

KIC 010028352

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})
010028352-01	OBS	1957.01	1.386797	132.534296	217.9	1.336	64.2	75.1	2.04	6823	3.52	9700.02
010028352-02	OBS	1957.02	1.751515	132.461998	37.5	8.854	12.0	13.4	2.04	6823	2.28	7105.12
010028352-03	OBS	No	514.863874	269.780384	535.2	33.933	17.8	8.6	2.04	6823	5.41	3.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010028352-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
010028352-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
010028352-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—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.

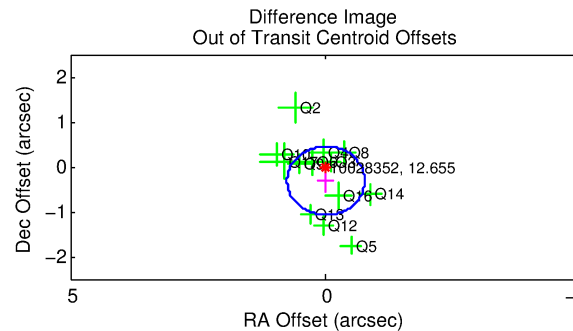
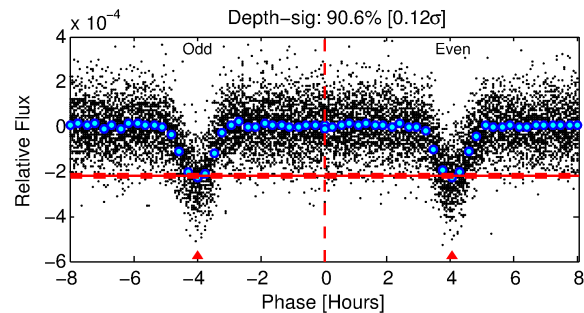
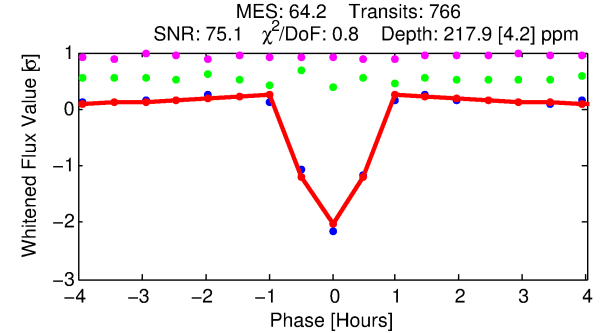
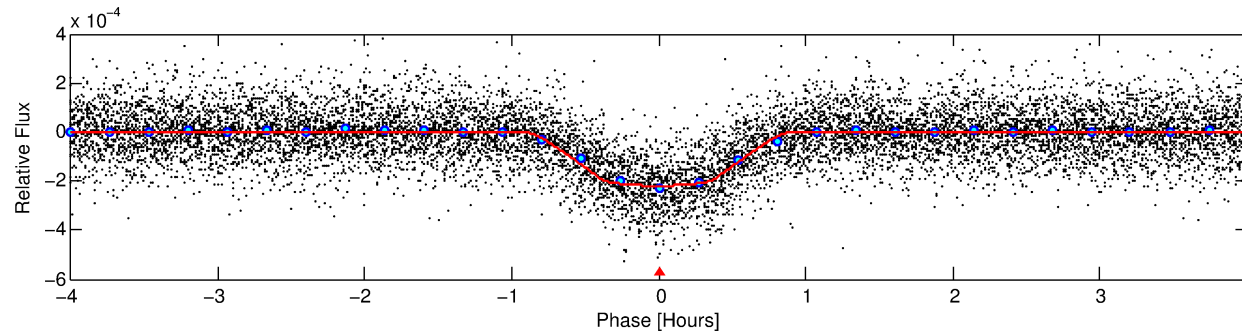
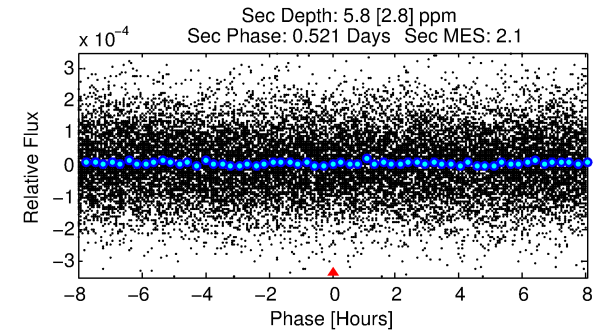
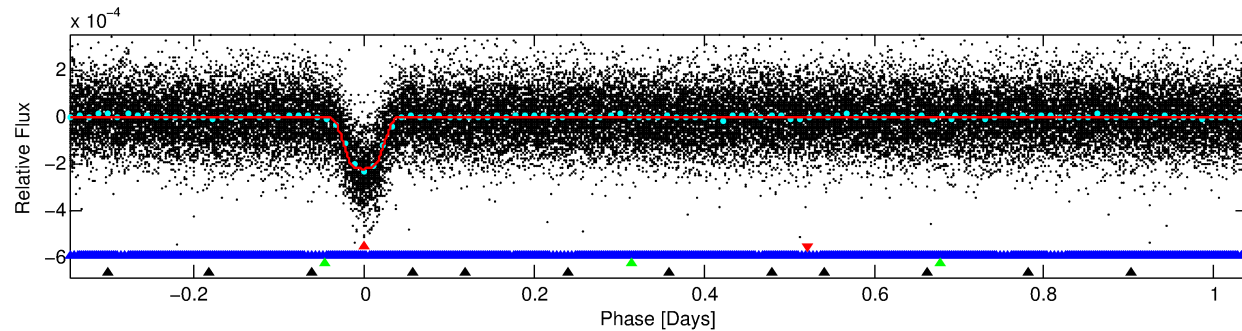
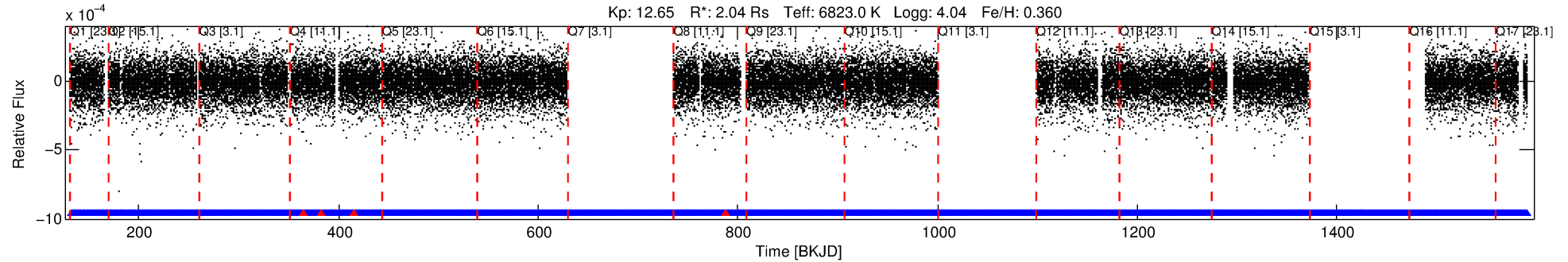
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010028352-01

No Significant Match Found

DV One-Page Summary

KIC: 10028352 Candidate: 1 of 4 Period: 1.387 d
KOI: K01957.01 Corr: 0.970



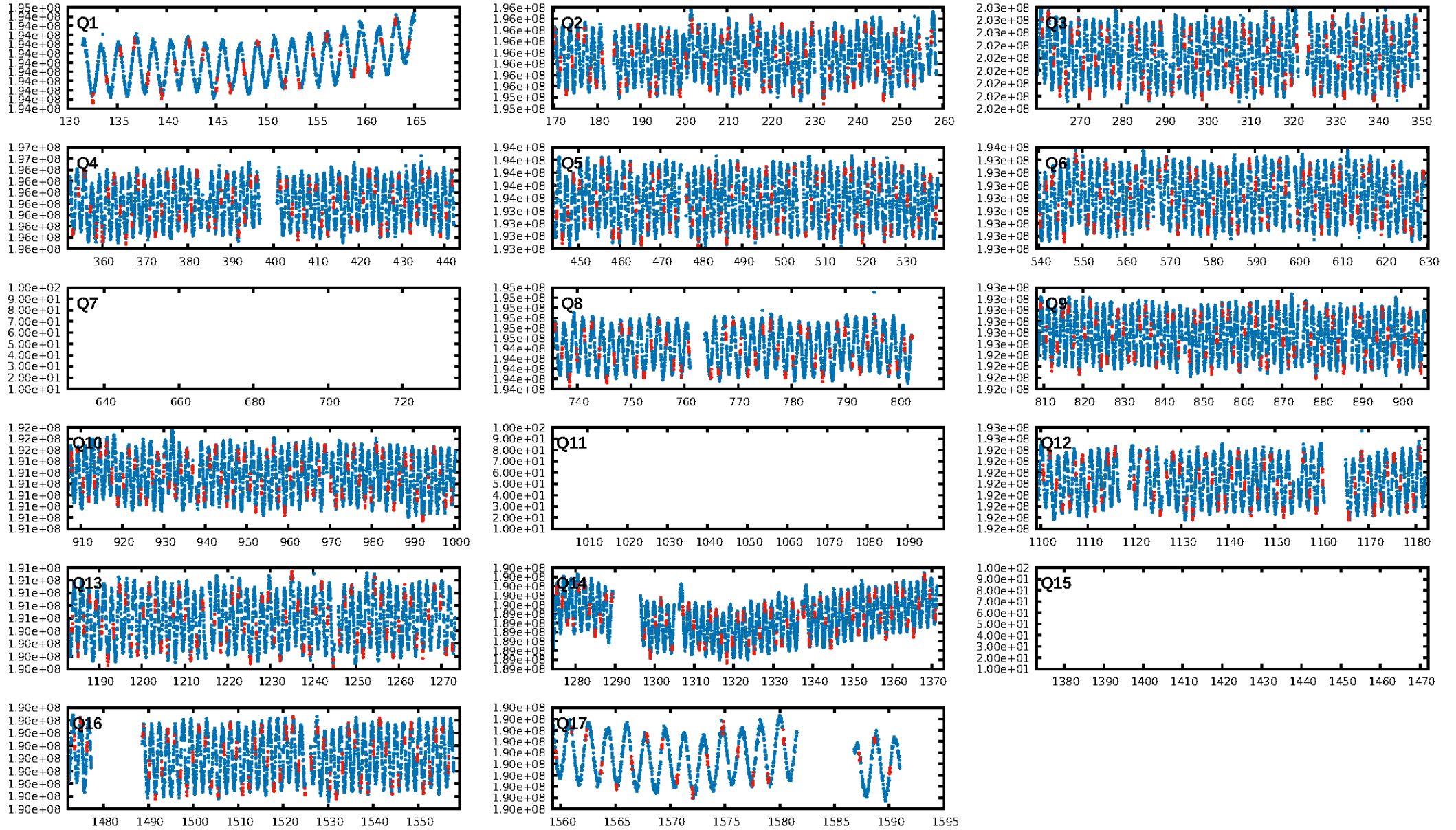
DV Fit Results:

Period = 1.38680 [0.00000] d
Epoch = 132.5343 [0.0003] BKJD
Rp/R* = 0.0158 [0.0013]
a/R* = 3.85 [1.68]
b = 0.90 [0.10]
Seff = 9700.02 [2739.46]
Teff = 2531 [179] K
Rp = 3.52 [0.89] Re
a = 0.0288 [0.0056] AU
Ag = 0.21 [0.12] [-6.34σ]
Teffp = 2664 [338] K [0.35σ]

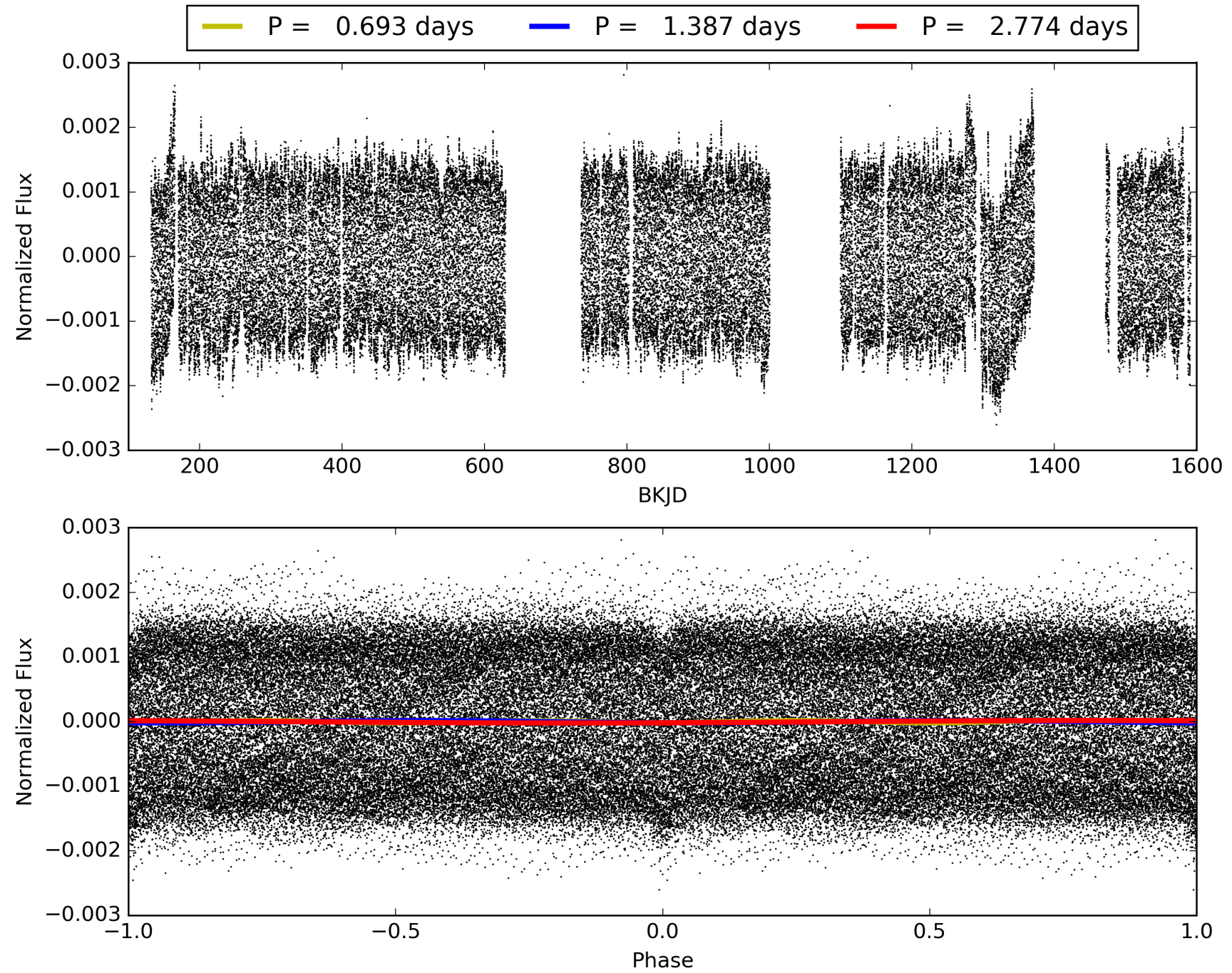
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 67.2% [0.98σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [719/723]
GhostDiagnostic-chr: 15.35
Centroid-sig: 0.0%
Centroid-so: 0.195 arcsec [1.20σ]
OotOffset-rm: 0.314 arcsec [1.23σ]
KicOffset-rm: 0.358 arcsec [1.47σ]
OotOffset-st: 4/1/4/4 [13]
KicOffset-st: 4/1/4/4 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010028352-01, PDC Light Curves

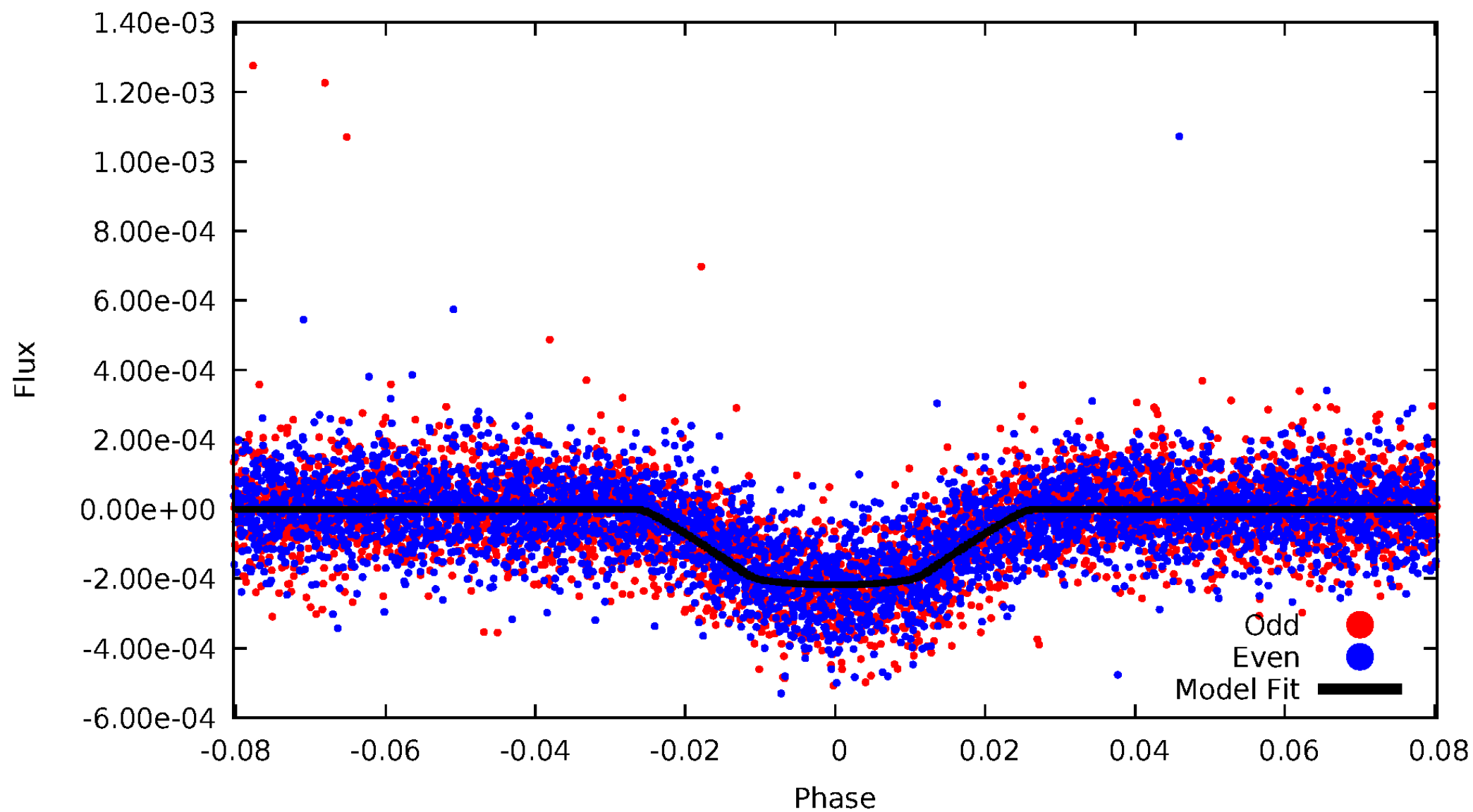


TCE 010028352-01



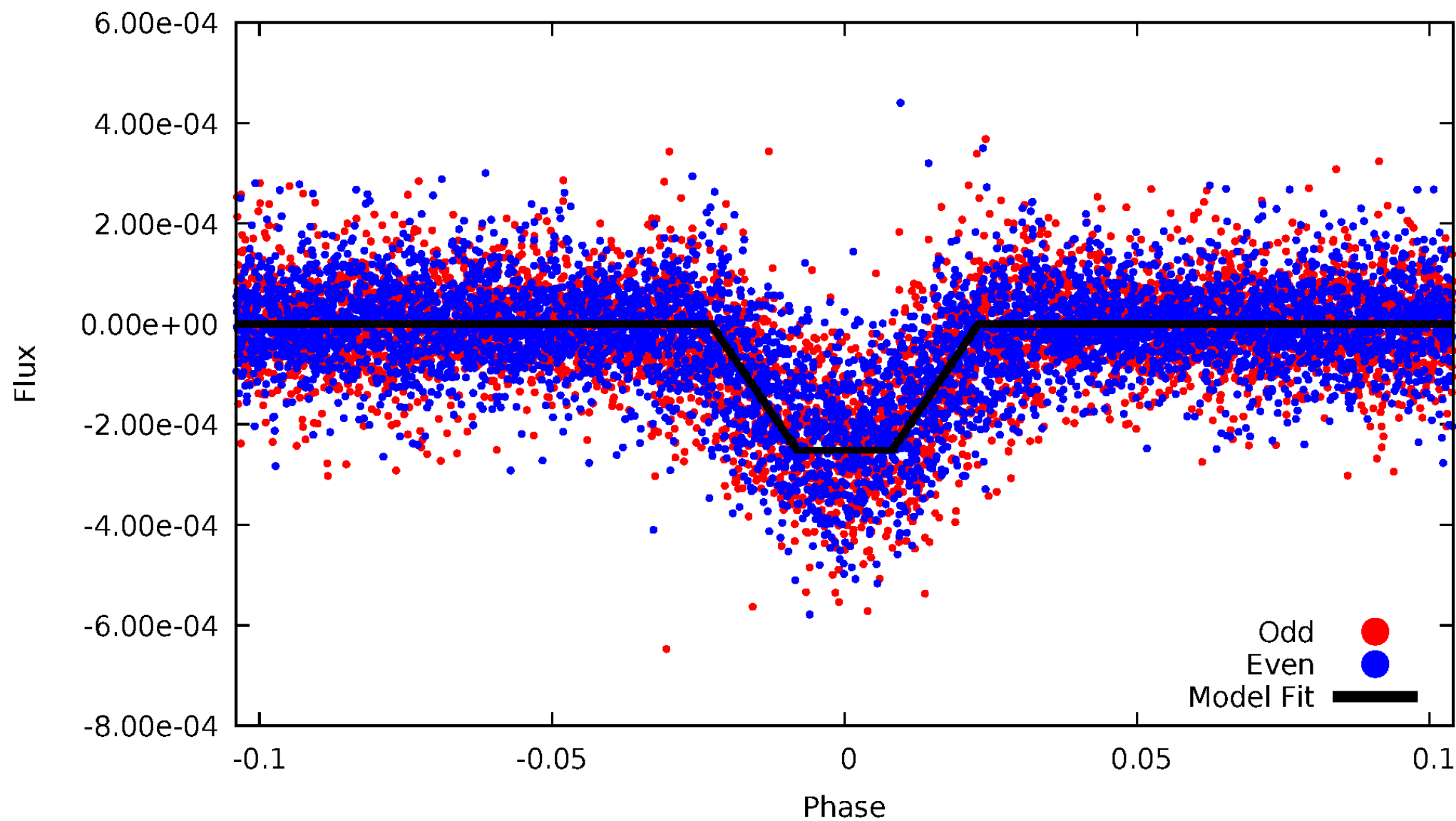
DV Odd/Even

TCE 010028352-01



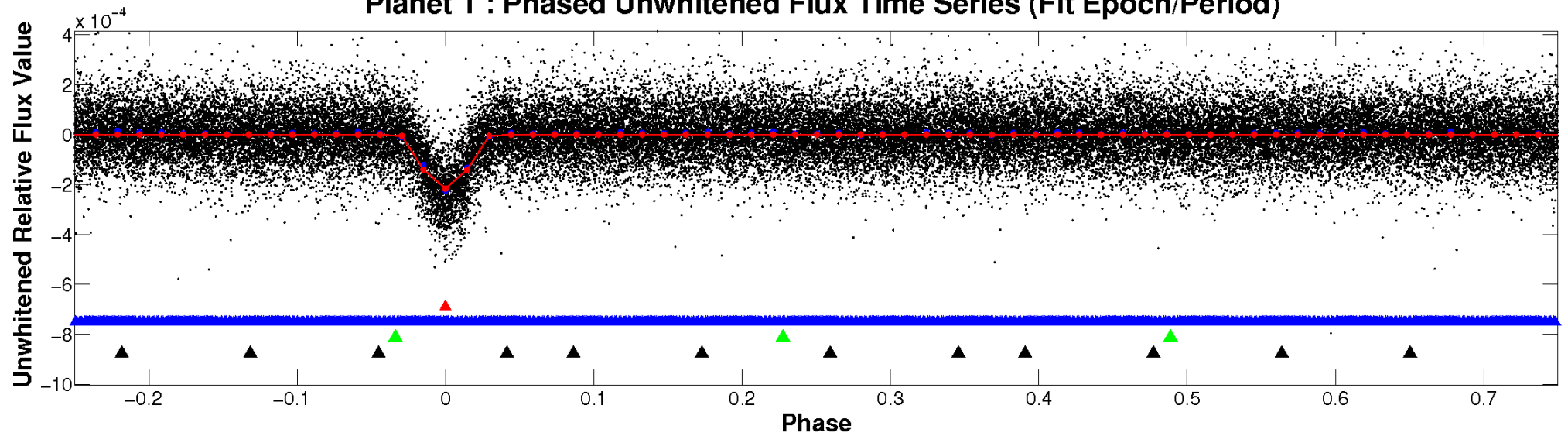
ALT Odd/Even

TCE 010028352-01

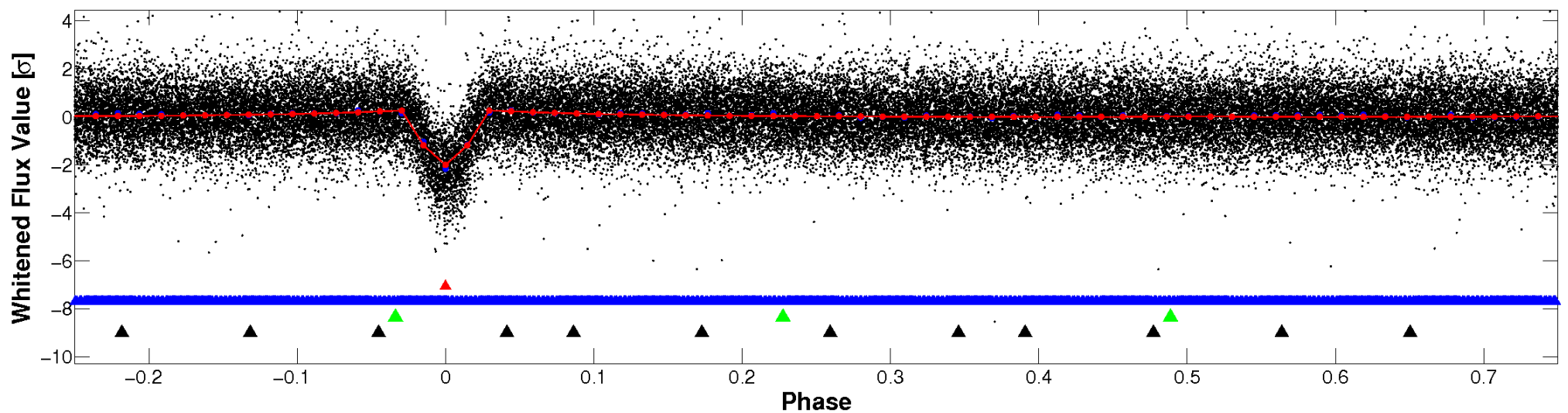


Non-Whitened Vs. Whitened Light Curve

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

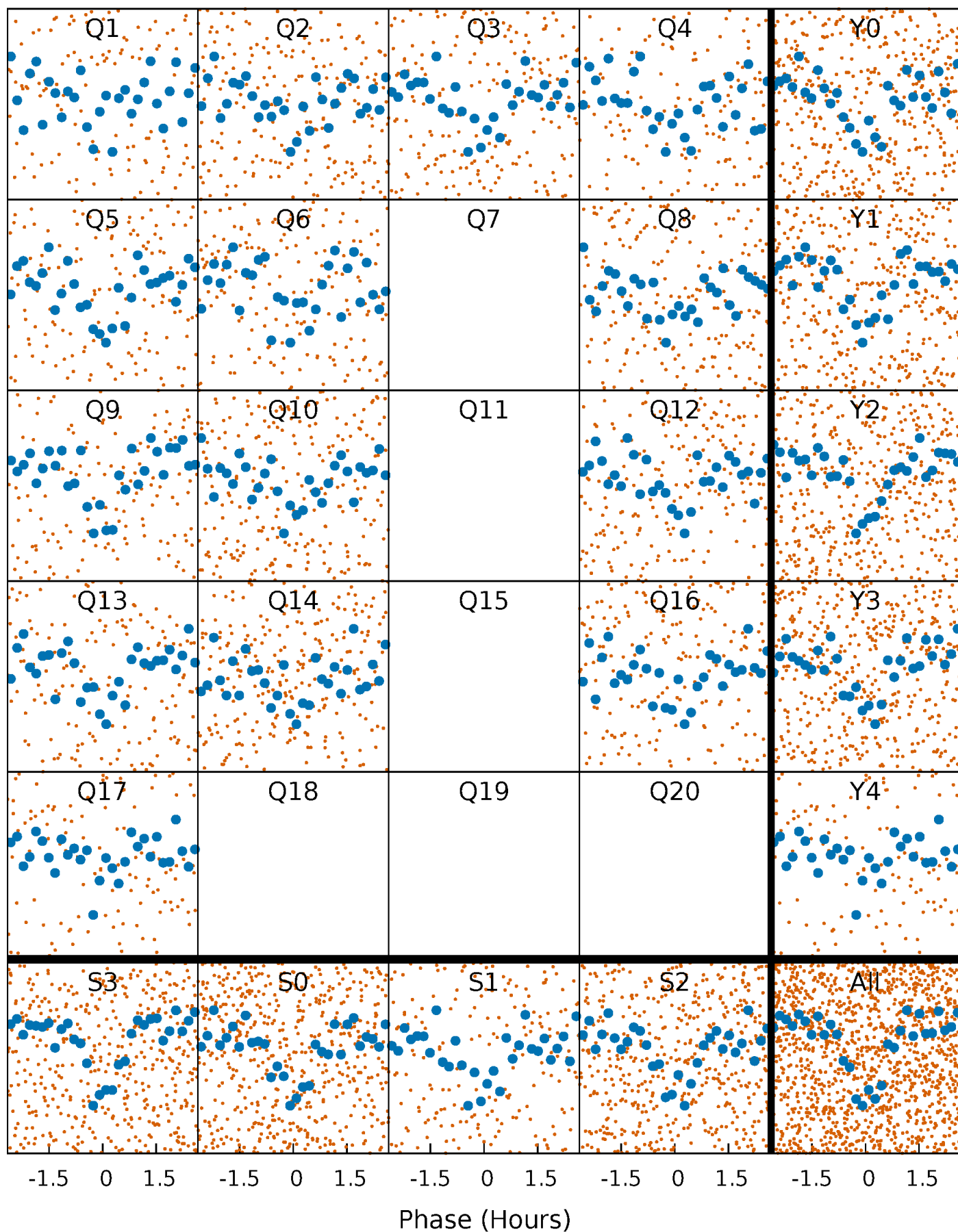


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



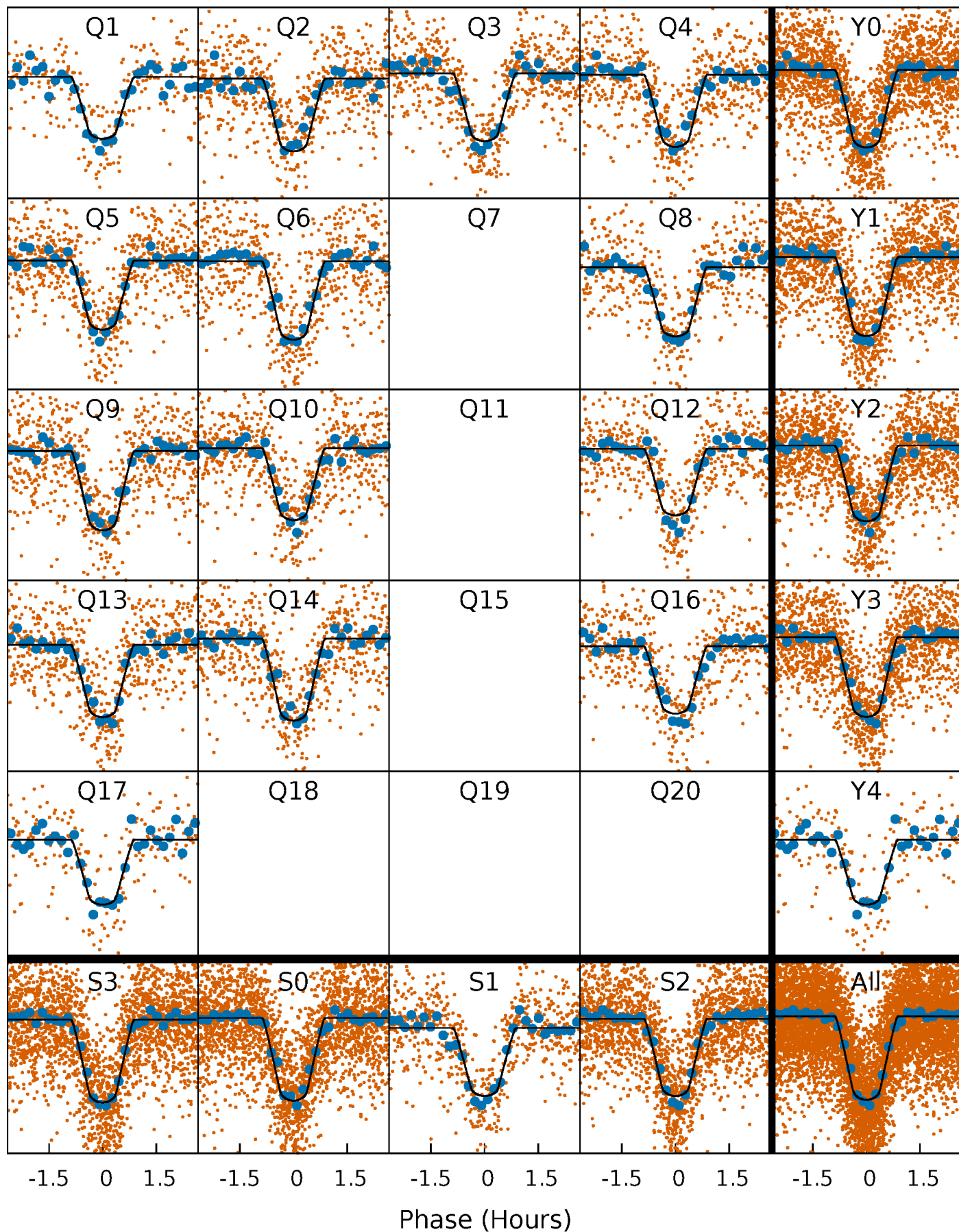
PDC Quarter-Phased Transit Curves

TCE 010028352-01 P= 1.386797 Days $T_0=132.534296$ (BKJD)



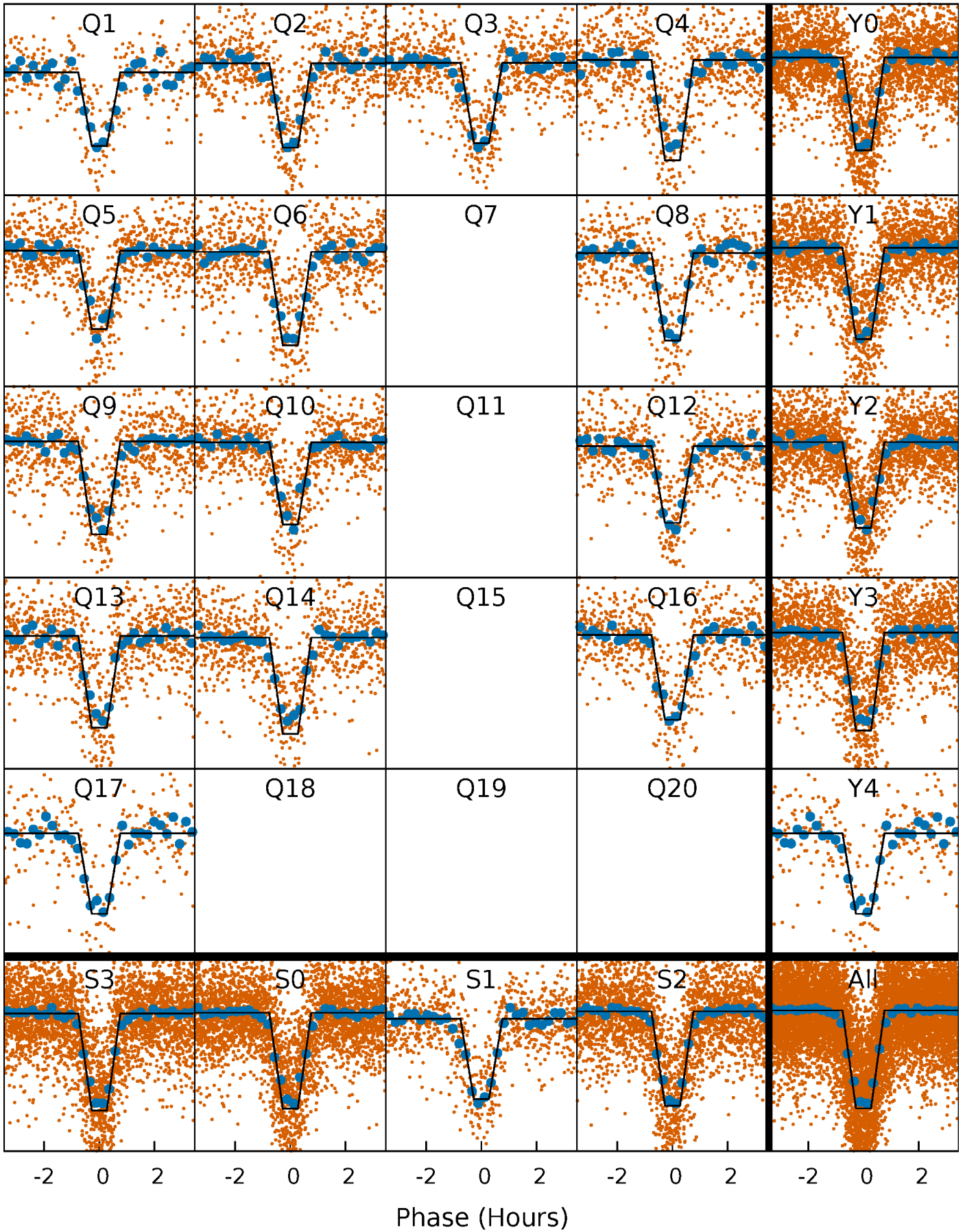
DV Quarter-Phased Transit Curves

TCE 010028352-01 P= 1.386797 Days $T_0=132.534296$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

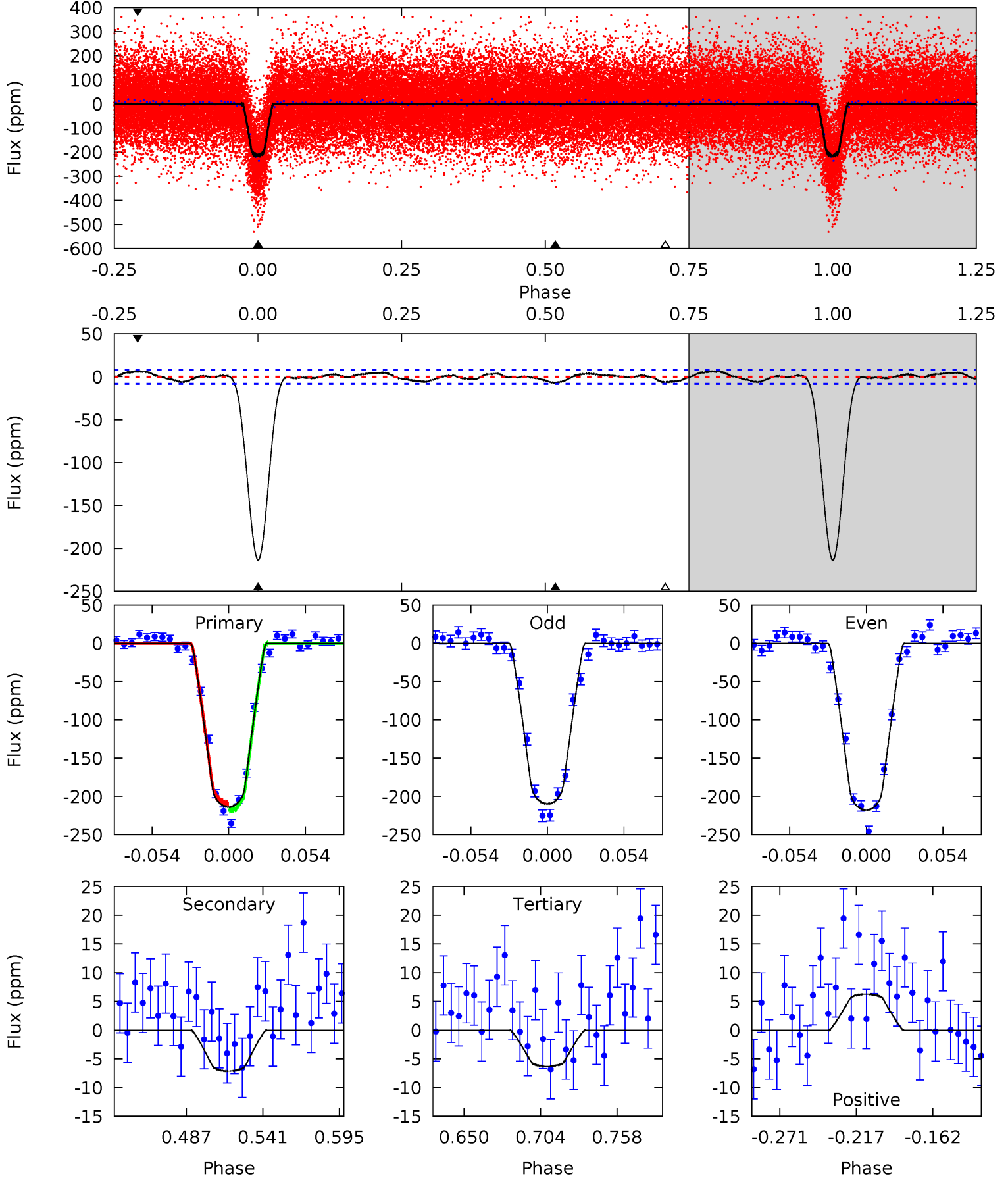
TCE 010028352-01 P= 1.386802 Days $T_0=132.532333$ (BKJD)



DV Model-Shift Uniqueness Test

010028352-01, P = 1.386797 Days, E = 131.147499 Days

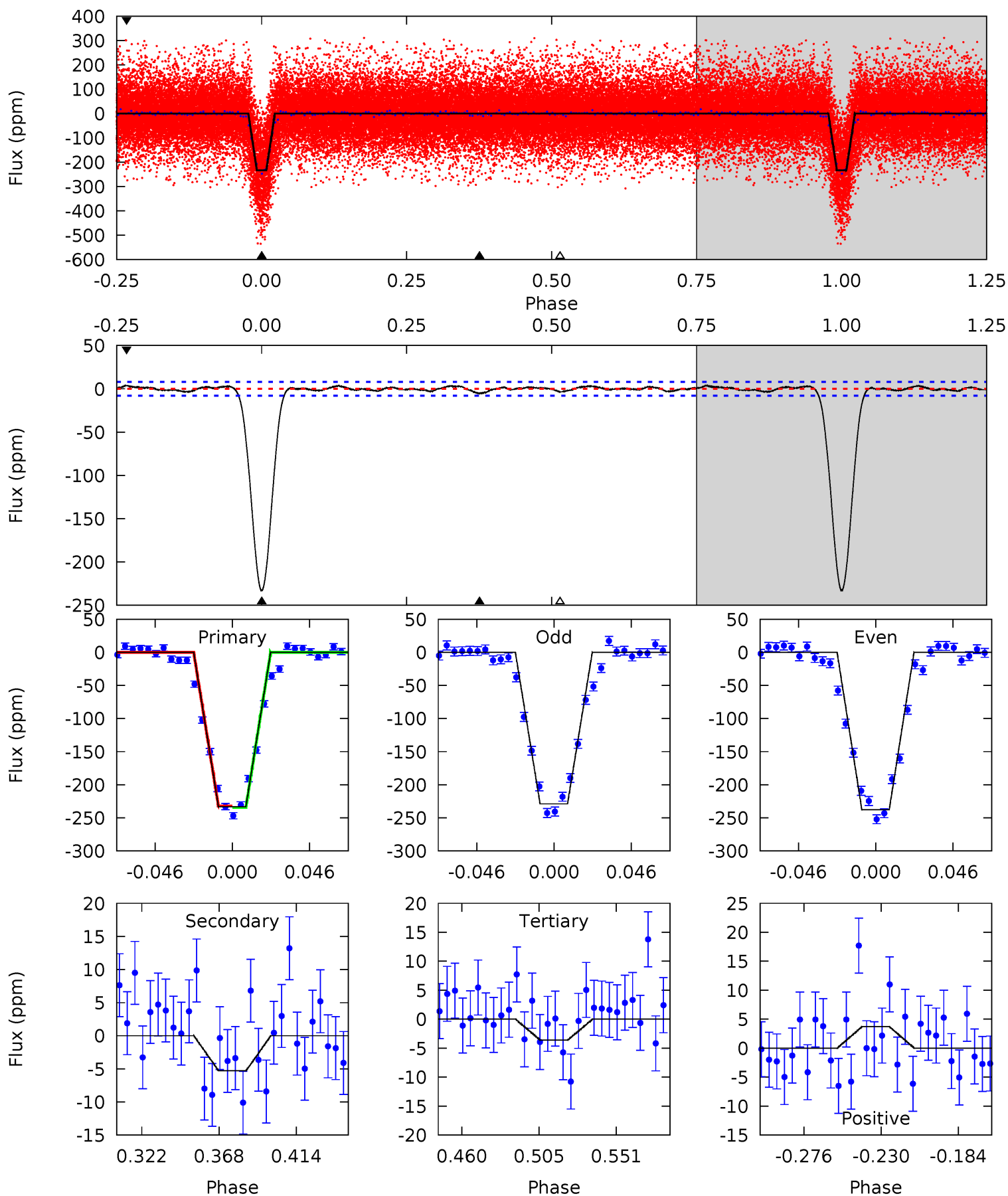
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
119.7	3.99	3.54	3.51	4.69	1.93	1.67	116.1	116.1	0.46	0.48	2.32	1.01	0.03	2.51



Alt Model-Shift Uniqueness Test

010028352-01, P = 1.386802 Days, E = 131.145531 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
139.8	3.18	2.17	2.22	4.73	2.00	0.98	137.6	137.6	1.01	0.96	2.60	1.01	0.02	0.65



Stellar Parameters For KIC 010028352

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6823^{+61}_{-91}	$4.040^{+0.121}_{-0.148}$	$0.360^{+0.100}_{-0.200}$	$2.037^{+0.486}_{-0.365}$	$1.660^{+0.155}_{-0.155}$	$0.277^{+0.180}_{-0.117}$
	+1%/-1%	+3%/-4%	+28%/-56%	+24%/-18%	+9%/-9%	+65%/-42%
Source	SPE90	FLK73	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 010028352-01 / KOI 1957.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-7 ± 2	$3.50^{+0.54}_{-0.42}$	3532^{+210}_{-166}	-2563^{+5335}_{-493}	$0.262^{+0.118}_{-0.086}$
Alt.	-5 ± 2	$3.54^{+0.54}_{-0.47}$	3544^{+201}_{-180}	-2928^{+711}_{-292}	$0.193^{+0.093}_{-0.074}$

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 $A_{obs} \gg 1.0$

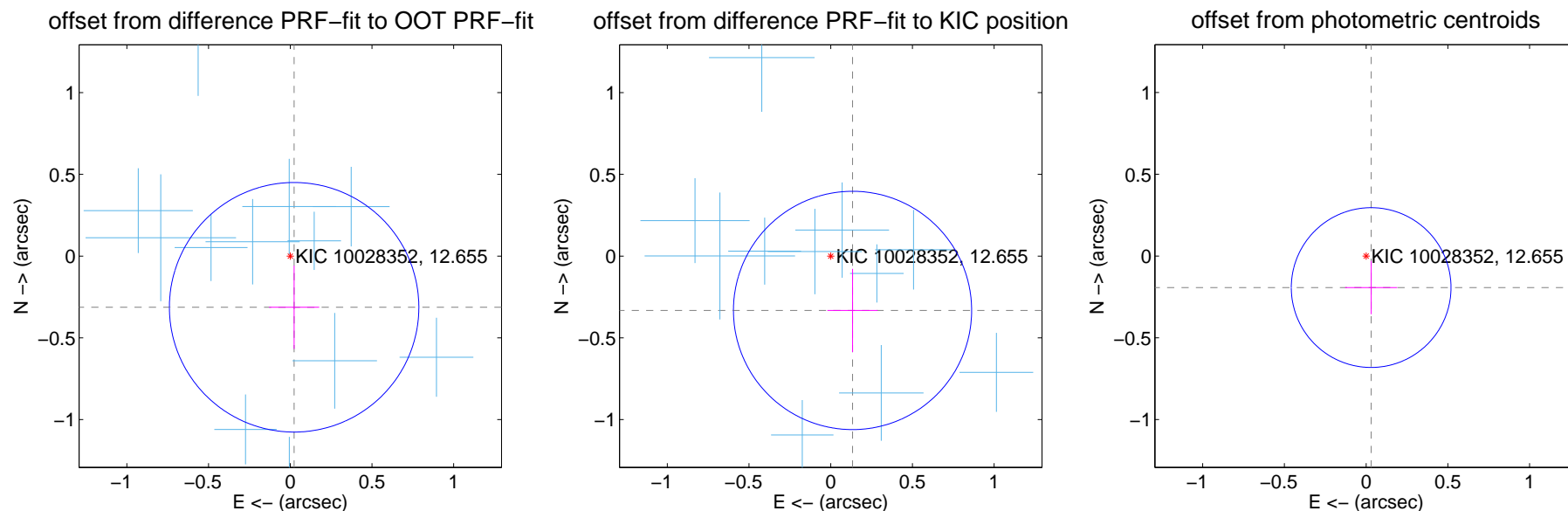
DV Centroid Data

Supplemental centroid analysis for 010028352-01. Kepler magnitude: 12.65. Transit SNR 75.09

There are 13 quarters with good PRF difference image offsets

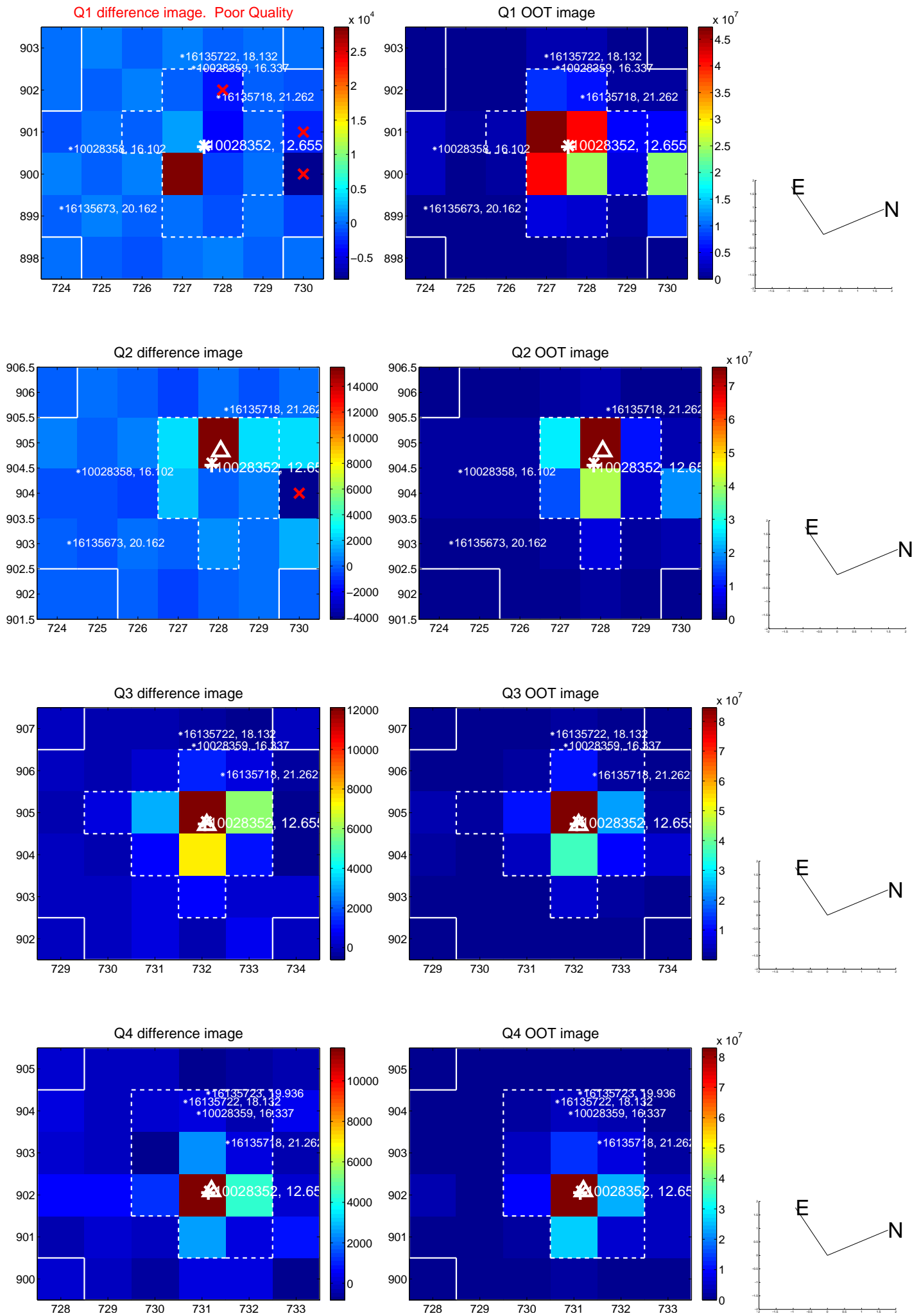
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.314 ± 0.254	1.23	-0.024 ± 0.154	-0.313 ± 0.255
PRF-fit source offset from KIC position	0.358 ± 0.243	1.47	-0.134 ± 0.154	-0.332 ± 0.254
photometric centroid source offset	0.20 ± 0.16	1.20	-0.03 ± 0.16	-0.19 ± 0.16

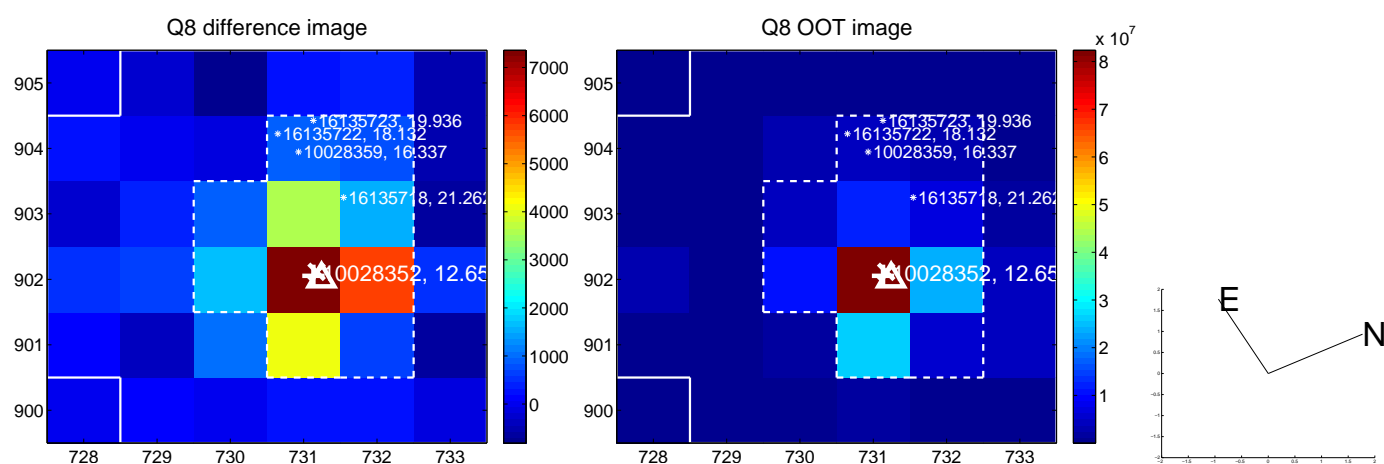
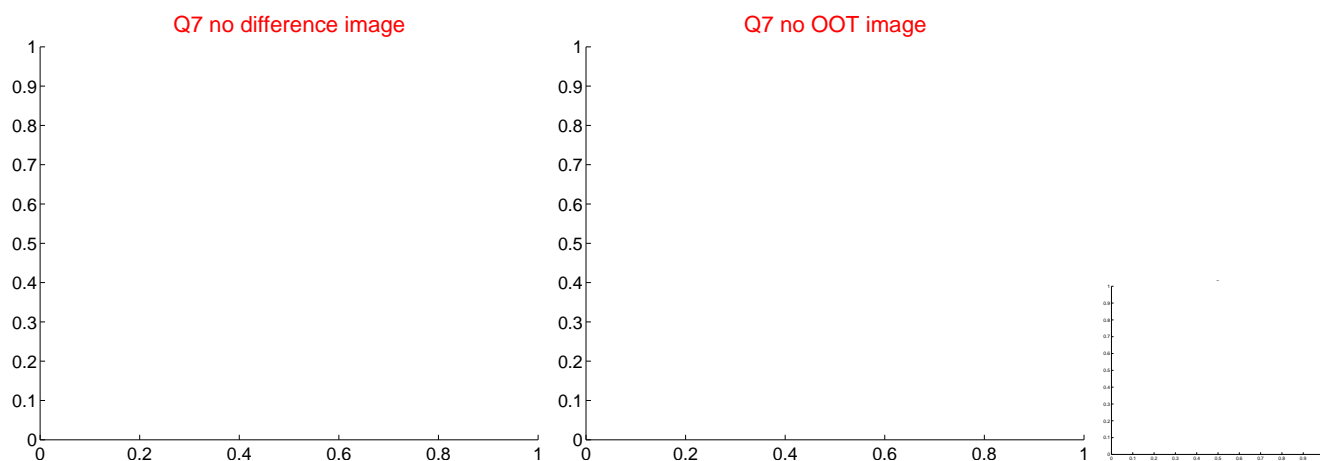
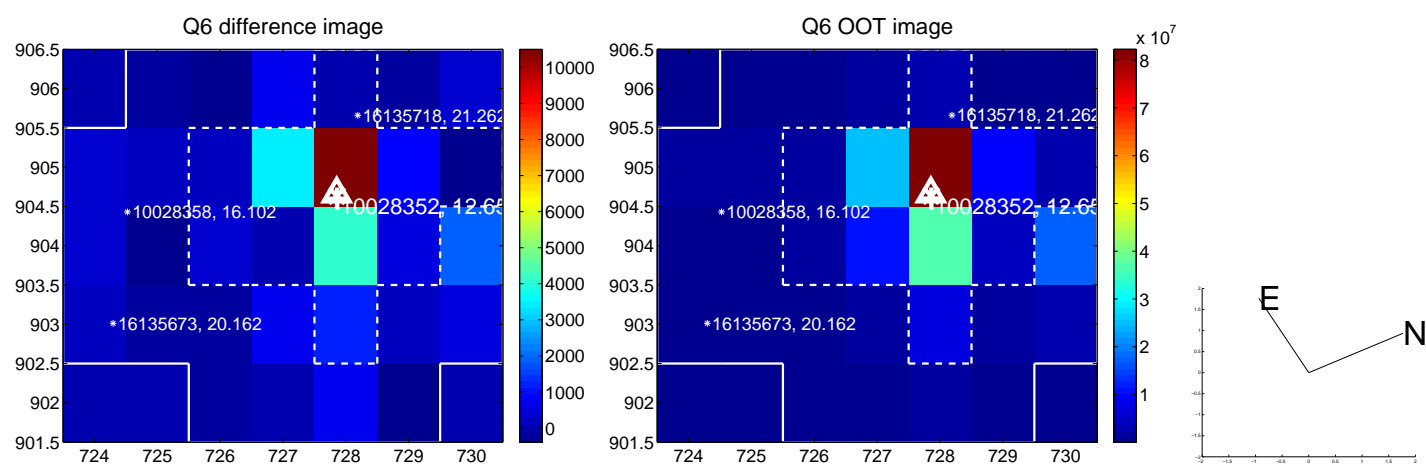
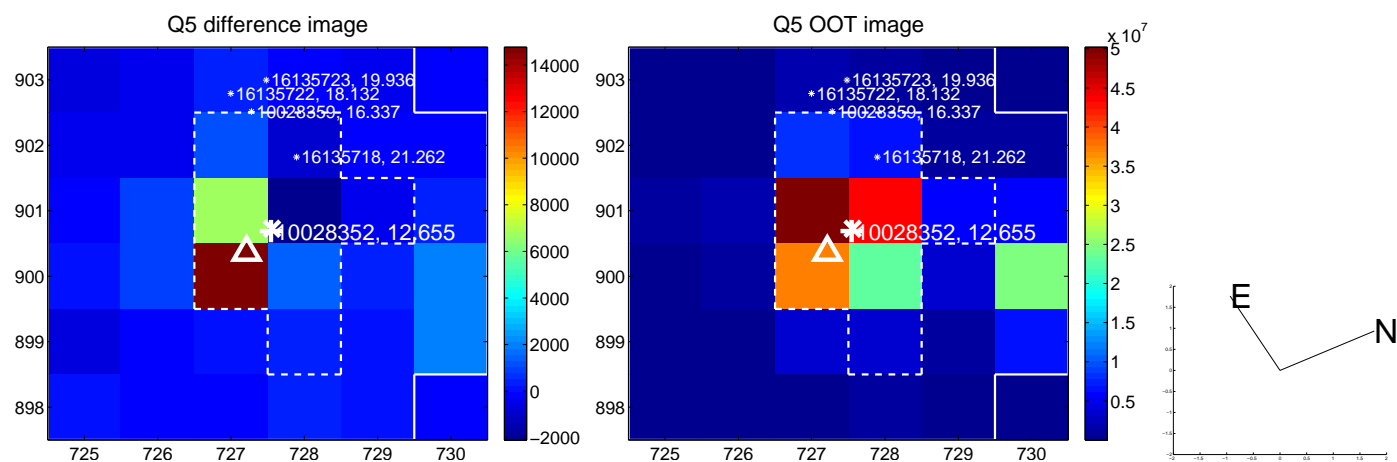


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

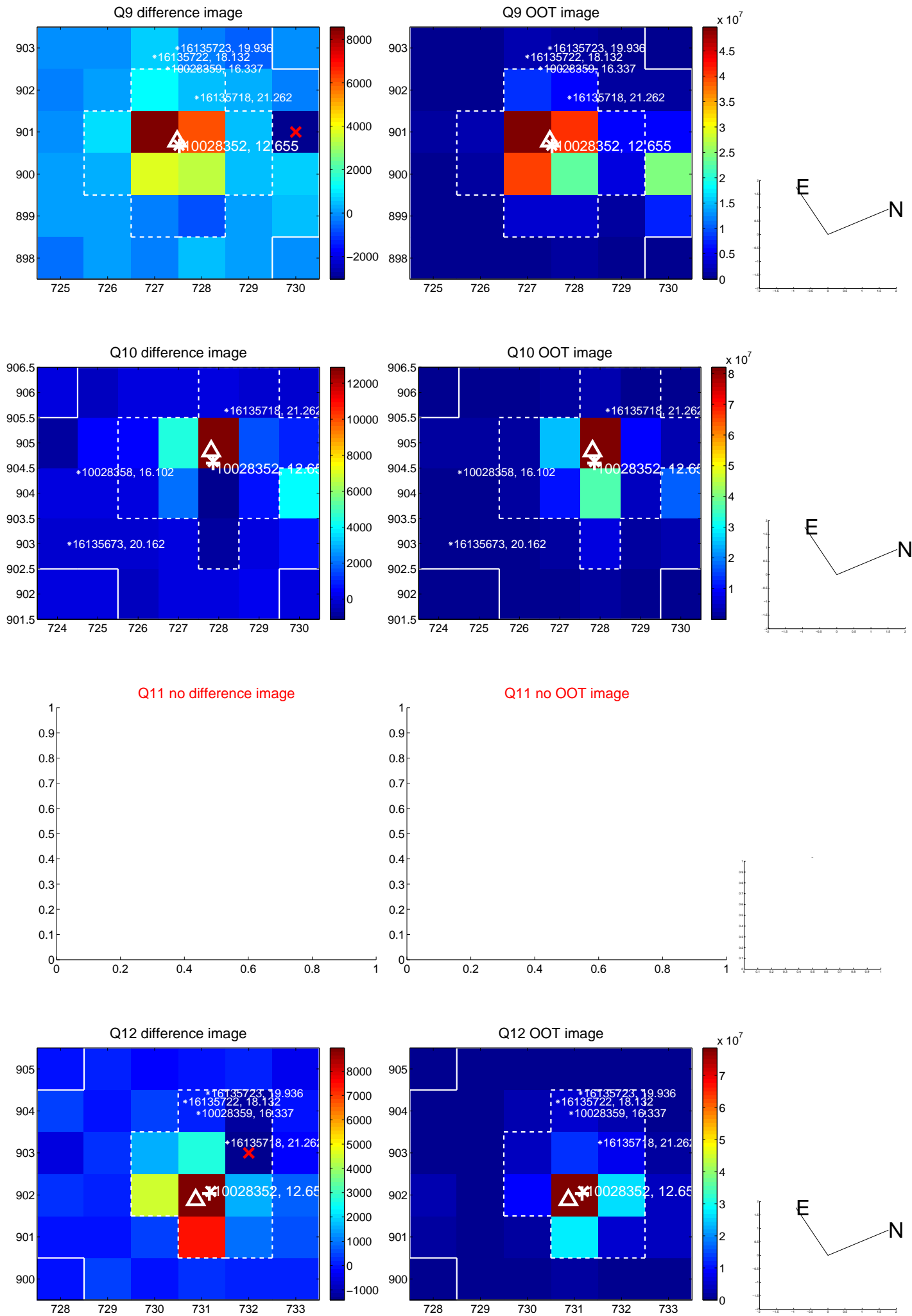
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



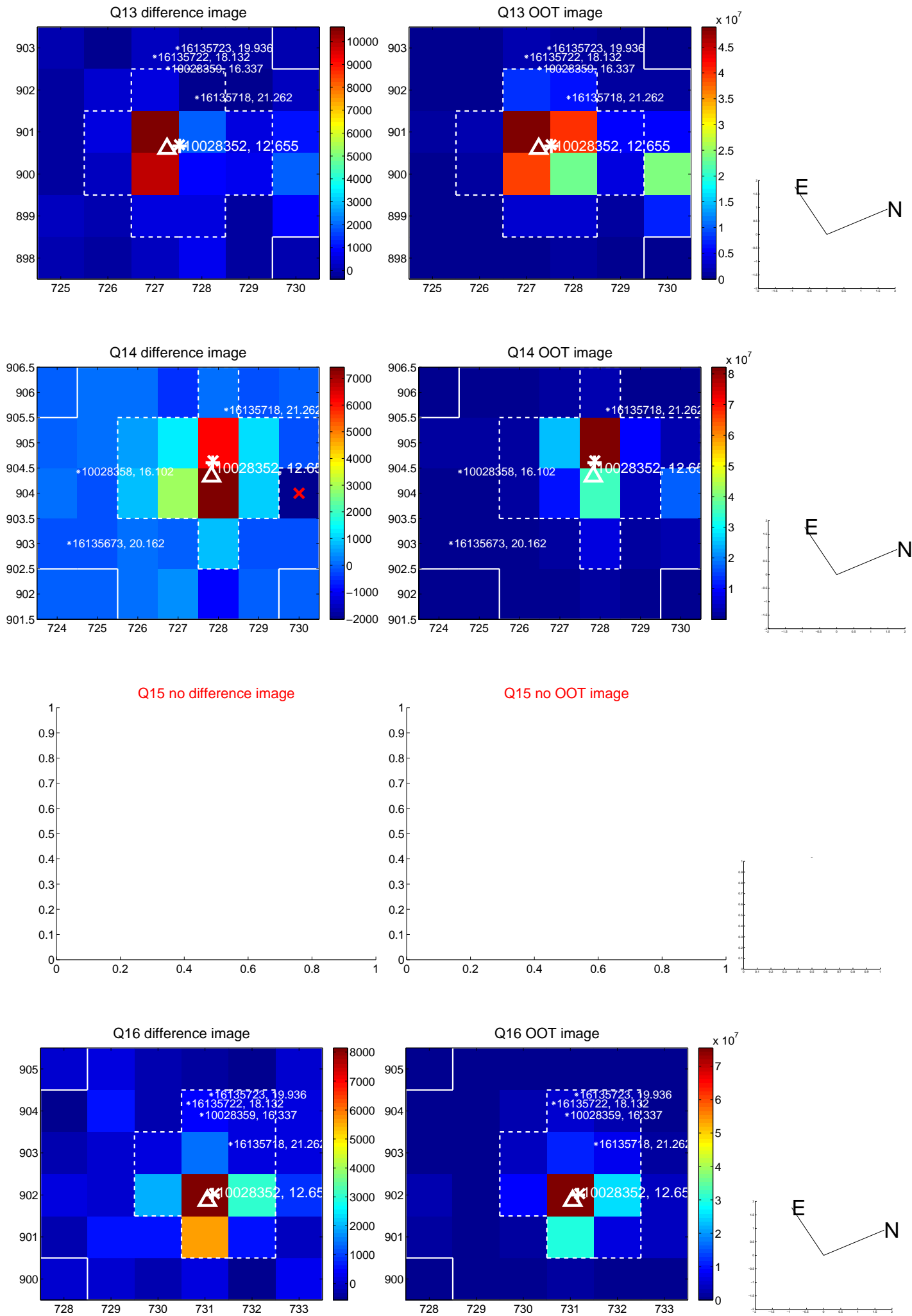
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



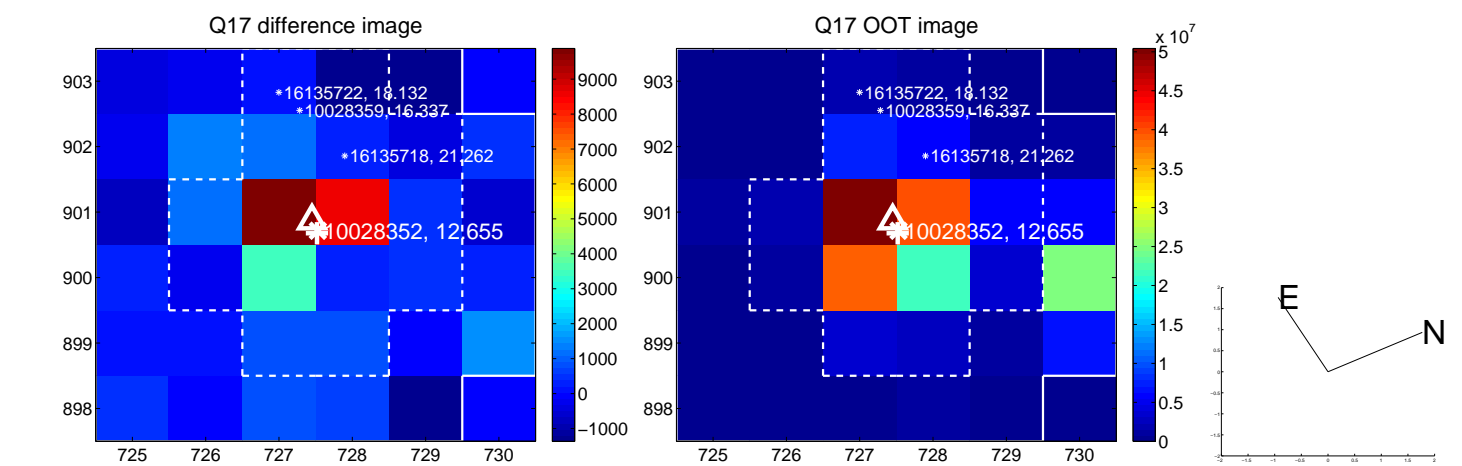
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



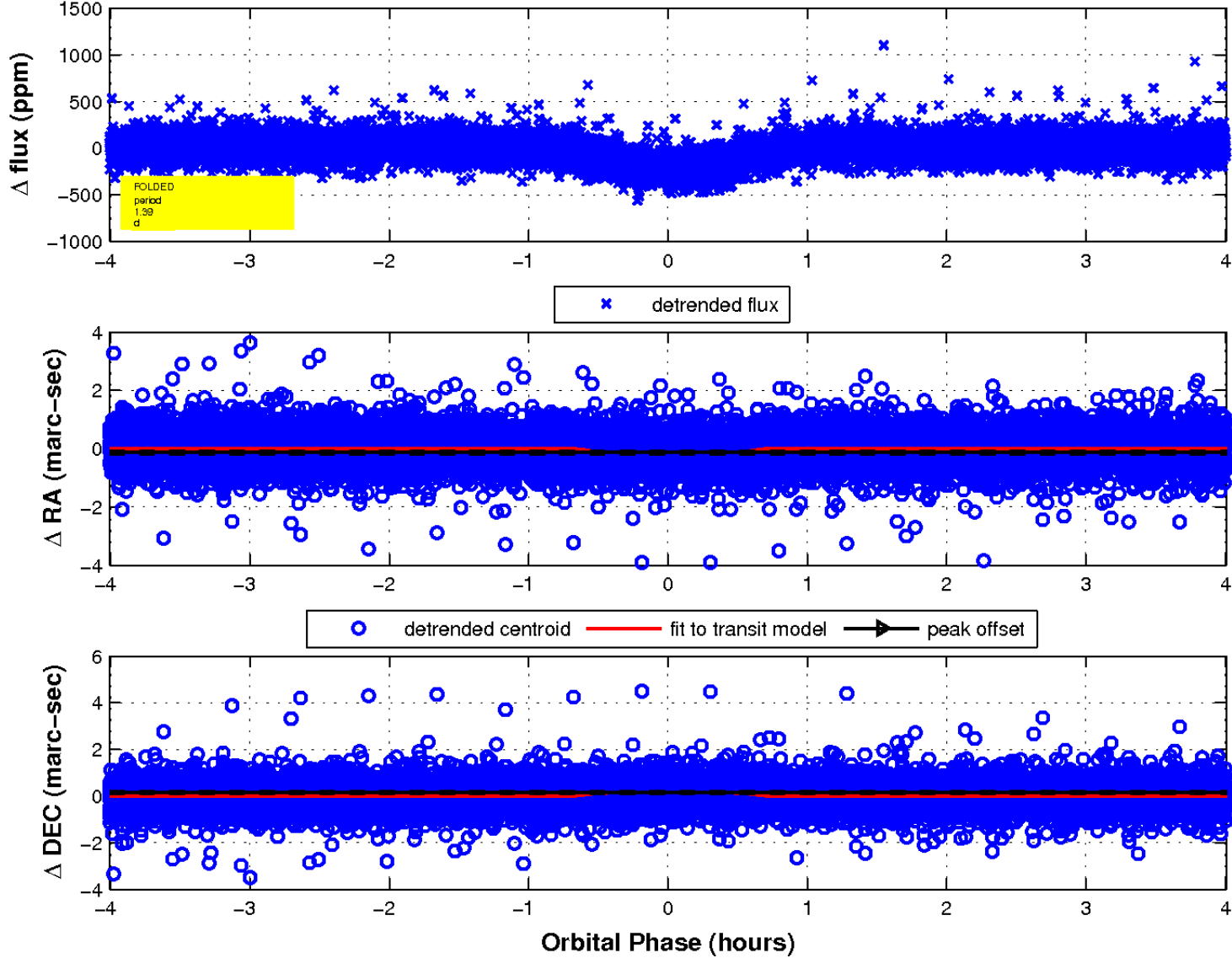
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

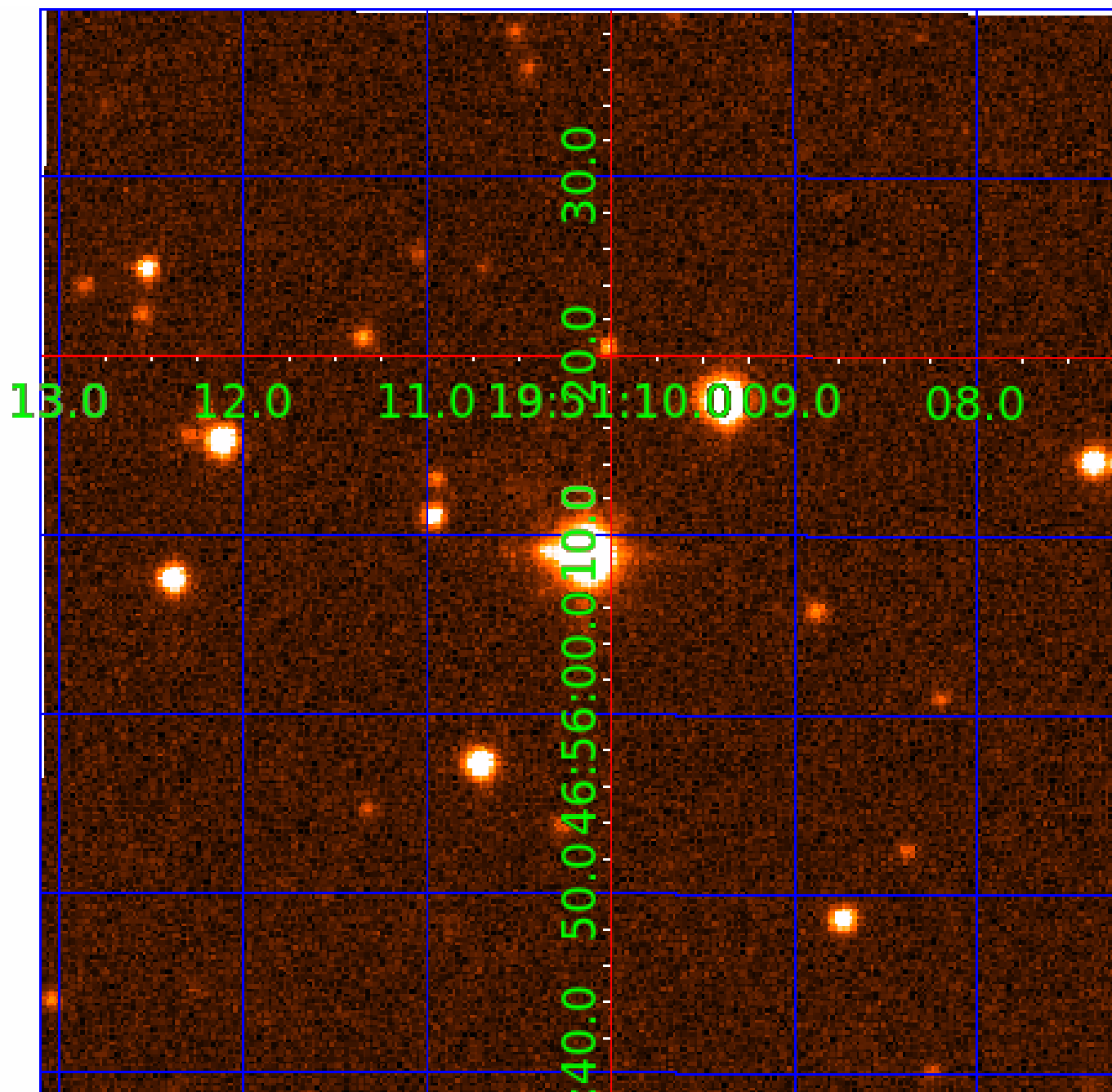


fluxWeightedCentroids, Planet 1 of 4



UKIRT Image

Declination



KIC 010028352

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})
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010028352-02	OBS	1957.02	1.751515	132.461998	37.5	8.854	12.0	13.4	2.04	6823	2.28	7105.12
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010028352-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
010028352-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
010028352-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—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.

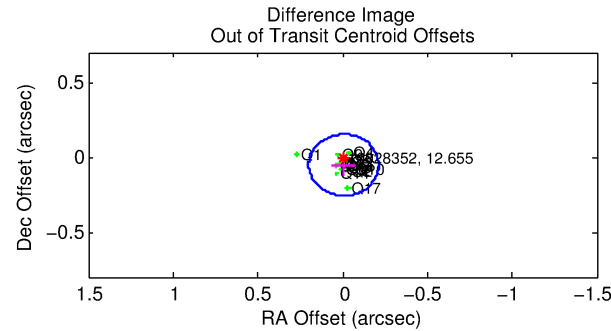
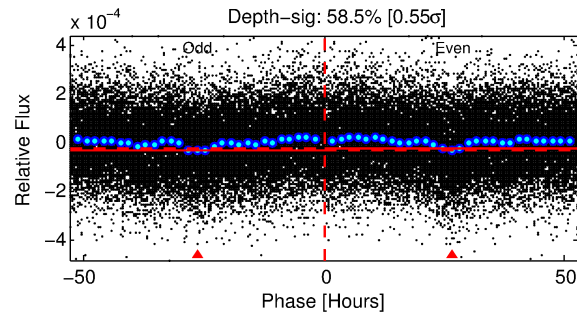
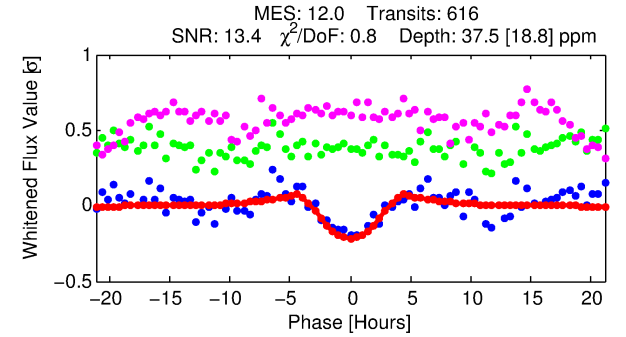
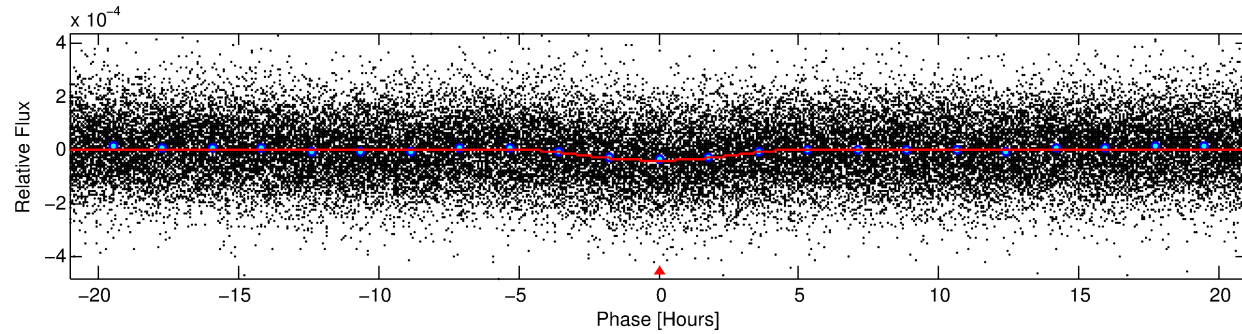
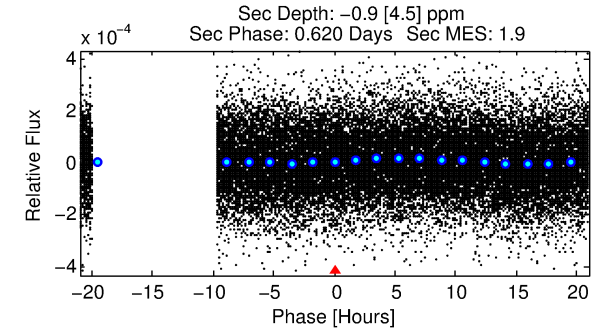
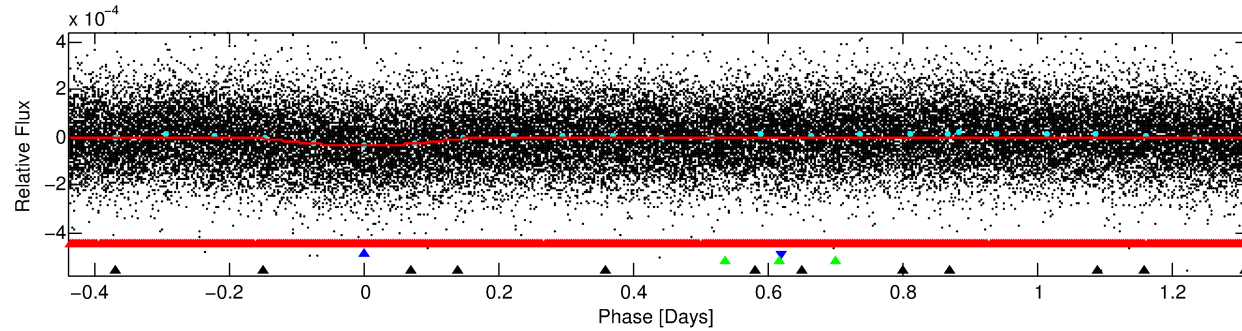
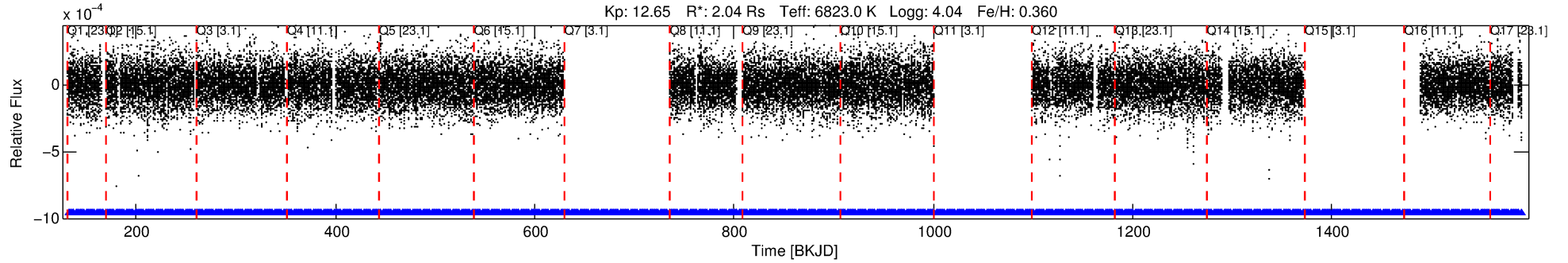
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010028352-02

No Significant Match Found

DV One-Page Summary

KIC: 10028352 Candidate: 2 of 4 Period: 1.752 d
KOI: K01957.02 Corr: 0.845



DV Fit Results:

Period = 1.75152 [0.00002] d
Epoch = 132.4620 [0.0096] BKJD
Rp/R* = 0.0103 [0.0100]
a/R* = 1.03 [0.01]
b = 1.00 [0.02]
Seff = 7105.12 [2006.61]
Teq = 2341 [165] K
Rp = 2.28 [2.28] Re
a = 0.0337 [0.0066] AU
Ag = N/A
Teffp = N/A

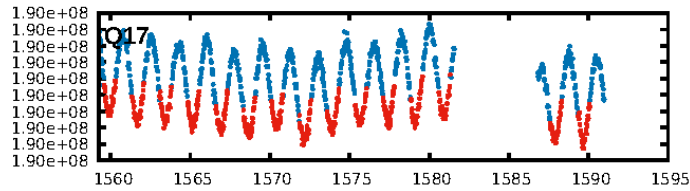
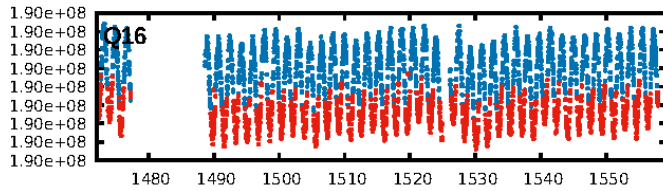
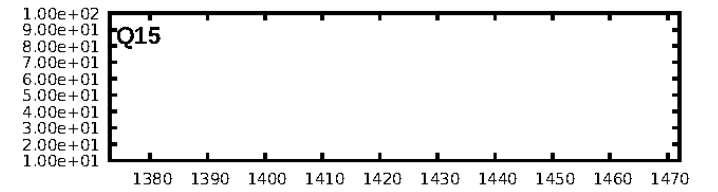
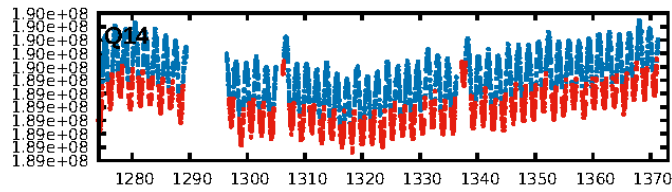
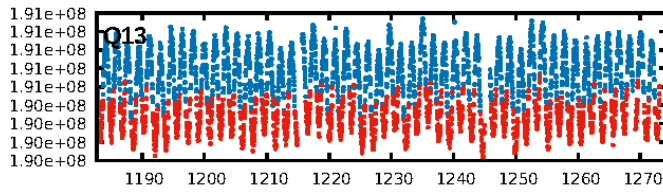
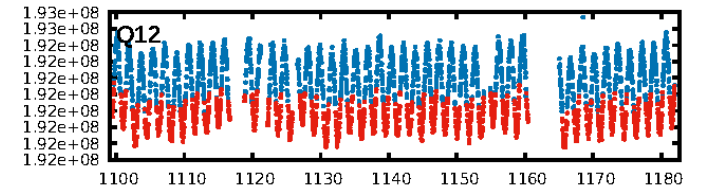
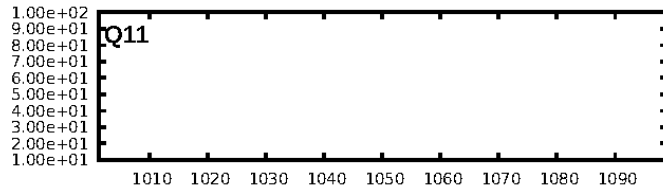
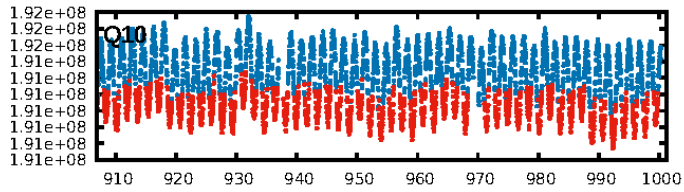
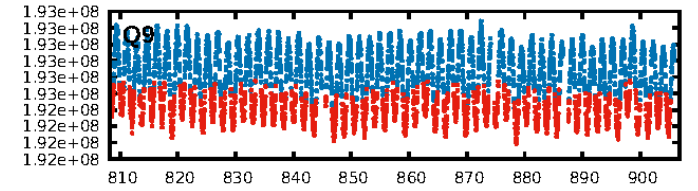
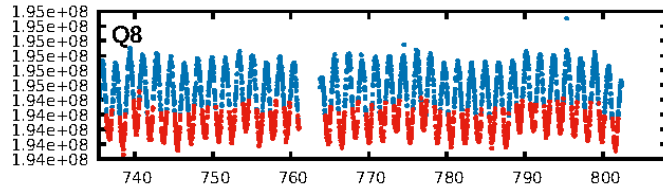
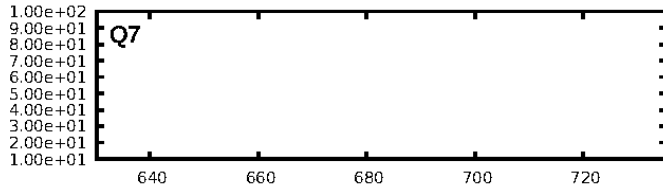
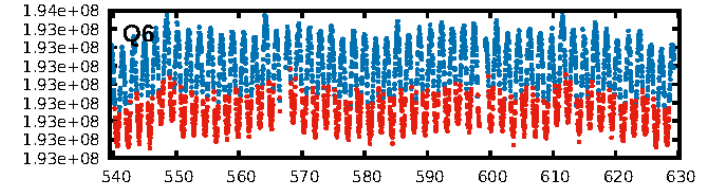
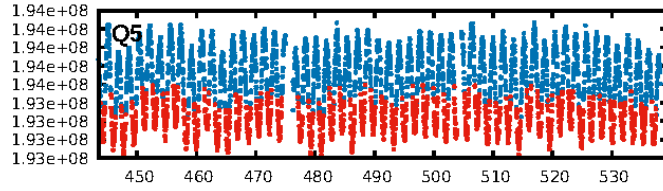
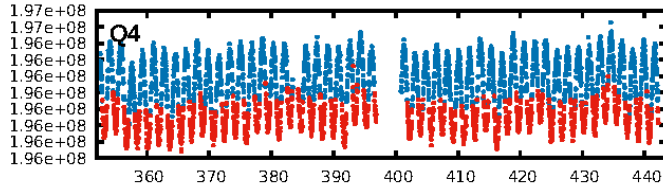
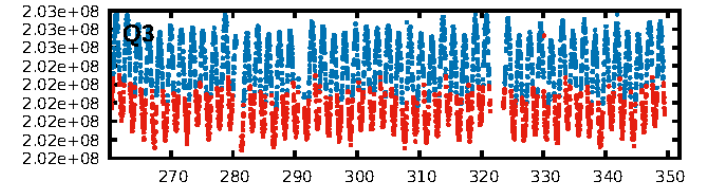
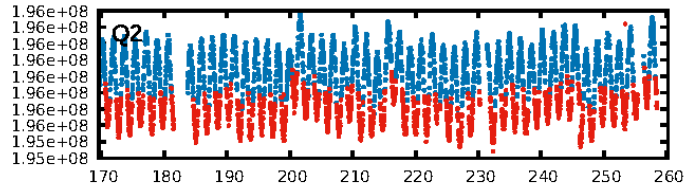
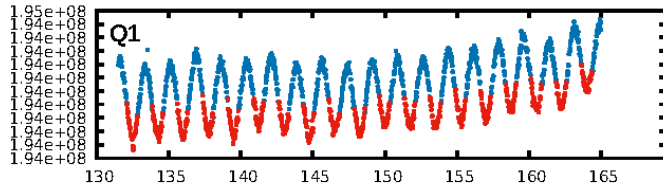
DV Diagnostic Results:

ShortPeriod-sig: 67.2% [0.98σ]
LongPeriod-sig: 100.0% [298.72σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 1.30e-23
RollingBand-fgt: 1.00 [582/582]
GhostDiagnostic-chr: 4.177
Centroid-sig: 0.3%
Centroid-so: 0.868 arcsec [1.22σ]
OotOffset-rm: 0.053 arcsec [0.77σ]
KicOffset-rm: 0.199 arcsec [2.78σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/14]

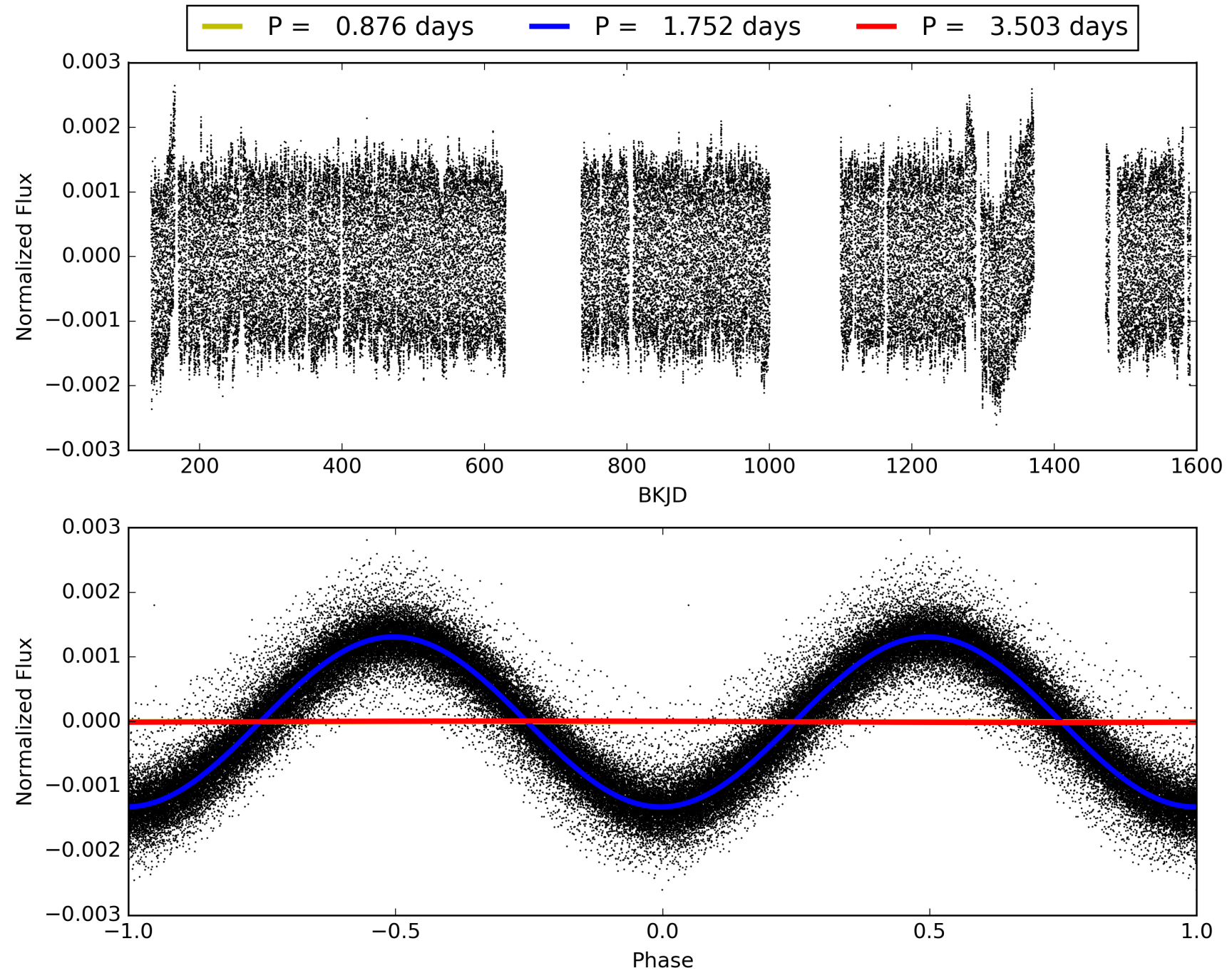
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010028352-02, PDC Light Curves

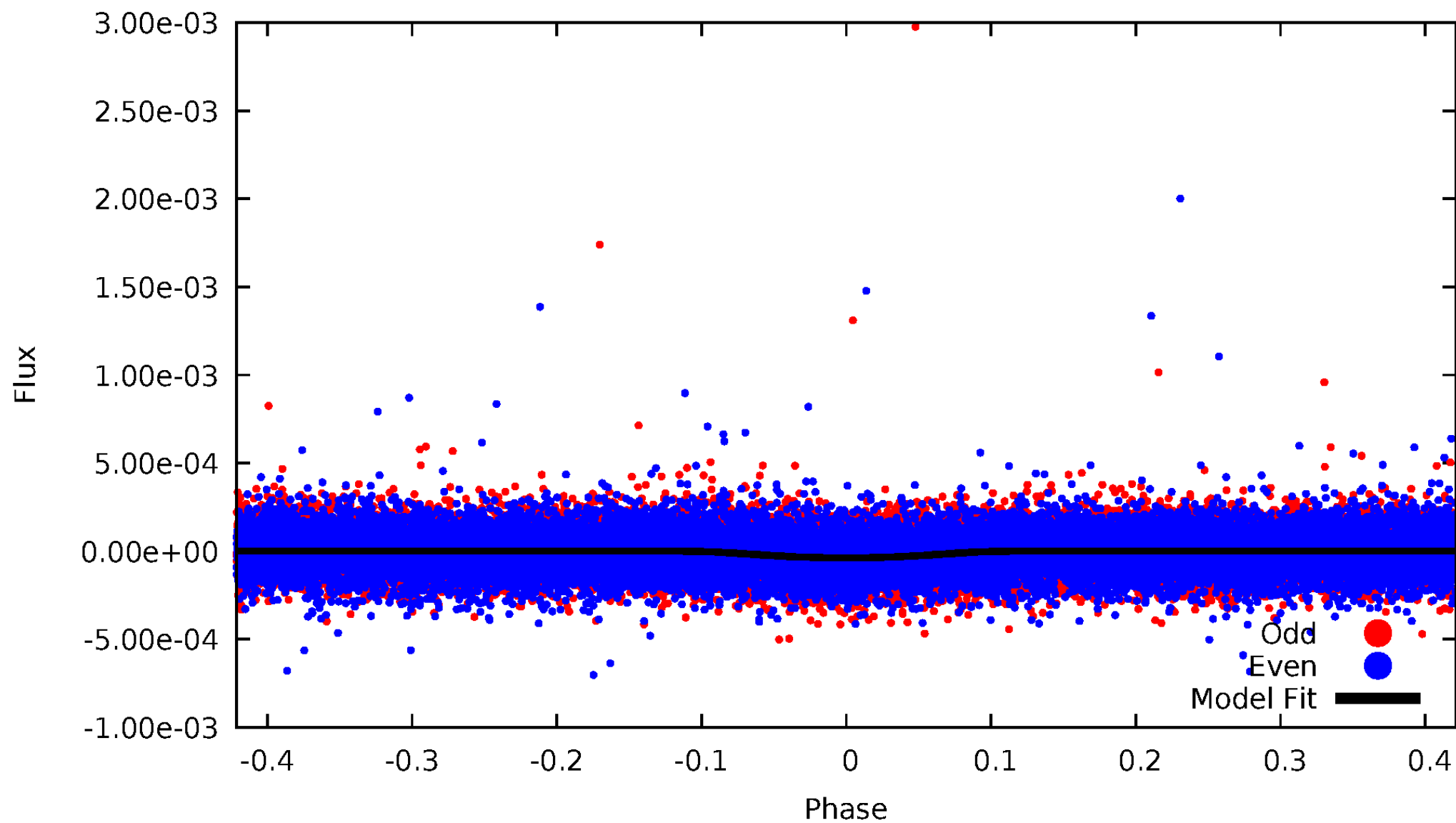


TCE 010028352-02



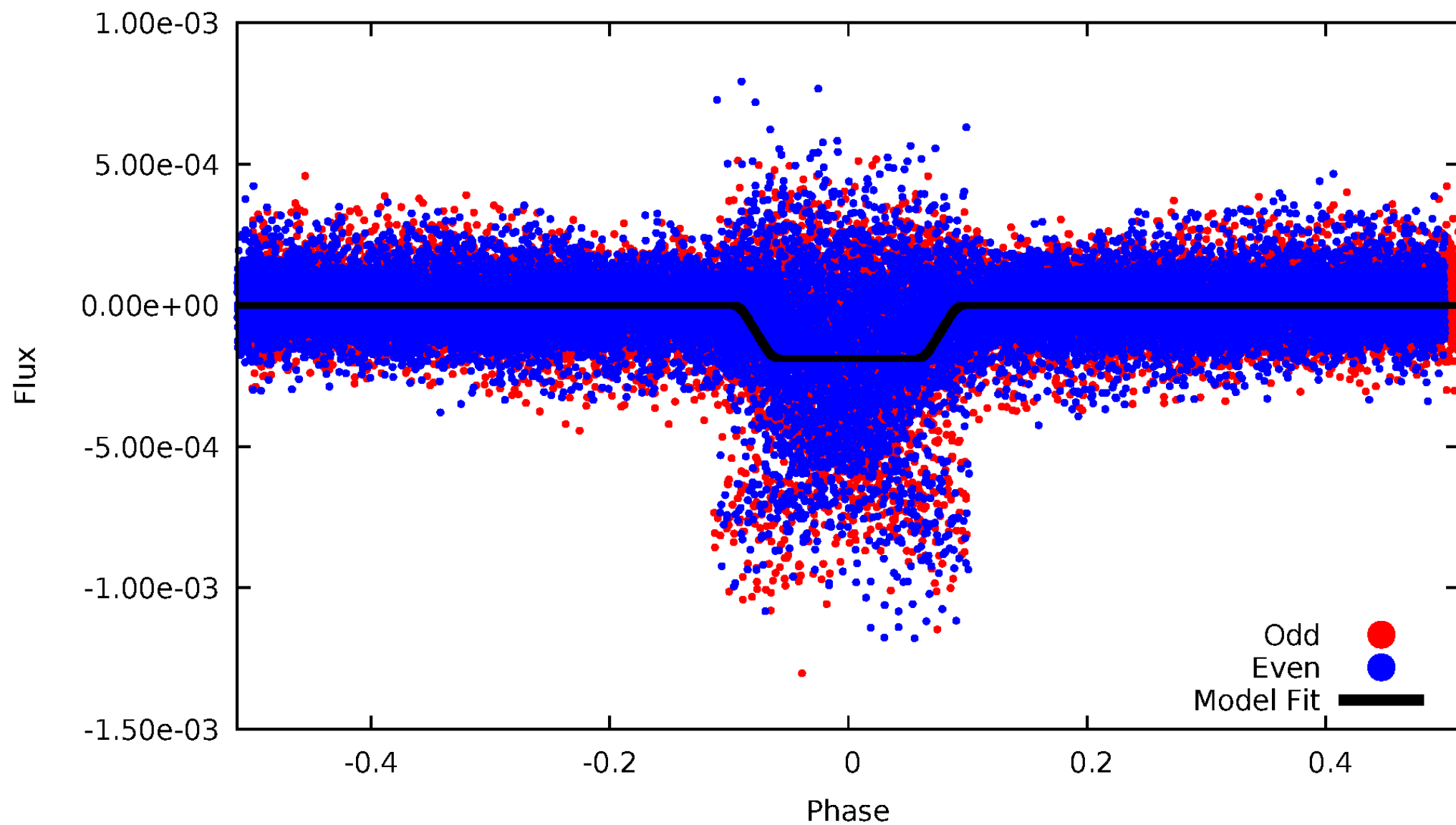
DV Odd/Even

TCE 010028352-02



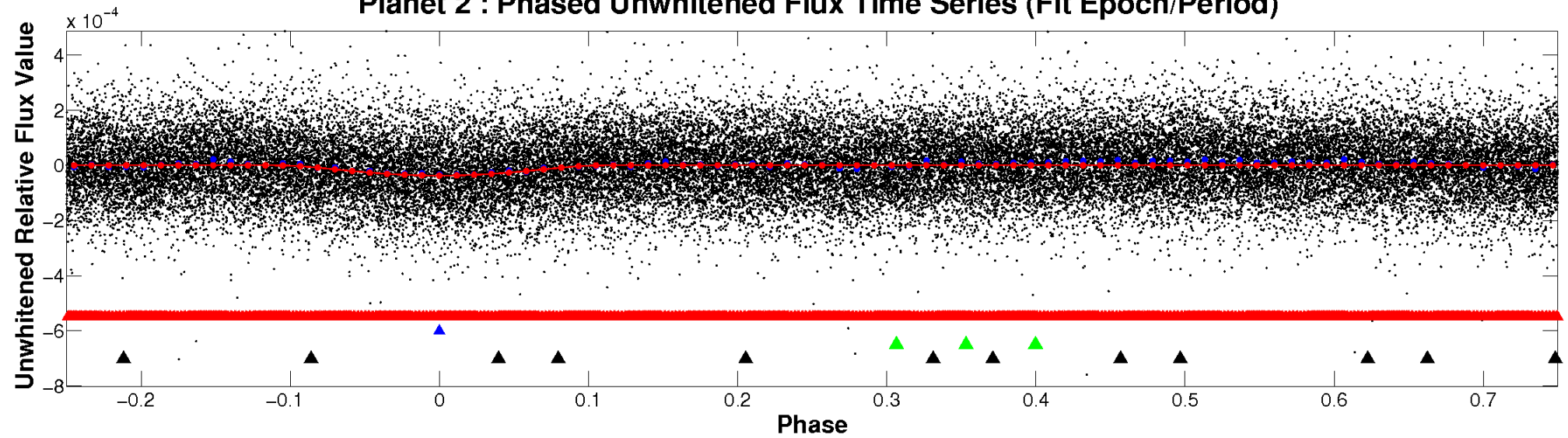
ALT Odd/Even

TCE 010028352-02

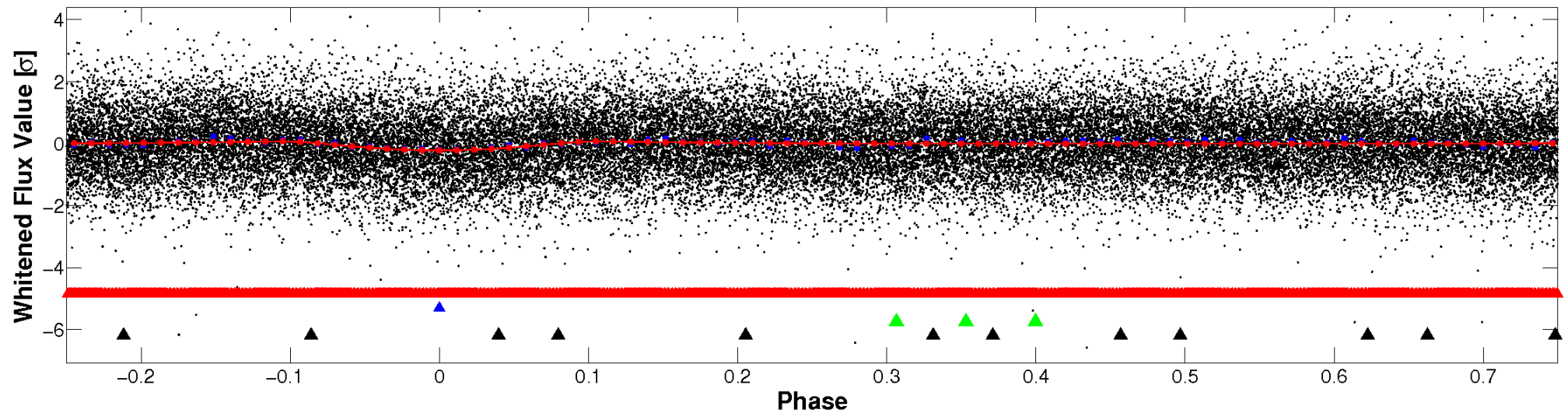


Non-Whitened Vs. Whitened Light Curve

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

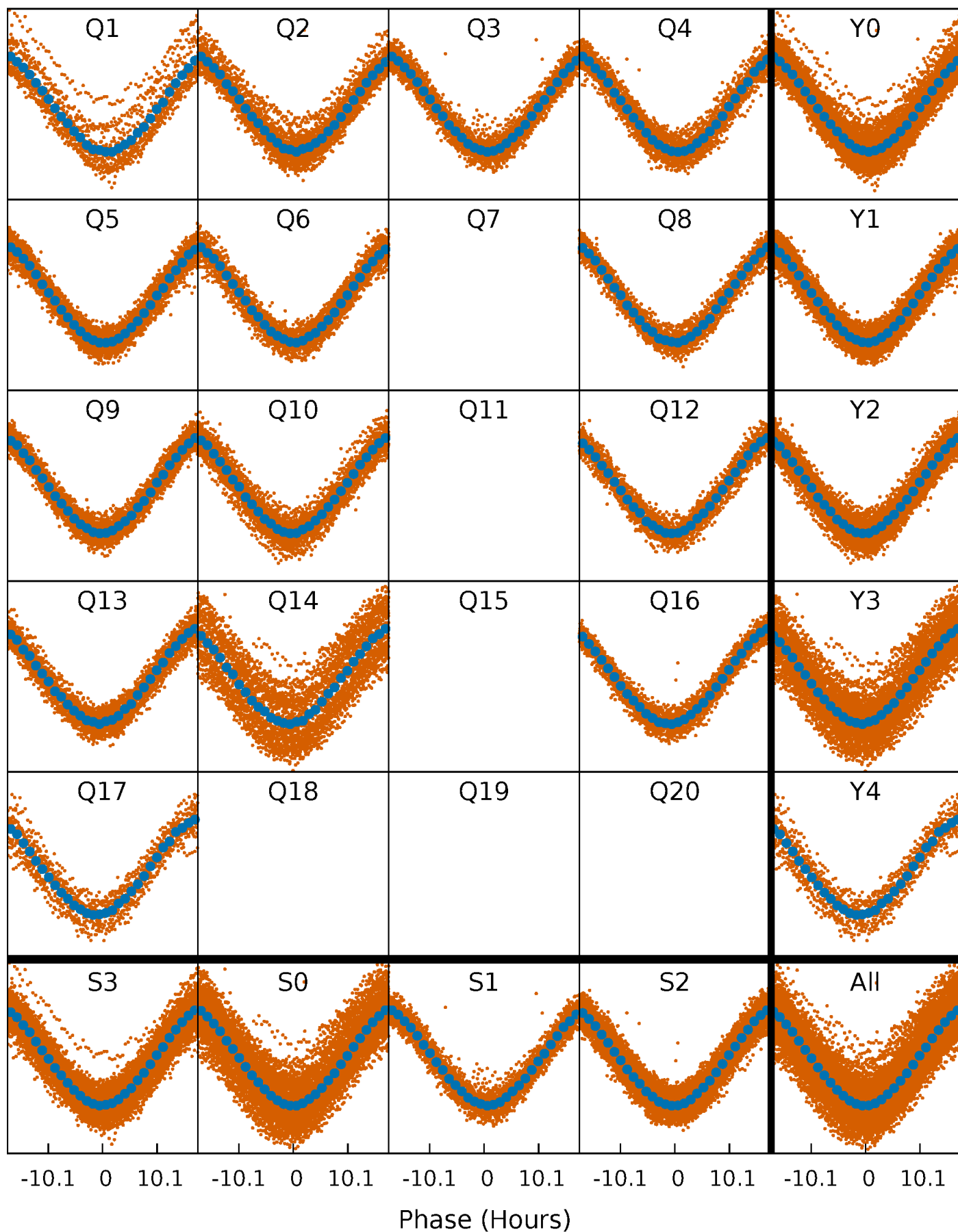


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



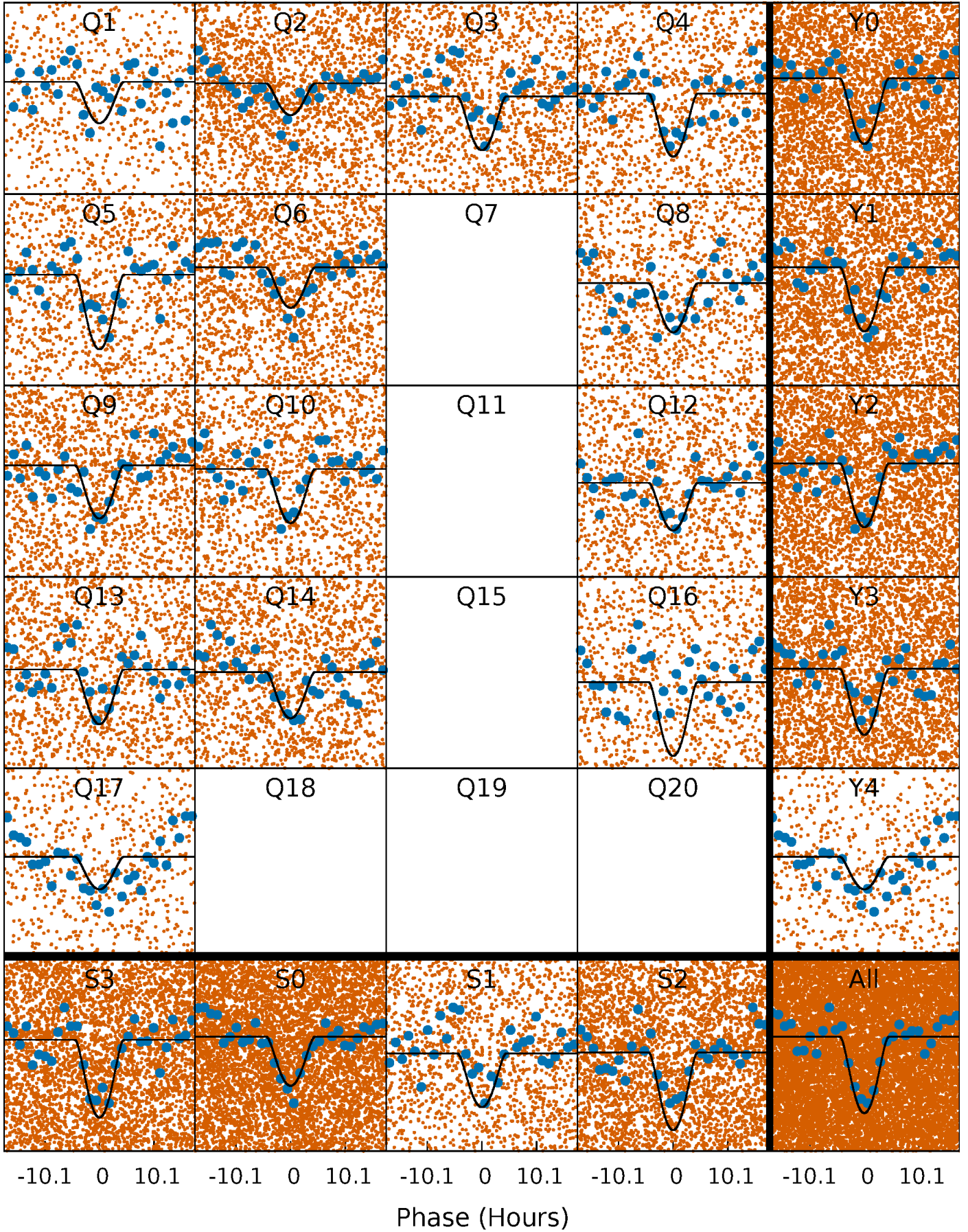
PDC Quarter-Phased Transit Curves

TCE 010028352-02 P= 1.751515 Days $T_0=132.461998$ (BKJD)



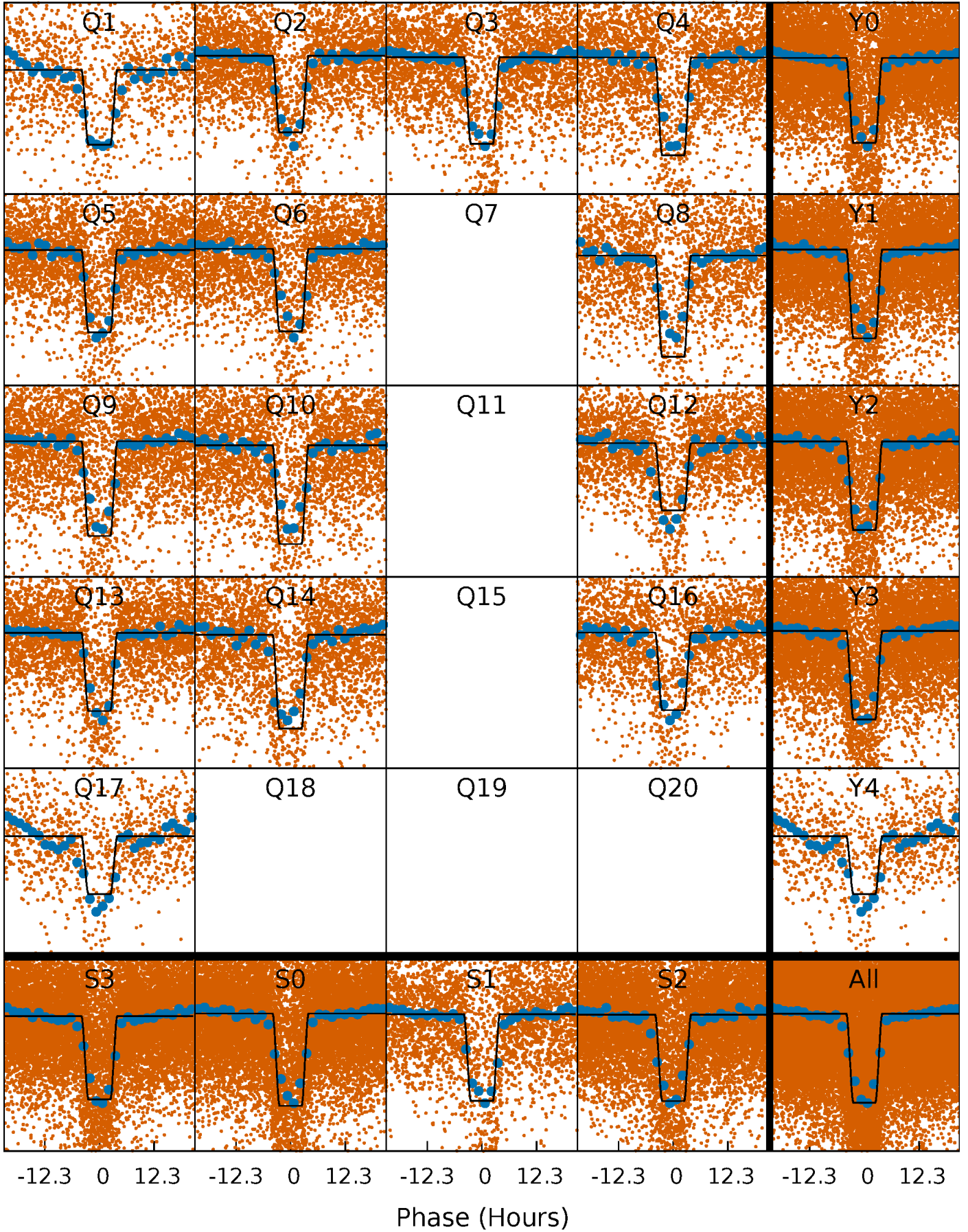
DV Quarter-Phased Transit Curves

TCE 010028352-02 P= 1.751515 Days $T_0=132.461998$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

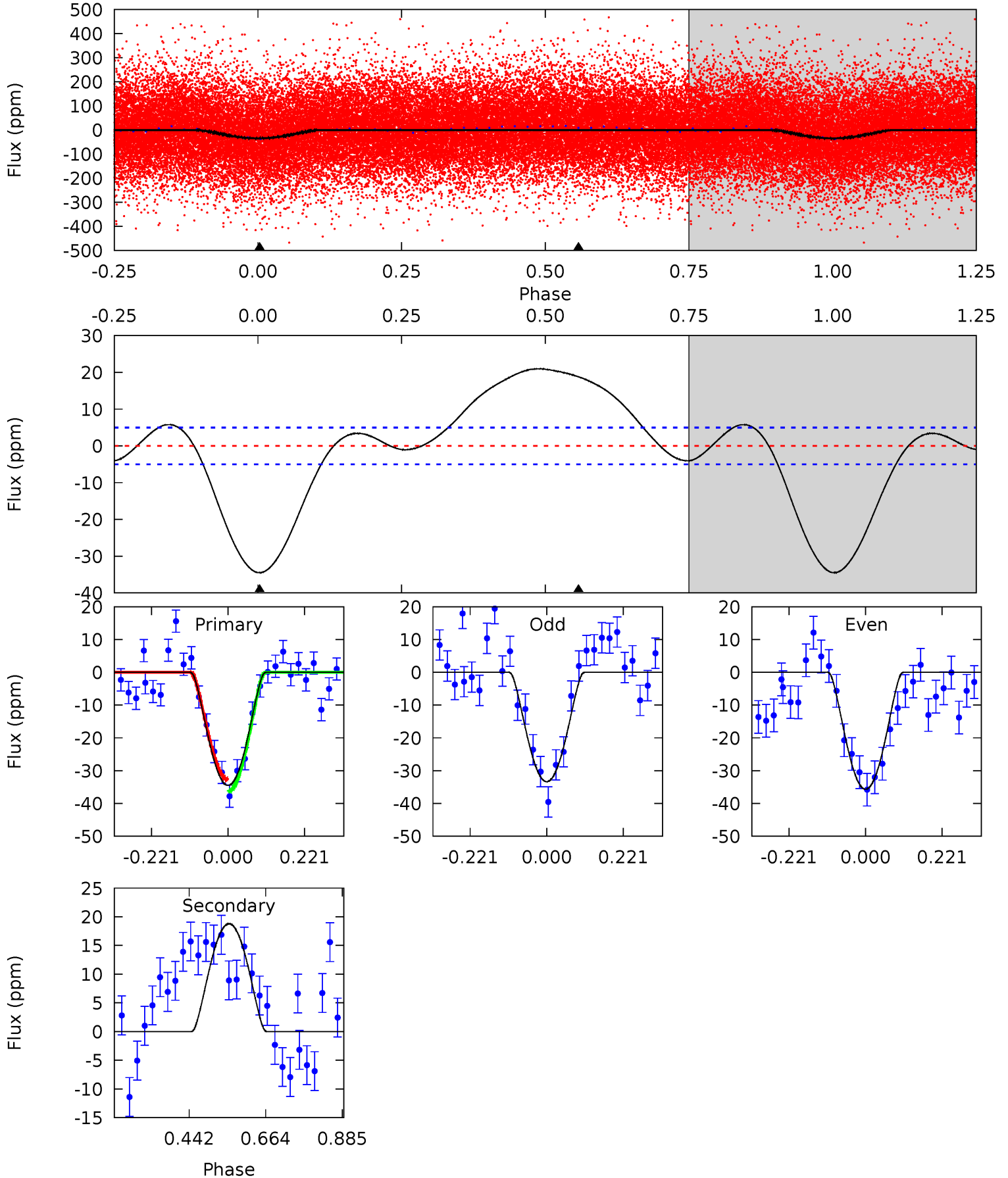
TCE 010028352-02 P= 1.751498 Days $T_0=132.461677$ (BKJD)



DV Model-Shift Uniqueness Test

010028352-02, P = 1.751515 Days, E = 130.710483 Days

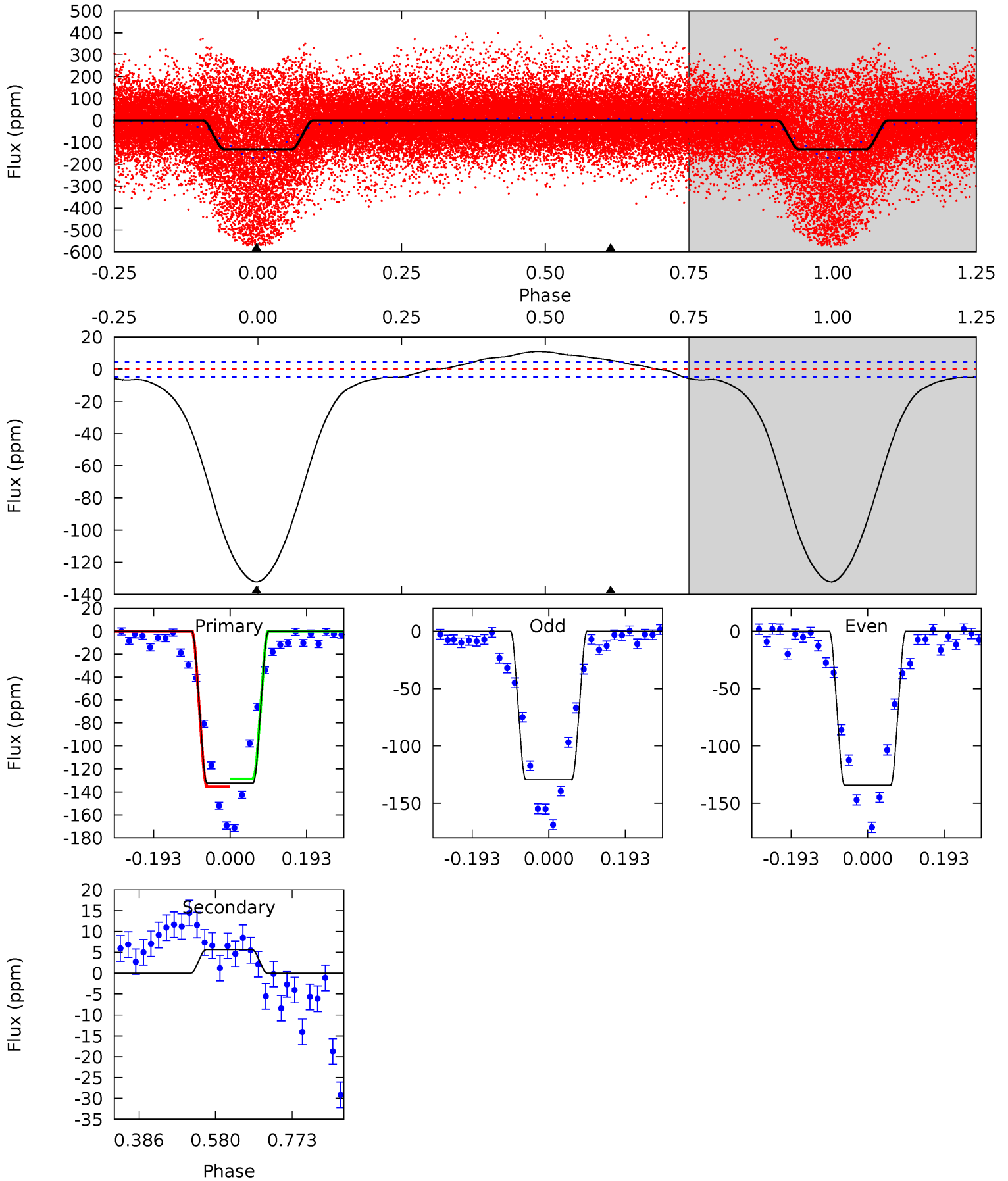
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.3	-16.5	0	0	4.40	1.22	1.73	30.3	30.3	-16.5	-16.5	1.02	0.78	0.38	1.58



Alt Model-Shift Uniqueness Test

010028352-02, P = 1.751498 Days, E = 130.710179 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
122.8	-5.23	0	0	4.42	1.30	4.10	122.8	122.8	-5.23	-5.23	2.20	1.13	0.08	3.06



Stellar Parameters For KIC 010028352

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6823^{+61}_{-91}	$4.040^{+0.121}_{-0.148}$	$0.360^{+0.100}_{-0.200}$	$2.037^{+0.486}_{-0.365}$	$1.660^{+0.155}_{-0.155}$	$0.277^{+0.180}_{-0.117}$
	+1%/-1%	+3%/-4%	+28%/-56%	+24%/-18%	+9%/-9%	+65%/-42%
Source	SPE90	FLK73	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 010028352-02 / KOI 1957.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	19 ± 1	$2.62^{+2.08}_{-1.65}$	3273^{+192}_{-141}	-4483^{+640}_{-2274}	$-1.657^{+1.134}_{-10.072}$
Alt.	6 ± 1	$3.29^{+2.13}_{-1.96}$	3271^{+185}_{-143}	-3667^{+253}_{-949}	$-0.323^{+0.208}_{-1.673}$

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

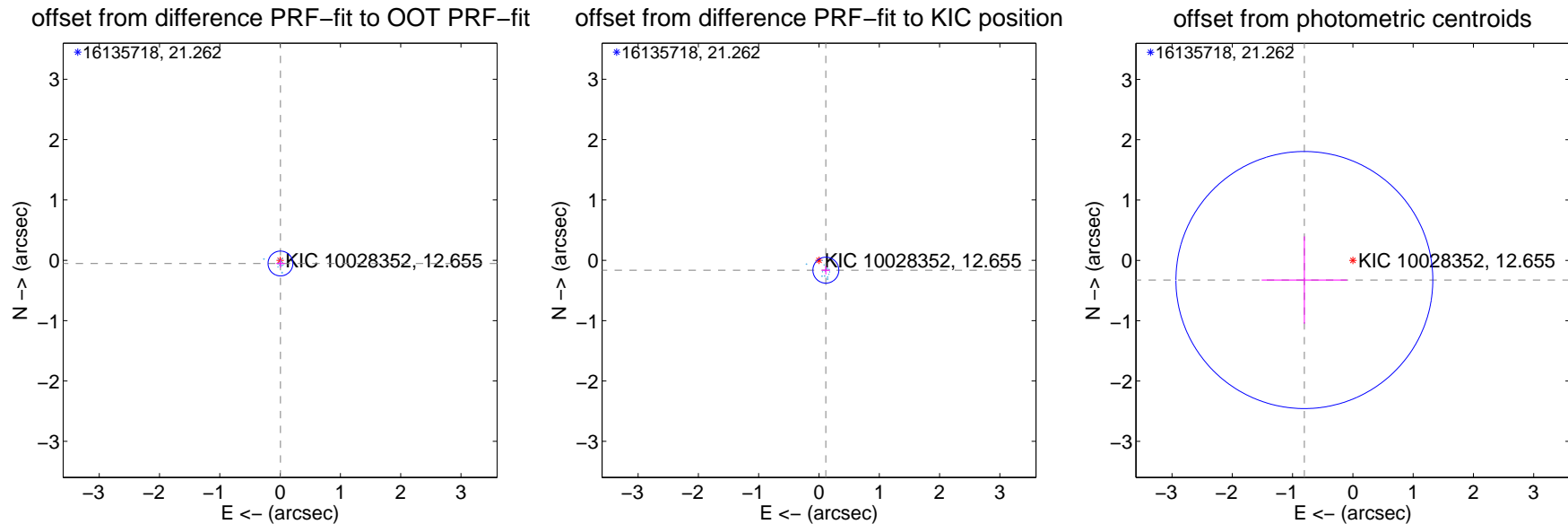
DV Centroid Data

Supplemental centroid analysis for 010028352-02. Kepler magnitude: 12.65. Transit SNR 13.35

There are 14 quarters with good PRF difference image offsets

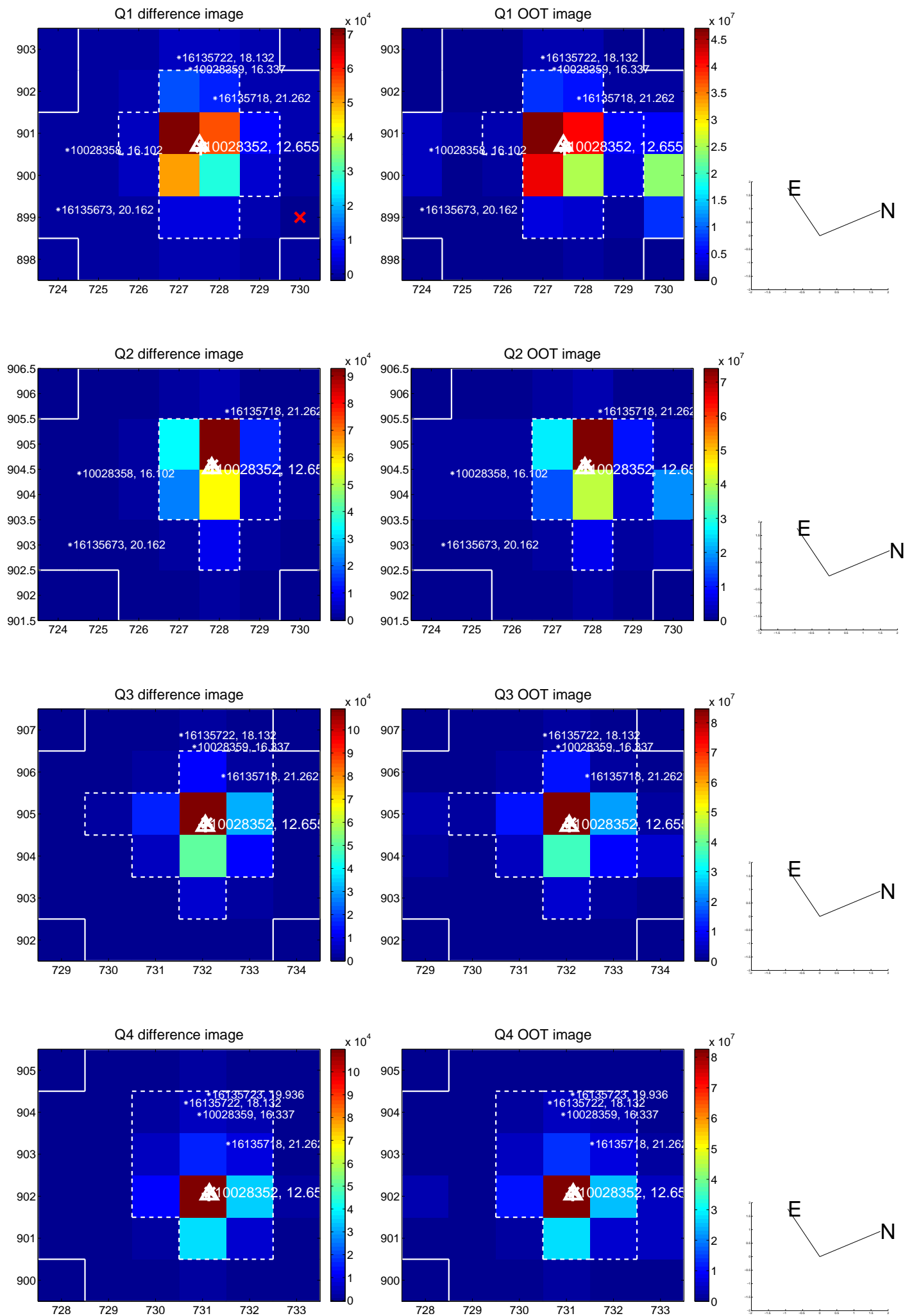
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.053 ± 0.069	0.77	-0.006 ± 0.070	-0.053 ± 0.068
PRF-fit source offset from KIC position	0.199 ± 0.072	2.78	-0.114 ± 0.070	-0.164 ± 0.071
photometric centroid source offset	0.87 ± 0.71	1.22	0.80 ± 0.71	-0.33 ± 0.72

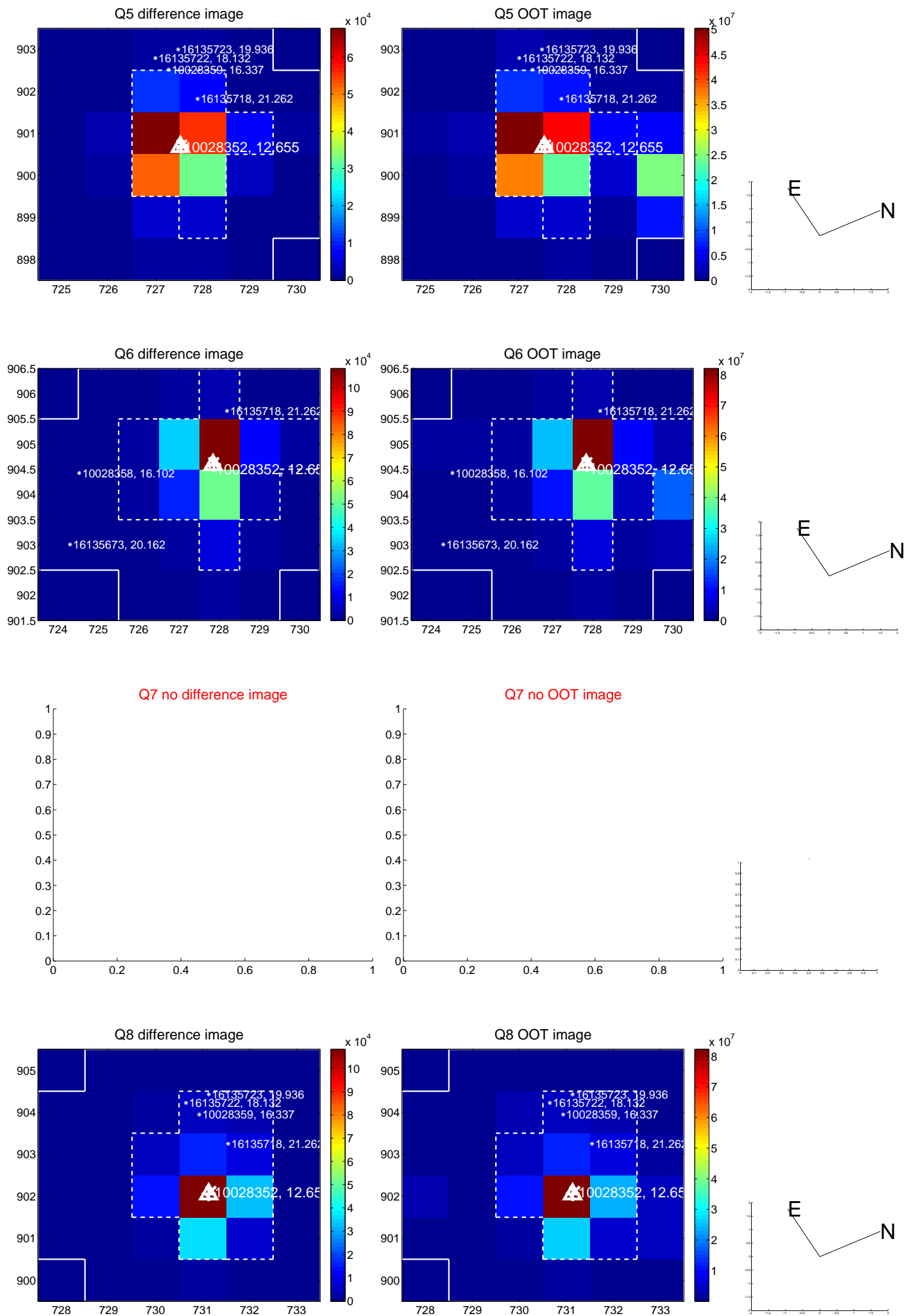


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

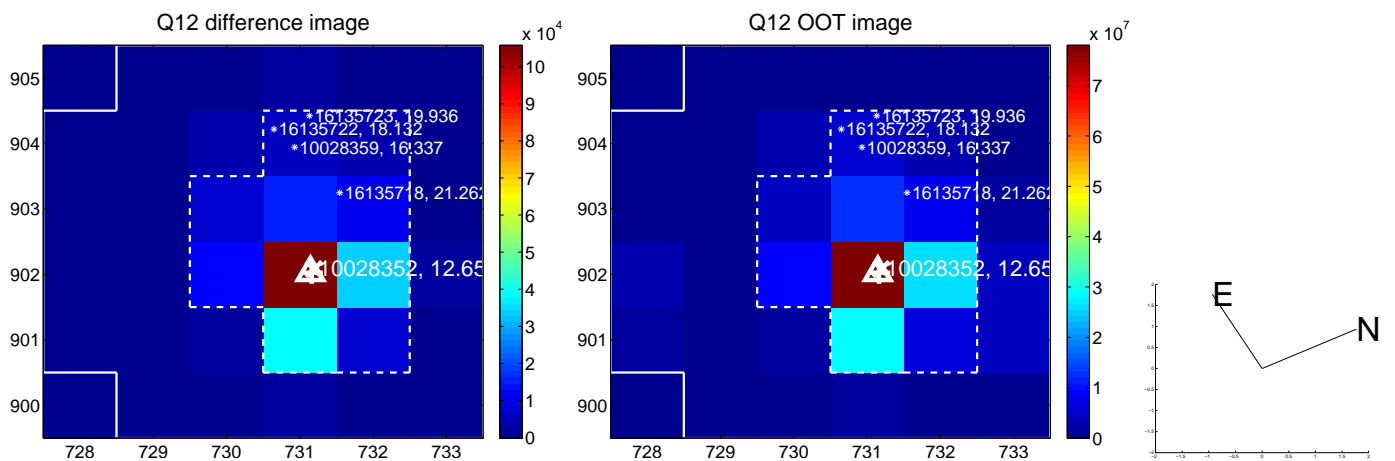
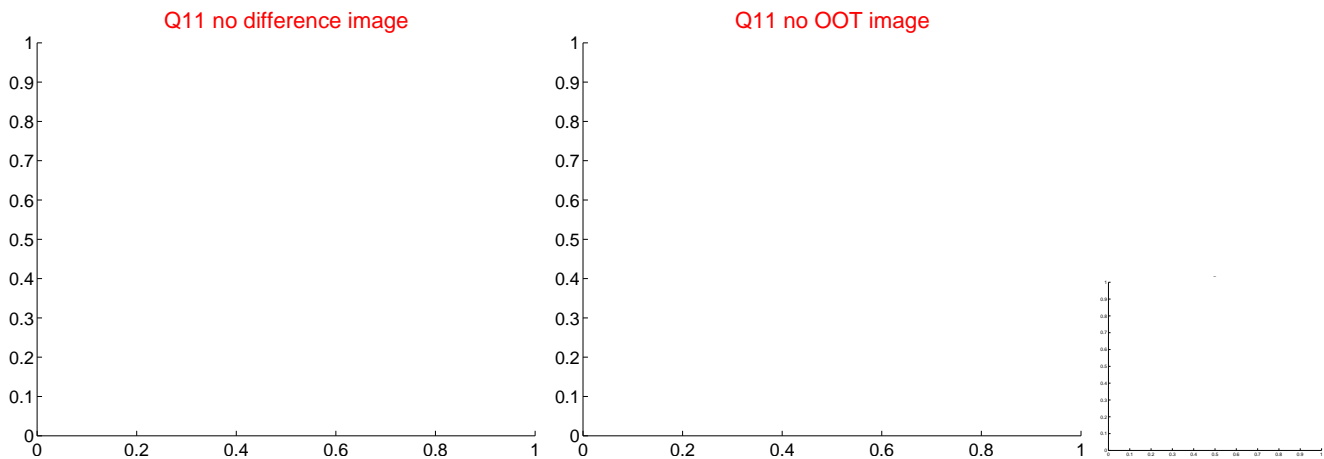
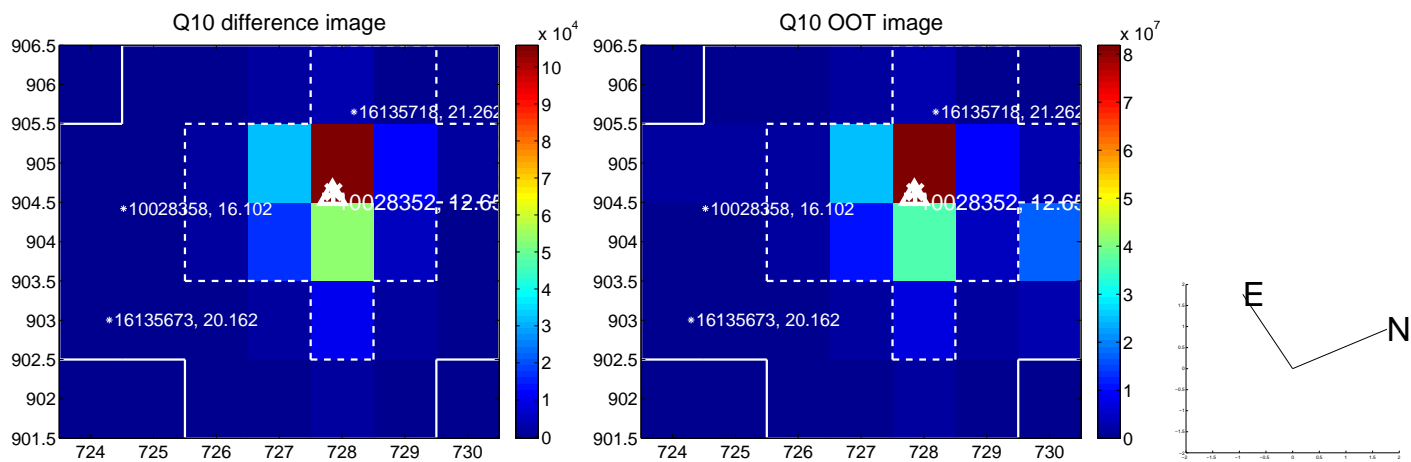
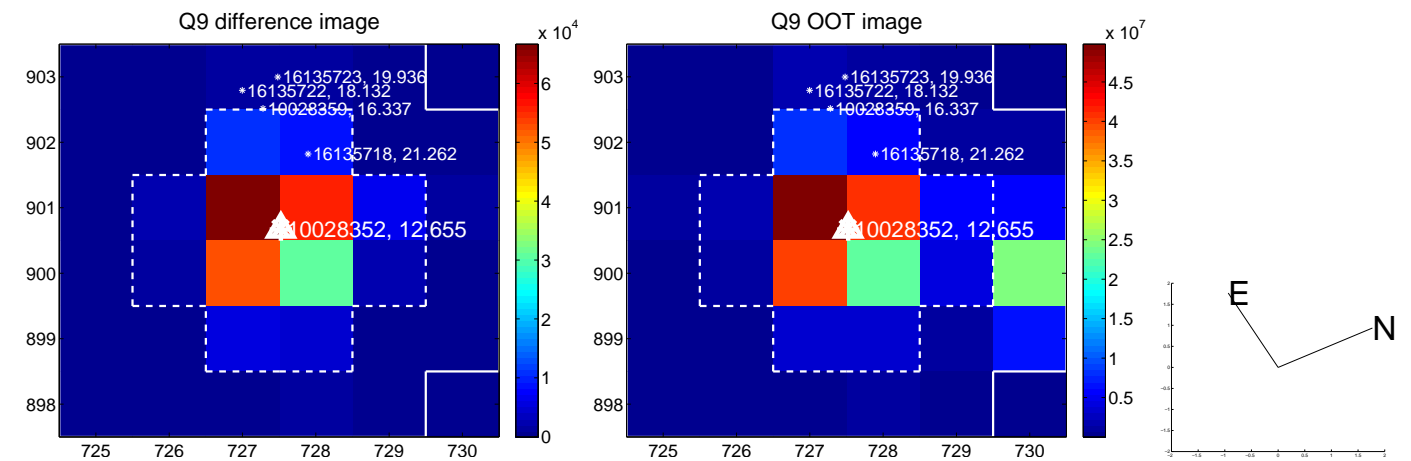
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



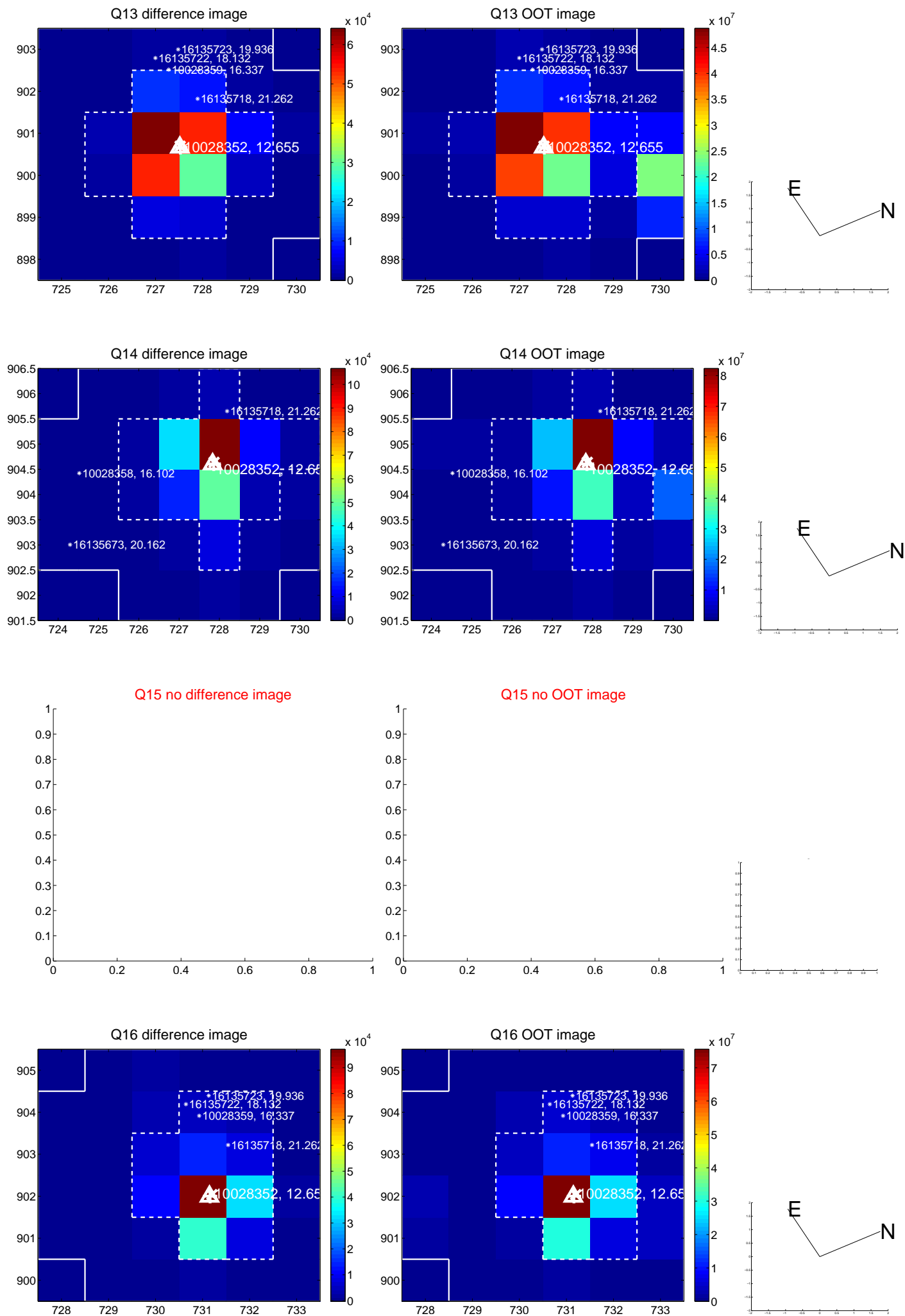
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



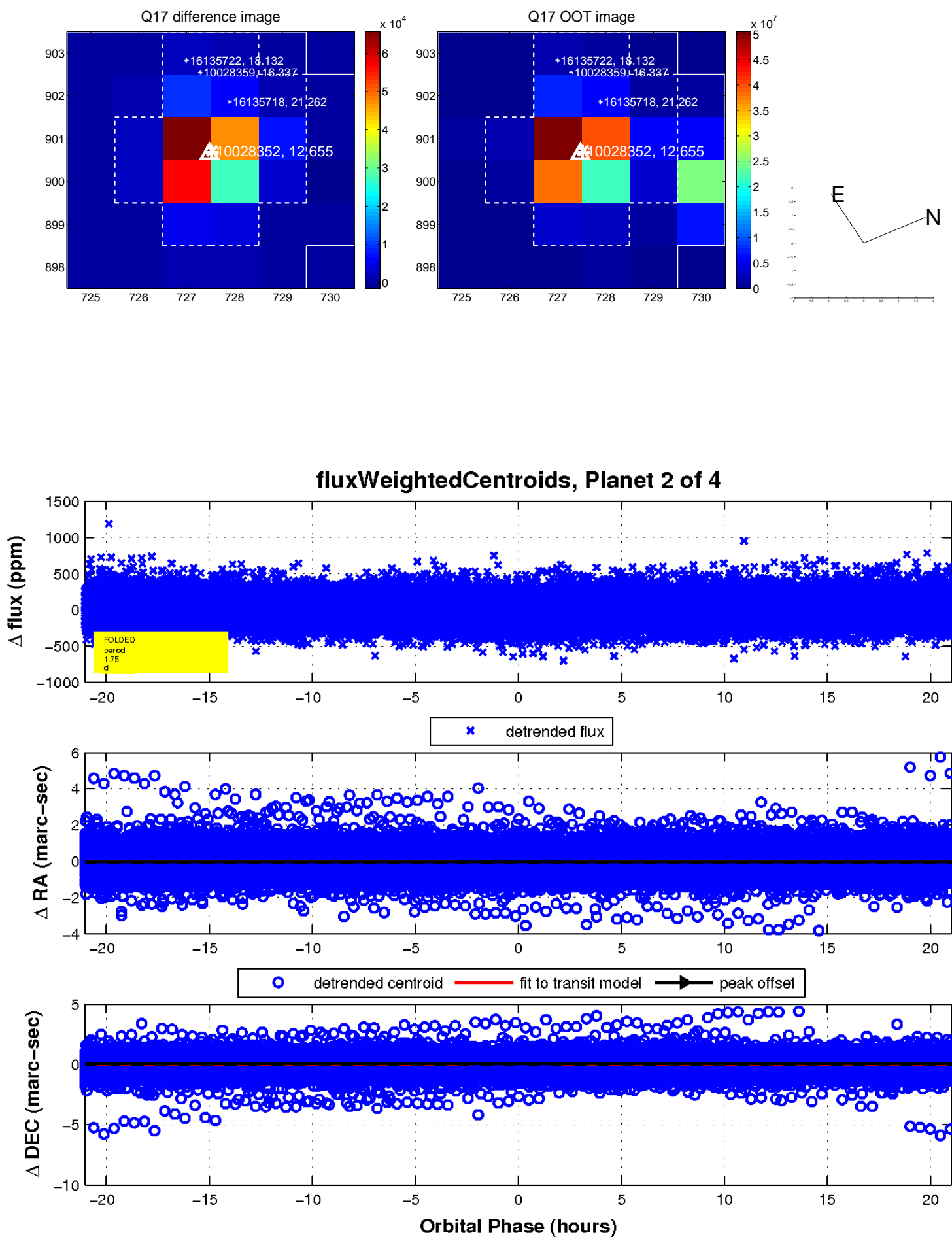
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



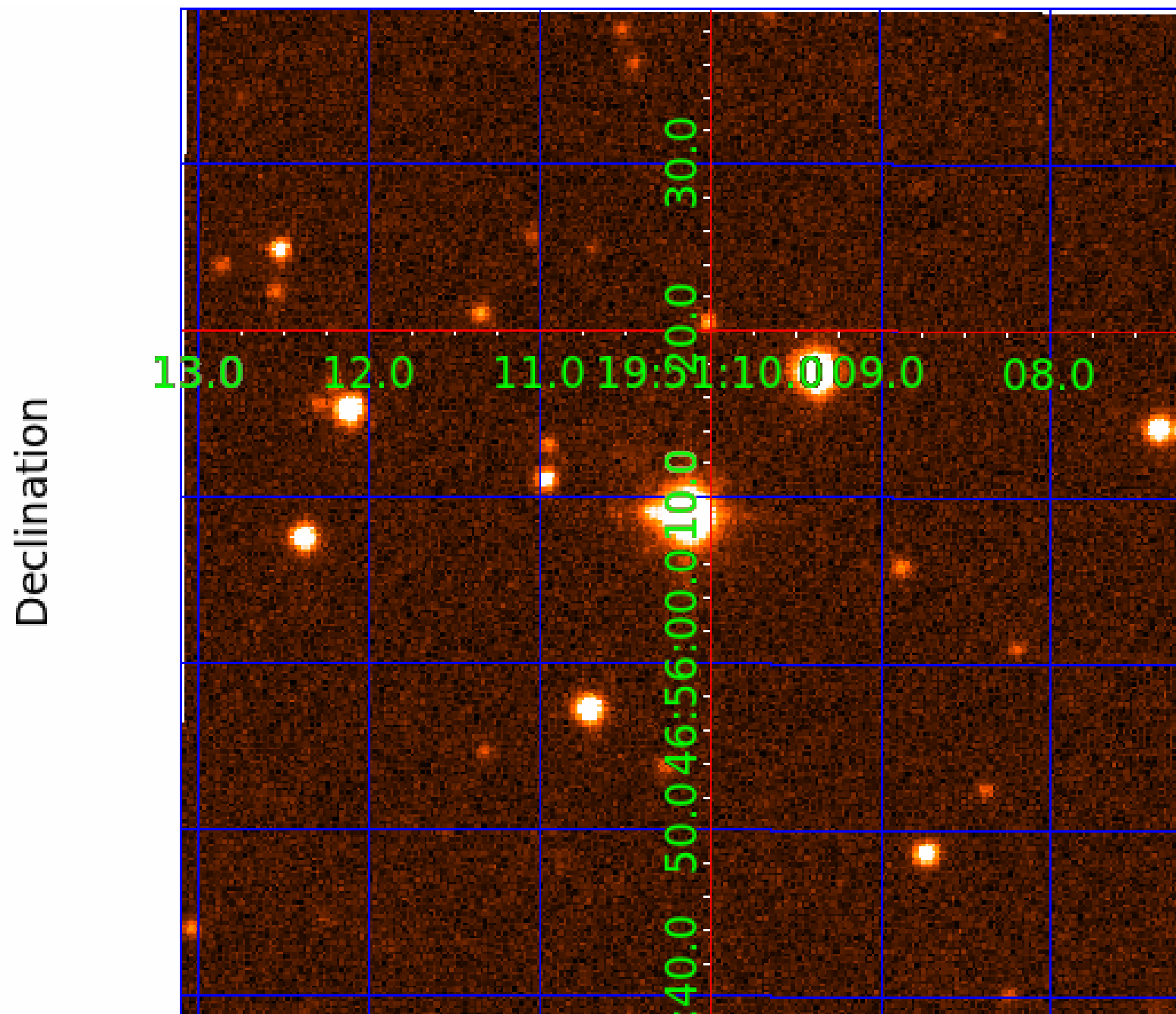
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 010028352

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})
010028352-01	OBS	1957.01	1.386797	132.534296	217.9	1.336	64.2	75.1	2.04	6823	3.52	9700.02
010028352-02	OBS	1957.02	1.751515	132.461998	37.5	8.854	12.0	13.4	2.04	6823	2.28	7105.12
010028352-03	OBS	No	514.863874	269.780384	535.2	33.933	17.8	8.6	2.04	6823	5.41	3.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010028352-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
010028352-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
010028352-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—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.

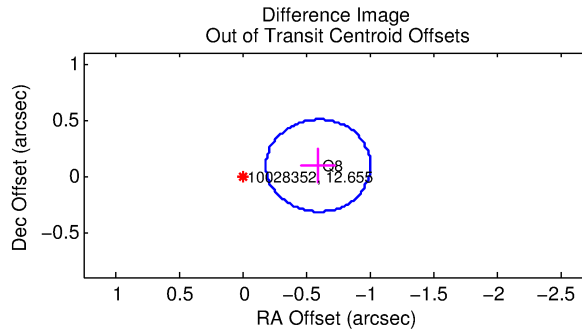
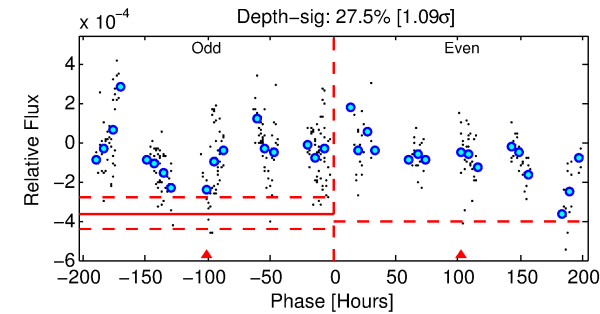
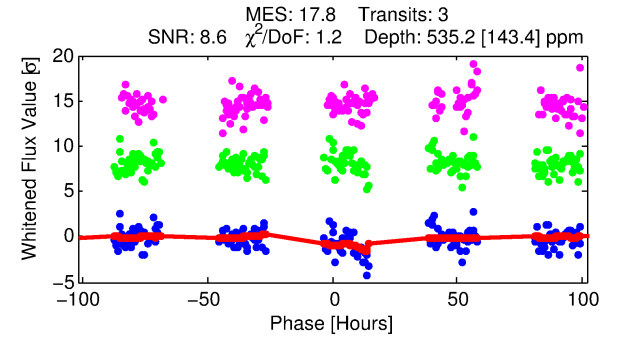
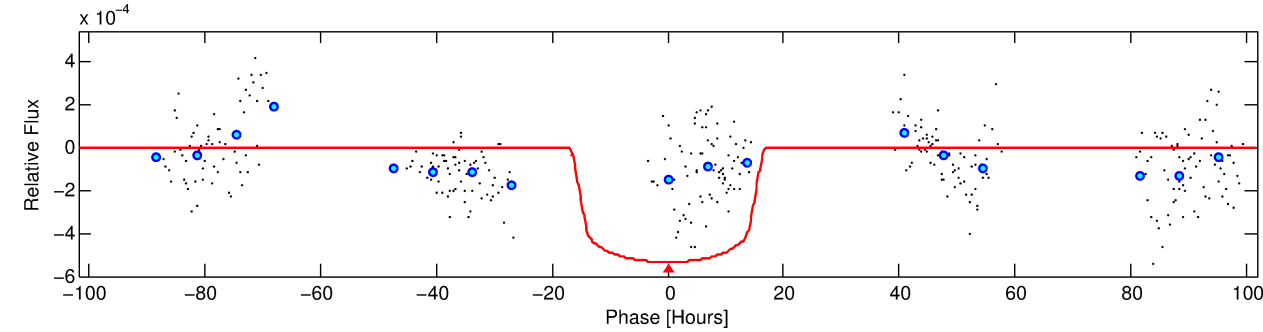
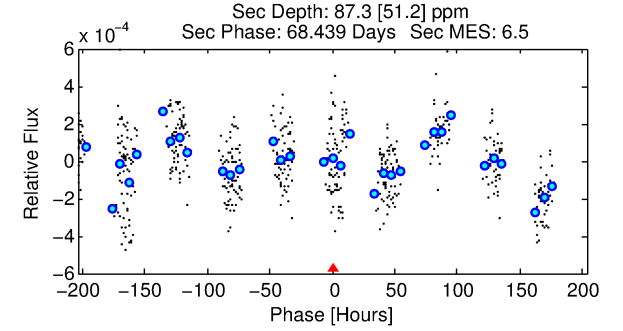
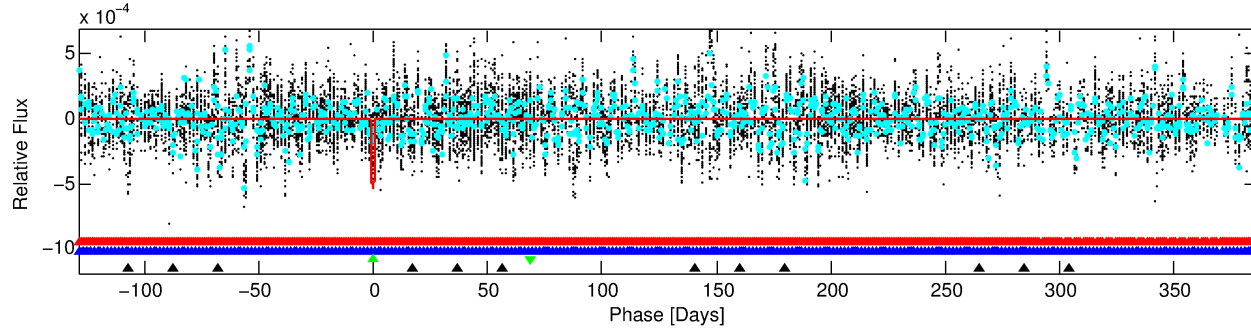
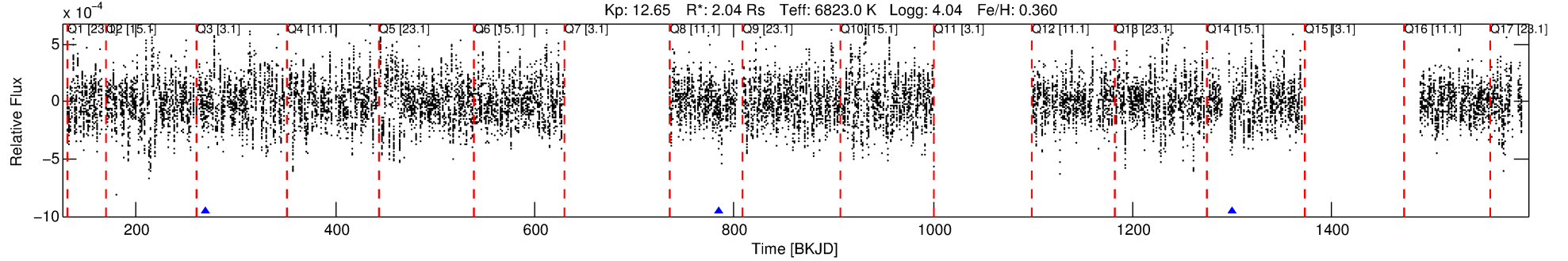
Ephemeris Match Information For 010028352-03

No Significant Match Found

DV One-Page Summary

KIC: 10028352 Candidate: 3 of 4 Period: 514.864 d
KOI: K01957 Corr: No Ephemeris Match

Kp: 12.65 R*: 2.04 Rs Teff: 6823.0 K Logg: 4.04 Fe/H: 0.360



DV Fit Results:

Period = 514.86387 [0.07737] d
Epoch = 269.7804 [0.1769] BKJD
Rp/R* = 0.0243 [0.0066]
a/R* = 61.07 [72.28]
b = 0.88 [0.27]
Seff = 3.64 [1.03]
Teff = 352 [25] K
Rp = 5.41 [1.96] Re
a = 1.4887 [0.2910] AU
Ag = 3637.69 [3087.05] [1.18σ]
Teffp = 4228 [850] K [4.56σ]

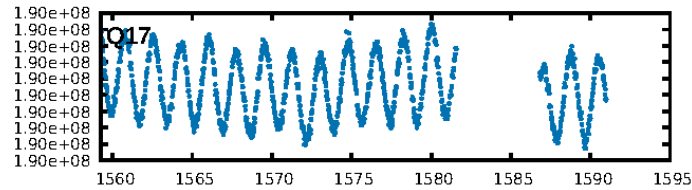
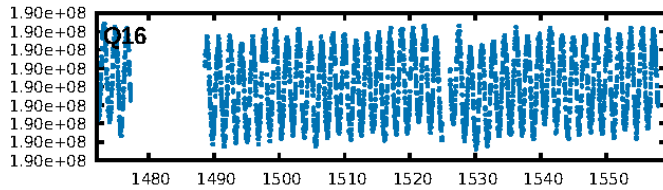
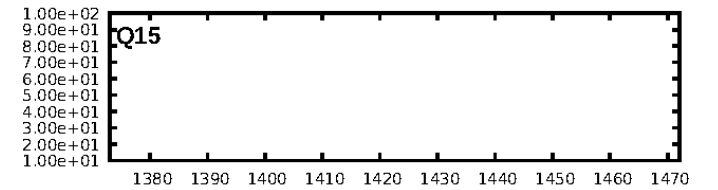
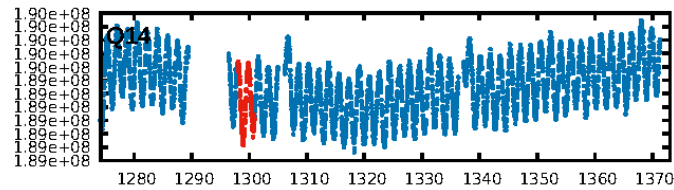
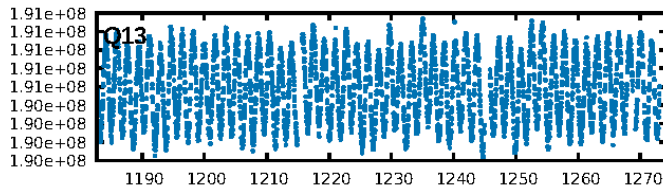
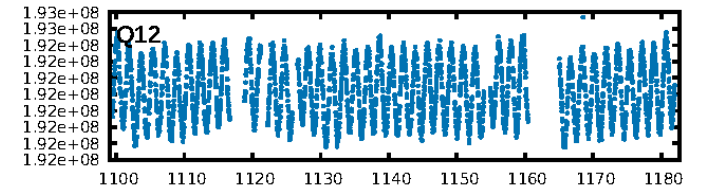
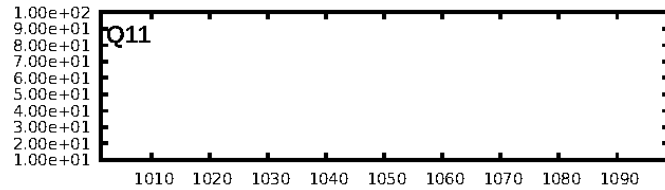
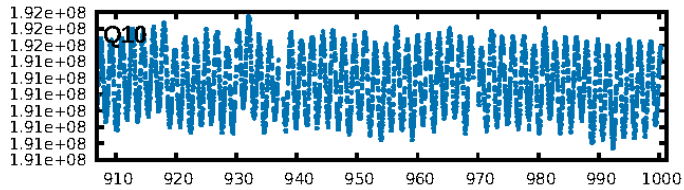
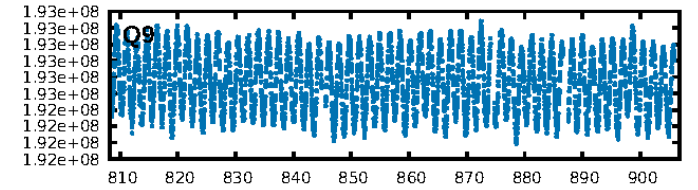
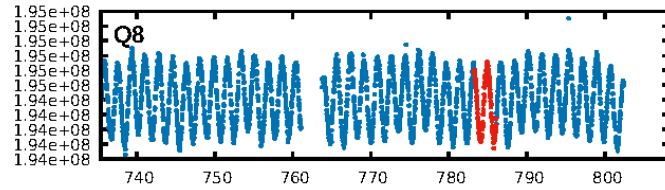
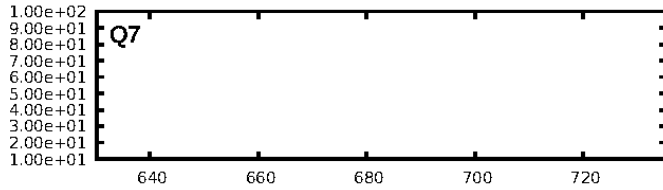
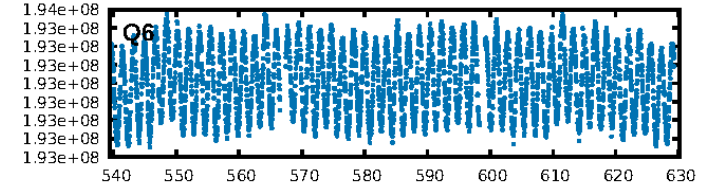
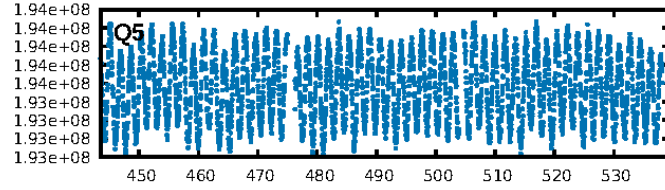
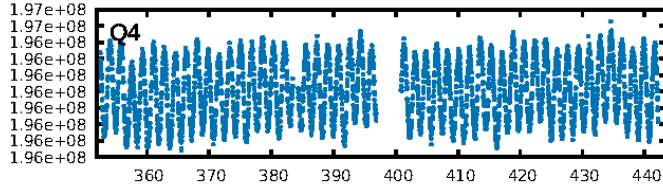
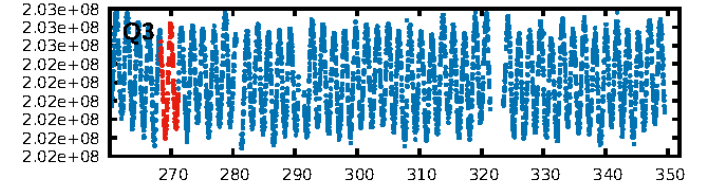
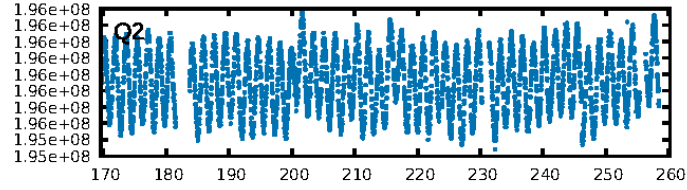
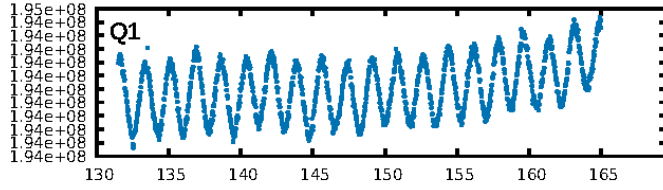
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [274.44σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.37e-33
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -4.482
Centroid-sig: 33.9%
Centroid-so: 0.485 arcsec [1.44σ]
OotOffset-rm: 0.605 arcsec [4.42σ]
KicOffset-rm: 0.741 arcsec [5.40σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 0.00 [0/2]

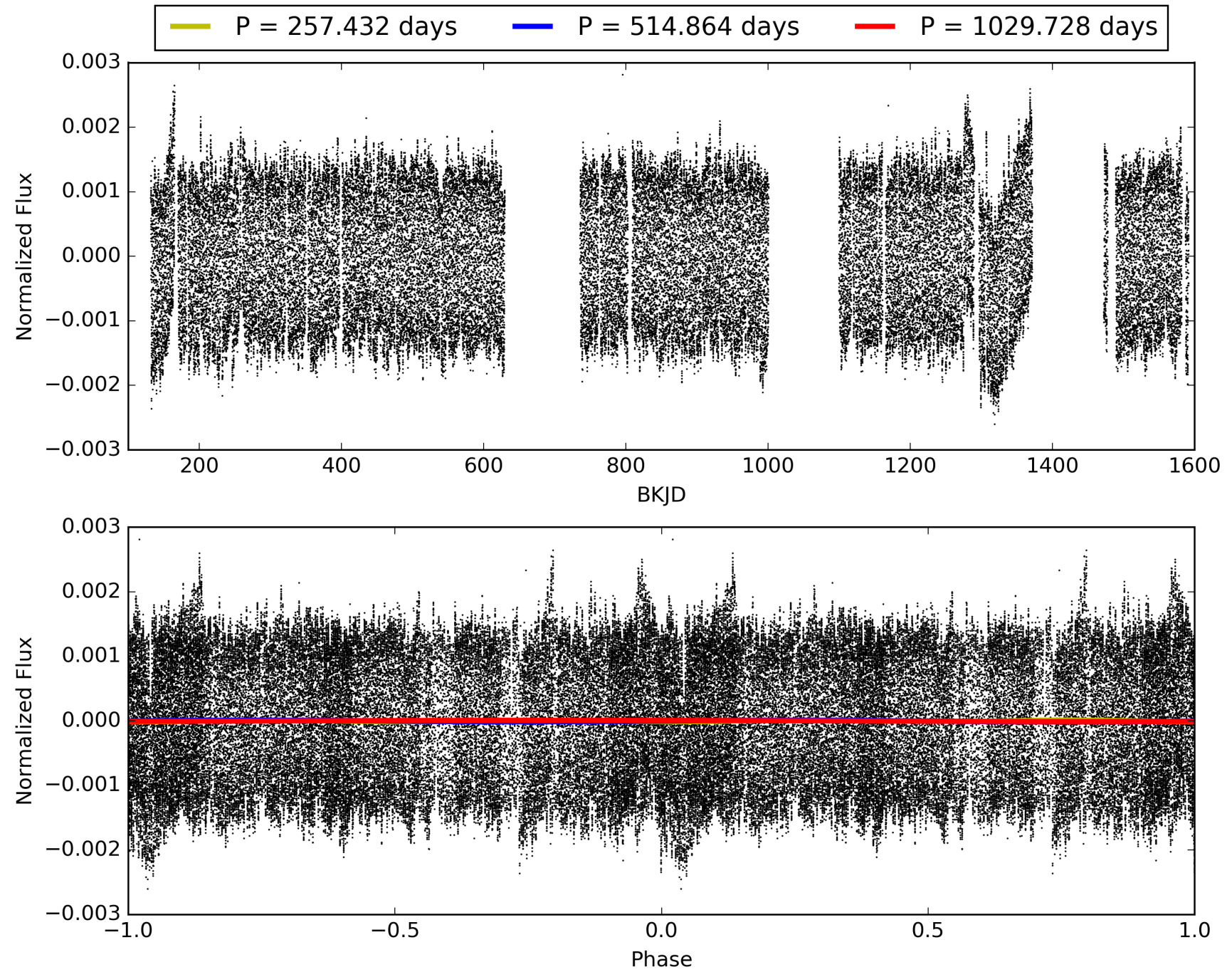
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:46:00 Z

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

TCE 010028352-03, PDC Light Curves

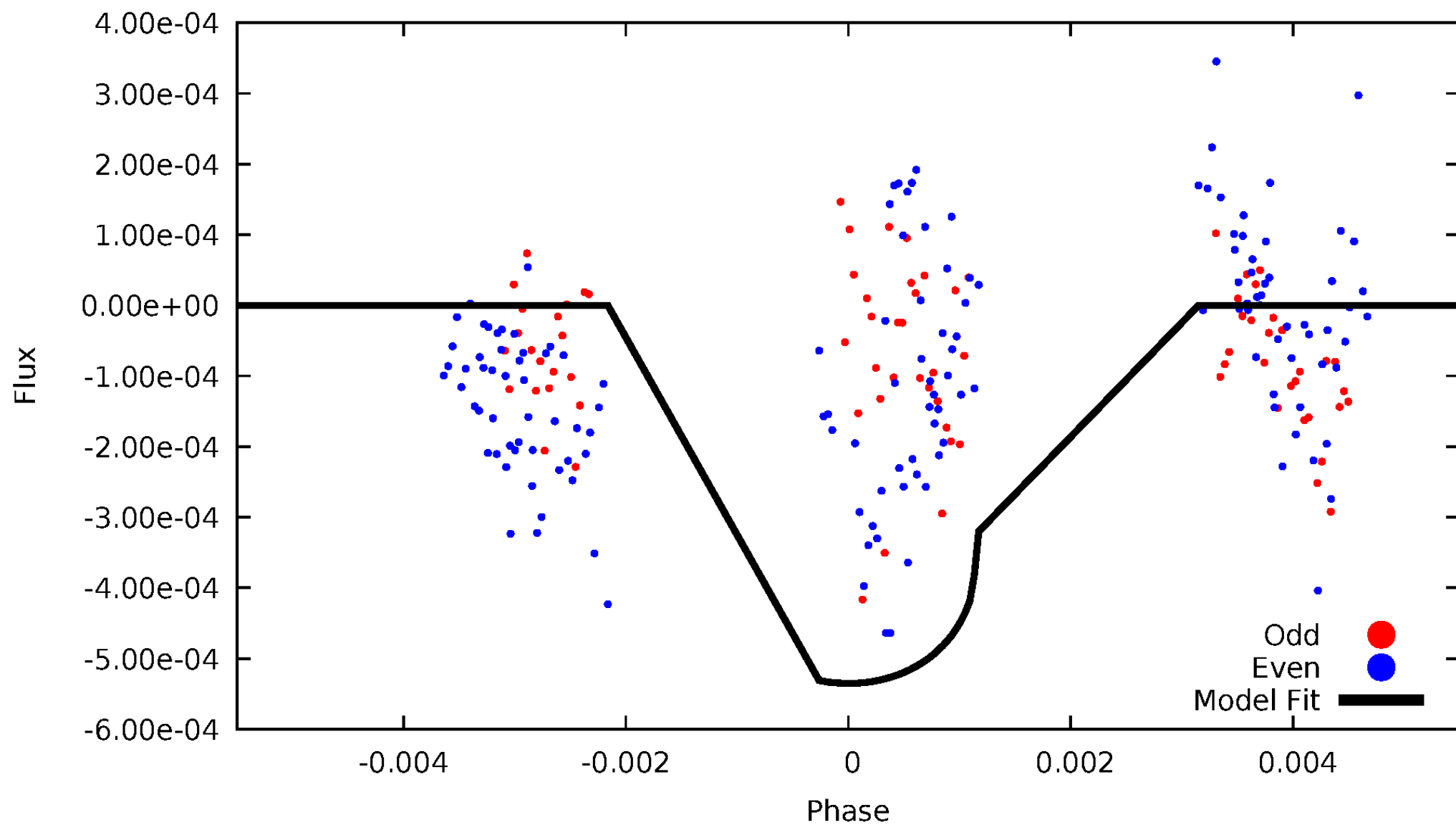


TCE 010028352-03



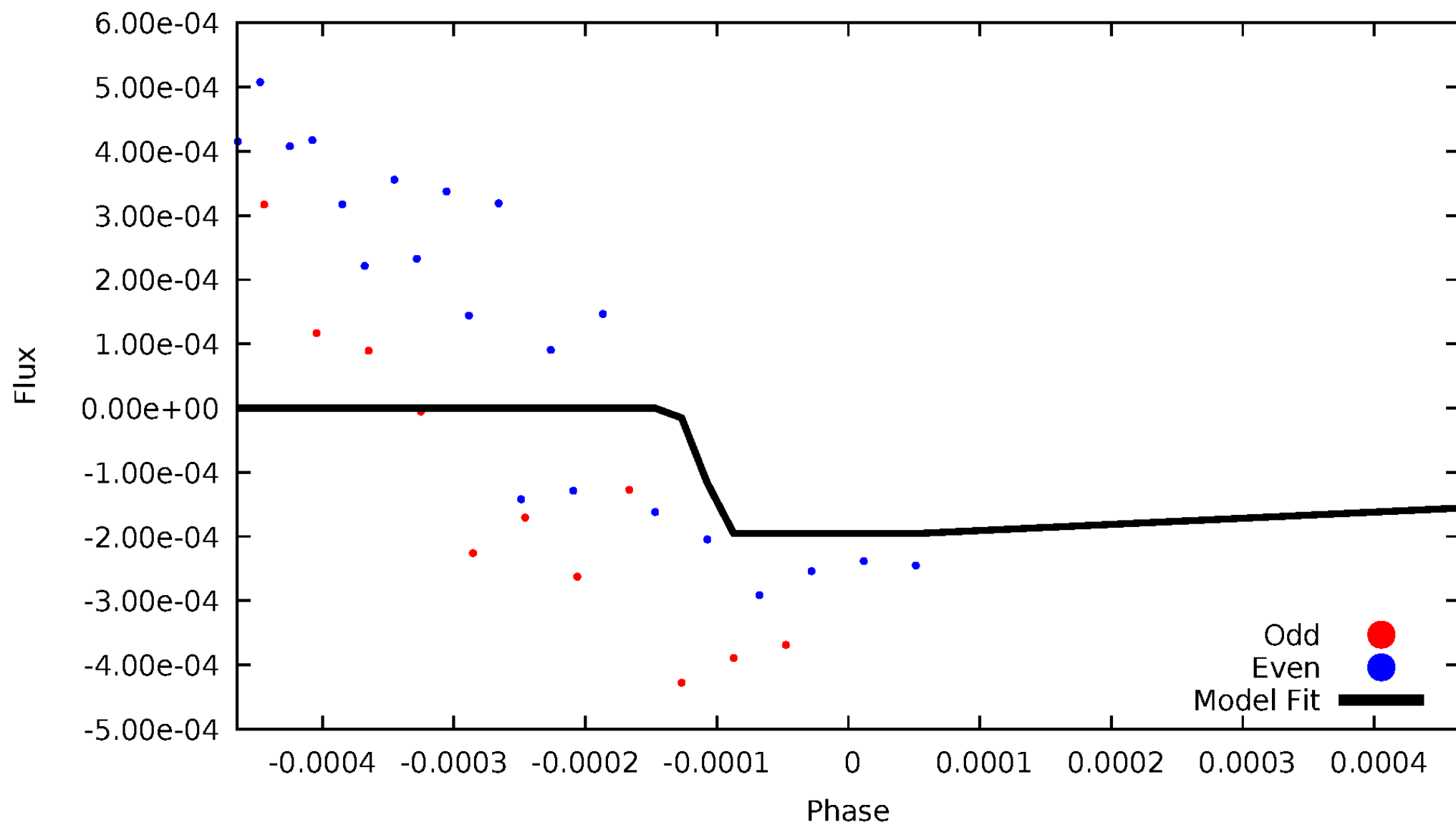
DV Odd/Even

TCE 010028352-03

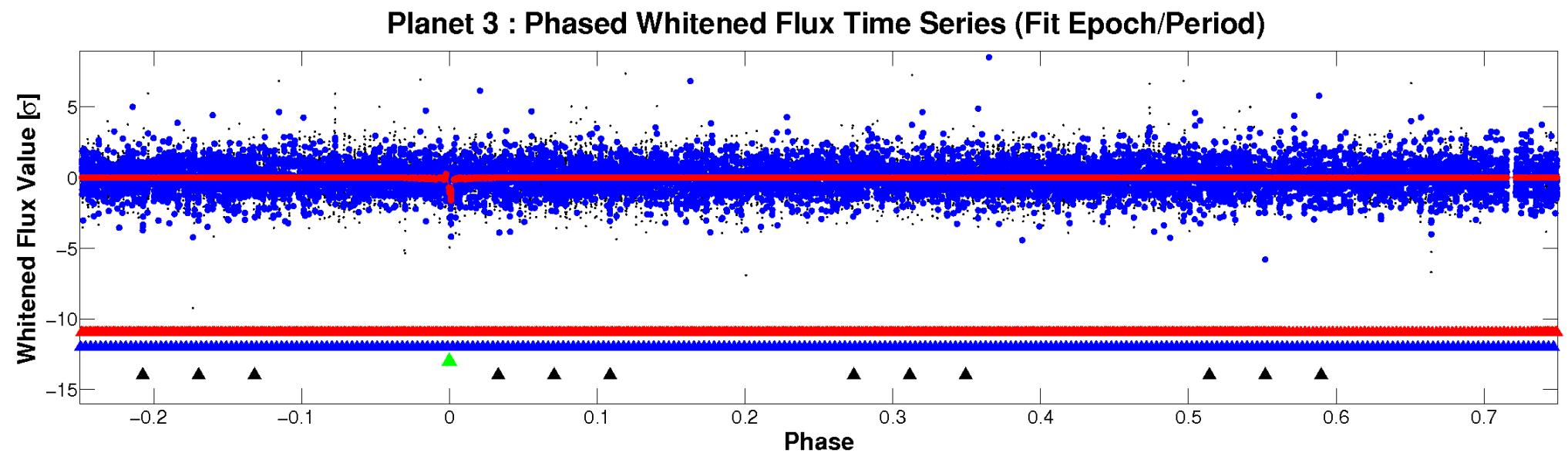
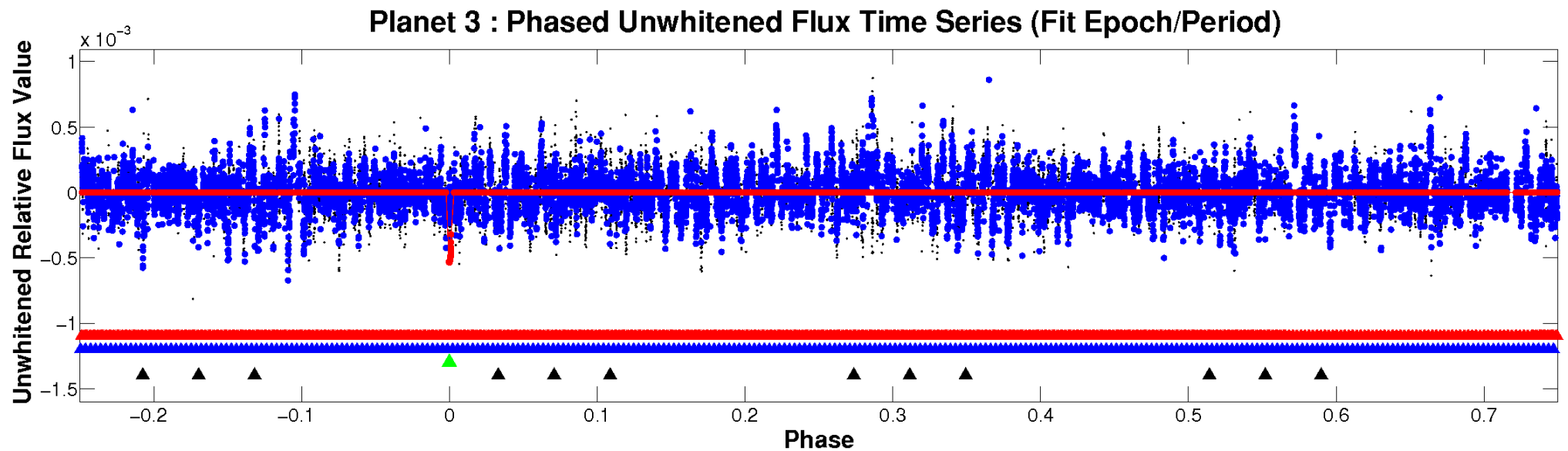


ALT Odd/Even

TCE 010028352-03

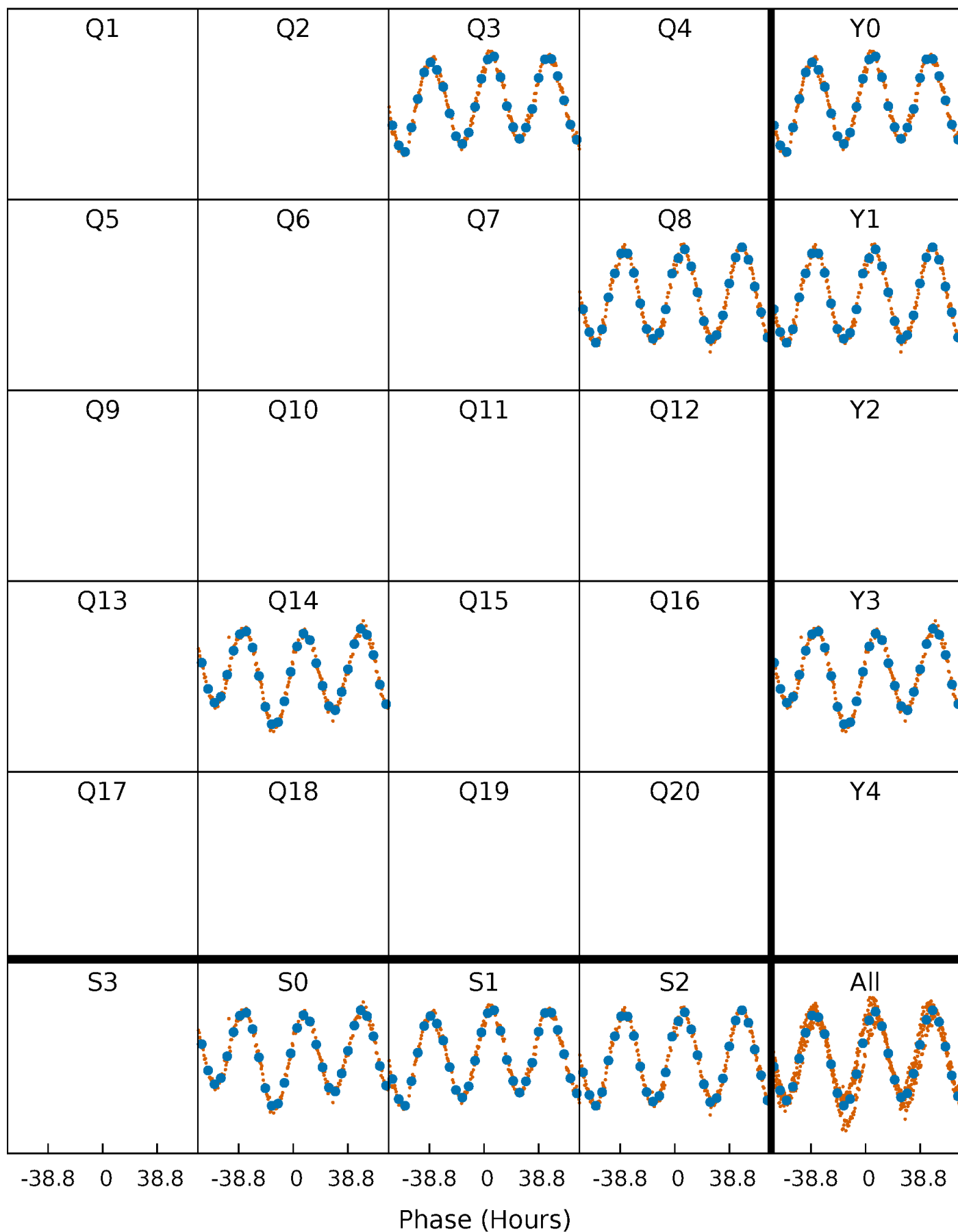


Non-Whitened Vs. Whitened Light Curve



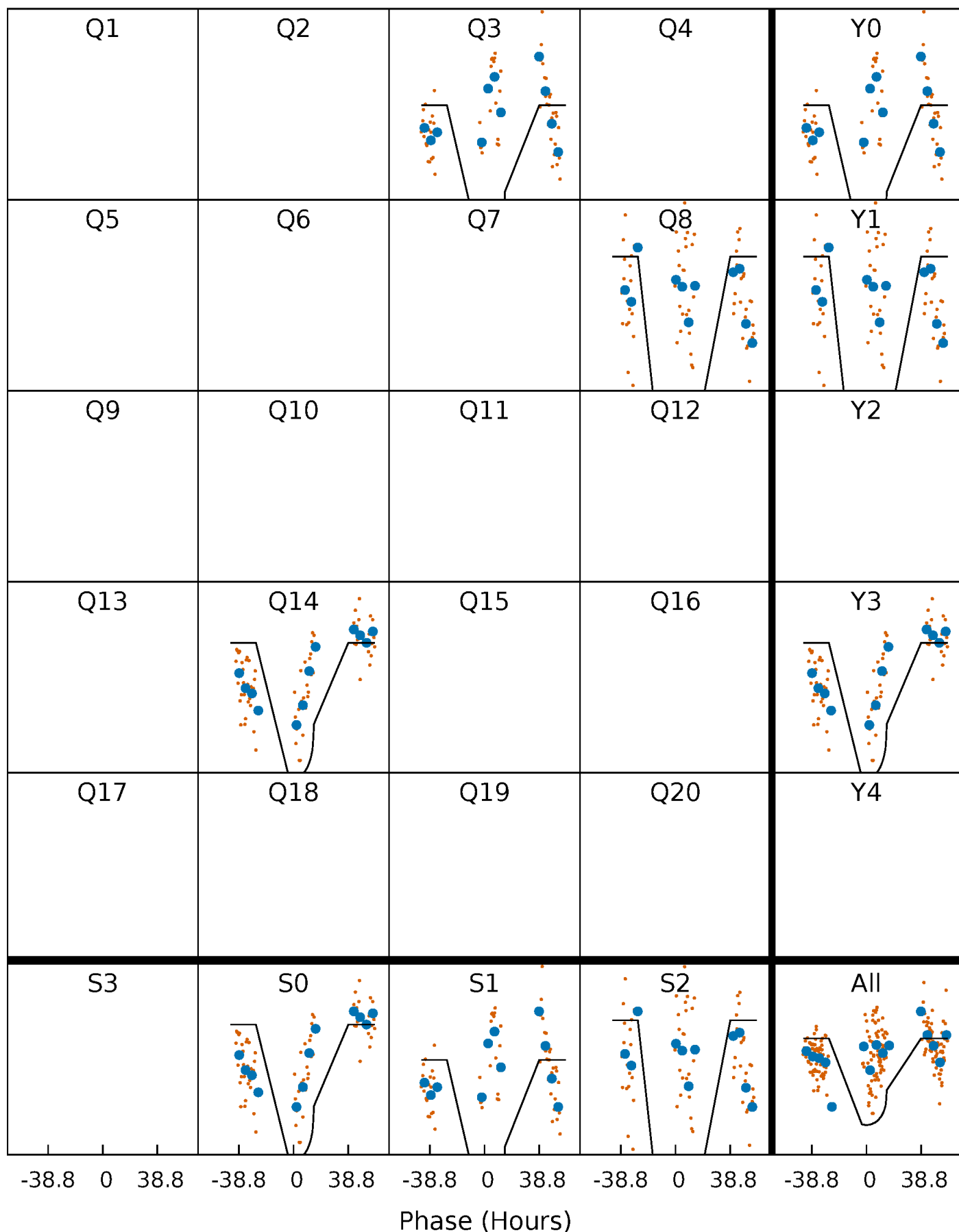
PDC Quarter-Phased Transit Curves

TCE 010028352-03 $P=514.863874$ Days $T_0=269.780384$ (BKJD)



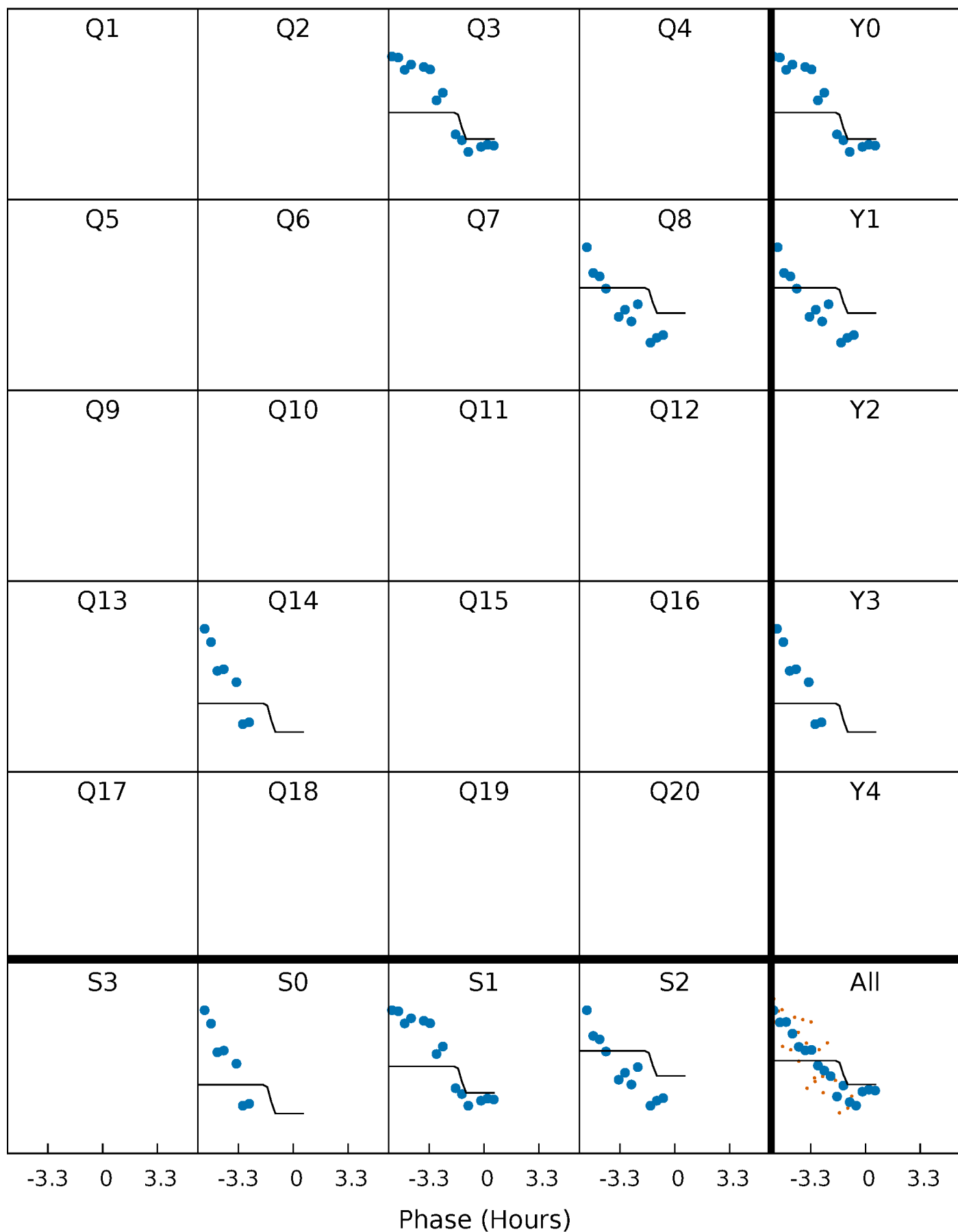
DV Quarter-Phased Transit Curves

TCE 010028352-03 $P=514.863874$ Days $T_0=269.780384$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

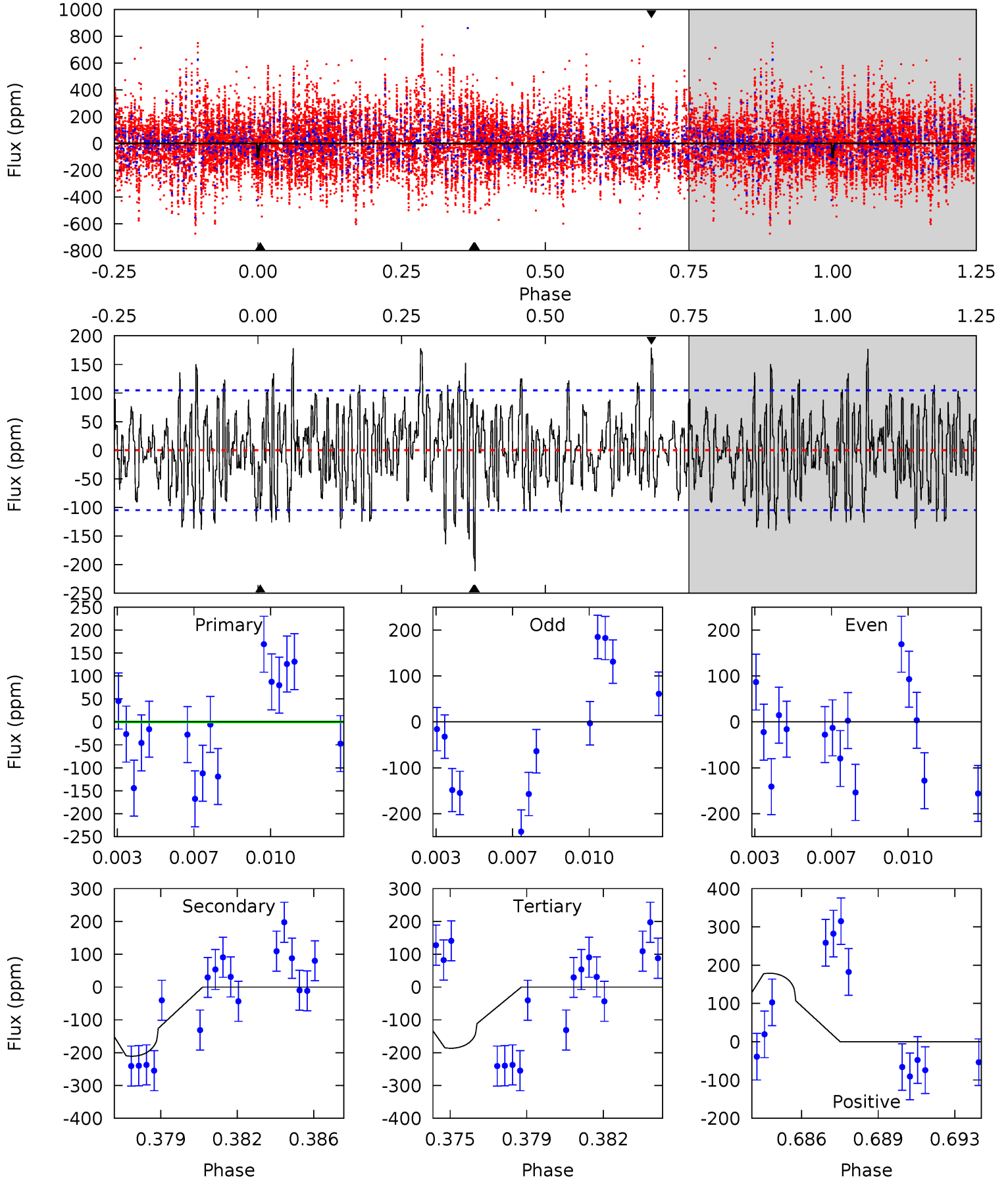
TCE 010028352-03 $P=514.993824$ Days $T_0=270.231217$ (BKJD)



DV Model-Shift Uniqueness Test

010028352-03, P = 514.863874 Days, E = 269.780384 Days

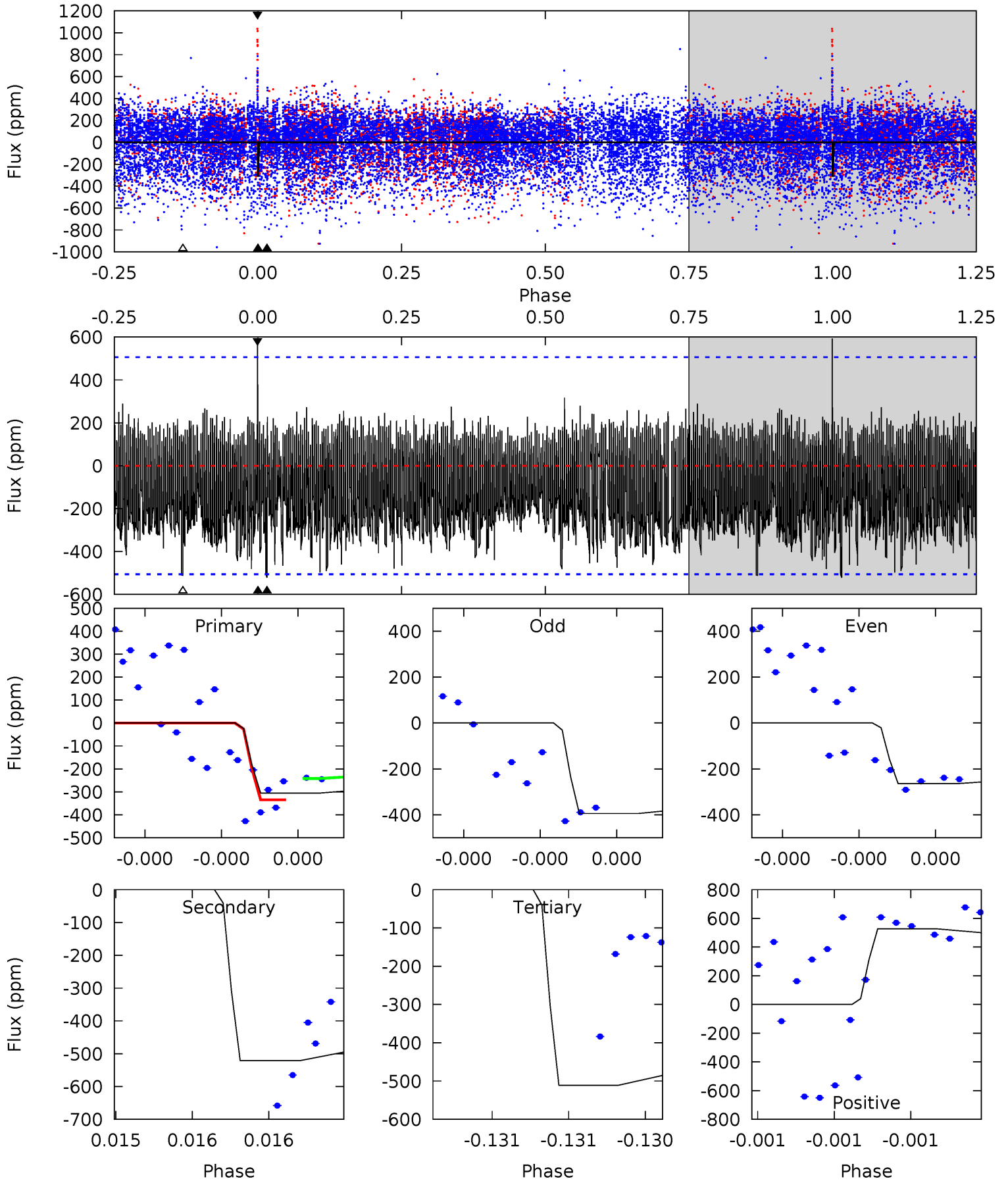
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.17	10.5	9.31	8.93	5.23	2.93	2.81	-4.14	-3.76	1.21	1.59	1.26	1.31	0.46	0.38



Alt Model-Shift Uniqueness Test

010028352-03, P = 514.993824 Days, E = 270.231217 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.47	5.92	5.81	5.99	5.75	3.75	1.72	-2.34	-2.52	0.12	-0.06	0.67	1.00	0.53	0.40



Stellar Parameters For KIC 010028352

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6823^{+61}_{-91}	$4.040^{+0.121}_{-0.148}$	$0.360^{+0.100}_{-0.200}$	$2.037^{+0.486}_{-0.365}$	$1.660^{+0.155}_{-0.155}$	$0.277^{+0.180}_{-0.117}$
	+1%/-1%	+3%/-4%	+28%/-56%	+24%/-18%	+9%/-9%	+65%/-42%
Source	SPE90	FLK73	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 010028352-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-211 ± 20	$5.49^{+1.65}_{-1.61}$	495^{+27}_{-26}	5269^{+954}_{-497}	8460^{+8628}_{-3464}
Alt.	-521 ± 88	$3.21^{+1.59}_{-1.44}$	492^{+30}_{-22}	9070^{+5339}_{-2012}	$62342^{+146777}_{-36041}$

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

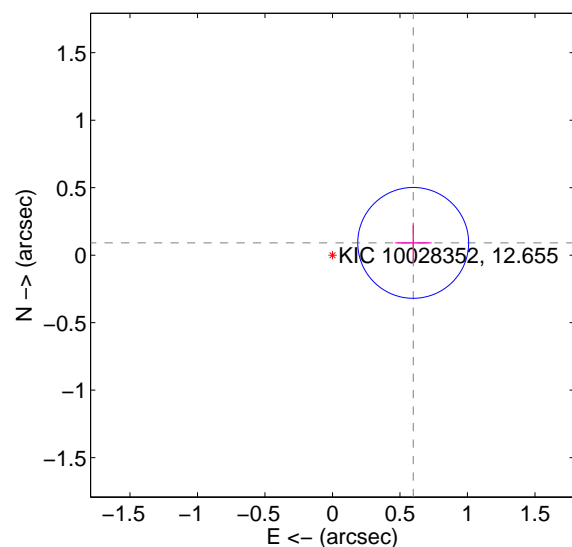
Supplemental centroid analysis for 010028352-03. Kepler magnitude: 12.65. Transit SNR 8.61

There are 0 quarters with good PRF difference image offsets

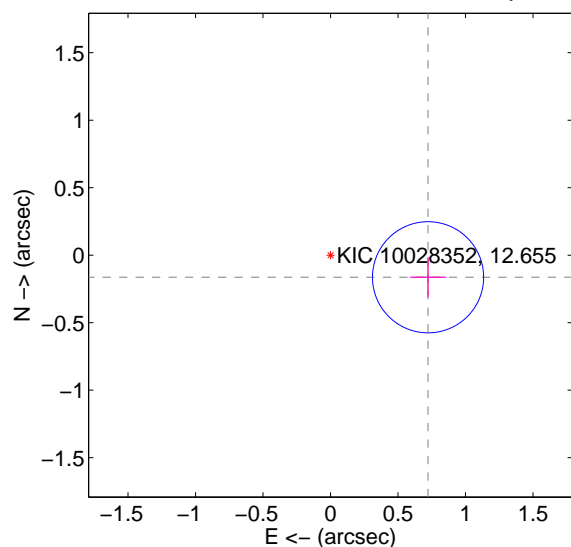
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.605 ± 0.137	4.42	-0.598 ± 0.137	0.091 ± 0.150
PRF-fit source offset from KIC position	0.741 ± 0.137	5.40	-0.723 ± 0.137	-0.164 ± 0.150
photometric centroid source offset	0.48 ± 0.34	1.44	-0.33 ± 0.38	0.36 ± 0.30

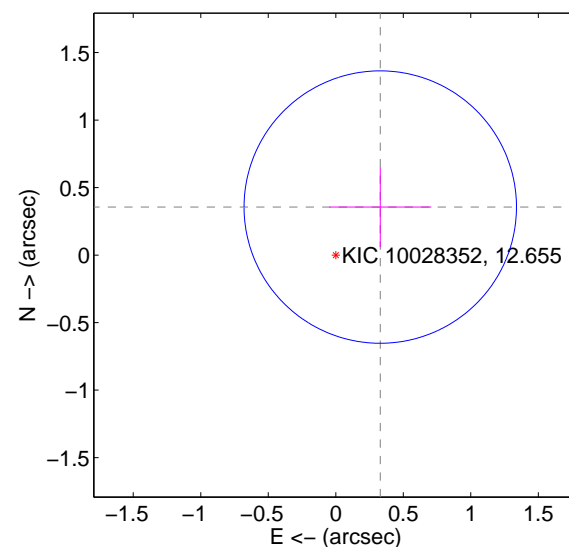
offset from difference PRF-fit to OOT PRF-fit



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.

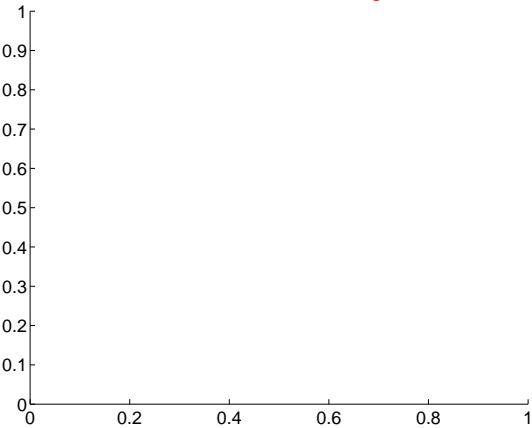
Q5 no difference image



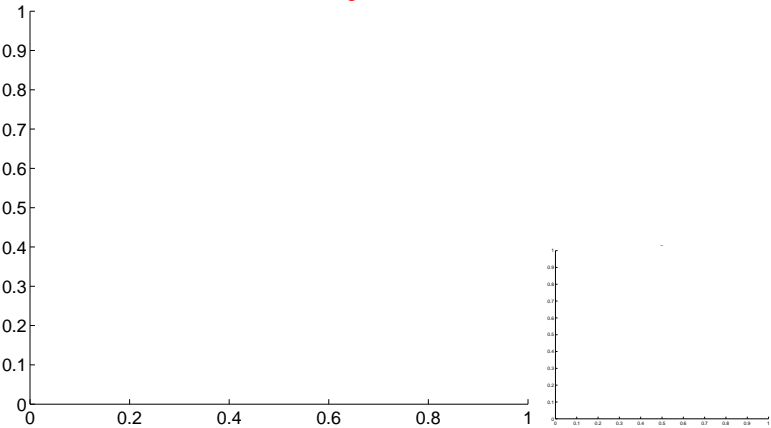
Q5 no OOT image



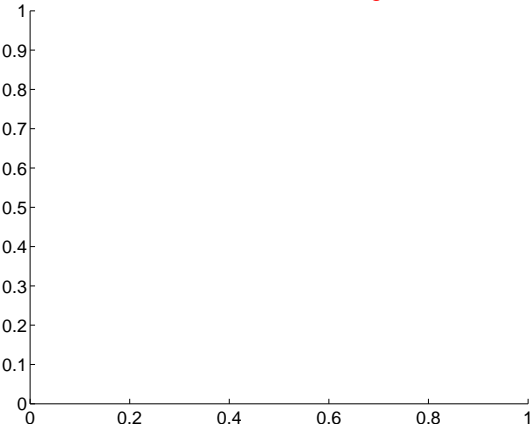
Q6 no difference image



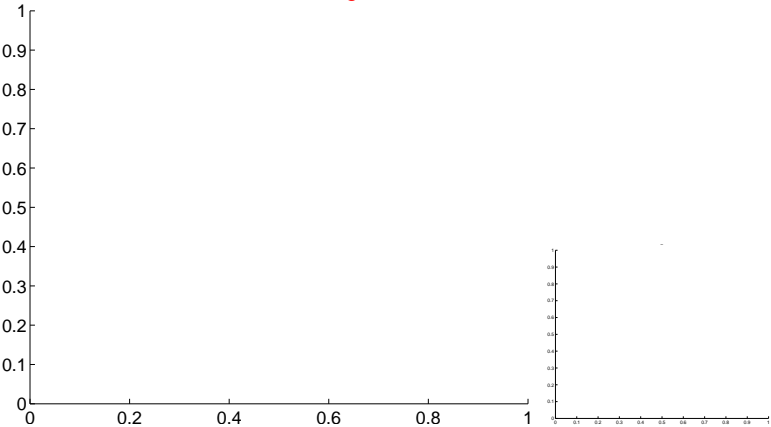
Q6 no OOT image



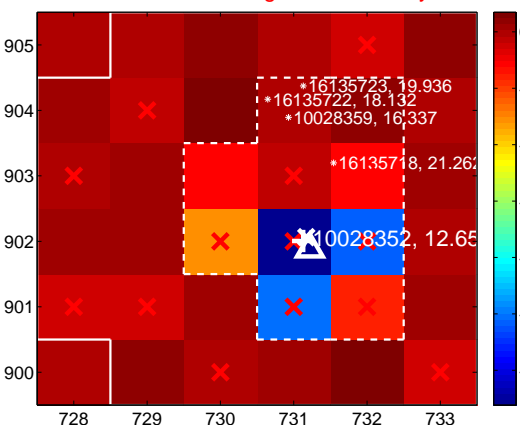
Q7 no difference image



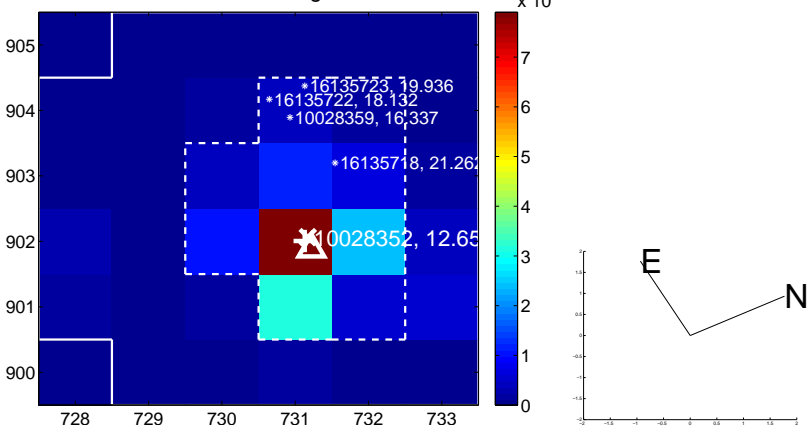
Q7 no OOT image



Q8 difference image. Poor Quality



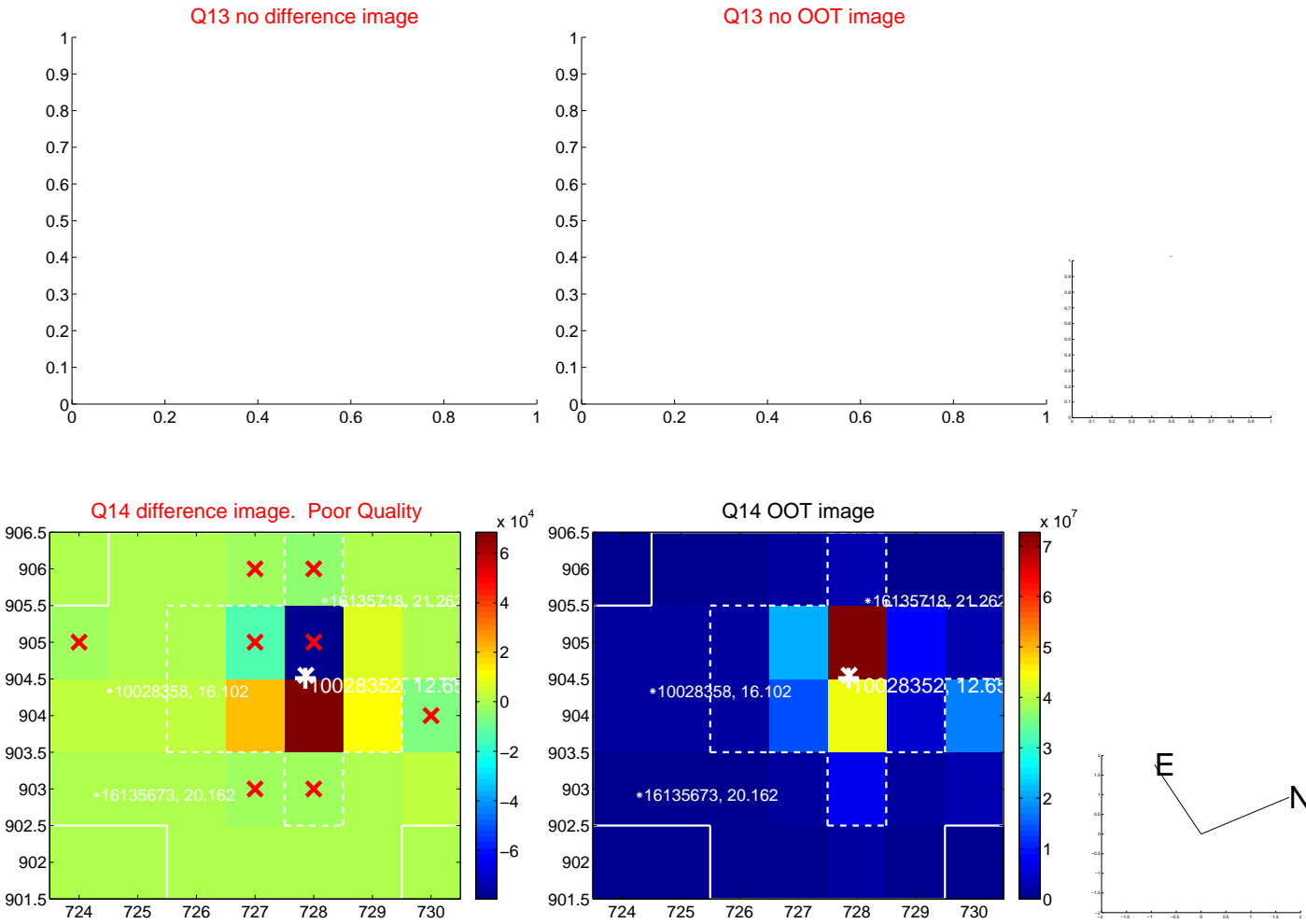
Q8 OOT image



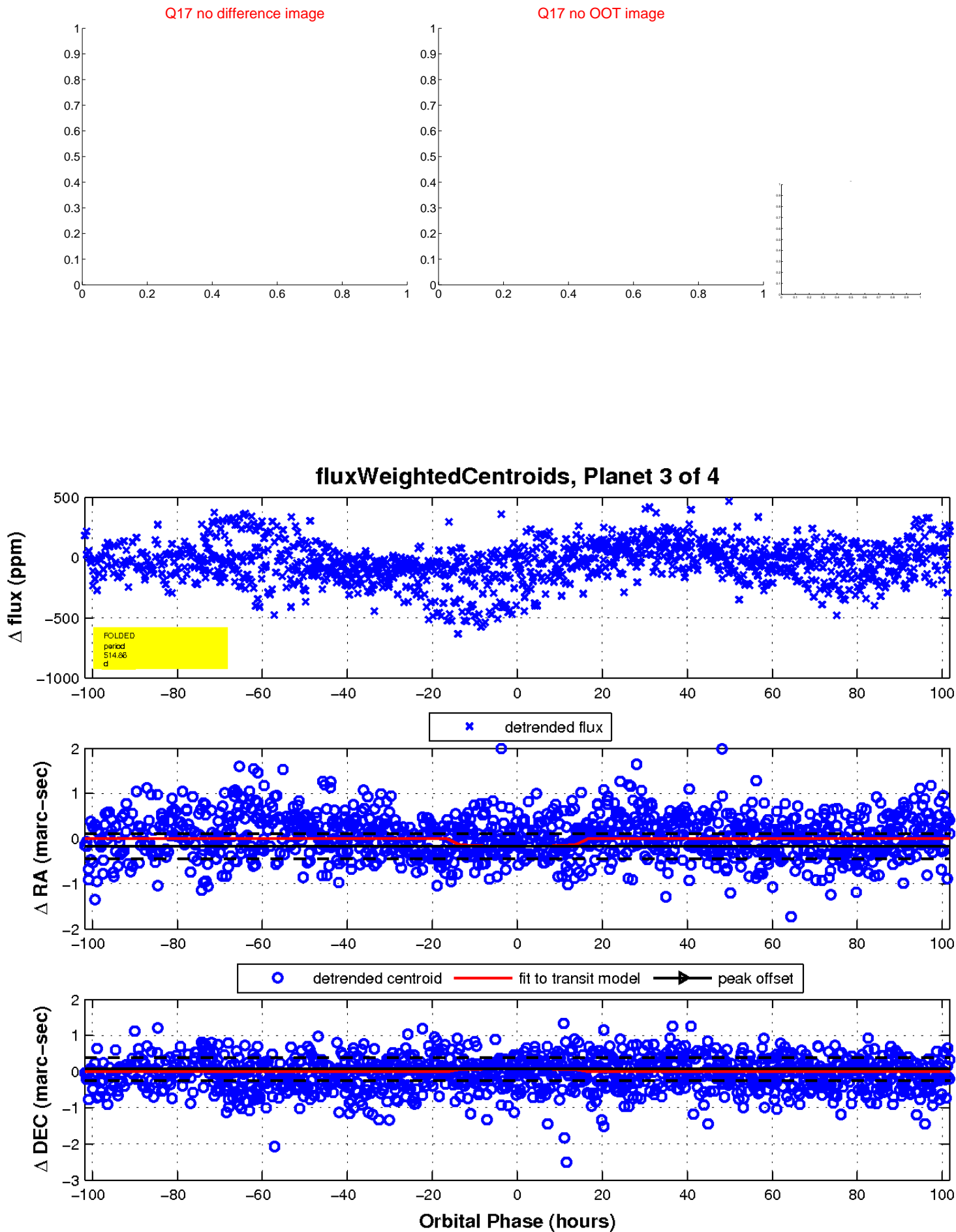
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

