

KIC 008174292

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})
008174292-02	OBS	No	460.645025	173.256031	549.1	21.041	9.1	8.7	0.85	5576	2.05	0.48
008174292-03	OBS	No	368.712648	234.324095	1083.3	21.290	7.8	8.3	0.85	5576	5.49	0.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008174292-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008174292-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—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.

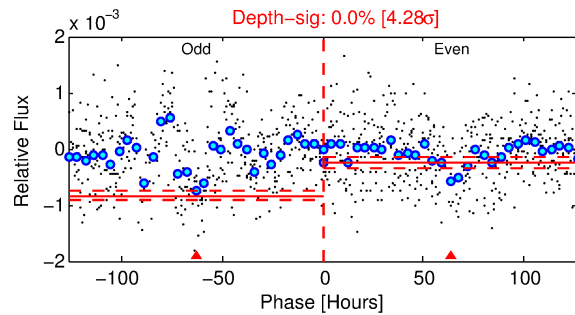
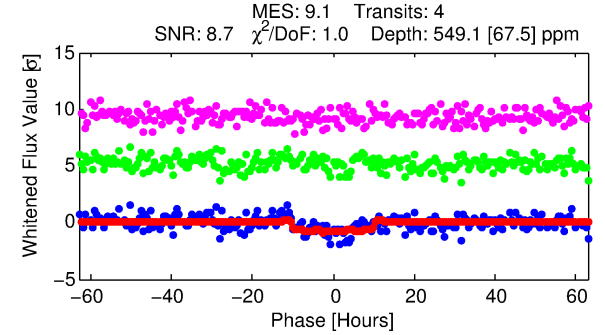
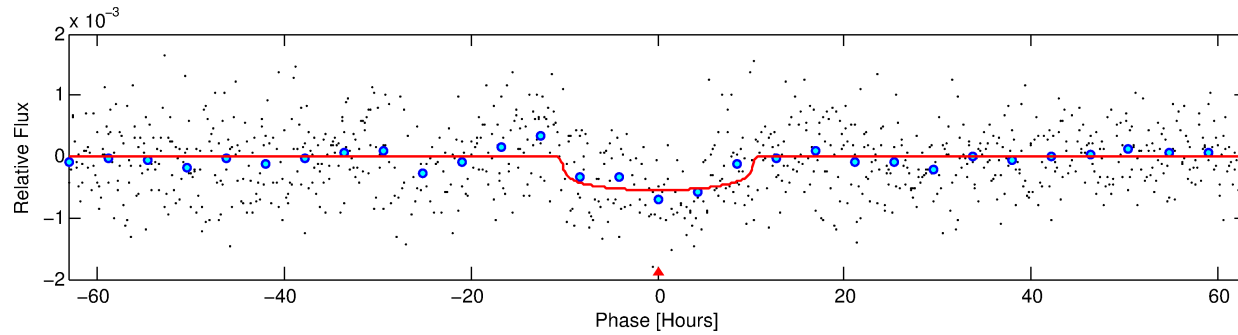
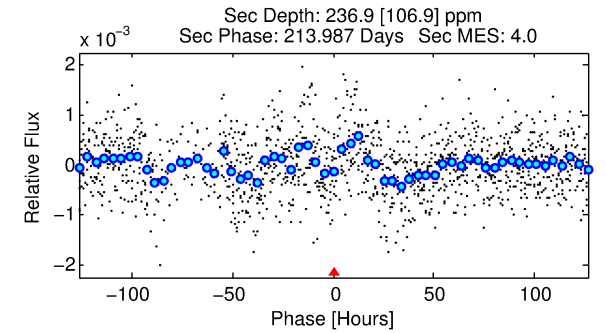
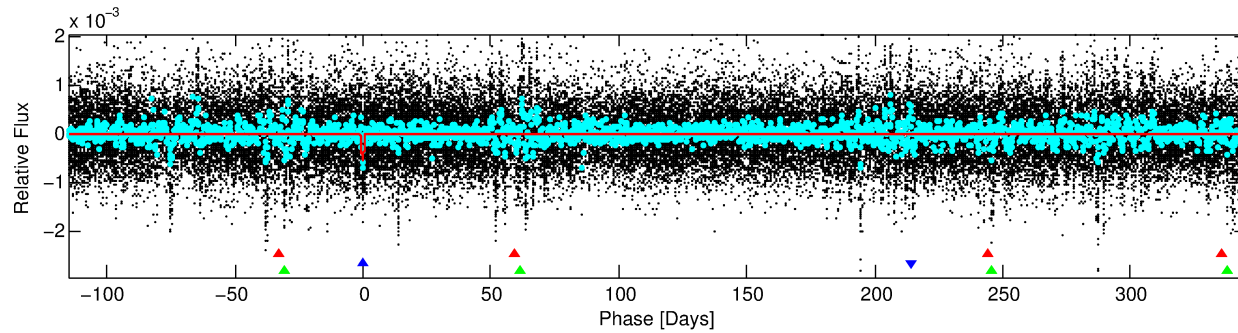
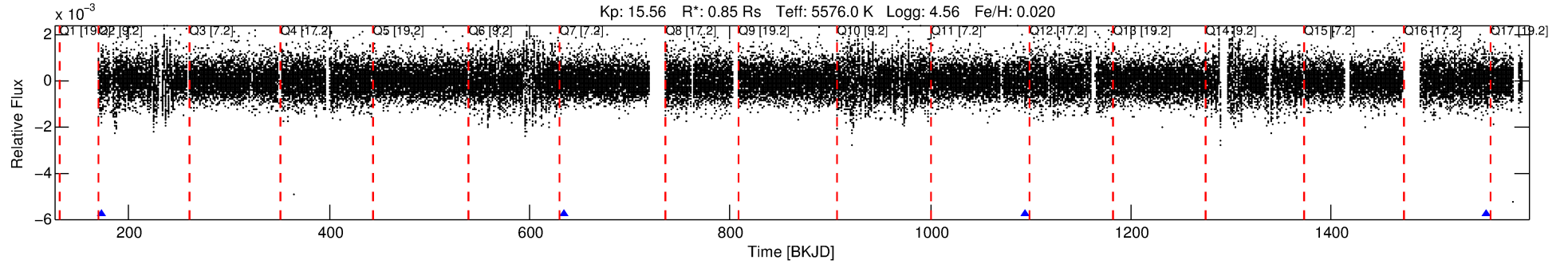
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008174292-02

No Significant Match Found

DV One-Page Summary

KIC: 8174292 Candidate: 2 of 3 Period: 460.645 d



DV Fit Results:

Period = 460.64503 [0.01712] d
Epoch = 173.2560 [0.0283] BKJD
Rp/R* = 0.0220 [0.0097]
a/R* = 144.96 [259.25]
b = 0.54 [2.36]
Seff = 0.48 [0.17]
Teq = 212 [19] K
Rp = 2.05 [1.06] Re
a = 1.1488 [0.2630] AU
Ag = 41048.67 [43066.73] [0.95σ]
Teffp = 4662 [1166] K [3.82σ]

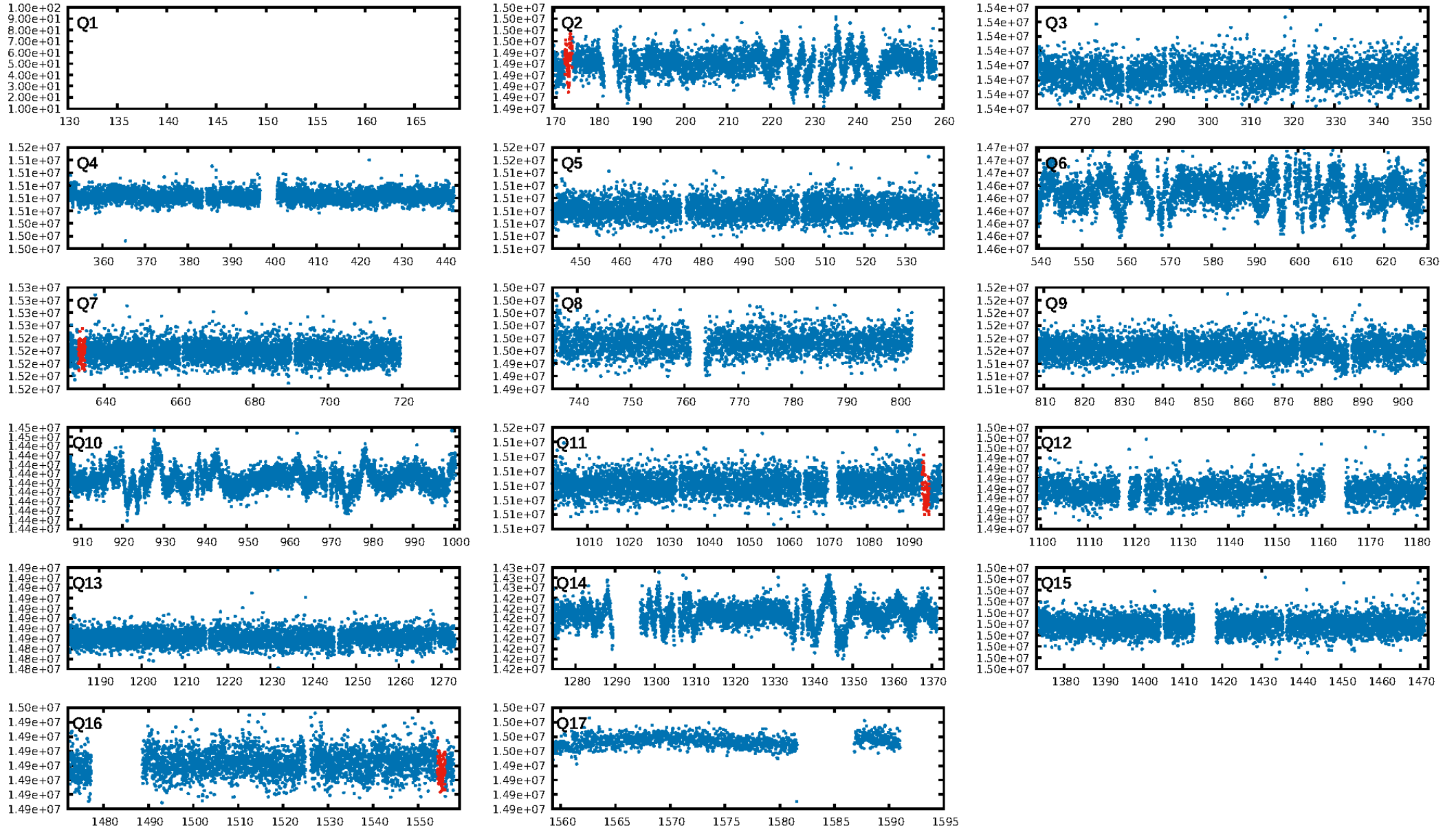
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [87.24σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.24e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -12.96
Centroid-sig: 55.5%
Centroid-so: 1.350 arcsec [0.64σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [2/2]

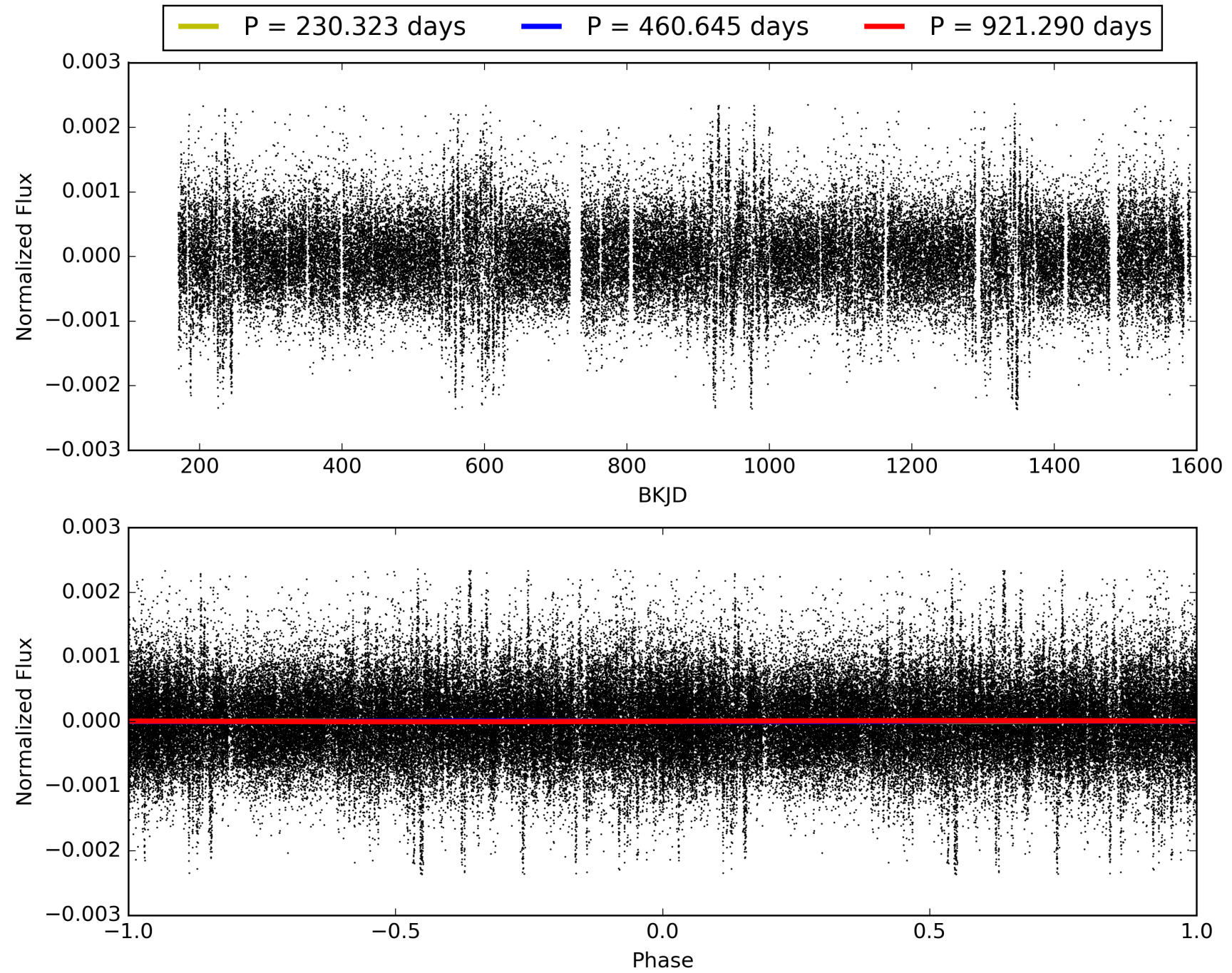
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:55:39 Z

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

TCE 008174292-02, PDC Light Curves

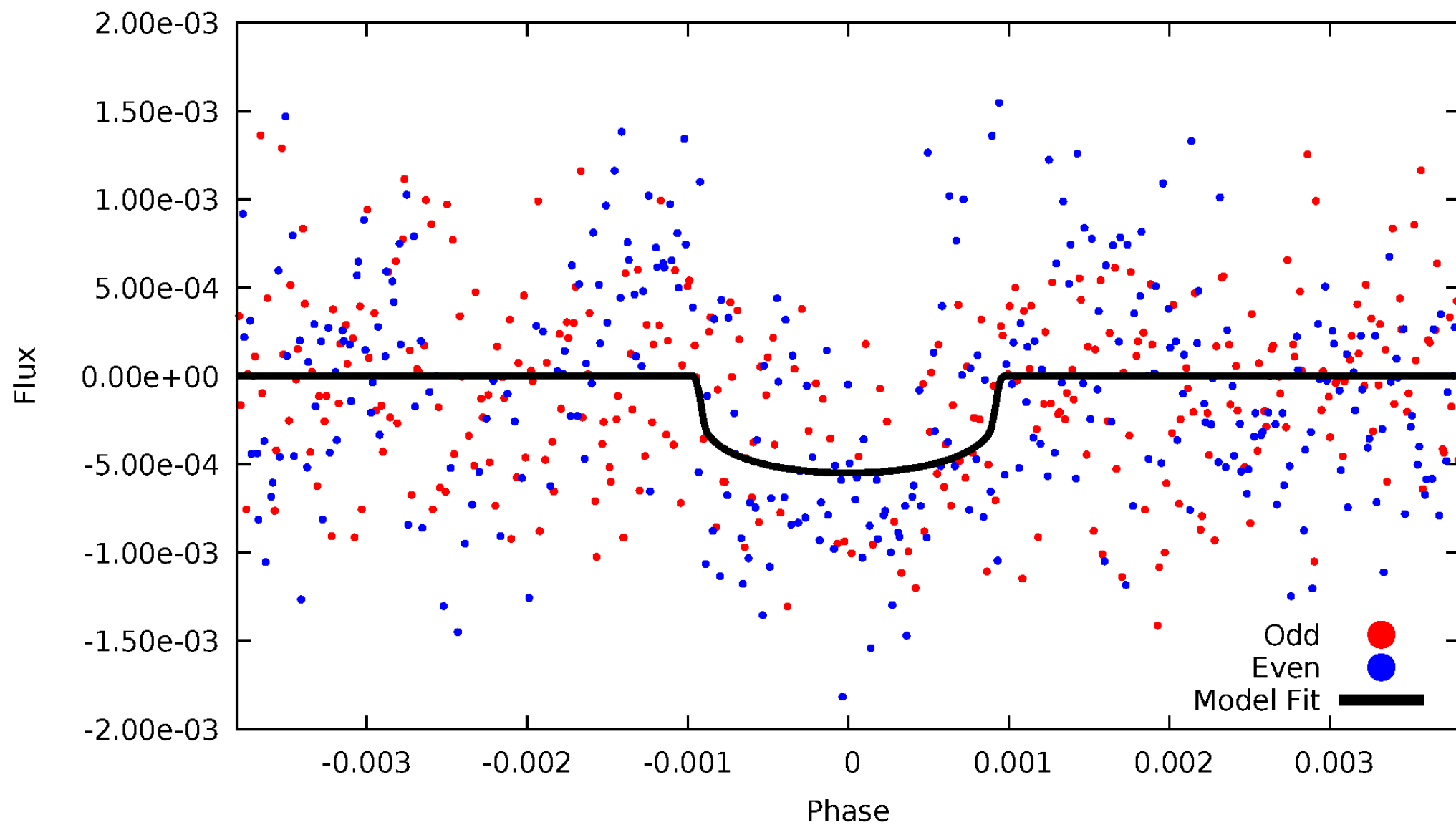


TCE 008174292-02



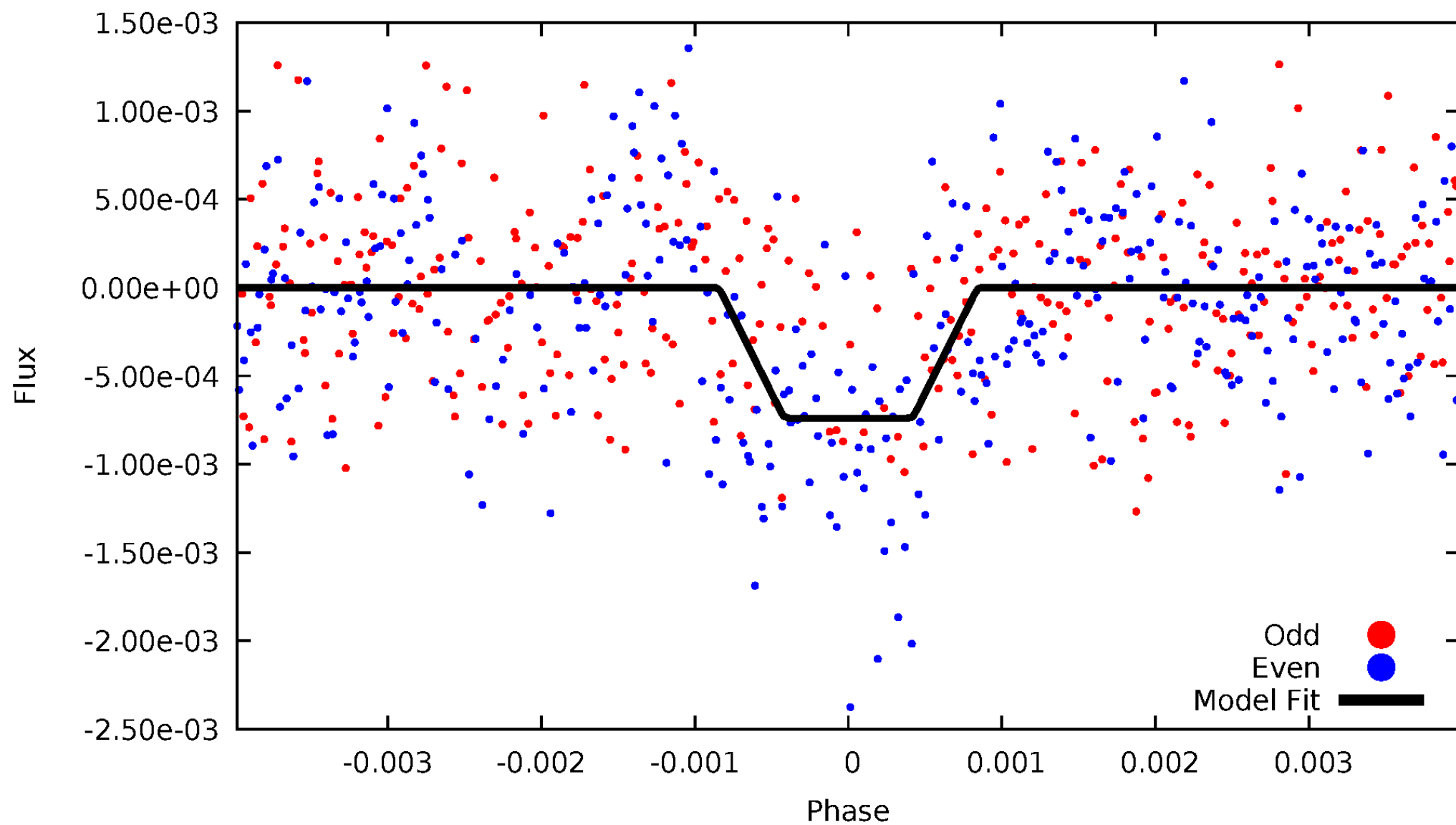
DV Odd/Even

TCE 008174292-02



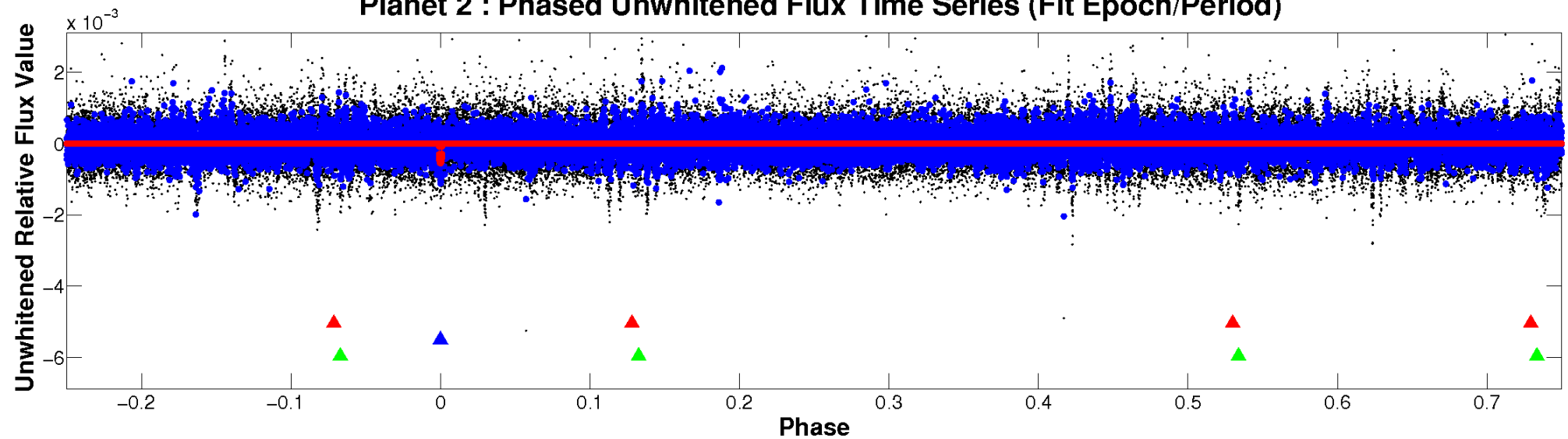
ALT Odd/Even

TCE 008174292-02

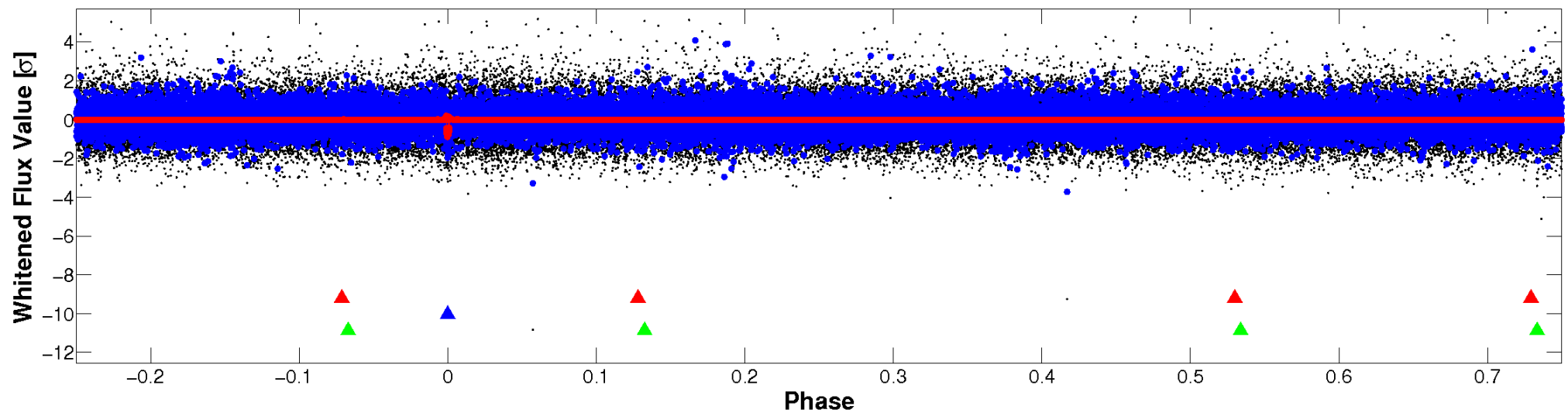


Non-Whitened Vs. Whitened Light Curve

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

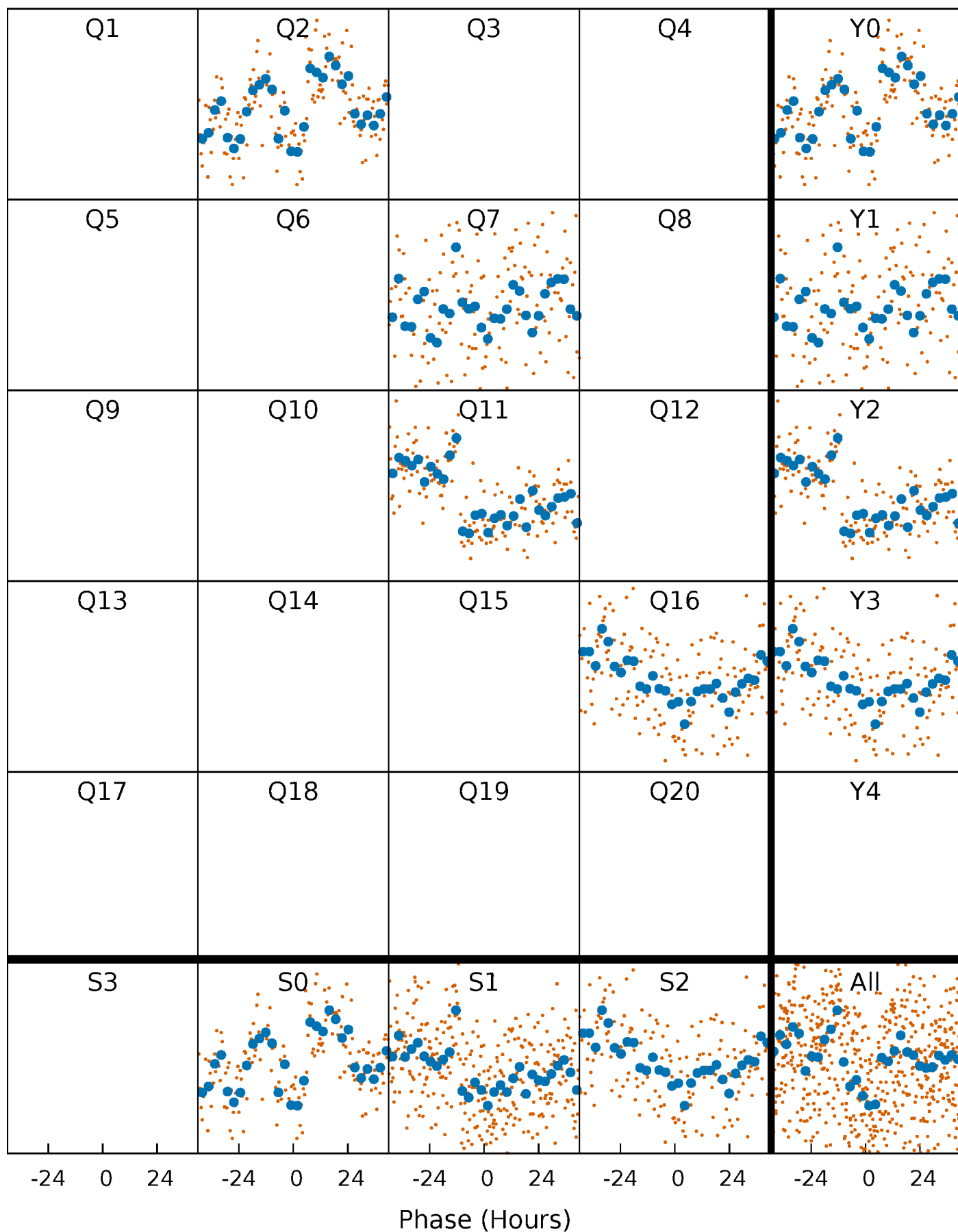


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 008174292-02 P=460.645025 Days $T_0=173.256031$ (BKJD)



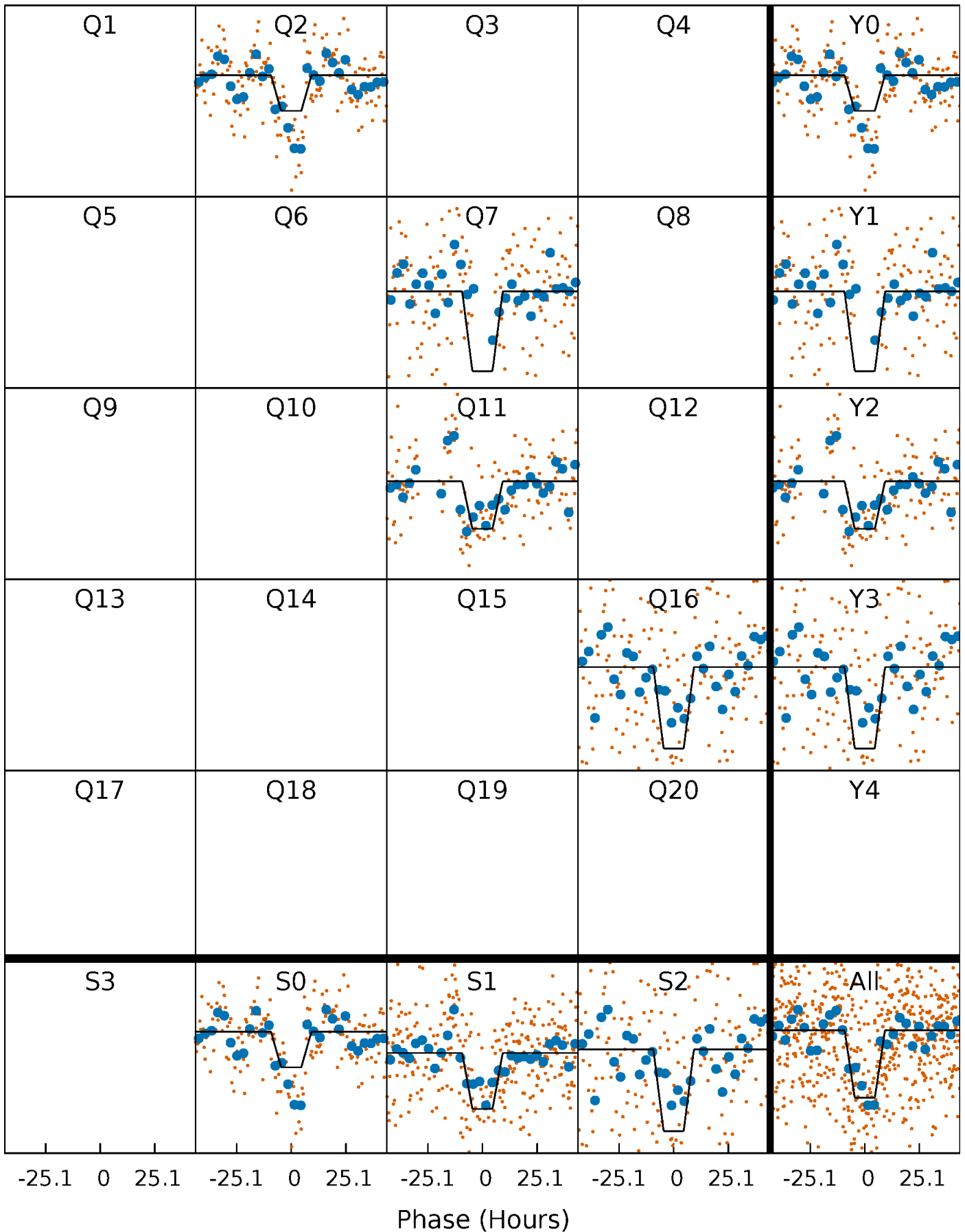
DV Quarter-Phased Transit Curves

TCE 008174292-02 $P=460.645025$ Days $T_0=173.256031$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

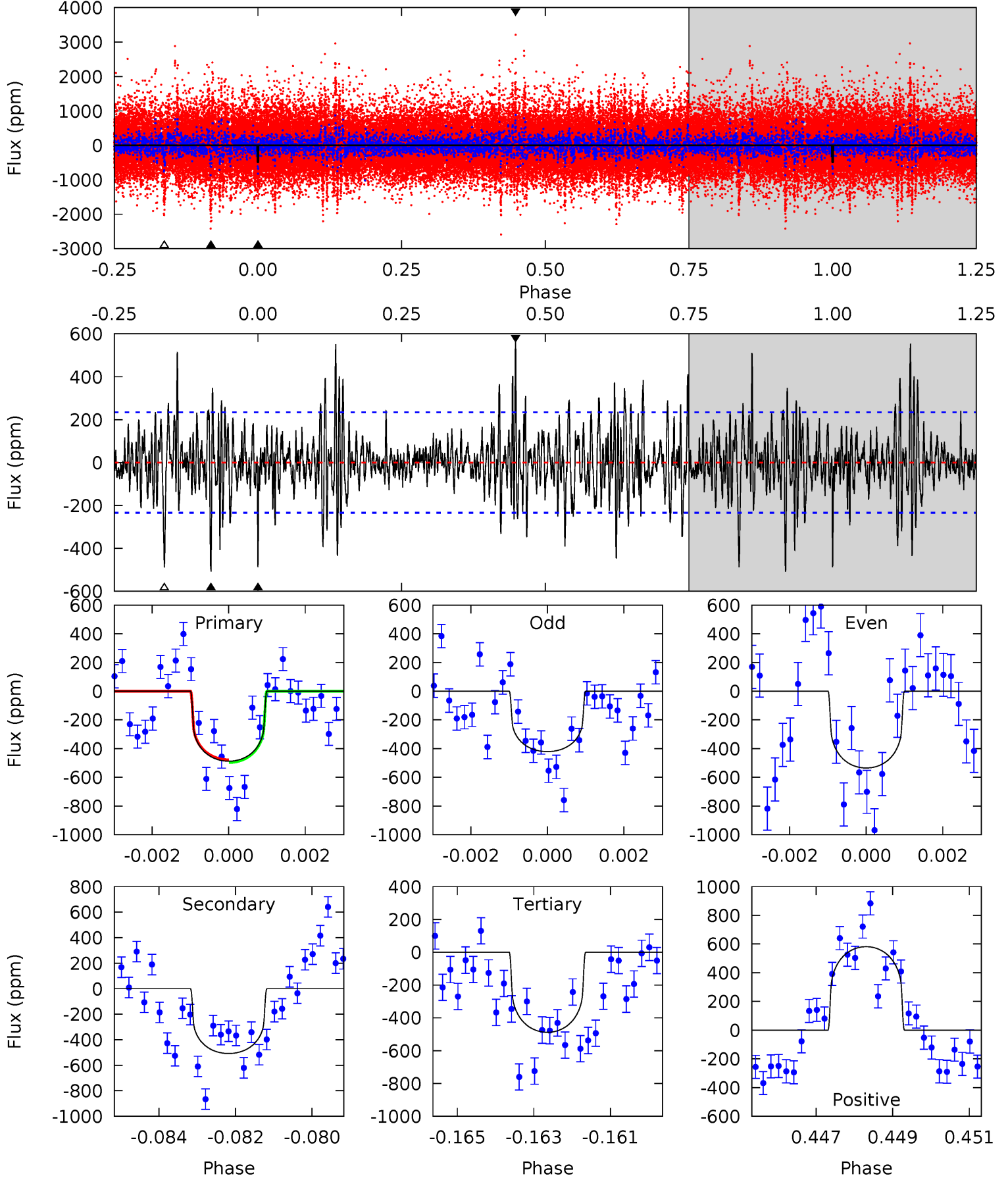
TCE 008174292-02 P=460.660988 Days $T_0=173.232804$ (BKJD)



DV Model-Shift Uniqueness Test

008174292-02, $P = 460.645025$ Days, $E = 173.256031$ Days

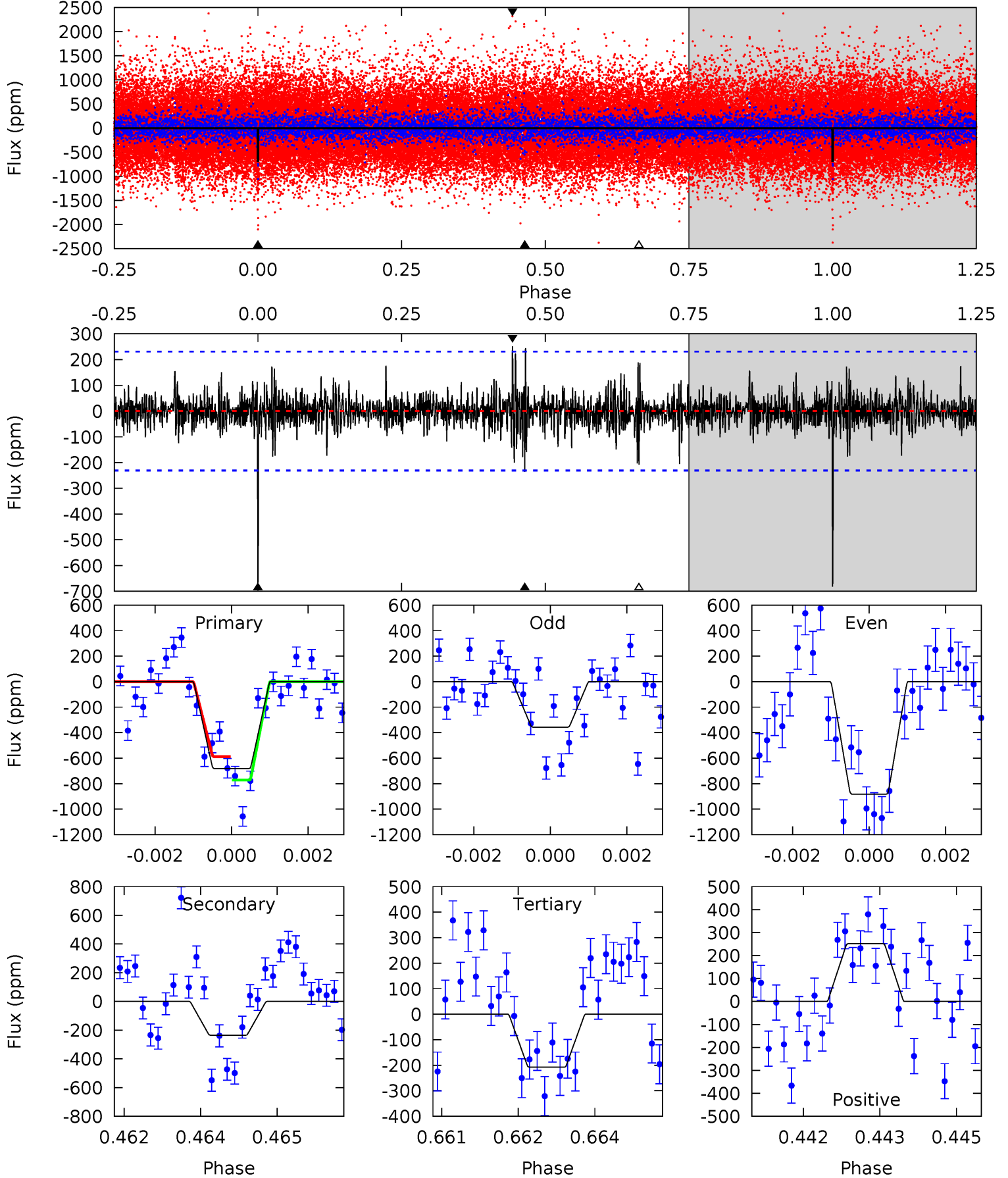
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	11.6	11.1	13.2	5.33	3.10	2.83	-0.01	-2.14	0.45	-1.68	1.29	1.07	0.53	0.22



Alt Model-Shift Uniqueness Test

008174292-02, P = 460.660988 Days, E = 173.232804 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.8	5.46	4.81	5.83	5.36	3.14	1.11	11.0	9.97	0.65	-0.37	6.07	1.21	0.27	2.12



Stellar Parameters For KIC 008174292

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5576^{+166}_{-166}	$4.556^{+0.033}_{-0.187}$	$0.020^{+0.250}_{-0.300}$	$0.852^{+0.228}_{-0.071}$	$0.953^{+0.091}_{-0.112}$	$2.170^{+0.386}_{-1.048}$
	+3%/-3%	+1%/-4%	+1250%/-1500%	+27%/-8%	+10%/-12%	+18%/-48%
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 008174292-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-508 ± 44	$2.16^{+1.07}_{-1.04}$	304^{+18}_{-13}	5625^{+2309}_{-829}	$76101^{+207876}_{-40961}$
Alt.	-236 ± 43	$2.66^{+0.99}_{-0.95}$	303^{+19}_{-13}	4389^{+865}_{-490}	24020^{+32525}_{-11755}

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

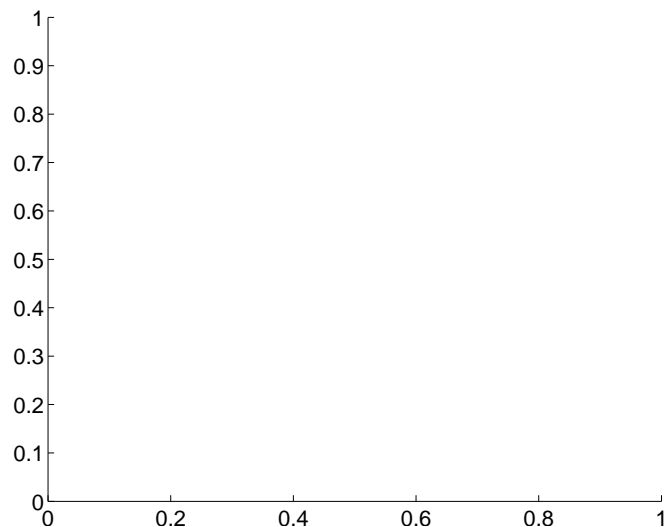
Supplemental centroid analysis for 008174292-02. Kepler magnitude: 15.56. Transit SNR 8.72

There are 0 quarters with good PRF difference image offsets

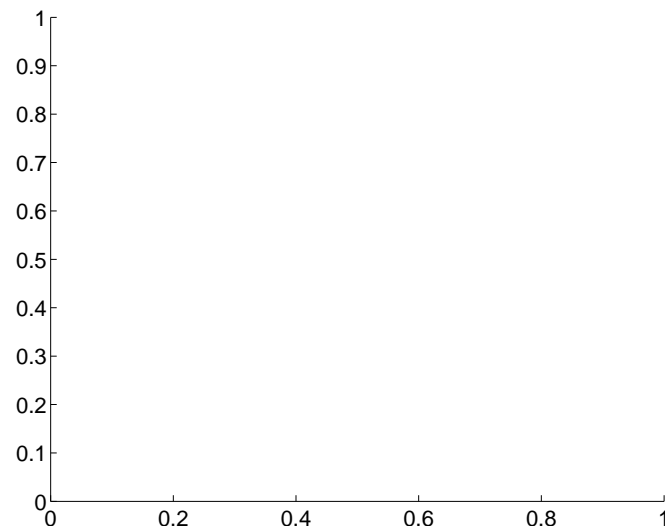
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	1.35 ± 2.10	0.64	-0.97 ± 1.96	-0.93 ± 2.24

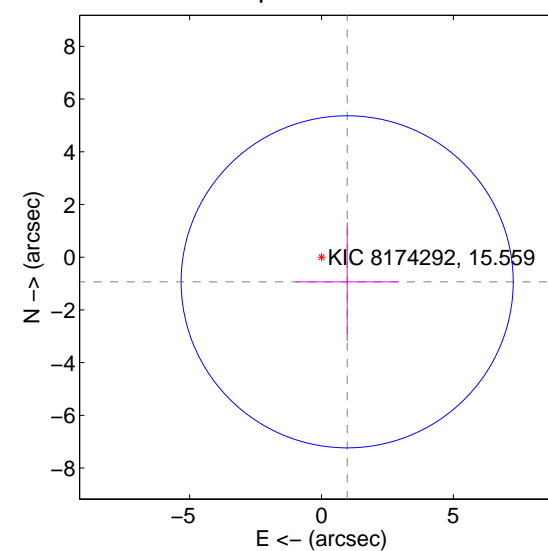
There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC

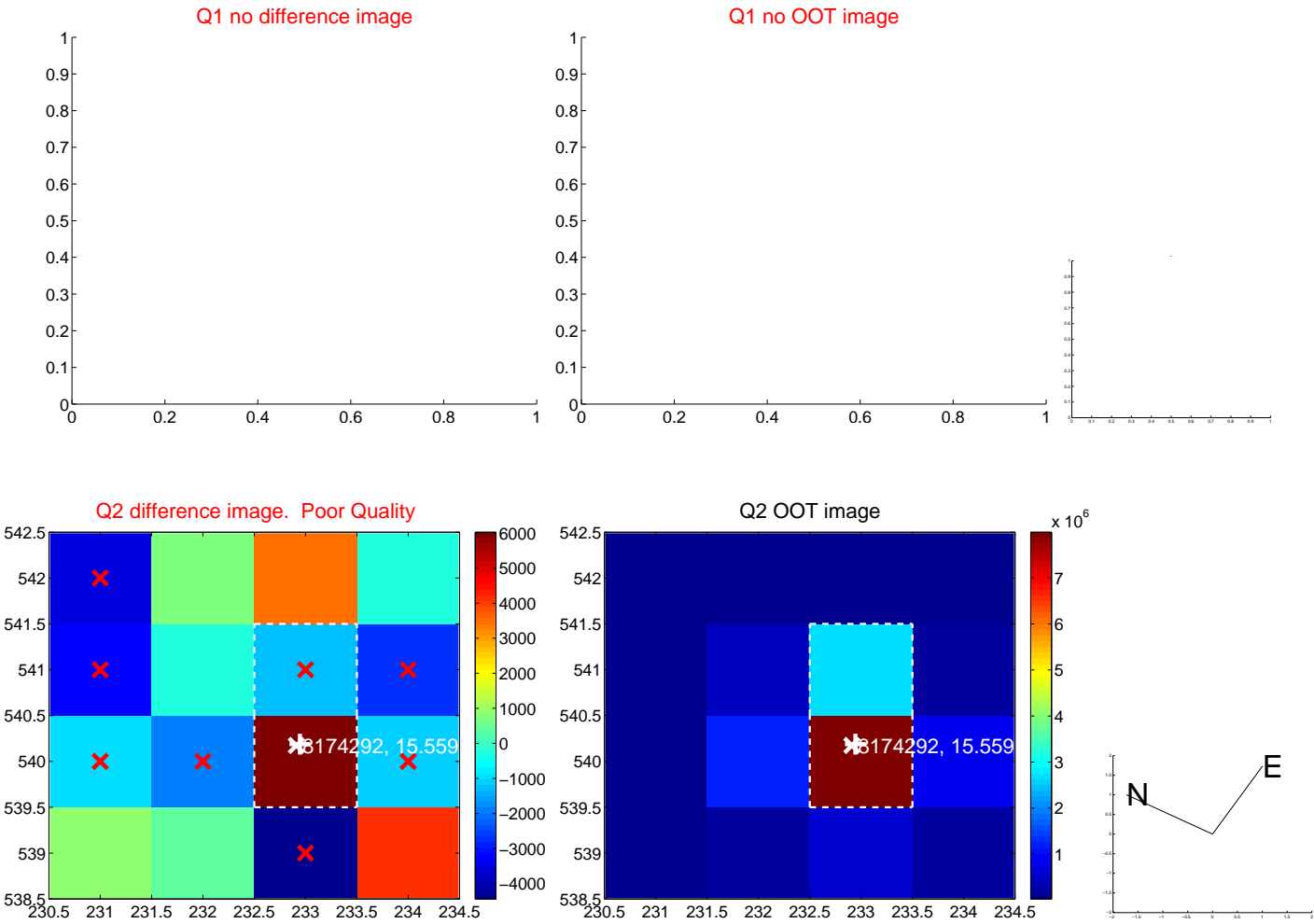


offset from photometric centroids



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.

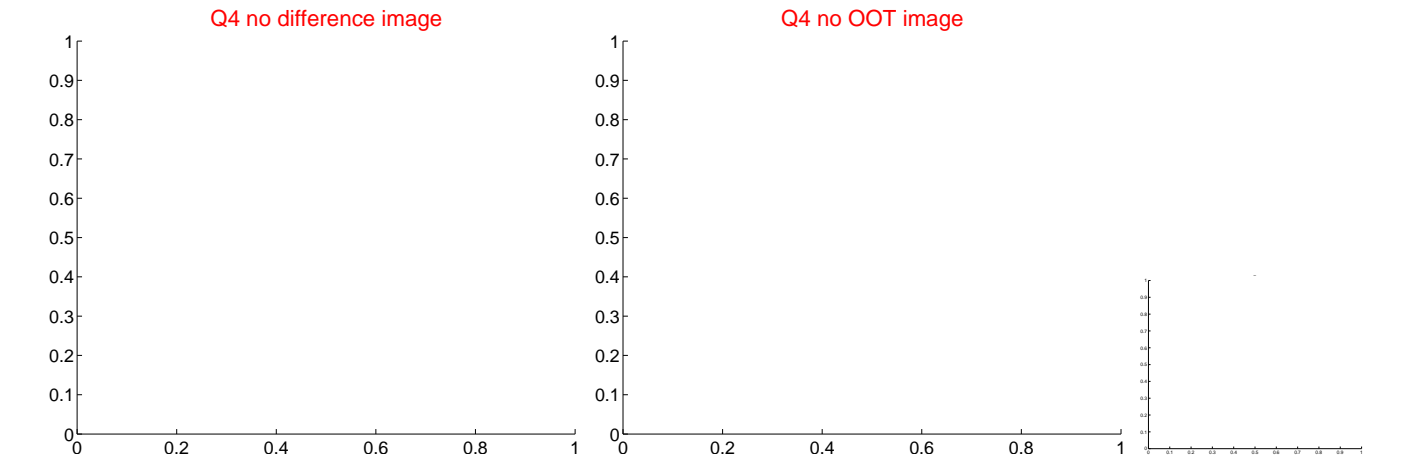
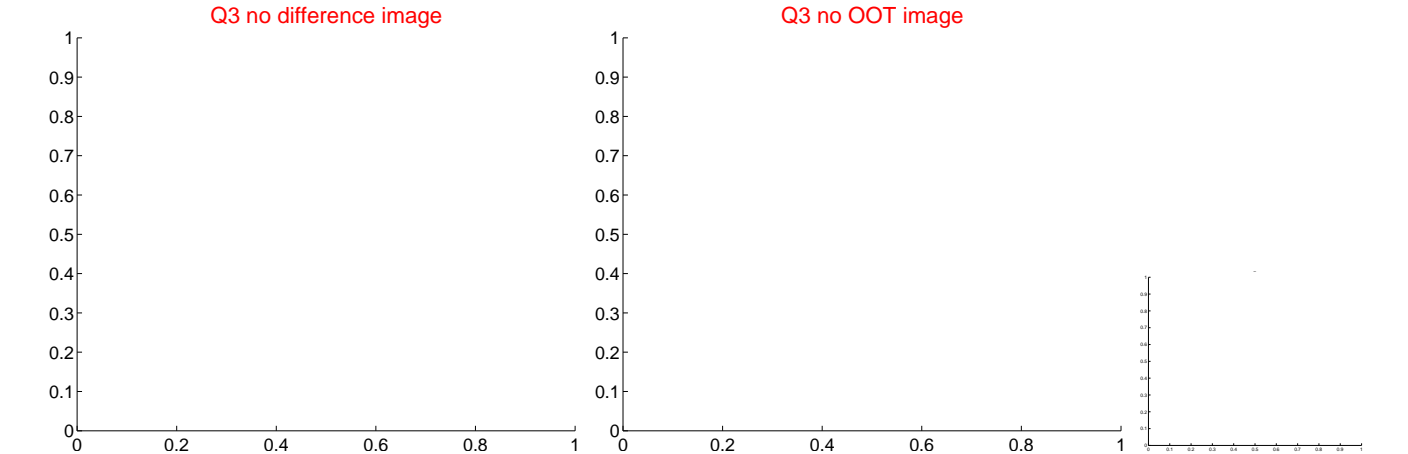


Q2 difference image. Poor Quality

Q2 OOT image

N

E



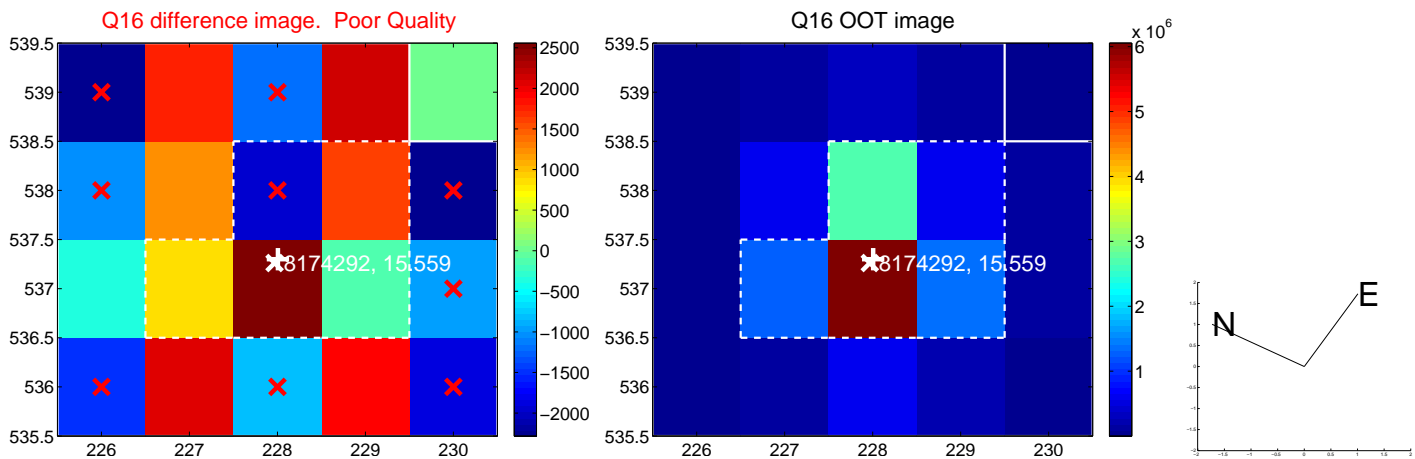
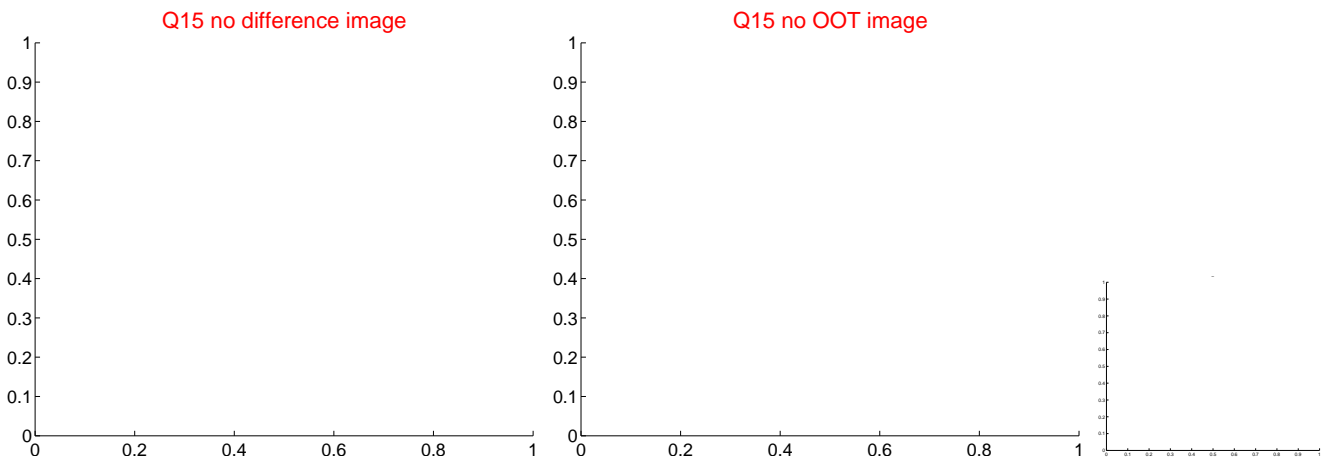
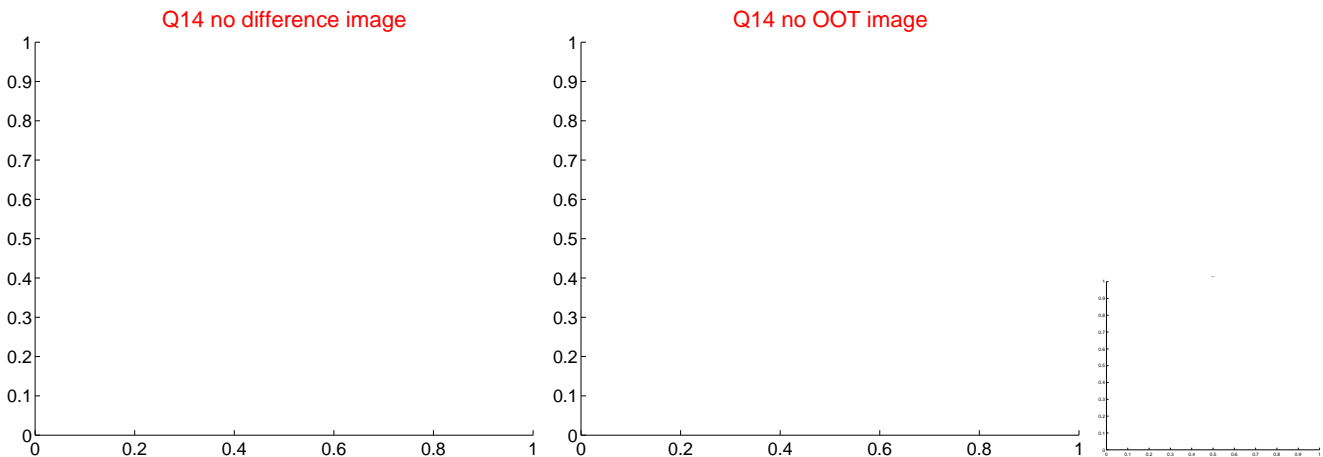
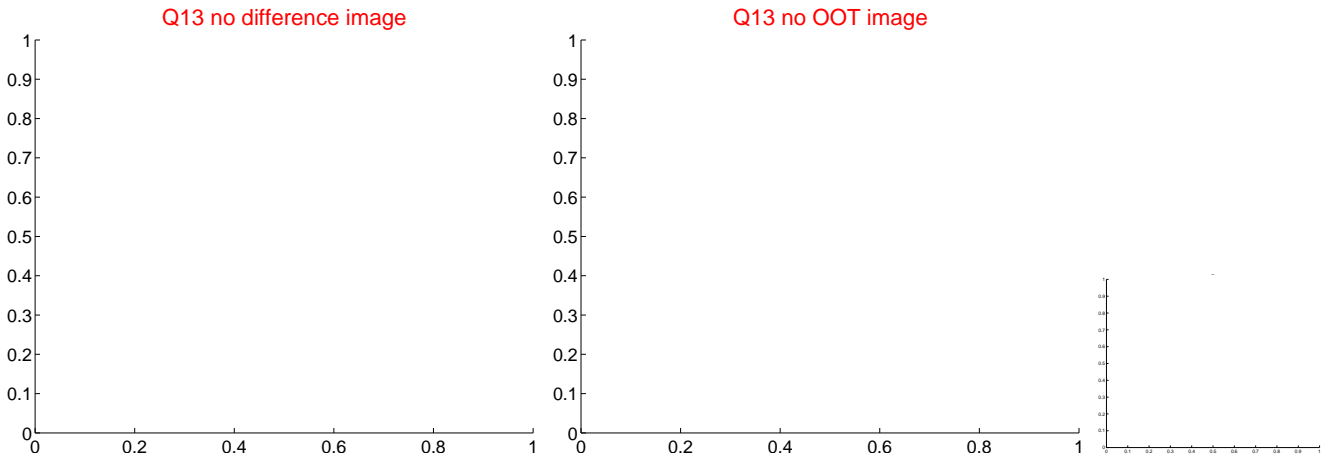
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



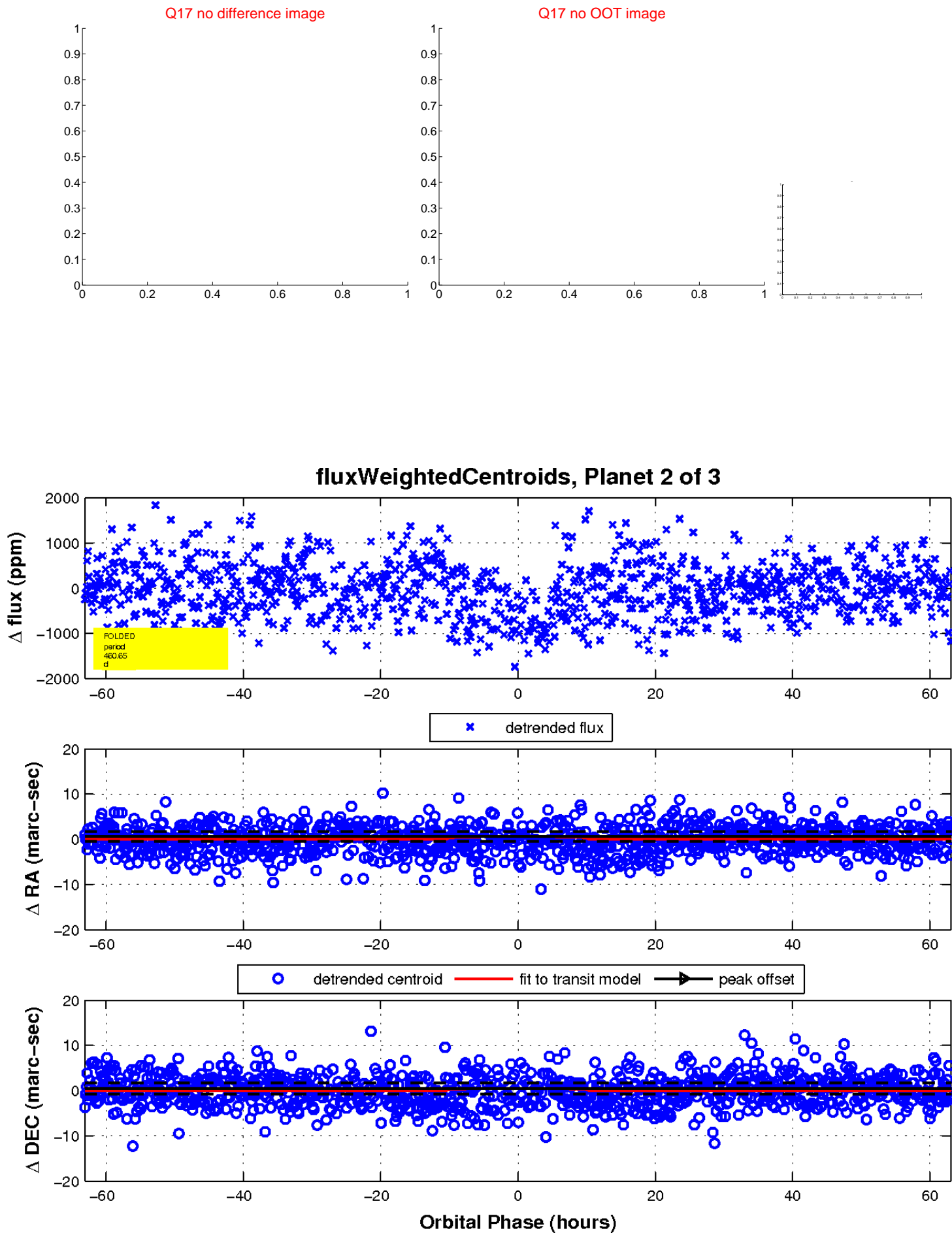
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

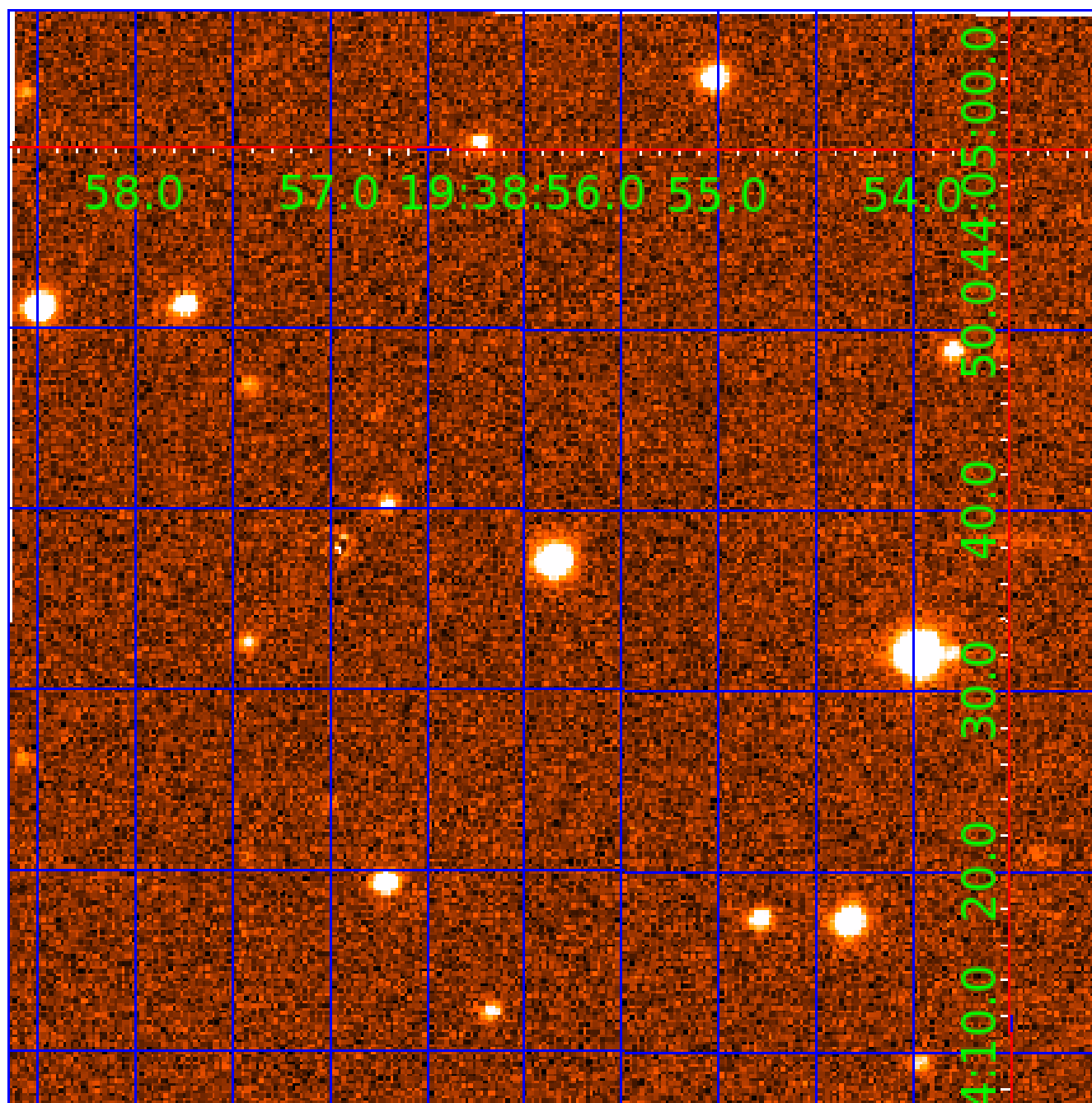


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008174292

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})
008174292-02	OBS	No	460.645025	173.256031	549.1	21.041	9.1	8.7	0.85	5576	2.05	0.48
008174292-03	OBS	No	368.712648	234.324095	1083.3	21.290	7.8	8.3	0.85	5576	5.49	0.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008174292-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008174292-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—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.

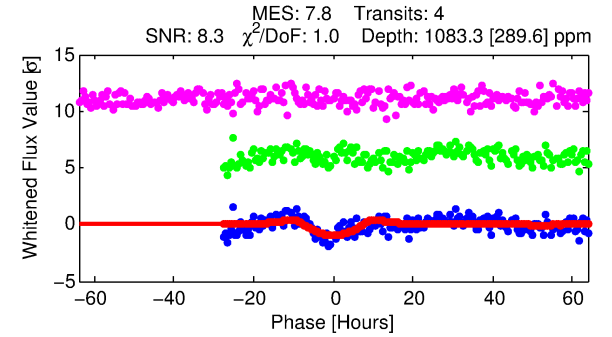
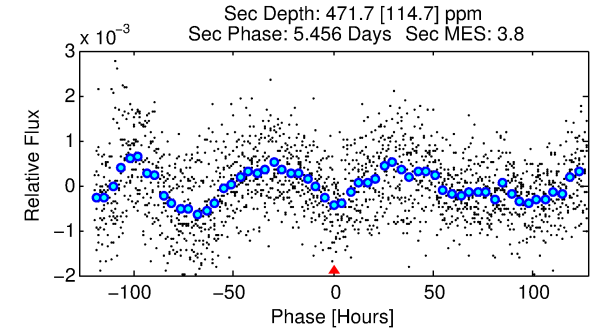
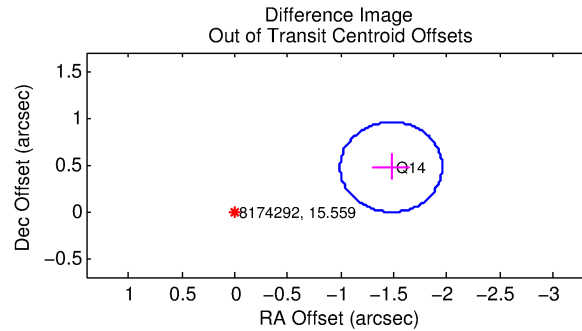
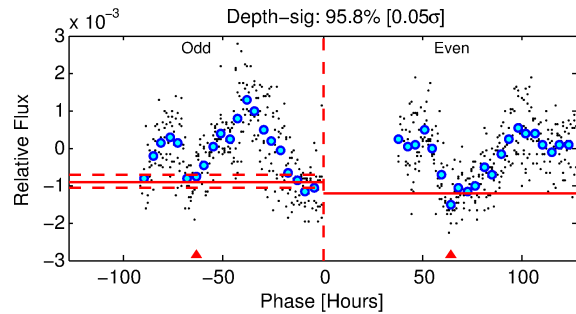
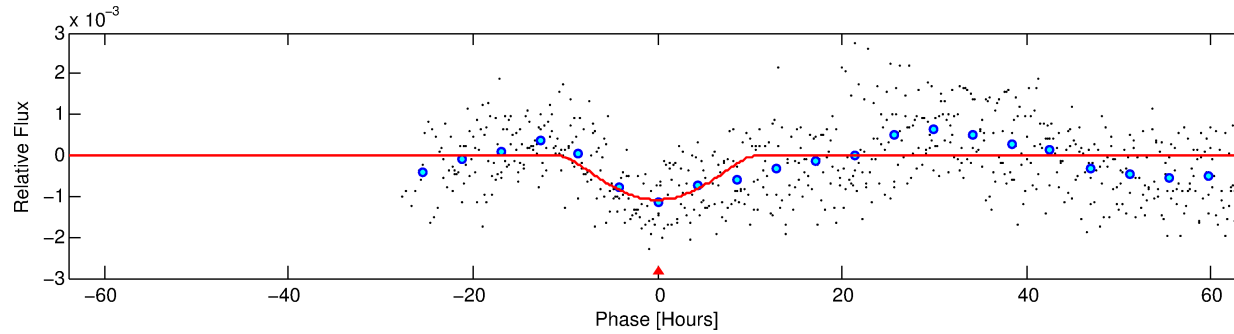
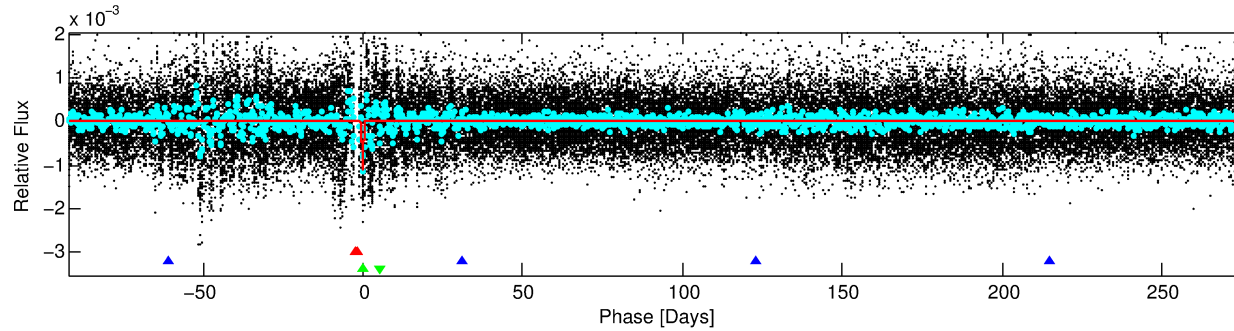
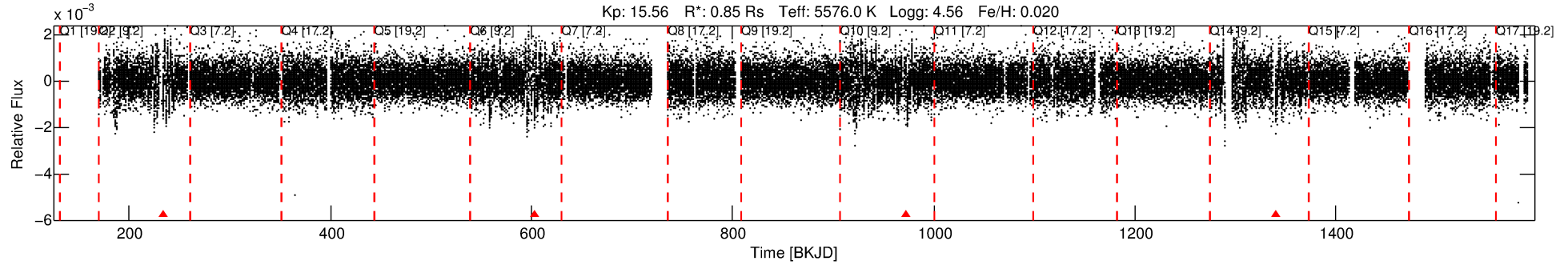
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008174292-03

No Significant Match Found

DV One-Page Summary

KIC: 8174292 Candidate: 3 of 3 Period: 368.713 d



DV Fit Results:

Period = 368.71265 [0.02013] d
Epoch = 234.3241 [0.0381] BKJD
Rp/R* = 0.0590 [0.1636]
a/R* = 46.32 [29.80]
b = 1.00 [0.24]
Seff = 0.64 [0.23]
Teq = 228 [20] K
Rp = 5.49 [15.28] Re
a = 0.9903 [0.2268] AU
Ag = 8450.01 [46959.63] [0.18 σ]
Teffp = 3382 [4691] K [0.67 σ]

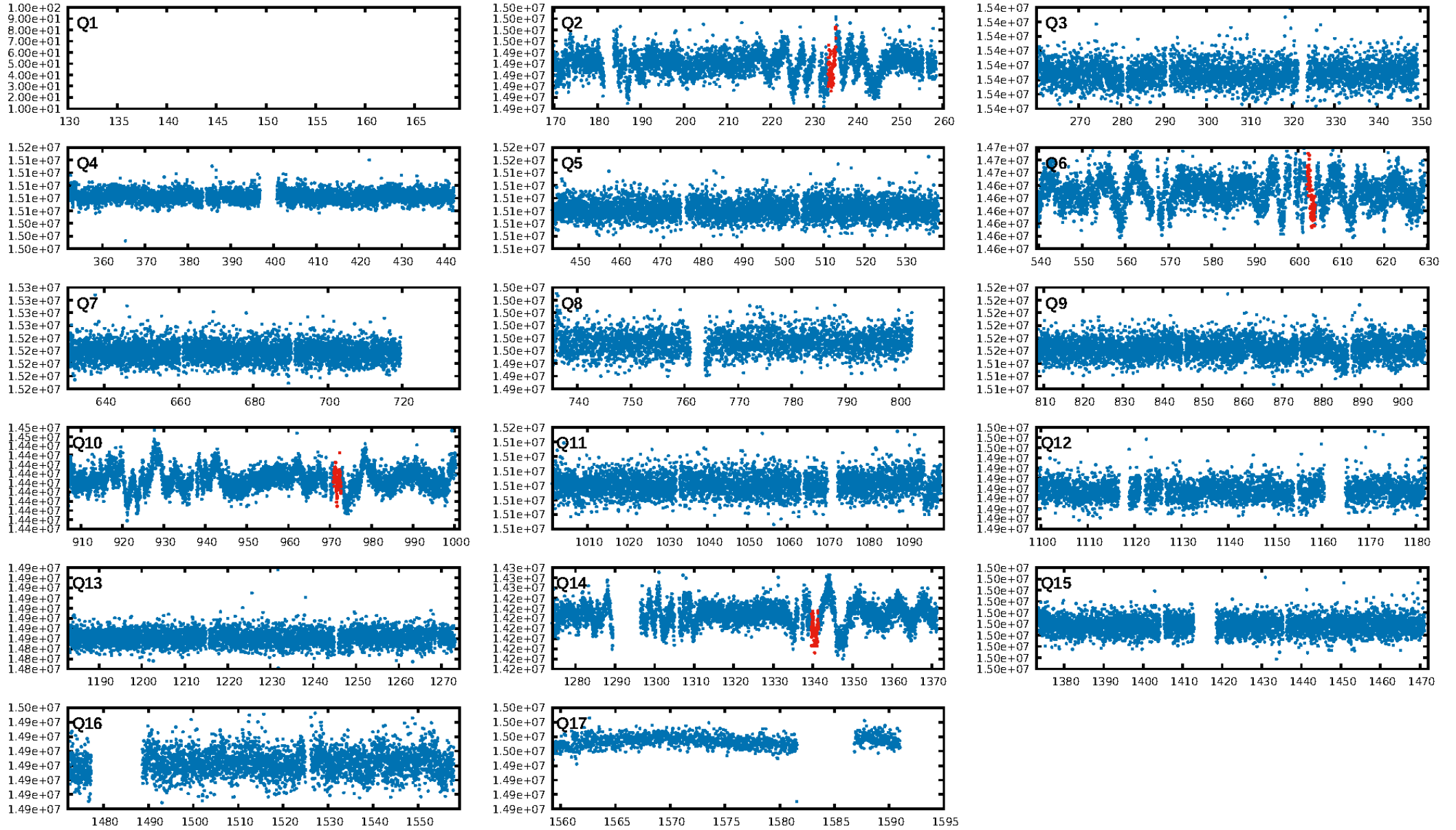
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 6.1% [0.08 σ]
ModelChiSquare2-sig: 57.0%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 4.16e-10
RollingBand-fgt: 0.00 [0/4]
GhostDiagnostic-chr: 0.7984
Centroid-sig: 2.2%
Centroid-so: 6.159 arcsec [2.10 σ]
OotOffset-rm: 1.552 arcsec [9.67 σ]
KicOffset-rm: 1.363 arcsec [8.60 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

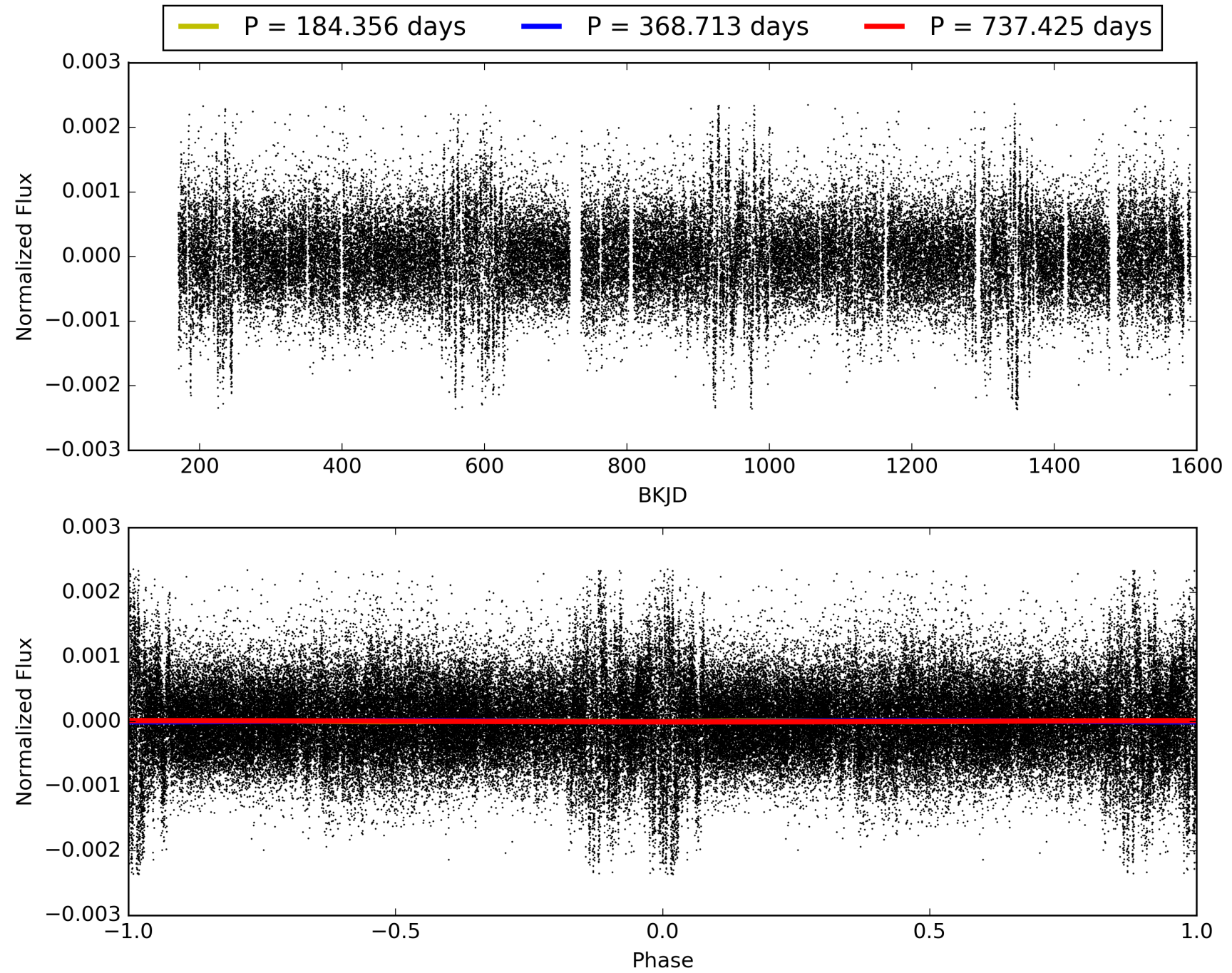
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:55:47 Z

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

TCE 008174292-03, PDC Light Curves

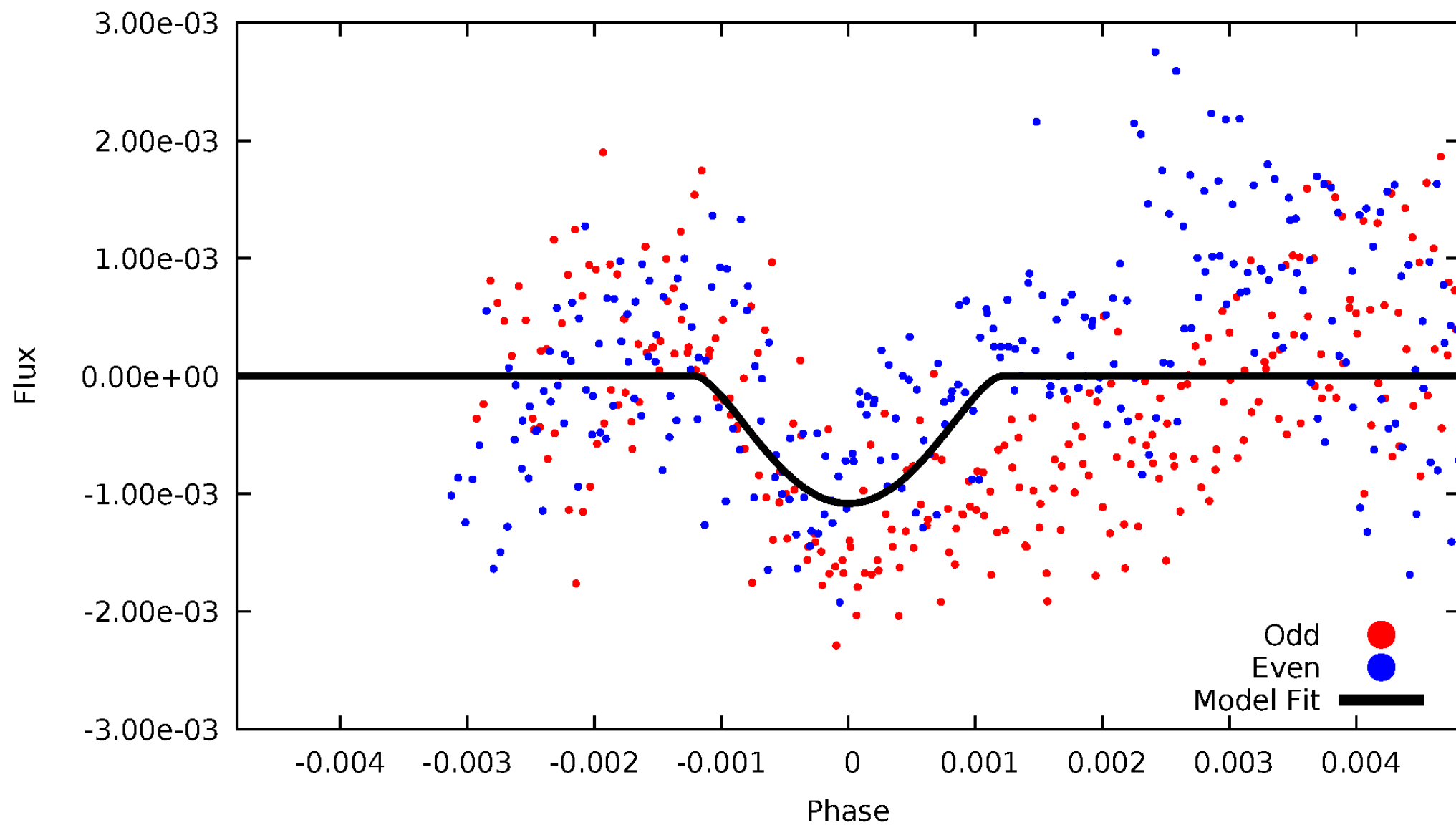


TCE 008174292-03



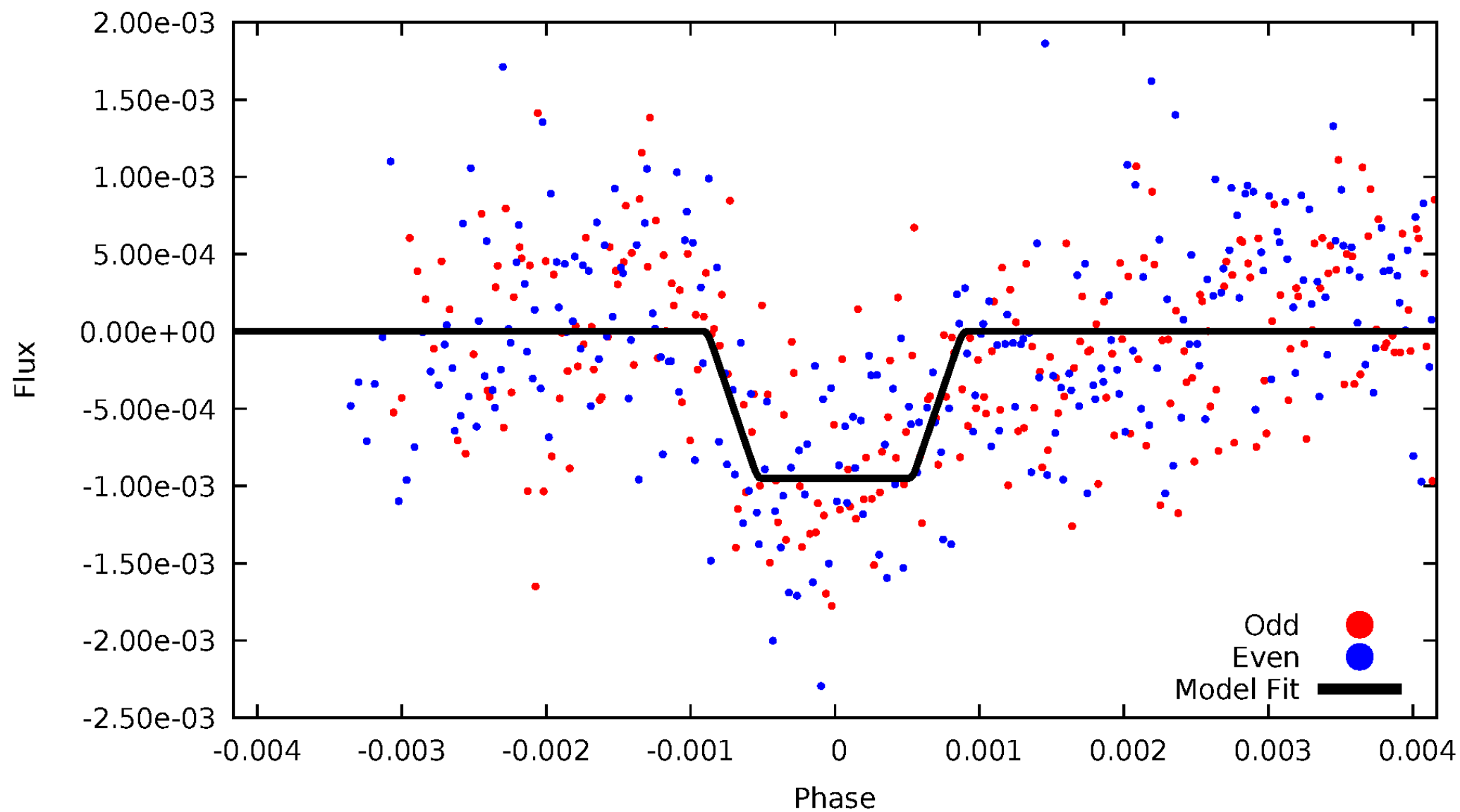
DV Odd/Even

TCE 008174292-03



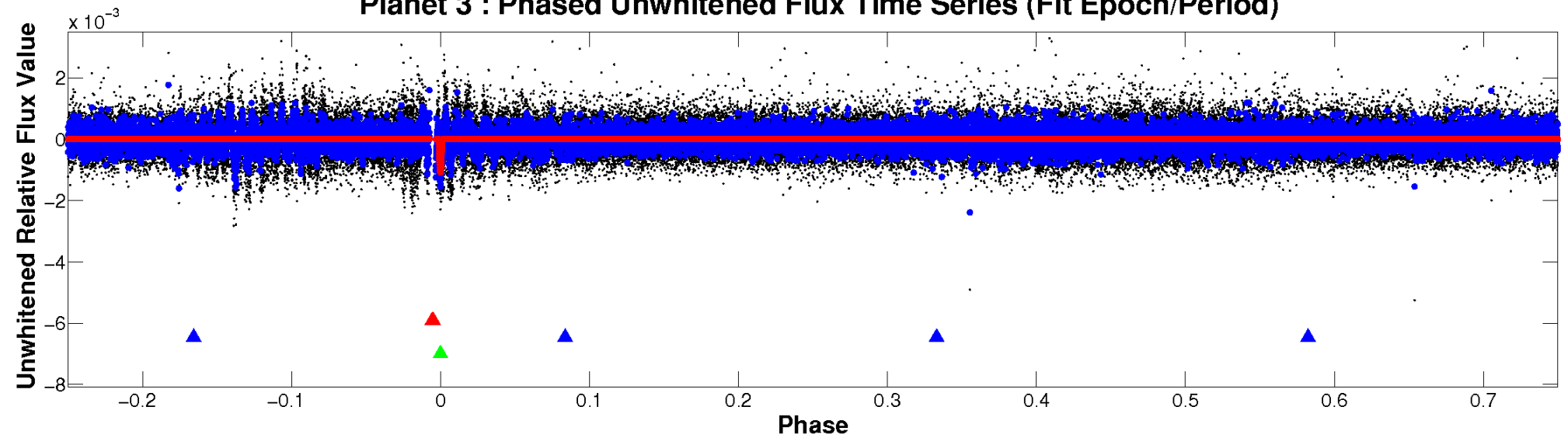
ALT Odd/Even

TCE 008174292-03

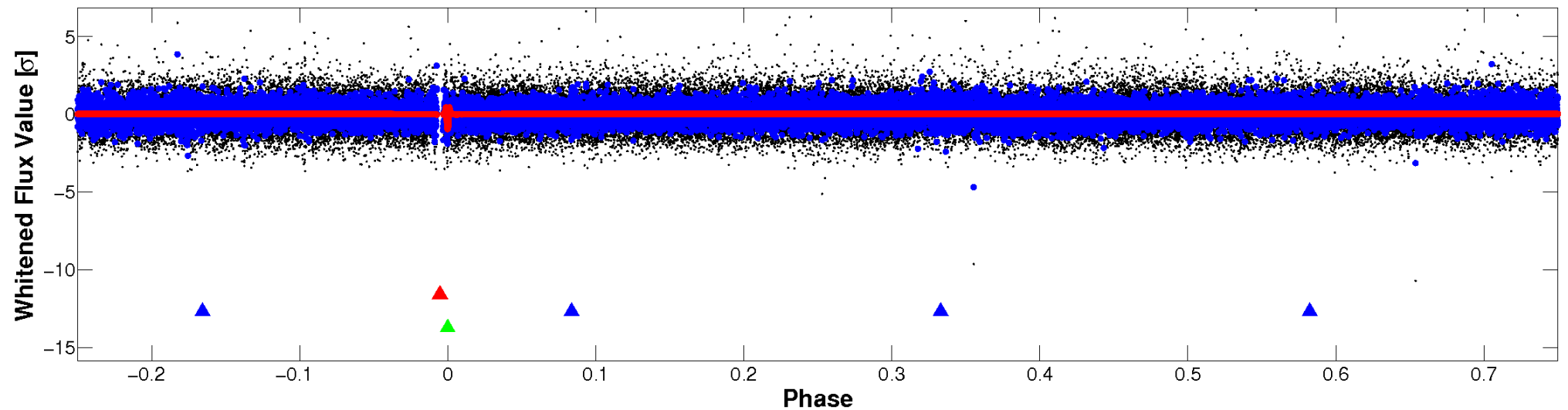


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



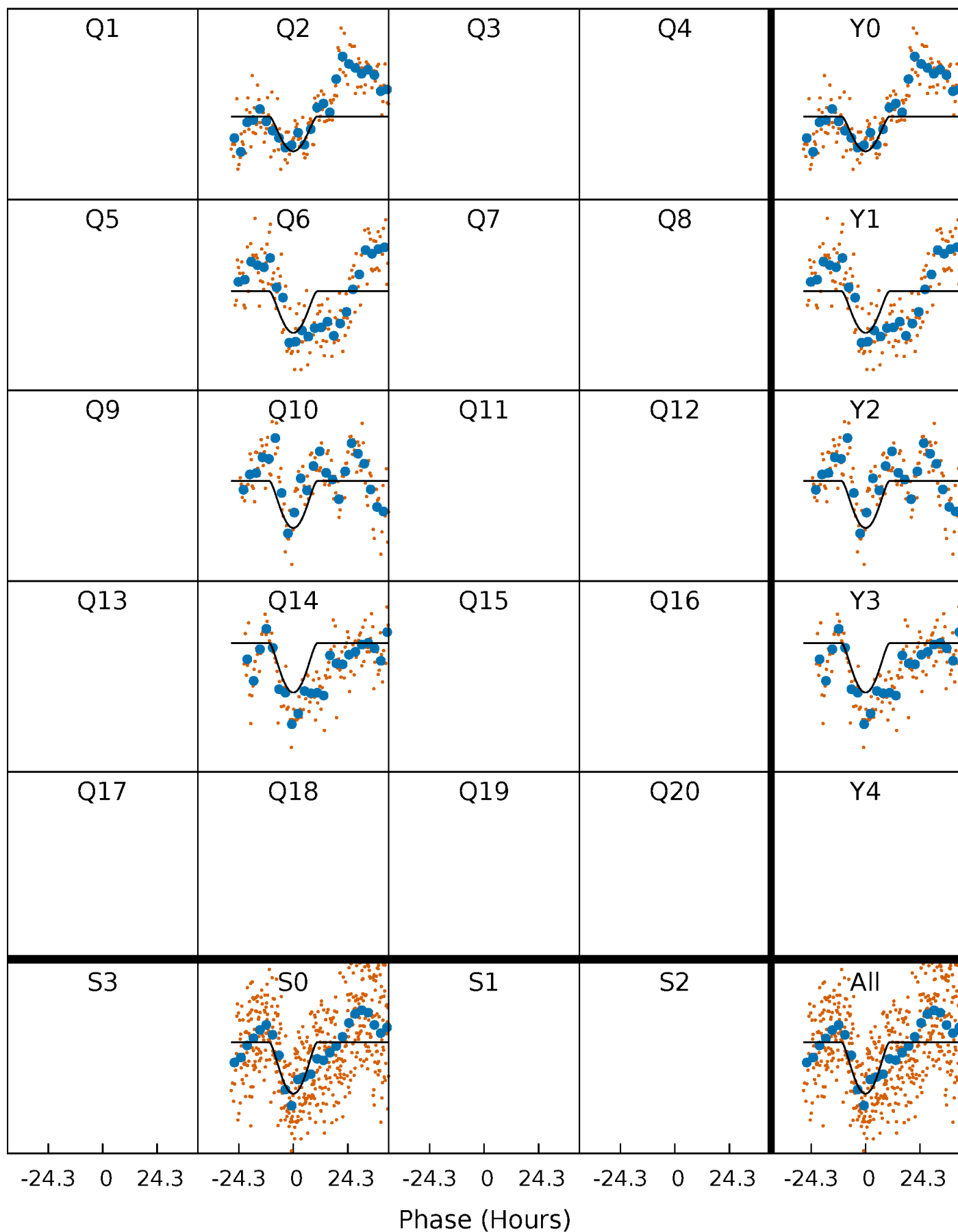
PDC Quarter-Phased Transit Curves

TCE 008174292-03 $P=368.712648$ Days $T_0=234.324095$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008174292-03 $P=368.712648$ Days $T_0=234.324095$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

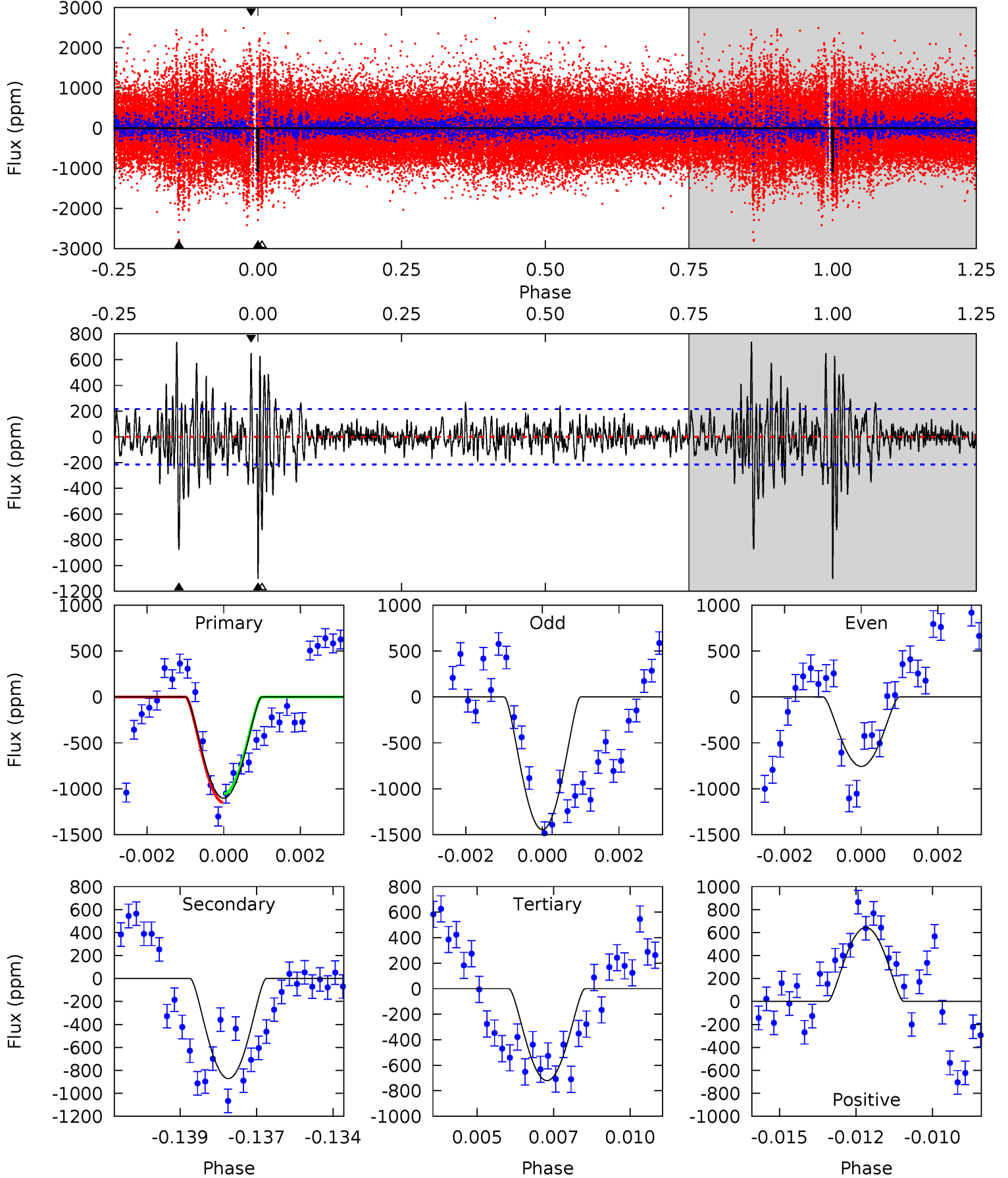
TCE 008174292-03 $P=368.675912$ Days $T_0=234.407703$ (BKJD)



DV Model-Shift Uniqueness Test

008174292-03, P = 368.712648 Days, E = 234.324095 Days

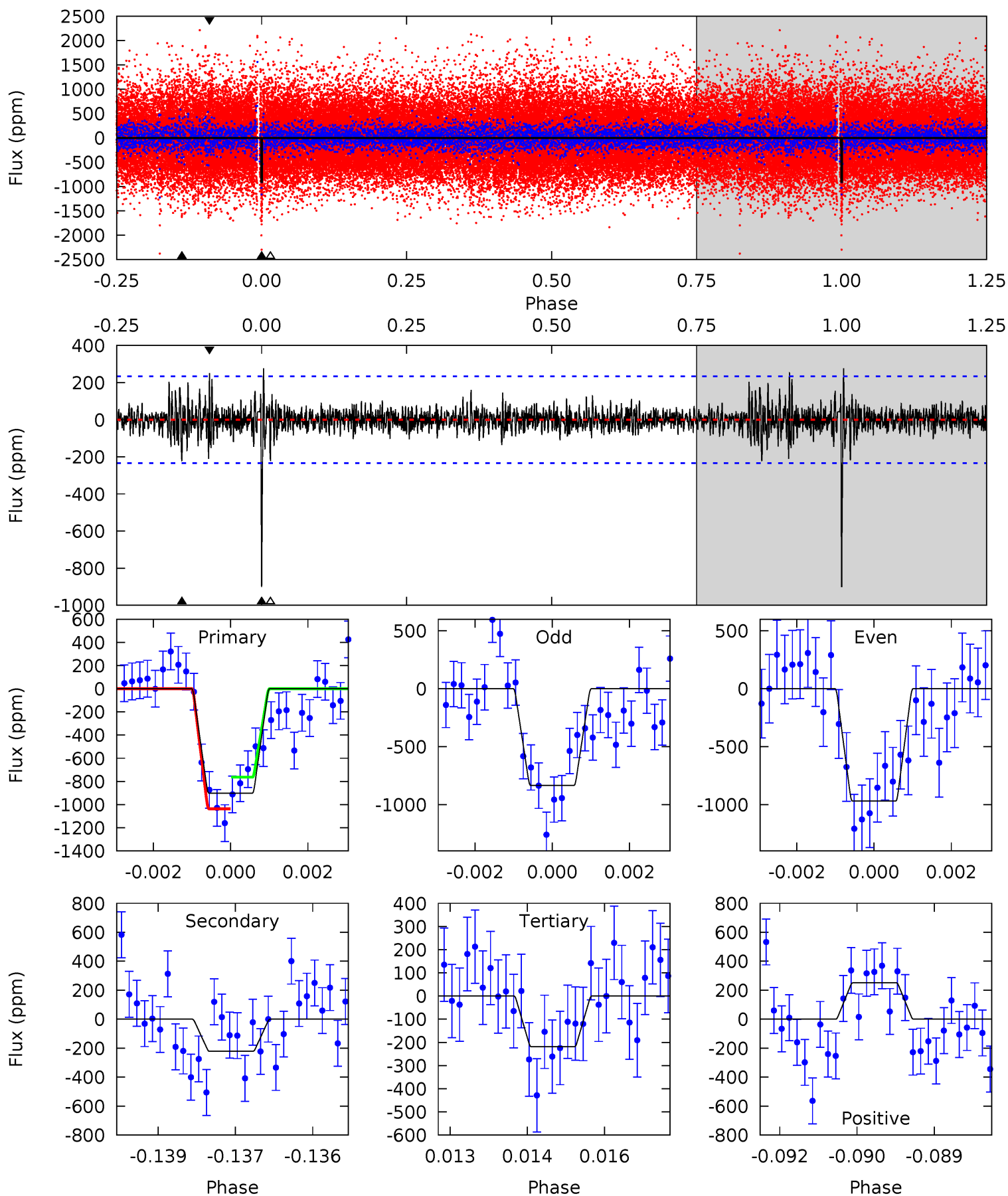
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.0	21.4	17.7	15.8	5.29	3.03	3.14	9.38	11.3	3.72	5.59	8.44	1.03	0.40	1.14



Alt Model-Shift Uniqueness Test

008174292-03, P = 368.675912 Days, E = 234.407703 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.6	5.07	5.00	5.75	5.34	3.12	1.07	15.6	14.9	0.07	-0.68	1.54	0.97	0.23	3.12



Stellar Parameters For KIC 008174292

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5576^{+166}_{-166}	$4.556^{+0.033}_{-0.187}$	$0.020^{+0.250}_{-0.300}$	$0.852^{+0.228}_{-0.071}$	$0.953^{+0.091}_{-0.112}$	$2.170^{+0.386}_{-1.048}$
	+3%/-3%	+1%/-4%	+1250%/-1500%	+27%/-8%	+10%/-12%	+18%/-48%
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 008174292-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-872 ± 41	$13.80^{+12.52}_{-9.13}$	327^{+22}_{-15}	3182^{+1462}_{-546}	2485^{+18969}_{-1831}
Alt.	-222 ± 44	$11.97^{+12.32}_{-8.79}$	325^{+22}_{-14}	2700^{+1412}_{-437}	801^{+11454}_{-610}

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

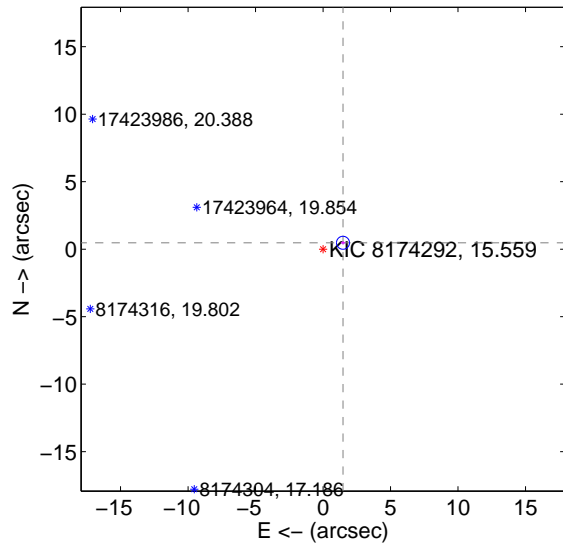
Supplemental centroid analysis for 008174292-03. Kepler magnitude: 15.56. Transit SNR 8.27

There are 1 quarters with good PRF difference image offsets

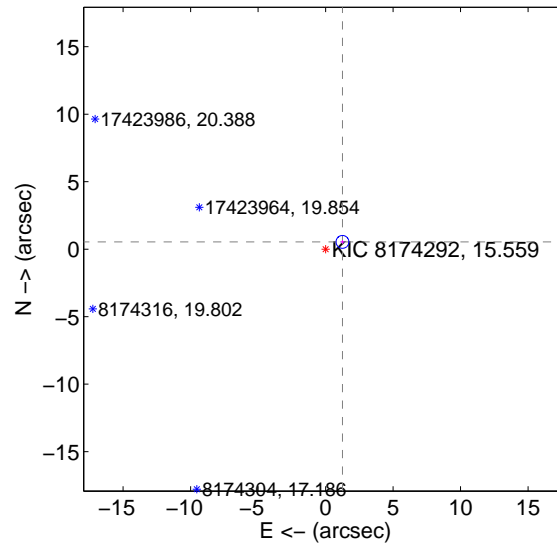
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.552 ± 0.160	9.67	-1.478 ± 0.163	0.474 ± 0.128
PRF-fit source offset from KIC position	1.363 ± 0.158	8.60	-1.251 ± 0.163	0.540 ± 0.128
photometric centroid source offset	6.16 ± 2.93	2.10	6.09 ± 2.94	-0.90 ± 2.30

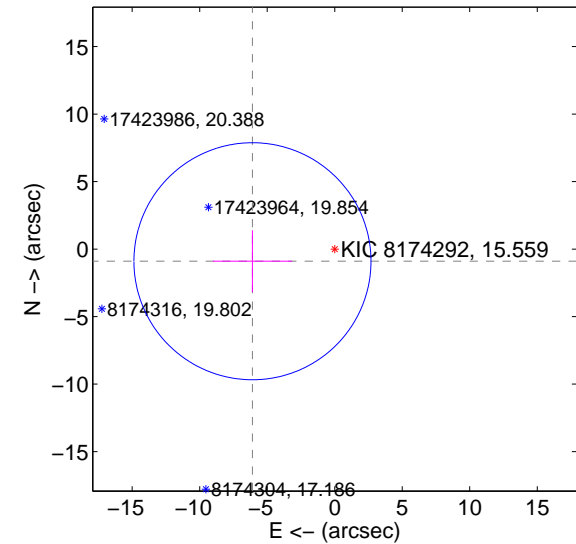
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

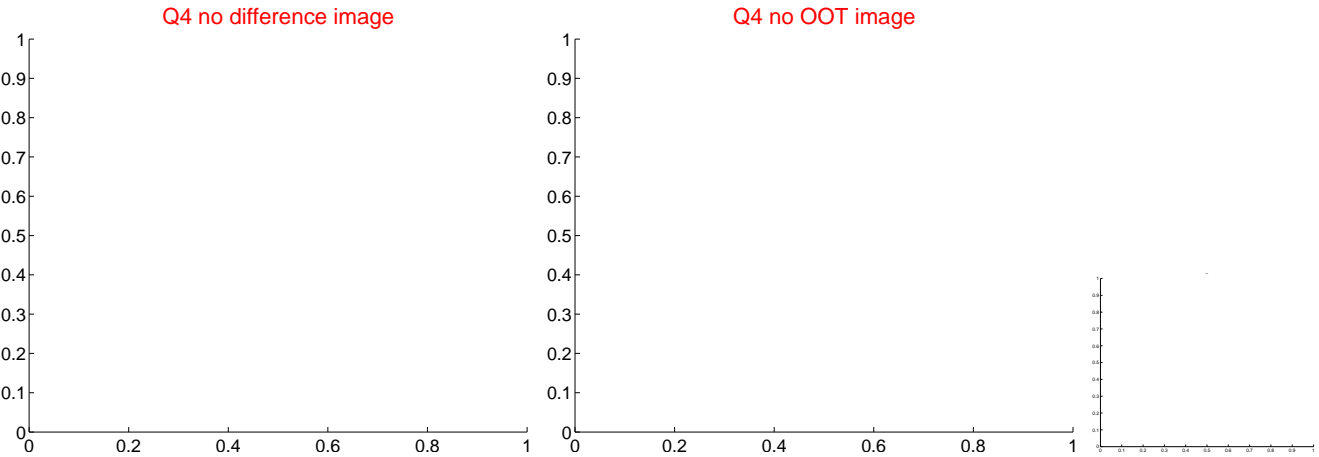
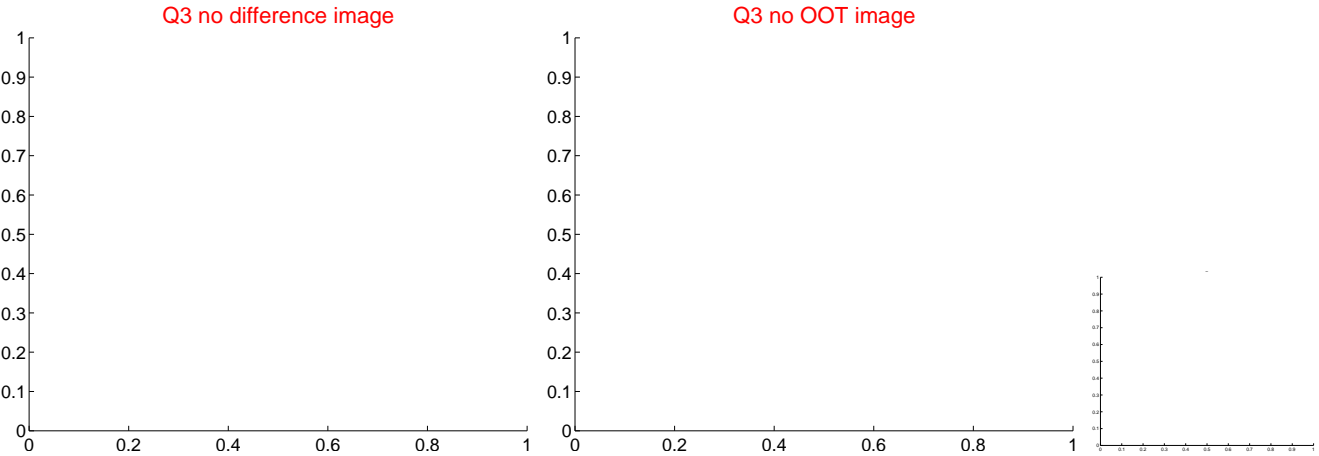
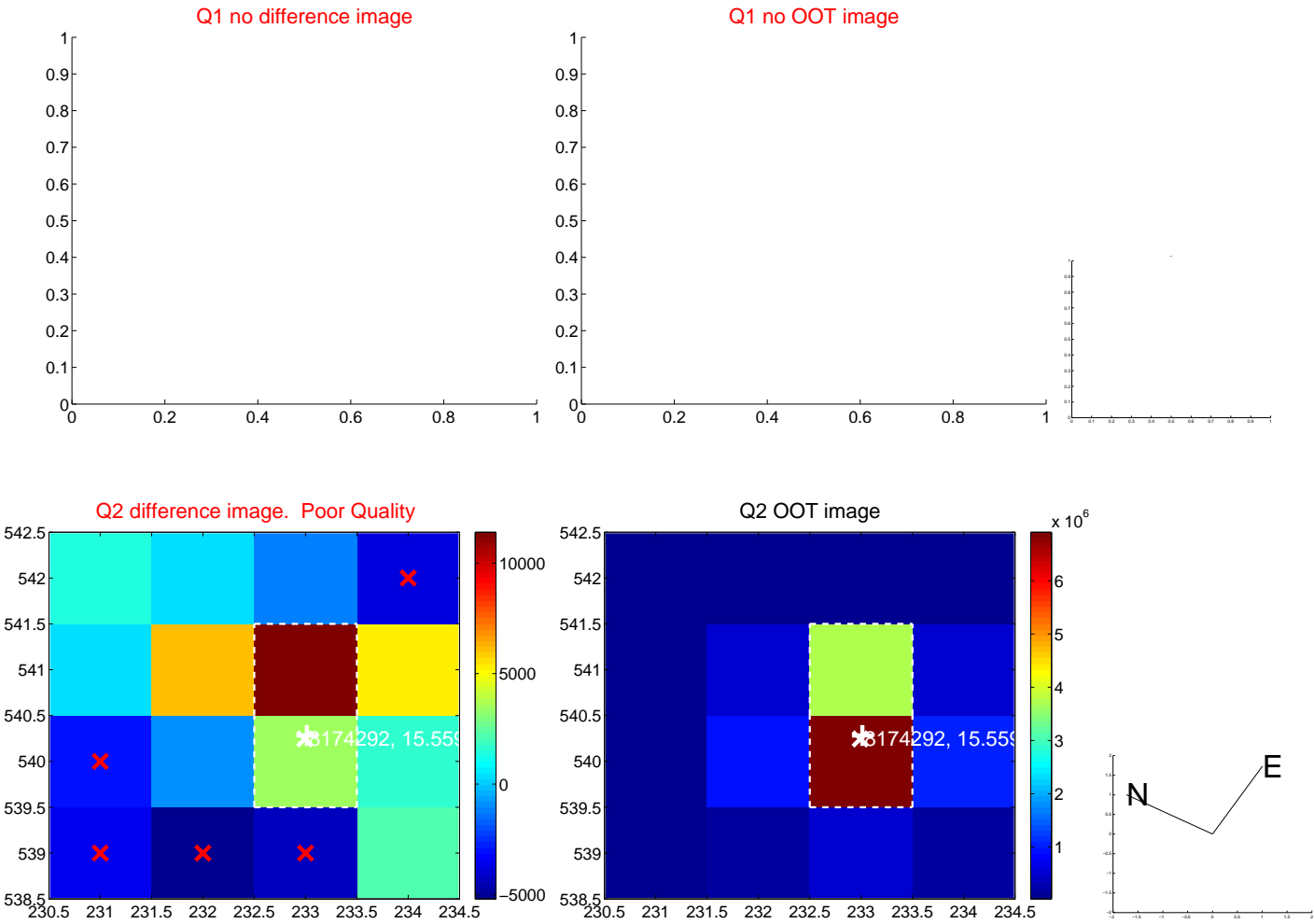


offset from photometric centroids

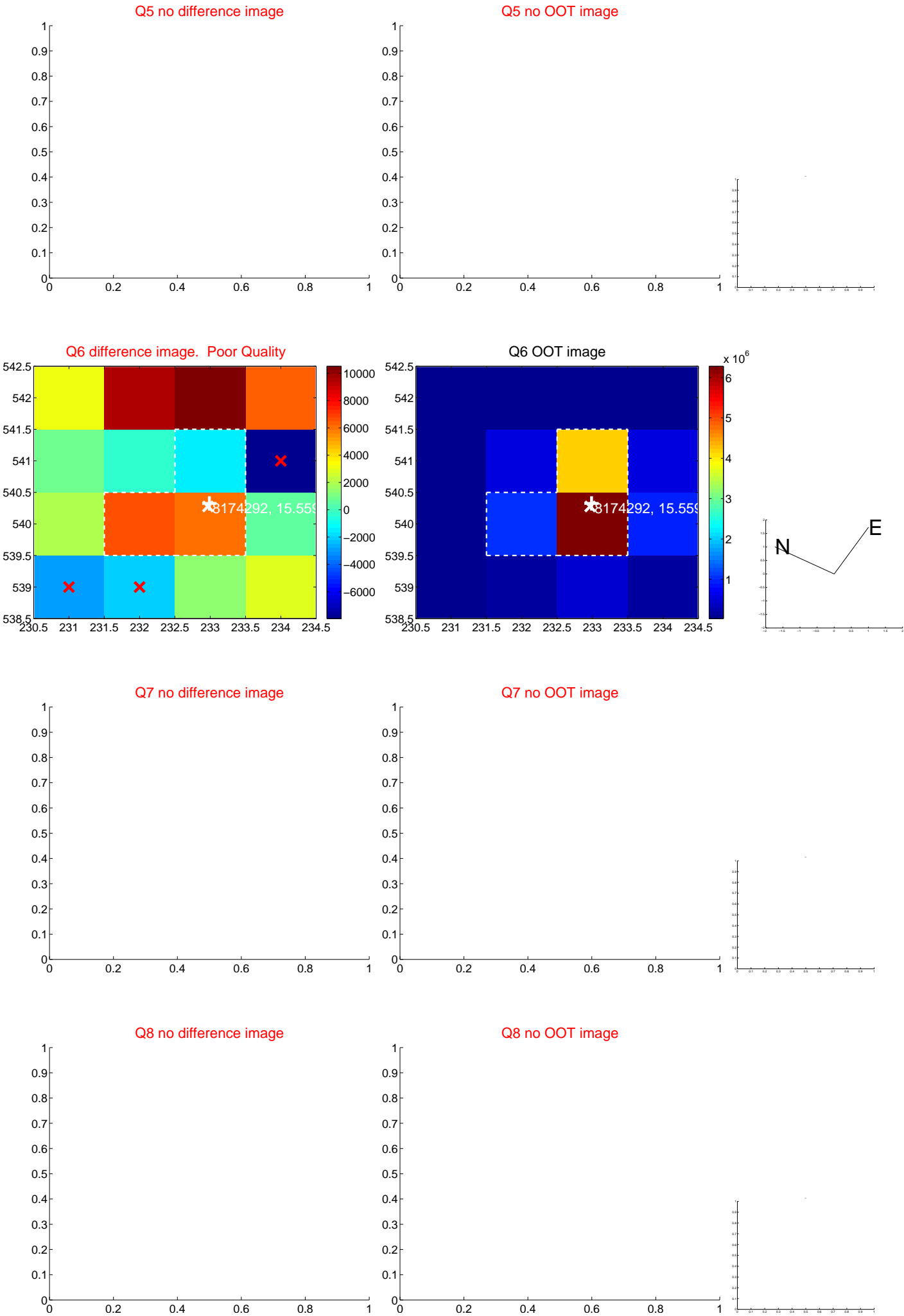


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

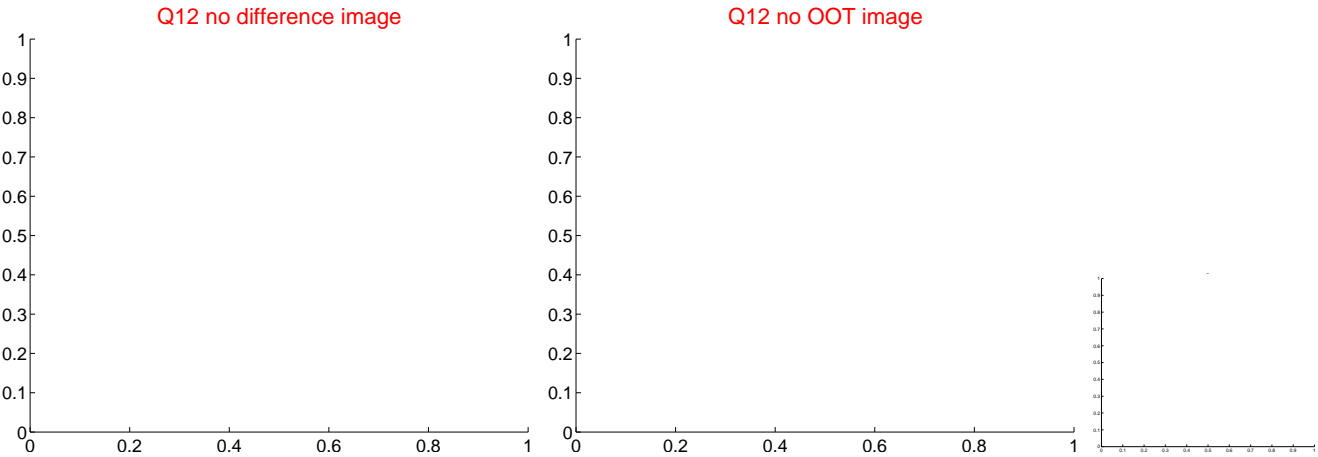
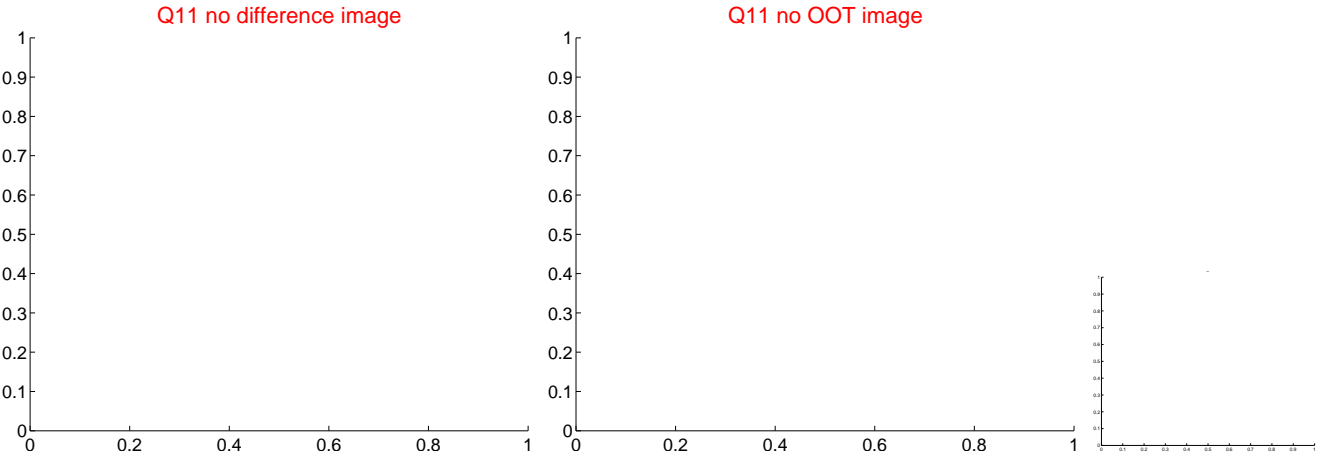
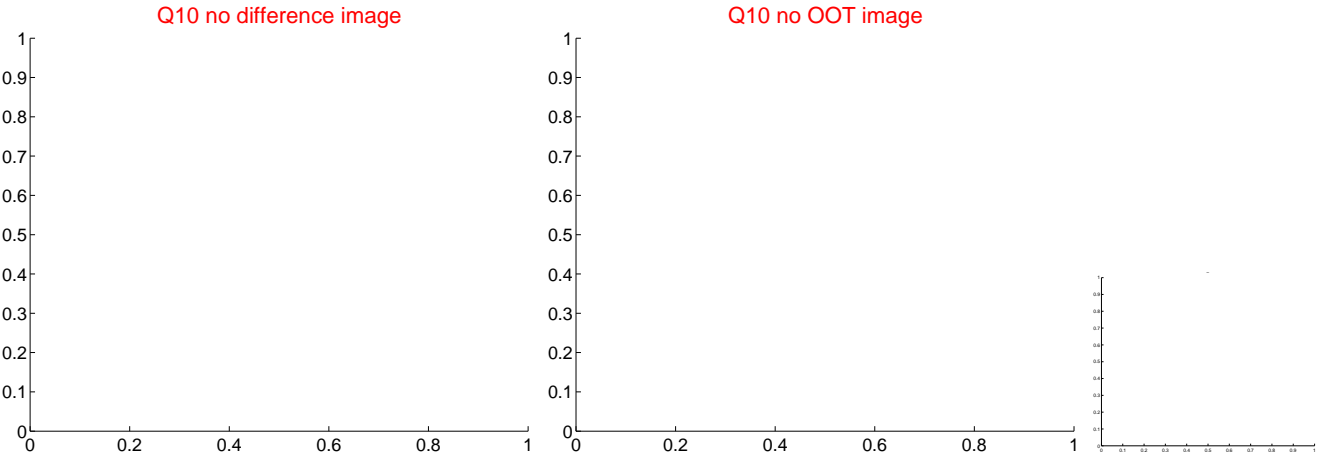
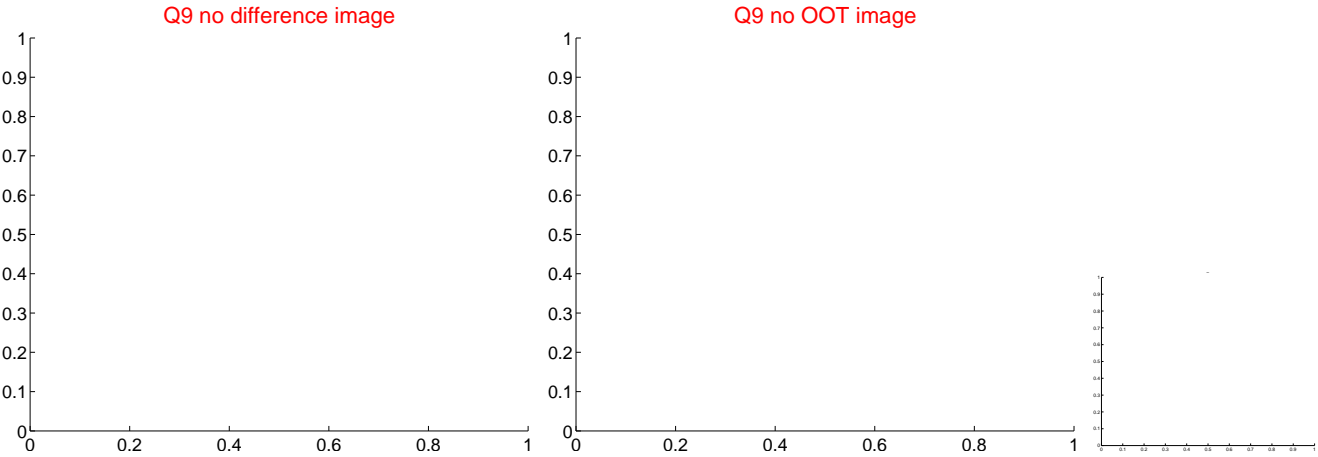
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



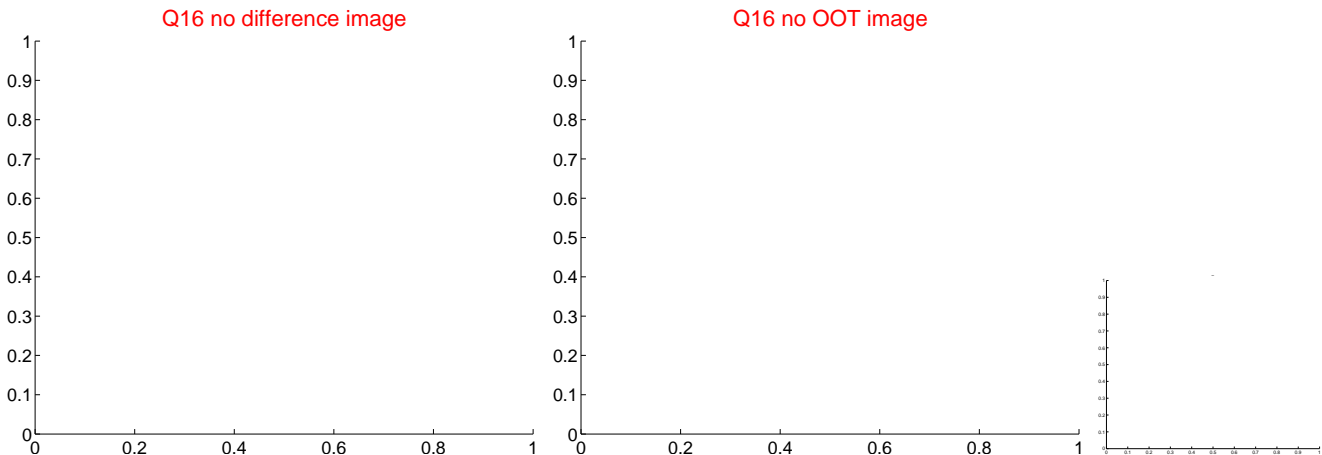
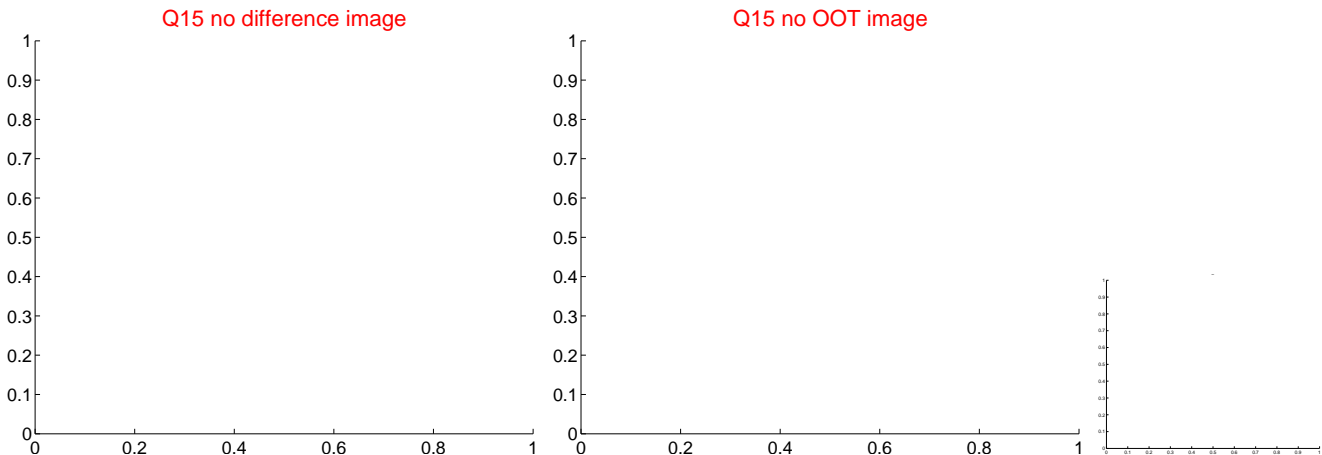
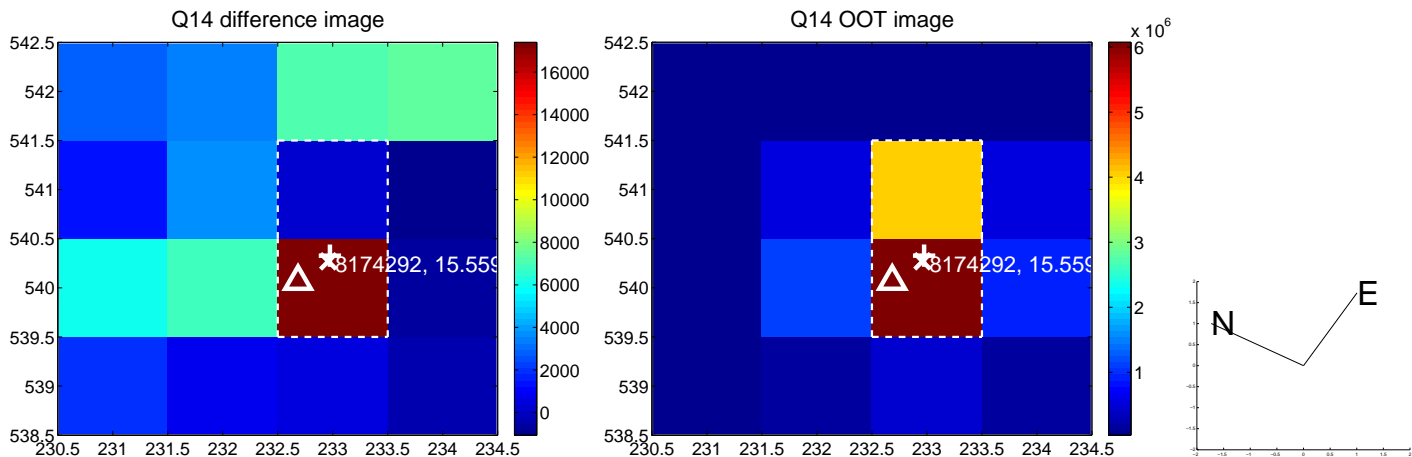
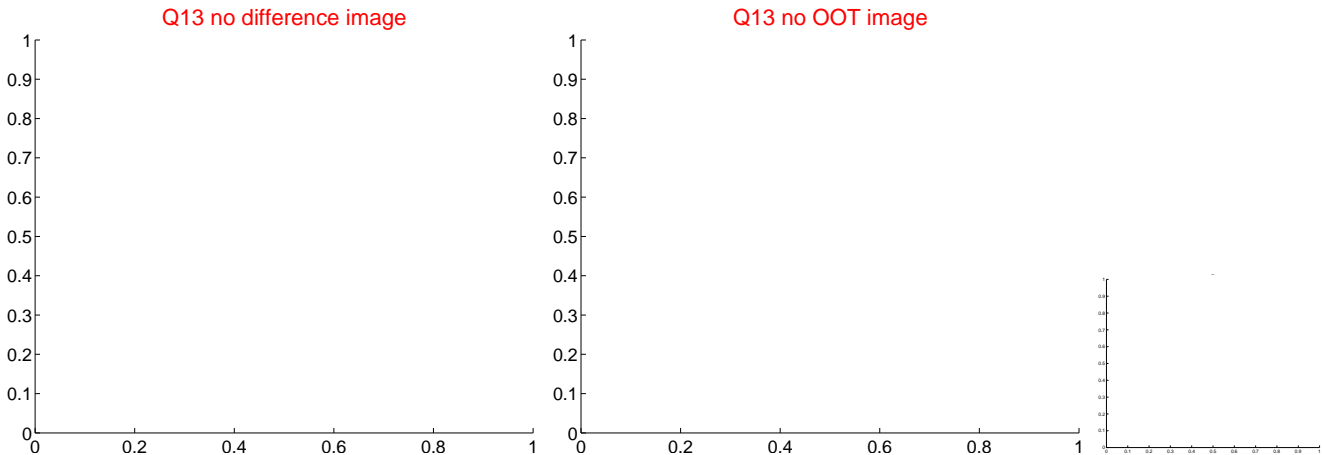
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



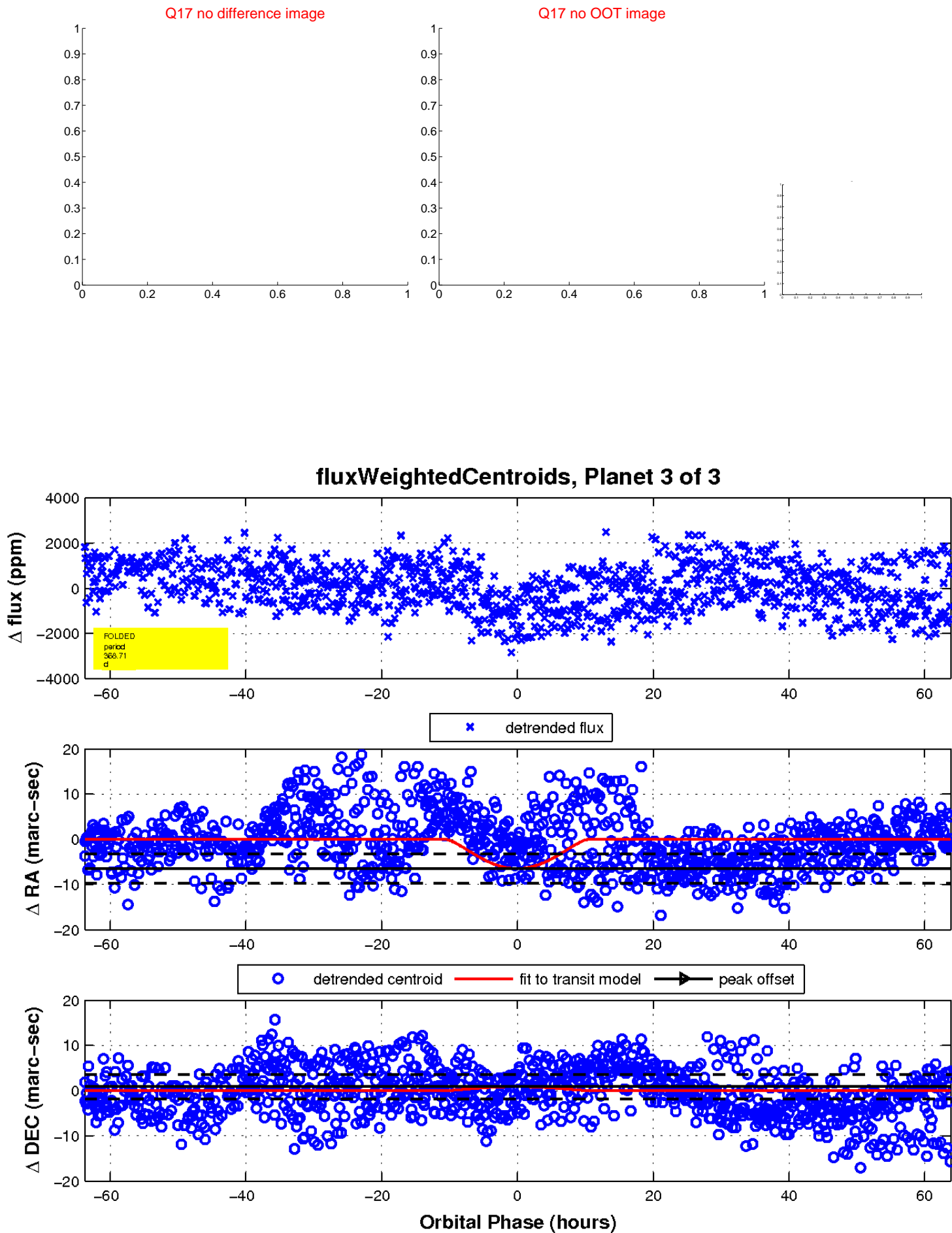
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

