

KIC 006593363

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})
006593363-01	OBS	6736.01	18.527825	139.257602	76369.7	5.890	7207.0	6063.3	2.32	6154	64.64	322.76
006593363-02	OBS	No	18.527817	149.994912	3107.4	8.437	323.3	307.3	2.32	6154	14.63	322.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006593363-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
006593363-02	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.

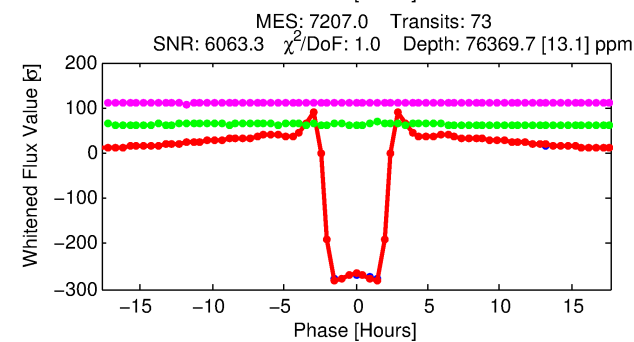
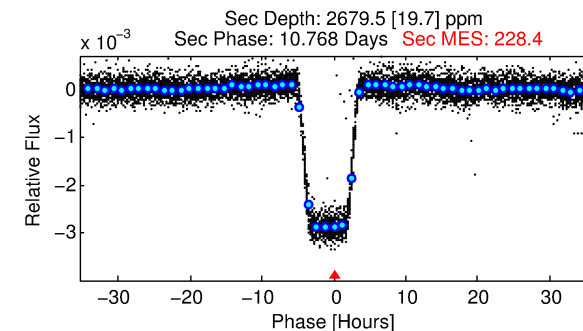
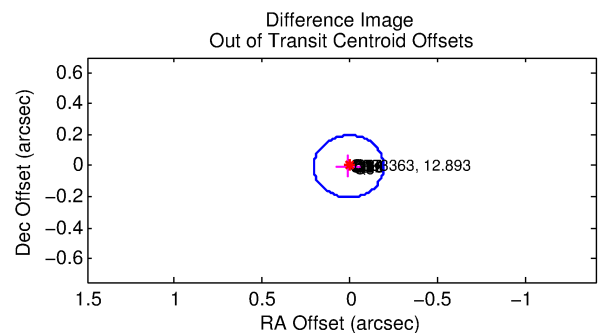
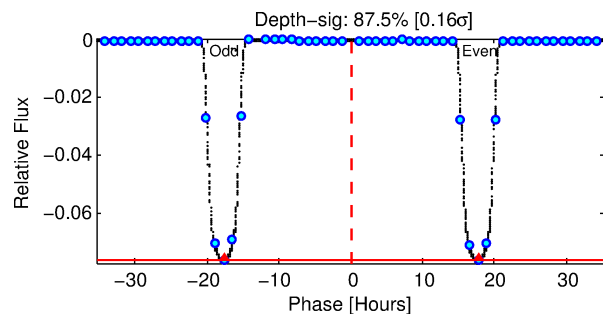
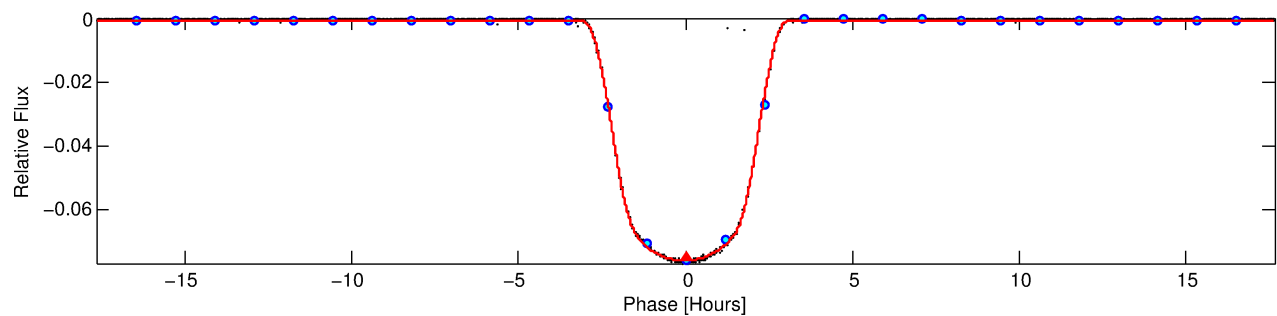
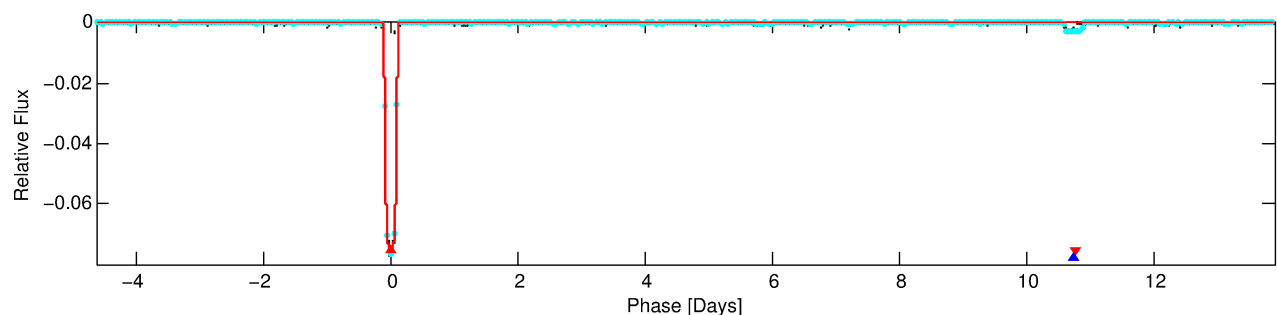
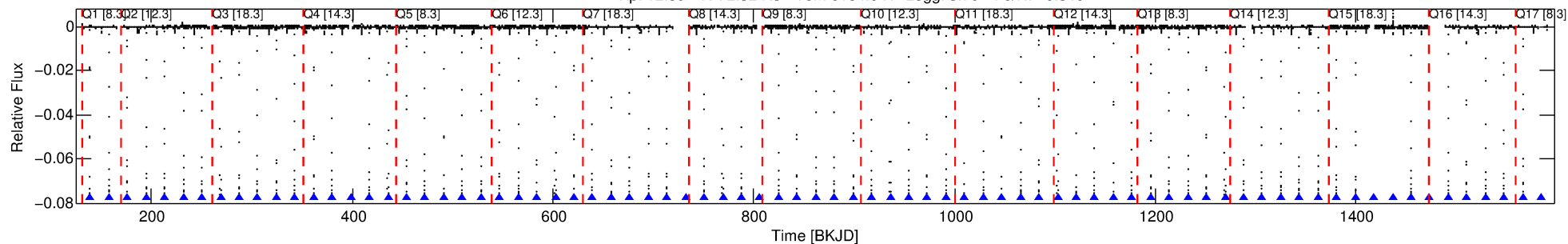
Ephemeris Match Information For 006593363-01

No Significant Match Found

DV One-Page Summary

KIC: 6593363 Candidate: 1 of 2 Period: 18.528 d
KOI: K06736.01 Corr: 1.000

Kp: 12.89 R*: 2.32 Rs Teff: 6154.0 K Logg: 3.79 Fe/H: -0.340



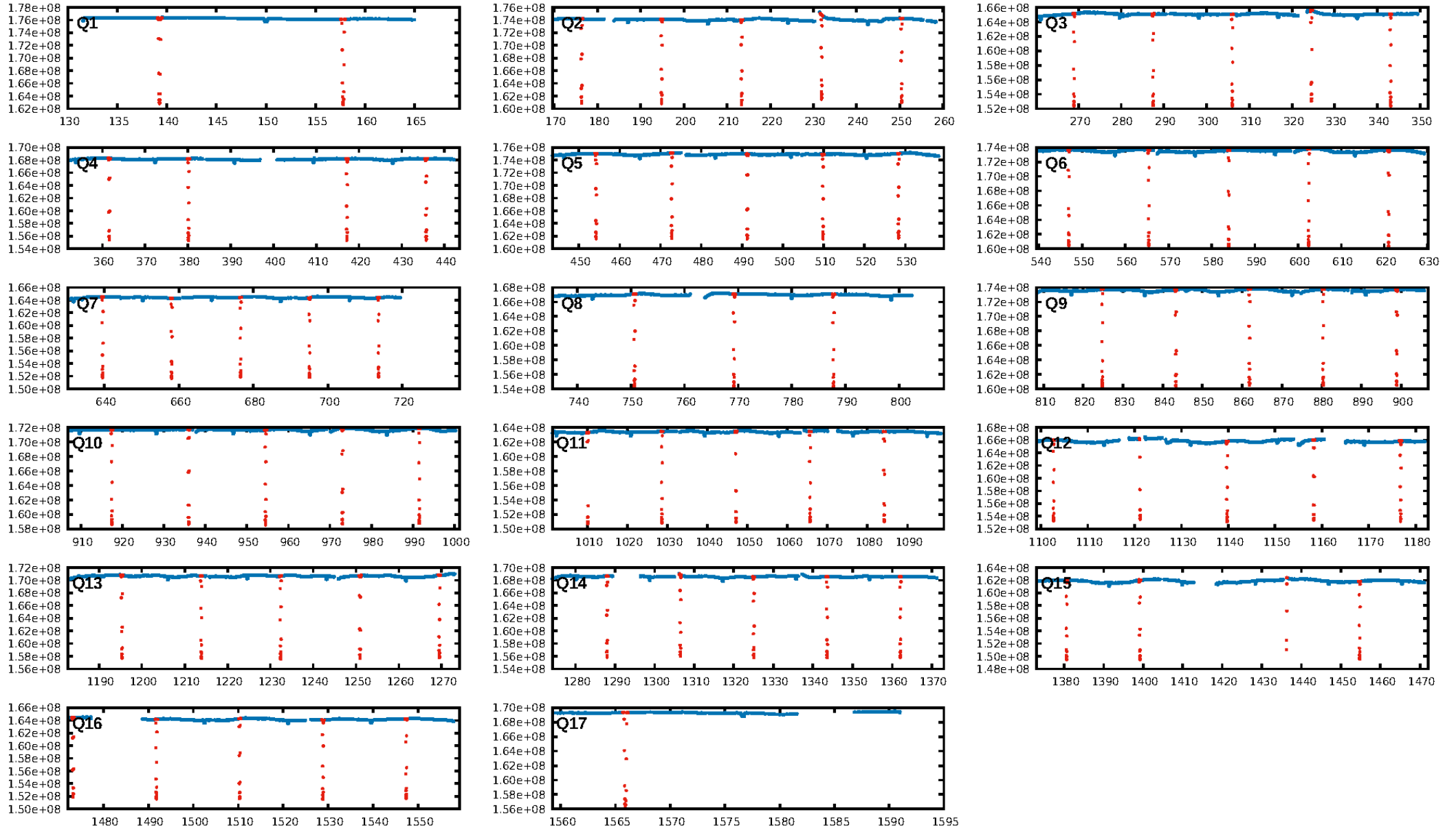
DV Fit Results:

Period = 18.52782 [0.00000] d
Epoch = 139.2576 [0.0000] BKJD
Rp/R* = 0.2552 [0.0000]
a/R* = 29.87 [0.01]
b = 0.18 [0.00]
Seff = 322.76 [177.37]
Teq = 1081 [148] K
Rp = 64.64 [23.09] Re
a = 0.1465 [0.0497] AU
Ag = 7.57 [4.08] [1.61σ]
Teffp = 2772 [74] K [10.18σ]

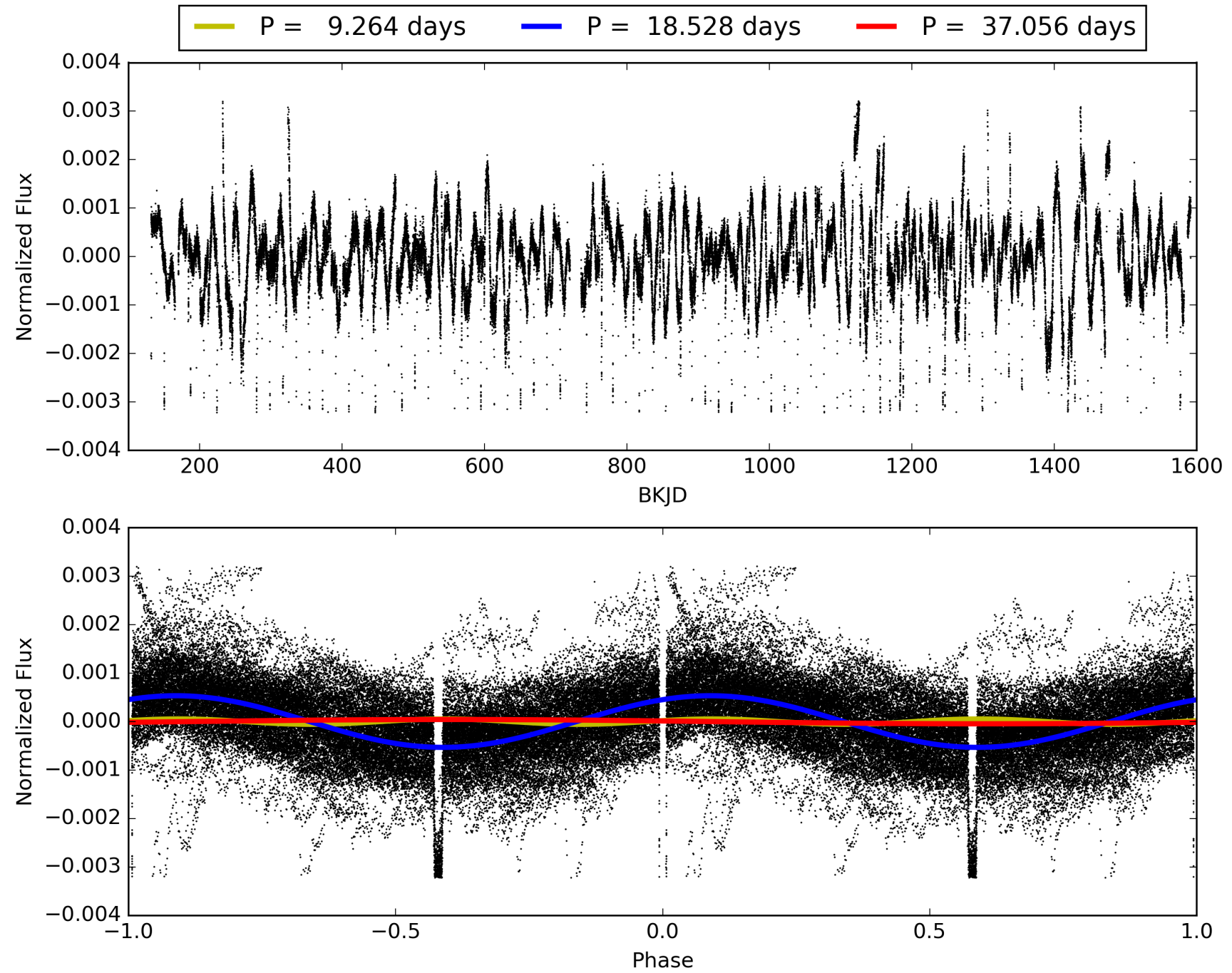
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [70/70]
GhostDiagnostic-chr: 14.23
Centroid-sig: 0.0%
Centroid-so: 0.247 arcsec [313.67σ]
OotOffset-rm: 0.009 arcsec [0.14σ]
KicOffset-rm: 0.217 arcsec [3.23σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006593363-01, PDC Light Curves

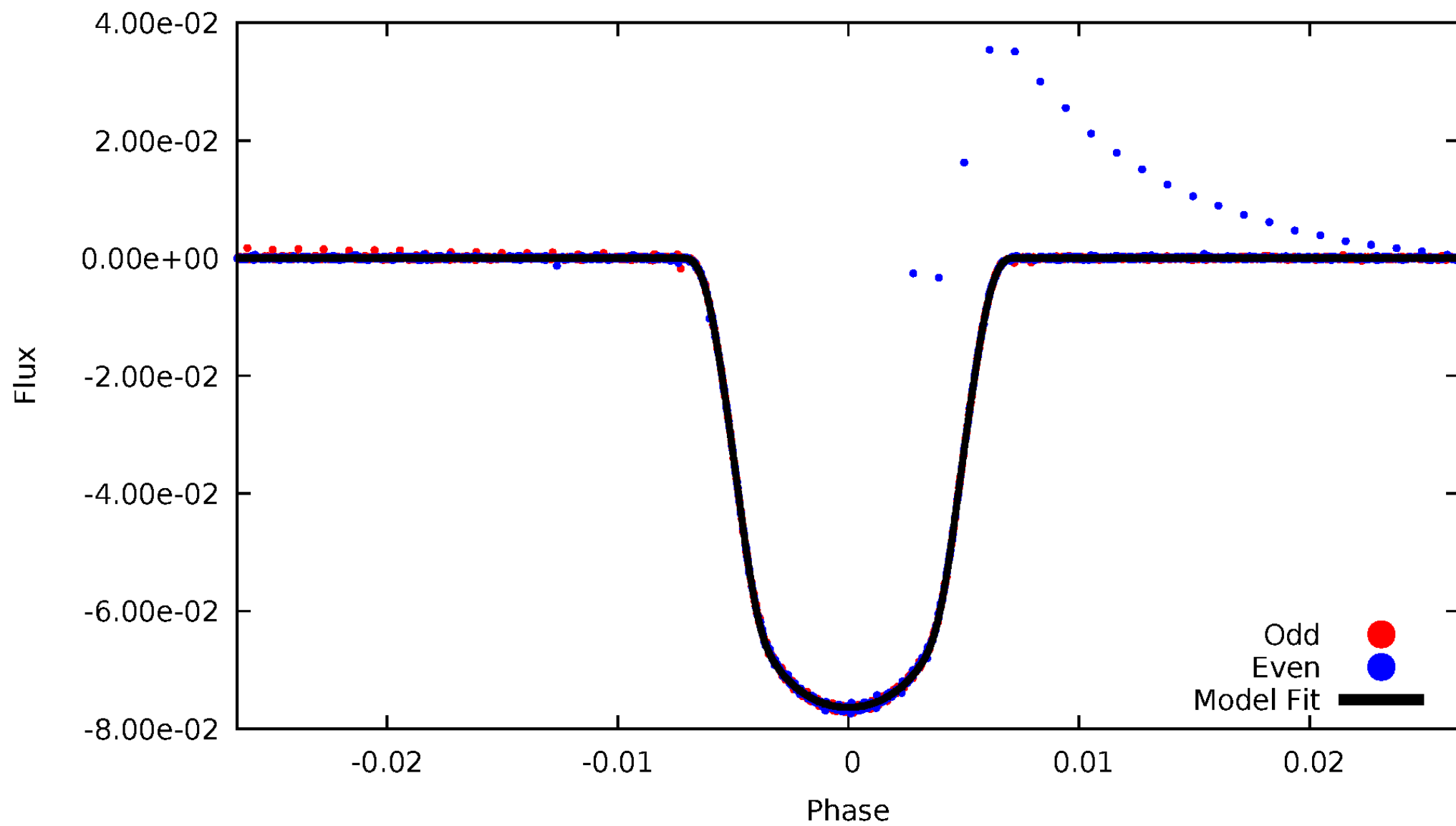


TCE 006593363-01



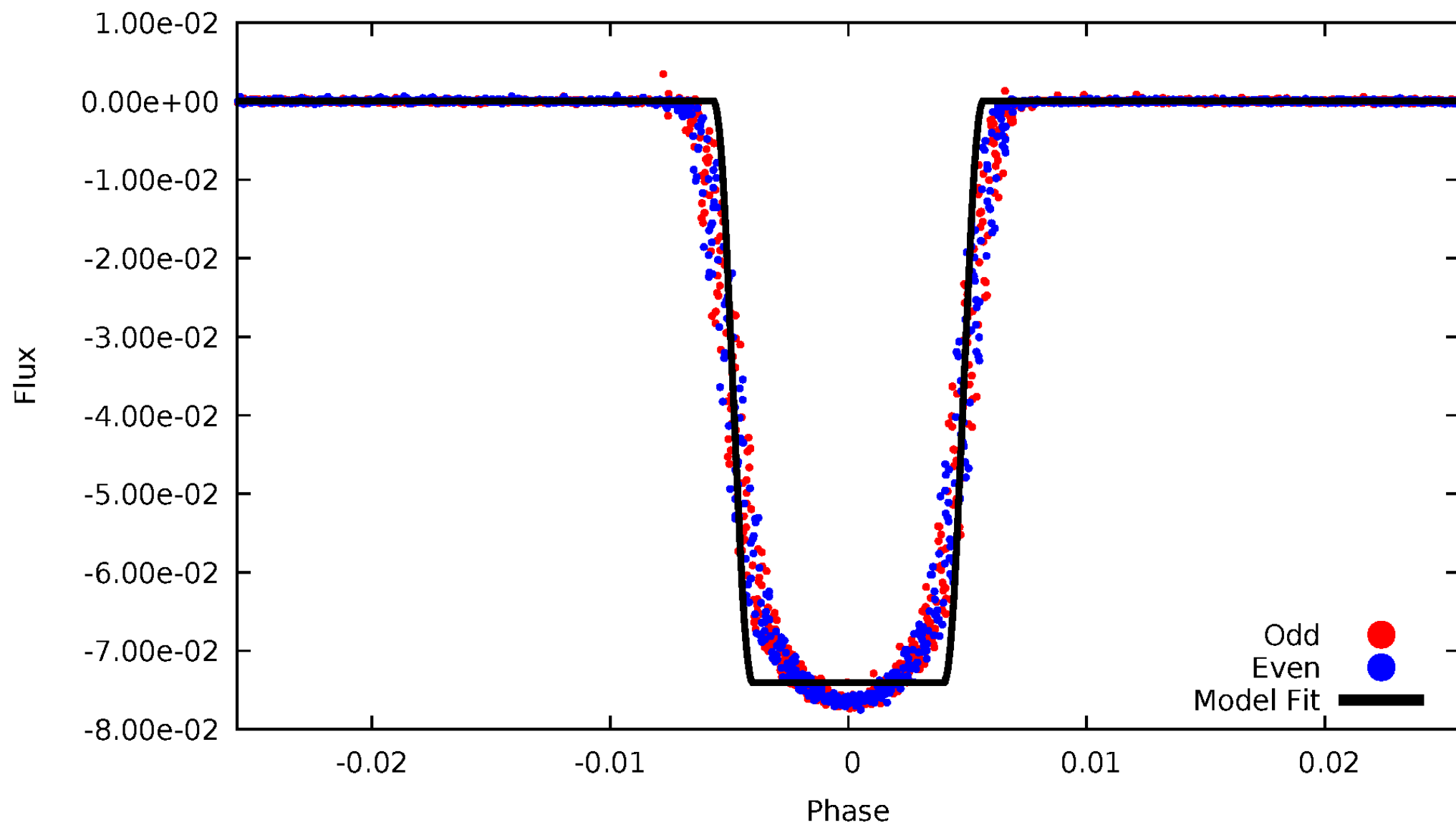
DV Odd/Even

TCE 006593363-01



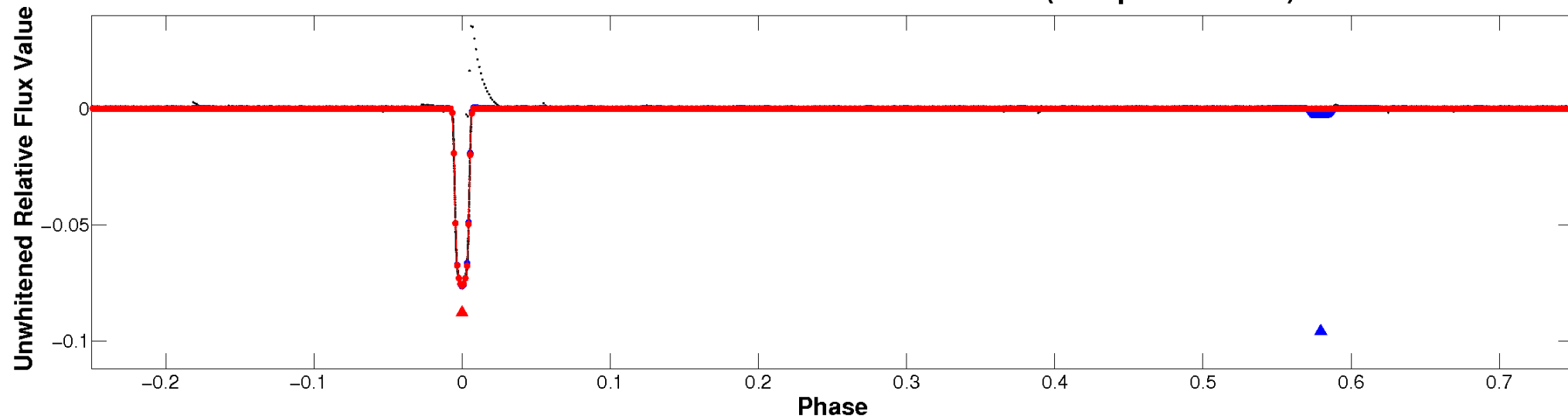
ALT Odd/Even

TCE 006593363-01

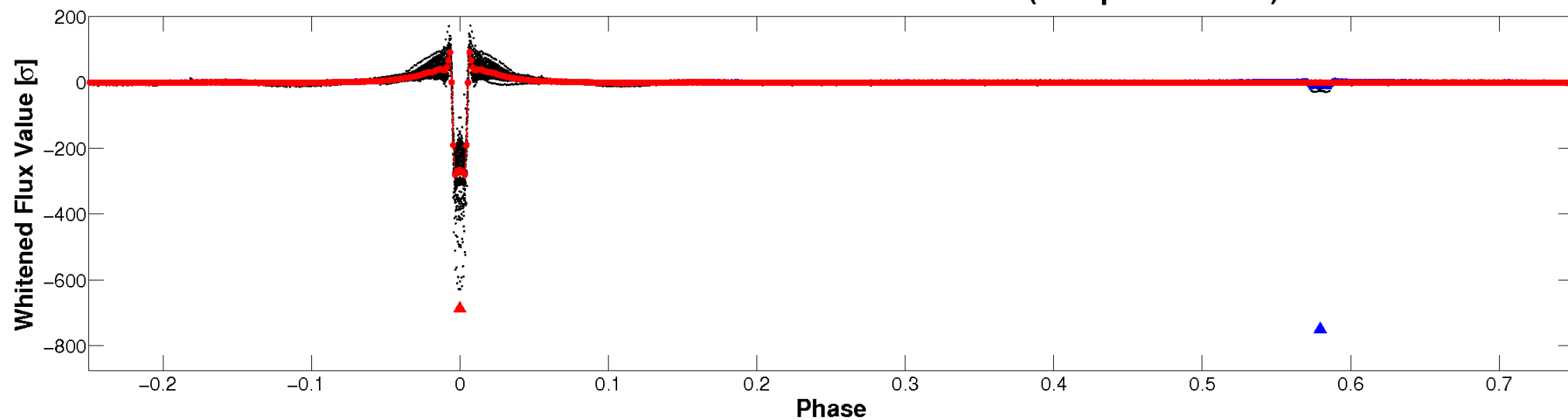


Non-Whitened Vs. Whitened Light Curve

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

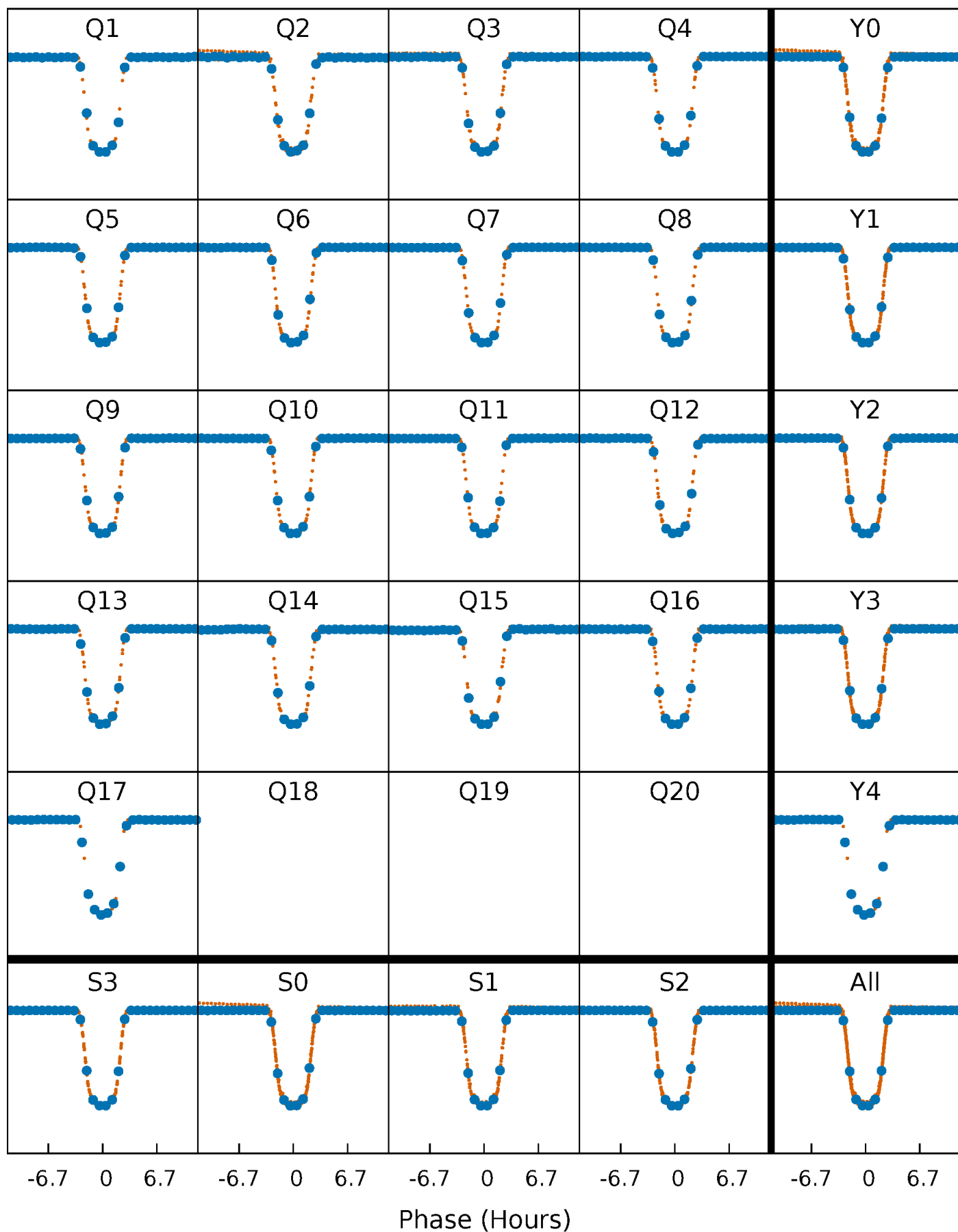


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



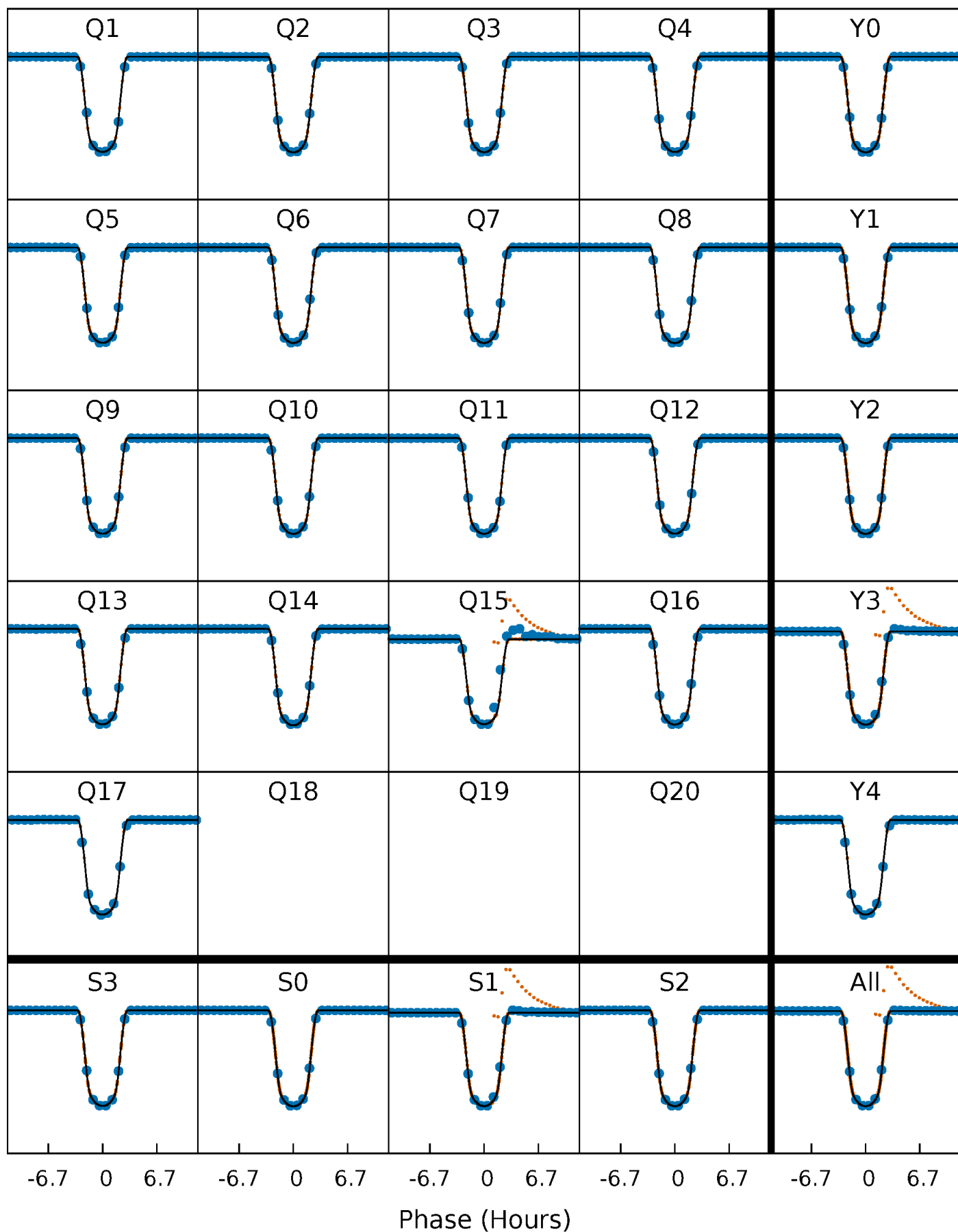
PDC Quarter-Phased Transit Curves

TCE 006593363-01 P= 18.527825 Days $T_0=139.257602$ (BKJD)



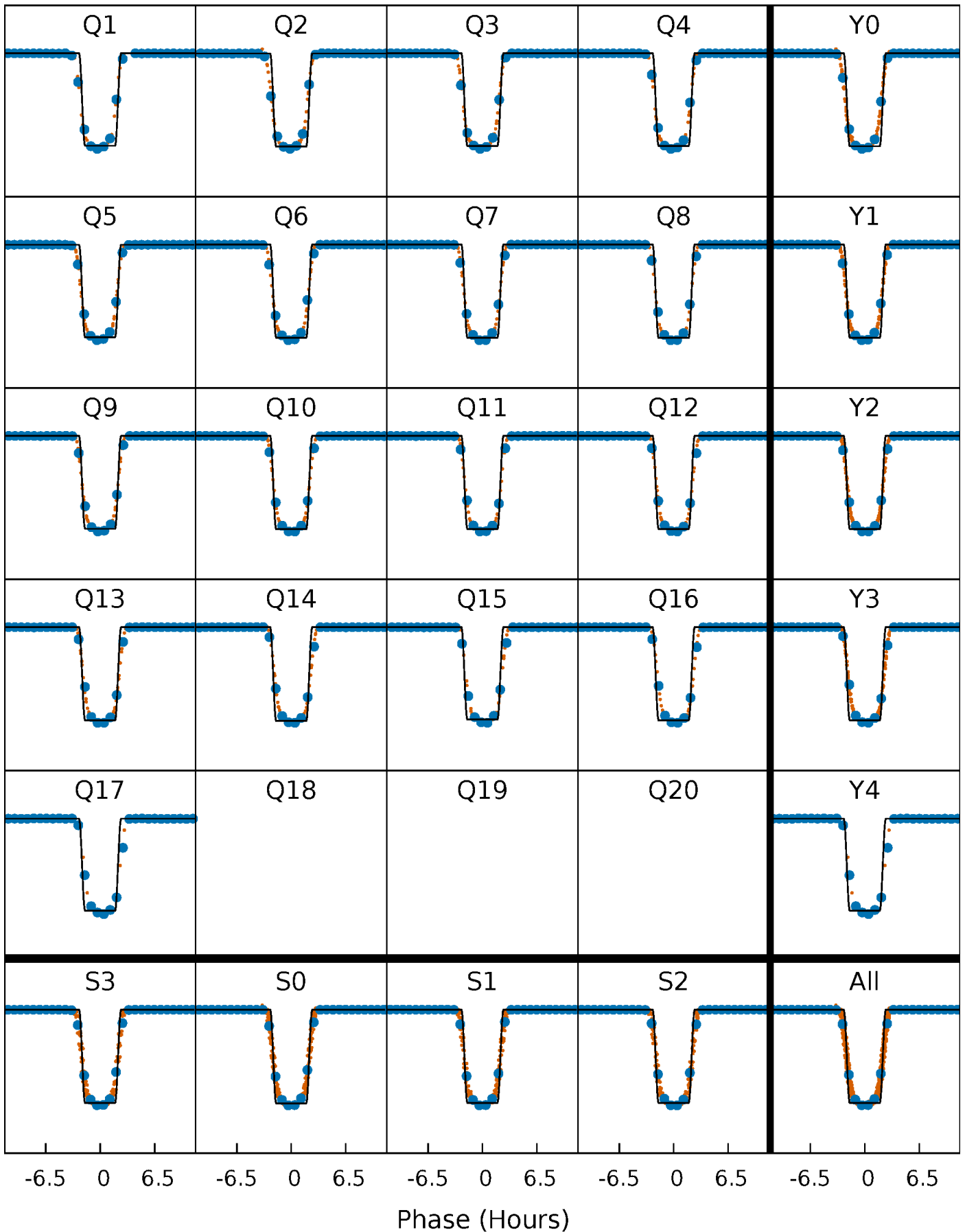
DV Quarter-Phased Transit Curves

TCE 006593363-01 P= 18.527825 Days $T_0=139.257602$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

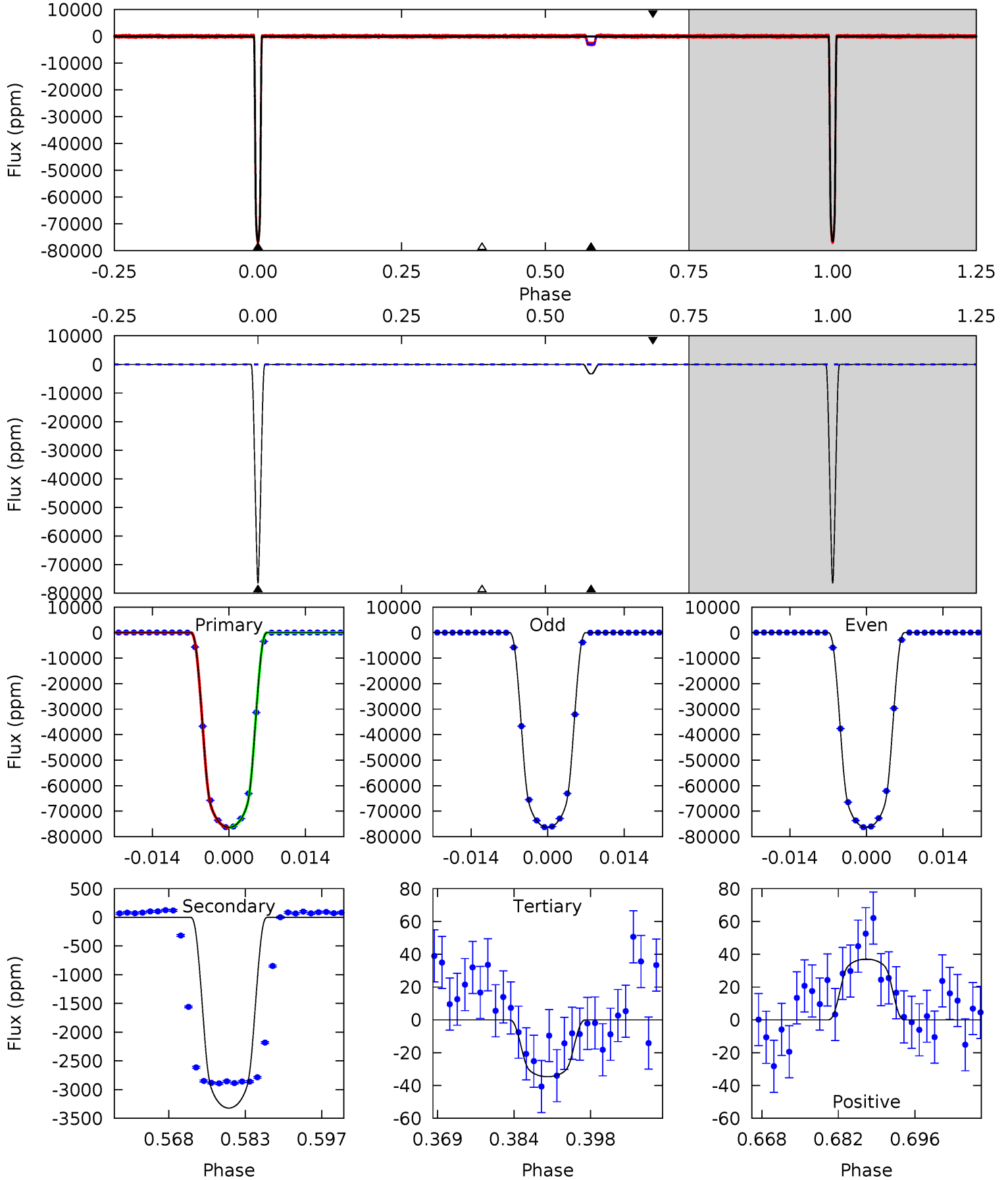
TCE 006593363-01 P= 18.527568 Days $T_0=139.267375$ (BKJD)



DV Model-Shift Uniqueness Test

006593363-01, P = 18.527825 Days, E = 120.729777 Days

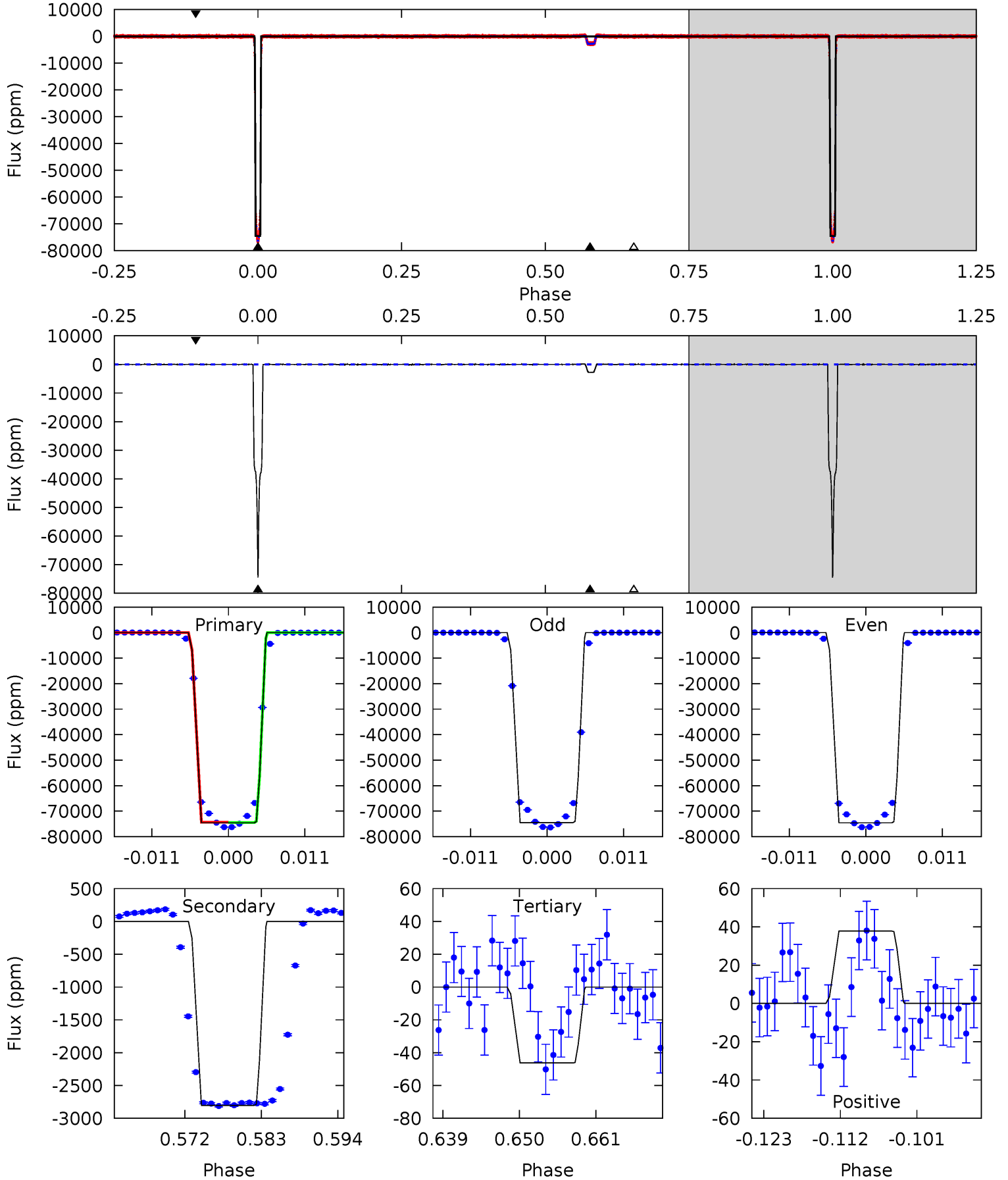
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14580	634.0	6.61	7.07	4.96	2.45	3.96	14574	14573	627.4	627.0	1.25	0.99	0.00	1.78



Alt Model-Shift Uniqueness Test

006593363-01, P = 18.527568 Days, E = 120.739807 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8122	305.3	5.04	4.12	5.00	2.54	2.24	8116	8117	300.2	301.2	5.40	1.00	0.00	1.03



Stellar Parameters For KIC 006593363

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6154^{+165}_{-165}	$3.793^{+0.315}_{-0.105}$	$-0.340^{+0.350}_{-0.300}$	$2.321^{+0.383}_{-0.829}$	$1.219^{+0.210}_{-0.256}$	$0.137^{+0.309}_{-0.045}$
	+3%/-3%	+8%/-3%	+103%/-88%	+17%/-36%	+17%/-21%	+225%/-33%
Source	PHO1	FLK73	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 006593363-01 / KOI 6736.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-3322±5	$63.83^{+6.52}_{-12.19}$	1489^{+88}_{-124}	3424^{+57}_{-58}	$9.916^{+4.171}_{-1.655}$
Alt.	-2802±9	$69.17^{+7.02}_{-13.02}$	1493^{+85}_{-121}	3263^{+51}_{-58}	$7.195^{+2.710}_{-1.198}$

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 $A_{obs} \gg 1.0$

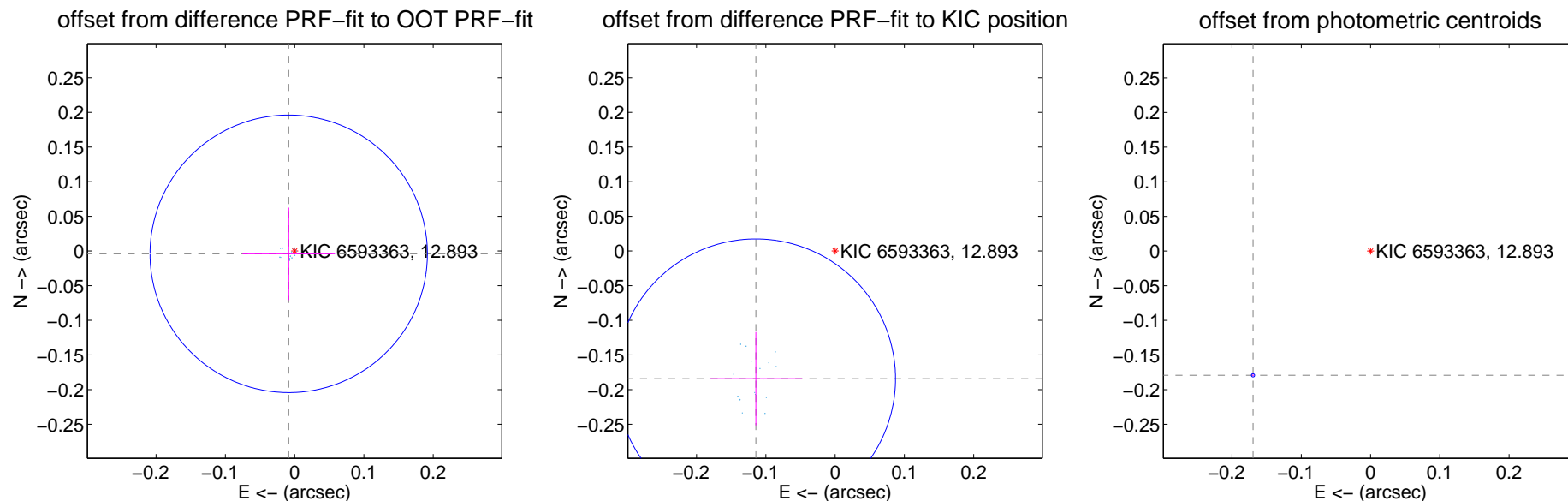
DV Centroid Data

Supplemental centroid analysis for 006593363-01. Kepler magnitude: 12.89. Transit SNR 6063.26

There are 17 quarters with good PRF difference image offsets

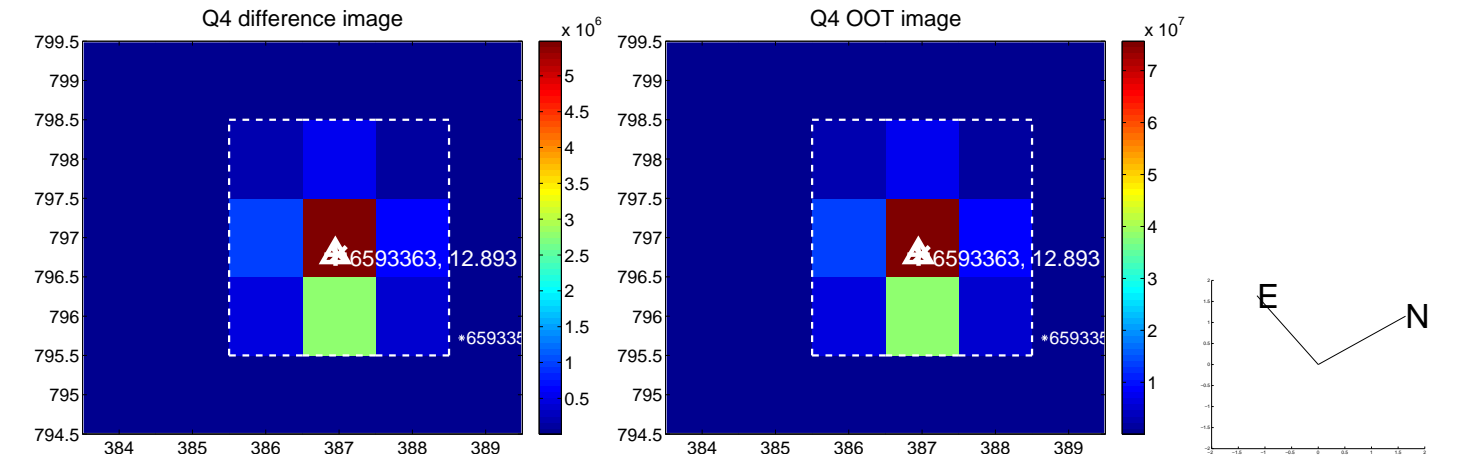
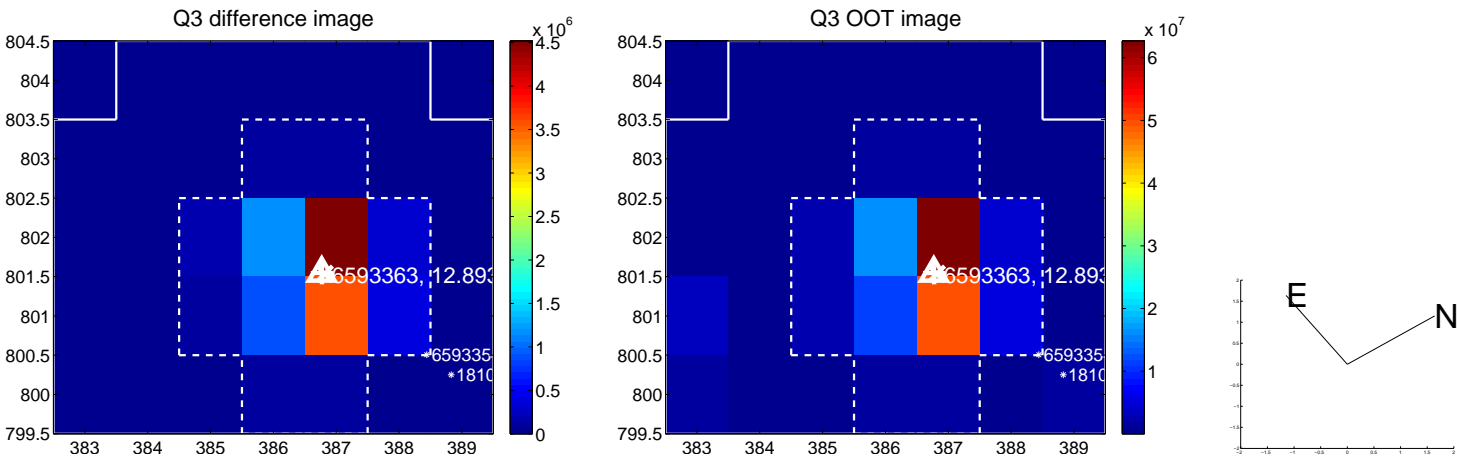
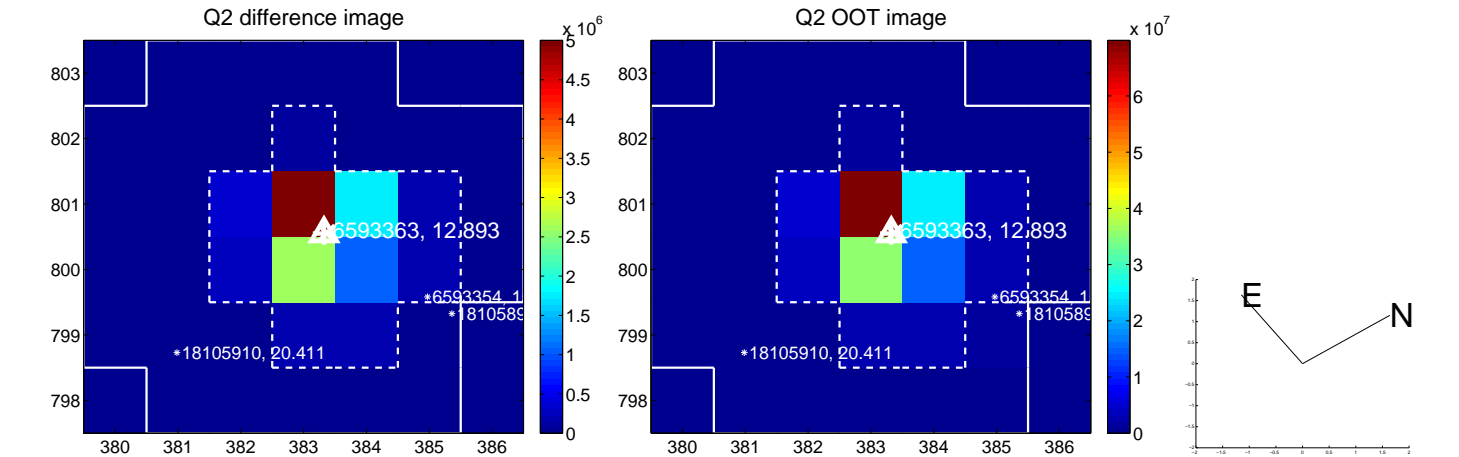
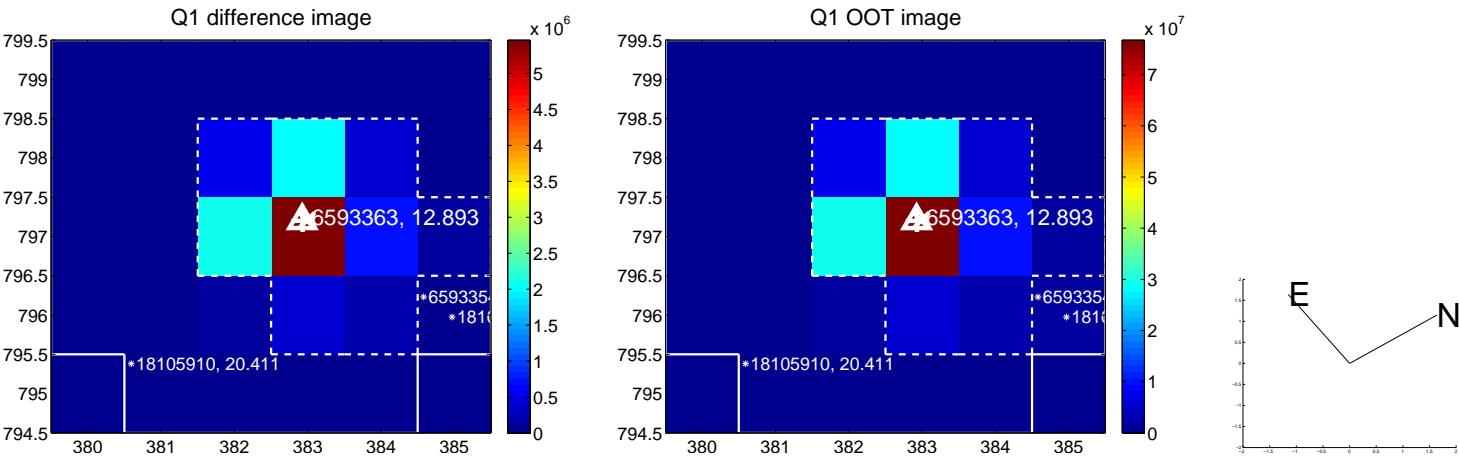
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.009 ± 0.067	0.14	0.009 ± 0.067	-0.004 ± 0.067
PRF-fit source offset from KIC position	0.217 ± 0.067	3.23	0.114 ± 0.067	-0.184 ± 0.067
photometric centroid source offset	0.25 ± 0.00	313.67	0.17 ± 0.00	-0.18 ± 0.00

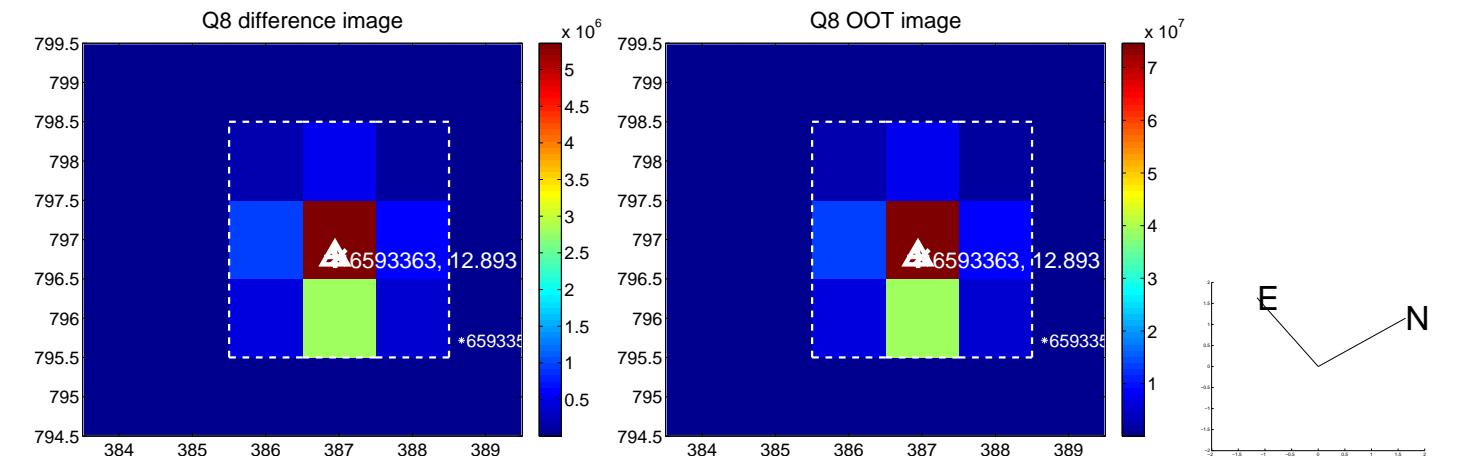
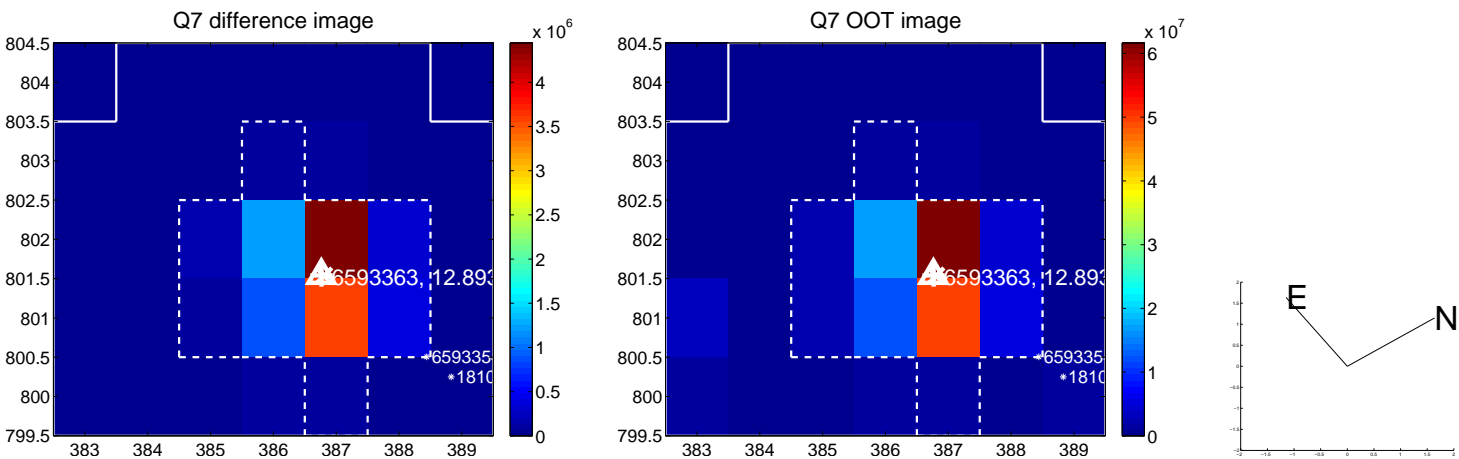
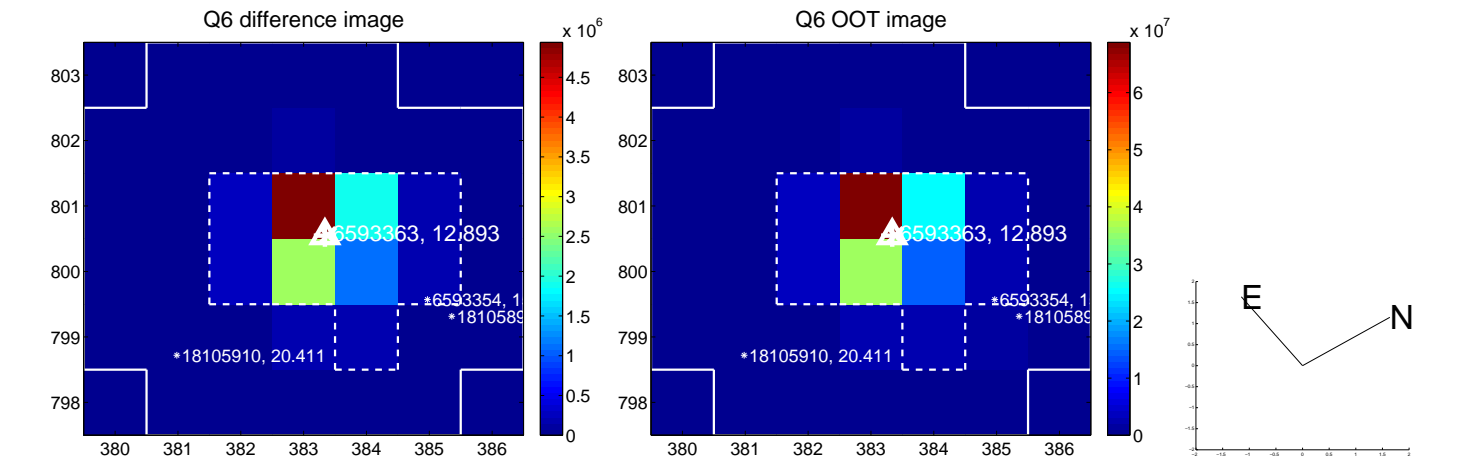
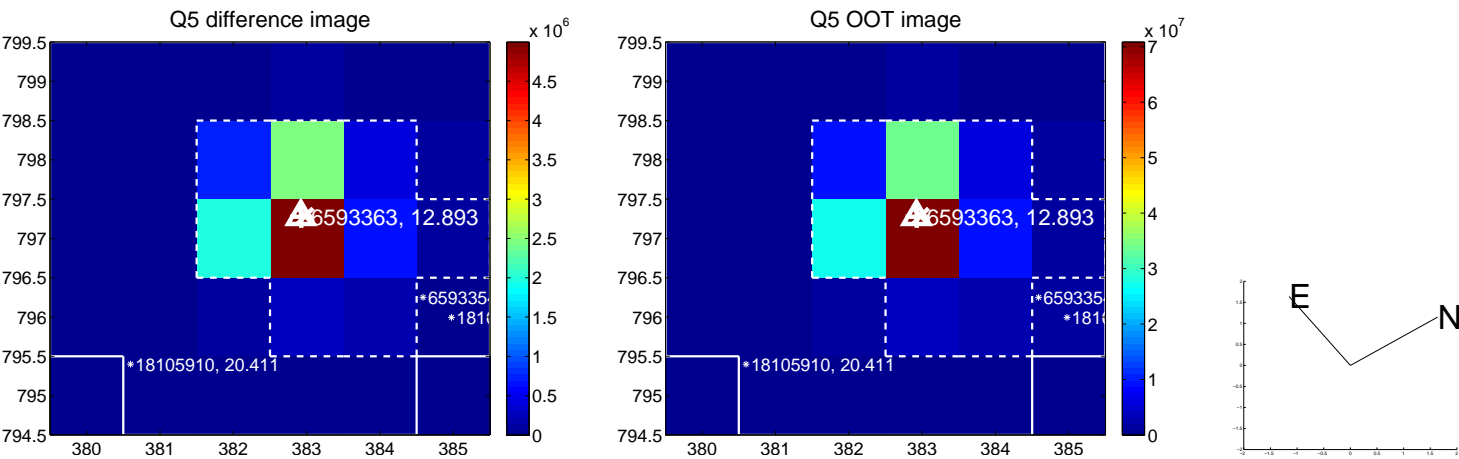


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

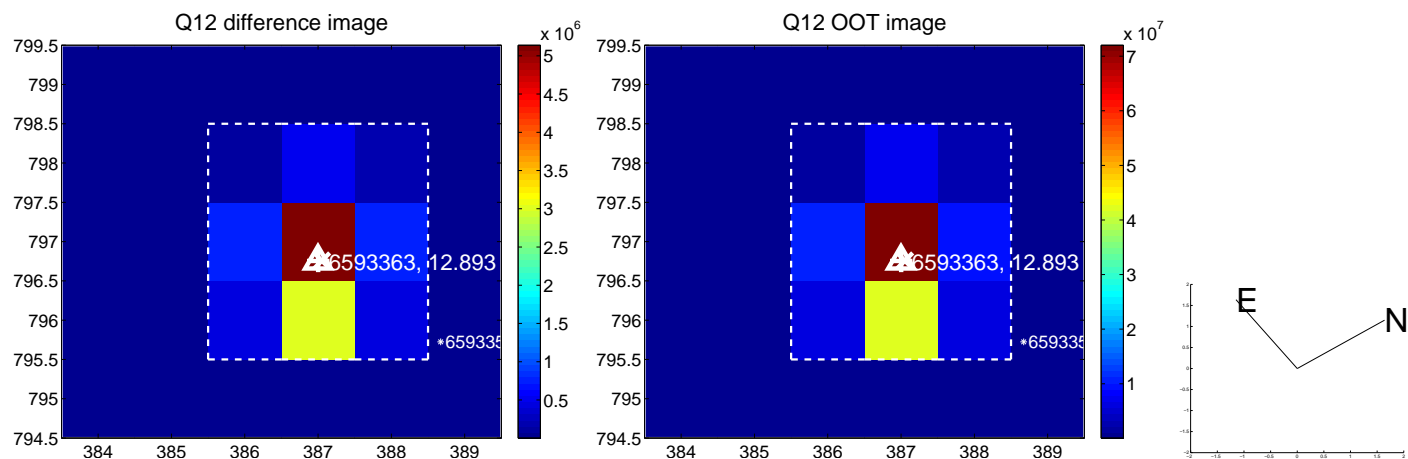
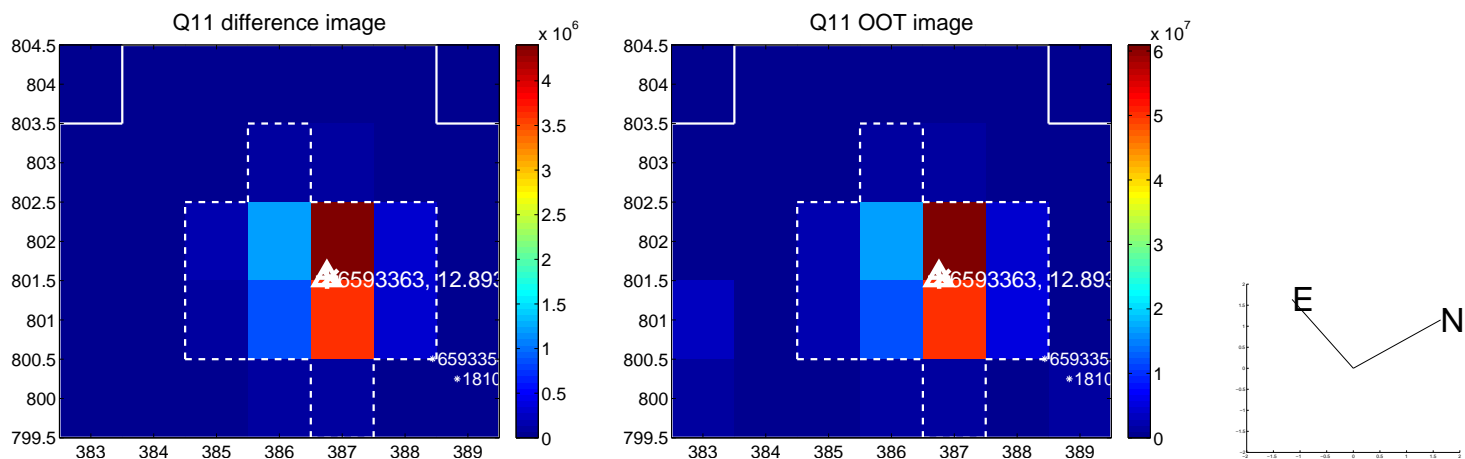
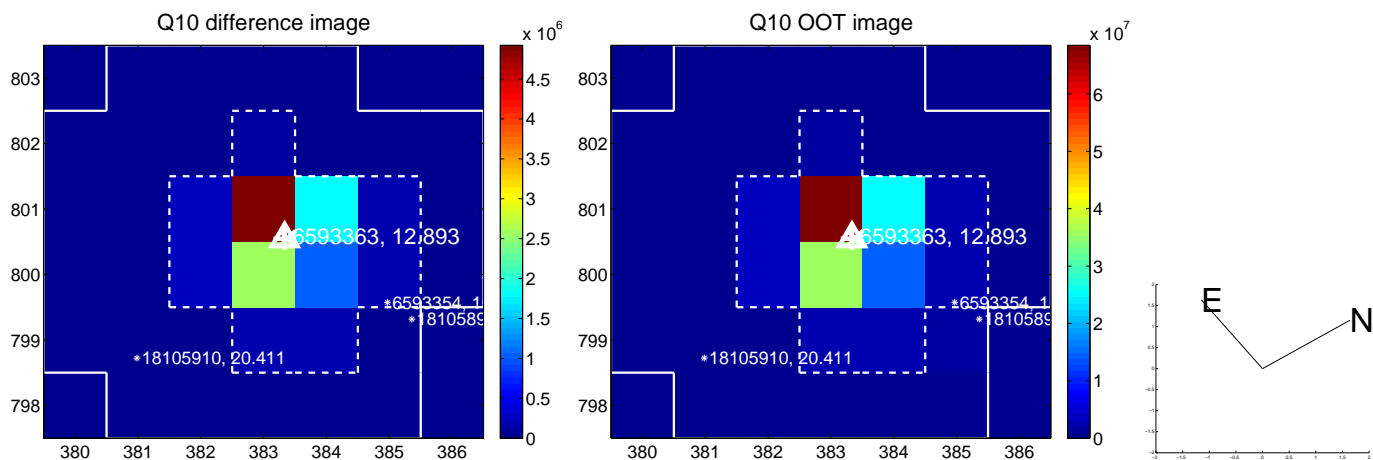
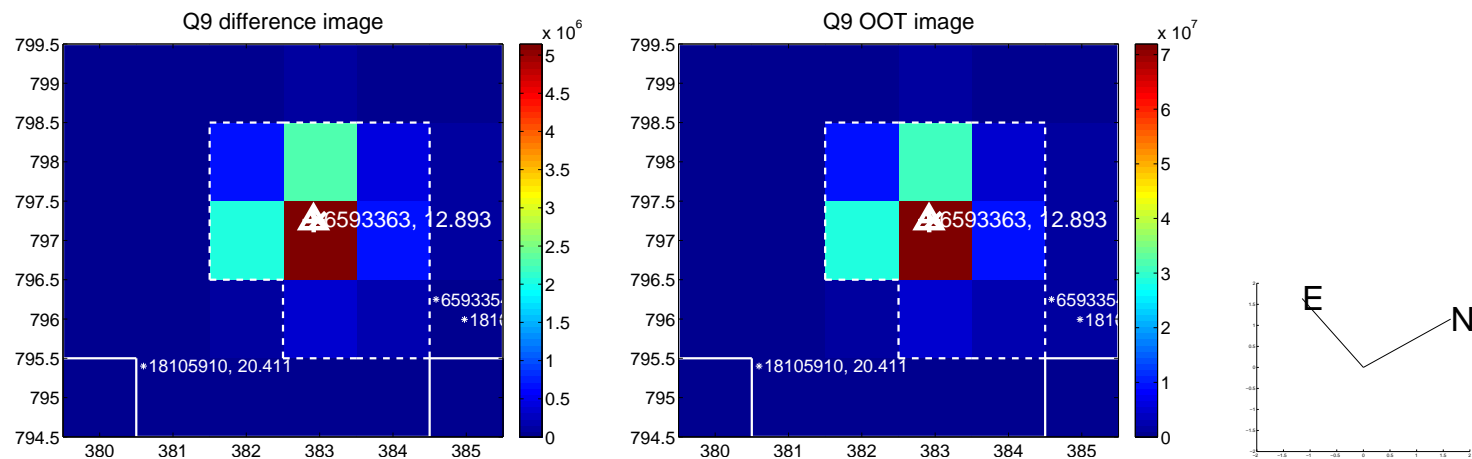
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



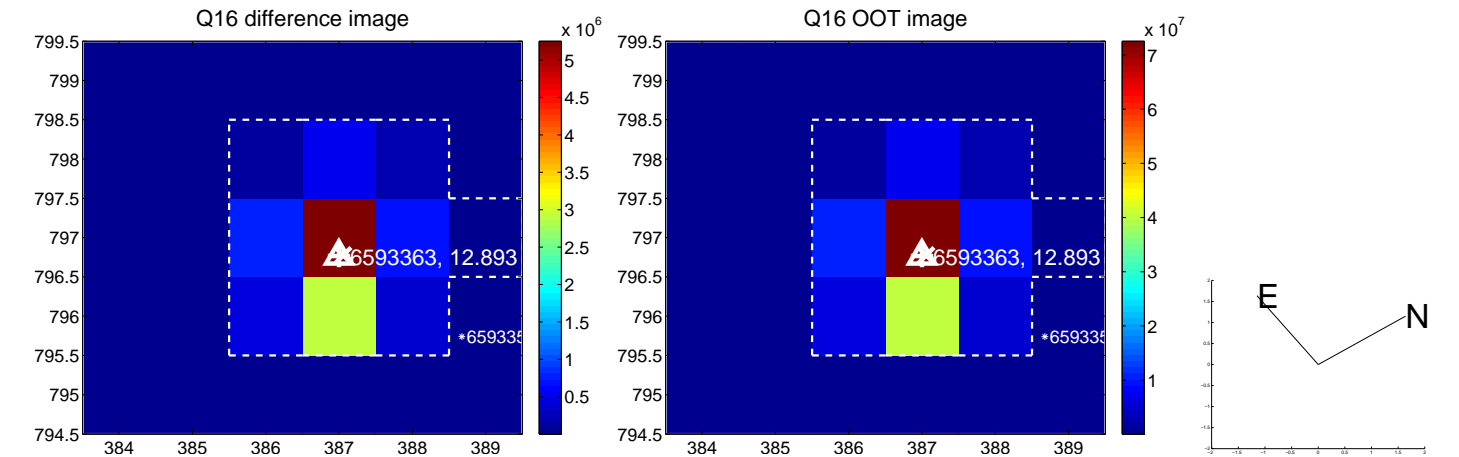
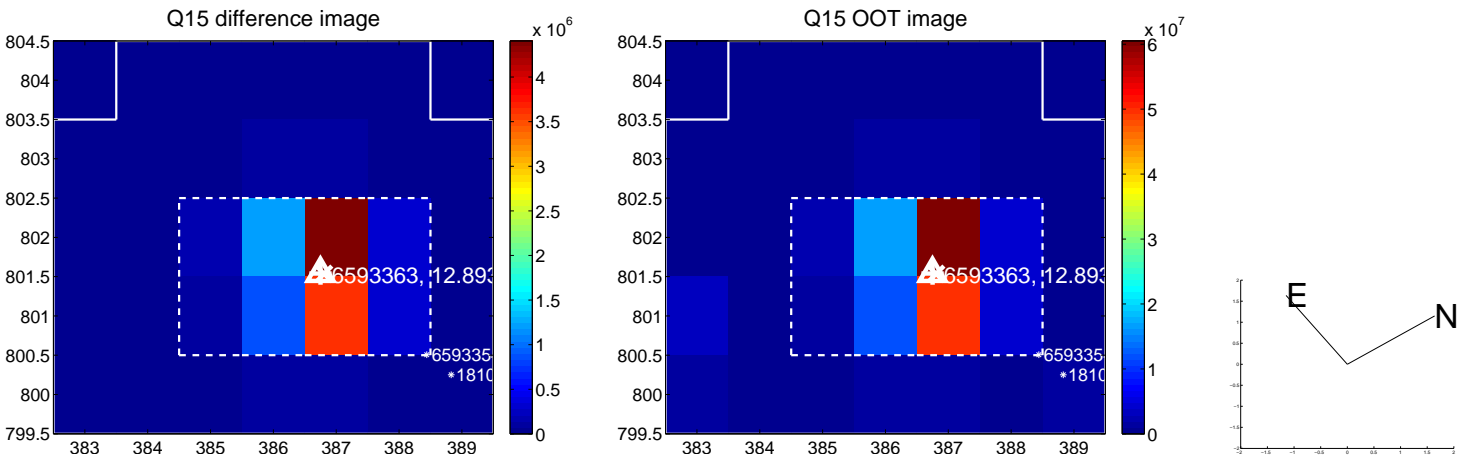
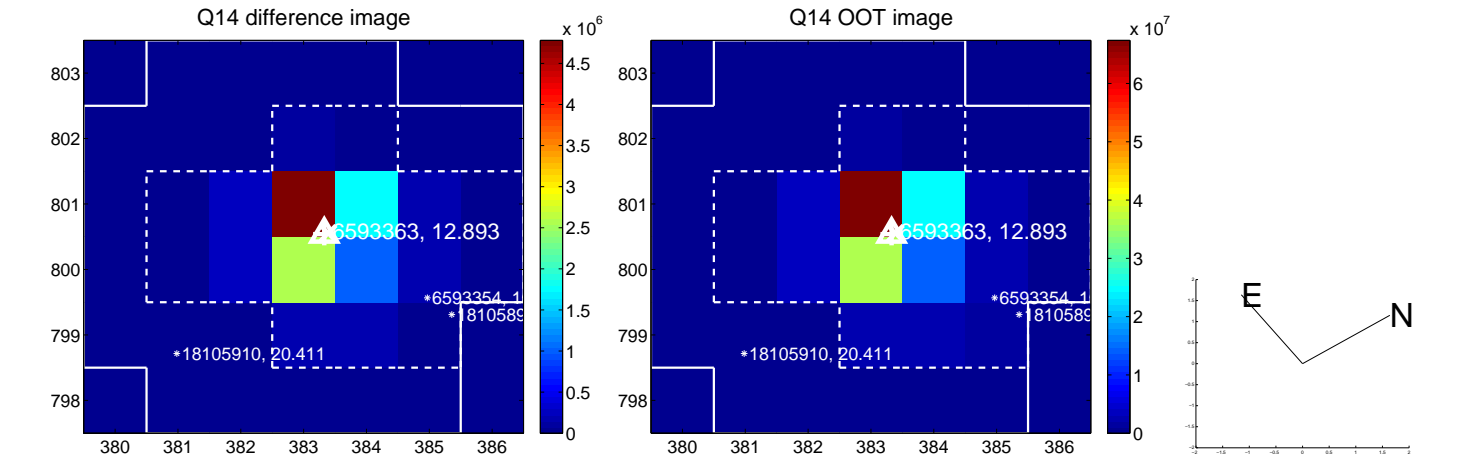
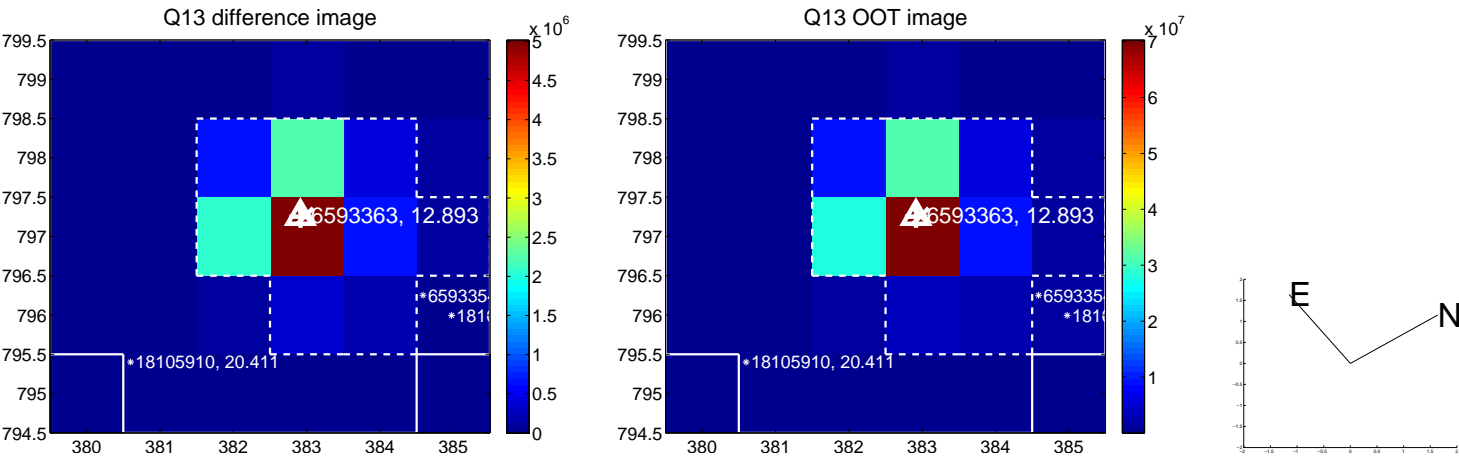
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



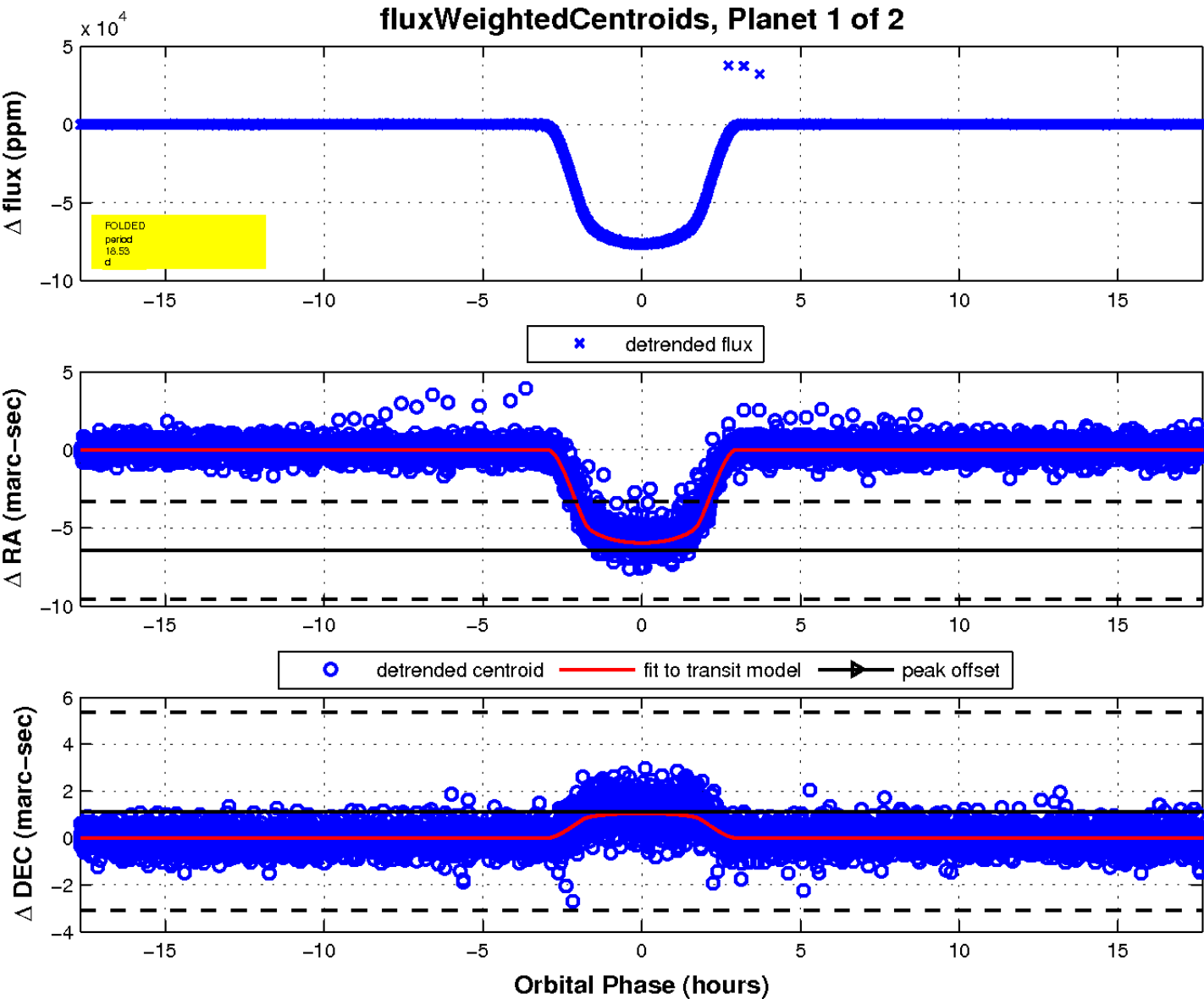
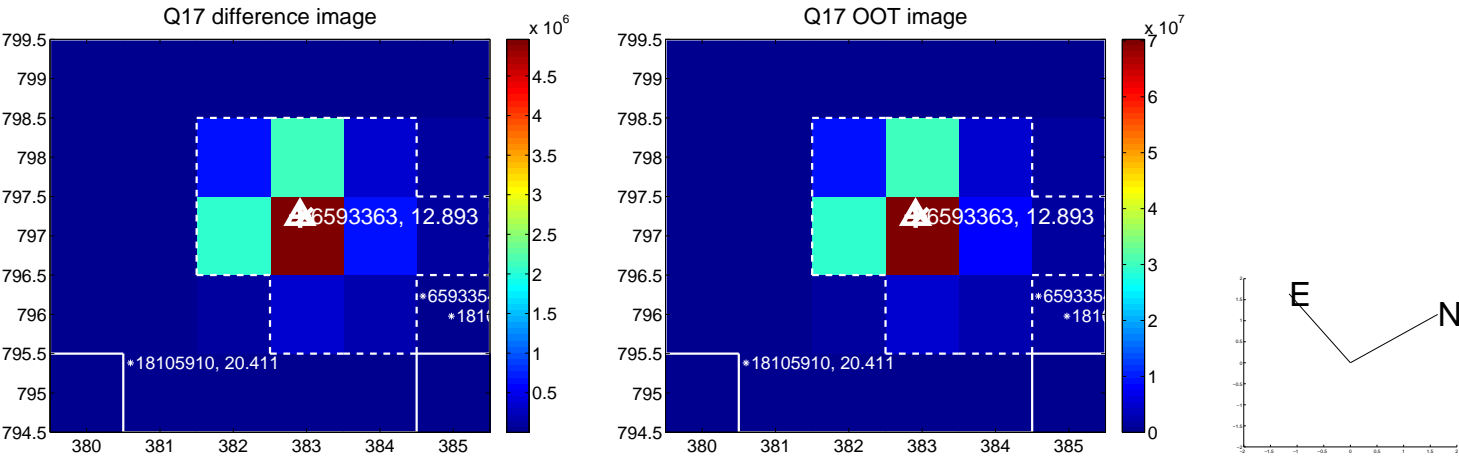
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

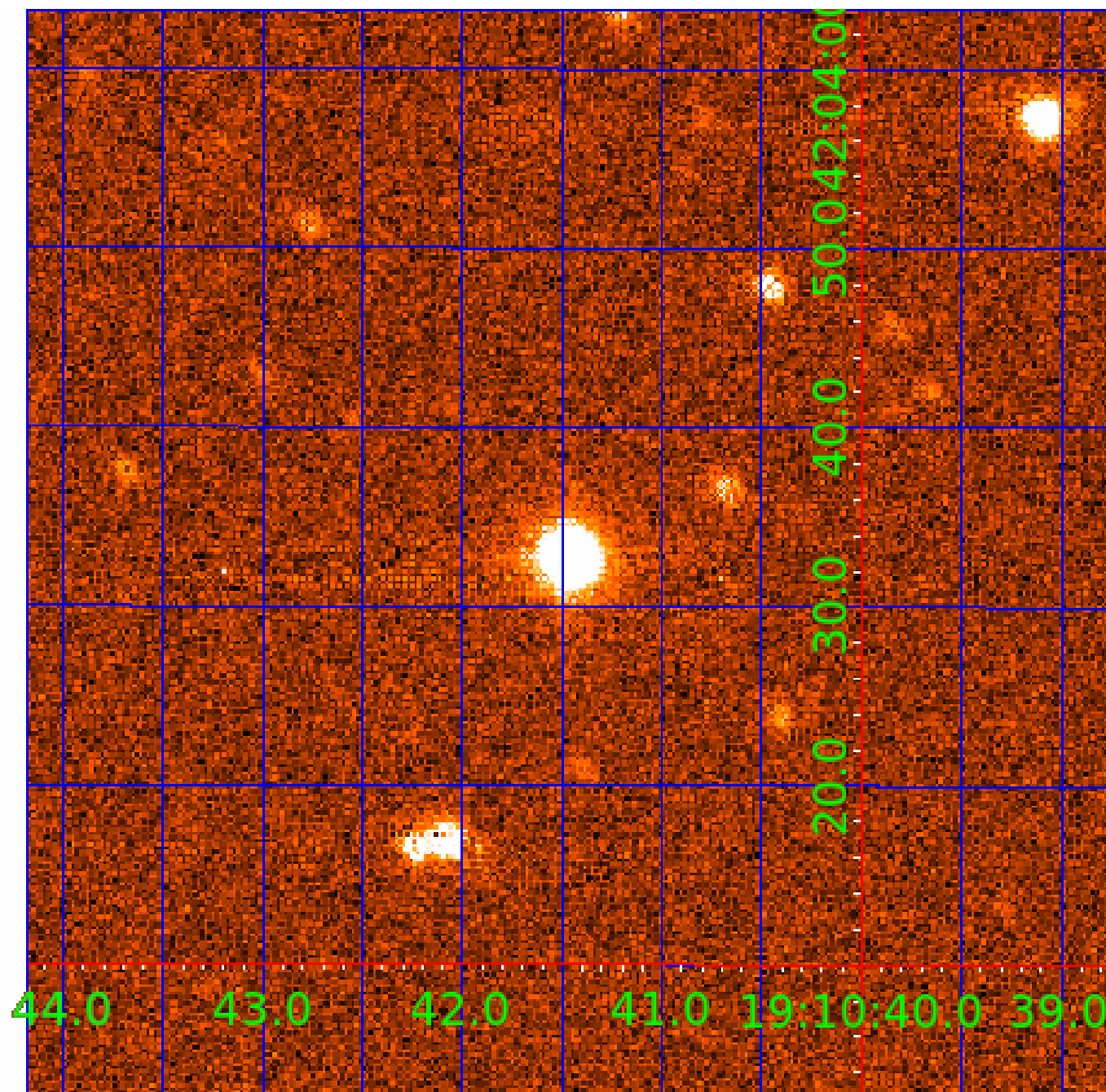


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006593363

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})
006593363-01	OBS	6736.01	18.527825	139.257602	76369.7	5.890	7207.0	6063.3	2.32	6154	64.64	322.76
006593363-02	OBS	No	18.527817	149.994912	3107.4	8.437	323.3	307.3	2.32	6154	14.63	322.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006593363-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
006593363-02	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.

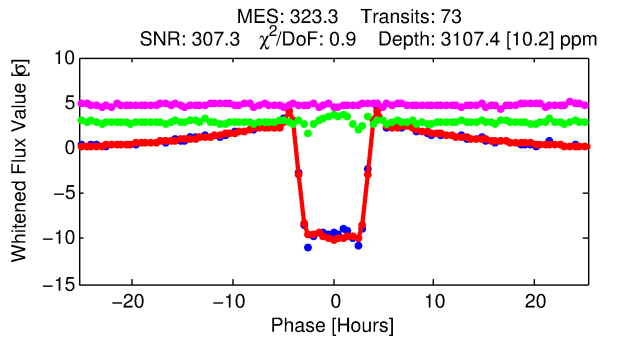
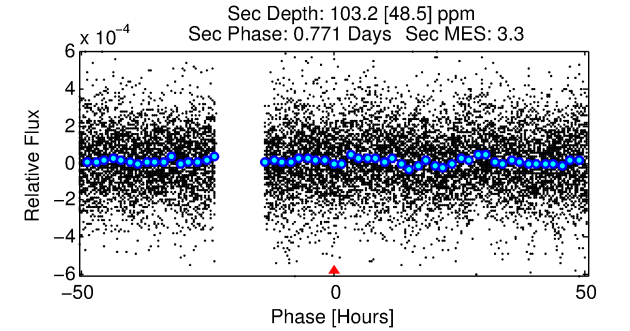
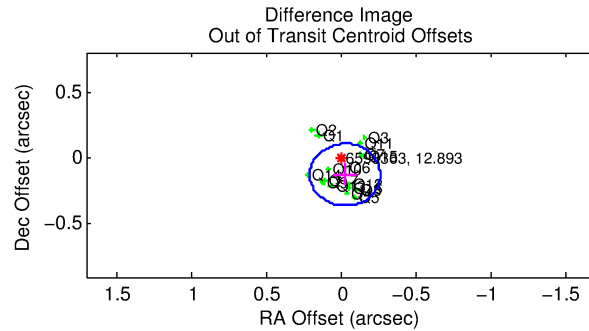
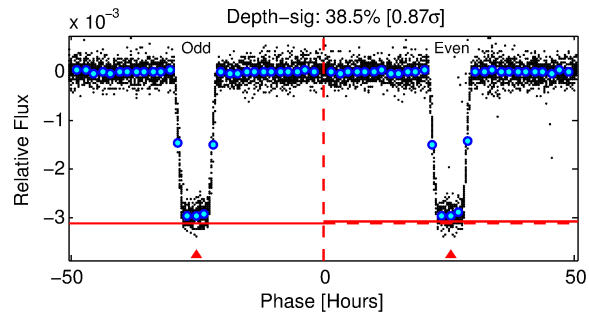
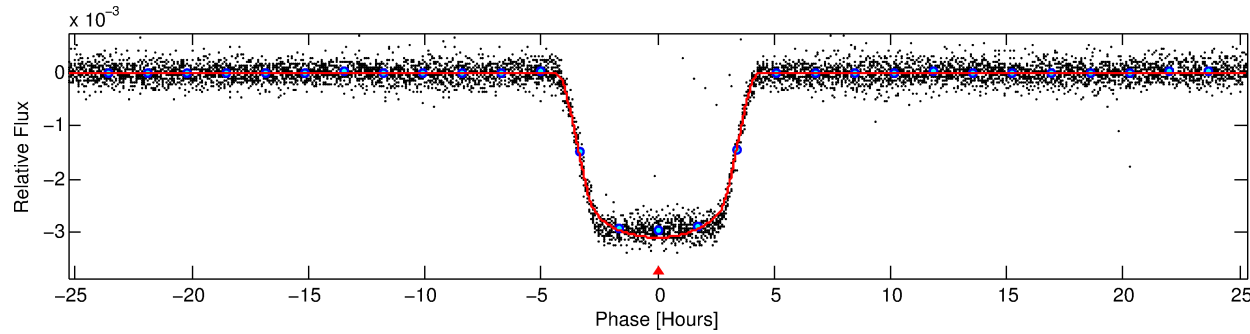
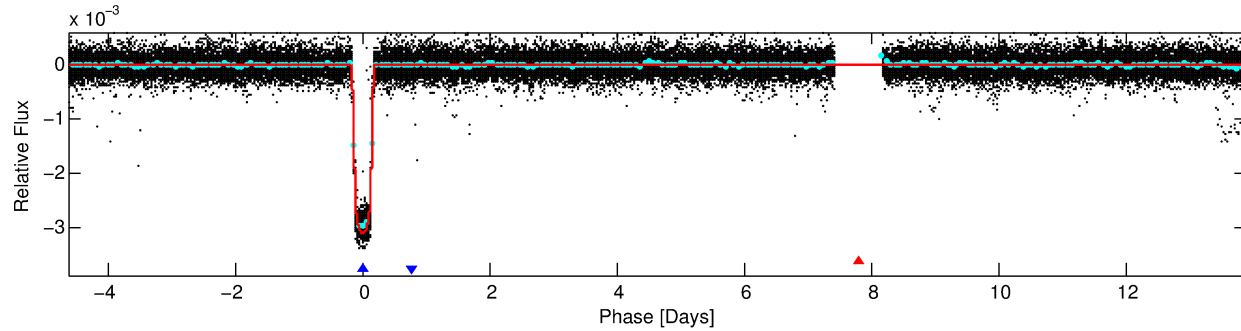
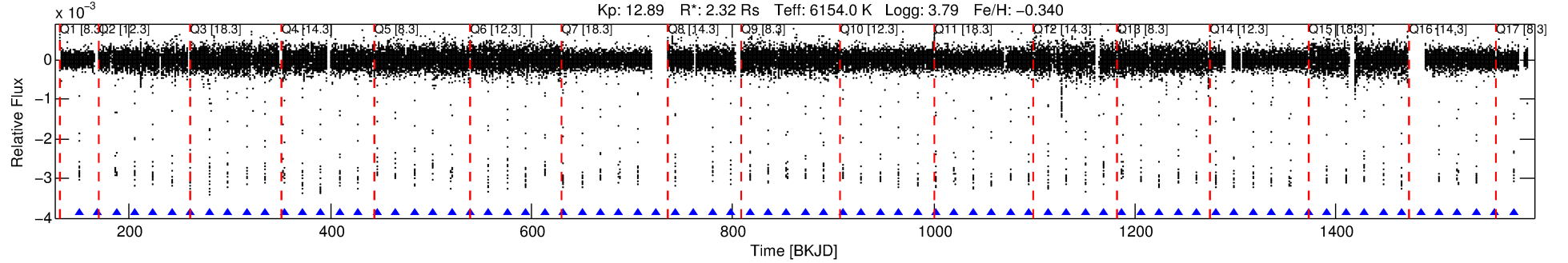
Ephemeris Match Information For 006593363-02

No Significant Match Found

DV One-Page Summary

KIC: 6593363 Candidate: 2 of 2 Period: 18.528 d
KOI: K06736 Corr: No Ephemeris Match

Kp: 12.89 R*: 2.32 Rs Teff: 6154.0 K Logg: 3.79 Fe/H: -0.340



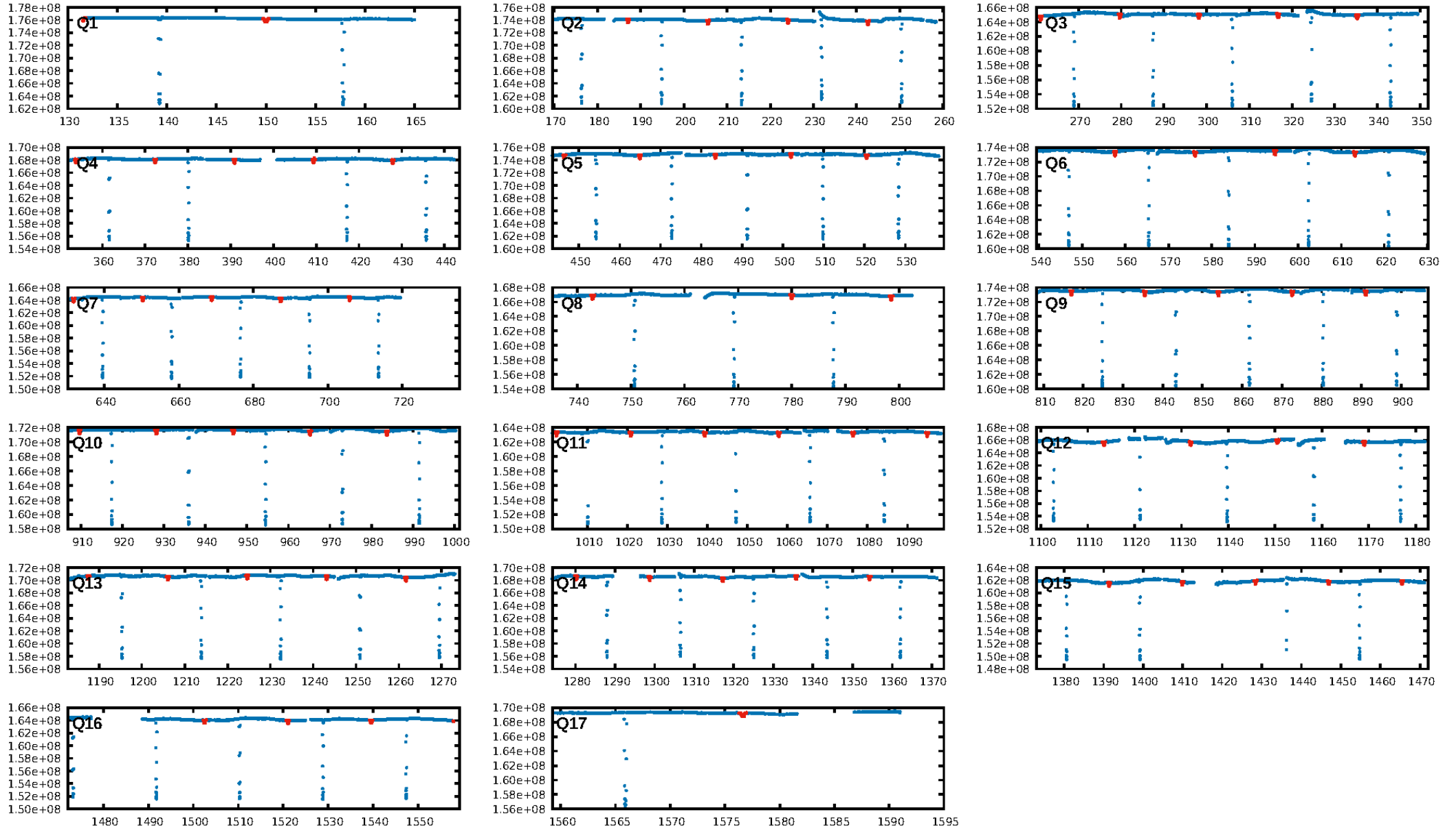
DV Fit Results:

Period = 18.52782 [0.00001] d
Epoch = 149.9949 [0.0004] BKJD
Rp/R* = 0.0577 [0.0001]
a/R* = 10.74 [0.07]
b = 0.84 [0.00]
Seff = 322.76 [177.37]
Teff = 1081 [148] K
Rp = 14.63 [5.22] Re
a = 0.1465 [0.0497] AU
Ag = 5.69 [4.07] [1.15σ]
Teffp = 2581 [311] K [4.35σ]

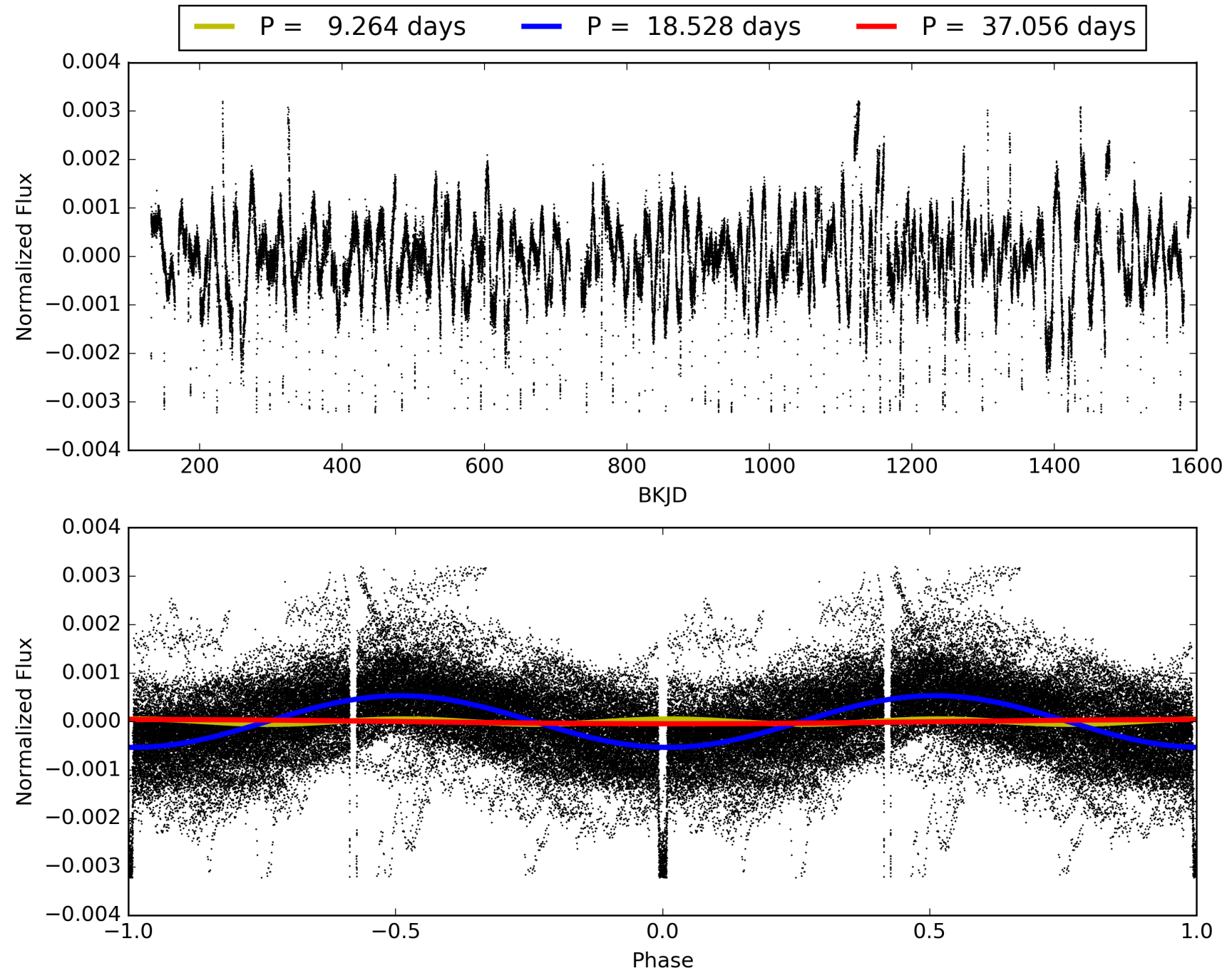
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 95.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [70/70]
GhostDiagnostic-chr: 5.719
Centroid-sig: 0.0%
Centroid-so: 0.329 arcsec [20.43σ]
OotOffset-rm: 0.130 arcsec [1.66σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.322 arcsec [4.01σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006593363-02, PDC Light Curves

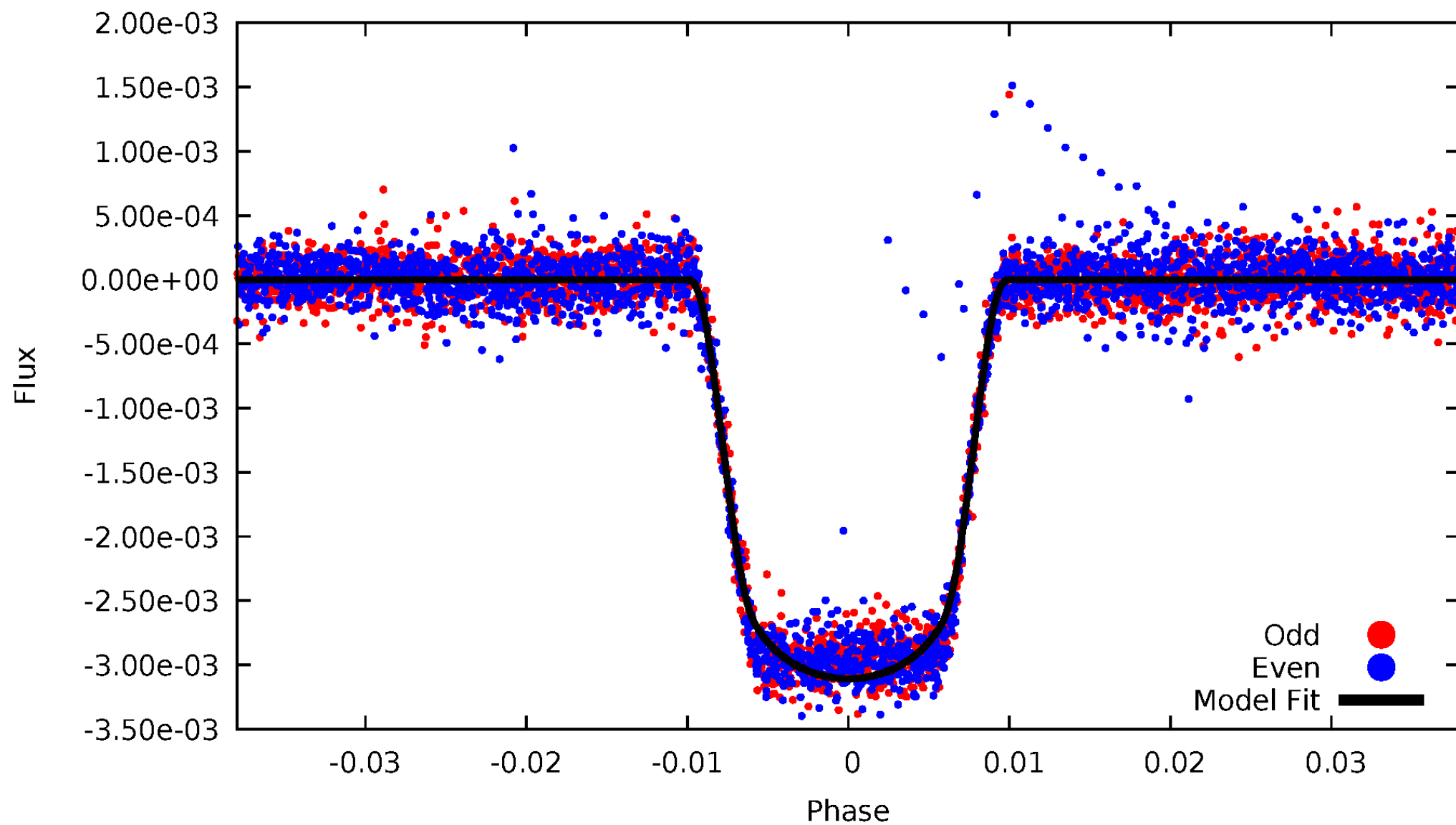


TCE 006593363-02



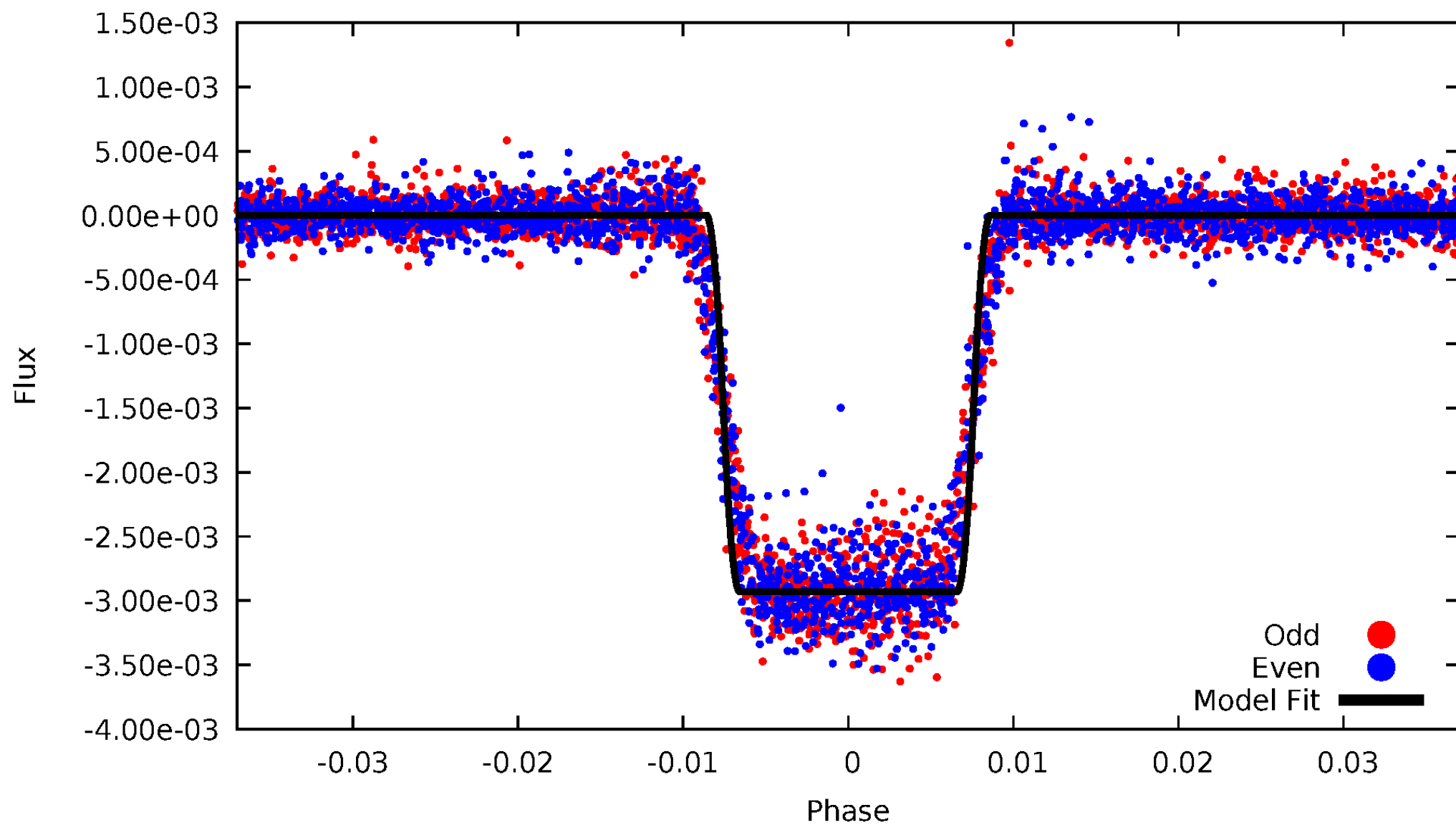
DV Odd/Even

TCE 006593363-02



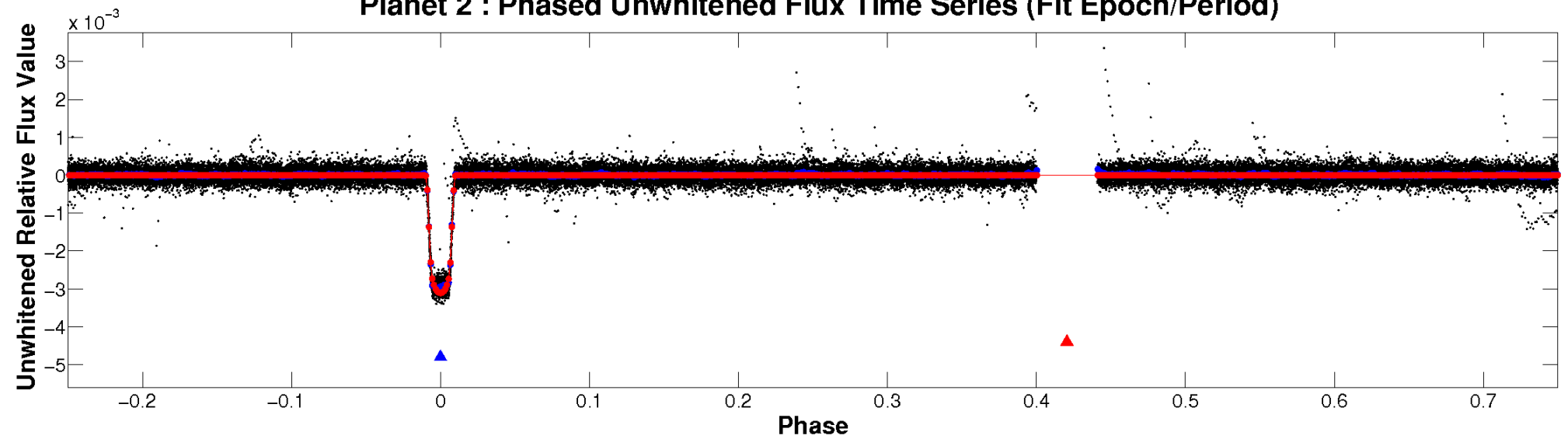
ALT Odd/Even

TCE 006593363-02

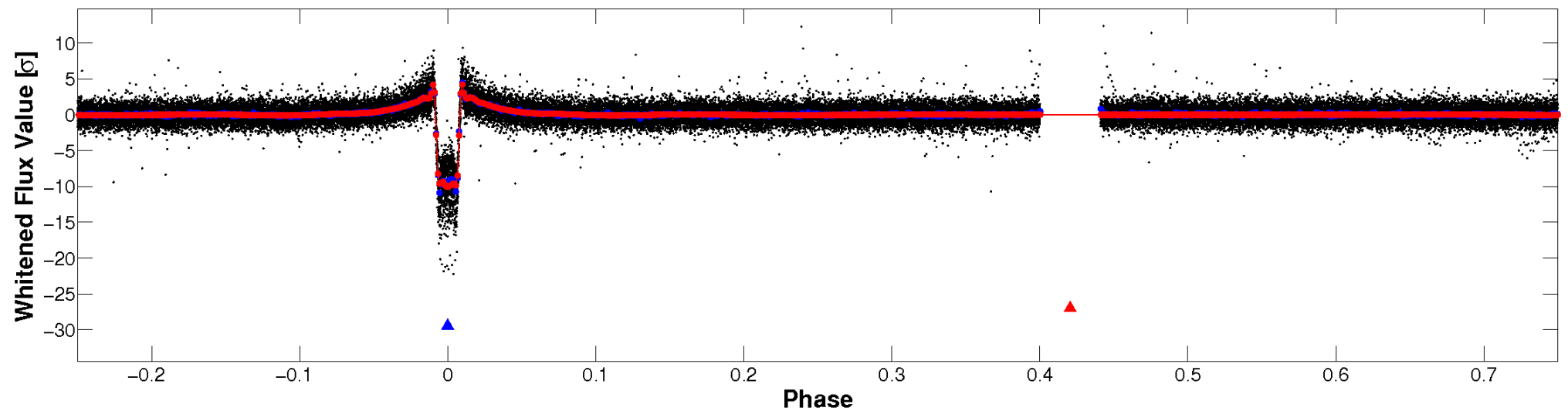


Non-Whitened Vs. Whitened Light Curve

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

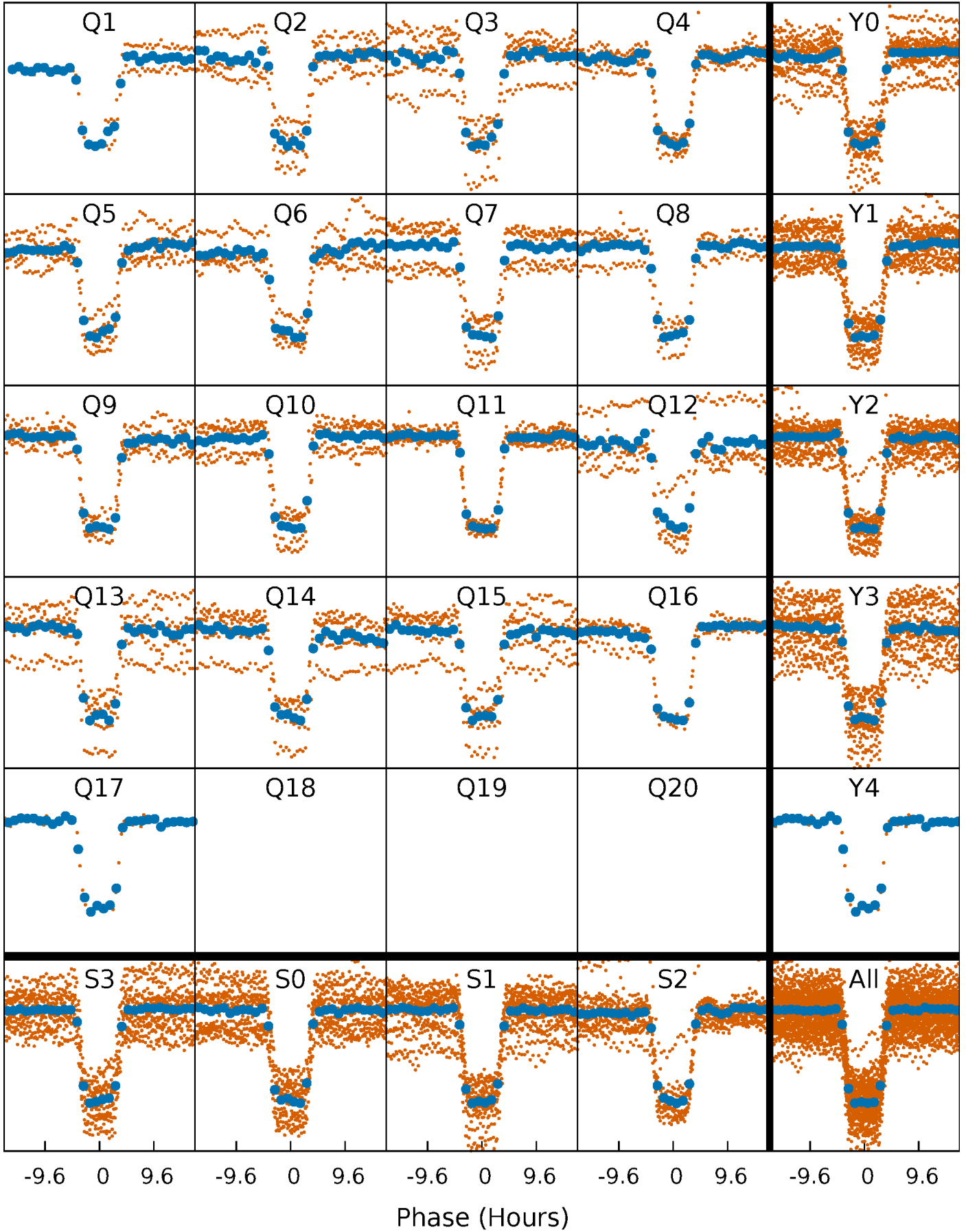


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



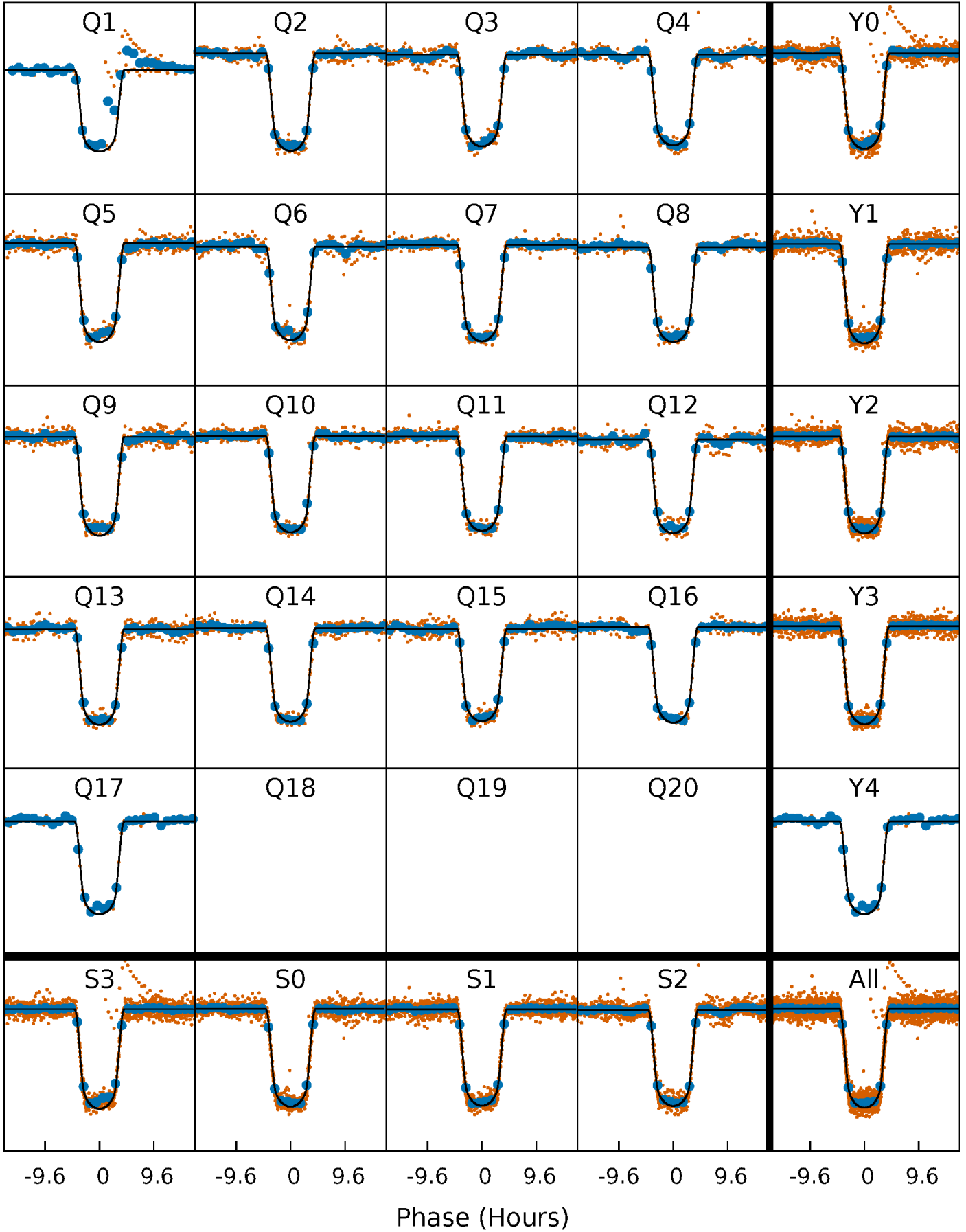
PDC Quarter-Phased Transit Curves

TCE 006593363-02 P= 18.527817 Days $T_0=149.994912$ (BKJD)



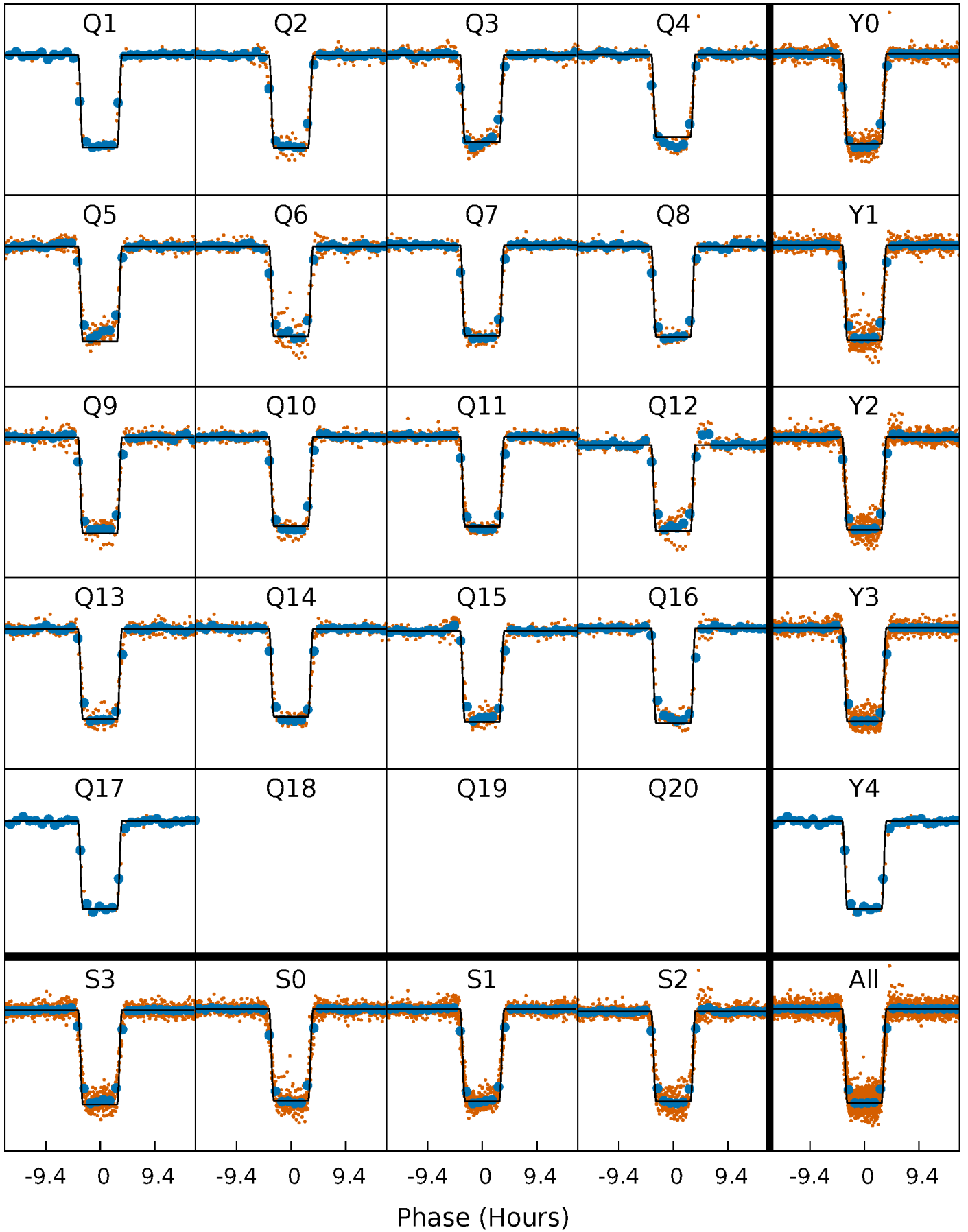
DV Quarter-Phased Transit Curves

TCE 006593363-02 P= 18.527817 Days $T_0=149.994912$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

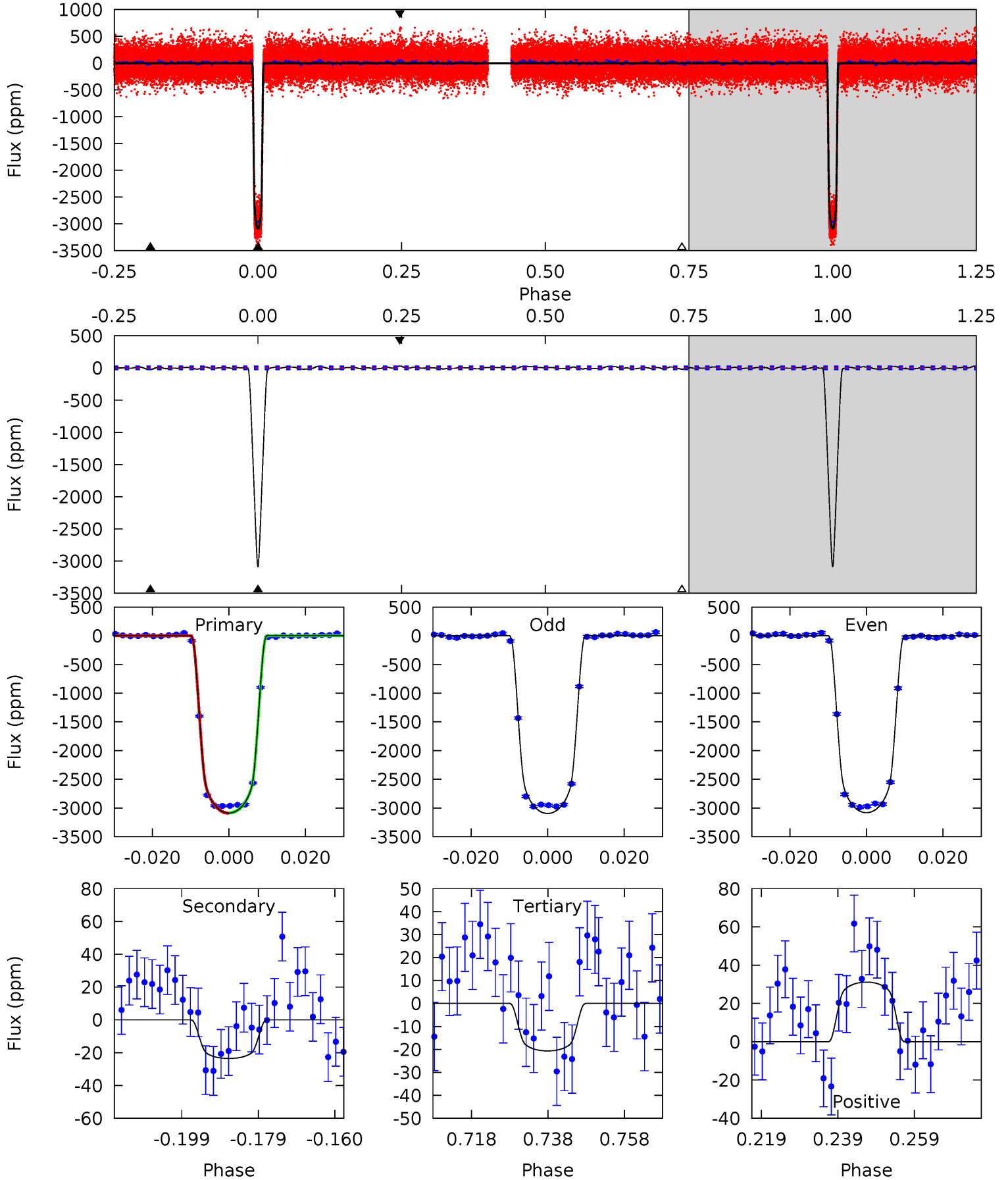
TCE 006593363-02 P= 18.527610 Days $T_0=150.002525$ (BKJD)



DV Model-Shift Uniqueness Test

006593363-02, P = 18.527817 Days, E = 131.467095 Days

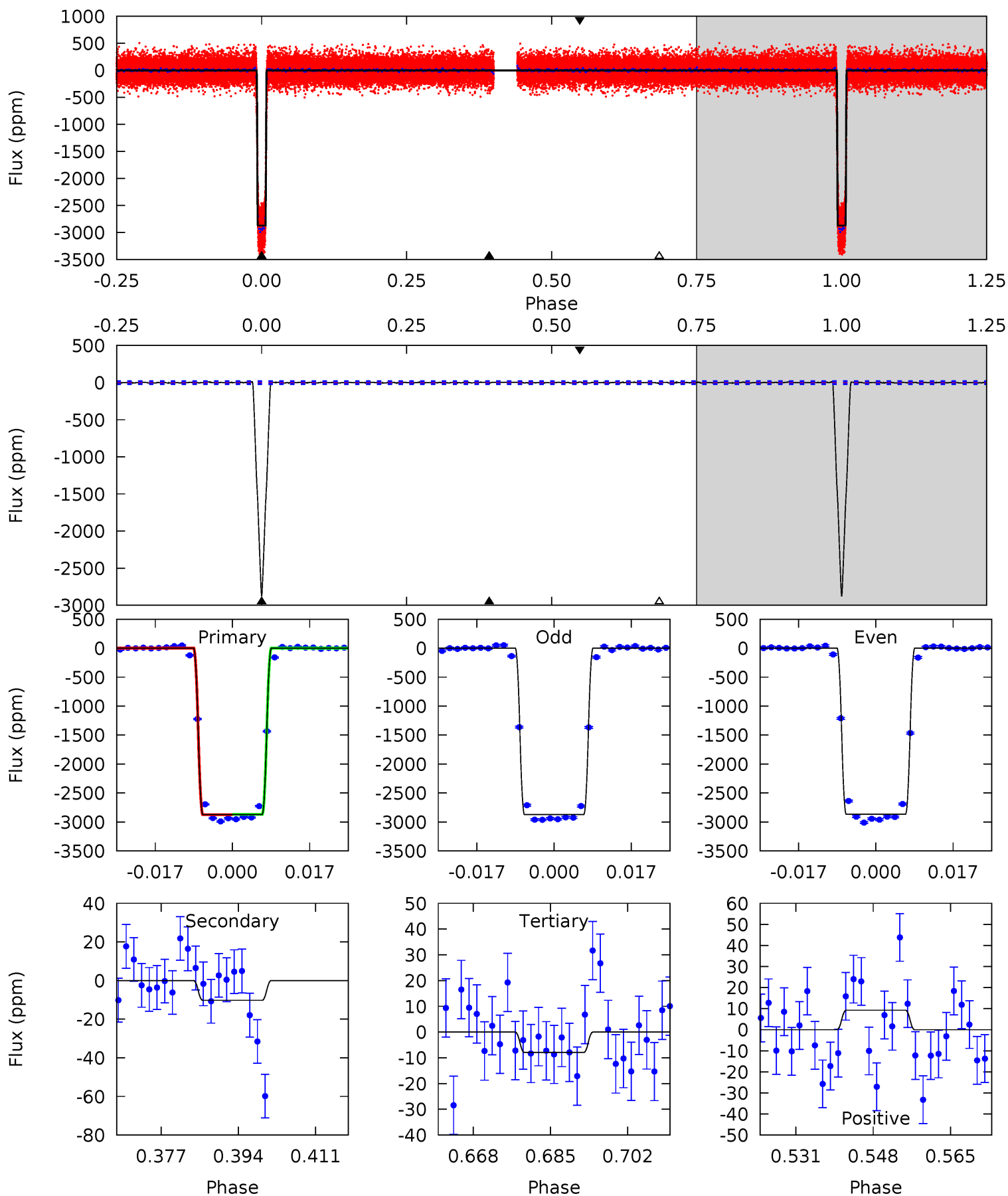
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
689.0	5.25	4.62	6.95	4.89	2.33	2.24	684.3	682.0	0.64	-1.70	1.48	0.99	0.01	0.69



Alt Model-Shift Uniqueness Test

006593363-02, P = 18.527610 Days, E = 131.474915 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
757.2	2.70	2.09	2.44	4.92	2.38	0.73	755.1	754.8	0.61	0.26	0.83	0.99	0.00	0.80



Stellar Parameters For KIC 006593363

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6154^{+165}_{-165}	$3.793^{+0.315}_{-0.105}$	$-0.340^{+0.350}_{-0.300}$	$2.321^{+0.383}_{-0.829}$	$1.219^{+0.210}_{-0.256}$	$0.137^{+0.309}_{-0.045}$
	+3%/-3%	+8%/-3%	+103%/-88%	+17%/-36%	+17%/-21%	+225%/-33%
Source	PHO1	FLK73	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 006593363-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-24 ± 4	$14.54^{+1.59}_{-2.90}$	1485^{+88}_{-128}	2531^{+76}_{-96}	$1.401^{+0.641}_{-0.368}$
Alt.	-10 ± 4	$13.53^{+1.46}_{-2.75}$	1485^{+91}_{-134}	2236^{+148}_{-217}	$0.687^{+0.429}_{-0.253}$

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 $A_{obs} \gg 1.0$

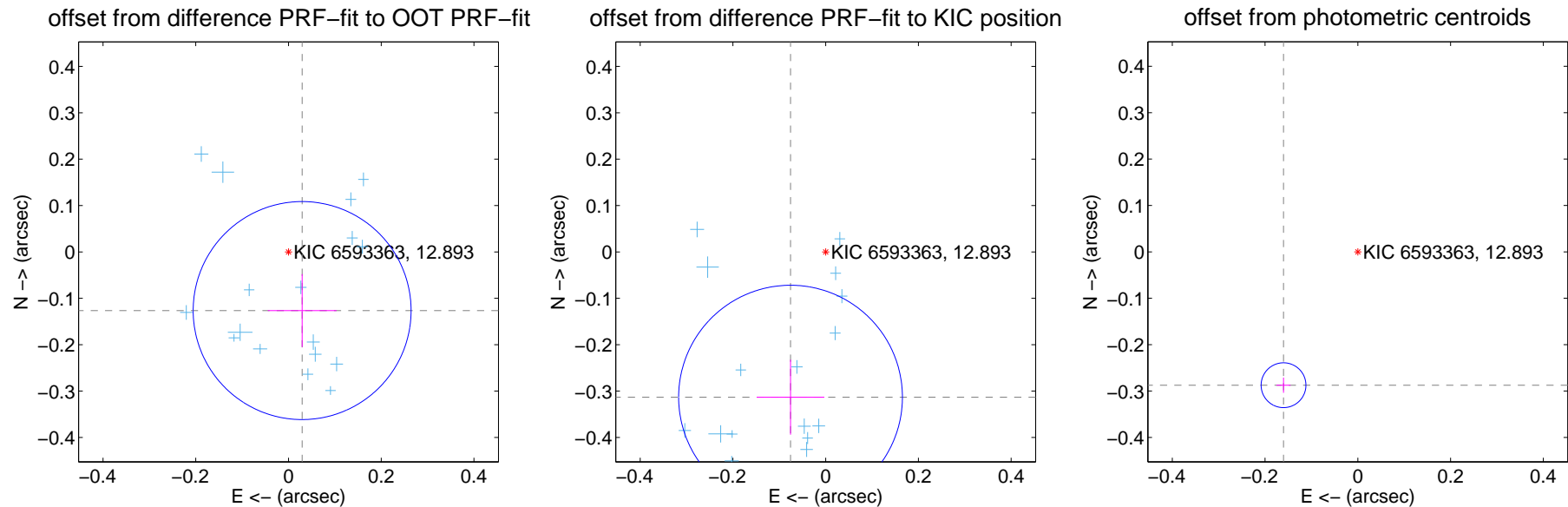
DV Centroid Data

Supplemental centroid analysis for 006593363-02. Kepler magnitude: 12.89. Transit SNR 307.27

There are 17 quarters with good PRF difference image offsets

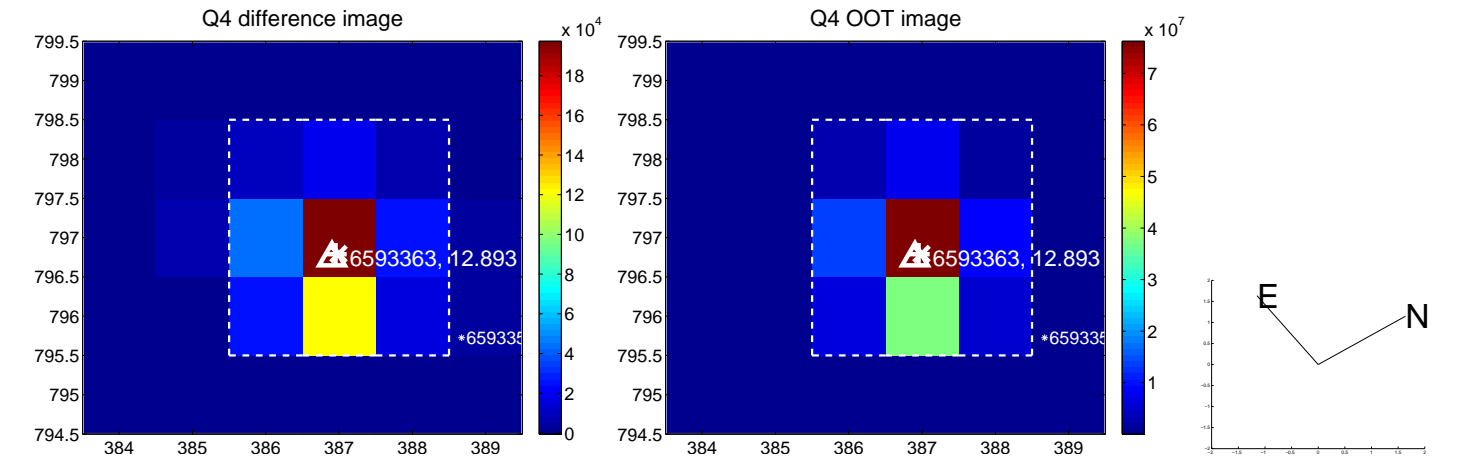
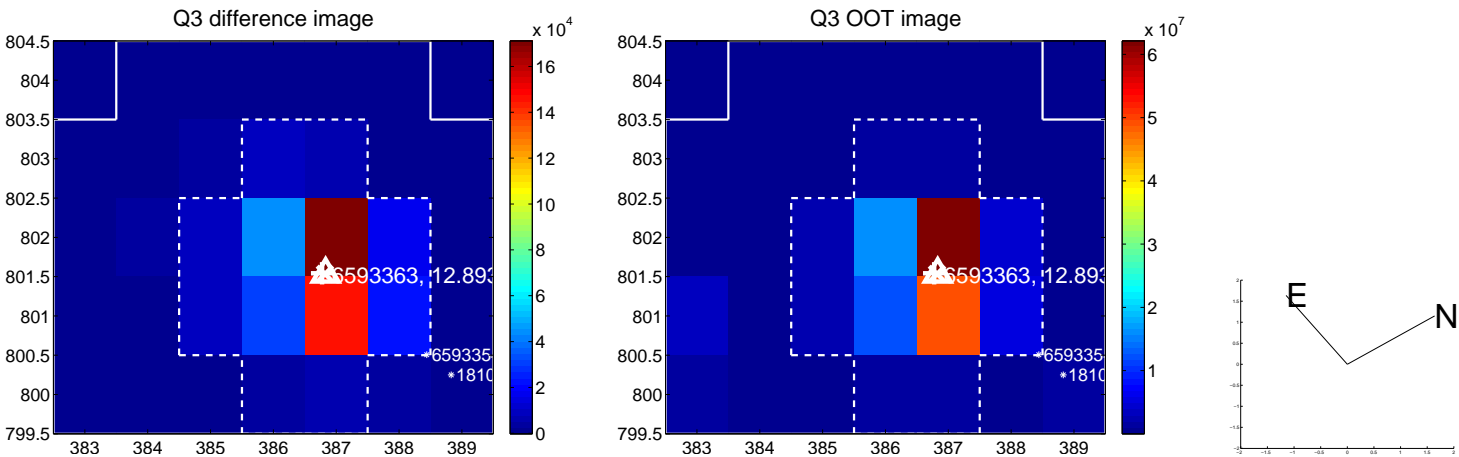
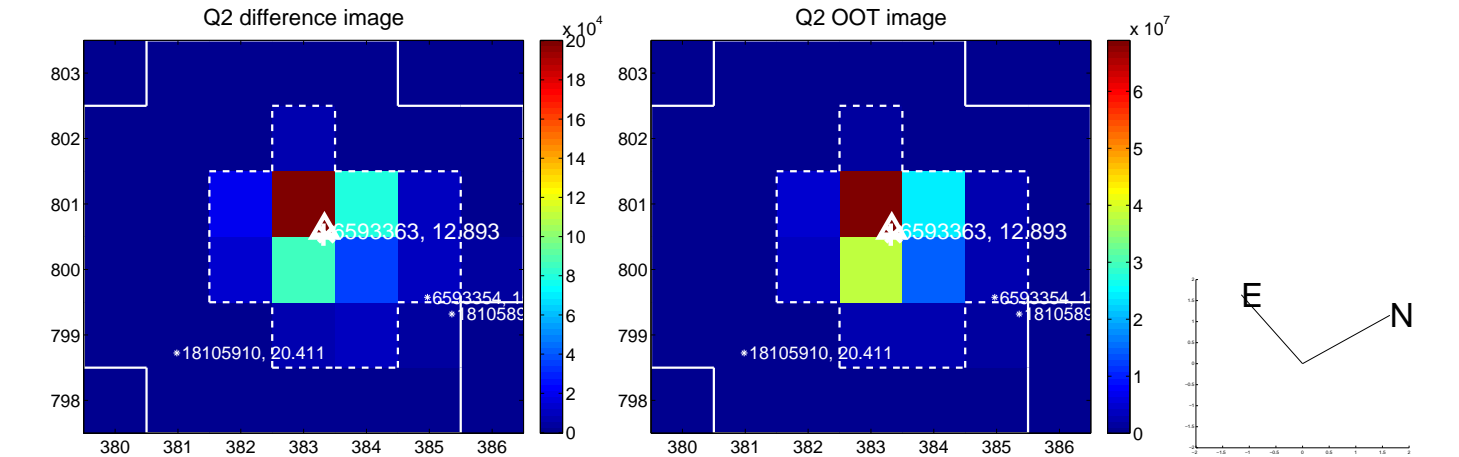
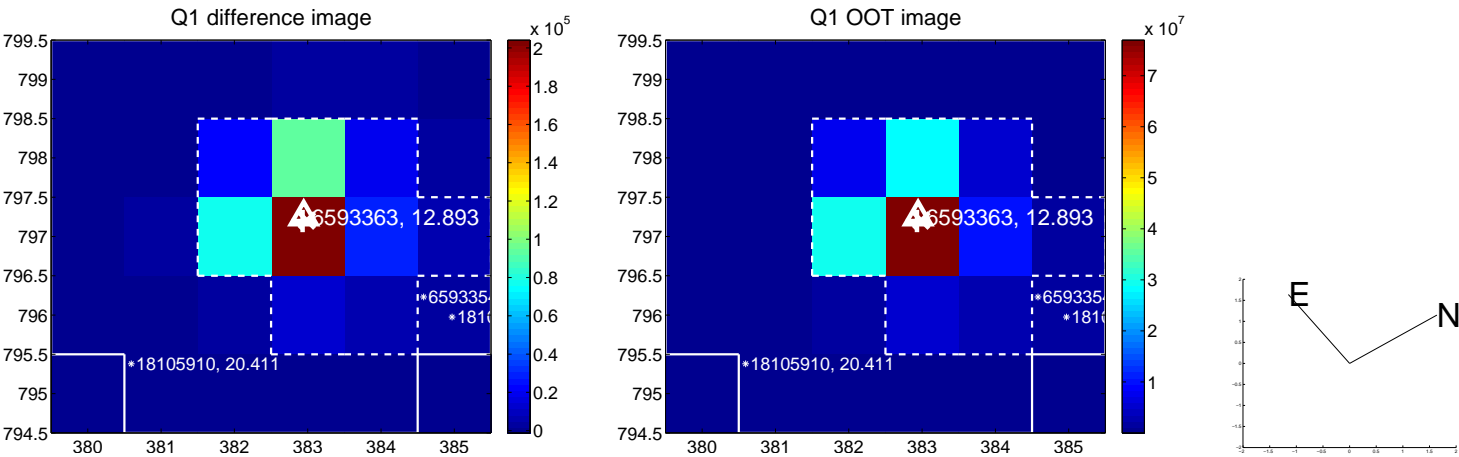
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.130 ± 0.078	1.66	-0.029 ± 0.074	-0.126 ± 0.079
PRF-fit source offset from KIC position	0.322 ± 0.080	4.01	0.076 ± 0.073	-0.313 ± 0.081
photometric centroid source offset	0.33 ± 0.02	20.43	0.16 ± 0.02	-0.29 ± 0.02

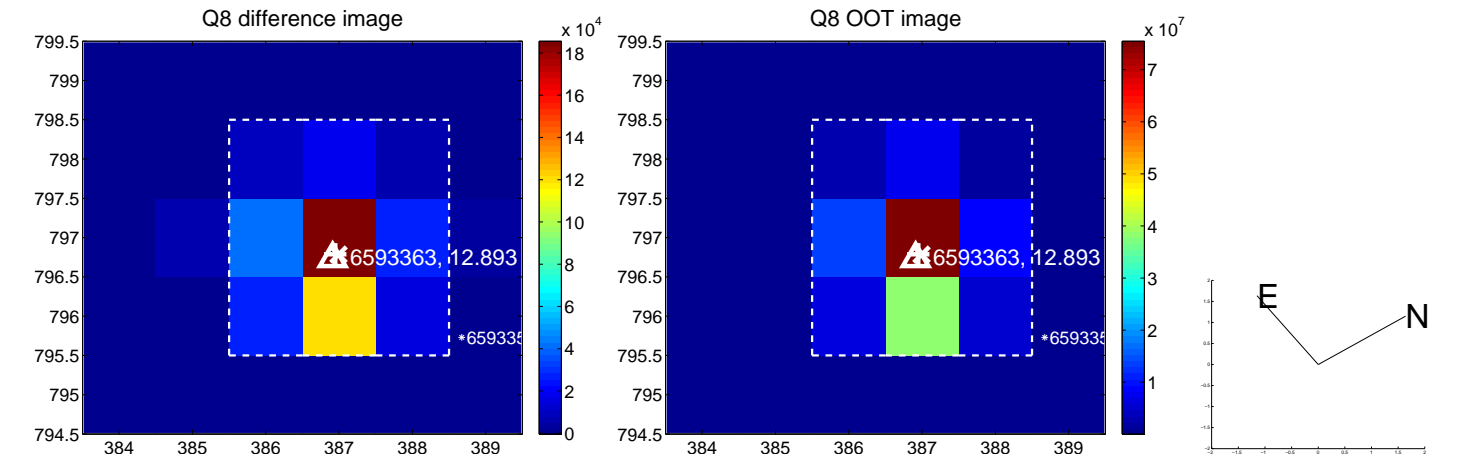
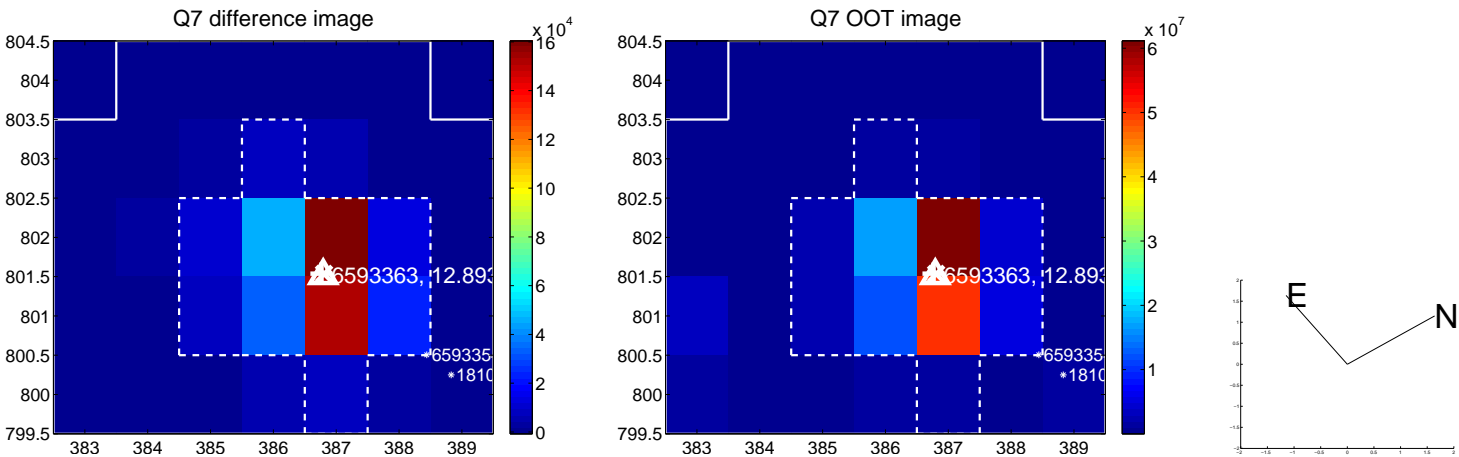
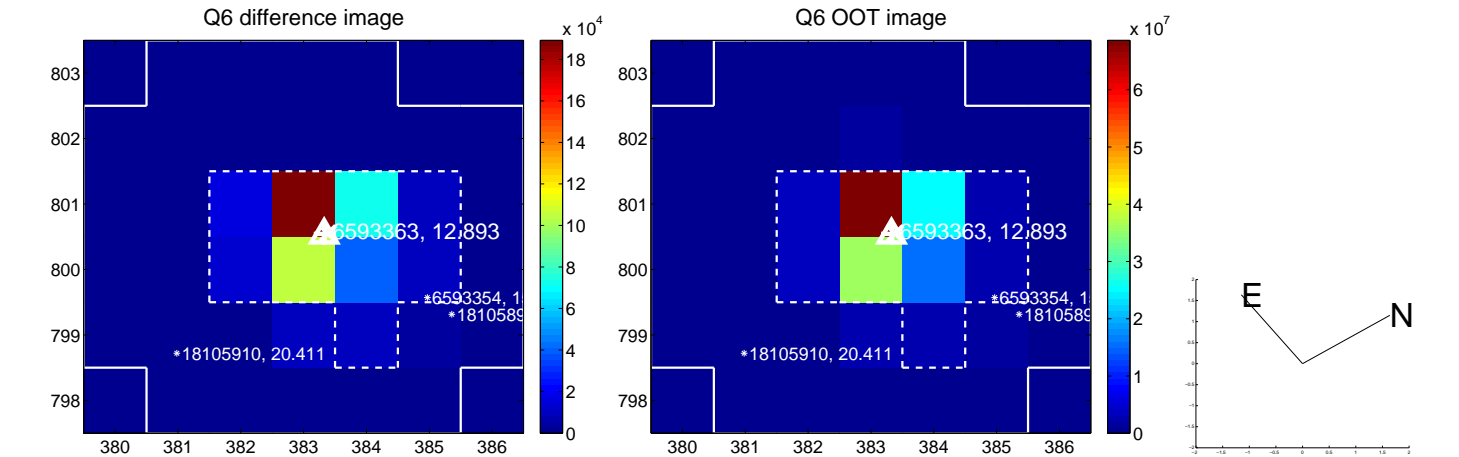
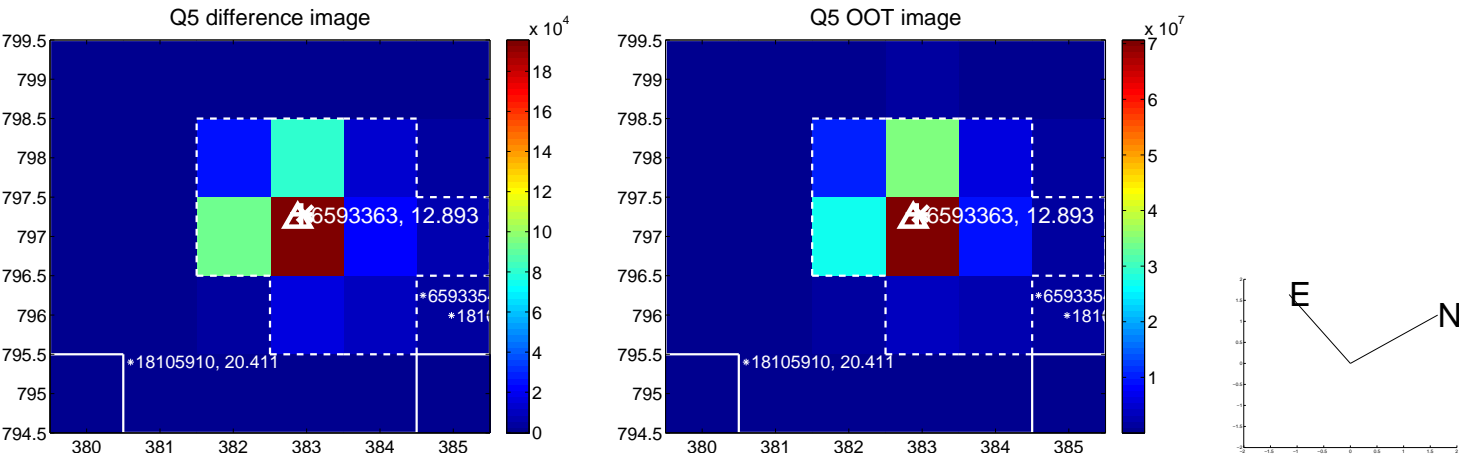


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

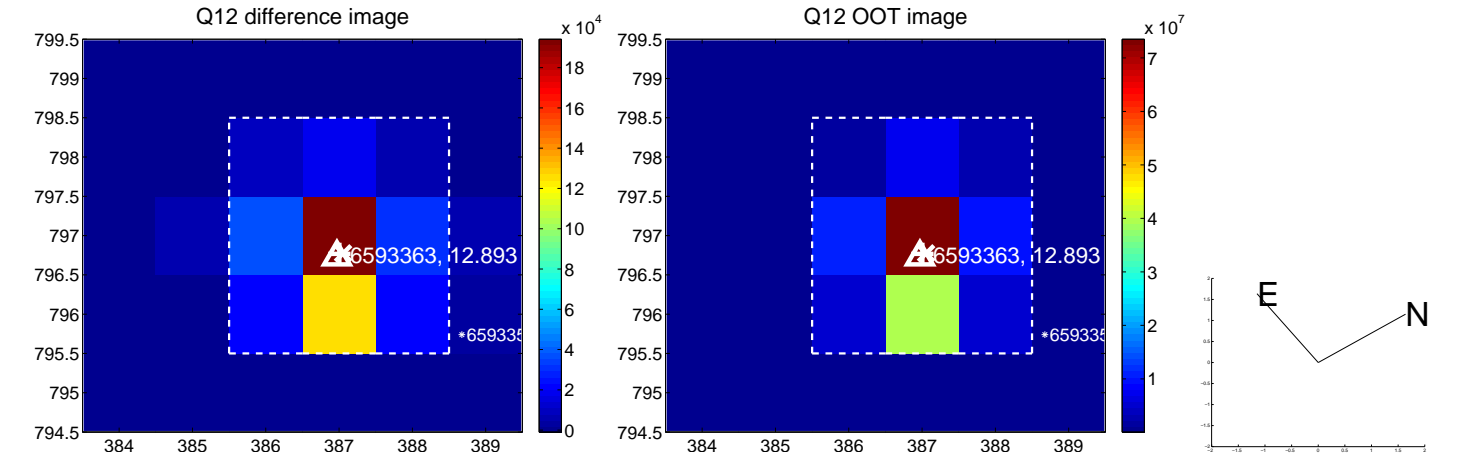
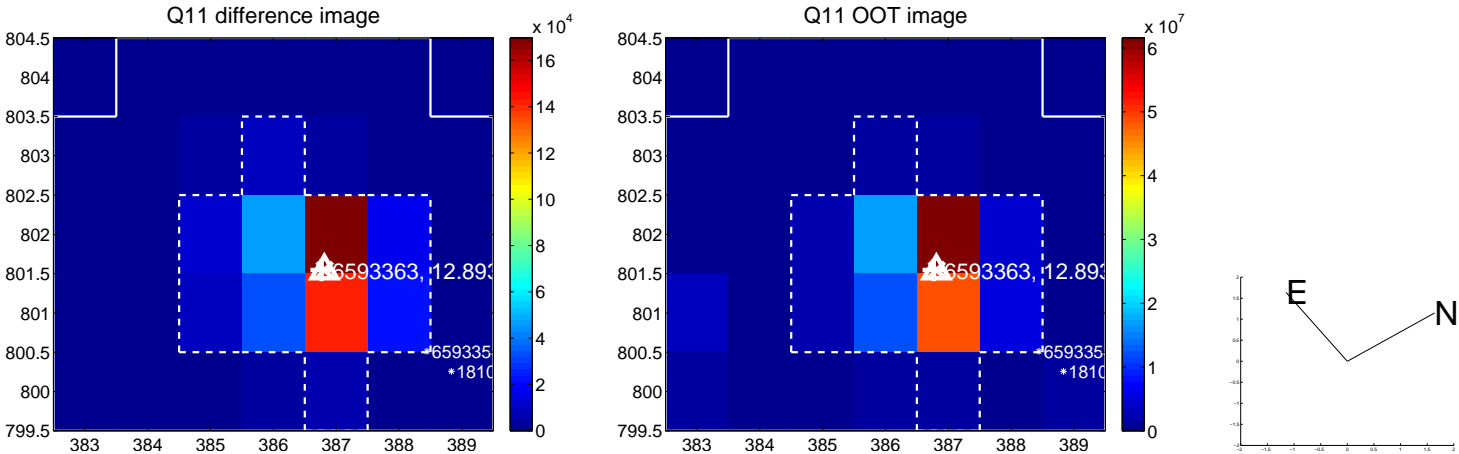
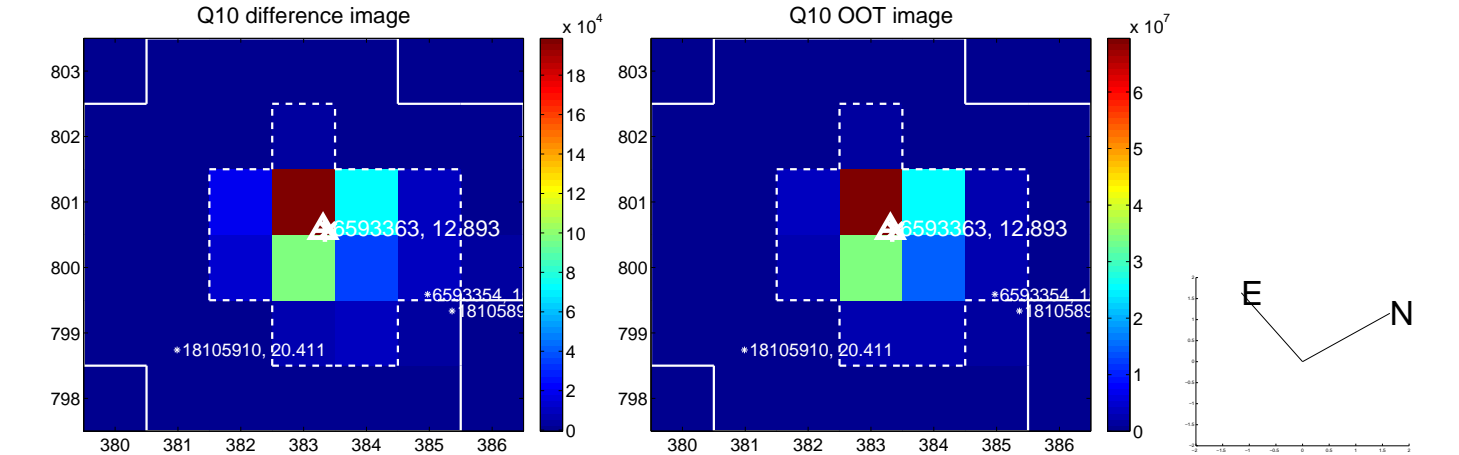
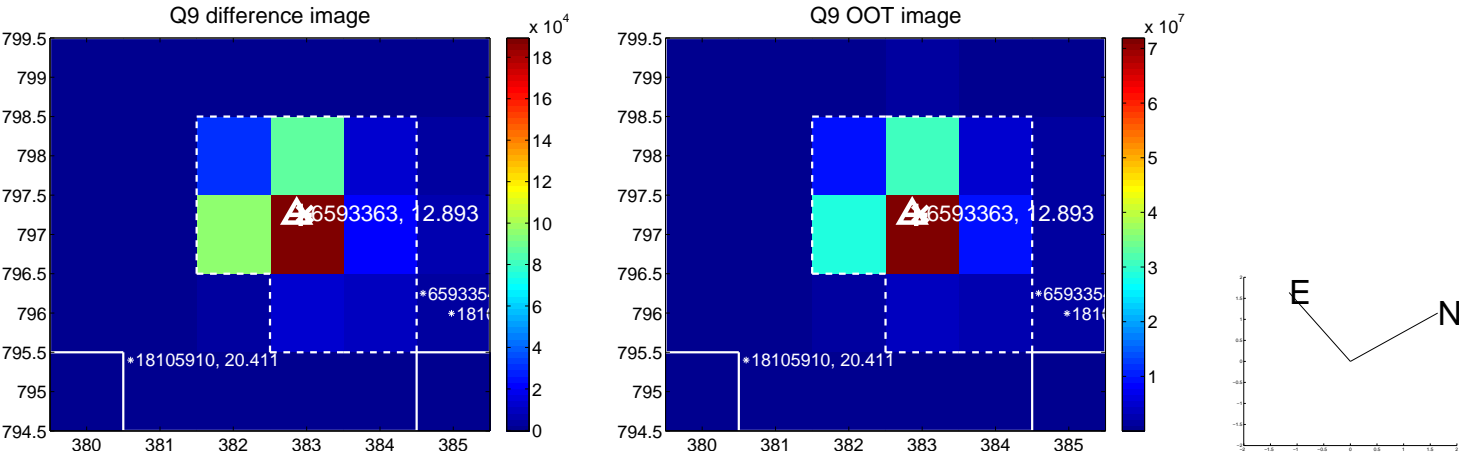
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



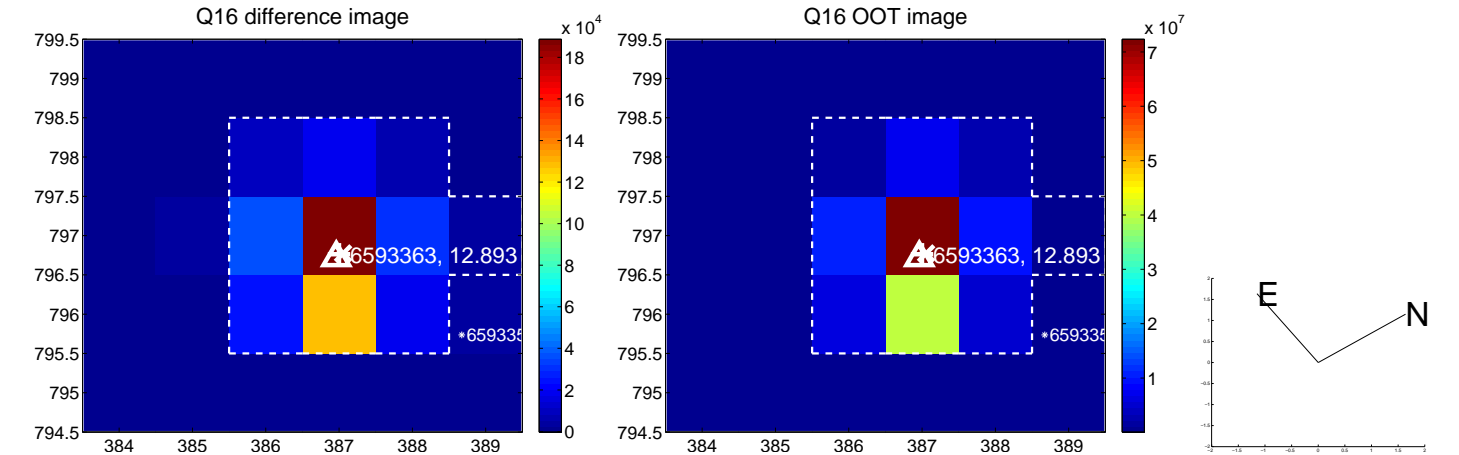
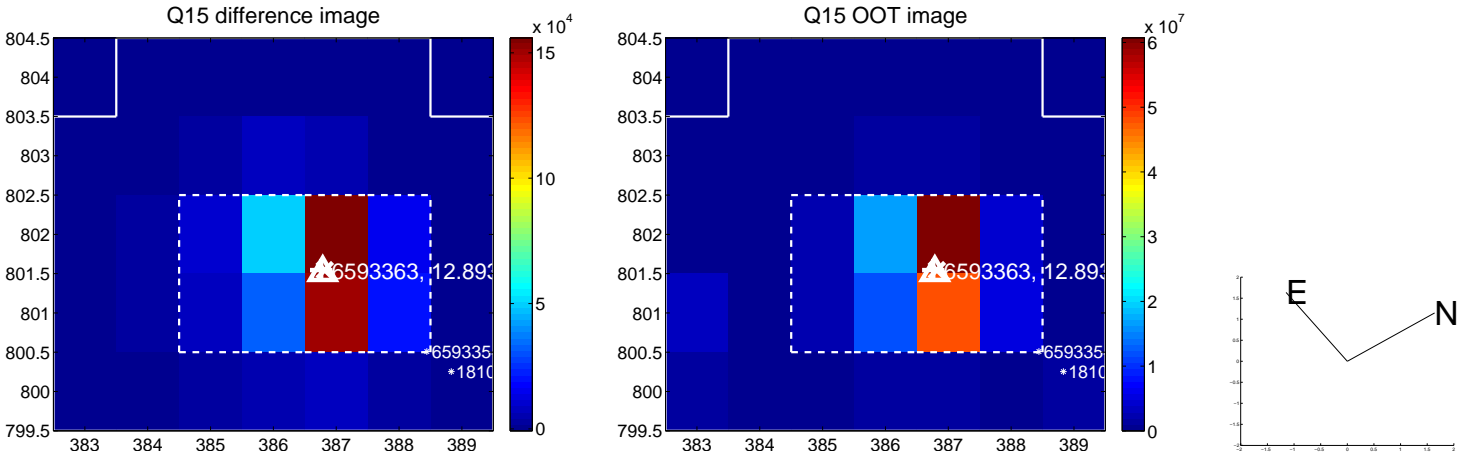
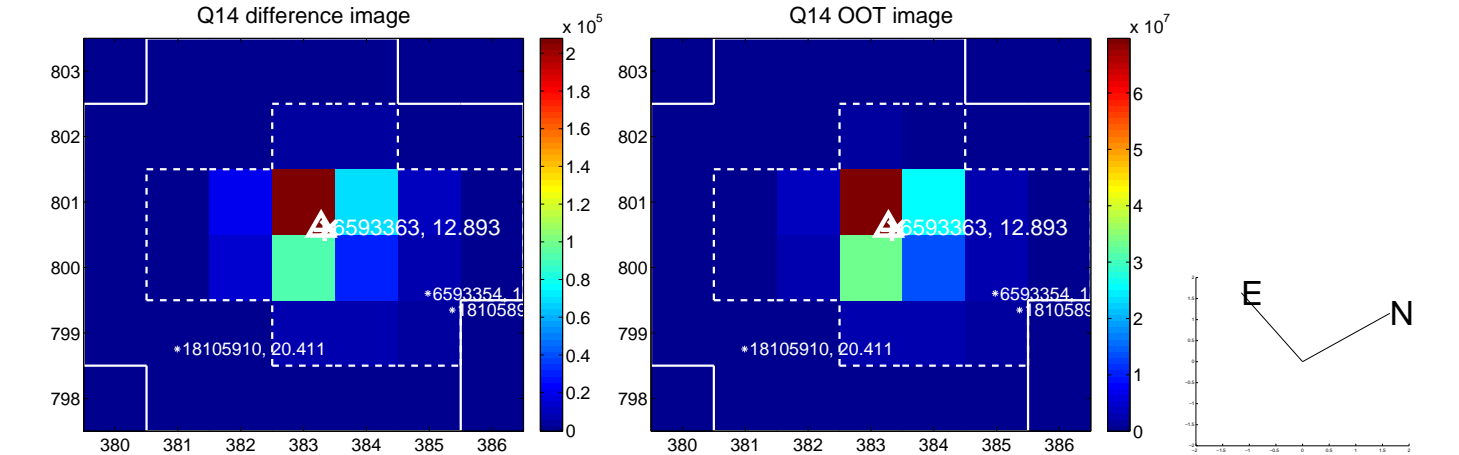
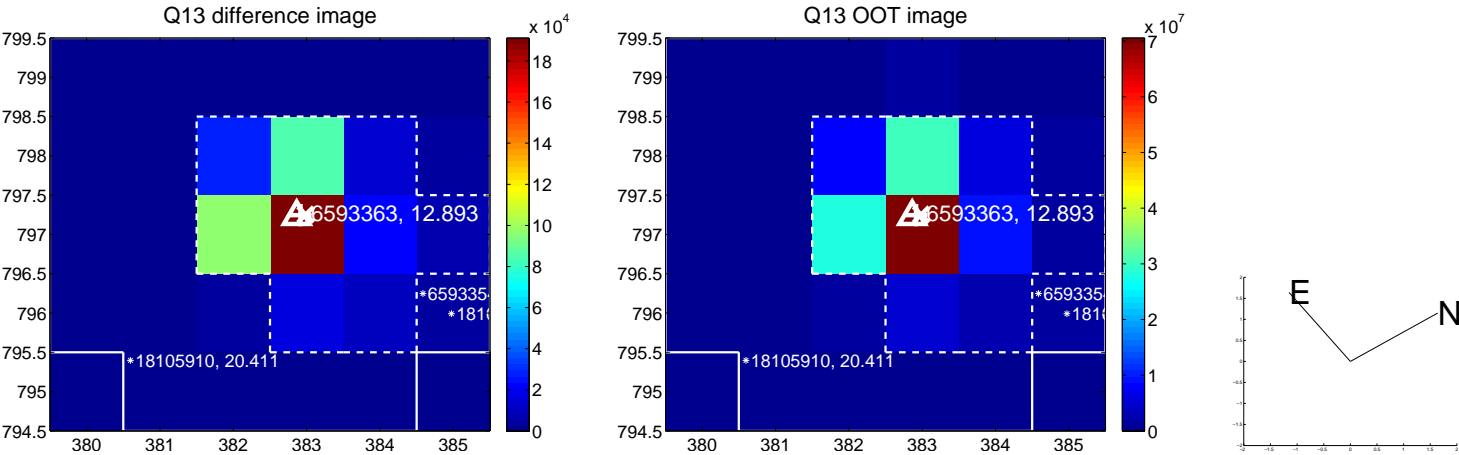
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



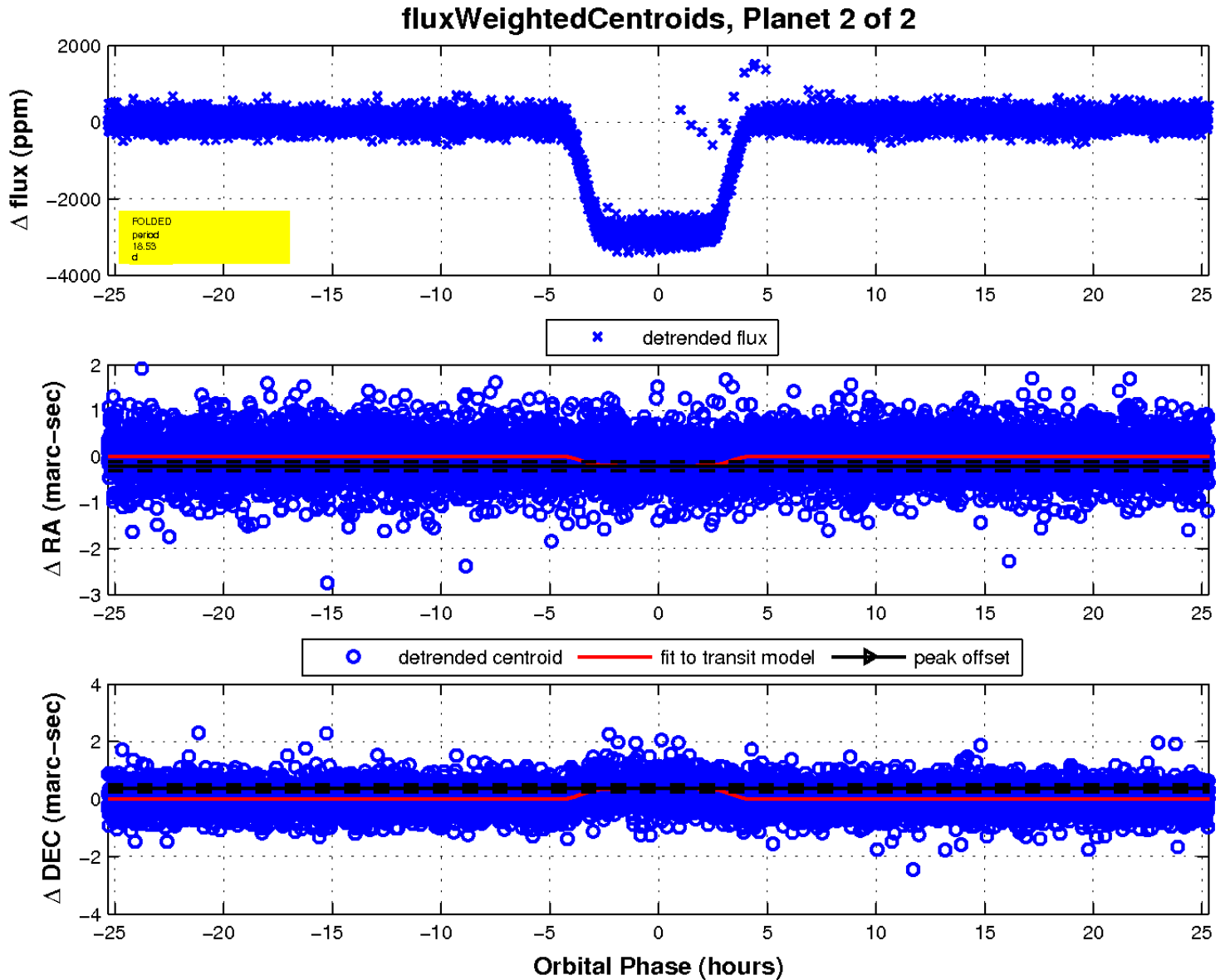
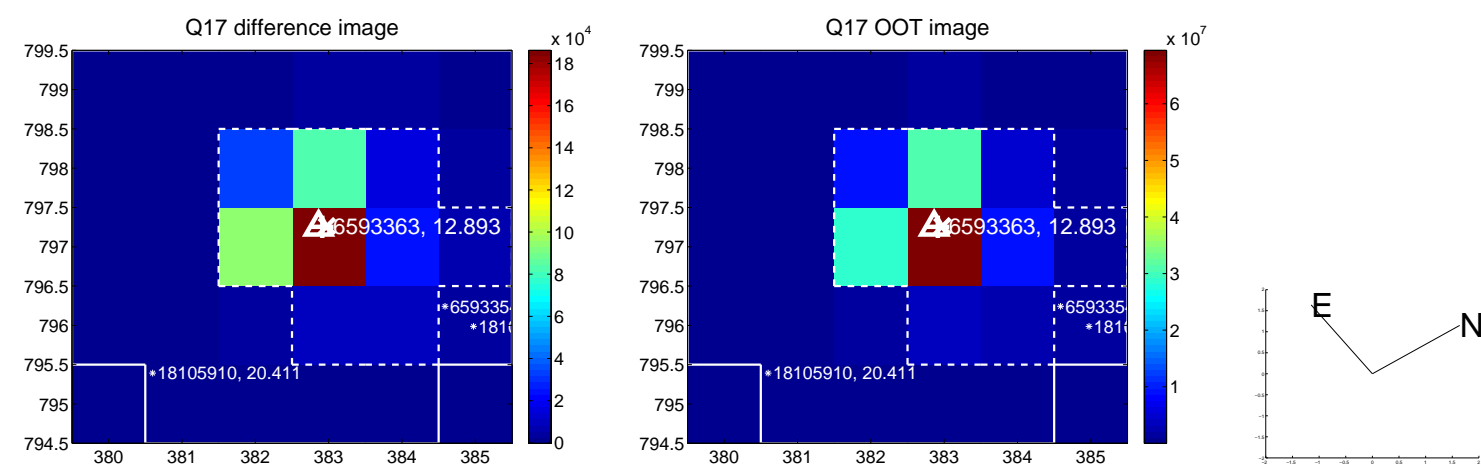
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

