

KIC 007032117

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})
007032117-01	OBS	6809.01	0.566774	131.842821	45.3	3.498	12.4	11.8	0.65	4987	0.45	1781.38
007032117-02	OBS	No	41.550867	173.040705	445.4	2.081	8.8	5.3	0.65	4987	1.62	5.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007032117-01	OBS	FP	0.00	1	0	0	1	LPP_DV—EPHEM_MATCH
007032117-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—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.

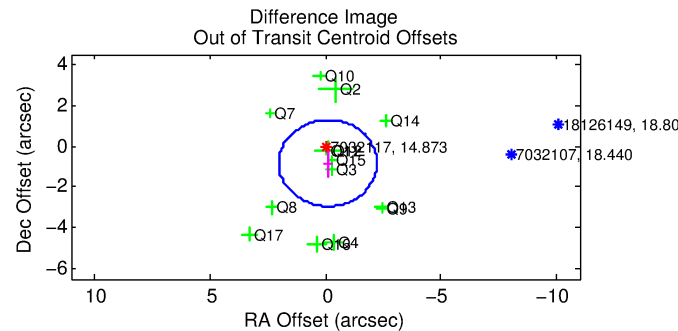
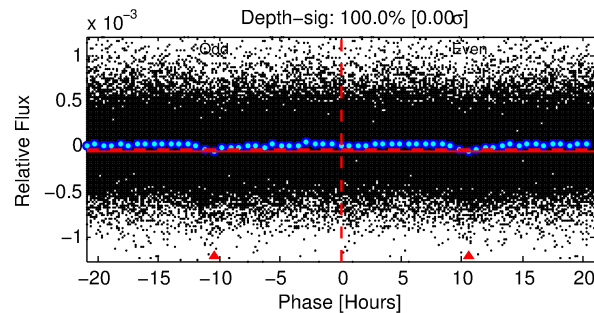
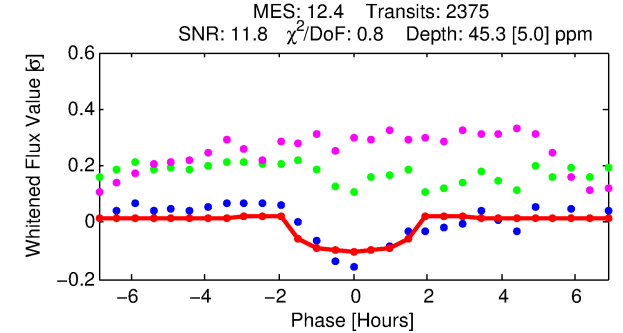
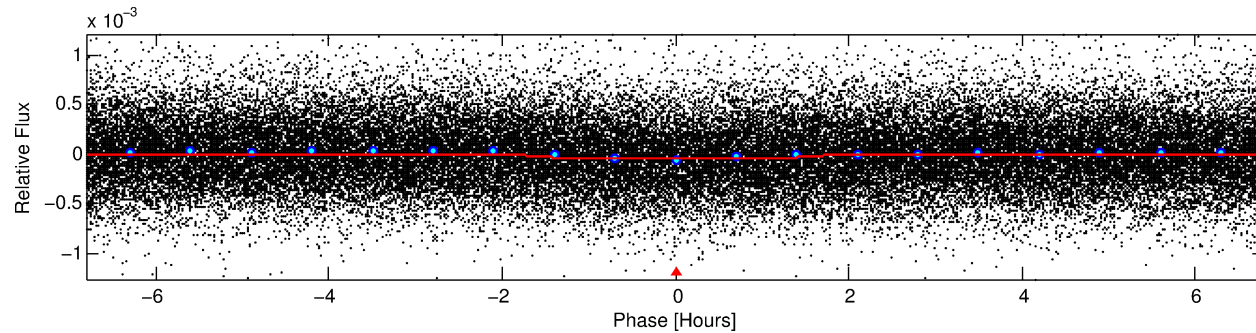
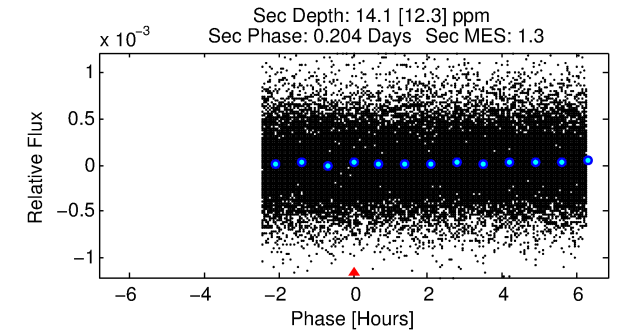
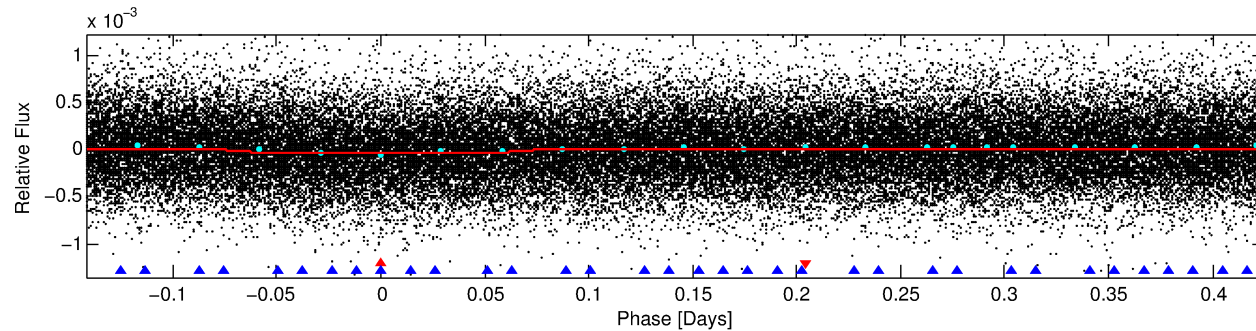
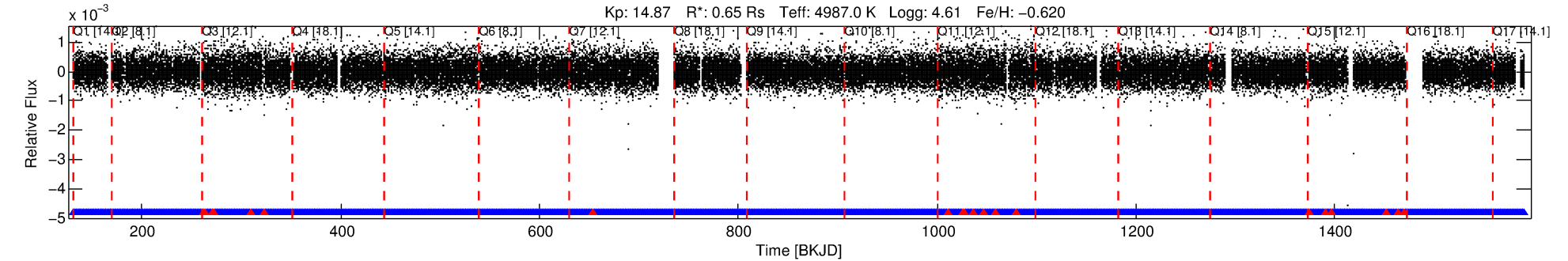
Ephemeris Match Information For 007032117-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007032117-01	7032117	RR-Lyr-pri	7198959	1:1	854.6	162	-141	7.86	14.87	13851.00	Direct-PRF	0	4.87	17.29

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: 7032117 Candidate: 1 of 2 Period: 0.567 d
KOI: K06809.01 Corr: 0.827



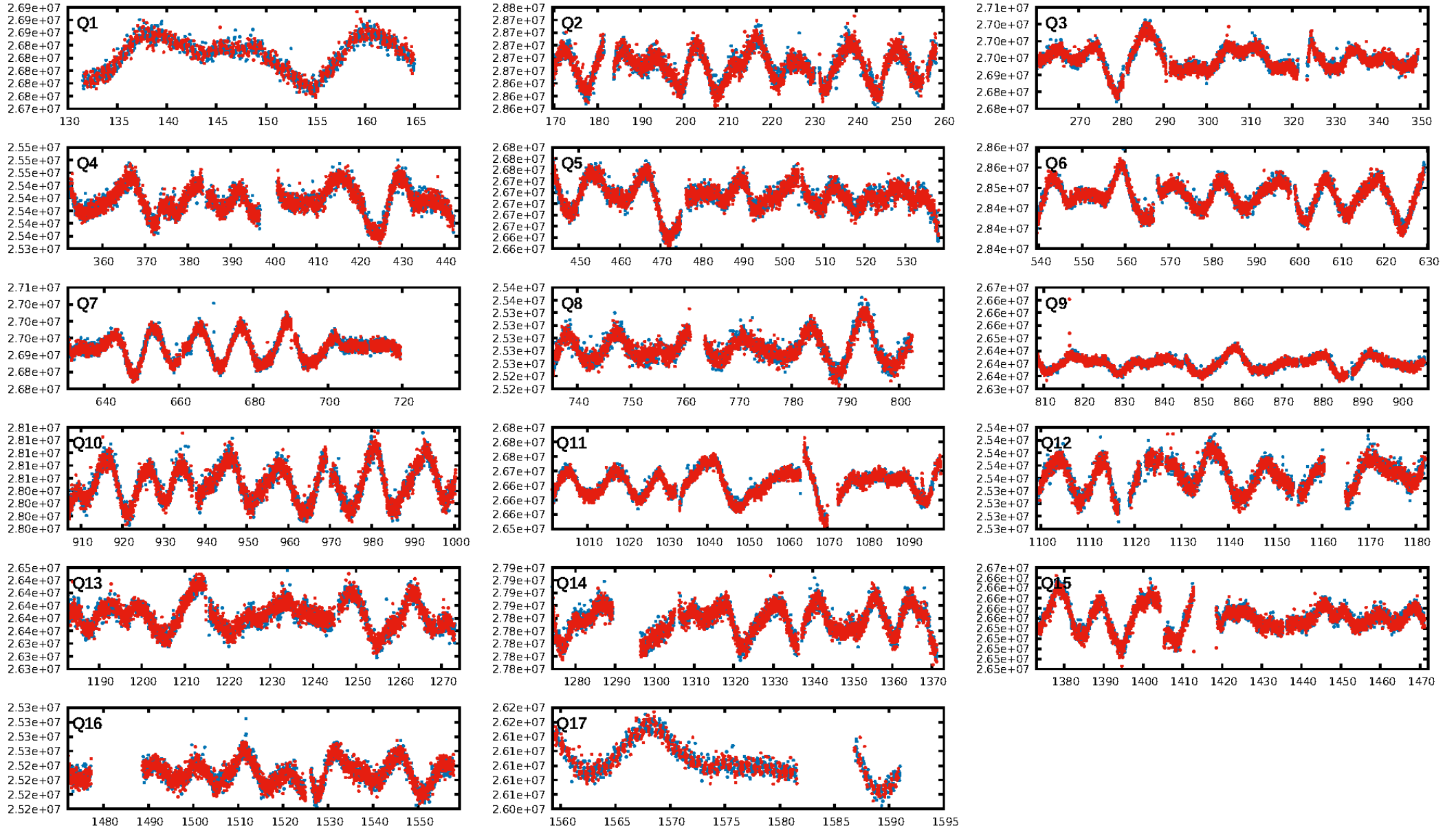
DV Fit Results:

Period = 0.56677 [0.00001] d
Epoch = 131.8428 [0.0030] BKJD
Rp/R* = 0.0064 [0.0043]
a/R* = 1.27 [1.21]
b = 0.59 [2.84]
Seff = 1781.38 [305.93]
Teff = 1657 [71] K
Rp = 0.45 [0.31] Re
a = 0.0115 [0.0010] AU
Ag = 5.00 [8.02] [0.50σ]
Teffp = 3830 [1537] K [1.41σ]




DV Diagnostic Results:

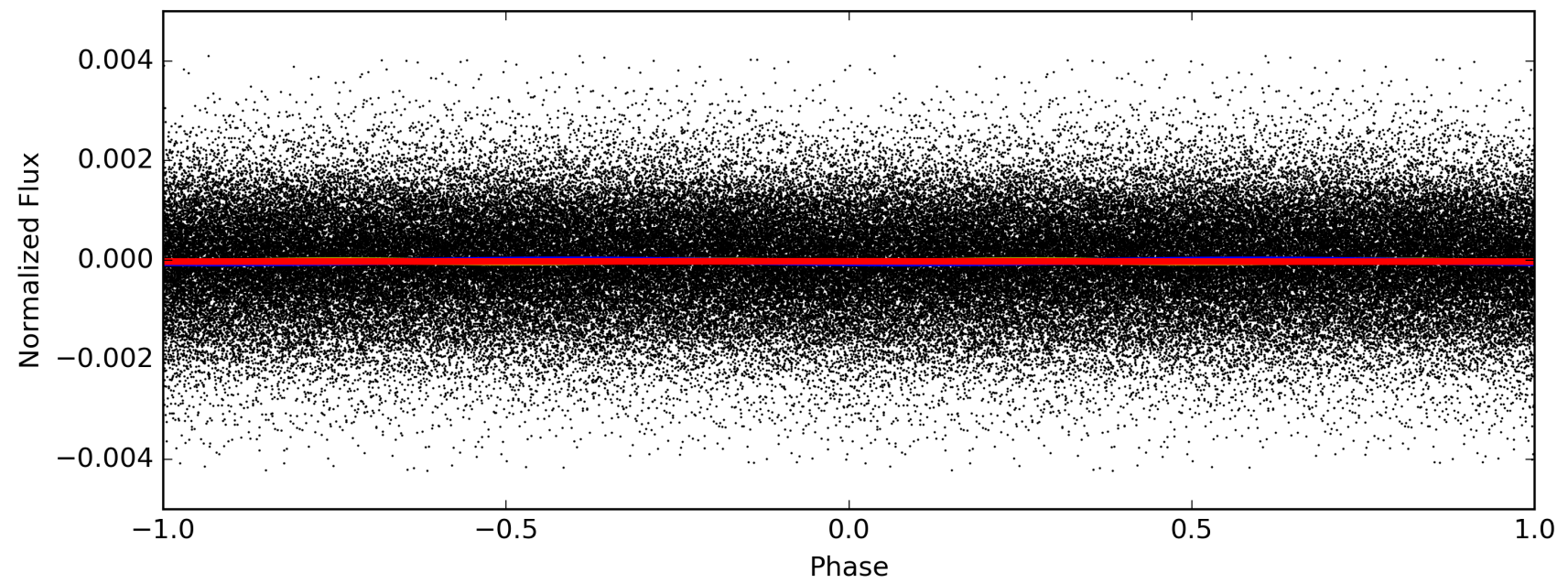
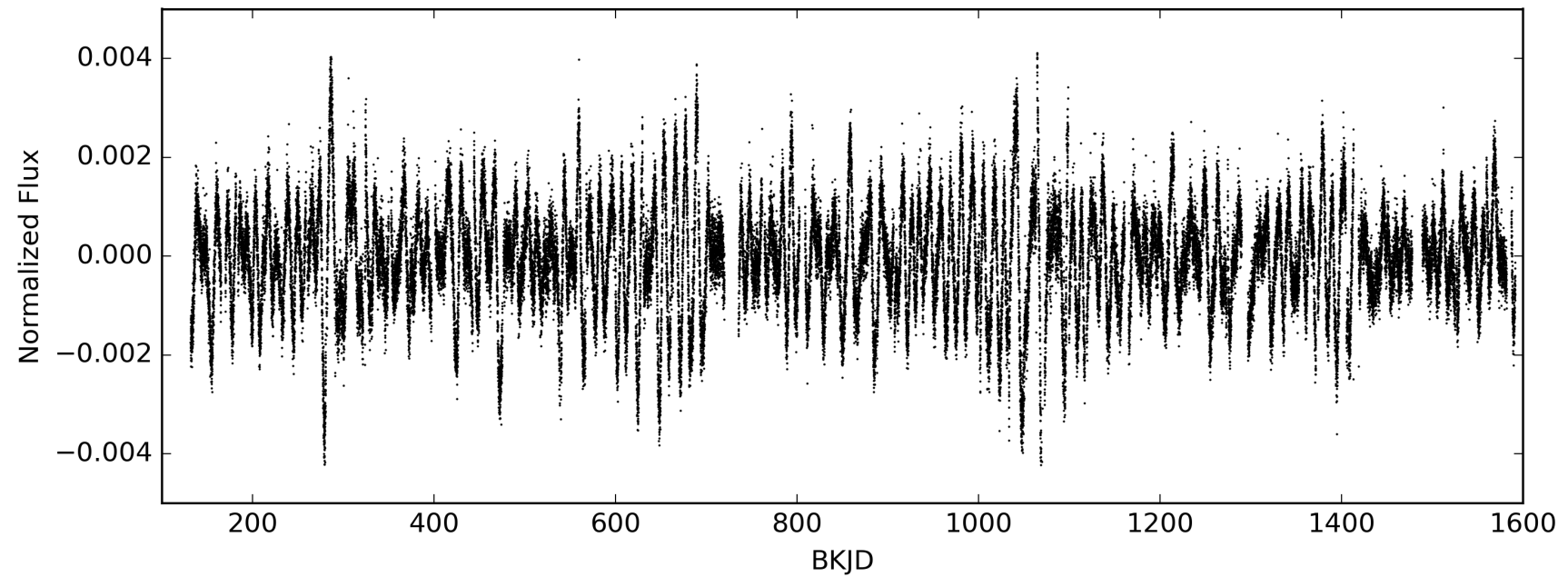
ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [241.69σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.85e-25
RollingBand-fgt: 0.99 [2248/2268]
GhostDiagnostic-chr: 0.2902
Centroid-sig: 0.0%
Centroid-so: 2.016 arcsec [2.27σ]
OotOffset-rm: 0.835 arcsec [1.18σ]
KicOffset-rm: 0.814 arcsec [1.15σ]
OotOffset-st: 3/4/4/3 [14]
KicOffset-st: 3/4/4/3 [14]
DiffImageQuality-fgm: 0.36 [5/14]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007032117-01, PDC Light Curves



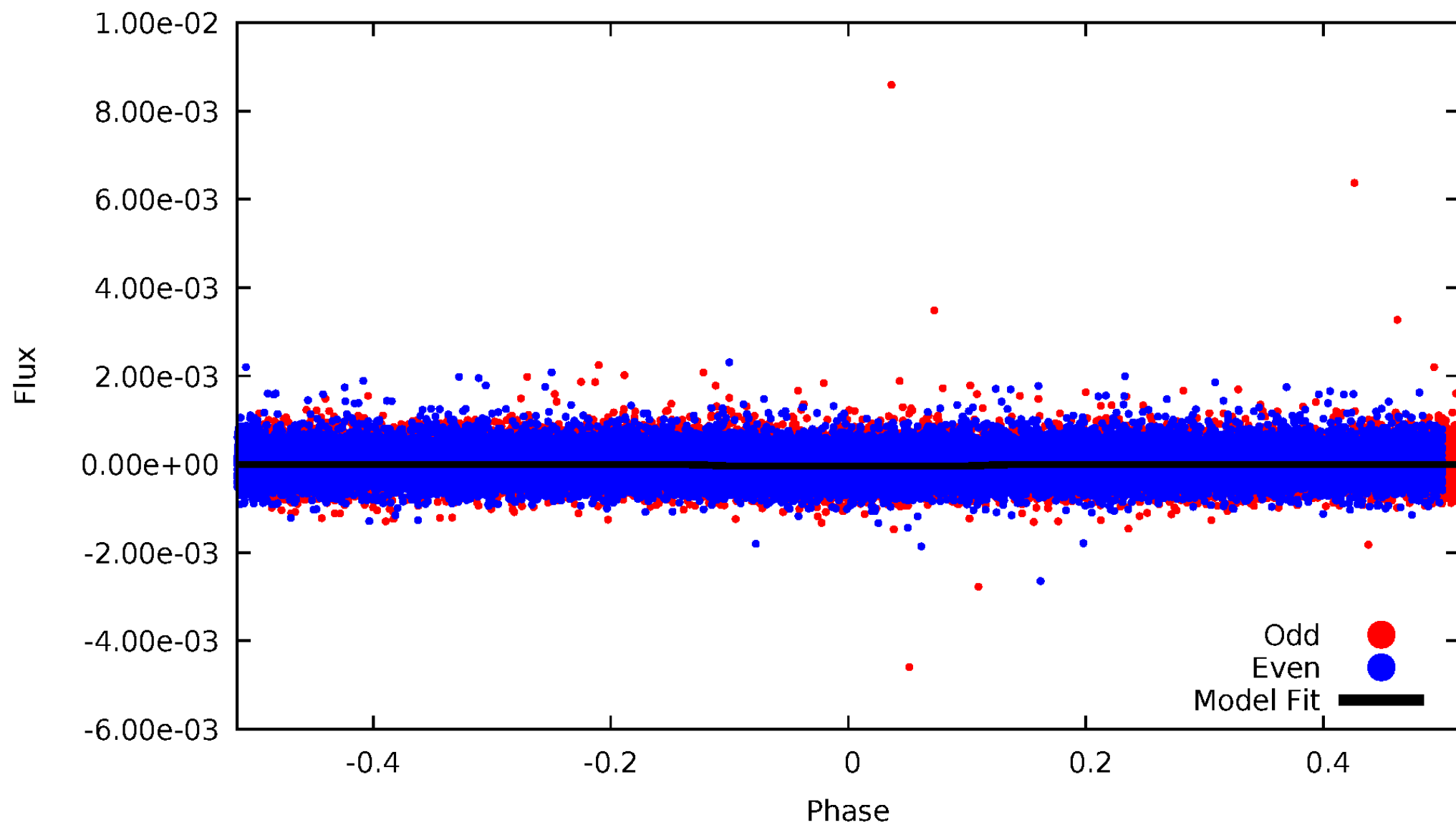
TCE 007032117-01

 P = 0.283 days  P = 0.567 days  P = 1.134 days



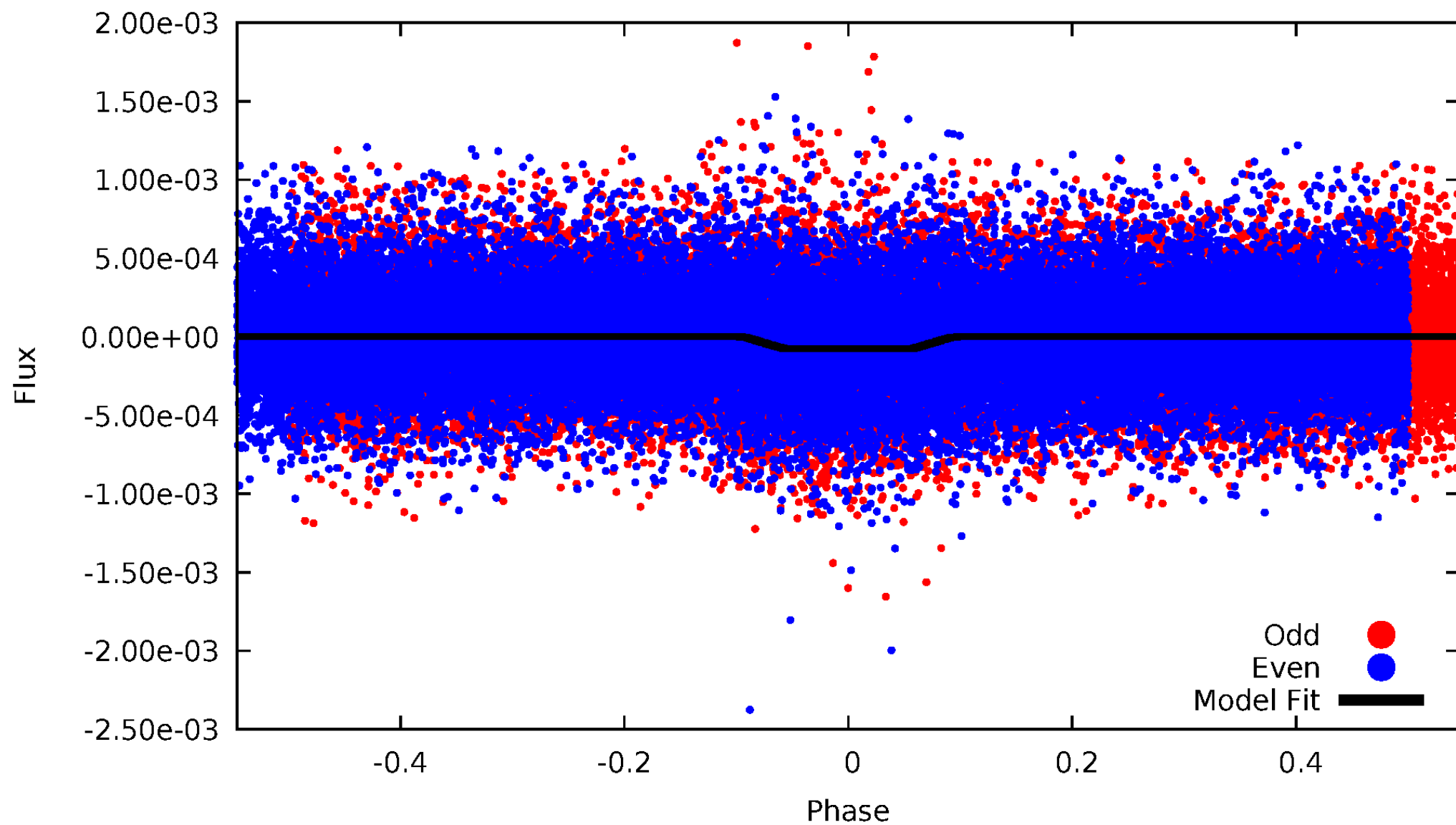
DV Odd/Even

TCE 007032117-01



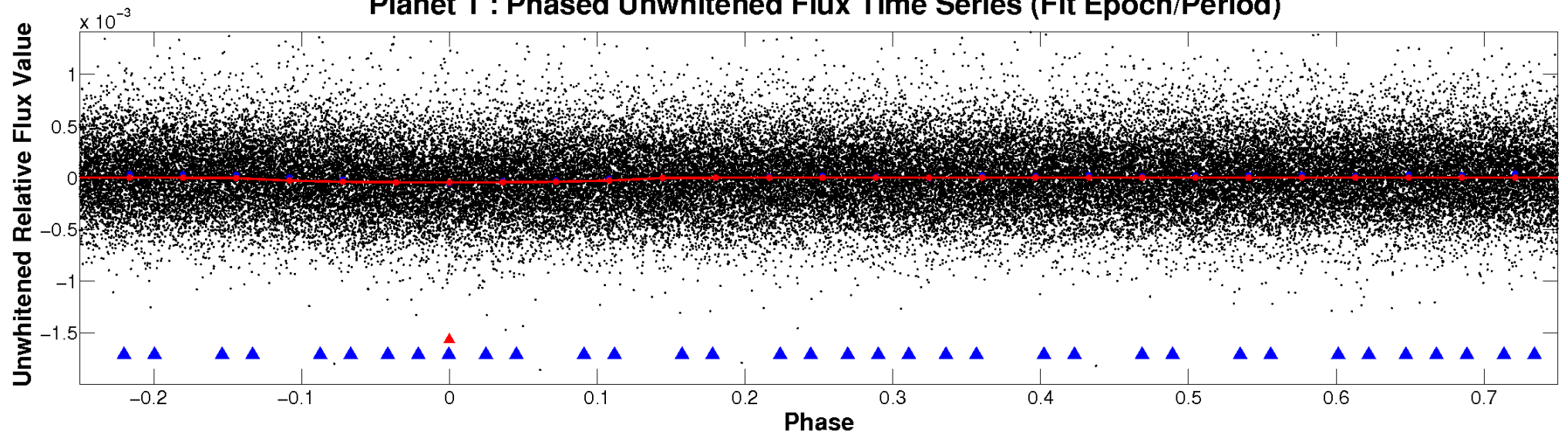
ALT Odd/Even

TCE 007032117-01

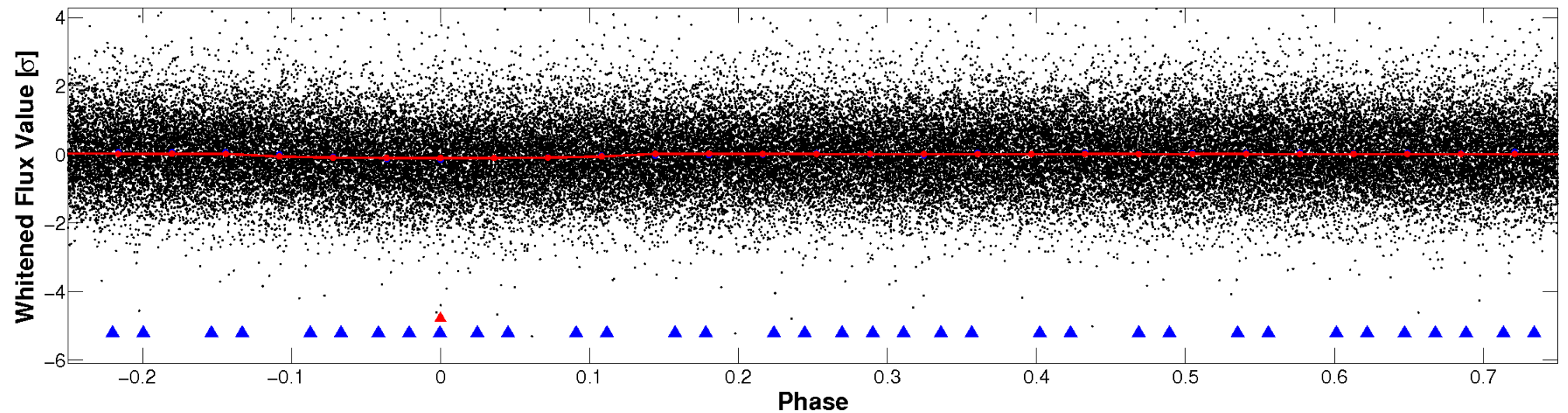


Non-Whitened Vs. Whitened Light Curve

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

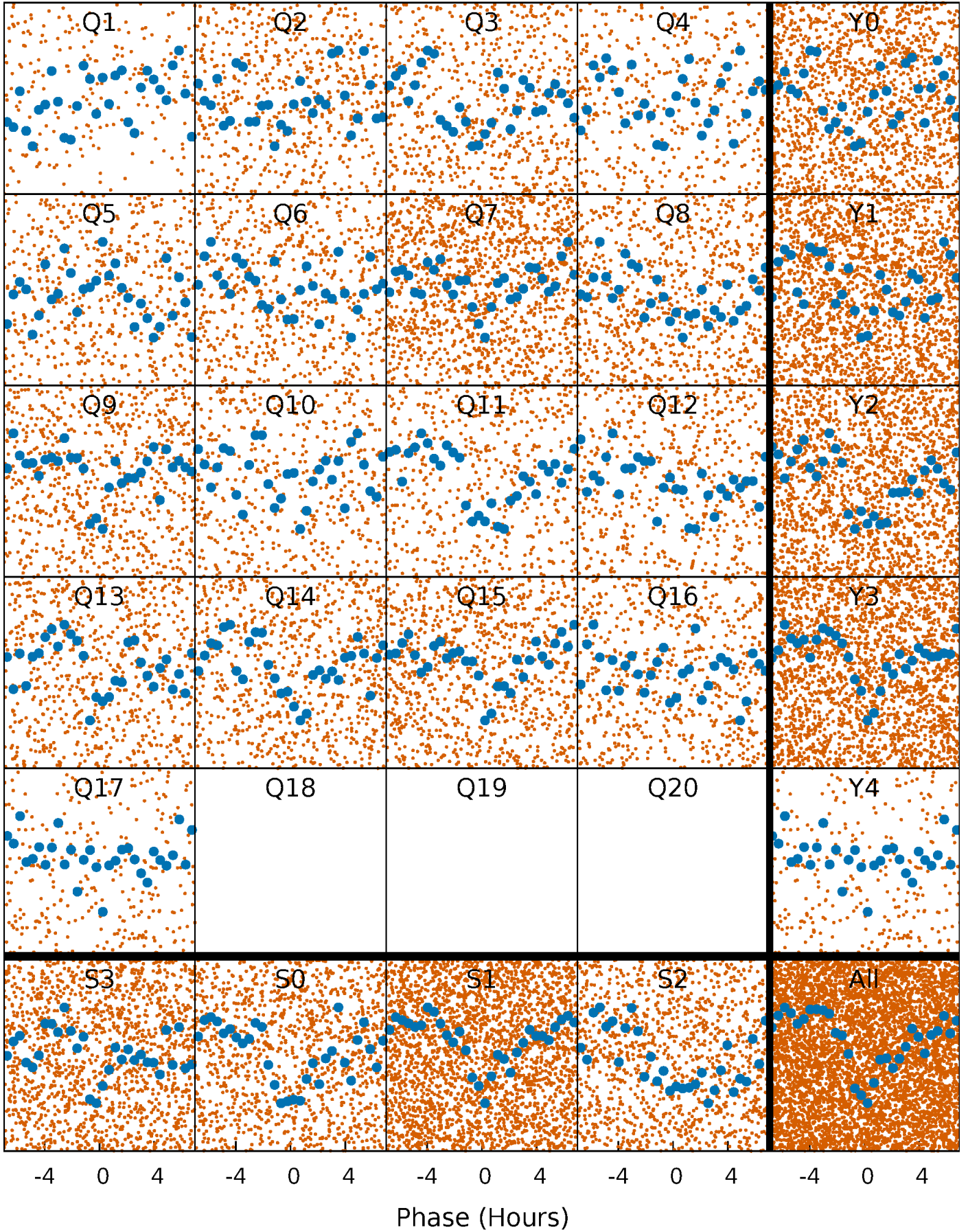


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



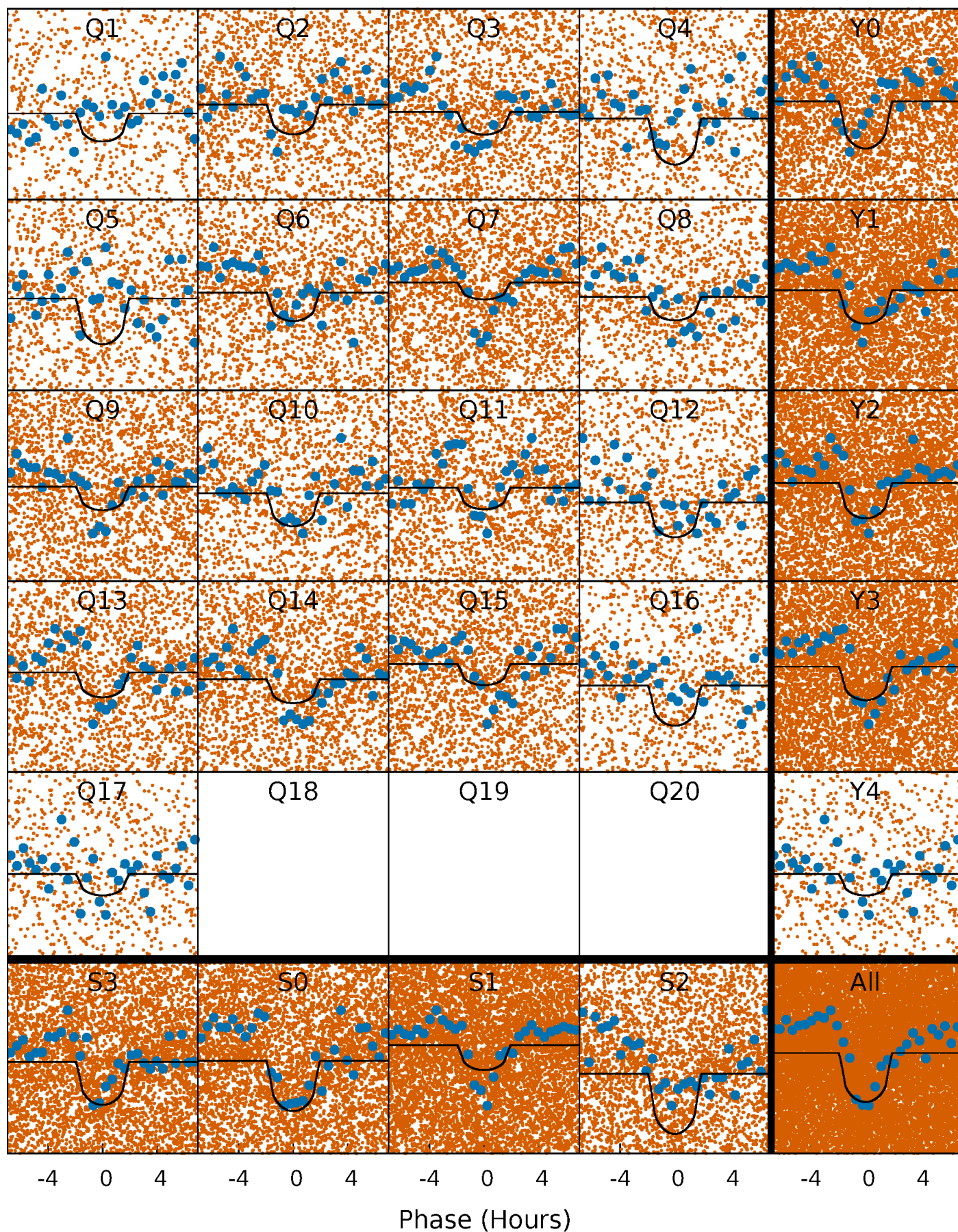
PDC Quarter-Phased Transit Curves

TCE 007032117-01 P= 0.566774 Days $T_0=131.842821$ (BKJD)



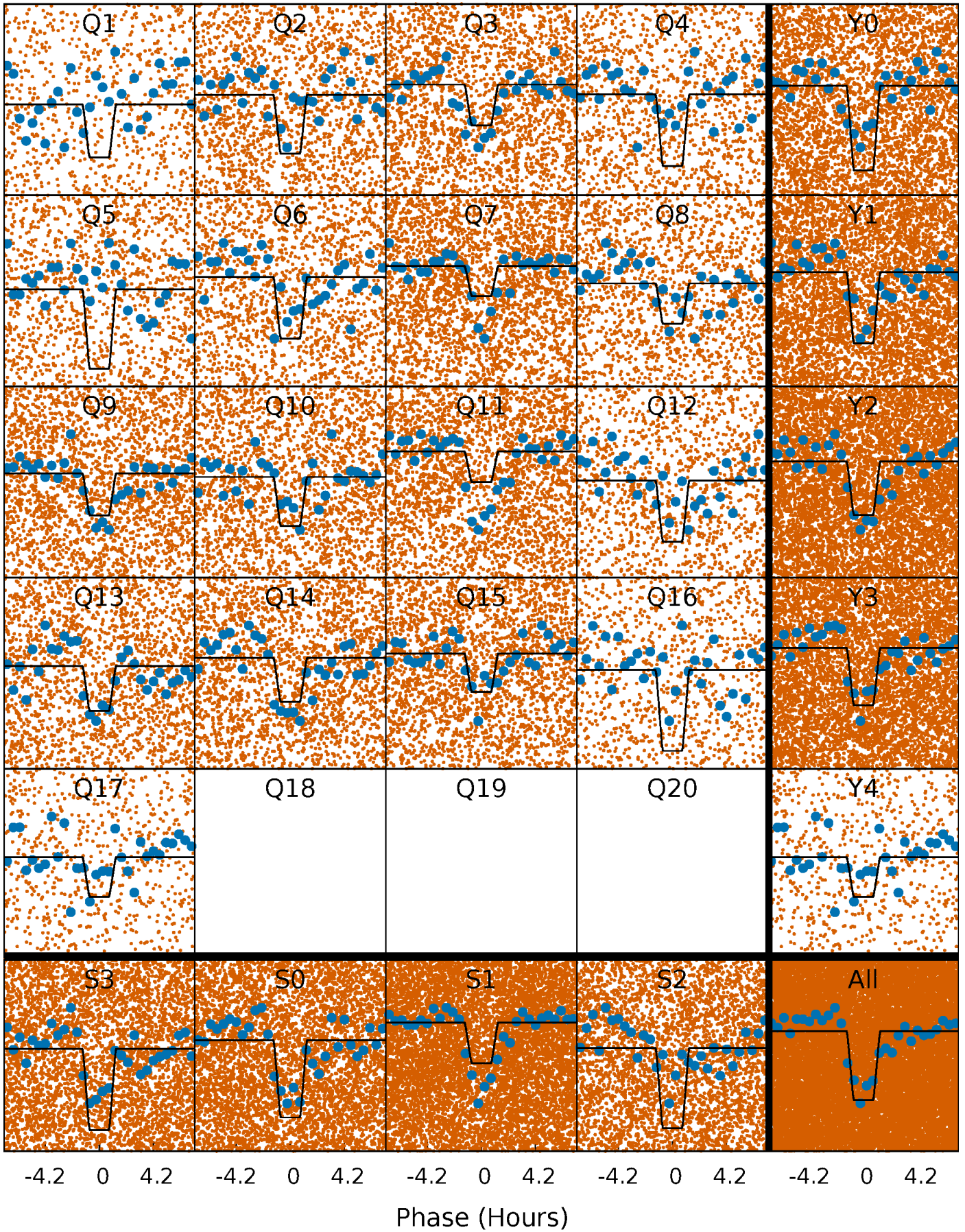
DV Quarter-Phased Transit Curves

TCE 007032117-01 P= 0.566774 Days $T_0=131.842821$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

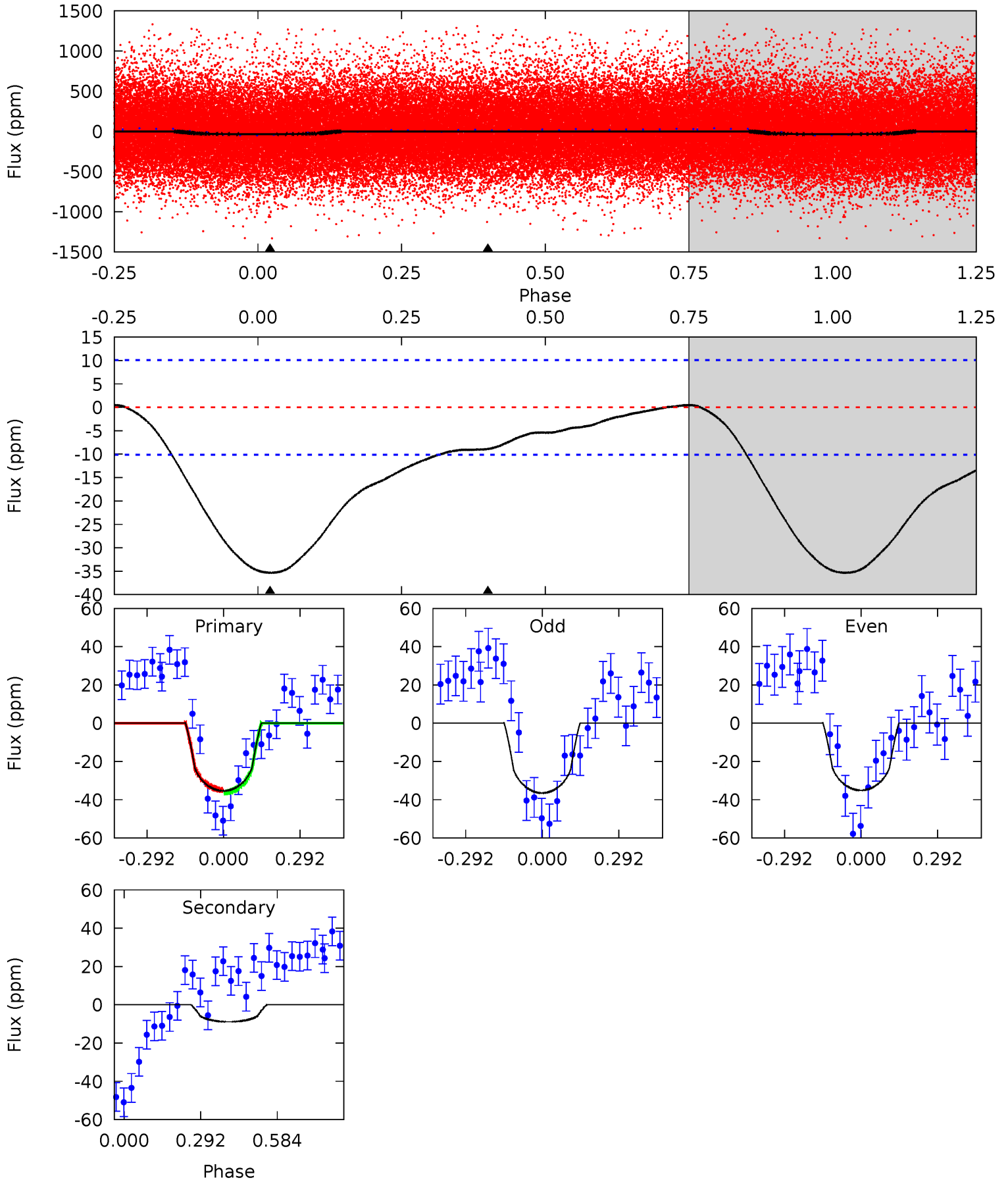
TCE 007032117-01 P= 0.566801 Days $T_0=131.803308$ (BKJD)



DV Model-Shift Uniqueness Test

007032117-01, P = 0.566774 Days, E = 131.276047 Days

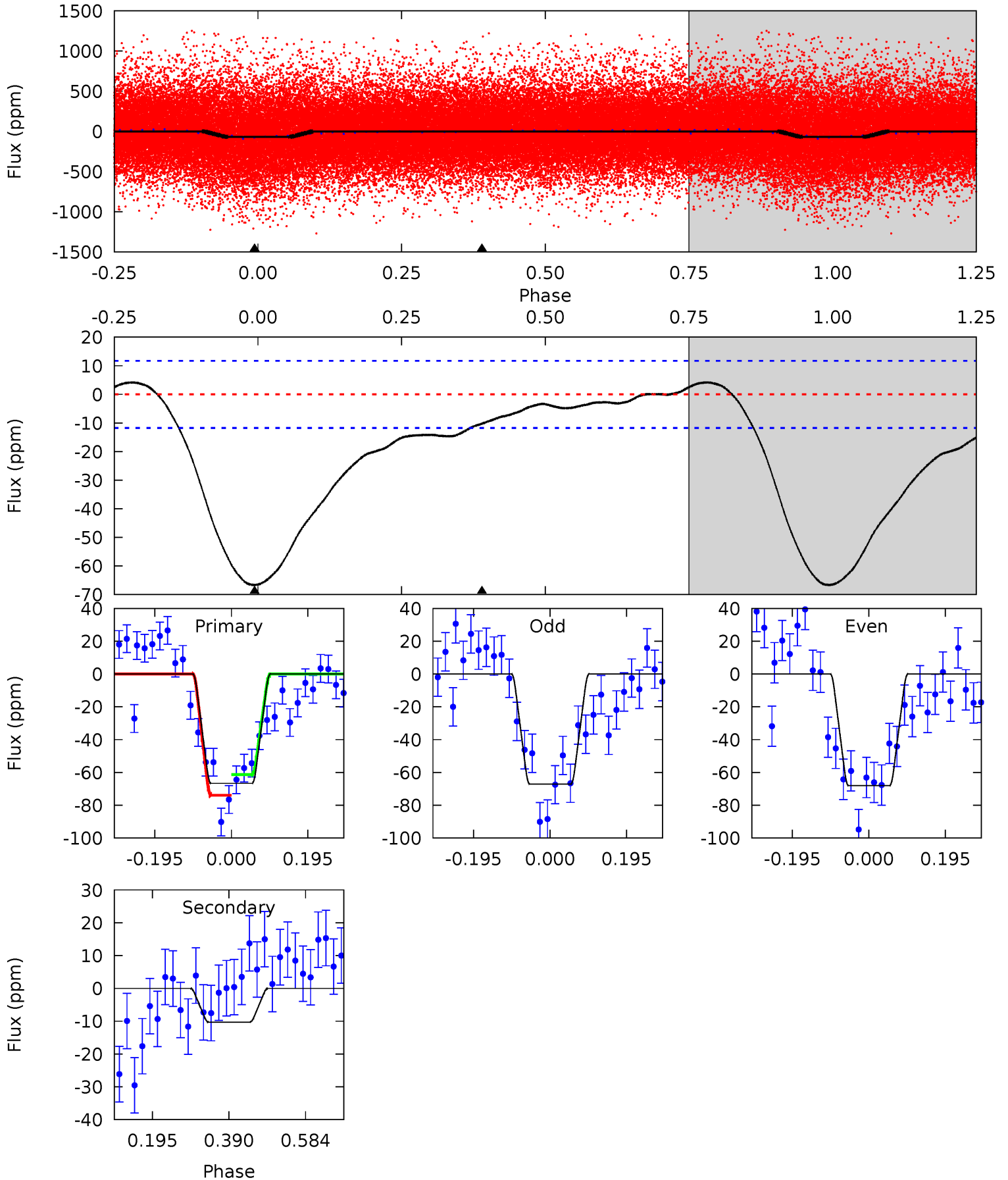
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	3.82	0	0	4.33	1.05	0.22	15.1	15.1	3.82	3.82	0.30	0.91	0.01	0.29



Alt Model-Shift Uniqueness Test

007032117-01, P = 0.566801 Days, E = 131.236507 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.1	3.88	0	0	4.42	1.30	1.56	25.1	25.1	3.88	3.88	0.18	0.96	0.06	2.40



Stellar Parameters For KIC 007032117

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4987^{+149}_{-149}	$4.611^{+0.066}_{-0.048}$	$-0.620^{+0.350}_{-0.300}$	$0.654^{+0.069}_{-0.058}$	$0.637^{+0.079}_{-0.037}$	$3.205^{+0.879}_{-0.577}$
	+3%/-3%	+1%/-1%	+56%/-48%	+11%/-9%	+12%/-6%	+27%/-18%
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 007032117-01 / KOI 6809.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-9 ± 2	$0.47^{+0.30}_{-0.26}$	2309^{+77}_{-89}	3622^{+1322}_{-653}	$2.853^{+11.200}_{-1.856}$
Alt.	-10 ± 3	$0.62^{+0.33}_{-0.29}$	2305^{+88}_{-81}	3388^{+949}_{-537}	$1.982^{+5.424}_{-1.140}$

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 $A_{obs} \gg 1.0$

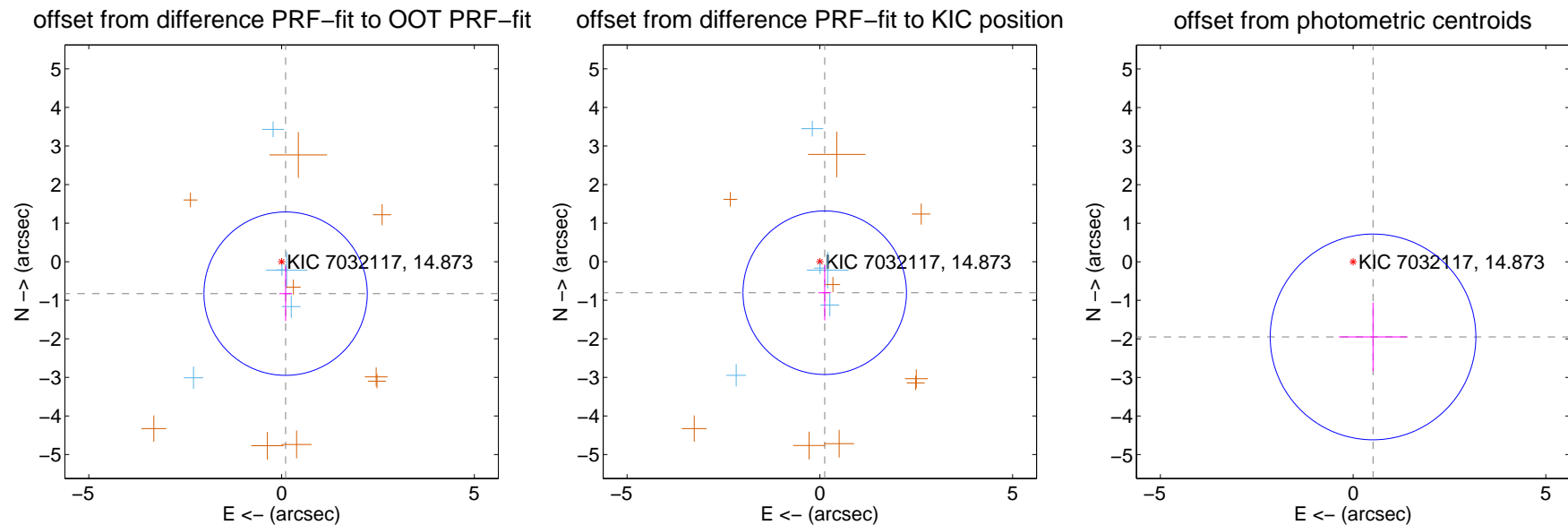
DV Centroid Data

Supplemental centroid analysis for 007032117-01. Kepler magnitude: 14.87. Transit SNR 11.82

There are 5 quarters with good PRF difference image offsets

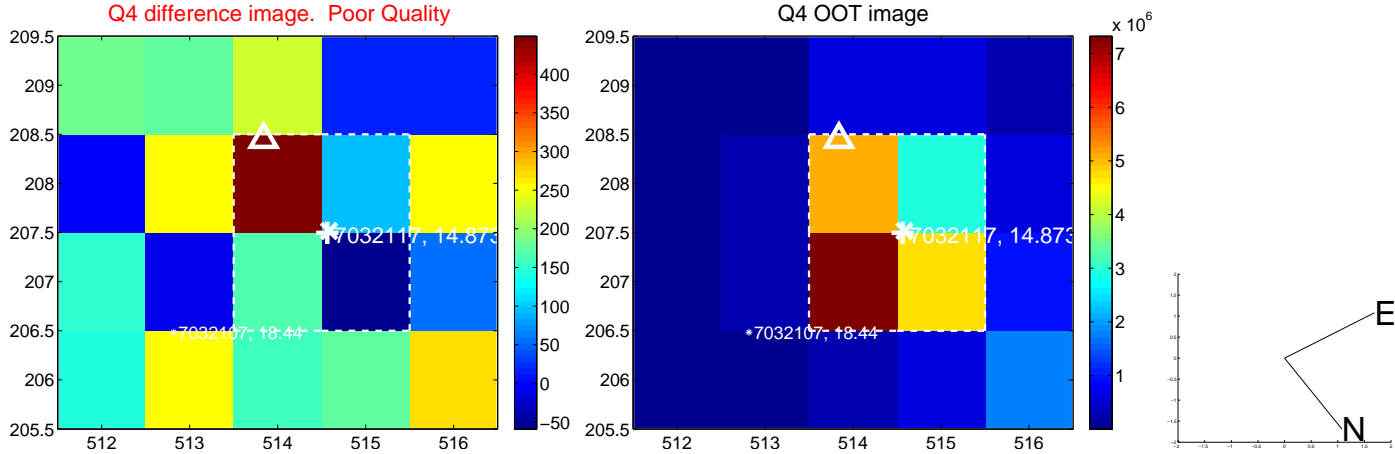
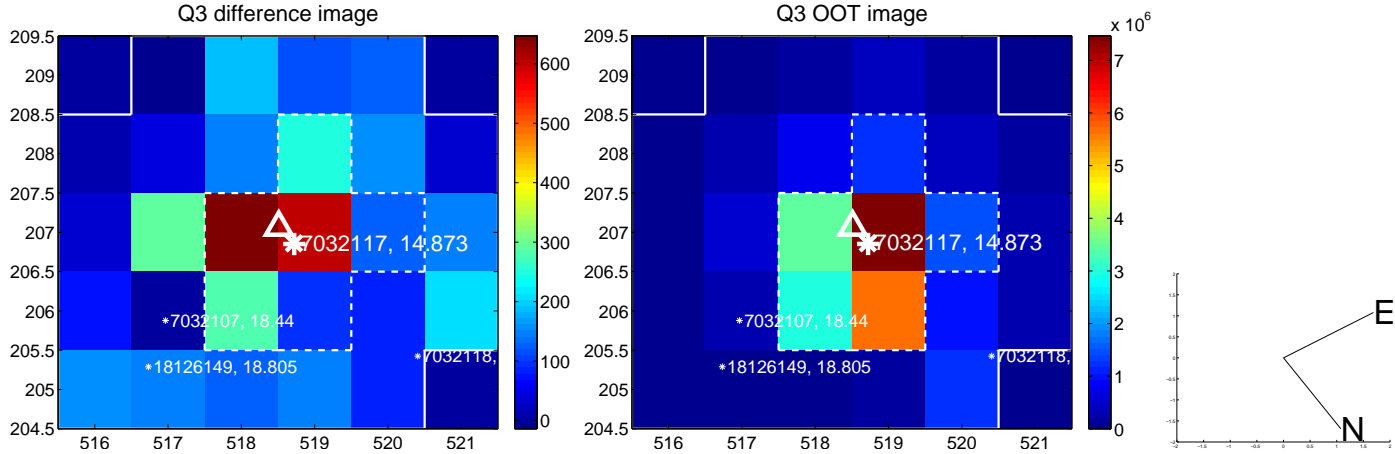
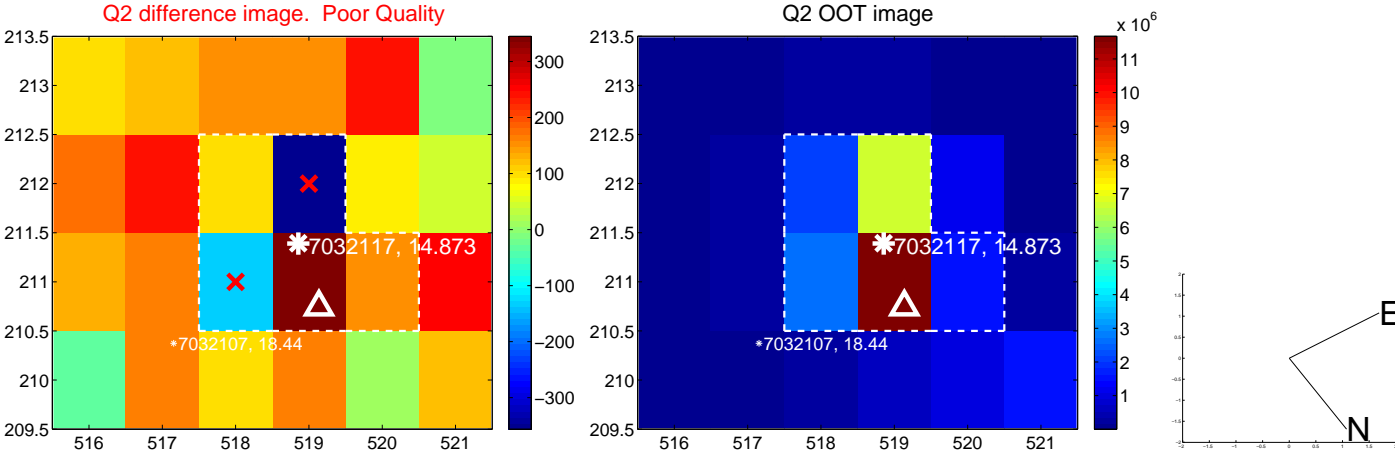
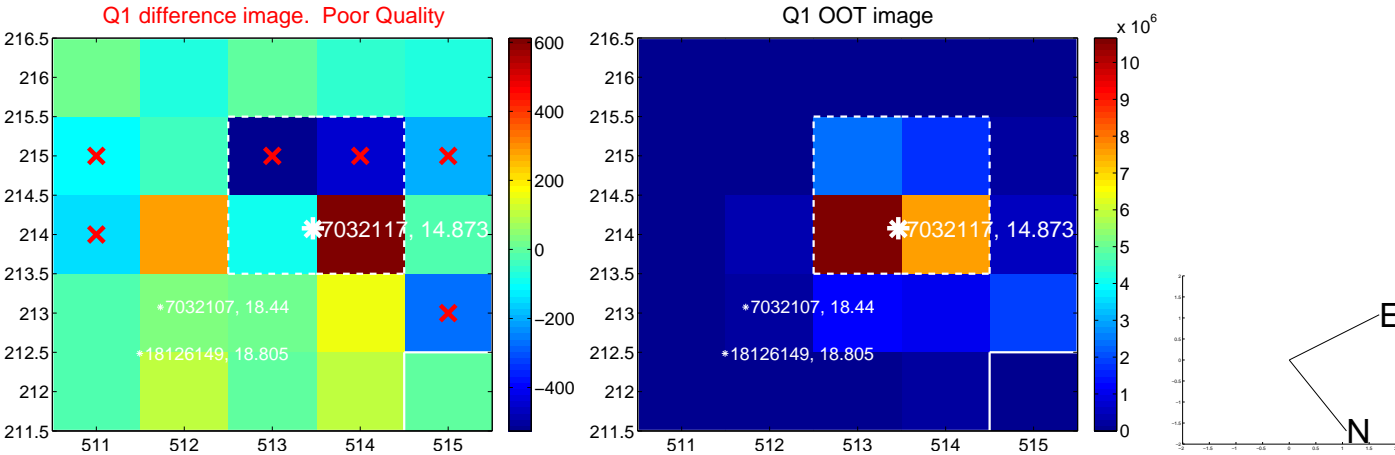
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.835 ± 0.706	1.18	-0.105 ± 0.162	-0.829 ± 0.711
PRF-fit source offset from KIC position	0.814 ± 0.707	1.15	-0.127 ± 0.163	-0.804 ± 0.715
photometric centroid source offset	2.02 ± 0.89	2.27	-0.52 ± 0.89	-1.95 ± 0.89

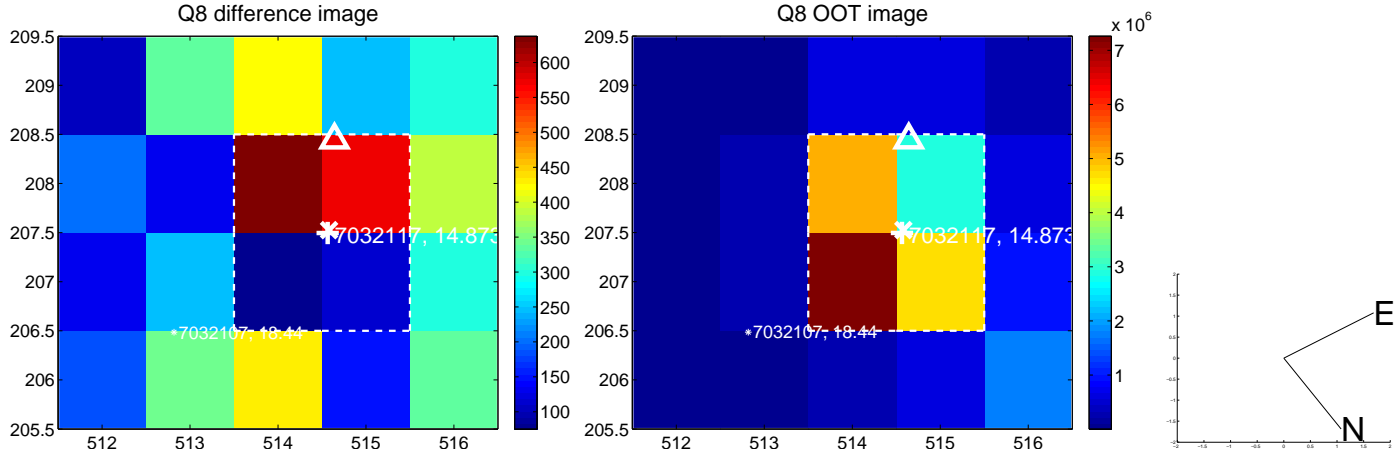
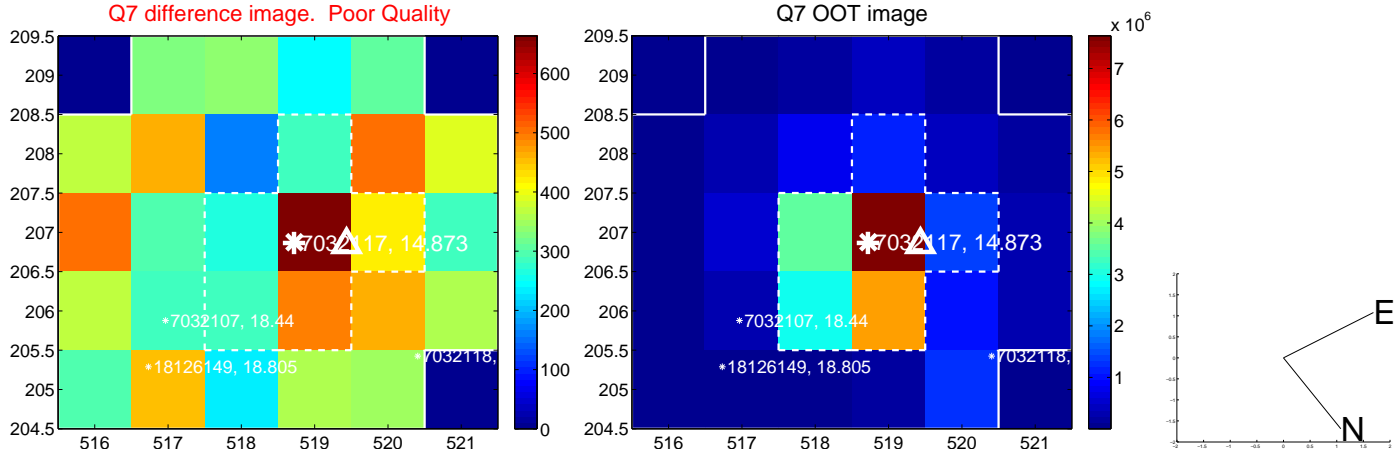
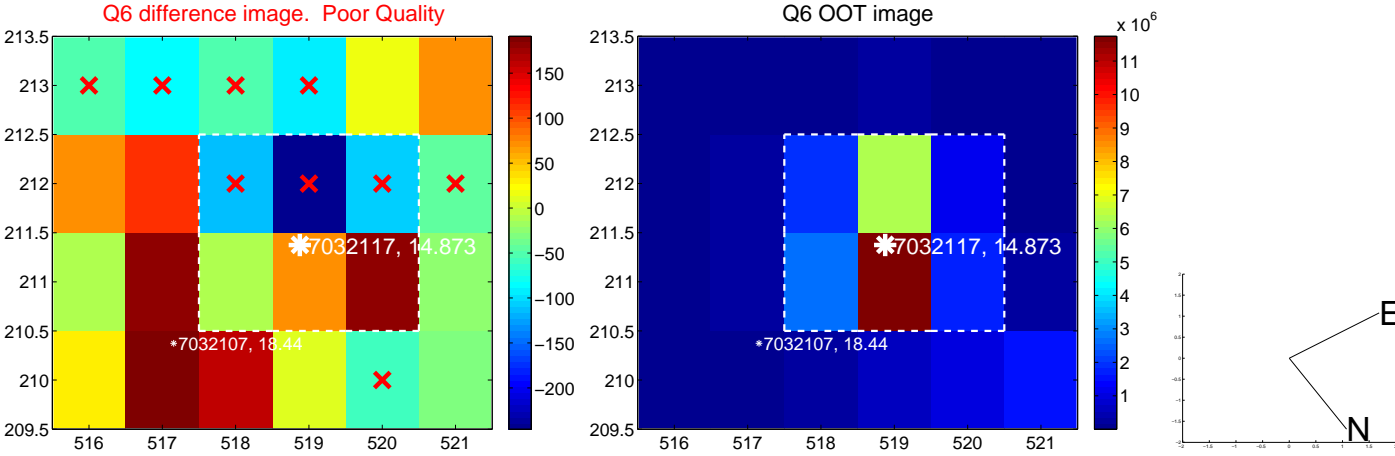
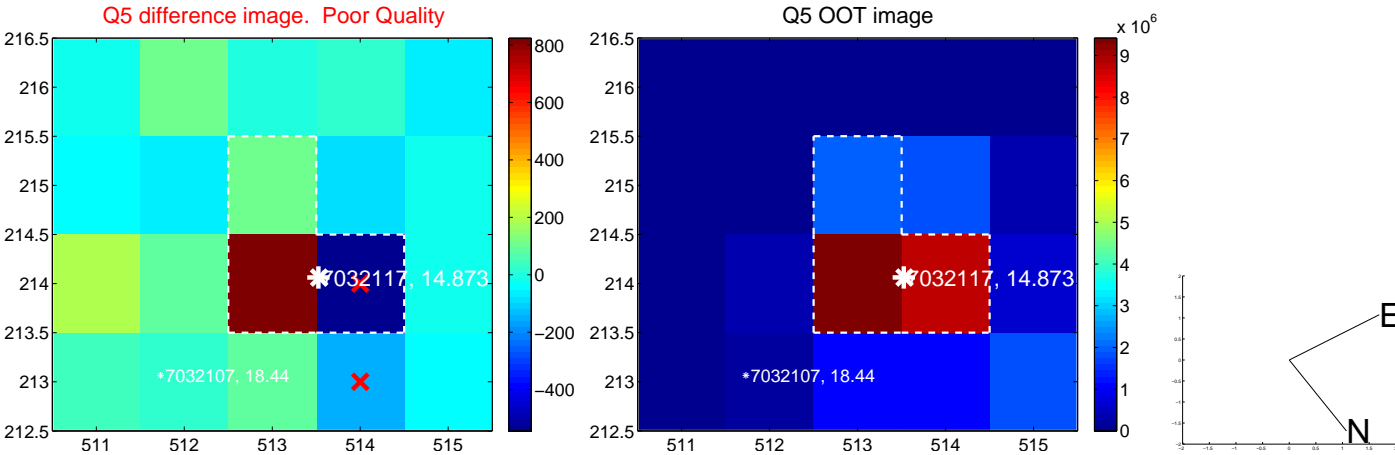


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

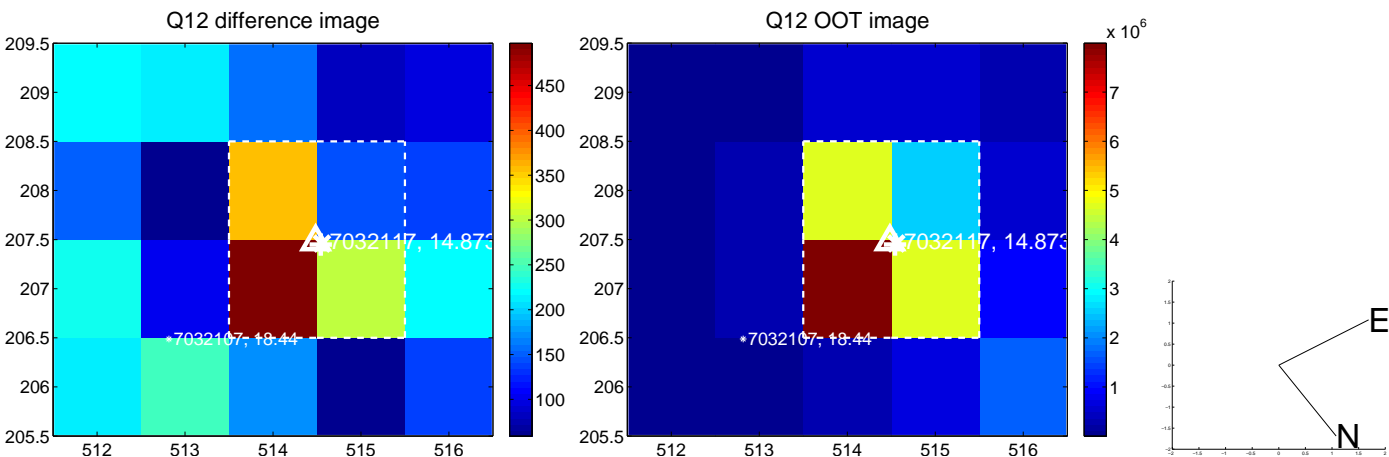
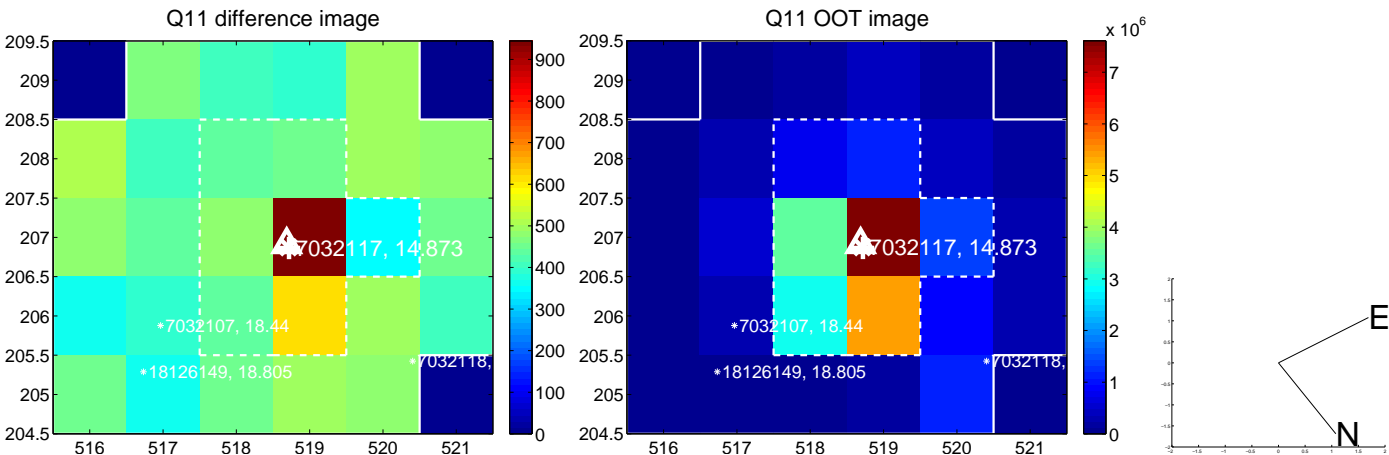
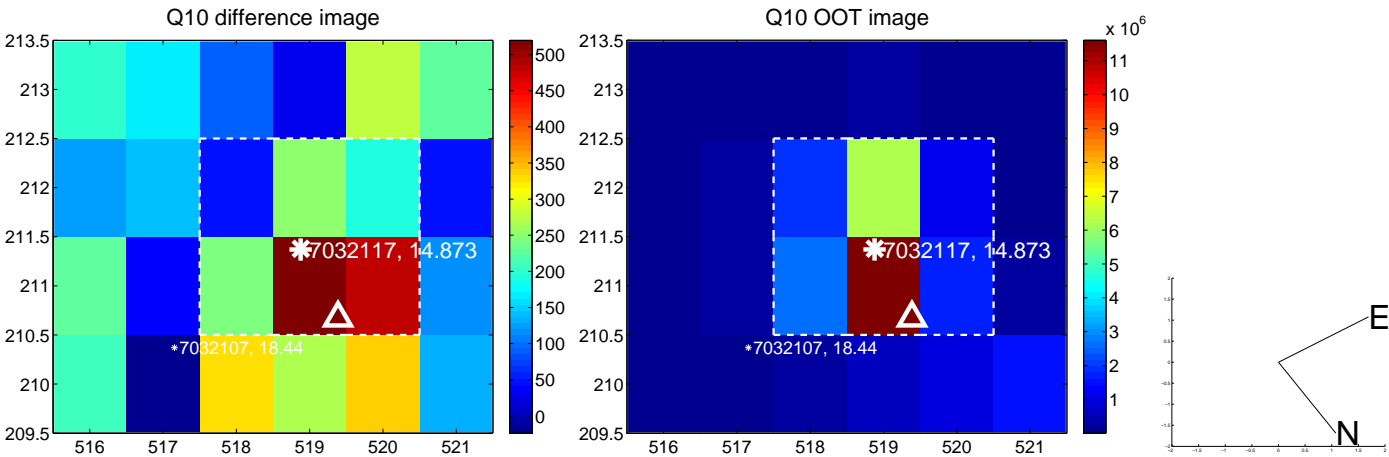
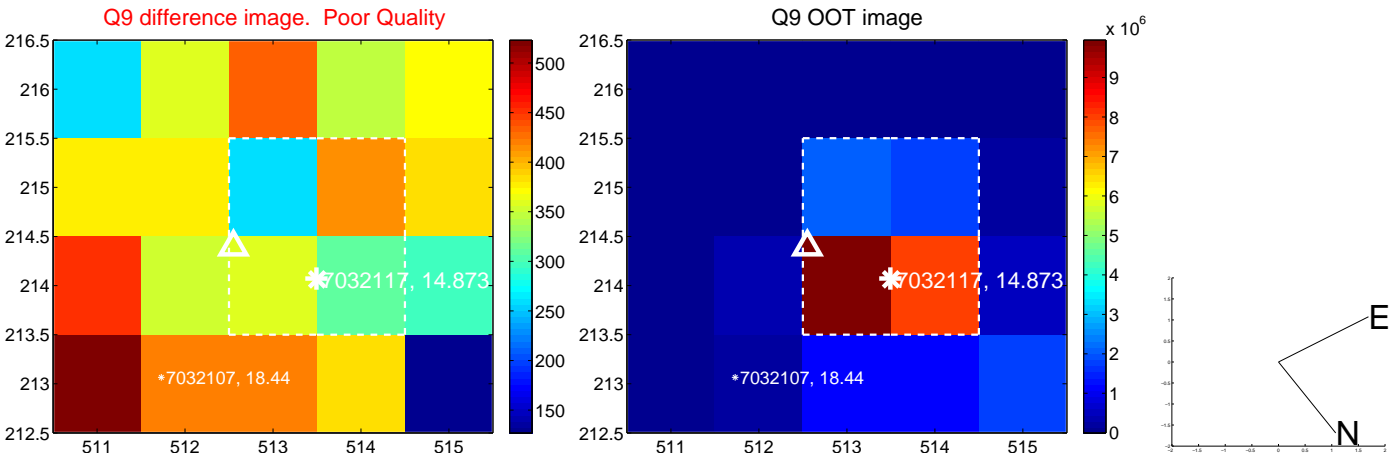
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



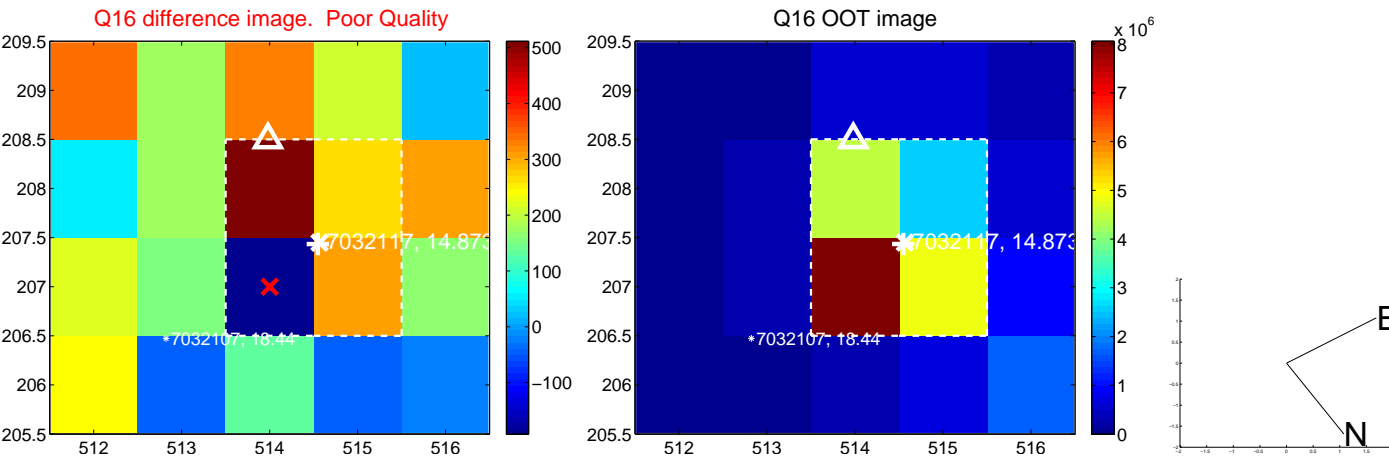
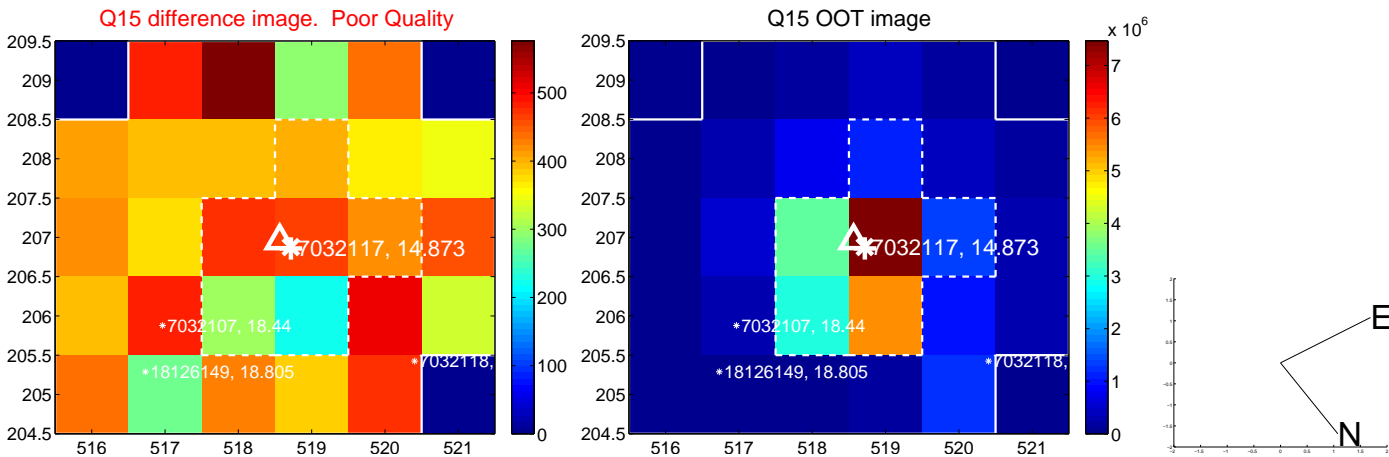
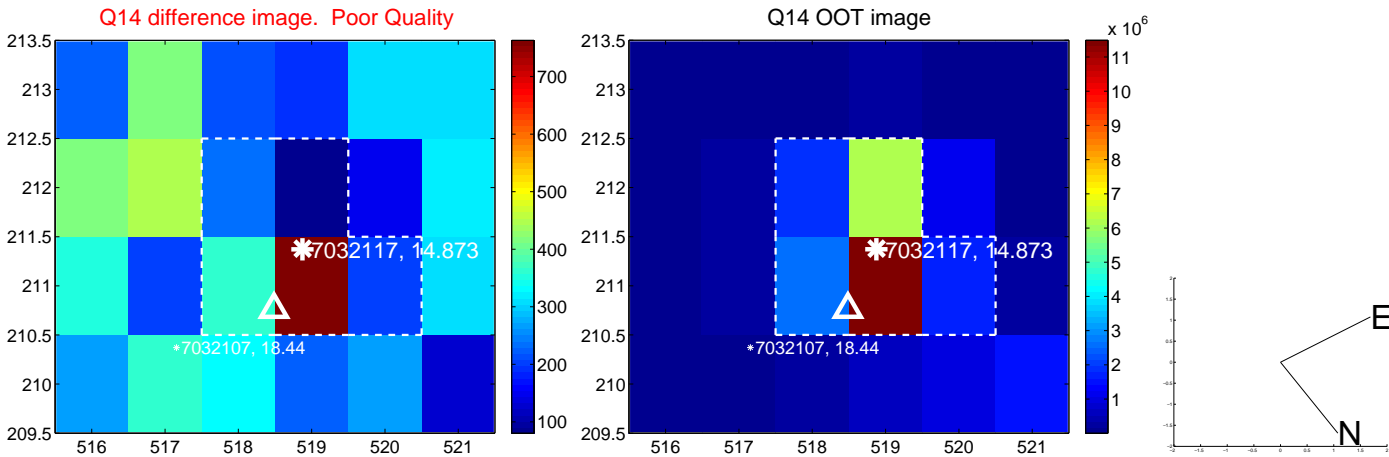
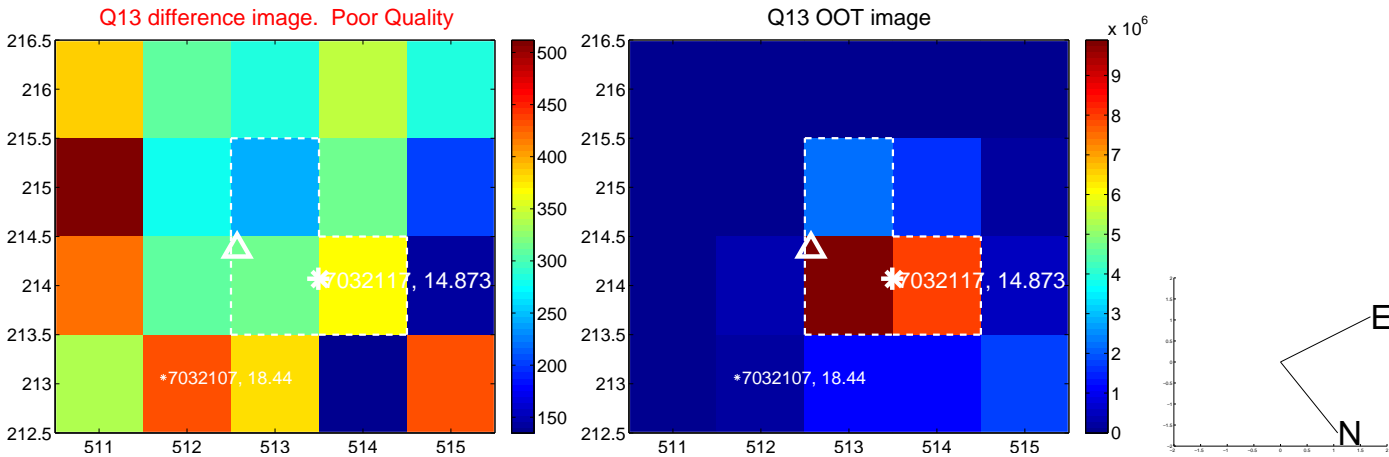
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



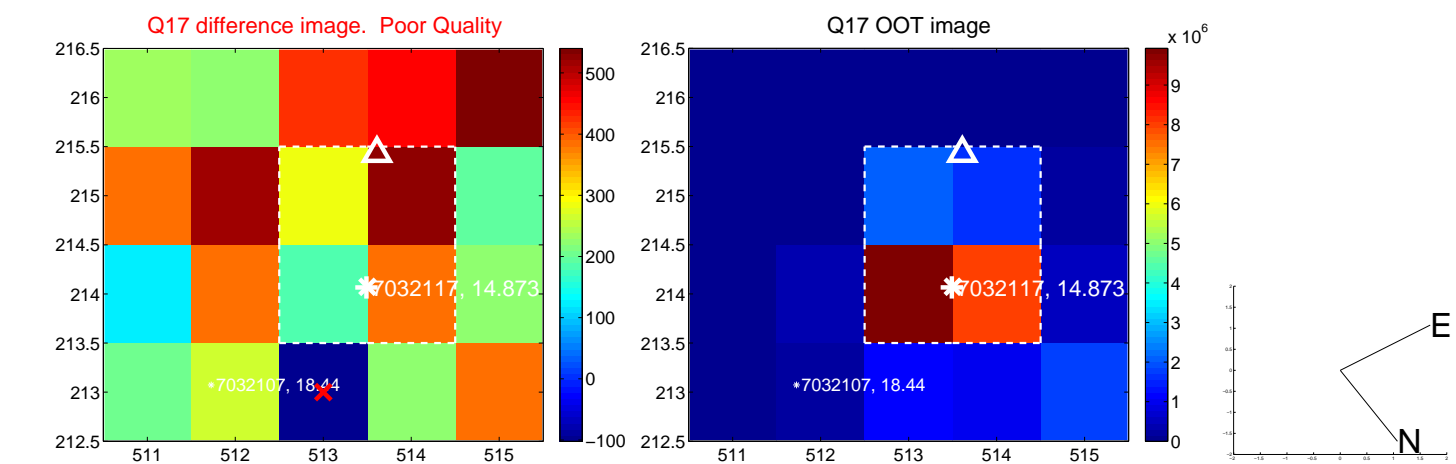
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



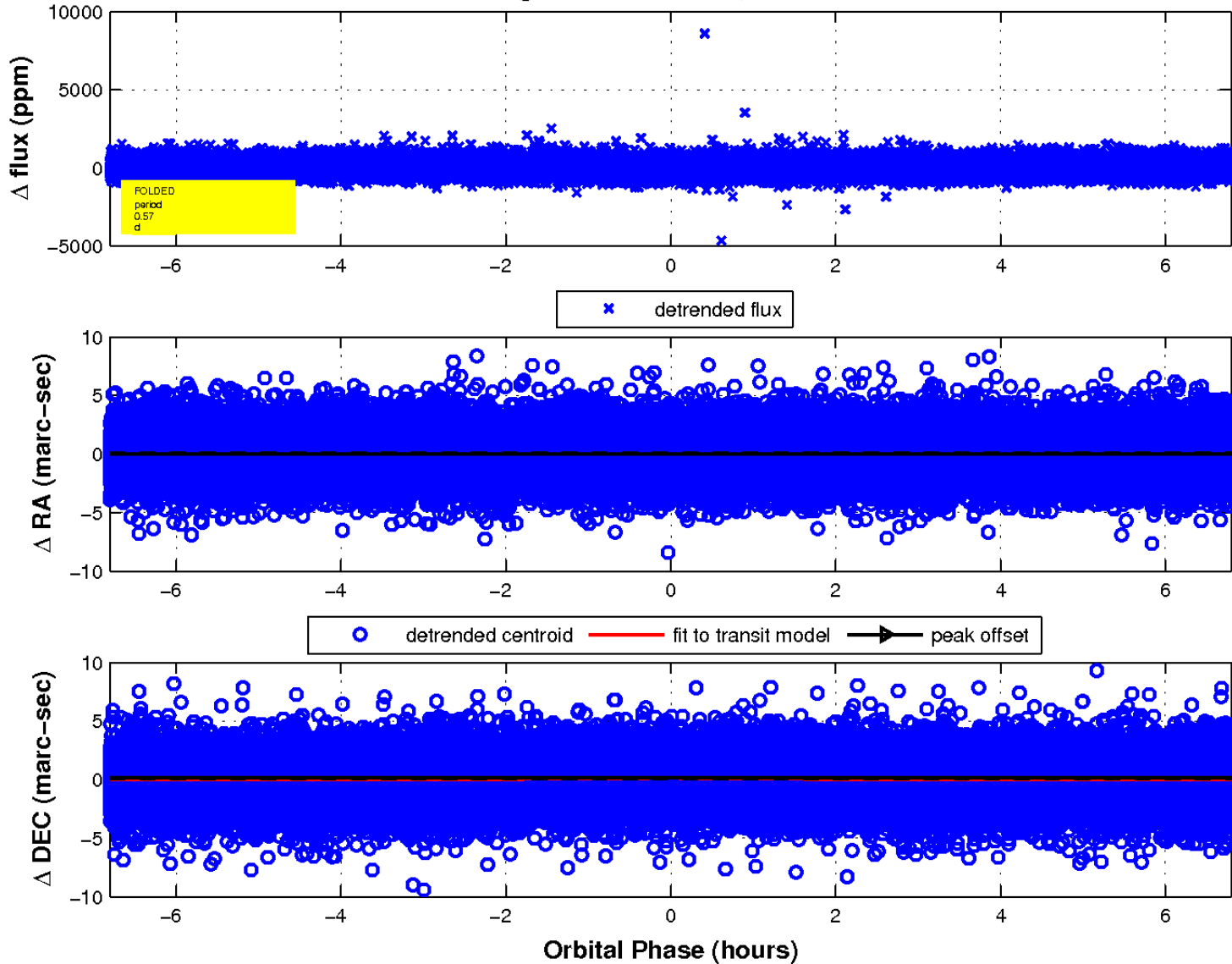
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

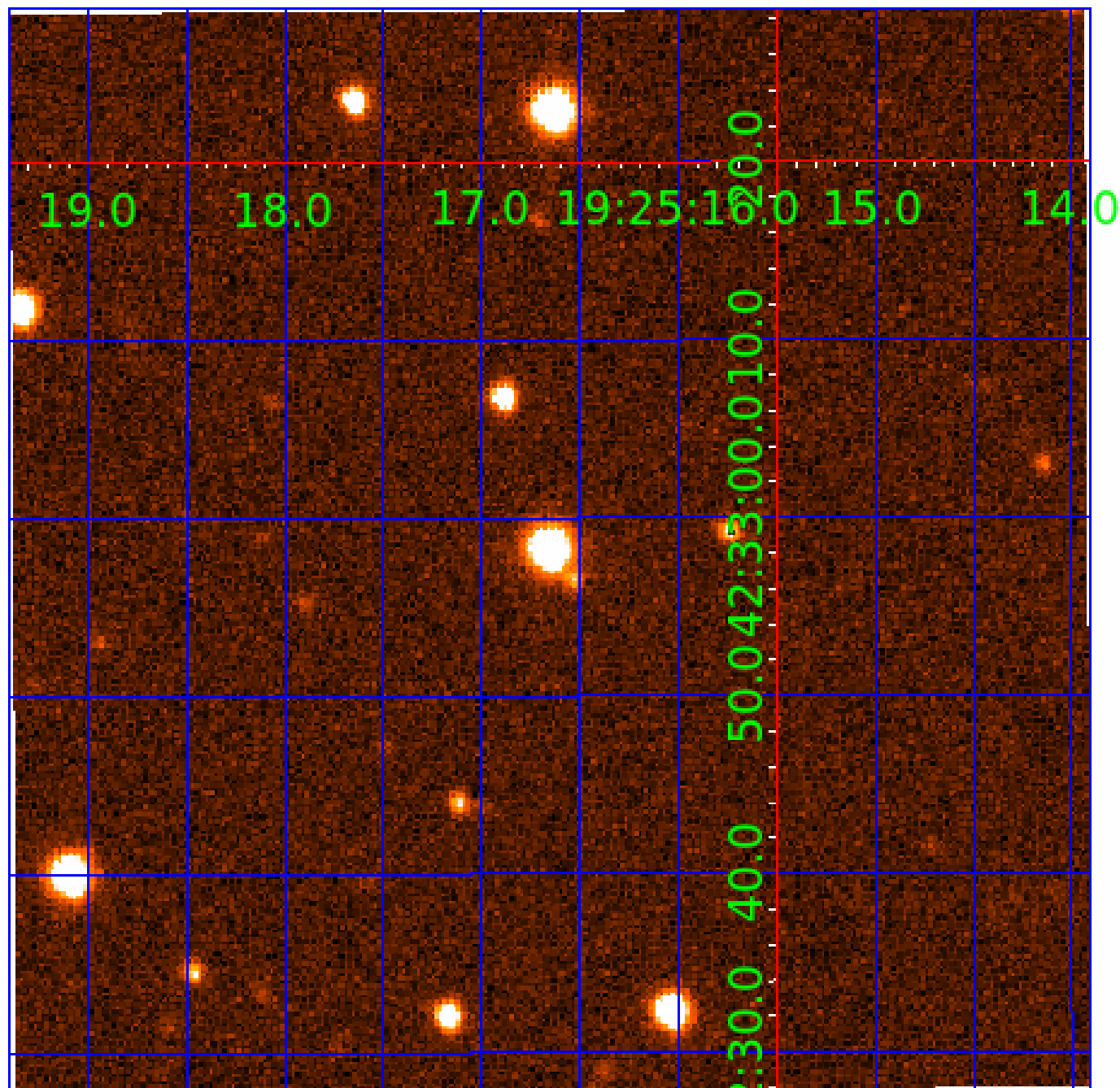


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 007032117

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})
007032117-01	OBS	6809.01	0.566774	131.842821	45.3	3.498	12.4	11.8	0.65	4987	0.45	1781.38
007032117-02	OBS	No	41.550867	173.040705	445.4	2.081	8.8	5.3	0.65	4987	1.62	5.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007032117-01	OBS	FP	0.00	1	0	0	1	LPP_DV—EPHEM_MATCH
007032117-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—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 007032117-02

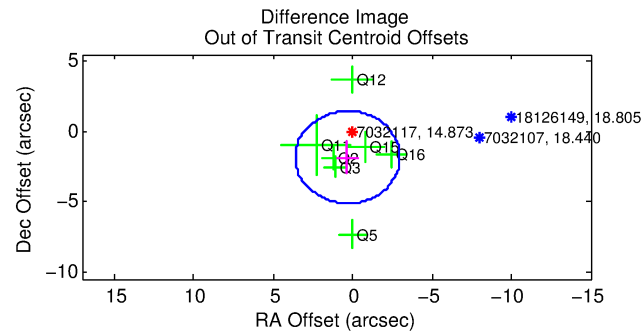
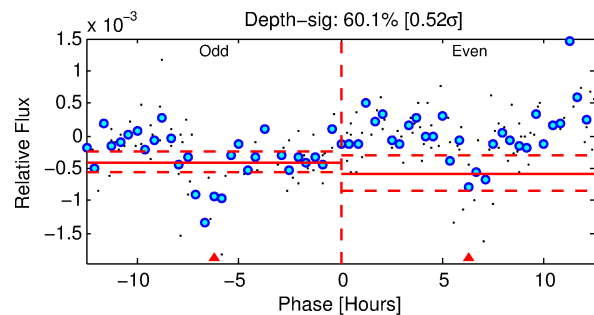
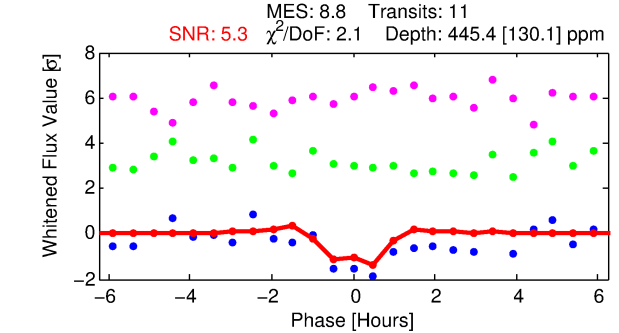
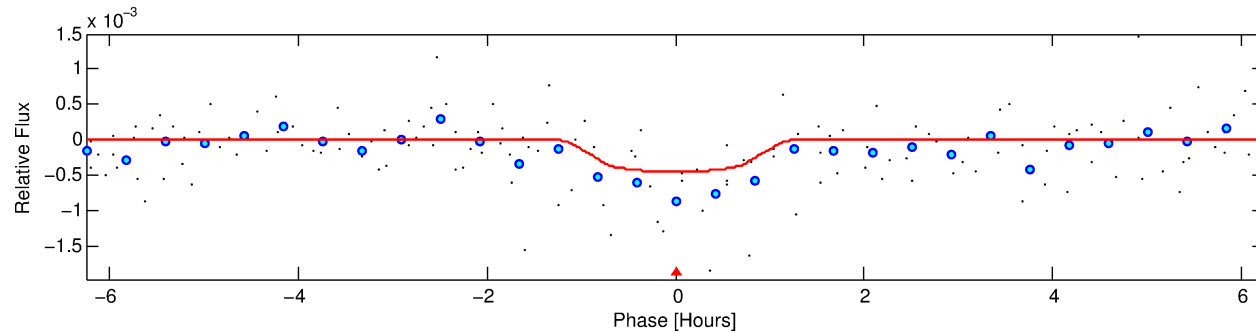
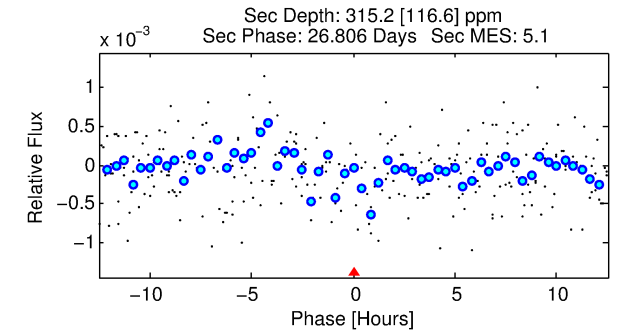
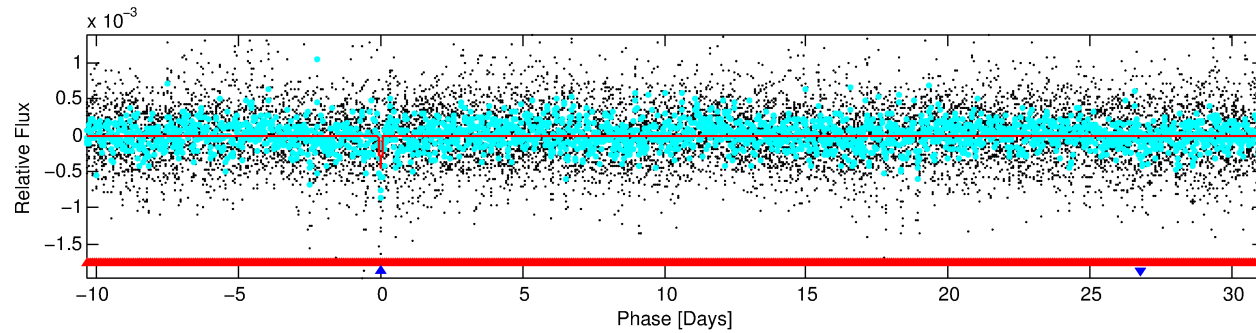
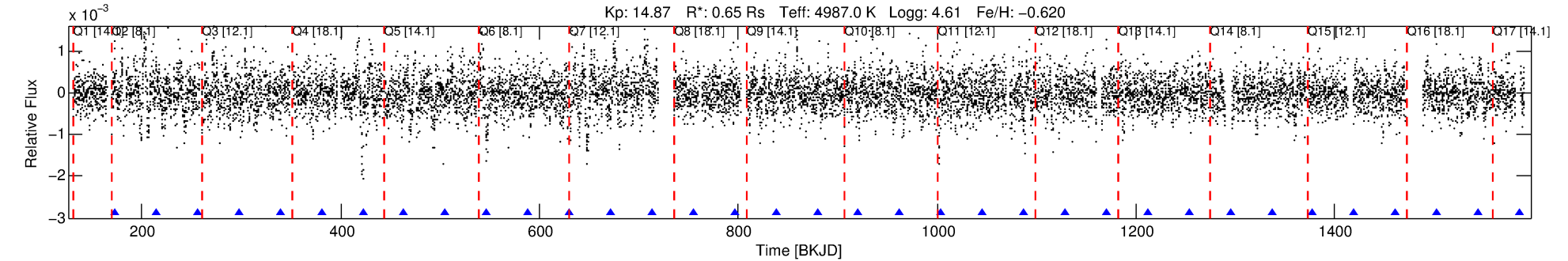
No Significant Match Found

DV One-Page Summary

KIC: 7032117 Candidate: 2 of 2 Period: 41.551 d

KOI: K06809 Corr: No Ephemeris Match

Kp: 14.87 R*: 0.65 Rs Teff: 4987.0 K Logg: 4.61 Fe/H: -0.620



DV Fit Results:

Period = 41.55087 [0.00056] d
Epoch = 173.0407 [0.0107] BKJD
Rp/R* = 0.0227 [0.0493]
a/R* = 82.07 [716.51]
b = 0.87 [2.50]
Seff = 5.81 [1.00]
Teq = 396 [17] K
Rp = 1.62 [3.52] Re
a = 0.2021 [0.0175] AU
Ag = 2690.53 [11721.88] [0.23σ]
Teff = 4407 [4800] K [0.84σ]

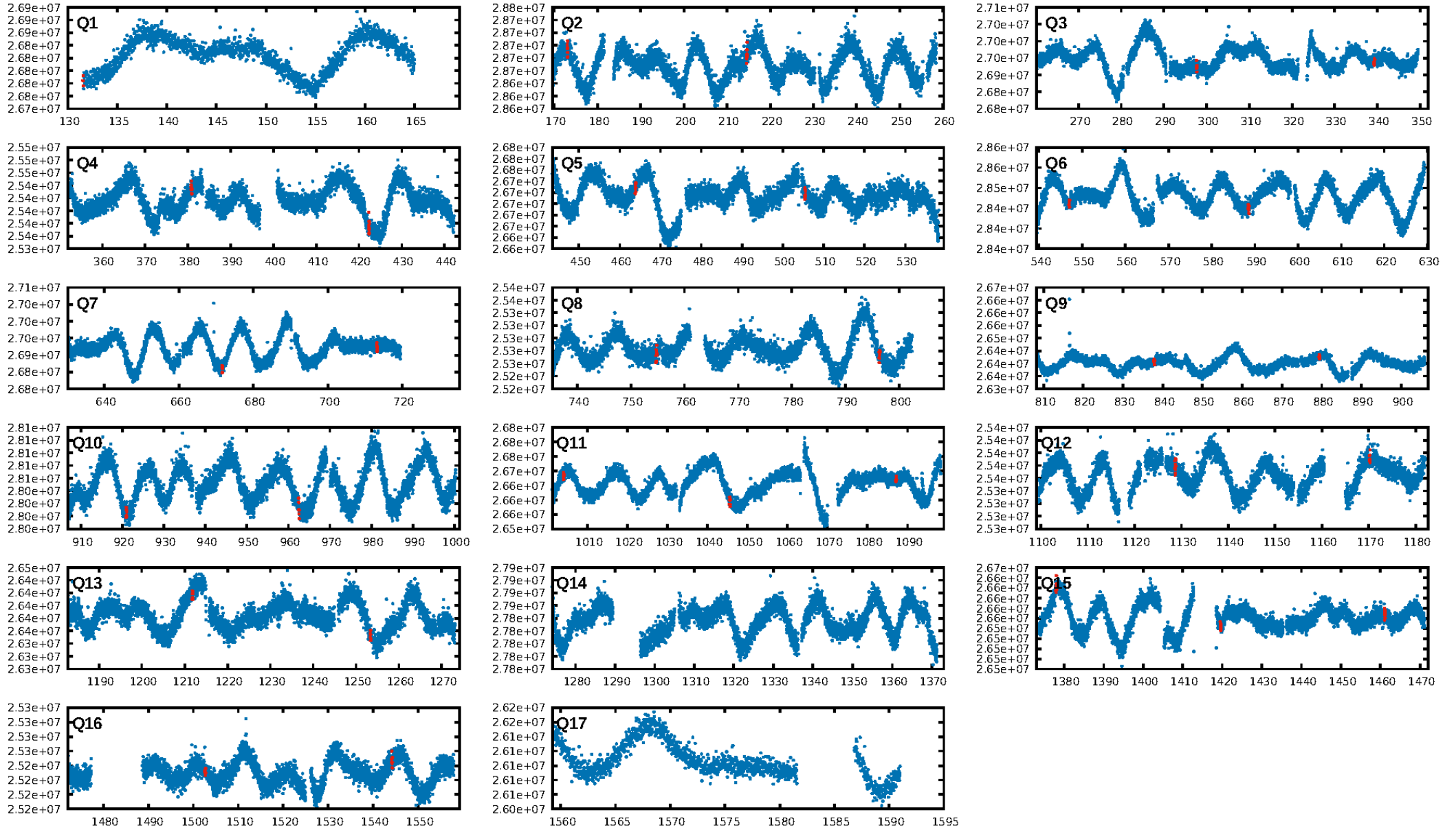
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [241.69σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 58.9%
Bootstrap-pfa: 1.24e-11
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: -0.6822
Centroid-sig: 71.4%
Centroid-so: 1.096 arcsec [1.05σ]
OotOffset-rm: 1.859 arcsec [1.70σ]
KicOffset-rm: 1.823 arcsec [1.65σ]
OotOffset-st: 1/3/2/1 [7]
KicOffset-st: 1/3/2/1 [7]
DiffImageQuality-fgm: 0.14 [1/7]
DiffImageOverlap-fno: 0.00 [0/14]

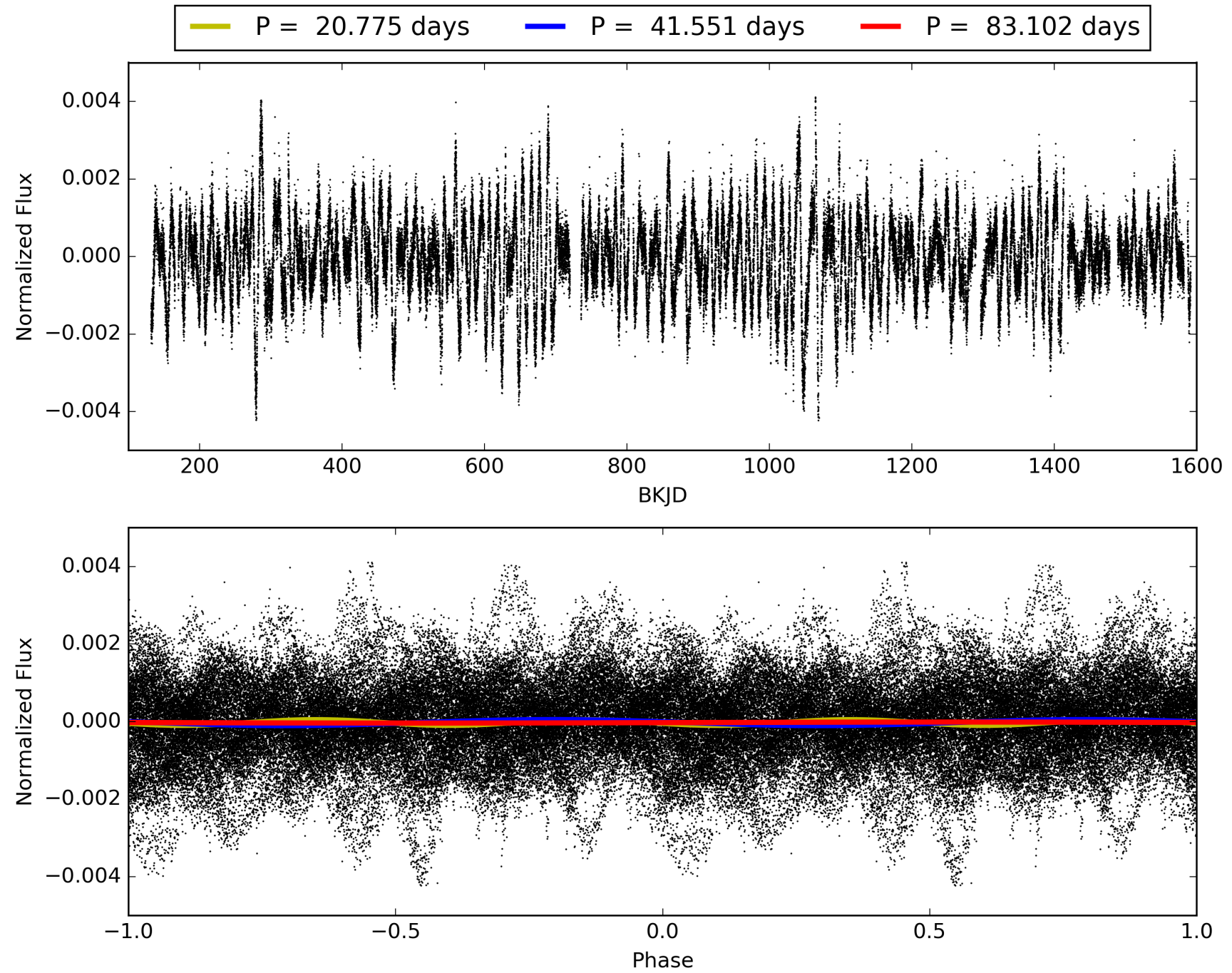
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:03:05 Z

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

TCE 007032117-02, PDC Light Curves

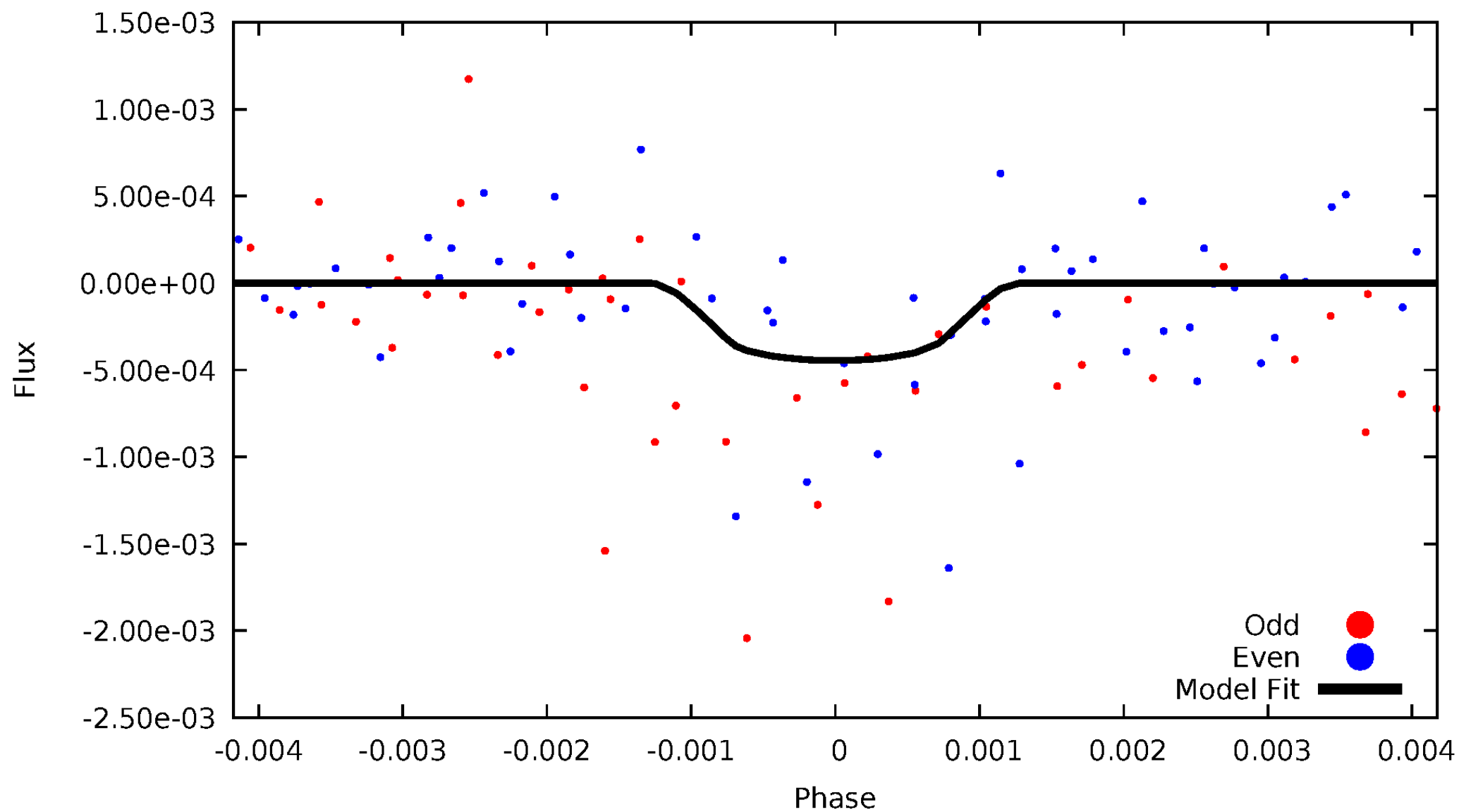


TCE 007032117-02



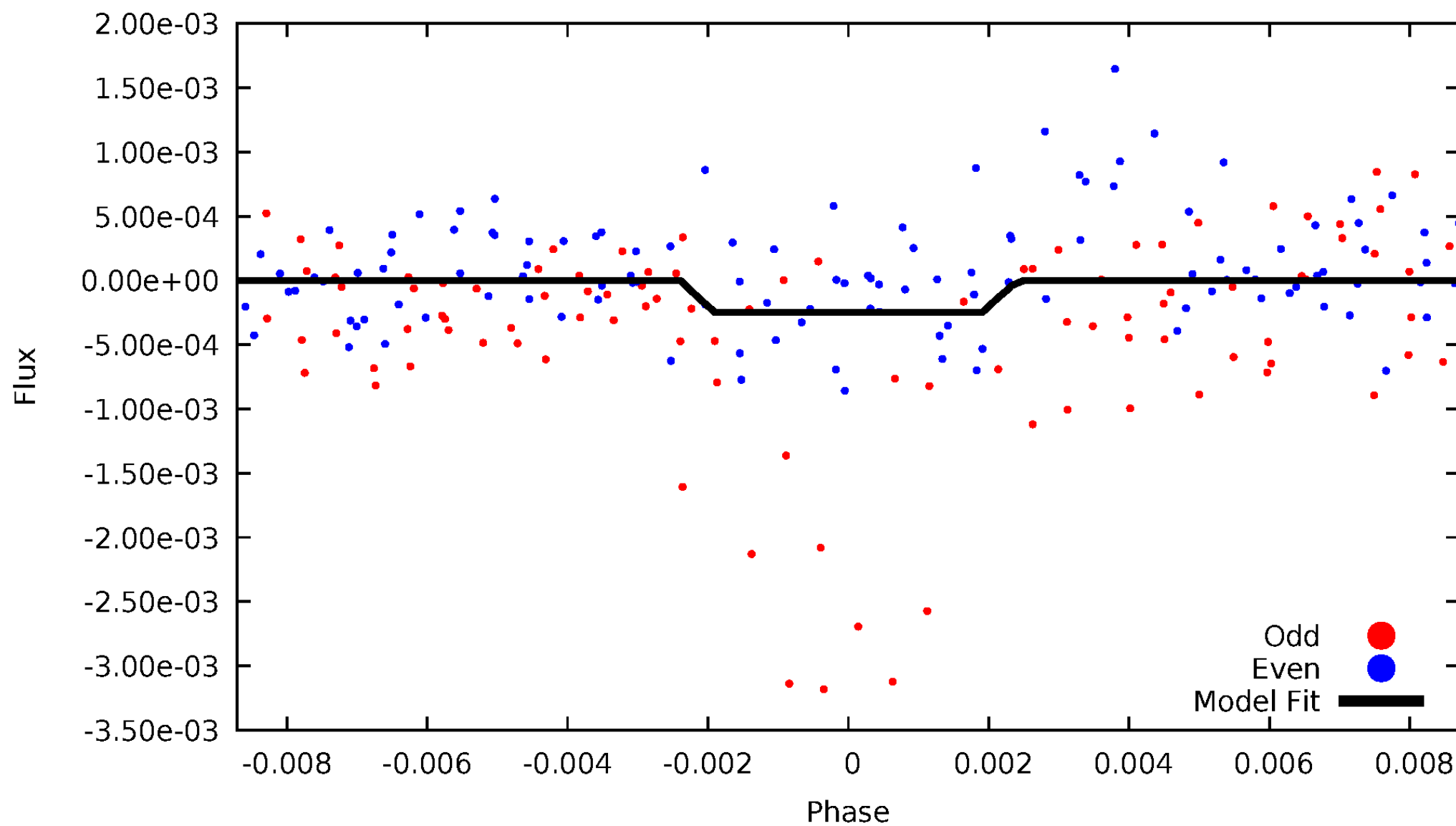
DV Odd/Even

TCE 007032117-02



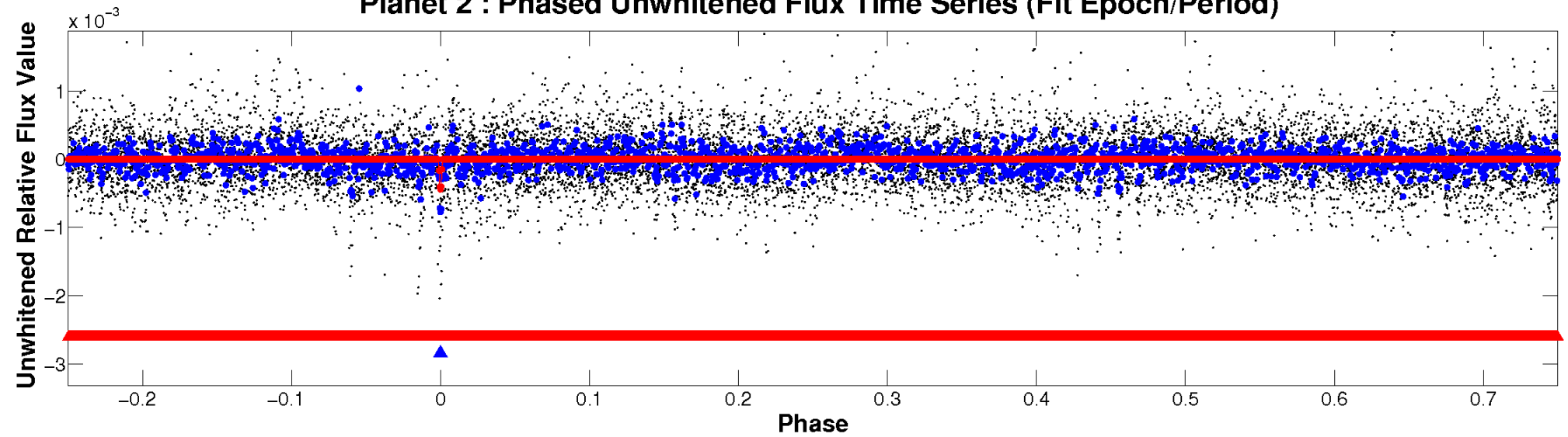
ALT Odd/Even

TCE 007032117-02

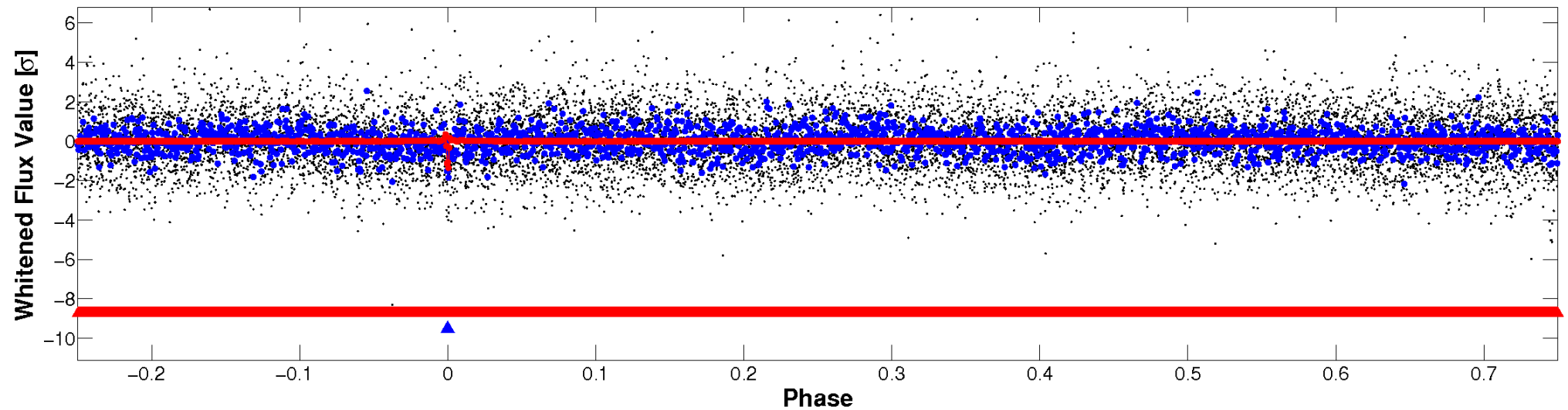


Non-Whitened Vs. Whitened Light Curve

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

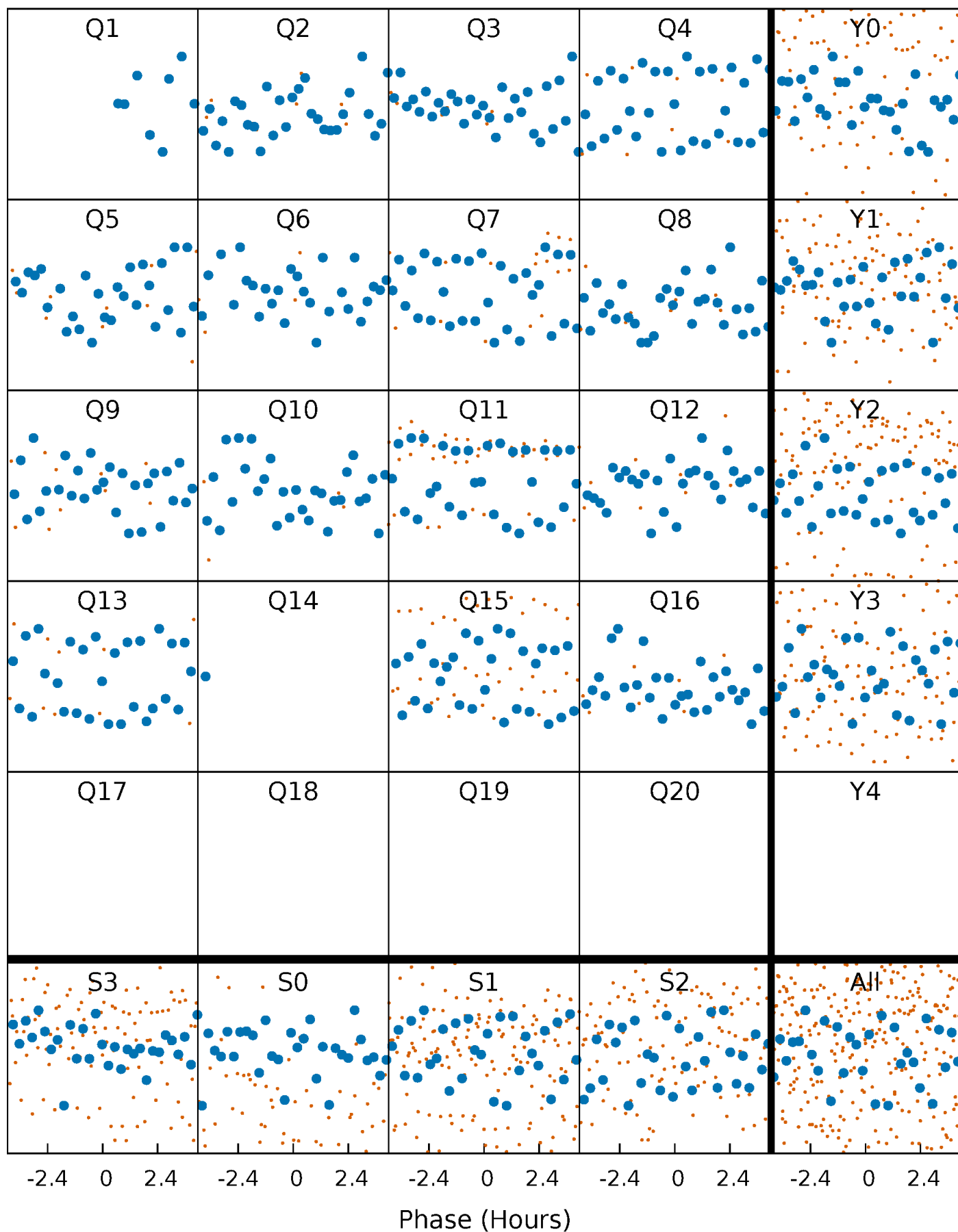


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



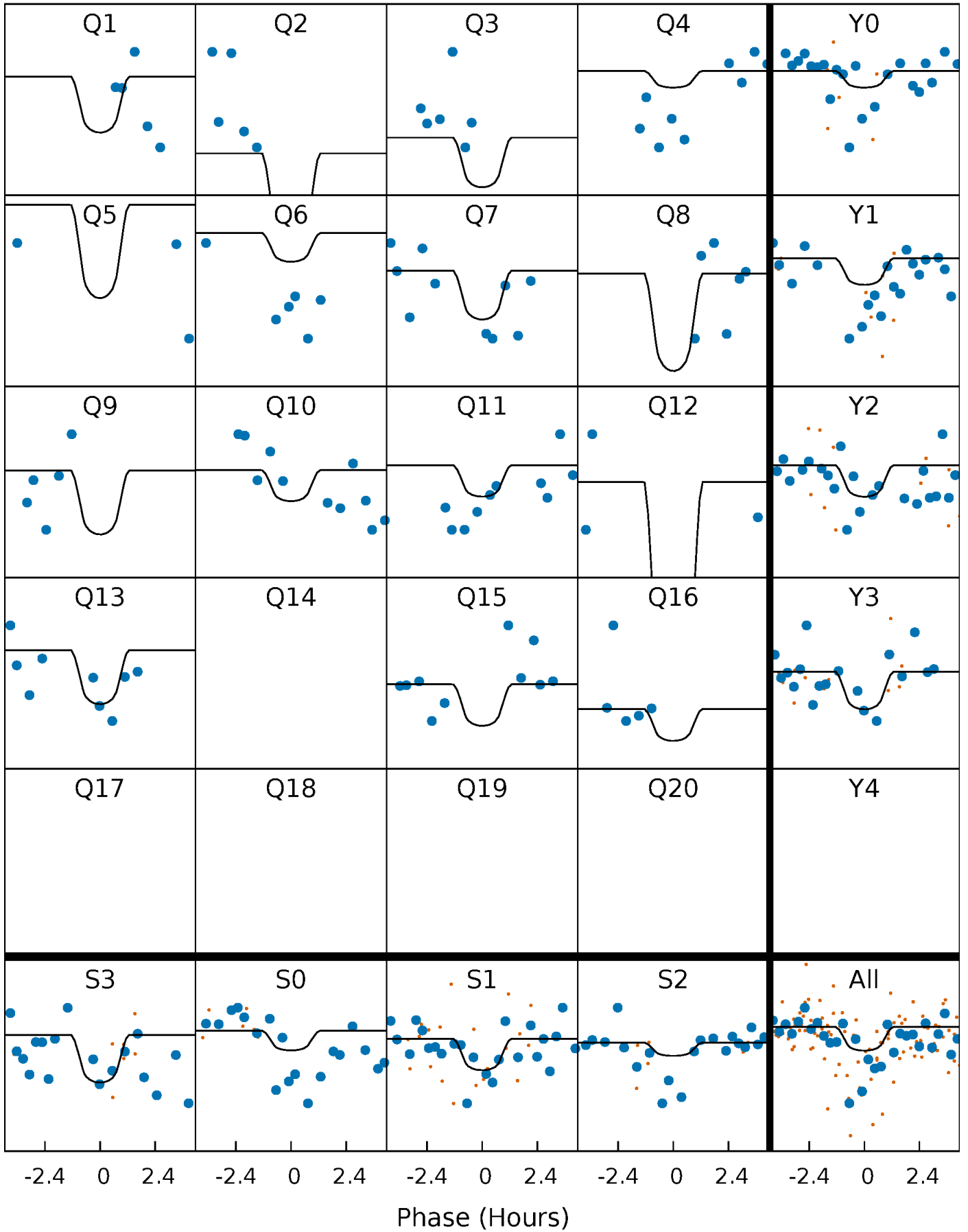
PDC Quarter-Phased Transit Curves

TCE 007032117-02 P= 41.550867 Days $T_0=173.040705$ (BKJD)



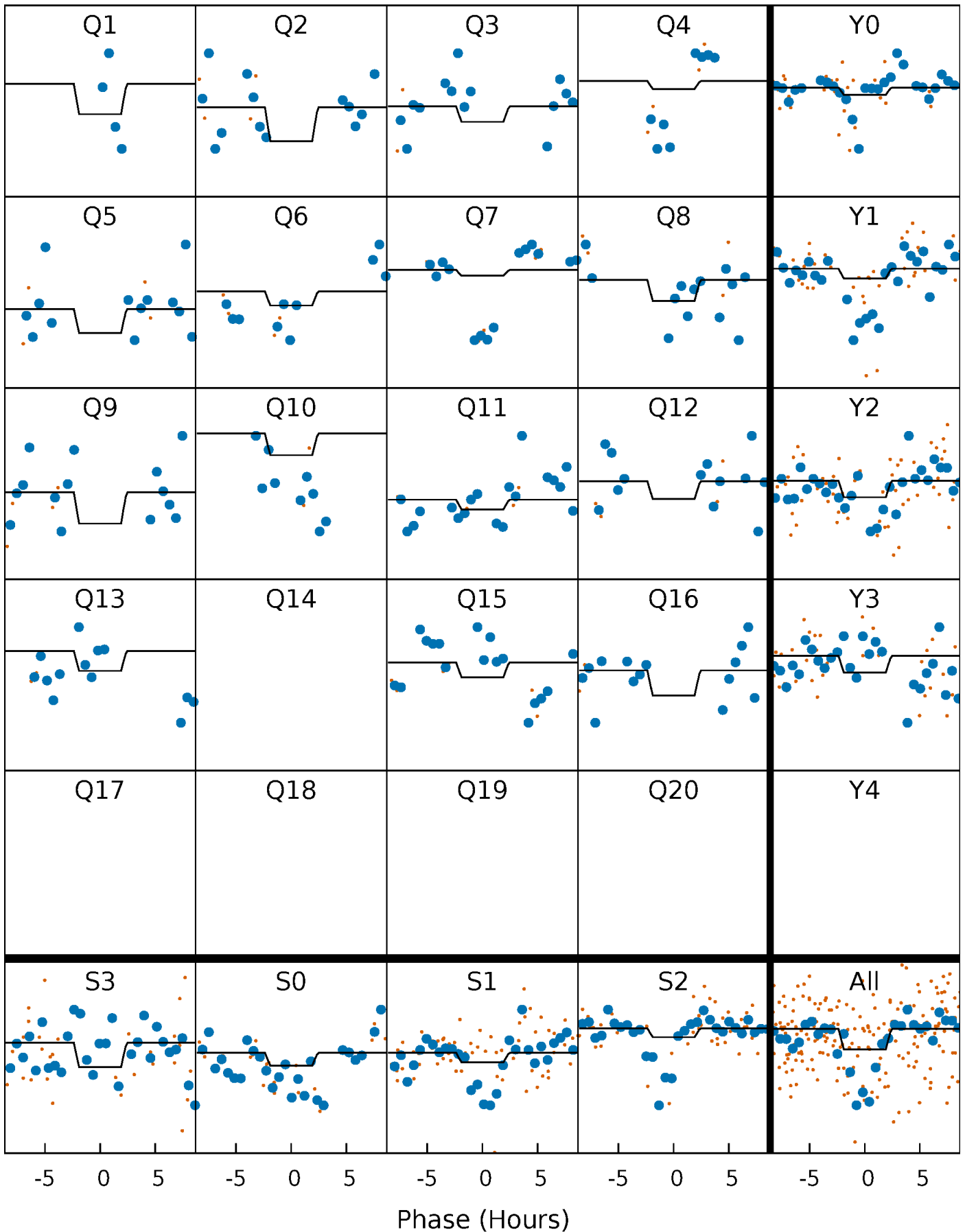
DV Quarter-Phased Transit Curves

TCE 007032117-02 $P = 41.550867$ Days $T_0 = 173.040705$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

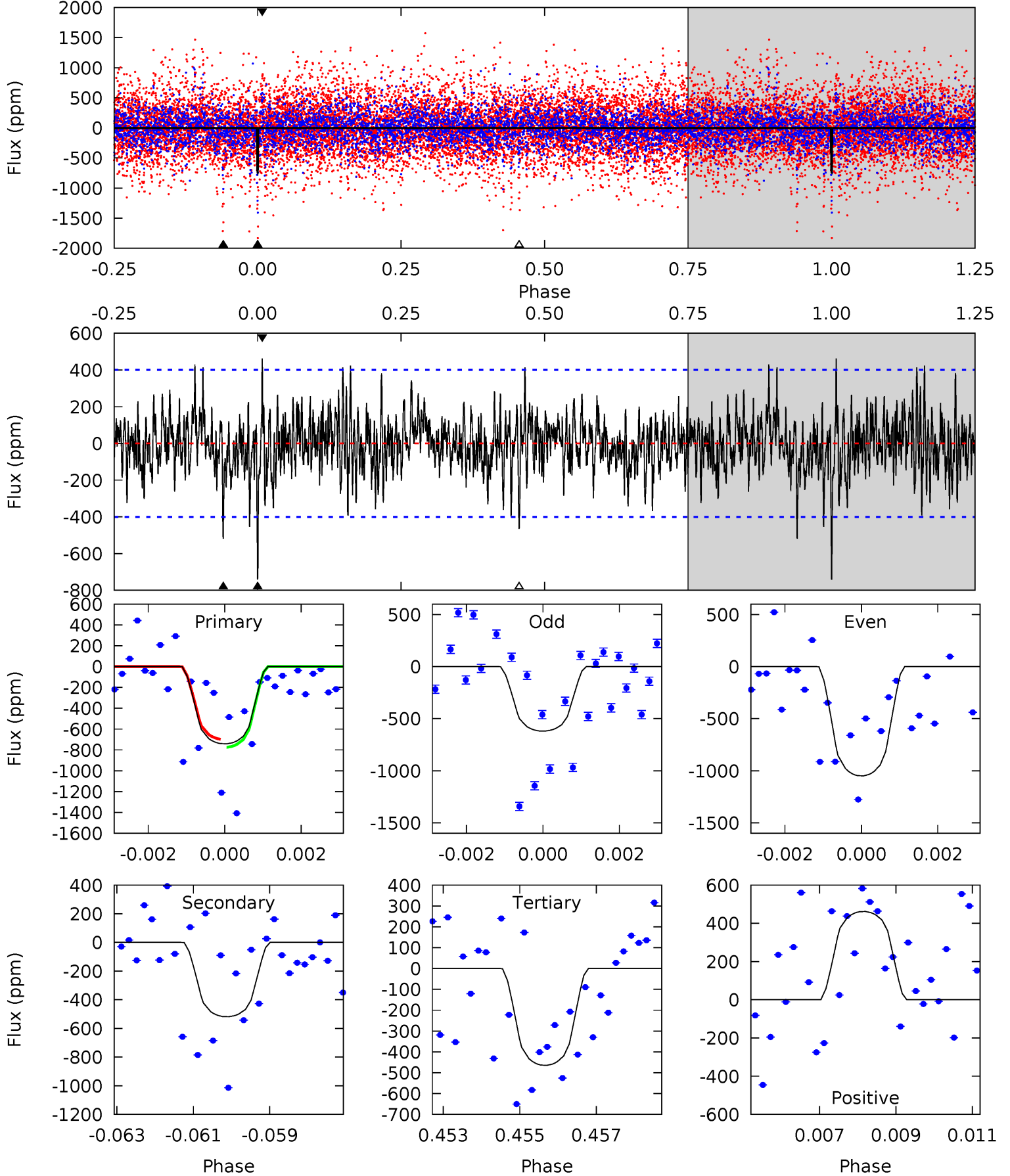
TCE 007032117-02 P= 41.551853 Days $T_0=173.066565$ (BKJD)



DV Model-Shift Uniqueness Test

007032117-02, P = 41.550867 Days, E = 131.489838 Days

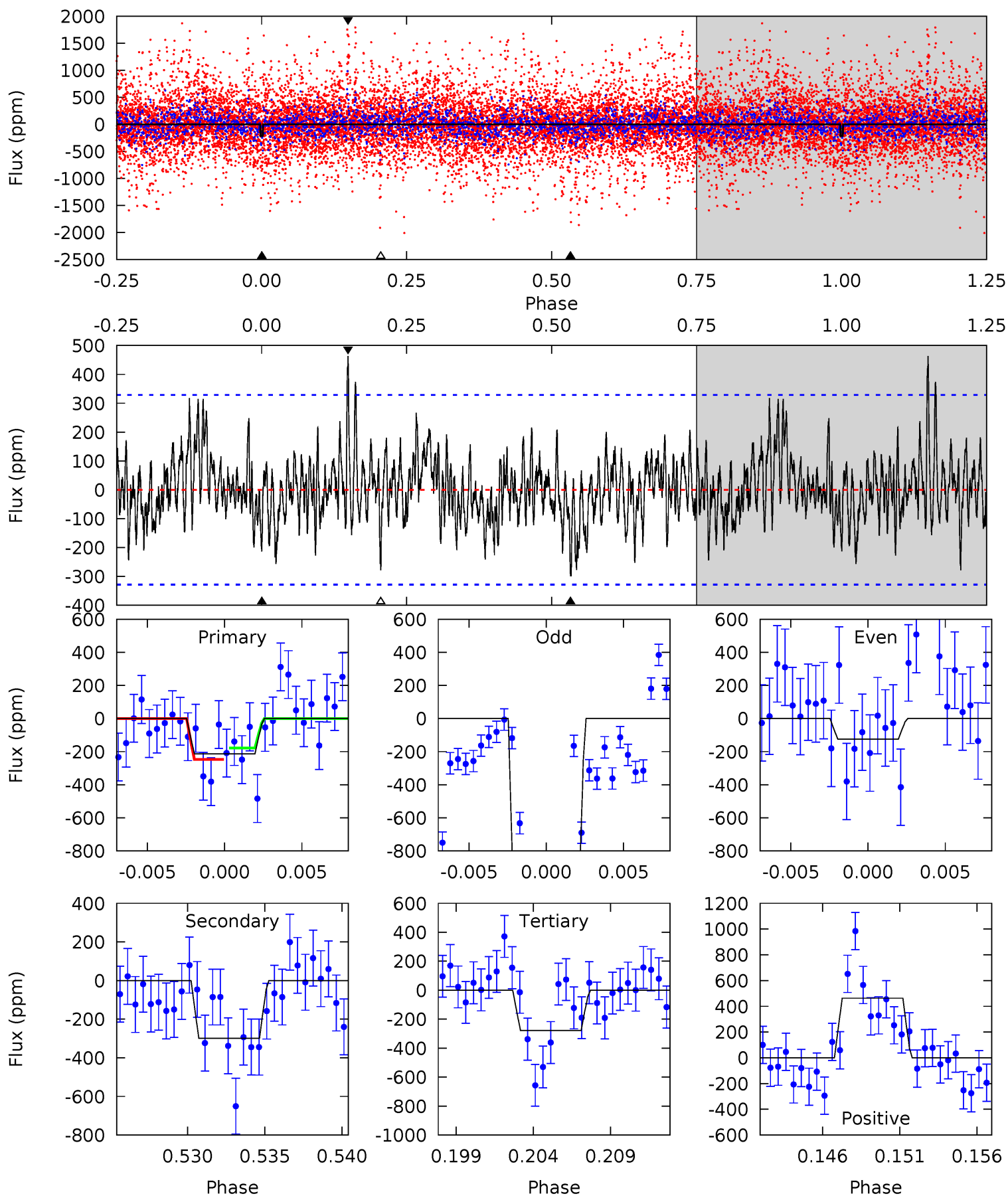
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.83	6.87	6.16	6.12	5.31	3.05	1.65	3.67	3.71	0.71	0.75	2.87	1.17	0.38	0.51



Alt Model-Shift Uniqueness Test

007032117-02, P = 41.551853 Days, E = 89.962859 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.35	4.71	4.37	7.28	5.16	2.82	1.54	-1.02	-3.93	0.34	-2.57	10.0	1.52	0.61	0.56



Stellar Parameters For KIC 007032117

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4987^{+149}_{-149}	$4.611^{+0.066}_{-0.048}$	$-0.620^{+0.350}_{-0.300}$	$0.654^{+0.069}_{-0.058}$	$0.637^{+0.079}_{-0.037}$	$3.205^{+0.879}_{-0.577}$
	+3%/-3%	+1%/-1%	+56%/-48%	+11%/-9%	+12%/-6%	+27%/-18%
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 007032117-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-518 ± 75	$3.25^{+2.63}_{-2.20}$	551^{+21}_{-21}	3859^{+2281}_{-707}	1119^{+10228}_{-783}
Alt.	-300 ± 64	$2.98^{+2.67}_{-2.09}$	551^{+21}_{-20}	3612^{+2141}_{-656}	793^{+8156}_{-587}

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

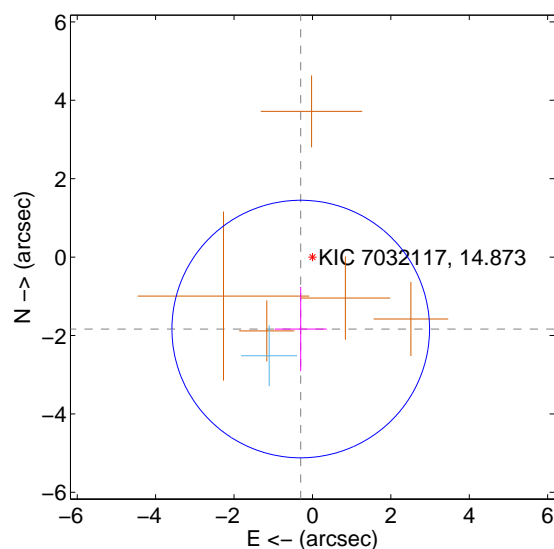
Supplemental centroid analysis for 007032117-02. Kepler magnitude: 14.87. Transit SNR 5.32

There are 1 quarters with good PRF difference image offsets

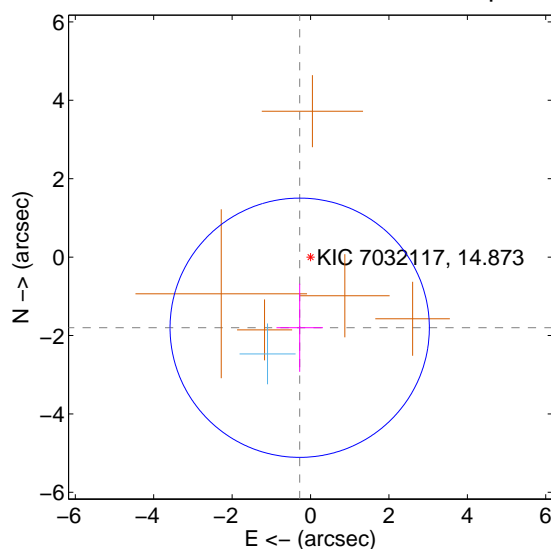
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.859 ± 1.095	1.70	0.298 ± 0.662	-1.835 ± 1.073
PRF-fit source offset from KIC position	1.823 ± 1.102	1.65	0.276 ± 0.592	-1.802 ± 1.123
photometric centroid source offset	1.10 ± 1.04	1.05	-0.00 ± 1.06	1.10 ± 1.04

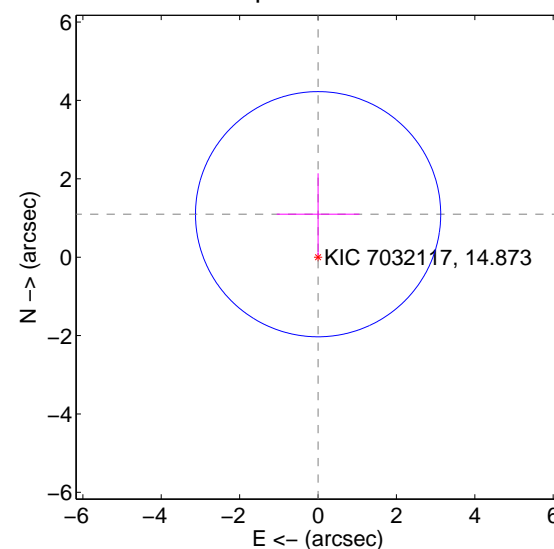
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

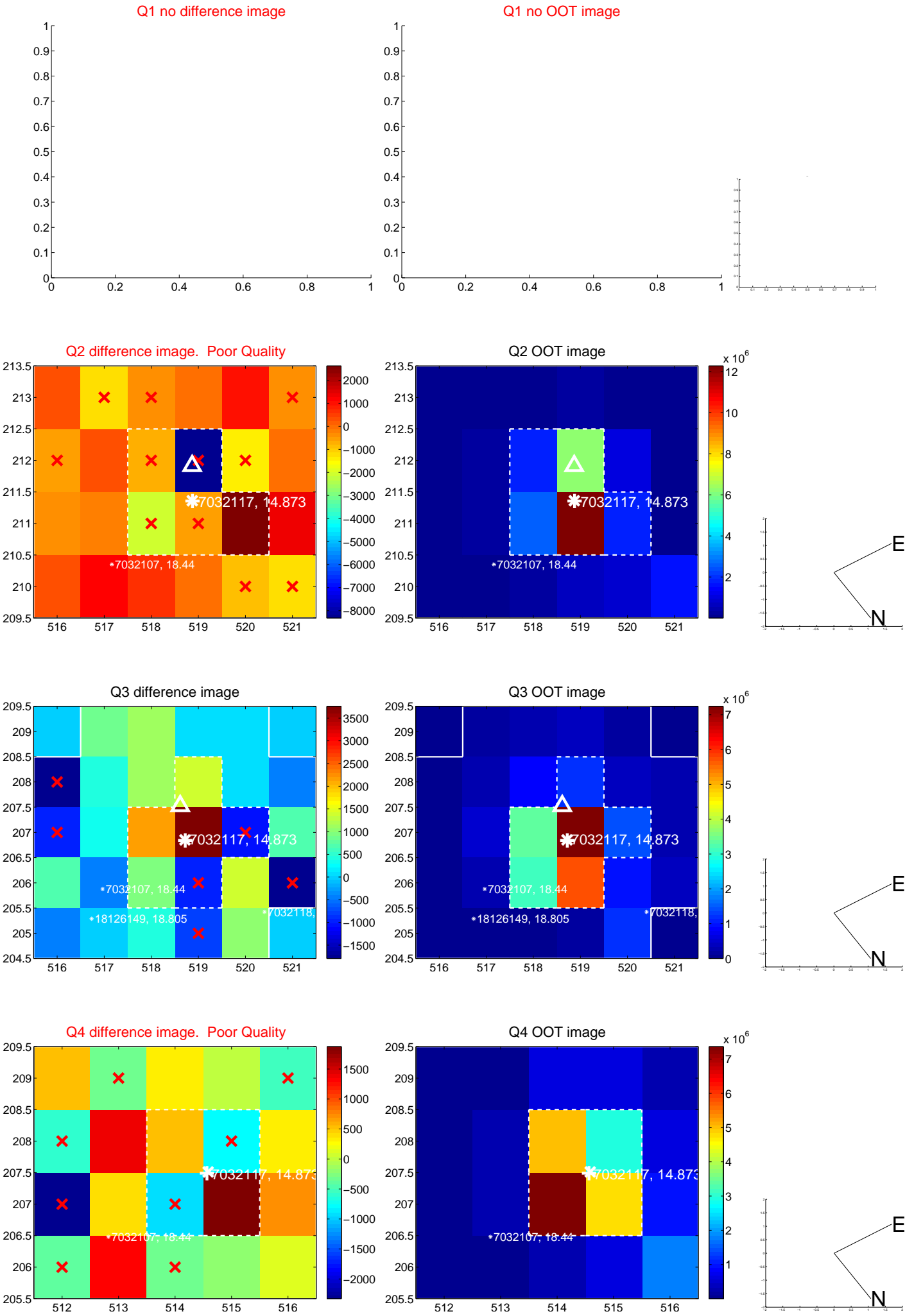


offset from photometric centroids

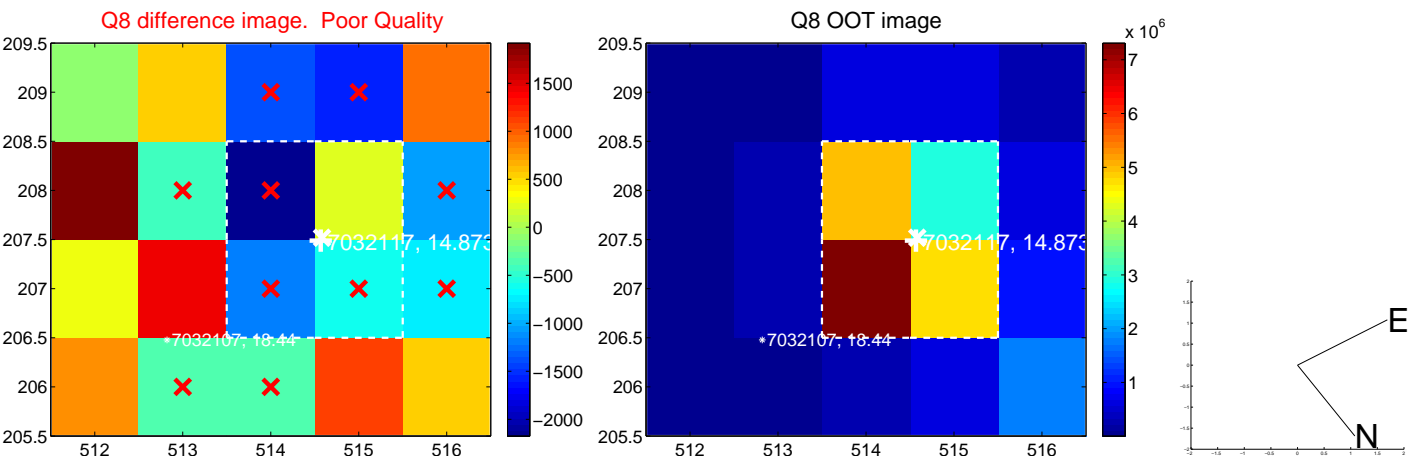
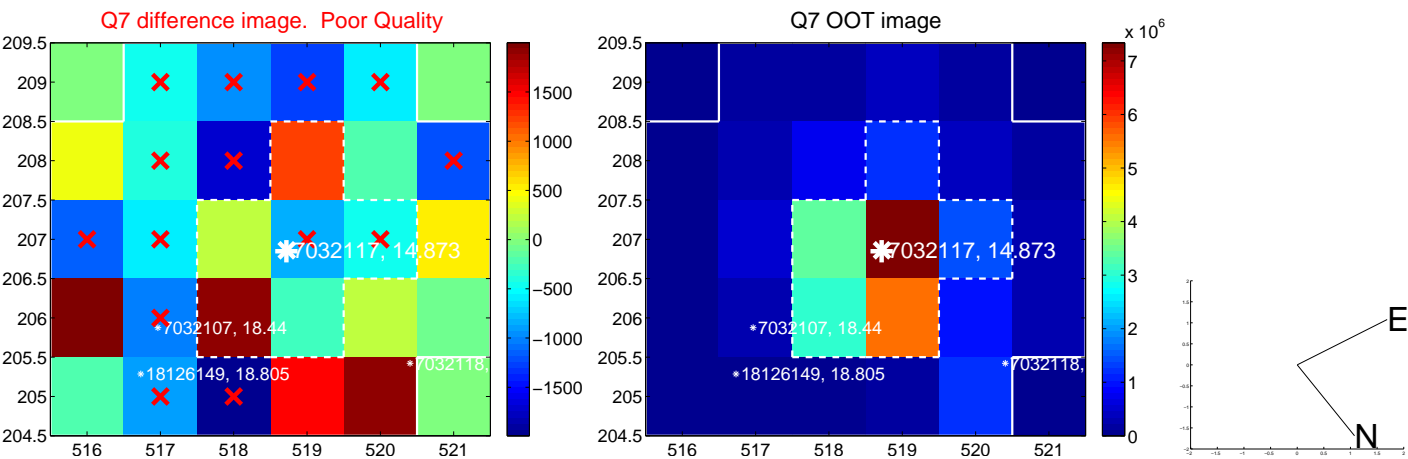
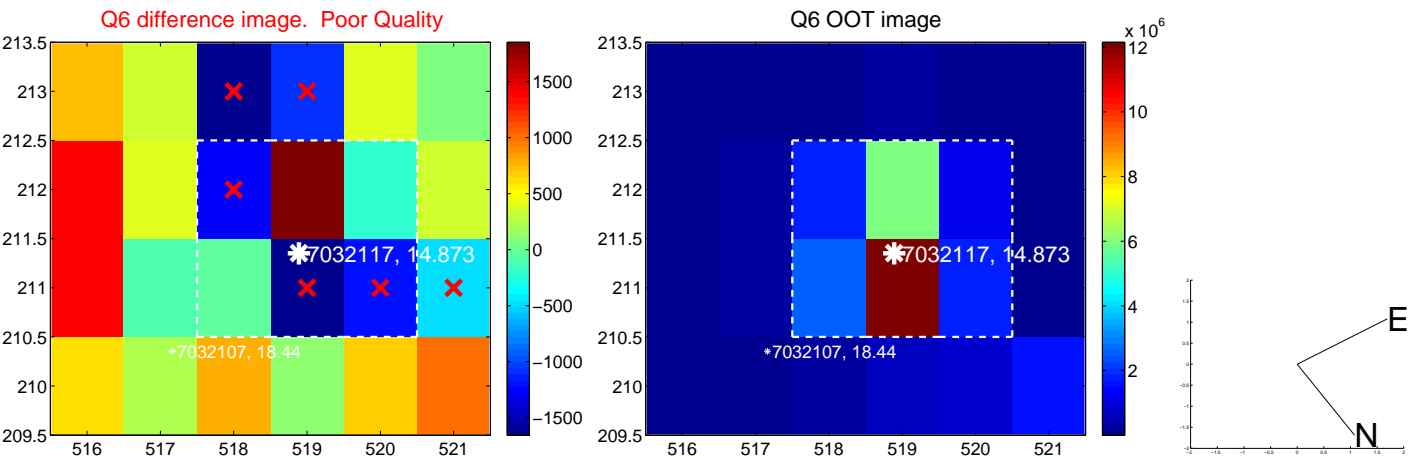
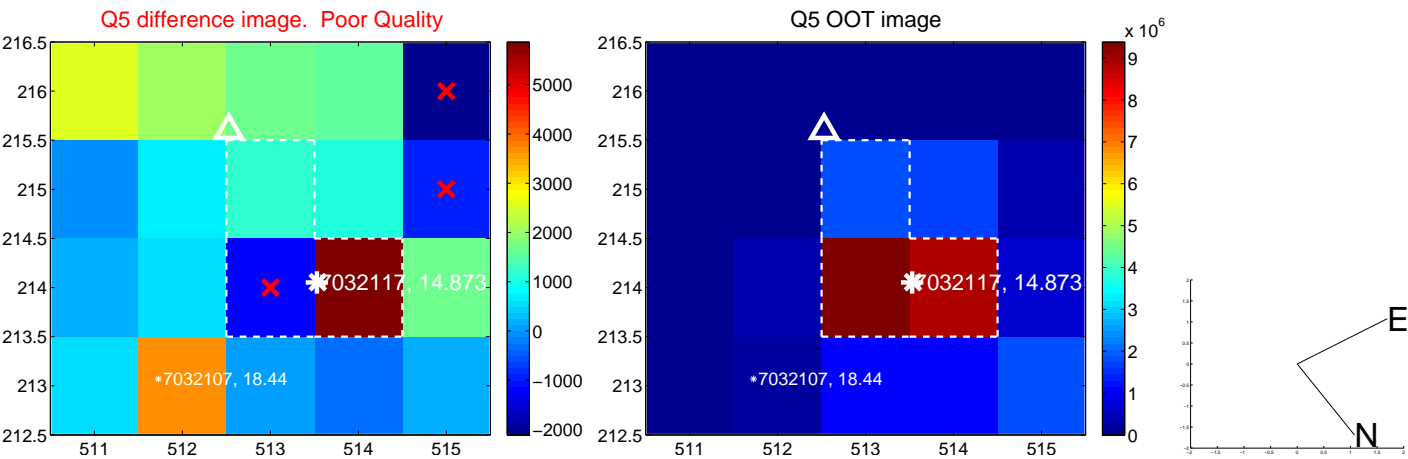


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

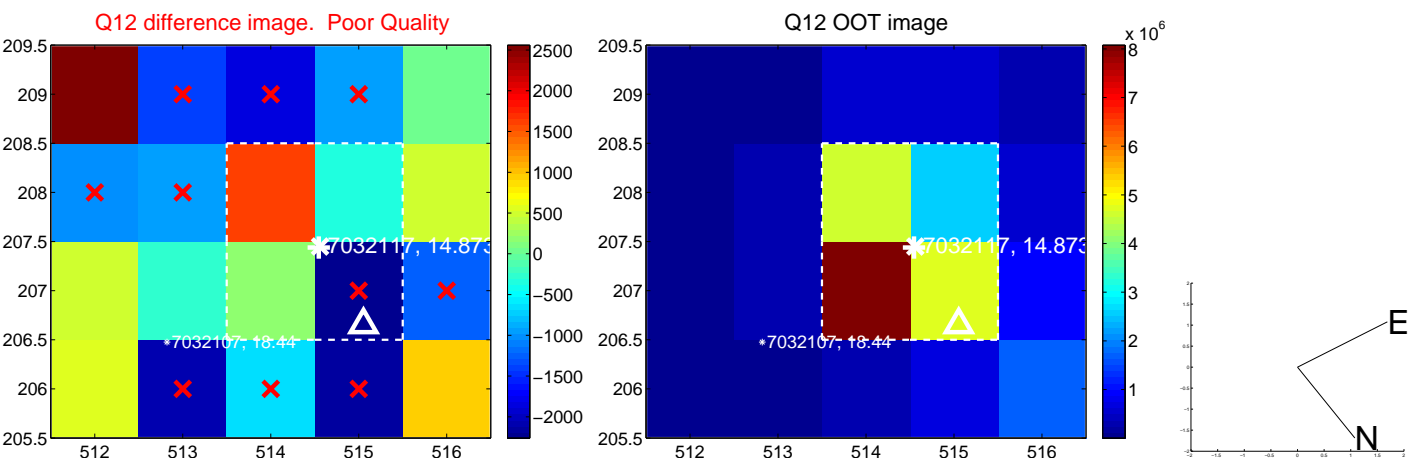
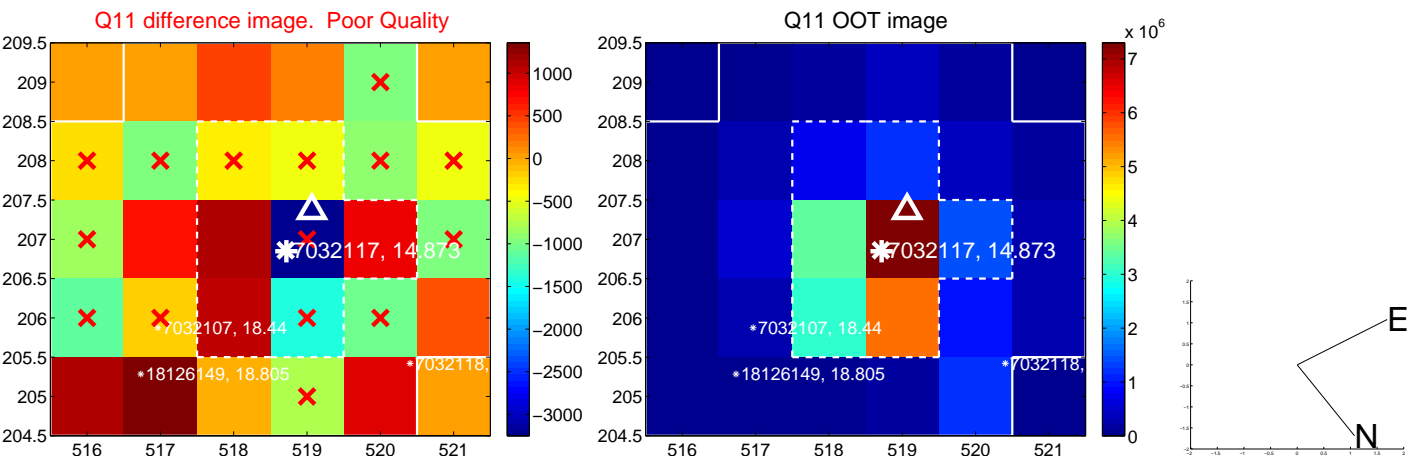
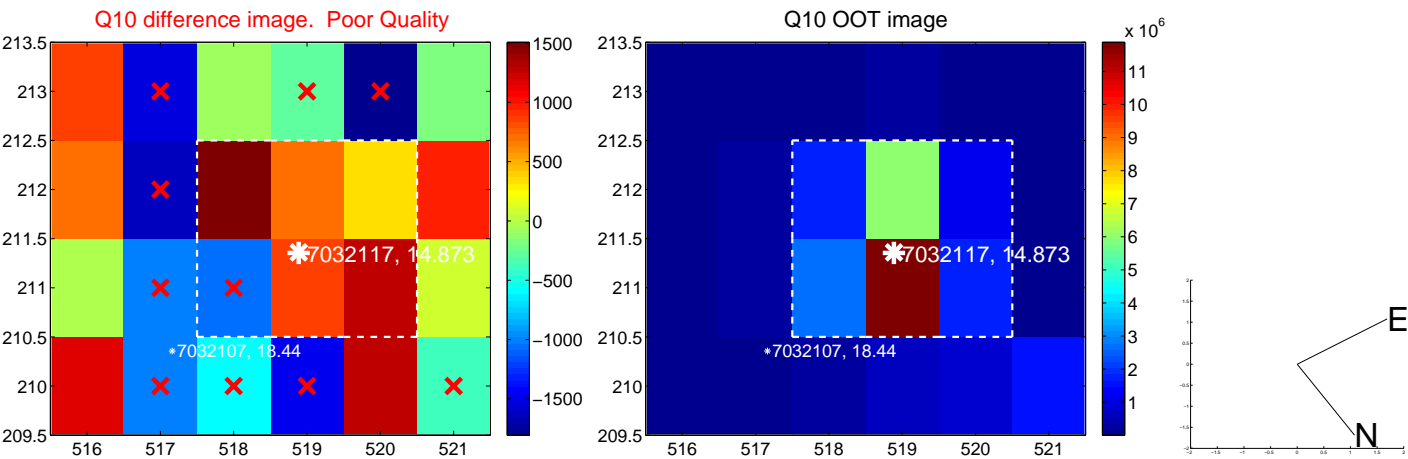
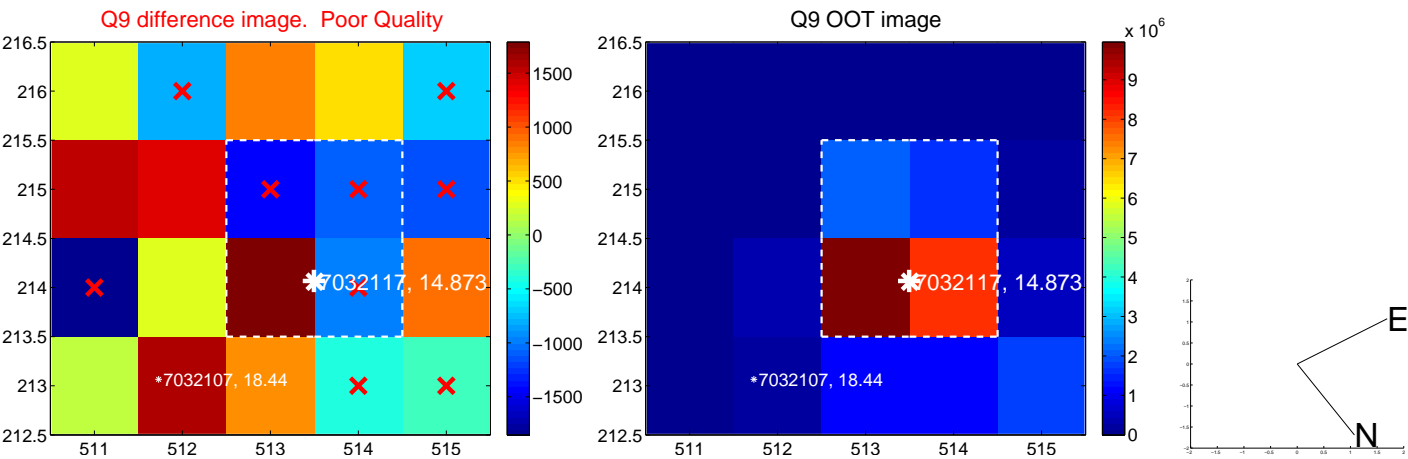
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



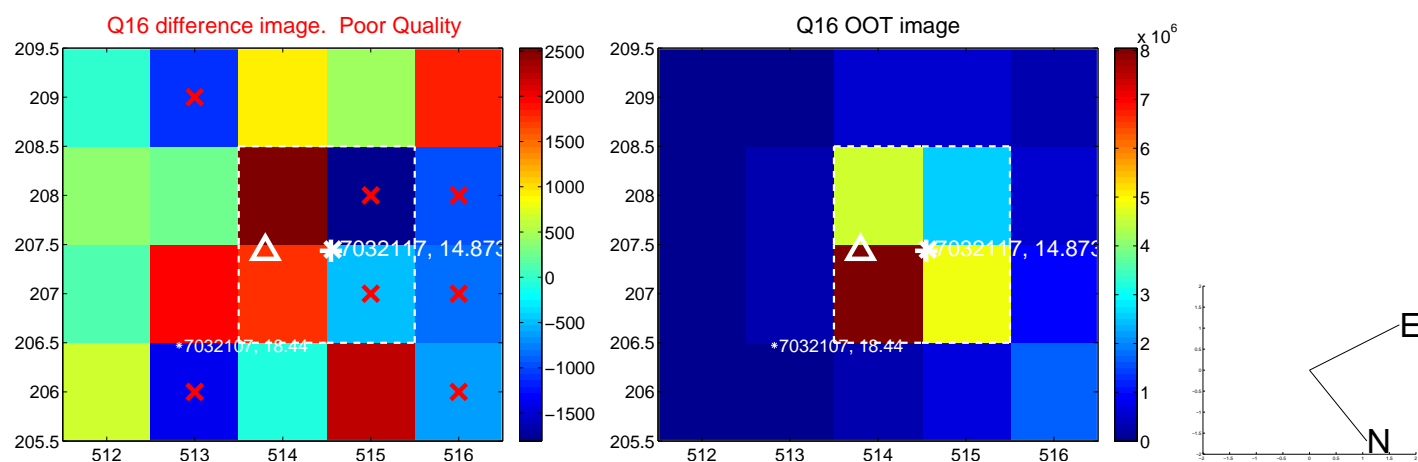
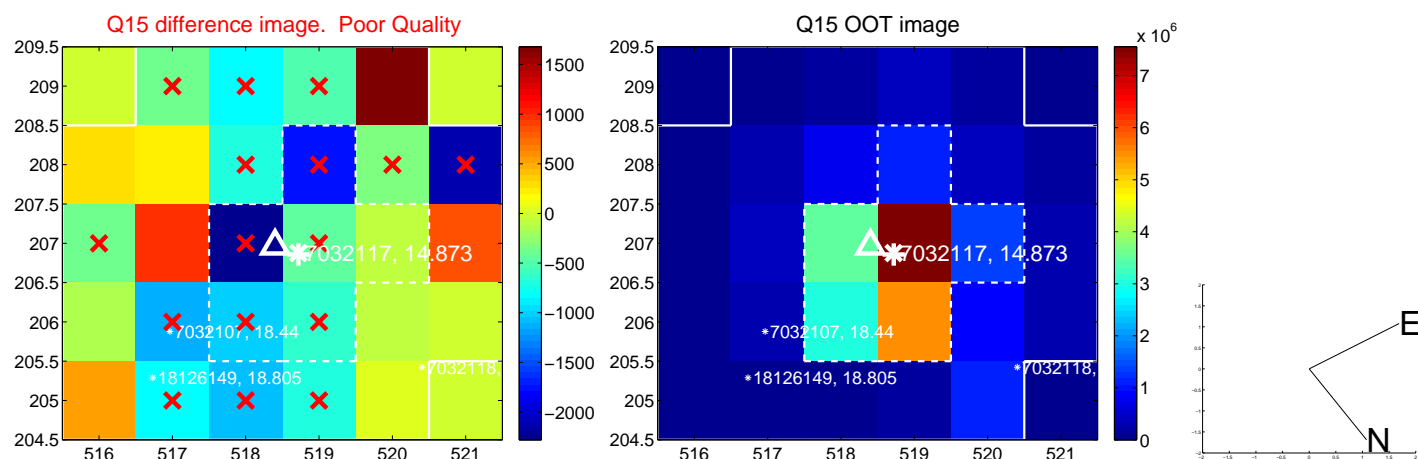
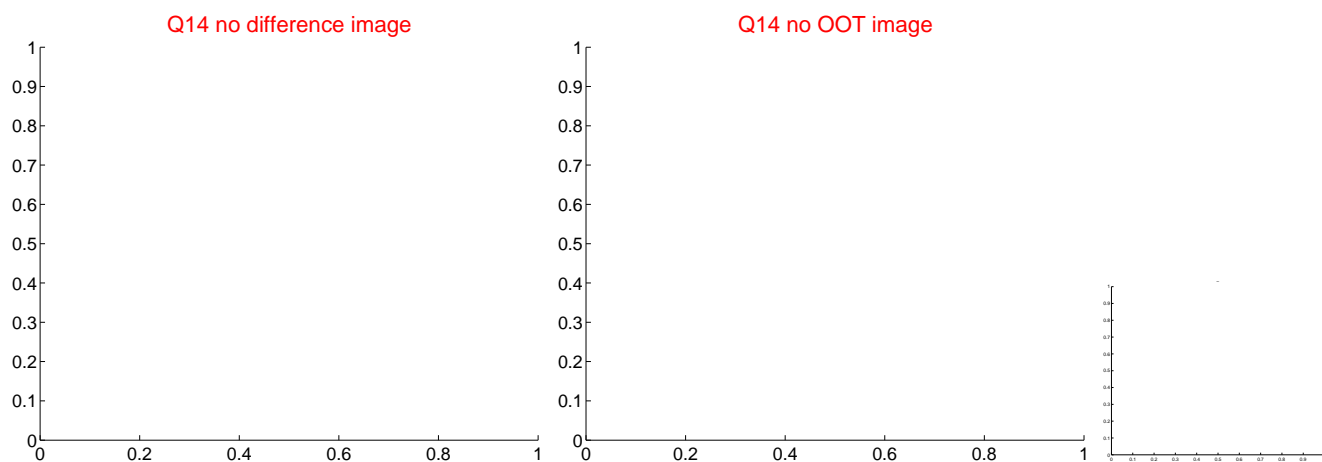
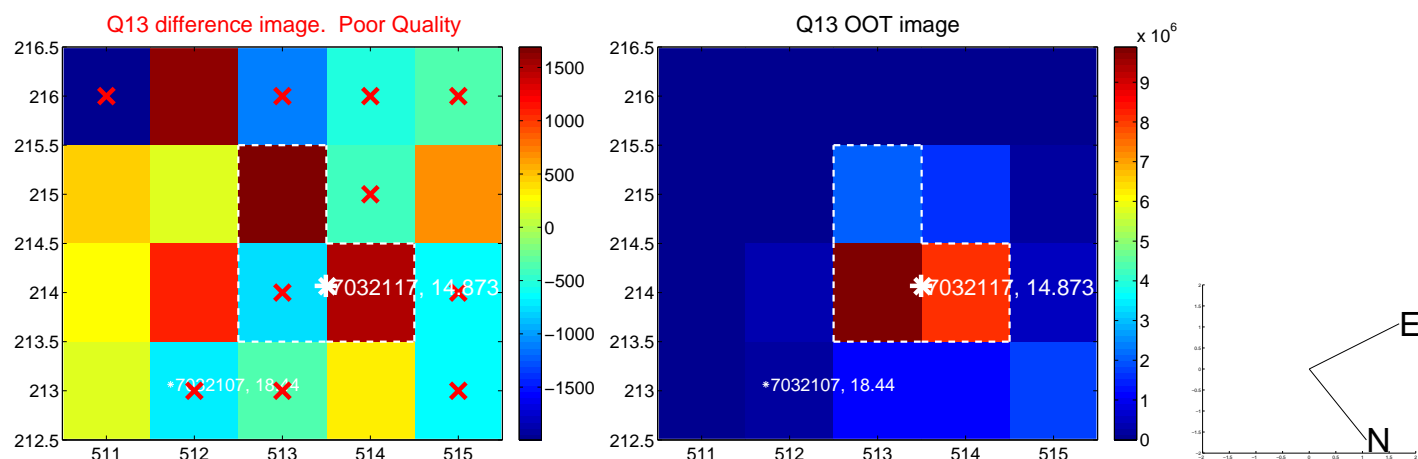
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



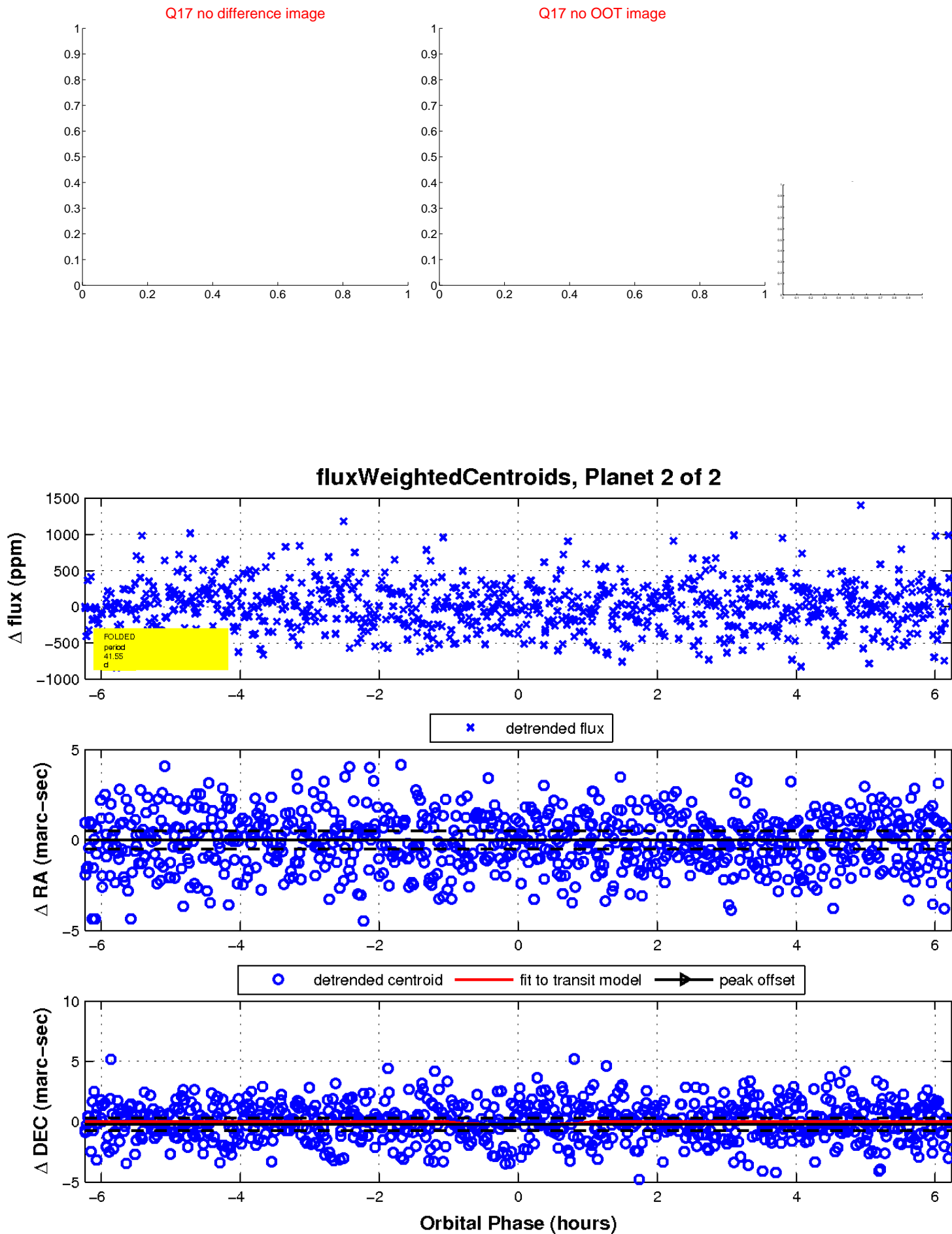
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

