

KIC 010733174

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})
010733174-01	OBS	3889.01	280.499556	299.376087	598.1	33.905	31.7	37.4	0.89	5869	4.24	1.22
010733174-02	OBS	No	1.486694	132.391790	15.8	6.762	8.9	9.7	0.89	5869	0.43	1319.57
010733174-03	OBS	No	167.164656	156.639969	200.9	4.672	7.5	7.5	0.89	5869	1.41	2.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010733174-01	OBS	FP	0.00	0	1	1	0	DEEP_V_SHAPED—CENT_UNRESOLVED_OFFSET
010733174-02	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_UNRESOLVED_OFFSET
010733174-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—MOD_NONUNIQU_ALT—MOD_TER_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.

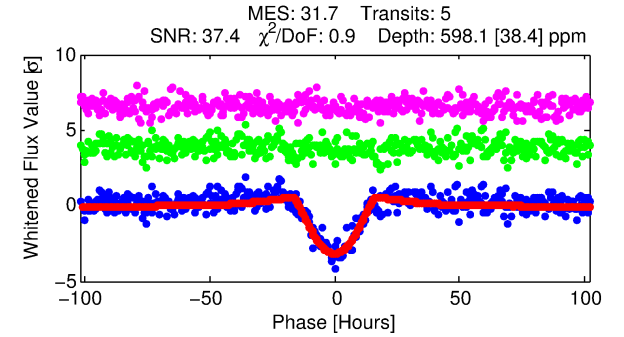
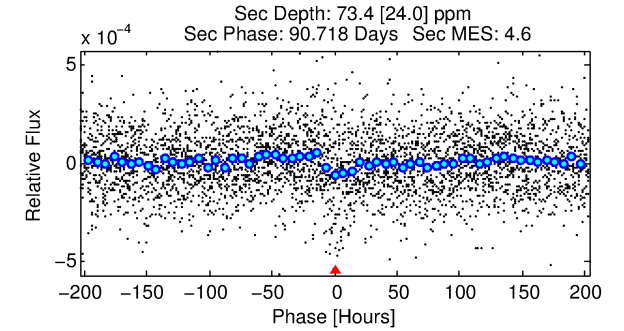
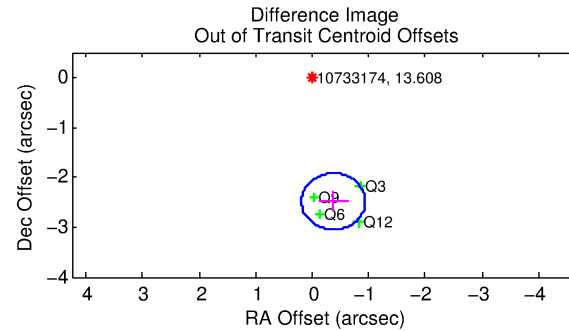
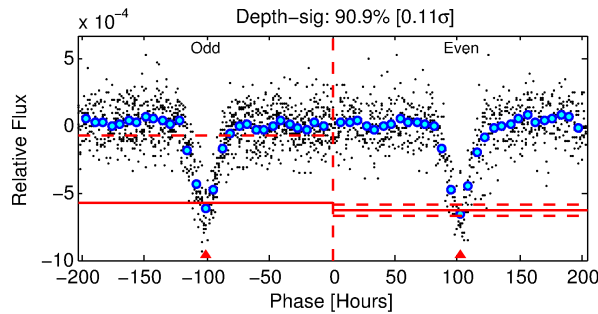
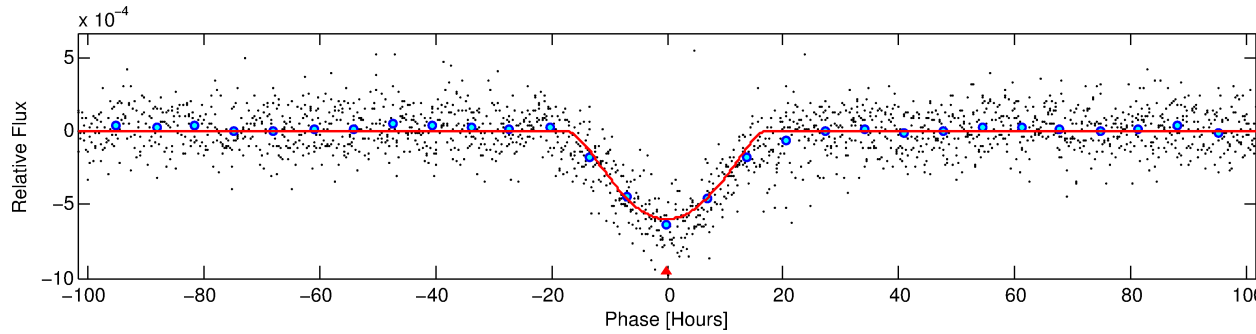
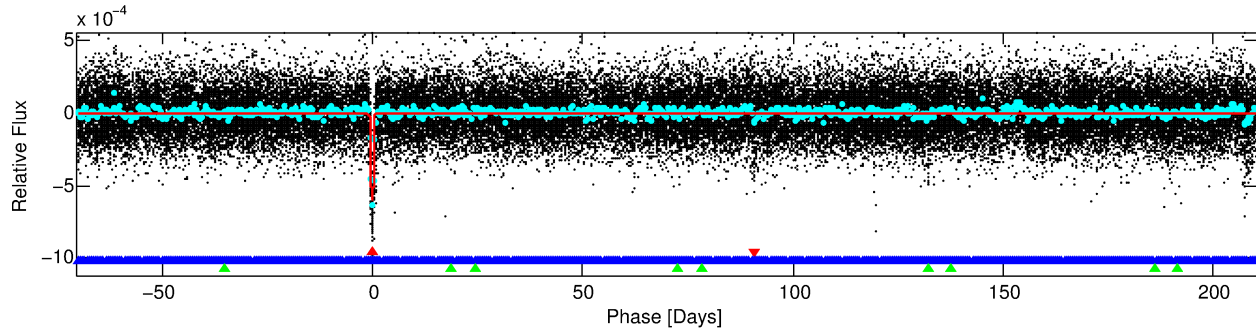
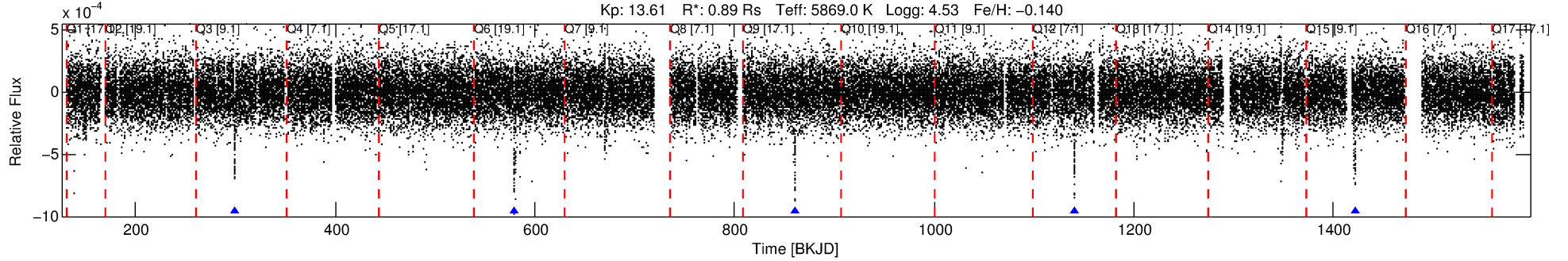
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010733174-01

No Significant Match Found

DV One-Page Summary

KIC: 10733174 Candidate: 1 of 3 Period: 280.500 d
KOI: K03889.01 Corr: 0.943



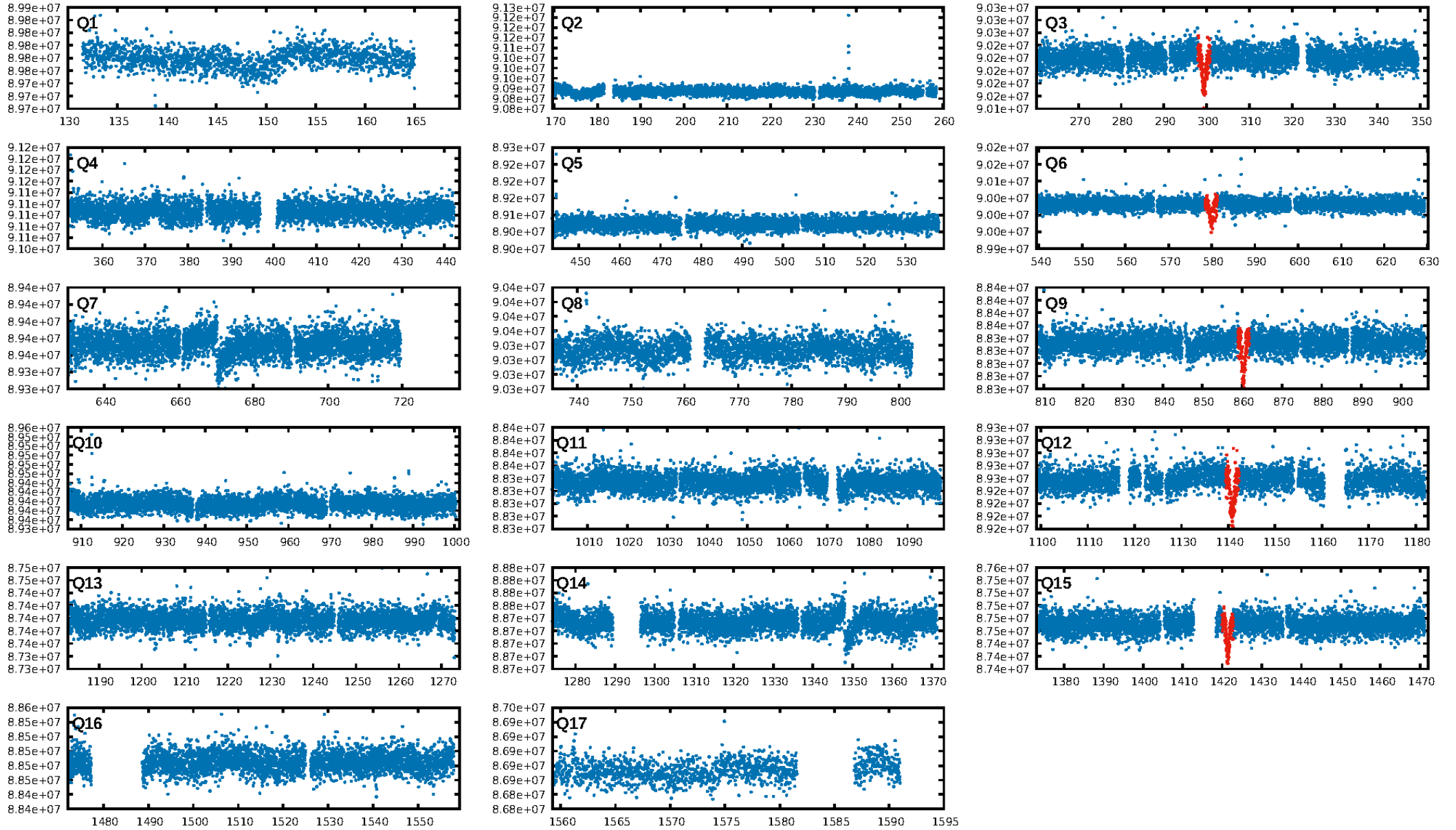
DV Fit Results:

Period = 280.49956 [0.00713] d
Epoch = 299.3761 [0.0170] BKJD
Rp/R* = 0.0436 [0.0366]
a/R* = 19.05 [4.00]
b = 1.00 [0.06]
Seff = 1.22 [0.48]
Teq = 268 [27] K
Rp = 4.24 [3.77] Re
a = 0.8328 [0.2120] AU
Ag = 1557.49 [2732.05] [0.57 σ]
Teffp = 2603 [1116] K [2.09 σ]

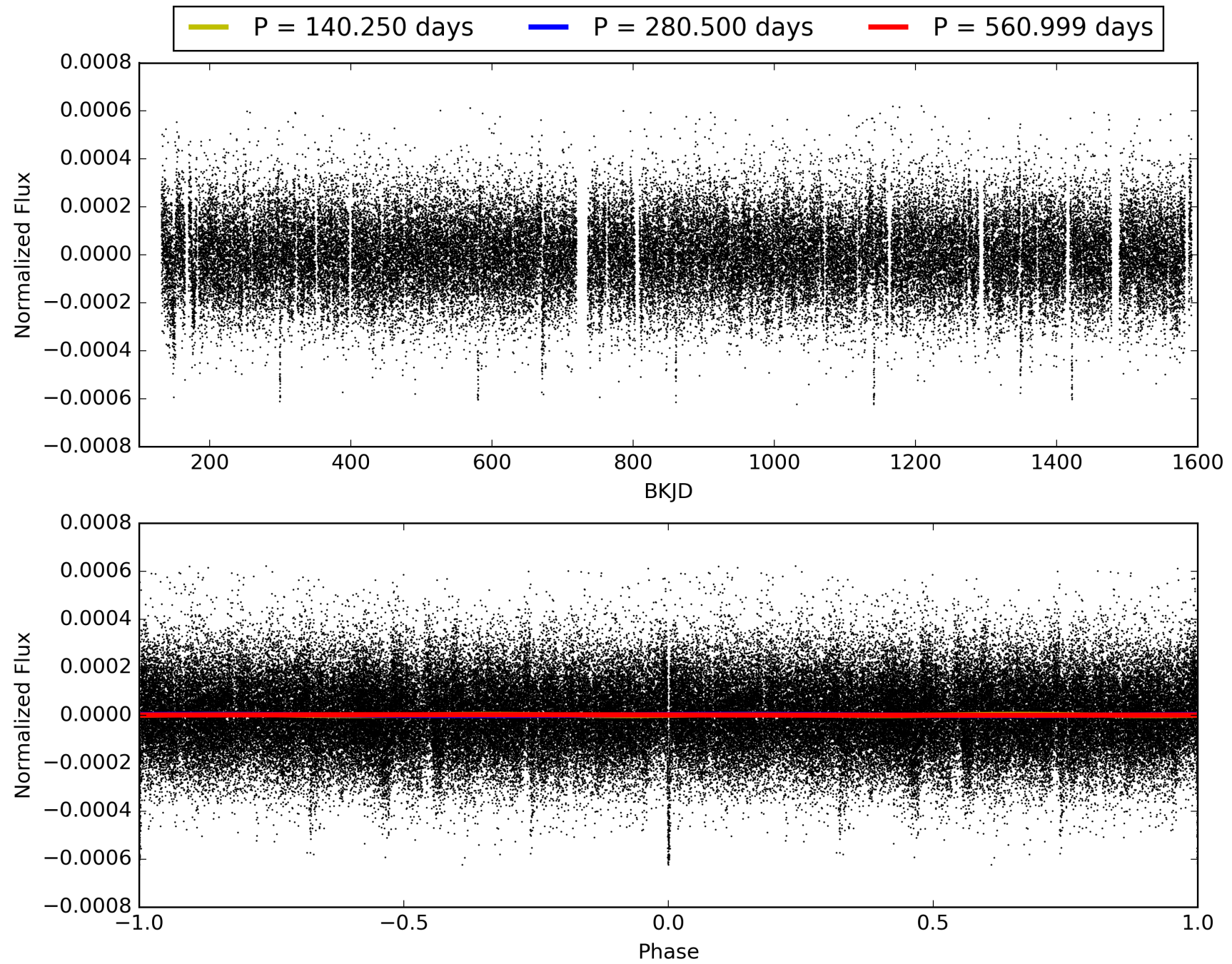
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [79.47 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 31.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.03e-129
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 5.291
Centroid-sig: 0.0%
Centroid-so: 2.036 arcsec [7.11 σ]
OotOffset-rm: 2.515 arcsec [13.38 σ]
KicOffset-rm: 2.627 arcsec [14.17 σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 0.00 [0/4]

TCE 010733174-01, PDC Light Curves

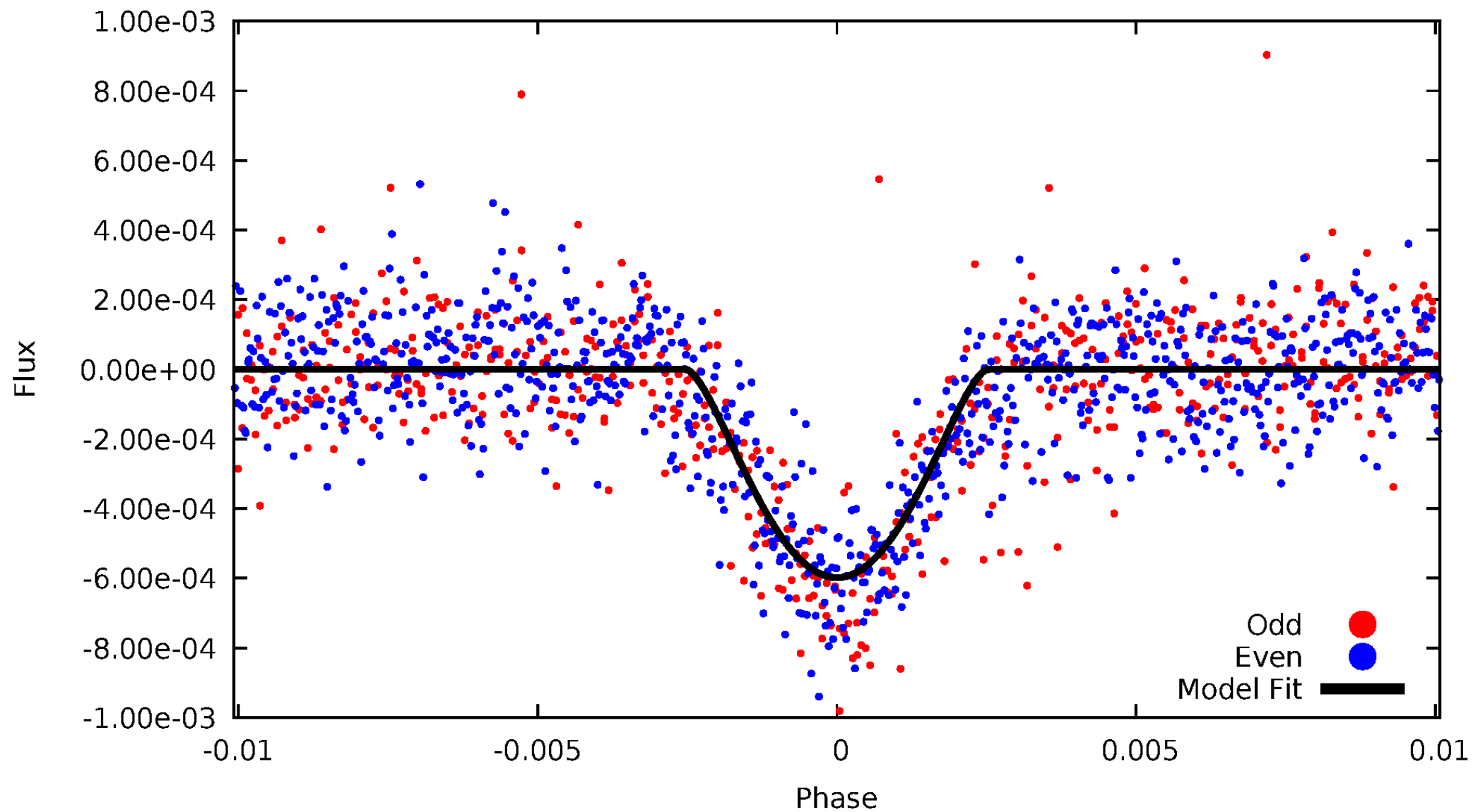


TCE 010733174-01



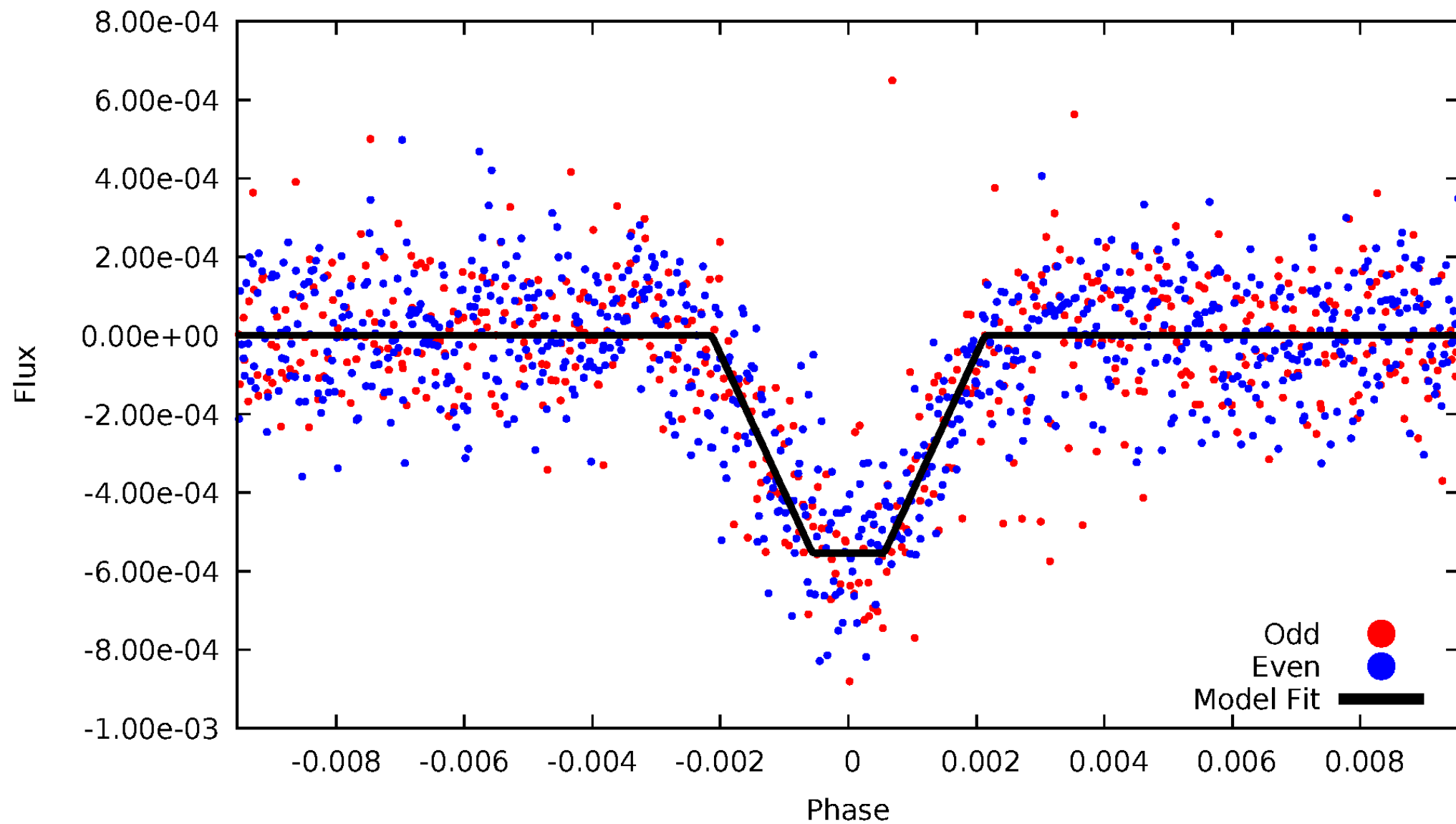
DV Odd/Even

TCE 010733174-01

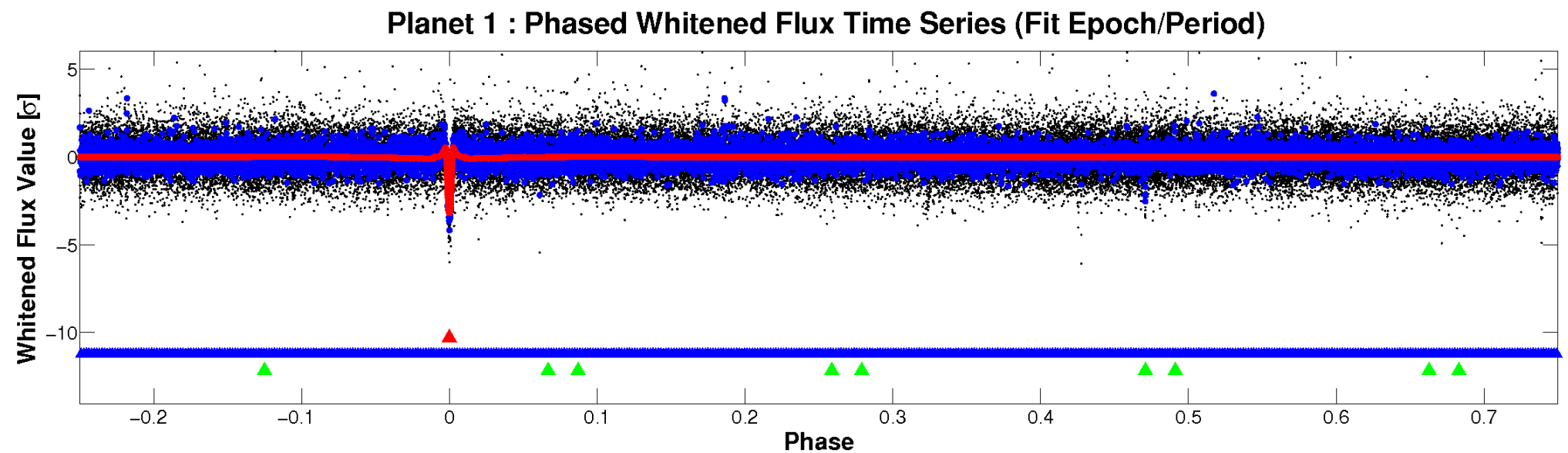
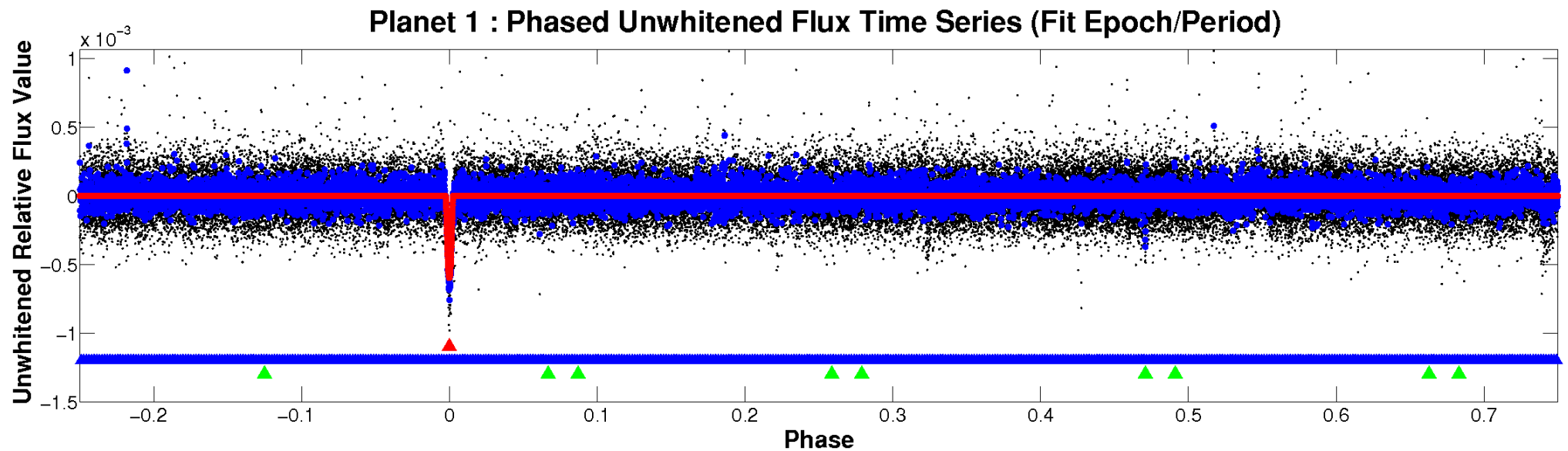


ALT Odd/Even

TCE 010733174-01

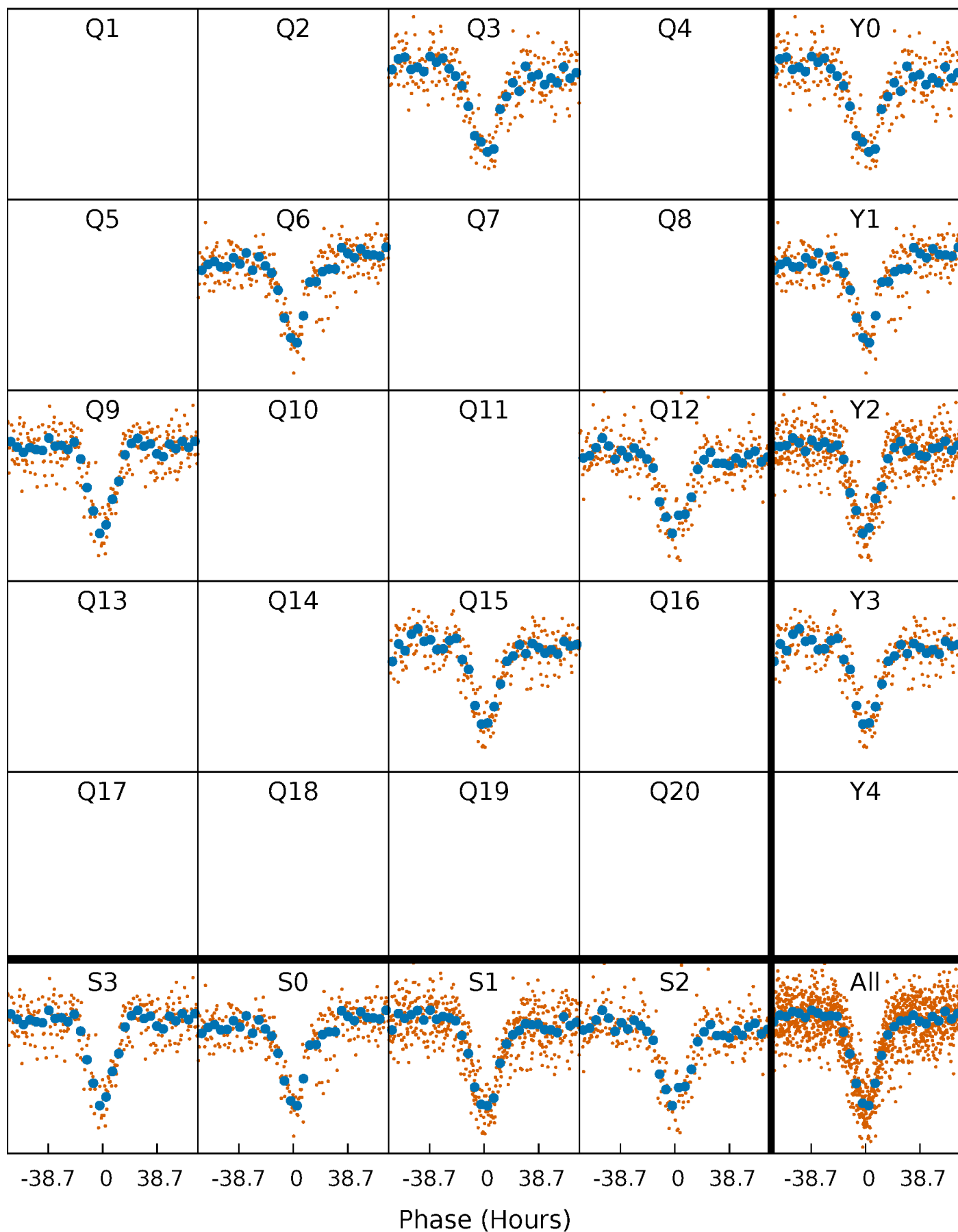


Non-Whitened Vs. Whitened Light Curve



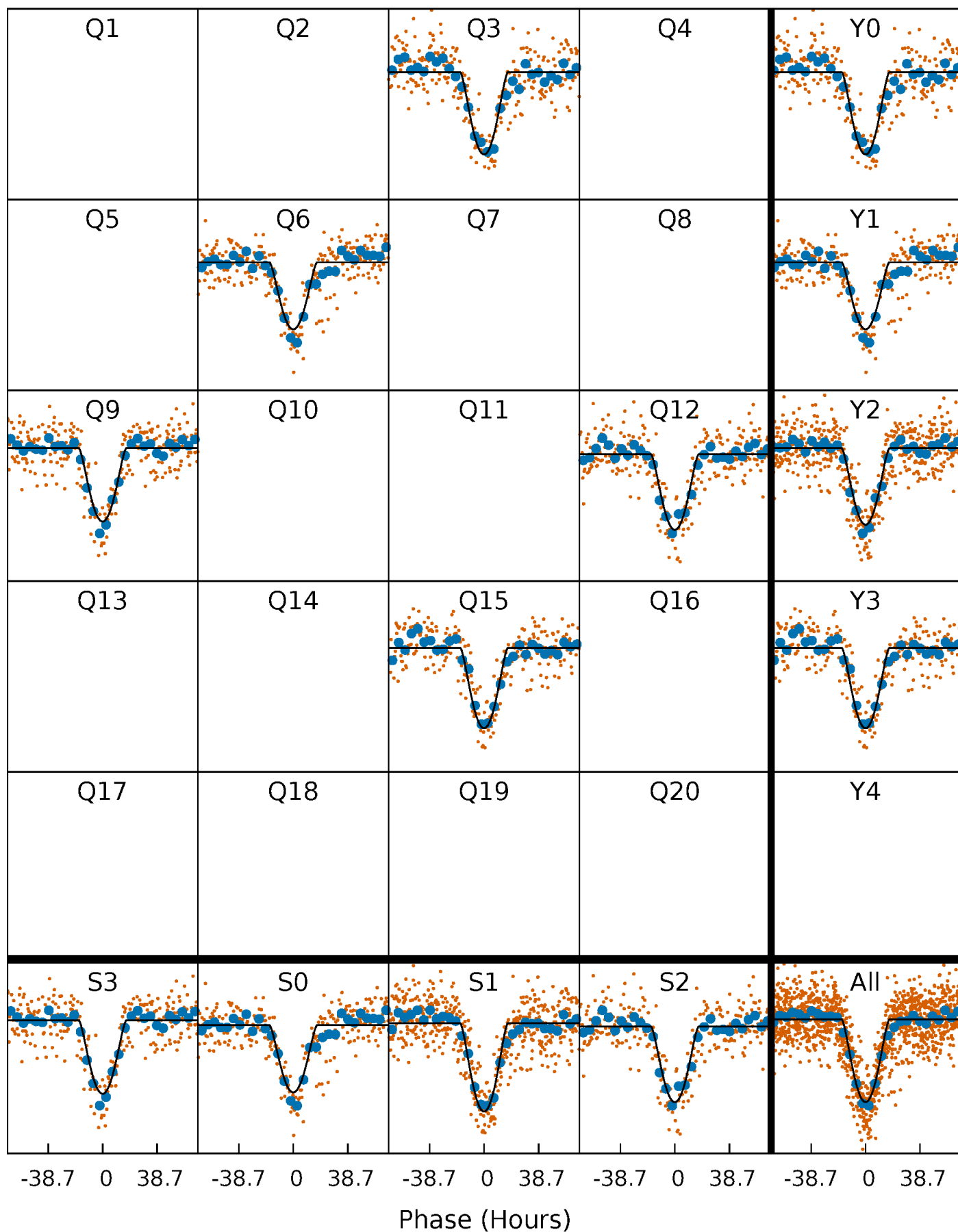
PDC Quarter-Phased Transit Curves

TCE 010733174-01 P=280.499556 Days $T_0=299.376087$ (BKJD)



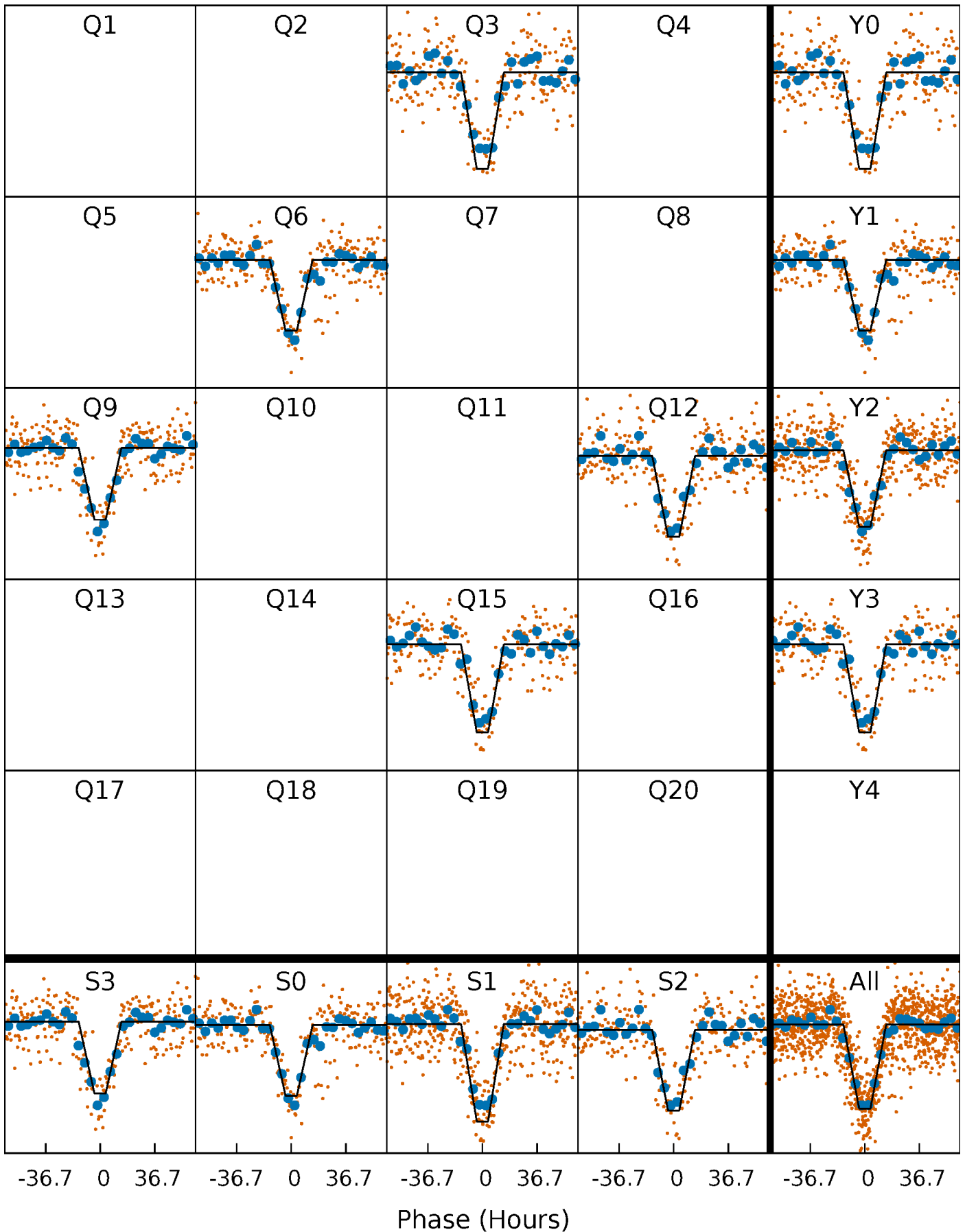
DV Quarter-Phased Transit Curves

TCE 010733174-01 P=280.499556 Days $T_0=299.376087$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

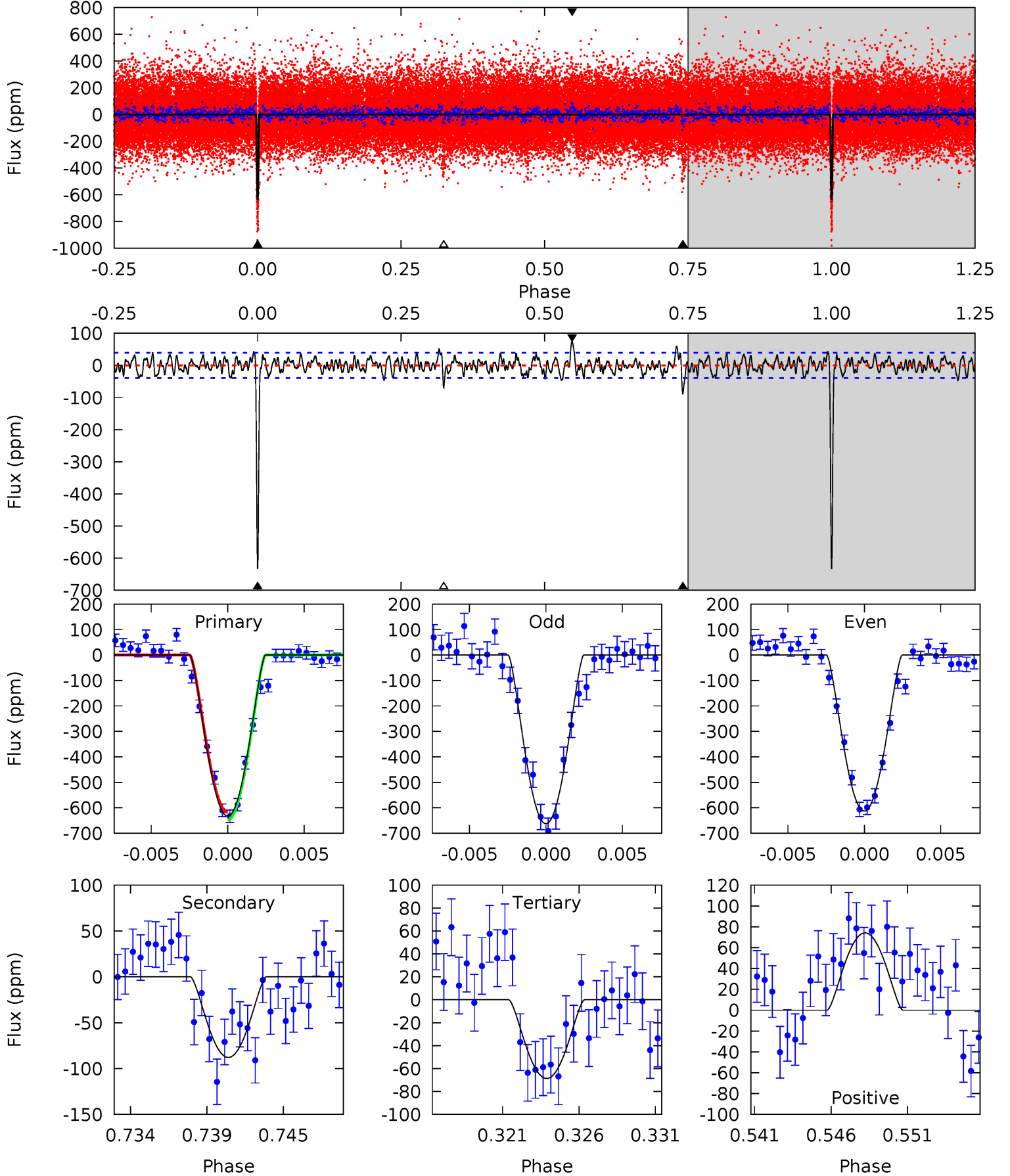
TCE 010733174-01 P=280.498289 Days $T_0=299.384607$ (BKJD)



DV Model-Shift Uniqueness Test

010733174-01, $P = 280.499556$ Days, $E = 18.876531$ Days

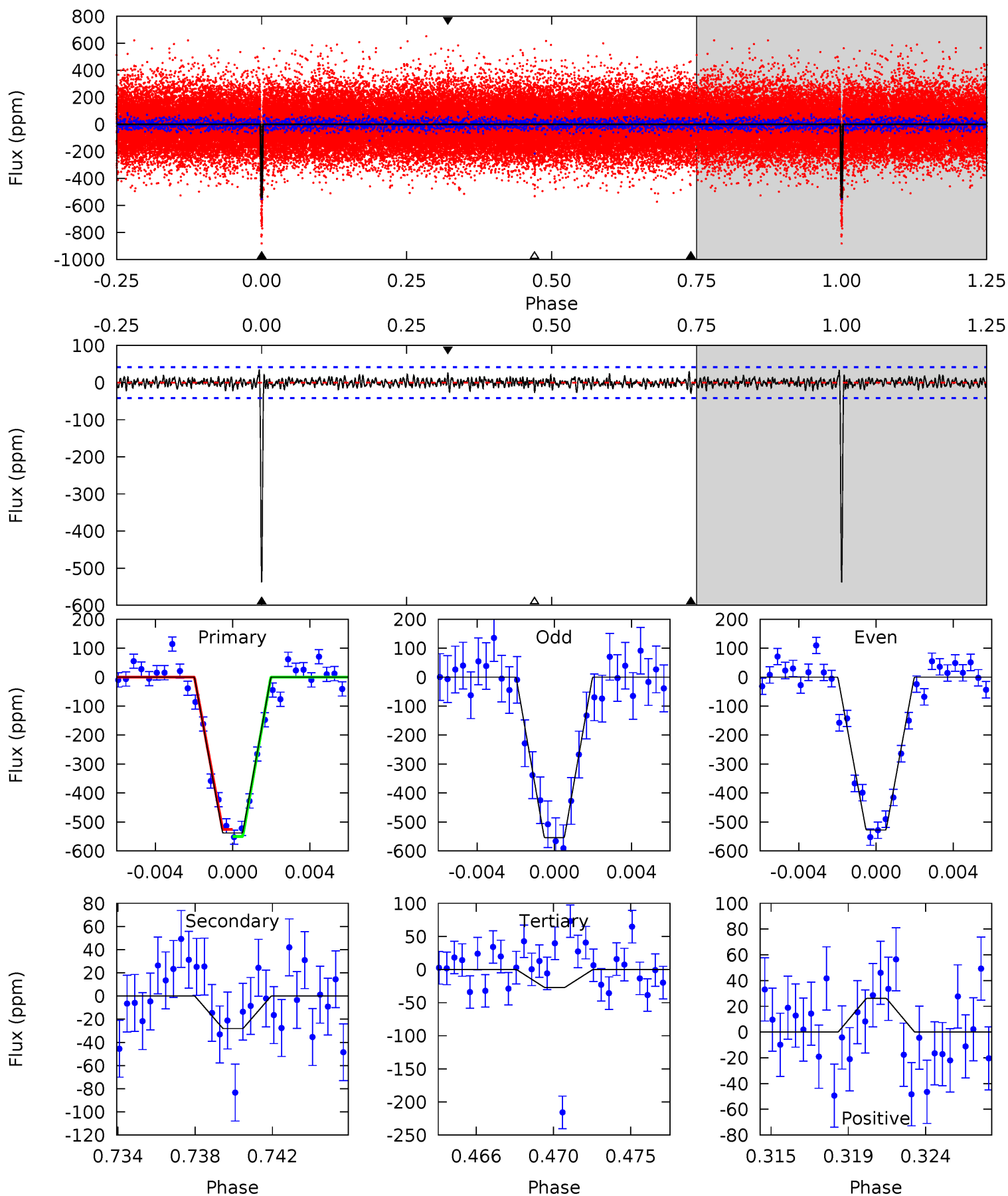
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
82.7	11.5	8.98	9.70	5.15	2.80	2.37	73.7	73.0	2.51	1.80	3.16	1.01	0.10	1.99



Alt Model-Shift Uniqueness Test

010733174-01, $P = 280.498289$ Days, $E = 18.886318$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
66.7	3.48	3.37	3.24	5.19	2.85	0.97	63.3	63.4	0.11	0.24	1.60	1.06	0.06	1.50



Stellar Parameters For KIC 010733174

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5869^{+147}_{-161}	$4.528^{+0.037}_{-0.213}$	$-0.140^{+0.300}_{-0.300}$	$0.892^{+0.261}_{-0.087}$	$0.980^{+0.108}_{-0.132}$	$1.942^{+0.394}_{-1.016}$
	+3%/-3%	+1%/-5%	+214%/-214%	+29%/-10%	+11%/-13%	+20%/-52%
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 010733174-01 / KOI 3889.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-88 ± 8	$4.99^{+3.58}_{-3.00}$	384^{+24}_{-16}	3167^{+1136}_{-418}	1303^{+6901}_{-852}
Alt.	-28 ± 8	$3.55^{+3.46}_{-2.34}$	386^{+26}_{-16}	2988^{+1187}_{-492}	864^{+6066}_{-667}

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

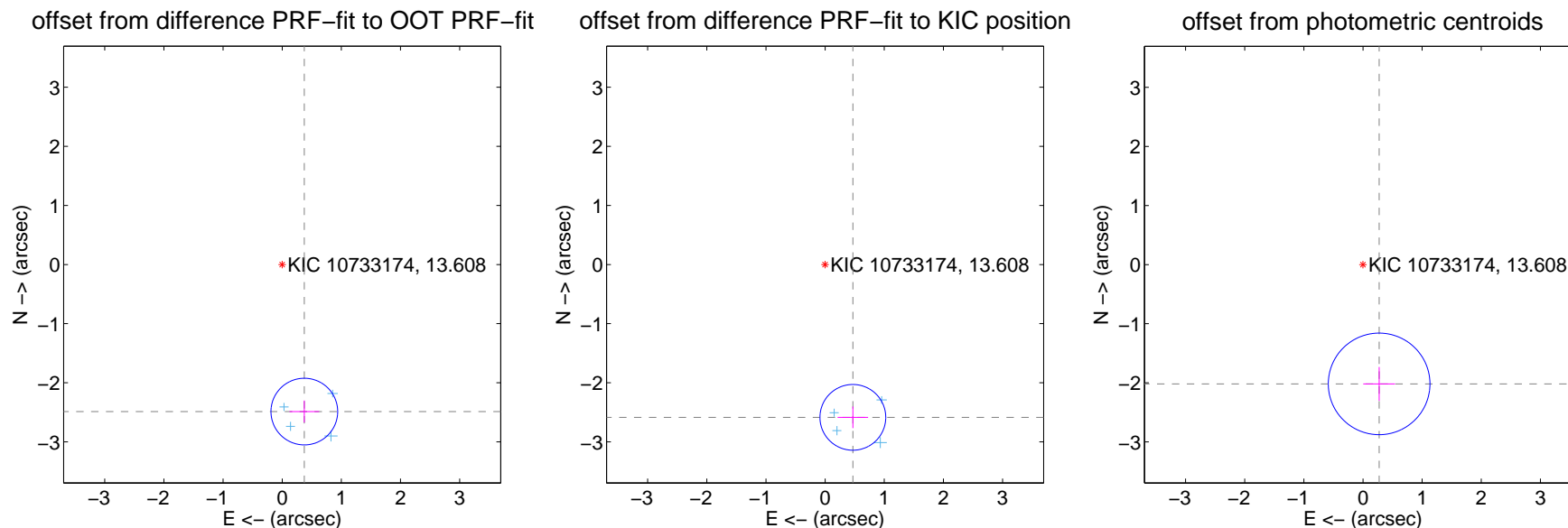
DV Centroid Data

Supplemental centroid analysis for 010733174-01. Kepler magnitude: 13.61. Transit SNR 37.44

There are 4 quarters with good PRF difference image offsets

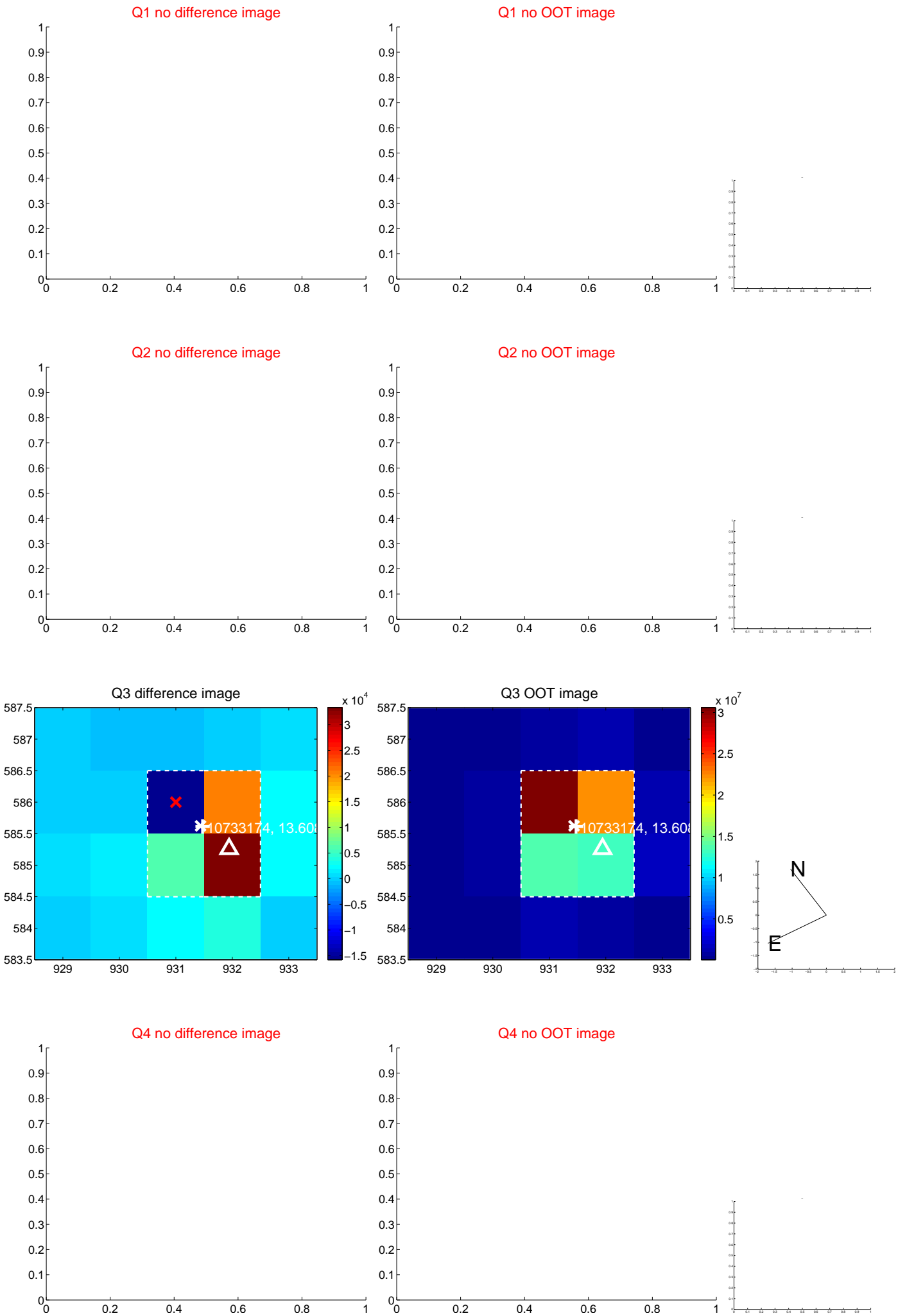
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.515 ± 0.188	13.38	-0.374 ± 0.251	-2.487 ± 0.186
PRF-fit source offset from KIC position	2.627 ± 0.185	14.17	-0.469 ± 0.257	-2.585 ± 0.182
photometric centroid source offset	2.04 ± 0.29	7.11	-0.27 ± 0.27	-2.02 ± 0.29

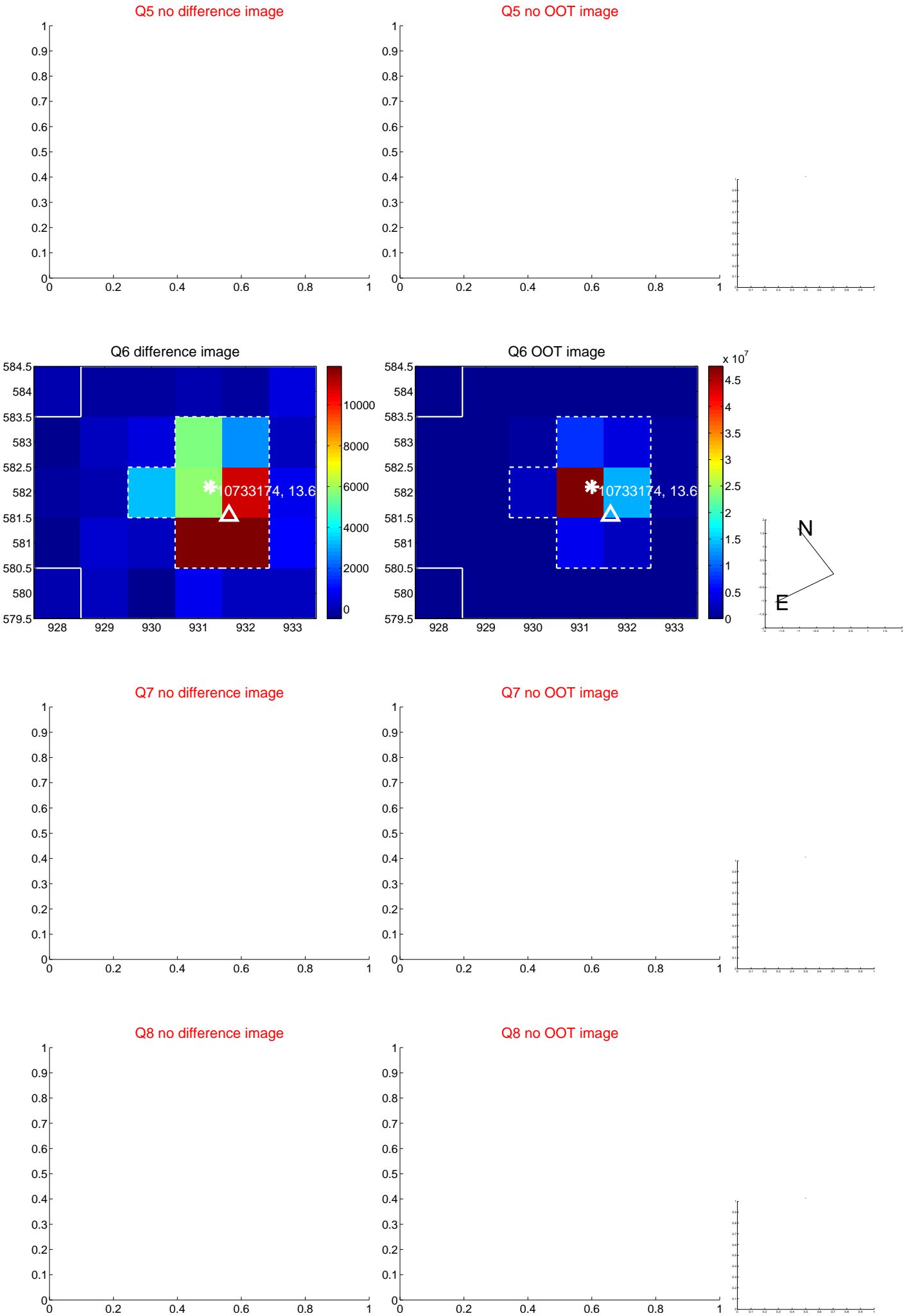


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

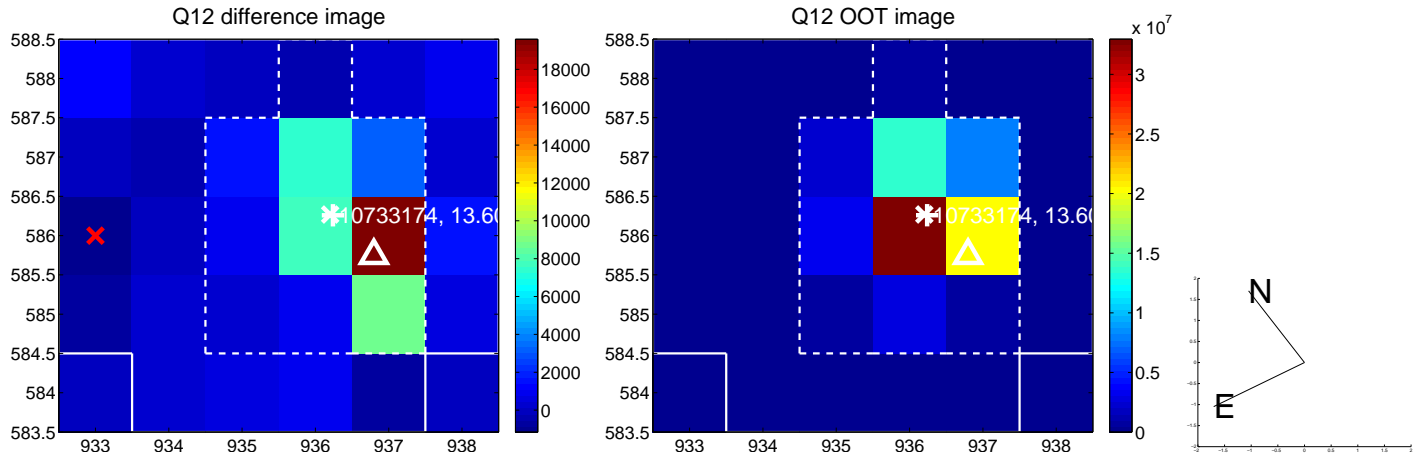
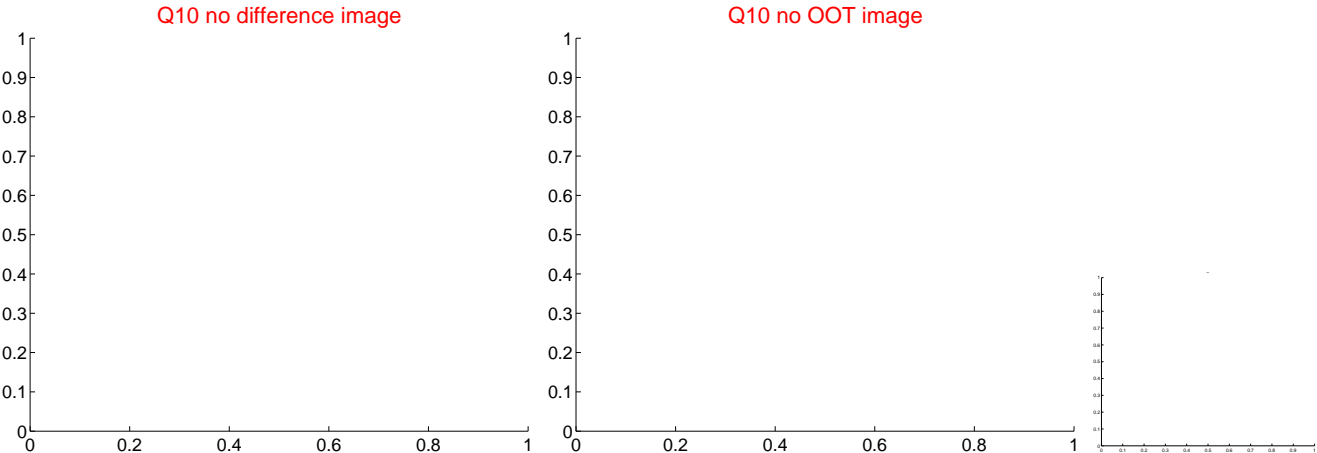
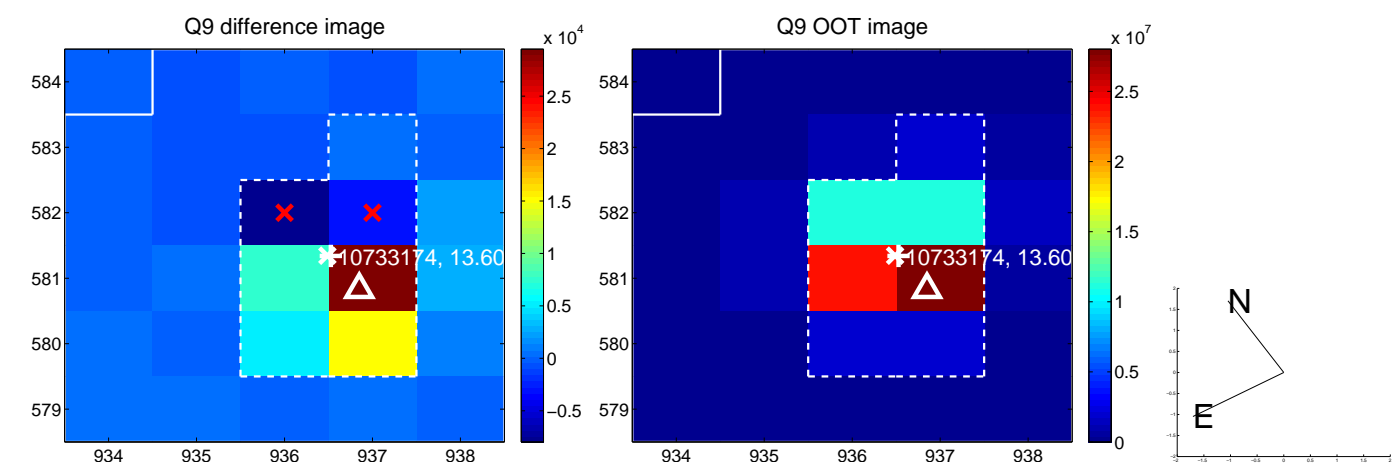
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



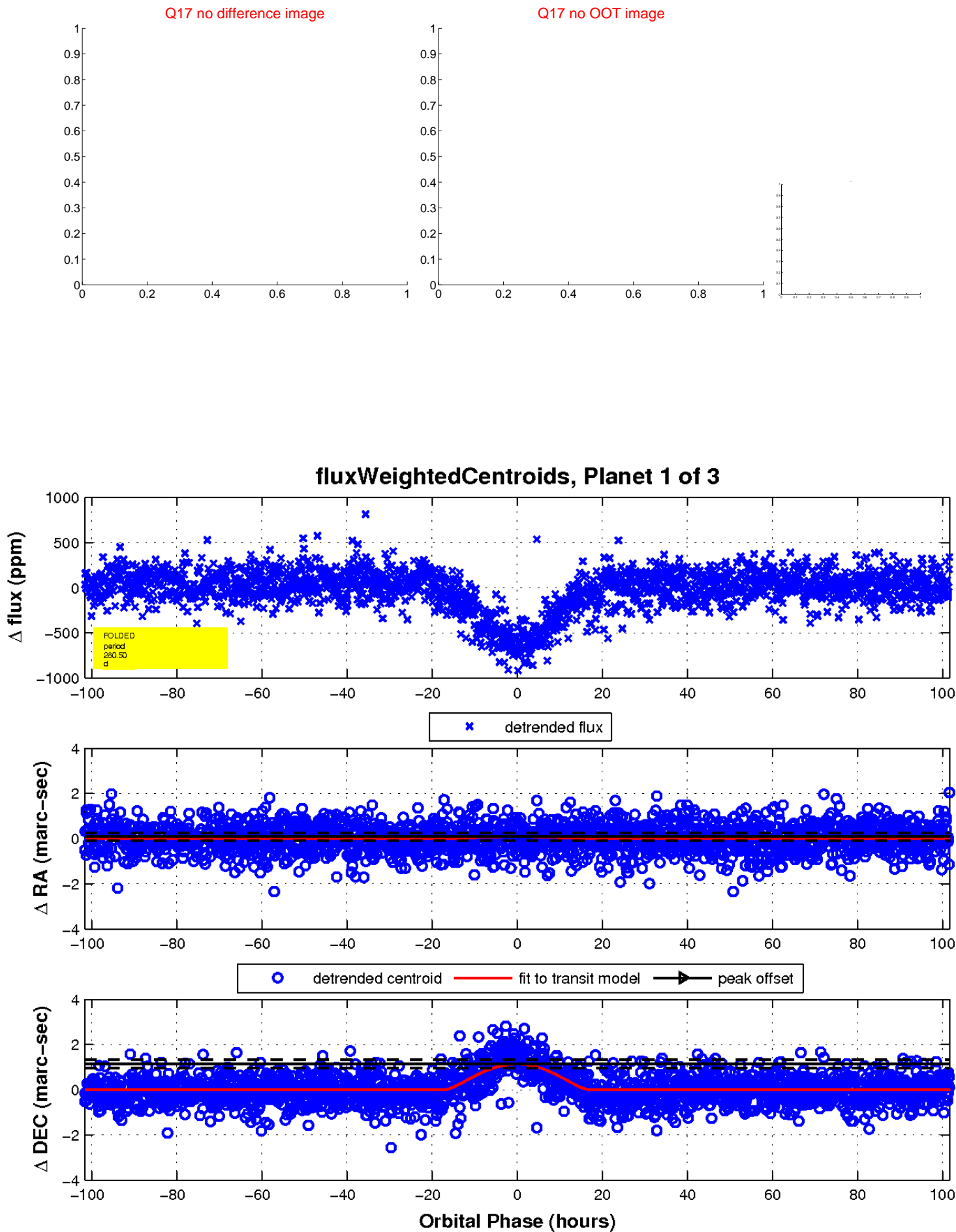
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

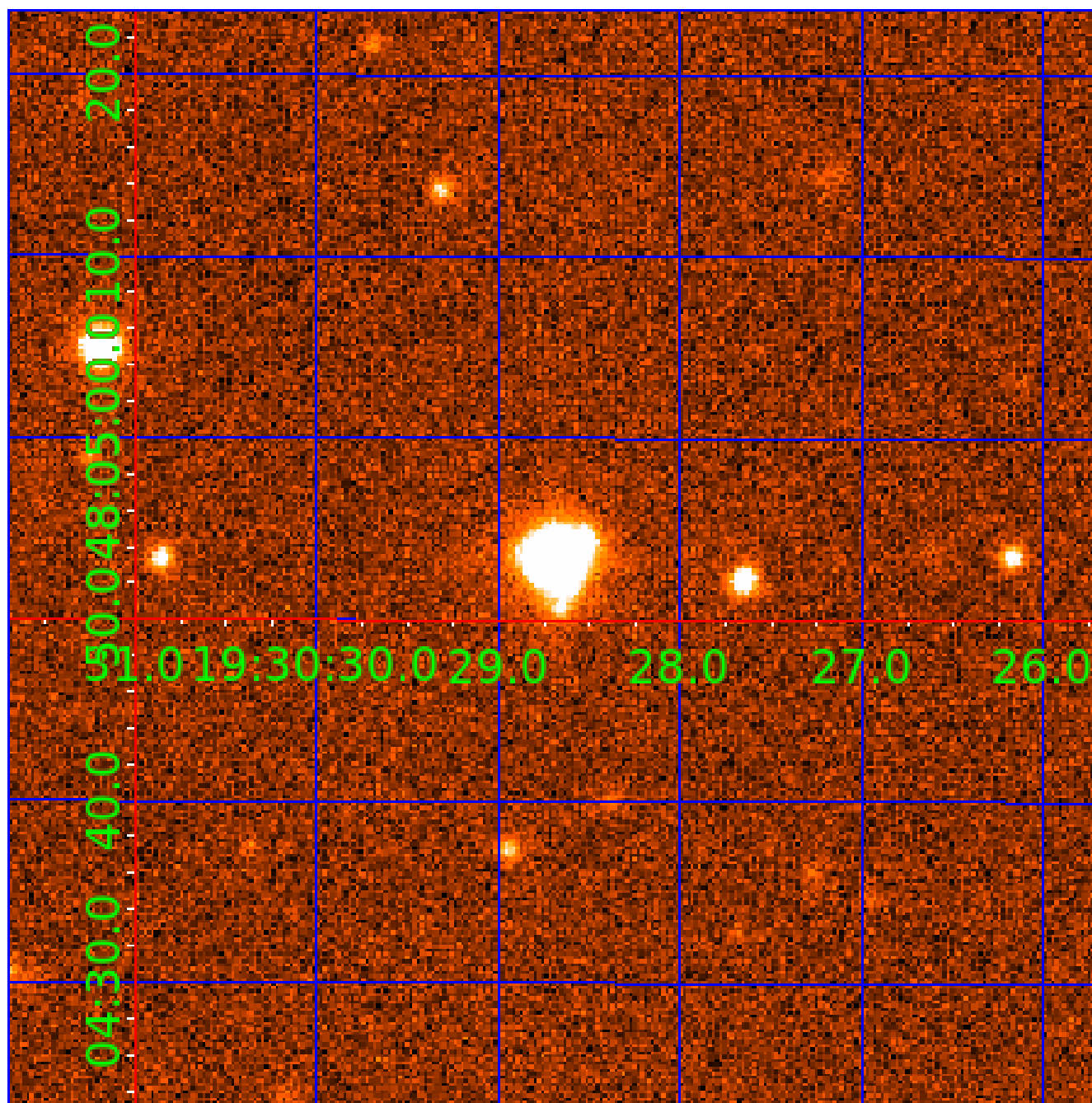


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010733174

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})
010733174-01	OBS	3889.01	280.499556	299.376087	598.1	33.905	31.7	37.4	0.89	5869	4.24	1.22
010733174-02	OBS	No	1.486694	132.391790	15.8	6.762	8.9	9.7	0.89	5869	0.43	1319.57
010733174-03	OBS	No	167.164656	156.639969	200.9	4.672	7.5	7.5	0.89	5869	1.41	2.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010733174-01	OBS	FP	0.00	0	1	1	0	DEEP_V_SHAPED—CENT_UNRESOLVED_OFFSET
010733174-02	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_UNRESOLVED_OFFSET
010733174-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—MOD_NONUNIQU_ALT—MOD_TER_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 010733174-02

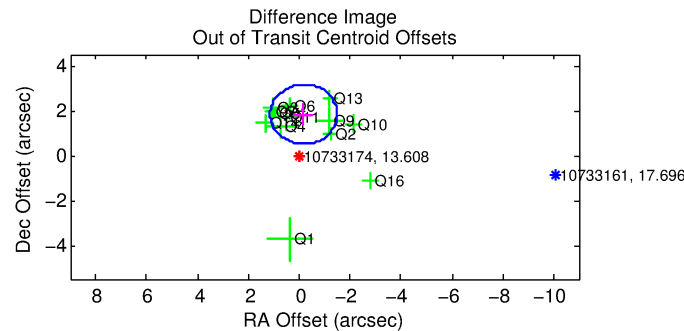
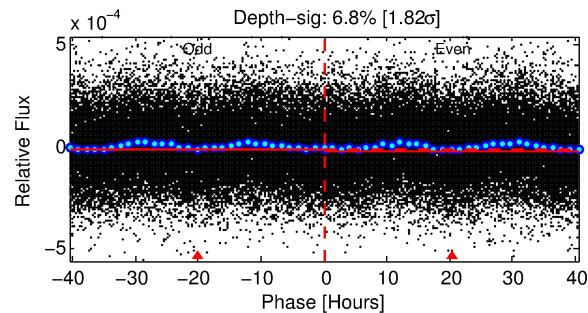
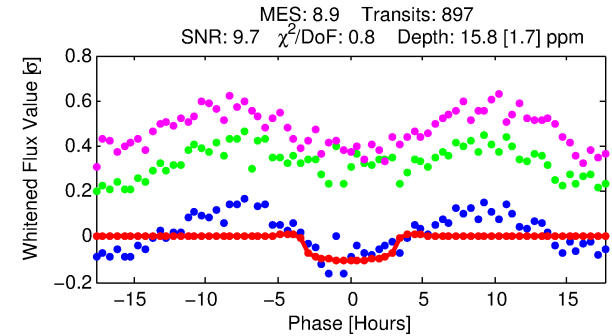
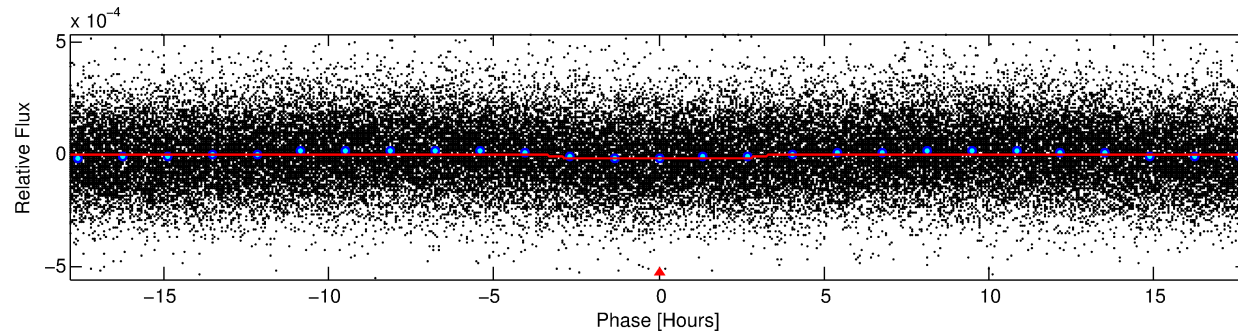
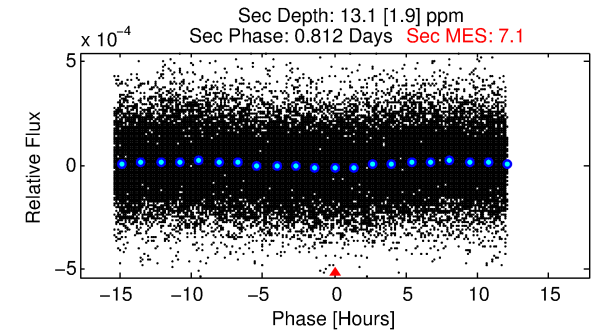
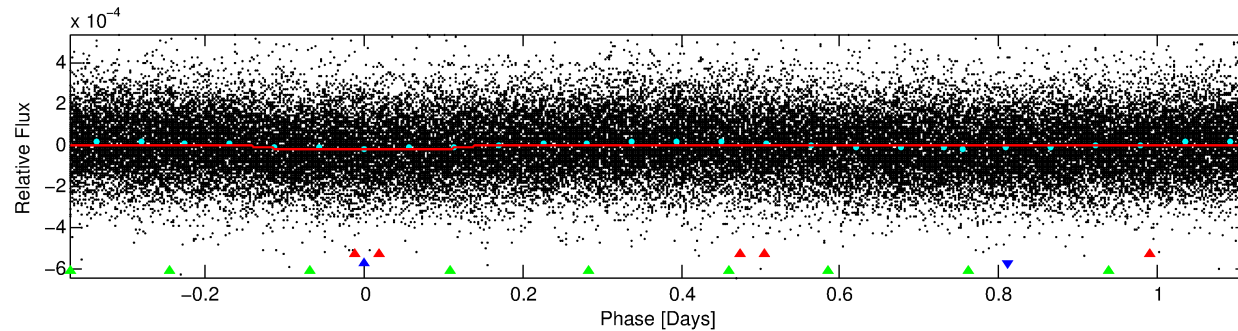
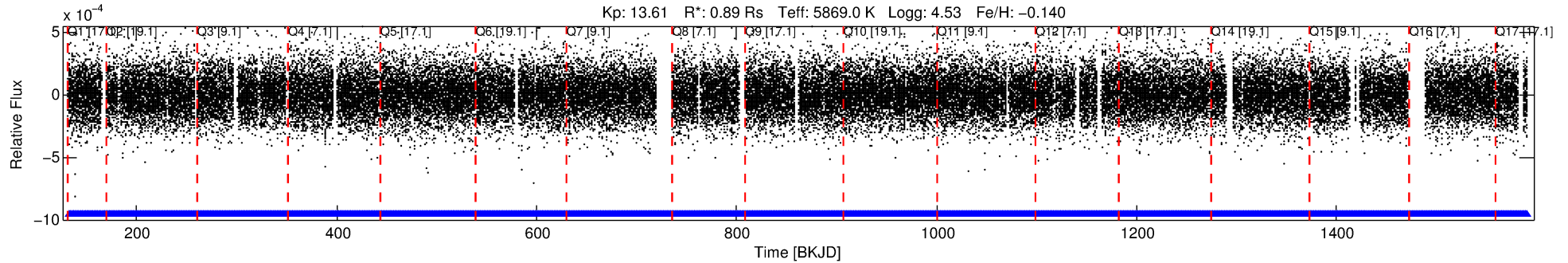
No Significant Match Found

DV One-Page Summary

KIC: 10733174 Candidate: 2 of 3 Period: 1.487 d

KOI: K03889 Corr: No Ephemeris Match

Kp: 13.61 R*: 0.89 Rs Teff: 5869.0 K Logg: 4.53 Fe/H: -0.140



DV Fit Results:

Period = 1.48669 [0.00002] d
Epoch = 132.3918 [0.0072] BKJD
Rp/R* = 0.0045 [0.0018]
a/R* = 1.15 [0.61]
b = 0.93 [0.32]
Seff = 1319.57 [522.85]
Teq = 1537 [152] K
Rp = 0.43 [0.22] Re
a = 0.0253 [0.0064] AU
Ag = 24.52 [22.43] [1.05σ]
Teffp = 5288 [1109] K [3.35σ]

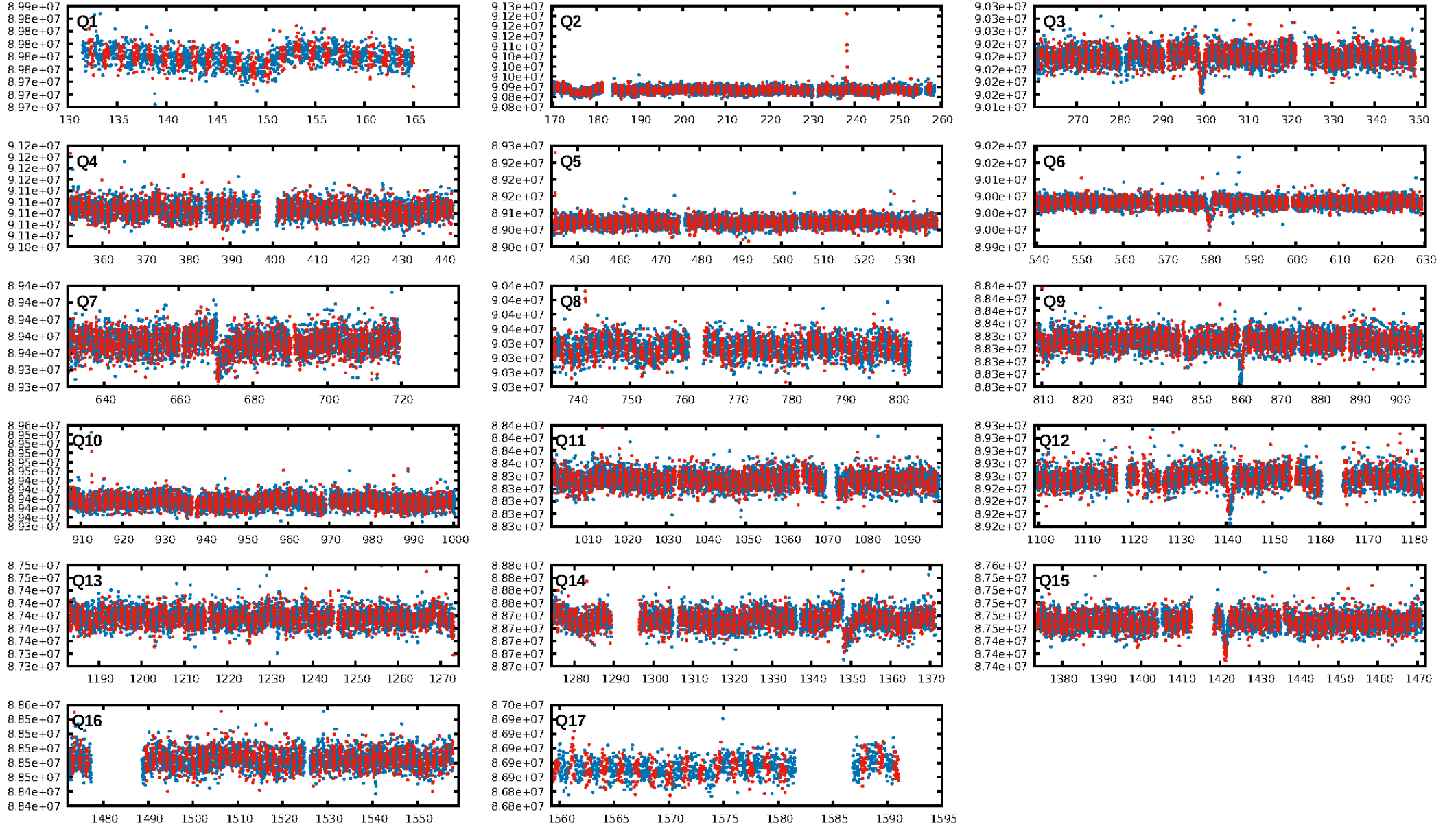
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [483.76σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.28e-14
RollingBand-fgt: 1.00 [856/856]
GhostDiagnostic-chr: -14.99
Centroid-sig: 0.0%
Centroid-so: 3.400 arcsec [3.30σ]
OotOffset-rm: 1.839 arcsec [4.17σ]
KicOffset-rm: 1.742 arcsec [3.66σ]
OotOffset-st: 4/3/2/4 [13]
KicOffset-st: 4/3/2/4 [13]
DiffImageQuality-fgm: 0.92 [12/13]
DiffImageOverlap-fno: 1.00 [17/17]

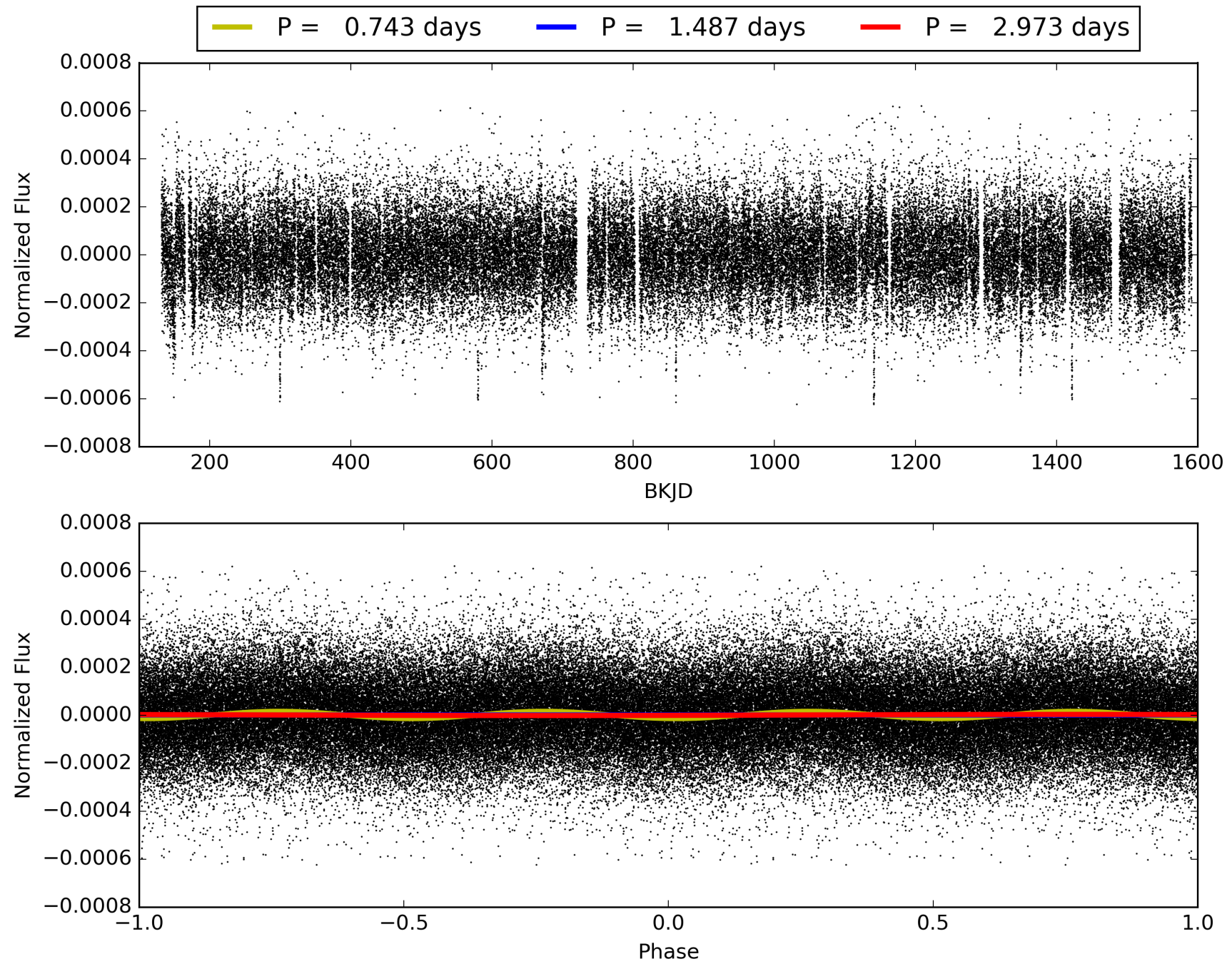
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:12:54 Z

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

TCE 010733174-02, PDC Light Curves

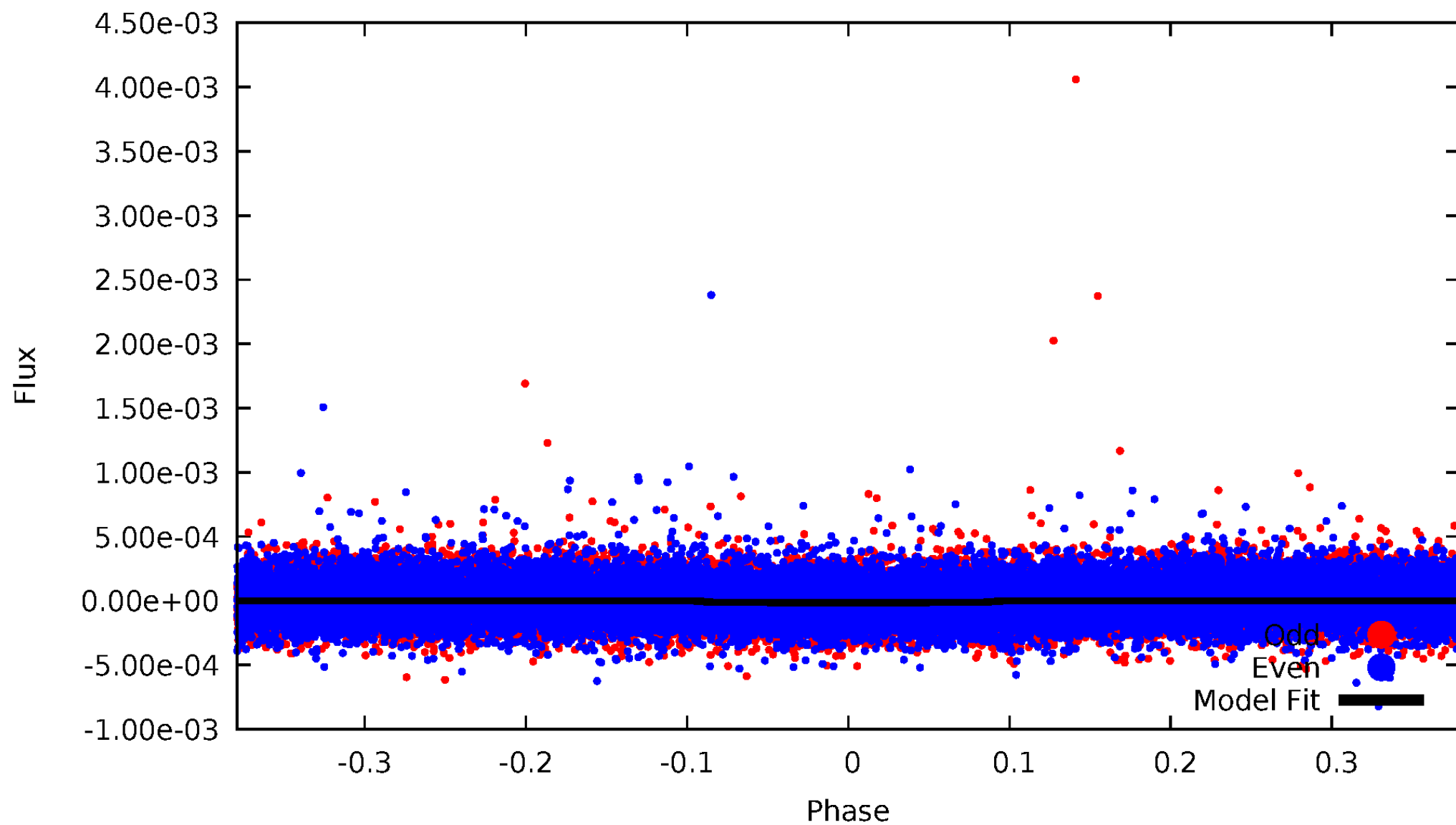


TCE 010733174-02



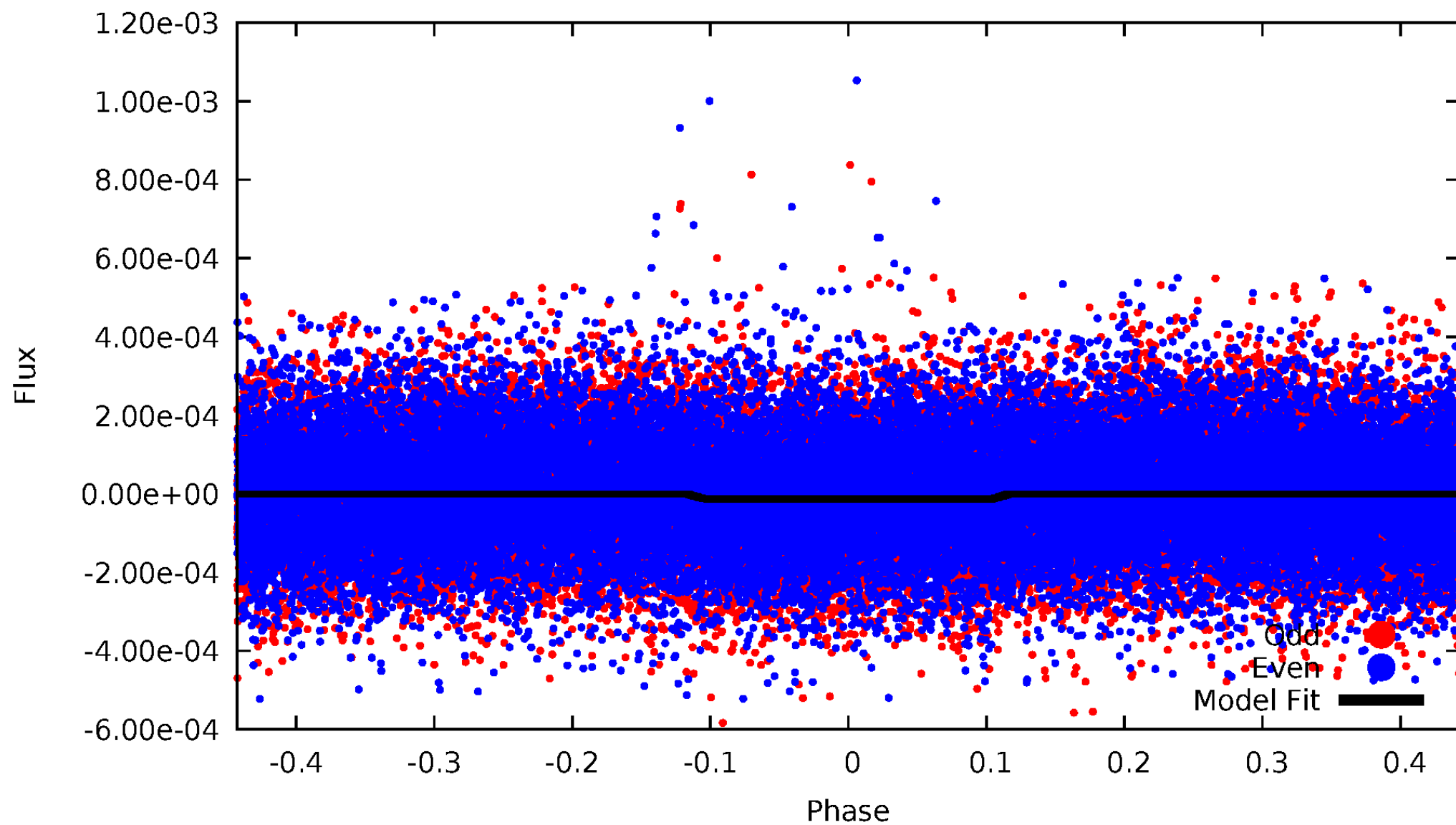
DV Odd/Even

TCE 010733174-02



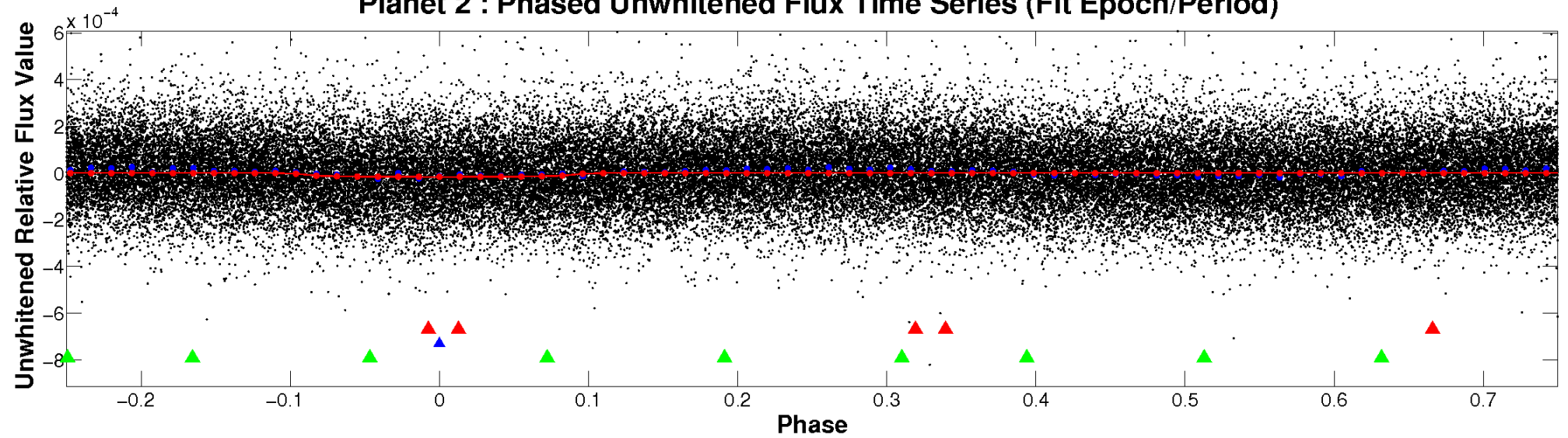
ALT Odd/Even

TCE 010733174-02

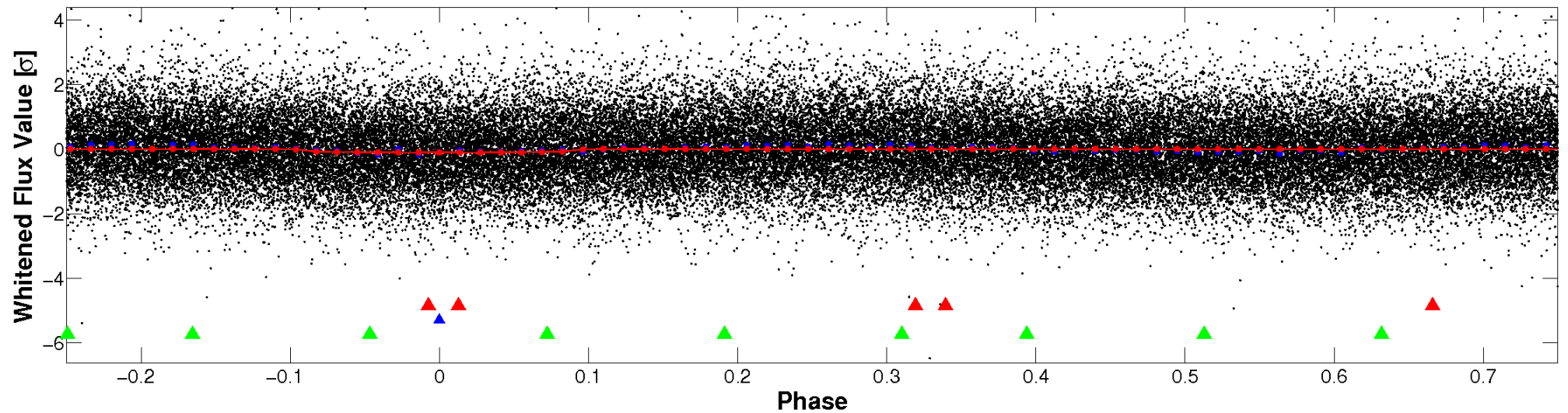


Non-Whitened Vs. Whitened Light Curve

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

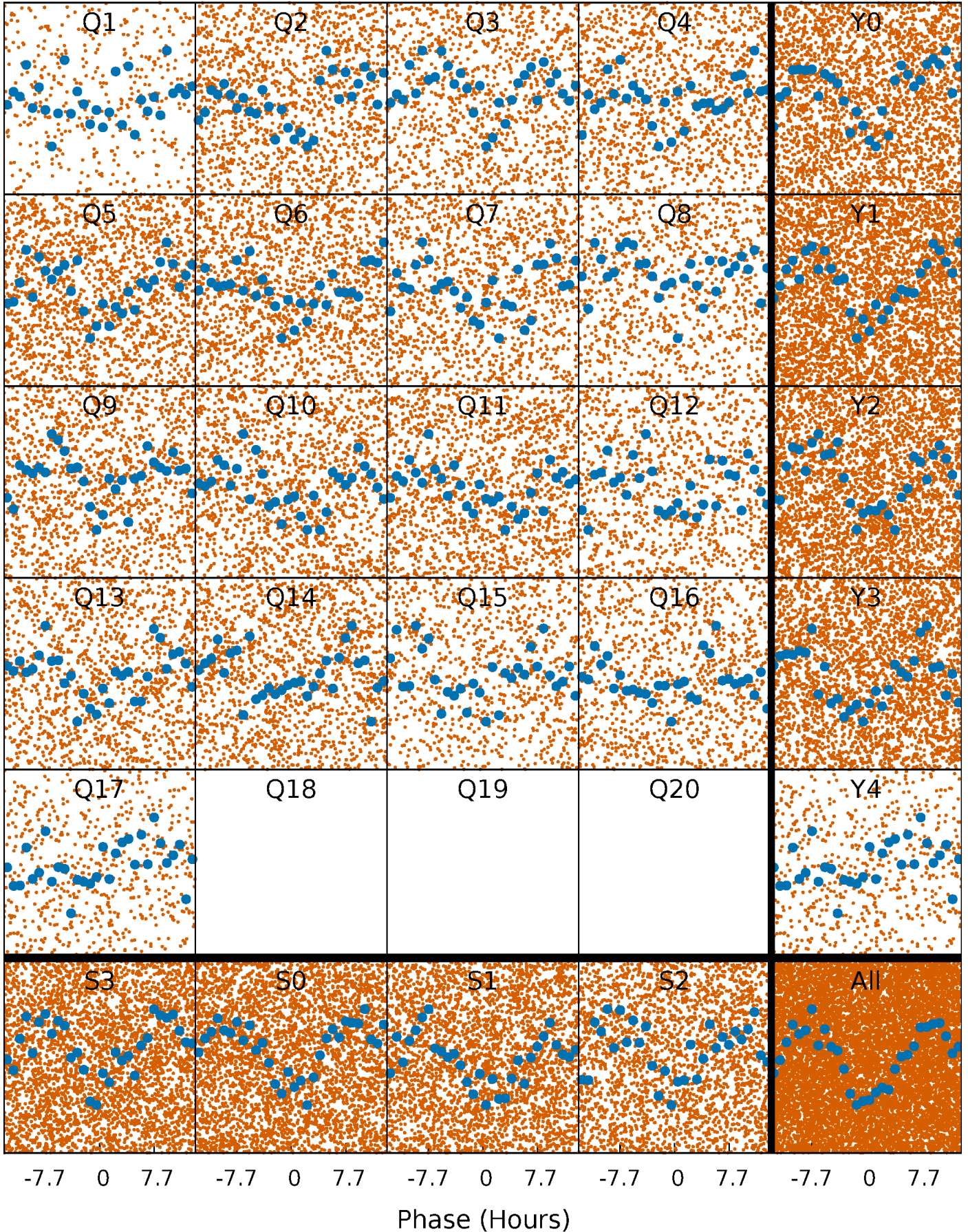


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



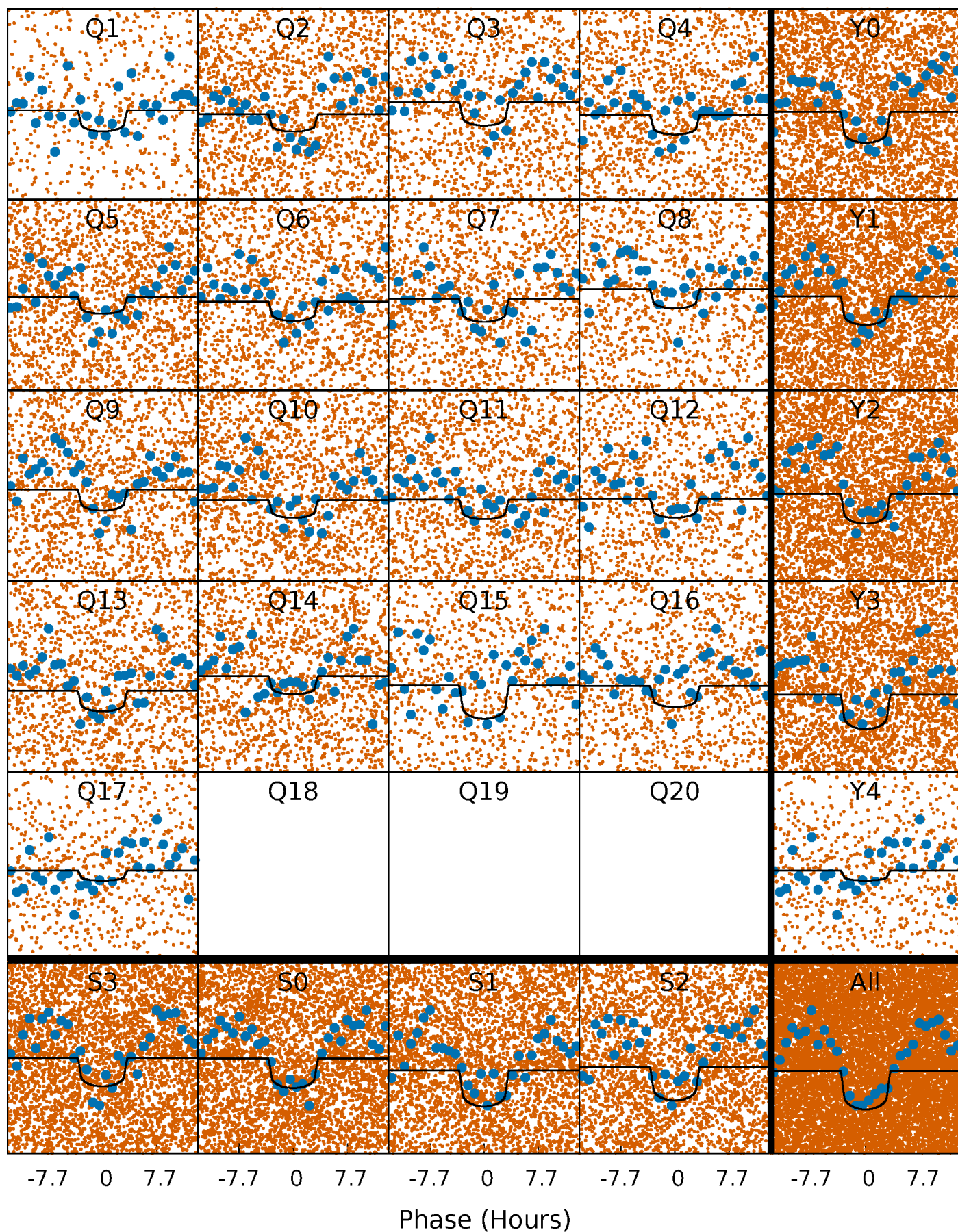
PDC Quarter-Phased Transit Curves

TCE 010733174-02 P= 1.486694 Days $T_0=132.391790$ (BKJD)



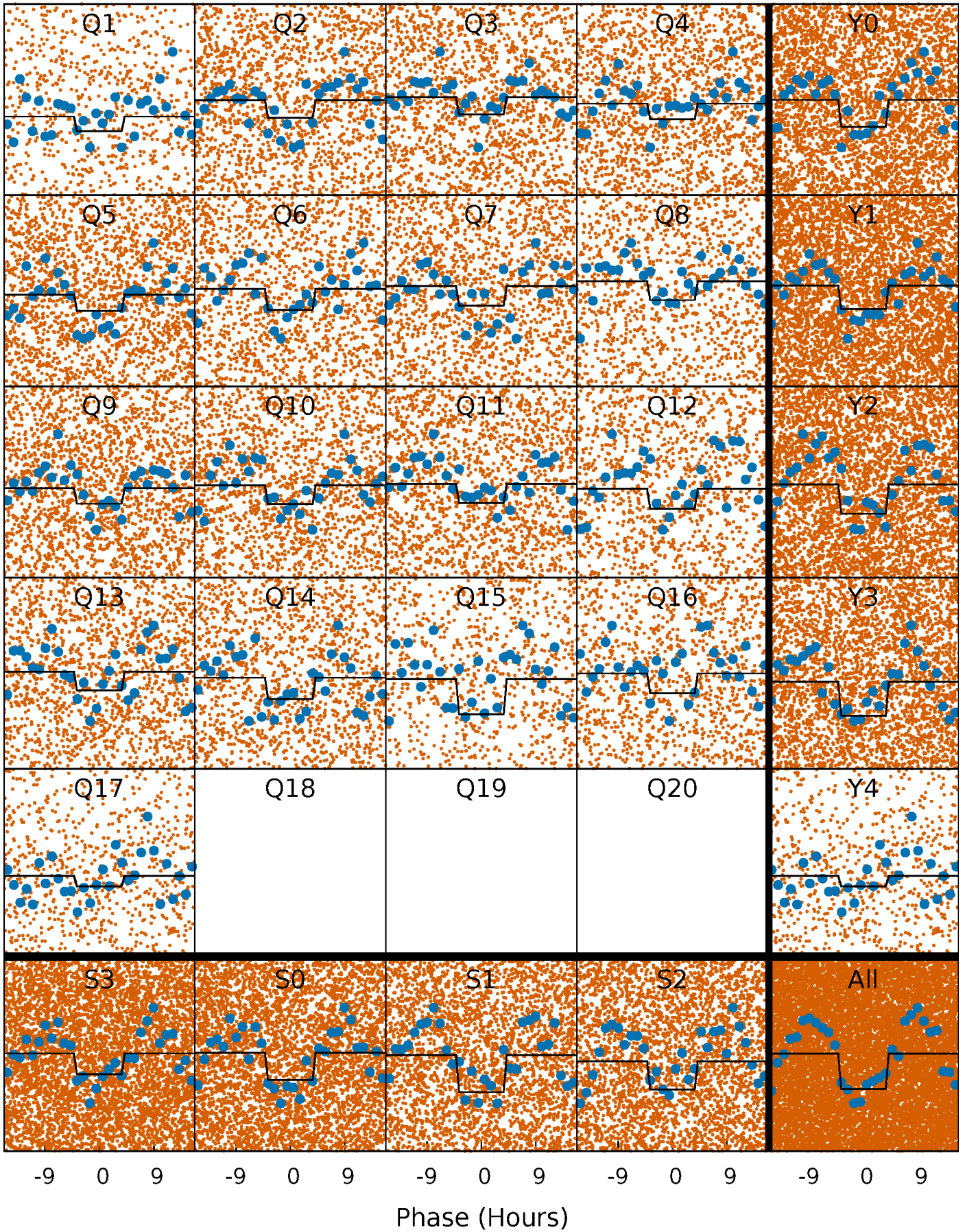
DV Quarter-Phased Transit Curves

TCE 010733174-02 $P = 1.486694$ Days $T_0 = 132.391790$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

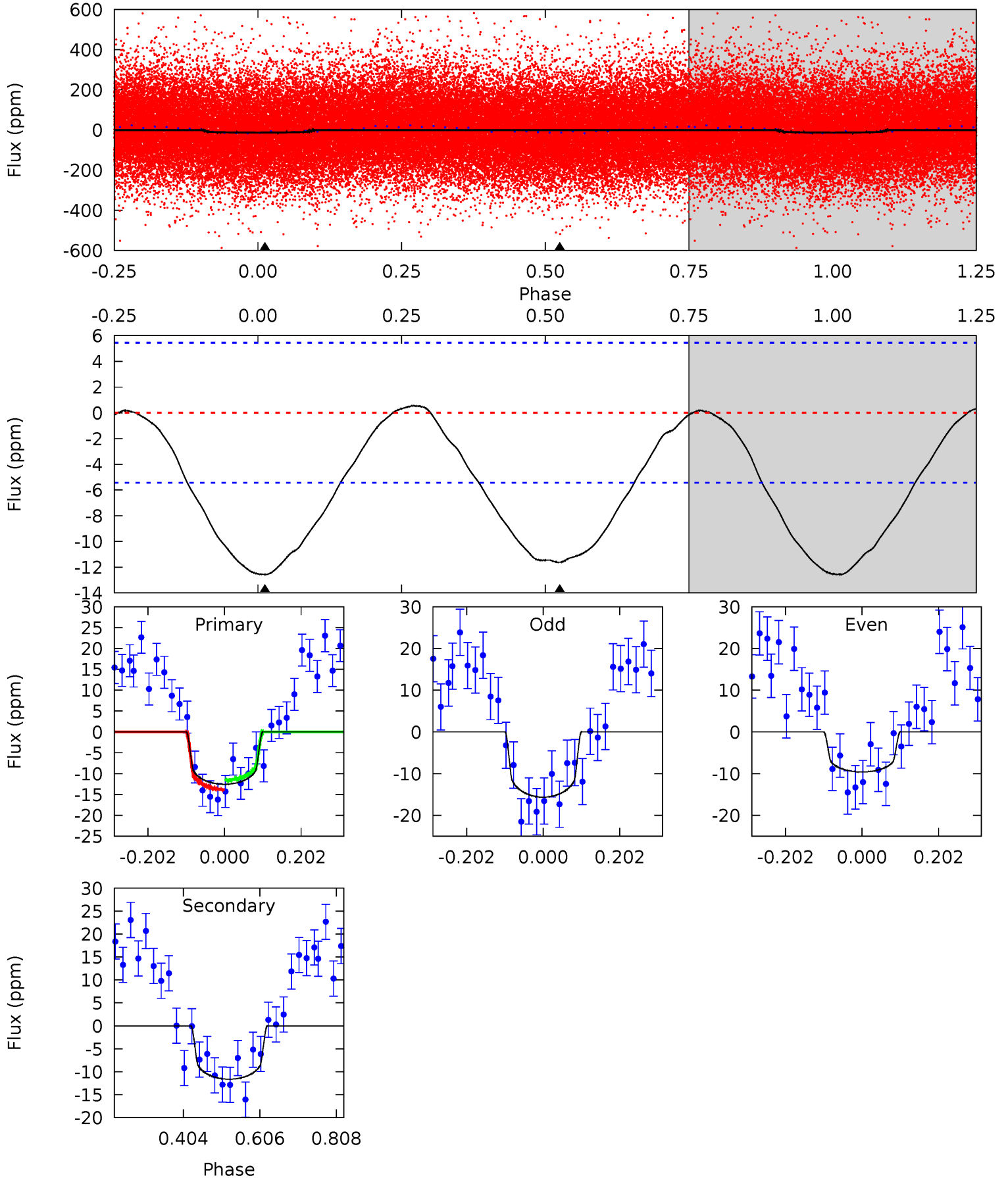
TCE 010733174-02 P= 1.486624 Days $T_0=132.449895$ (BKJD)



DV Model-Shift Uniqueness Test

010733174-02, P = 1.486694 Days, E = 130.905096 Days

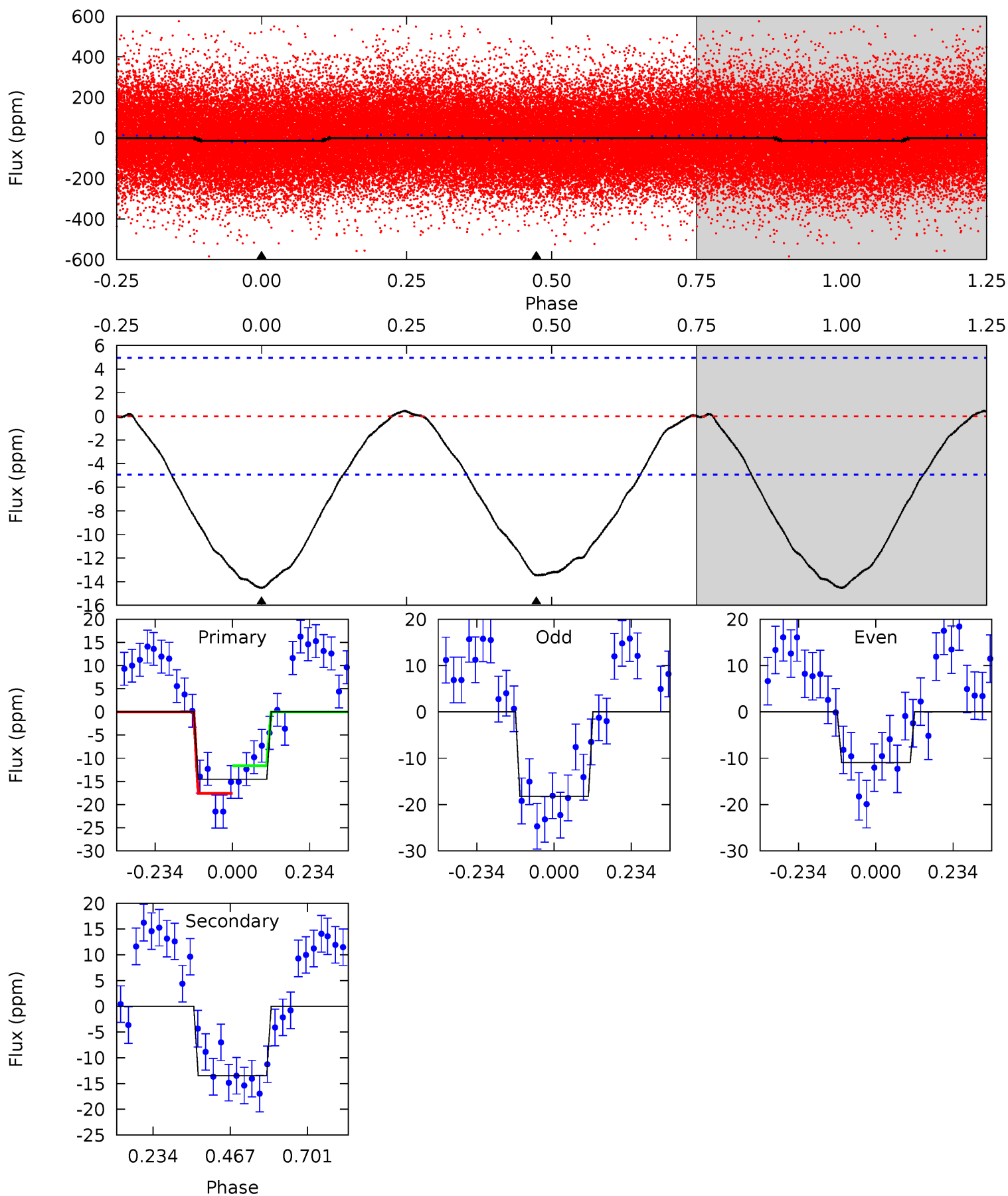
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	9.44	0	0	4.42	1.28	0.39	10.2	10.2	9.44	9.44	2.44	0.80	0.04	0.92



Alt Model-Shift Uniqueness Test

010733174-02, P = 1.486624 Days, E = 130.963271 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	11.9	0	0	4.38	1.19	0.38	12.9	12.9	11.9	11.9	3.23	0.92	0.03	2.62



Stellar Parameters For KIC 010733174

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5869^{+147}_{-161}	$4.528^{+0.037}_{-0.213}$	$-0.140^{+0.300}_{-0.300}$	$0.892^{+0.261}_{-0.087}$	$0.980^{+0.108}_{-0.132}$	$1.942^{+0.394}_{-1.016}$
	+3%/-3%	+1%/-5%	+214%/-214%	+29%/-10%	+11%/-13%	+20%/-52%
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 010733174-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-12 ± 1	$0.46^{+0.21}_{-0.18}$	2195^{+165}_{-95}	5158^{+1490}_{-715}	19^{+35}_{-10}
Alt.	-13 ± 1	$0.38^{+0.19}_{-0.17}$	2207^{+154}_{-101}	5802^{+2406}_{-953}	31^{+72}_{-17}

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 $A_{obs} \gg 1.0$

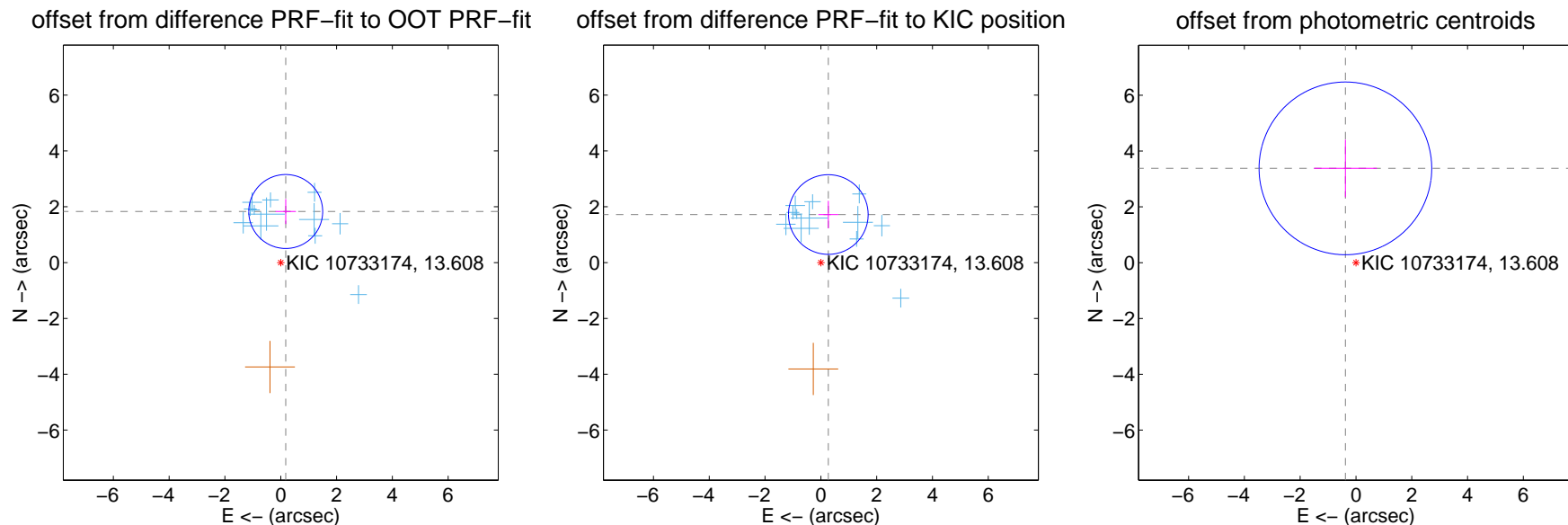
DV Centroid Data

Supplemental centroid analysis for 010733174-02. Kepler magnitude: 13.61. Transit SNR 9.74

There are 12 quarters with good PRF difference image offsets

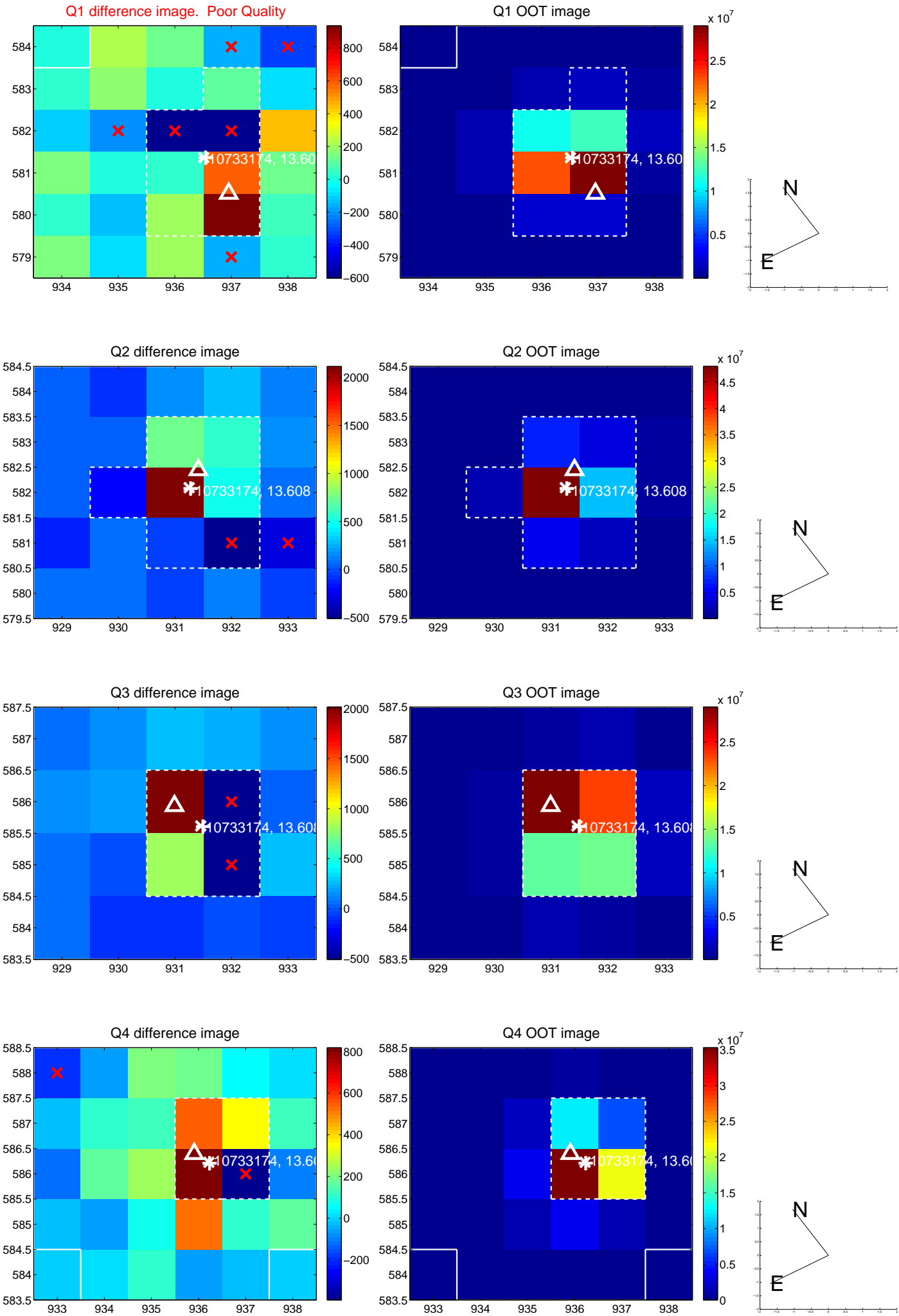
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.839 ± 0.442	4.17	-0.178 ± 0.365	1.830 ± 0.448
PRF-fit source offset from KIC position	1.742 ± 0.476	3.66	-0.267 ± 0.357	1.722 ± 0.490
photometric centroid source offset	3.40 ± 1.03	3.30	0.38 ± 1.13	3.38 ± 1.03

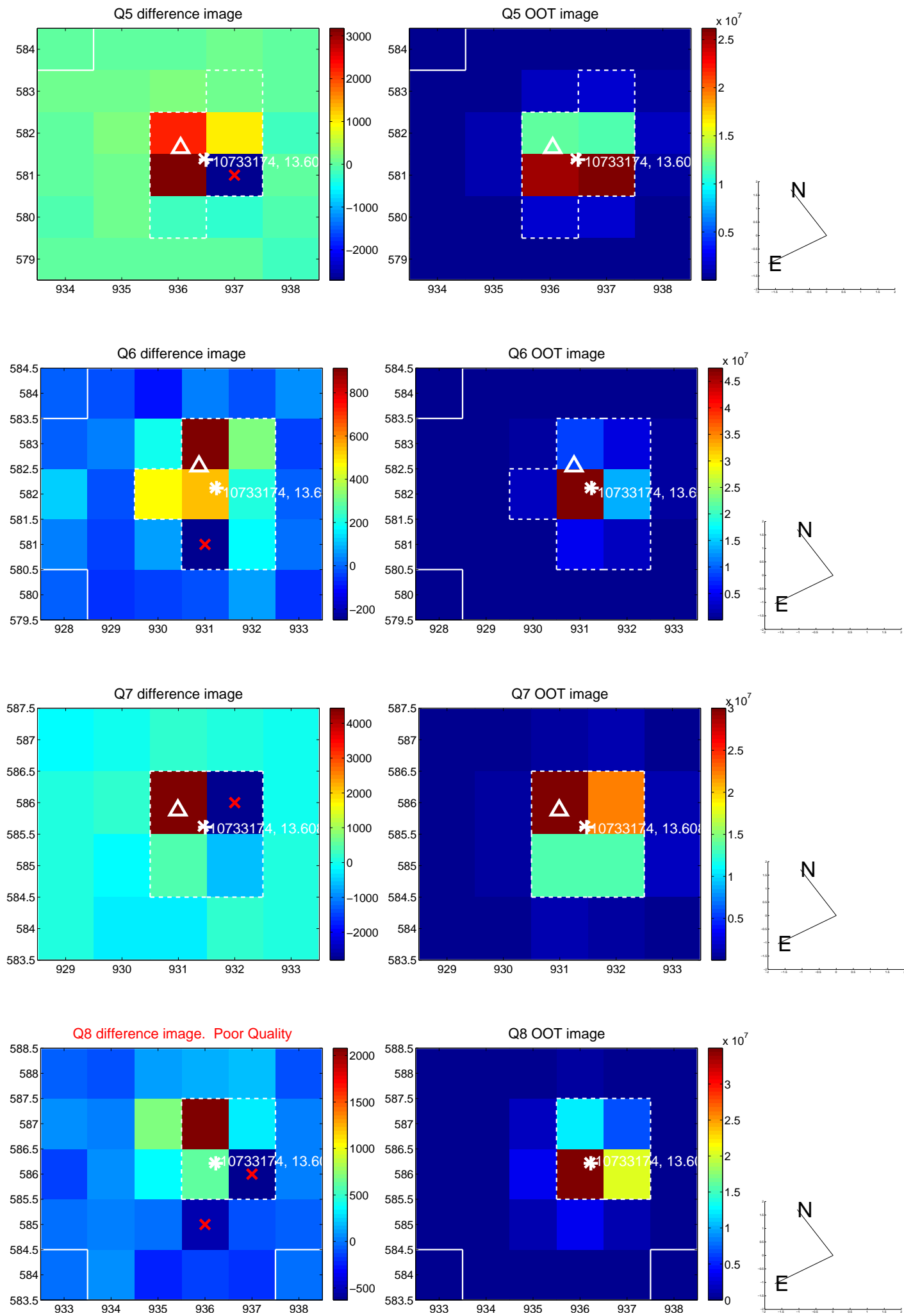


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

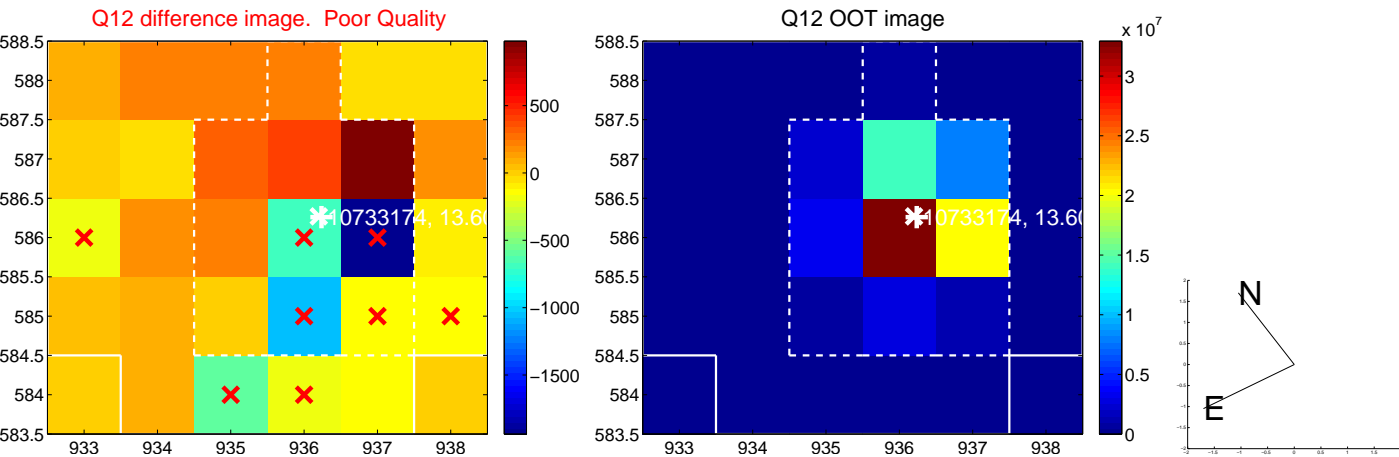
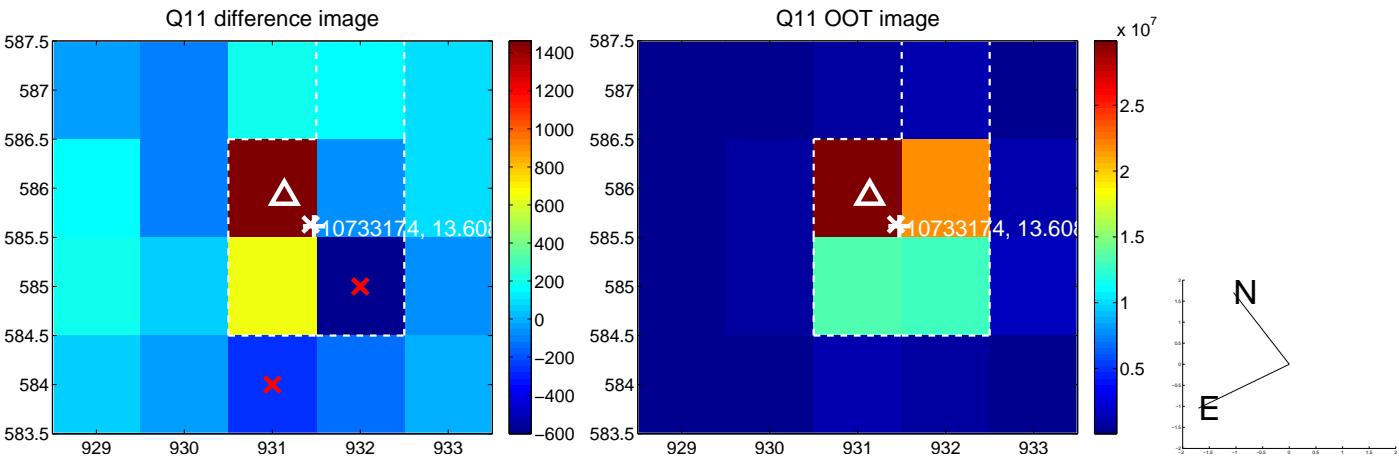
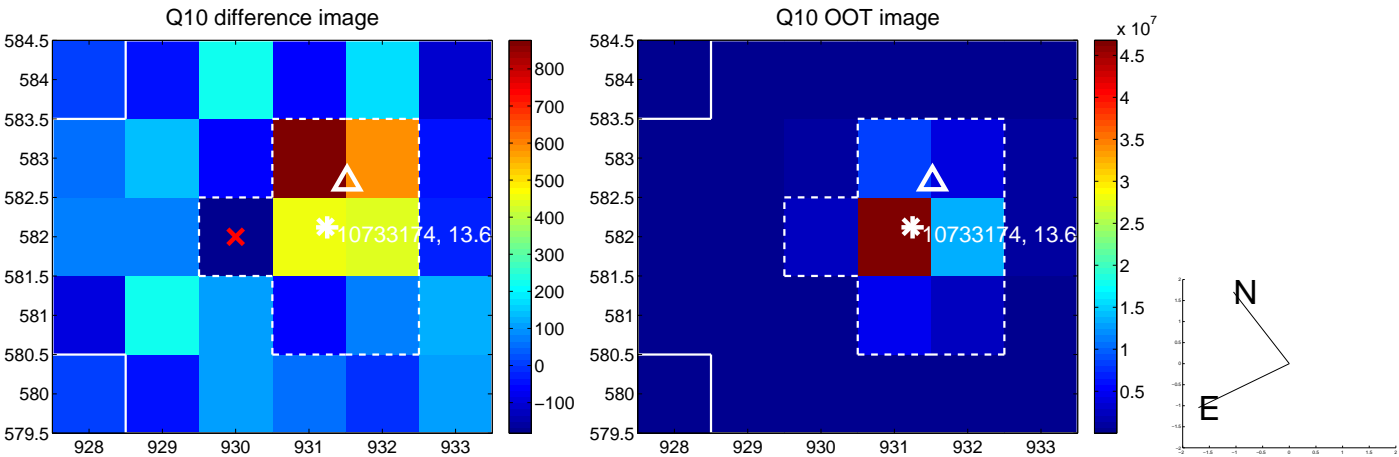
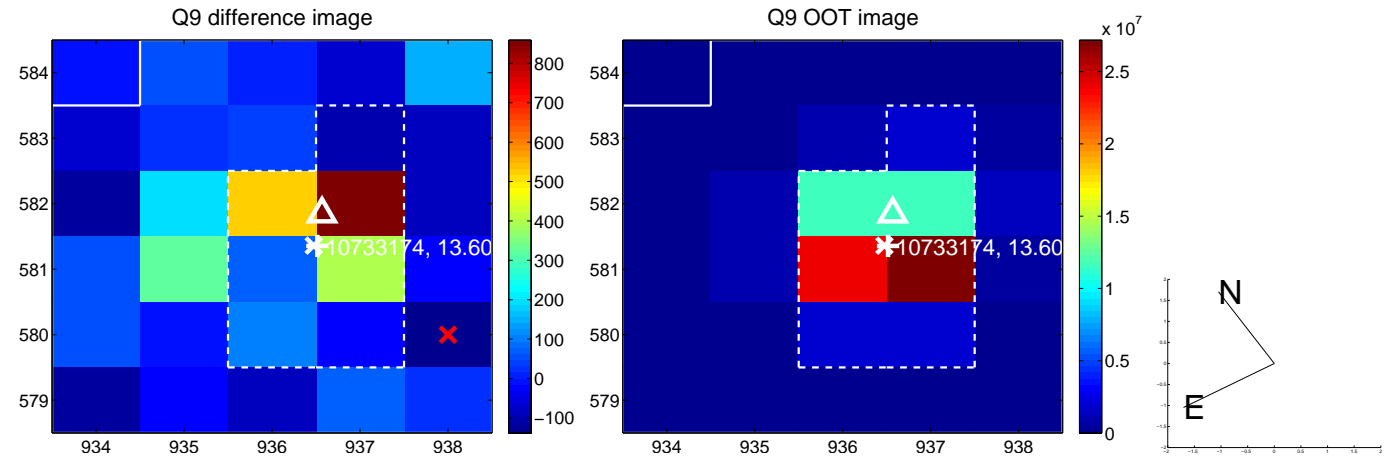
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



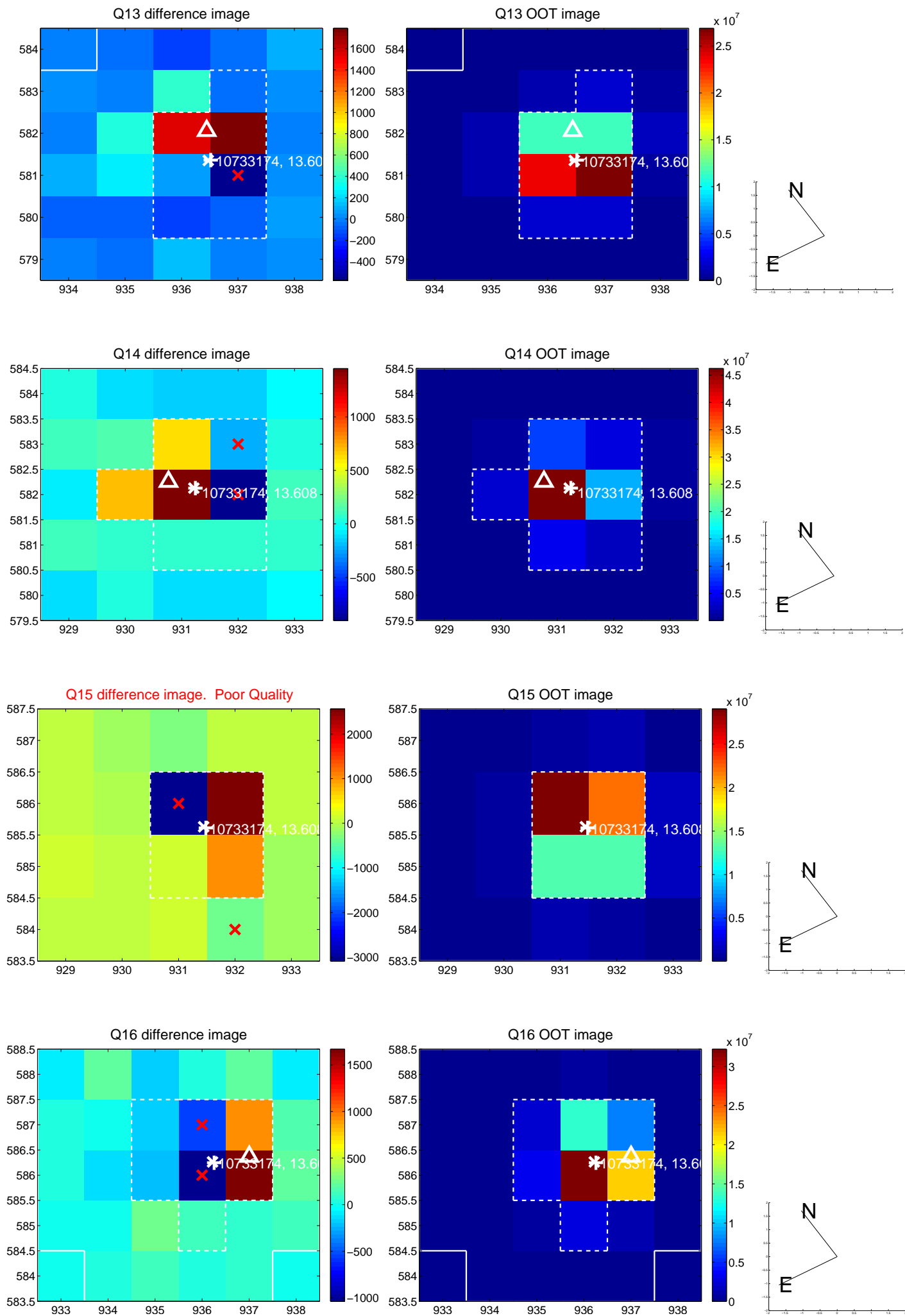
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



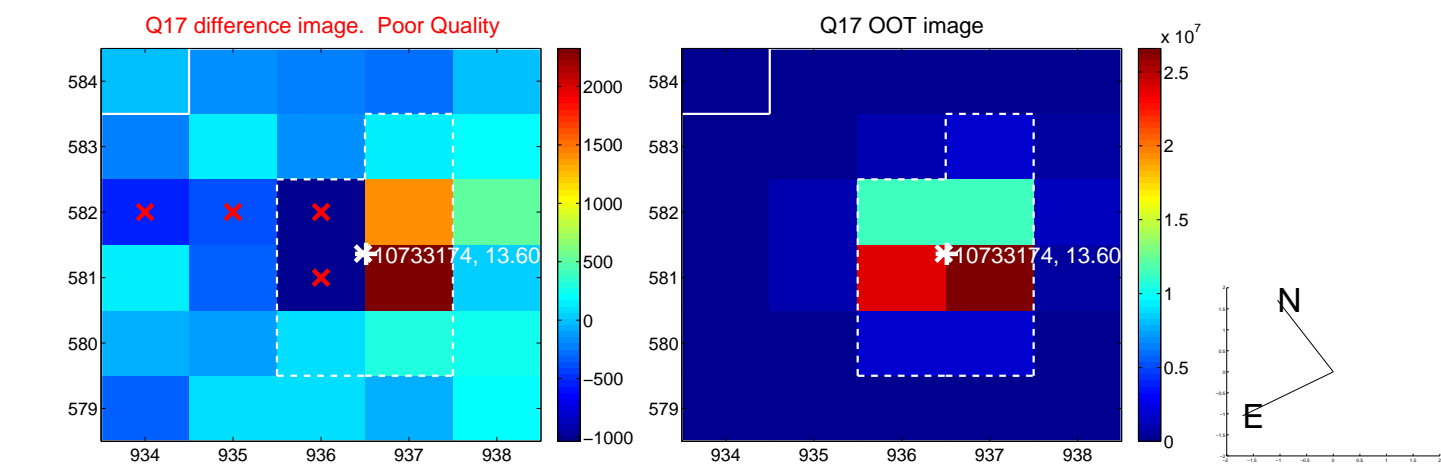
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



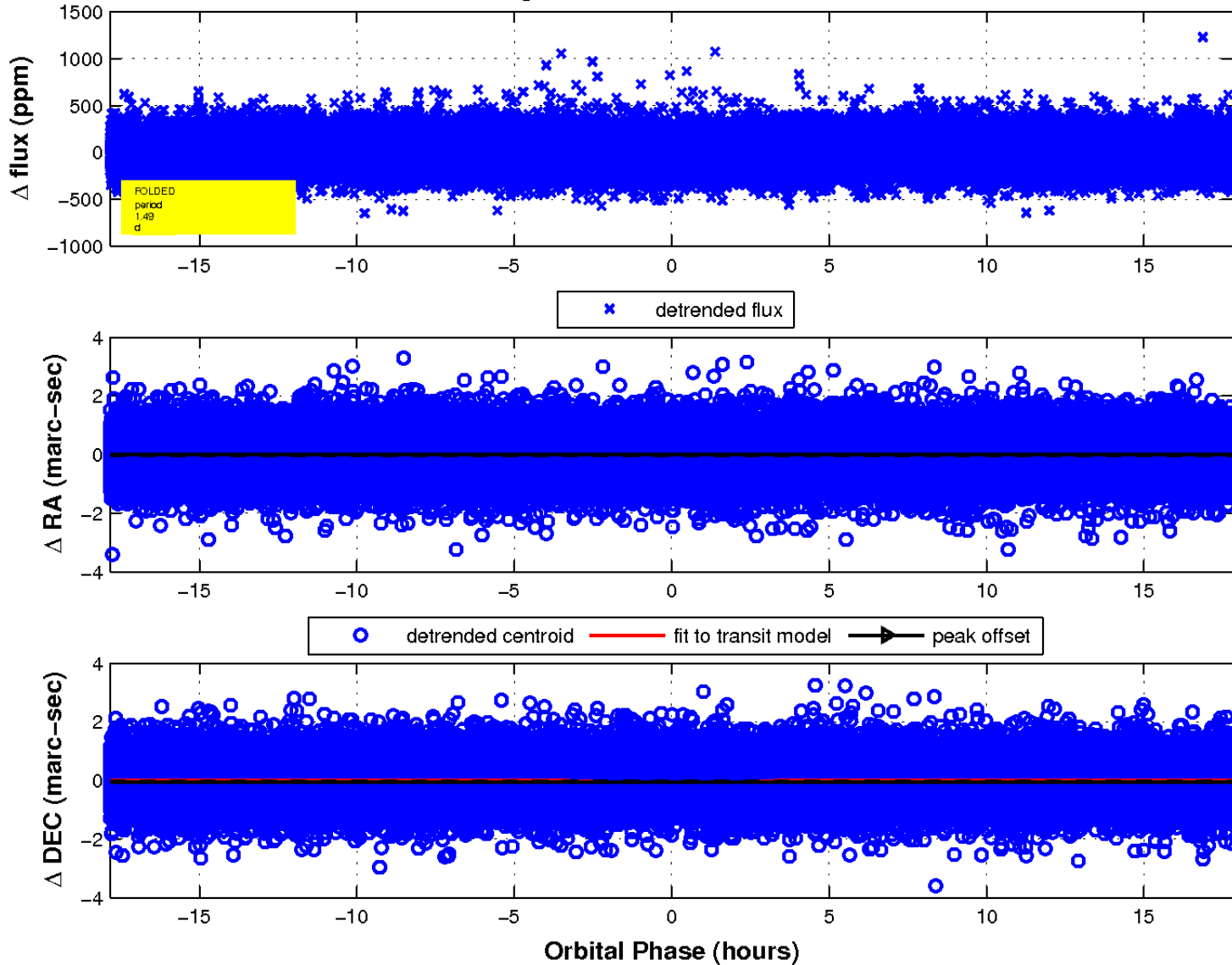
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

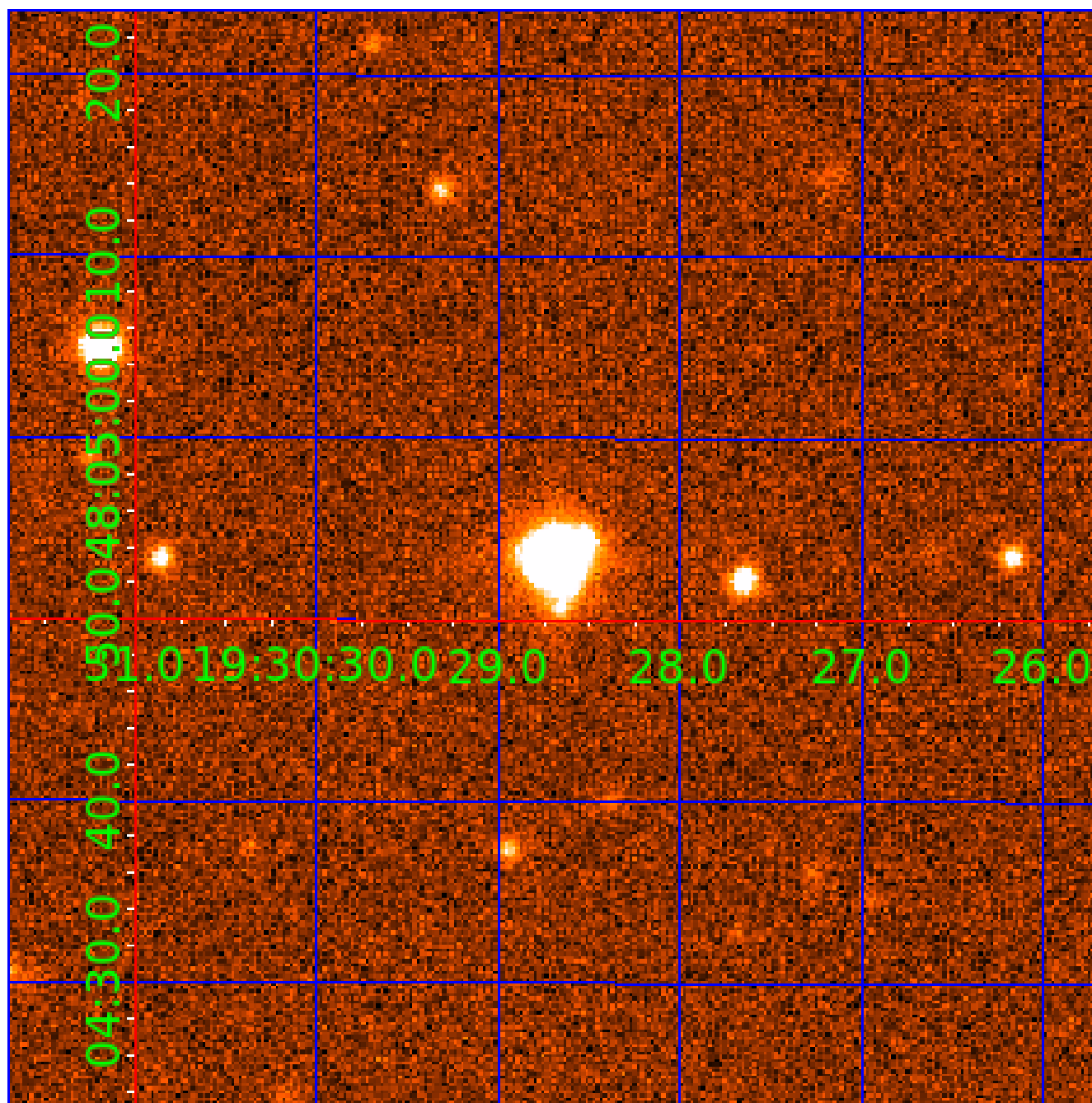


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 010733174

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})
010733174-01	OBS	3889.01	280.499556	299.376087	598.1	33.905	31.7	37.4	0.89	5869	4.24	1.22
010733174-02	OBS	No	1.486694	132.391790	15.8	6.762	8.9	9.7	0.89	5869	0.43	1319.57
010733174-03	OBS	No	167.164656	156.639969	200.9	4.672	7.5	7.5	0.89	5869	1.41	2.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010733174-01	OBS	FP	0.00	0	1	1	0	DEEP_V_SHAPED—CENT_UNRESOLVED_OFFSET
010733174-02	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_UNRESOLVED_OFFSET
010733174-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—MOD_NONUNIQU_ALT—MOD_TER_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.

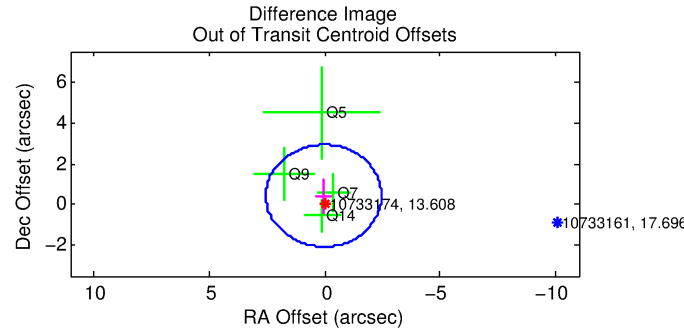
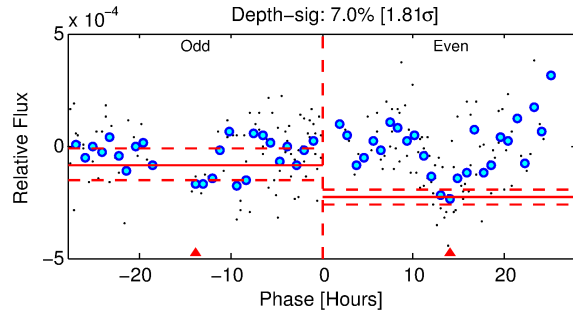
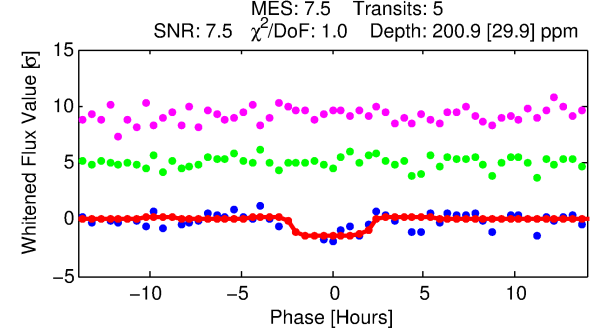
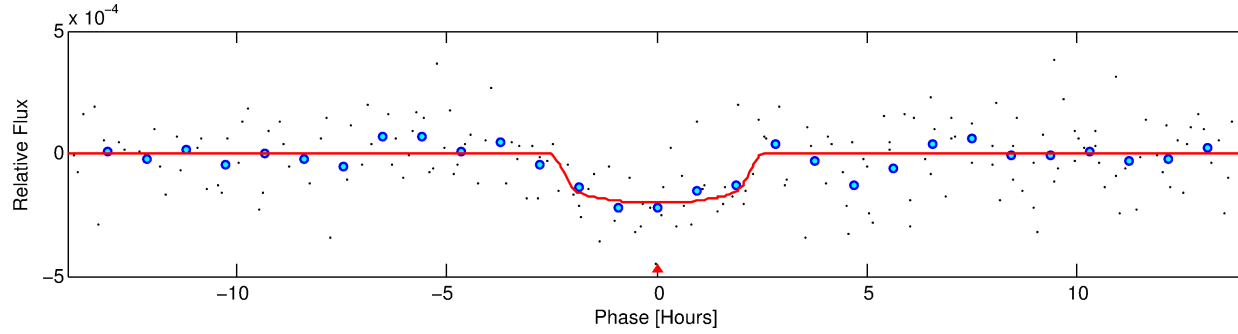
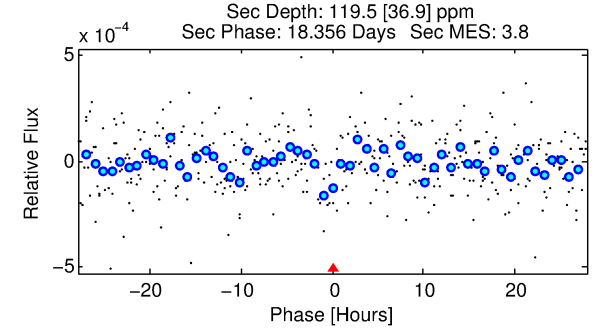
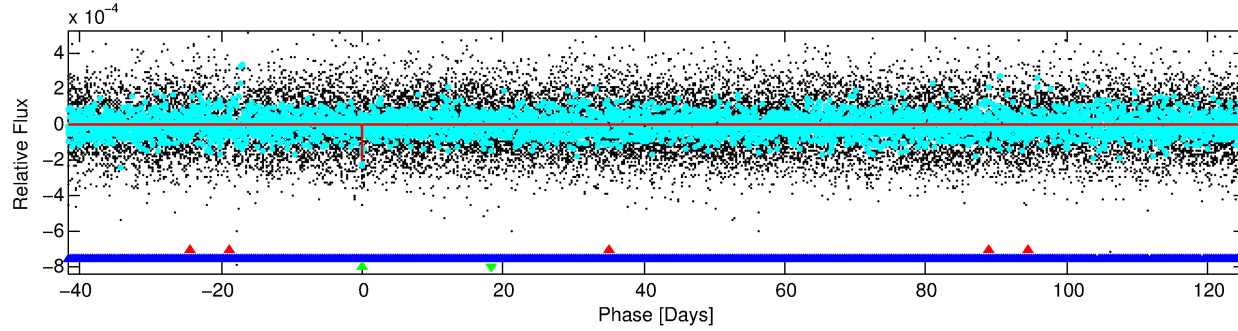
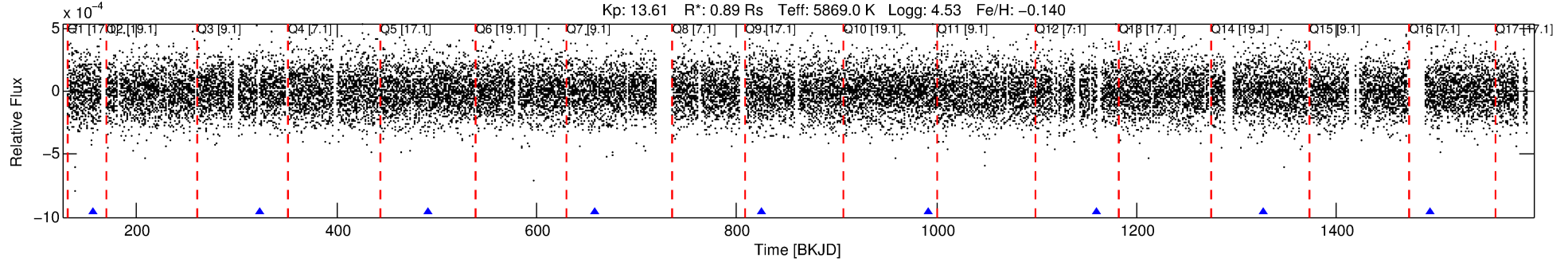
Ephemeris Match Information For 010733174-03

No Significant Match Found

DV One-Page Summary

KIC: 10733174 Candidate: 3 of 3 Period: 167.165 d
KOI: K03889 Corr: No Ephemeris Match

Kp: 13.61 R*: 0.89 Rs Teff: 5869.0 K Logg: 4.53 Fe/H: -0.140



DV Fit Results:

Period = 167.16466 [0.00252] d
Epoch = 156.6400 [0.0117] BKJD
Rp/R* = 0.0144 [0.0169]
a/R* = 168.55 [930.97]
b = 0.81 [2.45]
Seff = 2.43 [0.96]
Teq = 318 [32] K
Rp = 1.41 [1.69] Re
a = 0.5898 [0.1501] AU
Ag = 11575.96 [27613.92] [0.42σ]
Teffp = 5106 [3010] K [1.59σ]

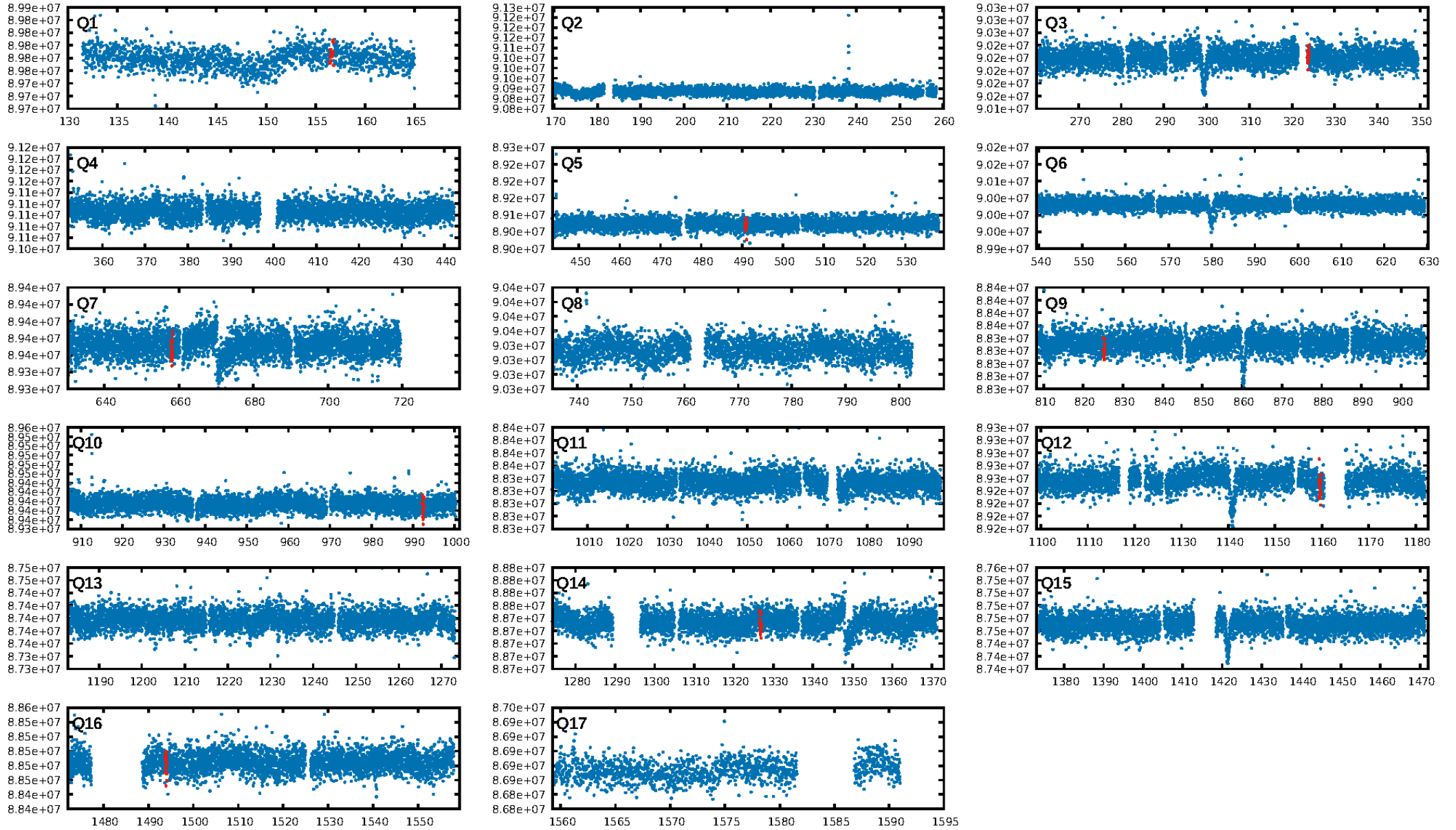
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [483.76σ]
LongPeriod-sig: 100.0% [79.47σ]
ModelChiSquare2-sig: 29.2%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 5.37e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.543
Centroid-sig: 2.9%
Centroid-so: 1.779 arcsec [1.69σ]
OotOffset-rm: 0.431 arcsec [0.52σ]
KicOffset-rm: 0.337 arcsec [0.34σ]
OotOffset-st: 1/1/0/2 [4]
KicOffset-st: 1/1/0/2 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.25 [2/8]

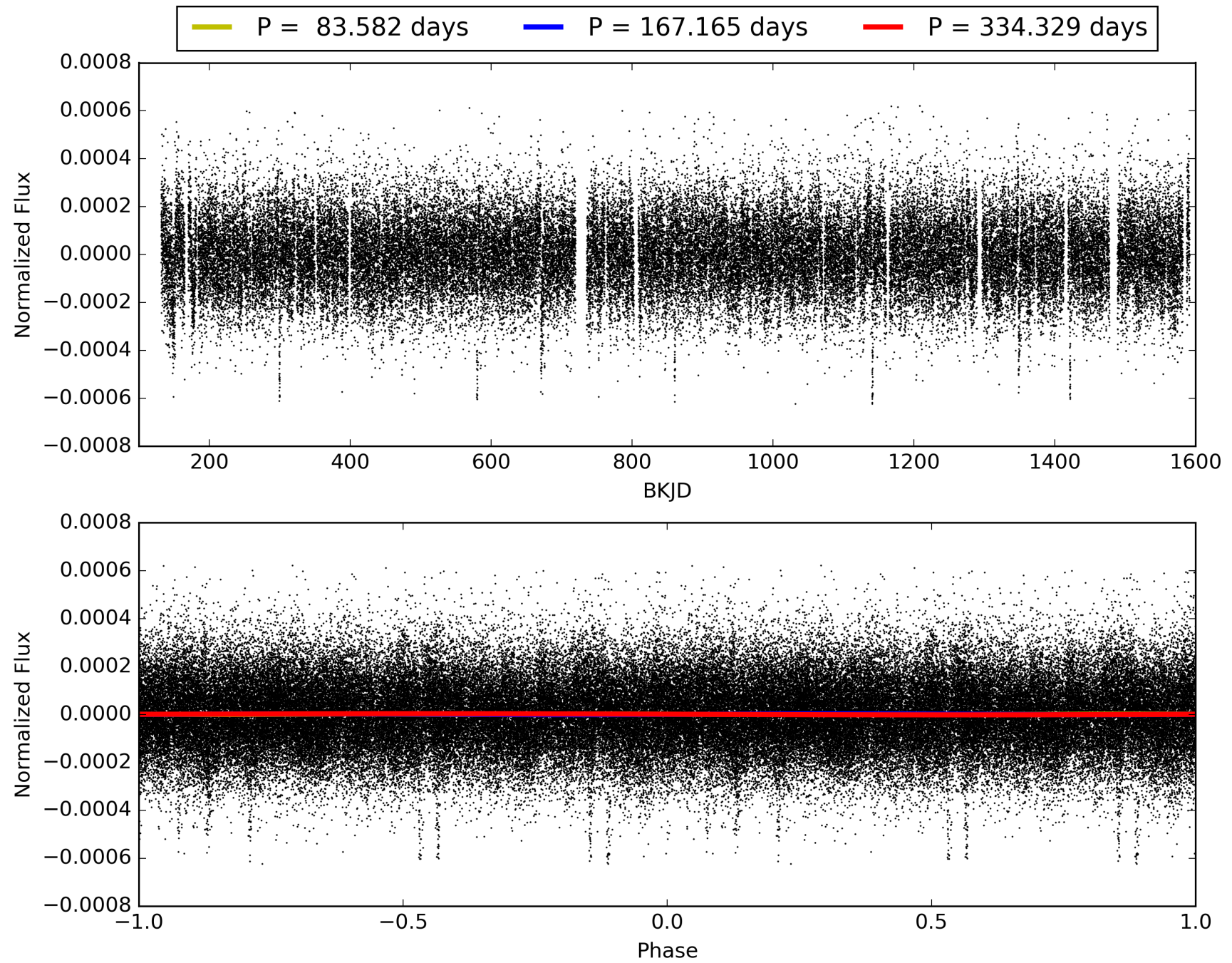
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:13:05 Z

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

TCE 010733174-03, PDC Light Curves

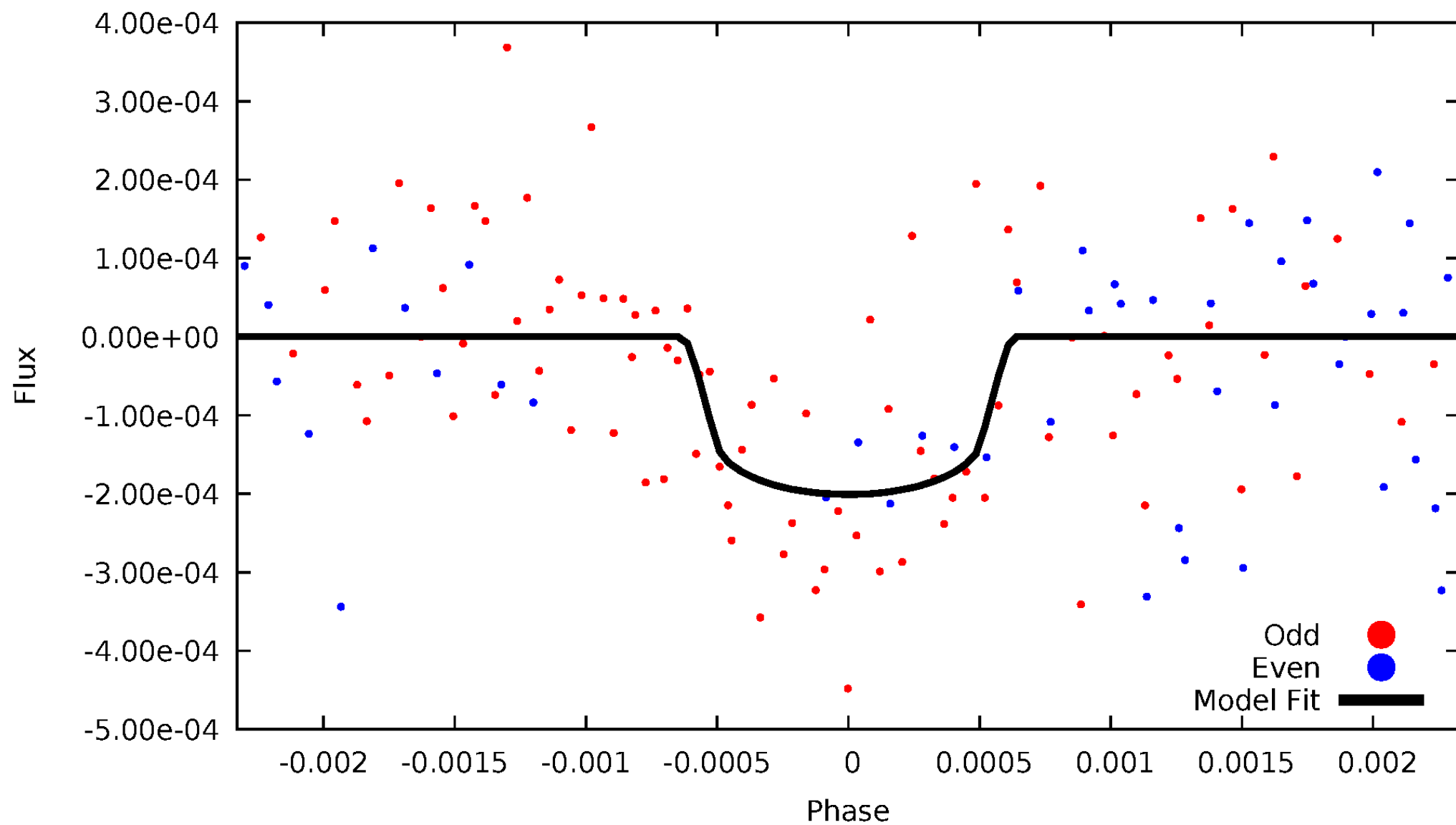


TCE 010733174-03



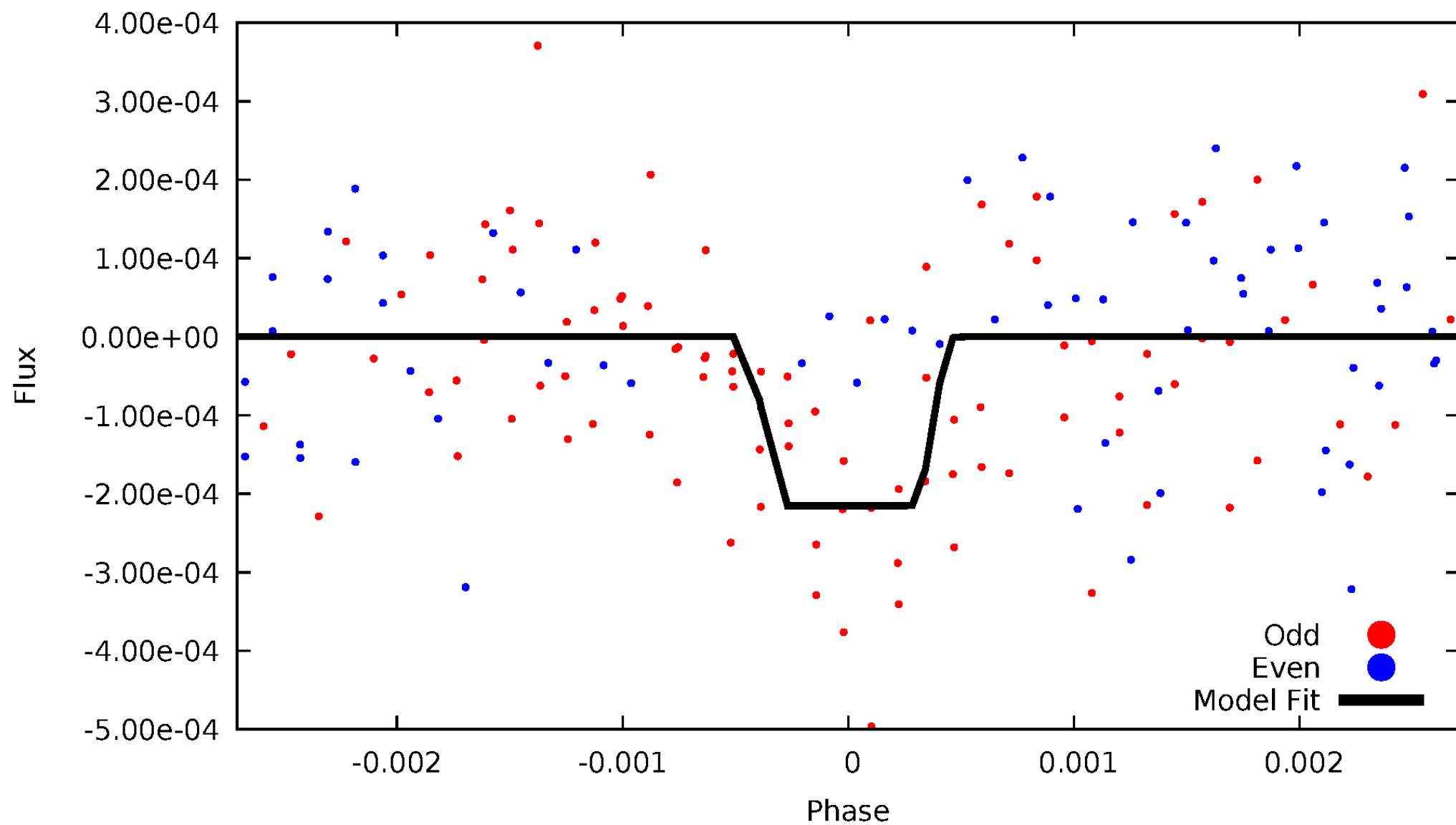
DV Odd/Even

TCE 010733174-03

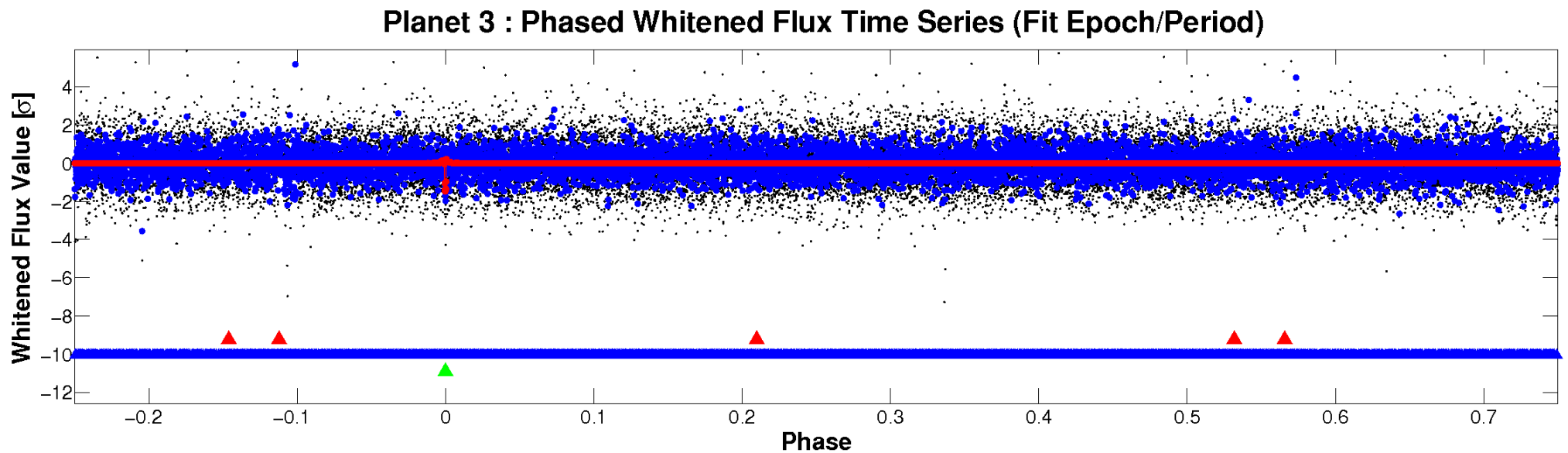
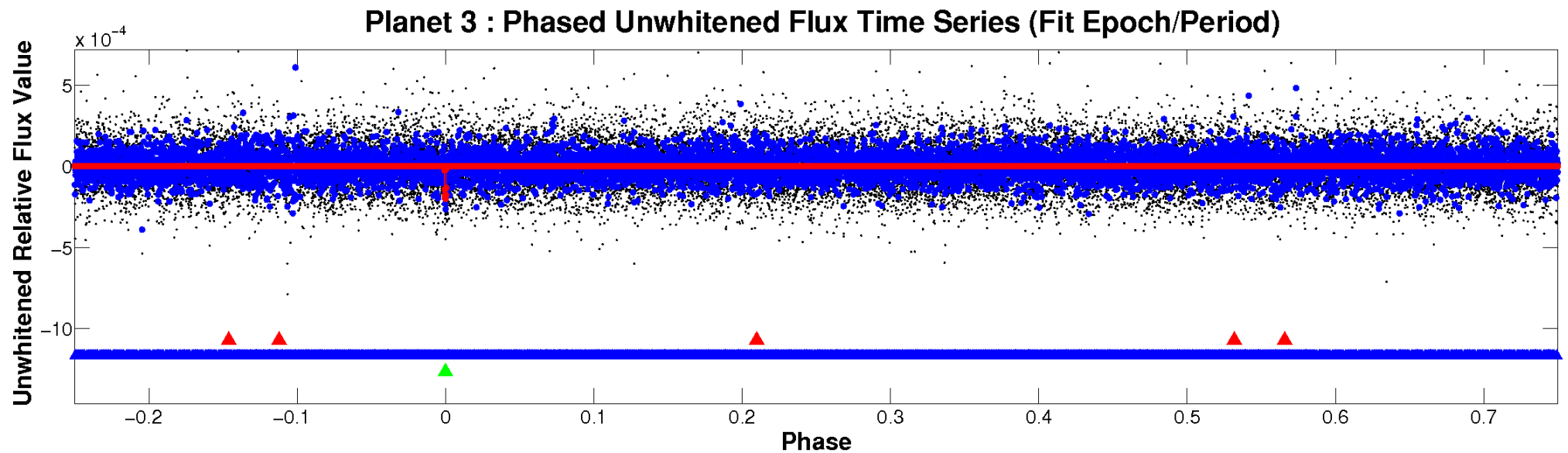


ALT Odd/Even

TCE 010733174-03

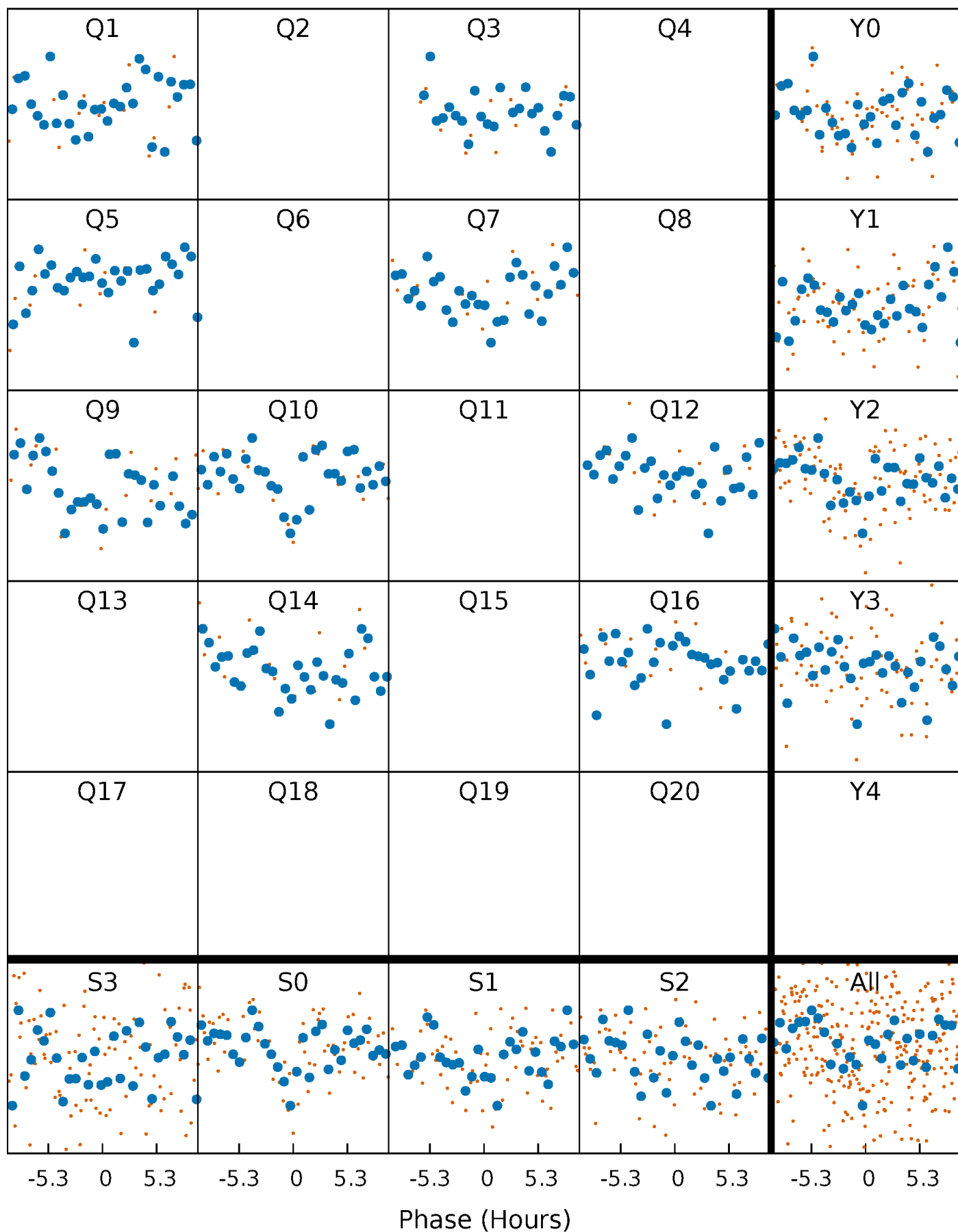


Non-Whitened Vs. Whitened Light Curve



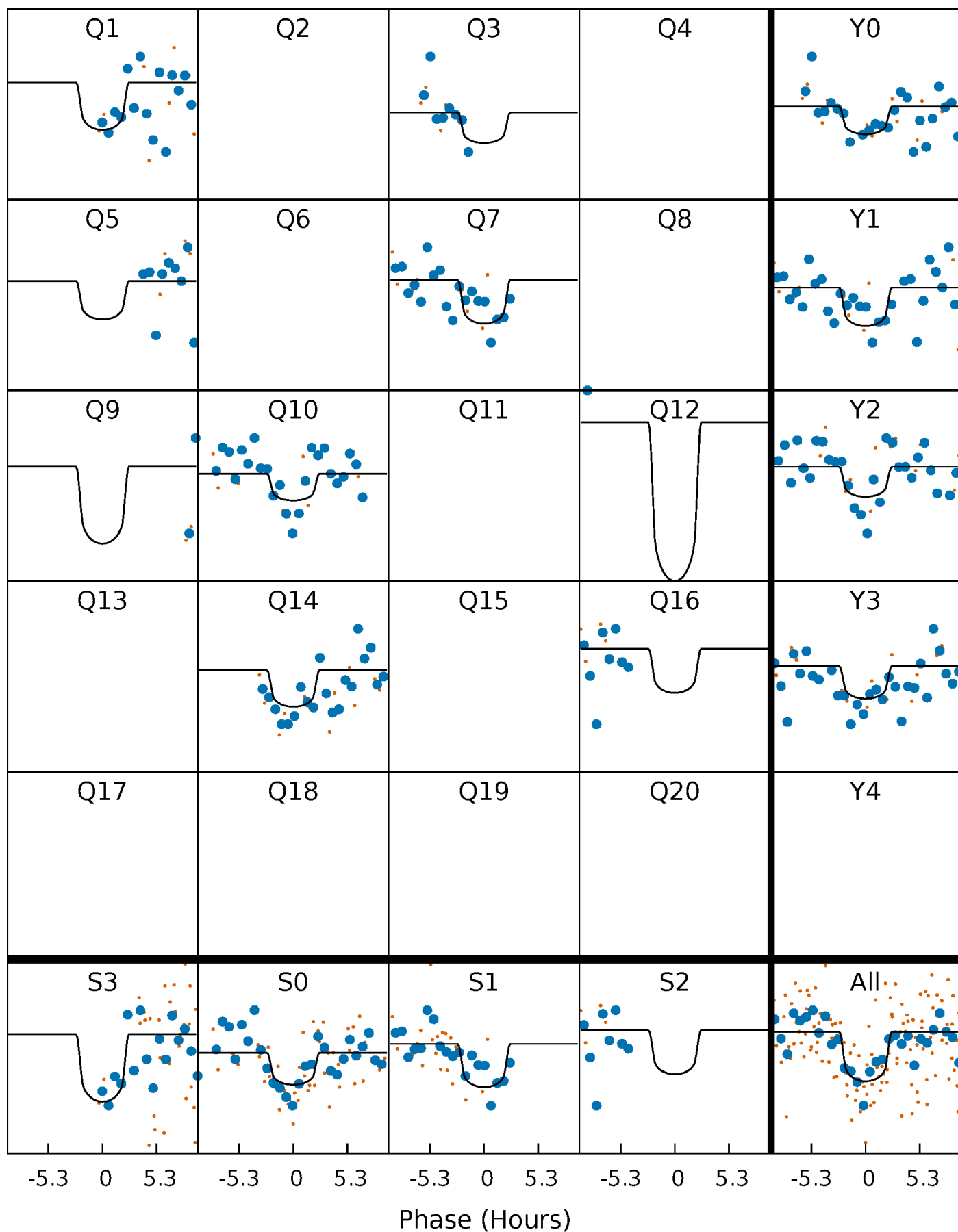
PDC Quarter-Phased Transit Curves

TCE 010733174-03 P=167.164656 Days $T_0=156.639969$ (BKJD)



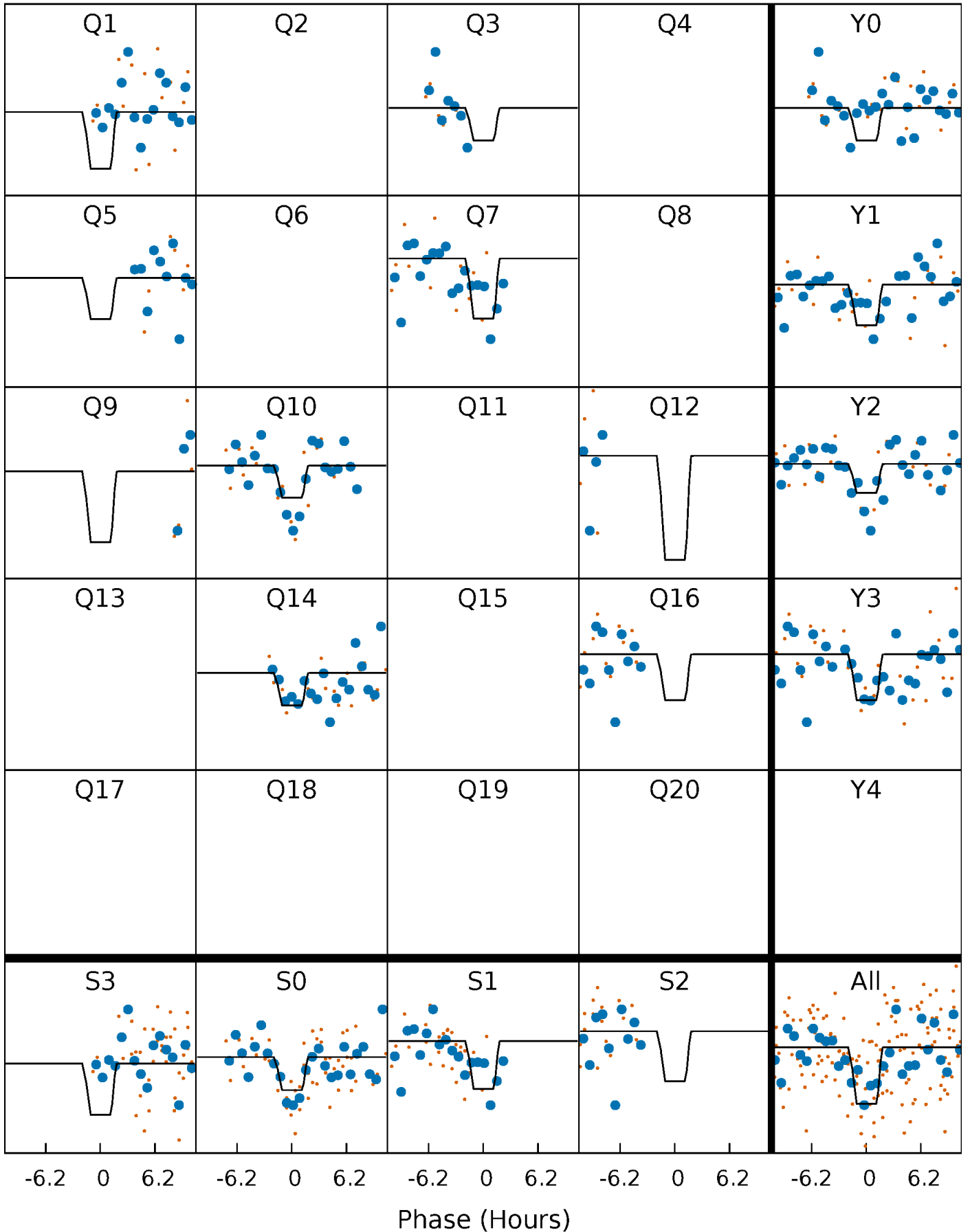
DV Quarter-Phased Transit Curves

TCE 010733174-03 $P=167.164656$ Days $T_0=156.639969$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

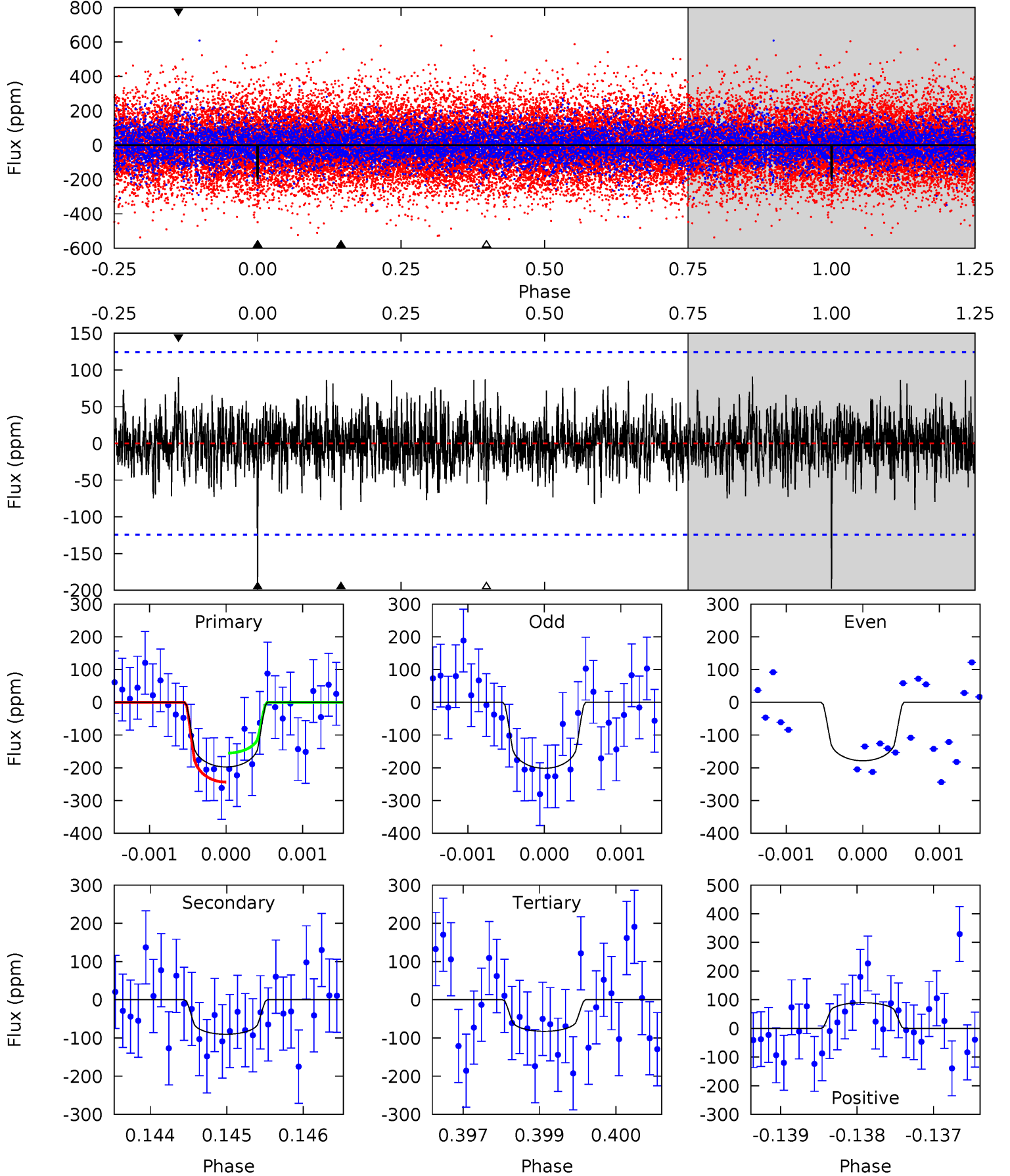
TCE 010733174-03 P=167.157157 Days $T_0=156.660183$ (BKJD)



DV Model-Shift Uniqueness Test

010733174-03, P = 167.164656 Days, E = 156.639969 Days

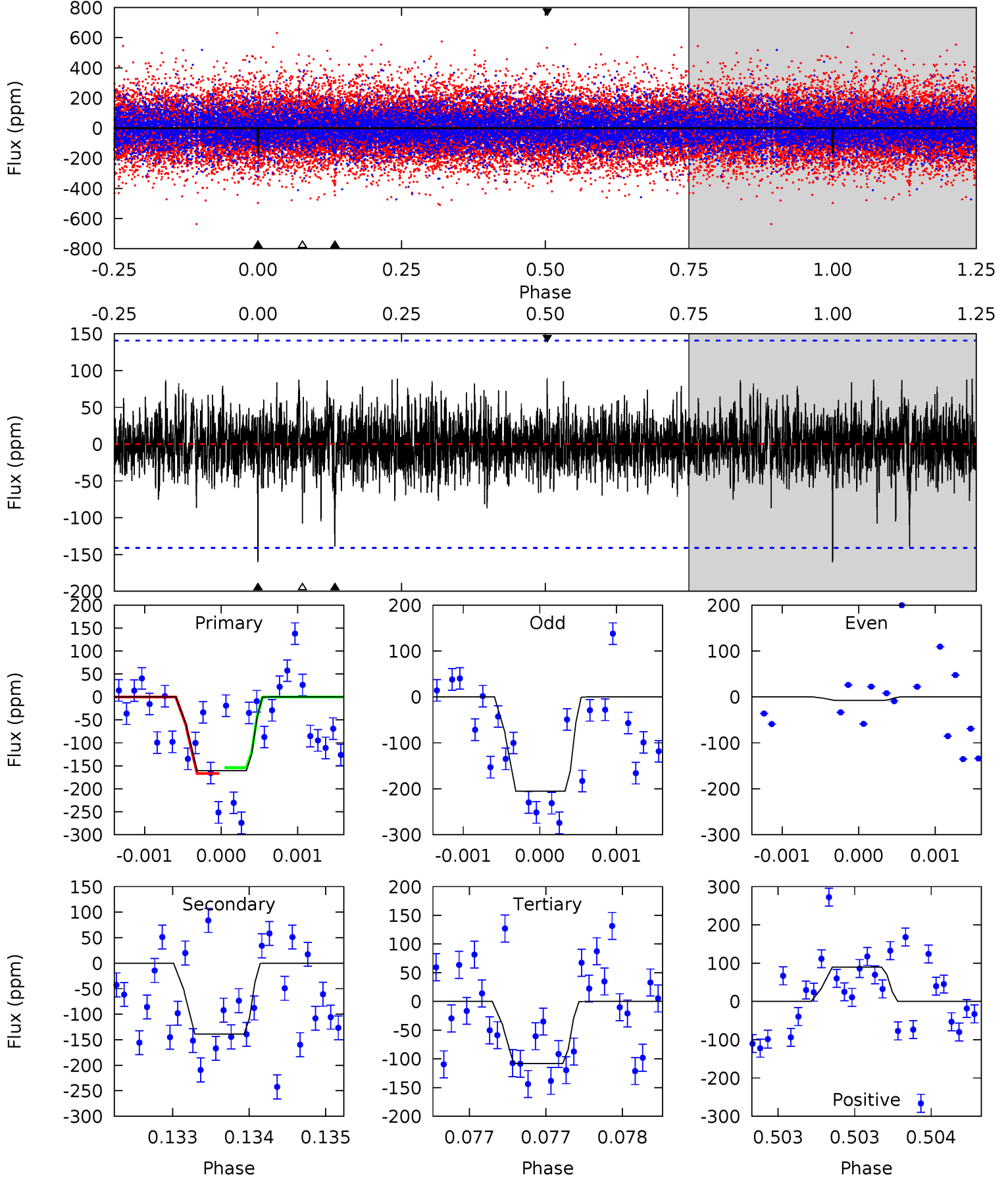
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.60	3.93	3.60	3.91	5.42	3.24	1.11	5.01	4.69	0.34	0.02	0.37	1.10	0.31	1.93



Alt Model-Shift Uniqueness Test

010733174-03, P = 167.157157 Days, E = 156.660183 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.24	5.40	4.20	3.49	5.48	3.33	1.00	2.04	2.75	1.21	1.91	3.16	0.98	0.36	0.25



Stellar Parameters For KIC 010733174

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5869^{+147}_{-161}	$4.528^{+0.037}_{-0.213}$	$-0.140^{+0.300}_{-0.300}$	$0.892^{+0.261}_{-0.087}$	$0.980^{+0.108}_{-0.132}$	$1.942^{+0.394}_{-1.016}$
	+3%/-3%	+1%/-5%	+214%/-214%	+29%/-10%	+11%/-13%	+20%/-52%
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 010733174-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-90 ± 23	$1.92^{+1.66}_{-1.20}$	458^{+30}_{-23}	4429^{+2457}_{-912}	4591^{+28215}_{-3352}
Alt.	-139 ± 26	$1.86^{+1.55}_{-1.11}$	458^{+34}_{-21}	4809^{+2823}_{-986}	6863^{+39733}_{-4792}

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

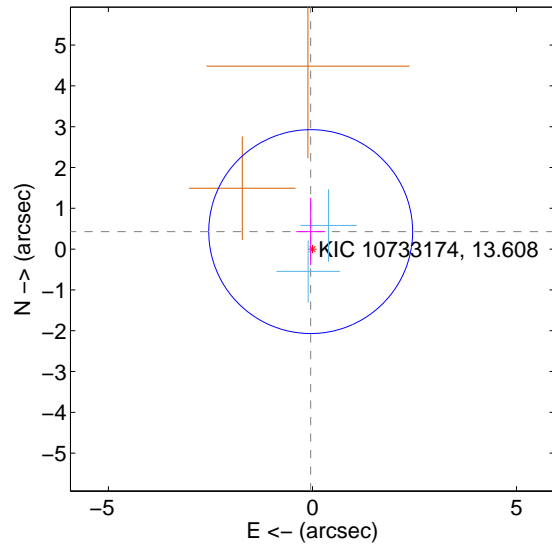
Supplemental centroid analysis for 010733174-03. Kepler magnitude: 13.61. Transit SNR 7.48

There are 2 quarters with good PRF difference image offsets

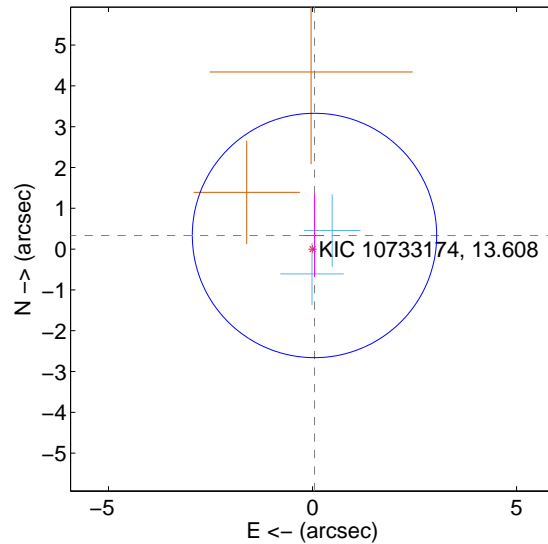
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.431 ± 0.833	0.52	0.043 ± 0.355	0.429 ± 0.826
PRF-fit source offset from KIC position	0.337 ± 0.998	0.34	-0.048 ± 0.237	0.334 ± 1.016
photometric centroid source offset	1.78 ± 1.05	1.69	-1.02 ± 1.13	-1.45 ± 1.02

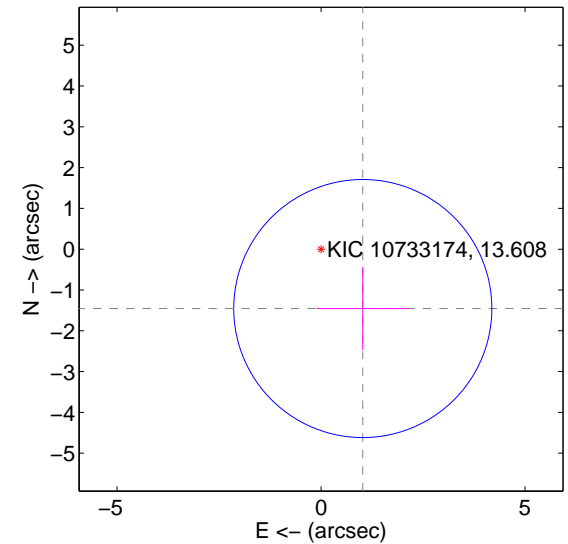
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

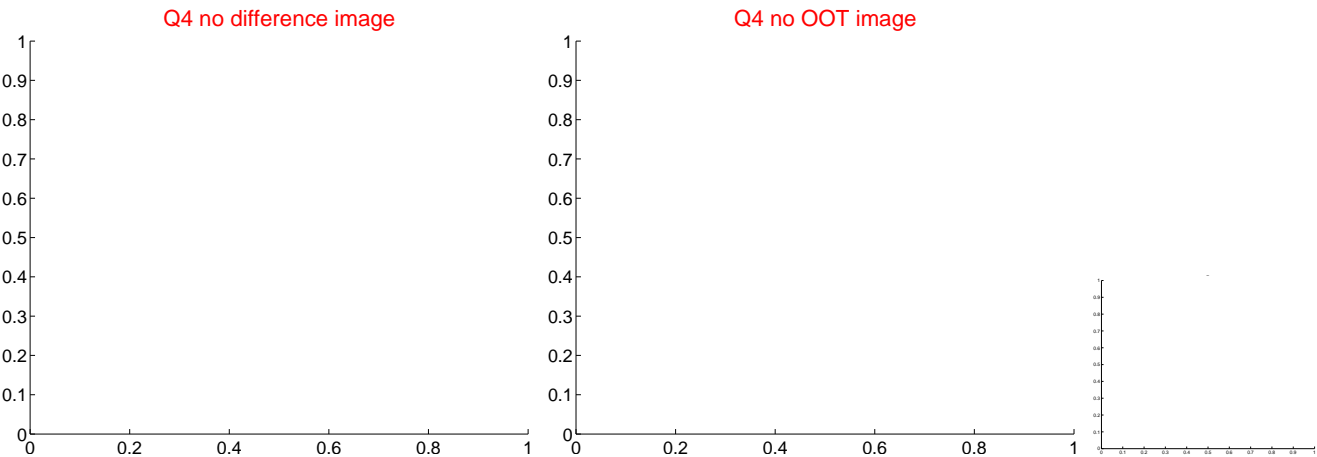
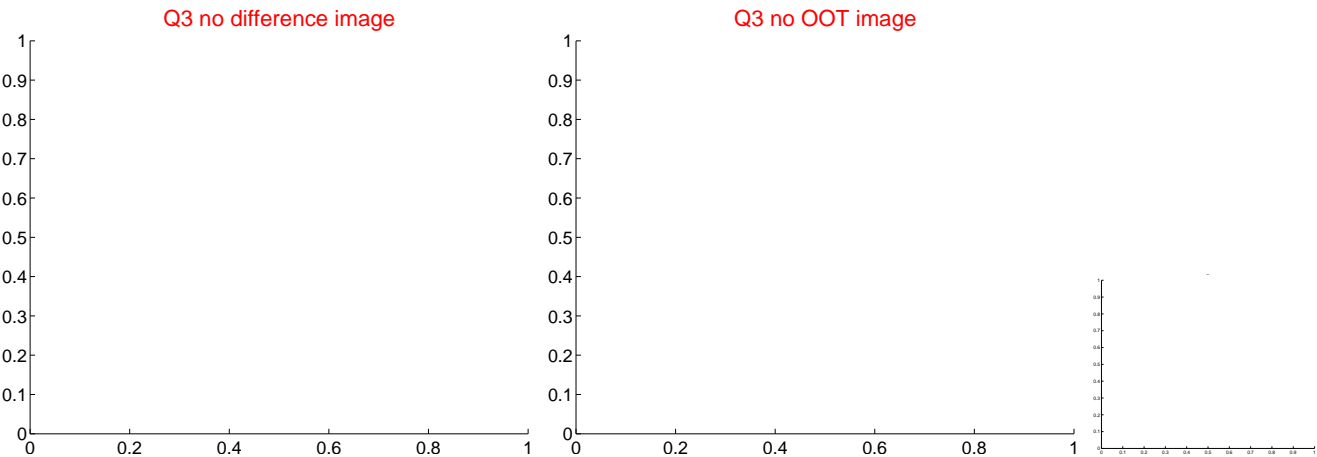
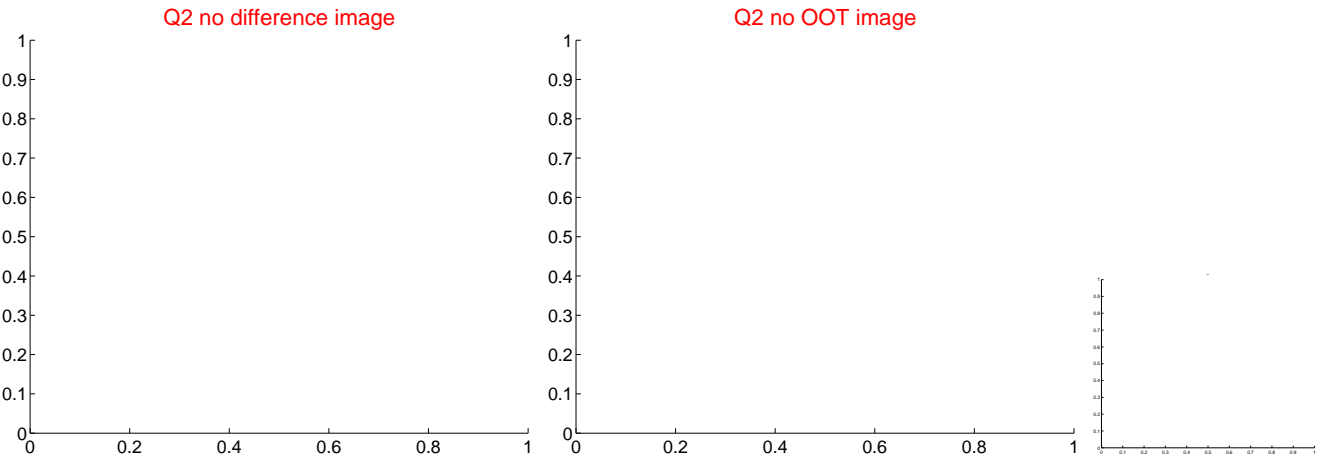
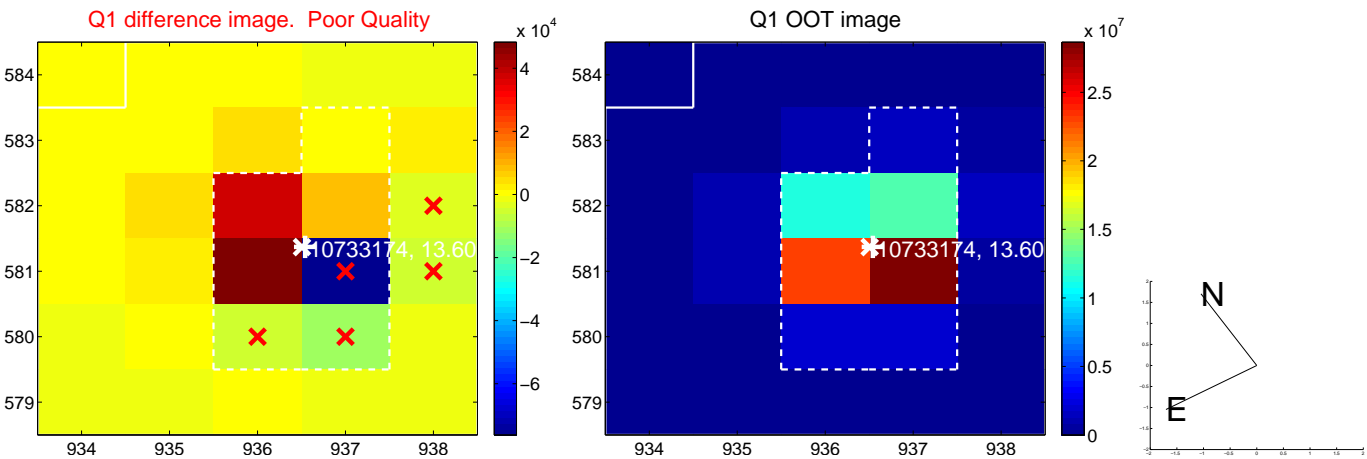


offset from photometric centroids

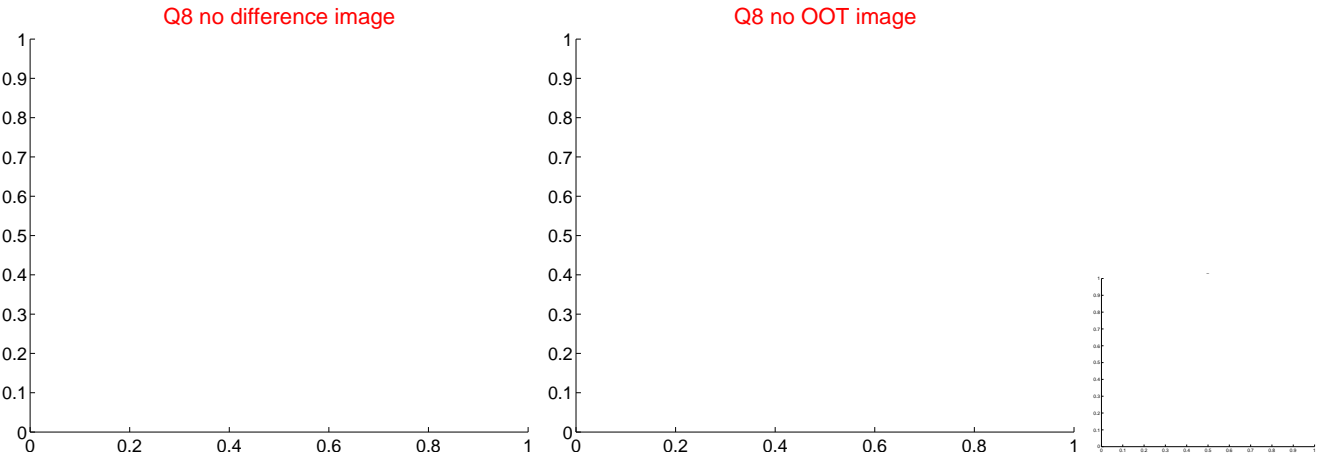
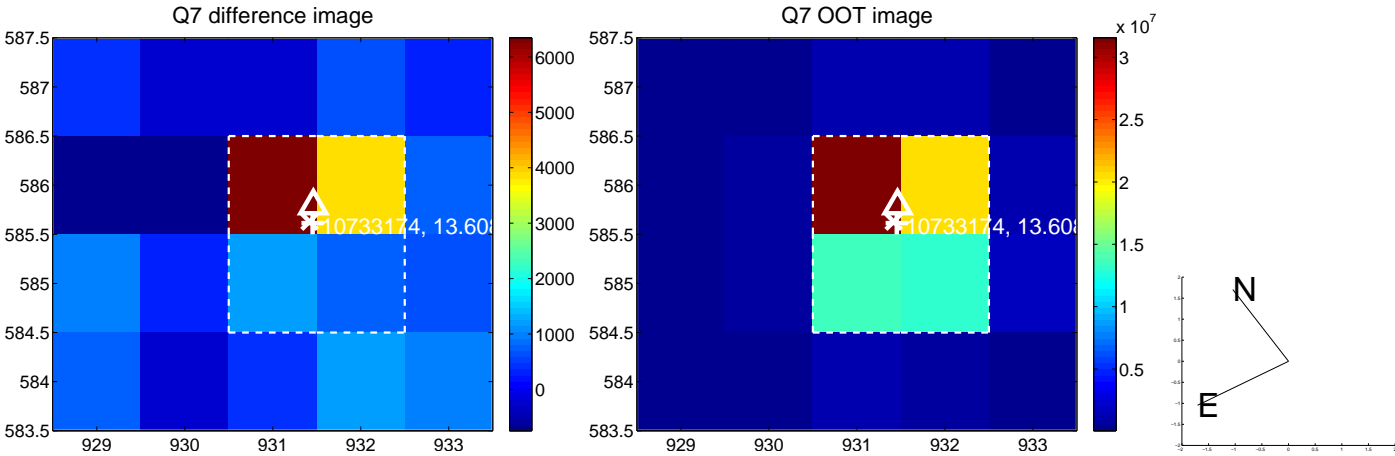
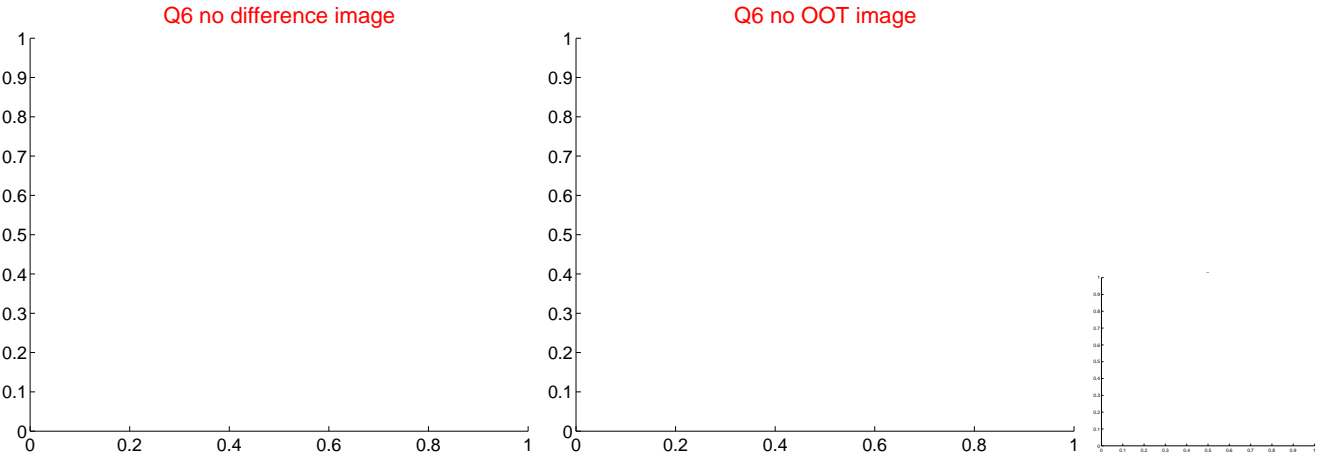
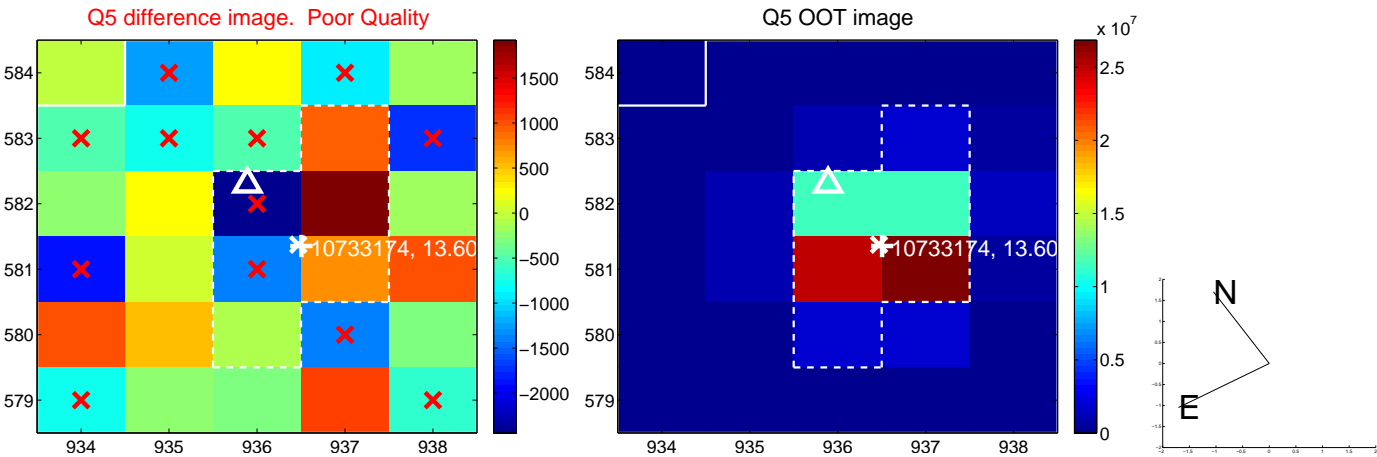


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

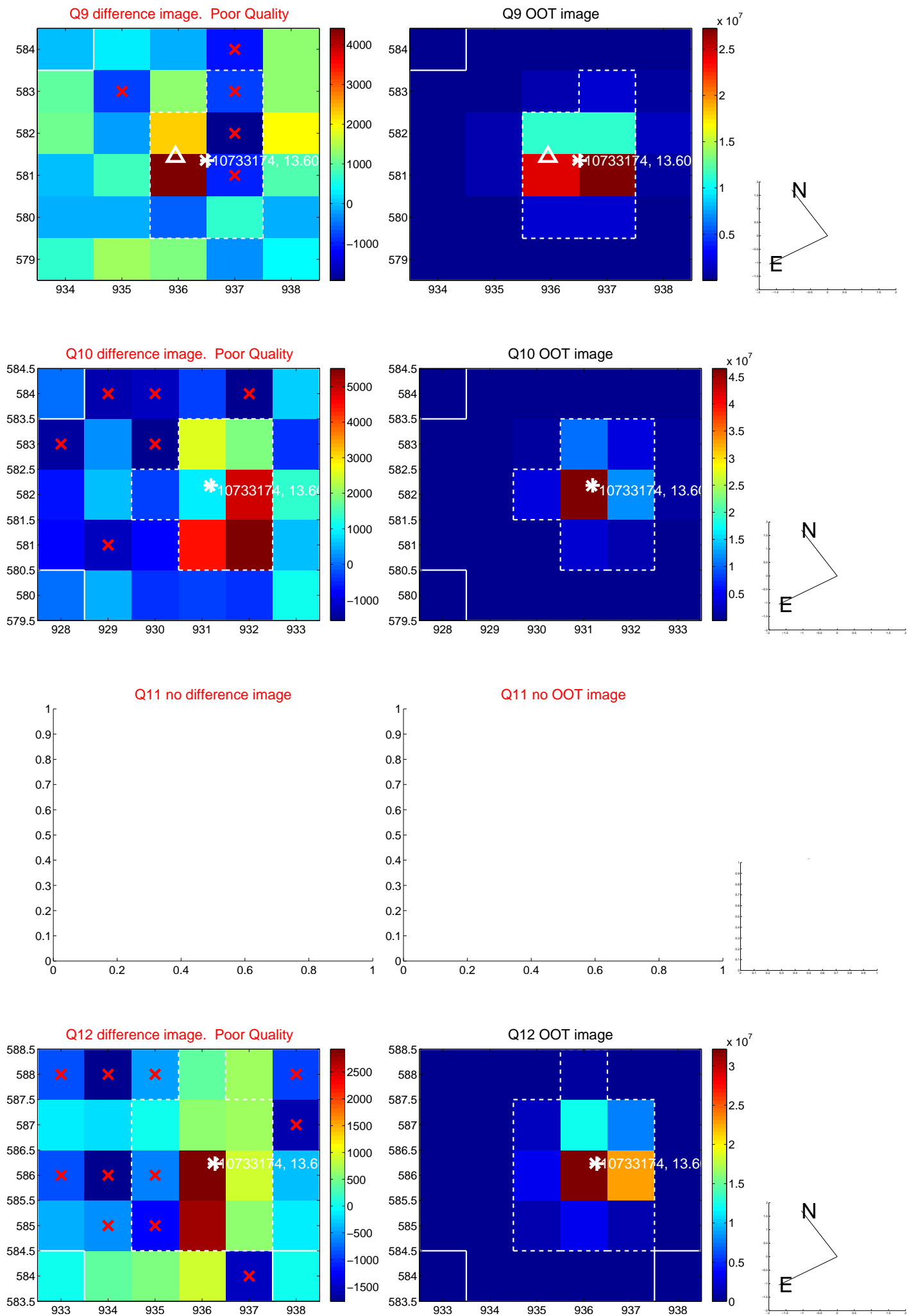
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



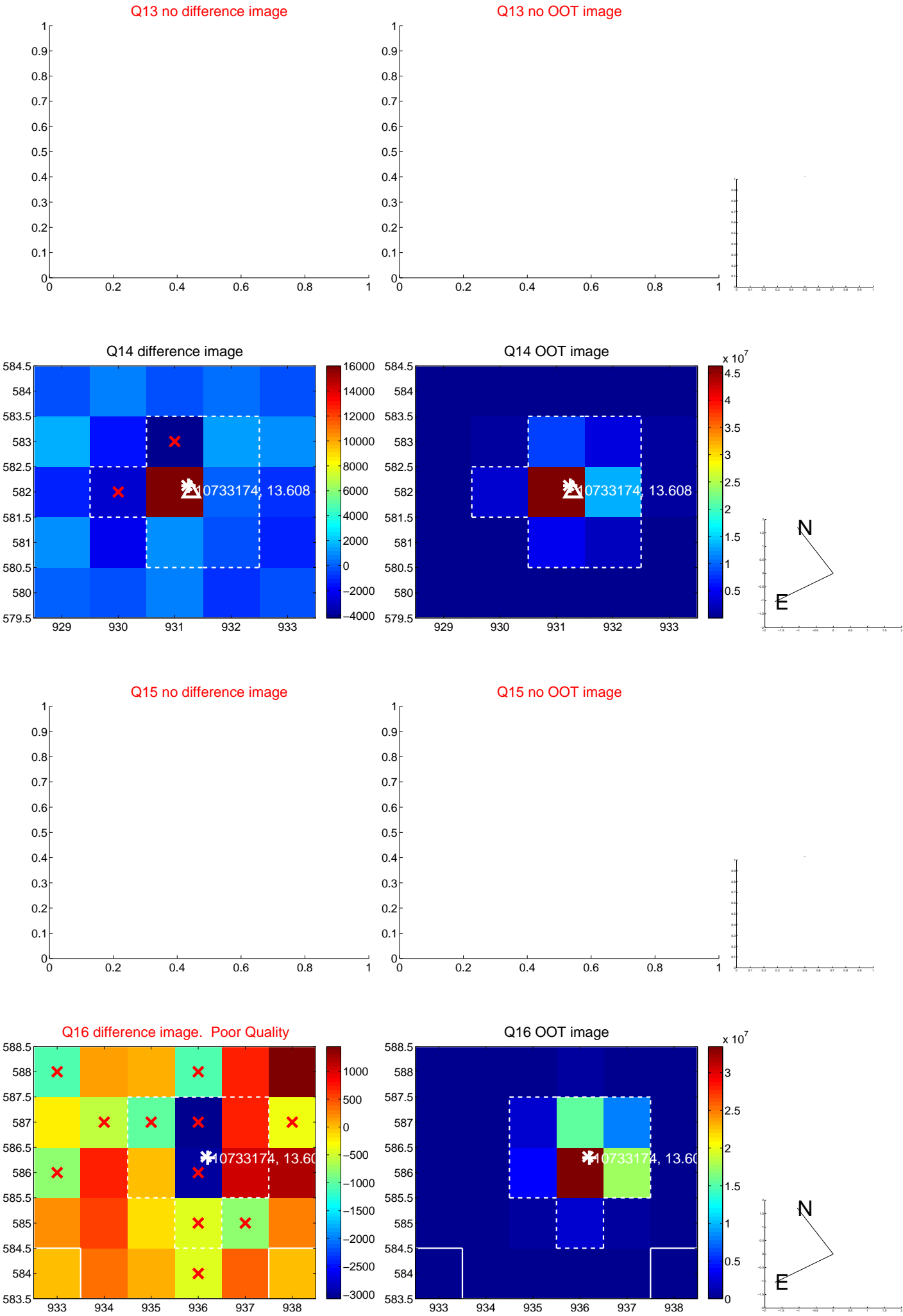
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



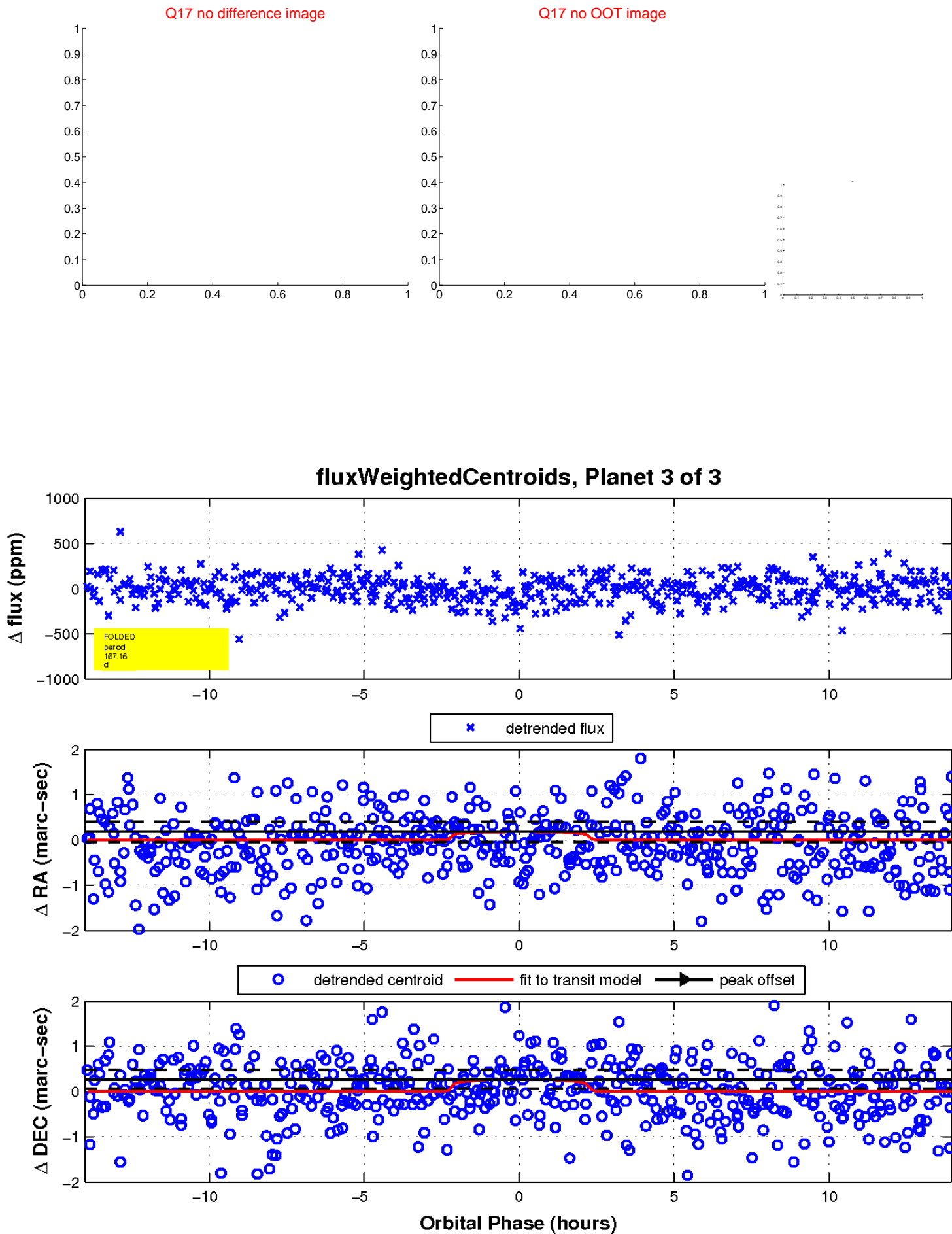
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

