

KIC 011200767

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})
011200767-01	OBS	3667.01	2.489534	132.048765	1243.6	2.820	396.3	166.4	1.41	6184	8.04	2015.91
011200767-02	OBS	No	2.489523	133.295906	147.7	1.990	30.3	32.2	1.41	6184	2.01	2015.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011200767-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—EPHEM_MATCH
011200767-02	OBS	FP	0.00	1	1	1	1	IS_SEC_TCE—CENT_RESOLVED_OFFSET—EPHEM_MATCH

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 011200767-01

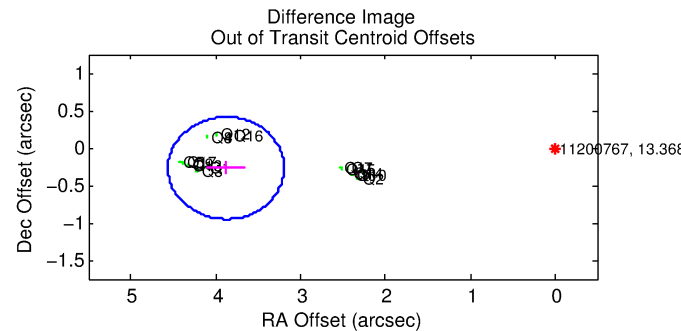
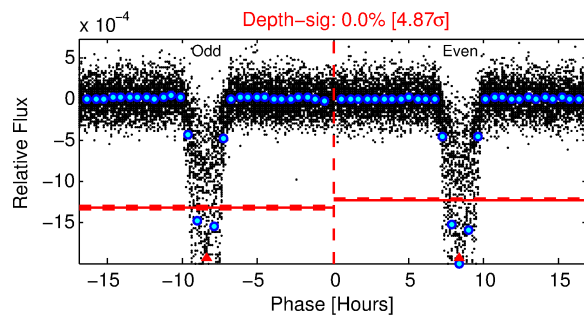
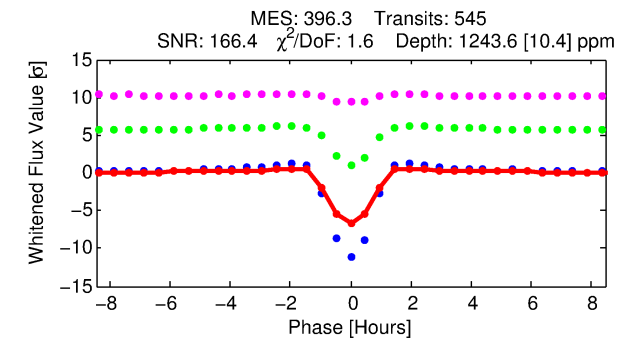
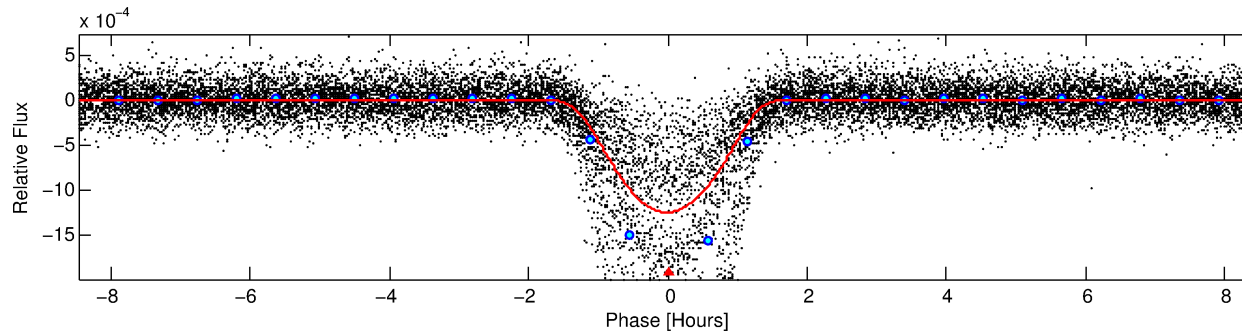
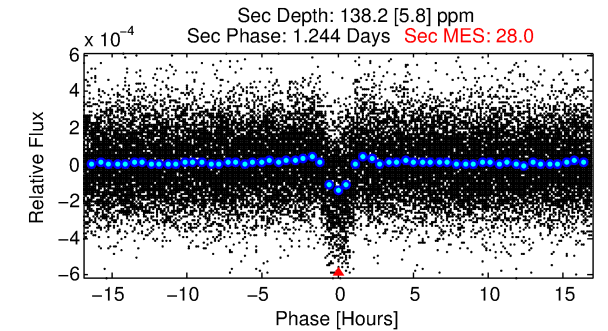
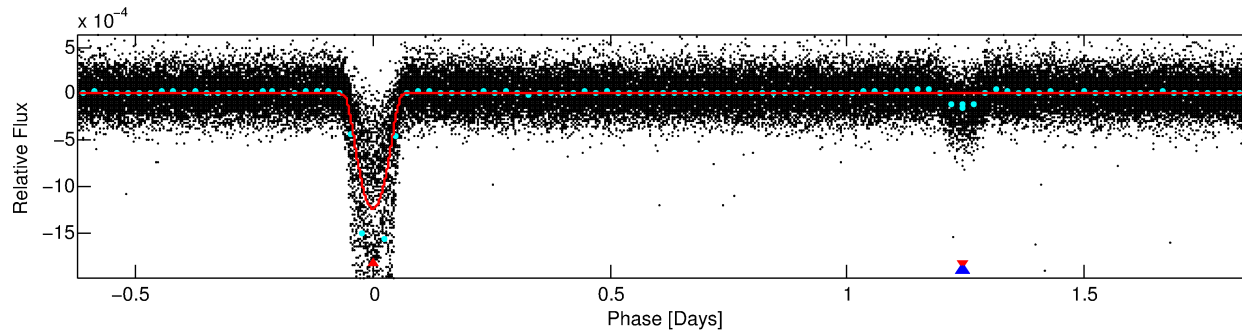
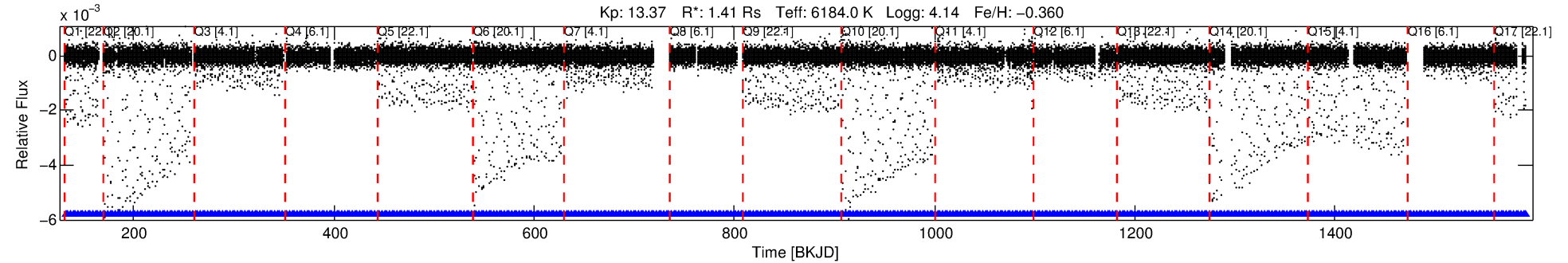
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist (μ)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
011200767-01	11200767	011200773-01	11200773	1:1	6.3	-2	1	13.67	13.37	23.45	Direct-PRF	0	0.44	0.24

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 11200767 Candidate: 1 of 2 Period: 2.490 d
KOI: K03667.01 Corr: 0.976

Kp: 13.37 R*: 1.41 Rs Teff: 6184.0 K Logg: 4.14 Fe/H: -0.360



DV Fit Results:

Period = 2.48953 [0.00000] d
Epoch = 132.0488 [0.0003] BKJD
Rp/R* = 0.0524 [0.0068]
a/R* = 2.68 [0.09]
b = 0.99 [0.01]
Seff = 2015.91 [1026.22]
Teq = 1709 [217] K
Rp = 8.04 [2.61] Re
a = 0.0358 [0.0107] AU
Ag = 1.51 [0.84] [0.61σ]
Teff = 2929 [217] K [3.97σ]

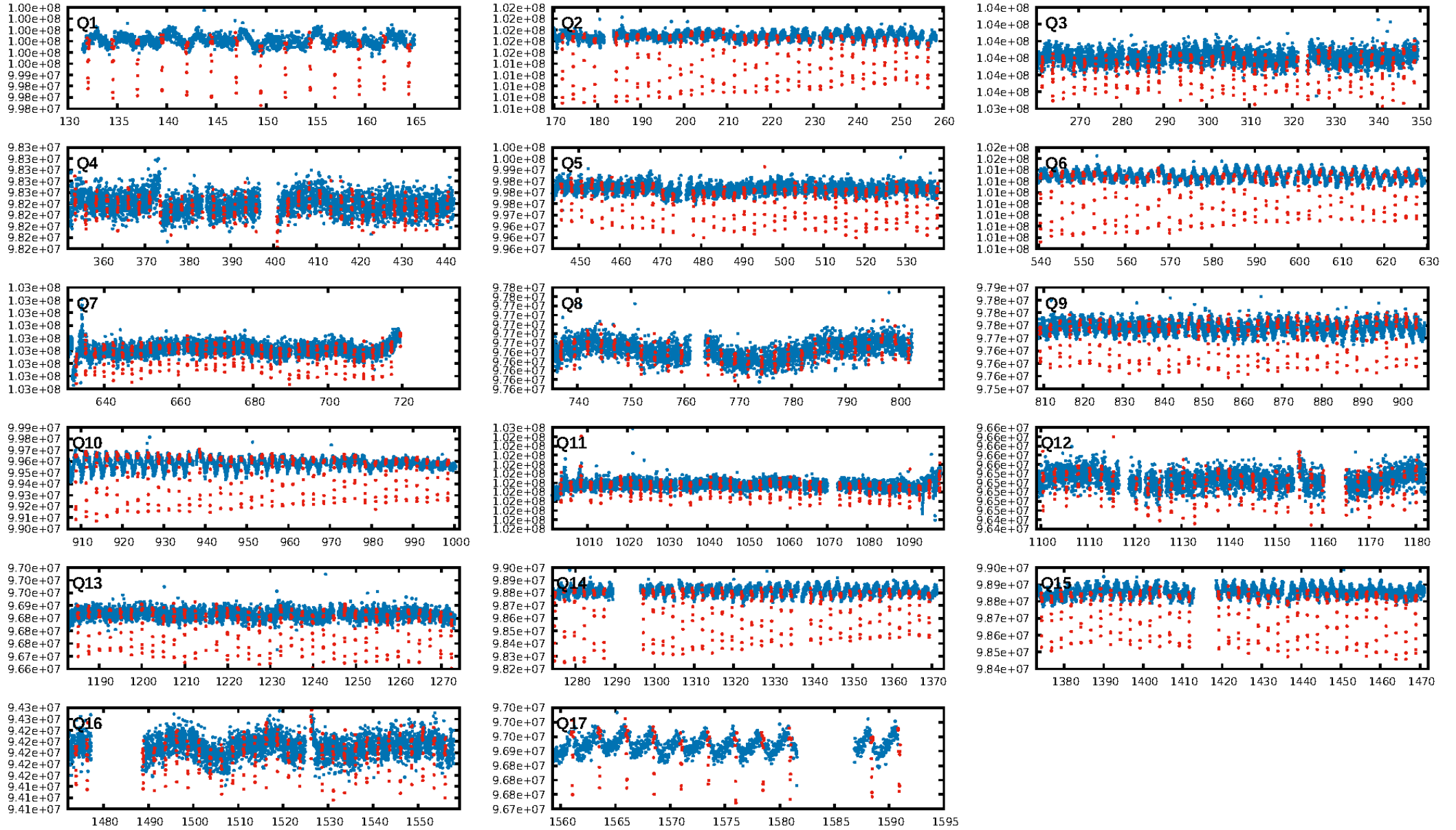
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [520/520]
GhostDiagnostic-chr: -0.388
Centroid-sig: N/A
Centroid-so: 24.718 arcsec [614.39σ]
OotOffset-rm: 3.887 arcsec [17.06σ]
KicOffset-rm: 6.508 arcsec [95.10σ]
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]

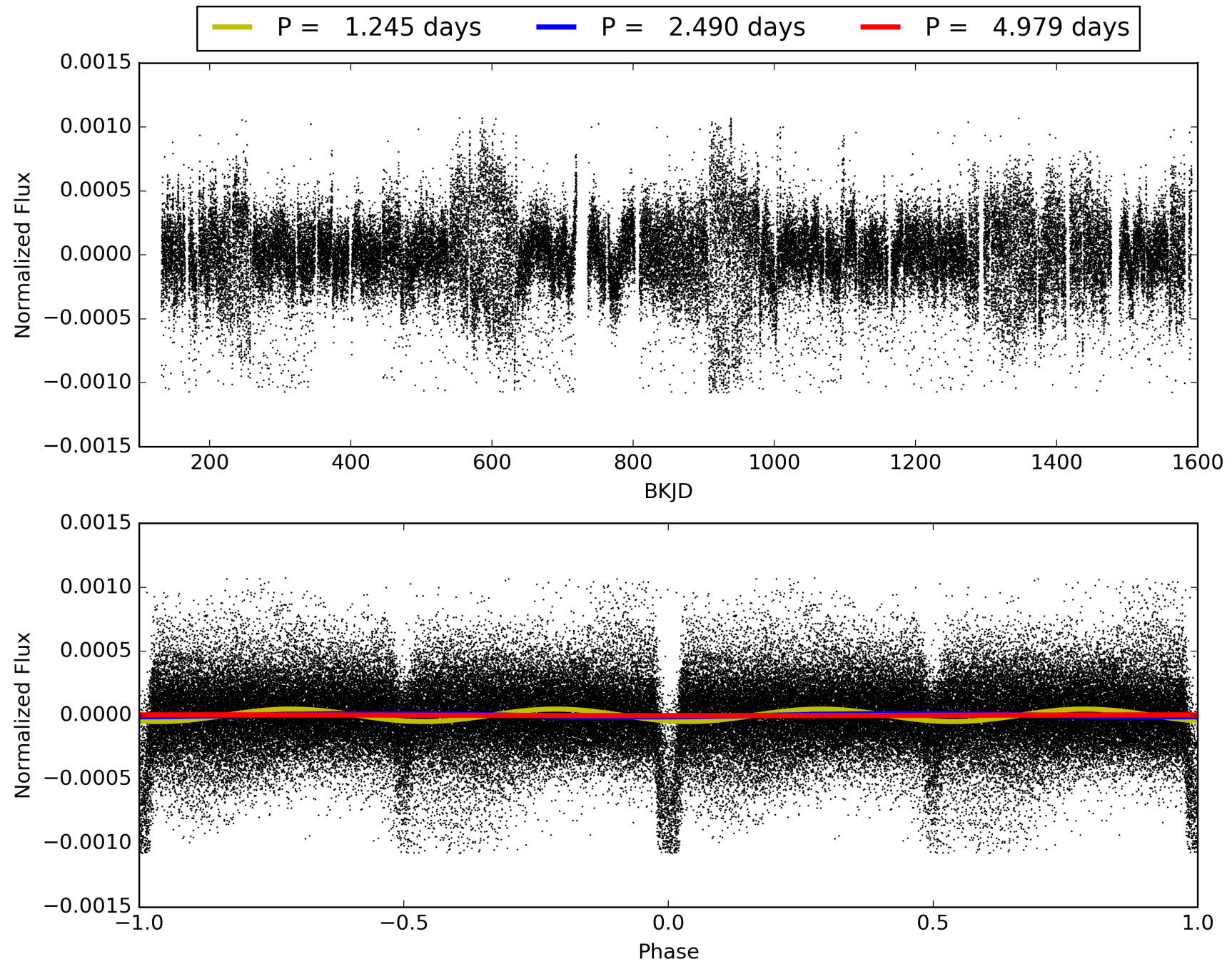
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 14:56:56 Z

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

TCE 011200767-01, PDC Light Curves

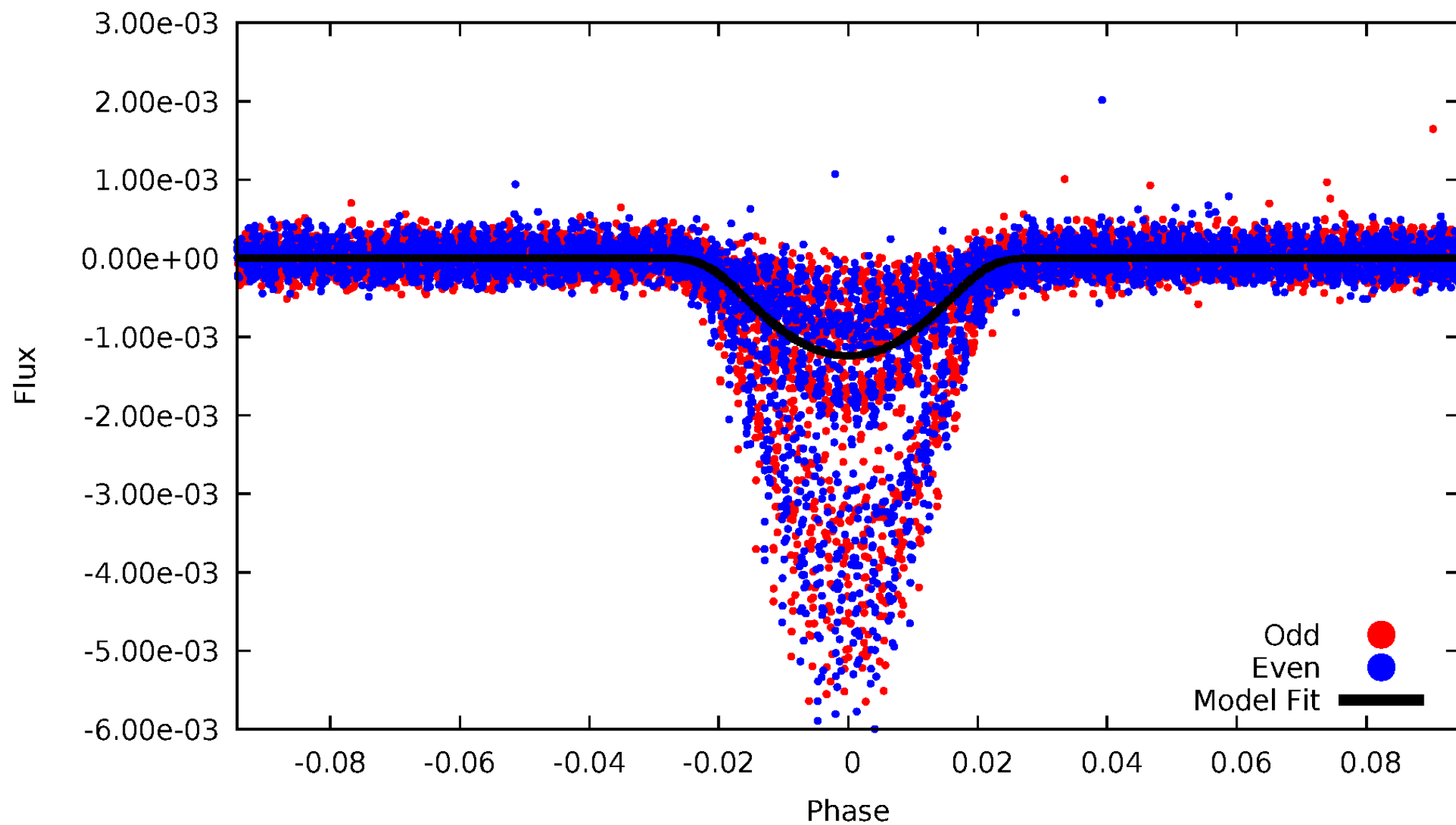


TCE 011200767-01



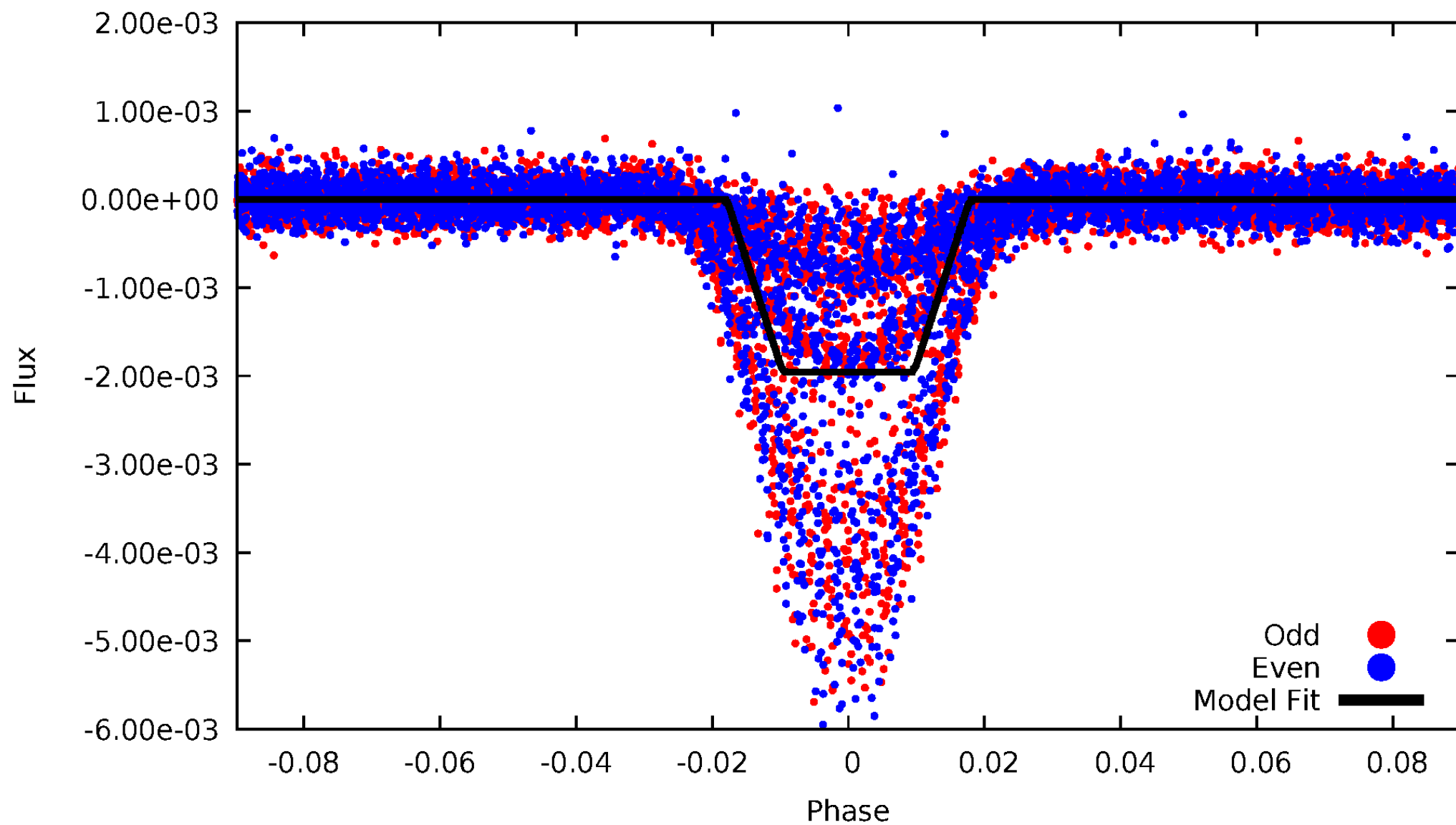
DV Odd/Even

TCE 011200767-01



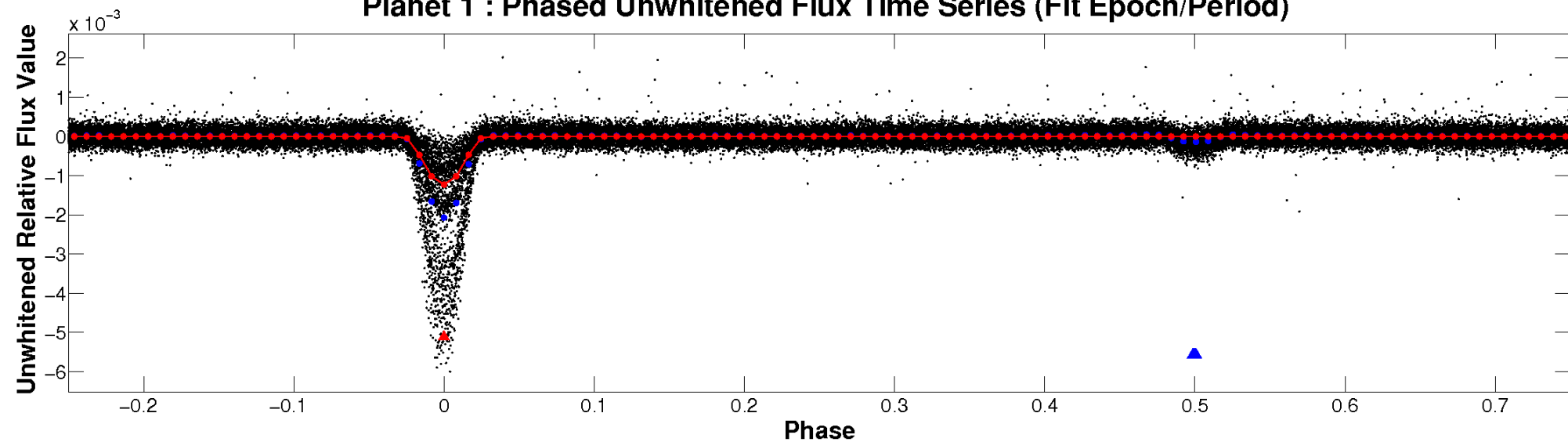
ALT Odd/Even

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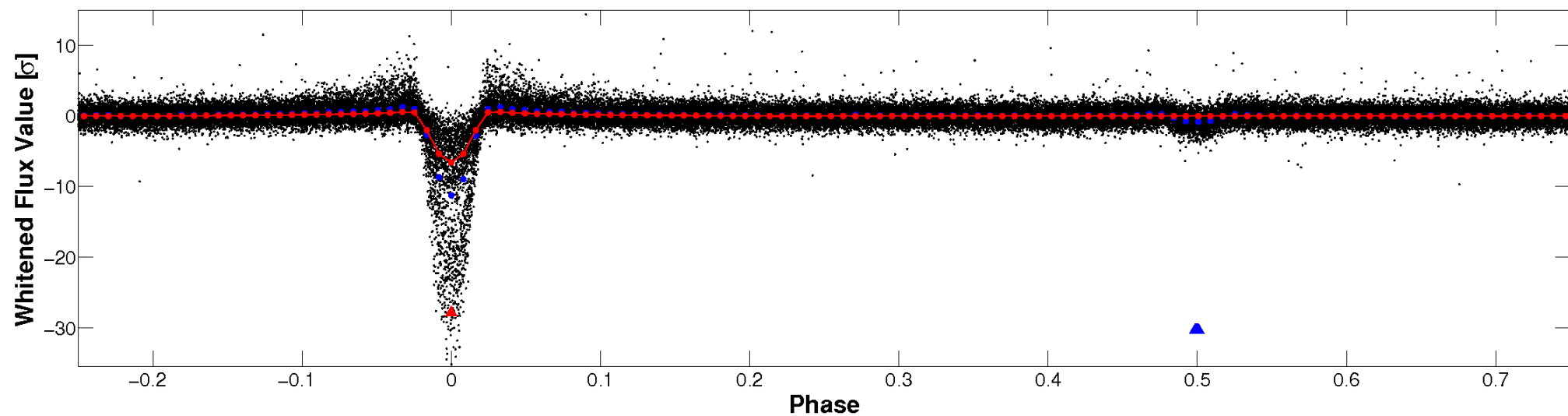


Non-Whitened Vs. Whitened Light Curve

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

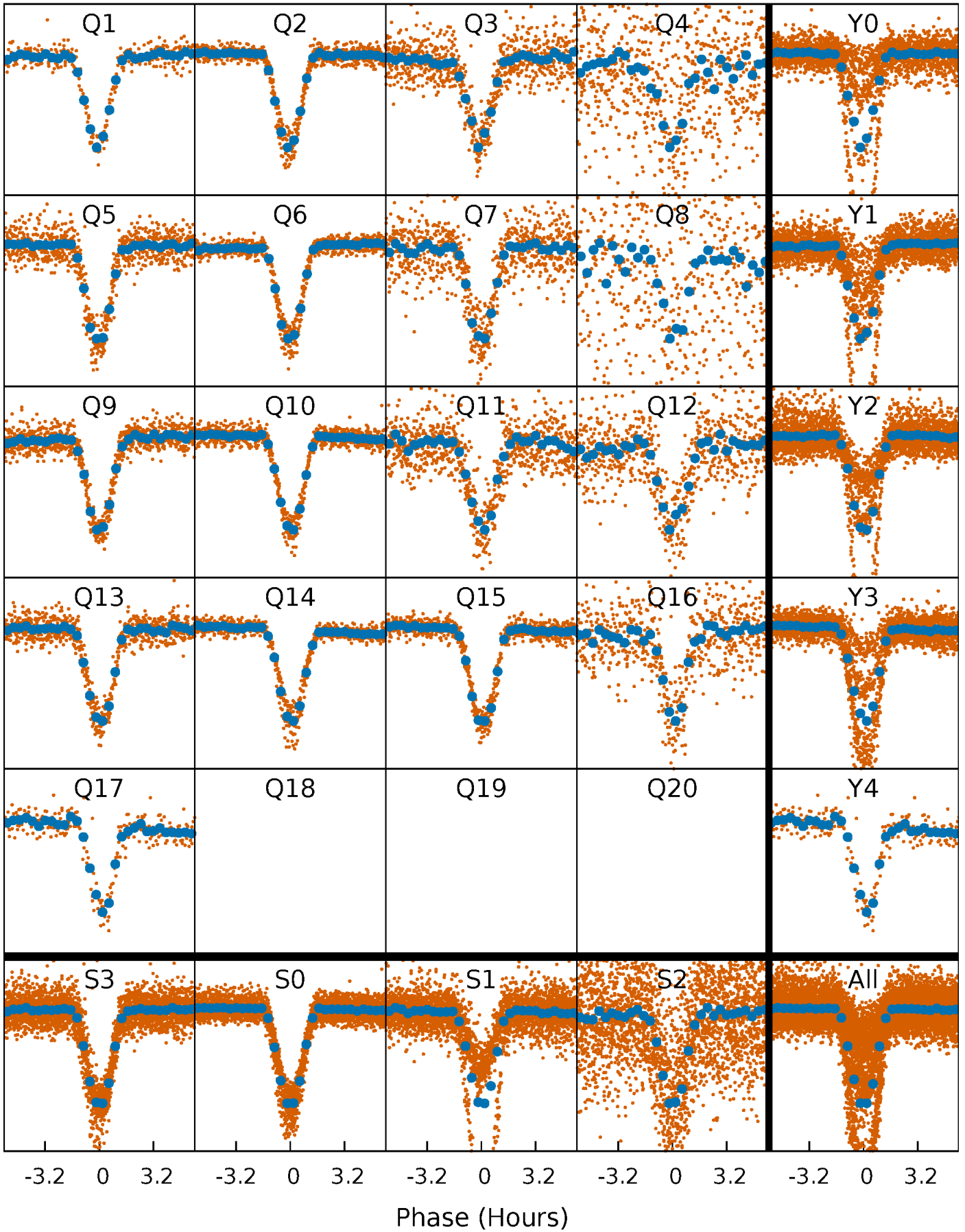


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



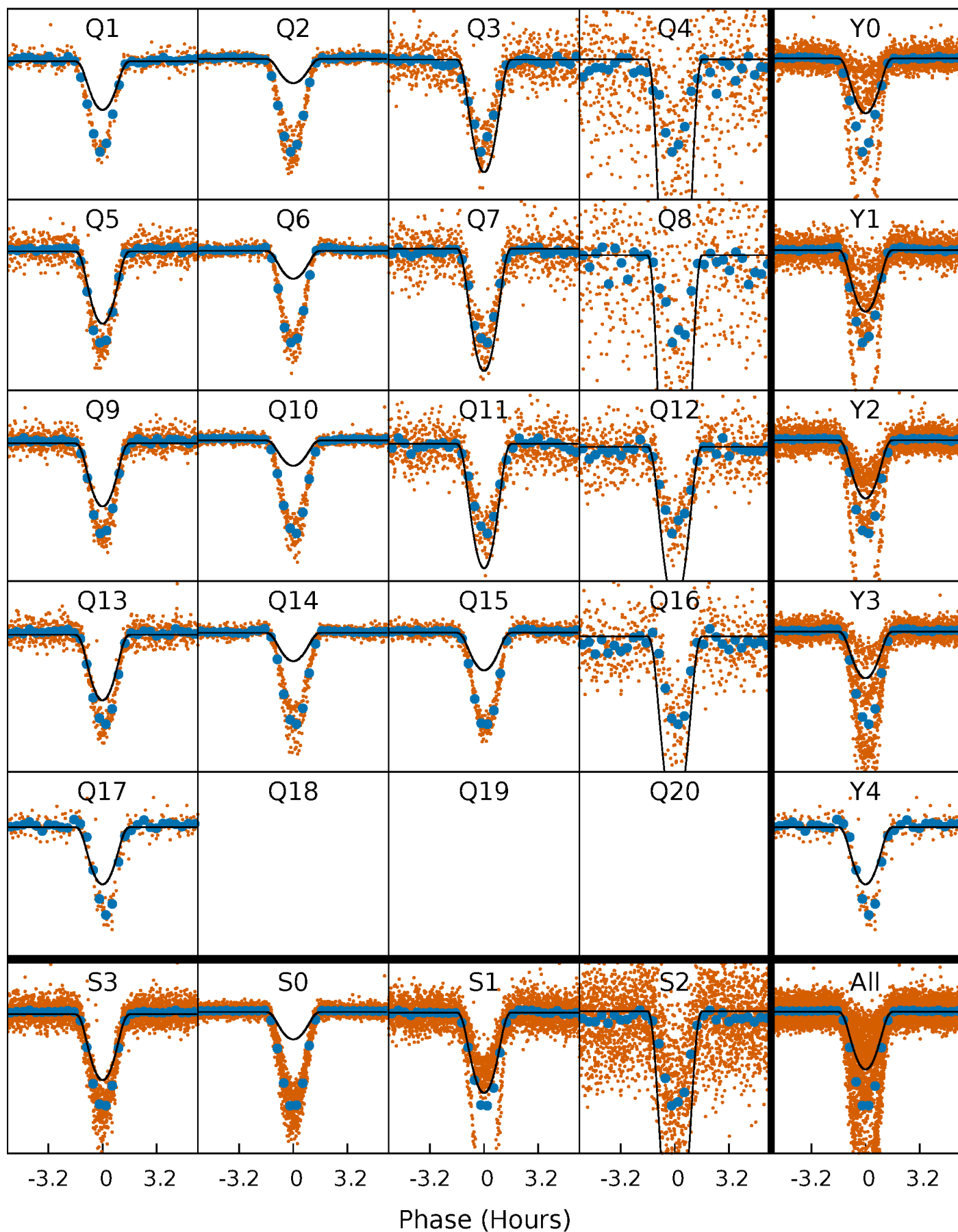
PDC Quarter-Phased Transit Curves

TCE 011200767-01 P= 2.489534 Days $T_0=132.048765$ (BKJD)



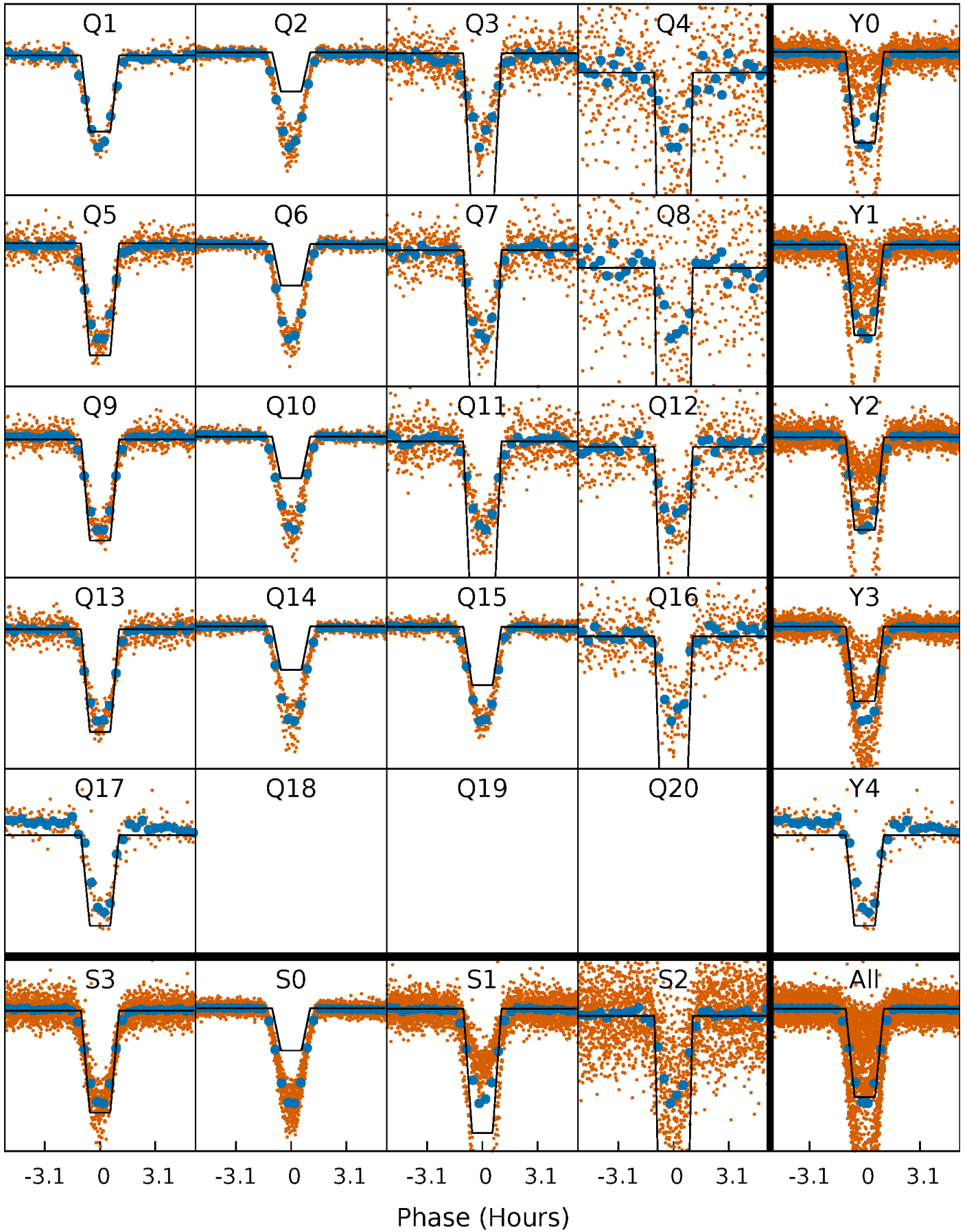
DV Quarter-Phased Transit Curves

TCE 011200767-01 P= 2.489534 Days $T_0=132.048765$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

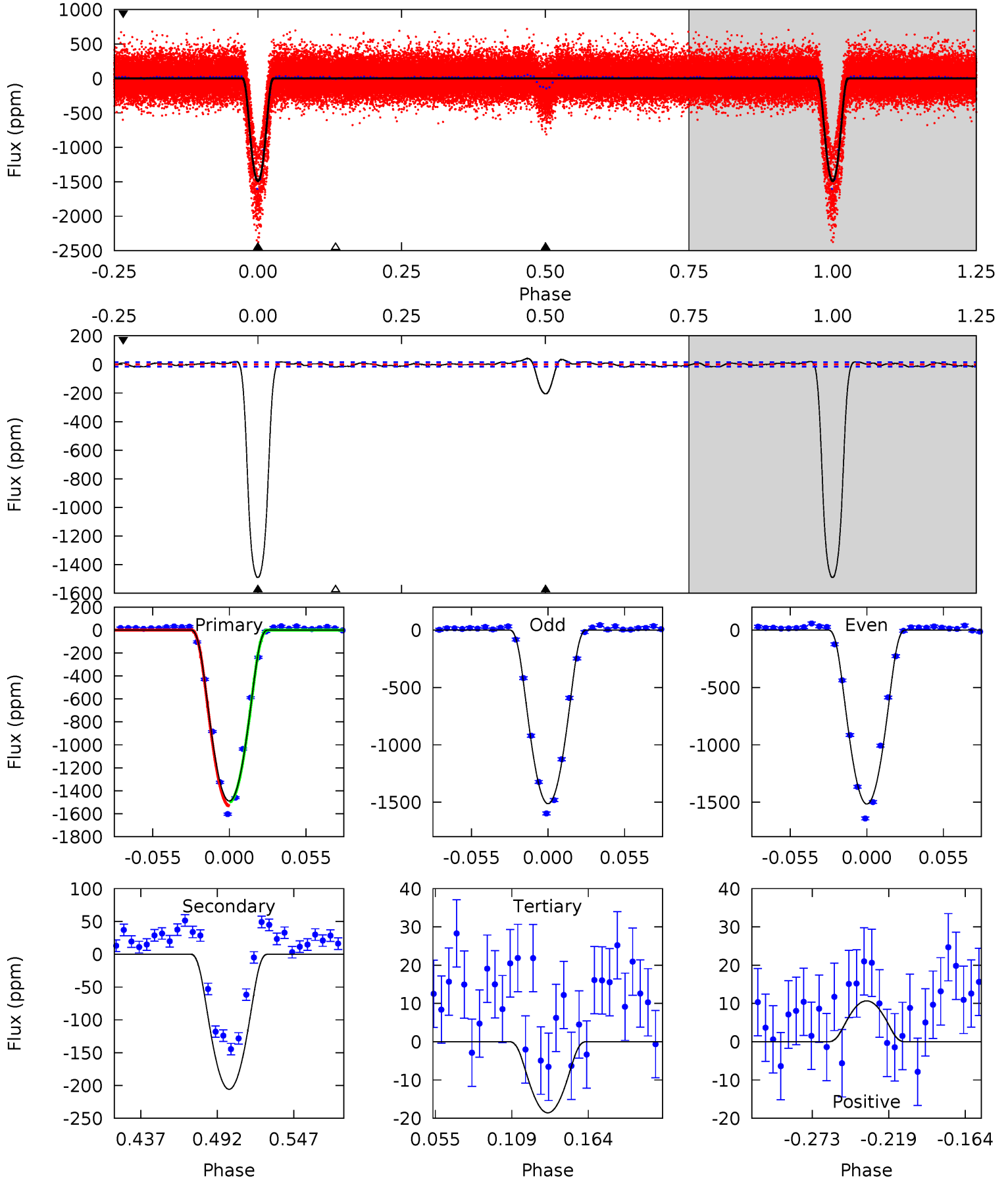
TCE 011200767-01 P= 2.489545 Days $T_0=132.045966$ (BKJD)



DV Model-Shift Uniqueness Test

011200767-01, P = 2.489534 Days, E = 129.559231 Days

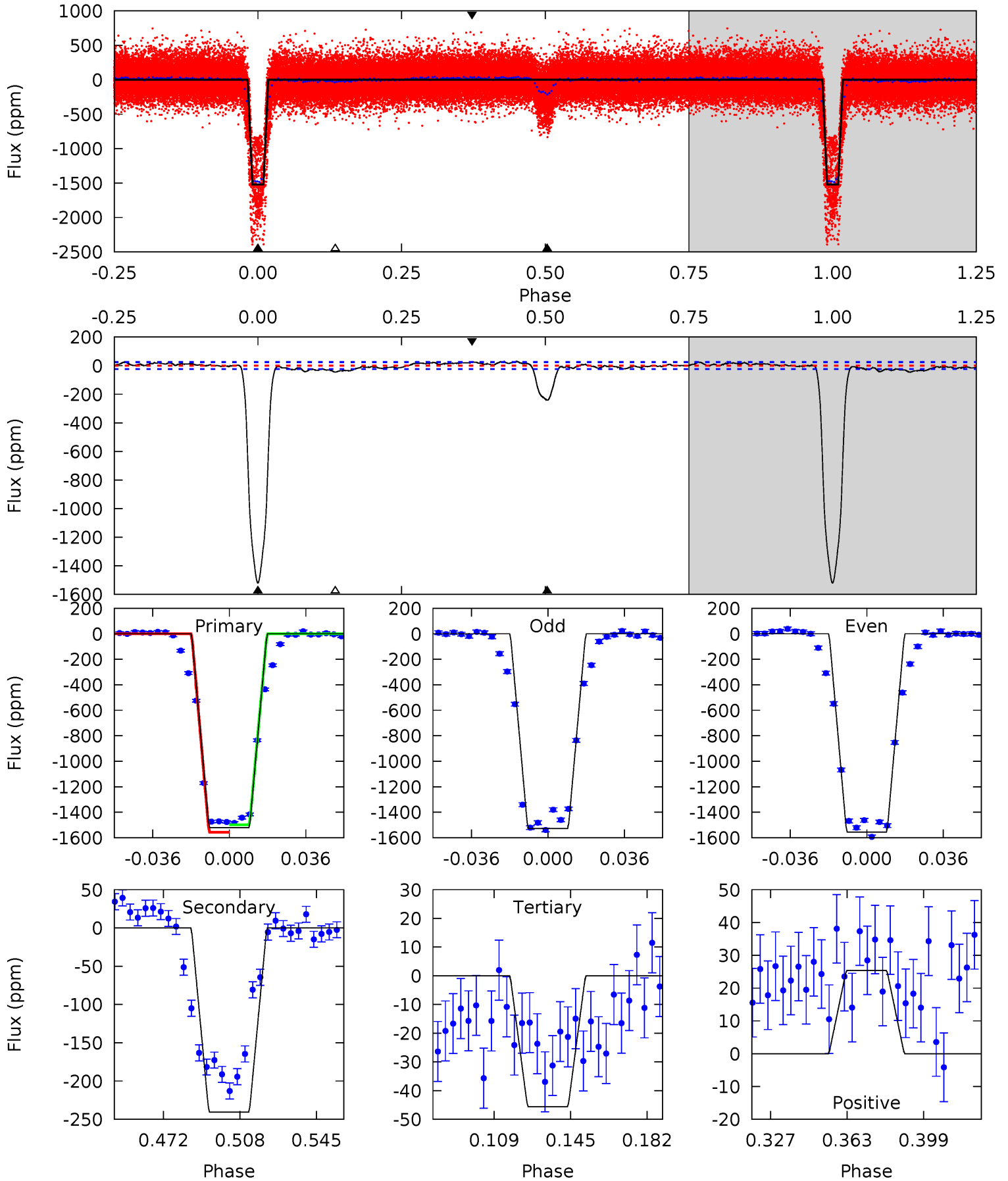
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
455.0	62.9	5.67	3.26	4.69	1.92	2.49	449.3	451.7	57.2	59.6	0.43	1.25	0.03	0



Alt Model-Shift Uniqueness Test

011200767-01, P = 2.489545 Days, E = 129.556421 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
296.7	47.0	8.91	4.96	4.77	2.09	3.26	287.8	291.8	38.0	42.0	2.61	1.24	0.02	5.63



Stellar Parameters For KIC 011200767

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6184^{+169}_{-206}	$4.138^{+0.293}_{-0.158}$	$-0.360^{+0.300}_{-0.300}$	$1.406^{+0.375}_{-0.417}$	$0.991^{+0.147}_{-0.120}$	$0.502^{+0.958}_{-0.218}$
	+3%/-3%	+7%/-4%	+83%/-83%	+27%/-30%	+15%/-12%	+191%/-43%
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 011200767-01 / KOI 3667.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-206 ± 3	$7.85^{+1.56}_{-1.66}$	2356^{+168}_{-215}	3573^{+209}_{-171}	$2.378^{+1.397}_{-0.723}$
Alt.	-241 ± 5	$6.51^{+1.55}_{-1.42}$	2350^{+189}_{-203}	3943^{+288}_{-227}	$4.076^{+2.388}_{-1.405}$

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

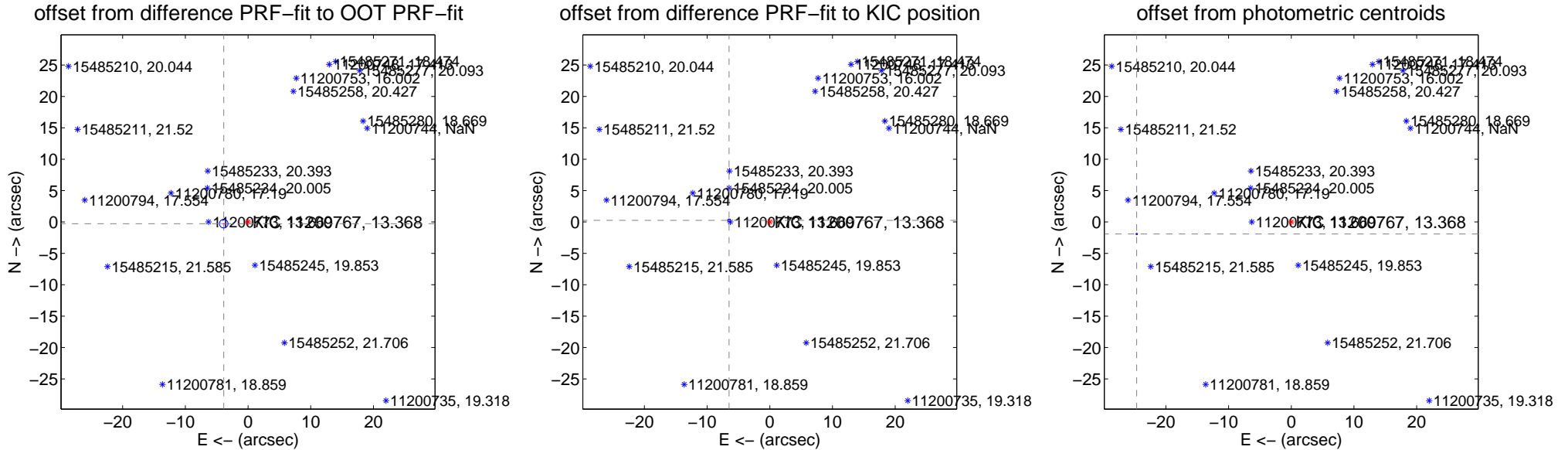
DV Centroid Data

Supplemental centroid analysis for 011200767-01. Kepler magnitude: 13.37. Transit SNR 166.43

There are 17 quarters with good PRF difference image offsets

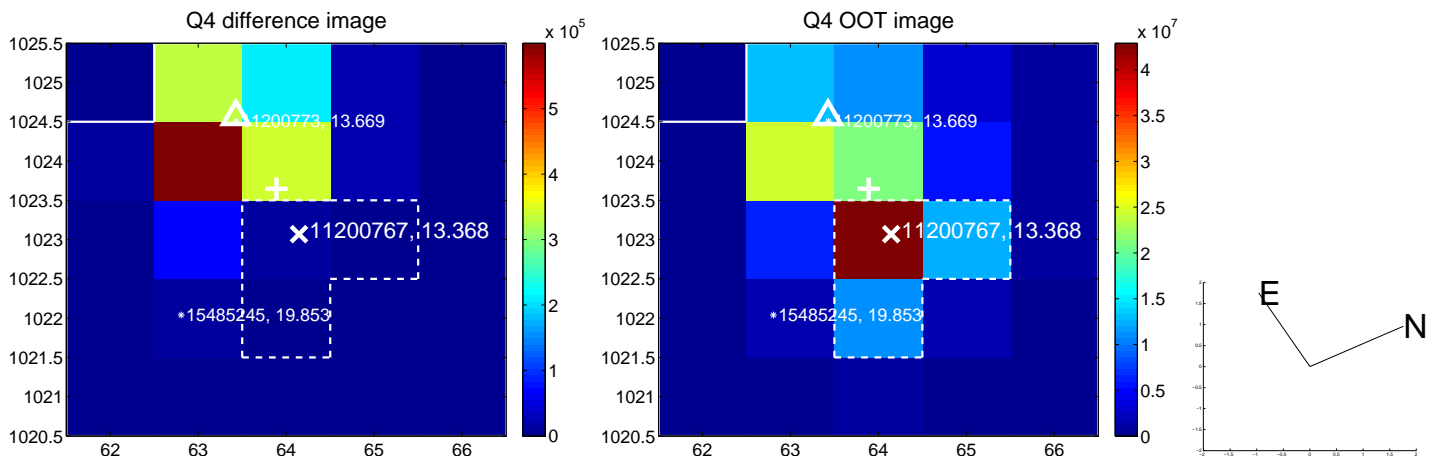
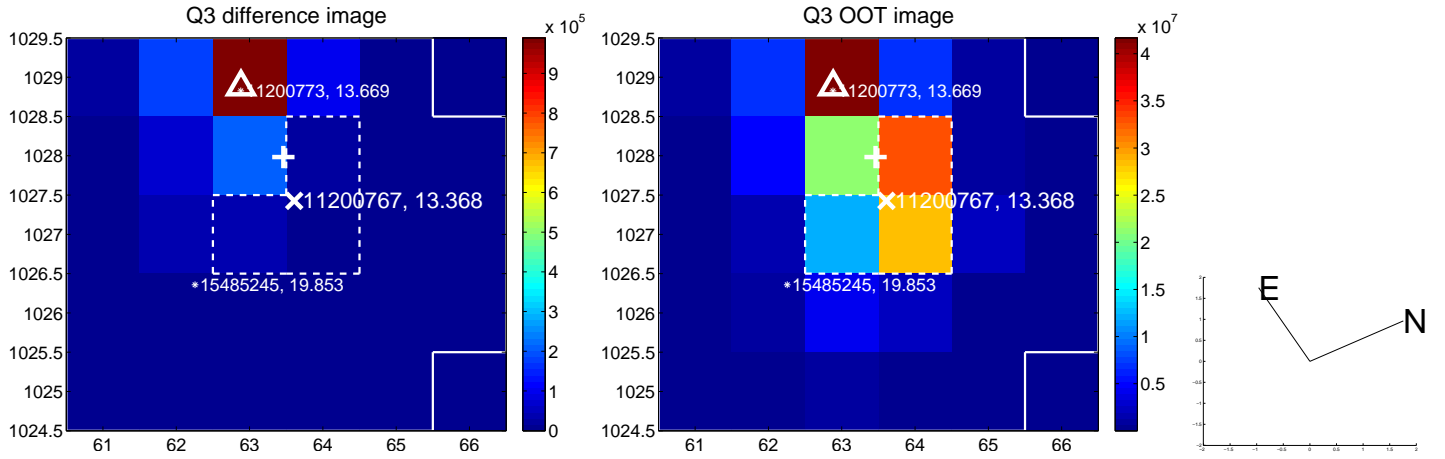
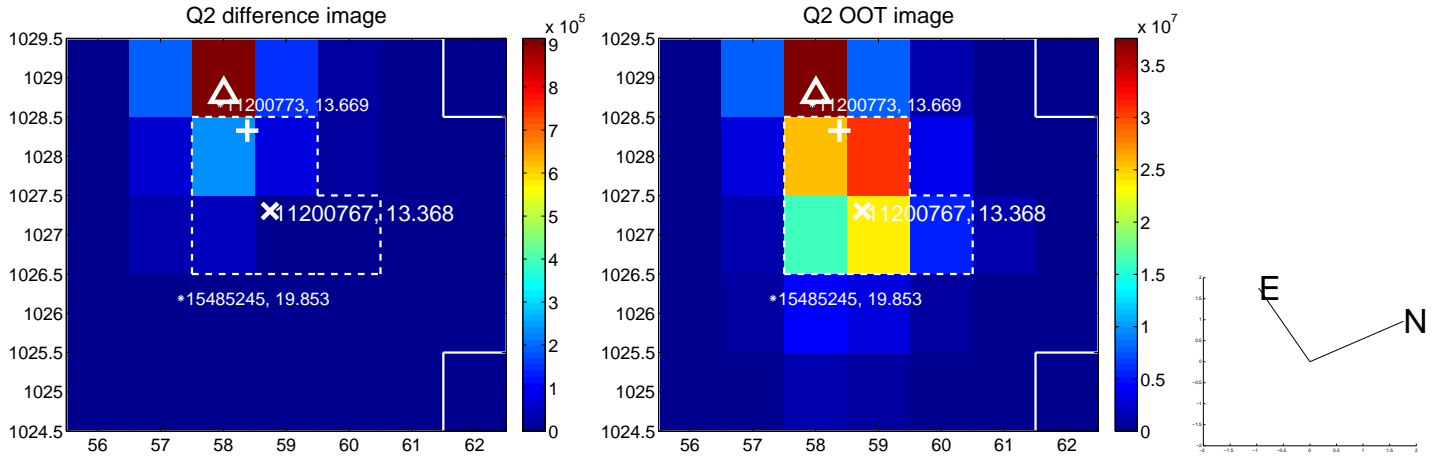
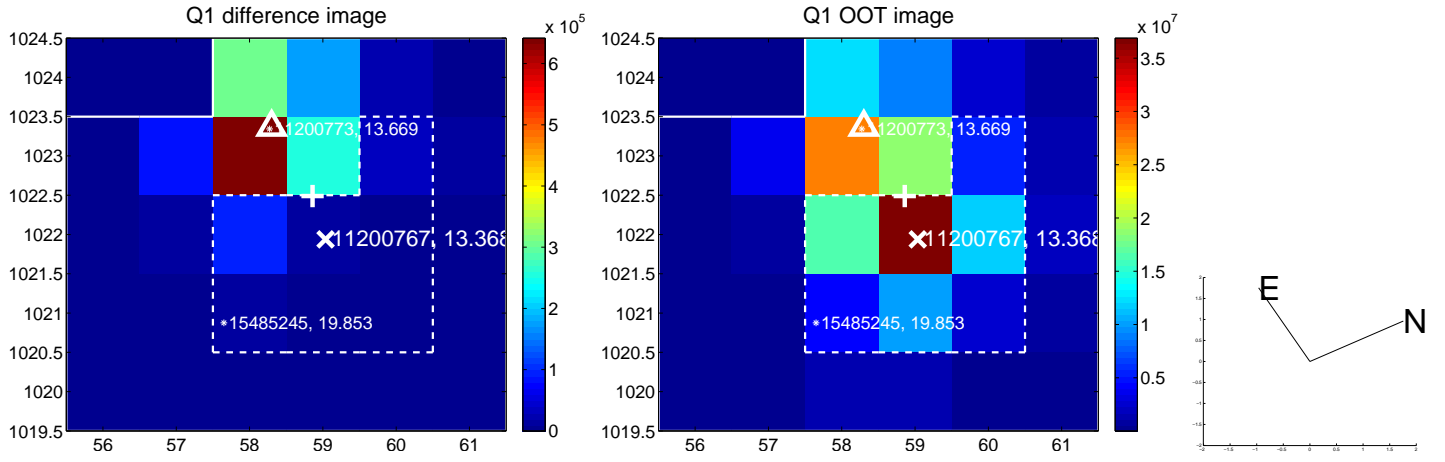
The OOT PRF centroid is offset from the target star catalog position by about 2.11 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.887 ± 0.228	17.06	3.878 ± 0.230	-0.268 ± 0.082
PRF-fit source offset from KIC position	6.508 ± 0.068	95.10	6.502 ± 0.068	0.266 ± 0.068
photometric centroid source offset	24.72 ± 0.04	614.39	24.64 ± 0.04	-1.91 ± 0.03

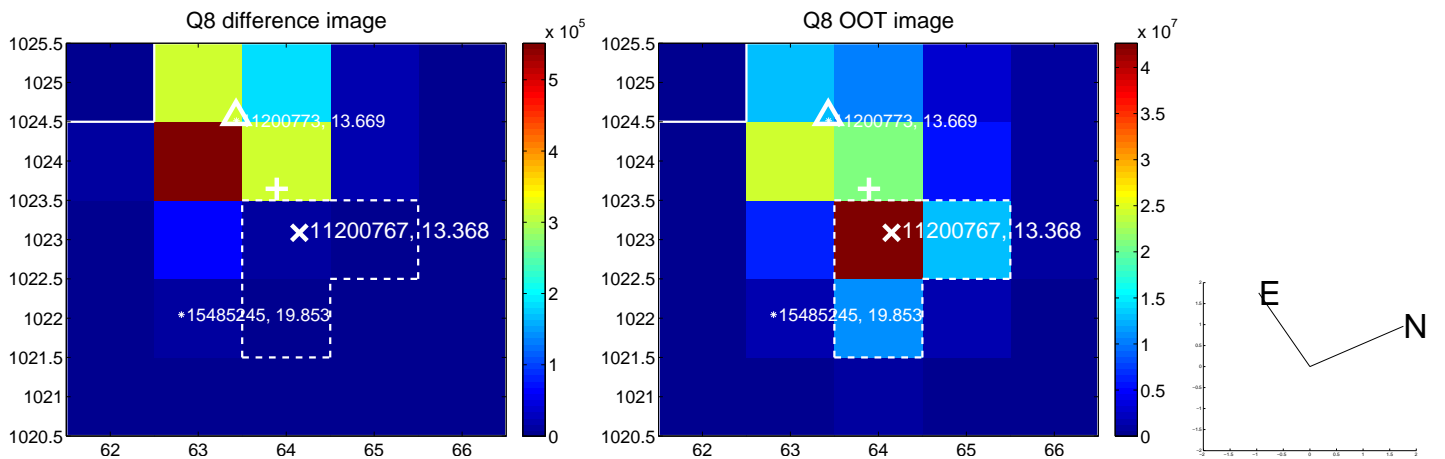
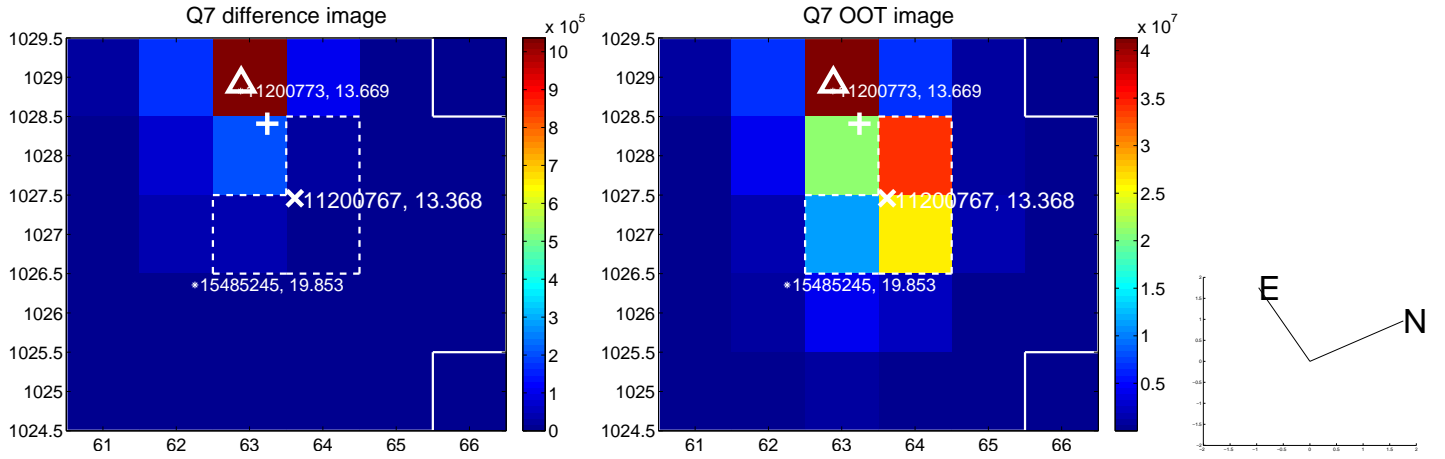
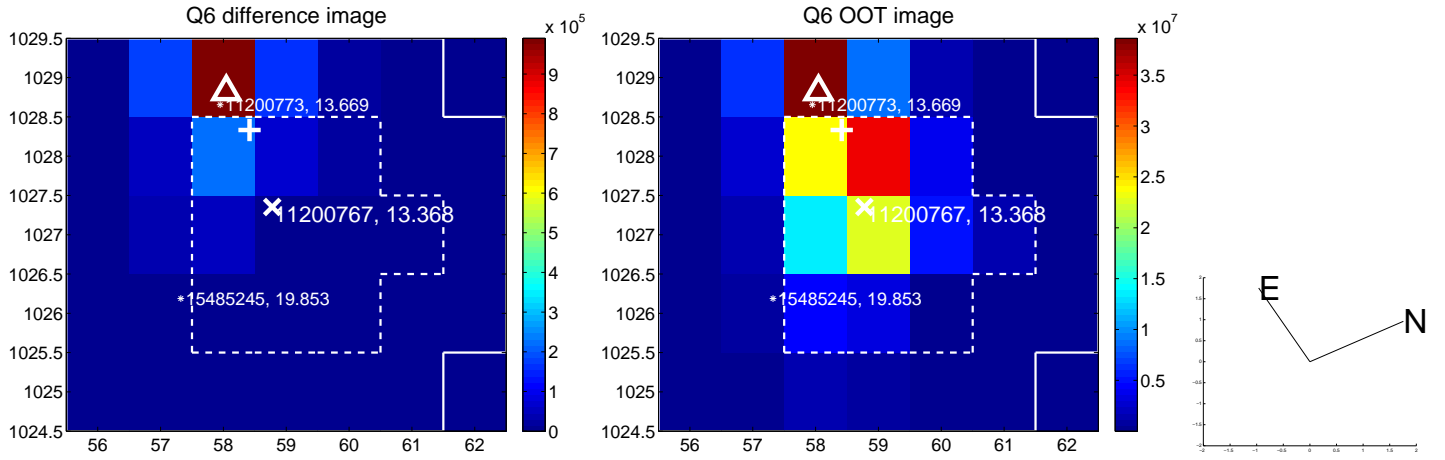
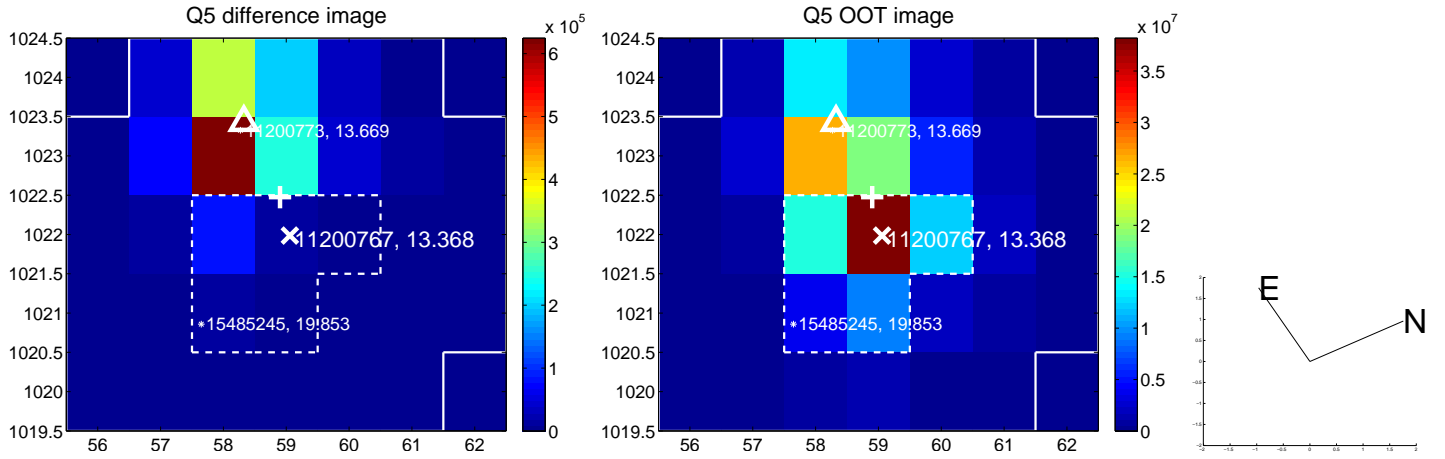


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

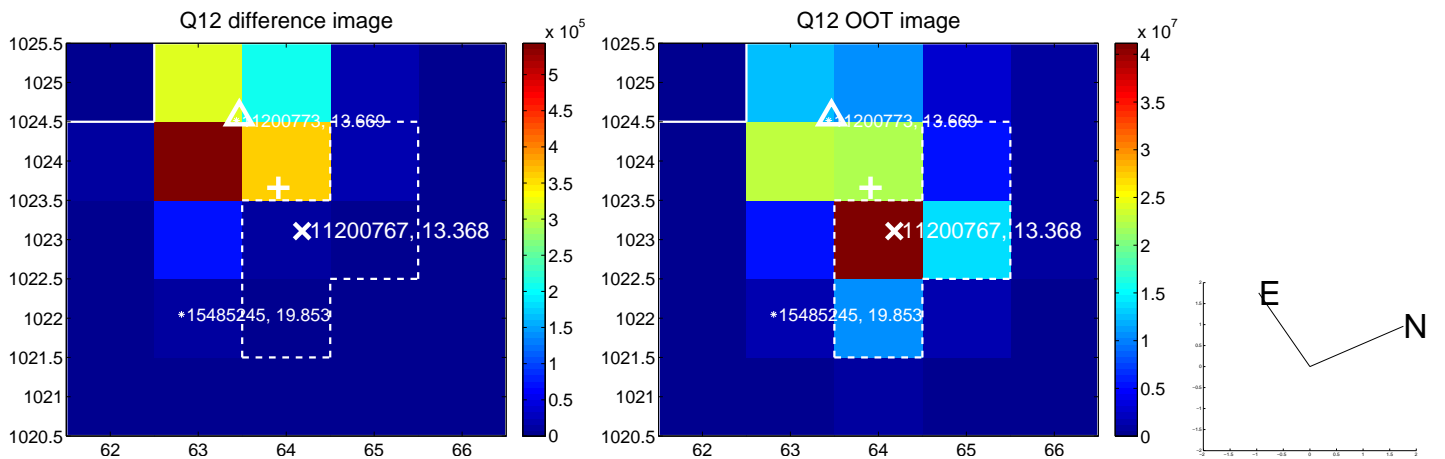
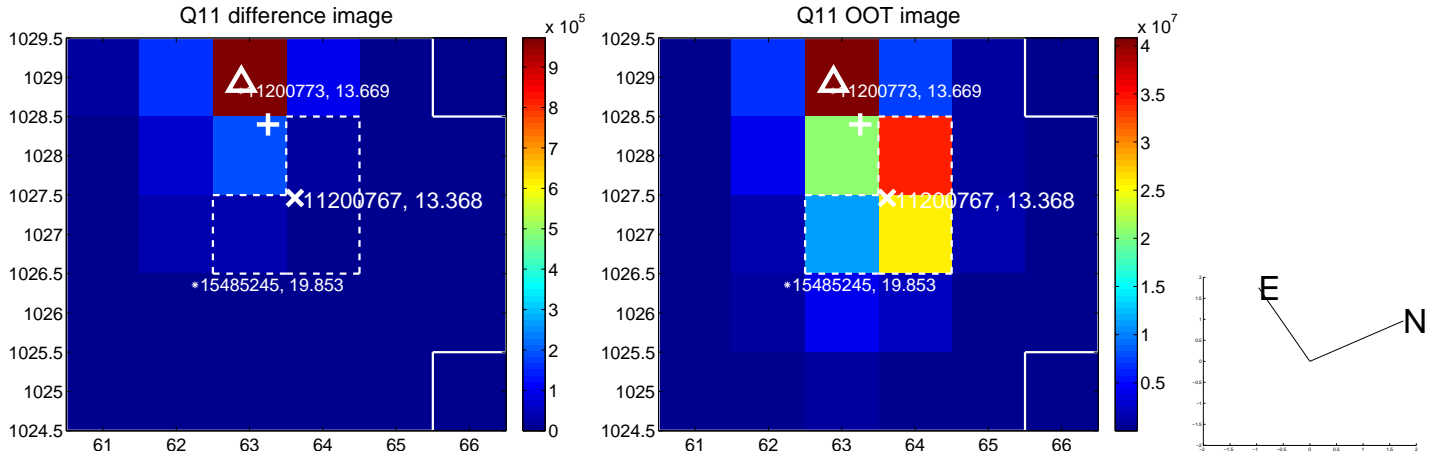
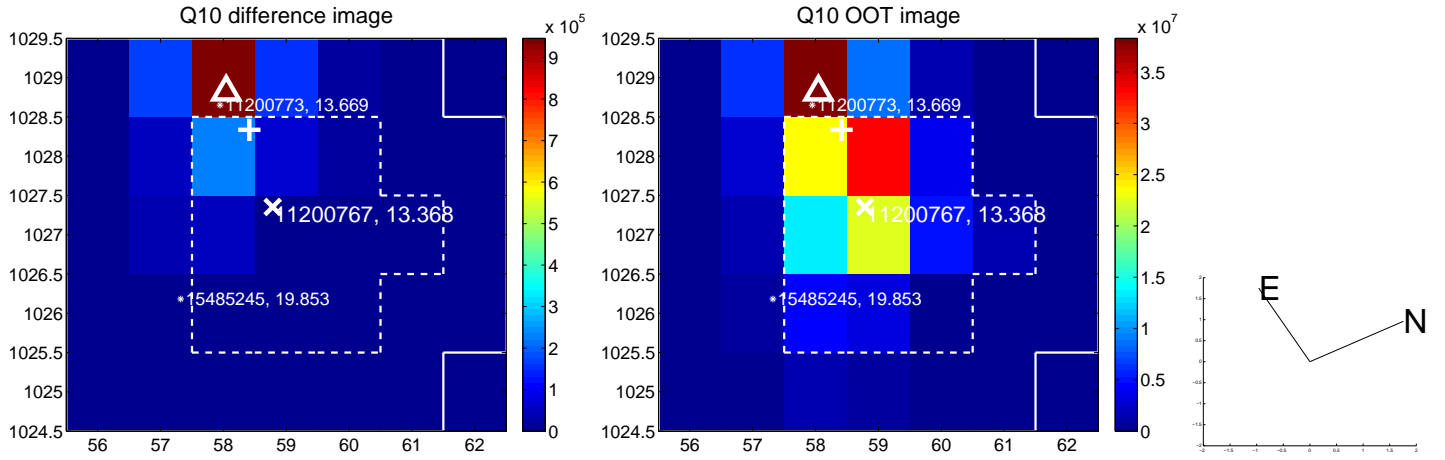
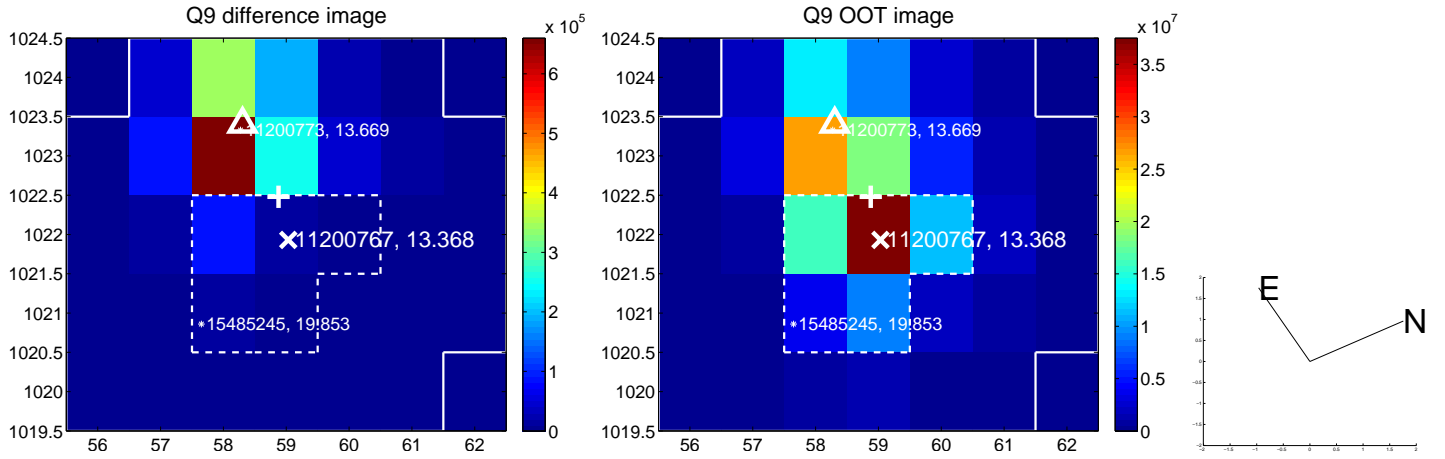
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



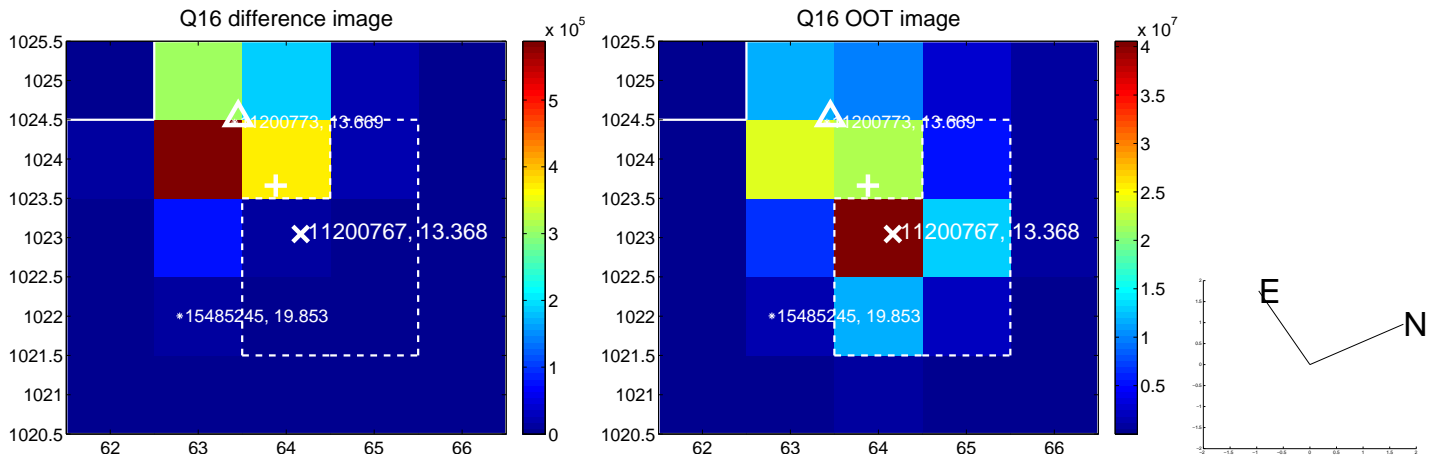
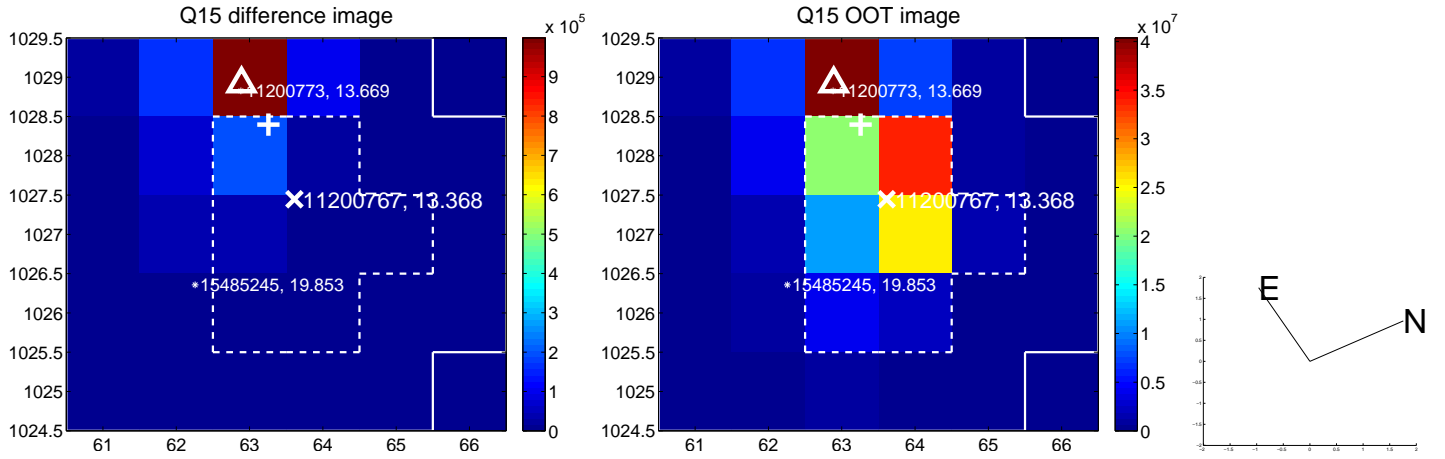
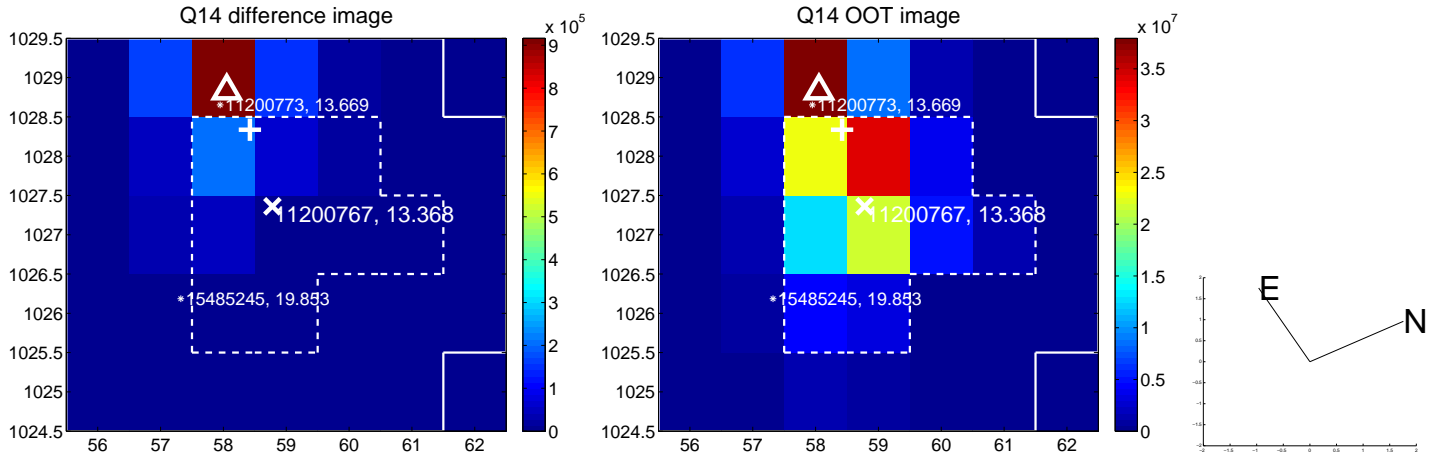
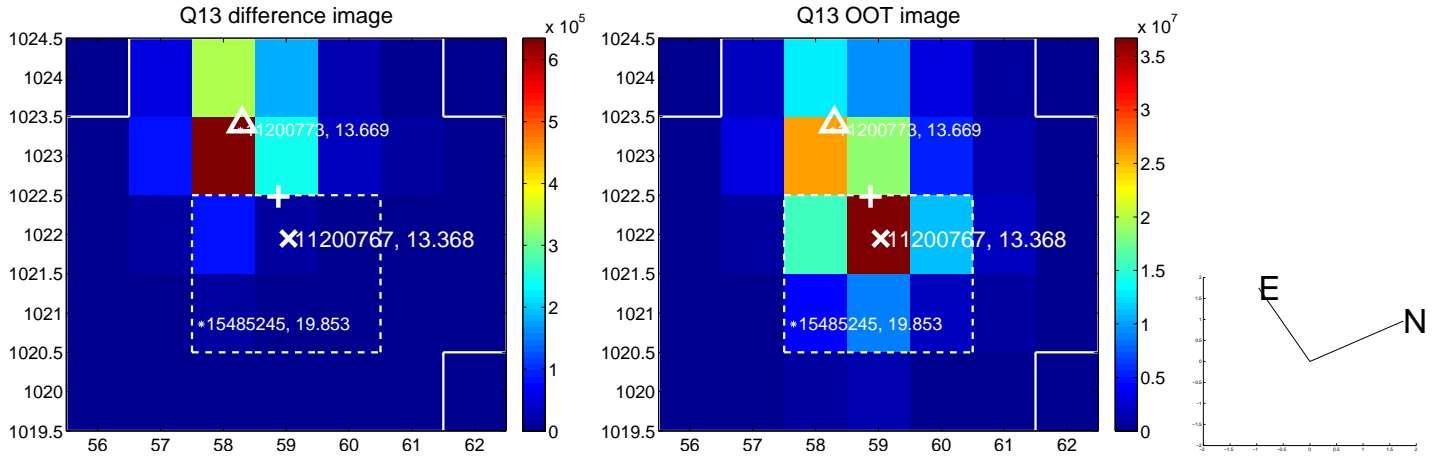
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



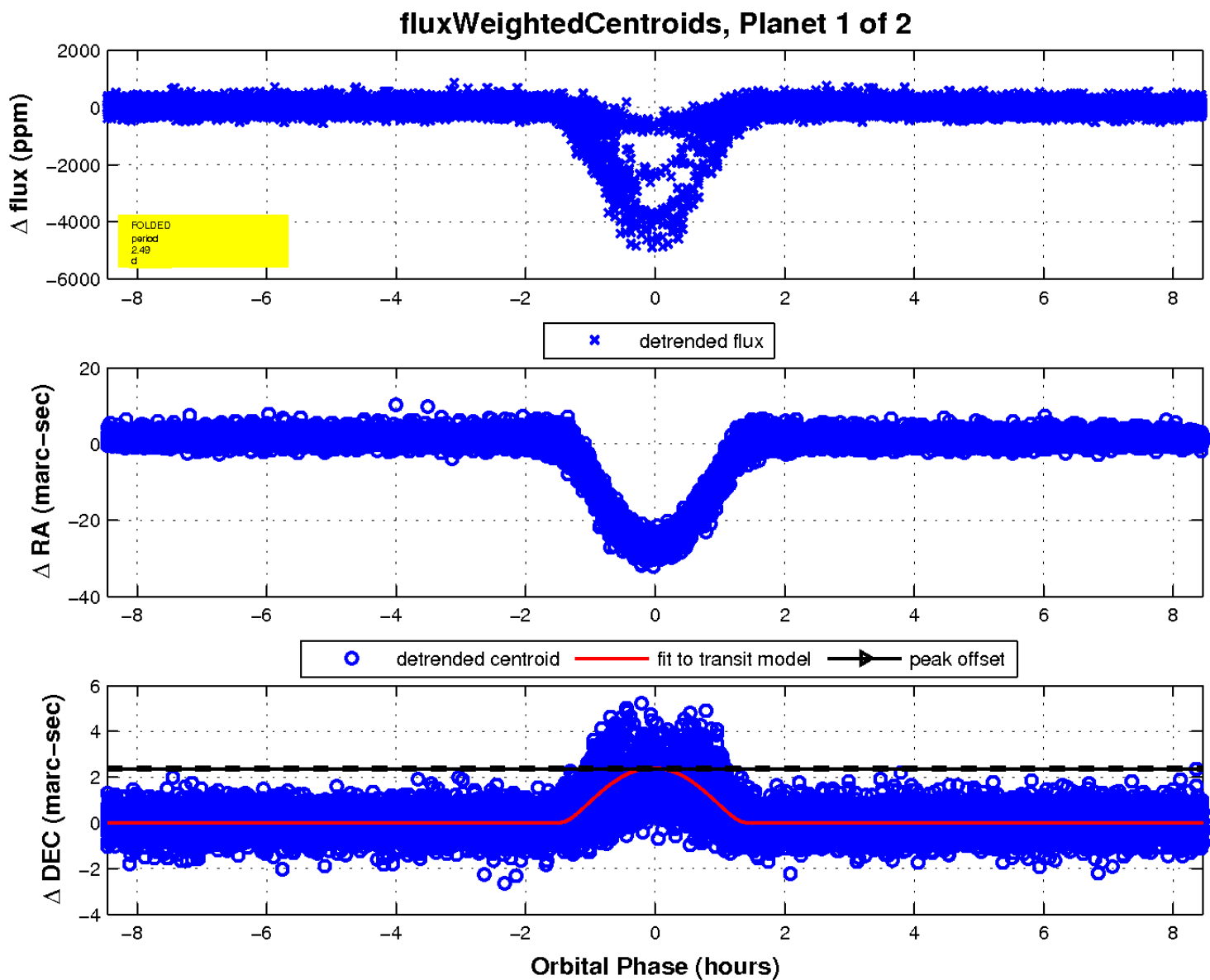
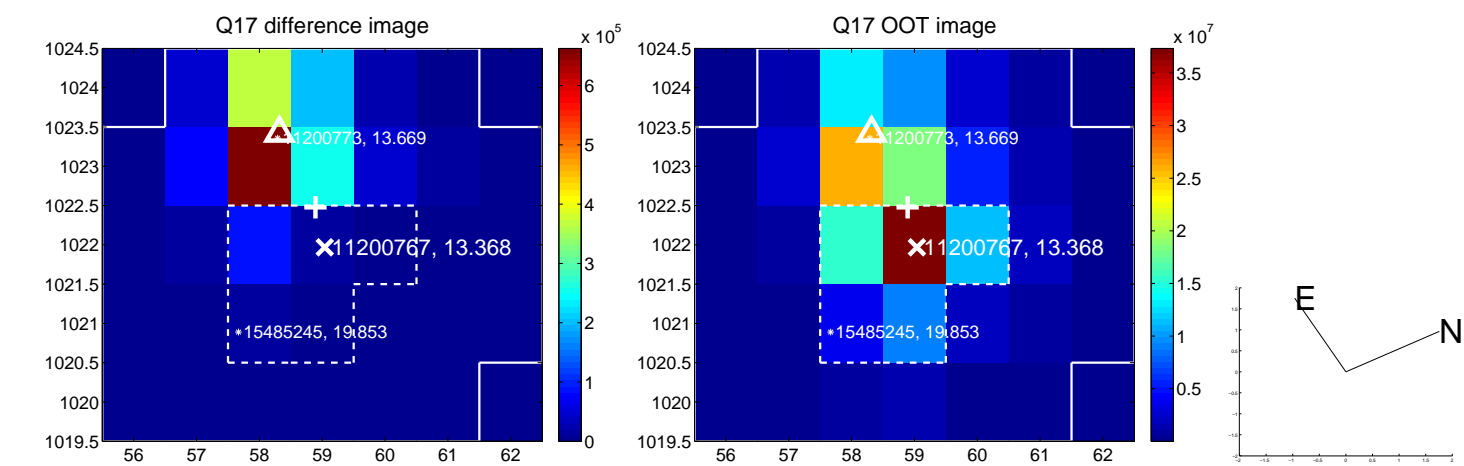
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

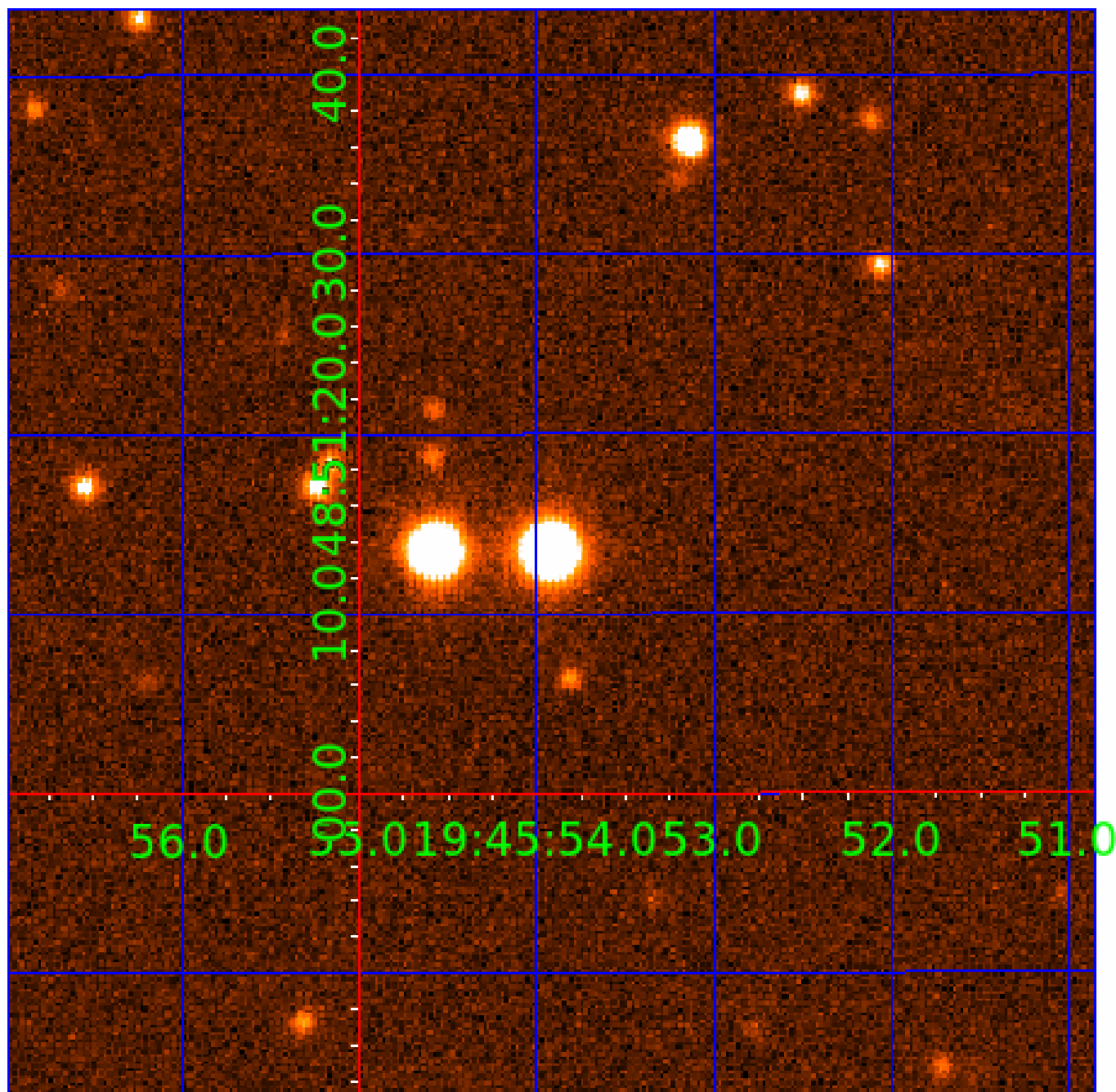


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011200767

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})
011200767-01	OBS	3667.01	2.489534	132.048765	1243.6	2.820	396.3	166.4	1.41	6184	8.04	2015.91
011200767-02	OBS	No	2.489523	133.295906	147.7	1.990	30.3	32.2	1.41	6184	2.01	2015.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011200767-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—EPHEM_MATCH
011200767-02	OBS	FP	0.00	1	1	1	1	IS_SEC_TCE—CENT_RESOLVED_OFFSET—EPHEM_MATCH

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 011200767-02

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist (μ)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
011200767-02	11200767	011200773-02	11200773	2:1	6.3	-2	1	13.67	13.37	21.41	Direct-PRF	0	0.48	0.11

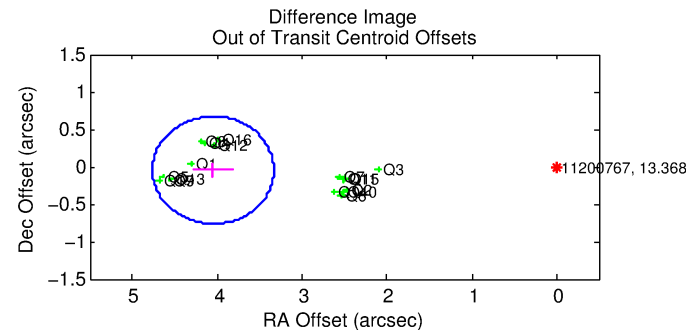
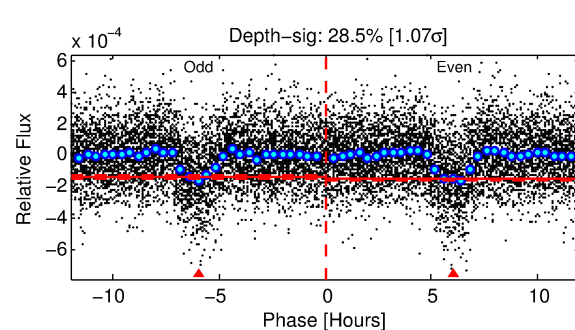
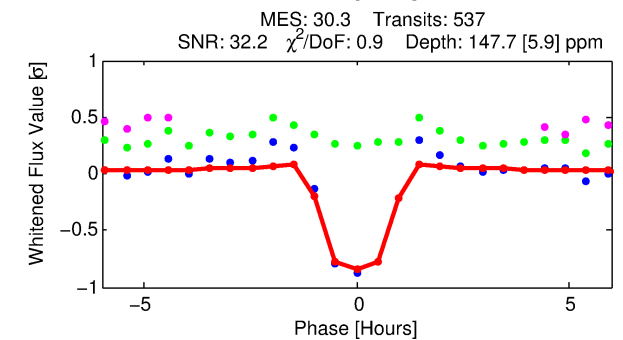
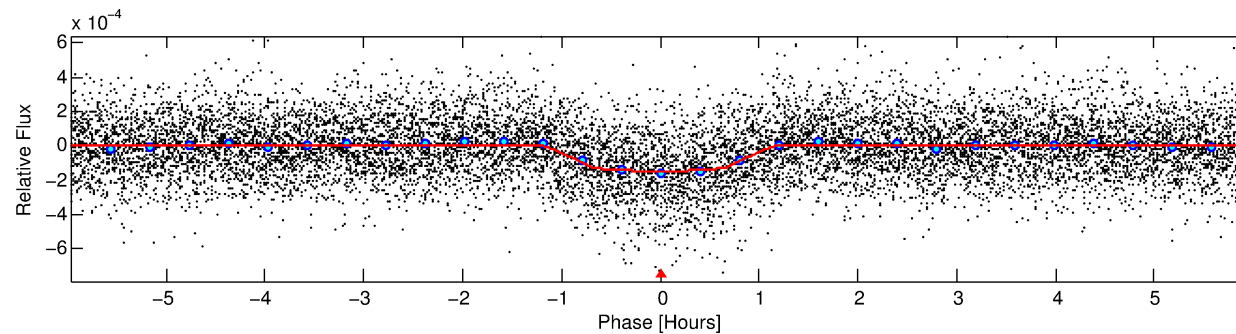
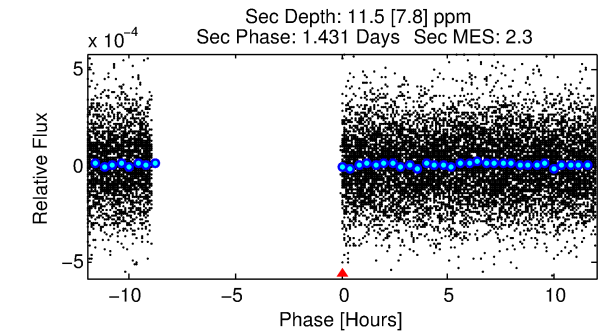
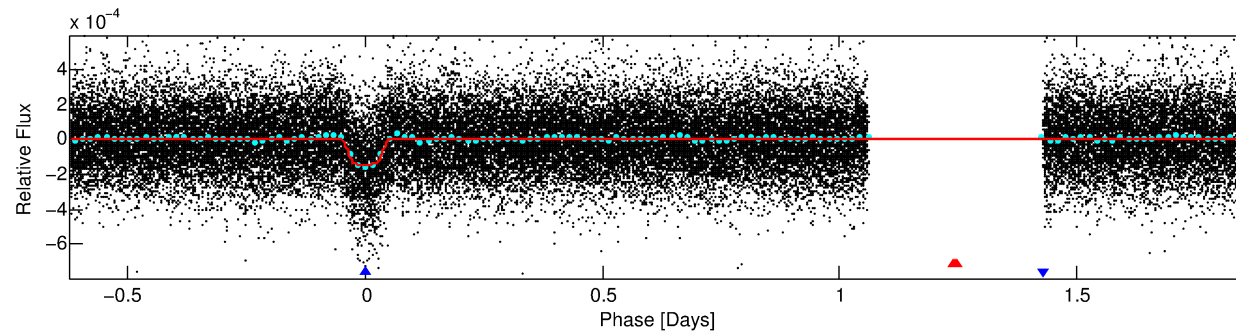
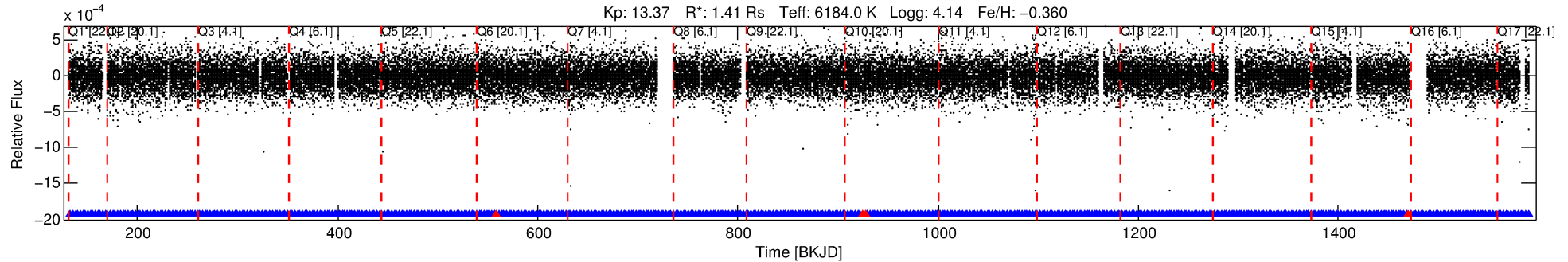
Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 11200767 Candidate: 2 of 2 Period: 2.490 d

KOI: K03667 Corr: No Ephemeris Match

Kp: 13.37 R*: 1.41 Rs Teff: 6184.0 K Logg: 4.14 Fe/H: -0.360



DV Fit Results:

Period = 2.48952 [0.00000] d
Epoch = 133.2959 [0.0010] BKJD
Rp/R* = 0.0131 [0.0023]
a/R* = 4.49 [4.07]
b = 0.90 [0.20]
Seff = 2015.92 [1026.23]
Teq = 1709 [217] K
Rp = 2.01 [0.69] Re
a = 0.0358 [0.0107] AU
Ag = 2.02 [1.83] [0.56σ]
Teffp = 3148 [609] K [2.23σ]

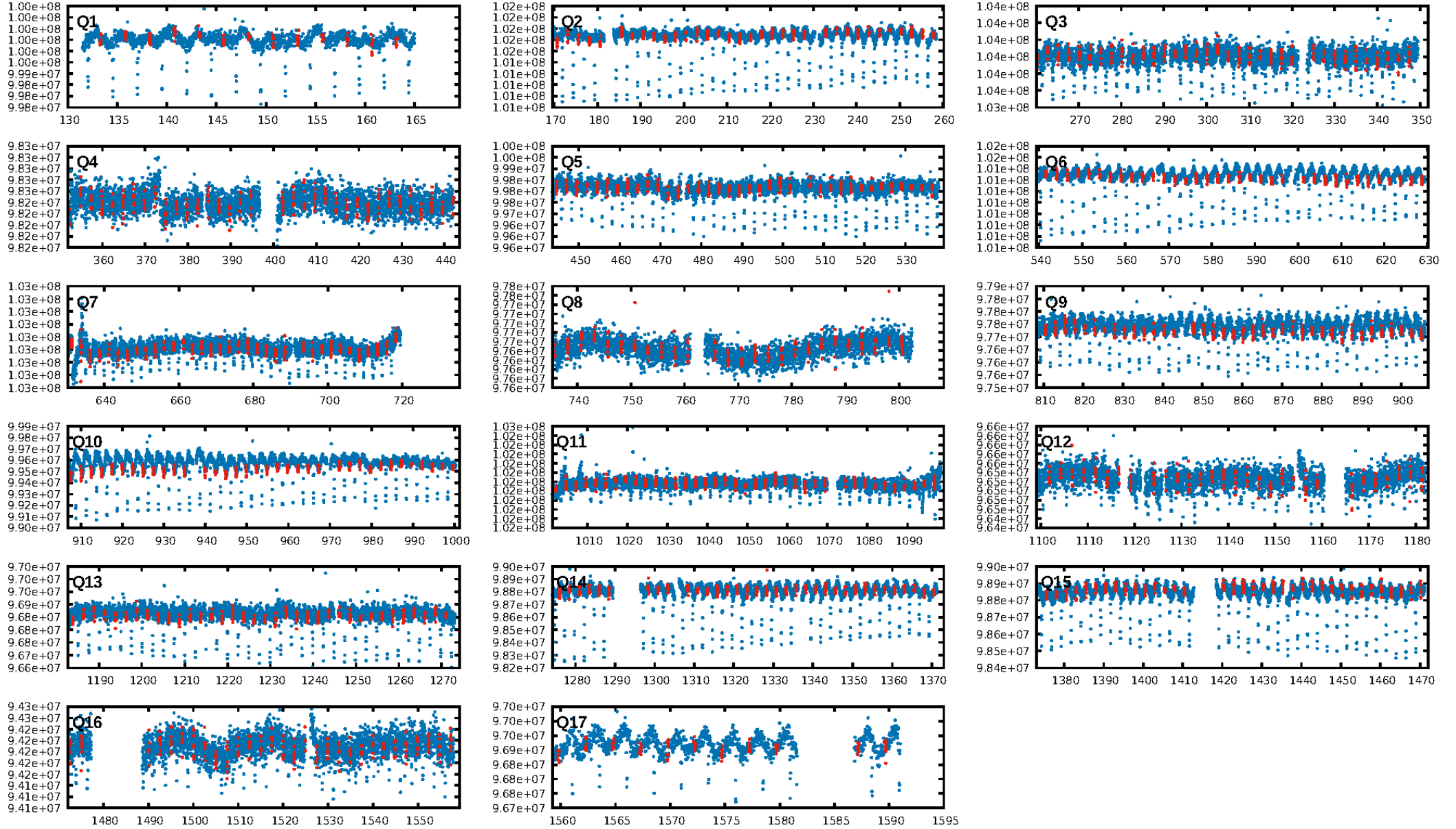
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.12e-183
RollingBand-fgt: 0.99 [509/513]
GhostDiagnostic-chr: -0.2672
Centroid-sig: N/A
Centroid-so: 4.150 arcsec [13.38σ]
OotOffset-rm: 4.048 arcsec [16.97σ]
KicOffset-rm: 6.657 arcsec [95.68σ]
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]

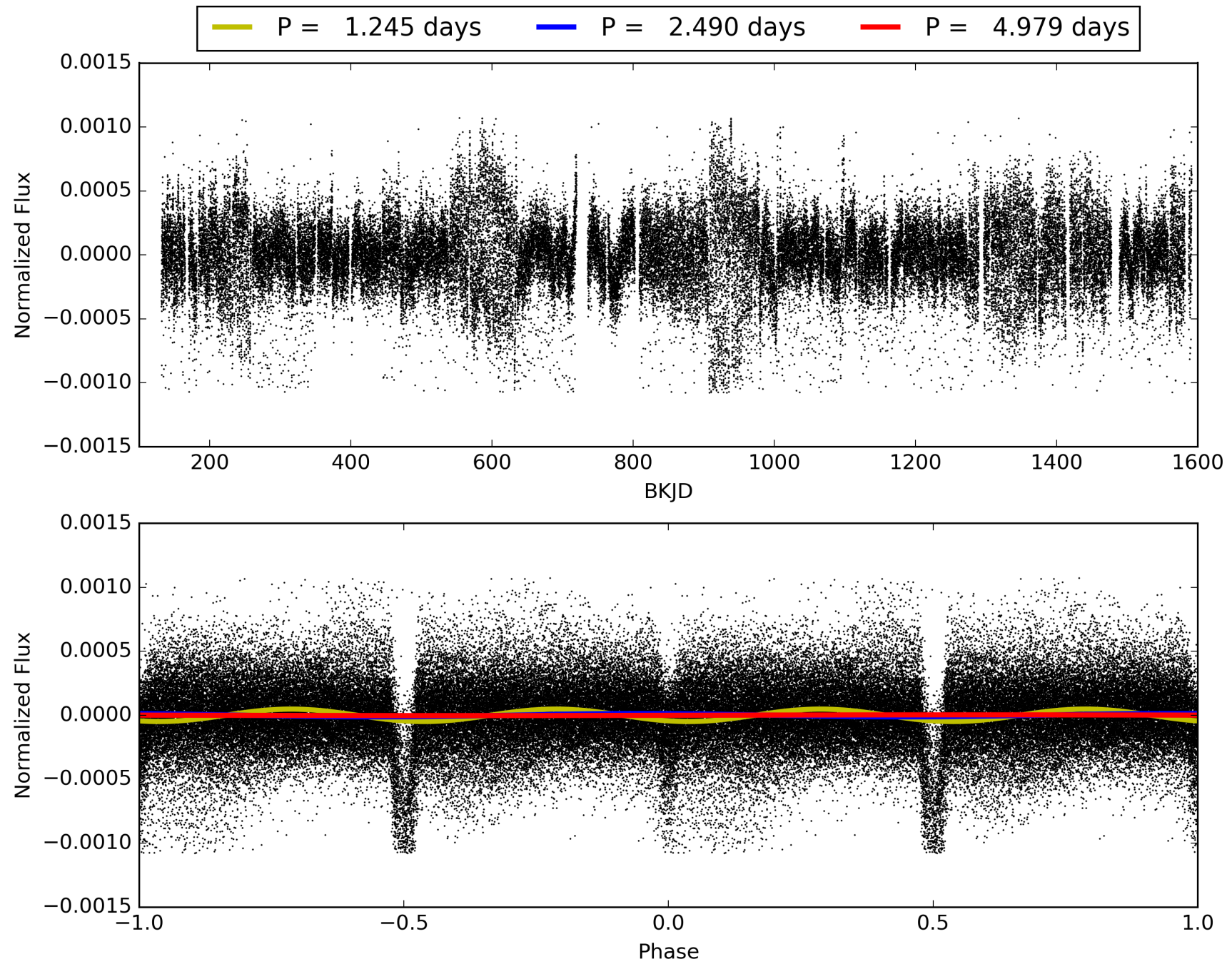
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 011200767-02, PDC Light Curves

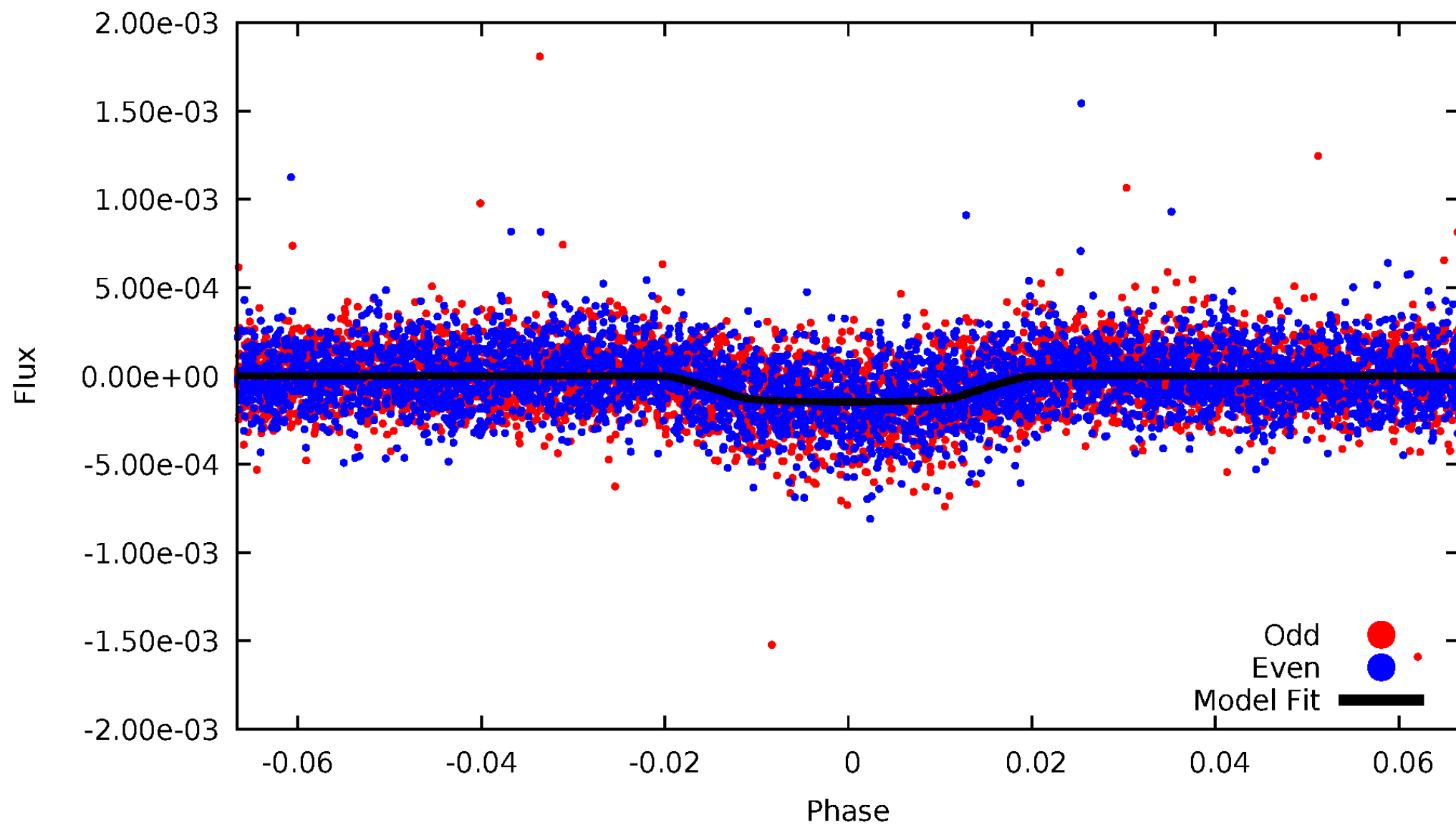


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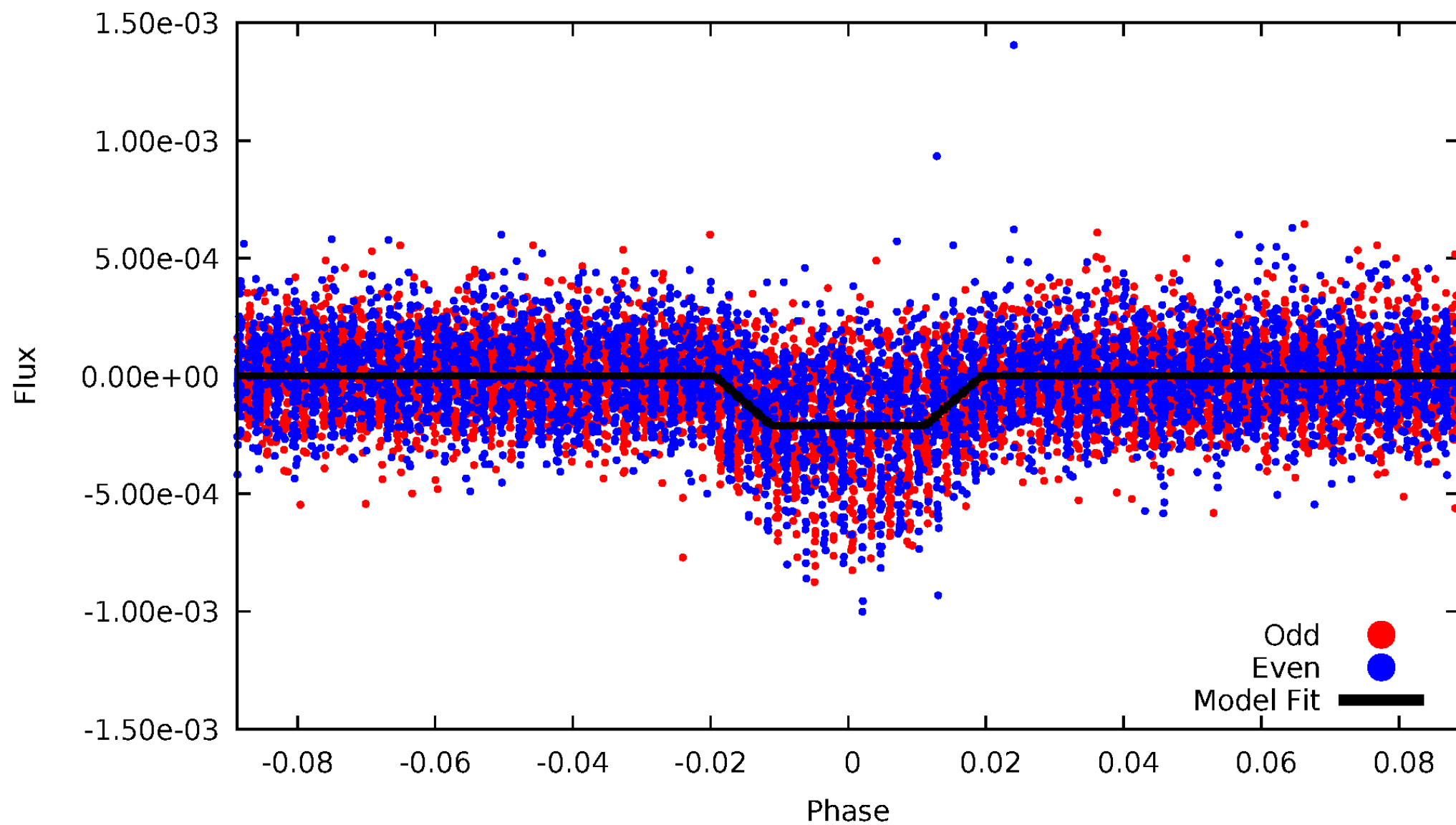
DV Odd/Even

TCE 011200767-02



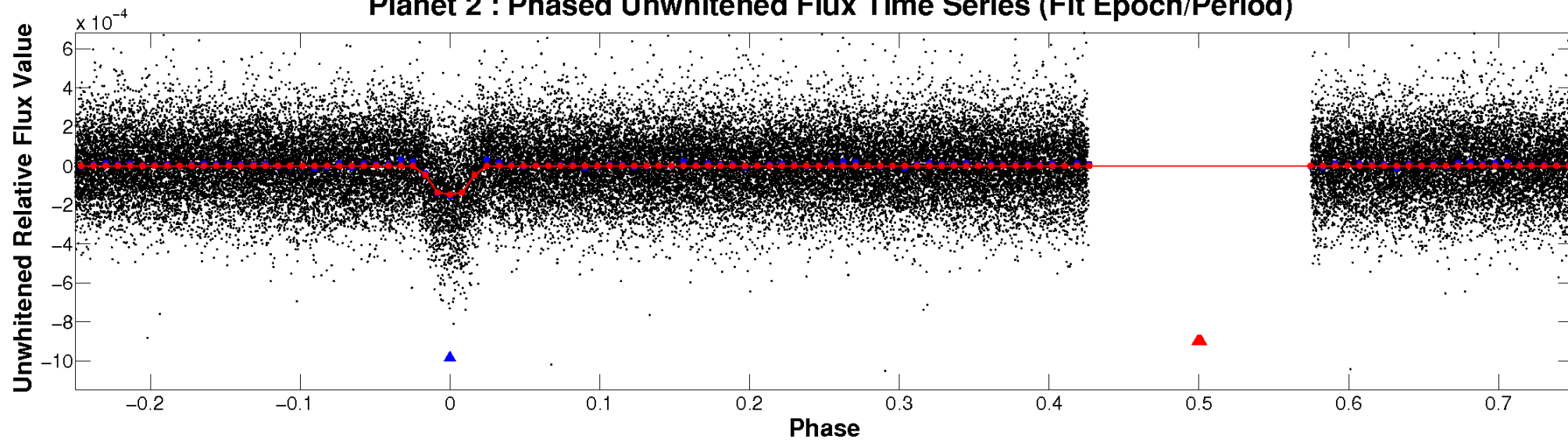
ALT Odd/Even

TCE 011200767-02

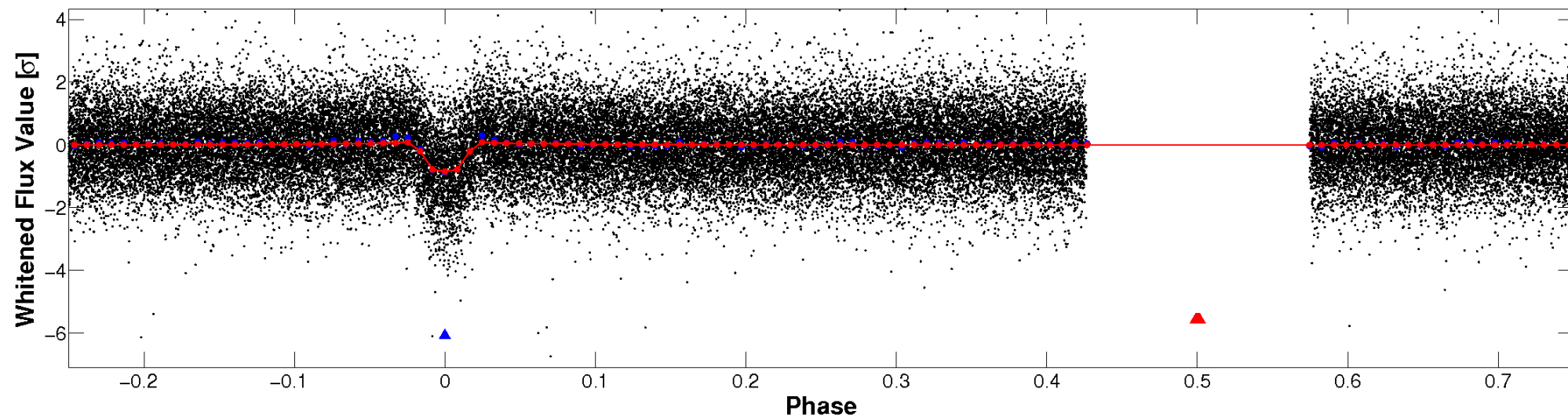


Non-Whitened Vs. Whitened Light Curve

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

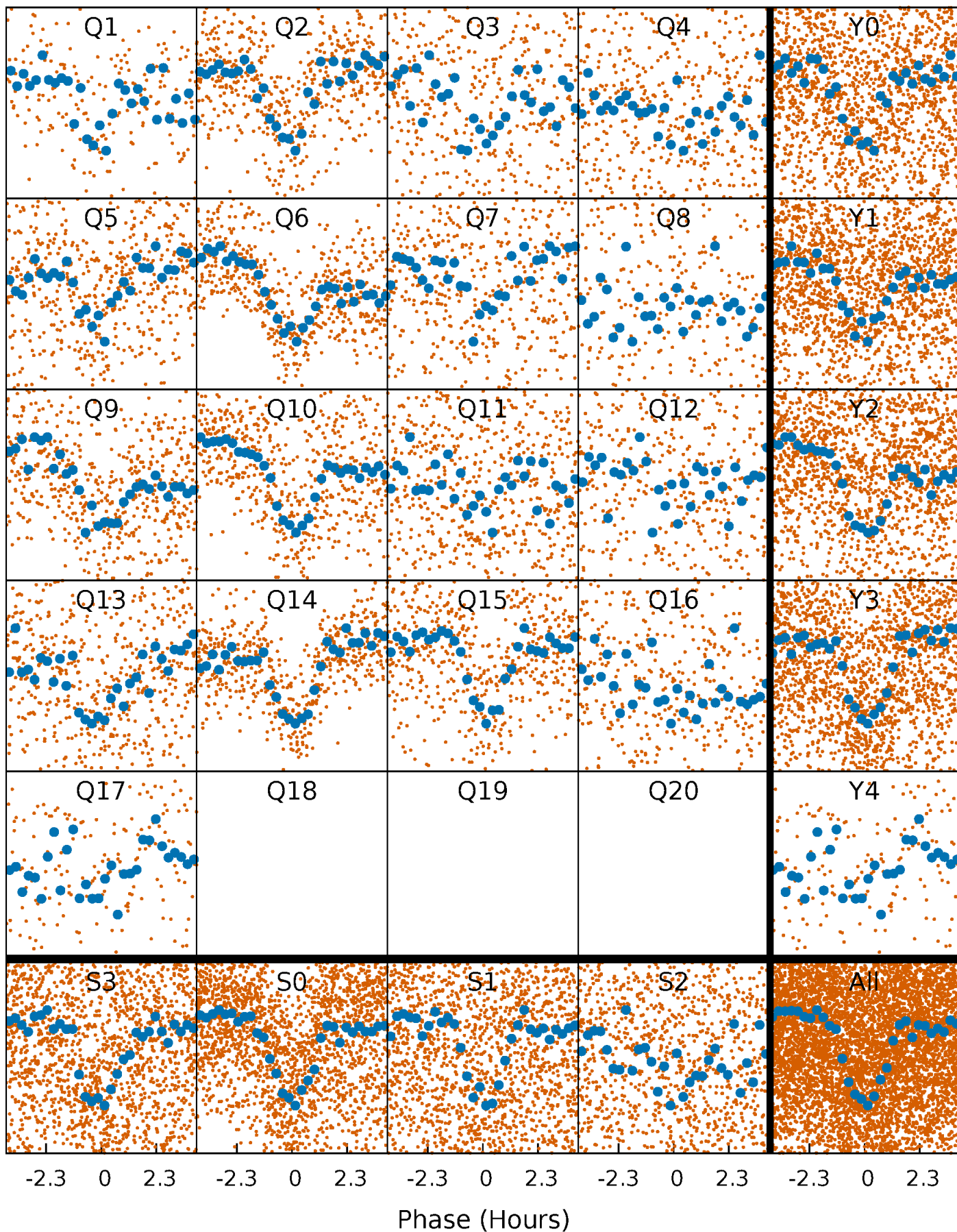


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



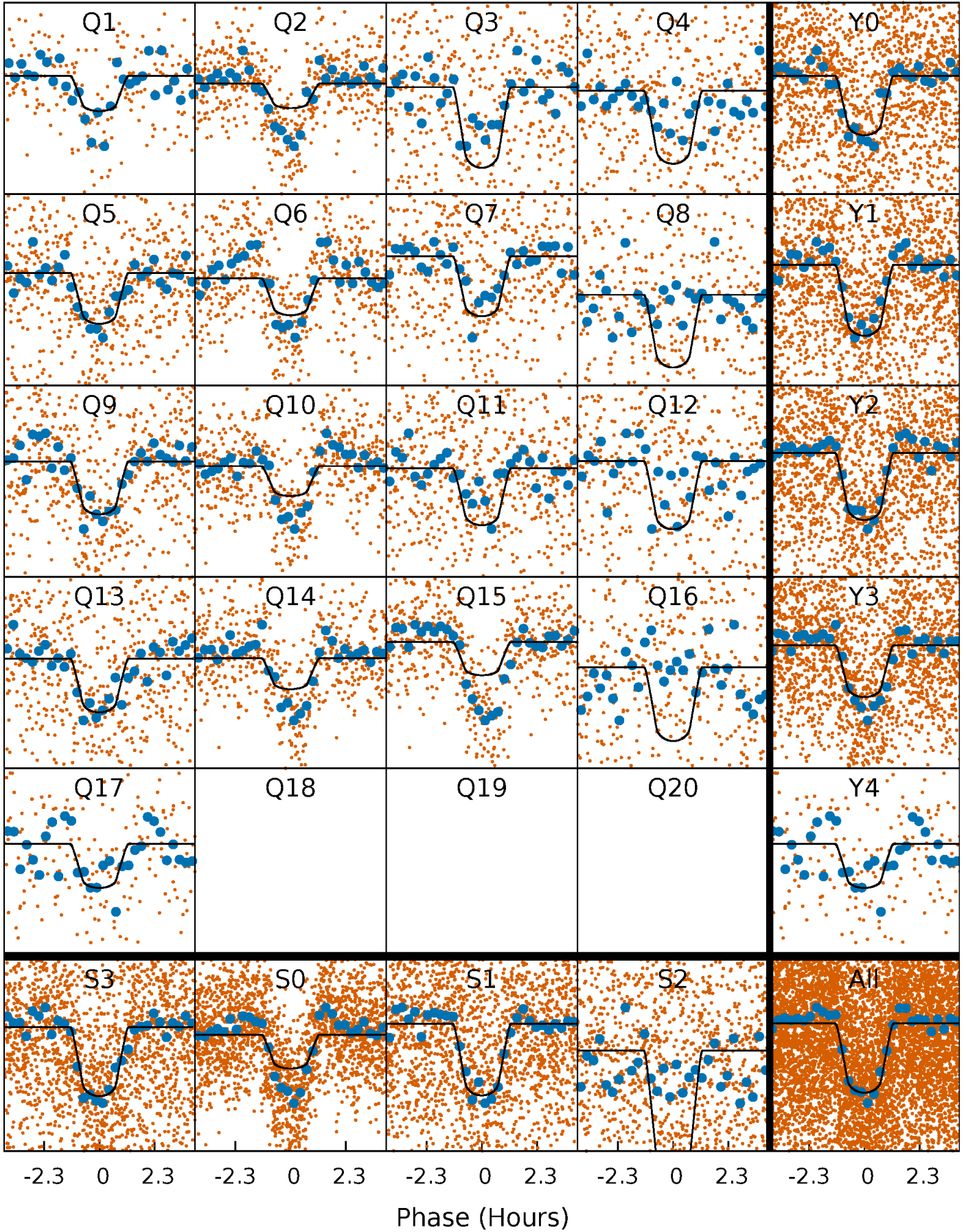
PDC Quarter-Phased Transit Curves

TCE 011200767-02 P= 2.489523 Days $T_0=133.295906$ (BKJD)



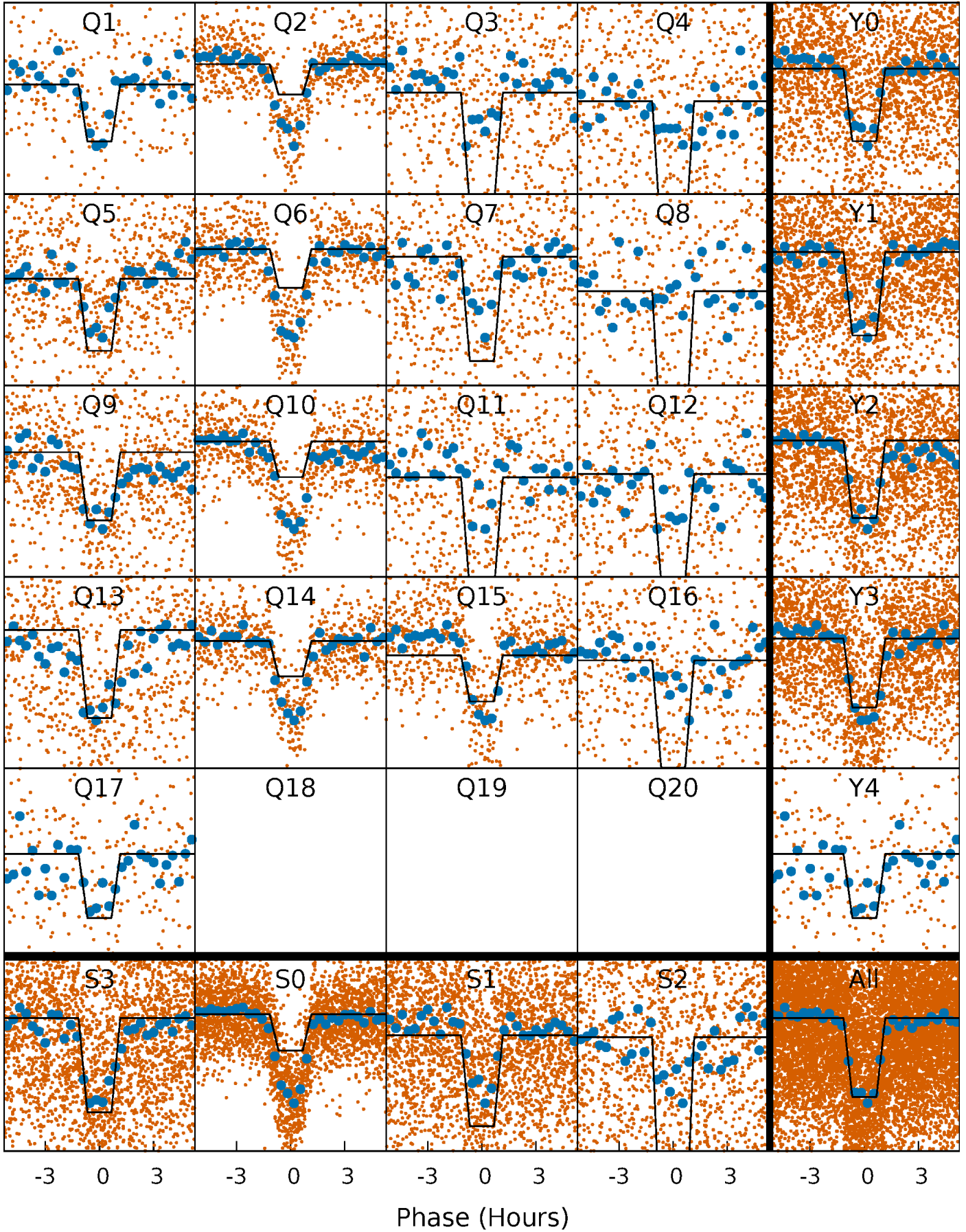
DV Quarter-Phased Transit Curves

TCE 011200767-02 P= 2.489523 Days $T_0=133.295906$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

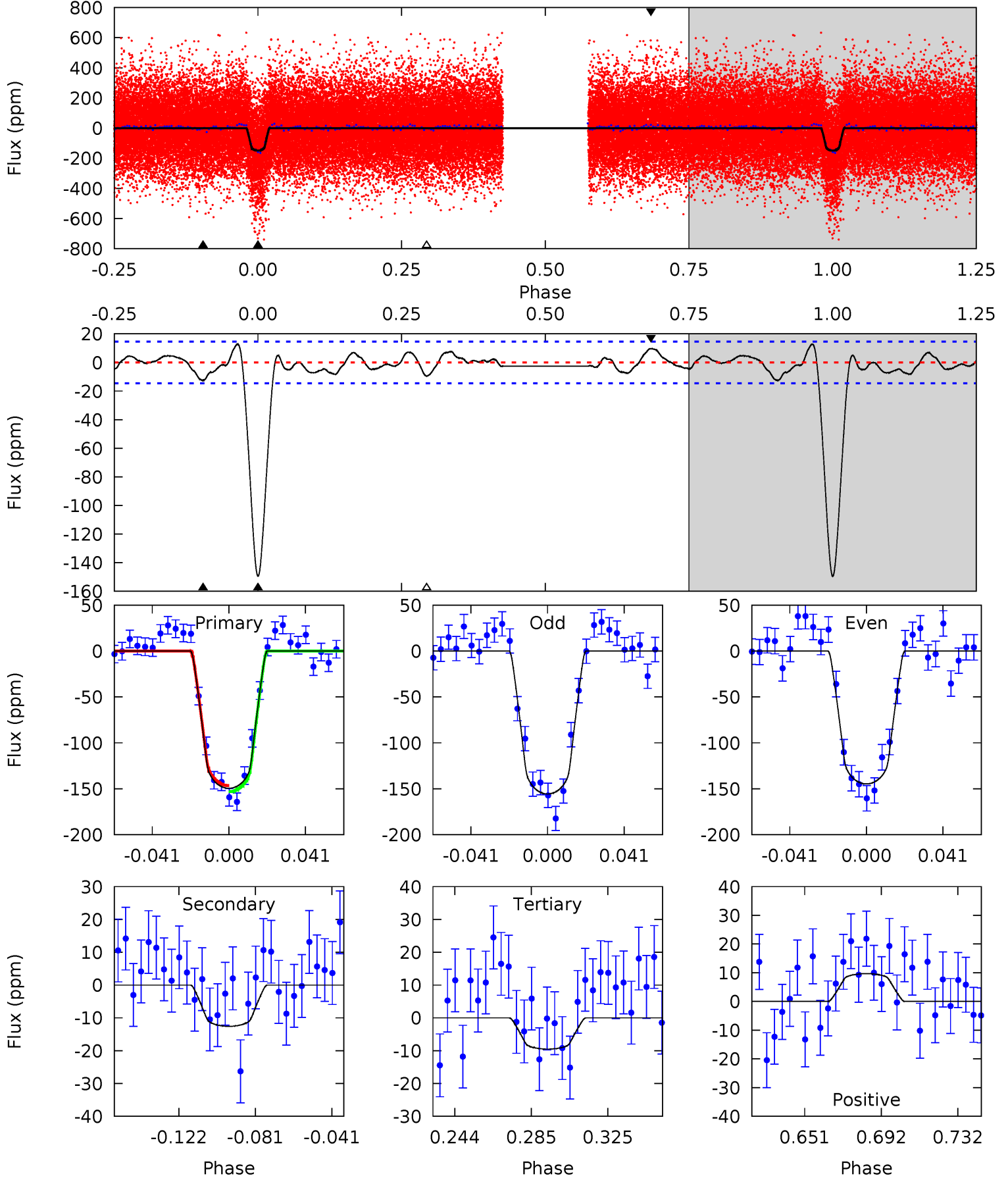
TCE 011200767-02 P= 2.489538 Days $T_0=133.292186$ (BKJD)



DV Model-Shift Uniqueness Test

011200767-02, P = 2.489523 Days, E = 130.806383 Days

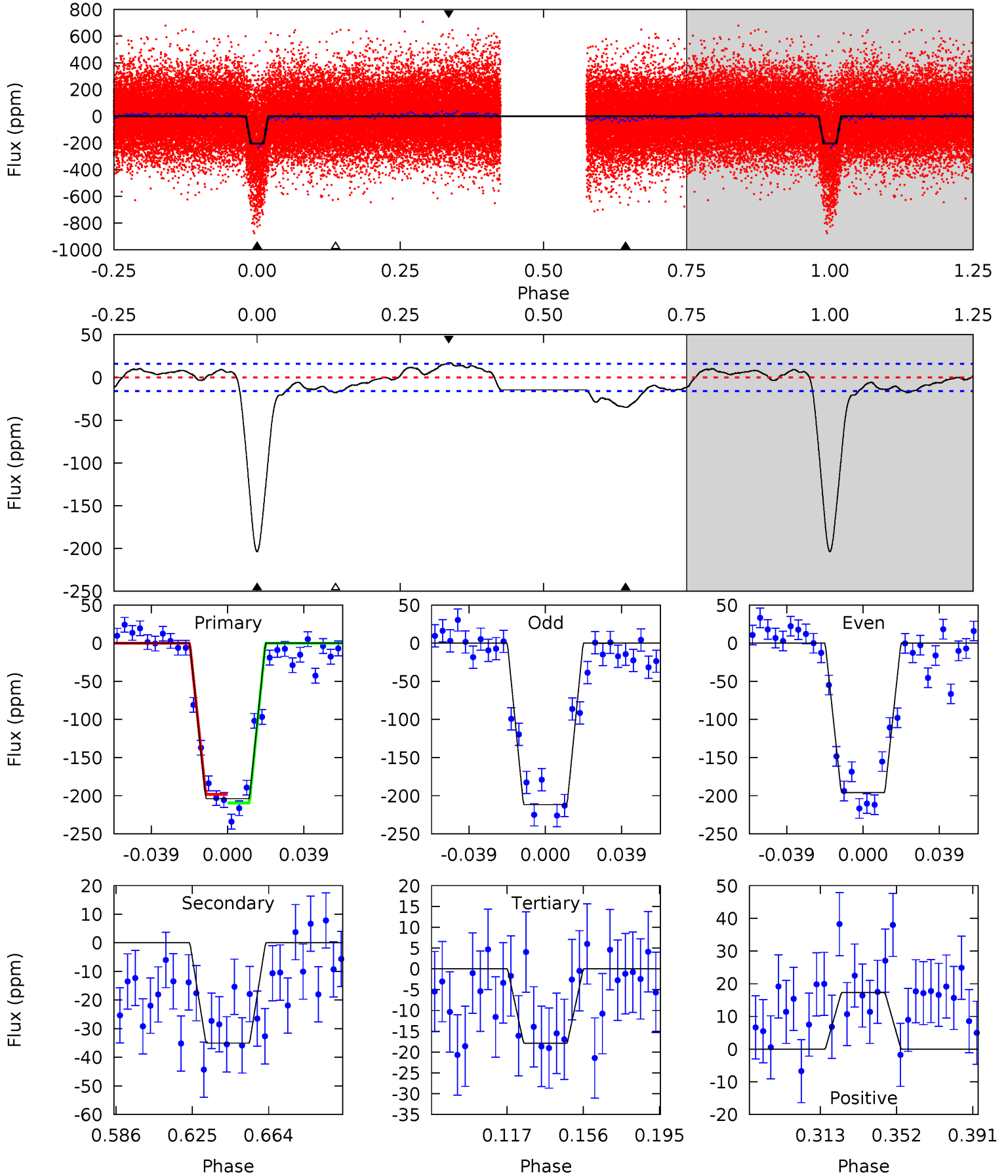
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.8	4.10	3.10	3.16	4.75	2.05	1.44	45.7	45.6	1.00	0.95	1.80	1.14	0.08	1.08



Alt Model-Shift Uniqueness Test

011200767-02, P = 2.489538 Days, E = 130.802648 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
61.0	10.5	5.35	5.17	4.76	2.06	3.25	55.7	55.9	5.14	5.32	2.37	1.20	0.08	1.69



Stellar Parameters For KIC 011200767

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6184^{+169}_{-206}	$4.138^{+0.293}_{-0.158}$	$-0.360^{+0.300}_{-0.300}$	$1.406^{+0.375}_{-0.417}$	$0.991^{+0.147}_{-0.120}$	$0.502^{+0.958}_{-0.218}$
	+3%/-3%	+7%/-4%	+83%/-83%	+27%/-30%	+15%/-12%	+191%/-43%
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 011200767-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-13 ± 3	$1.97^{+0.47}_{-0.46}$	2363^{+181}_{-234}	3559^{+307}_{-290}	$2.329^{+1.797}_{-0.934}$
Alt.	-35 ± 3	$2.17^{+0.49}_{-0.48}$	2354^{+172}_{-202}	4153^{+316}_{-256}	$5.298^{+3.255}_{-1.797}$

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

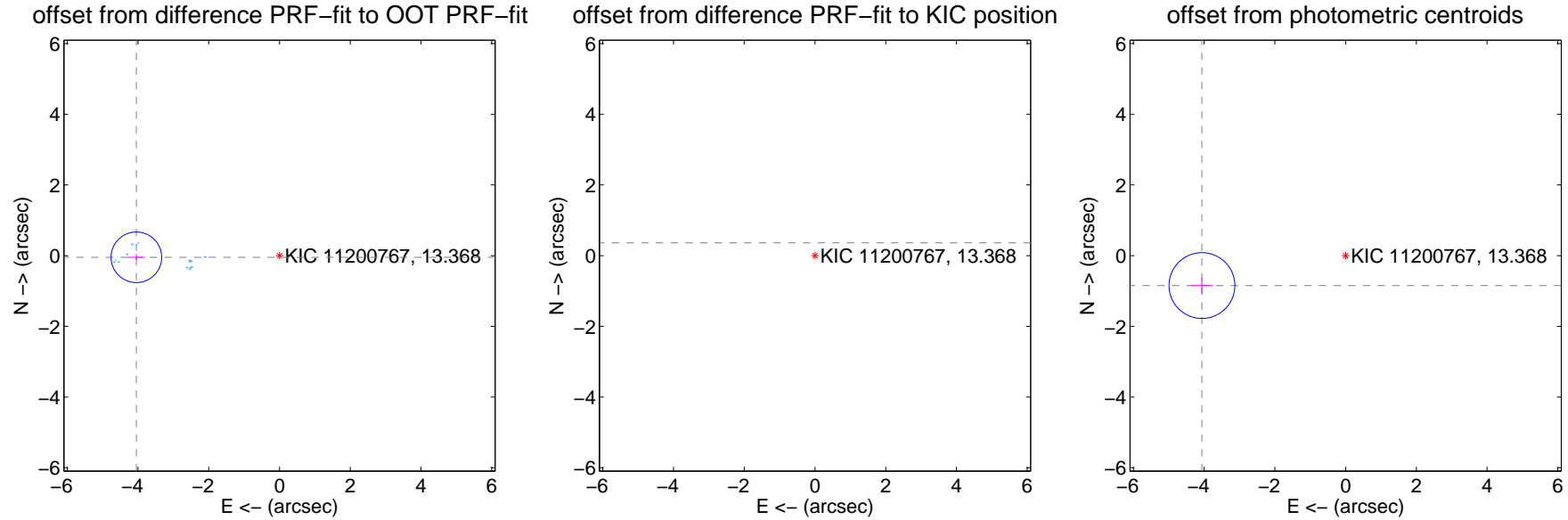
DV Centroid Data

Supplemental centroid analysis for 011200767-02. Kepler magnitude: 13.37. Transit SNR 32.24

There are 17 quarters with good PRF difference image offsets

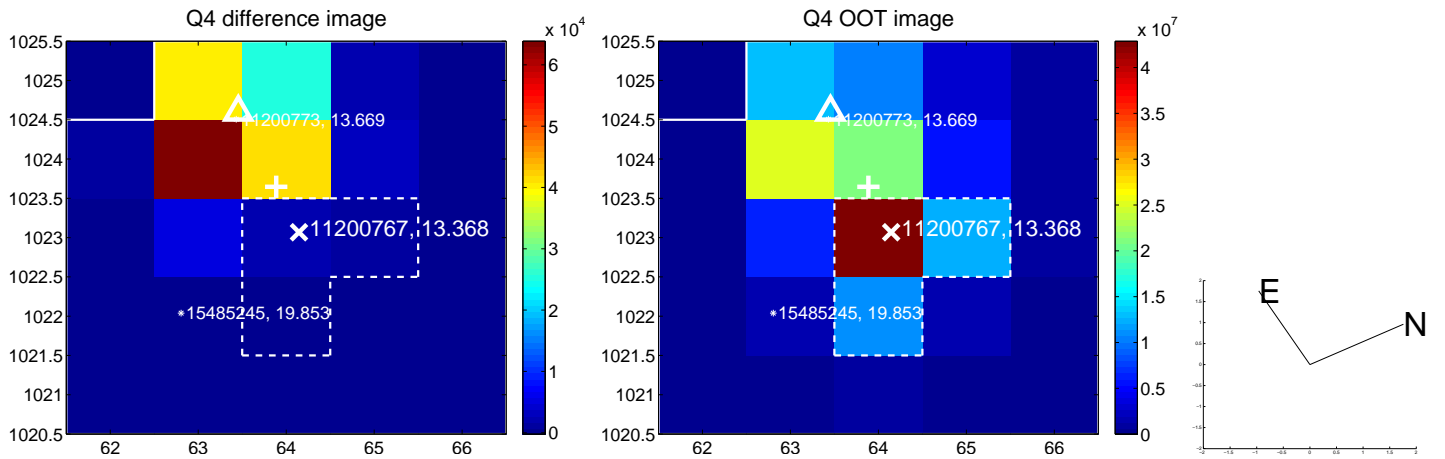
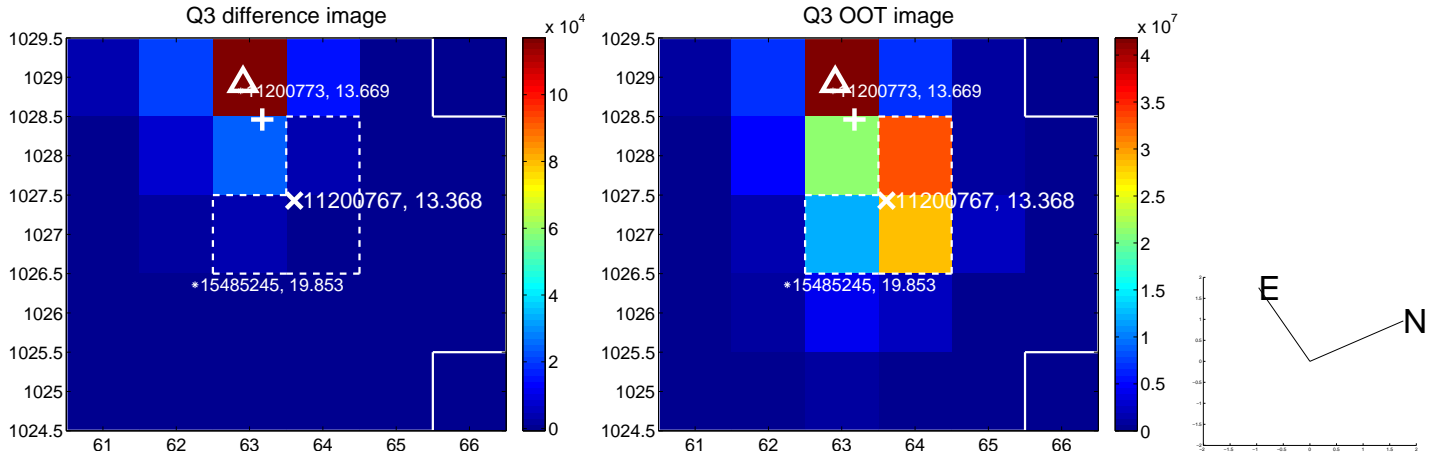
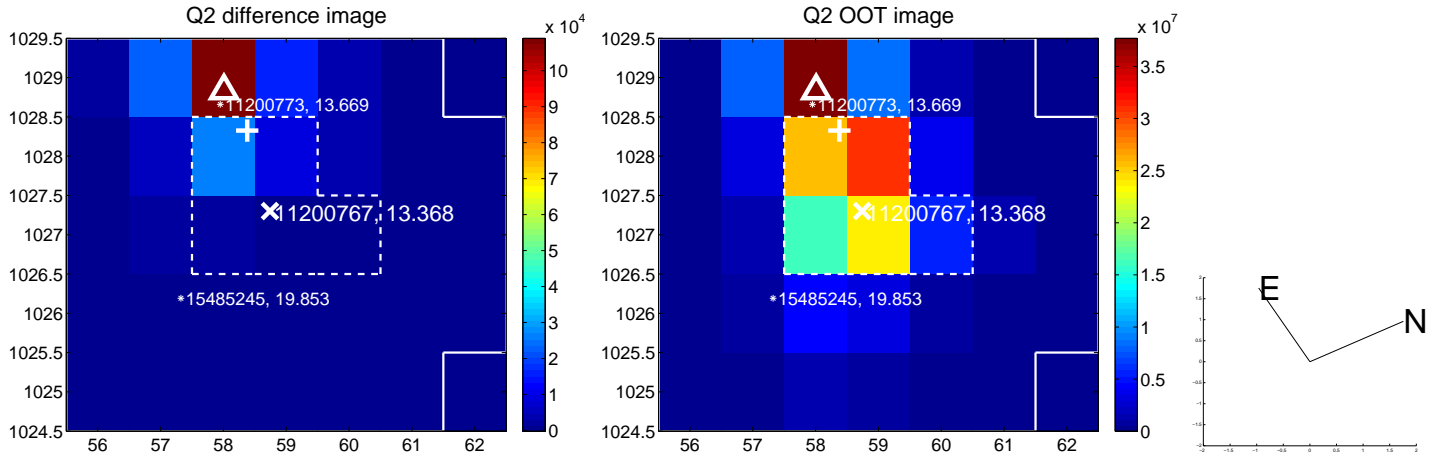
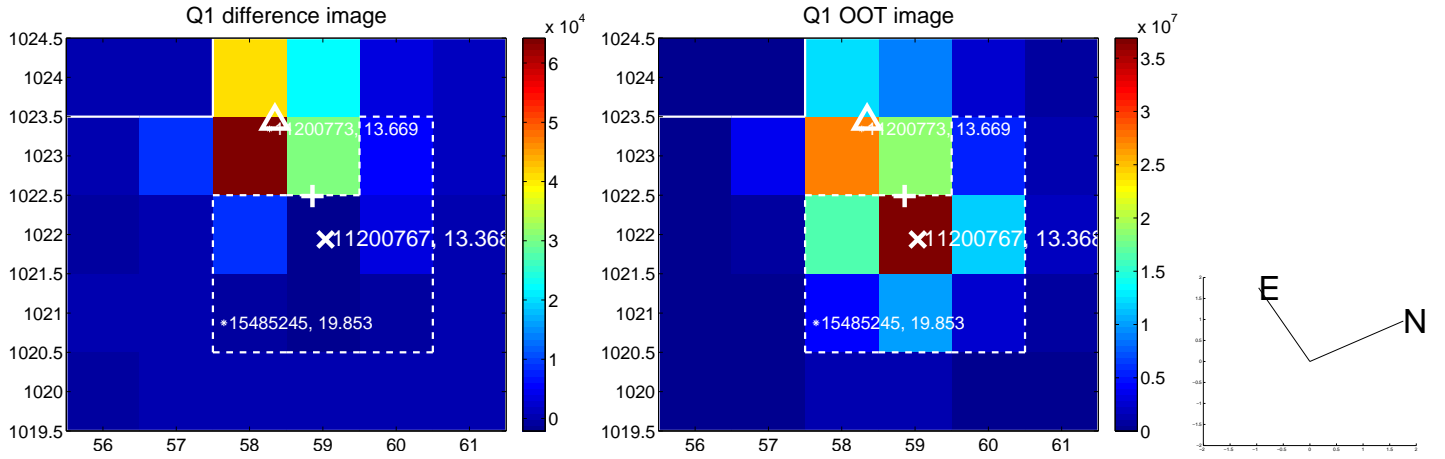
The OOT PRF centroid is offset from the target star catalog position by about 2.09 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.048 ± 0.239	16.97	4.047 ± 0.239	-0.047 ± 0.087
PRF-fit source offset from KIC position	6.657 ± 0.070	95.68	6.647 ± 0.070	0.362 ± 0.072
photometric centroid source offset	4.15 ± 0.31	13.38	4.06 ± 0.31	-0.85 ± 0.22

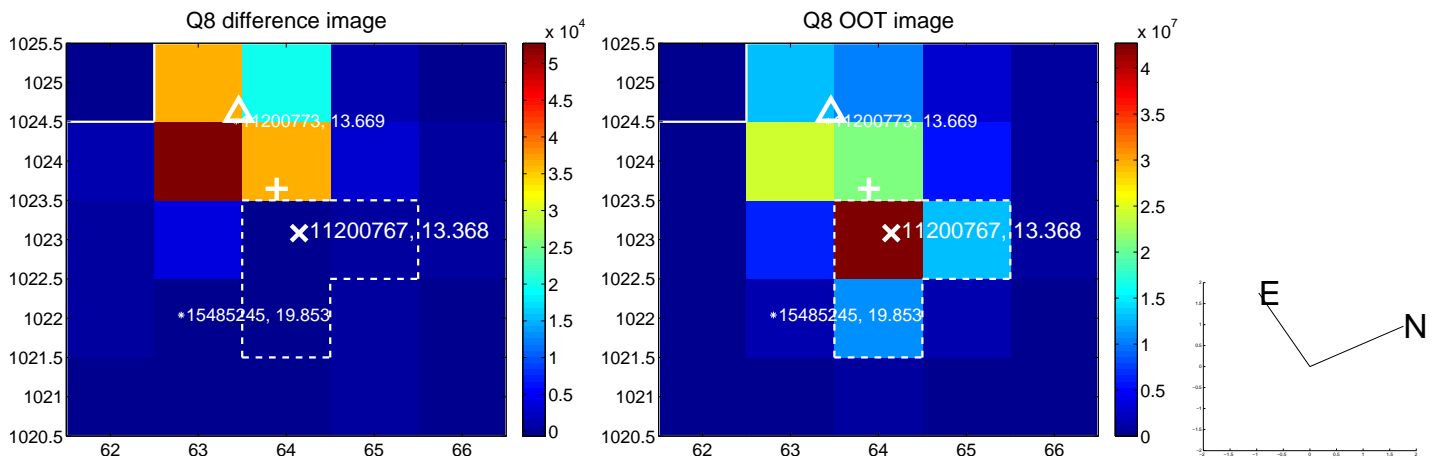
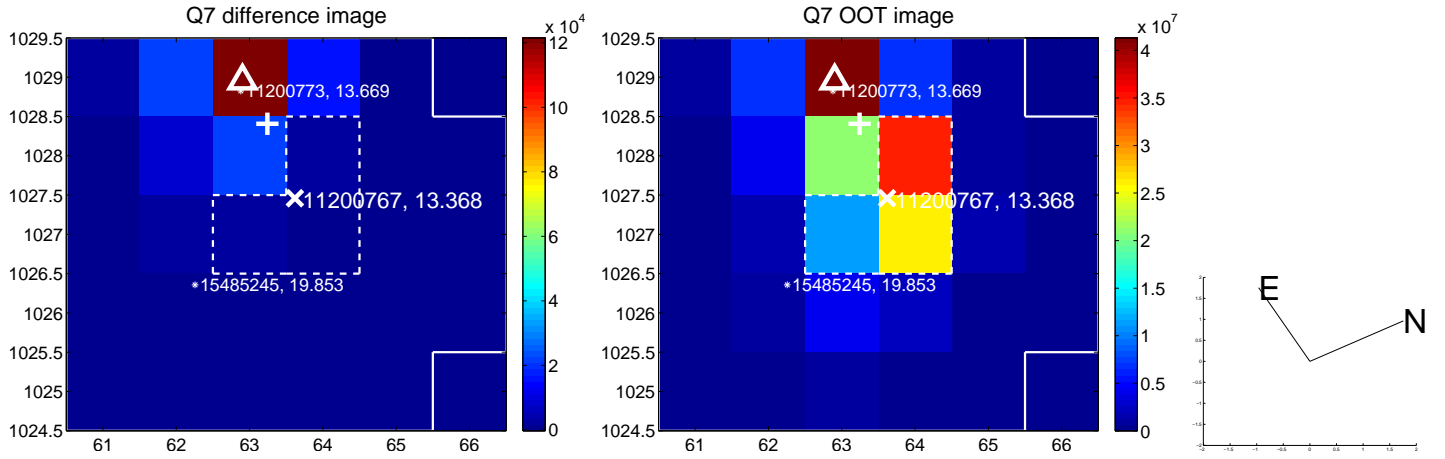
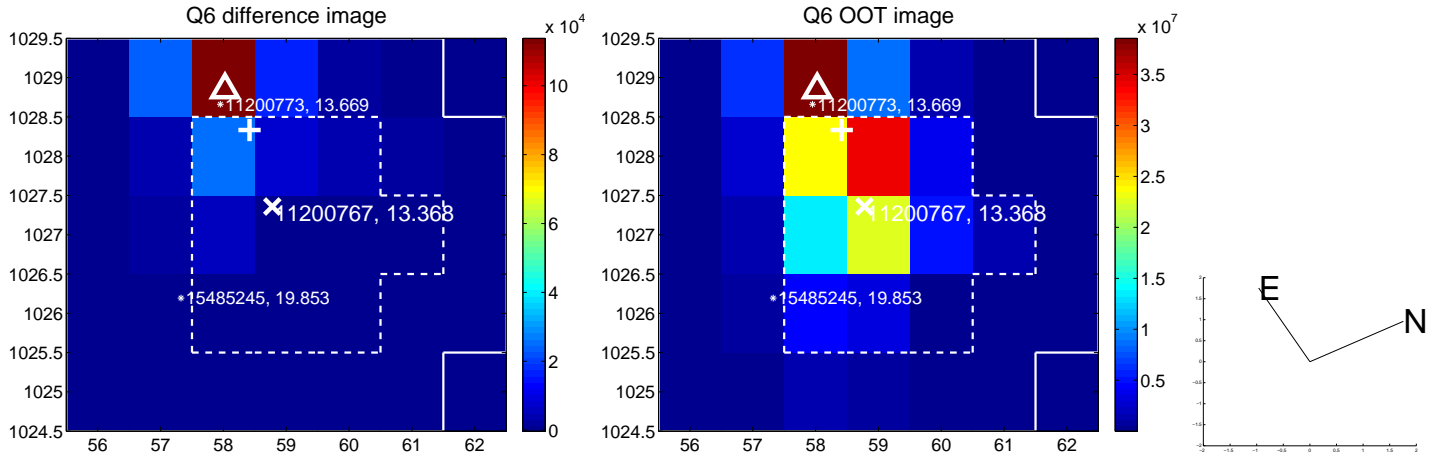
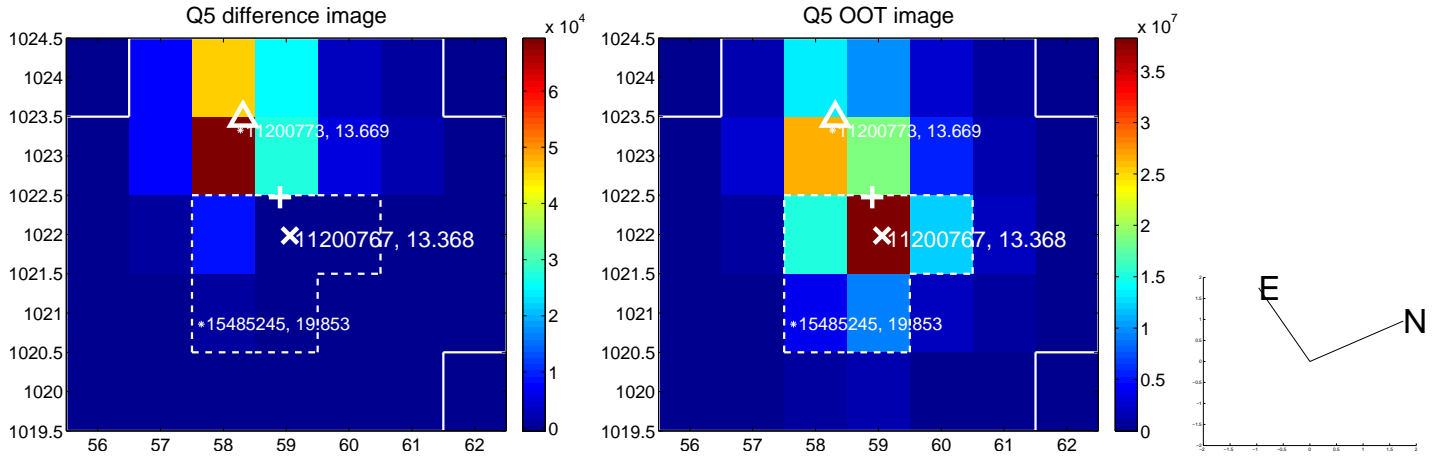


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

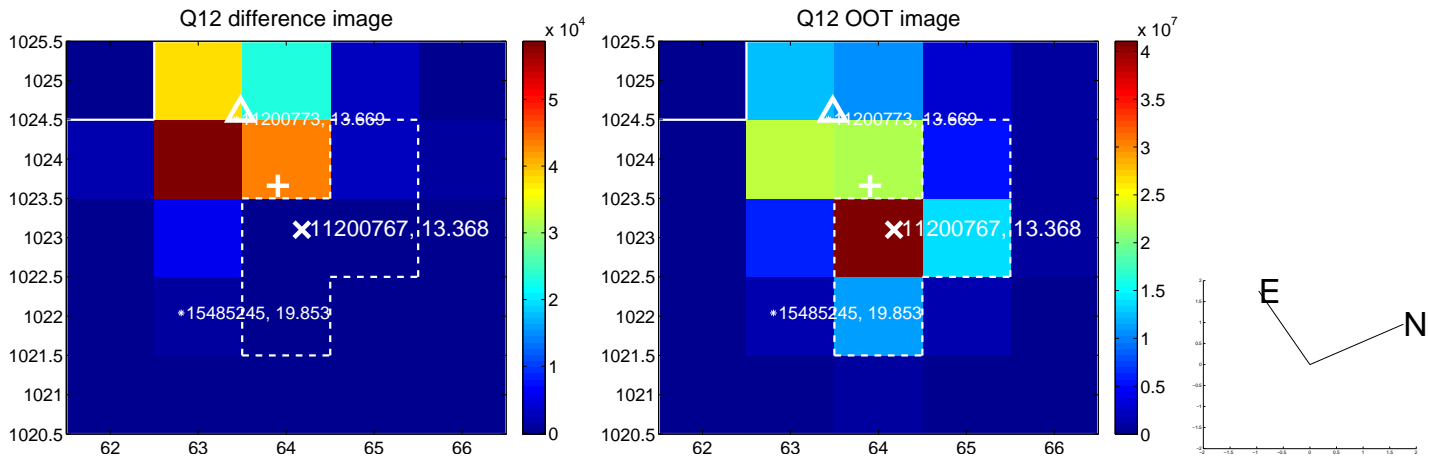
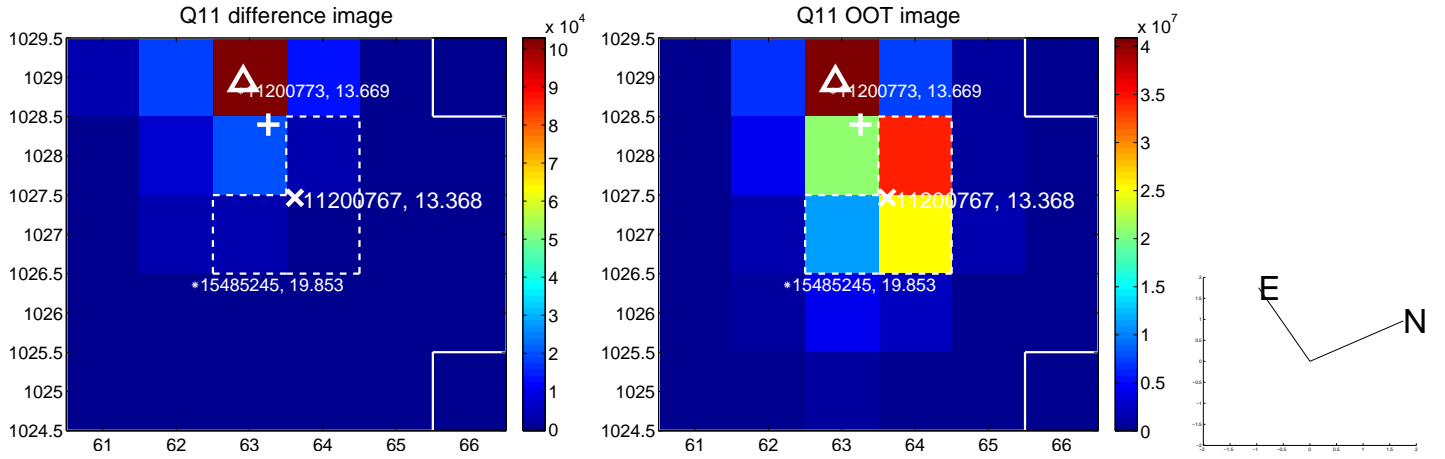
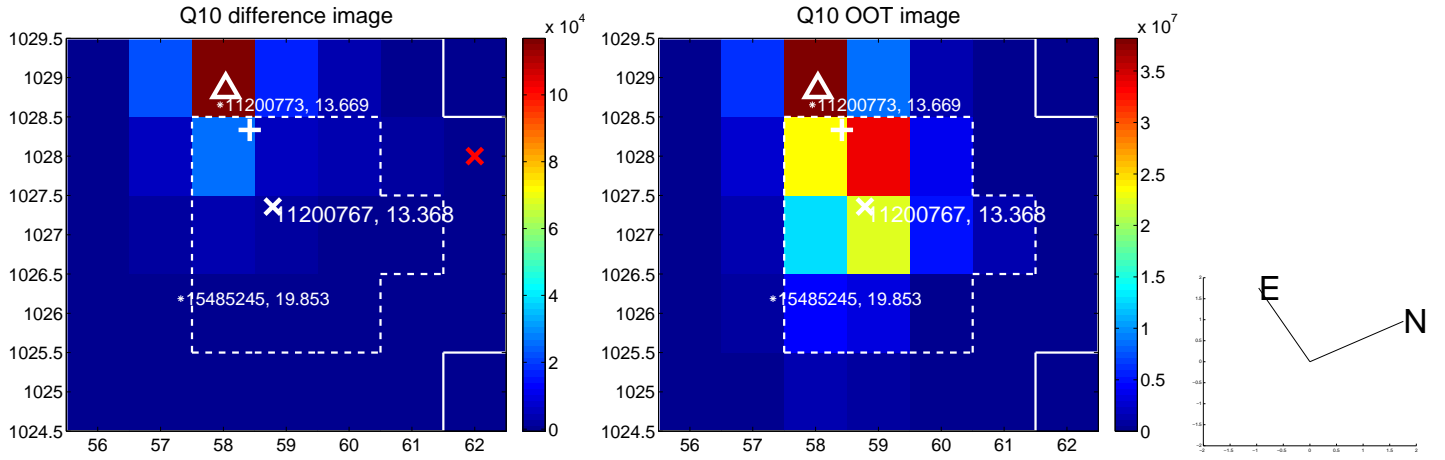
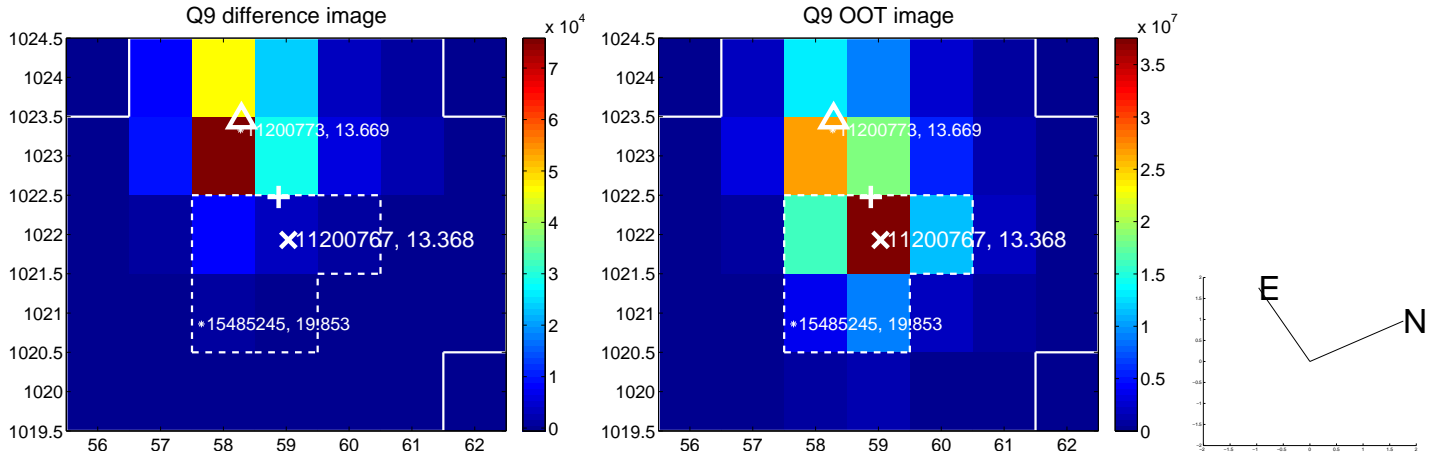
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



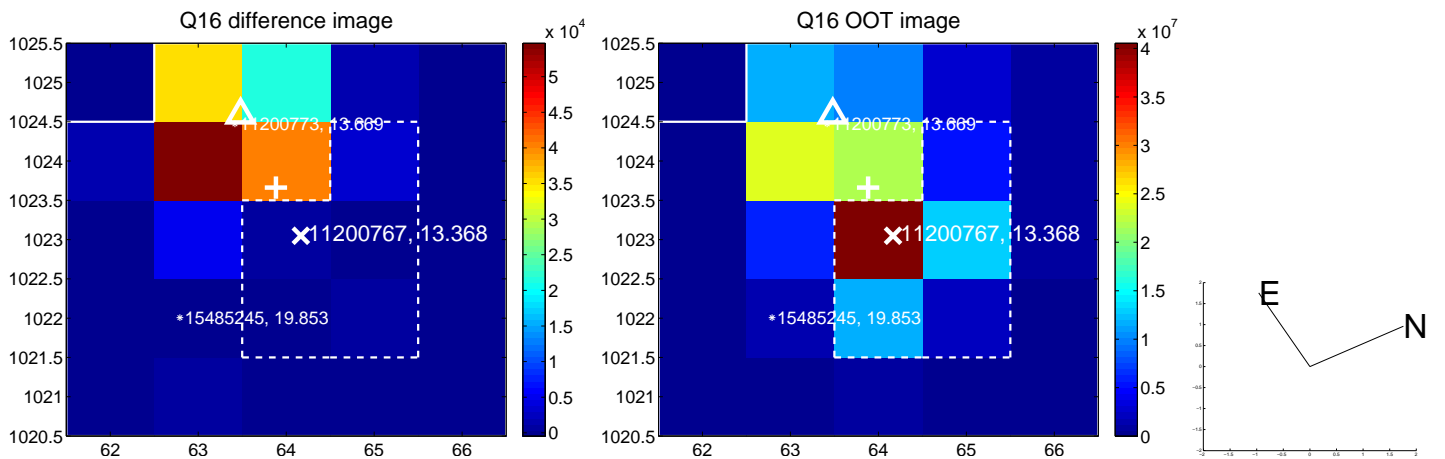
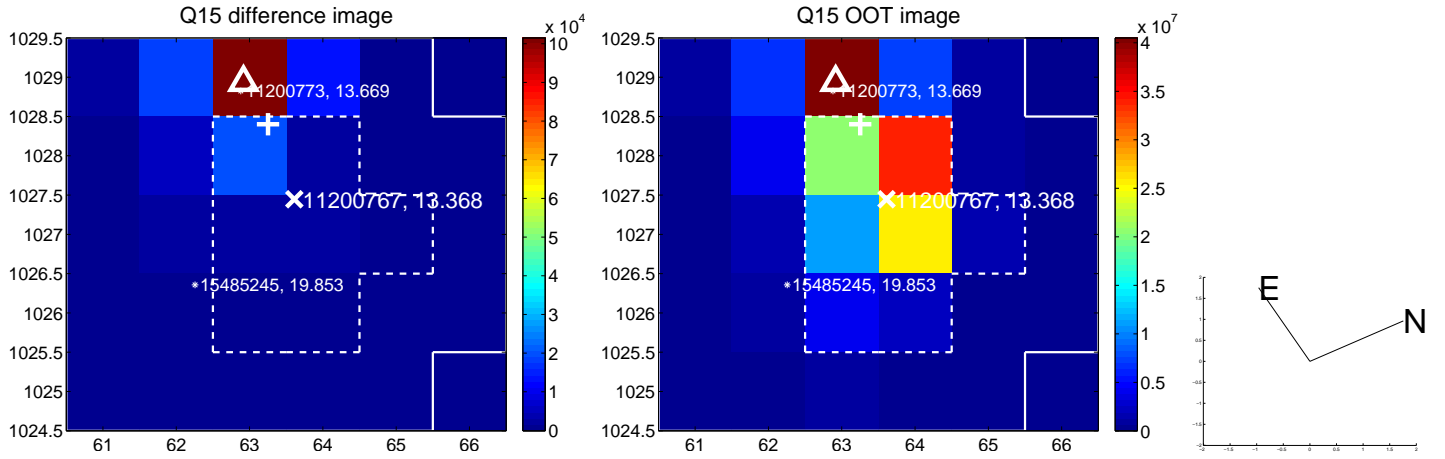
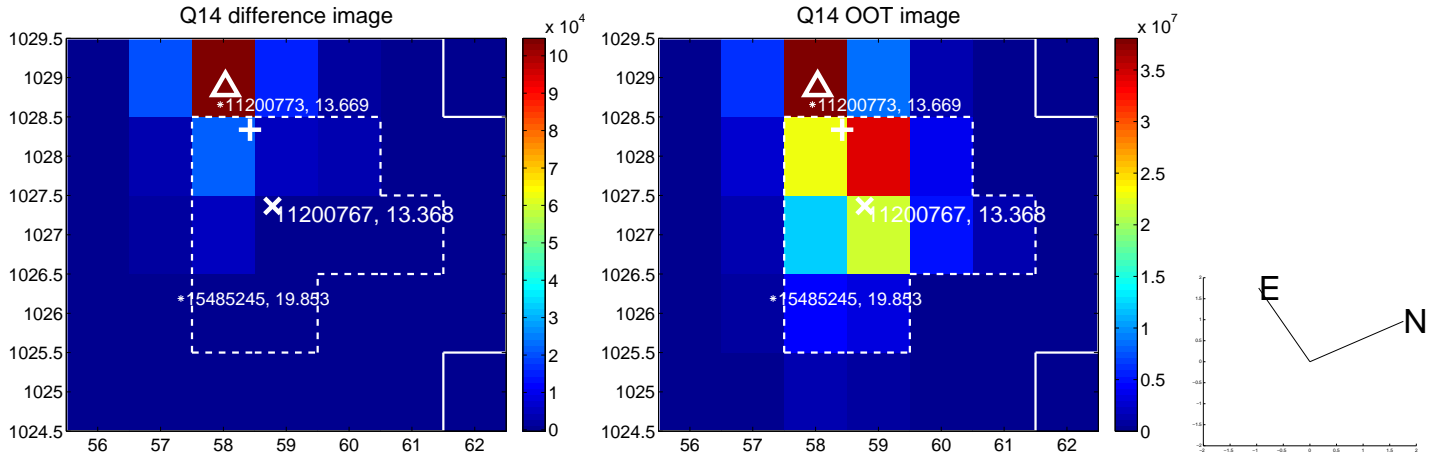
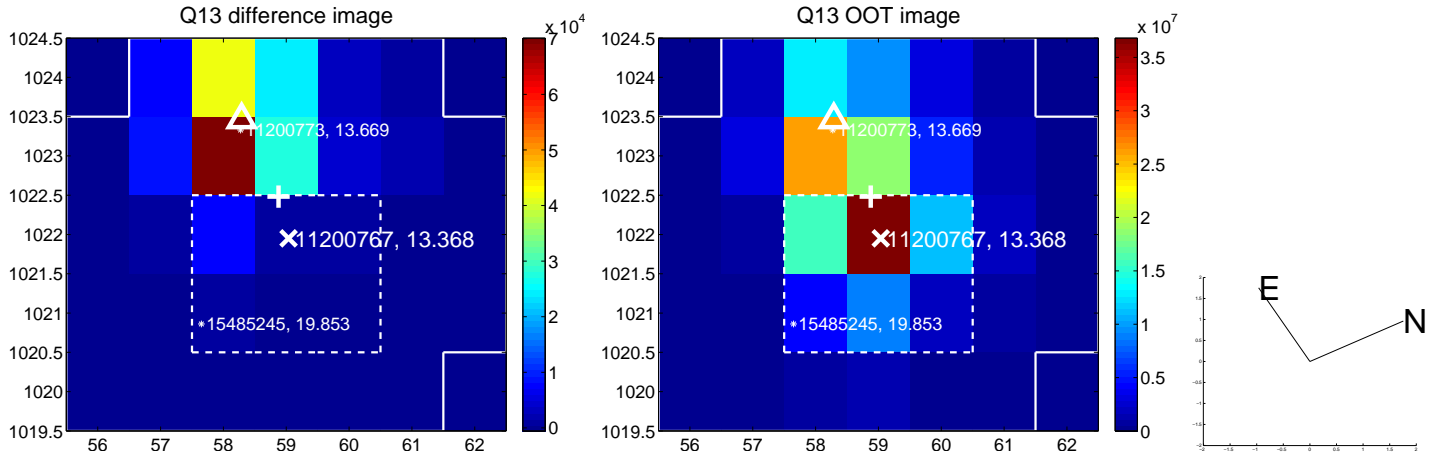
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



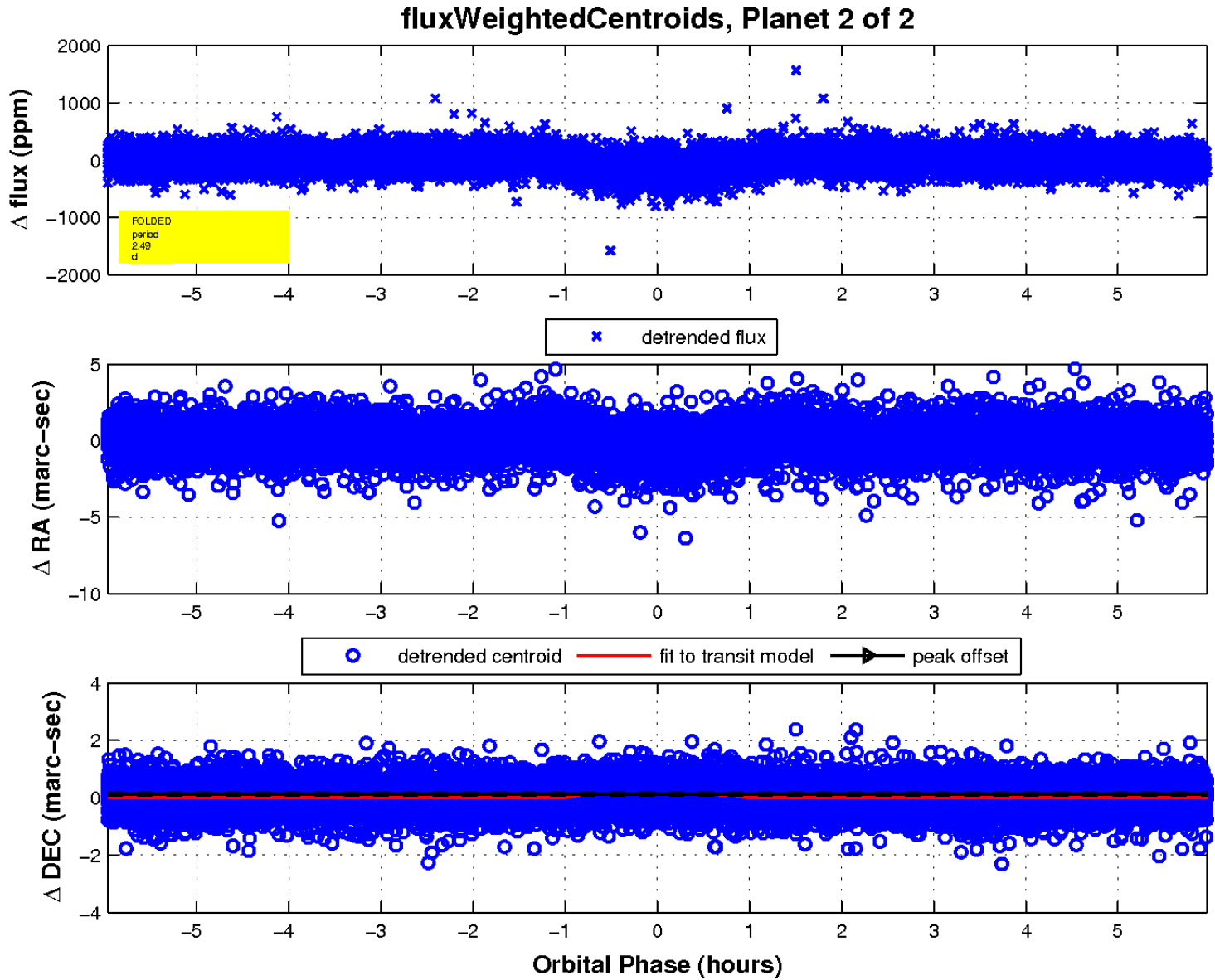
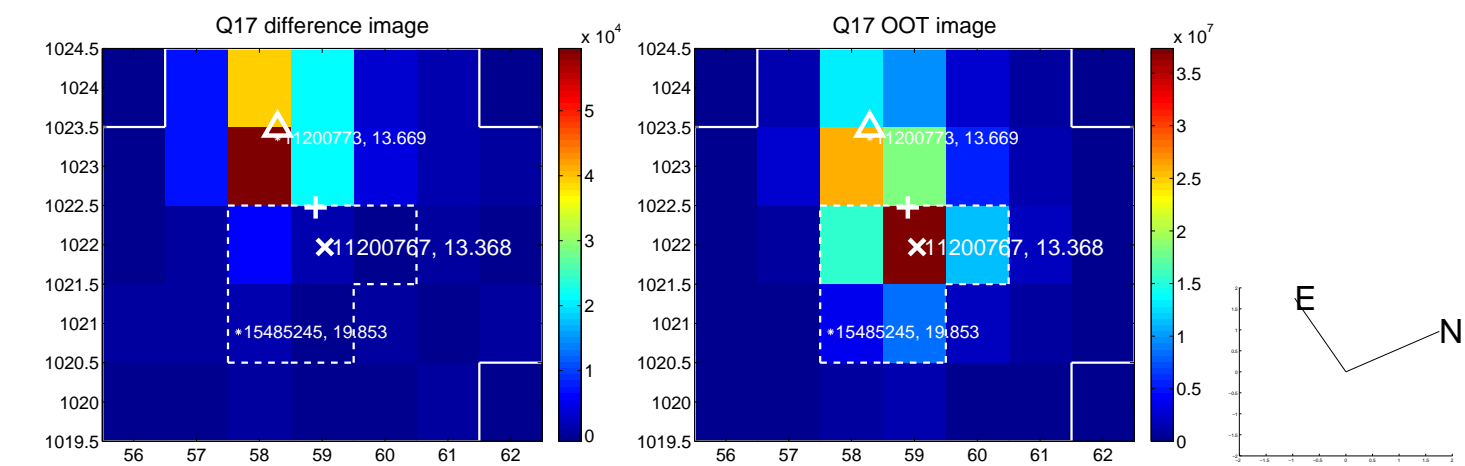
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

