

KIC 003742855

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})
003742855-01	OBS	0045.01	6.397188	135.981971	19451.9	5.846	591.2	460.6	1.00	5780	15.34	219.76
003742855-02	OBS	No	6.397189	132.748650	1504.8	6.258	50.1	55.2	1.00	5780	4.70	219.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003742855-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_KIC_POS
003742855-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS

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 003742855-01

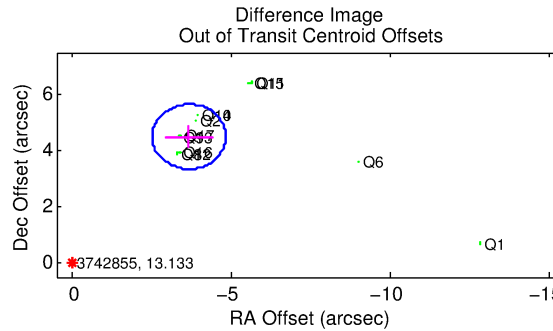
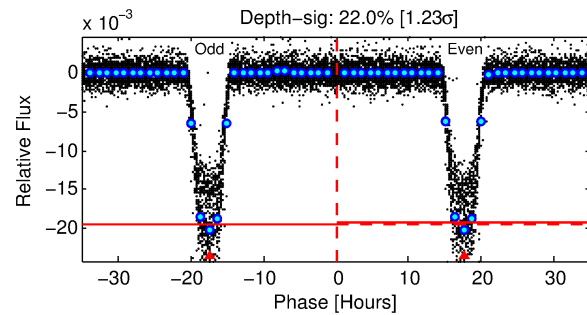
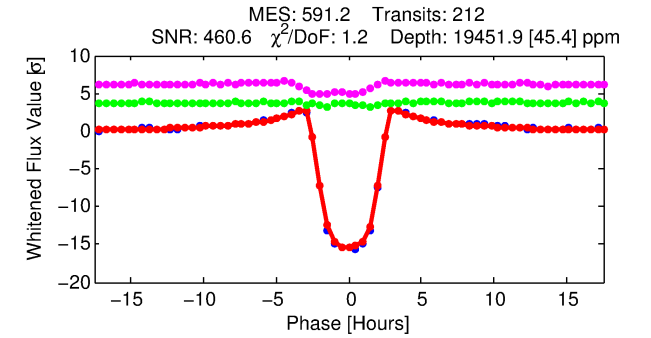
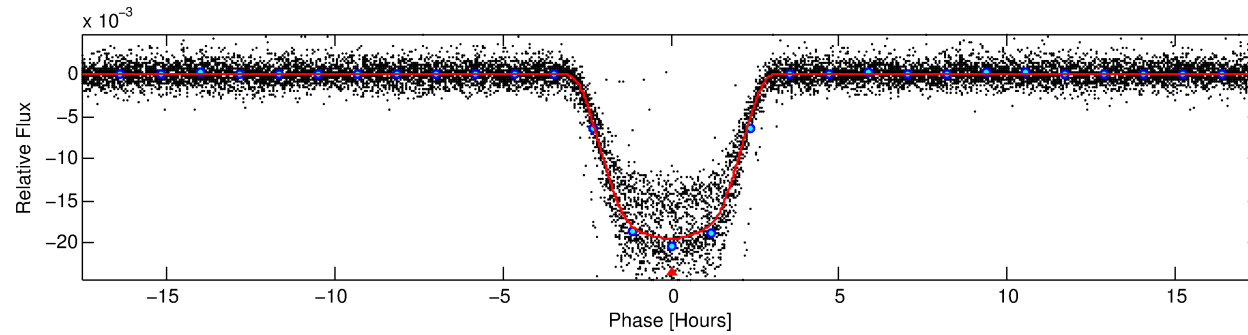
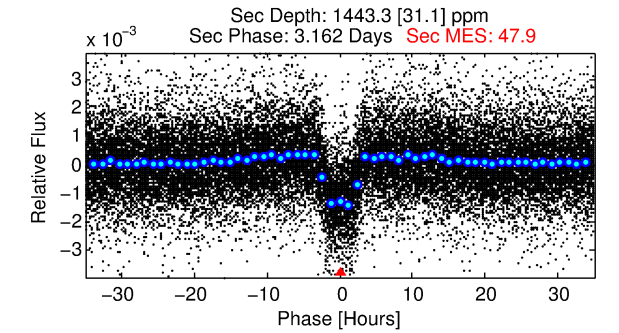
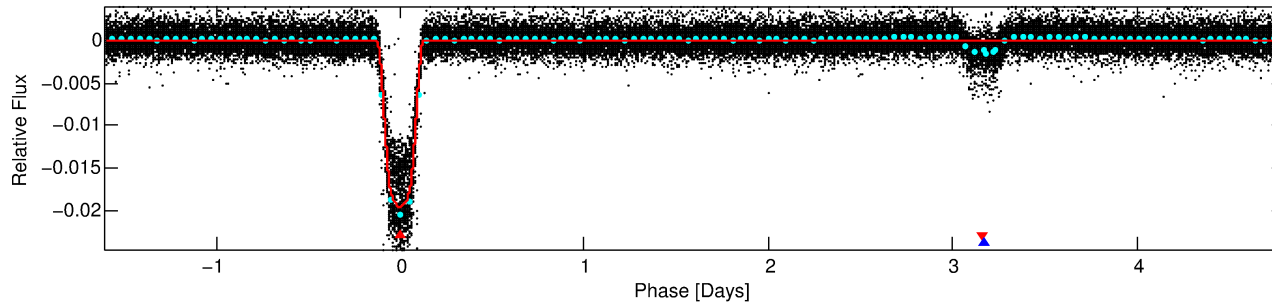
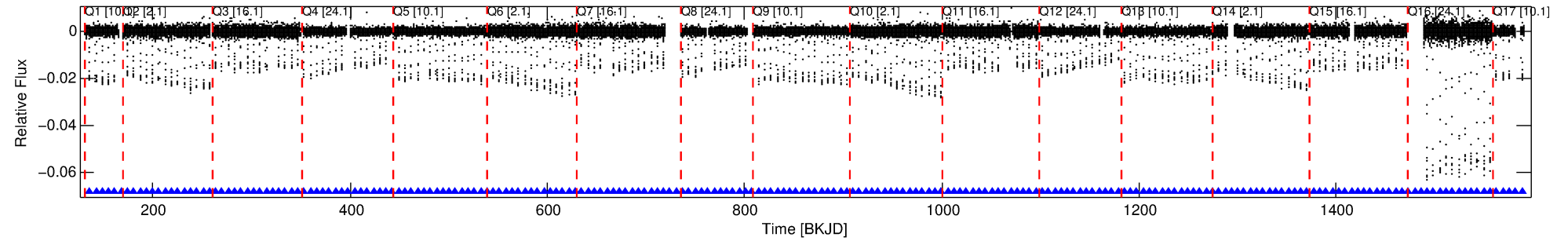
No Significant Match Found

DV One-Page Summary

KIC: 3742855 Candidate: 1 of 2 Period: 6.397 d

KOI: K00045.01 Corr: 0.989

Kp: 13.13 R^* : 1.00 R_s Teff: 5780.0 K Logg: 4.44 Fe/H: 0.000



DV Fit Results:

Period = 6.39719 [0.00000] d
Epoch = 135.9820 [0.0003] BKJD
Rp/R* = 0.1406 [0.0003]
a/R* = 7.12 [0.04]
b = 0.77 [0.00]
Seff = 219.76 [0.00]
Teq = 982 [0] K
Rp = 15.34 [0.03] Re
a = 0.0675 [0.0000] AU
Ag = 15.35 [0.34] [42.67σ]
Teffp = 3005 [16] K [122.92σ]

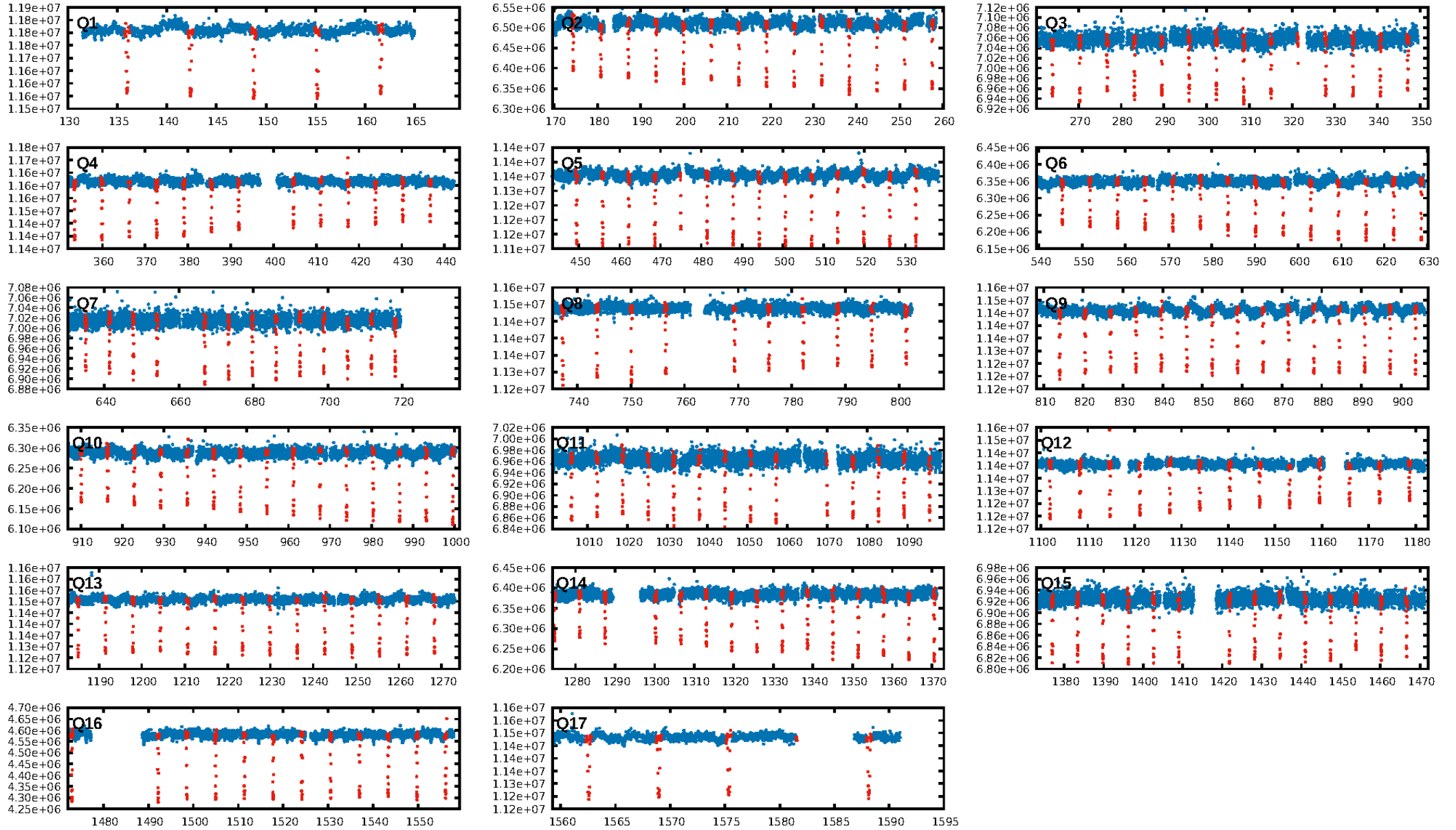
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [203/203]
GhostDiagnostic-chr: 0.5673
Centroid-sig: 0.0%
Centroid-so: 4.798 arcsec [346.82σ]
OotOffset-rm: 5.800 arcsec [15.10σ]
KicOffset-rm: 5.952 arcsec [84.89σ]
OotOffset-st: 4/2/3/4 [13]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

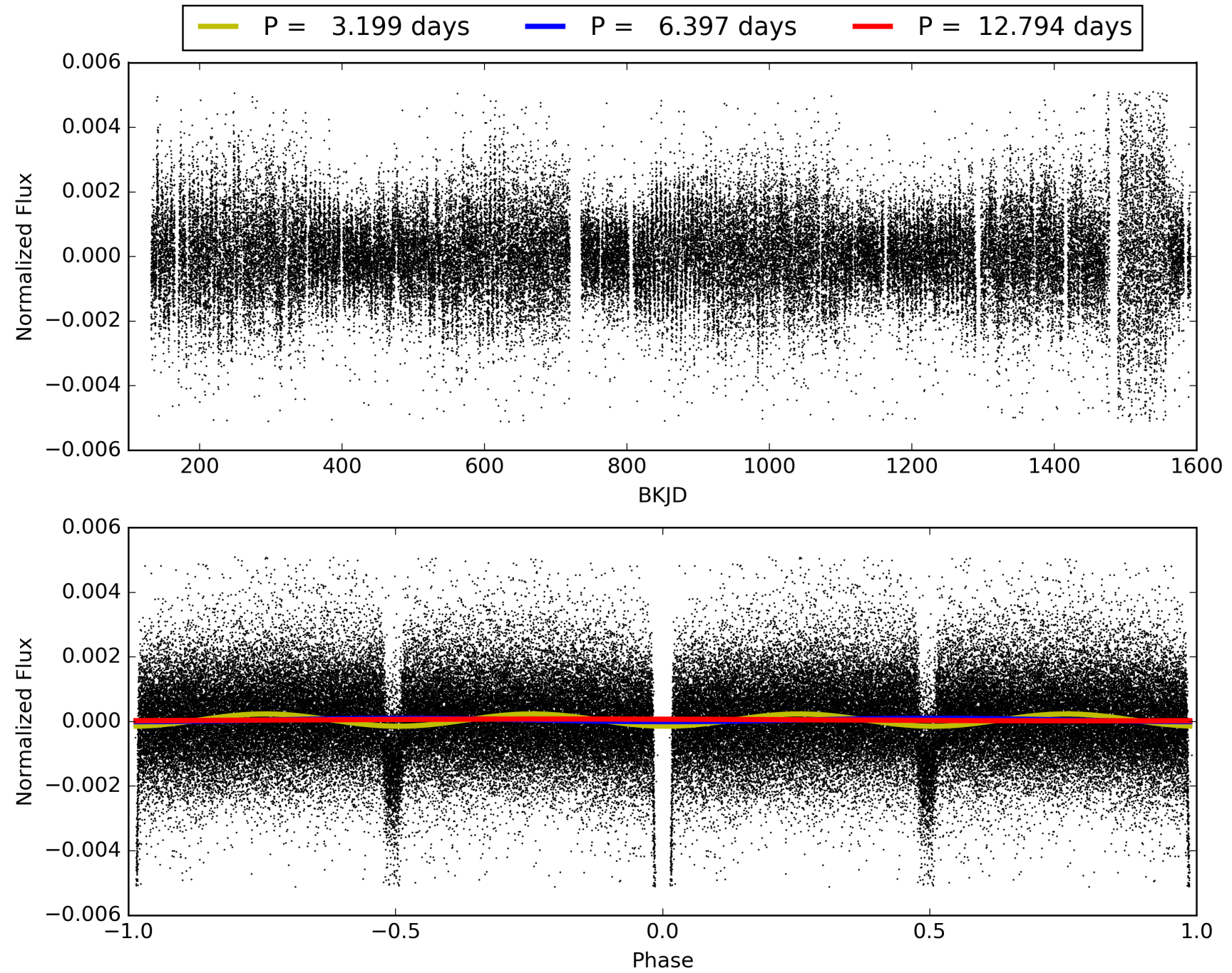
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:27:22 Z

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

TCE 003742855-01, PDC Light Curves

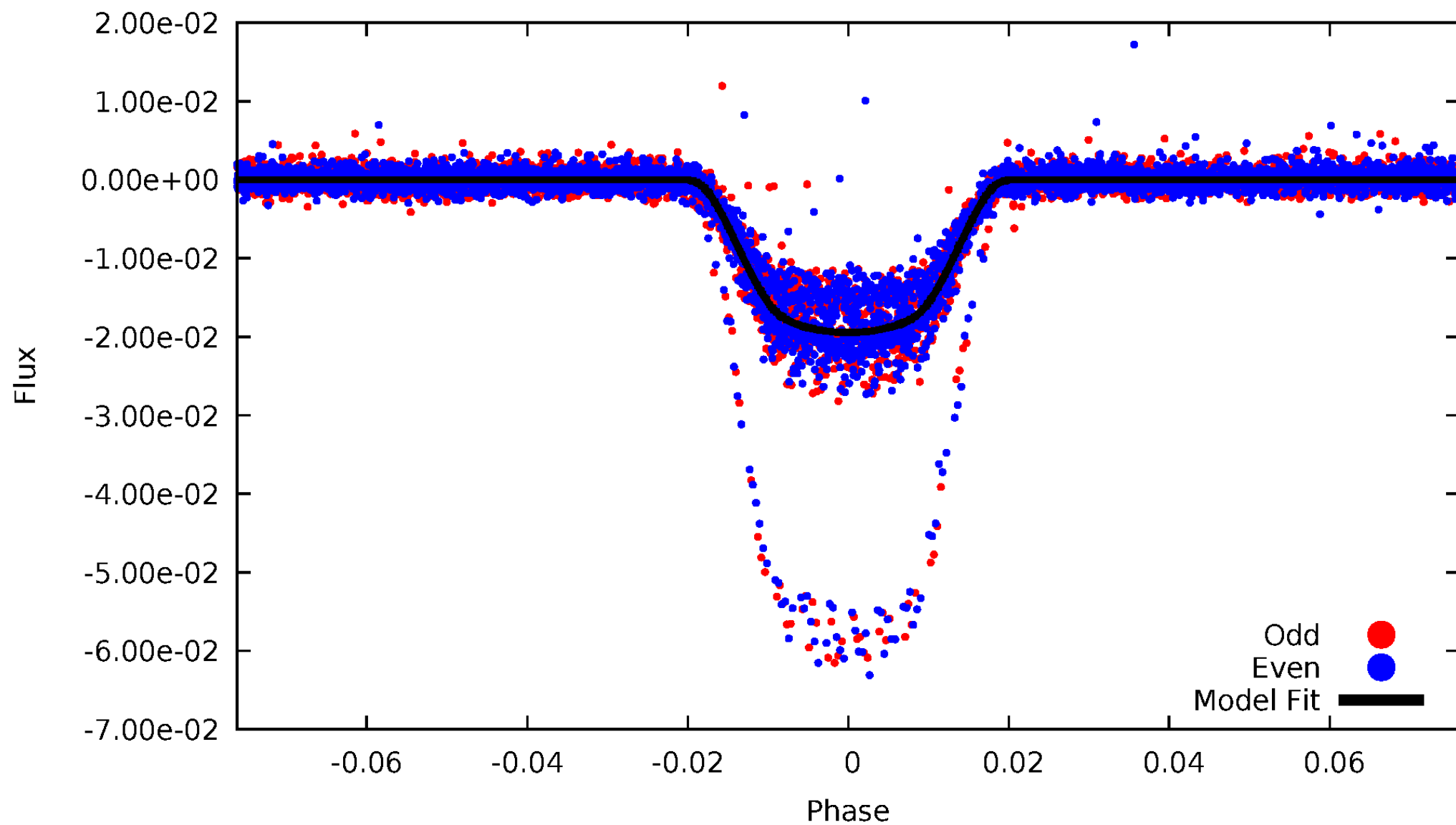


TCE 003742855-01



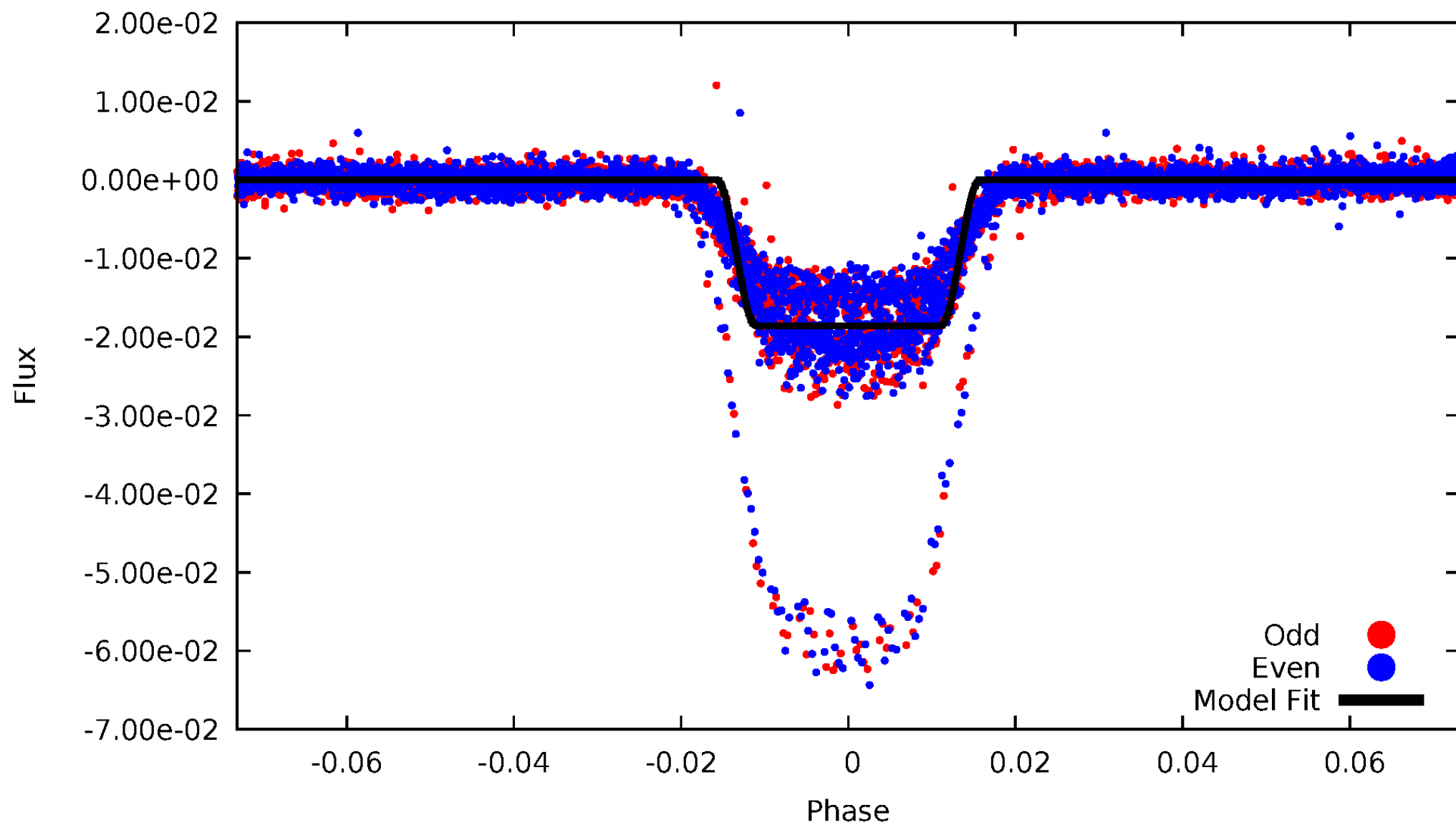
DV Odd/Even

TCE 003742855-01



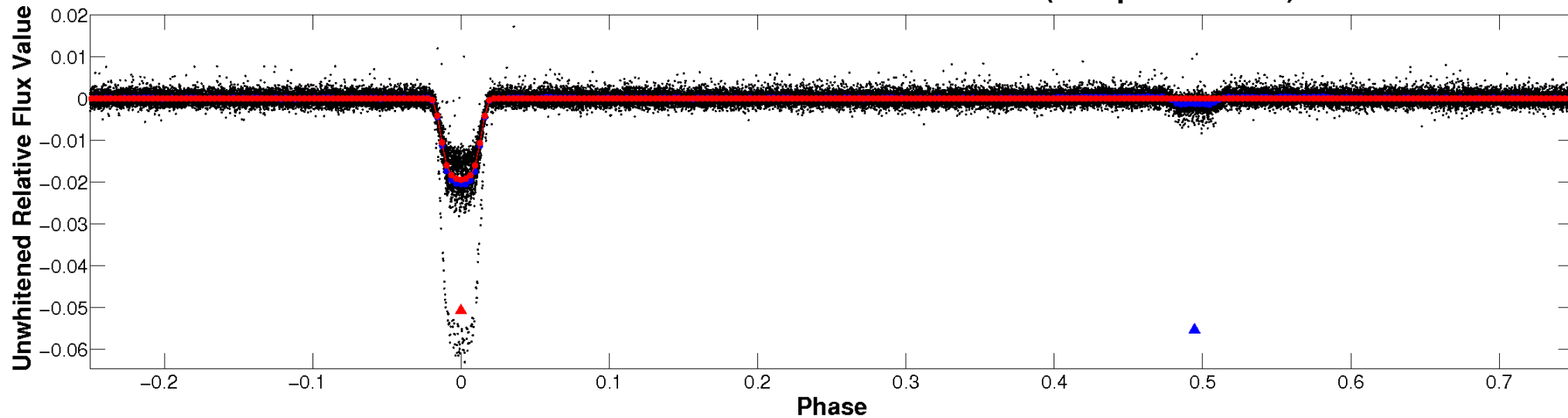
ALT Odd/Even

TCE 003742855-01

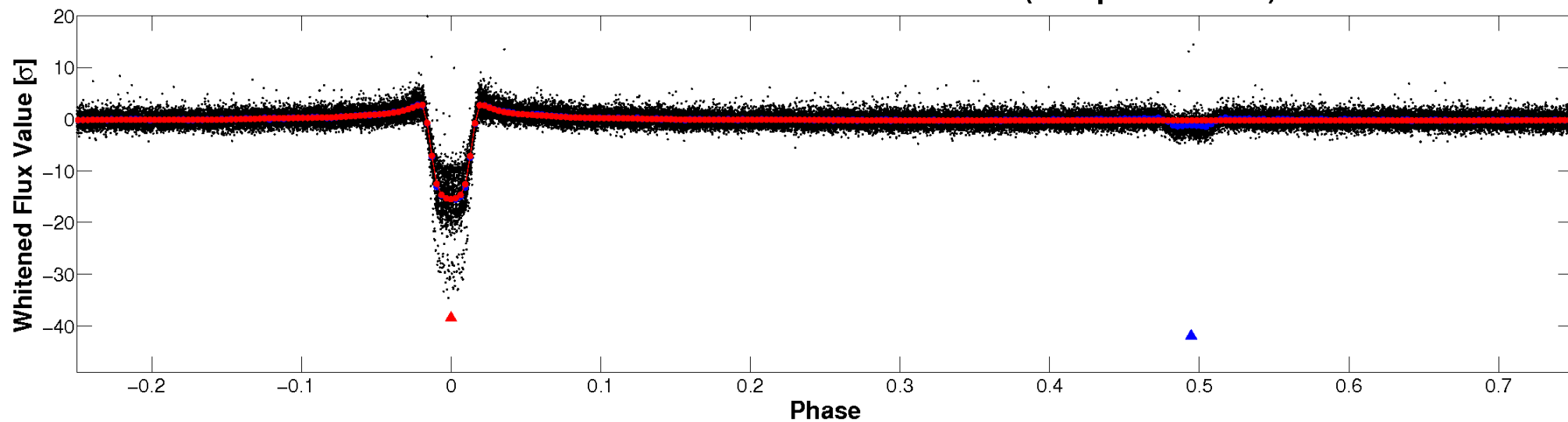


Non-Whitened Vs. Whitened Light Curve

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

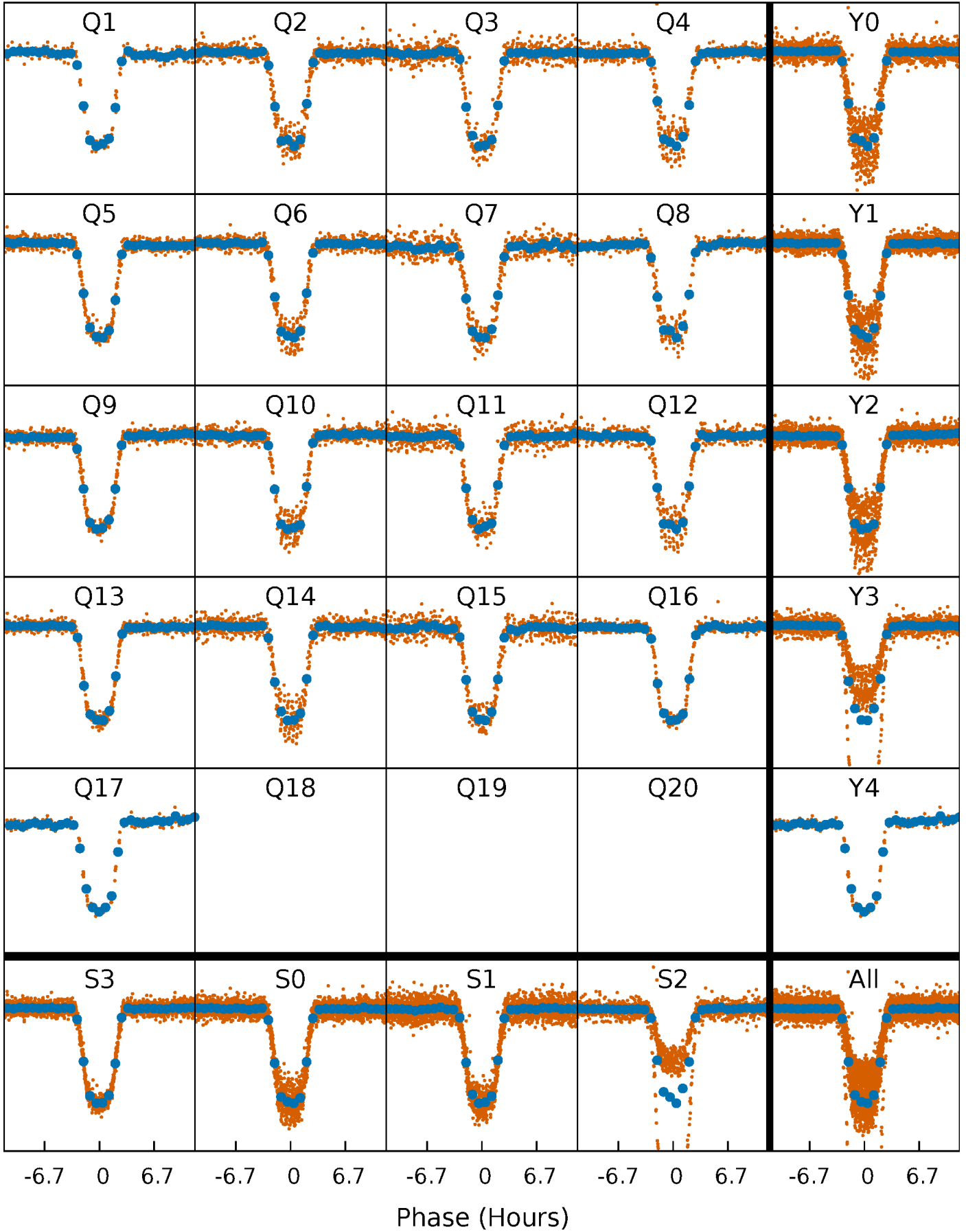


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



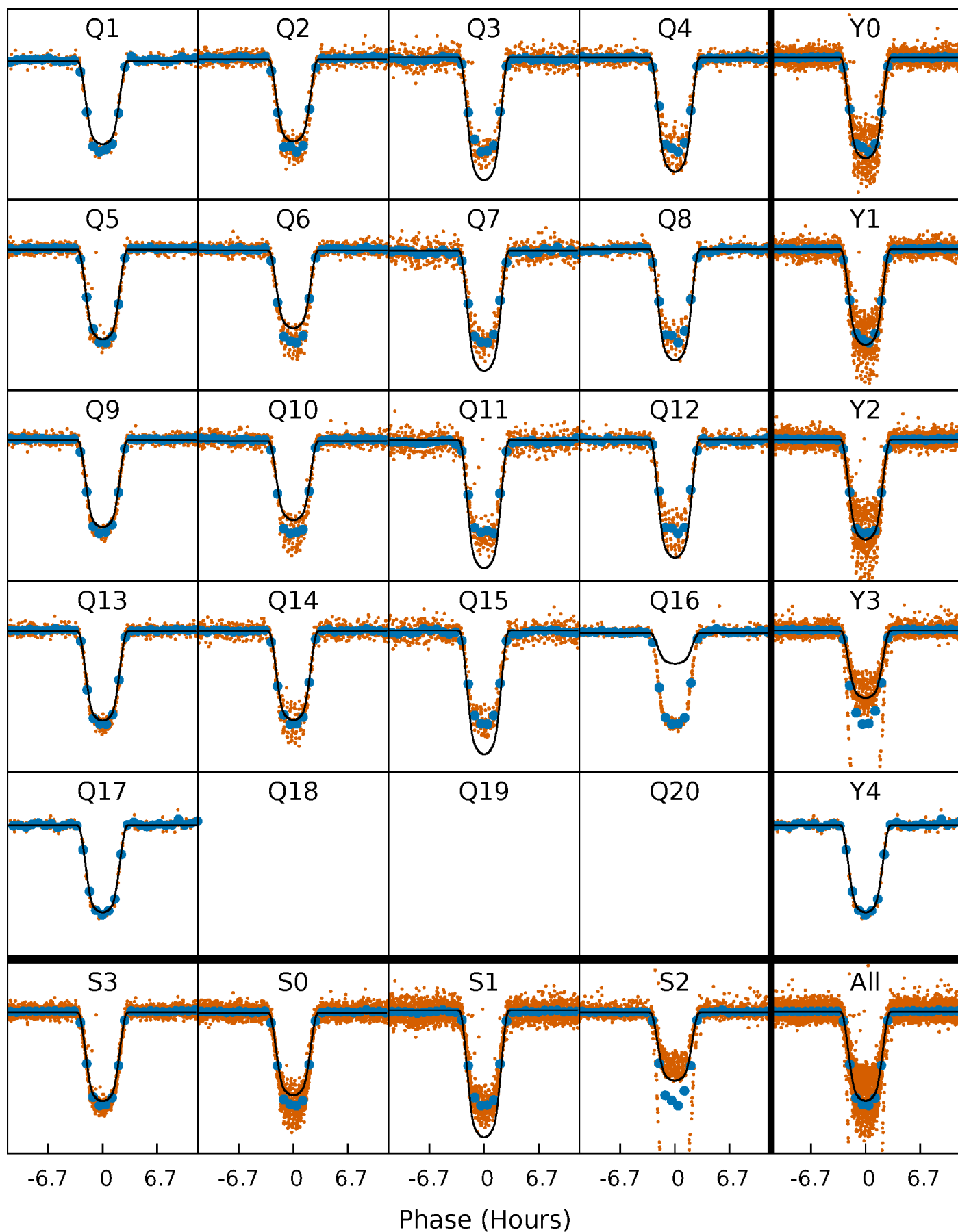
PDC Quarter-Phased Transit Curves

TCE 003742855-01 P= 6.397188 Days $T_0=135.981971$ (BKJD)



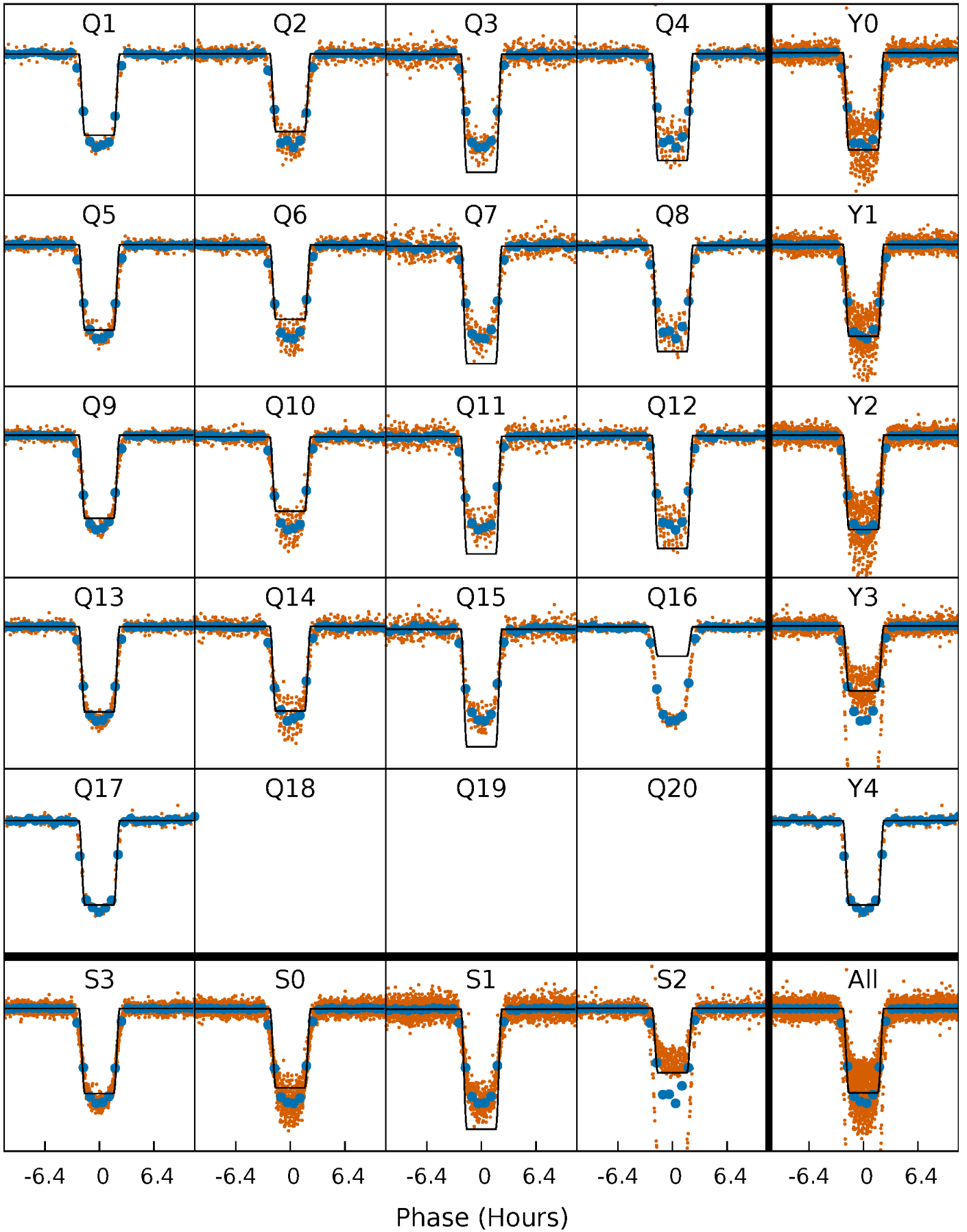
DV Quarter-Phased Transit Curves

TCE 003742855-01 P= 6.397188 Days $T_0=135.981971$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

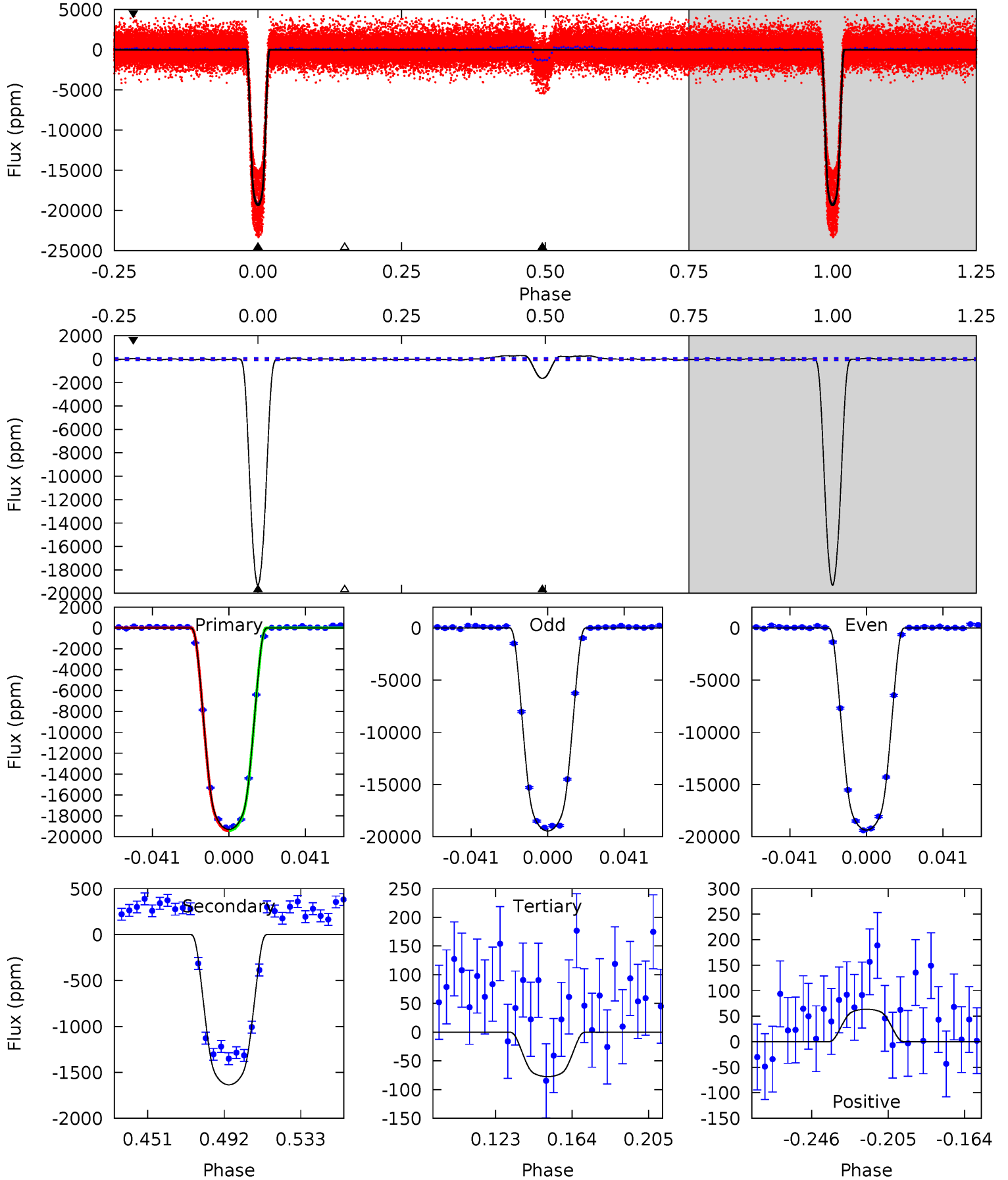
TCE 003742855-01 P= 6.397193 Days $T_0=135.981572$ (BKJD)



DV Model-Shift Uniqueness Test

003742855-01, P = 6.397188 Days, E = 129.584783 Days

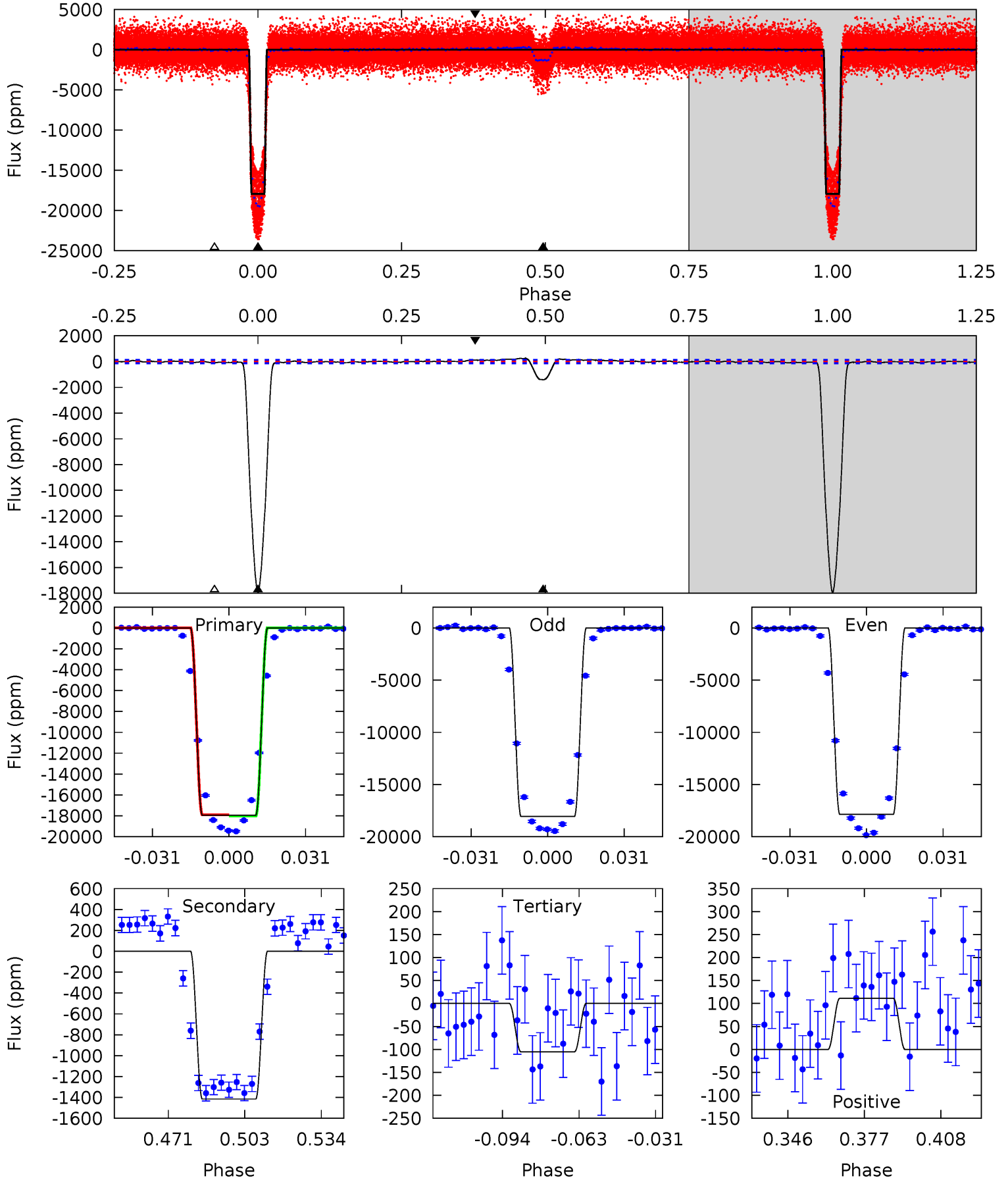
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
868.5	73.6	3.48	2.86	4.75	2.04	4.13	865.0	865.6	70.1	70.7	1.85	1.05	0.02	0.39



Alt Model-Shift Uniqueness Test

003742855-01, P = 6.397193 Days, E = 129.584379 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
659.0	52.0	3.87	4.08	4.80	2.15	2.63	655.1	654.9	48.1	47.9	3.55	1.06	0.01	1.90



Stellar Parameters For KIC 003742855

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 003742855-01 / KOI 0045.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1635 ± 22	$15.37^{+1.03}_{-1.03}$	1370^{+67}_{-59}	3550^{+90}_{-83}	17^{+2}_{-2}
Alt.	-1416 ± 27	$14.86^{+1.10}_{-0.99}$	1372^{+61}_{-64}	3502^{+79}_{-82}	16^{+2}_{-2}

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

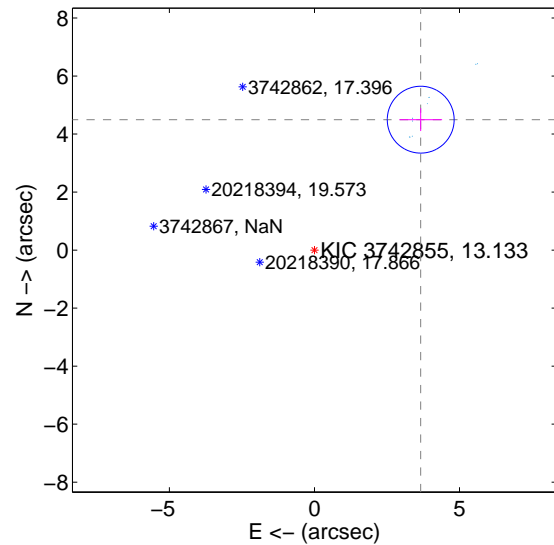
Supplemental centroid analysis for 003742855-01. Kepler magnitude: 13.13. Transit SNR 460.62

There are 17 quarters with good PRF difference image offsets

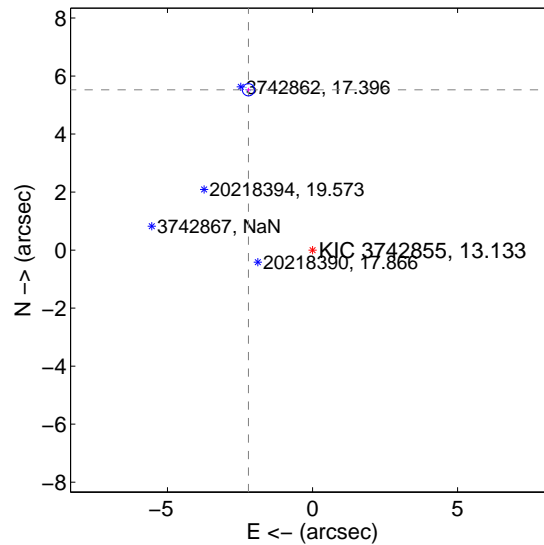
The OOT PRF centroid is offset from the target star catalog position by about 5.78 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.800 ± 0.384	15.10	-3.663 ± 0.737	4.496 ± 0.393
PRF-fit source offset from KIC position	5.952 ± 0.070	84.89	2.209 ± 0.074	5.527 ± 0.070
photometric centroid source offset	4.80 ± 0.01	346.82	2.72 ± 0.02	3.95 ± 0.01

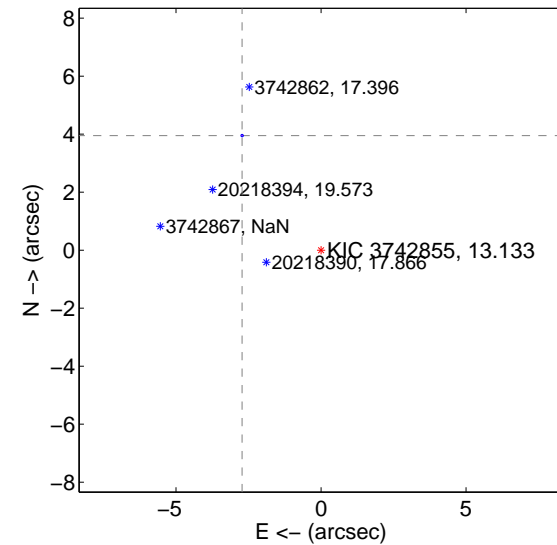
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

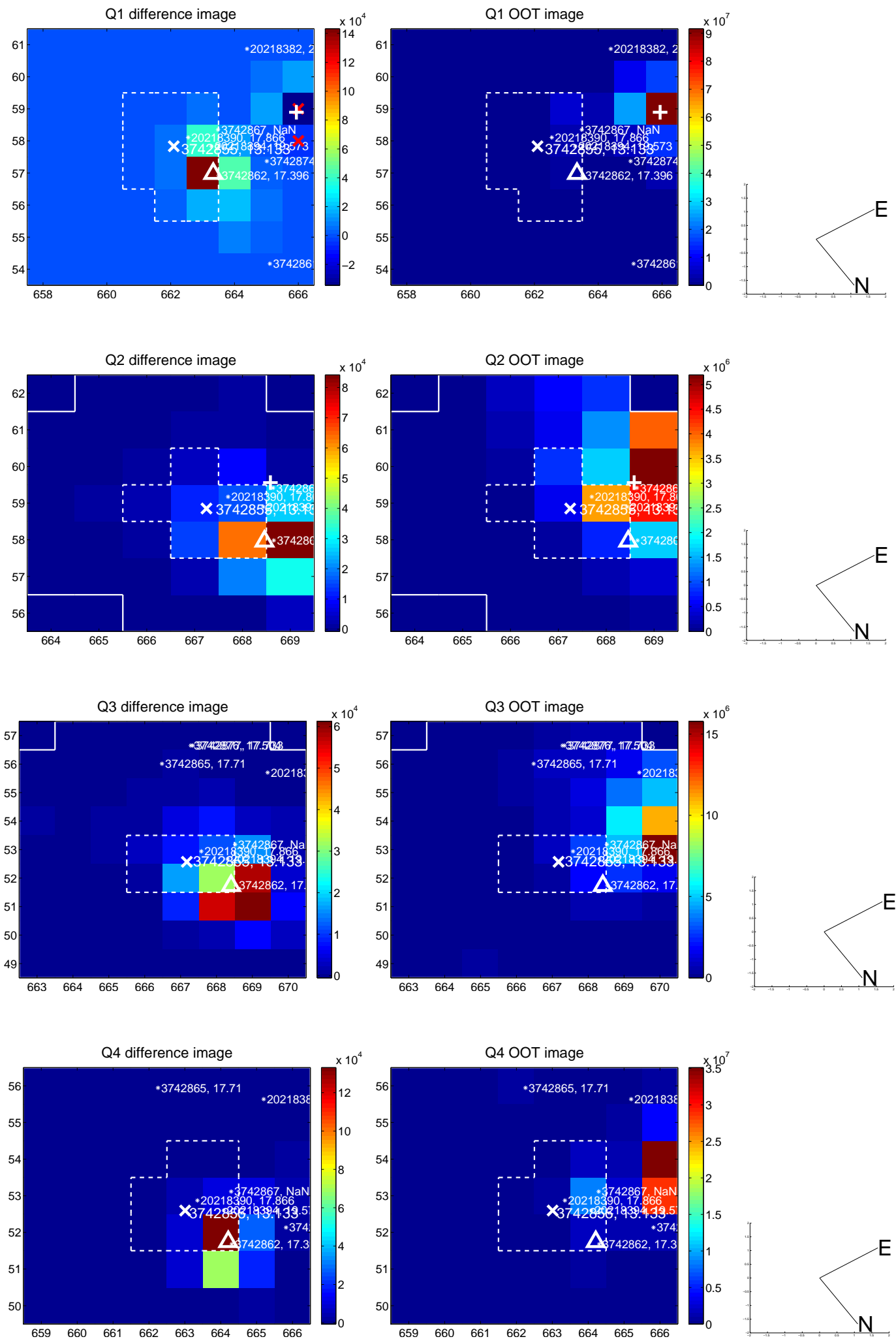


offset from photometric centroids

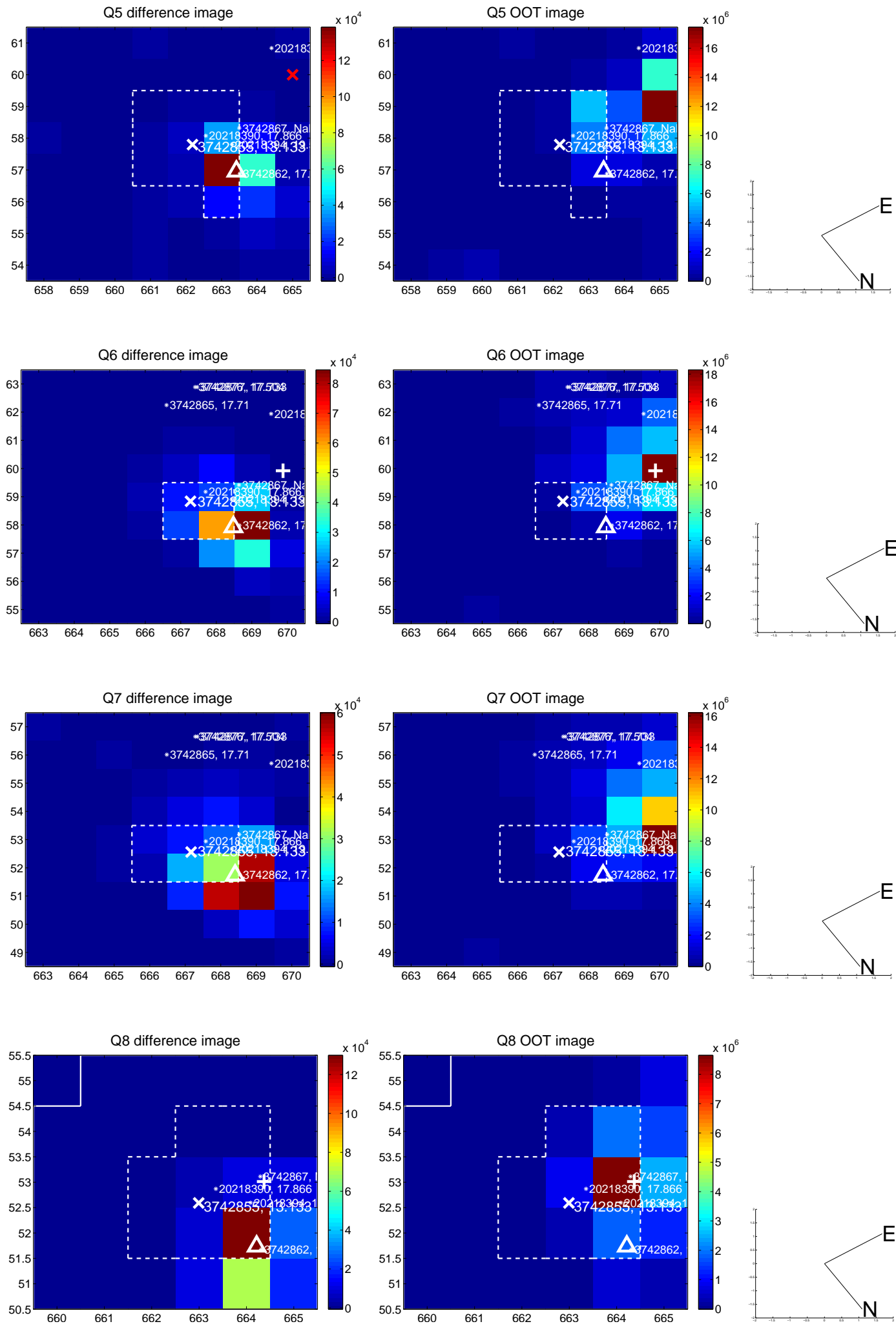


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

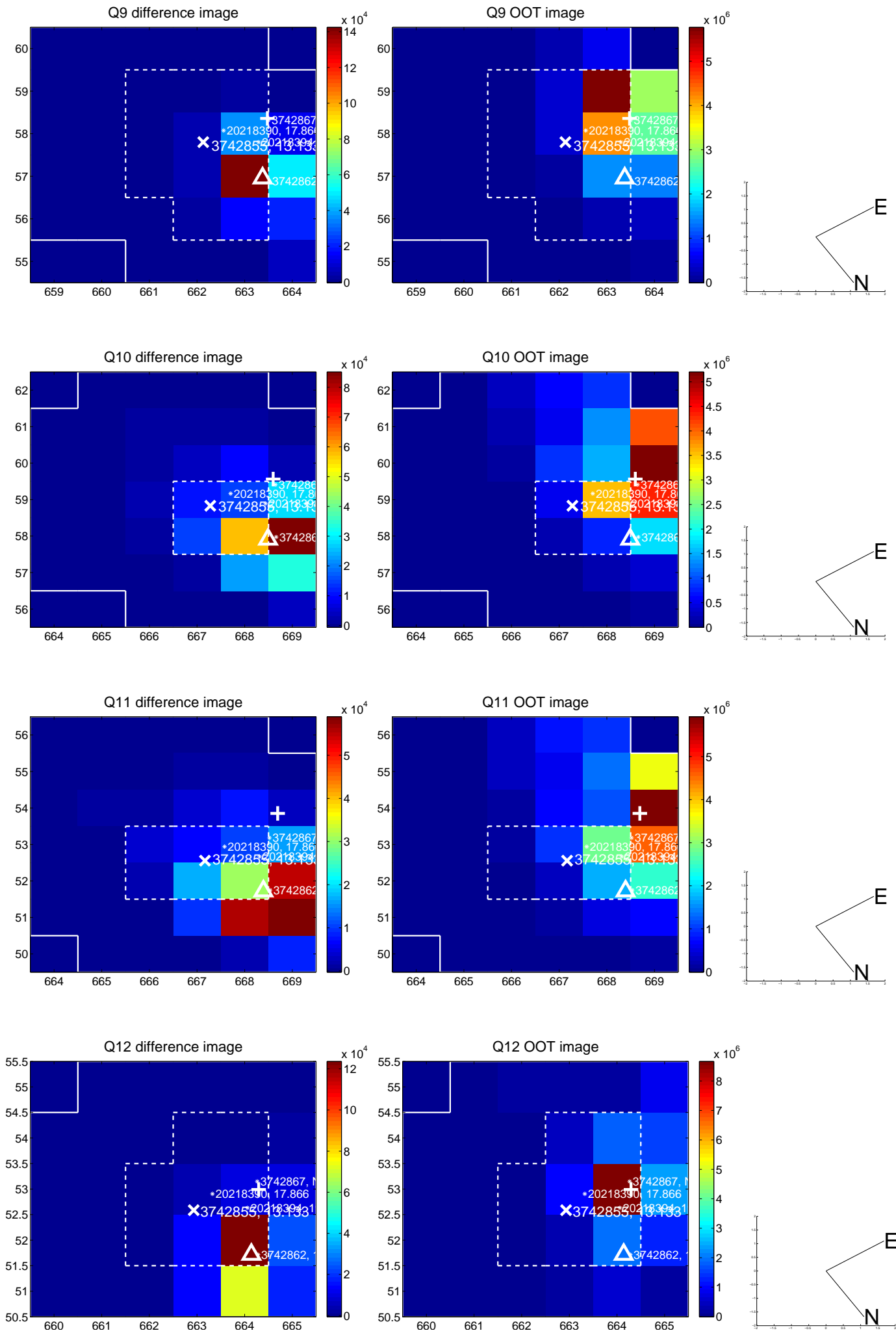
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



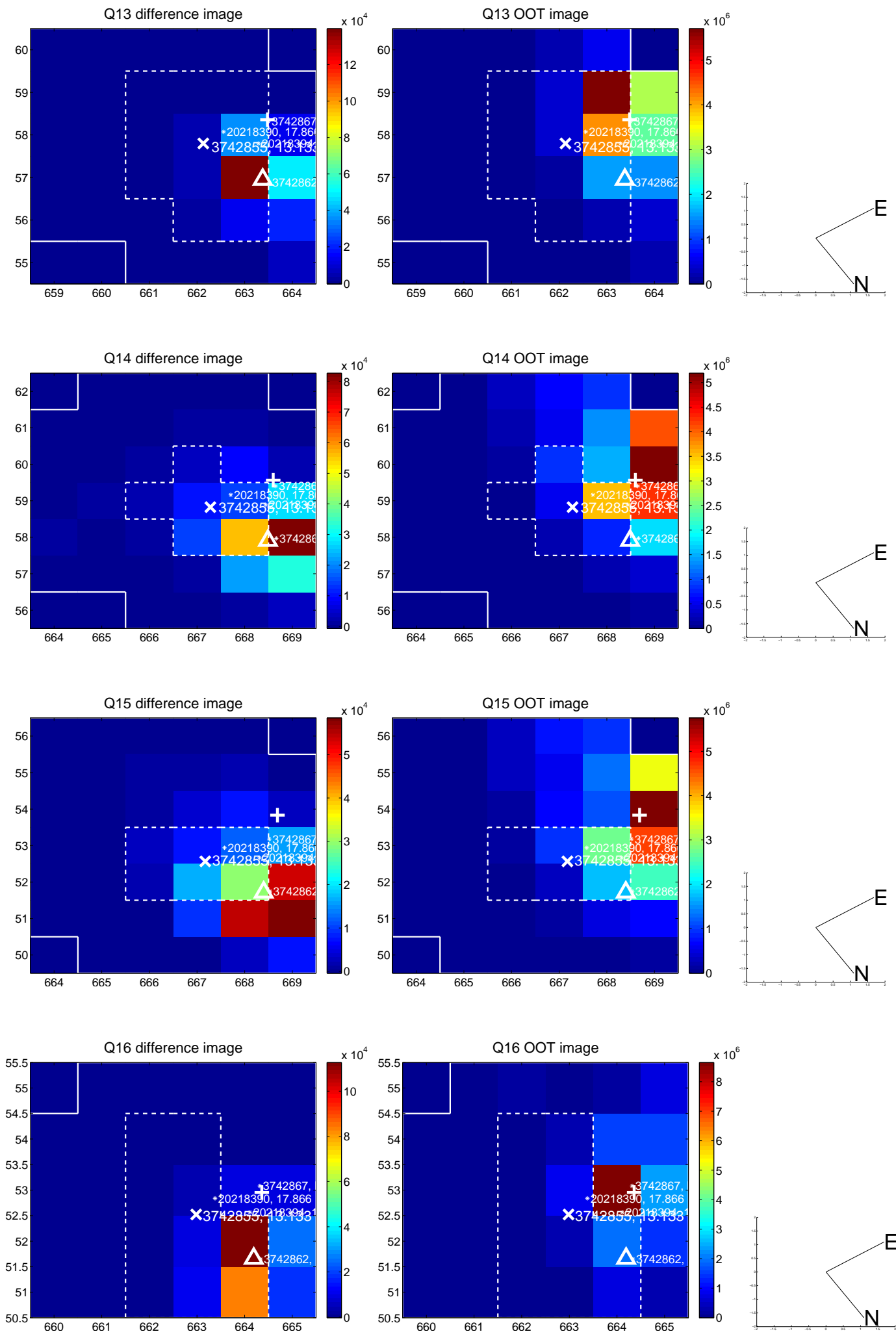
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

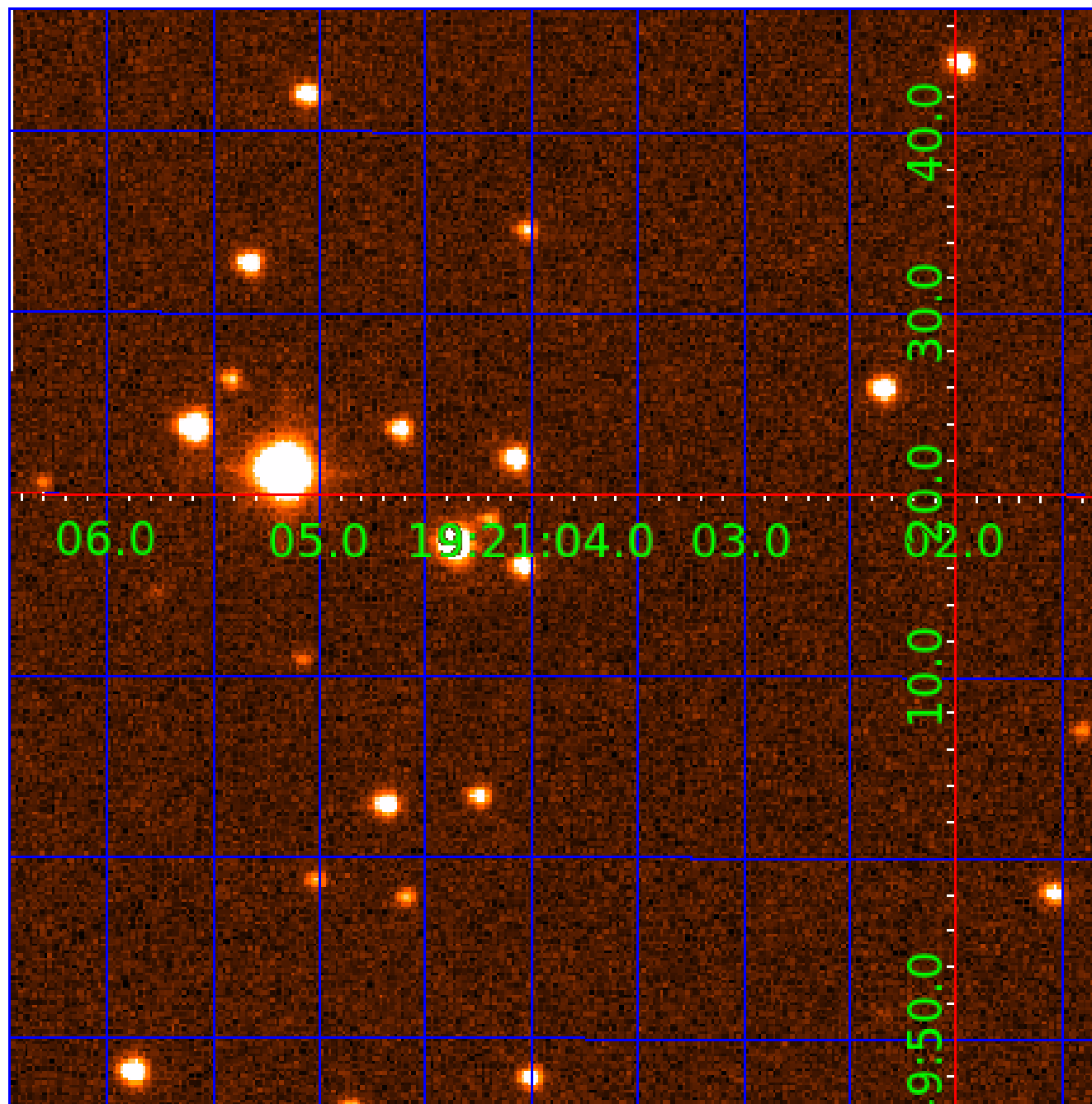


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003742855

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})
003742855-01	OBS	0045.01	6.397188	135.981971	19451.9	5.846	591.2	460.6	1.00	5780	15.34	219.76
003742855-02	OBS	No	6.397189	132.748650	1504.8	6.258	50.1	55.2	1.00	5780	4.70	219.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003742855-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_KIC_POS
003742855-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS

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 003742855-02

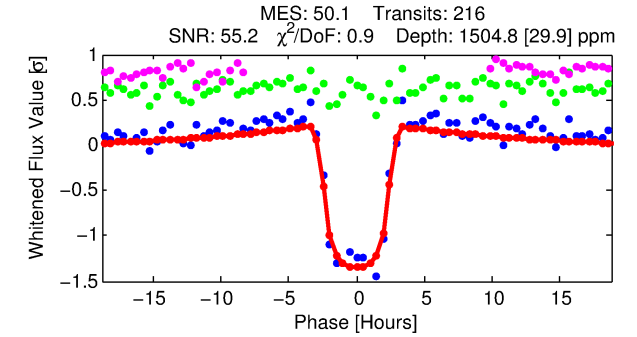
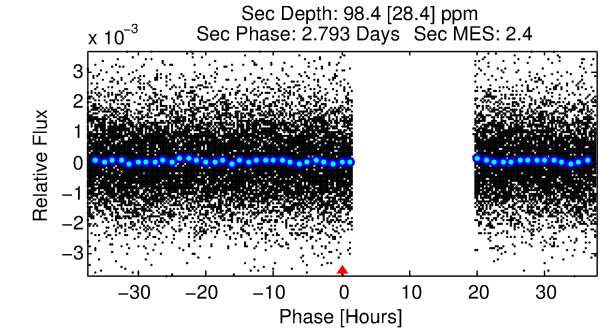
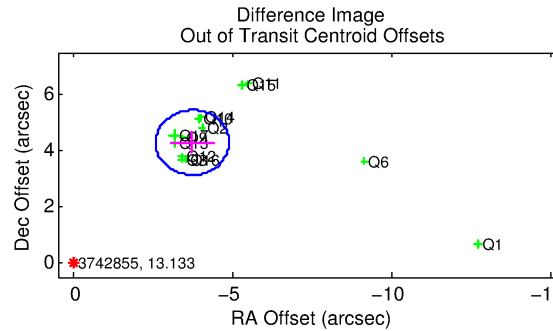
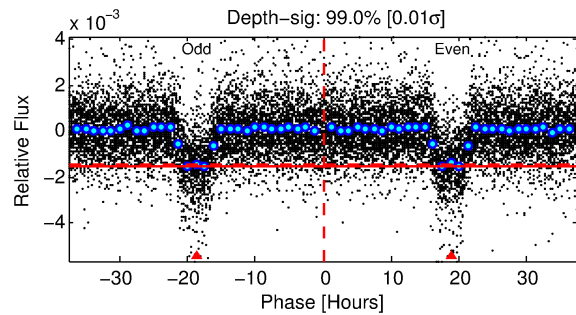
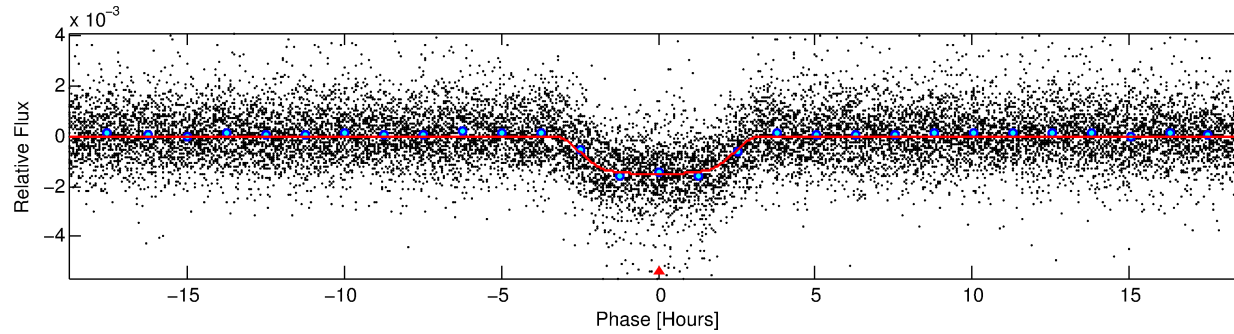
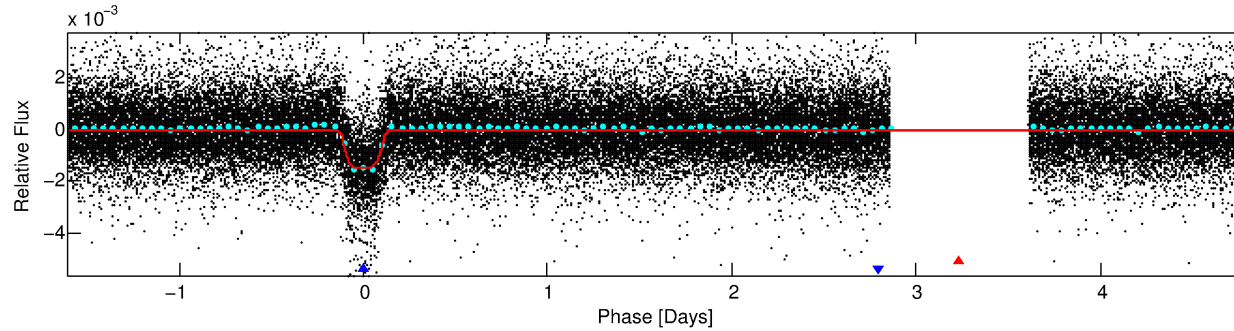
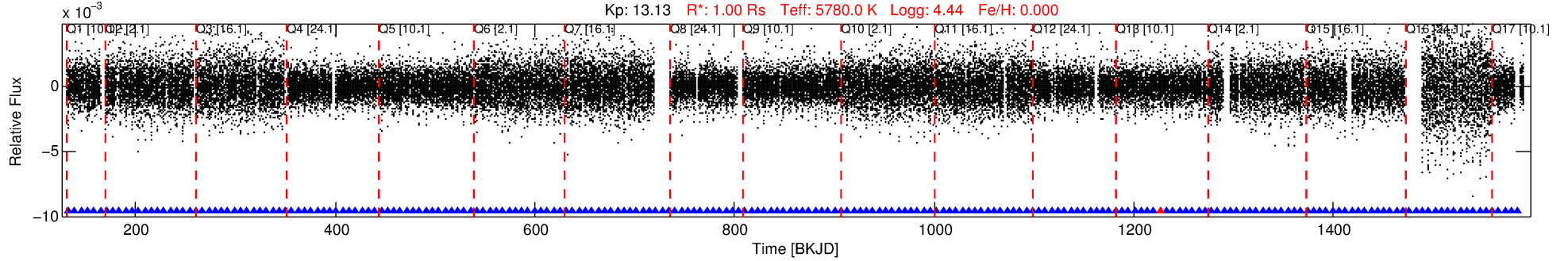
No Significant Match Found

DV One-Page Summary

KIC: 3742855 Candidate: 2 of 2 Period: 6.397 d

KOI: K00045 Corr: No Ephemeris Match

Kp: 13.13 R*: 1.00 Rs Teff: 5780.0 K Logg: 4.44 Fe/H: 0.000



DV Fit Results:

Period = 6.39719 [0.00002] d
Epoch = 132.7486 [0.0023] BKJD
Rp/R* = 0.0431 [0.0008]
a/R* = 4.01 [0.23]
b = 0.92 [0.01]
Seff = 219.76 [0.00]
Teq = 982 [0] K
Rp = 4.70 [0.09] Re
a = 0.0675 [0.0000] AU
Ag = 11.14 [3.25] [3.12σ]
Teffp = 2773 [202] K [8.86σ]

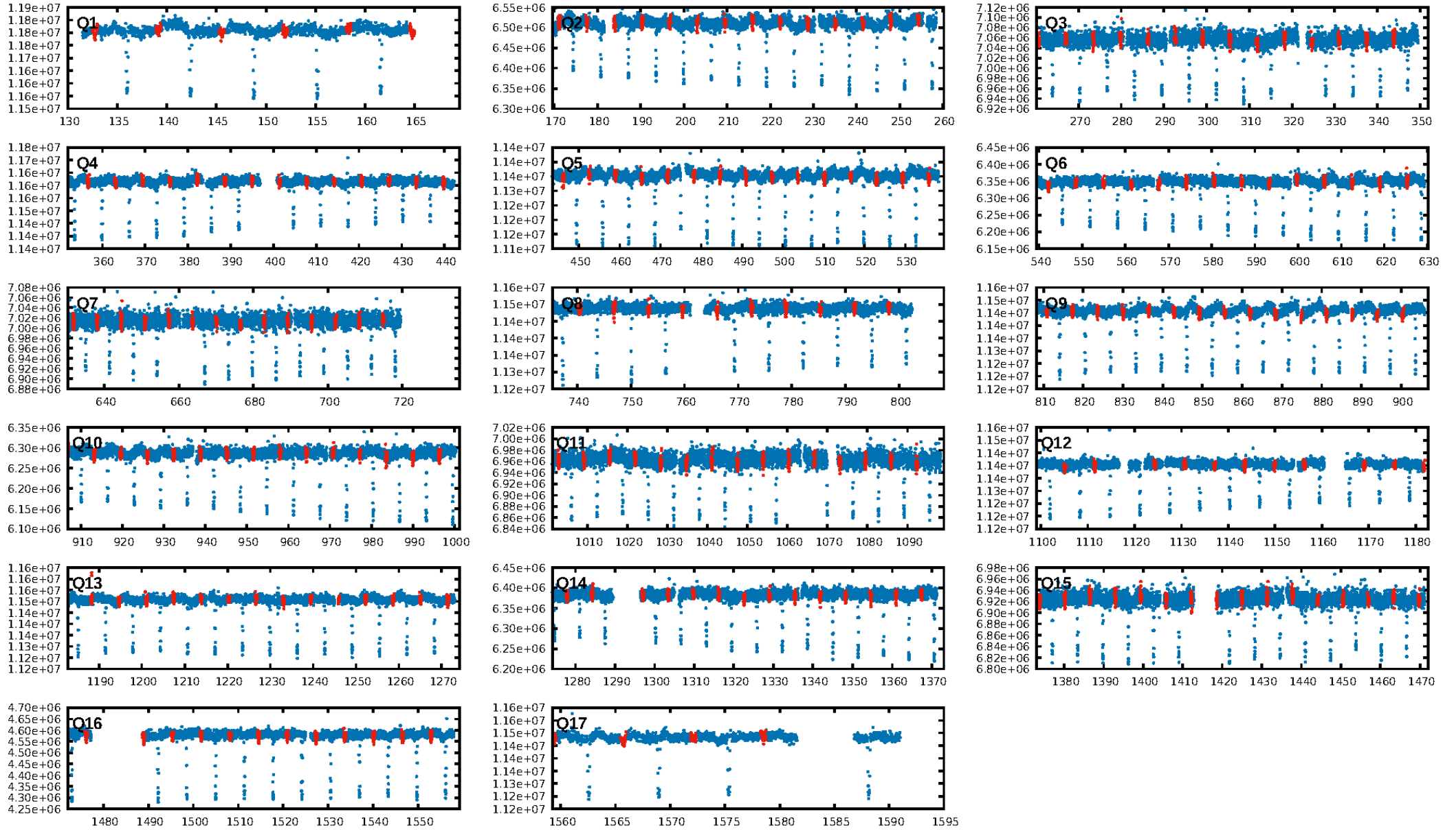
DV Diagnostic Results:

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 [205/206]
GhostDiagnostic-chr: 0.4663
Centroid-sig: 0.0%
Centroid-so: 4.400 arcsec [27.08σ]
OotOffset-rm: 5.680 arcsec [14.76σ]
KicOffset-rm: 5.848 arcsec [77.48σ]
OotOffset-st: 4/2/3/4 [13]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

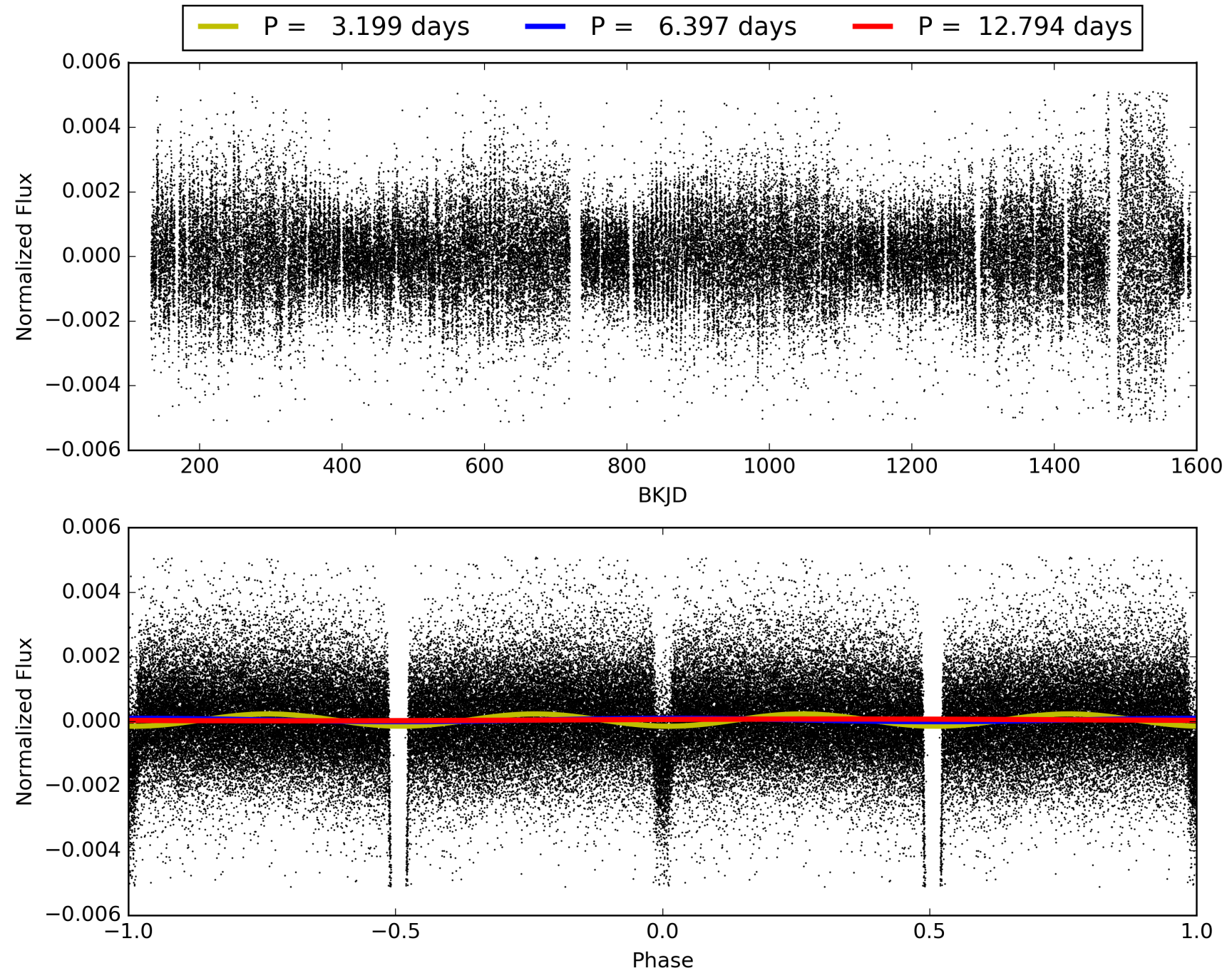
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:27:29 Z

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

TCE 003742855-02, PDC Light Curves

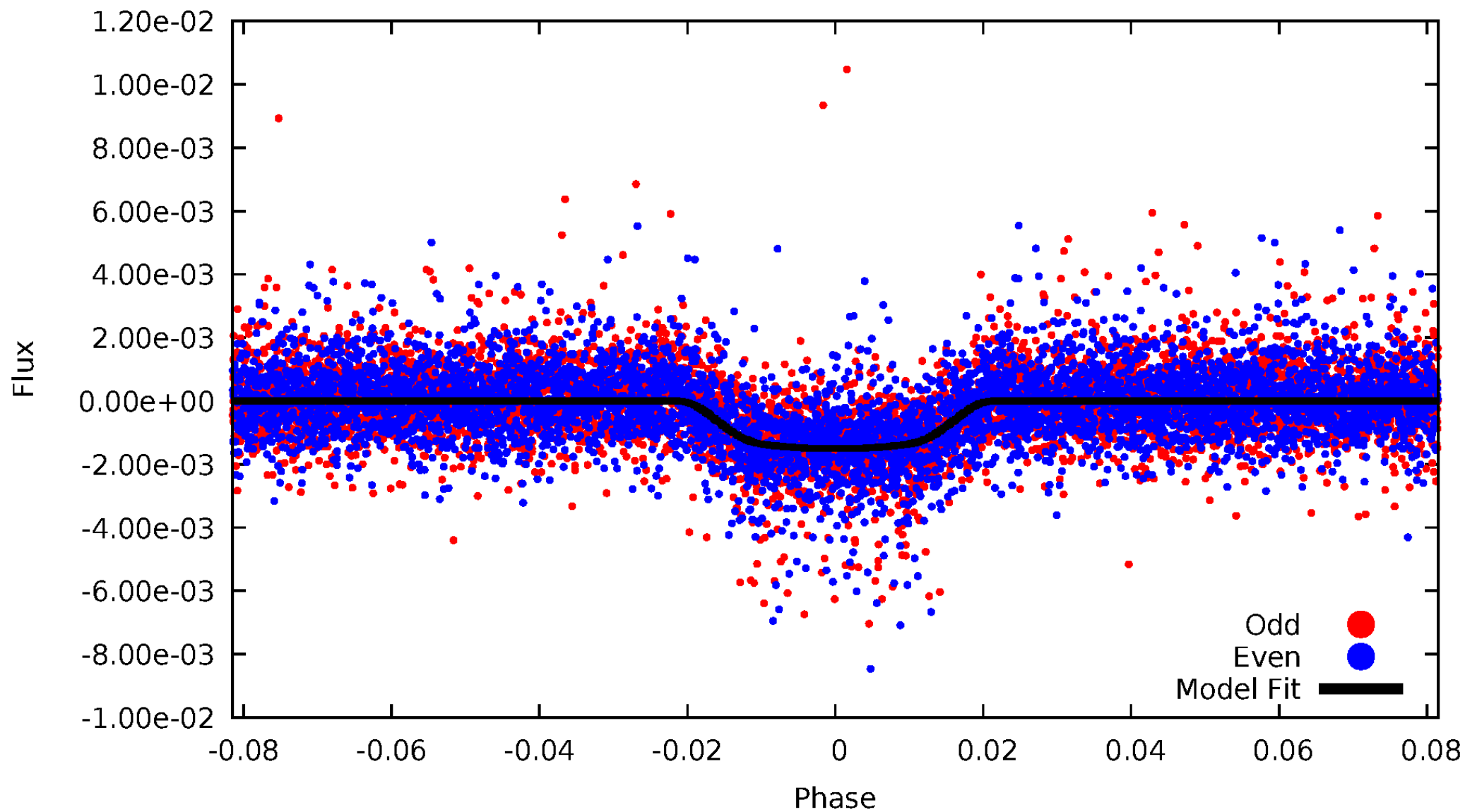


TCE 003742855-02



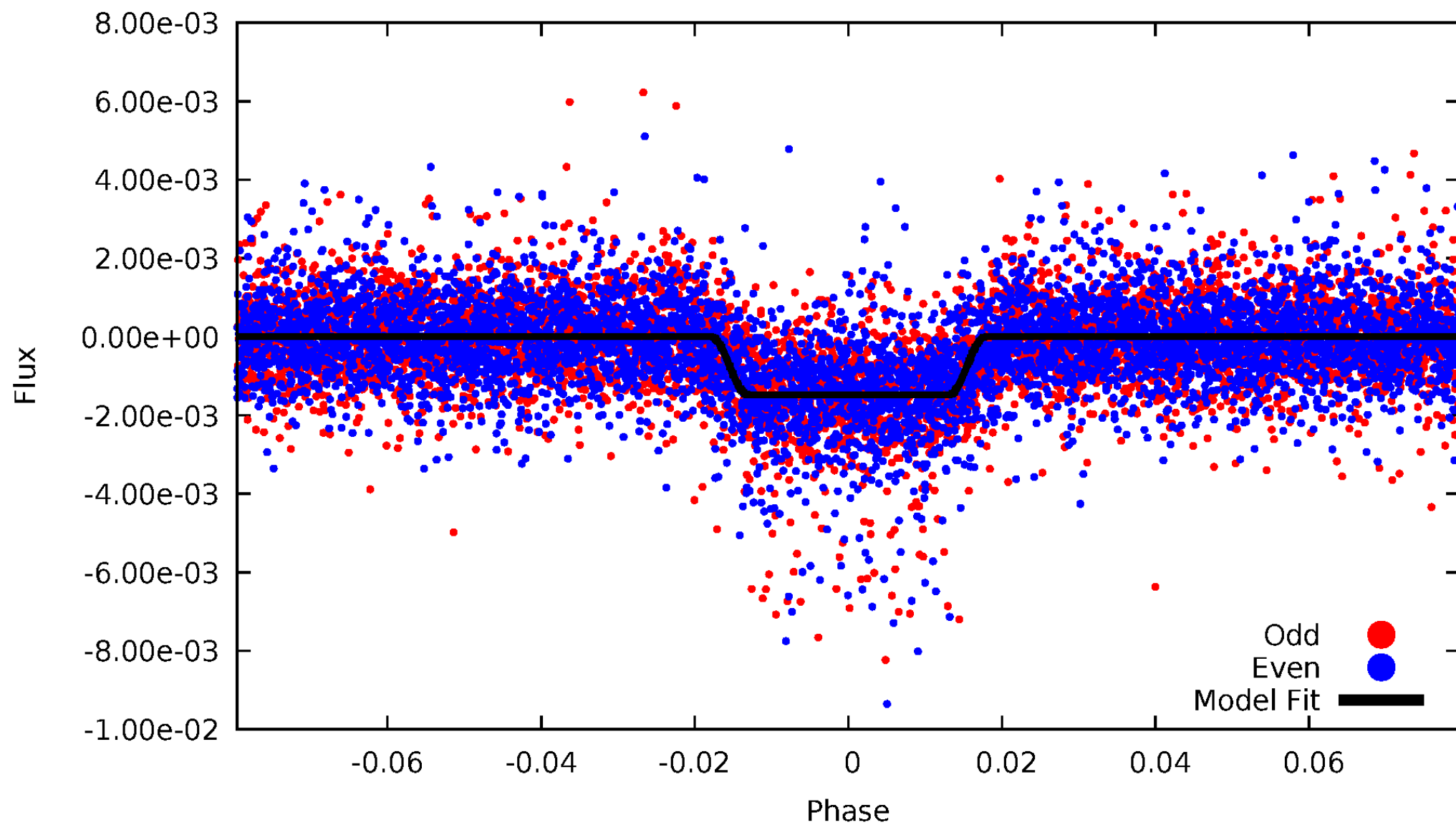
DV Odd/Even

TCE 003742855-02



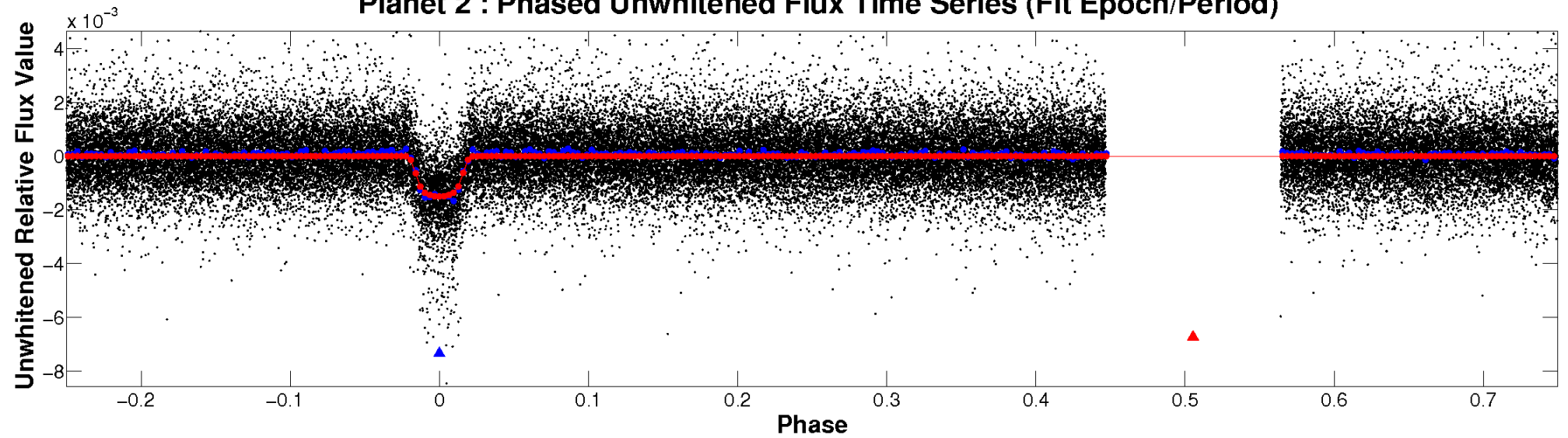
ALT Odd/Even

TCE 003742855-02

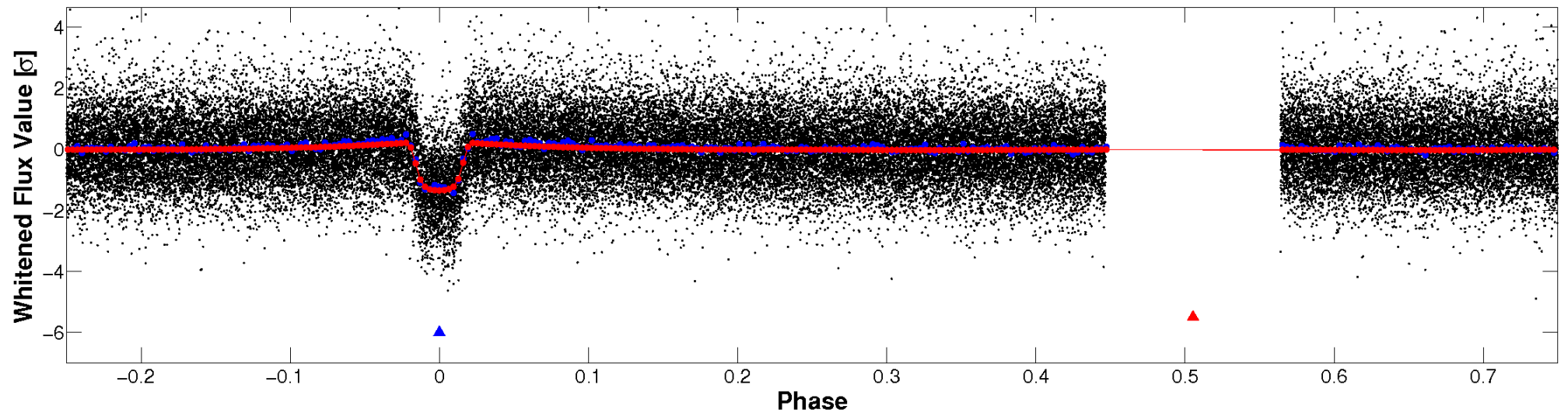


Non-Whitened Vs. Whitened Light Curve

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

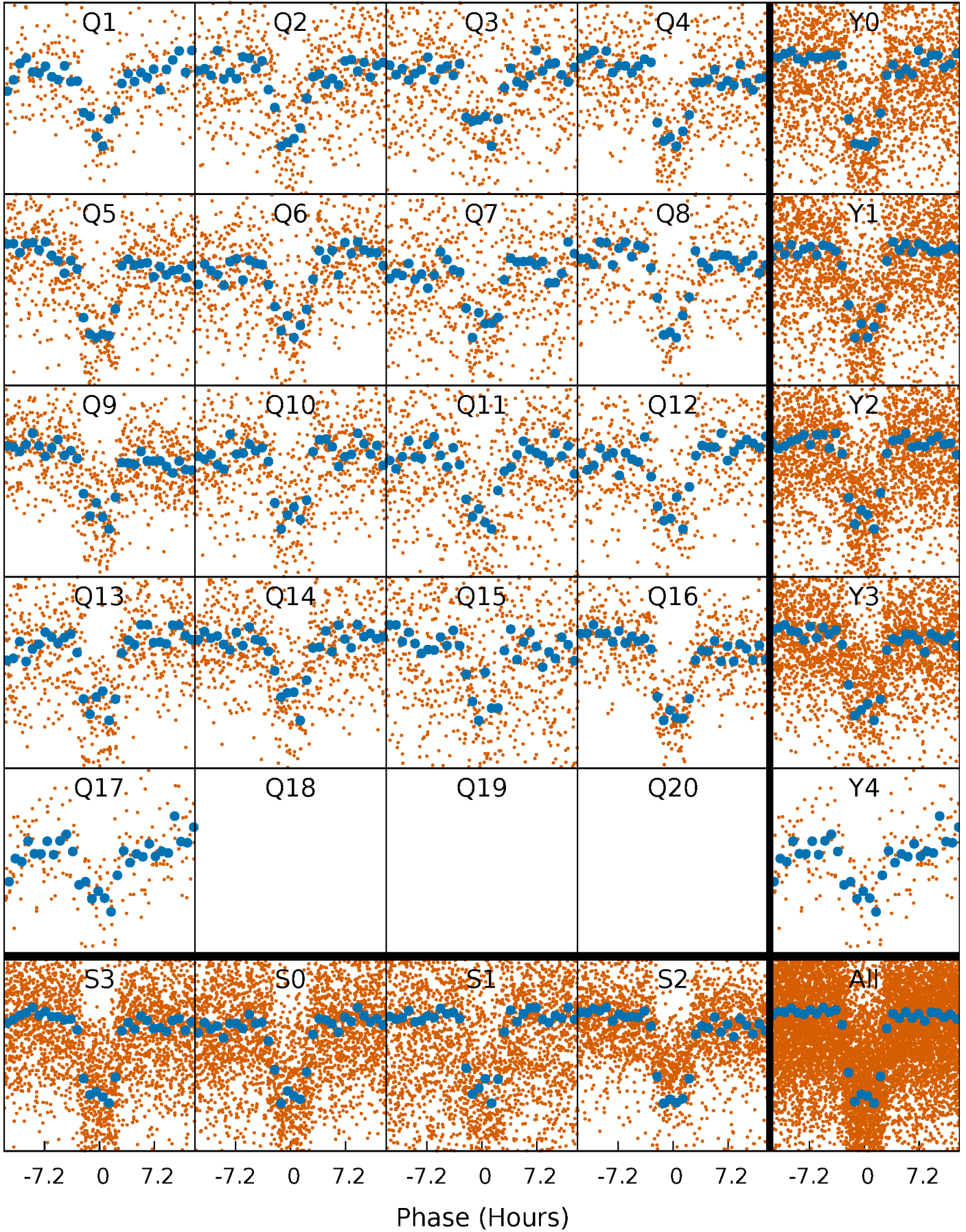


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



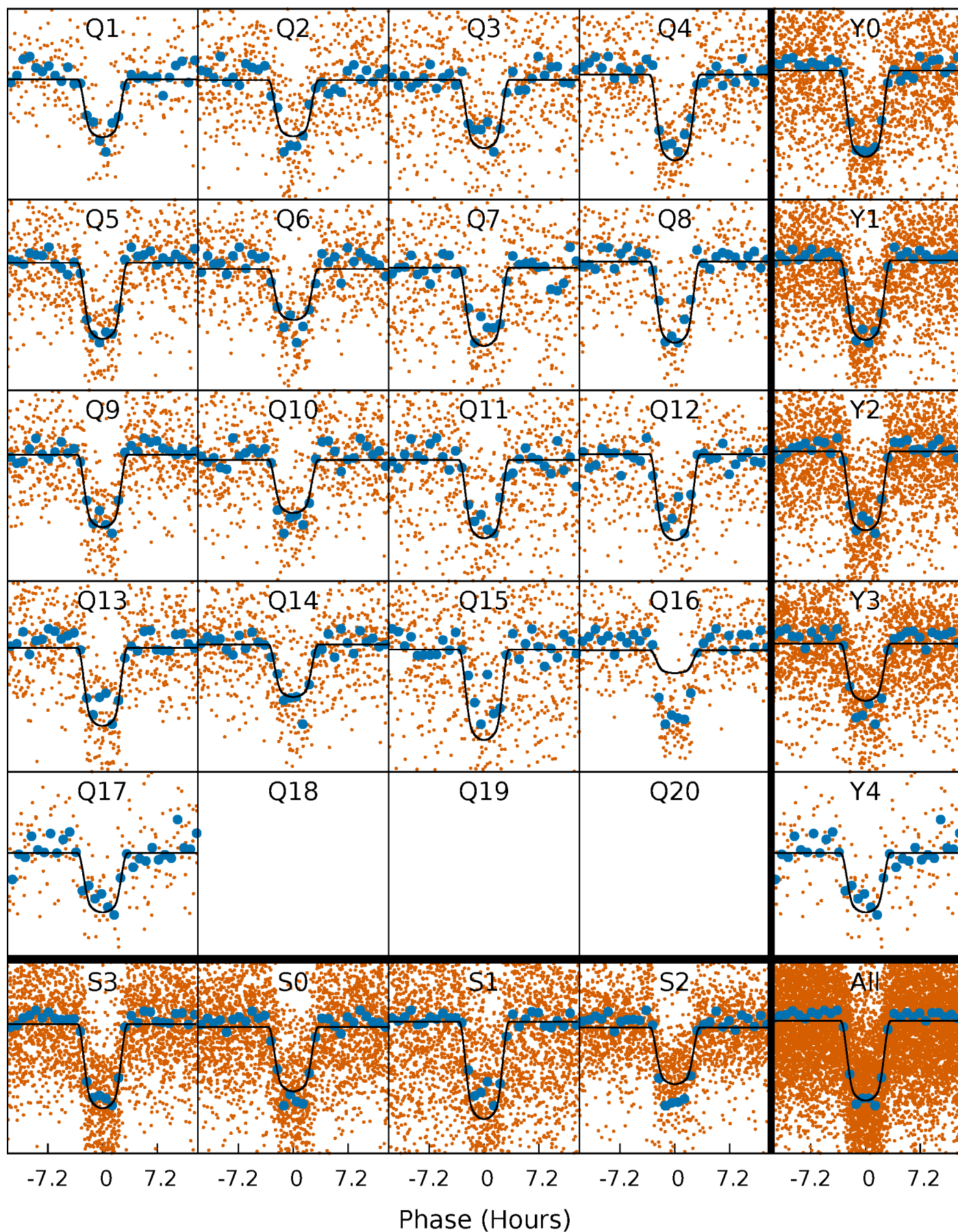
PDC Quarter-Phased Transit Curves

TCE 003742855-02 P= 6.397189 Days $T_0=132.748650$ (BKJD)



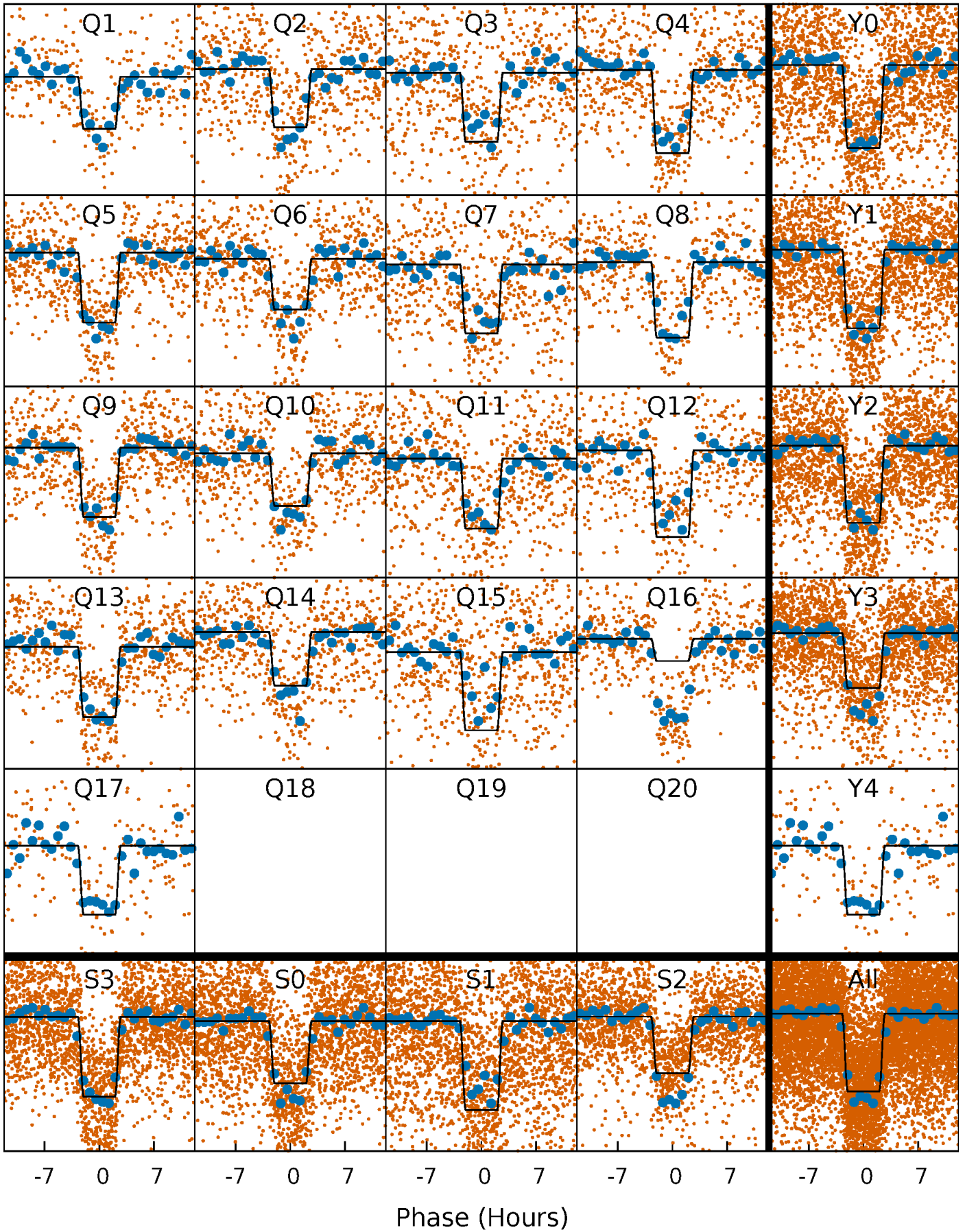
DV Quarter-Phased Transit Curves

TCE 003742855-02 P= 6.397189 Days $T_0=132.748650$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

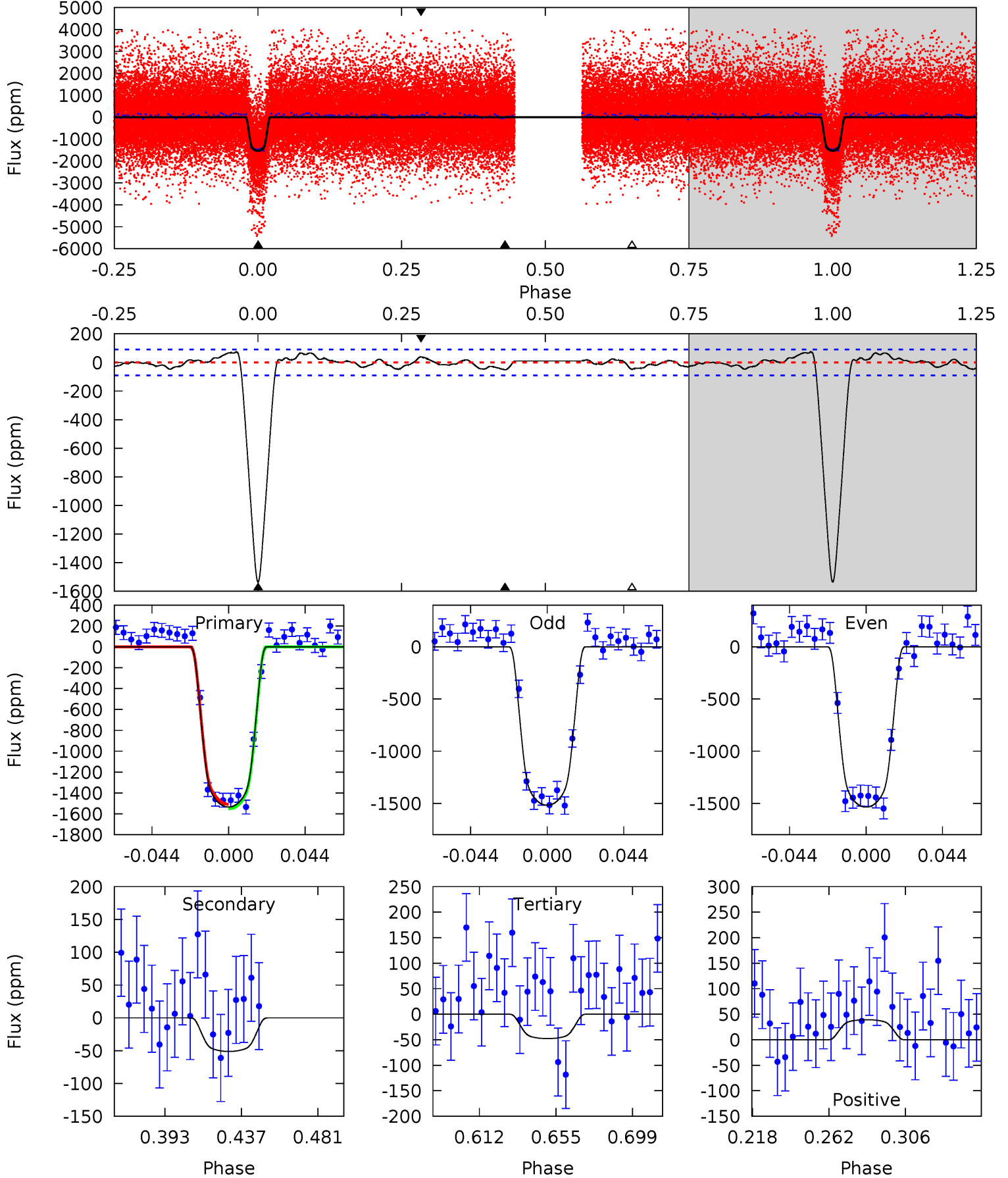
TCE 003742855-02 P= 6.397171 Days $T_0=132.750852$ (BKJD)



DV Model-Shift Uniqueness Test

003742855-02, P = 6.397189 Days, E = 126.351461 Days

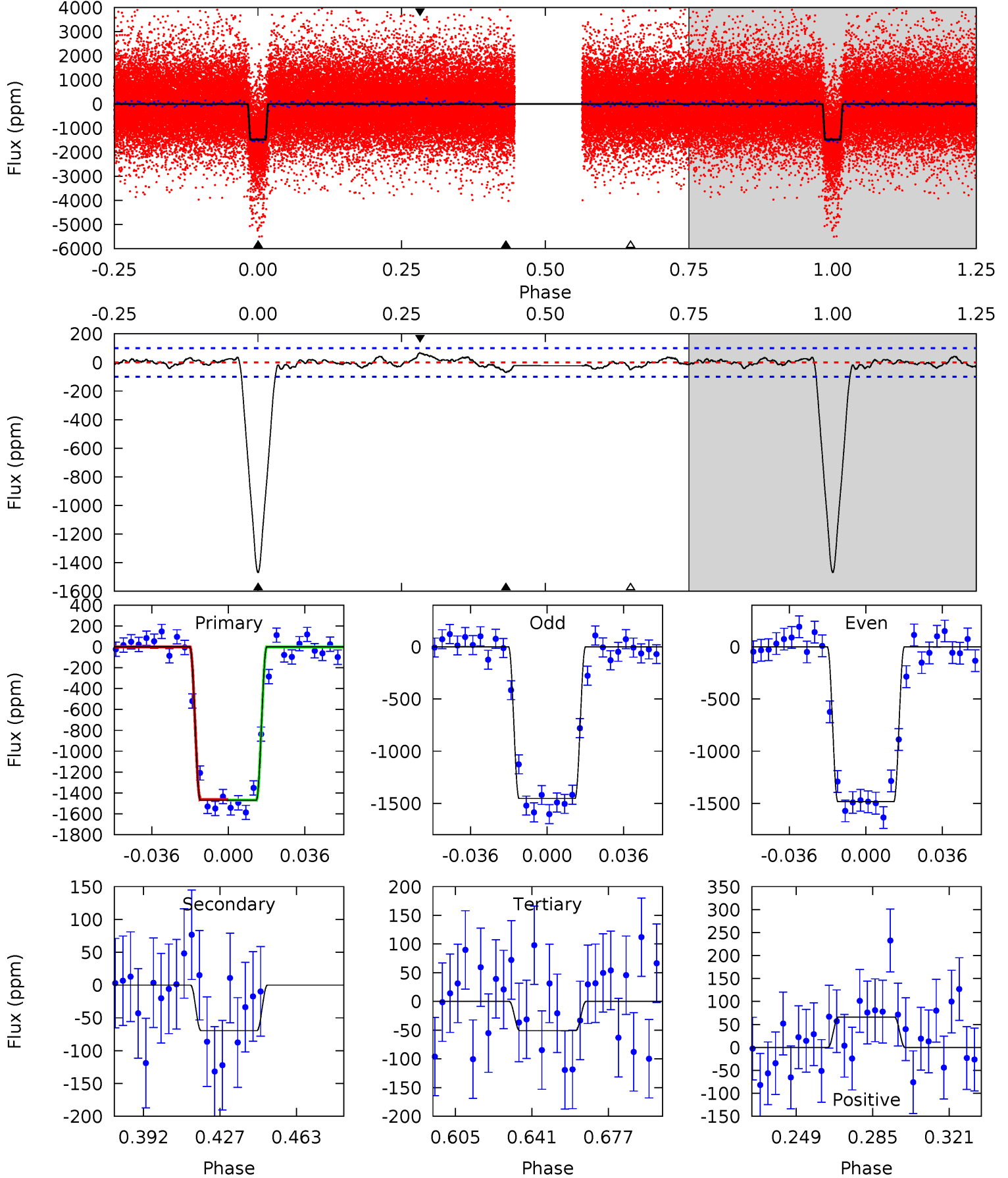
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
80.6	2.69	2.51	2.06	4.74	2.02	1.37	78.1	78.5	0.18	0.63	0.48	1.07	0.05	1.13



Alt Model-Shift Uniqueness Test

003742855-02, P = 6.397171 Days, E = 126.353681 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
70.0	3.31	2.42	3.16	4.78	2.10	1.09	67.6	66.9	0.89	0.15	0.72	1.11	0.04	0.14



Stellar Parameters For KIC 003742855

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 003742855-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-51±19	$4.73^{+0.36}_{-0.34}$	1376^{+66}_{-67}	2998^{+159}_{-204}	$5.857^{+2.330}_{-2.247}$
Alt.	-69±21	$4.21^{+0.29}_{-0.30}$	1369^{+65}_{-61}	3244^{+147}_{-187}	$9.958^{+3.009}_{-3.247}$

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

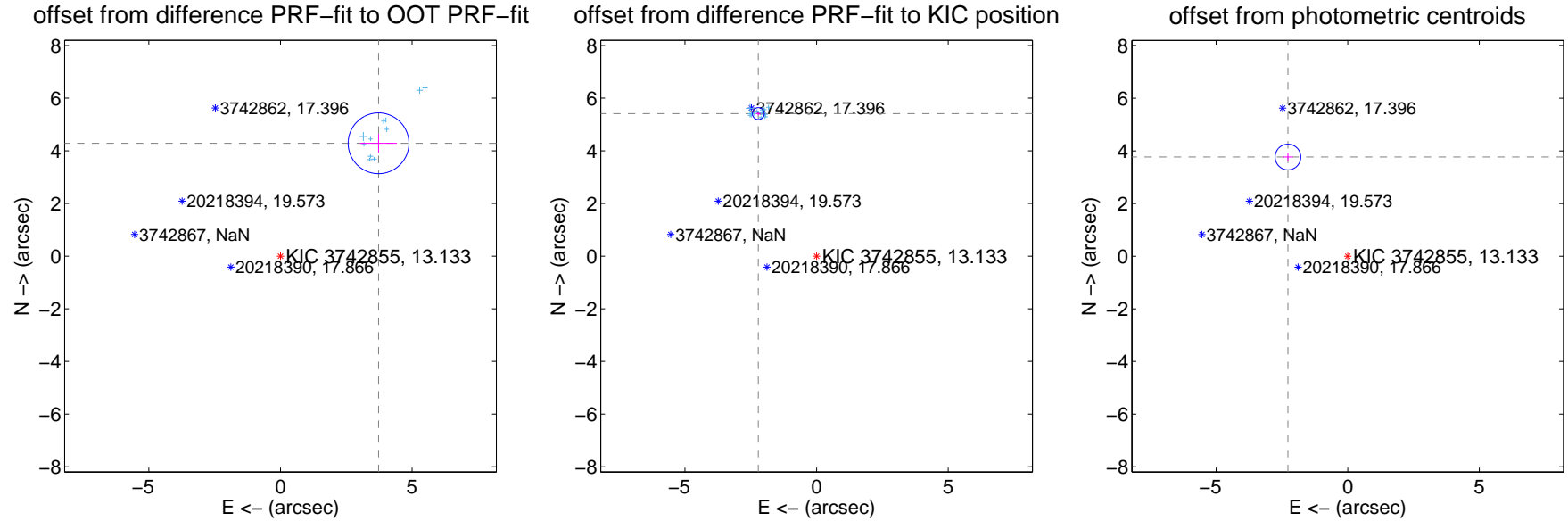
DV Centroid Data

Supplemental centroid analysis for 003742855-02. Kepler magnitude: 13.13. Transit SNR 55.22

There are 16 quarters with good PRF difference image offsets

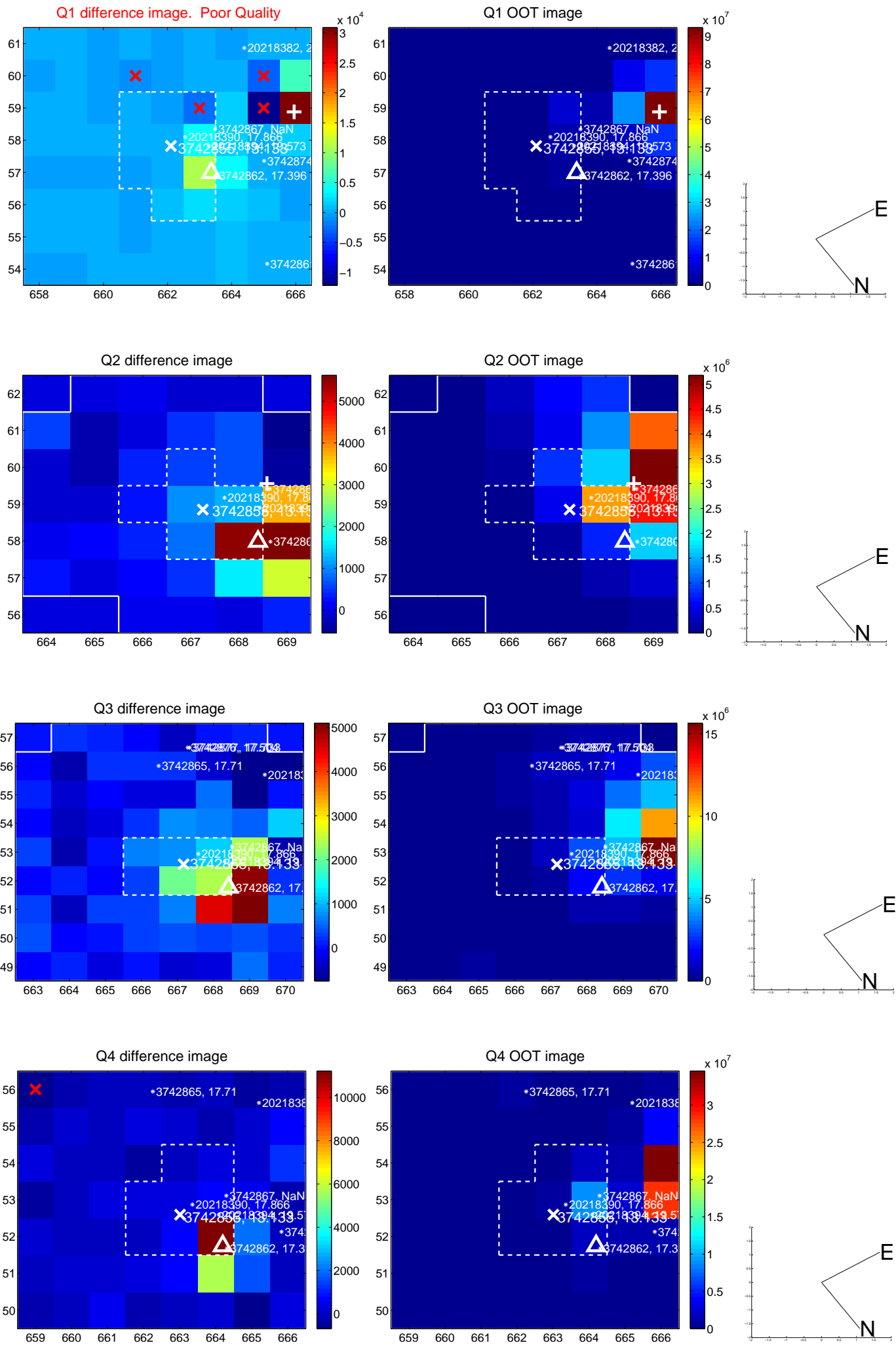
The OOT PRF centroid is offset from the target star catalog position by about 5.78 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.680 \pm 0.385	14.76	-3.726 \pm 0.696	4.286 \pm 0.362
PRF-fit source offset from KIC position	5.848 \pm 0.075	77.48	2.213 \pm 0.092	5.413 \pm 0.072
photometric centroid source offset	4.40 \pm 0.16	27.08	2.27 \pm 0.19	3.77 \pm 0.15

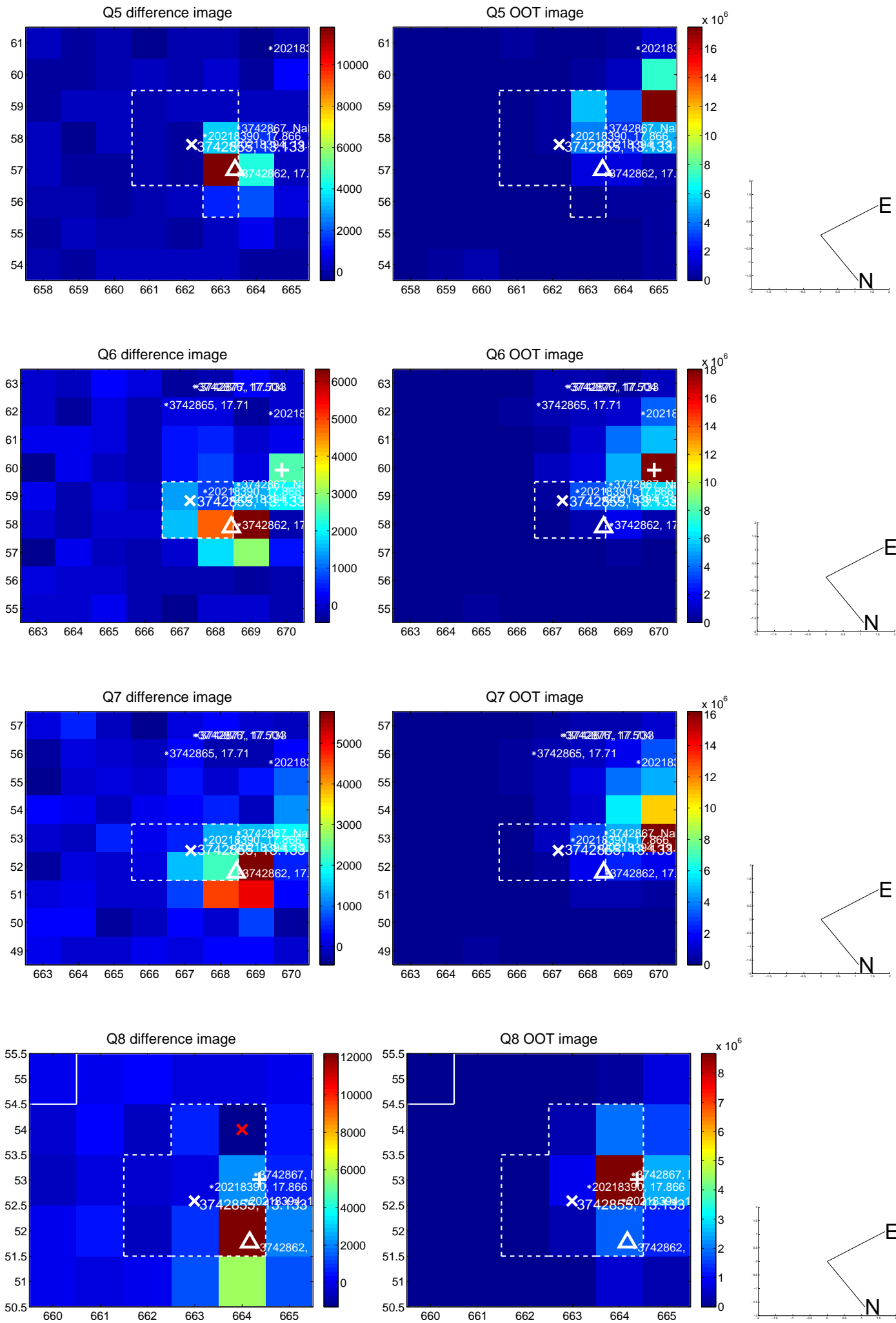


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

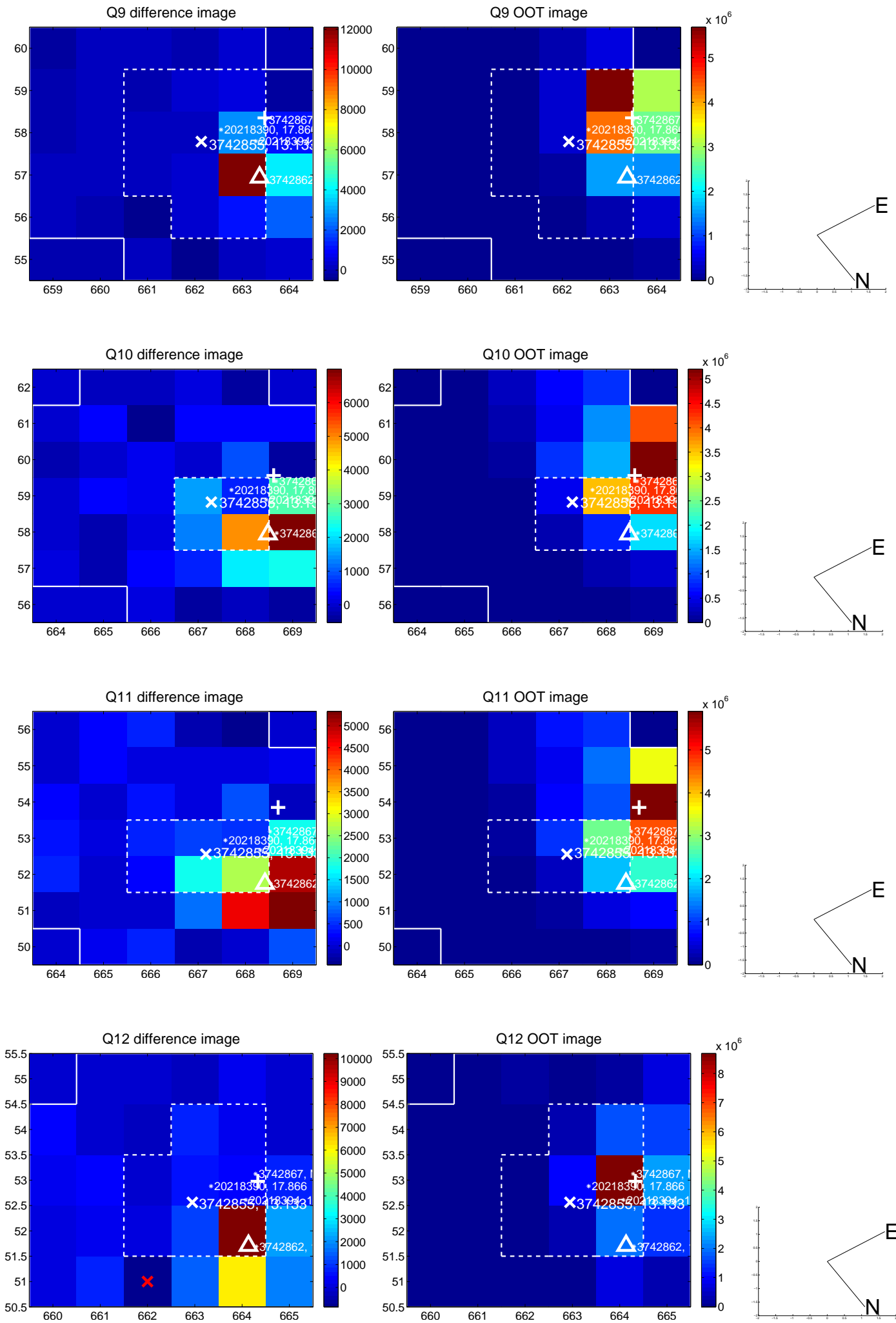
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



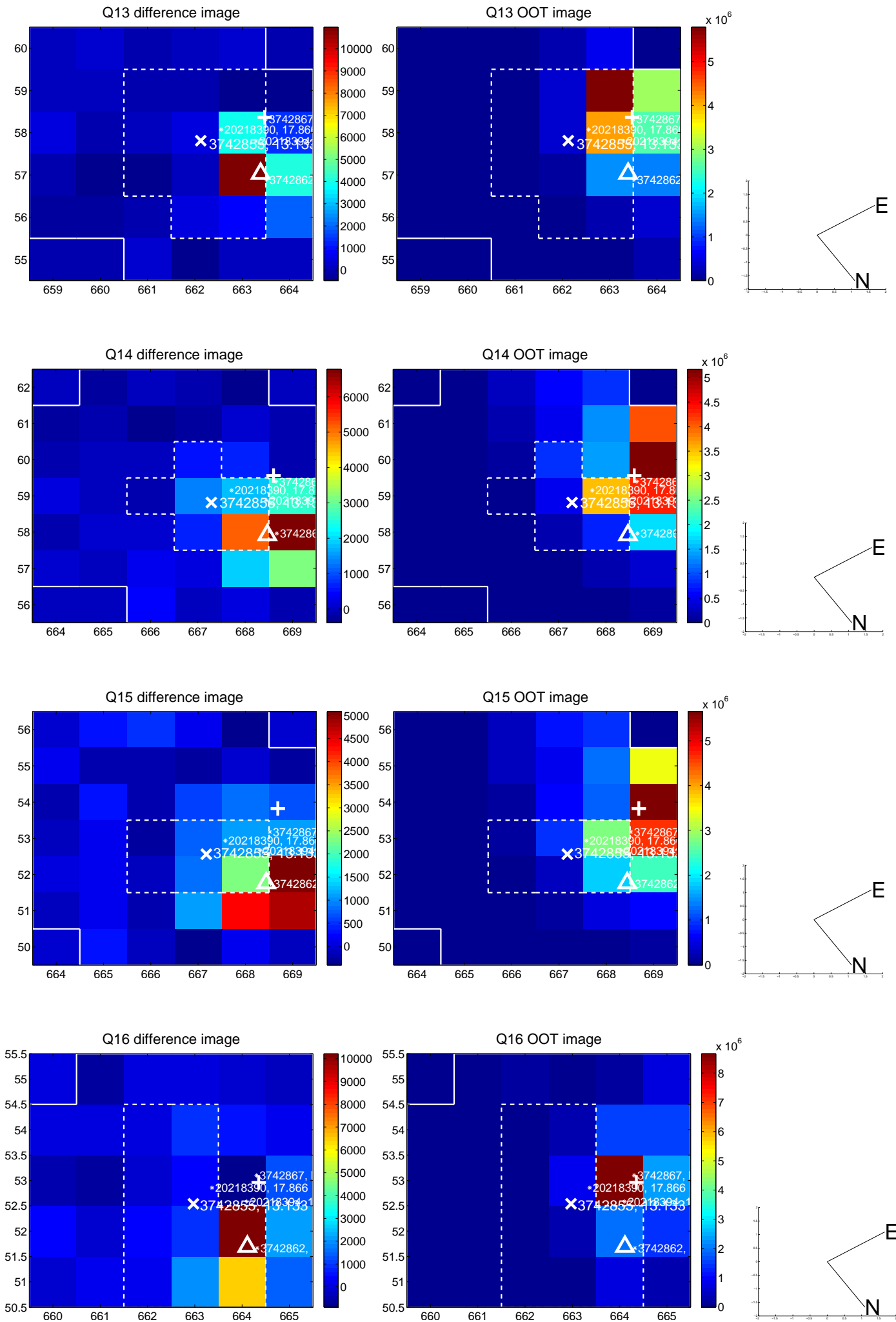
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



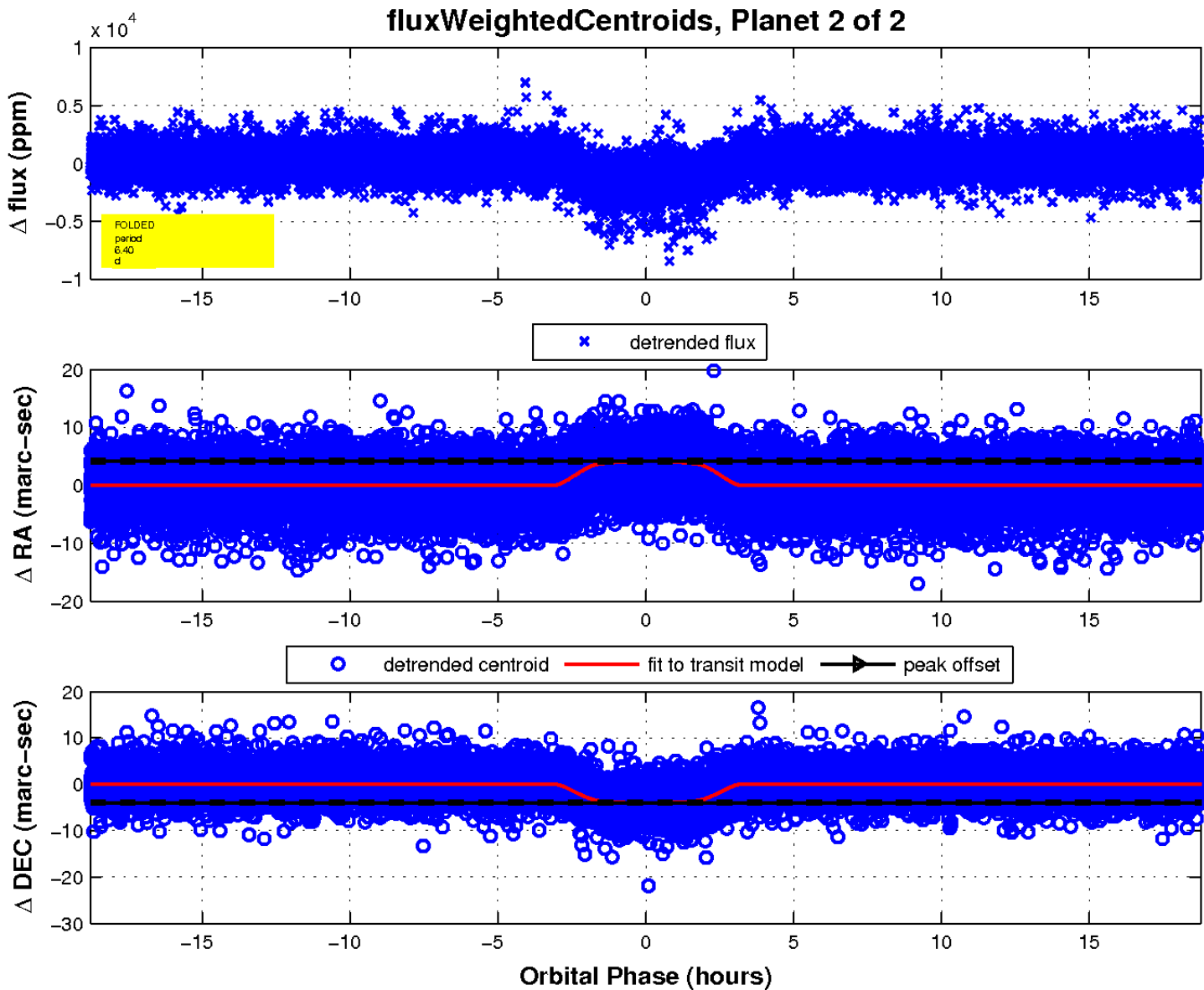
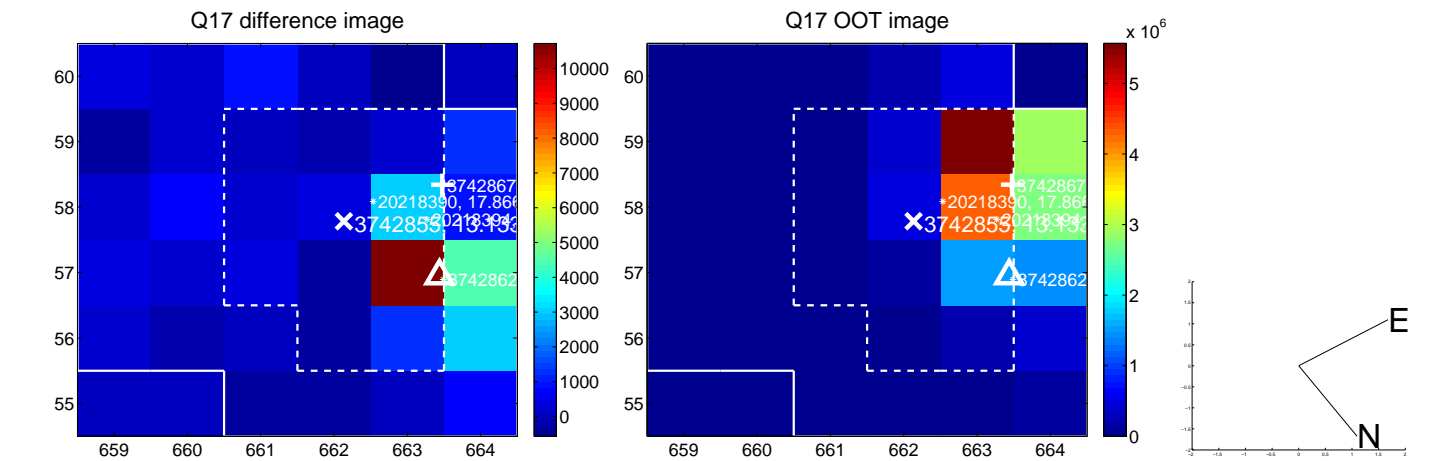
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

