

KIC 003834317

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})
003834317-01	OBS	4203.01	2.182012	131.787875	30.2	9.092	10.9	10.4	3.34	6911	3.63	13877.97
003834317-02	OBS	No	184.198832	252.457030	155.3	14.985	10.0	6.2	3.34	6911	4.36	37.48
003834317-04	OBS	No	47.651611	138.922404	92.4	7.295	7.6	7.7	3.34	6911	3.58	227.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003834317-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
003834317-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
003834317-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—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.

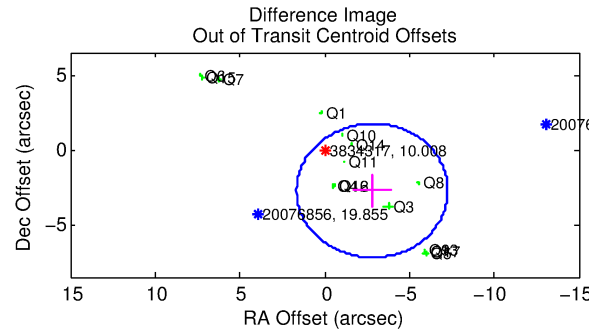
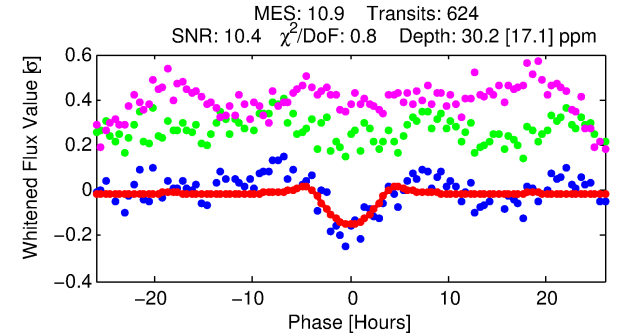
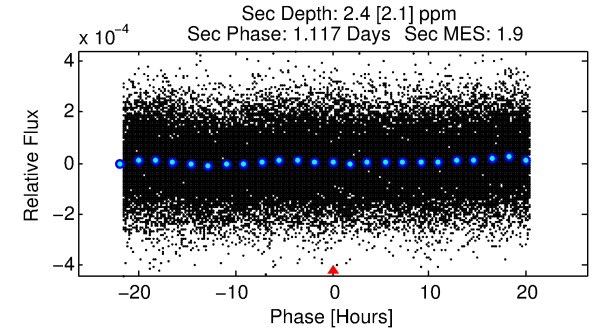
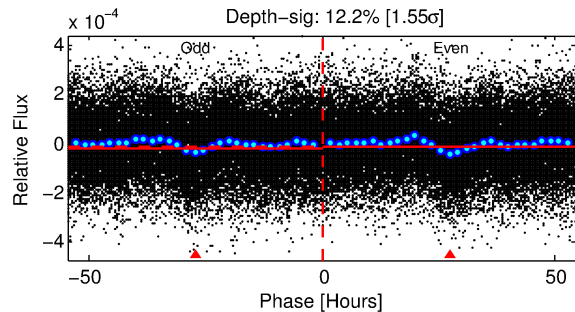
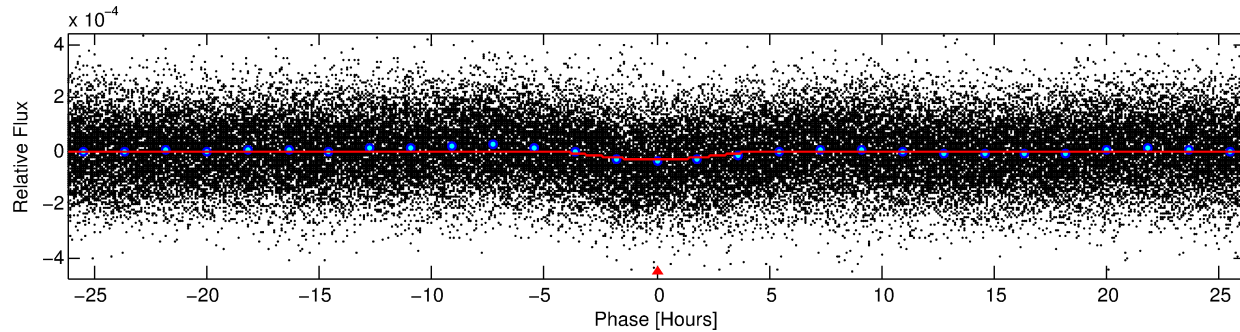
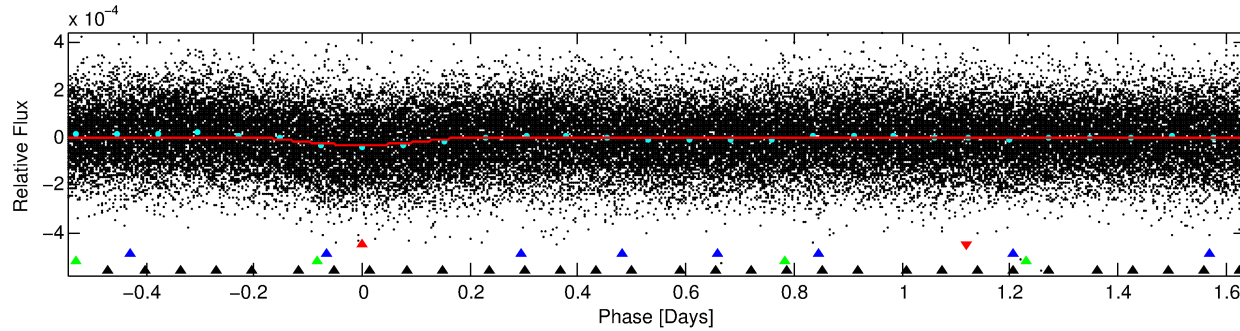
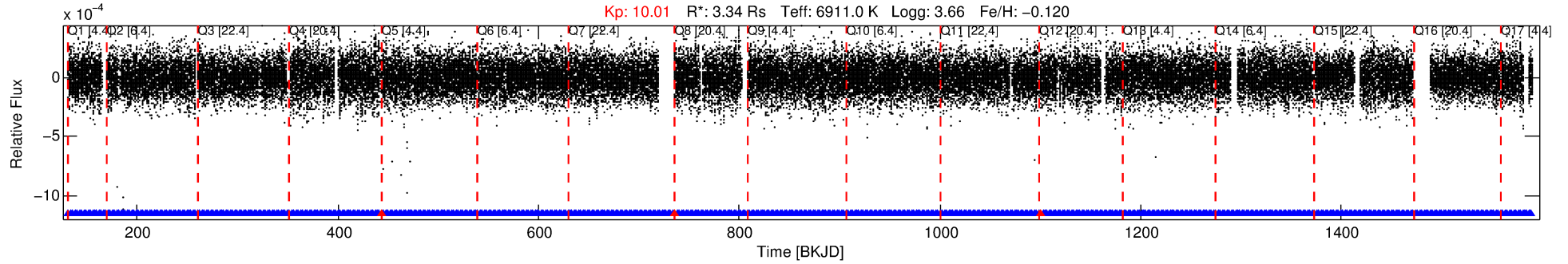
Ephemeris Match Information For 003834317-01

No Significant Match Found

DV One-Page Summary

KIC: 3834317 Candidate: 1 of 4 Period: 2.182 d

KOI: K04203 Corr: No Ephemeris Match



DV Fit Results:

Period = 2.18201 [0.00004] d
Epoch = 131.7879 [0.0153] BKJD
Rp/R* = 0.0100 [0.0154]
a/R* = 1.04 [0.01]
b = 1.00 [0.02]
Seff = 13877.97 [8258.63]
Teq = 2768 [412] K
Rp = 3.63 [5.80] Re
a = 0.0405 [0.0147] AU
Ag = 0.16 [0.53] [-1.59 σ]
Teffp = 2714 [2187] K [-0.02 σ]

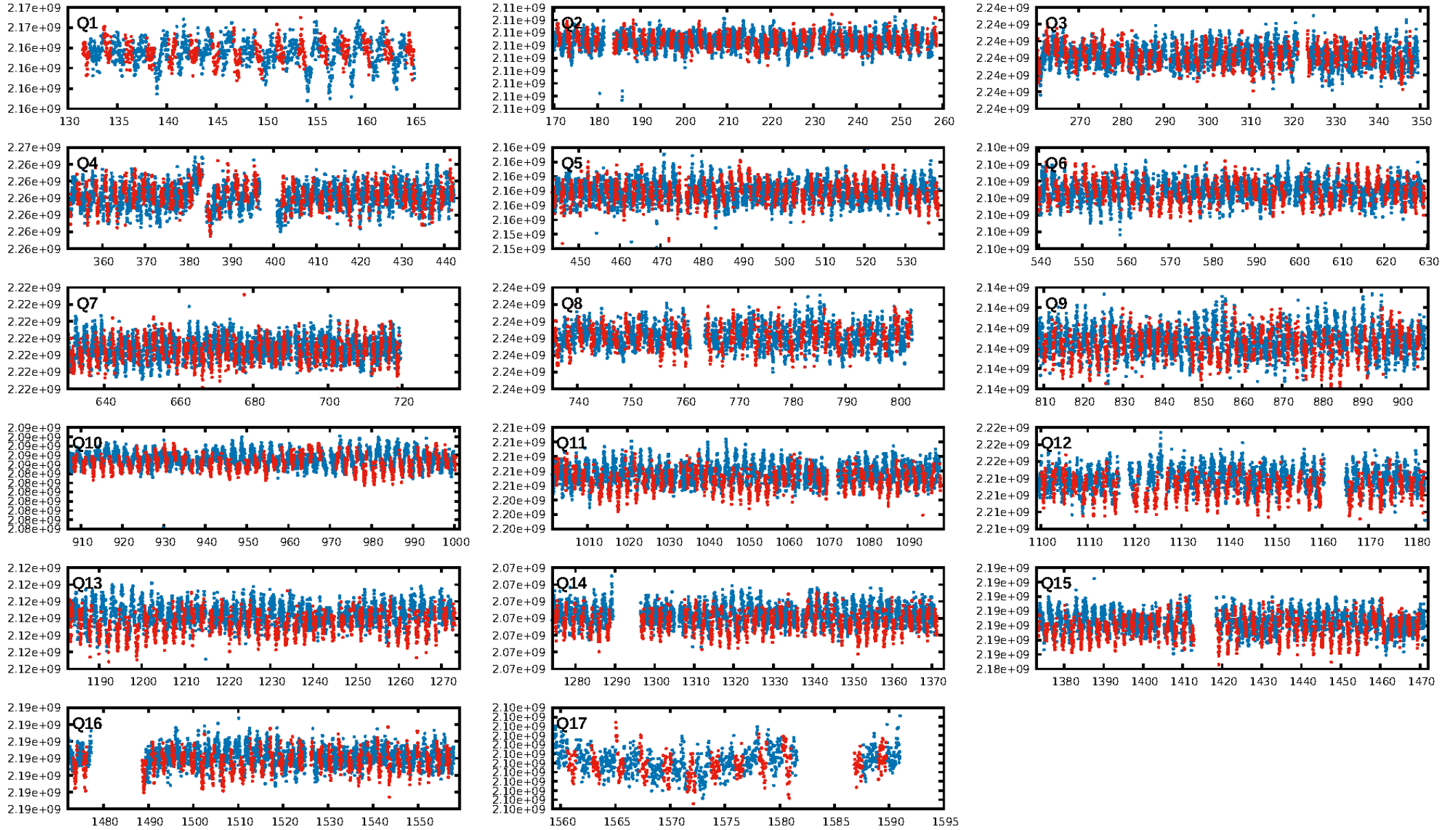
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [93.62 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.45e-17
RollingBand-fgt: 0.99 [593/596]
GhostDiagnostic-chr: N/A
Centroid-sig: 12.2%
Centroid-so: 0.959 arcsec [1.59 σ]
OotOffset-rm: 3.914 arcsec [2.63 σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-rm: 4.452 arcsec [3.35 σ]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.38 [6/16]
DiffImageOverlap-fno: 1.00 [17/17]

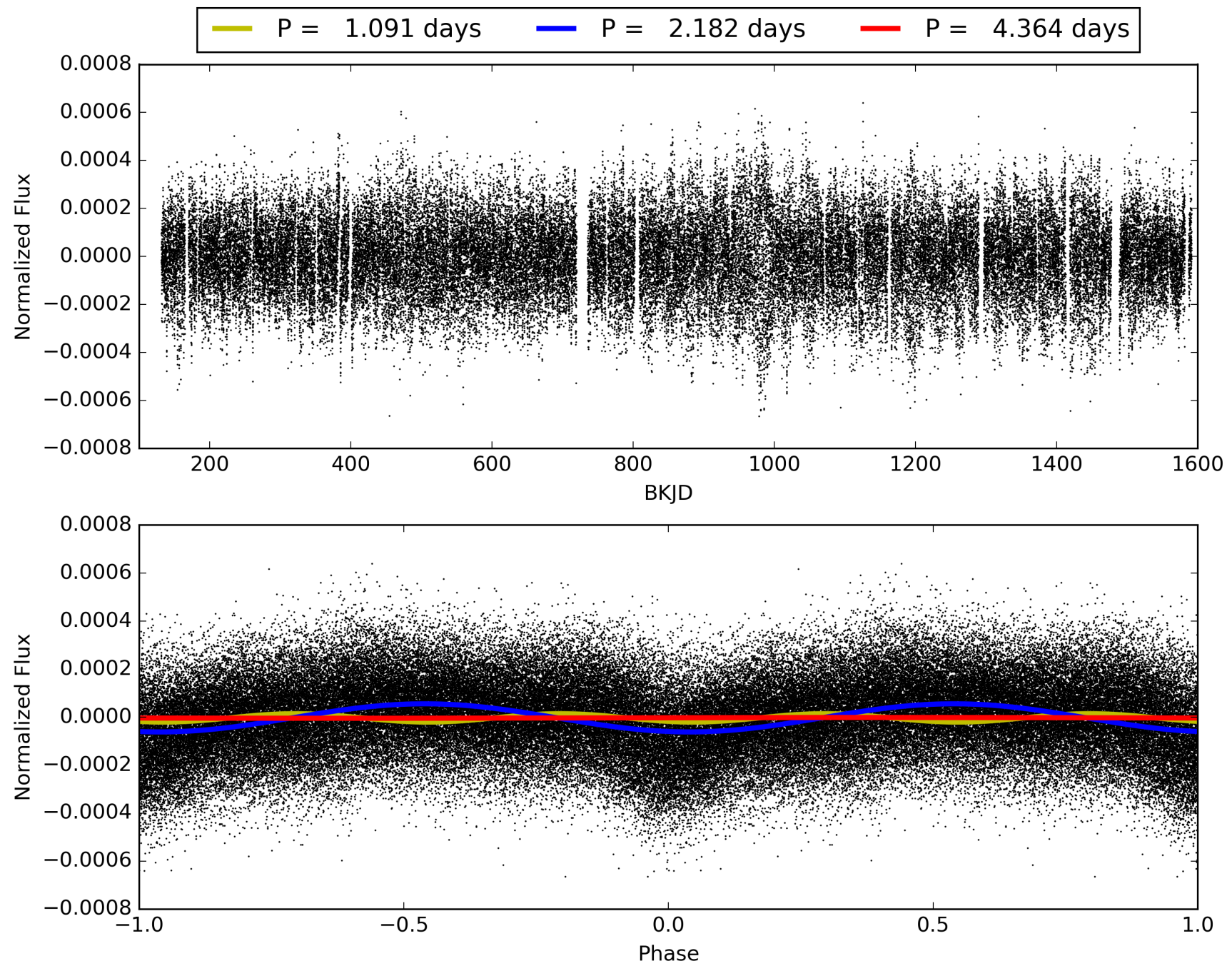
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:36:08 Z

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

TCE 003834317-01, PDC Light Curves

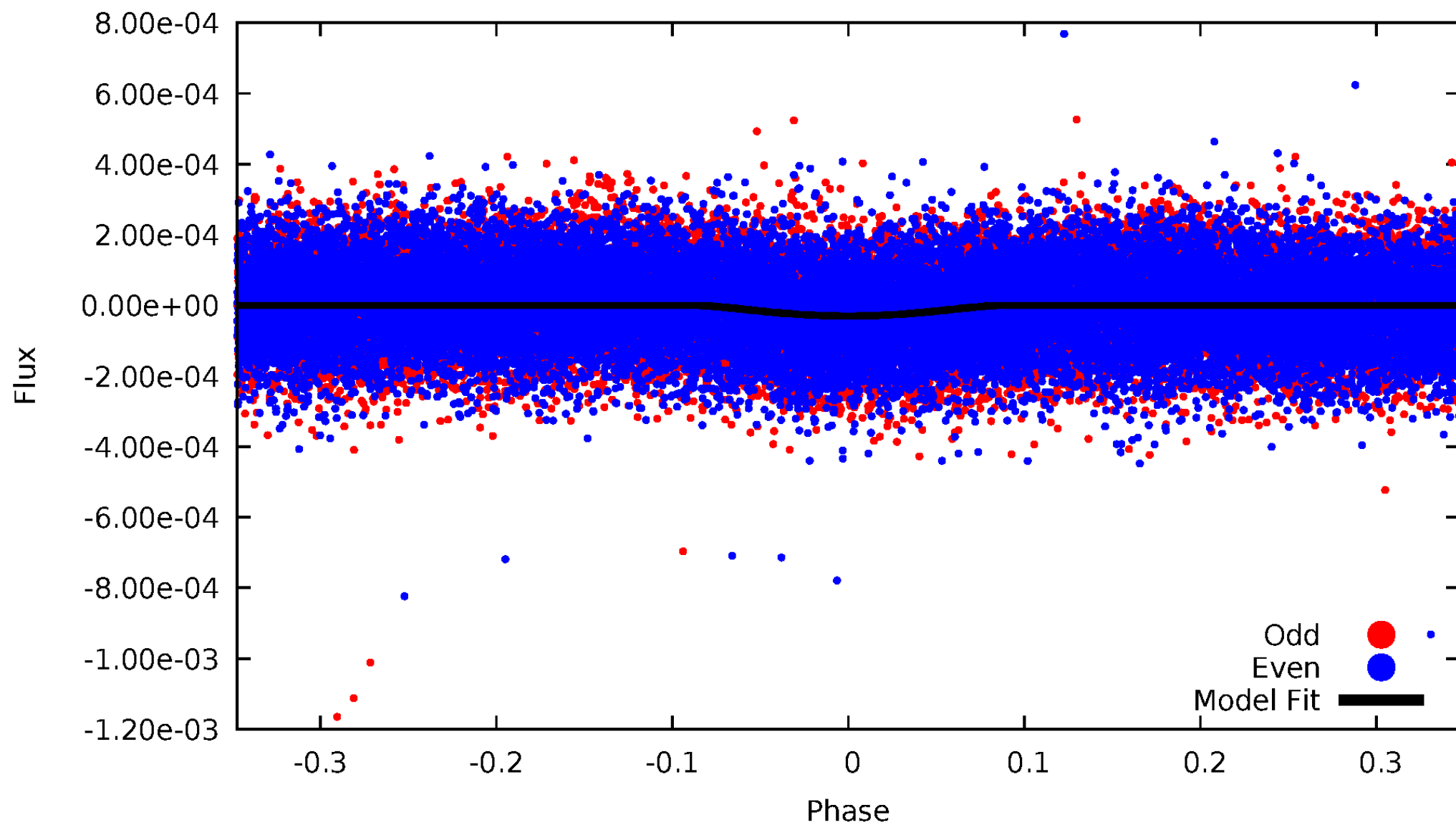


TCE 003834317-01



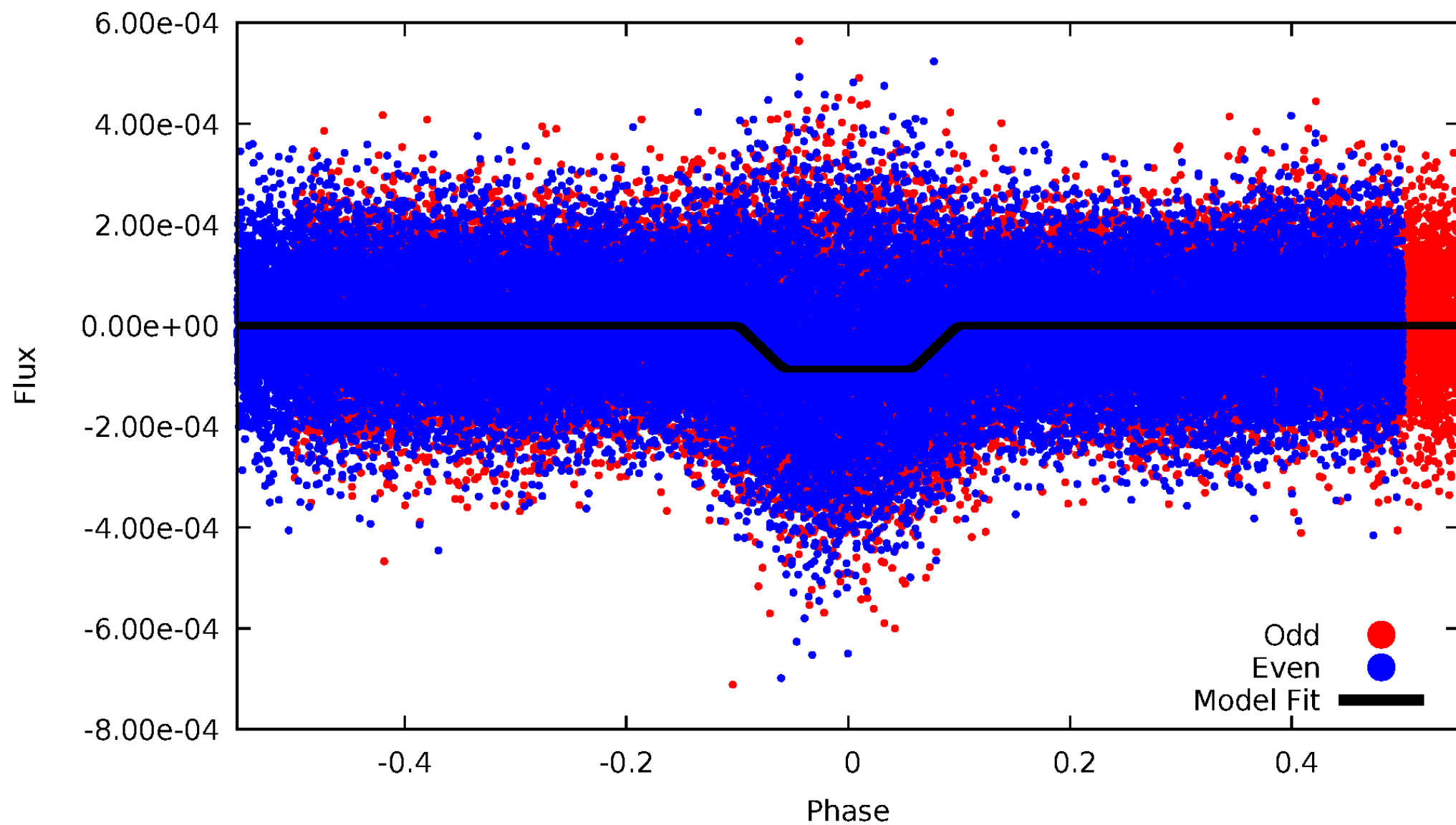
DV Odd/Even

TCE 003834317-01

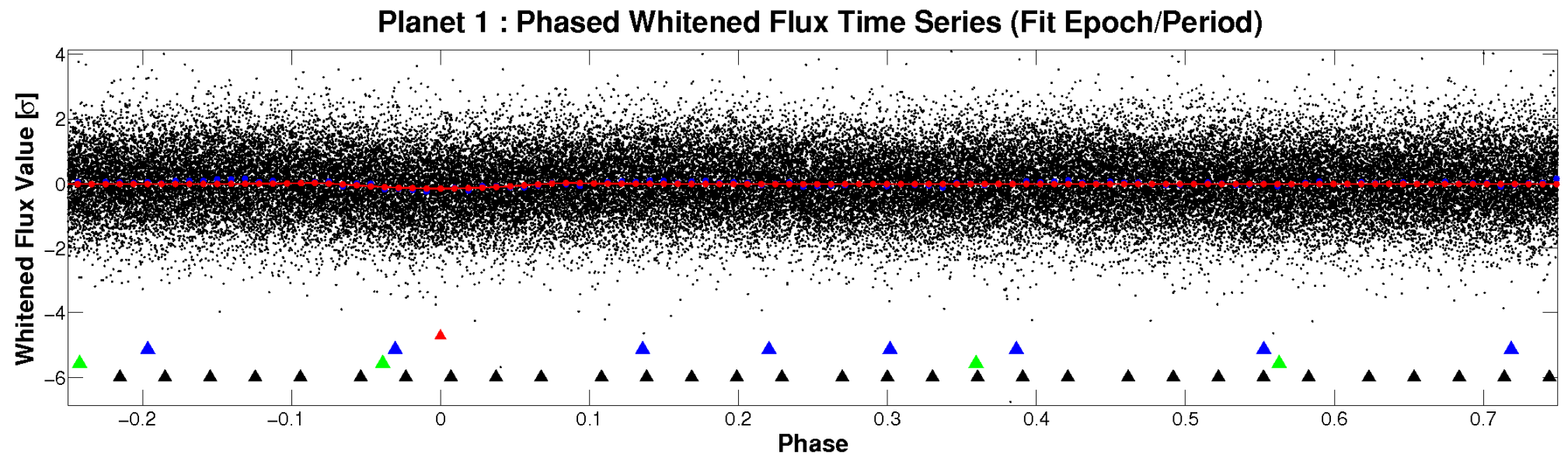
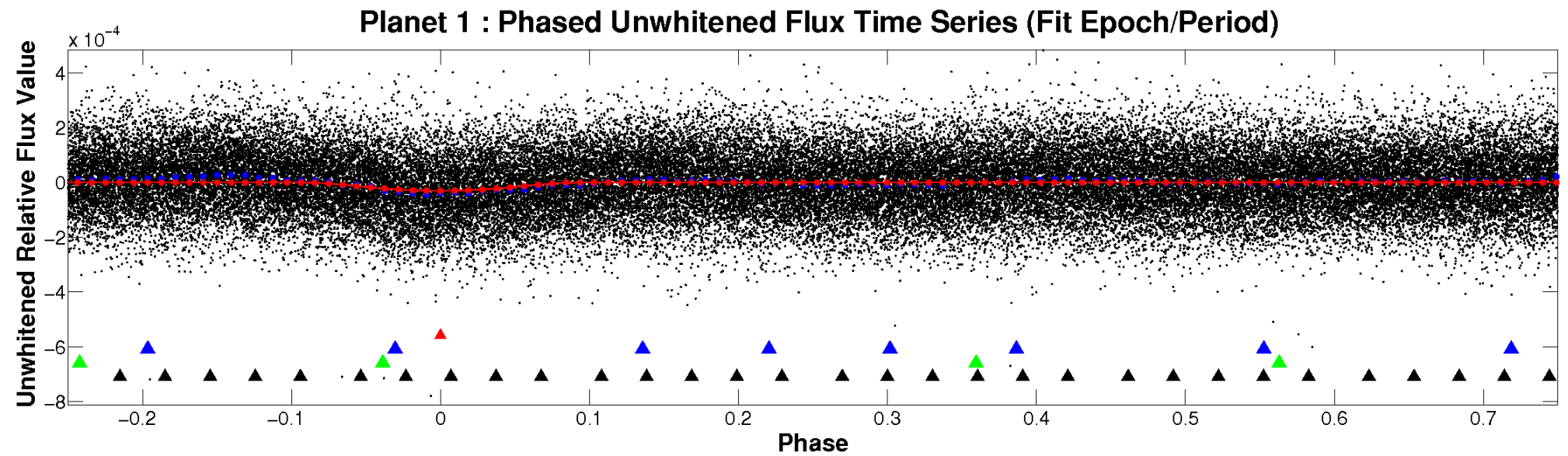


ALT Odd/Even

TCE 003834317-01

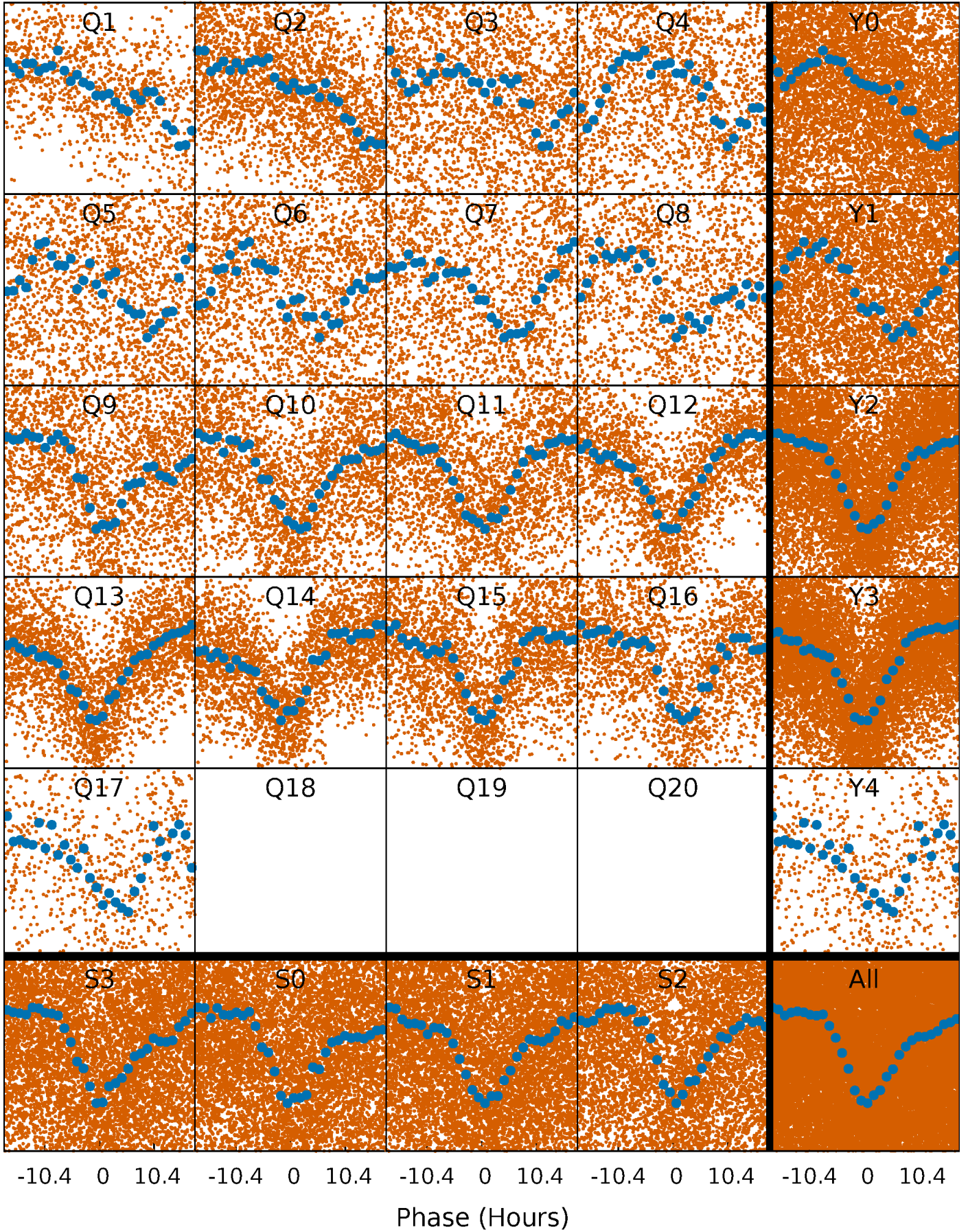


Non-Whitened Vs. Whitened Light Curve



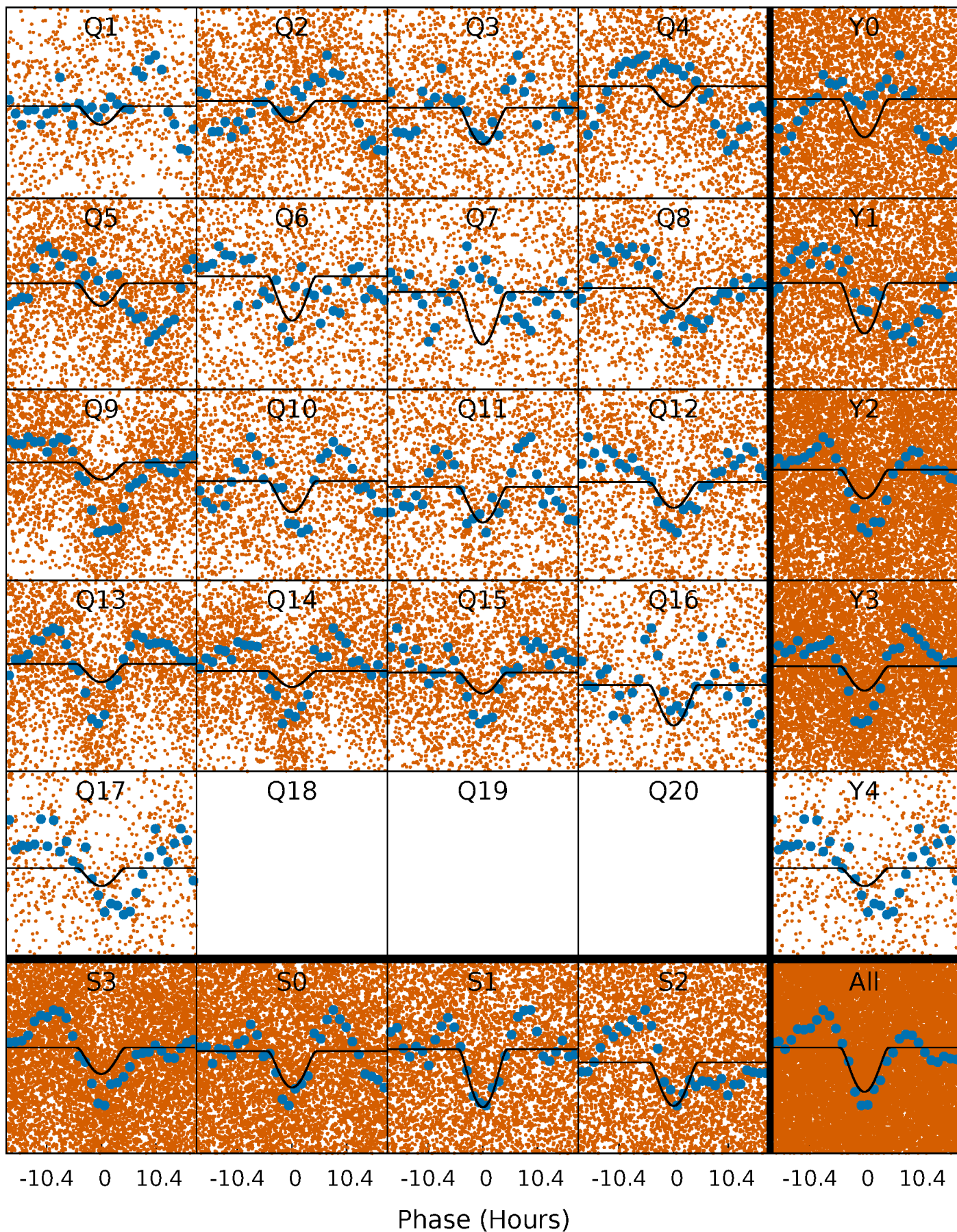
PDC Quarter-Phased Transit Curves

TCE 003834317-01 P= 2.182012 Days $T_0=131.787876$ (BKJD)



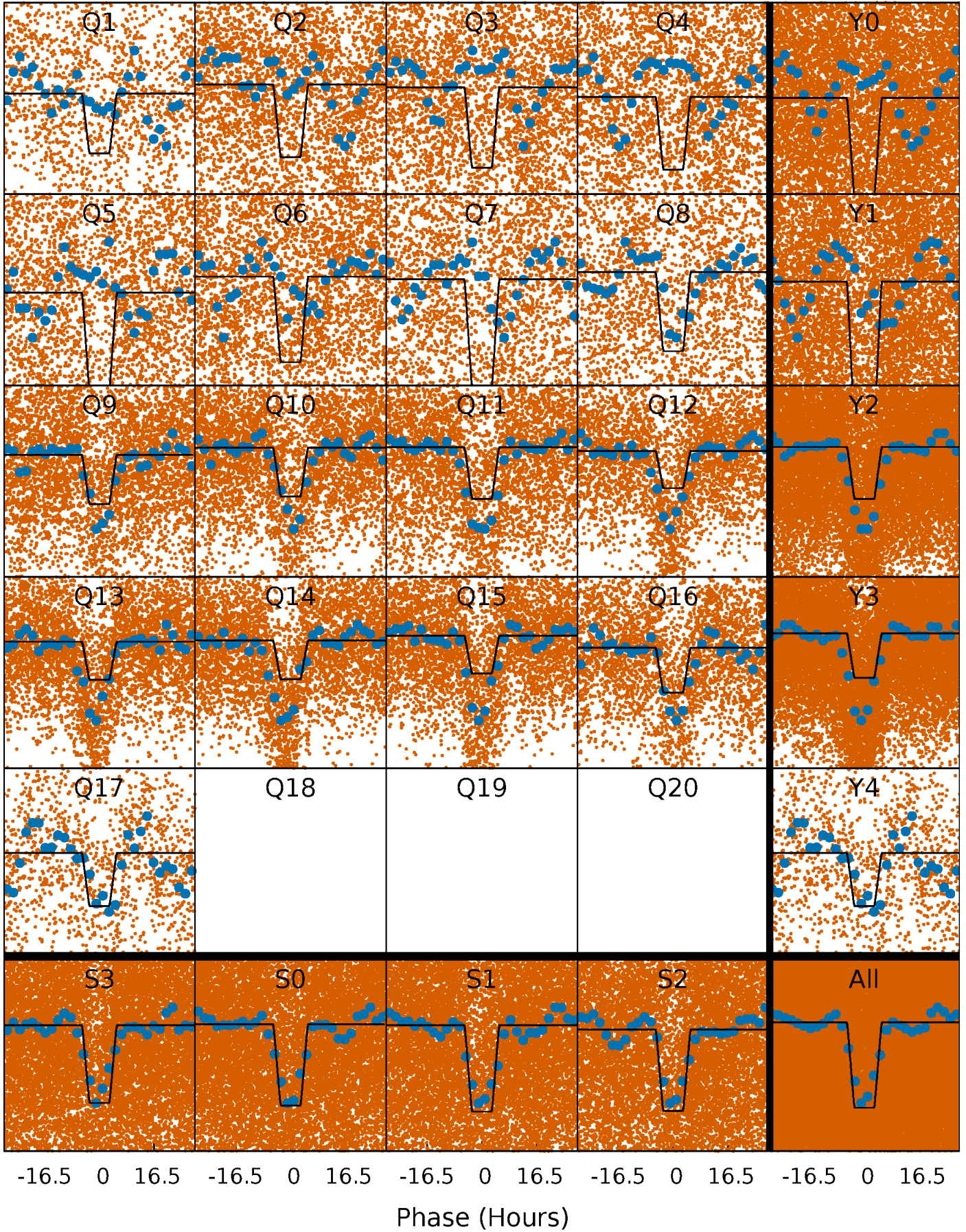
DV Quarter-Phased Transit Curves

TCE 003834317-01 P= 2.182012 Days $T_0=131.787876$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

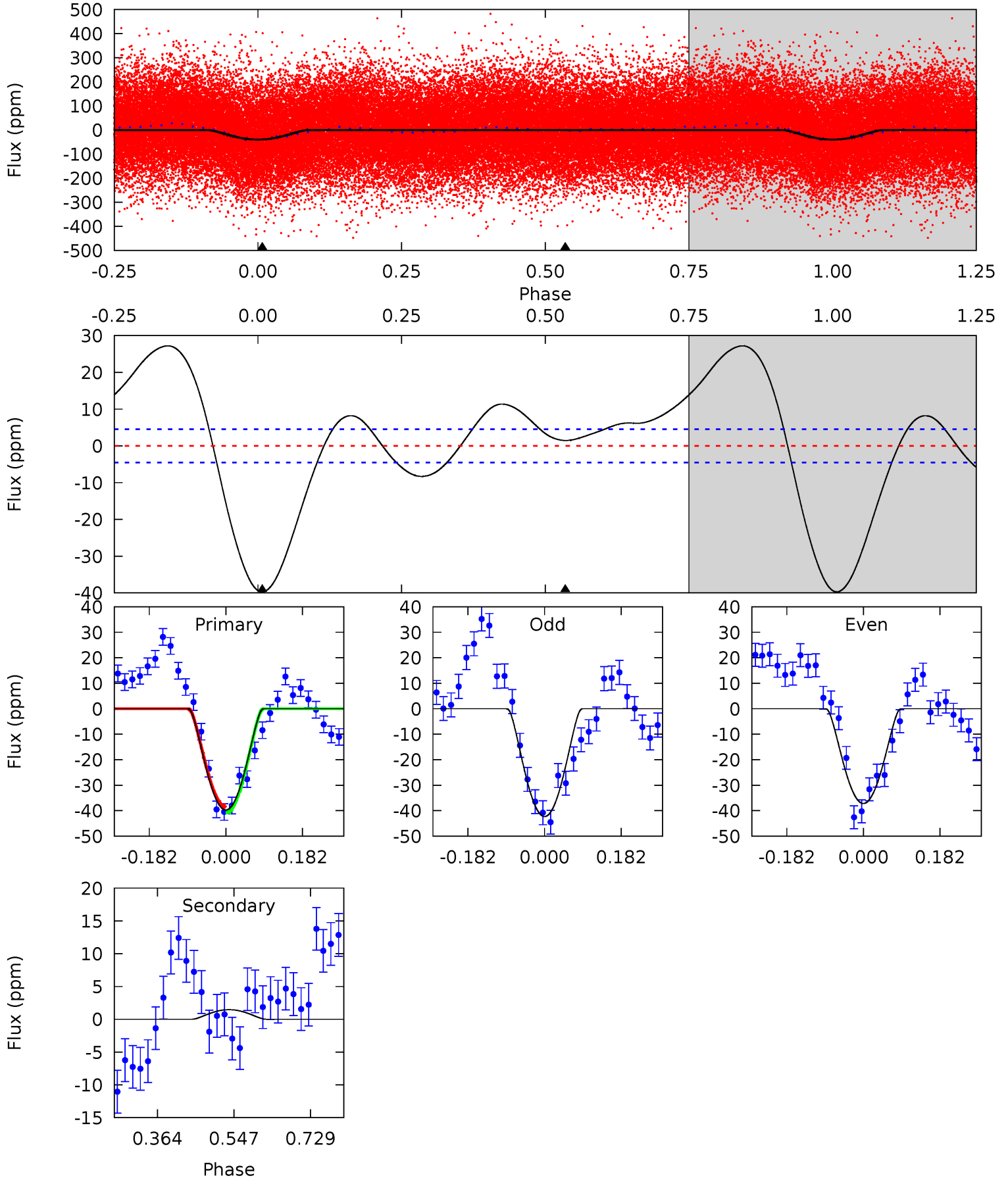
TCE 003834317-01 P= 2.182134 Days $T_0=131.756934$ (BKJD)



DV Model-Shift Uniqueness Test

003834317-01, P = 2.182012 Days, E = 129.605864 Days

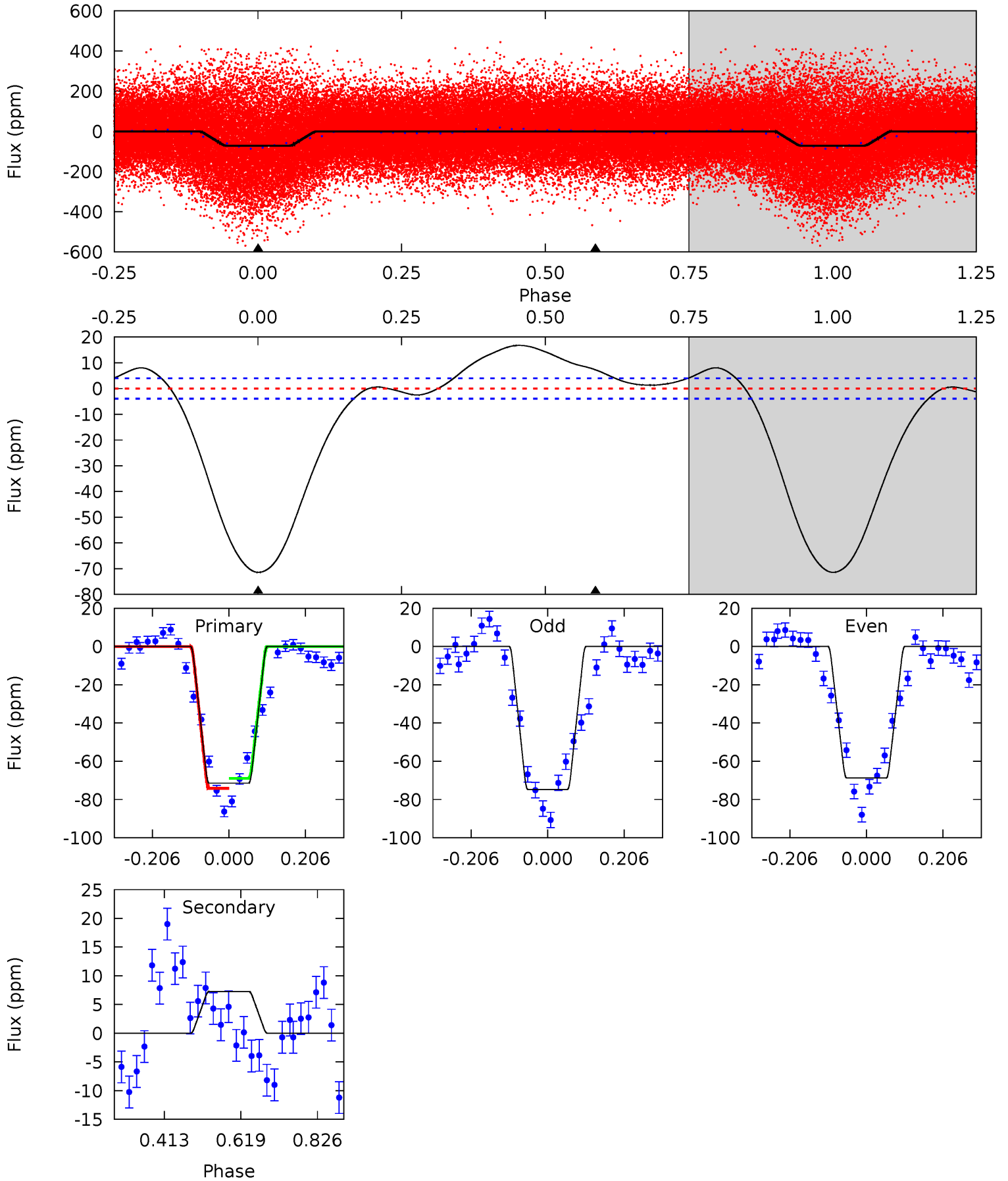
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.0	-1.44	0	0	4.44	1.33	11.4	39.0	39.0	-1.44	-1.44	2.52	1.15	0.41	1.12



Alt Model-Shift Uniqueness Test

003834317-01, P = 2.182134 Days, E = 129.574800 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
79.3	-8.07	0	0	4.41	1.26	4.18	79.3	79.3	-8.07	-8.07	3.34	0.88	0.19	2.97



Stellar Parameters For KIC 003834317

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6911^{+247}_{-340}	$3.661^{+0.323}_{-0.057}$	$-0.120^{+0.300}_{-0.250}$	$3.339^{+0.330}_{-1.321}$	$1.865^{+0.159}_{-0.445}$	$0.071^{+0.159}_{-0.014}$
	+4%/-5%	+9%/-2%	+250%/-208%	+10%/-40%	+9%/-24%	+226%/-20%
Source	PHO1	FLK73	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 003834317-01 / KOI 4203.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	1 ± 1	$4.94^{+4.70}_{-3.34}$	3758^{+231}_{-330}	-3659^{+224}_{-454}	$-0.043^{+0.037}_{-0.420}$
Alt.	7 ± 1	$4.76^{+4.68}_{-3.06}$	3737^{+248}_{-343}	-3940^{+321}_{-1179}	$-0.290^{+0.219}_{-1.909}$

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 $A_{obs} \gg 1.0$

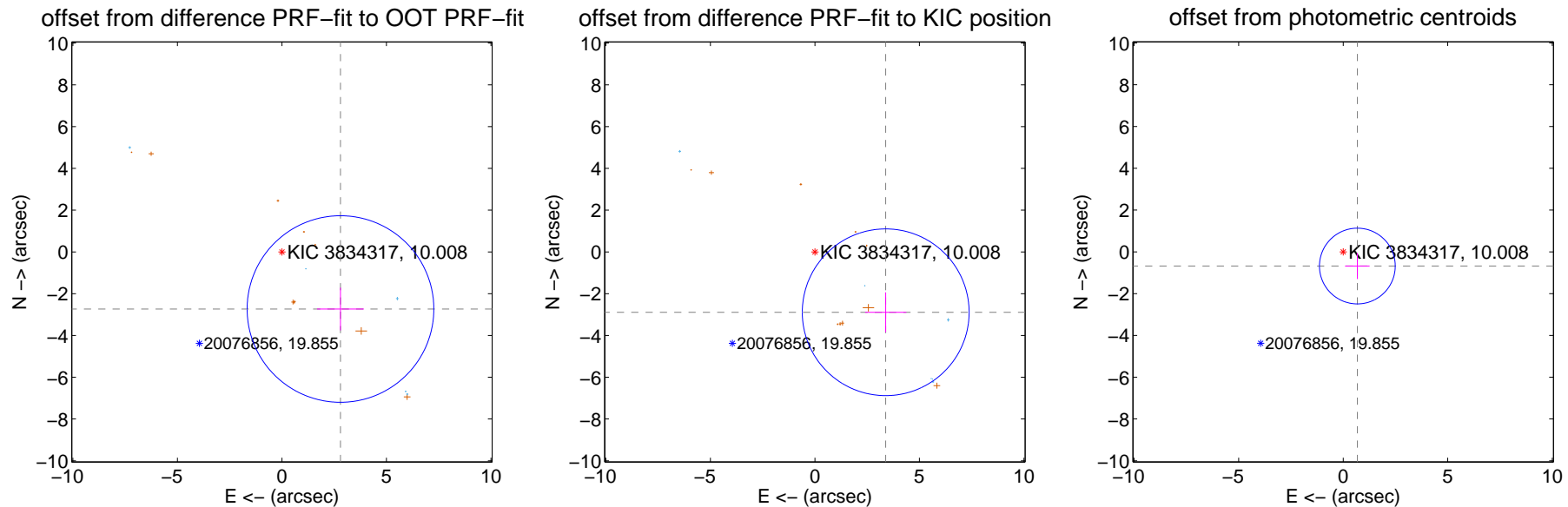
DV Centroid Data

Supplemental centroid analysis for 003834317-01. **Kepler magnitude: 10.01.** Transit SNR 10.39

There are 6 quarters with good PRF difference image offsets

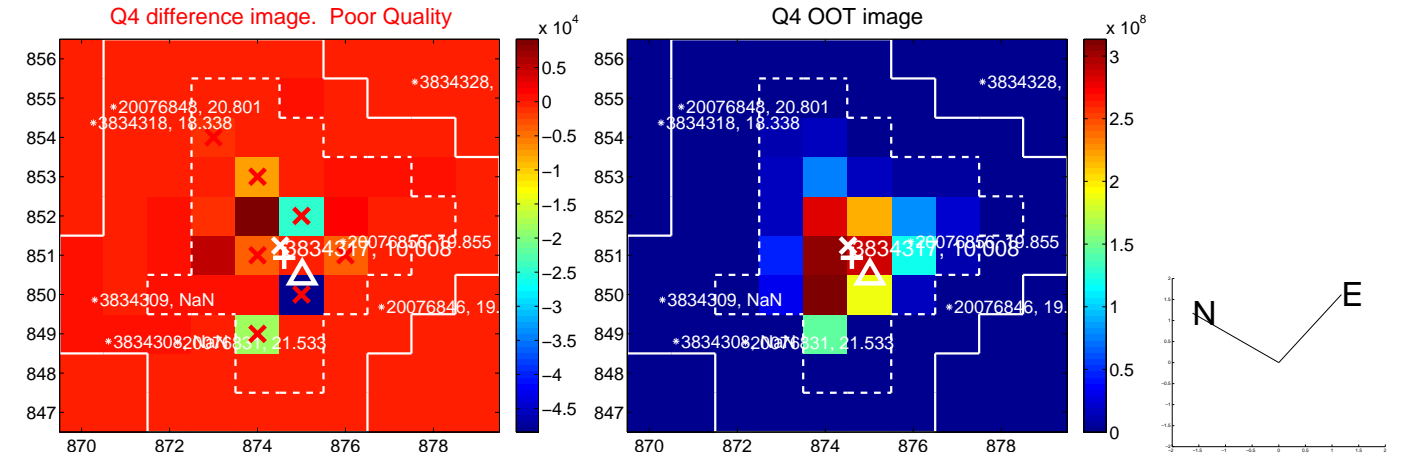
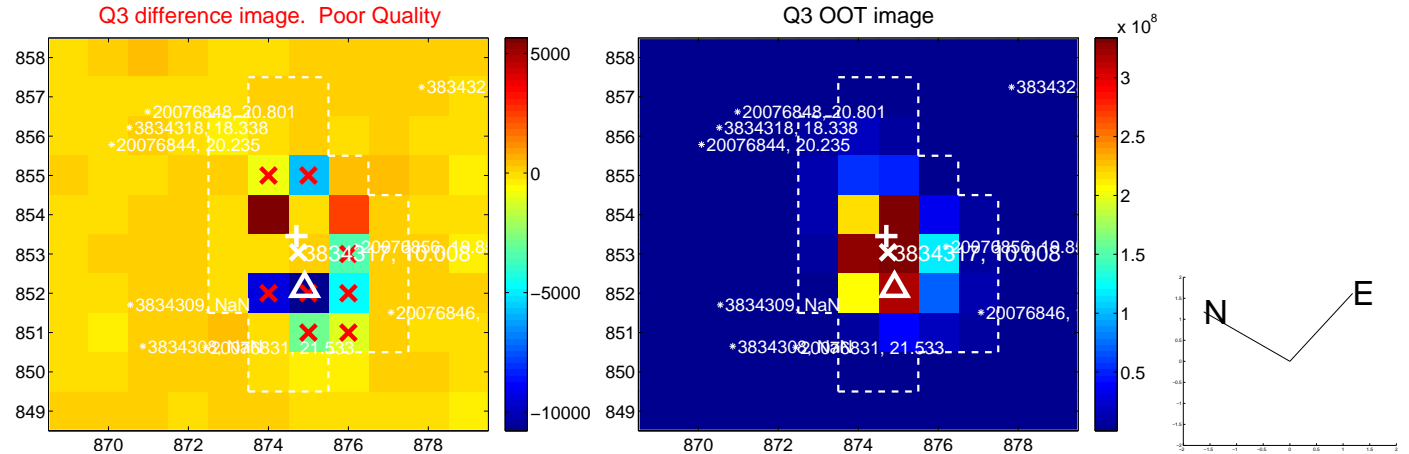
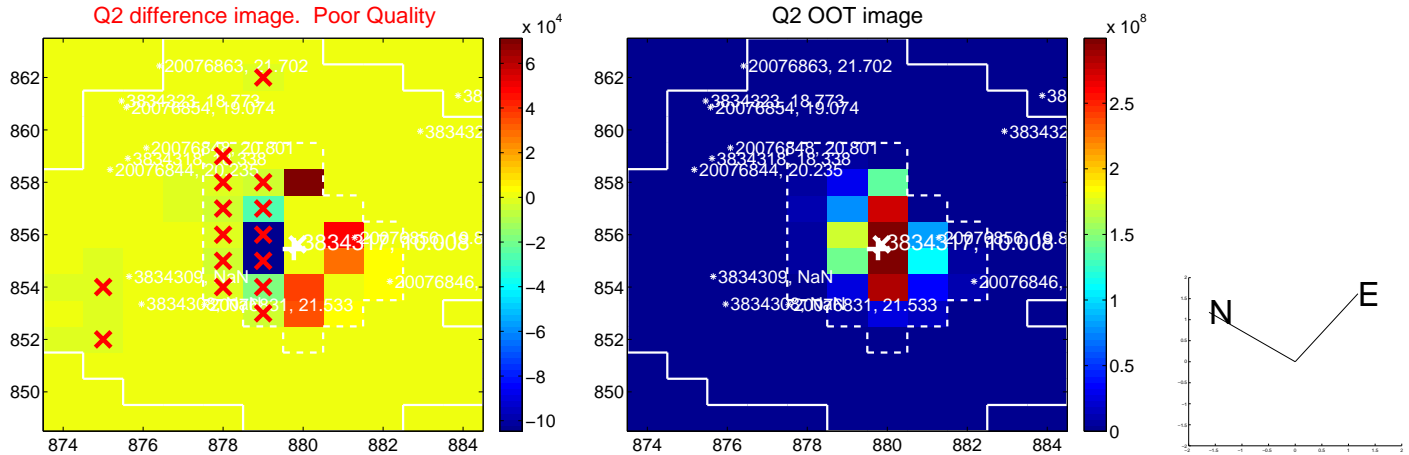
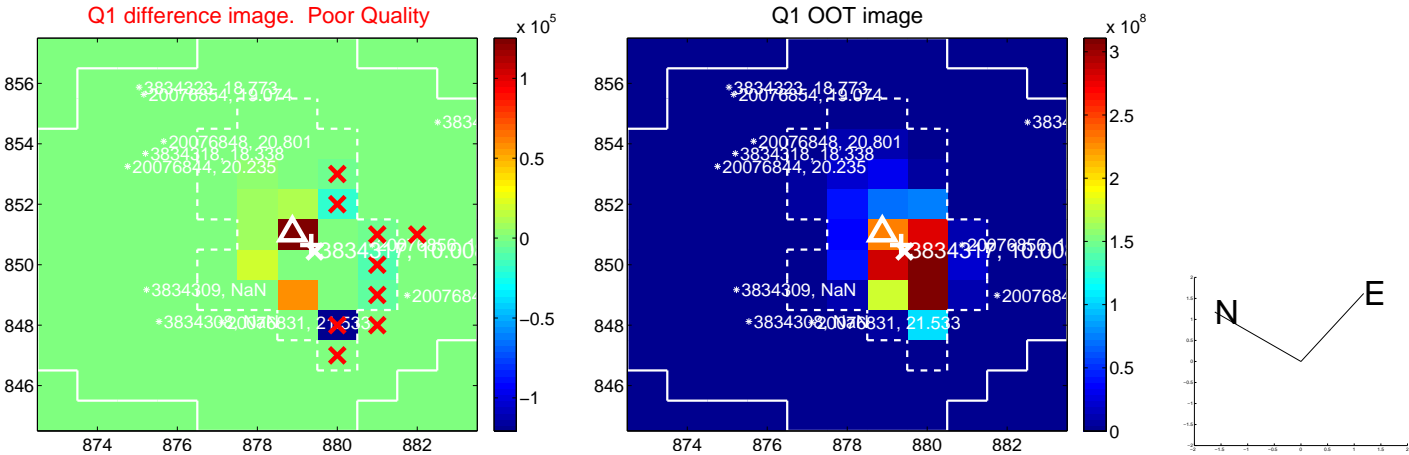
The direct PRF centroid is offset from the target star catalog position by about 0.68 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.914 ± 1.489	2.63	-2.801 ± 1.120	-2.734 ± 1.025
PRF-fit source offset from KIC position	4.452 ± 1.330	3.35	-3.387 ± 0.988	-2.890 ± 0.953
photometric centroid source offset	0.96 ± 0.60	1.59	-0.68 ± 0.59	-0.68 ± 0.62

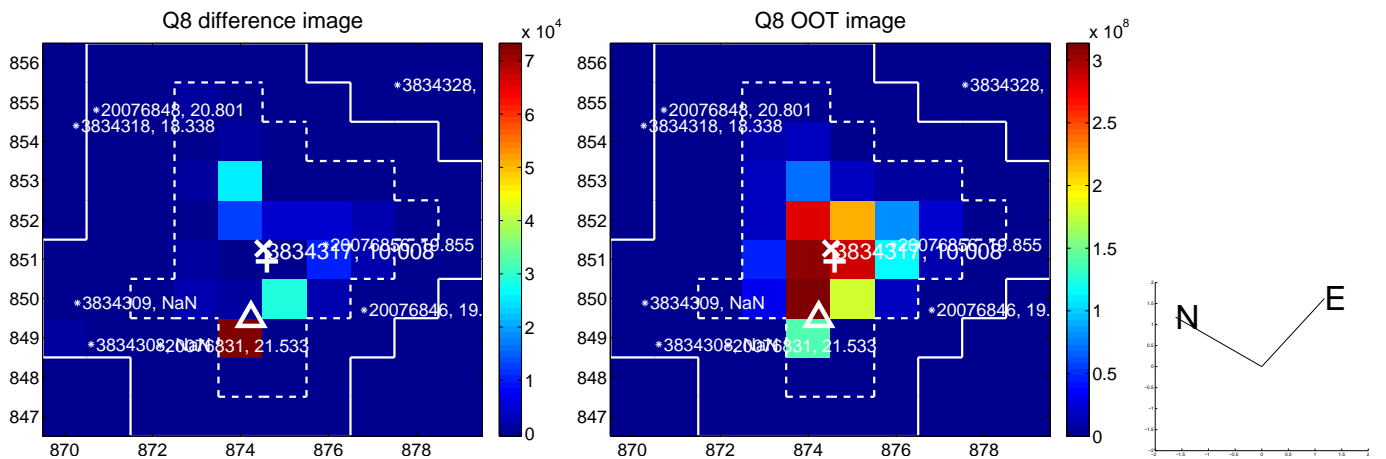
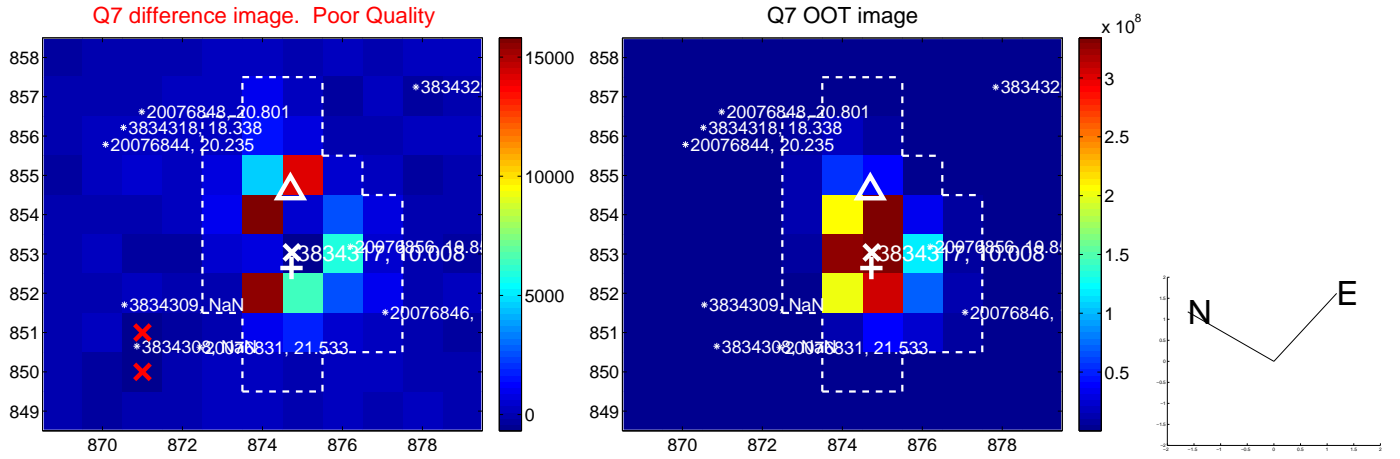
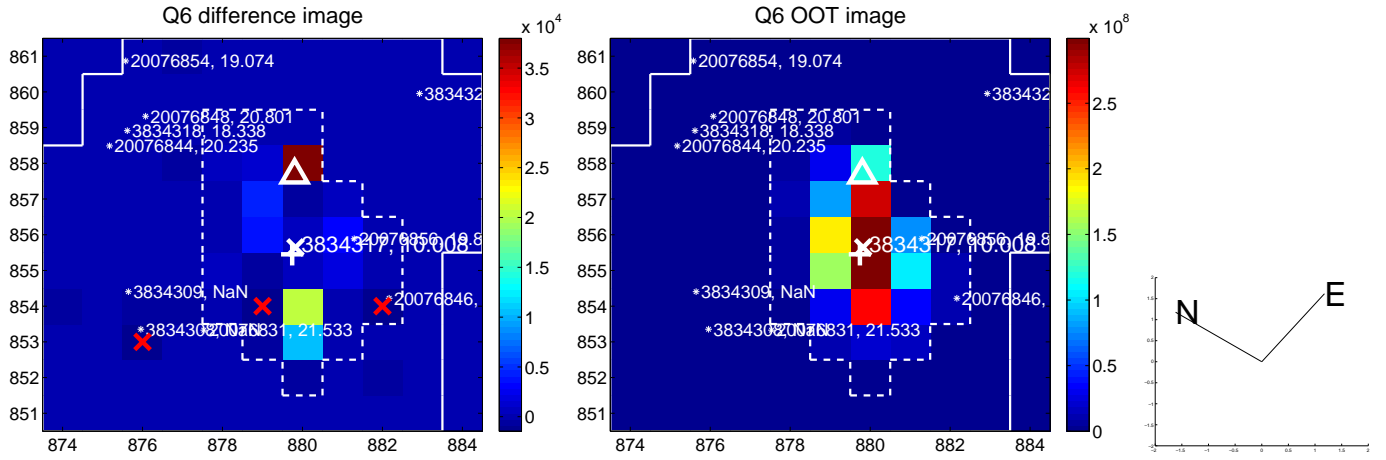
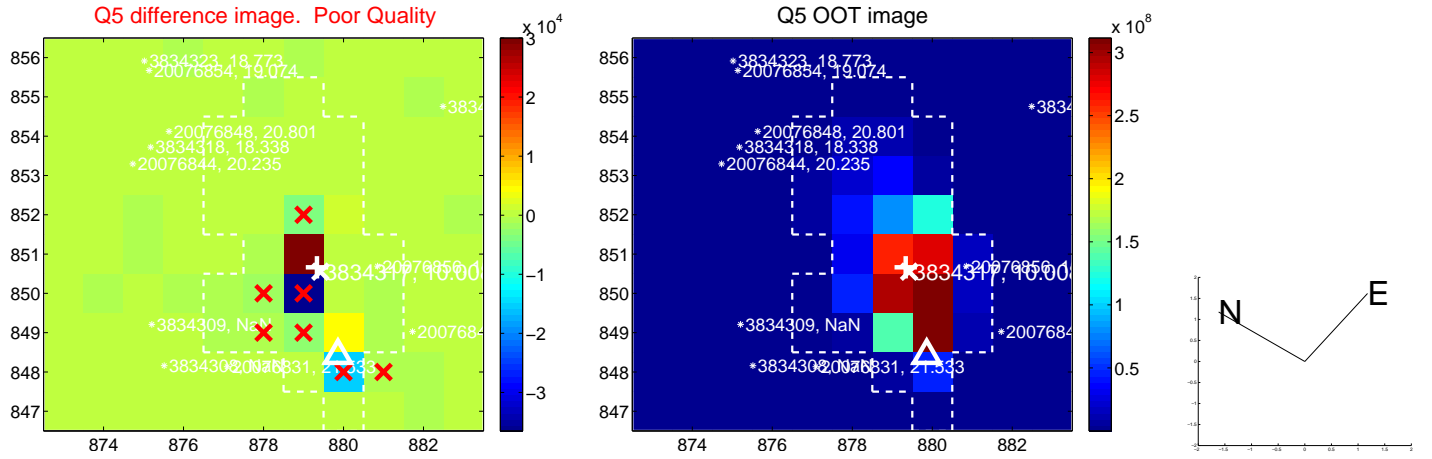


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

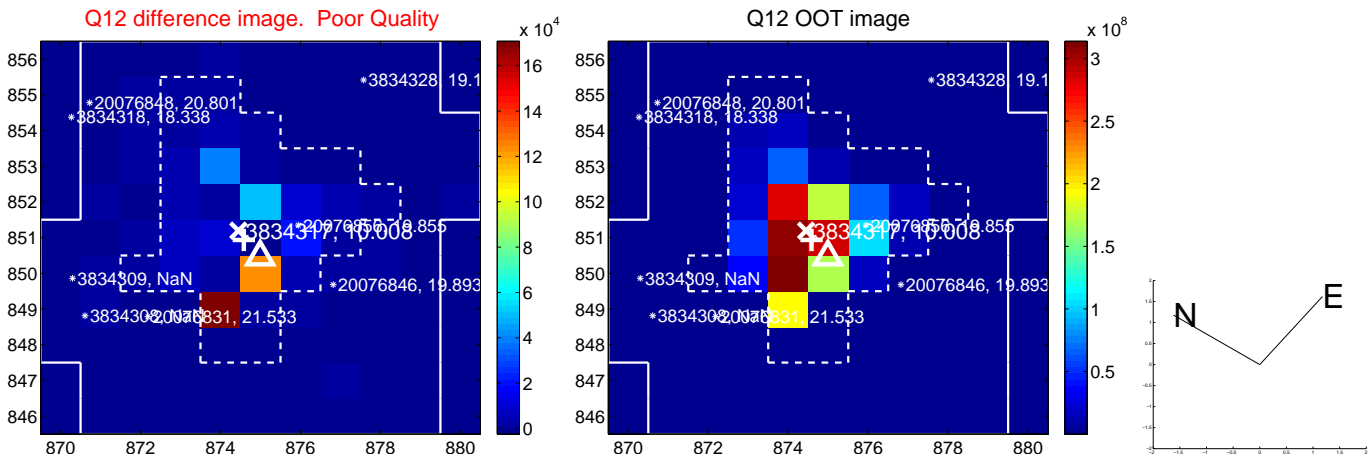
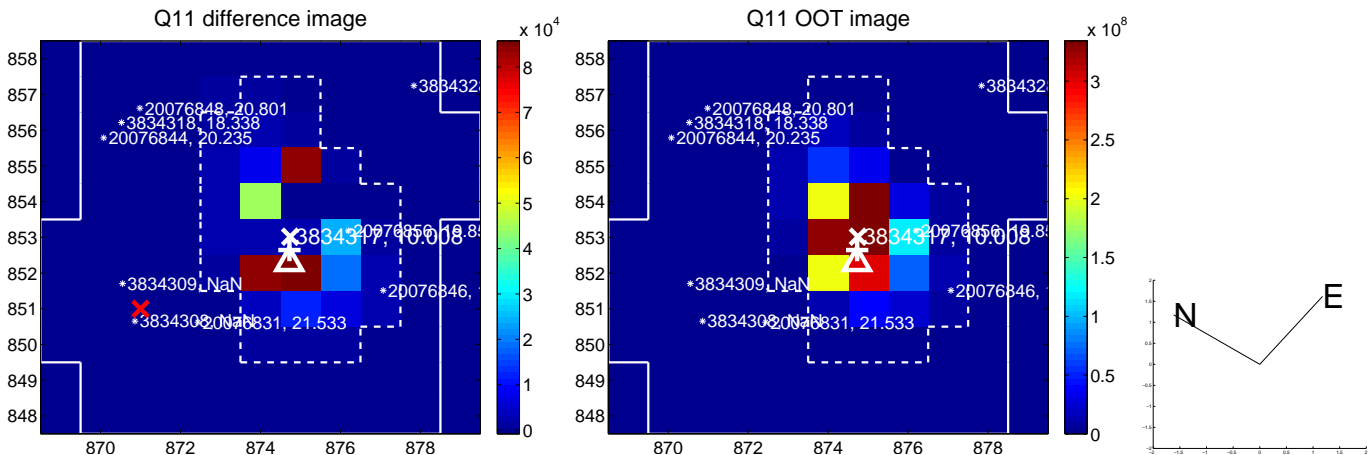
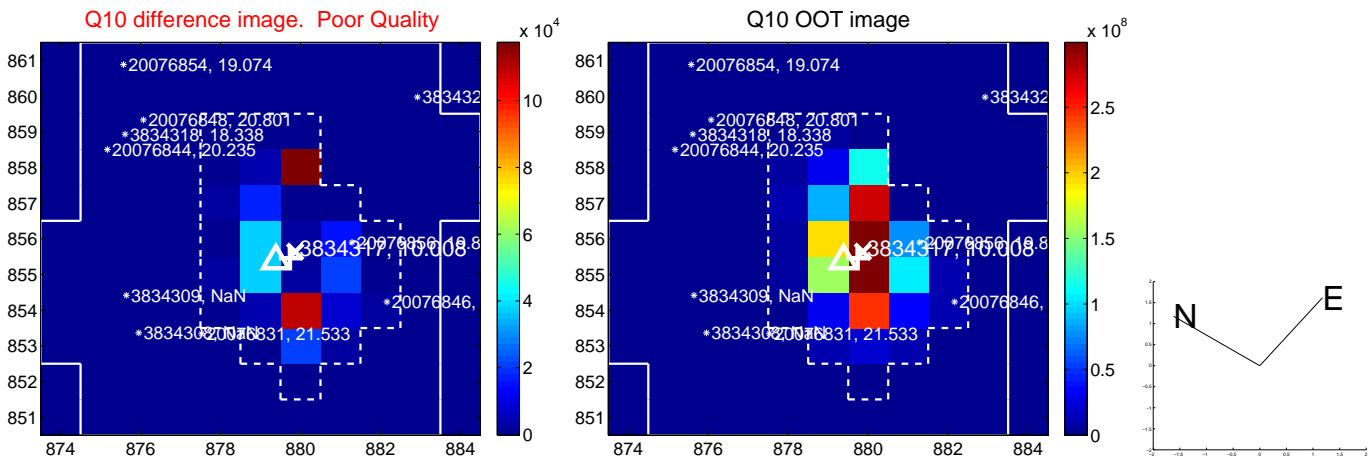
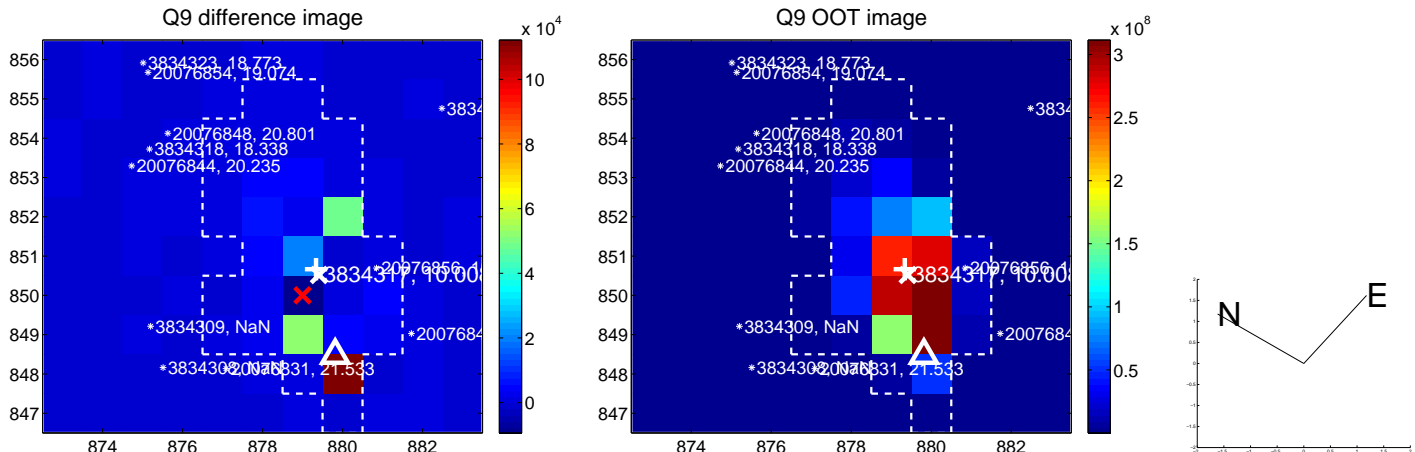
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



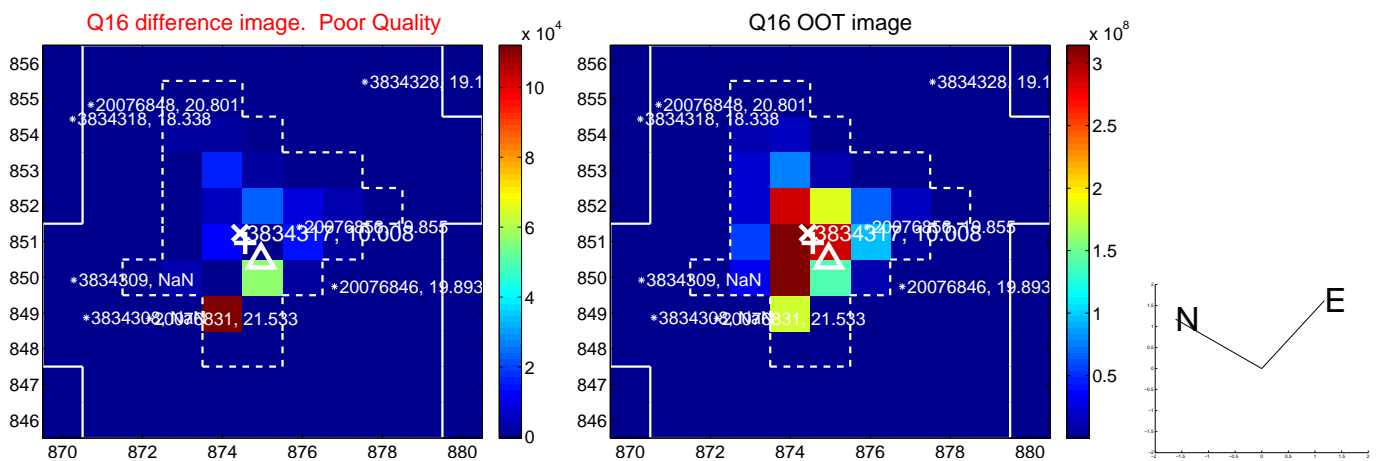
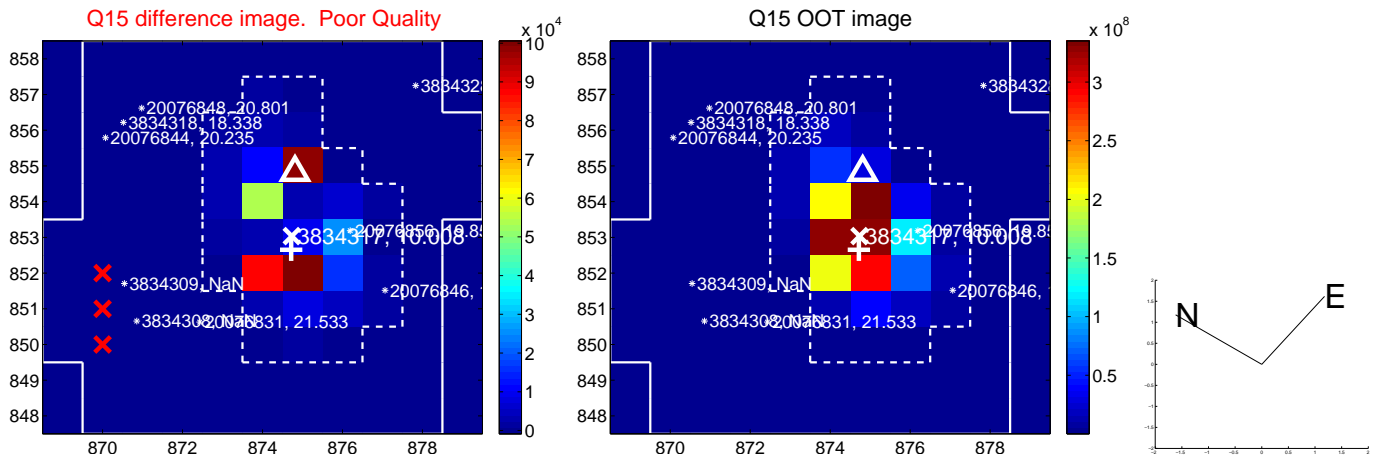
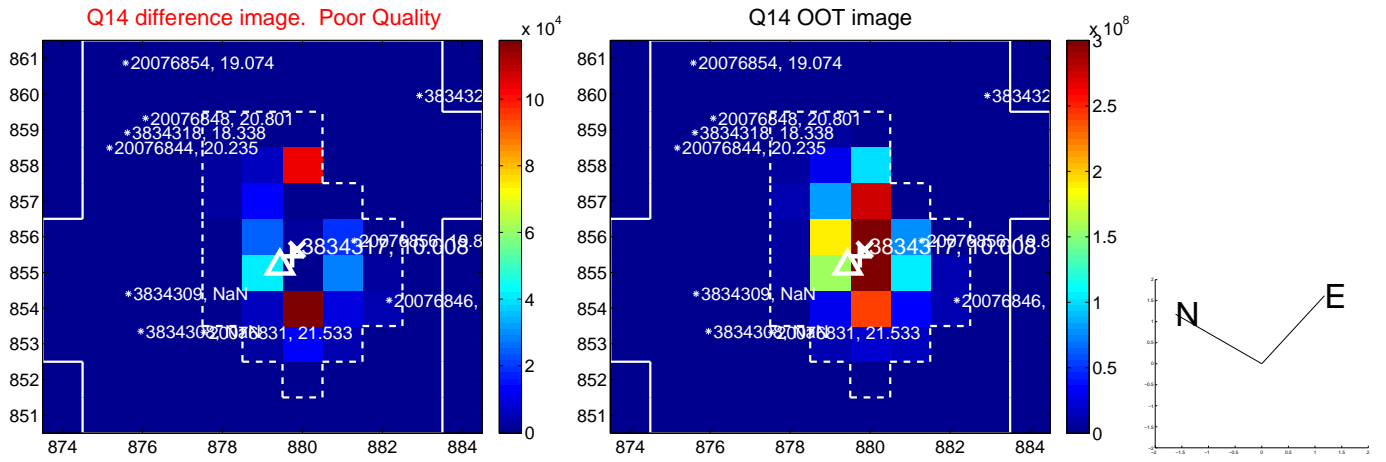
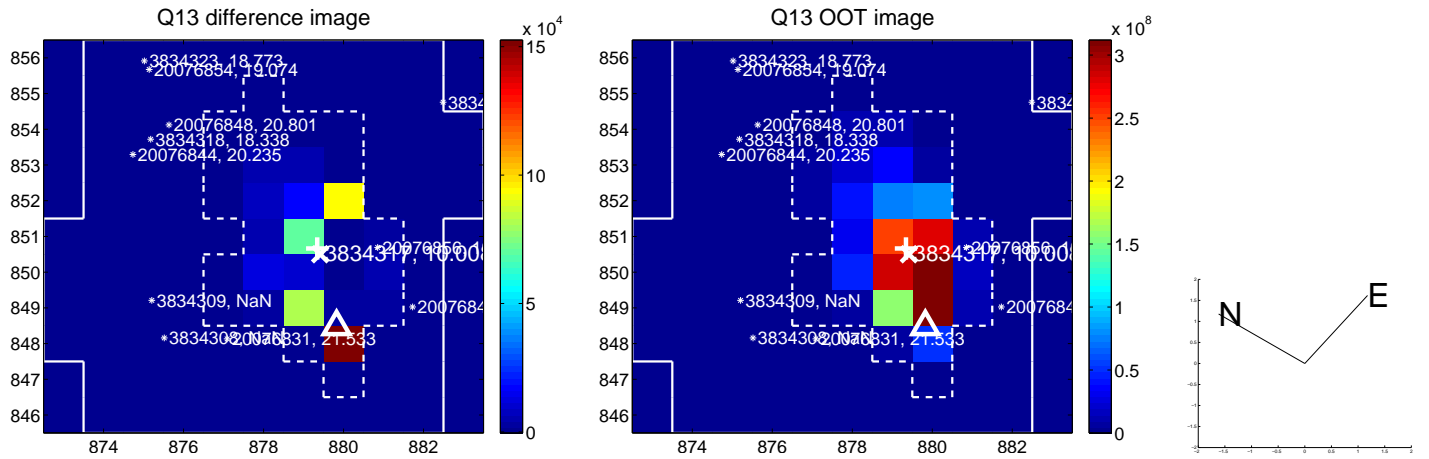
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



KIC 003834317

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})
003834317-01	OBS	4203.01	2.182012	131.787875	30.2	9.092	10.9	10.4	3.34	6911	3.63	13877.97
003834317-02	OBS	No	184.198832	252.457030	155.3	14.985	10.0	6.2	3.34	6911	4.36	37.48
003834317-04	OBS	No	47.651611	138.922404	92.4	7.295	7.6	7.7	3.34	6911	3.58	227.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003834317-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
003834317-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
003834317-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

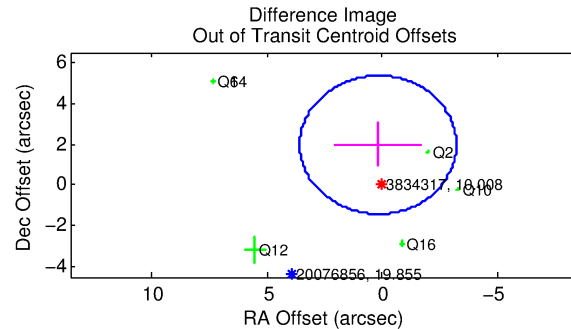
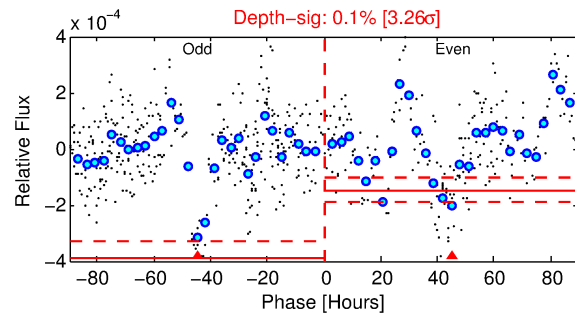
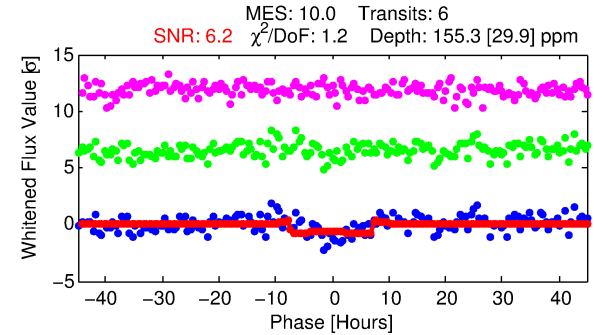
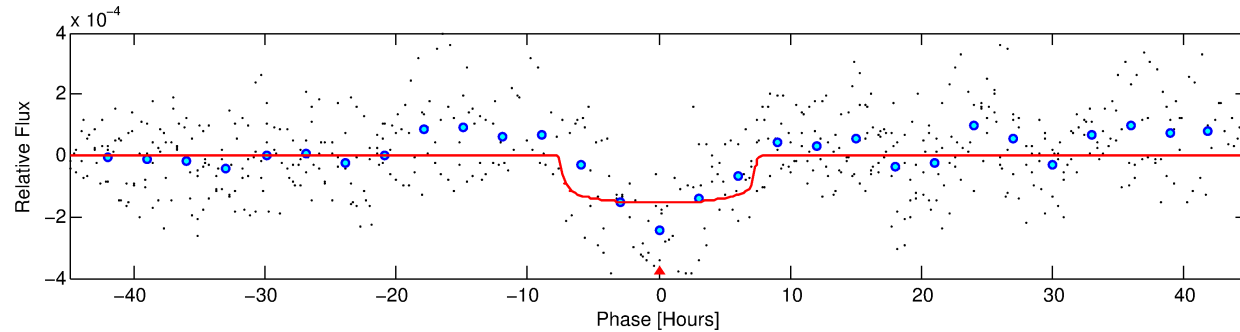
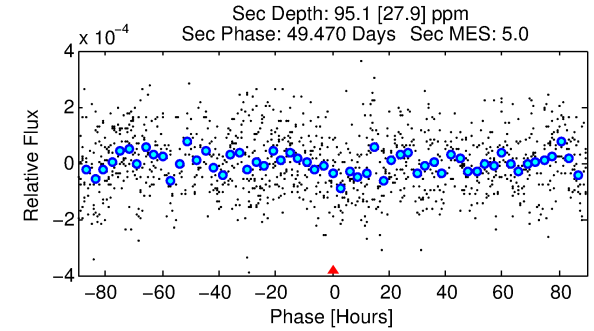
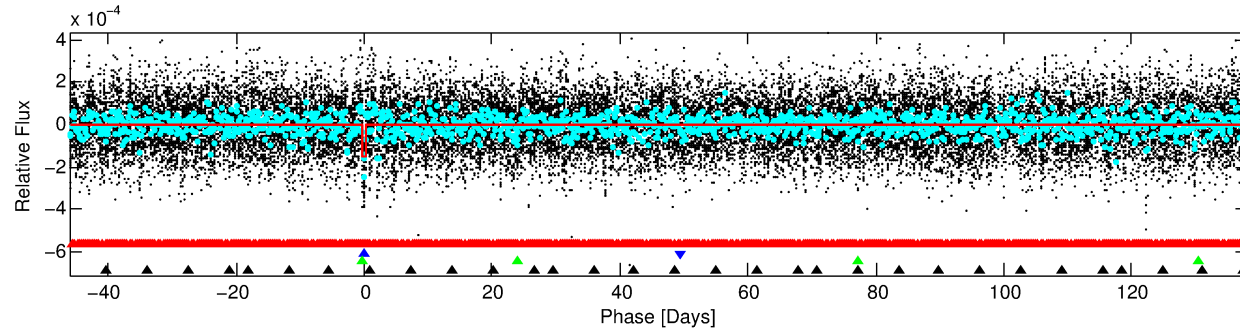
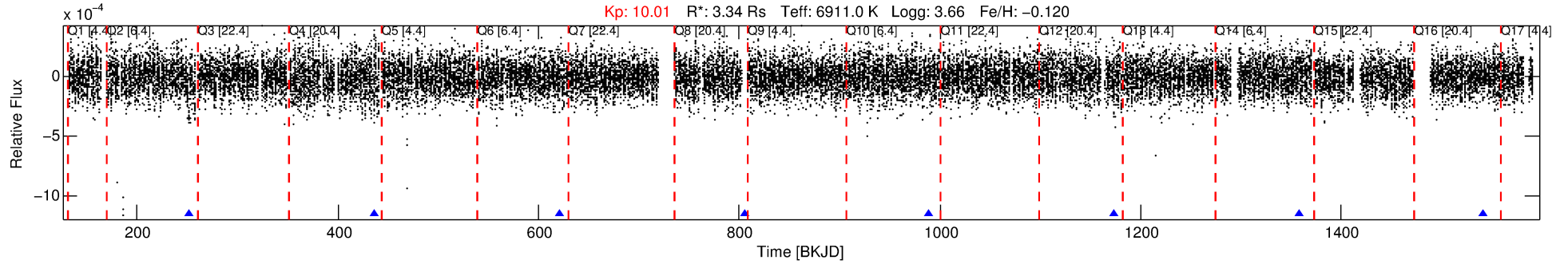
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003834317-02

No Significant Match Found

DV One-Page Summary

KIC: 3834317 Candidate: 2 of 4 Period: 184.199 d
KOI: K04203 Corr: No Ephemeris Match



DV Fit Results:

Period = 184.19883 [0.00396] d
Epoch = 252.4570 [0.0177] BKJD
Rp/R* = 0.0120 [0.0053]
a/R* = 77.76 [190.73]
b = 0.58 [2.80]
Seff = 37.48 [22.30]
Teq = 631 [94] K
Rp = 4.36 [2.58] Re
a = 0.7798 [0.2823] AU
Ag = 1676.43 [1815.97] [0.92σ]
Teffp = 6242 [1478] K [3.79σ]

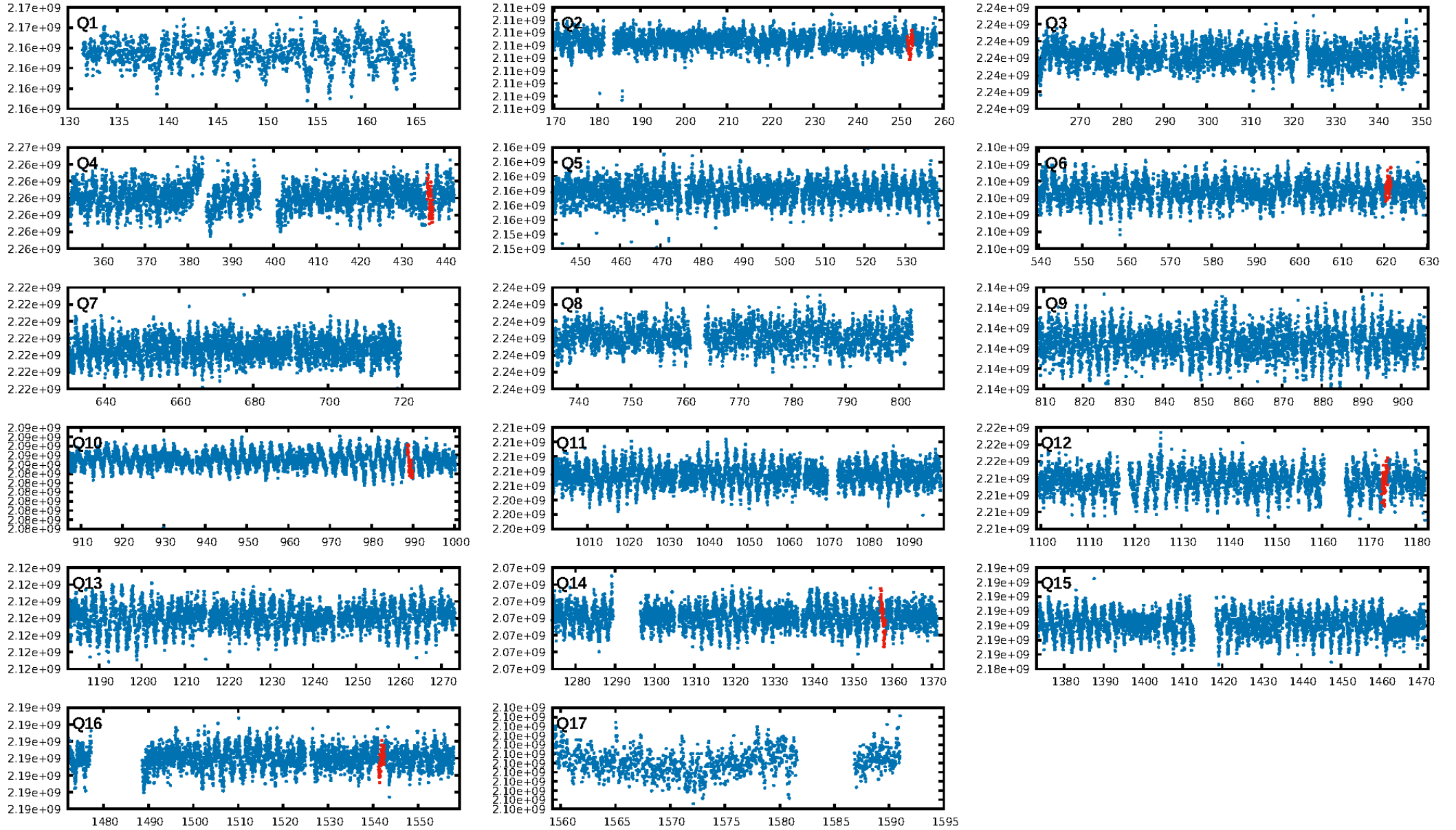
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [196.64σ]
LongPeriod-sig: 100.0% [198.25σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.41e-15
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: N/A
Centroid-sig: 60.7%
Centroid-so: 1.231 arcsec [0.76σ]
OotOffset-rm: 1.978 arcsec [1.75σ]
KicOffset-rm: 2.151 arcsec [1.68σ]
OotOffset-st: 4/0/2/0 [6]
KicOffset-st: 4/0/2/0 [6]
DiffImageQuality-fgm: 0.33 [2/6]
DiffImageOverlap-fno: 0.00 [0/6]

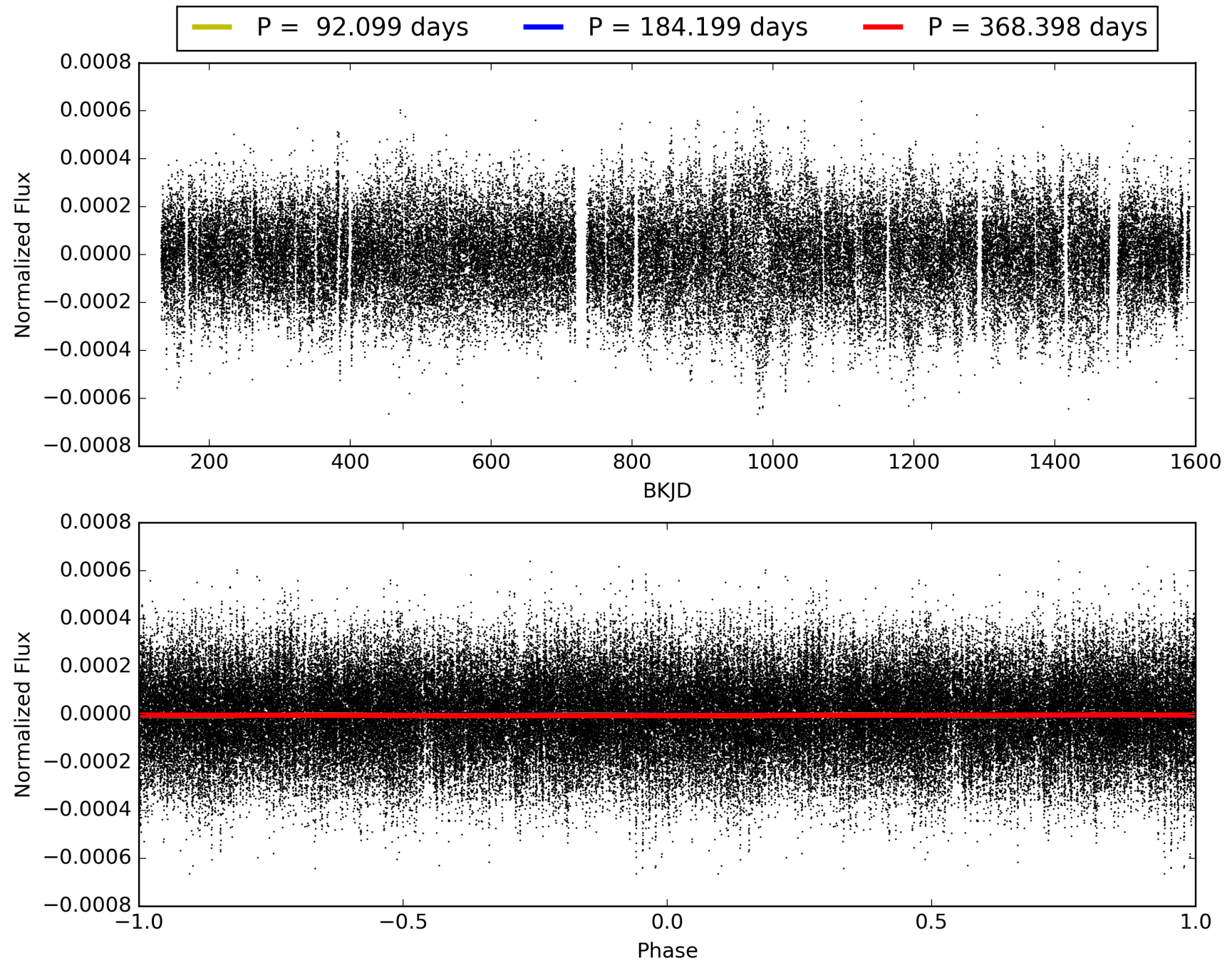
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:36:18 Z

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

TCE 003834317-02, PDC Light Curves

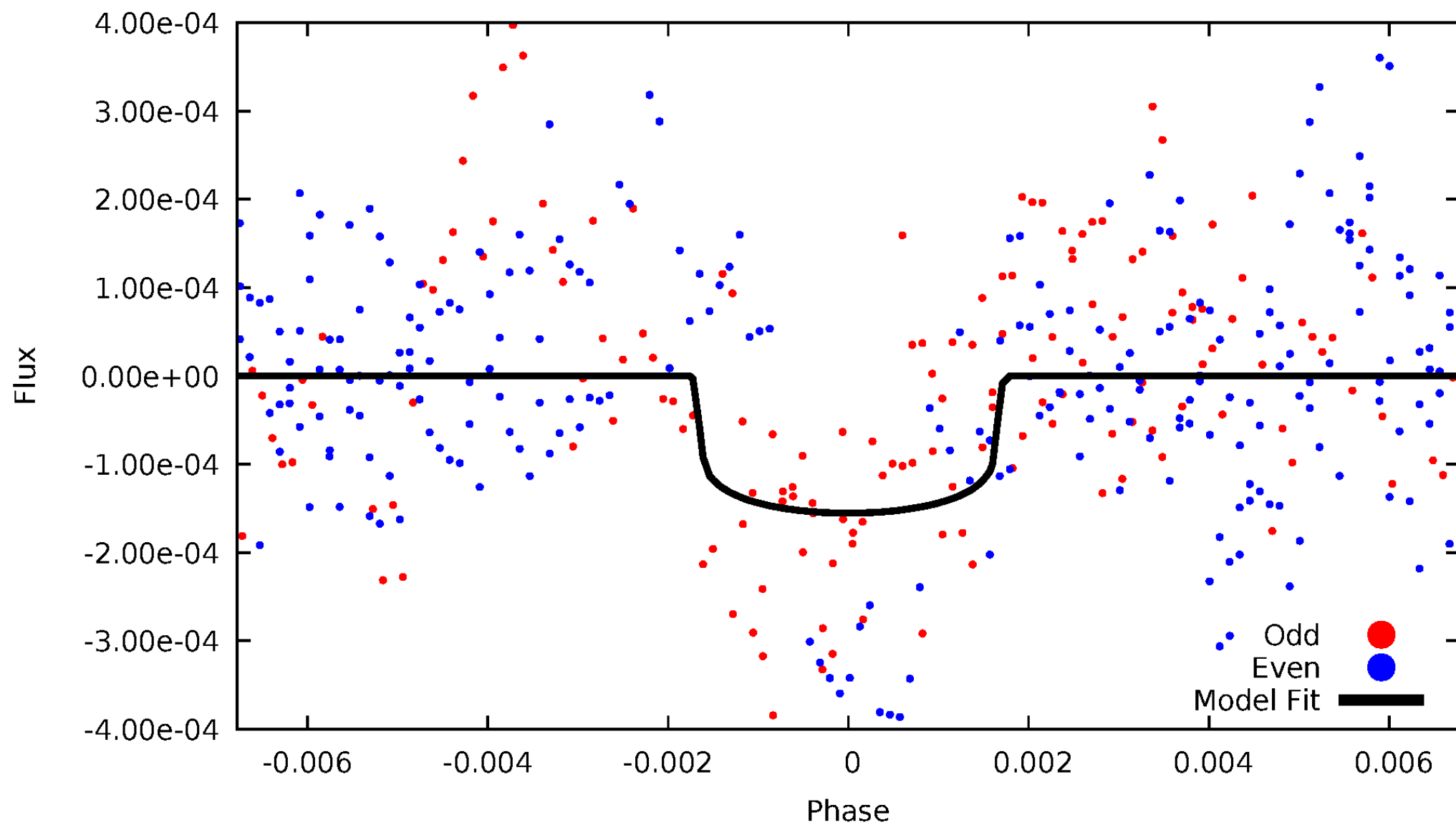


TCE 003834317-02



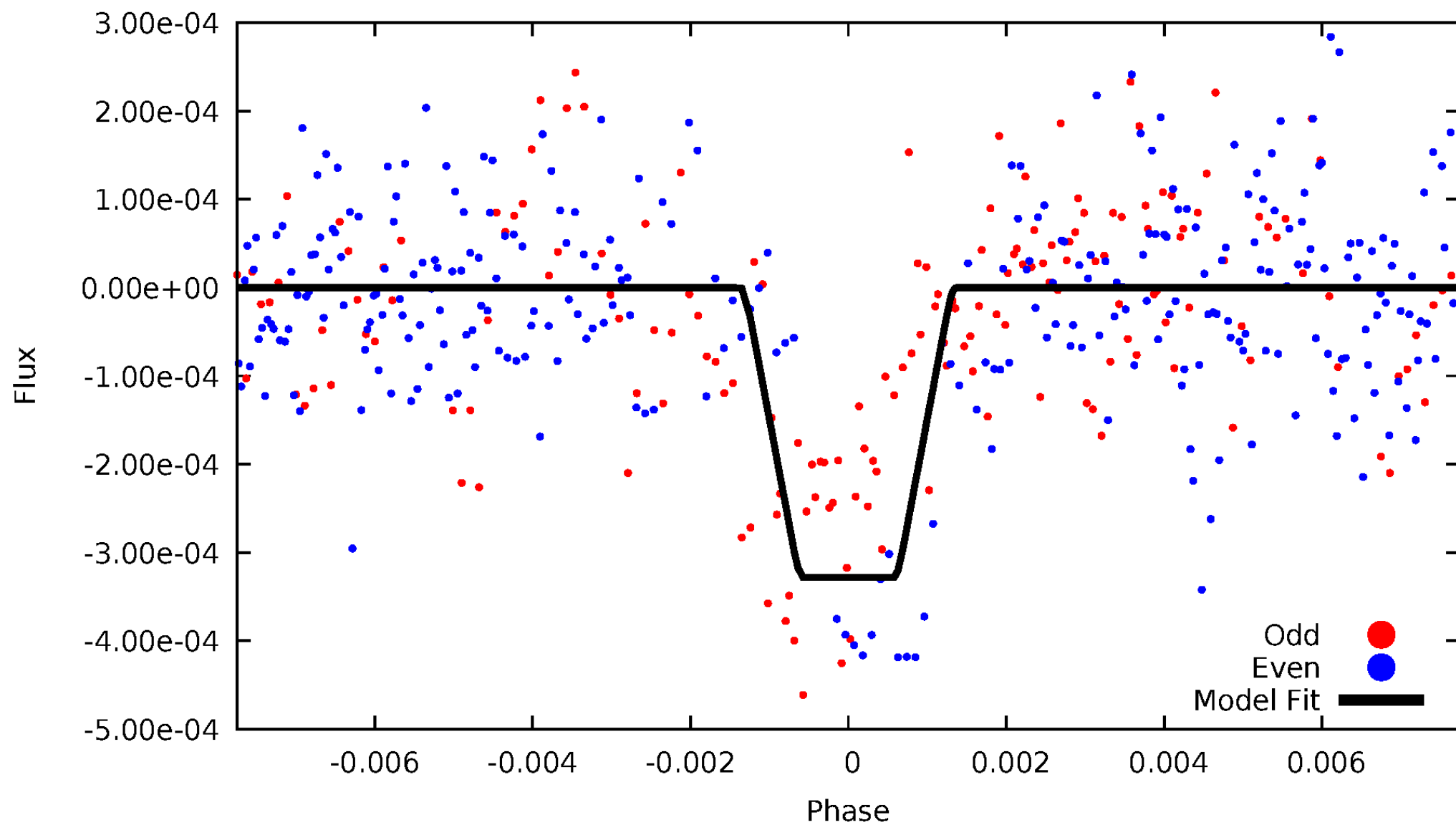
DV Odd/Even

TCE 003834317-02



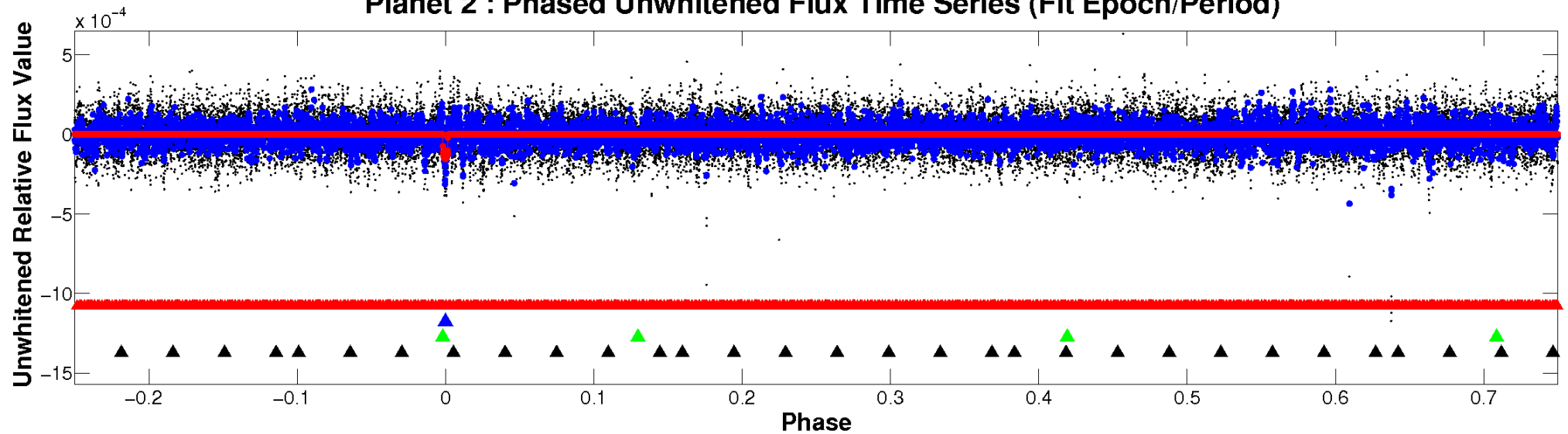
ALT Odd/Even

TCE 003834317-02

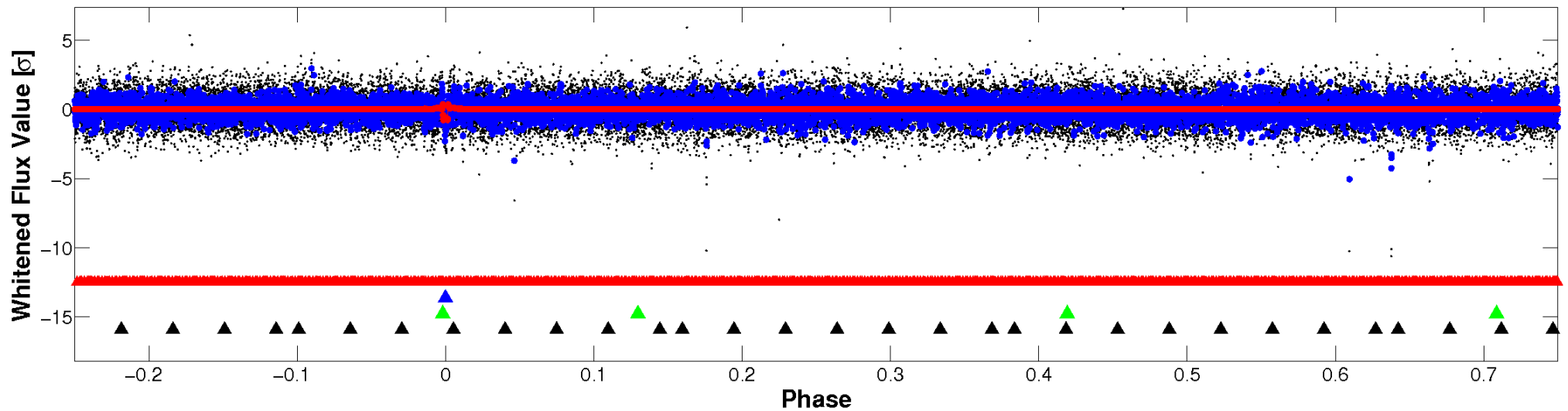


Non-Whitened Vs. Whitened Light Curve

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

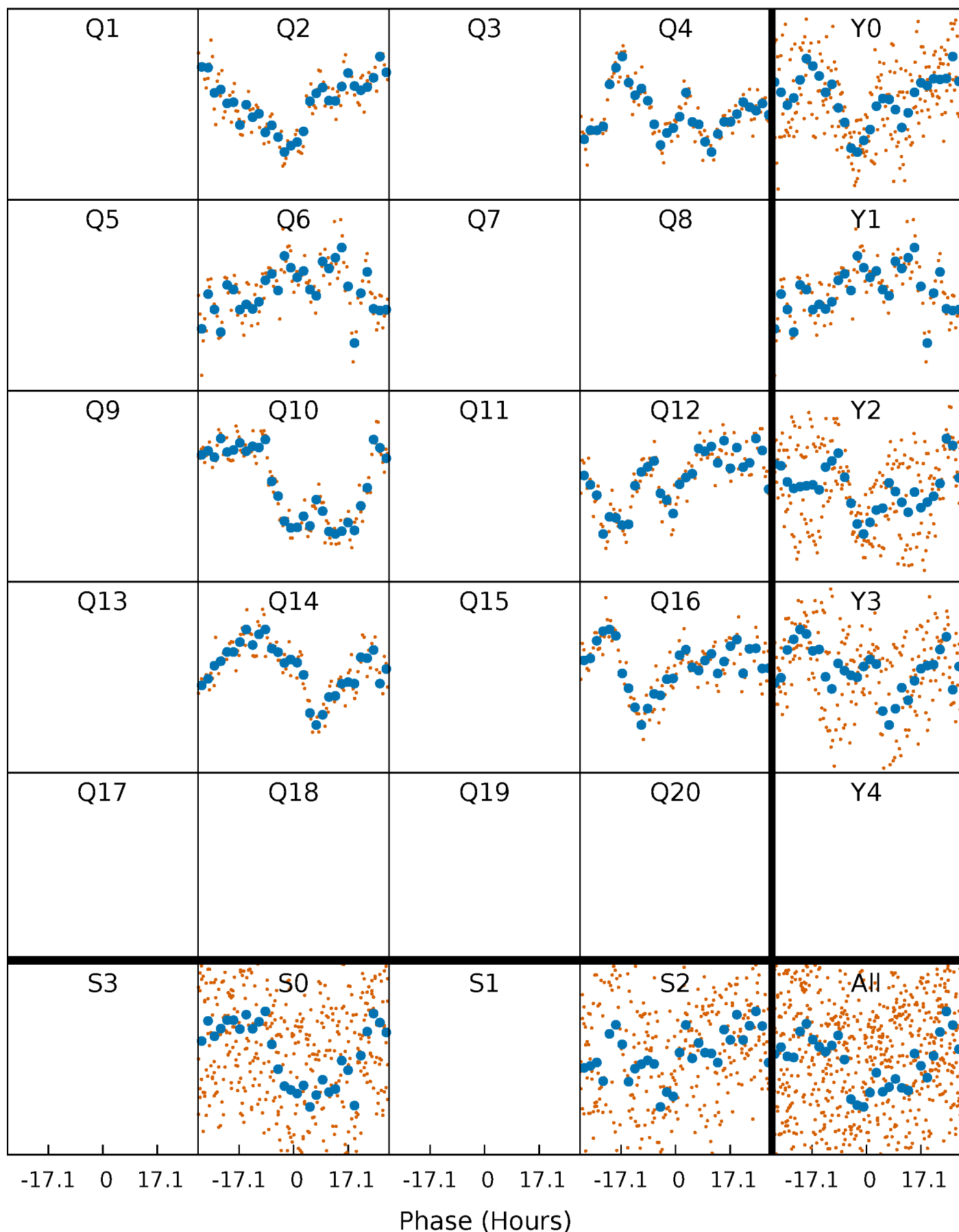


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



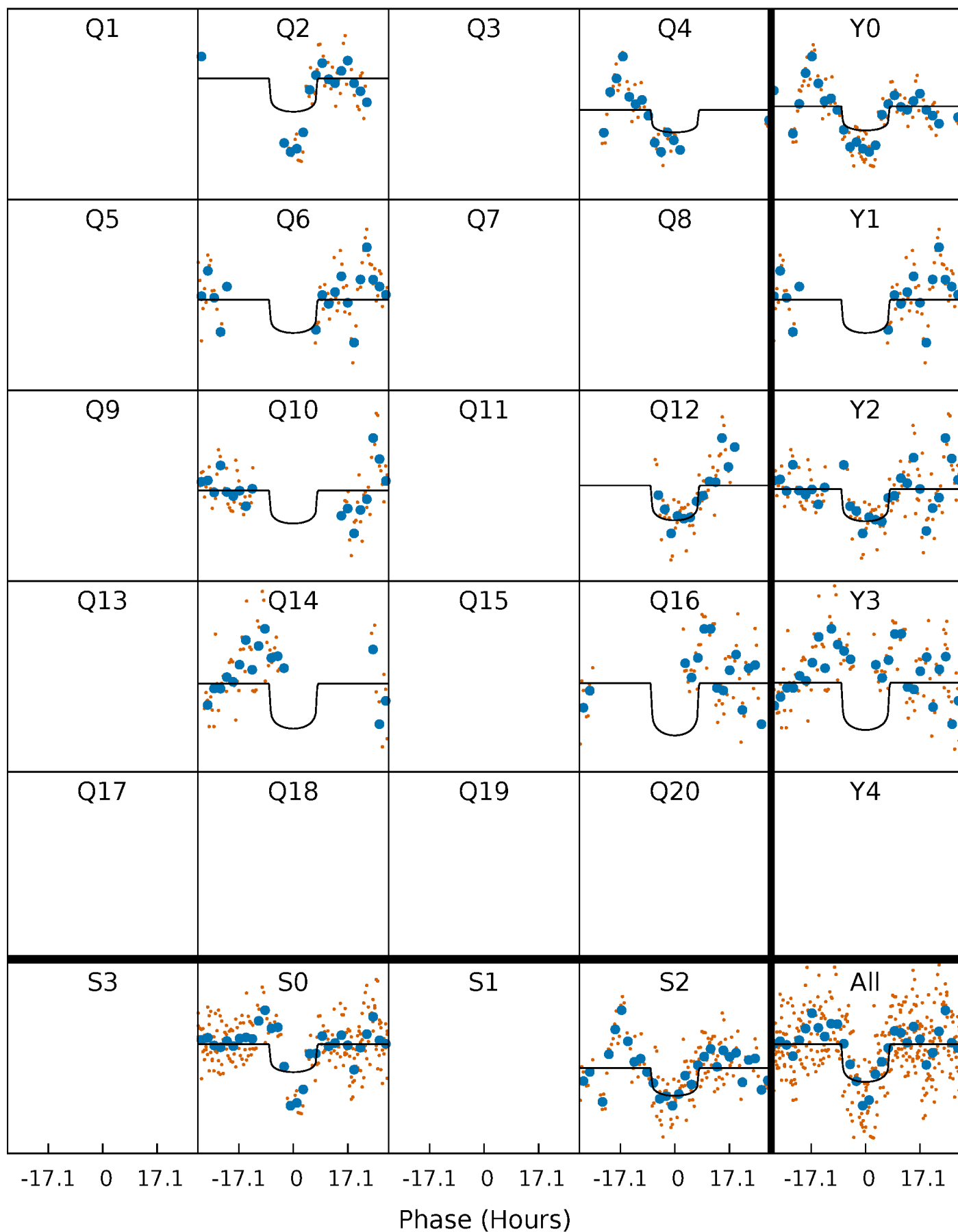
PDC Quarter-Phased Transit Curves

TCE 003834317-02 P=184.198832 Days $T_0=252.457030$ (BKJD)



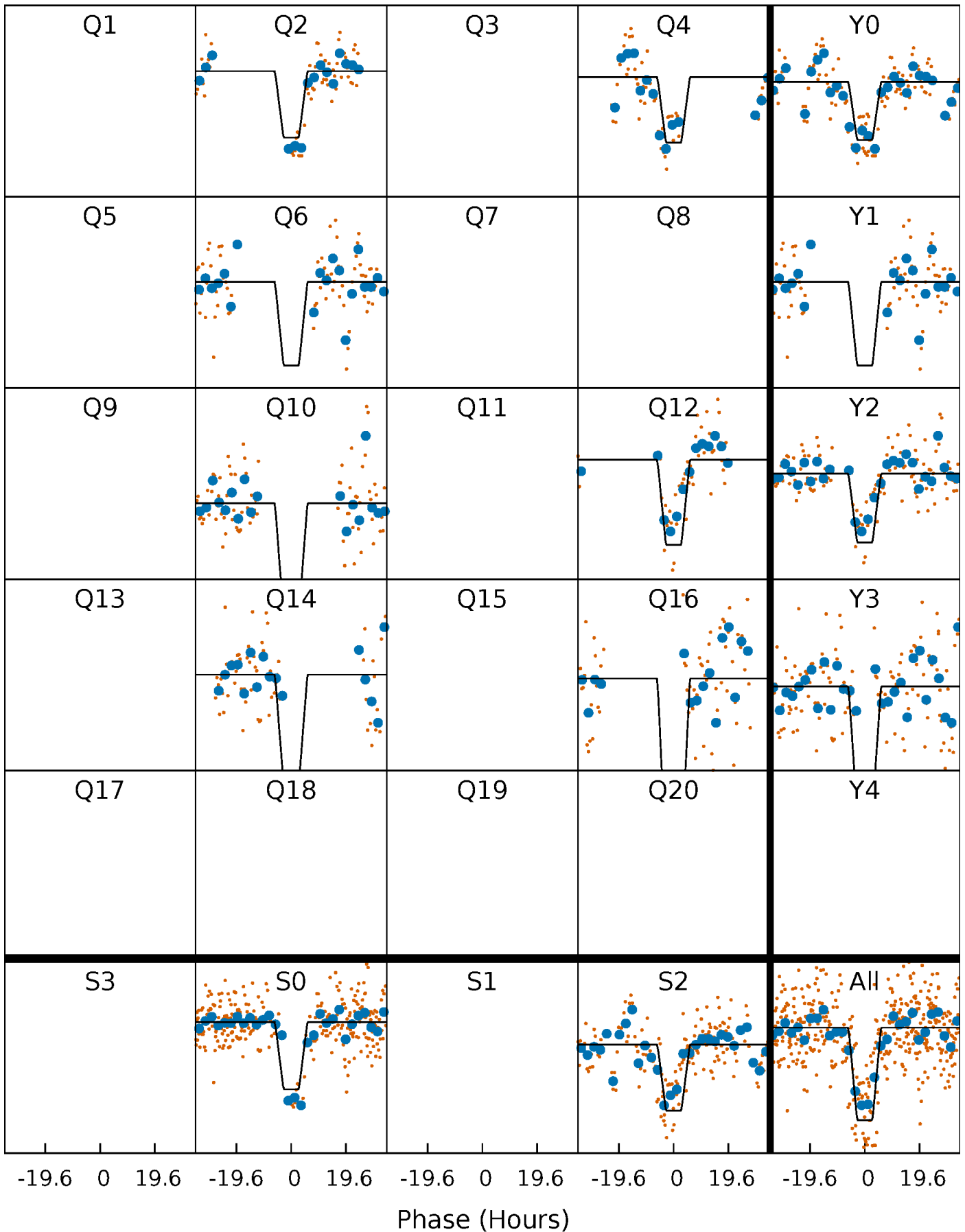
DV Quarter-Phased Transit Curves

TCE 003834317-02 P=184.198832 Days $T_0=252.457030$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

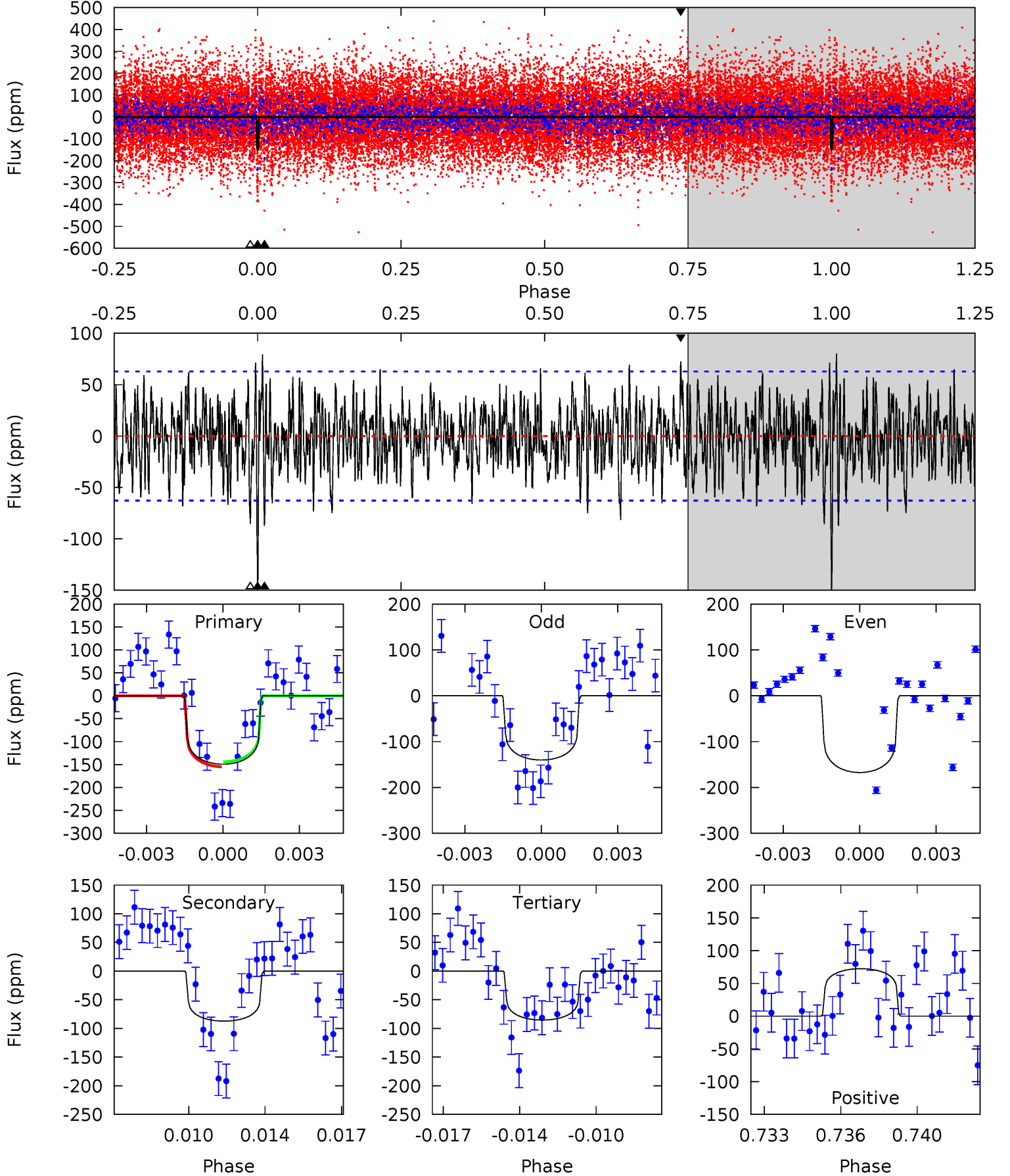
TCE 003834317-02 P=184.201732 Days $T_0=252.405661$ (BKJD)



DV Model-Shift Uniqueness Test

003834317-02, P = 184.198832 Days, E = 68.258198 Days

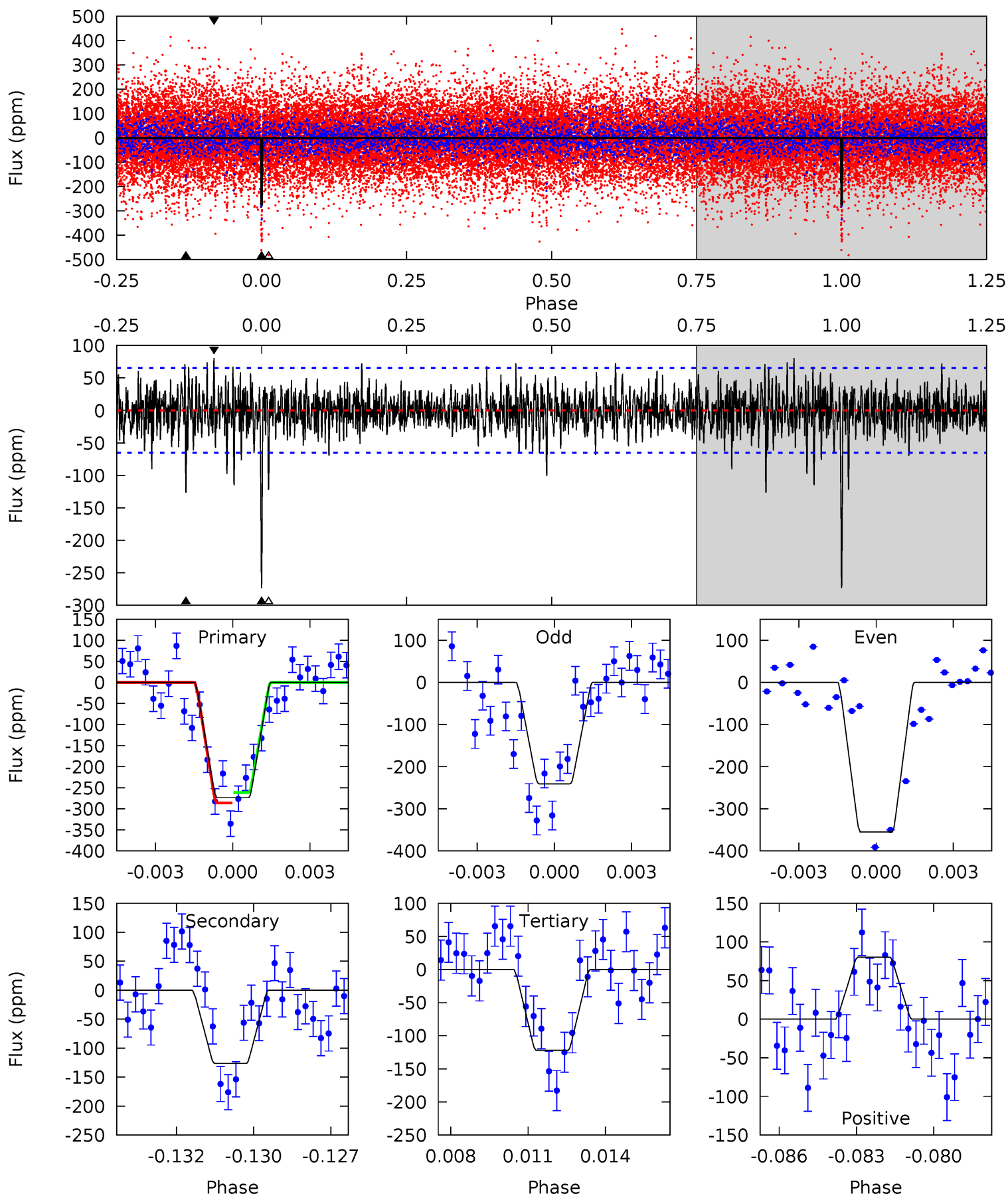
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	7.26	7.11	6.02	5.23	2.93	2.14	5.32	6.40	0.15	1.24	1.10	0.70	0.35	0.45



Alt Model-Shift Uniqueness Test

003834317-02, P = 184.201732 Days, E = 68.203929 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.1	10.2	9.87	6.50	5.27	2.99	1.92	12.2	15.6	0.35	3.72	4.34	0.79	0.23	1.00



Stellar Parameters For KIC 003834317

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6911^{+247}_{-340}	$3.661^{+0.323}_{-0.057}$	$-0.120^{+0.300}_{-0.250}$	$3.339^{+0.330}_{-1.321}$	$1.865^{+0.159}_{-0.445}$	$0.071^{+0.159}_{-0.014}$
	+4%/-5%	+9%/-2%	+250%/-208%	+10%/-40%	+9%/-24%	+226%/-20%
Source	PHO1	FLK73	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 003834317-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-87 ± 12	$4.04^{+1.89}_{-1.72}$	856^{+51}_{-83}	6032^{+2027}_{-967}	1782^{+3469}_{-942}
Alt.	-126 ± 12	$6.00^{+2.26}_{-1.97}$	851^{+57}_{-79}	5420^{+1024}_{-625}	1154^{+1314}_{-552}

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

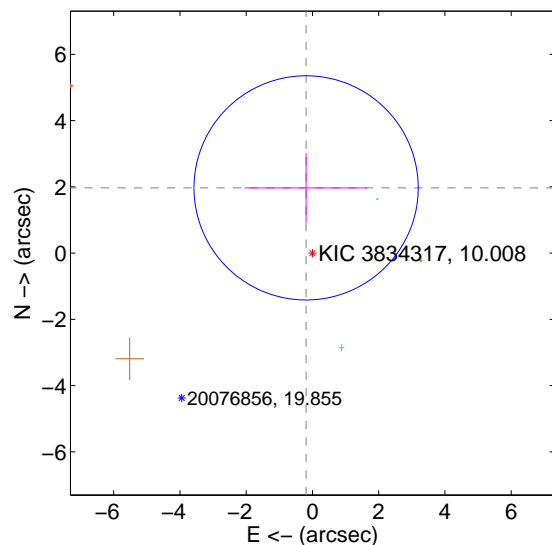
Supplemental centroid analysis for 003834317-02. **Kepler magnitude: 10.01.** Transit SNR 6.17

There are 2 quarters with good PRF difference image offsets

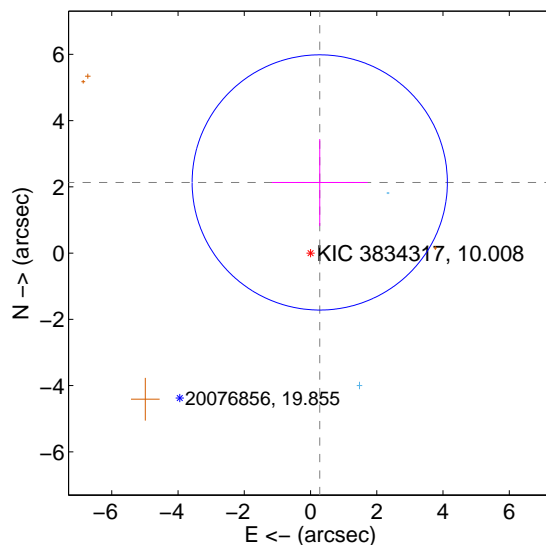
The direct PRF centroid is offset from the target star catalog position by about 1.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.978 ± 1.128	1.75	0.192 ± 1.847	1.969 ± 1.052
PRF-fit source offset from KIC position	2.151 ± 1.284	1.68	-0.278 ± 1.446	2.133 ± 1.310
photometric centroid source offset	1.23 ± 1.62	0.76	-1.15 ± 1.66	-0.44 ± 1.27

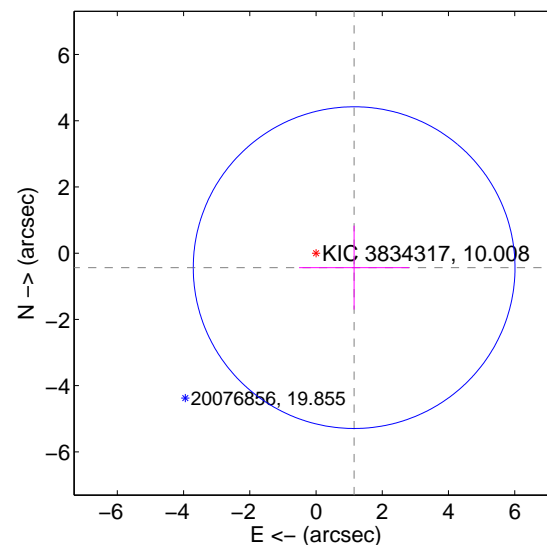
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

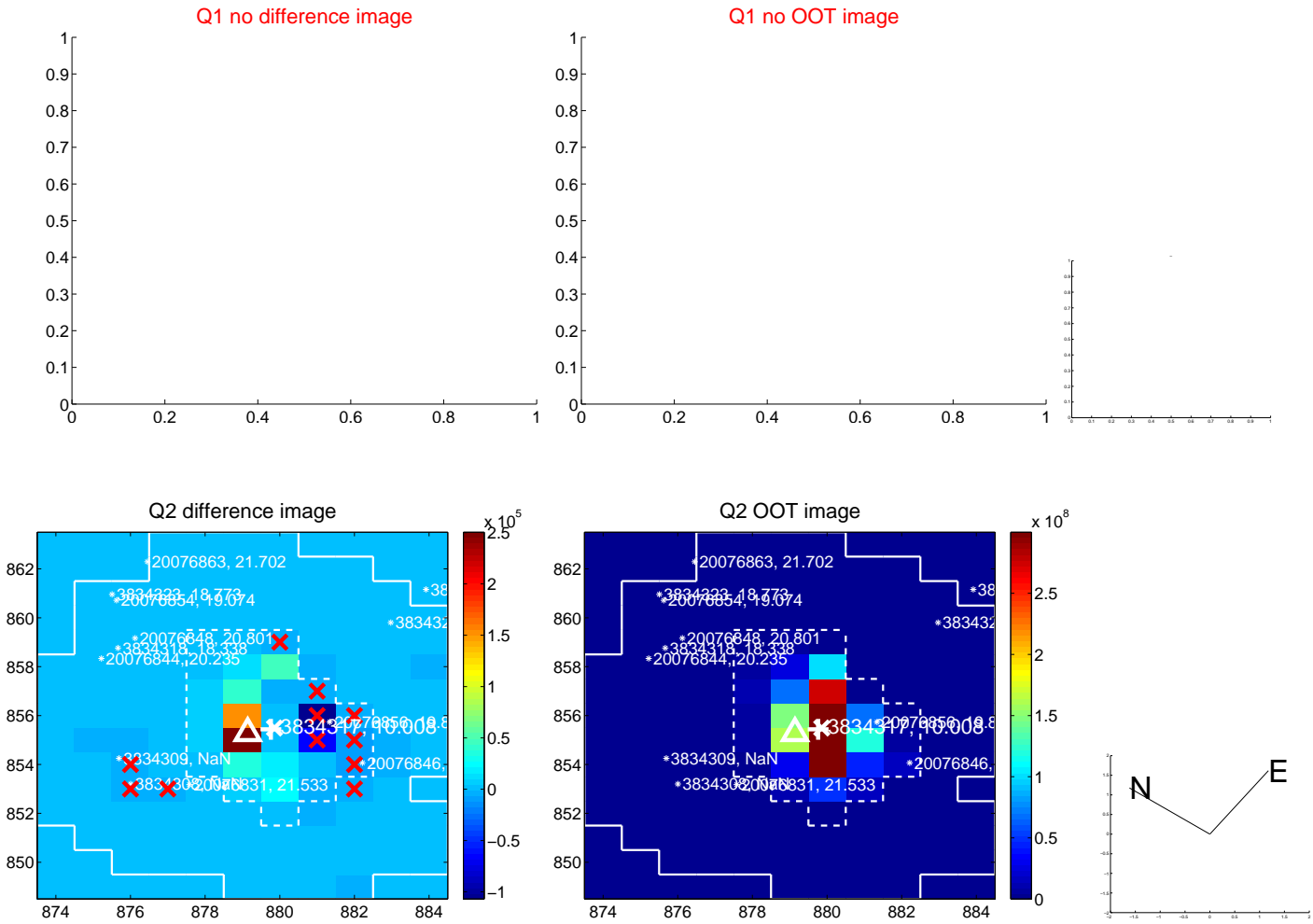


offset from photometric centroids



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.

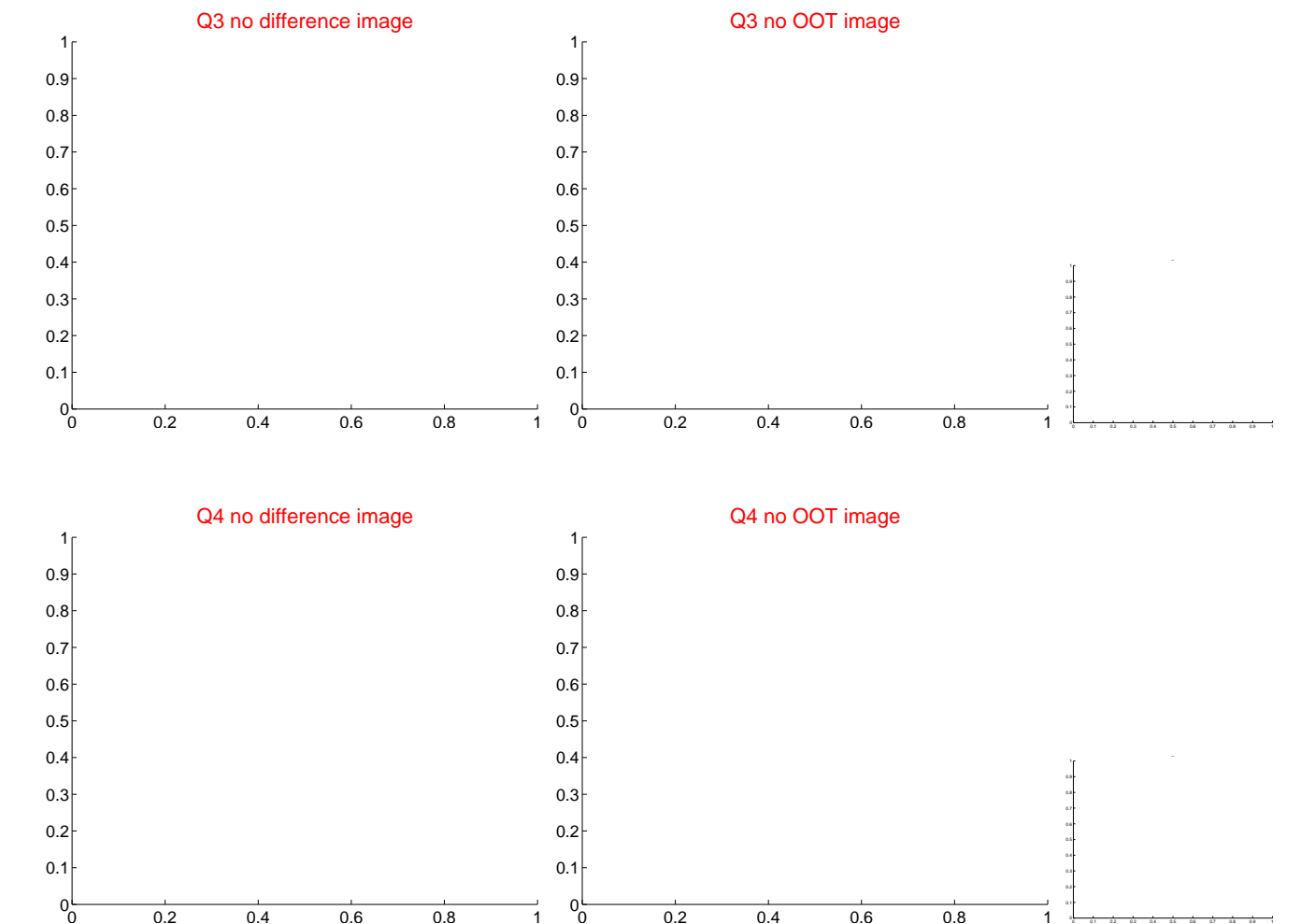
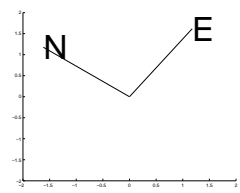
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



Q2 difference image

Q2 OOT image

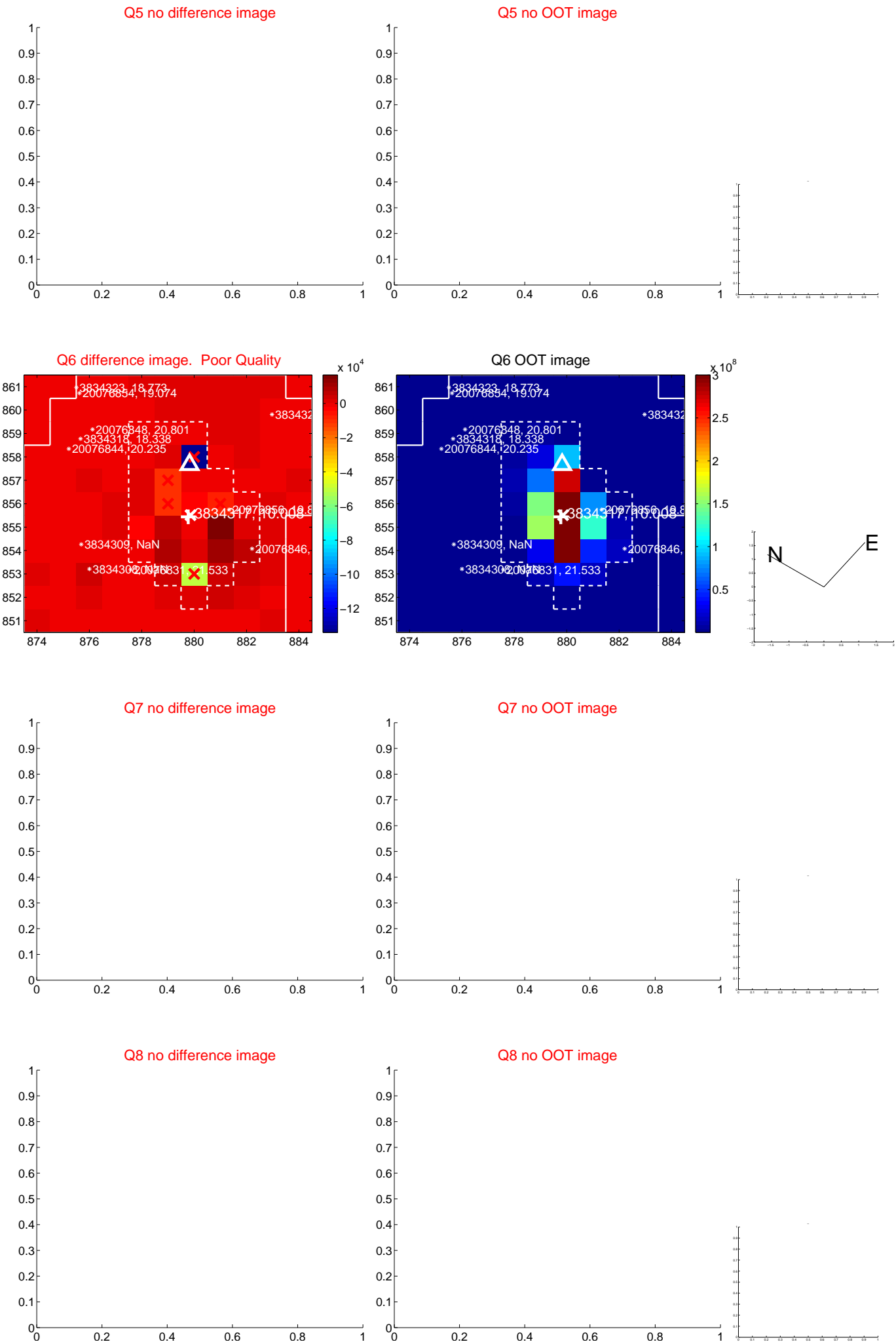
Q2 difference image



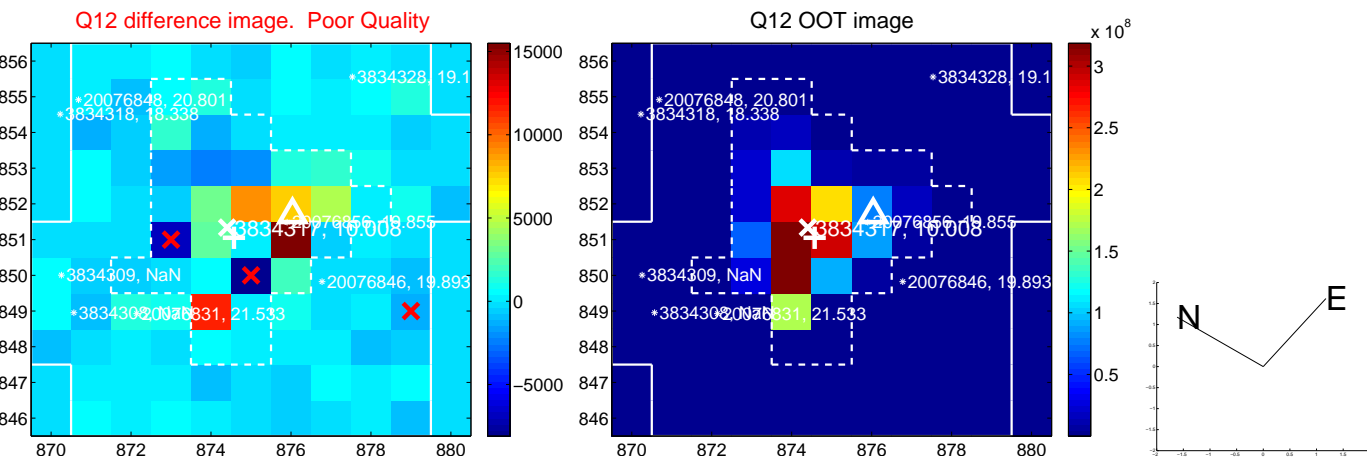
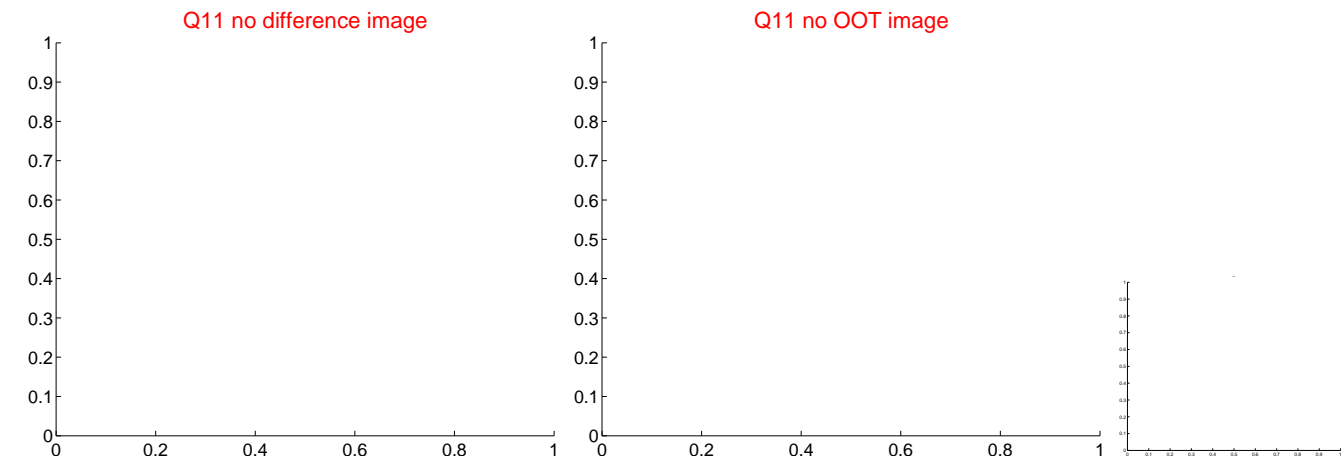
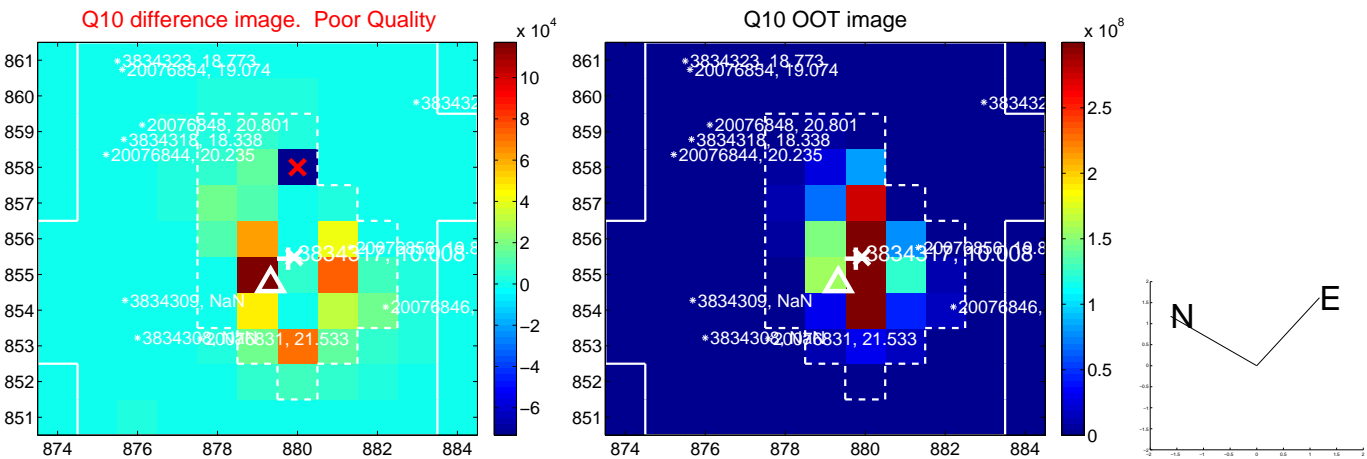
Q4 no difference image

Q4 no OOT image

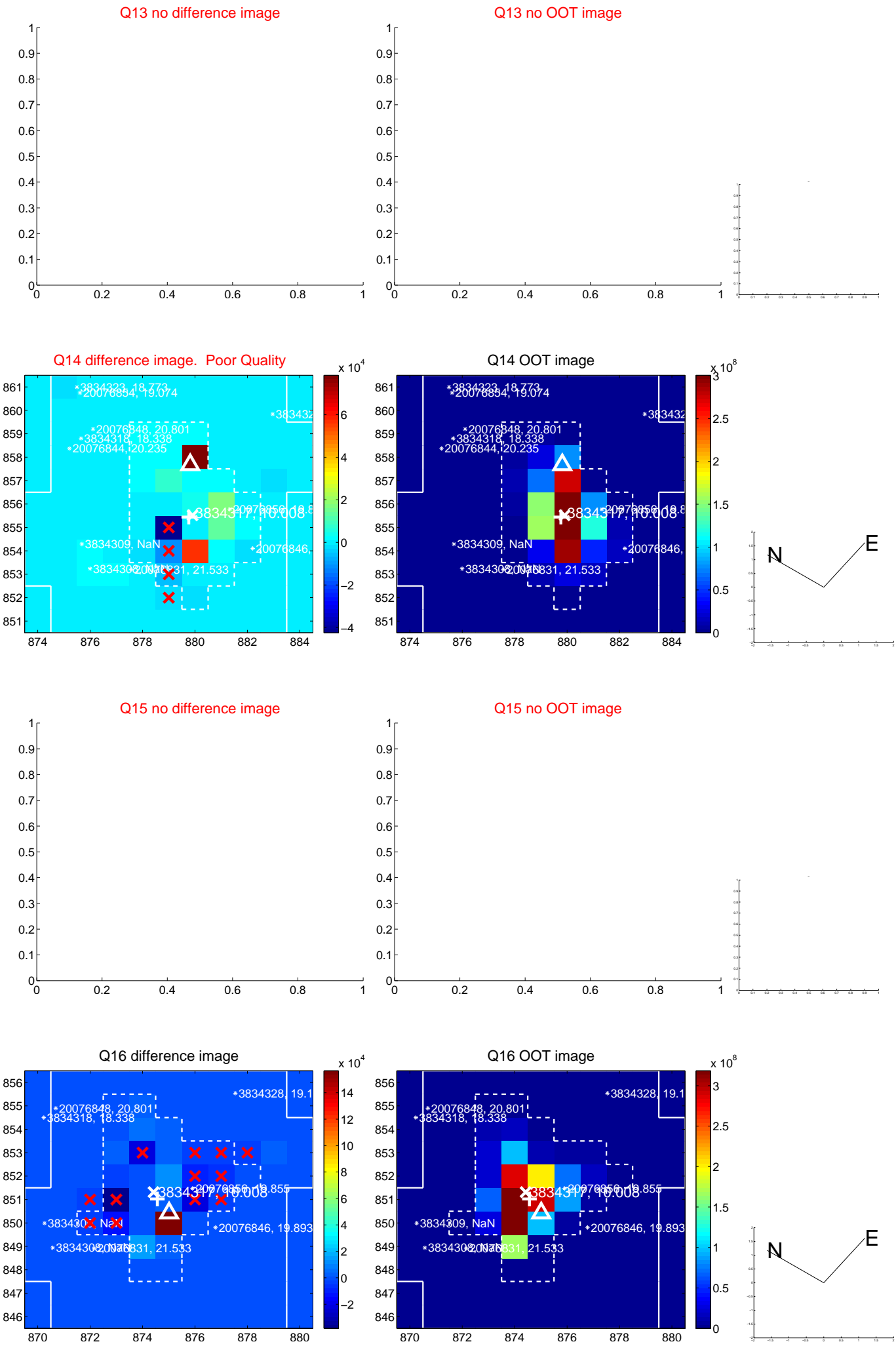
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



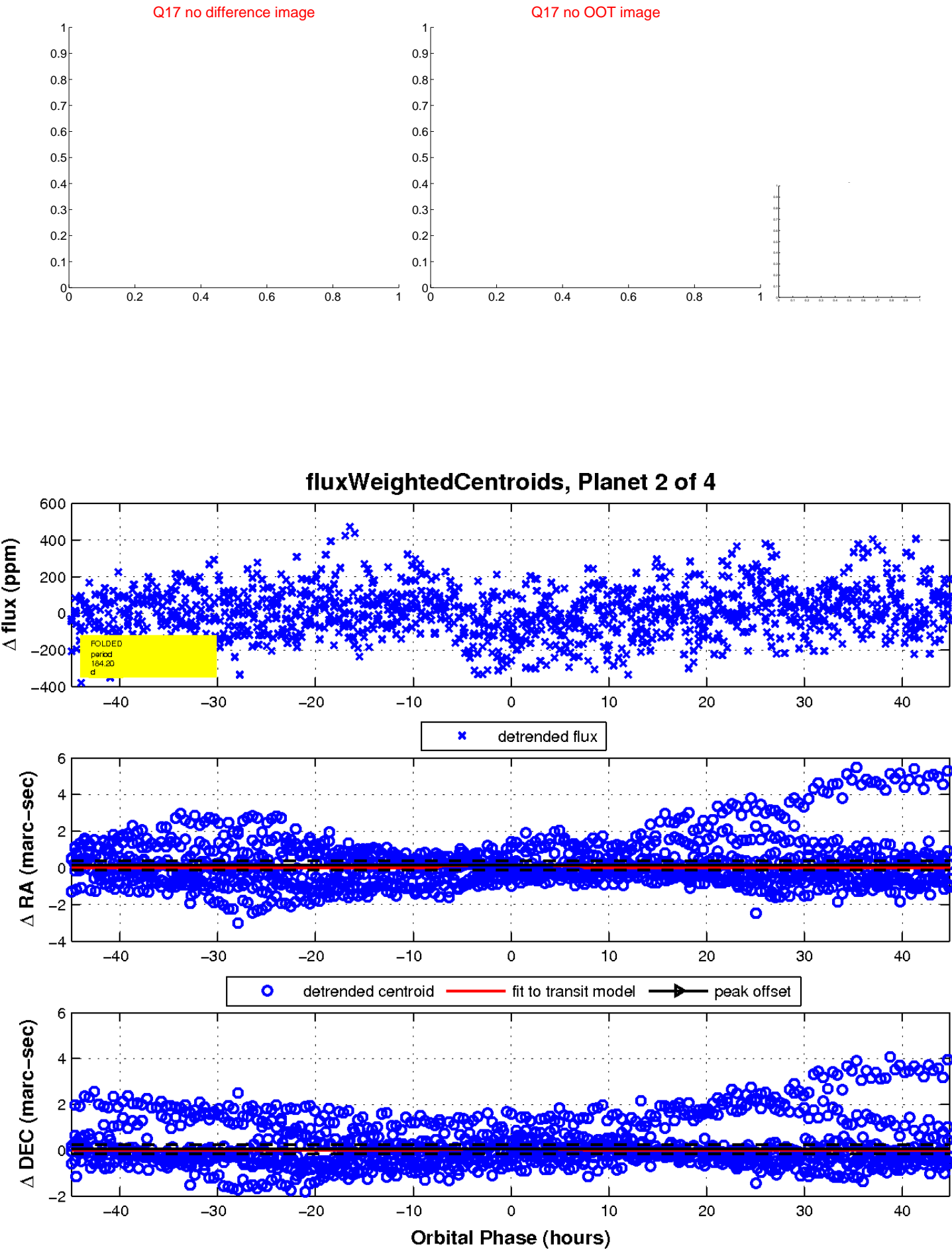
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



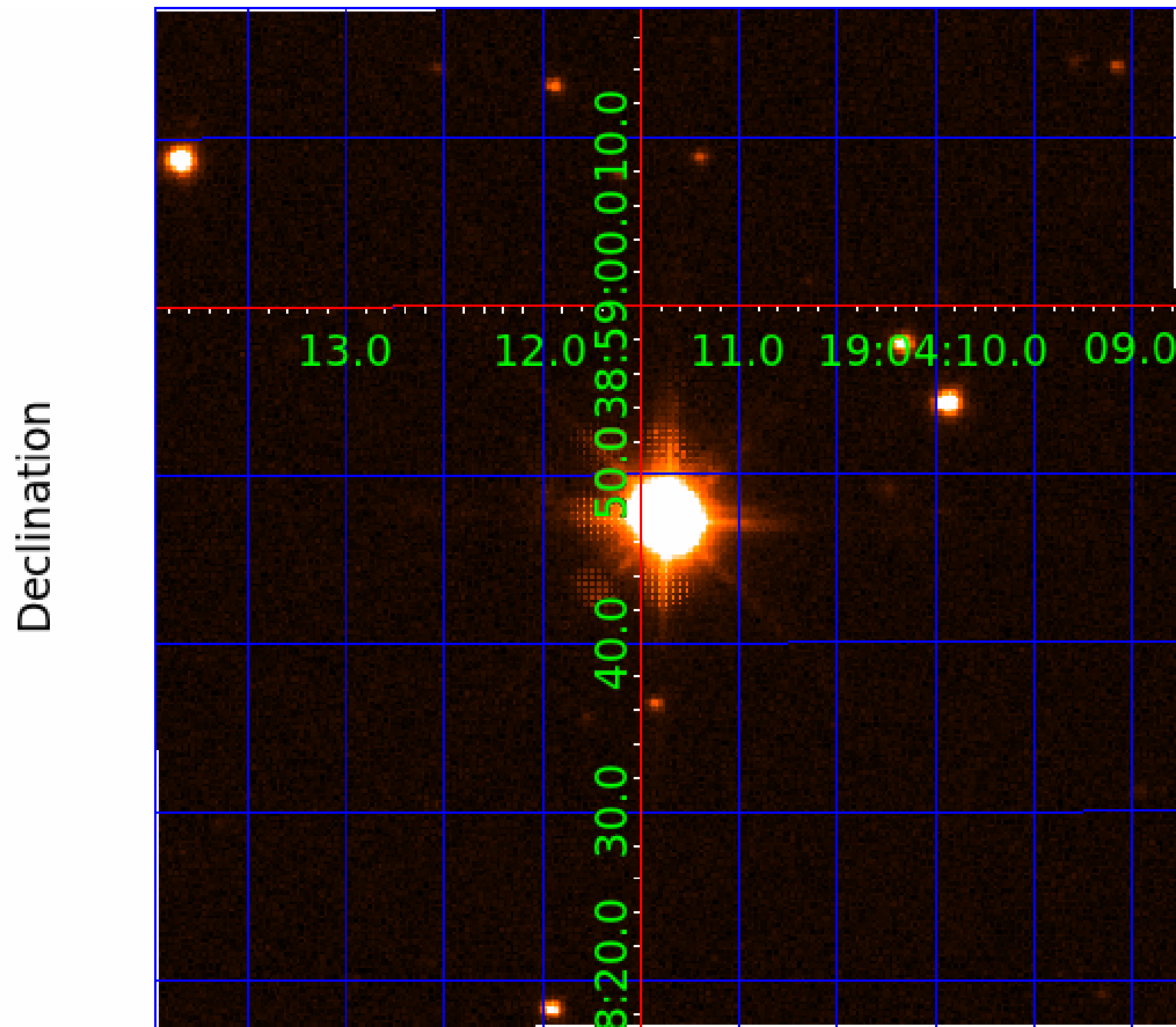
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 003834317

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})
003834317-01	OBS	4203.01	2.182012	131.787875	30.2	9.092	10.9	10.4	3.34	6911	3.63	13877.97
003834317-02	OBS	No	184.198832	252.457030	155.3	14.985	10.0	6.2	3.34	6911	4.36	37.48
003834317-04	OBS	No	47.651611	138.922404	92.4	7.295	7.6	7.7	3.34	6911	3.58	227.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003834317-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
003834317-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
003834317-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—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.

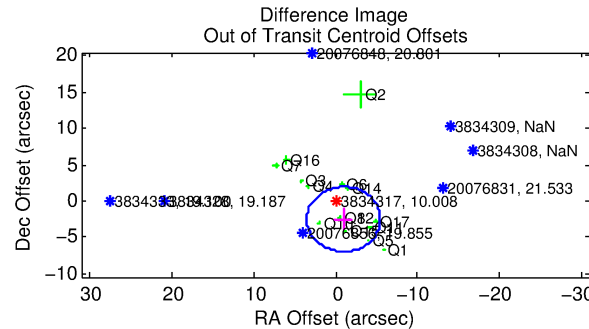
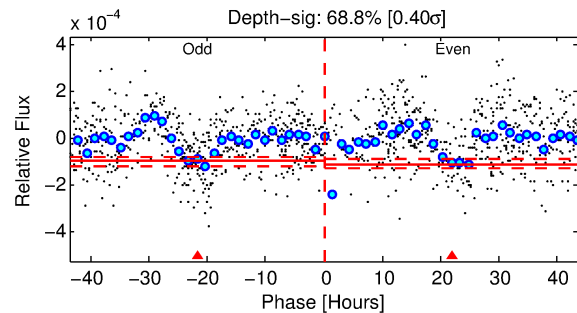
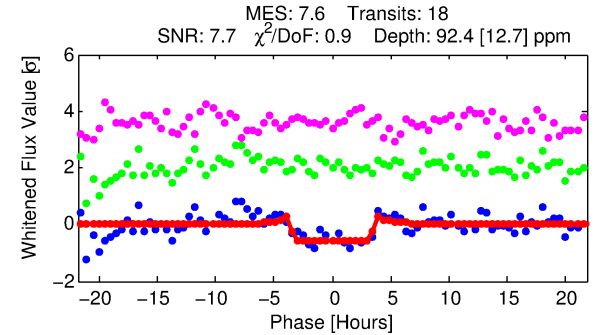
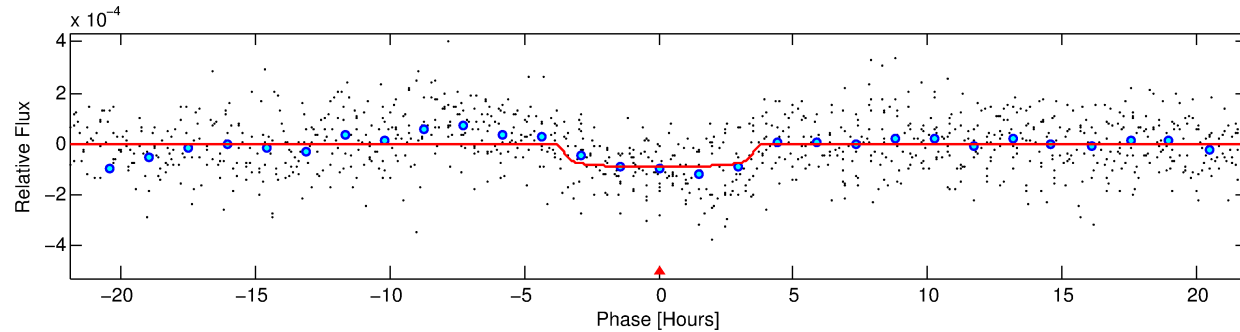
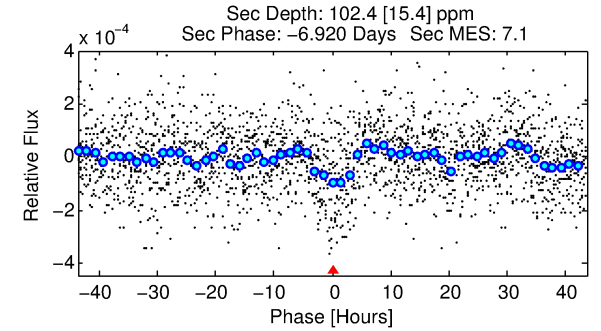
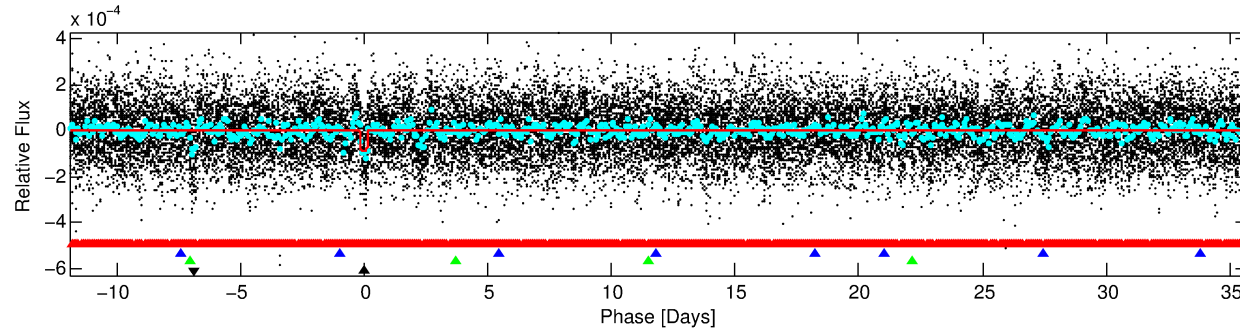
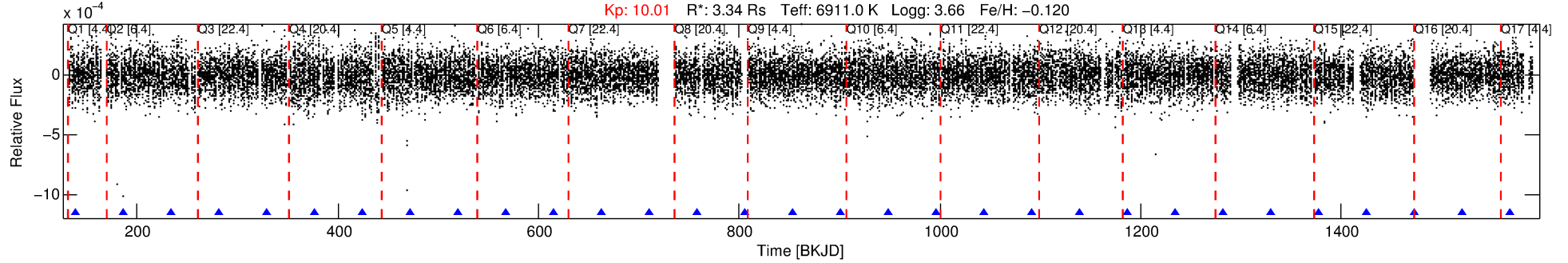
Ephemeris Match Information For 003834317-04

No Significant Match Found

DV One-Page Summary

KIC: 3834317 Candidate: 4 of 4 Period: 47.652 d

KOI: K04203 Corr: No Ephemeris Match



DV Fit Results:

Period = 47.65161 [0.00056] d
Epoch = 138.9224 [0.0104] BKJD
 $R_p/R^* = 0.0098$ [0.0034]
 $a/R^* = 28.80$ [58.52]
 $b = 0.83$ [0.77]
 $S_{\text{eff}} = 227.35$ [135.29]
 $T_{\text{eq}} = 990$ [147] K
 $R_p = 3.58$ [1.88] R_e
 $a = 0.3166$ [0.1146] AU
 $A_g = 440.07$ [397.83] [1.10σ]
 $T_{\text{eff}} = 7012$ [1289] K [4.64σ]

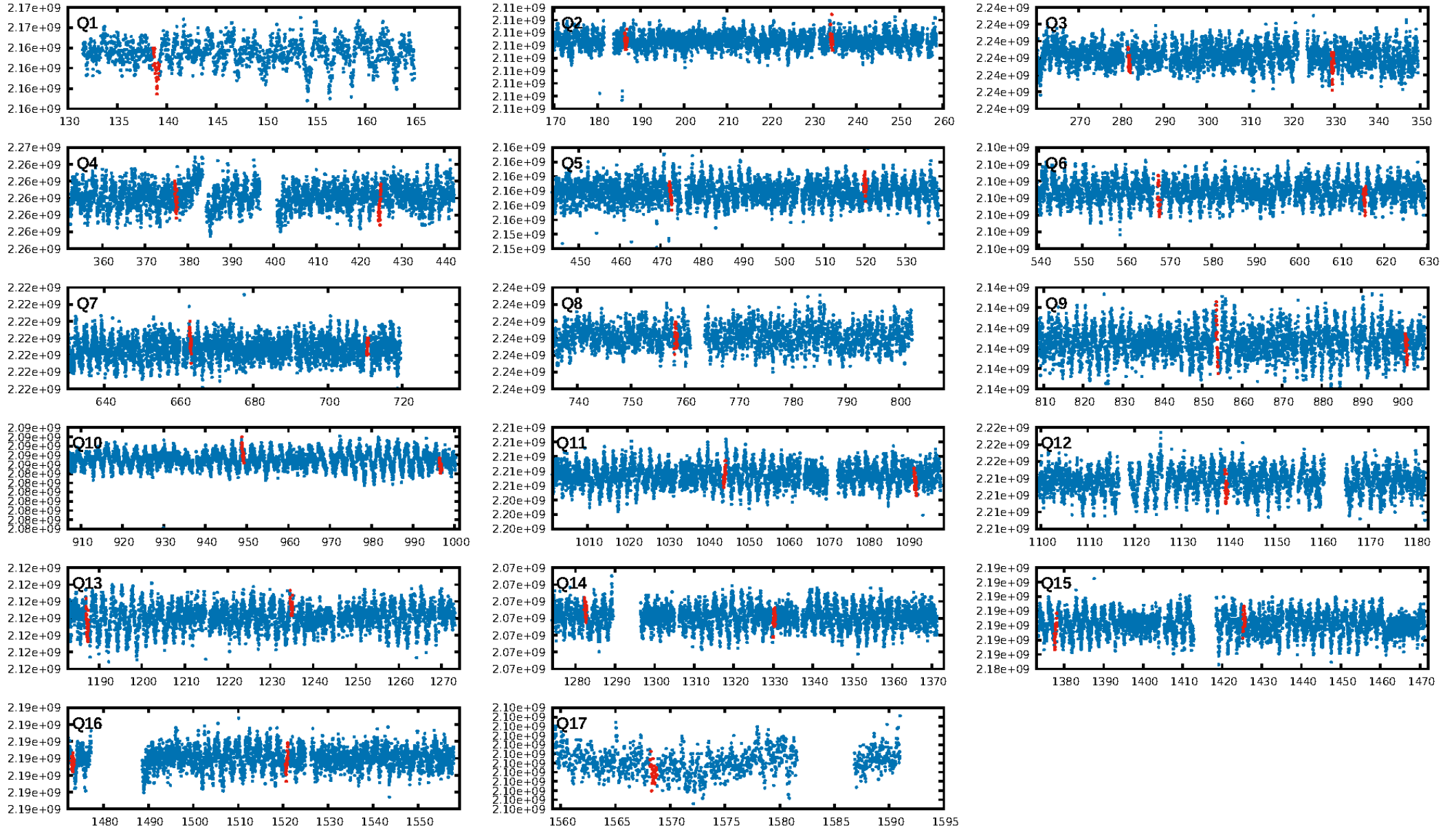
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [93.62σ]
LongPeriod-sig: 100.0% [196.64σ]
ModelChiSquare2-sig: 61.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.53e-09
RollingBand-fgt: 1.00 [16/16]
GhostDiagnostic-chr: N/A
Centroid-sig: 88.0%
Centroid-so: 0.135 arcsec [0.18σ]
OotOffset-rm: 2.709 arcsec [1.82σ]
KicOffset-rm: 3.446 arcsec [2.40σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 0.20 [3/15]
DiffImageOverlap-fno: 0.41 [7/17]

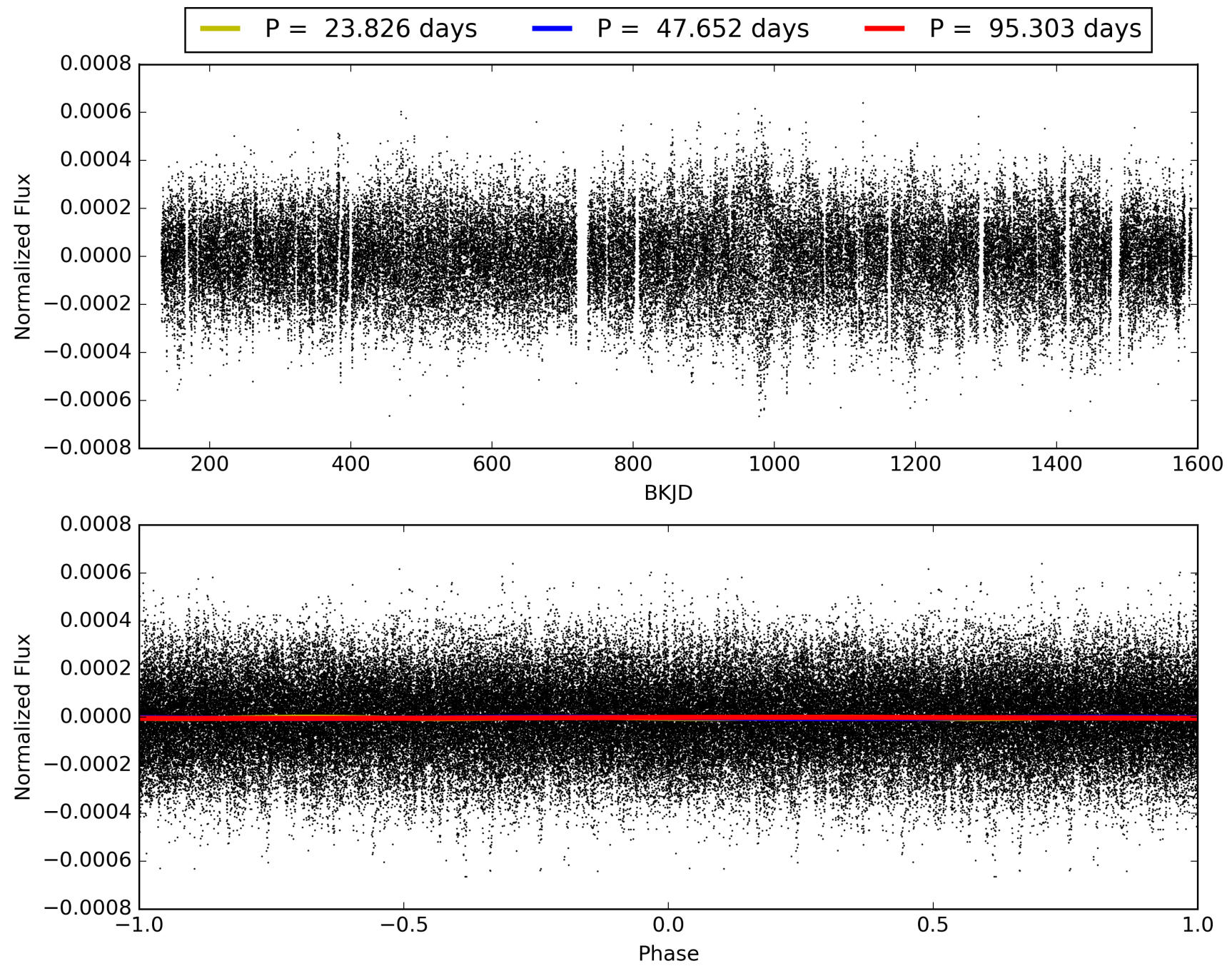
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:36:31 Z

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

TCE 003834317-04, PDC Light Curves

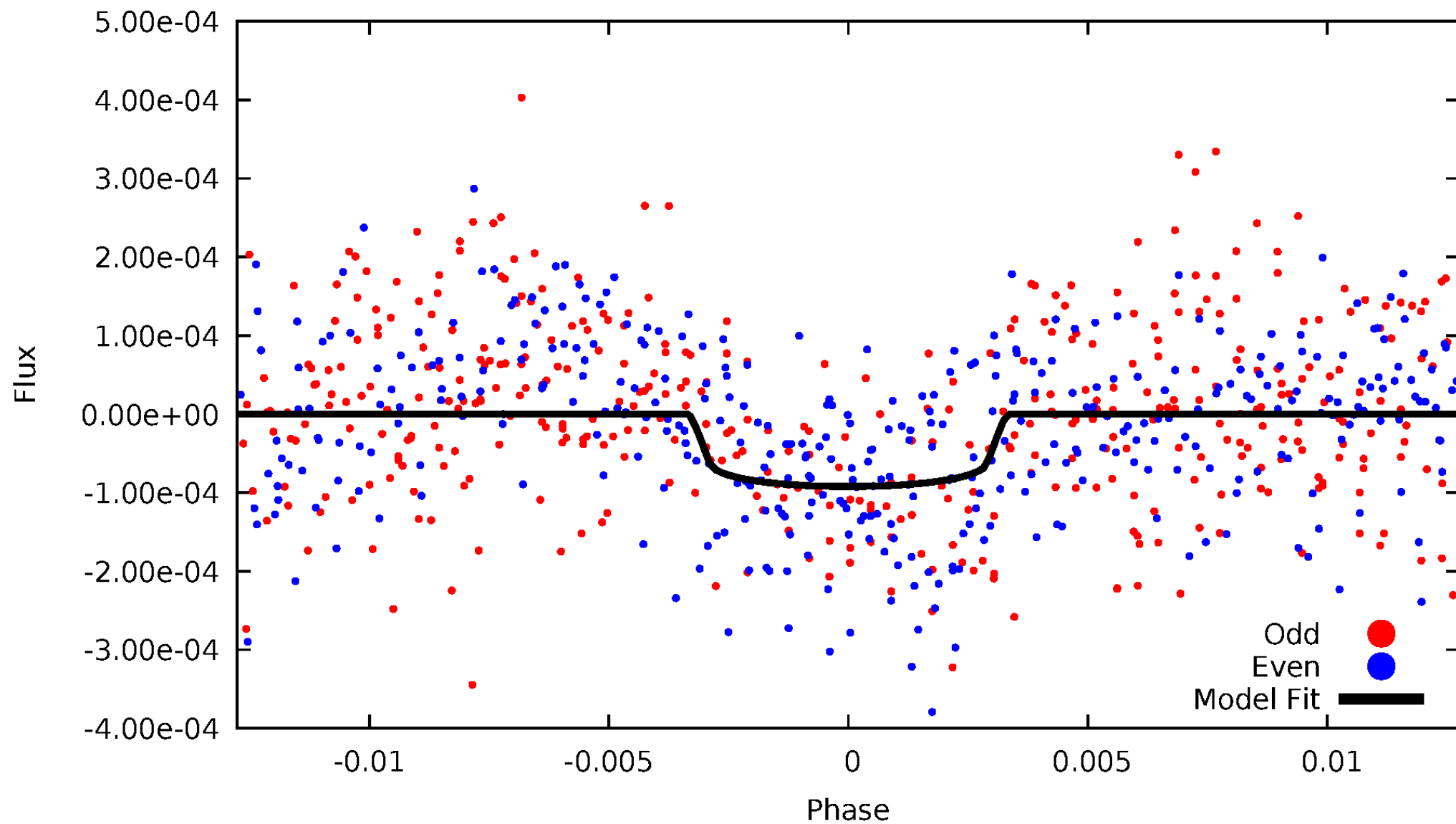


TCE 003834317-04



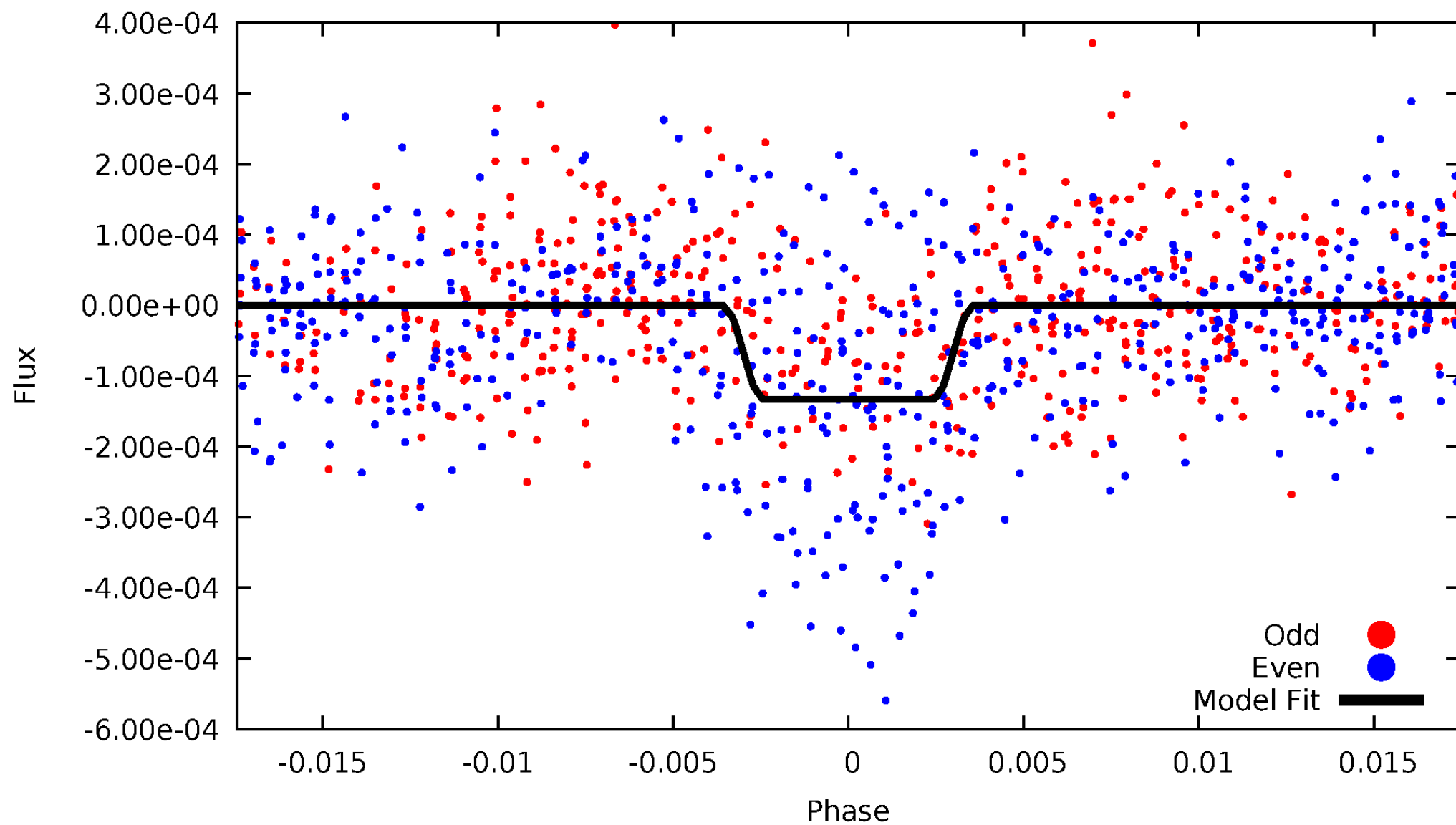
DV Odd/Even

TCE 003834317-04



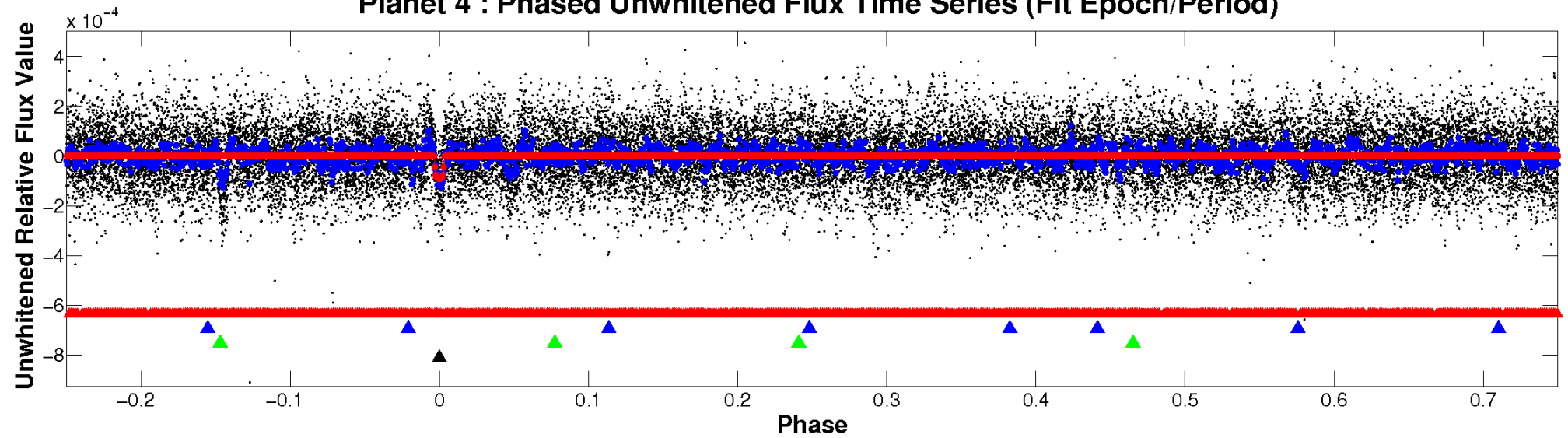
ALT Odd/Even

TCE 003834317-04

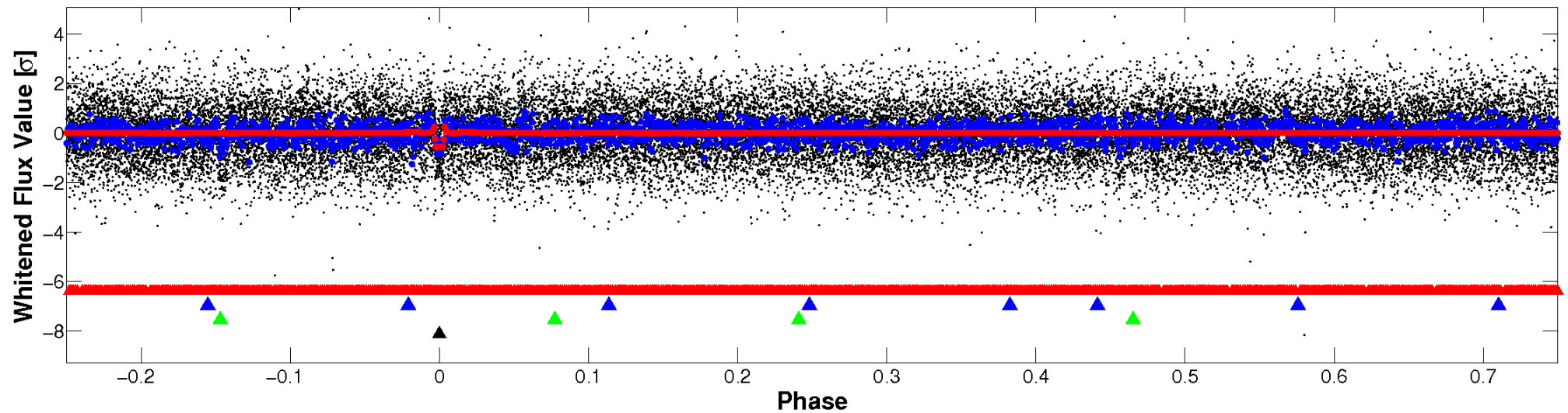


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

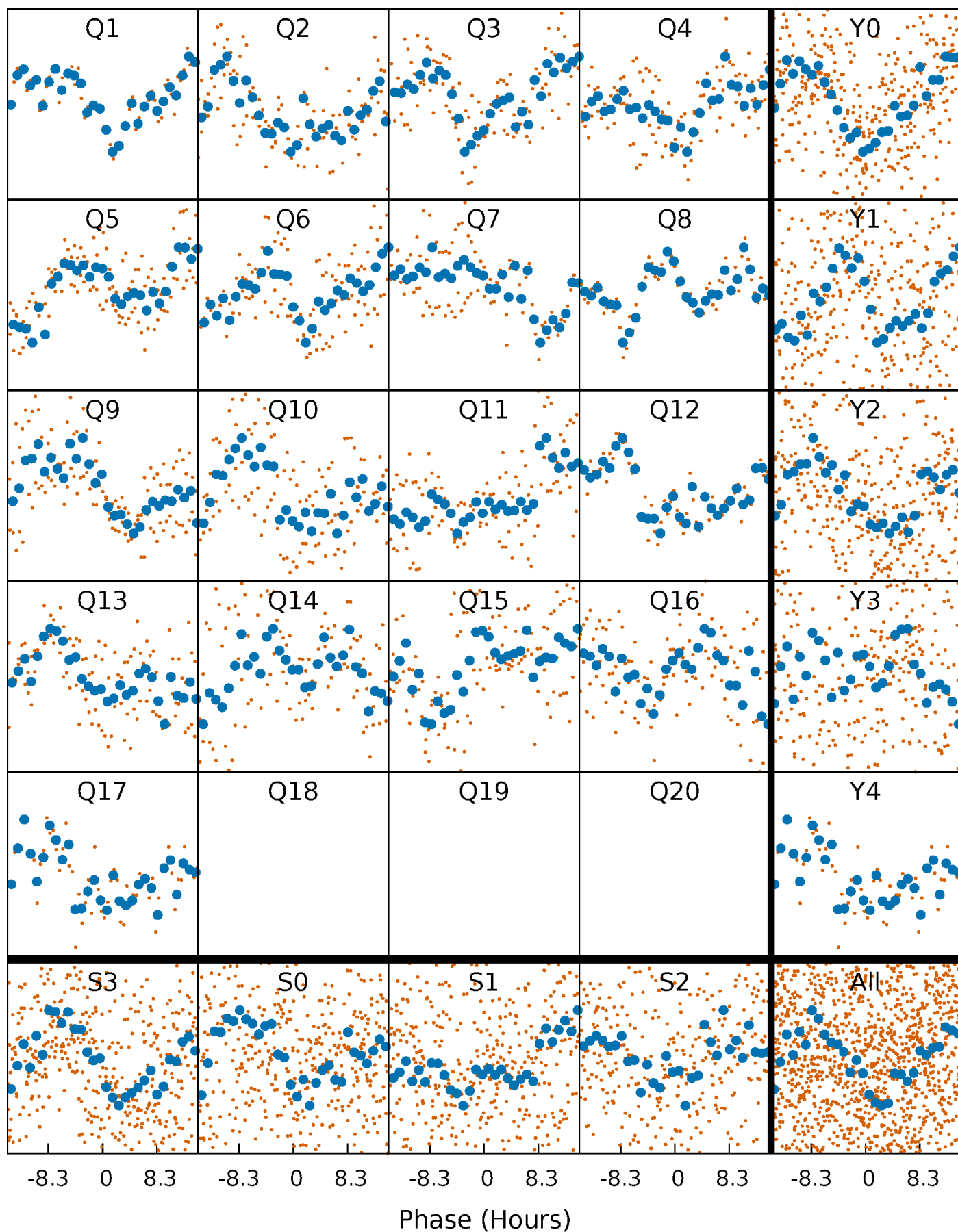


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



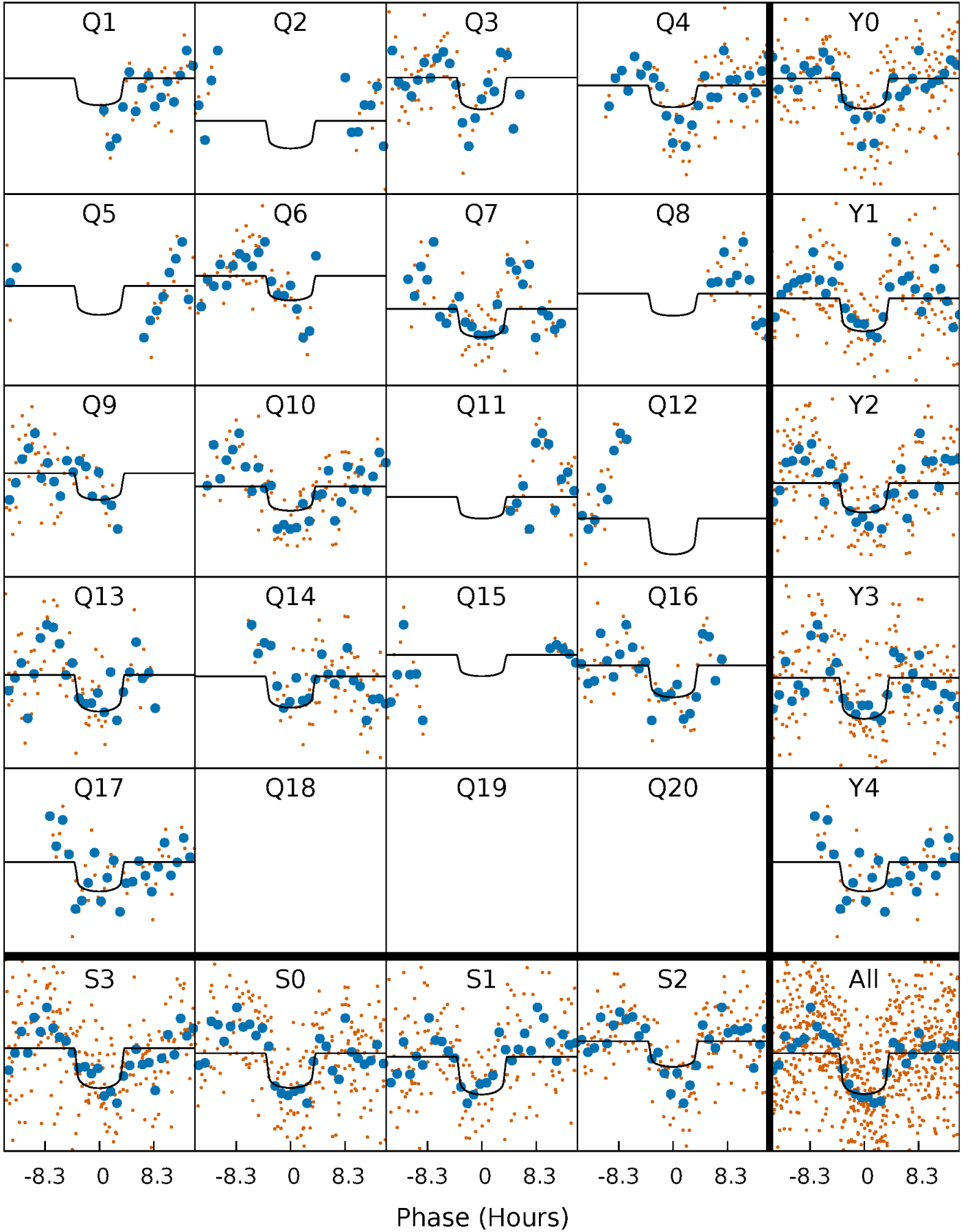
PDC Quarter-Phased Transit Curves

TCE 003834317-04 P= 47.651611 Days $T_0=138.922404$ (BKJD)



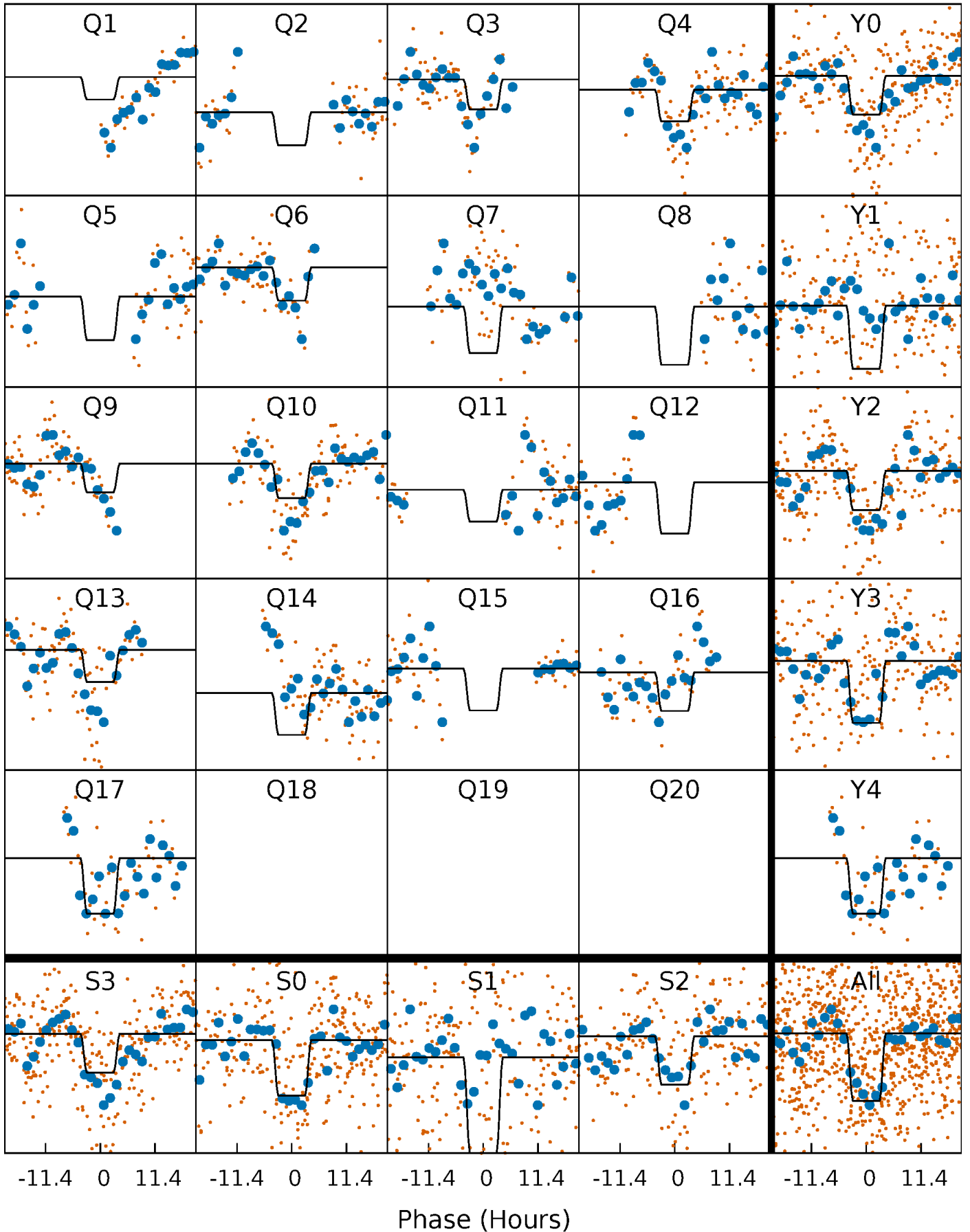
DV Quarter-Phased Transit Curves

TCE 003834317-04 $P = 47.651611$ Days $T_0 = 138.922404$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

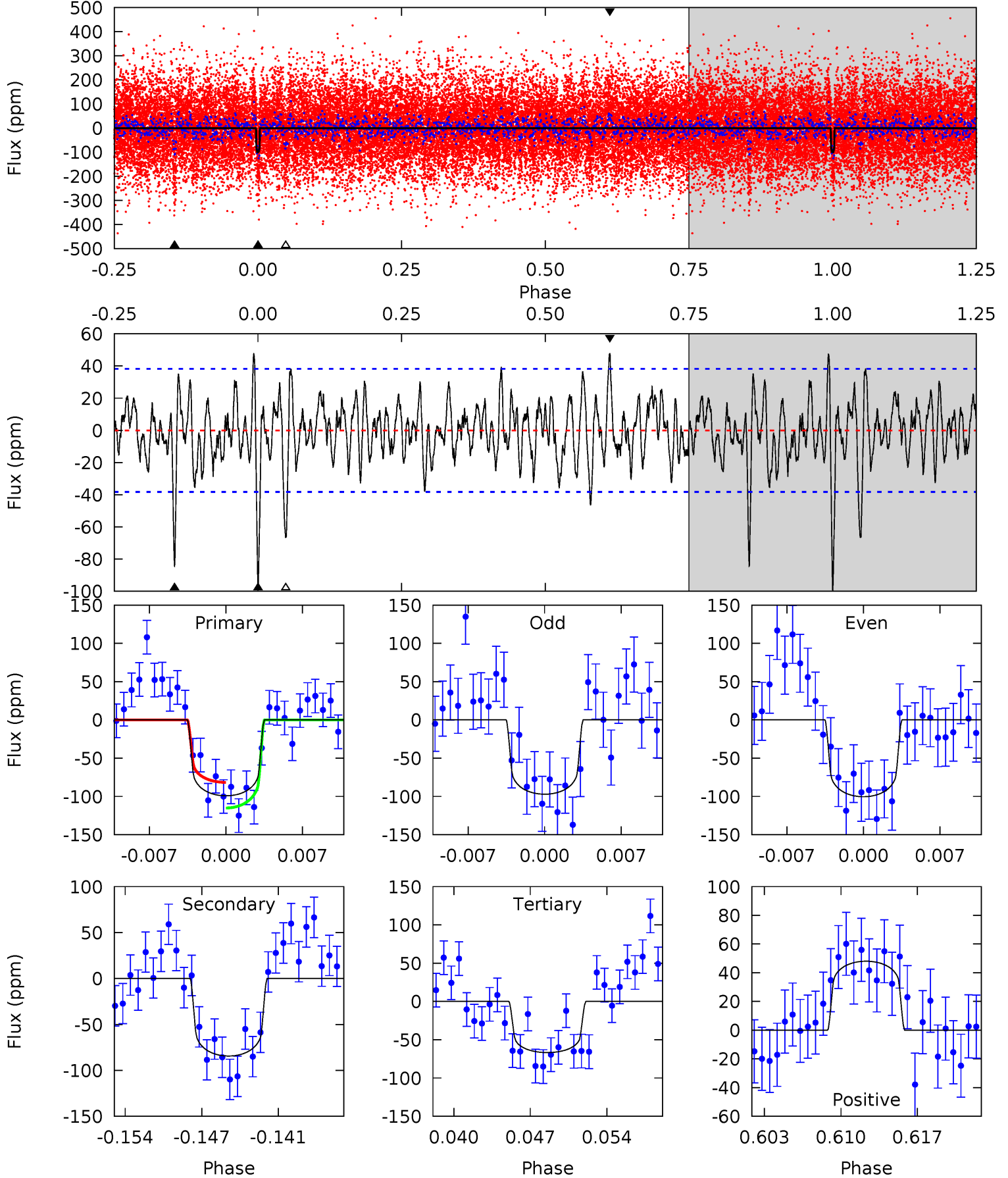
TCE 003834317-04 P= 47.650945 Days $T_0=138.922157$ (BKJD)



DV Model-Shift Uniqueness Test

003834317-04, P = 47.651611 Days, E = 91.270793 Days

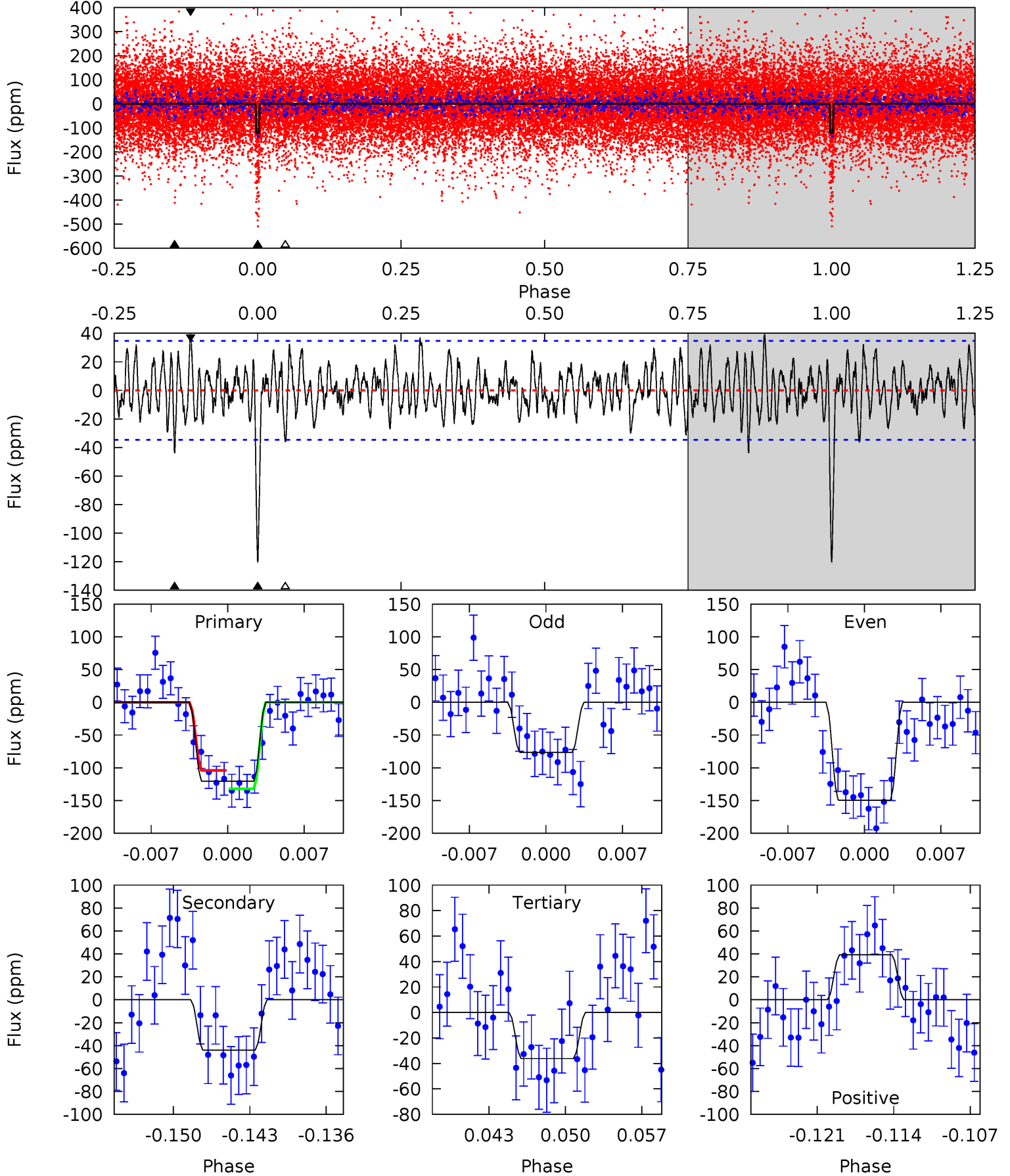
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	11.3	8.90	6.40	5.10	2.71	2.12	4.32	6.82	2.35	4.85	0.21	1.11	0.33	2.23



Alt Model-Shift Uniqueness Test

003834317-04, P = 47.650945 Days, E = 91.271212 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.7	6.47	5.32	5.78	5.09	2.69	1.88	12.4	11.9	1.14	0.69	5.24	1.05	0.25	2.04



Stellar Parameters For KIC 003834317

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6911^{+247}_{-340}	$3.661^{+0.323}_{-0.057}$	$-0.120^{+0.300}_{-0.250}$	$3.339^{+0.330}_{-1.321}$	$1.865^{+0.159}_{-0.445}$	$0.071^{+0.159}_{-0.014}$
	+4%/-5%	+9%/-2%	+250%/-208%	+10%/-40%	+9%/-24%	+226%/-20%
Source	PHO1	FLK73	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 003834317-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-84 ± 7	$3.32^{+1.31}_{-1.24}$	1341^{+86}_{-131}	6575^{+1919}_{-920}	419^{+648}_{-202}
Alt.	-44 ± 7	$3.93^{+1.26}_{-1.25}$	1340^{+87}_{-127}	5190^{+947}_{-581}	153^{+187}_{-65}

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

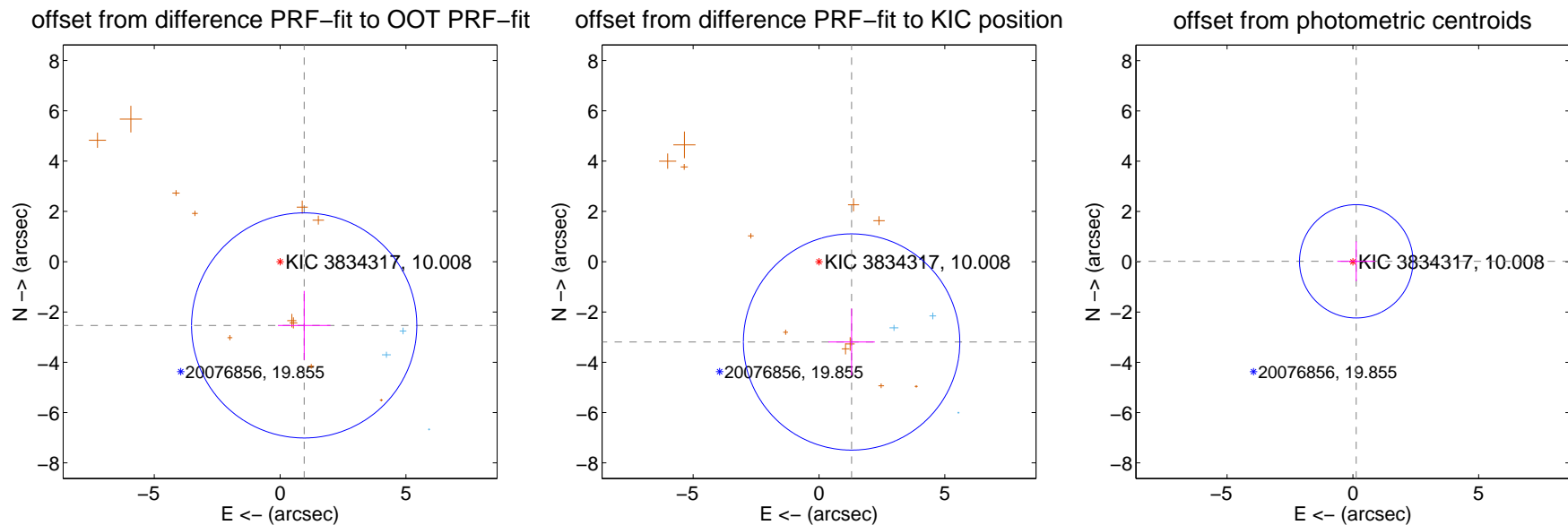
DV Centroid Data

Supplemental centroid analysis for 003834317-04. **Kepler magnitude: 10.01.** Transit SNR 7.74

There are 3 quarters with good PRF difference image offsets

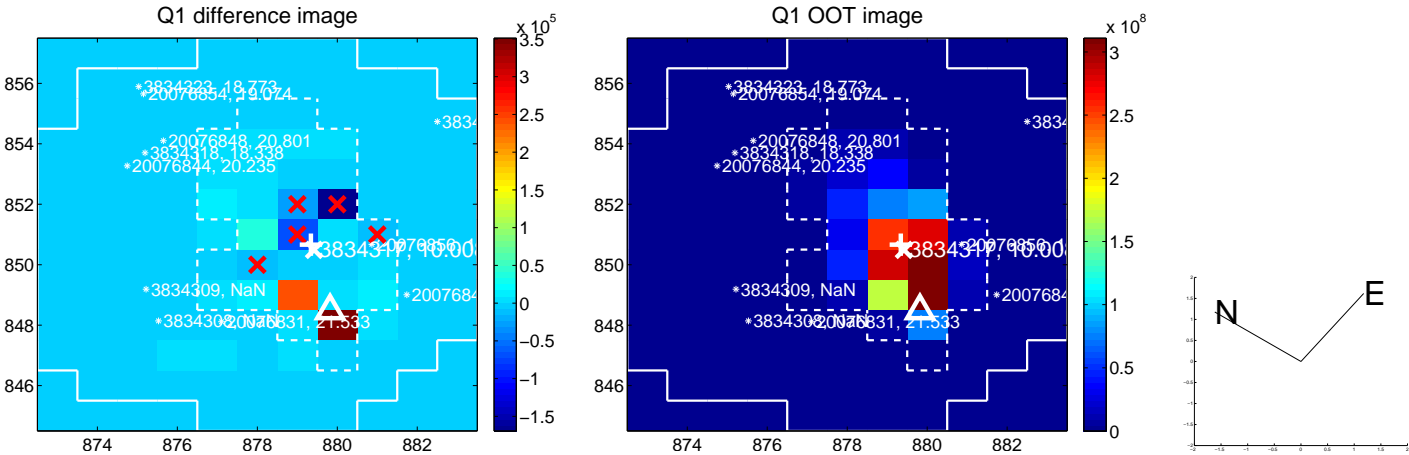
The direct PRF centroid is offset from the target star catalog position by about 0.70 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.709 ± 1.492	1.82	-0.956 ± 1.046	-2.535 ± 1.374
PRF-fit source offset from KIC position	3.446 ± 1.433	2.40	-1.296 ± 0.923	-3.193 ± 1.331
photometric centroid source offset	0.14 ± 0.75	0.18	-0.13 ± 0.75	0.02 ± 0.80

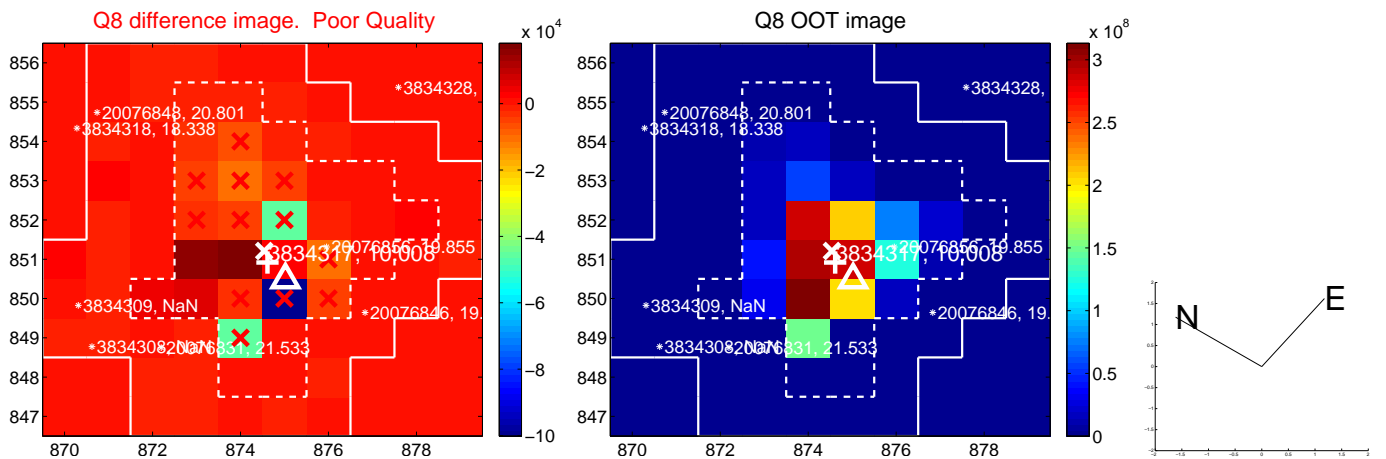
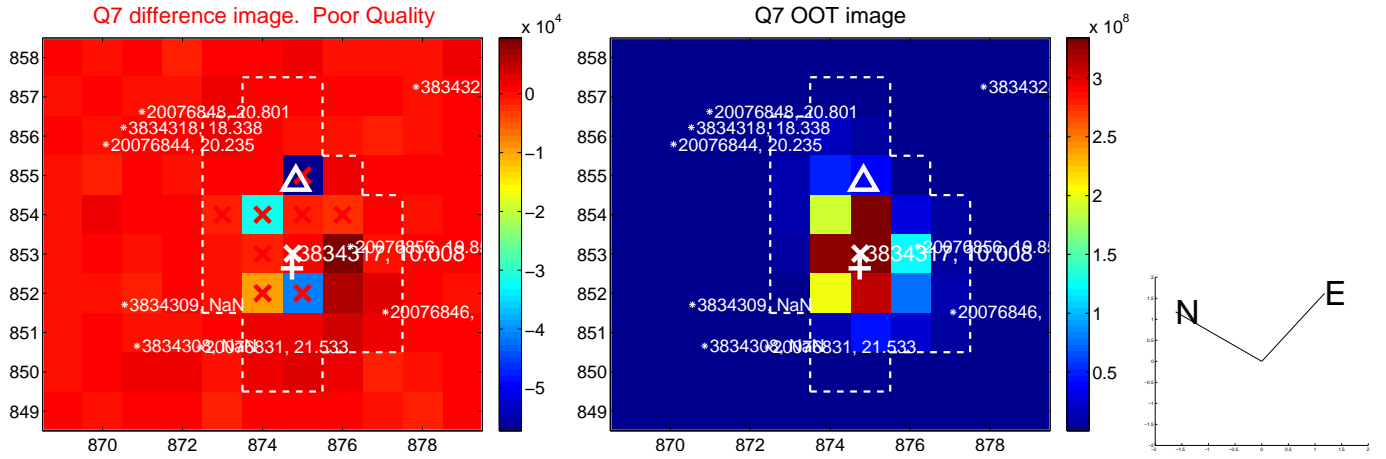
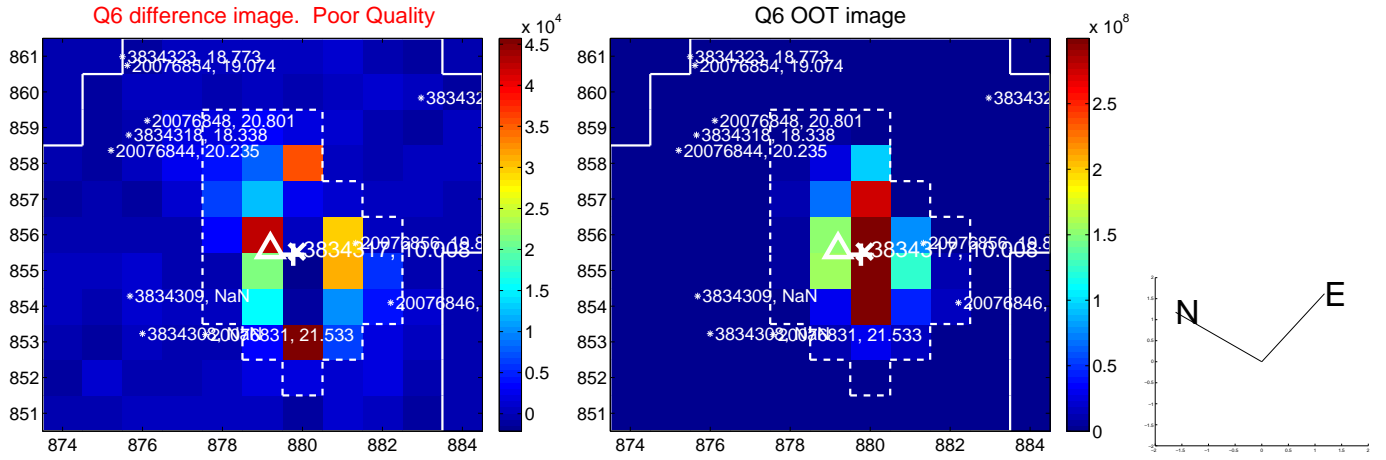
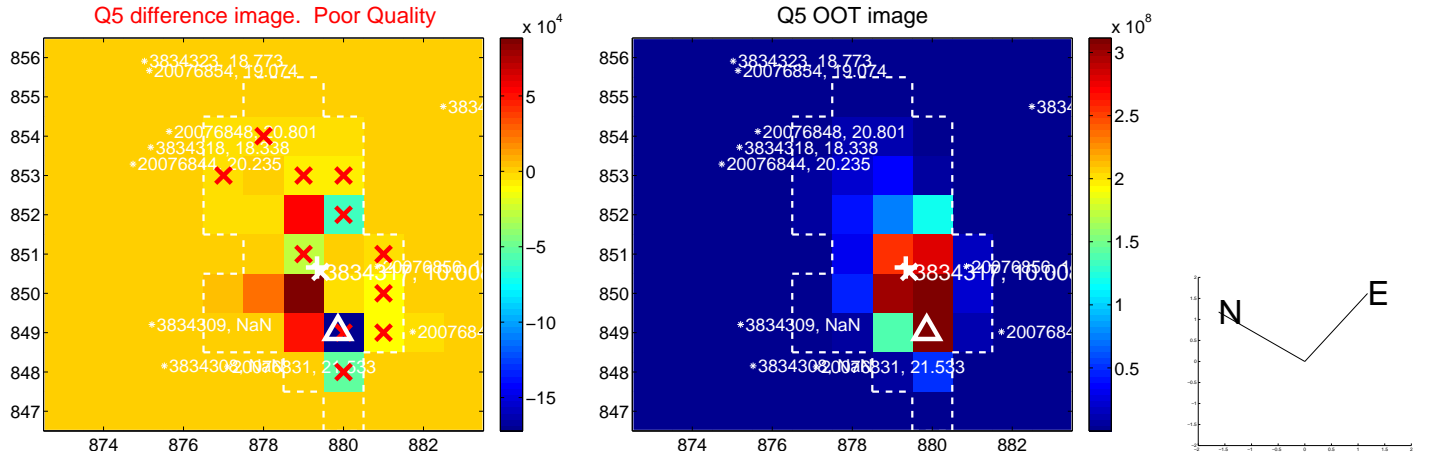


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

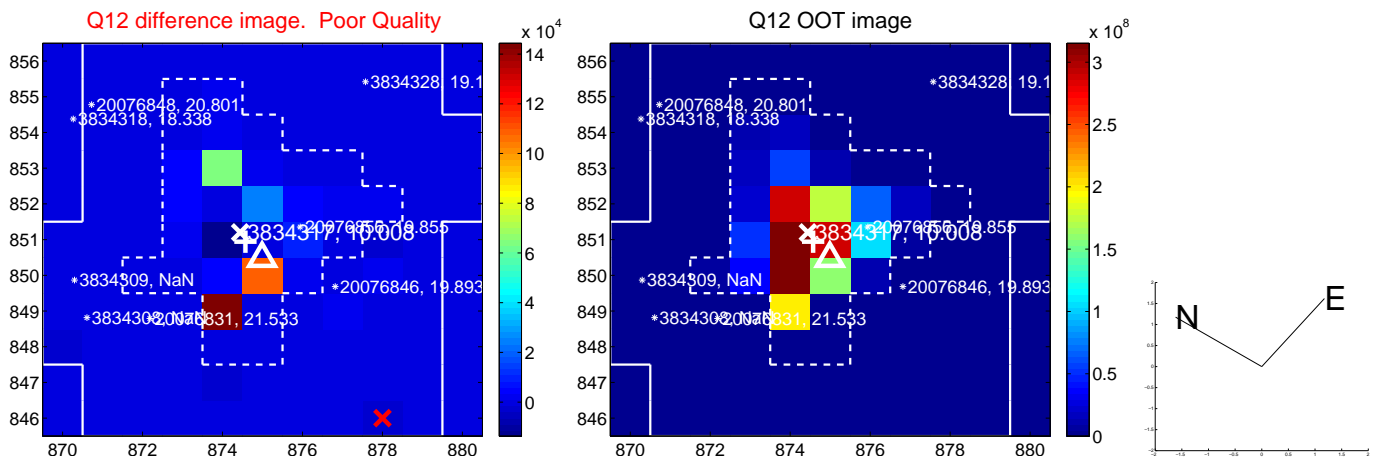
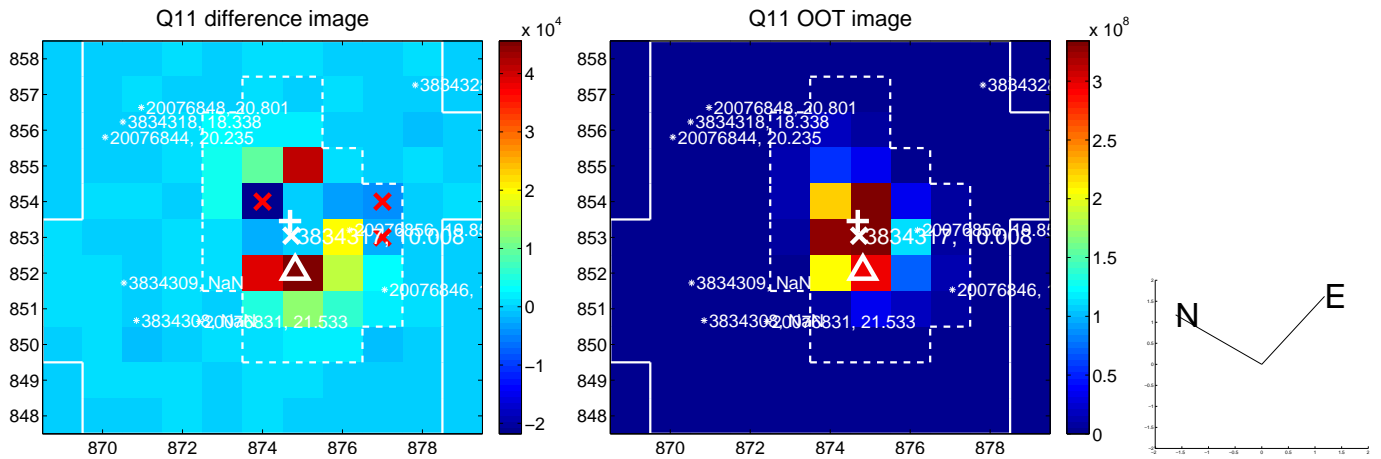
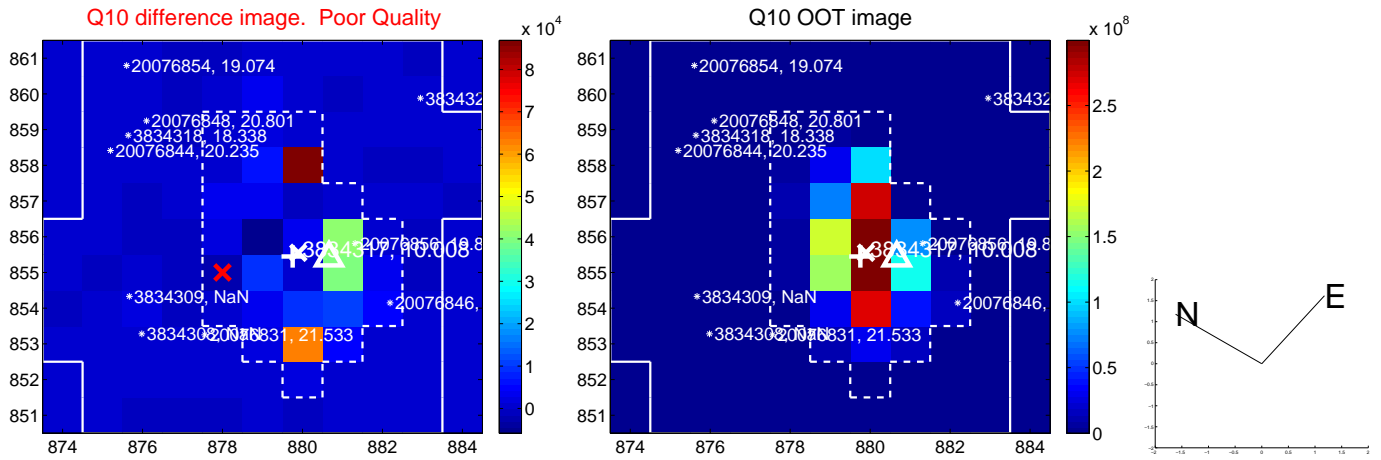
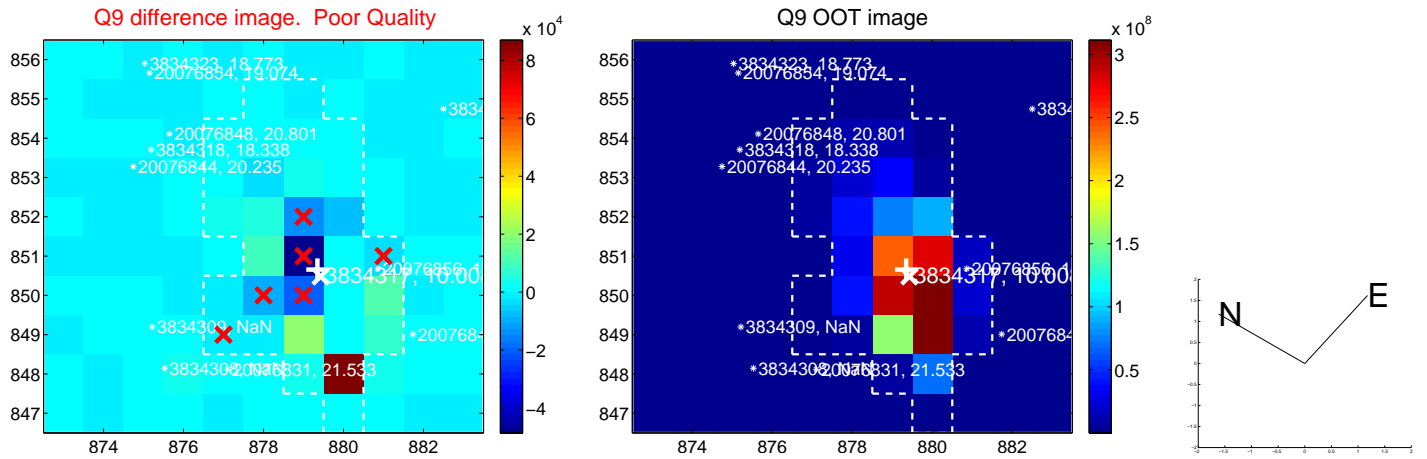
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



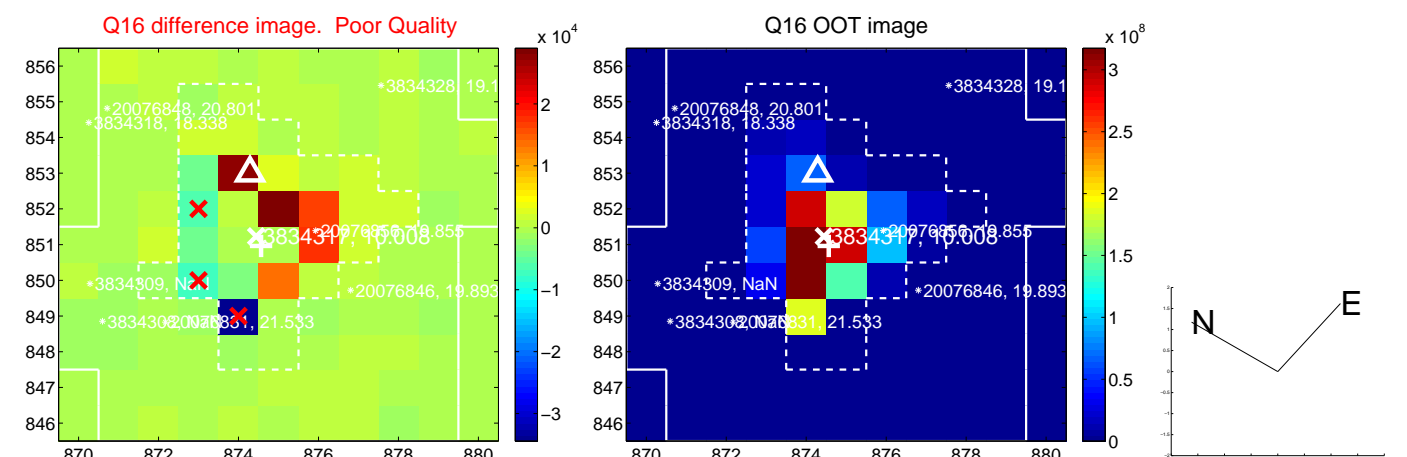
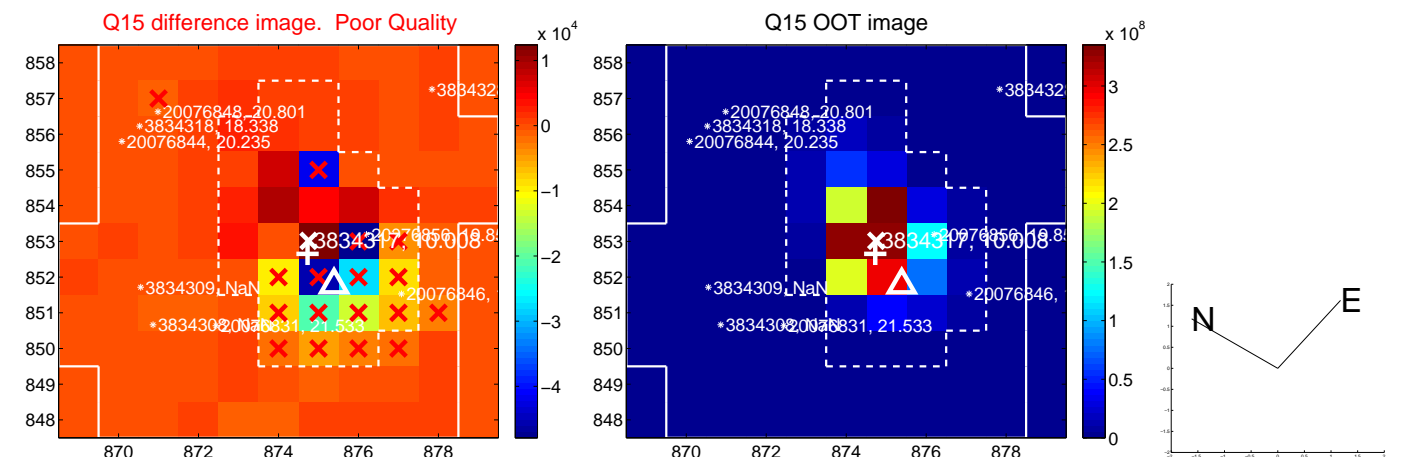
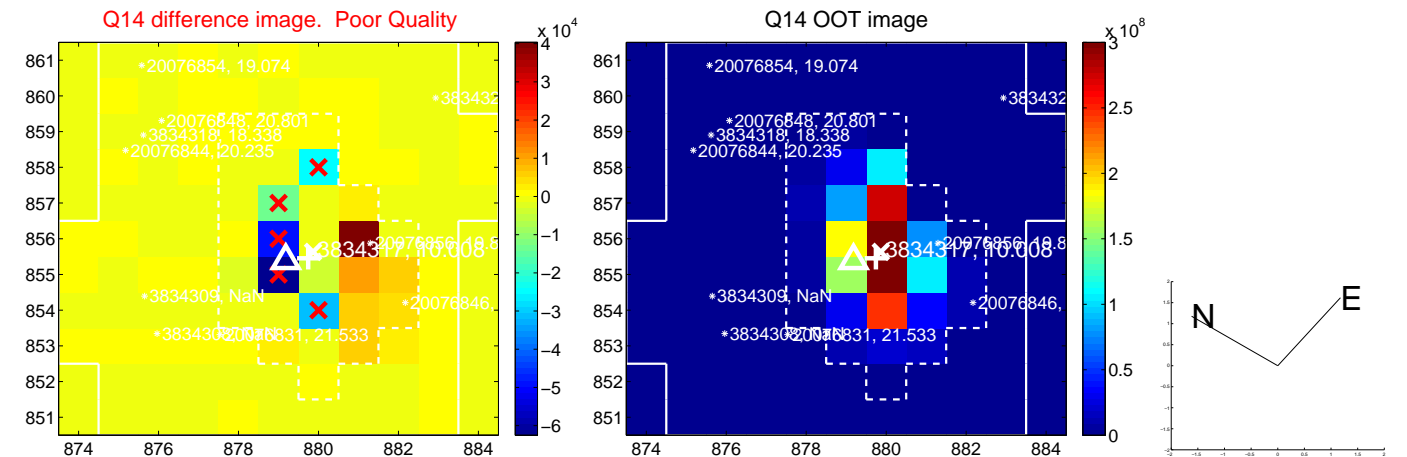
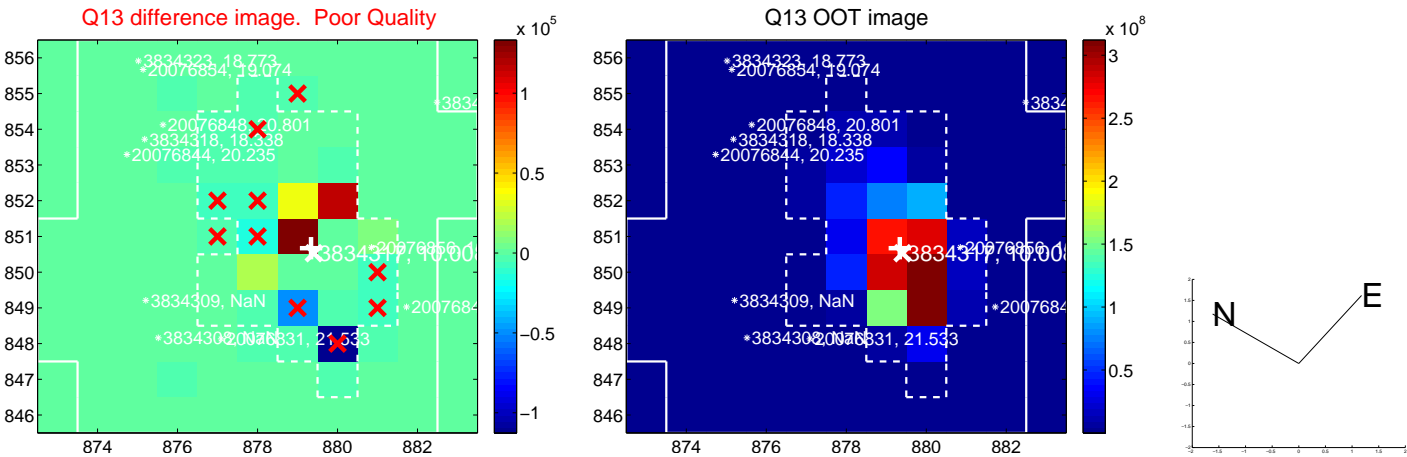
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



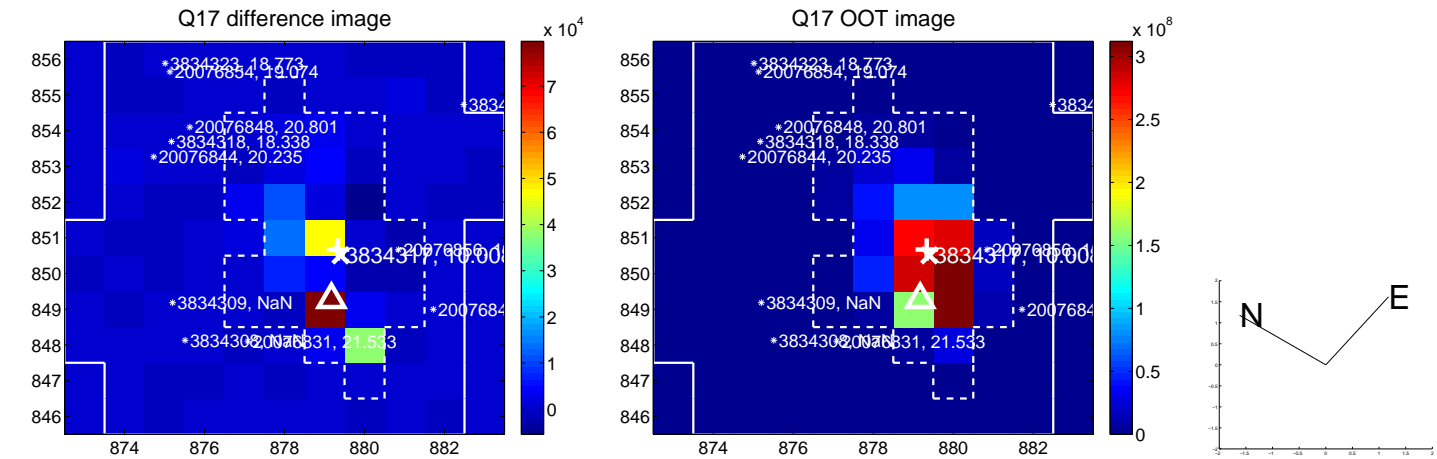
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



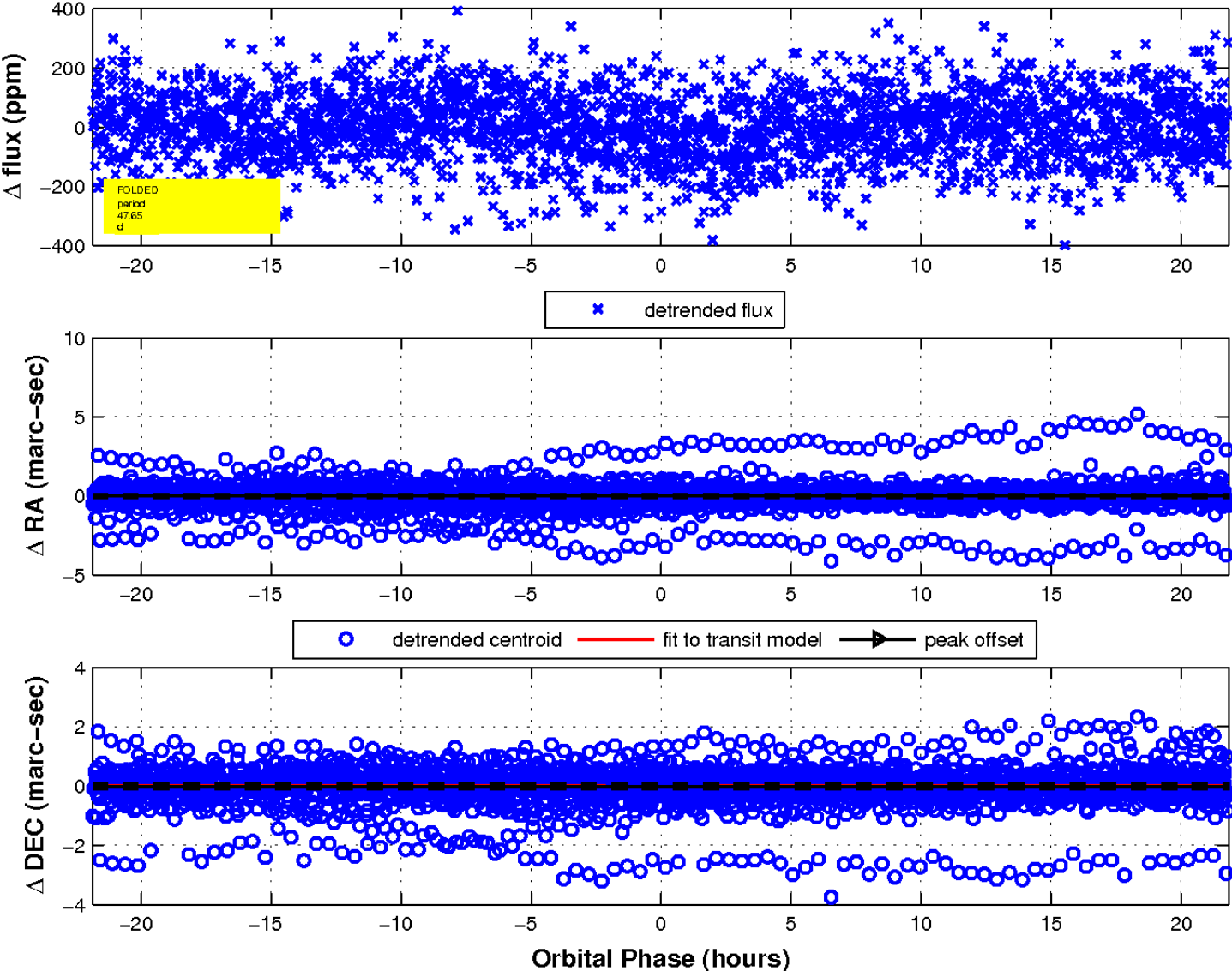
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 4 of 4



UKIRT Image

