

KIC 006284363

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})
006284363-01	OBS	No	1.699121	132.796778	17.1	8.277	7.6	7.6	2.06	8749	0.99	17874.56
006284363-02	OBS	No	237.406593	247.429137	491.7	2.889	8.2	8.4	2.06	8749	4.96	24.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006284363-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
006284363-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

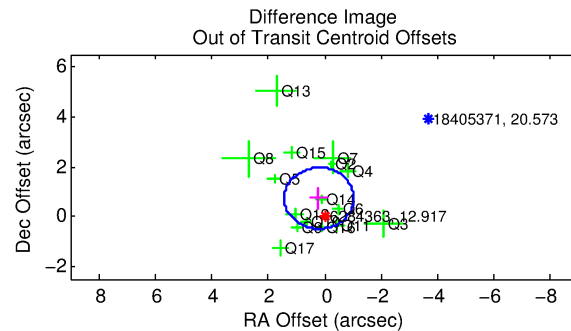
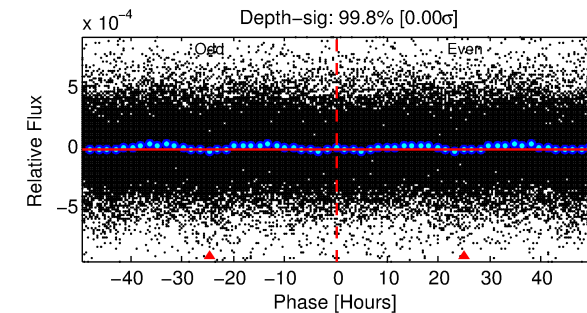
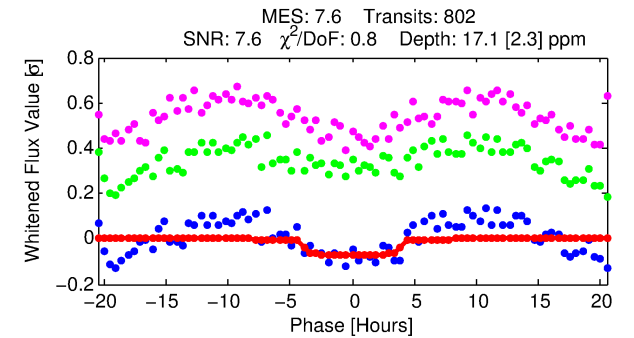
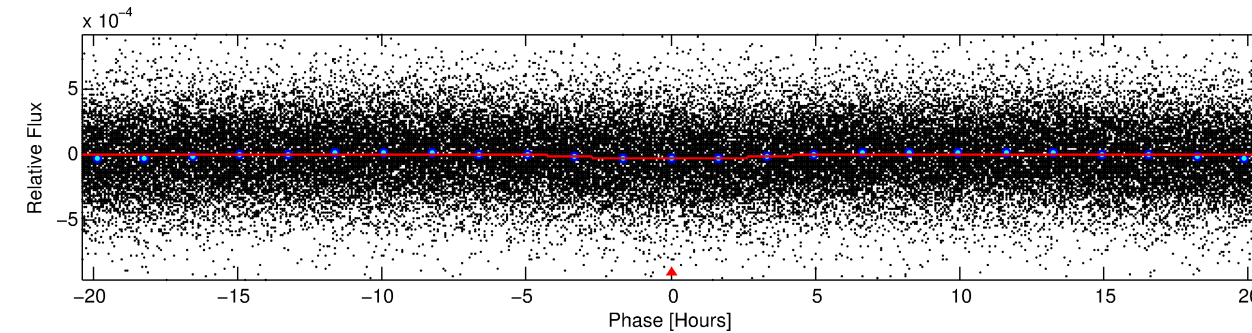
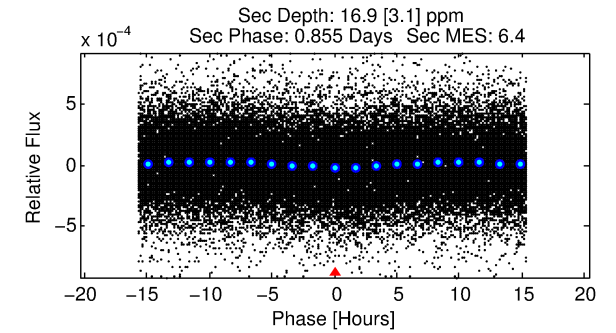
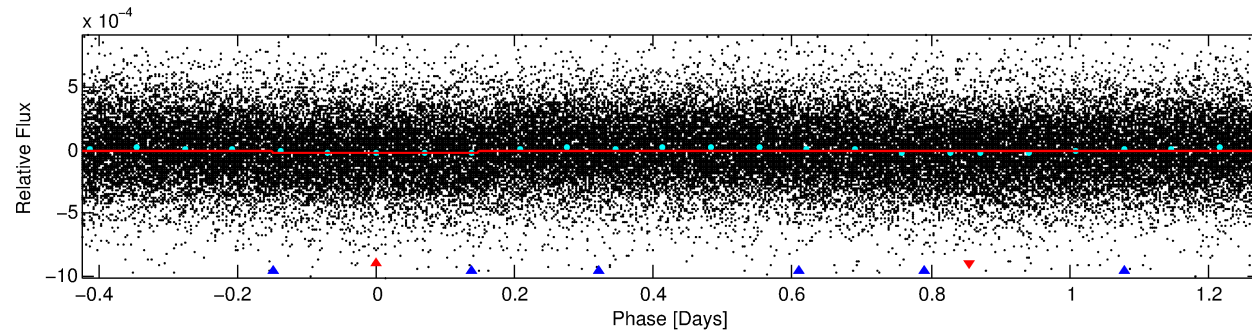
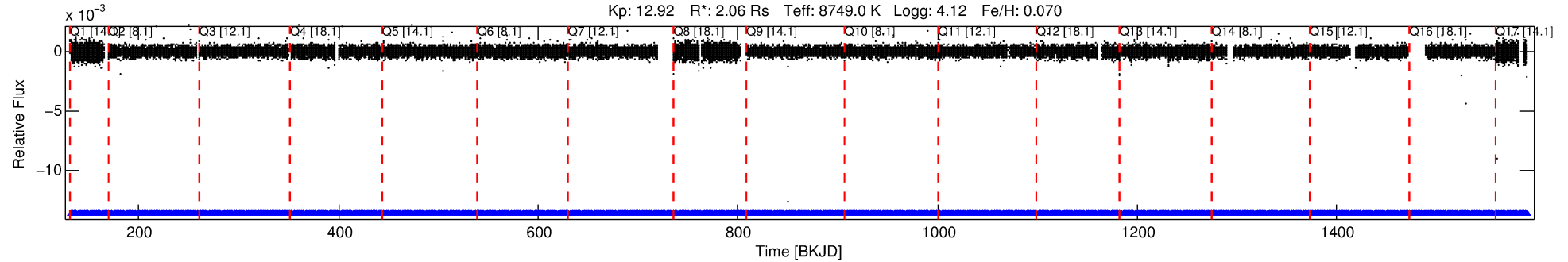
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006284363-01

No Significant Match Found

DV One-Page Summary

KIC: 6284363 Candidate: 1 of 2 Period: 1.699 d



DV Fit Results:

Period = 1.69912 [0.00004] d
Epoch = 132.7968 [0.0106] BKJD
Rp/R* = 0.0044 [0.0016]
a/R* = 1.17 [0.83]
b = 0.90 [0.56]
Seff = 17874.55 [6577.78]
Teq = 2948 [271] K
Rp = 0.99 [0.46] Re
a = 0.0354 [0.0079] AU
Ag = 11.95 [9.88] [1.11σ]
Teffp = 8476 [1666] K [3.27σ]

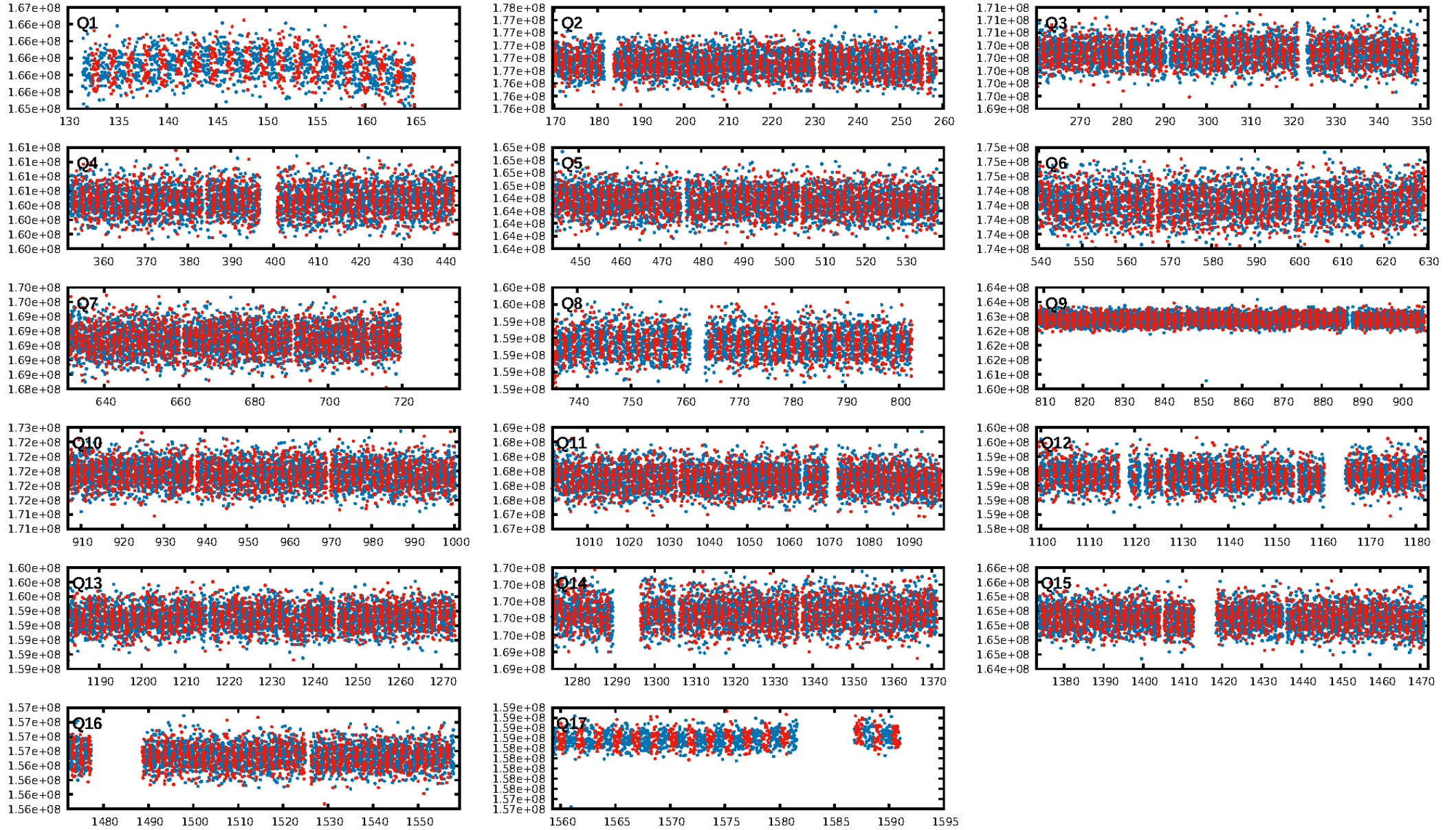
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [645.28σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.72e-08
RollingBand-fgt: 1.00 [766/766]
GhostDiagnostic-chr: 1.797
Centroid-sig: 8.4%
Centroid-so: 1.366 arcsec [1.64σ]
OotOffset-rm: 0.764 arcsec [1.87σ]
KicOffset-rm: 0.572 arcsec [1.35σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.75 [12/16]
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:27:39 Z

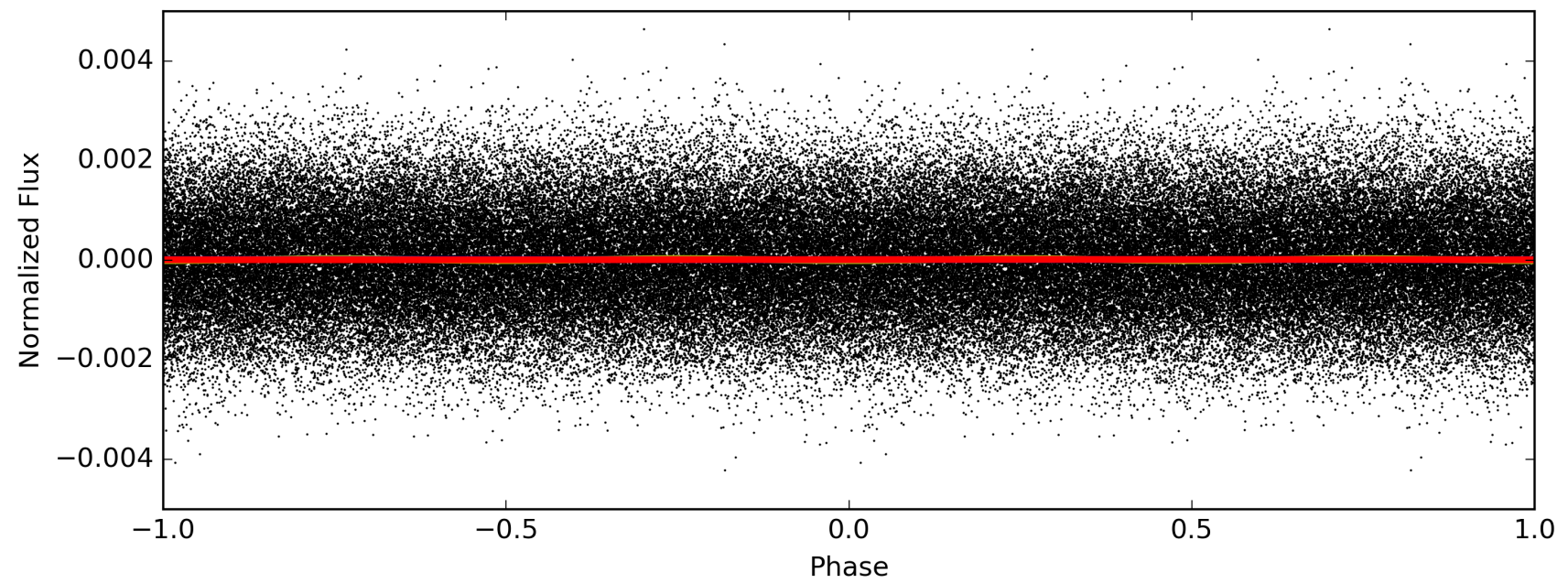
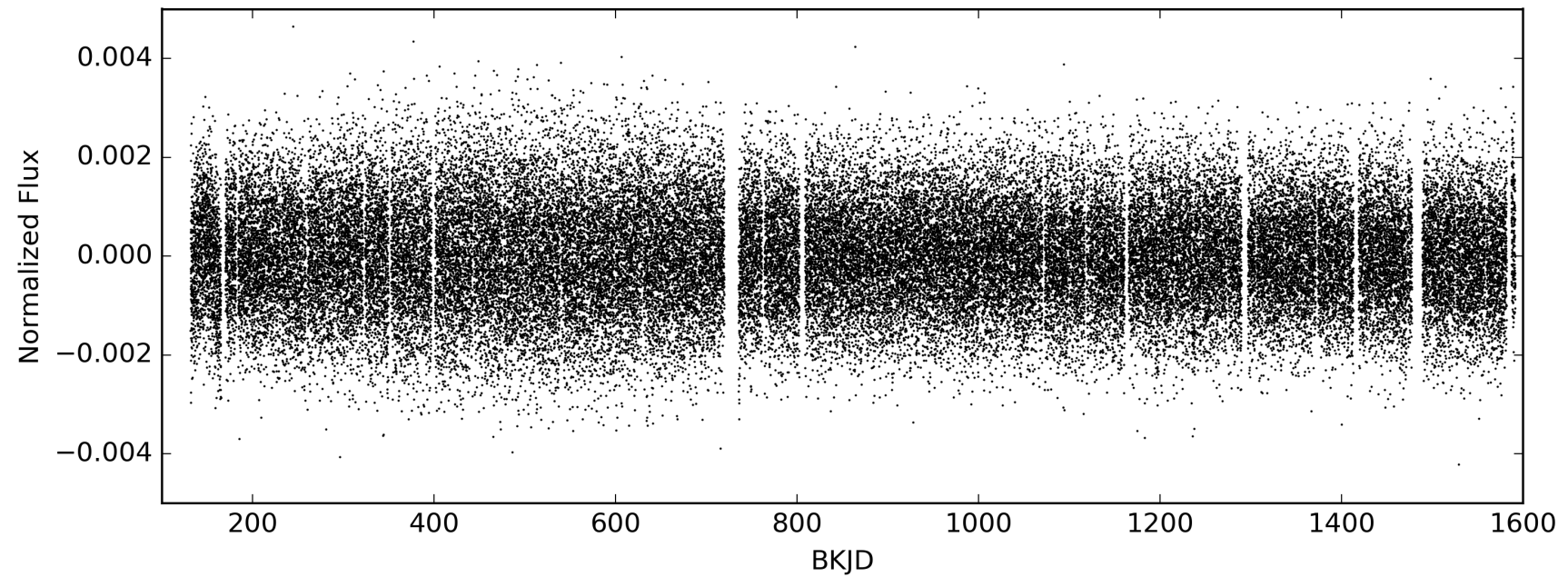
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006284363-01, PDC Light Curves



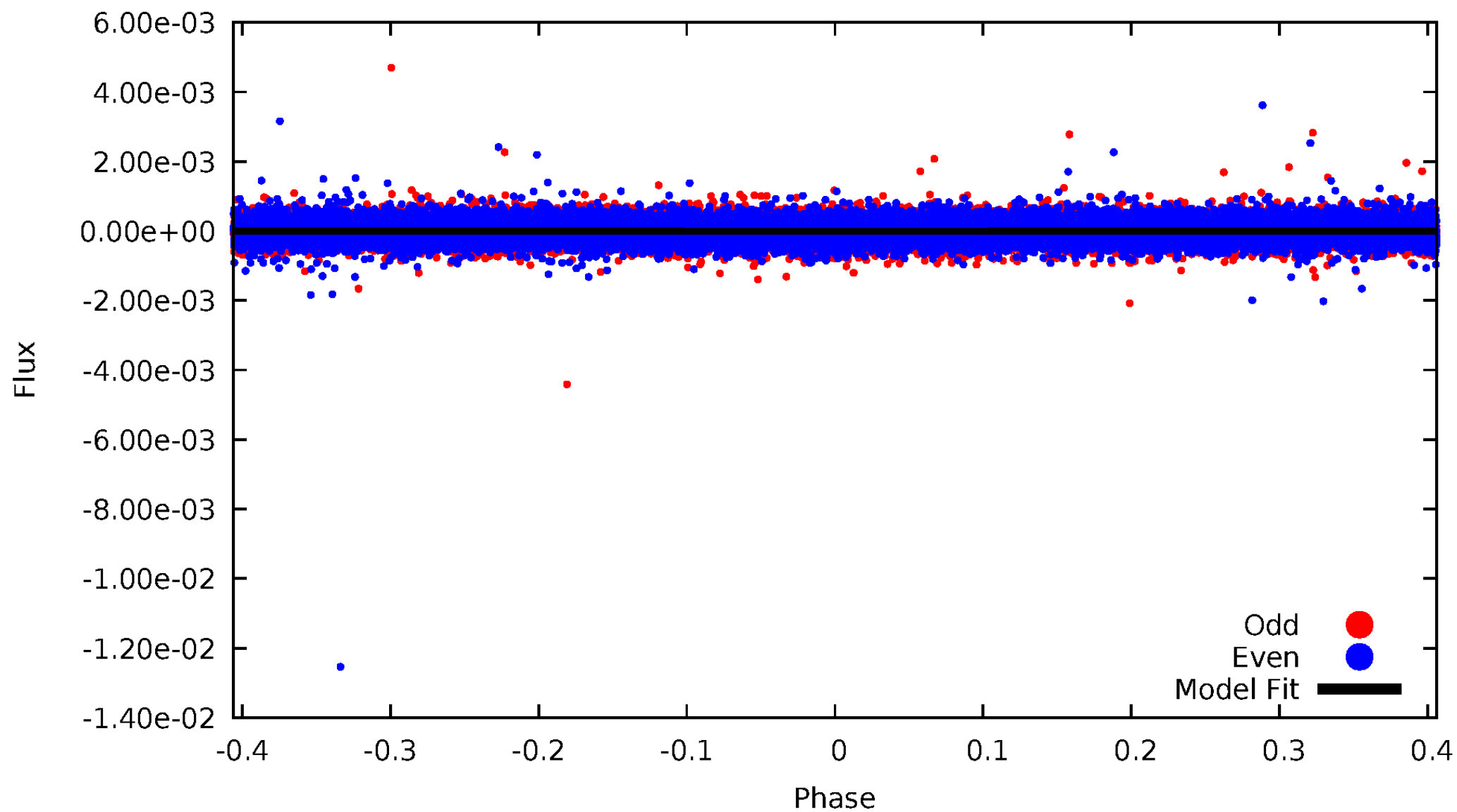
TCE 006284363-01

— P = 0.850 days — P = 1.699 days — P = 3.398 days



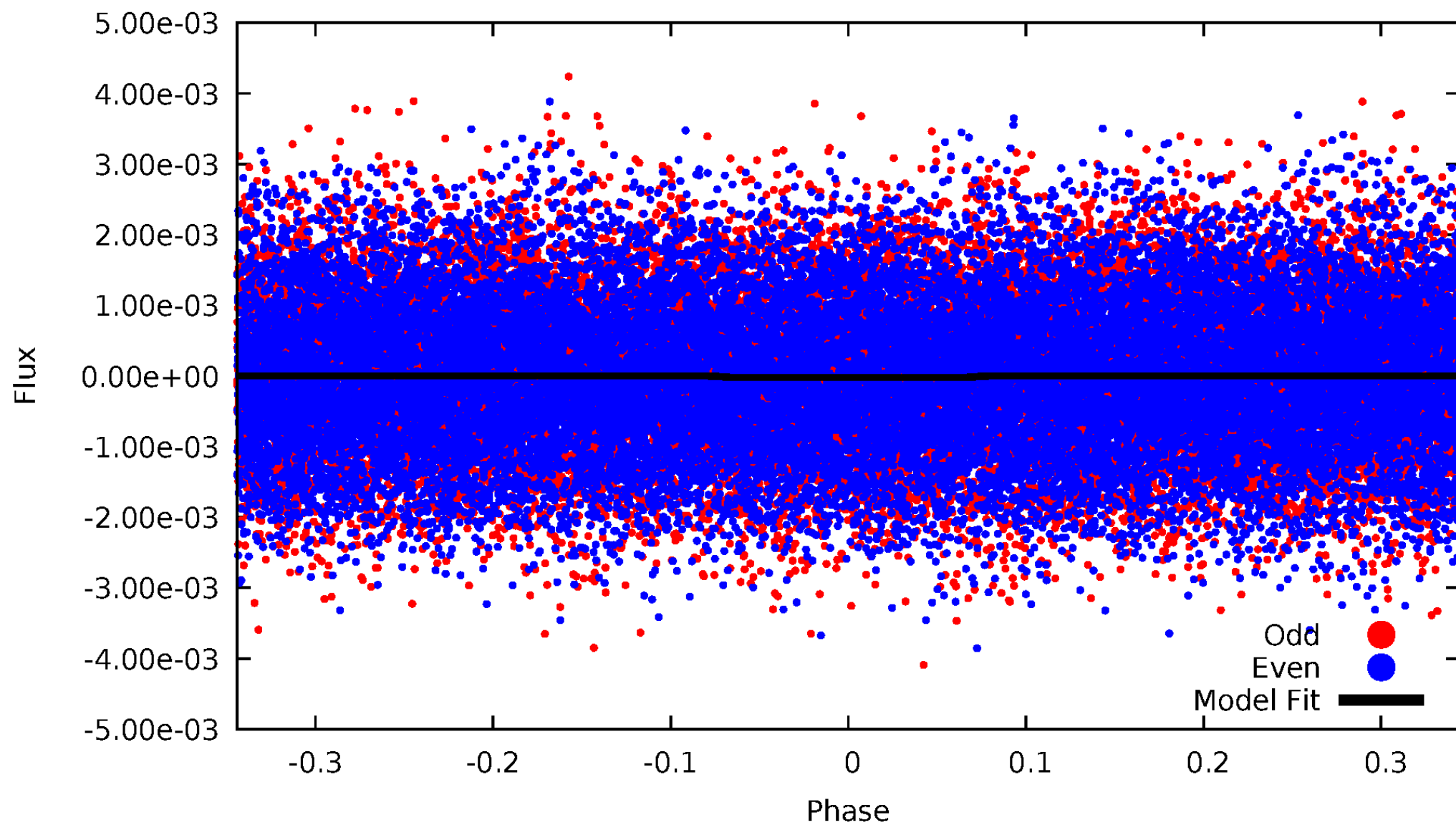
DV Odd/Even

TCE 006284363-01

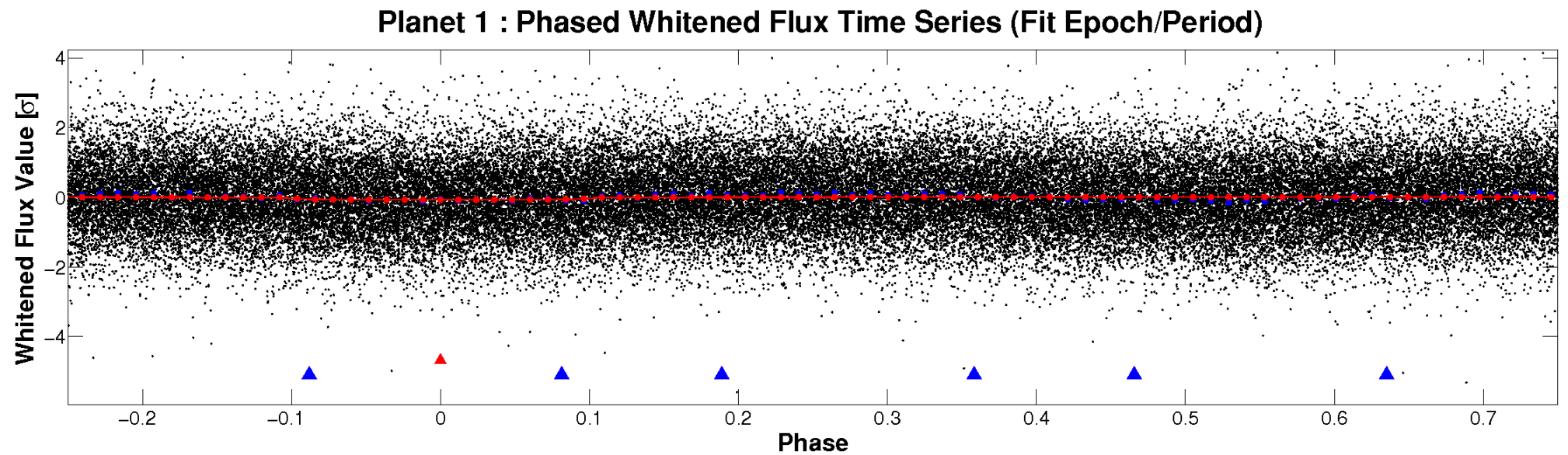
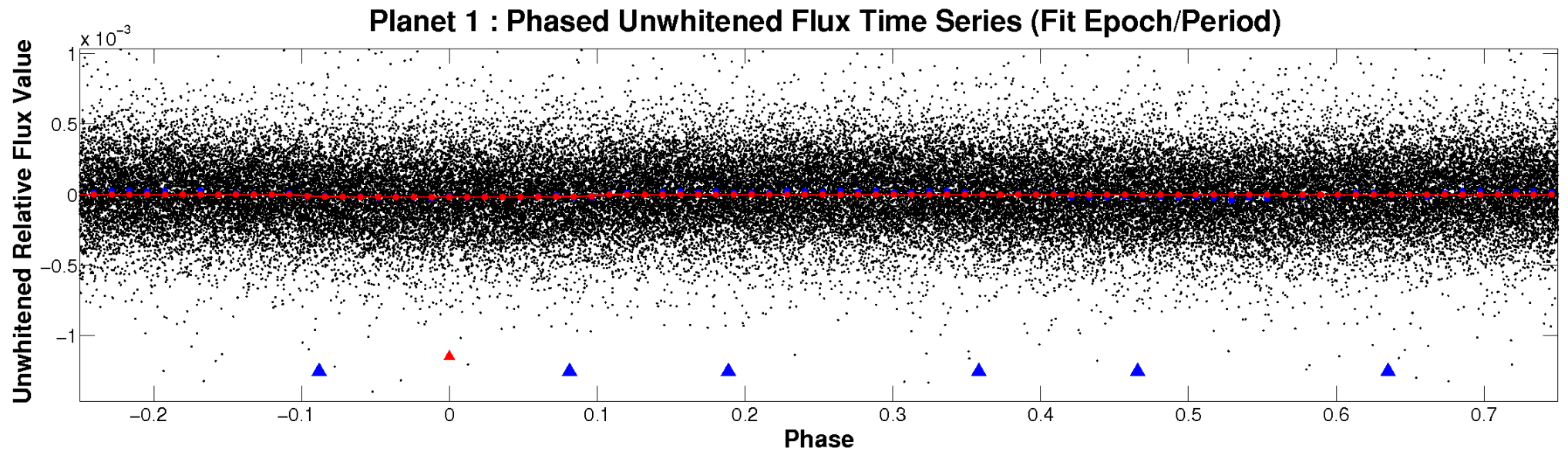


ALT Odd/Even

TCE 006284363-01

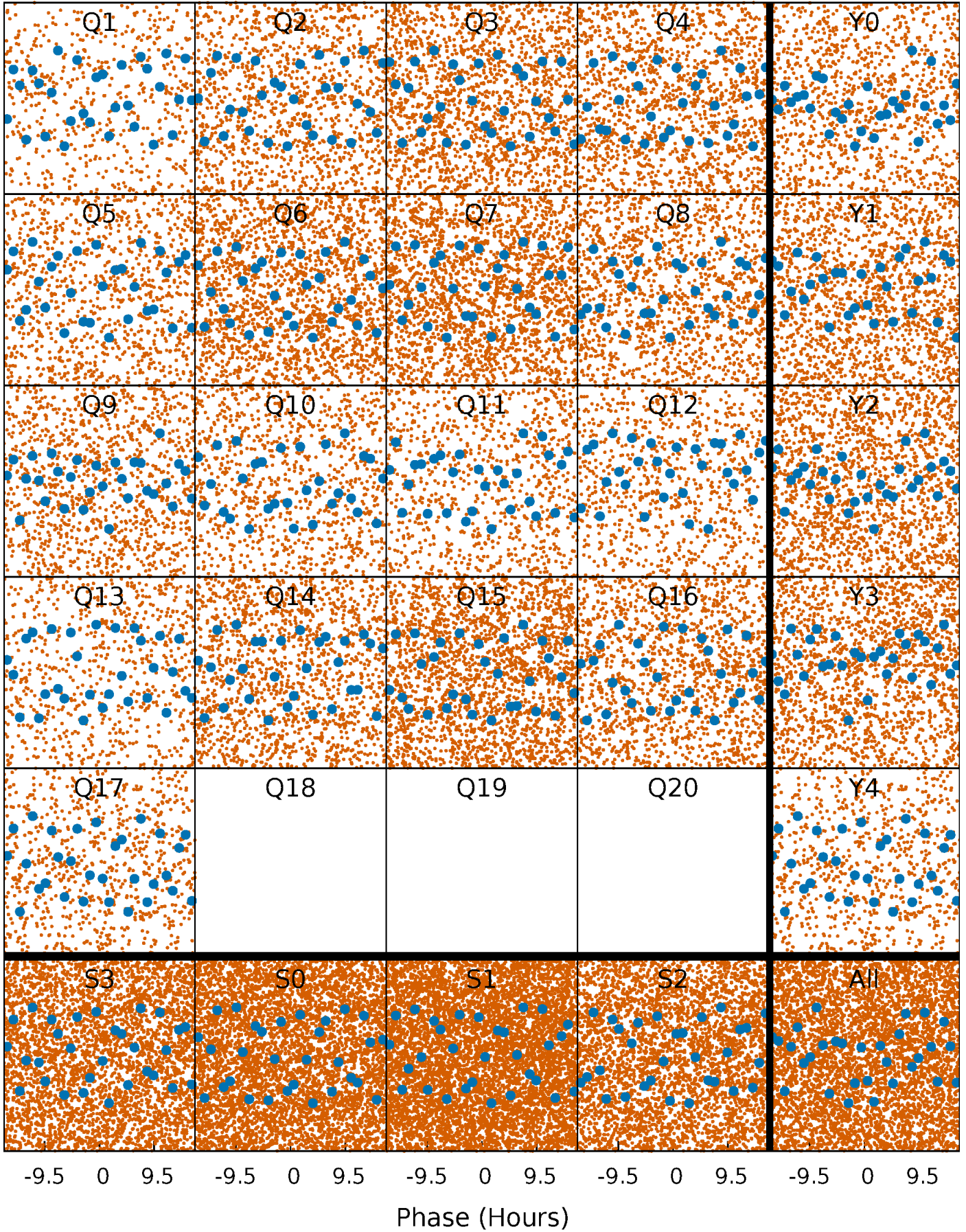


Non-Whitened Vs. Whitened Light Curve



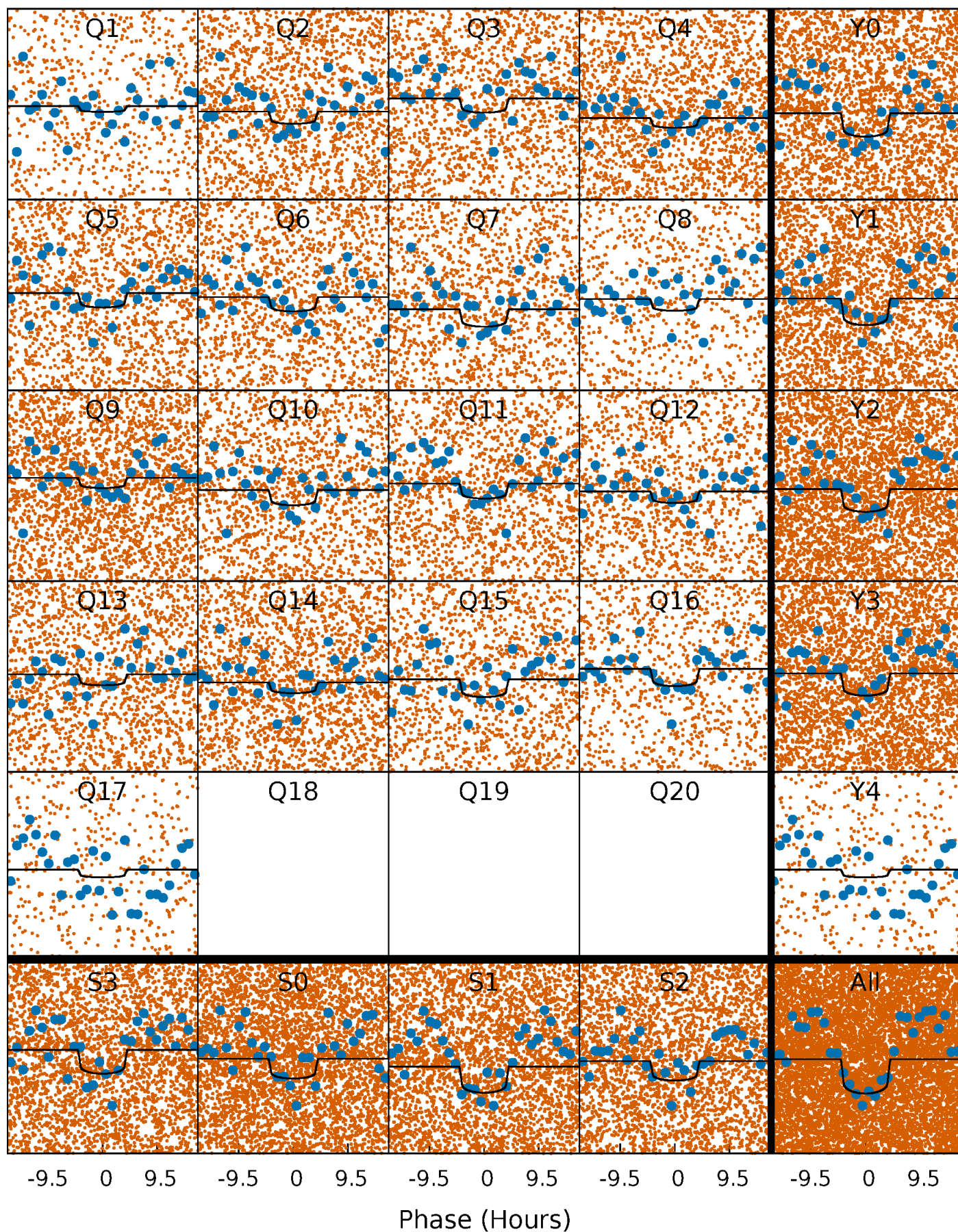
PDC Quarter-Phased Transit Curves

TCE 006284363-01 P= 1.699121 Days $T_0=132.796778$ (BKJD)



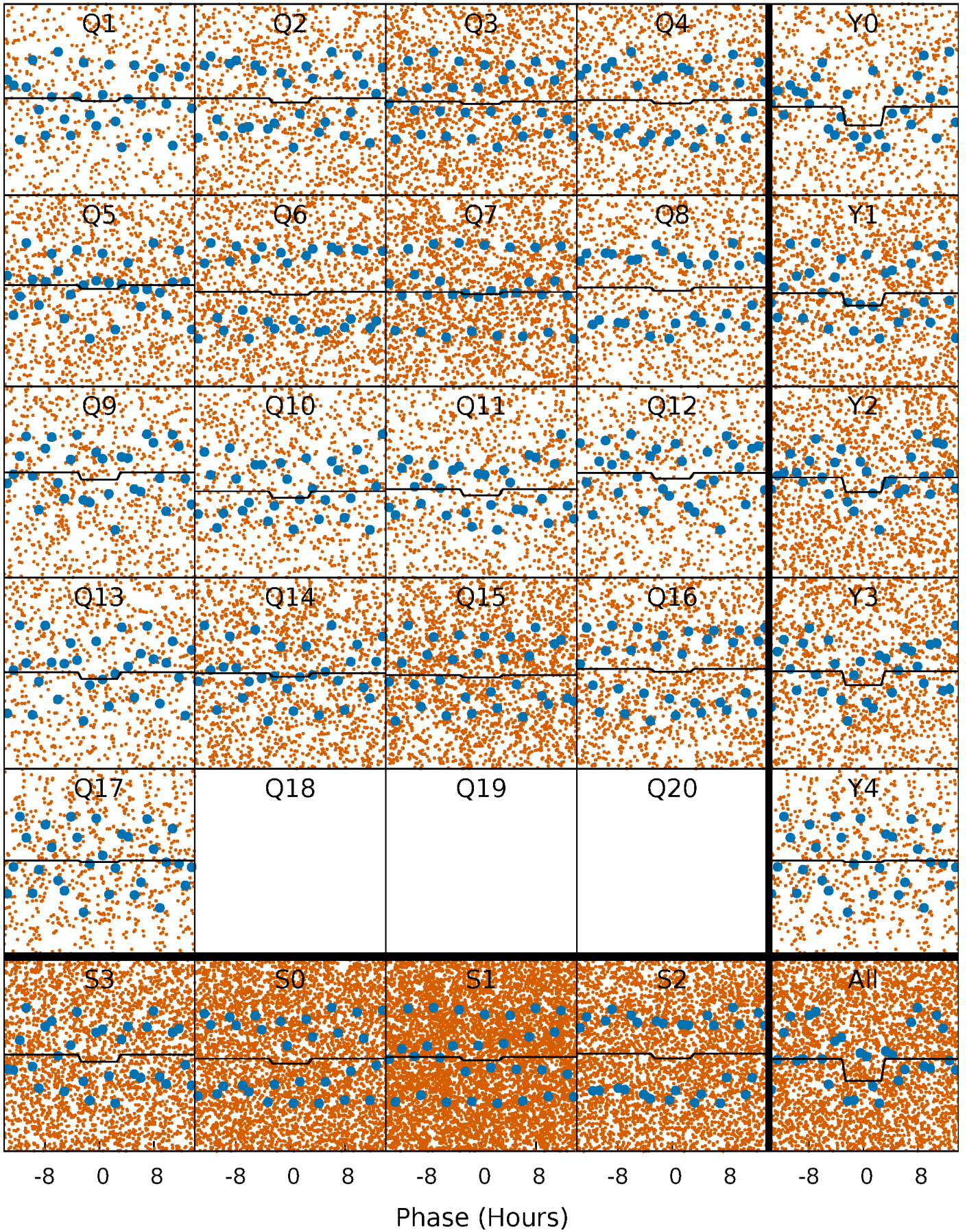
DV Quarter-Phased Transit Curves

TCE 006284363-01 P= 1.699121 Days $T_0=132.796778$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

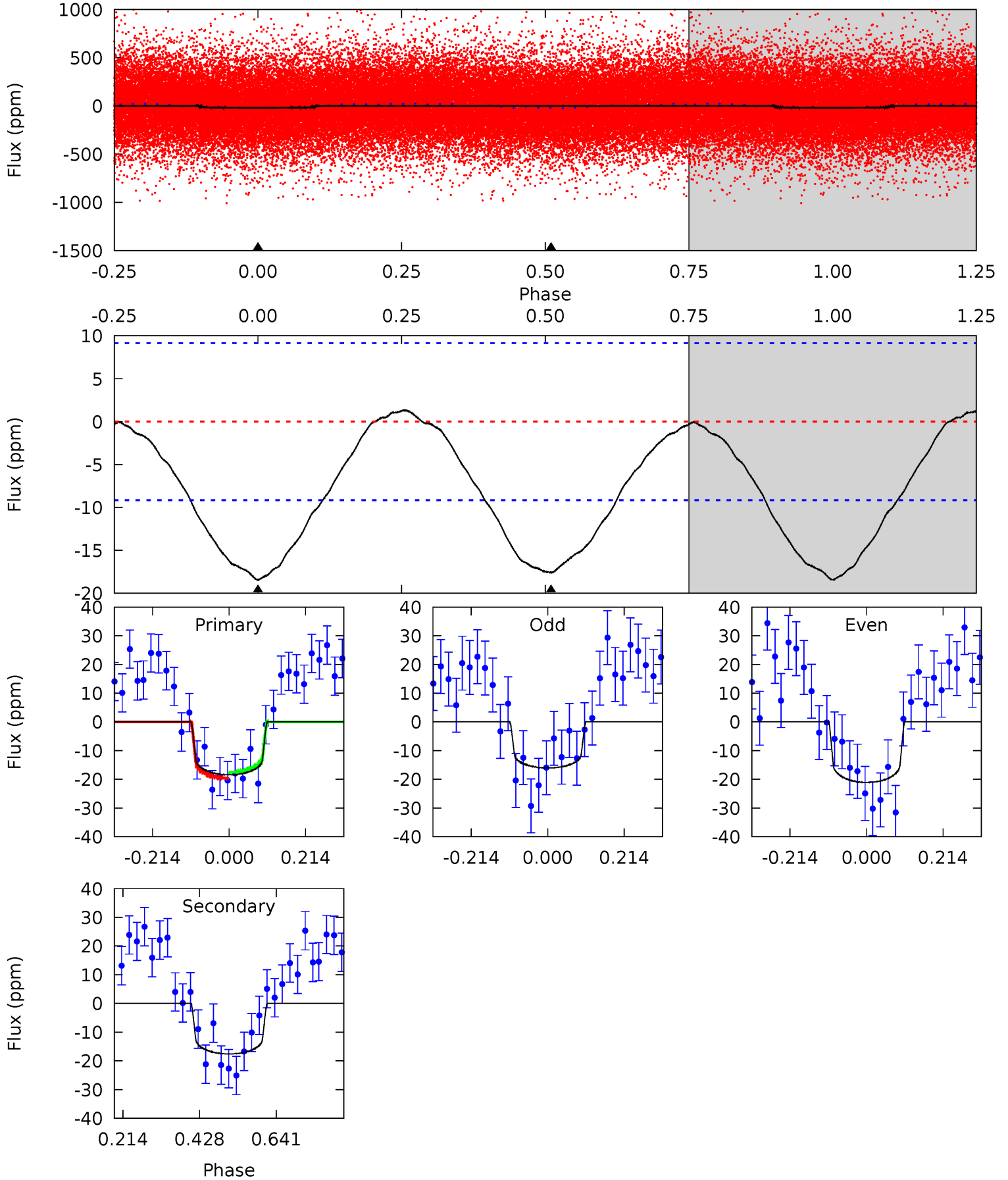
TCE 006284363-01 P= 1.699165 Days $T_0=132.749571$ (BKJD)



DV Model-Shift Uniqueness Test

006284363-01, P = 1.699121 Days, E = 131.097657 Days

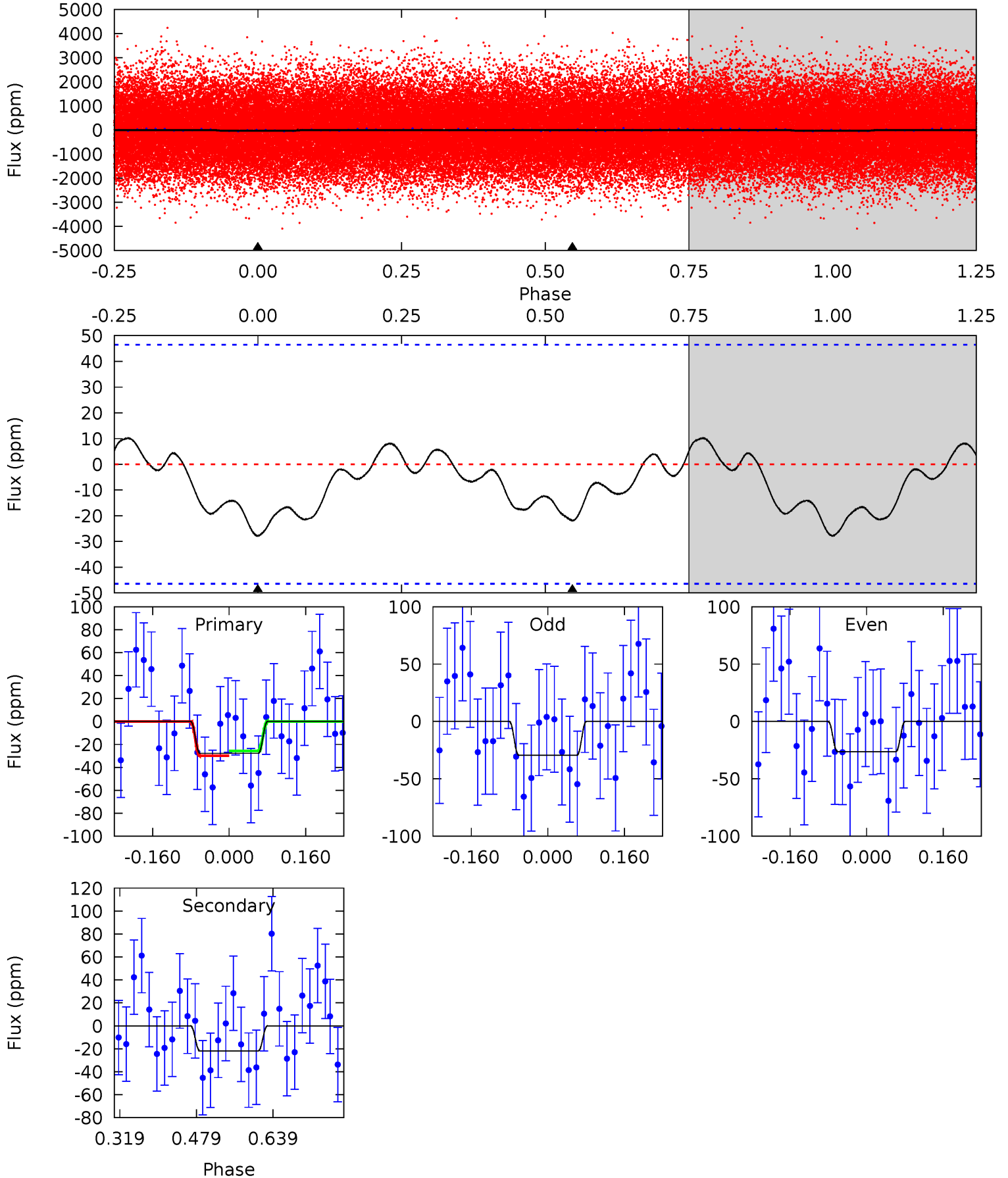
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.87	8.47	0	0	4.40	1.24	0.38	8.87	8.87	8.47	8.47	1.22	1.06	0.07	0.50



Alt Model-Shift Uniqueness Test

006284363-01, P = 1.699165 Days, E = 131.050406 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.67	2.10	0	0	4.47	1.41	0.48	2.67	2.67	2.10	2.10	0.15	1.01	0.27	0.20



Stellar Parameters For KIC 006284363

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8749^{+239}_{-410}	$4.119^{+0.126}_{-0.168}$	$0.070^{+0.250}_{-0.550}$	$2.064^{+0.569}_{-0.466}$	$2.041^{+0.368}_{-0.450}$	$0.327^{+0.224}_{-0.155}$
	+3%/-5%	+3%/-4%	+357%/-786%	+28%/-23%	+18%/-22%	+68%/-47%
Source	KIC0	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 006284363-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-18 ± 2	$1.01^{+0.42}_{-0.40}$	4126^{+290}_{-270}	8271^{+3676}_{-1493}	12^{+21}_{-6}
Alt.	-22 ± 10	$1.12^{+0.43}_{-0.38}$	4123^{+305}_{-257}	8141^{+3188}_{-1918}	11^{+17}_{-7}

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

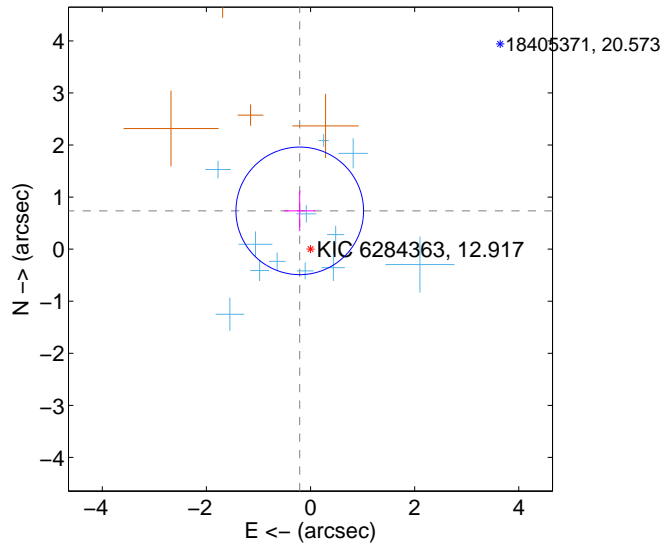
Supplemental centroid analysis for 006284363-01. Kepler magnitude: 12.92. Transit SNR 7.57

There are 12 quarters with good PRF difference image offsets

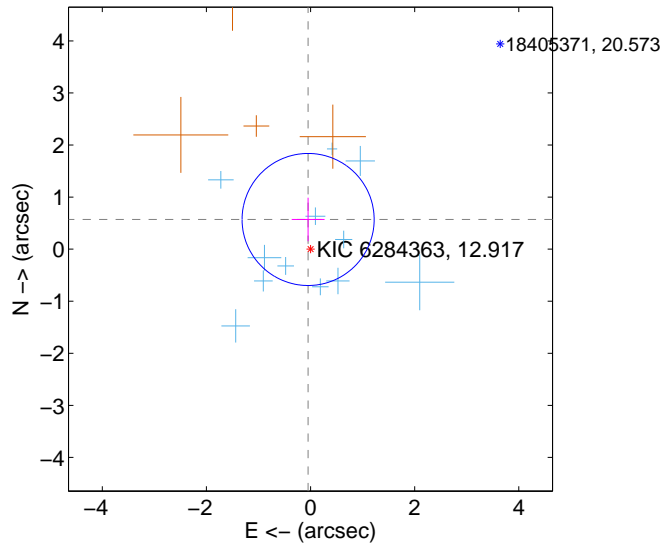
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.764 ± 0.408	1.87	0.207 ± 0.301	0.736 ± 0.390
PRF-fit source offset from KIC position	0.572 ± 0.423	1.35	0.047 ± 0.316	0.570 ± 0.417
photometric centroid source offset	1.37 ± 0.84	1.64	-1.02 ± 0.83	-0.91 ± 0.85

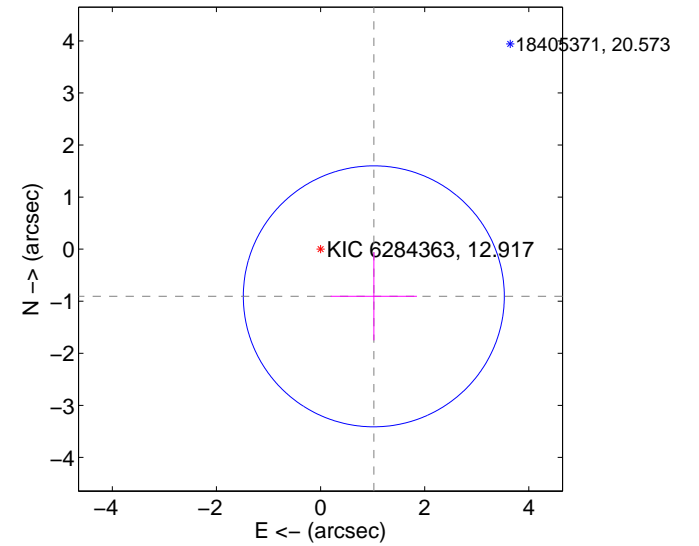
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

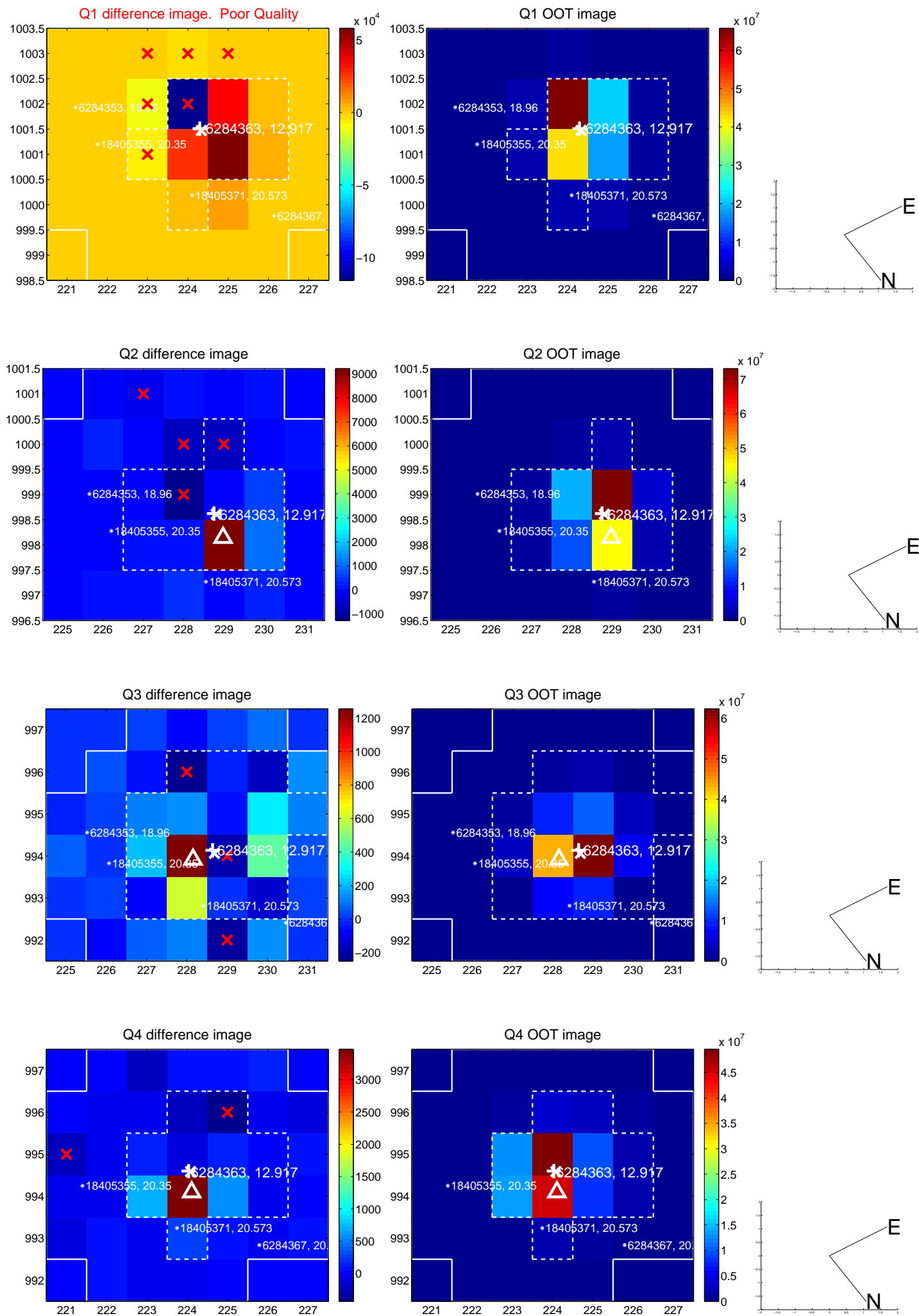


offset from photometric centroids

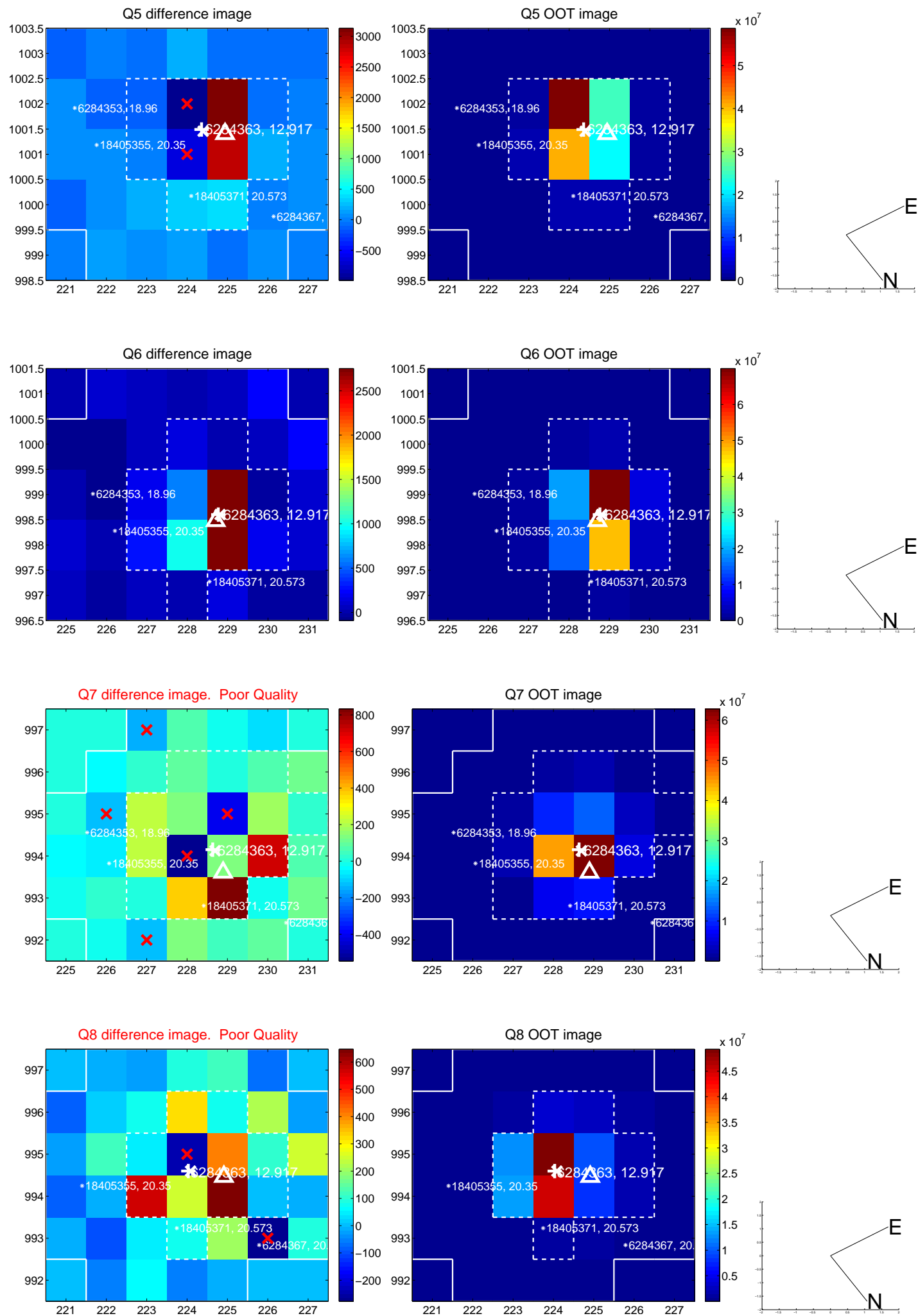


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

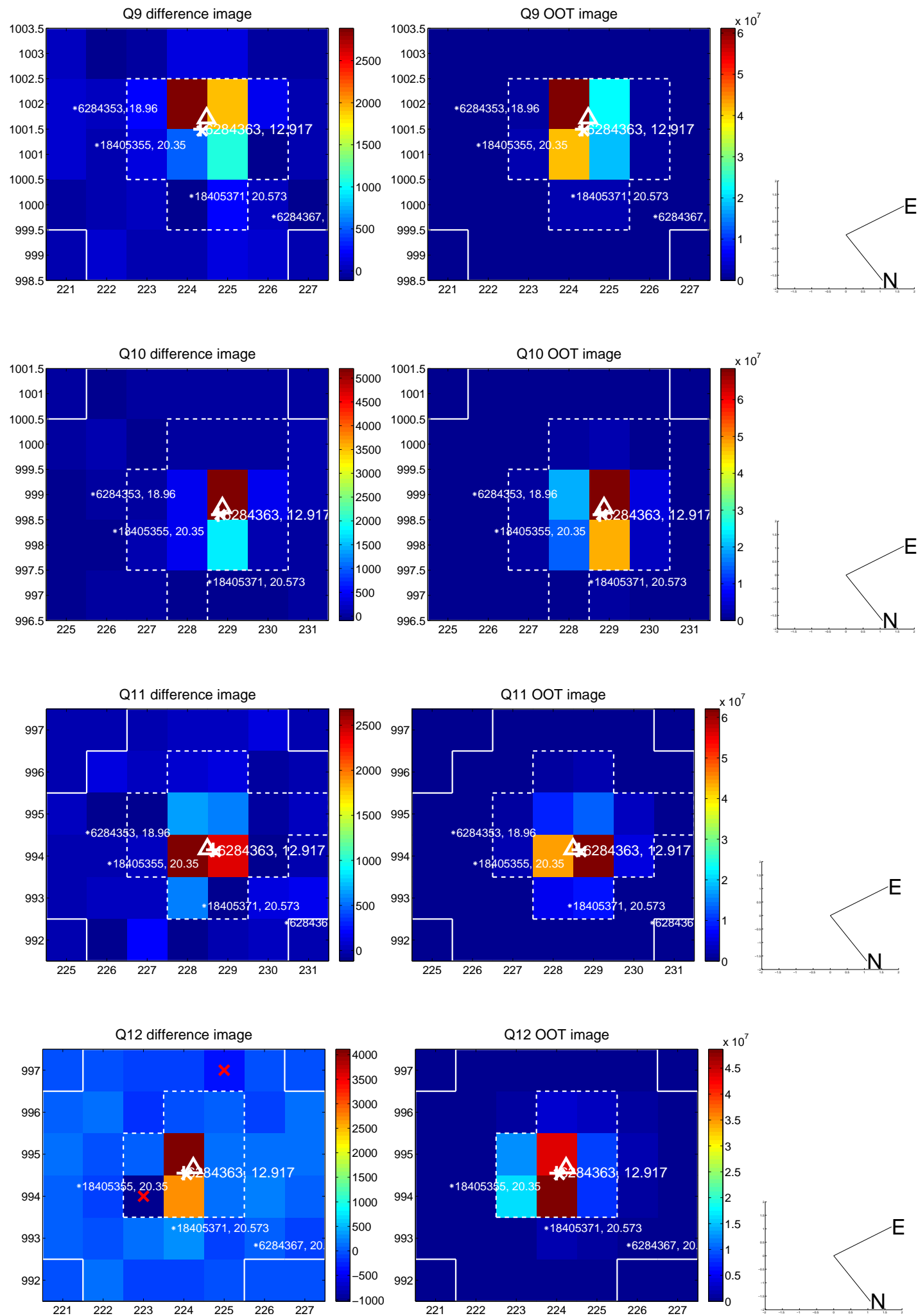
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



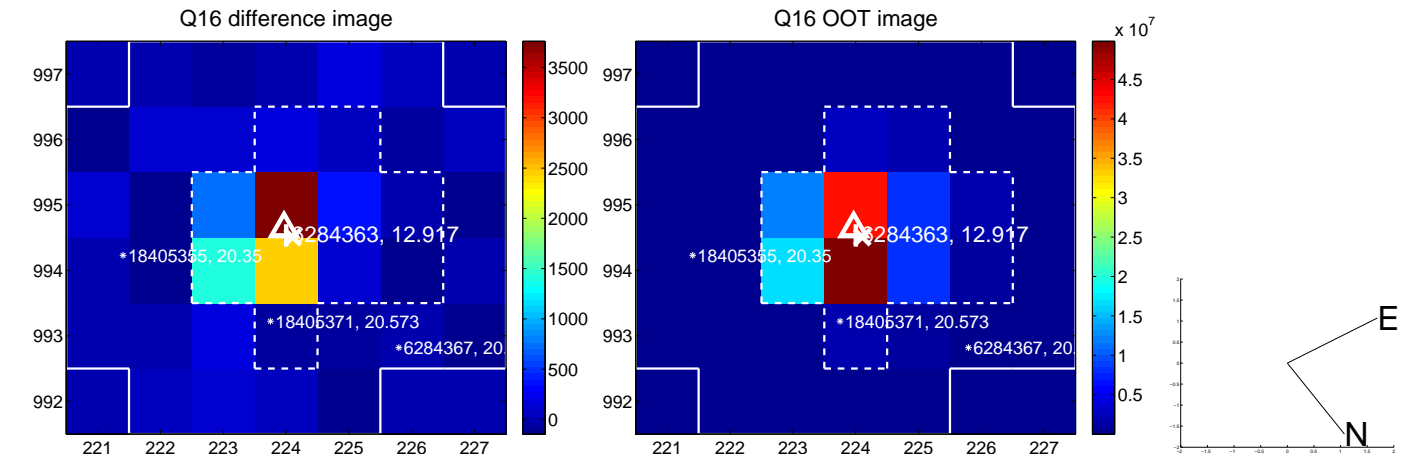
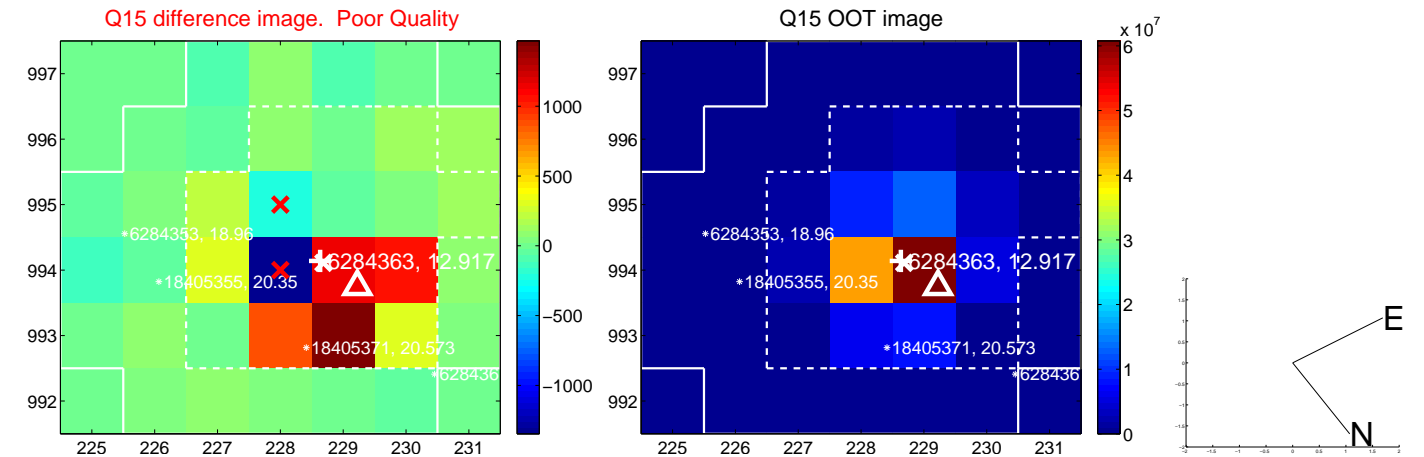
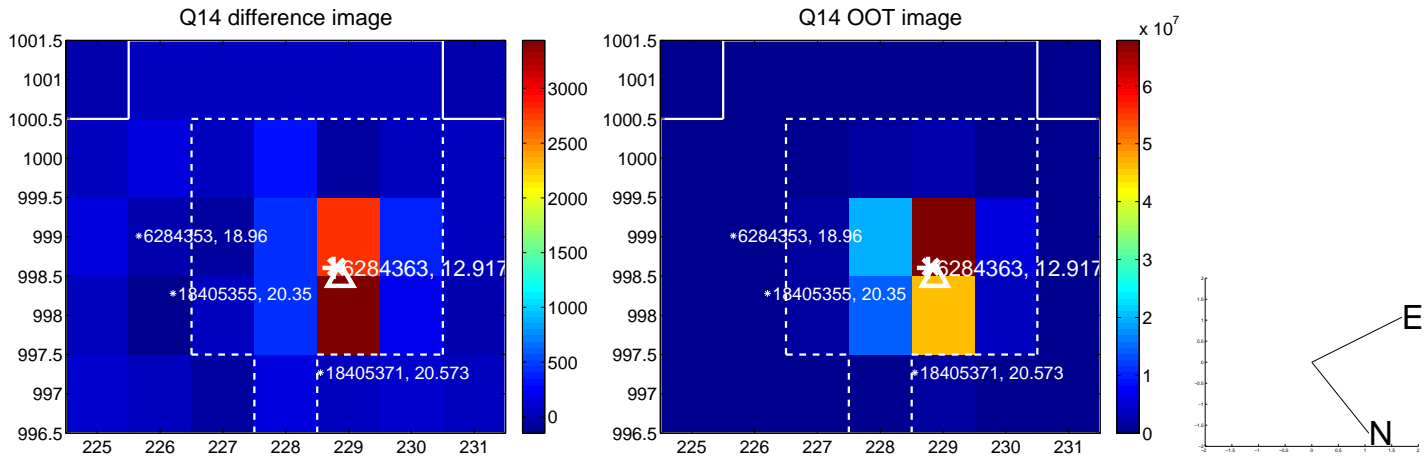
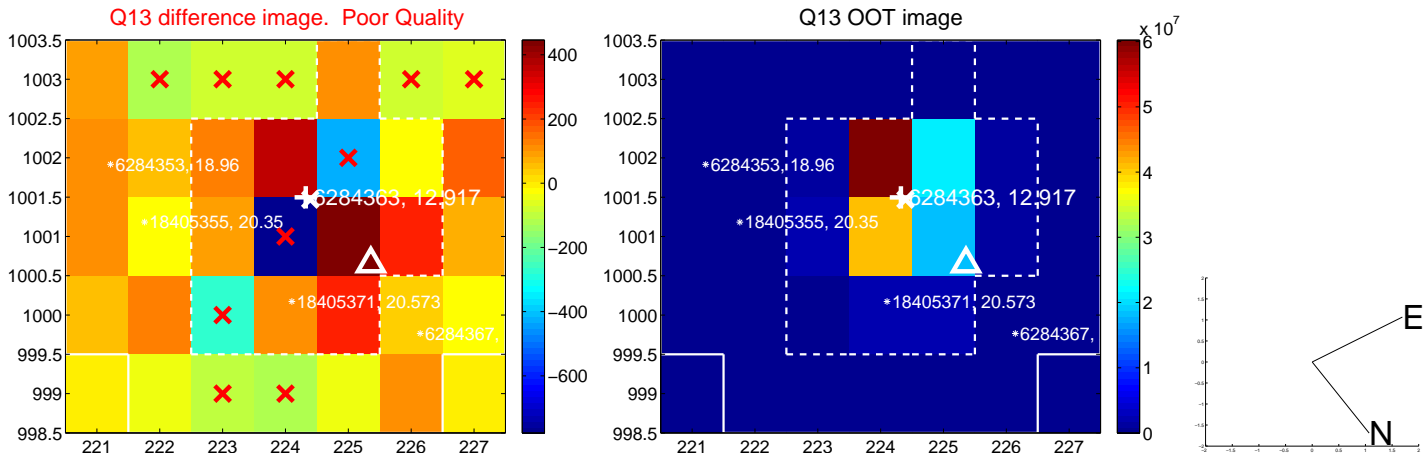
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



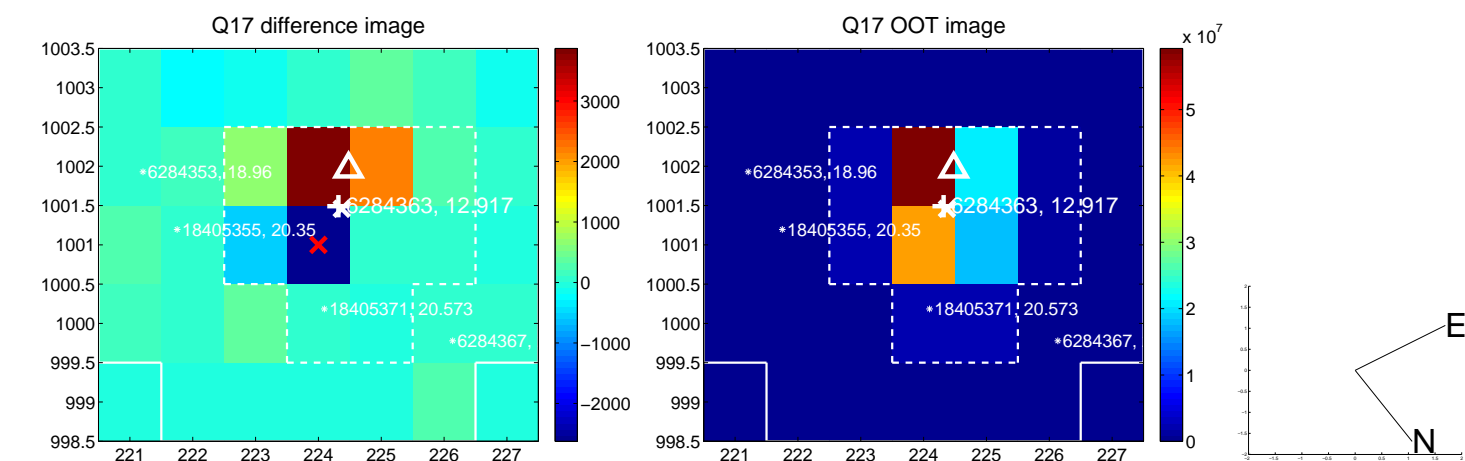
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



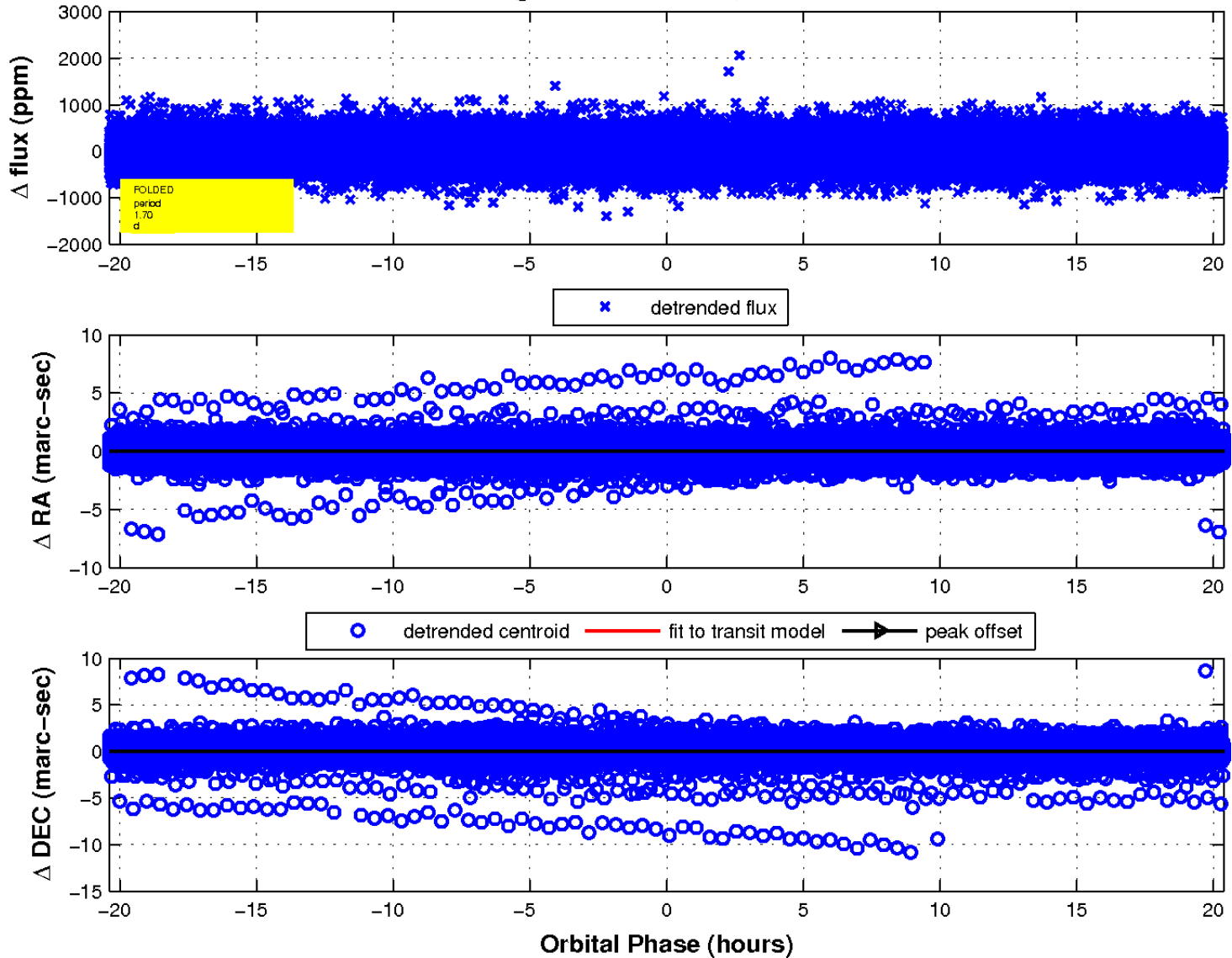
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

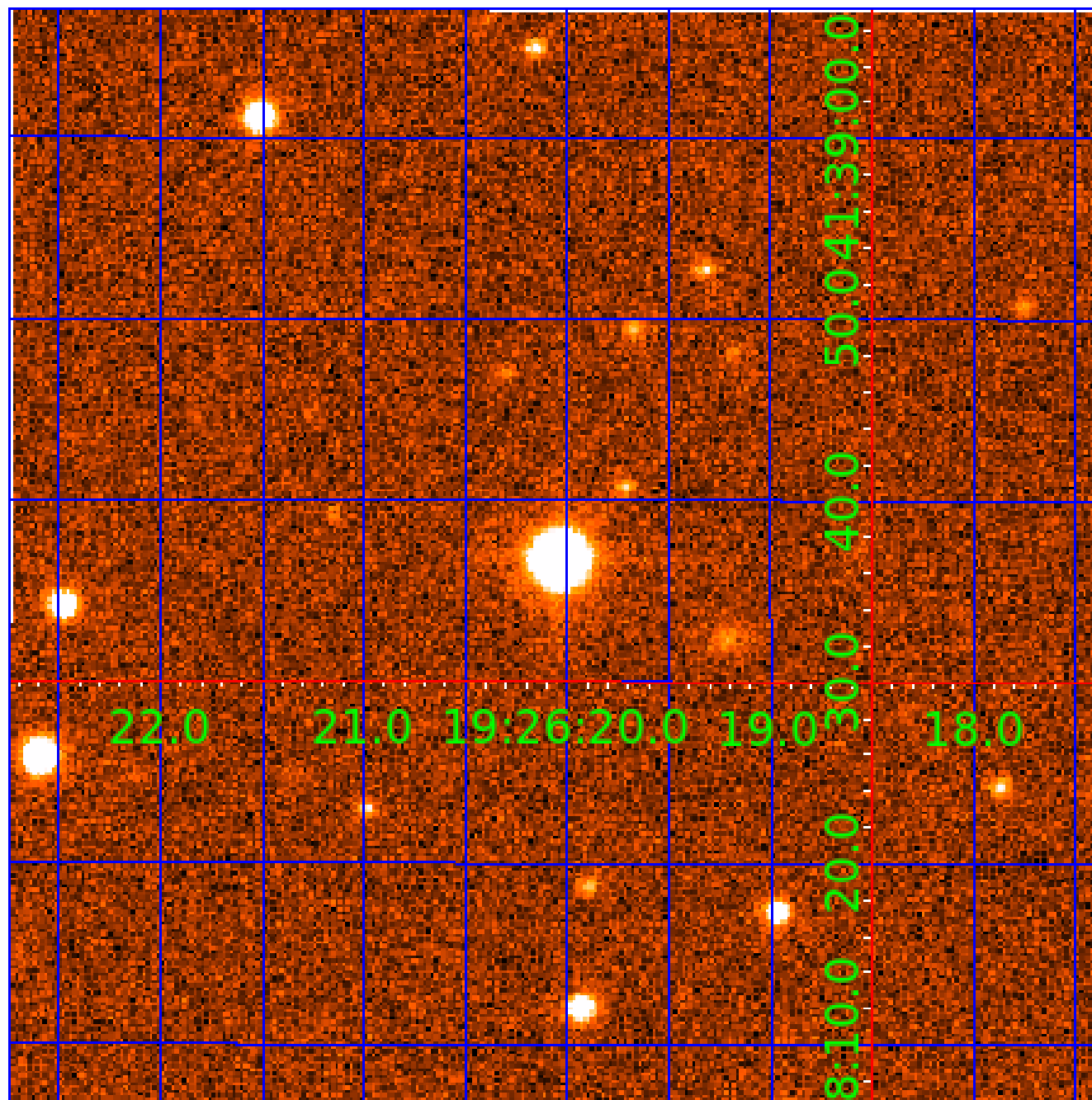


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 006284363

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})
006284363-01	OBS	No	1.699121	132.796778	17.1	8.277	7.6	7.6	2.06	8749	0.99	17874.56
006284363-02	OBS	No	237.406593	247.429137	491.7	2.889	8.2	8.4	2.06	8749	4.96	24.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006284363-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
006284363-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

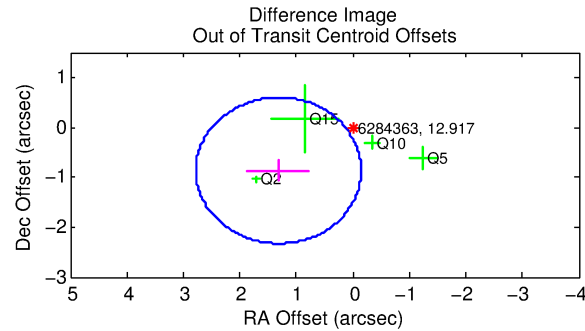
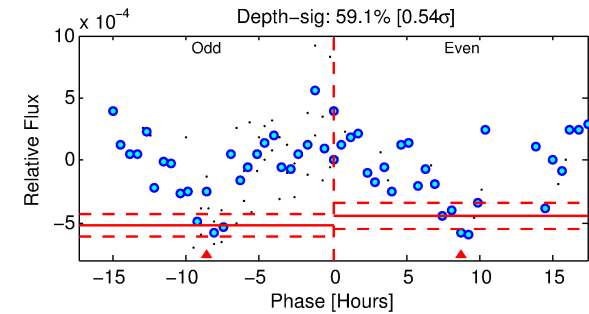
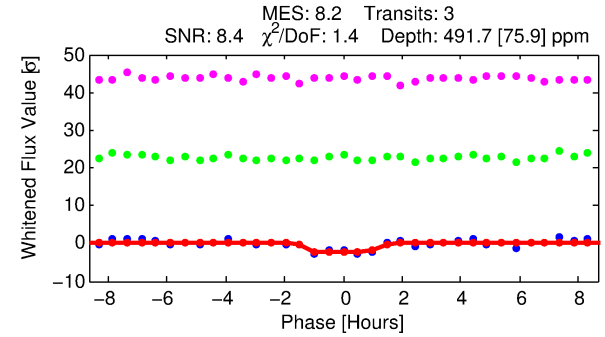
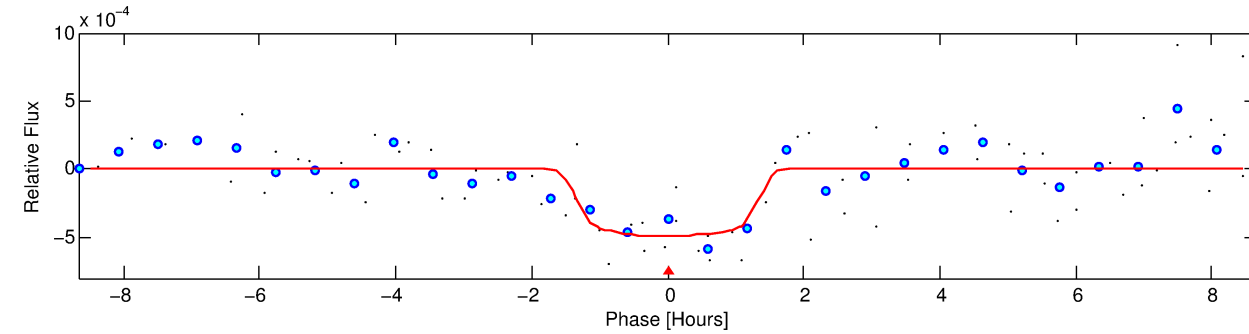
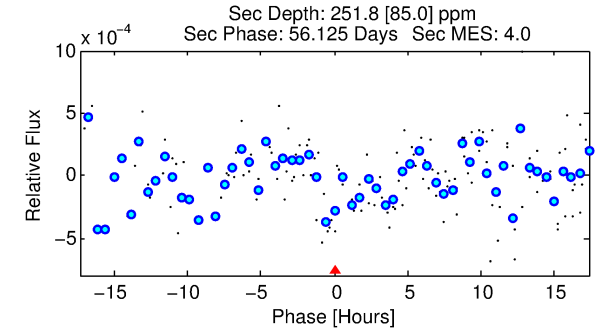
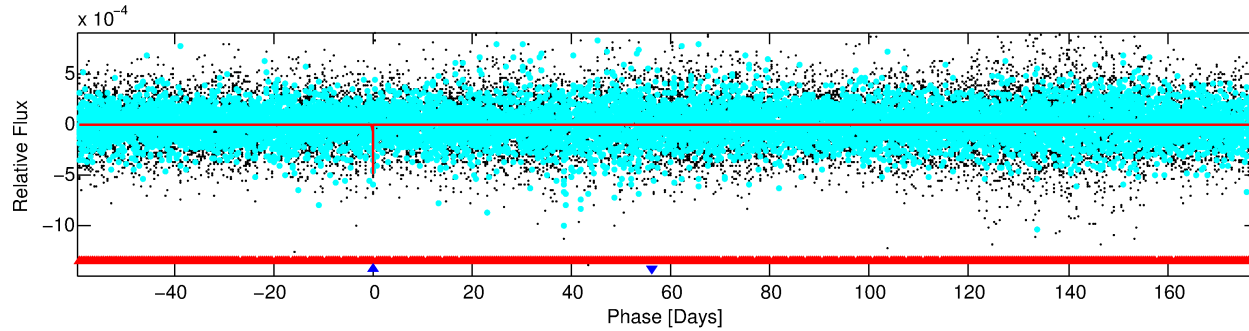
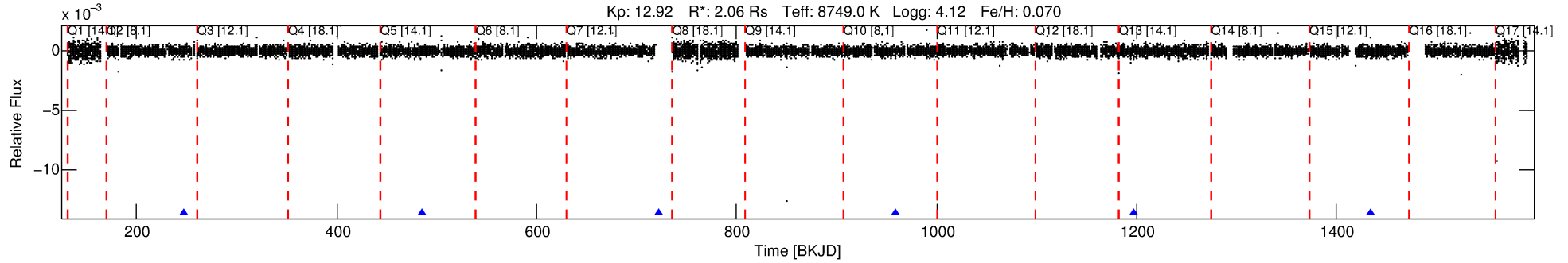
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006284363-02

No Significant Match Found

DV One-Page Summary

KIC: 6284363 Candidate: 2 of 2 Period: 237.407 d



DV Fit Results:

Period = 237.40659 [0.00325] d
Epoch = 247.4291 [0.0098] BKJD
Rp/R* = 0.0220 [0.0299]
a/R* = 444.26 [3840.13]
b = 0.74 [5.39]
Seff = 24.65 [9.07]
Teff = 568 [52] K
Rp = 4.96 [6.87] Re
a = 0.9524 [0.2138] AU
Ag = 5112.24 [14085.53] [0.36 σ]
Teffp = 7428 [5095] K [1.35 σ]

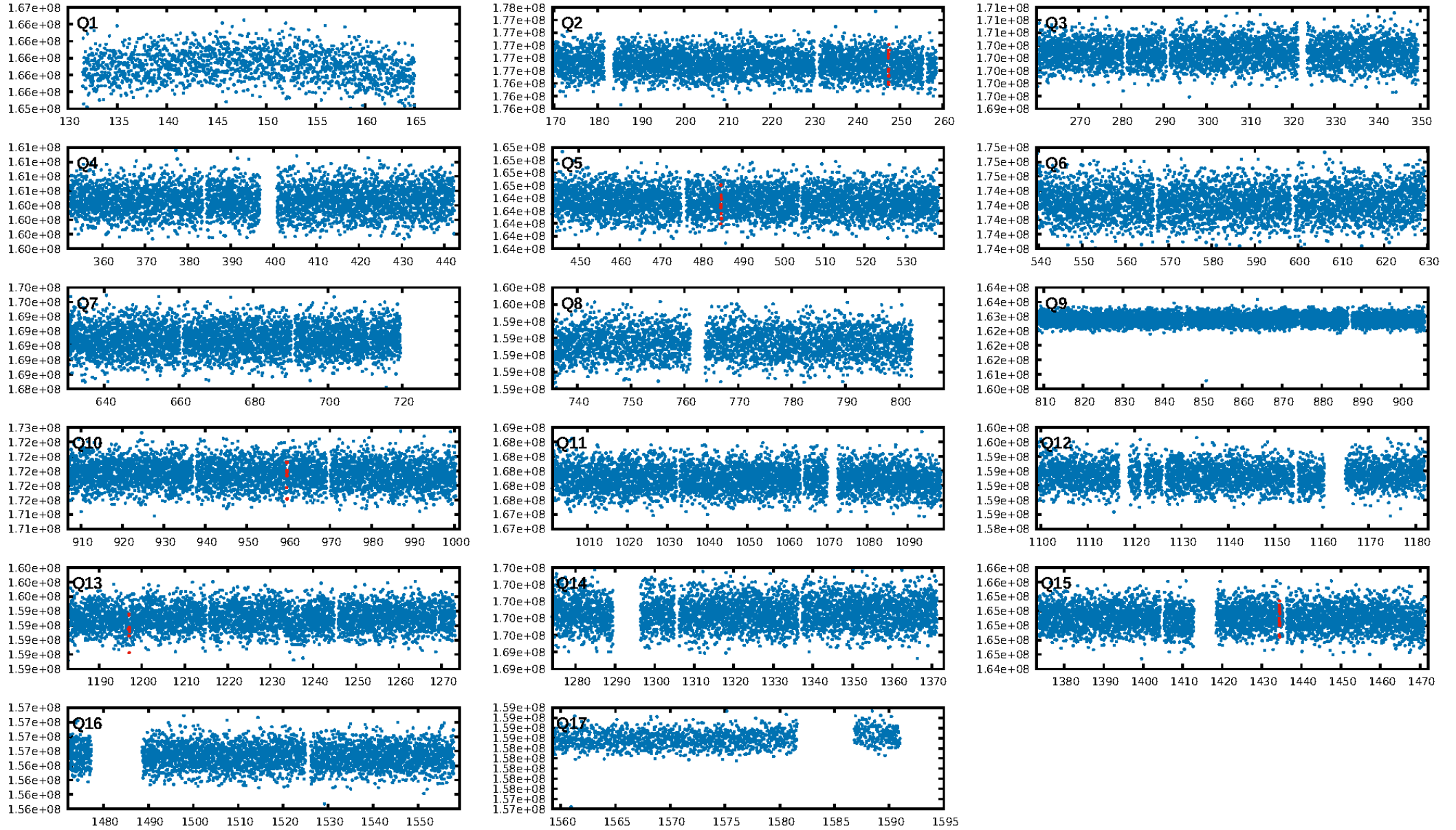
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [645.28 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 48.6%
ModelChiSquareGof-sig: 88.0%
Bootstrap-pfa: 3.05e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.4505
Centroid-sig: 3.4%
Centroid-so: 0.571 arcsec [0.92 σ]
OotOffset-rm: 1.577 arcsec [3.23 σ]
KicOffset-rm: 1.555 arcsec [3.57 σ]
OotOffset-st: 2/1/0/1 [4]
KicOffset-st: 2/1/0/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.50 [2/4]

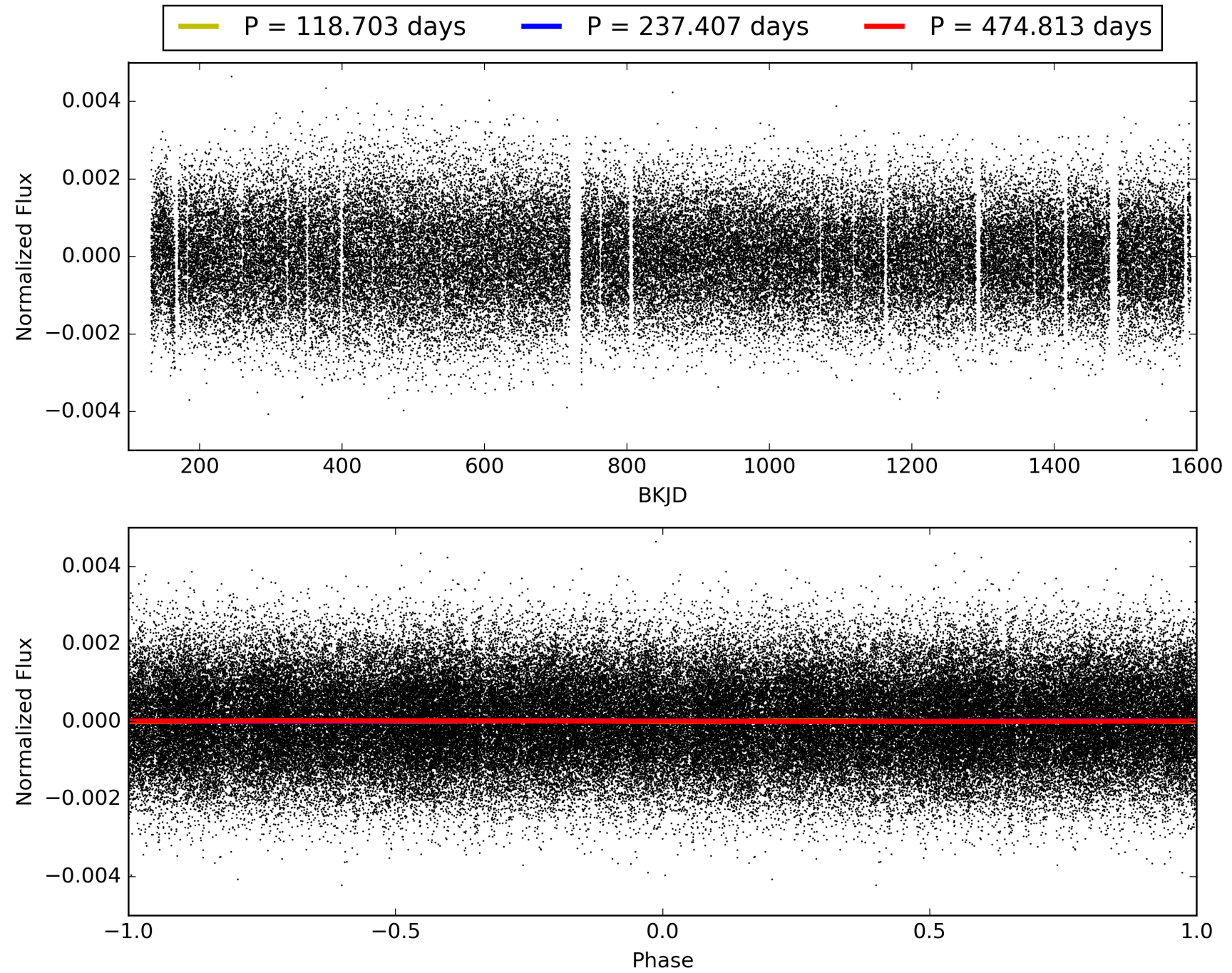
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:27:52 Z

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

TCE 006284363-02, PDC Light Curves

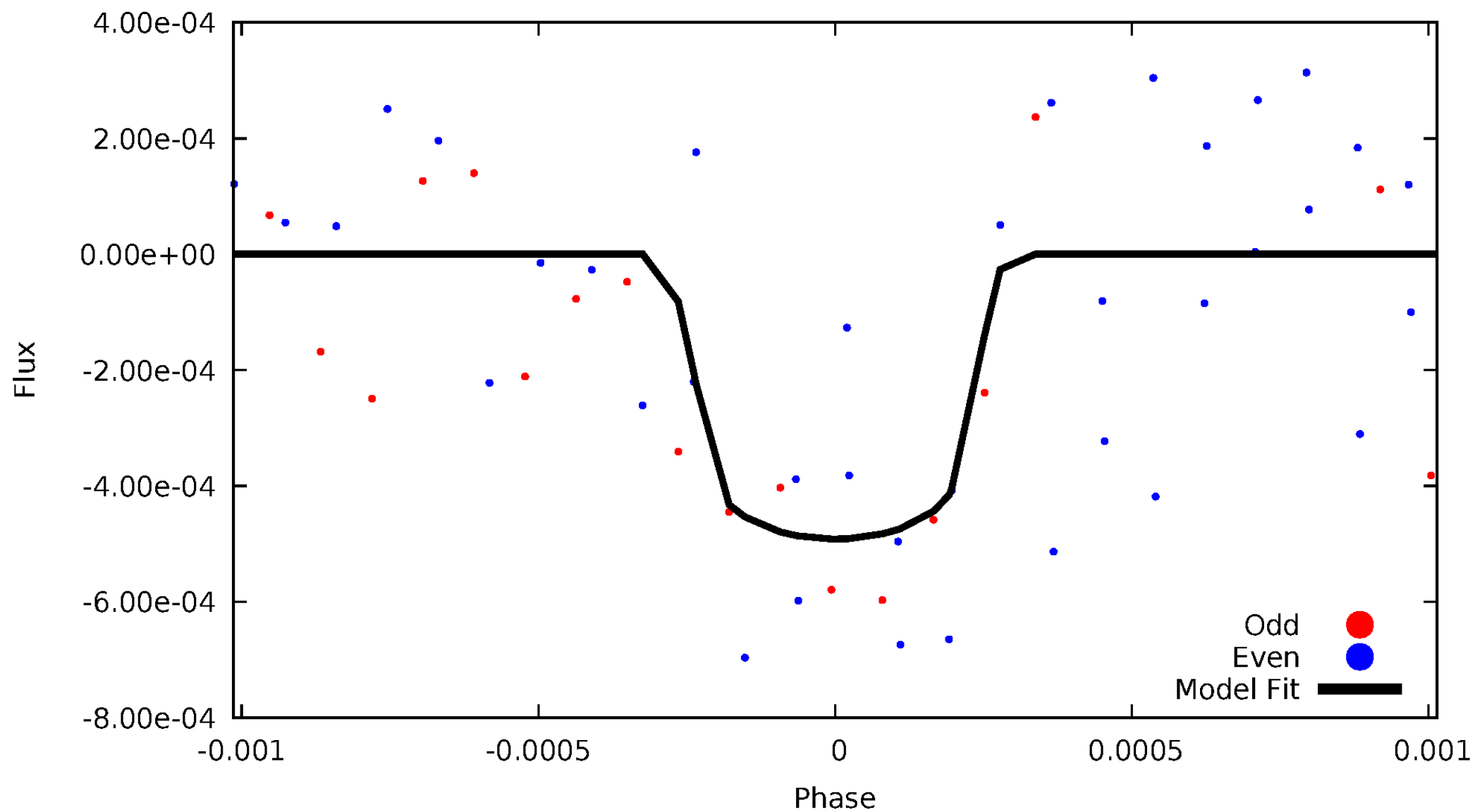


TCE 006284363-02



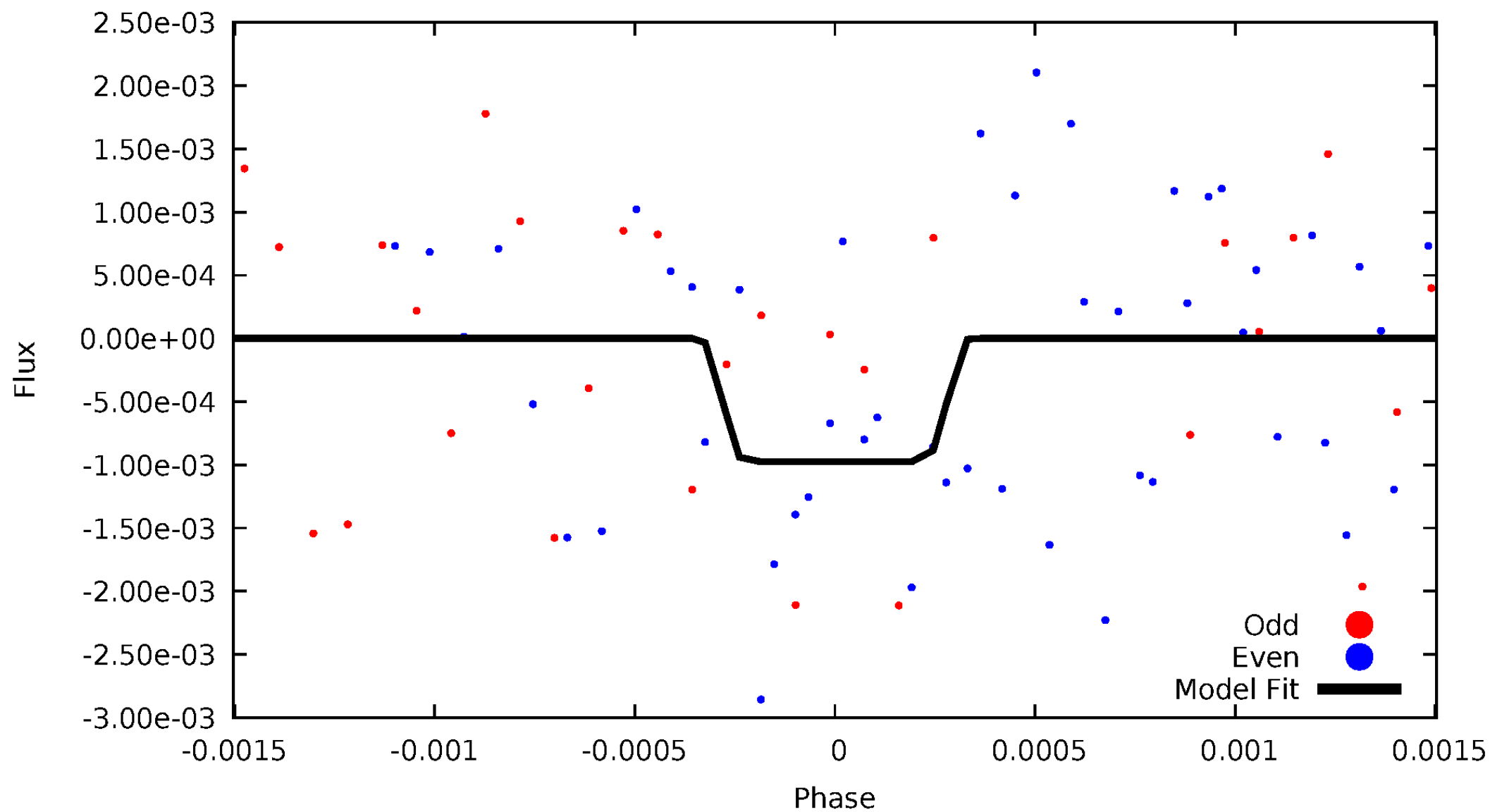
DV Odd/Even

TCE 006284363-02



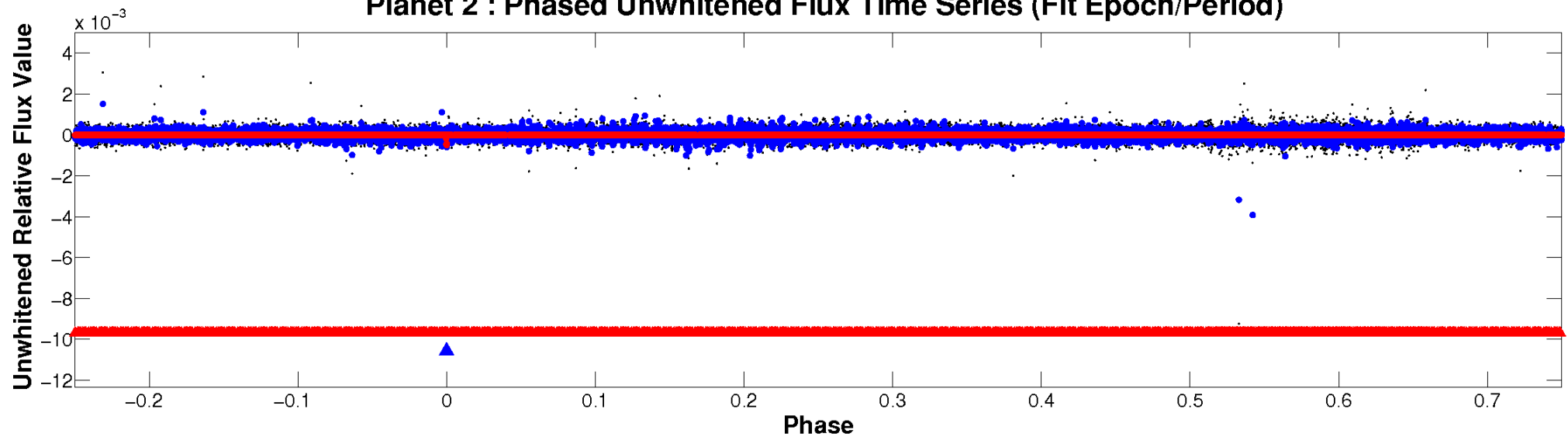
ALT Odd/Even

TCE 006284363-02

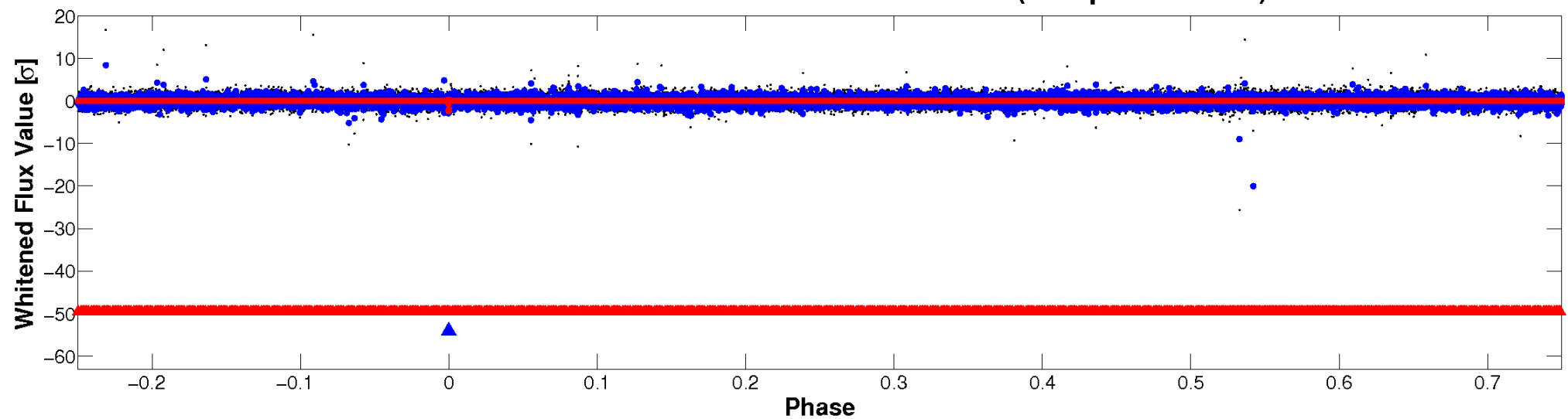


Non-Whitened Vs. Whitened Light Curve

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

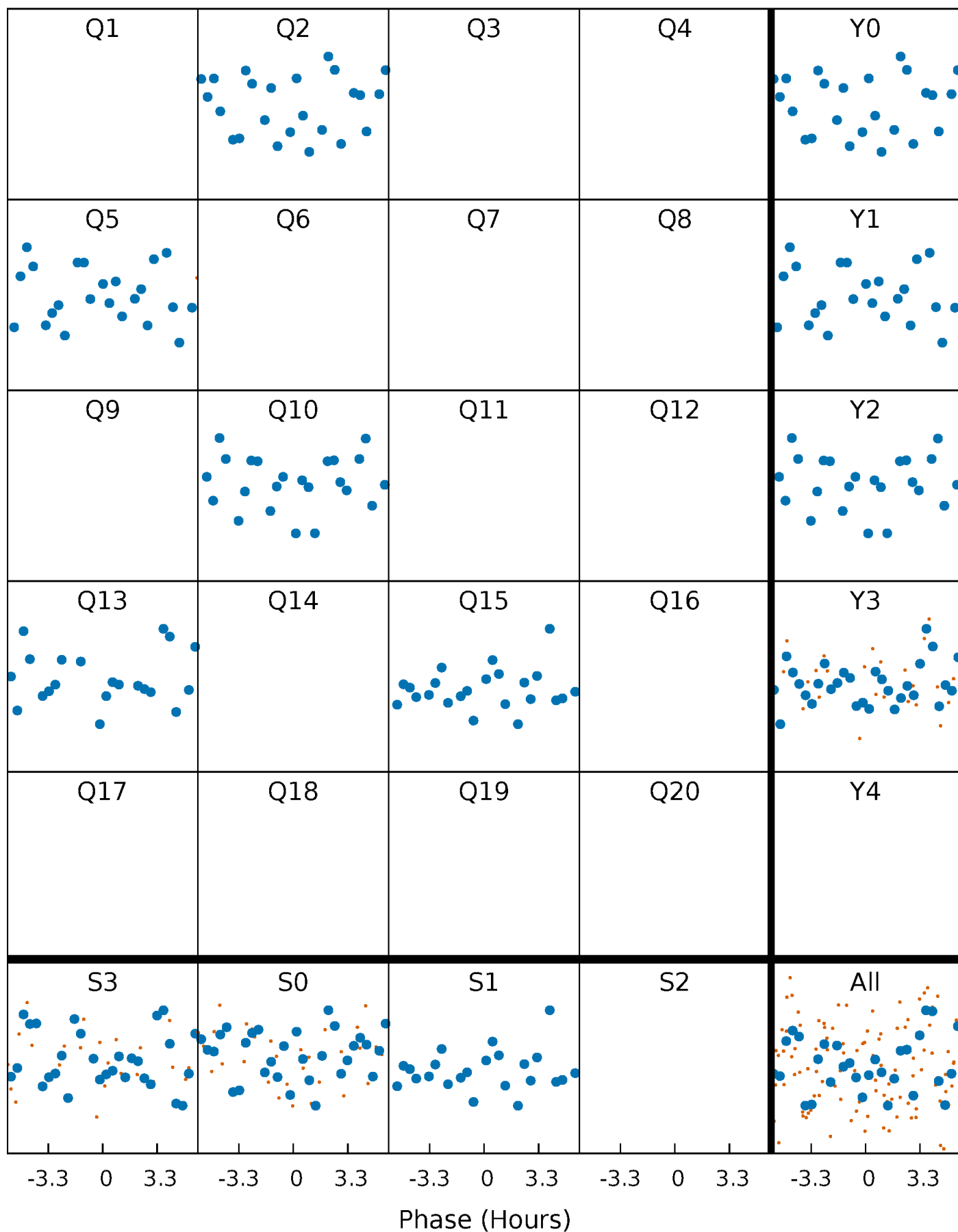


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



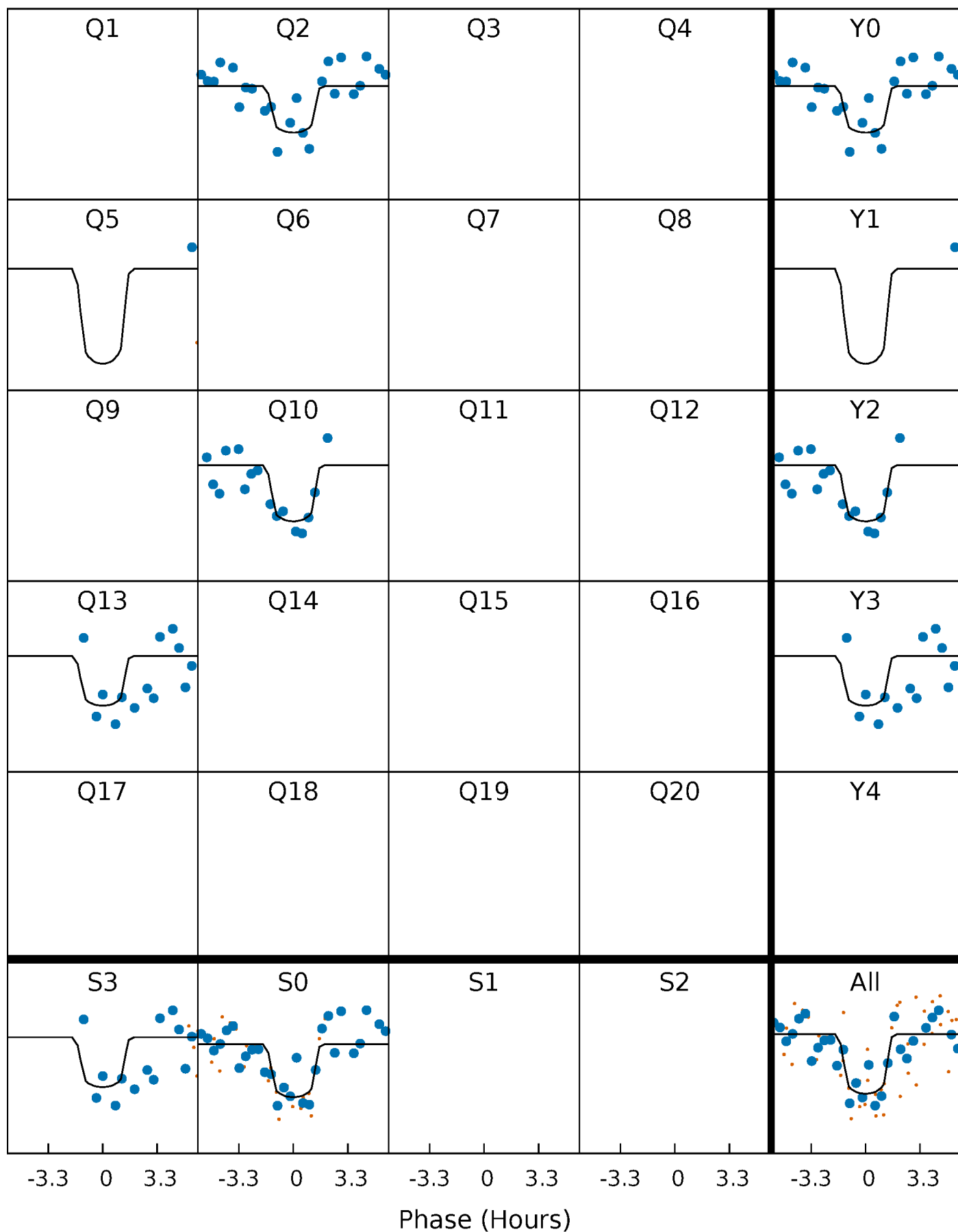
PDC Quarter-Phased Transit Curves

TCE 006284363-02 $P=237.406593$ Days $T_0=247.429137$ (BKJD)



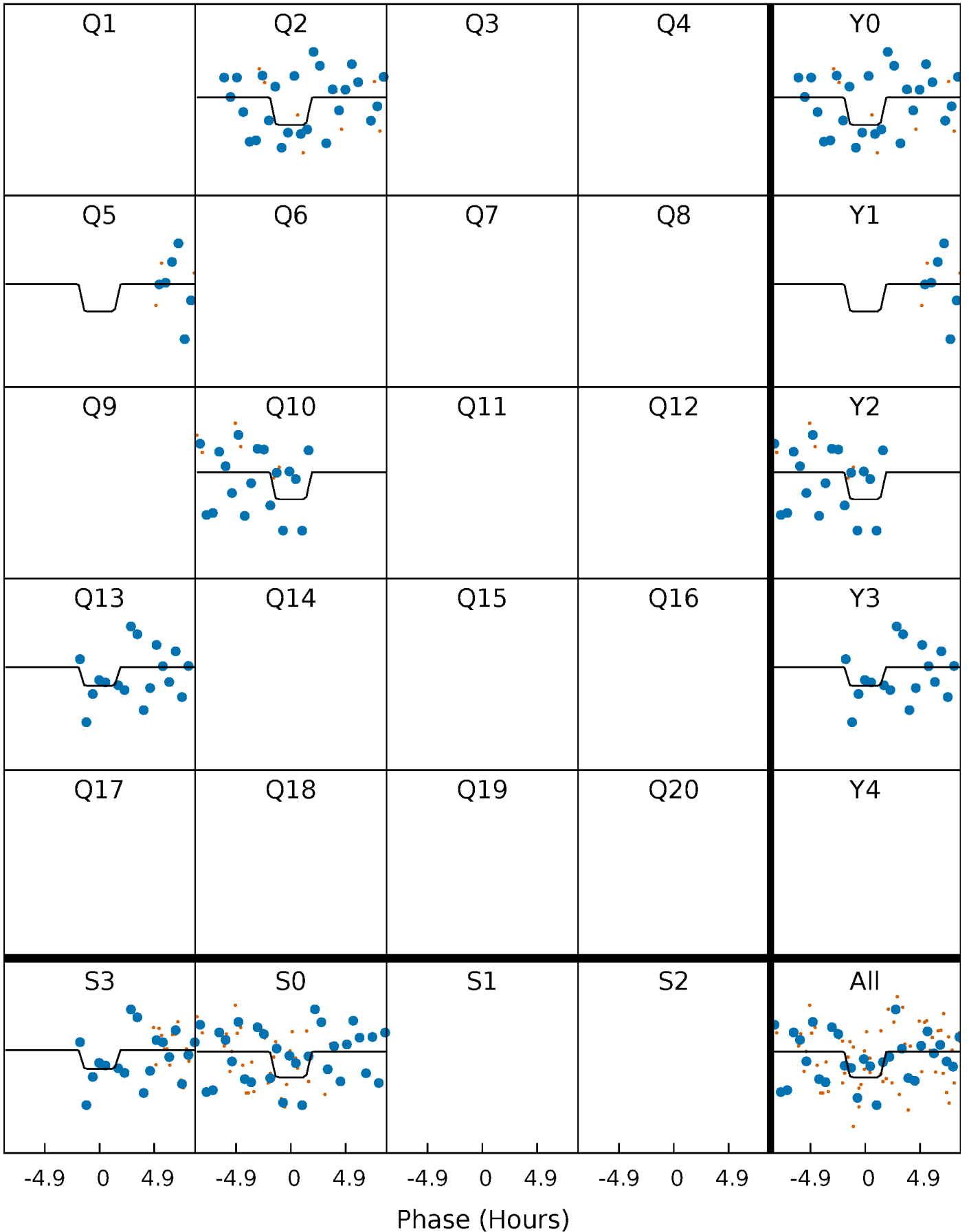
DV Quarter-Phased Transit Curves

TCE 006284363-02 P=237.406593 Days $T_0=247.429137$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

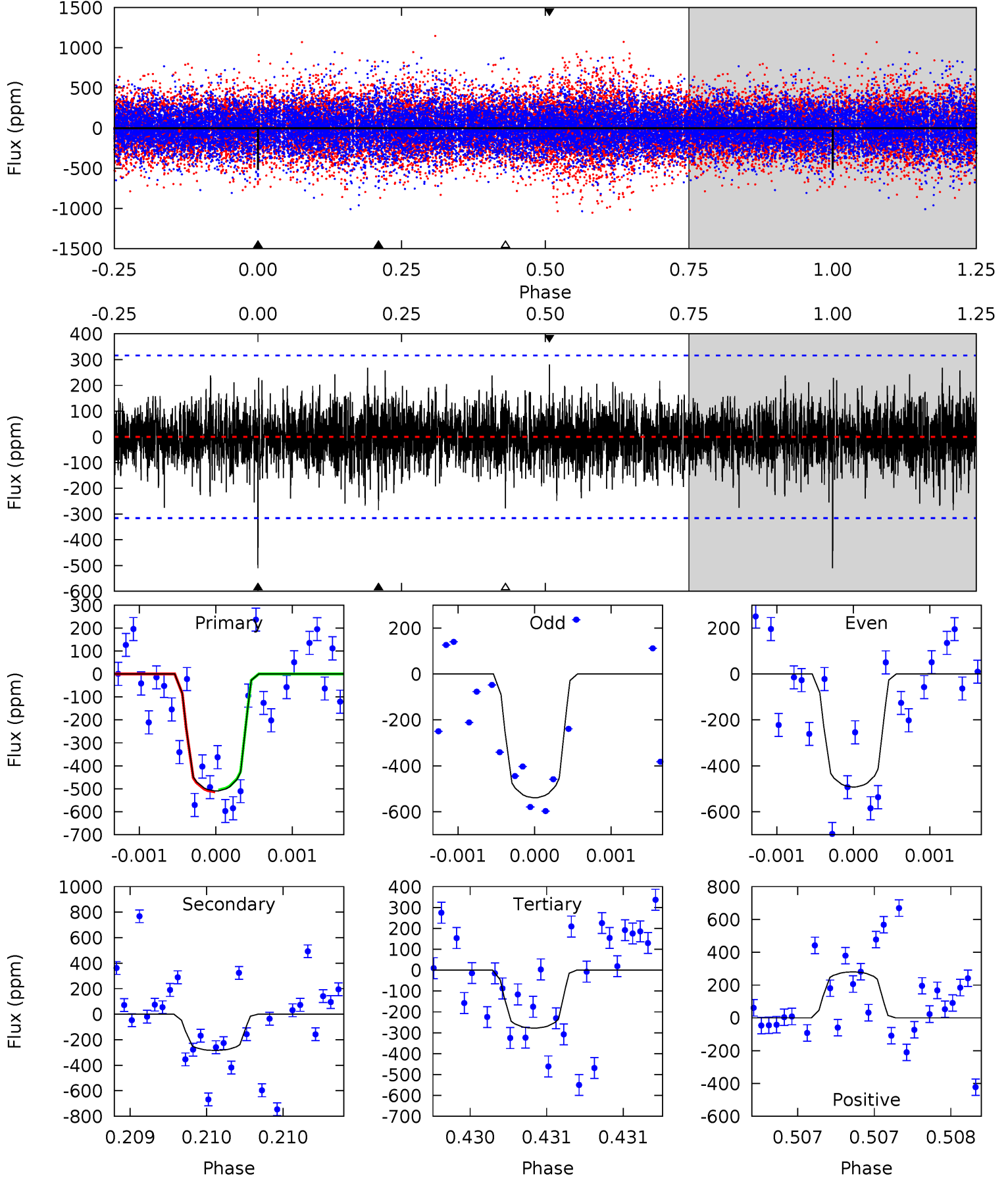
TCE 006284363-02 P=237.413871 Days $T_0=247.429117$ (BKJD)



DV Model-Shift Uniqueness Test

006284363-02, $P = 237.406593$ Days, $E = 10.022544$ Days

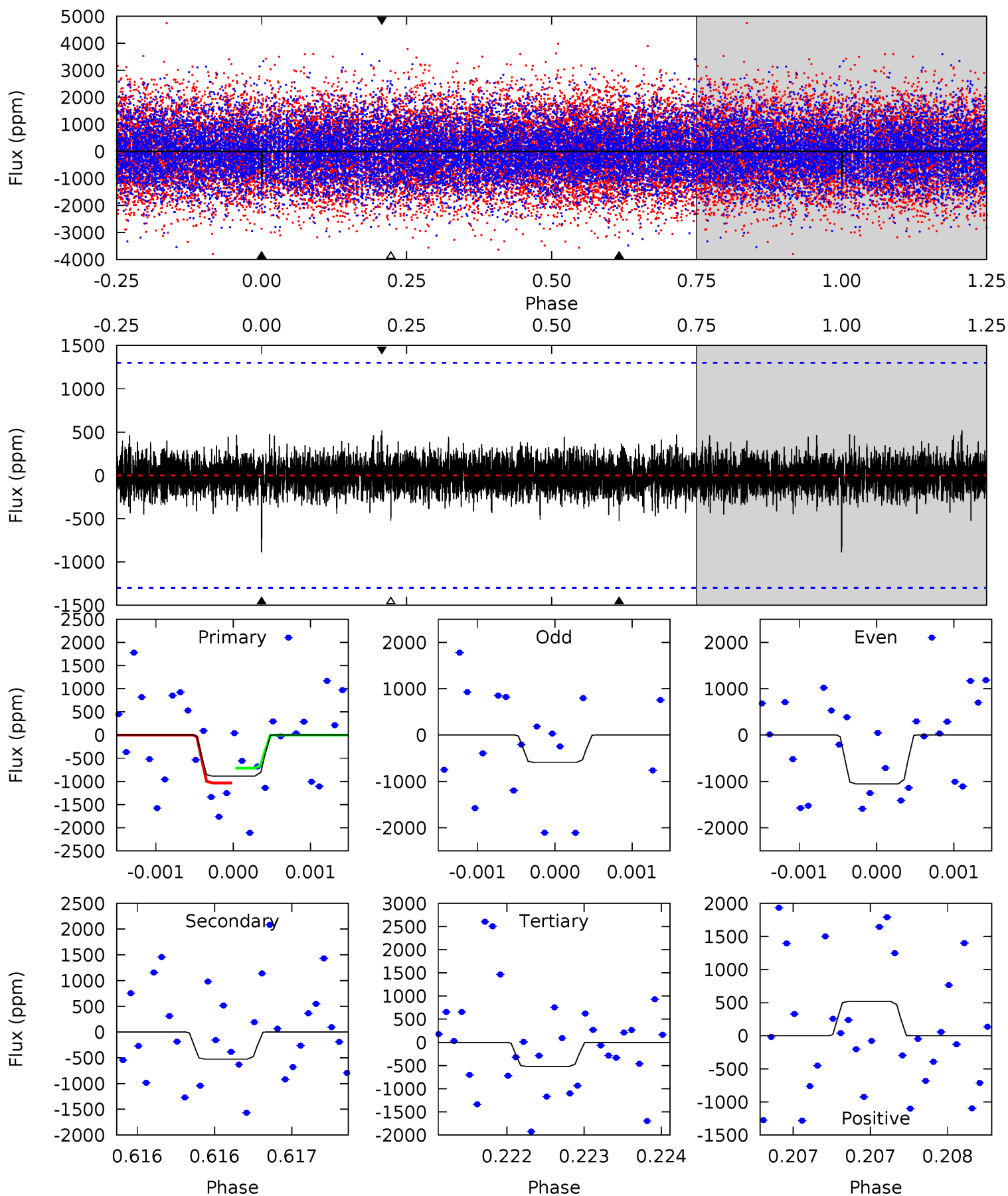
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.92	4.98	4.87	4.91	5.54	3.43	1.25	4.05	4.01	0.11	0.07	0.40	1.03	0.36	0.07



Alt Model-Shift Uniqueness Test

006284363-02, P = 237.413871 Days, E = 10.015246 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.77	2.23	2.21	2.20	5.52	3.39	0.57	1.56	1.57	0.02	0.03	0.95	1.11	0.37	0.68



Stellar Parameters For KIC 006284363

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8749^{+239}_{-410}	$4.119^{+0.126}_{-0.168}$	$0.070^{+0.250}_{-0.550}$	$2.064^{+0.569}_{-0.466}$	$2.041^{+0.368}_{-0.450}$	$0.327^{+0.224}_{-0.155}$
	+3%/-5%	+3%/-4%	+357%/-786%	+28%/-23%	+18%/-22%	+68%/-47%
Source	KIC0	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 006284363-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-284 ± 57	$7.02^{+6.20}_{-4.51}$	797^{+52}_{-54}	6136^{+5773}_{-1512}	2843^{+19965}_{-2075}
Alt.	-525 ± 236	$8.29^{+6.58}_{-5.10}$	797^{+55}_{-54}	6451^{+5701}_{-1638}	3382^{+20158}_{-2482}

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

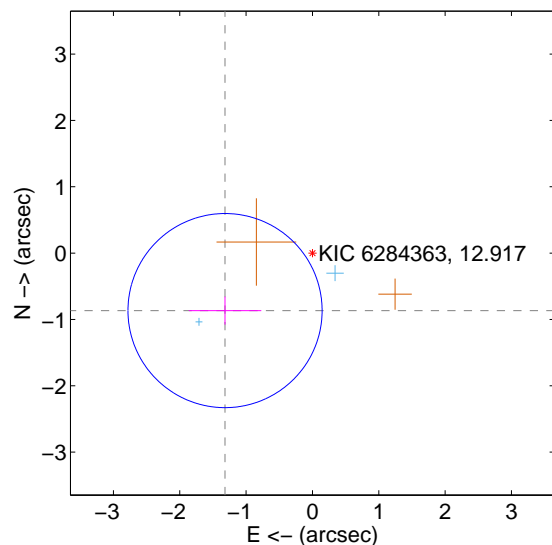
Supplemental centroid analysis for 006284363-02. Kepler magnitude: 12.92. Transit SNR 8.41

There are 2 quarters with good PRF difference image offsets

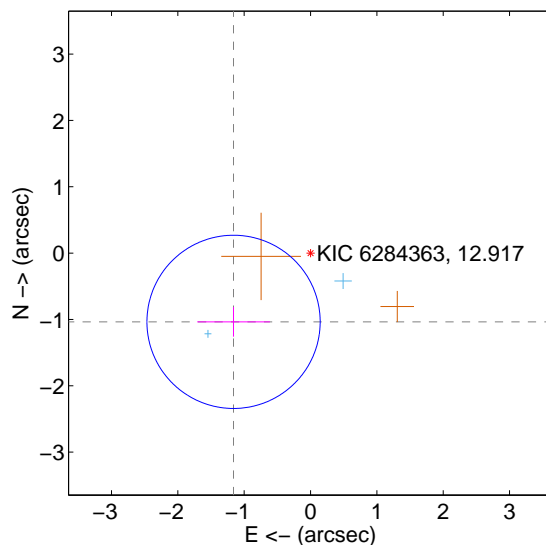
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.577 ± 0.488	3.23	1.317 ± 0.547	-0.867 ± 0.211
PRF-fit source offset from KIC position	1.555 ± 0.435	3.57	1.160 ± 0.548	-1.036 ± 0.223
photometric centroid source offset	0.57 ± 0.62	0.92	0.14 ± 0.61	0.55 ± 0.62

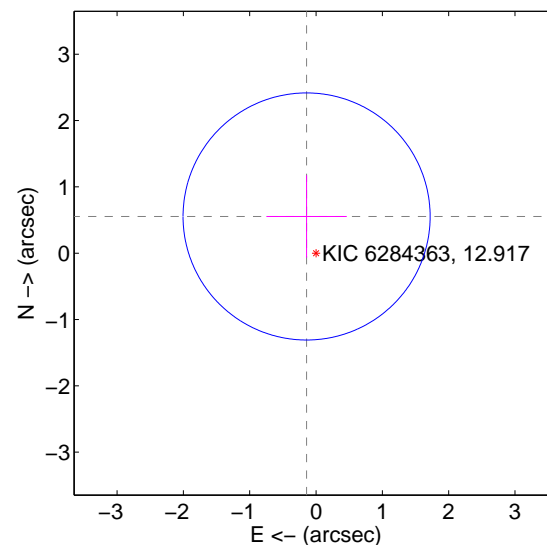
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



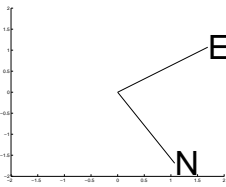
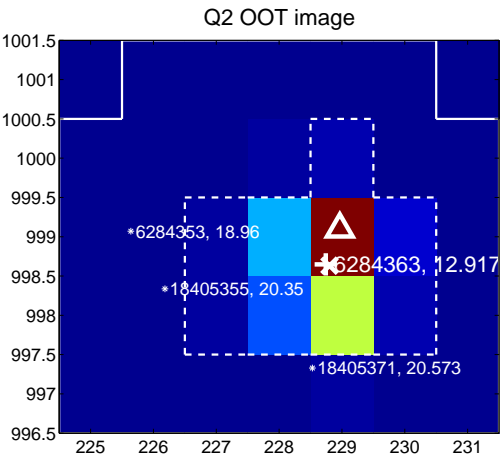
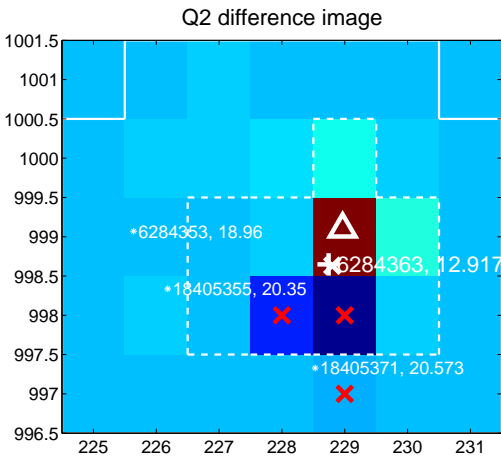
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

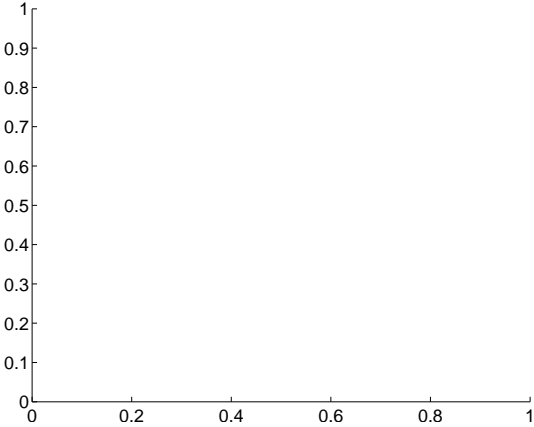
Q1 no difference image



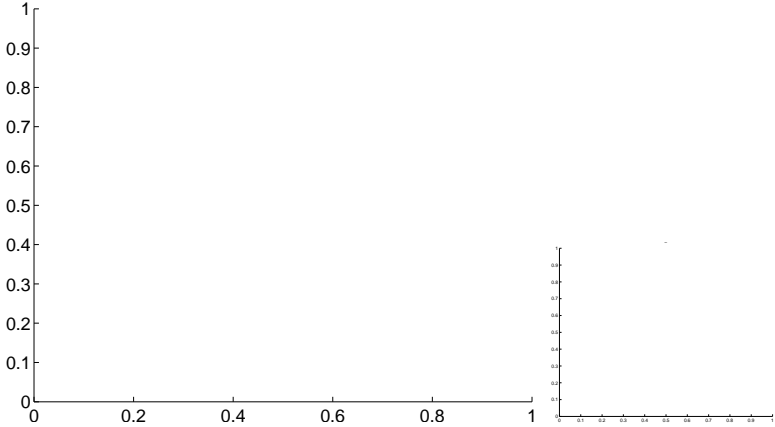
Q1 no OOT image



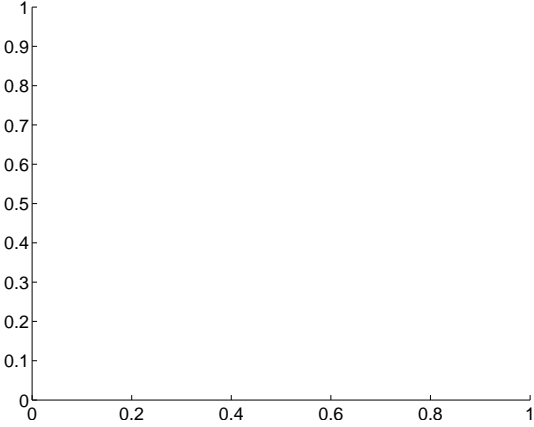
Q3 no difference image



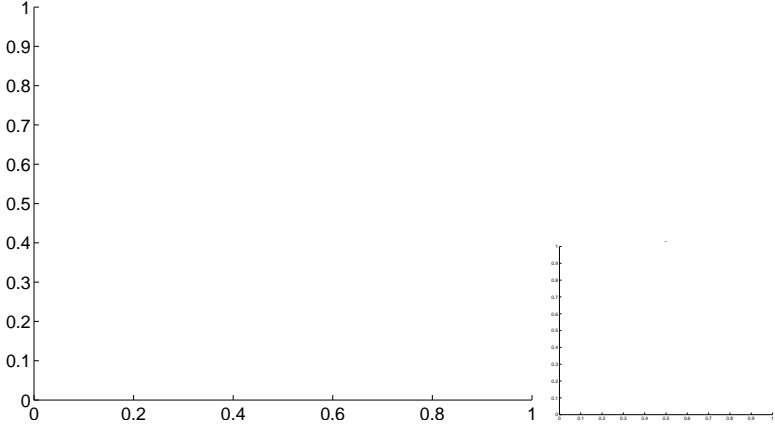
Q3 no OOT image



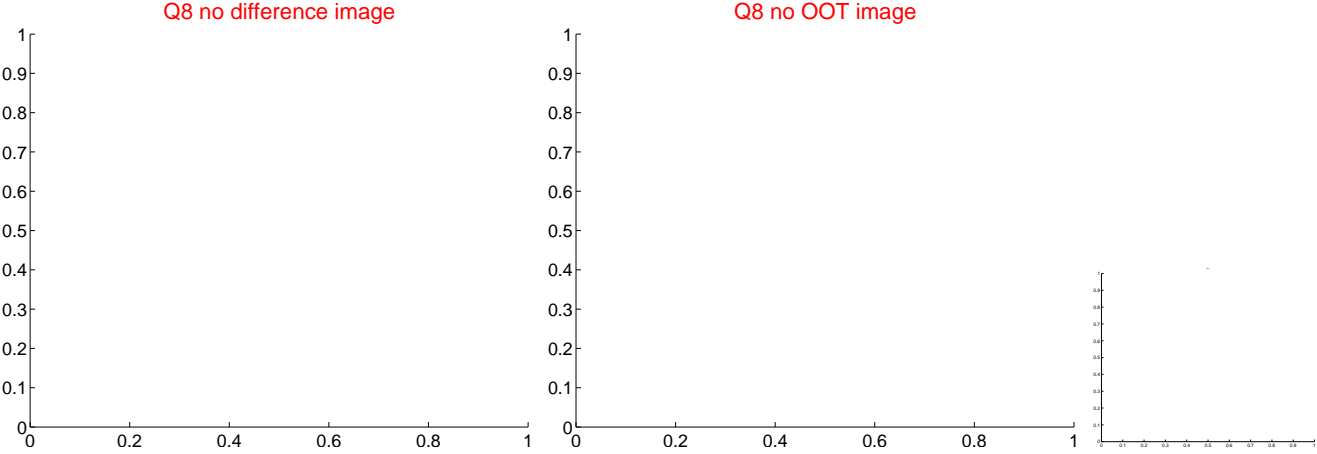
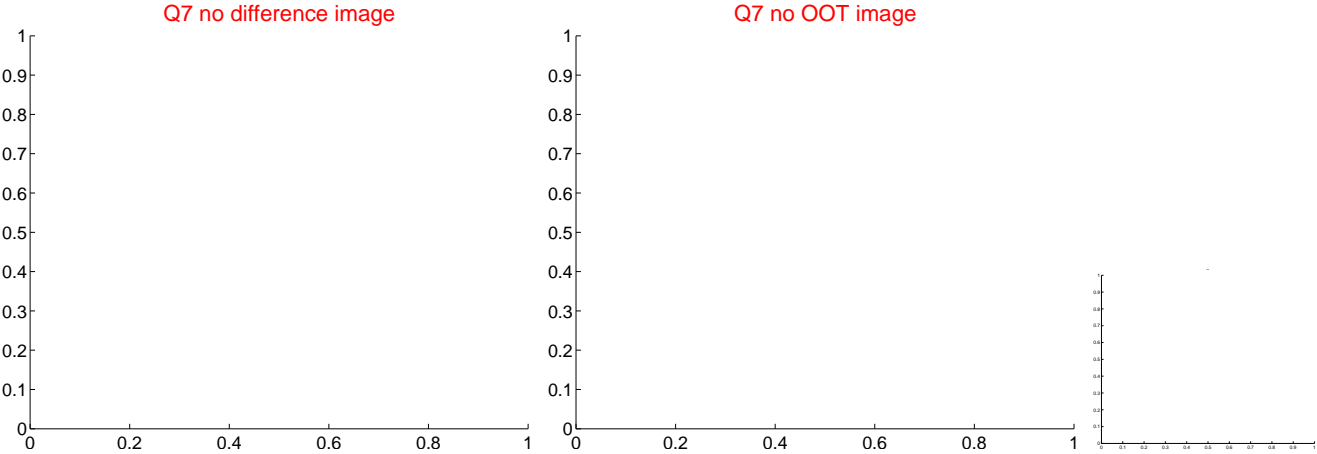
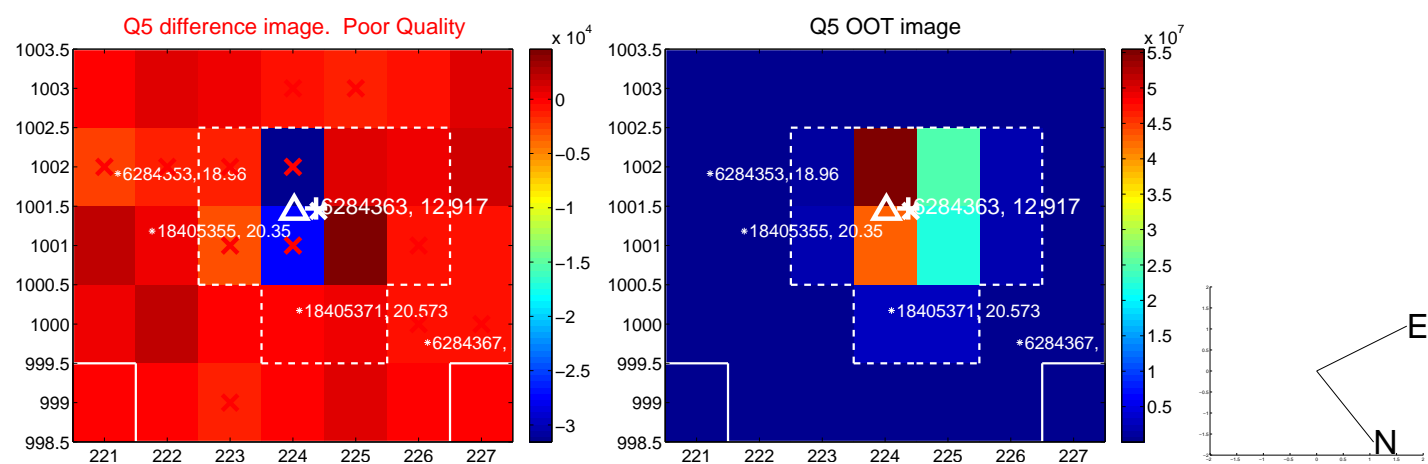
Q4 no difference image



Q4 no OOT image



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

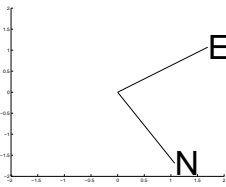
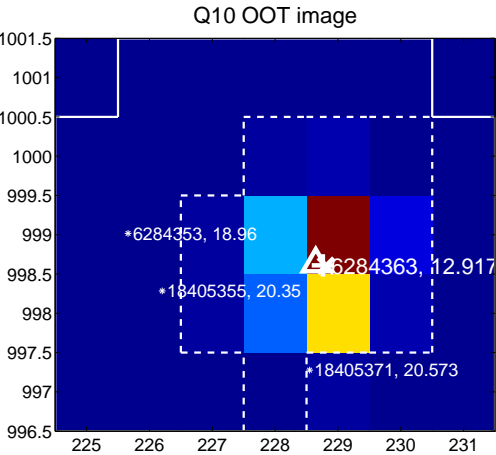
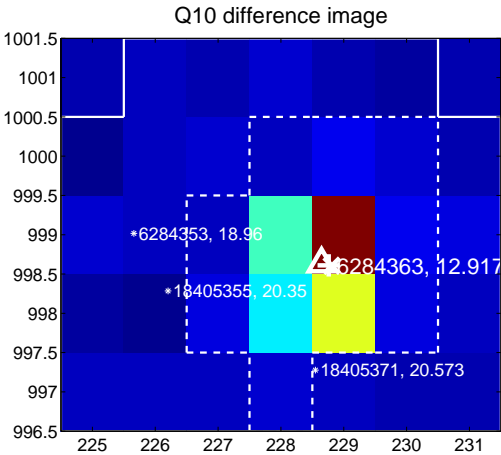


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

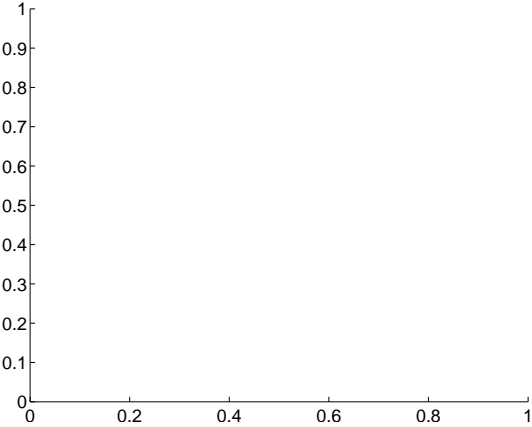
Q9 no difference image



Q9 no OOT image



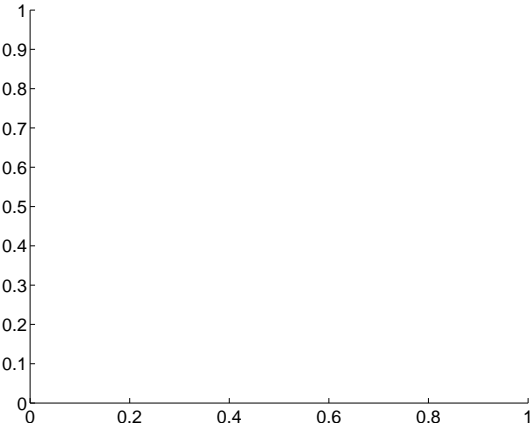
Q11 no difference image



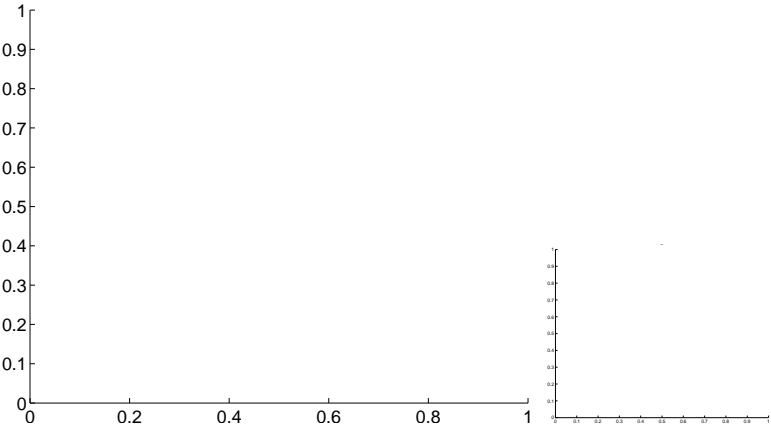
Q11 no OOT image



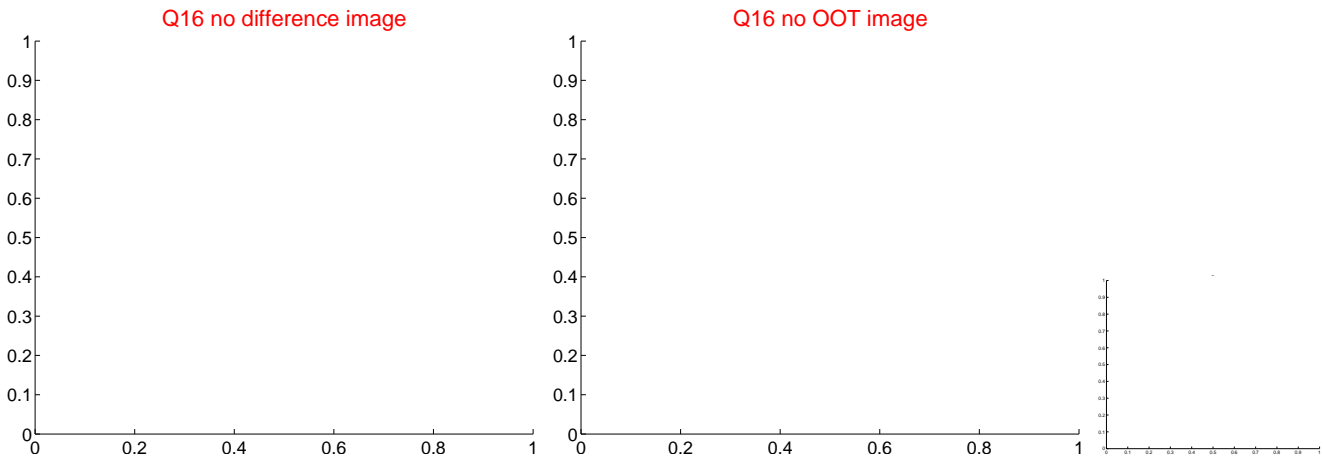
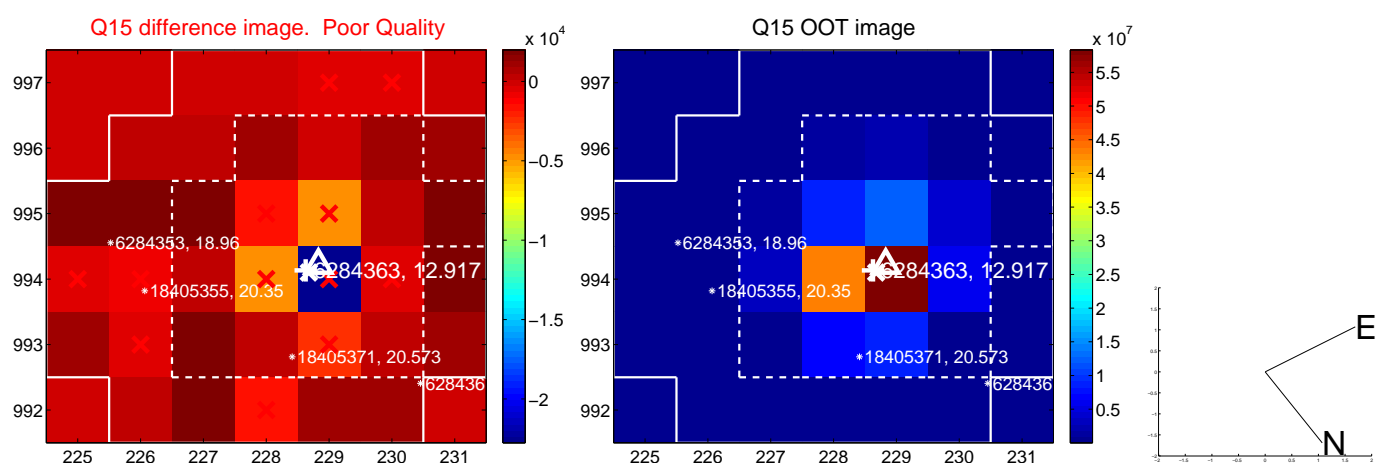
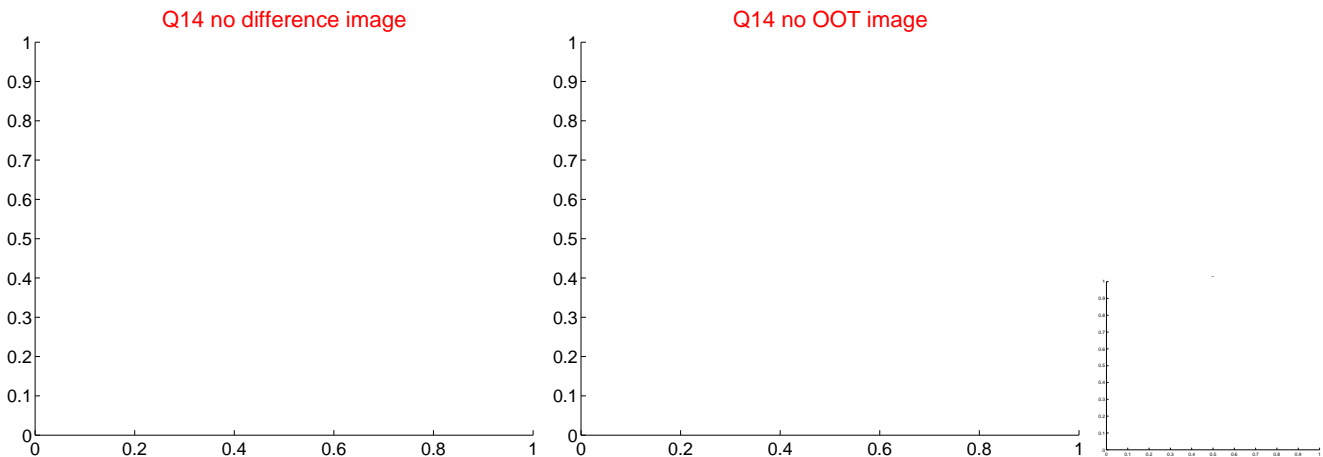
Q12 no difference image



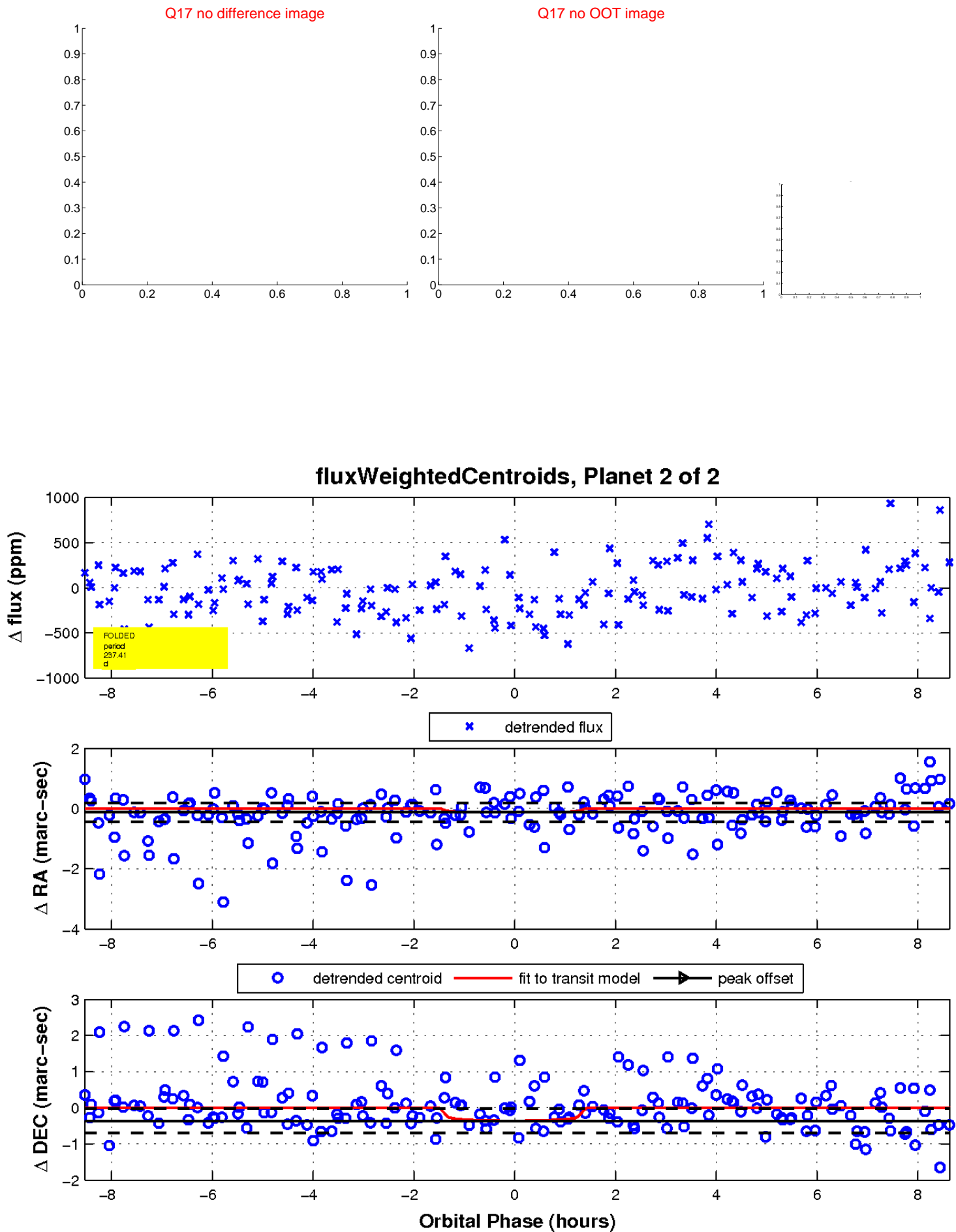
Q12 no OOT image



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

