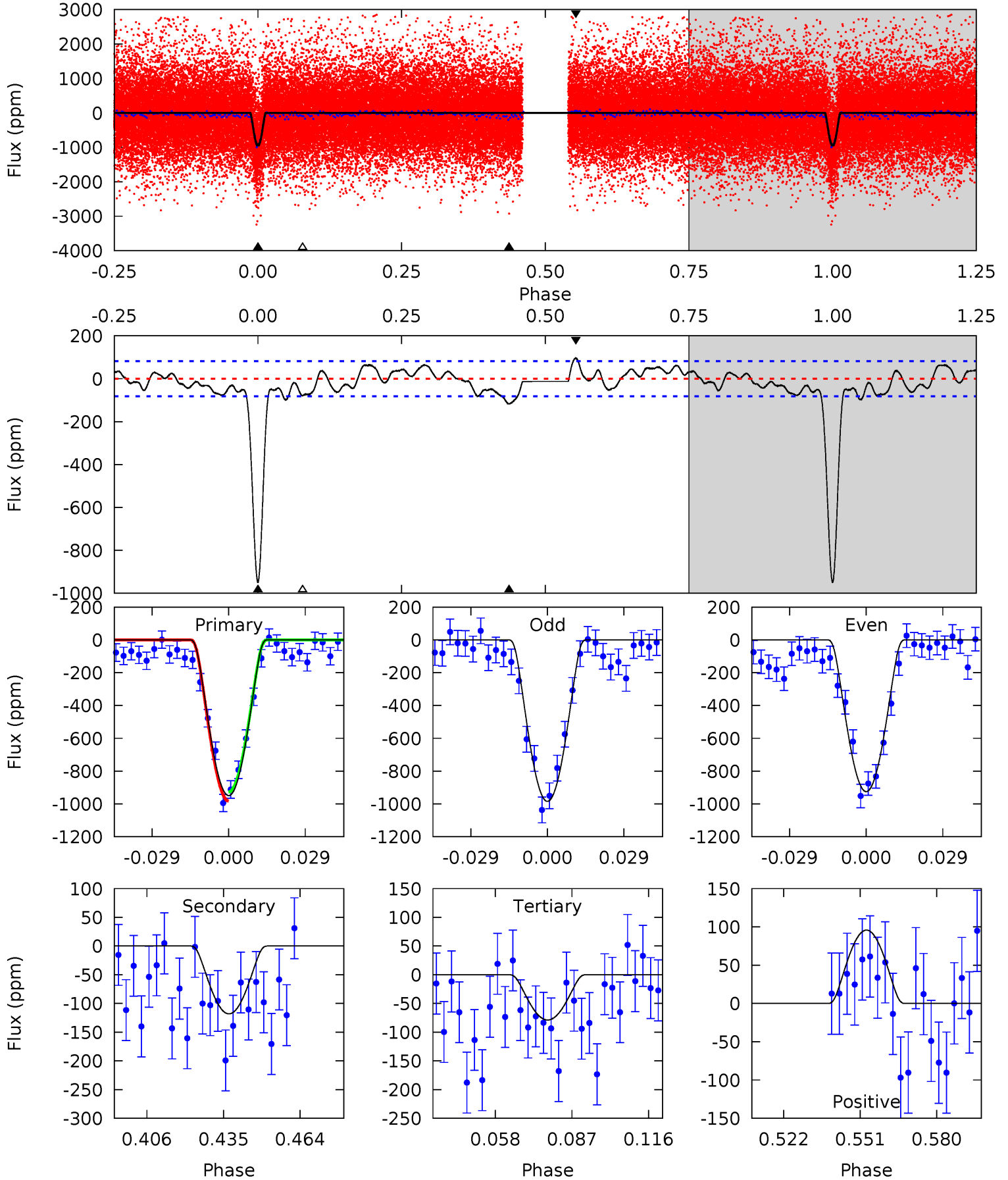
TCE 010068383-02 $P = 7.304878$ Days $T_0 = 136.784977$ (BKJD)



DV Model-Shift Uniqueness Test

010068383-02, P = 7.304885 Days, E = 129.478004 Days

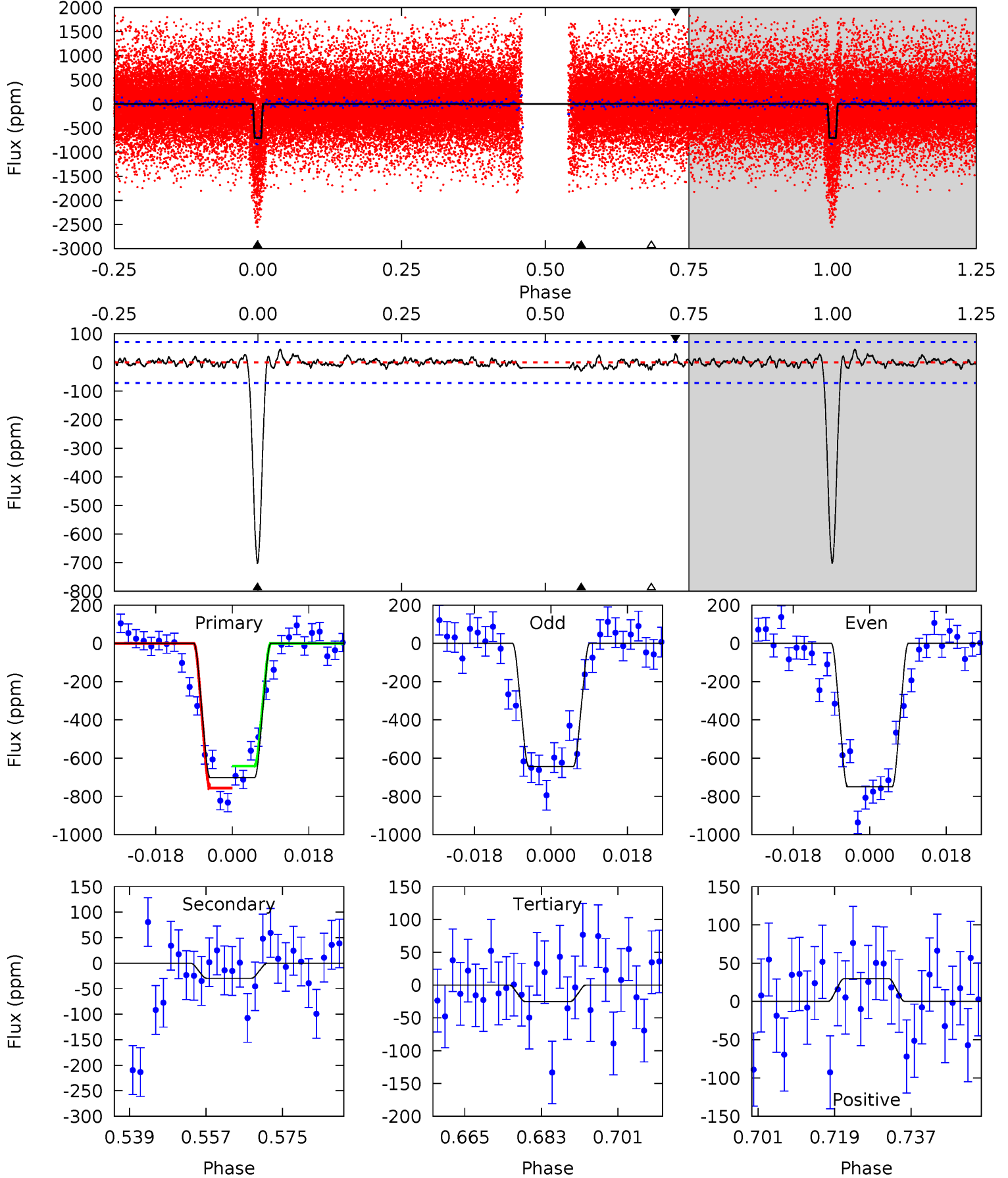
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
55.8	6.94	4.63	5.63	4.82	2.18	2.46	51.2	50.2	2.31	1.31	1.77	0.89	0.09	1.65



Alt Model-Shift Uniqueness Test

010068383-02, P = 7.304878 Days, E = 129.480099 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.0	2.03	1.73	2.04	4.91	2.37	0.74	46.3	46.0	0.29	-0.01	3.64	1.02	0.06	3.98



Stellar Parameters For KIC 010068383

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5247^{+158}_{-158}	$4.609^{+0.032}_{-0.097}$	$-0.200^{+0.300}_{-0.300}$	$0.744^{+0.112}_{-0.060}$	$0.833^{+0.069}_{-0.095}$	$2.848^{+0.488}_{-0.825}$
	+3%/-3%	+1%/-2%	+150%/-150%	+15%/-8%	+8%/-11%	+17%/-29%
Source	PHO1	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 010068383-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-118 ± 17	$5.99^{+5.13}_{-4.18}$	1078^{+47}_{-43}	2770^{+1202}_{-425}	$8.547^{+83.375}_{-6.062}$
Alt.	-30 ± 15	$4.67^{+4.47}_{-3.13}$	1076^{+44}_{-43}	2427^{+915}_{-515}	$3.168^{+27.234}_{-2.540}$

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

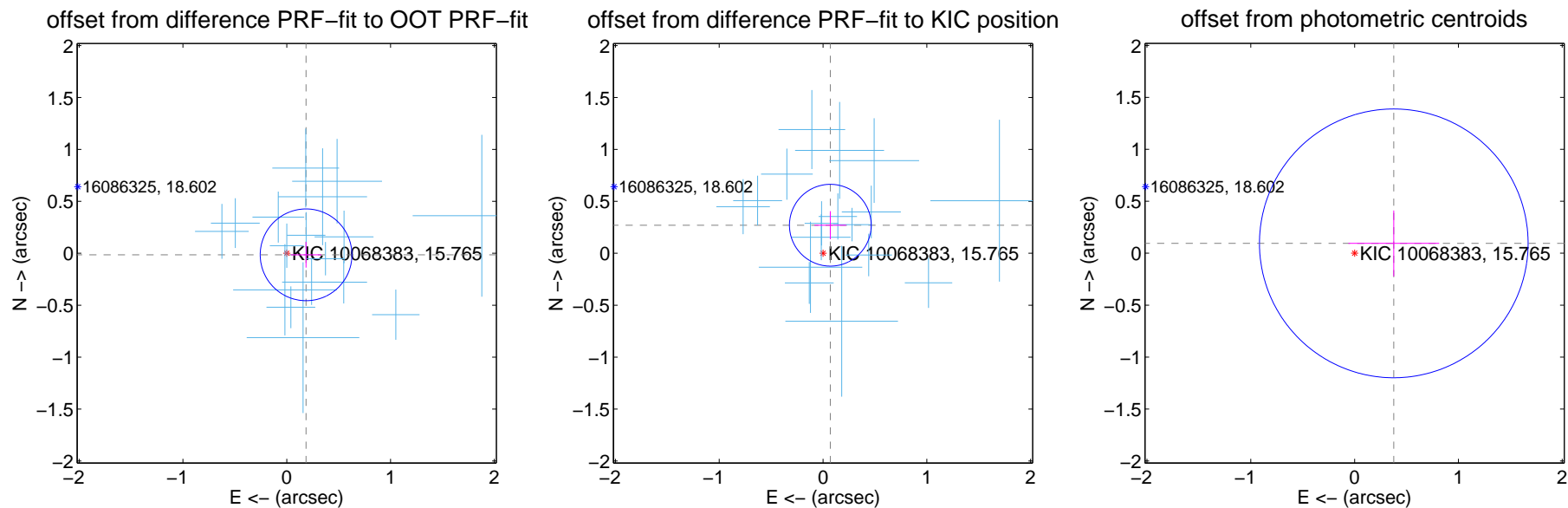
DV Centroid Data

Supplemental centroid analysis for 010068383-02. Kepler magnitude: 15.77. Transit SNR 22.99

There are 17 quarters with good PRF difference image offsets

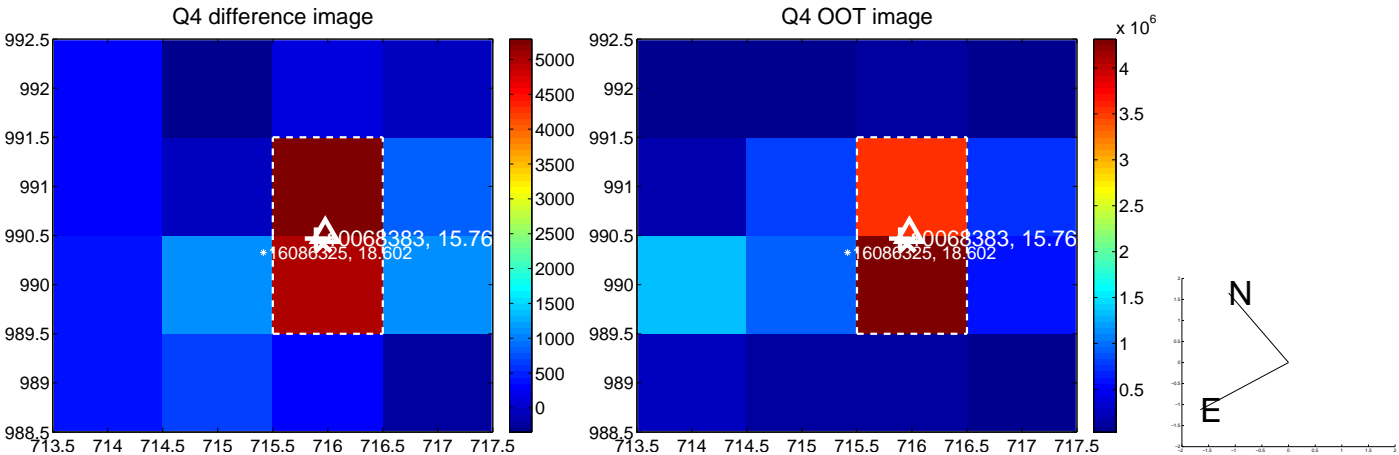
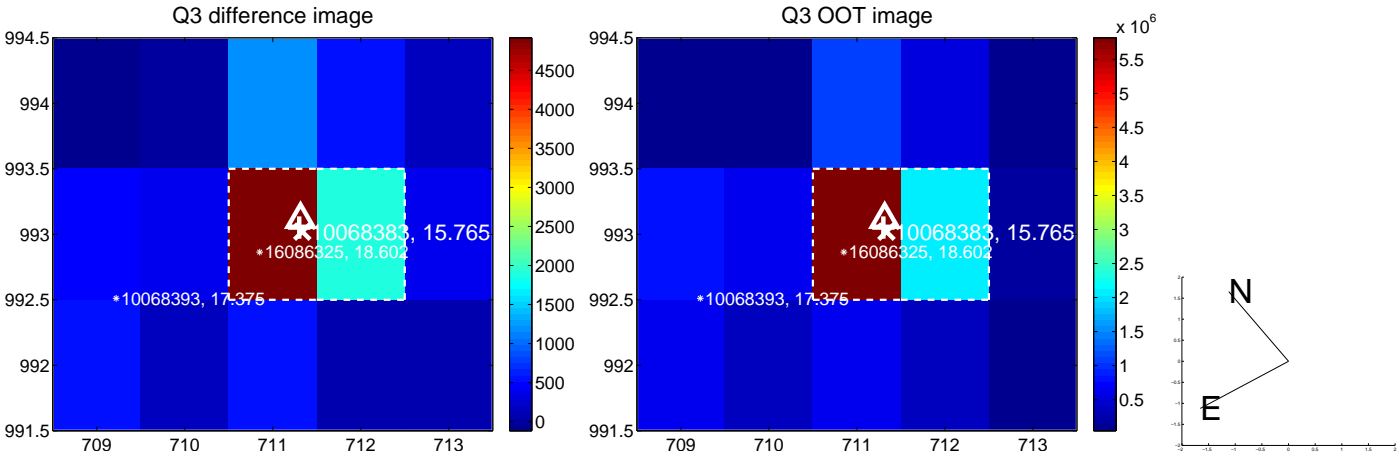
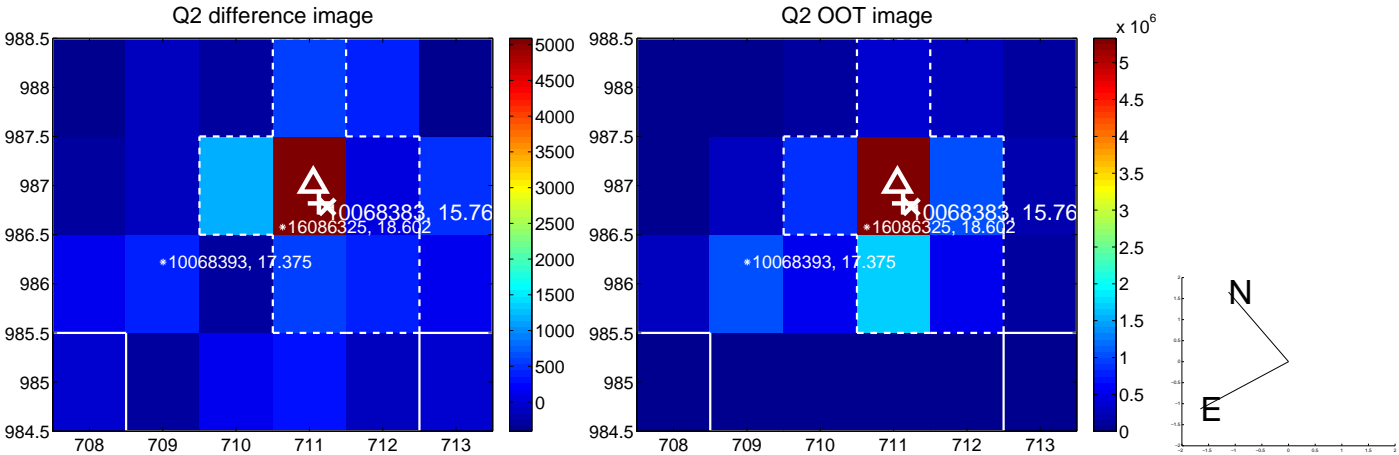
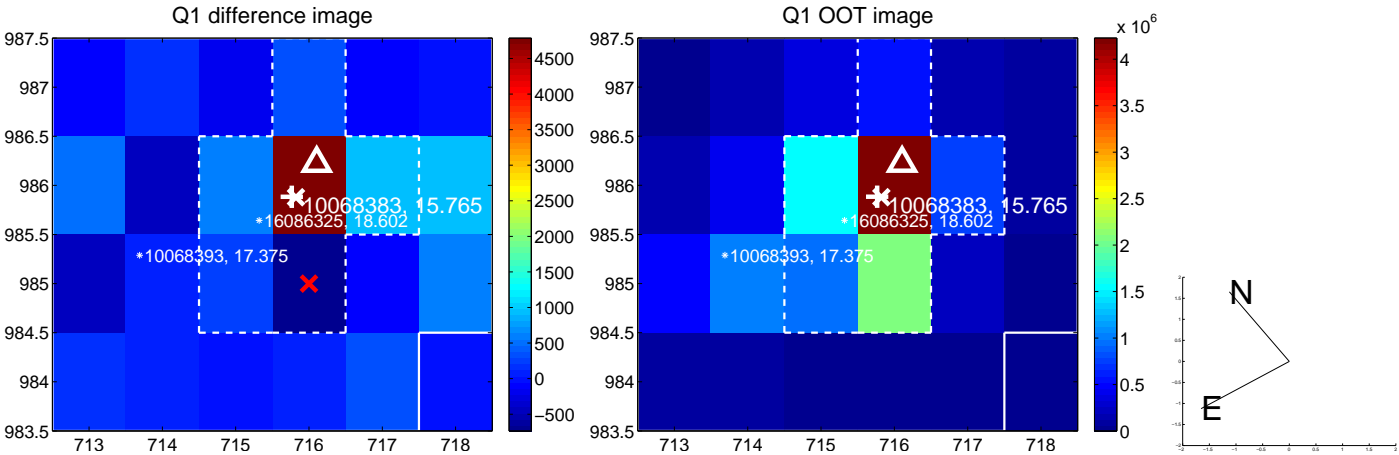
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.187 ± 0.147	1.27	-0.186 ± 0.147	-0.015 ± 0.124
PRF-fit source offset from KIC position	0.279 ± 0.131	2.13	-0.070 ± 0.153	0.270 ± 0.135
photometric centroid source offset	0.39 ± 0.43	0.90	-0.38 ± 0.44	0.09 ± 0.32

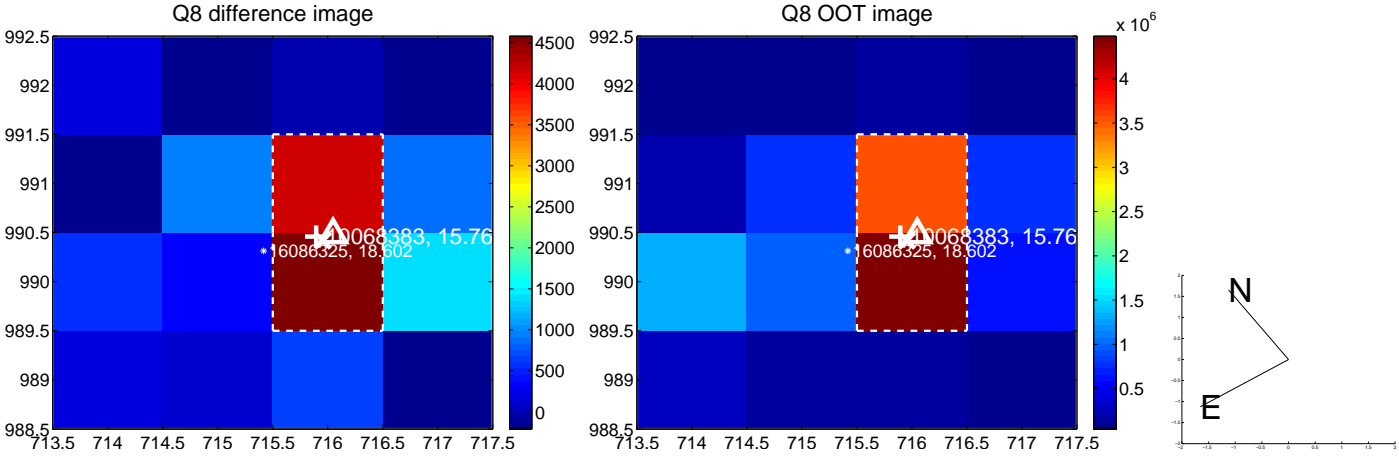
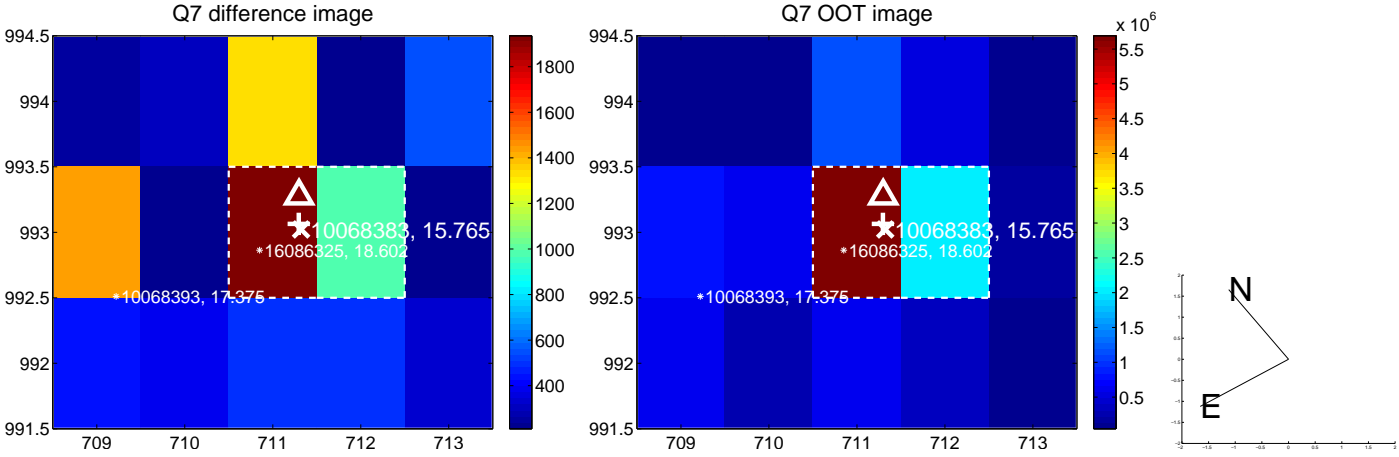
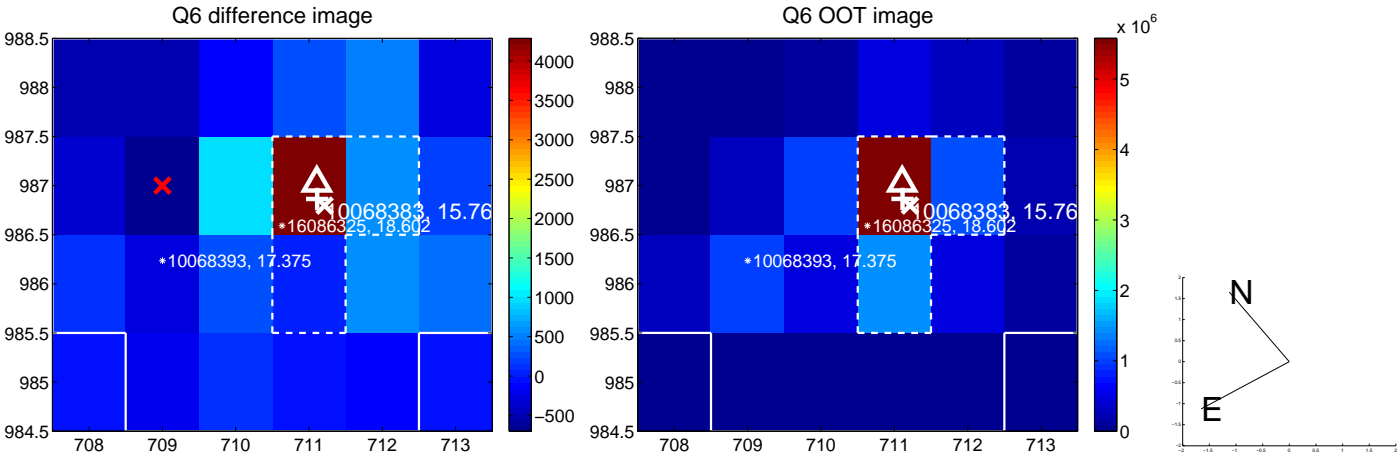
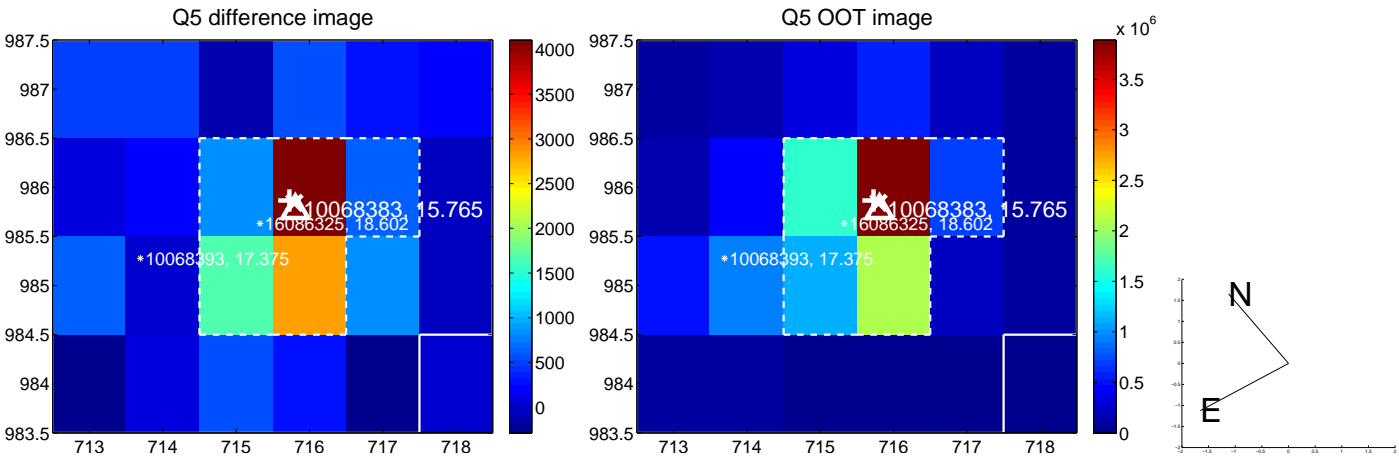


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

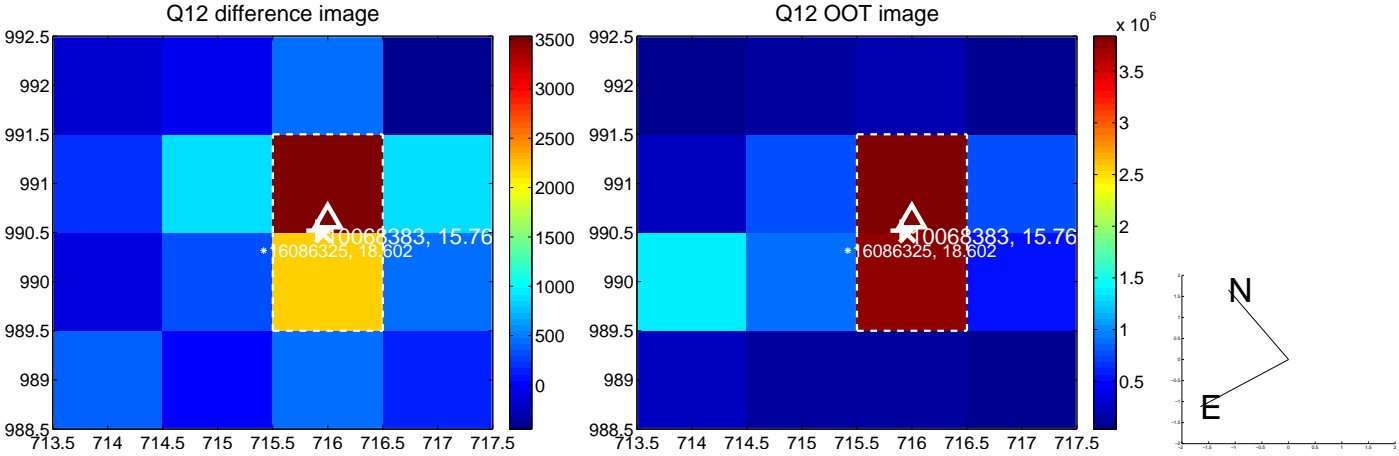
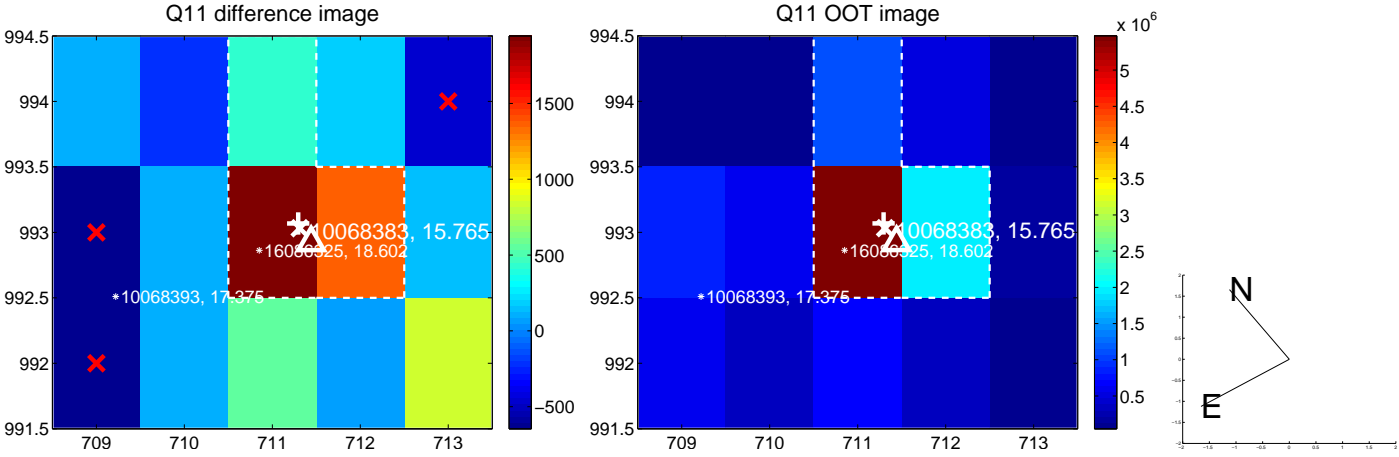
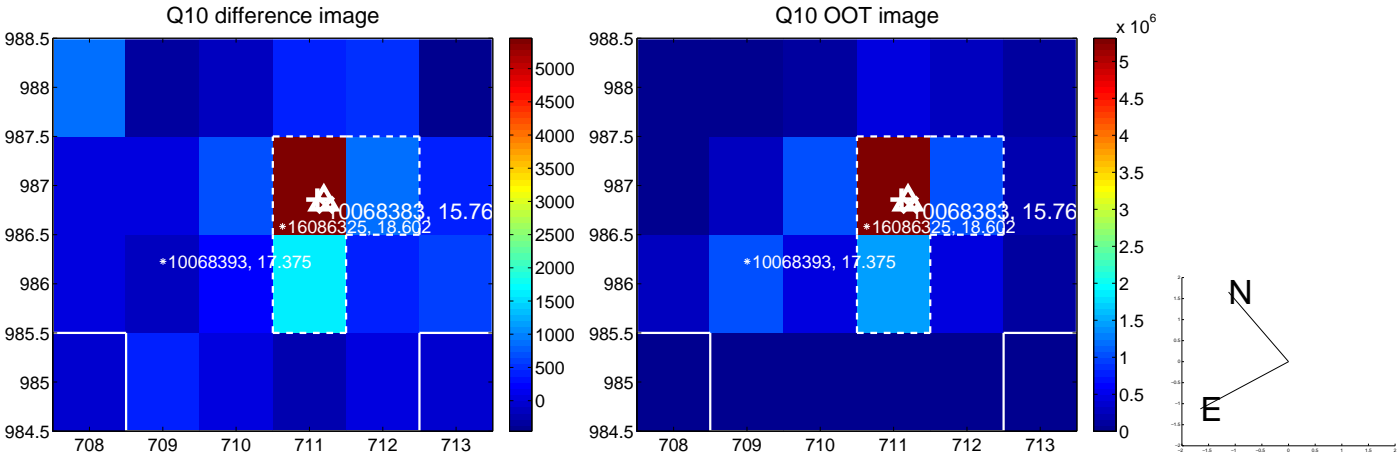
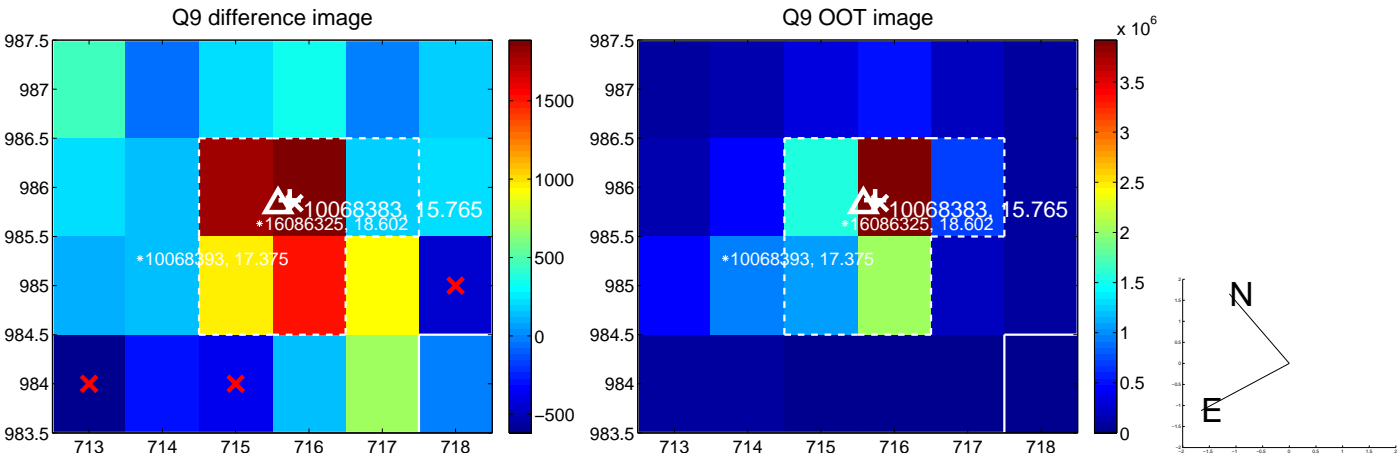
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



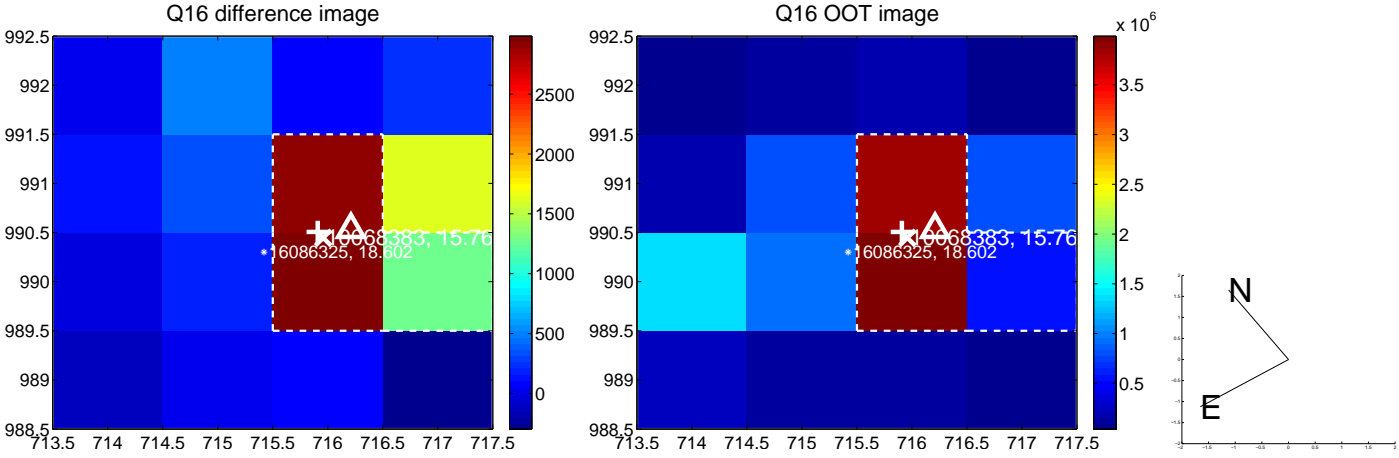
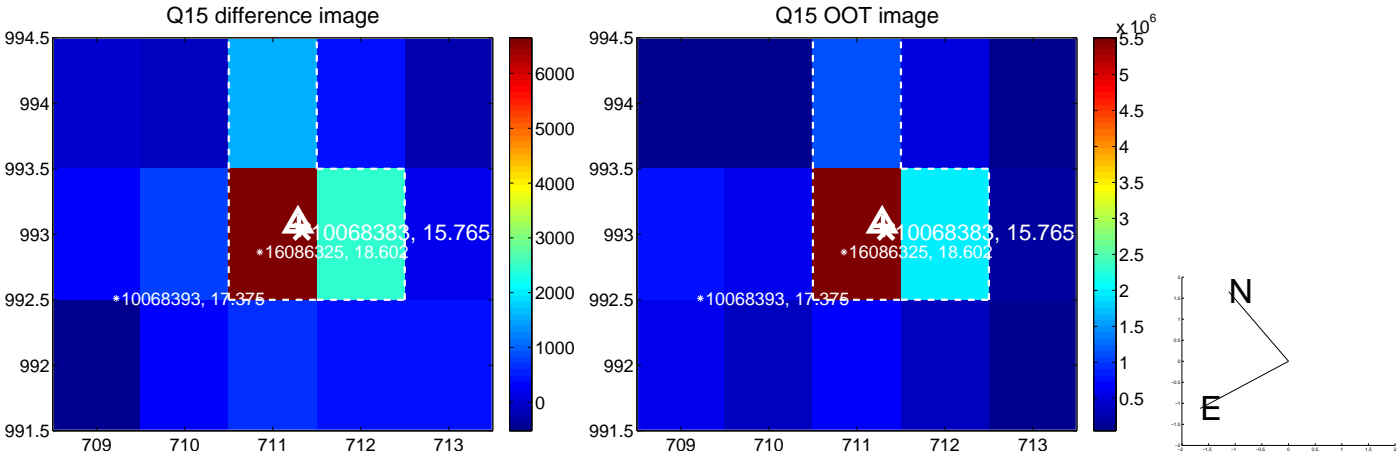
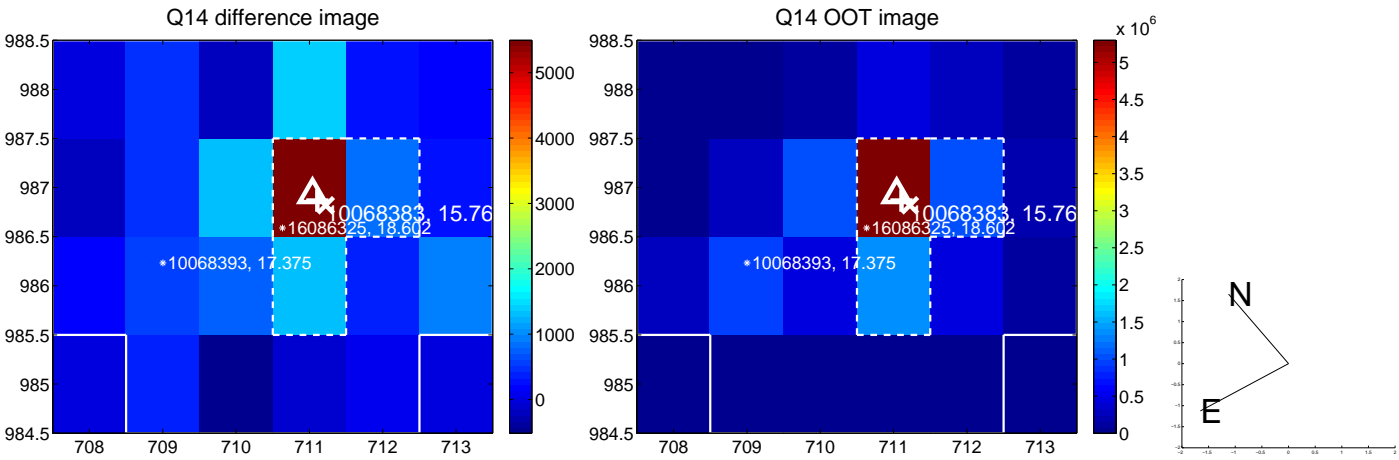
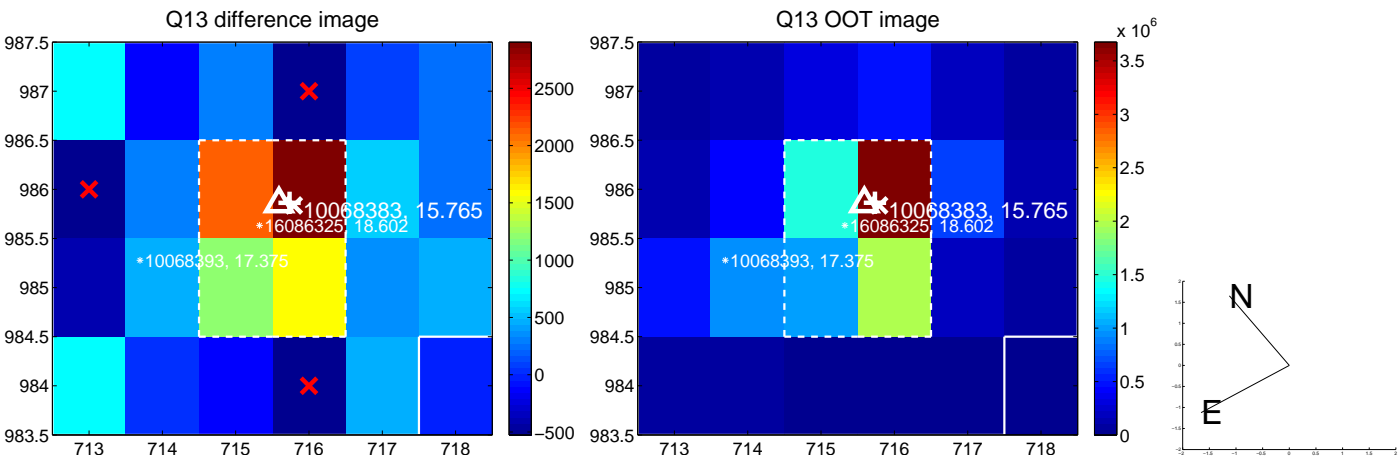
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



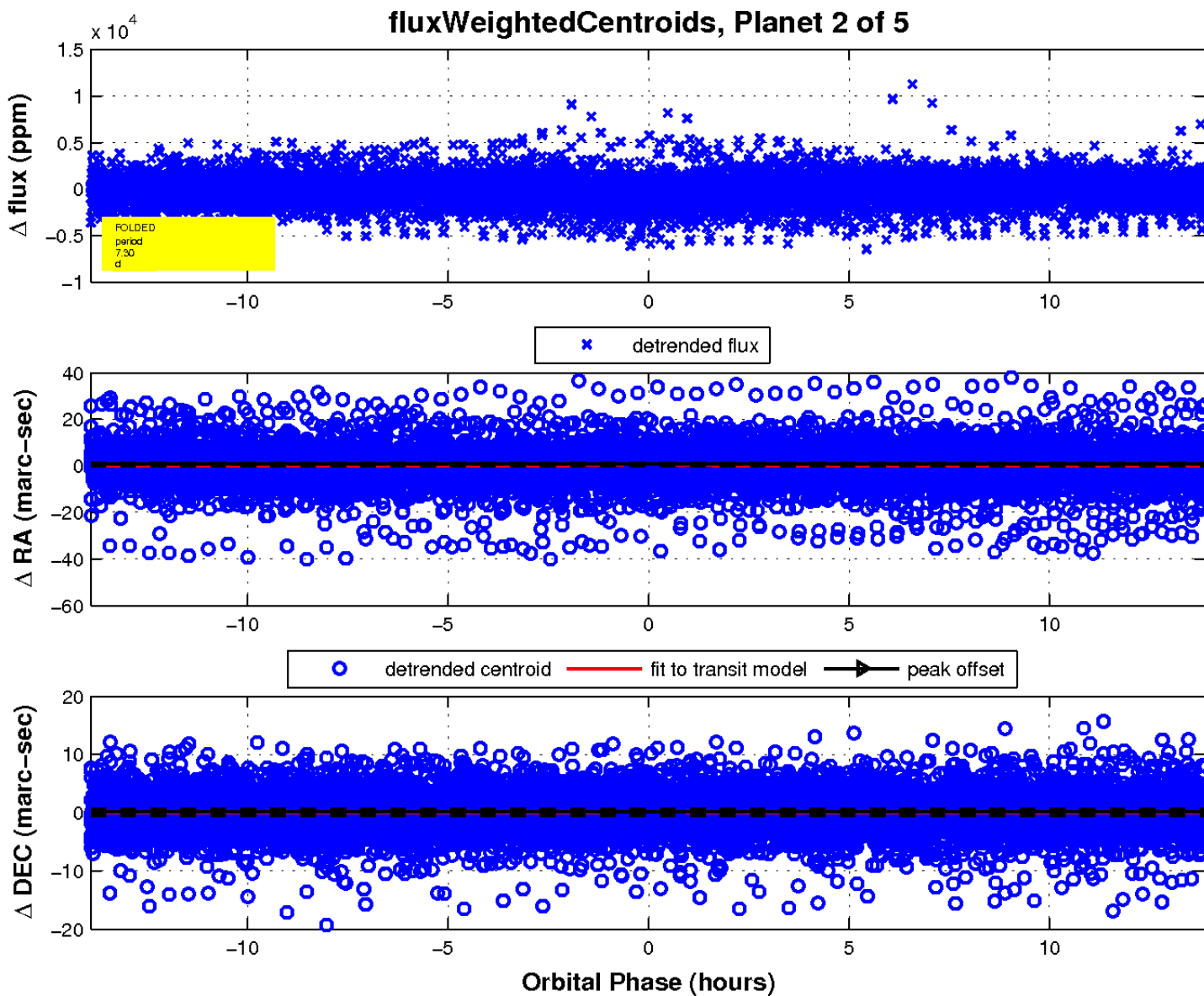
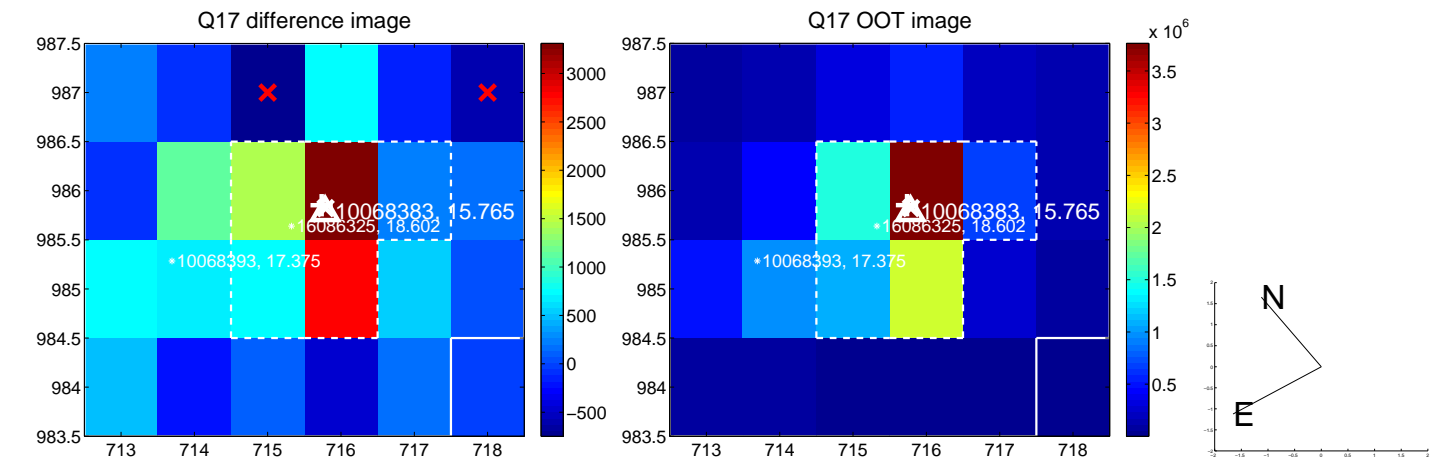
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

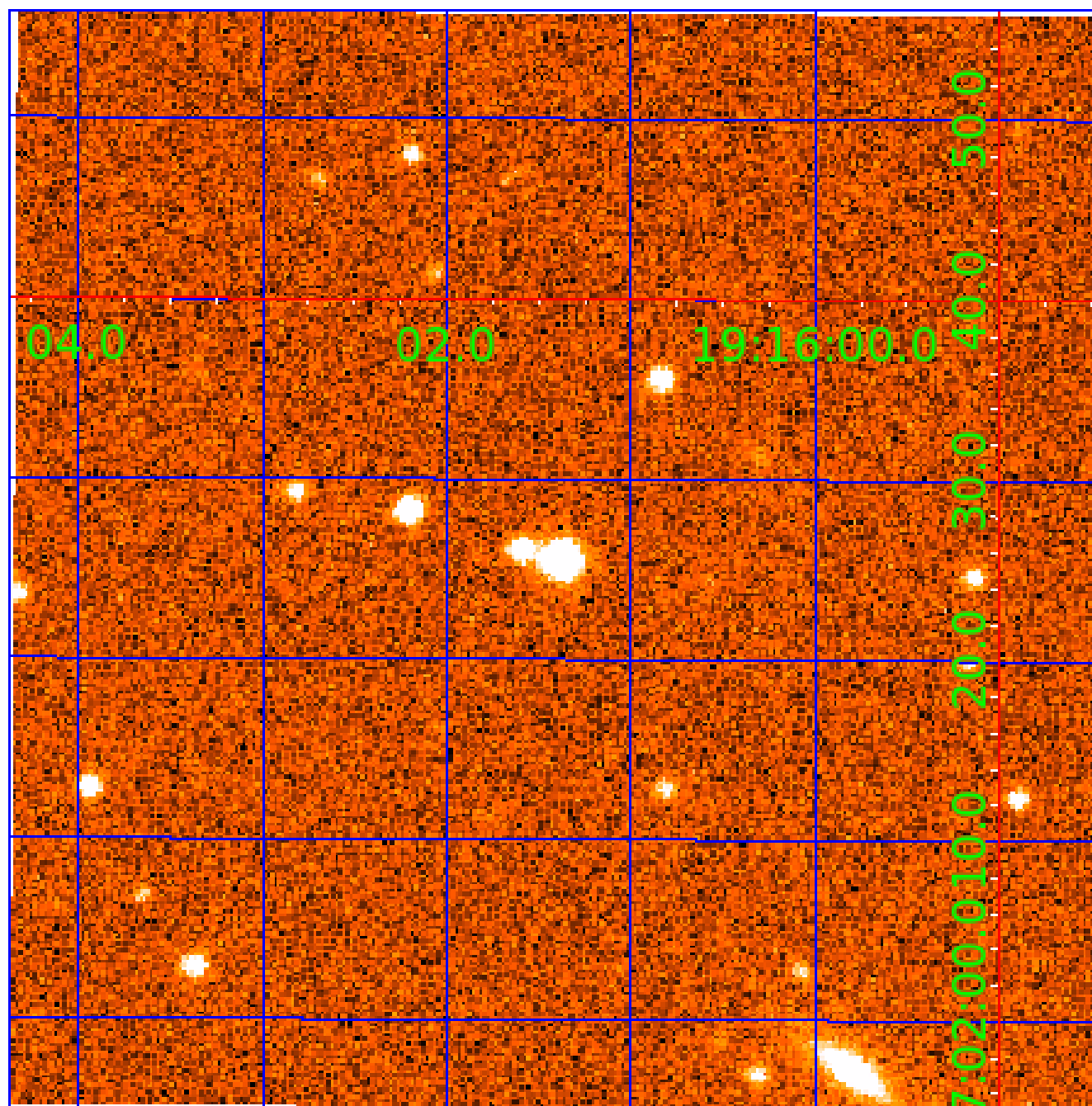


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010068383

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})
010068383-01	OBS	0725.01	7.304978	133.120951	10800.6	4.539	289.1	245.8	0.74	5247	11.33	78.96
010068383-02	OBS	No	7.304885	136.782889	853.5	4.636	20.8	23.0	0.74	5247	4.37	78.97
010068383-03	OBS	No	539.919844	486.876925	1914.3	4.771	13.6	6.7	0.74	5247	3.46	0.26
010068383-04	OBS	No	586.020217	274.367065	2308.4	6.320	15.6	7.8	0.74	5247	3.58	0.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010068383-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
010068383-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
010068383-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010068383-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS

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.

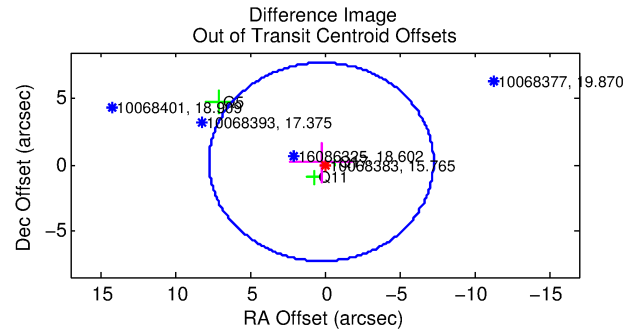
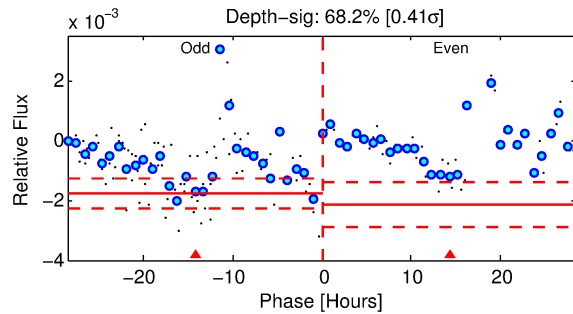
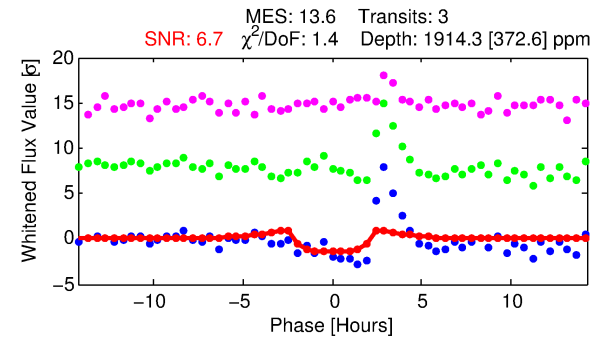
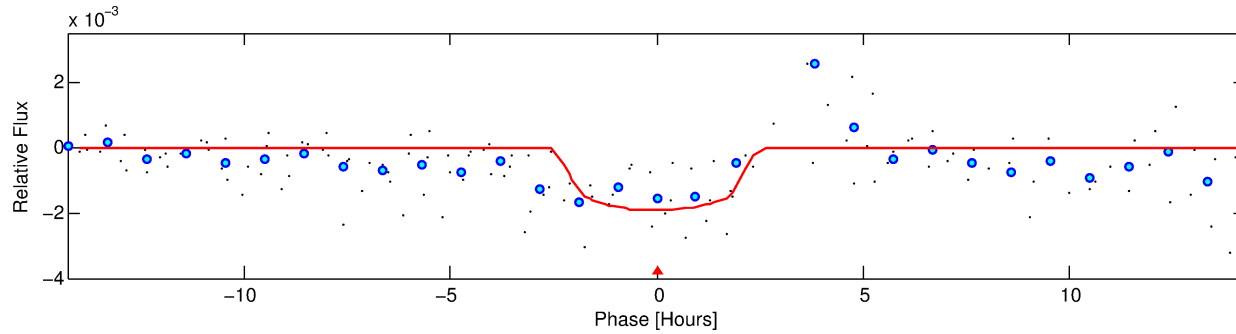
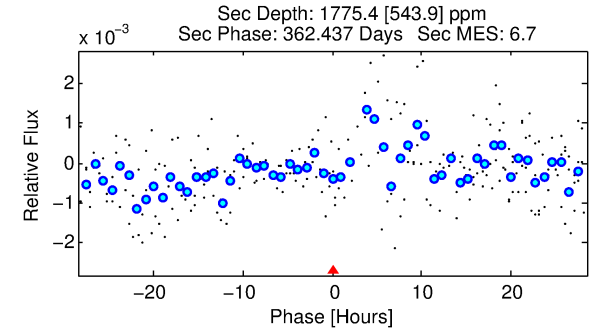
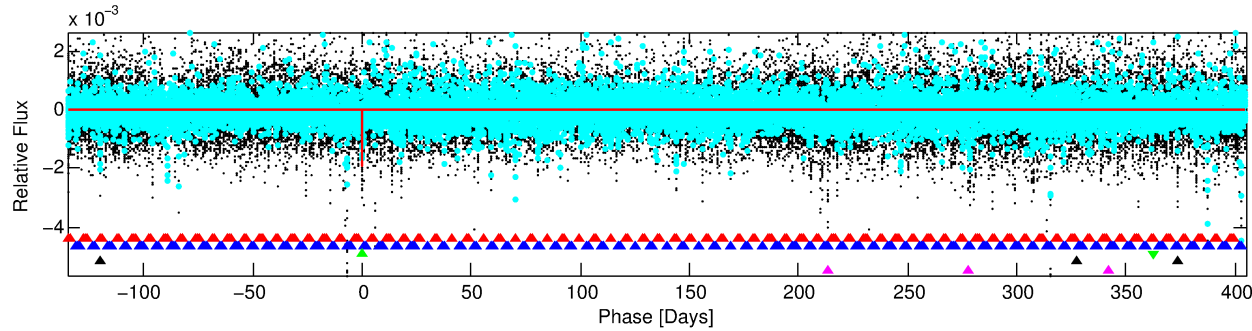
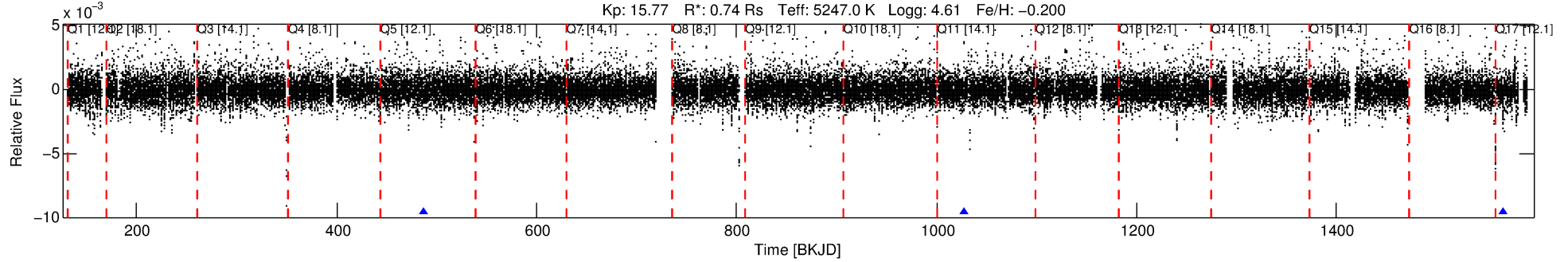
Ephemeris Match Information For 010068383-03

No Significant Match Found

DV One-Page Summary

KIC: 10068383 Candidate: 3 of 5 Period: 539.920 d
KOI: K00725 Corr: No Ephemeris Match

Kp: 15.77 R*: 0.74 Rs Teff: 5247.0 K Logg: 4.61 Fe/H: -0.200



DV Fit Results:

Period = 539.91984 [0.00985] d
Epoch = 486.8769 [0.0143] BKJD
Rp/R* = 0.0427 [0.0603]
a/R* = 673.84 [3557.09]
b = 0.69 [4.05]
Seff = 0.25 [0.06]
Teq = 181 [10] K
Rp = 3.47 [4.92] Re
a = 1.2152 [0.1518] AU
Ag = 120101.70 [342100.17] [0.35σ]
Teffp = 5213 [3708] K [1.36σ]

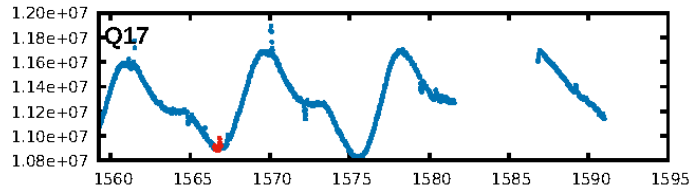
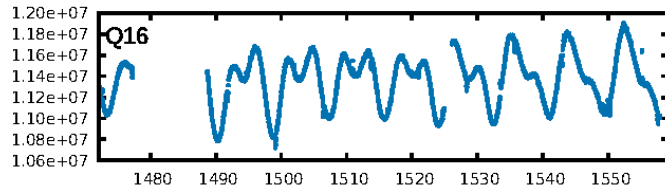
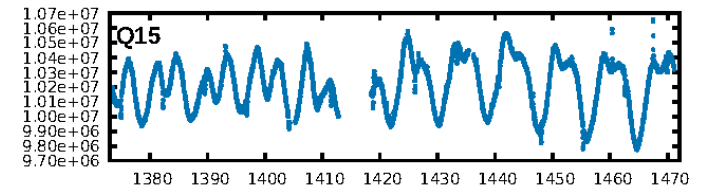
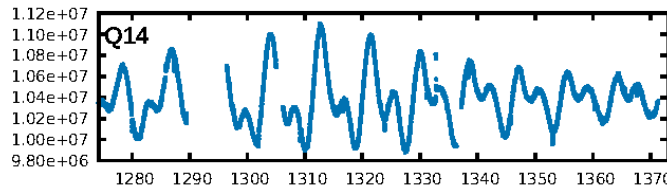
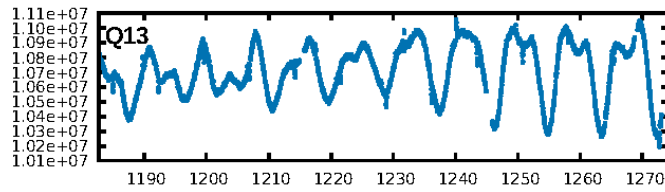
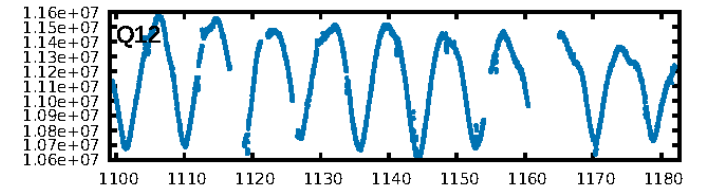
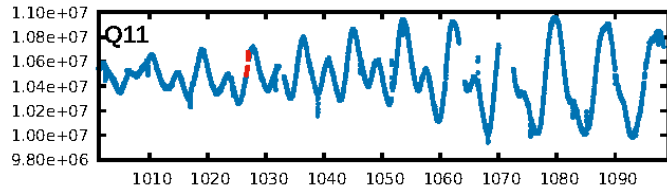
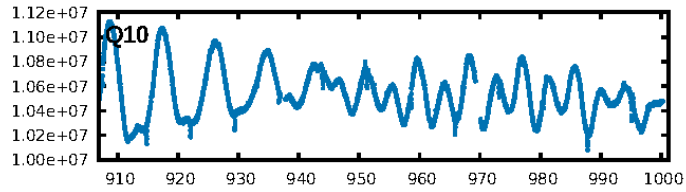
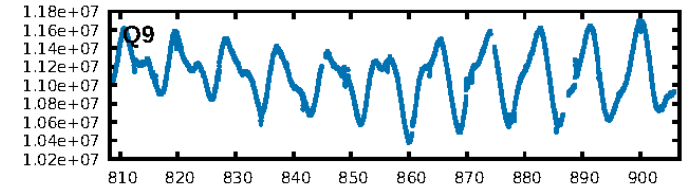
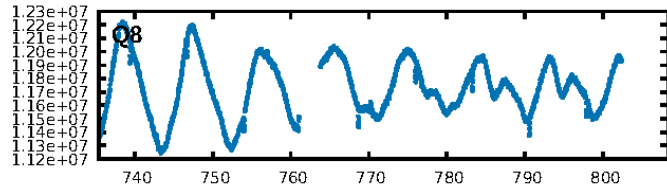
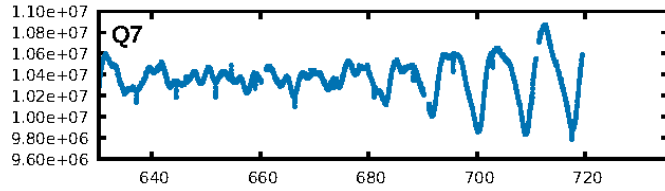
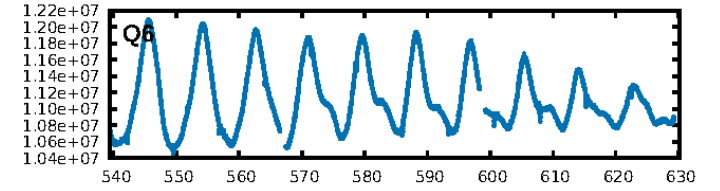
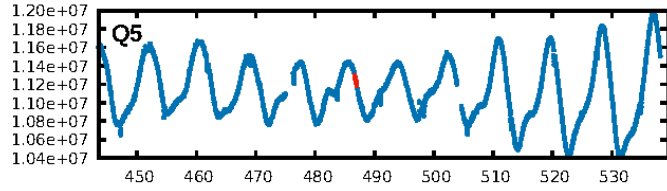
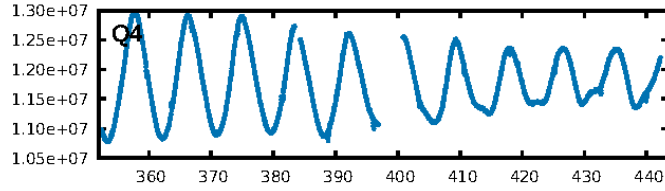
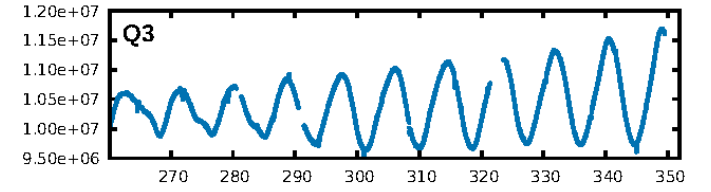
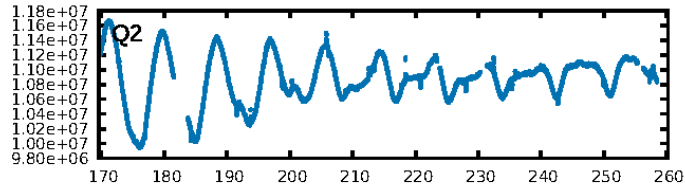
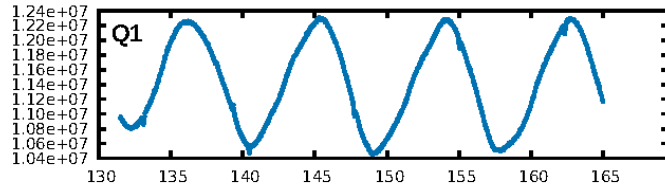
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [180.73σ]
LongPeriod-sig: 100.0% [139.73σ]
ModelChiSquare2-sig: 3.1%
ModelChiSquareGof-sig: 39.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 0.3326
Centroid-sig: 77.7%
Centroid-so: 0.550 arcsec [0.58σ]
OotOffset-rm: 0.294 arcsec [0.12σ]
OotOffset-st: 0/1/0/2 [3]
KicOffset-rm: 0.500 arcsec [0.17σ]
KicOffset-st: 0/1/0/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

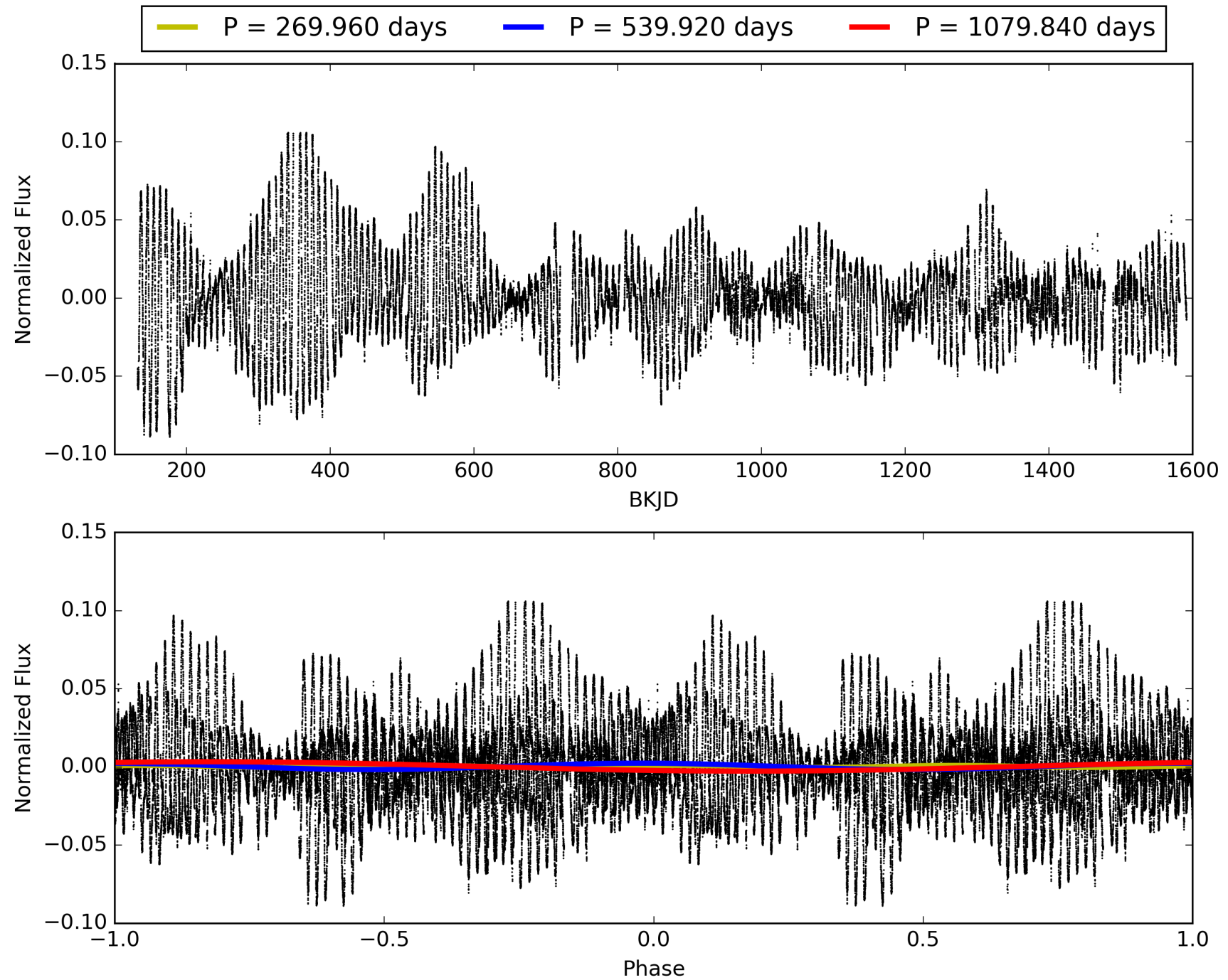
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:11:14 Z

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

TCE 010068383-03, PDC Light Curves

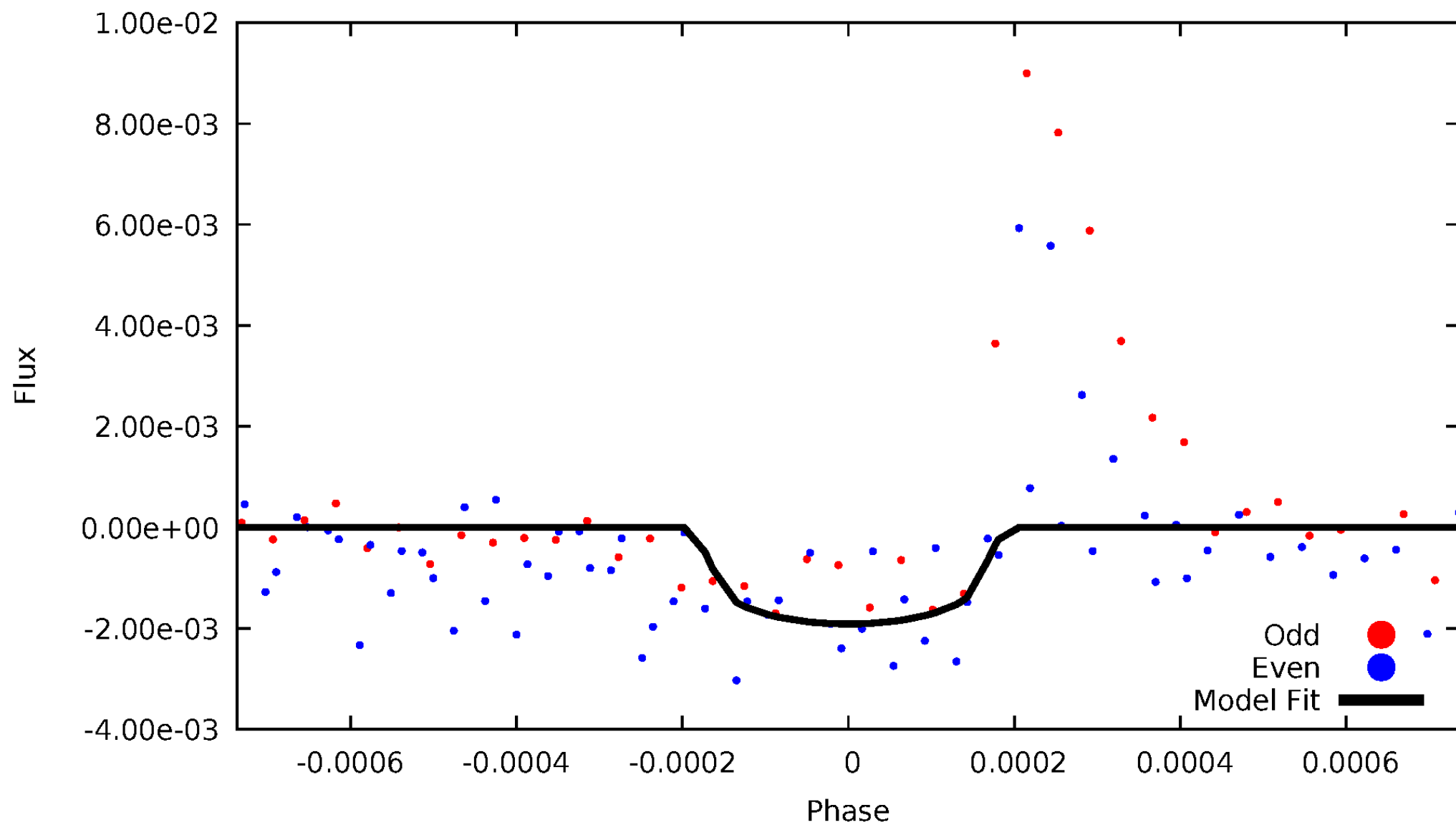


TCE 010068383-03



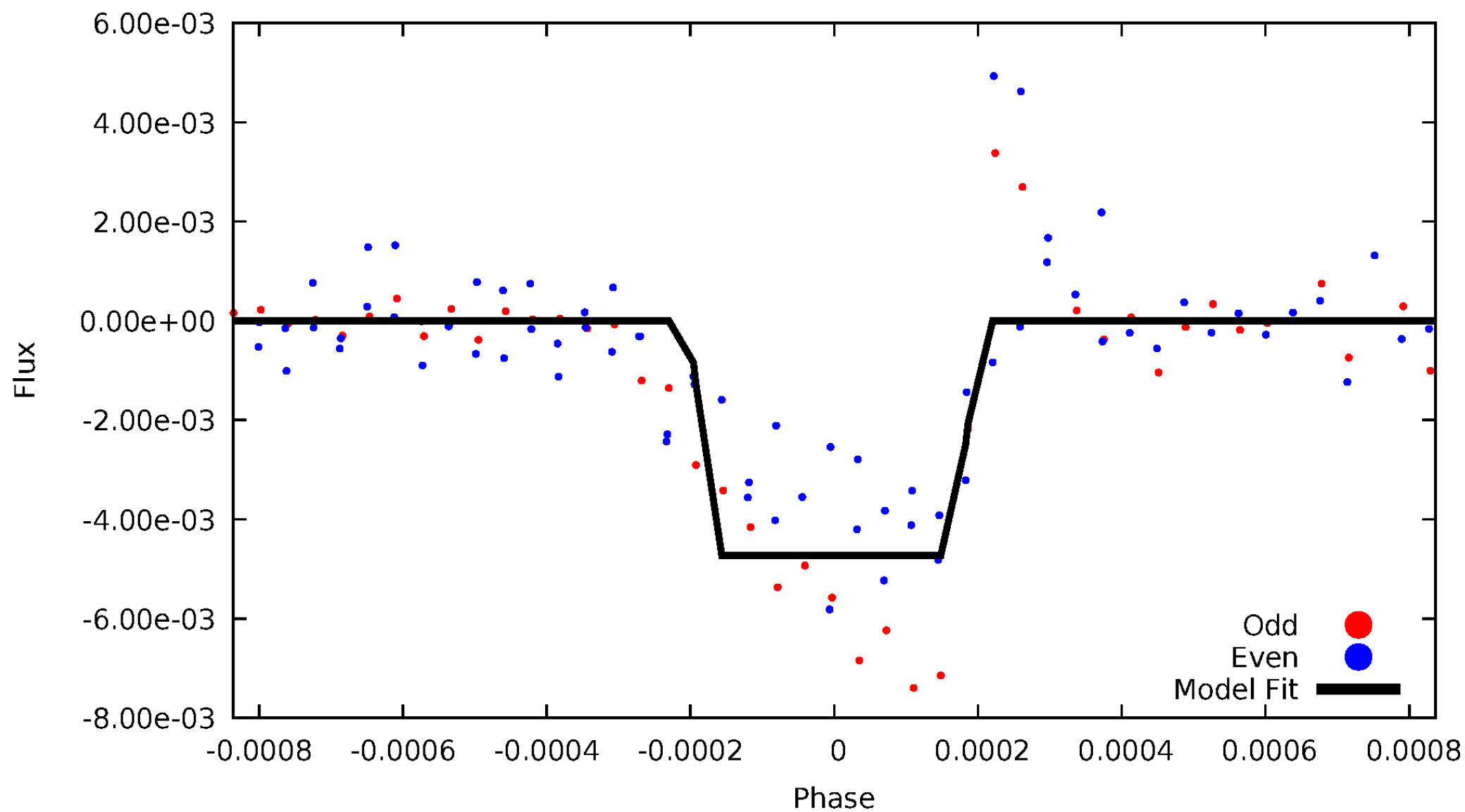
DV Odd/Even

TCE 010068383-03

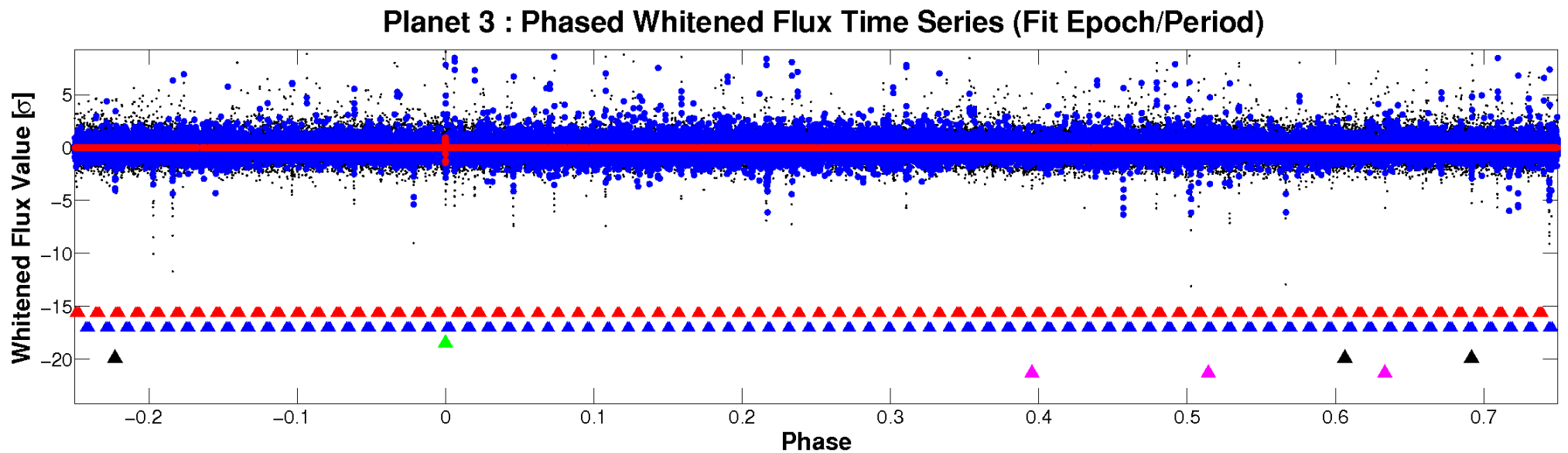
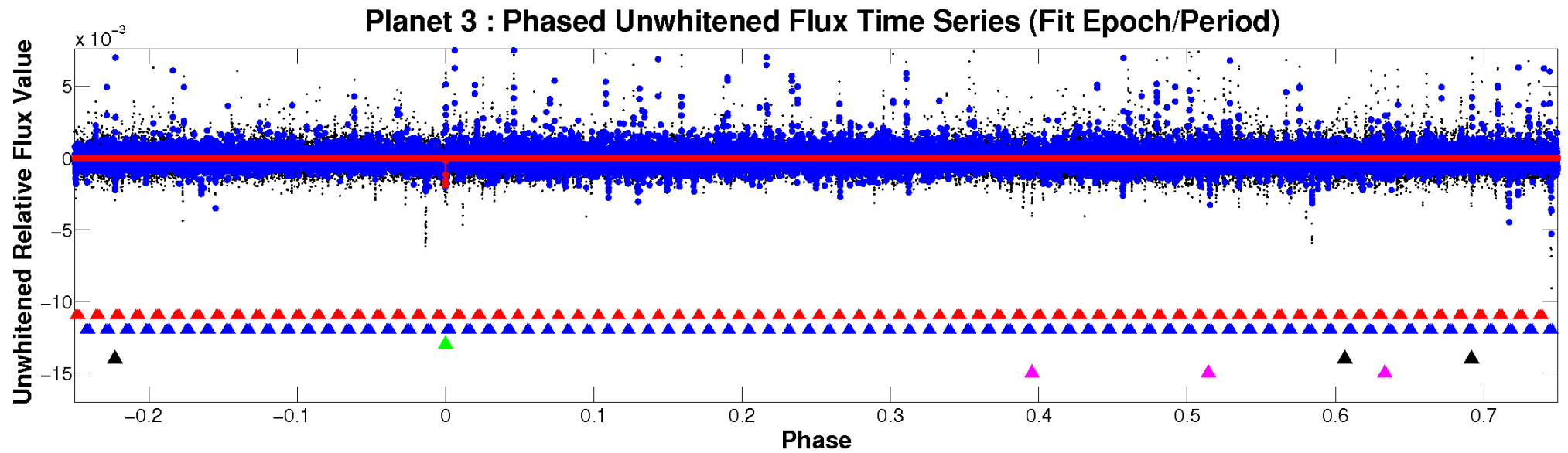


ALT Odd/Even

TCE 010068383-03

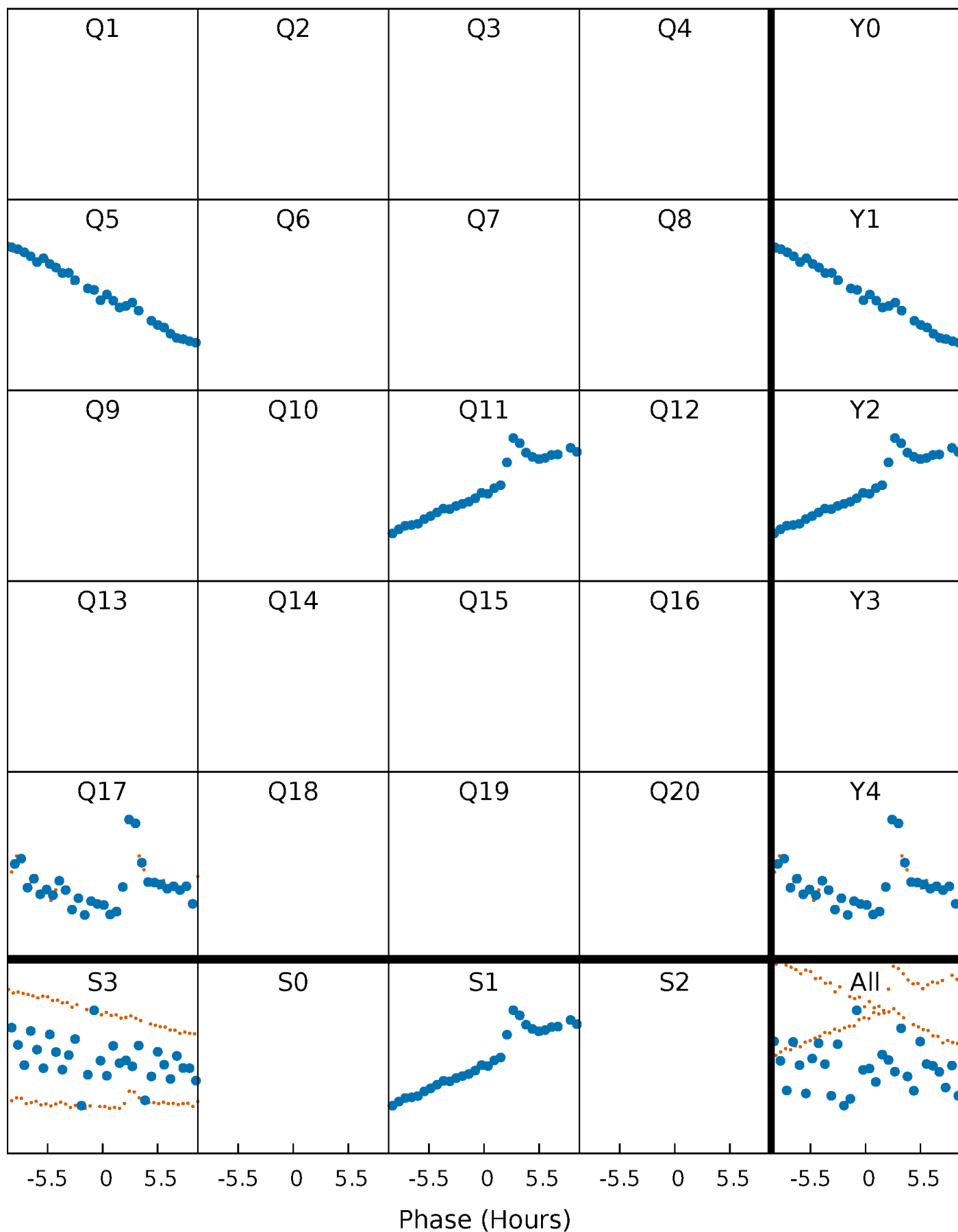


Non-Whitened Vs. Whitened Light Curve



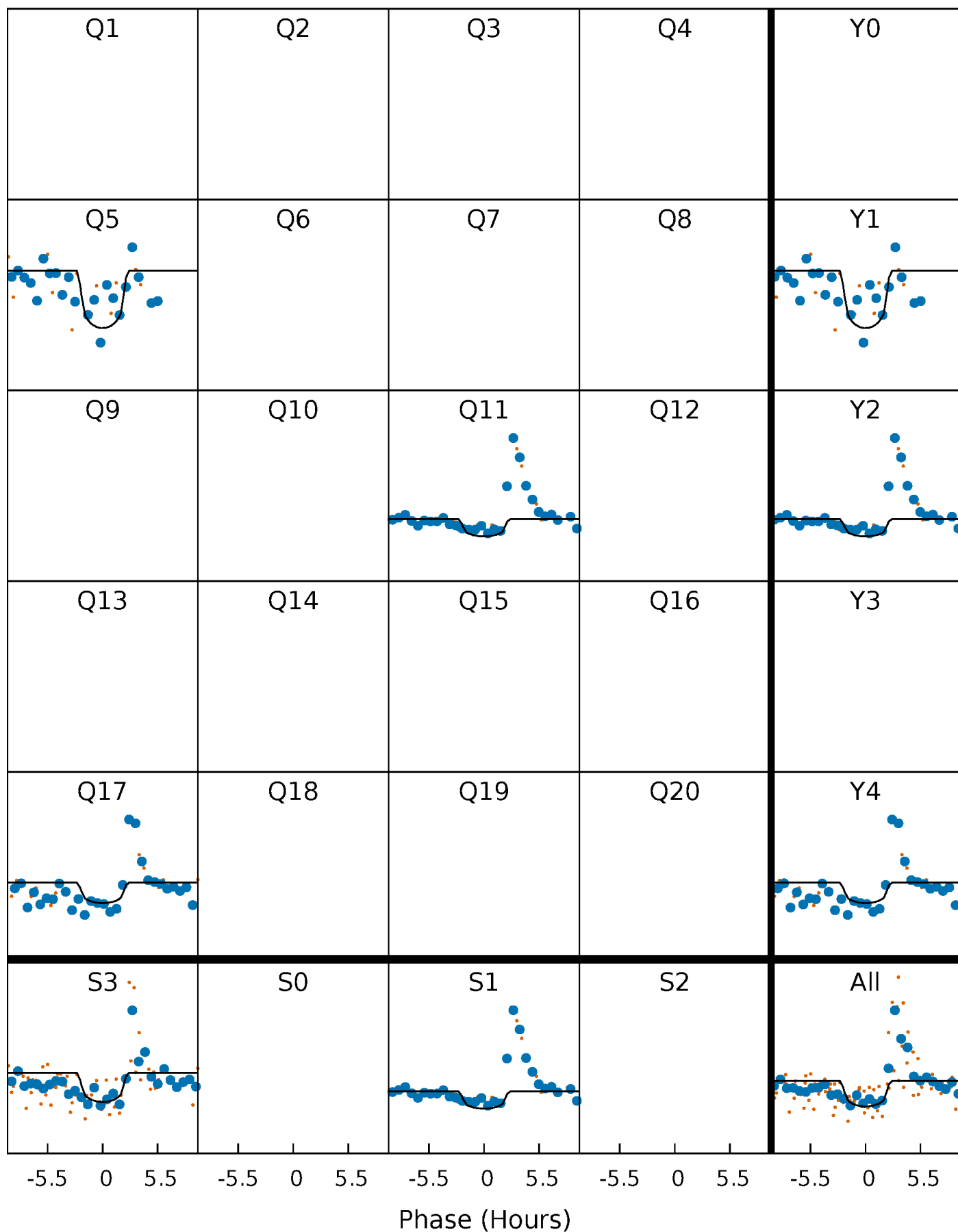
PDC Quarter-Phased Transit Curves

TCE 010068383-03 $P=539.919844$ Days $T_0=486.876925$ (BKJD)



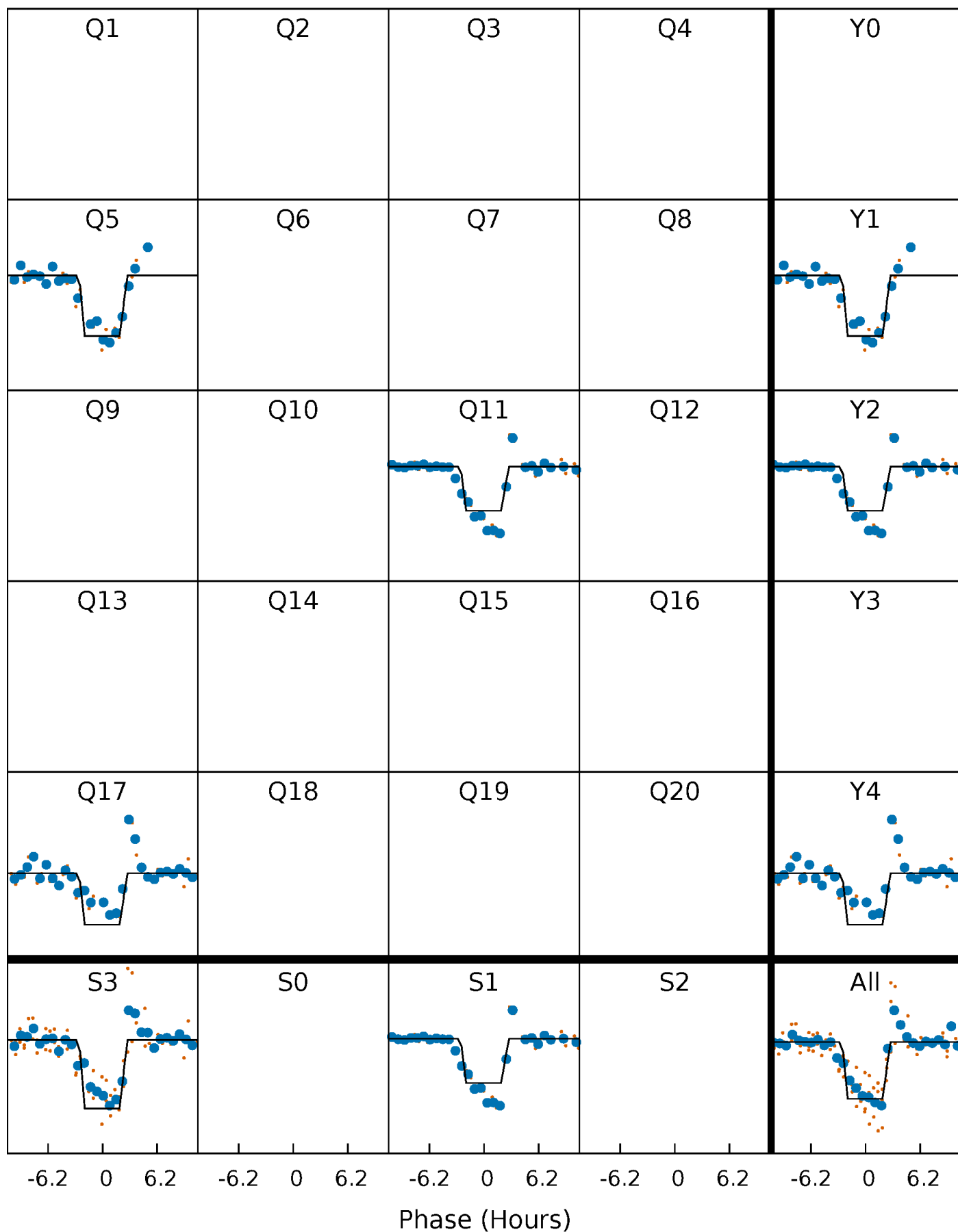
DV Quarter-Phased Transit Curves

TCE 010068383-03 $P=539.919844$ Days $T_0=486.876925$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

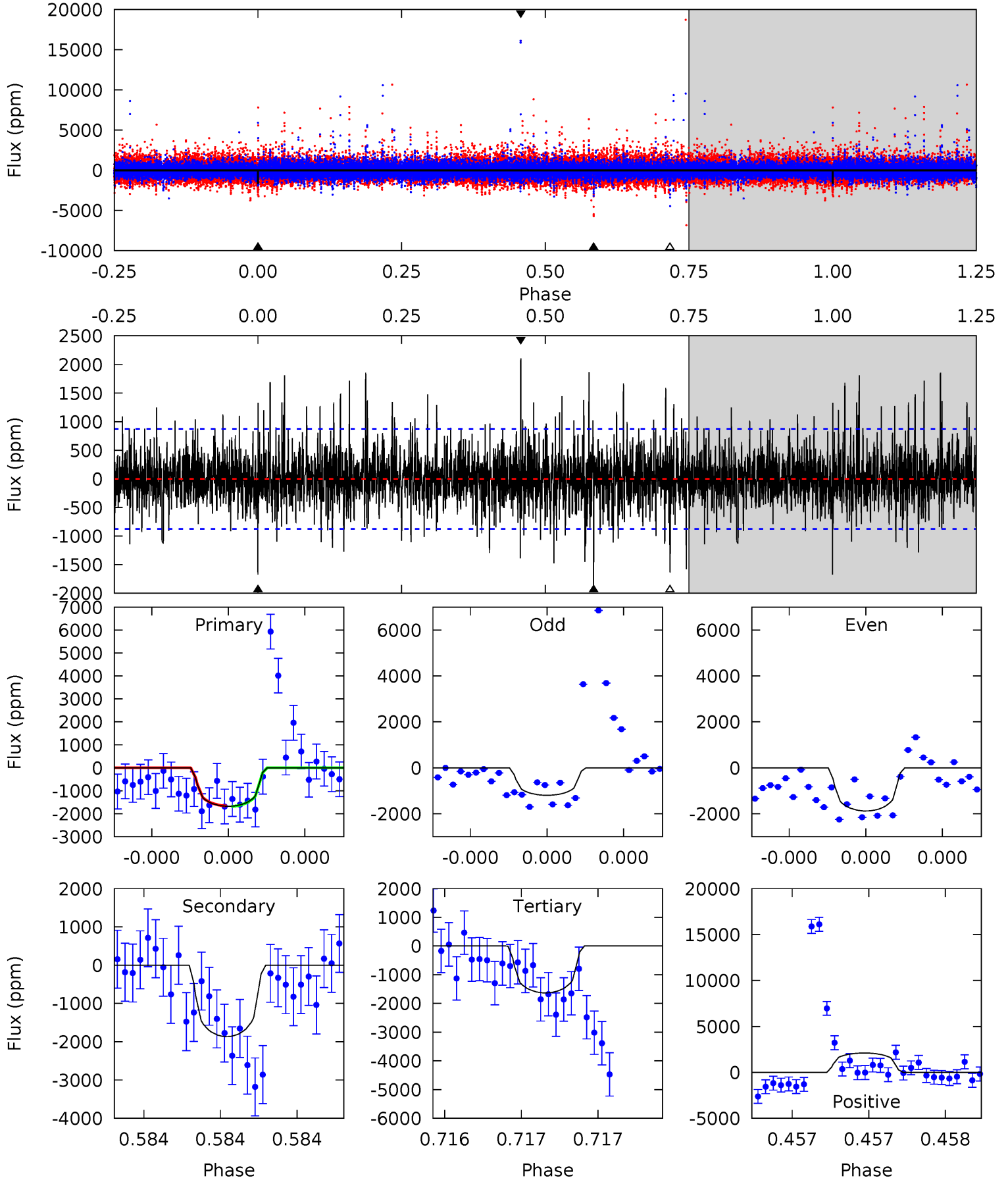
TCE 010068383-03 $P=539.915956$ Days $T_0=486.876028$ (BKJD)



DV Model-Shift Uniqueness Test

010068383-03, P = 539.919844 Days, E = 486.876925 Days

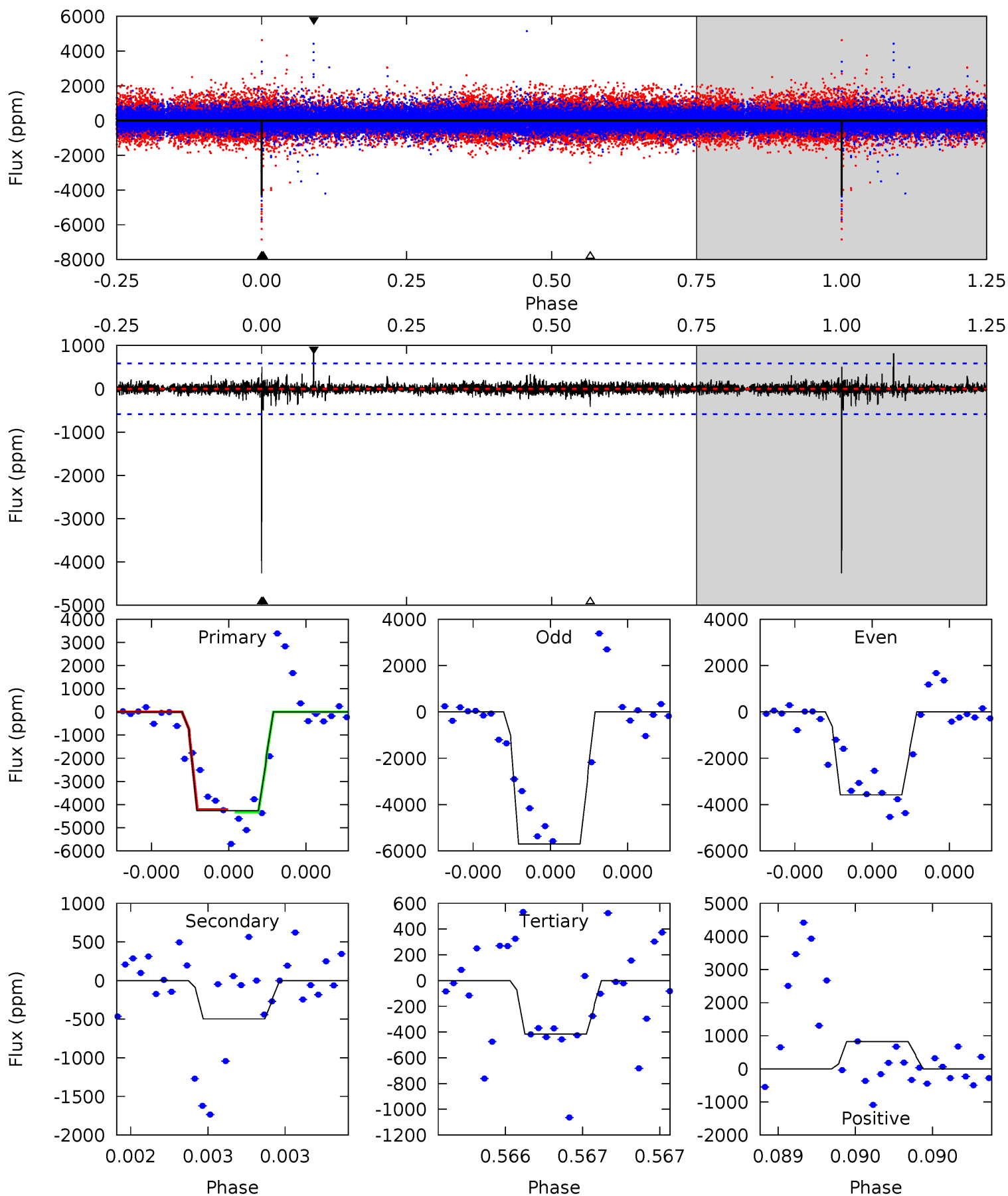
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	12.0	10.5	13.5	5.61	3.54	2.24	0.28	-2.76	1.51	-1.54	1.83	1.28	0.53	0.07



Alt Model-Shift Uniqueness Test

010068383-03, P = 539.915956 Days, E = 486.876028 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.8	4.76	3.98	7.85	5.62	3.55	0.59	36.8	33.0	0.78	-3.09	10.1	0.98	0.16	0.46



Stellar Parameters For KIC 010068383

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5247^{+158}_{-158}	$4.609^{+0.032}_{-0.097}$	$-0.200^{+0.300}_{-0.300}$	$0.744^{+0.112}_{-0.060}$	$0.833^{+0.069}_{-0.095}$	$2.848^{+0.488}_{-0.825}$
	+3%/-3%	+1%/-2%	+150%/-150%	+15%/-8%	+8%/-11%	+17%/-29%
Source	PHO1	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 010068383-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1866 ± 156	$4.97^{+4.38}_{-3.25}$	256^{+11}_{-10}	4576^{+3061}_{-910}	$59512^{+440656}_{-41932}$
Alt.	-497 ± 104	$6.88^{+4.52}_{-4.08}$	257^{+11}_{-10}	3282^{+1128}_{-454}	8730^{+40970}_{-5738}

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

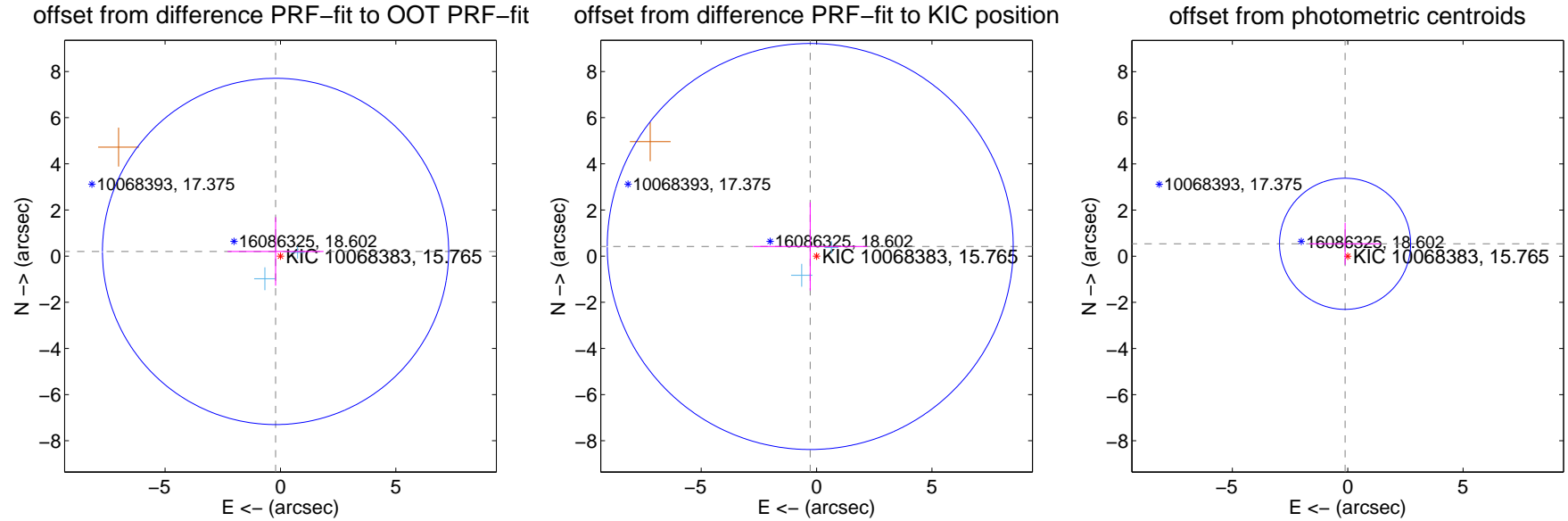
DV Centroid Data

Supplemental centroid analysis for 010068383-03. Kepler magnitude: 15.77. Transit SNR 6.72

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.294 ± 2.501	0.12	0.212 ± 2.080	0.203 ± 1.485
PRF-fit source offset from KIC position	0.500 ± 2.933	0.17	0.275 ± 2.474	0.418 ± 1.908
photometric centroid source offset	0.55 ± 0.95	0.58	0.11 ± 1.55	0.54 ± 0.91

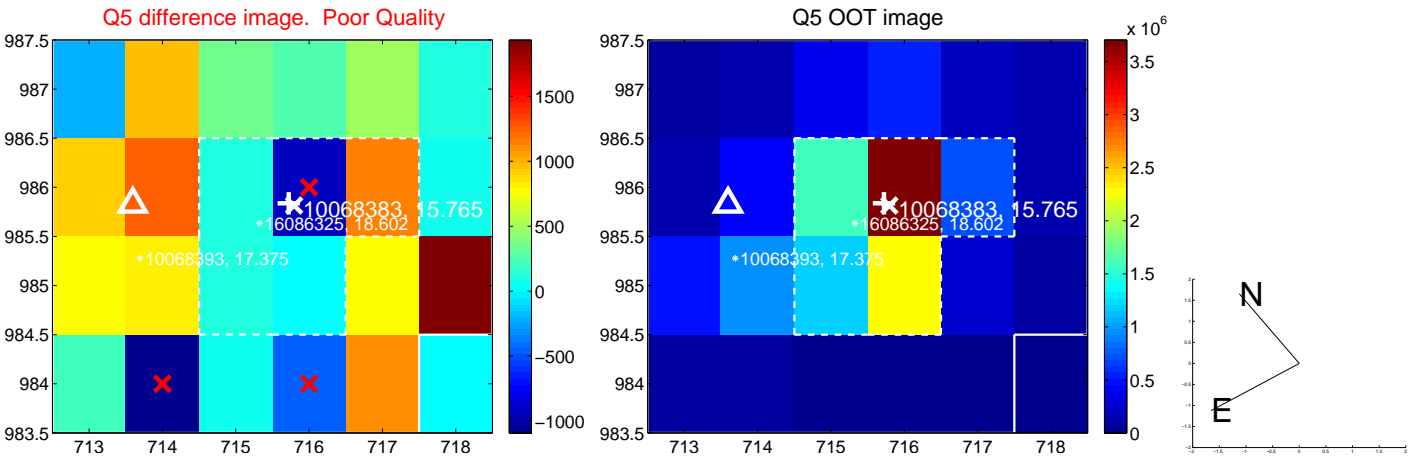


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

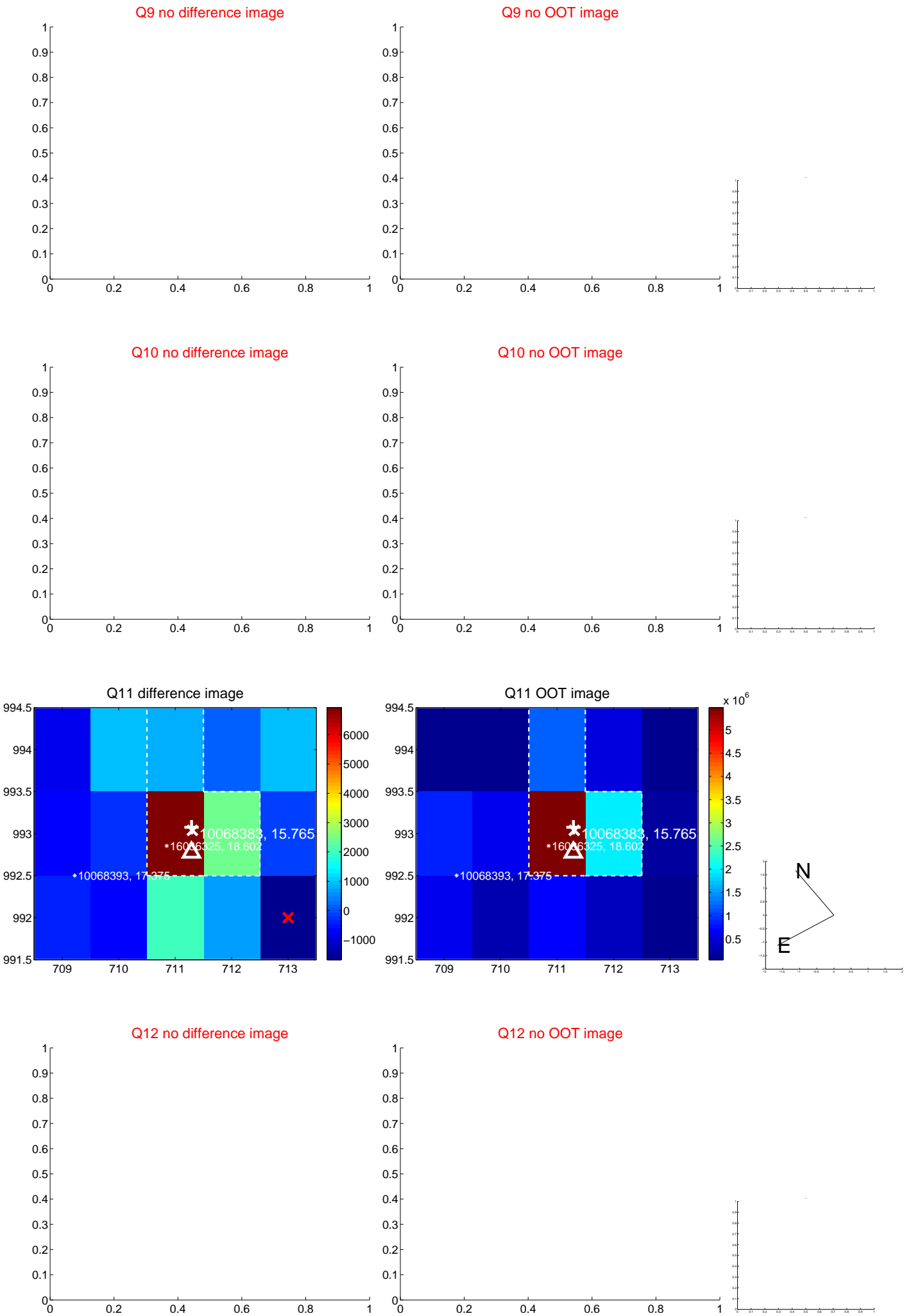
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



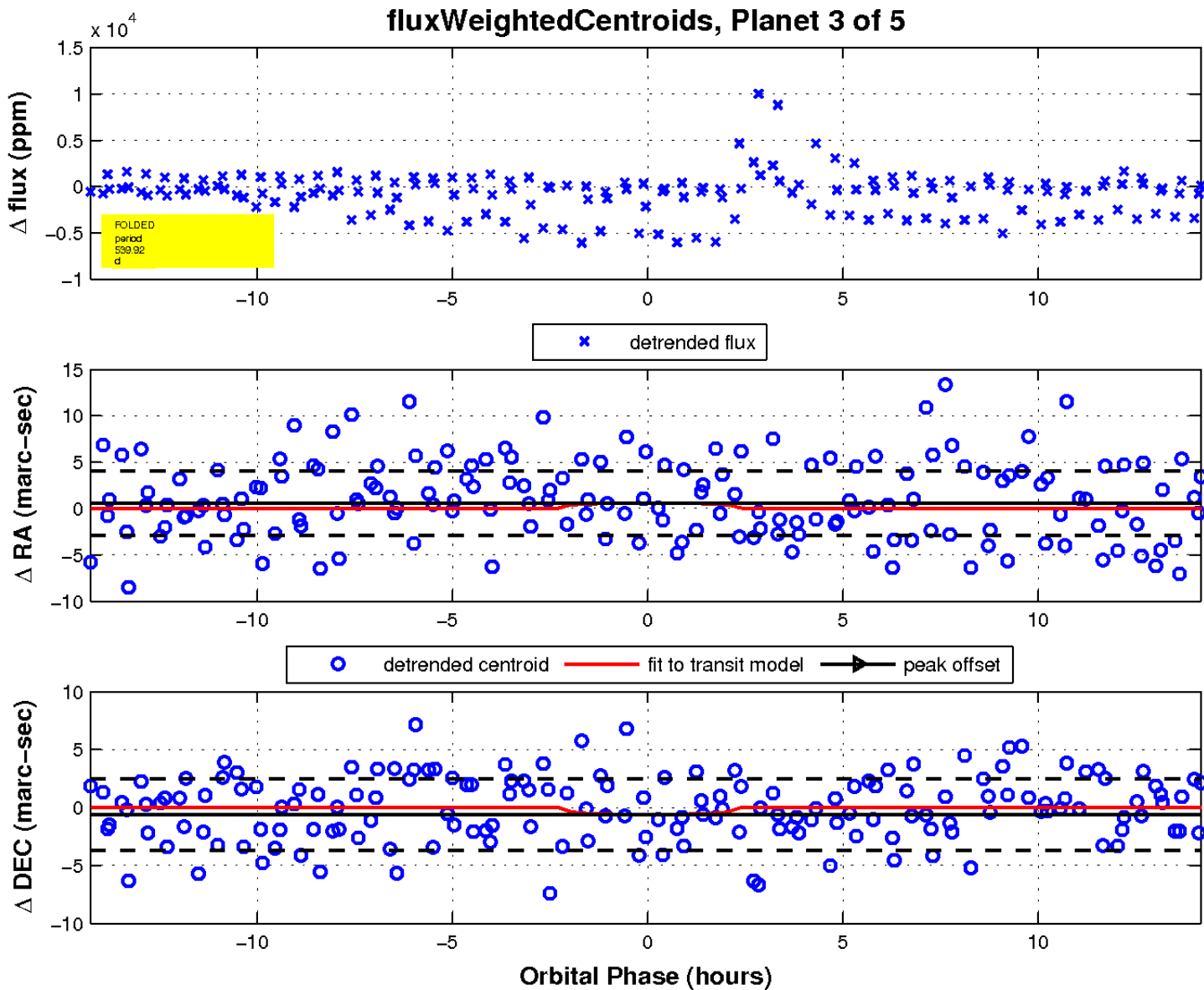
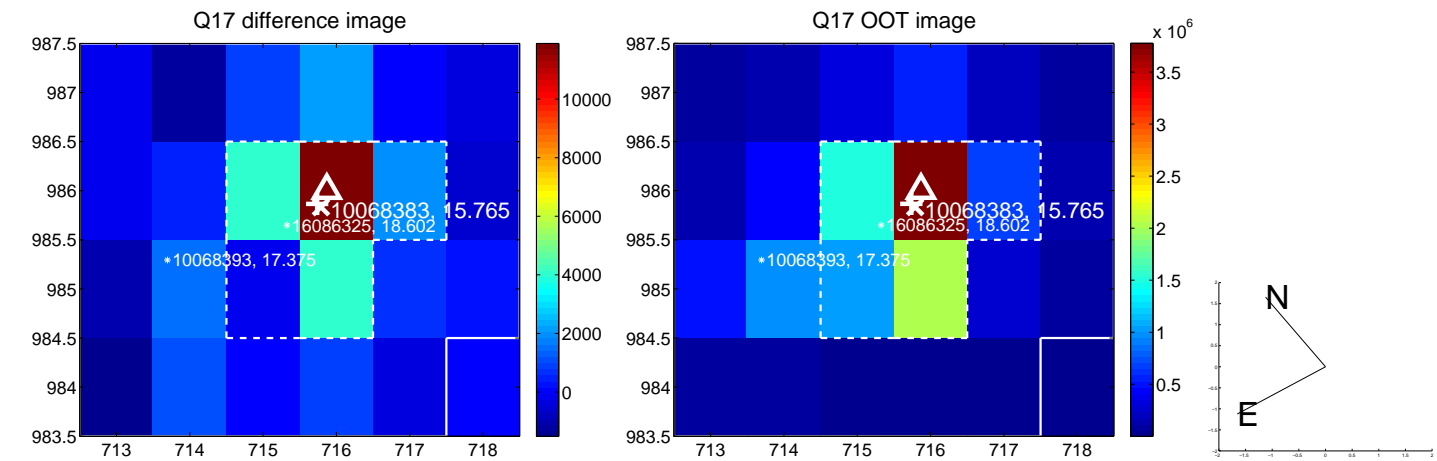
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

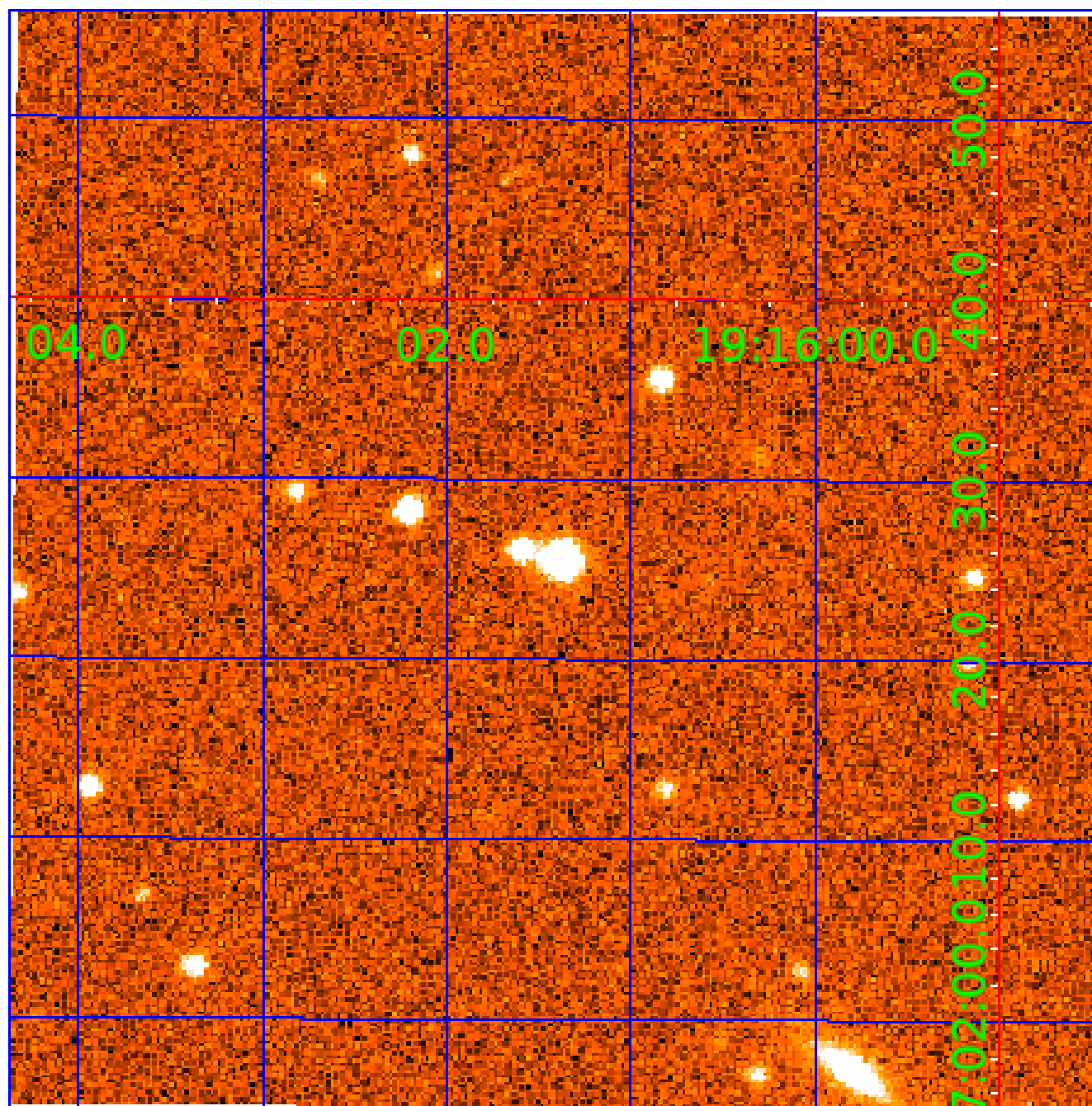


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010068383

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})
010068383-01	OBS	0725.01	7.304978	133.120951	10800.6	4.539	289.1	245.8	0.74	5247	11.33	78.96
010068383-02	OBS	No	7.304885	136.782889	853.5	4.636	20.8	23.0	0.74	5247	4.37	78.97
010068383-03	OBS	No	539.919844	486.876925	1914.3	4.771	13.6	6.7	0.74	5247	3.46	0.26
010068383-04	OBS	No	586.020217	274.367065	2308.4	6.320	15.6	7.8	0.74	5247	3.58	0.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010068383-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
010068383-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
010068383-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010068383-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS

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 010068383-04

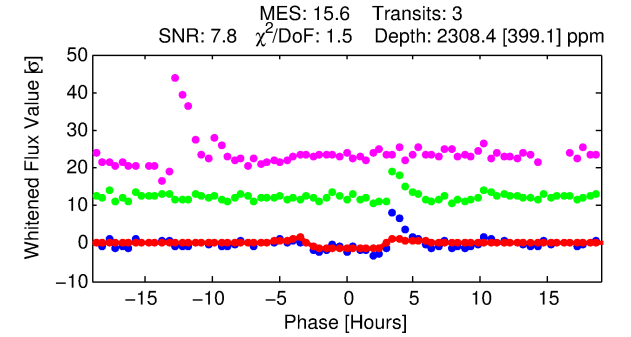
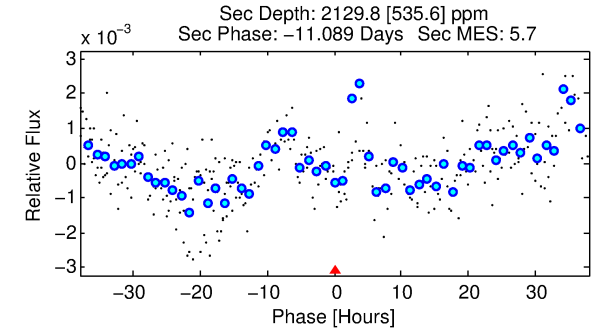
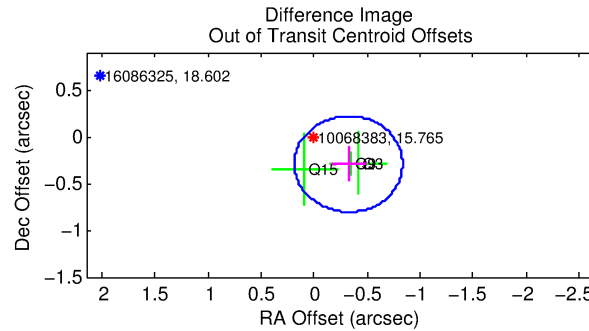
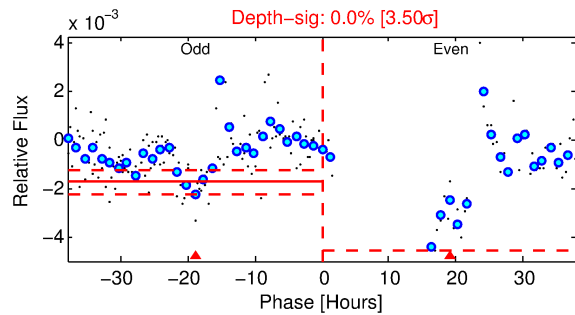
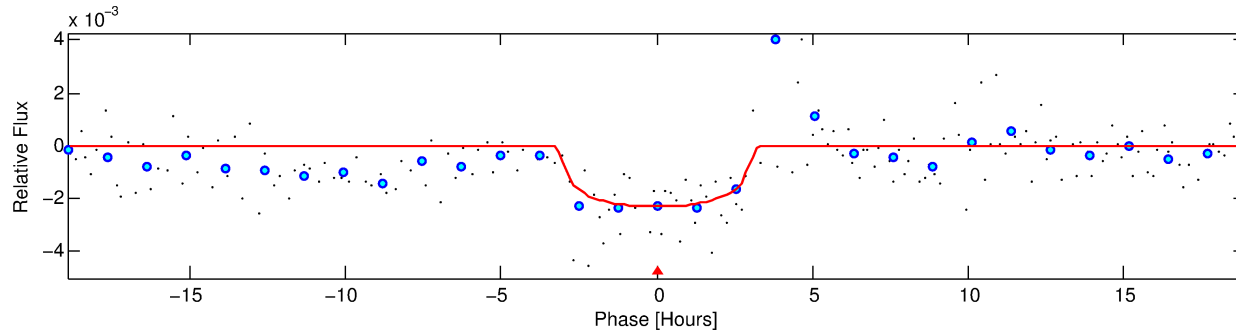
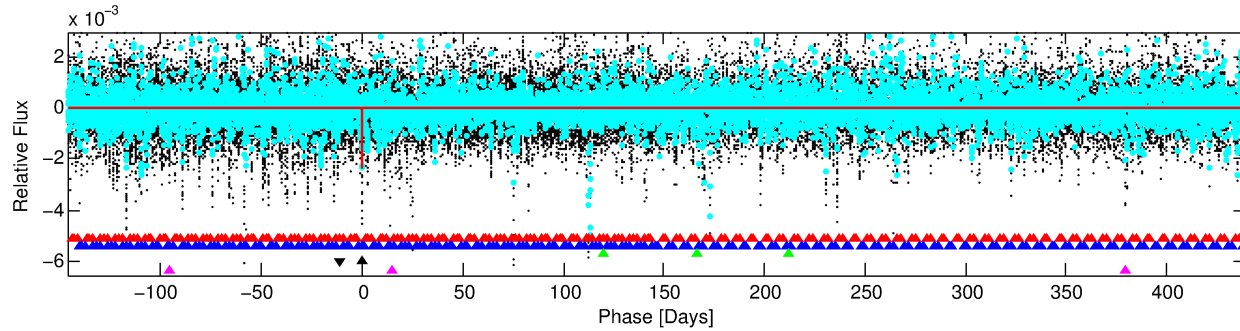
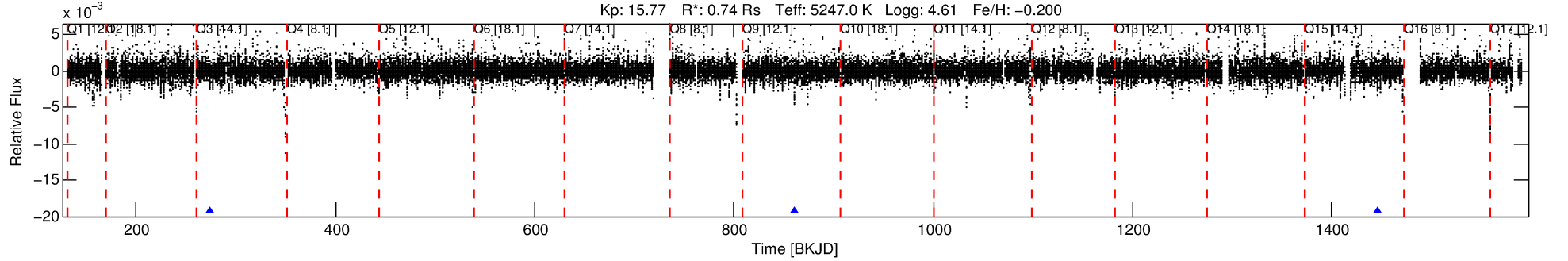
No Significant Match Found

DV One-Page Summary

KIC: 10068383 Candidate: 4 of 5 Period: 586.020 d

KOI: K00725 Corr: No Ephemeris Match

Kp: 15.77 R*: 0.74 Rs Teff: 5247.0 K Logg: 4.61 Fe/H: -0.200



DV Fit Results:

Period = 586.02022 [0.00644] d
Epoch = 274.3671 [0.0086] BKJD
Rp/R* = 0.0440 [0.0356]
a/R* = 681.02 [2023.80]
b = 0.41 [6.14]
Seff = 0.23 [0.05]
Teq = 176 [10] K
Rp = 3.58 [2.94] Re
a = 1.2834 [0.1604] AU
Ag = 150989.44 [248487.86] [0.61σ]
Teffp = 5372 [2203] K [2.36σ]

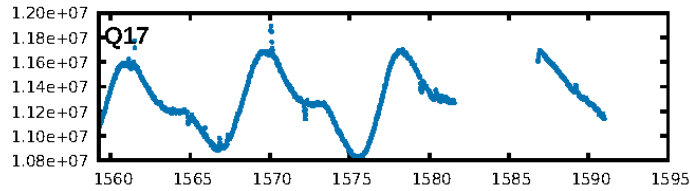
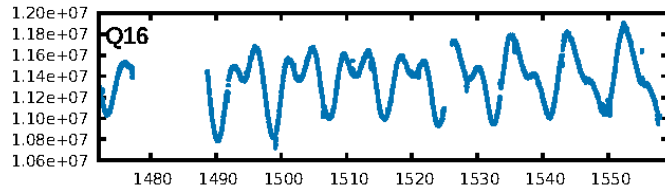
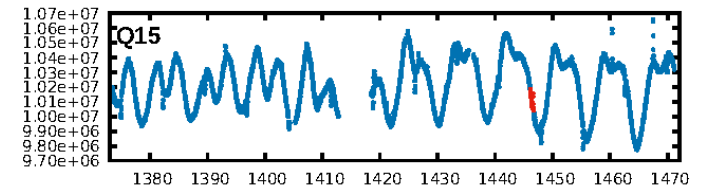
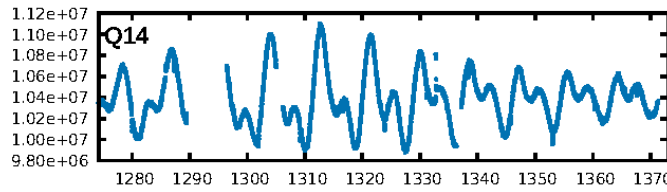
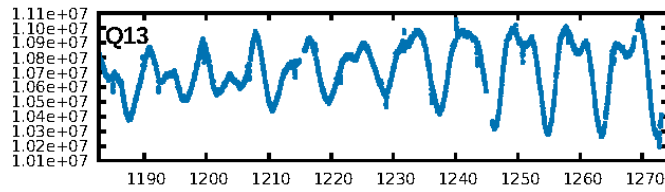
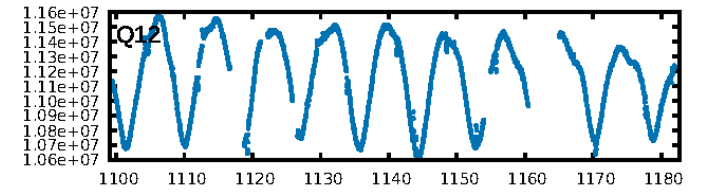
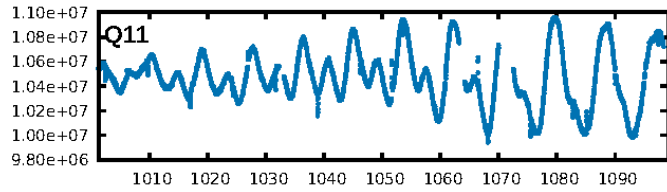
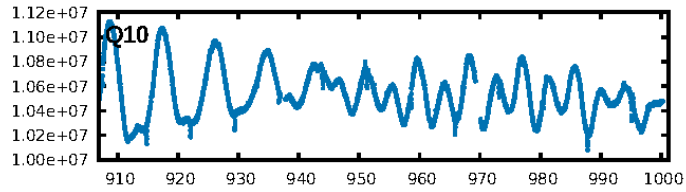
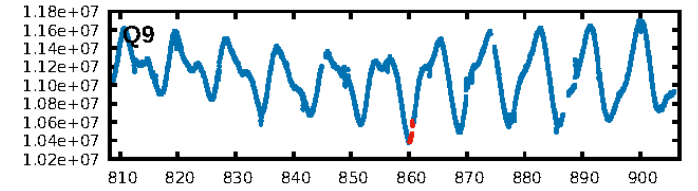
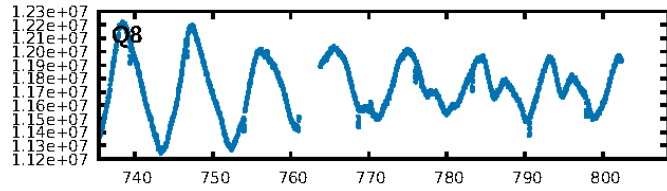
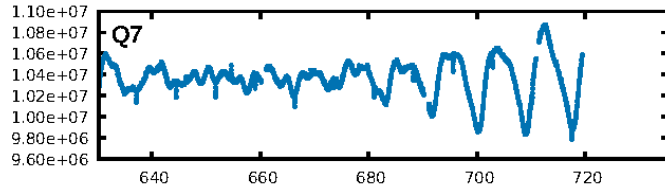
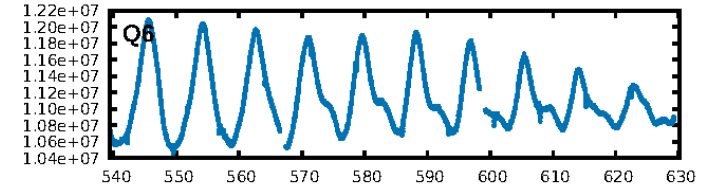
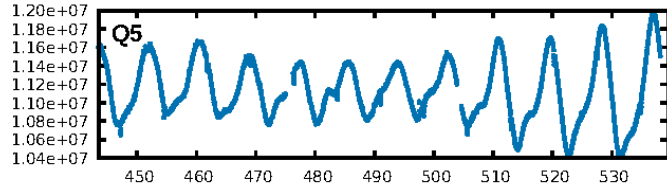
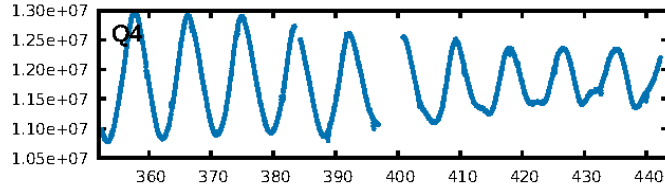
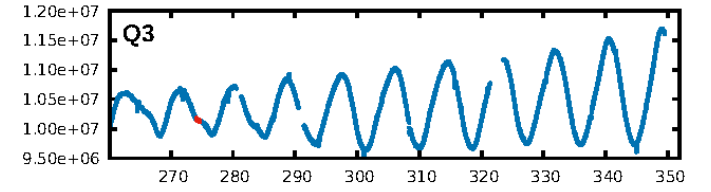
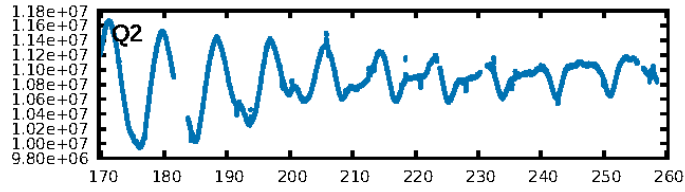
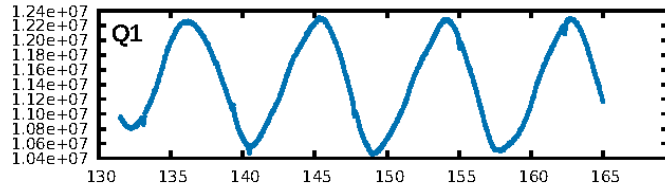
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [139.73σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 12.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.5003
Centroid-sig: 5.1%
Centroid-so: 0.691 arcsec [0.98σ]
OotOffset-rm: 0.436 arcsec [2.56σ]
KicOffset-rm: 0.181 arcsec [1.05σ]
OotOffset-st: 0/2/0/1 [3]
KicOffset-st: 0/2/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.67 [2/3]

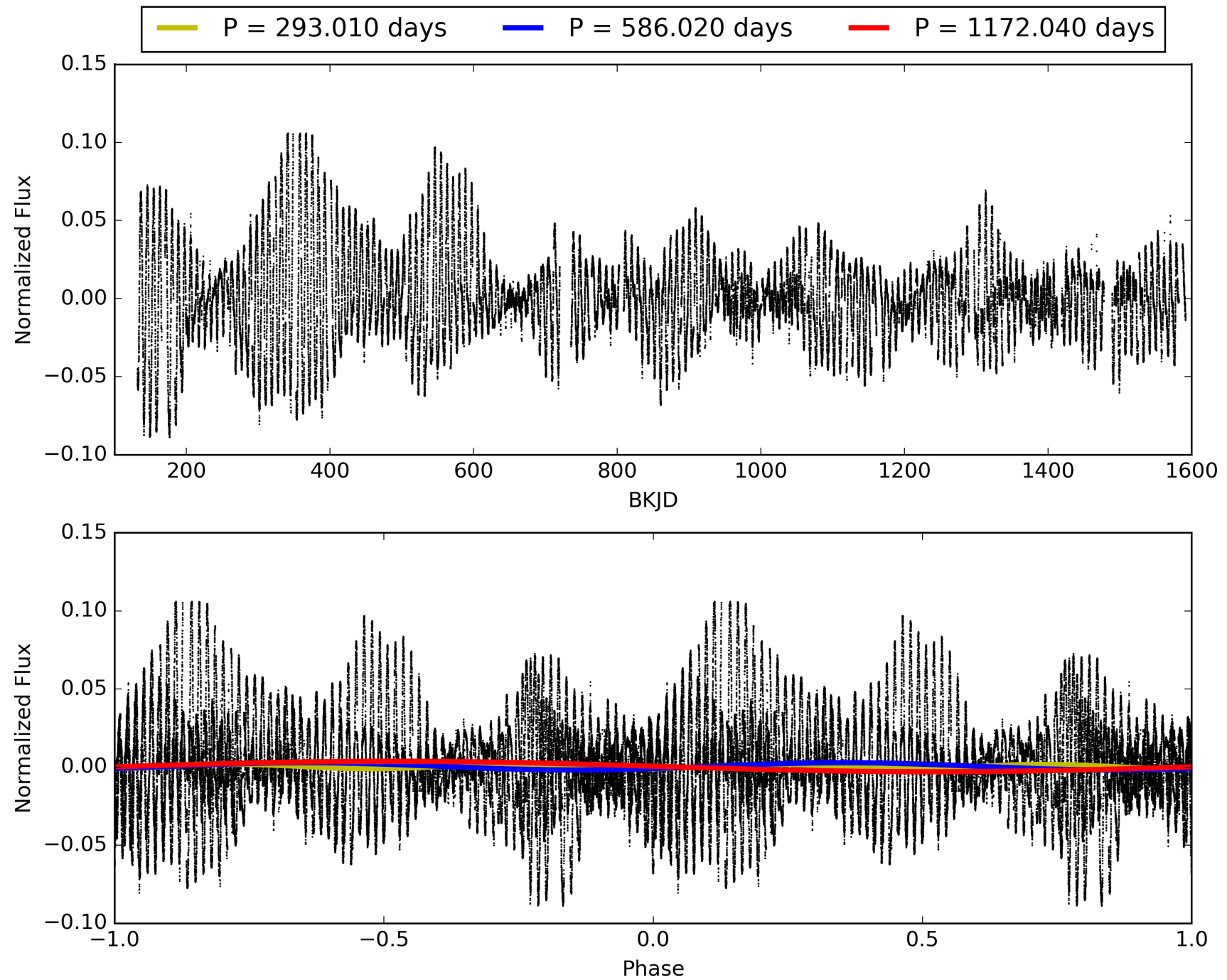
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:11:28 Z

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

TCE 010068383-04, PDC Light Curves

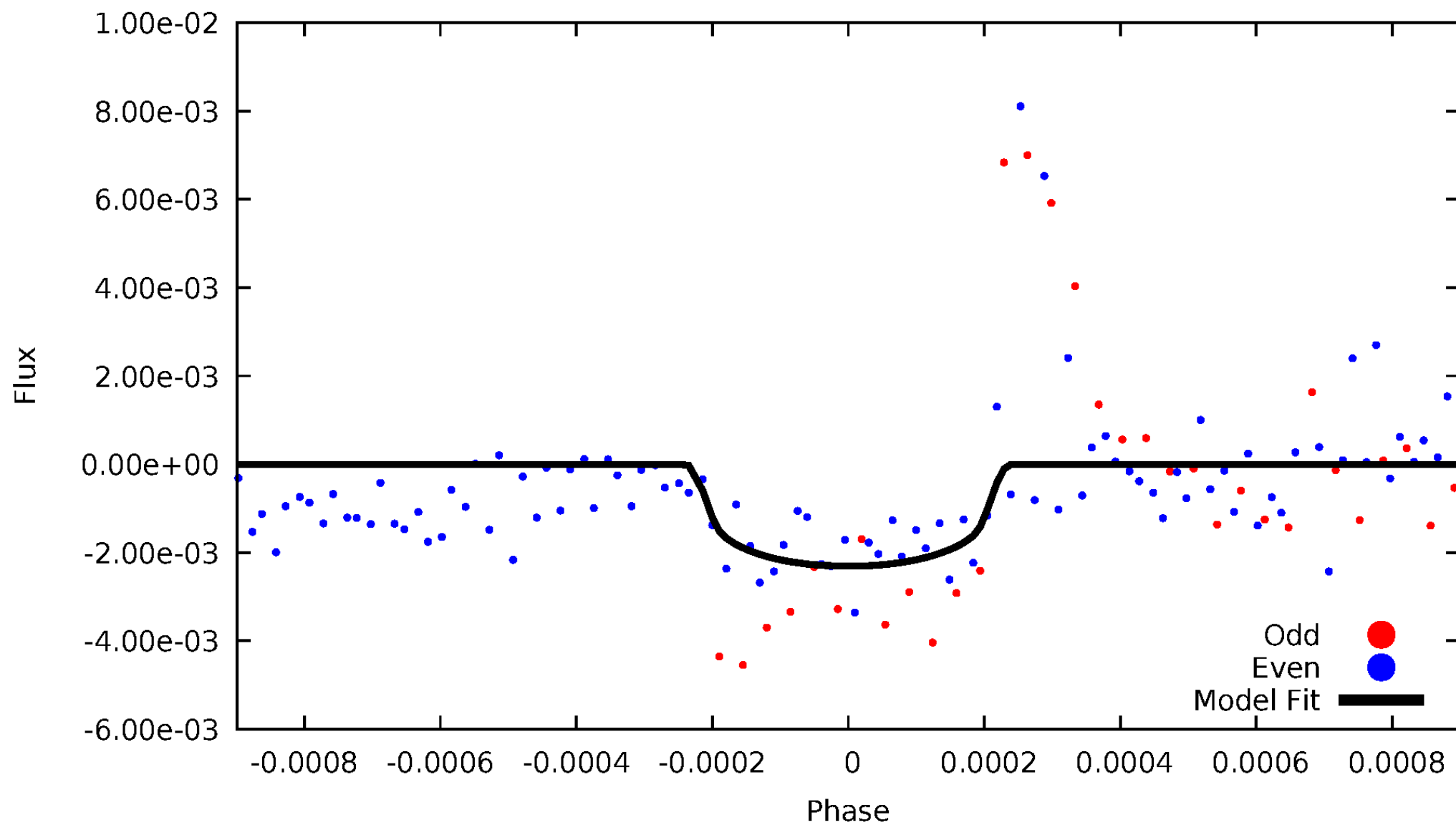


TCE 010068383-04



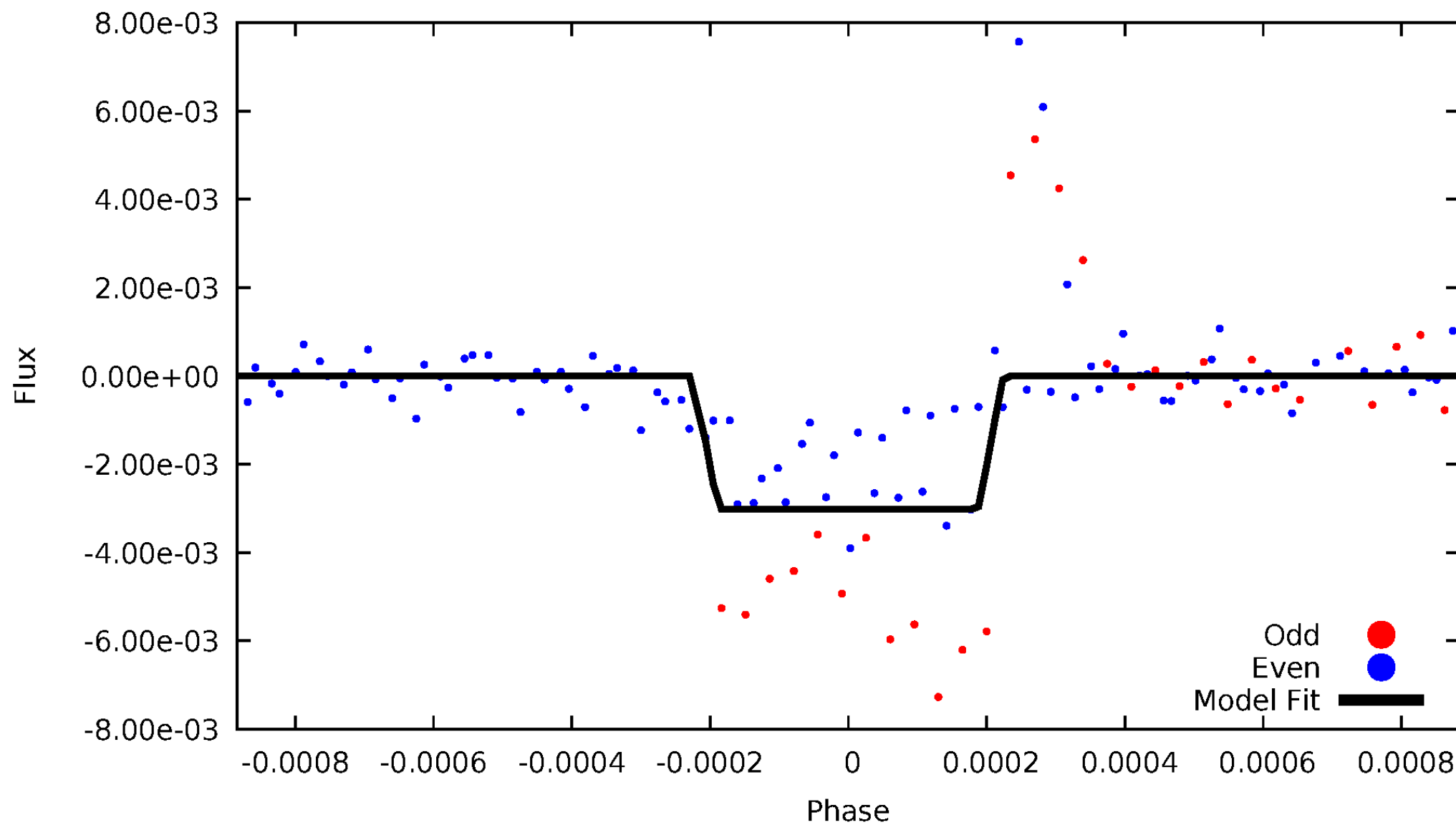
DV Odd/Even

TCE 010068383-04



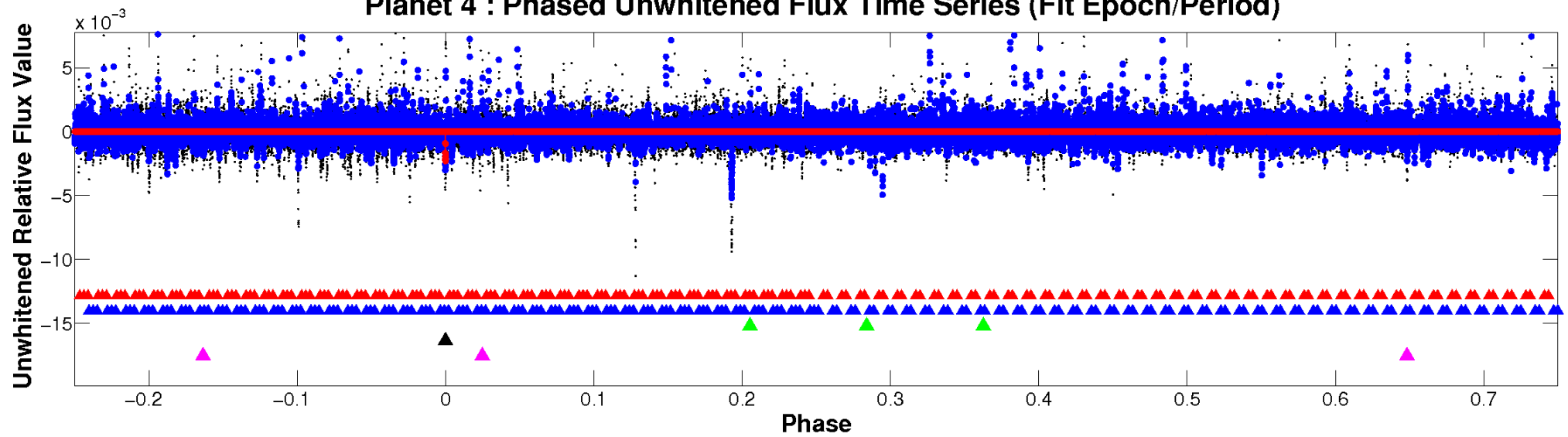
ALT Odd/Even

TCE 010068383-04

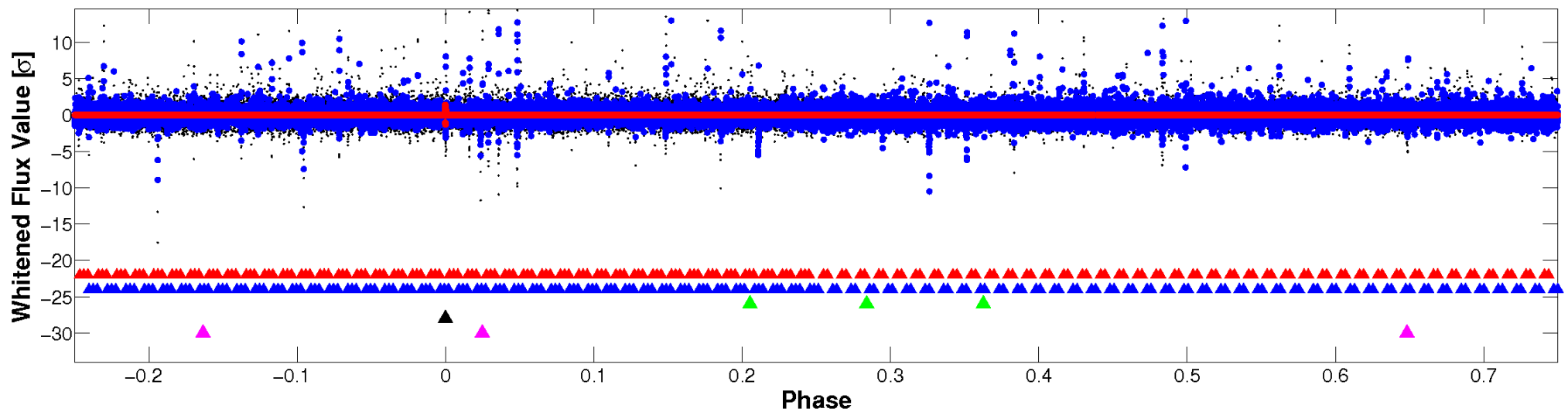


Non-Whitened Vs. Whitened Light Curve

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

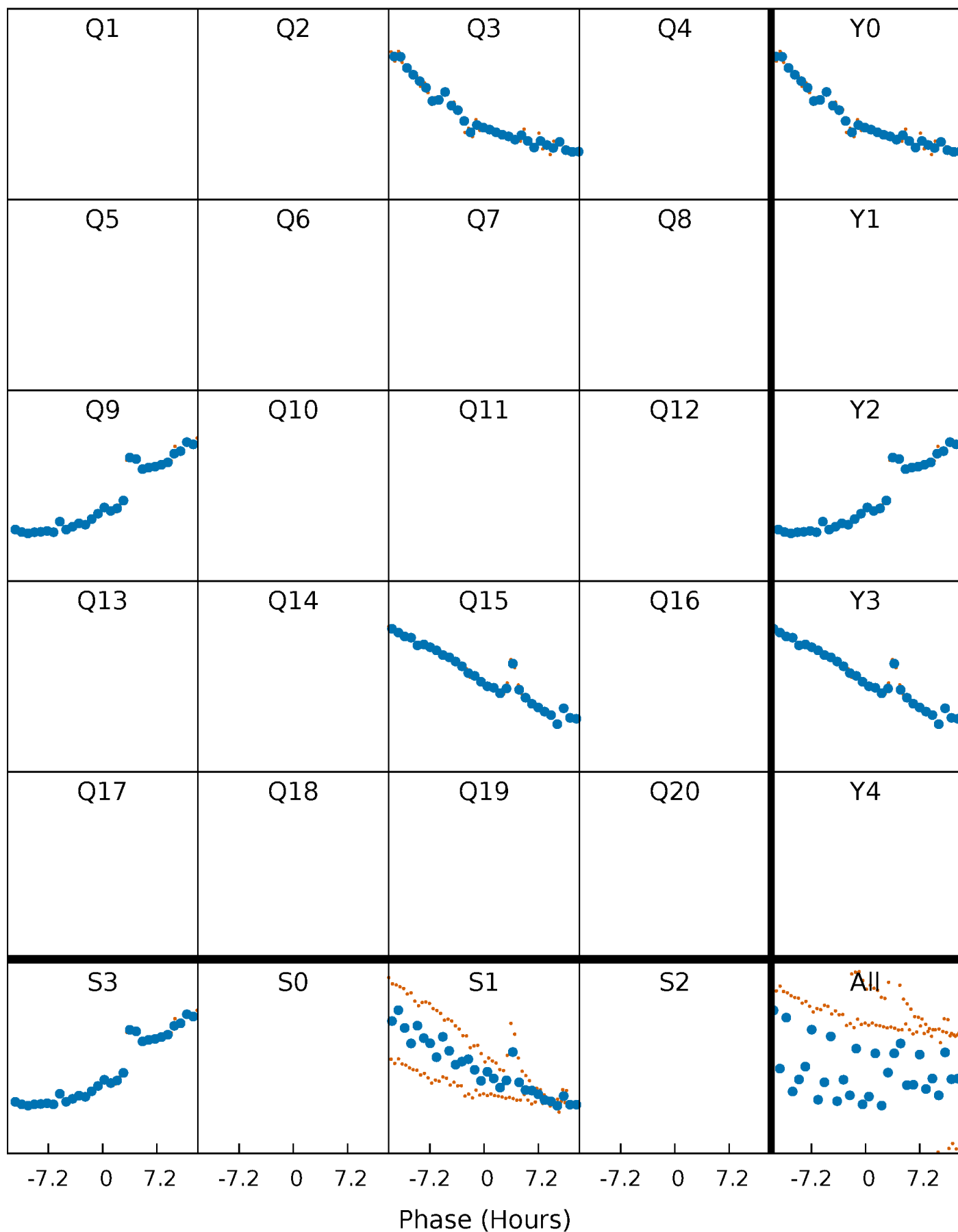


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



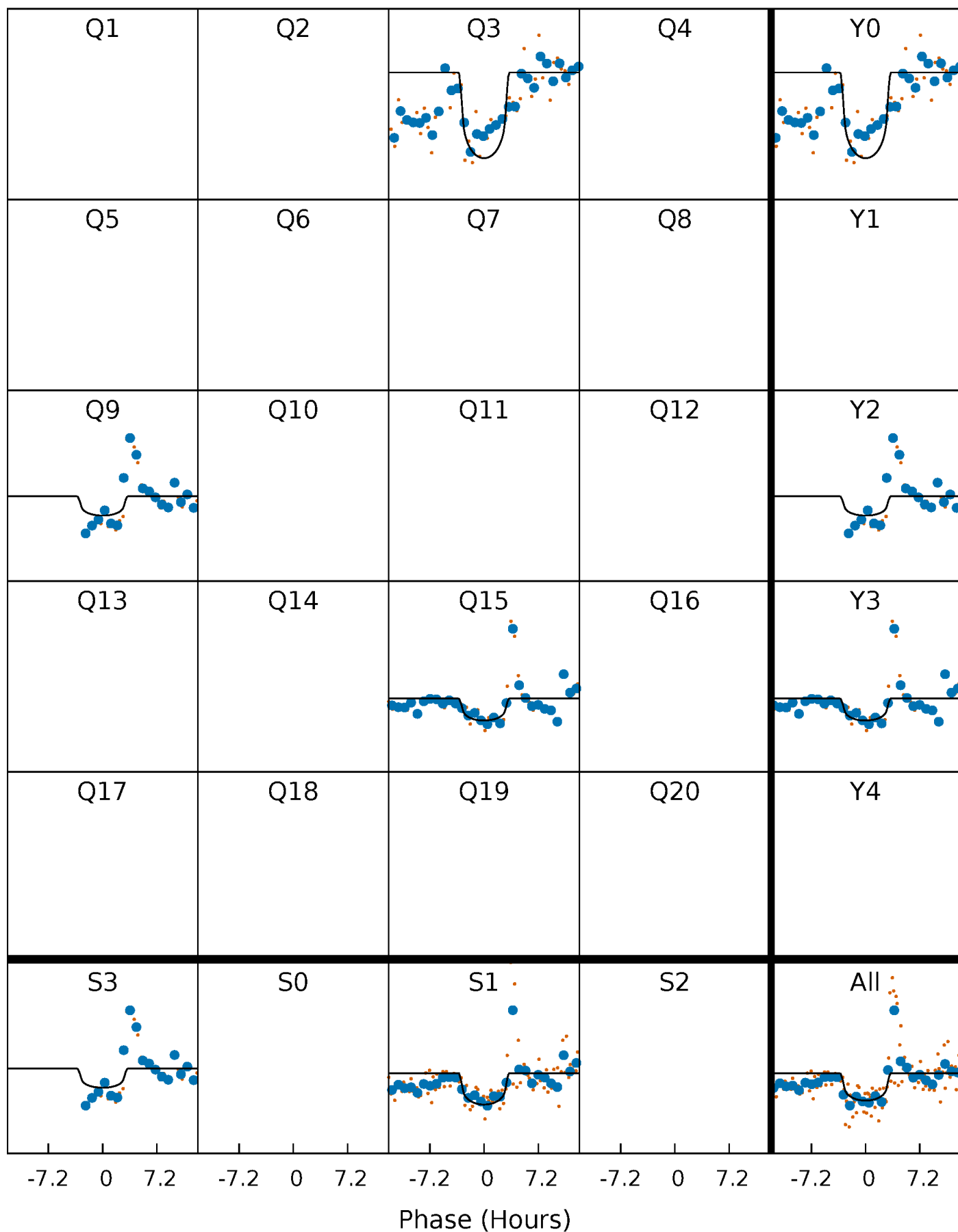
PDC Quarter-Phased Transit Curves

TCE 010068383-04 $P=586.020217$ Days $T_0=274.367065$ (BKJD)



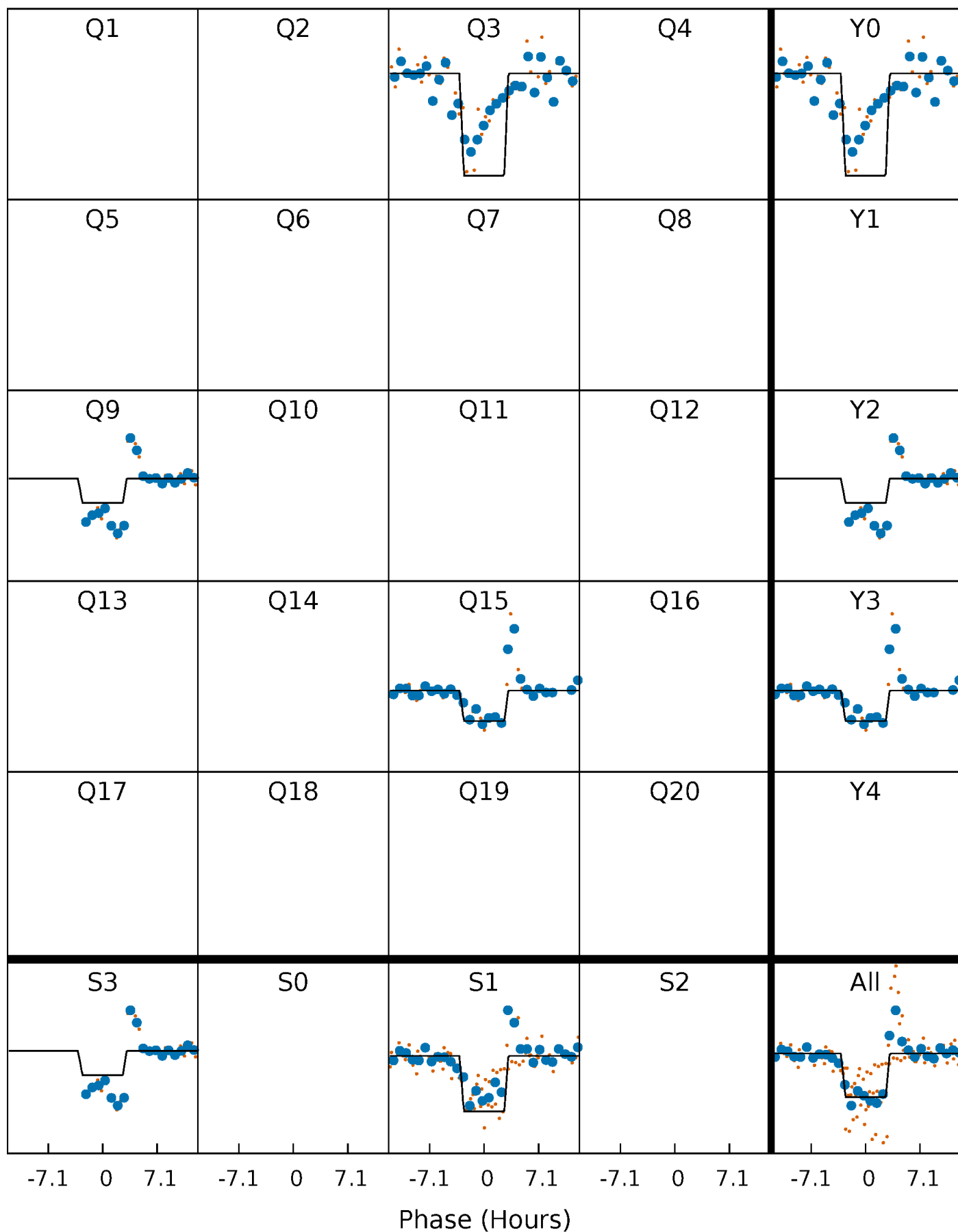
DV Quarter-Phased Transit Curves

TCE 010068383-04 P=586.020217 Days $T_0=274.367065$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

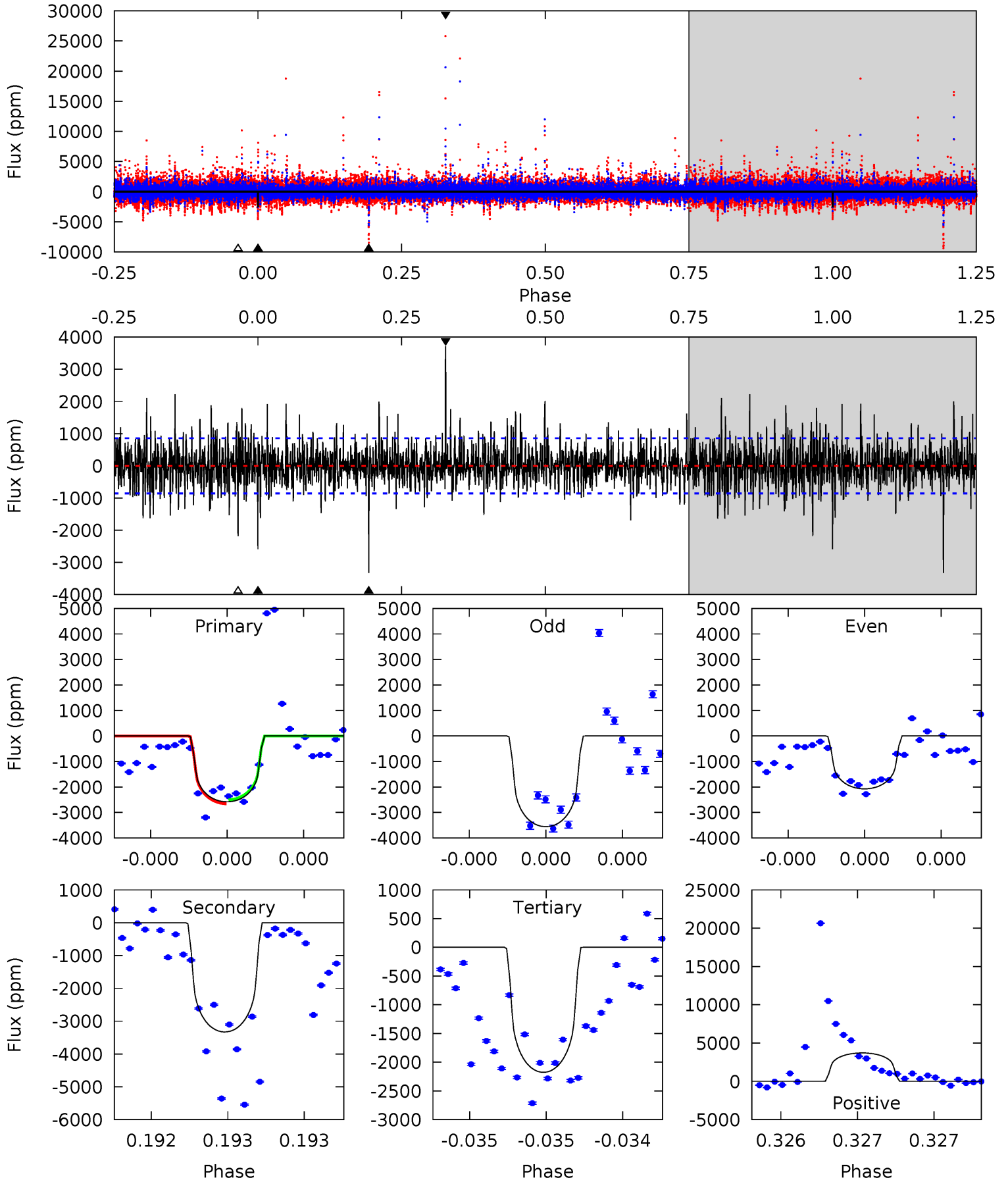
TCE 010068383-04 $P=586.027690$ Days $T_0=274.355964$ (BKJD)



DV Model-Shift Uniqueness Test

010068383-04, P = 586.020217 Days, E = 274.367065 Days

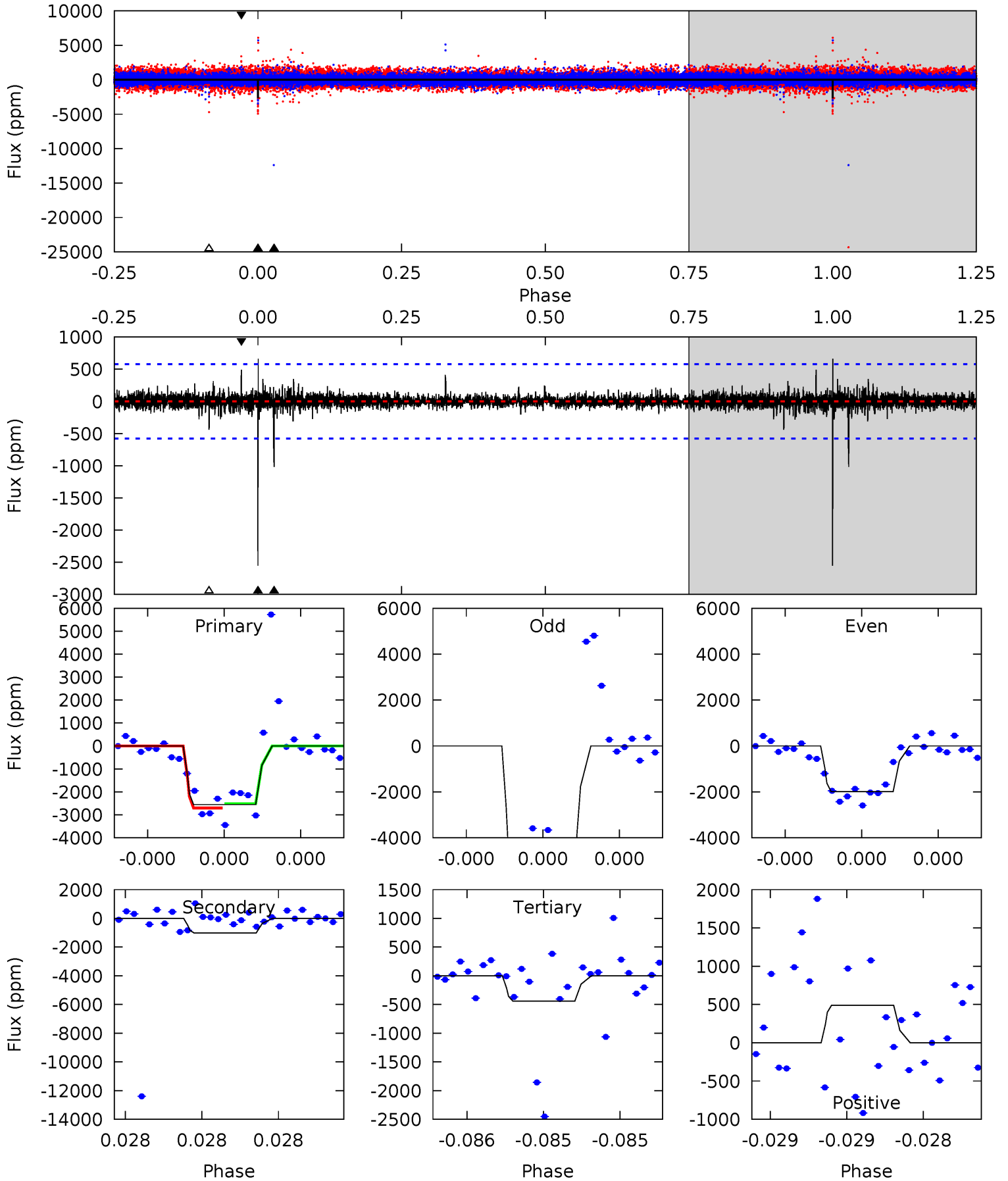
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.8	21.7	14.2	24.1	5.58	3.49	3.04	2.64	-7.33	7.50	-2.46	4.22	1.13	0.53	0.51



Alt Model-Shift Uniqueness Test

010068383-04, P = 586.027690 Days, E = 274.355964 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.8	9.87	4.27	4.76	5.60	3.52	0.58	20.5	20.0	5.60	5.11	16.5	1.22	0.21	0.91



Stellar Parameters For KIC 010068383

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5247^{+158}_{-158}	$4.609^{+0.032}_{-0.097}$	$-0.200^{+0.300}_{-0.300}$	$0.744^{+0.112}_{-0.060}$	$0.833^{+0.069}_{-0.095}$	$2.848^{+0.488}_{-0.825}$
	+3%/-3%	+1%/-2%	+150%/-150%	+15%/-8%	+8%/-11%	+17%/-29%
Source	PHO1	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 010068383-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-3329 ± 154	$4.19^{+2.66}_{-2.58}$	249^{+11}_{-9}	5628^{+3982}_{-1132}	$172521^{+1000666}_{-110712}$
Alt.	-1017 ± 103	$4.88^{+2.74}_{-2.54}$	250^{+10}_{-10}	4107^{+1442}_{-592}	$38542^{+125937}_{-23093}$

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

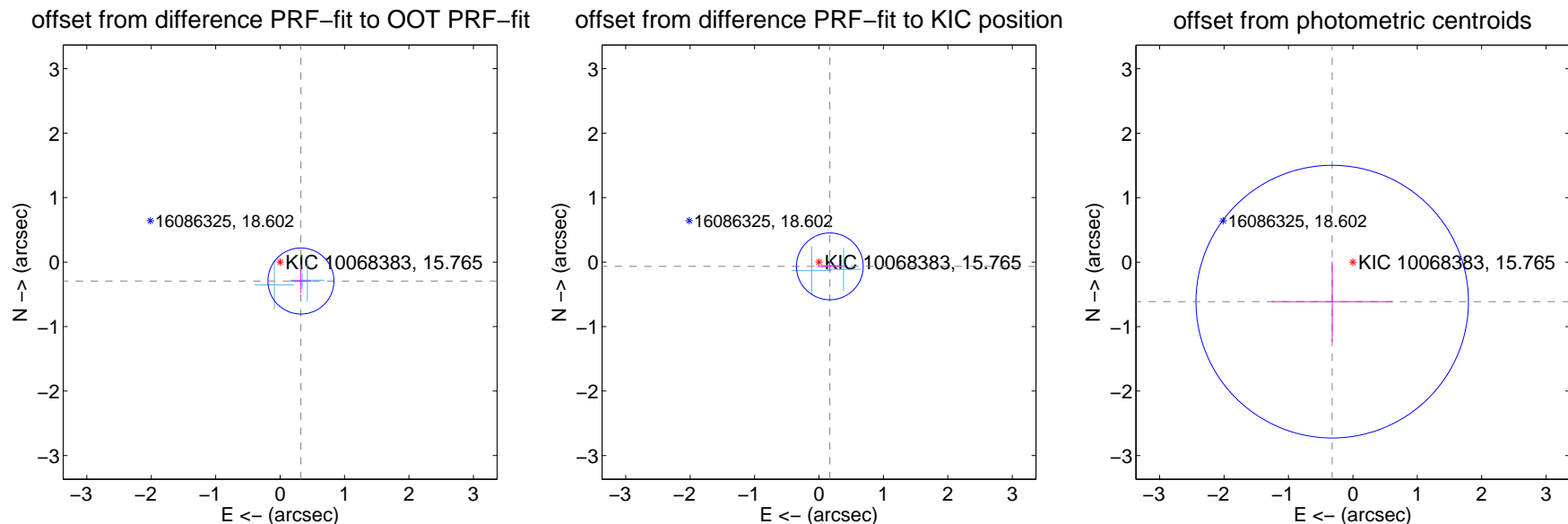
DV Centroid Data

Supplemental centroid analysis for 010068383-04. Kepler magnitude: 15.77. Transit SNR 7.84

There are 3 quarters with good PRF difference image offsets

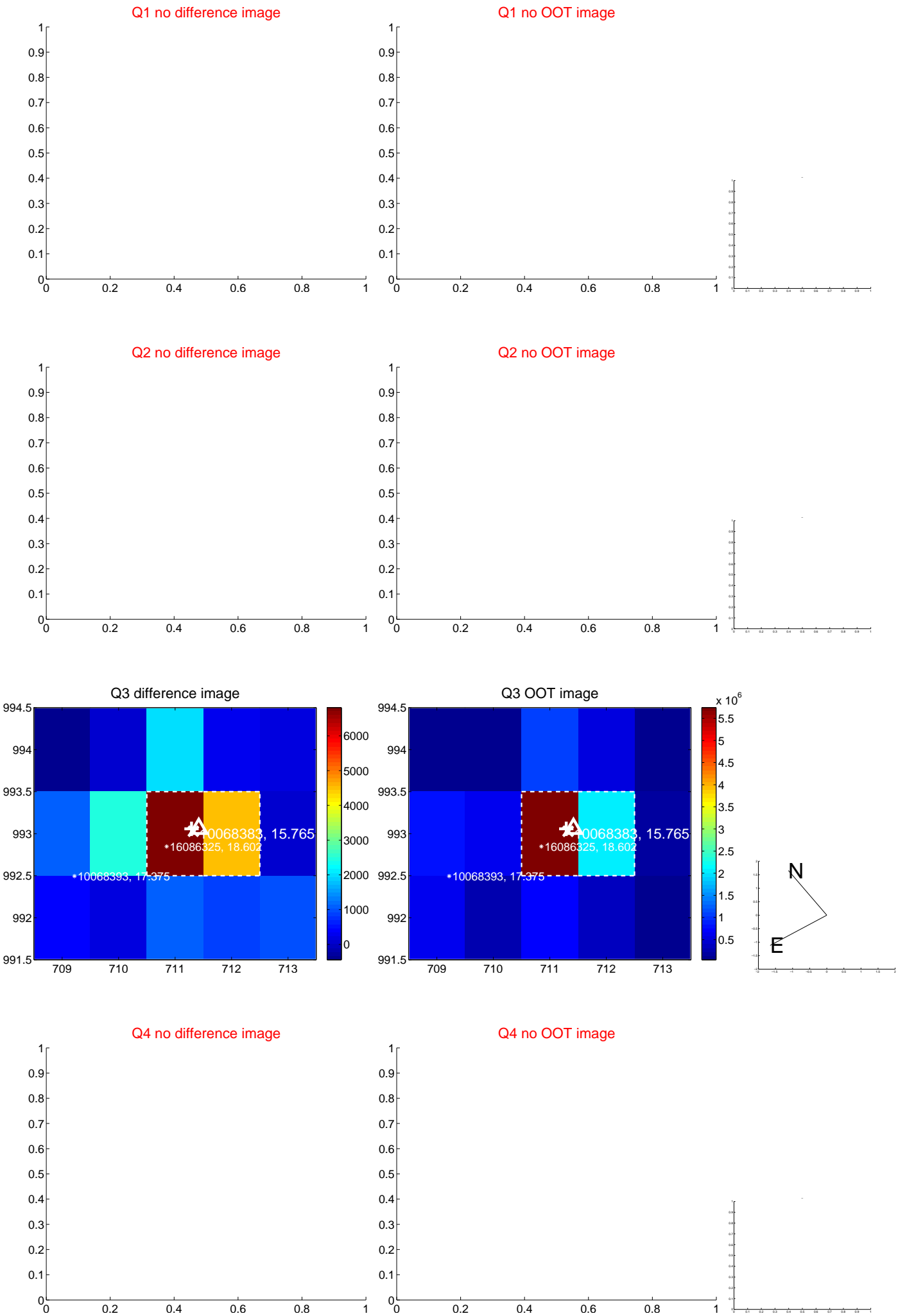
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.436 ± 0.171	2.56	-0.323 ± 0.158	-0.293 ± 0.185
PRF-fit source offset from KIC position	0.181 ± 0.173	1.05	-0.168 ± 0.185	-0.066 ± 0.068
photometric centroid source offset	0.69 ± 0.71	0.98	0.32 ± 0.94	-0.61 ± 0.62



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.

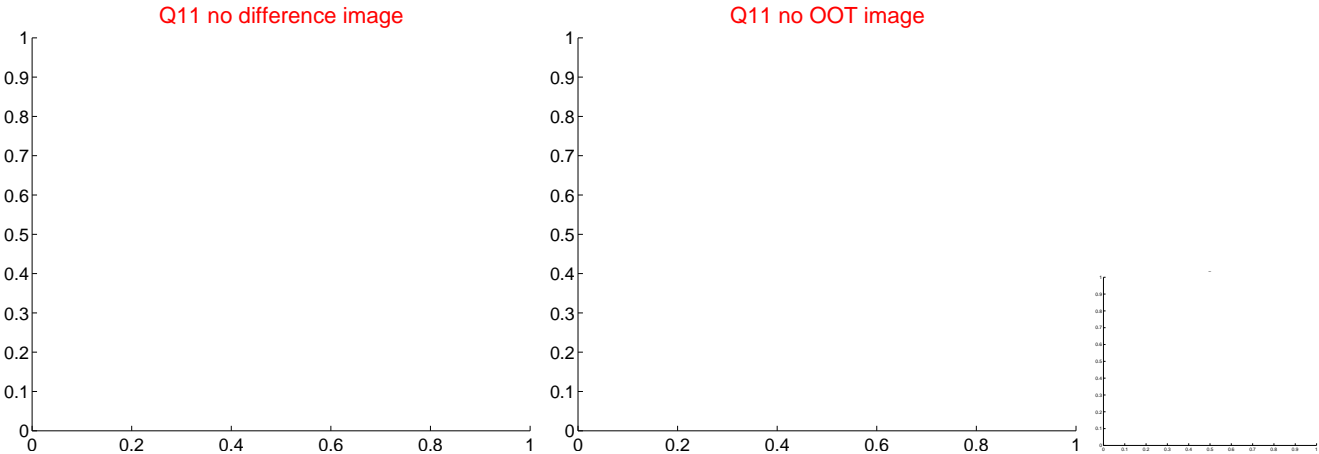
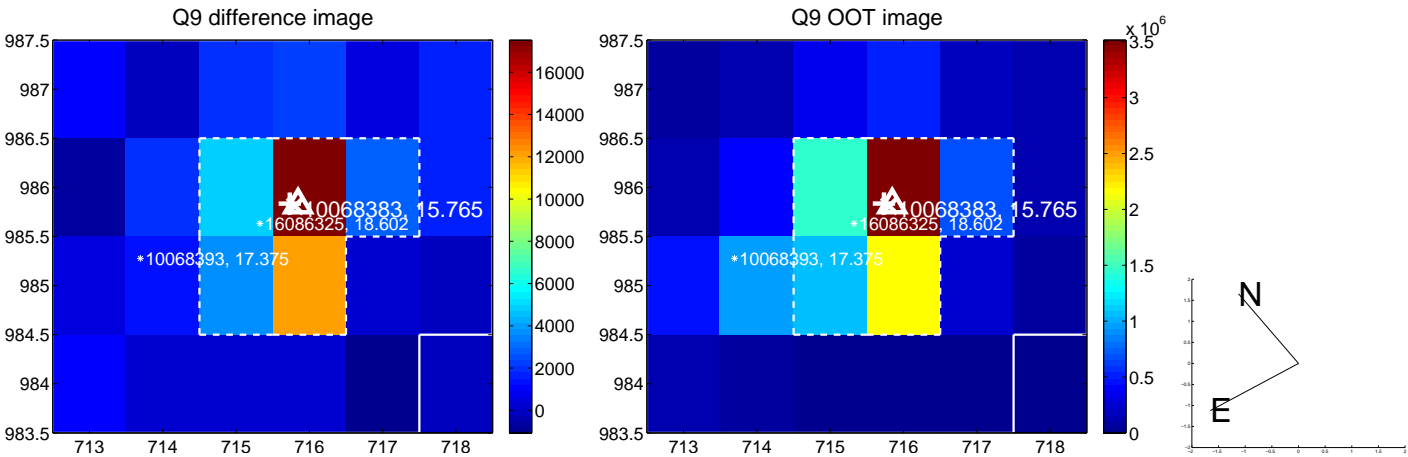
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



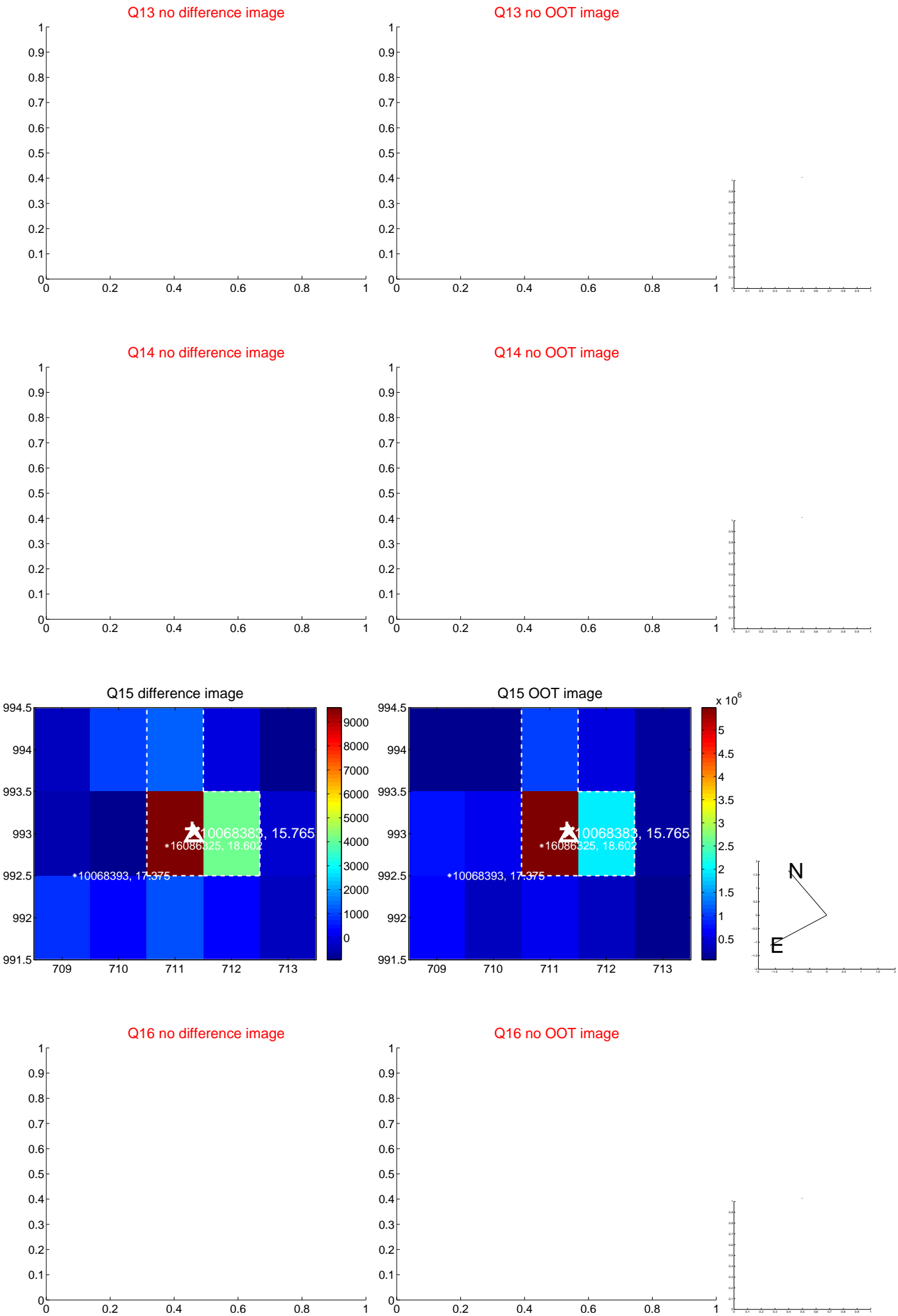
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



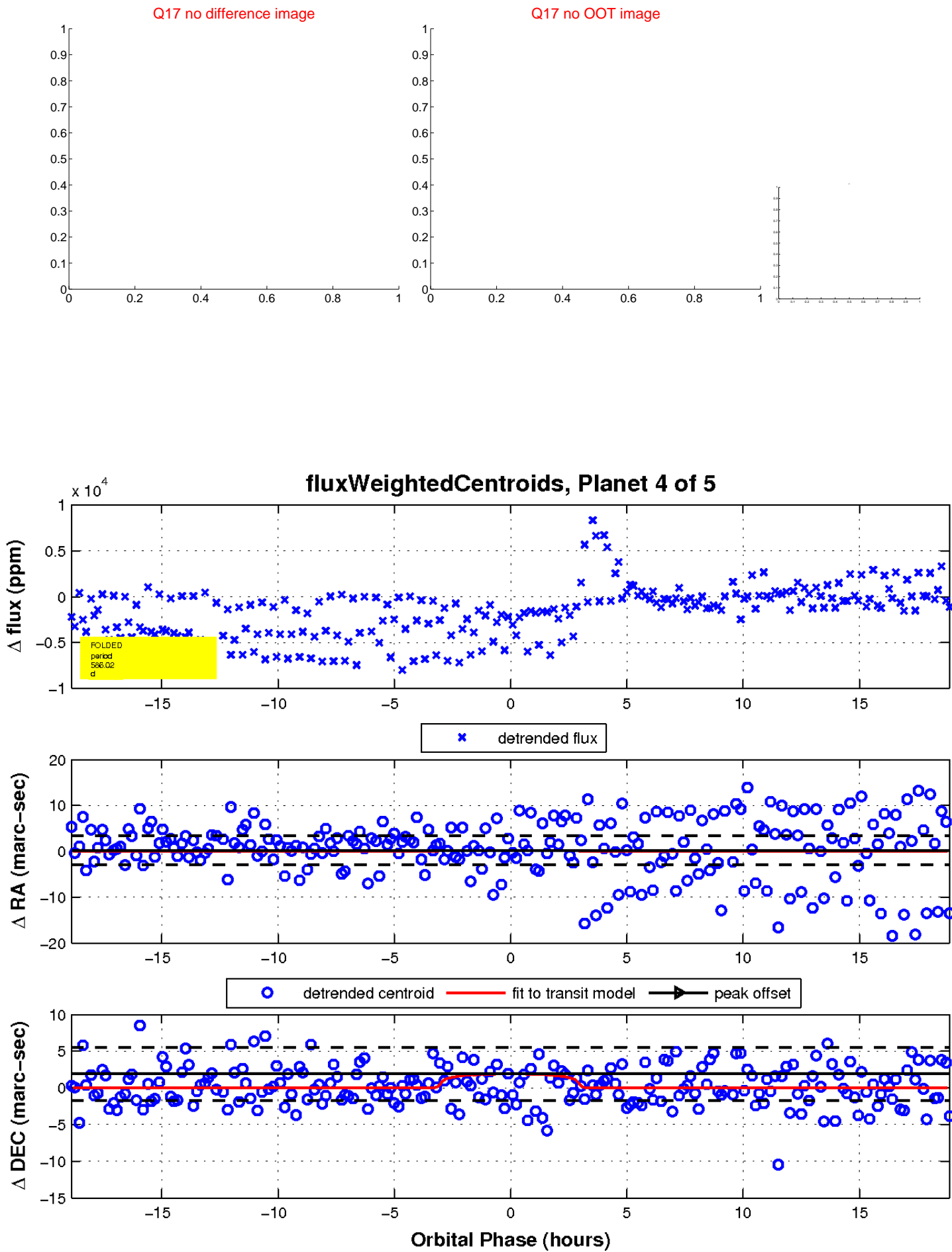
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

