

KIC 008480285

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})
008480285-01	OBS	0691.01	29.666316	159.703045	660.1	8.488	76.1	80.1	1.10	5956	2.95	40.75
008480285-02	OBS	0691.02	16.225506	144.025264	112.4	6.521	16.1	16.7	1.10	5956	1.35	91.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008480285-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
008480285-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

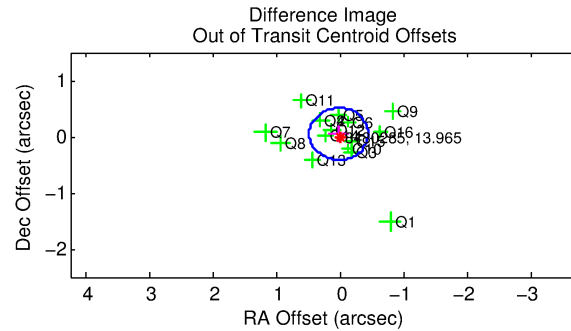
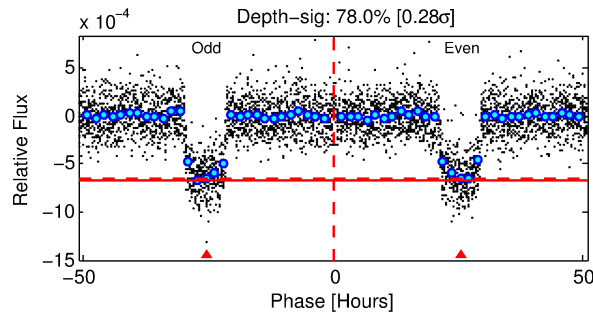
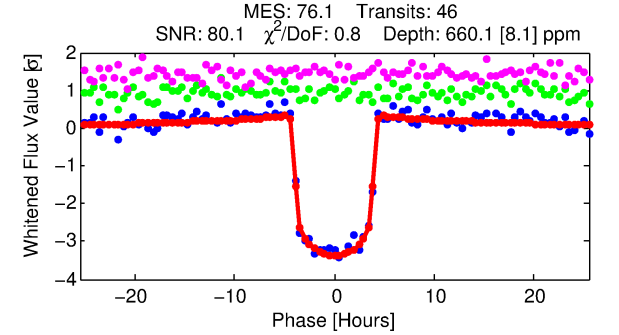
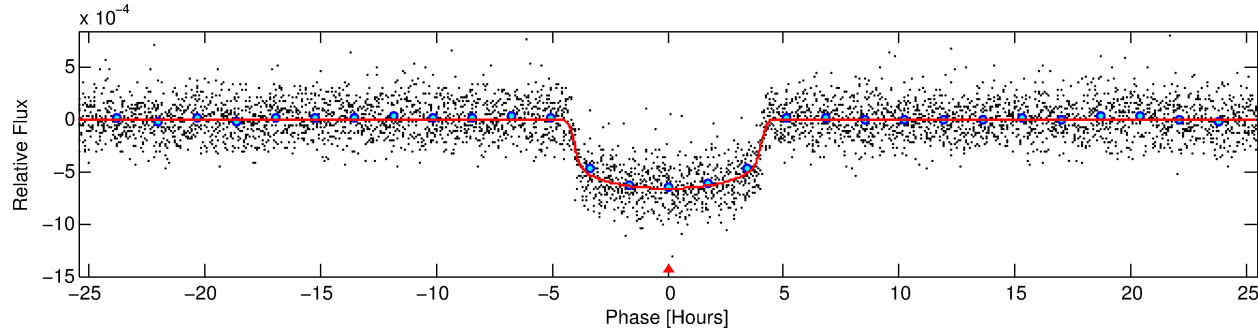
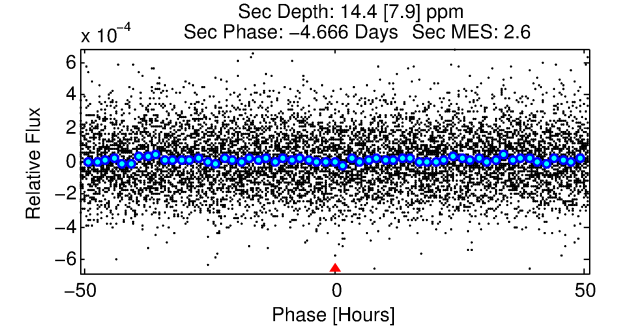
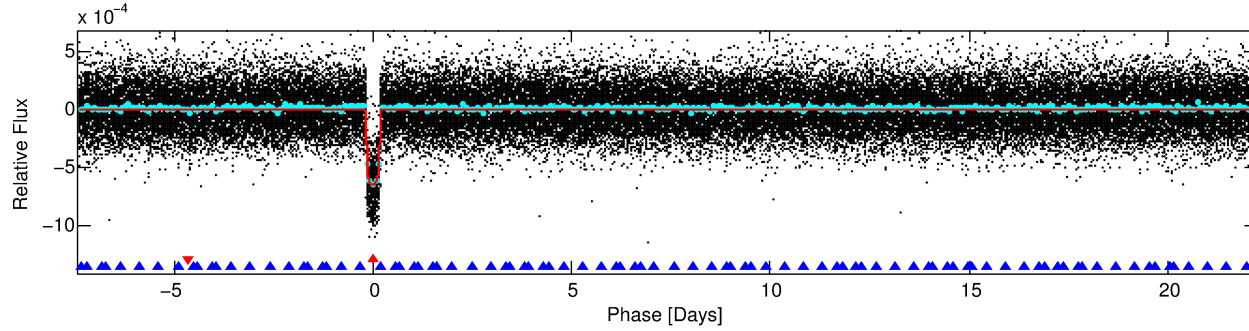
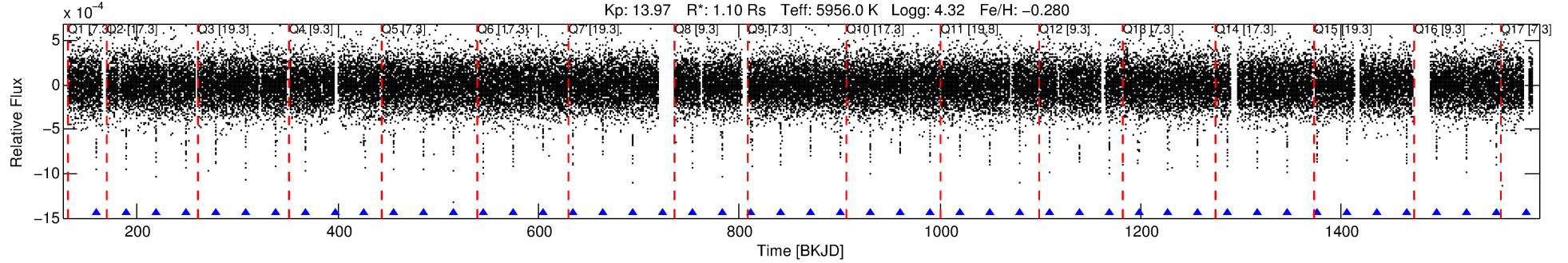
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008480285-01

No Significant Match Found

DV One-Page Summary

KIC: 8480285 Candidate: 1 of 2 Period: 29.666 d
KOI: K00691.01 Corr: 0.995



DV Fit Results:

Period = 29.66632 [0.00006] d
Epoch = 159.7030 [0.0018] BKJD
Rp/R* = 0.0247 [0.0020]
a/R* = 21.88 [8.37]
b = 0.62 [0.39]
Seff = 40.75 [9.97]
Teq = 644 [39] K
Rp = 2.95 [0.49] Re
a = 0.1826 [0.0260] AU
Ag = 30.26 [18.74] [1.56σ]
Teffp = 2336 [339] K [4.96σ]

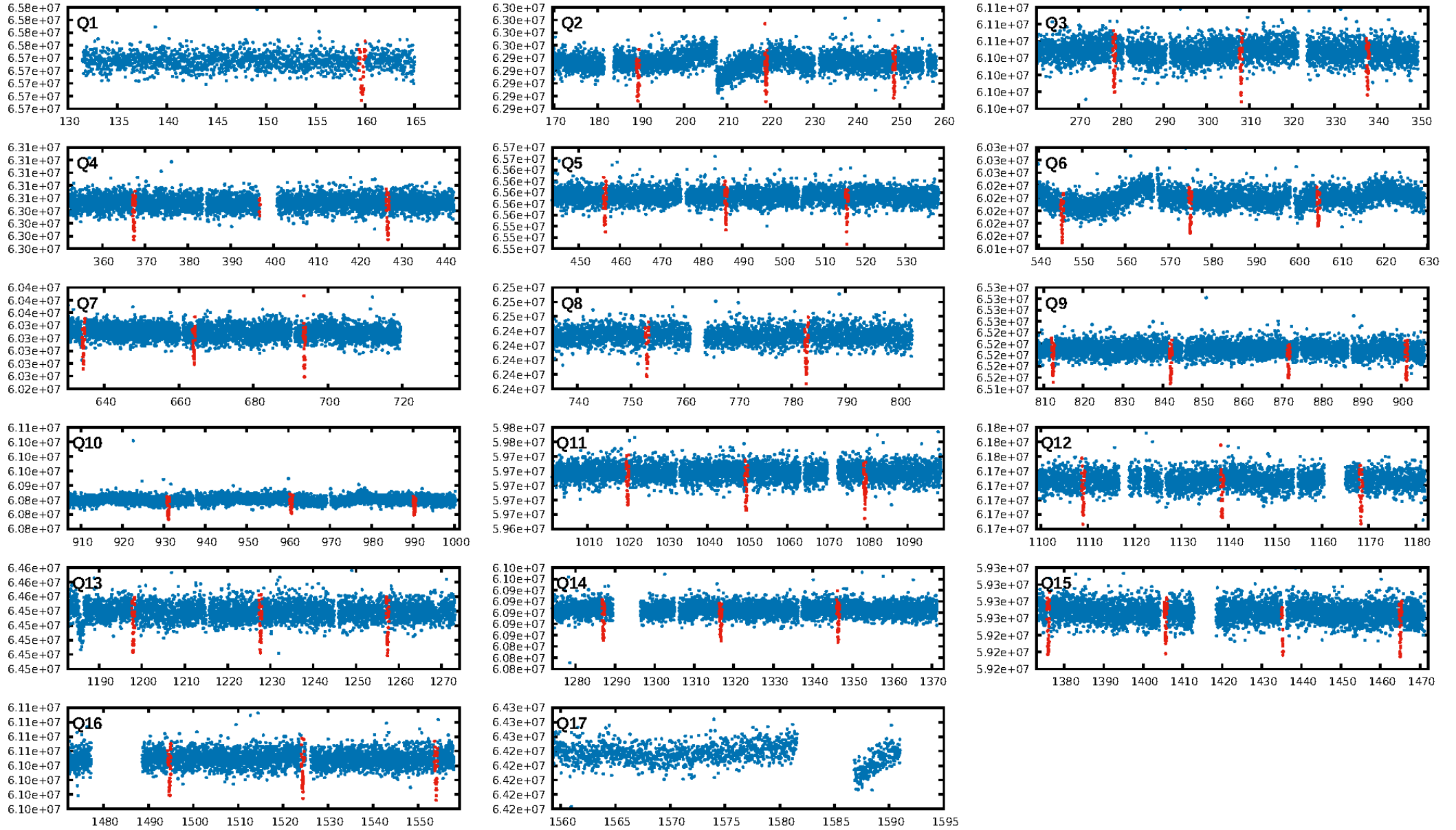
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [30.14σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 43.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [45/45]
GhostDiagnostic-chr: 5.789
Centroid-sig: 0.7%
Centroid-so: 0.219 arcsec [1.72σ]
OotOffset-rm: 0.056 arcsec [0.36σ]
KicOffset-rm: 0.131 arcsec [0.85σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 0.94 [15/16]

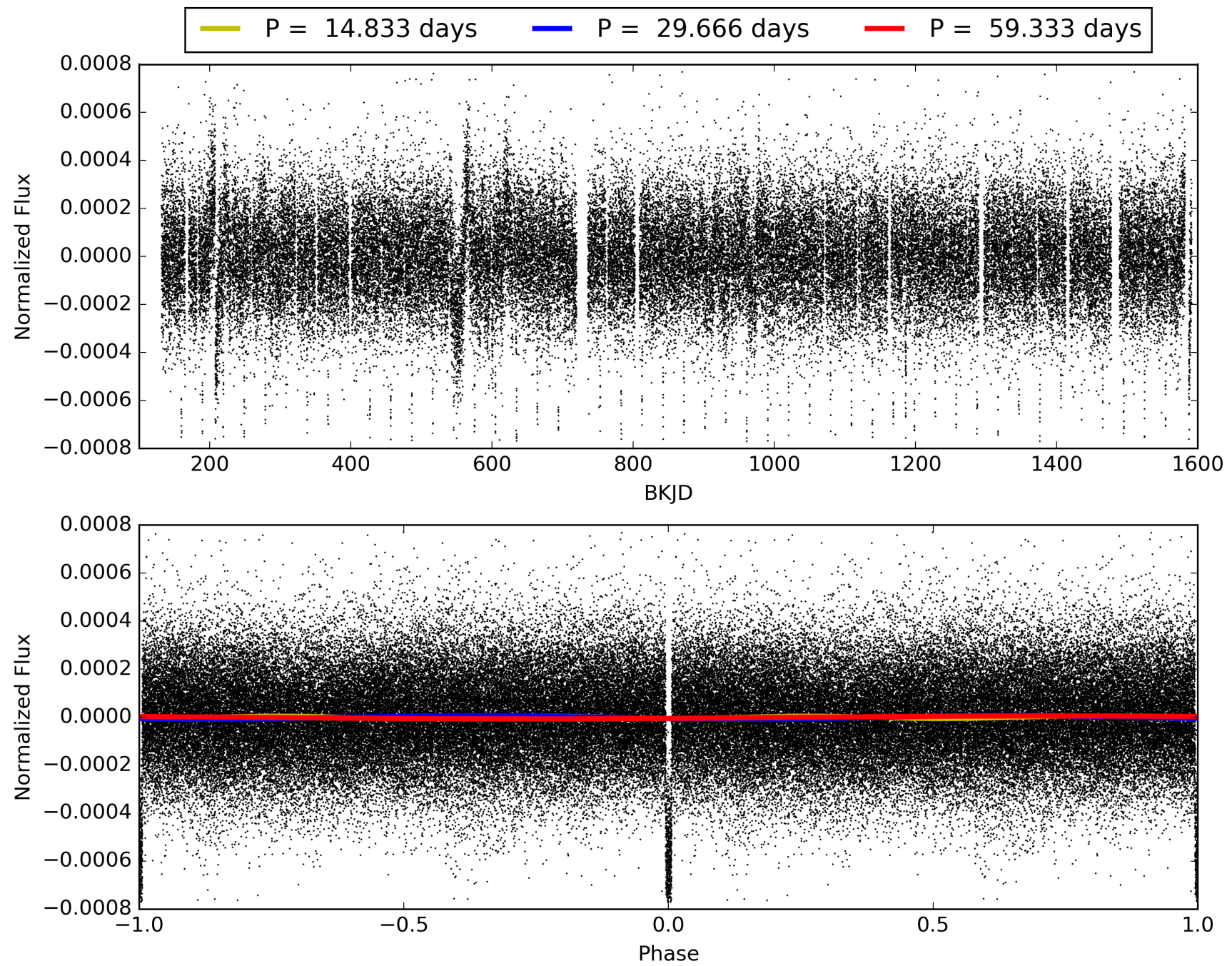
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008480285-01, PDC Light Curves

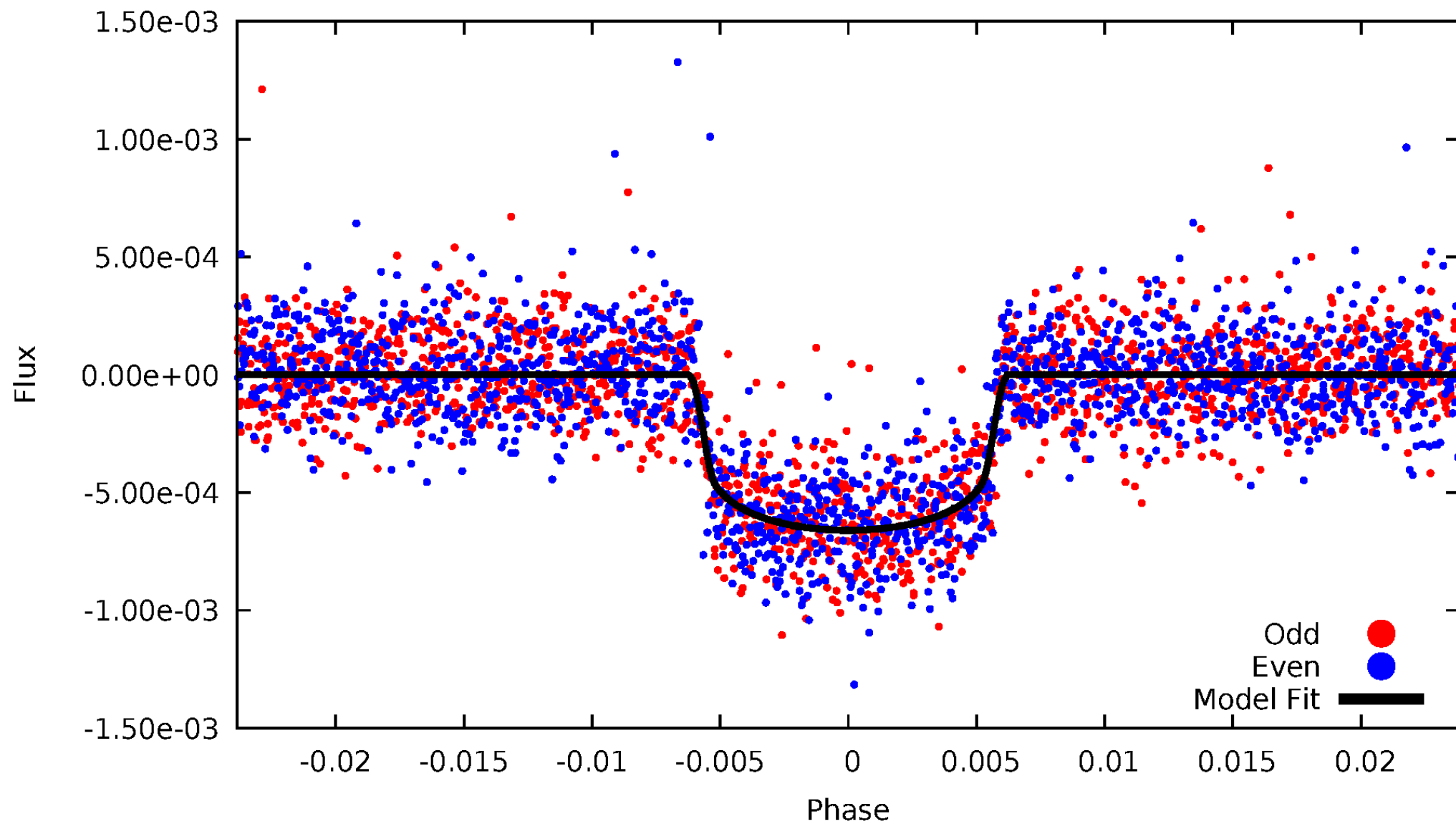


TCE 008480285-01



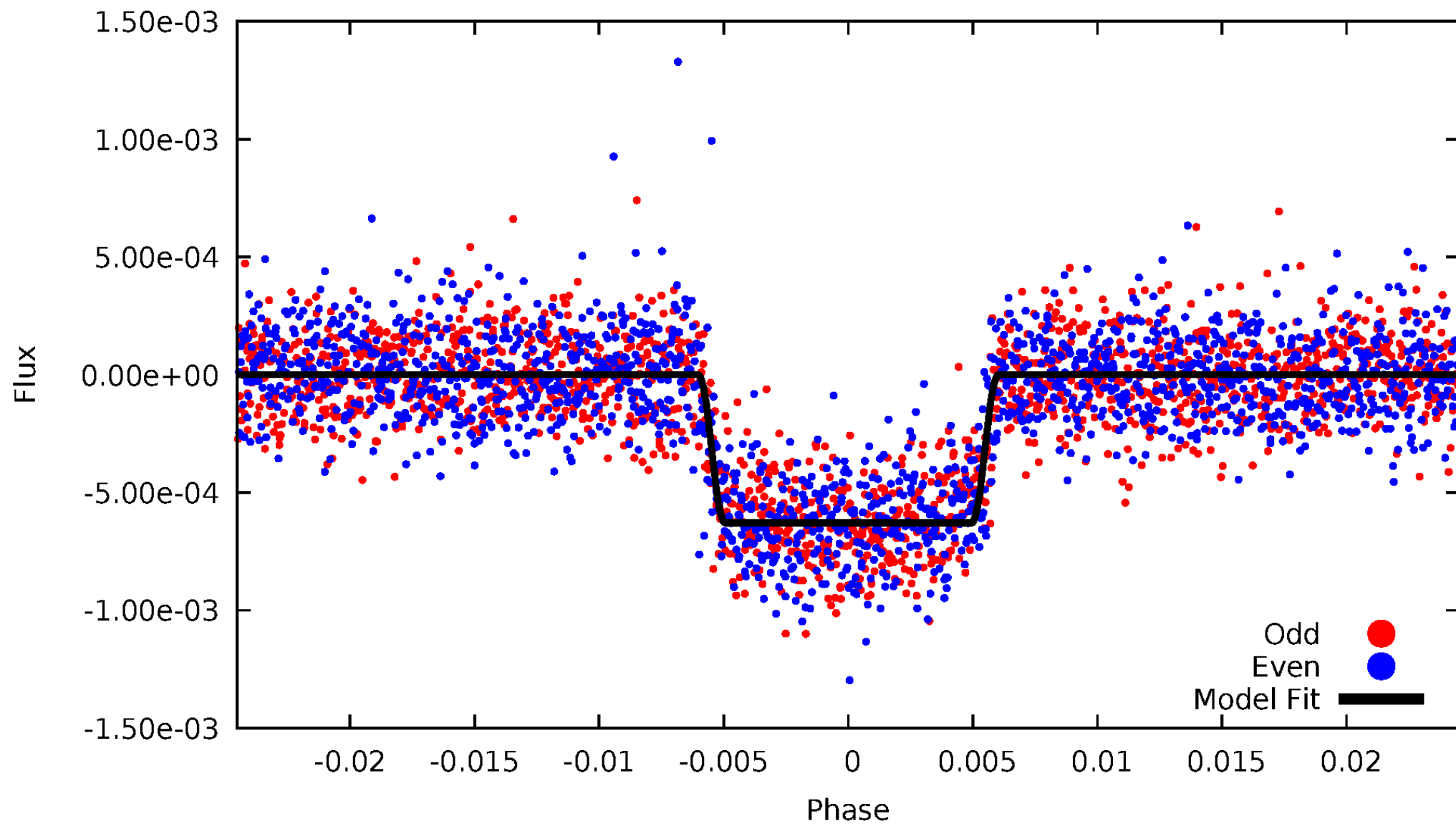
DV Odd/Even

TCE 008480285-01



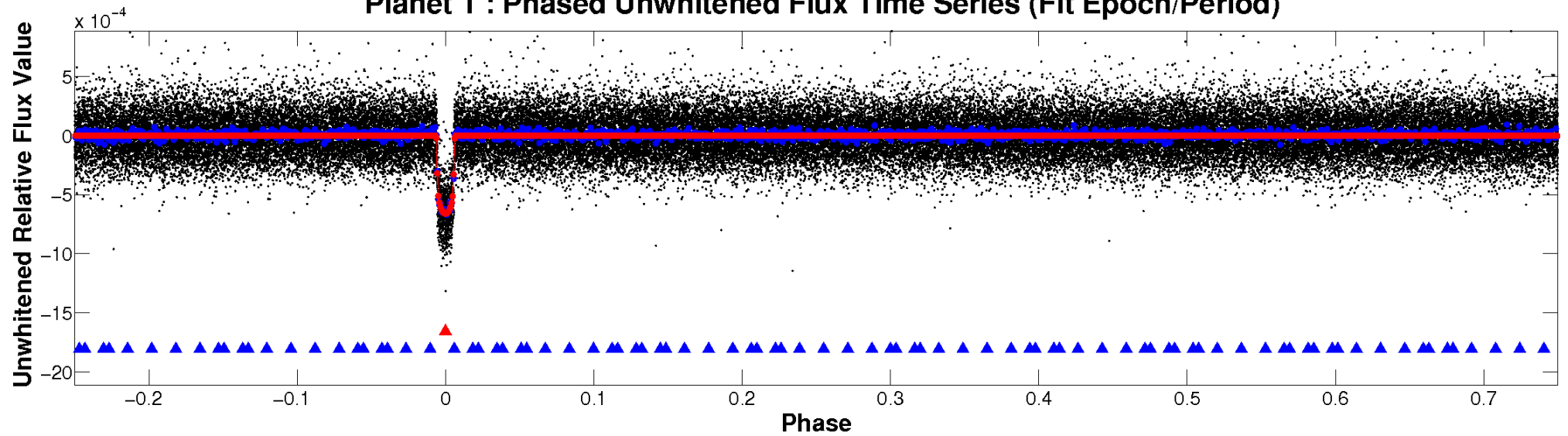
ALT Odd/Even

TCE 008480285-01

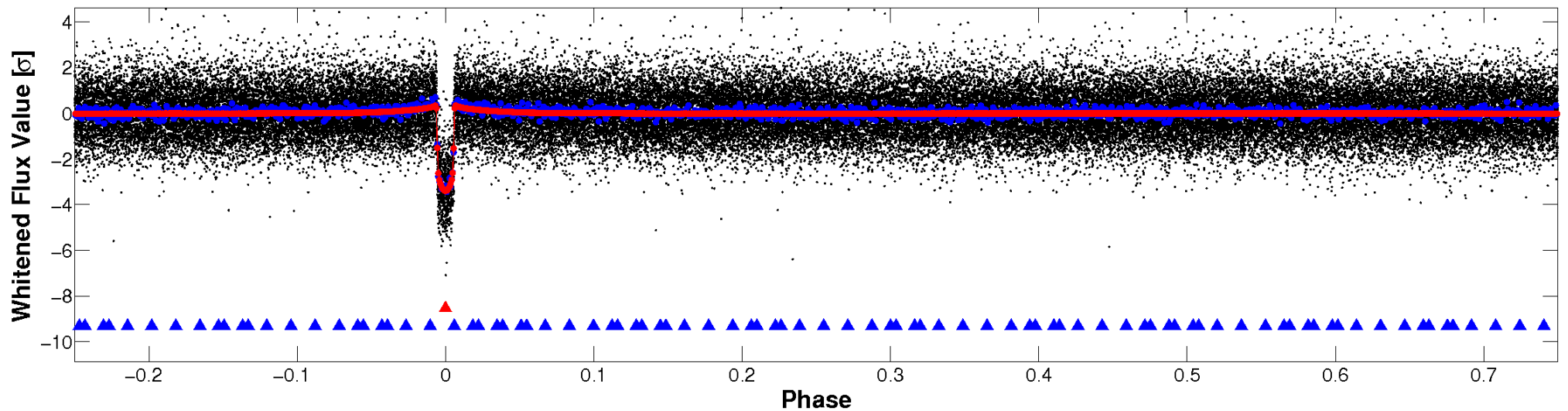


Non-Whitened Vs. Whitened Light Curve

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

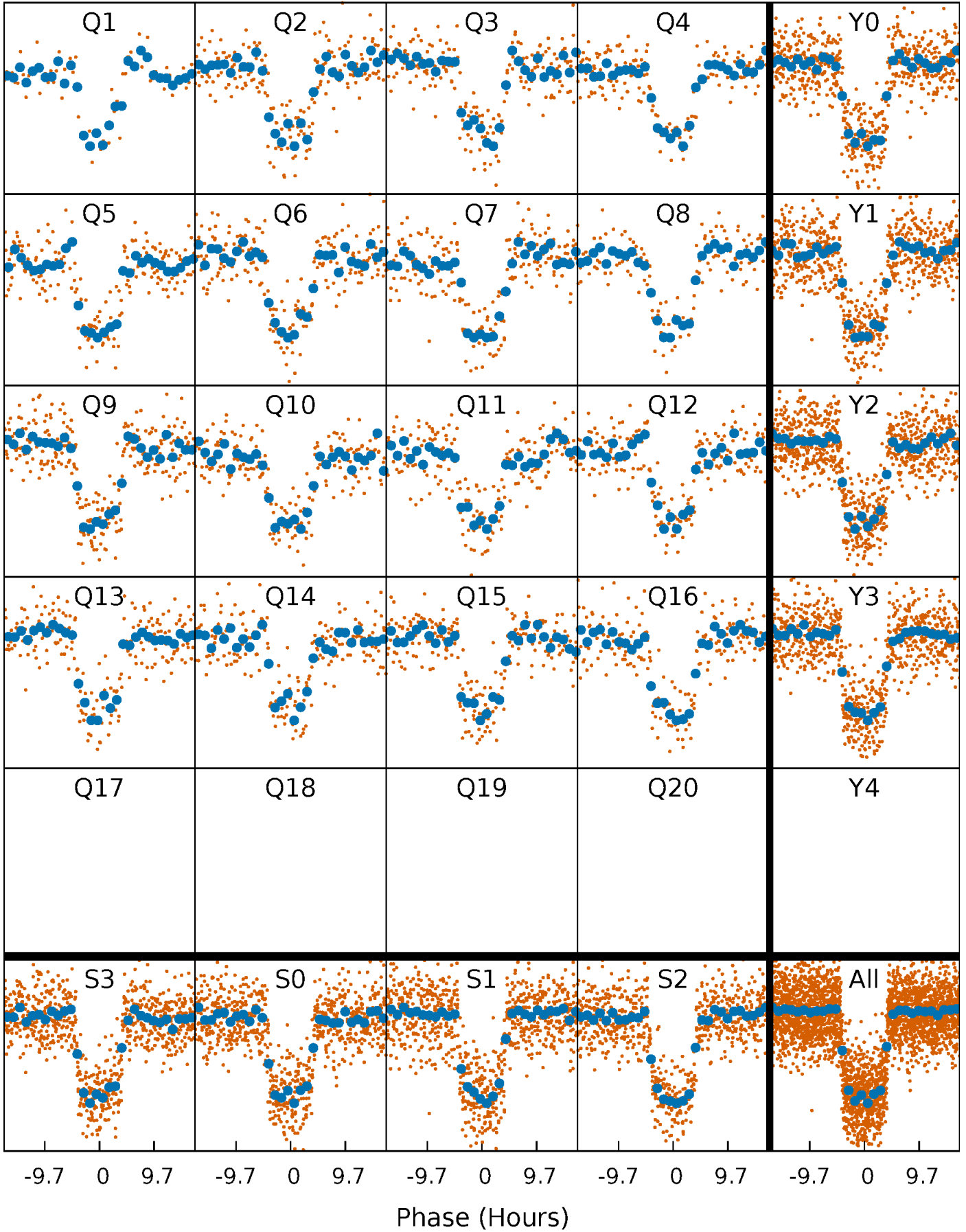


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



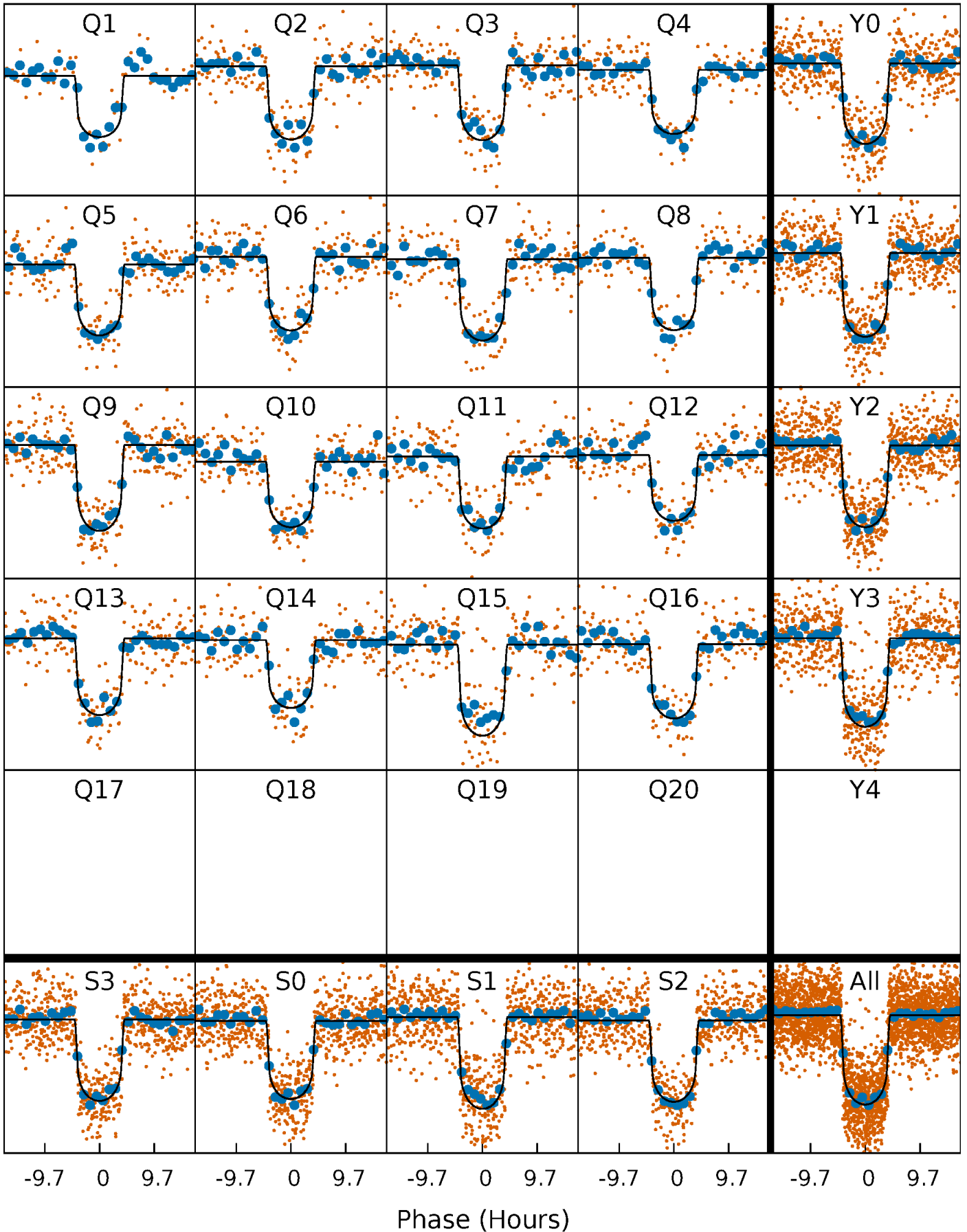
PDC Quarter-Phased Transit Curves

TCE 008480285-01 P= 29.666316 Days $T_0=159.703045$ (BKJD)



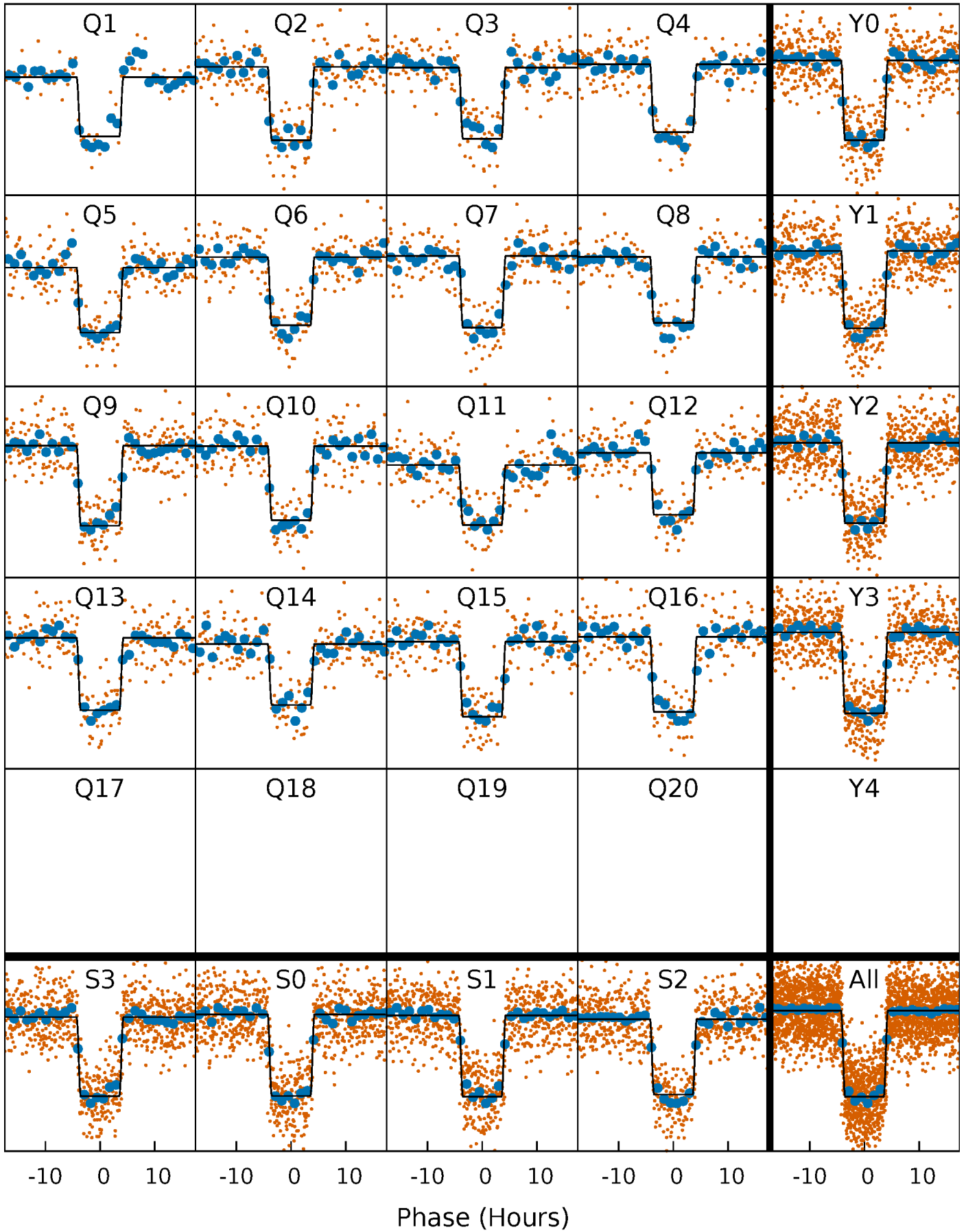
DV Quarter-Phased Transit Curves

TCE 008480285-01 P= 29.666316 Days $T_0=159.703045$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

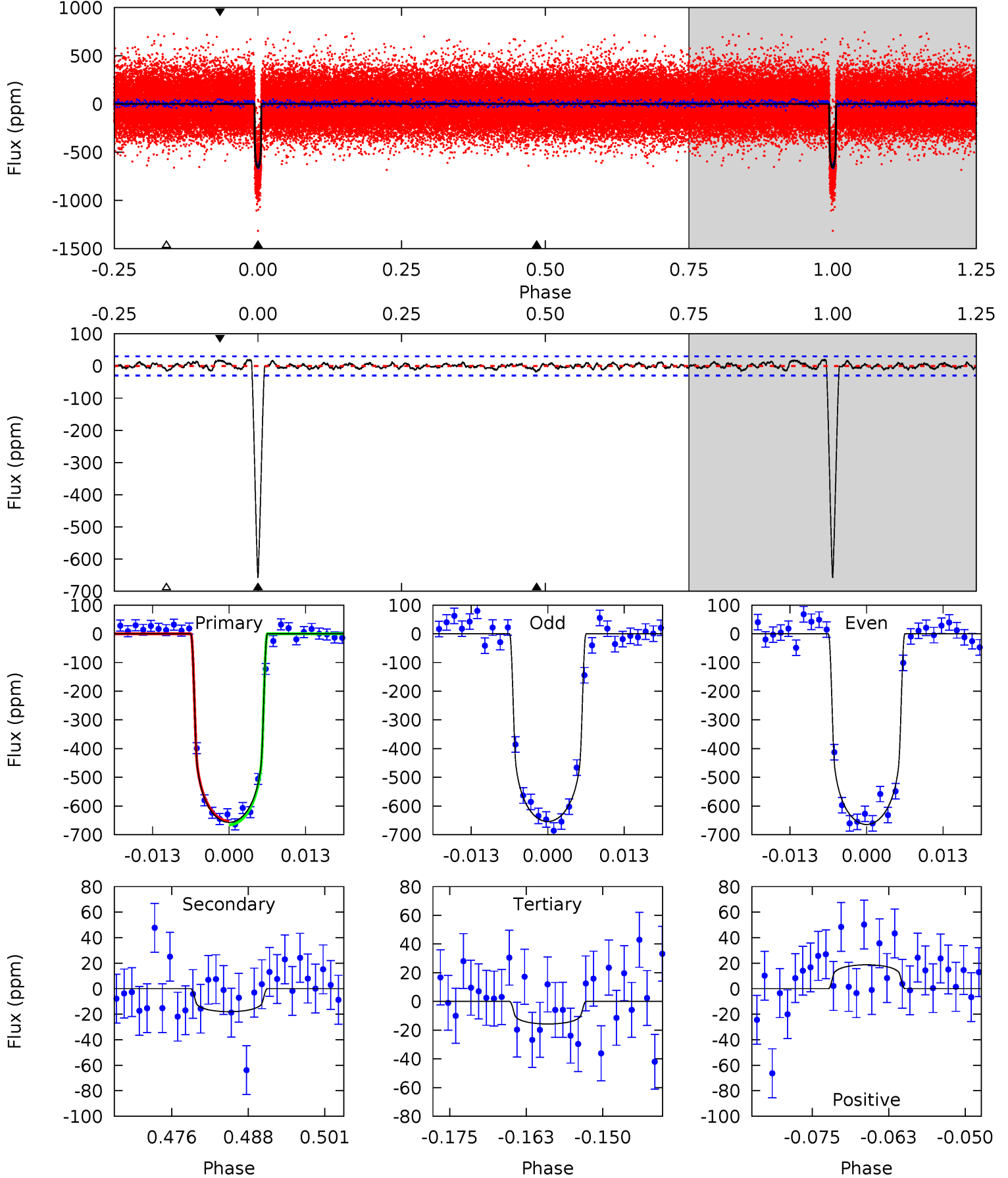
TCE 008480285-01 P= 29.665909 Days $T_0=159.713299$ (BKJD)



DV Model-Shift Uniqueness Test

008480285-01, P = 29.666316 Days, E = 130.036729 Days

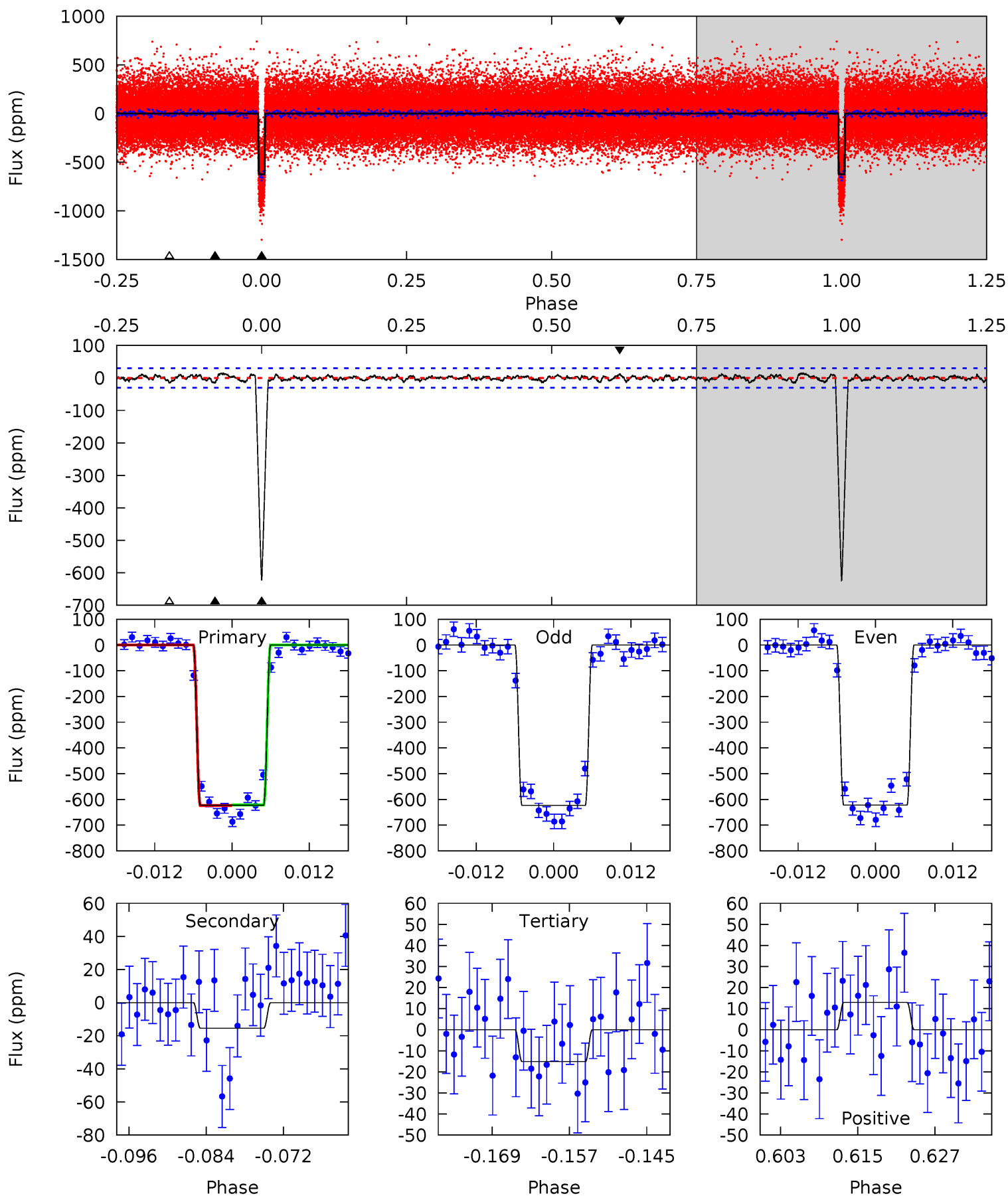
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
109.8	3.01	2.62	3.13	4.98	2.50	1.04	107.2	106.7	0.39	-0.12	0.87	0.98	0.03	1.05



Alt Model-Shift Uniqueness Test

008480285-01, P = 29.665909 Days, E = 130.047390 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
102.7	2.55	2.49	2.14	4.99	2.51	0.86	100.3	100.6	0.06	0.41	0.08	1.00	0.02	0.20



Stellar Parameters For KIC 008480285

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5956^{+107}_{-119}	$4.322^{+0.137}_{-0.112}$	$-0.280^{+0.150}_{-0.150}$	$1.098^{+0.158}_{-0.158}$	$0.922^{+0.073}_{-0.059}$	$0.981^{+0.612}_{-0.323}$
	+2%/-2%	+3%/-3%	+54%/-54%	+14%/-14%	+8%/-6%	+62%/-33%
Source	SPE58	SPE58	SPE58	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008480285-01 / KOI 0691.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-18 ± 6	$2.93^{+0.37}_{-0.34}$	898^{+41}_{-37}	3103^{+151}_{-205}	38^{+17}_{-14}
Alt.	-15 ± 6	$2.98^{+0.38}_{-0.33}$	895^{+42}_{-39}	3008^{+189}_{-192}	31^{+16}_{-13}

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 $A_{obs} \gg 1.0$

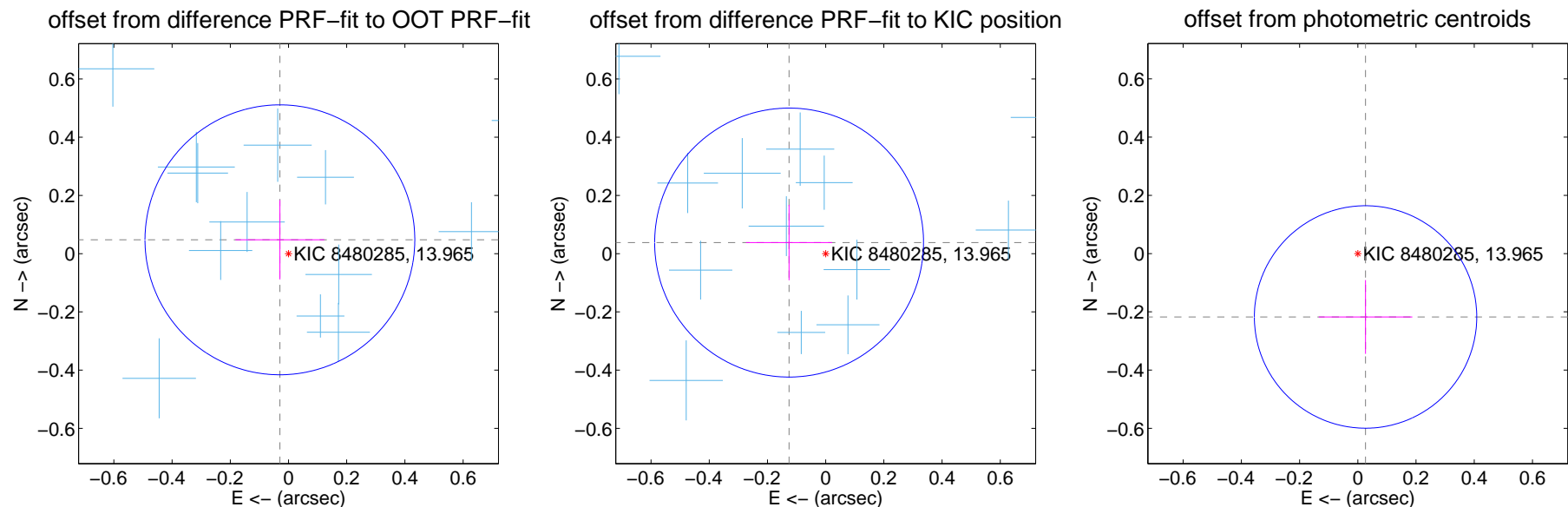
DV Centroid Data

Supplemental centroid analysis for 008480285-01. Kepler magnitude: 13.96. Transit SNR 80.07

There are 16 quarters with good PRF difference image offsets

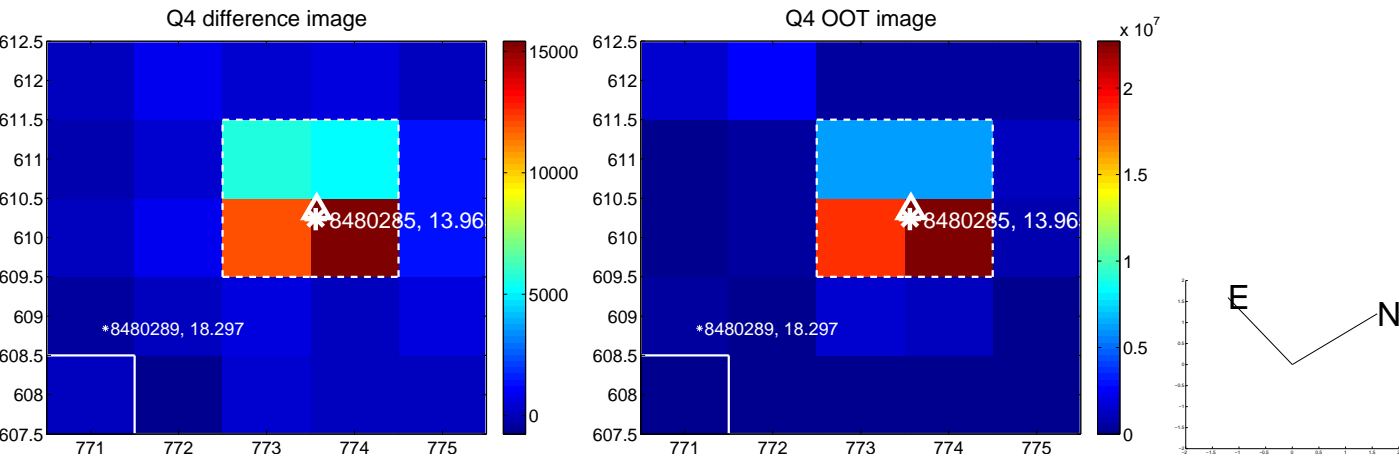
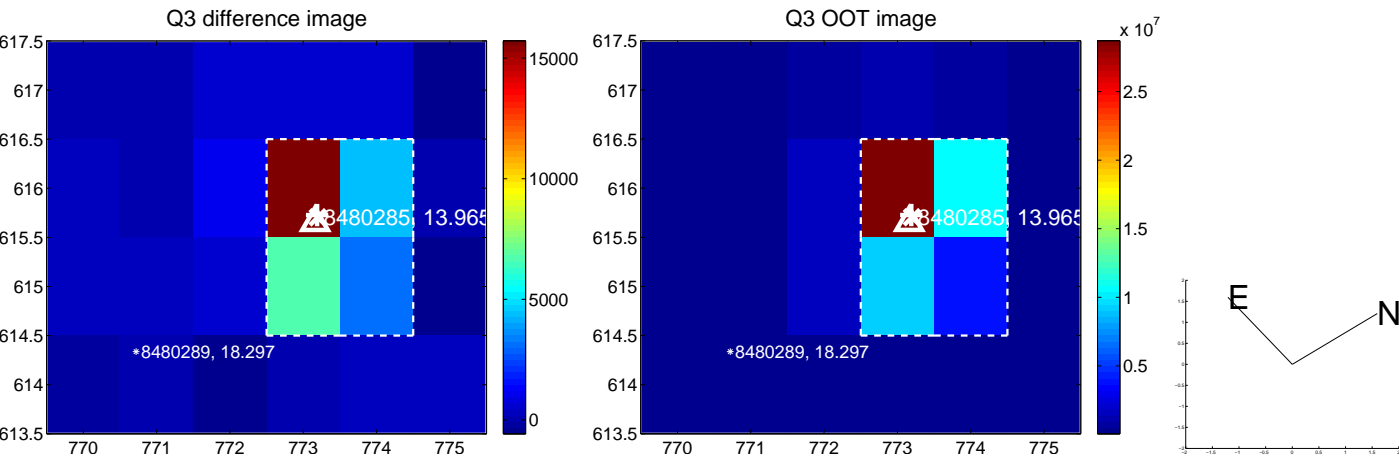
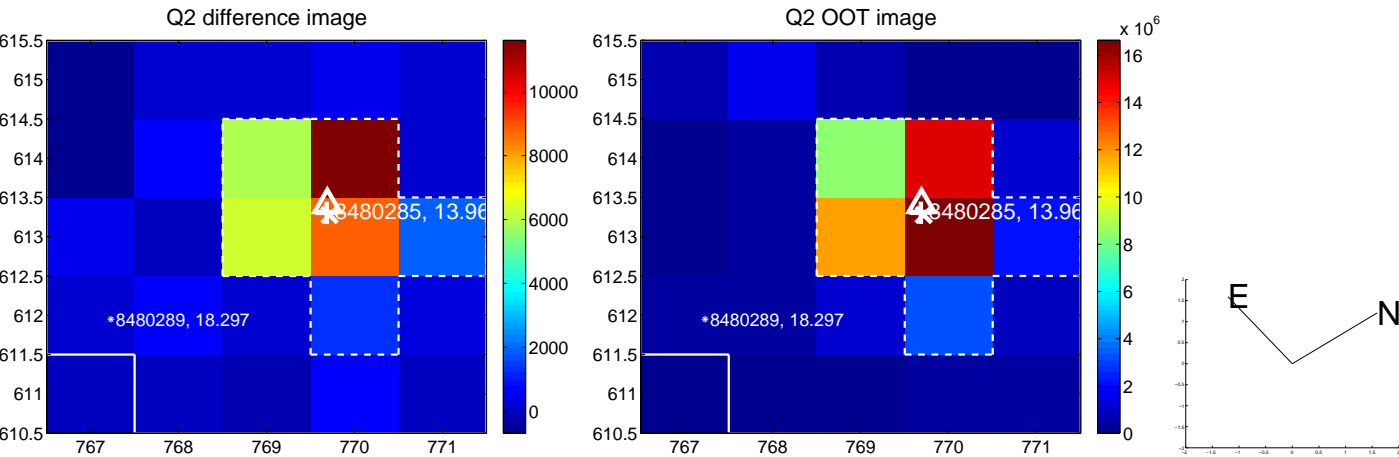
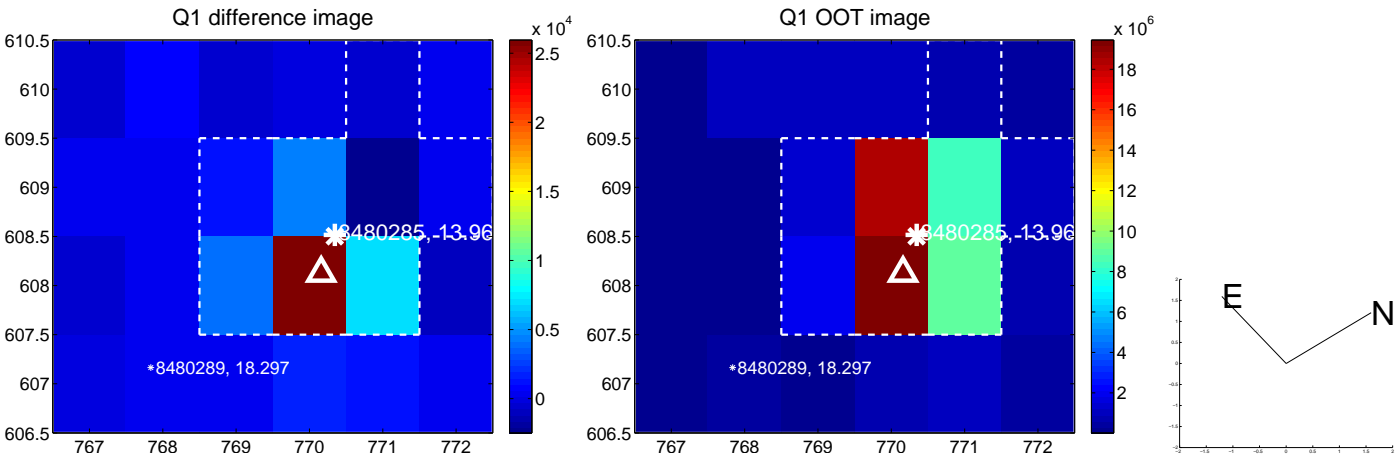
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.056 ± 0.155	0.36	0.030 ± 0.153	0.048 ± 0.136
PRF-fit source offset from KIC position	0.131 ± 0.154	0.85	0.126 ± 0.148	0.038 ± 0.129
photometric centroid source offset	0.22 ± 0.13	1.72	-0.03 ± 0.16	-0.22 ± 0.13

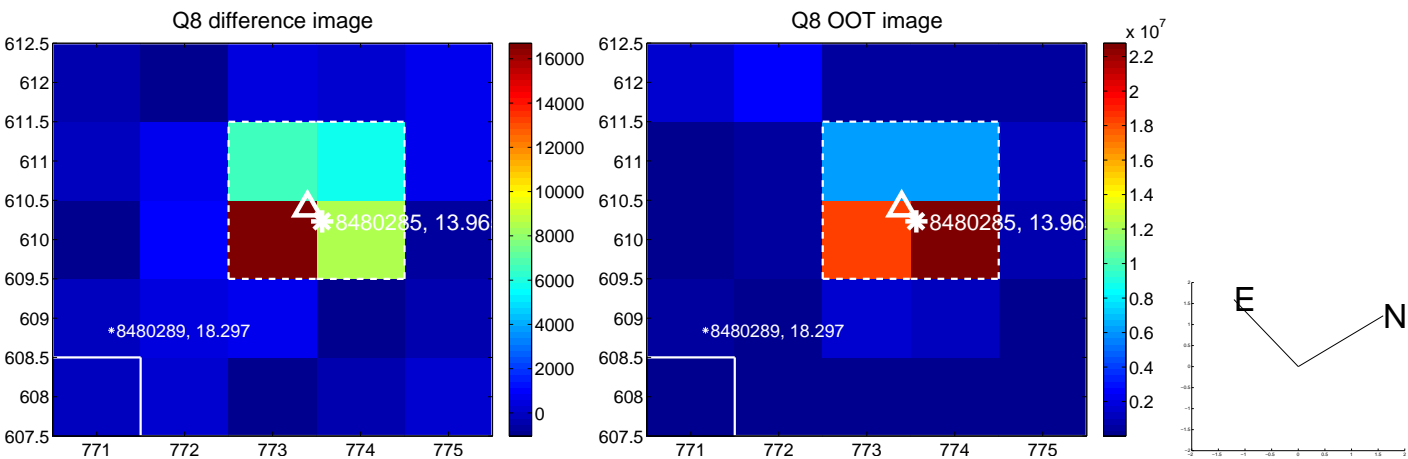
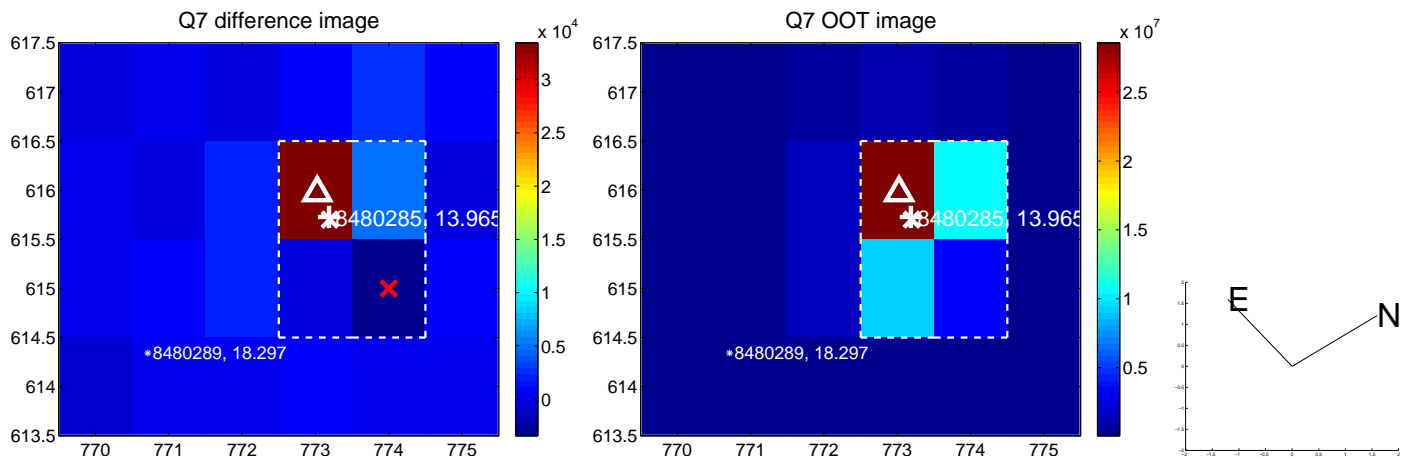
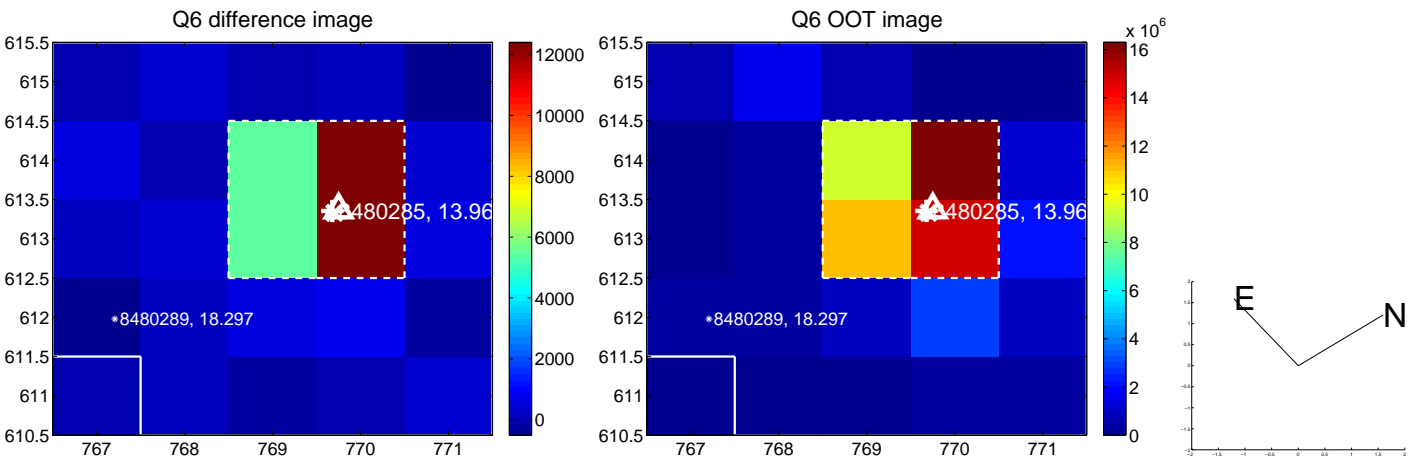
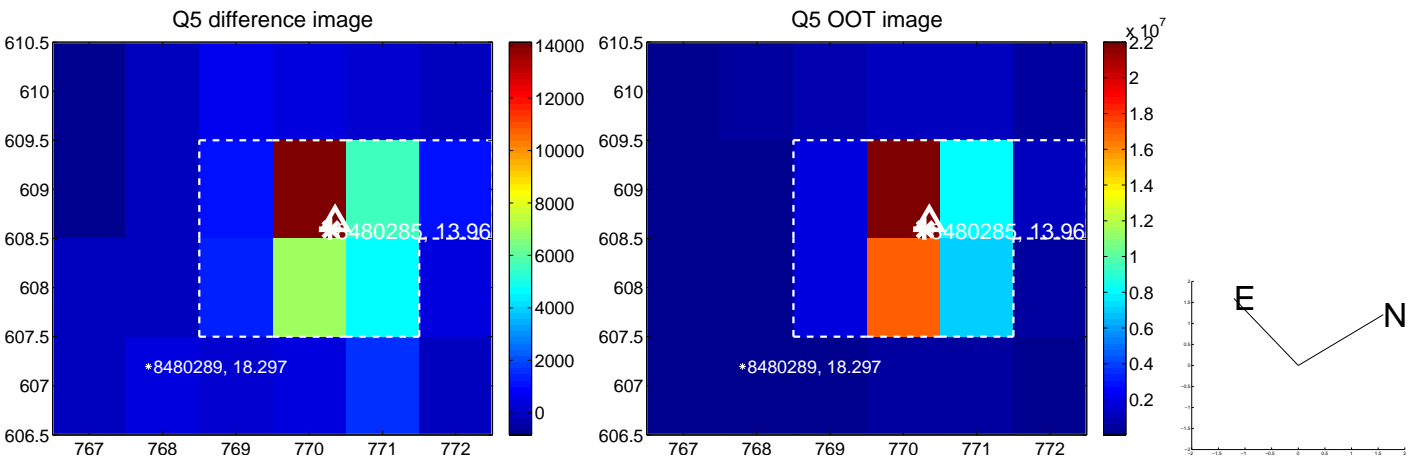


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

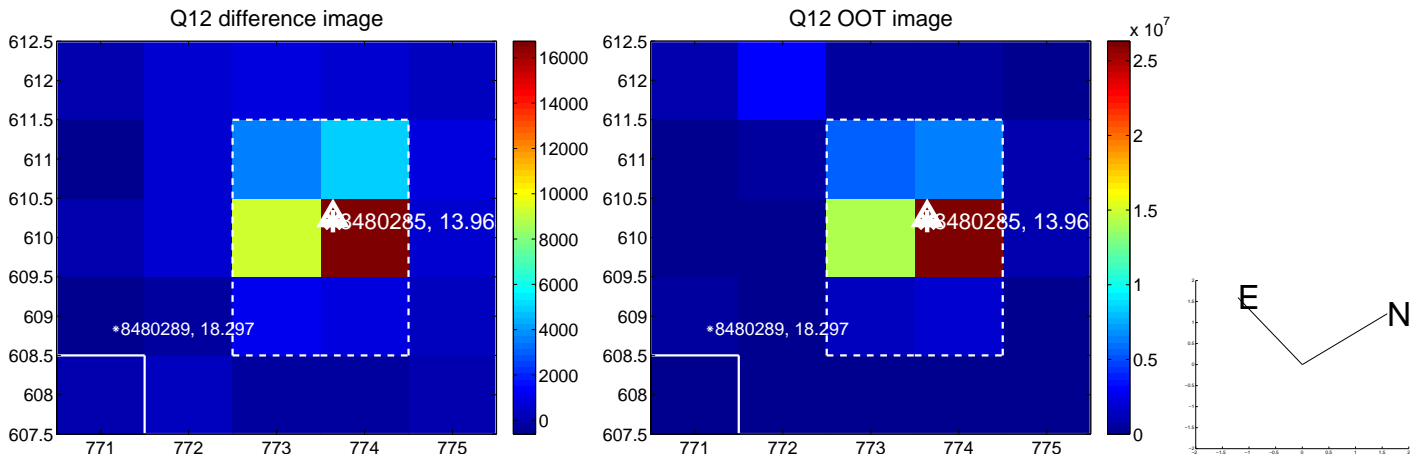
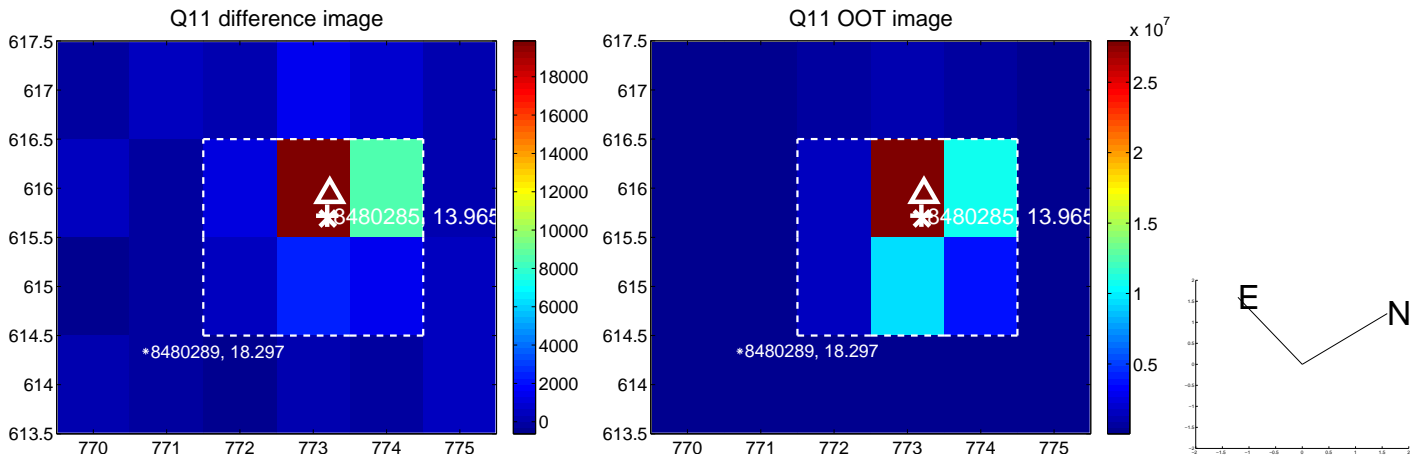
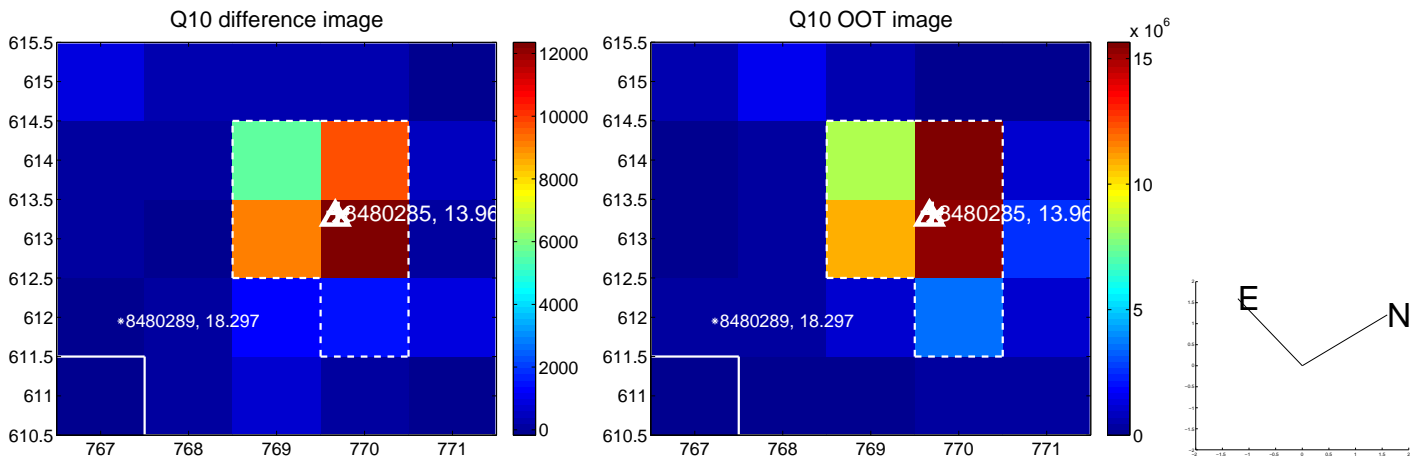
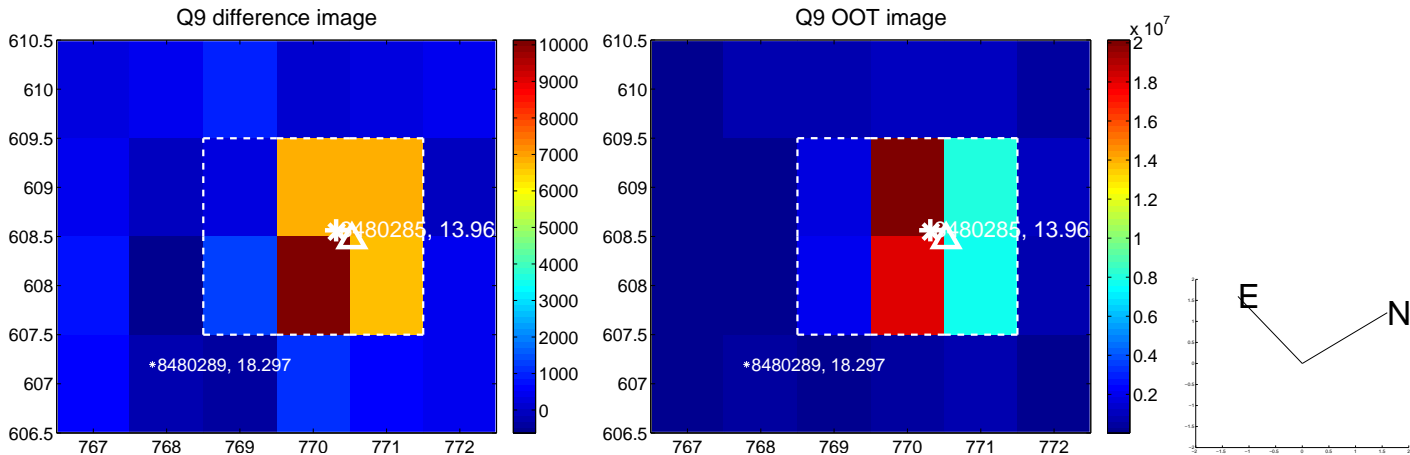
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



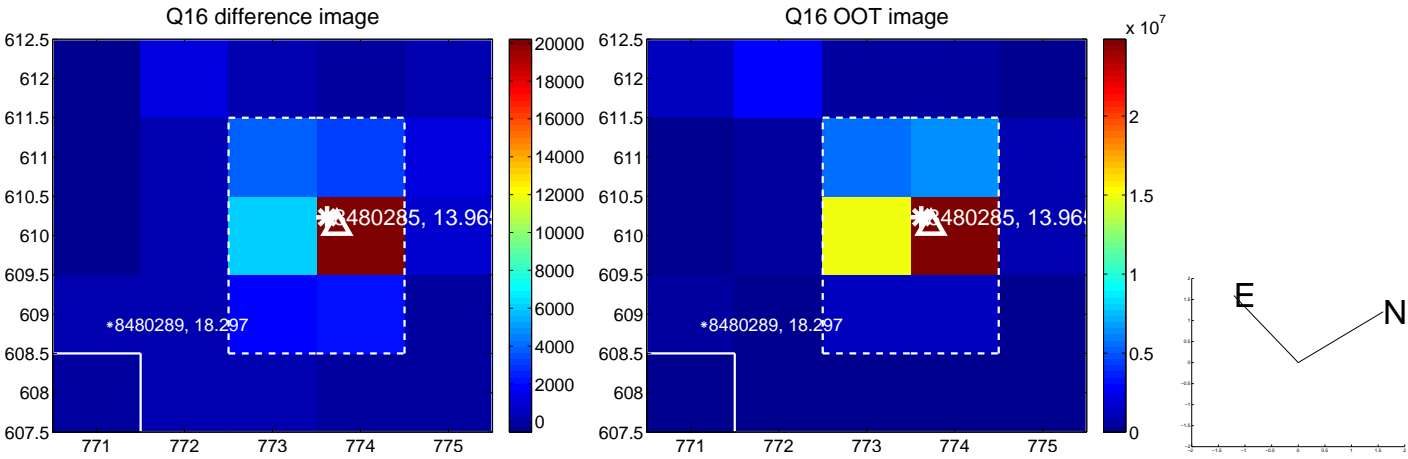
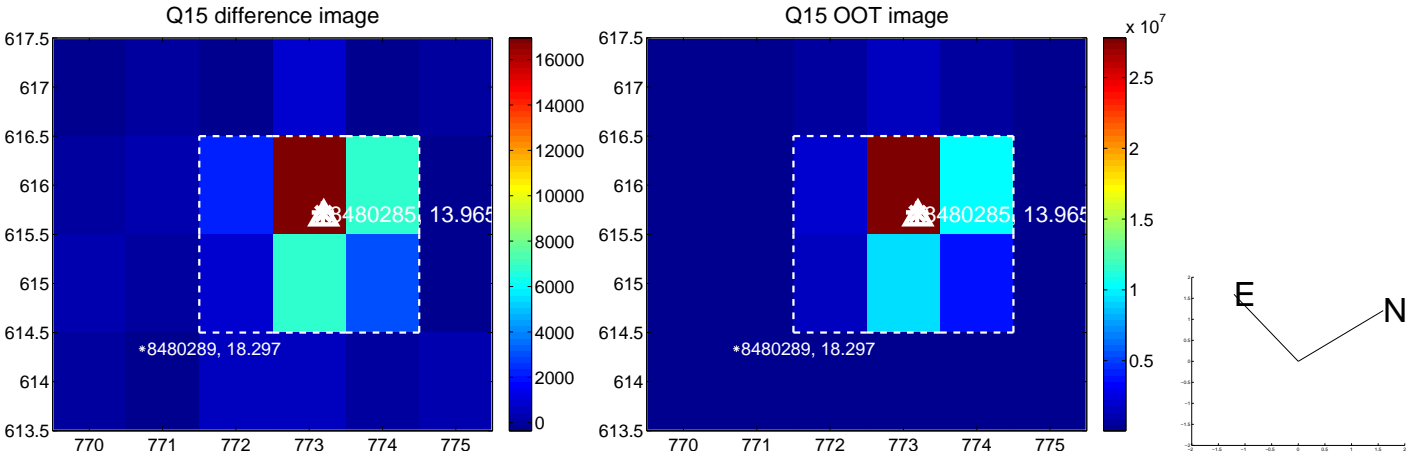
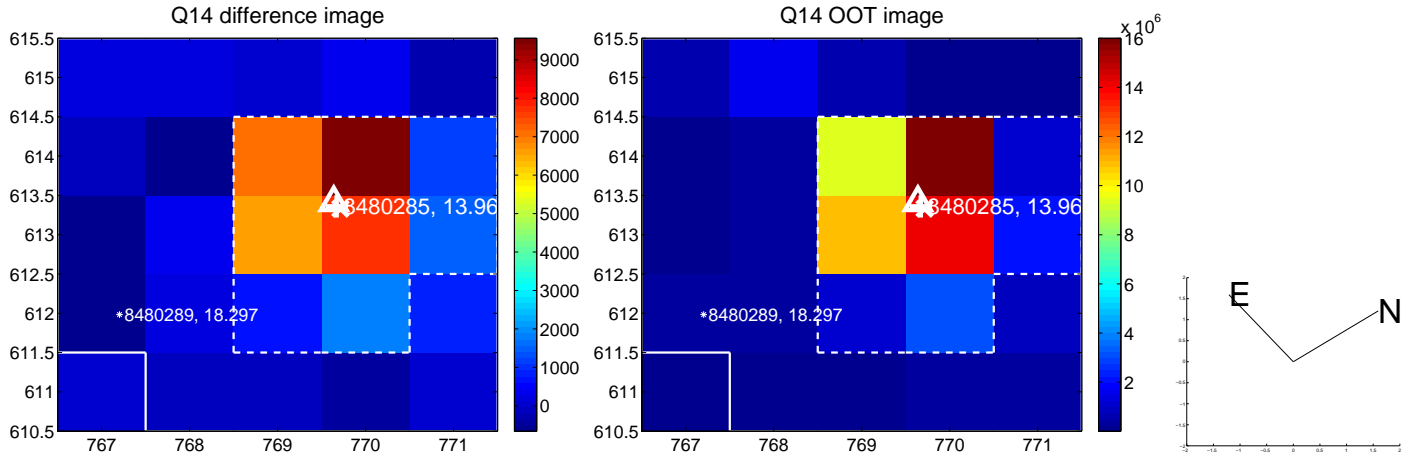
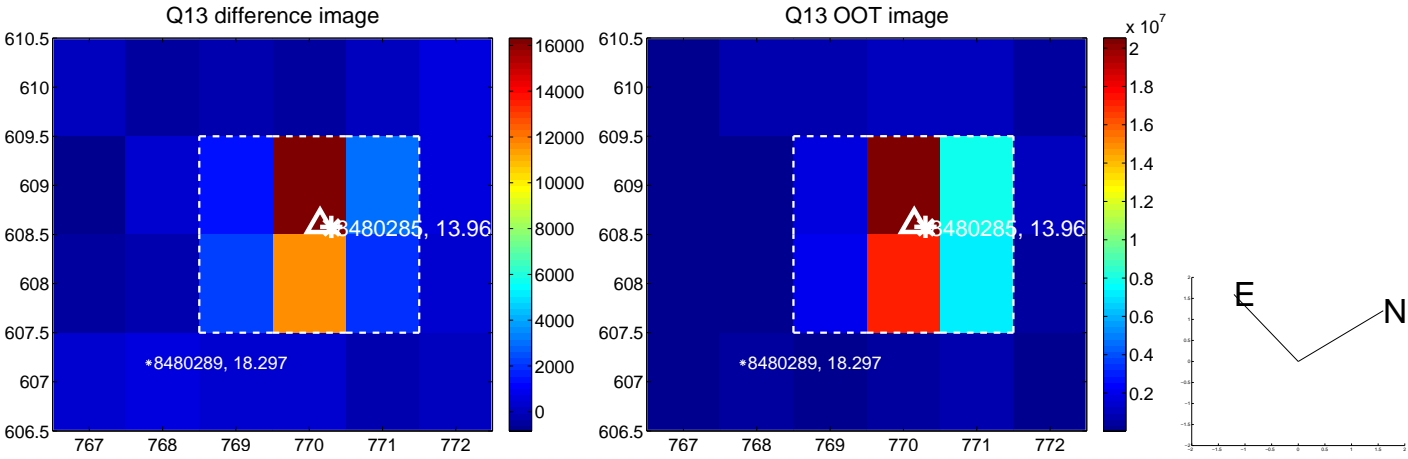
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



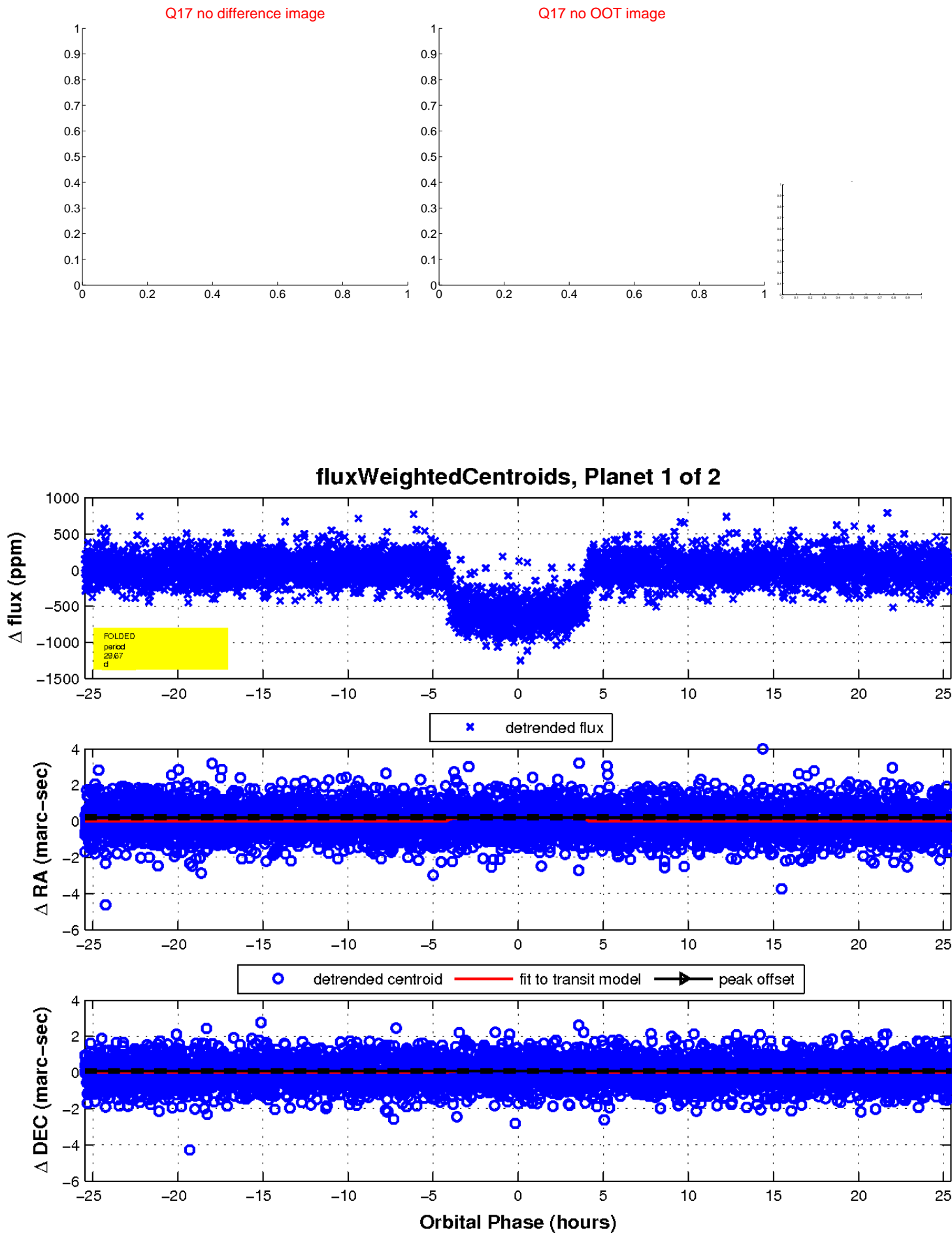
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

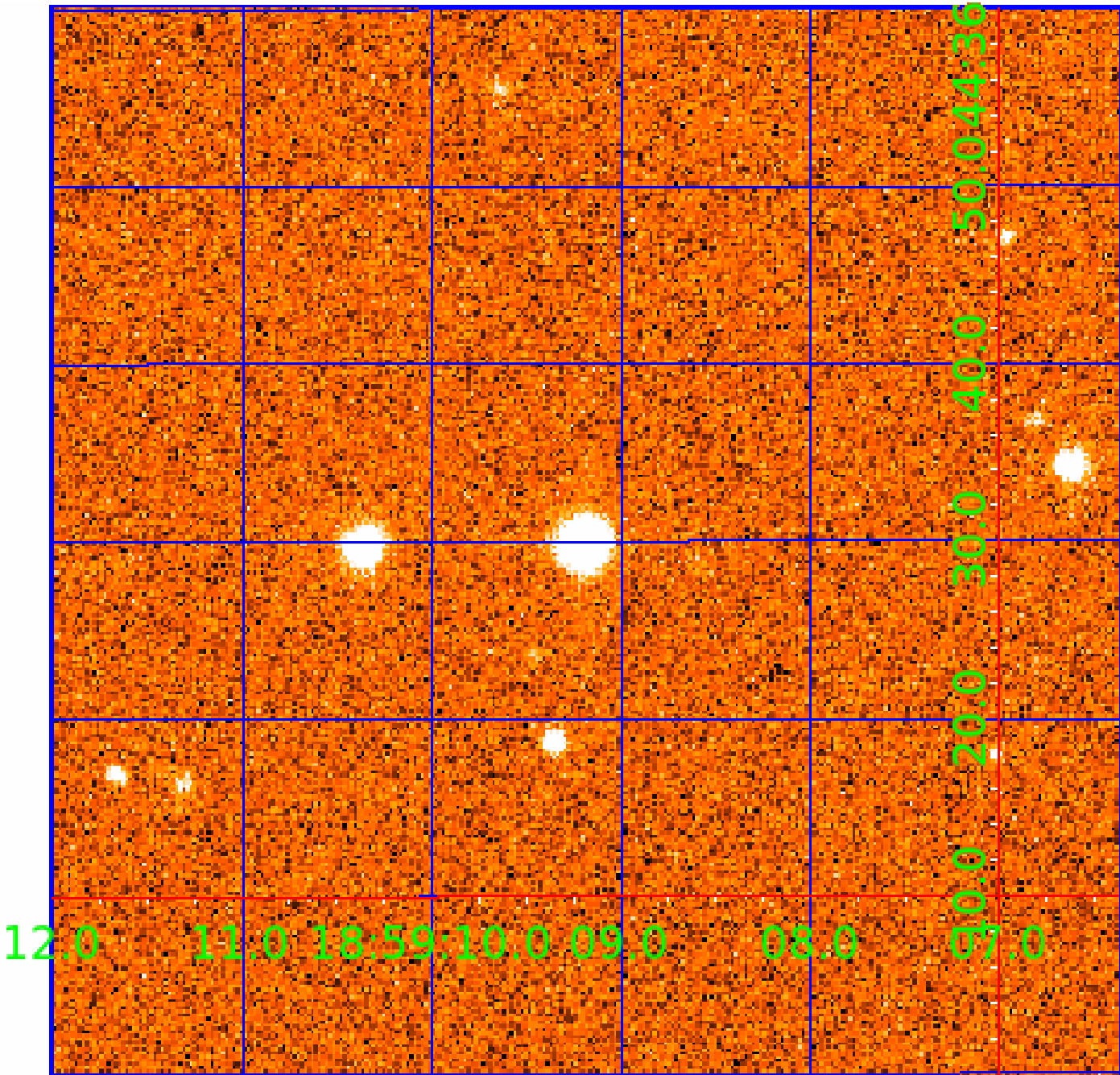


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008480285

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})
008480285-01	OBS	0691.01	29.666316	159.703045	660.1	8.488	76.1	80.1	1.10	5956	2.95	40.75
008480285-02	OBS	0691.02	16.225506	144.025264	112.4	6.521	16.1	16.7	1.10	5956	1.35	91.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008480285-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
008480285-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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.

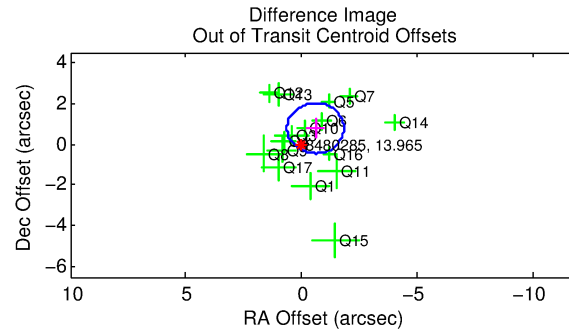
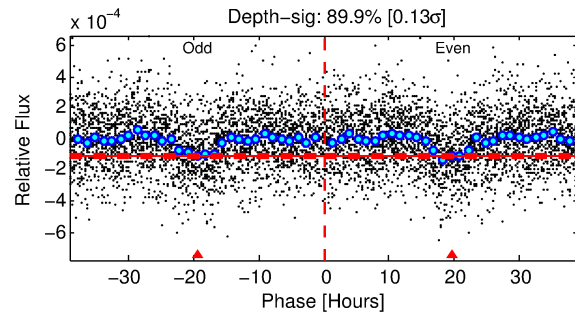
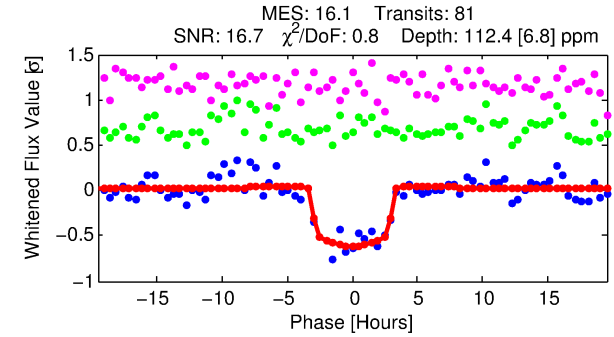
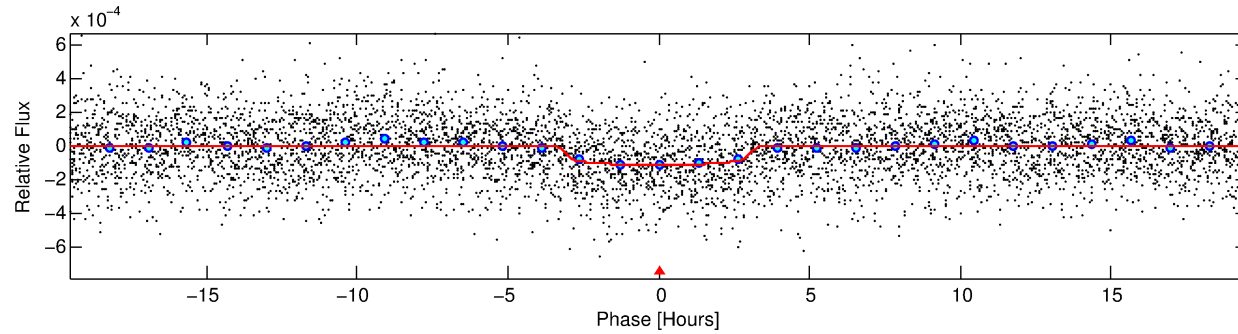
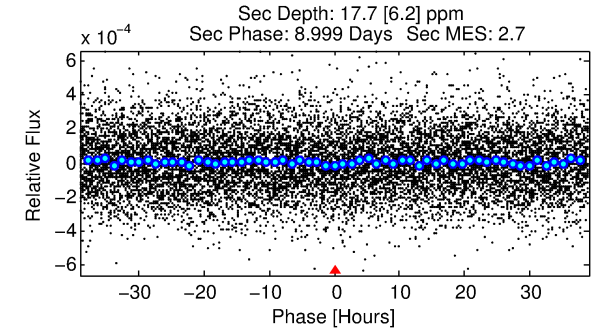
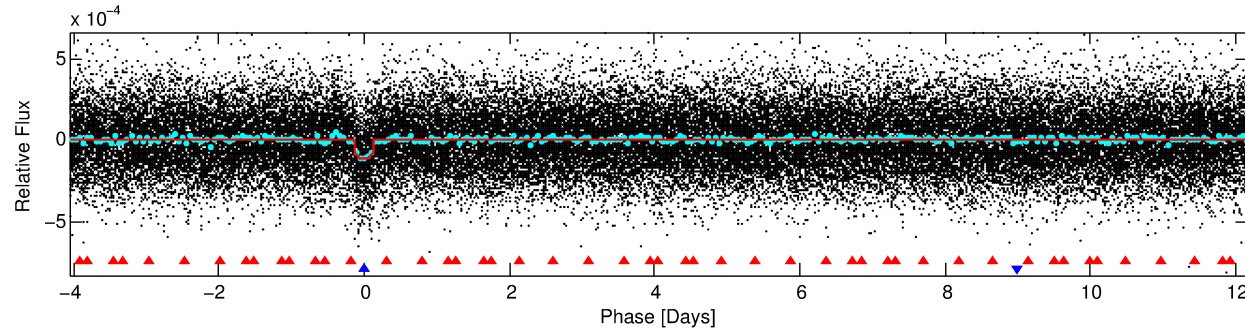
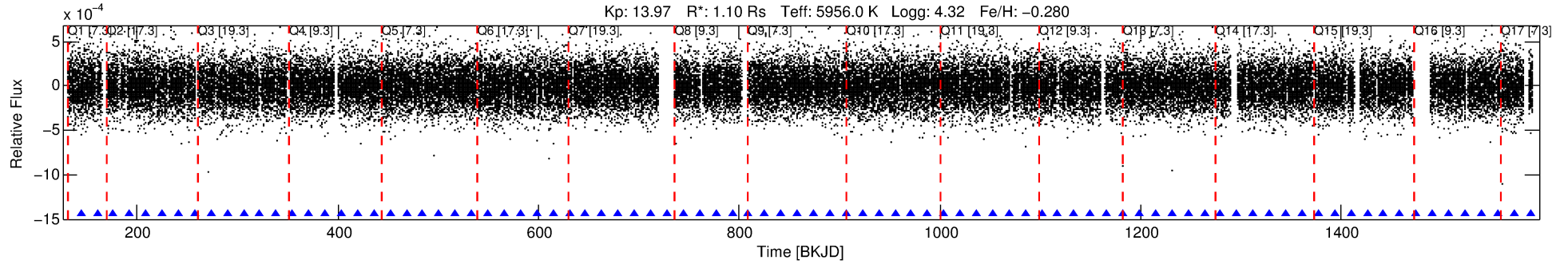
Ephemeris Match Information For 008480285-02

No Significant Match Found

DV One-Page Summary

KIC: 8480285 Candidate: 2 of 2 Period: 16.226 d

KOI: K00691.02 Corr: 0.996



DV Fit Results:

Period = 16.22551 [0.00014] d
Epoch = 144.0253 [0.0069] BKJD
Rp/R* = 0.0113 [0.0025]
a/R* = 9.34 [10.30]
b = 0.89 [0.28]
Seff = 91.10 [22.28]
Teq = 788 [48] K
Rp = 1.35 [0.35] Re
a = 0.1222 [0.0174] AU
Ag = 79.26 [47.75] [1.64σ]
Teffp = 3634 [511] K [5.55σ]

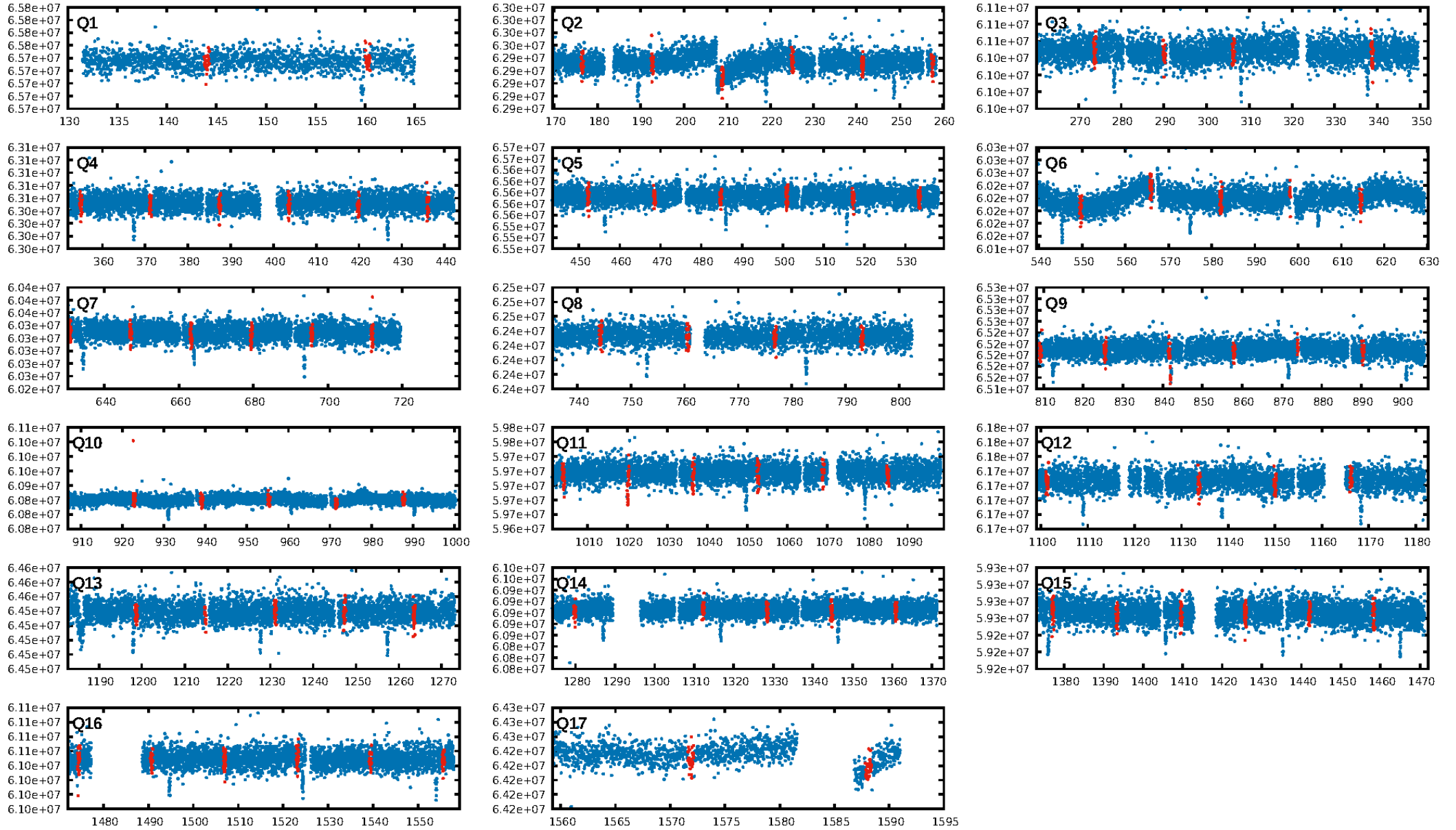
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [30.14σ]
ModelChiSquare2-sig: 98.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.52e-57
RollingBand-fgt: 1.00 [77/77]
GhostDiagnostic-chr: -168.8
Centroid-sig: 4.2%
Centroid-so: 1.151 arcsec [1.54σ]
OotOffset-rm: 0.980 arcsec [2.39σ]
KicOffset-rm: 0.929 arcsec [2.23σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.81 [13/16]
DiffImageOverlap-fno: 1.00 [17/17]

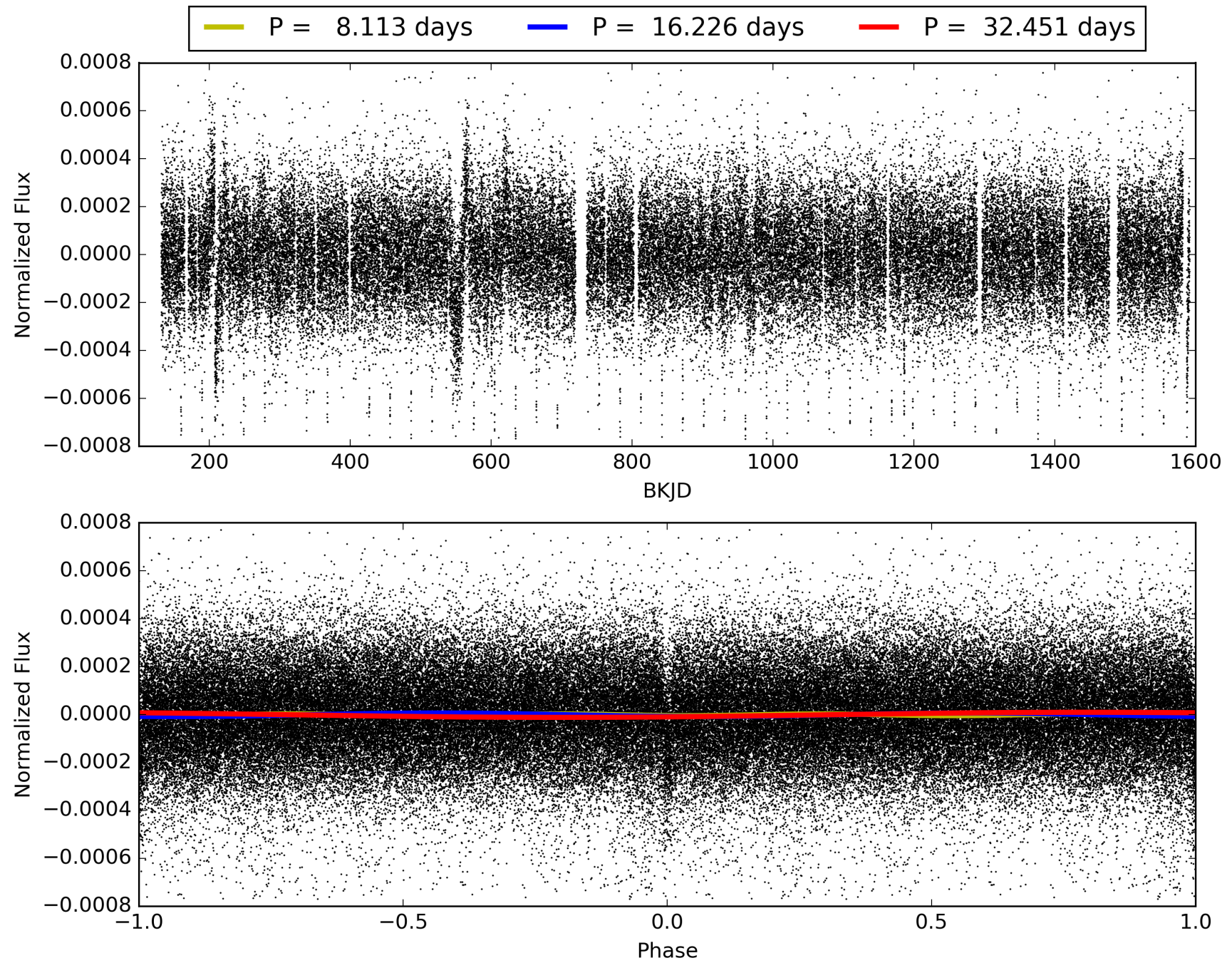
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:10:19 Z

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

TCE 008480285-02, PDC Light Curves

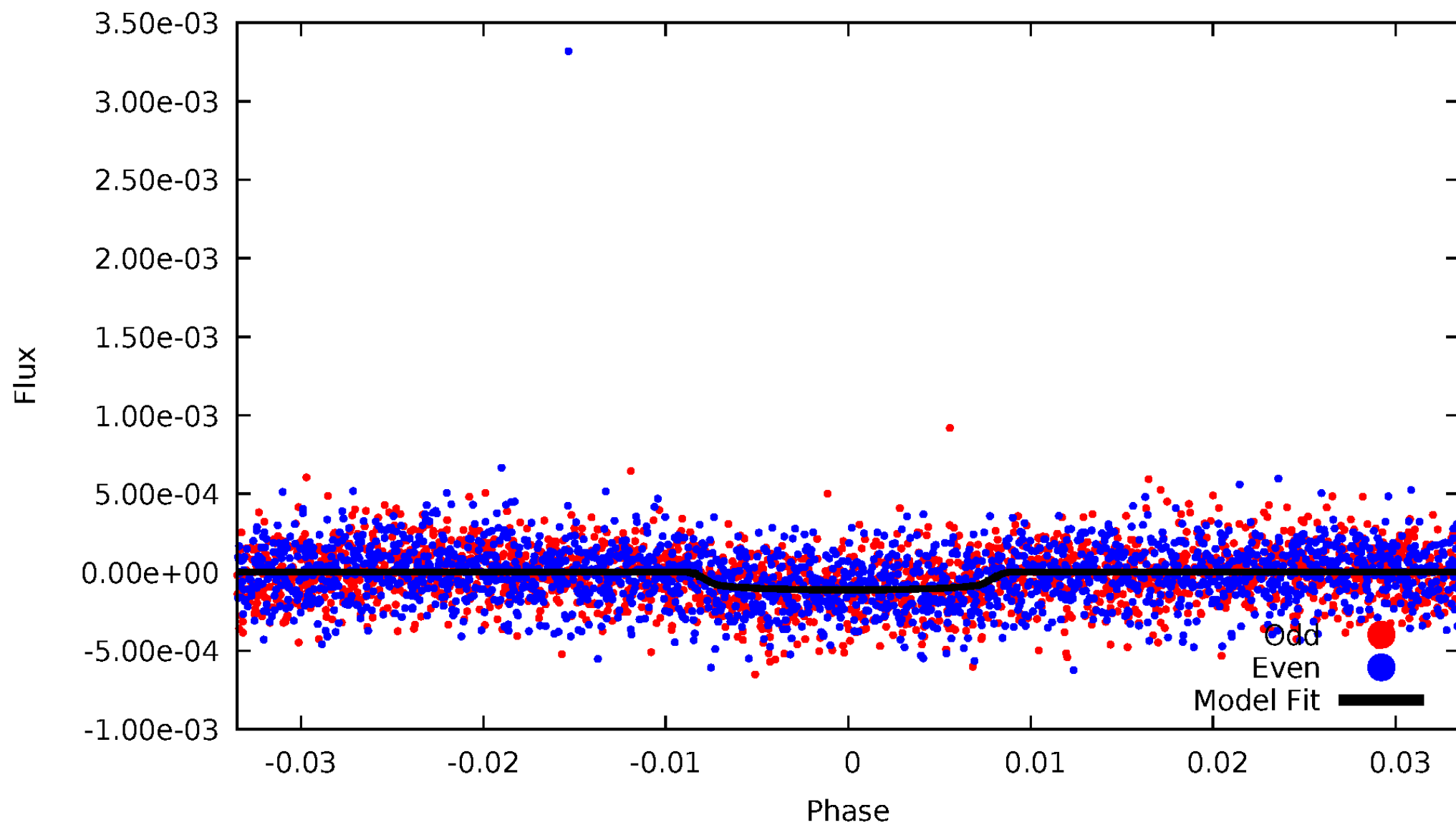


TCE 008480285-02



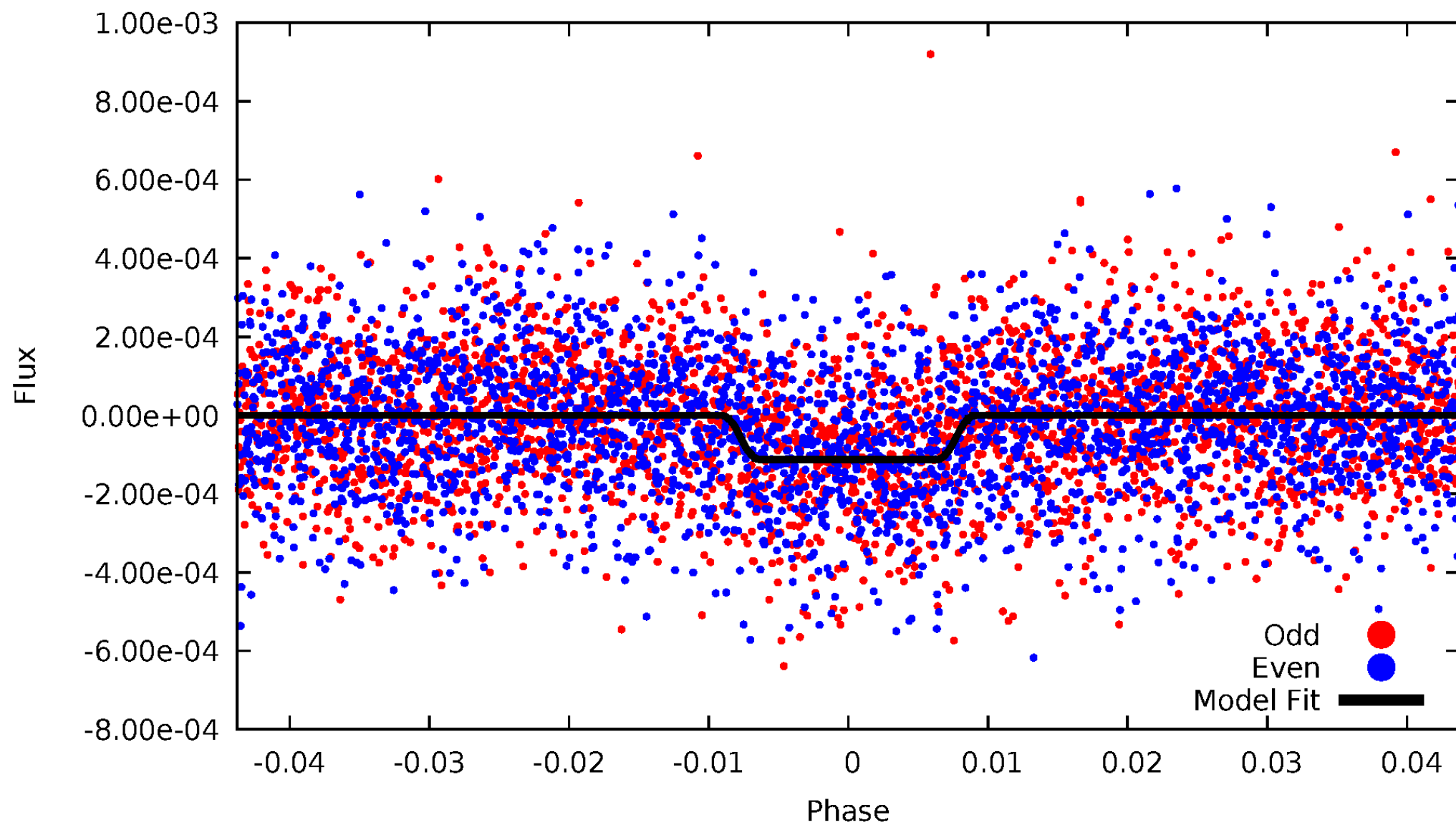
DV Odd/Even

TCE 008480285-02



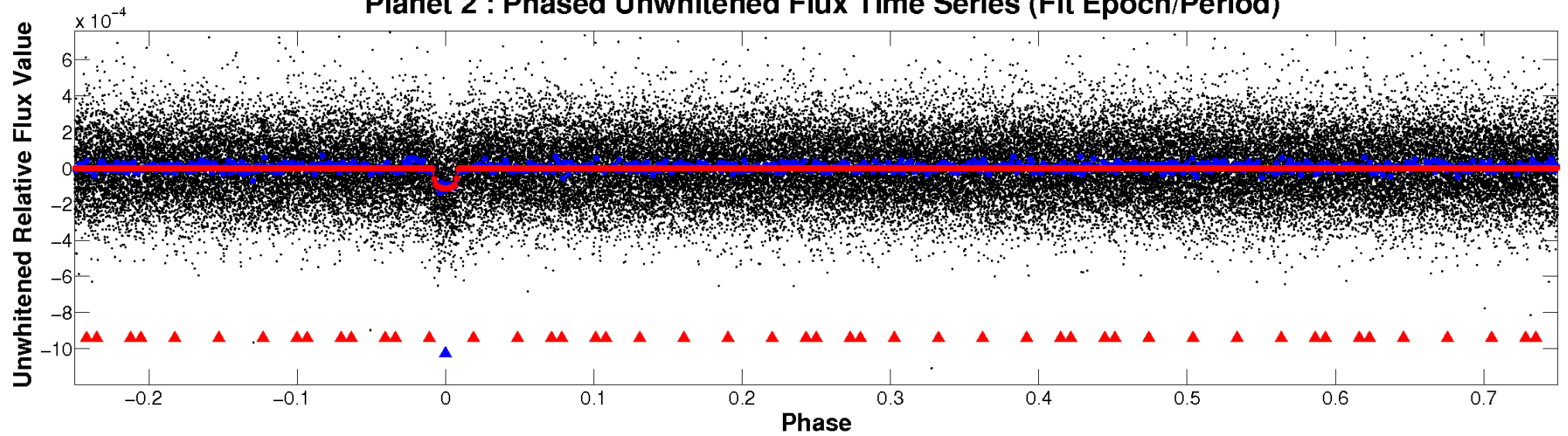
ALT Odd/Even

TCE 008480285-02

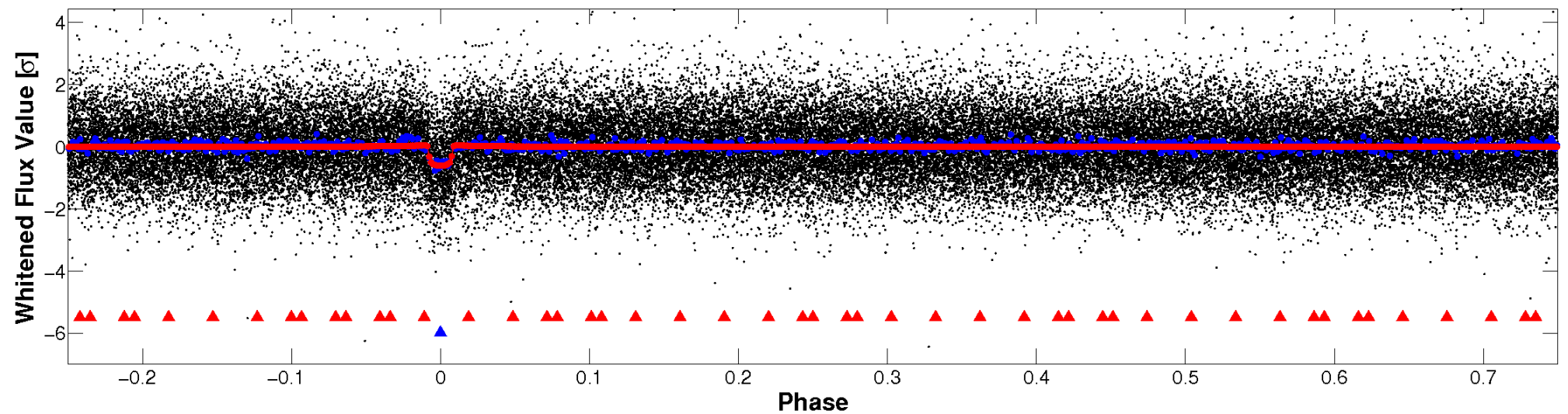


Non-Whitened Vs. Whitened Light Curve

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

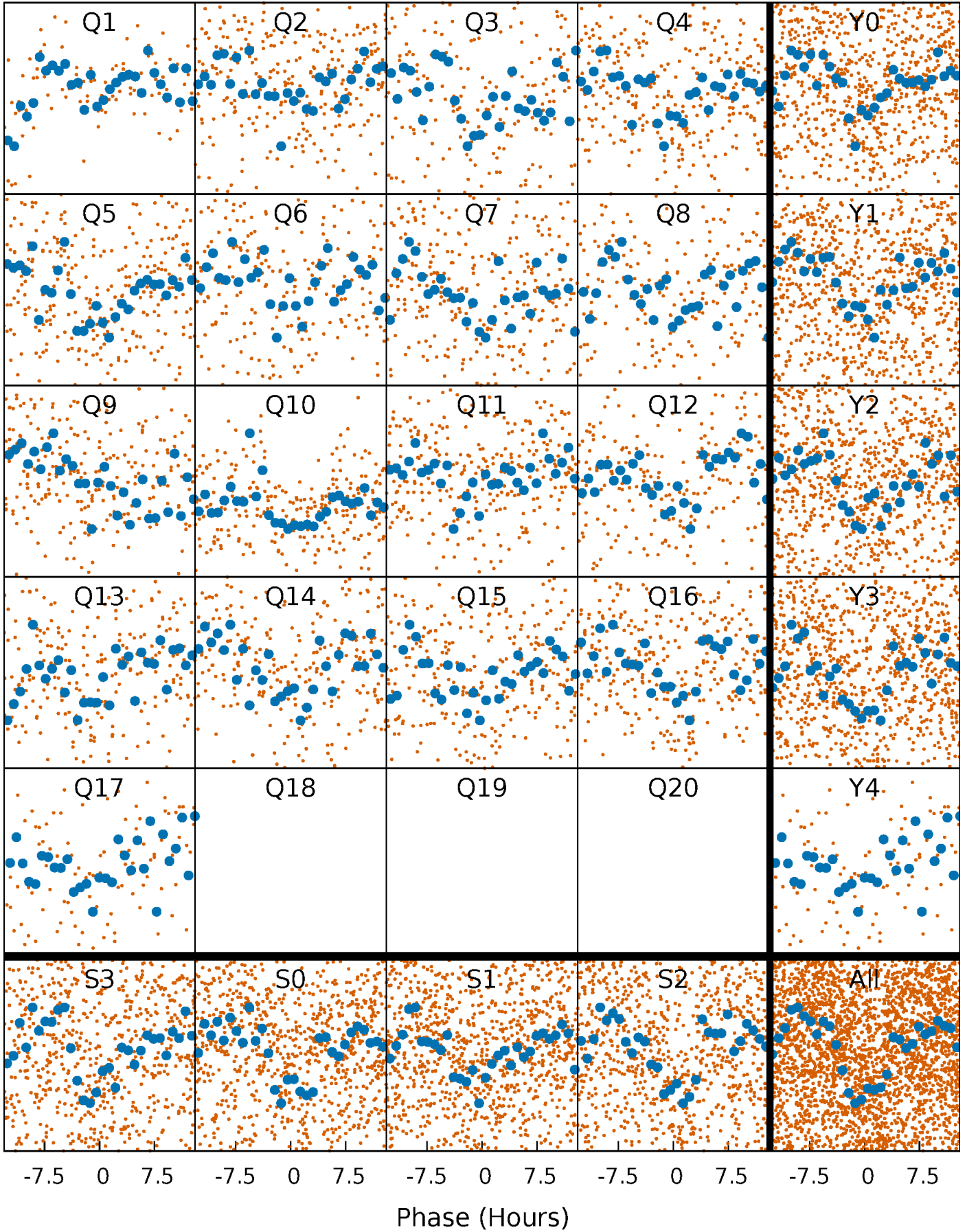


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



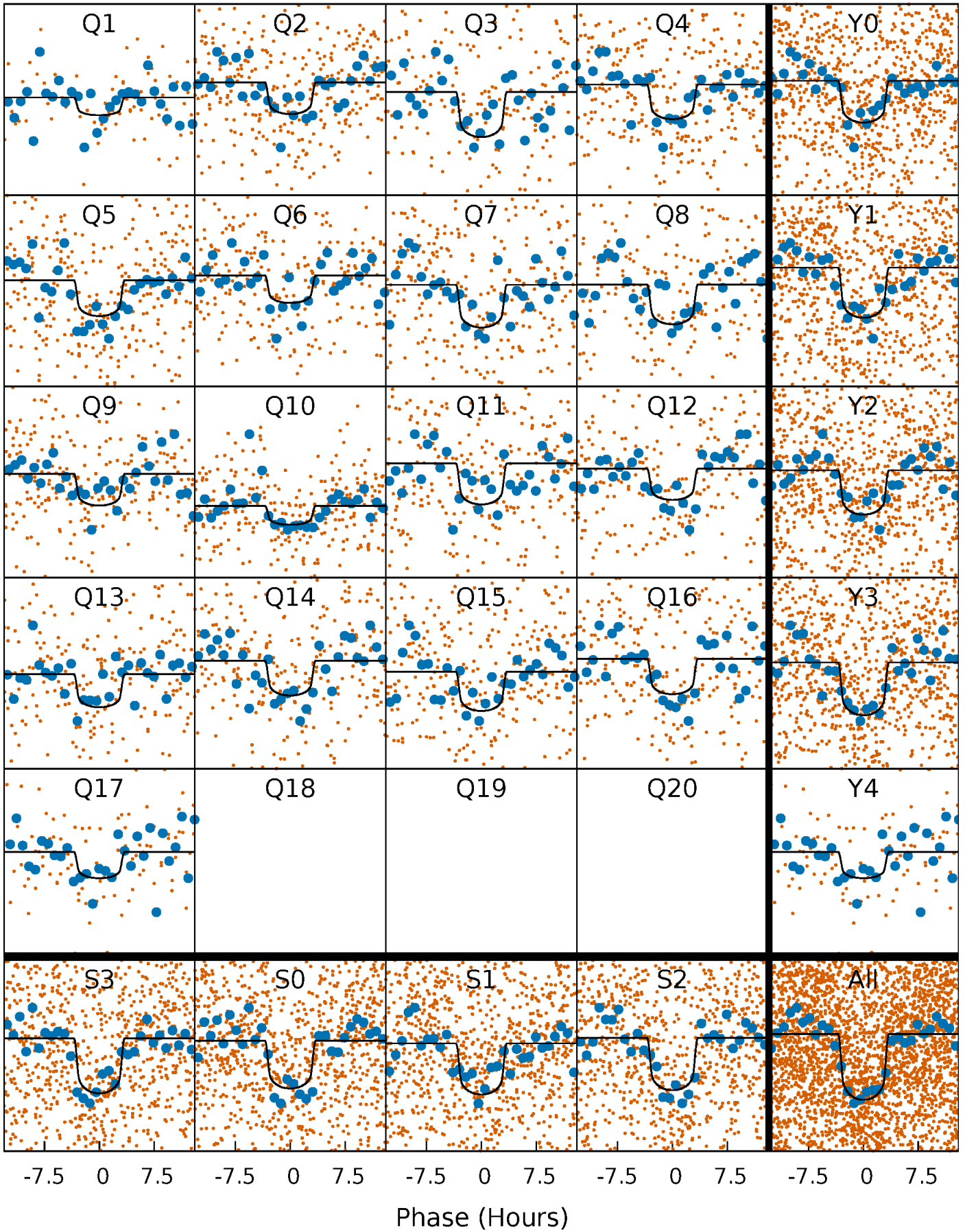
PDC Quarter-Phased Transit Curves

TCE 008480285-02 P= 16.225506 Days $T_0=144.025264$ (BKJD)



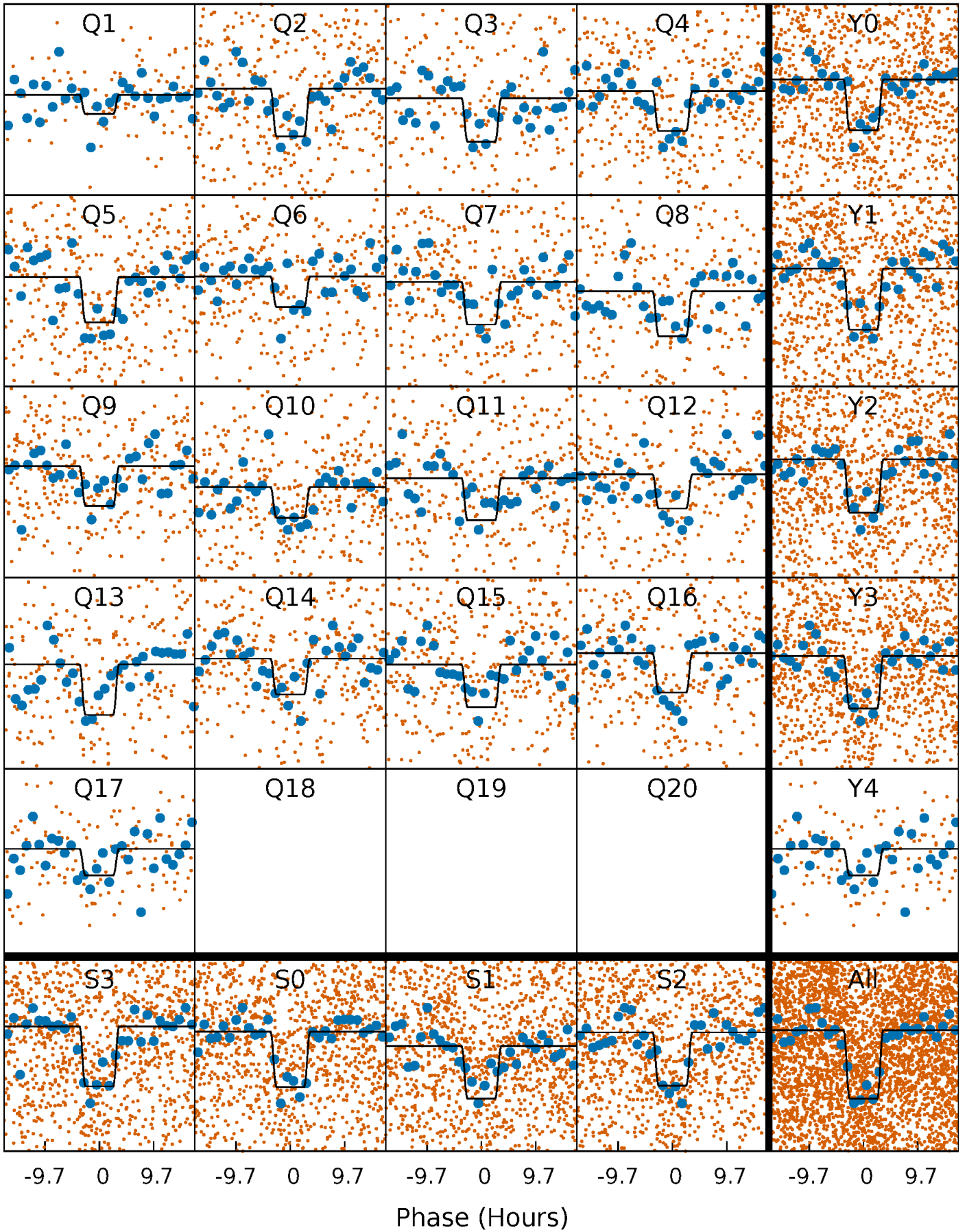
DV Quarter-Phased Transit Curves

TCE 008480285-02 P= 16.225506 Days $T_0=144.025264$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

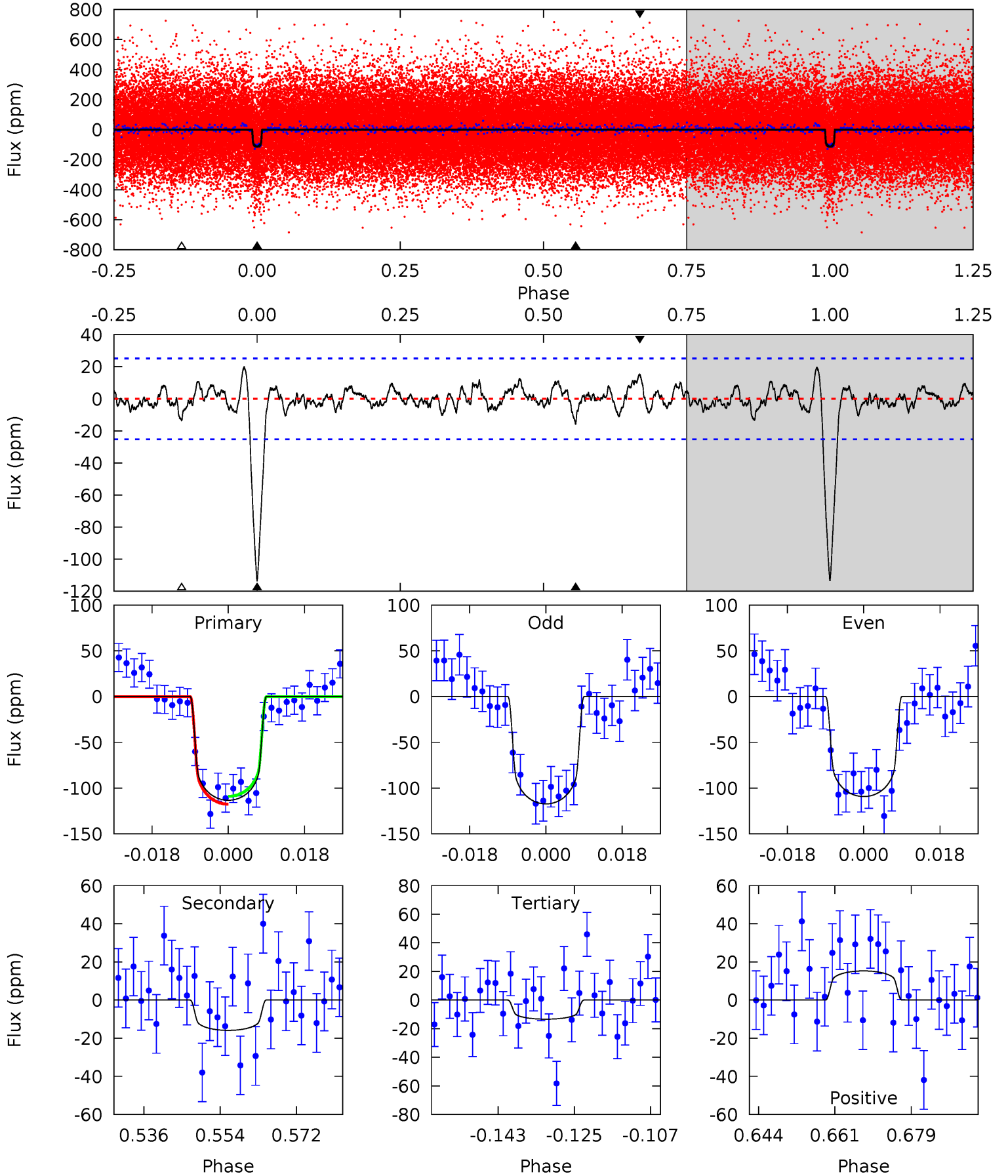
TCE 008480285-02 P= 16.225921 Days $T_0=144.005419$ (BKJD)



DV Model-Shift Uniqueness Test

008480285-02, P = 16.225506 Days, E = 127.799758 Days

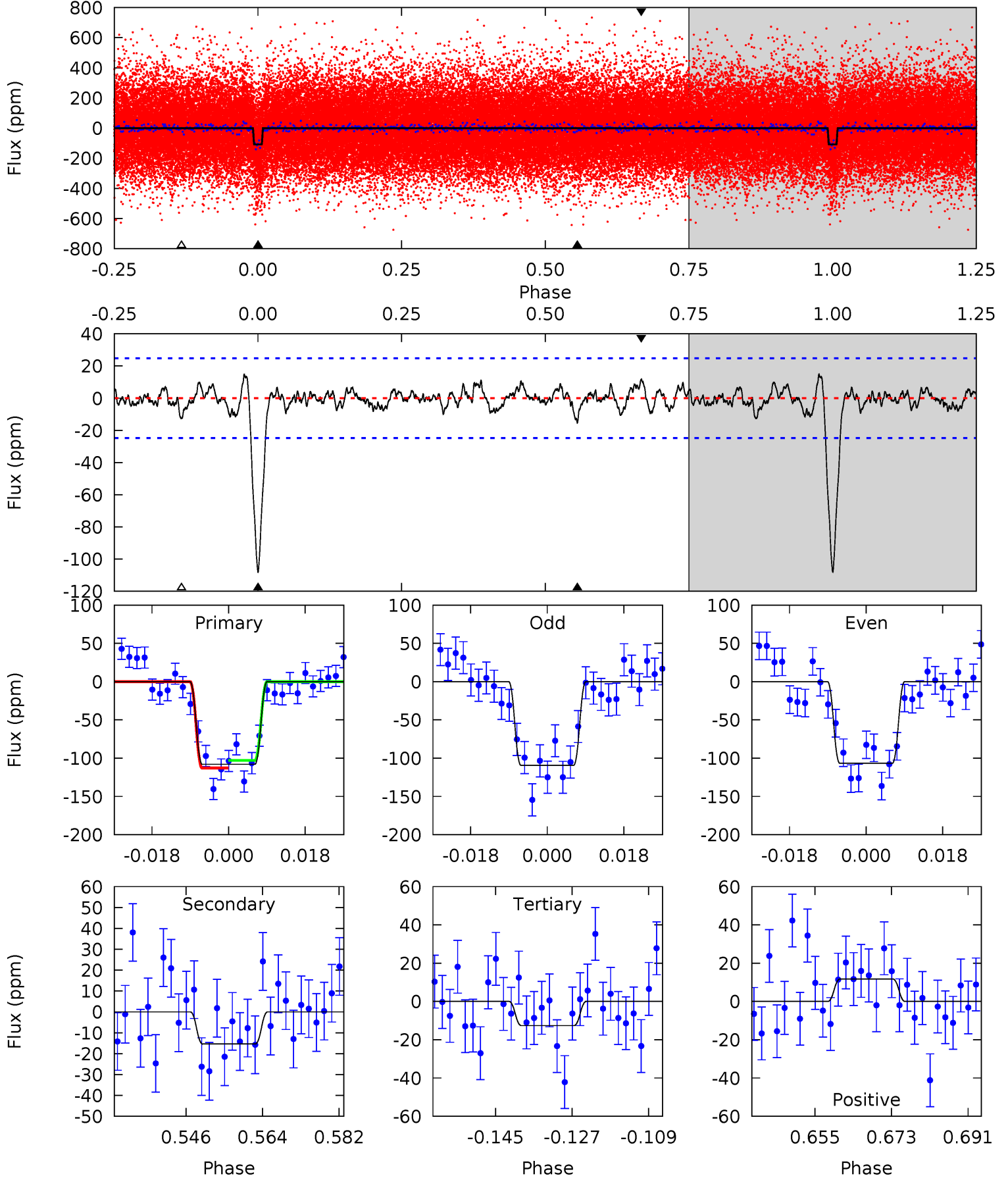
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.1	3.10	2.61	2.98	4.91	2.37	1.03	19.5	19.1	0.49	0.12	0.79	0.97	0.15	0.84



Alt Model-Shift Uniqueness Test

008480285-02, P = 16.225921 Days, E = 127.779498 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.4	3.03	2.50	2.33	4.91	2.36	0.93	18.9	19.0	0.53	0.71	0.28	0.98	0.12	0.97



Stellar Parameters For KIC 008480285

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5956^{+107}_{-119}	$4.322^{+0.137}_{-0.112}$	$-0.280^{+0.150}_{-0.150}$	$1.098^{+0.158}_{-0.158}$	$0.922^{+0.073}_{-0.059}$	$0.981^{+0.612}_{-0.323}$
	+2%/-2%	+3%/-3%	+54%/-54%	+14%/-14%	+8%/-6%	+62%/-33%
Source	SPE58	SPE58	SPE58	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008480285-02 / KOI 0691.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-16 ± 5	$1.35^{+0.32}_{-0.28}$	1096^{+52}_{-52}	3864^{+412}_{-348}	71^{+56}_{-32}
Alt.	-15 ± 5	$1.27^{+0.36}_{-0.29}$	1099^{+52}_{-57}	3913^{+441}_{-359}	73^{+66}_{-31}

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 $A_{obs} \gg 1.0$

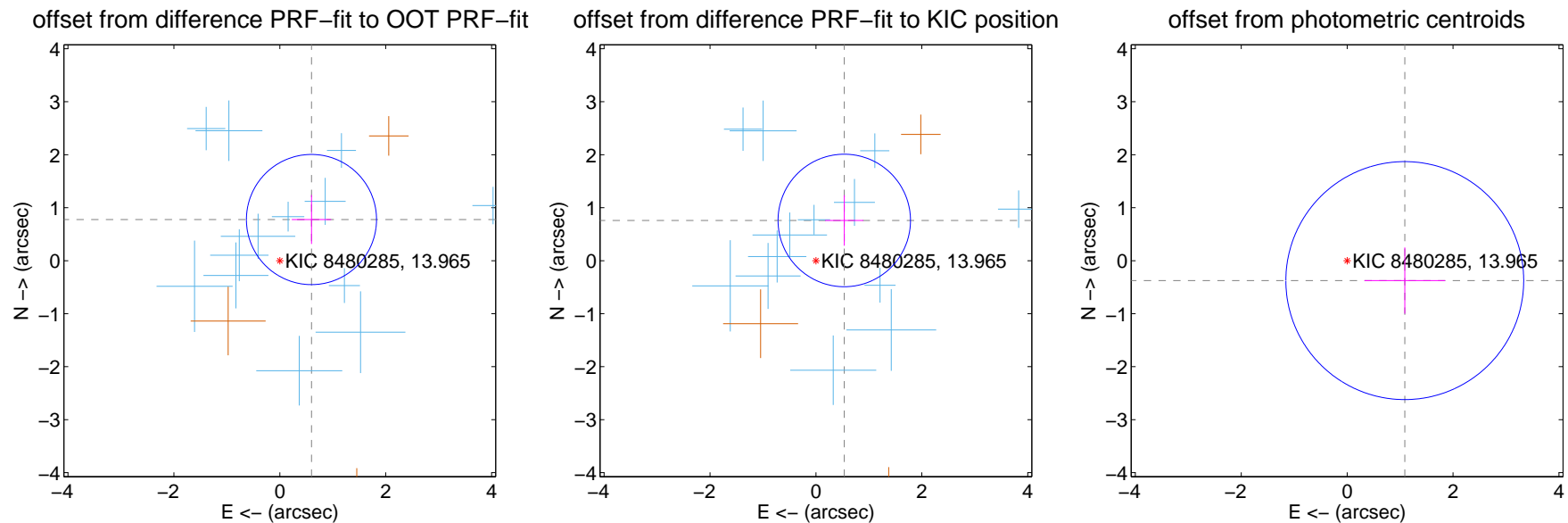
DV Centroid Data

Supplemental centroid analysis for 008480285-02. Kepler magnitude: 13.96. Transit SNR 16.67

There are 13 quarters with good PRF difference image offsets

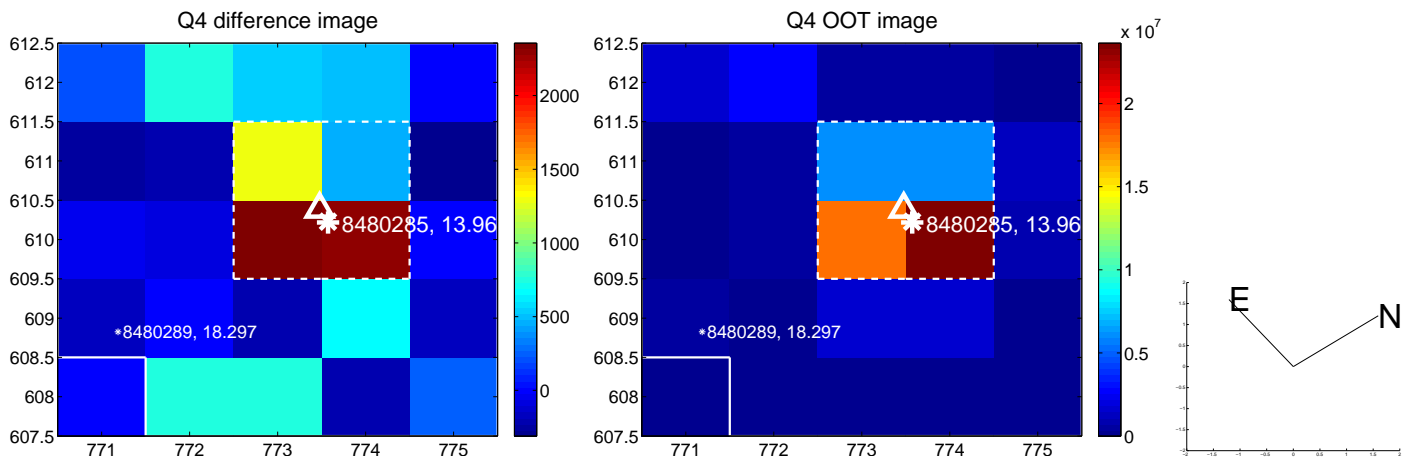
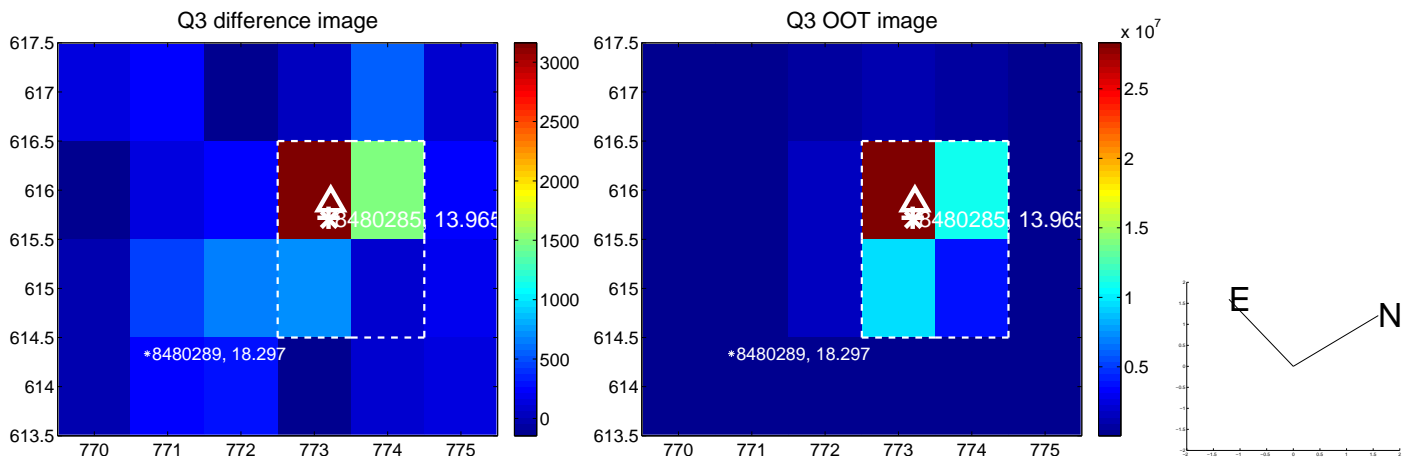
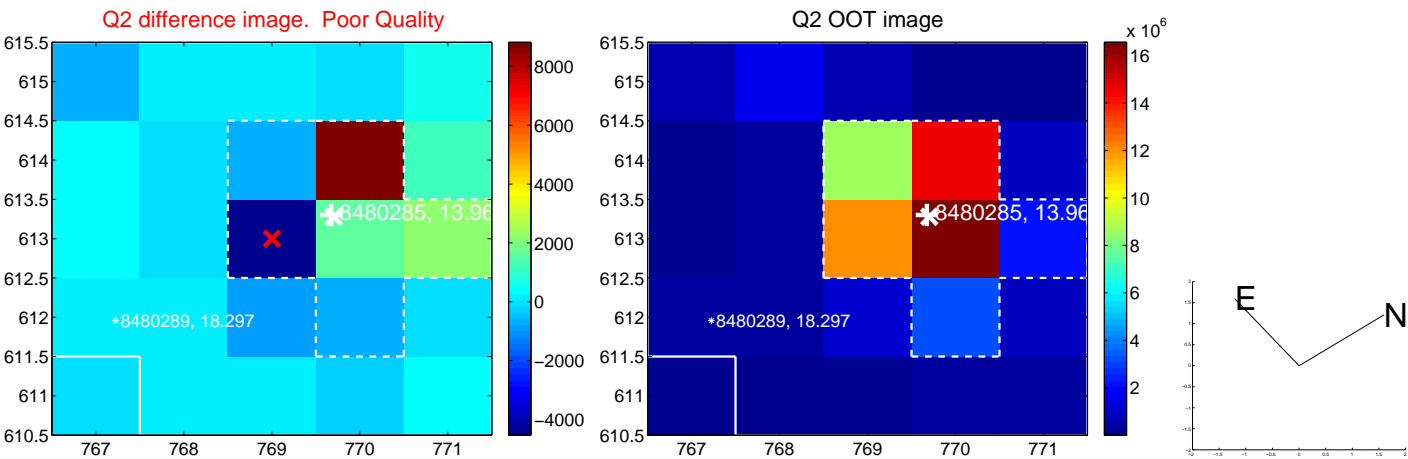
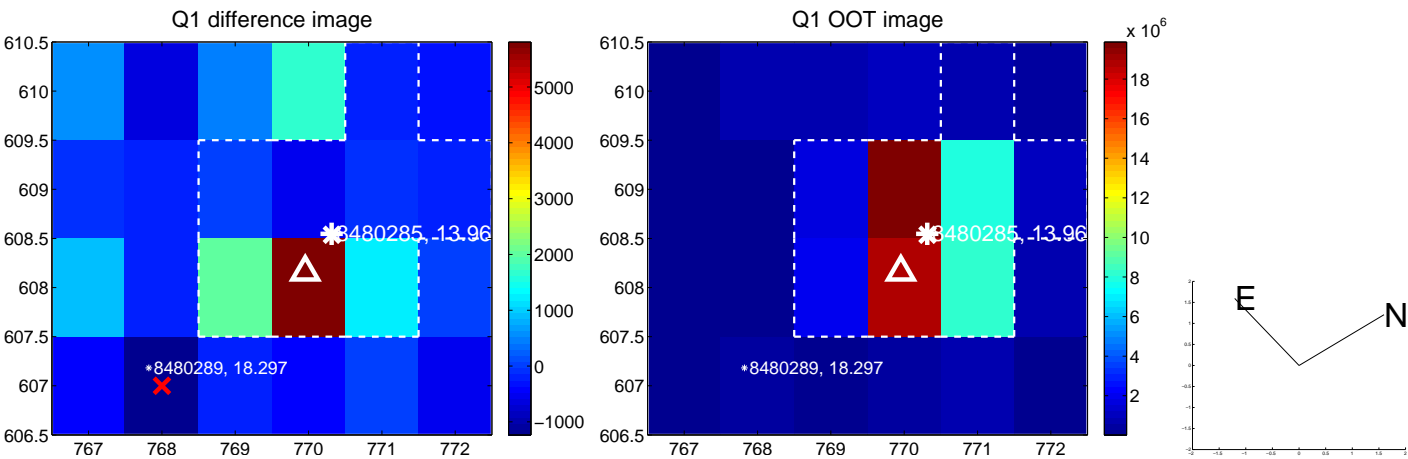
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.980 ± 0.409	2.39	-0.598 ± 0.371	0.777 ± 0.462
PRF-fit source offset from KIC position	0.929 ± 0.417	2.23	-0.535 ± 0.361	0.759 ± 0.476
photometric centroid source offset	1.15 ± 0.75	1.54	-1.09 ± 0.76	-0.38 ± 0.62

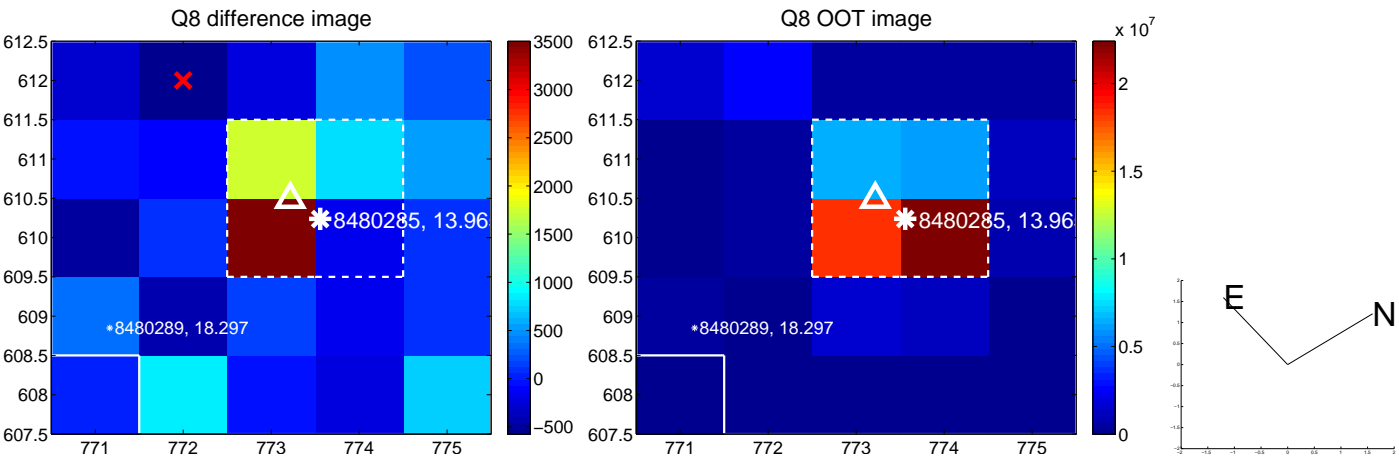
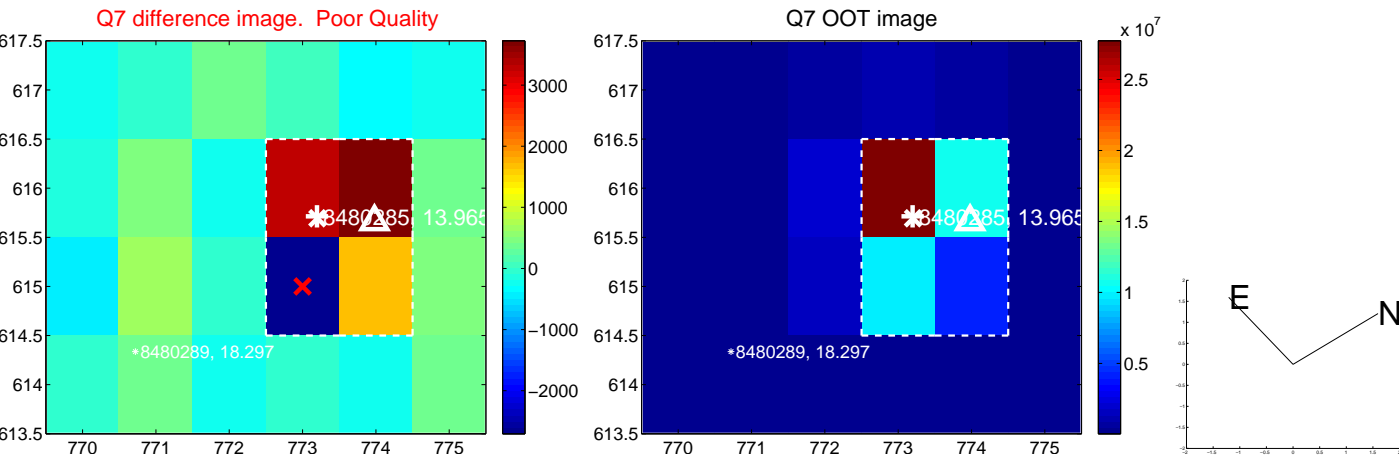
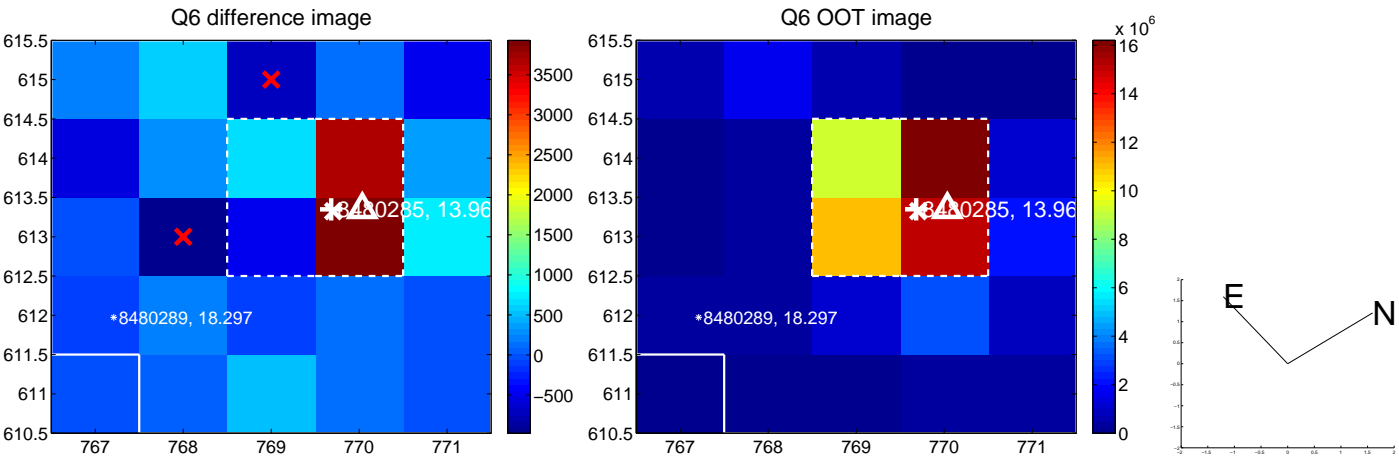
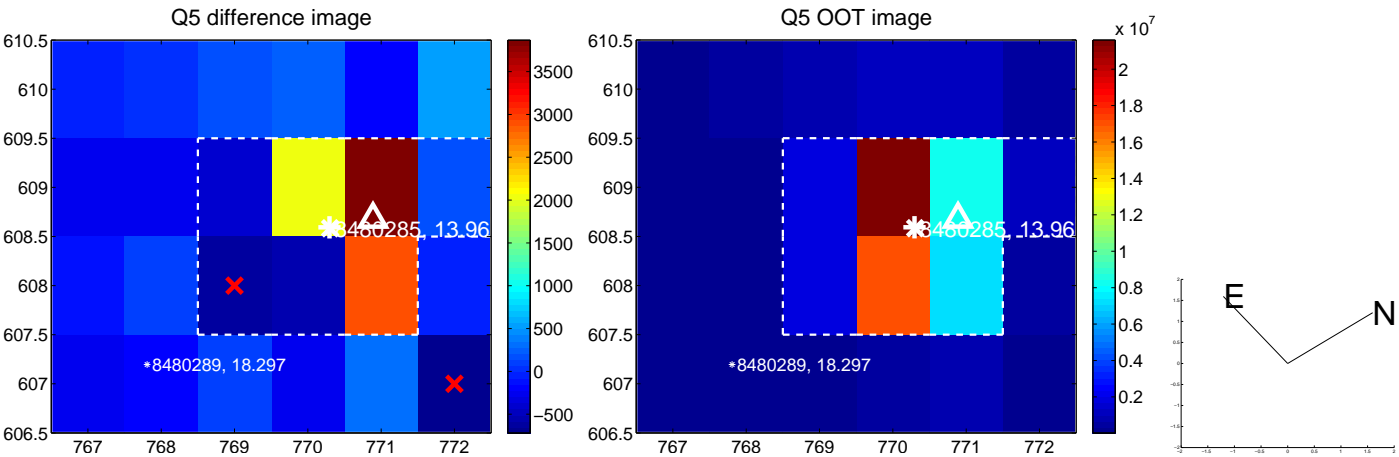


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

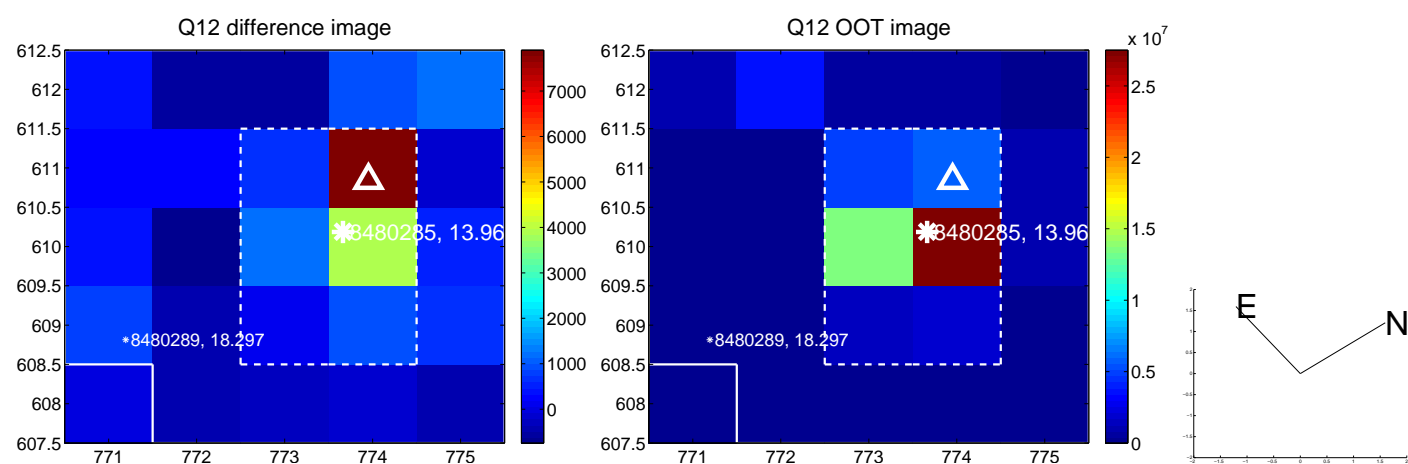
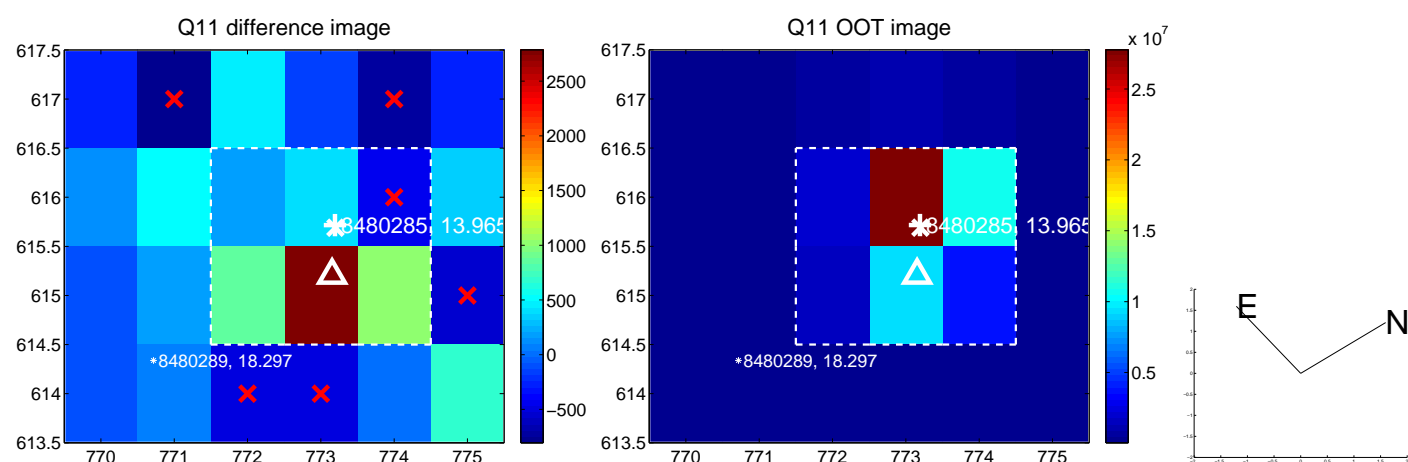
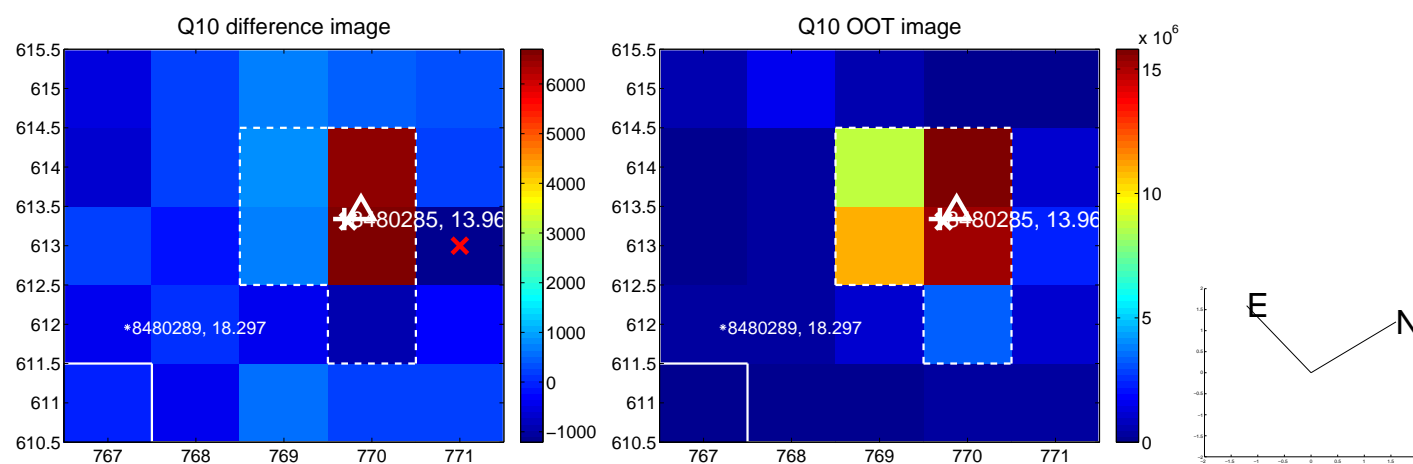
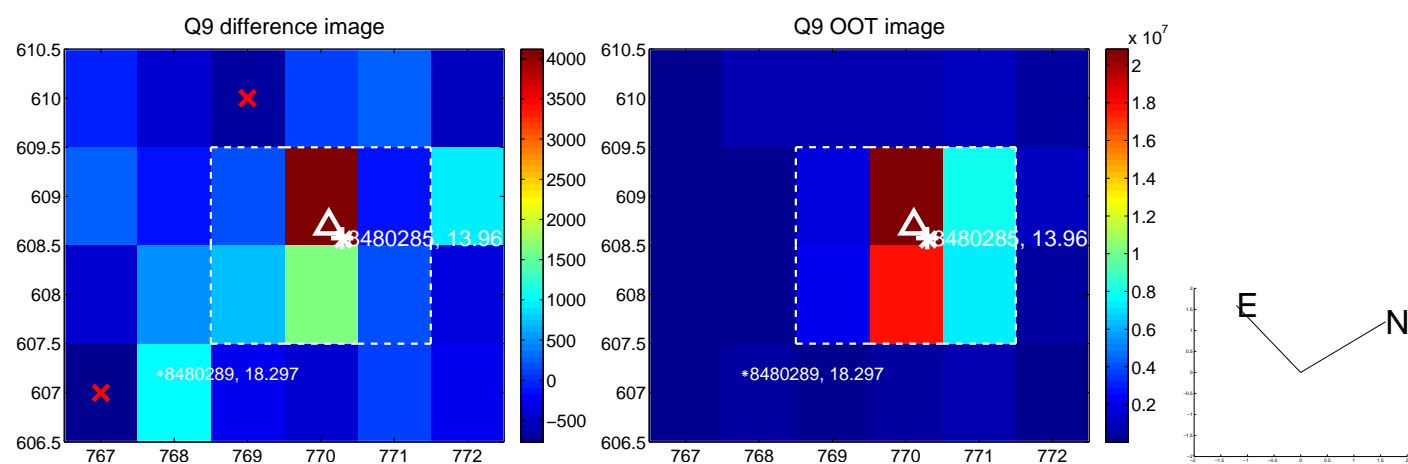
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



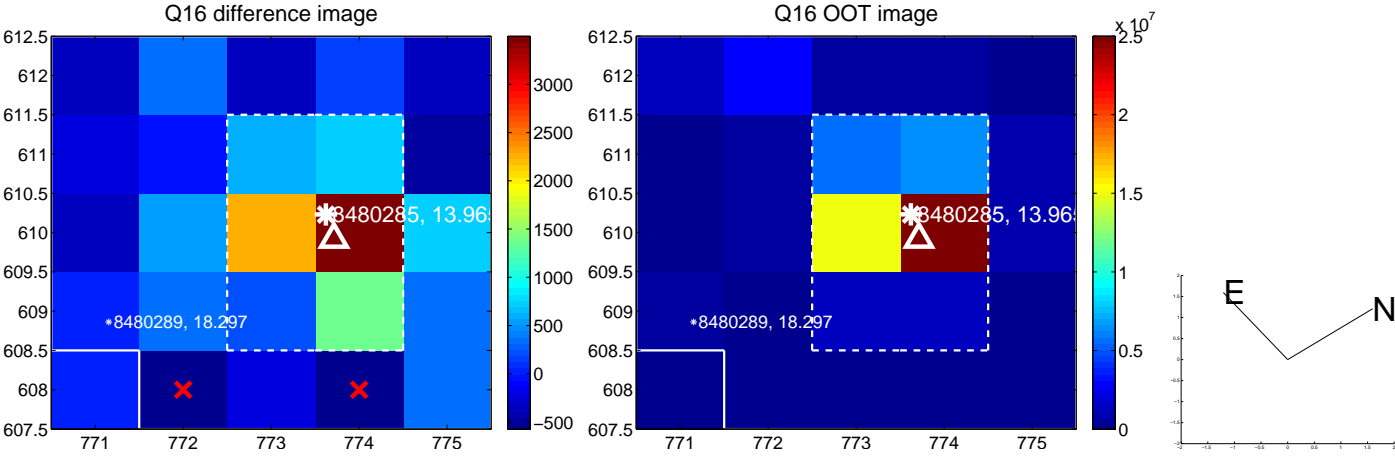
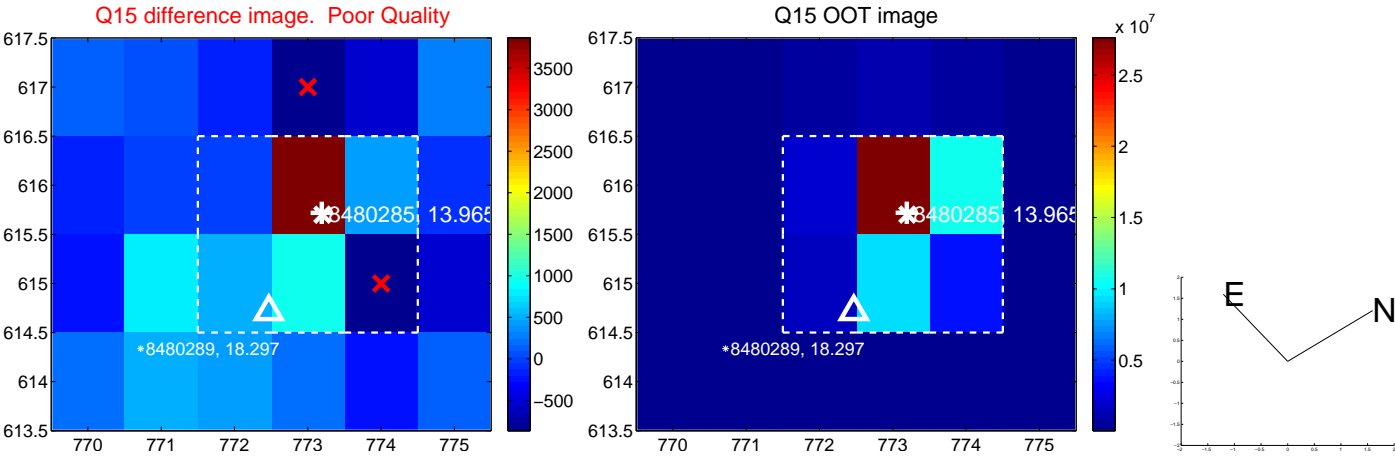
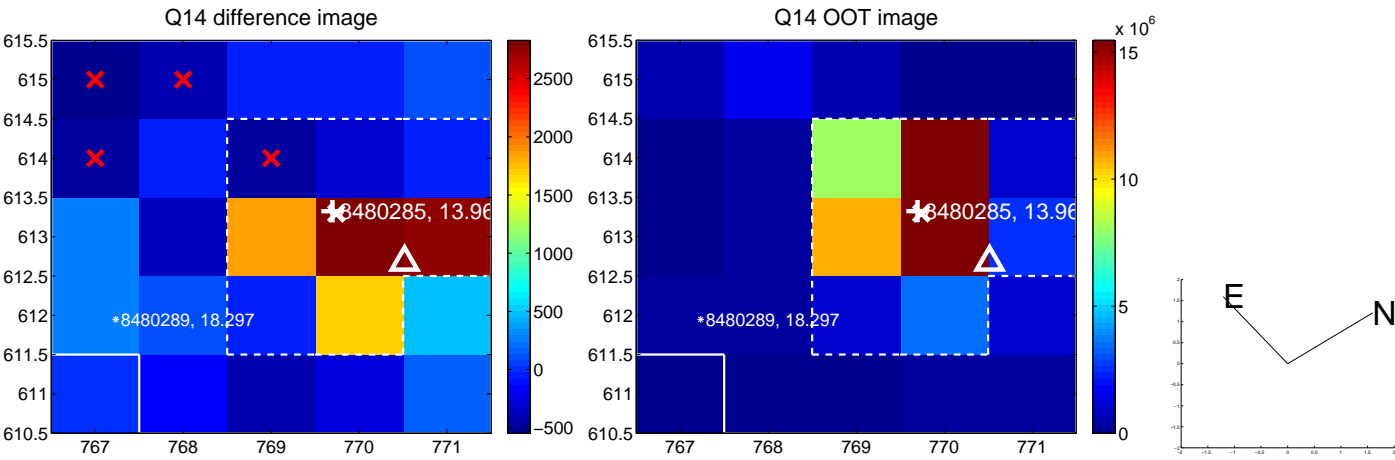
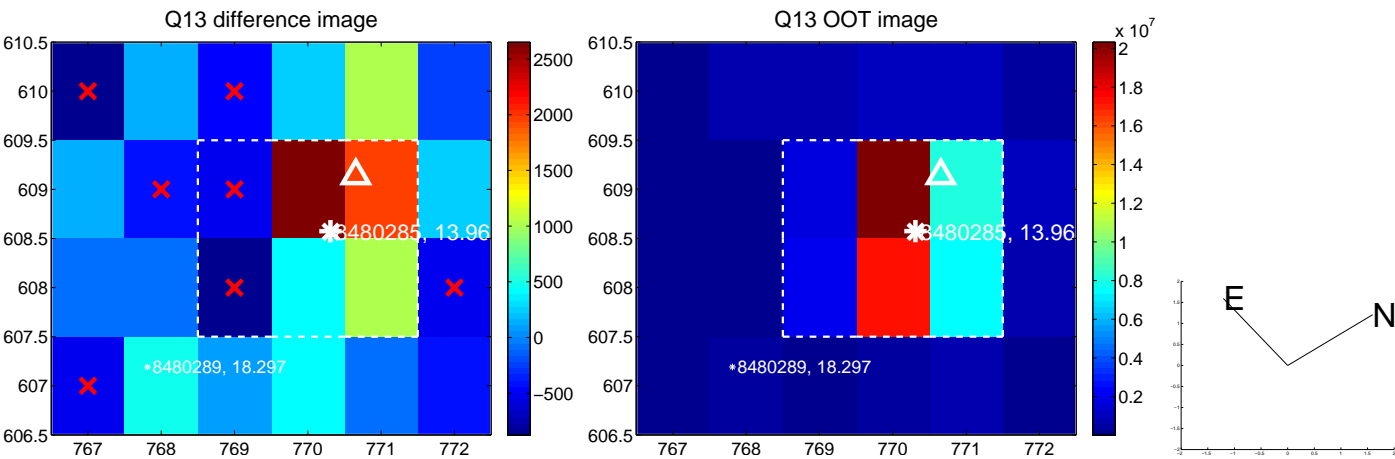
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



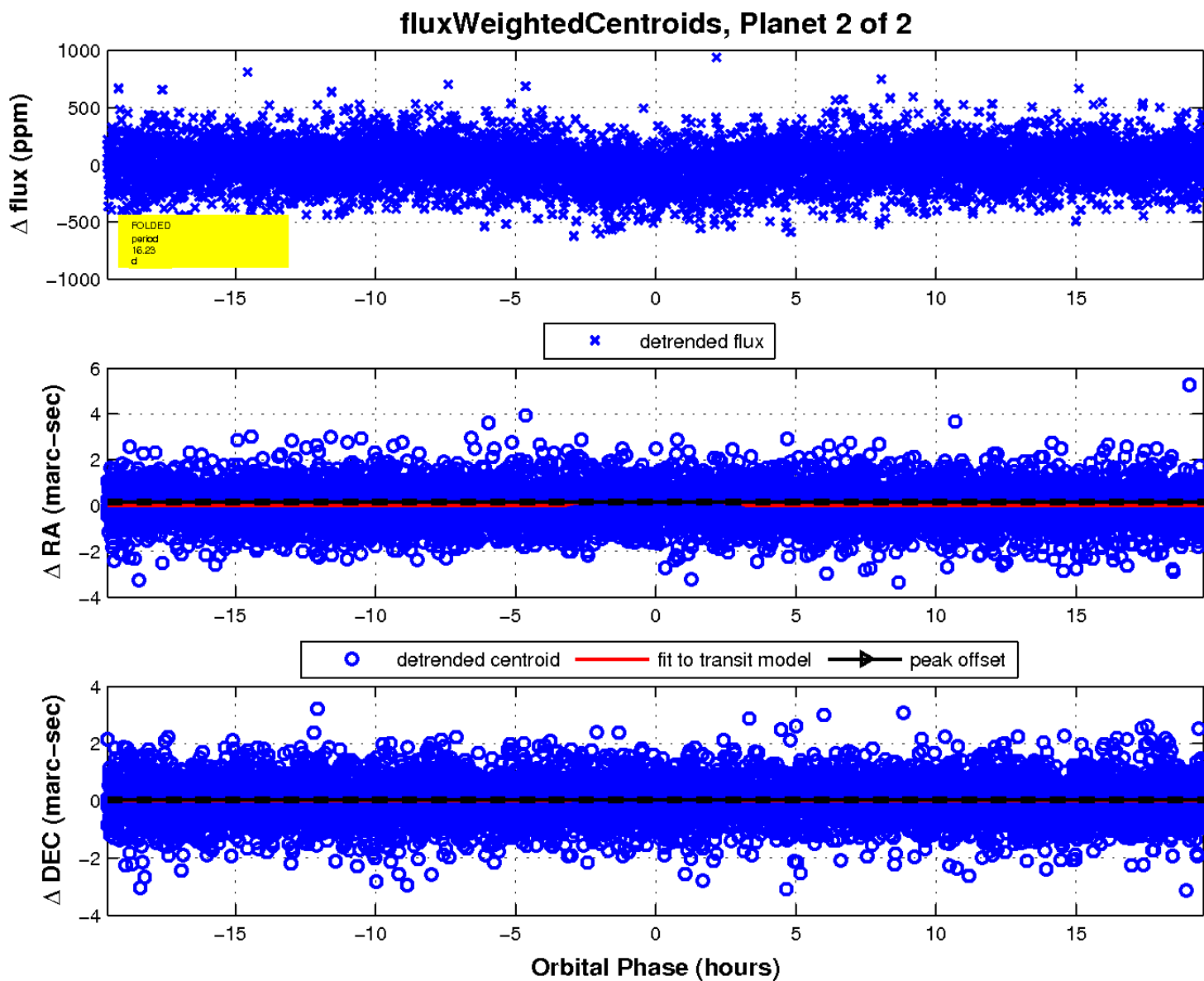
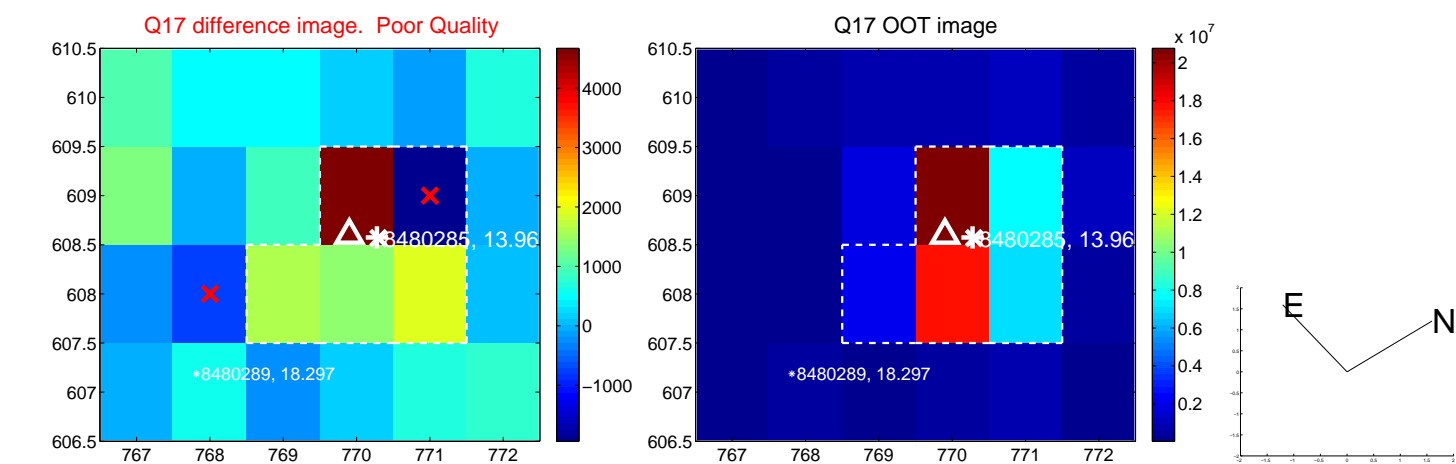
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

