

KIC 007385478

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})
007385478-01	OBS	6875.01	1.655482	133.123285	154573.0	4.426	3106.1	2575.9	2.17	6725	99.08	9943.46
007385478-02	OBS	No	1.655179	132.301091	133.2	3.500	16.3	-1.0	2.17	6725	2.53	9945.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007385478-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_SATURATED
007385478-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_SATURATED

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.

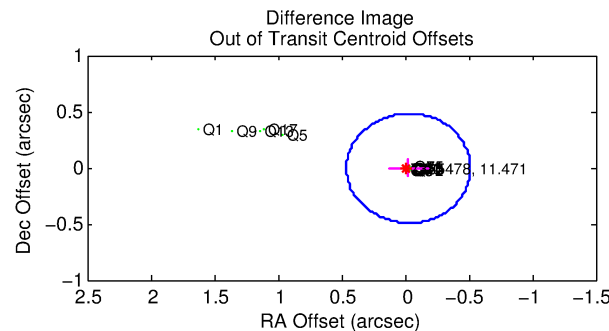
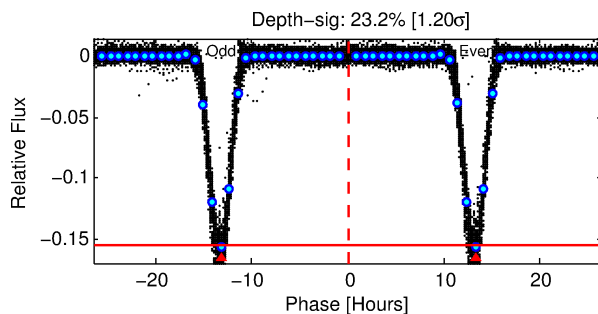
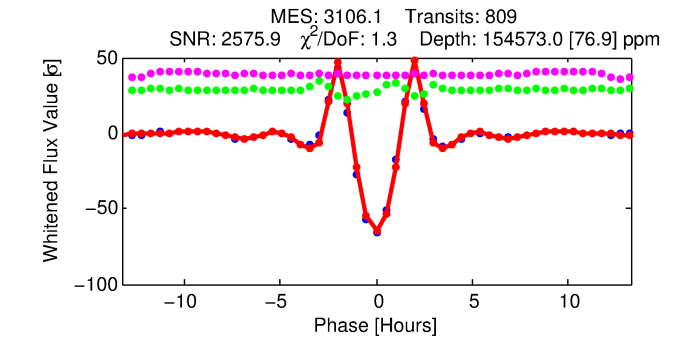
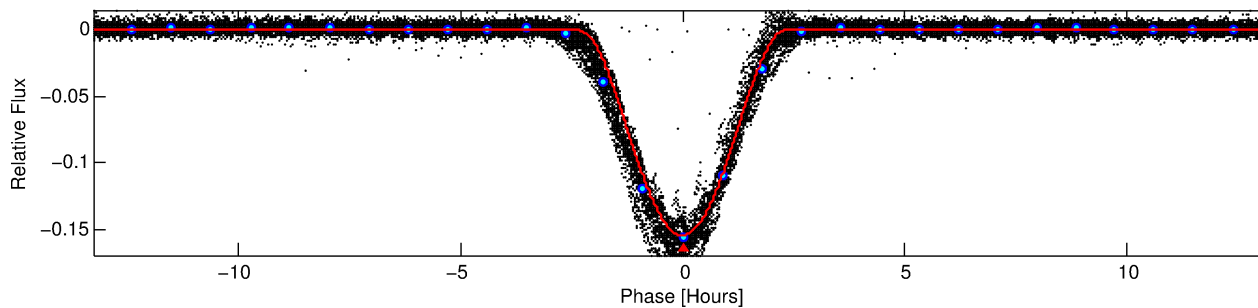
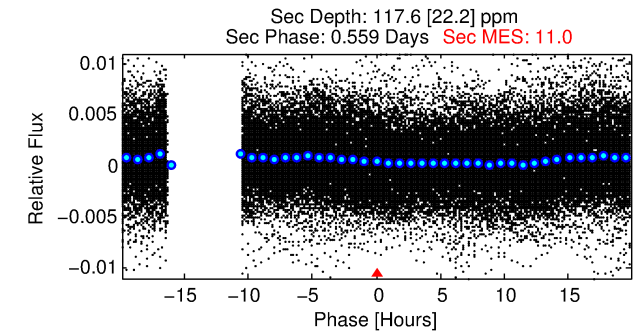
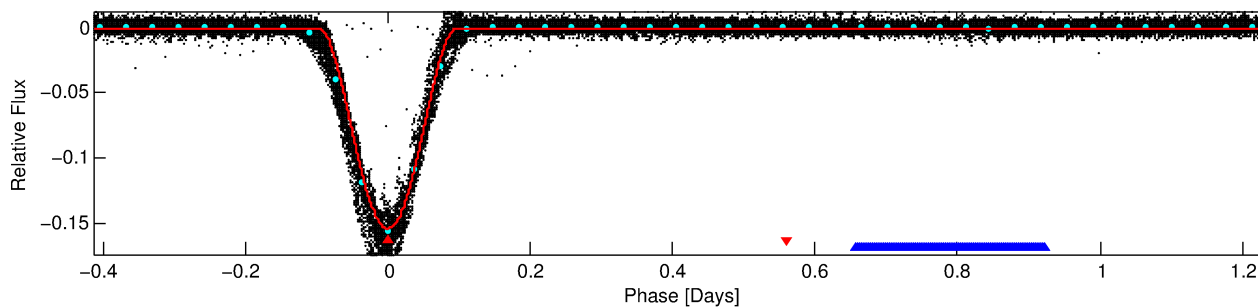
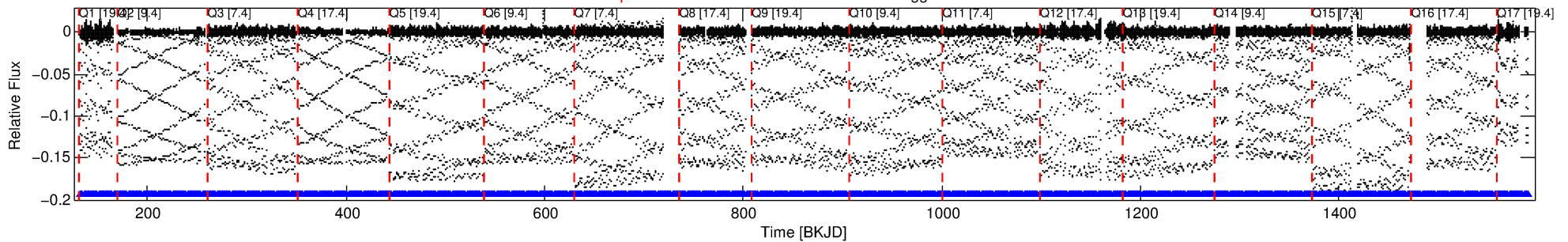
Ephemeris Match Information For 007385478-01

No Significant Match Found

DV One-Page Summary

KIC: 7385478 Candidate: 1 of 2 Period: 1.655 d
KOI: K06875.01 Corr: 0.932

Kp: 11.47 R*: 2.17 Rs Teff: 6725.0 K Logg: 3.86 Fe/H: -0.520



DV Fit Results:

Period = 1.65548 [0.00000] d
Epoch = 133.1233 [0.0000] BKJD
Rp/R* = 0.4182 [0.0003]
a/R* = 3.66 [0.00]
b = 0.70 [0.00]
Seff = 9943.46 [7312.76]
Teq = 2546 [468] K
Rp = 99.07 [45.68] Re
a = 0.0295 [0.0133] AU
Ag = 0.01 [0.00] [-231.79σ]
Teffp = 1083 [61] K [-3.10σ]

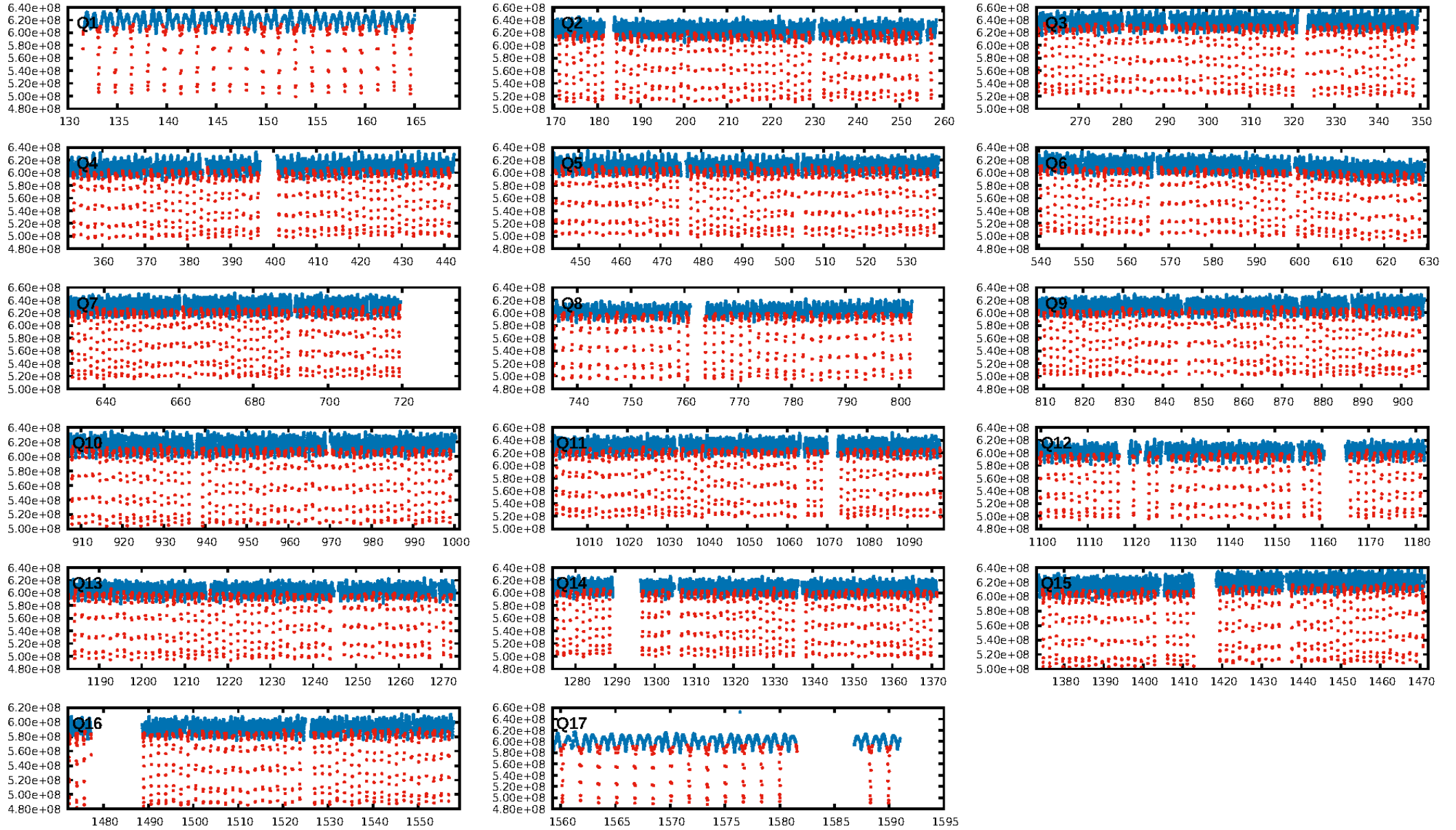
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [772/772]
GhostDiagnostic-chr: 1.161
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.027 arcsec [0.16σ]
KicOffset-rm: 0.059 arcsec [0.51σ]
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]

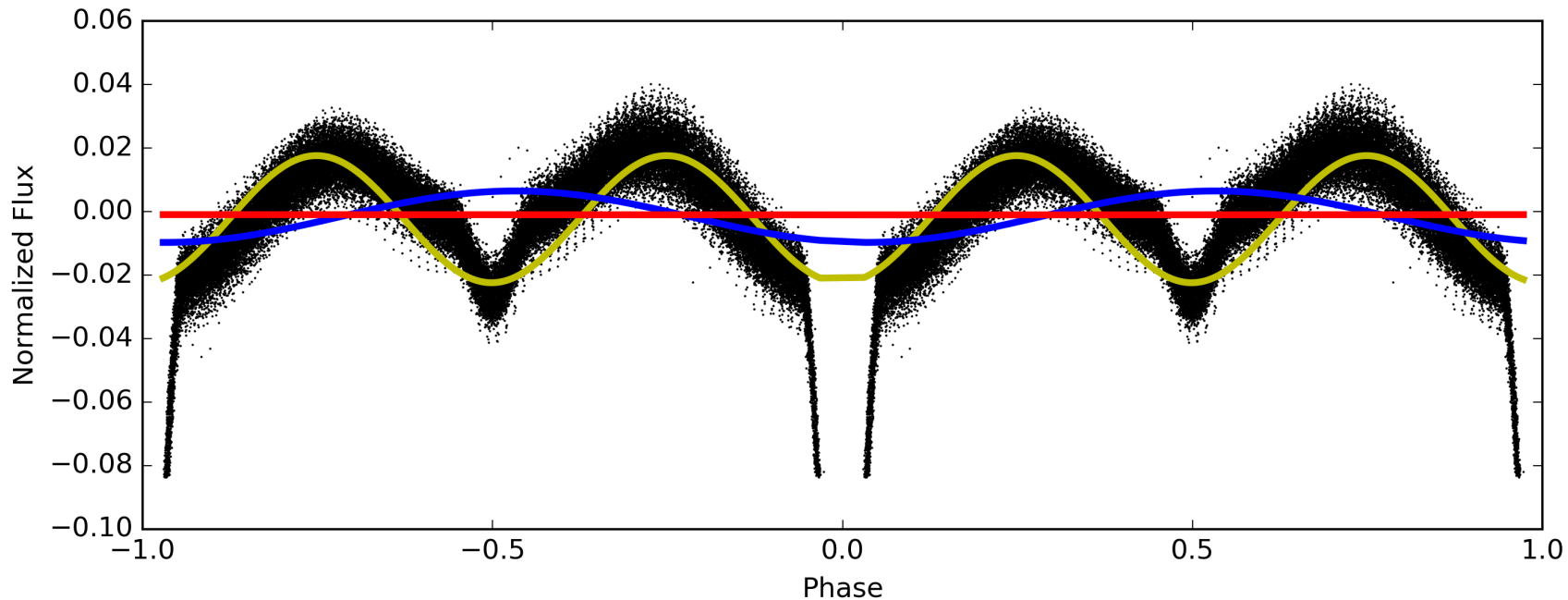
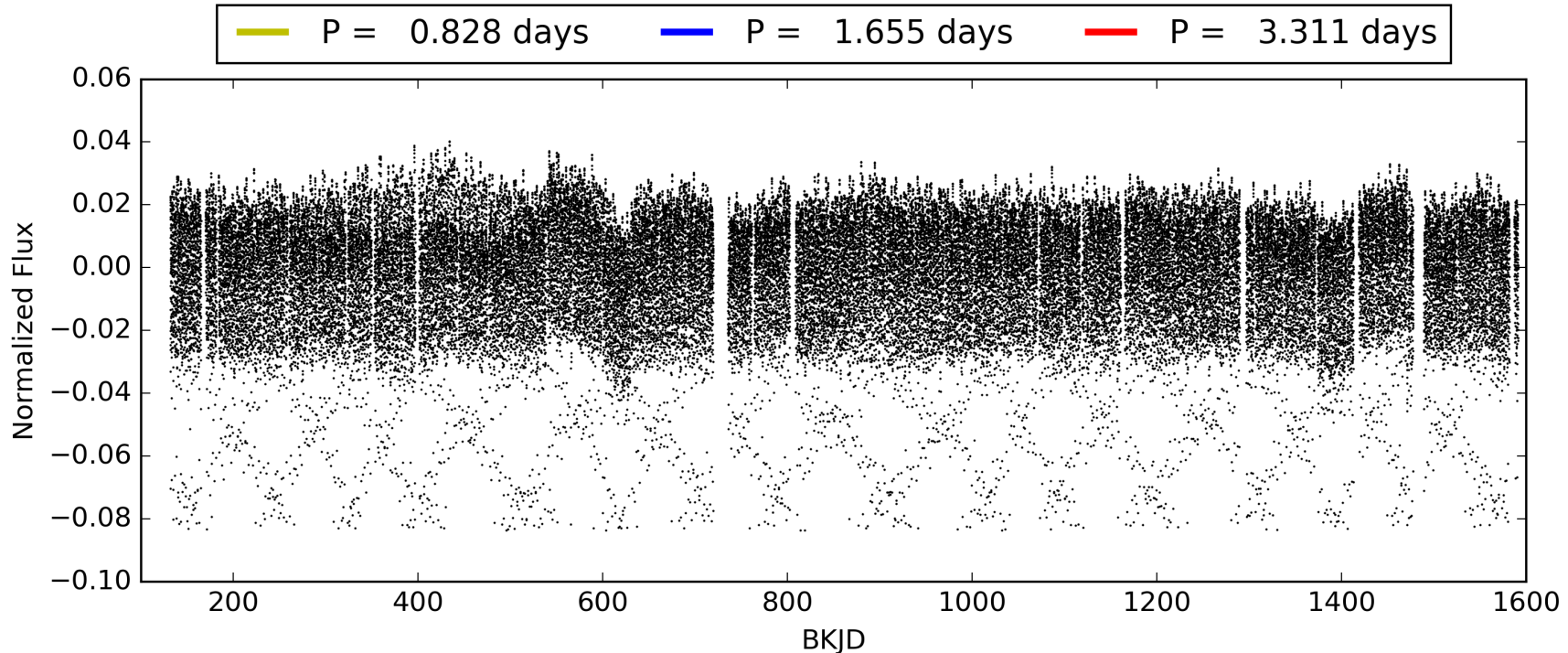
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 08:27:01 Z

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

TCE 007385478-01, PDC Light Curves

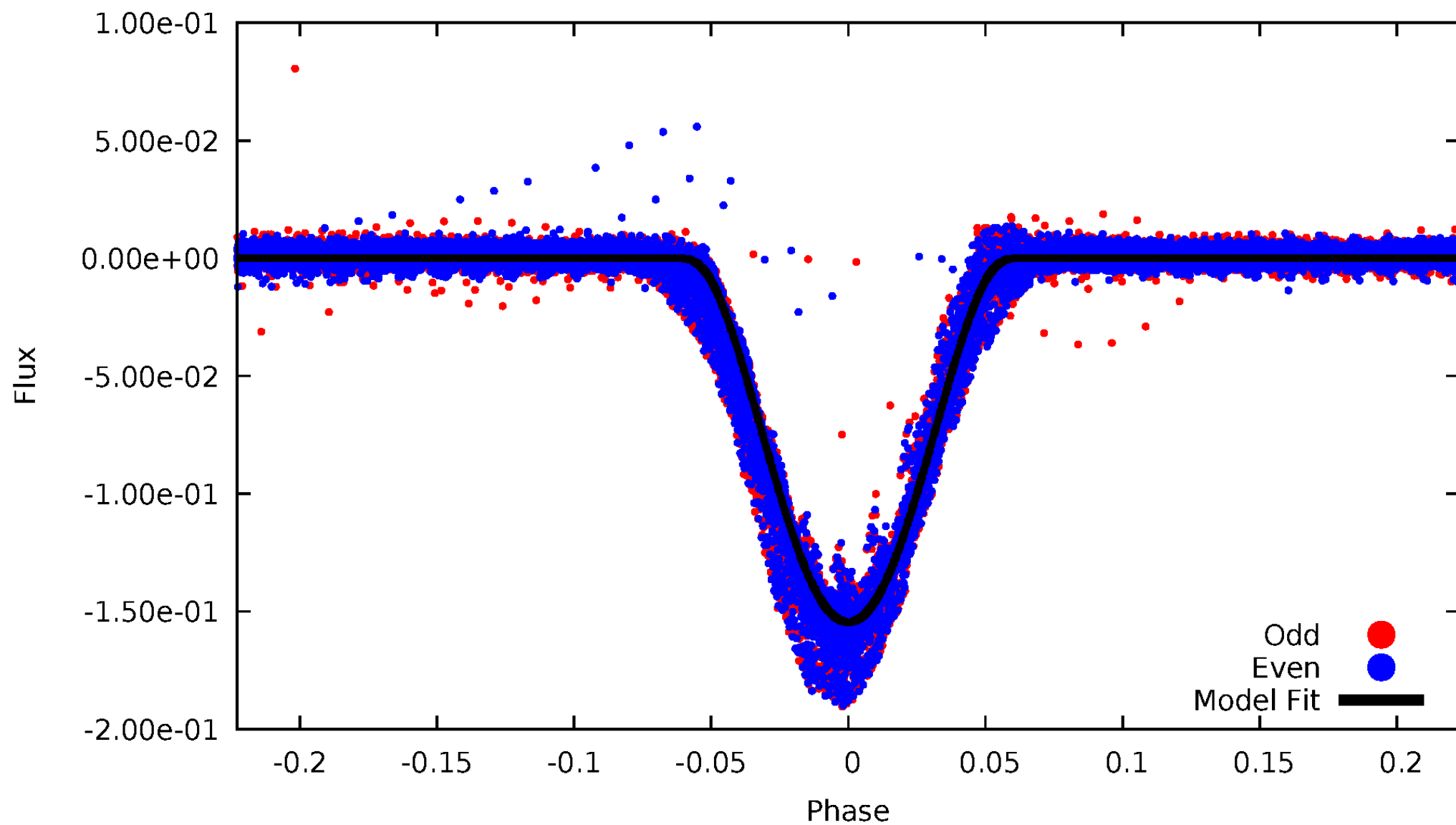


TCE 007385478-01



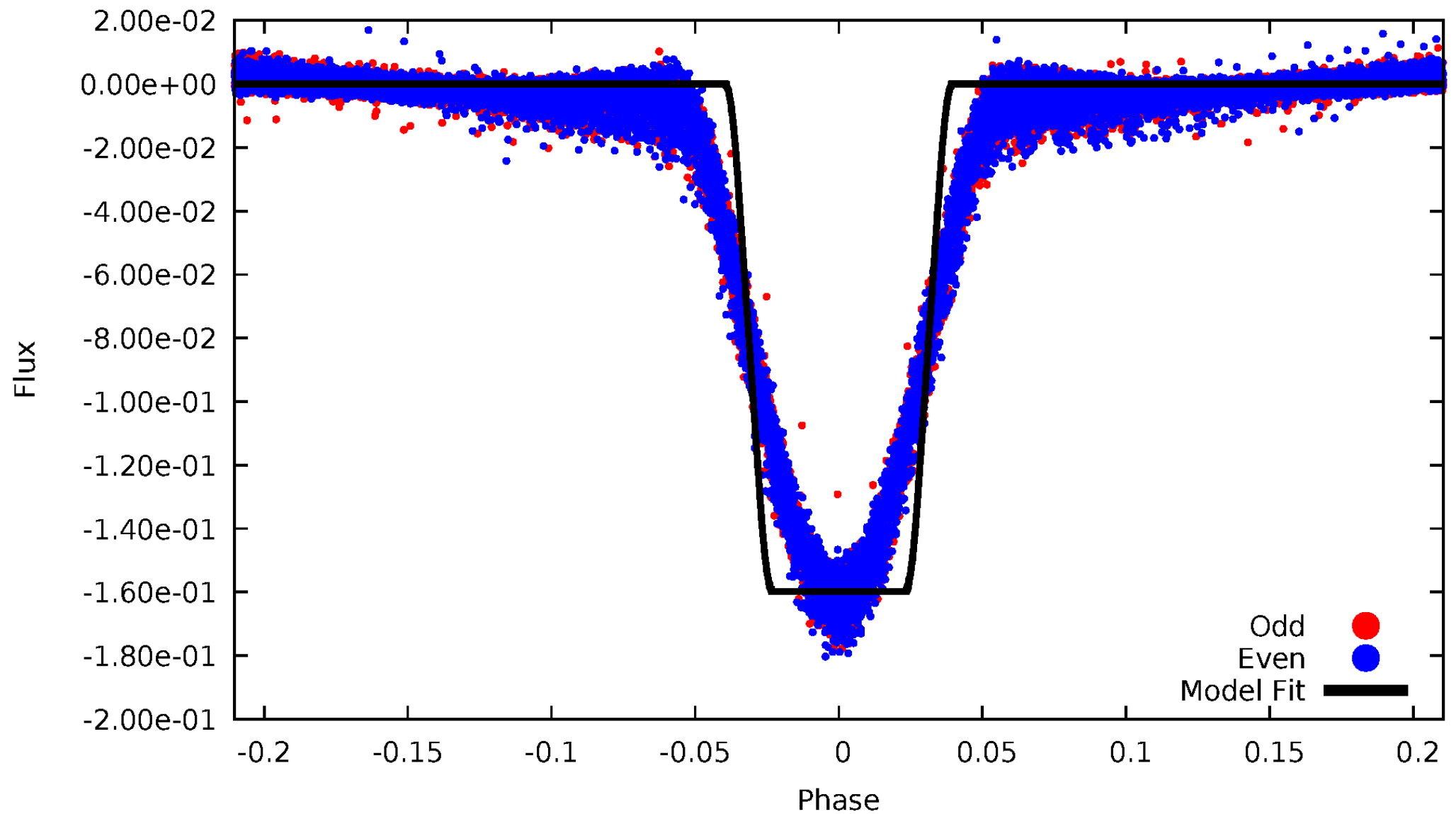
DV Odd/Even

TCE 007385478-01



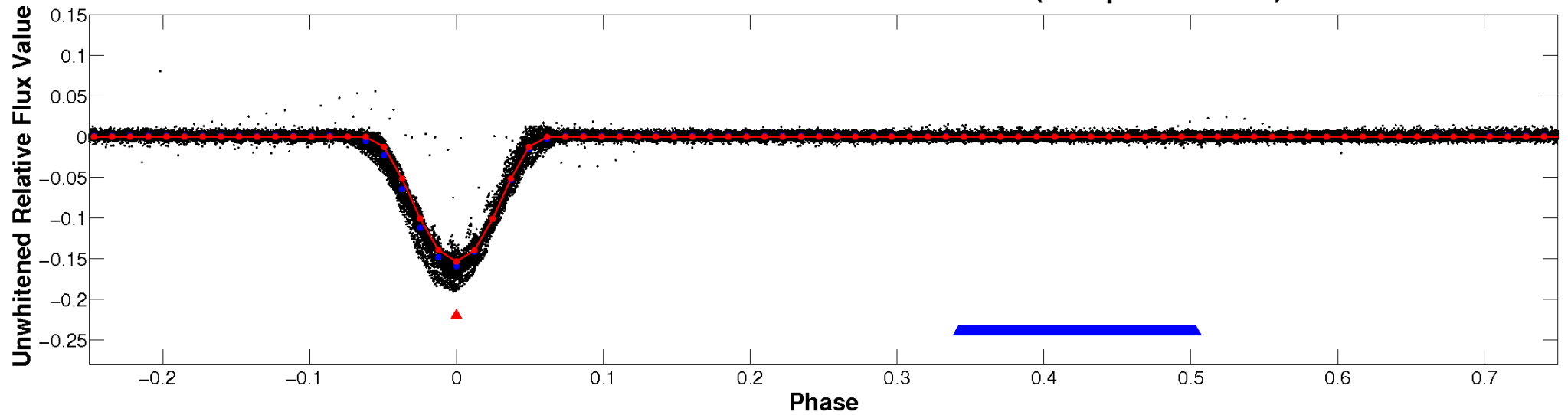
ALT Odd/Even

TCE 007385478-01

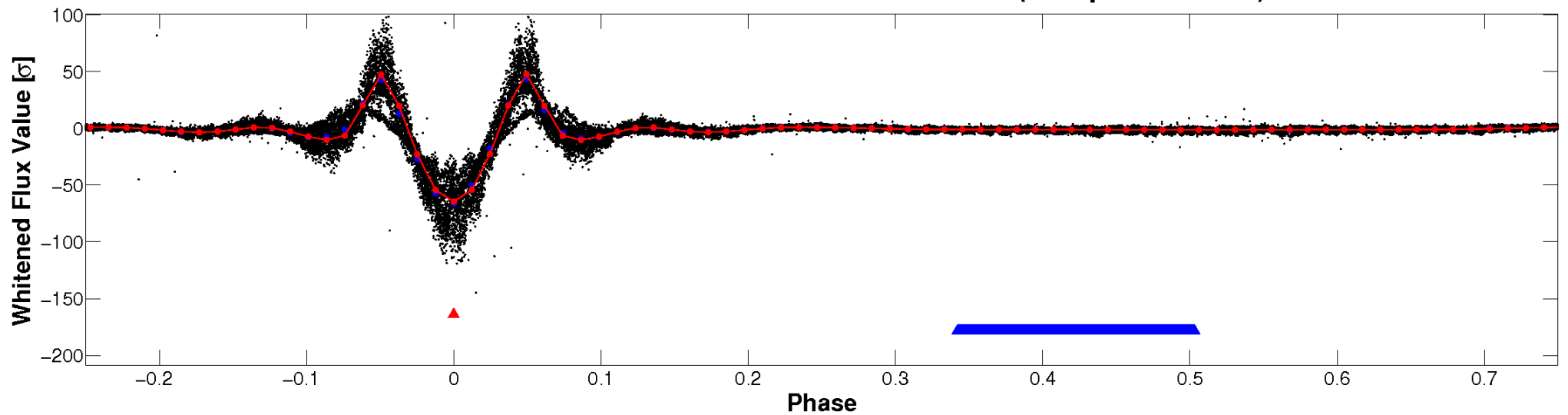


Non-Whitened Vs. Whitened Light Curve

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

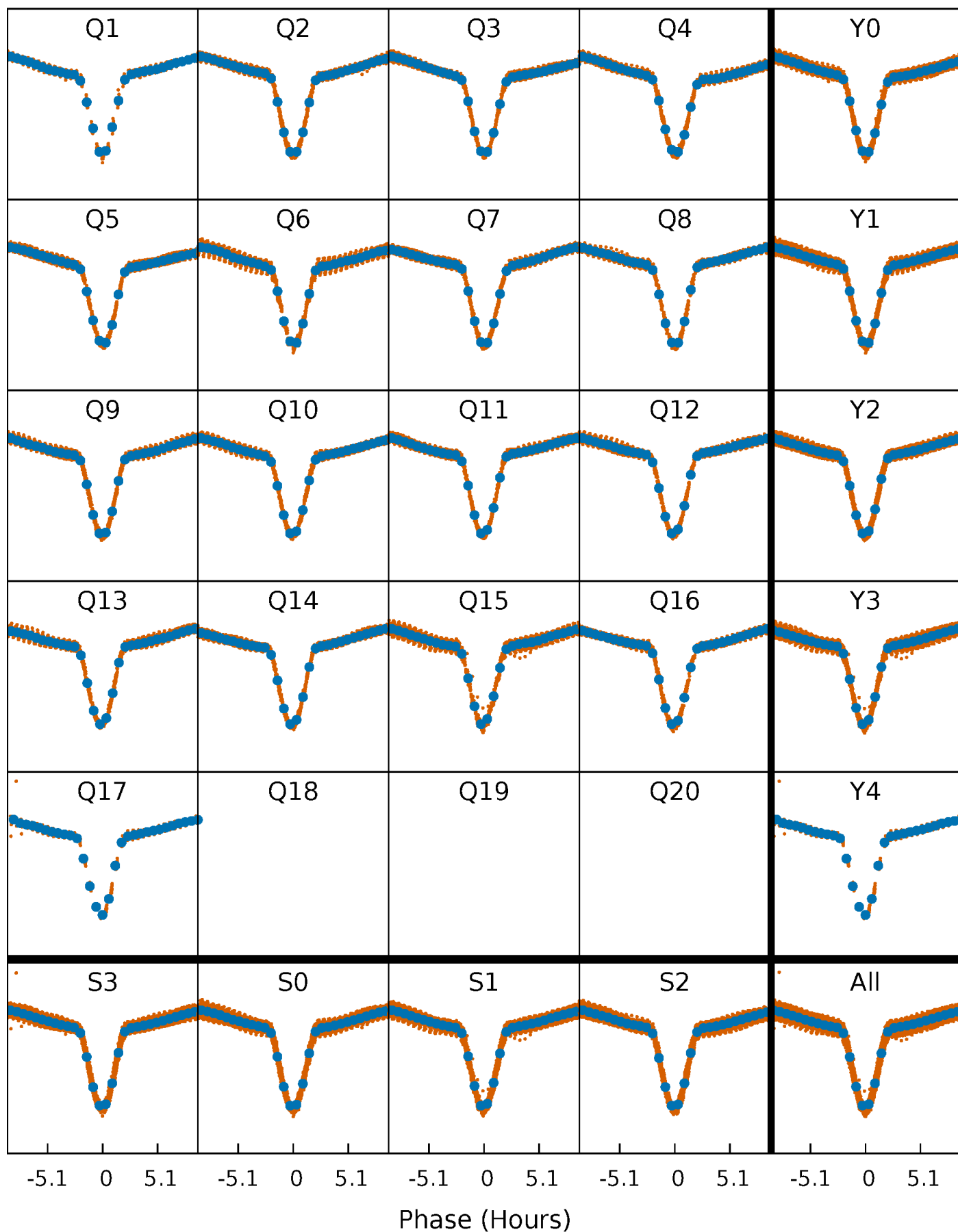


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



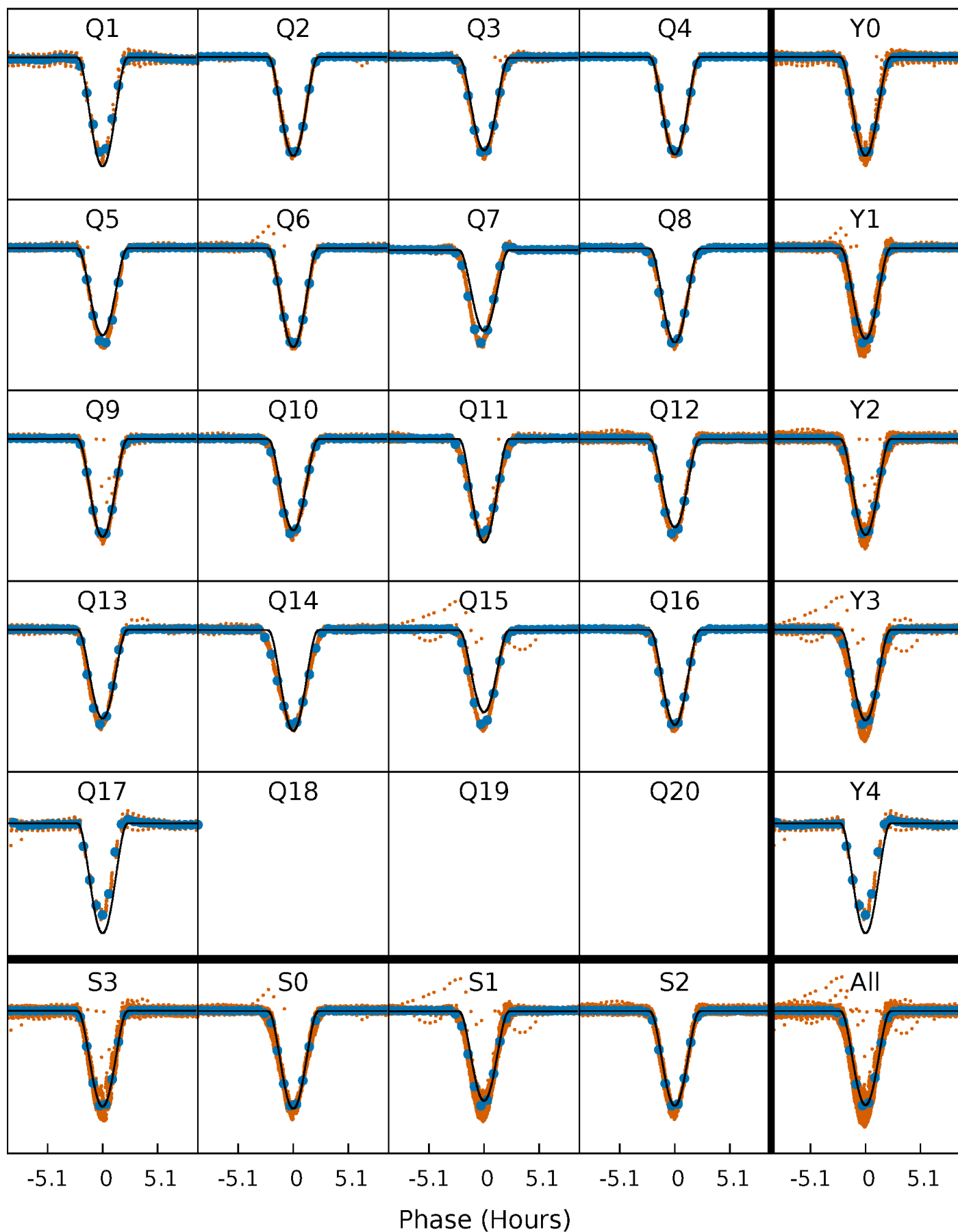
PDC Quarter-Phased Transit Curves

TCE 007385478-01 P= 1.655482 Days $T_0=133.123285$ (BKJD)



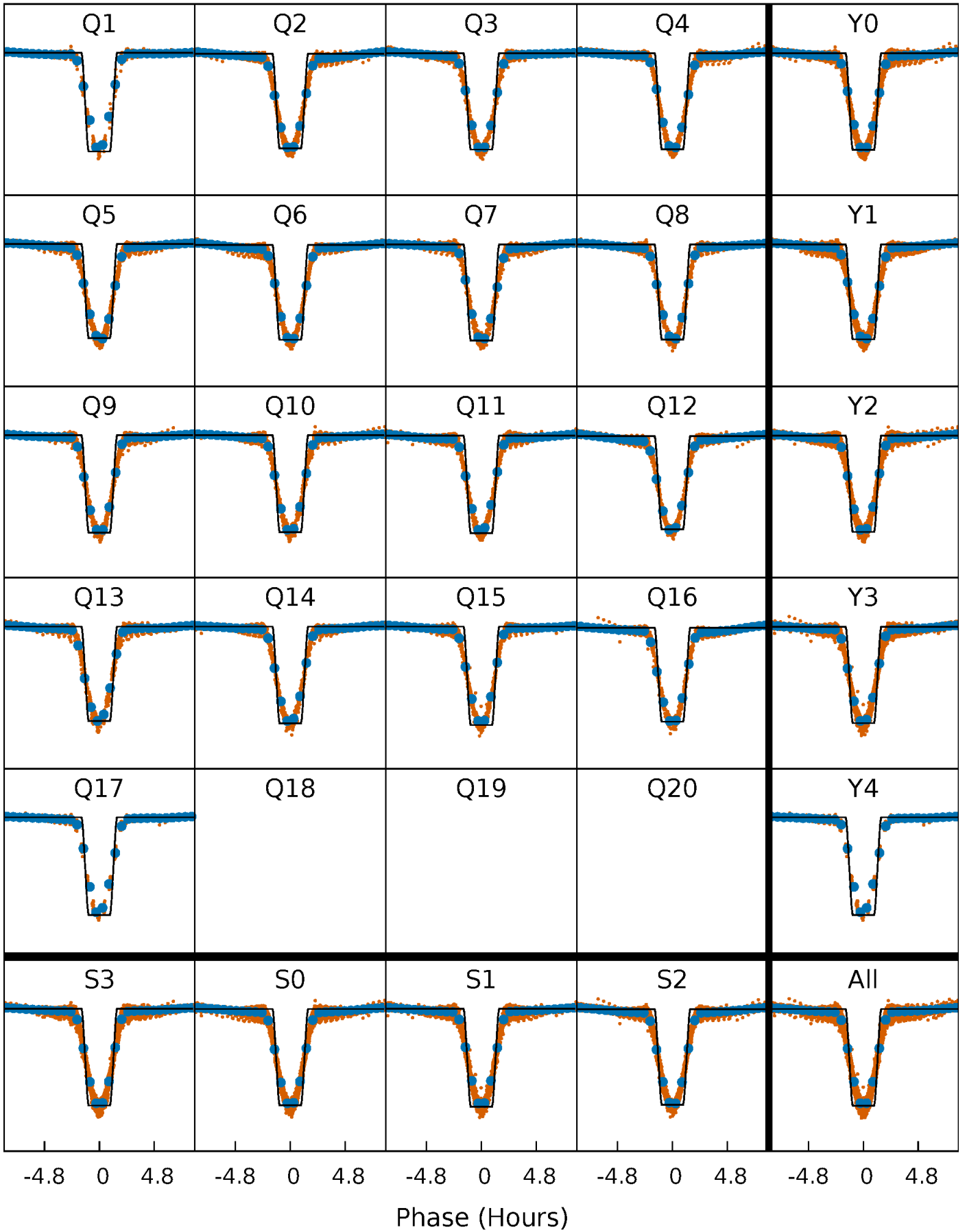
DV Quarter-Phased Transit Curves

TCE 007385478-01 P= 1.655482 Days $T_0=133.123285$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

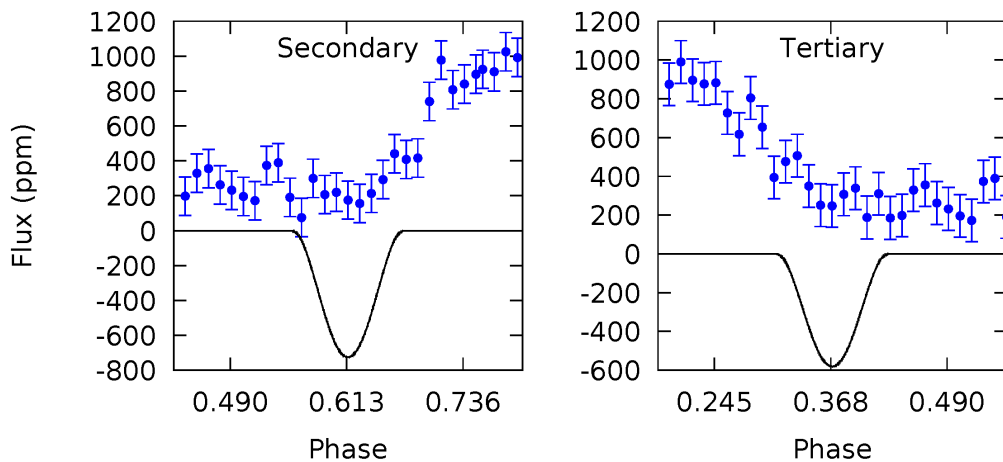
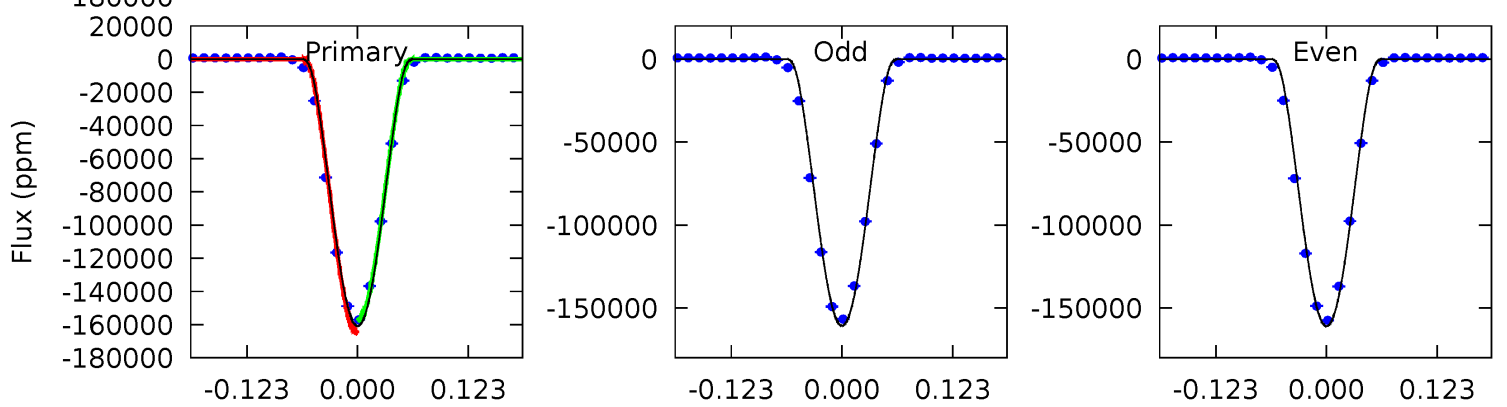
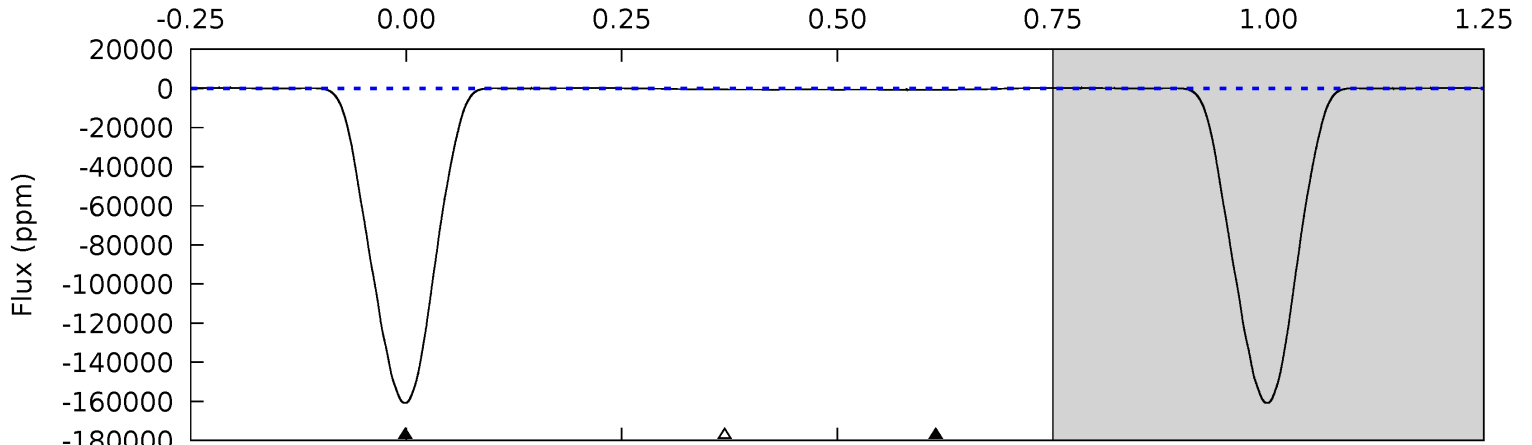
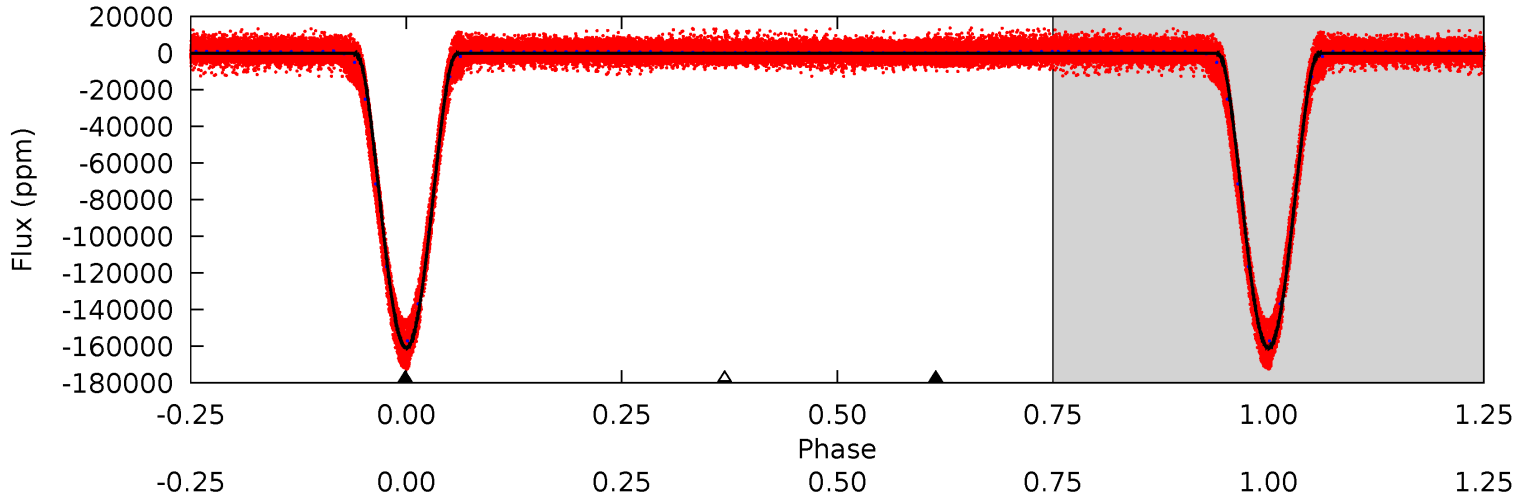
TCE 007385478-01 P= 1.655477 Days $T_0=133.124183$ (BKJD)



DV Model-Shift Uniqueness Test

007385478-01, P = 1.655482 Days, E = 131.467803 Days

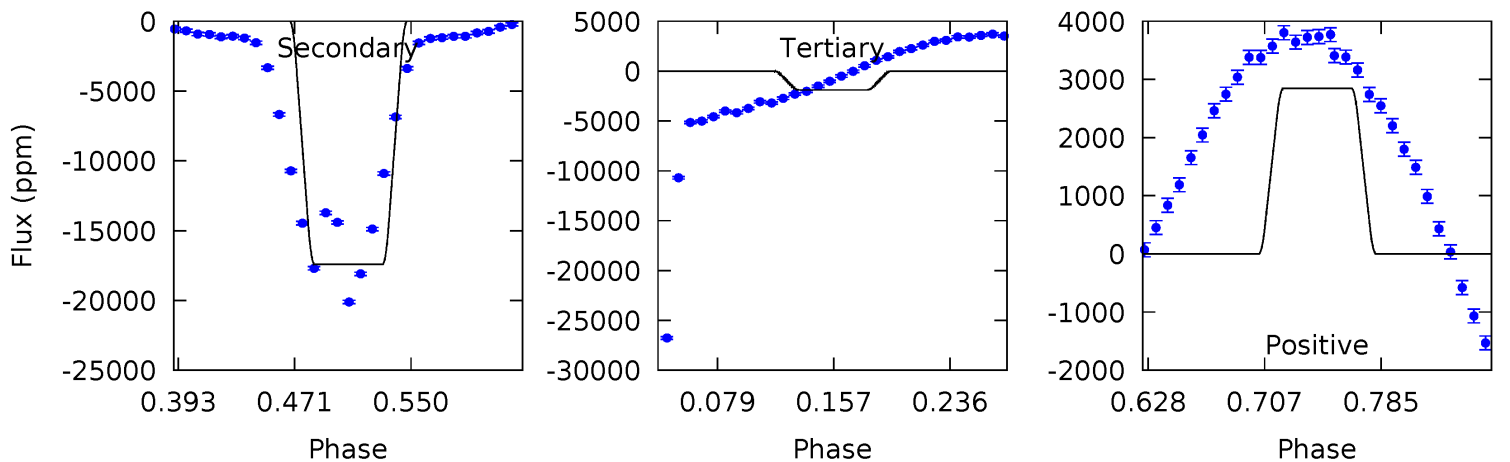
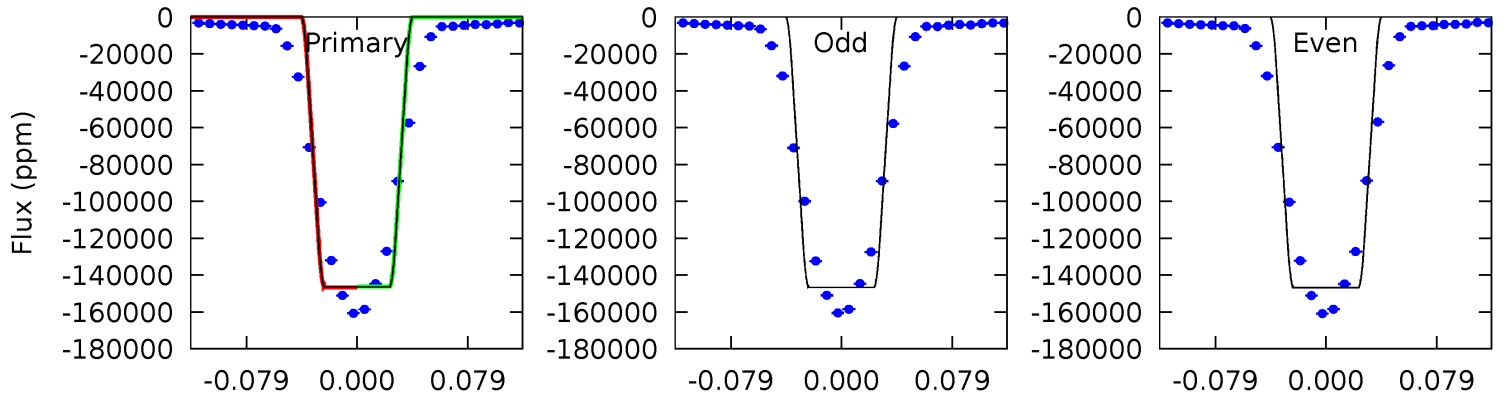
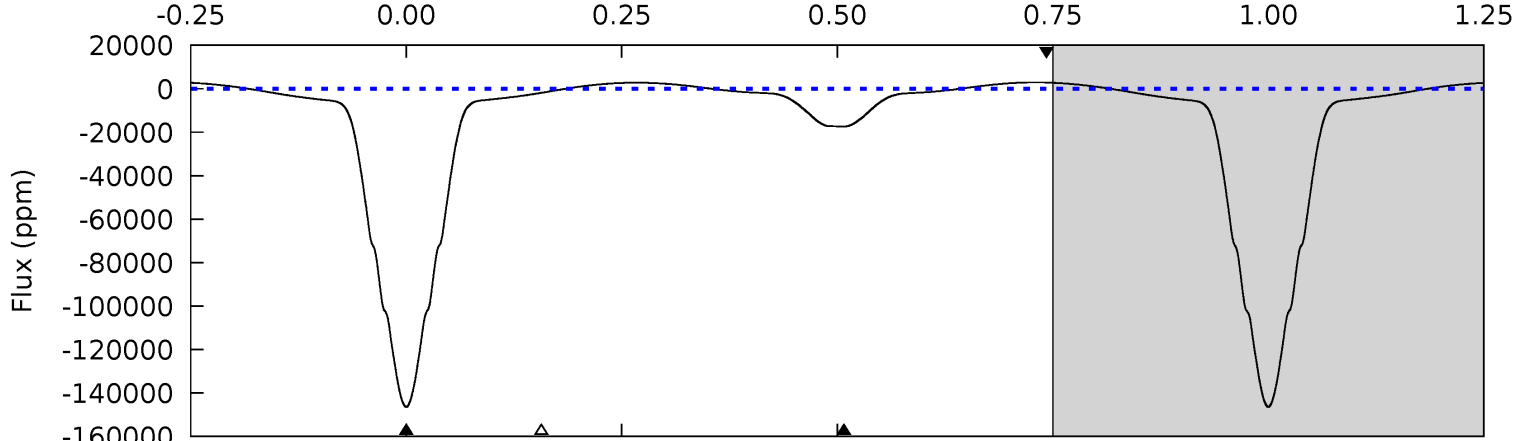
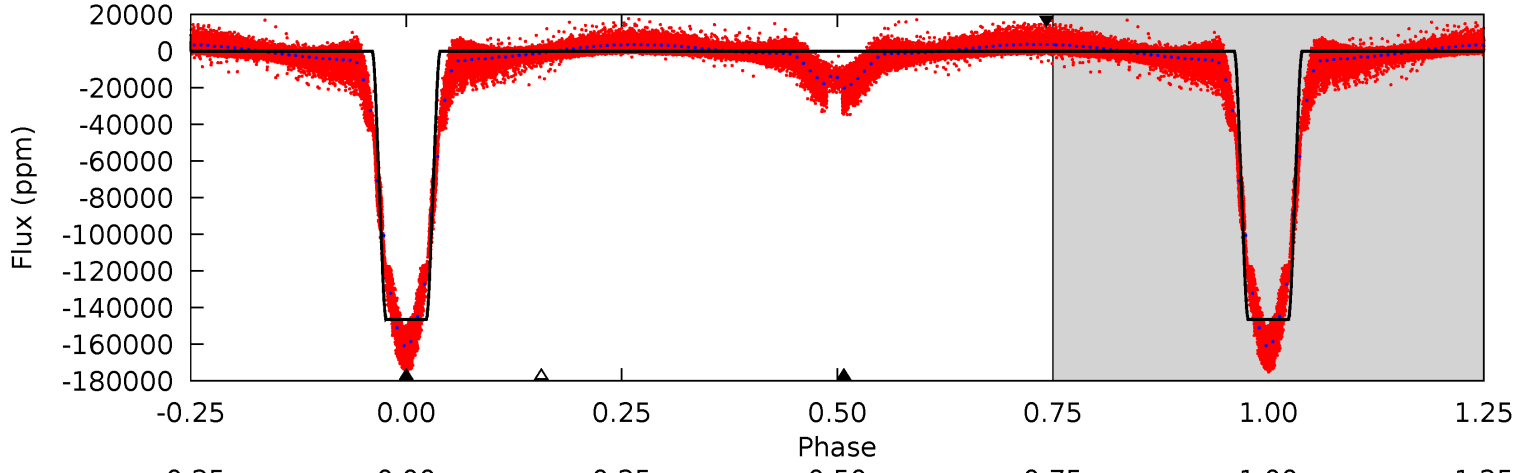
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4267	19.2	15.4	0	4.52	1.54	8.68	4251	4267	3.83	19.2	3.50	1.00	0.00	97.7



Alt Model-Shift Uniqueness Test

007385478-01, P = 1.655477 Days, E = 131.468706 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2581	306.7	33.3	50.1	4.62	1.76	44.6	2548	2531	273.4	256.6	0.38	1.00	0.02	3.57



Stellar Parameters For KIC 007385478

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6725^{+183}_{-204}	$3.860^{+0.428}_{-0.114}$	$-0.520^{+0.300}_{-0.300}$	$2.171^{+0.429}_{-1.001}$	$1.247^{+0.173}_{-0.238}$	$0.172^{+0.707}_{-0.056}$
	+3%/-3%	+11%/-3%	+58%/-58%	+20%/-46%	+14%/-19%	+412%/-32%
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 007385478-01 / KOI 6875.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-725 ± 38	$95.70^{+12.63}_{-22.50}$	3458^{+249}_{-412}	-3291^{+290}_{-161}	$0.038^{+0.026}_{-0.008}$
Alt.	-17403 ± 57	$92.49^{+11.66}_{-22.89}$	3479^{+236}_{-416}	3893^{+117}_{-105}	$1.007^{+0.662}_{-0.191}$

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 $A_{obs} \gg 1.0$

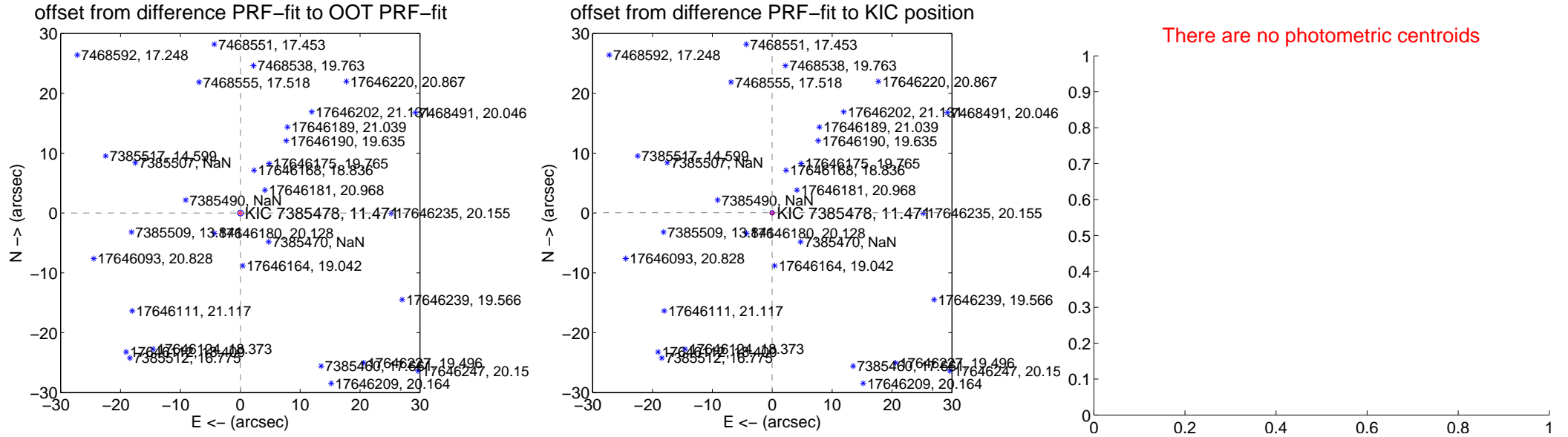
DV Centroid Data

Supplemental centroid analysis for 007385478-01. **Kepler magnitude: 11.47.** Transit SNR 2575.87

There are 17 quarters with good PRF difference image offsets

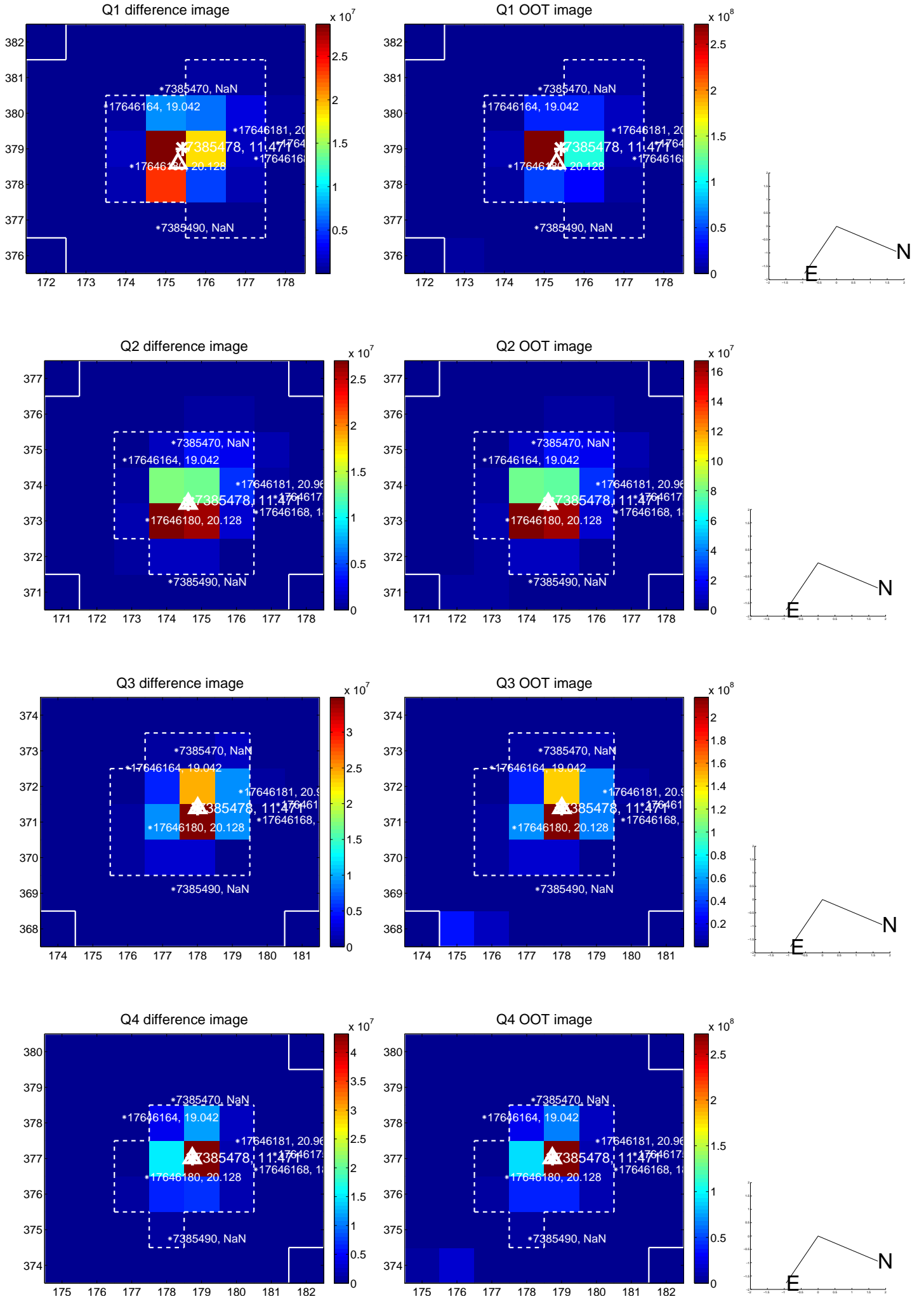
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.027 ± 0.162	0.16	-0.026 ± 0.158	-0.006 ± 0.076
PRF-fit source offset from KIC position	0.059 ± 0.115	0.51	0.016 ± 0.173	0.056 ± 0.085
photometric centroid source offset	—	—	—	—

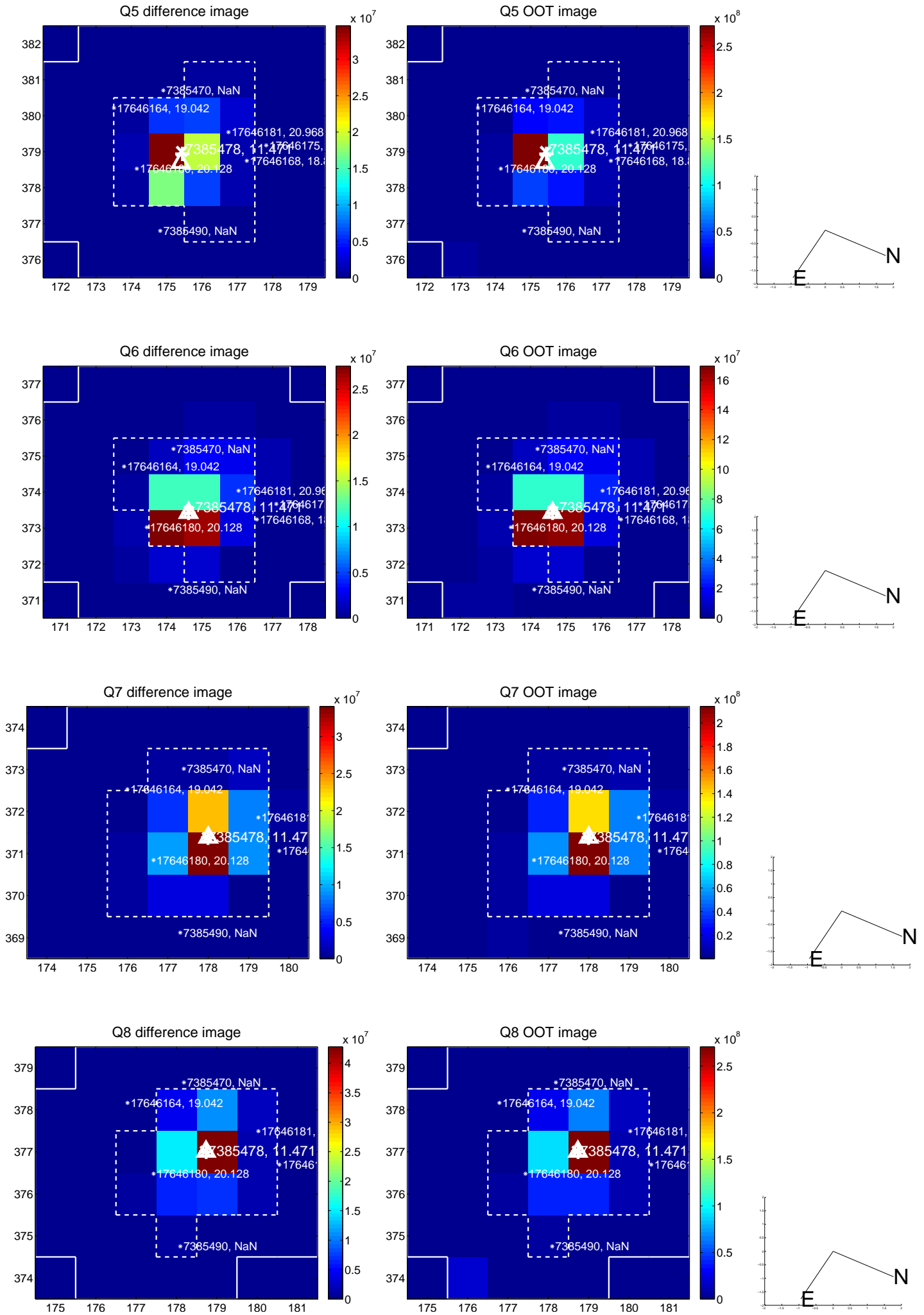


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

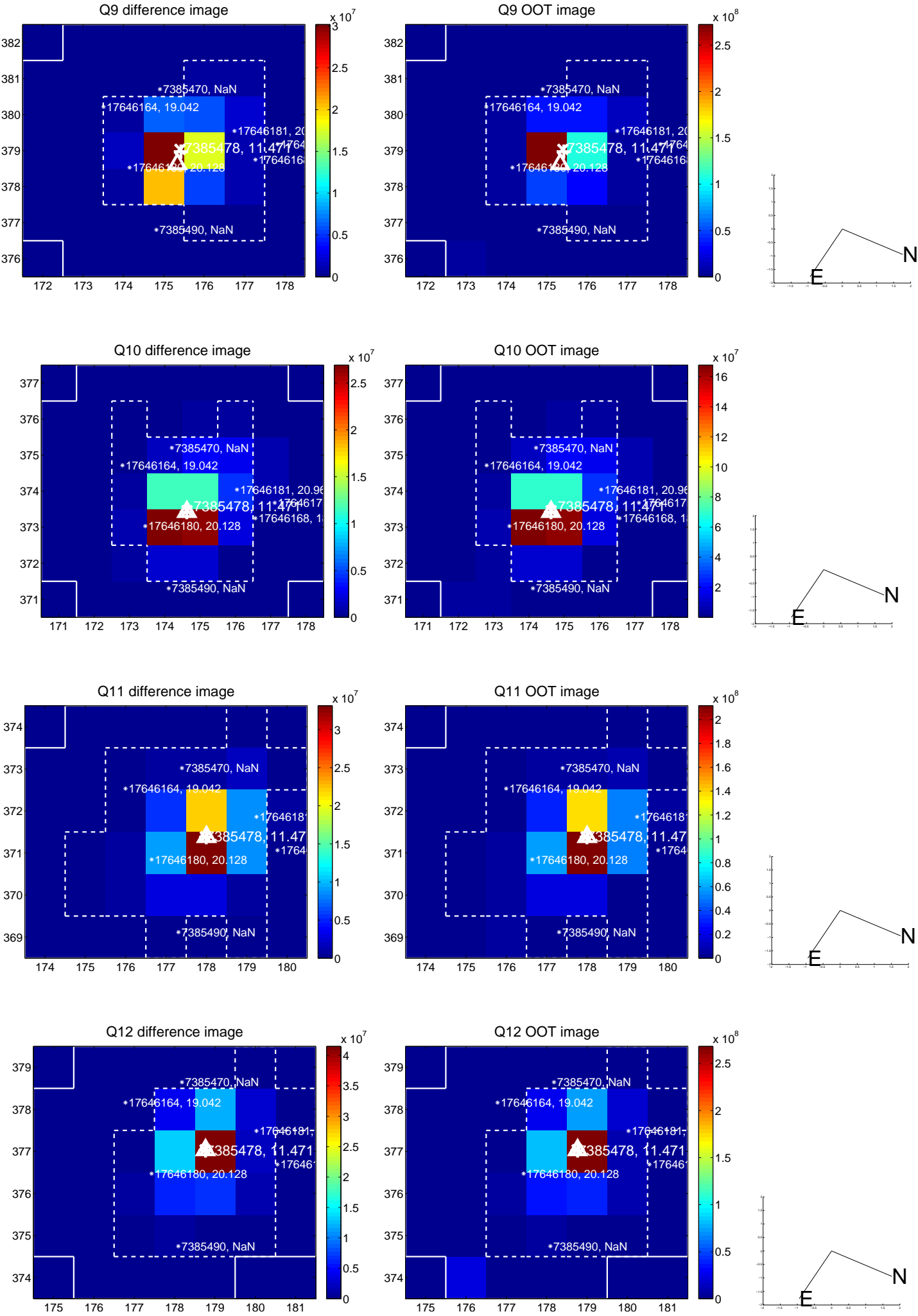
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



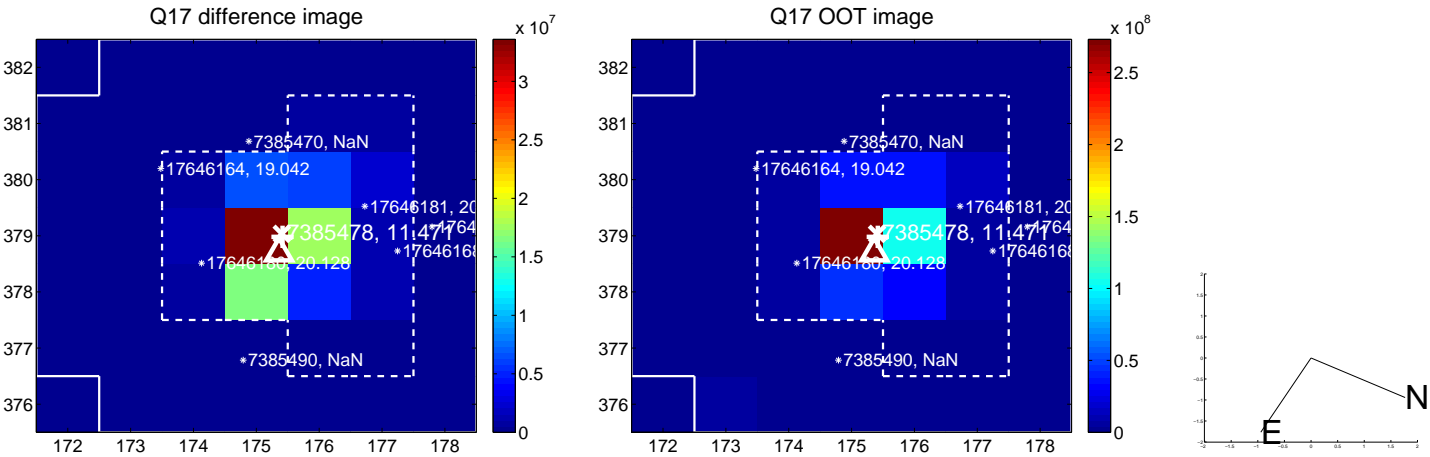
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



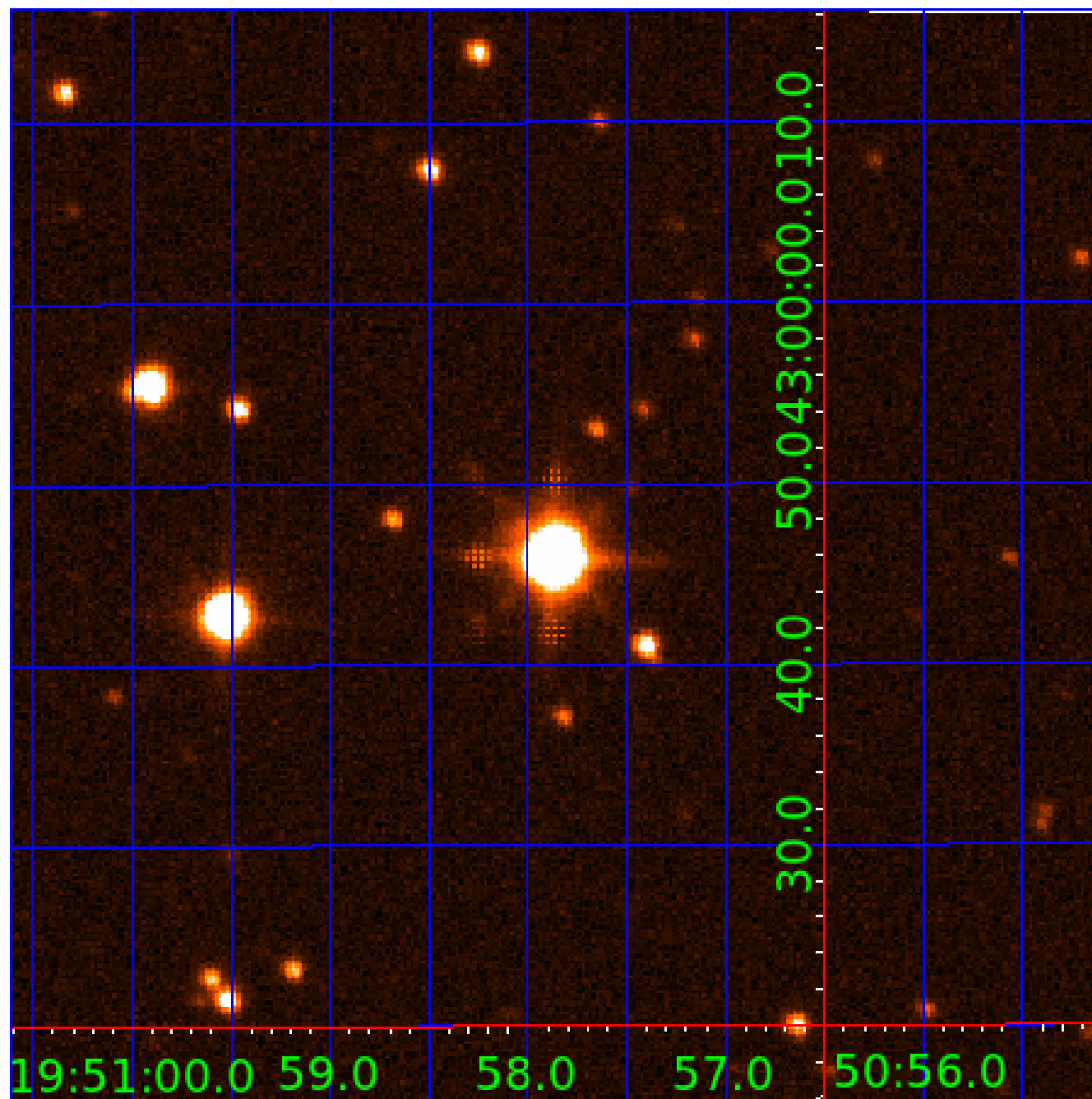
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 007385478

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})
007385478-01	OBS	6875.01	1.655482	133.123285	154573.0	4.426	3106.1	2575.9	2.17	6725	99.08	9943.46
007385478-02	OBS	No	1.655179	132.301091	133.2	3.500	16.3	-1.0	2.17	6725	2.53	9945.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007385478-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_SATURATED
007385478-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_SATURATED

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 007385478-02

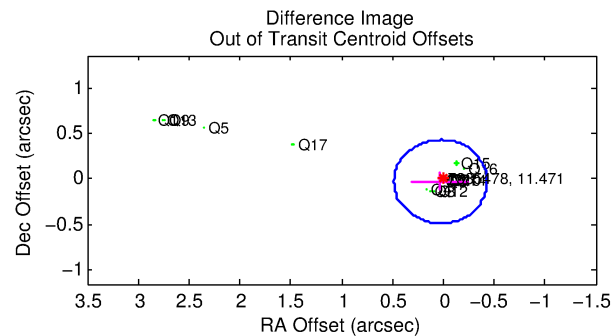
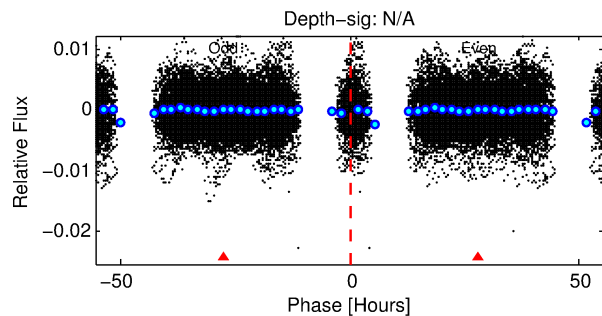
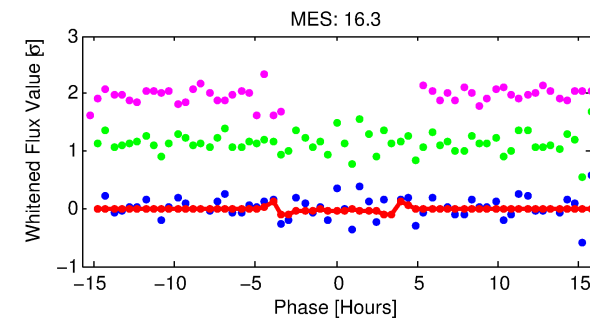
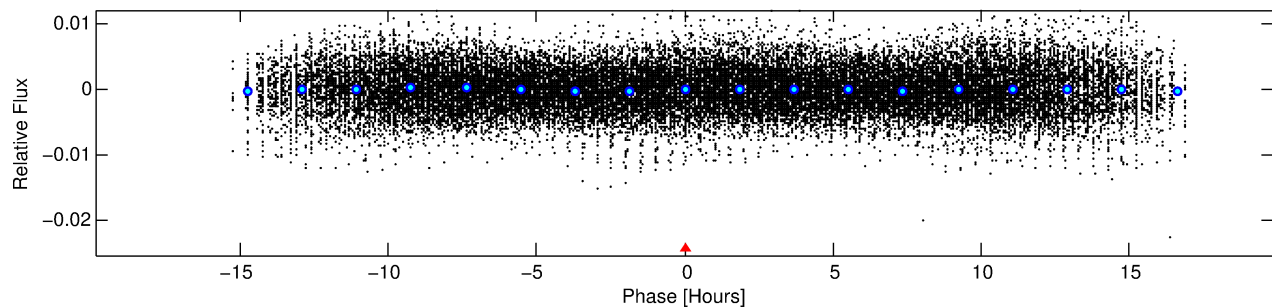
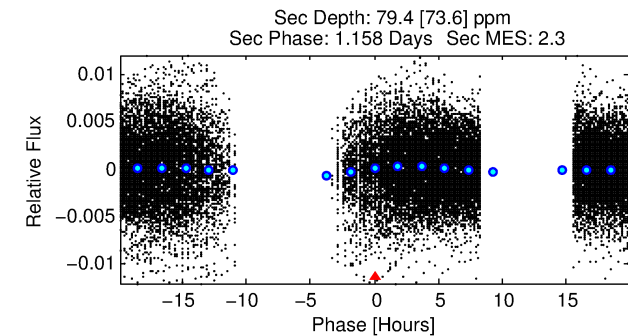
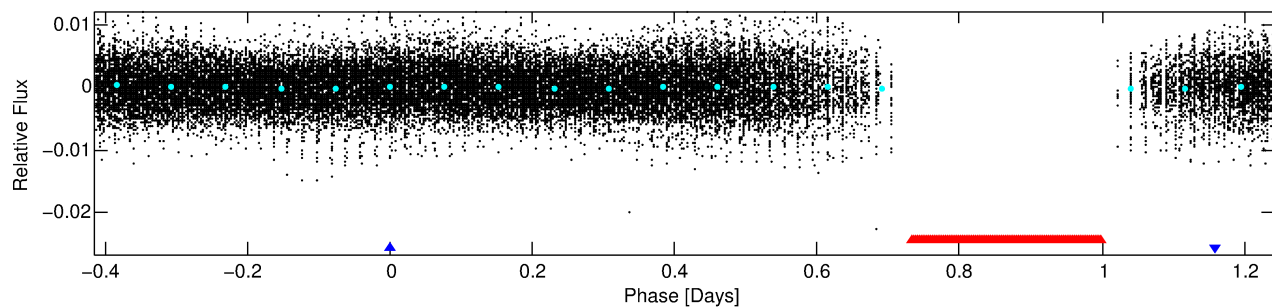
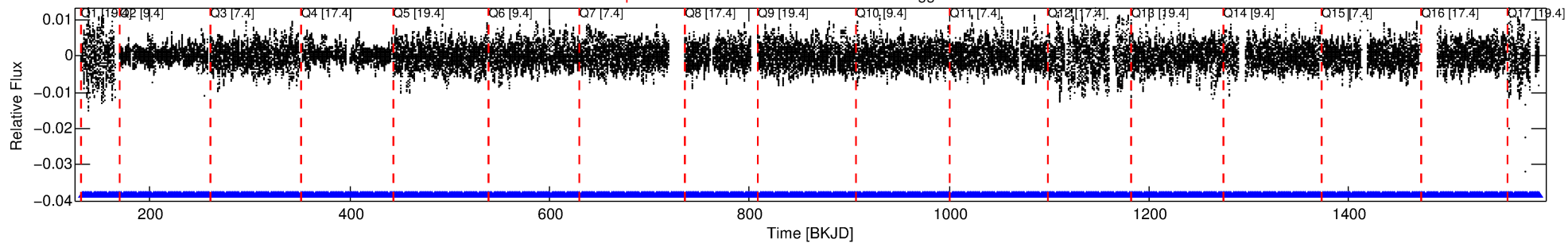
No Significant Match Found

DV One-Page Summary

KIC: 7385478 Candidate: 2 of 2 Period: 1.655 d

KOI: K06875 Corr: No Ephemeris Match

Kp: 11.47 R*: 2.17 Rs Teff: 6725.0 K Logg: 3.86 Fe/H: -0.520



TPS TCE Results:

Period = 1.65518 d
Epoch = 132.3011 BKJD

DV fit results are unavailable

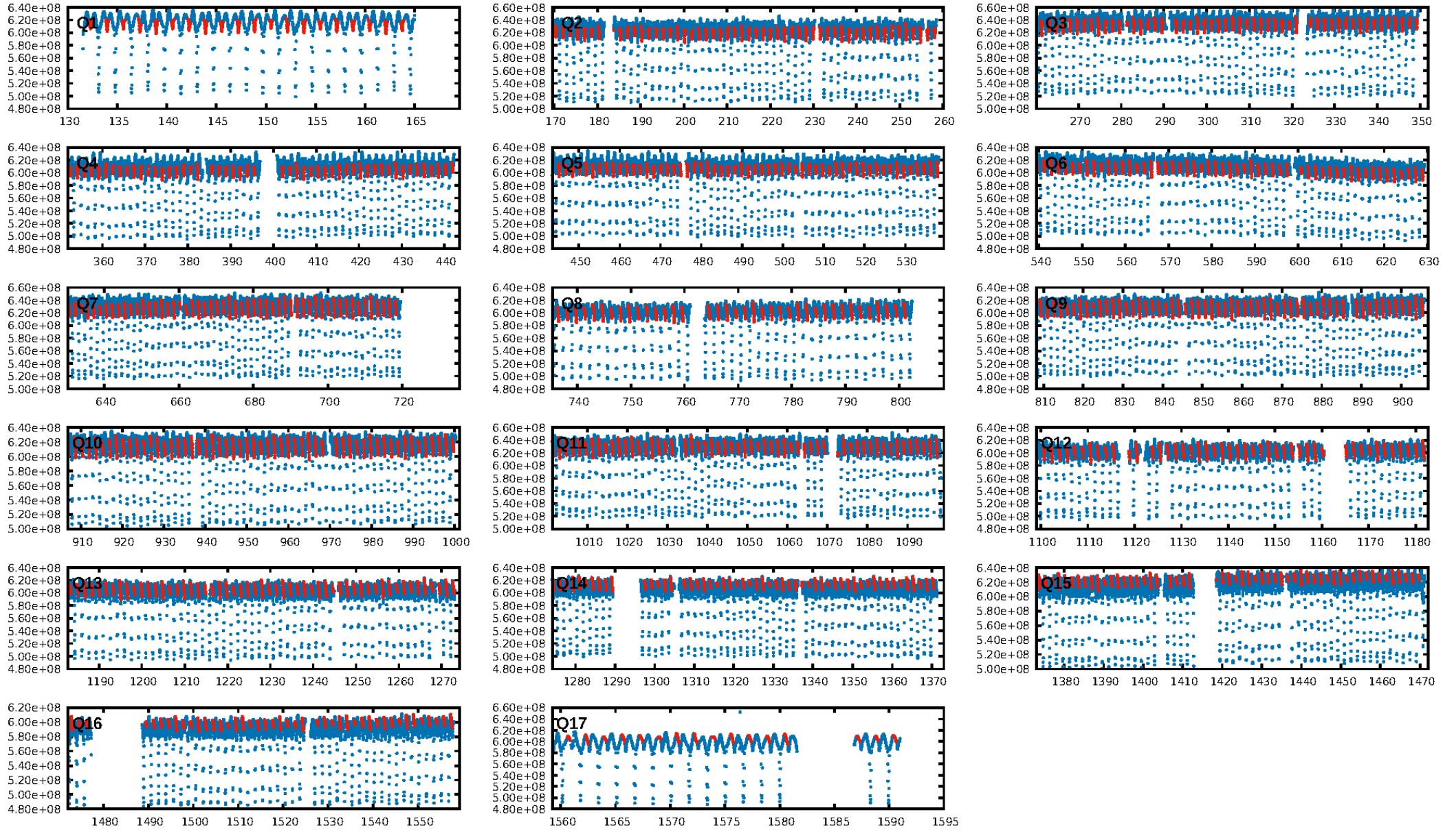
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [787/787]
GhostDiagnostic-chr: -2.78
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.041 arcsec [0.27σ]
KicOffset-rm: 0.086 arcsec [0.27σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
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DiffImageOverlap-fno: 0.24 [4/17]

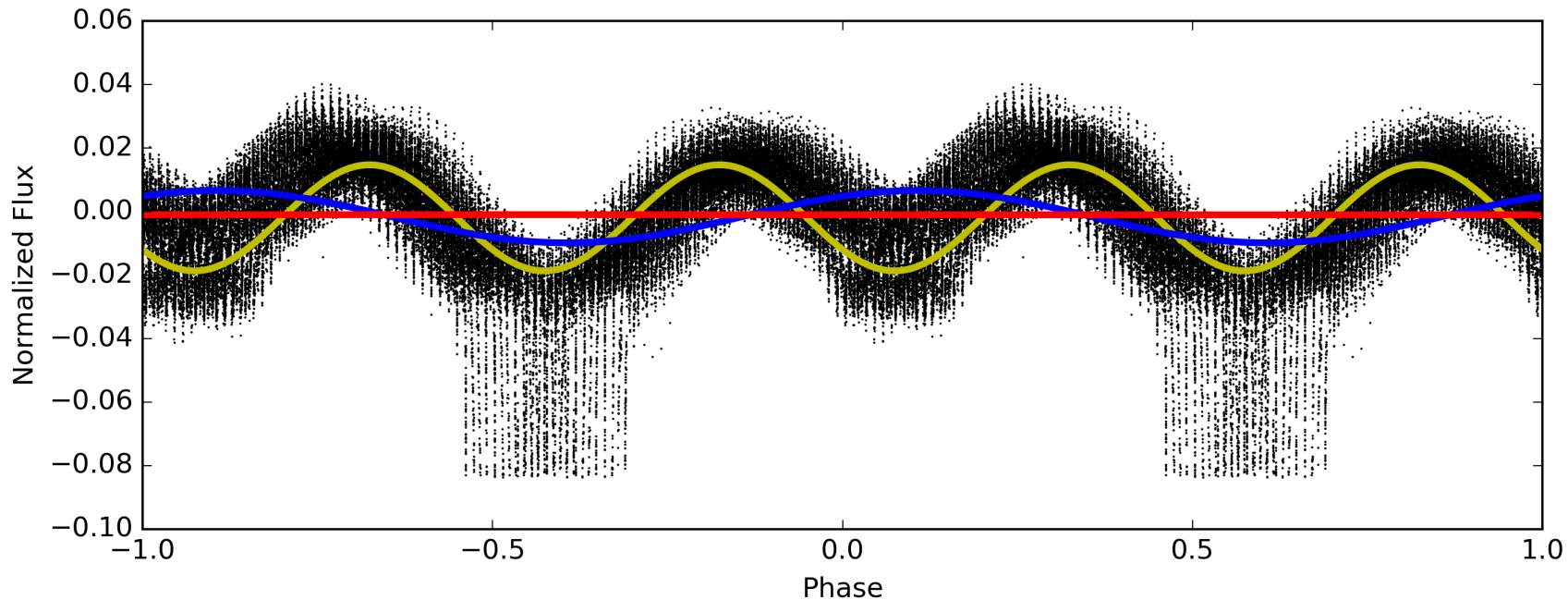
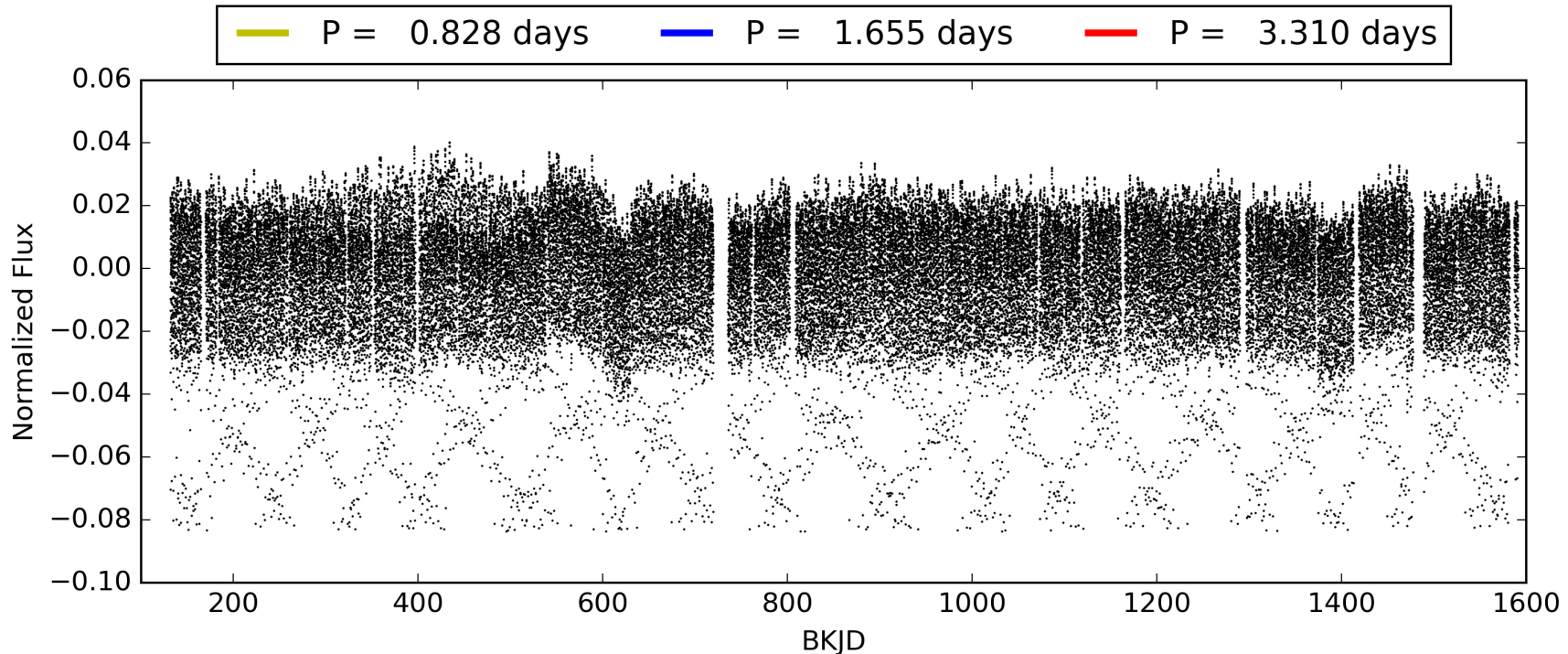
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 08:27:11 Z

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

TCE 007385478-02, PDC Light Curves

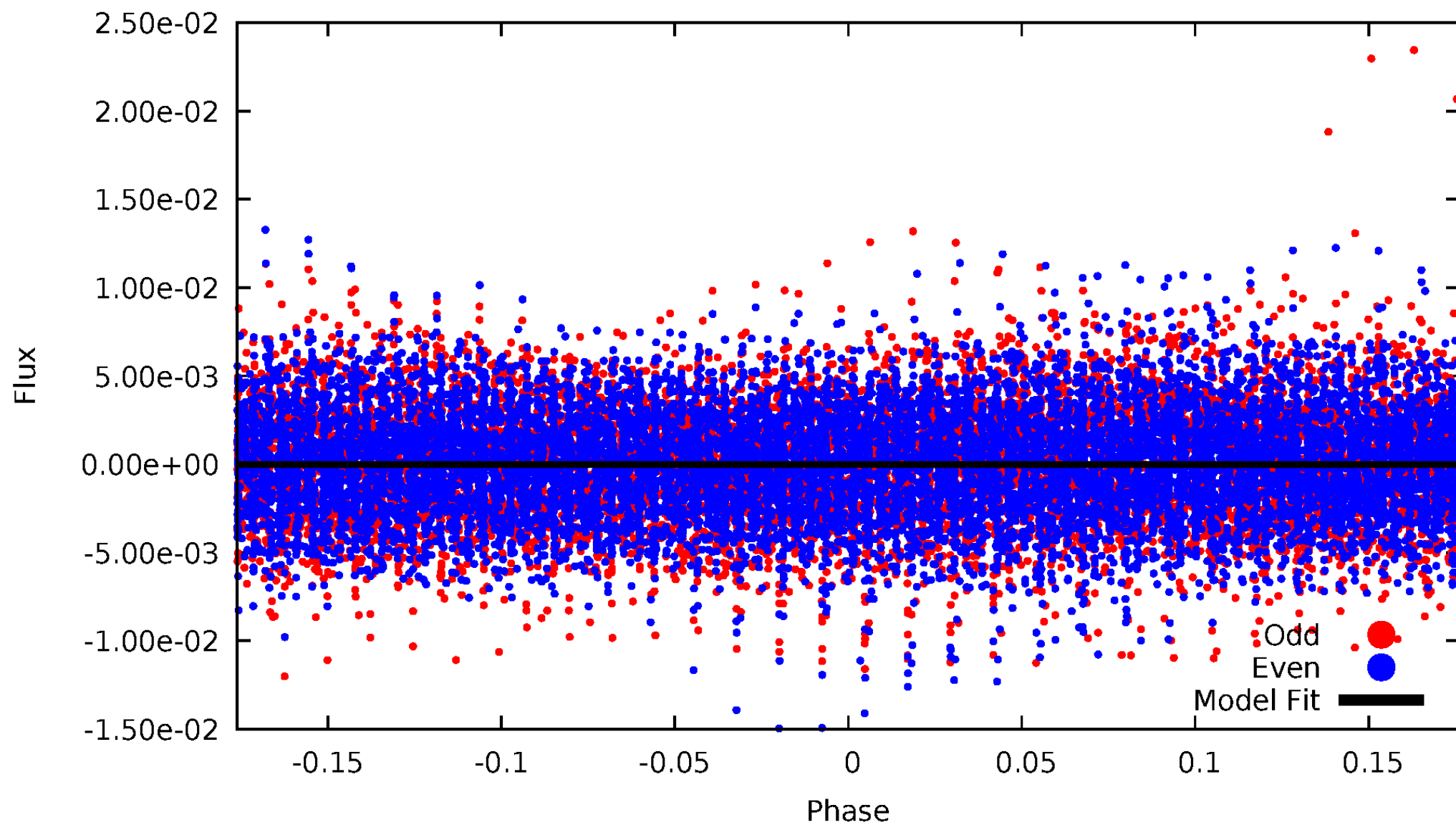


TCE 007385478-02



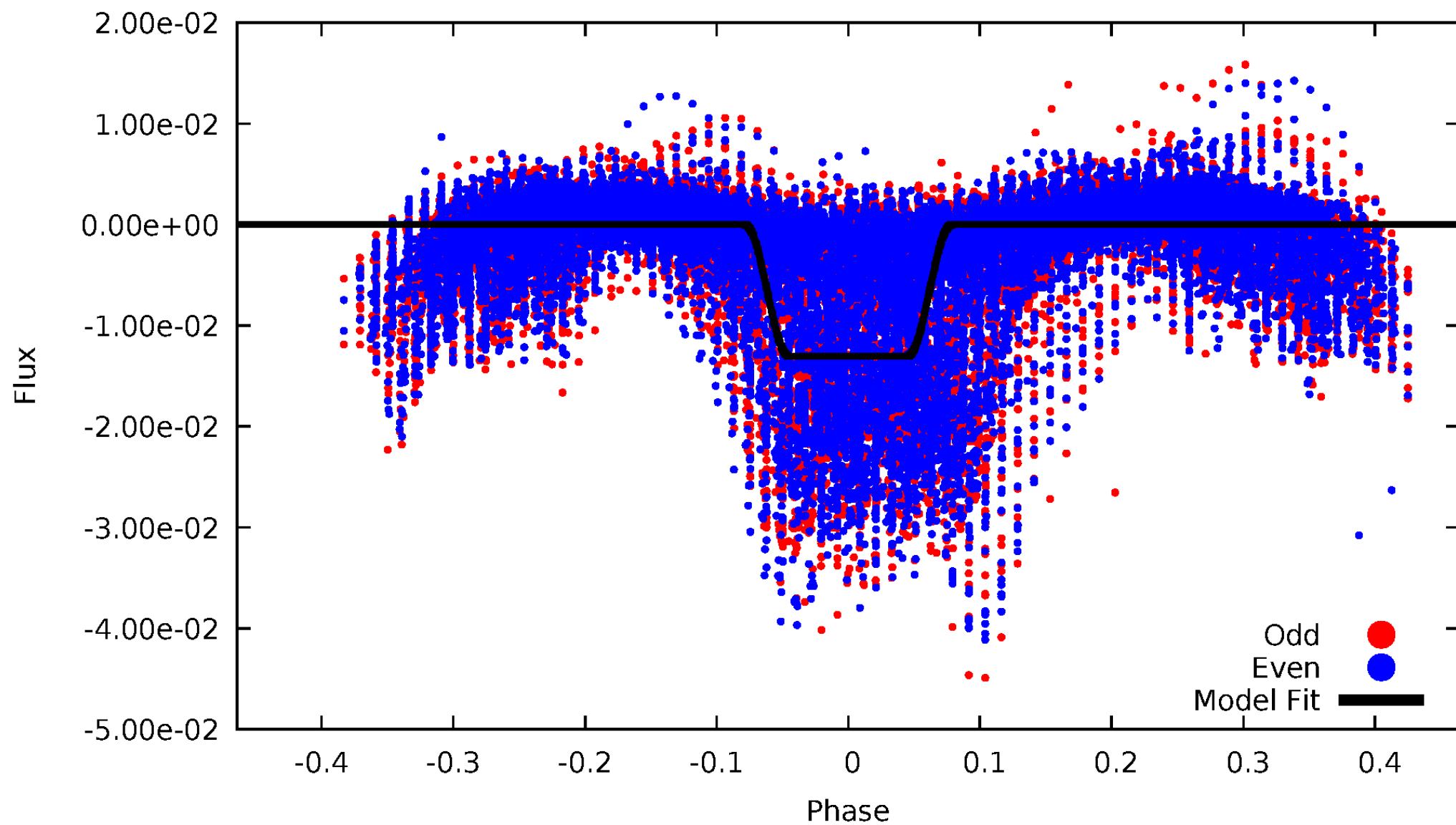
DV Odd/Even

TCE 007385478-02



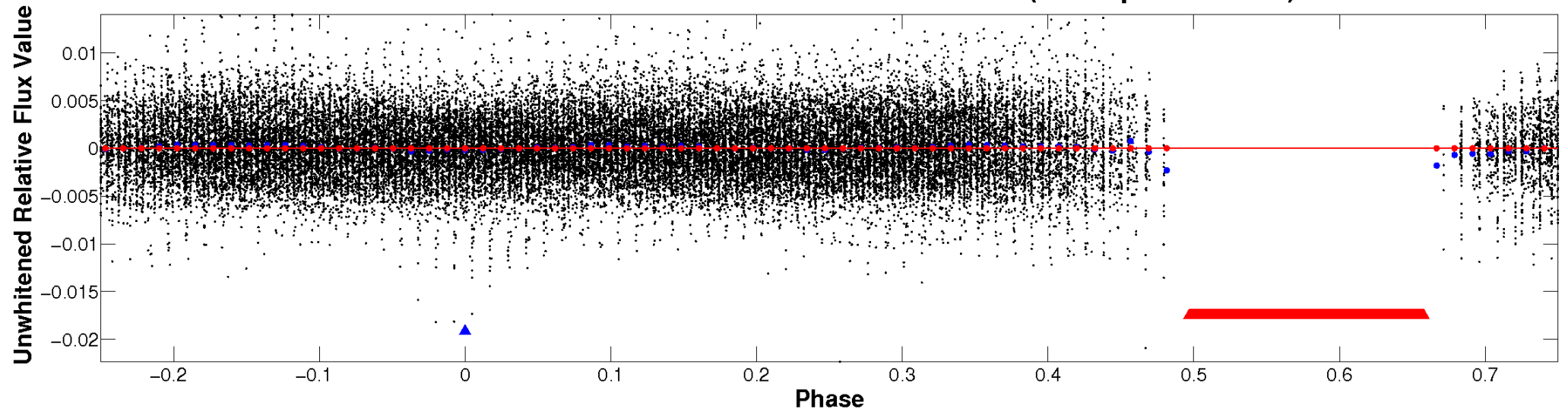
ALT Odd/Even

TCE 007385478-02



Non-Whitened Vs. Whitened Light Curve

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

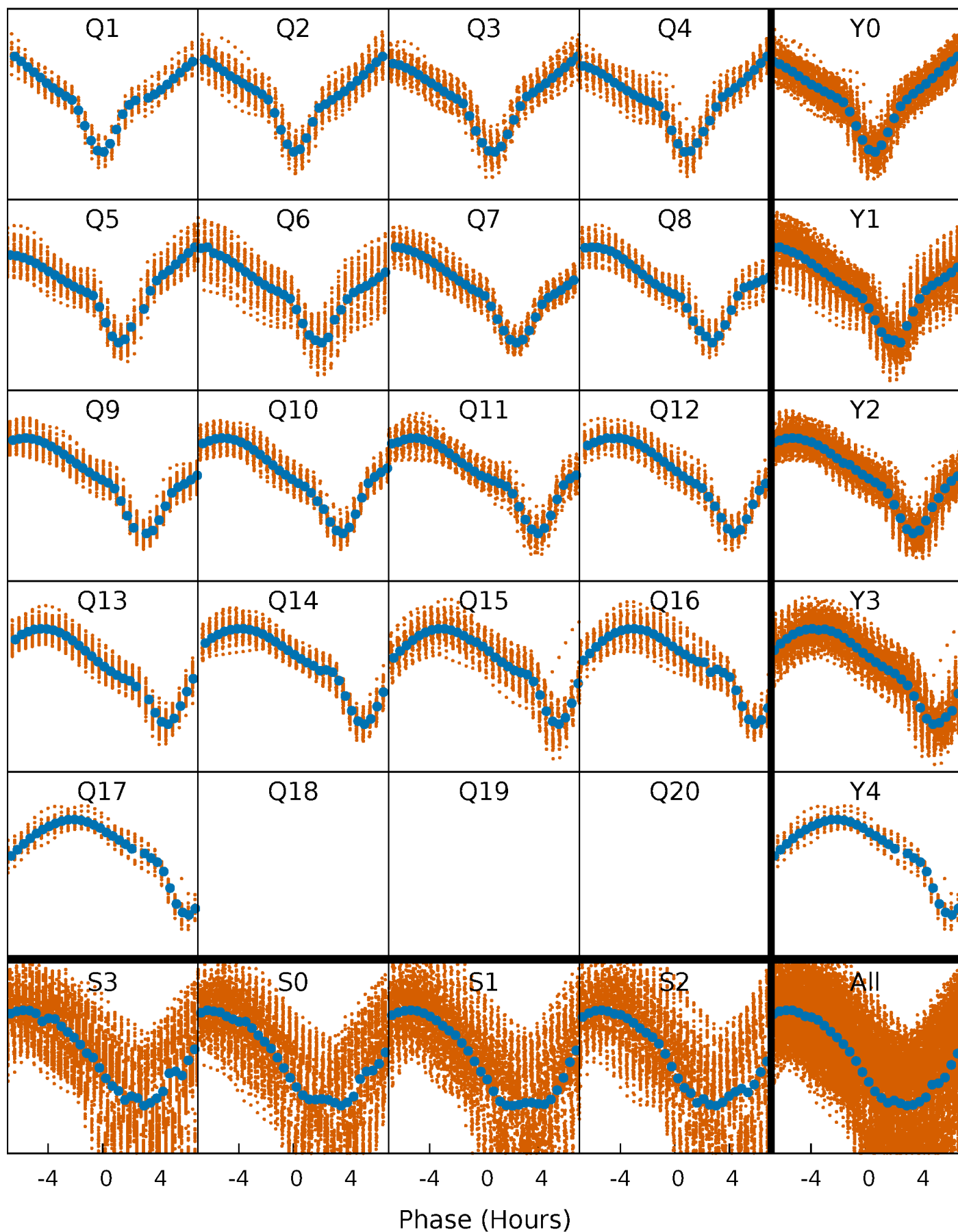


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



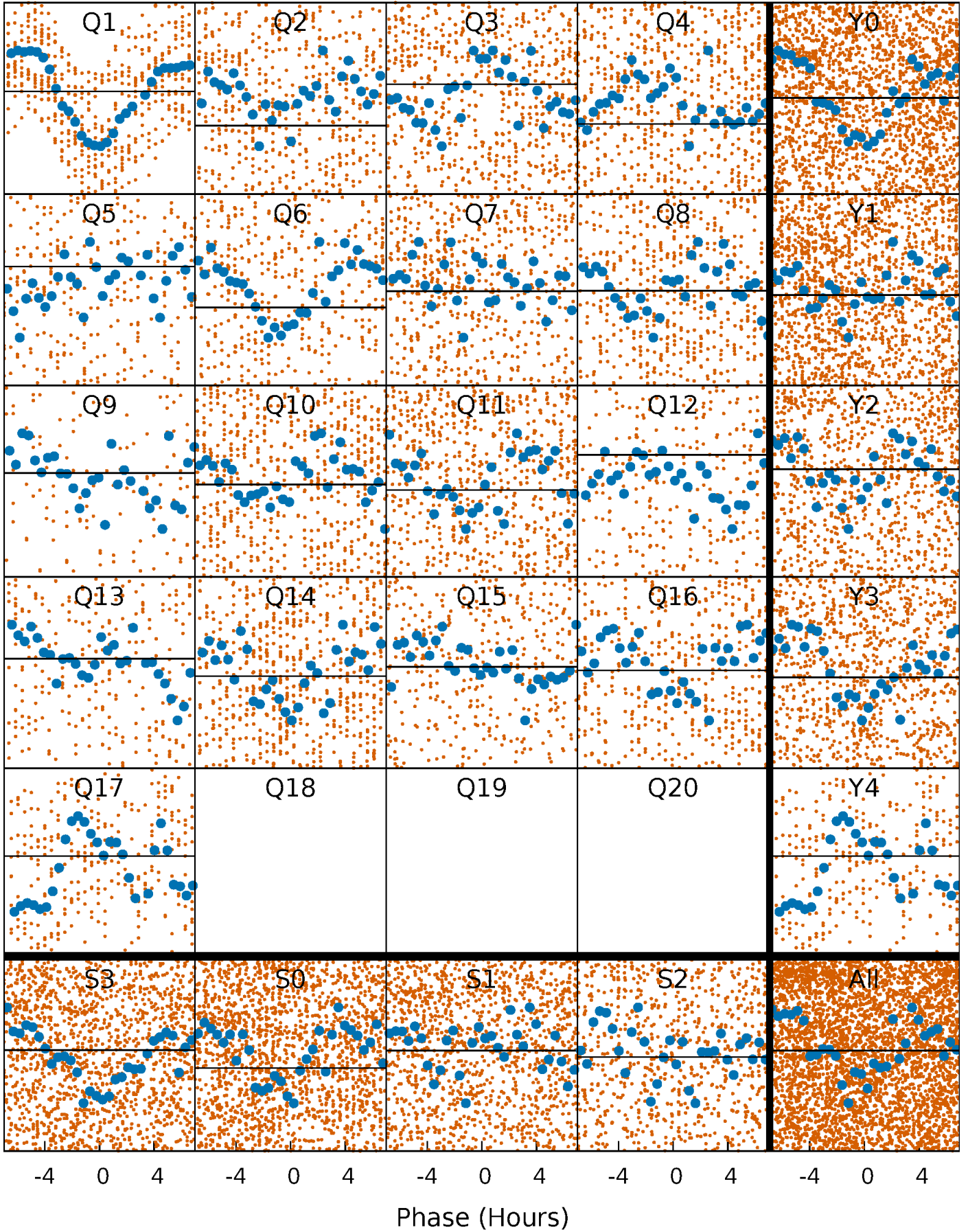
PDC Quarter-Phased Transit Curves

TCE 007385478-02 P= 1.655179 Days $T_0=132.301092$ (BKJD)



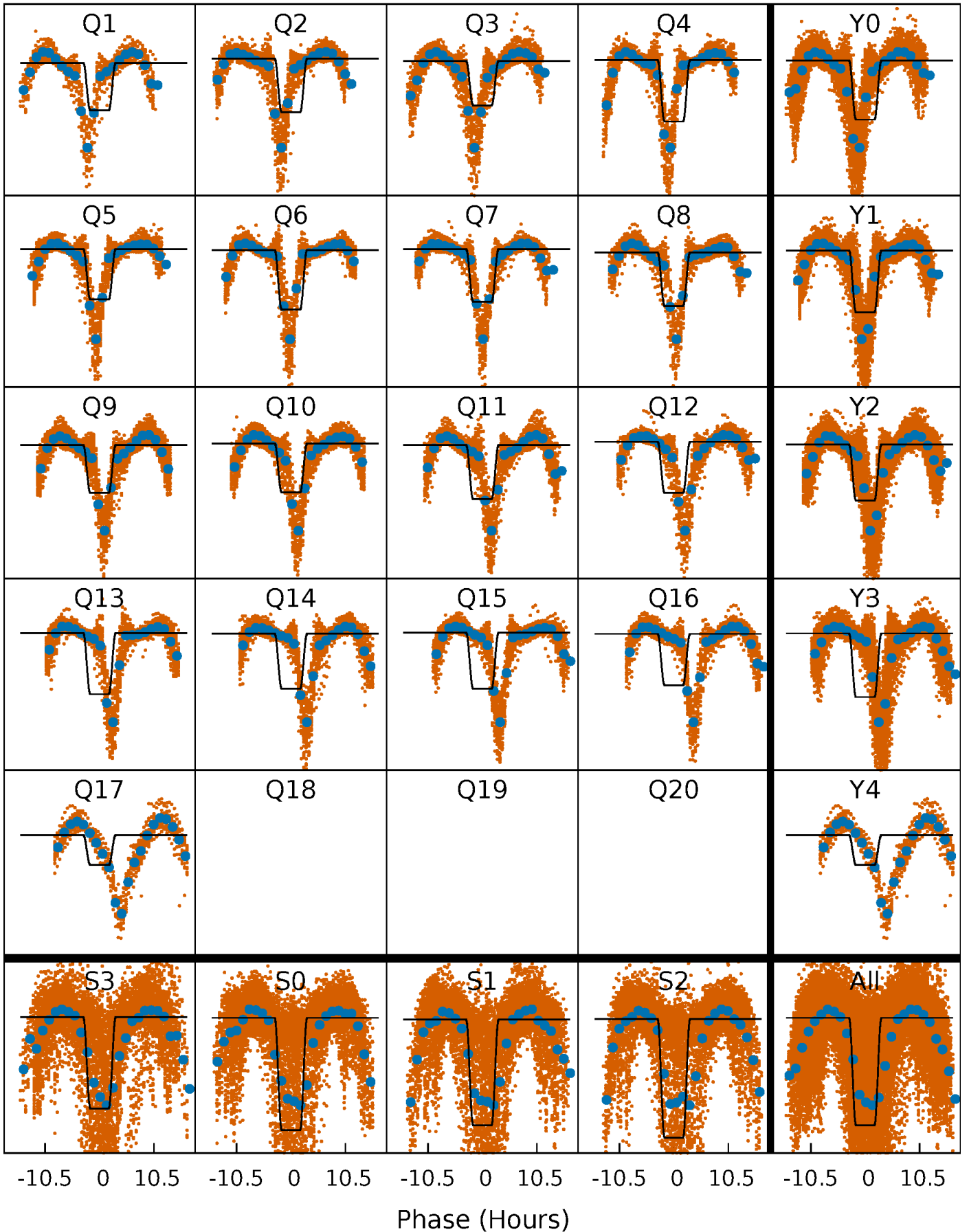
DV Quarter-Phased Transit Curves

TCE 007385478-02 P= 1.655179 Days $T_0=132.301092$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

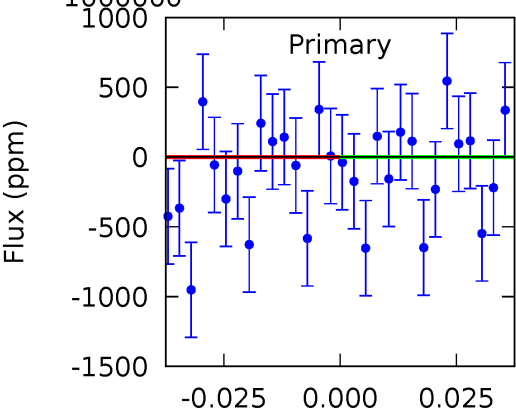
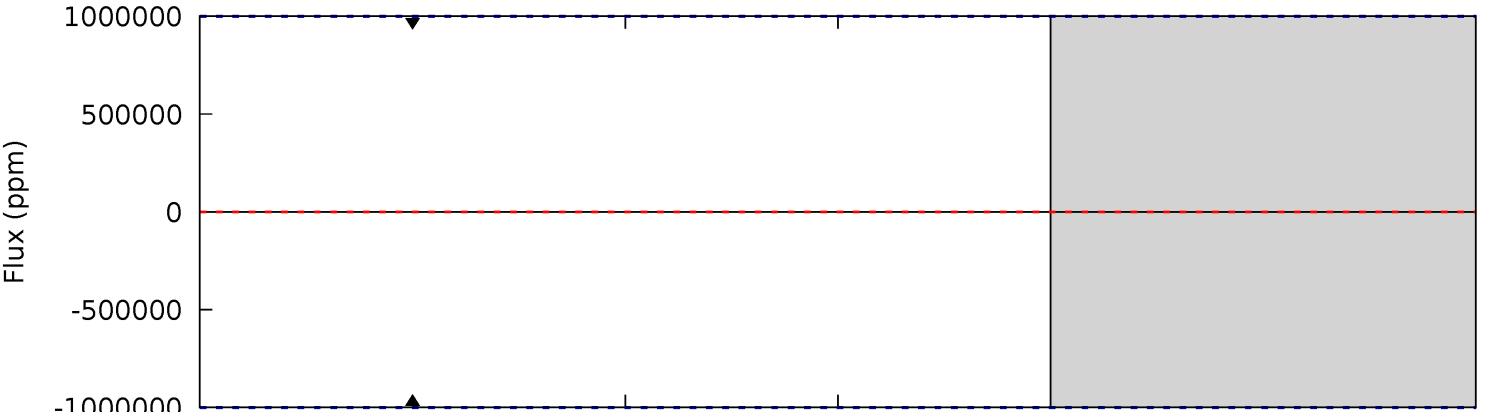
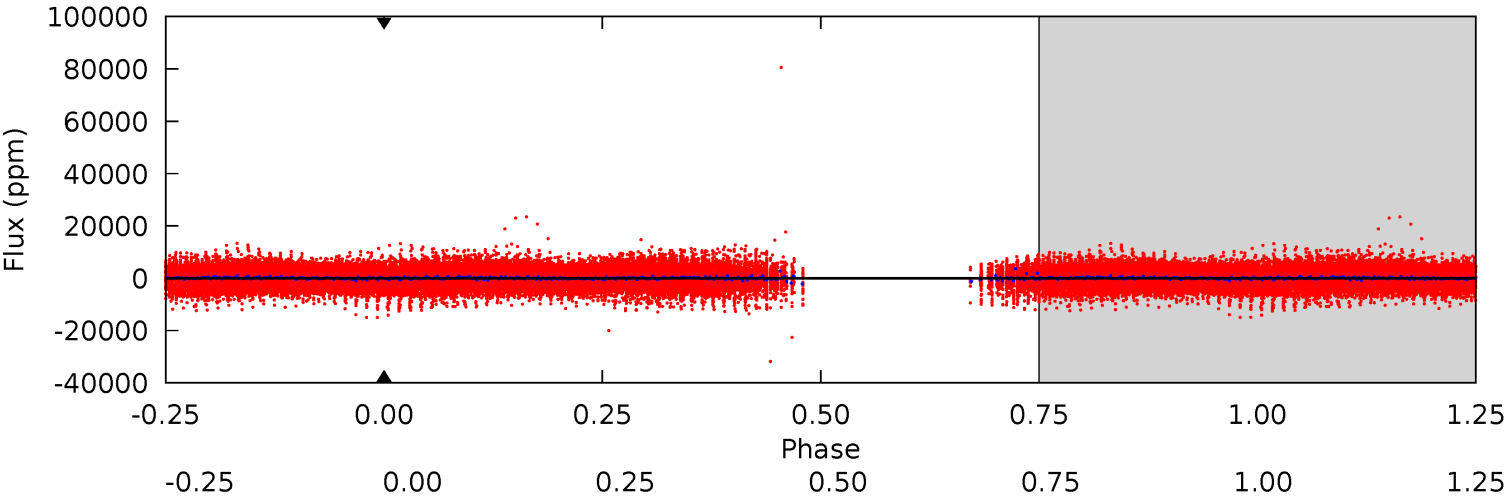
TCE 007385478-02 P= 1.655179 Days $T_0=132.391352$ (BKJD)



DV Model-Shift Uniqueness Test

007385478-02, P = 1.655179 Days, E = 130.645913 Days

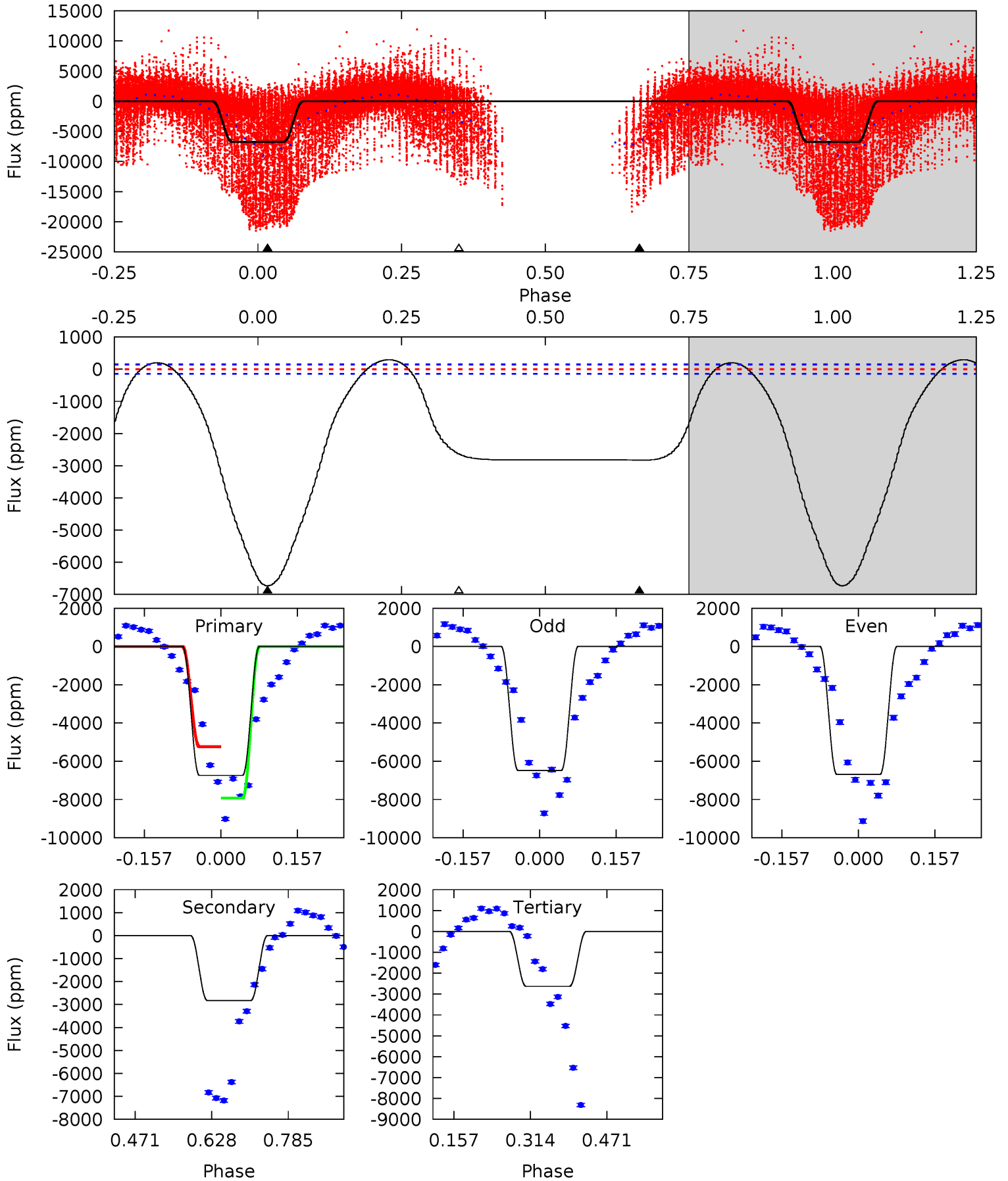
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007385478-02, P = 1.655179 Days, E = 130.736173 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
205.9	86.4	80.5	0	4.47	1.42	32.3	125.5	205.9	5.99	86.4	3.12	1.04	0.04	37.9



Stellar Parameters For KIC 007385478

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6725^{+183}_{-204}	$3.860^{+0.428}_{-0.114}$	$-0.520^{+0.300}_{-0.300}$	$2.171^{+0.429}_{-1.001}$	$1.247^{+0.173}_{-0.238}$	$0.172^{+0.707}_{-0.056}$
	+3%/-3%	+11%/-3%	+58%/-58%	+20%/-46%	+14%/-19%	+412%/-32%
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 007385478-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$15.76^{+14.85}_{-10.95}$	3474^{+239}_{-380}	4536^{+40713}_{-32499}	$1.762^{+527.428}_{-307.761}$
Alt.	-2828 ± 33	$28.43^{+22.39}_{-17.06}$	3489^{+236}_{-399}	4238^{+2424}_{-1010}	$1.655^{+8.558}_{-1.129}$

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 $A_{obs} \gg 1.0$

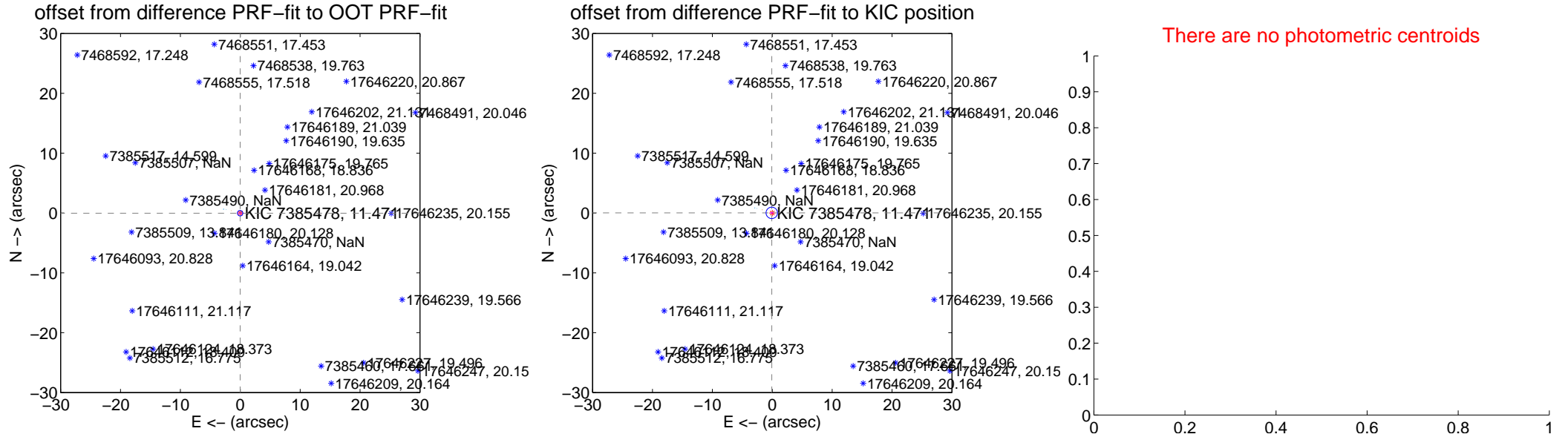
DV Centroid Data

Supplemental centroid analysis for 007385478-02. **Kepler magnitude: 11.47.** Transit SNR -1.00

There are 15 quarters with good PRF difference image offsets

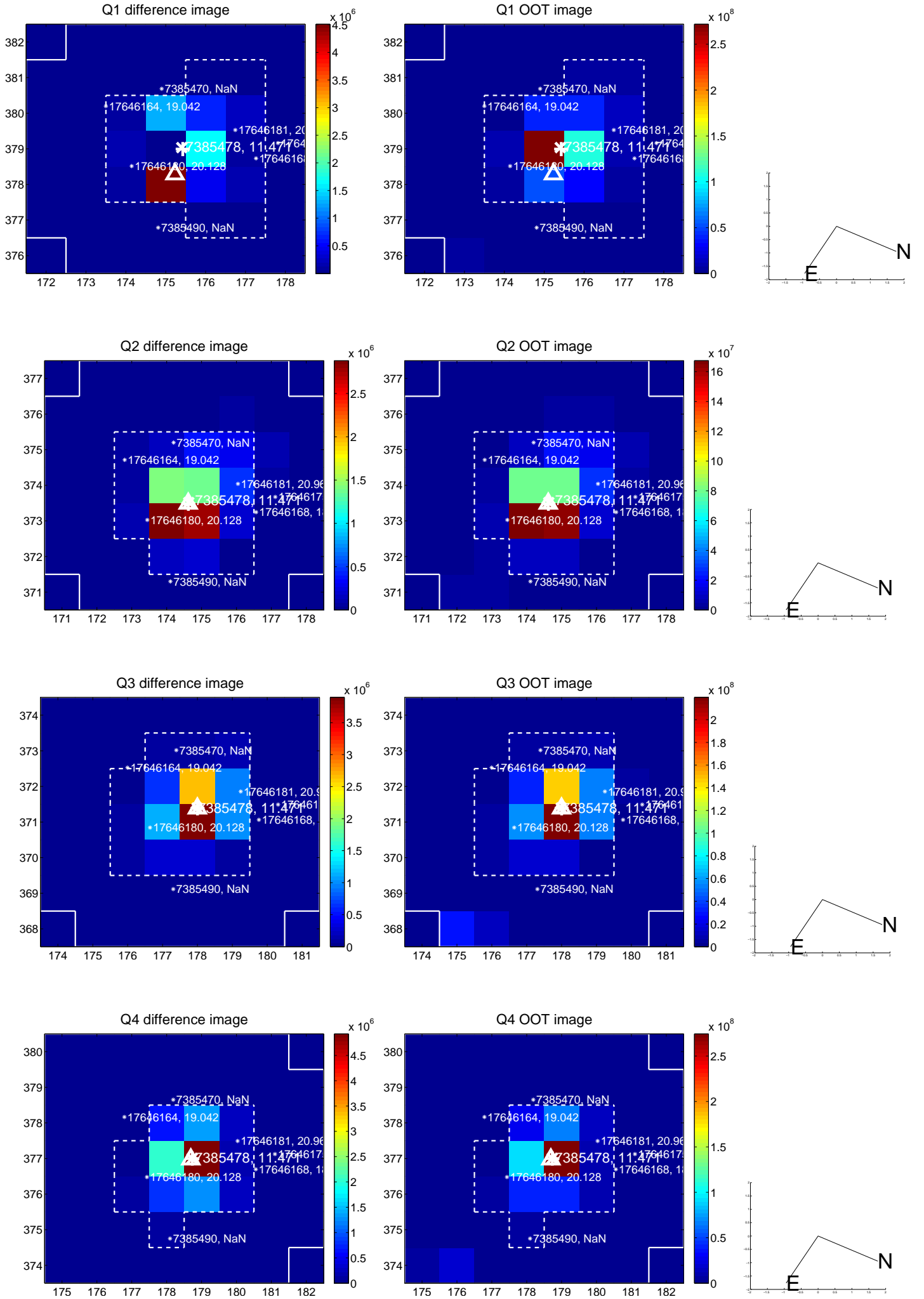
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.041 ± 0.153	0.27	0.028 ± 0.275	-0.030 ± 0.095
PRF-fit source offset from KIC position	0.086 ± 0.319	0.27	0.082 ± 0.307	0.024 ± 0.110
photometric centroid source offset	—	—	—	—

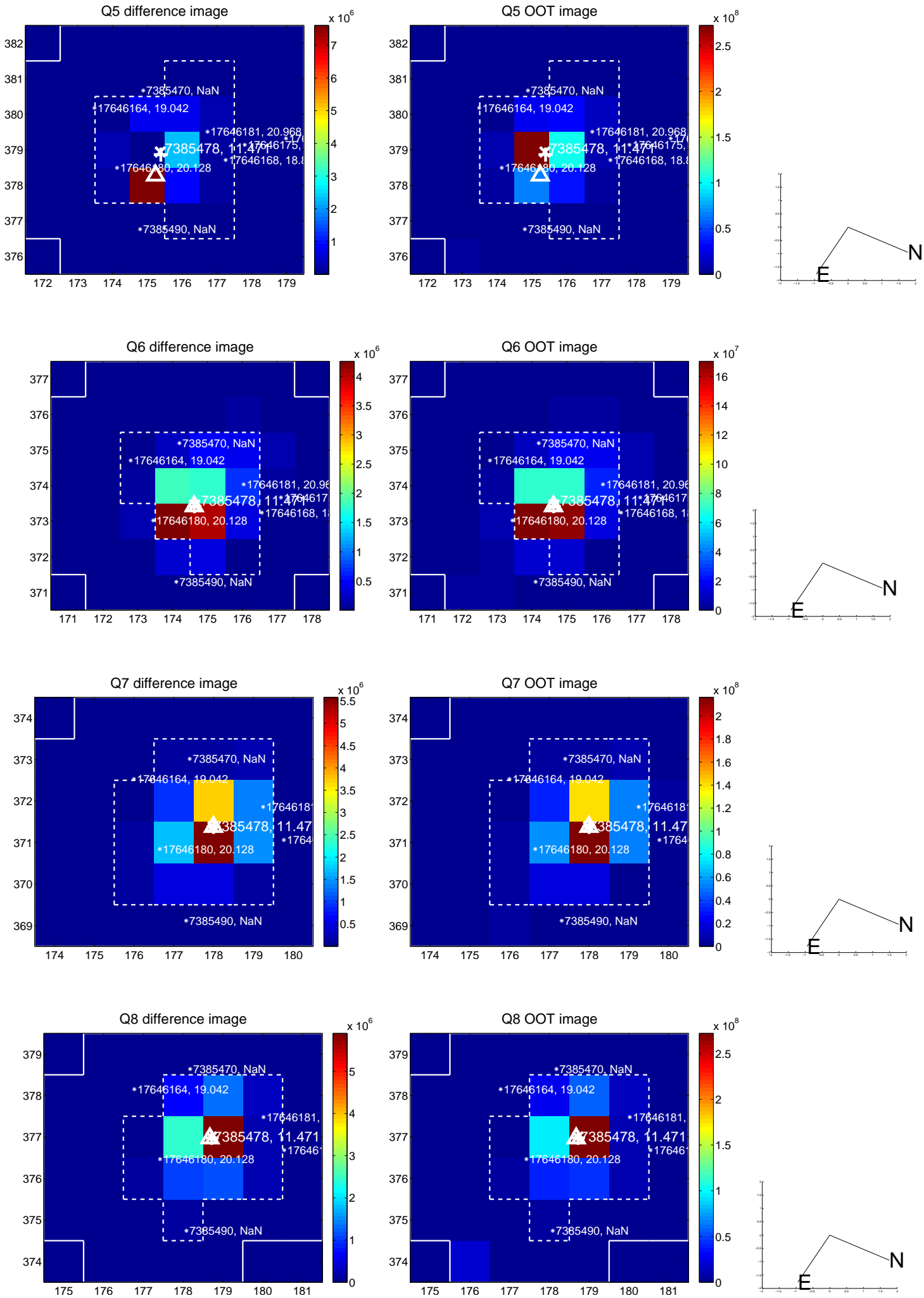


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

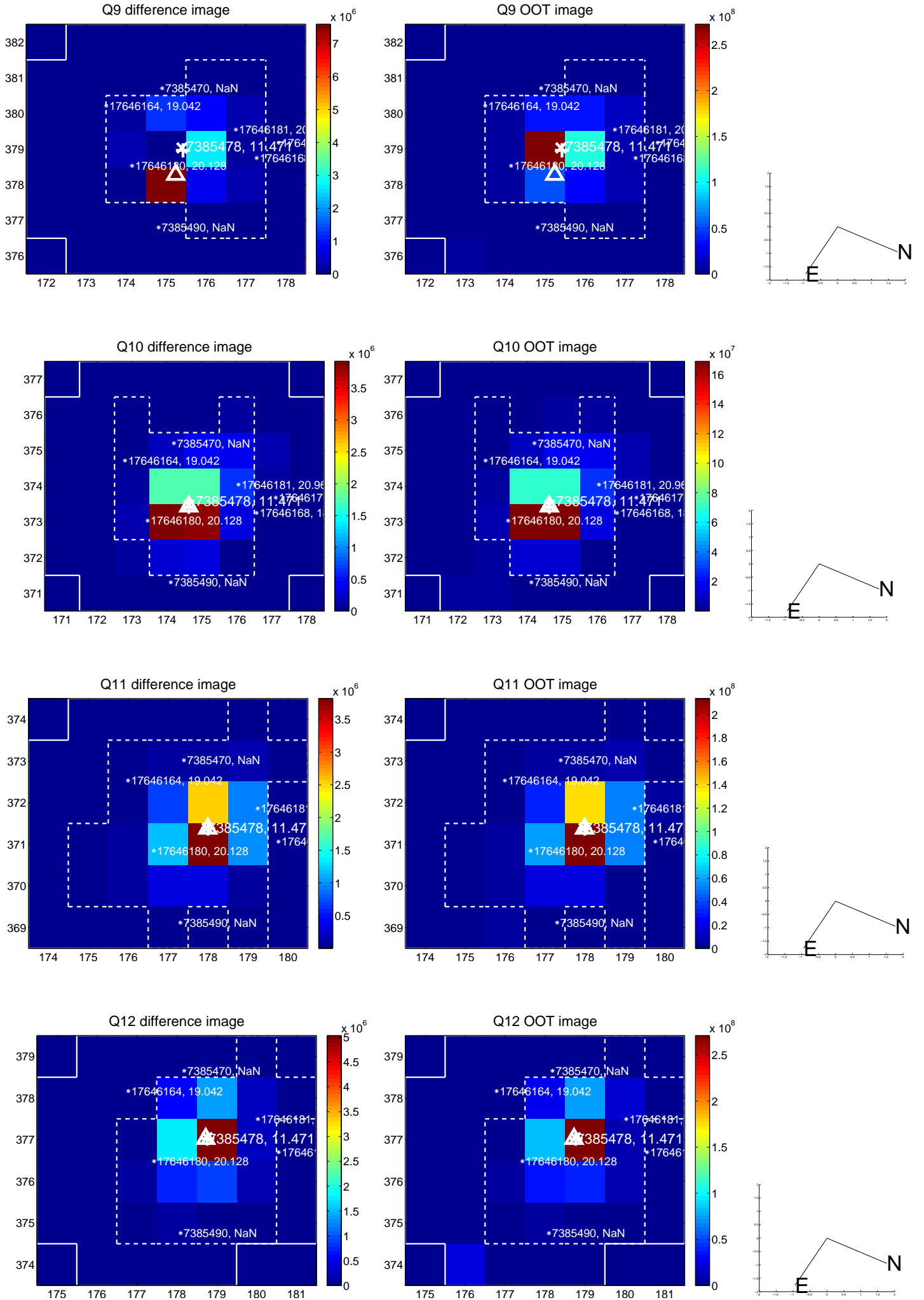
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



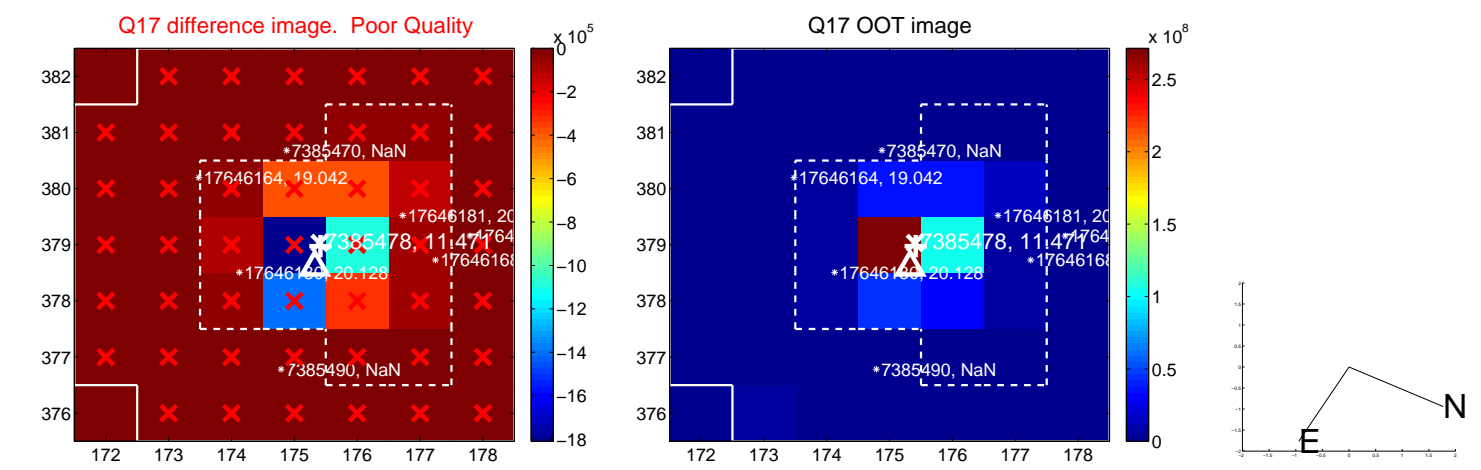
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

