

KIC 007908633

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})
007908633-01	OBS	No	0.522959	131.516171	13.8	2.088	9.7	10.5	3.29	8057	1.43	156147.37
007908633-02	OBS	No	148.287317	279.495204	132.9	6.787	9.8	3.7	3.29	8057	4.44	83.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007908633-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007908633-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

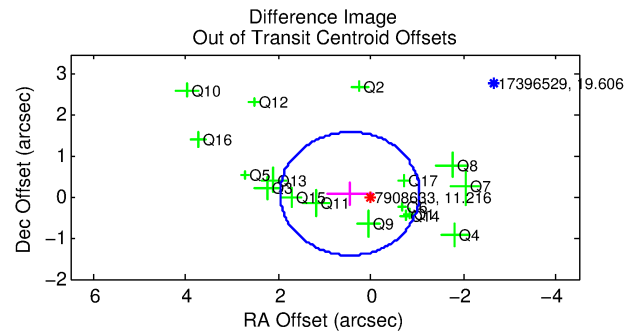
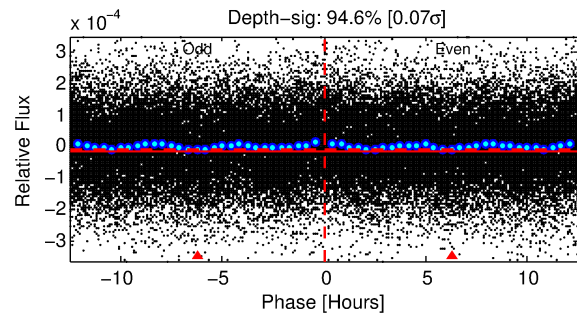
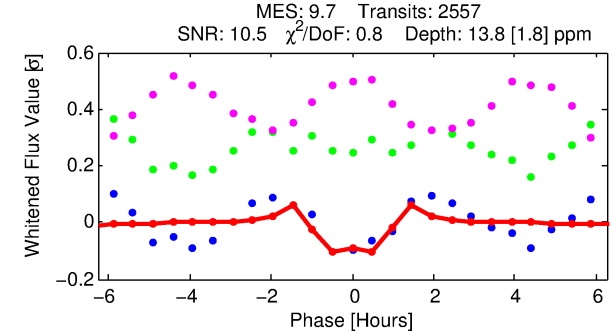
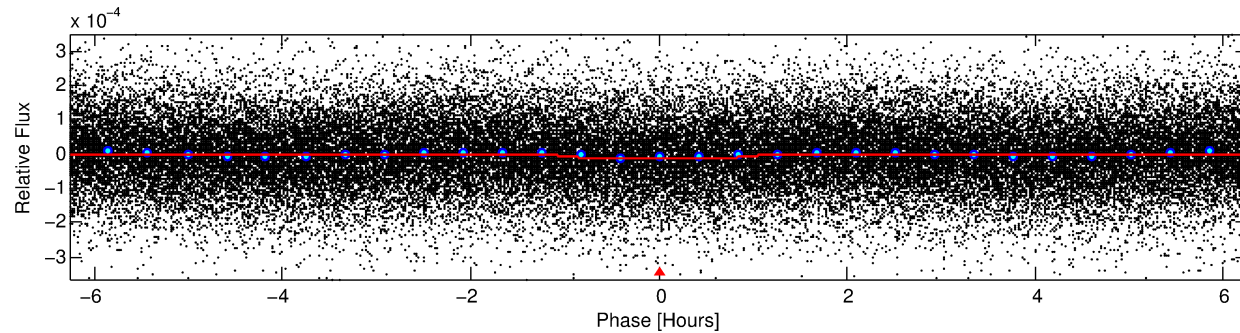
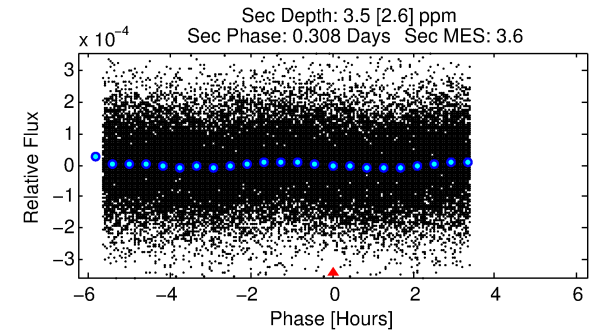
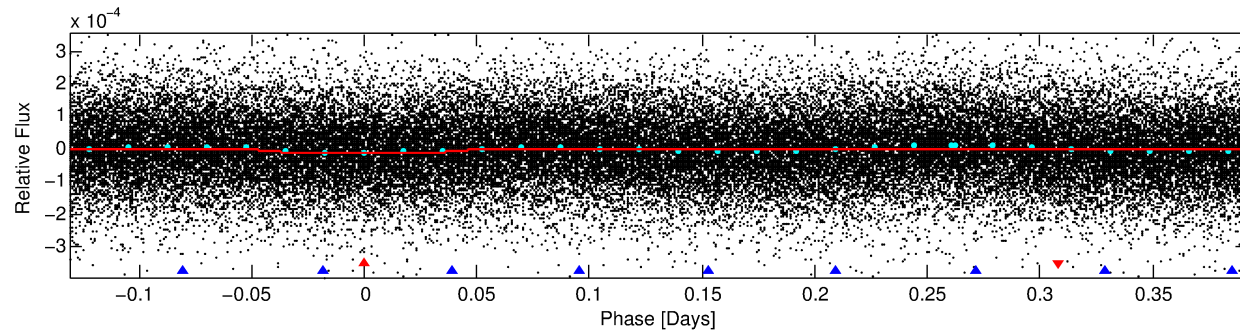
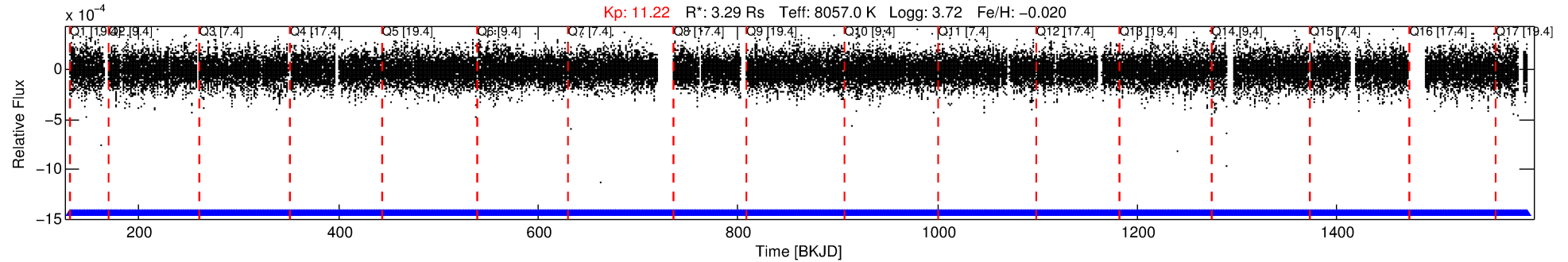
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007908633-01

No Significant Match Found

DV One-Page Summary

KIC: 7908633 Candidate: 1 of 2 Period: 0.523 d



DV Fit Results:

Period = 0.52296 [0.00001] d
Epoch = 131.5162 [0.0015] BKJD
 $R_p/R^* = 0.0040$ [0.0006]
 $a/R^* = 1.26$ [0.41]
 $b = 0.90$ [0.18]
 $\text{Seff} = 156147.37$ [109946.51]
 $T_{\text{eq}} = 5069$ [892] K
 $R_p = 1.43$ [0.65] R_{e}
 $a = 0.0162$ [0.0068] AU
 $A_g = 0.24$ [0.26] $[-2.89\sigma]$
 $T_{\text{eff}} = 5513$ [1150] K [0.31σ]

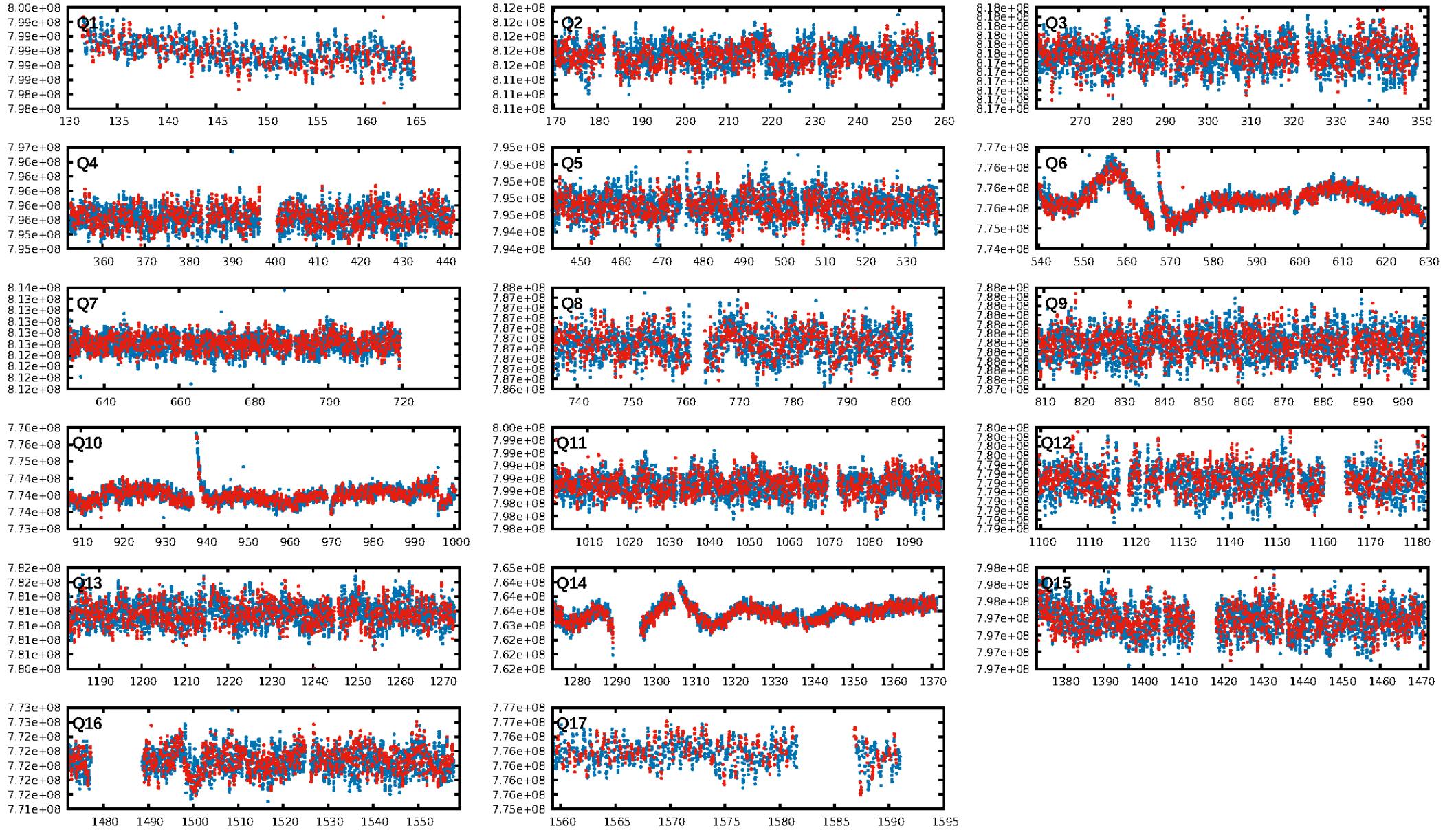
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [499.40σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.98e-18
RollingBand-fgt: 1.00 [2441/2441]
GhostDiagnostic-chr: 3.095
Centroid-sig: 0.0%
Centroid-so: 0.940 arcsec [1.78σ]
OotOffset-rm: 0.465 arcsec [0.92σ]
KicOffset-rm: 0.499 arcsec [1.02σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.47 [8/17]
DiffImageOverlap-fno: 1.00 [17/17]

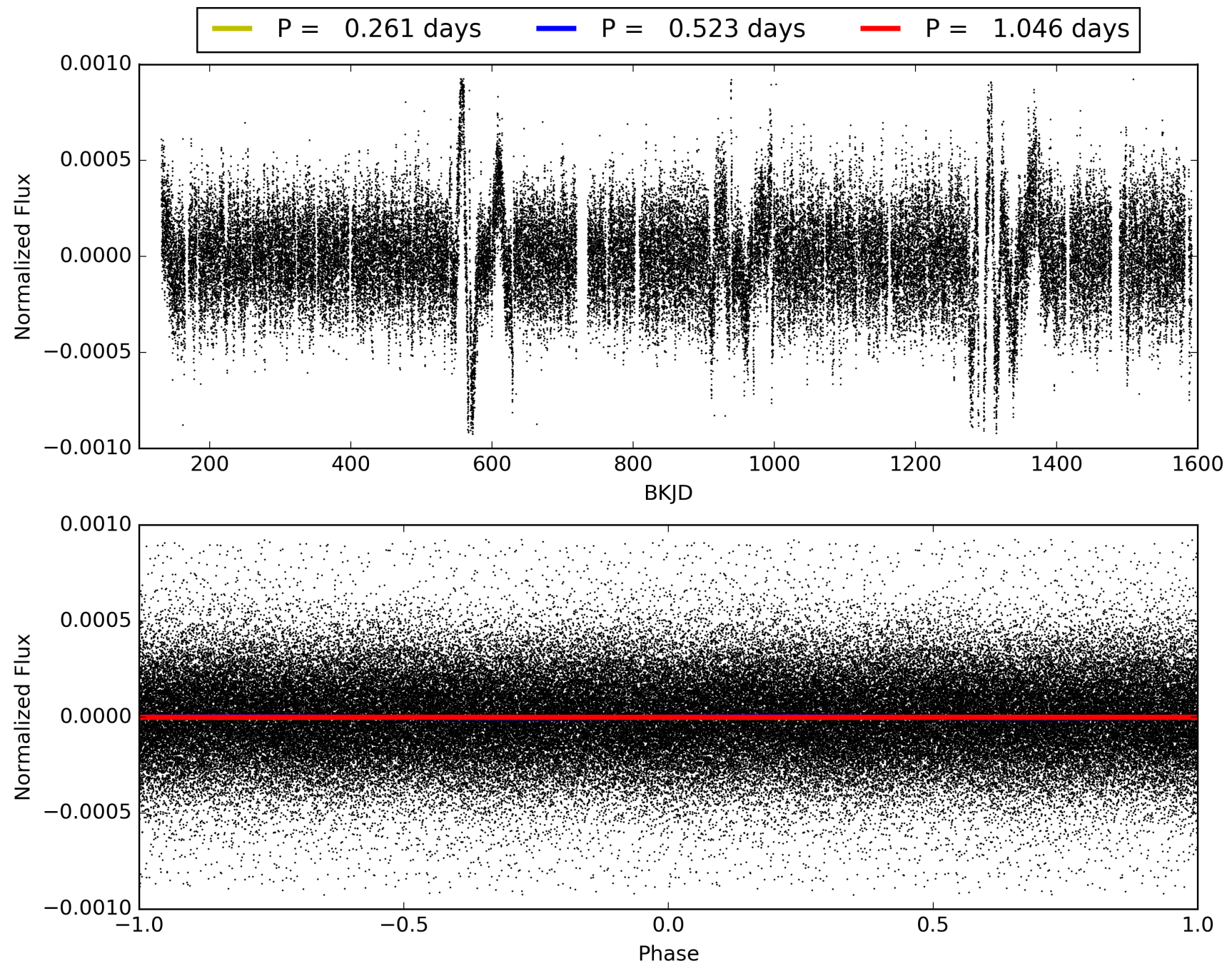
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007908633-01, PDC Light Curves

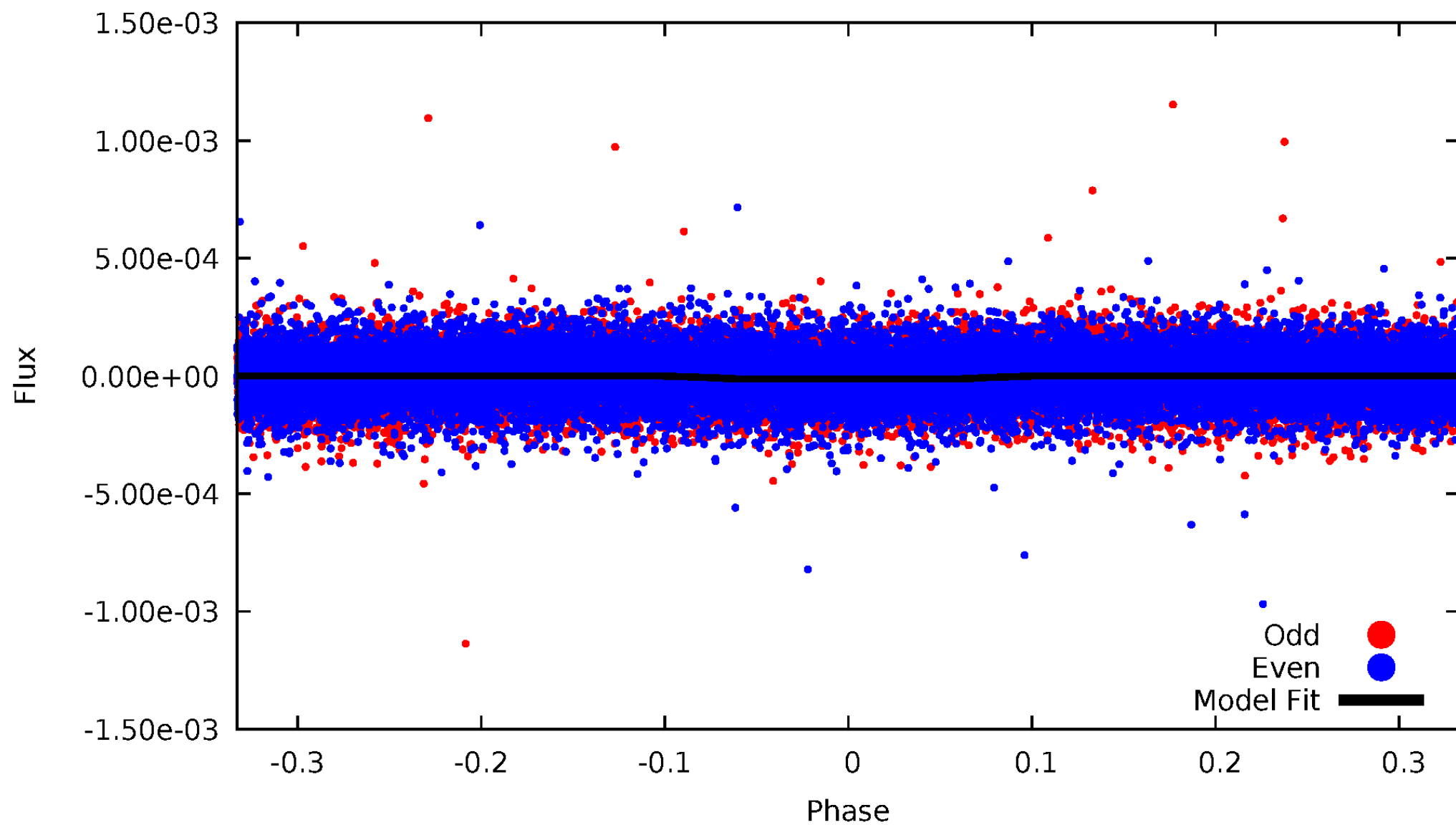


TCE 007908633-01



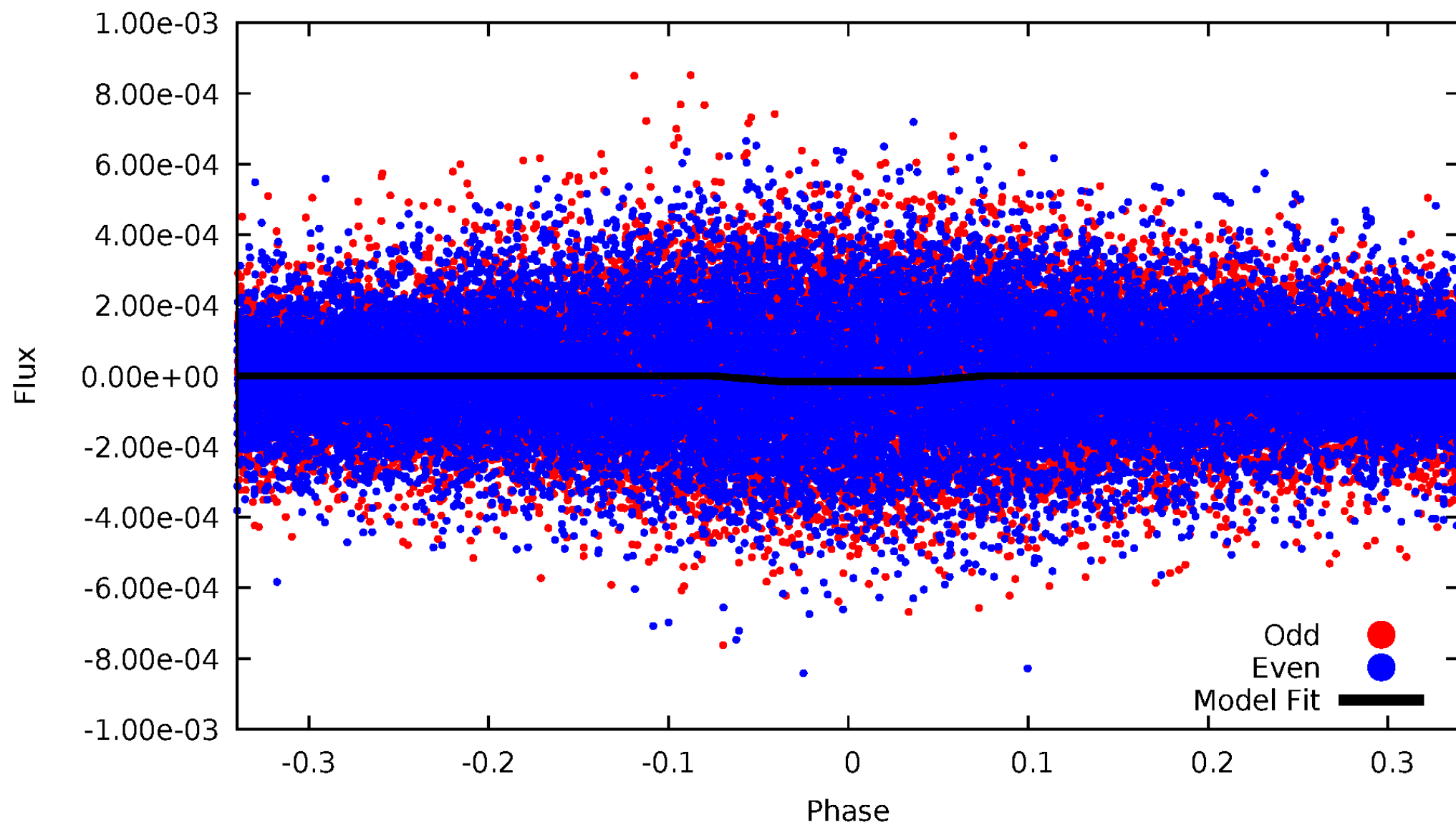
DV Odd/Even

TCE 007908633-01



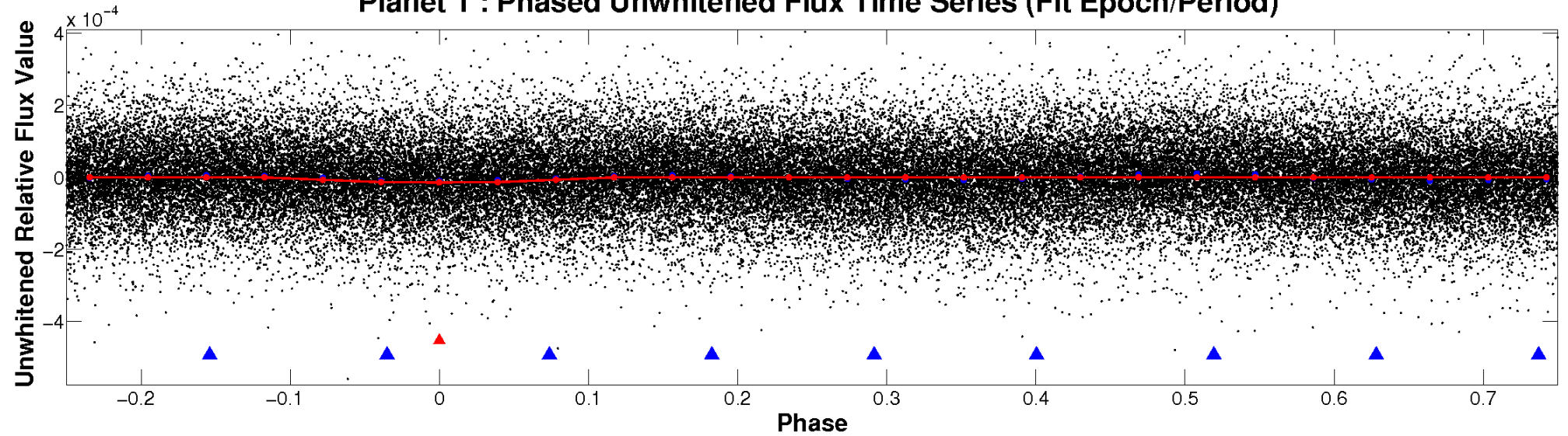
ALT Odd/Even

TCE 007908633-01

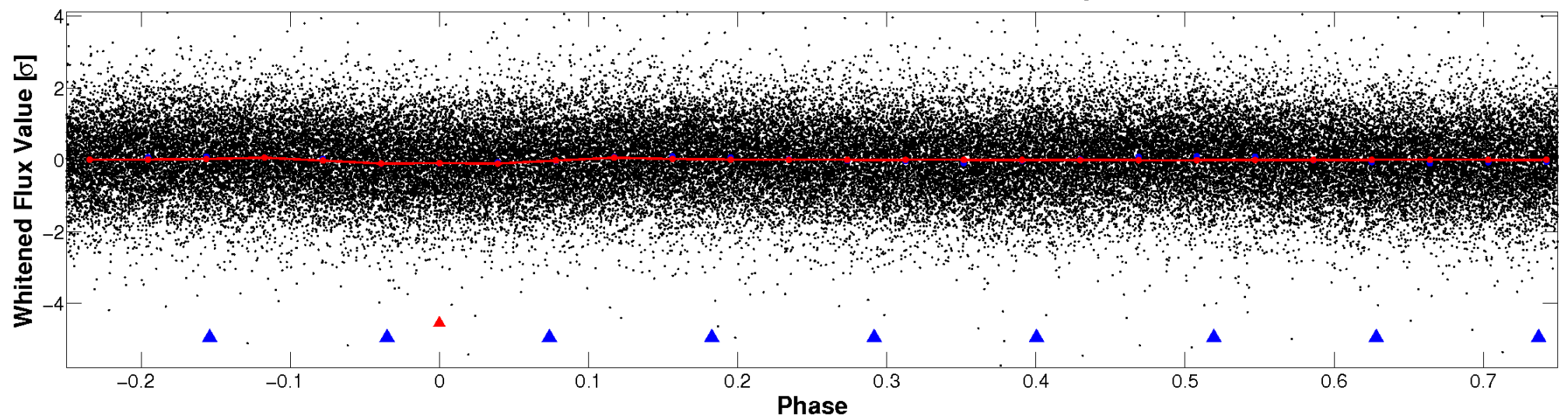


Non-Whitened Vs. Whitened Light Curve

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

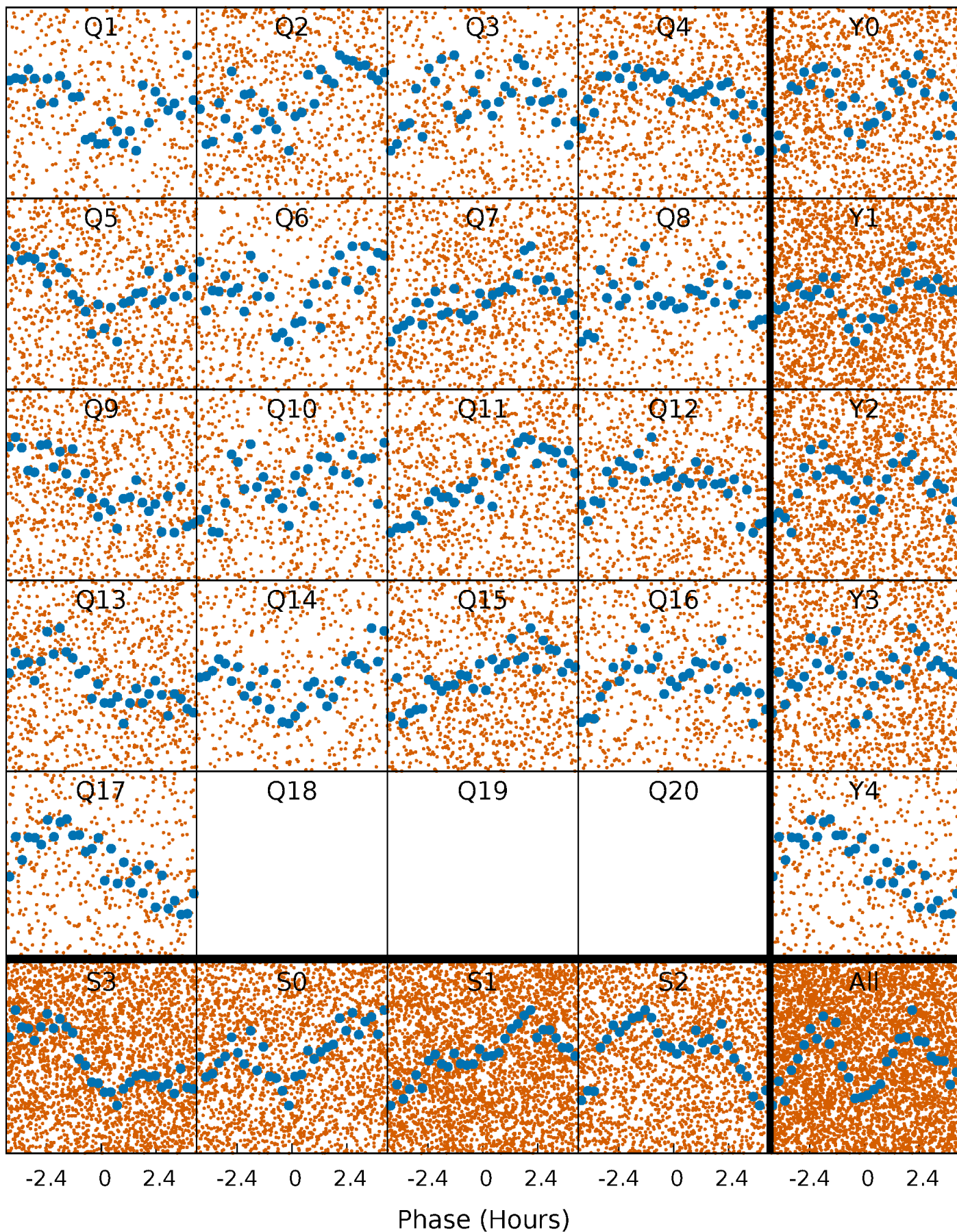


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



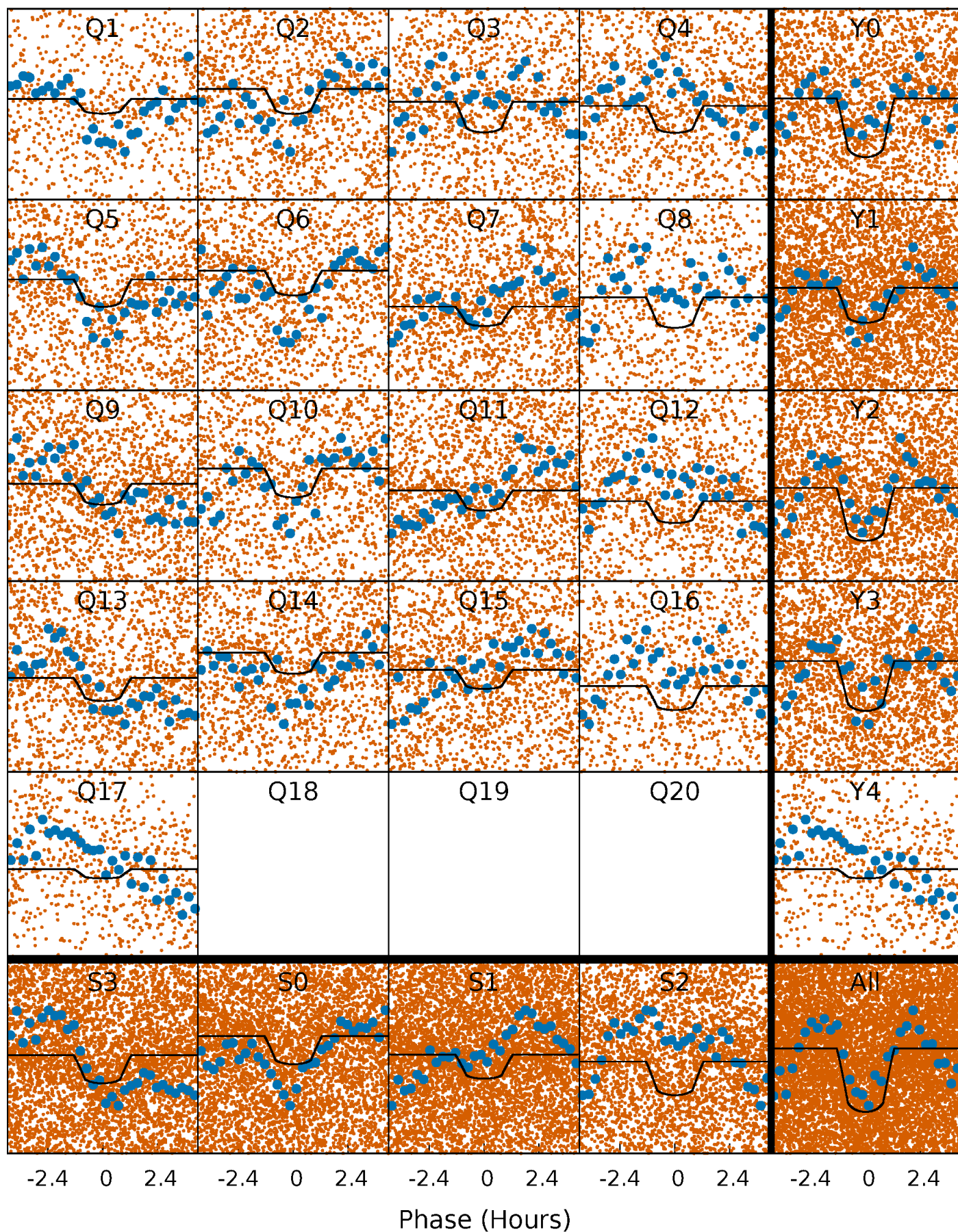
PDC Quarter-Phased Transit Curves

TCE 007908633-01 P= 0.522959 Days $T_0=131.516171$ (BKJD)



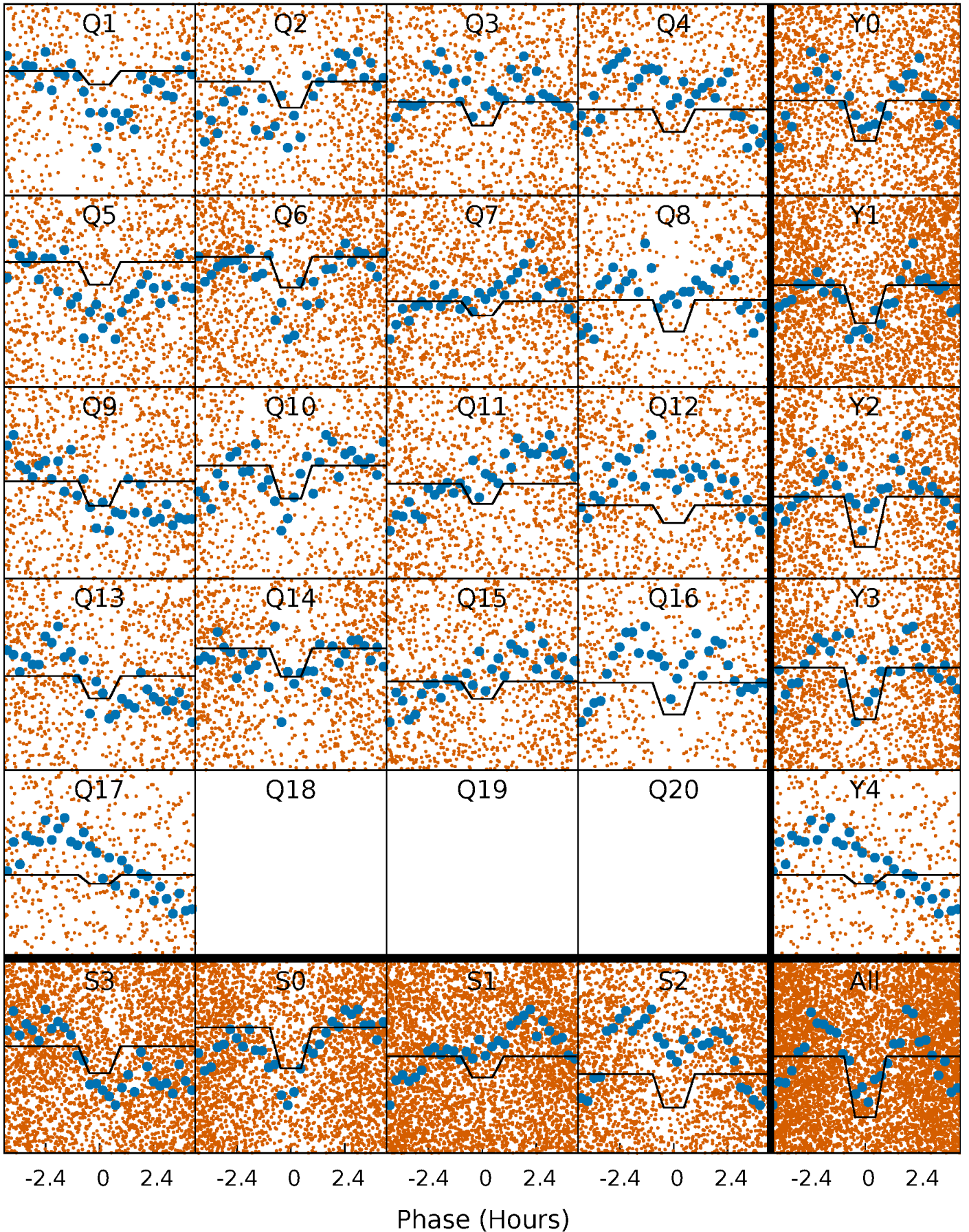
DV Quarter-Phased Transit Curves

TCE 007908633-01 P= 0.522959 Days $T_0=131.516171$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

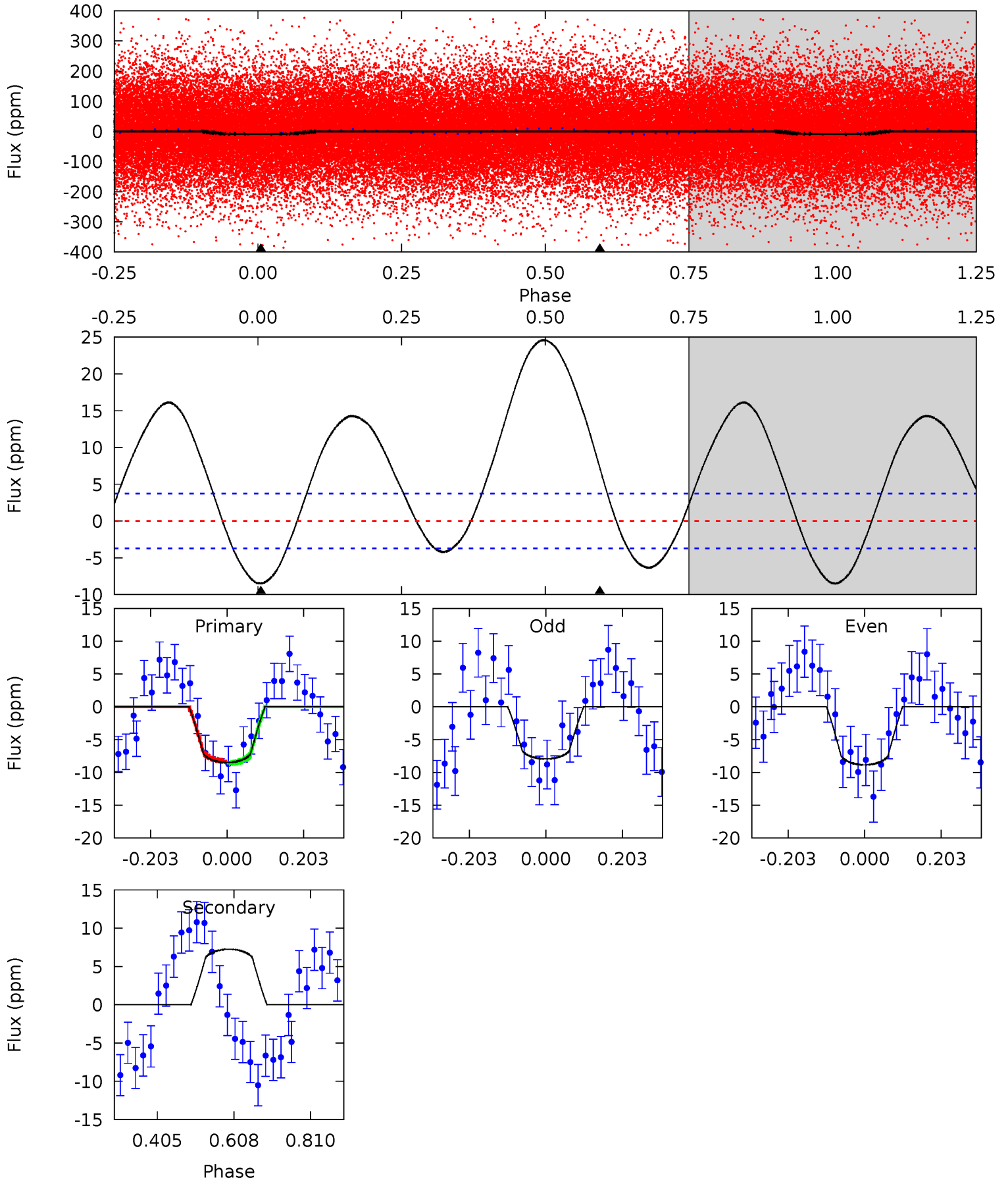
TCE 007908633-01 P= 0.522961 Days $T_0=131.514078$ (BKJD)



DV Model-Shift Uniqueness Test

007908633-01, P = 0.522959 Days, E = 130.993212 Days

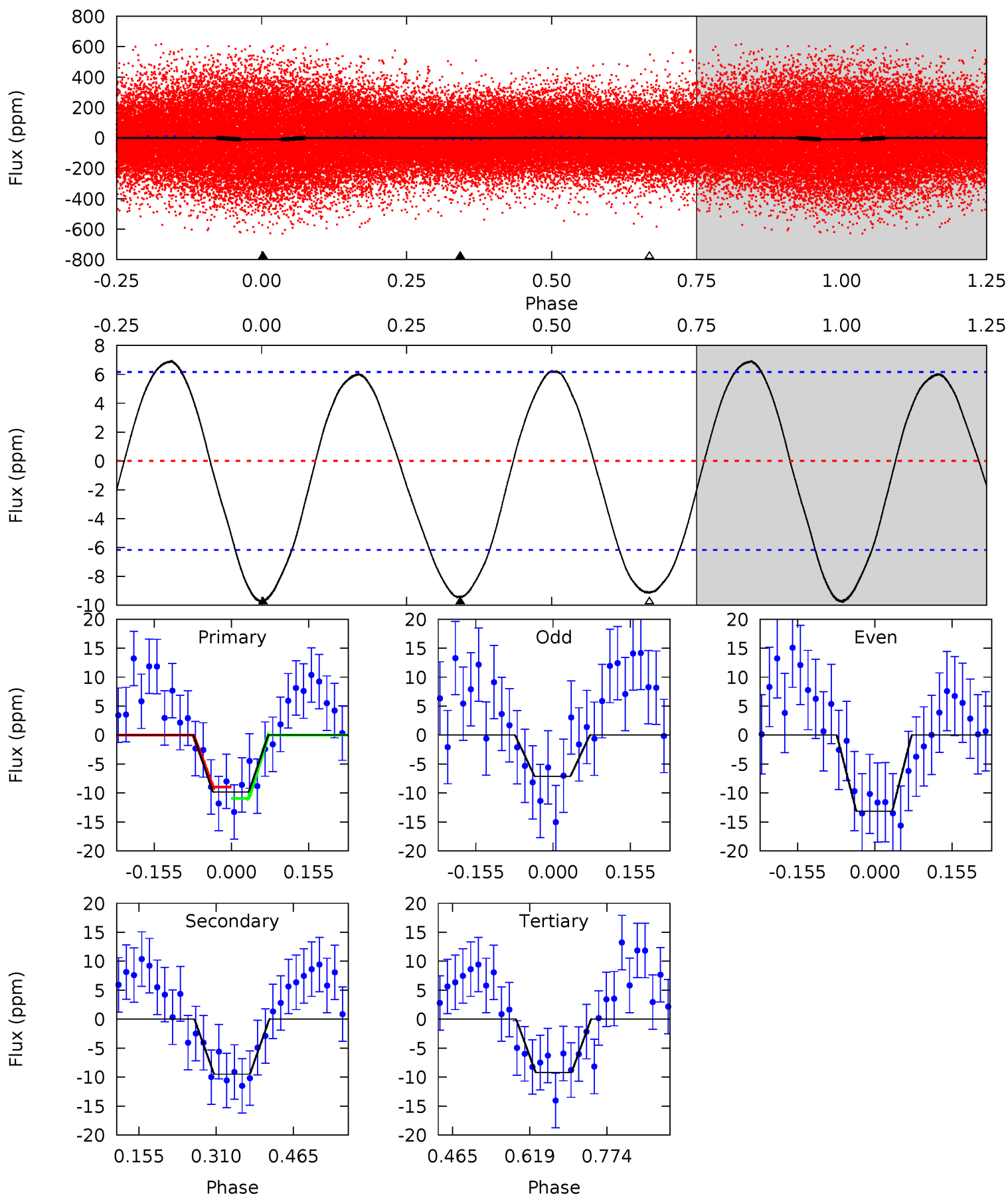
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	-8.61	0	0	4.41	1.27	5.71	10.1	10.1	-8.61	-8.61	0.55	1.05	0.74	0.20



Alt Model-Shift Uniqueness Test

007908633-01, P = 0.522961 Days, E = 130.991117 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.13	6.88	6.67	0	4.47	1.42	4.21	0.46	7.13	0.21	6.88	1.99	0.65	0.42	0.58



Stellar Parameters For KIC 007908633

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8057^{+223}_{-335}	$3.719^{+0.405}_{-0.108}$	$-0.020^{+0.250}_{-0.400}$	$3.295^{+0.824}_{-1.412}$	$2.075^{+0.336}_{-0.504}$	$0.082^{+0.327}_{-0.035}$
	+3%/-4%	+11%/-3%	+1250%/-2000%	+25%/-43%	+16%/-24%	+400%/-43%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007908633-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	7 ± 1	$1.33^{+0.34}_{-0.32}$	6862^{+504}_{-759}	-7240^{+511}_{-569}	$-0.598^{+0.212}_{-0.424}$
Alt.	-9 ± 1	$1.34^{+0.33}_{-0.33}$	6832^{+514}_{-748}	6010^{+906}_{-921}	$0.760^{+0.501}_{-0.275}$

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

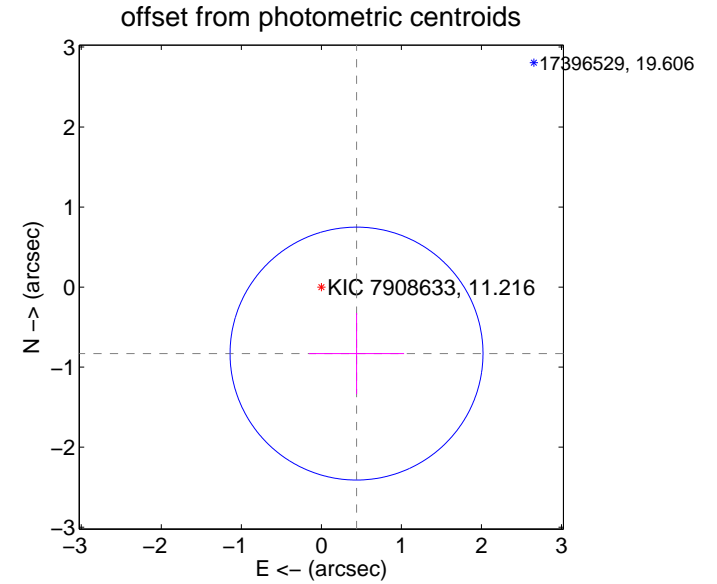
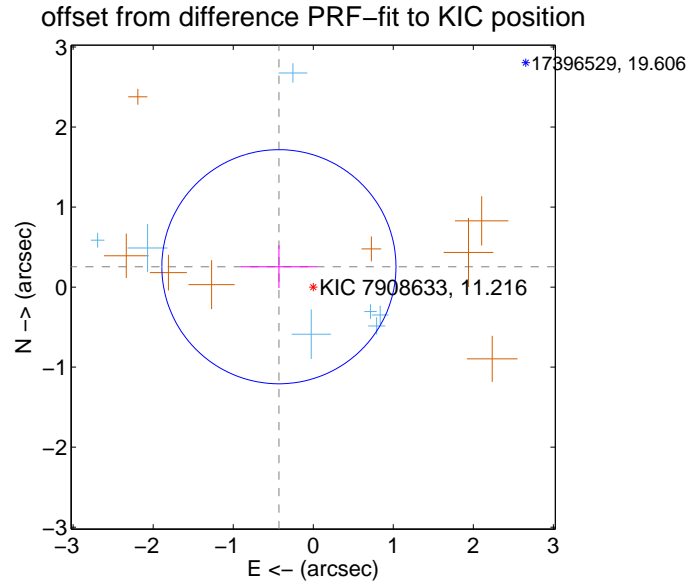
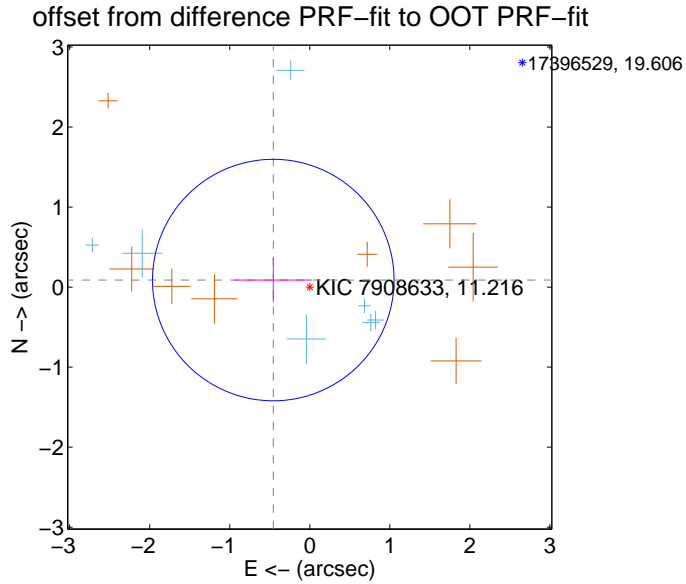
DV Centroid Data

Supplemental centroid analysis for 007908633-01. **Kepler magnitude: 11.22.** Transit SNR 10.51

There are 8 quarters with good PRF difference image offsets

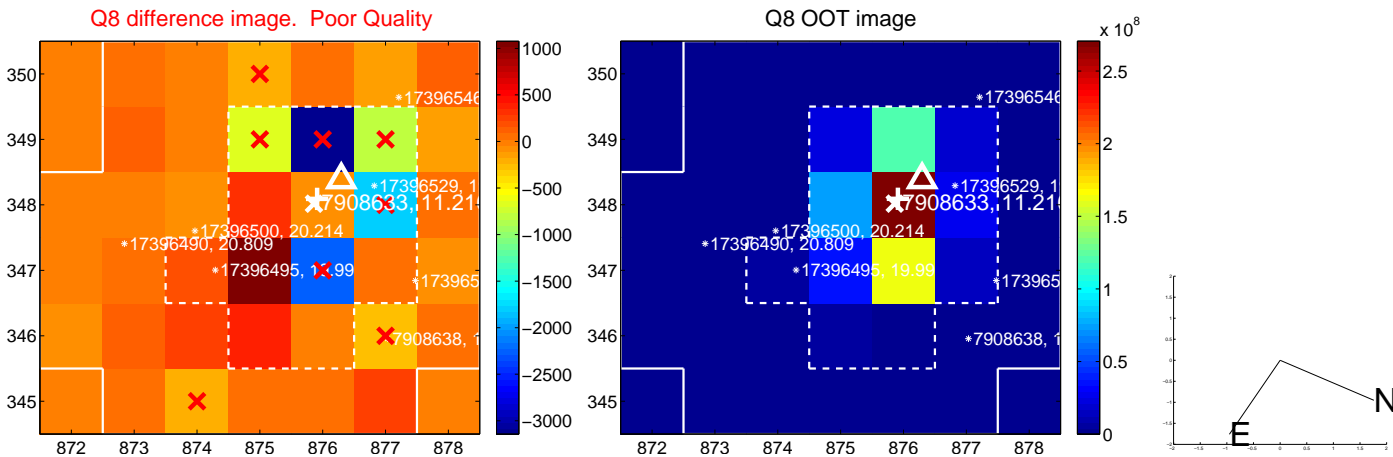
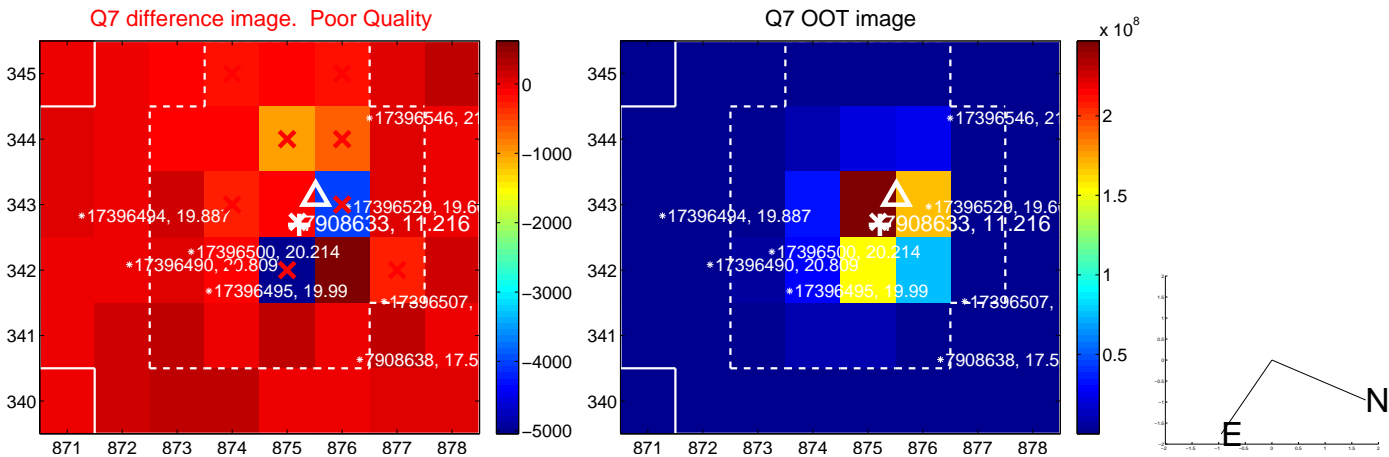
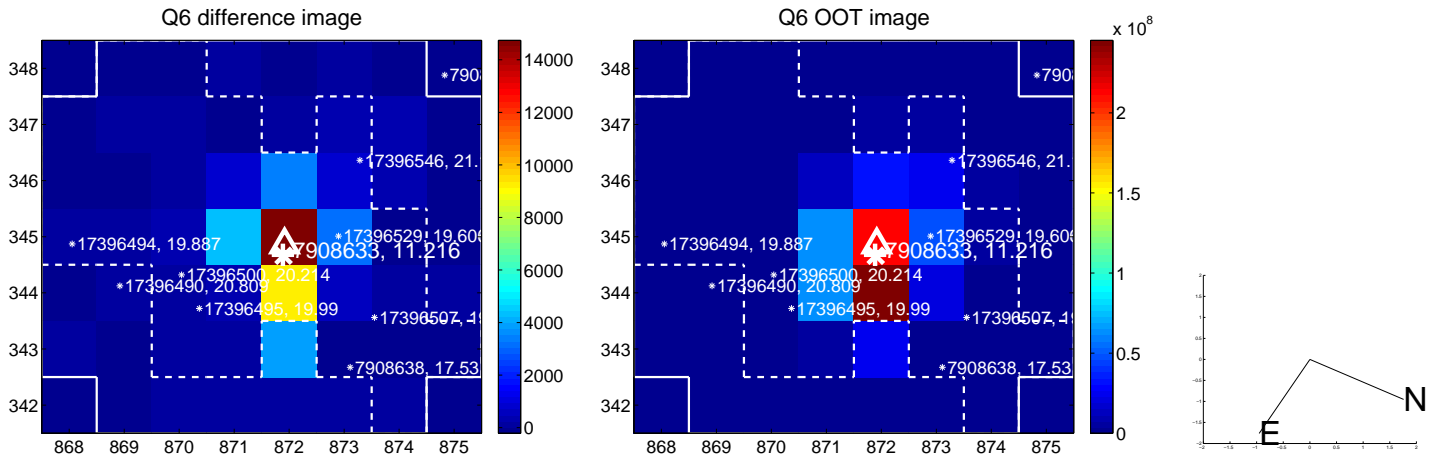
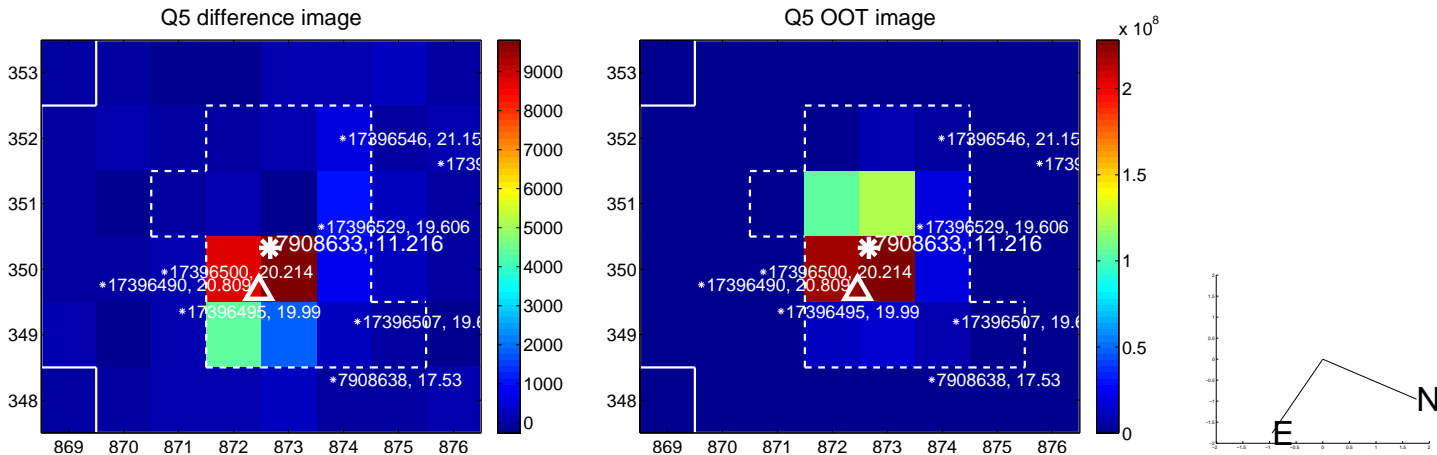
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.465 ± 0.503	0.92	0.456 ± 0.483	0.088 ± 0.280
PRF-fit source offset from KIC position	0.499 ± 0.488	1.02	0.429 ± 0.472	0.254 ± 0.267
photometric centroid source offset	0.94 ± 0.53	1.78	-0.44 ± 0.59	-0.83 ± 0.51

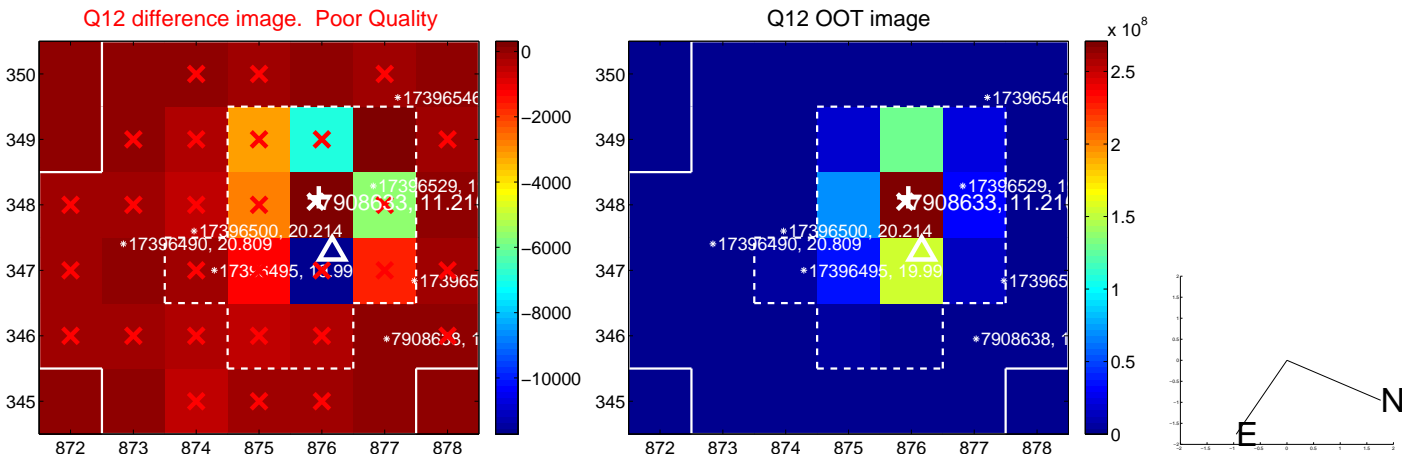
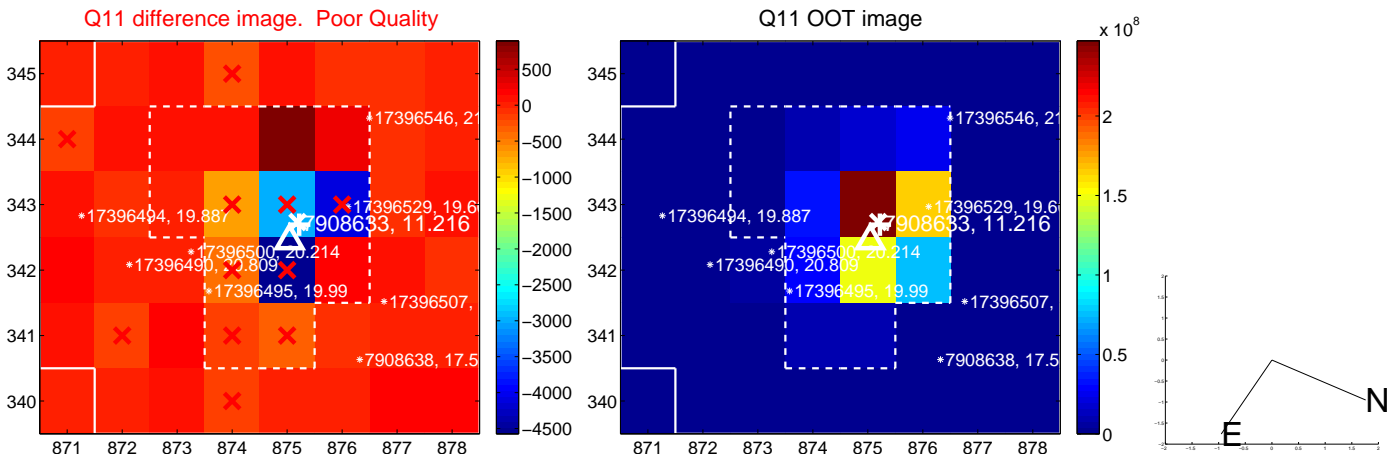
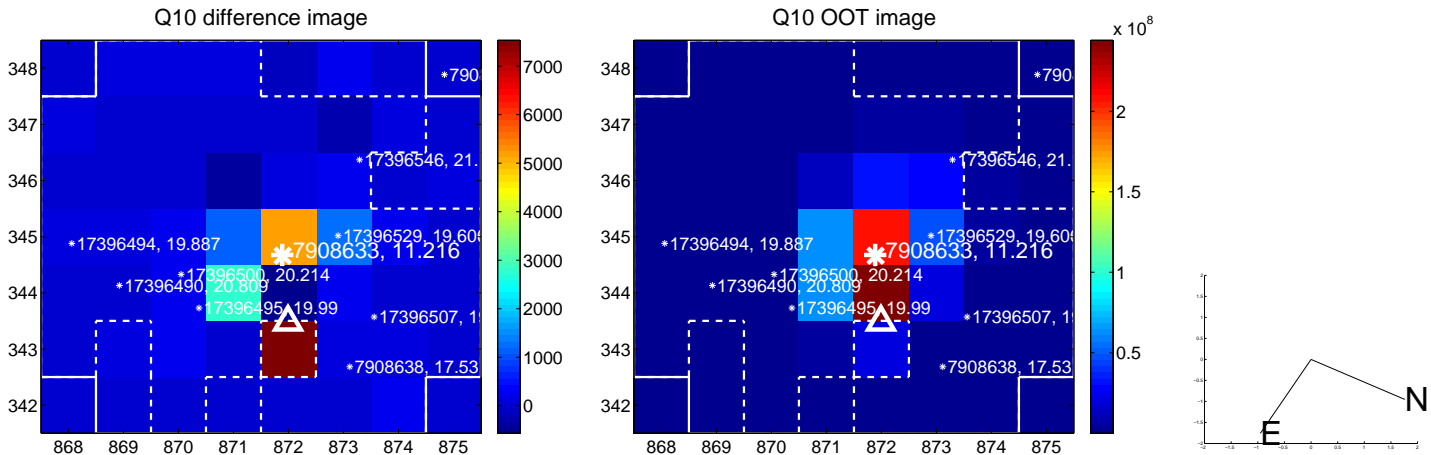
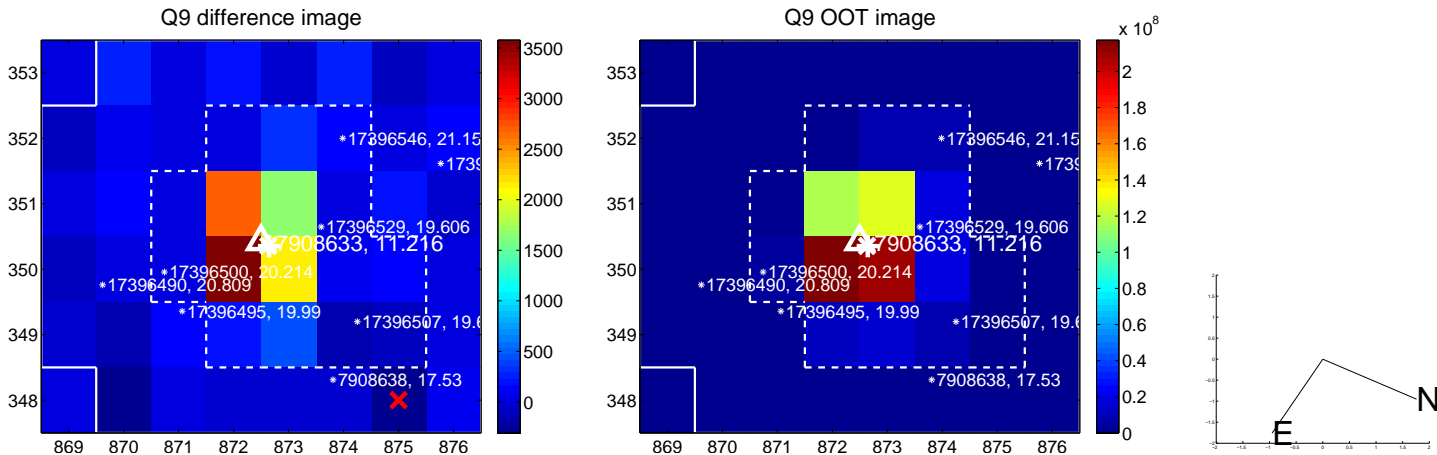


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

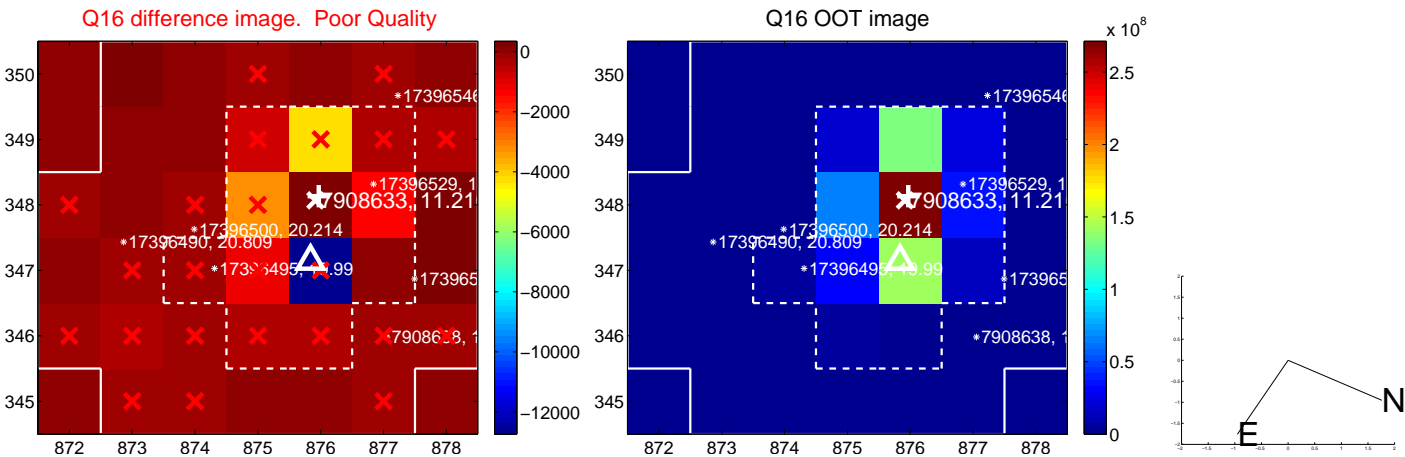
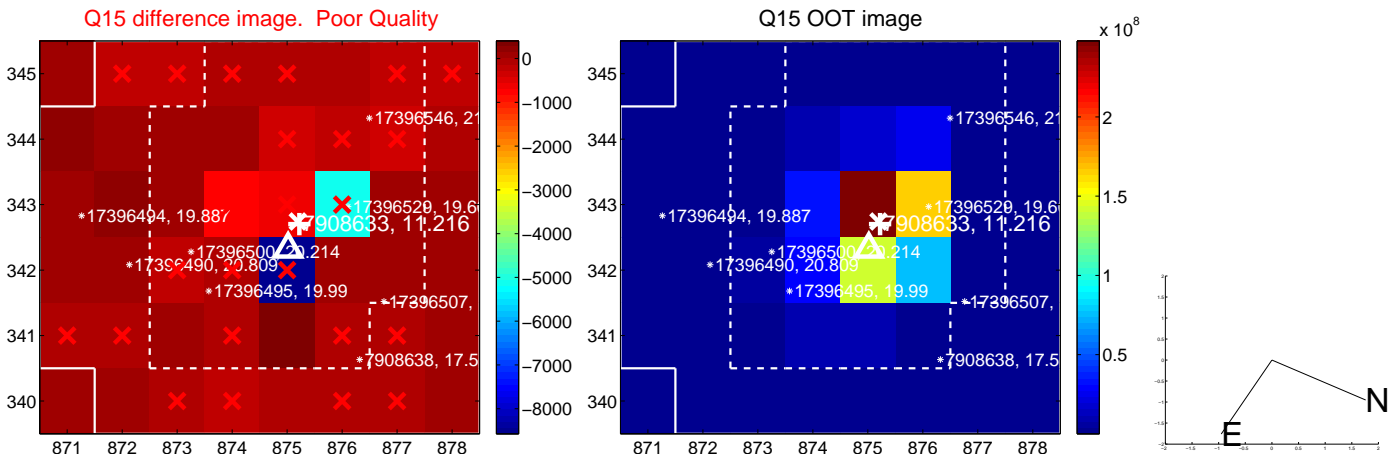
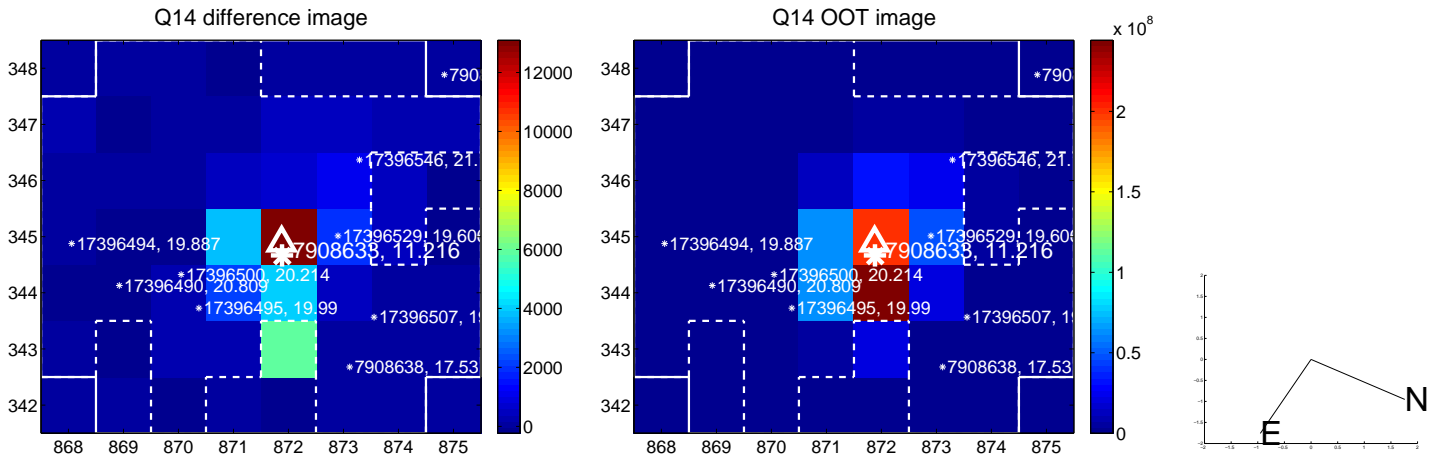
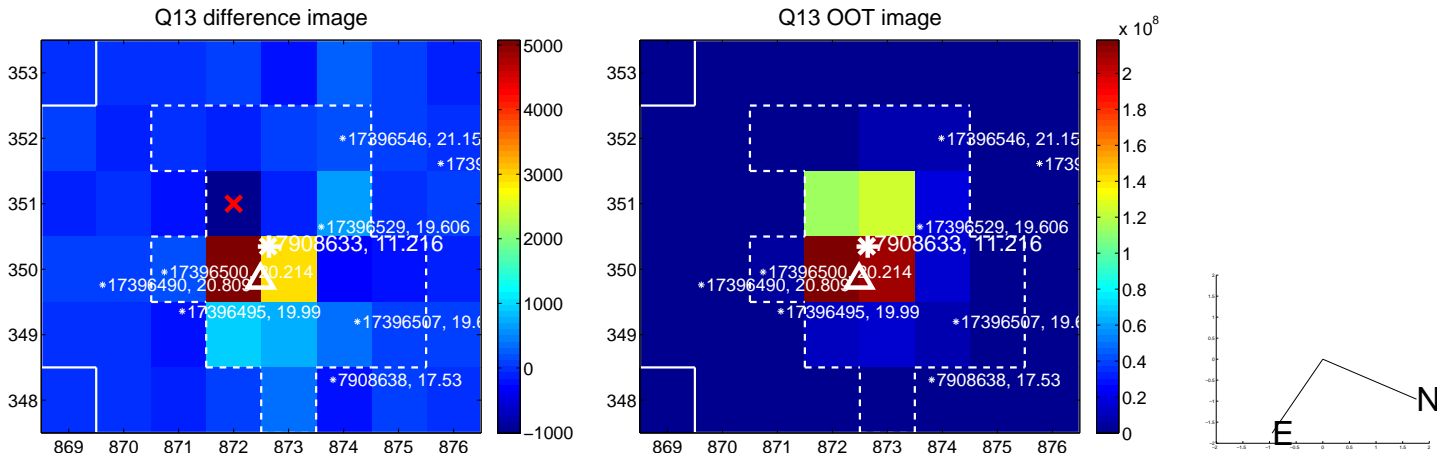
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



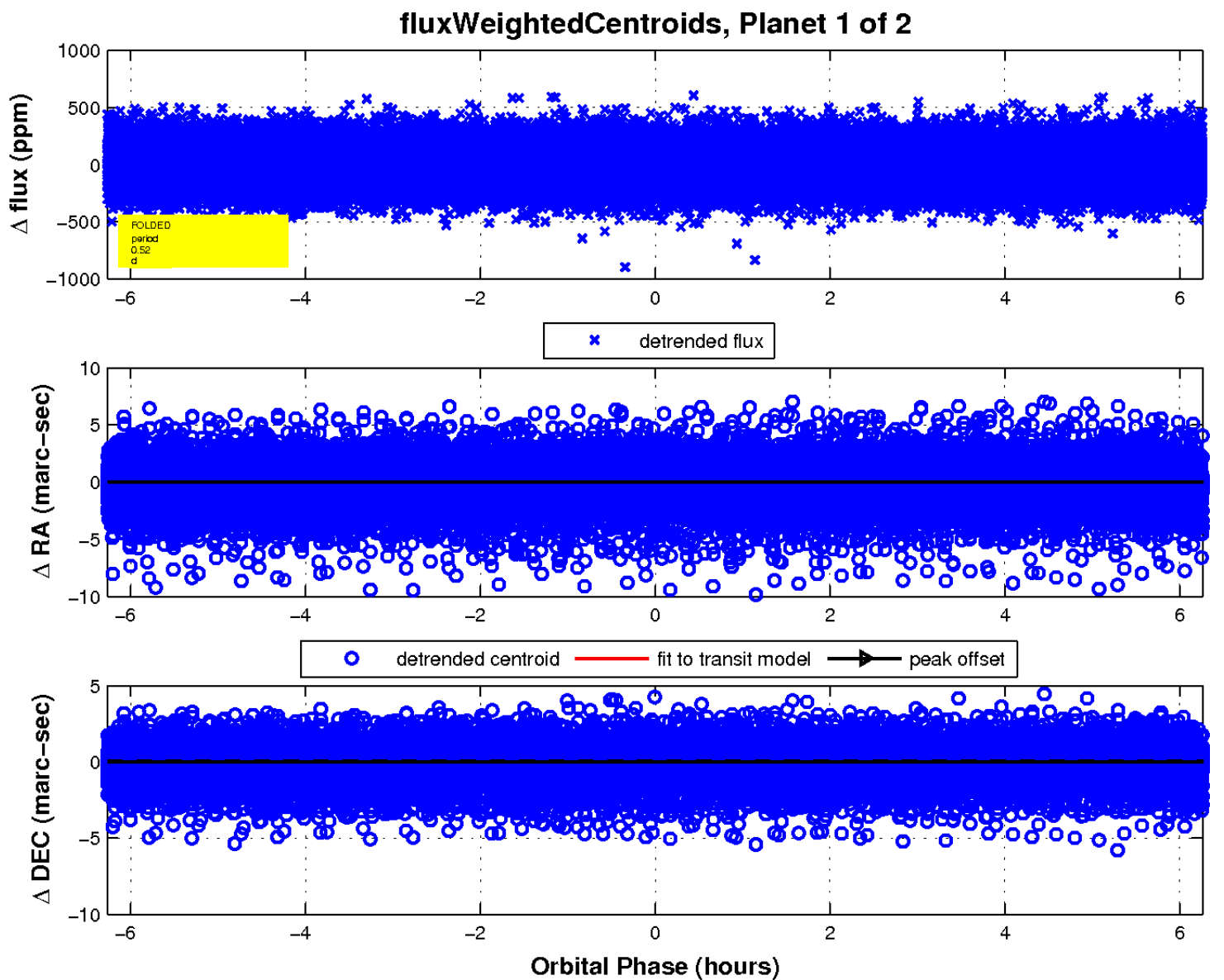
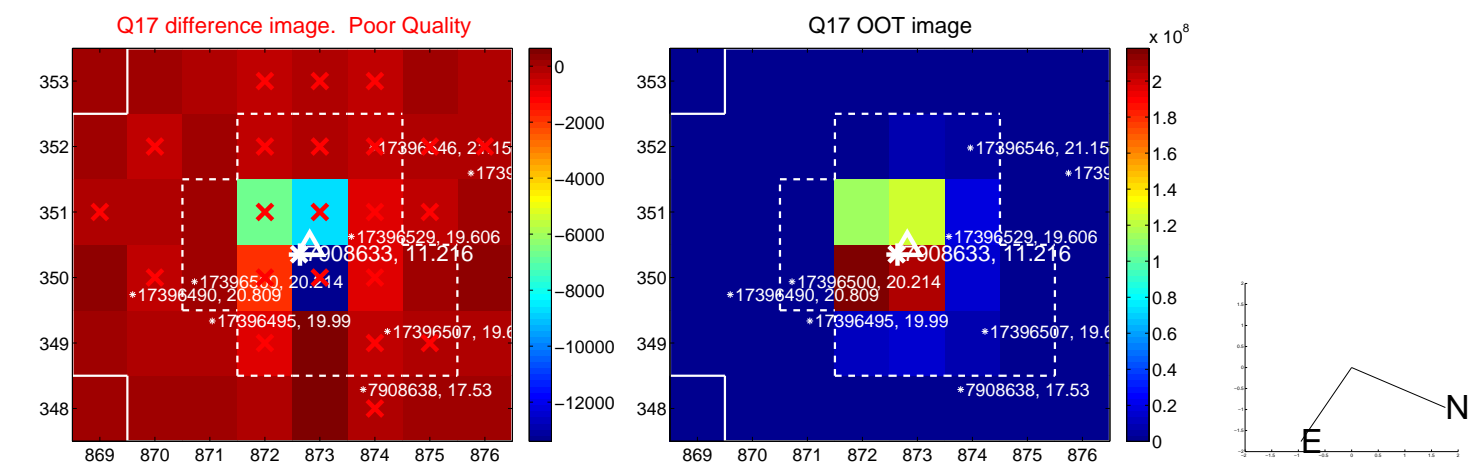
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

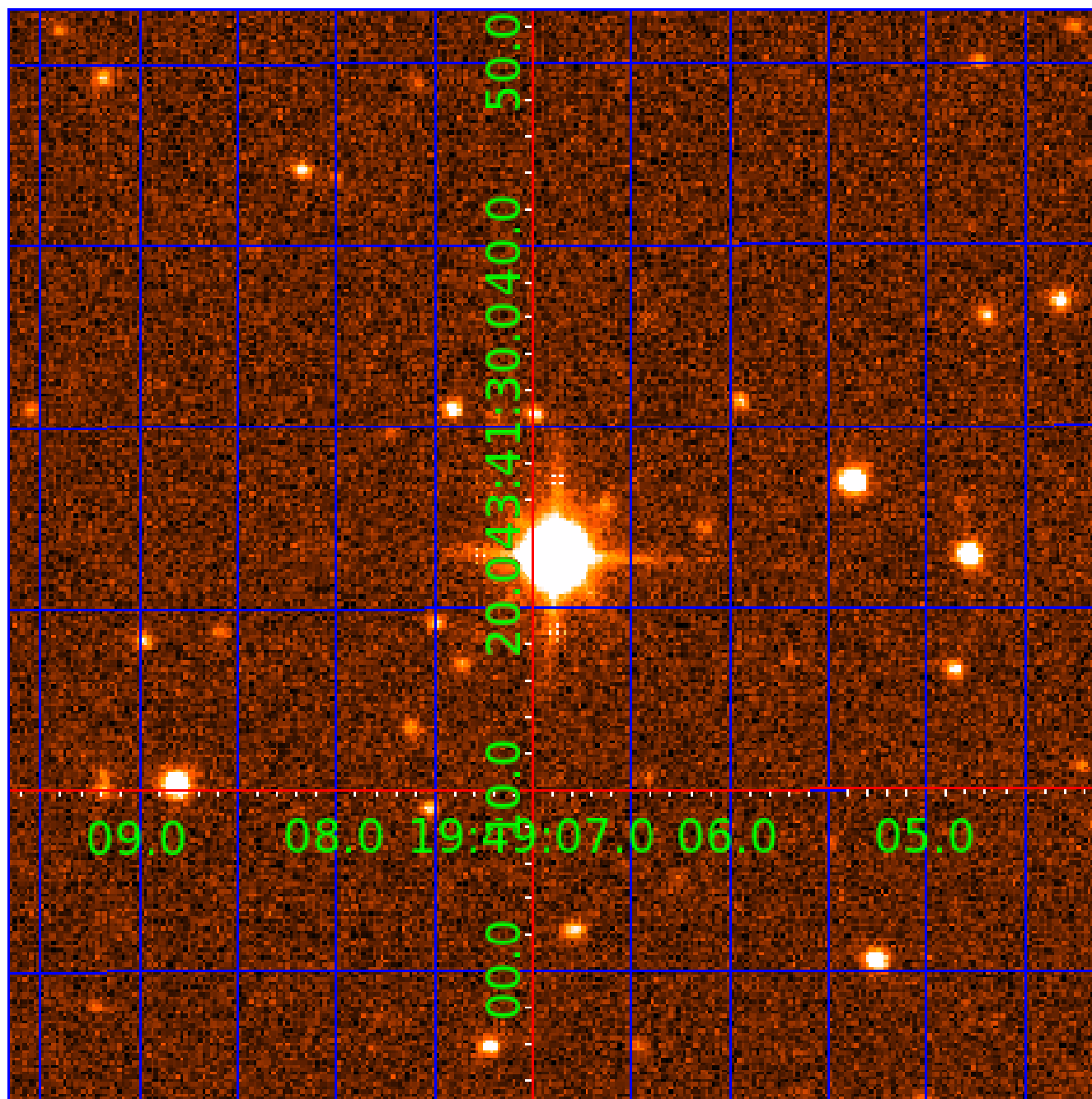


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007908633

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})
007908633-01	OBS	No	0.522959	131.516171	13.8	2.088	9.7	10.5	3.29	8057	1.43	156147.37
007908633-02	OBS	No	148.287317	279.495204	132.9	6.787	9.8	3.7	3.29	8057	4.44	83.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007908633-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007908633-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

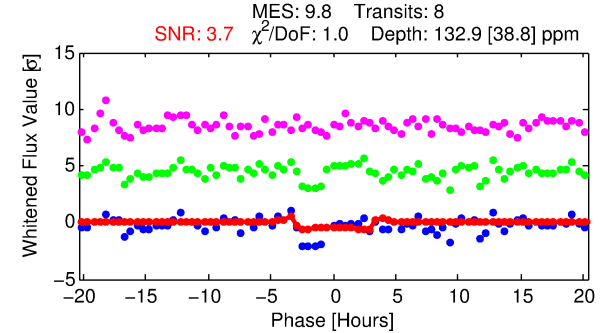
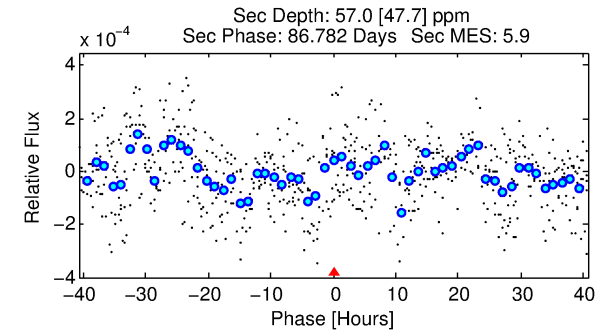
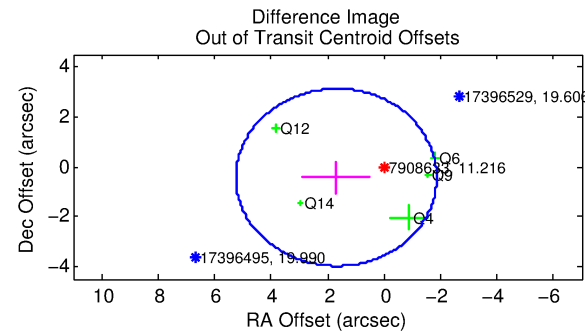
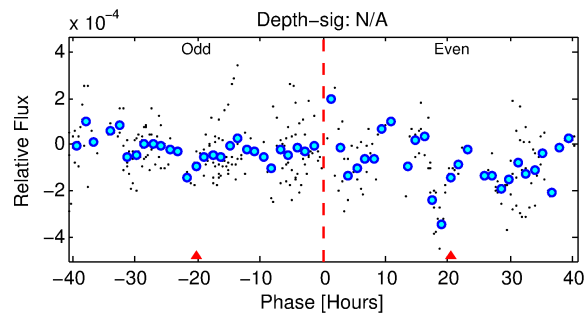
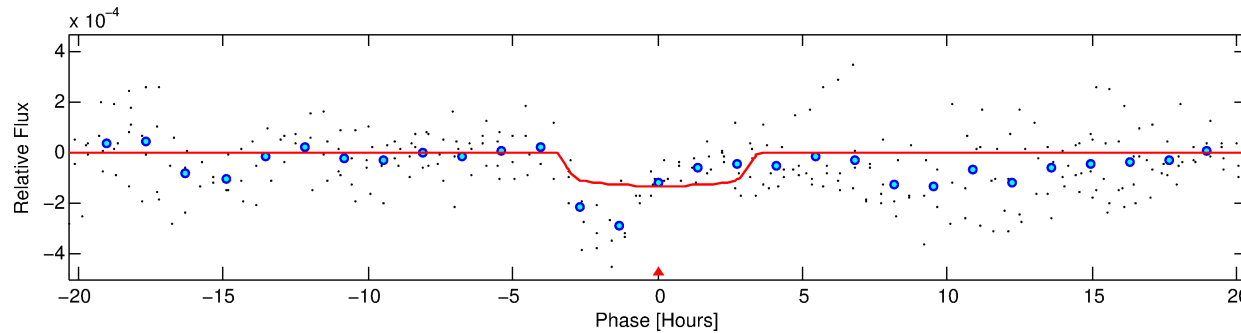
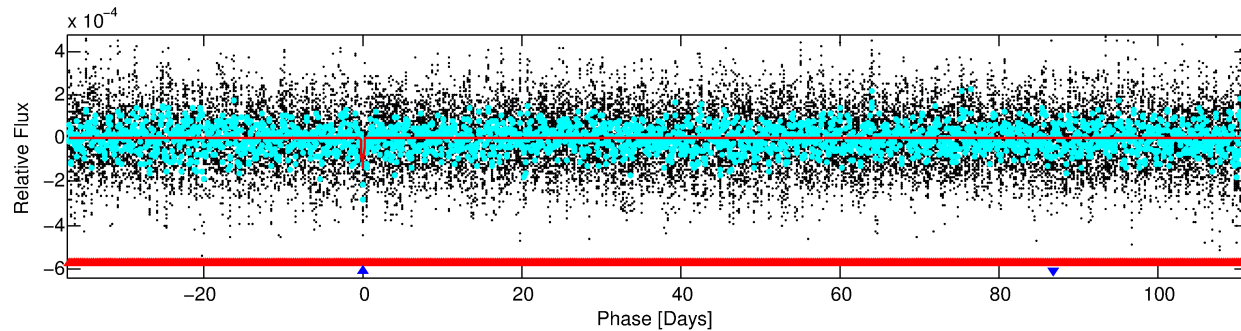
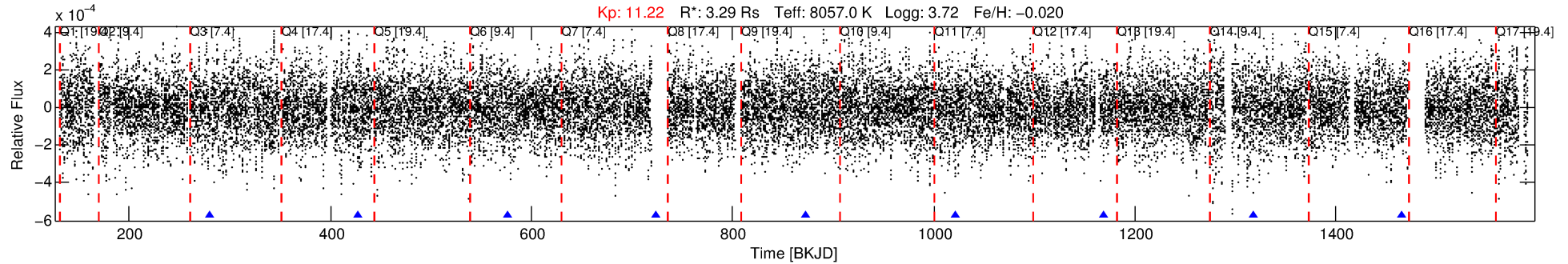
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007908633-02

No Significant Match Found

DV One-Page Summary

KIC: 7908633 Candidate: 2 of 2 Period: 148.287 d



DV Fit Results:

Period = 148.28732 [0.00273] d
 Epoch = 279.4952 [0.0150] BKJD
 Rp/R* = 0.0123 [0.0039]
 a/R* = 75.71 [121.78]
 b = 0.91 [0.32]
 Seff = 83.82 [59.02]
 Teq = 772 [136] K
 Rp = 4.44 [2.35] Re
 a = 0.6993 [0.2952] AU
 Ag = 778.95 [972.55] [0.80σ]
 Tefp = 6302 [1666] K [3.31σ]

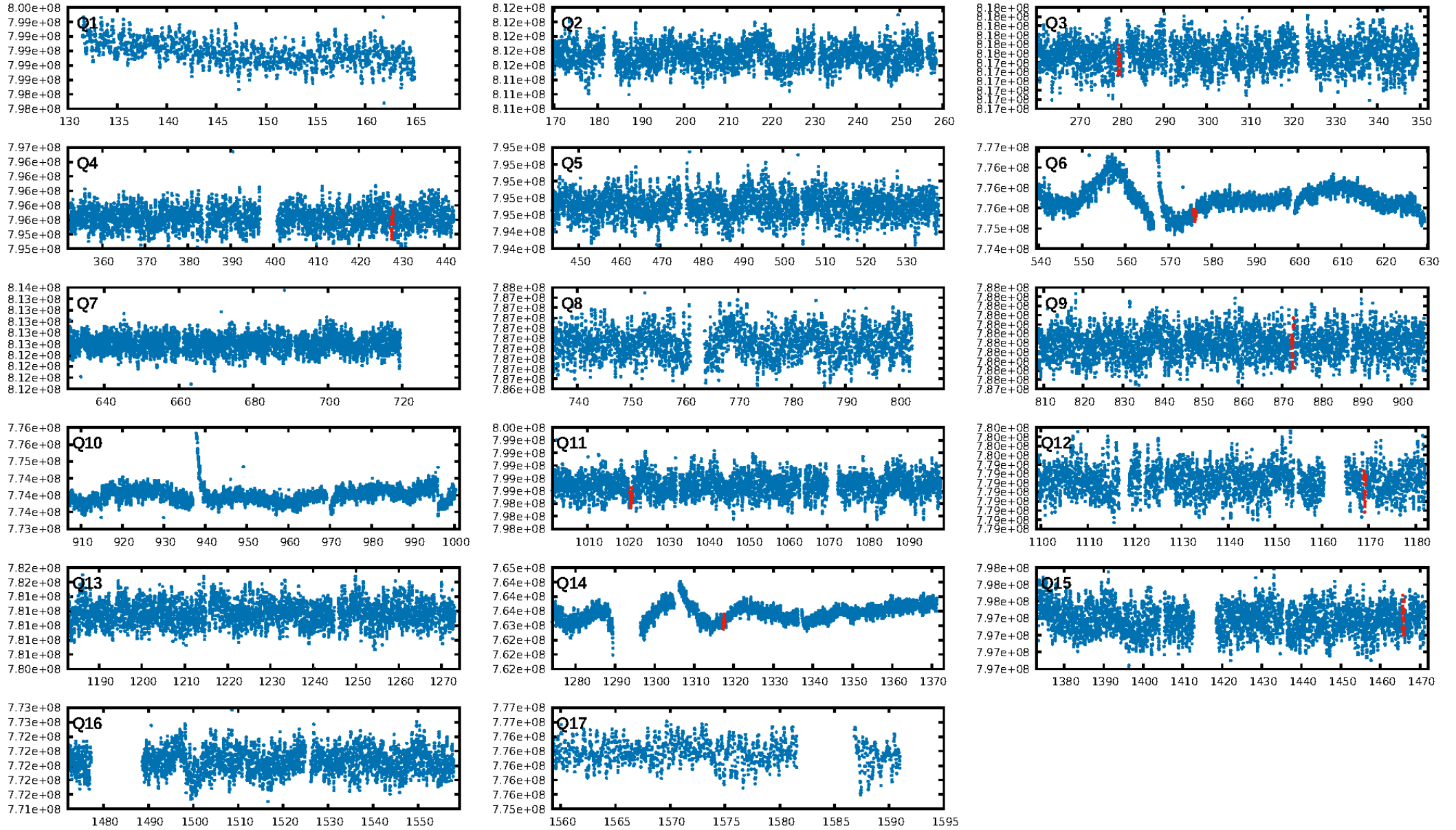
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [499.40σ]
 LongPeriod-sig: N/A
 ModelChiSquare2-sig: 0.7%
 ModelChiSquareGof-sig: 100.0%
 Bootstrap-pfa: 7.50e-14
 RollingBand-fgt: 1.00 [8/8]
 GhostDiagnostic-chr: -0.2588
 Centroid-sig: 85.6%
 Centroid-so: 0.471 arcsec [0.52σ]
 OotOffset-rm: 1.743 arcsec [1.47σ]
 OotOffset-st: 2/0/2/1 [5]
 KicOffset-rm: 1.642 arcsec [1.38σ]
 KicOffset-st: 2/0/2/1 [5]
 DiffImageQuality-fgm: 0.60 [3/5]
 DiffImageOverlap-fno: 0.00 [0/7]

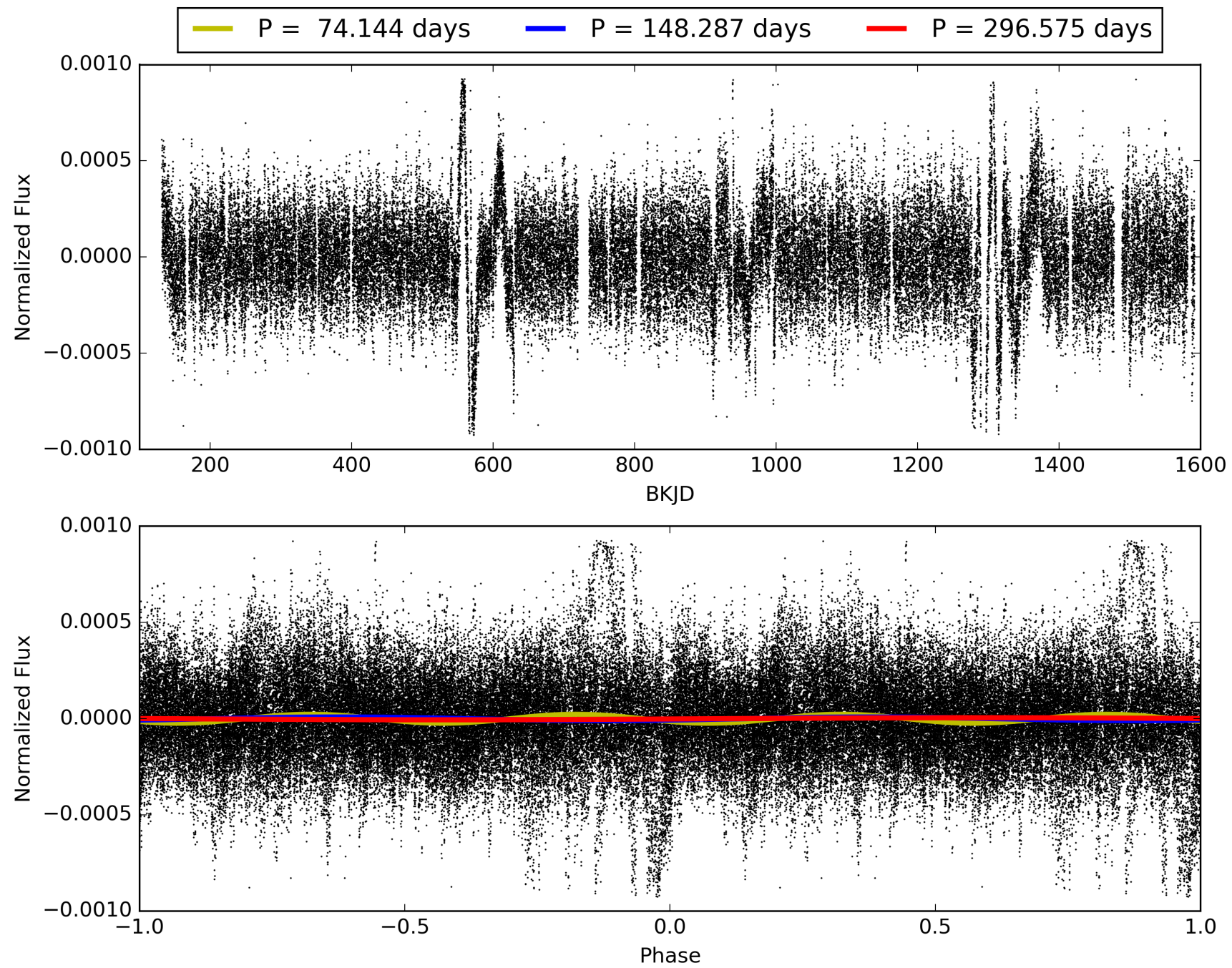
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:17:42 Z

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

TCE 007908633-02, PDC Light Curves

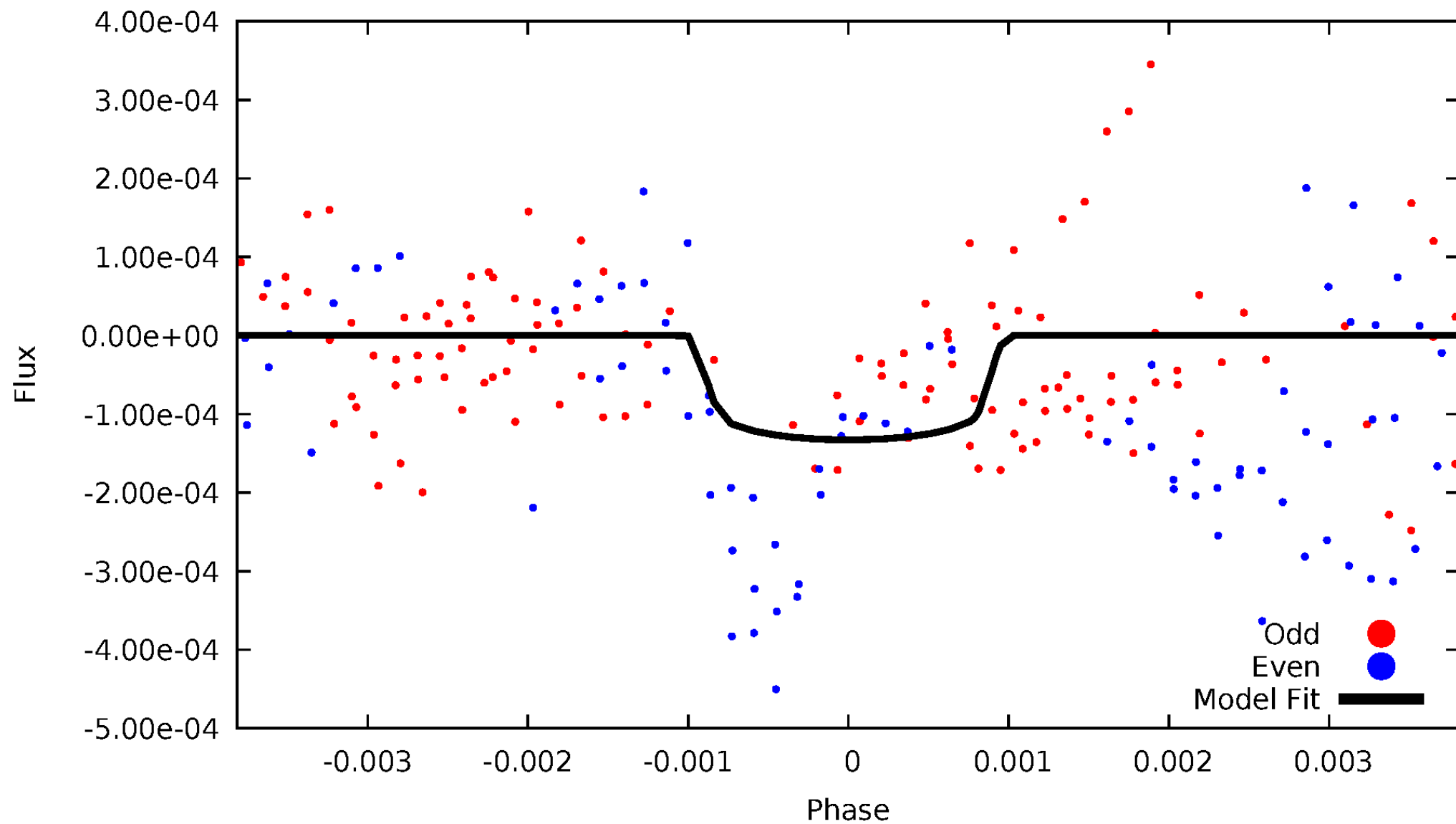


TCE 007908633-02



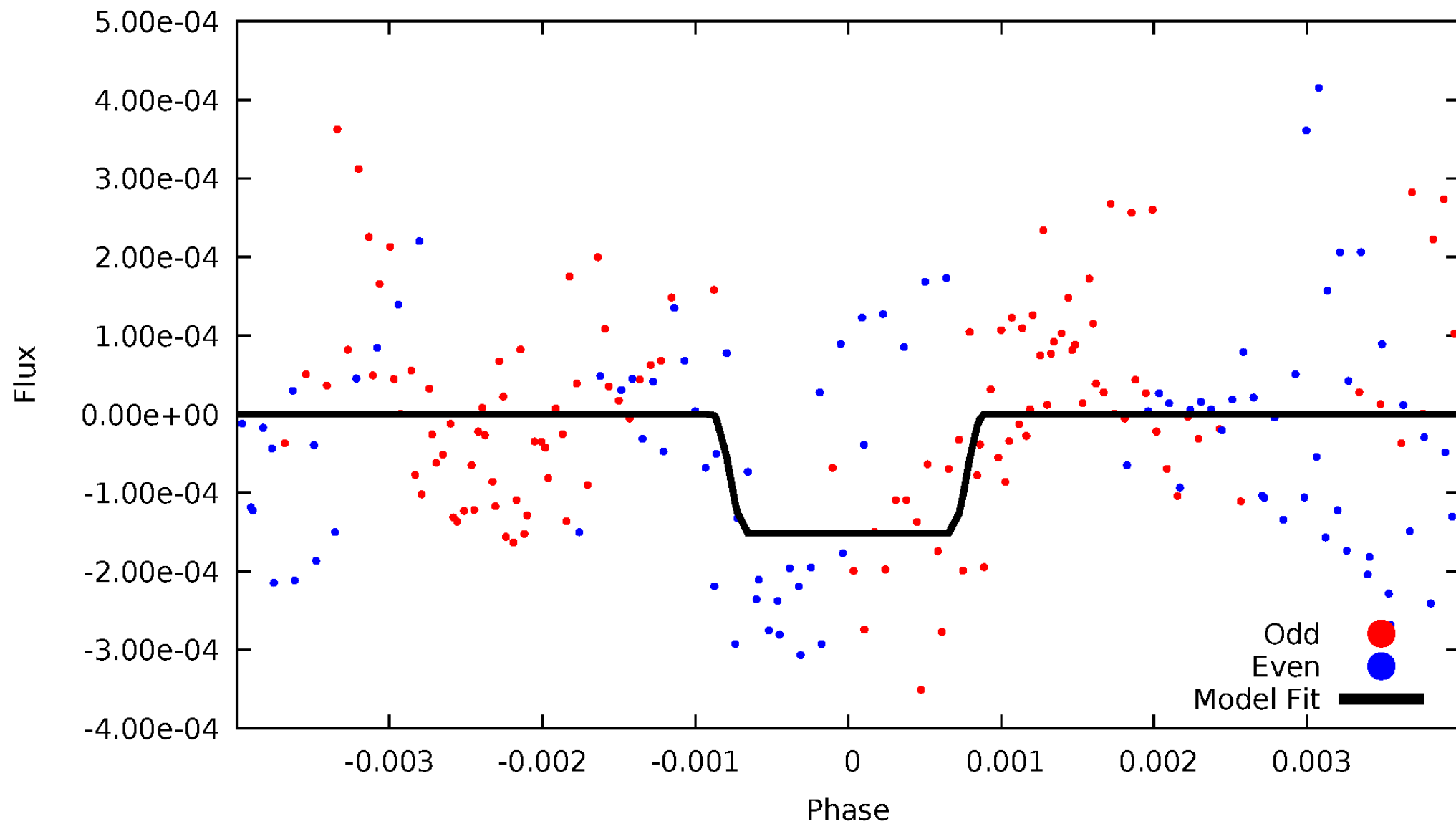
DV Odd/Even

TCE 007908633-02



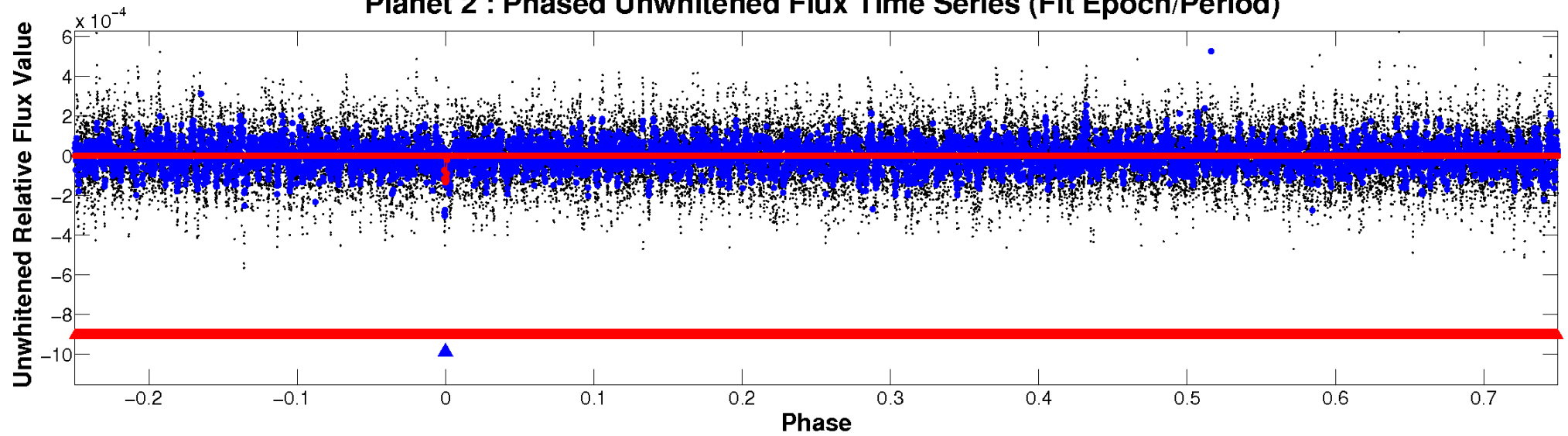
ALT Odd/Even

TCE 007908633-02

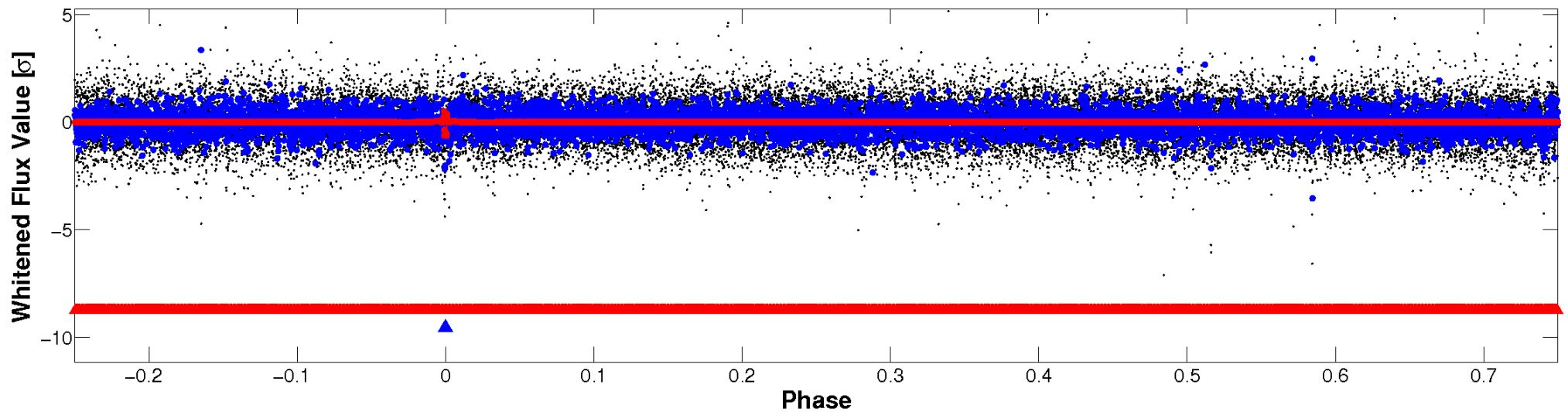


Non-Whitened Vs. Whitened Light Curve

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

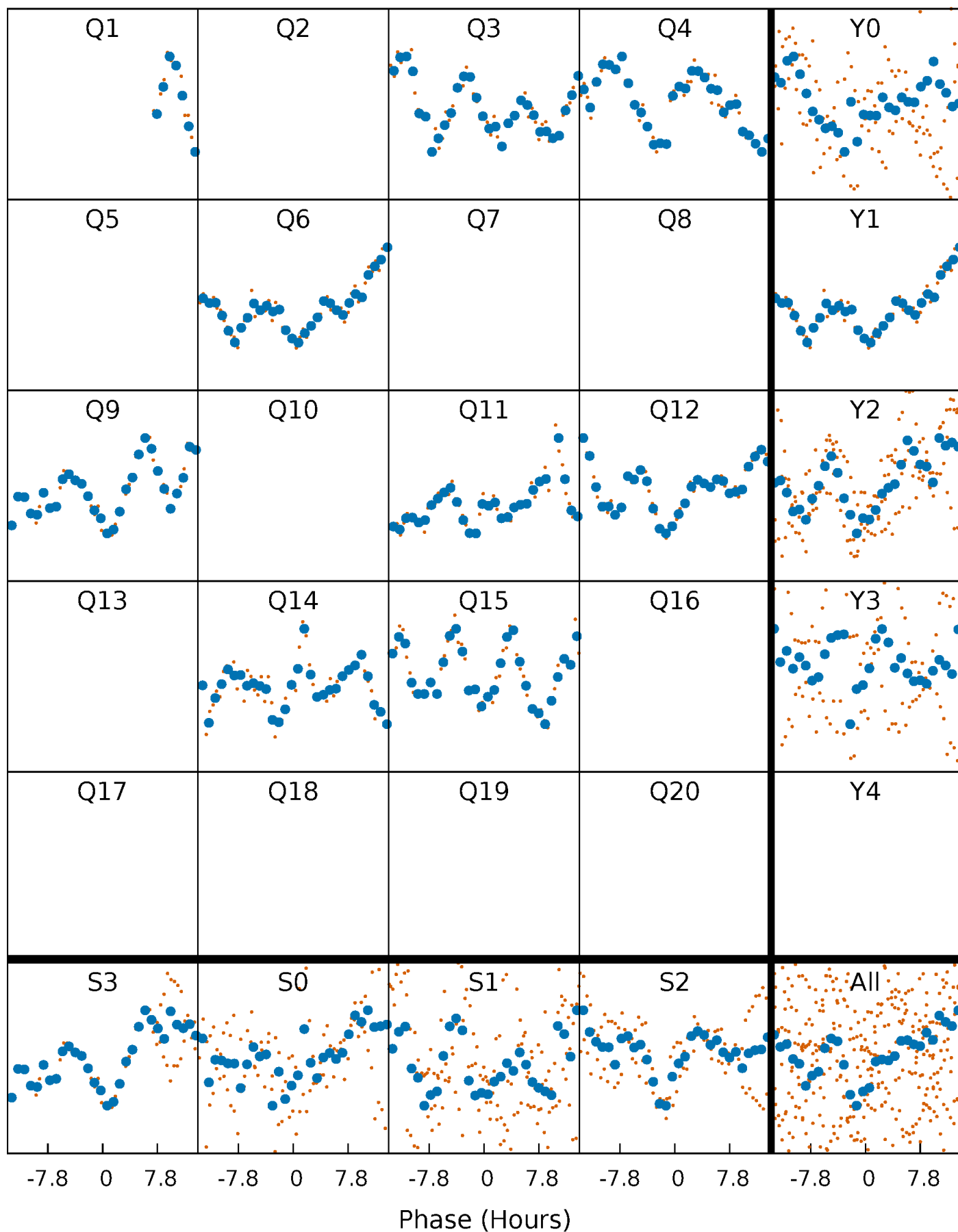


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



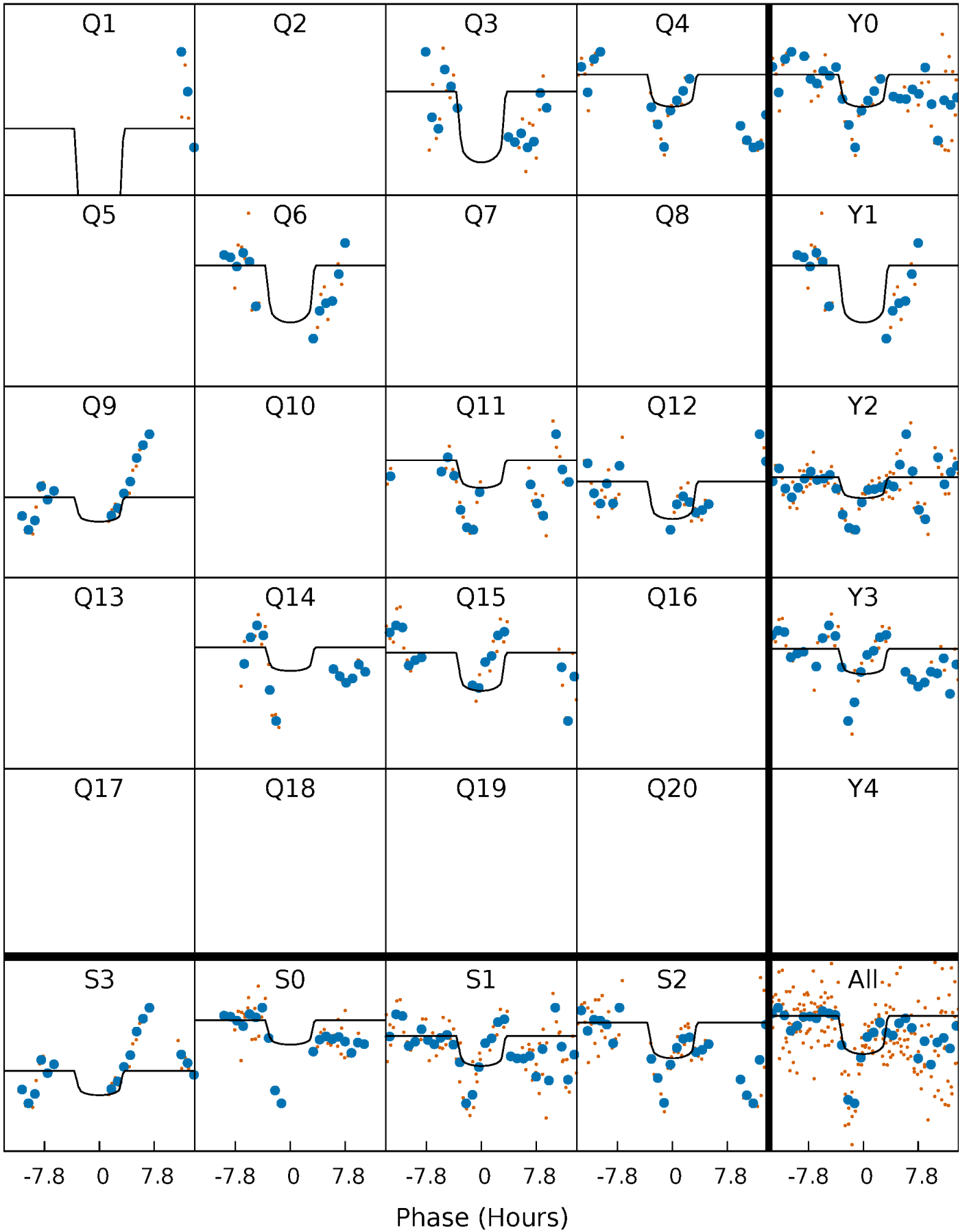
PDC Quarter-Phased Transit Curves

TCE 007908633-02 P=148.287317 Days $T_0=279.495204$ (BKJD)



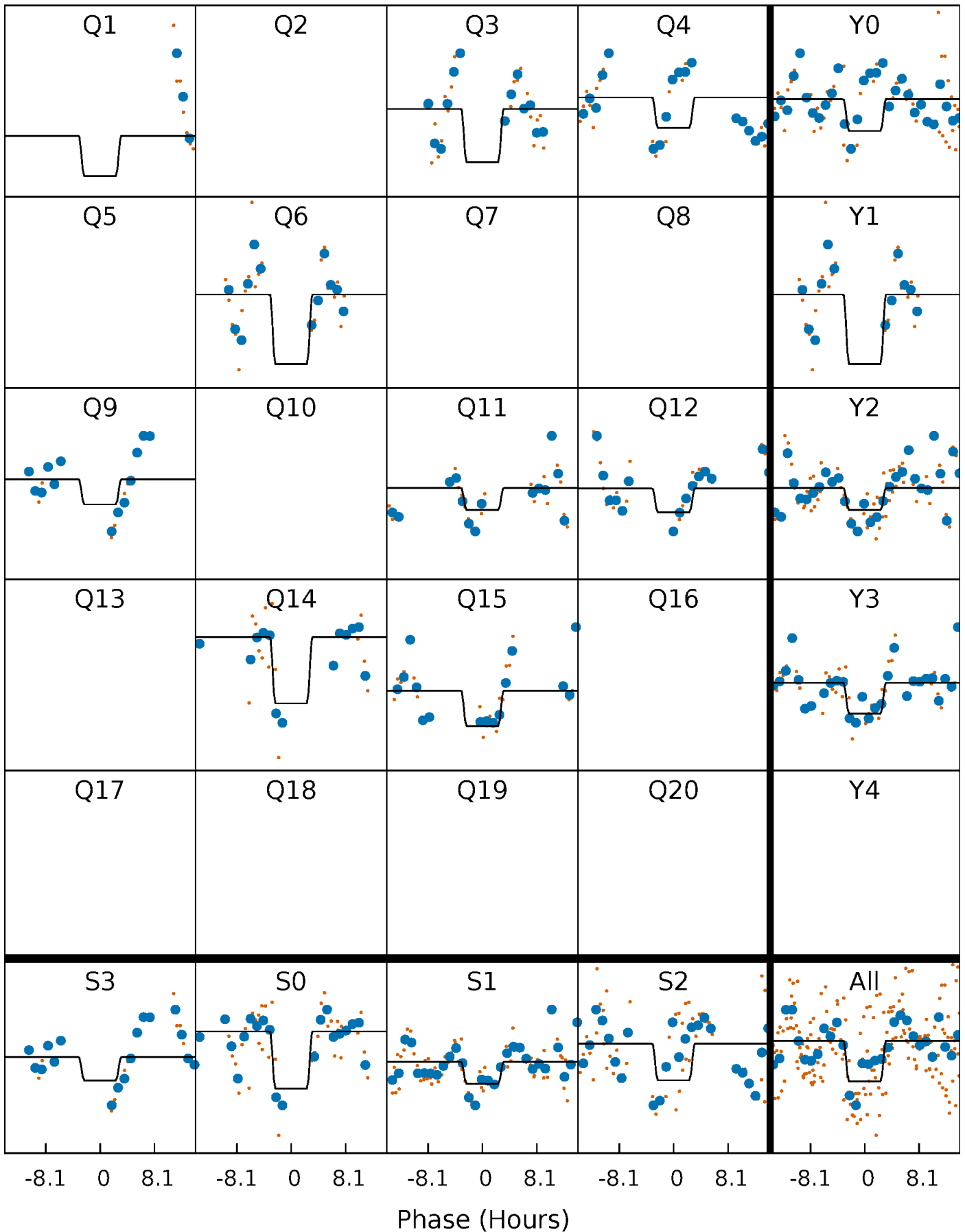
DV Quarter-Phased Transit Curves

TCE 007908633-02 P=148.287317 Days $T_0=279.495204$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

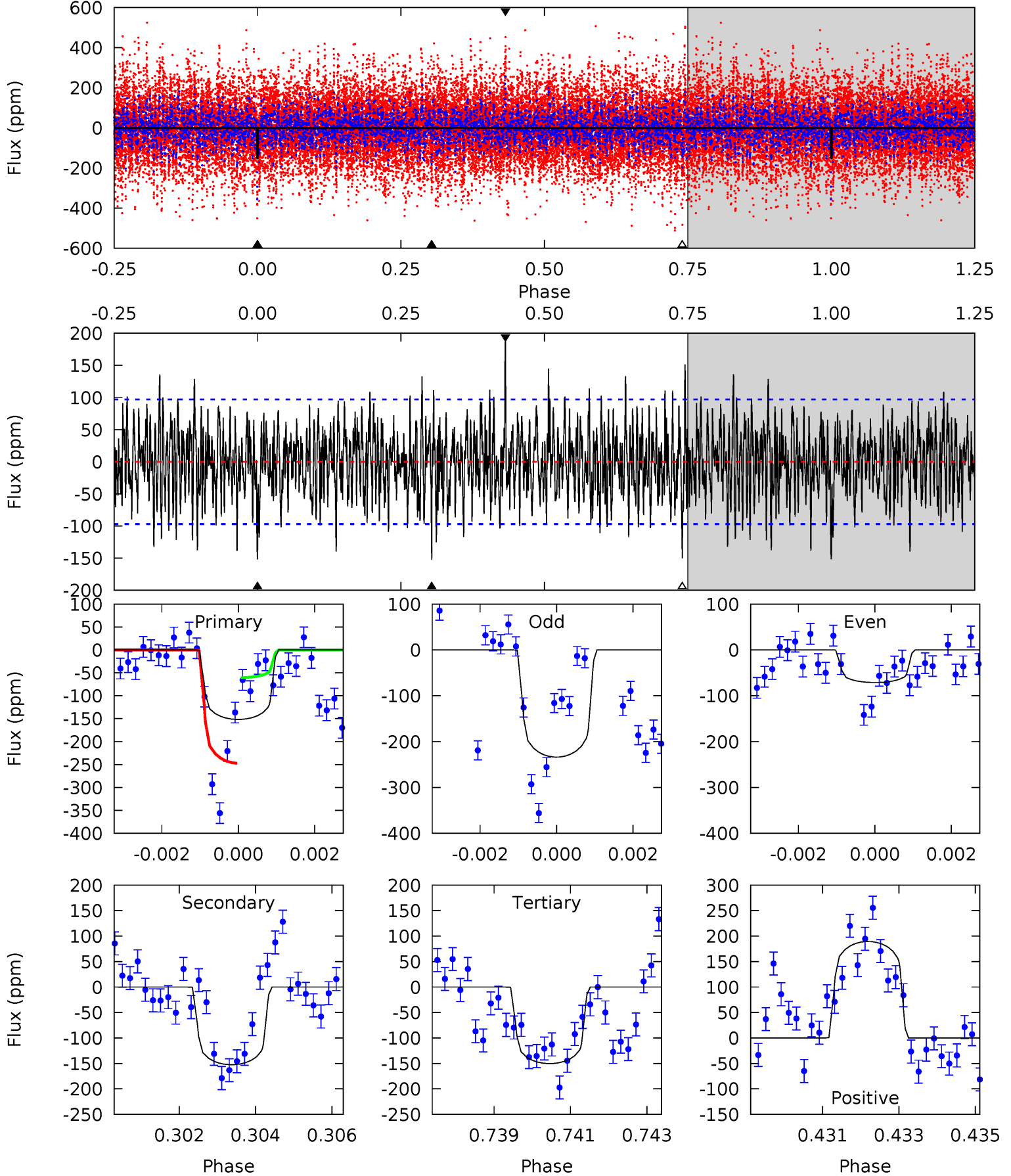
TCE 007908633-02 P=148.282083 Days $T_0=279.501191$ (BKJD)



DV Model-Shift Uniqueness Test

007908633-02, P = 148.287317 Days, E = 131.207887 Days

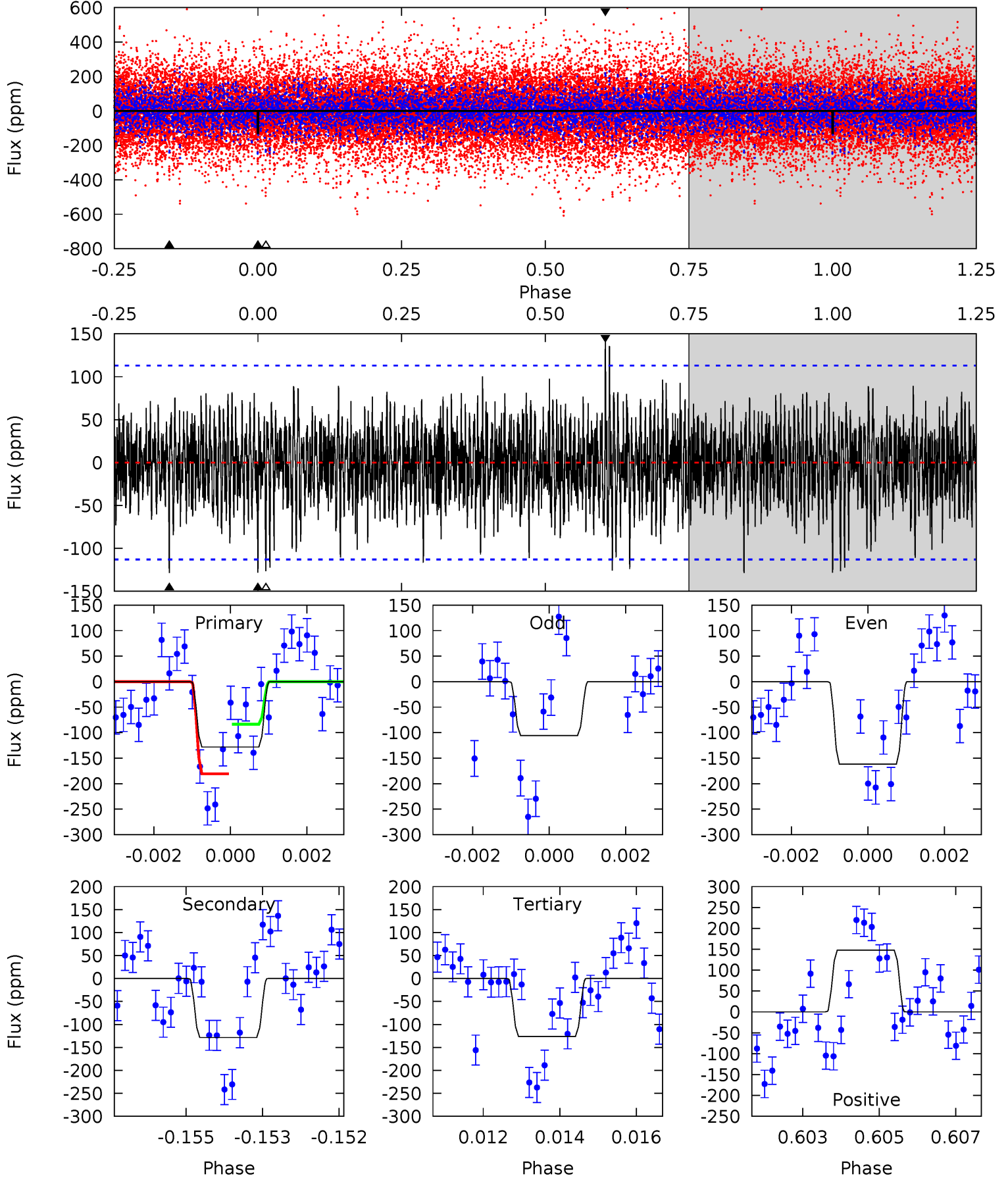
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.34	8.38	8.26	10.4	5.33	3.10	2.56	0.08	-2.08	0.12	-2.03	4.46	1.20	0.55	5.13



Alt Model-Shift Uniqueness Test

007908633-02, P = 148.282083 Days, E = 131.219108 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.07	6.08	5.98	7.00	5.35	3.13	1.70	0.09	-0.94	0.11	-0.92	1.32	1.06	0.54	2.29



Stellar Parameters For KIC 007908633

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8057^{+223}_{-335}	$3.719^{+0.405}_{-0.108}$	$-0.020^{+0.250}_{-0.400}$	$3.295^{+0.824}_{-1.412}$	$2.075^{+0.336}_{-0.504}$	$0.082^{+0.327}_{-0.035}$
	+3%/-4%	+11%/-3%	+1250%/-2000%	+25%/-43%	+16%/-24%	+400%/-43%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007908633-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-152 ± 18	$3.97^{+1.57}_{-1.37}$	1038^{+79}_{-122}	8047^{+2303}_{-1174}	2654^{+3541}_{-1318}
Alt.	-128 ± 21	$4.06^{+1.51}_{-1.42}$	1044^{+79}_{-118}	7651^{+2011}_{-1142}	2116^{+2947}_{-1015}

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

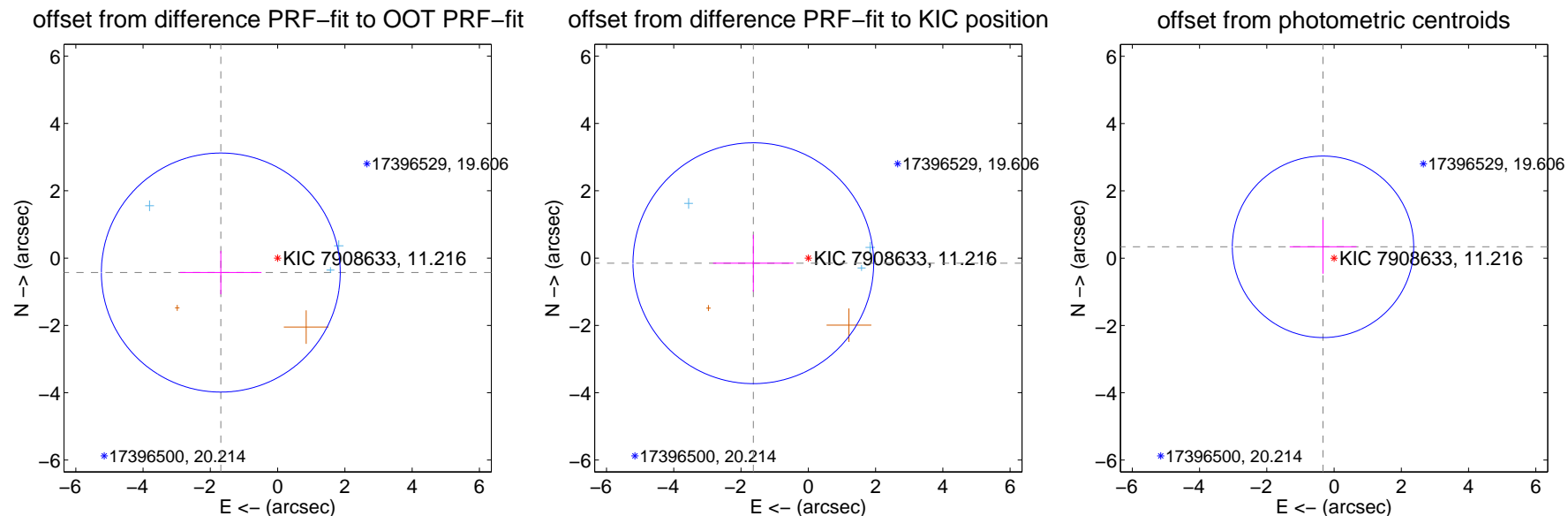
DV Centroid Data

Supplemental centroid analysis for 007908633-02. **Kepler magnitude: 11.22.** Transit SNR 3.71

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.743 ± 1.184	1.47	1.689 ± 1.210	-0.430 ± 0.645
PRF-fit source offset from KIC position	1.642 ± 1.192	1.38	1.634 ± 1.195	-0.153 ± 0.846
photometric centroid source offset	0.47 ± 0.90	0.52	0.33 ± 0.99	0.34 ± 0.80



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

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

Q1 no difference image



Q1 no OOT image



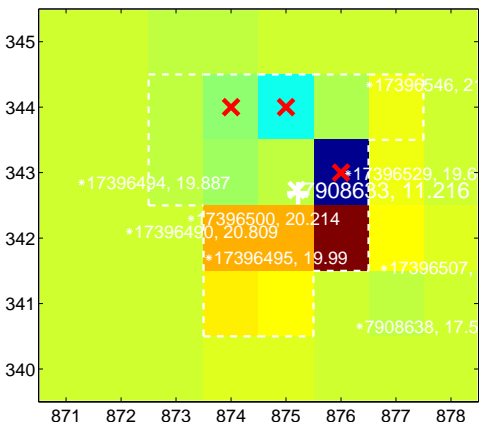
Q2 no difference image



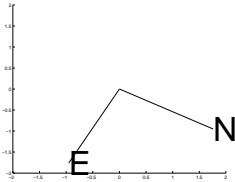
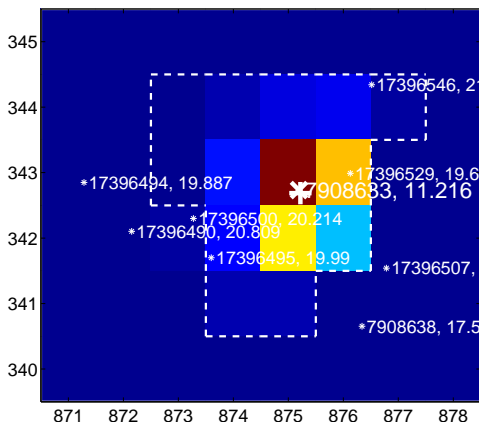
Q2 no OOT image



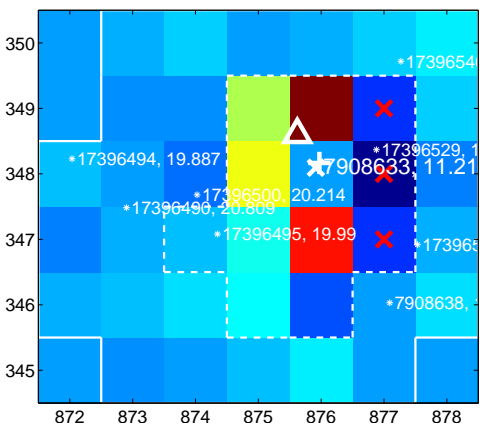
Q3 difference image. Poor Quality



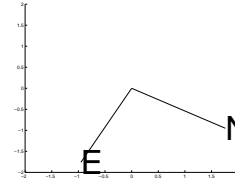
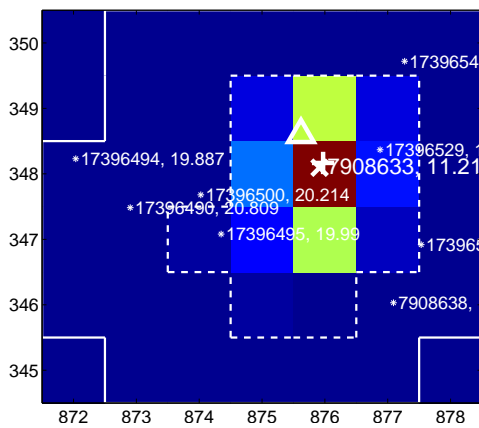
Q3 OOT image



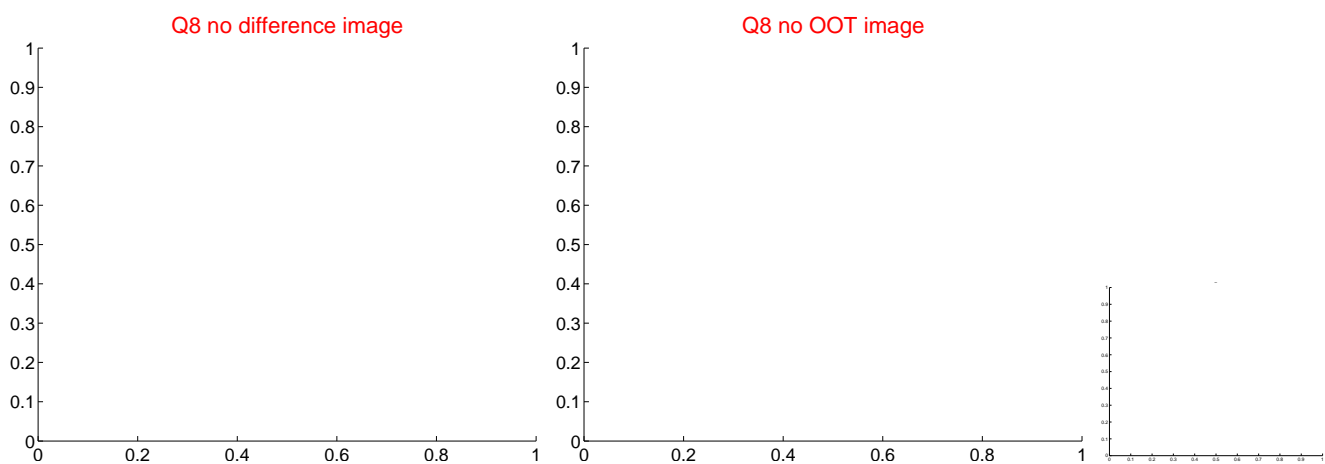
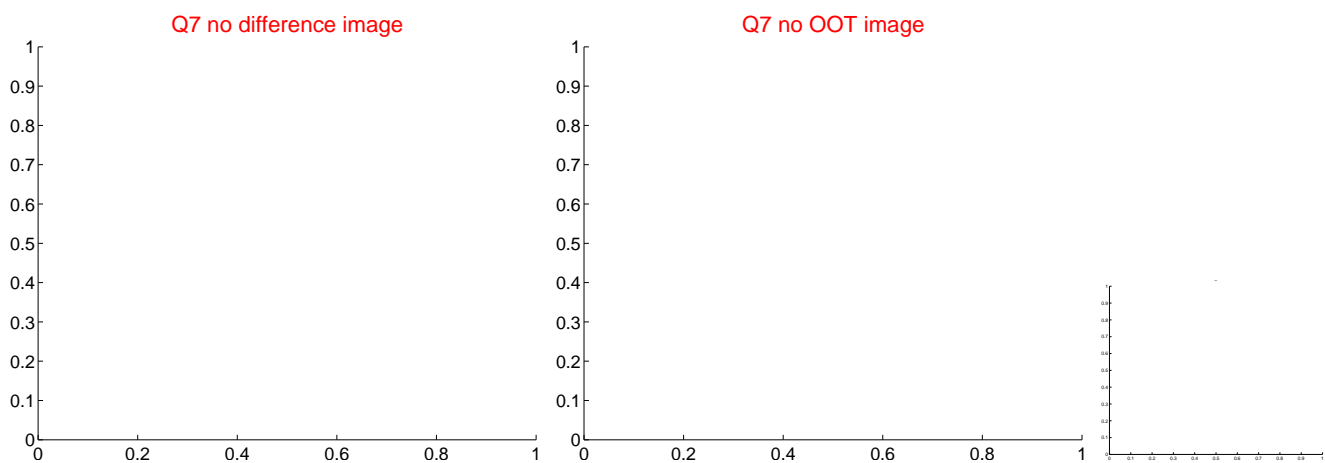
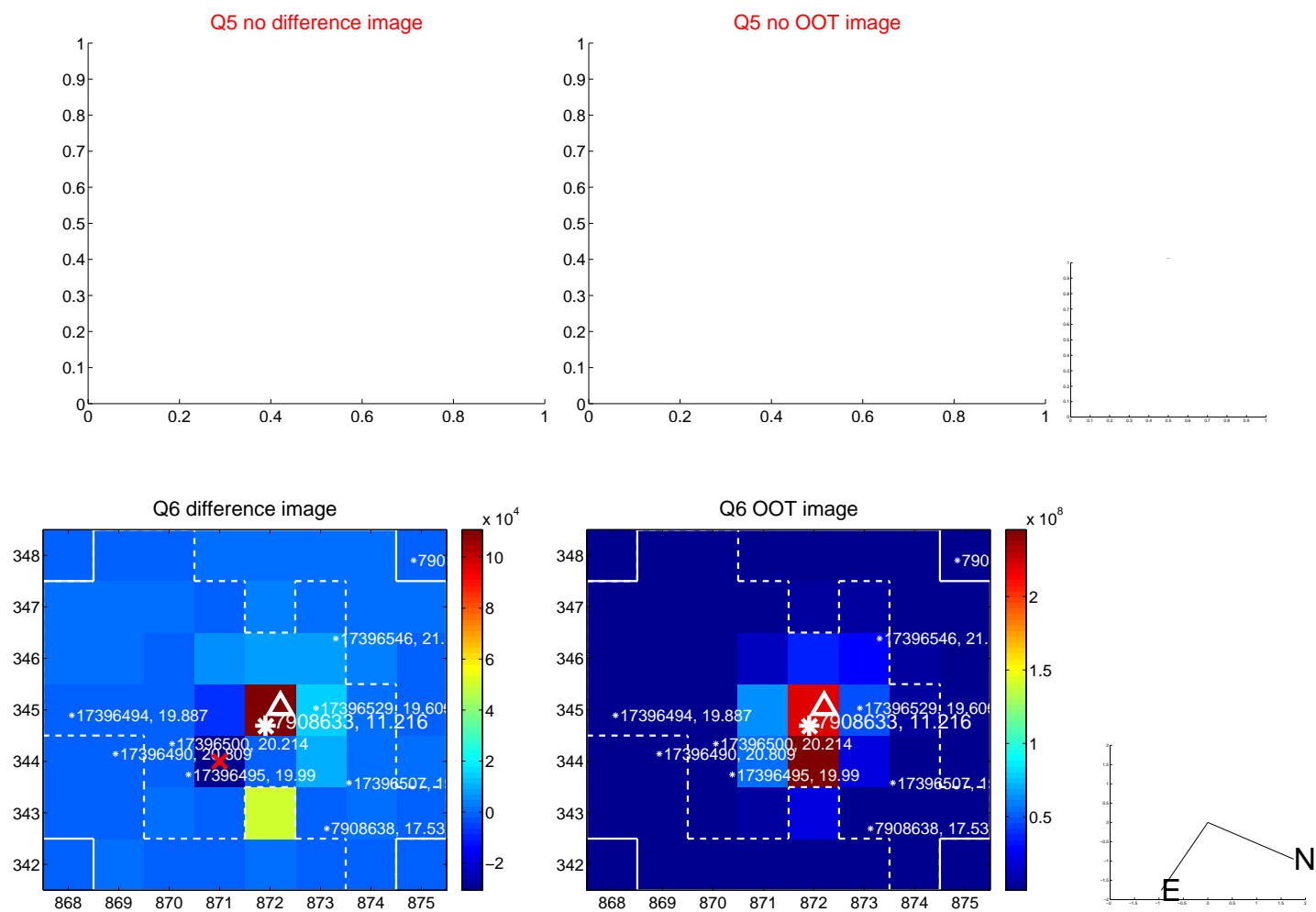
Q4 difference image. Poor Quality



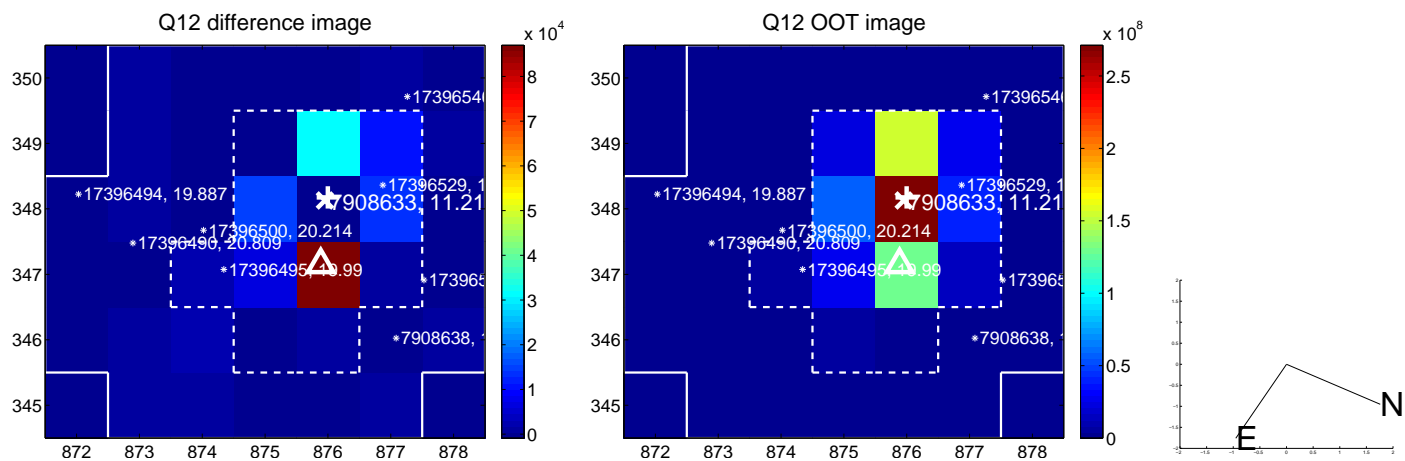
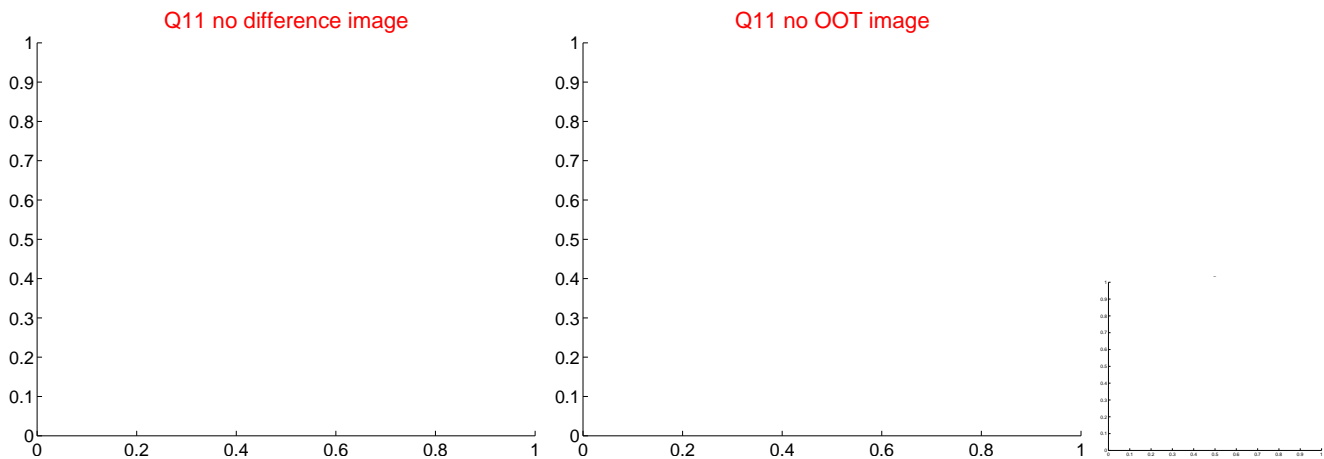
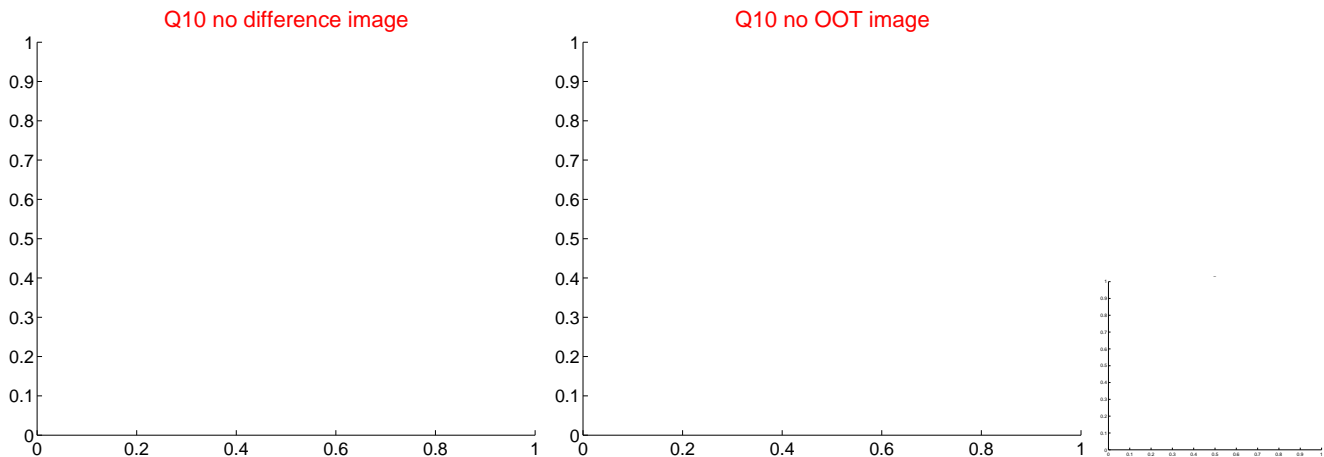
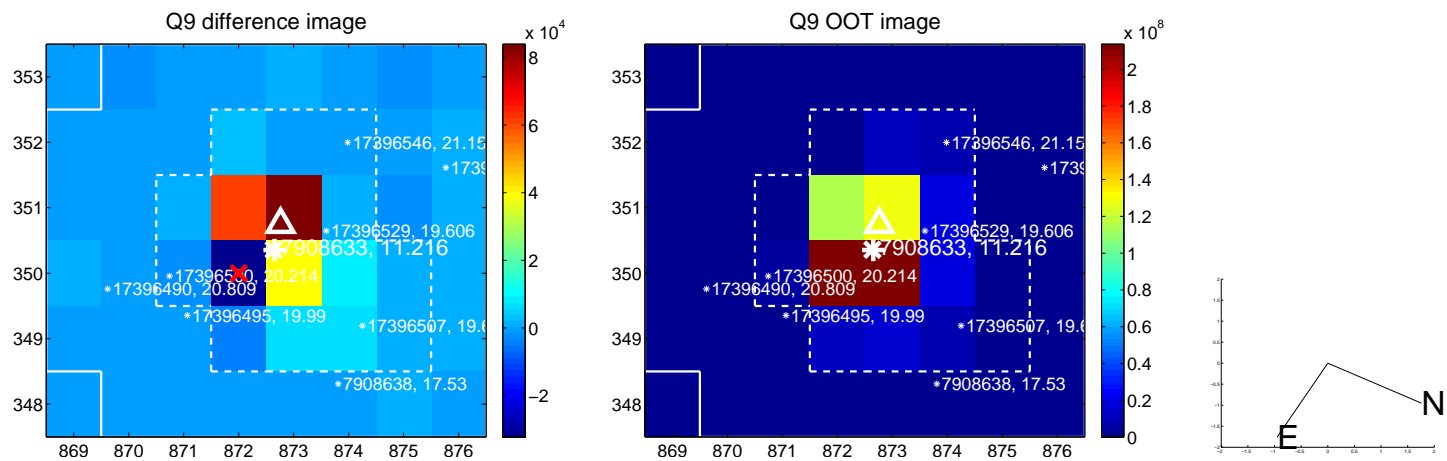
Q4 OOT image



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.

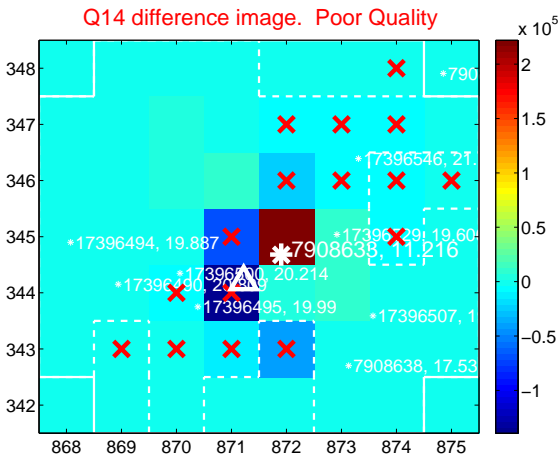
Q13 no difference image



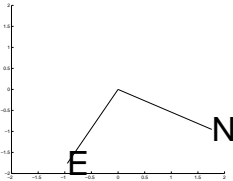
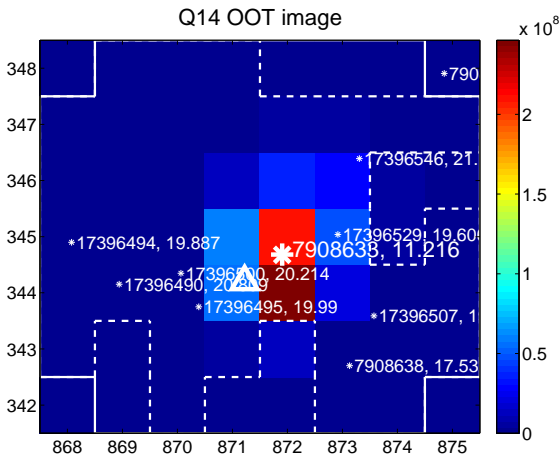
Q13 no OOT image



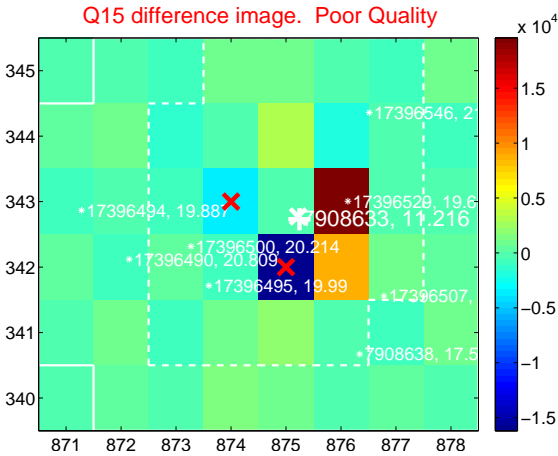
Q14 difference image. Poor Quality



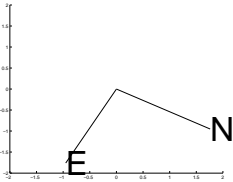
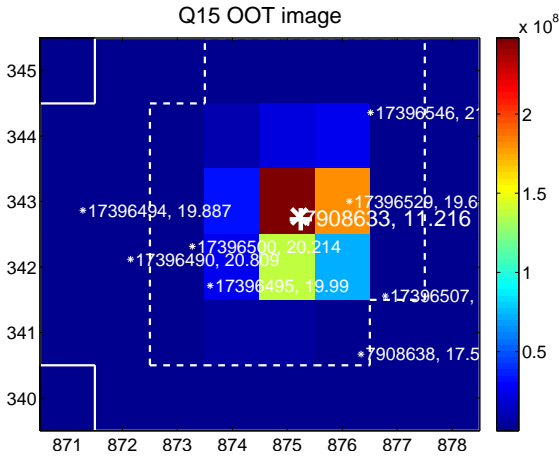
Q14 OOT image



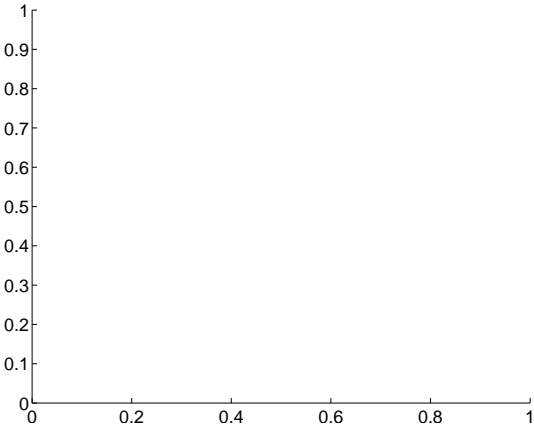
Q15 difference image. Poor Quality



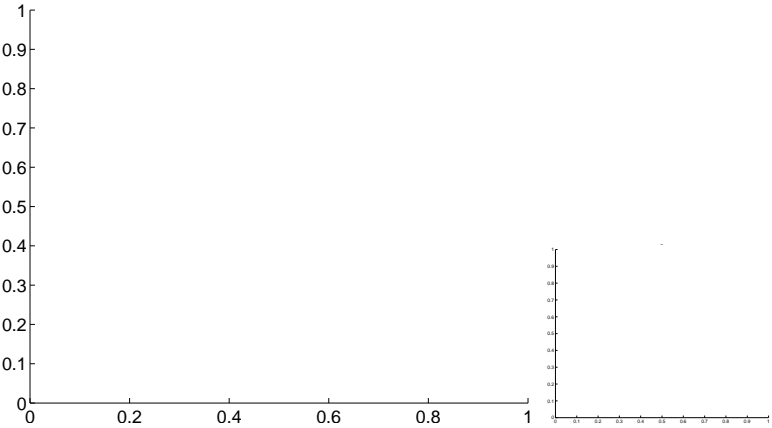
Q15 OOT image



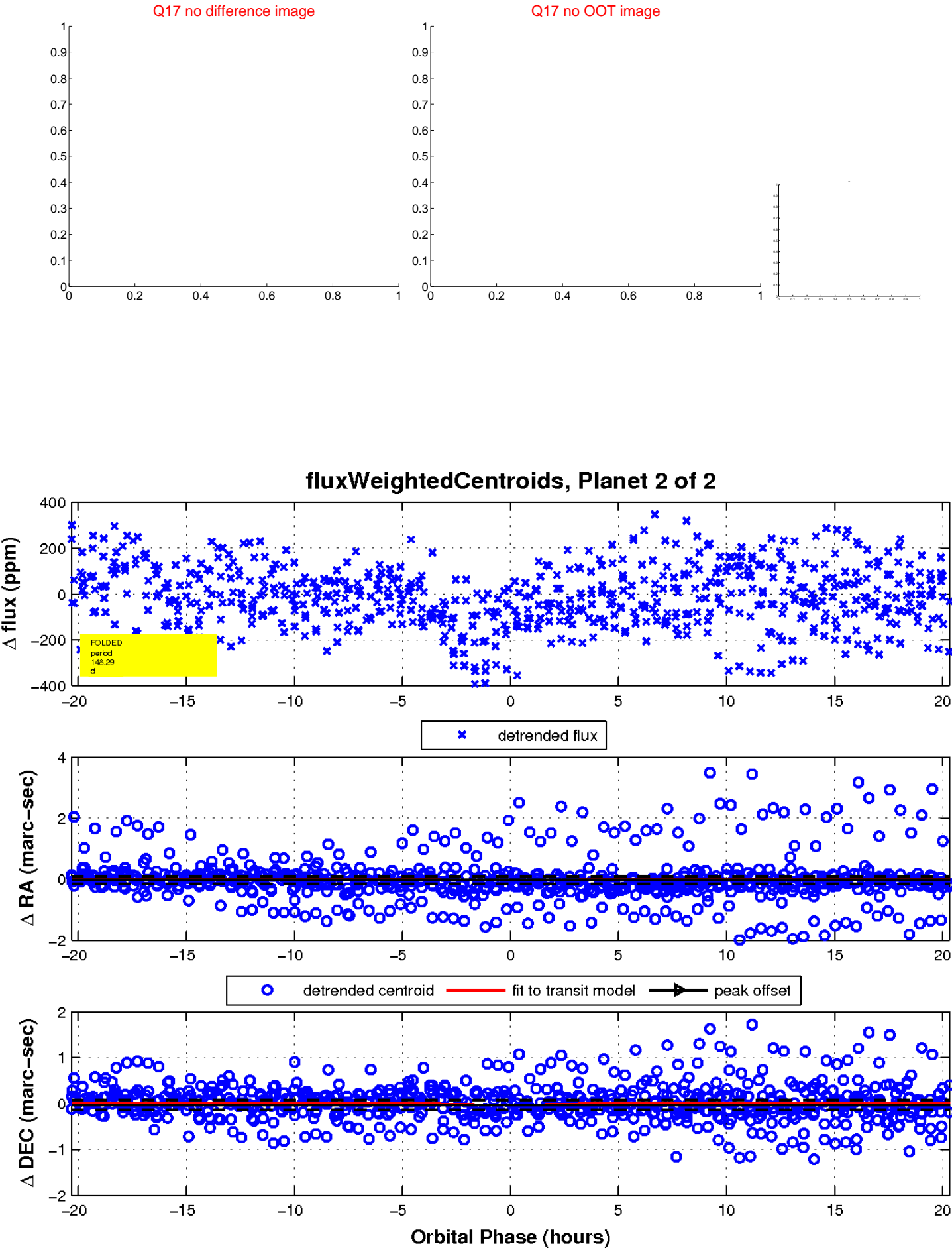
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

