

KIC 010483644

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})
010483644-01	OBS	6225.01	5.110773	133.315319	50273.3	2.506	3979.6	2847.5	0.89	6029	30.66	285.84
010483644-02	OBS	No	2.555375	133.314119	3679.5	1.500	231.5	-1.0	0.89	6029	5.44	720.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010483644-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—HAS_SEC_TCE
010483644-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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.

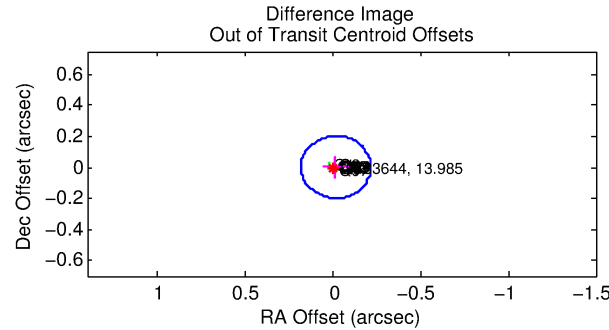
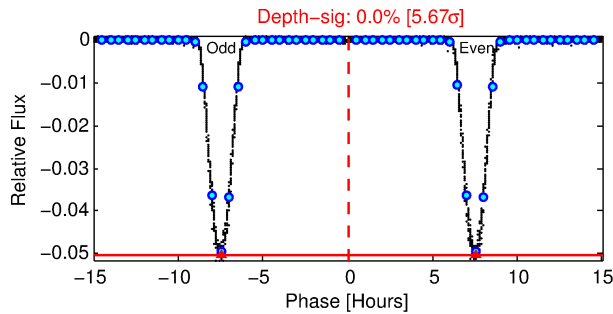
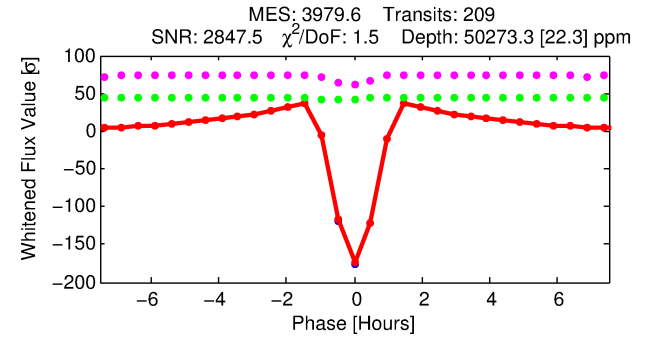
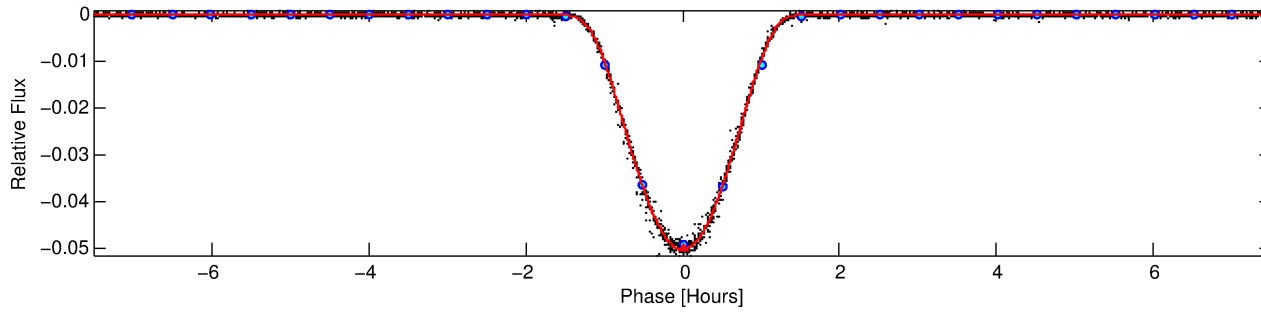
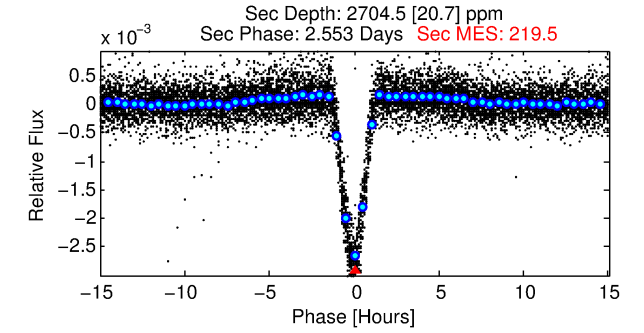
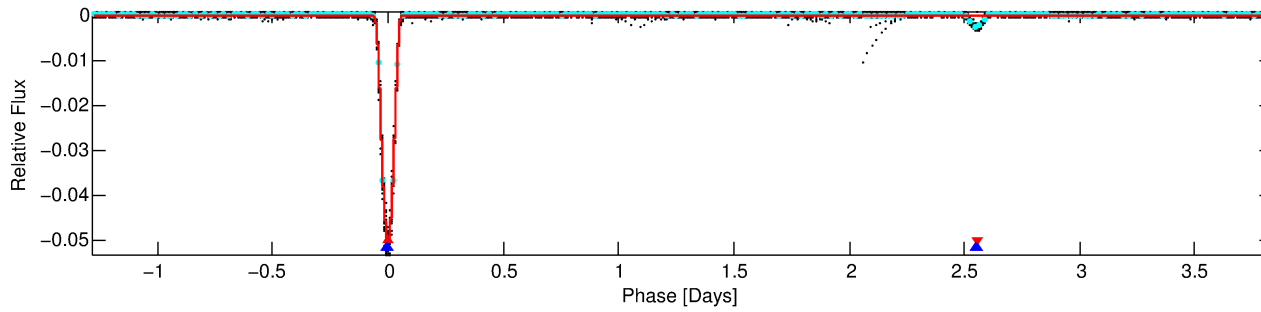
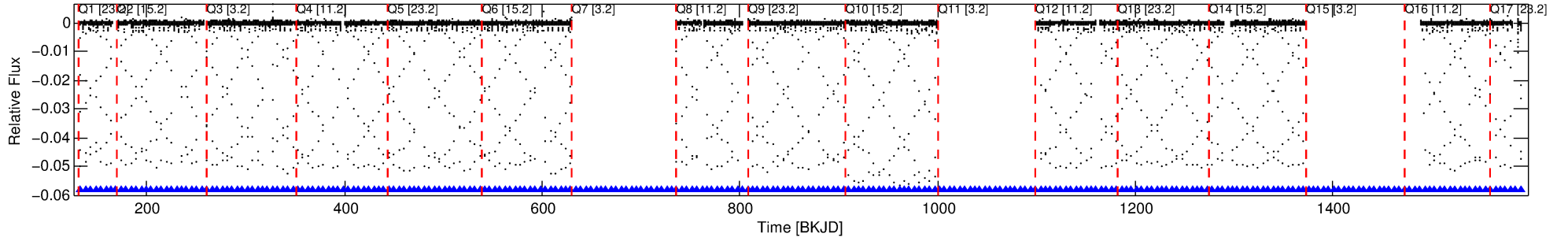
Ephemeris Match Information For 010483644-01

No Significant Match Found

DV One-Page Summary

KIC: 10483644 Candidate: 1 of 2 Period: 5.111 d
KOI: K06225.01 Corr: 0.996

Kp: 13.98 R*: 0.89 Rs Teff: 6029.0 K Logg: 4.52 Fe/H: -0.300



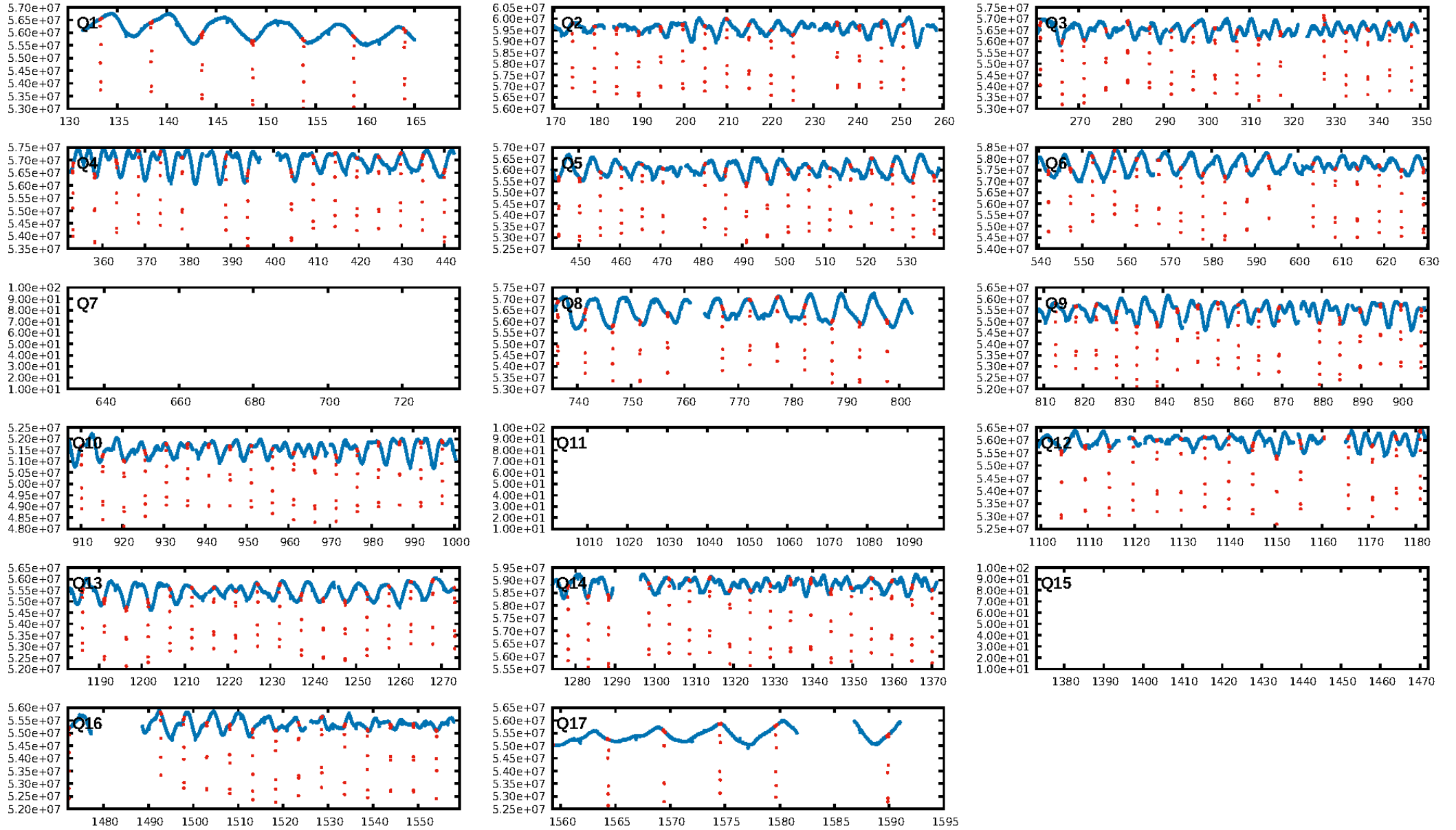
DV Fit Results:

Period = 5.11077 [0.00000] d
Epoch = 133.3153 [0.0000] BKJD
Rp/R* = 0.3143 [0.0073]
a/R* = 14.32 [0.02]
b = 0.94 [0.01]
Seff = 285.84 [113.88]
Teq = 1048 [104] K
Rp = 30.67 [9.49] Re
a = 0.0575 [0.0150] AU
Ag = 5.24 [2.00] [2.11σ]
Teffp = 2452 [79] K [10.72σ]

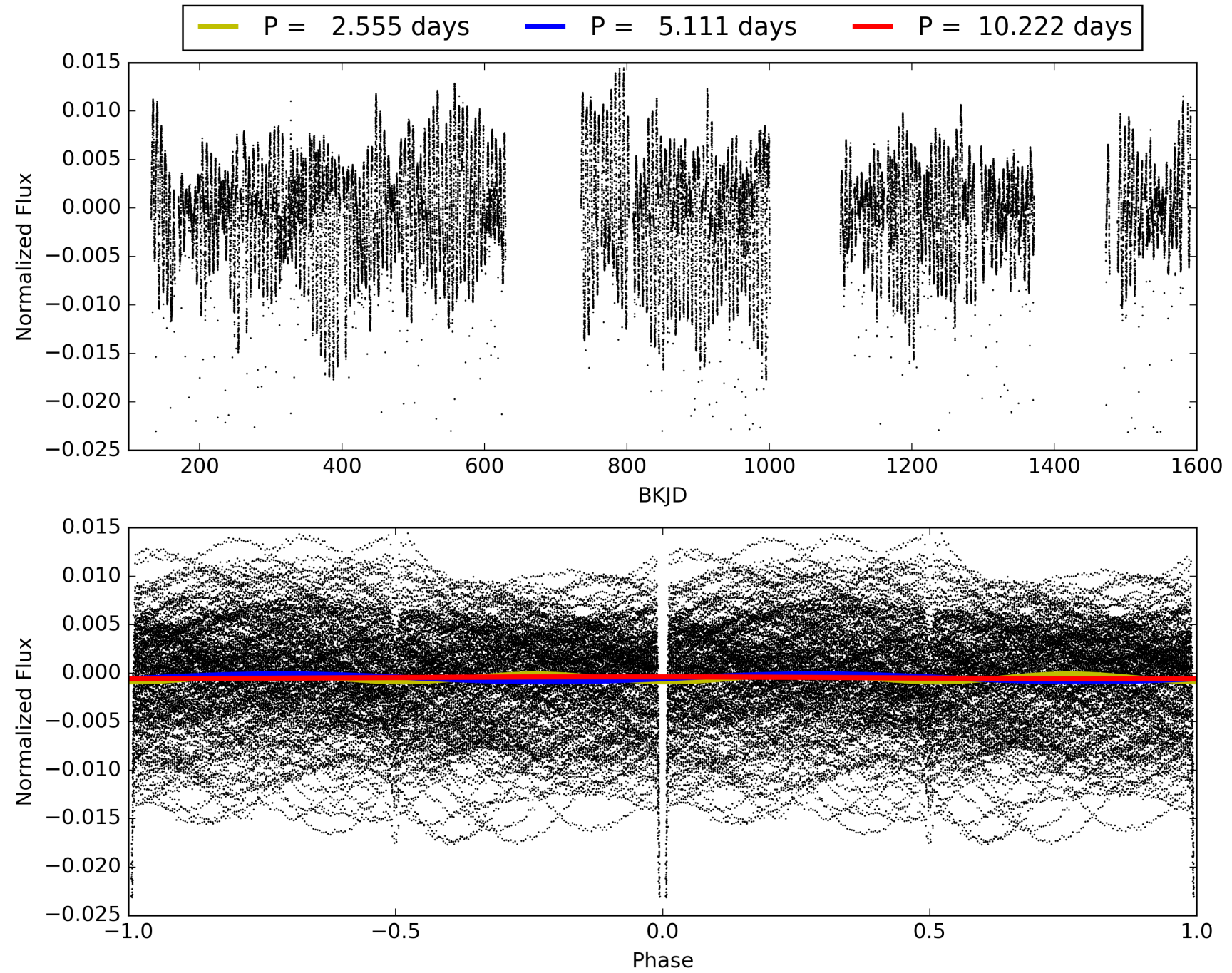
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [21.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [196/196]
GhostDiagnostic-chr: 3.107
Centroid-sig: 0.0%
Centroid-so: 0.319 arcsec [87.85σ]
OotOffset-rm: 0.017 arcsec [0.26σ]
KicOffset-rm: 0.227 arcsec [3.35σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/14]

TCE 010483644-01, PDC Light Curves

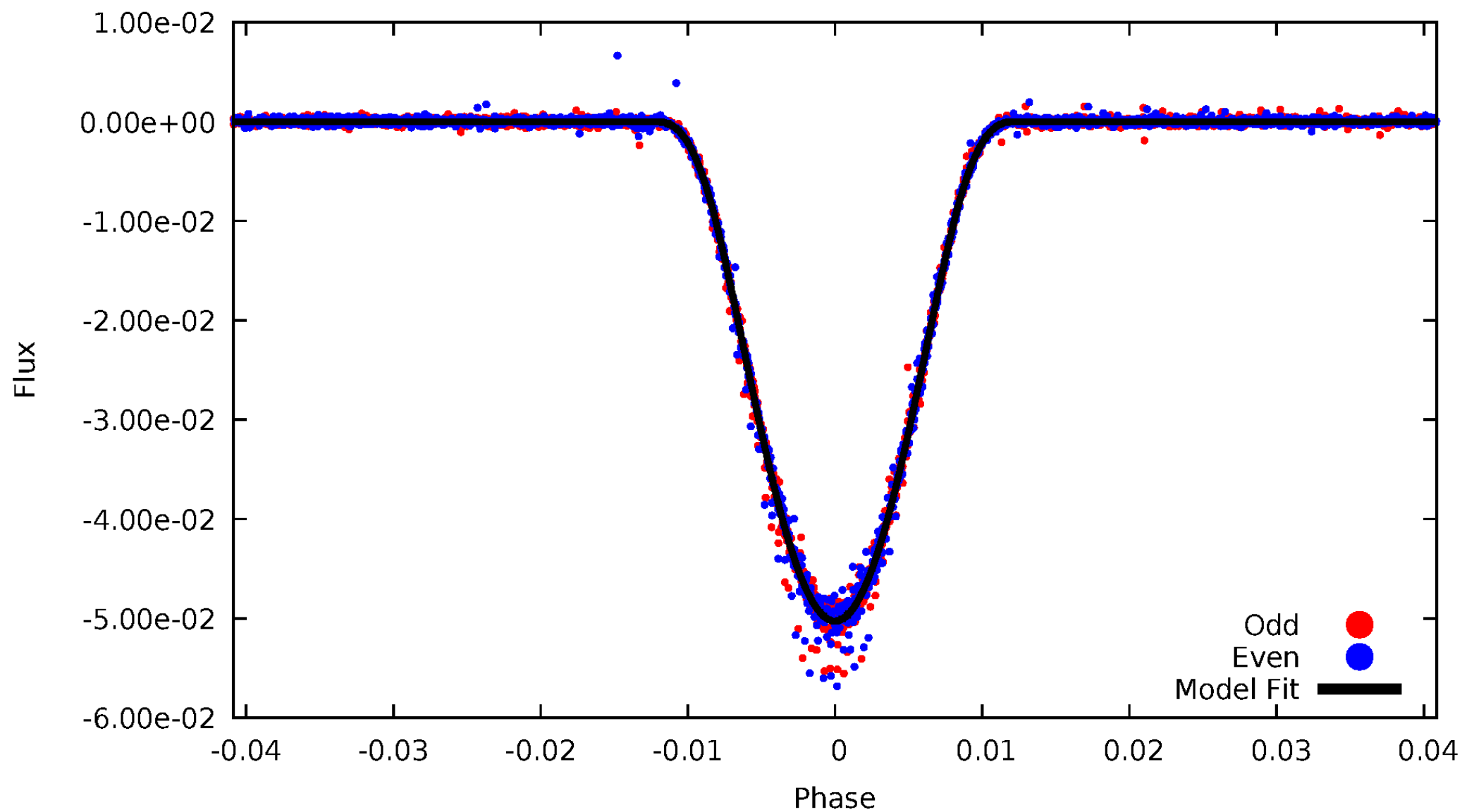


TCE 010483644-01



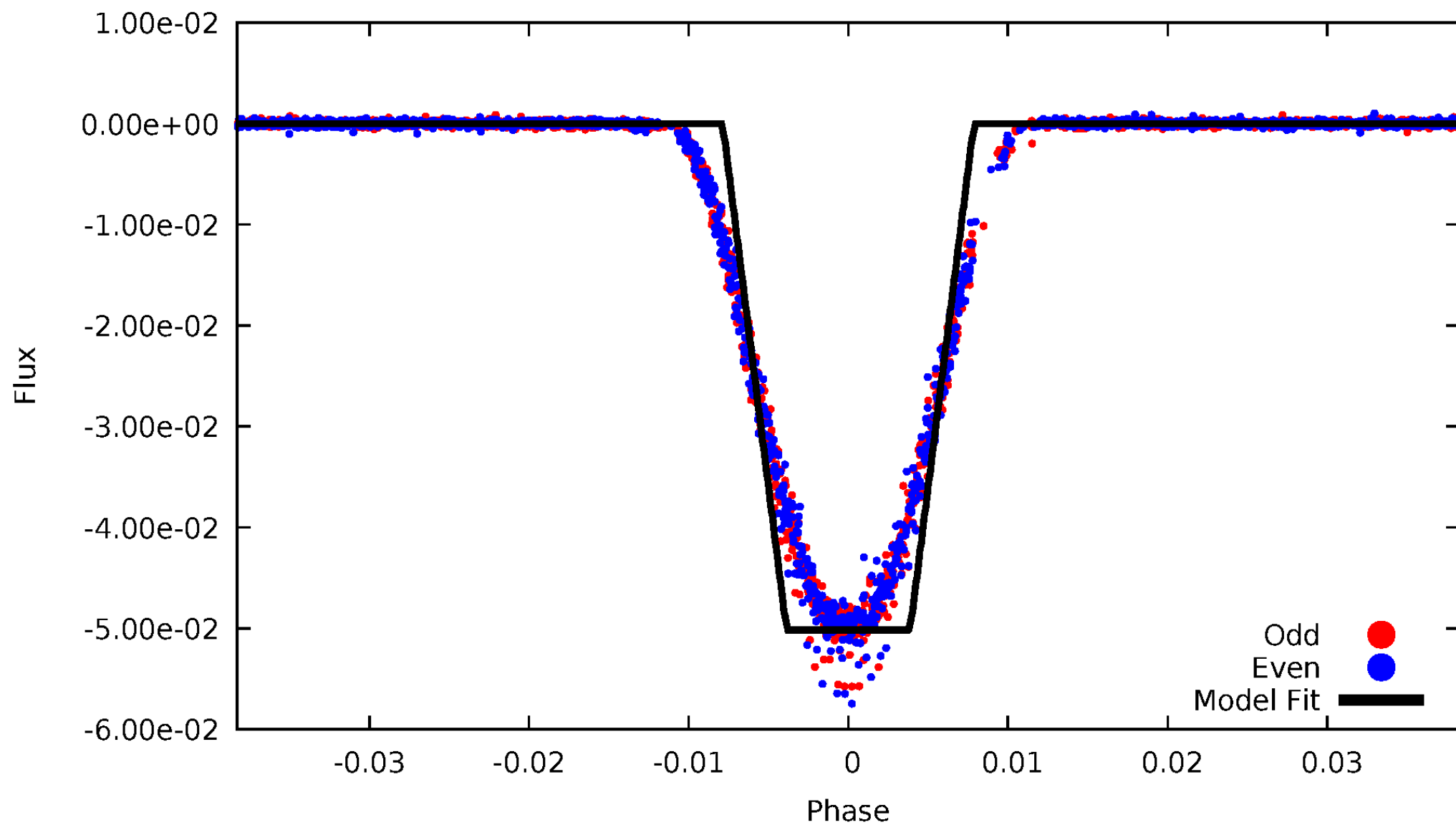
DV Odd/Even

TCE 010483644-01



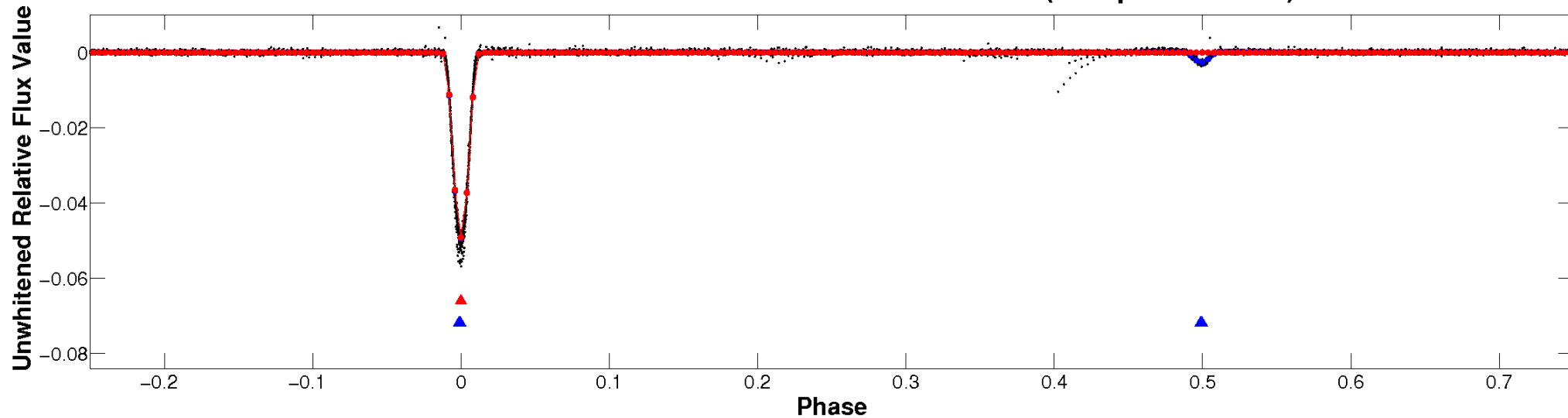
ALT Odd/Even

TCE 010483644-01

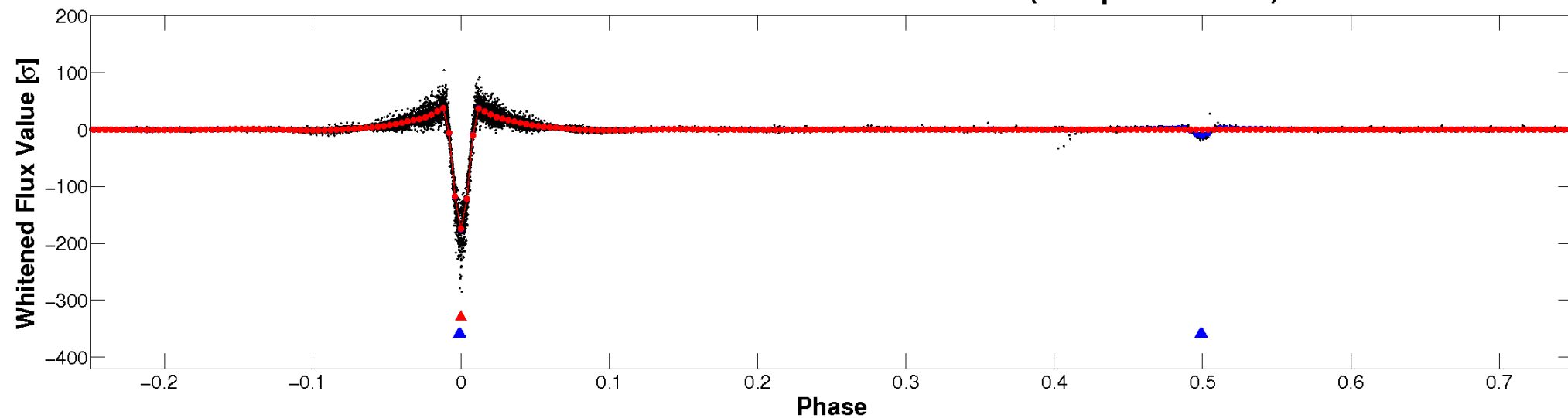


Non-Whitened Vs. Whitened Light Curve

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

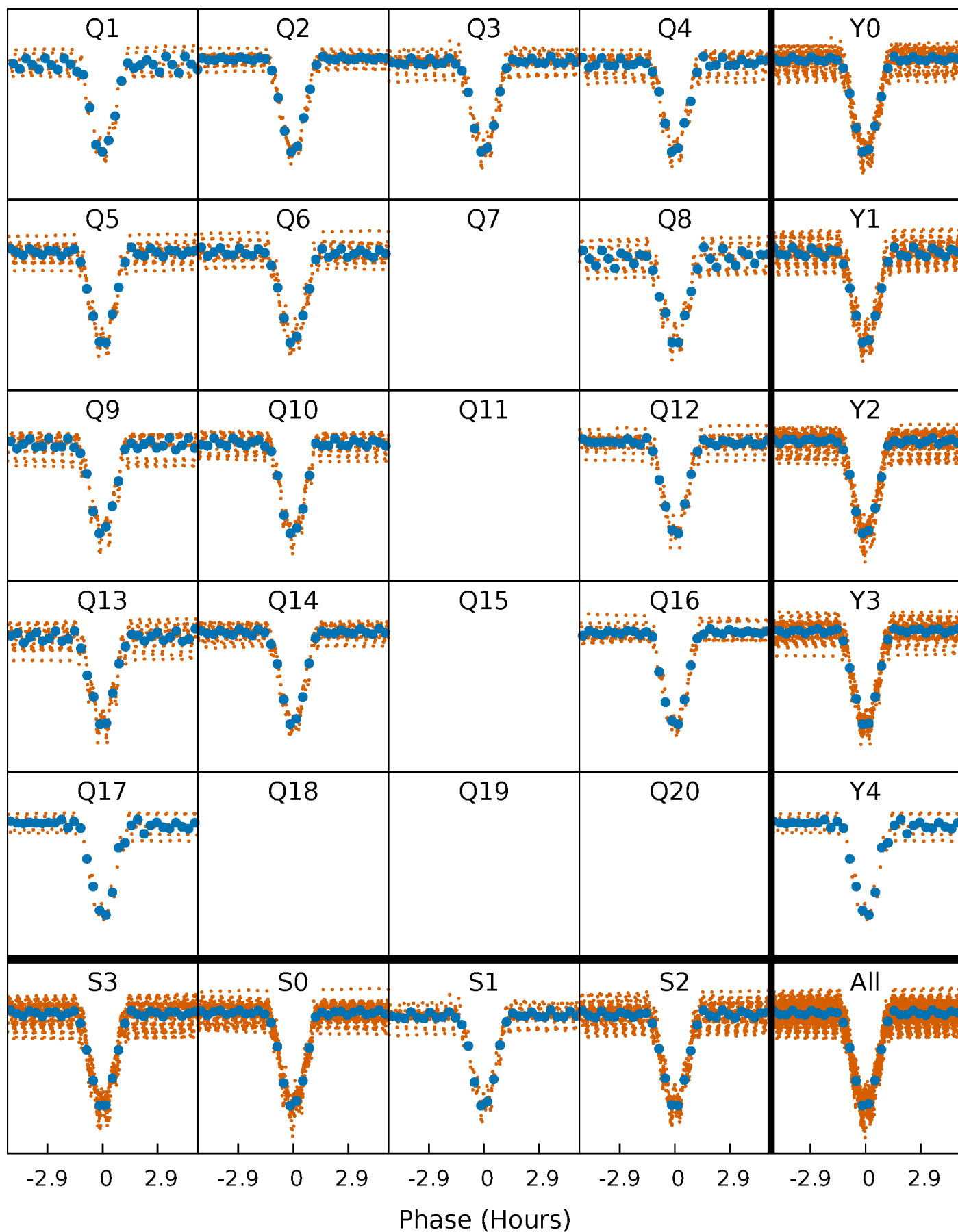


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



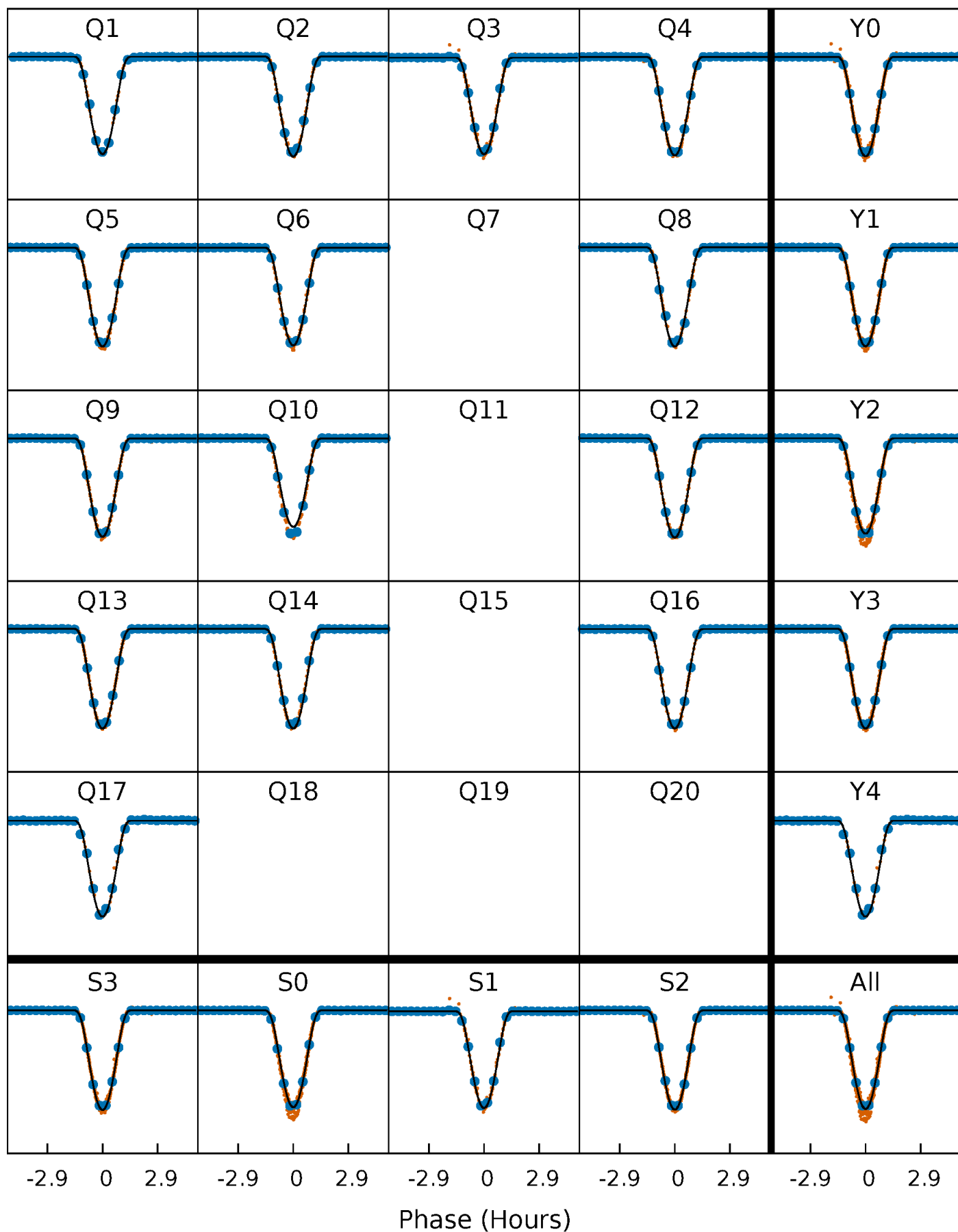
PDC Quarter-Phased Transit Curves

TCE 010483644-01 P= 5.110773 Days $T_0=133.315319$ (BKJD)



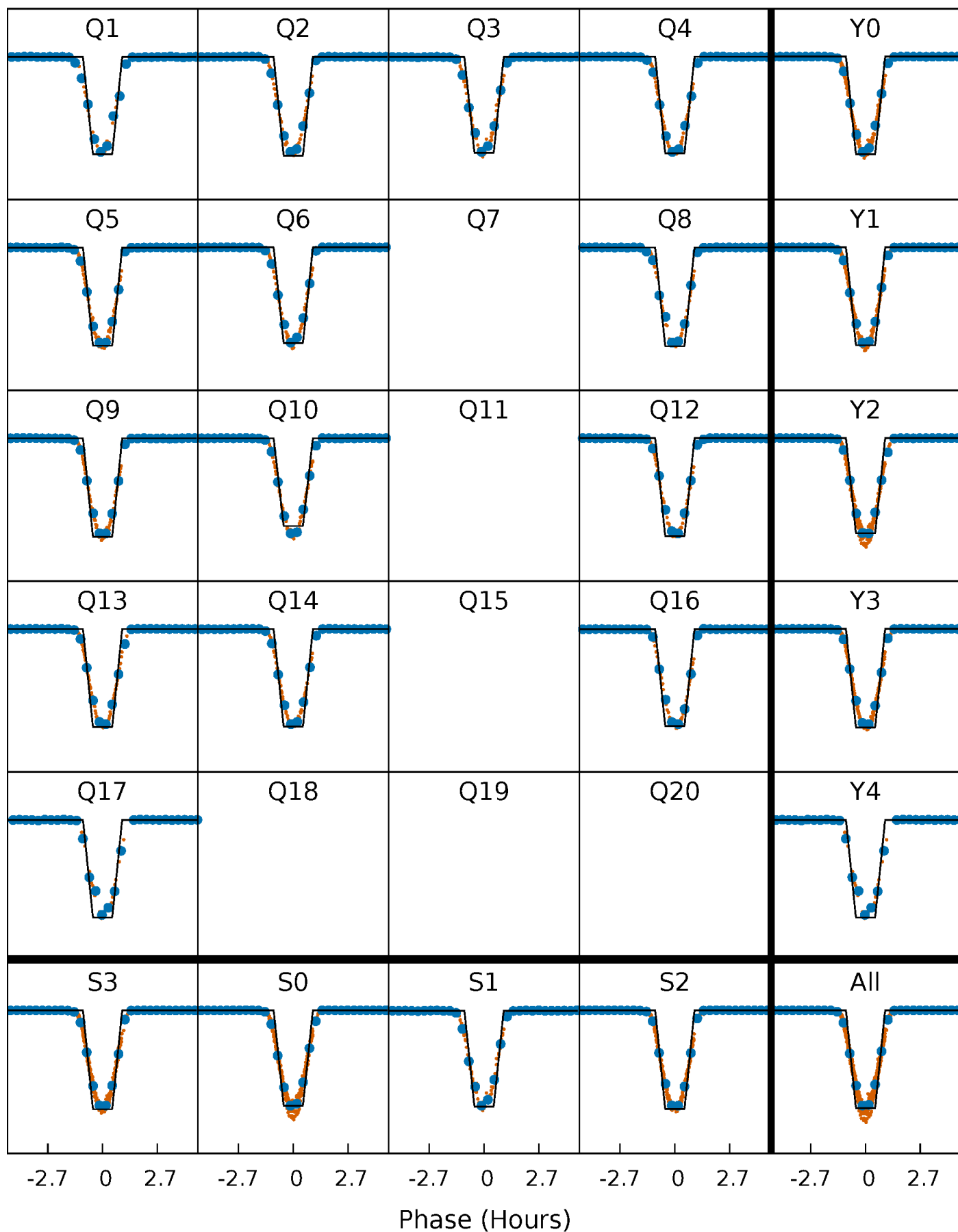
DV Quarter-Phased Transit Curves

TCE 010483644-01 P= 5.110773 Days $T_0=133.315319$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

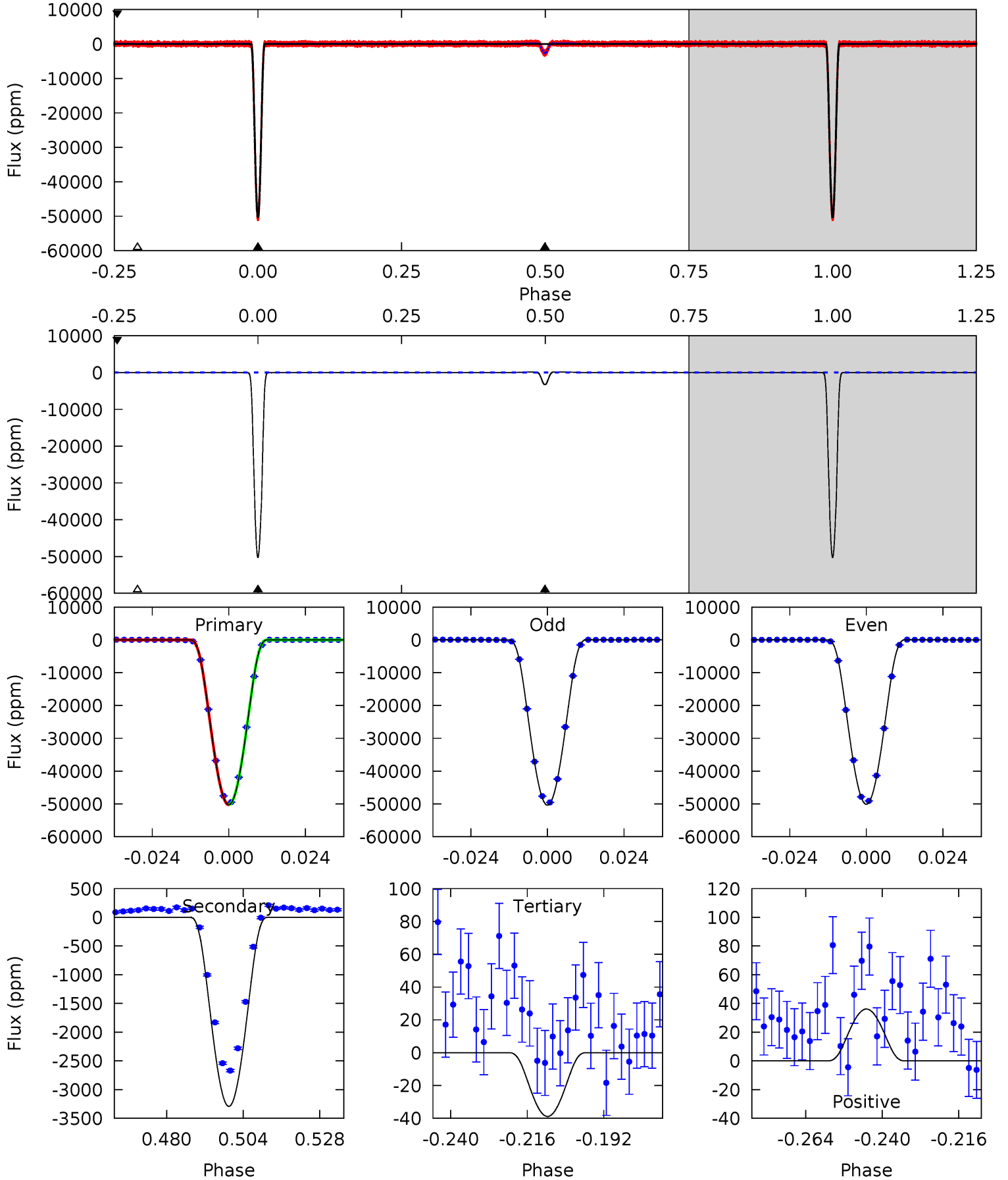
TCE 010483644-01 P= 5.110759 Days $T_0=133.317042$ (BKJD)



DV Model-Shift Uniqueness Test

010483644-01, P = 5.110773 Days, E = 128.204546 Days

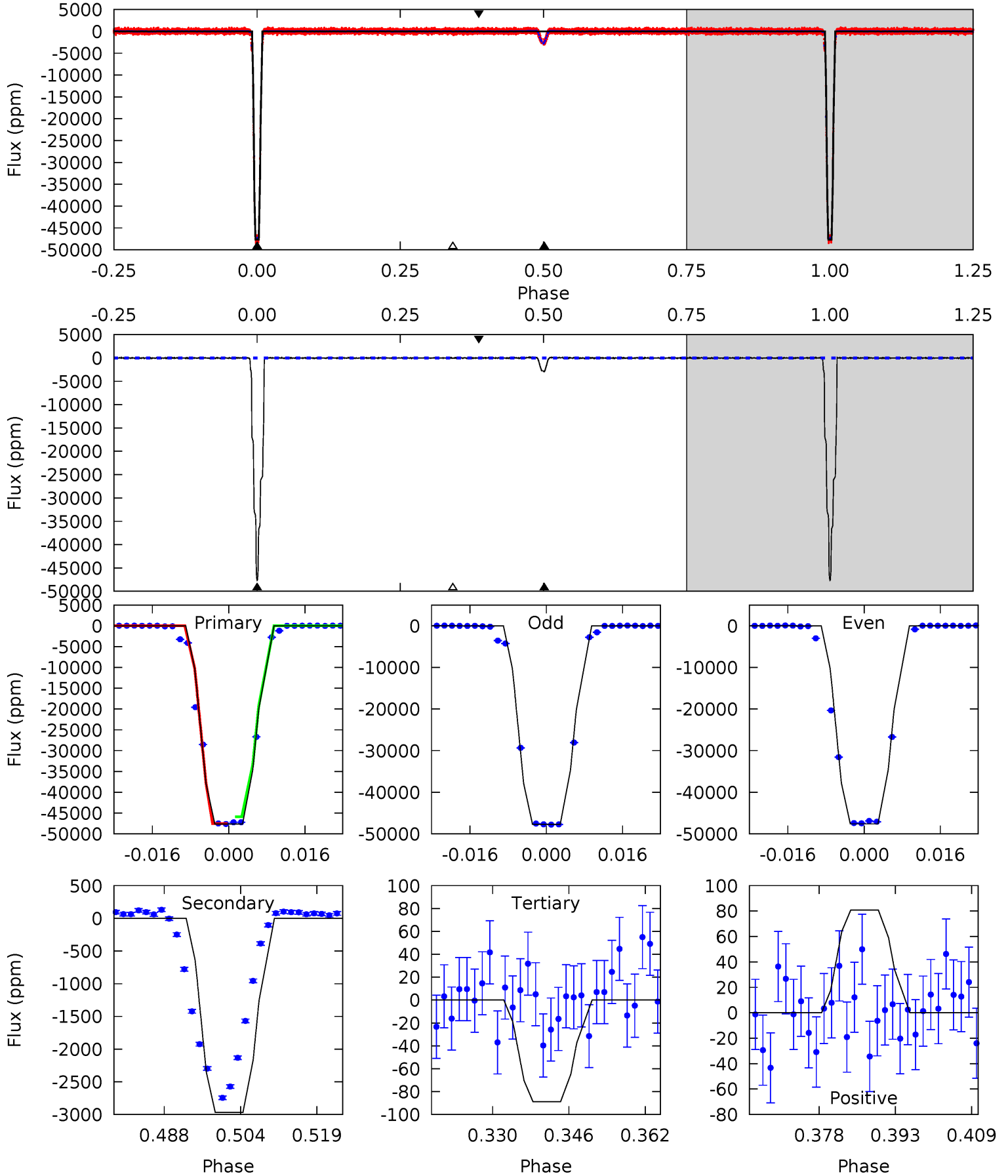
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6725	440.7	5.20	4.83	4.86	2.26	4.42	6720	6720	435.5	435.9	19.1	1.01	0.00	2.67



Alt Model-Shift Uniqueness Test

010483644-01, P = 5.110759 Days, E = 128.206283 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2195	136.7	4.08	3.72	4.94	2.41	1.35	2191	2191	132.6	133.0	2.70	1.00	0.00	0



Stellar Parameters For KIC 010483644

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6029^{+163}_{-181}	$4.523^{+0.052}_{-0.208}$	$-0.300^{+0.300}_{-0.300}$	$0.894^{+0.276}_{-0.092}$	$0.972^{+0.120}_{-0.120}$	$1.917^{+0.416}_{-1.050}$
	+3%/-3%	+1%/-5%	+100%/-100%	+31%/-10%	+12%/-12%	+22%/-55%
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 010483644-01 / KOI 6225.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-3293 ± 7	$31.34^{+5.34}_{-2.42}$	1491^{+117}_{-65}	3157^{+57}_{-64}	$5.937^{+0.941}_{-1.391}$
Alt.	-2968 ± 22	$22.55^{+3.99}_{-1.89}$	1501^{+110}_{-71}	3454^{+72}_{-74}	10^{+2}_{-3}

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

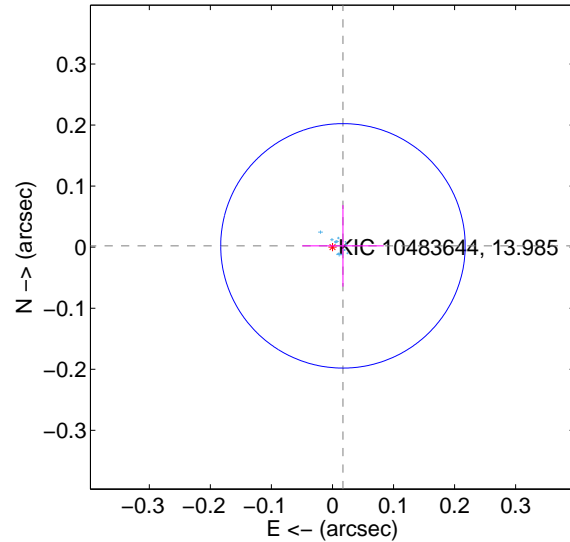
Supplemental centroid analysis for 010483644-01. Kepler magnitude: 13.98. Transit SNR 2847.55

There are 14 quarters with good PRF difference image offsets

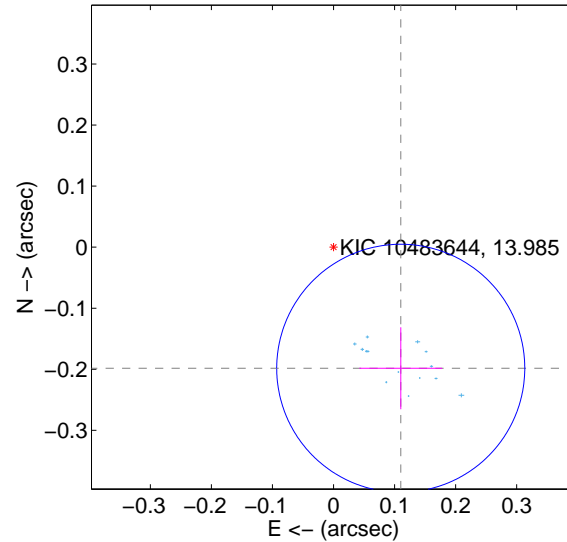
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.017 ± 0.067	0.26	-0.017 ± 0.067	0.002 ± 0.067
PRF-fit source offset from KIC position	0.227 ± 0.068	3.35	-0.110 ± 0.068	-0.198 ± 0.067
photometric centroid source offset	0.32 ± 0.00	87.85	-0.19 ± 0.00	-0.26 ± 0.00

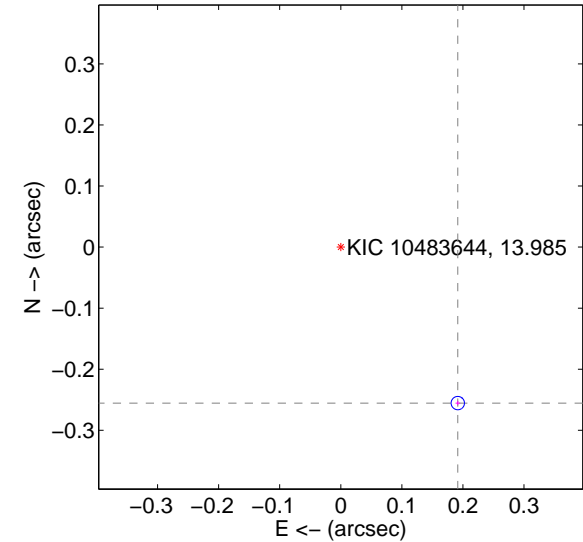
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

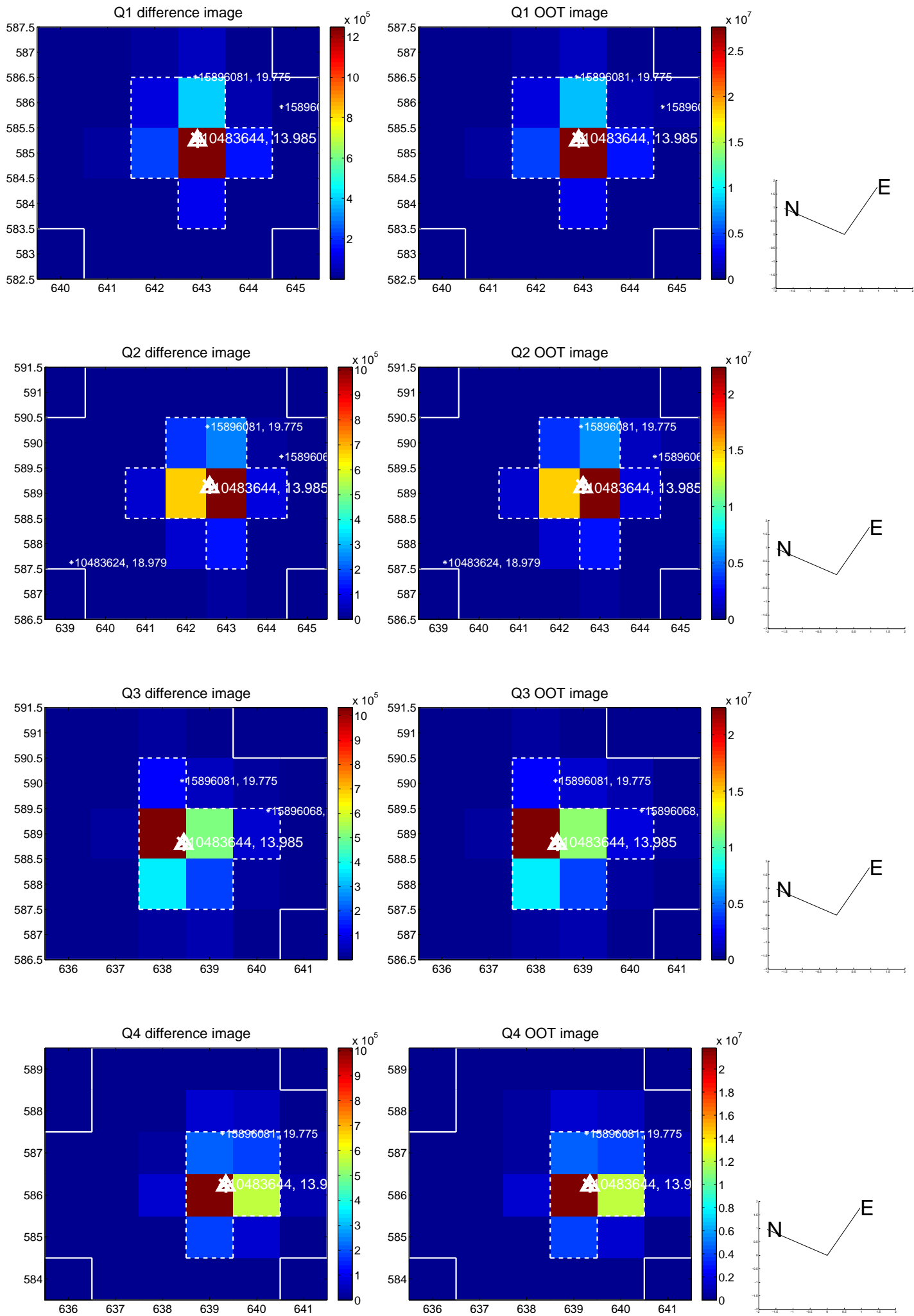


offset from photometric centroids

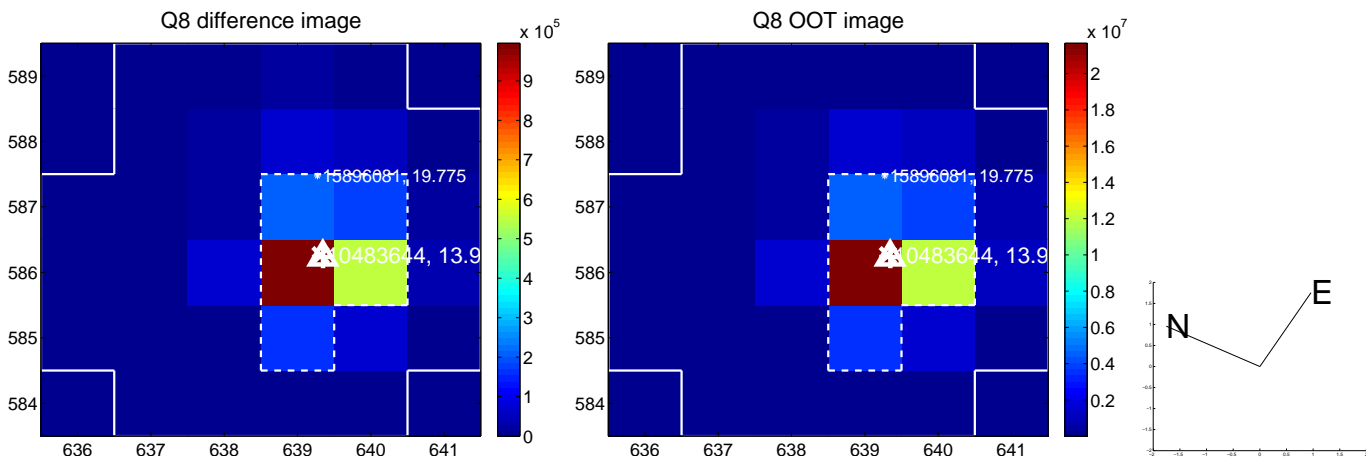
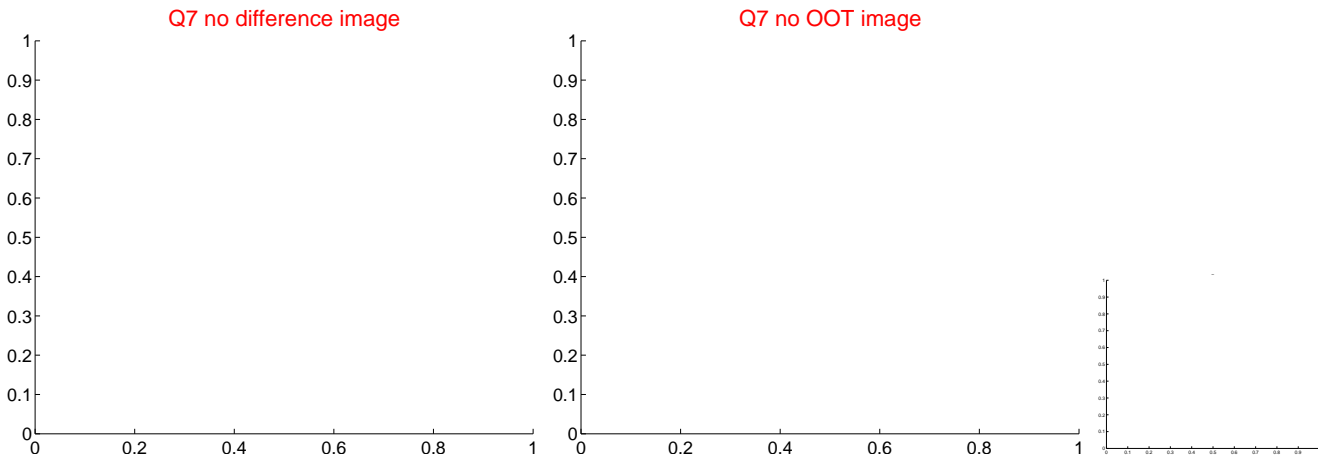
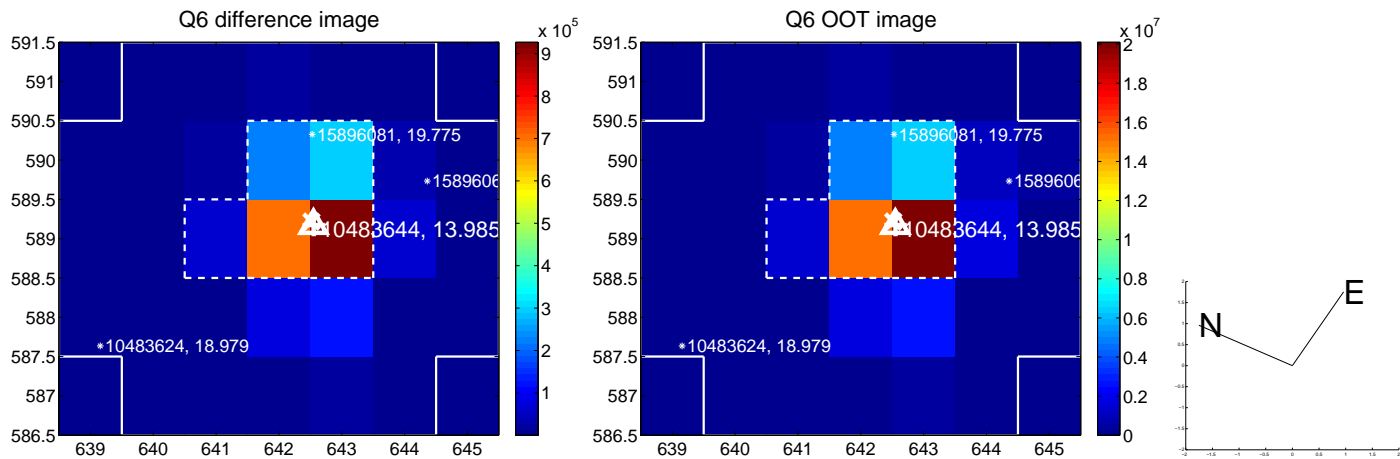
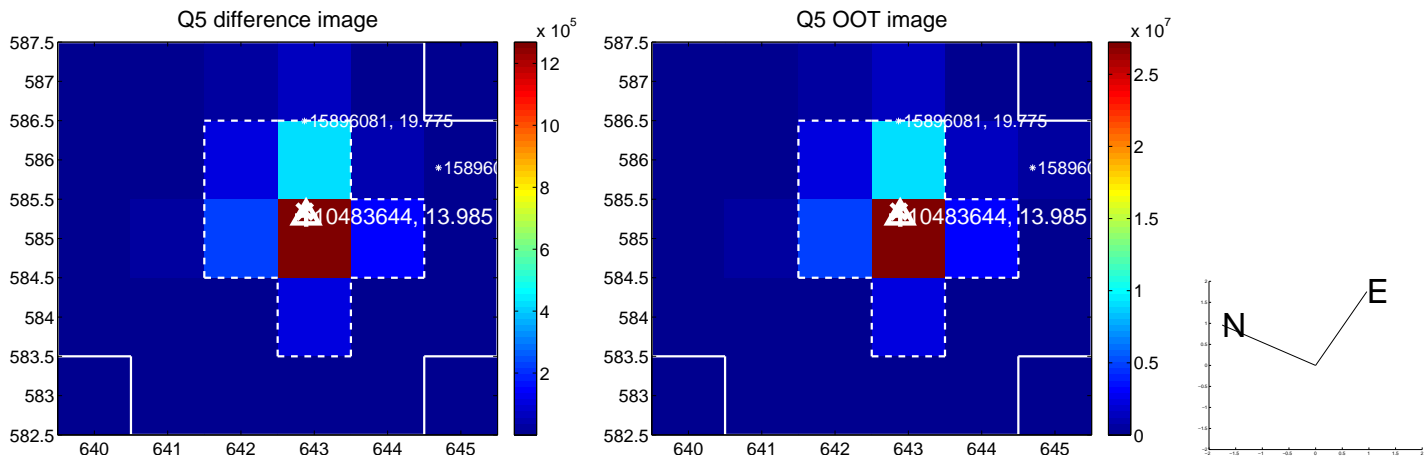


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

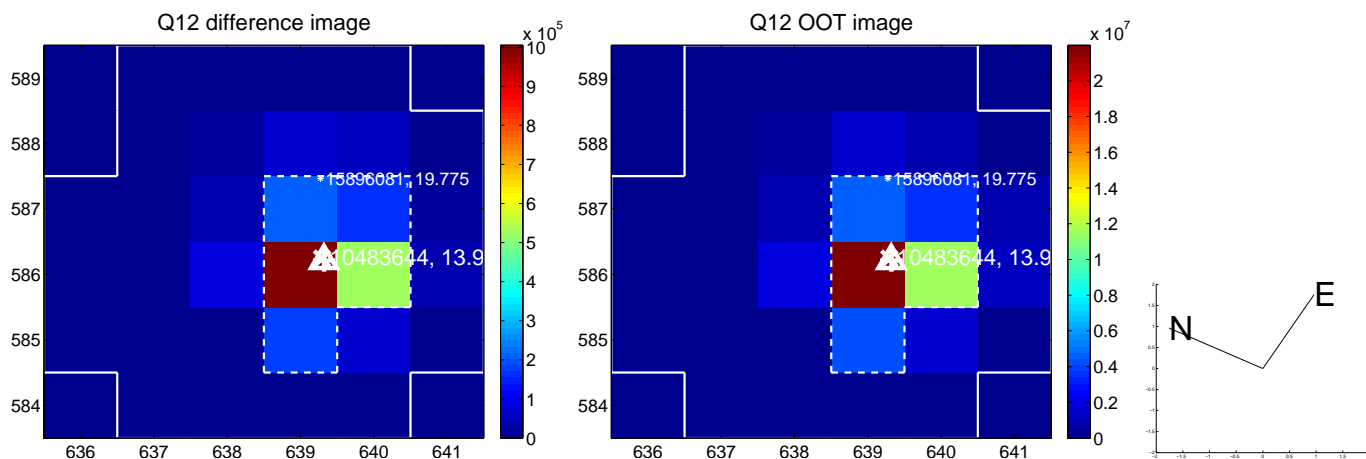
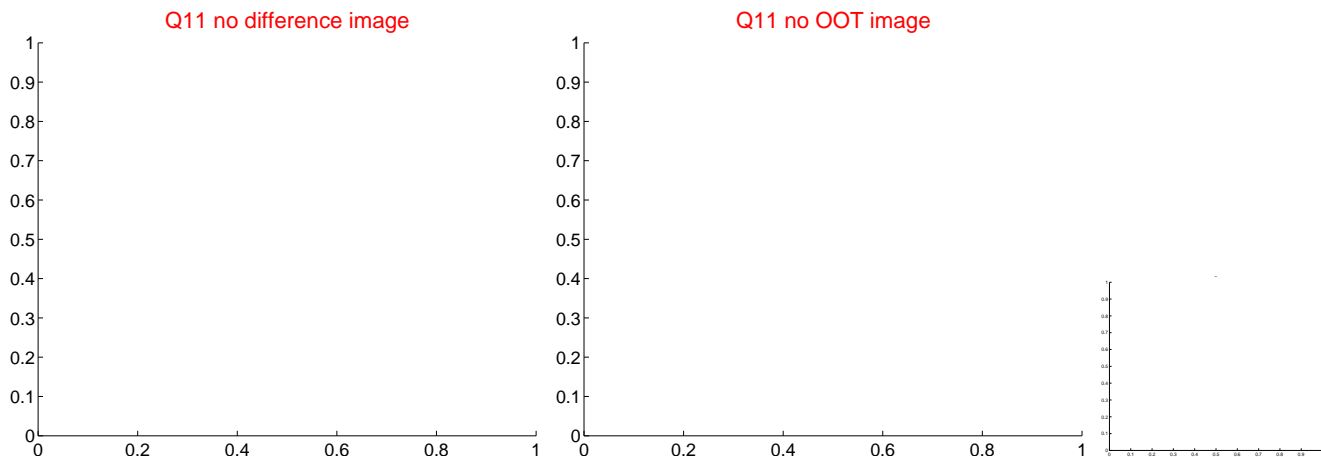
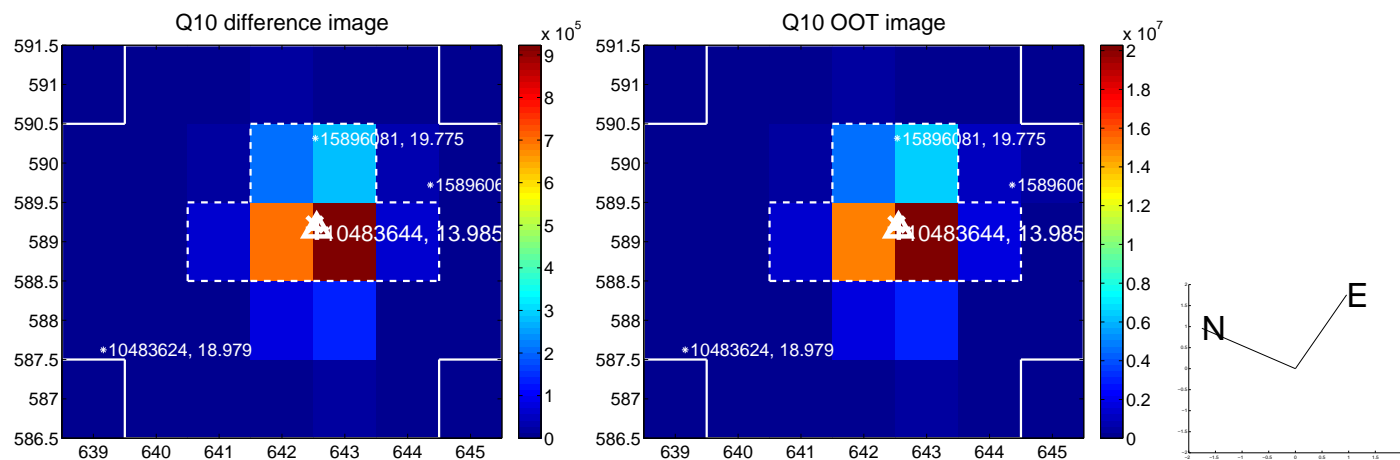
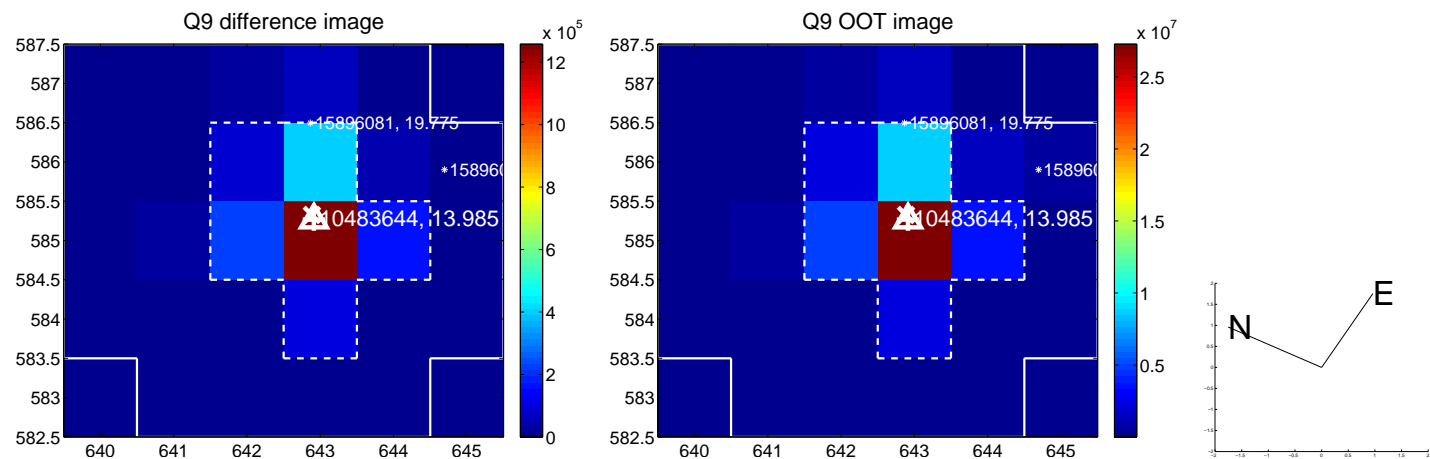
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



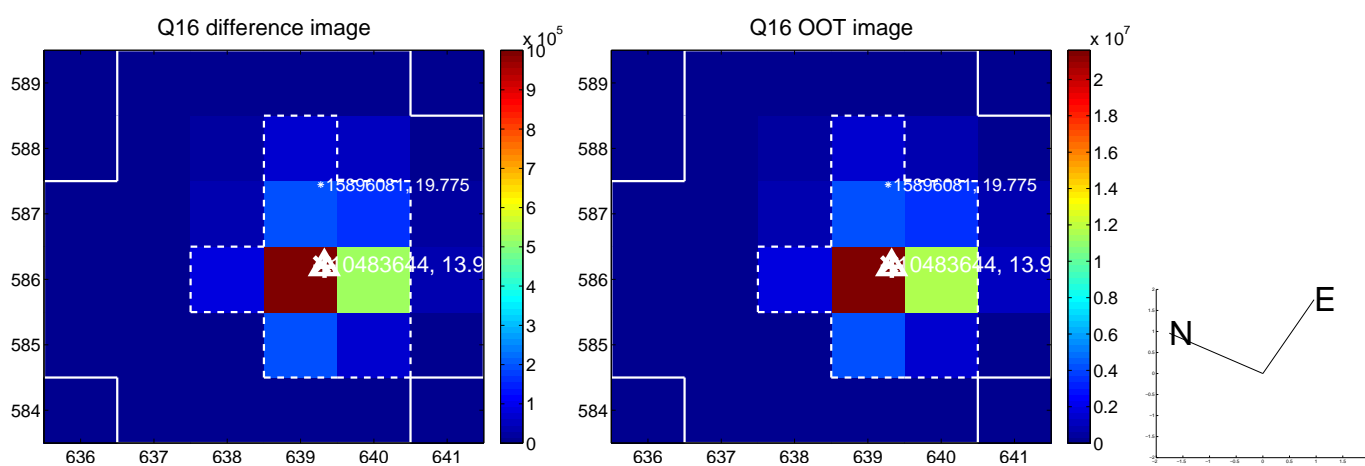
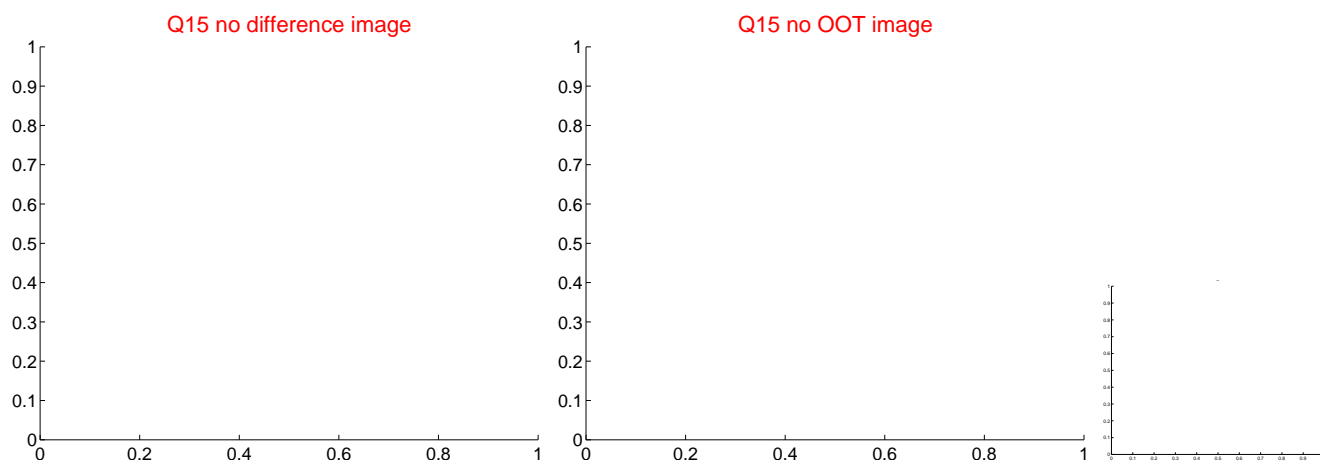
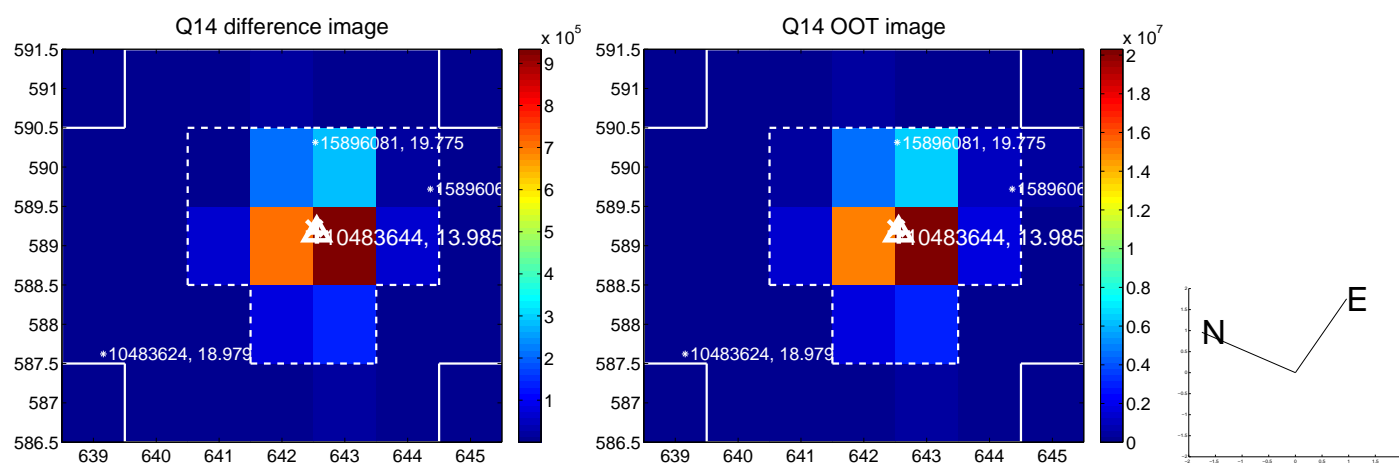
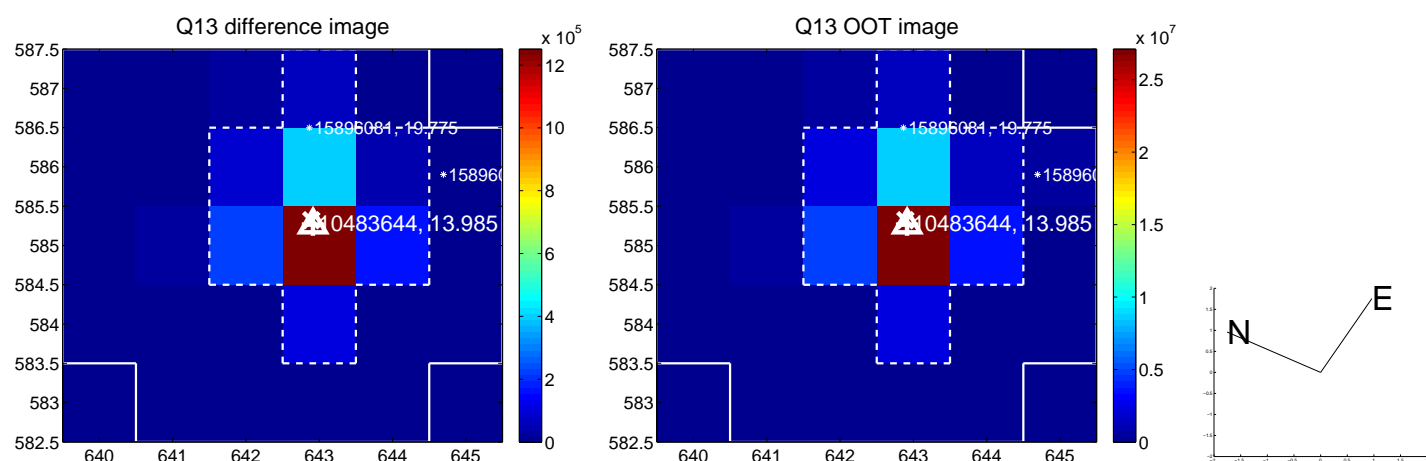
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



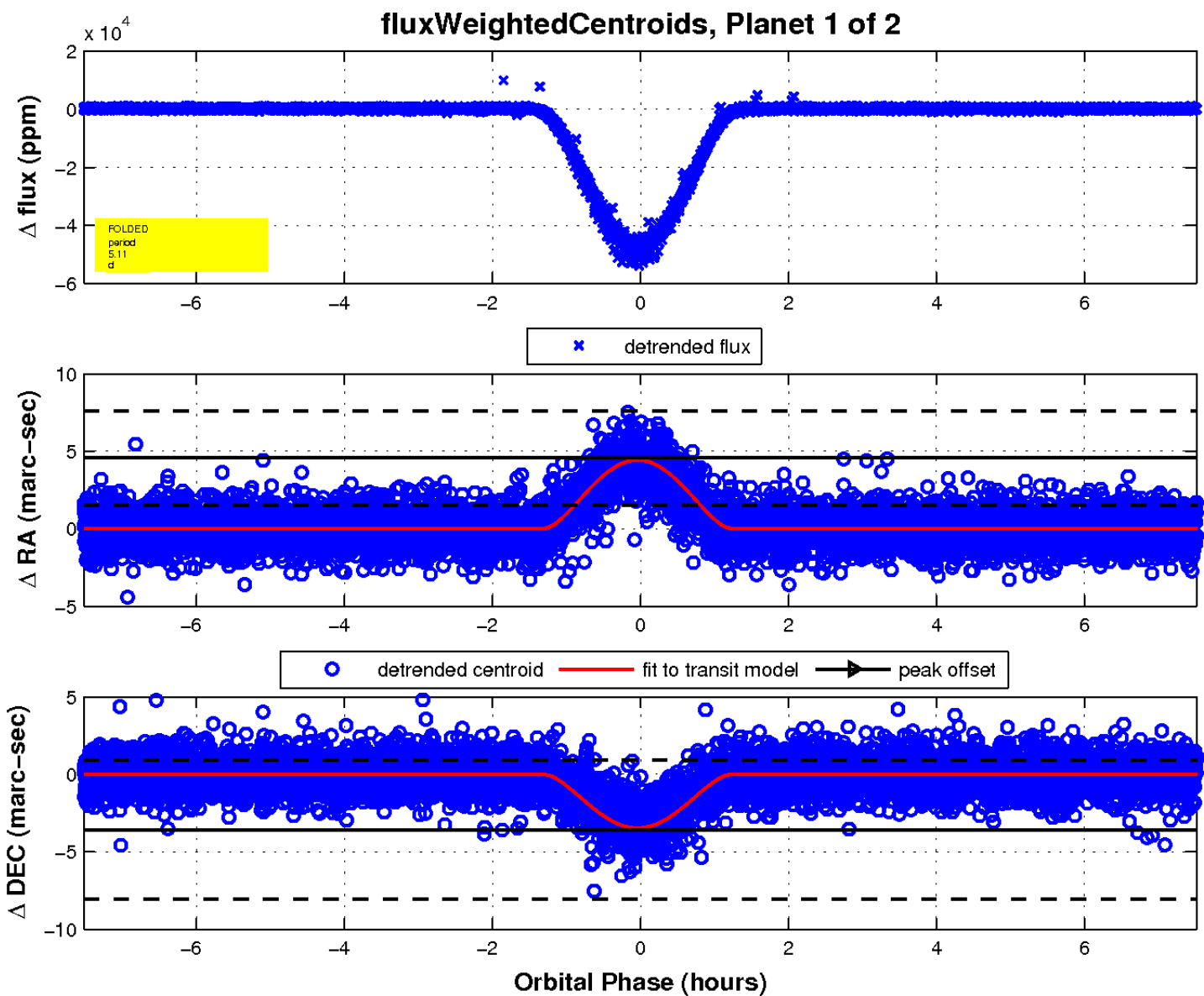
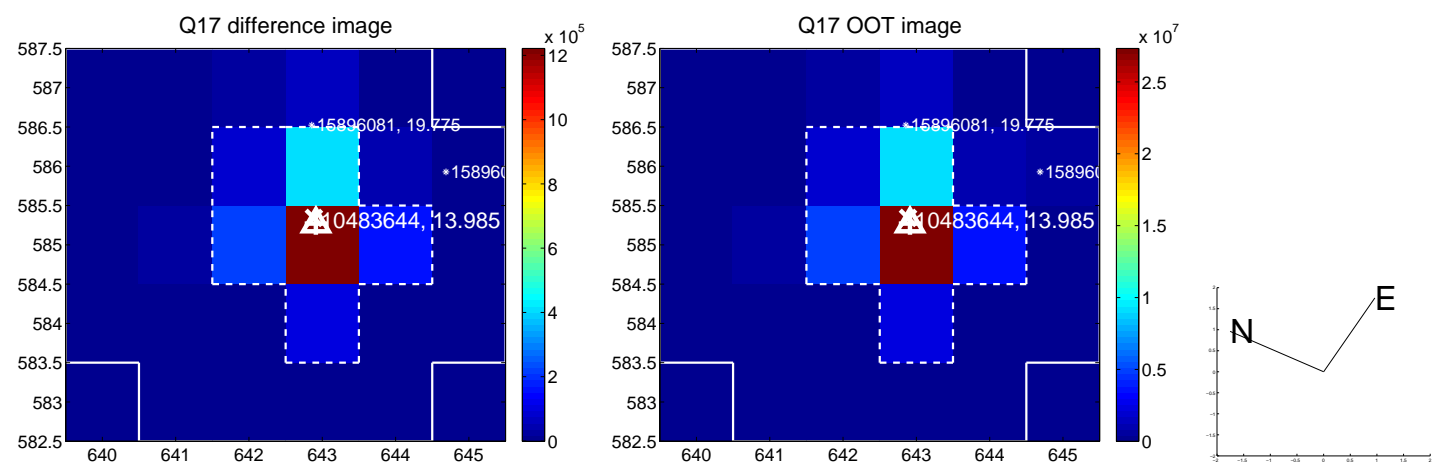
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

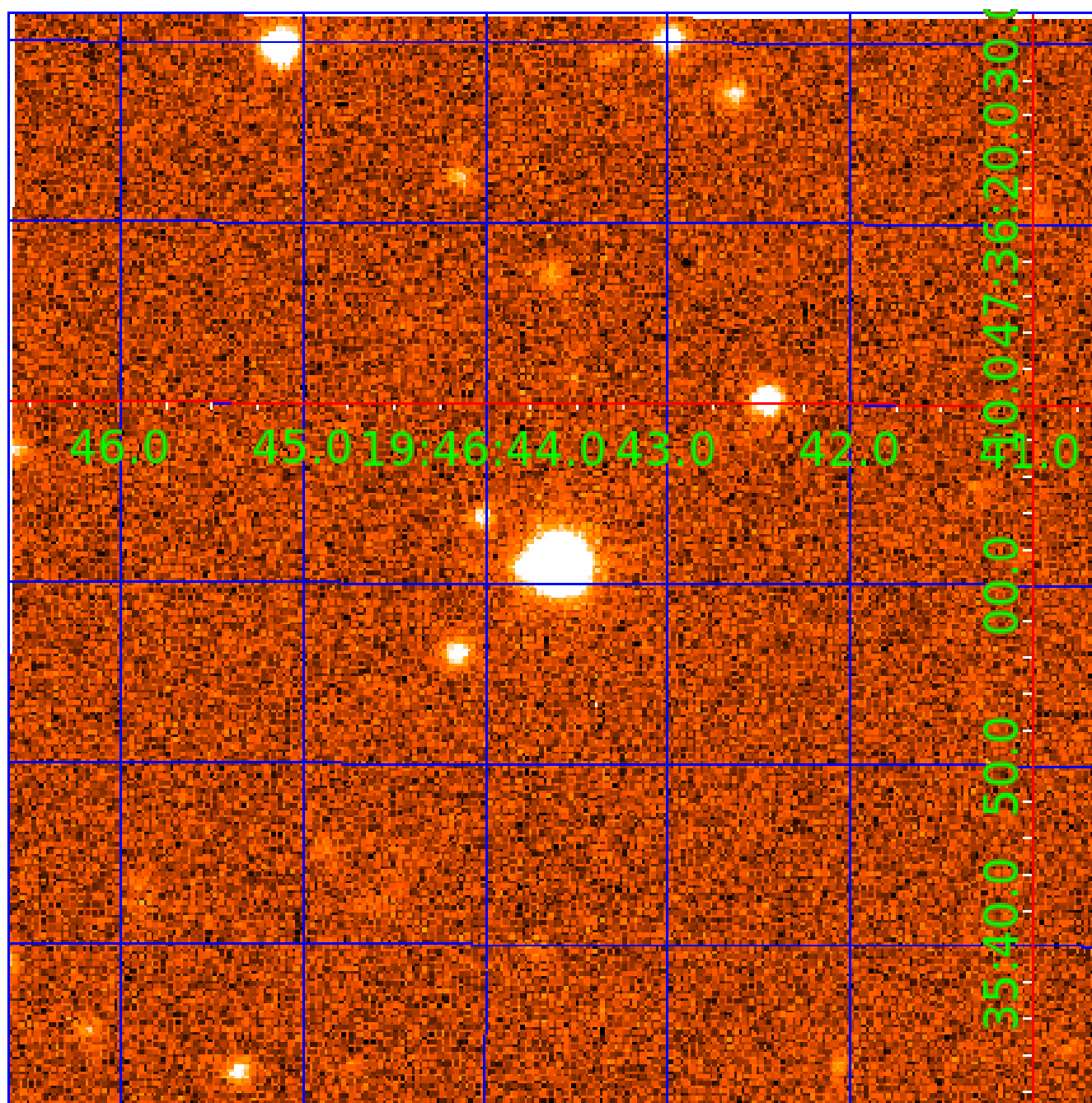


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010483644

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})
010483644-01	OBS	6225.01	5.110773	133.315319	50273.3	2.506	3979.6	2847.5	0.89	6029	30.66	285.84
010483644-02	OBS	No	2.555375	133.314119	3679.5	1.500	231.5	-1.0	0.89	6029	5.44	720.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010483644-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—HAS_SEC_TCE
010483644-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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.

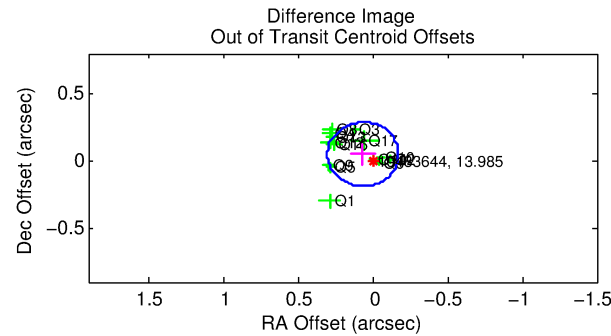
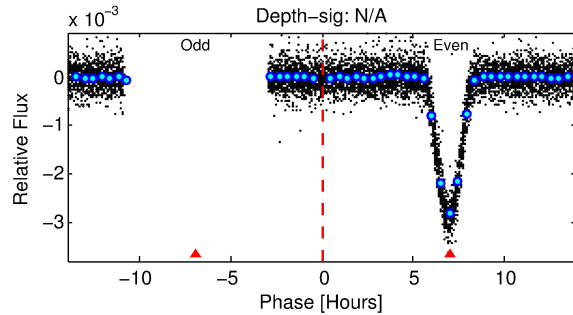
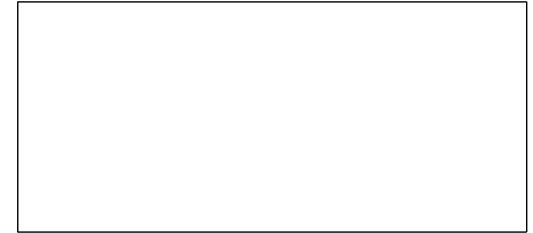
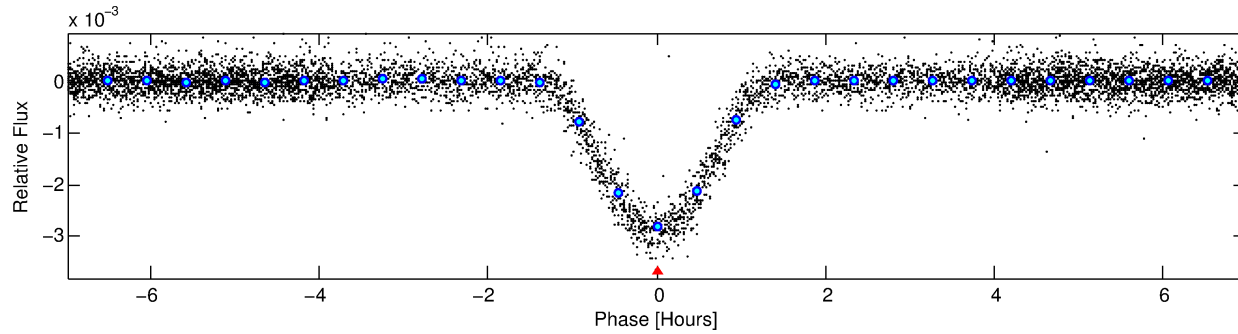
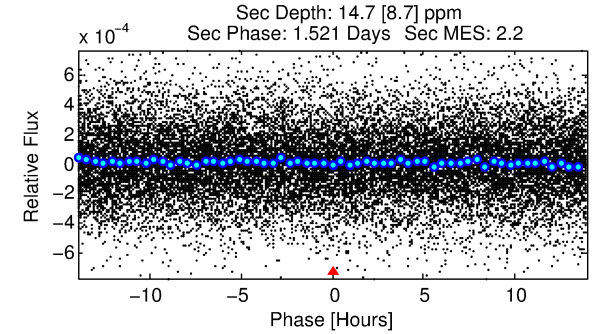
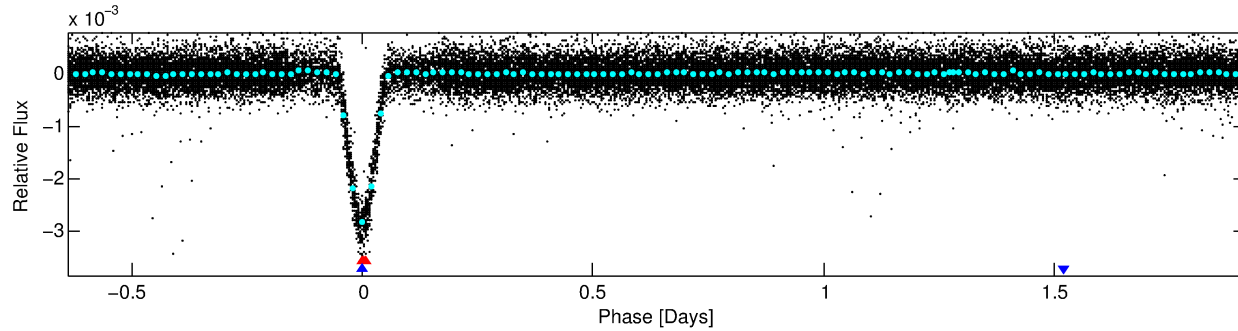
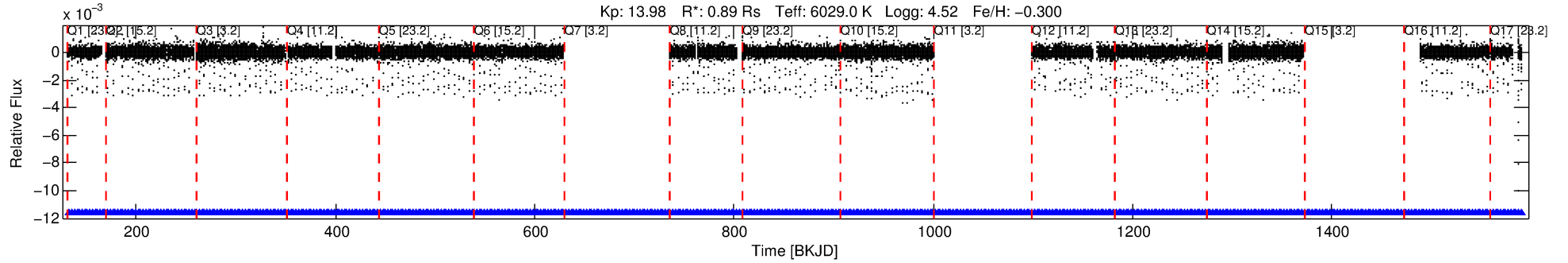
Ephemeris Match Information For 010483644-02

No Significant Match Found

DV One-Page Summary

KIC: 10483644 Candidate: 2 of 2 Period: 2.555 d

KOI: K06225 Corr: No Ephemeris Match



TPS TCE Results:

Period = 2.55537 d
Epoch = 133.3141 BKJD

DV fit results are unavailable

DV Diagnostic Results:

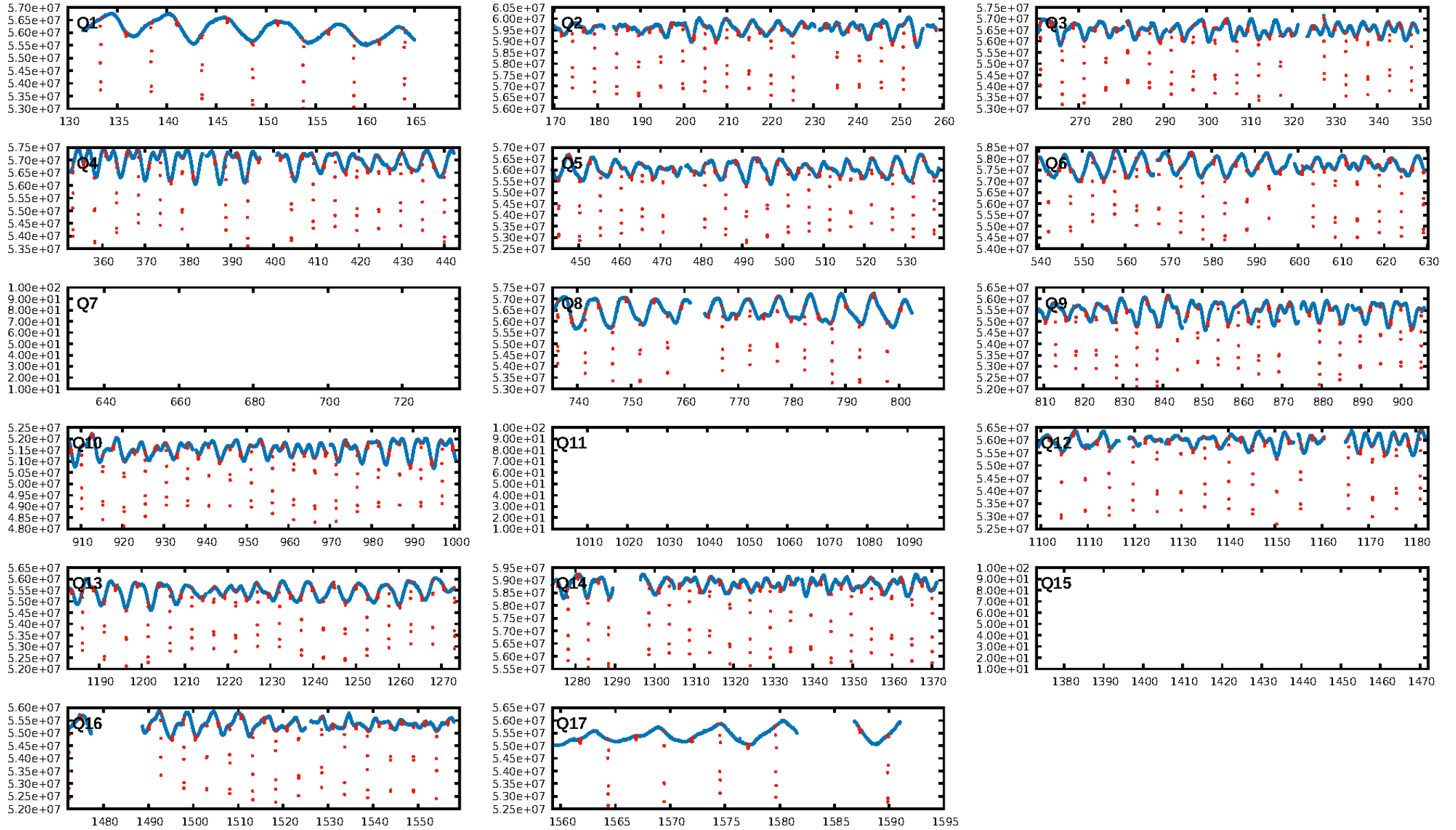
ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [21.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [197/197]
GhostDiagnostic-chr: 3.744

Centroid-sig: 0.0%
Centroid-so: 0.304 arcsec [7.56σ]
OotOffset-rm: 0.082 arcsec [1.03σ]
KicOffset-rm: 0.153 arcsec [1.89σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

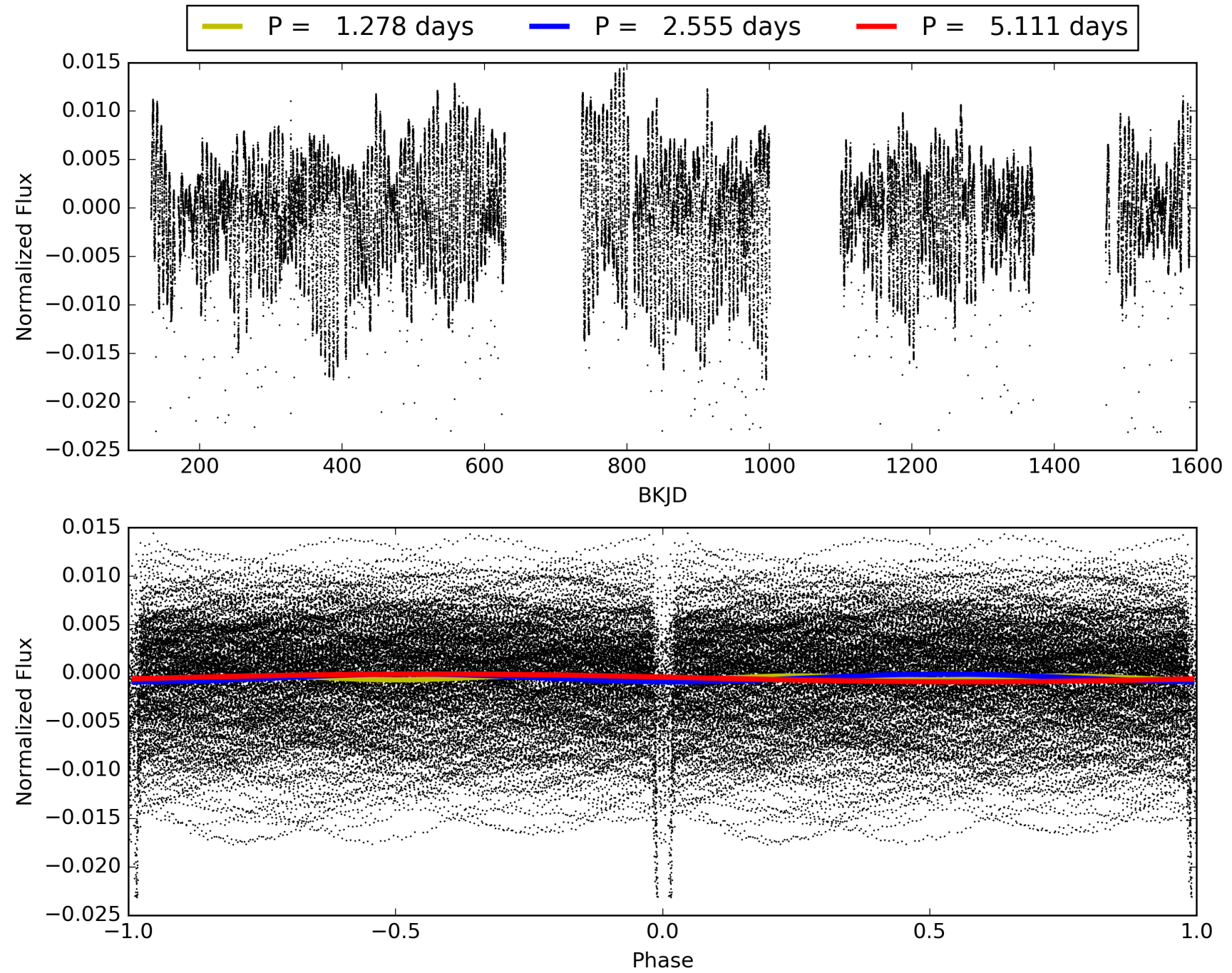
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:06:10 Z

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

TCE 010483644-02, PDC Light Curves

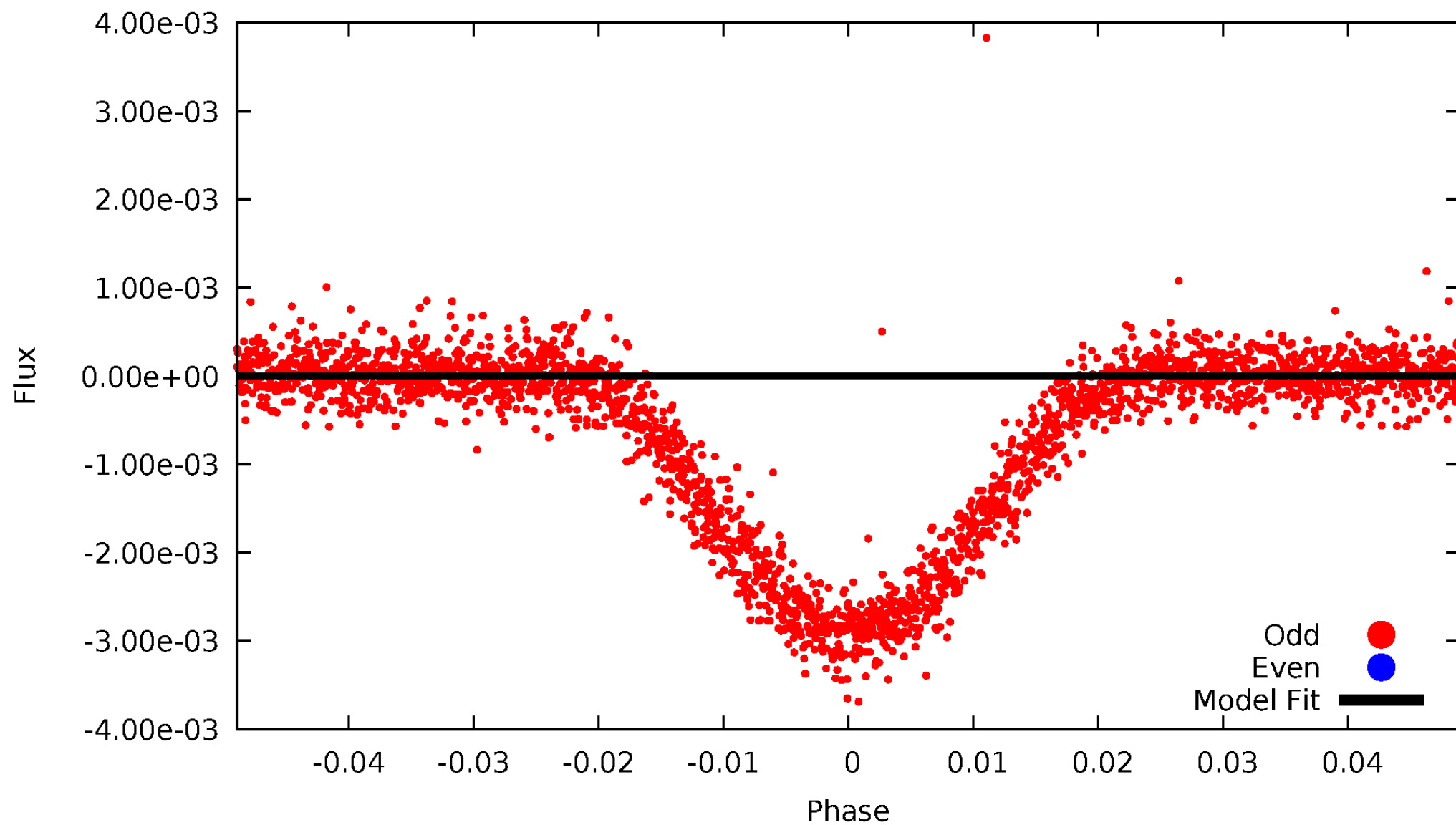


TCE 010483644-02



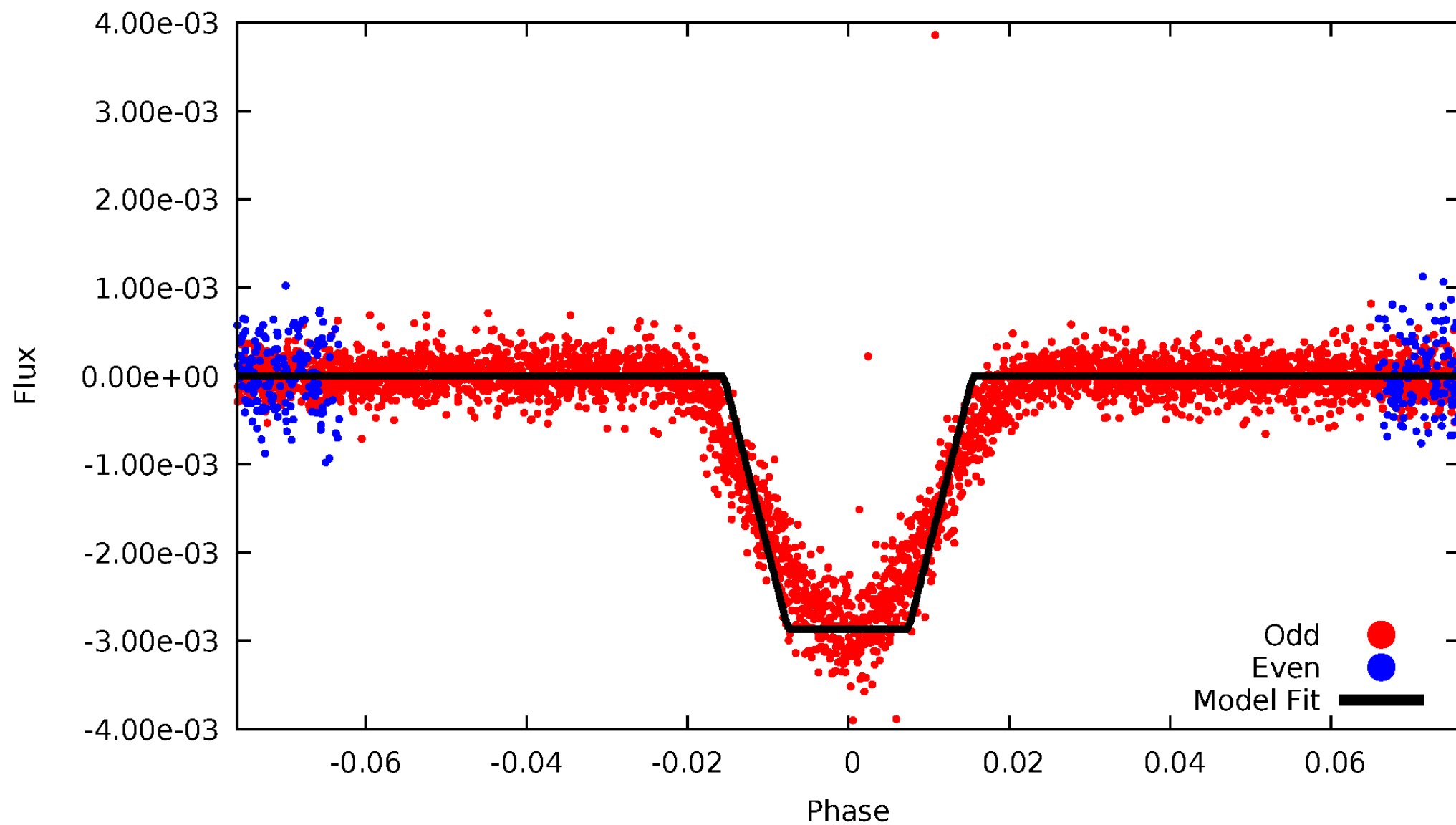
DV Odd/Even

TCE 010483644-02



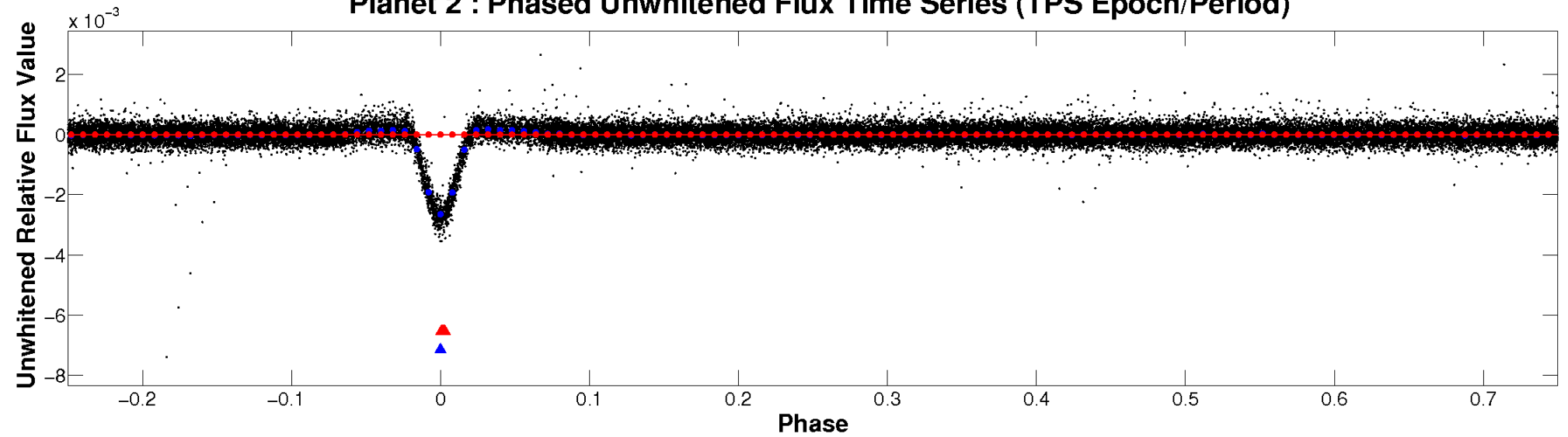
ALT Odd/Even

TCE 010483644-02



Non-Whitened Vs. Whitened Light Curve

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

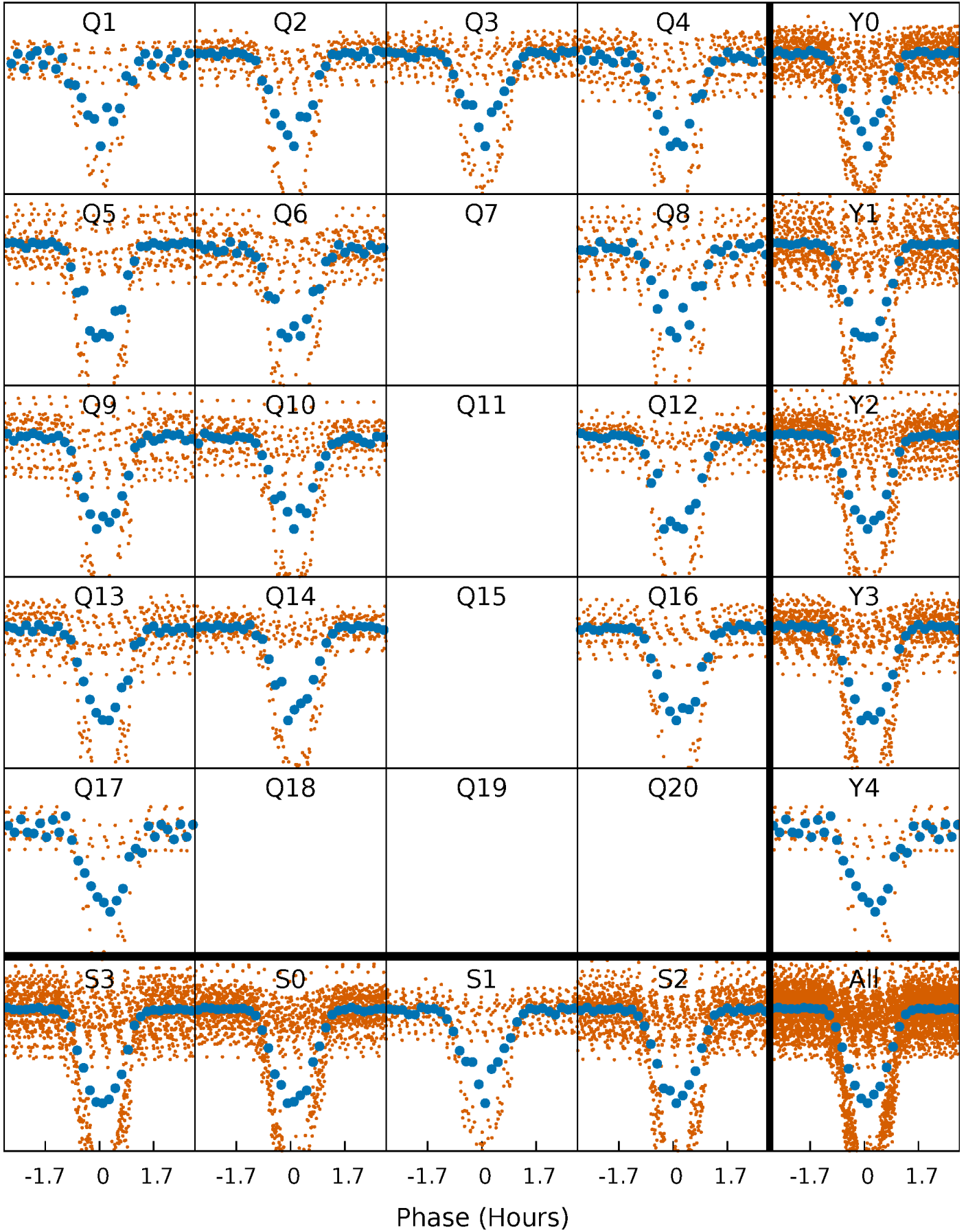


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



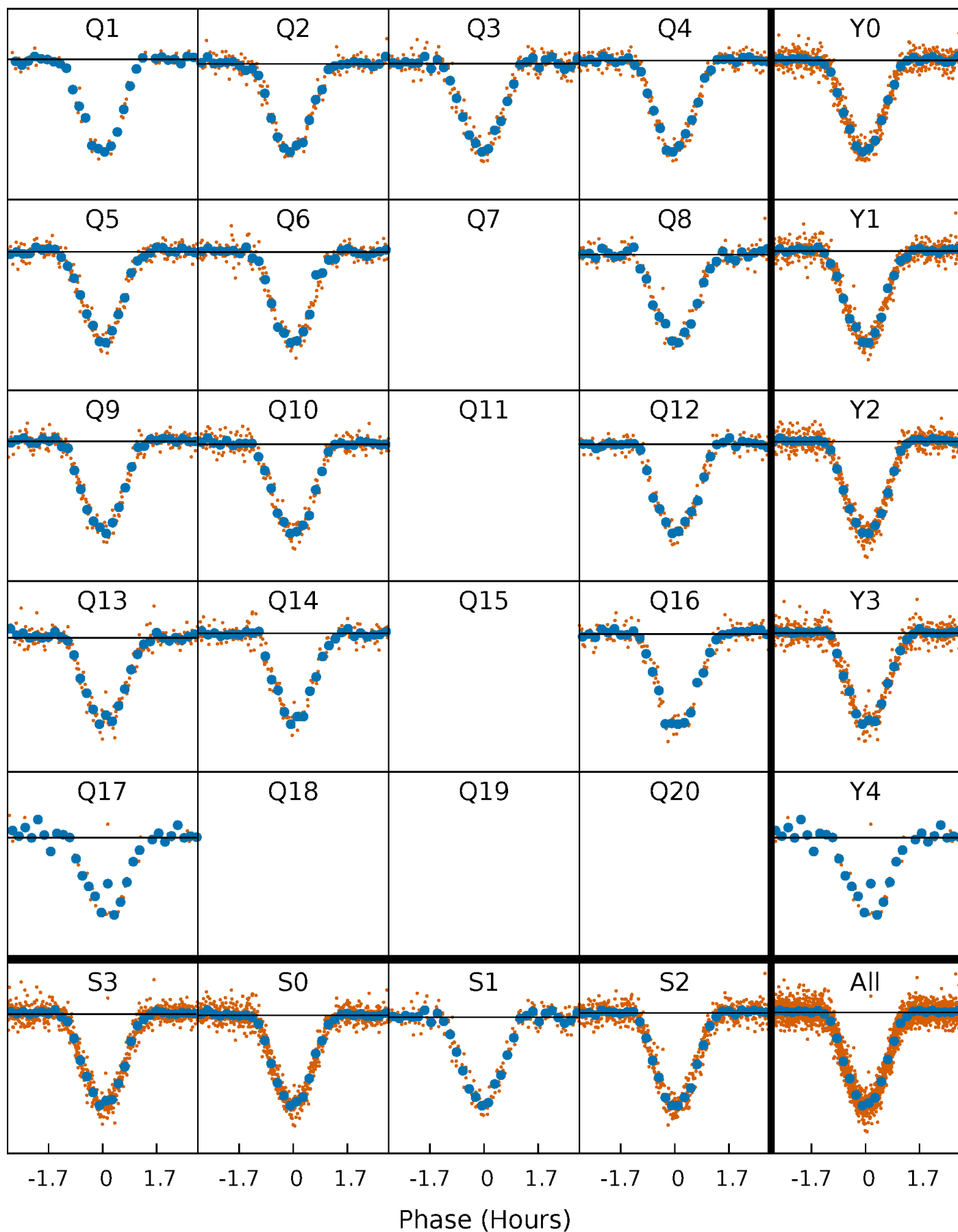
PDC Quarter-Phased Transit Curves

TCE 010483644-02 P= 2.555375 Days $T_0=133.314119$ (BKJD)



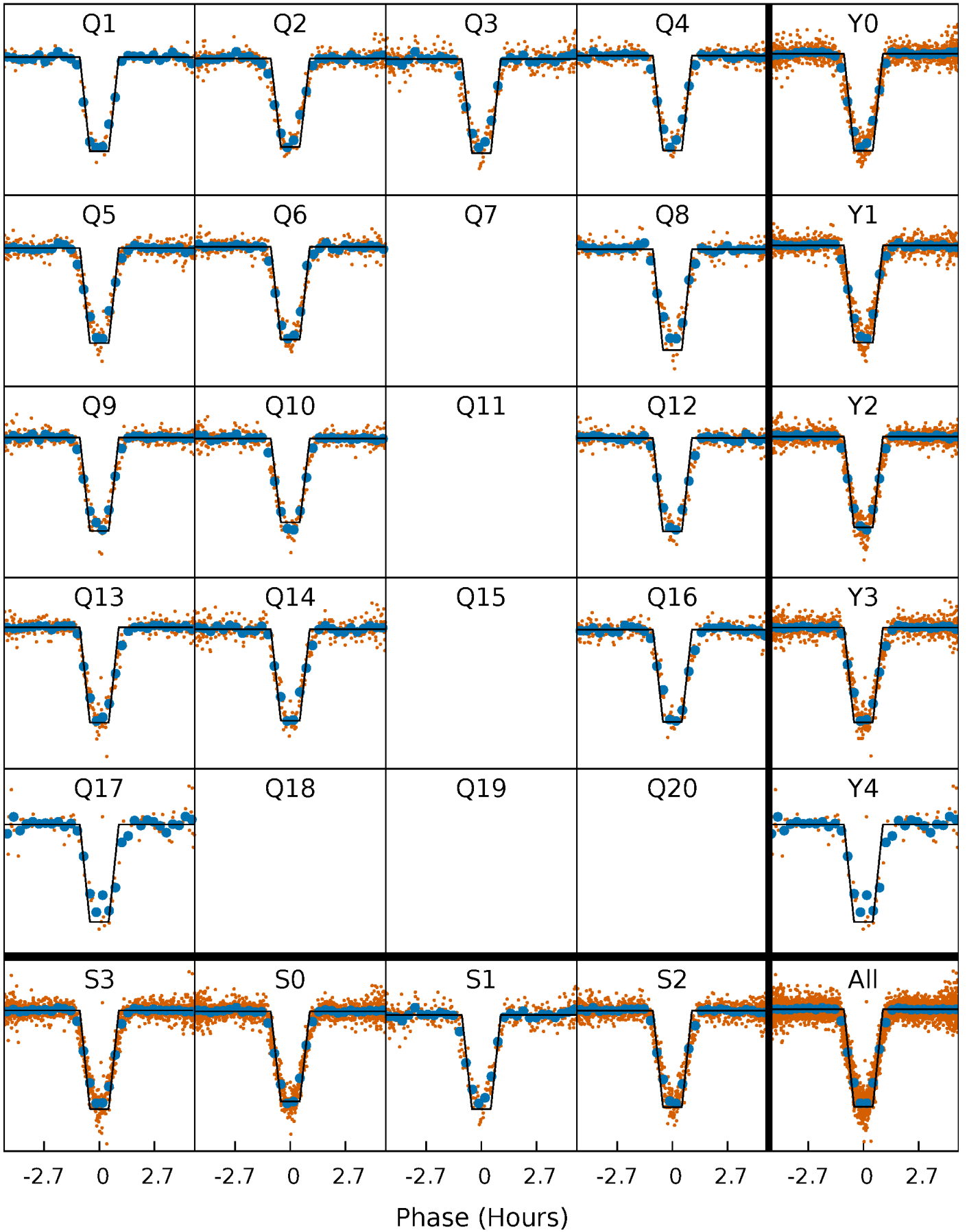
DV Quarter-Phased Transit Curves

TCE 010483644-02 P= 2.555375 Days $T_0=133.314119$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

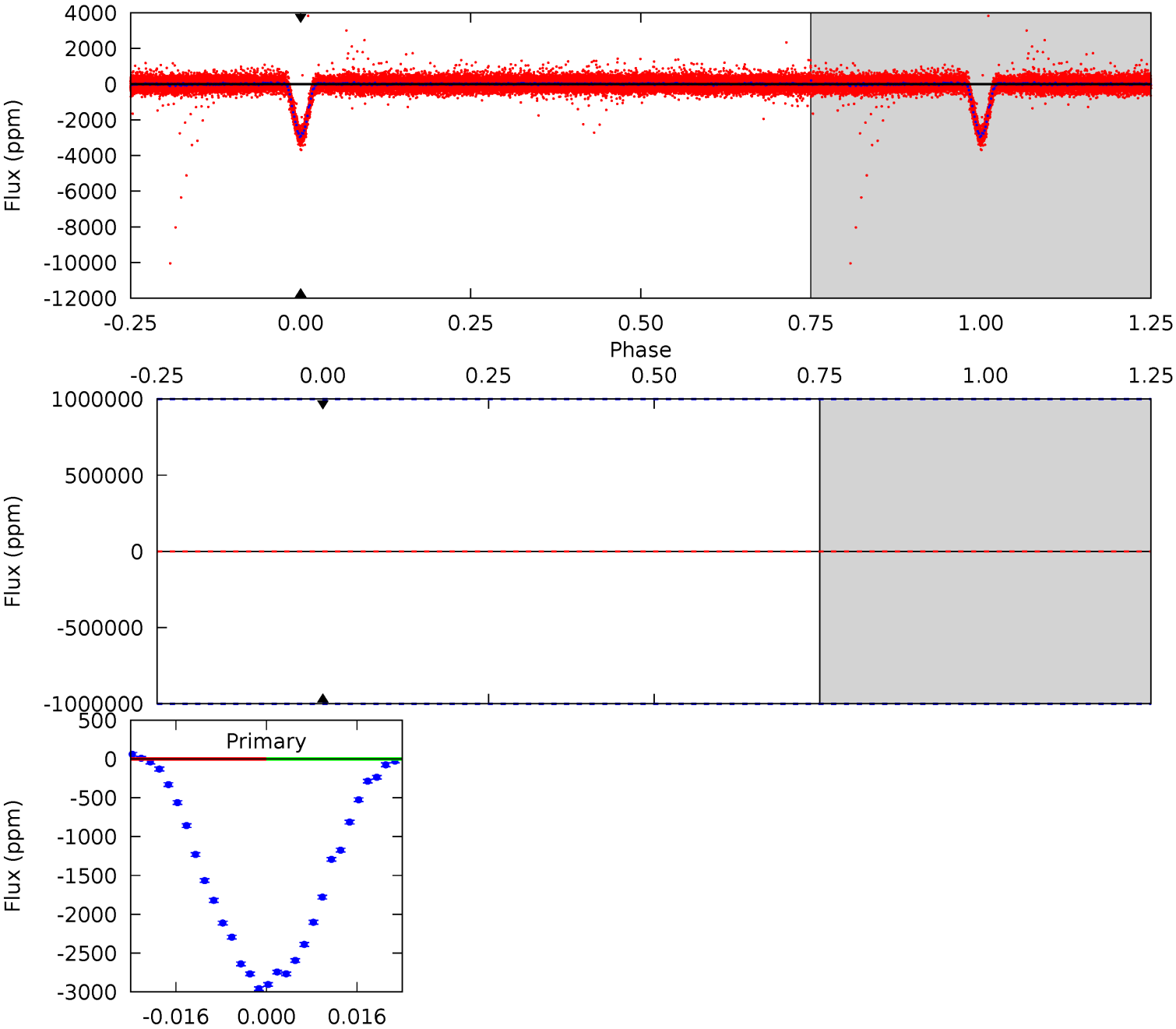
TCE 010483644-02 P= 2.555375 Days $T_0=133.314763$ (BKJD)



DV Model-Shift Uniqueness Test

010483644-02, P = 2.555375 Days, E = 130.758744 Days

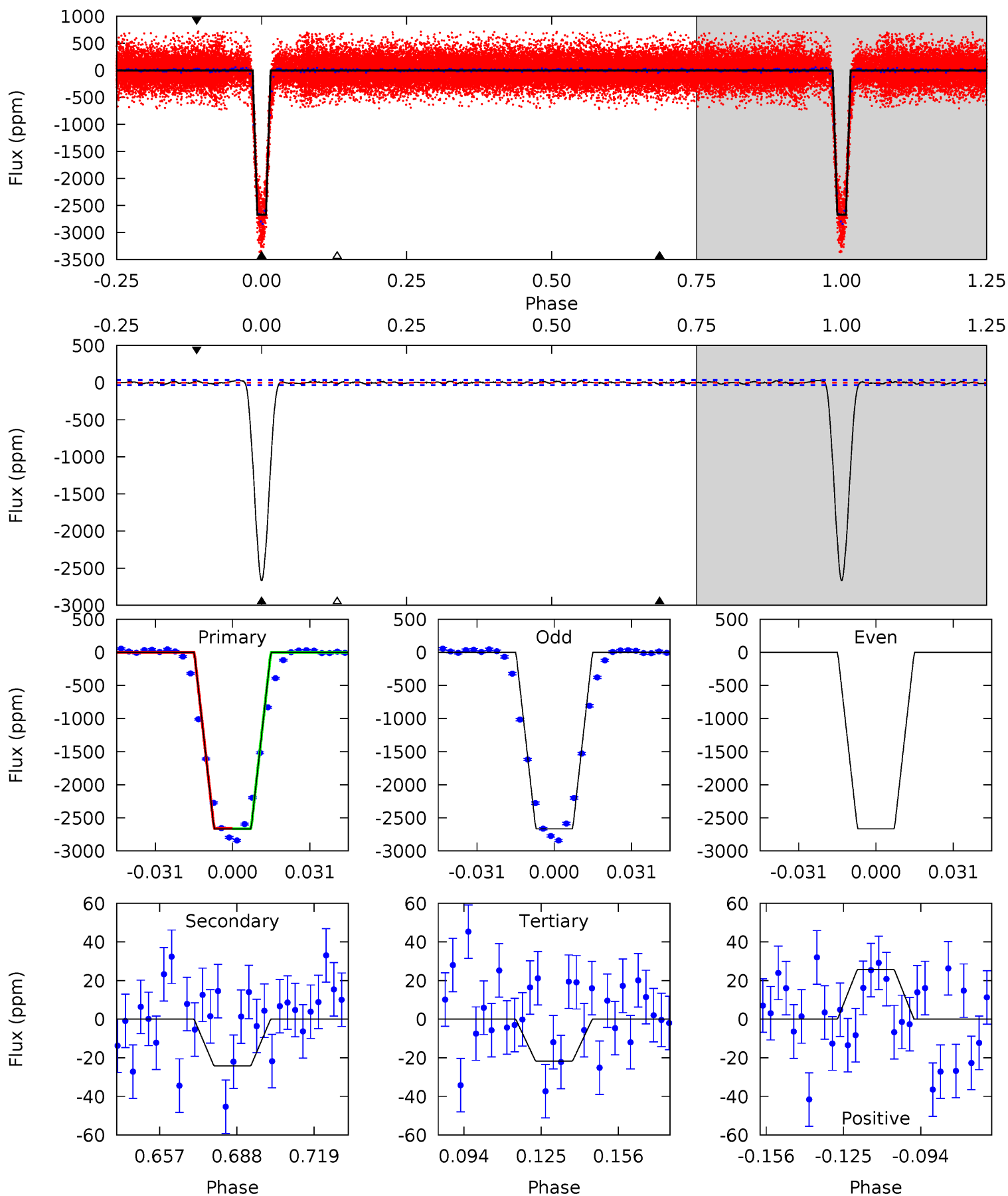
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

010483644-02, P = 2.555375 Days, E = 130.759388 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
386.9	3.50	3.15	3.72	4.80	2.15	1.24	383.7	383.1	0.35	-0.23	0	1.00	0.01	0.43



Stellar Parameters For KIC 010483644

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6029^{+163}_{-181}	$4.523^{+0.052}_{-0.208}$	$-0.300^{+0.300}_{-0.300}$	$0.894^{+0.276}_{-0.092}$	$0.972^{+0.120}_{-0.120}$	$1.917^{+0.416}_{-1.050}$
	+3%/-3%	+1%/-5%	+100%/-100%	+31%/-10%	+12%/-12%	+22%/-55%
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 010483644-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$9.67^{+8.33}_{-6.66}$	1883^{+131}_{-82}	4026^{+13257}_{-19177}	11^{+1218}_{-1031}
Alt.	-24 ± 7	$9.71^{+8.67}_{-6.94}$	1885^{+130}_{-90}	-2163^{+5193}_{-223}	$0.190^{+1.709}_{-0.142}$

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

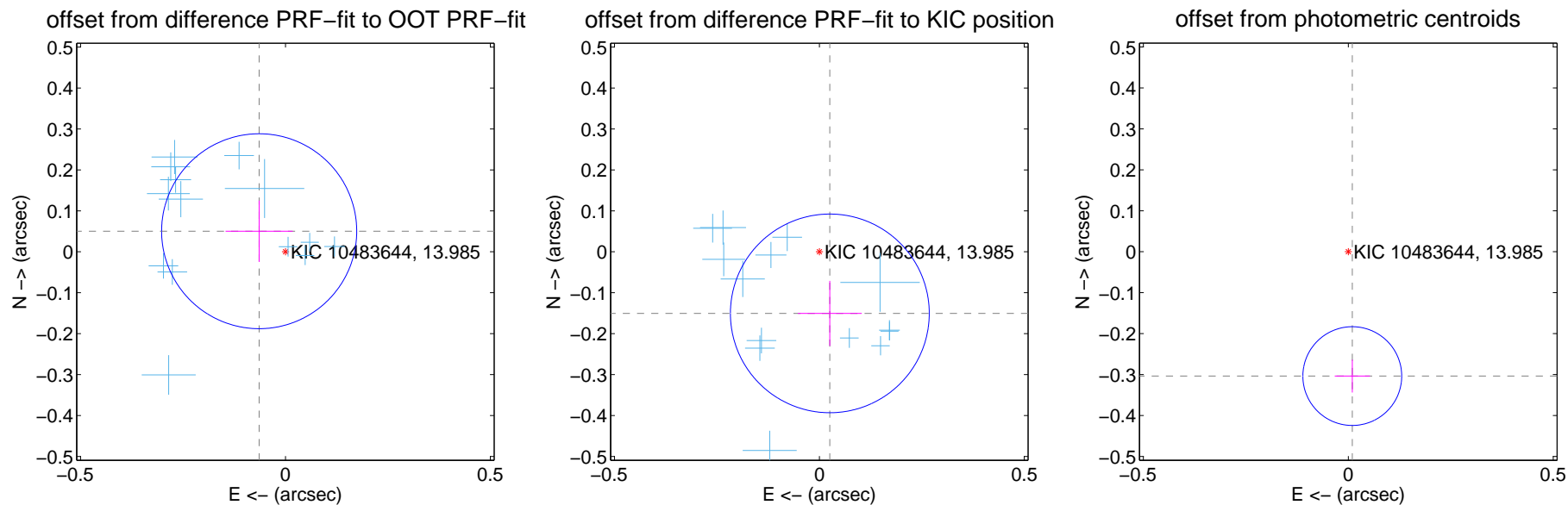
DV Centroid Data

Supplemental centroid analysis for 010483644-02. Kepler magnitude: 13.98. Transit SNR -1.00

There are 14 quarters with good PRF difference image offsets

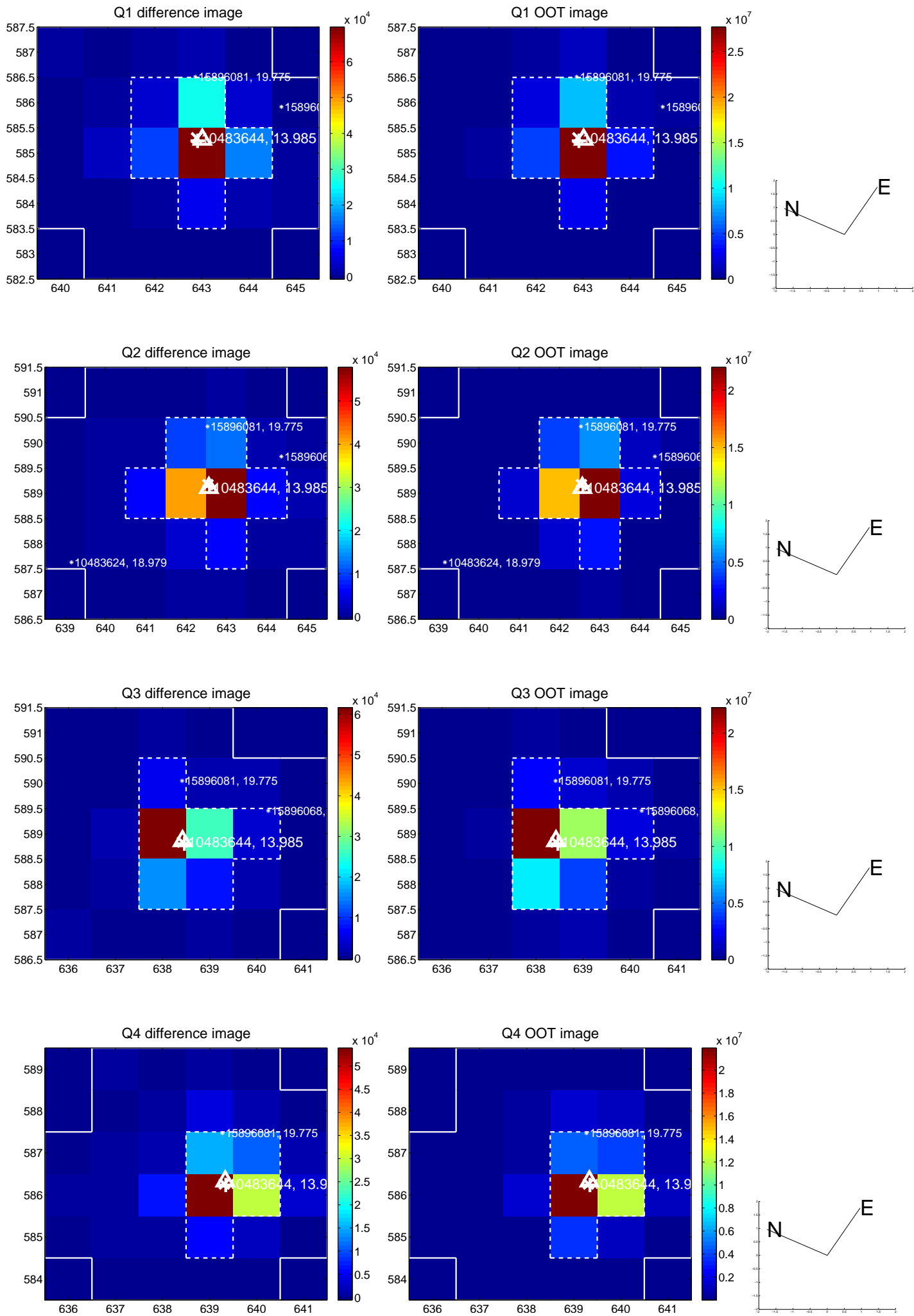
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.082 ± 0.079	1.03	0.064 ± 0.082	0.050 ± 0.075
PRF-fit source offset from KIC position	0.153 ± 0.081	1.89	-0.026 ± 0.078	-0.150 ± 0.079
photometric centroid source offset	0.30 ± 0.04	7.56	-0.01 ± 0.04	-0.30 ± 0.04

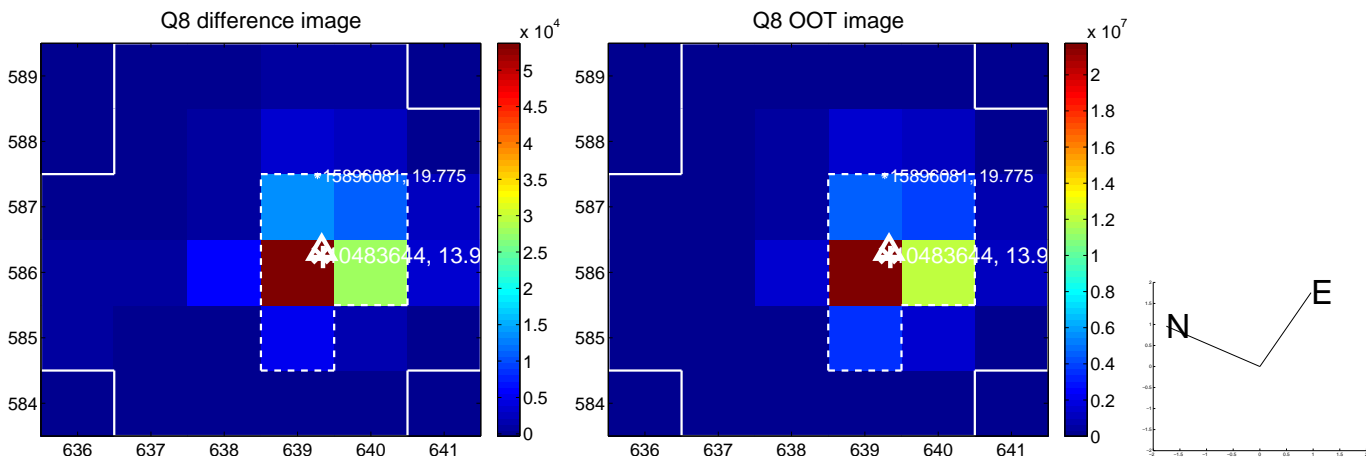
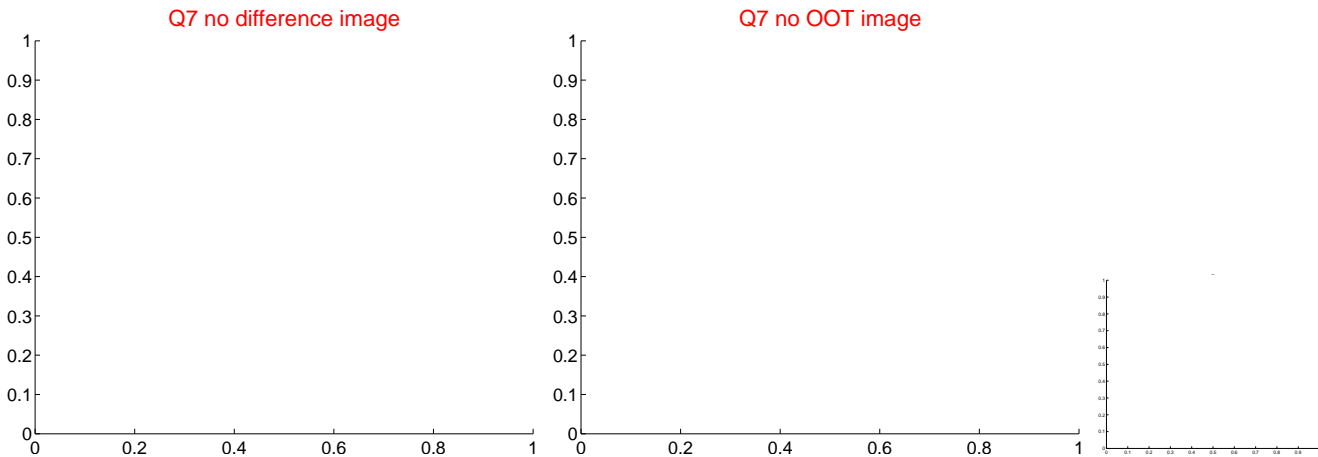
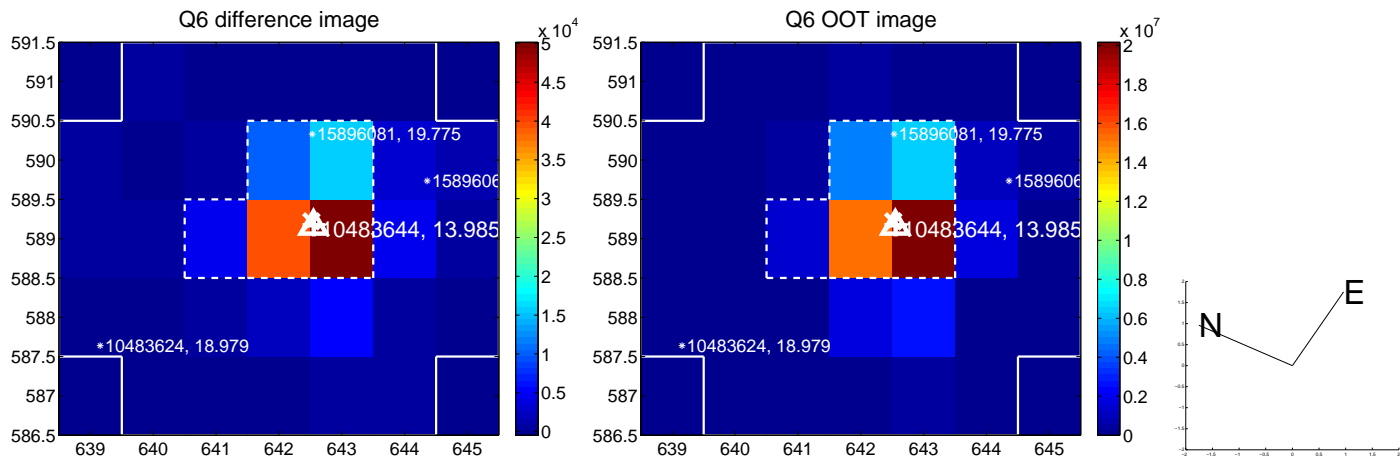
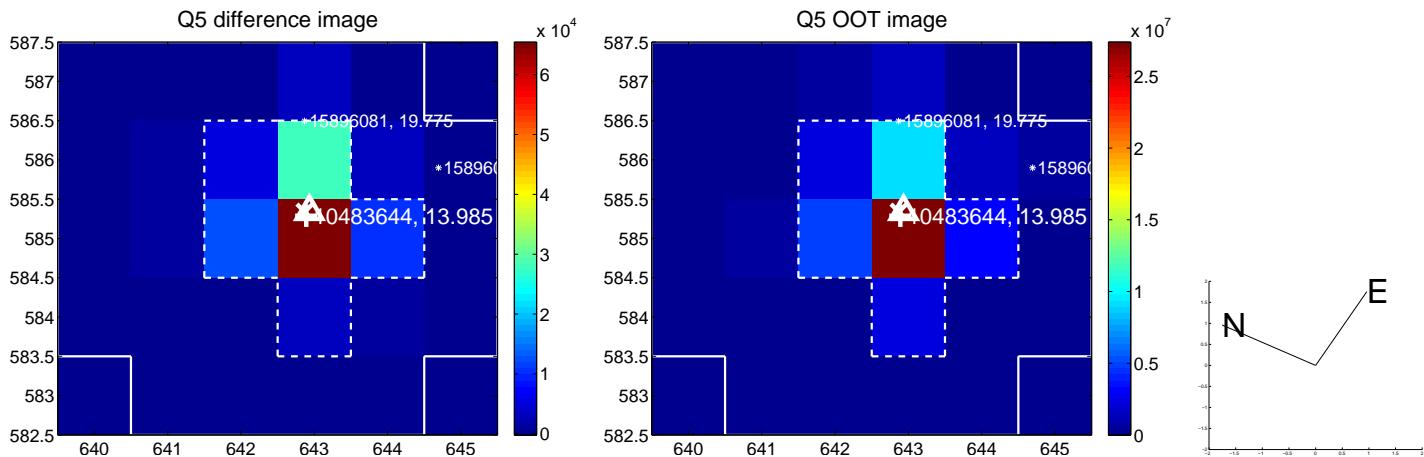


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

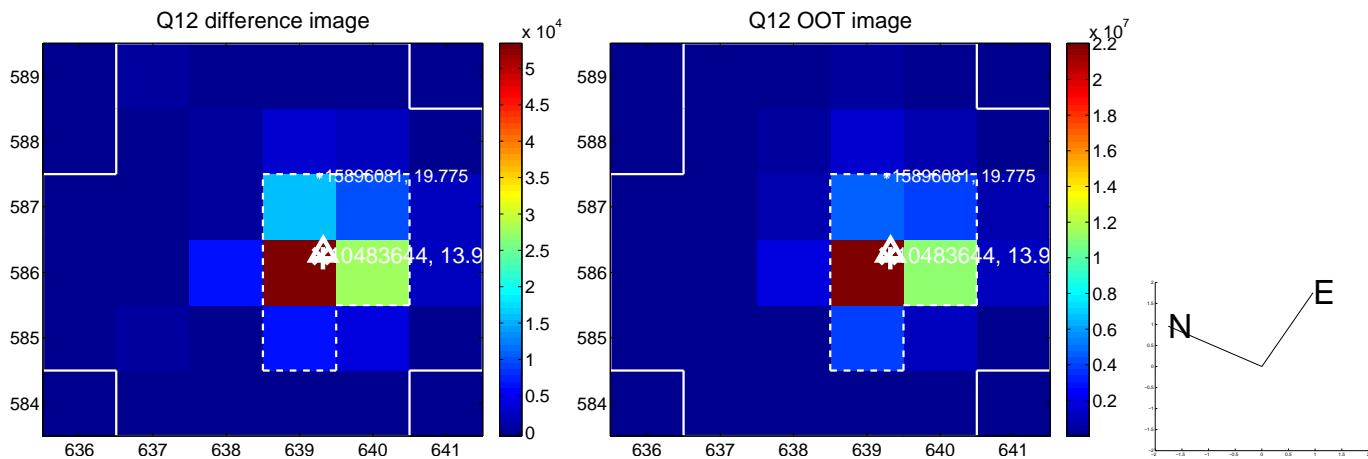
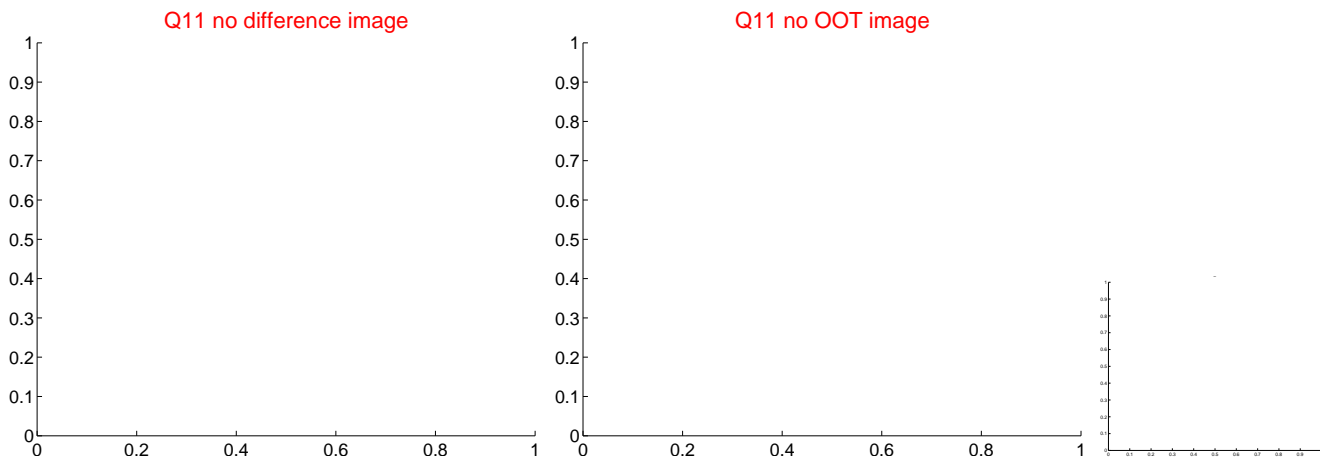
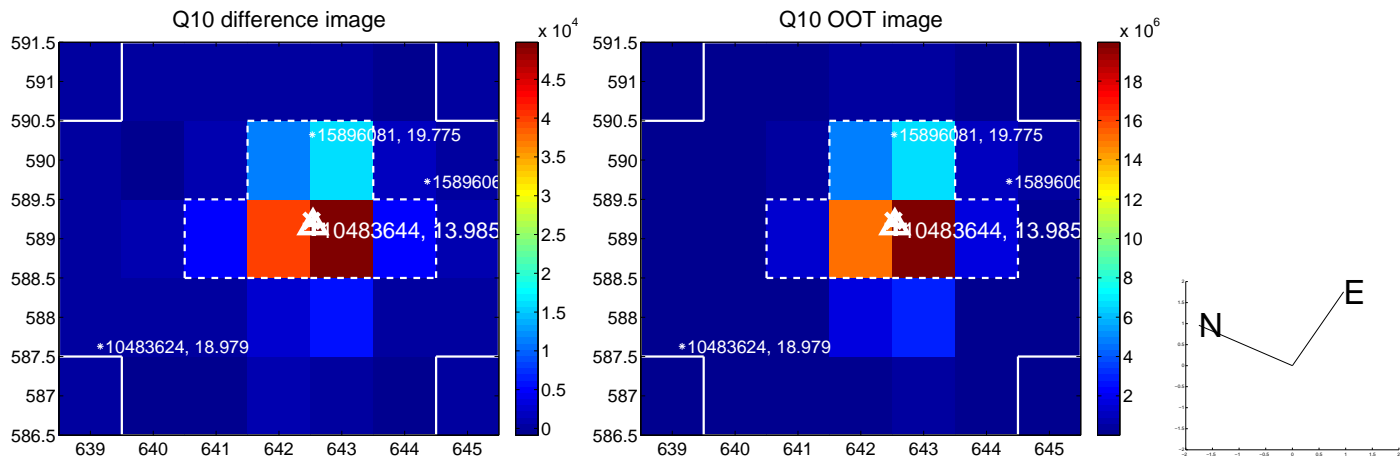
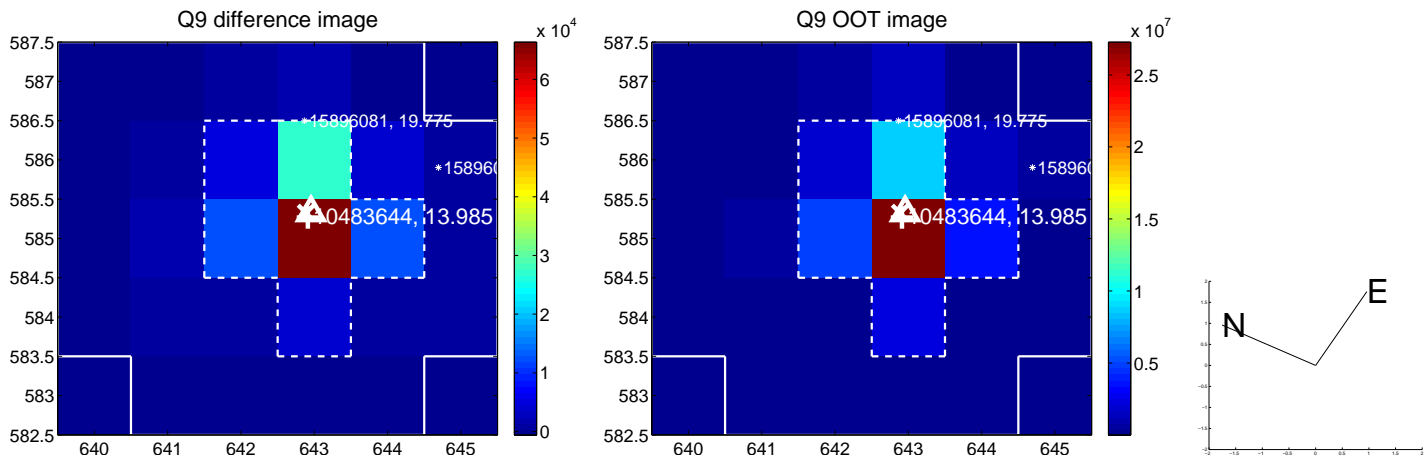
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



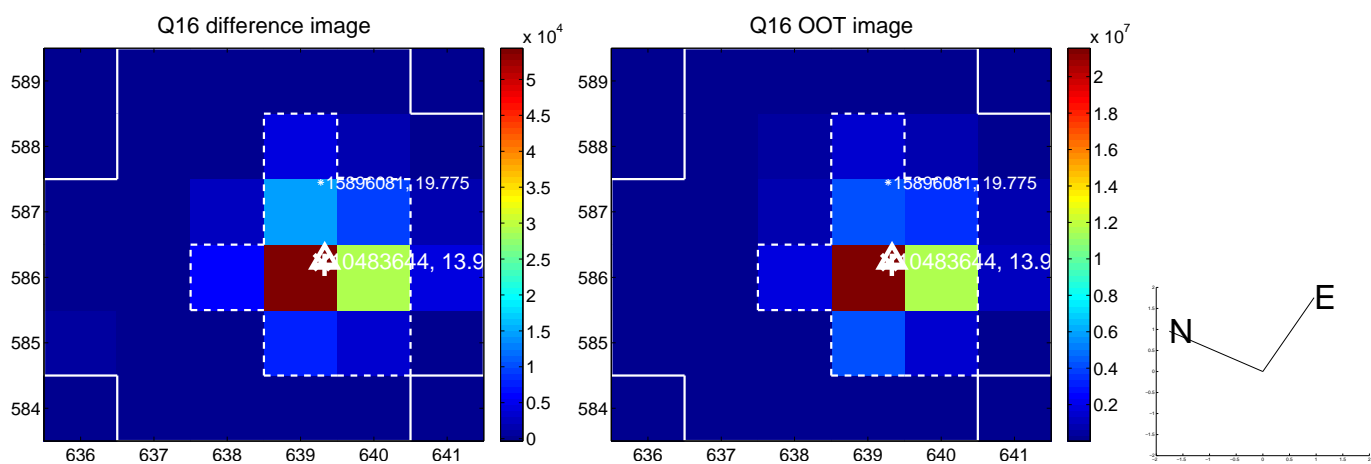
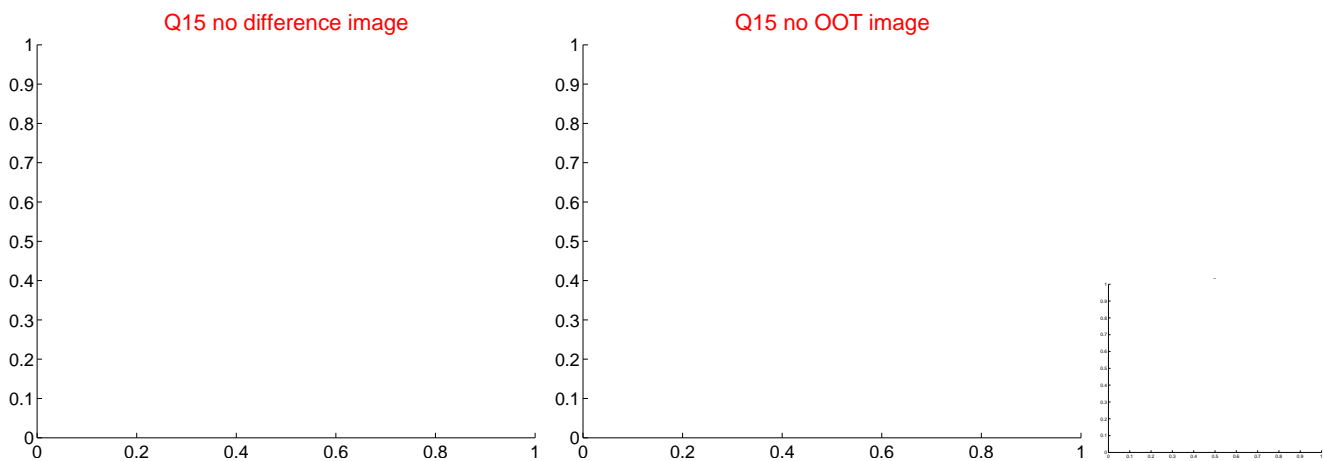
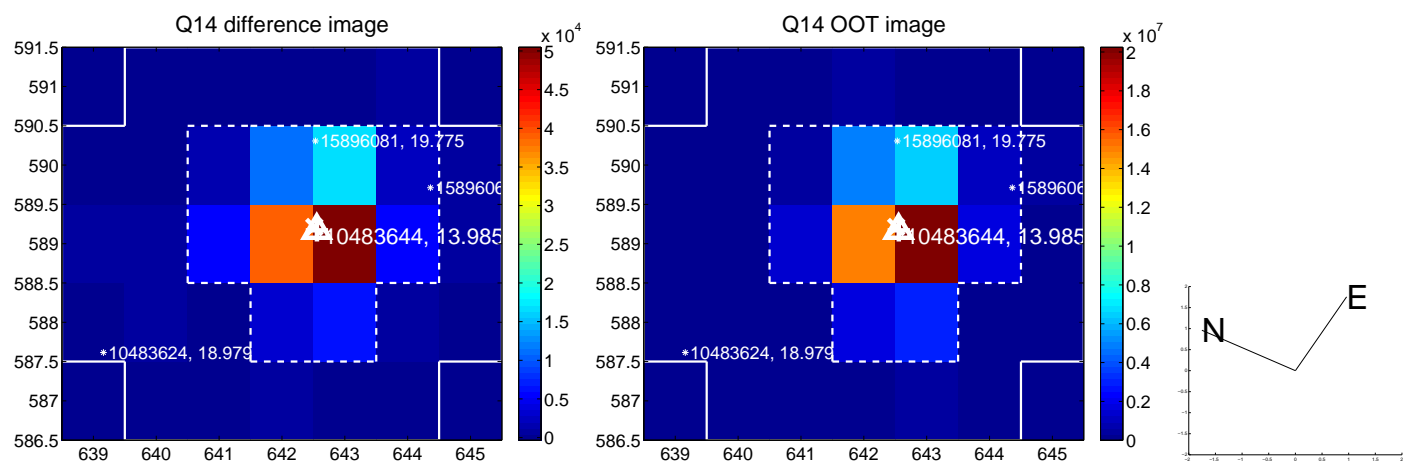
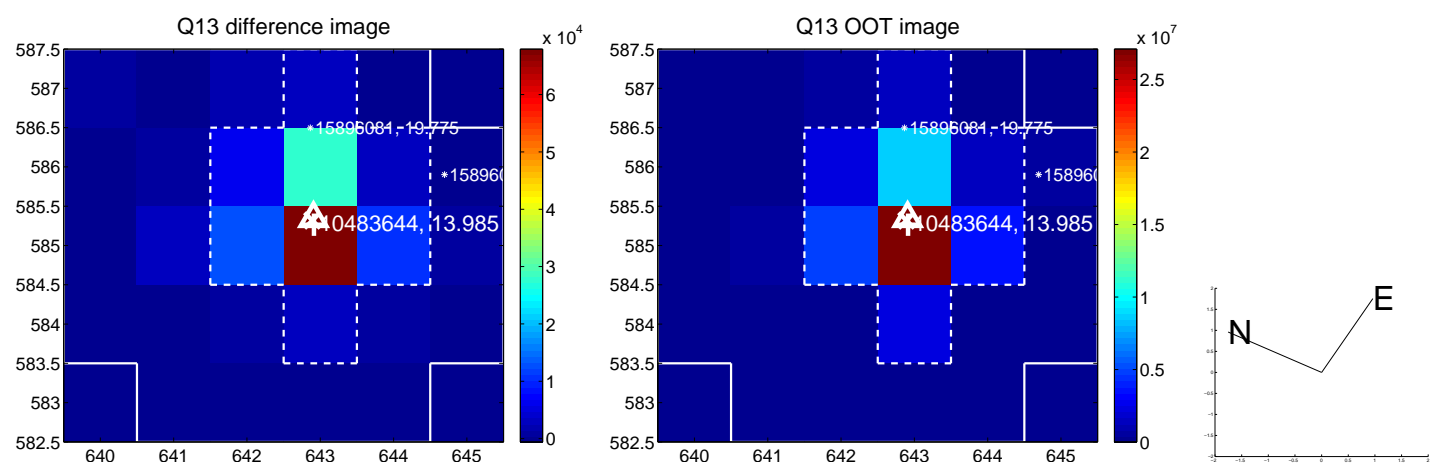
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



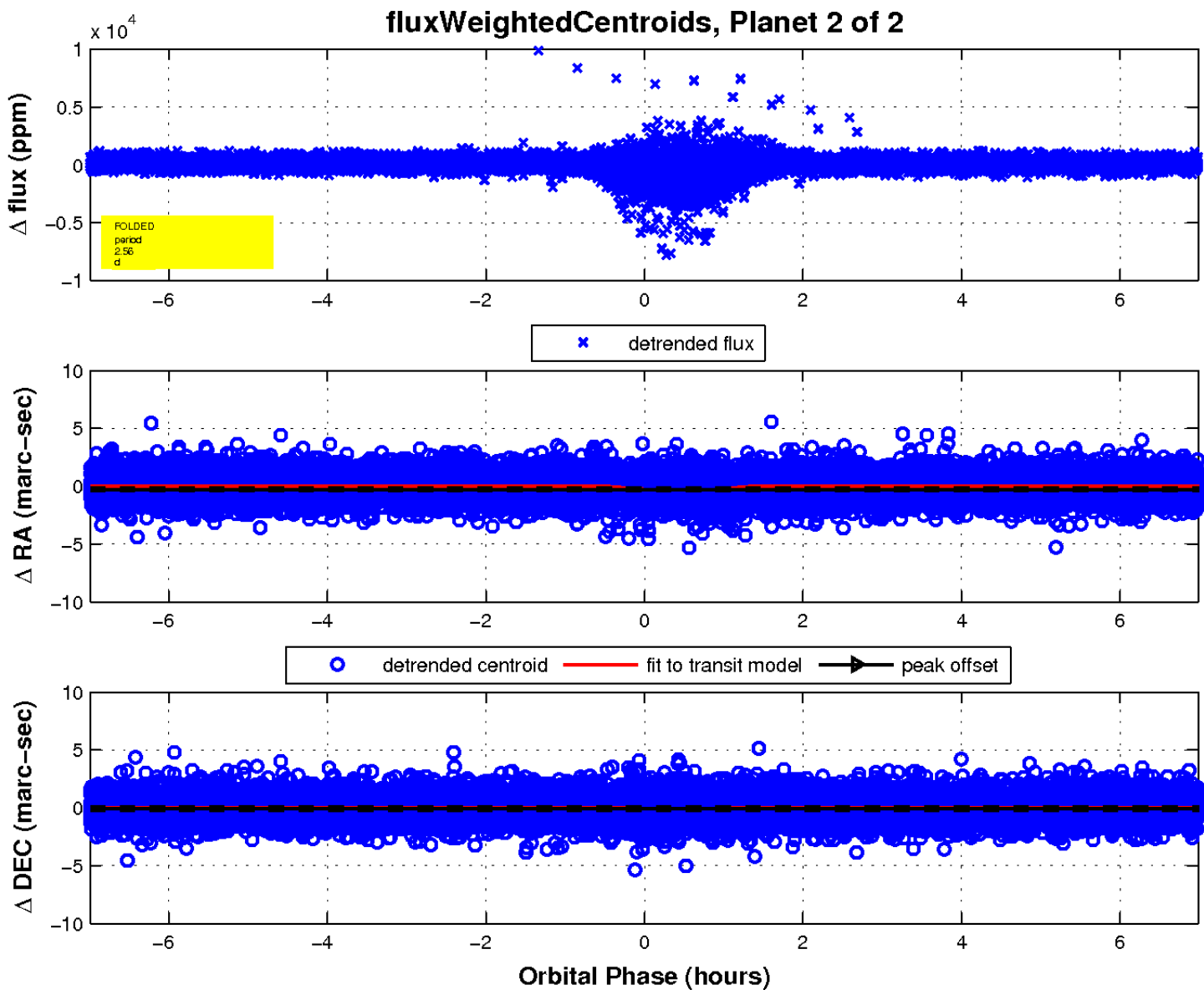
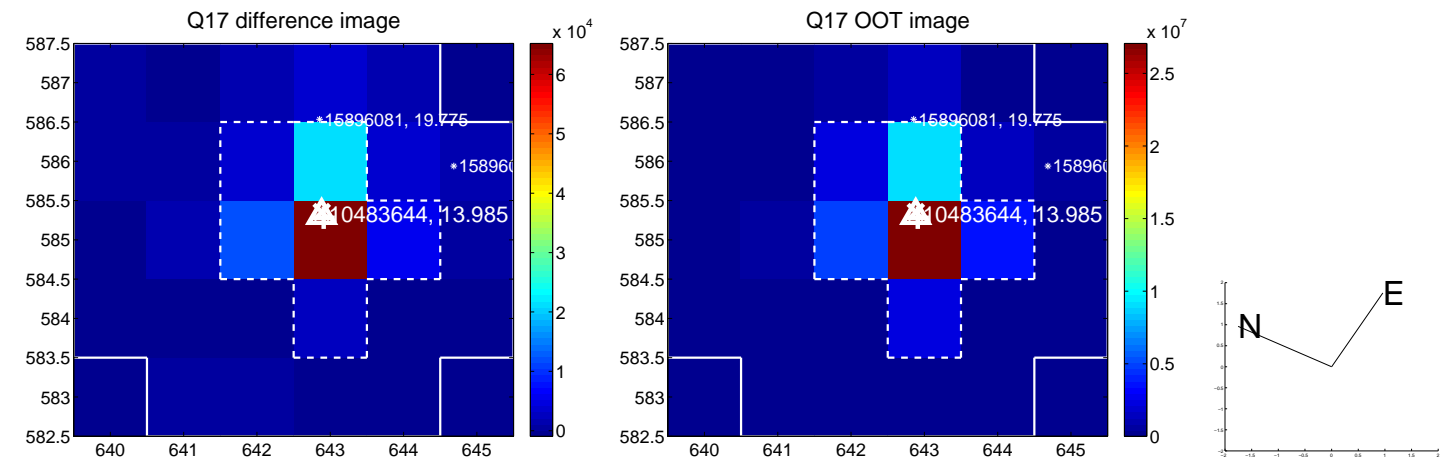
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

