

KIC 008610483

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})
008610483-01	OBS	7068.01	48.799553	160.189495	330161.0	5.000	5592.0	-1.0	0.99	6170	49.74	17.94
008610483-02	OBS	No	48.799299	146.114721	127773.9	16.474	2737.2	2576.2	0.99	6170	52.19	17.94
008610483-03	OBS	No	290.558412	213.796940	6860.6	15.000	76.5	-1.0	0.99	6170	8.22	1.66
008610483-04	OBS	No	216.370967	313.376489	6234.3	15.000	67.1	-1.0	0.99	6170	7.84	2.46
008610483-05	OBS	No	461.220593	576.364405	1877.3	20.726	22.9	8.4	0.99	6170	7.55	0.90
008610483-06	OBS	No	484.363917	604.888467	1854.6	7.500	21.8	-1.0	0.99	6170	4.27	0.84
008610483-07	OBS	No	318.472074	354.503228	338.4	1.182	22.4	1.8	0.99	6170	1.91	1.47
008610483-08	OBS	No	219.246981	308.479786	4753.0	2.500	23.5	-1.0	0.99	6170	6.86	2.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008610483-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
008610483-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008610483-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS
008610483-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008610483-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008610483-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008610483-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—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_FEW_DIFFS
008610483-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

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

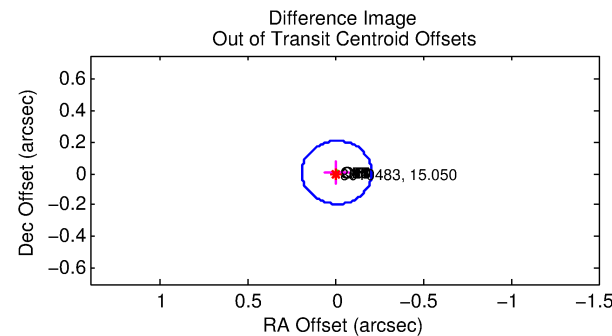
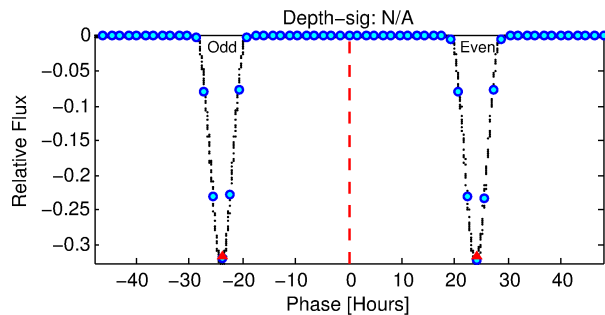
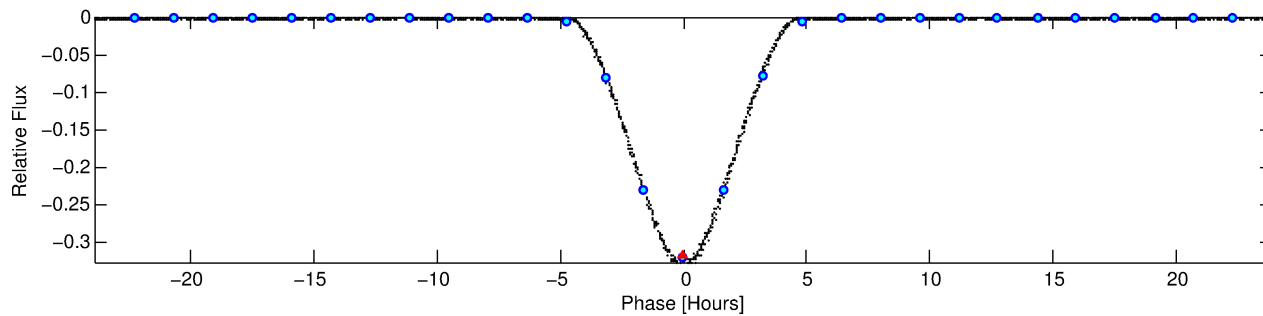
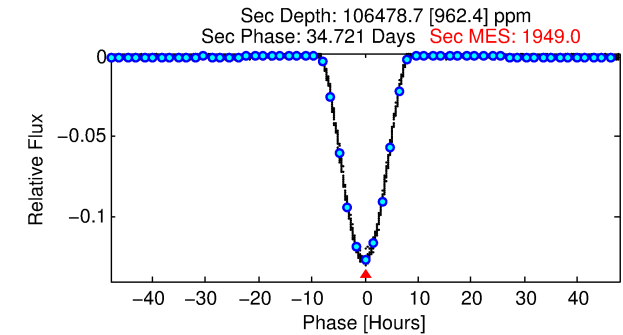
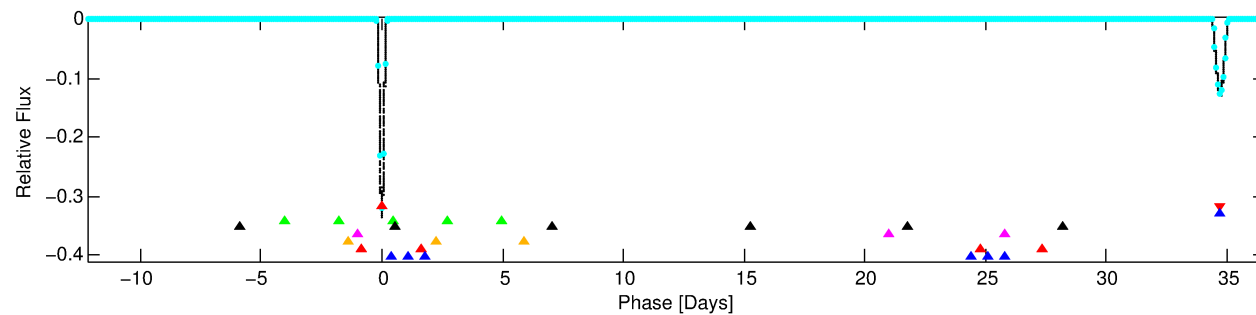
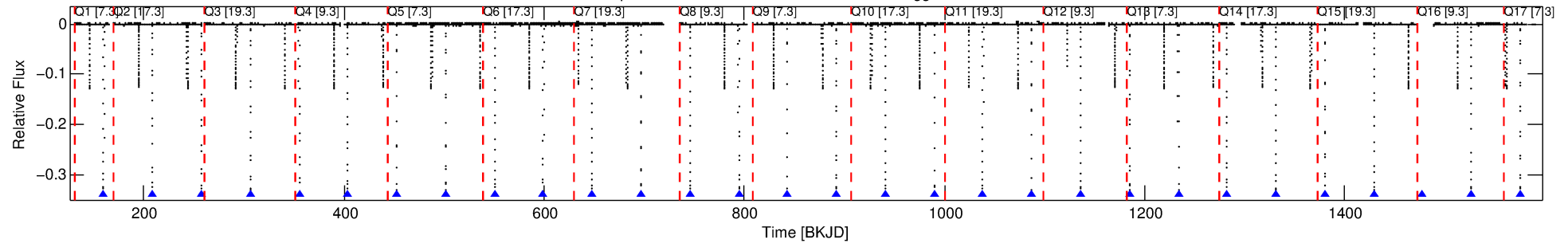
Ephemeris Match Information For 008610483-01

No Significant Match Found

DV One-Page Summary

KIC: 8610483 Candidate: 1 of 8 Period: 48.800 d
KOI: K07068.01 Corr: 0.752

Kp: 15.05 R*: 0.99 Rs Teff: 6170.0 K Logg: 4.47 Fe/H: -0.160



TPS TCE Results:

Period = 48.79955 d
Epoch = 160.1895 BKJD

DV fit results are unavailable

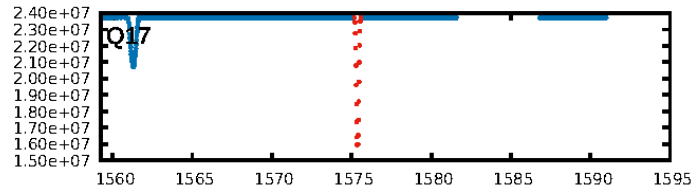
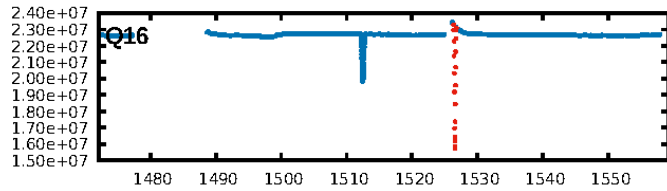
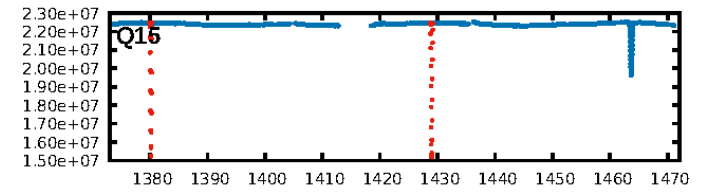
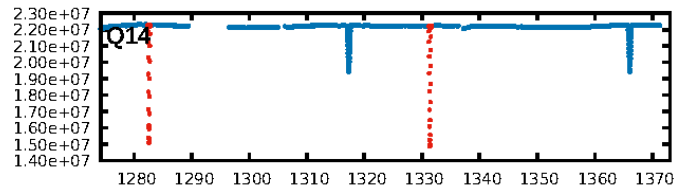
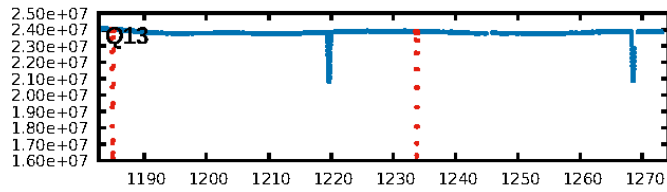
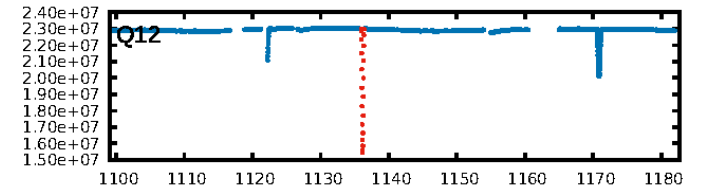
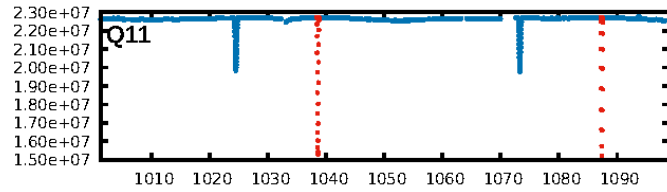
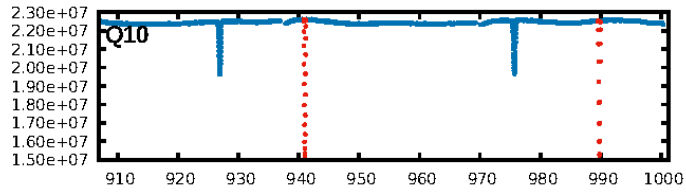
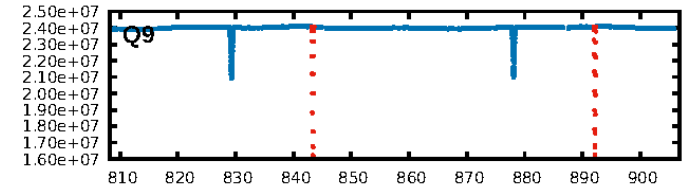
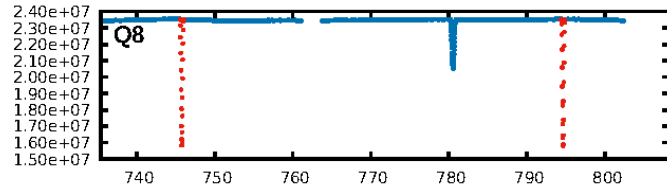
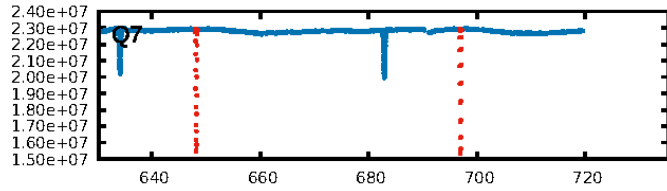
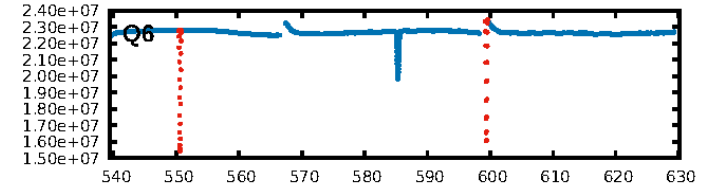
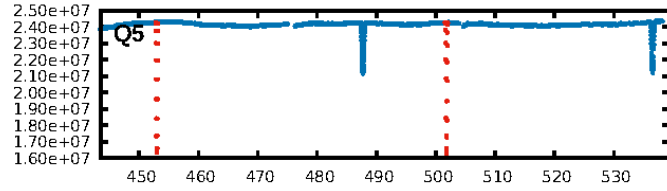
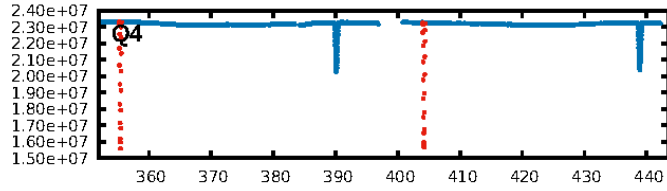
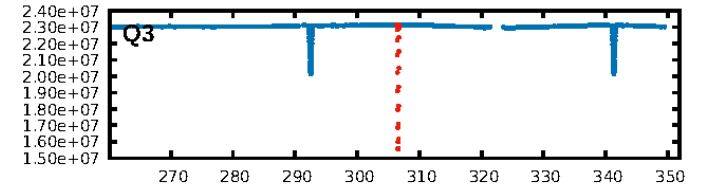
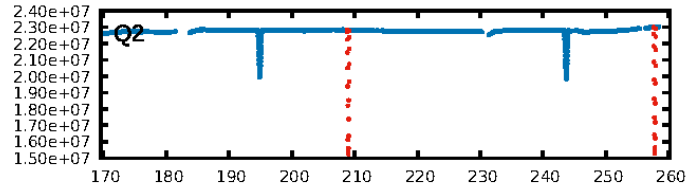
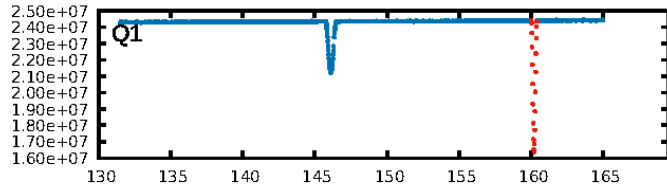
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 100.0% [254.36 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [27/27]
GhostDiagnostic-chr: 4.669
Centroid-sig: N/A
Centroid-so: 0.165 arcsec [159.74 σ]
OotOffset-rm: 0.009 arcsec [0.13 σ]
KicOffset-rm: 0.225 arcsec [3.33 σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 0.94 [15/16]

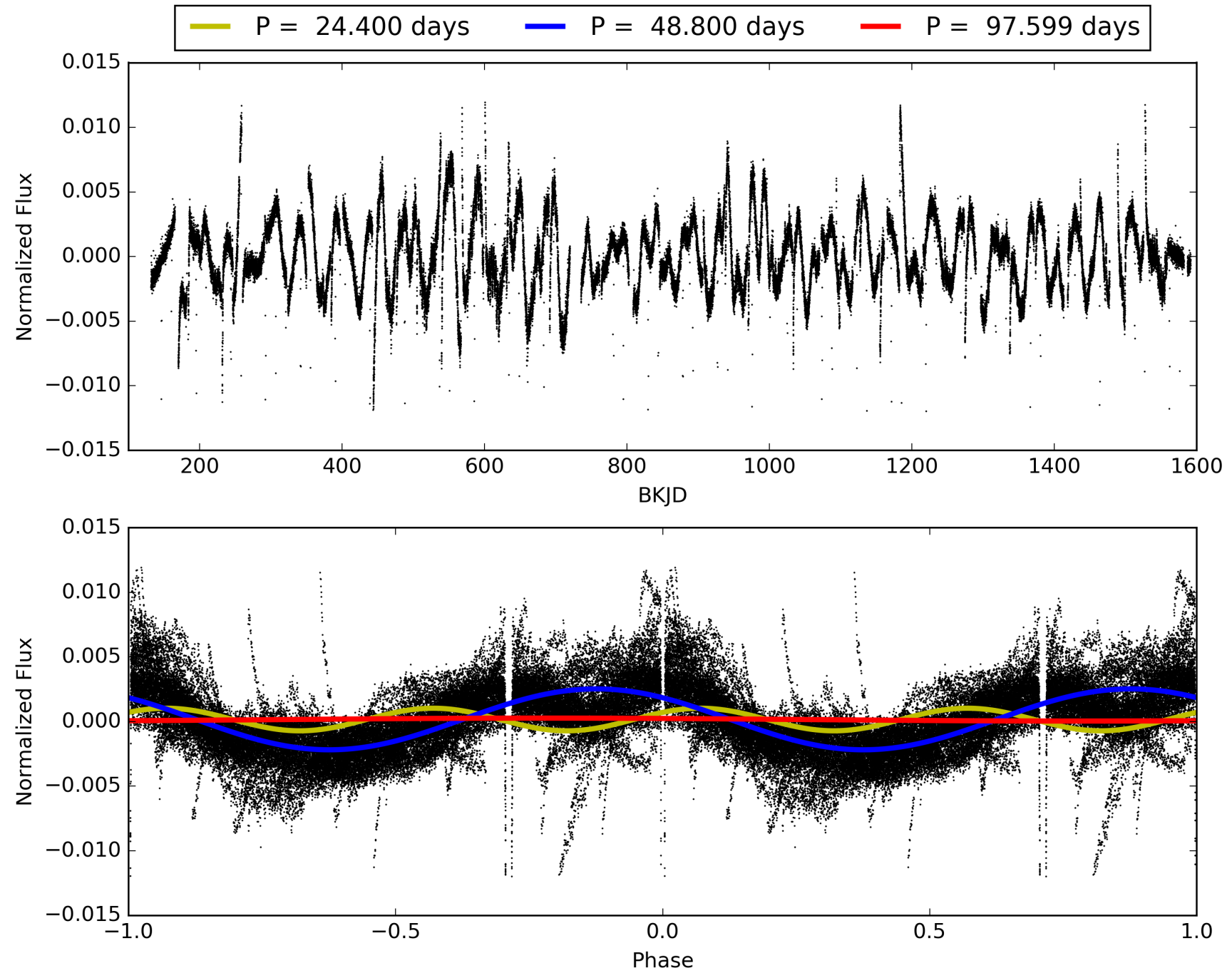
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:55:32 Z

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

TCE 008610483-01, PDC Light Curves

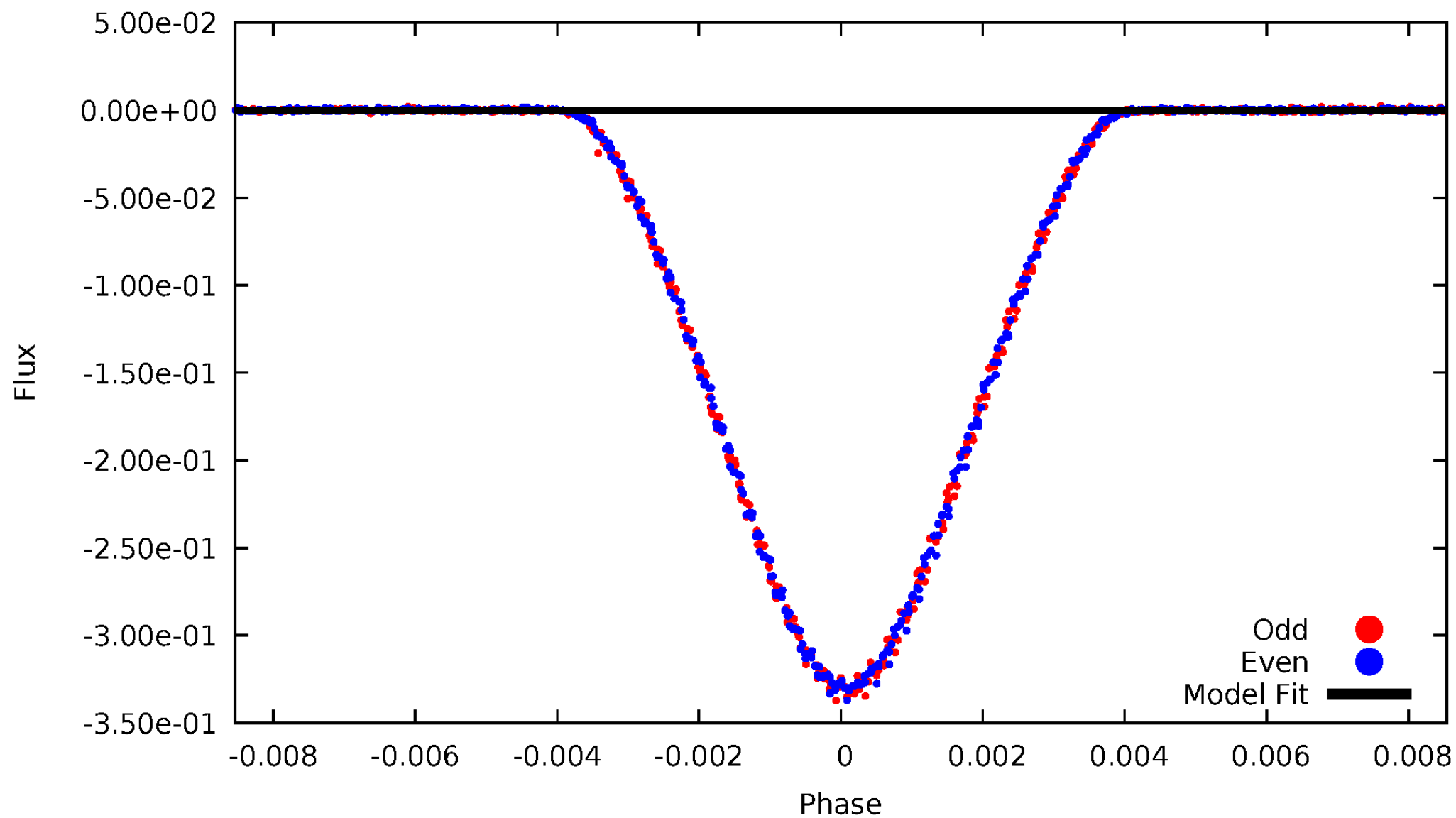


TCE 008610483-01



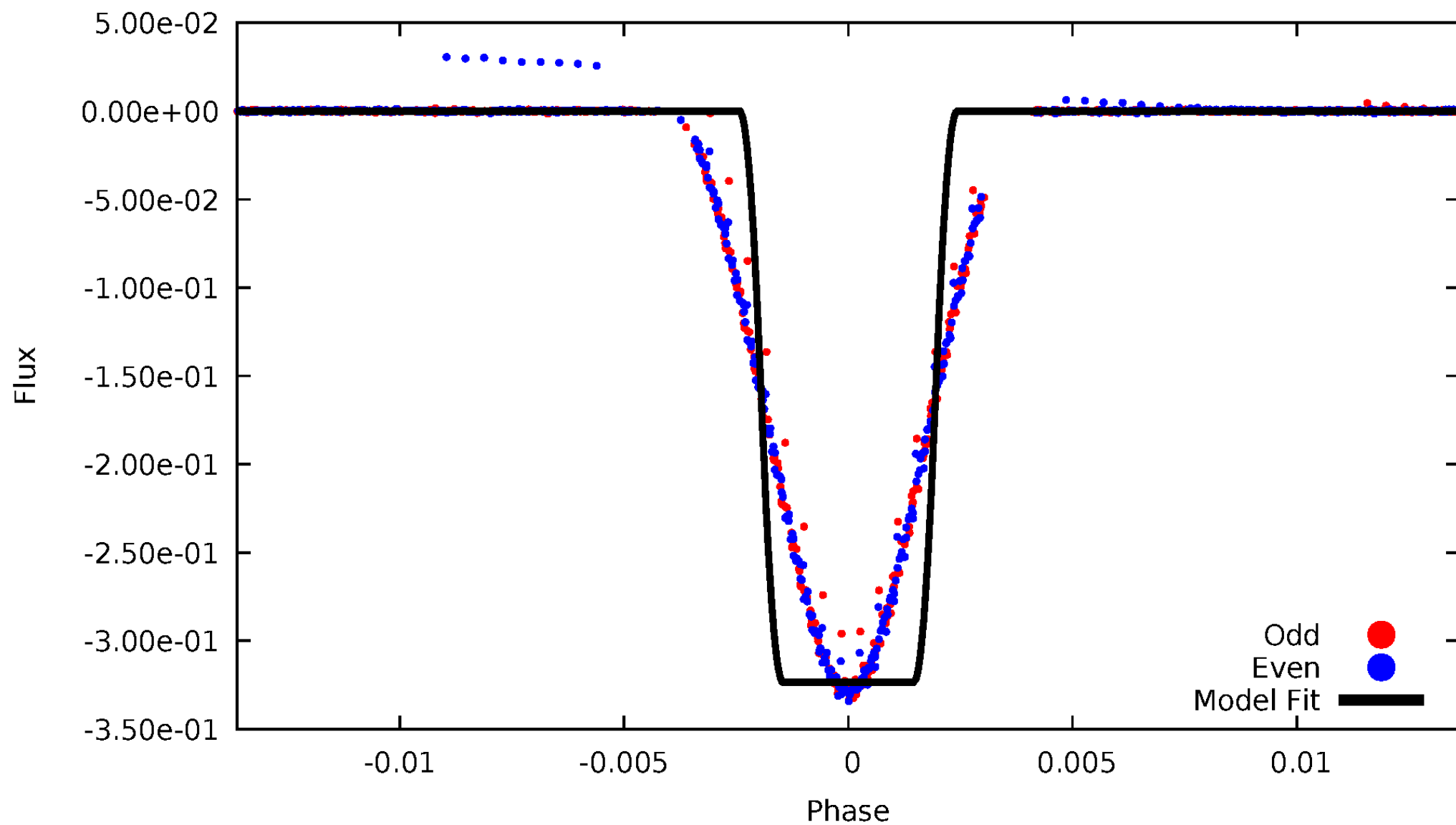
DV Odd/Even

TCE 008610483-01



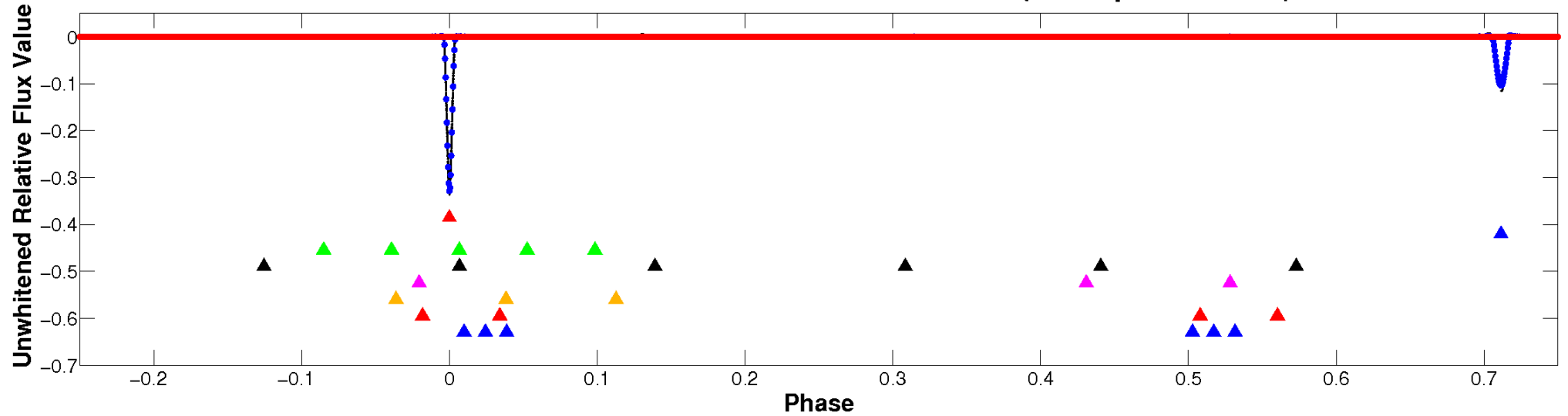
ALT Odd/Even

TCE 008610483-01



Non-Whitened Vs. Whitened Light Curve

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

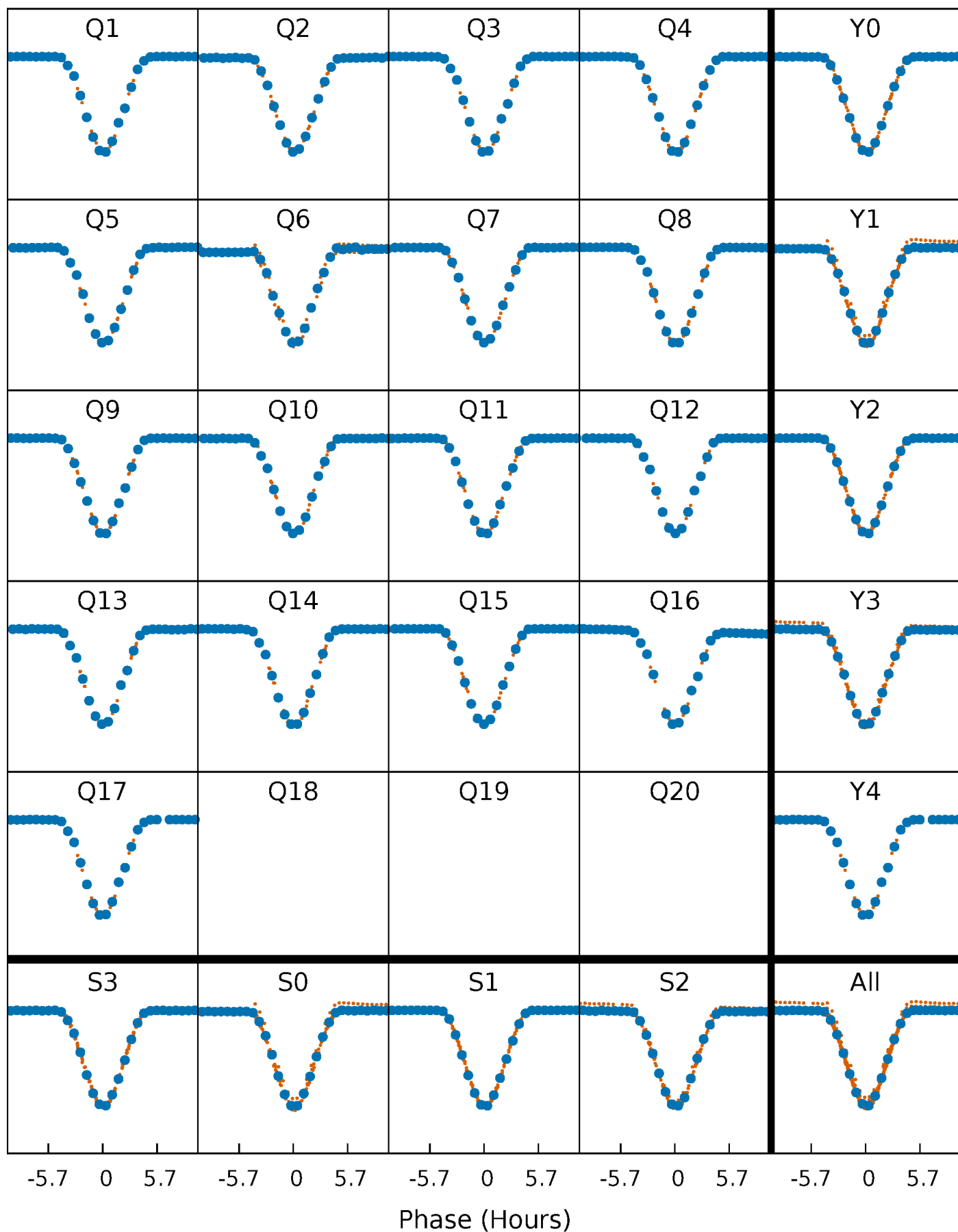


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



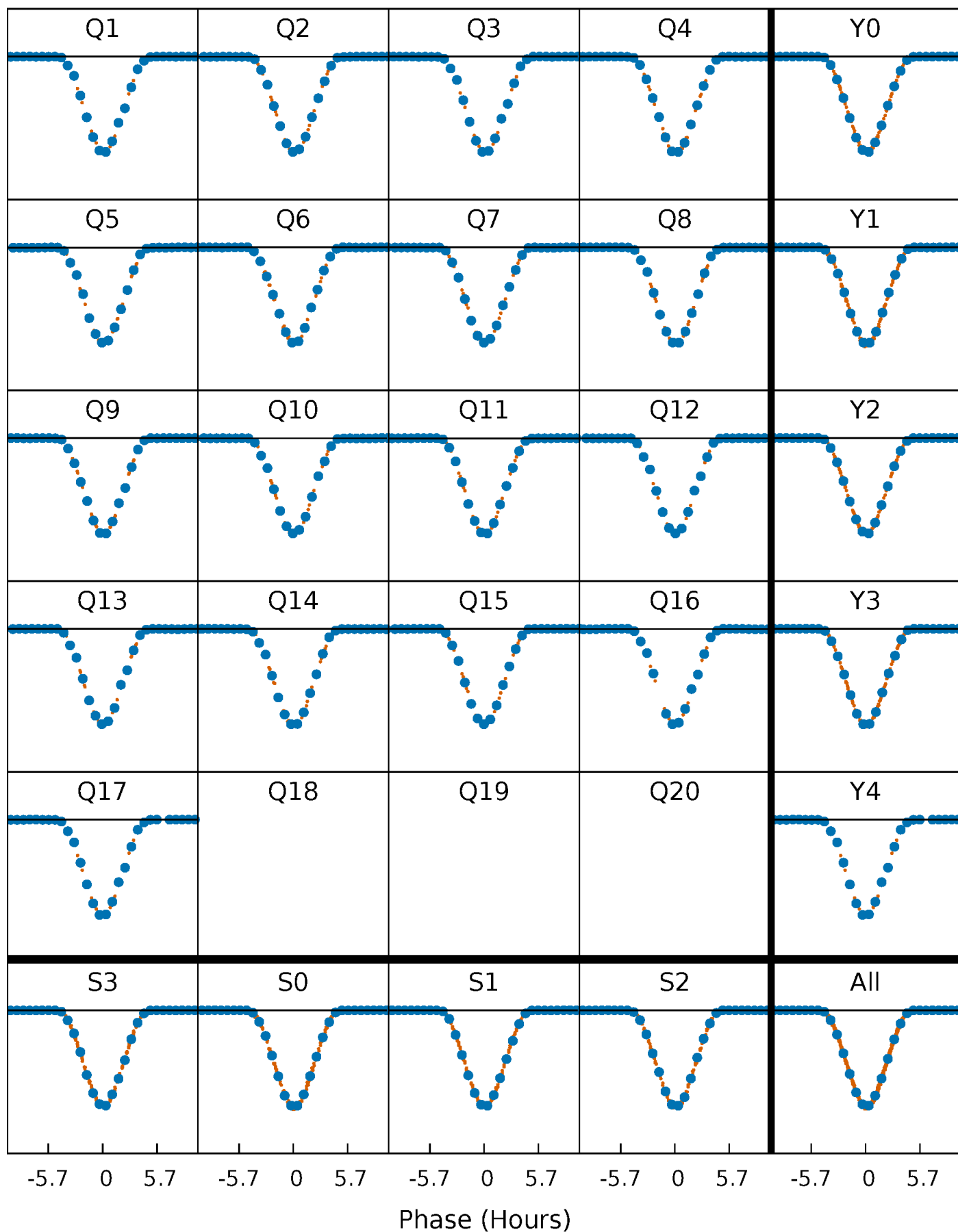
PDC Quarter-Phased Transit Curves

TCE 008610483-01 P= 48.799553 Days $T_0=160.189495$ (BKJD)



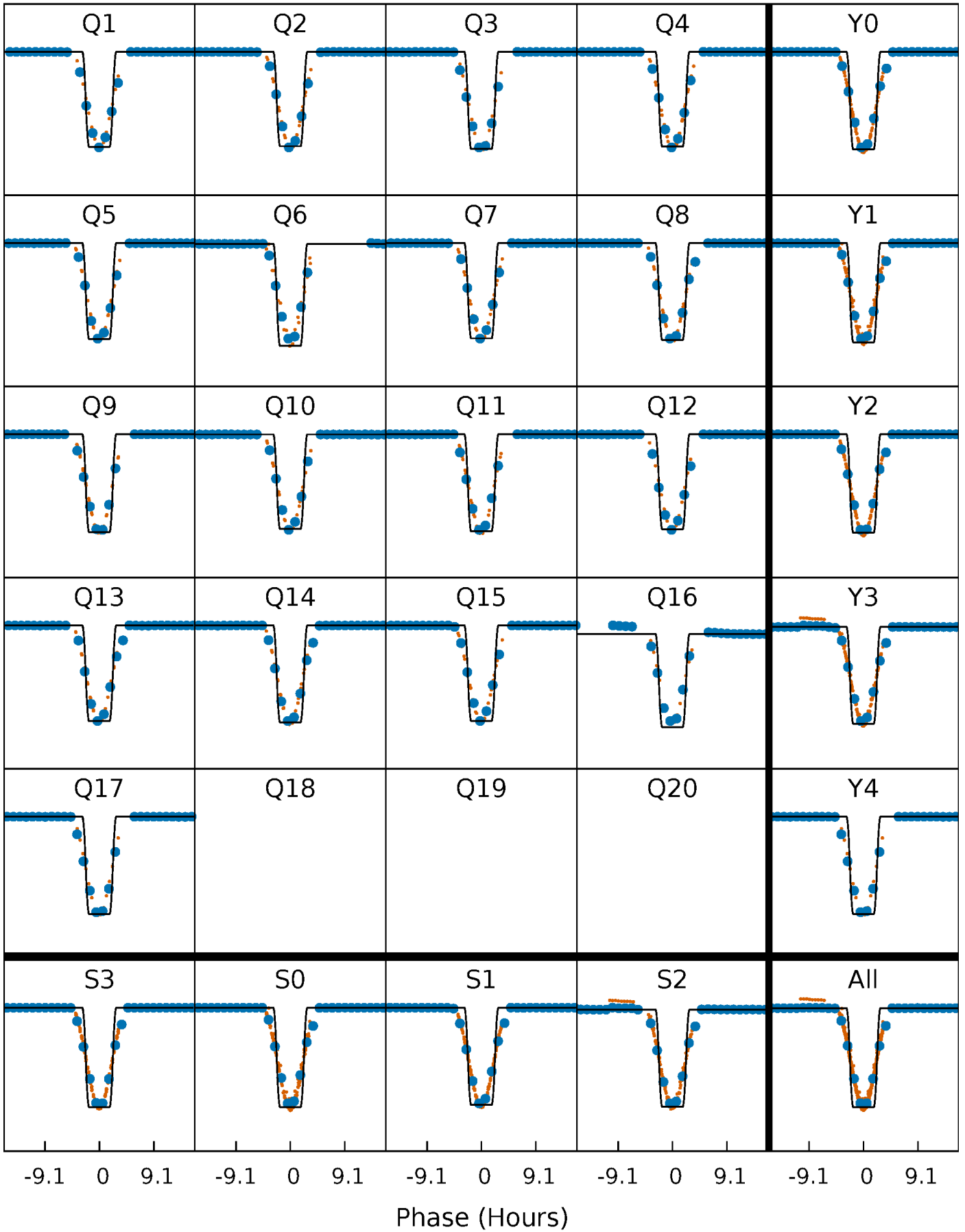
DV Quarter-Phased Transit Curves

TCE 008610483-01 P= 48.799553 Days $T_0=160.189495$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

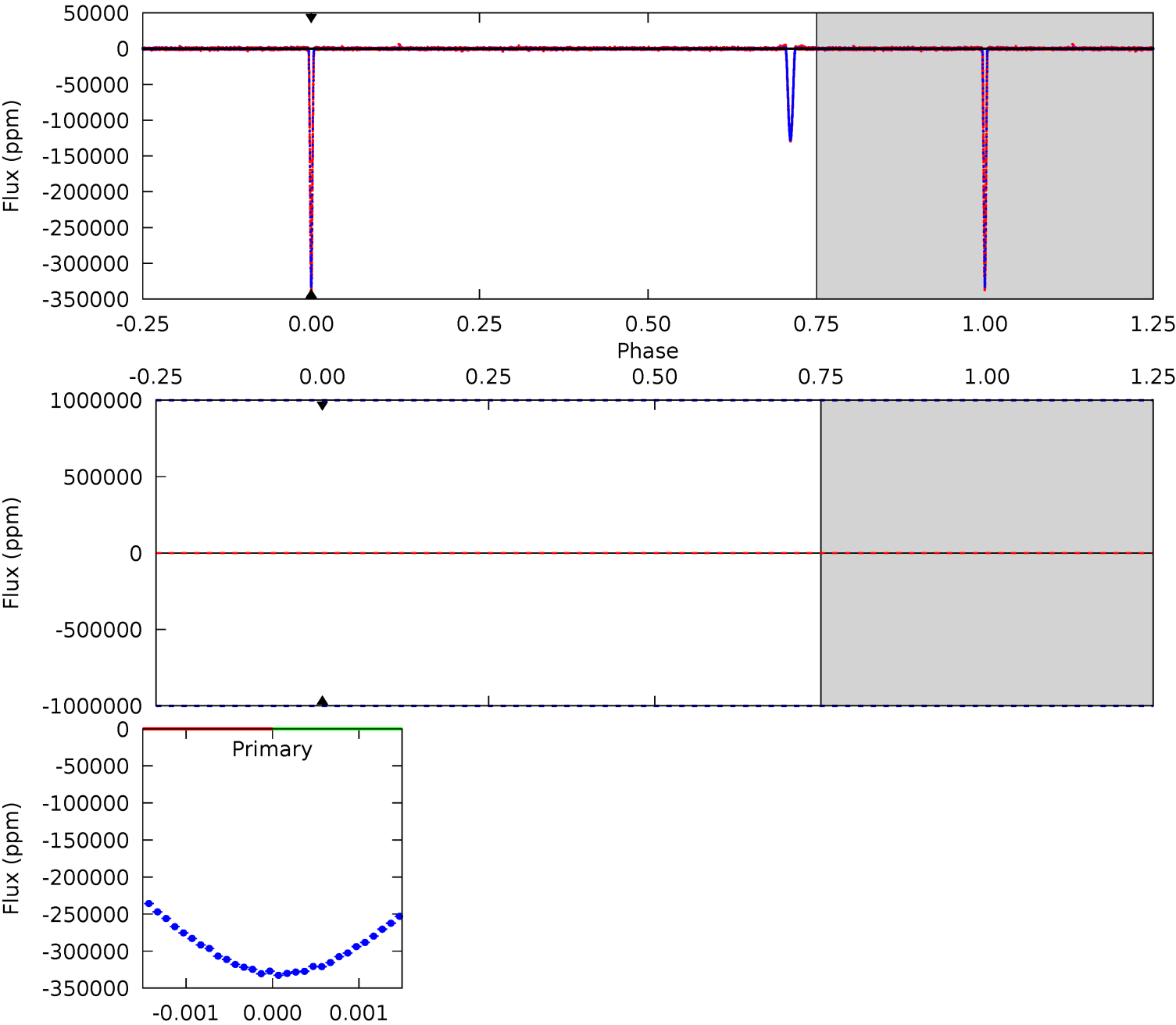
TCE 008610483-01 P= 48.799553 Days $T_0=160.193414$ (BKJD)



DV Model-Shift Uniqueness Test

008610483-01, P = 48.799553 Days, E = 111.389942 Days

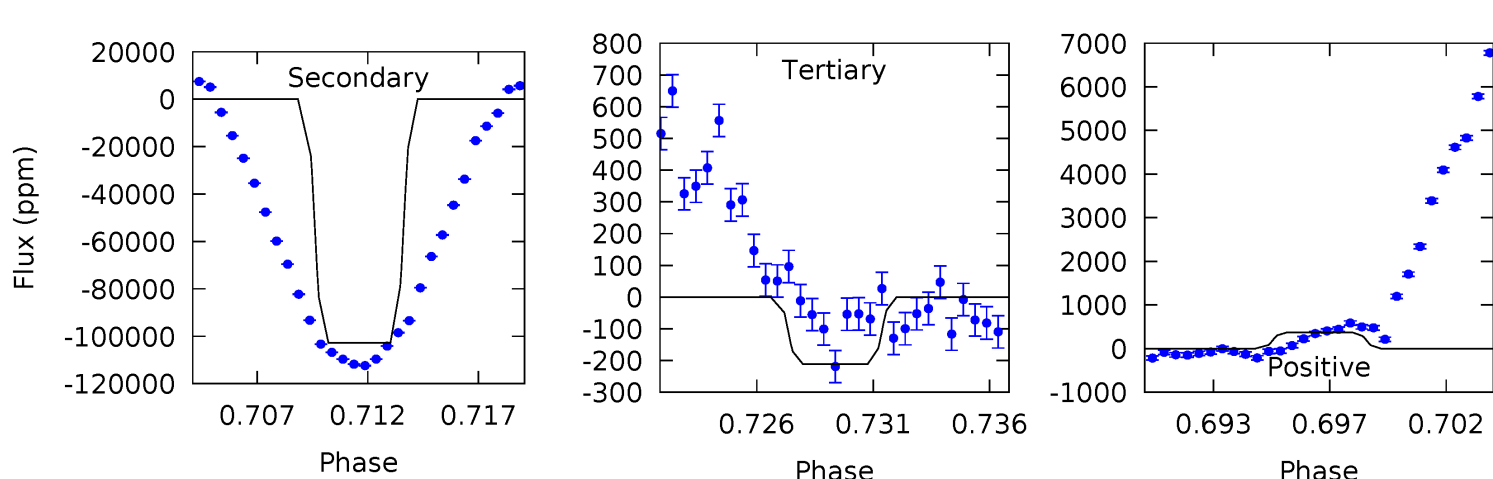
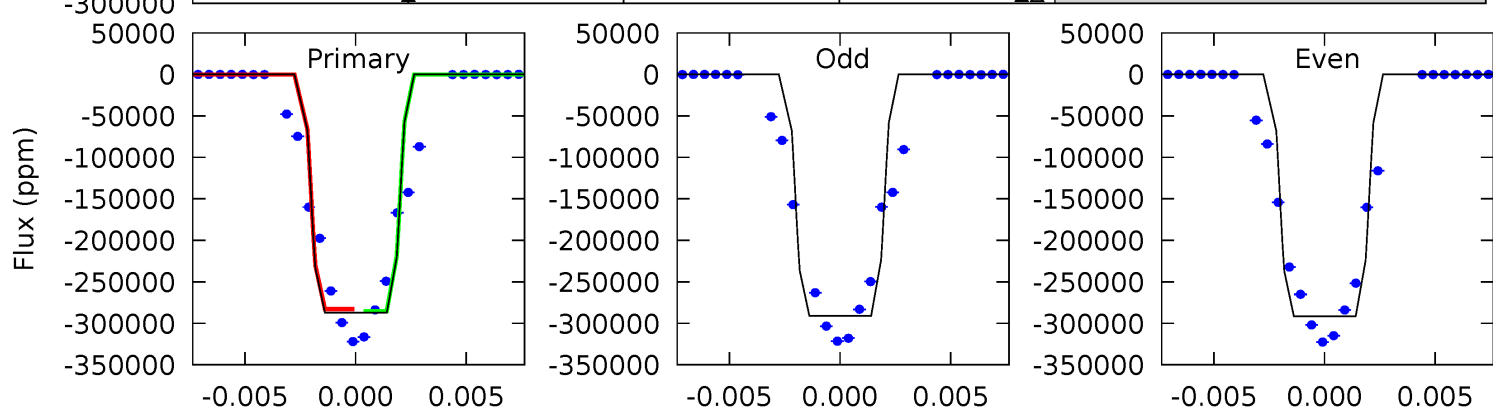
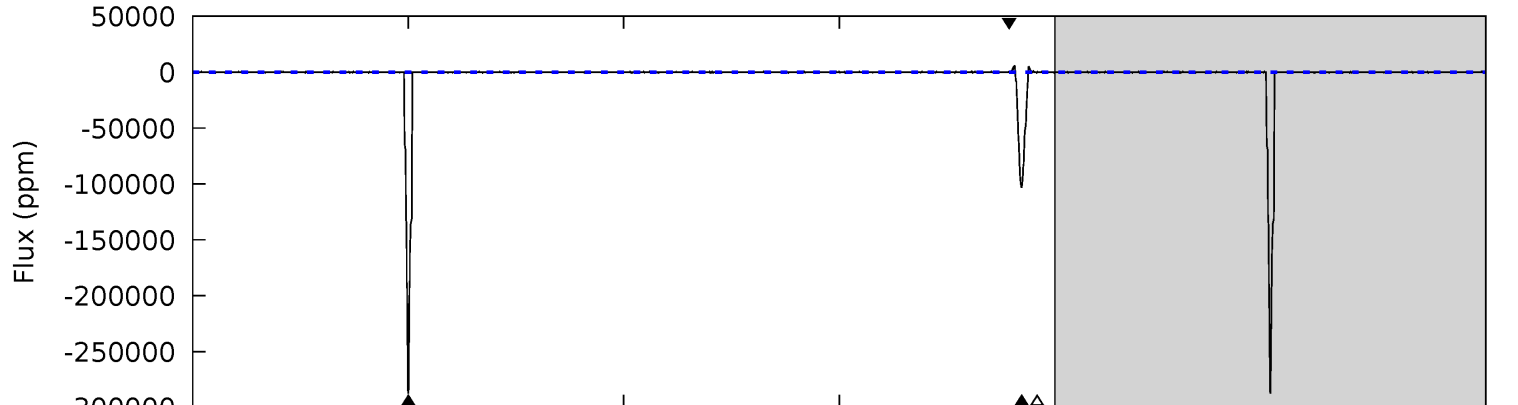
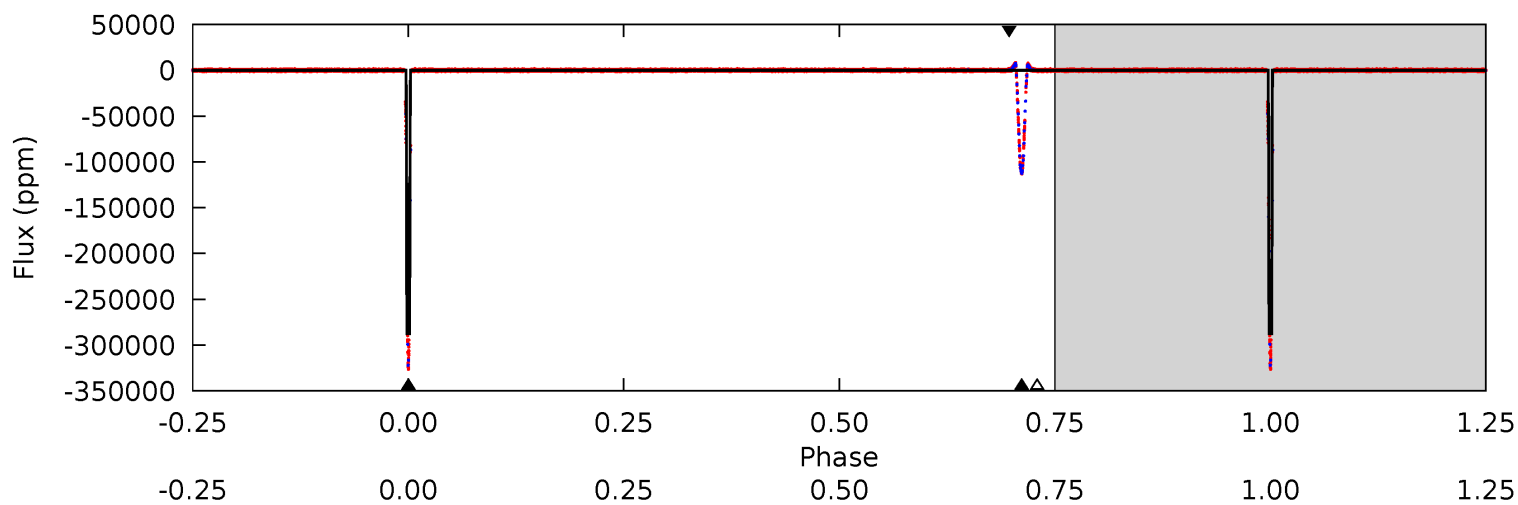
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008610483-01, P = 48.799553 Days, E = 111.393861 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4016	1438	2.95	5.24	5.16	2.82	10.9	4014	4011	1435	1433	4.39	1.00	0.02	0



Stellar Parameters For KIC 008610483

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6170^{+168}_{-205}	$4.472^{+0.052}_{-0.208}$	$-0.160^{+0.250}_{-0.350}$	$0.992^{+0.322}_{-0.107}$	$1.063^{+0.145}_{-0.145}$	$1.535^{+0.433}_{-0.809}$
	+3%/-3%	+1%/-5%	+156%/-219%	+32%/-11%	+14%/-14%	+28%/-53%
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 008610483-01 / KOI 7068.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$52.08^{+14.07}_{-11.22}$	750^{+55}_{-38}	-2800^{+8090}_{-2362}	$-33.654^{+1524.894}_{-1392.738}$
Alt.	-102845 ± 72	$63.45^{+16.40}_{-11.82}$	750^{+51}_{-37}	4868^{+424}_{-335}	1073^{+566}_{-368}

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

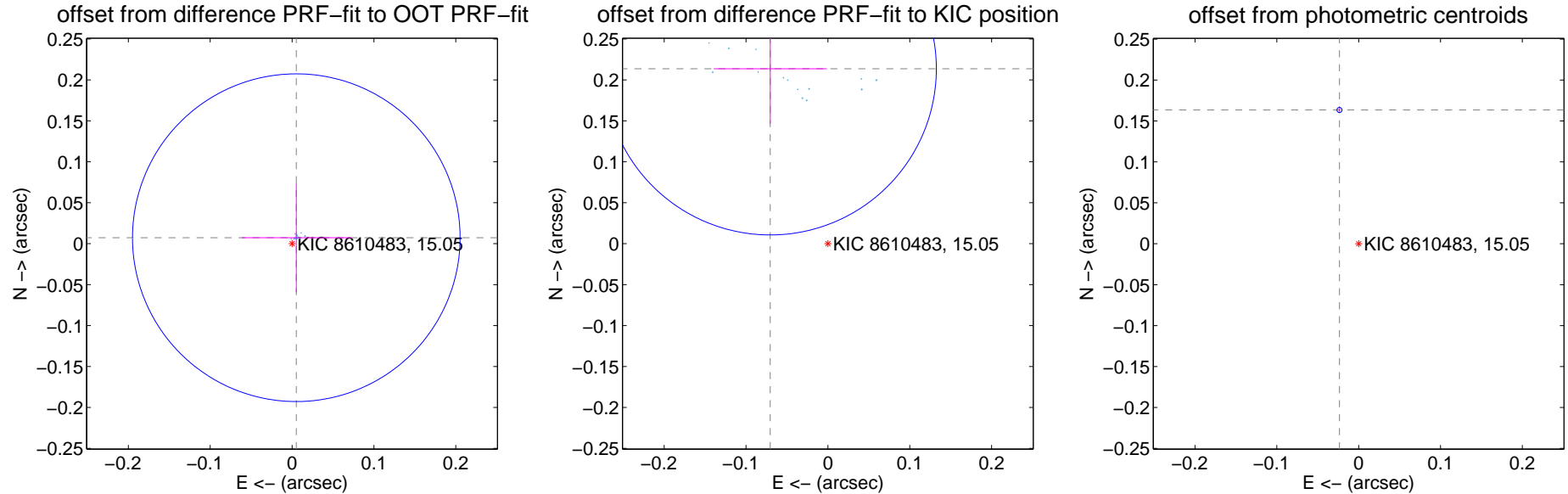
DV Centroid Data

Supplemental centroid analysis for 008610483-01. Kepler magnitude: 15.05. Transit SNR -1.00

There are 16 quarters with good PRF difference image offsets

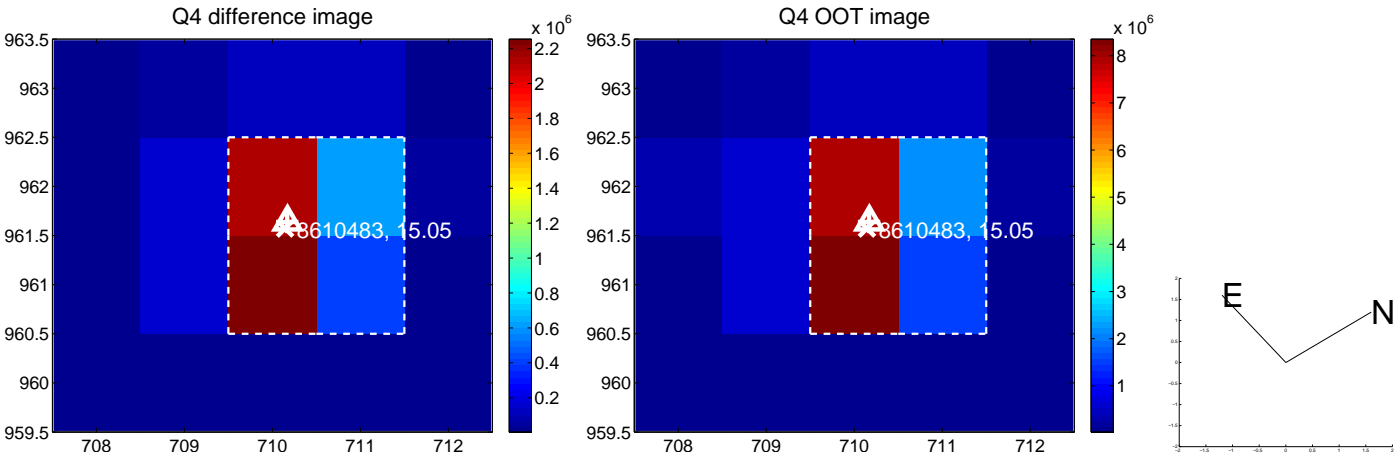
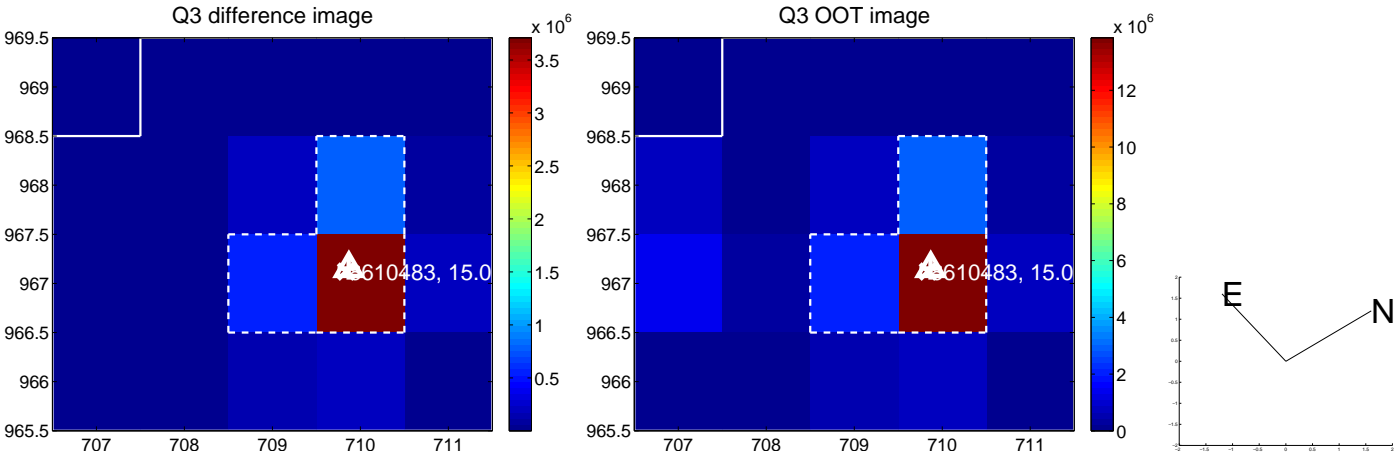
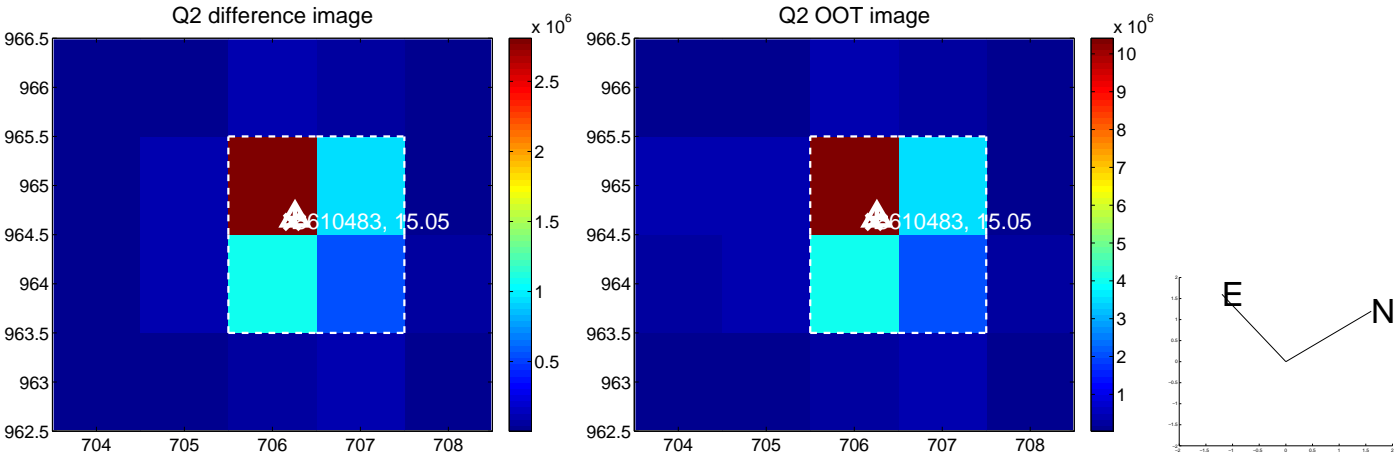
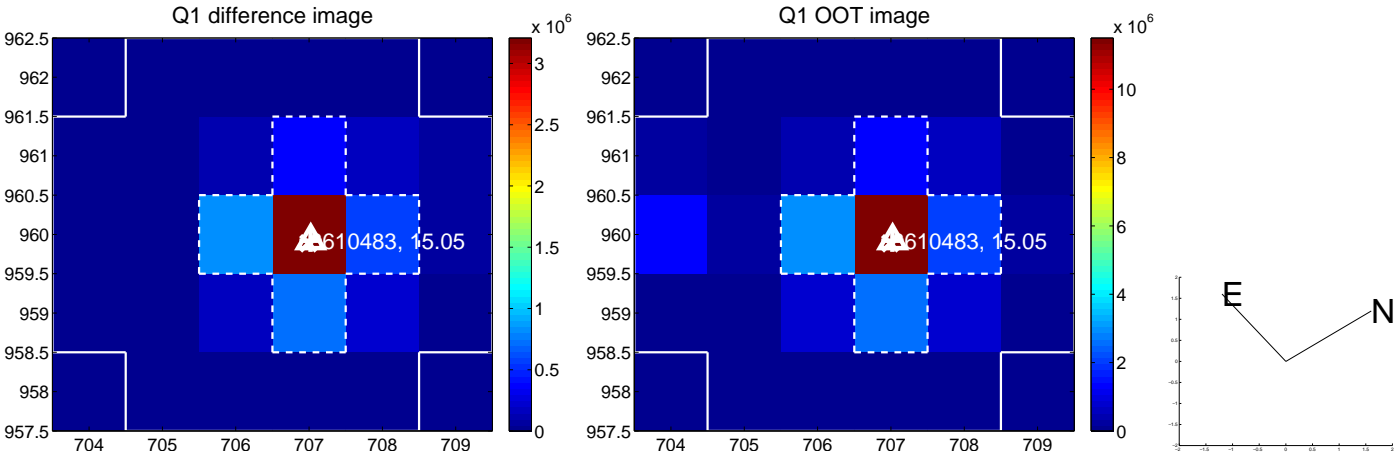
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.009 ± 0.067	0.13	-0.005 ± 0.067	0.007 ± 0.067
PRF-fit source offset from KIC position	0.225 ± 0.068	3.33	0.070 ± 0.069	0.214 ± 0.067
photometric centroid source offset	0.17 ± 0.00	159.74	0.02 ± 0.00	0.16 ± 0.00

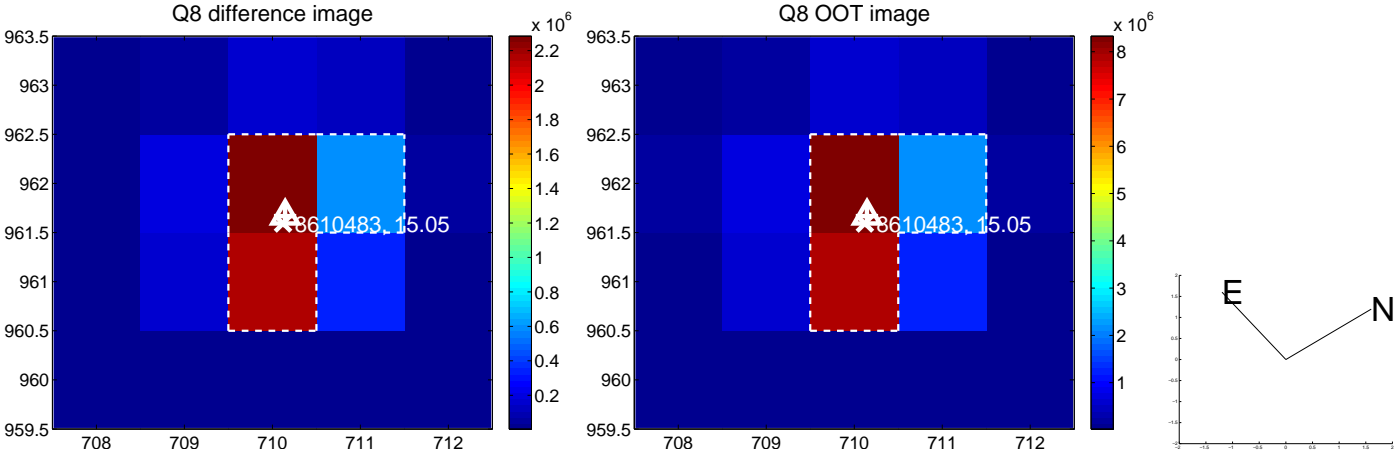
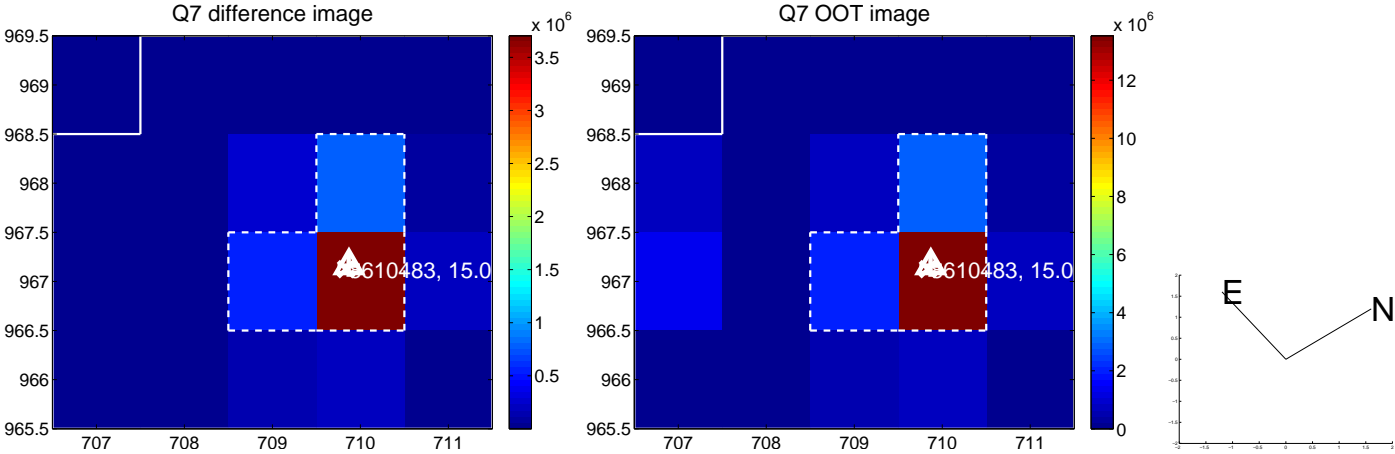
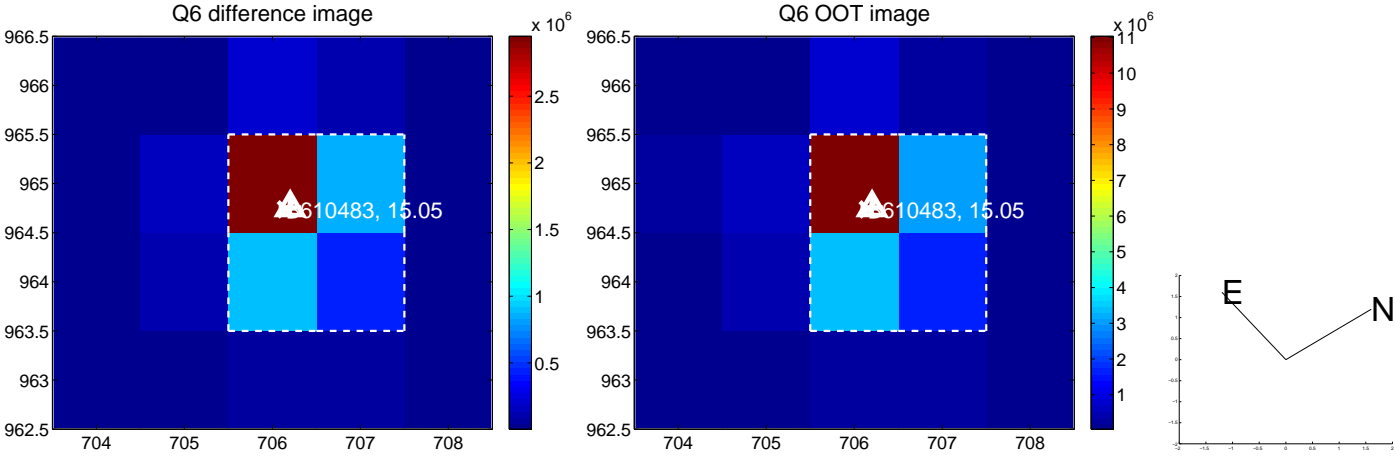
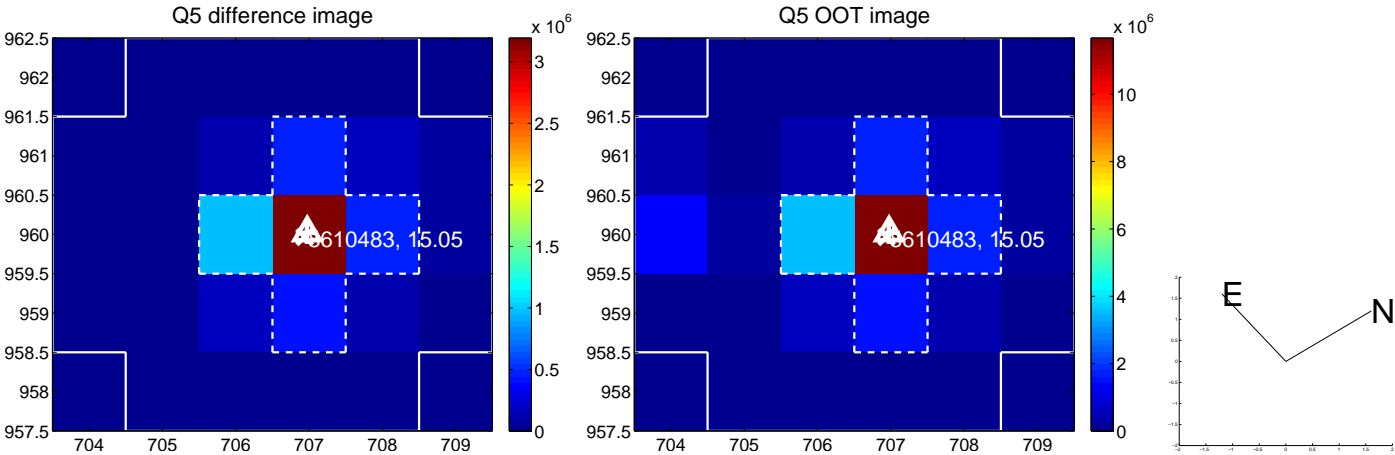


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

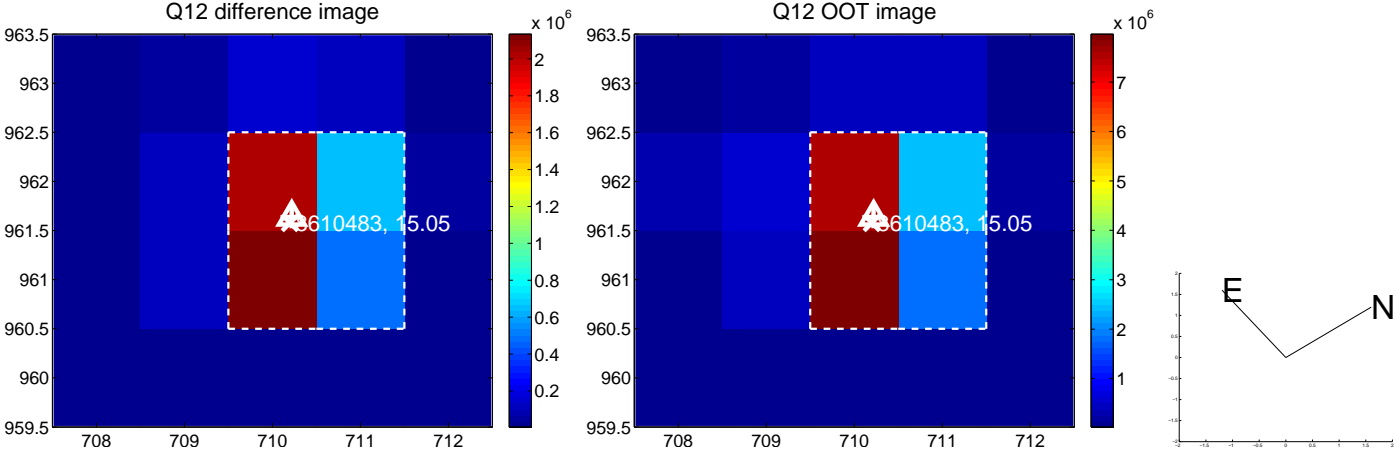
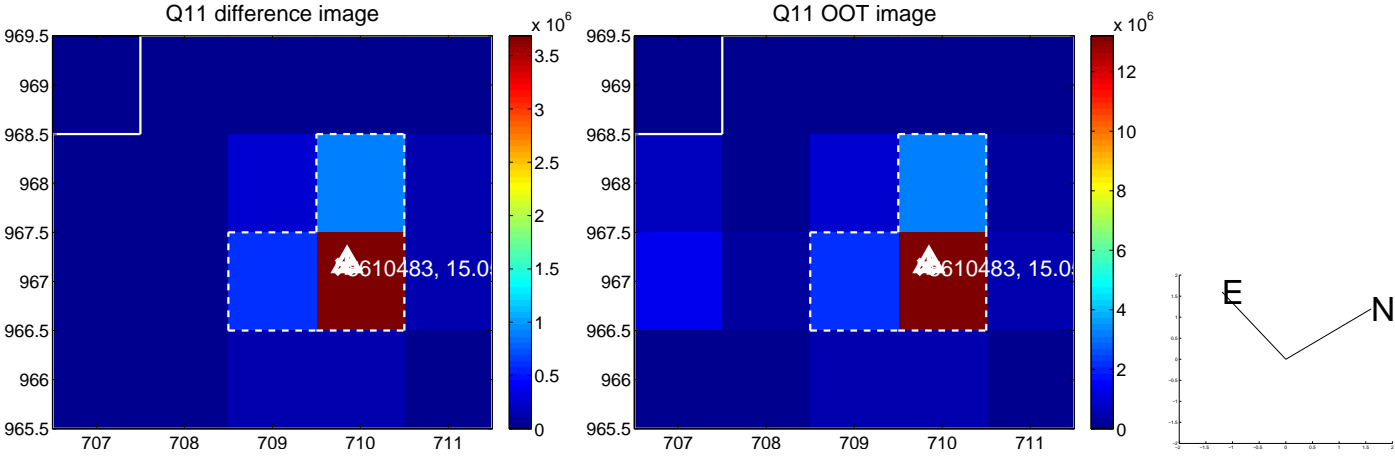
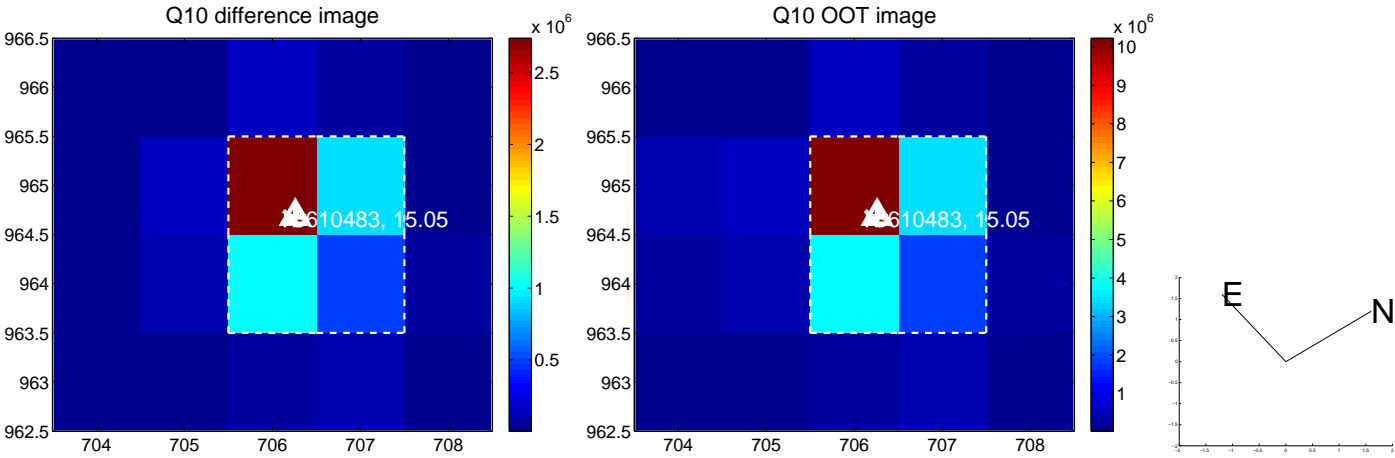
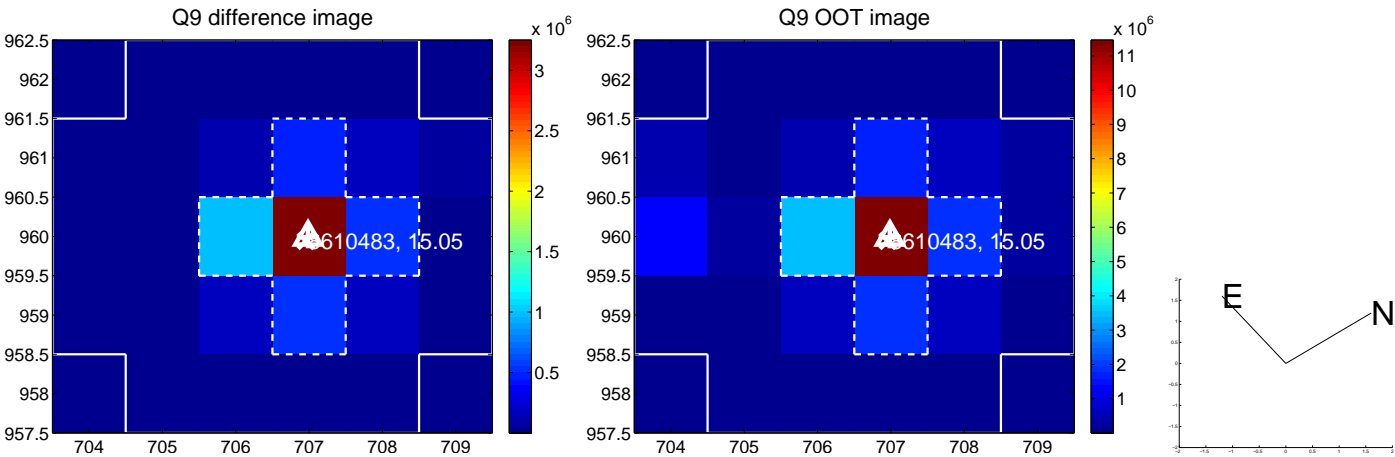
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



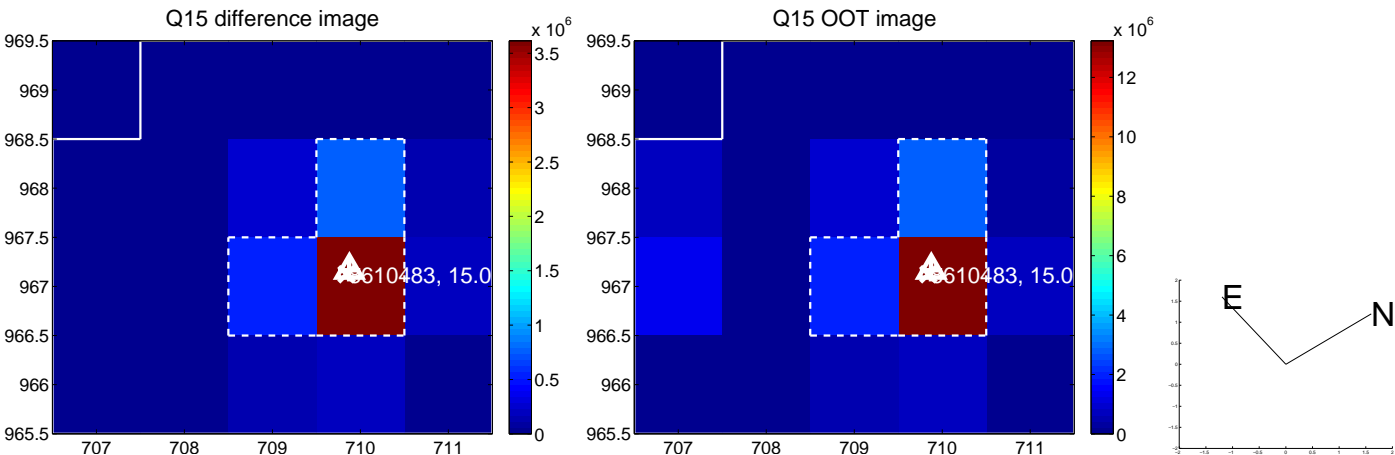
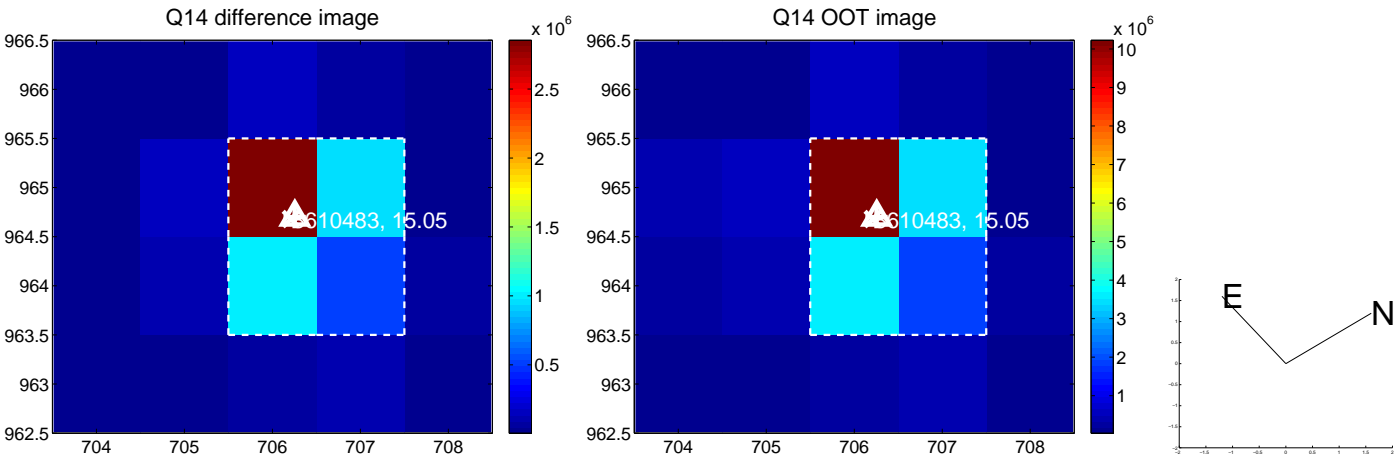
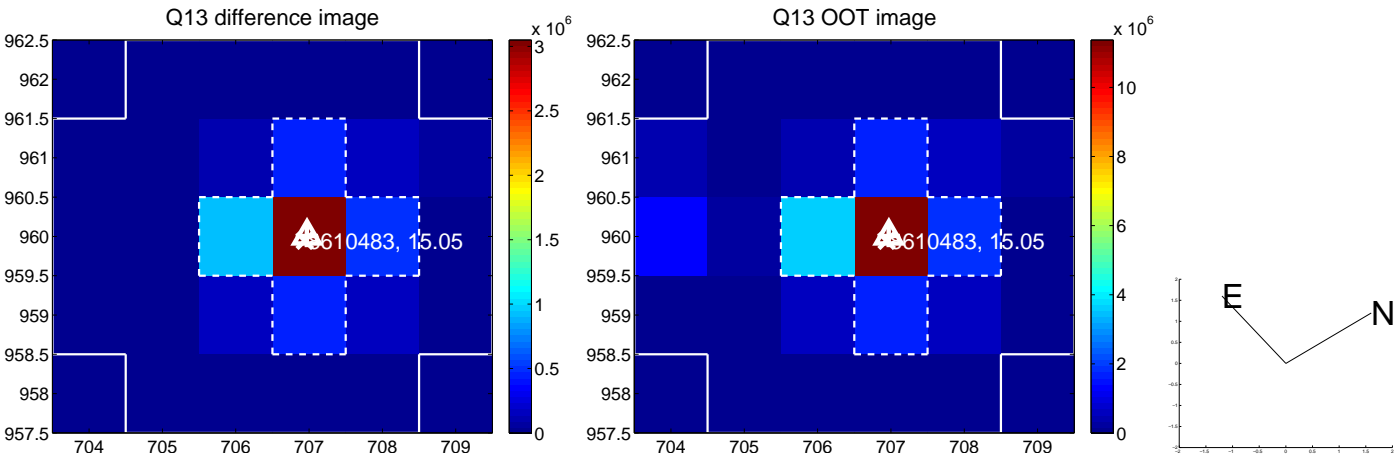
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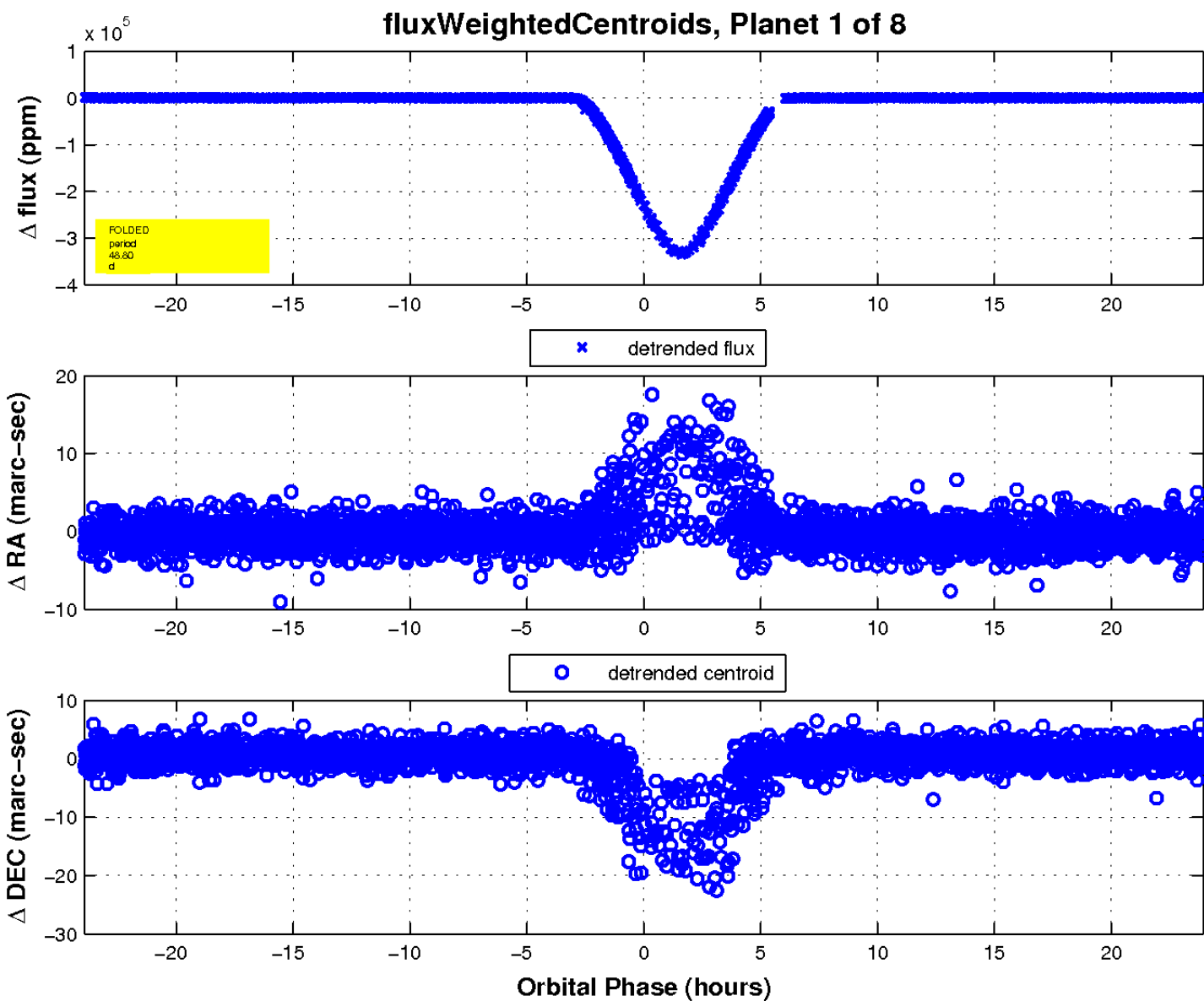
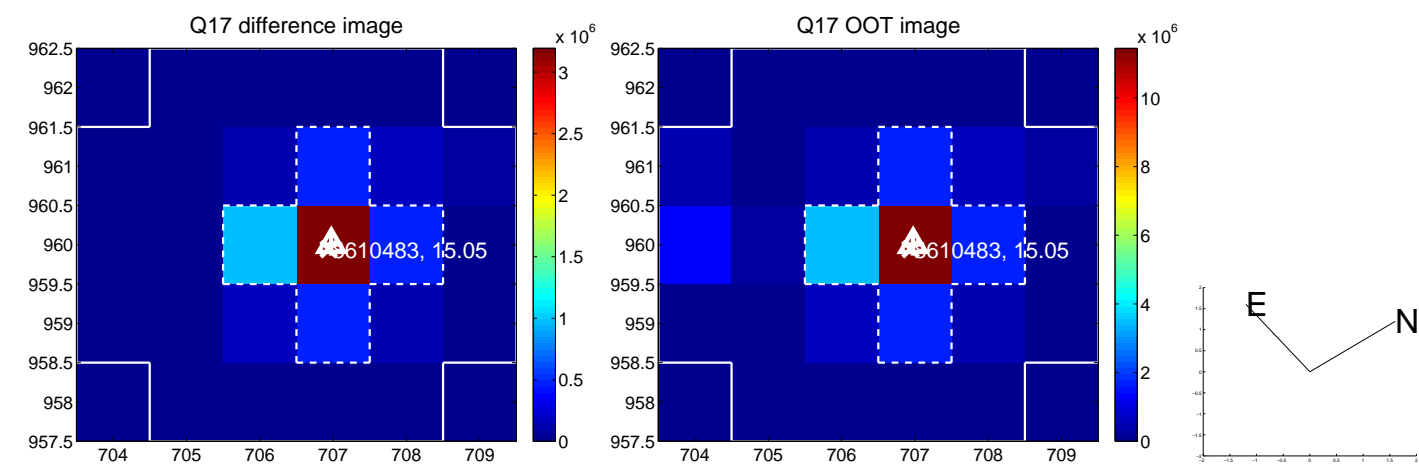
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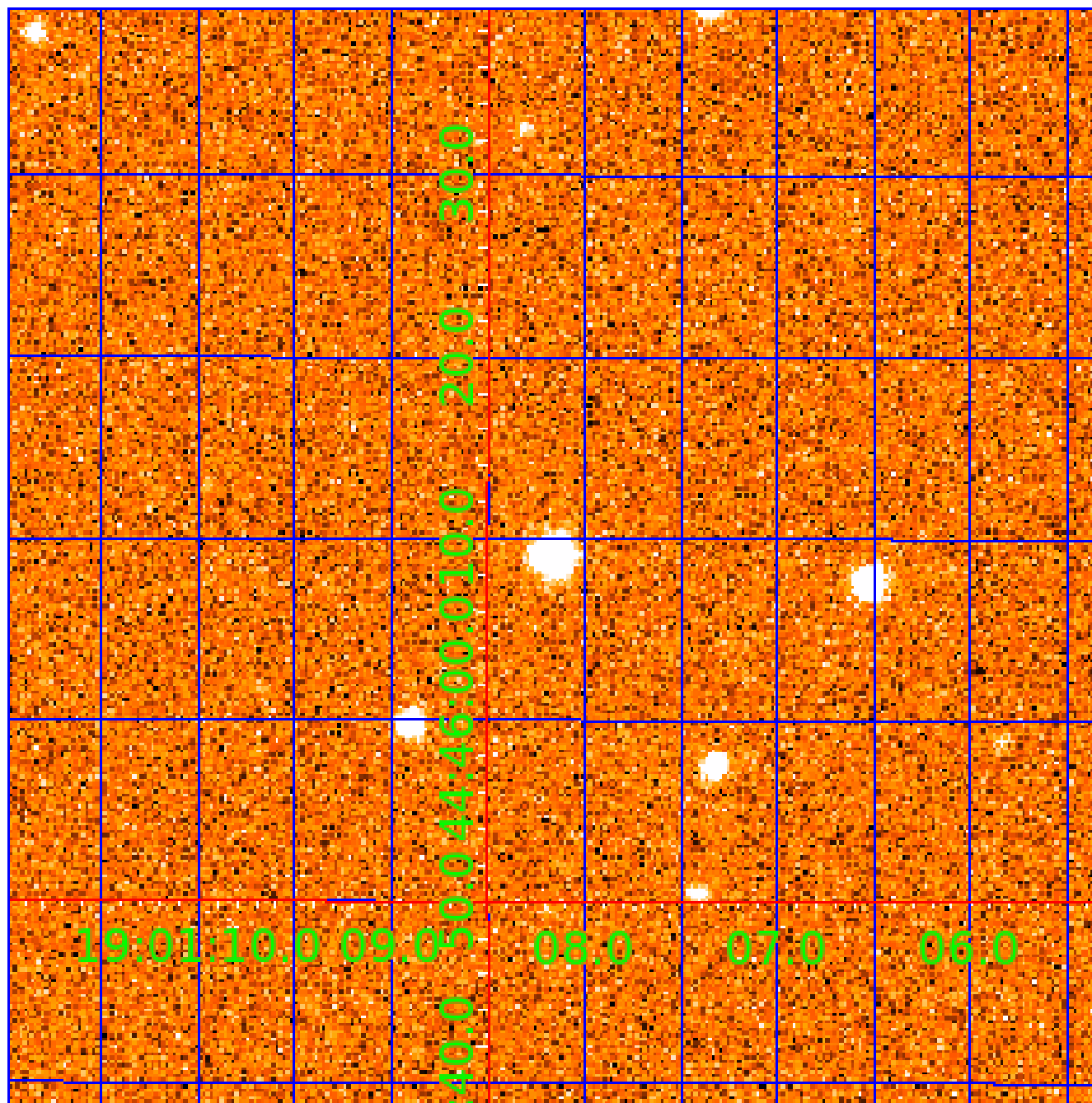


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008610483

Q1-17 DR25 TCE Parameters

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008610483-06	OBS	No	484.363917	604.888467	1854.6	7.500	21.8	-1.0	0.99	6170	4.27	0.84
008610483-07	OBS	No	318.472074	354.503228	338.4	1.182	22.4	1.8	0.99	6170	1.91	1.47
008610483-08	OBS	No	219.246981	308.479786	4753.0	2.500	23.5	-1.0	0.99	6170	6.86	2.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008610483-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
008610483-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008610483-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS
008610483-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008610483-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008610483-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008610483-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—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_FEW_DIFFS
008610483-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

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

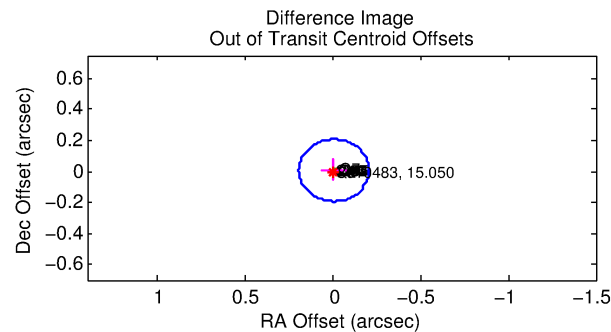
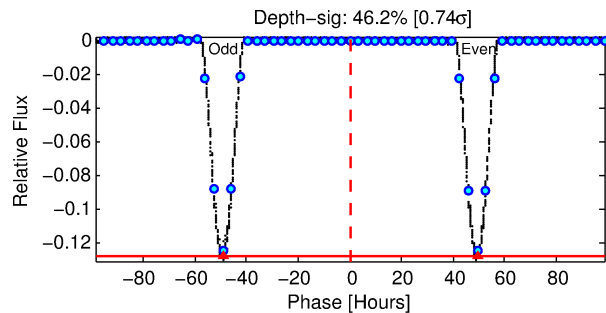
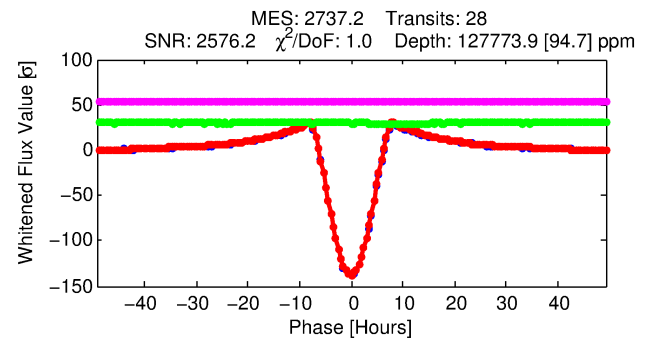
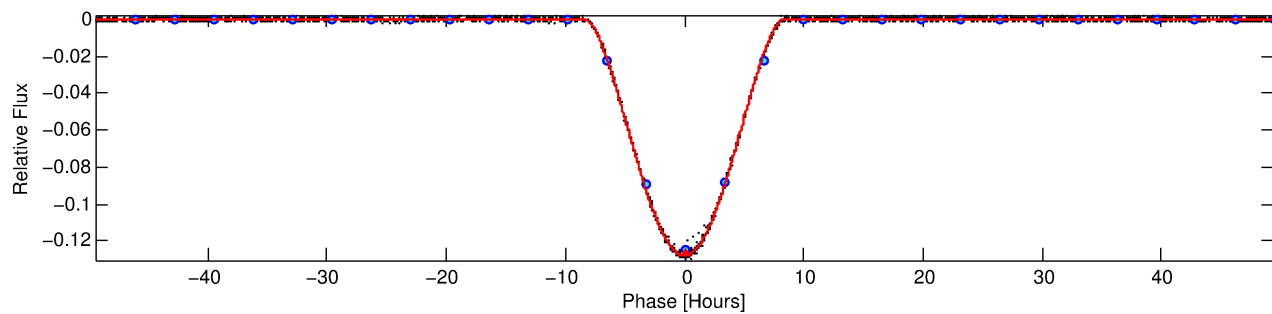
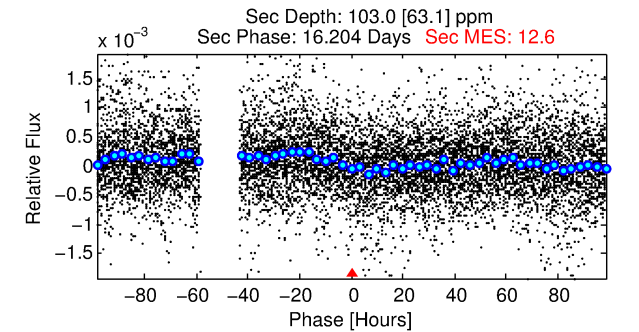
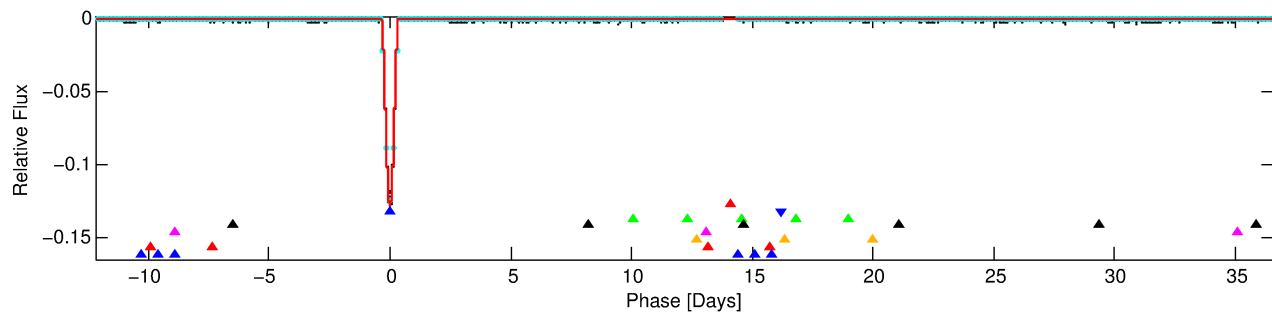
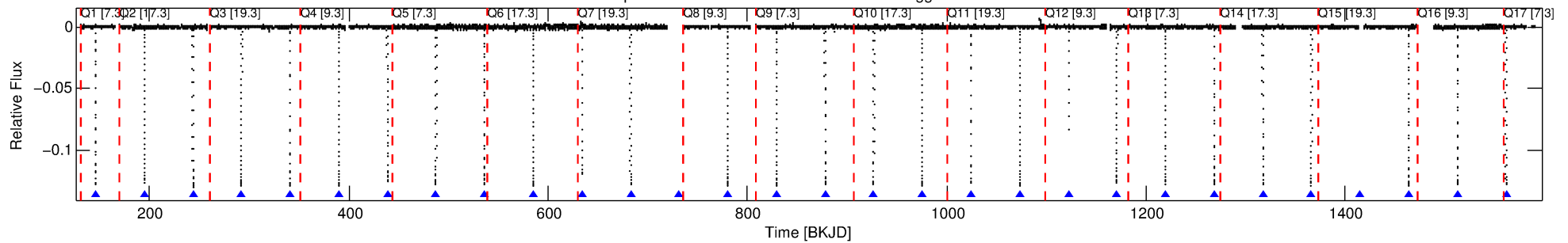
Ephemeris Match Information For 008610483-02

No Significant Match Found

DV One-Page Summary

KIC: 8610483 Candidate: 2 of 8 Period: 48.799 d
KOI: K07068 Corr: No Ephemeris Match

Kp: 15.05 R*: 0.99 Rs Teff: 6170.0 K Logg: 4.47 Fe/H: -0.160



DV Fit Results:

Period = 48.79930 [0.00001] d
Epoch = 146.1147 [0.0001] BKJD
Rp/R* = 0.4822 [0.0350]
a/R* = 26.63 [0.13]
b = 0.90 [0.05]
Seff = 17.94 [7.32]
Teq = 525 [54] K
Rp = 52.19 [17.36] Re
a = 0.2669 [0.0718] AU
Ag = 1.48 [1.09] [0.44σ]
Teffp = 895 [144] K [2.41σ]

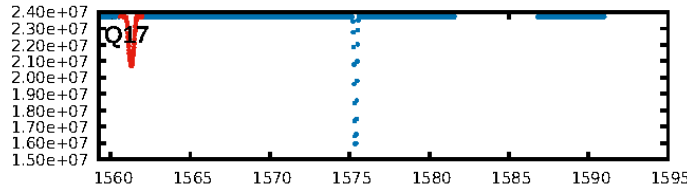
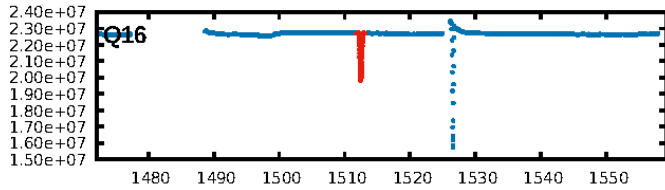
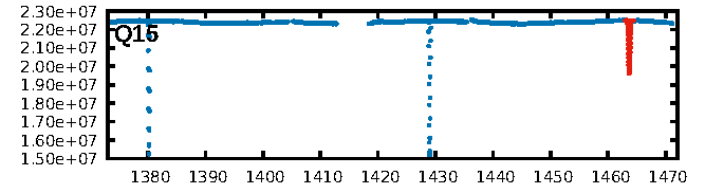
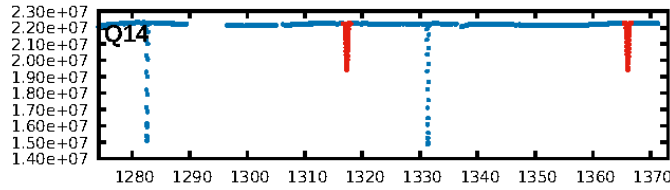
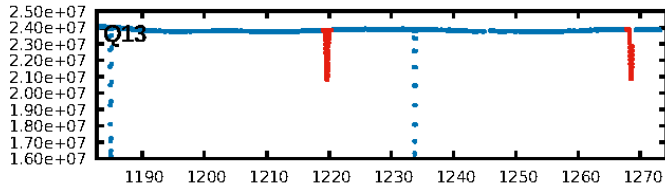
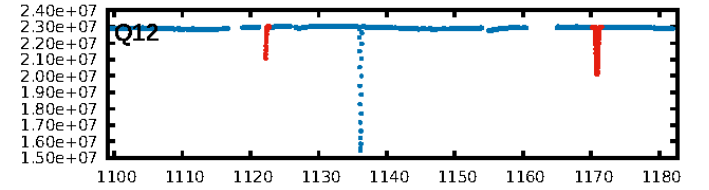
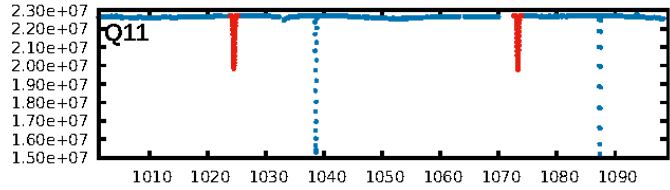
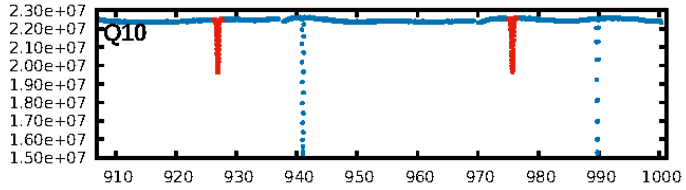
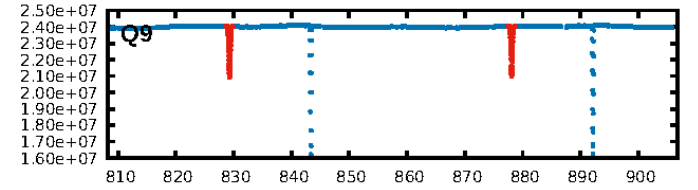
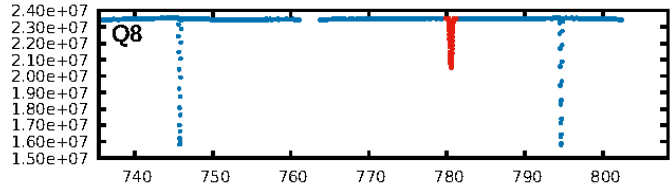
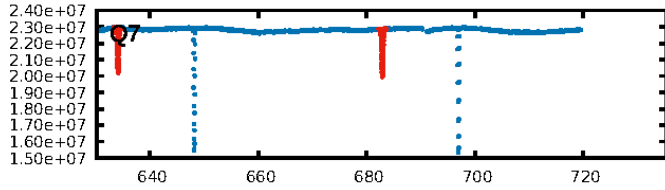
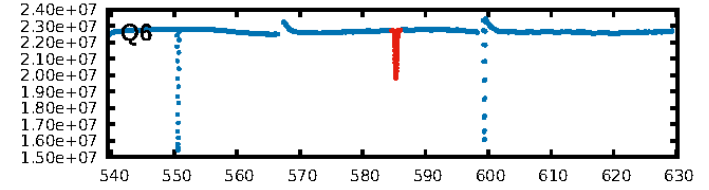
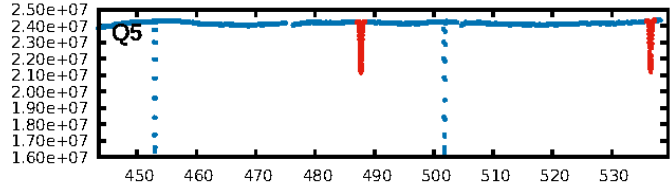
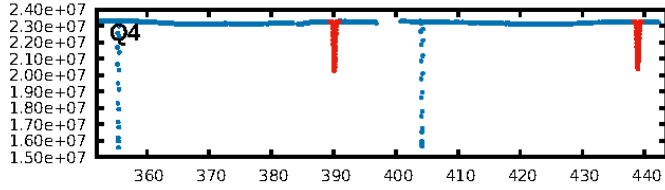
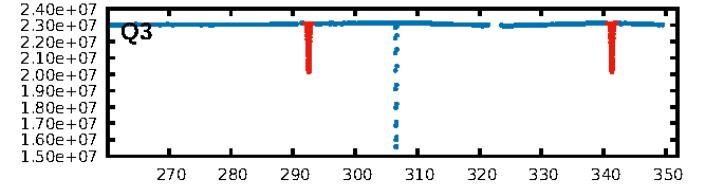
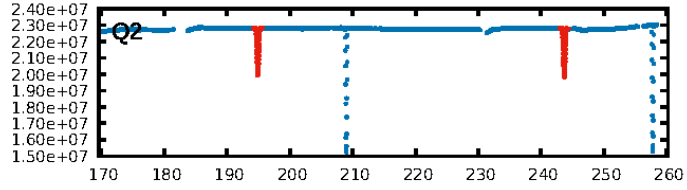
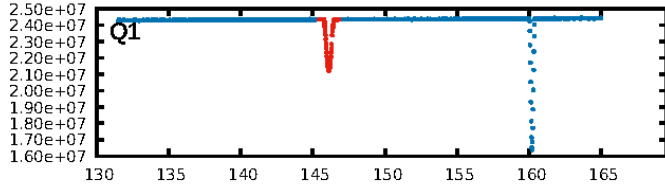
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [26/26]
GhostDiagnostic-chr: 7.238
Centroid-sig: N/A
Centroid-so: 0.148 arcsec [69.16σ]
OotOffset-rm: 0.009 arcsec [0.13σ]
KicOffset-rm: 0.216 arcsec [3.19σ]
OotOffset-st: 4/4/3/3 [14]
KicOffset-st: 4/4/3/3 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

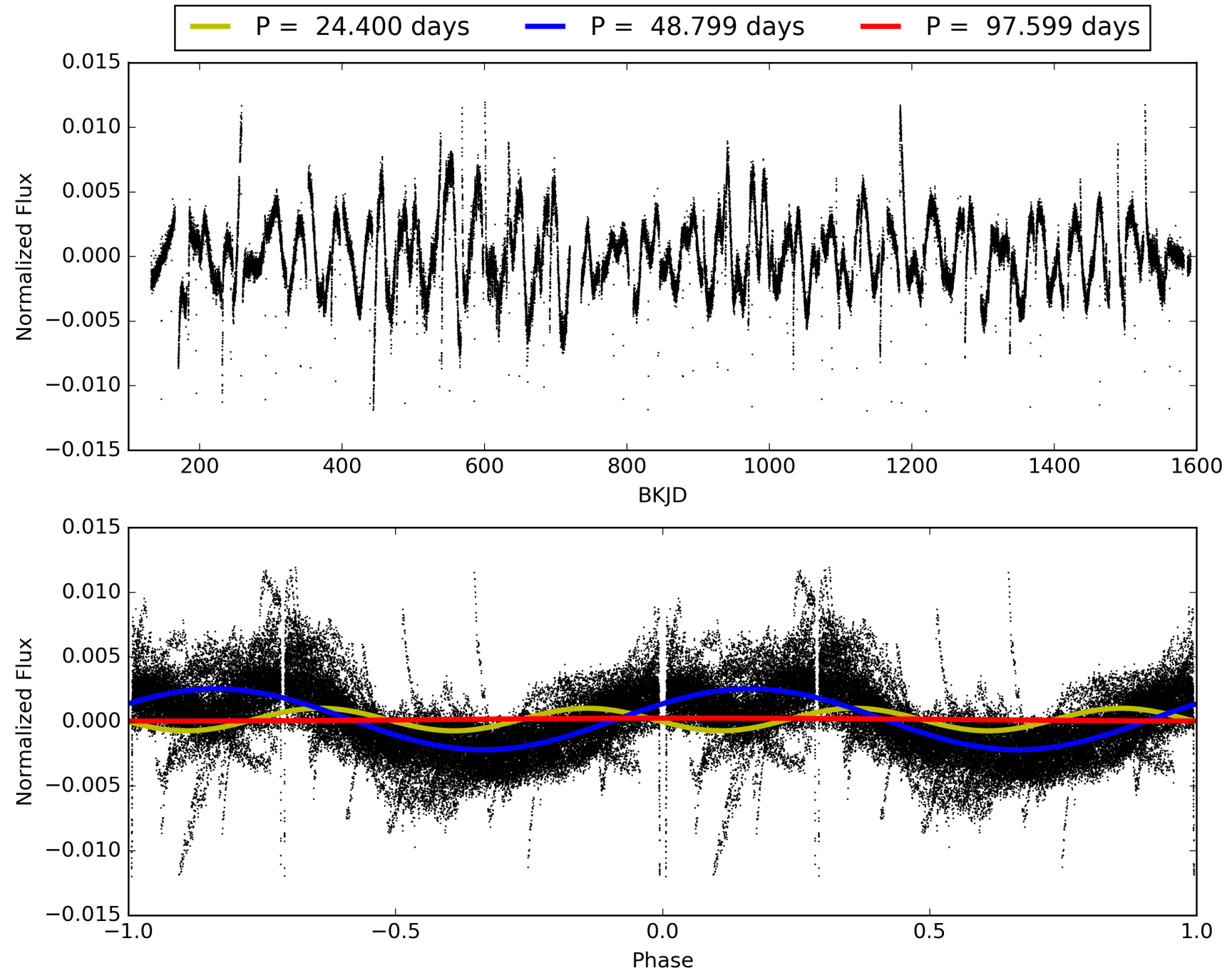
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:55:36 Z

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

TCE 008610483-02, PDC Light Curves

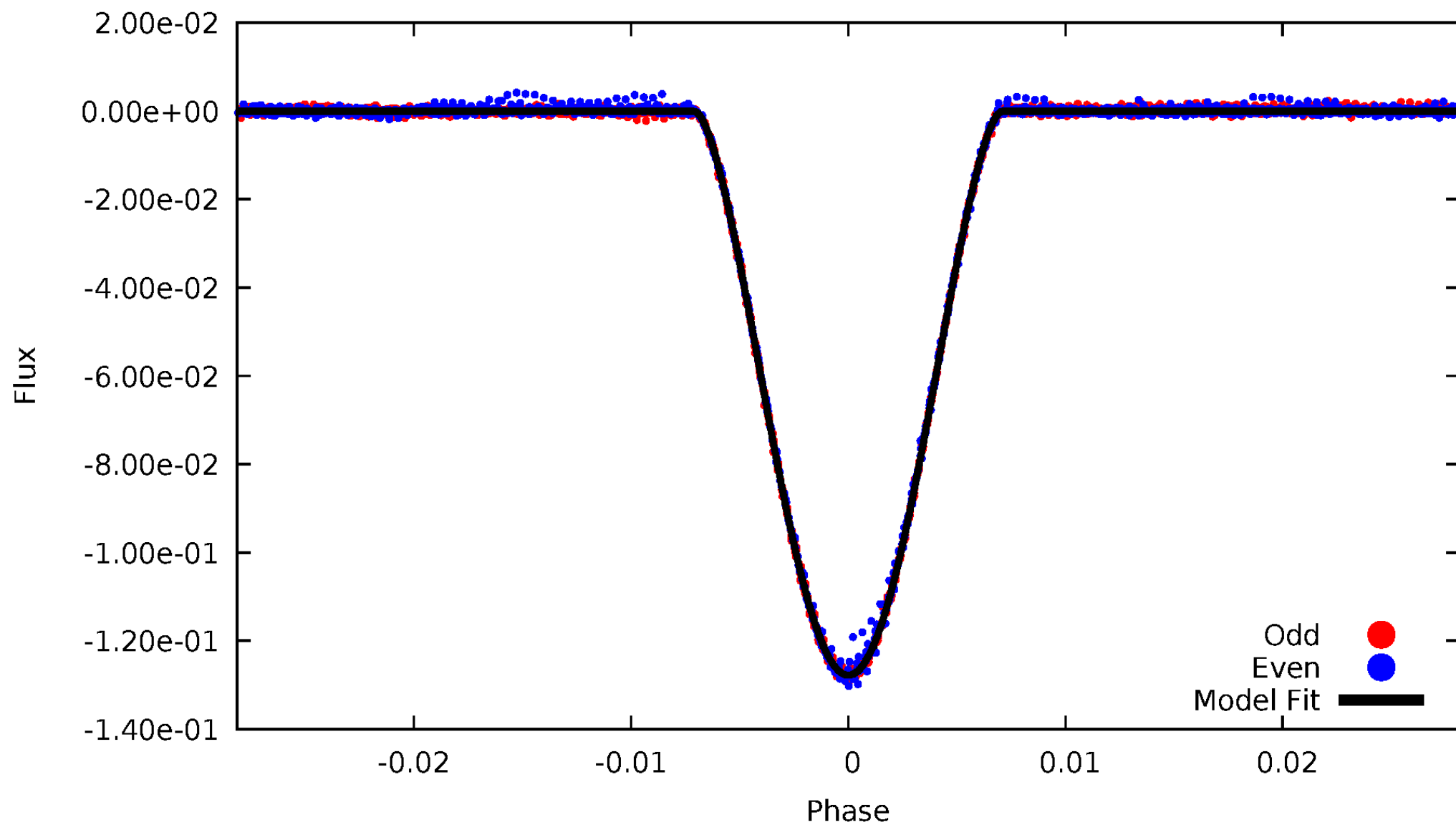


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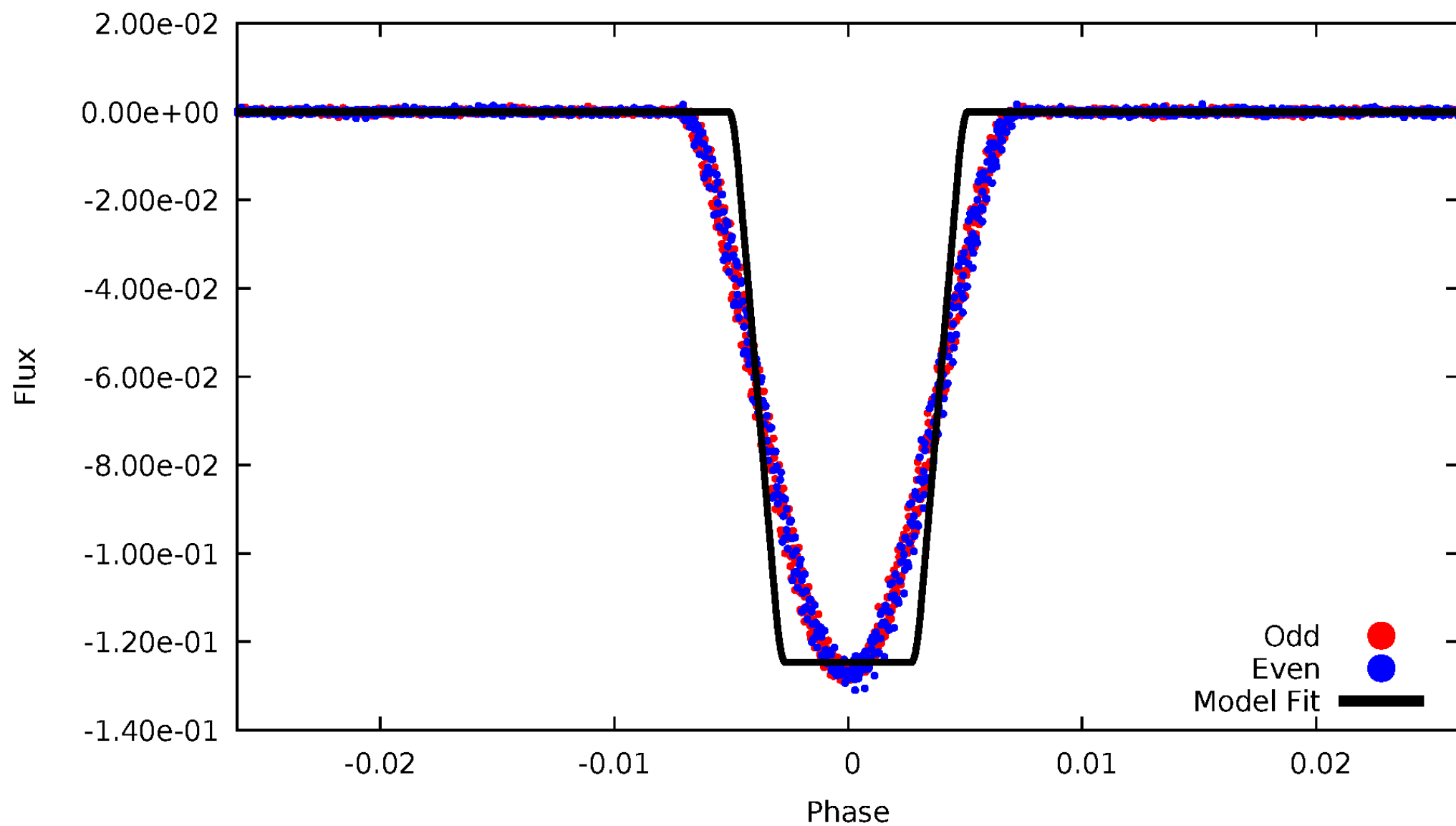
DV Odd/Even

TCE 008610483-02



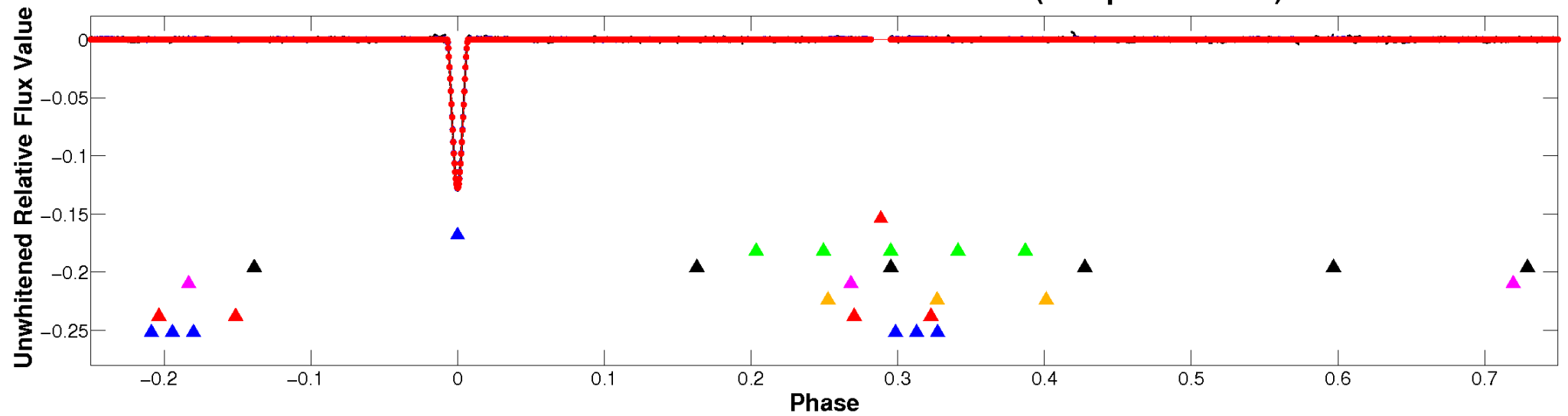
ALT Odd/Even

TCE 008610483-02

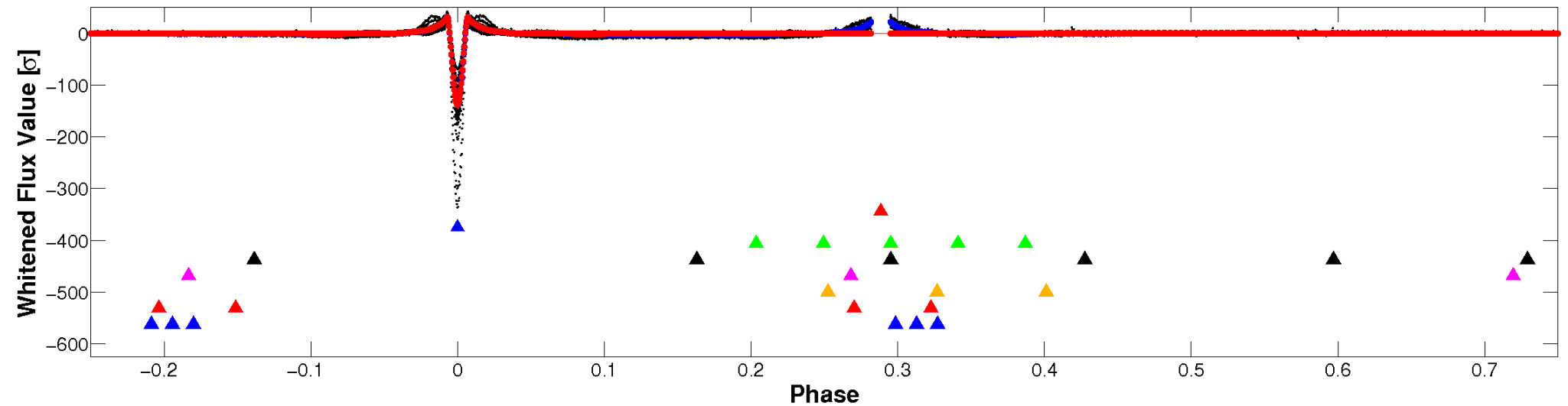


Non-Whitened Vs. Whitened Light Curve

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

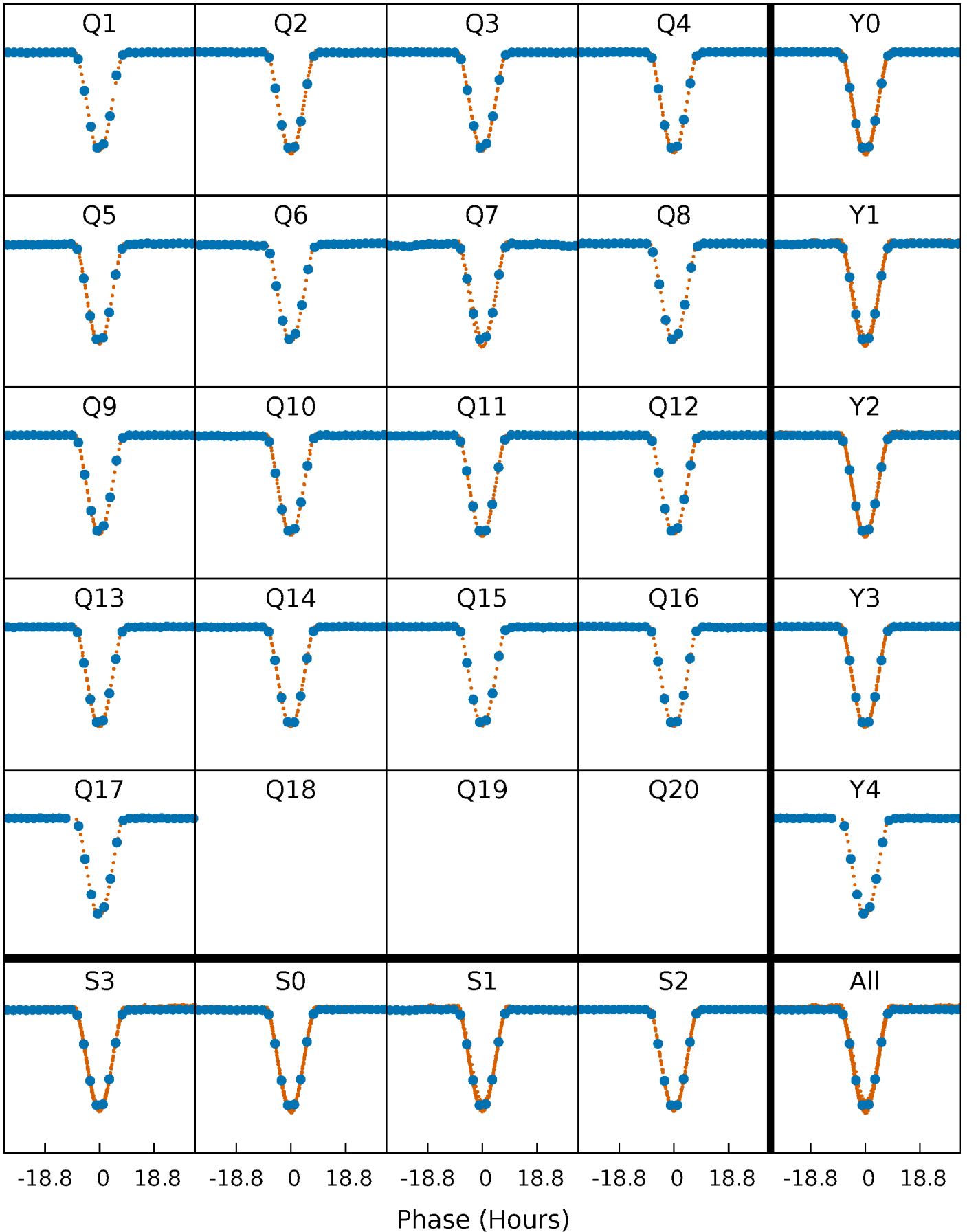


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



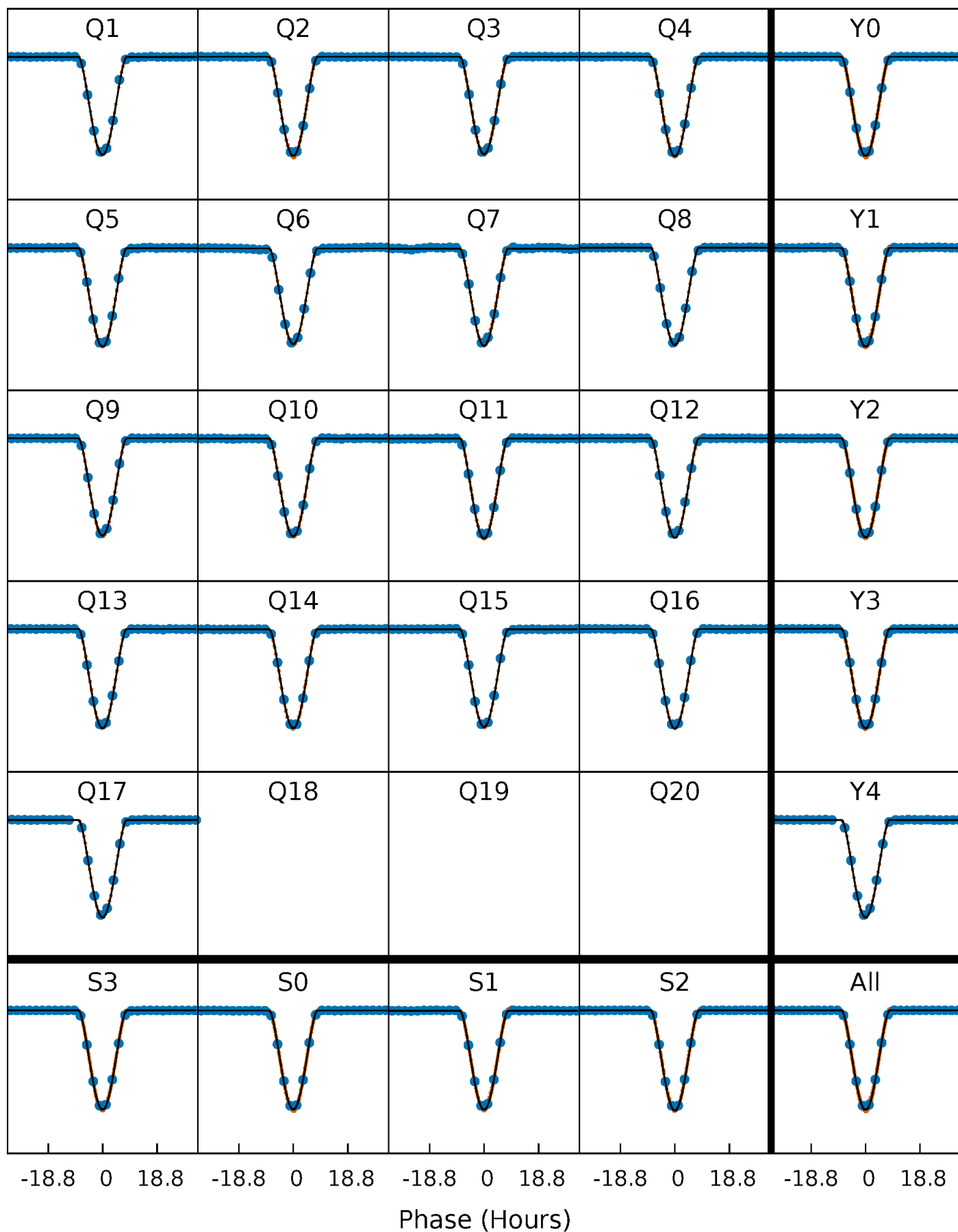
PDC Quarter-Phased Transit Curves

TCE 008610483-02 P= 48.799299 Days $T_0=146.114721$ (BKJD)



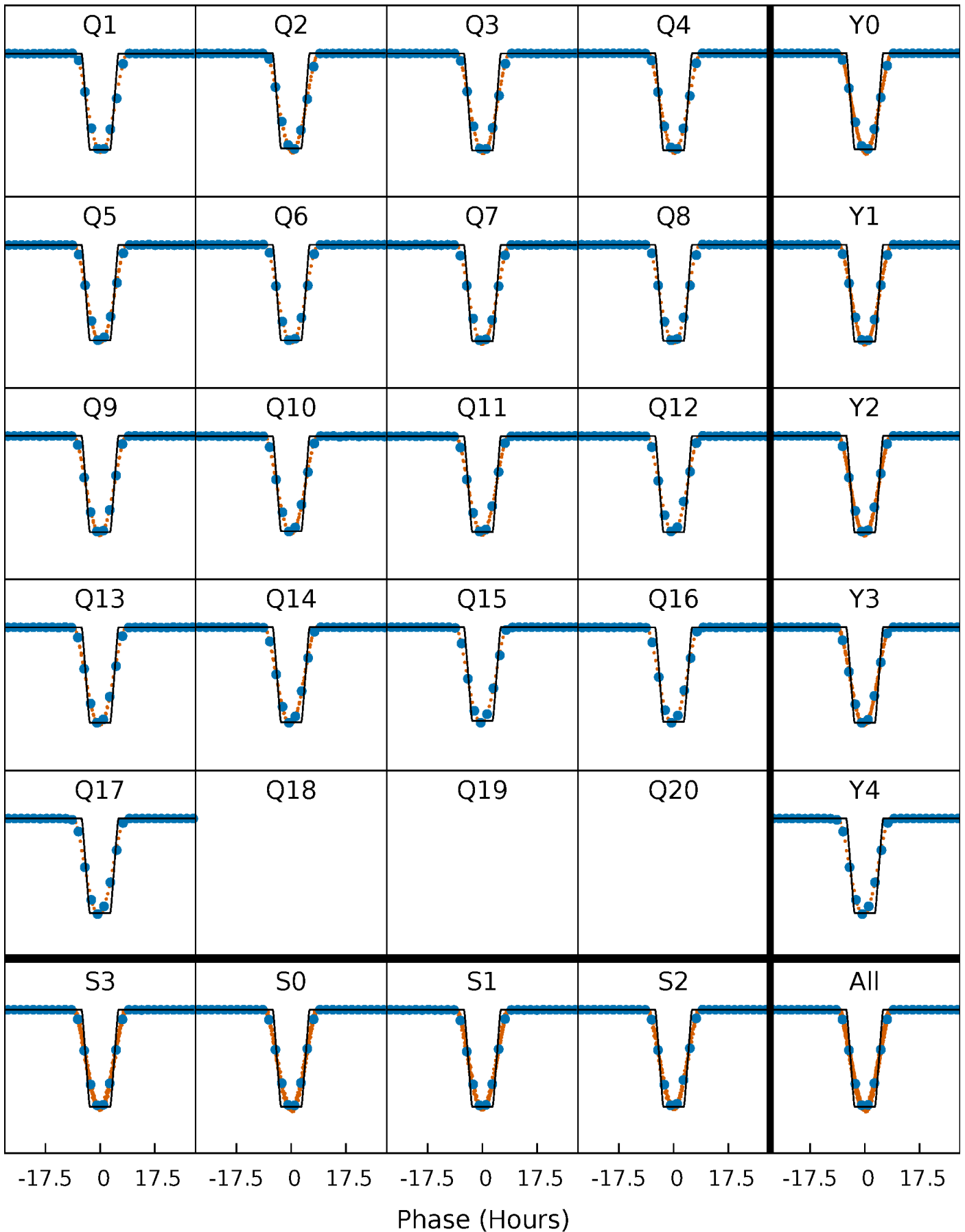
DV Quarter-Phased Transit Curves

TCE 008610483-02 P= 48.799299 Days $T_0=146.114721$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

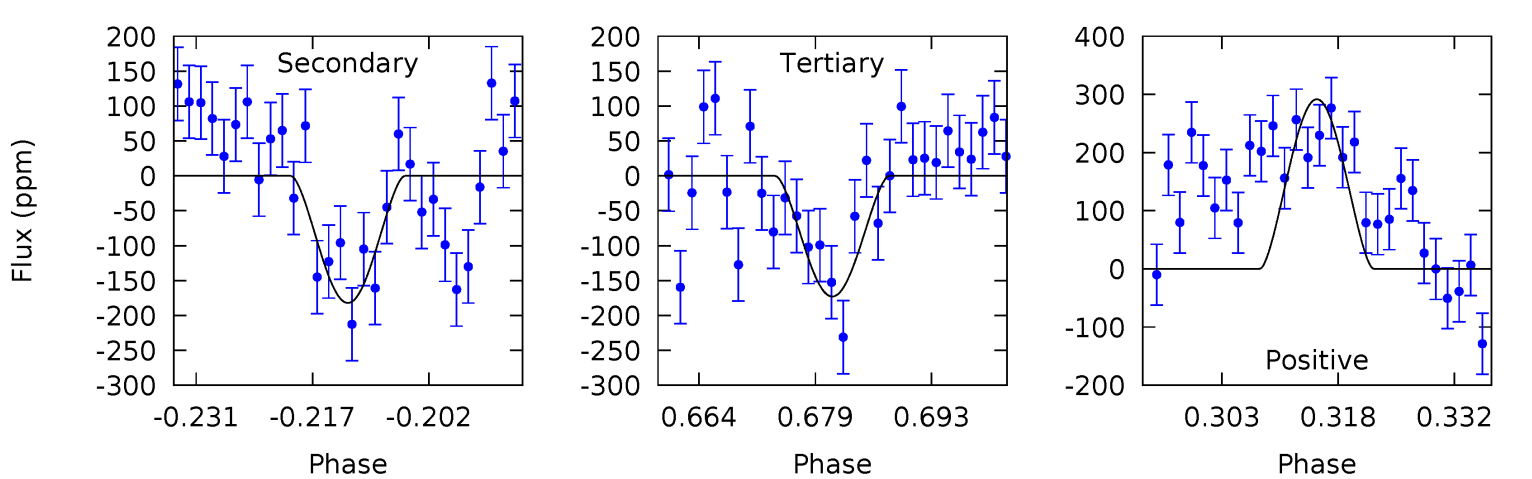
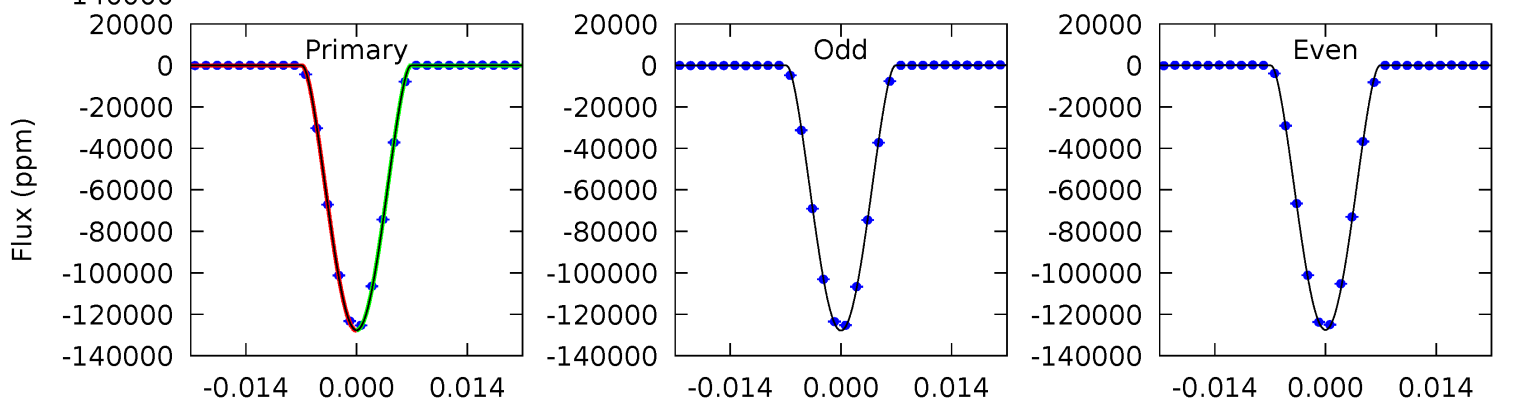
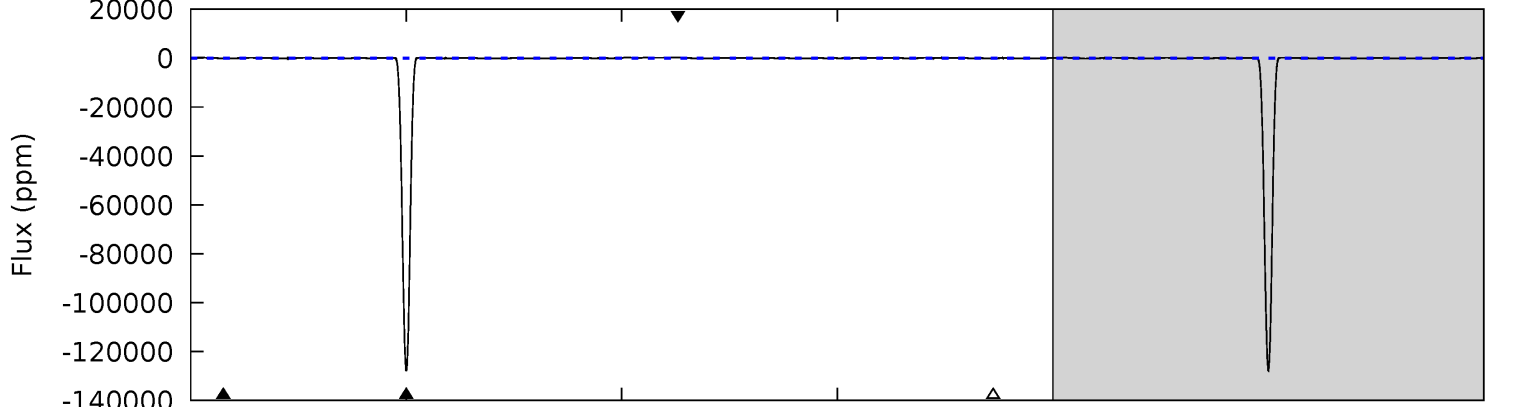
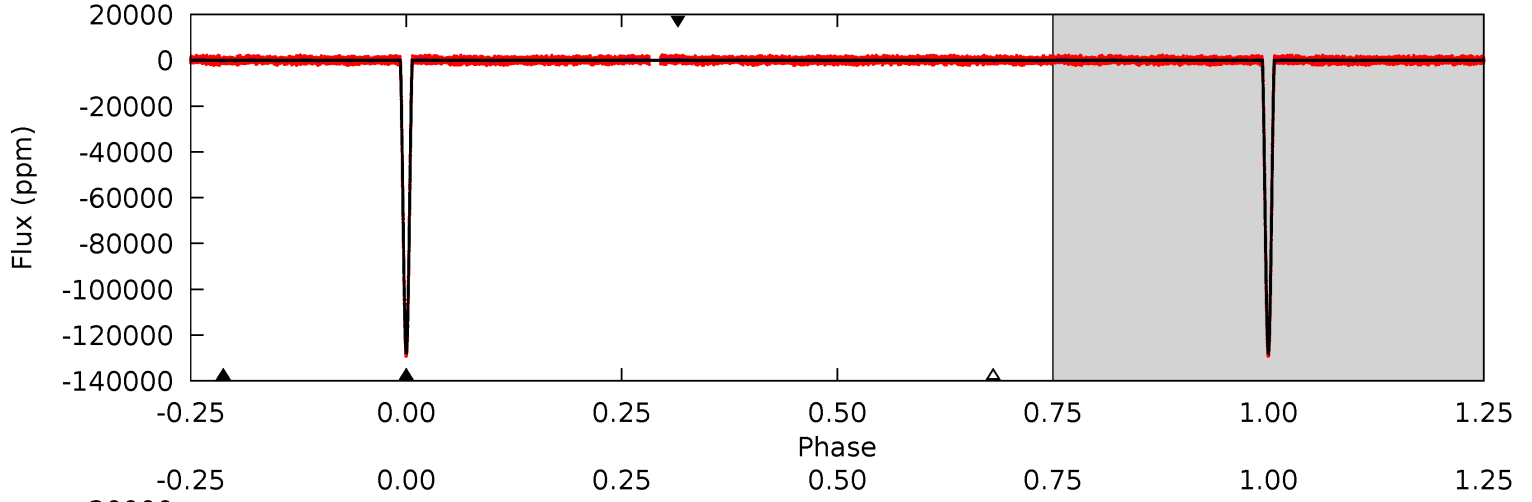
TCE 008610483-02 $P = 48.800305$ Days $T_0 = 146.099999$ (BKJD)



DV Model-Shift Uniqueness Test

008610483-02, P = 48.799299 Days, E = 97.315422 Days

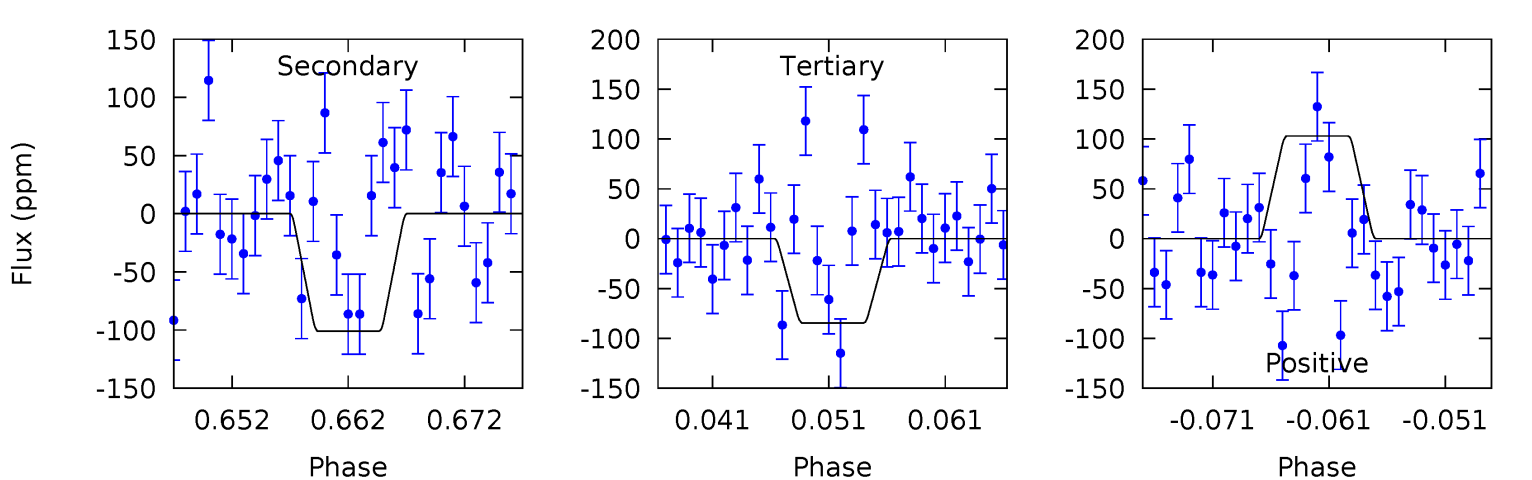
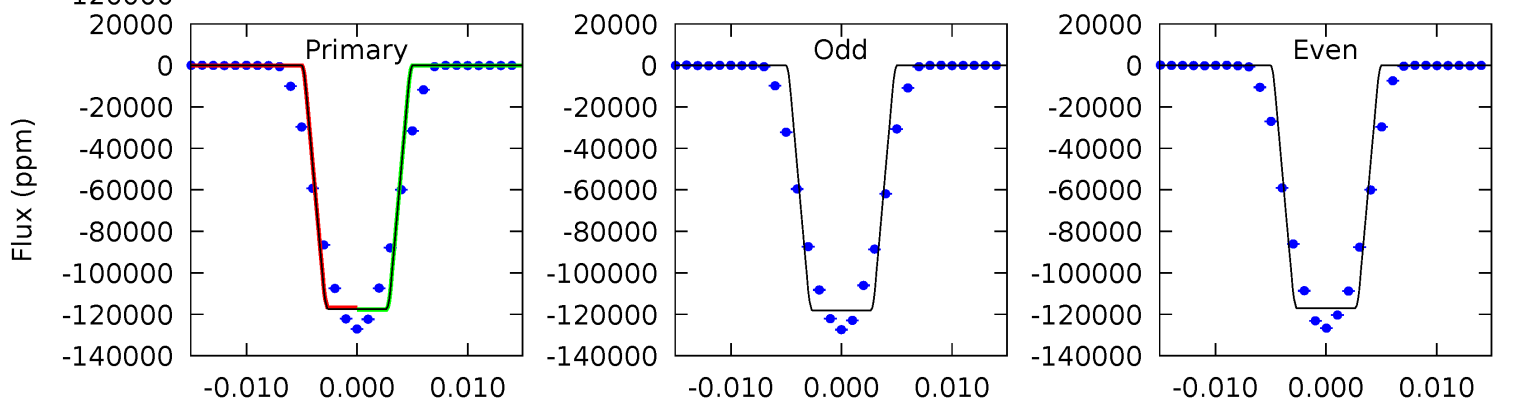
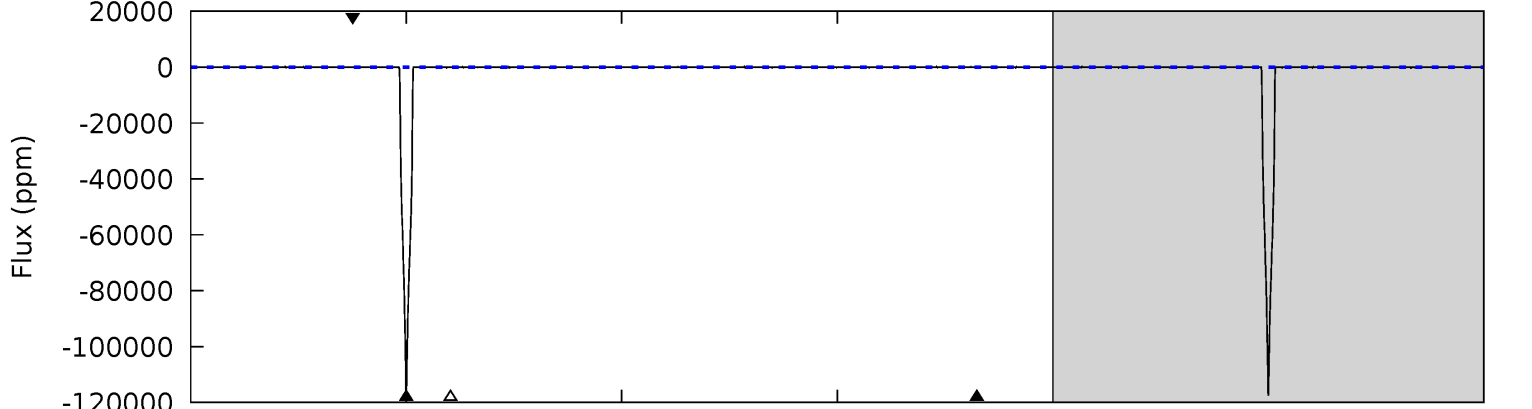
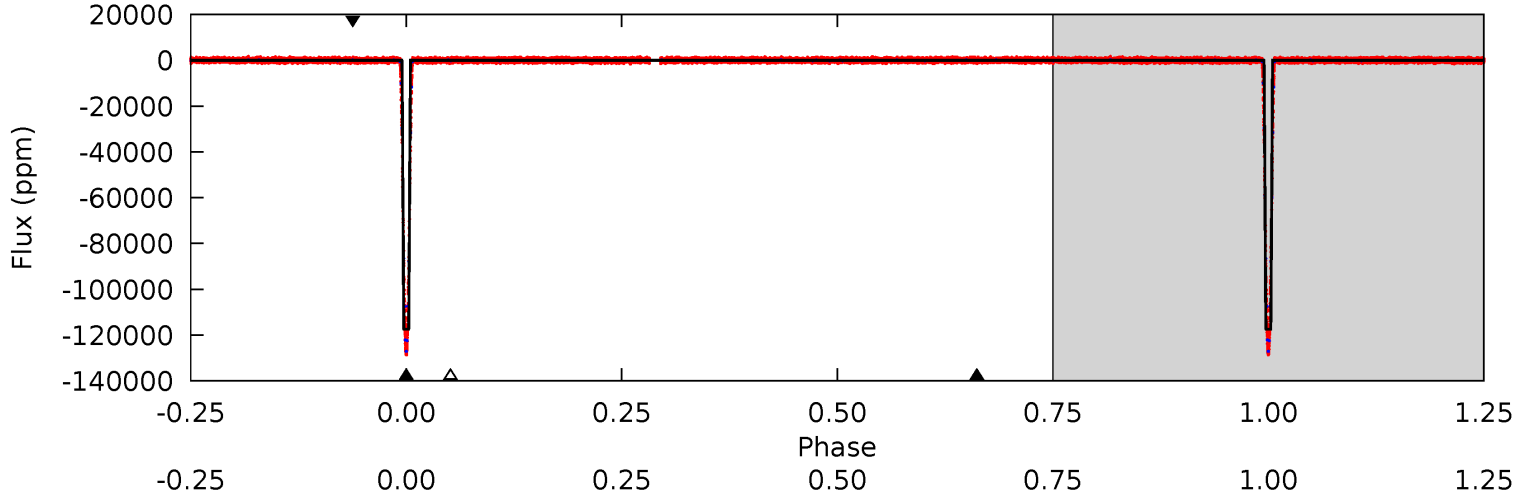
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6926	9.88	9.38	15.8	4.96	2.45	4.80	6917	6910	0.50	-5.94	9.62	1.00	0.00	4.87



Alt Model-Shift Uniqueness Test

008610483-02, P = 48.800305 Days, E = 97.299694 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4567	3.92	3.29	4.00	5.02	2.57	1.02	4563	4563	0.64	-0.08	20.7	1.00	0.00	19.9



Stellar Parameters For KIC 008610483

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6170^{+168}_{-205}	$4.472^{+0.052}_{-0.208}$	$-0.160^{+0.250}_{-0.350}$	$0.992^{+0.322}_{-0.107}$	$1.063^{+0.145}_{-0.145}$	$1.535^{+0.433}_{-0.809}$
	+3%/-3%	+1%/-5%	+156%/-219%	+32%/-11%	+14%/-14%	+28%/-53%
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 008610483-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-182 ± 18	$54.32^{+8.99}_{-6.50}$	748^{+52}_{-37}	1996^{+55}_{-48}	$2.354^{+0.692}_{-0.583}$
Alt.	-101 ± 26	$39.38^{+6.97}_{-5.16}$	748^{+53}_{-39}	2007^{+79}_{-89}	$2.393^{+1.115}_{-0.831}$

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming A=0.3)

A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

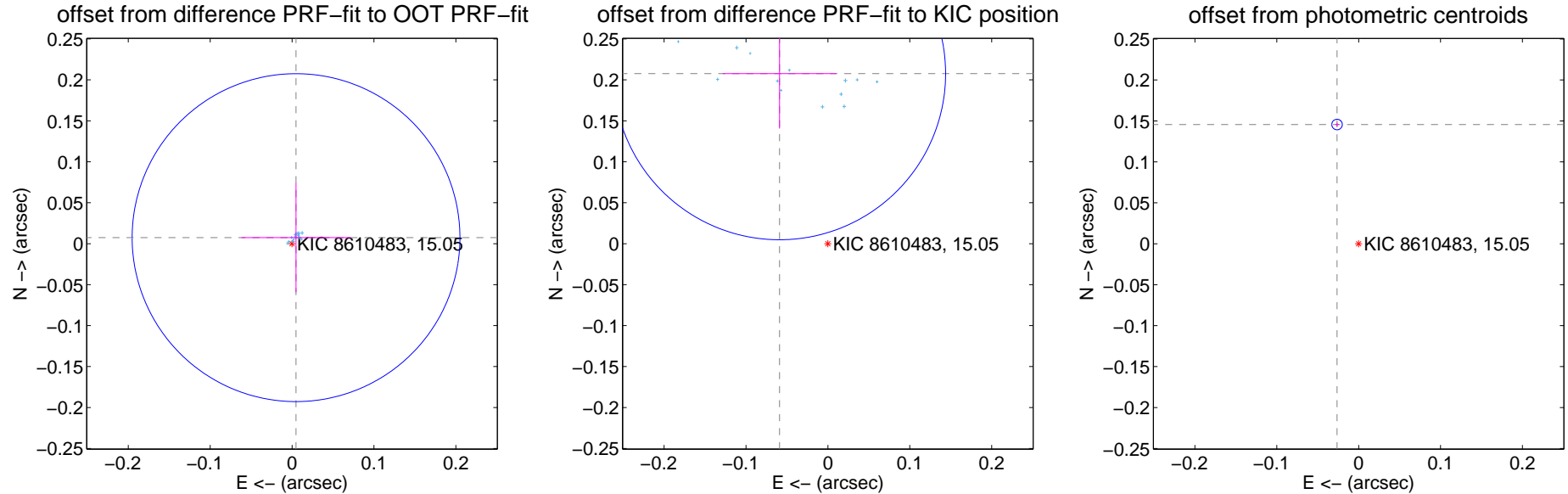
DV Centroid Data

Supplemental centroid analysis for 008610483-02. Kepler magnitude: 15.05. Transit SNR 2576.19

There are 14 quarters with good PRF difference image offsets

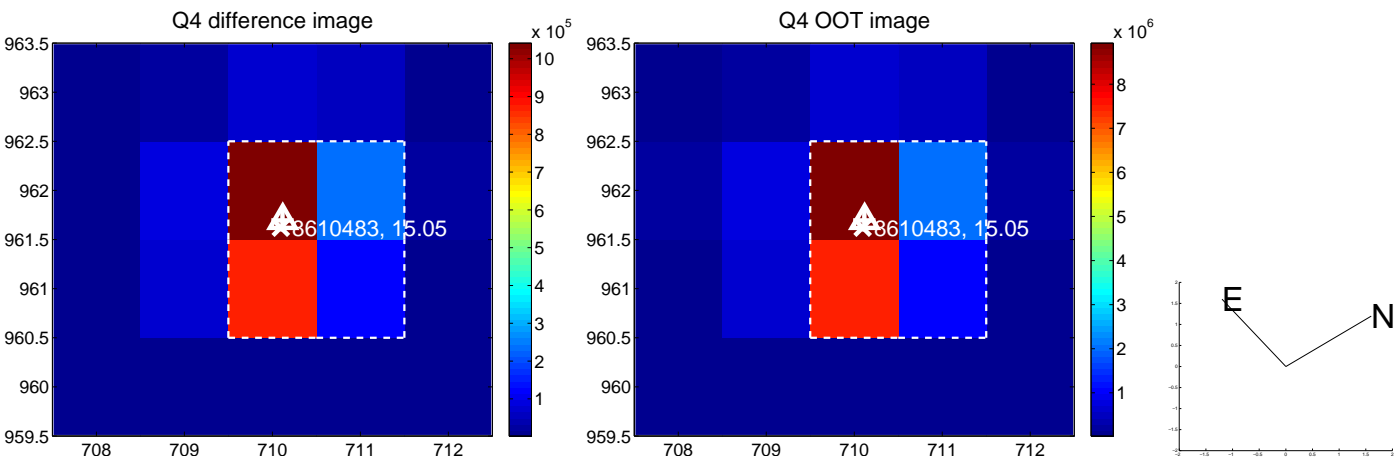
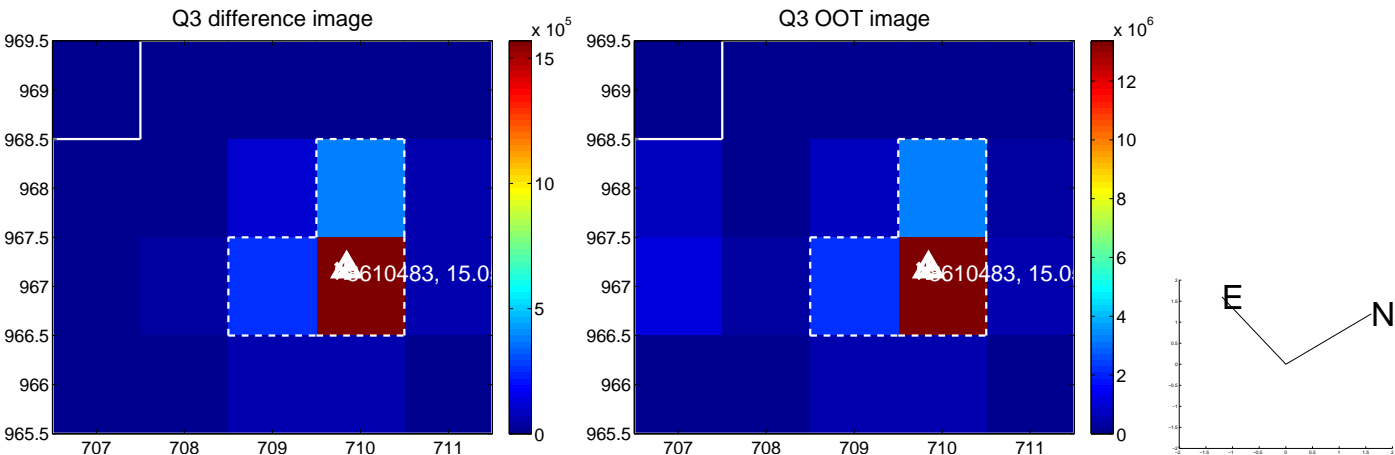
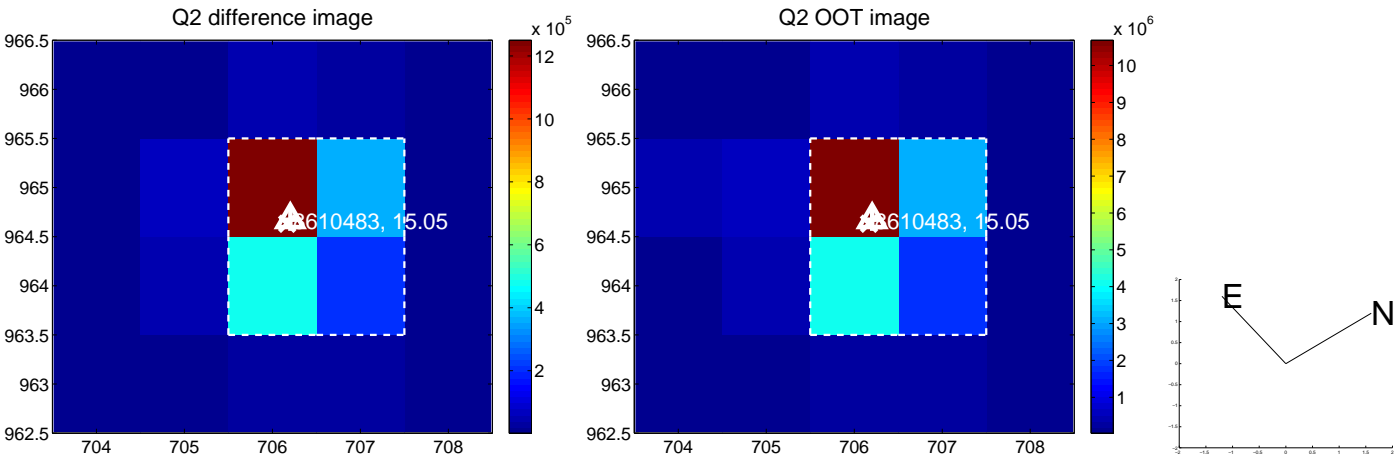
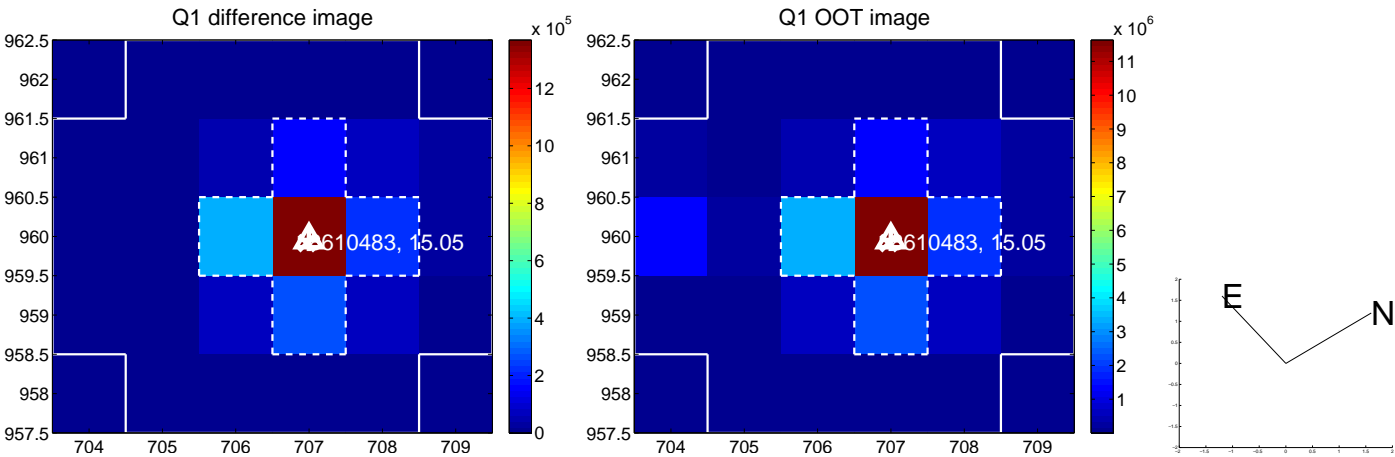
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.009 ± 0.067	0.13	-0.005 ± 0.067	0.007 ± 0.067
PRF-fit source offset from KIC position	0.216 ± 0.068	3.19	0.059 ± 0.069	0.208 ± 0.067
photometric centroid source offset	0.15 ± 0.00	69.16	0.03 ± 0.00	0.15 ± 0.00

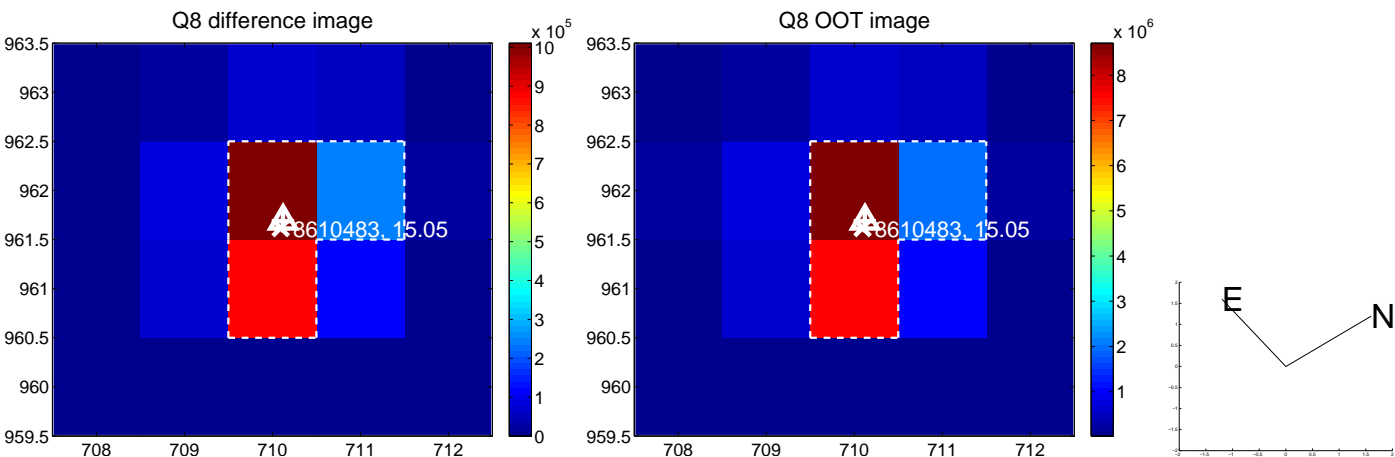
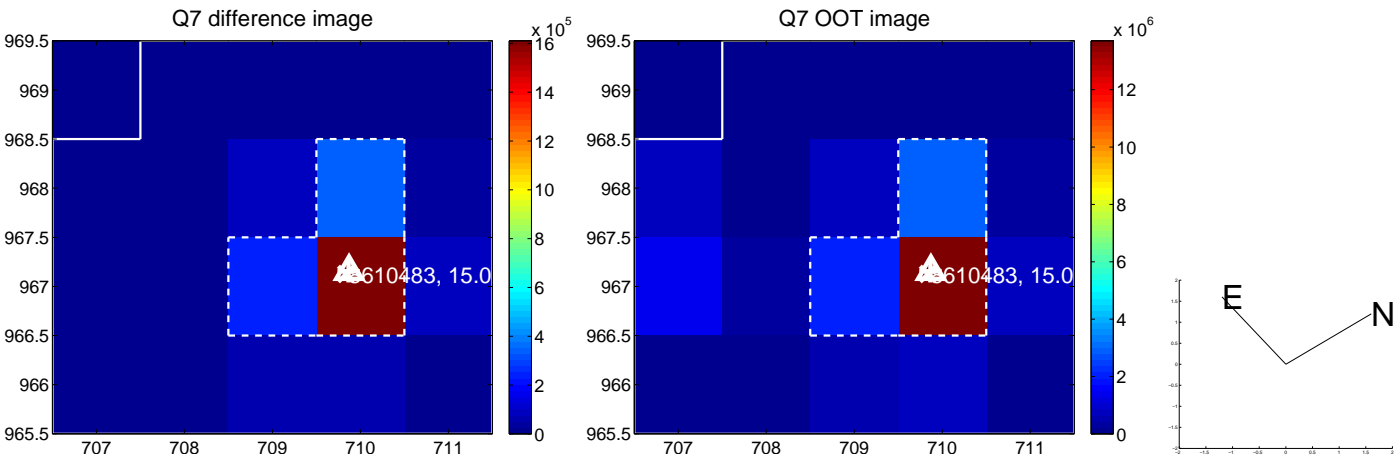
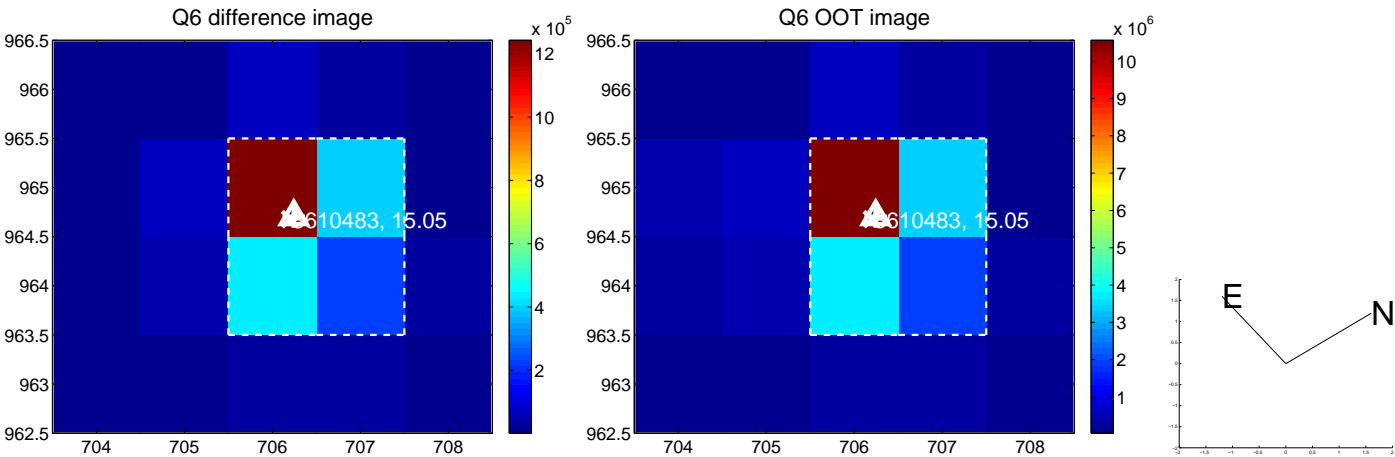
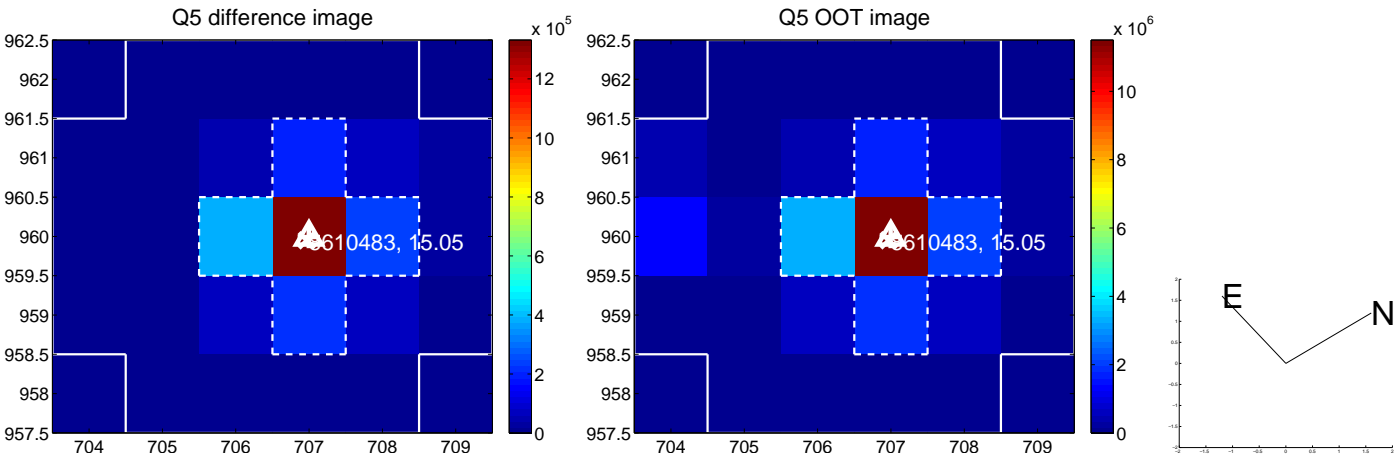


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

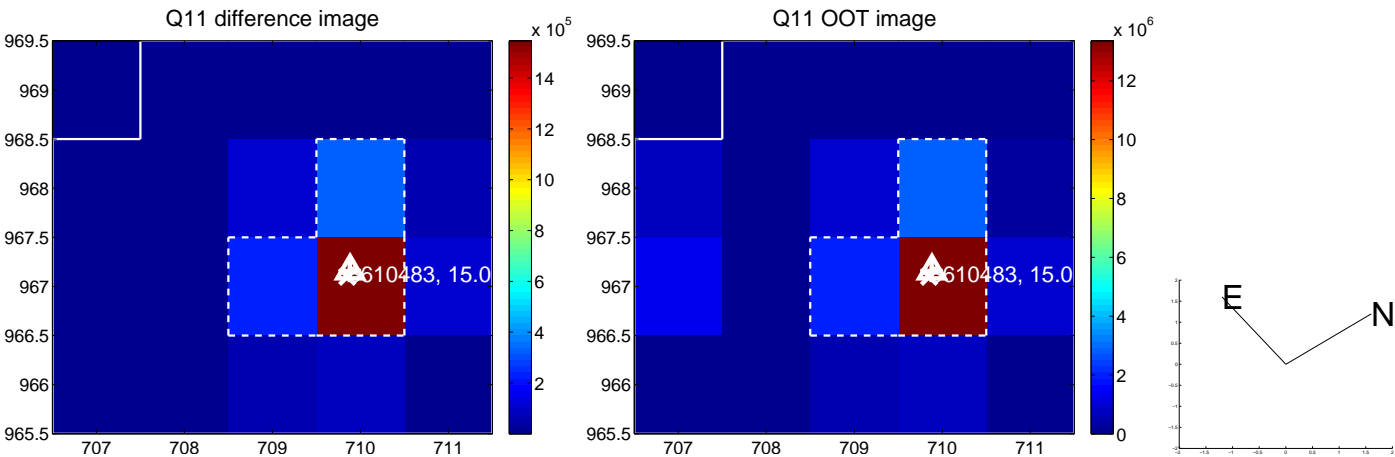
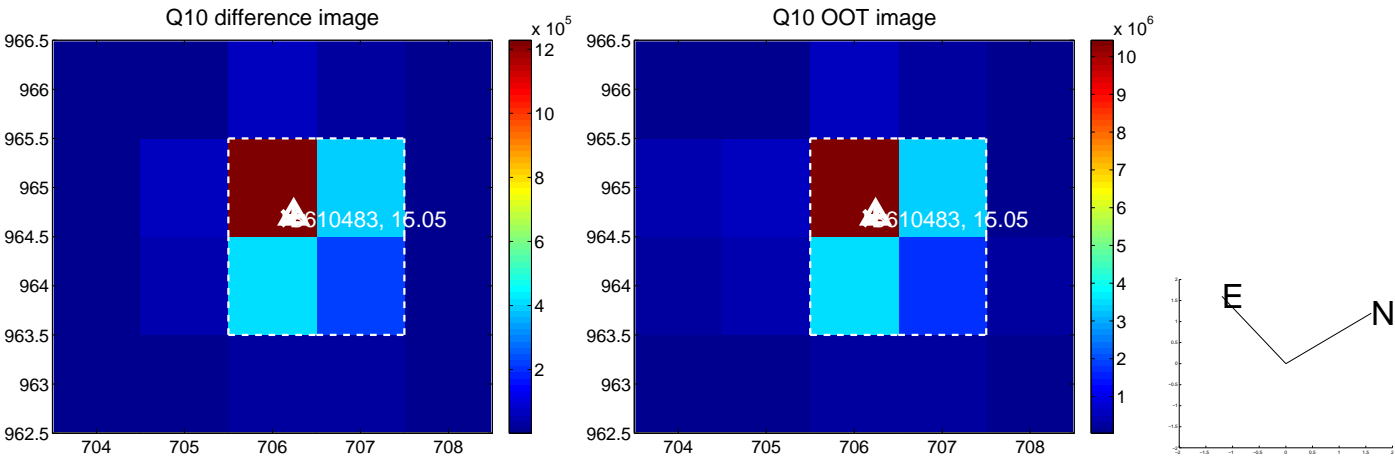
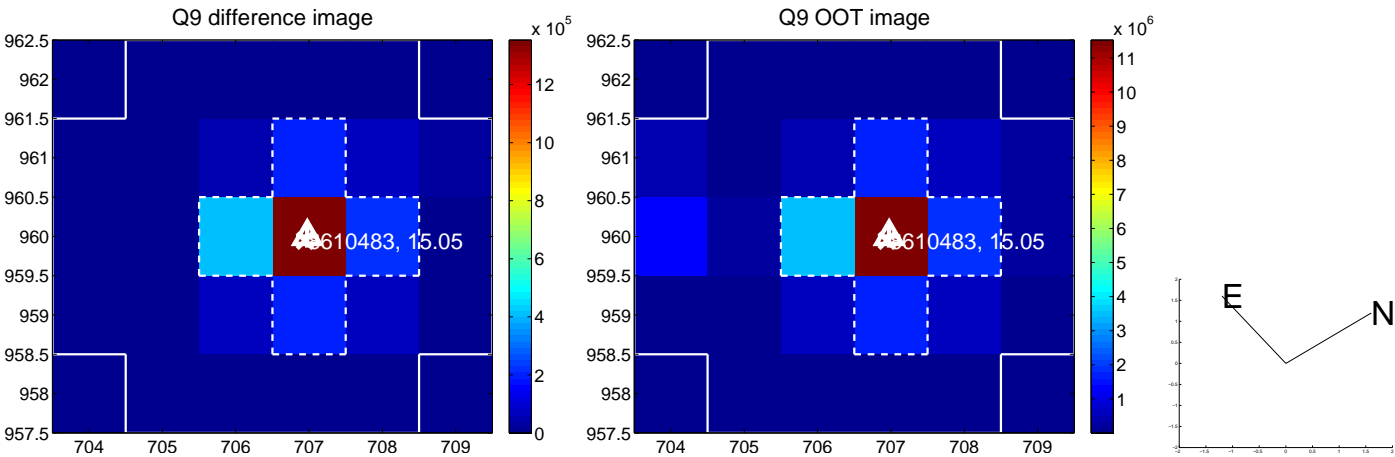
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



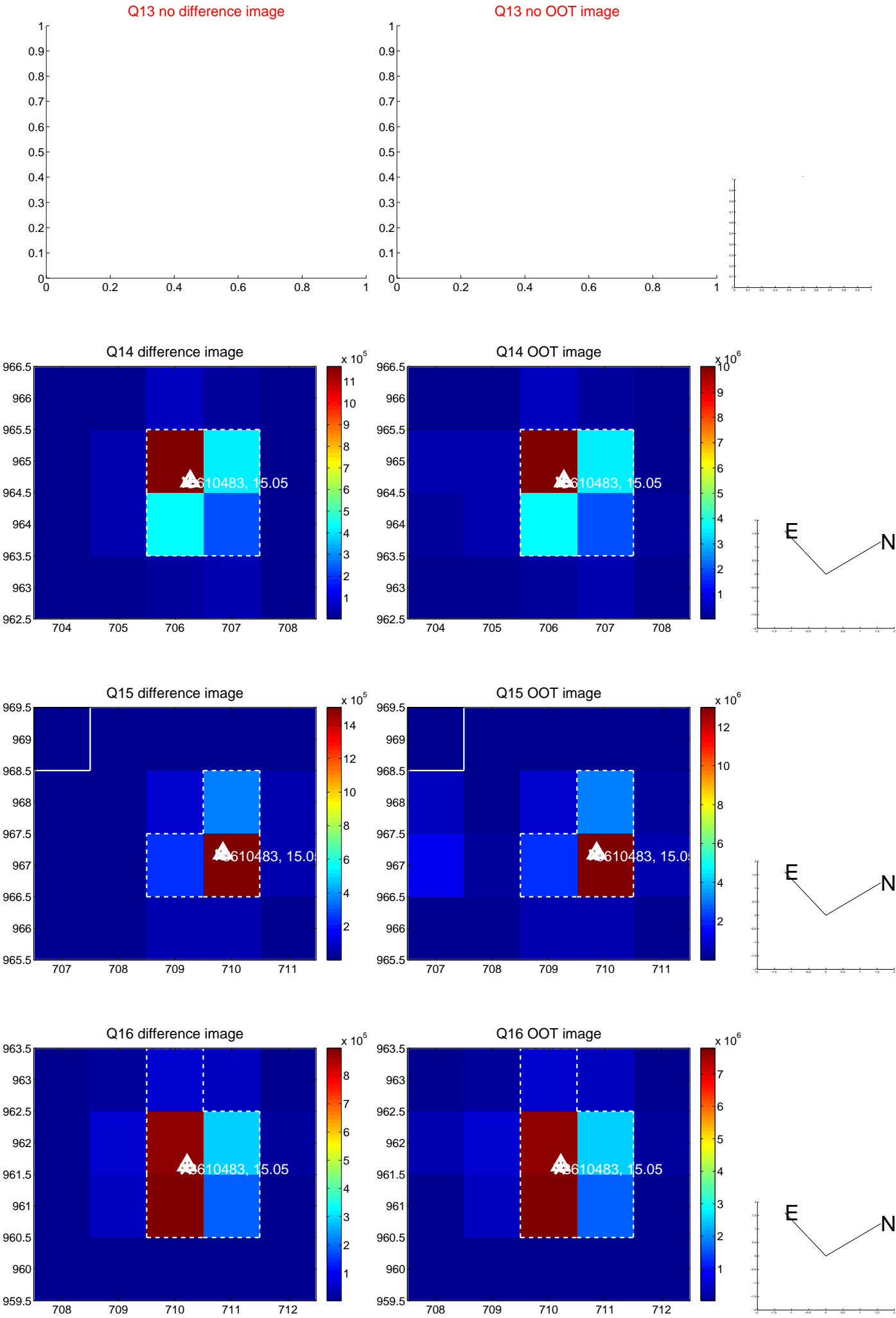
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



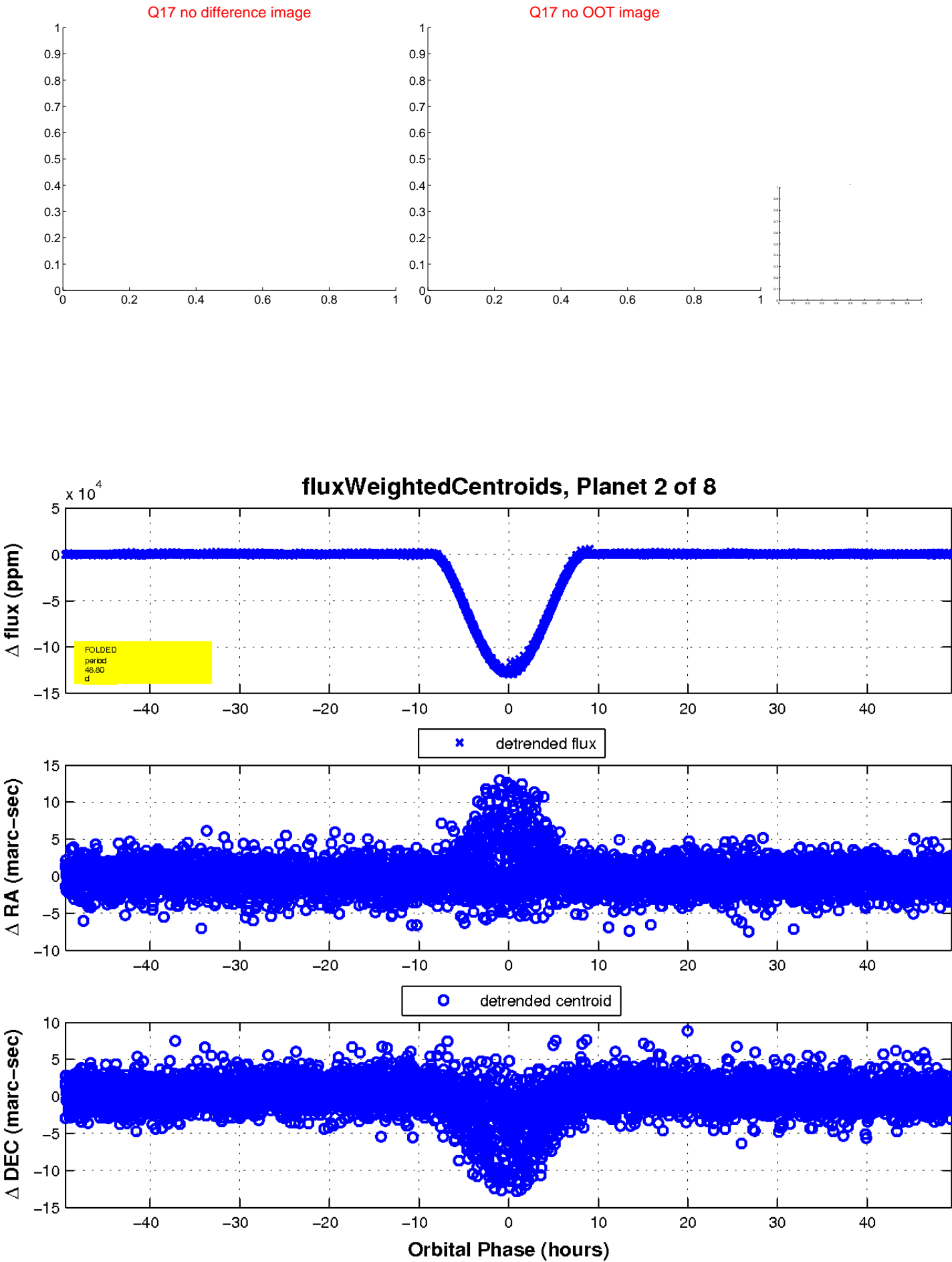
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

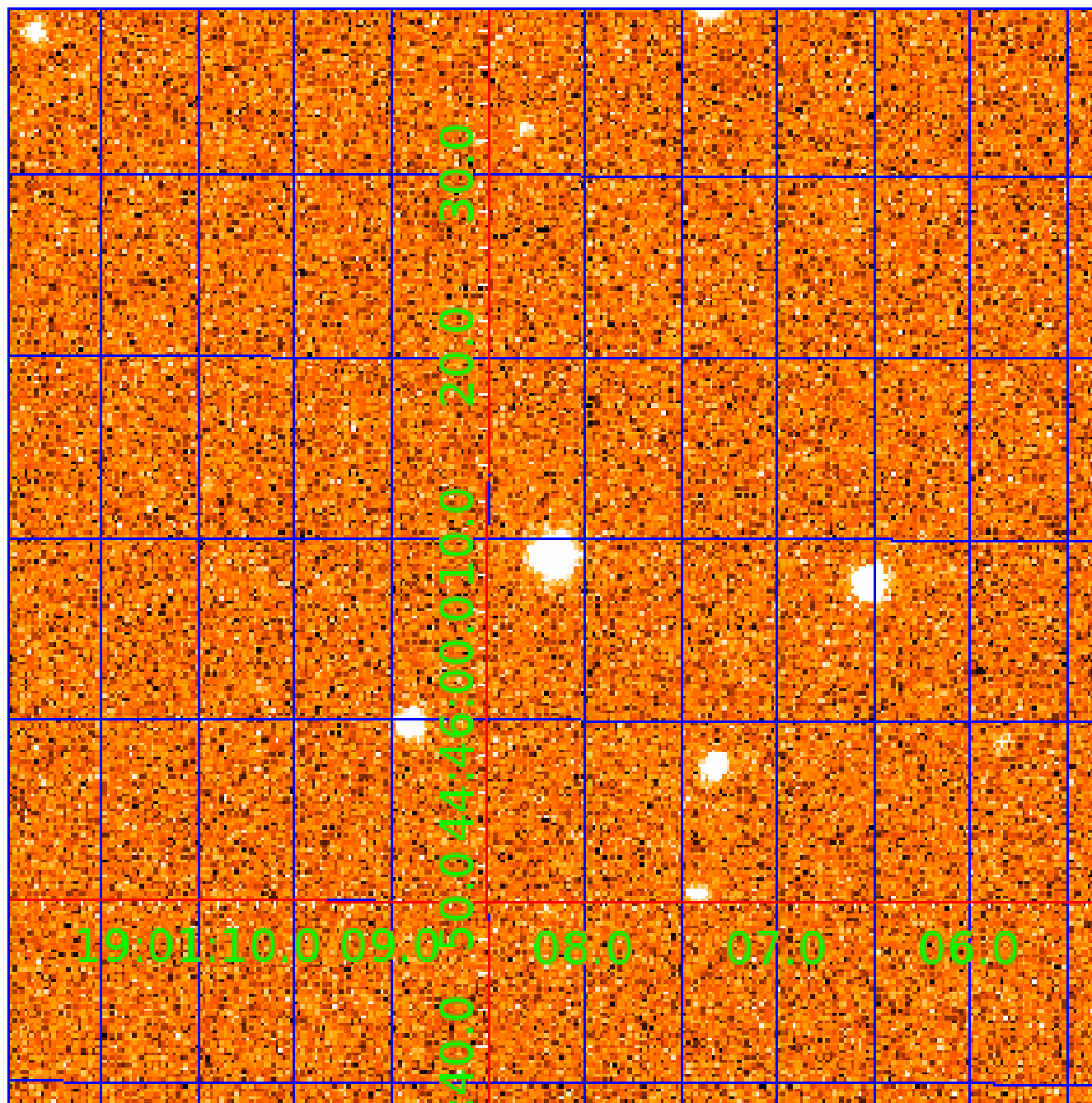


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008610483

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})
008610483-01	OBS	7068.01	48.799553	160.189495	330161.0	5.000	5592.0	-1.0	0.99	6170	49.74	17.94
008610483-02	OBS	No	48.799299	146.114721	127773.9	16.474	2737.2	2576.2	0.99	6170	52.19	17.94
008610483-03	OBS	No	290.558412	213.796940	6860.6	15.000	76.5	-1.0	0.99	6170	8.22	1.66
008610483-04	OBS	No	216.370967	313.376489	6234.3	15.000	67.1	-1.0	0.99	6170	7.84	2.46
008610483-05	OBS	No	461.220593	576.364405	1877.3	20.726	22.9	8.4	0.99	6170	7.55	0.90
008610483-06	OBS	No	484.363917	604.888467	1854.6	7.500	21.8	-1.0	0.99	6170	4.27	0.84
008610483-07	OBS	No	318.472074	354.503228	338.4	1.182	22.4	1.8	0.99	6170	1.91	1.47
008610483-08	OBS	No	219.246981	308.479786	4753.0	2.500	23.5	-1.0	0.99	6170	6.86	2.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008610483-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
008610483-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008610483-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS
008610483-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008610483-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008610483-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008610483-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—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_FEW_DIFFS
008610483-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

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

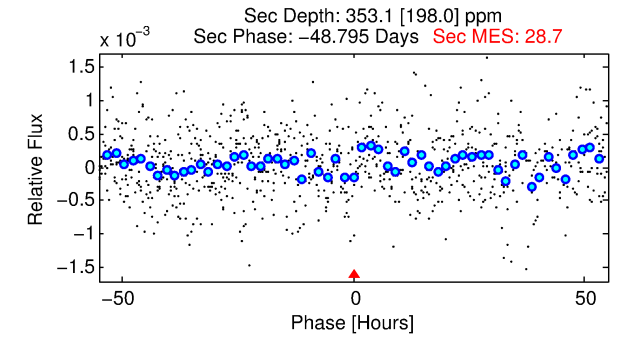
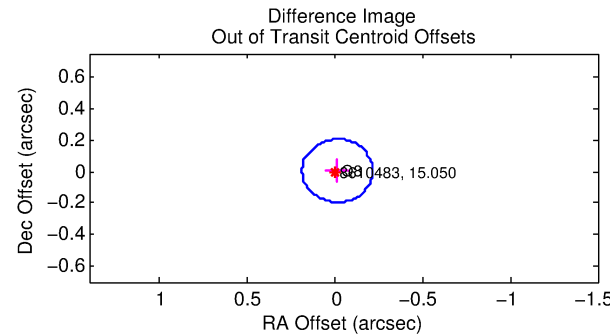
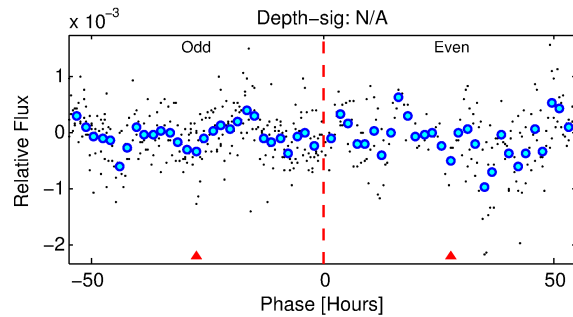
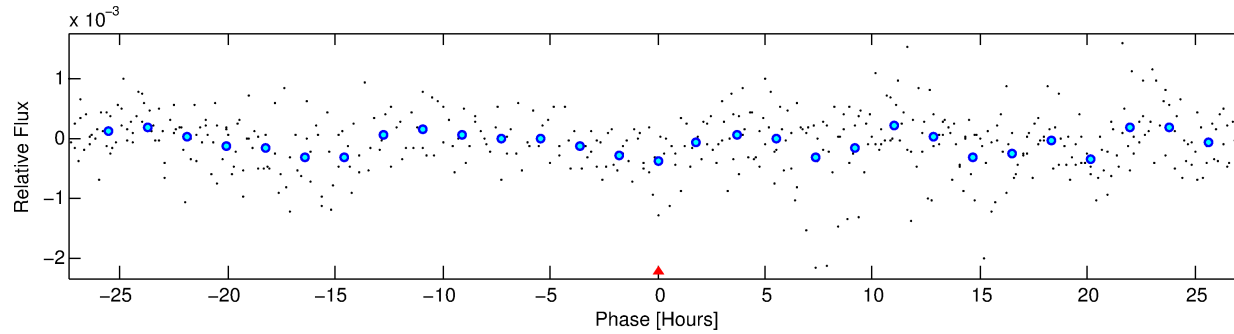
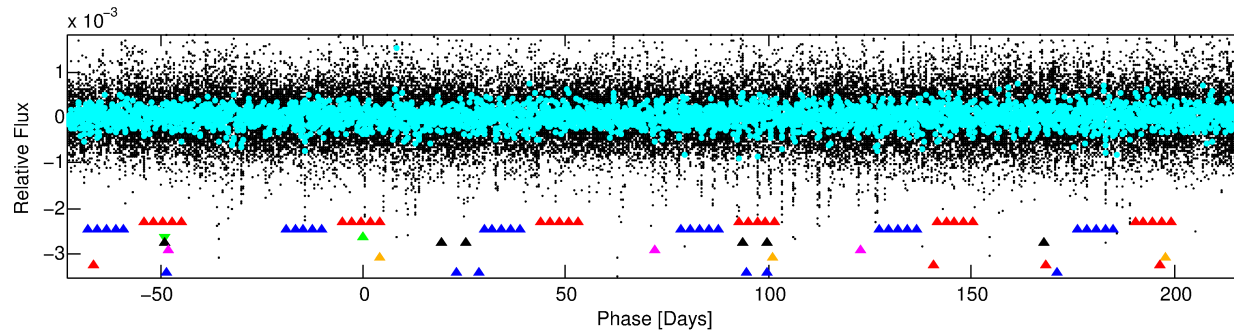
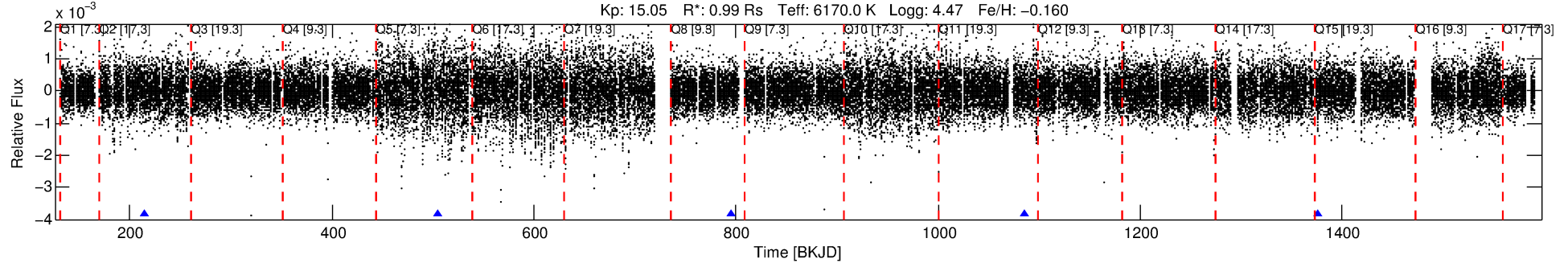
Ephemeris Match Information For 008610483-03

No Significant Match Found

DV One-Page Summary

KIC: 8610483 Candidate: 3 of 8 Period: 290.558 d
KOI: K07068 Corr: No Ephemeris Match

Kp: 15.05 R*: 0.99 Rs Teff: 6170.0 K Logg: 4.47 Fe/H: -0.160



TPS TCE Results:

Period = 290.55841 d
Epoch = 213.7969 BKJD

DV fit results are unavailable

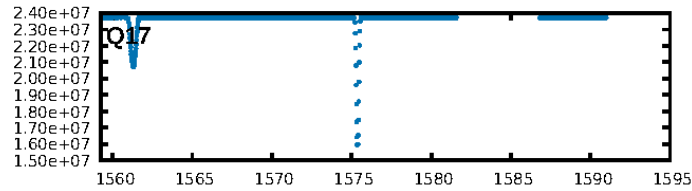
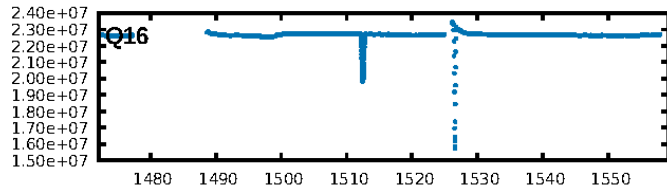
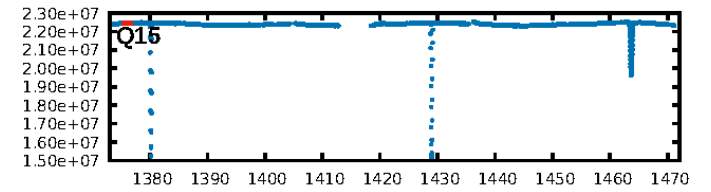
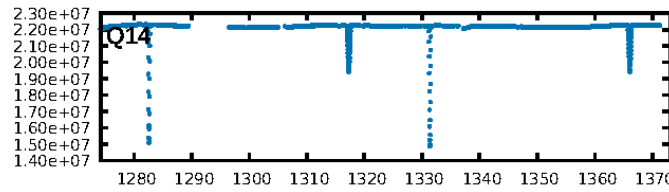
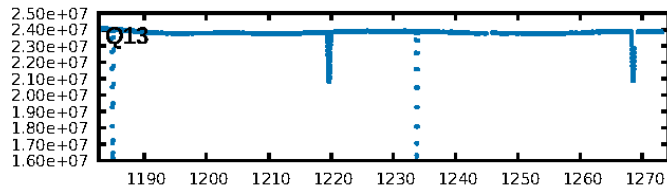
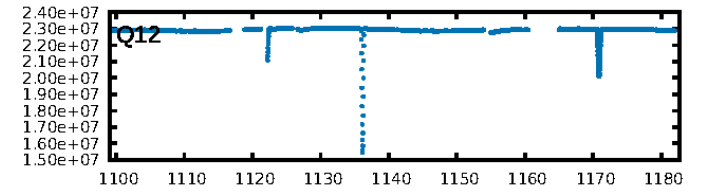
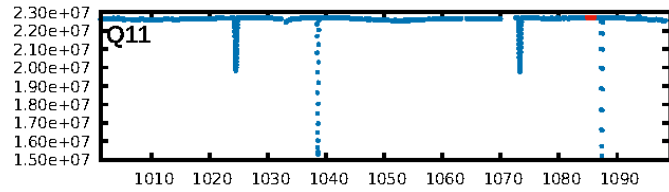
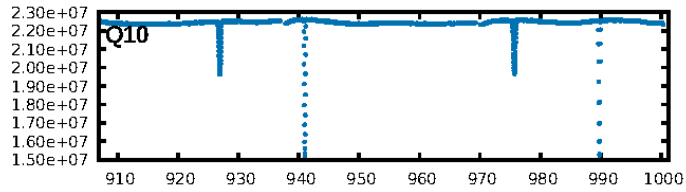
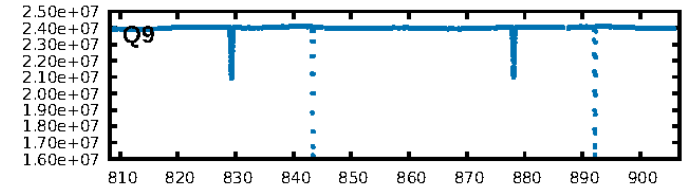
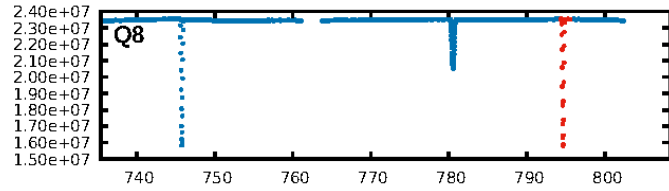
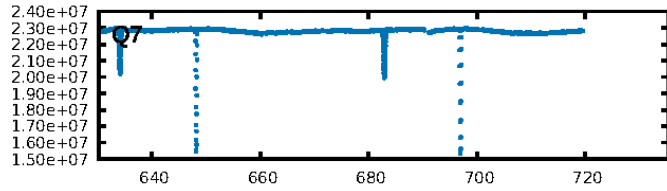
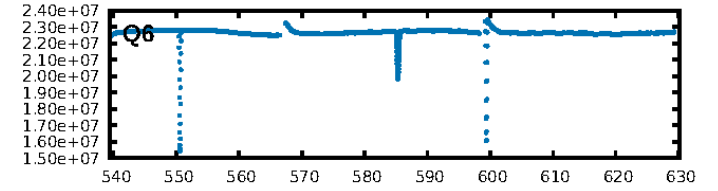
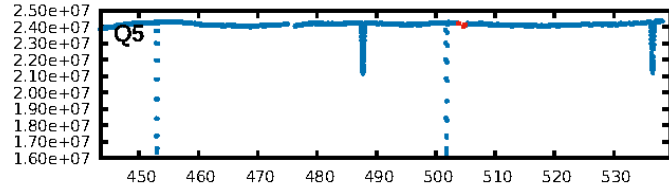
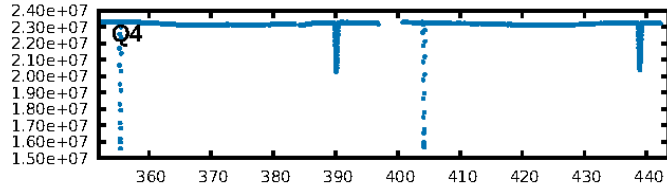
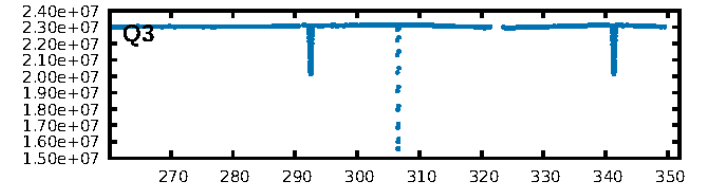
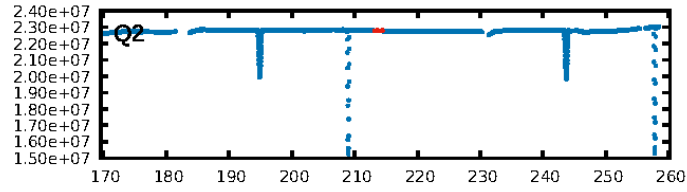
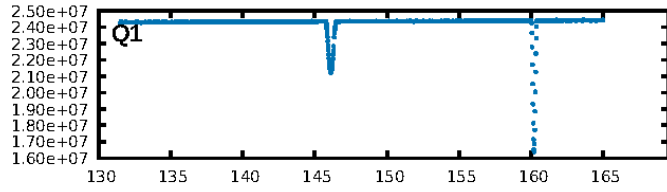
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [112.55σ]
LongPeriod-sig: 100.0% [44.52σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.307
Centroid-sig: N/A
Centroid-so: 0.910 arcsec [0.65σ]
OotOffset-rm: 0.016 arcsec [0.24σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-rm: 0.292 arcsec [4.37σ]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 0.75 [3/4]

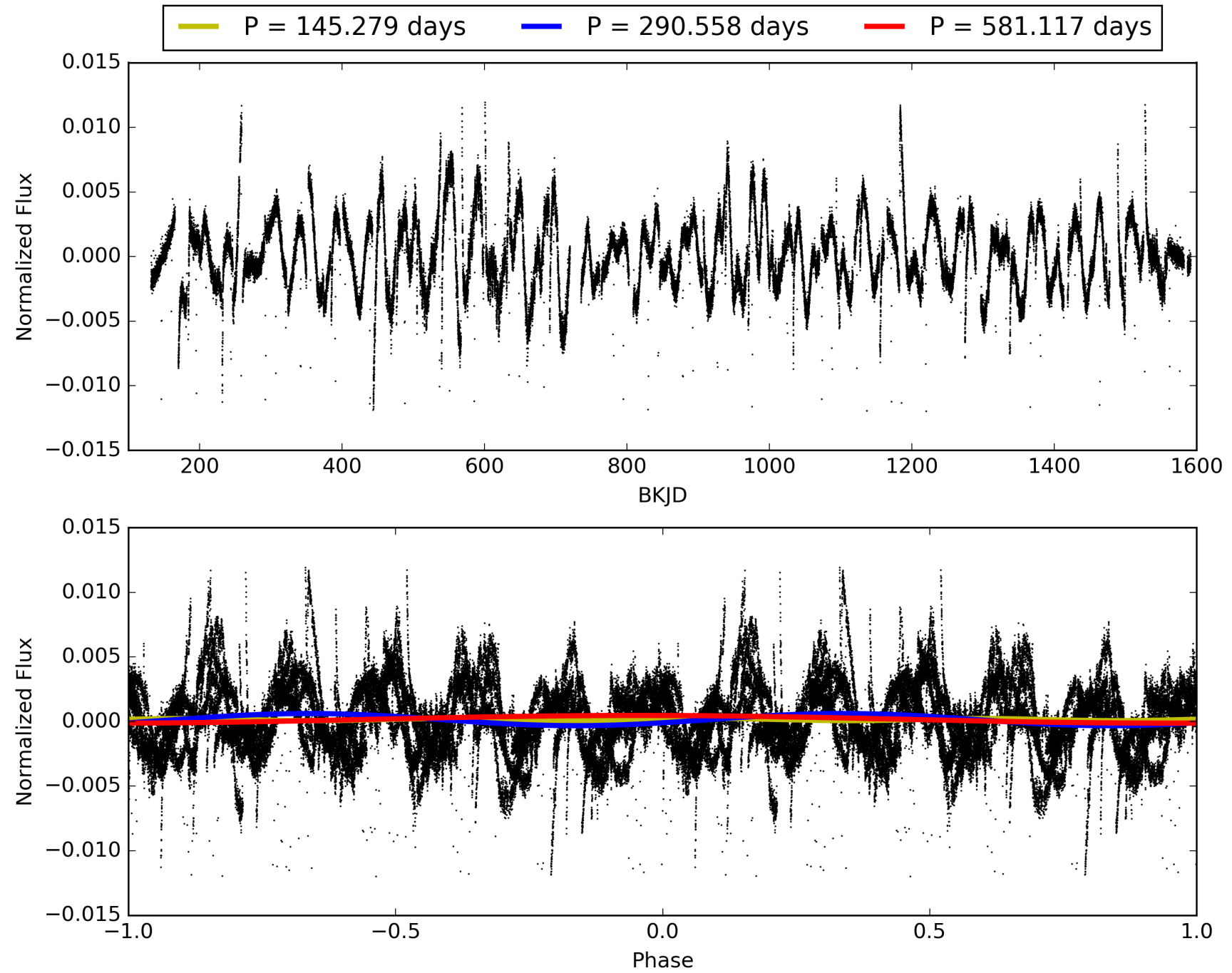
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:55:43 Z

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

TCE 008610483-03, PDC Light Curves

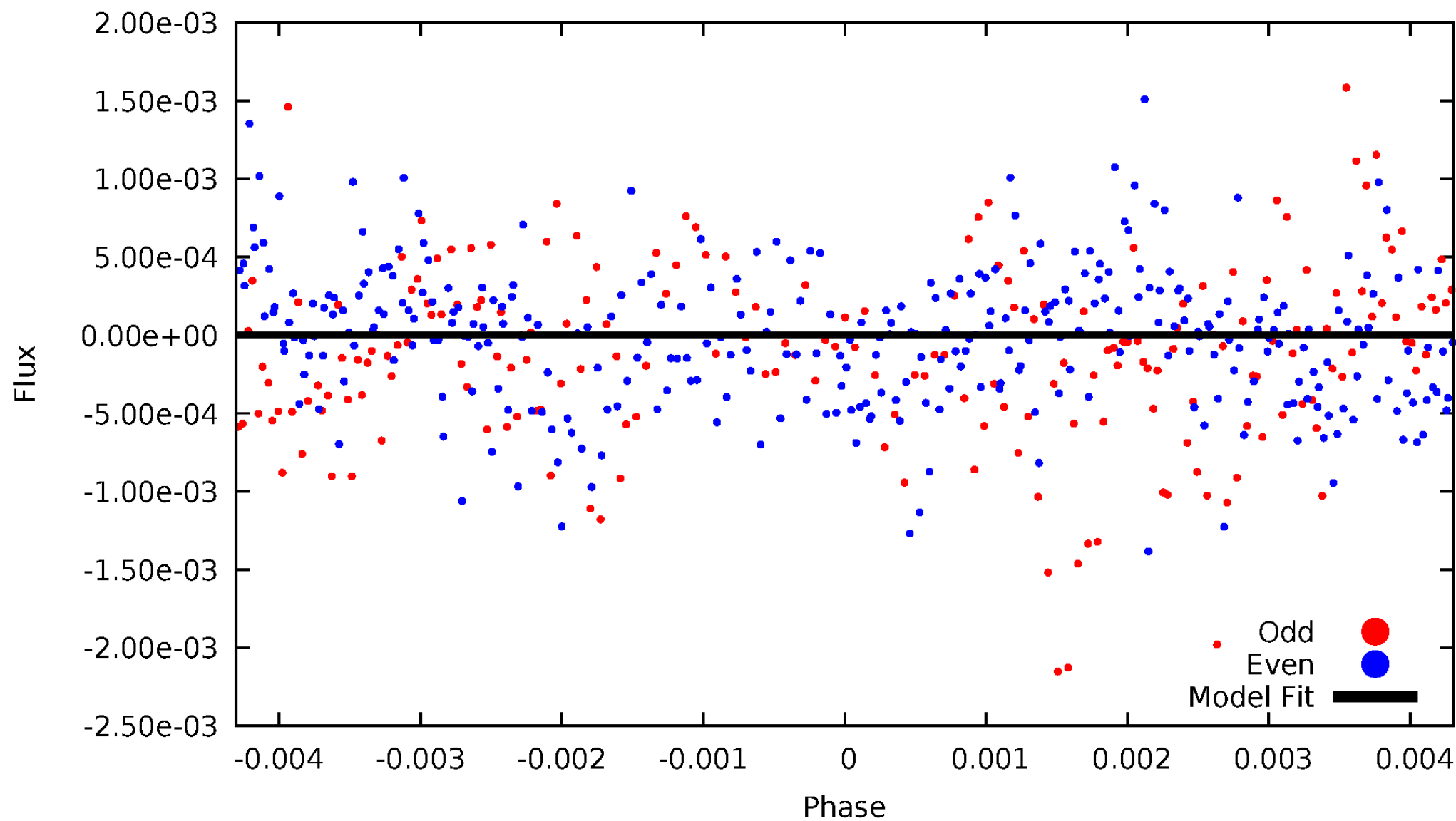


TCE 008610483-03



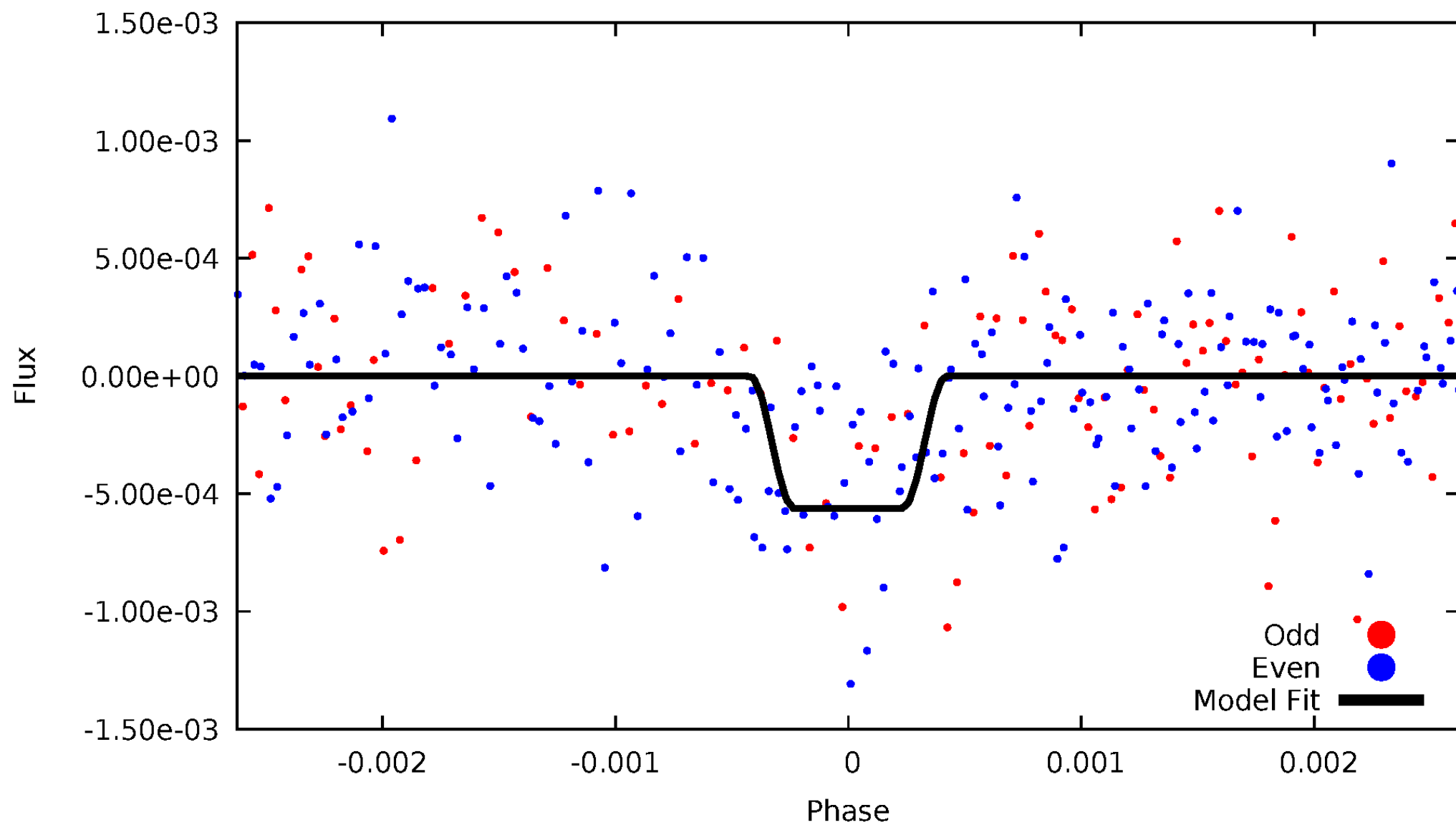
DV Odd/Even

TCE 008610483-03

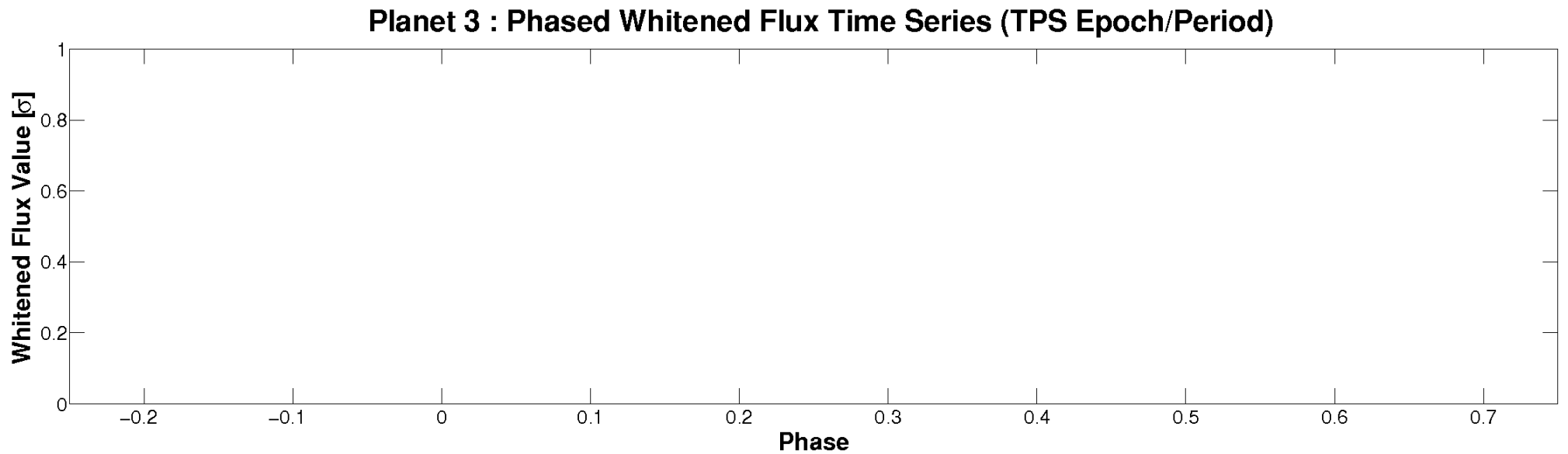
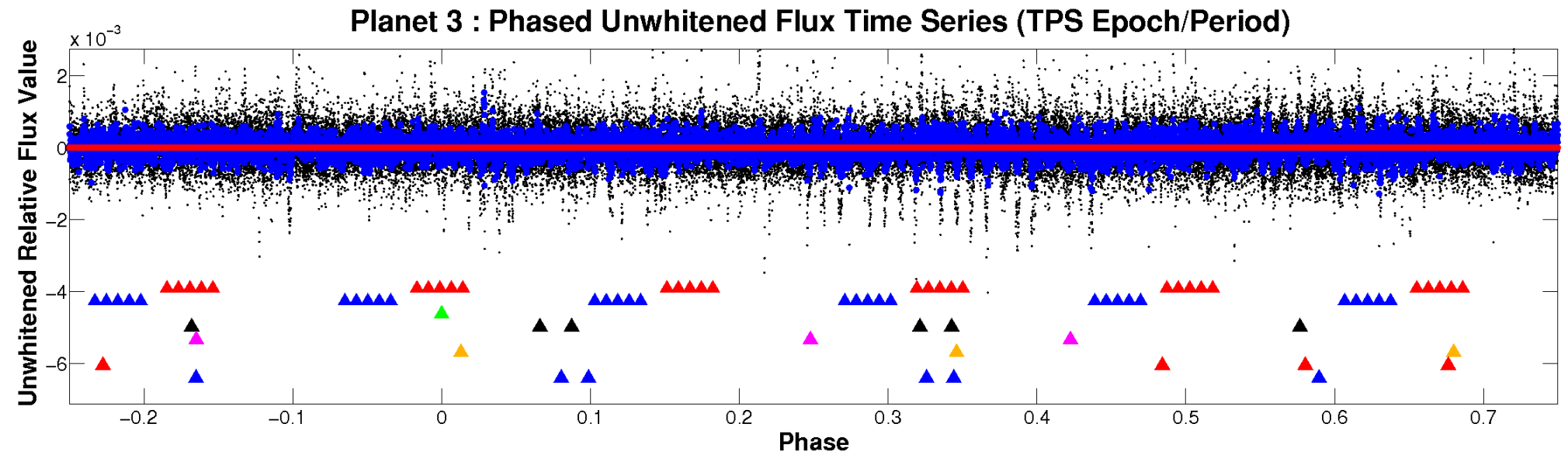


ALT Odd/Even

TCE 008610483-03

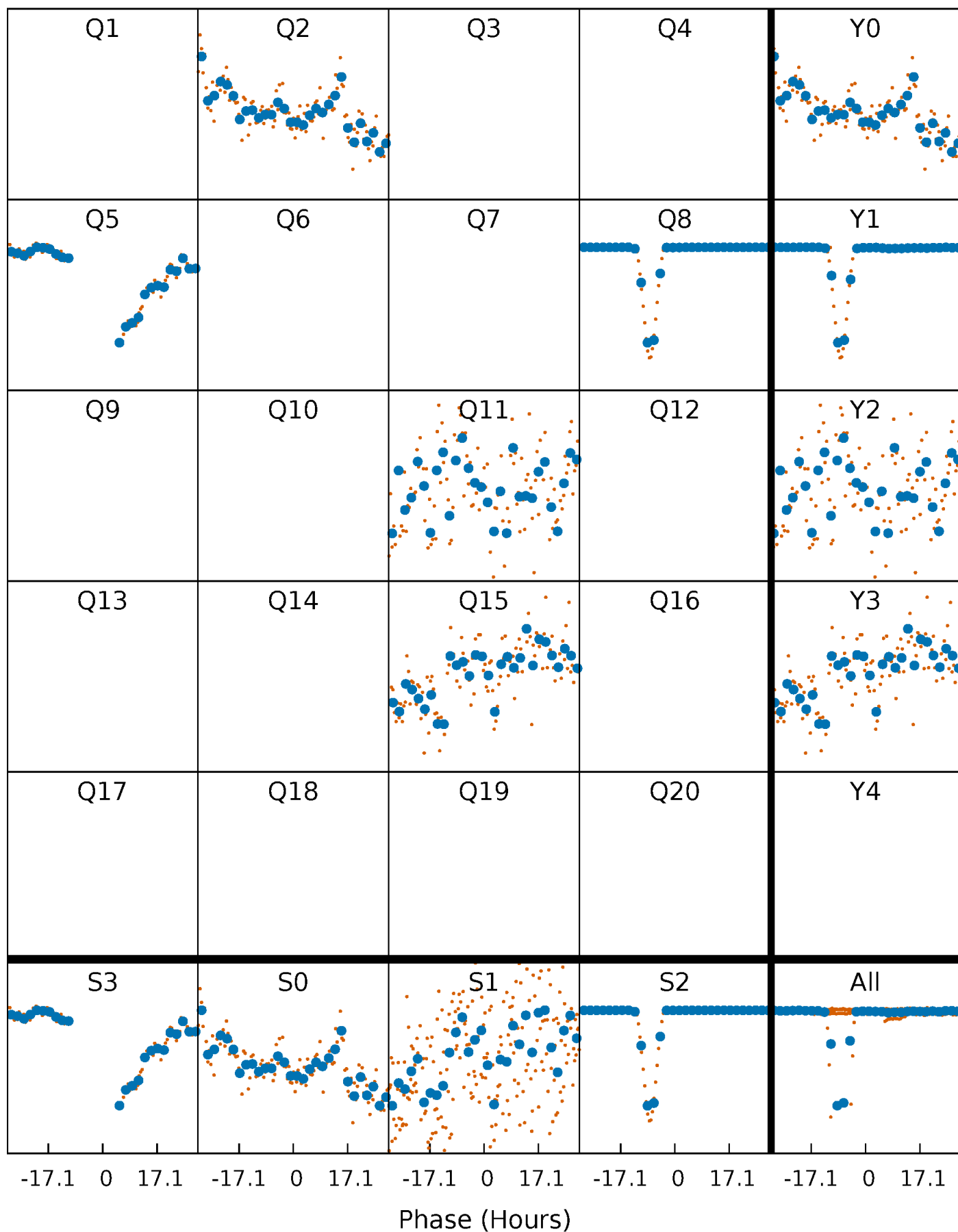


Non-Whitened Vs. Whitened Light Curve



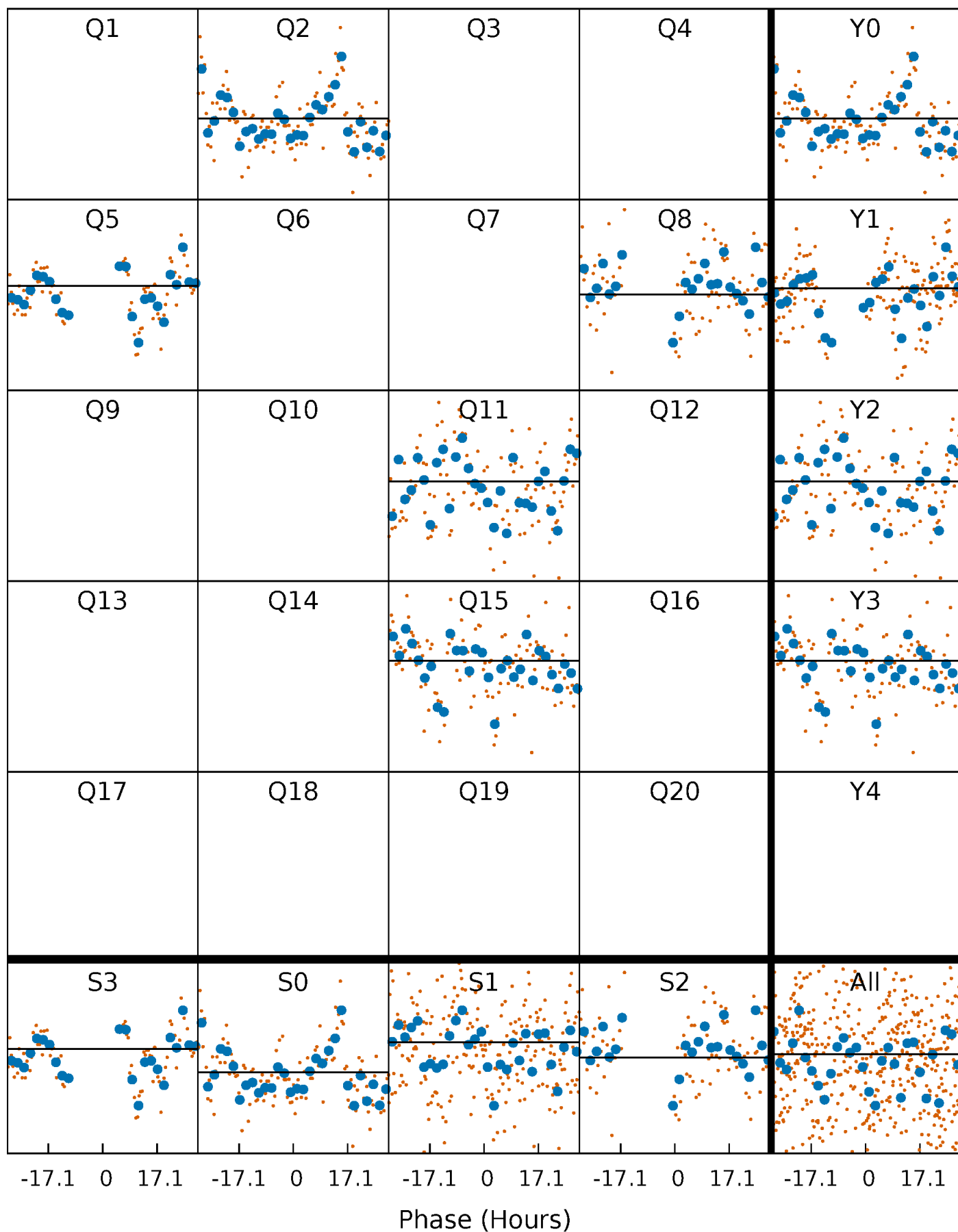
PDC Quarter-Phased Transit Curves

TCE 008610483-03 P=290.558412 Days $T_0=213.796940$ (BKJD)



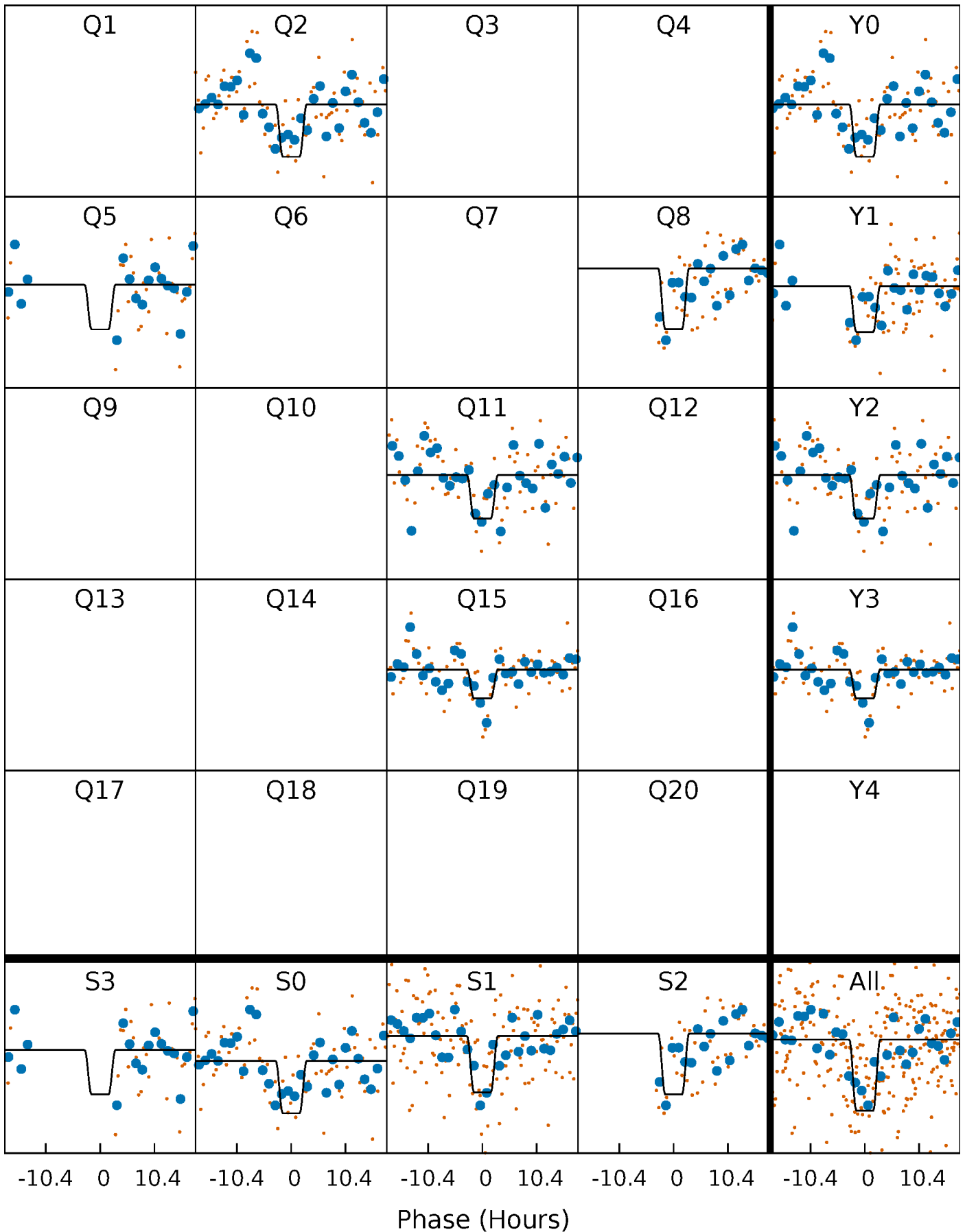
DV Quarter-Phased Transit Curves

TCE 008610483-03 $P=290.558412$ Days $T_0=213.796940$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

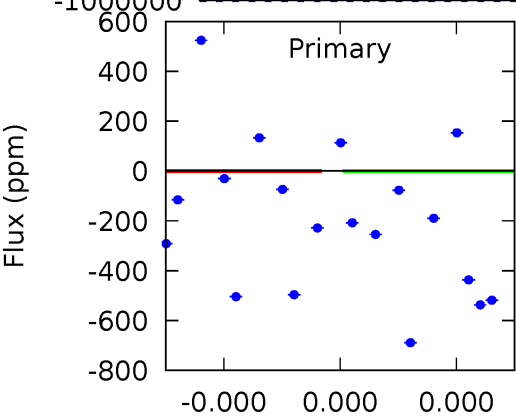
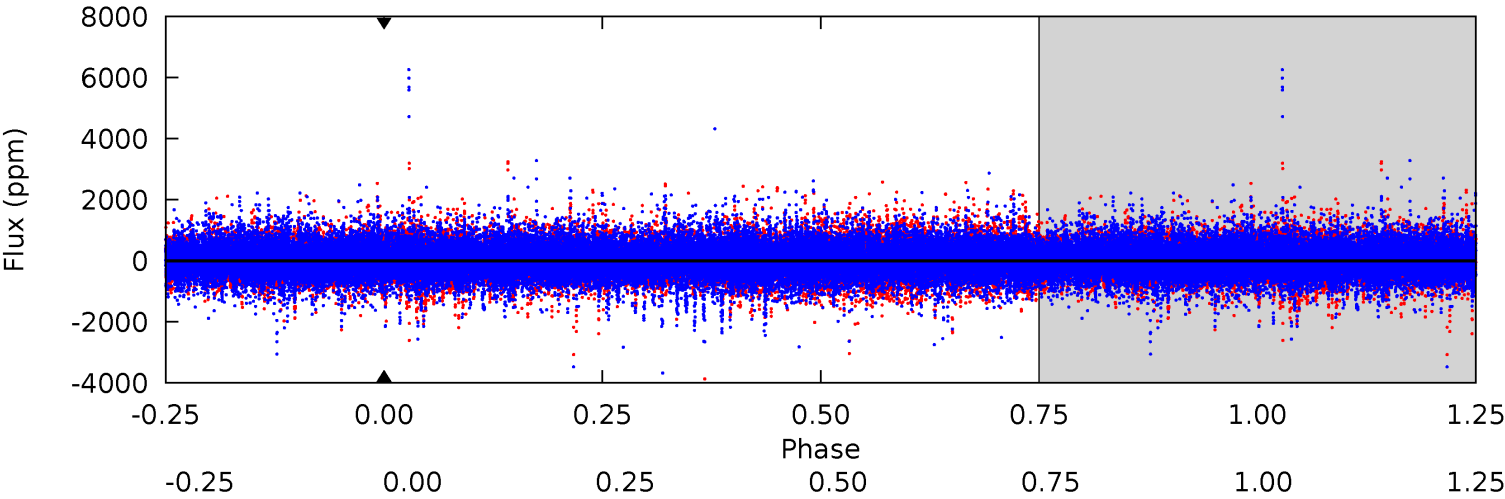
TCE 008610483-03 P=290.558412 Days $T_0=213.927888$ (BKJD)



DV Model-Shift Uniqueness Test

008610483-03, P = 290.558412 Days, E = 213.796940 Days

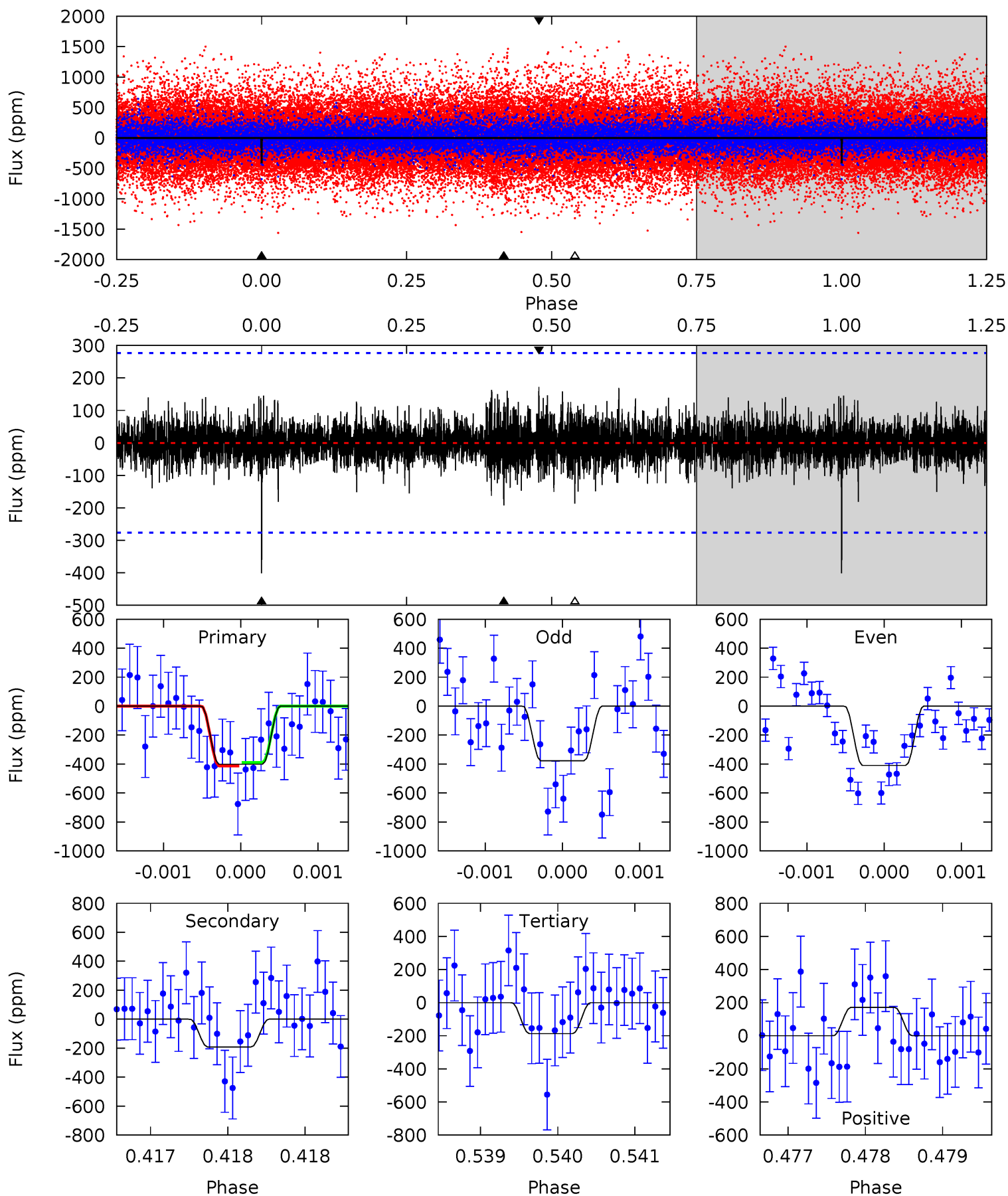
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008610483-03, P = 290.558412 Days, E = 213.927888 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	3.81	3.71	3.41	5.48	3.34	0.84	4.25	4.55	0.10	0.39	0.27	1.16	0.30	0.23



Stellar Parameters For KIC 008610483

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6170^{+168}_{-205}	$4.472^{+0.052}_{-0.208}$	$-0.160^{+0.250}_{-0.350}$	$0.992^{+0.322}_{-0.107}$	$1.063^{+0.145}_{-0.145}$	$1.535^{+0.433}_{-0.809}$
	+3%/-3%	+1%/-5%	+156%/-219%	+32%/-11%	+14%/-14%	+28%/-53%
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 008610483-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$11.79^{+10.06}_{-7.84}$	412^{+29}_{-20}	3783^{+13362}_{-18598}	$2937^{+565220}_{-409840}$
Alt.	-192 ± 50	$8.79^{+9.17}_{-6.10}$	413^{+29}_{-21}	3201^{+1584}_{-597}	1048^{+9370}_{-826}

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

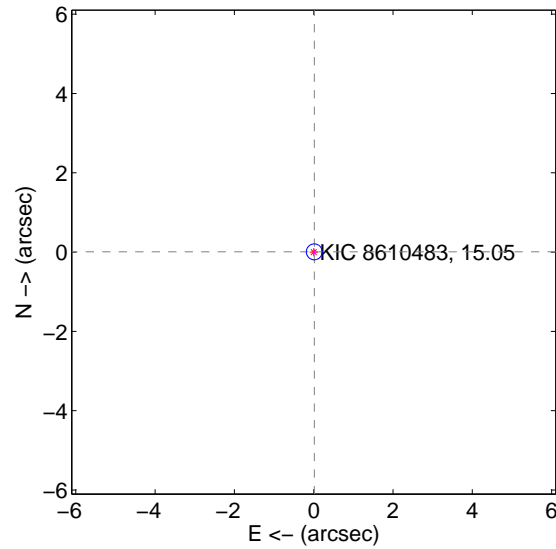
Supplemental centroid analysis for 008610483-03. Kepler magnitude: 15.05. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

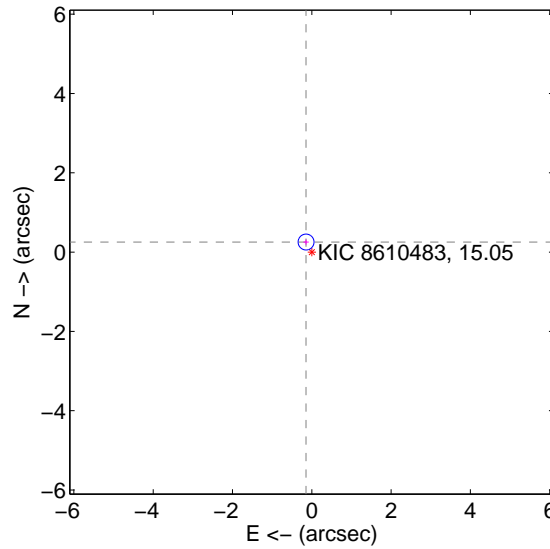
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.016 ± 0.067	0.24	-0.015 ± 0.067	0.006 ± 0.067
PRF-fit source offset from KIC position	0.292 ± 0.067	4.37	0.144 ± 0.067	0.254 ± 0.067
photometric centroid source offset	0.91 ± 1.39	0.65	0.91 ± 1.39	-0.08 ± 1.44

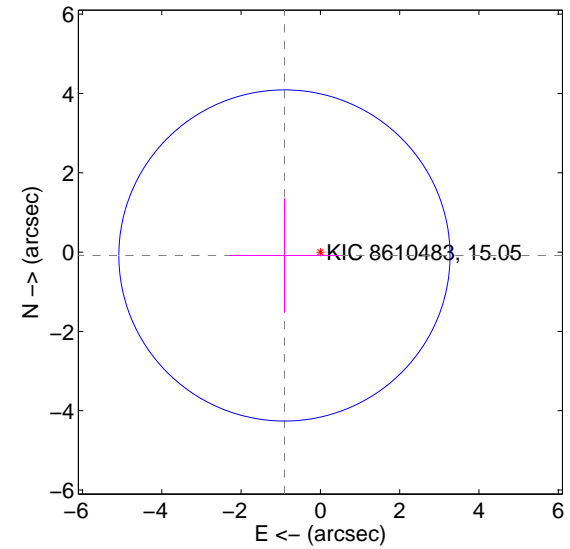
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

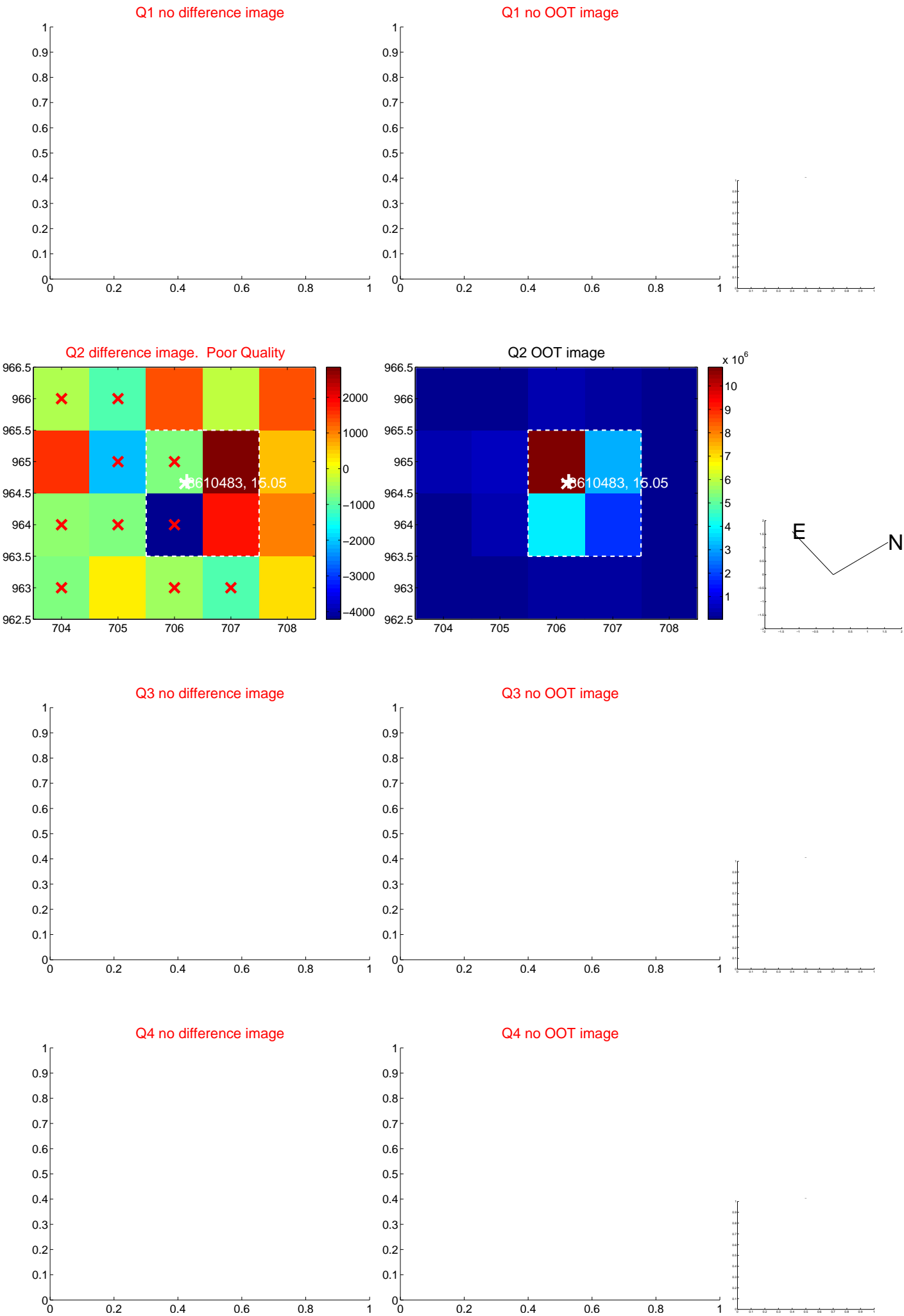


offset from photometric centroids

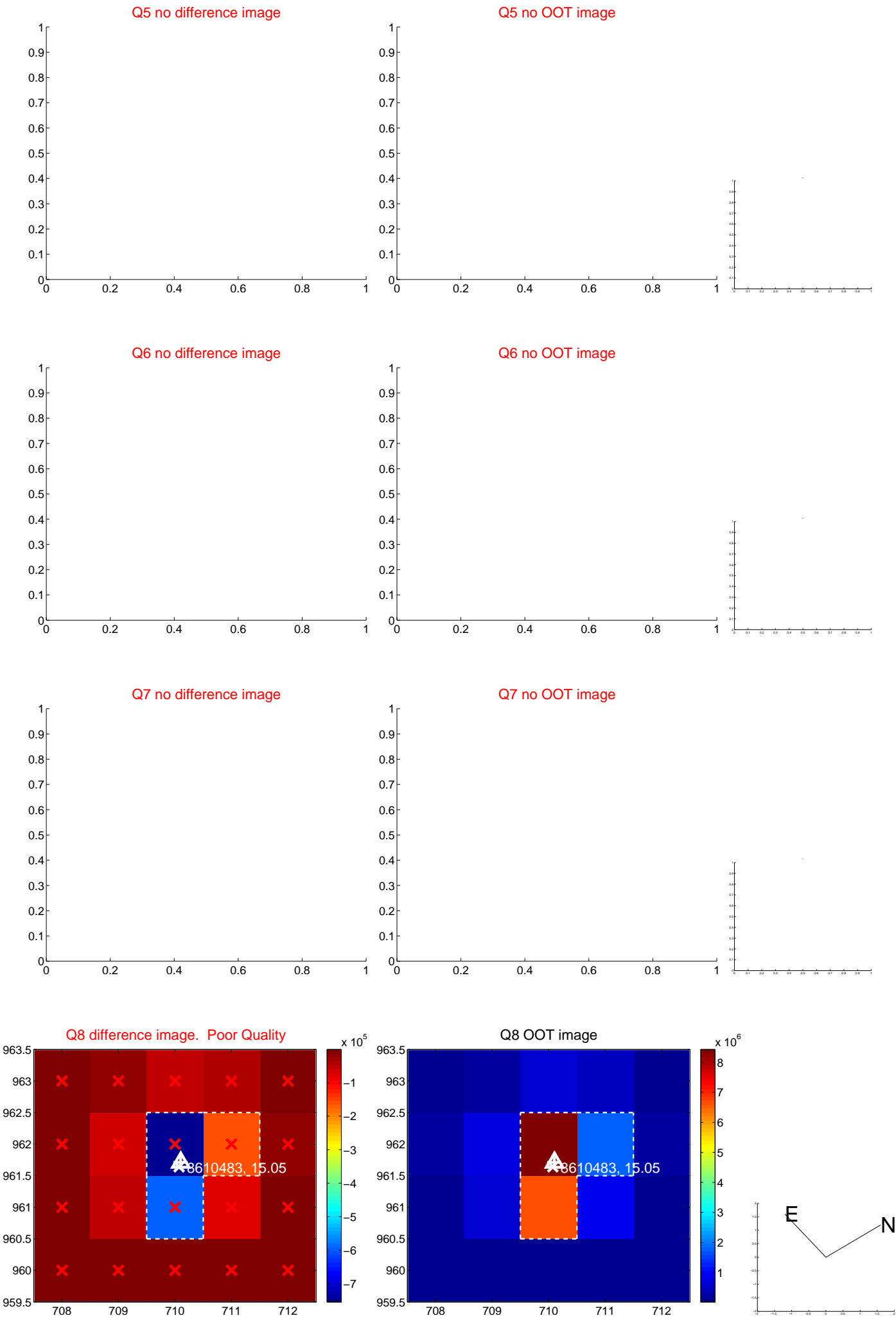


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

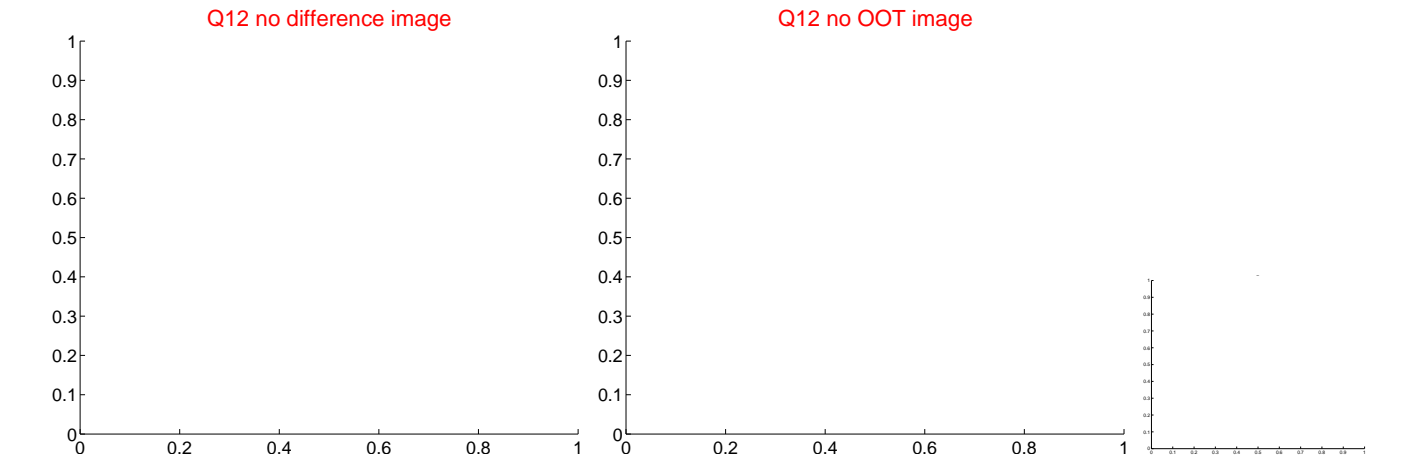
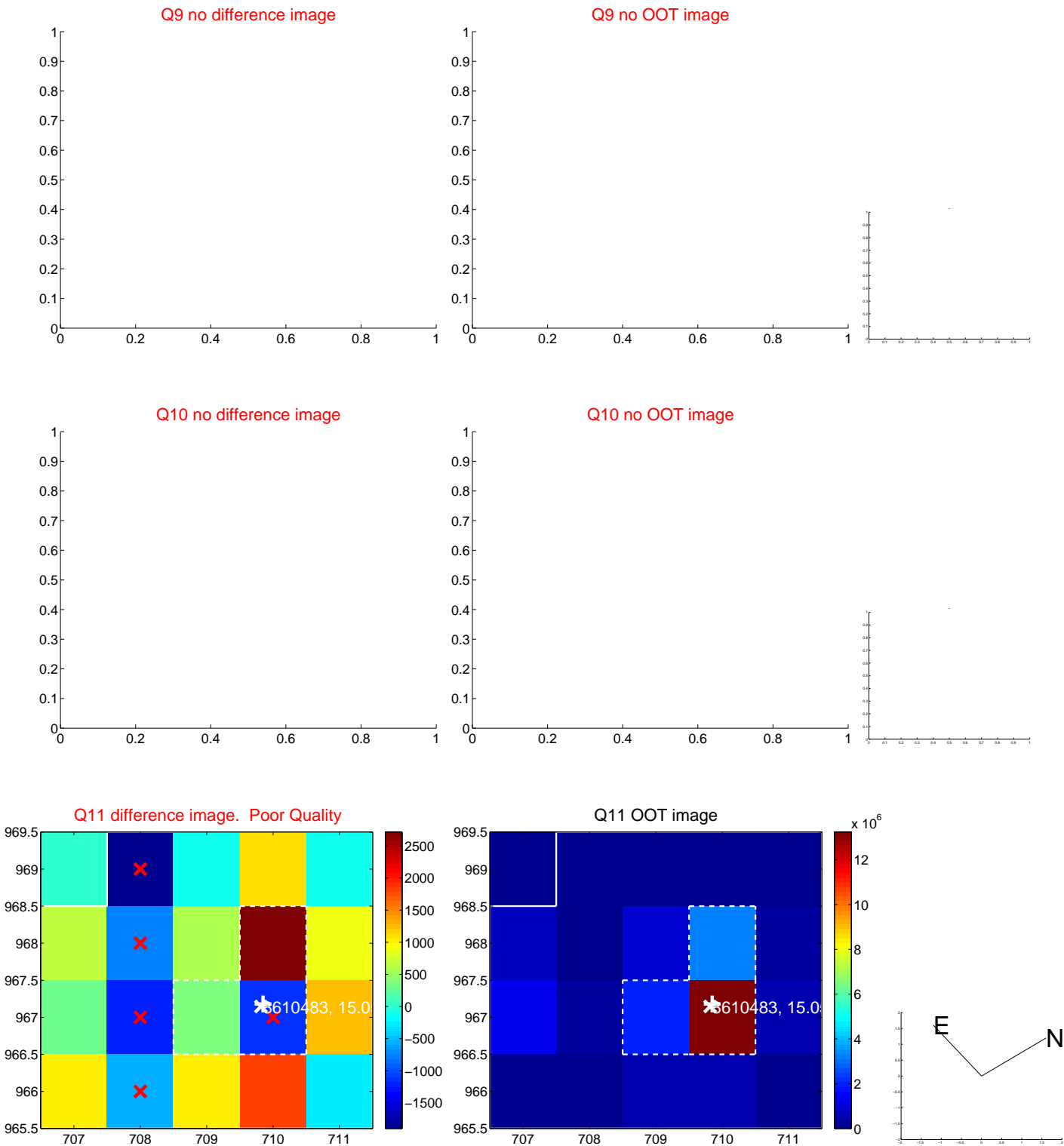
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



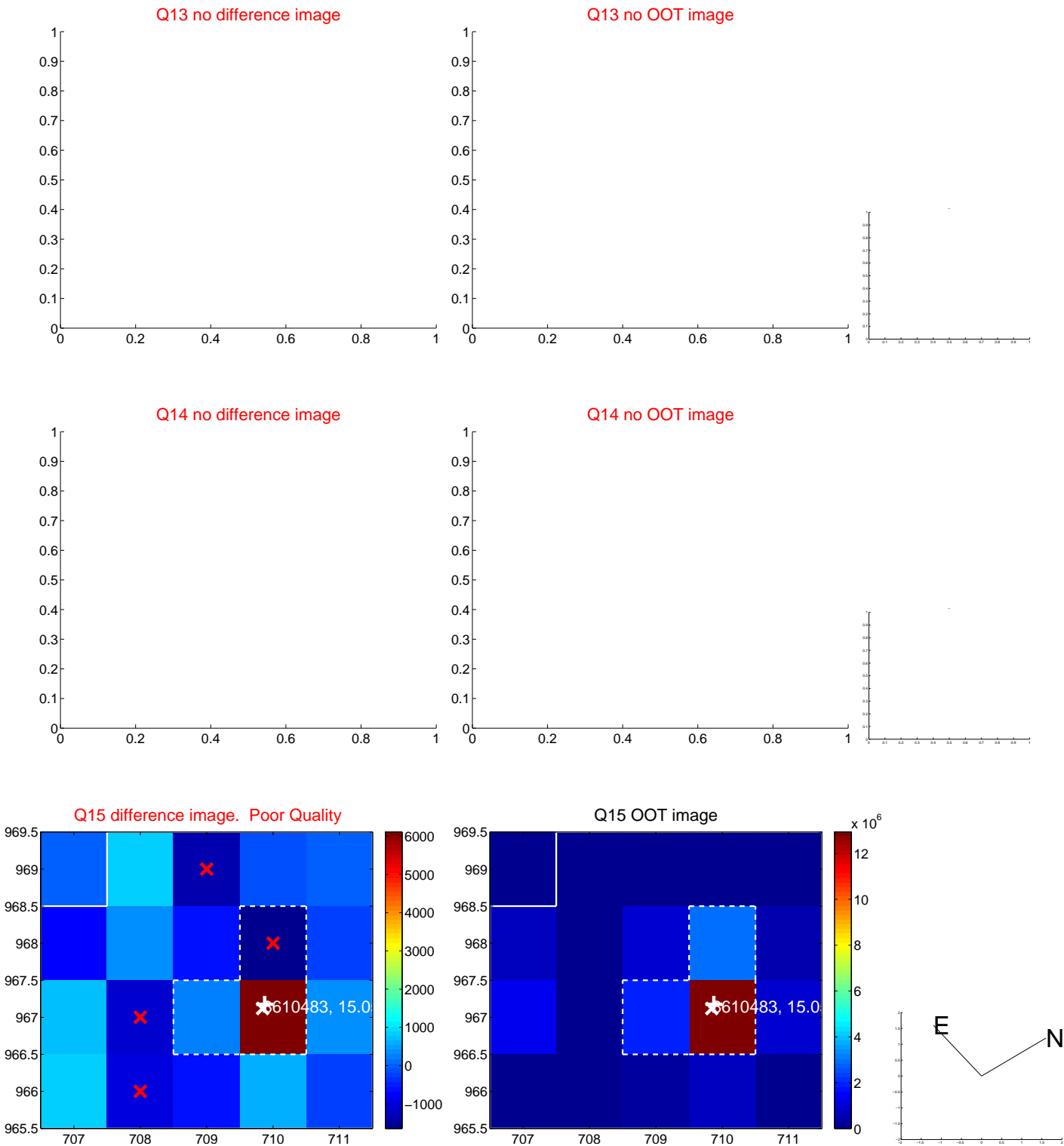
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



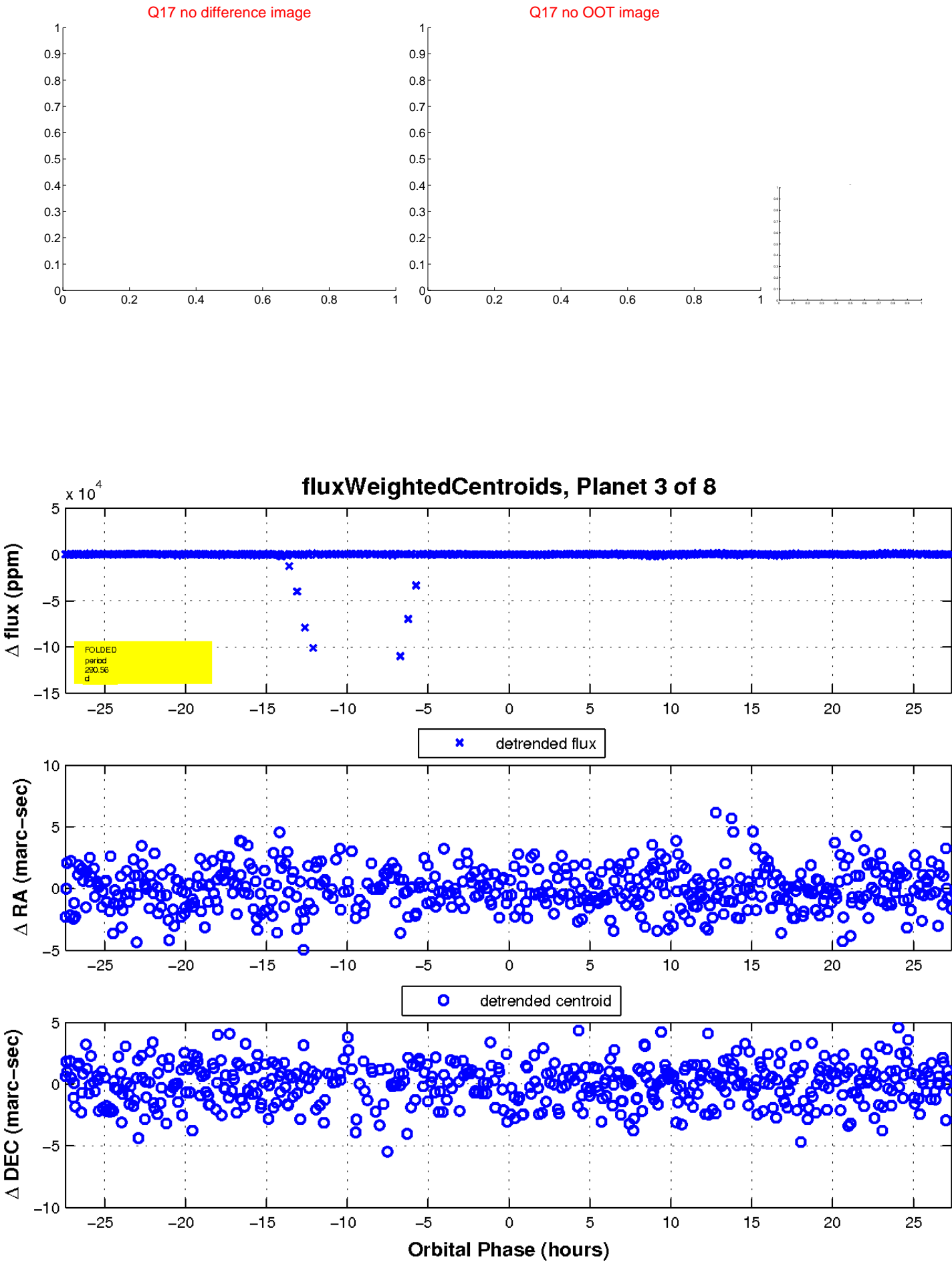
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

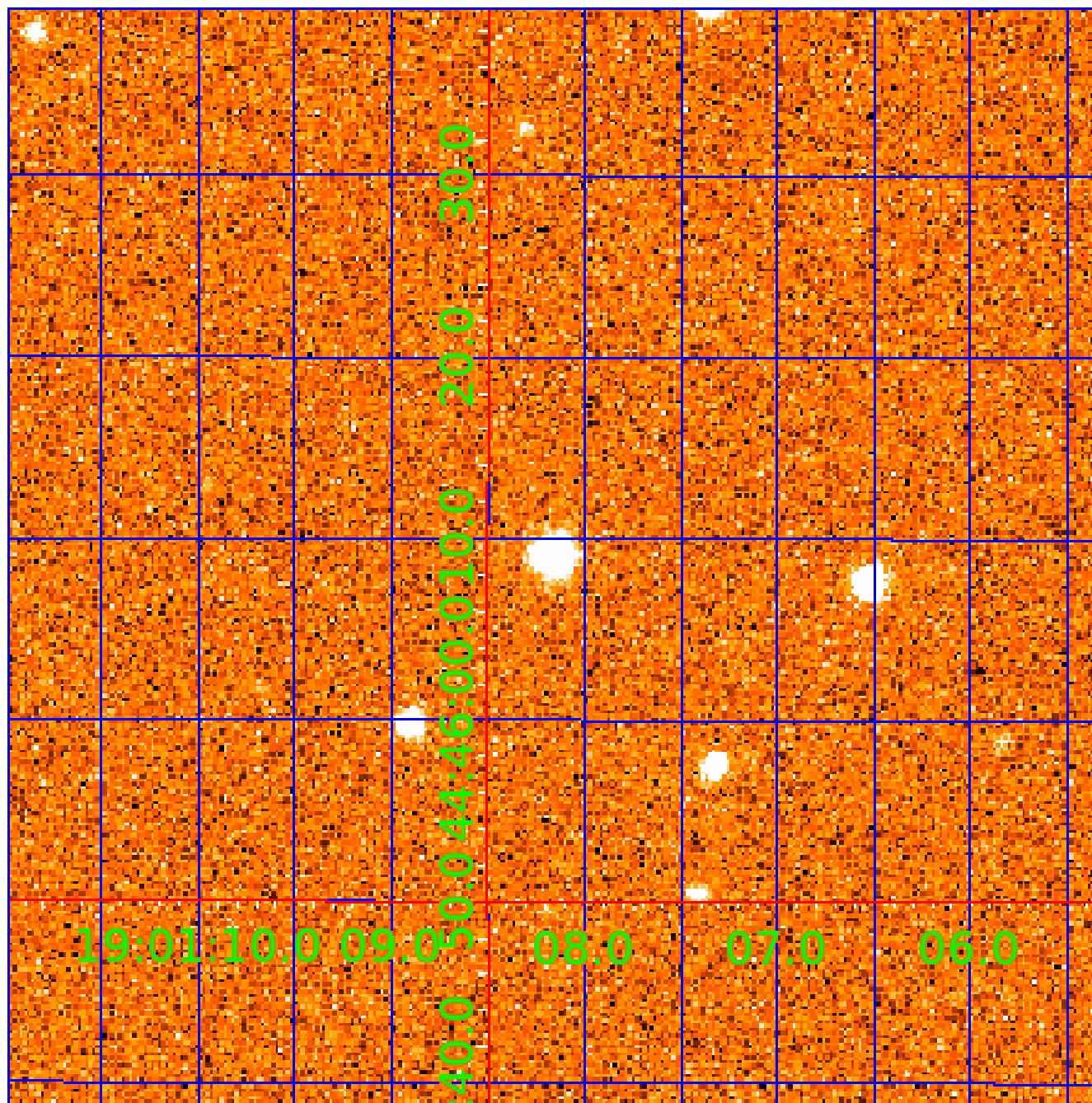


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008610483

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})
008610483-01	OBS	7068.01	48.799553	160.189495	330161.0	5.000	5592.0	-1.0	0.99	6170	49.74	17.94
008610483-02	OBS	No	48.799299	146.114721	127773.9	16.474	2737.2	2576.2	0.99	6170	52.19	17.94
008610483-03	OBS	No	290.558412	213.796940	6860.6	15.000	76.5	-1.0	0.99	6170	8.22	1.66
008610483-04	OBS	No	216.370967	313.376489	6234.3	15.000	67.1	-1.0	0.99	6170	7.84	2.46
008610483-05	OBS	No	461.220593	576.364405	1877.3	20.726	22.9	8.4	0.99	6170	7.55	0.90
008610483-06	OBS	No	484.363917	604.888467	1854.6	7.500	21.8	-1.0	0.99	6170	4.27	0.84
008610483-07	OBS	No	318.472074	354.503228	338.4	1.182	22.4	1.8	0.99	6170	1.91	1.47
008610483-08	OBS	No	219.246981	308.479786	4753.0	2.500	23.5	-1.0	0.99	6170	6.86	2.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008610483-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
008610483-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008610483-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS
008610483-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008610483-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008610483-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008610483-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—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_FEW_DIFFS
008610483-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

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

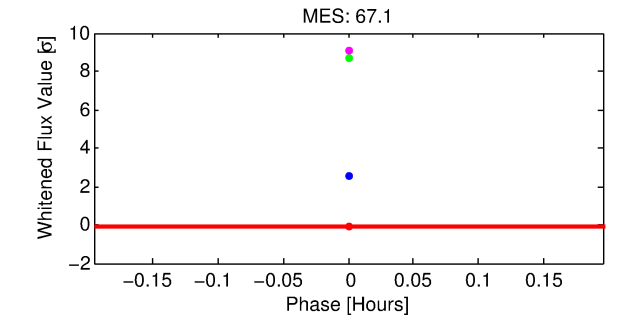
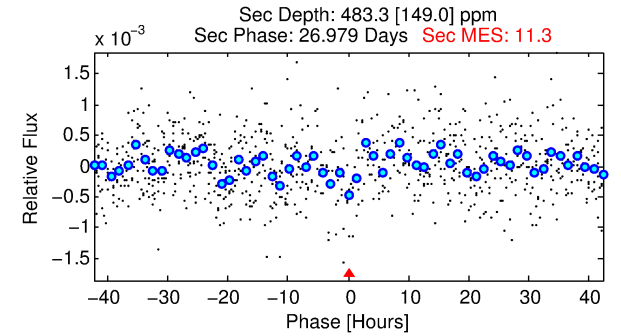
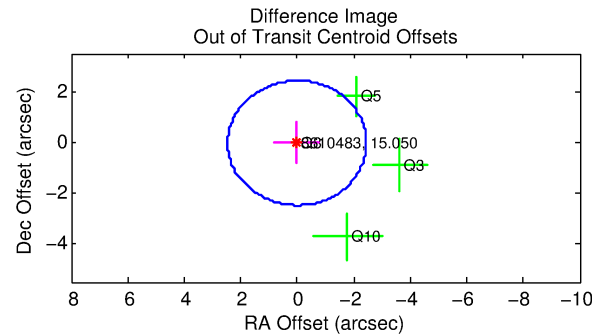
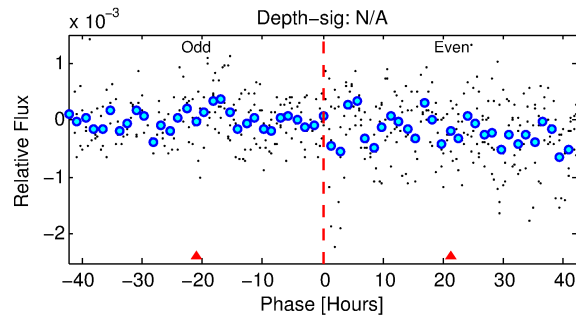
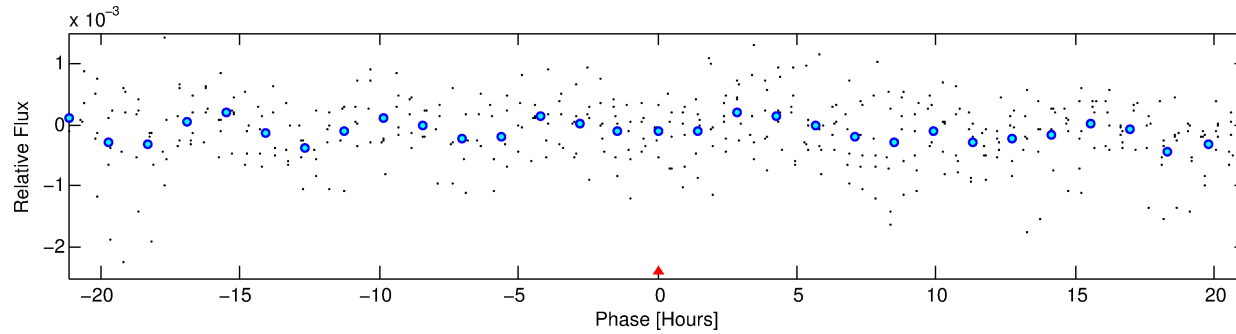
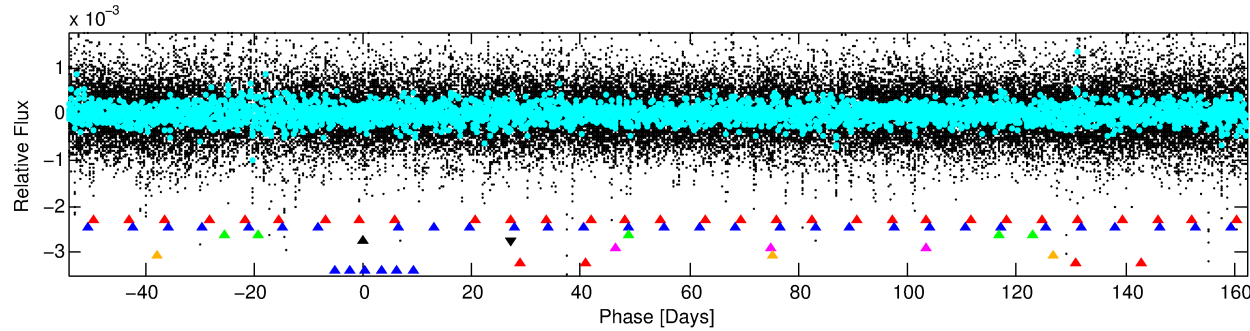
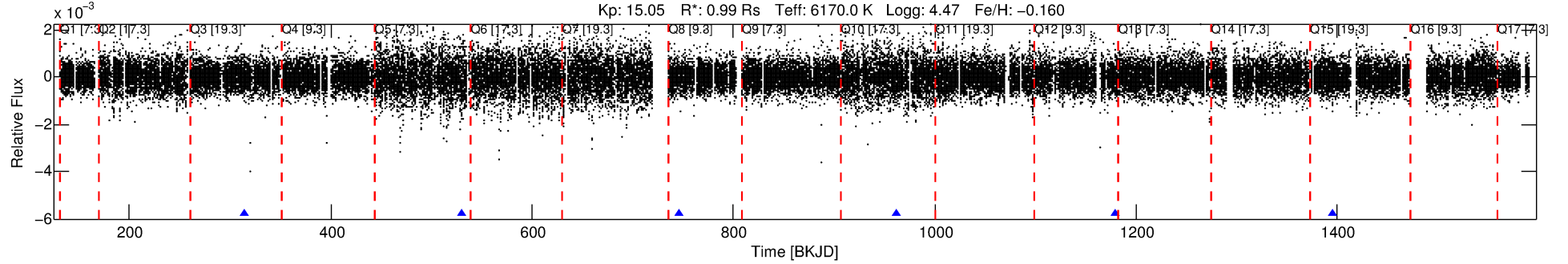
Ephemeris Match Information For 008610483-04

No Significant Match Found

DV One-Page Summary

KIC: 8610483 Candidate: 4 of 8 Period: 216.371 d
KOI: K07068 Corr: No Ephemeris Match

Kp: 15.05 R*: 0.99 Rs Teff: 6170.0 K Logg: 4.47 Fe/H: -0.160



TPS TCE Results:

Period = 216.37097 d
Epoch = 313.3765 BKJD

DV fit results are unavailable

DV Diagnostic Results:

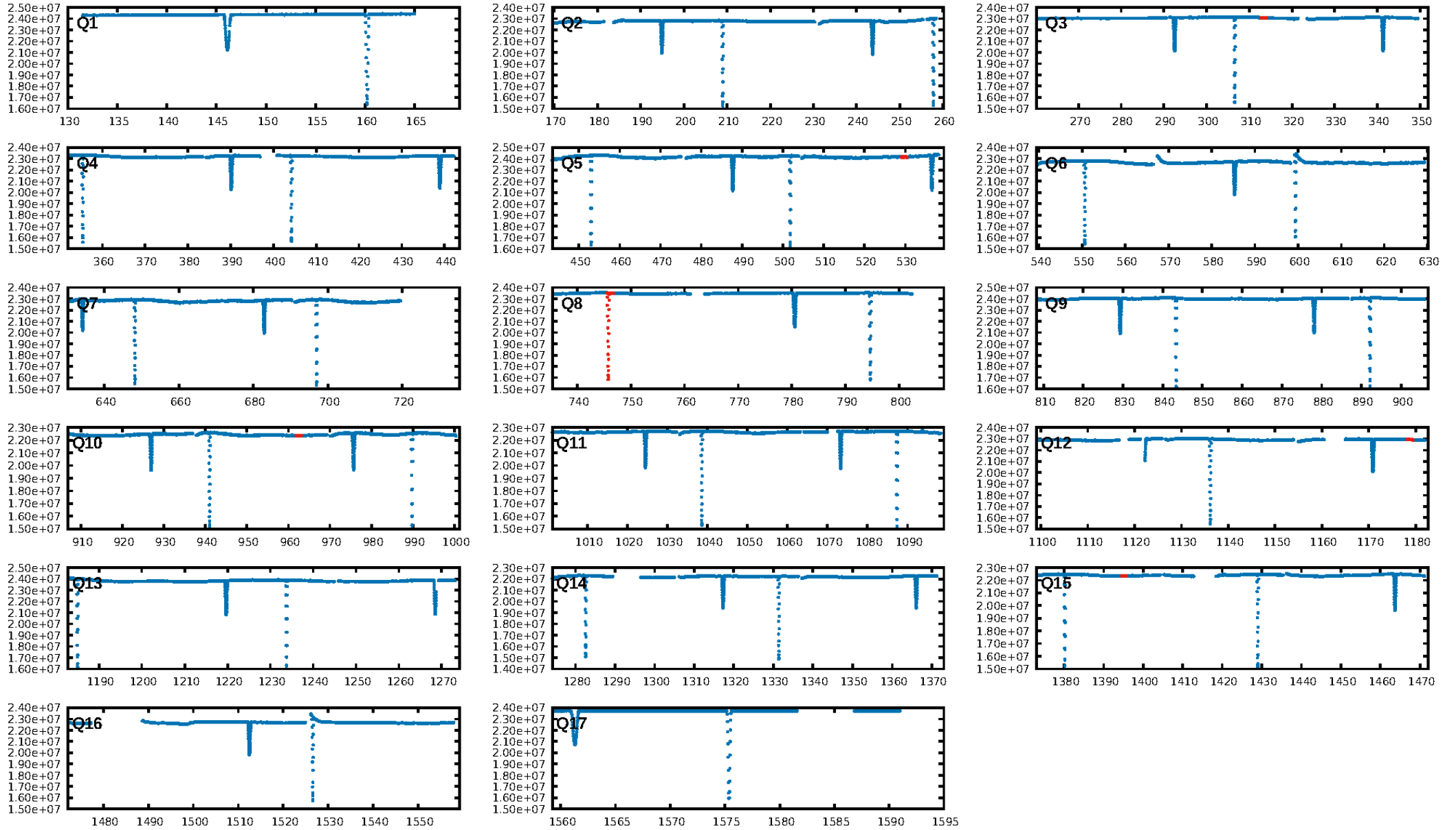
ShortPeriod-sig: 100.0% [254.36σ]
LongPeriod-sig: 100.0% [4.54σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -6.344

Centroid-sig: N/A
Centroid-so: 1.103 arcsec [0.88σ]
OotOffset-rm: 0.025 arcsec [0.03σ]
KicOffset-rm: 0.282 arcsec [0.29σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 0.80 [4/5]

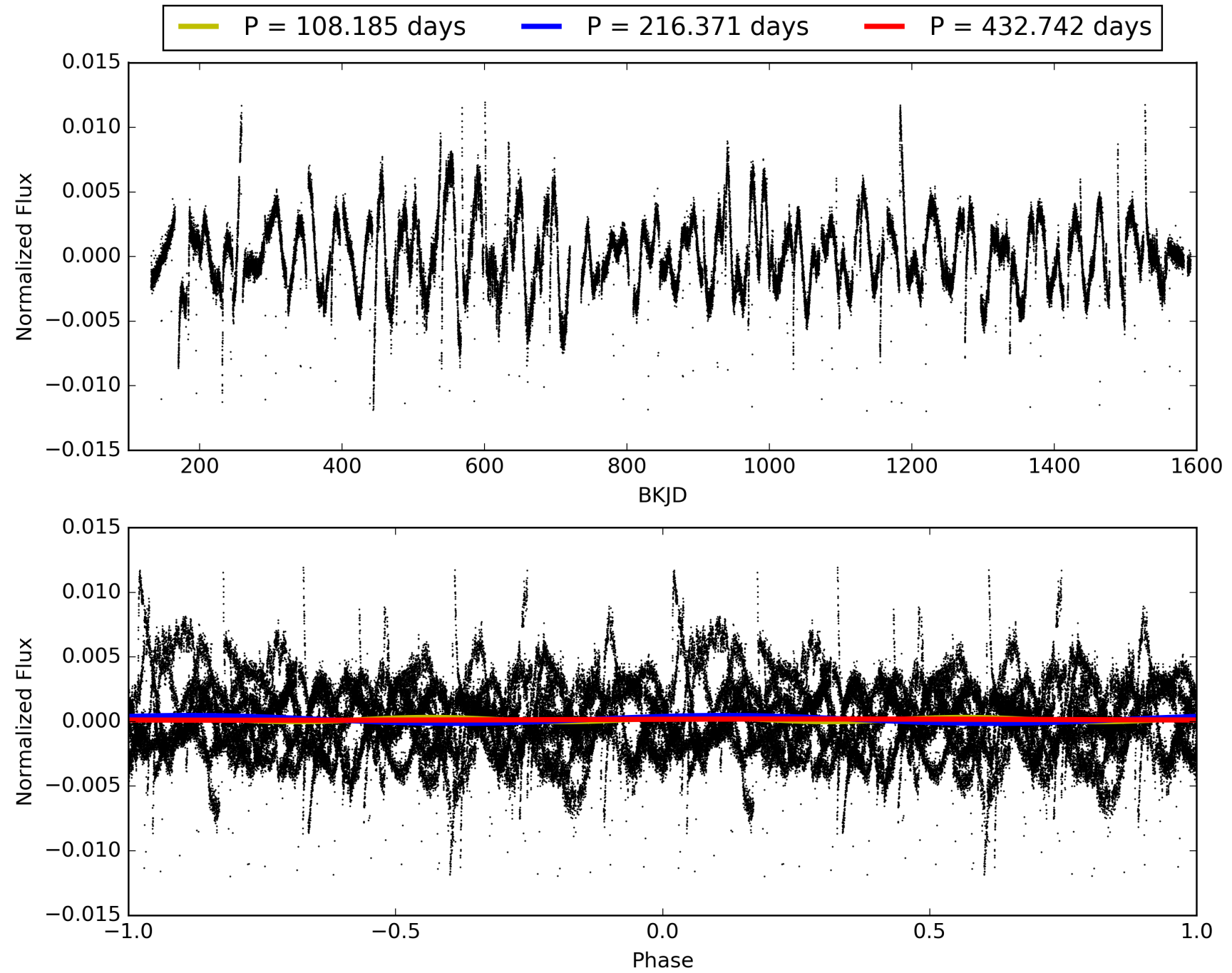
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:55:52 Z

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

TCE 008610483-04, PDC Light Curves

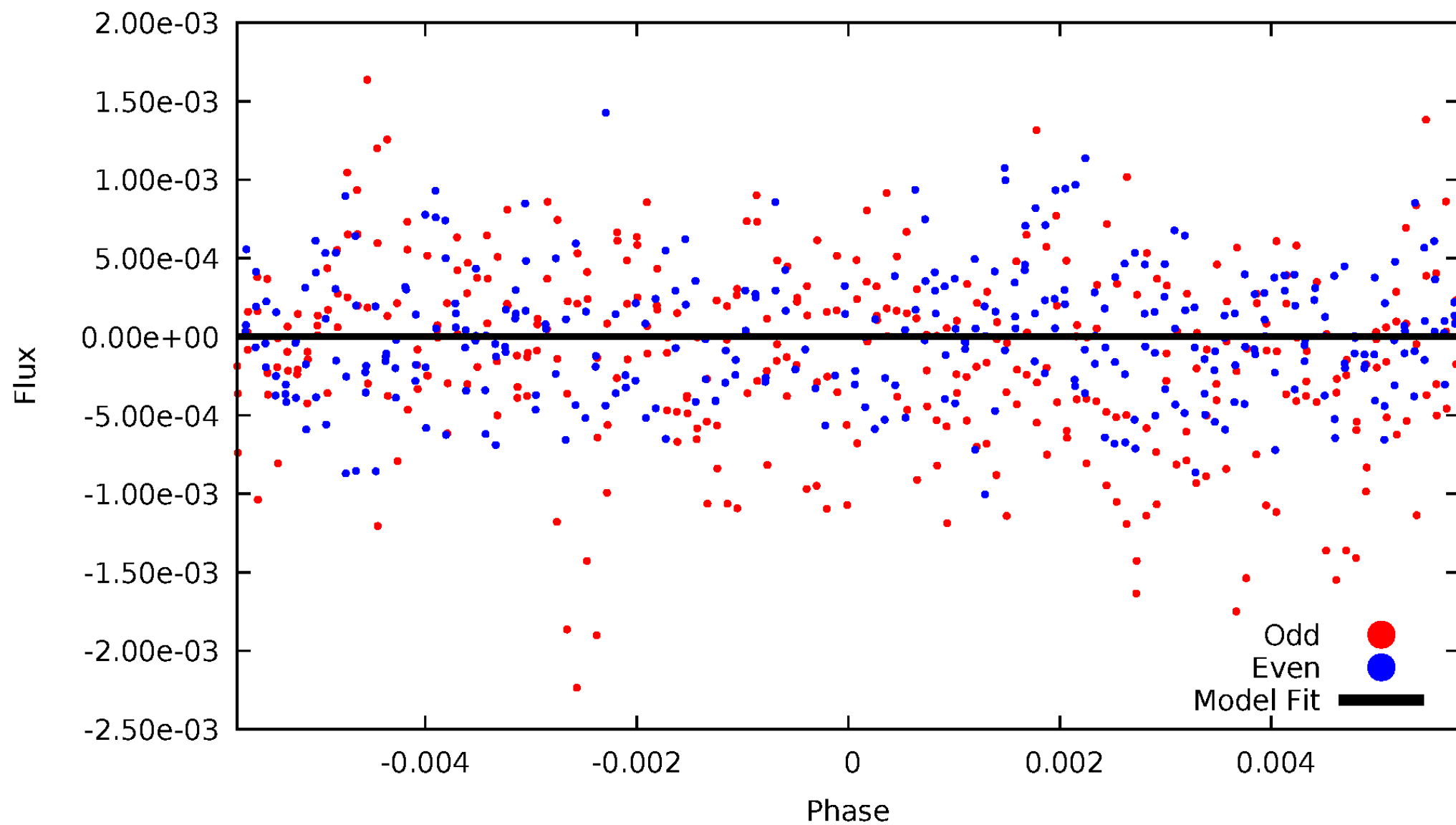


TCE 008610483-04



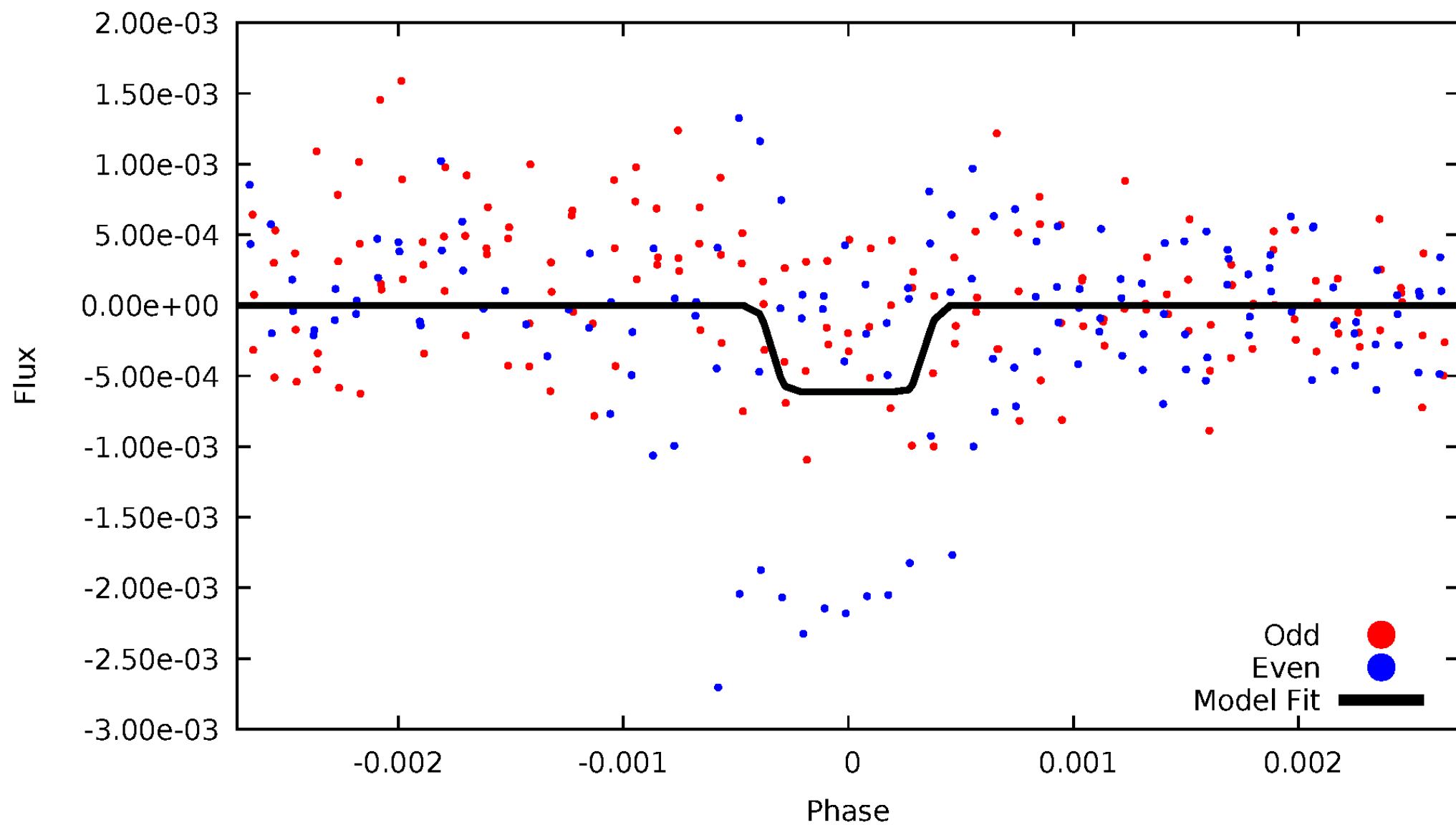
DV Odd/Even

TCE 008610483-04



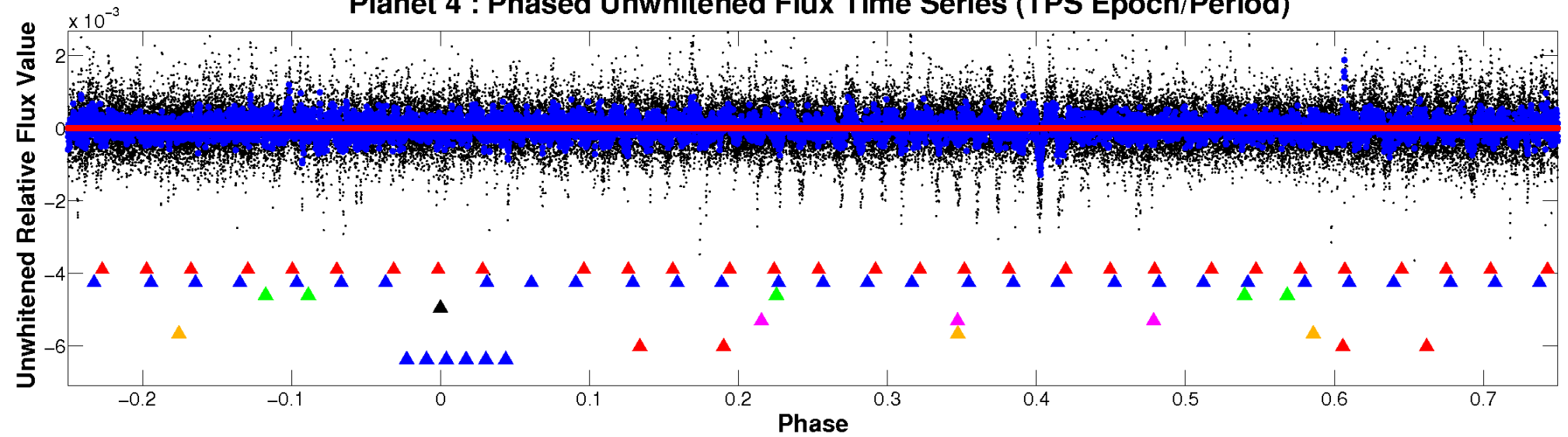
ALT Odd/Even

TCE 008610483-04



Non-Whitened Vs. Whitened Light Curve

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

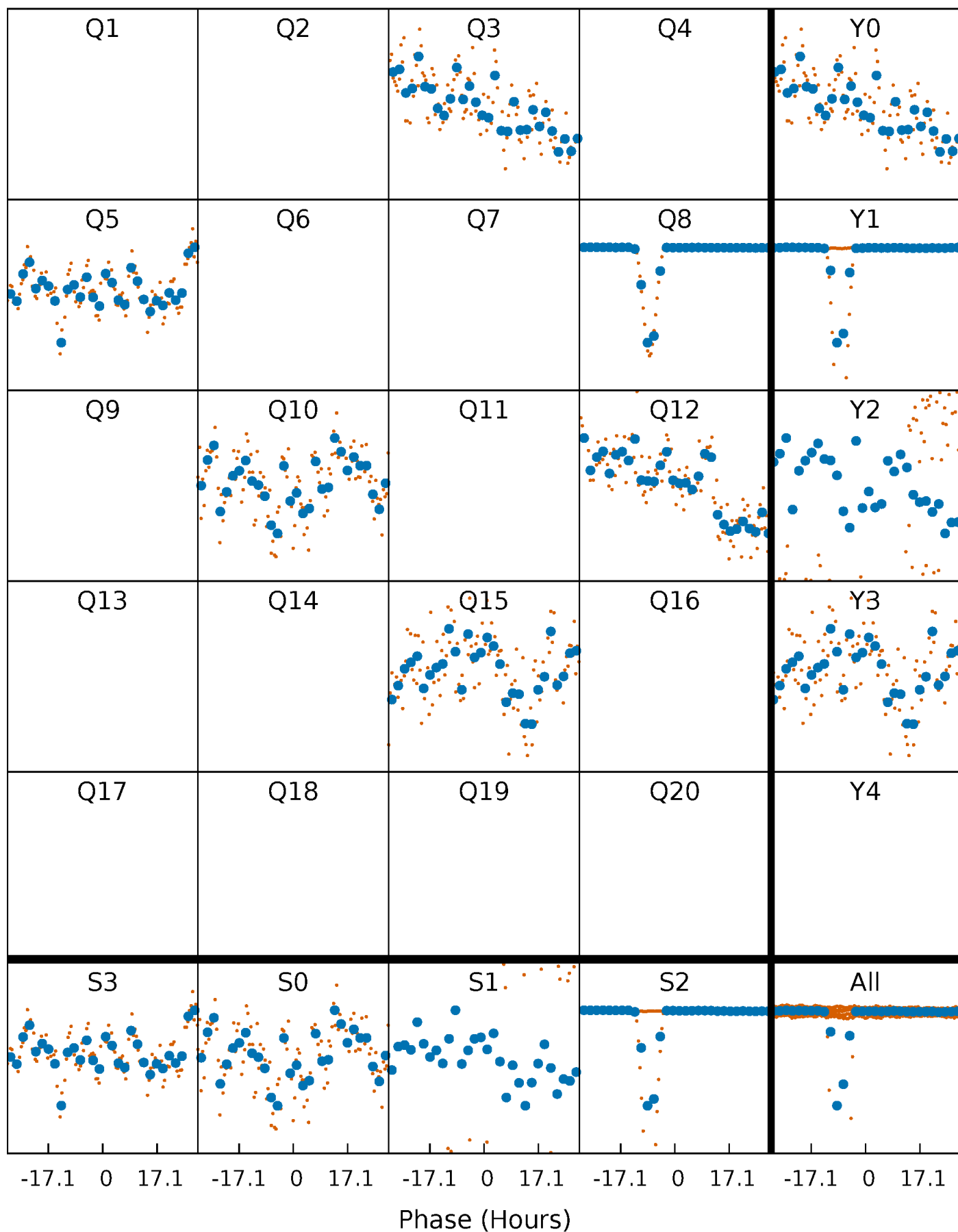


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 008610483-04 $P=216.370967$ Days $T_0=313.376489$ (BKJD)



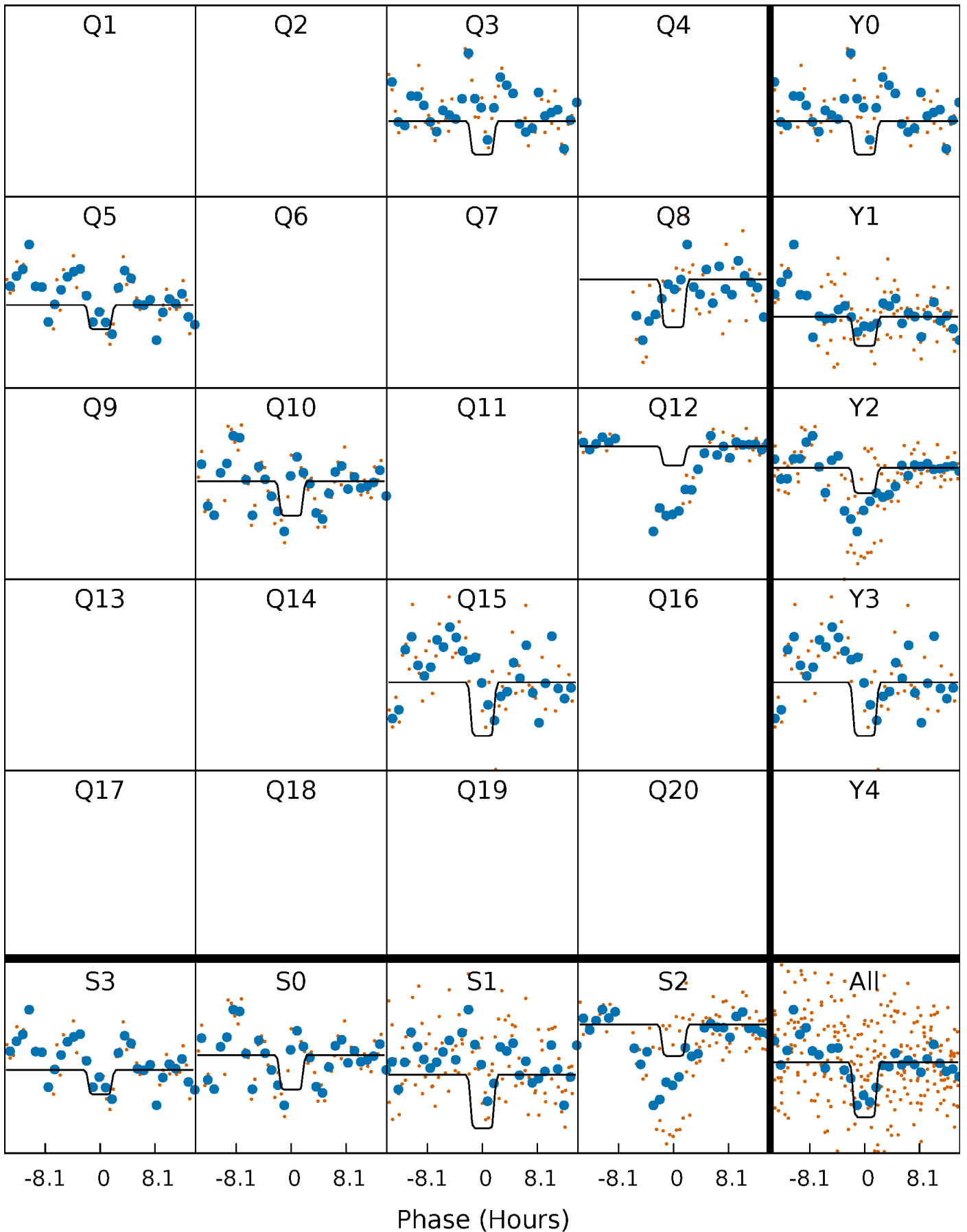
DV Quarter-Phased Transit Curves

TCE 008610483-04 $P=216.370967$ Days $T_0=313.376489$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

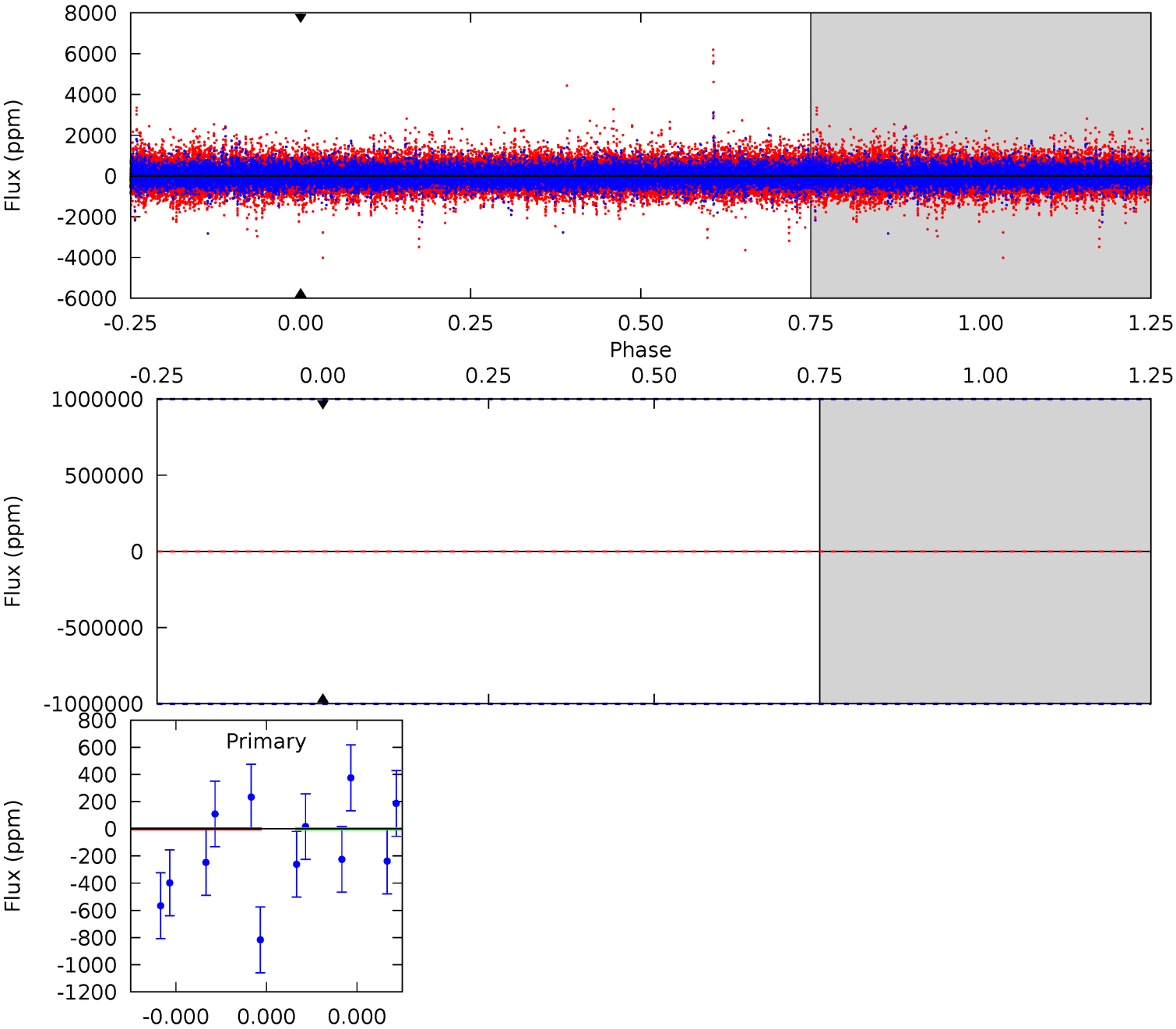
TCE 008610483-04 P=216.370967 Days $T_0=313.618498$ (BKJD)



DV Model-Shift Uniqueness Test

008610483-04, P = 216.370967 Days, E = 97.005522 Days

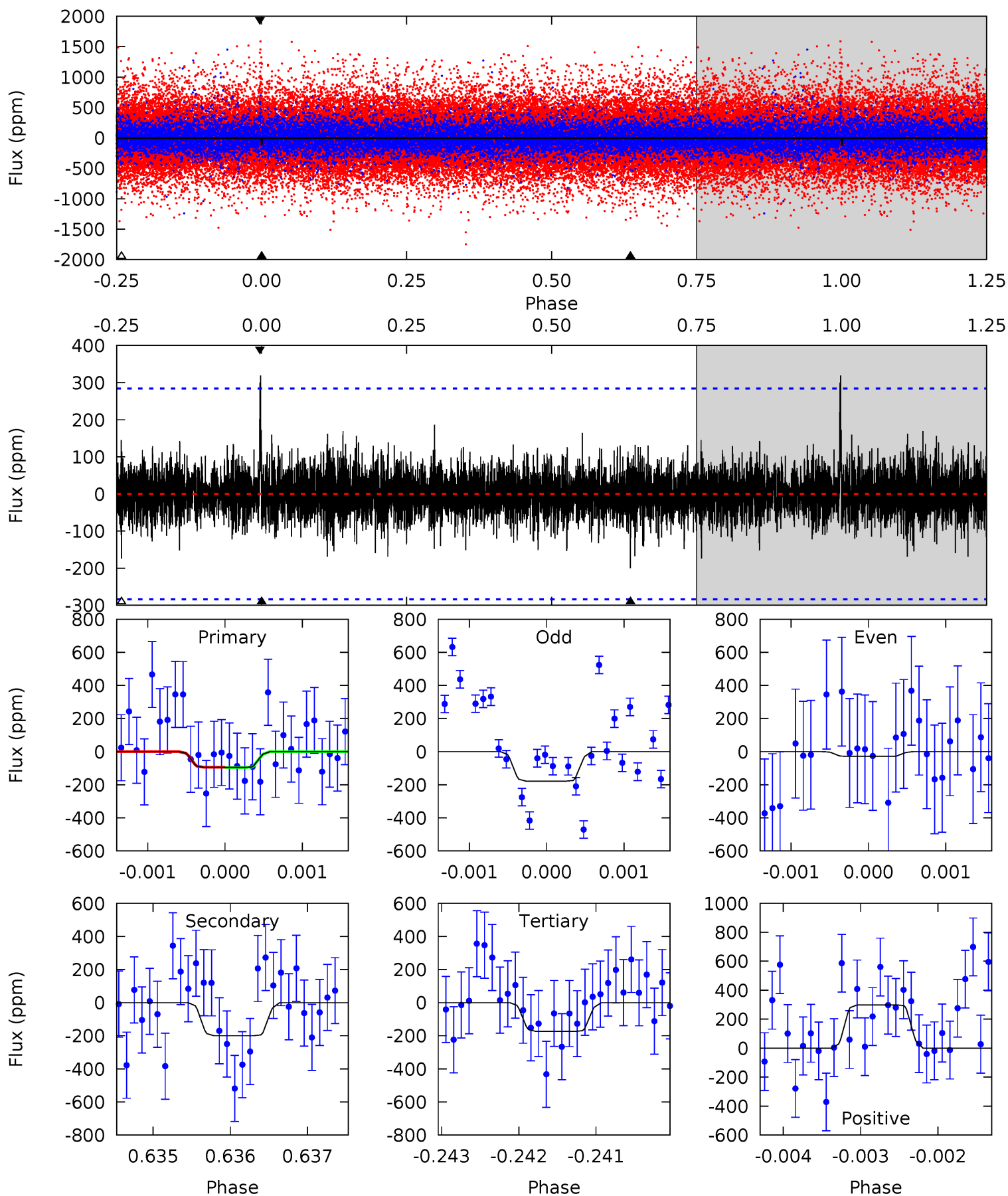
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008610483-04, P = 216.370967 Days, E = 97.247531 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.85	3.87	3.36	5.79	5.50	3.36	0.89	-1.51	-3.94	0.51	-1.92	1.43	8.42	0.62	0.01



Stellar Parameters For KIC 008610483

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6170^{+168}_{-205}	$4.472^{+0.052}_{-0.208}$	$-0.160^{+0.250}_{-0.350}$	$0.992^{+0.322}_{-0.107}$	$1.063^{+0.145}_{-0.145}$	$1.535^{+0.433}_{-0.809}$
	+3%/-3%	+1%/-5%	+156%/-219%	+32%/-11%	+14%/-14%	+28%/-53%
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 008610483-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$11.98^{+10.28}_{-7.73}$	455^{+32}_{-23}	-4280^{+19851}_{-10963}	$-3475.923^{+307214.294}_{-307758.786}$
Alt.	-200 ± 52	$8.32^{+10.00}_{-5.78}$	457^{+32}_{-22}	3246^{+1648}_{-597}	751^{+7155}_{-589}

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 $A_{obs} \gg 1.0$

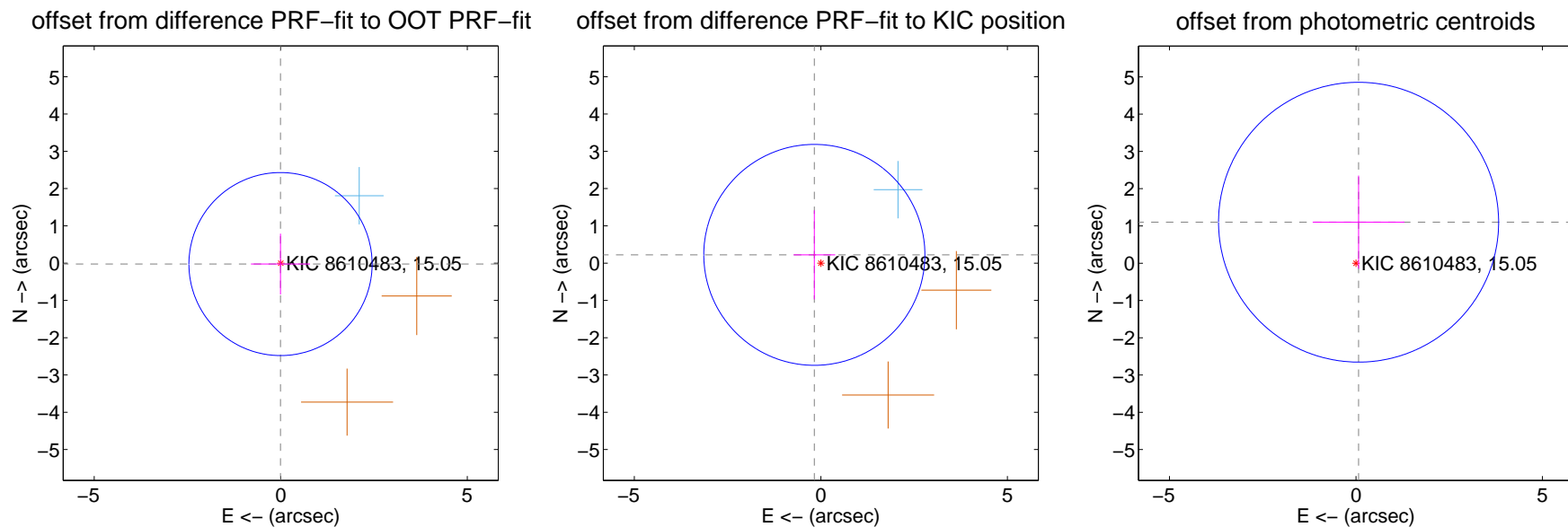
DV Centroid Data

Supplemental centroid analysis for 008610483-04. Kepler magnitude: 15.05. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.025 ± 0.818	0.03	0.006 ± 0.792	-0.025 ± 0.814
PRF-fit source offset from KIC position	0.282 ± 0.988	0.29	0.175 ± 0.559	0.222 ± 1.195
photometric centroid source offset	1.10 ± 1.25	0.88	-0.07 ± 1.23	1.10 ± 1.25



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

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

Q1 no difference image



Q1 no OOT image



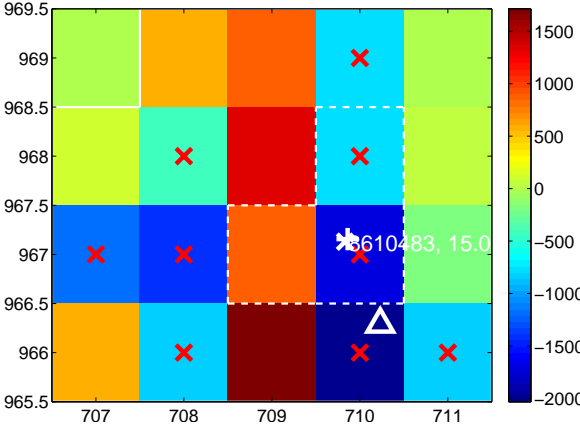
Q2 no difference image



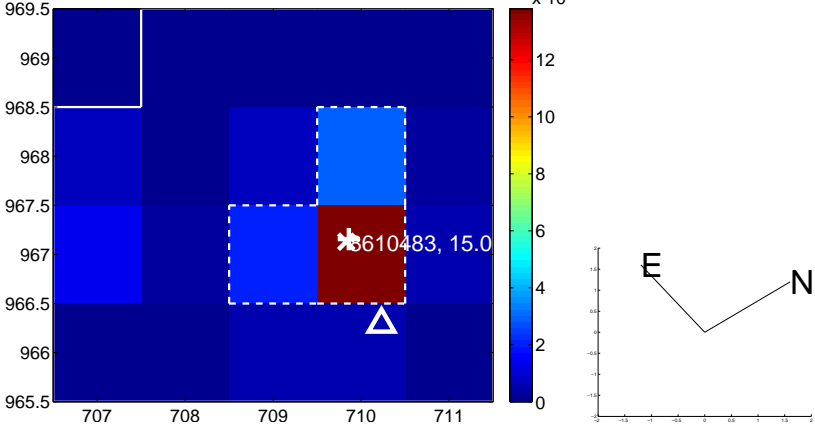
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



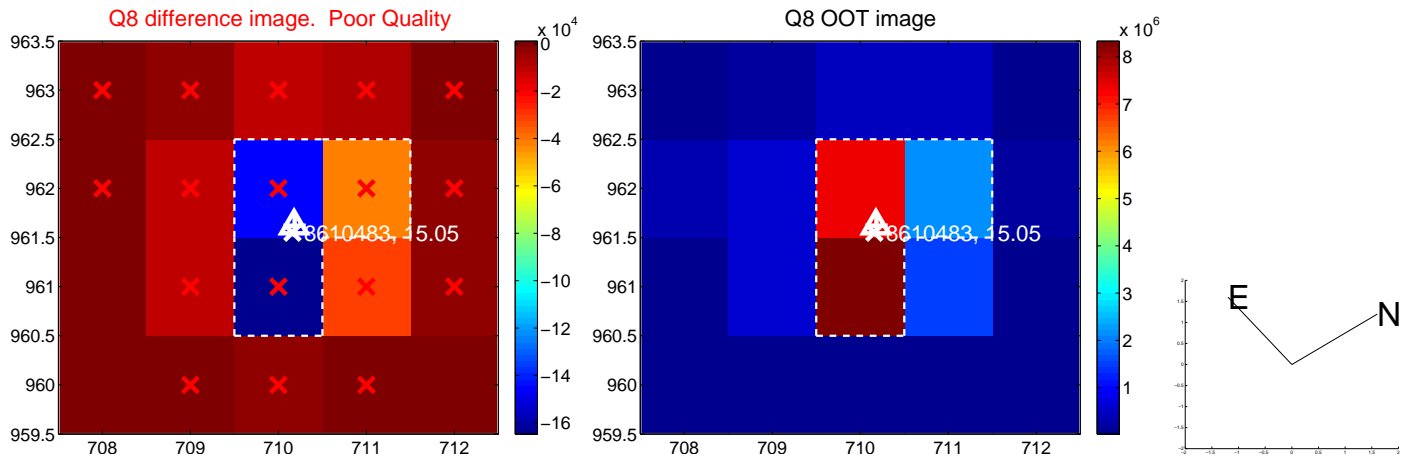
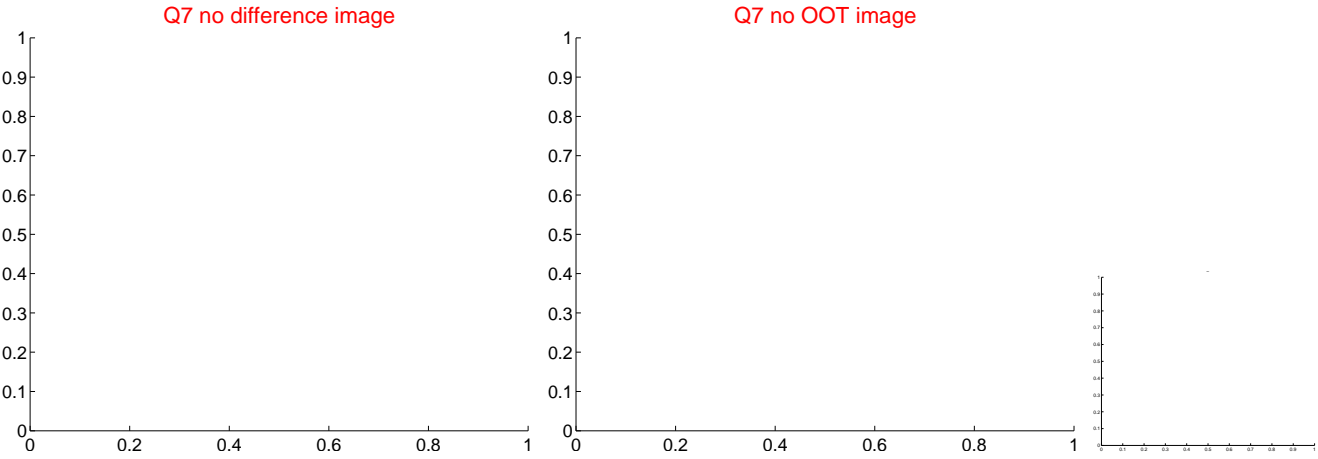
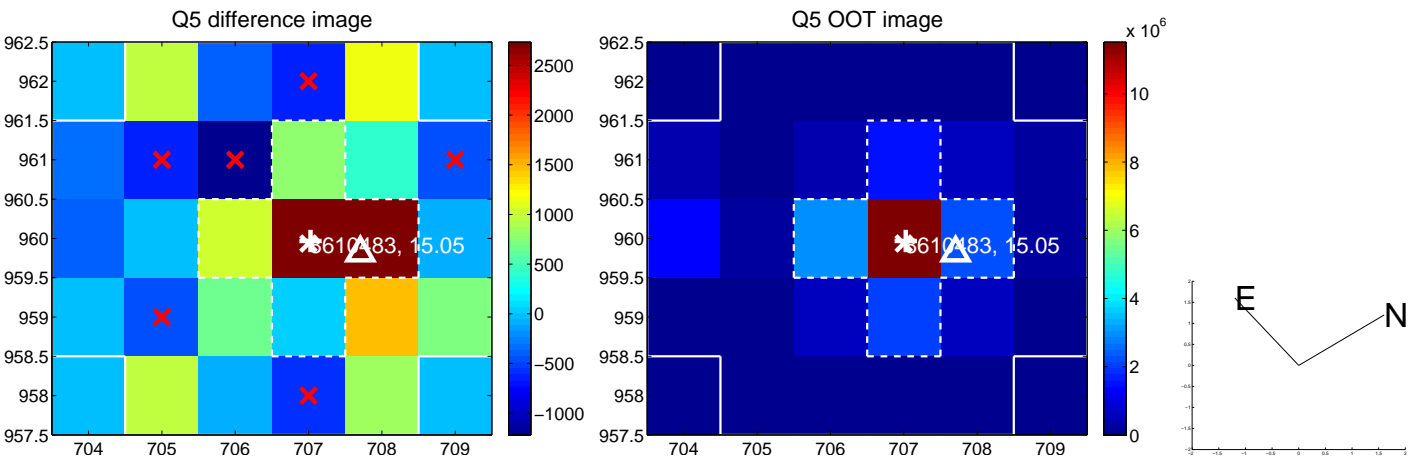
Q4 no difference image



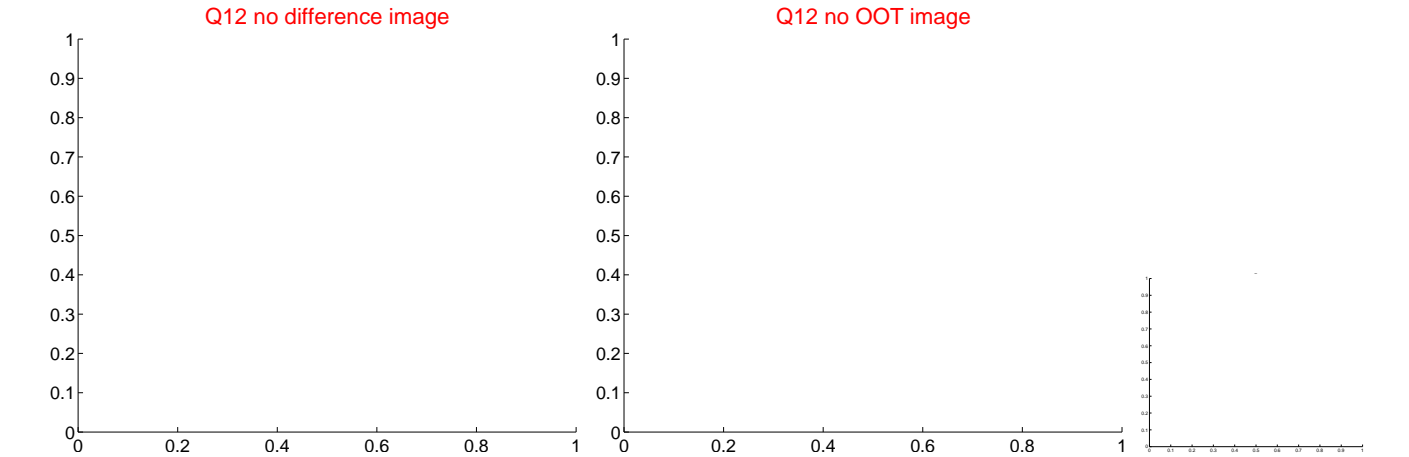
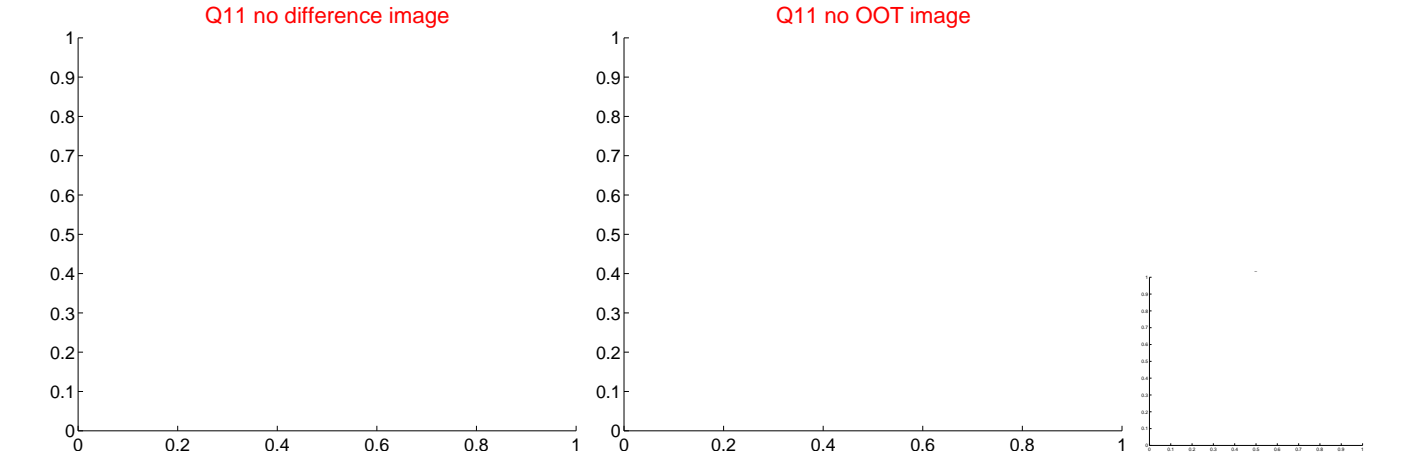
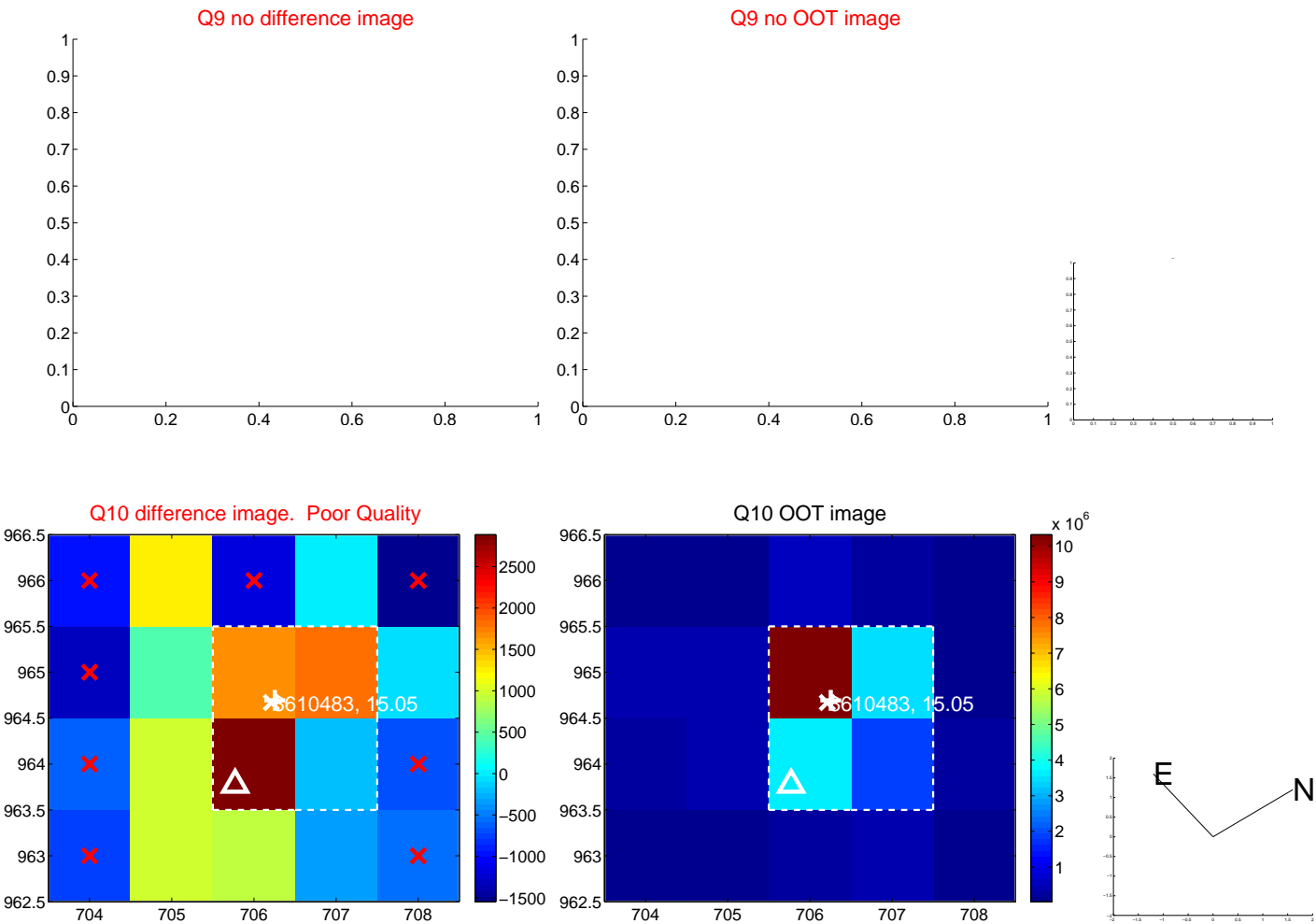
Q4 no OOT image



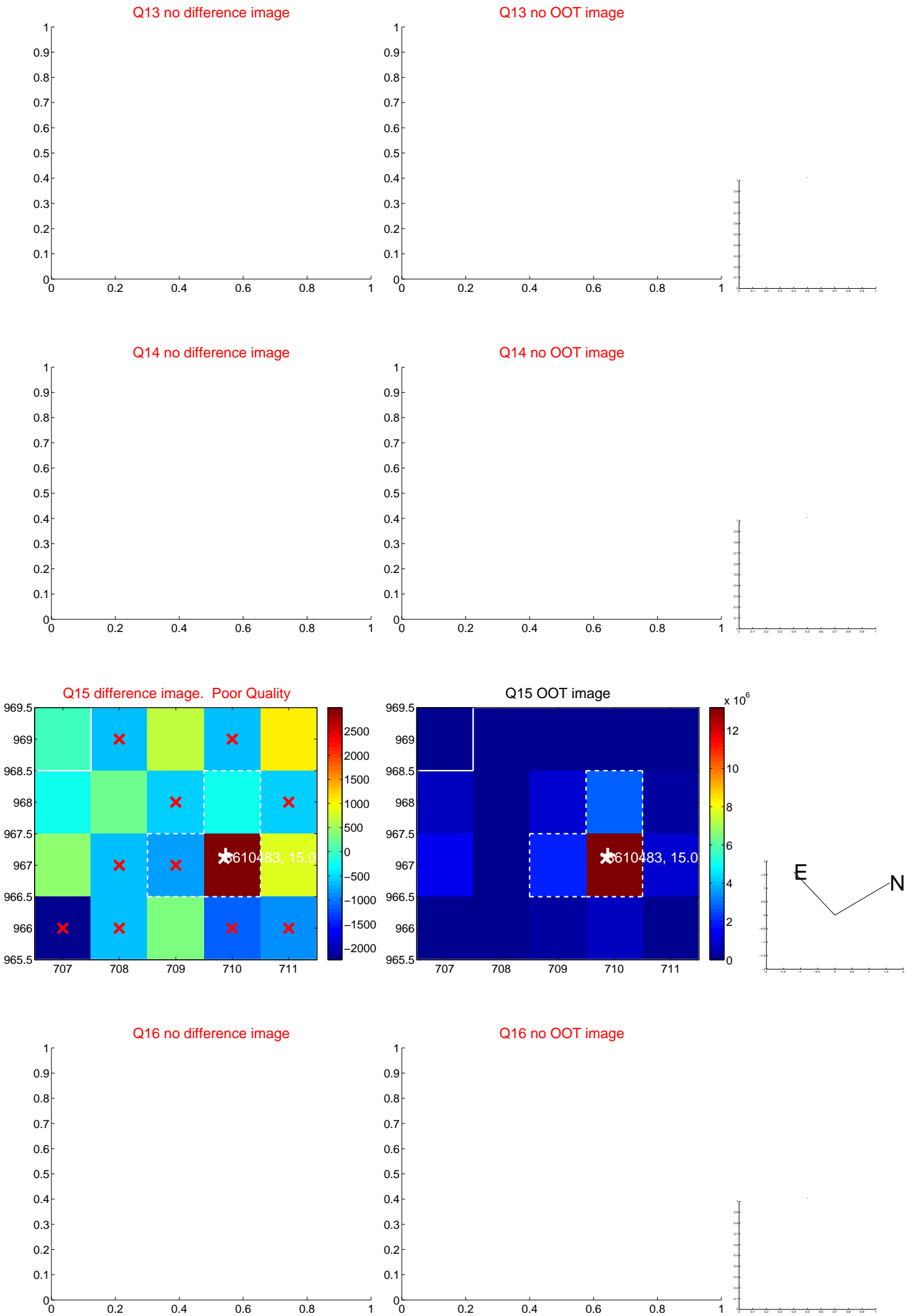
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



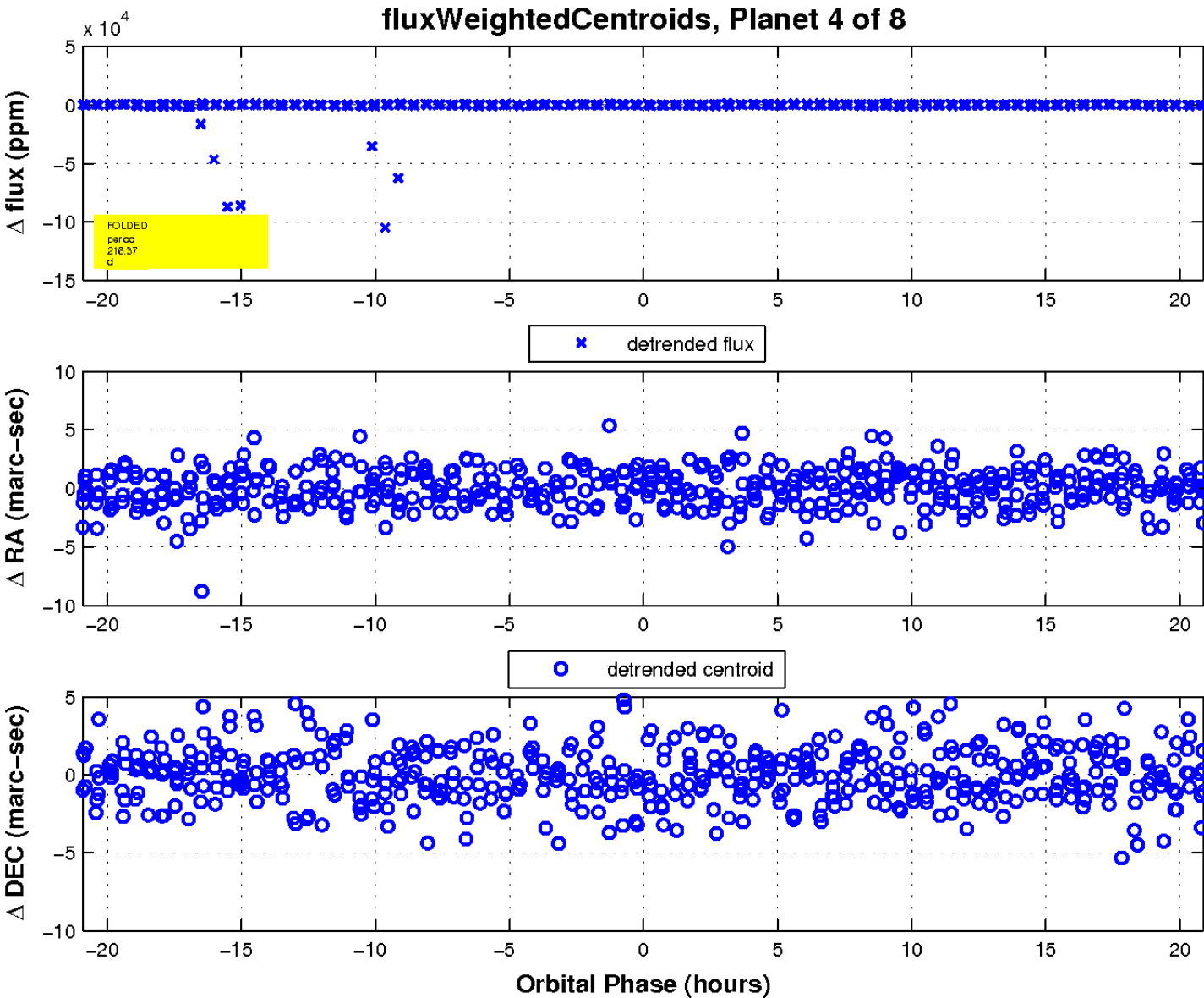
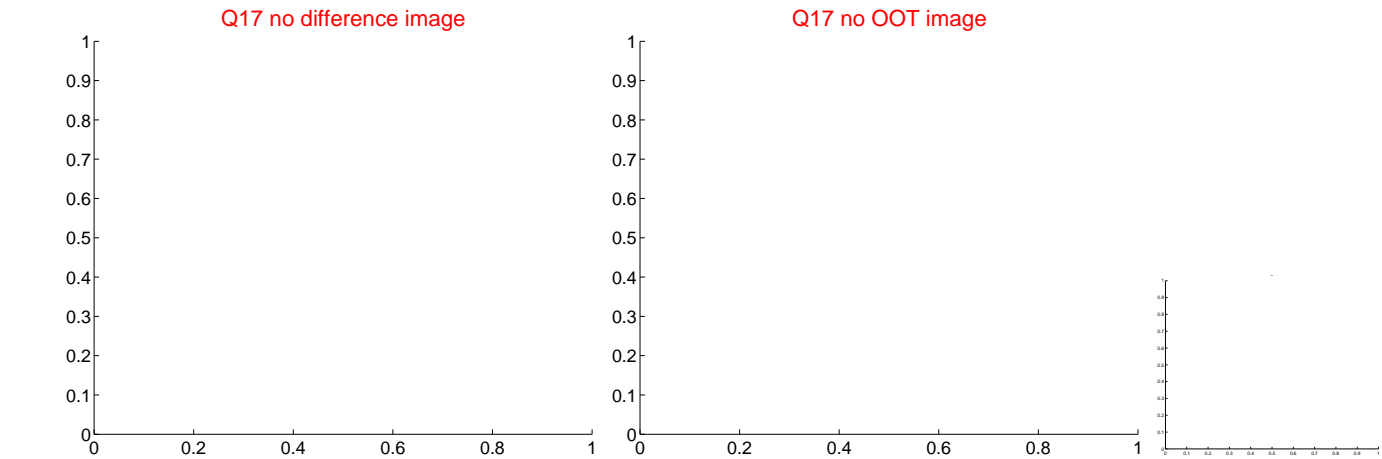
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

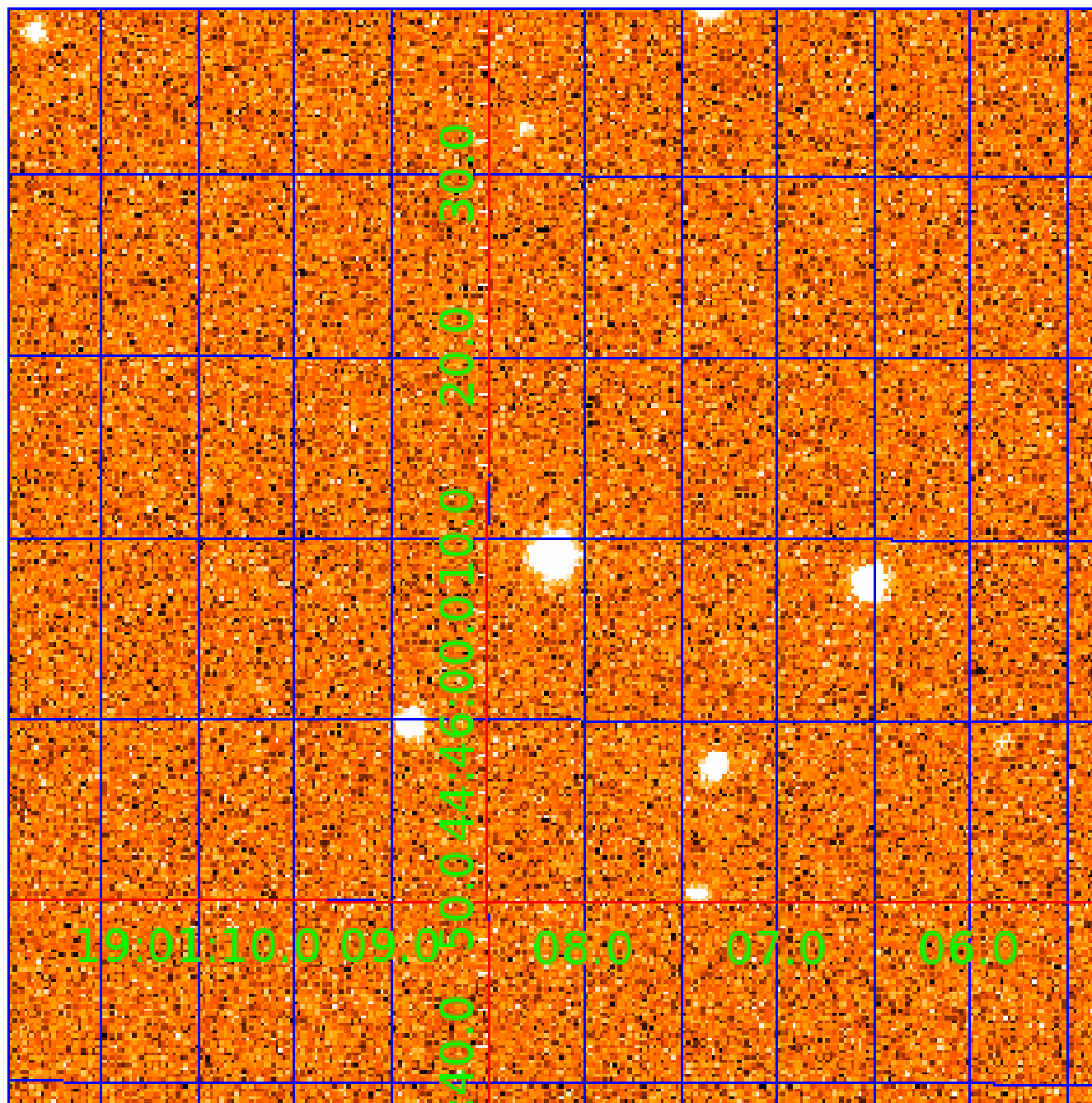


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008610483

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})
008610483-01	OBS	7068.01	48.799553	160.189495	330161.0	5.000	5592.0	-1.0	0.99	6170	49.74	17.94
008610483-02	OBS	No	48.799299	146.114721	127773.9	16.474	2737.2	2576.2	0.99	6170	52.19	17.94
008610483-03	OBS	No	290.558412	213.796940	6860.6	15.000	76.5	-1.0	0.99	6170	8.22	1.66
008610483-04	OBS	No	216.370967	313.376489	6234.3	15.000	67.1	-1.0	0.99	6170	7.84	2.46
008610483-05	OBS	No	461.220593	576.364405	1877.3	20.726	22.9	8.4	0.99	6170	7.55	0.90
008610483-06	OBS	No	484.363917	604.888467	1854.6	7.500	21.8	-1.0	0.99	6170	4.27	0.84
008610483-07	OBS	No	318.472074	354.503228	338.4	1.182	22.4	1.8	0.99	6170	1.91	1.47
008610483-08	OBS	No	219.246981	308.479786	4753.0	2.500	23.5	-1.0	0.99	6170	6.86	2.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008610483-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
008610483-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008610483-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS
008610483-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008610483-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008610483-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008610483-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—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_FEW_DIFFS
008610483-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

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

Ephemeris Match Information For 008610483-05

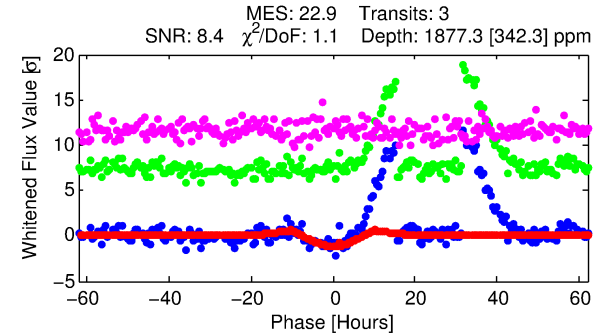
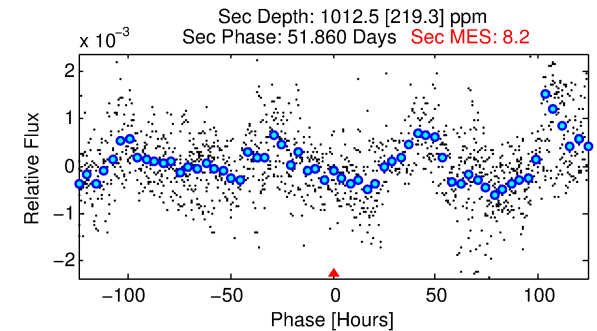
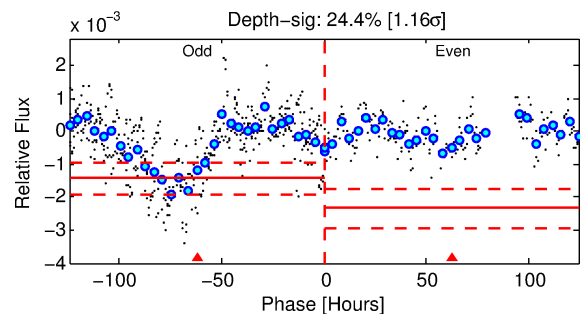
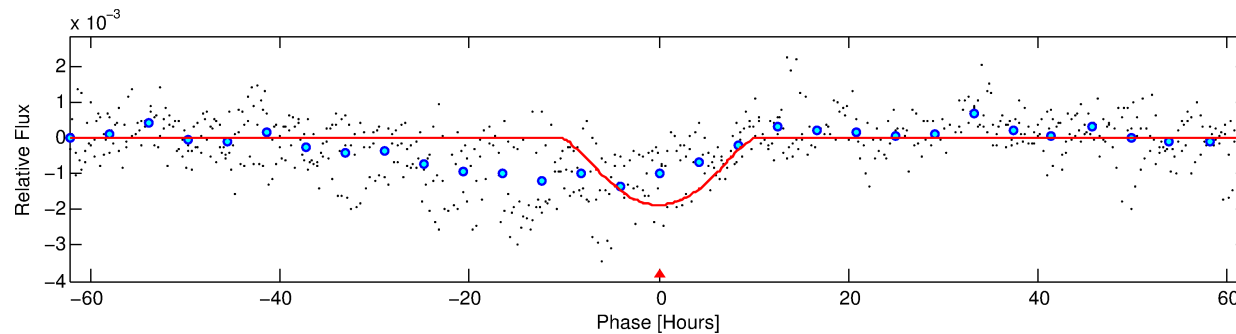
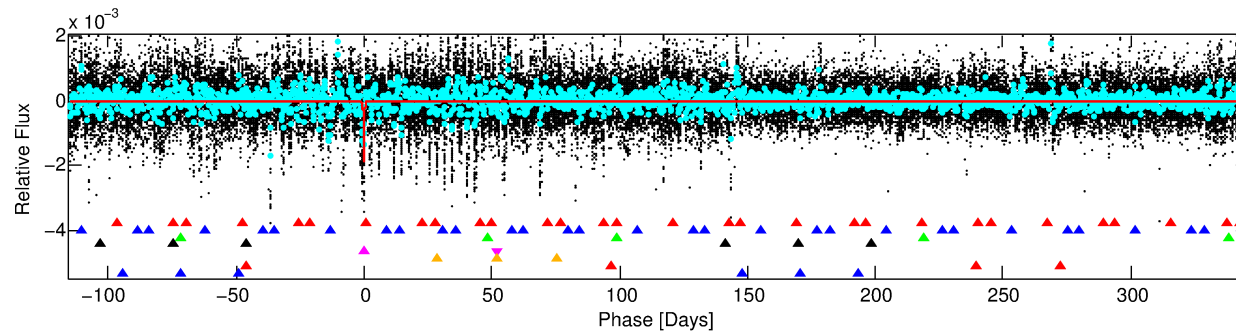
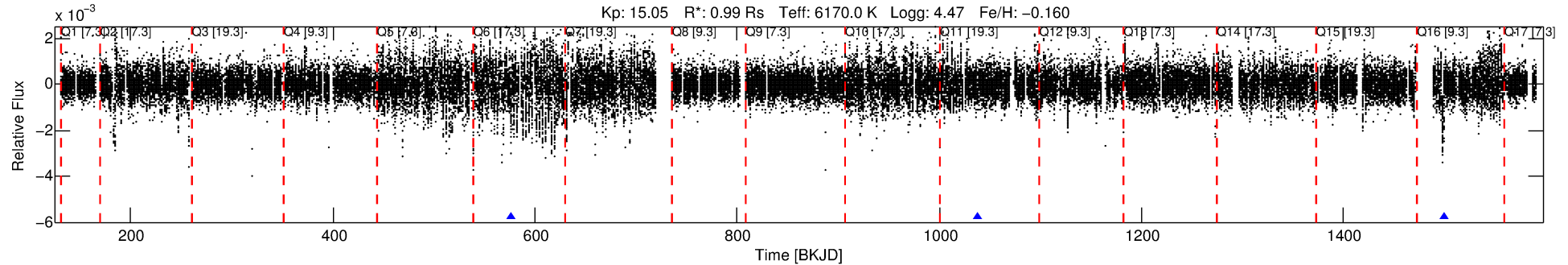
No Significant Match Found

DV One-Page Summary

KIC: 8610483 Candidate: 5 of 8 Period: 461.221 d

KOI: K07068 Corr: No Ephemeris Match

Kp: 15.05 R*: 0.99 Rs Teff: 6170.0 K Logg: 4.47 Fe/H: -0.160

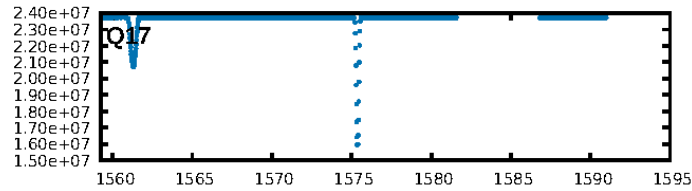
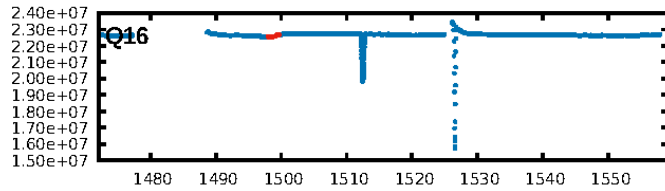
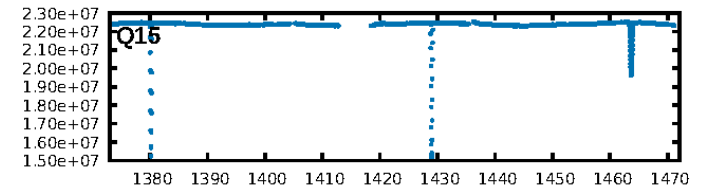
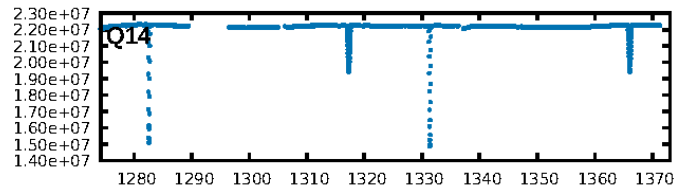
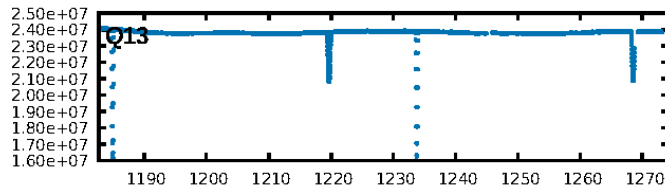
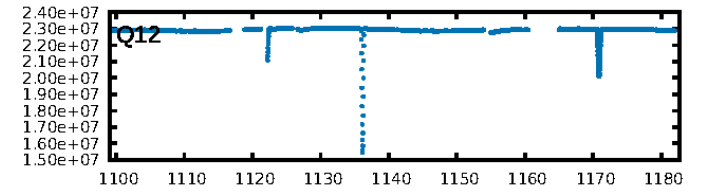
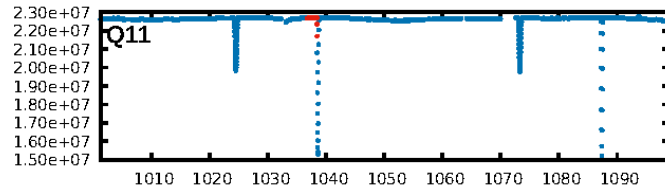
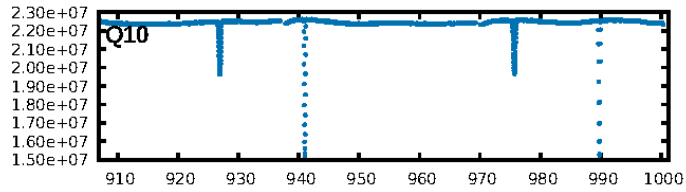
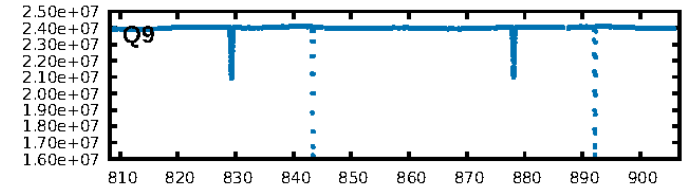
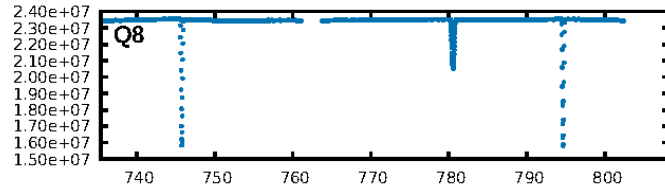
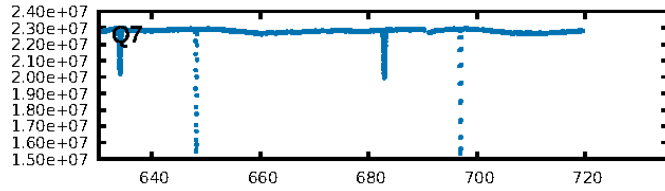
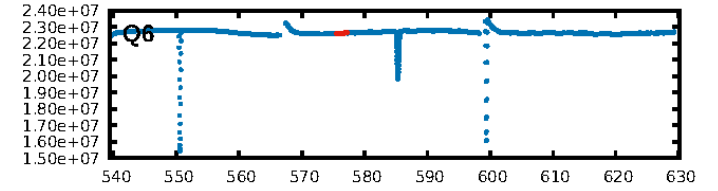
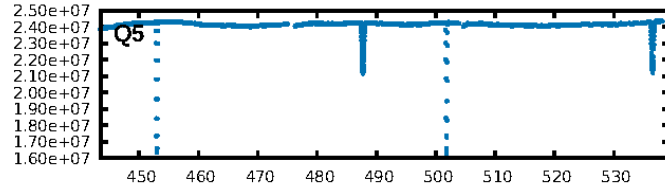
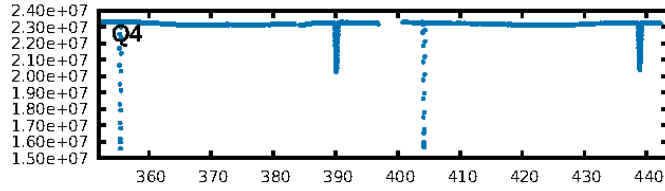
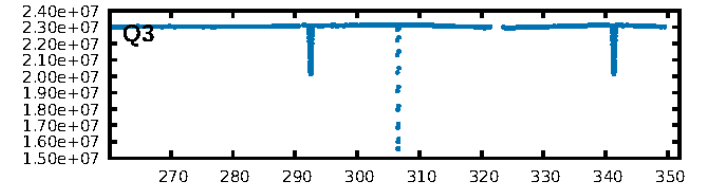
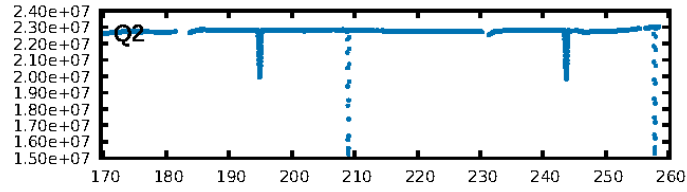
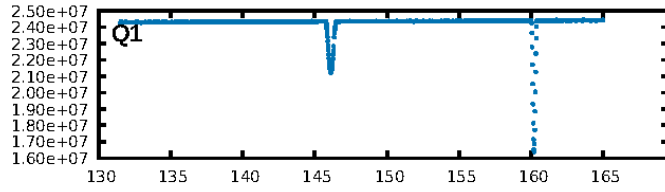


DV Fit Results:	DV Diagnostic Results:
Period = 461.22059 [0.04119] d	ShortPeriod-sig: 100.0% [165.03σ]
Epoch = 576.3644 [0.0567] BKJD	LongPeriod-sig: 100.0% [25.20σ]
Rp/R* = 0.0698 [0.2060]	ModelChiSquare2-sig: 2.0%
a/R* = 67.60 [48.10]	ModelChiSquareGof-sig: 99.8%
b = 0.99 [0.32]	Bootstrap-pfa: N/A
Seff = 0.90 [0.37]	RollingBand-fgt: 1.00 [3/3]
Teq = 248 [25] K	GhostDiagnostic-chr: 0.1939
Rp = 7.55 [22.43] Re	Centroid-sig: N/A
a = 1.1930 [0.3208] AU	Centroid-so: 0.580 arcsec [1.61σ]
Ag = 13893.51 [82241.70] [0.17σ]	OotOffset-rm: N/A
Teffp = 4166 [6154] K [0.64σ]	OotOffset-st: 0/0/0/0 [0]
	KicOffset-rm: N/A
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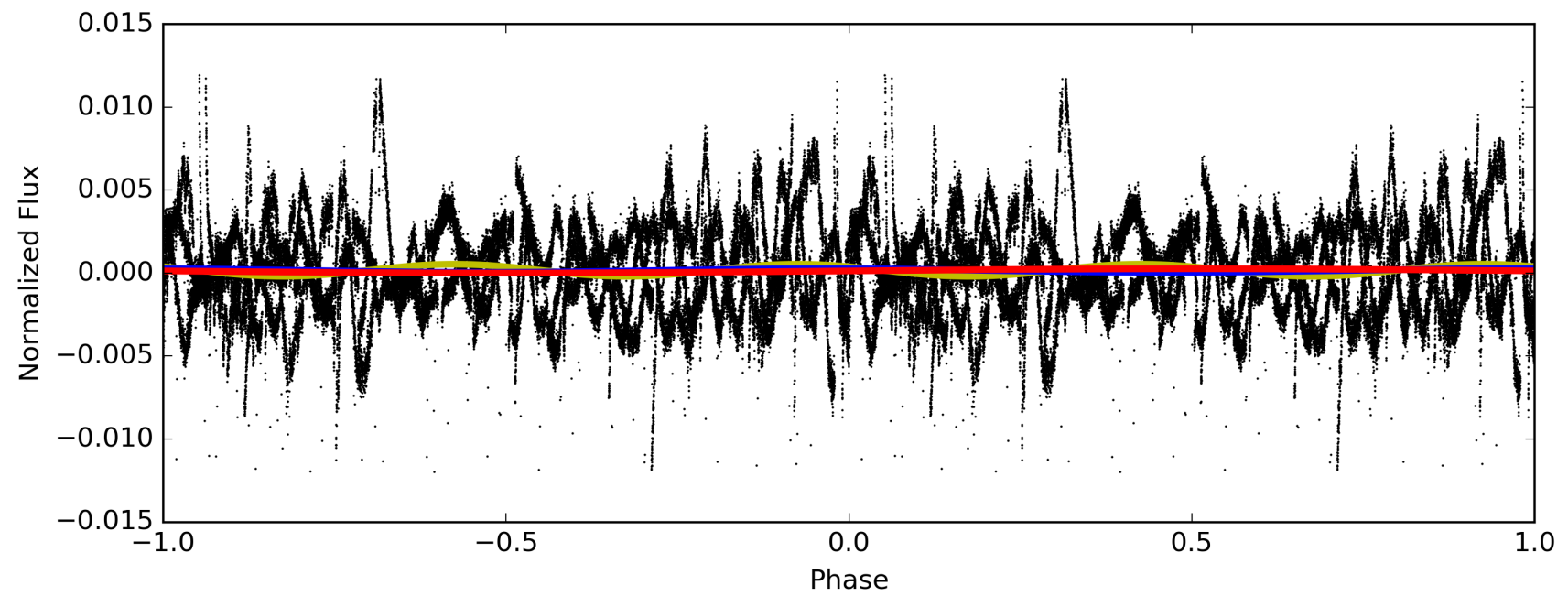
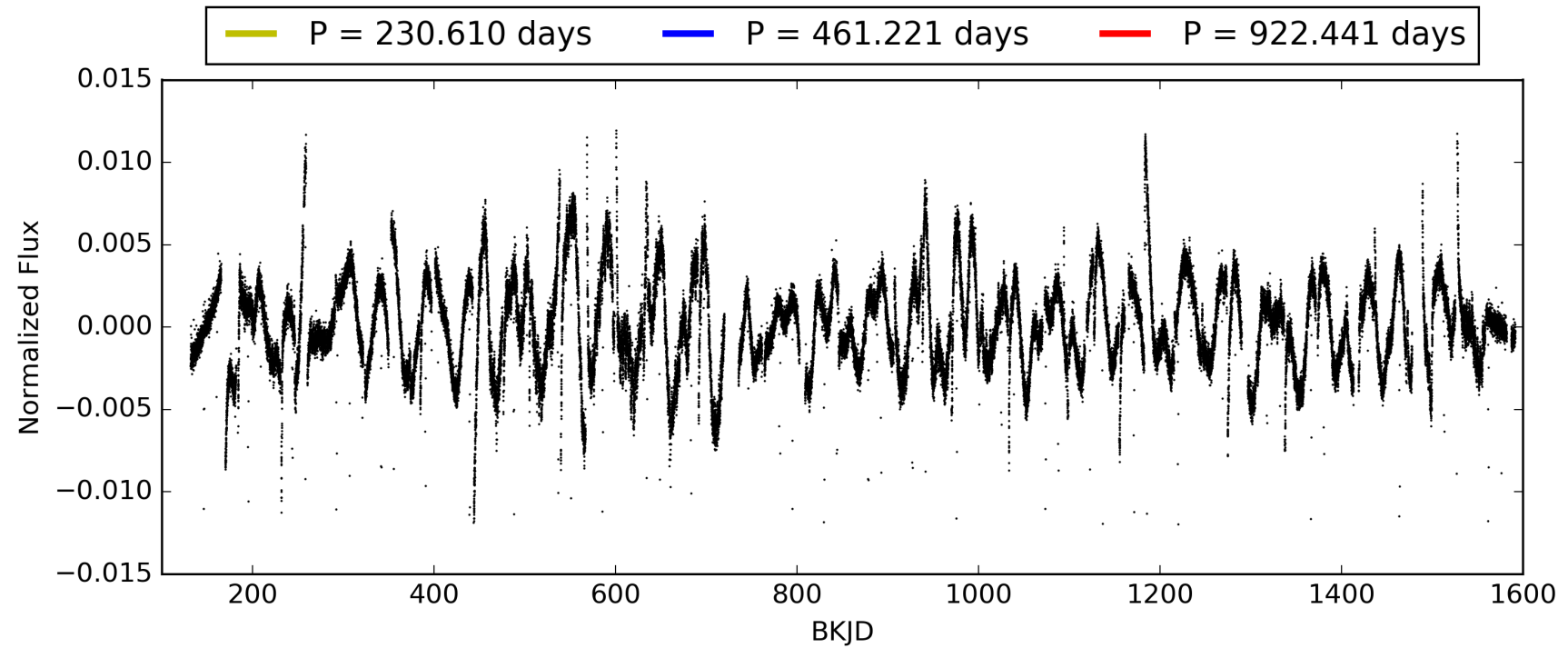
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008610483-05, PDC Light Curves

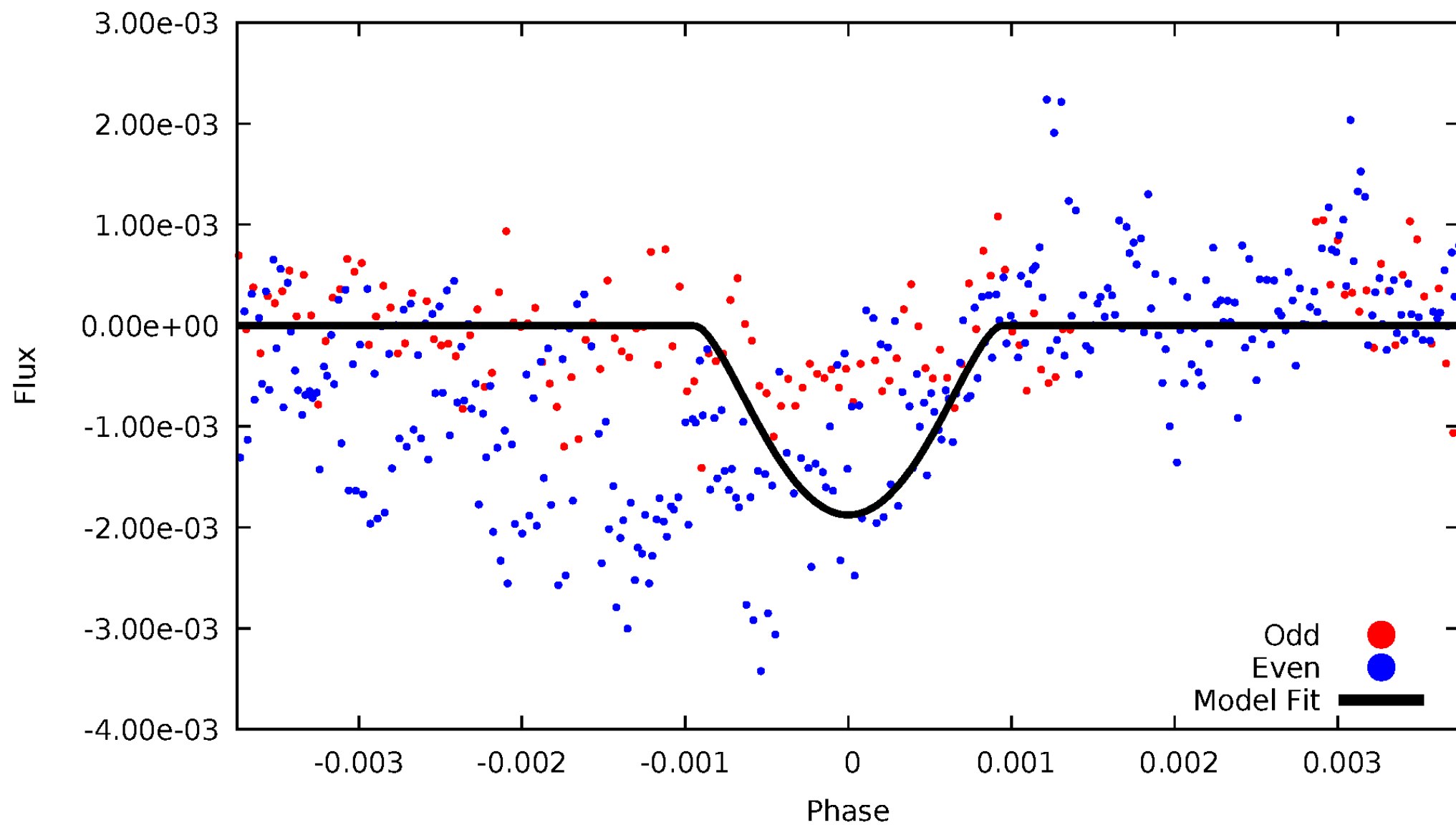


TCE 008610483-05



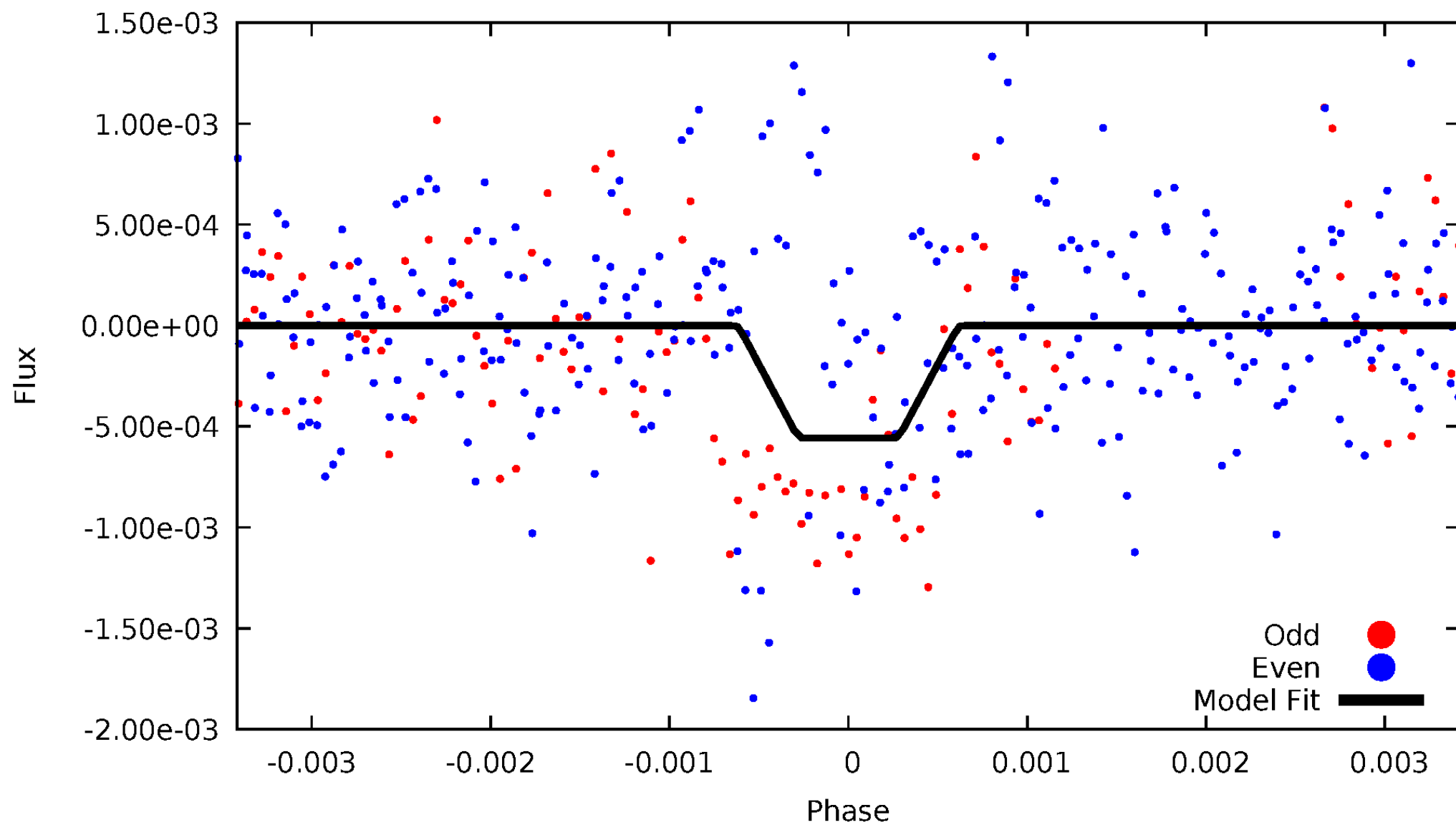
DV Odd/Even

TCE 008610483-05



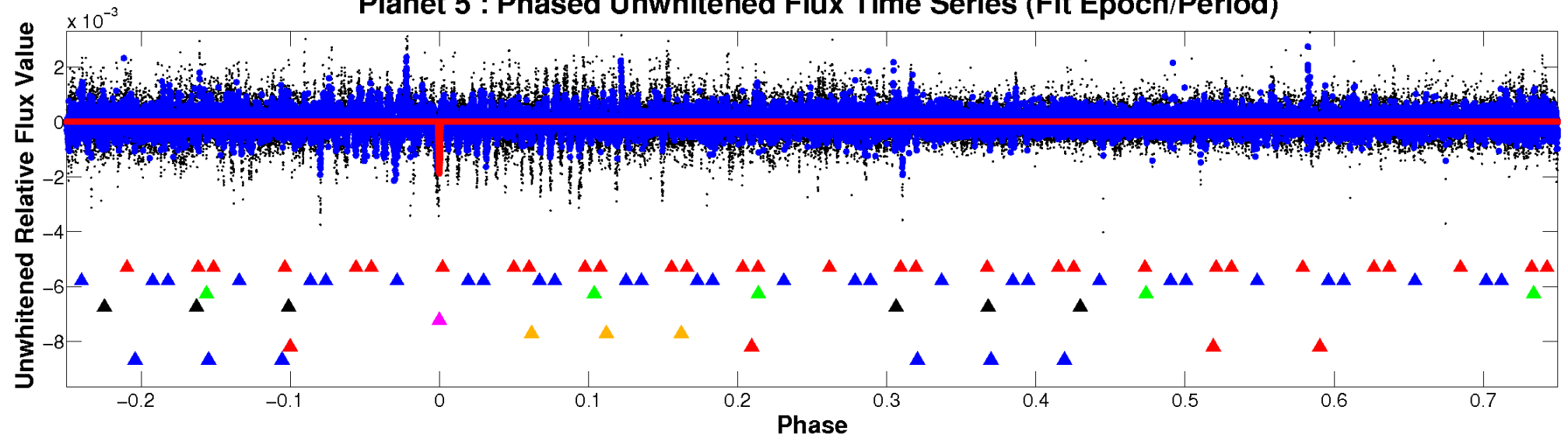
ALT Odd/Even

TCE 008610483-05

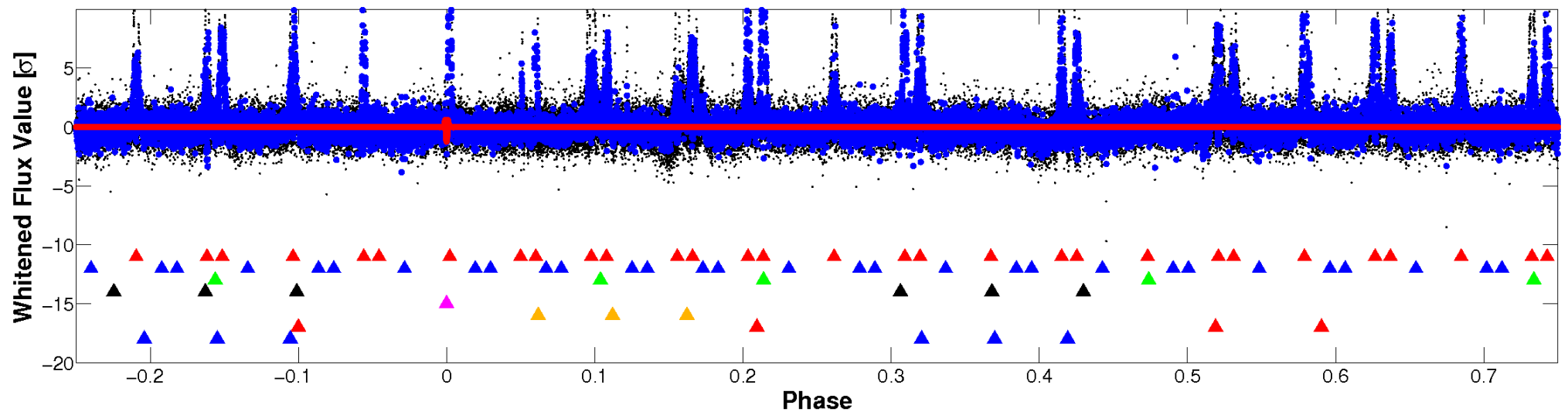


Non-Whitened Vs. Whitened Light Curve

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

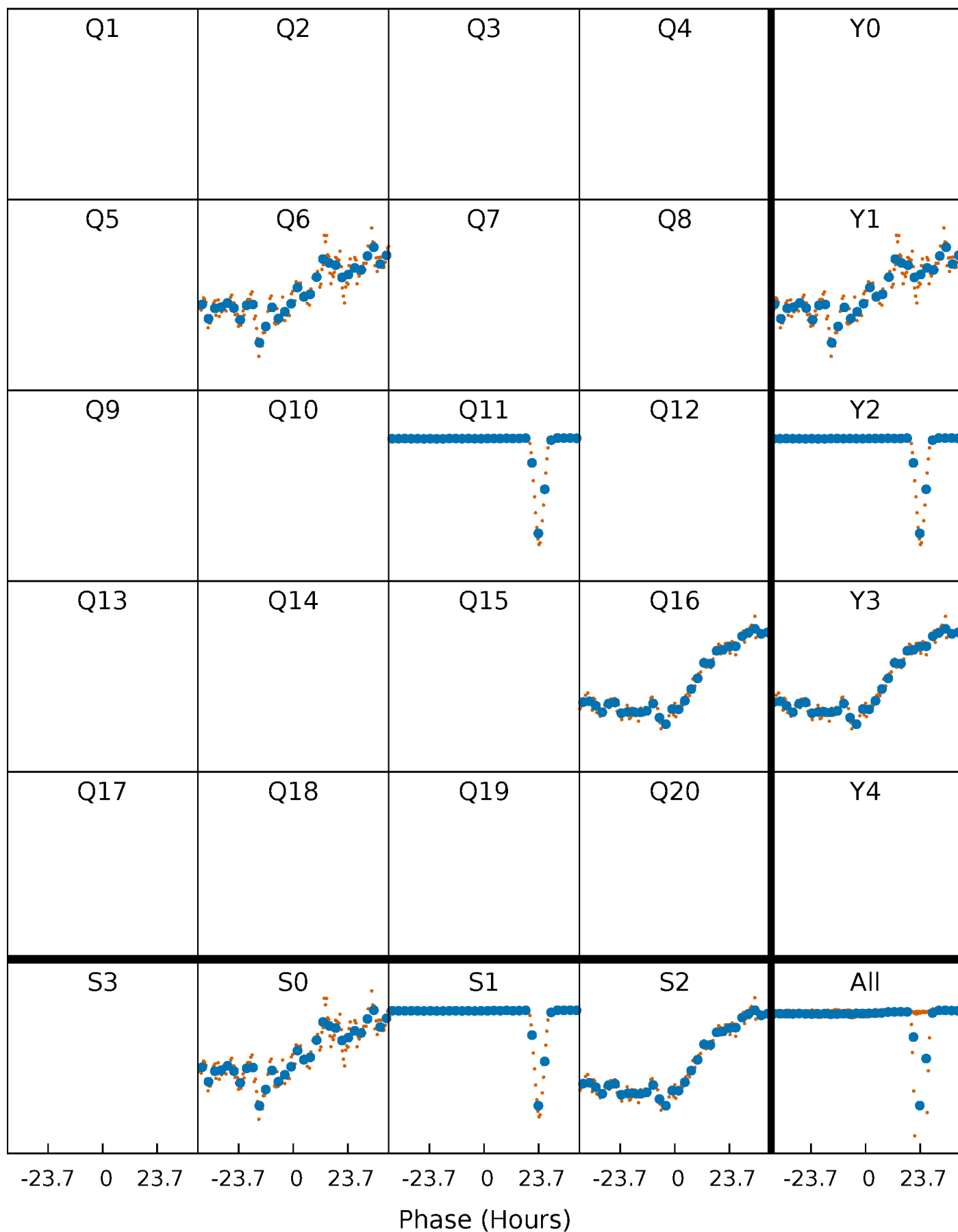


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



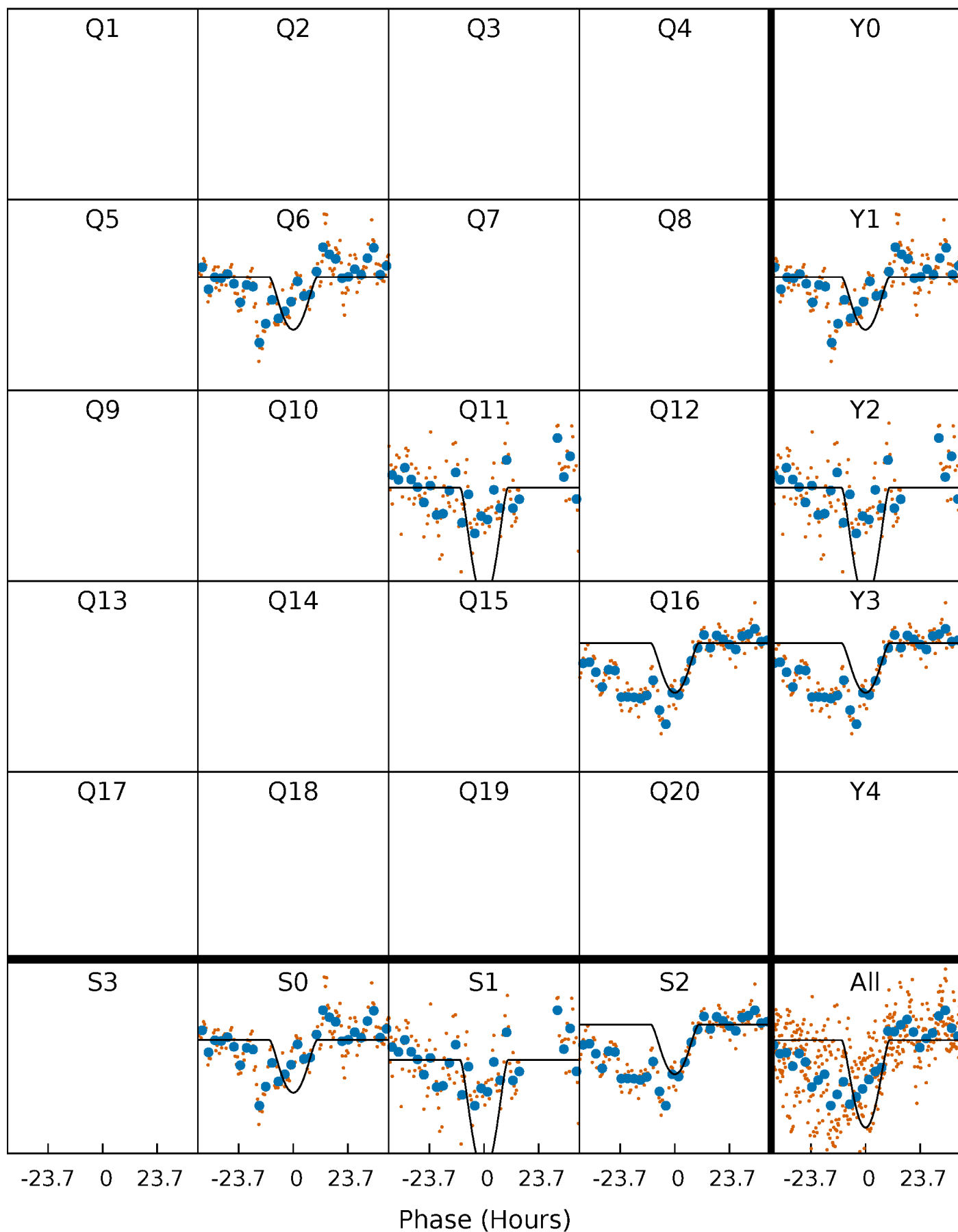
PDC Quarter-Phased Transit Curves

TCE 008610483-05 $P=461.220593$ Days $T_0=576.364405$ (BKJD)



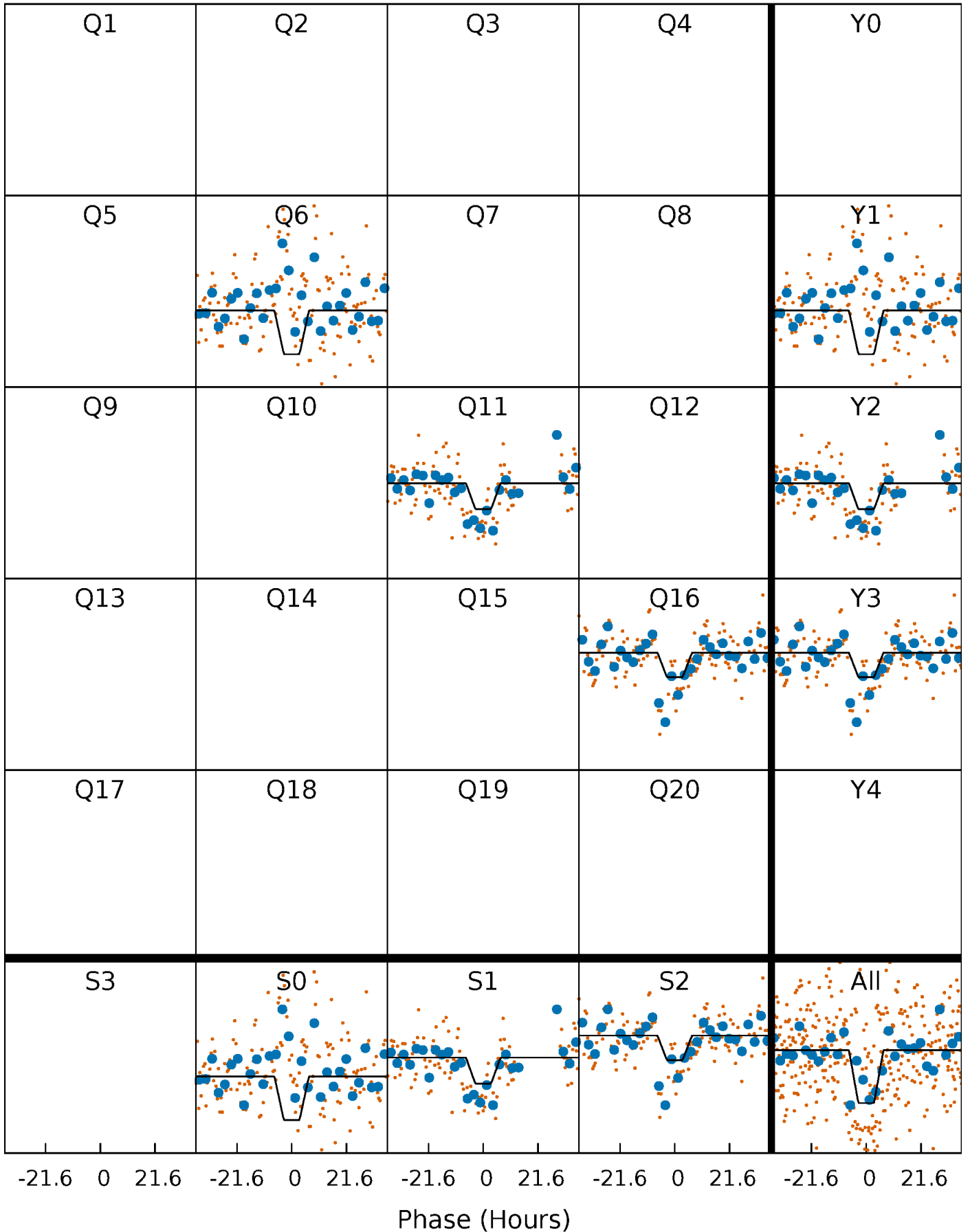
DV Quarter-Phased Transit Curves

TCE 008610483-05 $P=461.220593$ Days $T_0=576.364405$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

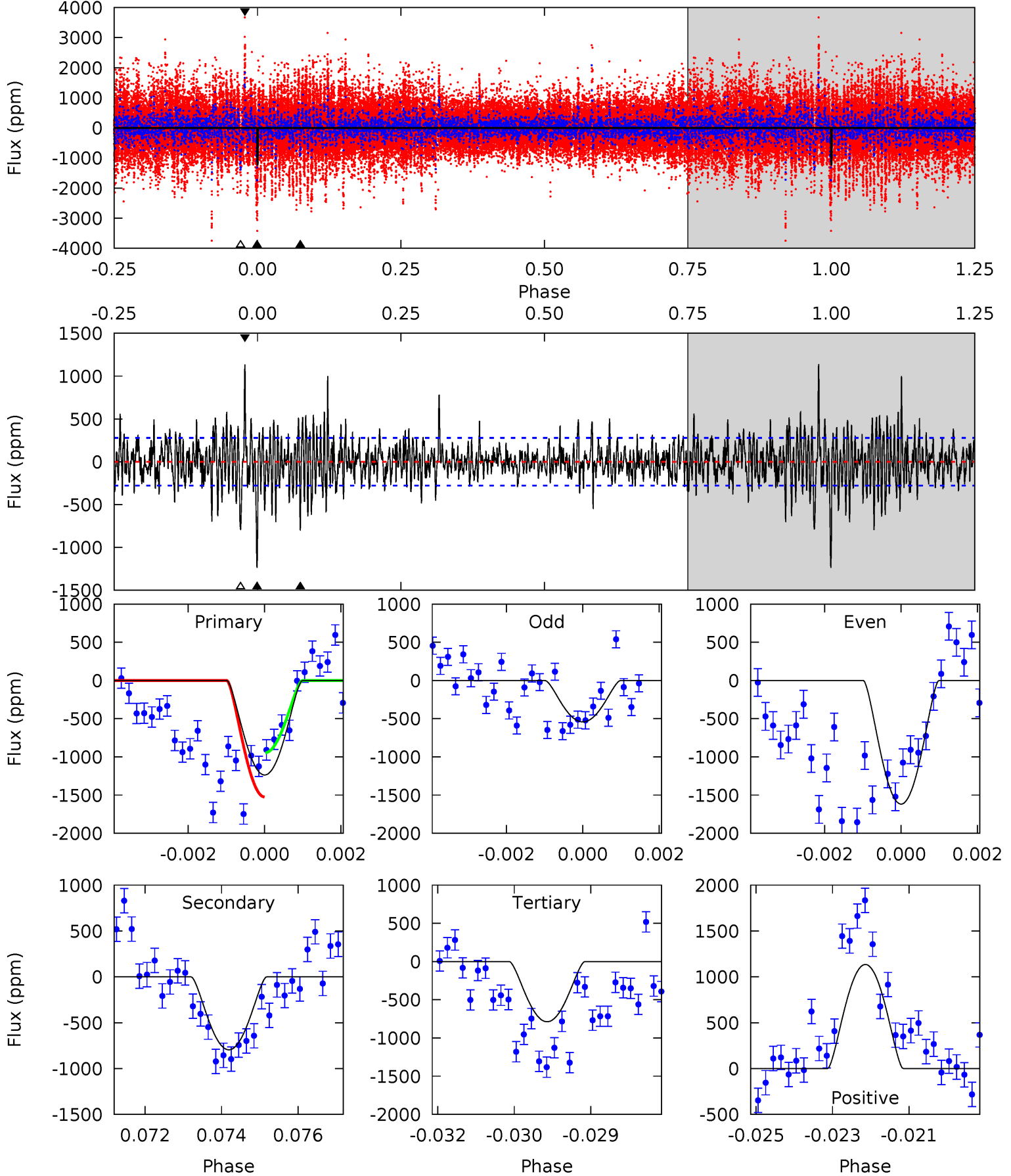
TCE 008610483-05 $P=461.124148$ Days $T_0=576.555051$ (BKJD)



DV Model-Shift Uniqueness Test

008610483-05, P = 461.220593 Days, E = 115.143812 Days

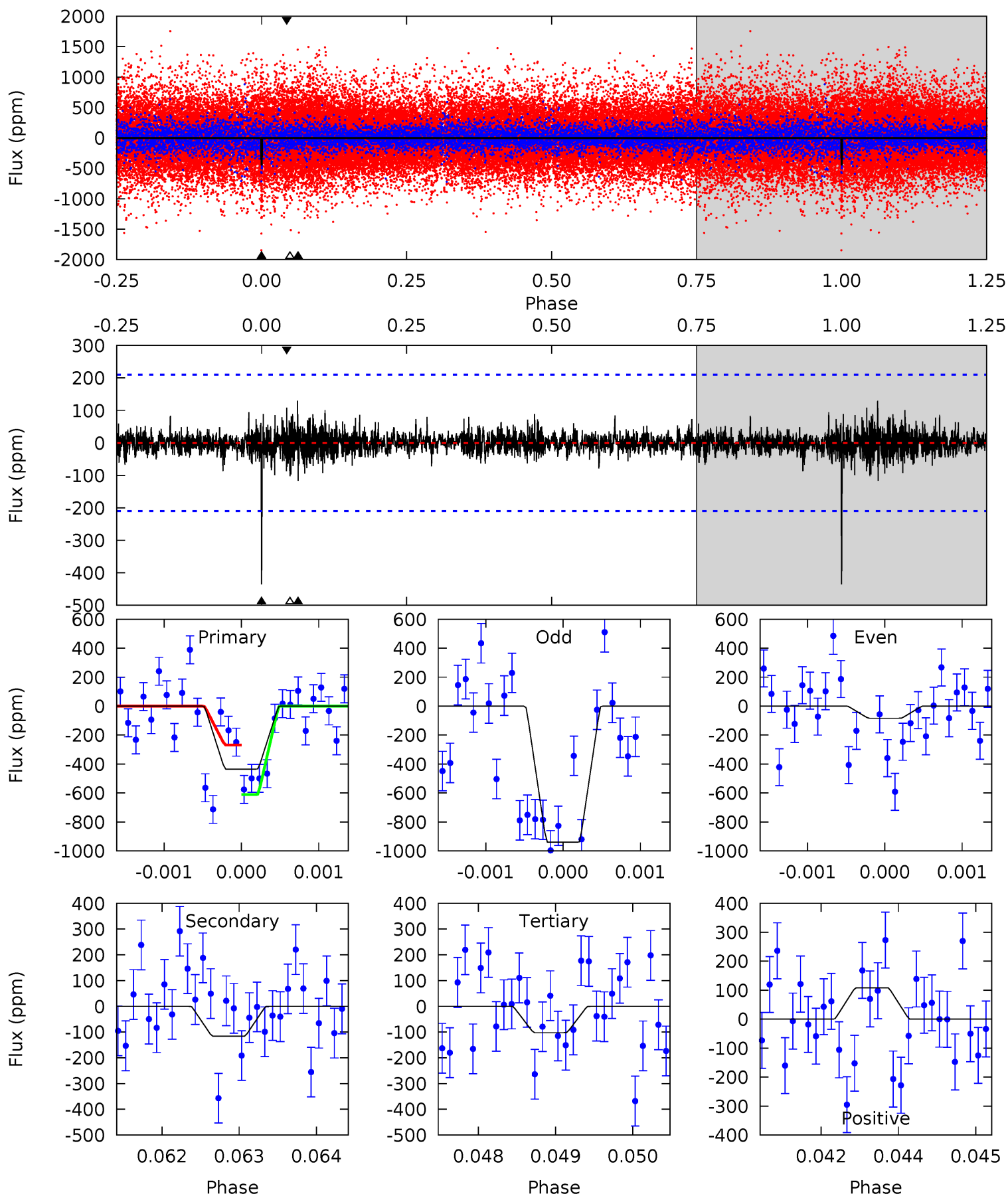
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.7	15.2	15.1	21.7	5.34	3.10	3.75	8.61	1.97	0.15	-6.49	10.1	1.29	0.48	5.55



Alt Model-Shift Uniqueness Test

008610483-05, P = 461.124148 Days, E = 115.430903 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	2.99	2.64	2.80	5.41	3.22	0.58	8.57	8.40	0.35	0.19	9.33	0.56	0.23	4.37



Stellar Parameters For KIC 008610483

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6170^{+168}_{-205}	$4.472^{+0.052}_{-0.208}$	$-0.160^{+0.250}_{-0.350}$	$0.992^{+0.322}_{-0.107}$	$1.063^{+0.145}_{-0.145}$	$1.535^{+0.433}_{-0.809}$
	+3%/-3%	+1%/-5%	+156%/-219%	+32%/-11%	+14%/-14%	+28%/-53%
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 008610483-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-796 ± 52	$20.60^{+18.63}_{-13.51}$	356^{+25}_{-19}	3076^{+1417}_{-482}	1406^{+10823}_{-1000}
Alt.	-116 ± 39	$16.61^{+17.91}_{-11.49}$	355^{+23}_{-17}	2504^{+951}_{-393}	305^{+2859}_{-237}

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 $A_{obs} \gg 1.0$

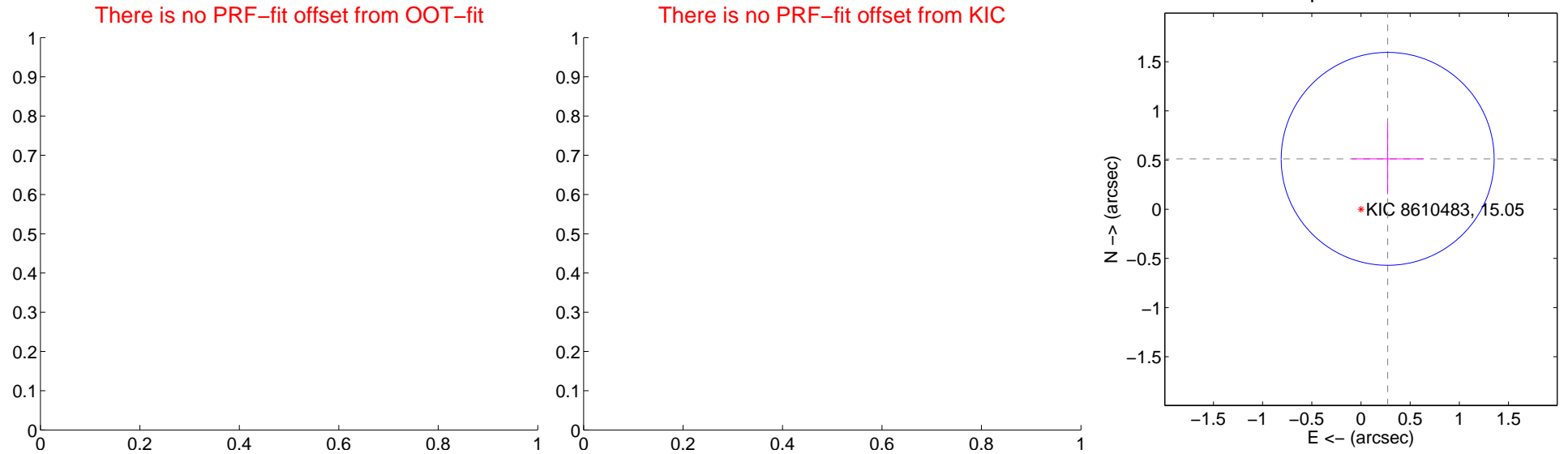
DV Centroid Data

Supplemental centroid analysis for 008610483-05. Kepler magnitude: 15.05. Transit SNR 8.42

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	0.58 ± 0.36	1.61	-0.27 ± 0.37	0.51 ± 0.36

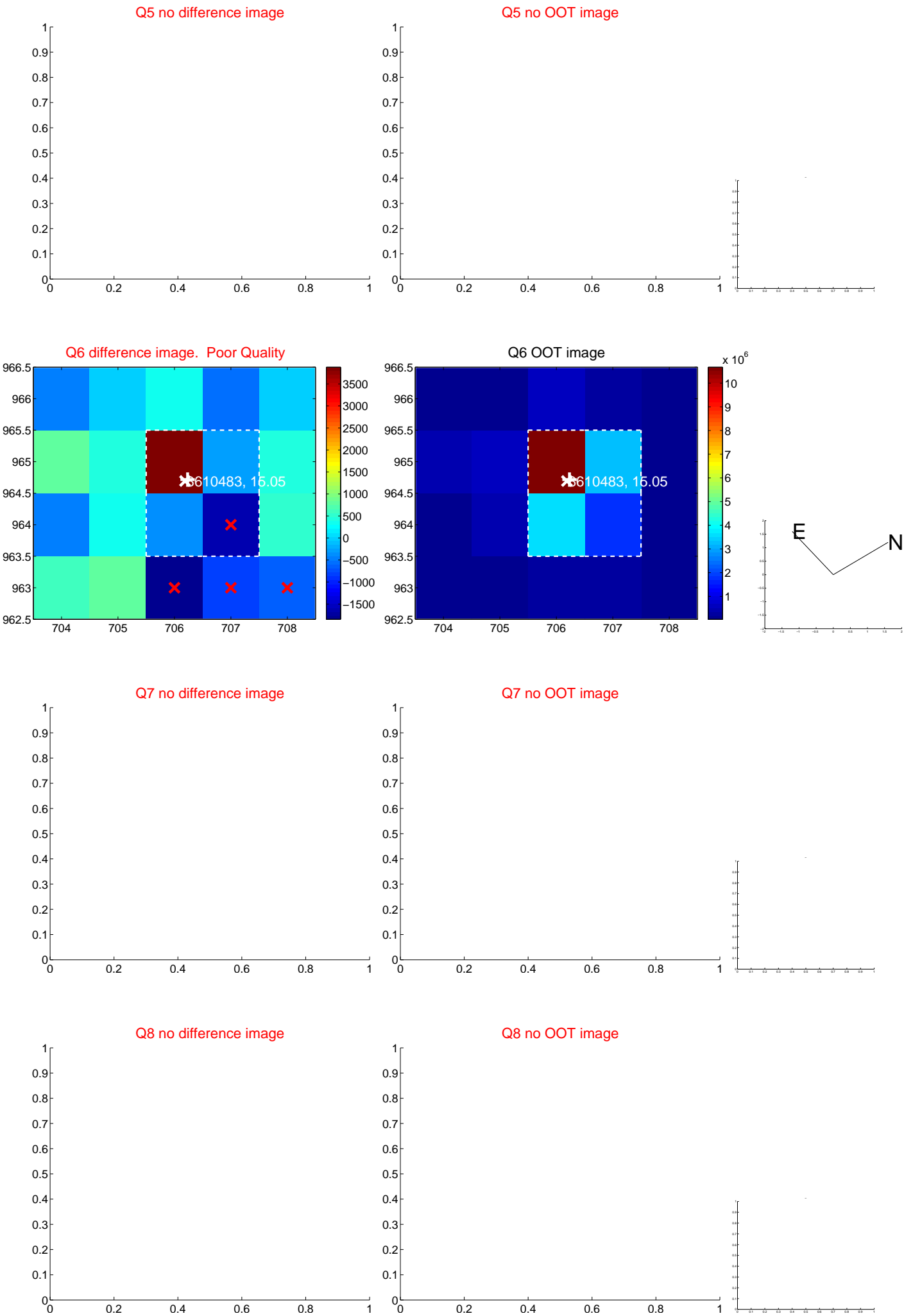


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



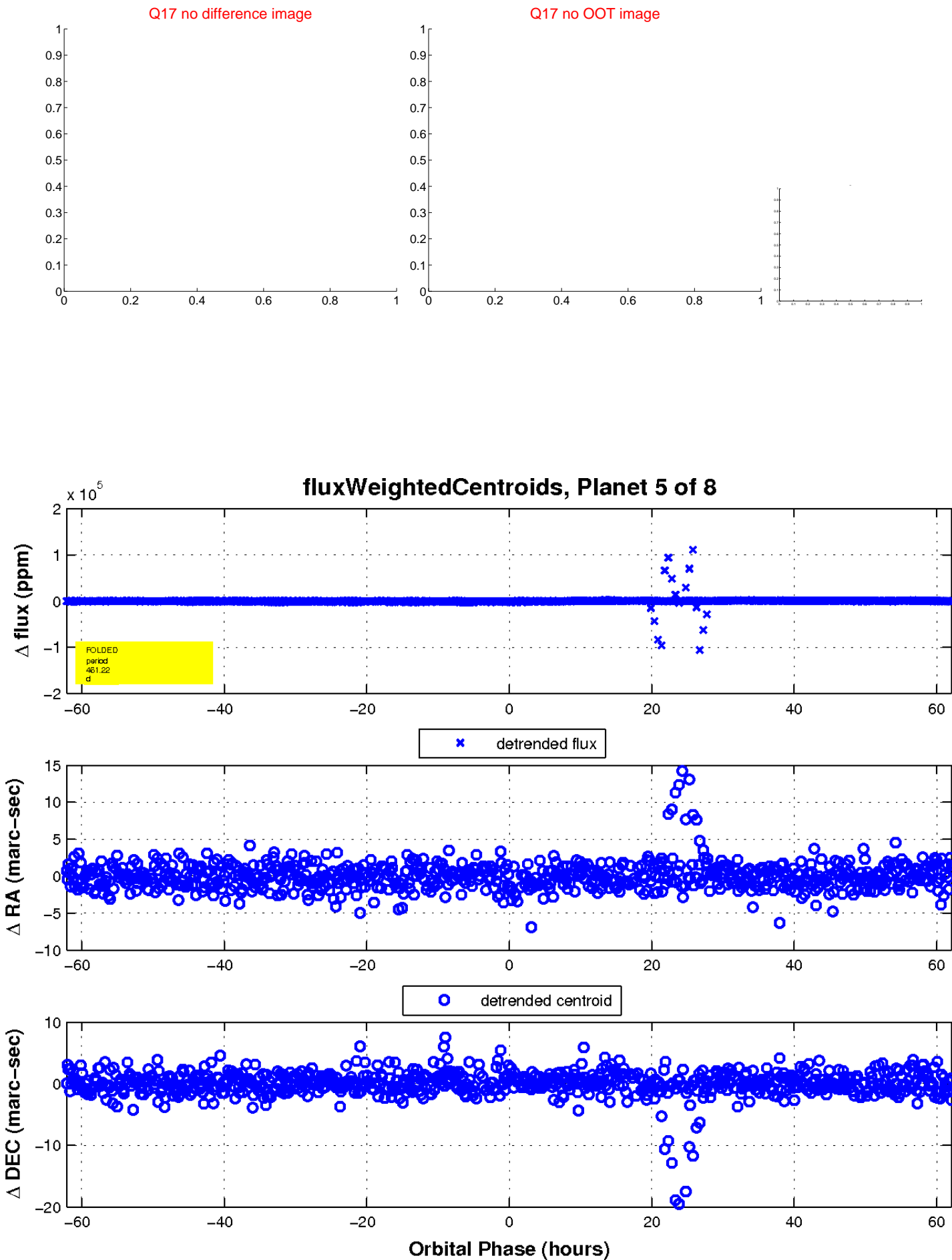
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

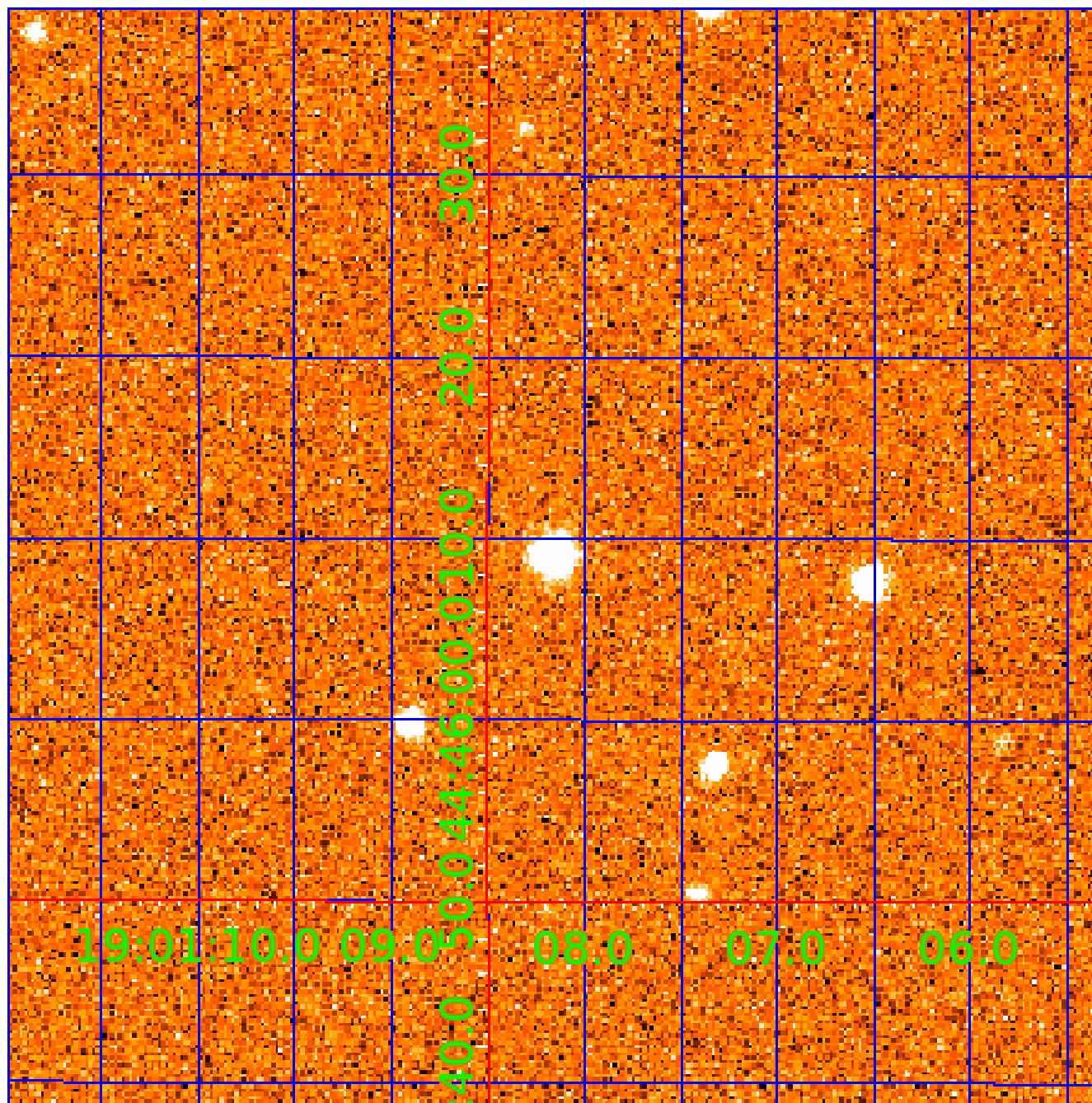


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008610483

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})
008610483-01	OBS	7068.01	48.799553	160.189495	330161.0	5.000	5592.0	-1.0	0.99	6170	49.74	17.94
008610483-02	OBS	No	48.799299	146.114721	127773.9	16.474	2737.2	2576.2	0.99	6170	52.19	17.94
008610483-03	OBS	No	290.558412	213.796940	6860.6	15.000	76.5	-1.0	0.99	6170	8.22	1.66
008610483-04	OBS	No	216.370967	313.376489	6234.3	15.000	67.1	-1.0	0.99	6170	7.84	2.46
008610483-05	OBS	No	461.220593	576.364405	1877.3	20.726	22.9	8.4	0.99	6170	7.55	0.90
008610483-06	OBS	No	484.363917	604.888467	1854.6	7.500	21.8	-1.0	0.99	6170	4.27	0.84
008610483-07	OBS	No	318.472074	354.503228	338.4	1.182	22.4	1.8	0.99	6170	1.91	1.47
008610483-08	OBS	No	219.246981	308.479786	4753.0	2.500	23.5	-1.0	0.99	6170	6.86	2.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008610483-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
008610483-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008610483-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS
008610483-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008610483-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008610483-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008610483-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—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_FEW_DIFFS
008610483-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

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

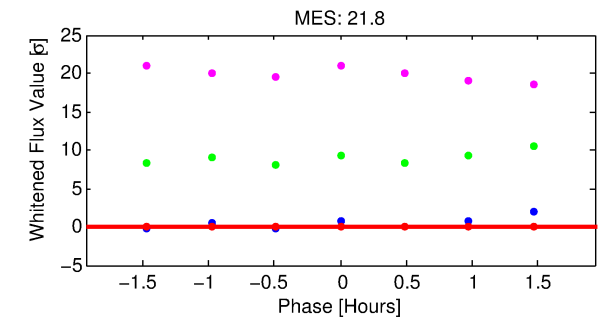
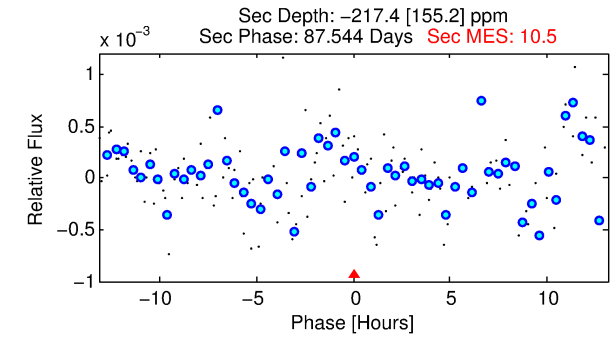
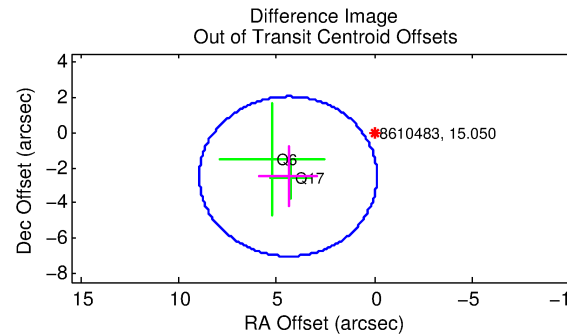
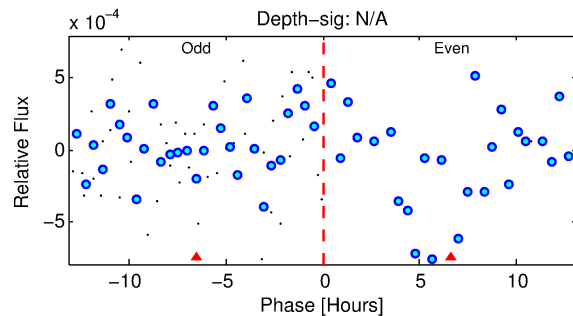
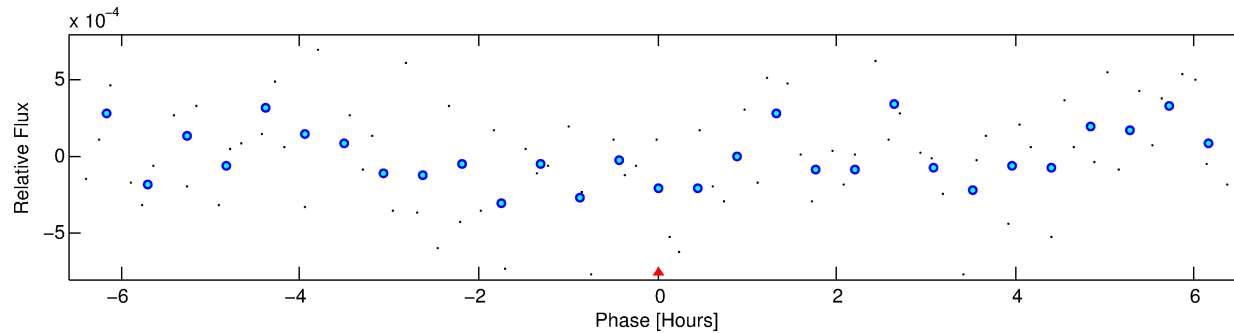
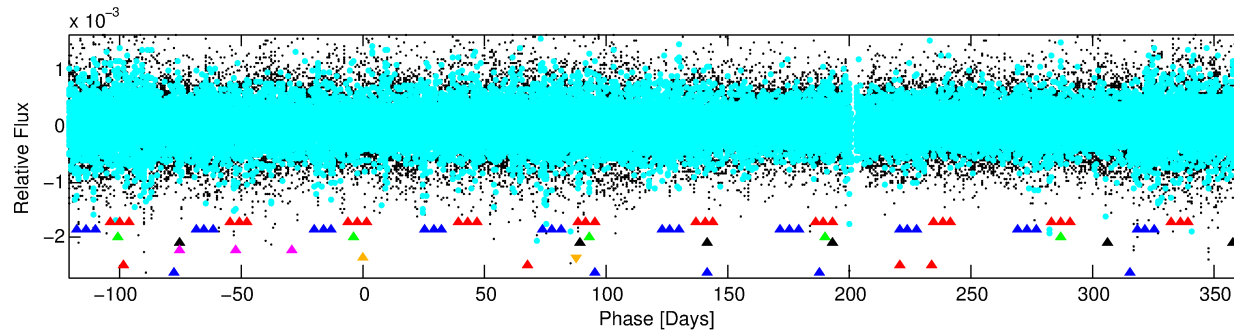
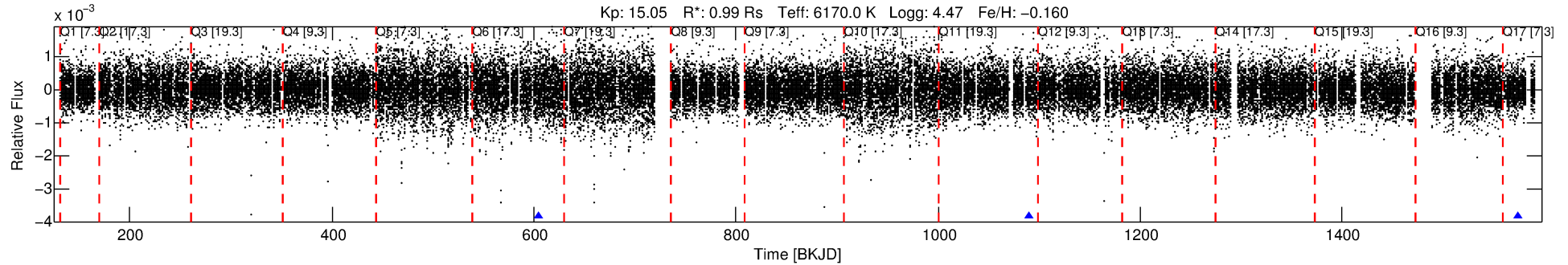
Ephemeris Match Information For 008610483-06

No Significant Match Found

DV One-Page Summary

KIC: 8610483 Candidate: 6 of 8 Period: 484.364 d
KOI: K07068 Corr: No Ephemeris Match

Kp: 15.05 R*: 0.99 Rs Teff: 6170.0 K Logg: 4.47 Fe/H: -0.160



TPS TCE Results:

Period = 484.36392 d
Epoch = 604.8885 BKJD

DV fit results are unavailable

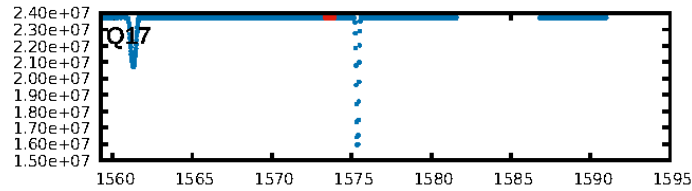
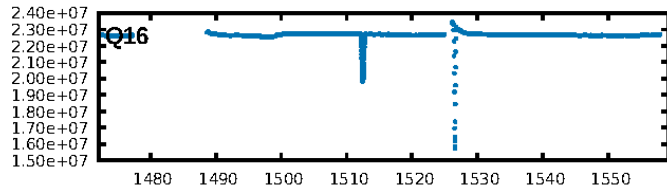
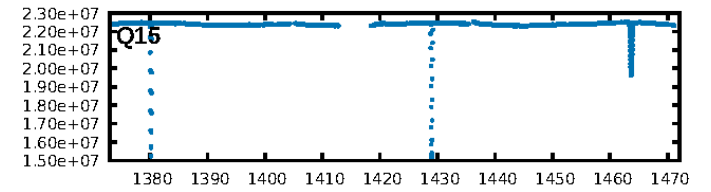
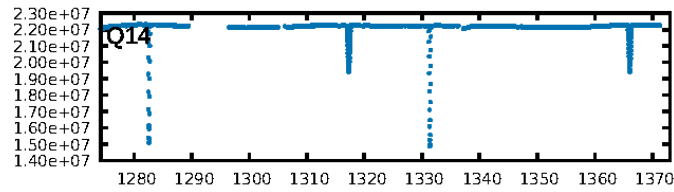
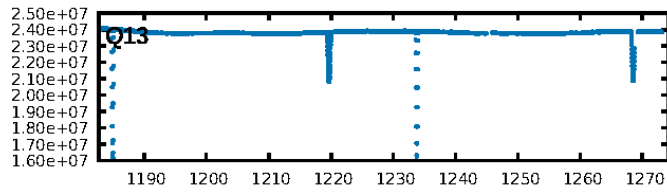
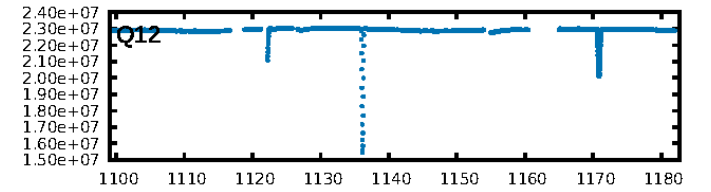
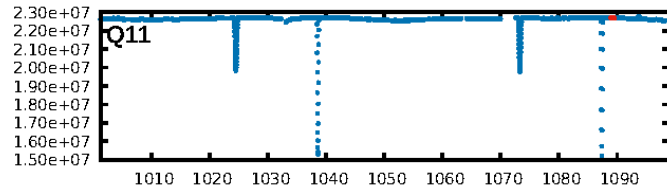
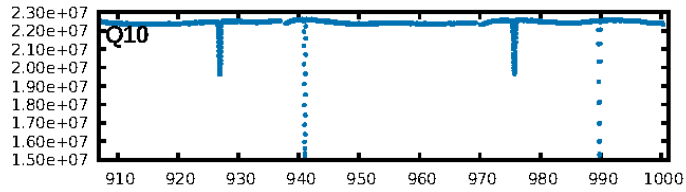
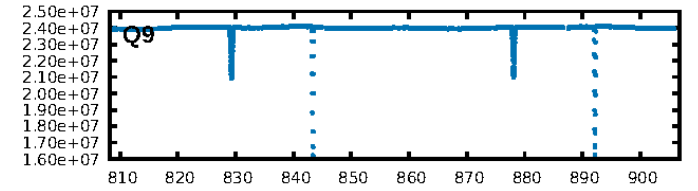
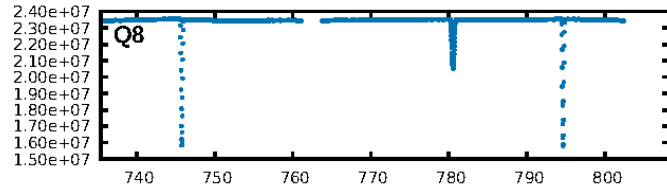
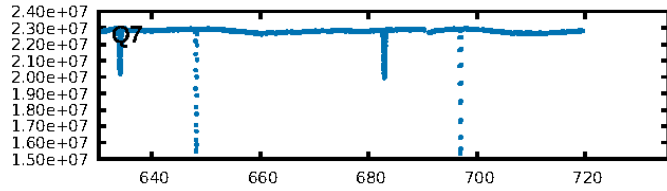
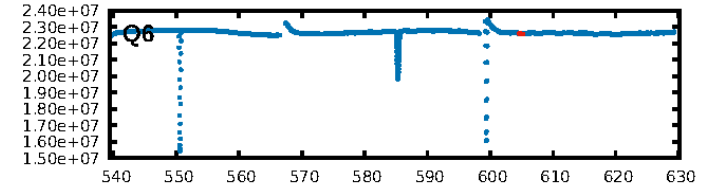
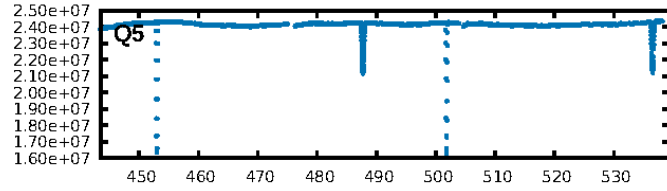
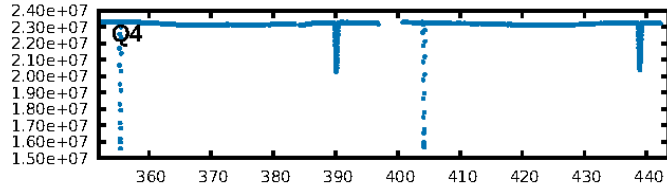
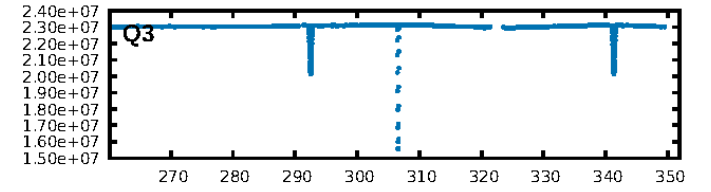
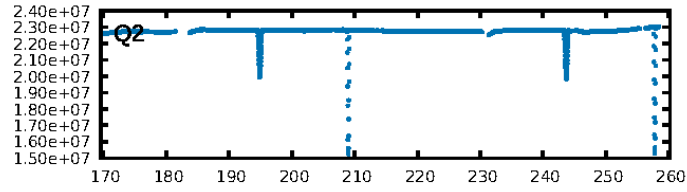
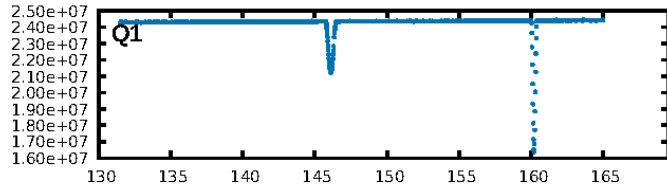
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [25.20 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -32.44
Centroid-sig: N/A
Centroid-so: 3.921 arcsec [0.33 σ]
OotOffset-rm: 5.063 arcsec [3.34 σ]
KicOffset-rm: 5.036 arcsec [3.35 σ]
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]

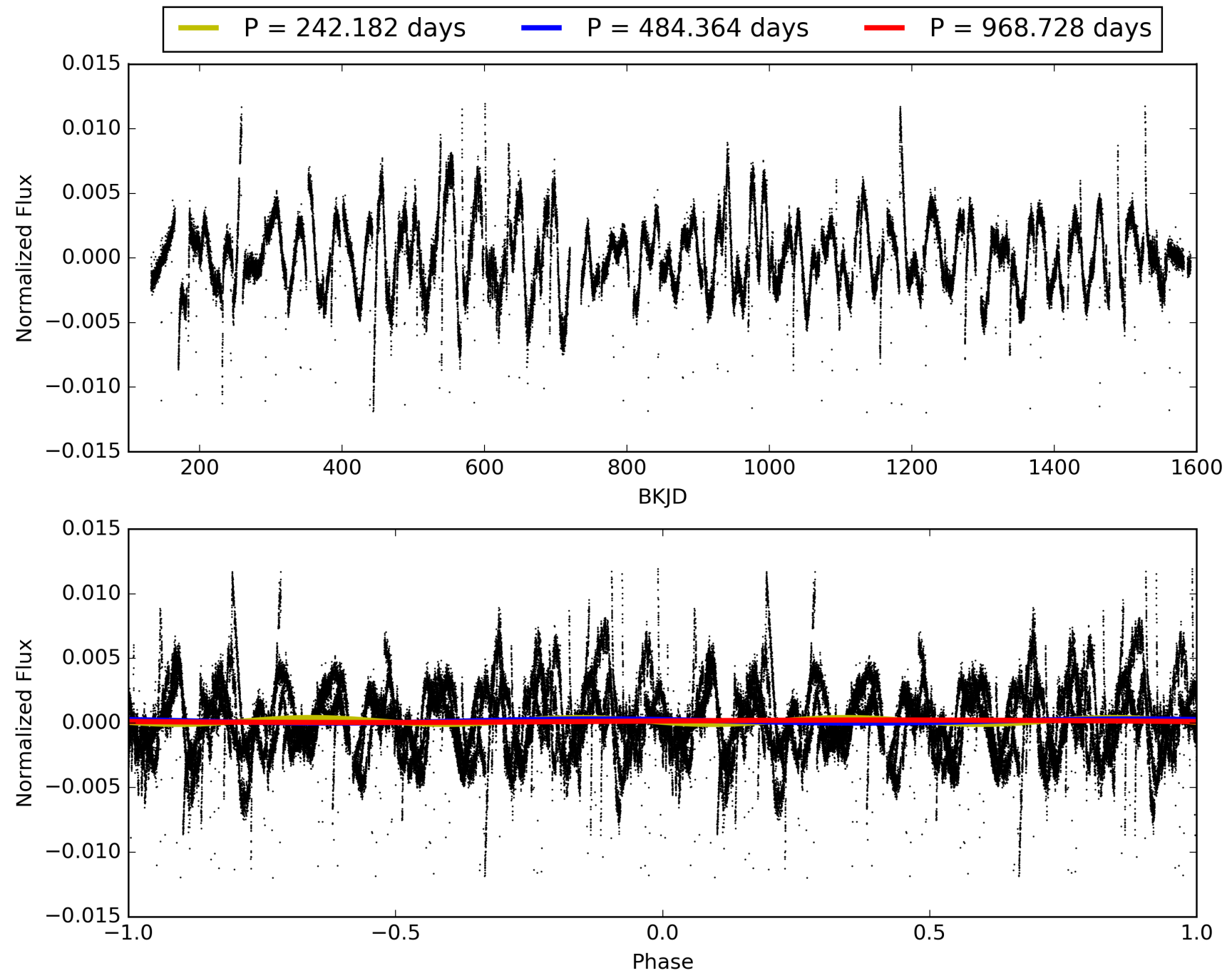
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:56:26 Z

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

TCE 008610483-06, PDC Light Curves

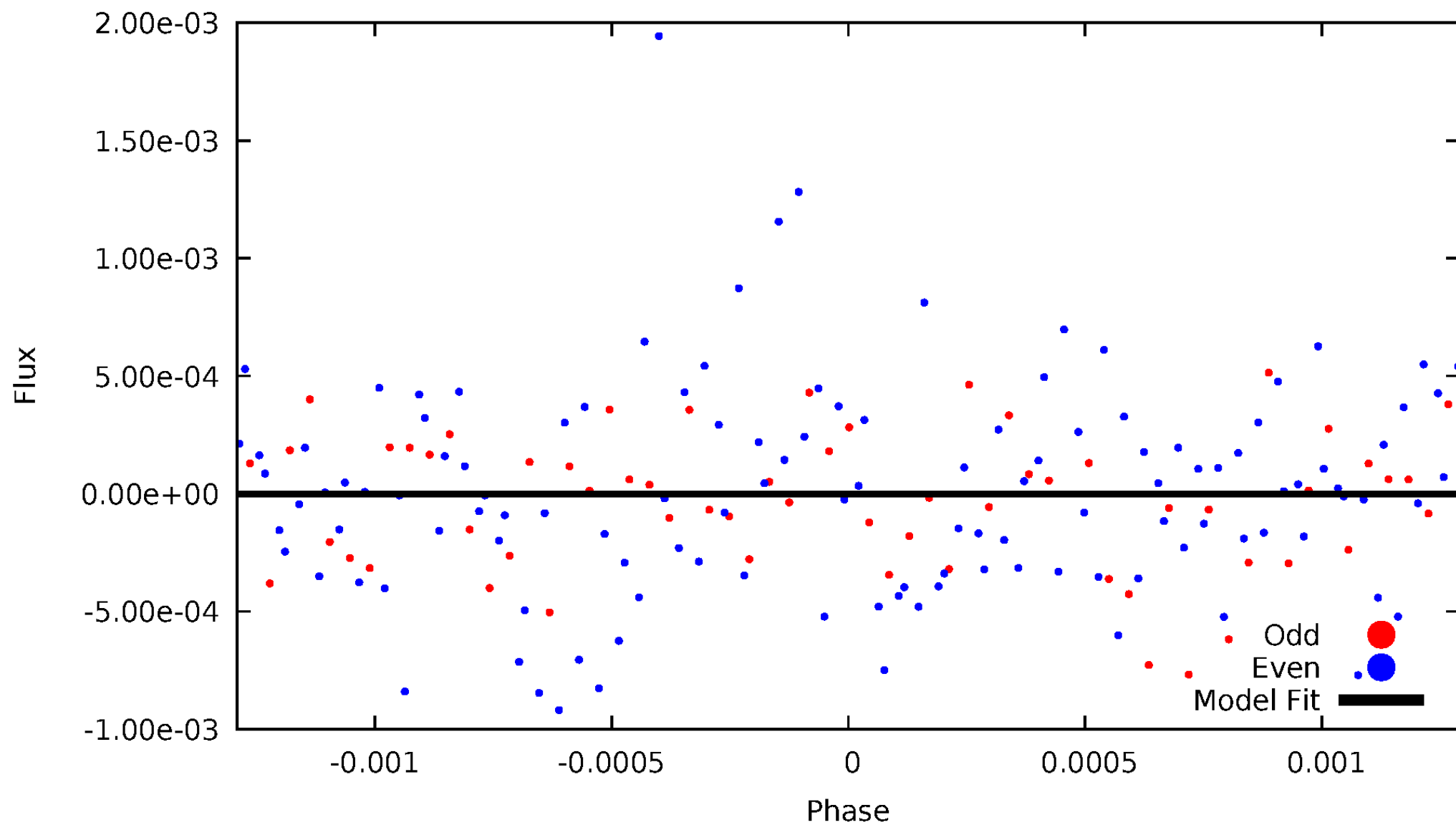


TCE 008610483-06



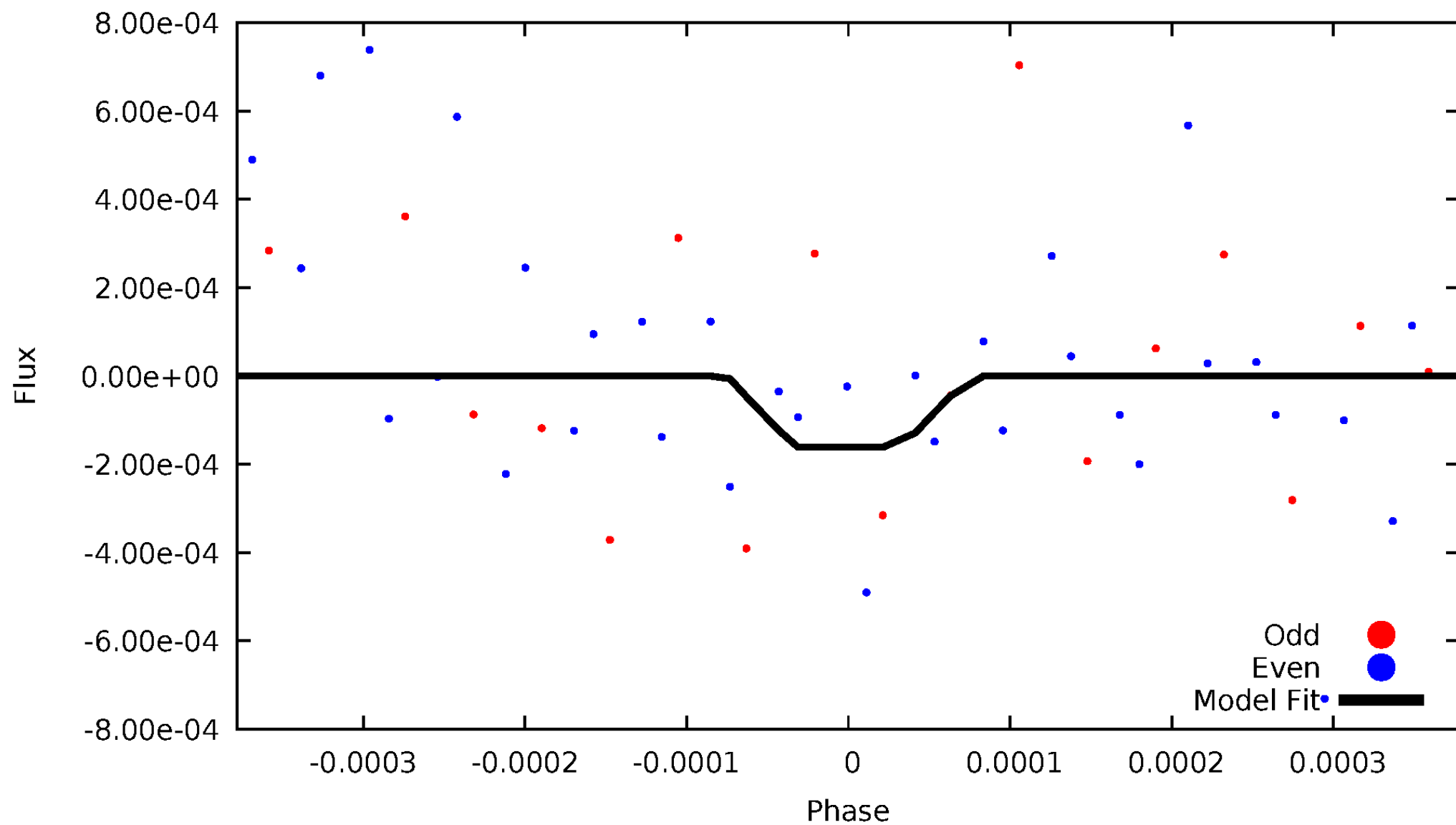
DV Odd/Even

TCE 008610483-06



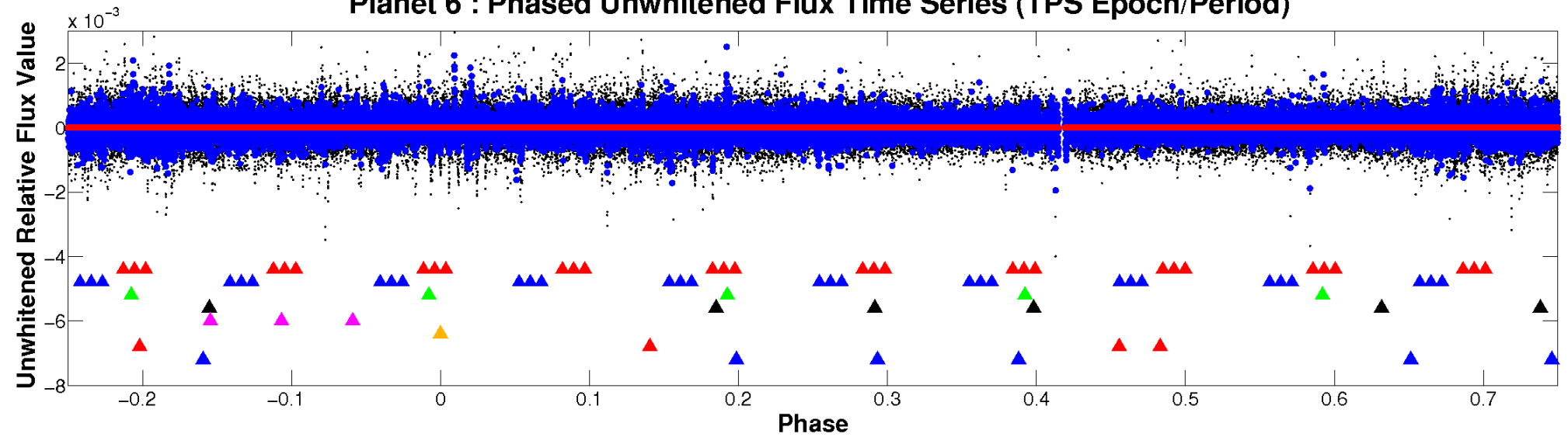
ALT Odd/Even

TCE 008610483-06



Non-Whitened Vs. Whitened Light Curve

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

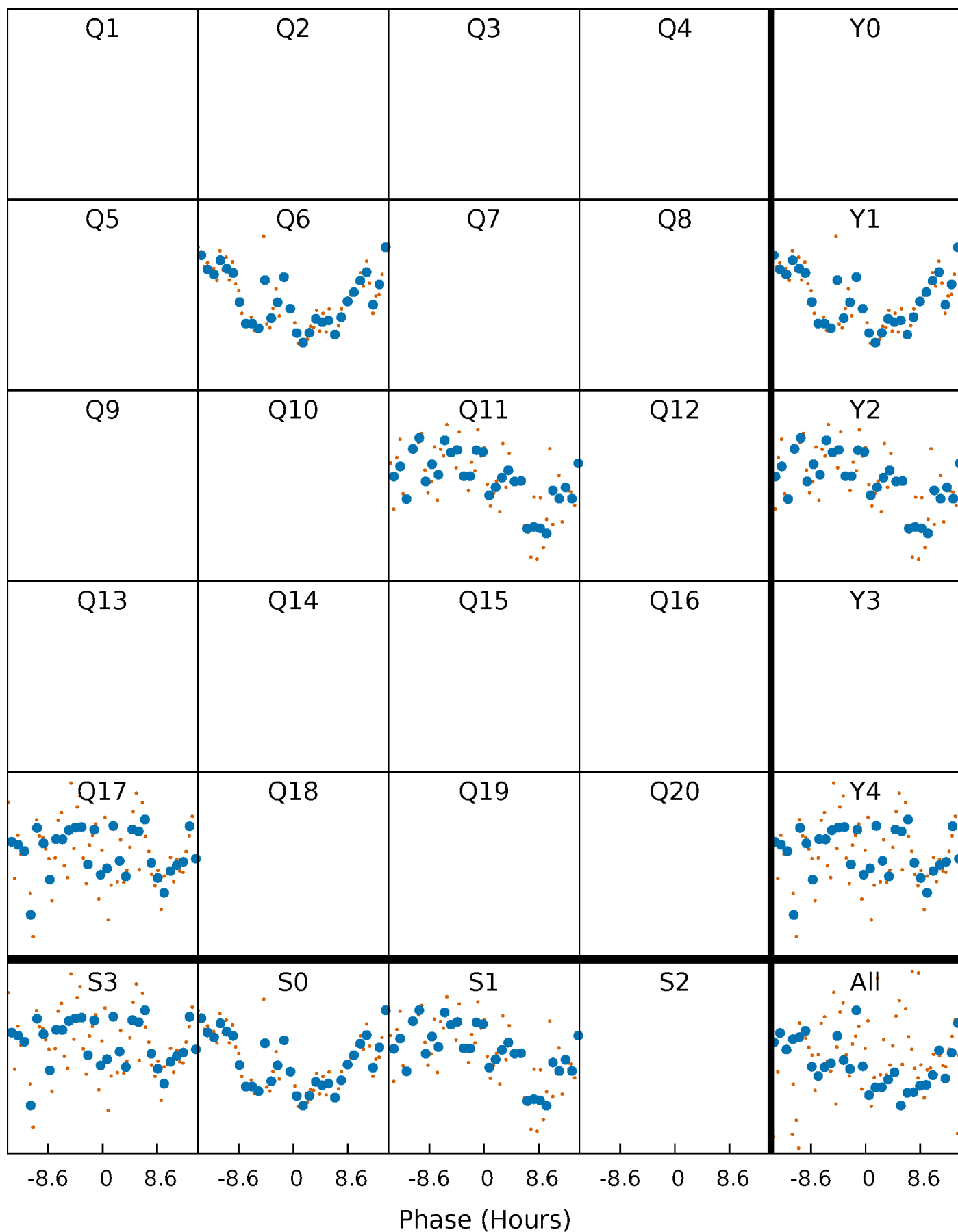


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



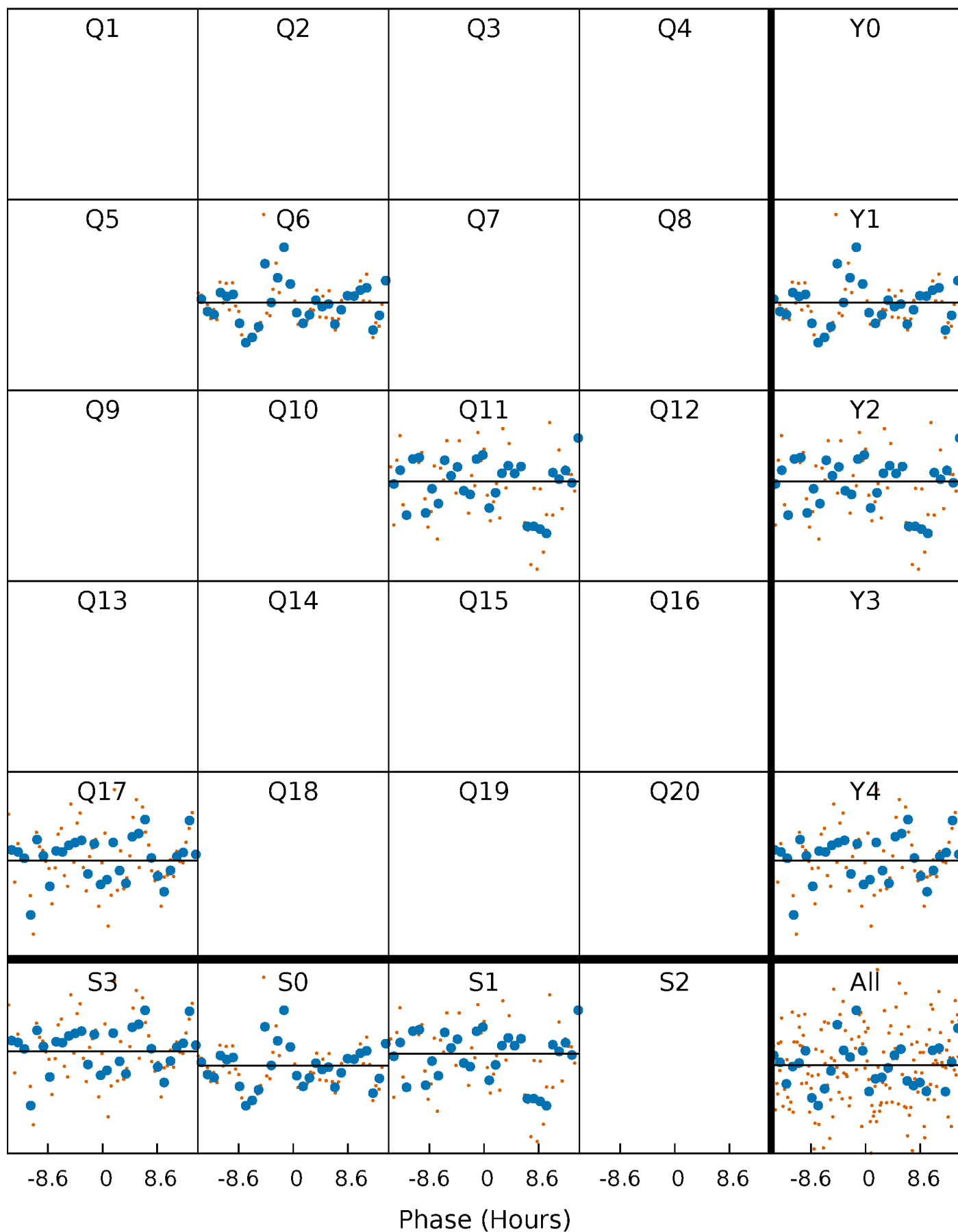
PDC Quarter-Phased Transit Curves

TCE 008610483-06 $P=484.363917$ Days $T_0=604.888467$ (BKJD)



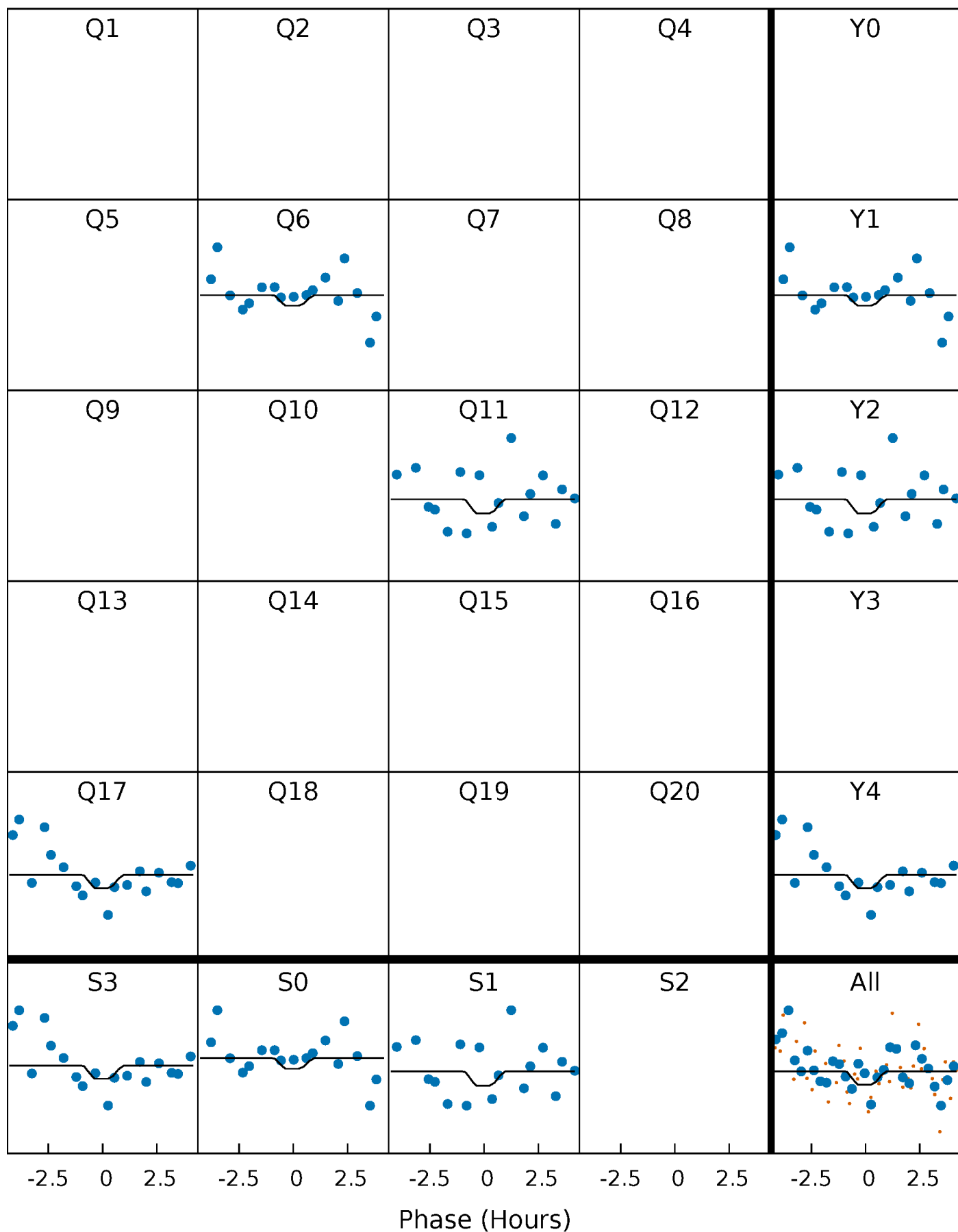
DV Quarter-Phased Transit Curves

TCE 008610483-06 P=484.363917 Days $T_0=604.888467$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

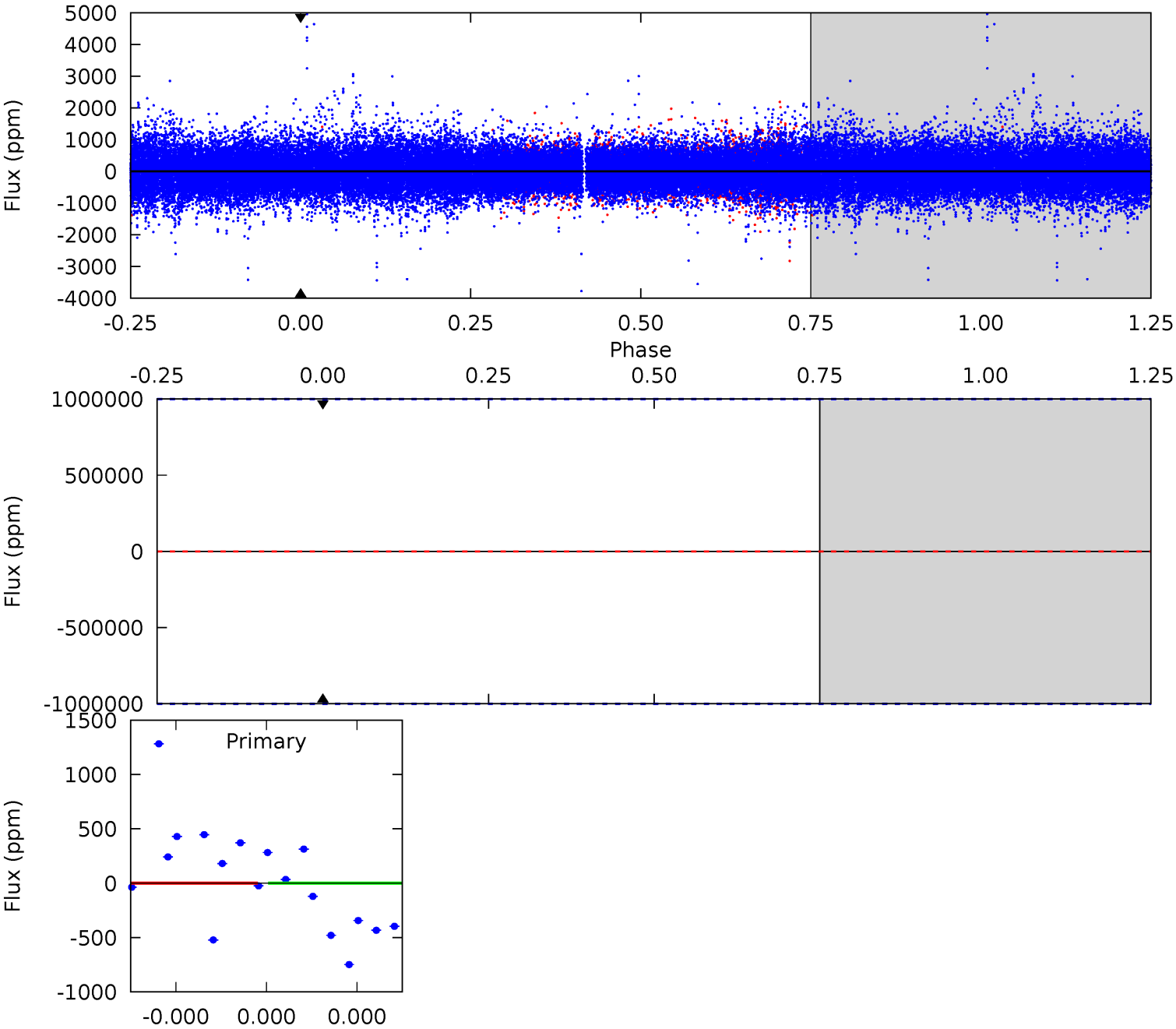
TCE 008610483-06 P=484.363917 Days $T_0=605.267197$ (BKJD)



DV Model-Shift Uniqueness Test

008610483-06, P = 484.363917 Days, E = 120.524550 Days

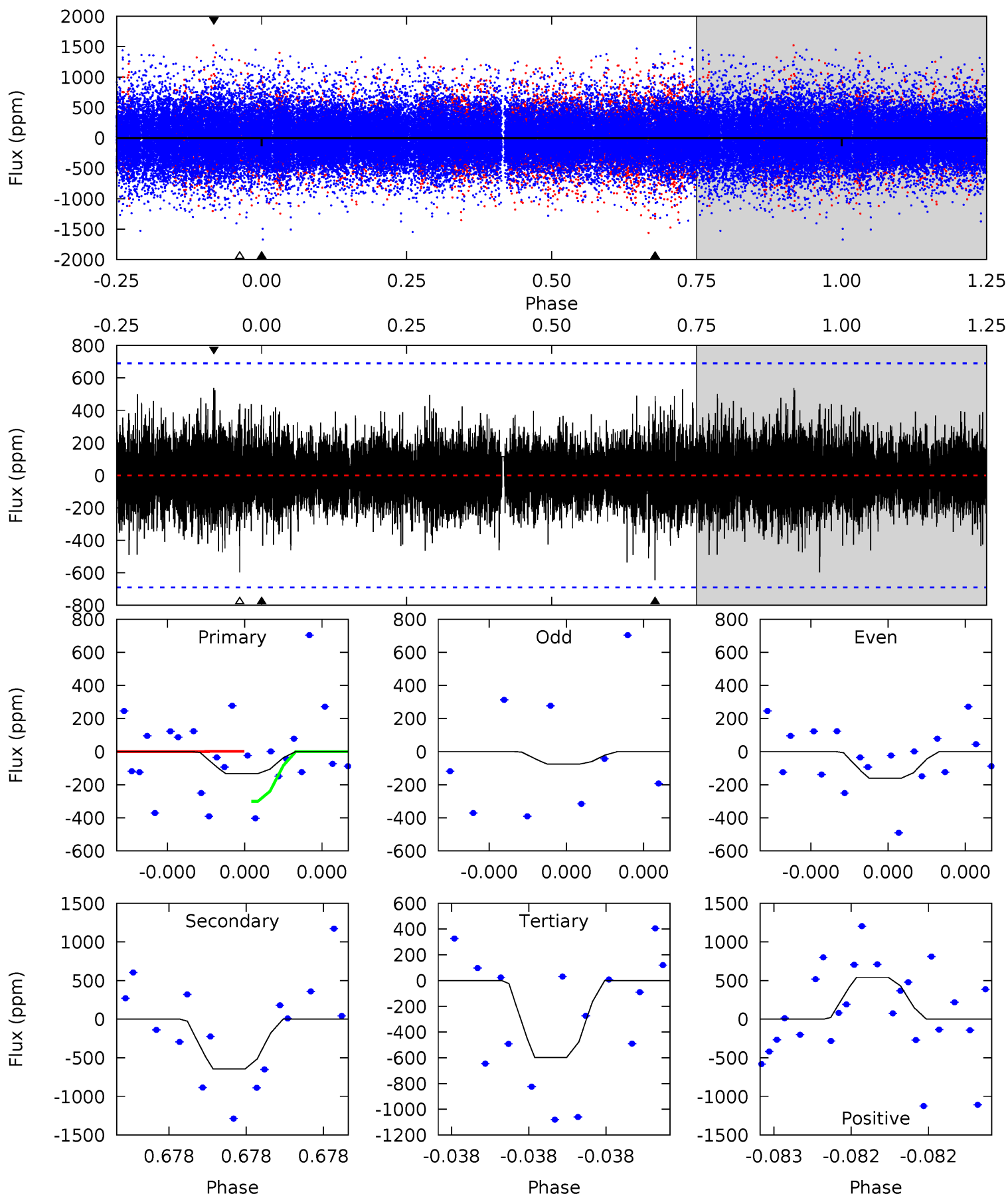
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008610483-06, P = 484.363917 Days, E = 120.903280 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.12	5.42	5.02	4.54	5.81	3.83	1.01	-3.90	-3.42	0.40	0.88	0.31	1.74	0.46	1.26



Stellar Parameters For KIC 008610483

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6170^{+168}_{-205}	$4.472^{+0.052}_{-0.208}$	$-0.160^{+0.250}_{-0.350}$	$0.992^{+0.322}_{-0.107}$	$1.063^{+0.145}_{-0.145}$	$1.535^{+0.433}_{-0.809}$
	+3%/-3%	+1%/-5%	+156%/-219%	+32%/-11%	+14%/-14%	+28%/-53%
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 008610483-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$10.03^{+9.61}_{-7.10}$	347^{+26}_{-16}	-4429^{+23688}_{-13657}	$-13527.259^{+1403383.818}_{-1192107.641}$
Alt.	-645 ± 119	$8.46^{+8.48}_{-5.77}$	350^{+23}_{-19}	3941^{+2277}_{-790}	7310^{+63333}_{-5508}

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 $A_{obs} \gg 1.0$

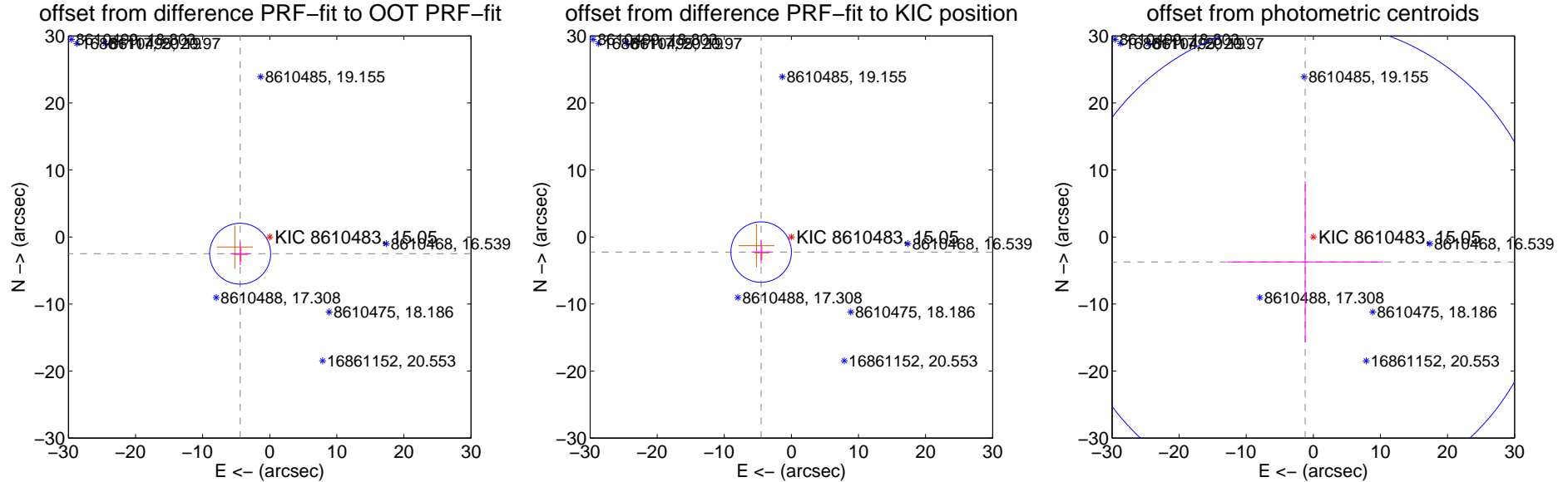
DV Centroid Data

Supplemental centroid analysis for 008610483-06. Kepler magnitude: 15.05. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.063 ± 1.515	3.34	4.407 ± 1.450	-2.493 ± 1.702
PRF-fit source offset from KIC position	5.036 ± 1.503	3.35	4.505 ± 1.450	-2.252 ± 1.702
photometric centroid source offset	3.92 ± 11.99	0.33	1.21 ± 11.64	-3.73 ± 12.02

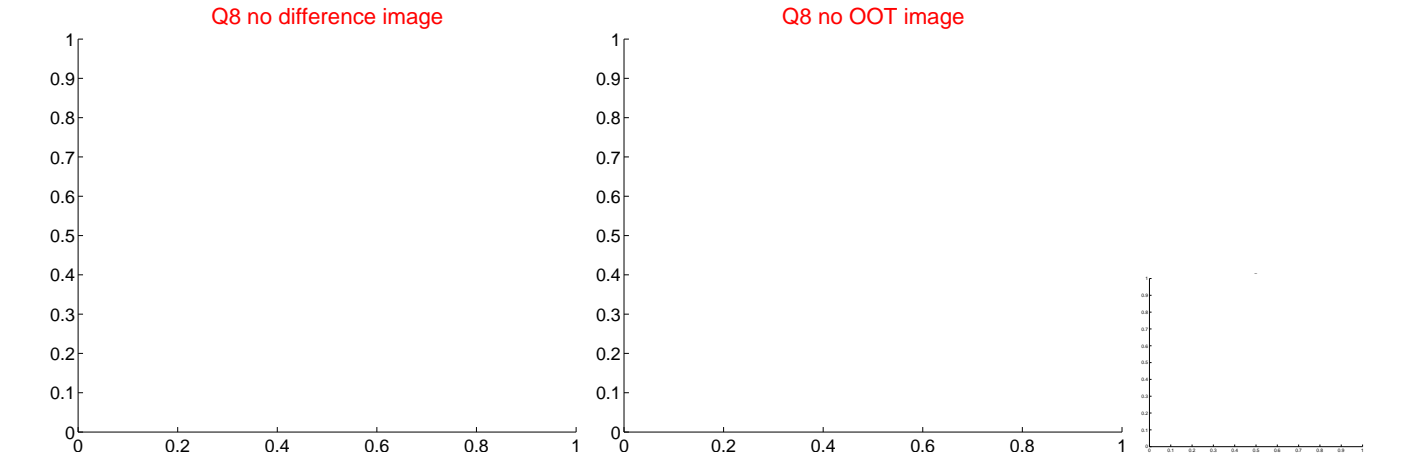
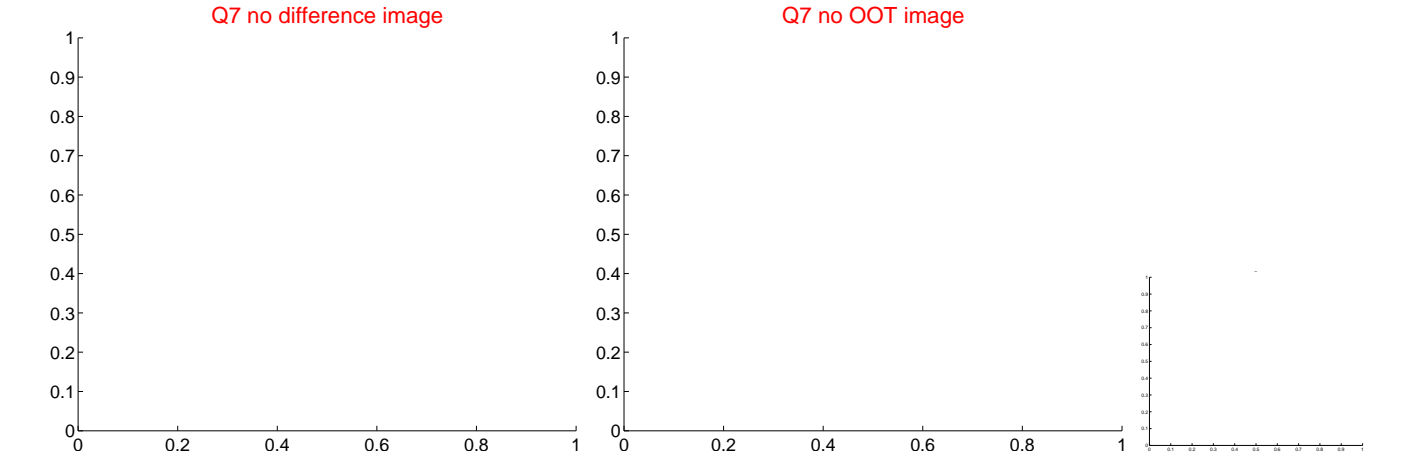
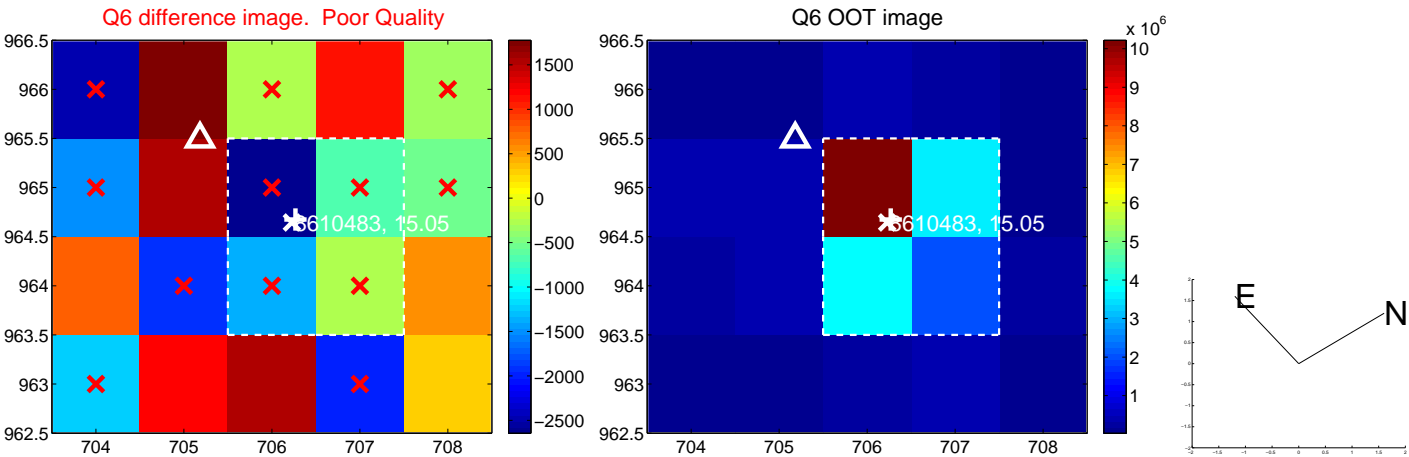
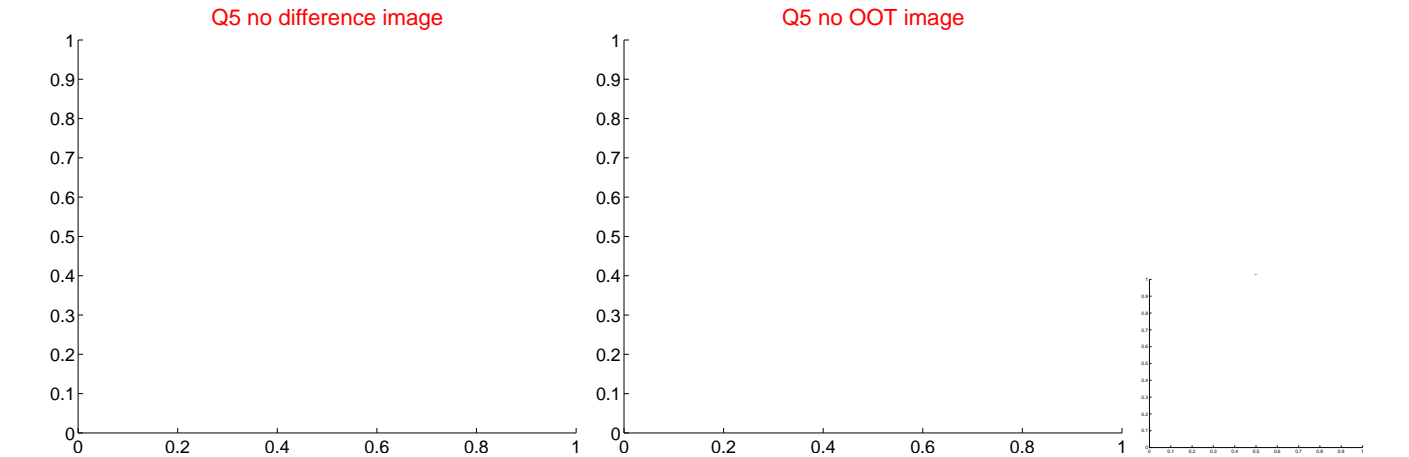


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

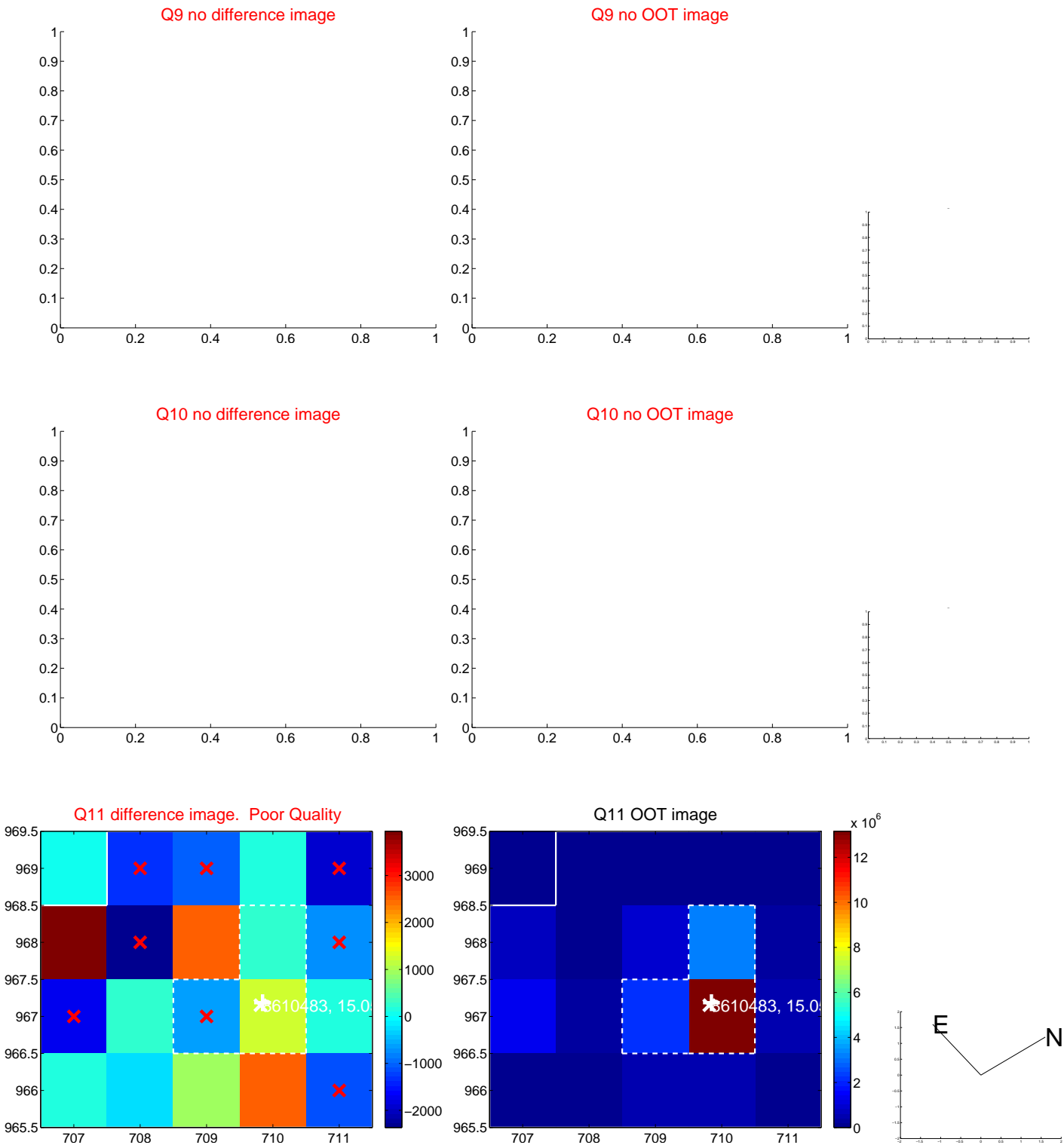
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



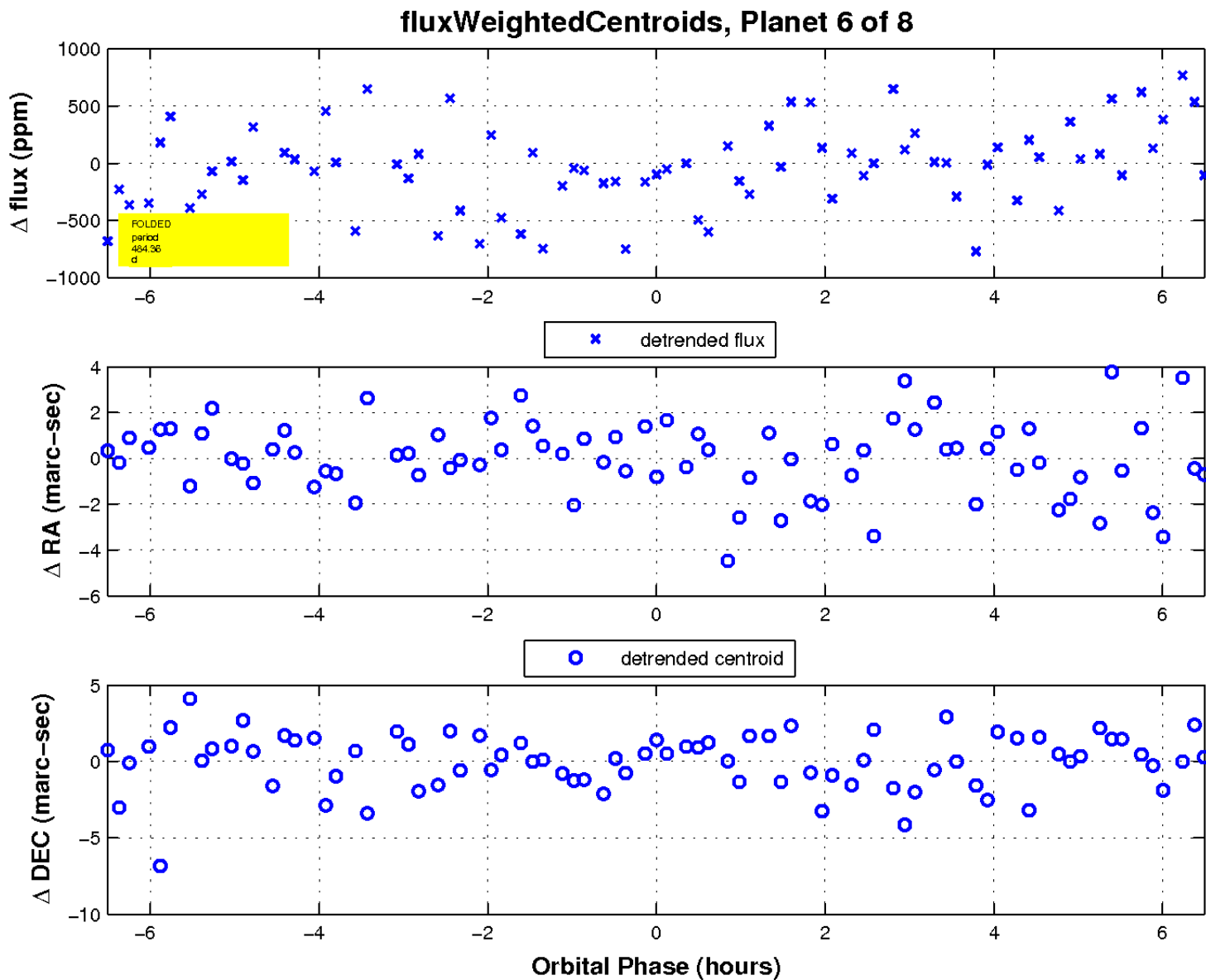
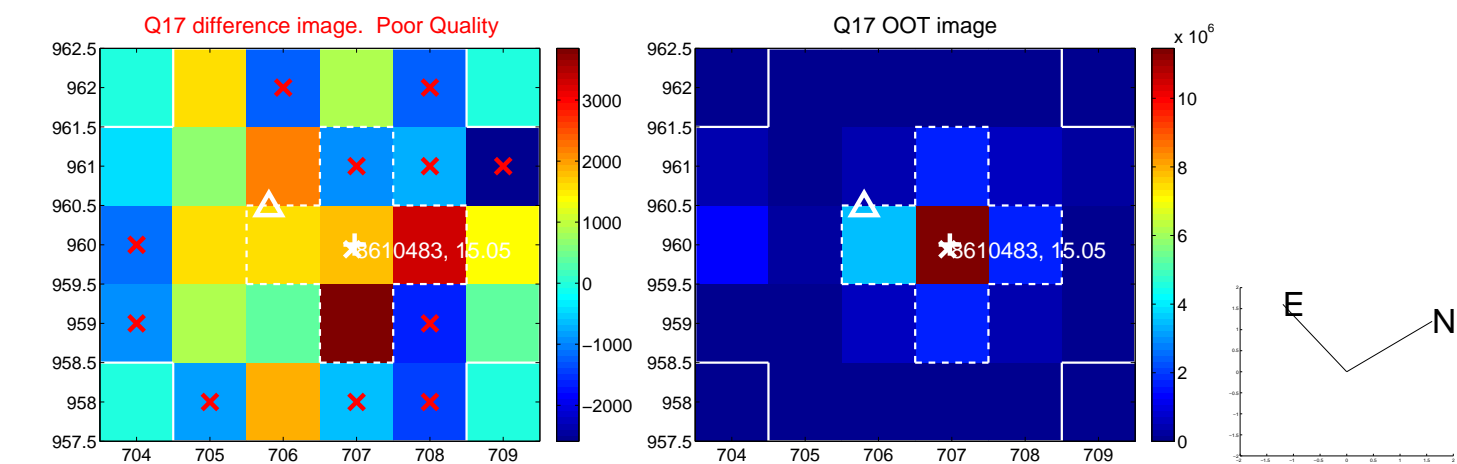
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

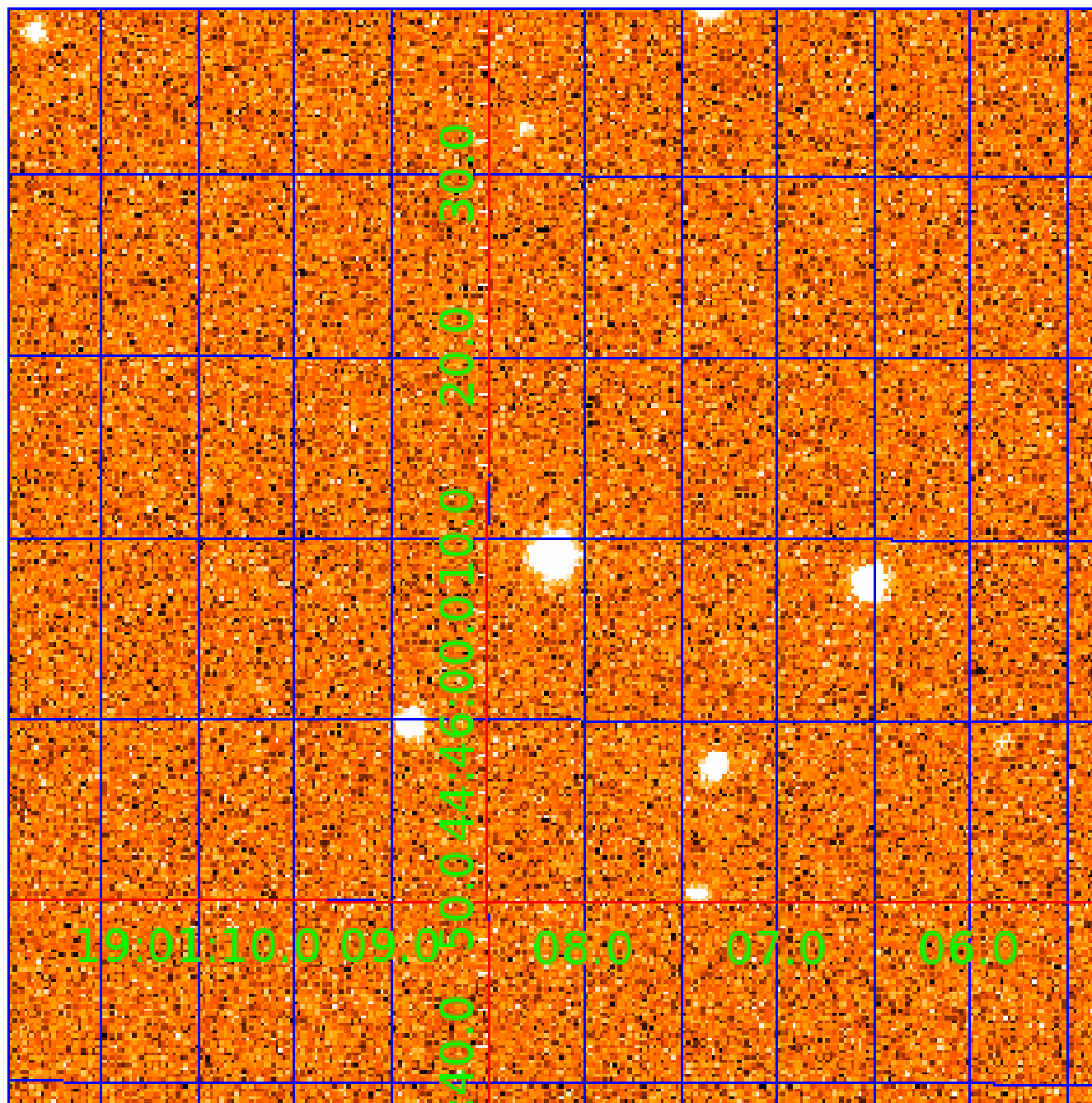


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008610483

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})
008610483-01	OBS	7068.01	48.799553	160.189495	330161.0	5.000	5592.0	-1.0	0.99	6170	49.74	17.94
008610483-02	OBS	No	48.799299	146.114721	127773.9	16.474	2737.2	2576.2	0.99	6170	52.19	17.94
008610483-03	OBS	No	290.558412	213.796940	6860.6	15.000	76.5	-1.0	0.99	6170	8.22	1.66
008610483-04	OBS	No	216.370967	313.376489	6234.3	15.000	67.1	-1.0	0.99	6170	7.84	2.46
008610483-05	OBS	No	461.220593	576.364405	1877.3	20.726	22.9	8.4	0.99	6170	7.55	0.90
008610483-06	OBS	No	484.363917	604.888467	1854.6	7.500	21.8	-1.0	0.99	6170	4.27	0.84
008610483-07	OBS	No	318.472074	354.503228	338.4	1.182	22.4	1.8	0.99	6170	1.91	1.47
008610483-08	OBS	No	219.246981	308.479786	4753.0	2.500	23.5	-1.0	0.99	6170	6.86	2.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008610483-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
008610483-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008610483-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS
008610483-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008610483-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008610483-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008610483-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—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_FEW_DIFFS
008610483-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

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

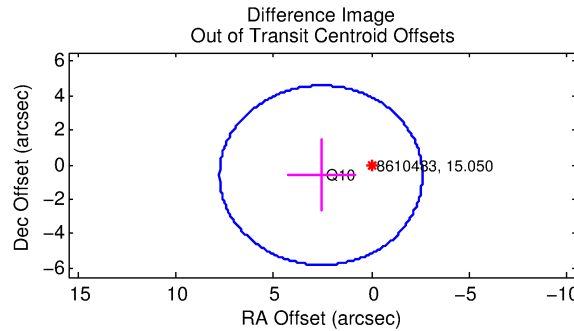
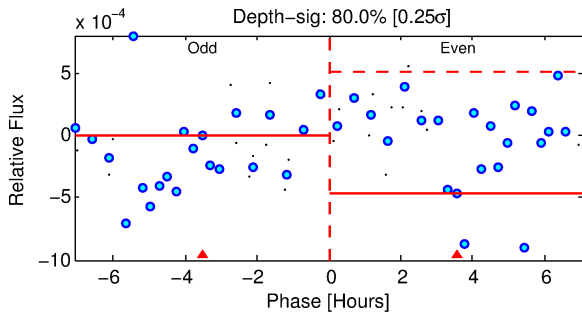
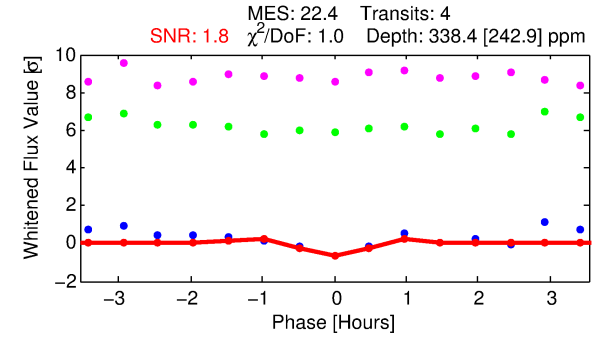
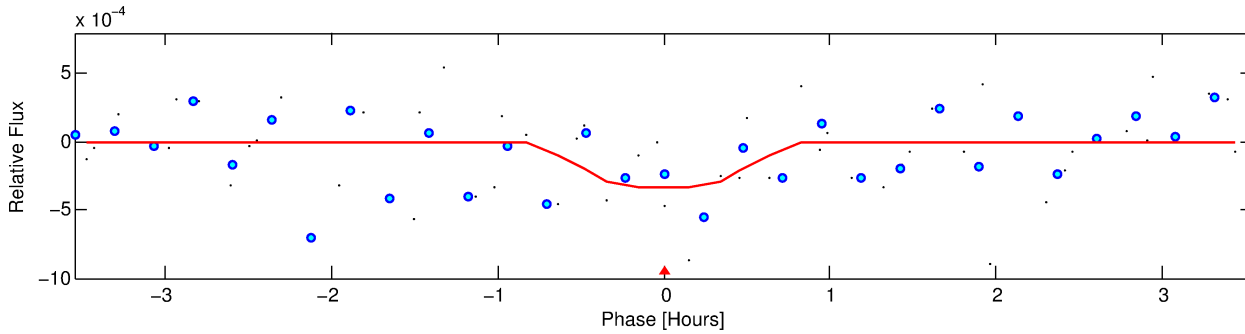
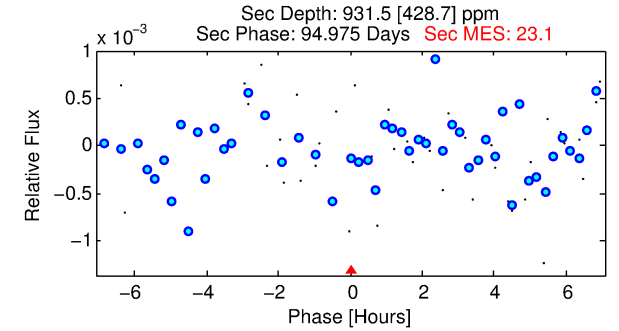
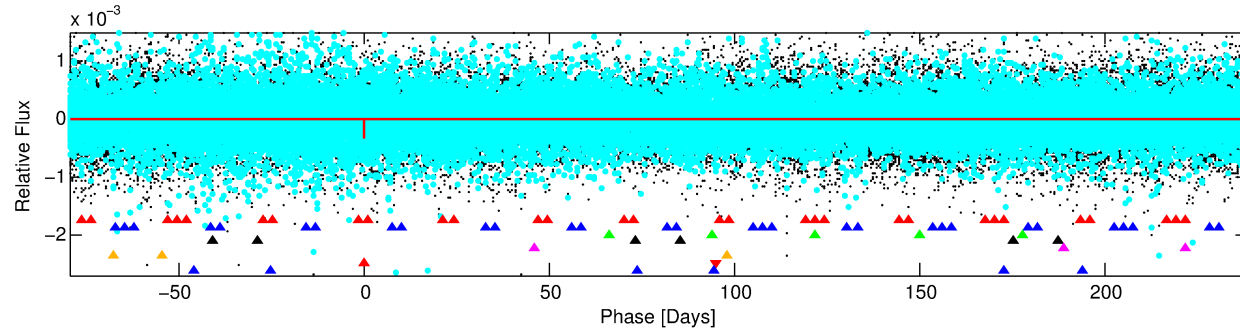
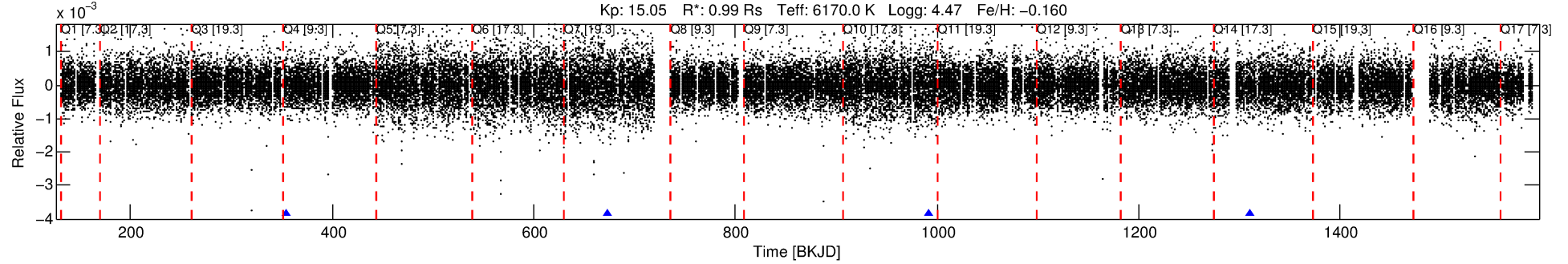
Ephemeris Match Information For 008610483-07

No Significant Match Found

DV One-Page Summary

KIC: 8610483 Candidate: 7 of 8 Period: 318.472 d
KOI: K07068 Corr: No Ephemeris Match

Kp: 15.05 R*: 0.99 Rs Teff: 6170.0 K Logg: 4.47 Fe/H: -0.160



DV Fit Results:

Period = 318.47207 [0.00596] d
Epoch = 354.5032 [0.0163] BKJD
Rp/R* = 0.0177 [0.0739]
a/R* = 1720.03 [35506.86]
b = 0.58 [23.79]
Seff = 1.47 [0.60]
Teq = 281 [29] K
Rp = 1.91 [8.03] Re
a = 0.9320 [0.2506] AU
Ag = 121696.48 [1021093.03] [0.12σ]
Teffp = 8109 [16995] K [0.46σ]

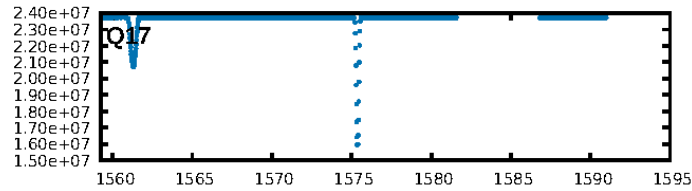
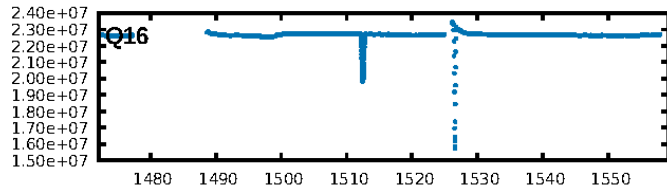
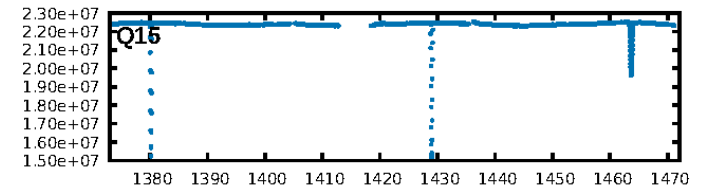
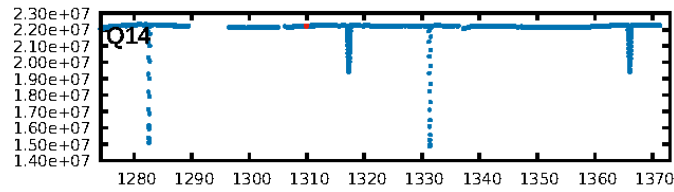
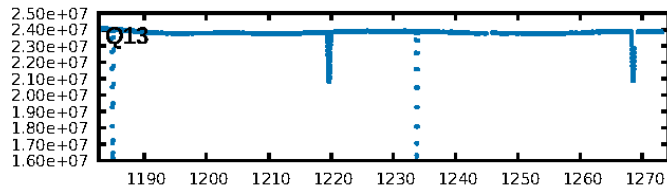
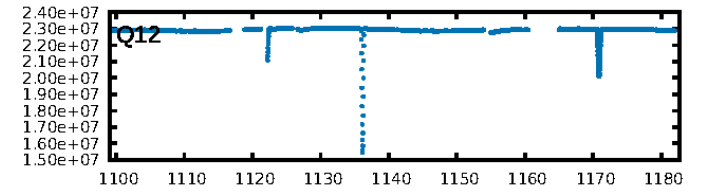
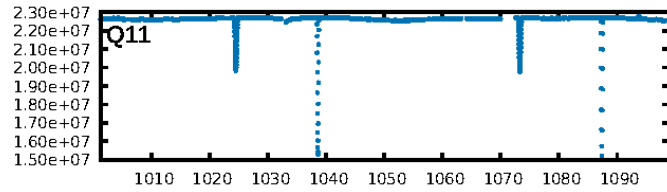
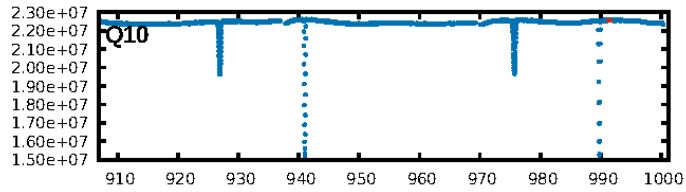
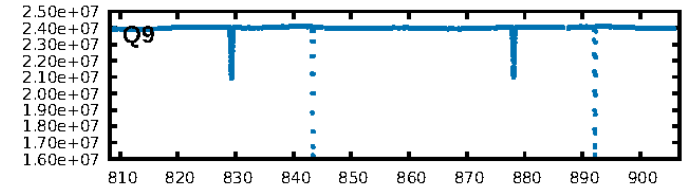
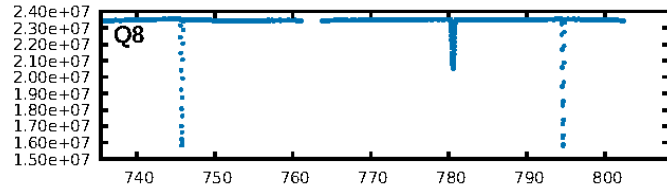
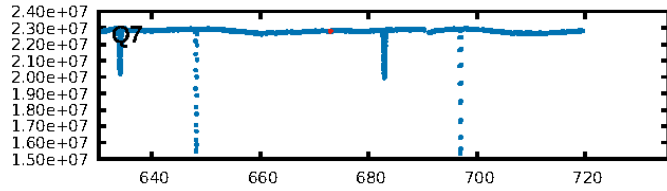
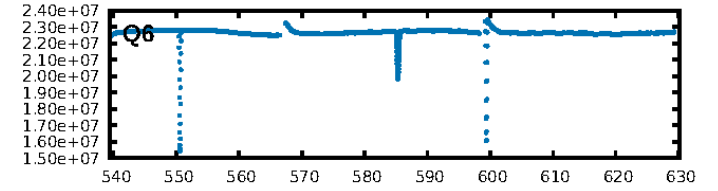
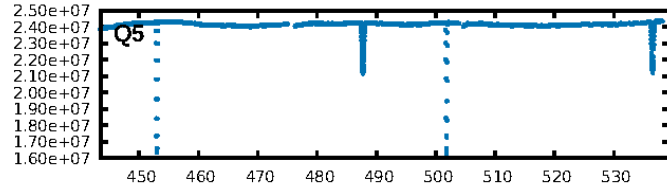
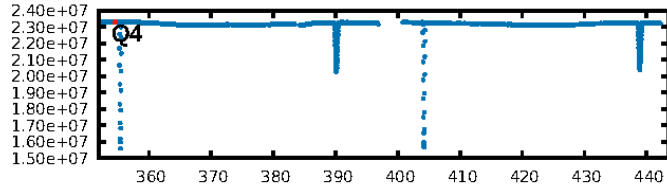
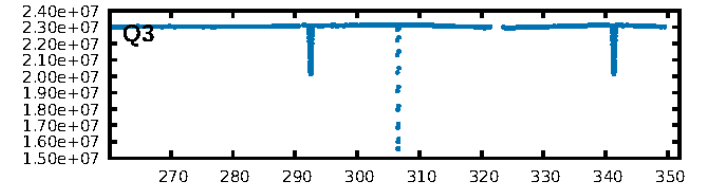
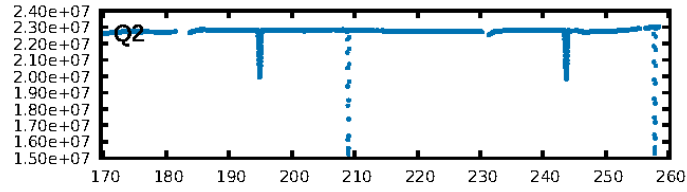
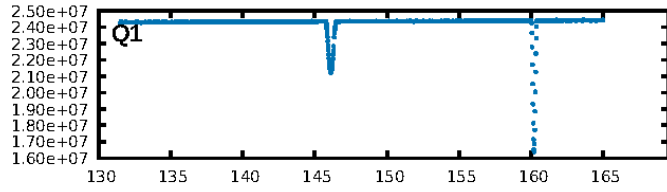
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [44.52σ]
LongPeriod-sig: 100.0% [165.03σ]
ModelChiSquare2-sig: 73.3%
ModelChiSquareGof-sig: 96.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -4.801
Centroid-sig: N/A
Centroid-so: 4.635 arcsec [0.89σ]
OotOffset-rm: 2.652 arcsec [1.53σ]
KicOffset-rm: 2.619 arcsec [1.52σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [4/4]

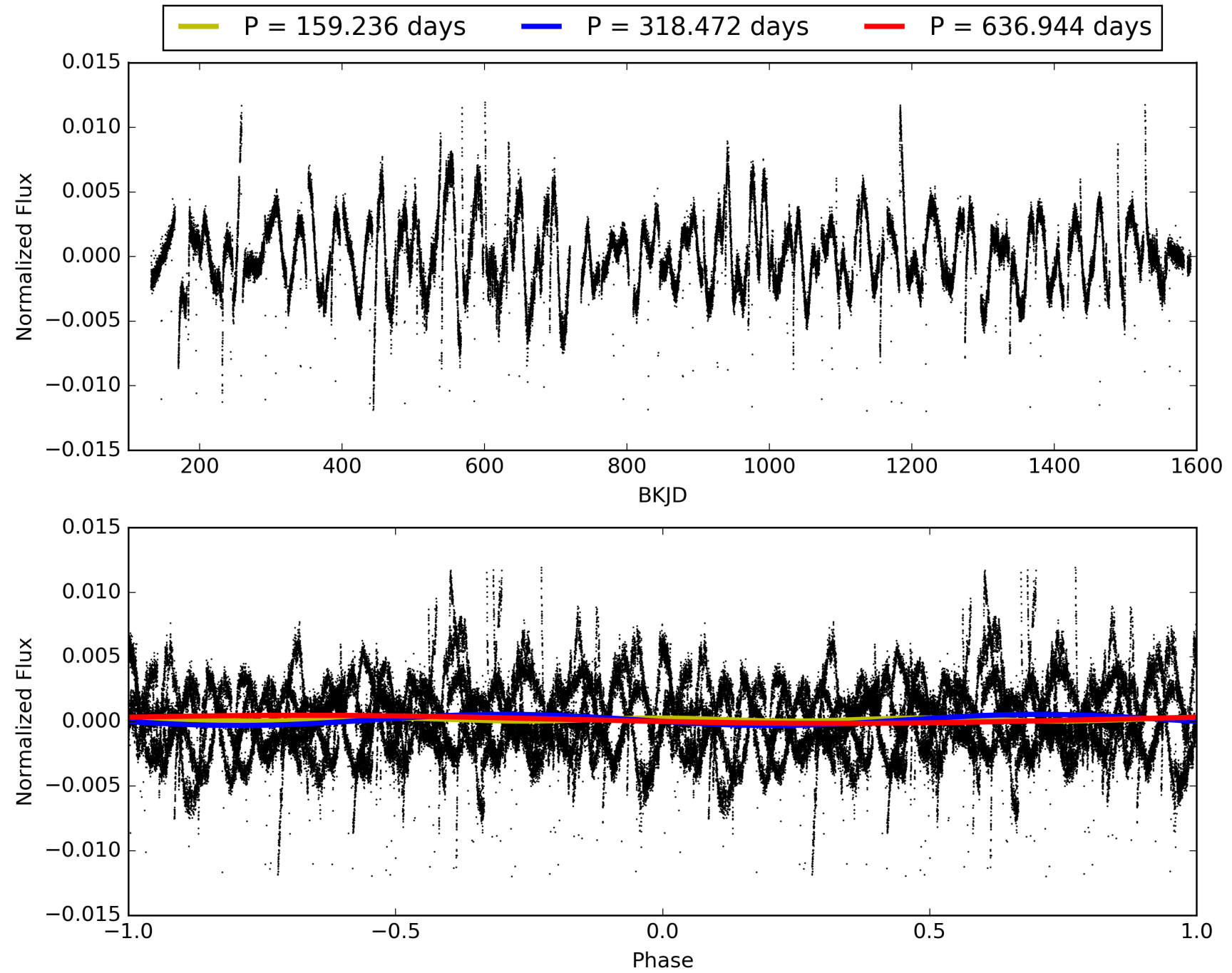
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:56:57 Z

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

TCE 008610483-07, PDC Light Curves

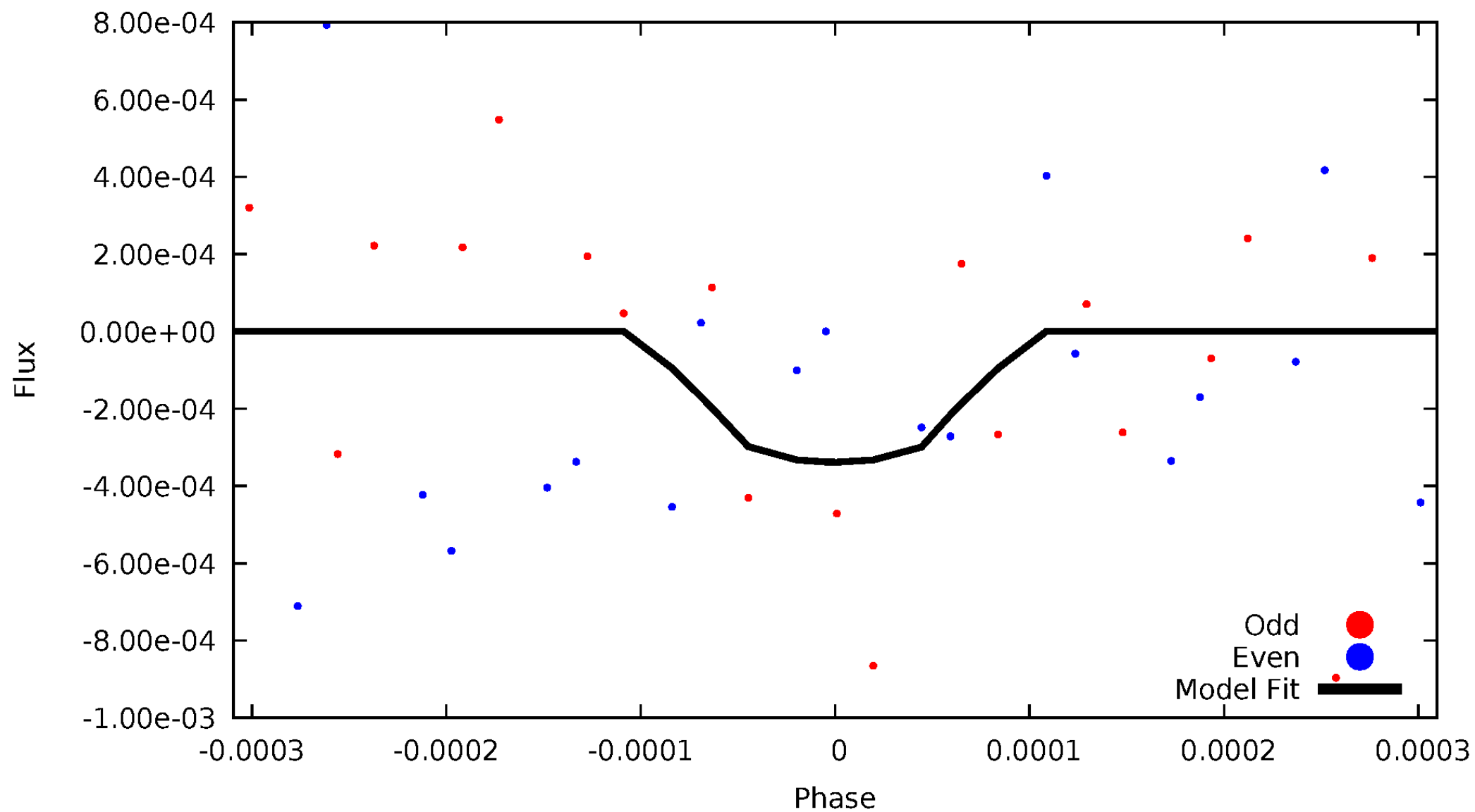


TCE 008610483-07



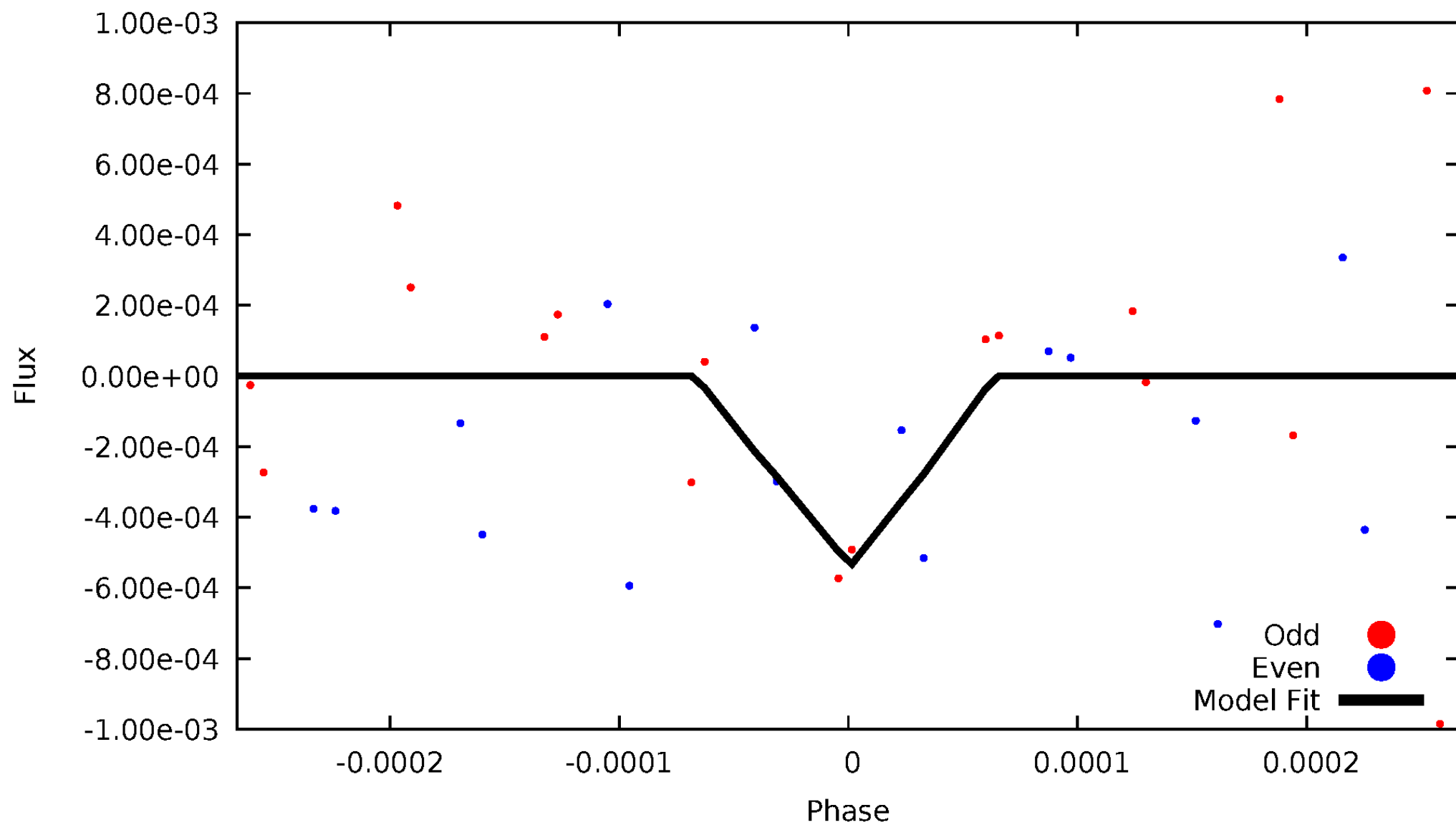
DV Odd/Even

TCE 008610483-07



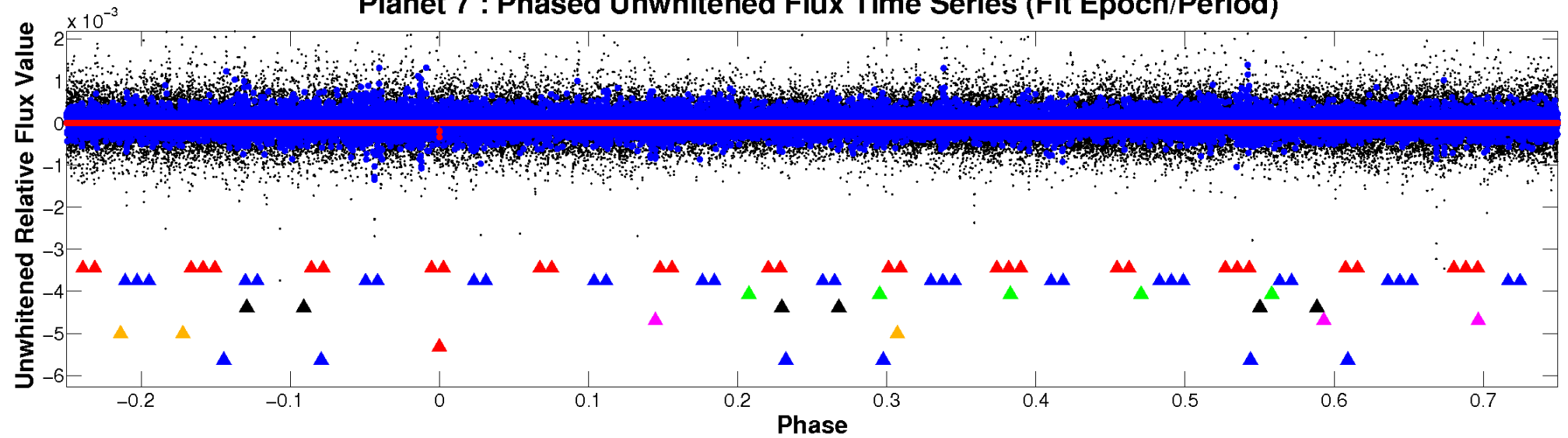
ALT Odd/Even

TCE 008610483-07

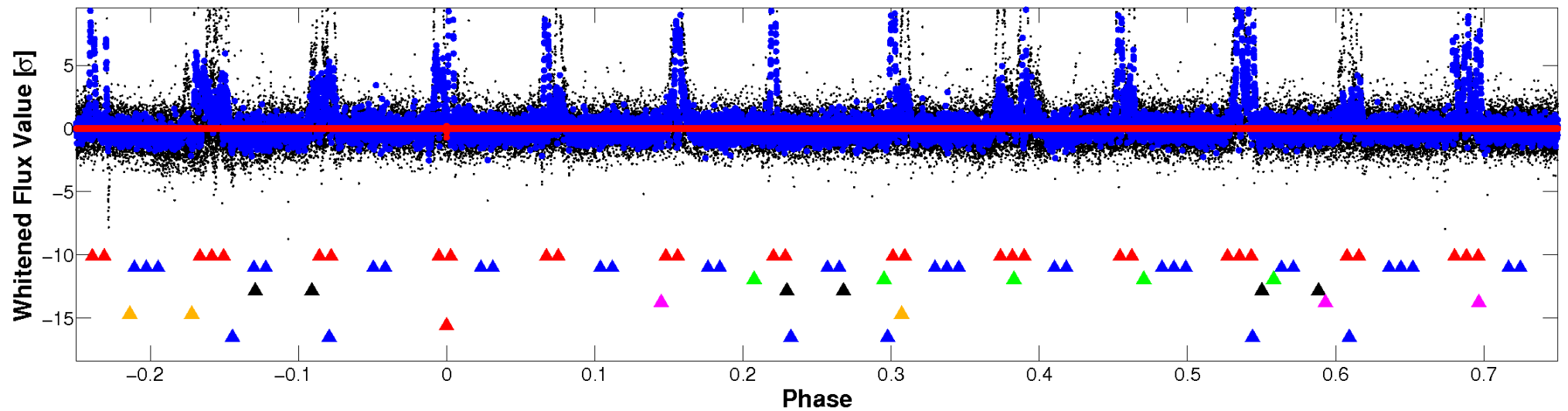


Non-Whitened Vs. Whitened Light Curve

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

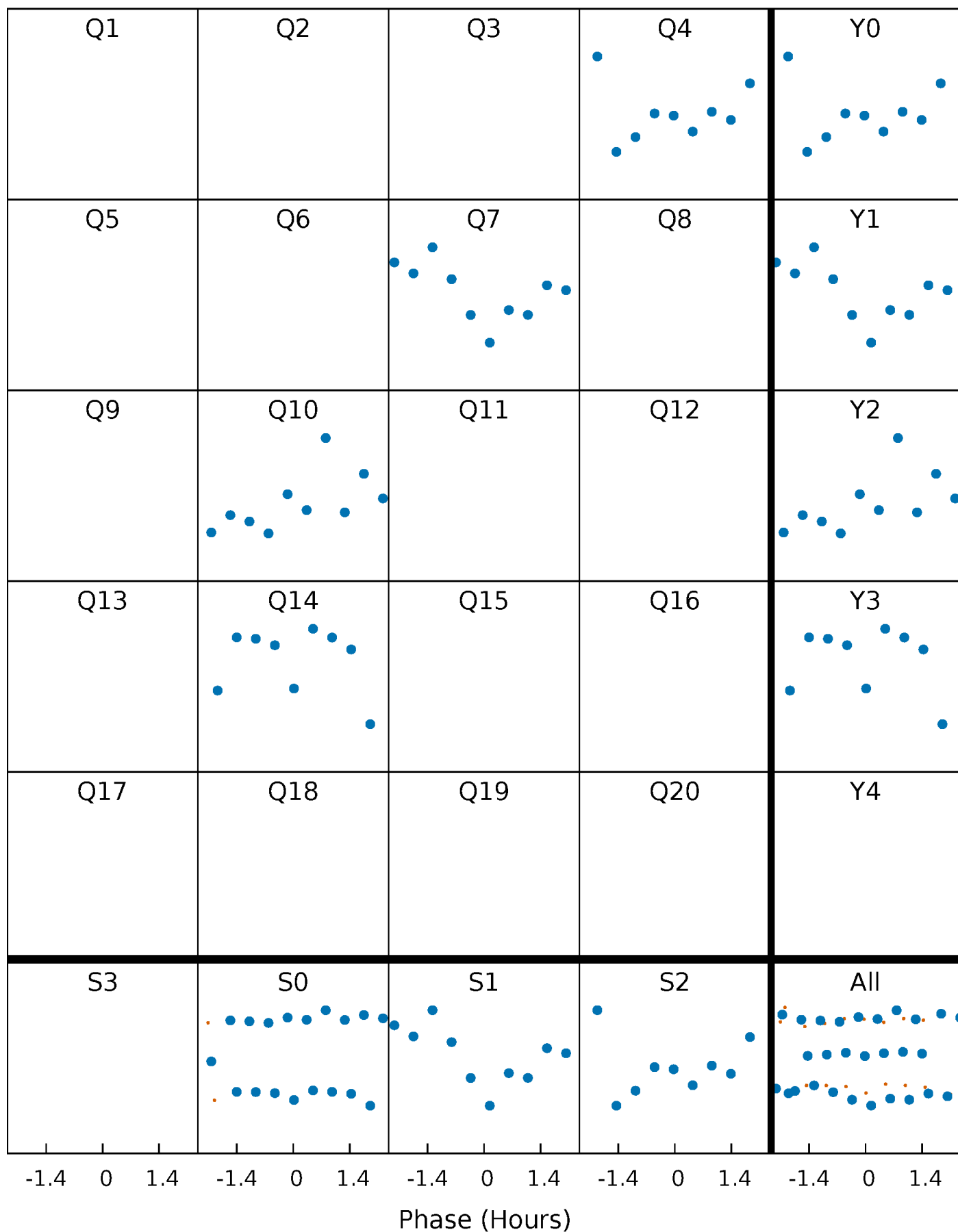


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



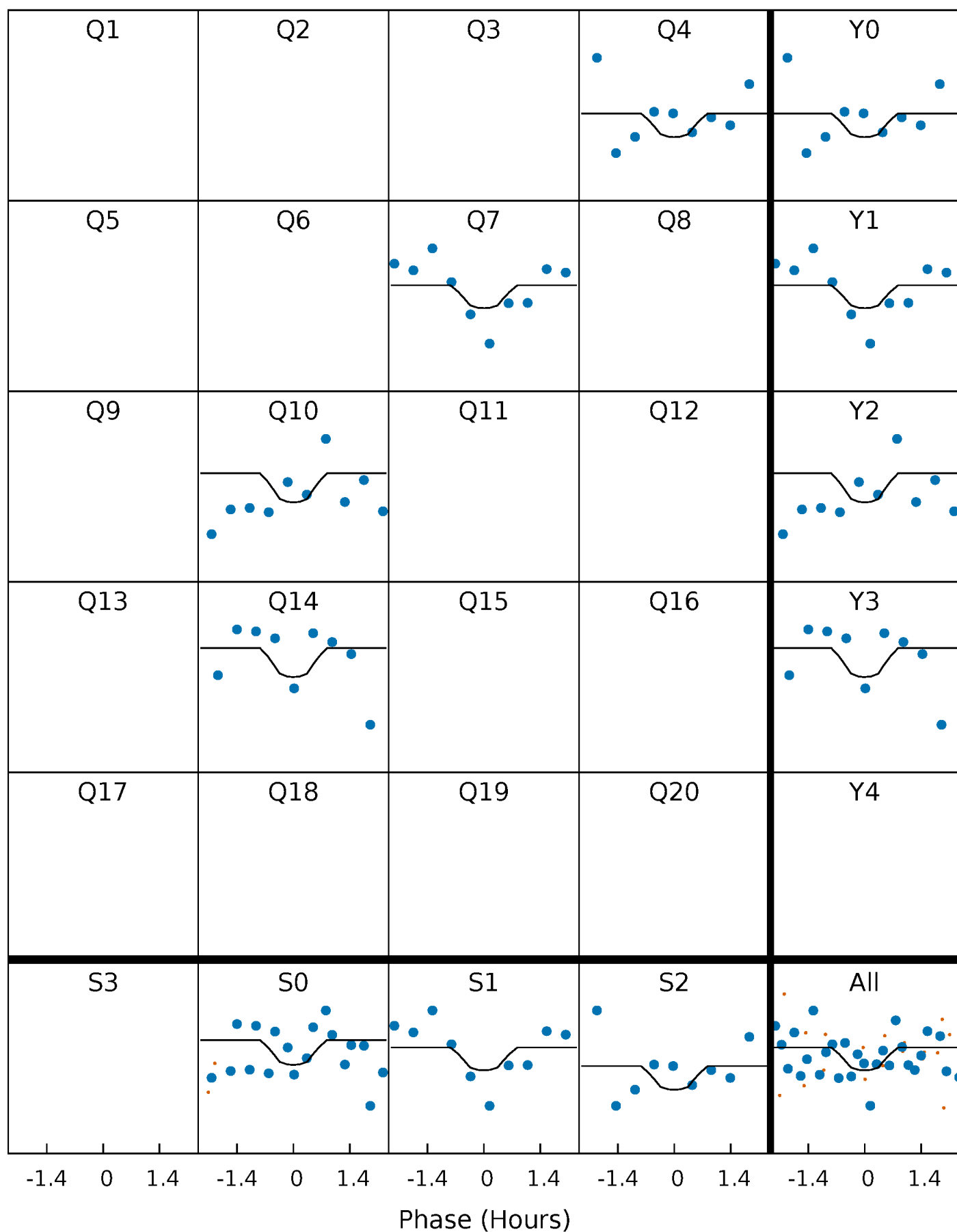
PDC Quarter-Phased Transit Curves

TCE 008610483-07 P=318.472074 Days $T_0=354.503228$ (BKJD)



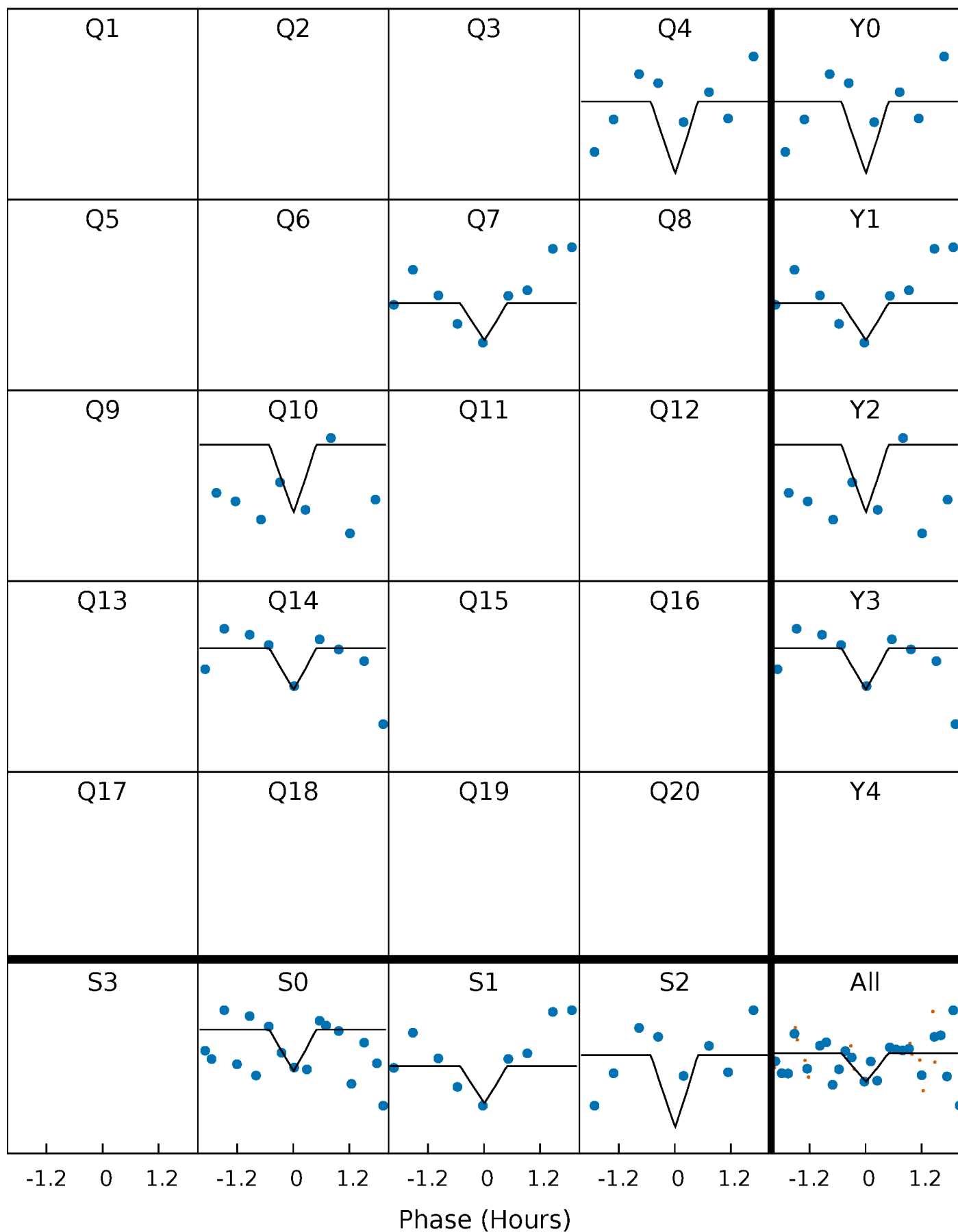
DV Quarter-Phased Transit Curves

TCE 008610483-07 P=318.472074 Days $T_0=354.503228$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

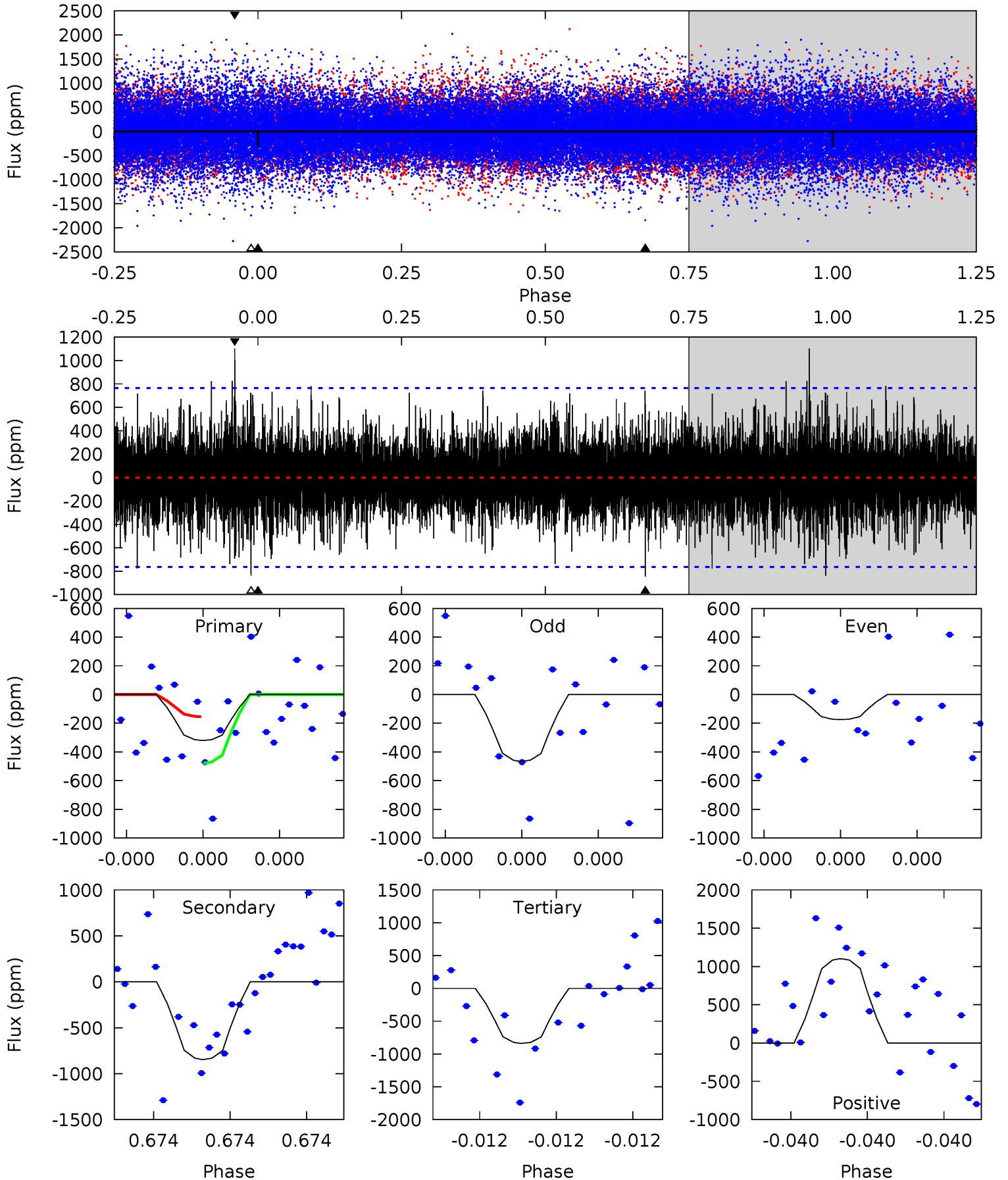
TCE 008610483-07 P=318.468176 Days $T_0=354.514713$ (BKJD)



DV Model-Shift Uniqueness Test

008610483-07, P = 318.472074 Days, E = 36.031154 Days

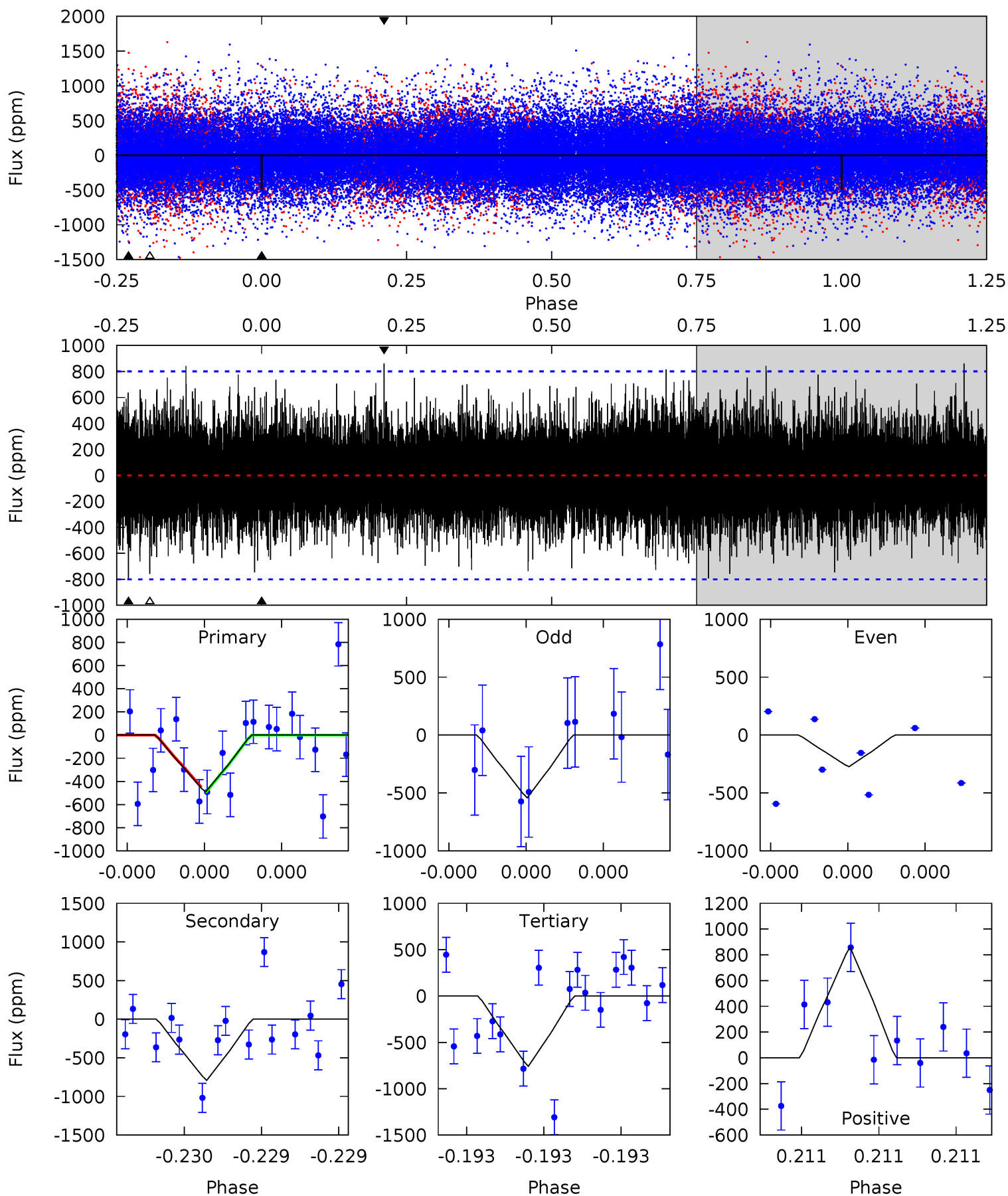
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.41	6.37	6.30	8.30	5.75	3.75	1.46	-3.90	-5.89	0.06	-1.93	1.07	1.44	0.57	1.19



Alt Model-Shift Uniqueness Test

008610483-07, P = 318.468176 Days, E = 36.046537 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.58	5.78	5.53	6.27	5.84	3.88	1.41	-1.95	-2.69	0.25	-0.49	0.98	0.89	0.52	0.16



Stellar Parameters For KIC 008610483

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6170^{+168}_{-205}	$4.472^{+0.052}_{-0.208}$	$-0.160^{+0.250}_{-0.350}$	$0.992^{+0.322}_{-0.107}$	$1.063^{+0.145}_{-0.145}$	$1.535^{+0.433}_{-0.809}$
	+3%/-3%	+1%/-5%	+156%/-219%	+32%/-11%	+14%/-14%	+28%/-53%
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 008610483-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-845 ± 133	$6.62^{+6.32}_{-4.59}$	401^{+27}_{-20}	4549^{+3601}_{-951}	9208^{+90707}_{-6863}
Alt.	-793 ± 137	$6.71^{+6.60}_{-4.59}$	401^{+31}_{-21}	4444^{+3095}_{-946}	8090^{+69870}_{-6025}

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

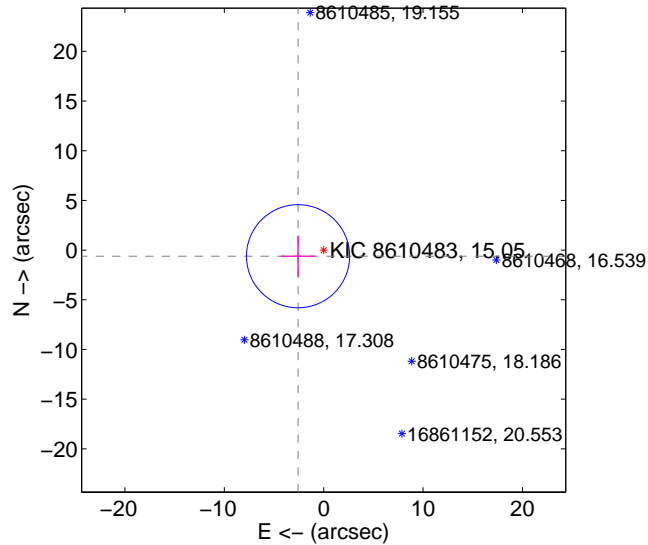
Supplemental centroid analysis for 008610483-07. Kepler magnitude: 15.05. Transit SNR 1.83

There are 0 quarters with good PRF difference image offsets

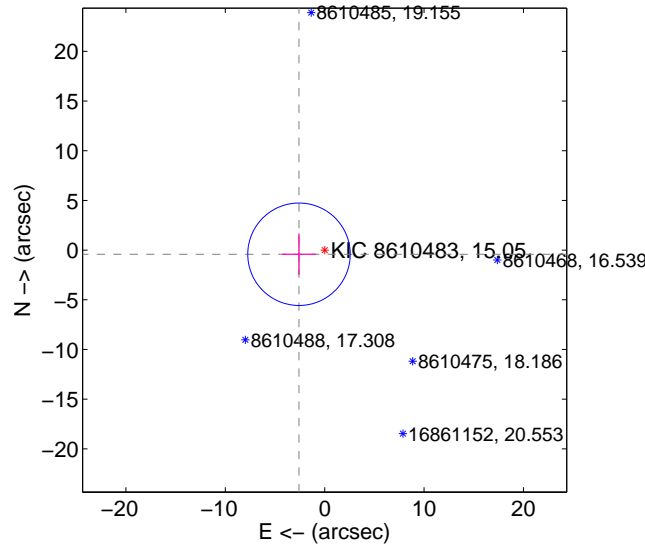
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.652 ± 1.730	1.53	2.580 ± 1.708	-0.615 ± 2.068
PRF-fit source offset from KIC position	2.619 ± 1.718	1.52	2.585 ± 1.708	-0.418 ± 2.068
photometric centroid source offset	4.63 ± 5.22	0.89	3.37 ± 5.26	3.18 ± 5.17

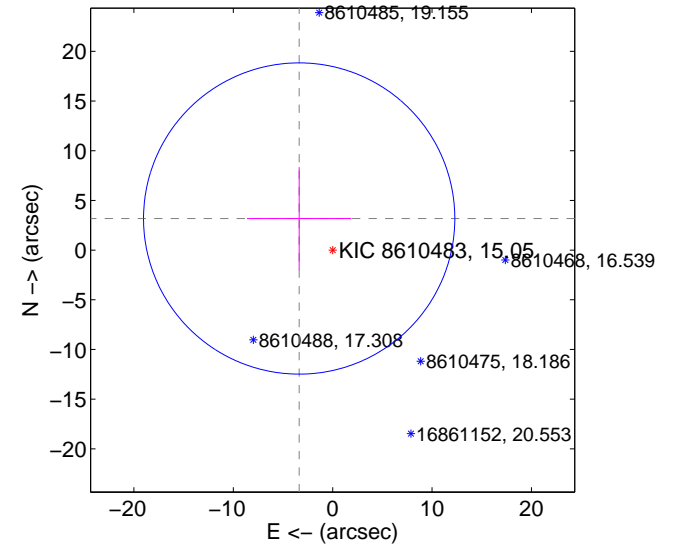
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

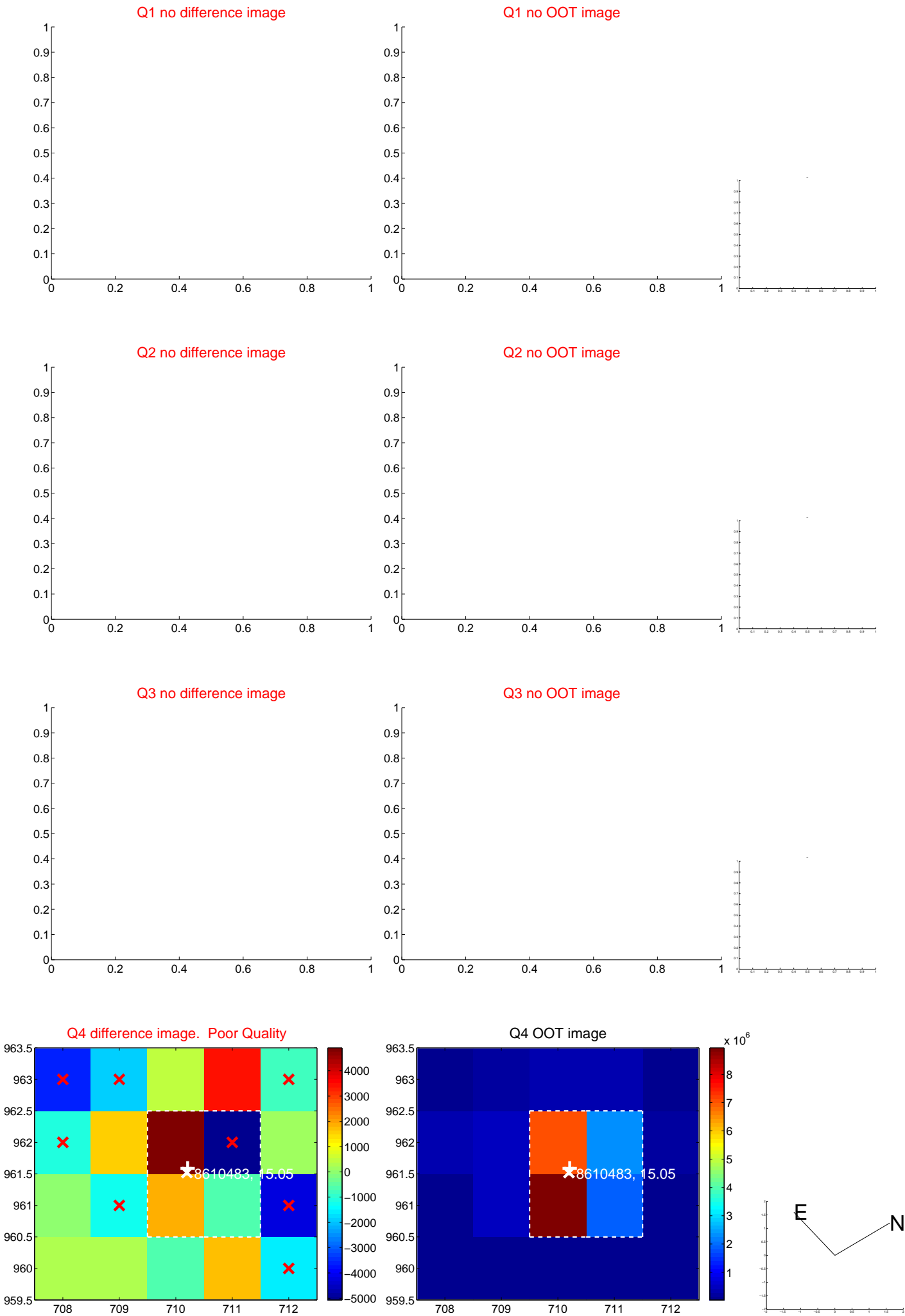


offset from photometric centroids



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

white ×: 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.

Q5 no difference image



Q5 no OOT image



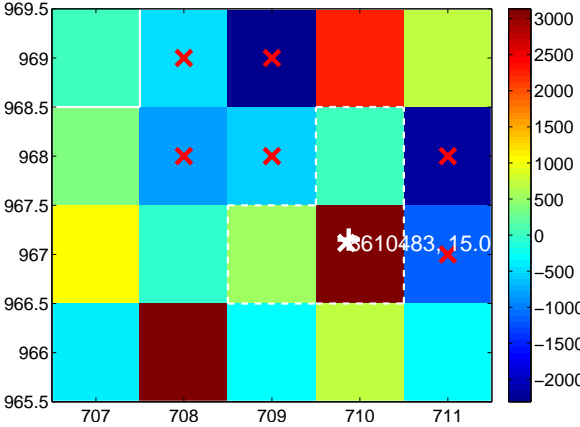
Q6 no difference image



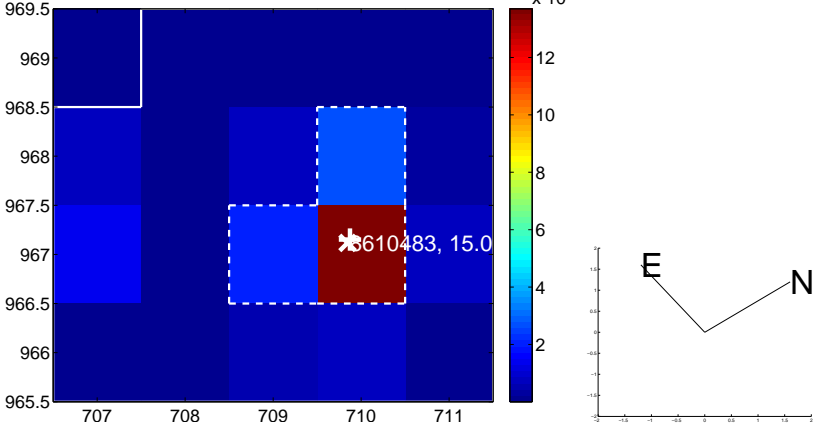
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



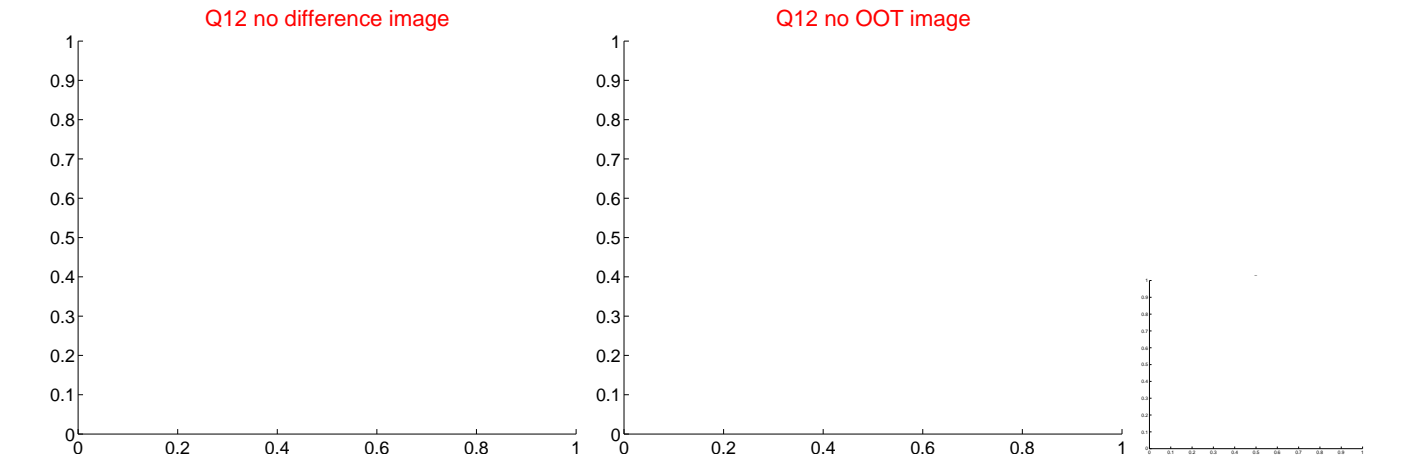
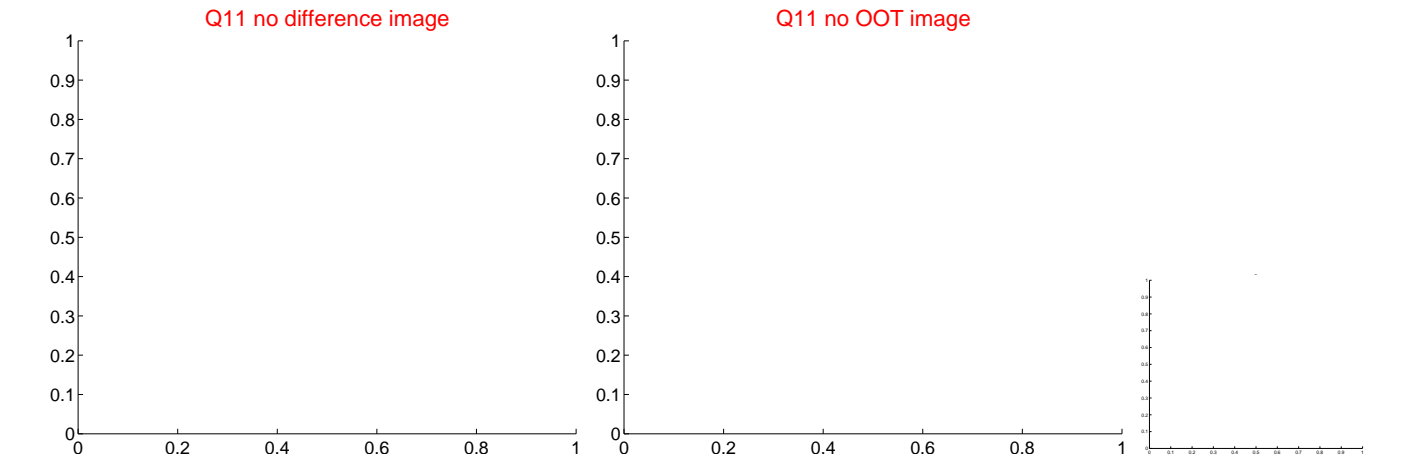
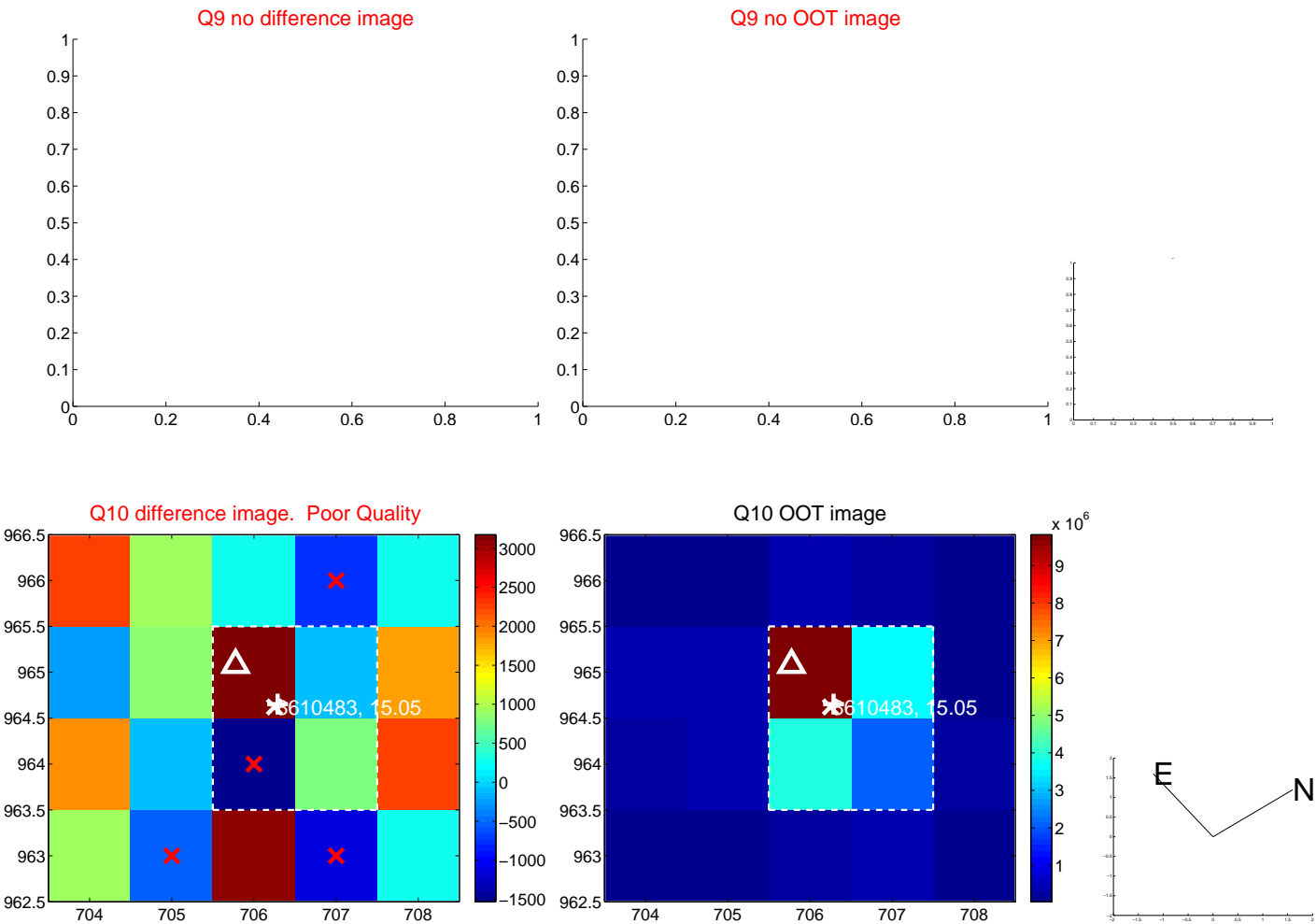
Q8 no difference image



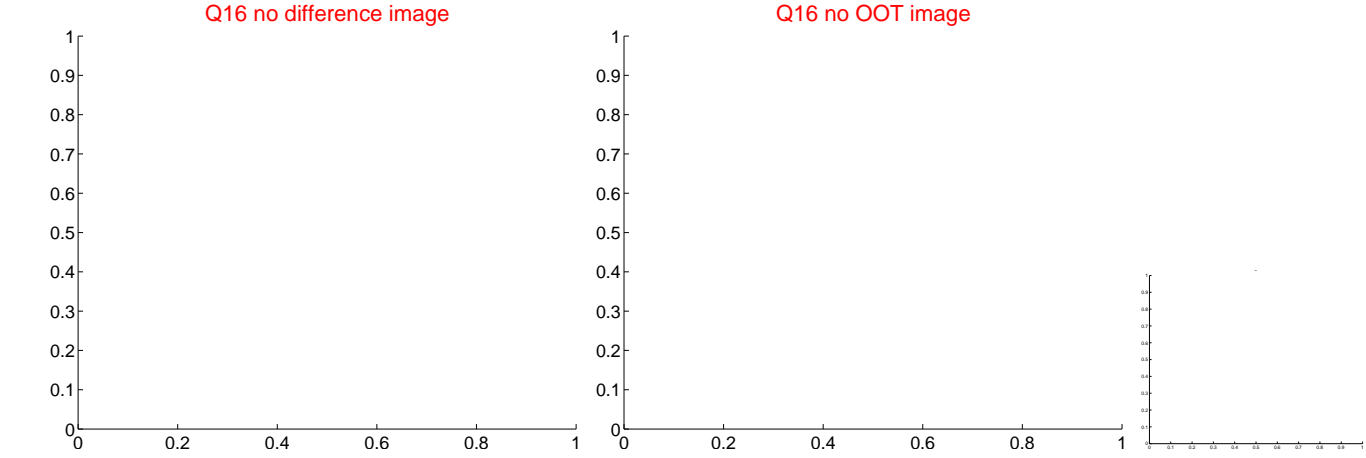
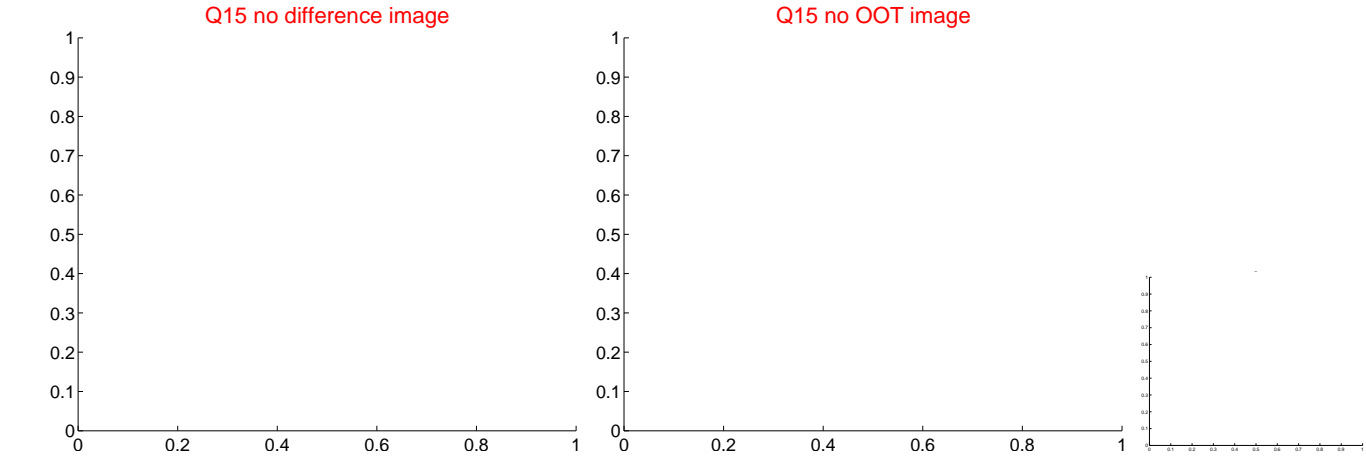
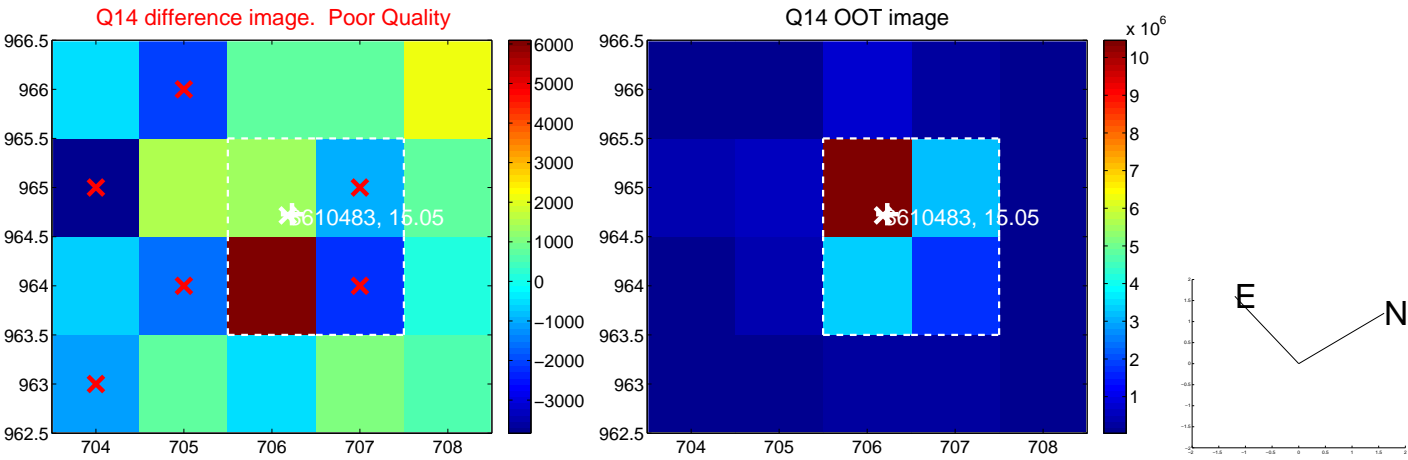
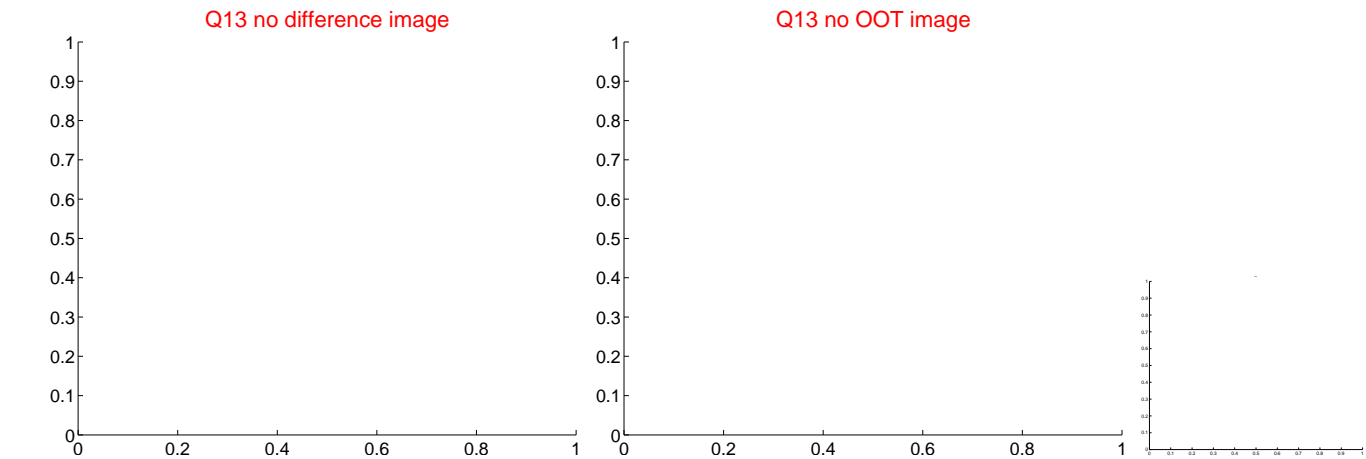
Q8 no OOT image



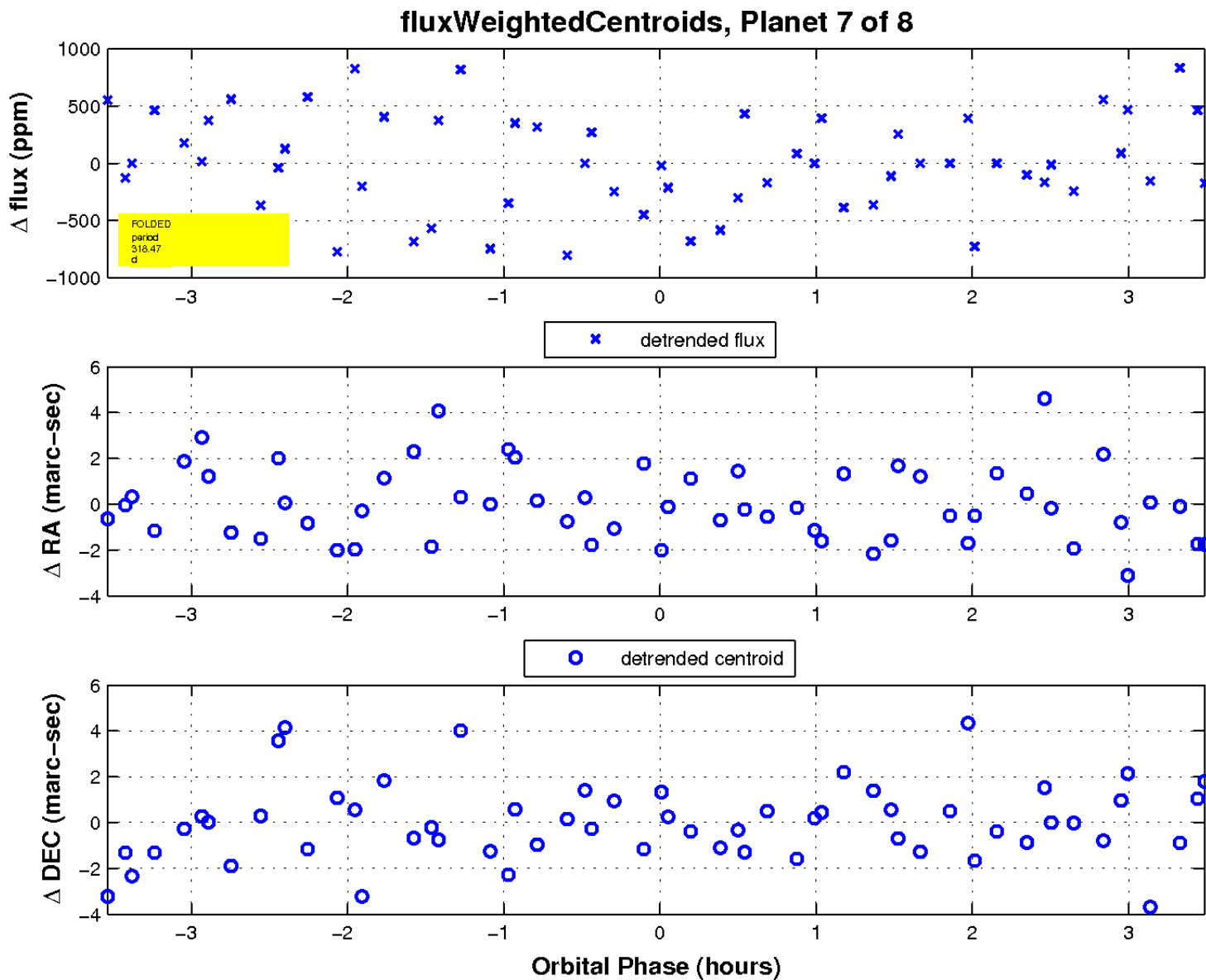
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

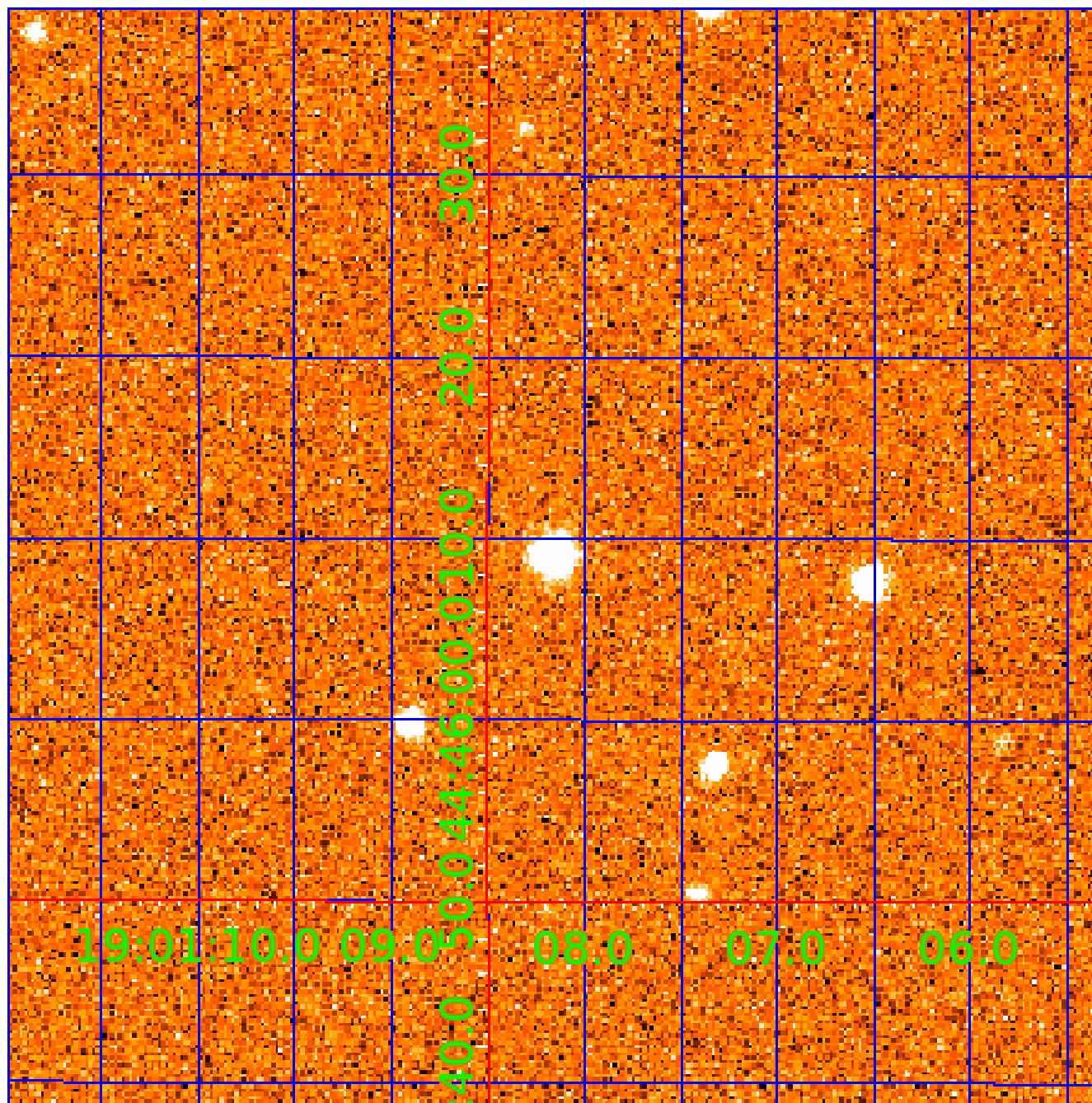


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008610483

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})
008610483-01	OBS	7068.01	48.799553	160.189495	330161.0	5.000	5592.0	-1.0	0.99	6170	49.74	17.94
008610483-02	OBS	No	48.799299	146.114721	127773.9	16.474	2737.2	2576.2	0.99	6170	52.19	17.94
008610483-03	OBS	No	290.558412	213.796940	6860.6	15.000	76.5	-1.0	0.99	6170	8.22	1.66
008610483-04	OBS	No	216.370967	313.376489	6234.3	15.000	67.1	-1.0	0.99	6170	7.84	2.46
008610483-05	OBS	No	461.220593	576.364405	1877.3	20.726	22.9	8.4	0.99	6170	7.55	0.90
008610483-06	OBS	No	484.363917	604.888467	1854.6	7.500	21.8	-1.0	0.99	6170	4.27	0.84
008610483-07	OBS	No	318.472074	354.503228	338.4	1.182	22.4	1.8	0.99	6170	1.91	1.47
008610483-08	OBS	No	219.246981	308.479786	4753.0	2.500	23.5	-1.0	0.99	6170	6.86	2.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008610483-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
008610483-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008610483-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS
008610483-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008610483-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008610483-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008610483-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—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_FEW_DIFFS
008610483-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

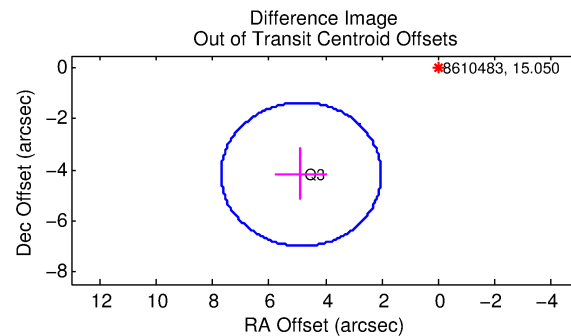
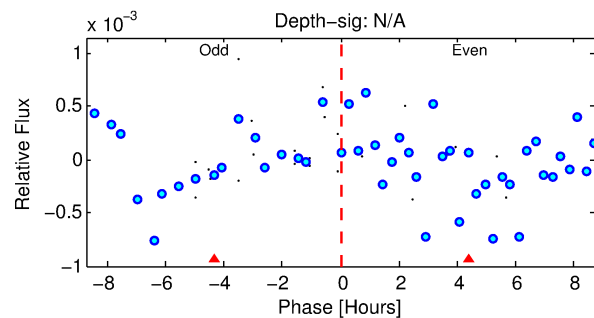
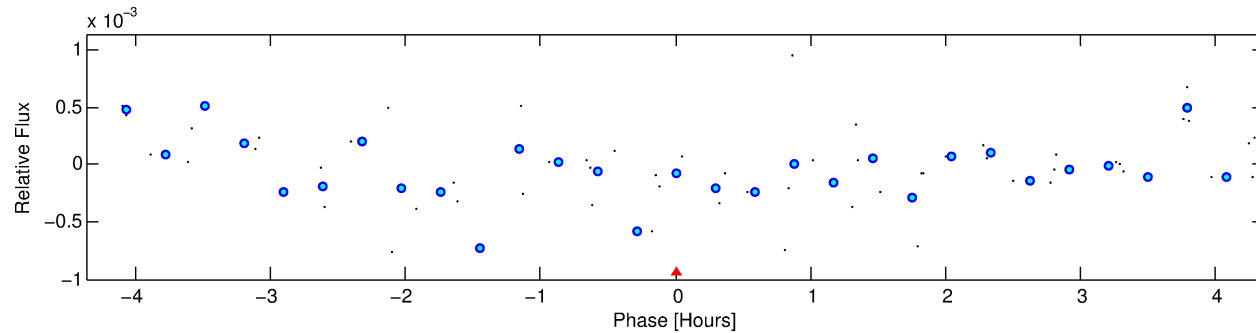
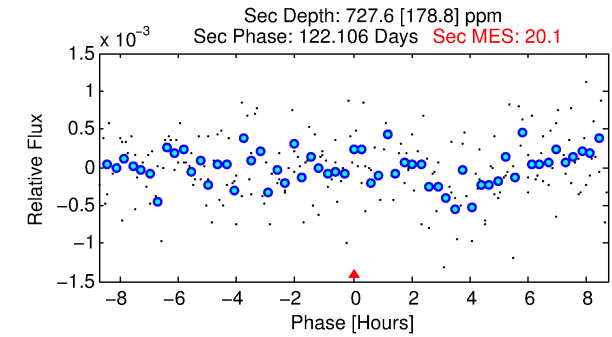
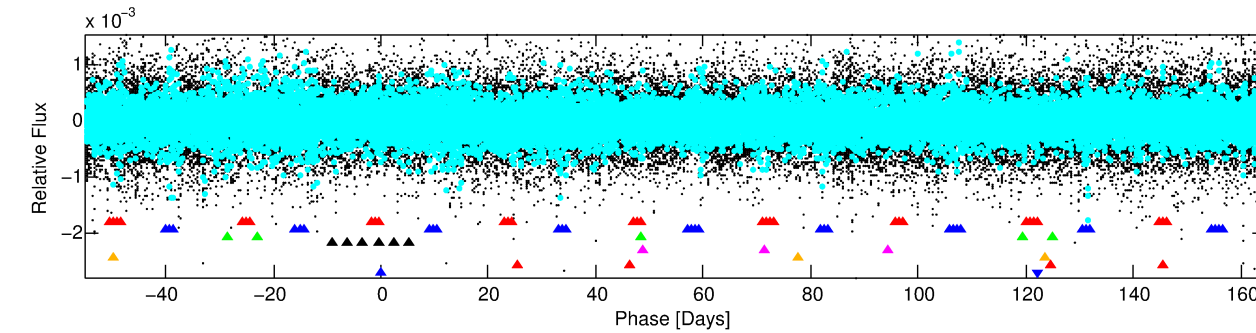
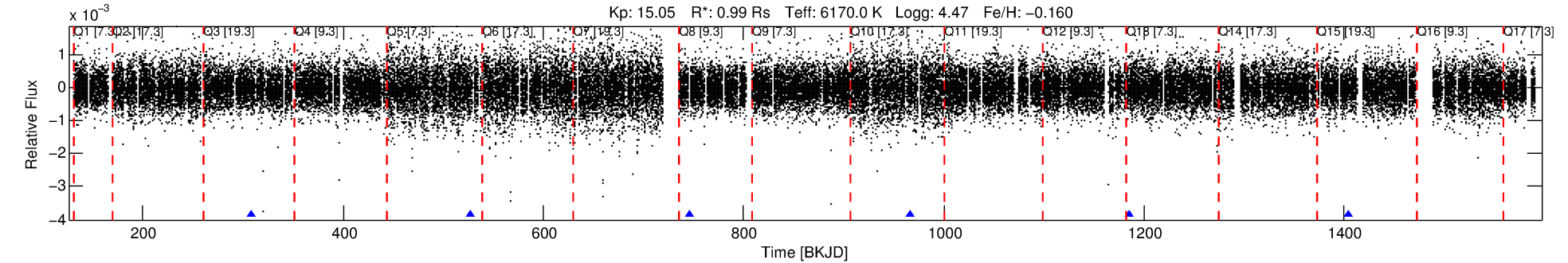
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008610483-08

No Significant Match Found

DV One-Page Summary

KIC: 8610483 Candidate: 8 of 8 Period: 219.247 d
KOI: K07068 Corr: No Ephemeris Match



TPS TCE Results:

Period = 219.24698 d
Epoch = 308.4798 BKJD

DV fit results are unavailable

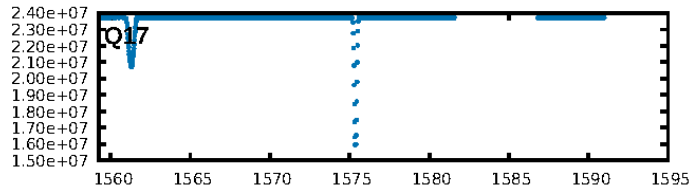
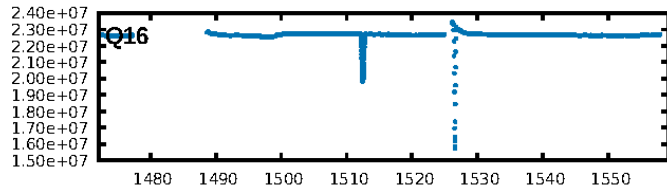
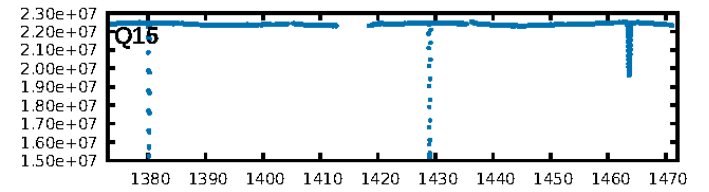
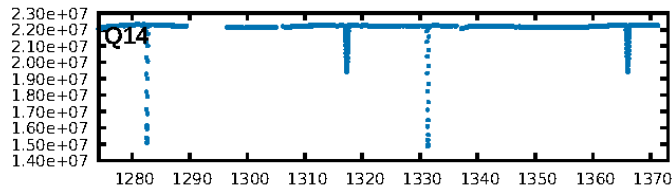
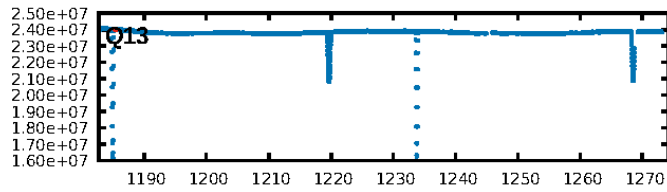
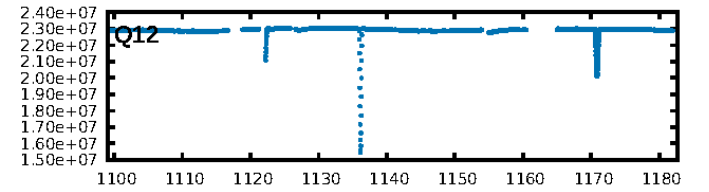
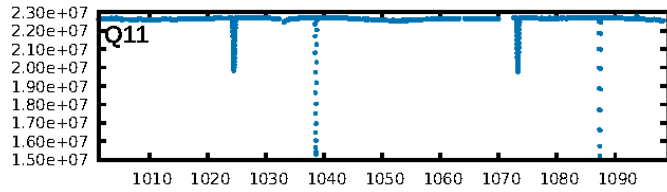
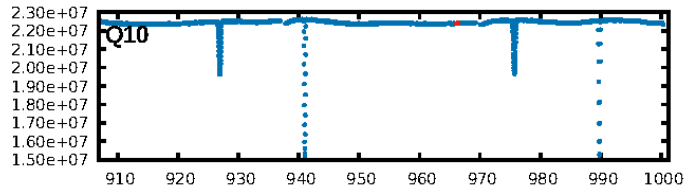
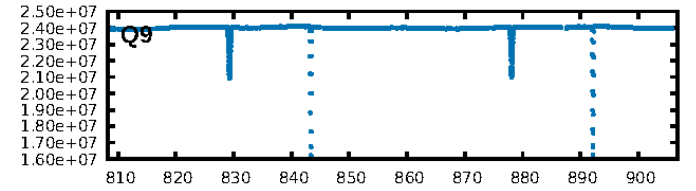
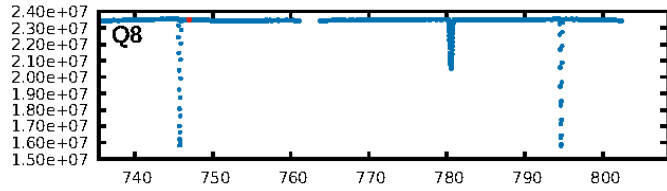
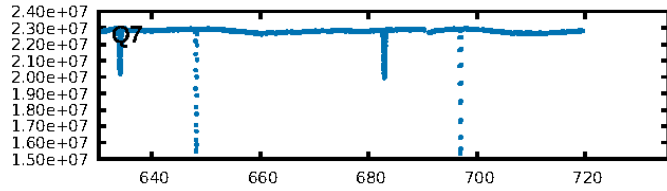
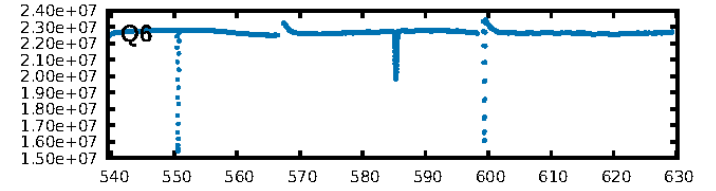
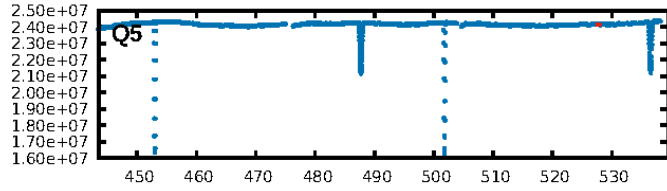
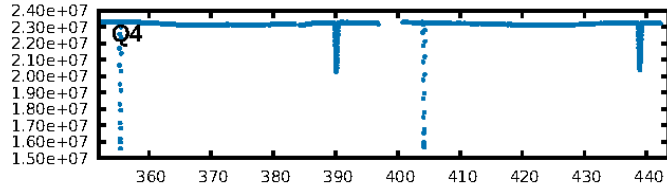
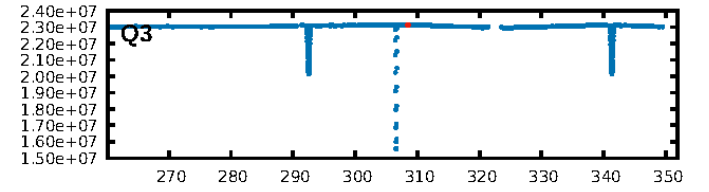
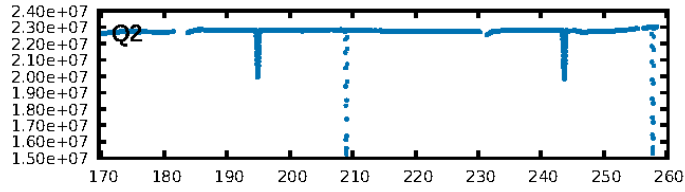
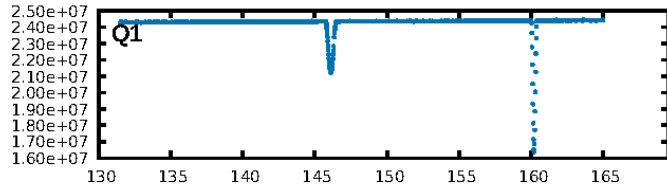
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.54 σ]
LongPeriod-sig: 100.0% [112.55 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.7211
Centroid-sig: N/A
Centroid-so: 4.699 arcsec [1.03 σ]
OotOffset-rm: 6.410 arcsec [6.79 σ]
KicOffset-rm: 6.323 arcsec [6.71 σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [4/4]

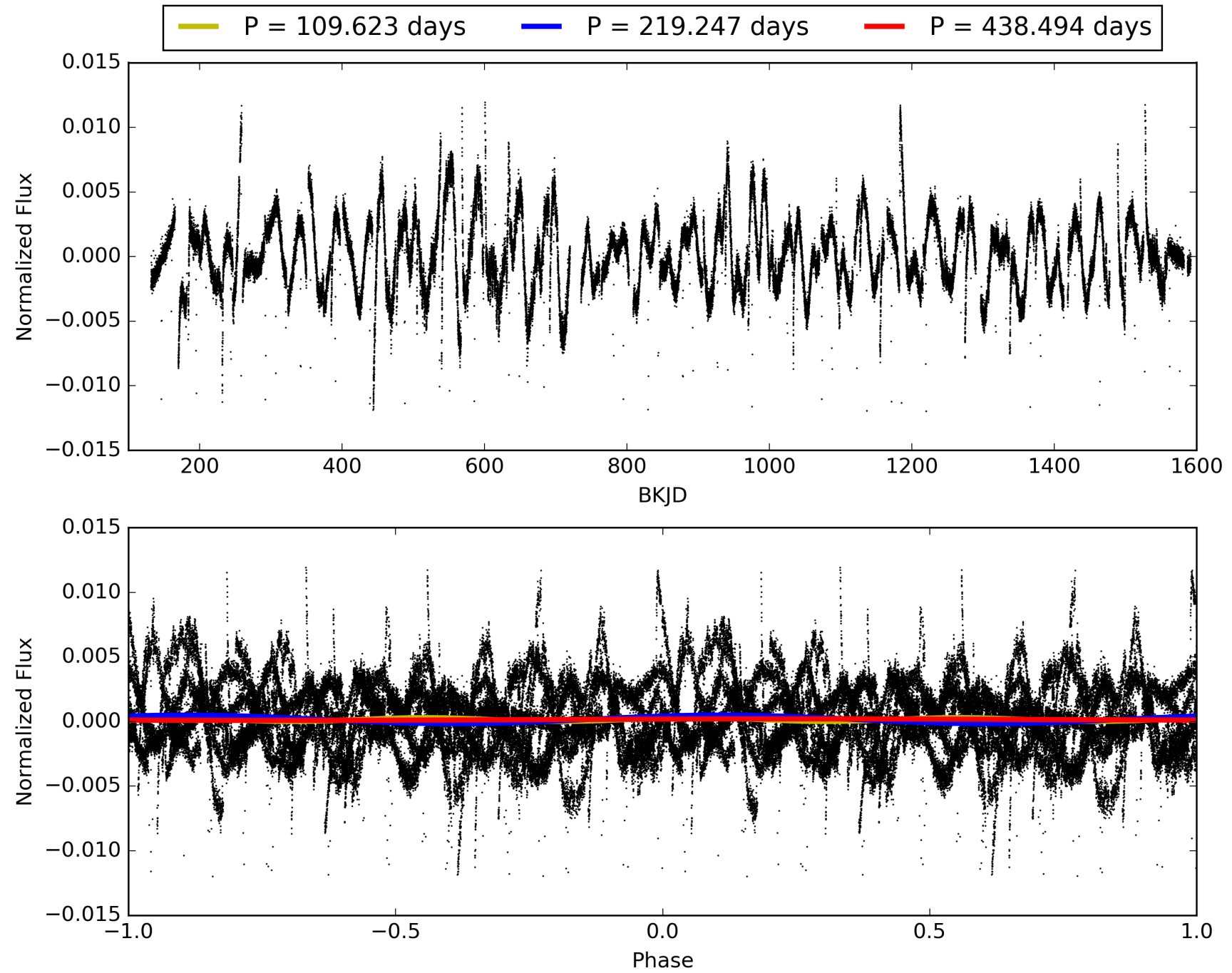
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:57:18 Z

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

TCE 008610483-08, PDC Light Curves

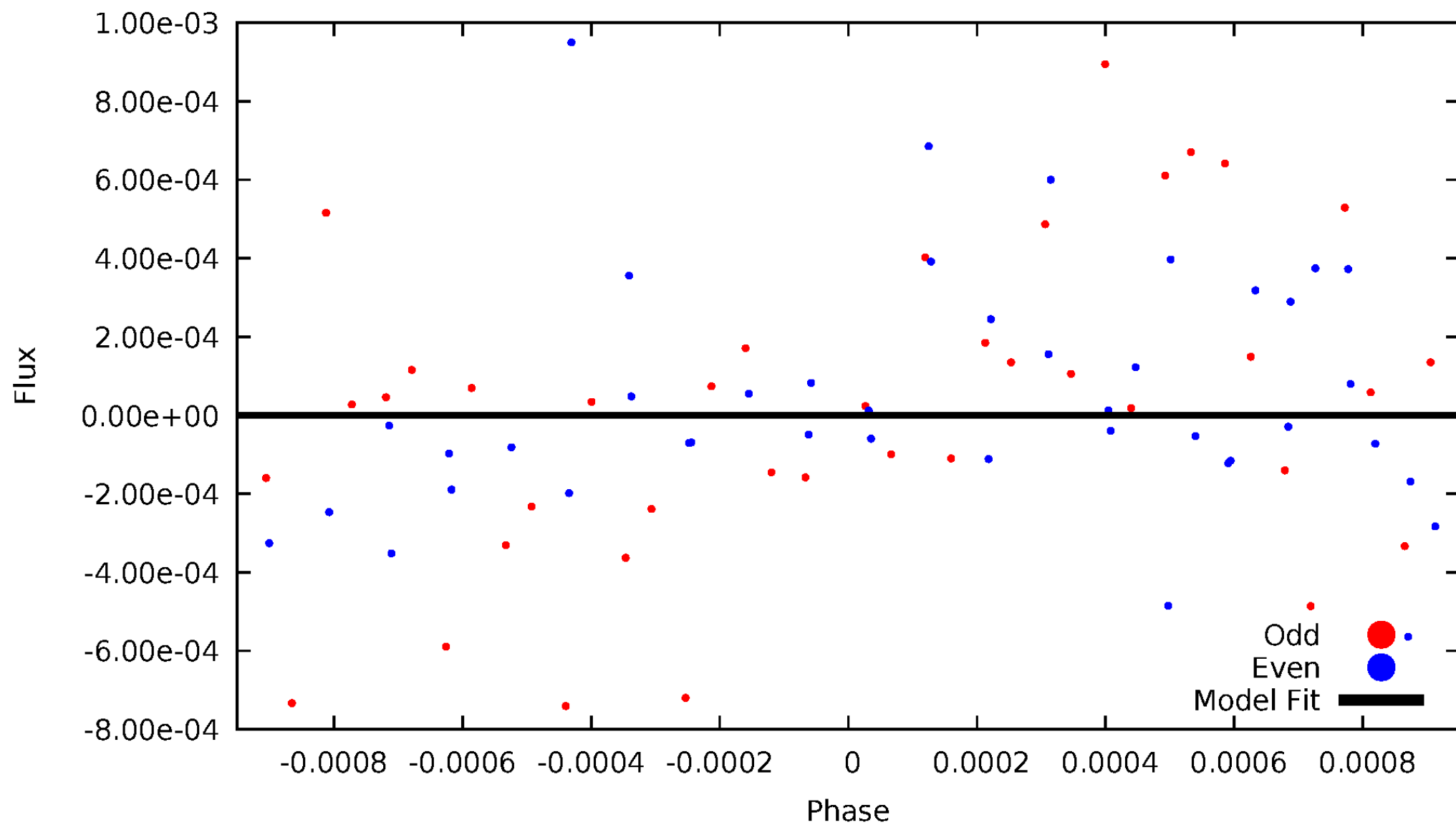


TCE 008610483-08



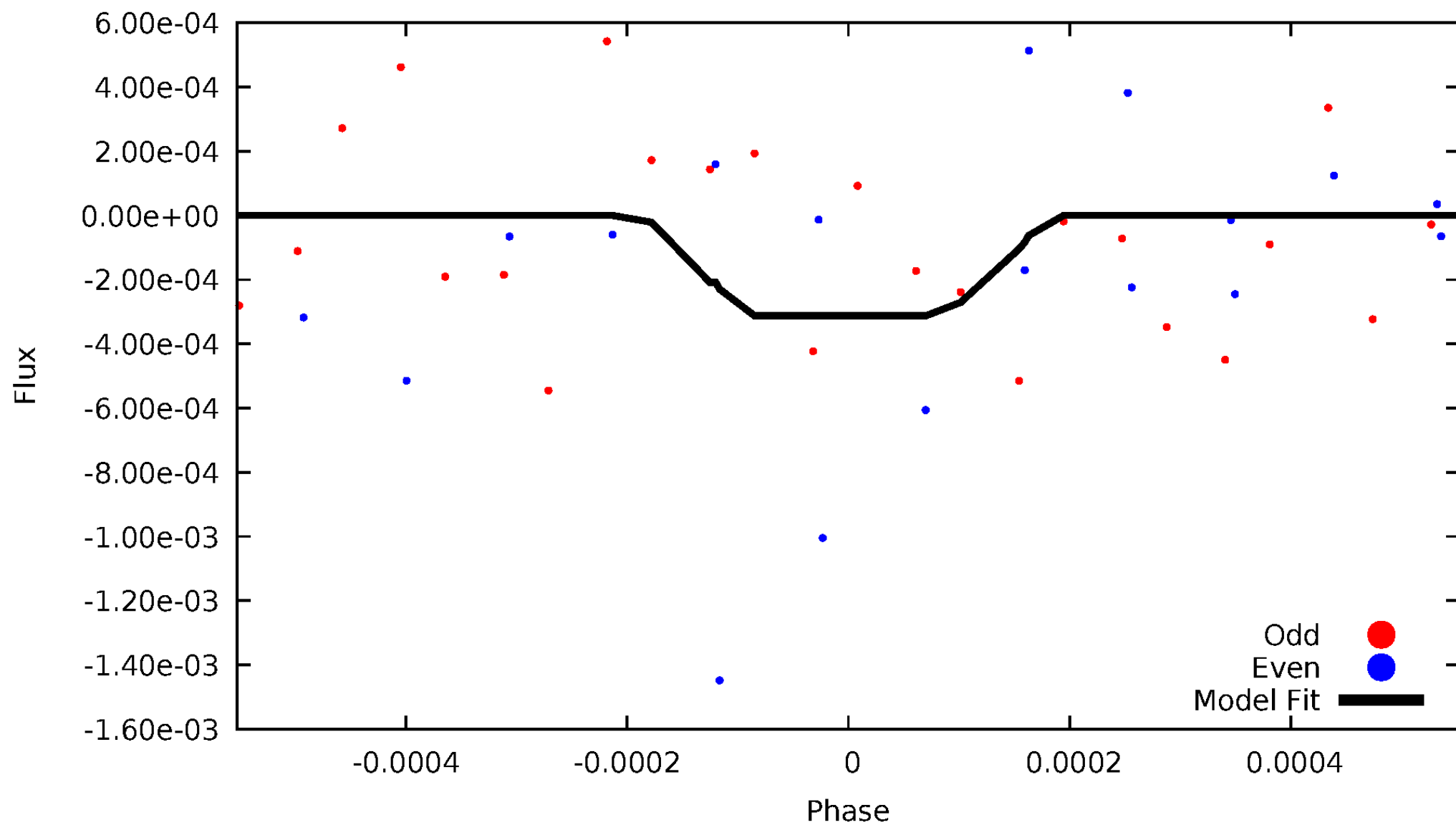
DV Odd/Even

TCE 008610483-08



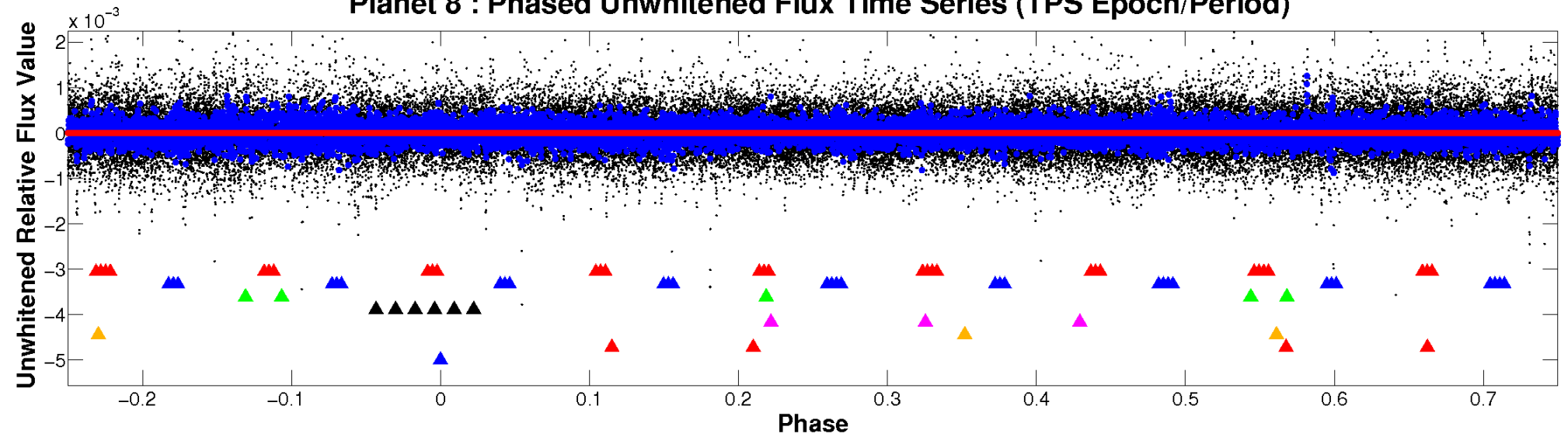
ALT Odd/Even

TCE 008610483-08



Non-Whitened Vs. Whitened Light Curve

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

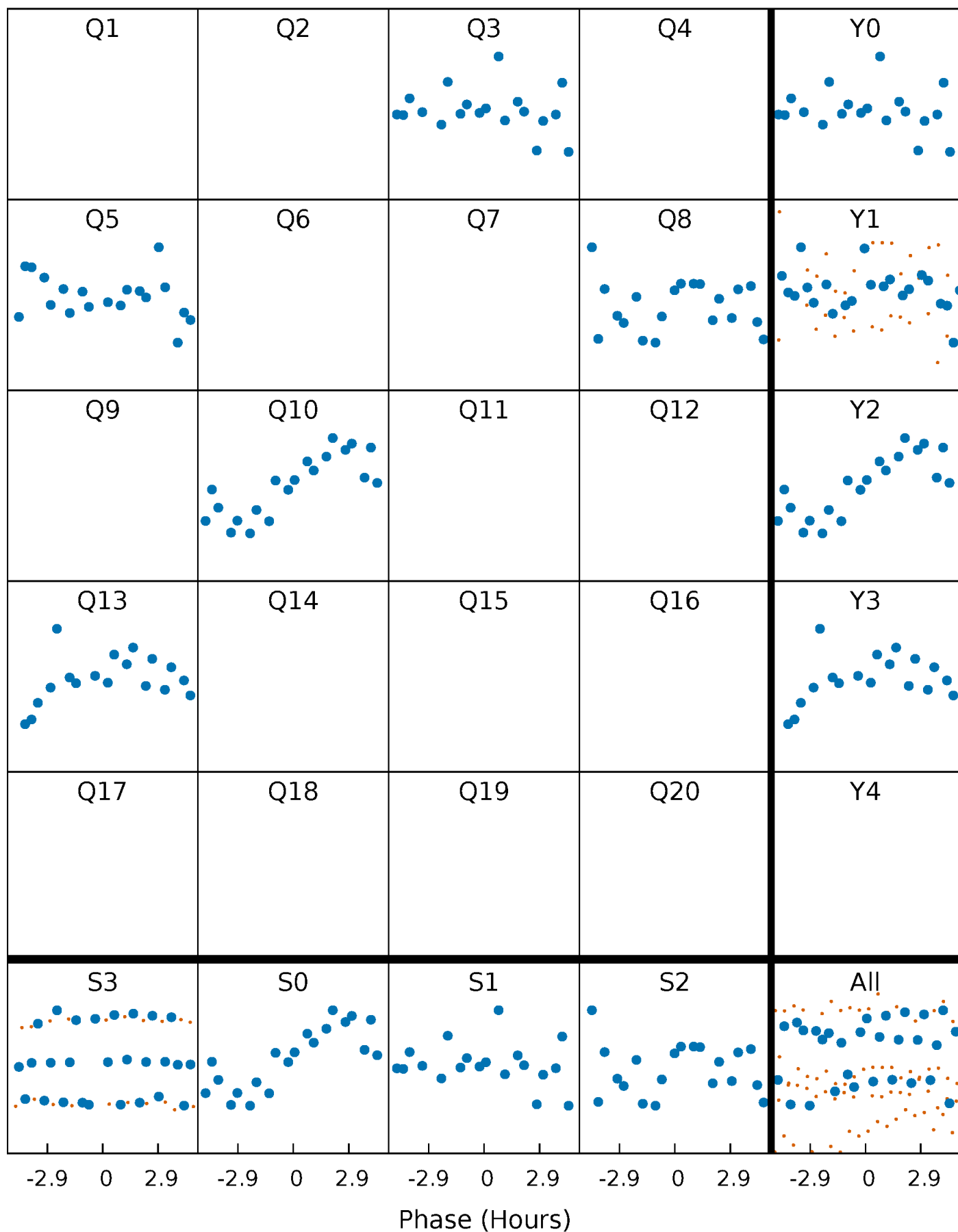


Planet 8 : Phased Whitened Flux Time Series (TPS Epoch/Period)



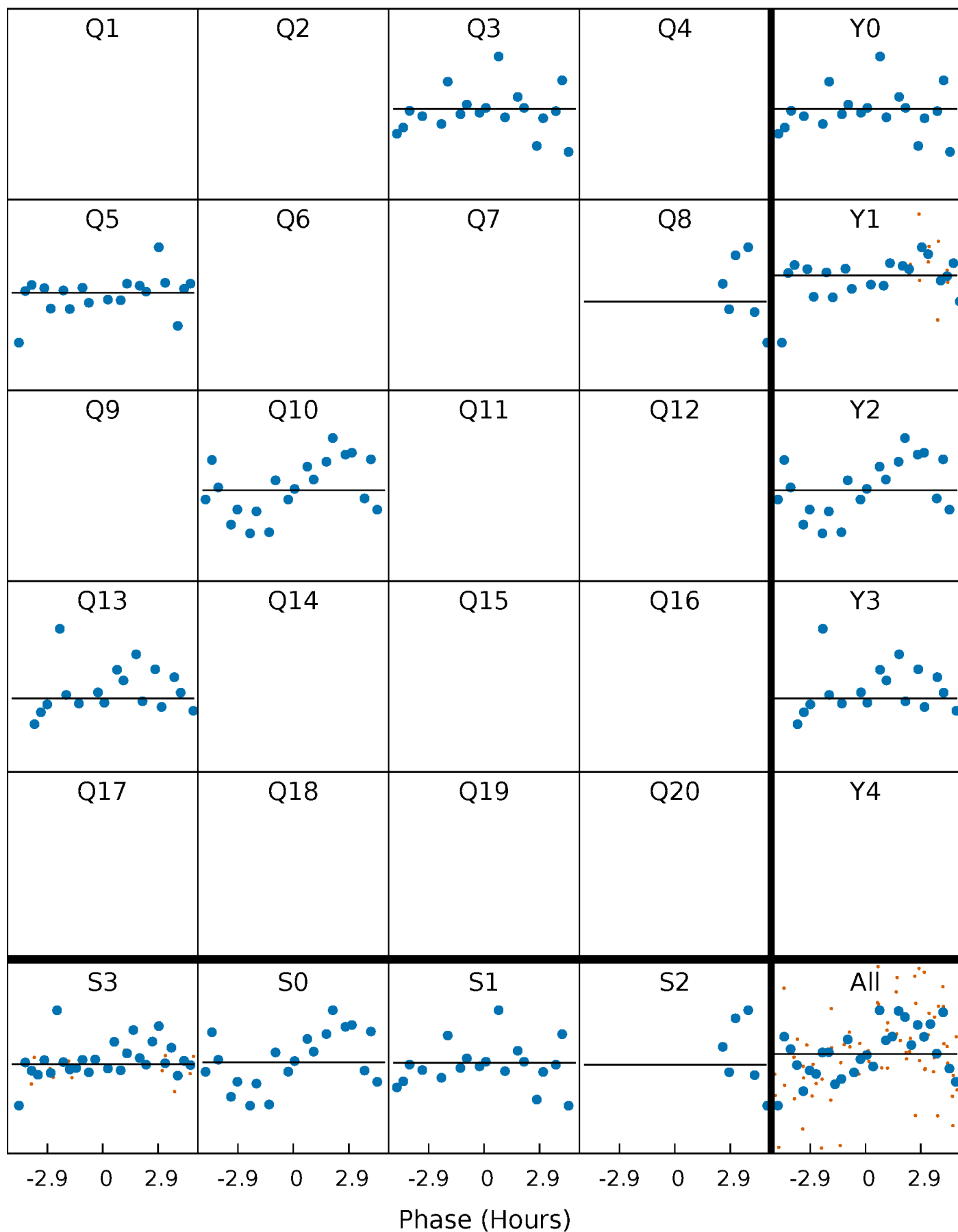
PDC Quarter-Phased Transit Curves

TCE 008610483-08 P=219.246981 Days $T_0=308.479786$ (BKJD)



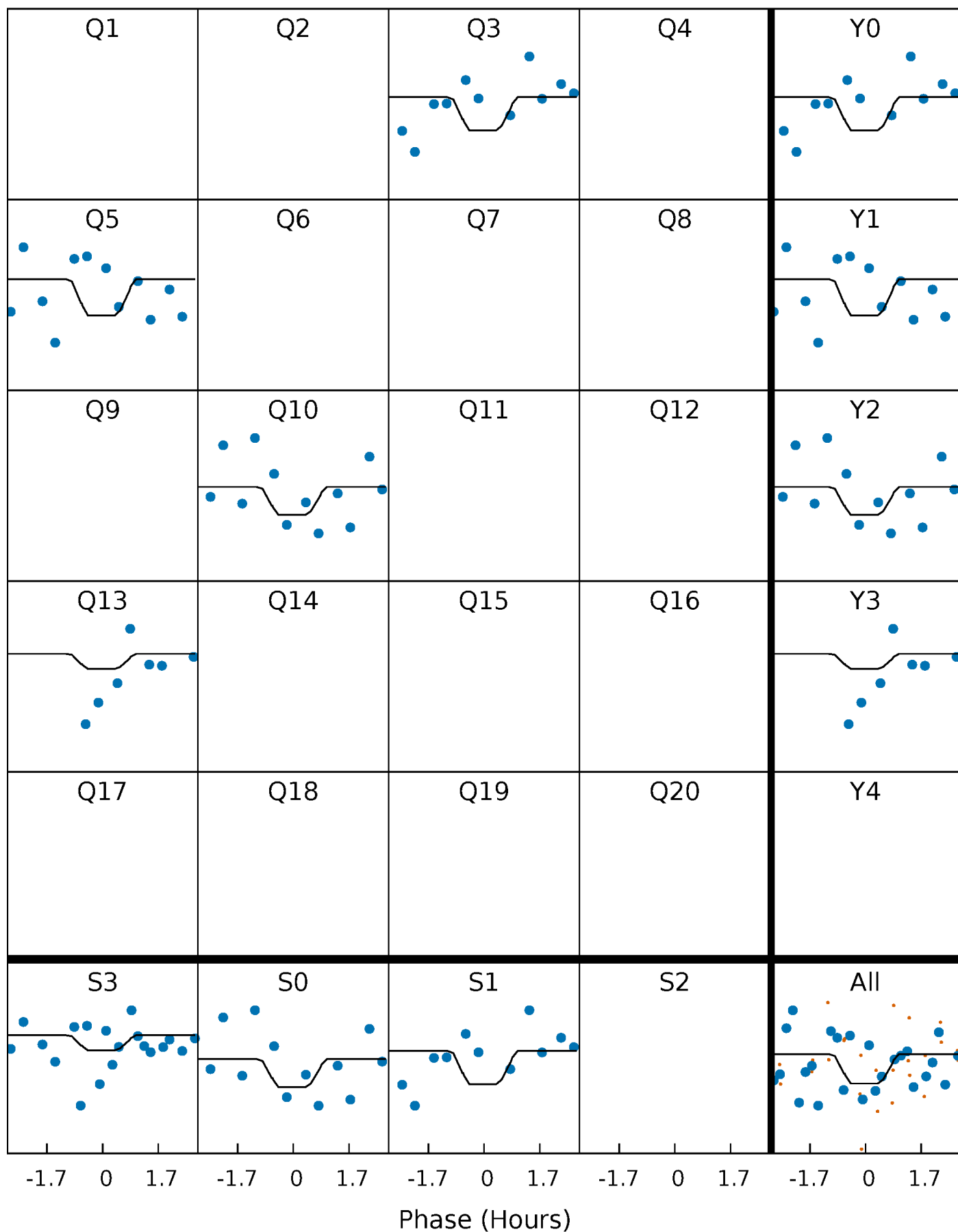
DV Quarter-Phased Transit Curves

TCE 008610483-08 $P=219.246981$ Days $T_0=308.479786$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

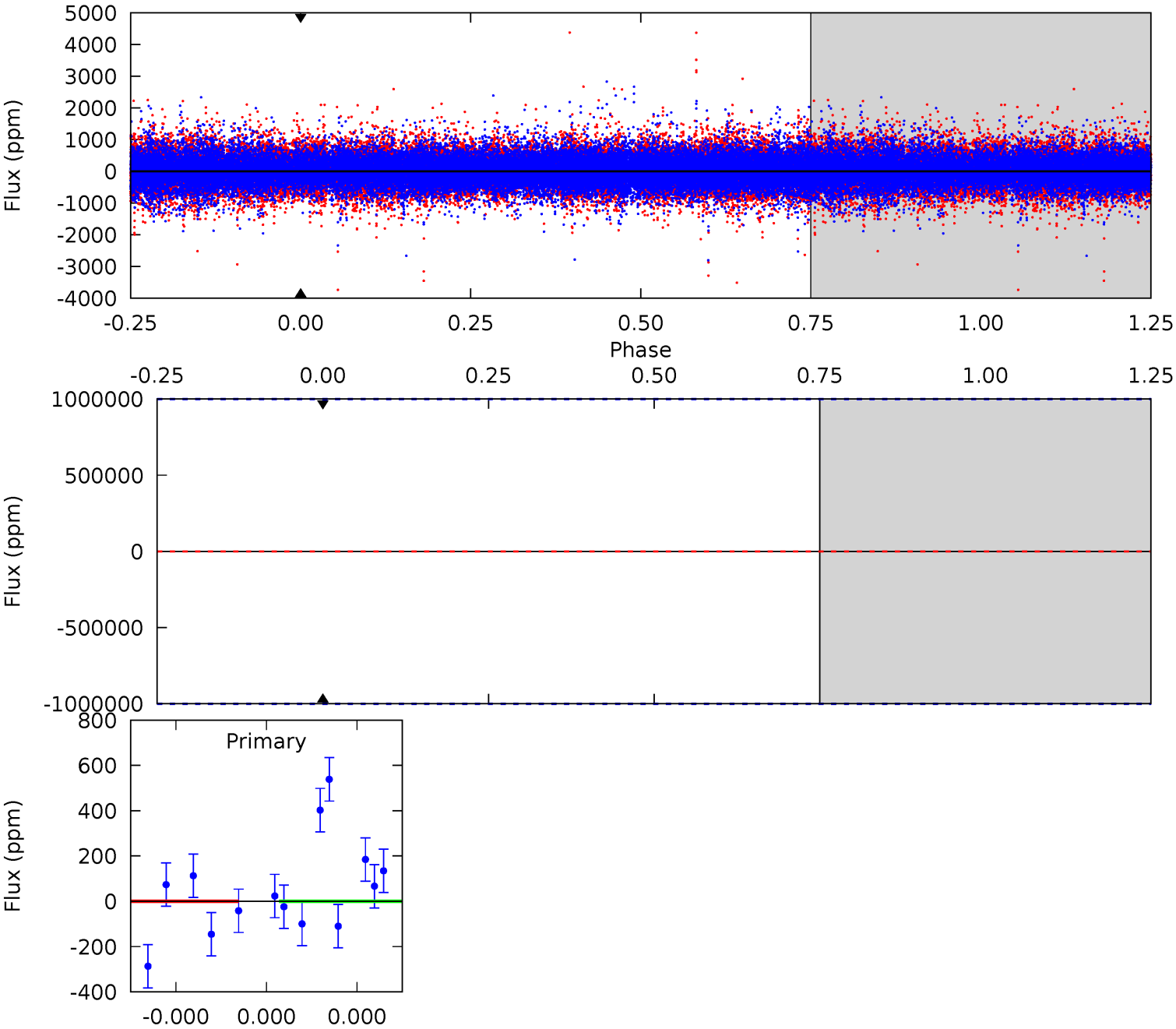
TCE 008610483-08 P=219.246981 Days $T_0=308.349551$ (BKJD)



DV Model-Shift Uniqueness Test

008610483-08, P = 219.246981 Days, E = 89.232805 Days

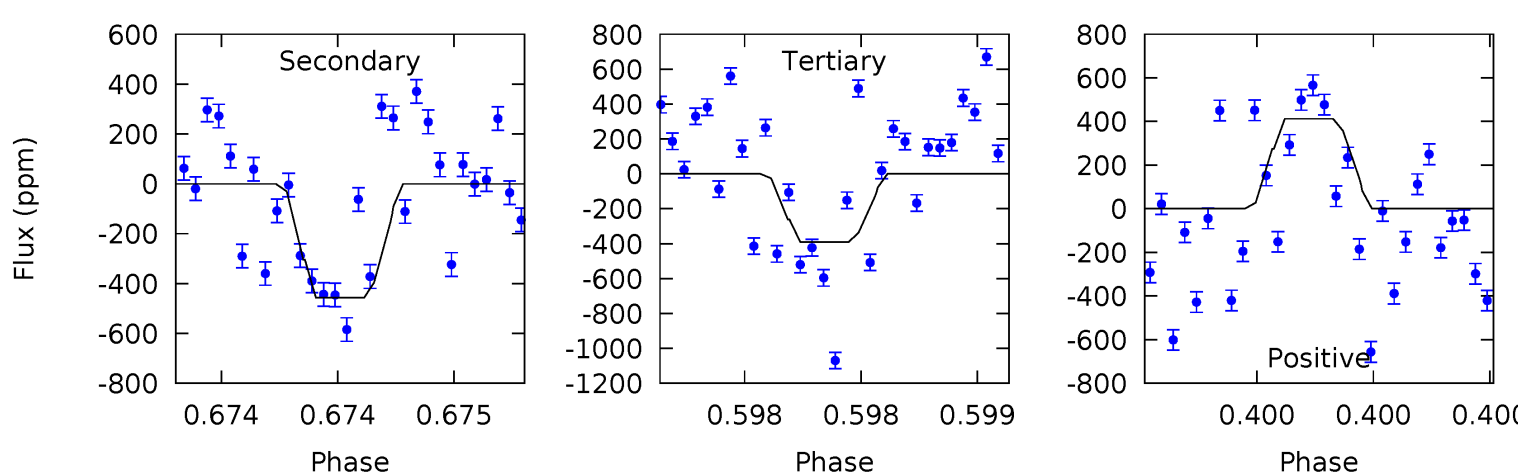
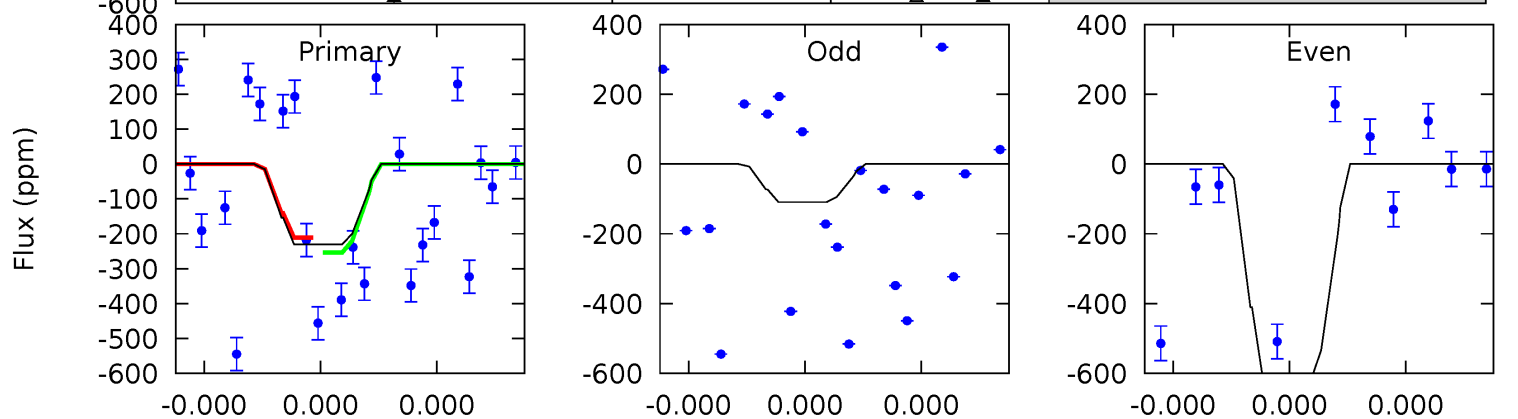
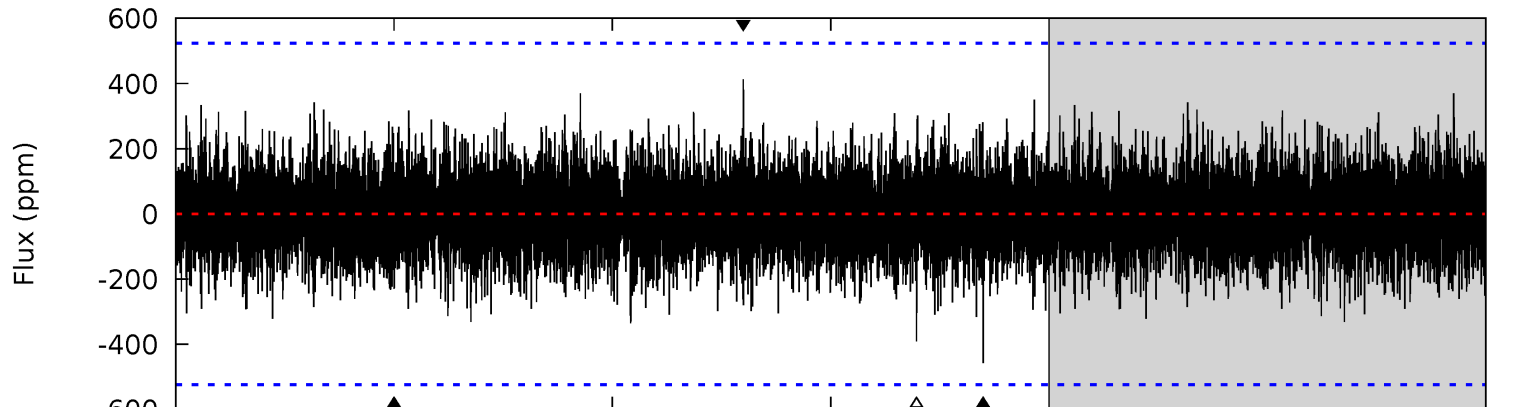
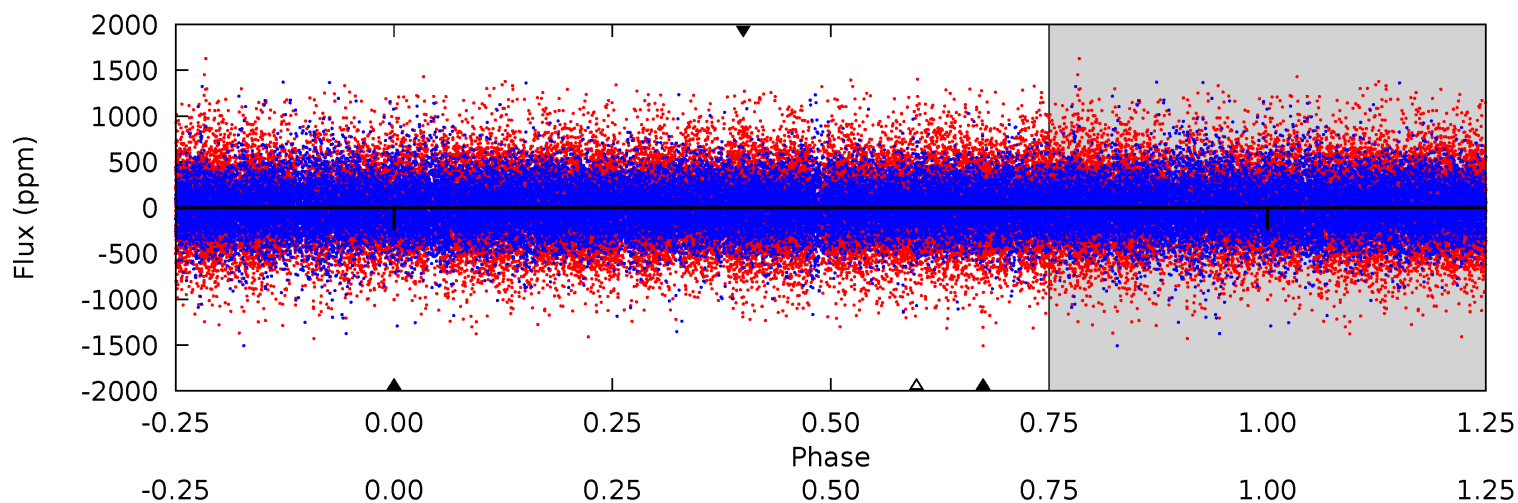
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008610483-08, P = 219.246981 Days, E = 89.102570 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.47	4.91	4.20	4.43	5.62	3.56	0.97	-1.72	-1.96	0.71	0.48	2.83	2.59	0.47	0.23



Stellar Parameters For KIC 008610483

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6170^{+168}_{-205}	$4.472^{+0.052}_{-0.208}$	$-0.160^{+0.250}_{-0.350}$	$0.992^{+0.322}_{-0.107}$	$1.063^{+0.145}_{-0.145}$	$1.535^{+0.433}_{-0.809}$
	+3%/-3%	+1%/-5%	+156%/-219%	+32%/-11%	+14%/-14%	+28%/-53%
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 008610483-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$10.73^{+10.12}_{-7.49}$	454^{+36}_{-22}	2916^{+18527}_{-20225}	$479^{+537846}_{-360209}$
Alt.	-457 ± 93	$8.39^{+8.48}_{-5.84}$	454^{+29}_{-22}	3702^{+2231}_{-691}	1872^{+17269}_{-1429}

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 $A_{obs} \gg 1.0$

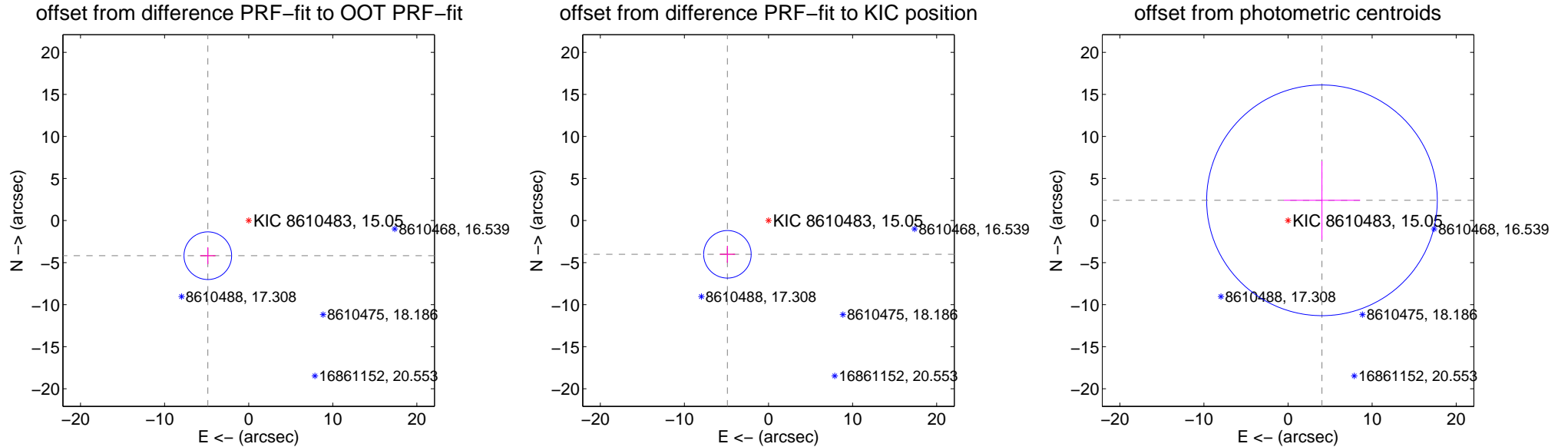
DV Centroid Data

Supplemental centroid analysis for 008610483-08. Kepler magnitude: 15.05. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

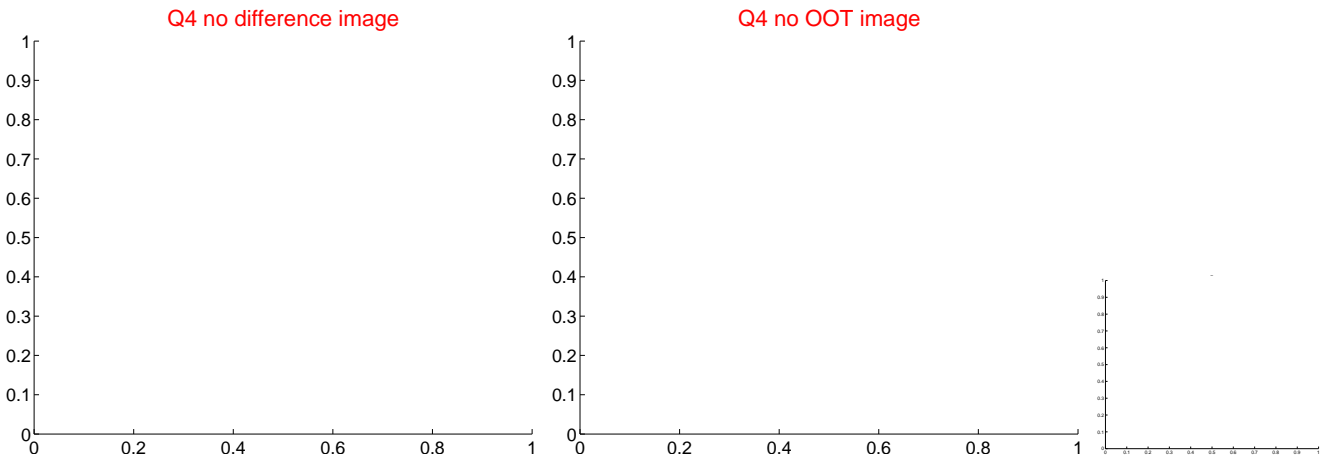
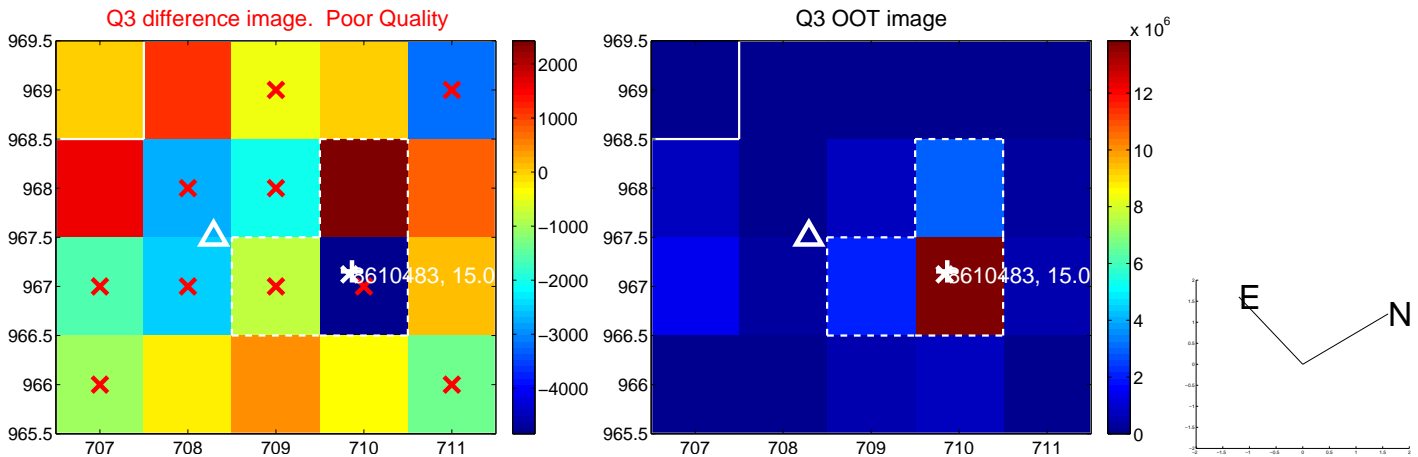
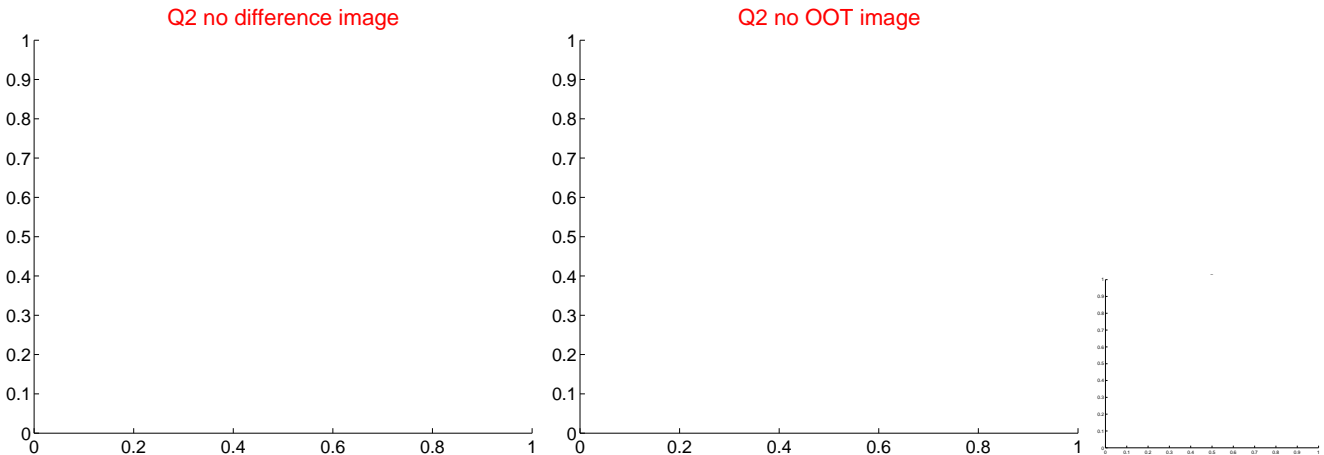
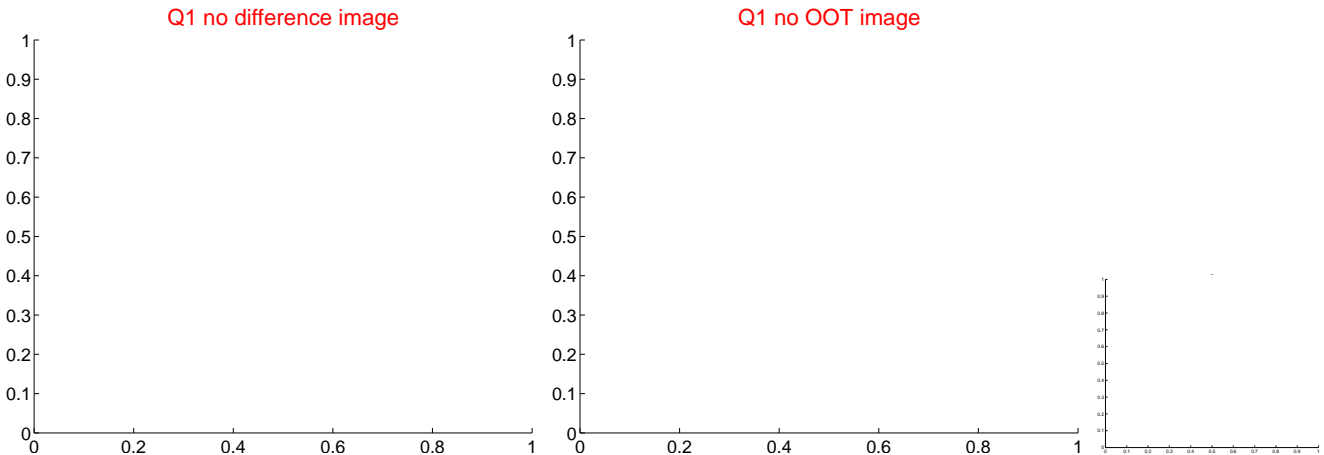
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.410 ± 0.944	6.79	4.861 ± 0.903	-4.178 ± 0.998
PRF-fit source offset from KIC position	6.323 ± 0.942	6.71	4.886 ± 0.903	-4.013 ± 0.998
photometric centroid source offset	4.70 ± 4.57	1.03	-4.04 ± 4.54	2.41 ± 4.65

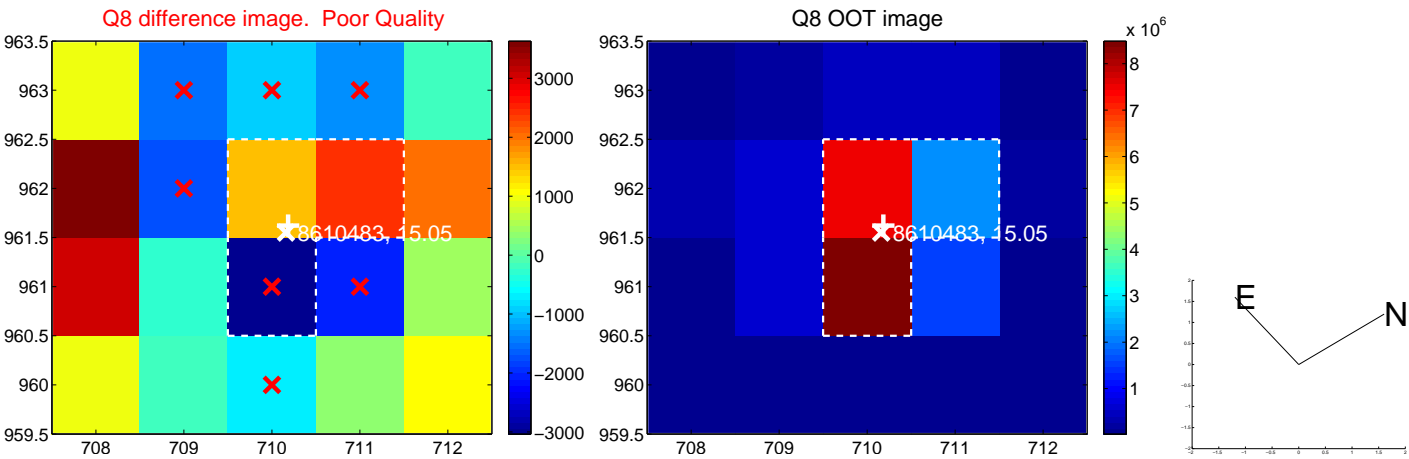
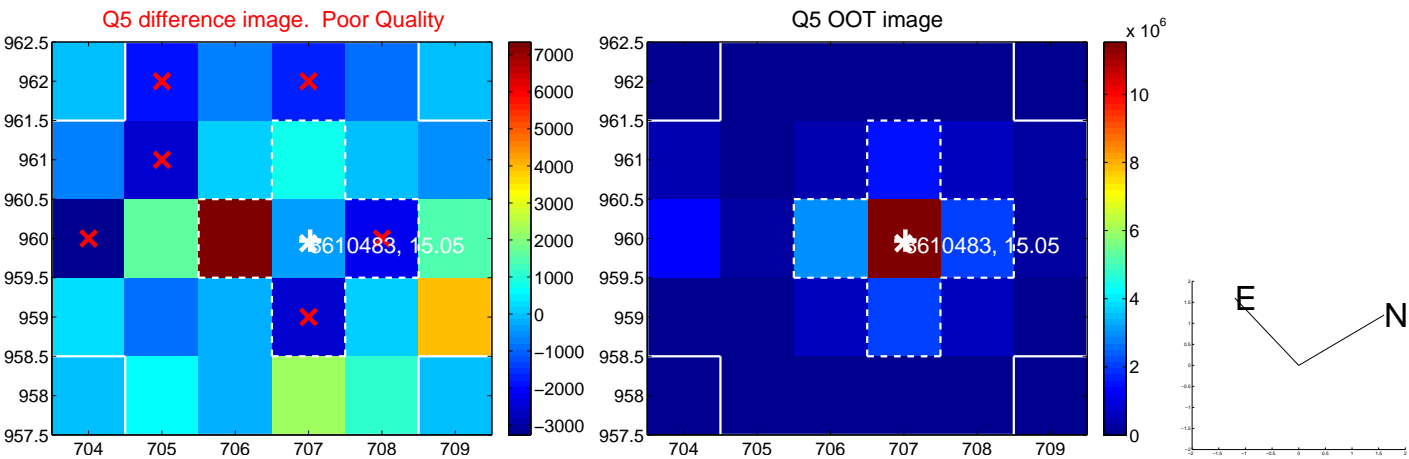


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

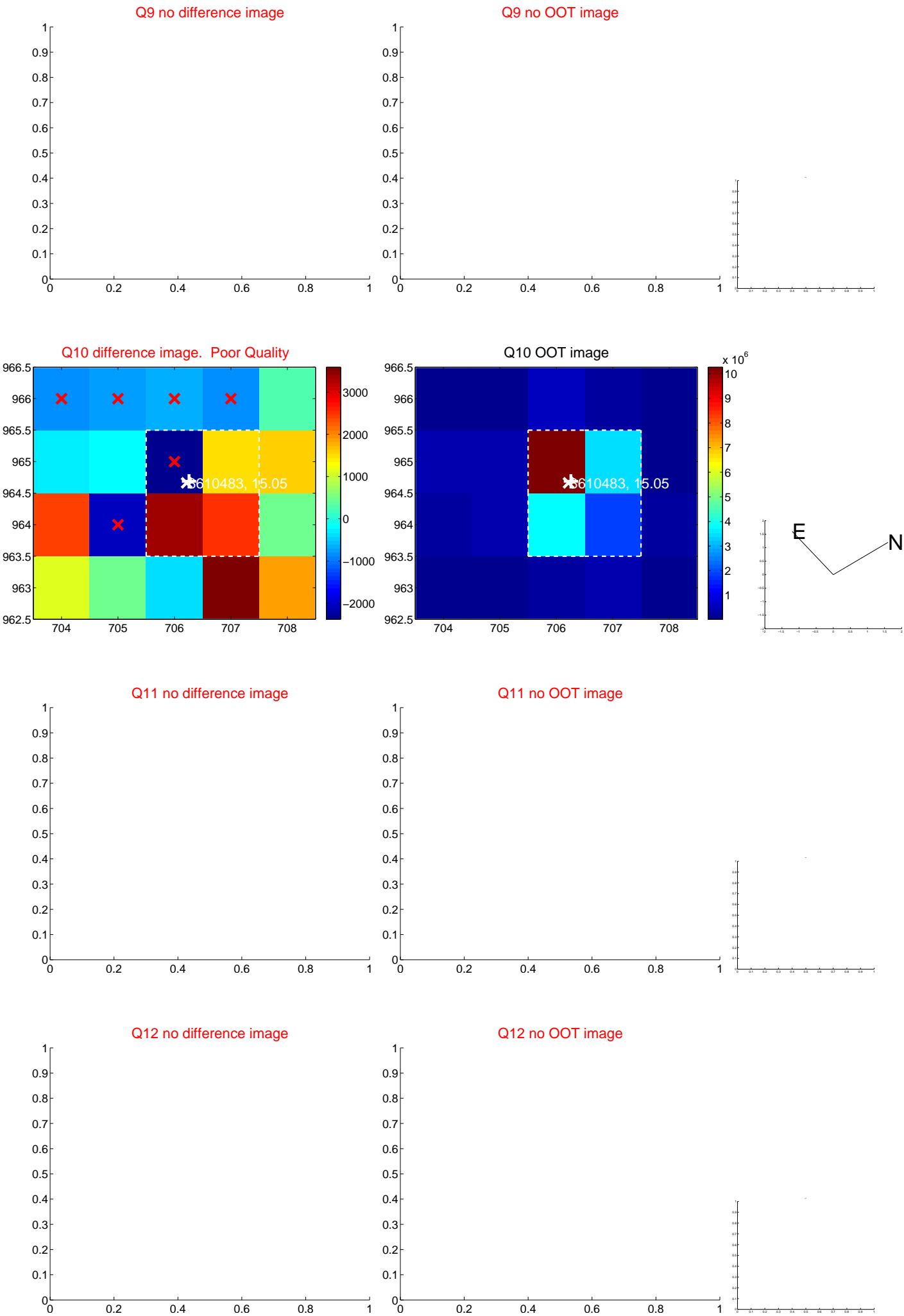
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



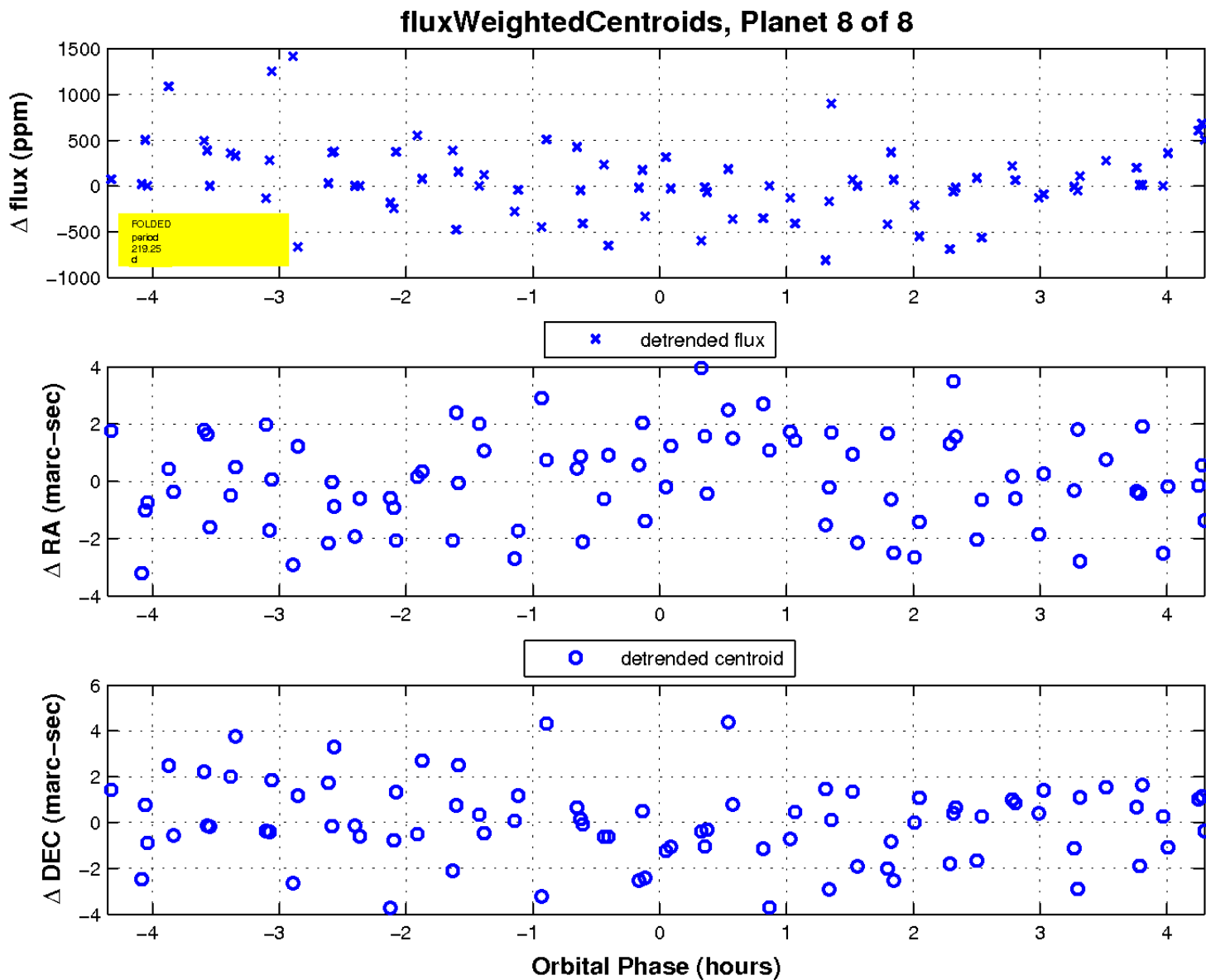
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

Declination

