

KIC 005802470

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})
005802470-01	OBS	6628.01	3.791875	134.134355	230704.8	3.560	15494.1	9996.5	0.72	5622	42.55	241.03
005802470-02	OBS	No	3.791873	132.238750	66117.9	3.449	4756.8	3175.0	0.72	5622	29.16	241.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005802470-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
005802470-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

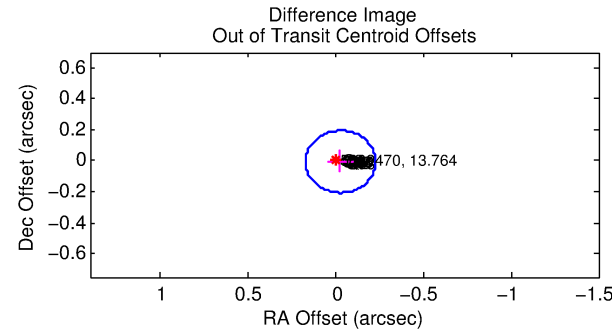
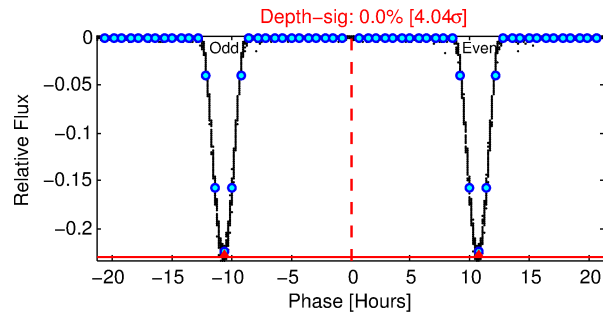
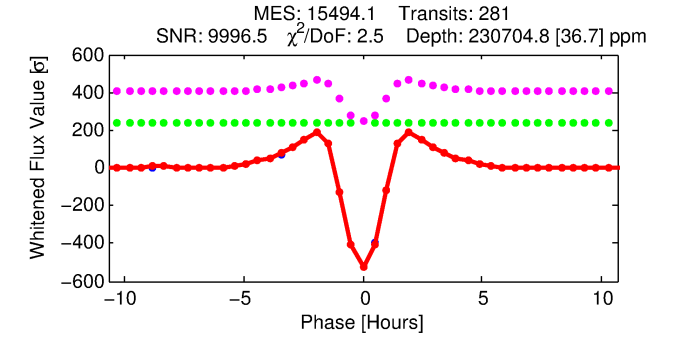
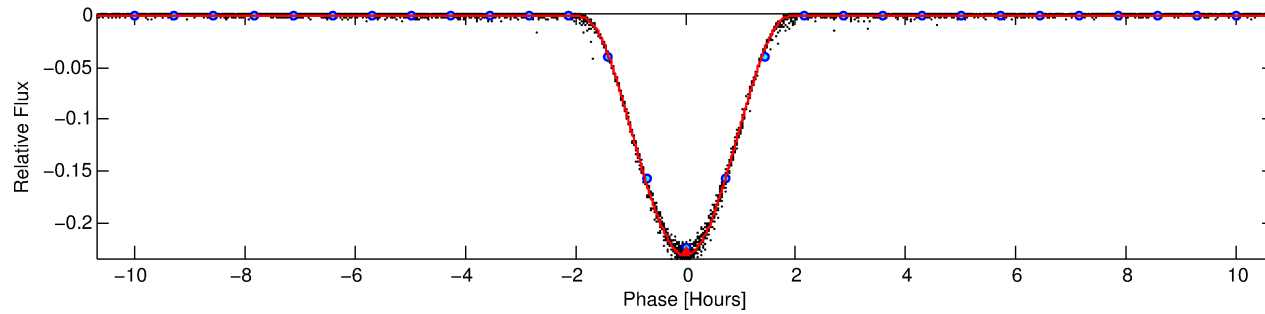
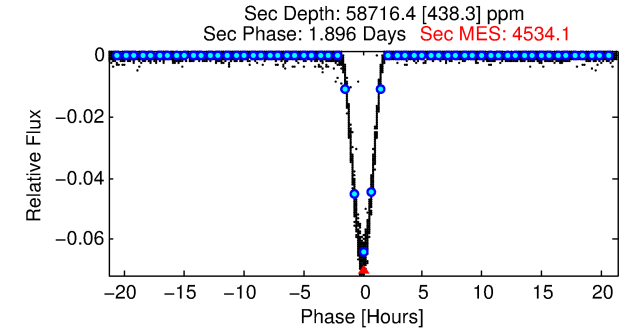
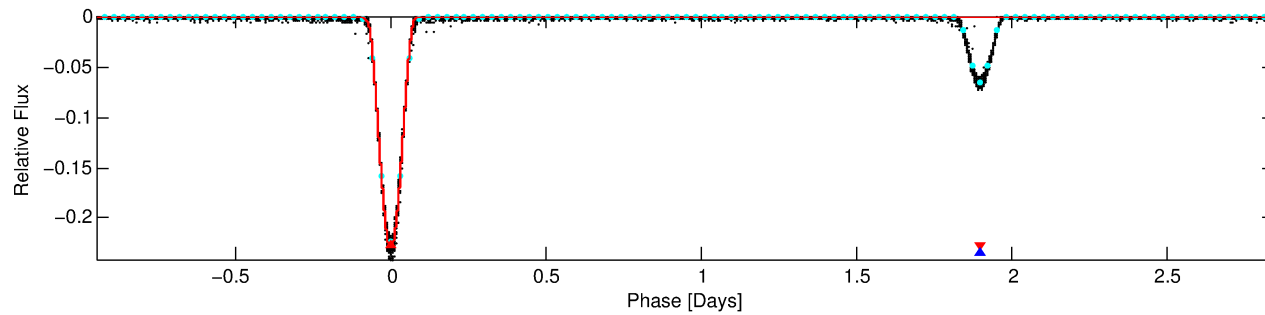
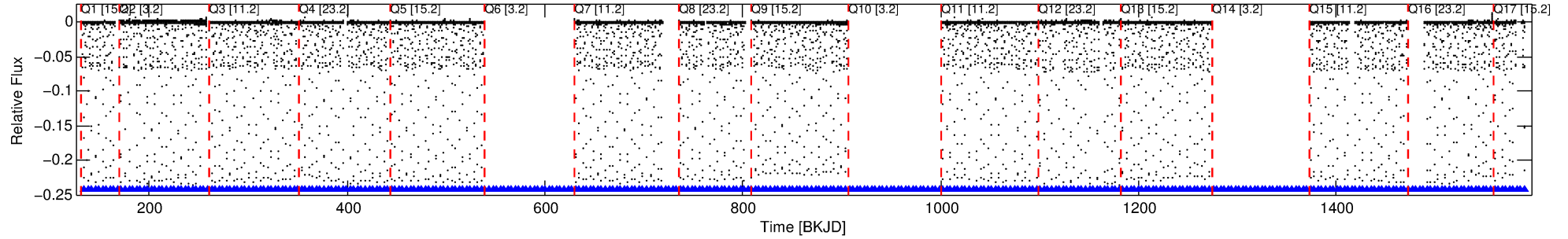
Ephemeris Match Information For 005802470-01

No Significant Match Found

DV One-Page Summary

KIC: 5802470 Candidate: 1 of 2 Period: 3.792 d
KOI: K06628.01 Corr: 0.997

Kp: 13.76 R*: 0.72 Rs Teff: 5622.0 K Logg: 4.62 Fe/H: -0.580



DV Fit Results:

Period = 3.79187 [0.00000] d
Epoch = 134.1344 [0.0000] BKJD
Rp/R* = 0.5394 [0.0044]
a/R* = 11.21 [0.01]
b = 0.70 [0.01]
Seff = 241.03 [64.23]
Teq = 1005 [67] K
Rp = 42.55 [8.60] Re
a = 0.0441 [0.0073] AU
Ag = 34.63 [8.27] [4.07σ]
Teffp = 3768 [114] K [20.92σ]

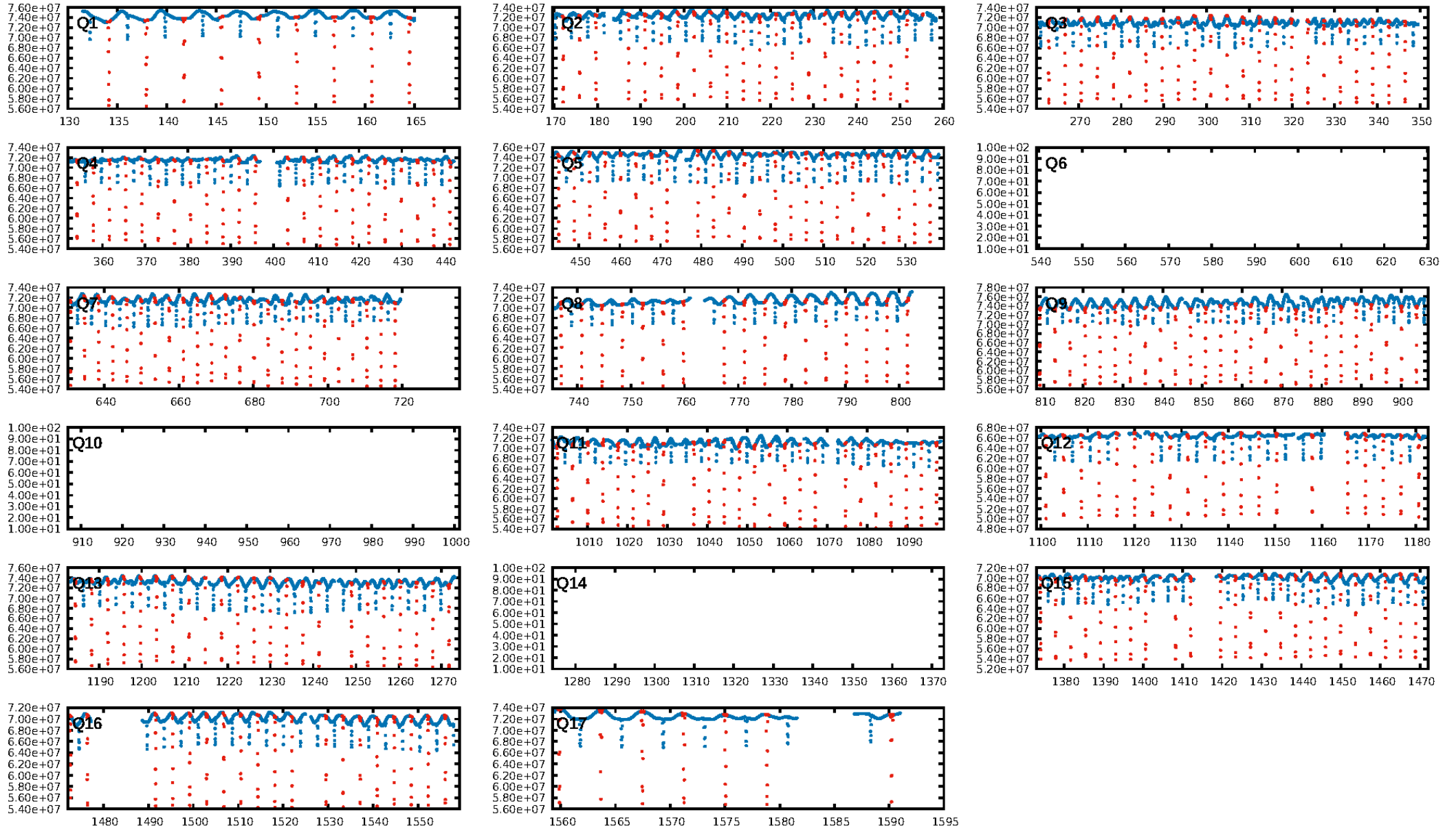
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [265/265]
GhostDiagnostic-chr: 2.367
Centroid-sig: 0.0%
Centroid-so: 0.200 arcsec [452.01σ]
OotOffset-rm: 0.028 arcsec [0.41σ]
KicOffset-rm: 0.158 arcsec [2.26σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

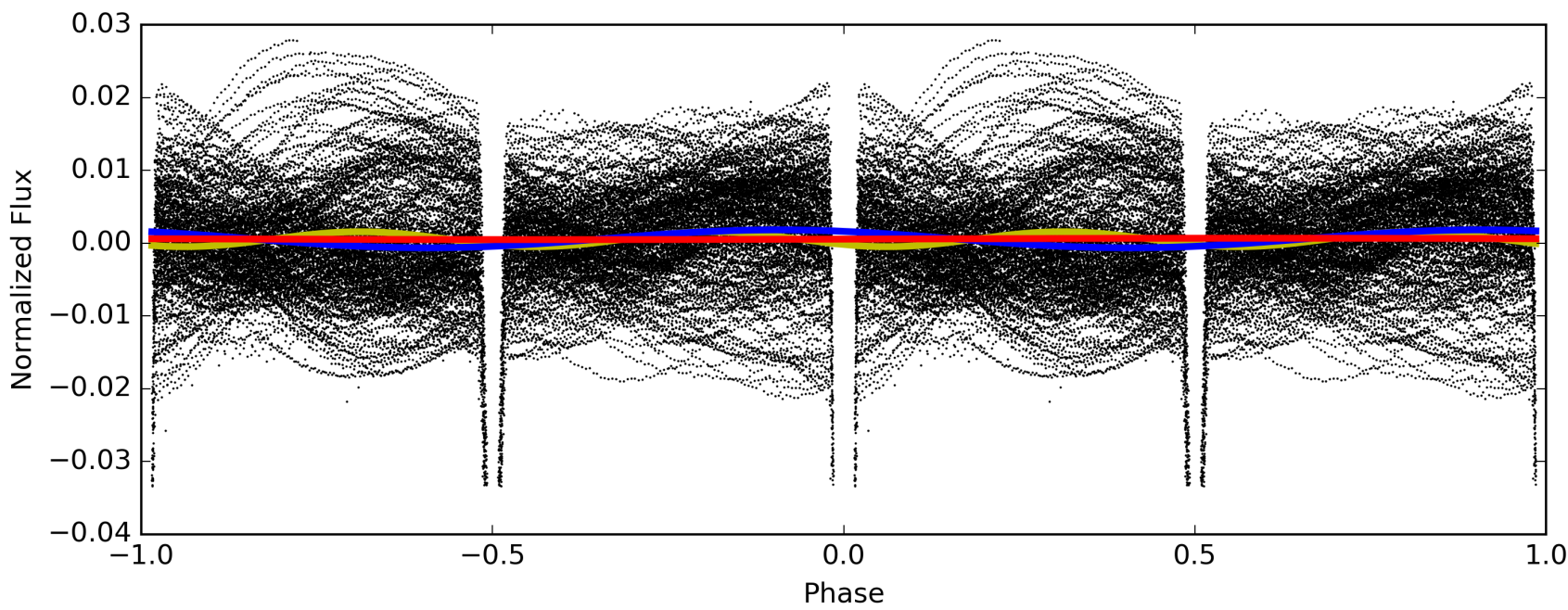
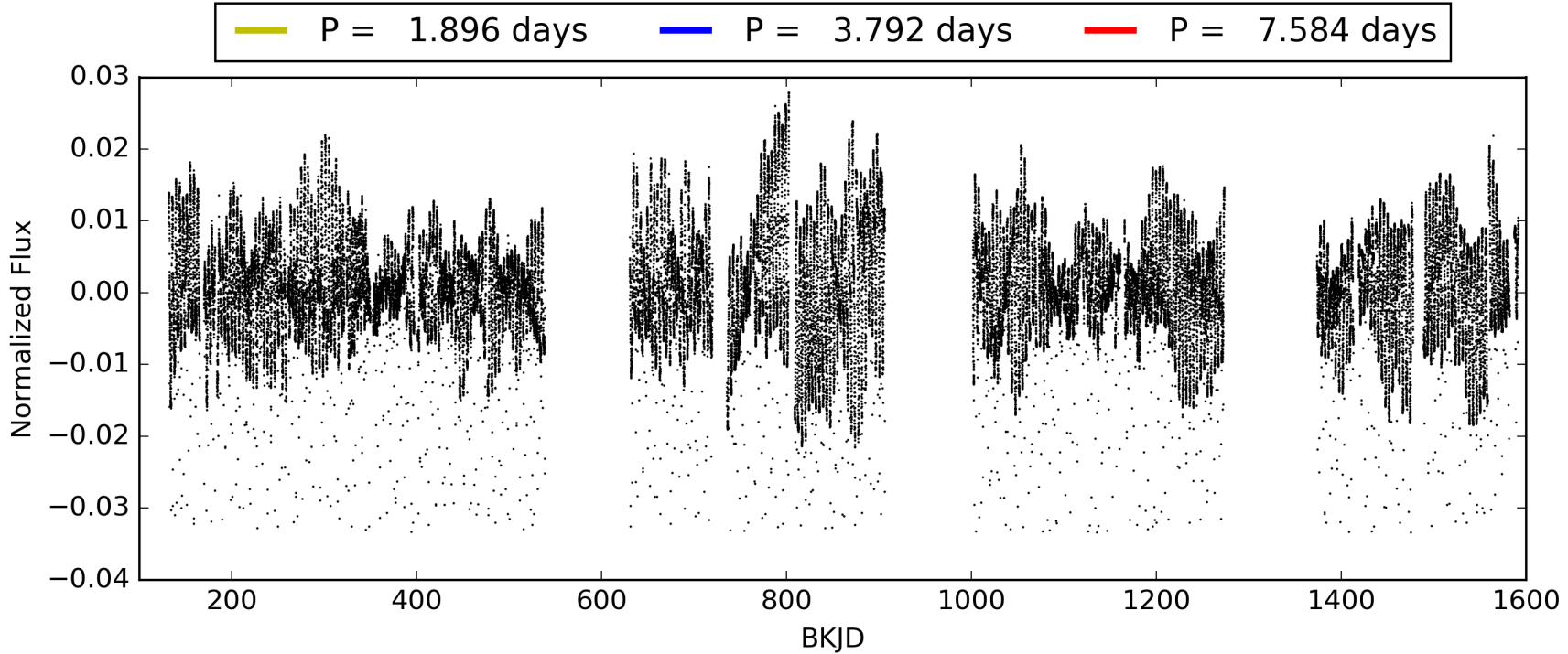
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:06:31 Z

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

TCE 005802470-01, PDC Light Curves

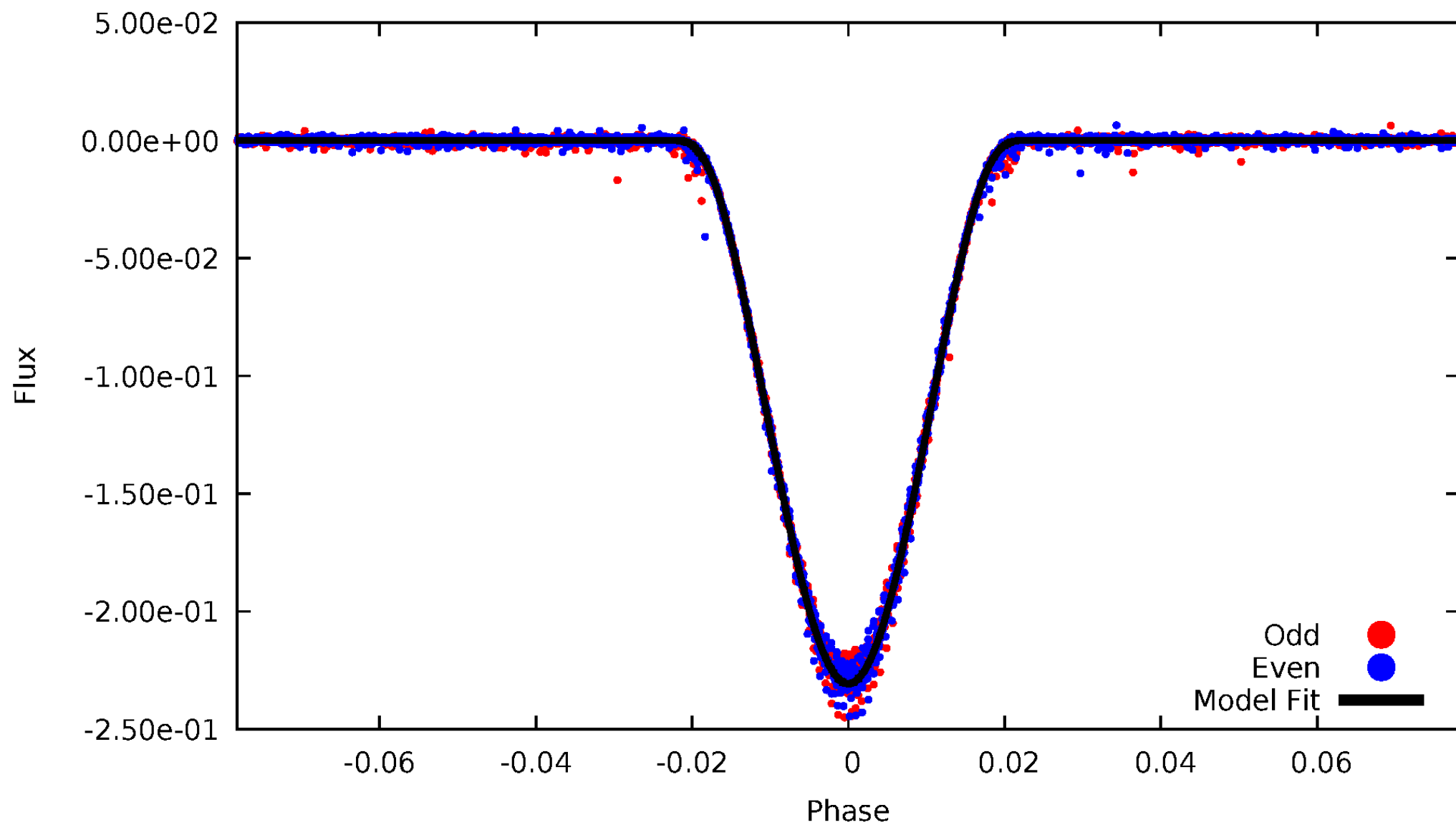


TCE 005802470-01



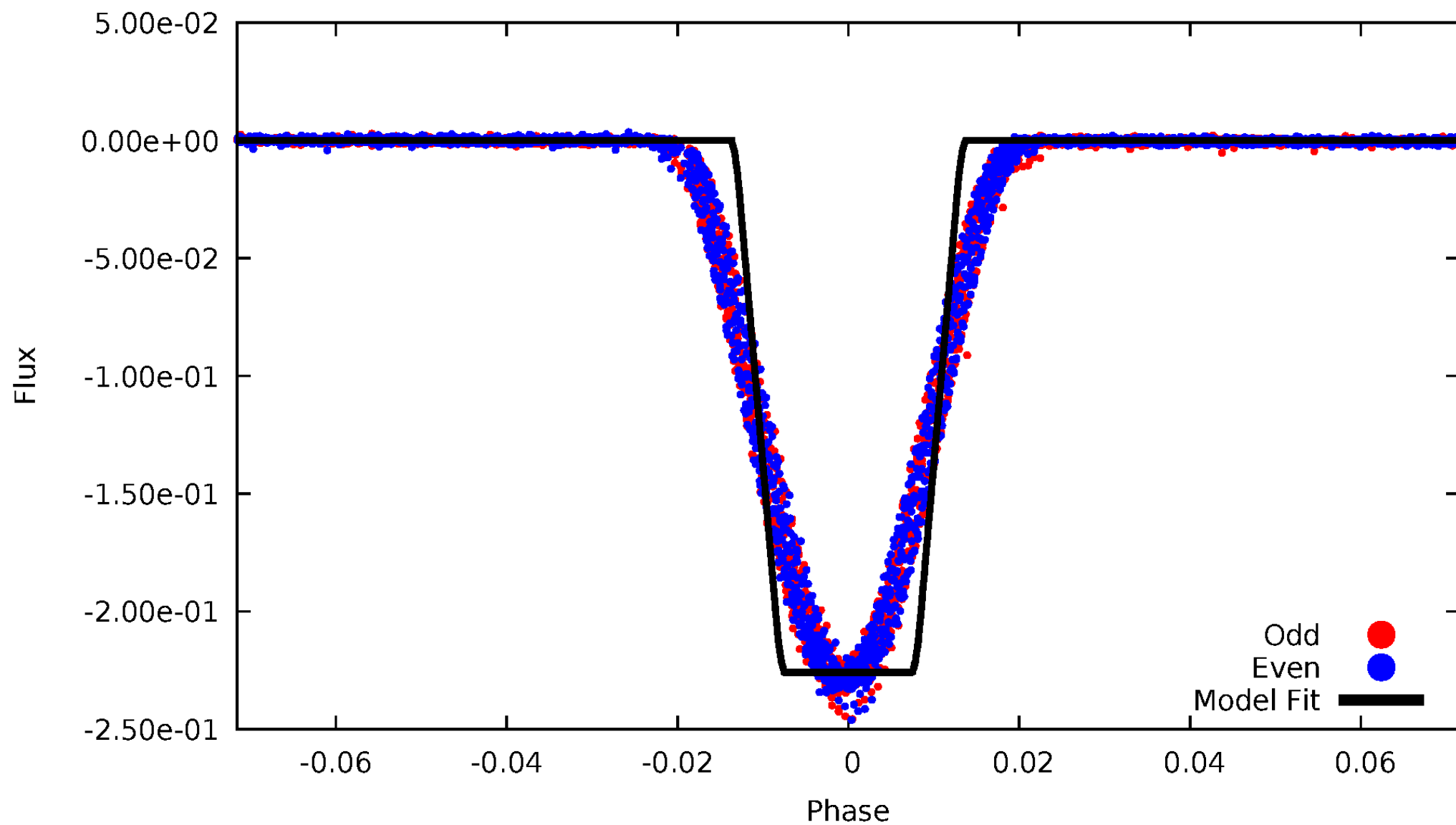
DV Odd/Even

TCE 005802470-01



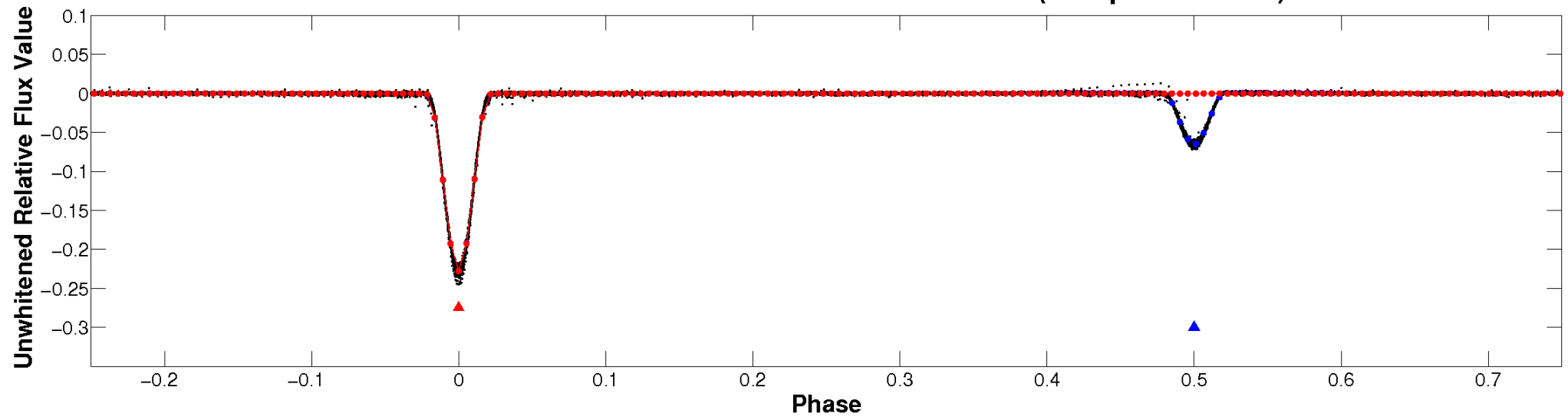
ALT Odd/Even

TCE 005802470-01

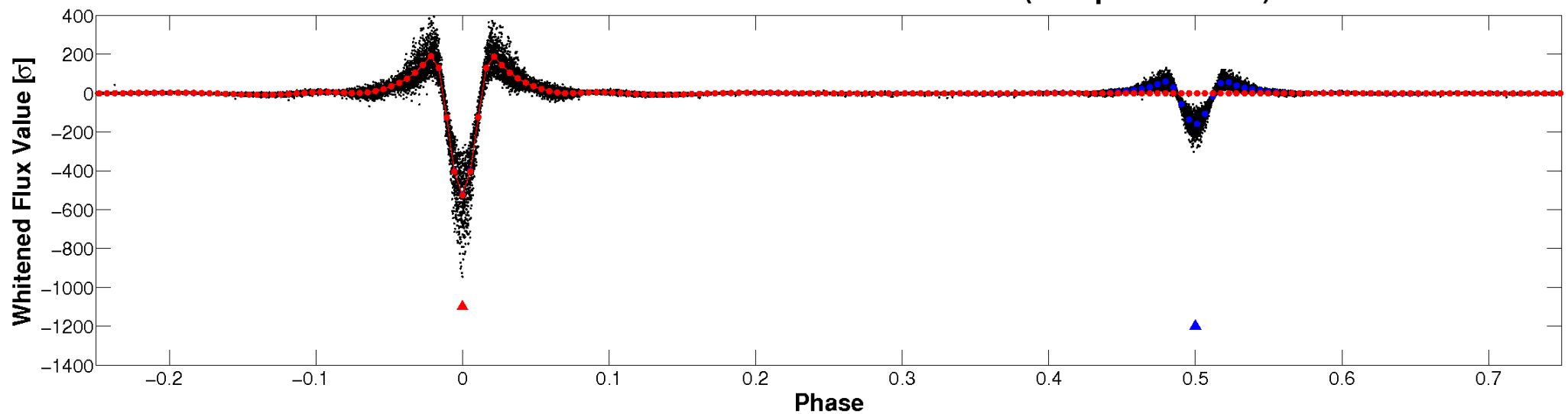


Non-Whitened Vs. Whitened Light Curve

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

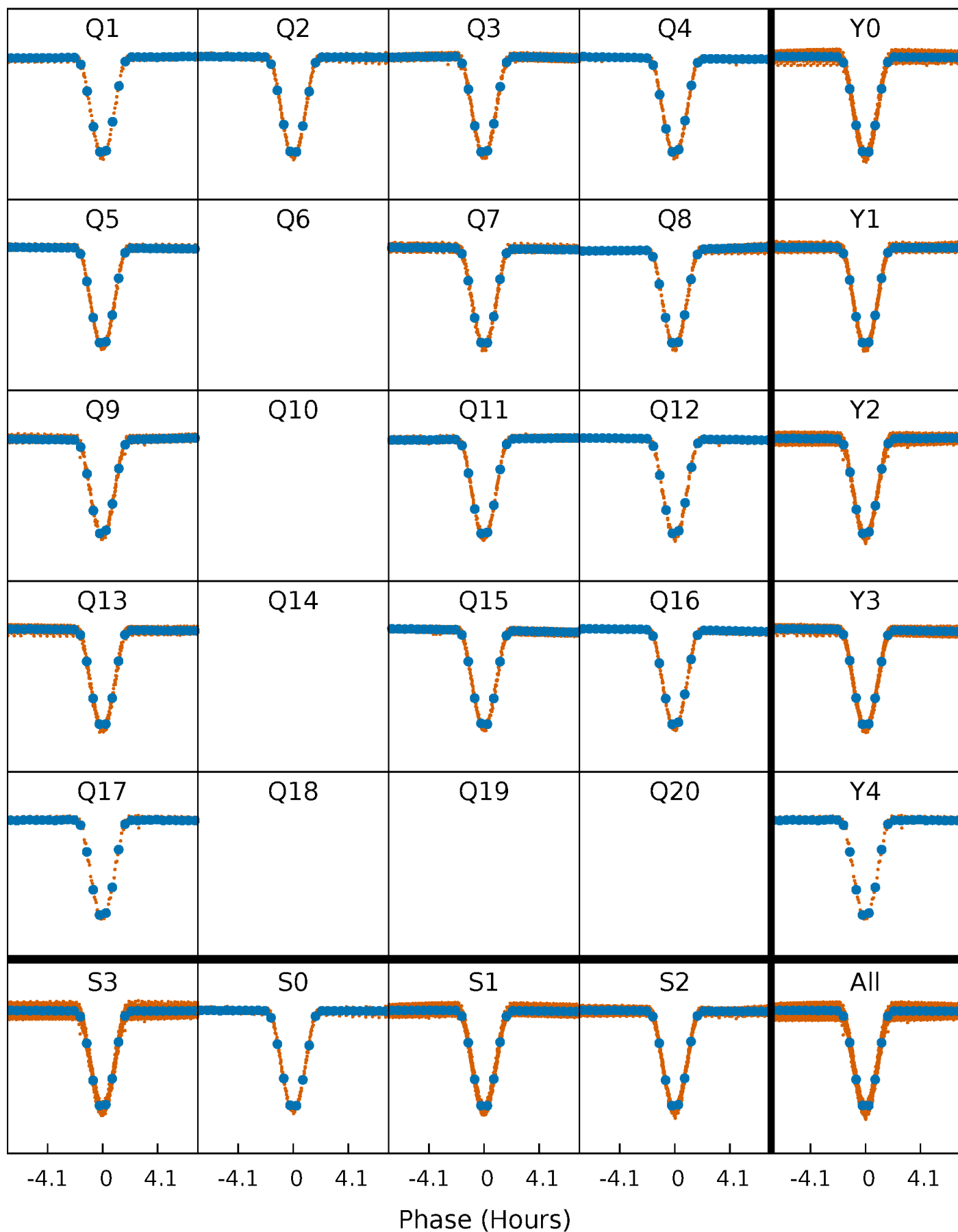


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



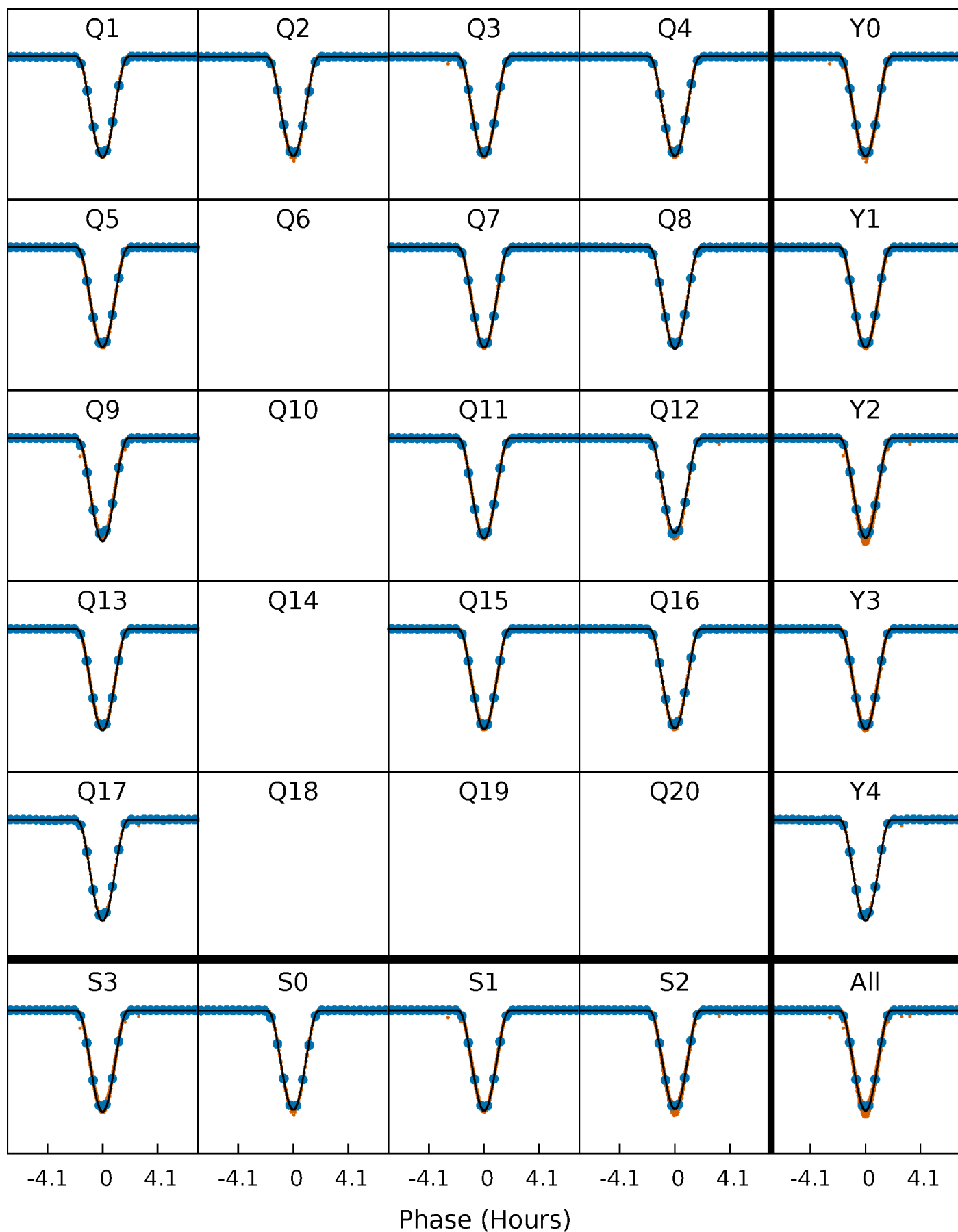
PDC Quarter-Phased Transit Curves

TCE 005802470-01 P= 3.791875 Days $T_0=134.134355$ (BKJD)



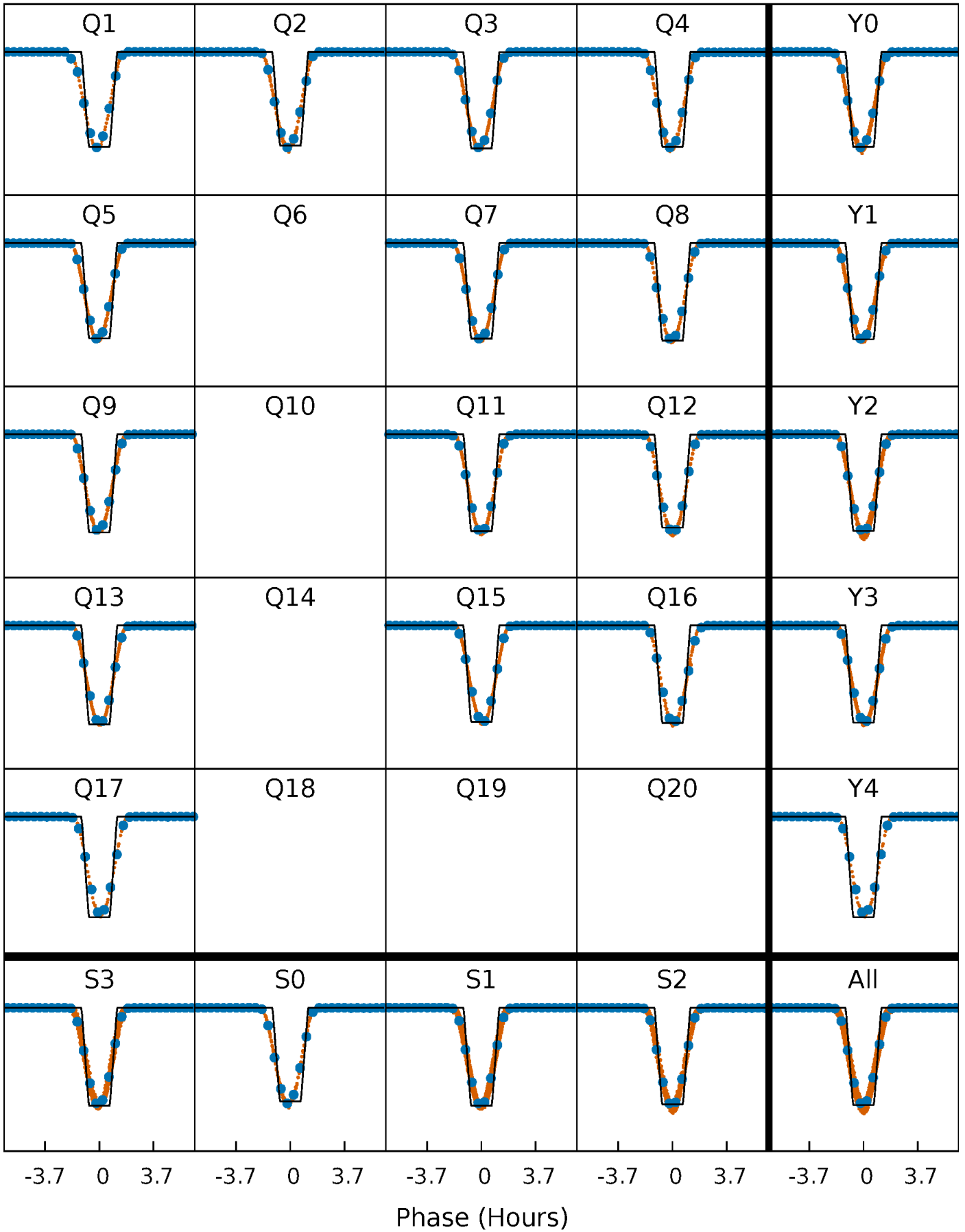
DV Quarter-Phased Transit Curves

TCE 005802470-01 P= 3.791875 Days $T_0=134.134355$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

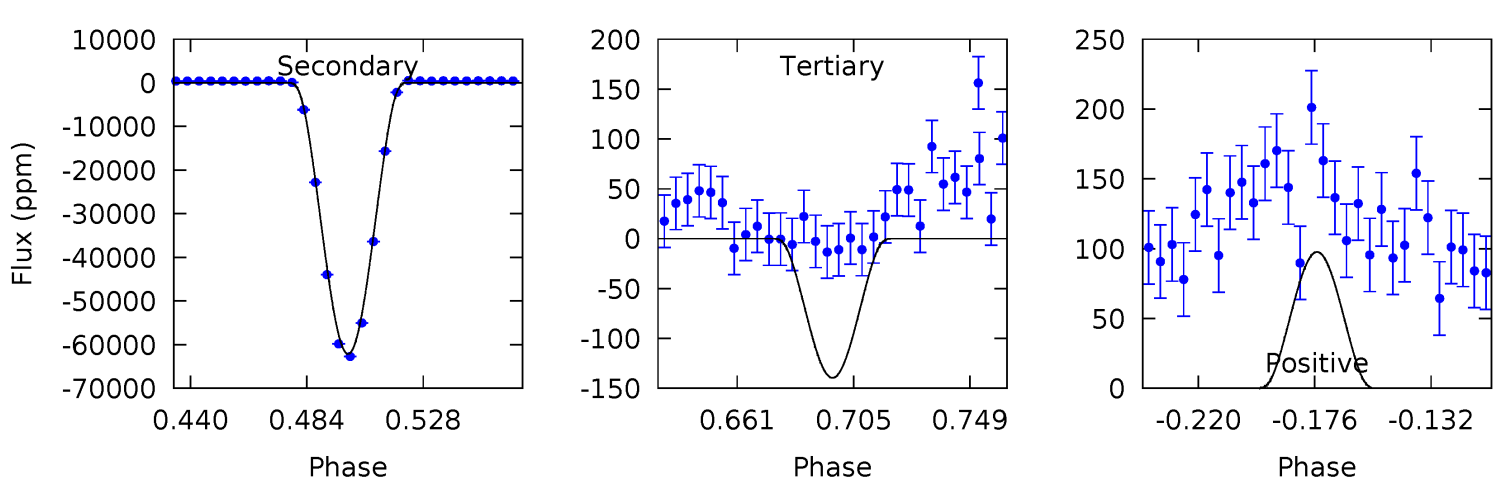
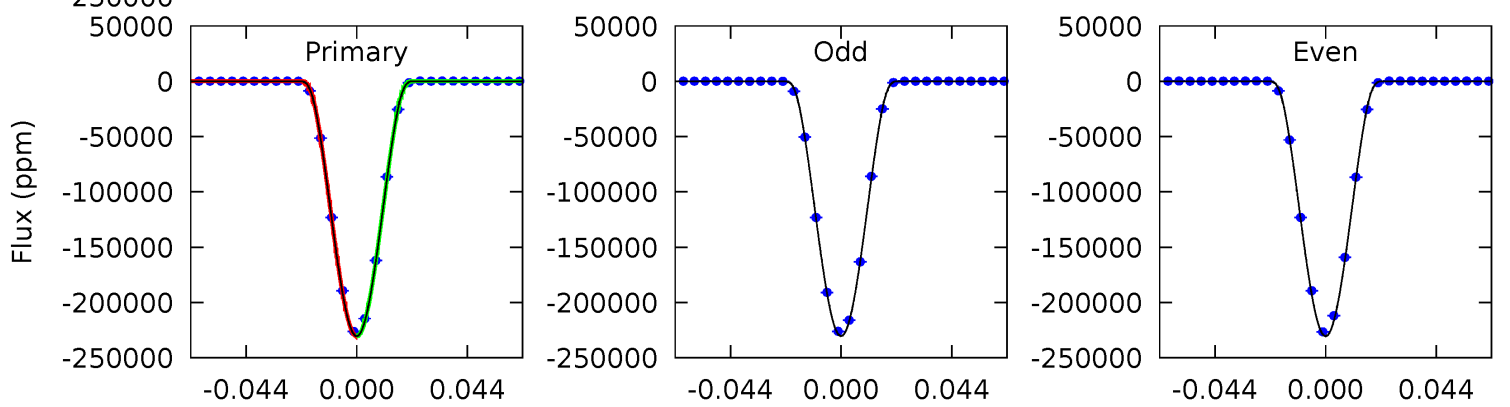
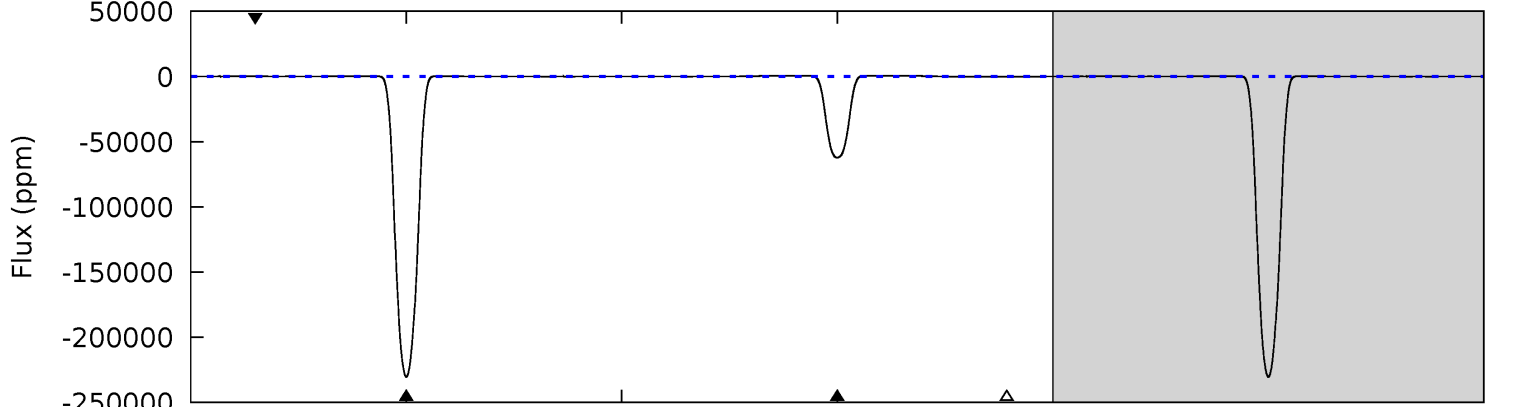
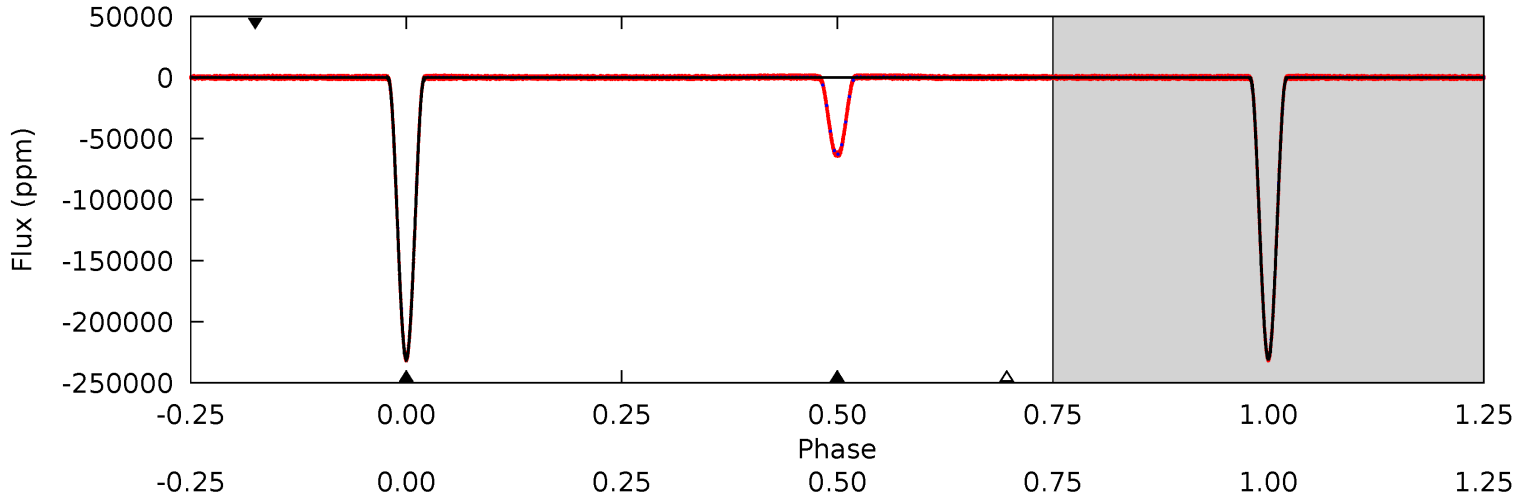
TCE 005802470-01 P= 3.791846 Days $T_0=134.141040$ (BKJD)



DV Model-Shift Uniqueness Test

005802470-01, P = 3.791875 Days, E = 130.342480 Days

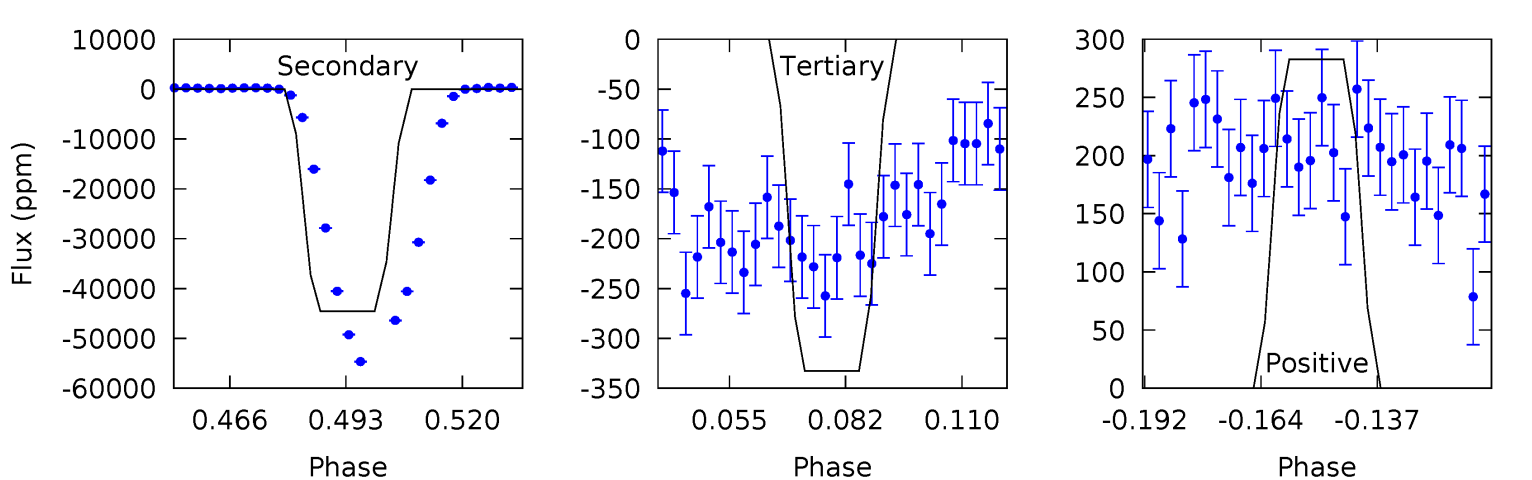
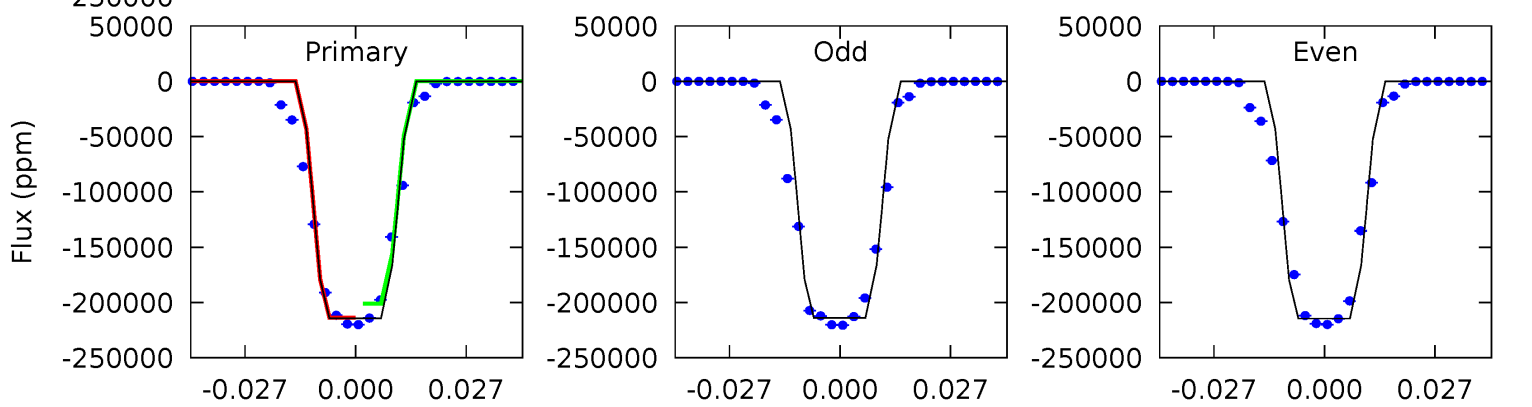
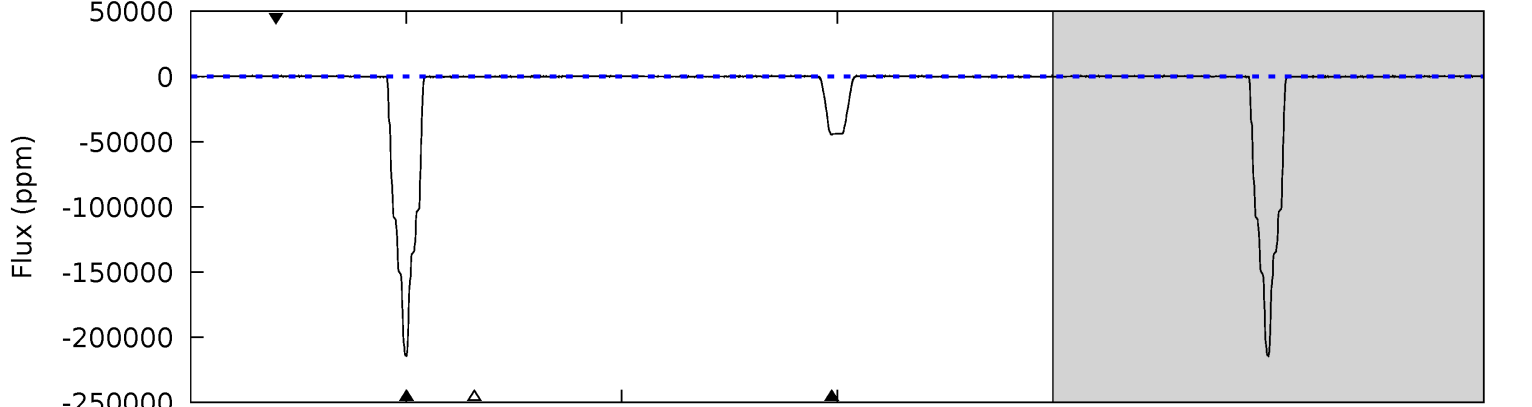
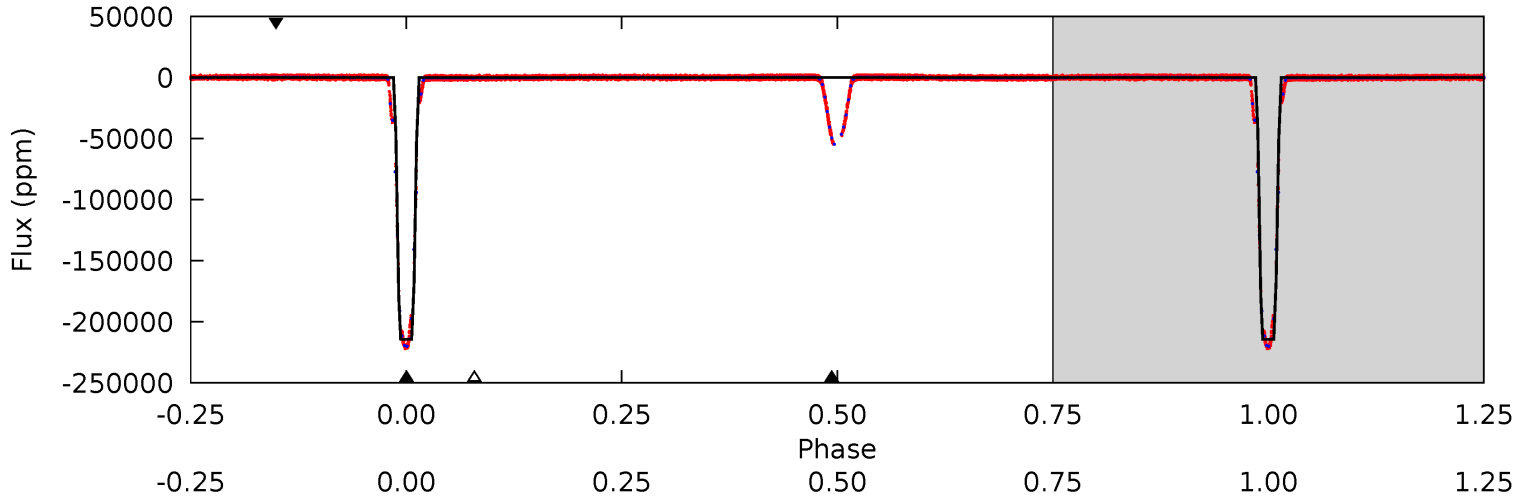
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17516	4724	10.6	7.42	4.73	2.01	12.7	17505	17509	4714	4717	3.88	1.00	0.00	0



Alt Model-Shift Uniqueness Test

005802470-01, P = 3.791846 Days, E = 130.349194 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3889	808.7	6.04	5.13	4.83	2.21	2.62	3883	3884	802.7	803.6	4.38	1.00	0.00	0



Stellar Parameters For KIC 005802470

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5622^{+168}_{-151}	$4.619^{+0.032}_{-0.128}$	$-0.580^{+0.300}_{-0.300}$	$0.723^{+0.146}_{-0.049}$	$0.803^{+0.078}_{-0.078}$	$2.992^{+0.480}_{-1.130}$
	+3%/-3%	+1%/-3%	+52%/-52%	+20%/-7%	+10%/-10%	+16%/-38%
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 005802470-01 / KOI 6628.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-62144 ± 13	$43.23^{+4.66}_{-2.13}$	1429^{+69}_{-49}	4150^{+92}_{-87}	37^{+3}_{-6}
Alt.	-44570 ± 55	$38.29^{+4.05}_{-2.06}$	1429^{+71}_{-57}	4070^{+98}_{-88}	34^{+3}_{-5}

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

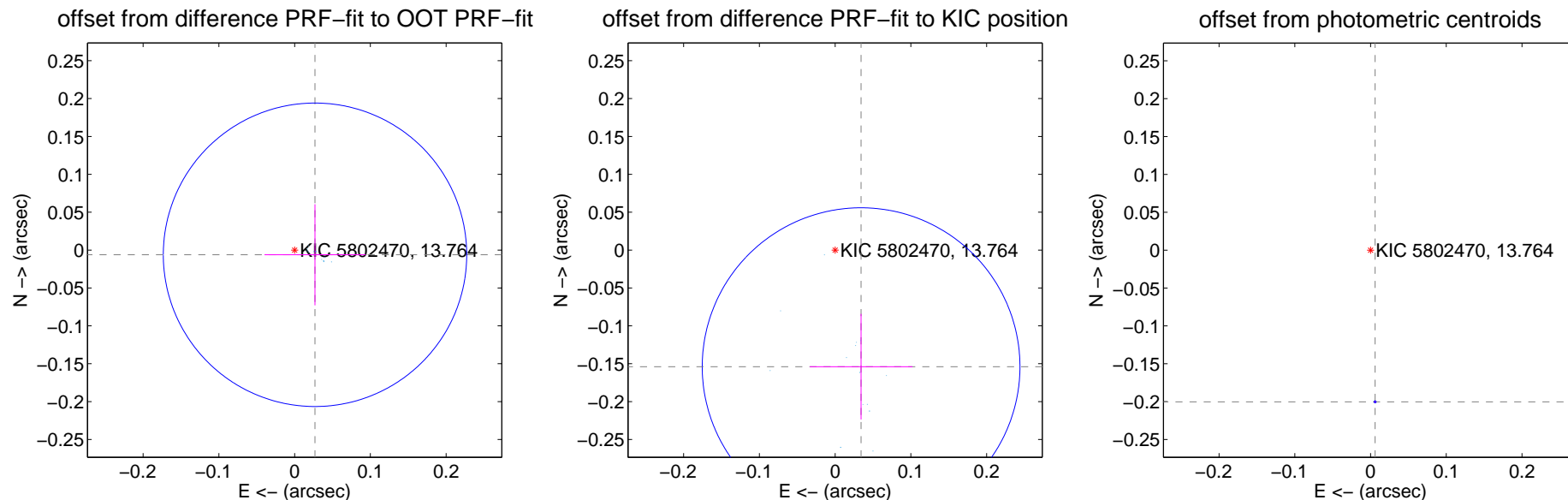
DV Centroid Data

Supplemental centroid analysis for 005802470-01. Kepler magnitude: 13.76. Transit SNR 9996.48

There are 14 quarters with good PRF difference image offsets

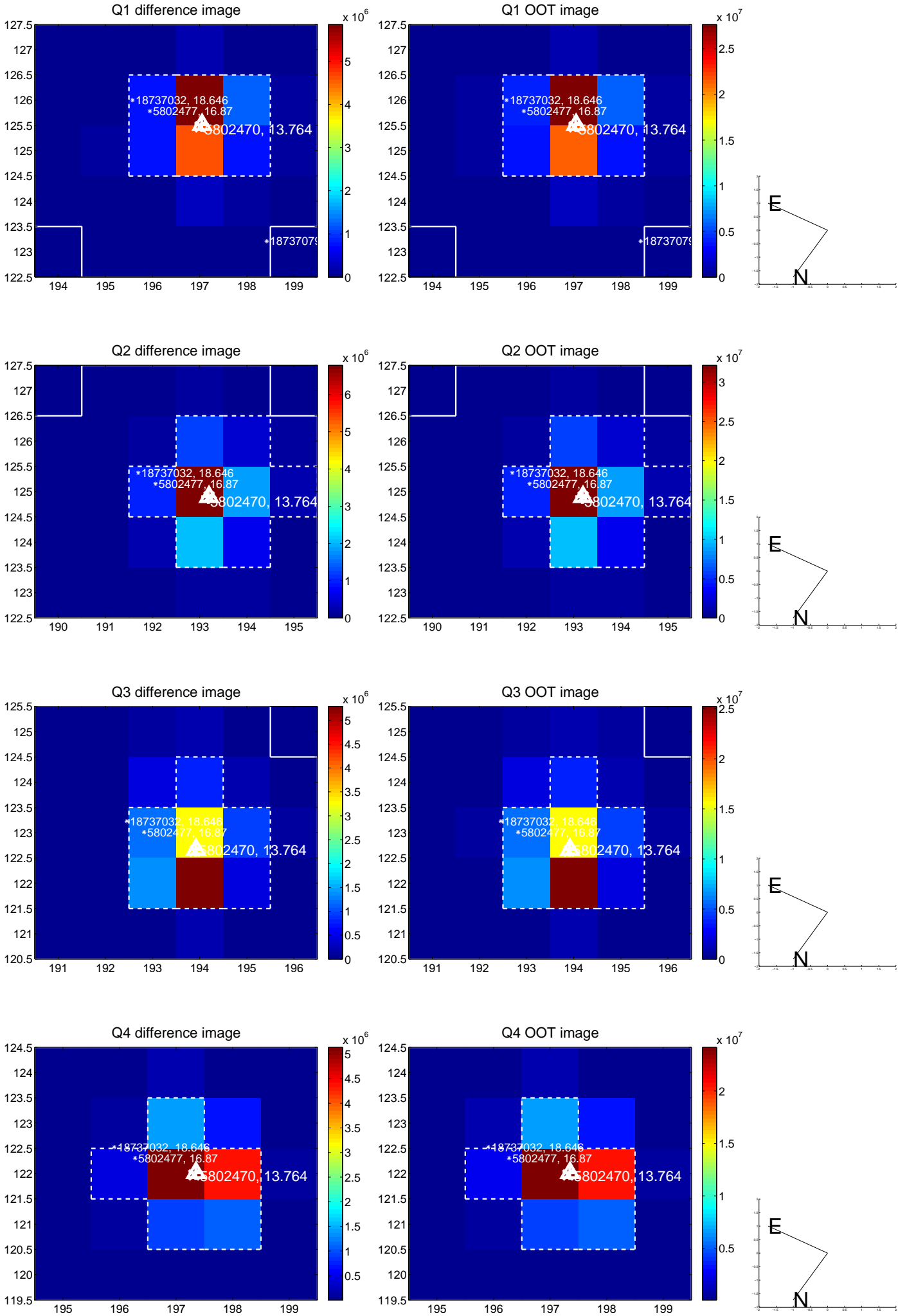
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.028 ± 0.067	0.41	-0.027 ± 0.067	-0.006 ± 0.067
PRF-fit source offset from KIC position	0.158 ± 0.070	2.26	-0.034 ± 0.068	-0.154 ± 0.070
photometric centroid source offset	0.20 ± 0.00	452.01	-0.01 ± 0.00	-0.20 ± 0.00

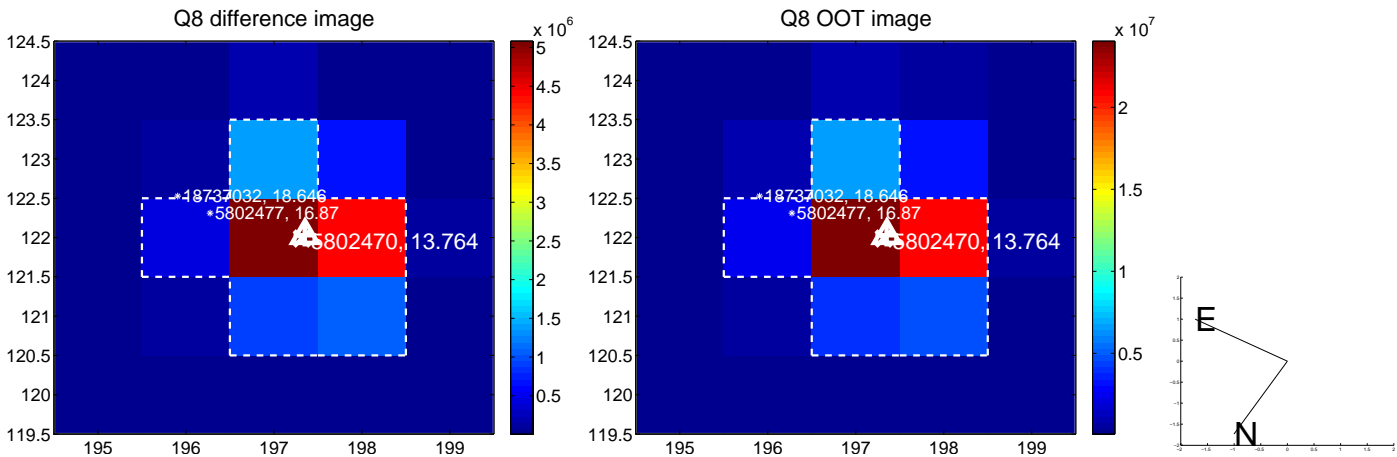
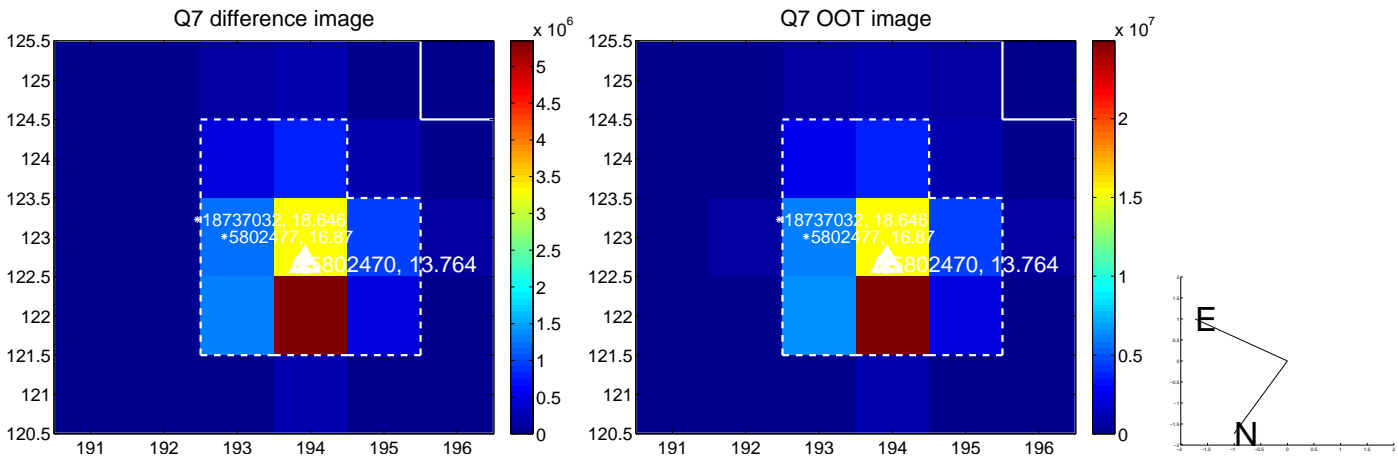
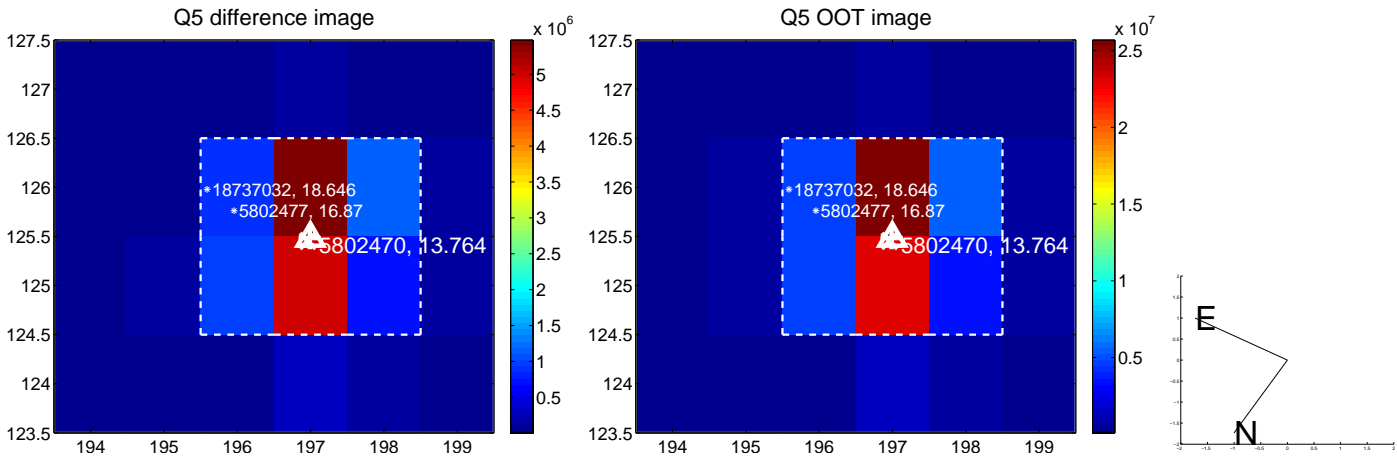


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

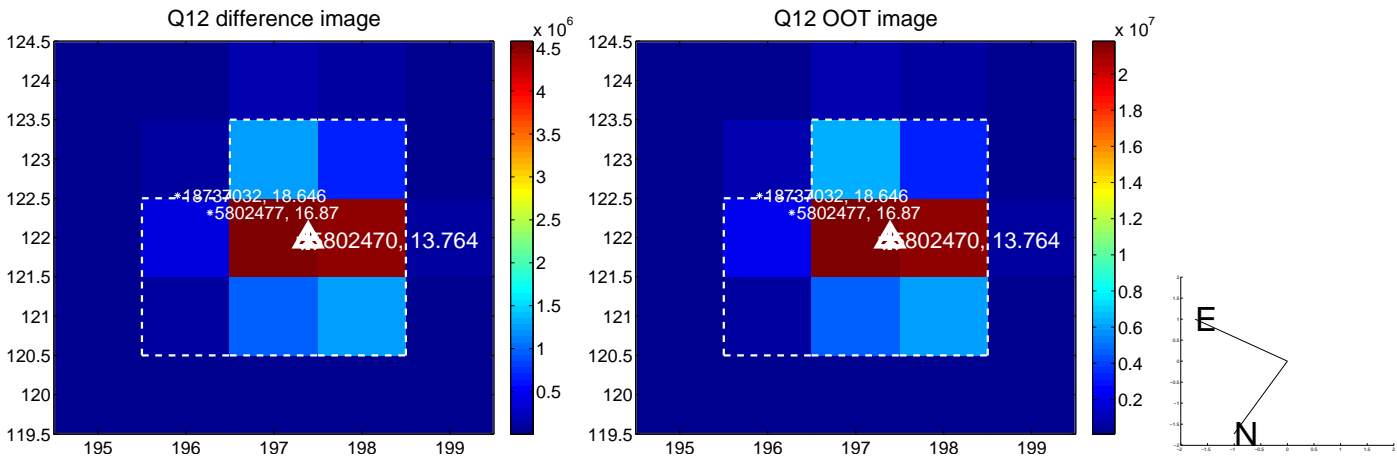
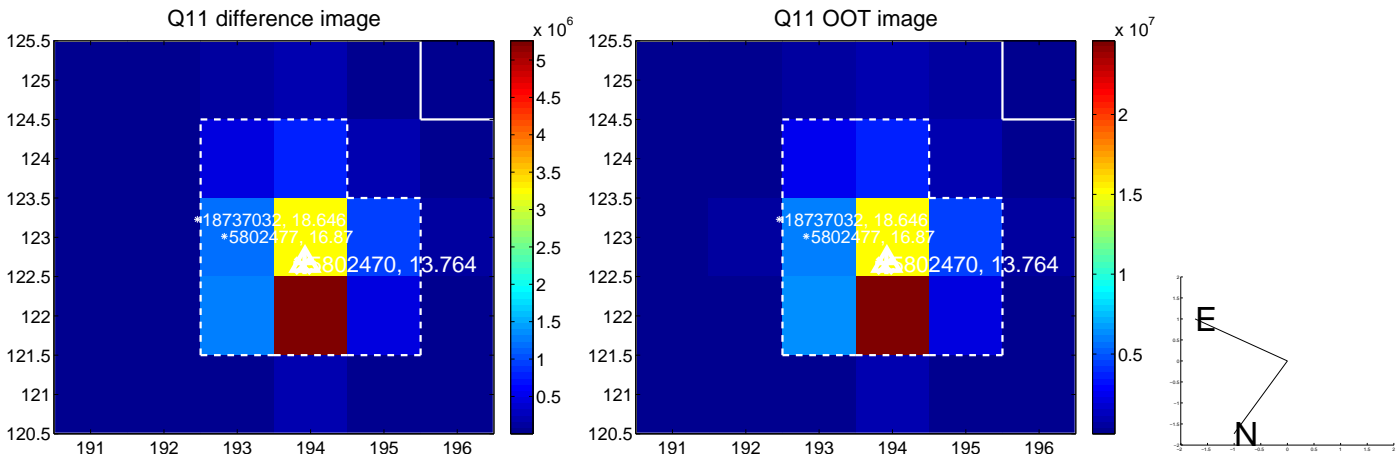
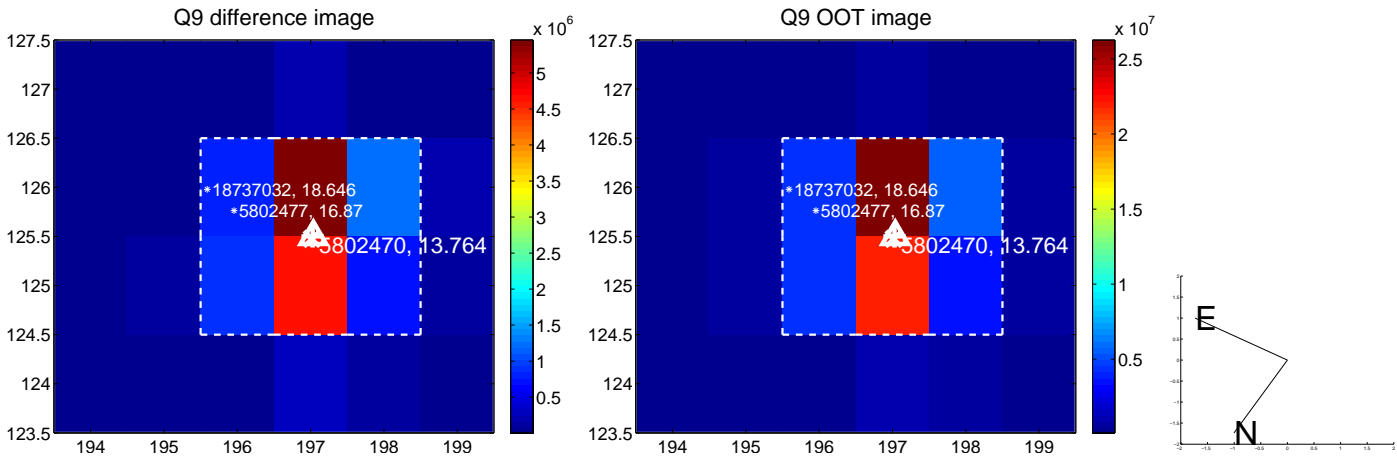
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



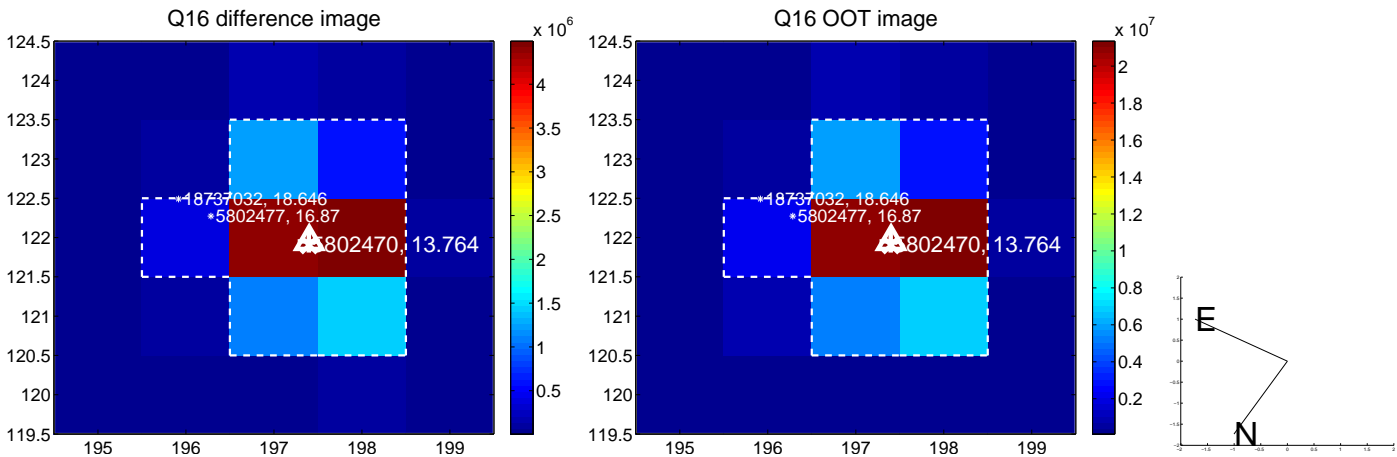
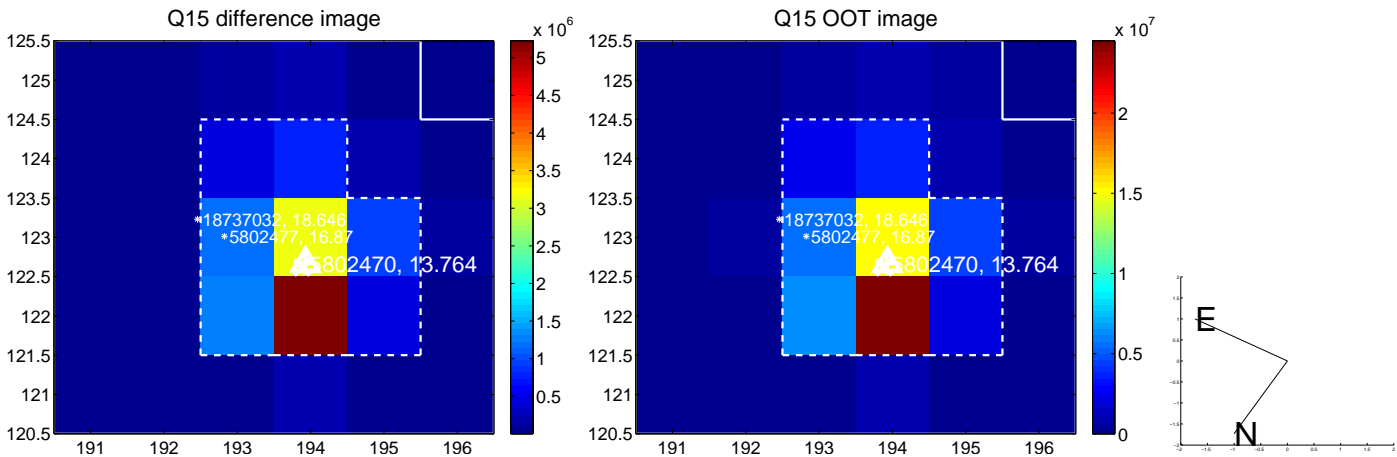
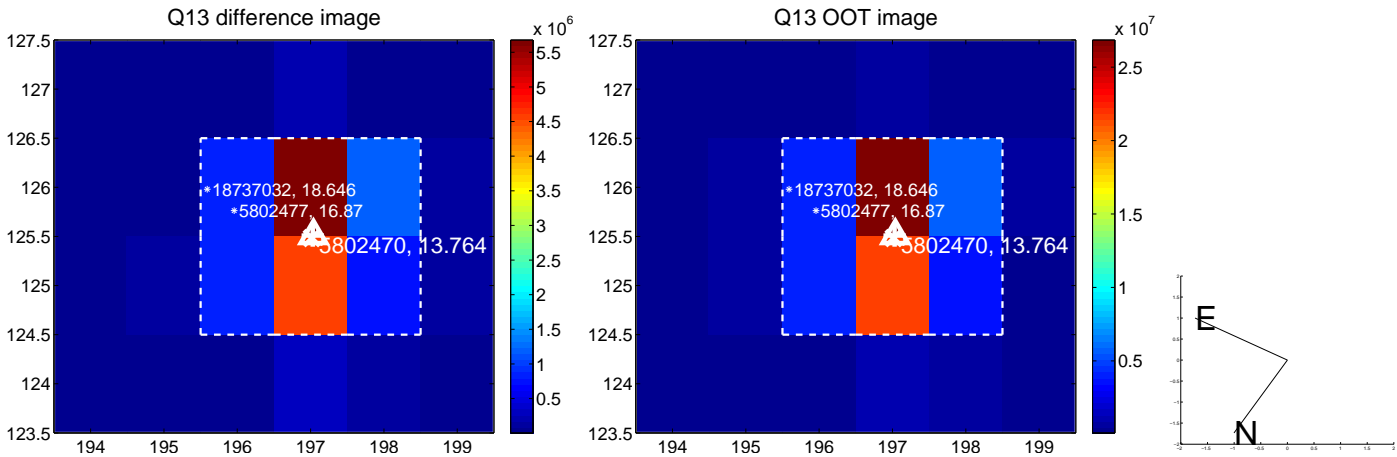
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



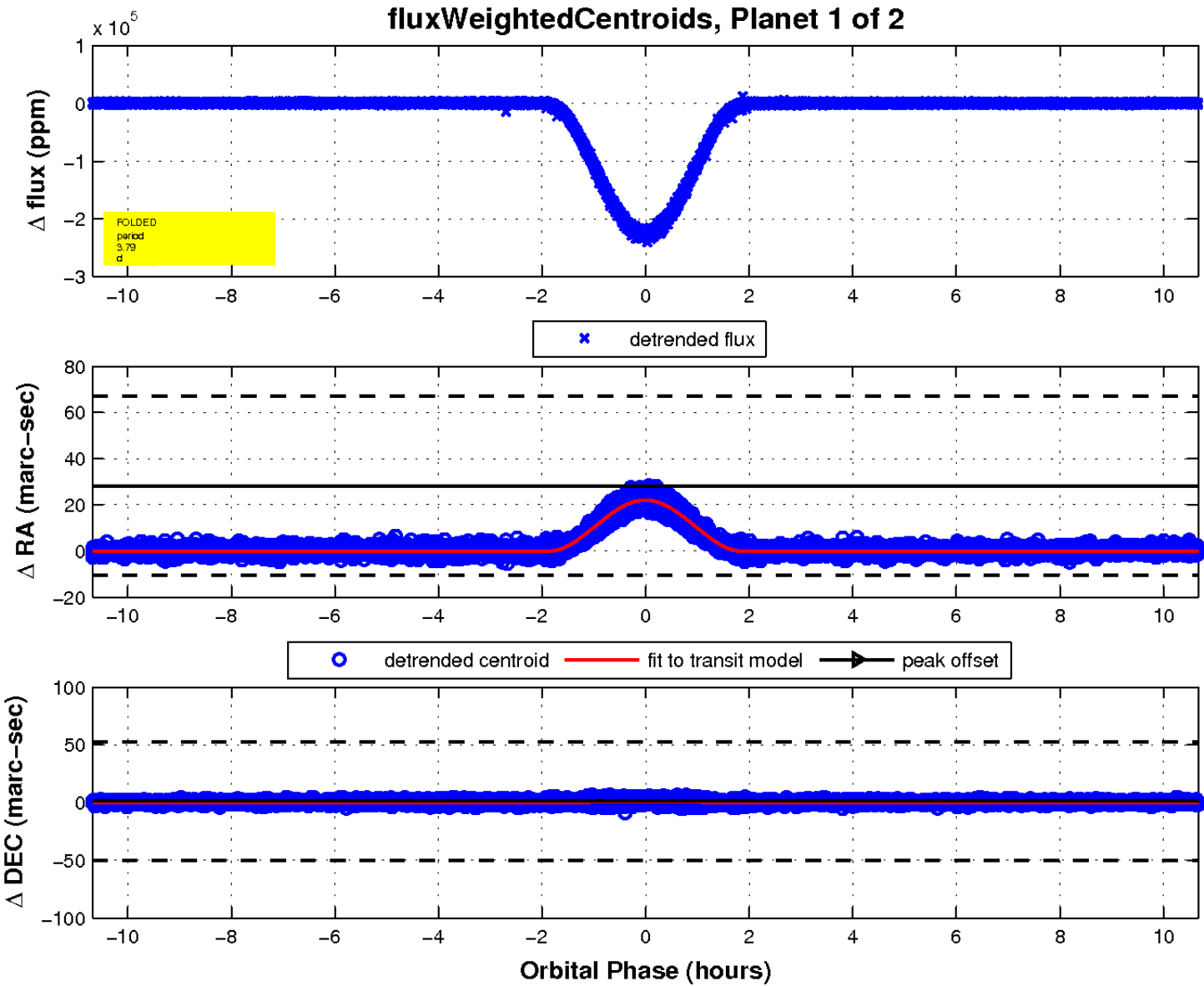
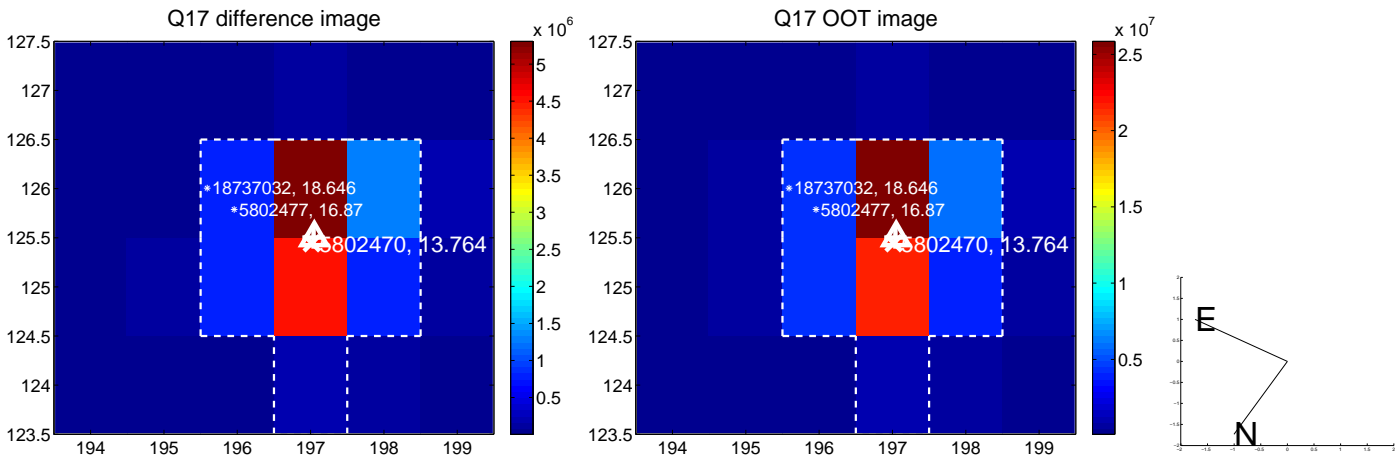
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

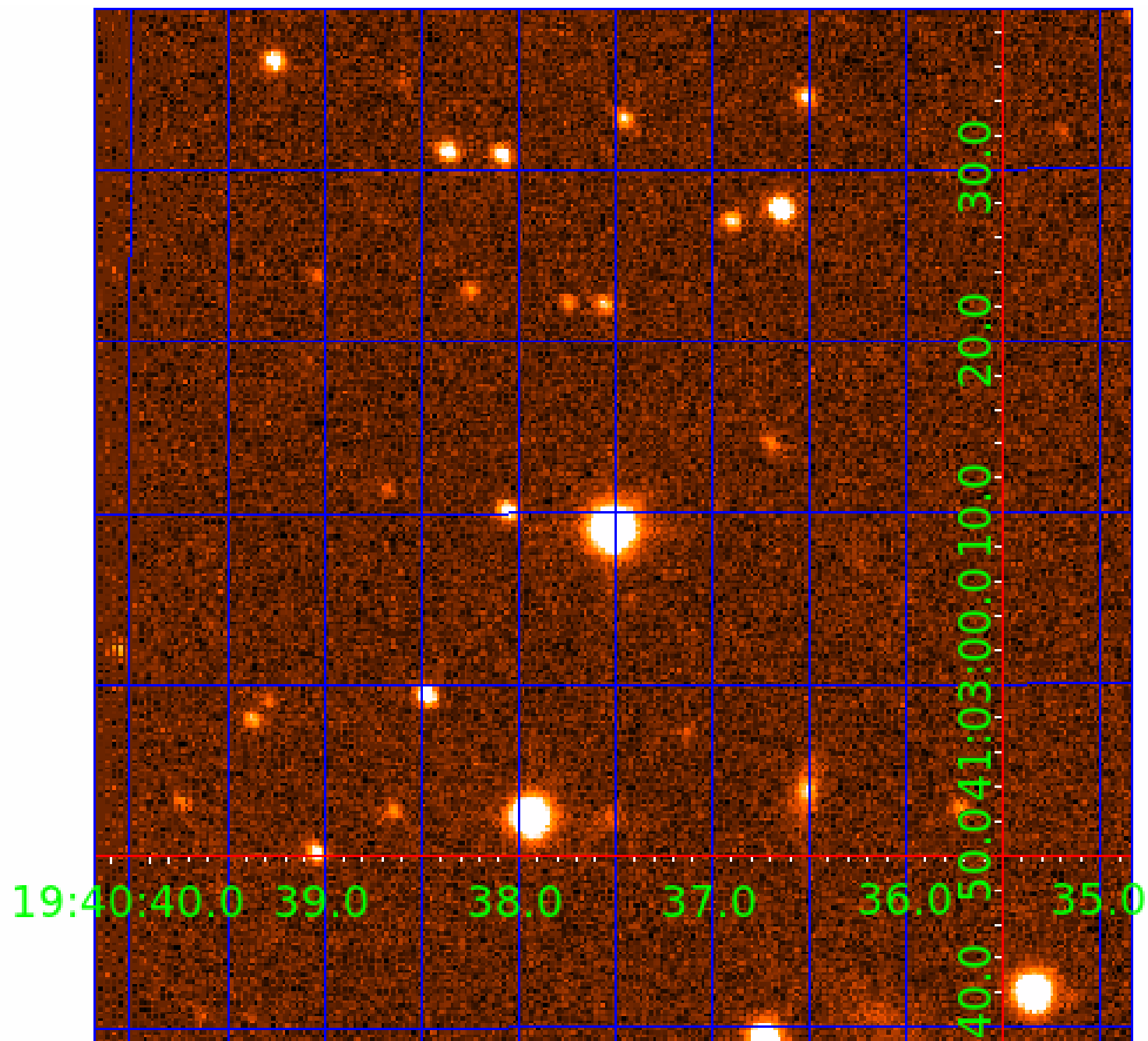


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005802470

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})
005802470-01	OBS	6628.01	3.791875	134.134355	230704.8	3.560	15494.1	9996.5	0.72	5622	42.55	241.03
005802470-02	OBS	No	3.791873	132.238750	66117.9	3.449	4756.8	3175.0	0.72	5622	29.16	241.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005802470-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
005802470-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

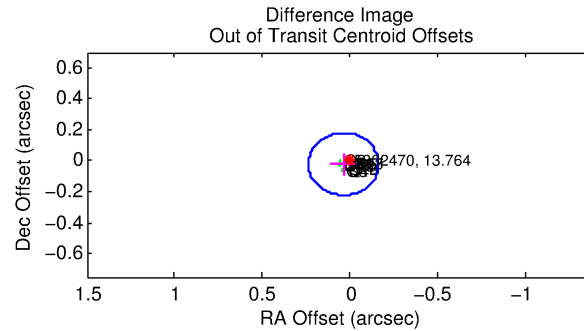
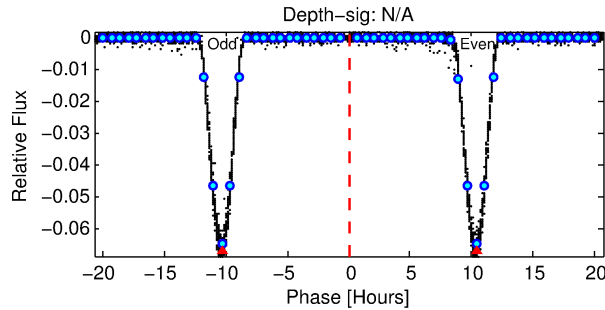
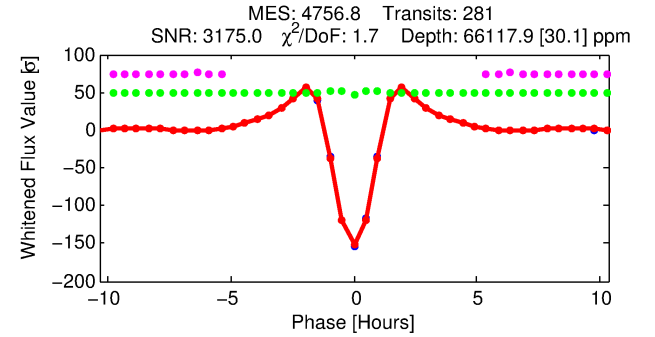
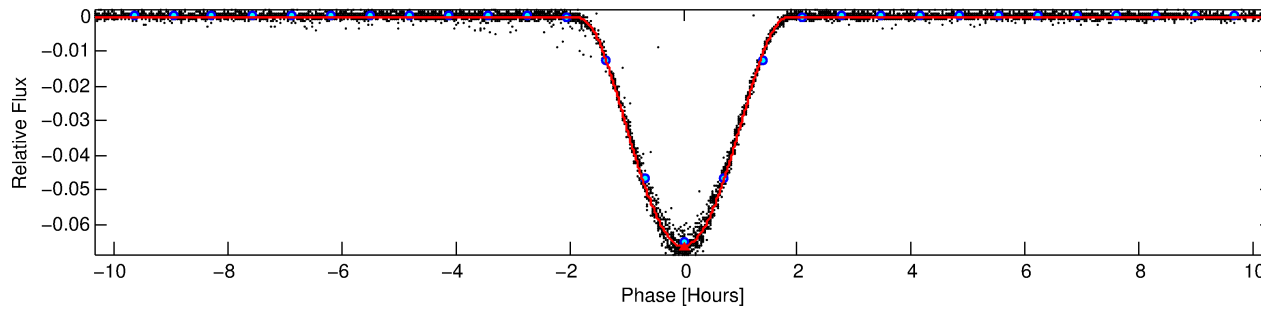
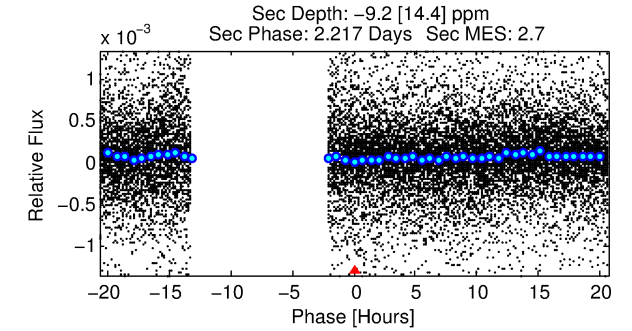
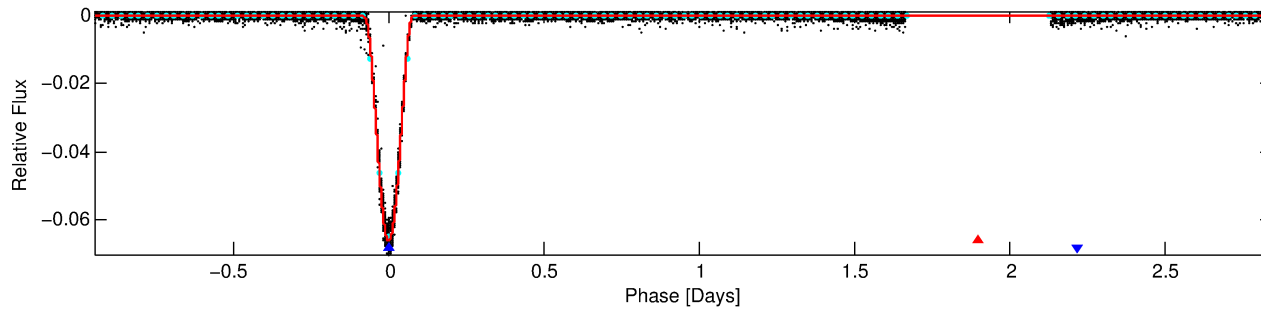
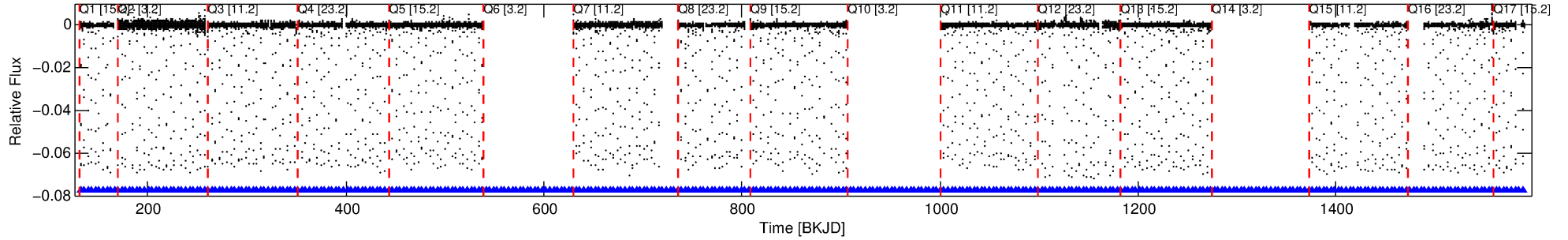
Ephemeris Match Information For 005802470-02

No Significant Match Found

DV One-Page Summary

KIC: 5802470 Candidate: 2 of 2 Period: 3.792 d
KOI: K06628 Corr: No Ephemeris Match

Kp: 13.76 R*: 0.72 Rs Teff: 5622.0 K Logg: 4.62 Fe/H: -0.580



DV Fit Results:

Period = 3.79187 [0.00000] d
Epoch = 132.2388 [0.0000] BKJD
Rp/R* = 0.3697 [0.0084]
a/R* = 8.35 [0.00]
b = 0.95 [0.01]
Seff = 241.03 [64.23]
Teff = 1005 [67] K
Rp = 29.16 [5.93] Re
a = 0.0441 [0.0073] AU
Ag = N/A
Teffp = N/A

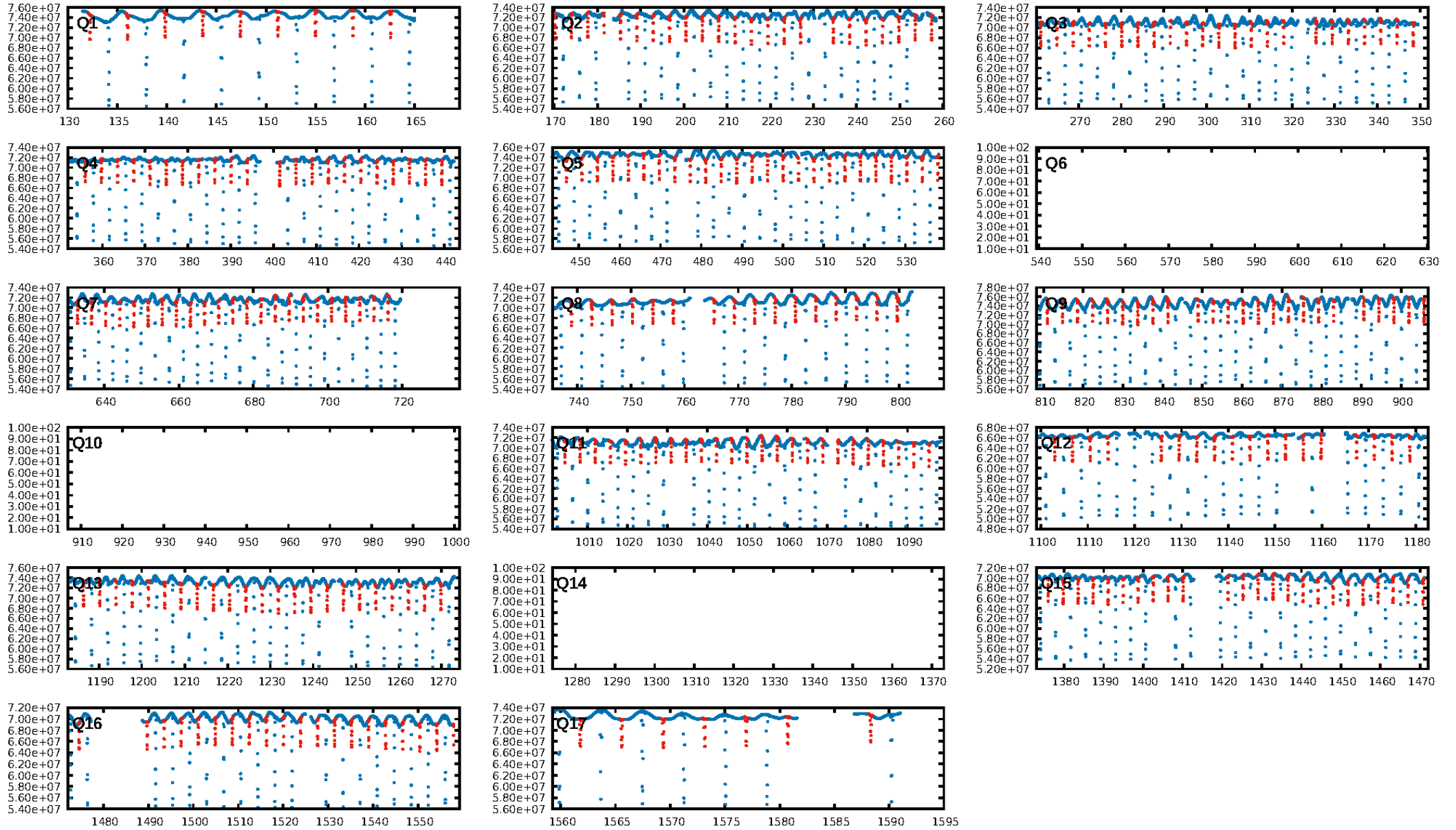
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [265/265]
GhostDiagnostic-chr: 1.966
Centroid-sig: 0.0%
Centroid-so: 0.217 arcsec [172.59σ]
OotOffset-rm: 0.044 arcsec [0.65σ]
KicOffset-rm: 0.191 arcsec [2.73σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

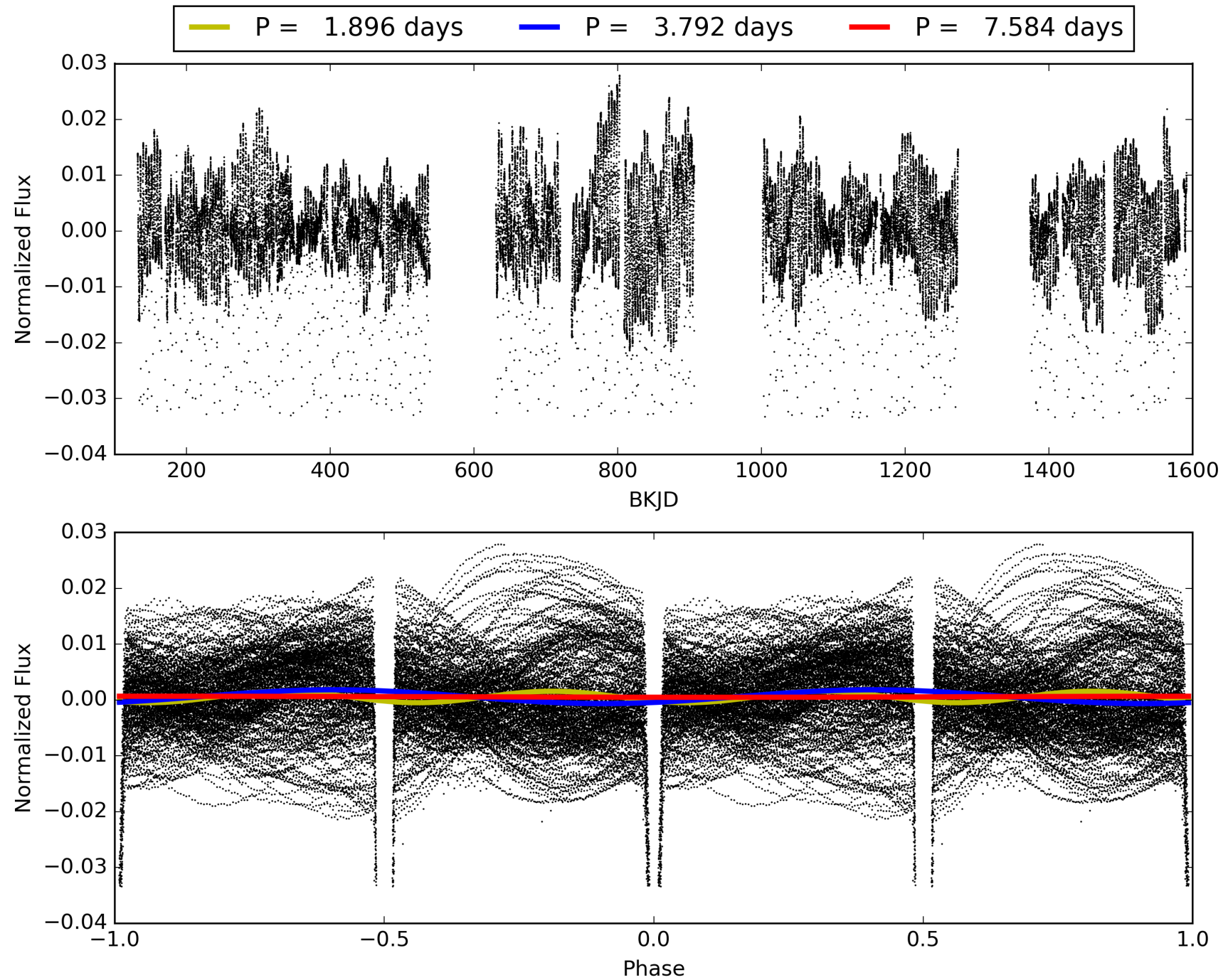
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:06:36 Z

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

TCE 005802470-02, PDC Light Curves

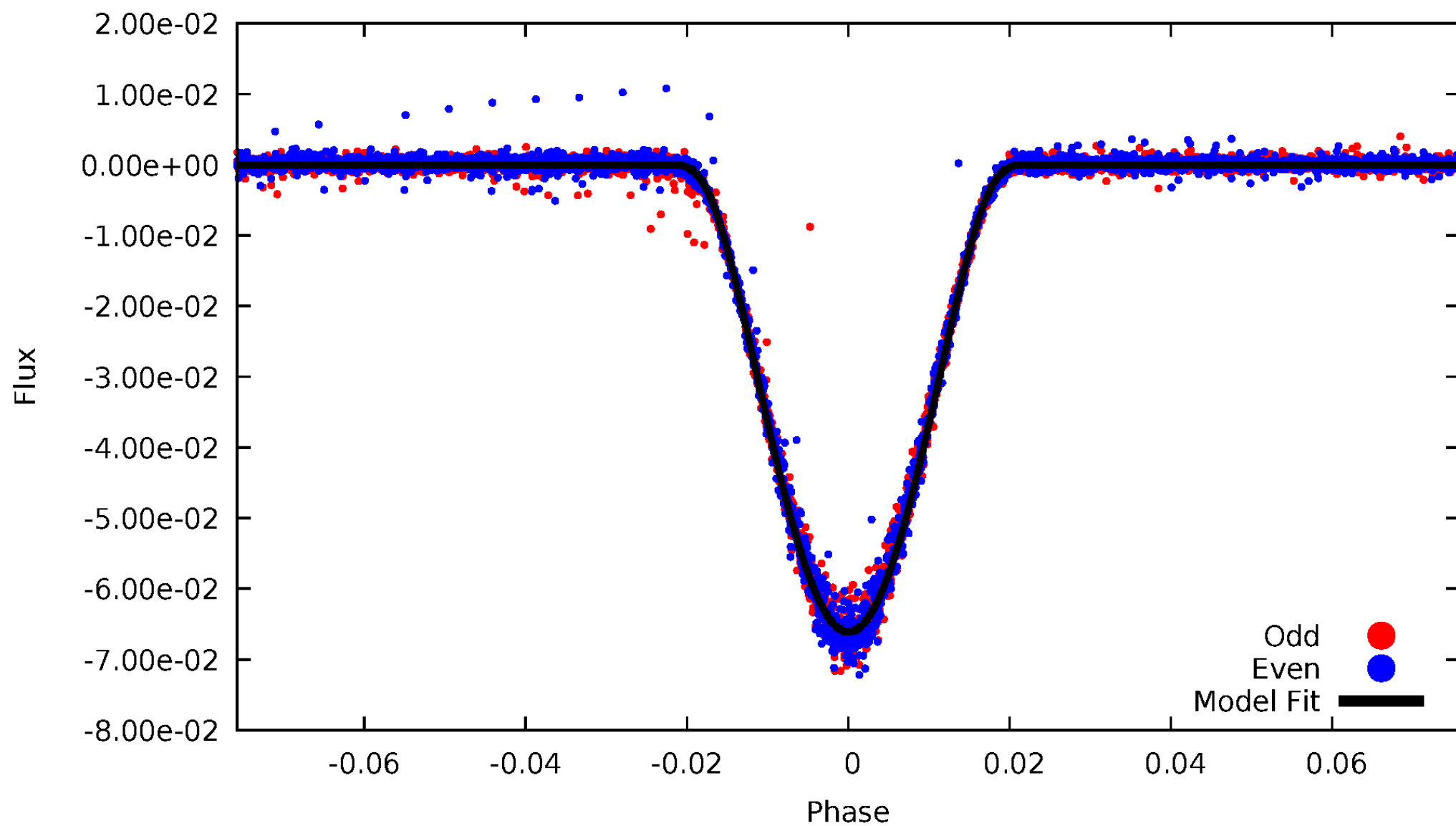


TCE 005802470-02



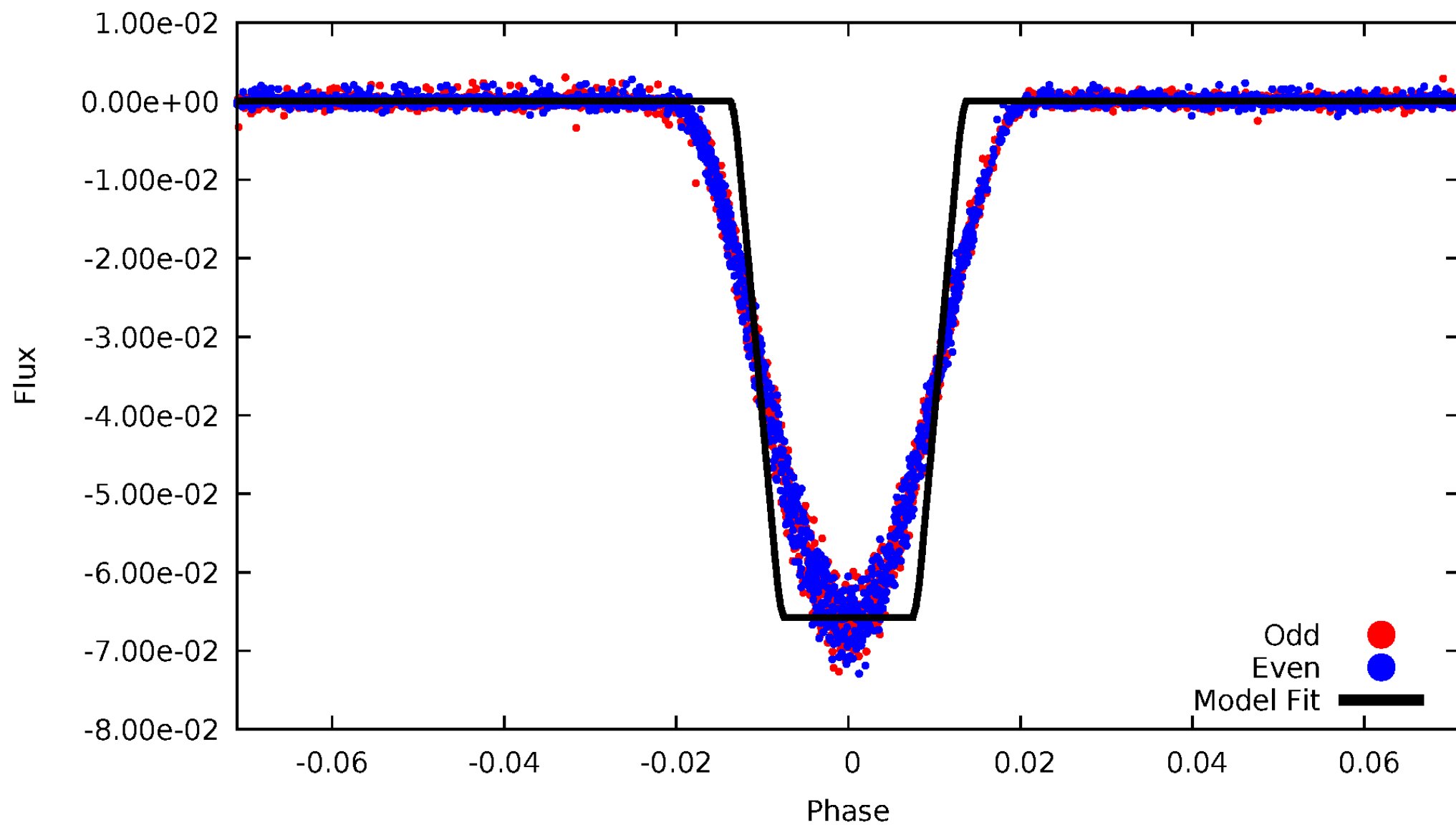
DV Odd/Even

TCE 005802470-02



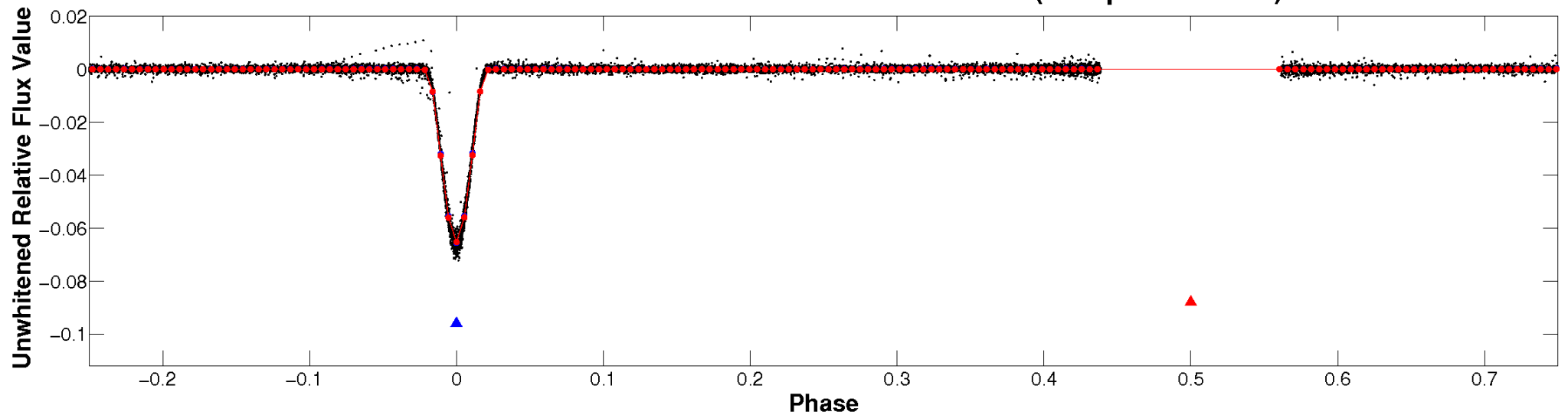
ALT Odd/Even

TCE 005802470-02

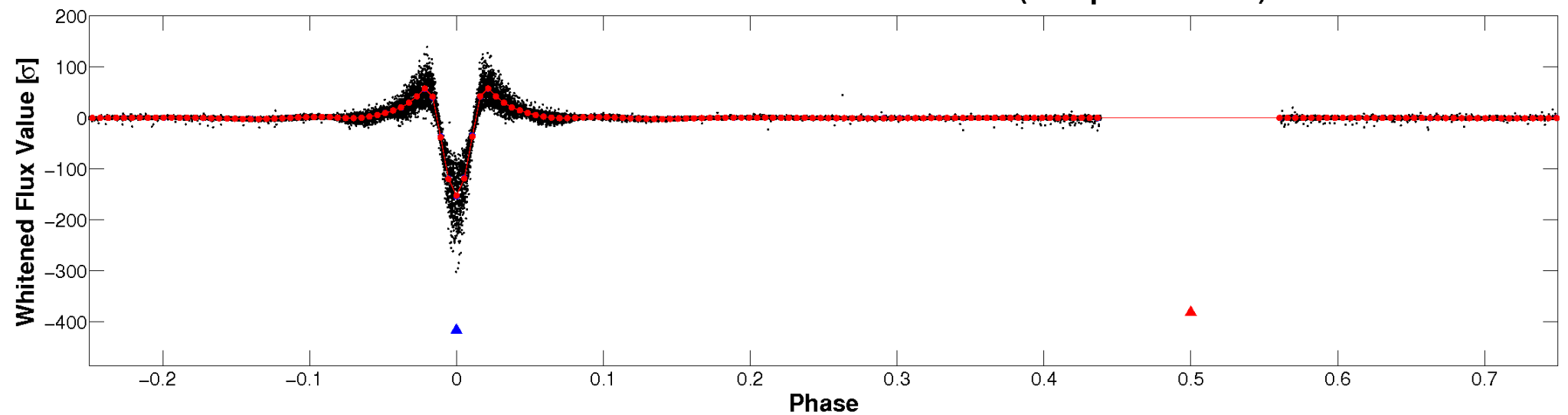


Non-Whitened Vs. Whitened Light Curve

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

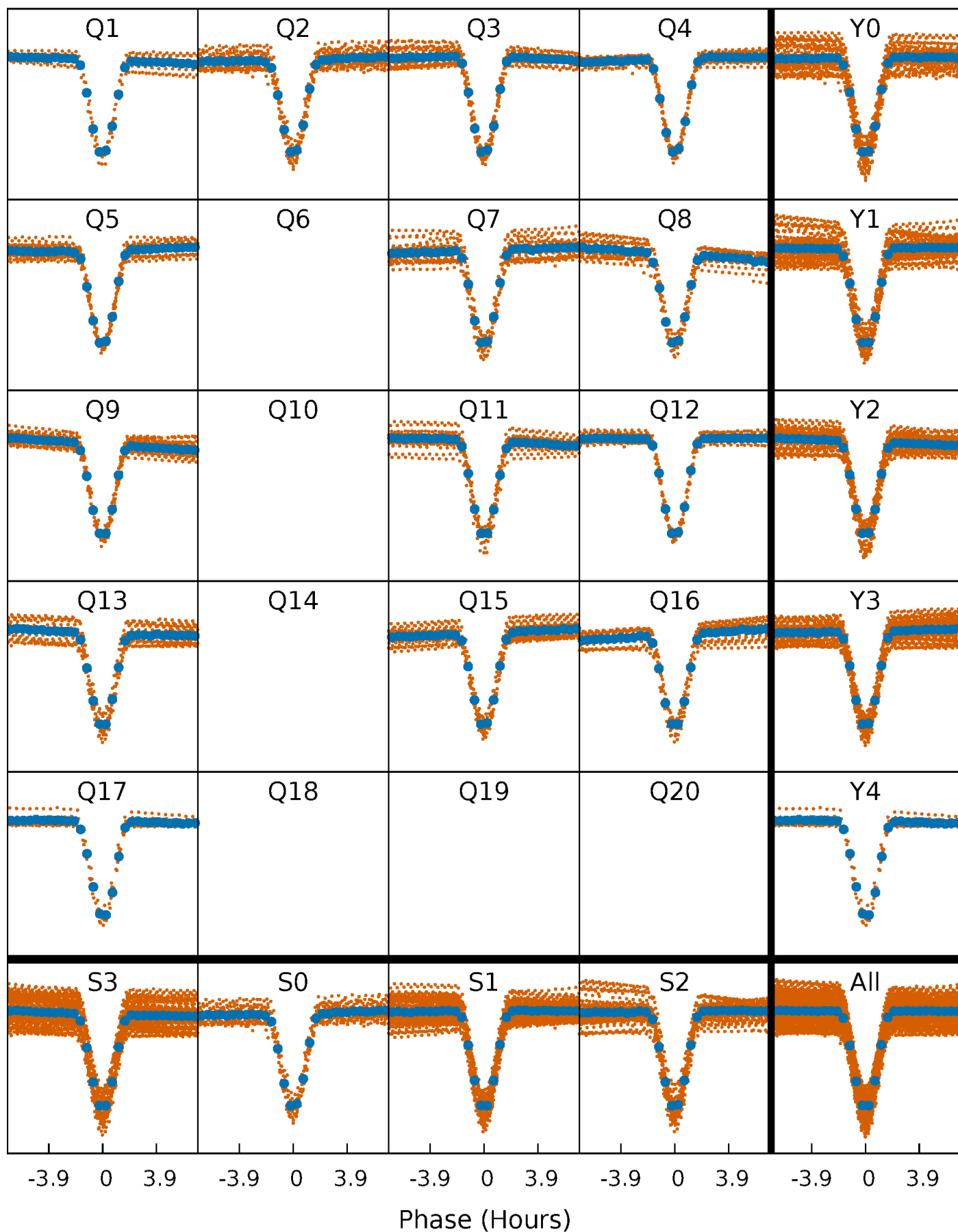


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



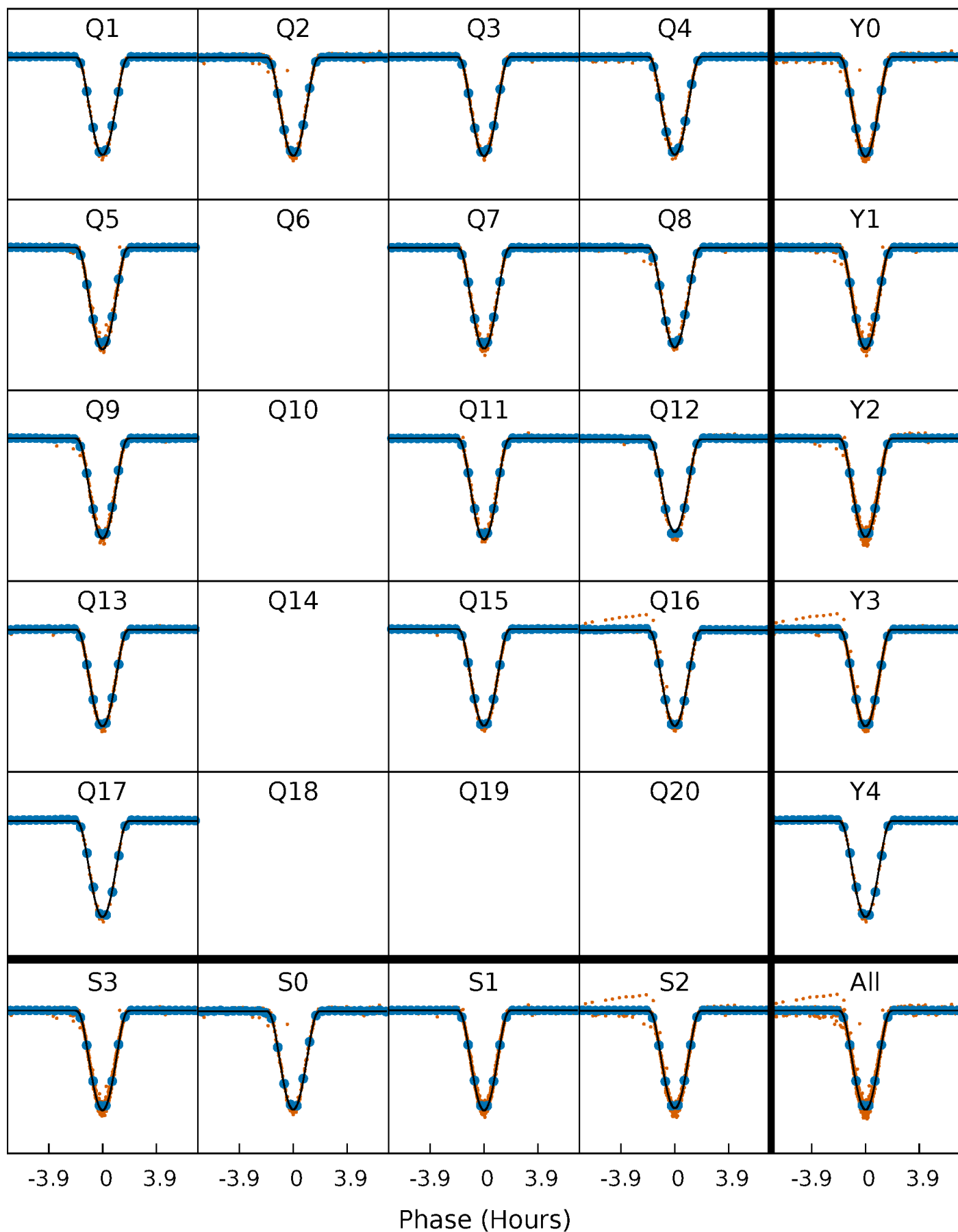
PDC Quarter-Phased Transit Curves

TCE 005802470-02 P= 3.791873 Days $T_0=132.238750$ (BKJD)



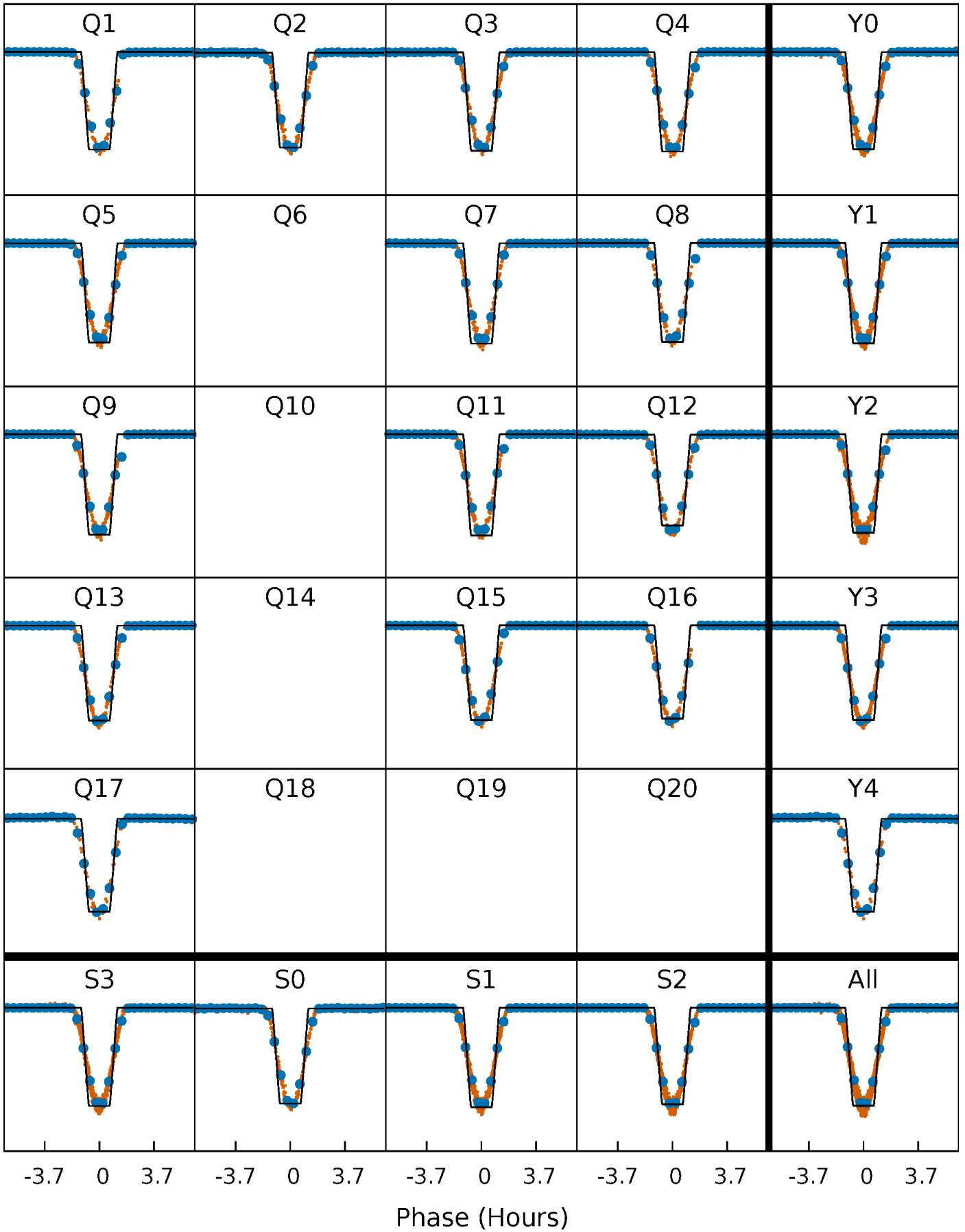
DV Quarter-Phased Transit Curves

TCE 005802470-02 P= 3.791873 Days $T_0=132.238750$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

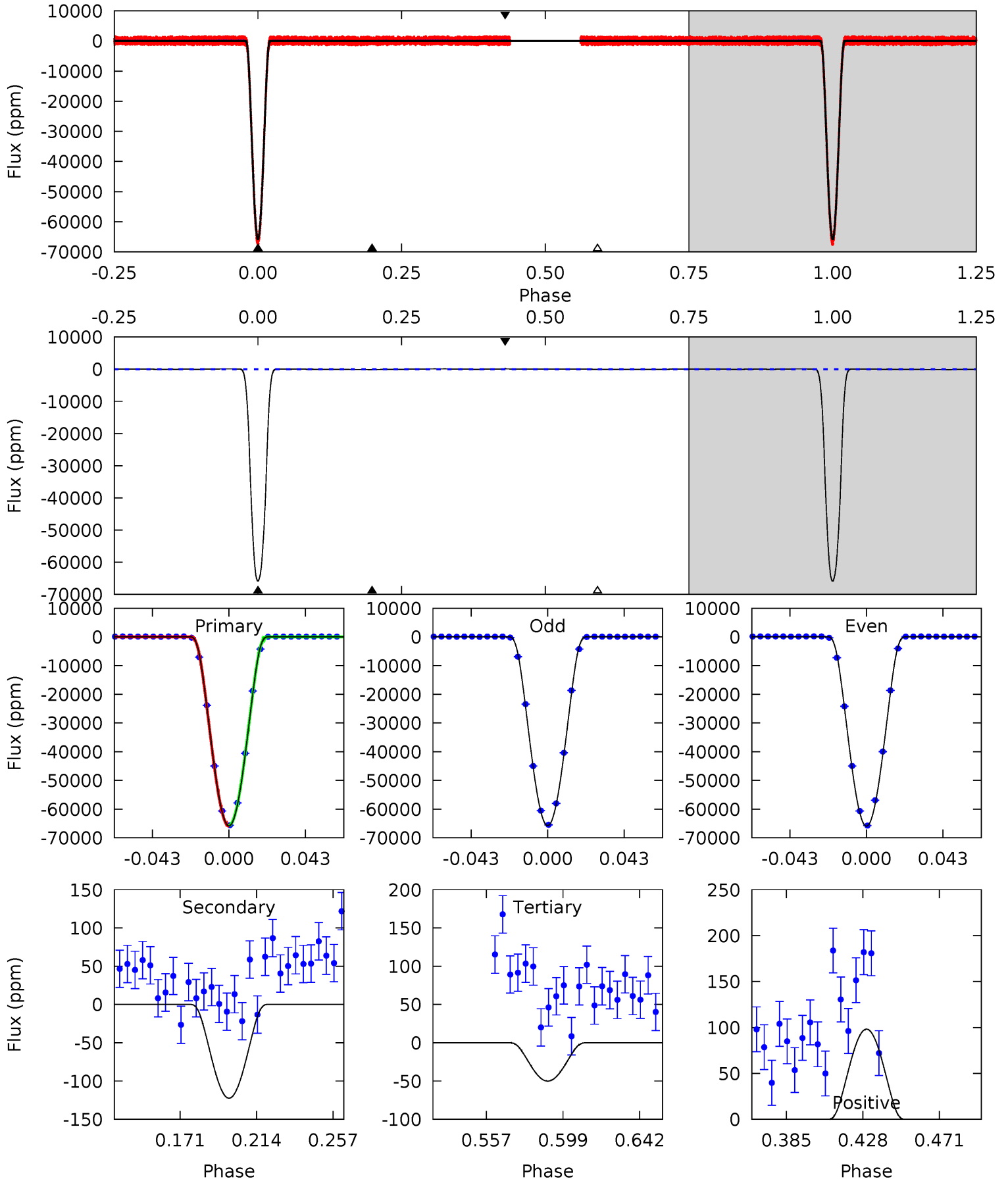
TCE 005802470-02 P= 3.791886 Days $T_0=132.235837$ (BKJD)



DV Model-Shift Uniqueness Test

005802470-02, P = 3.791873 Days, E = 128.446877 Days

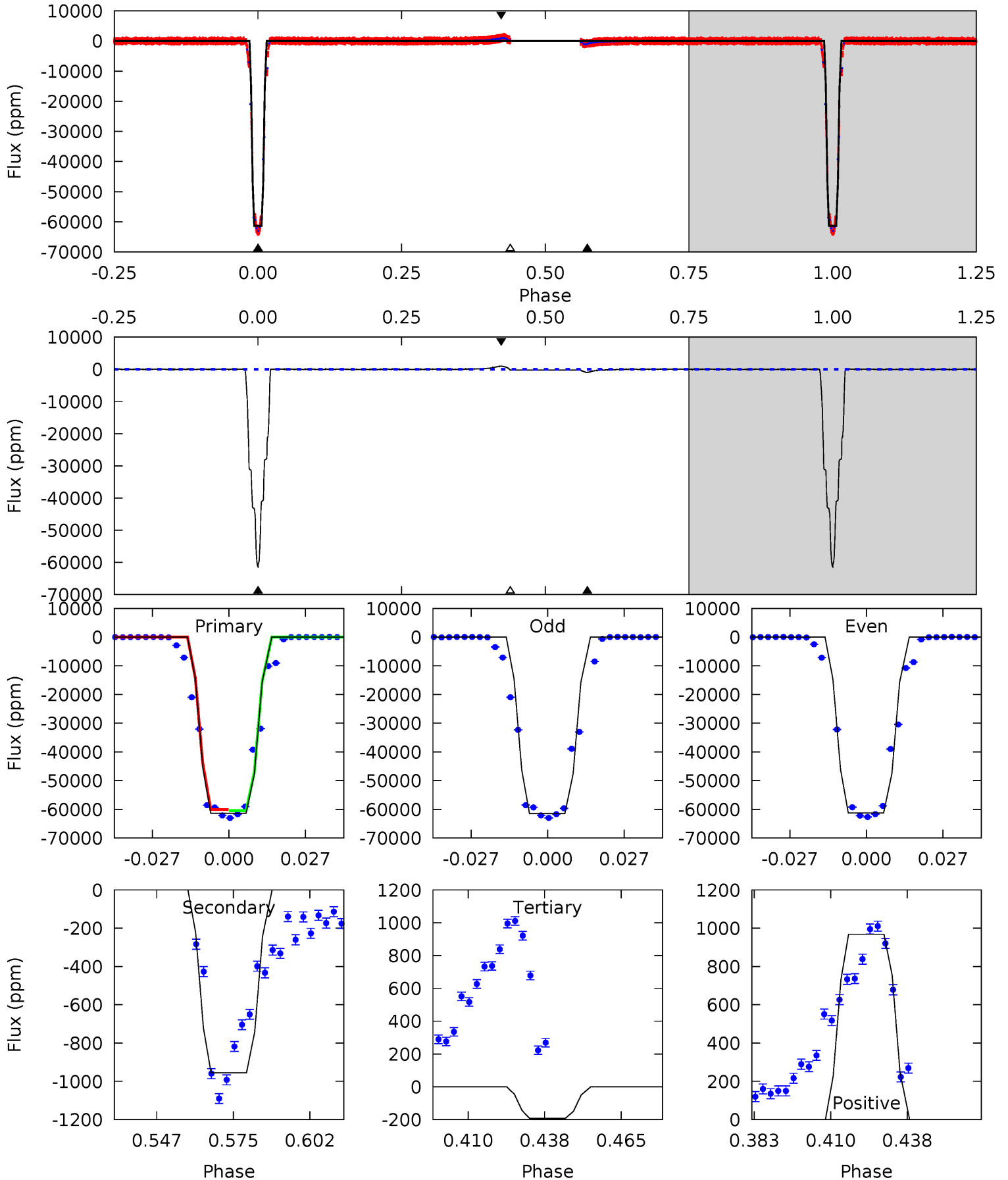
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5966	11.1	4.54	8.90	4.74	2.03	3.60	5962	5957	6.55	2.20	8.33	0.99	0.00	0



Alt Model-Shift Uniqueness Test

005802470-02, P = 3.791886 Days, E = 128.443951 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2637	41.1	8.28	41.6	4.83	2.21	4.33	2628	2595	32.8	-0.55	4.76	1.00	0.02	0



Stellar Parameters For KIC 005802470

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5622^{+168}_{-151}	$4.619^{+0.032}_{-0.128}$	$-0.580^{+0.300}_{-0.300}$	$0.723^{+0.146}_{-0.049}$	$0.803^{+0.078}_{-0.078}$	$2.992^{+0.480}_{-1.130}$
	+3%/-3%	+1%/-3%	+52%/-52%	+20%/-7%	+10%/-10%	+16%/-38%
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 005802470-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-122 ± 11	$29.96^{+3.11}_{-1.83}$	1431^{+67}_{-53}	-2000^{+58}_{-66}	$0.142^{+0.022}_{-0.024}$
Alt.	-956 ± 23	$20.75^{+2.20}_{-1.39}$	1427^{+66}_{-50}	2675^{+51}_{-50}	$2.365^{+0.283}_{-0.400}$

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 $A_{obs} \gg 1.0$

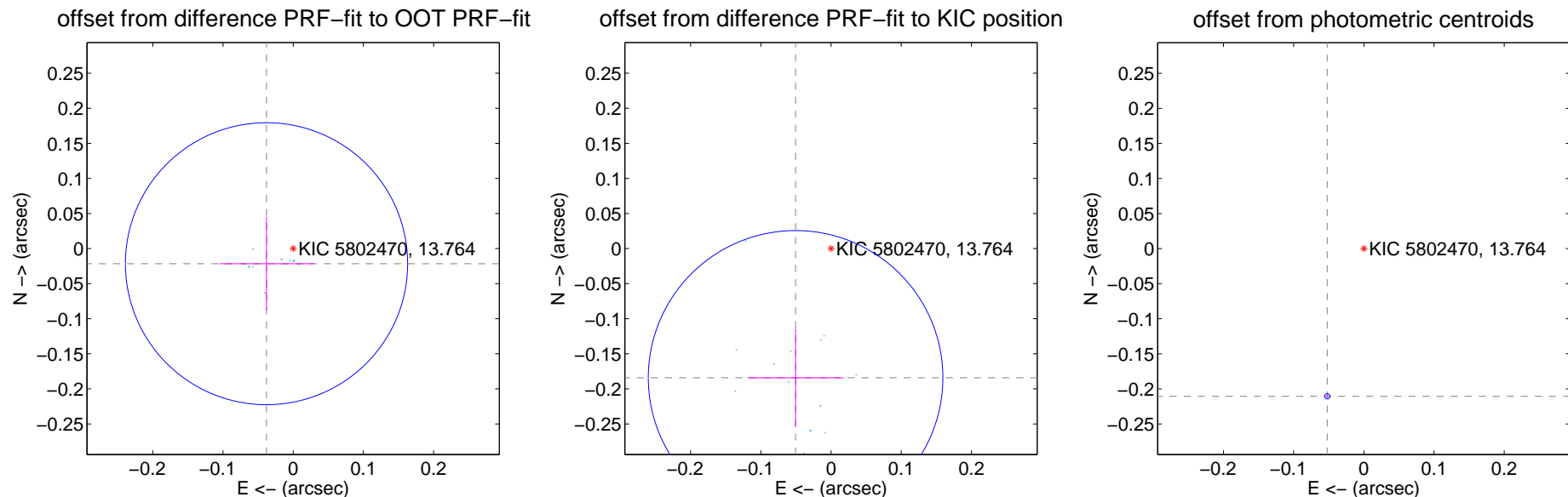
DV Centroid Data

Supplemental centroid analysis for 005802470-02. Kepler magnitude: 13.76. Transit SNR 3175.00

There are 14 quarters with good PRF difference image offsets

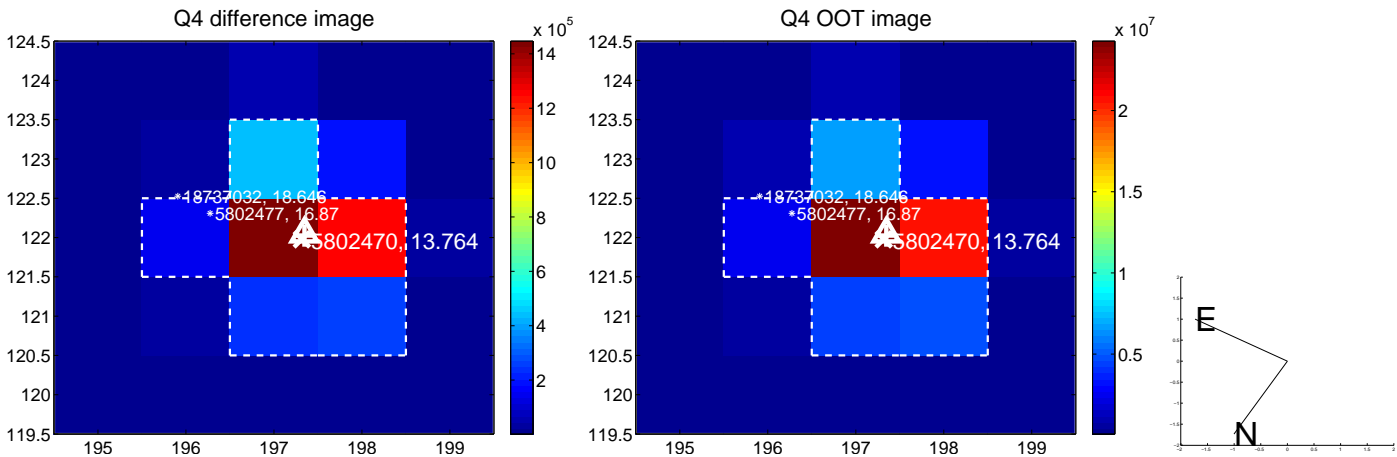
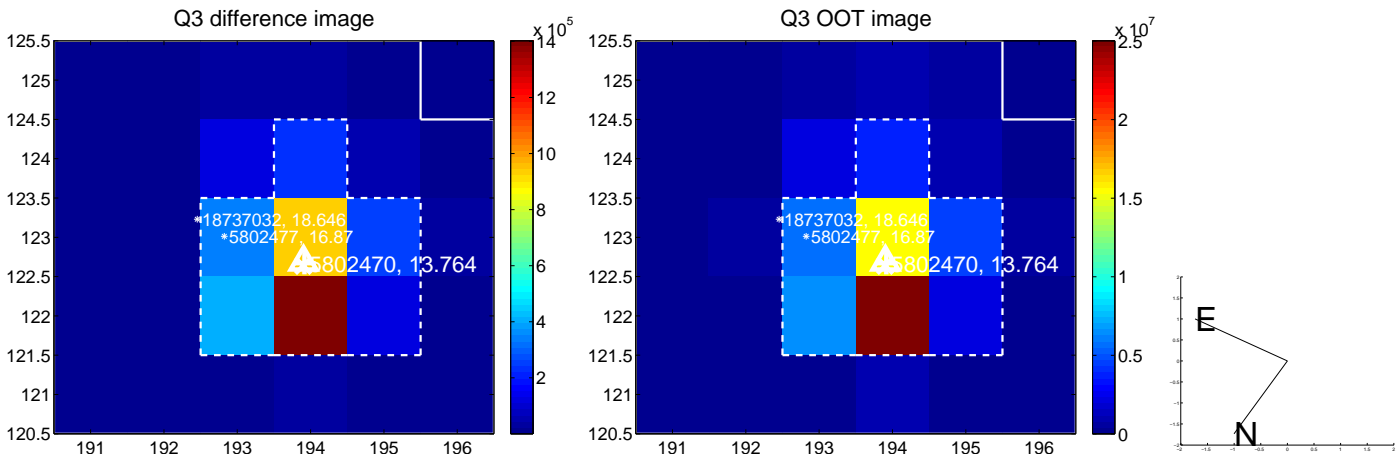
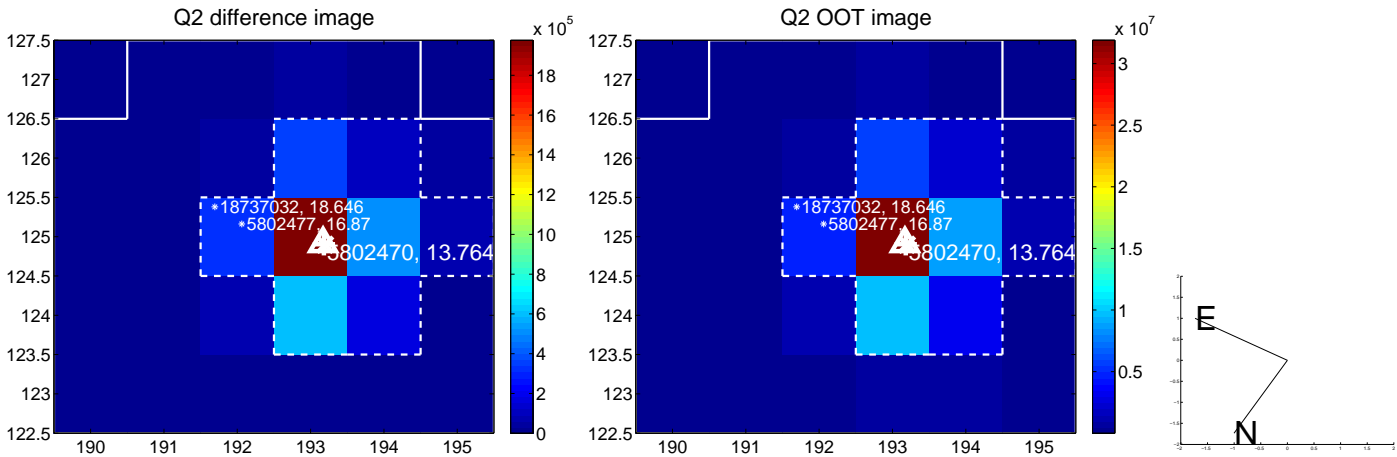
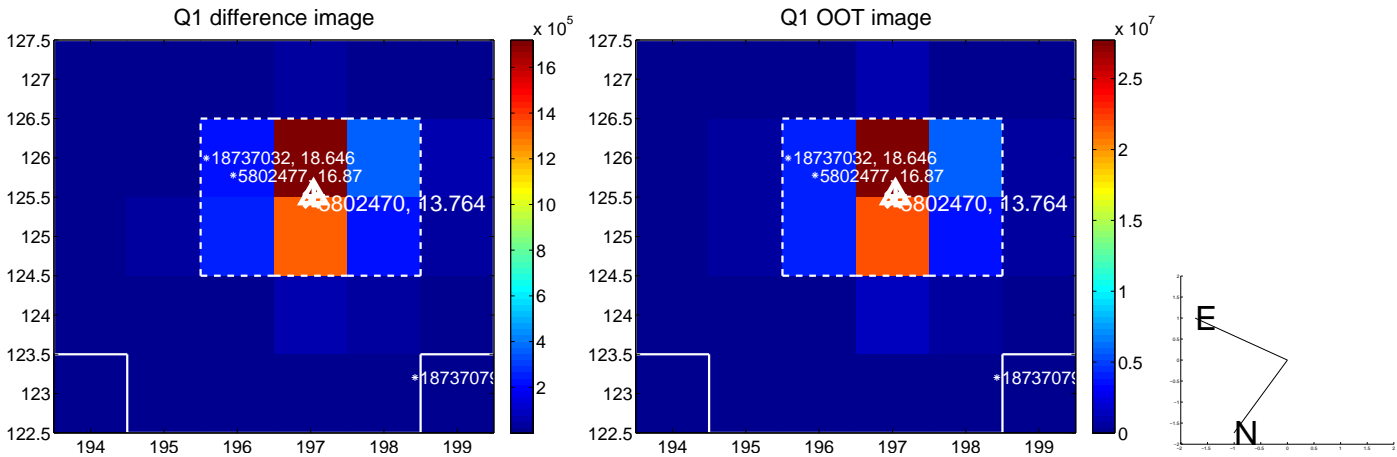
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.044 ± 0.067	0.65	0.038 ± 0.067	-0.022 ± 0.067
PRF-fit source offset from KIC position	0.191 ± 0.070	2.73	0.050 ± 0.069	-0.184 ± 0.070
photometric centroid source offset	0.22 ± 0.00	172.59	0.05 ± 0.00	-0.21 ± 0.00

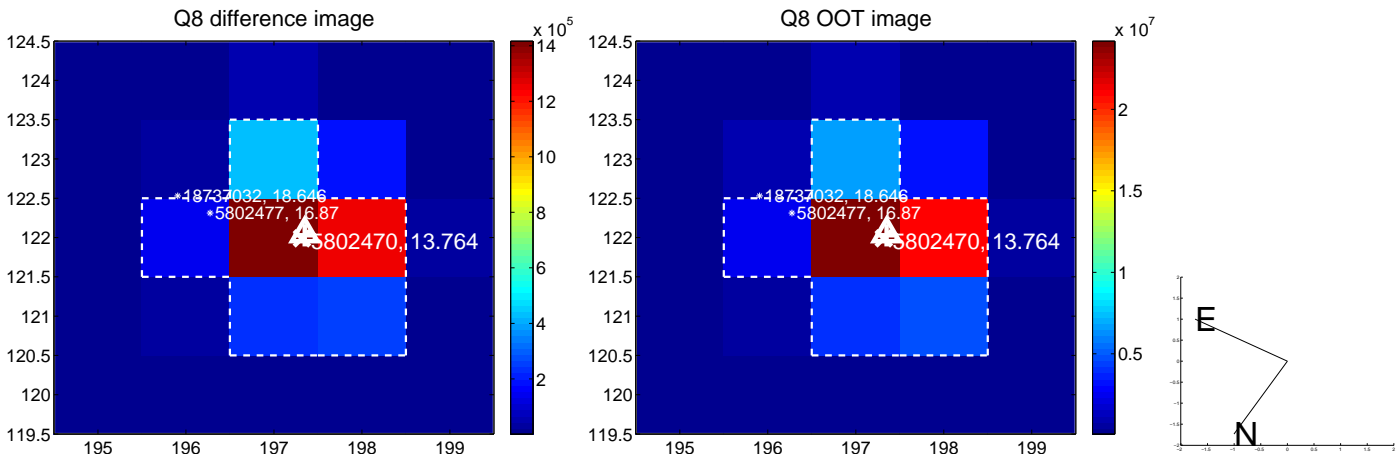
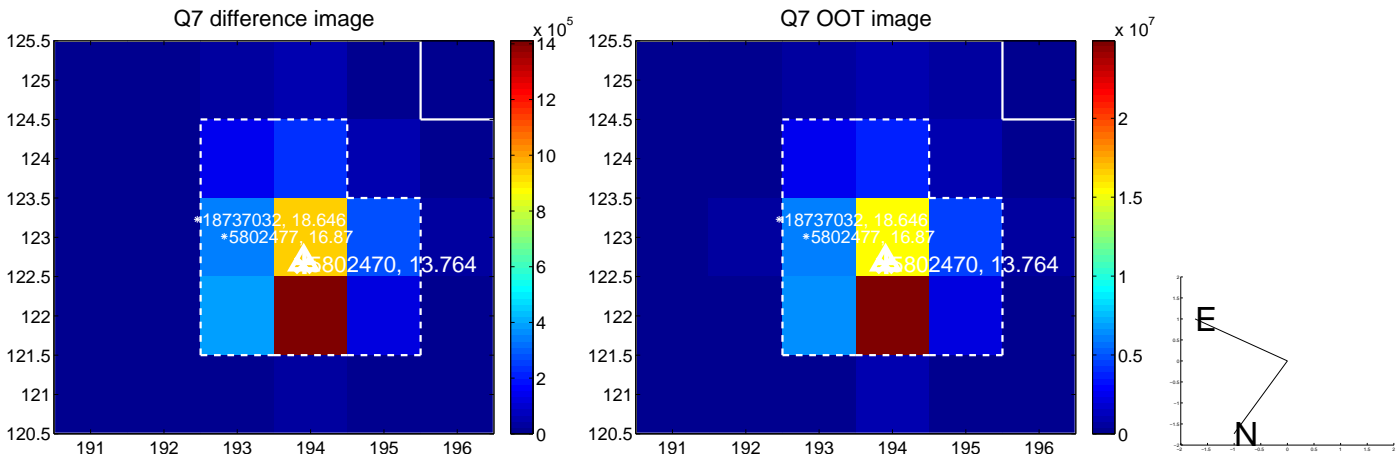
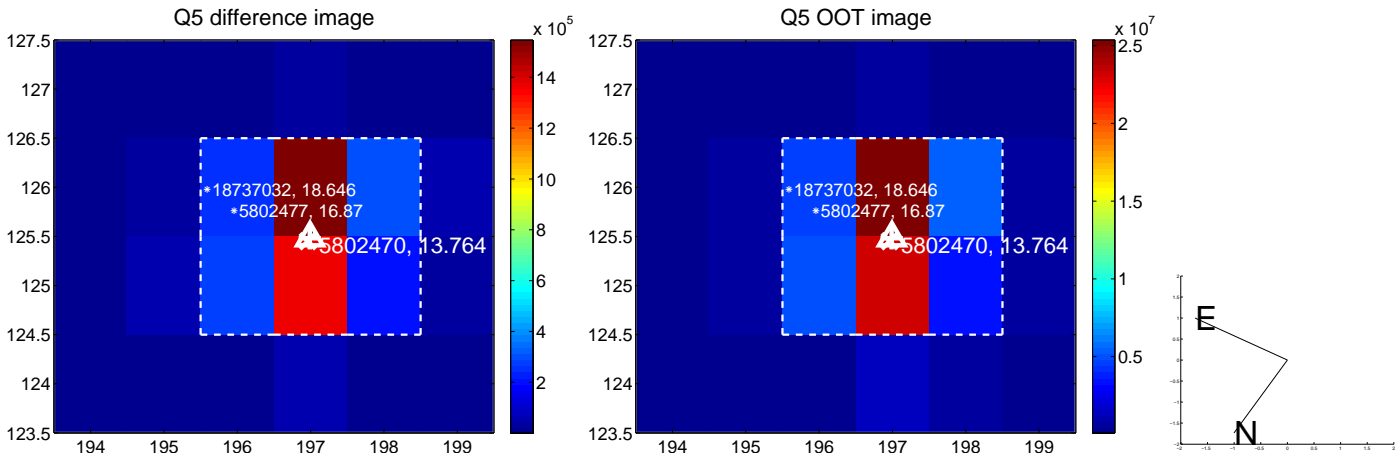


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

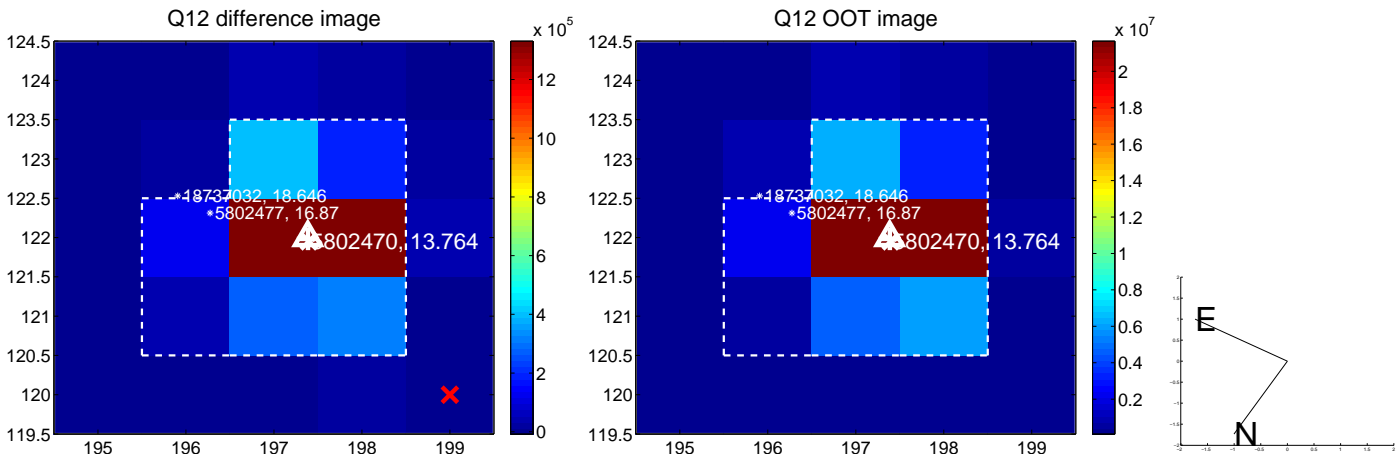
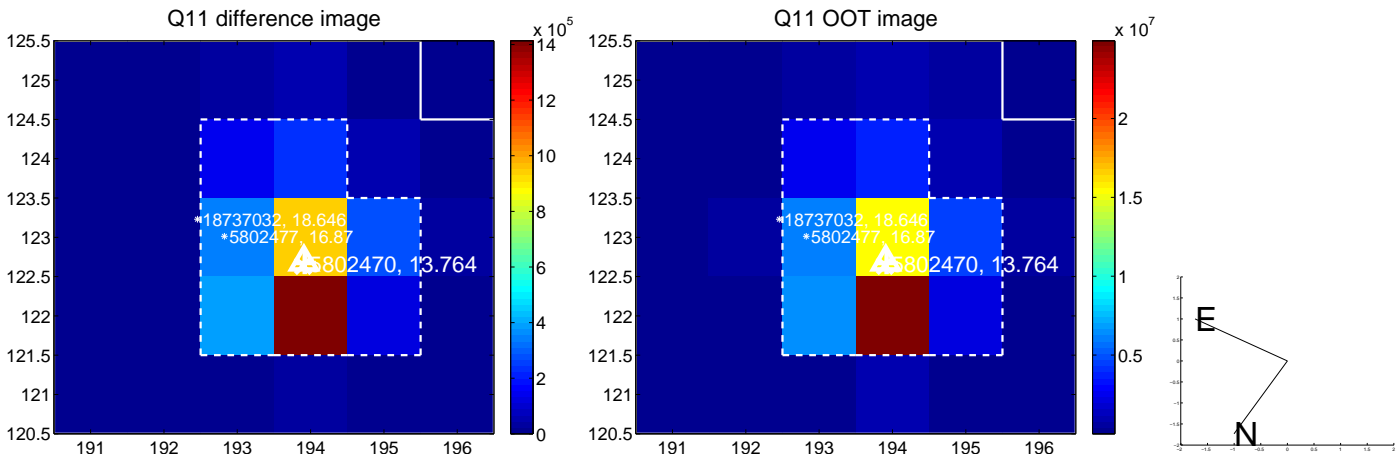
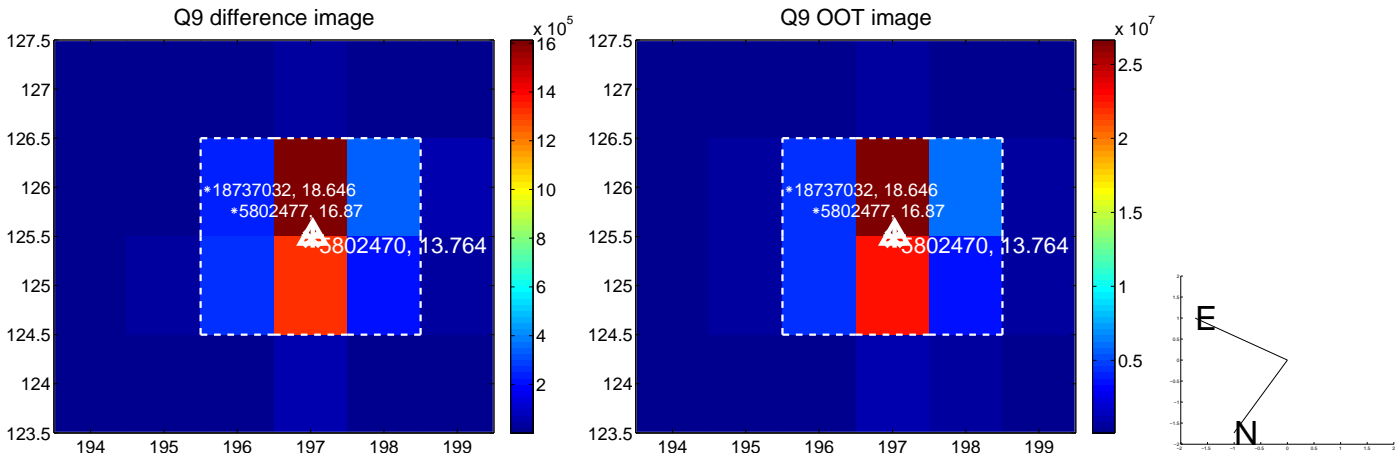
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



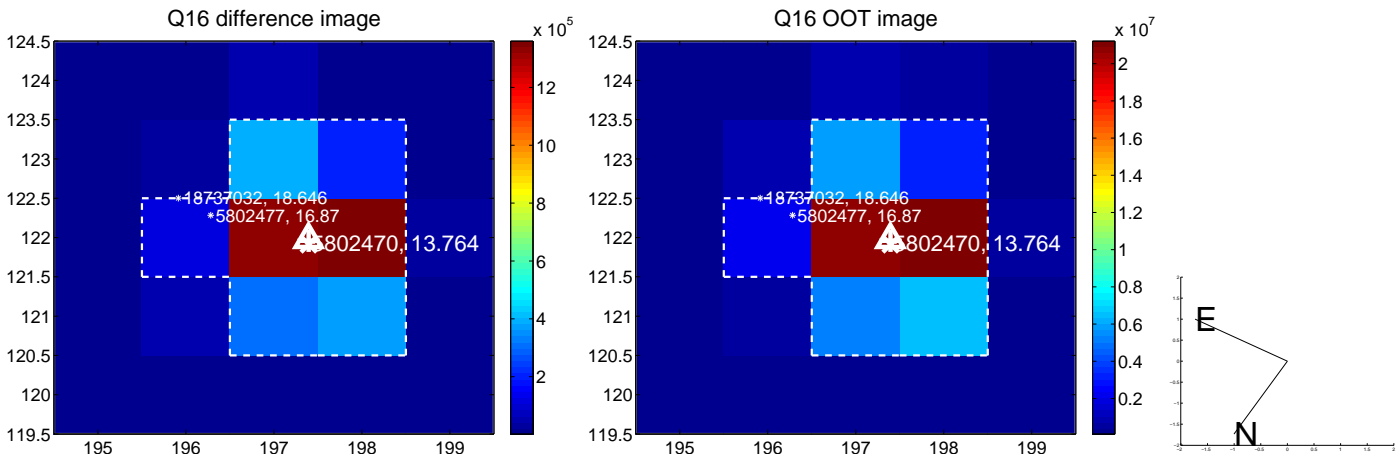
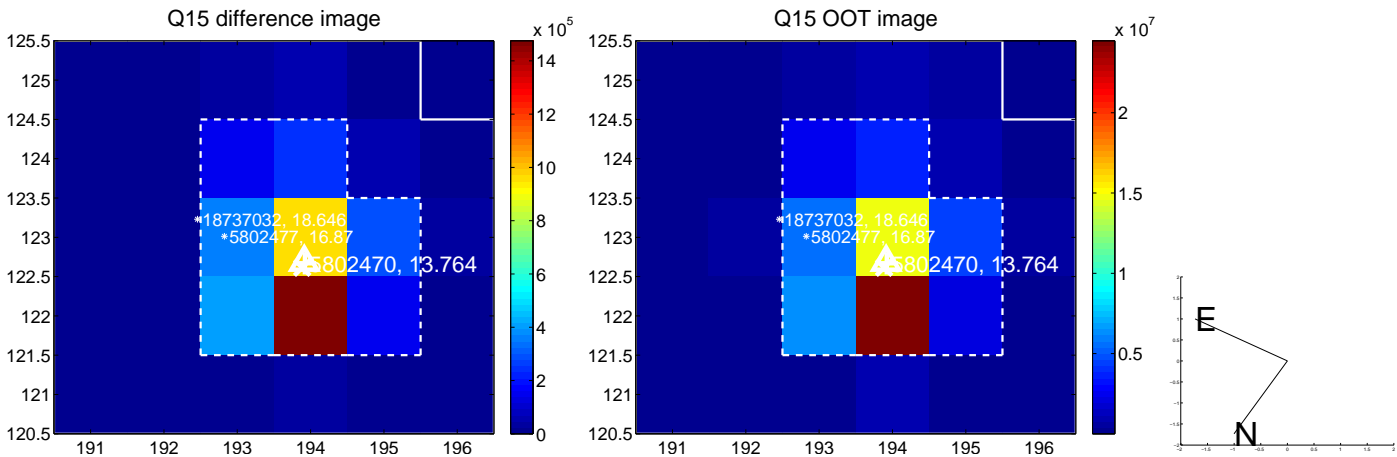
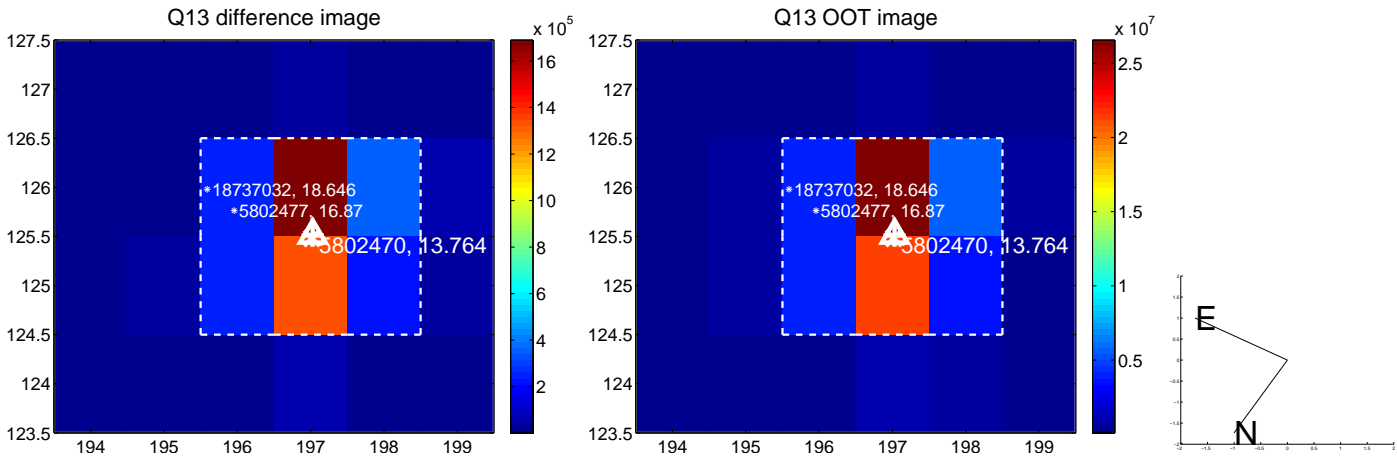
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



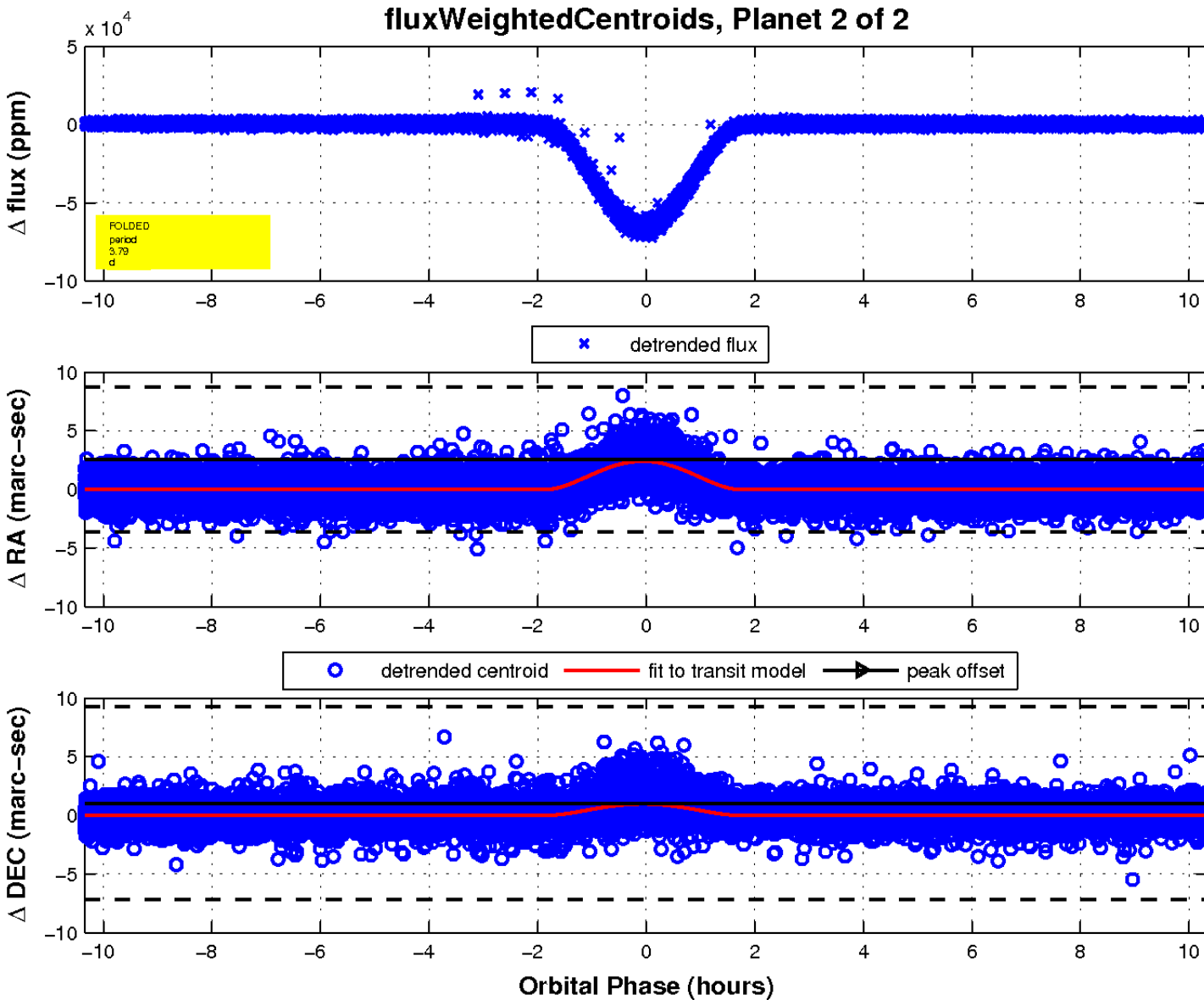
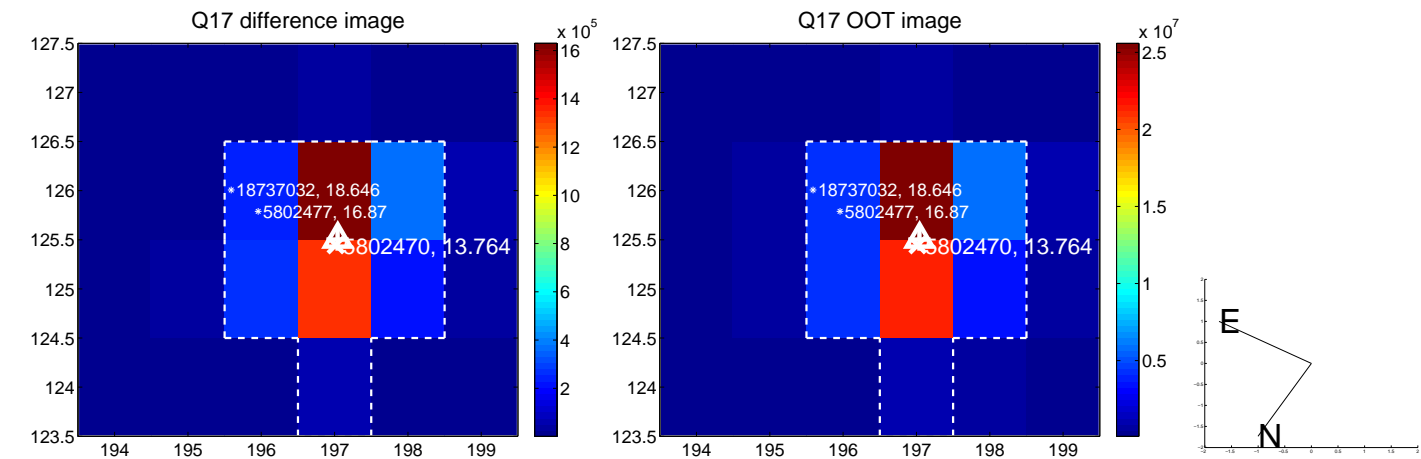
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

