

KIC 007533694

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})
007533694-01	OBS	No	0.588188	132.076930	48.2	1.499	13.7	18.4	3.02	8076	2.25	109322.27
007533694-02	OBS	No	0.588183	131.651482	40.4	1.454	12.3	15.6	3.02	8076	1.95	109323.51
007533694-03	OBS	No	0.650420	131.766315	14.2	1.370	10.5	2.5	3.02	8076	1.22	95602.87
007533694-04	OBS	No	0.649176	131.987964	19.0	0.514	9.1	2.3	3.02	8076	1.41	95847.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007533694-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
007533694-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—SAME_NTL_PERIOD—CENT_SATURATED
007533694-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
007533694-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_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.

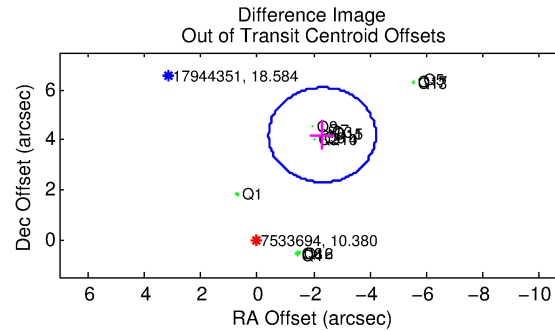
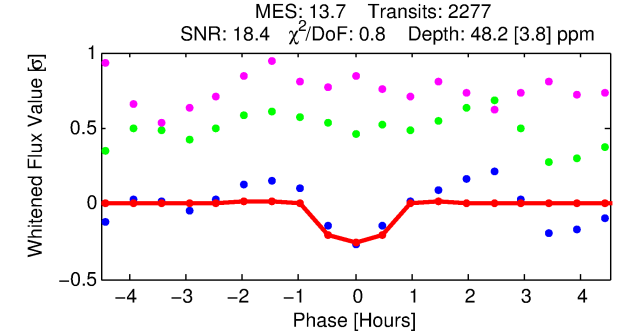
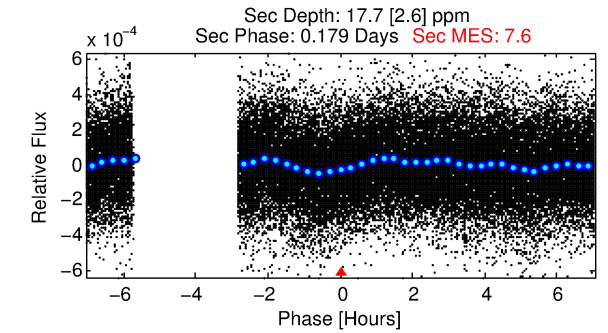
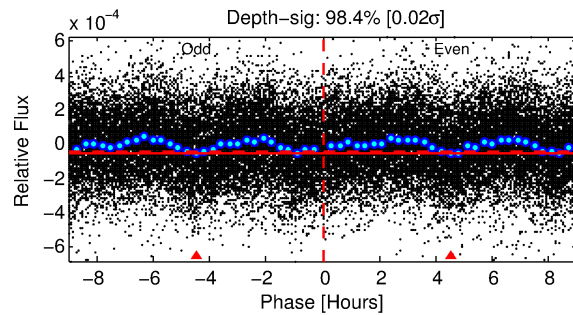
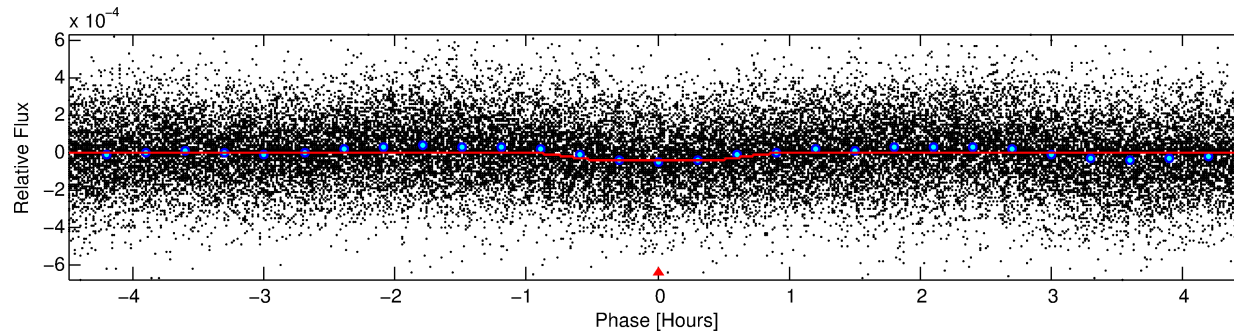
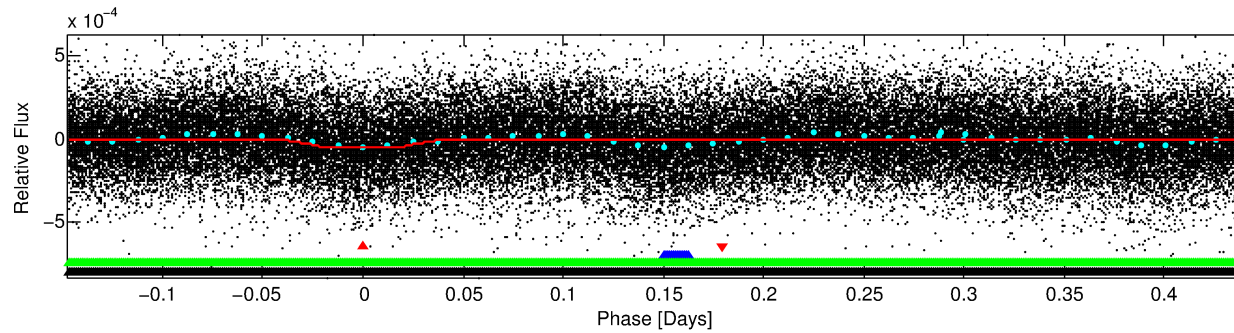
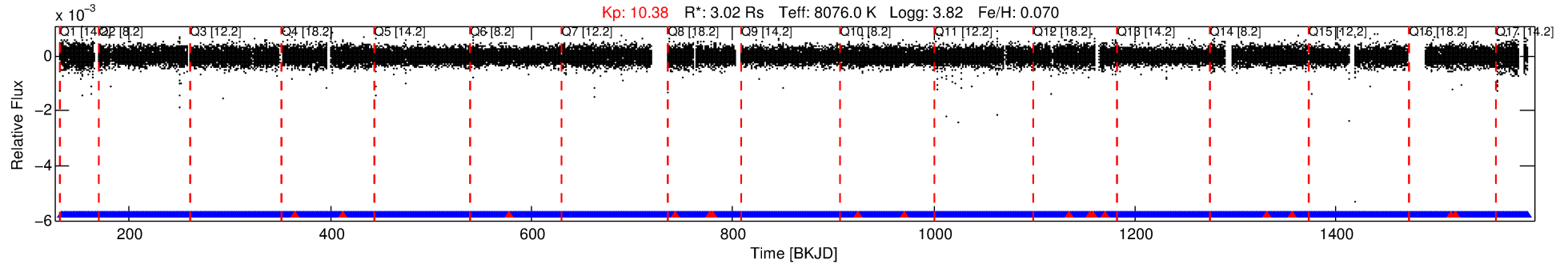
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007533694-01

No Significant Match Found

DV One-Page Summary

KIC: 7533694 Candidate: 1 of 4 Period: 0.588 d



DV Fit Results:

Period = 0.58819 [0.00001] d
Epoch = 132.0769 [0.0011] BKJD
 R_p/R^* = 0.0068 [0.0009]
 a/R^* = 2.32 [1.39]
 b = 0.70 [0.54]
 S_{eff} = 109322.27 [68316.78]
 T_{eq} = 4637 [724] K
 R_p = 2.25 [0.95] R_e
 a = 0.0178 [0.0068] AU
 A_g = 0.61 [0.41] [-0.95 σ]
 T_{eff} = 6336 [545] K [1.88 σ]

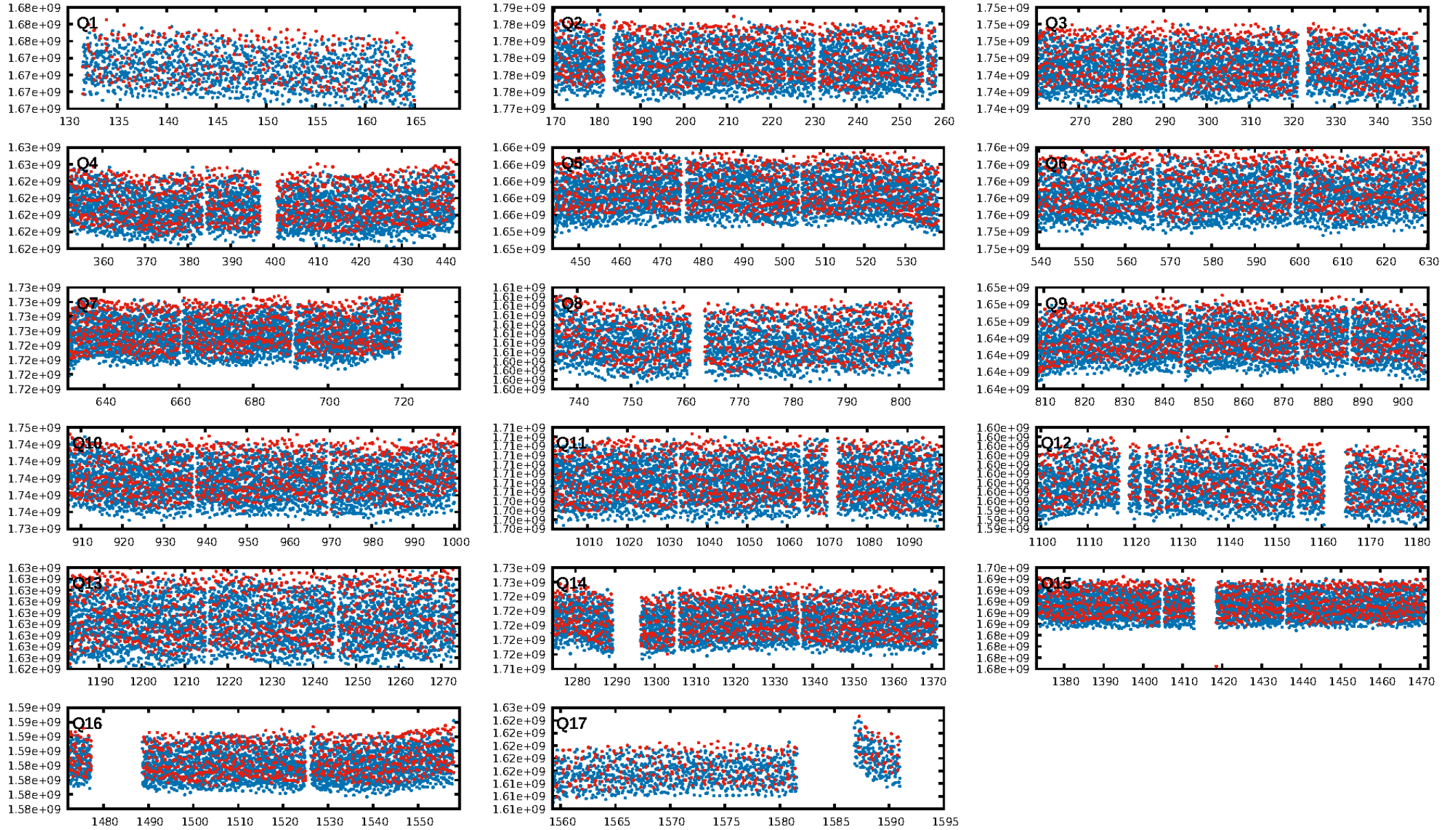
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 64.4% [0.92 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.34e-31
RollingBand-fgt: 0.99 [2156/2174]
GhostDiagnostic-chr: 2.131
Centroid-sig: 0.0%
Centroid-so: 0.968 arcsec [4.33 σ]
OotOffset-rm: 4.783 arcsec [7.56 σ]
KicOffset-rm: 4.786 arcsec [6.74 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 0.00 [0/17]

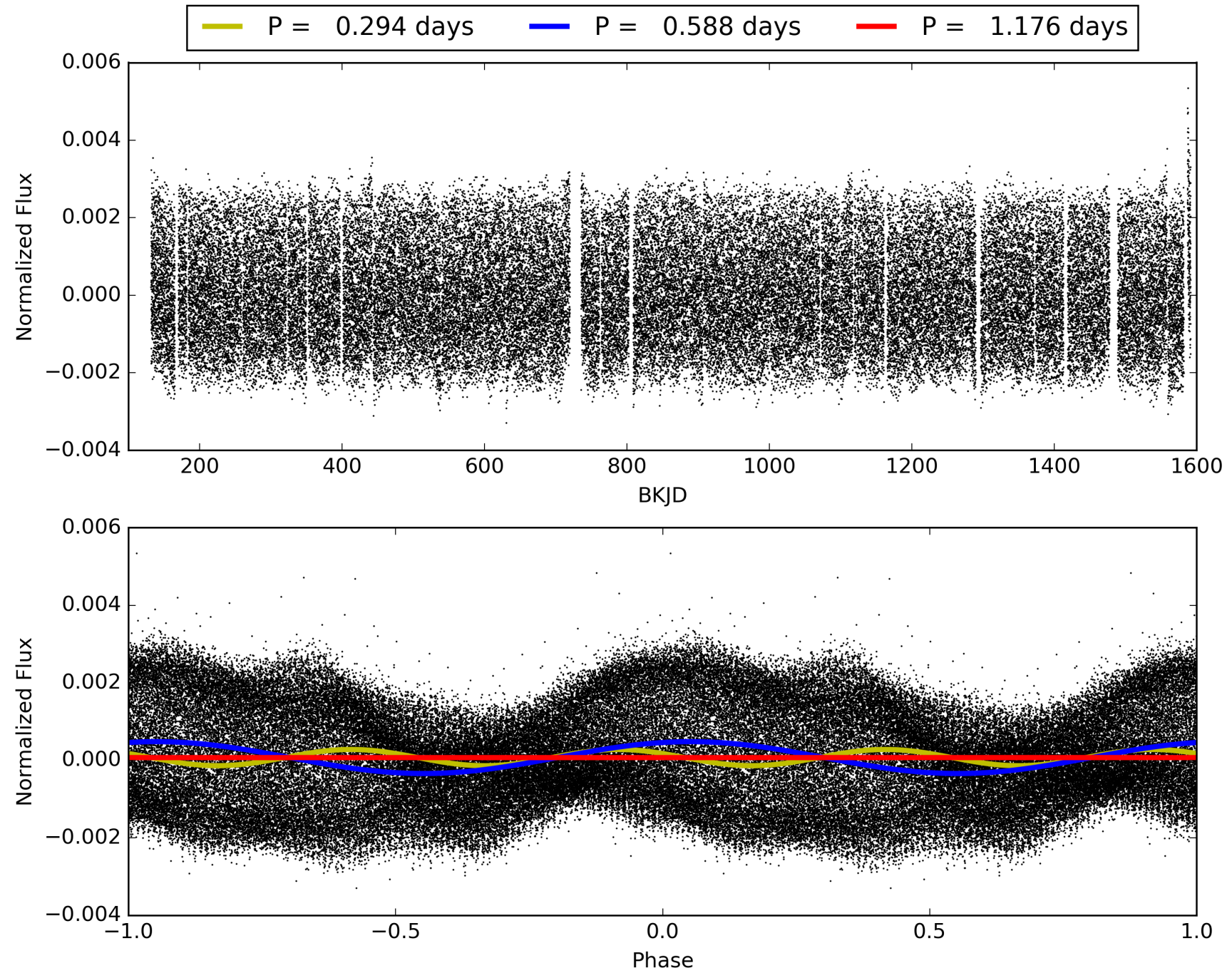
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:01:31 Z

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

TCE 007533694-01, PDC Light Curves

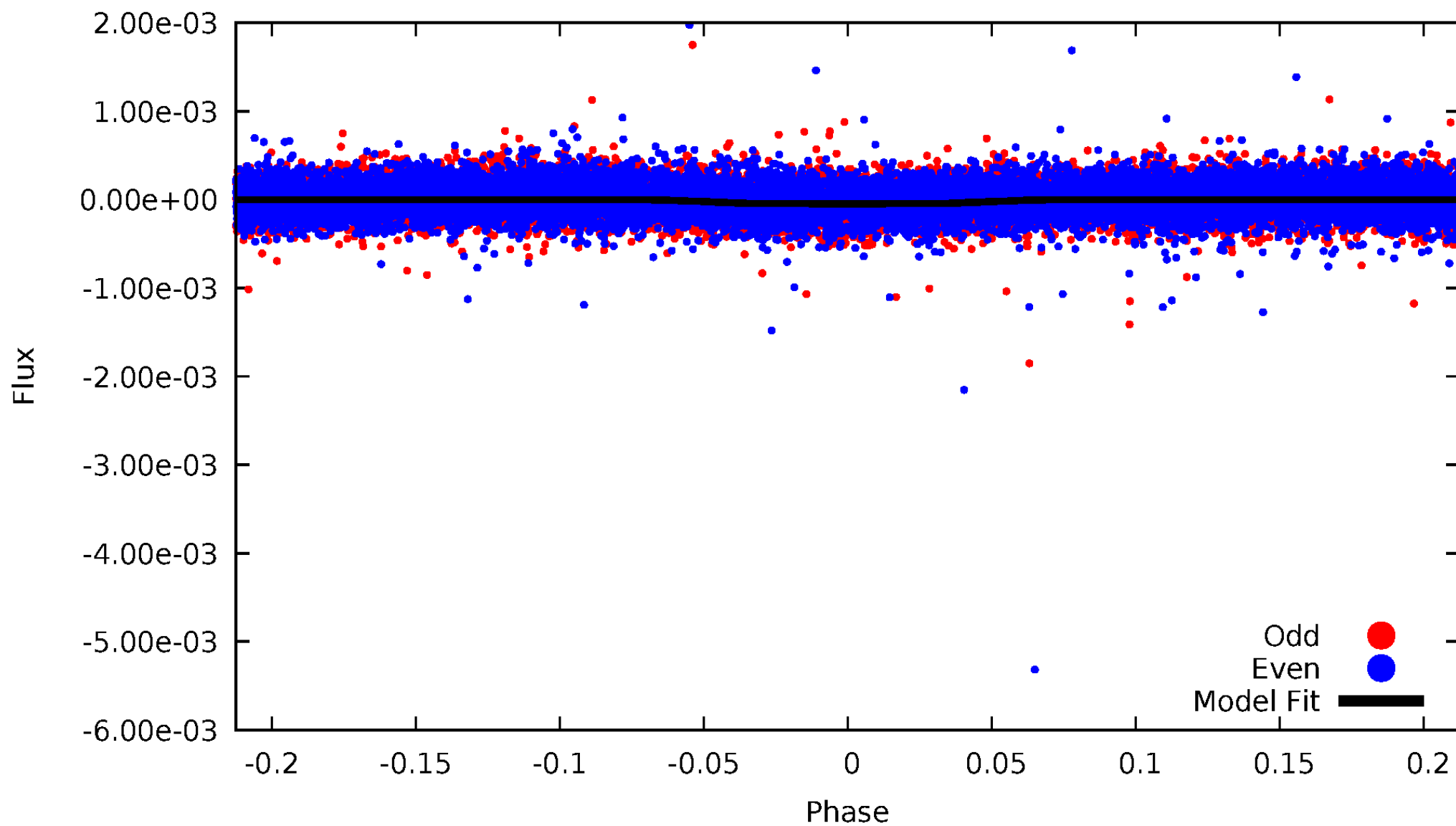


TCE 007533694-01



DV Odd/Even

TCE 007533694-01

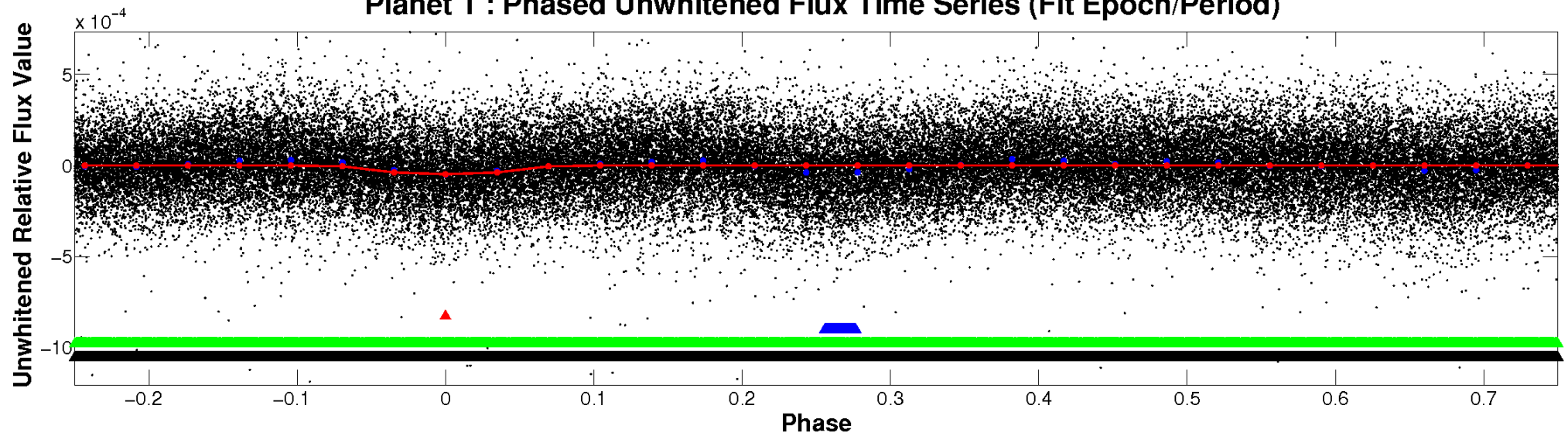


ALT Odd/Even

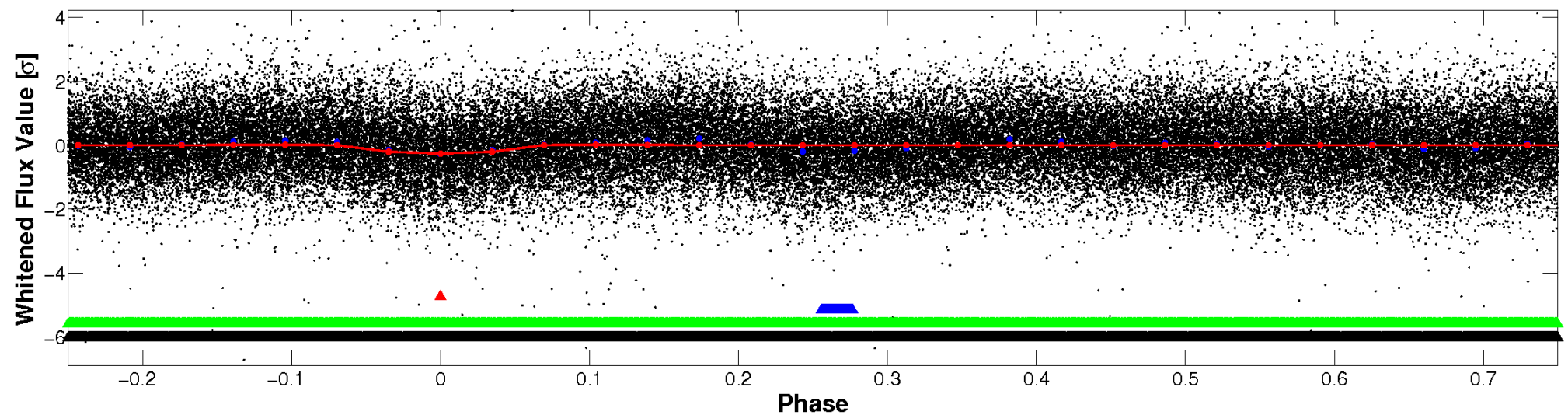
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

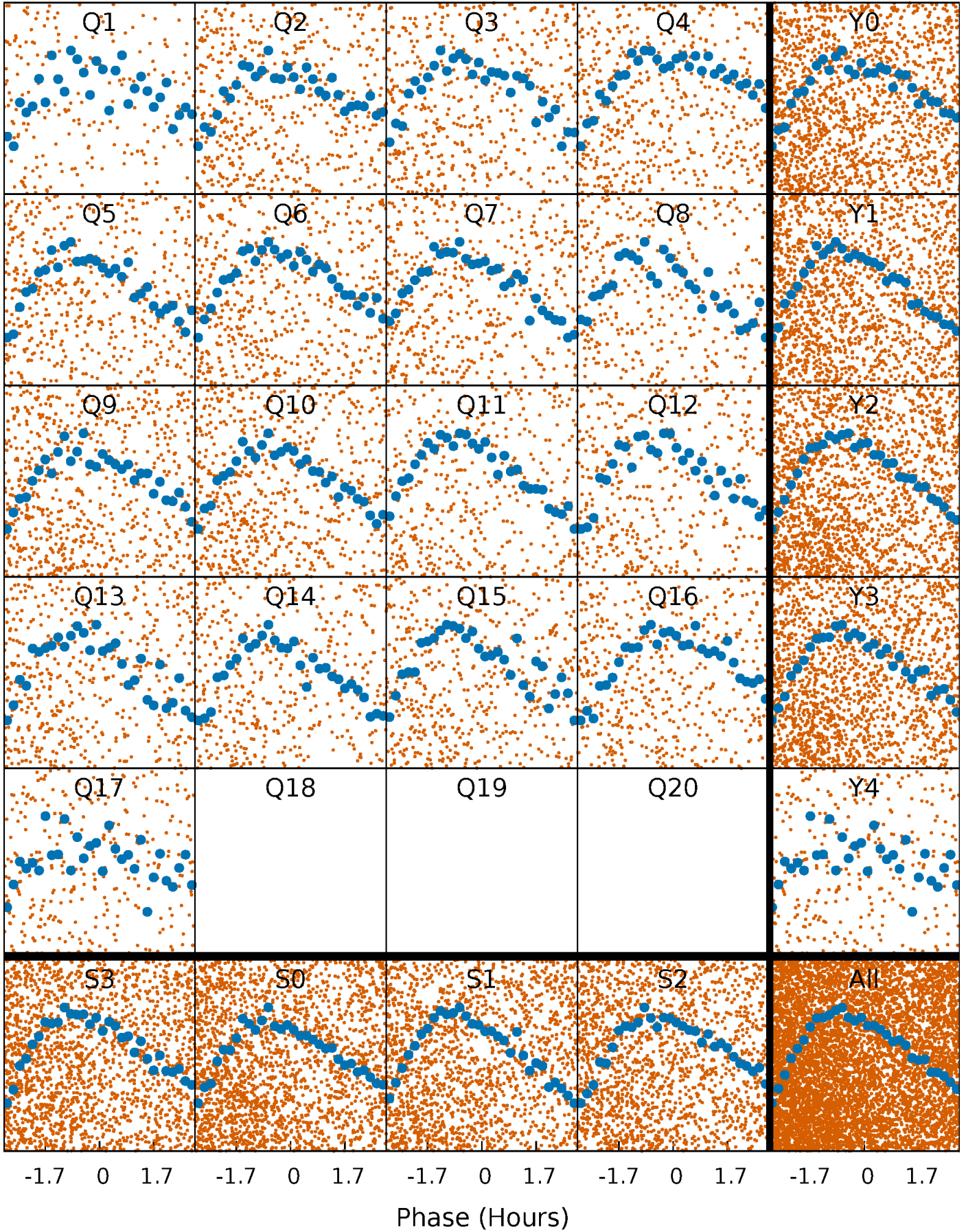


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



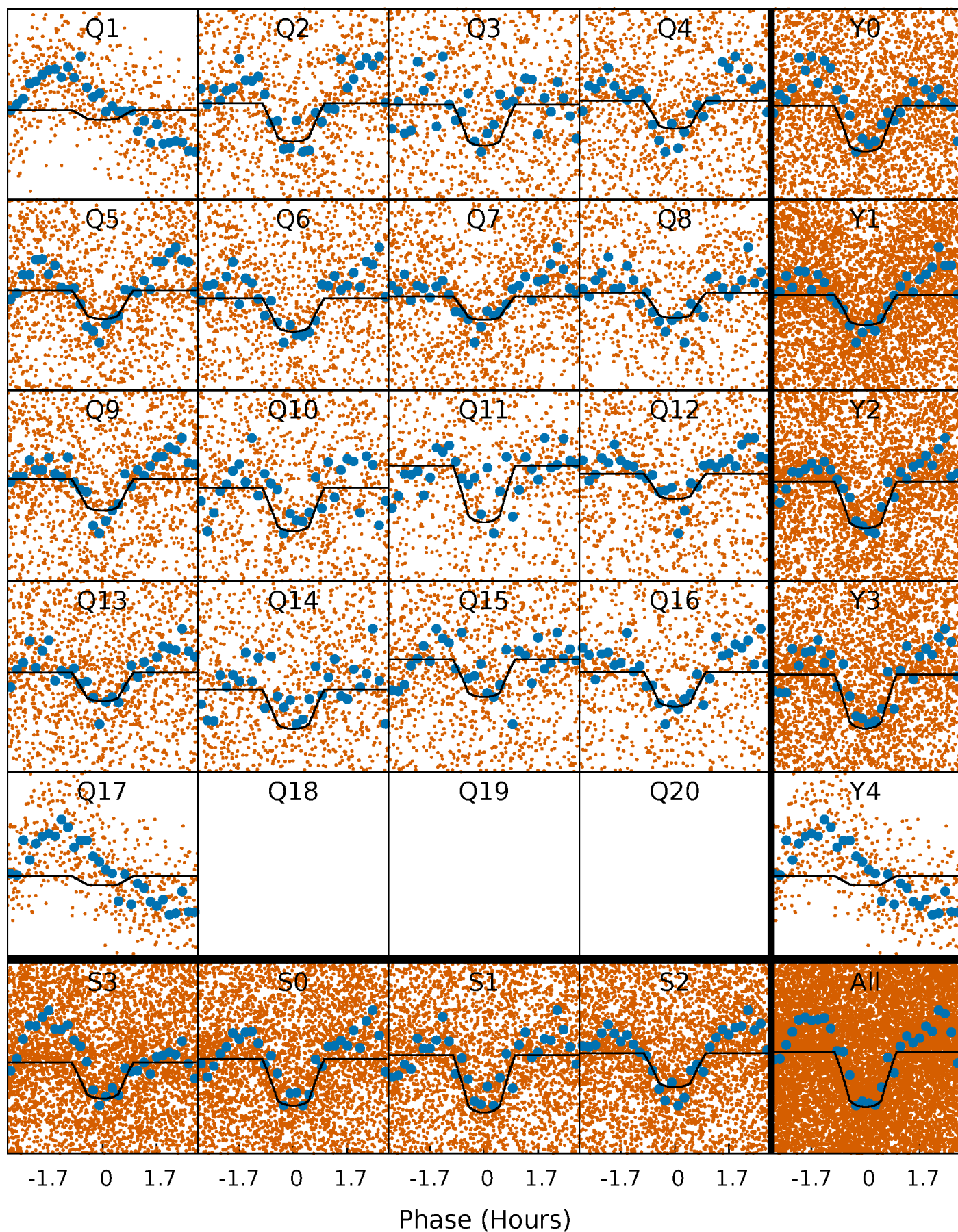
PDC Quarter-Phased Transit Curves

TCE 007533694-01 P= 0.588188 Days $T_0=132.076930$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007533694-01 P= 0.588188 Days $T_0=132.076930$ (BKJD)

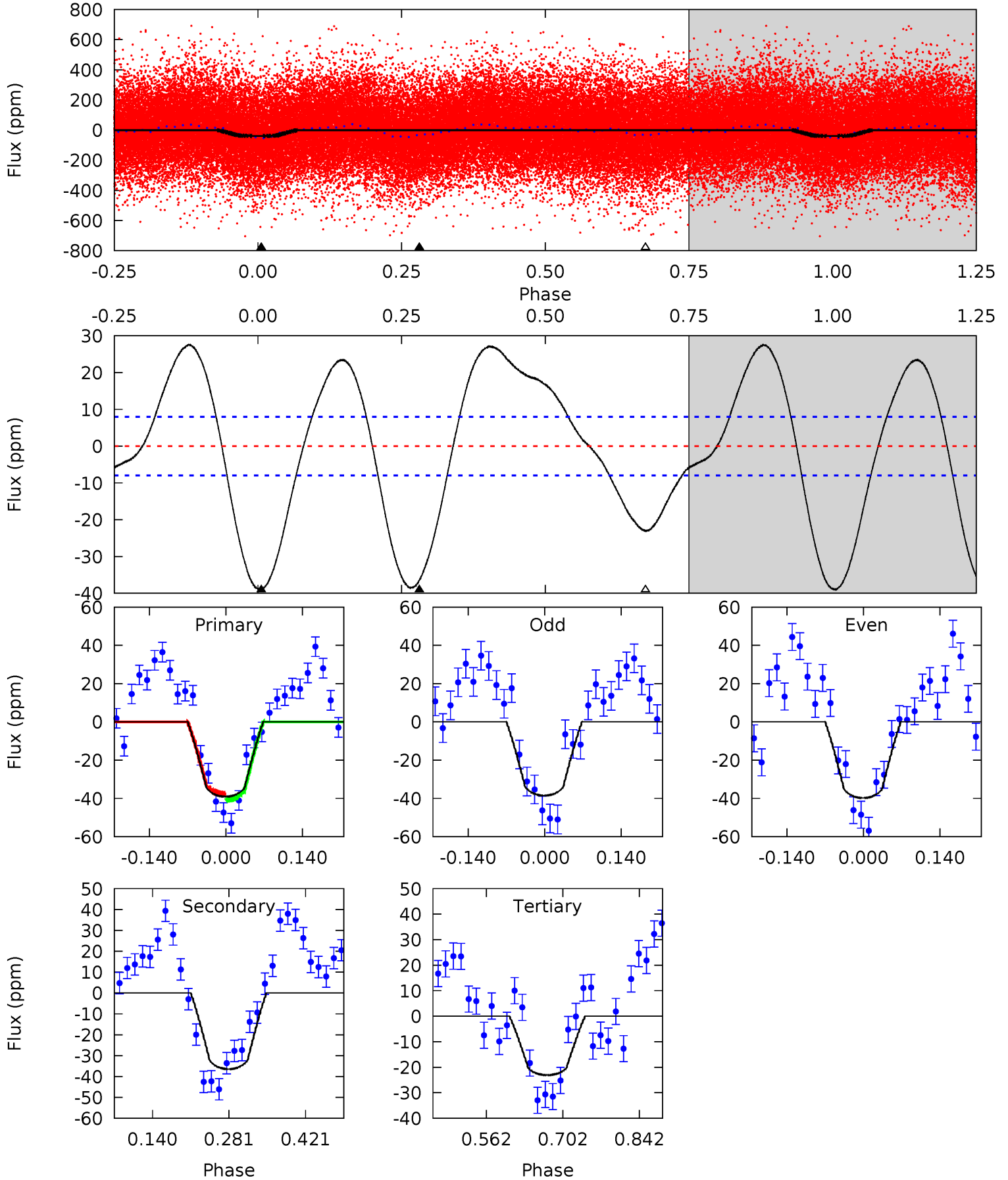


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007533694-01, P = 0.588188 Days, E = 131.488742 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.0	20.6	13.0	0	4.49	1.47	8.30	9.02	22.0	7.54	20.6	0.36	0.99	0.41	0.83



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007533694

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8076^{+223}_{-335}	$3.817^{+0.352}_{-0.110}$	$0.070^{+0.250}_{-0.450}$	$3.017^{+0.704}_{-1.206}$	$2.178^{+0.318}_{-0.590}$	$0.112^{+0.305}_{-0.040}$
	+3%/-4%	+9%/-3%	+357%/-643%	+23%/-40%	+15%/-27%	+273%/-36%
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 007533694-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-36 ± 2	$2.14^{+0.50}_{-0.48}$	6308^{+487}_{-641}	6914^{+768}_{-670}	$1.388^{+0.832}_{-0.447}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

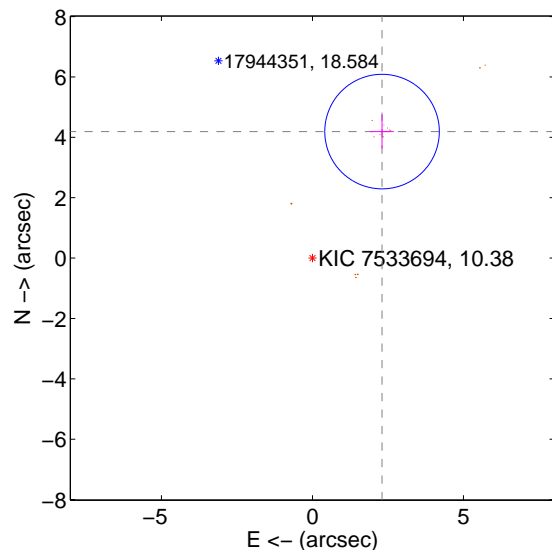
Supplemental centroid analysis for 007533694-01. **Kepler magnitude: 10.38.** Transit SNR 18.41

There are 0 quarters with good PRF difference image offsets

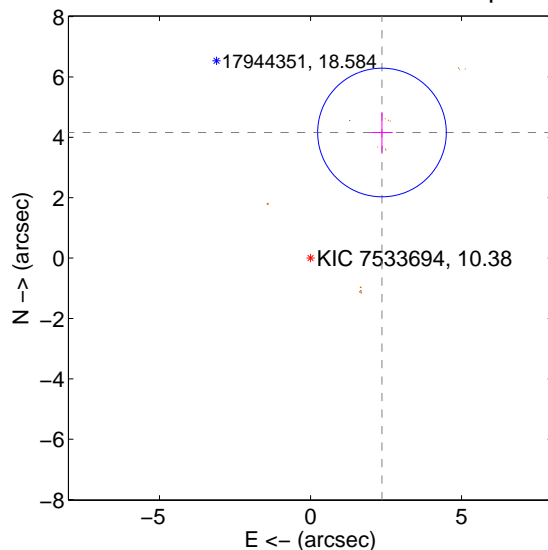
The direct PRF centroid is offset from the target star catalog position by about 0.65 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.783 \pm 0.632	7.56	-2.306 \pm 0.386	4.191 \pm 0.561
PRF-fit source offset from KIC position	4.786 \pm 0.710	6.74	-2.367 \pm 0.356	4.160 \pm 0.667
photometric centroid source offset	0.97 \pm 0.22	4.33	-0.69 \pm 0.20	0.68 \pm 0.25

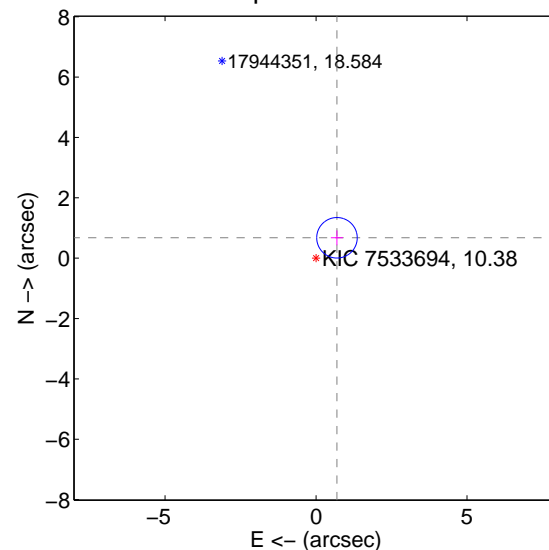
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

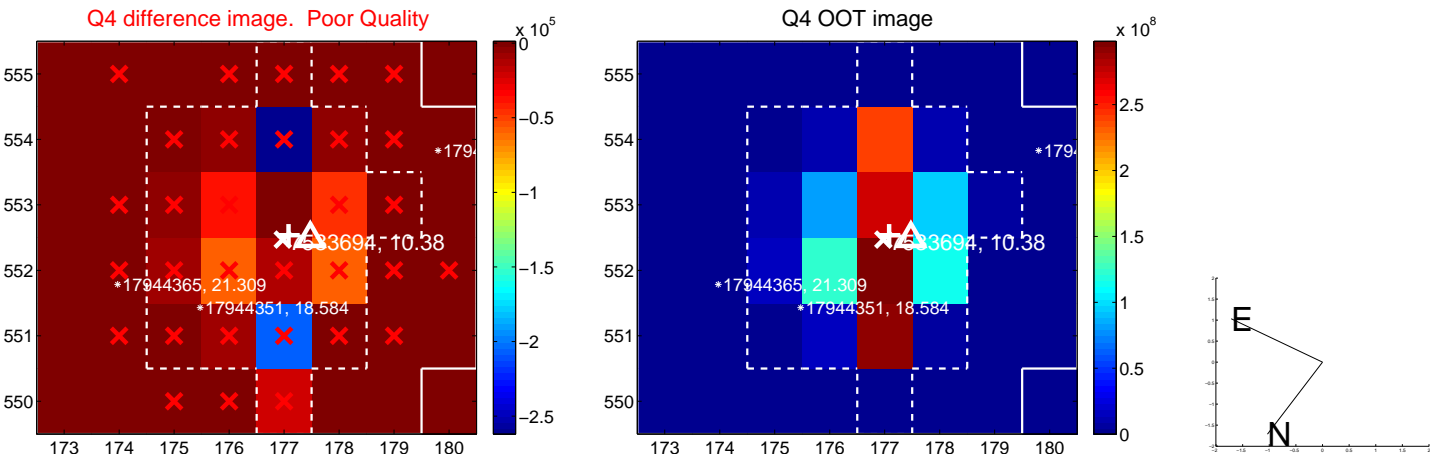
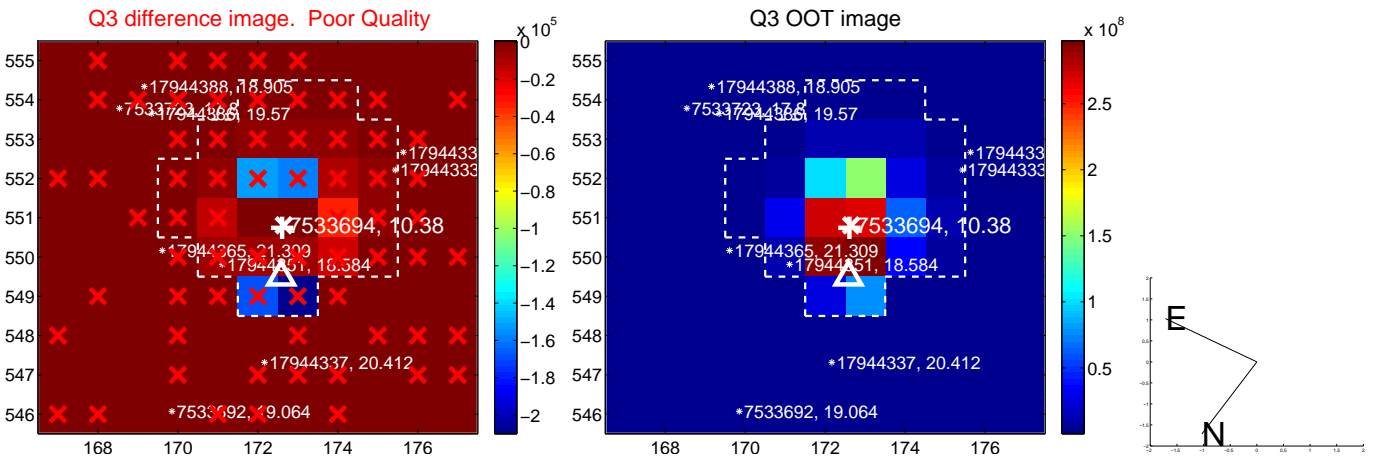
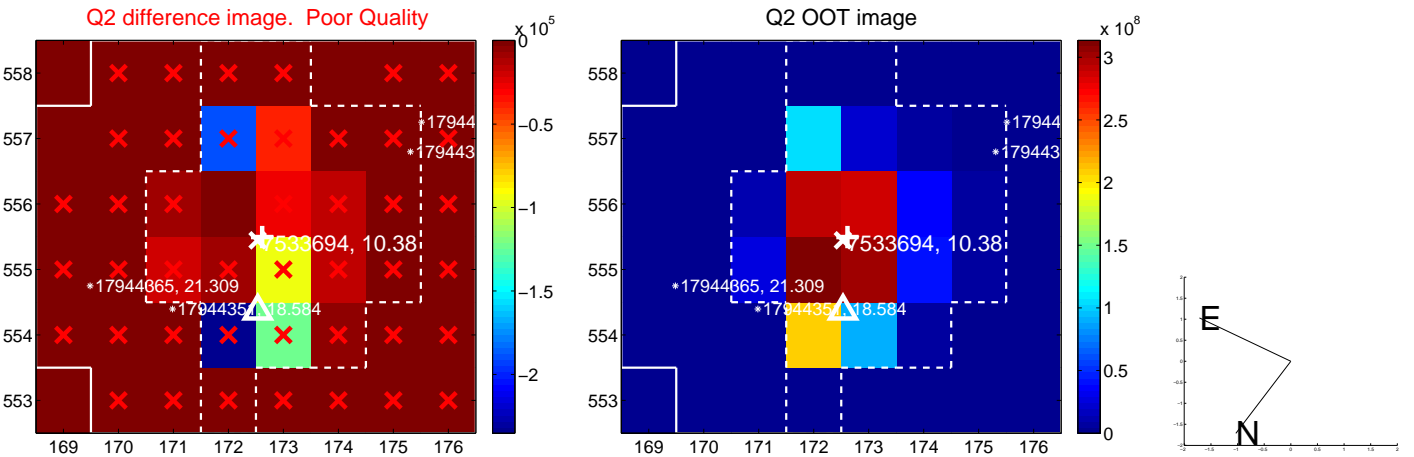
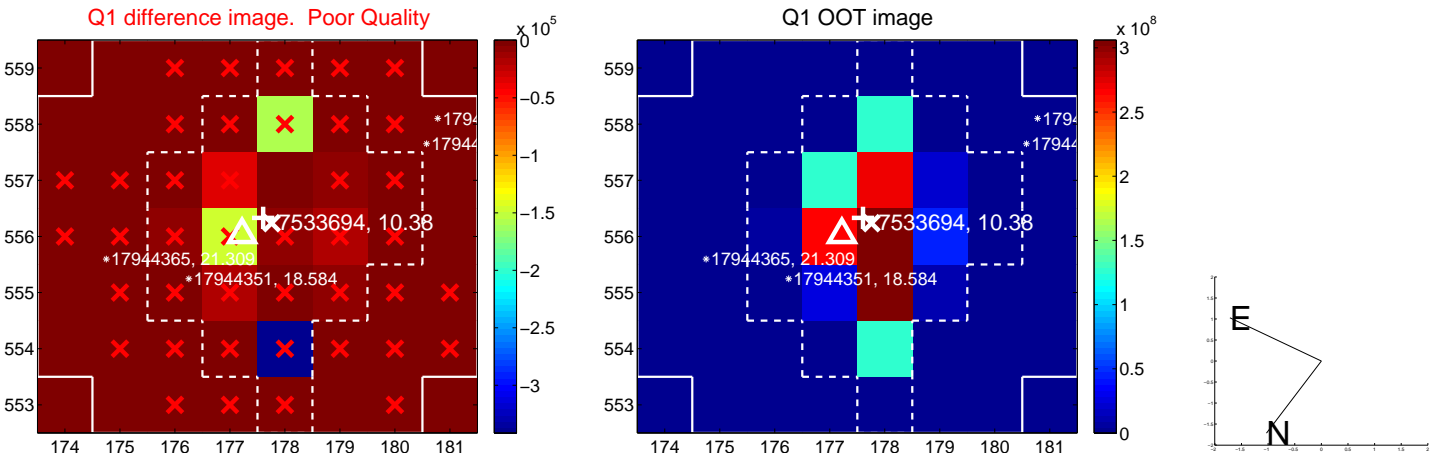


offset from photometric centroids

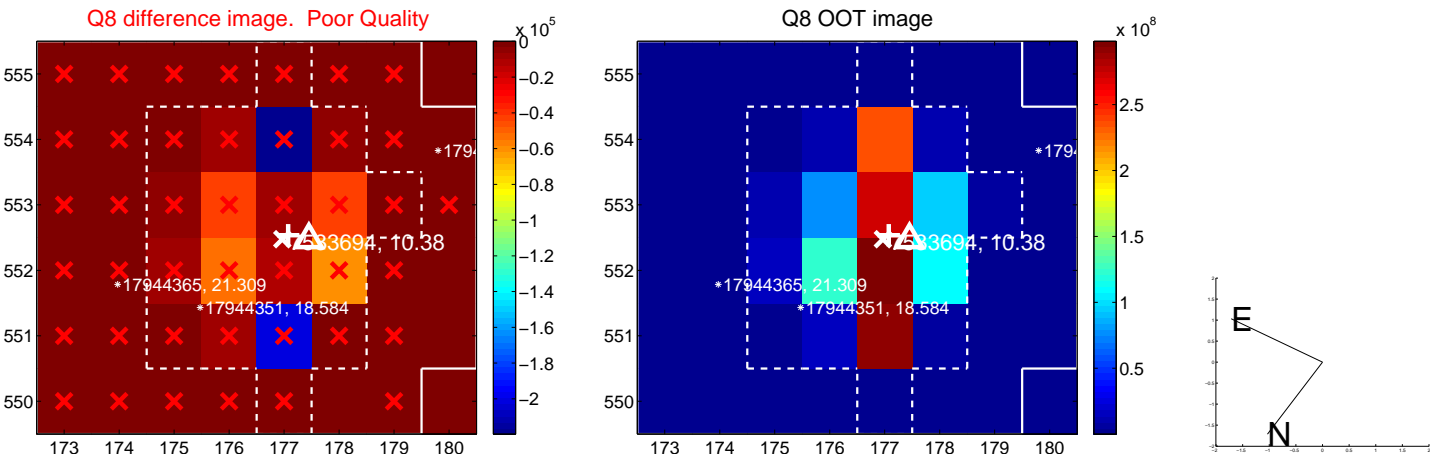
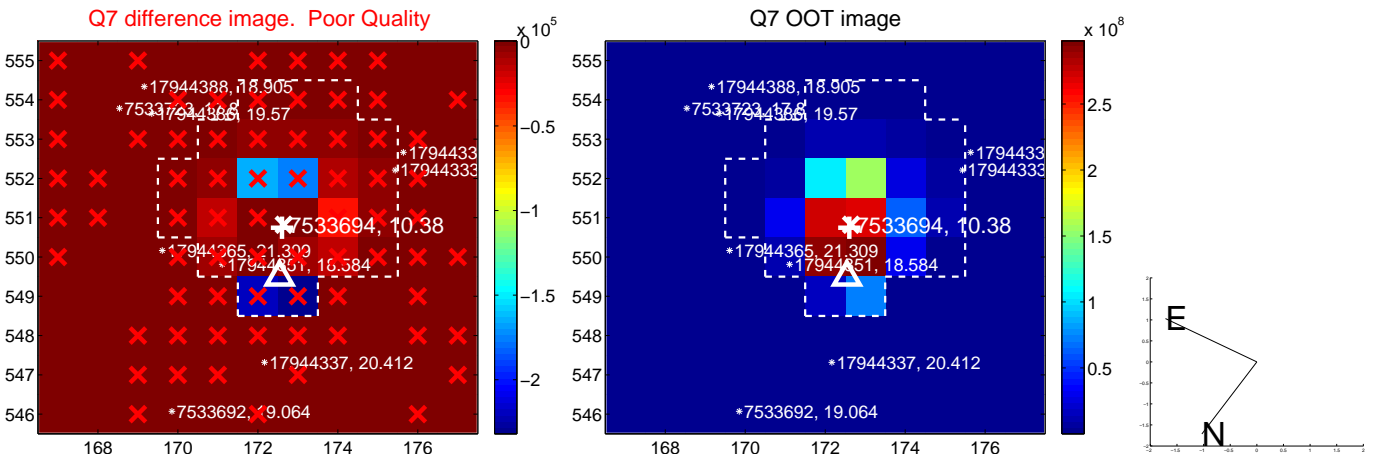
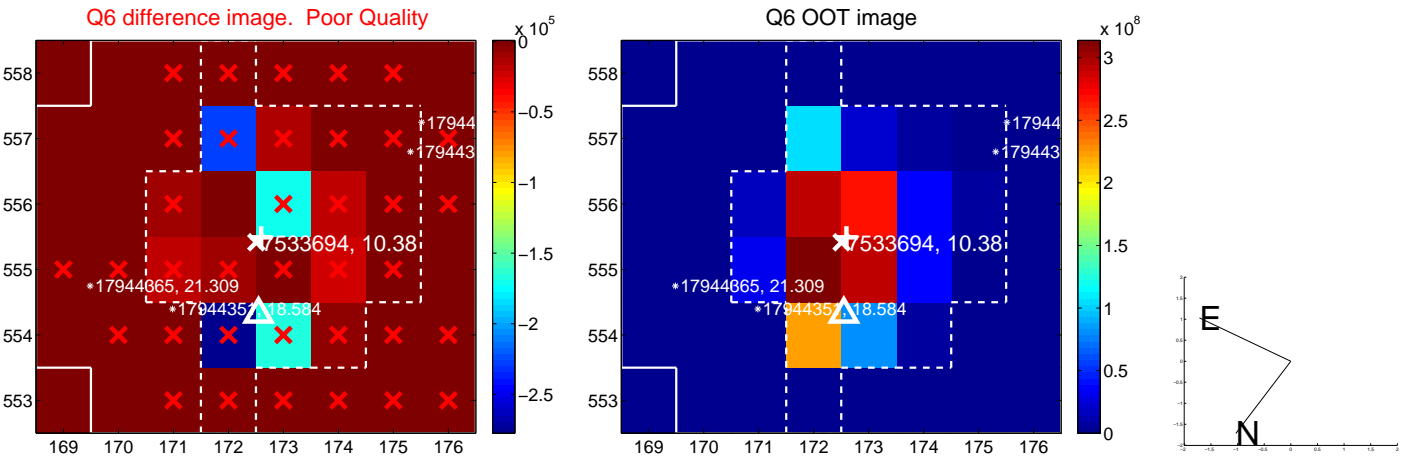
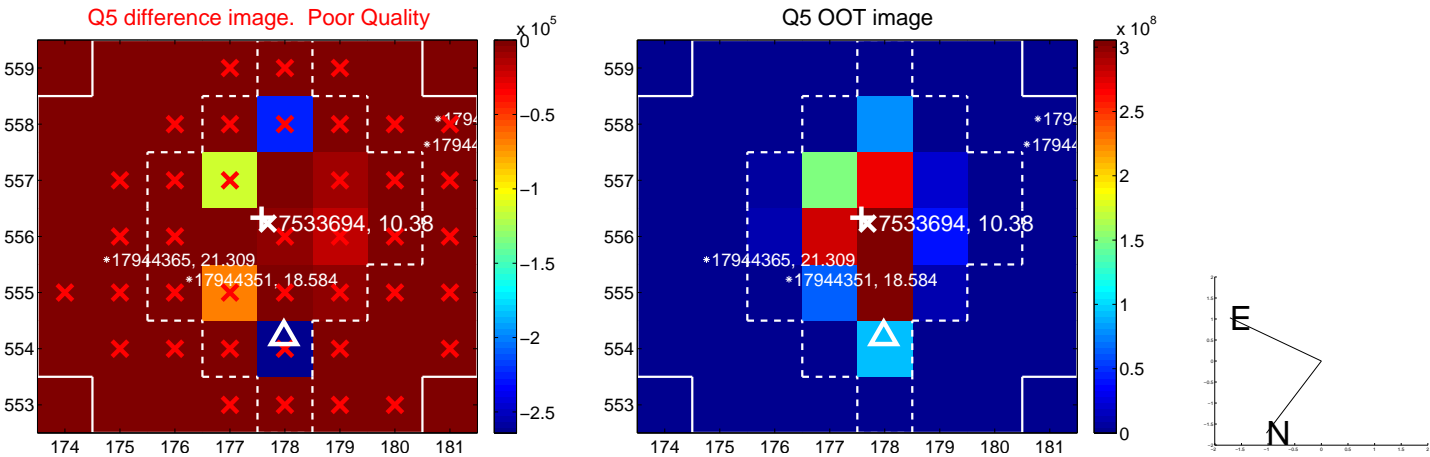


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

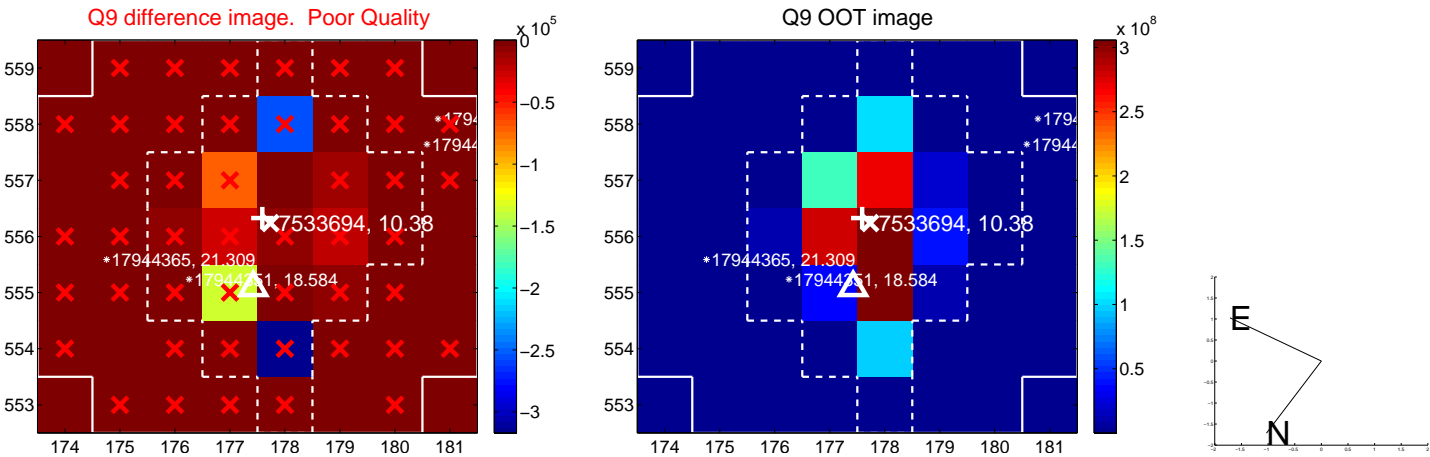
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



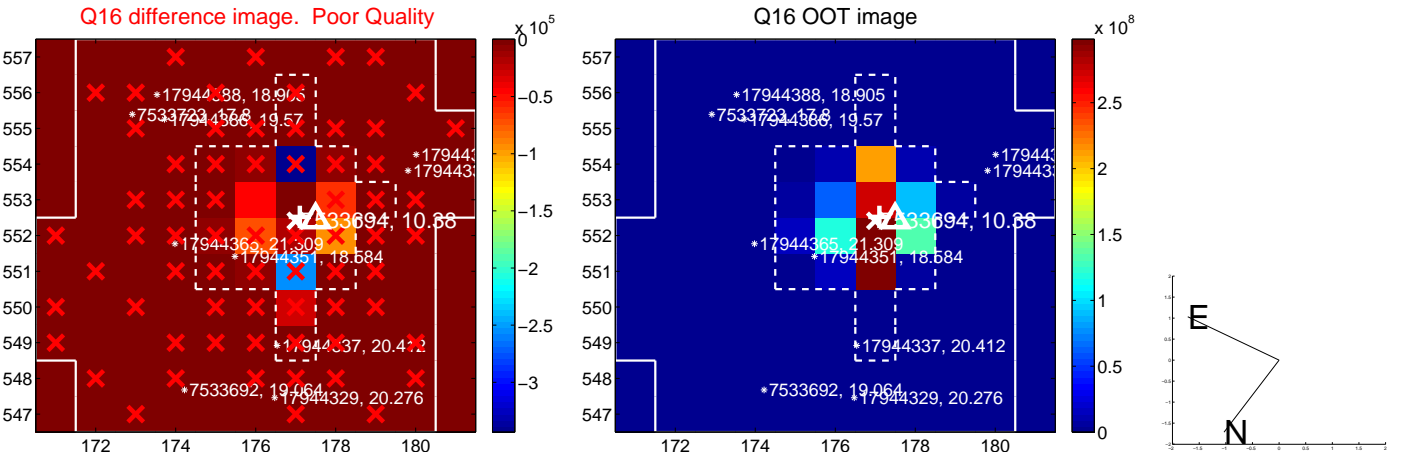
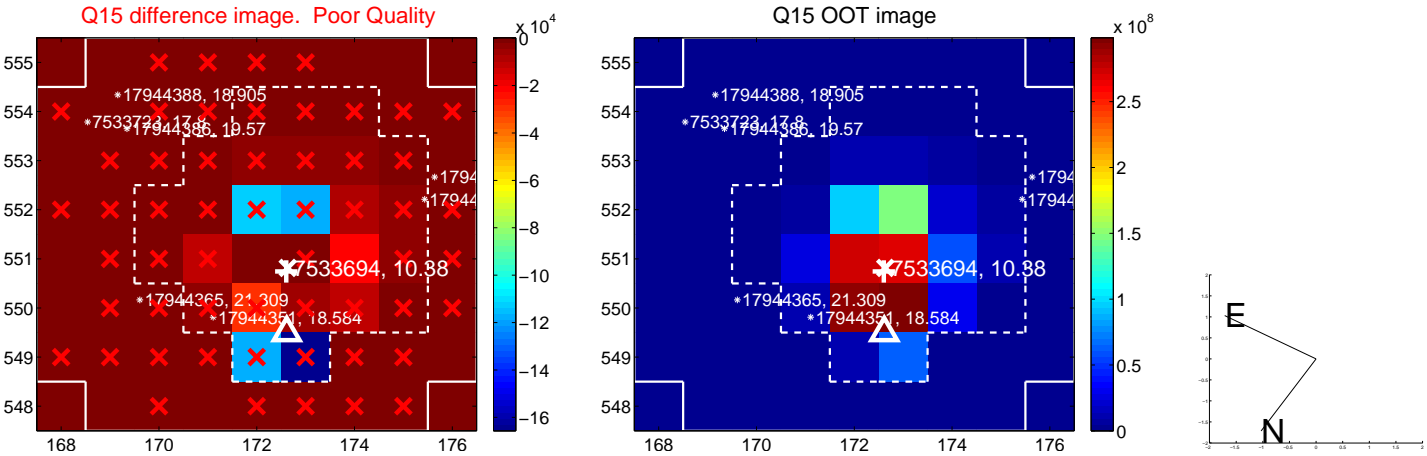
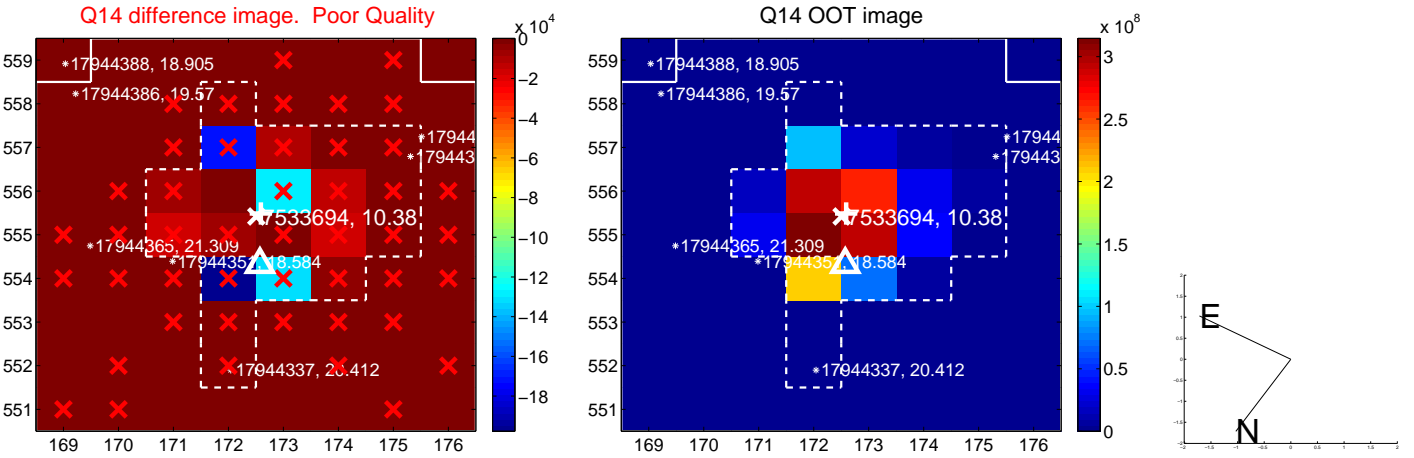
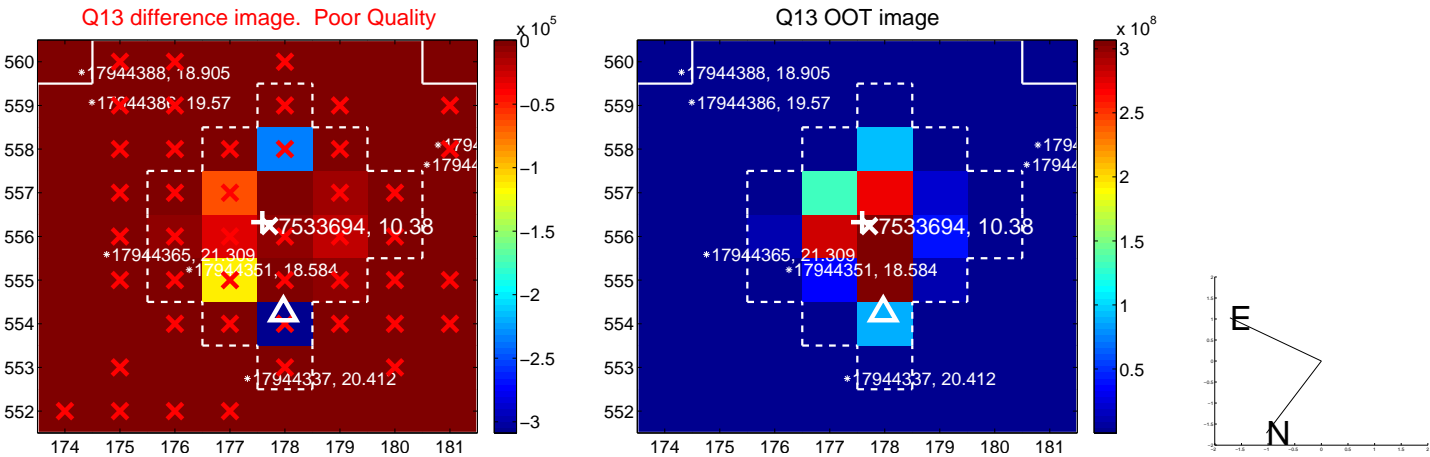
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



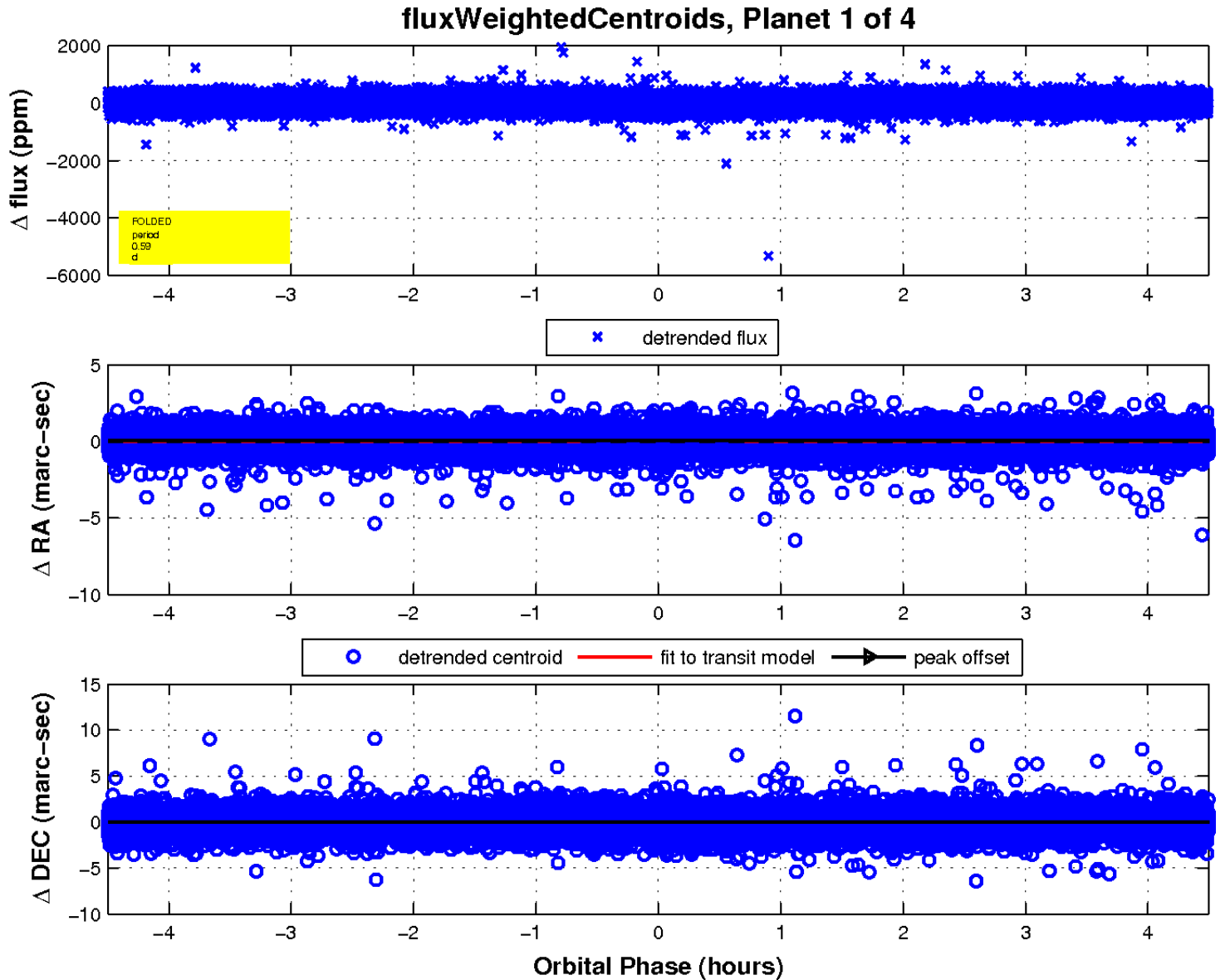
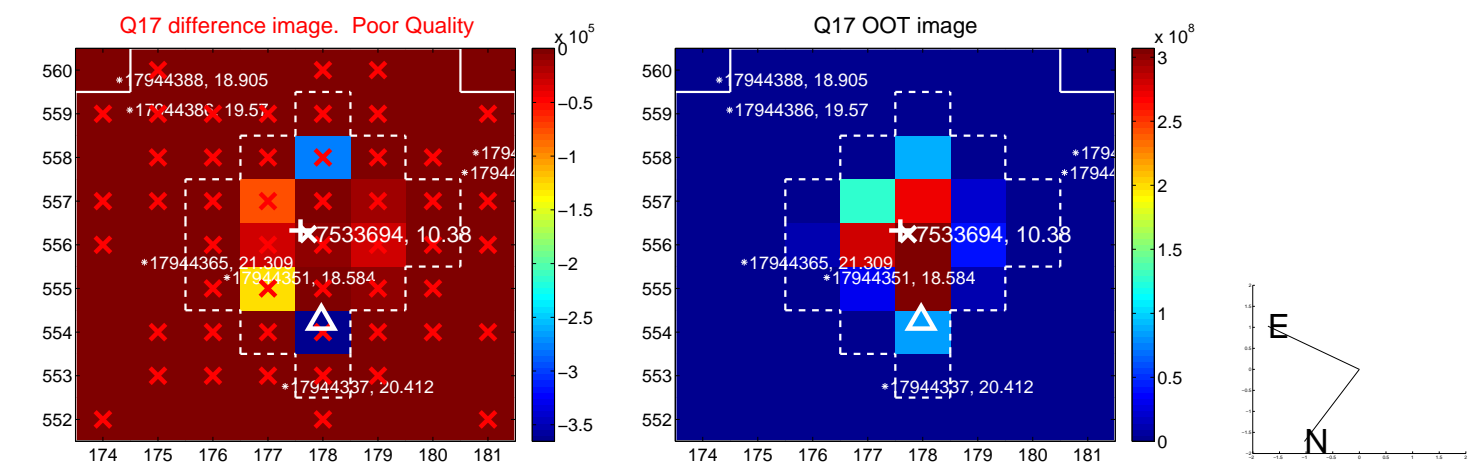
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

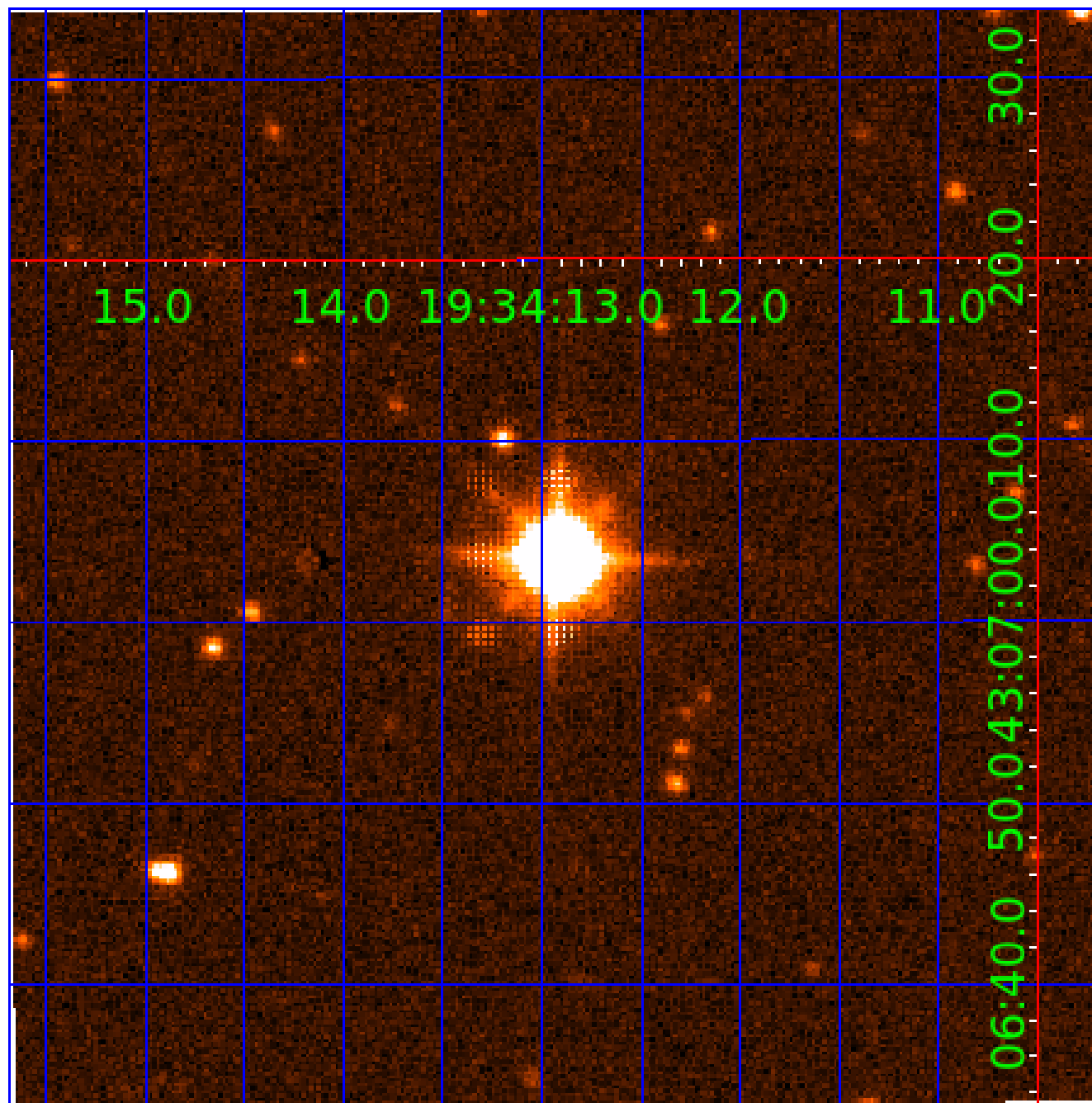


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007533694

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})
007533694-01	OBS	No	0.588188	132.076930	48.2	1.499	13.7	18.4	3.02	8076	2.25	109322.27
007533694-02	OBS	No	0.588183	131.651482	40.4	1.454	12.3	15.6	3.02	8076	1.95	109323.51
007533694-03	OBS	No	0.650420	131.766315	14.2	1.370	10.5	2.5	3.02	8076	1.22	95602.87
007533694-04	OBS	No	0.649176	131.987964	19.0	0.514	9.1	2.3	3.02	8076	1.41	95847.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007533694-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
007533694-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—SAME_NTL_PERIOD—CENT_SATURATED
007533694-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
007533694-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_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.

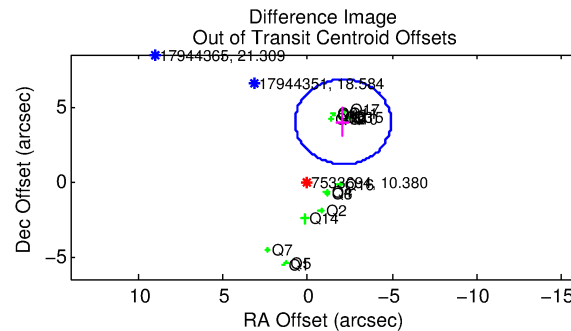
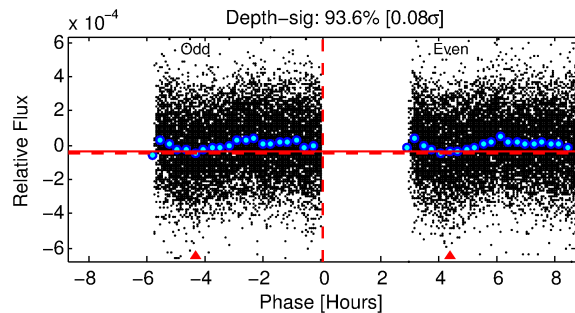
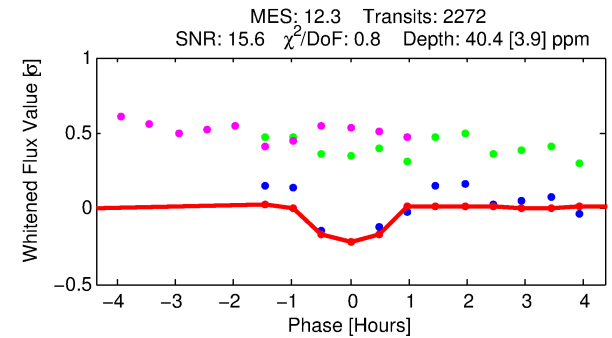
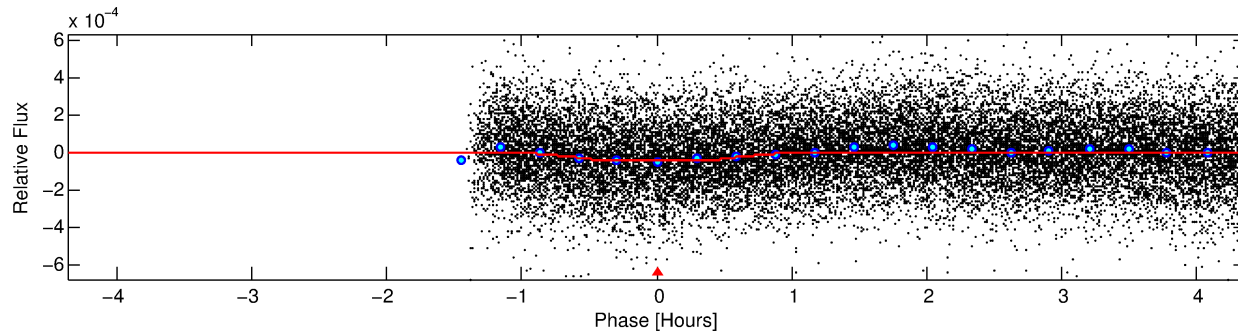
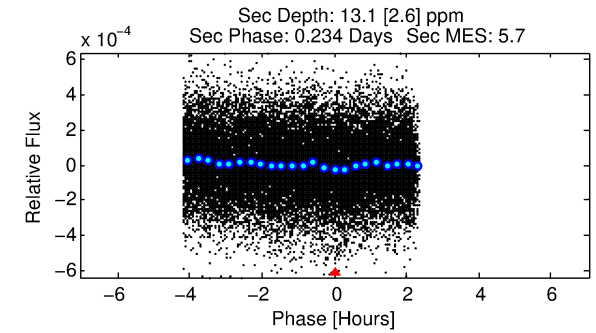
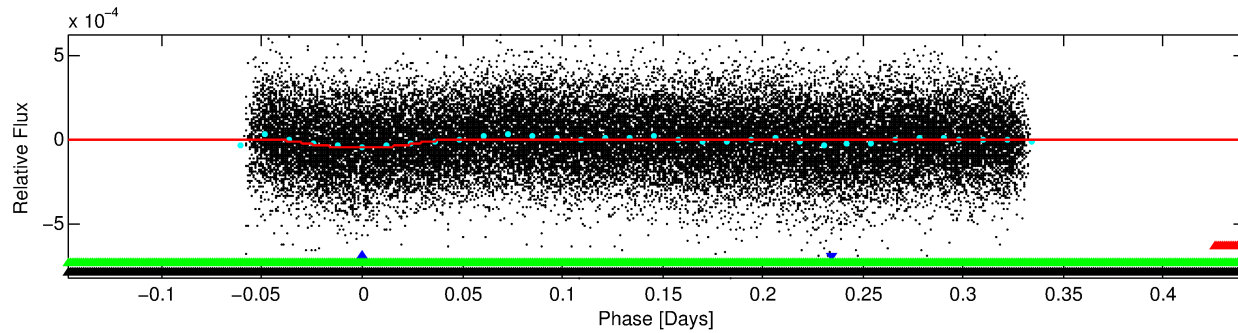
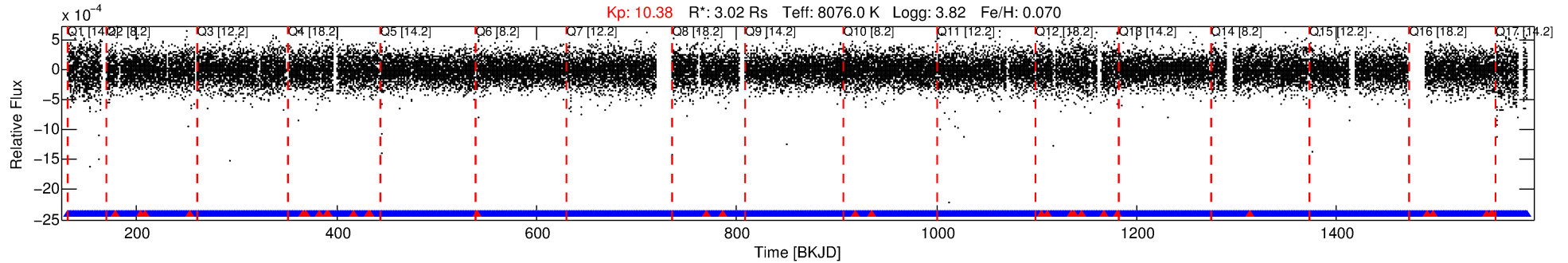
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007533694-02

No Significant Match Found

DV One-Page Summary

KIC: 7533694 Candidate: 2 of 4 Period: 0.588 d



DV Fit Results:

Period = 0.58818 [0.00001] d
Epoch = 131.6515 [0.0013] BKJD
Rp/R* = 0.0059 [0.0053]
a/R* = 3.15 [14.67]
b = 0.10 [51.88]
Seff = 109323.51 [68317.55]
Teq = 4637 [724] K
Rp = 1.95 [1.91] Re
a = 0.0178 [0.0068] AU
Ag = 0.60 [1.14] [-0.35σ]
Teffp = 6316 [2858] K [0.57σ]

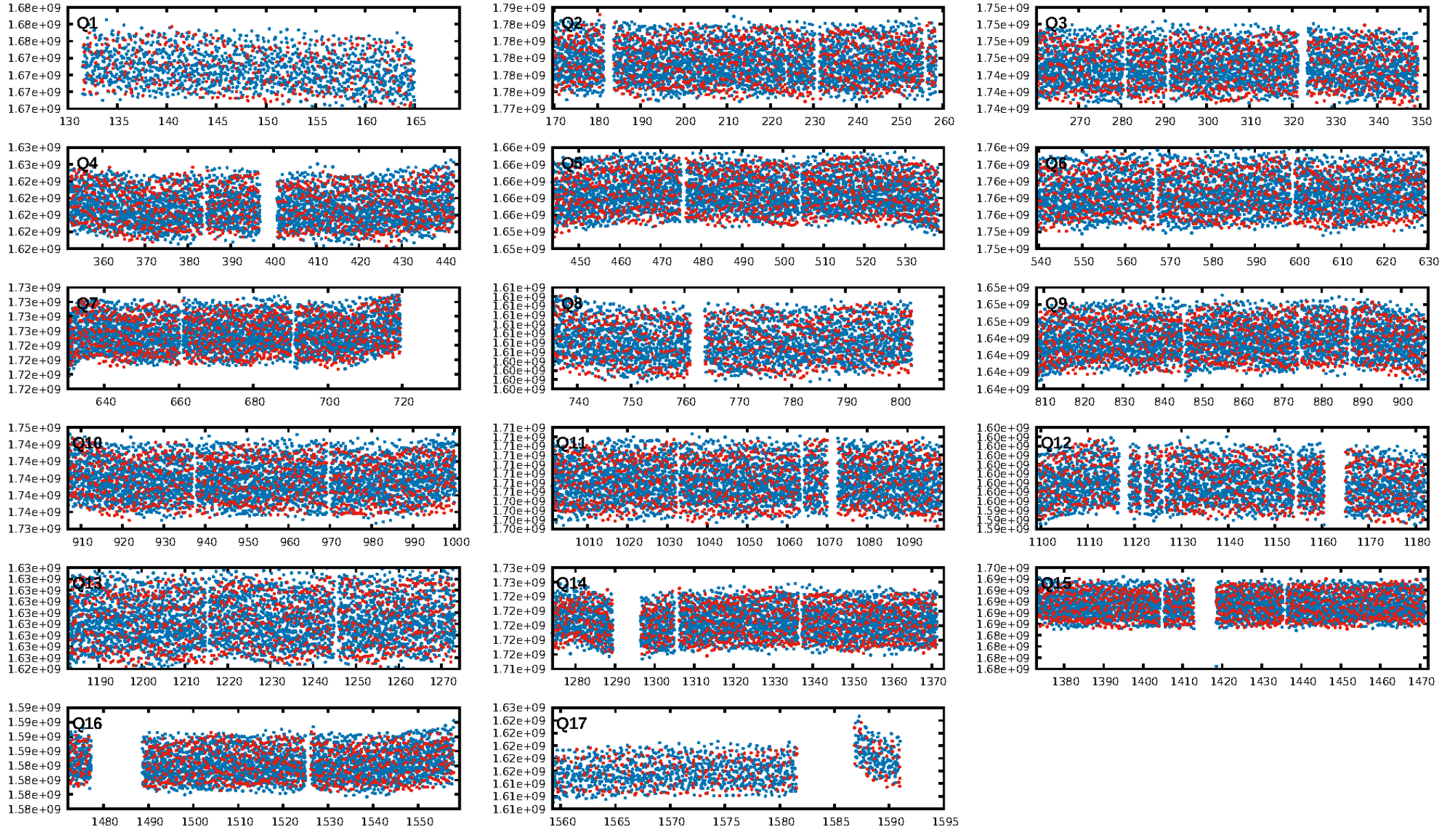
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.26e-25
RollingBand-fgt: 0.99 [2139/2169]
GhostDiagnostic-chr: 1.728
Centroid-sig: 0.3%
Centroid-so: 0.888 arcsec [3.05σ]
OotOffset-rm: 4.509 arcsec [4.77σ]
KicOffset-rm: 4.426 arcsec [4.38σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.24 [4/17]
DiffImageOverlap-fno: 0.00 [0/17]

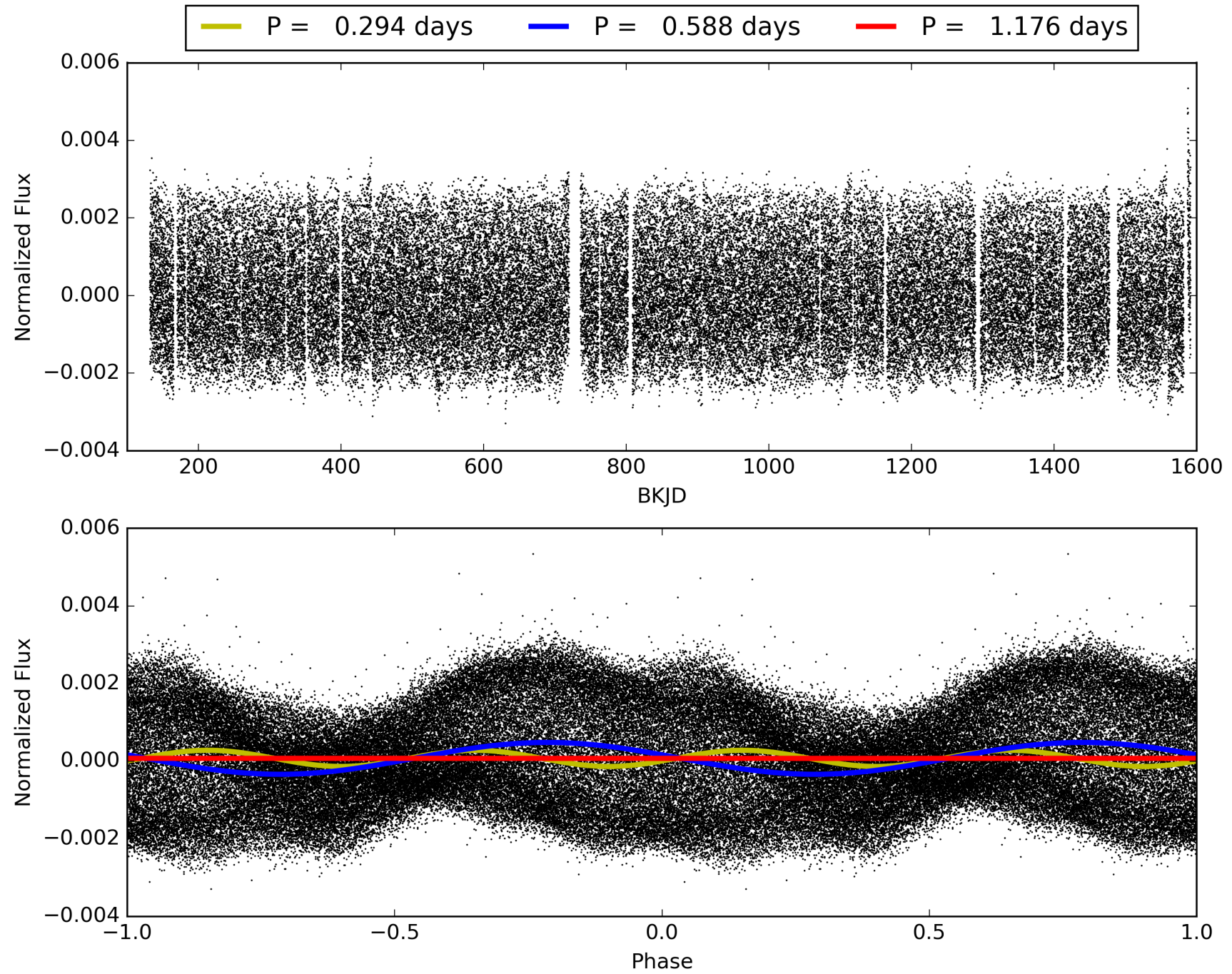
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:01:41 Z

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

TCE 007533694-02, PDC Light Curves

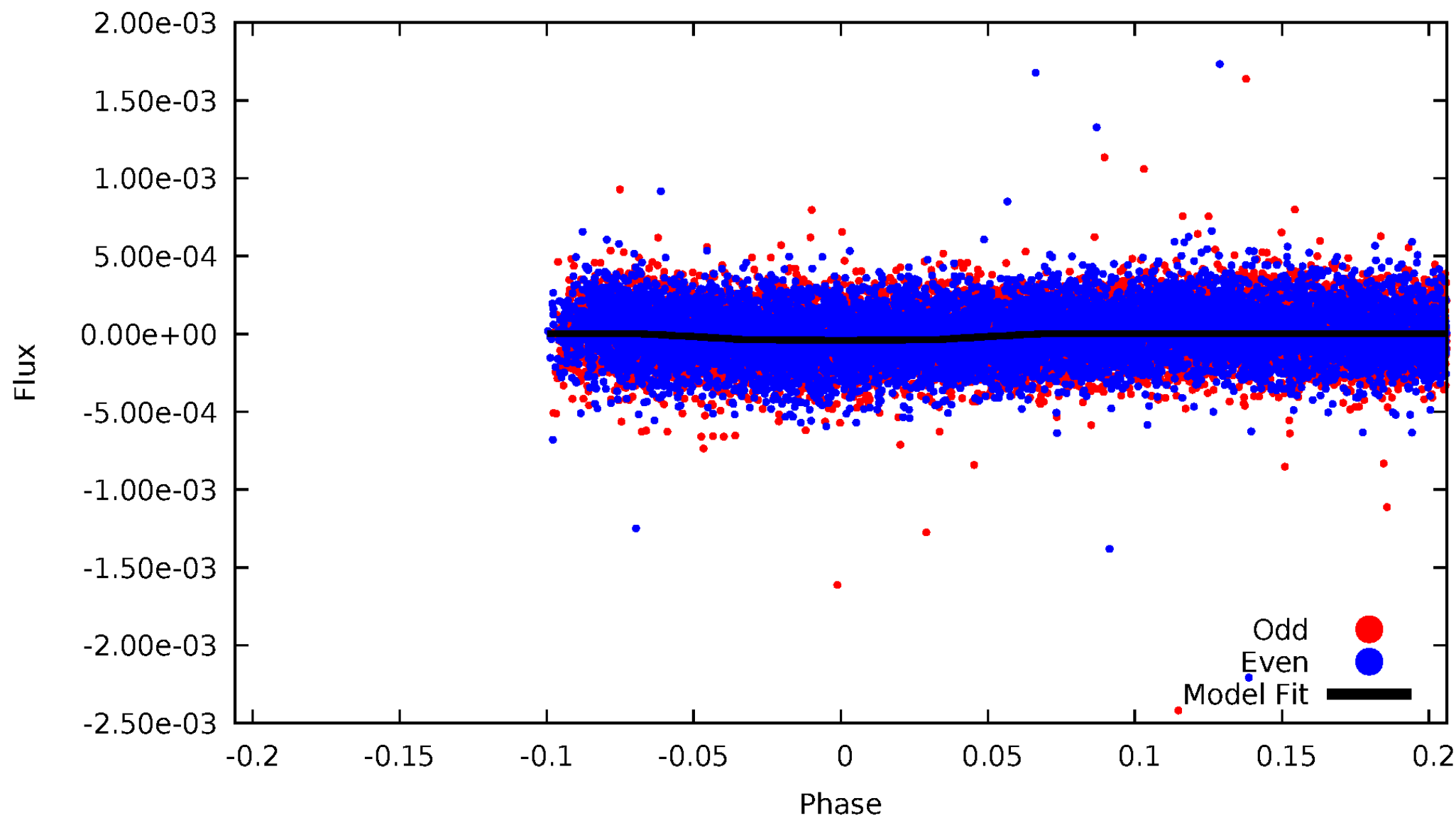


TCE 007533694-02



DV Odd/Even

TCE 007533694-02

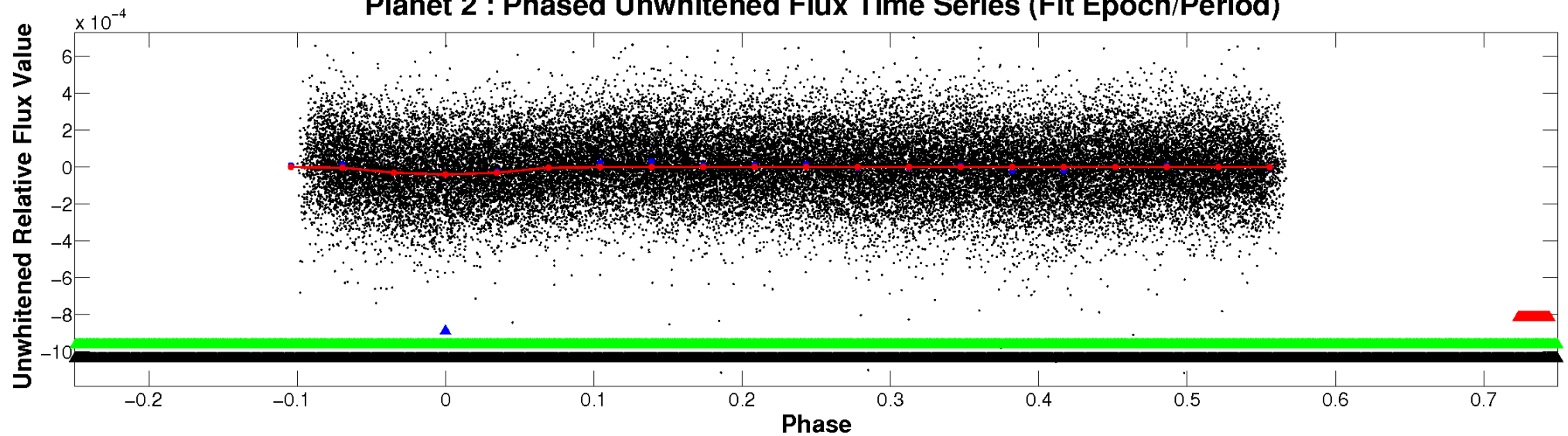


ALT Odd/Even

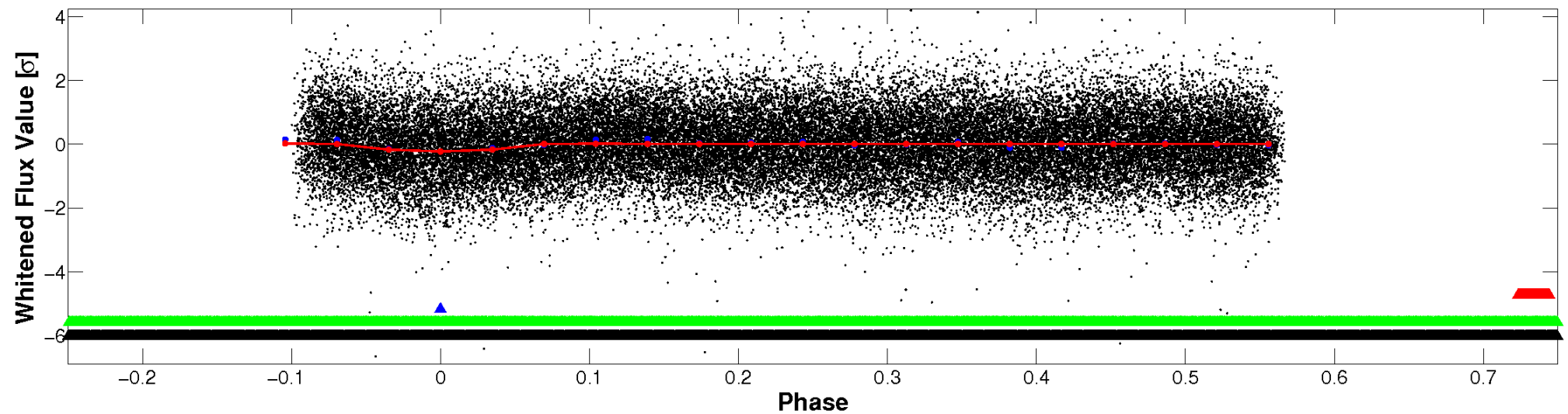
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

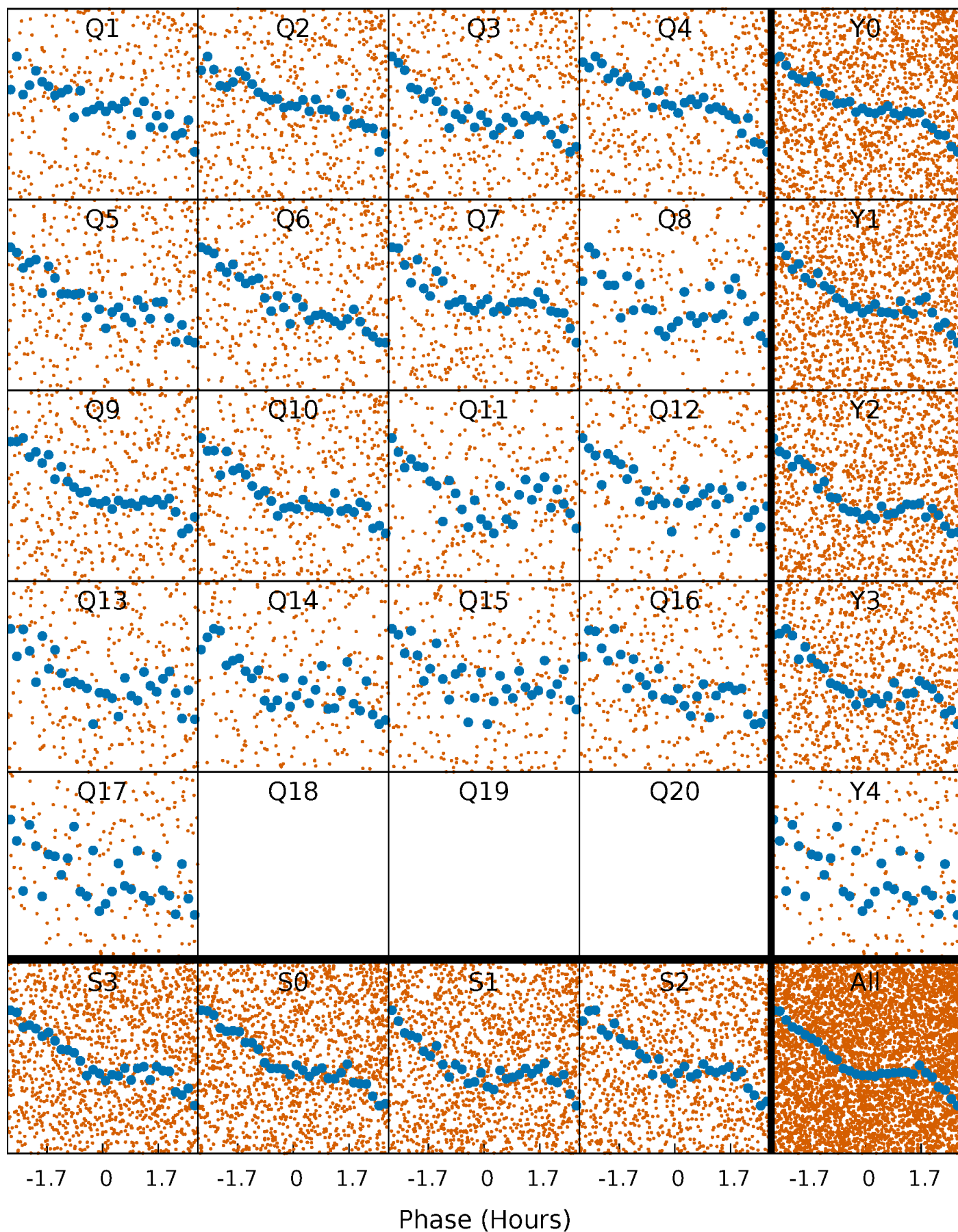


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



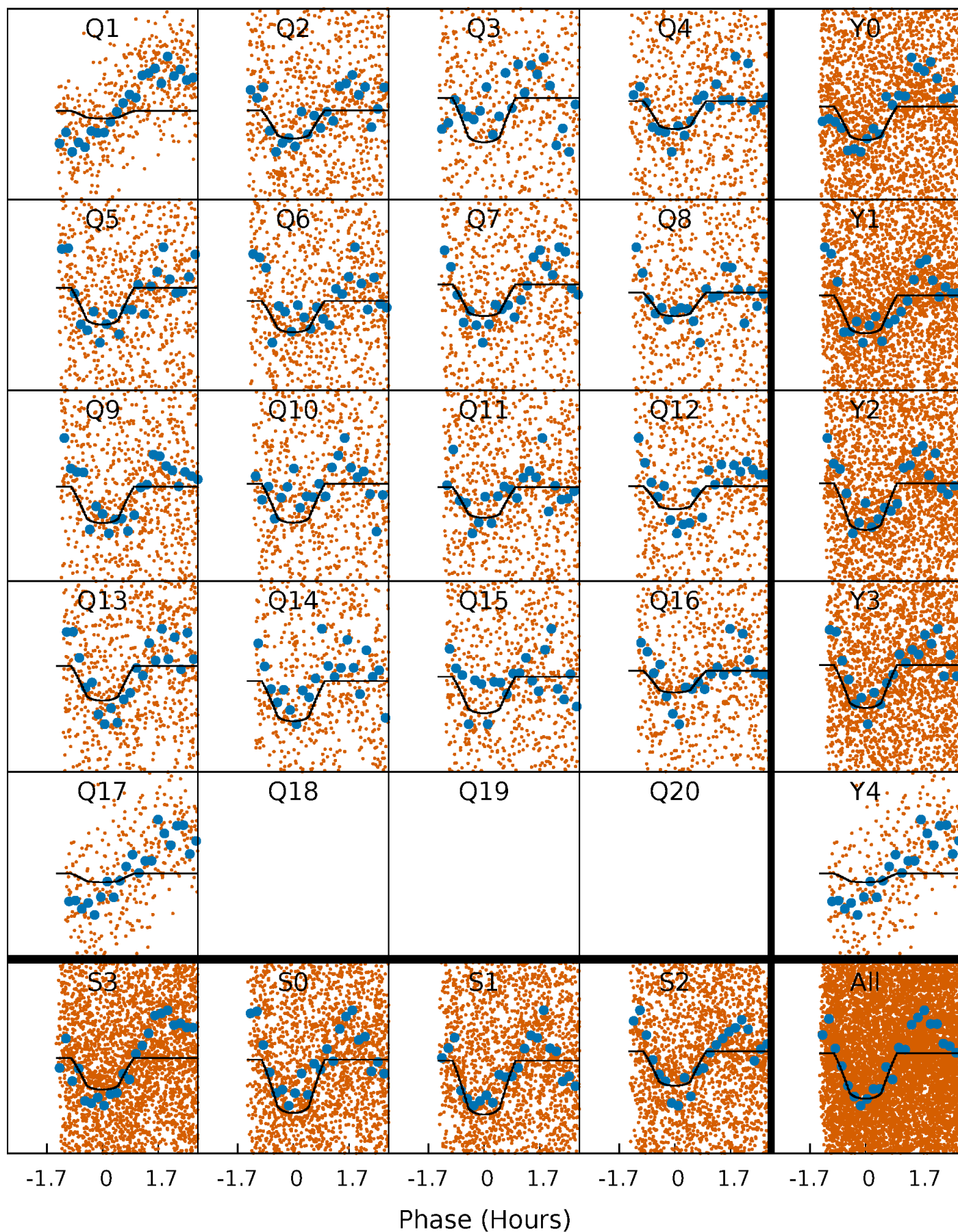
PDC Quarter-Phased Transit Curves

TCE 007533694-02 P= 0.588183 Days $T_0=131.651482$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007533694-02 P= 0.588183 Days $T_0=131.651482$ (BKJD)

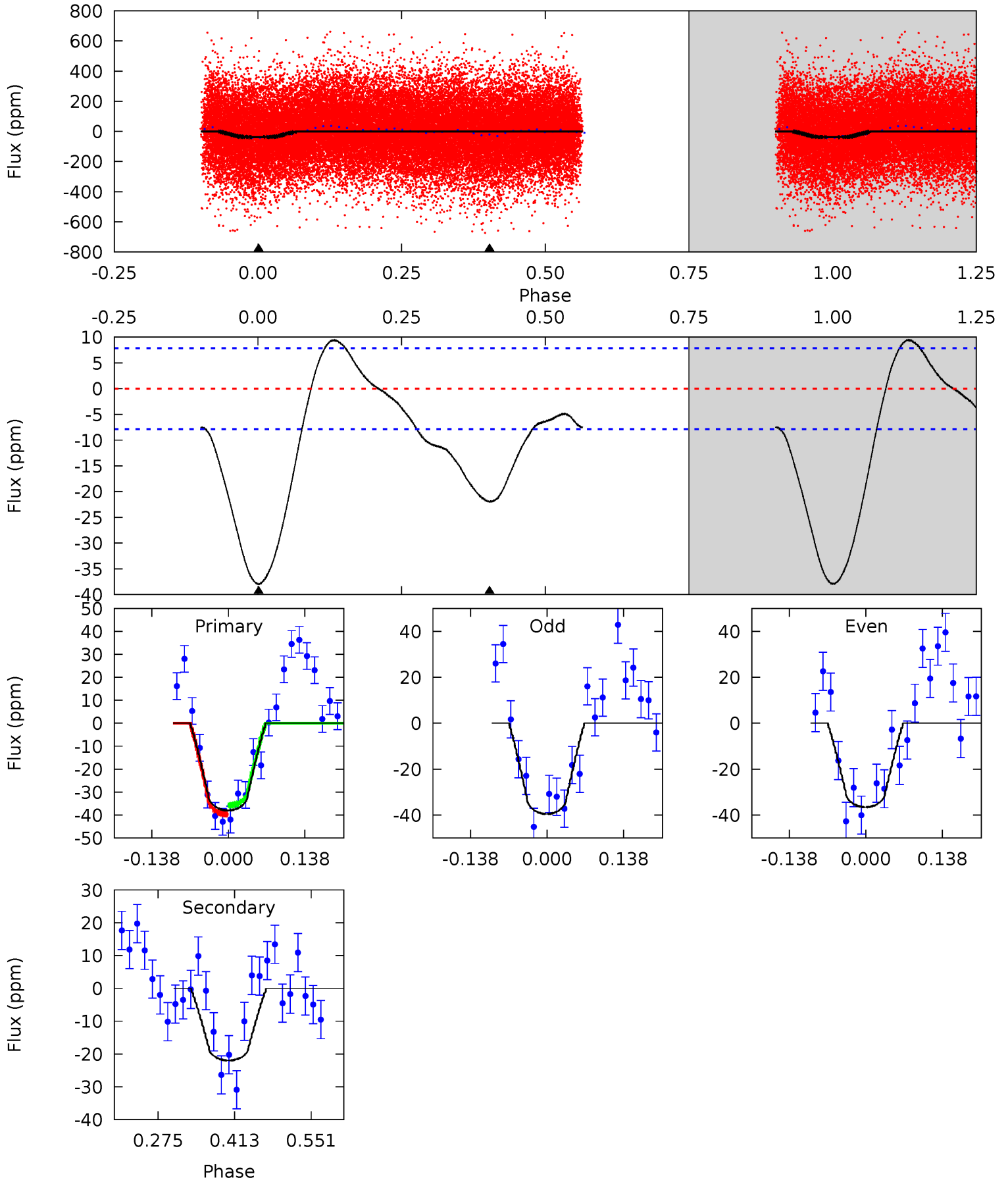


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007533694-02, P = 0.588183 Days, E = 131.063299 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.8	12.6	0	0	4.50	1.48	2.65	21.8	21.8	12.6	12.6	0.86	0.97	0.20	1.08



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007533694

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8076^{+223}_{-335}	$3.817^{+0.352}_{-0.110}$	$0.070^{+0.250}_{-0.450}$	$3.017^{+0.704}_{-1.206}$	$2.178^{+0.318}_{-0.590}$	$0.112^{+0.305}_{-0.040}$
	+3%/-4%	+9%/-3%	+357%/-643%	+23%/-40%	+15%/-27%	+273%/-36%
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 007533694-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-22±2	$2.03^{+1.64}_{-1.24}$	6300^{+454}_{-687}	5733^{+6236}_{-8838}	$0.917^{+4.745}_{-0.635}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

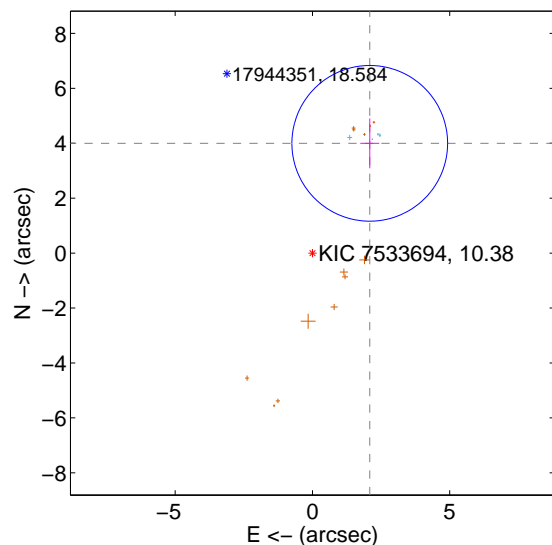
Supplemental centroid analysis for 007533694-02. **Kepler magnitude: 10.38**. Transit SNR 15.61

There are 4 quarters with good PRF difference image offsets

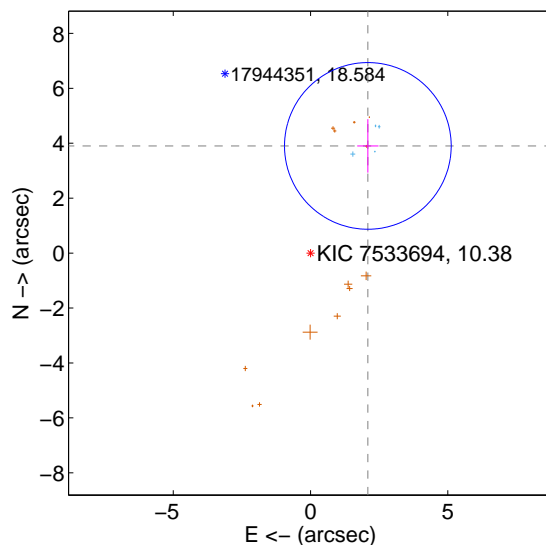
The direct PRF centroid is offset from the target star catalog position by about 0.65 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.509 \pm 0.945	4.77	-2.087 \pm 0.346	3.997 \pm 0.907
PRF-fit source offset from KIC position	4.426 \pm 1.012	4.38	-2.087 \pm 0.388	3.903 \pm 0.975
photometric centroid source offset	0.89 \pm 0.29	3.05	-0.25 \pm 0.24	0.85 \pm 0.29

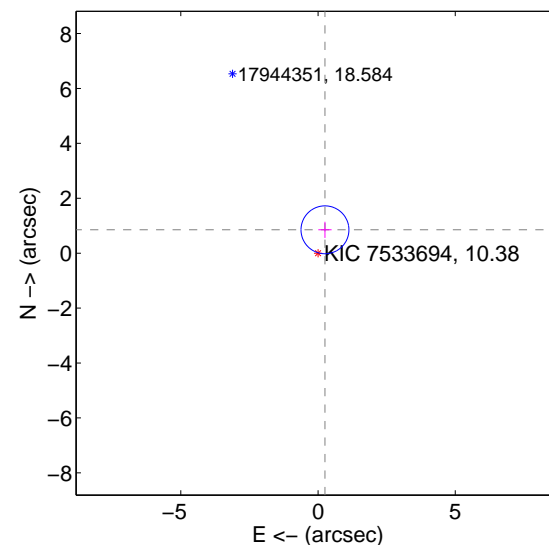
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

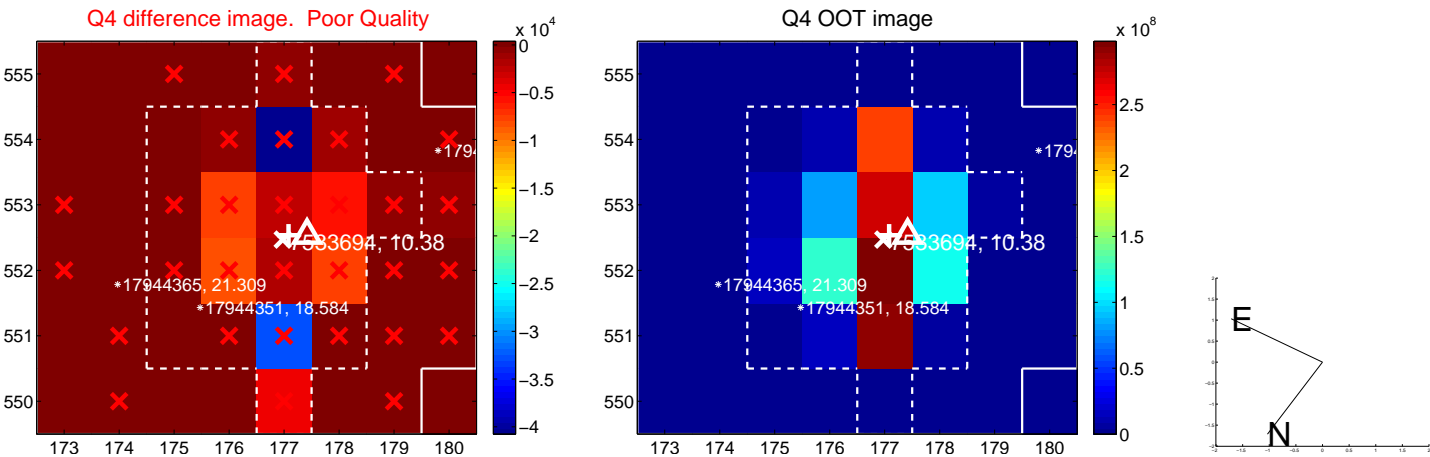
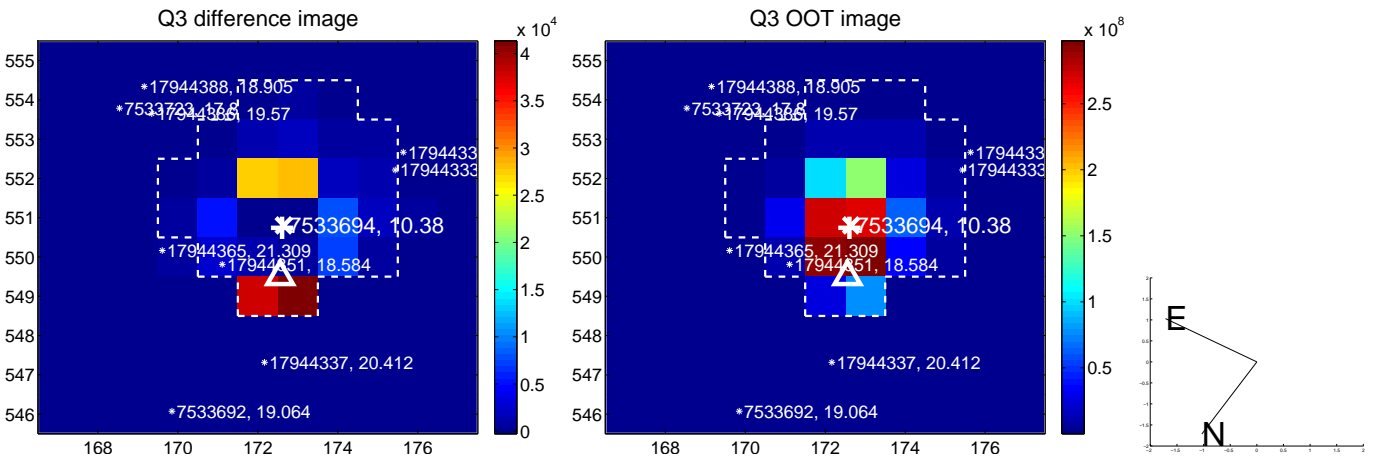
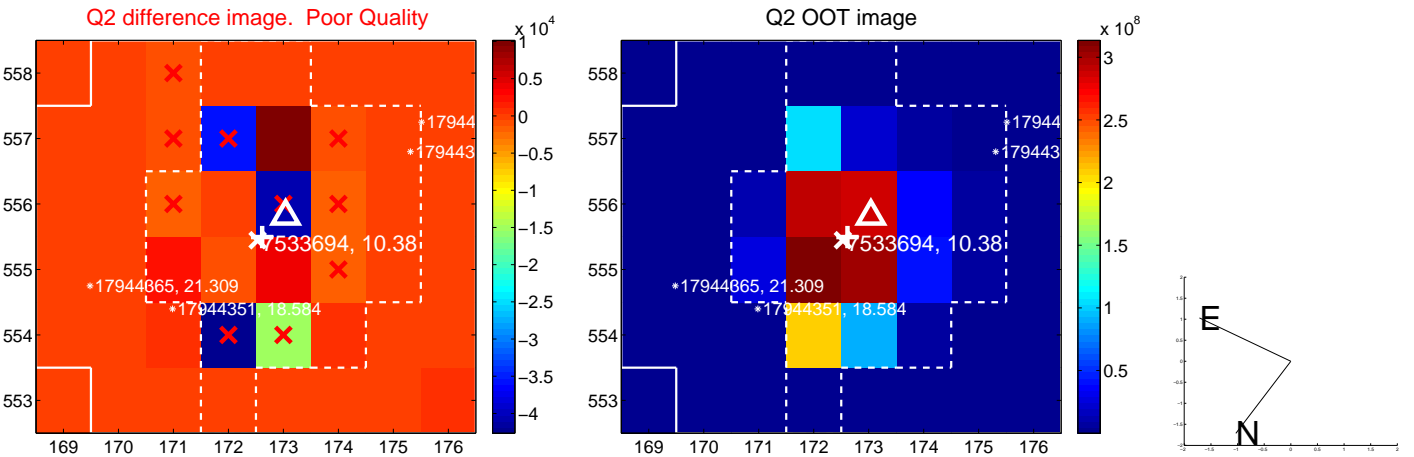
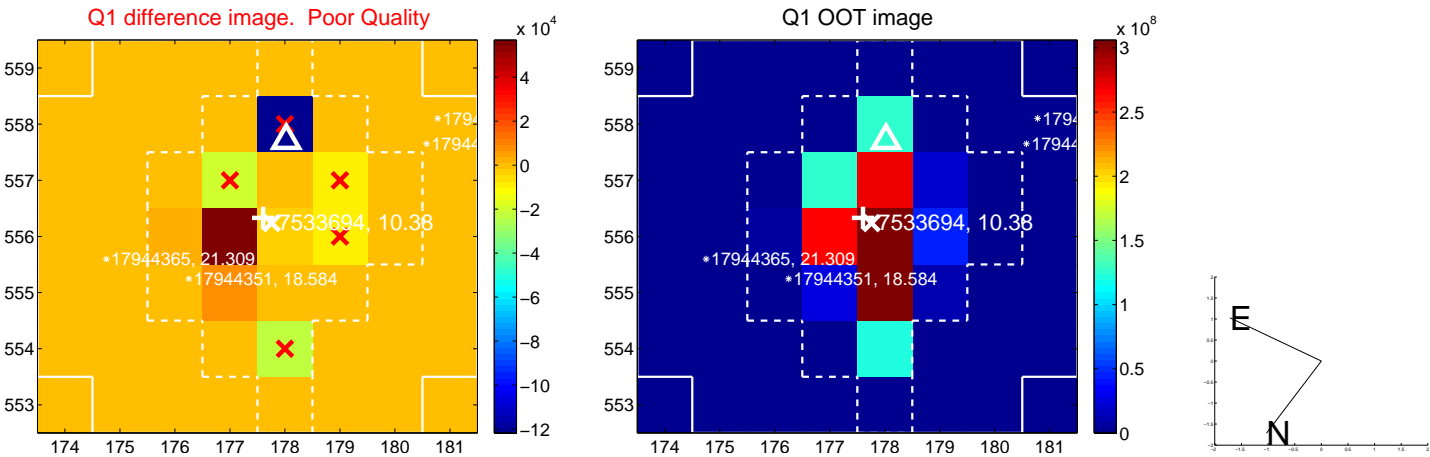


offset from photometric centroids

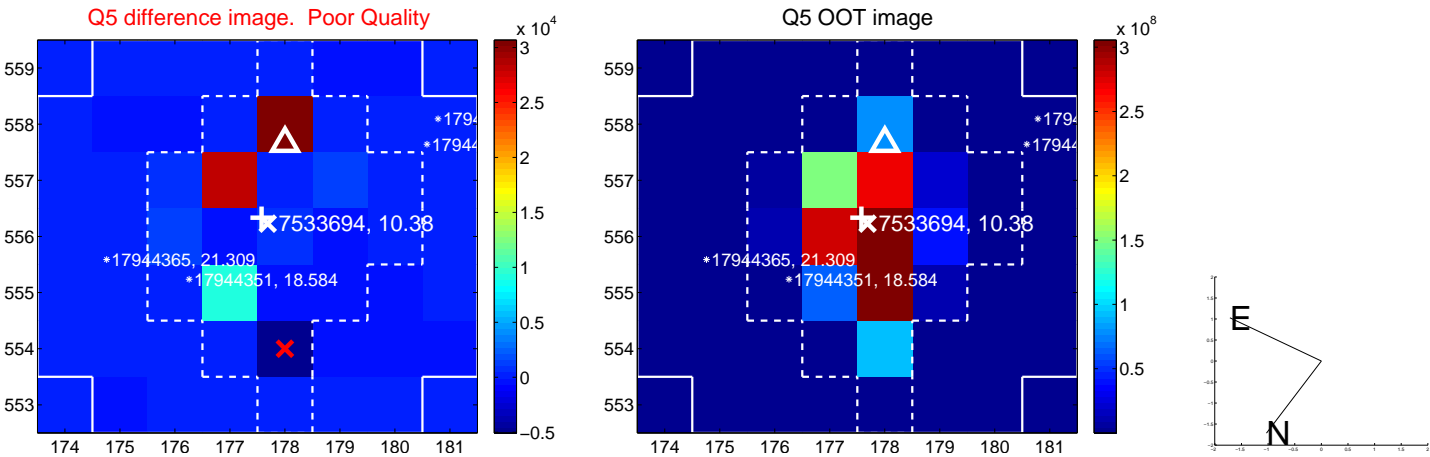


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

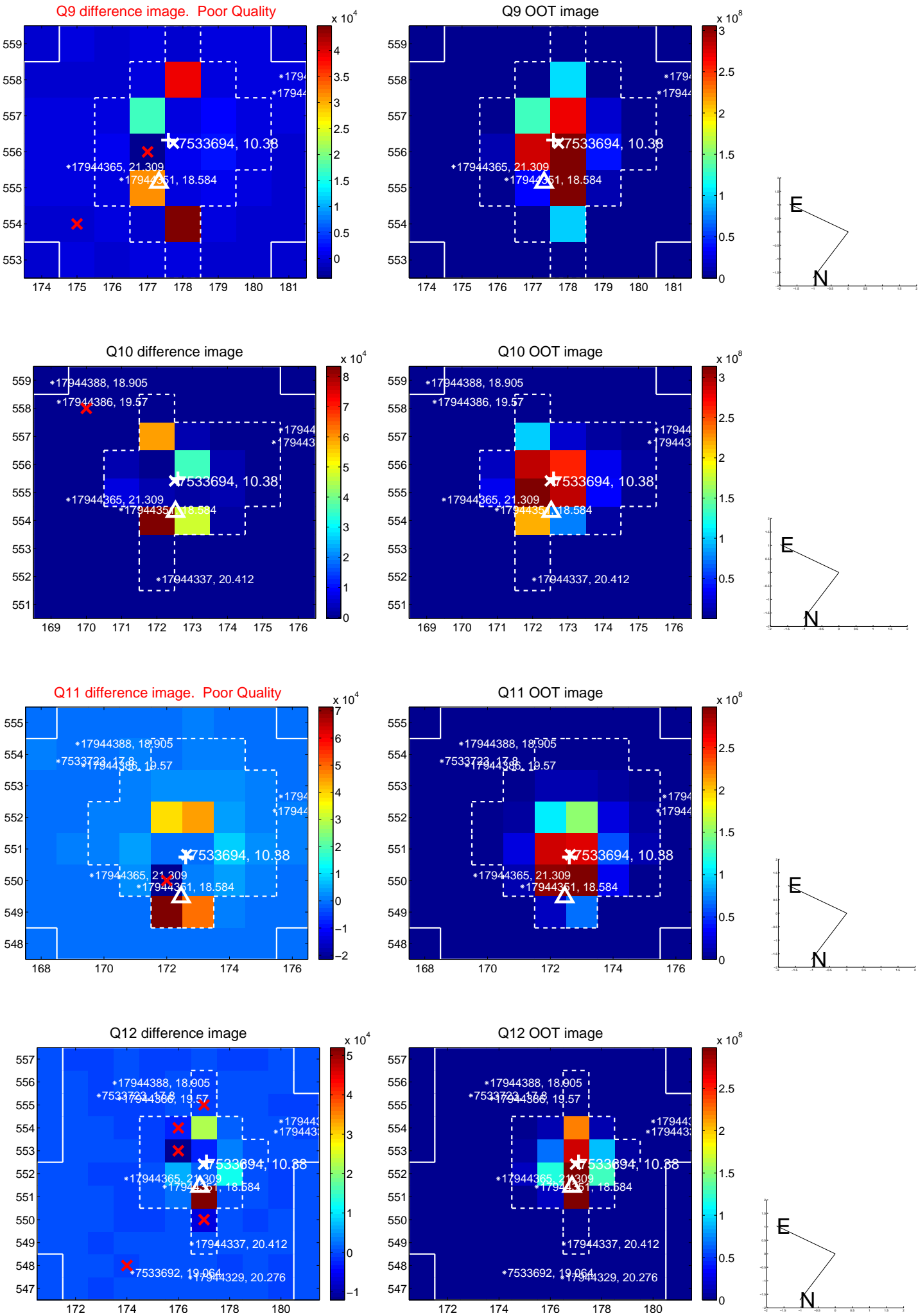
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



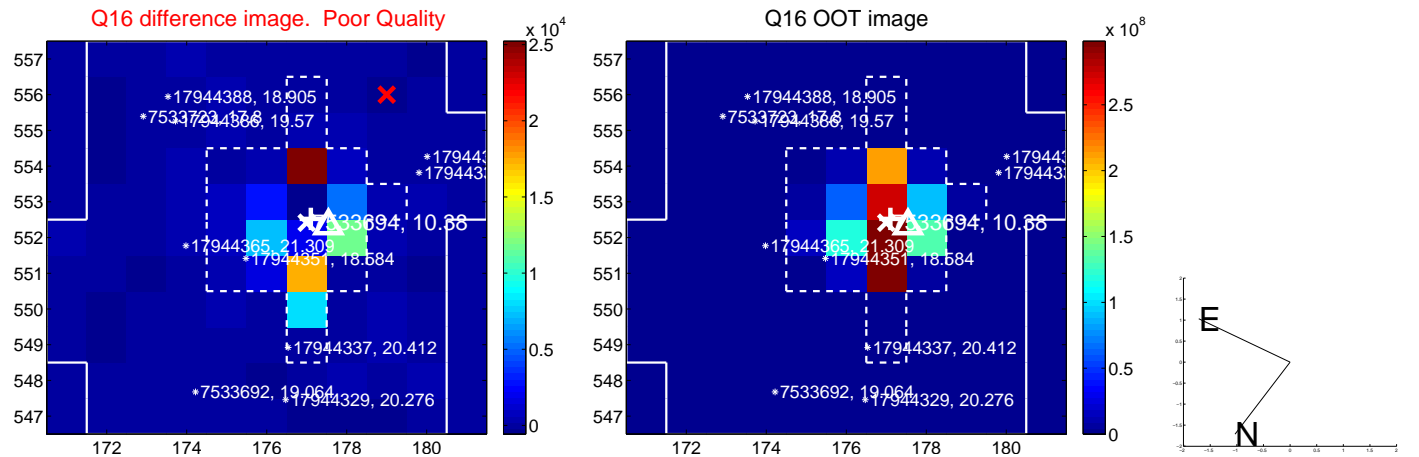
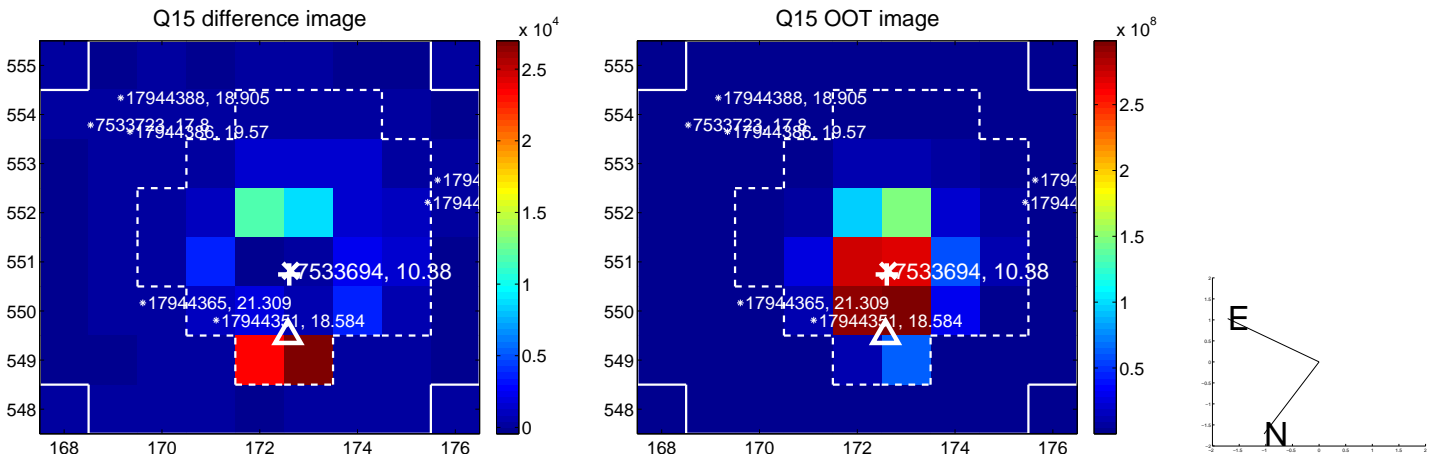
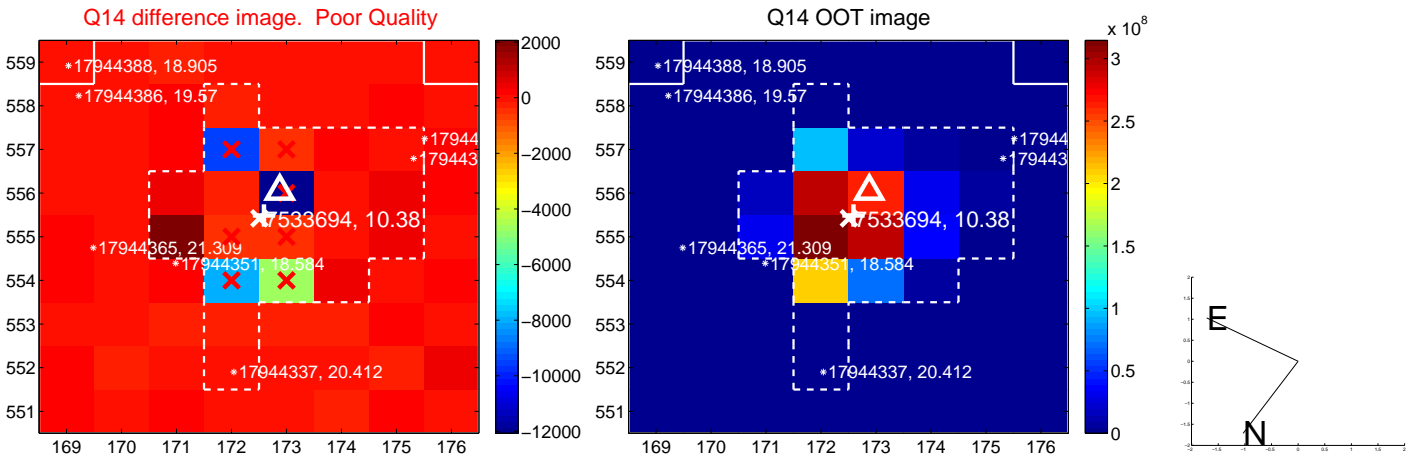
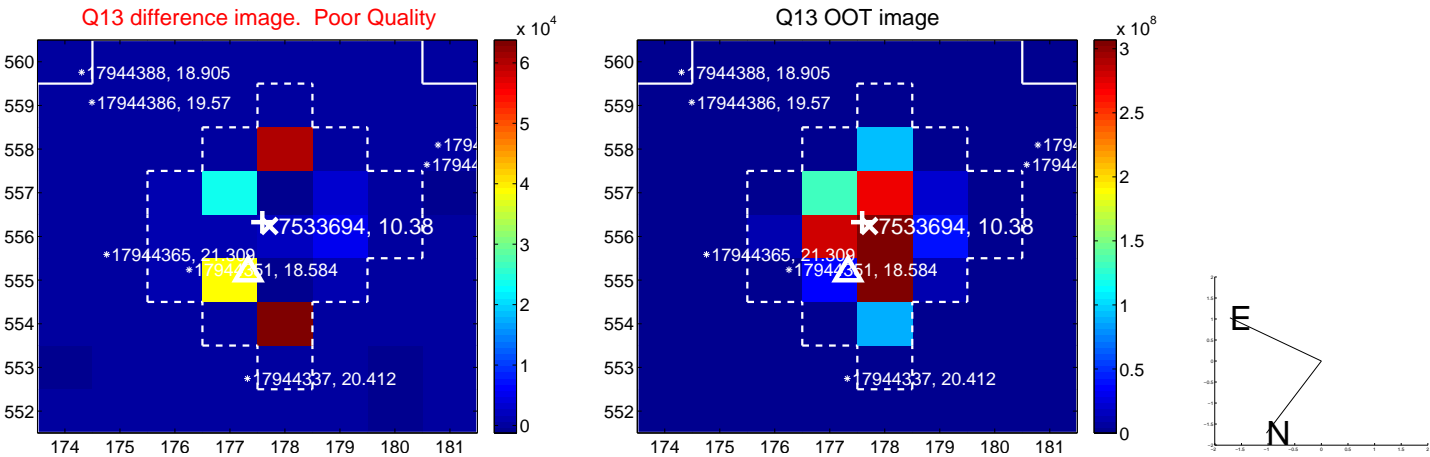
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



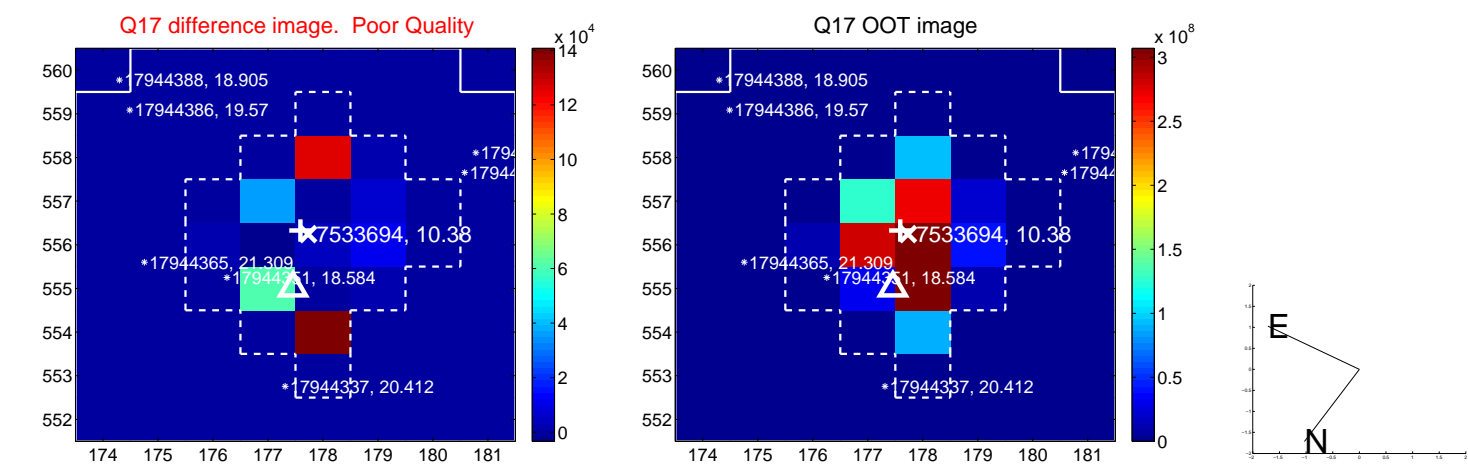
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



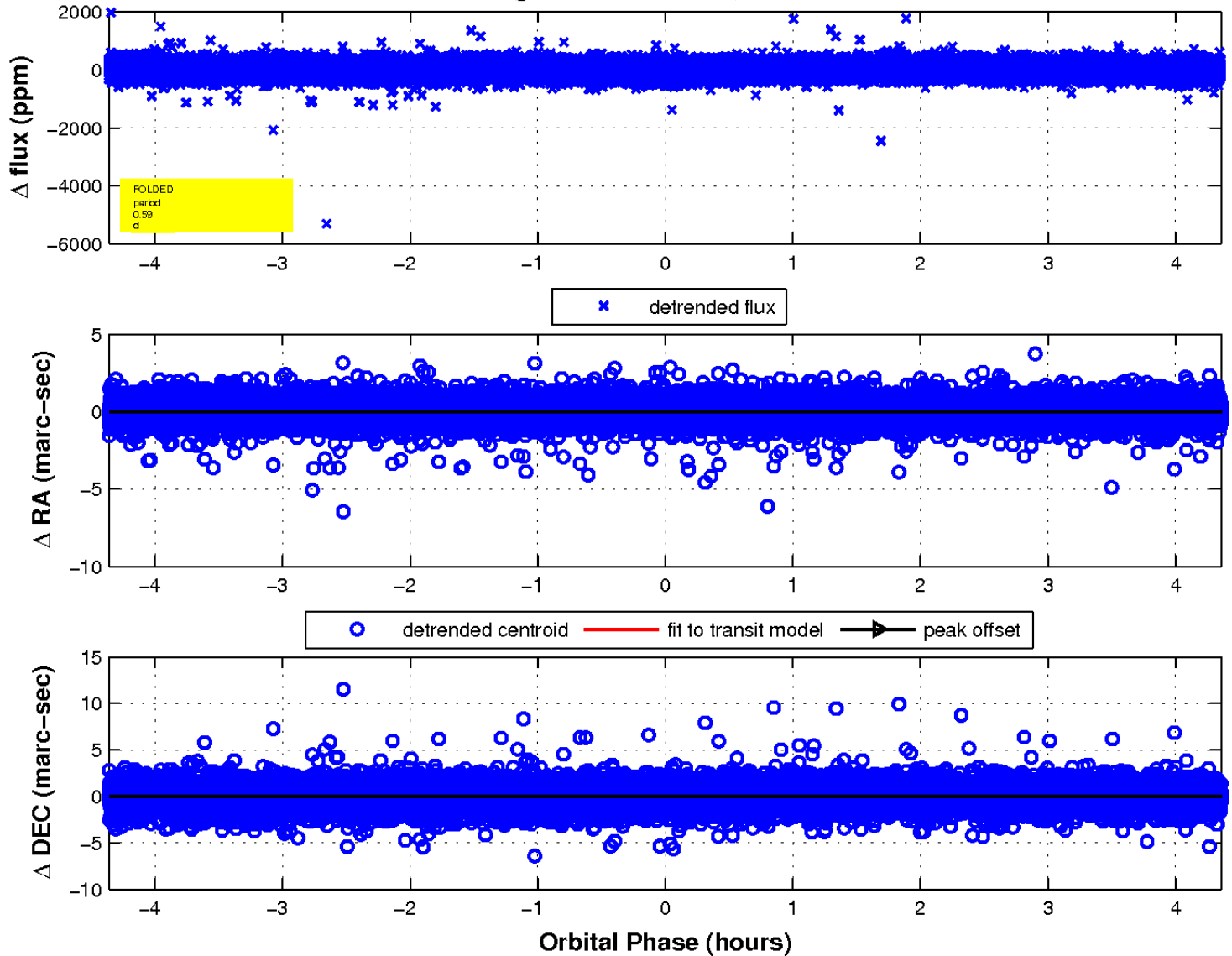
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

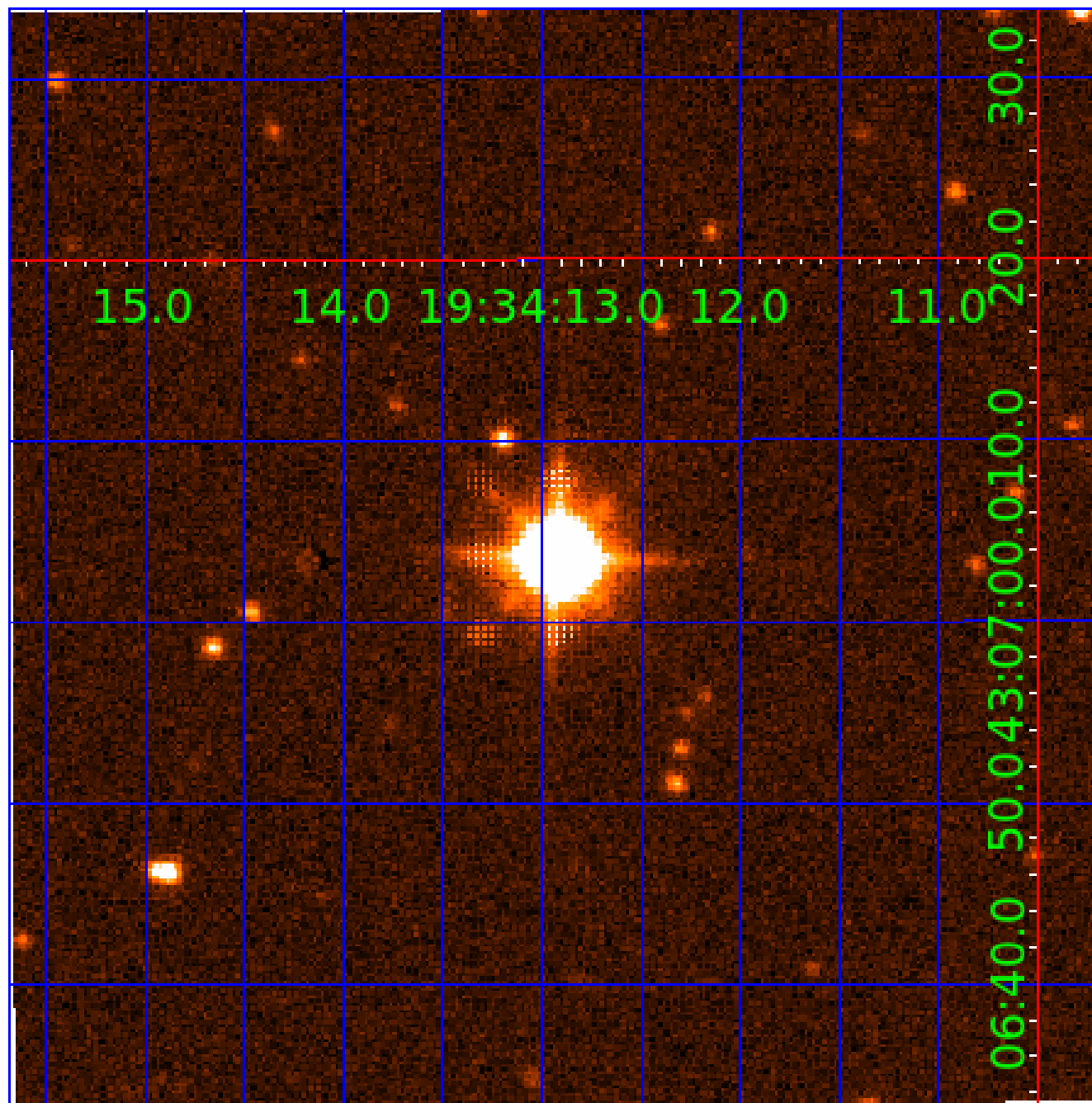


fluxWeightedCentroids, Planet 2 of 4



UKIRT Image

Declination



KIC 007533694

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})
007533694-01	OBS	No	0.588188	132.076930	48.2	1.499	13.7	18.4	3.02	8076	2.25	109322.27
007533694-02	OBS	No	0.588183	131.651482	40.4	1.454	12.3	15.6	3.02	8076	1.95	109323.51
007533694-03	OBS	No	0.650420	131.766315	14.2	1.370	10.5	2.5	3.02	8076	1.22	95602.87
007533694-04	OBS	No	0.649176	131.987964	19.0	0.514	9.1	2.3	3.02	8076	1.41	95847.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007533694-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
007533694-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—SAME_NTL_PERIOD—CENT_SATURATED
007533694-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
007533694-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_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.

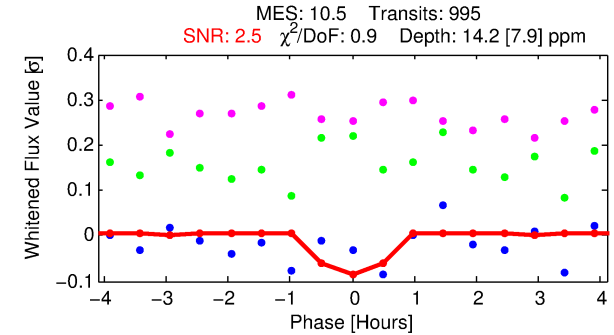
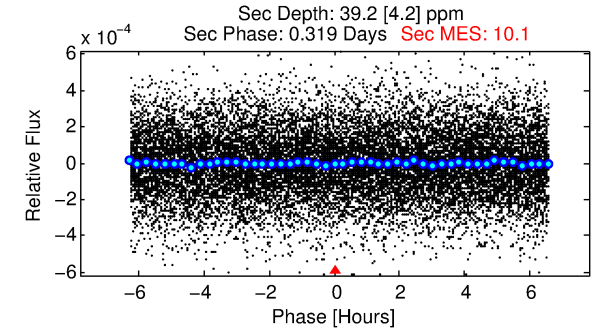
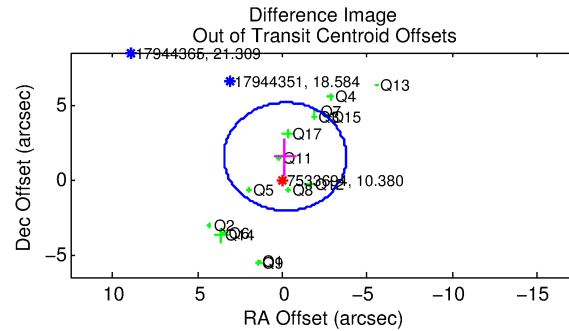
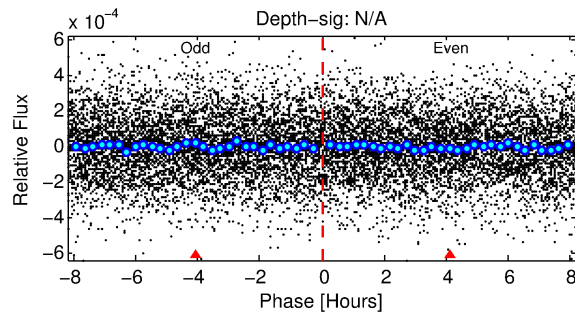
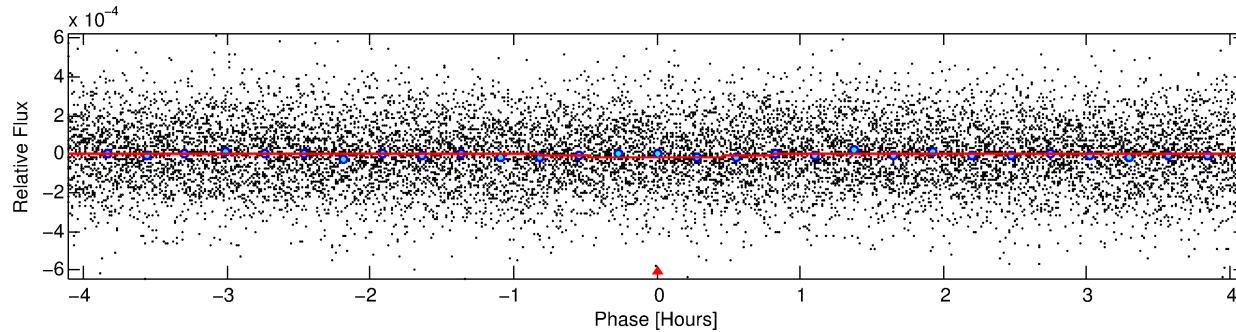
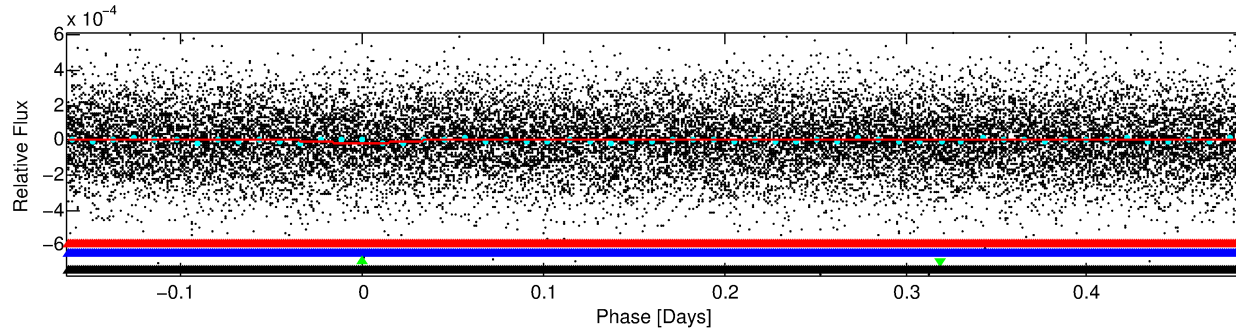
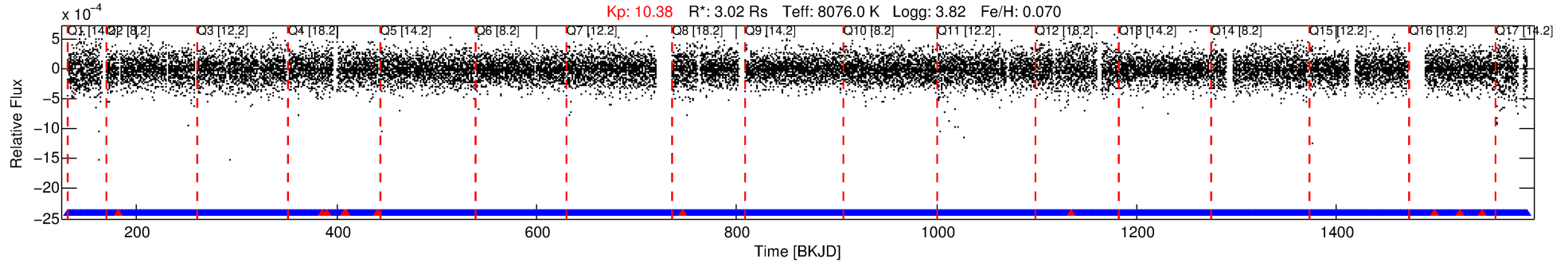
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007533694-03

No Significant Match Found

DV One-Page Summary

KIC: 7533694 Candidate: 3 of 4 Period: 0.650 d



DV Fit Results:

Period = 0.65042 [0.00004] d
 Epoch = 131.7663 [0.0084] BKJD
 Rp/R* = 0.0037 [0.0022]
 a/R* = 2.75 [7.55]
 b = 0.70 [2.35]
 Seff = 95602.87 [59743.37]
 Teq = 4484 [700] K
 Rp = 1.22 [0.88] Re
 a = 0.0190 [0.0072] AU
 Ag = 5.24 [7.09] [0.60σ]
 Tefp = 10490 [3203] K [1.83σ]

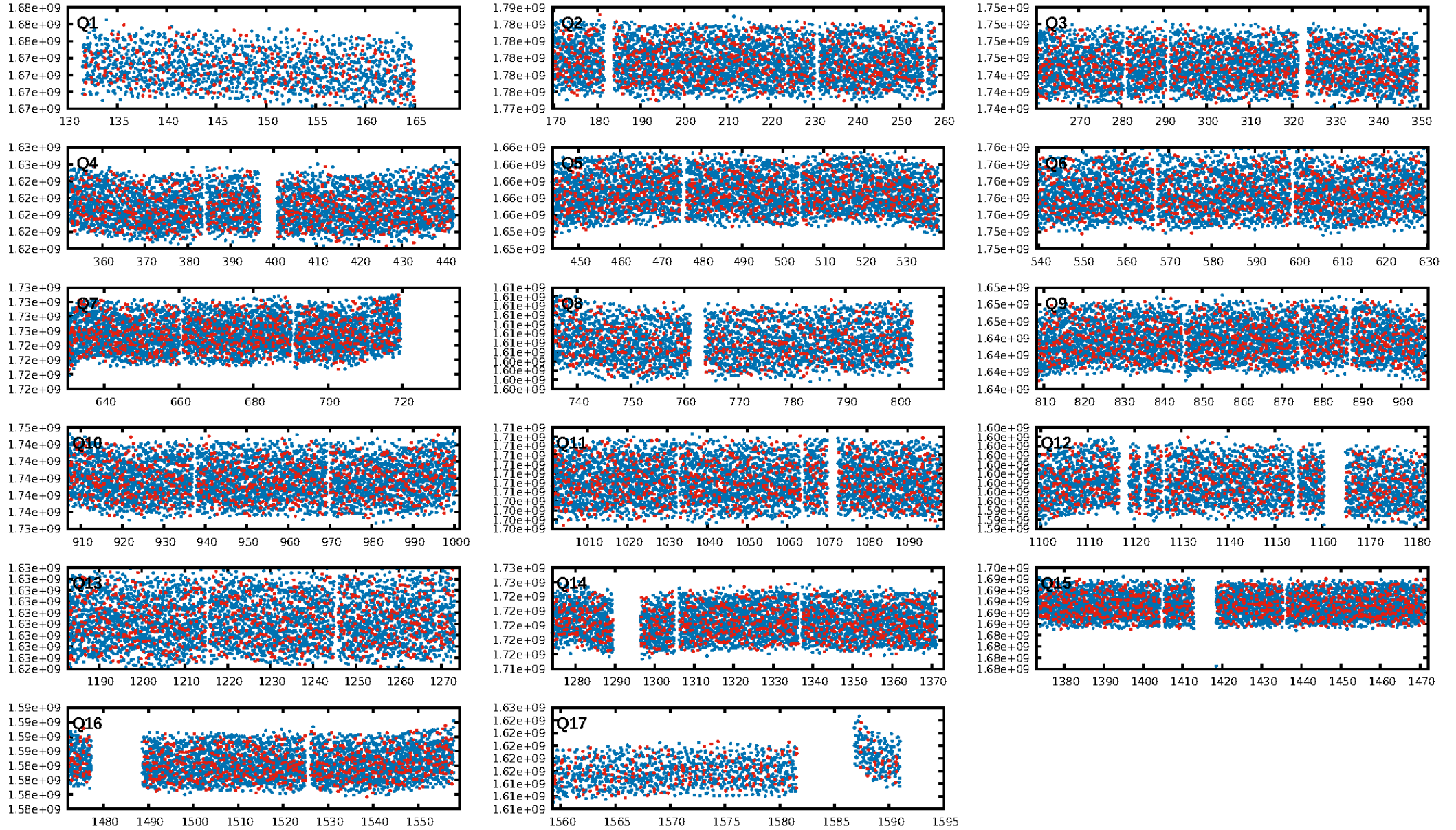
DV Diagnostic Results:

ShortPeriod-sig: 1.6% [0.02σ]
 LongPeriod-sig: N/A
 ModelChiSquare2-sig: N/A
 ModelChiSquareGof-sig: N/A
 Bootstrap-pfa: 3.42e-19
 RollingBand-fgt: 0.99 [937/948]
 GhostDiagnostic-chr: 0.8501
 Centroid-sig: 1.1%
 Centroid-so: 1.017 arcsec [1.12σ]
 OotOffset-rm: 1.546 arcsec [1.28σ]
 KicOffset-rm: 1.472 arcsec [1.14σ]
 OotOffset-st: 3/4/3/5 [15]
 KicOffset-st: 3/4/3/5 [15]
 DiffImageQuality-fgm: 0.20 [3/15]
 DiffImageOverlap-fno: 0.00 [0/17]

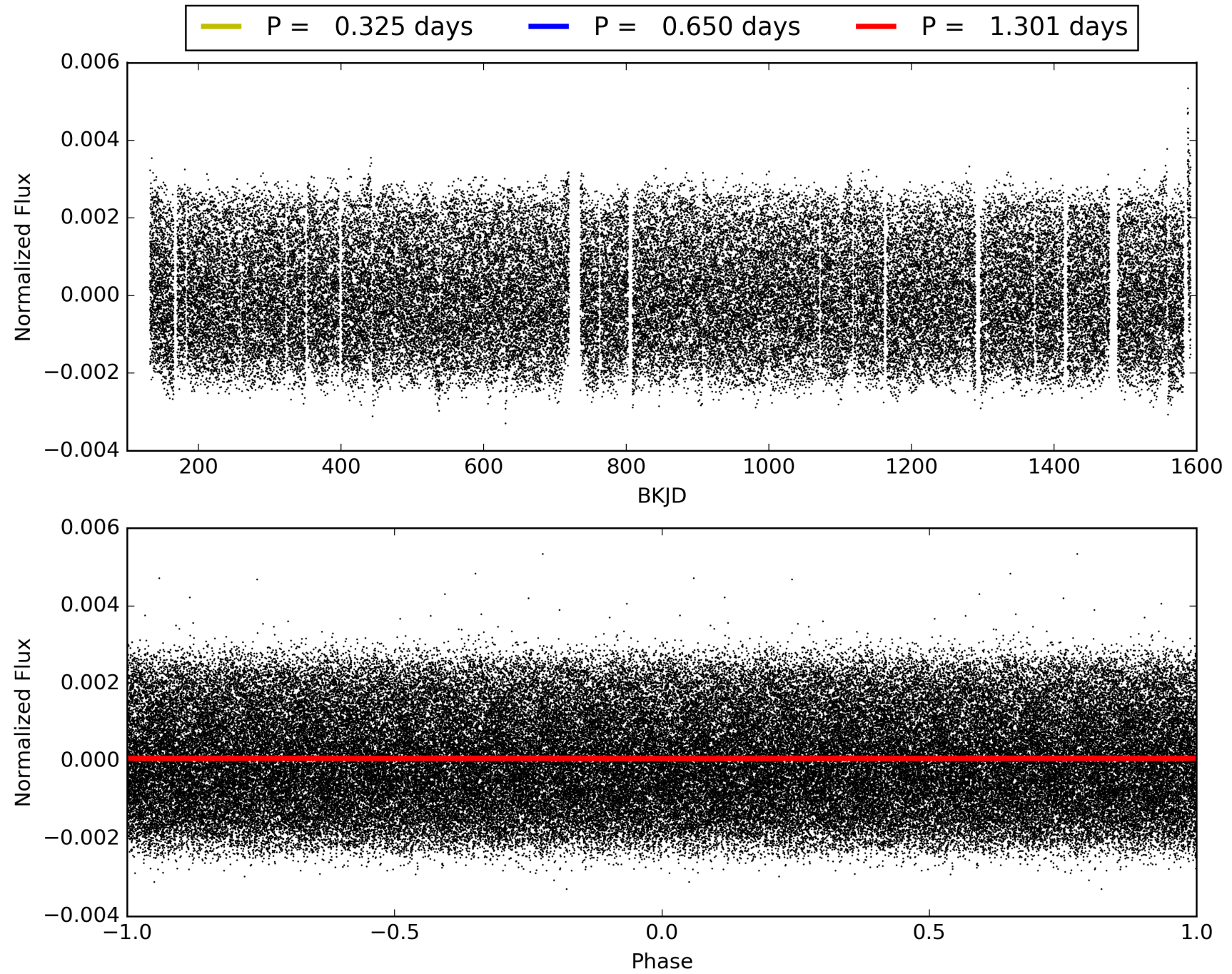
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:01:50 Z

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

TCE 007533694-03, PDC Light Curves

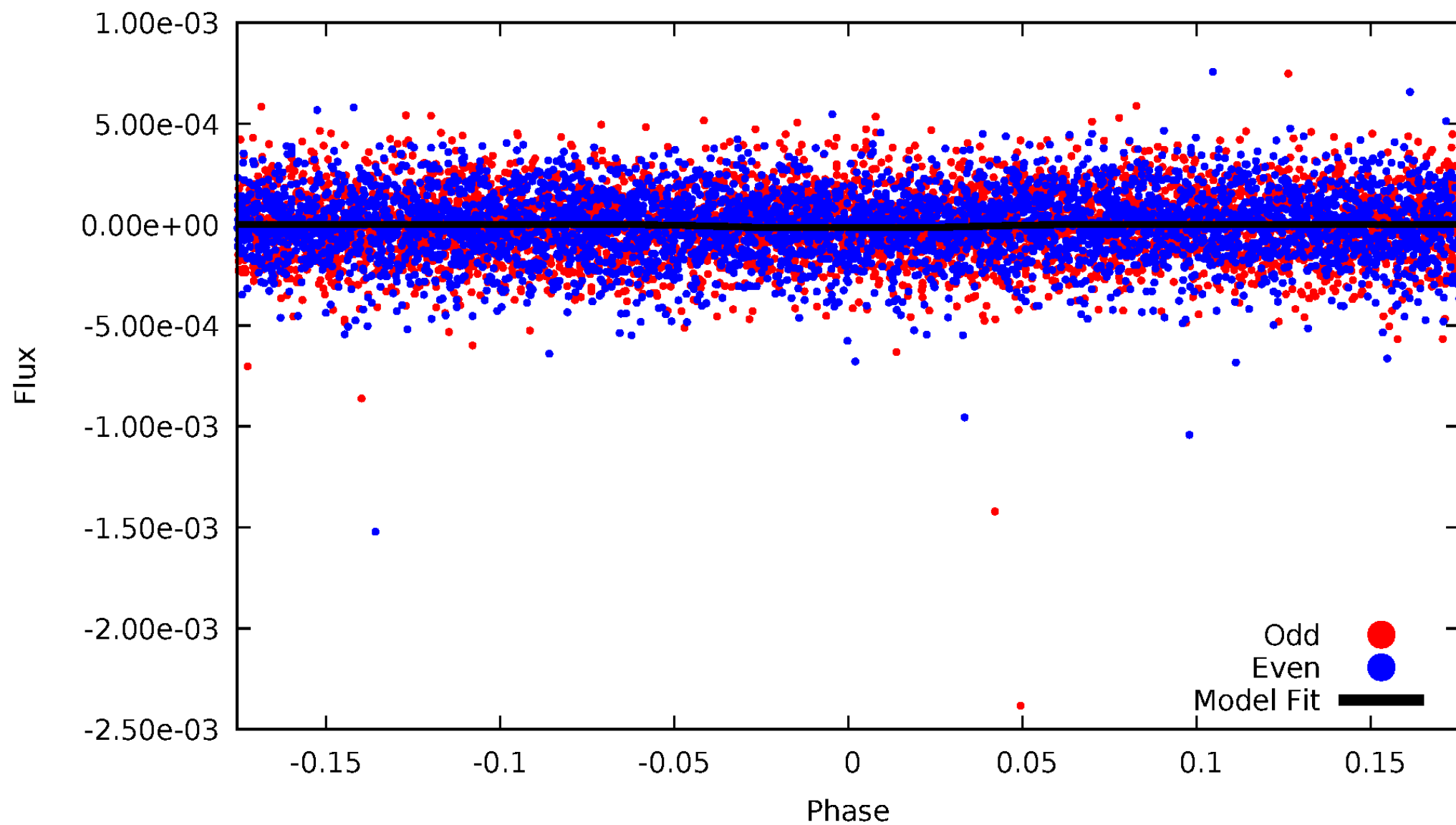


TCE 007533694-03



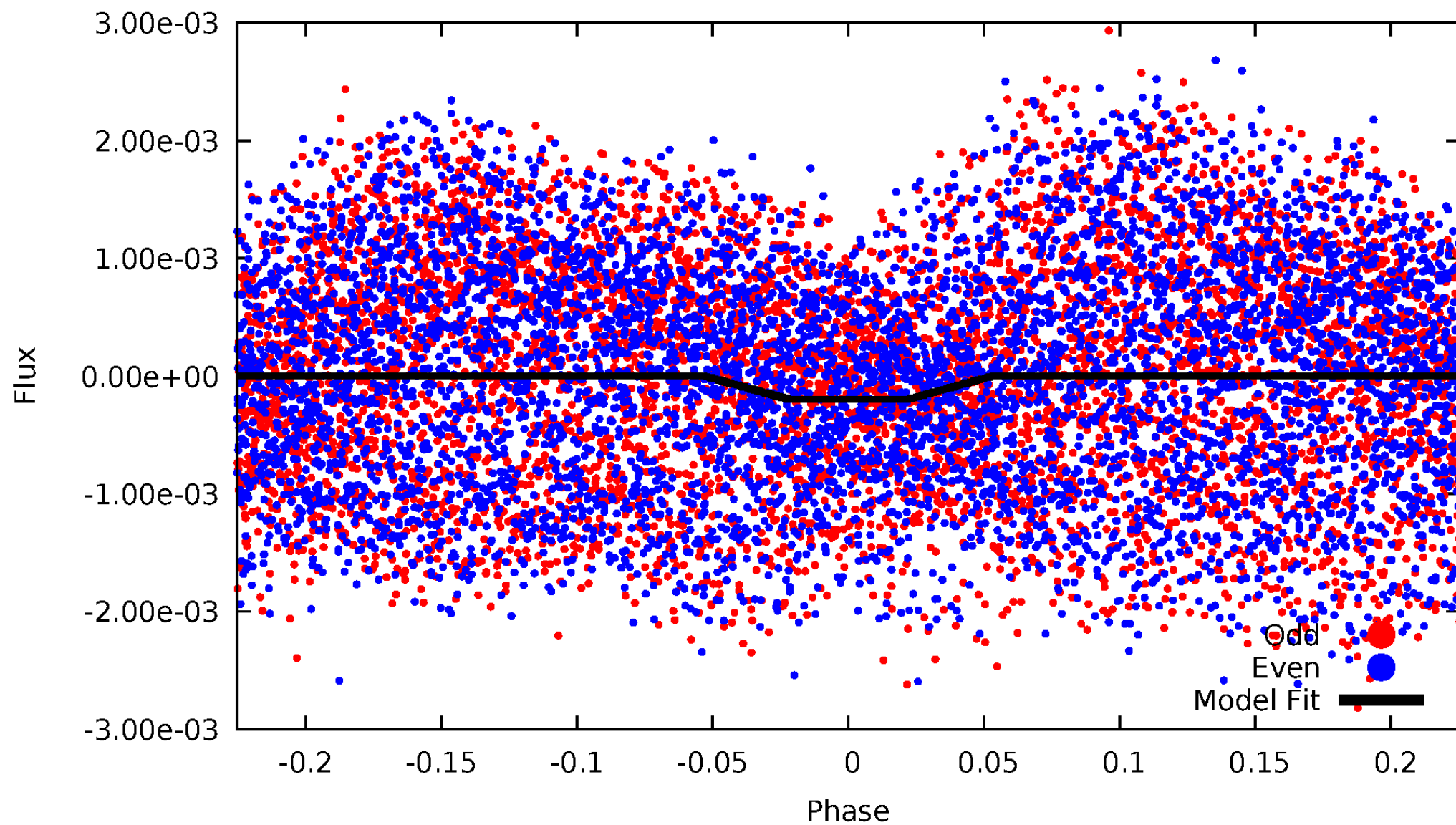
DV Odd/Even

TCE 007533694-03

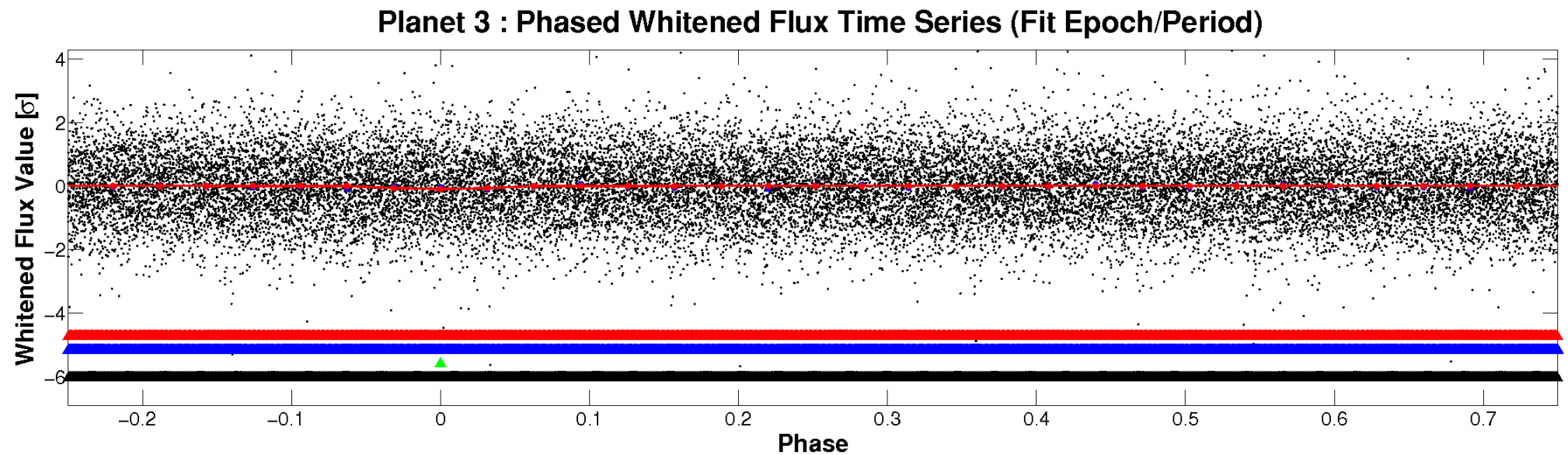
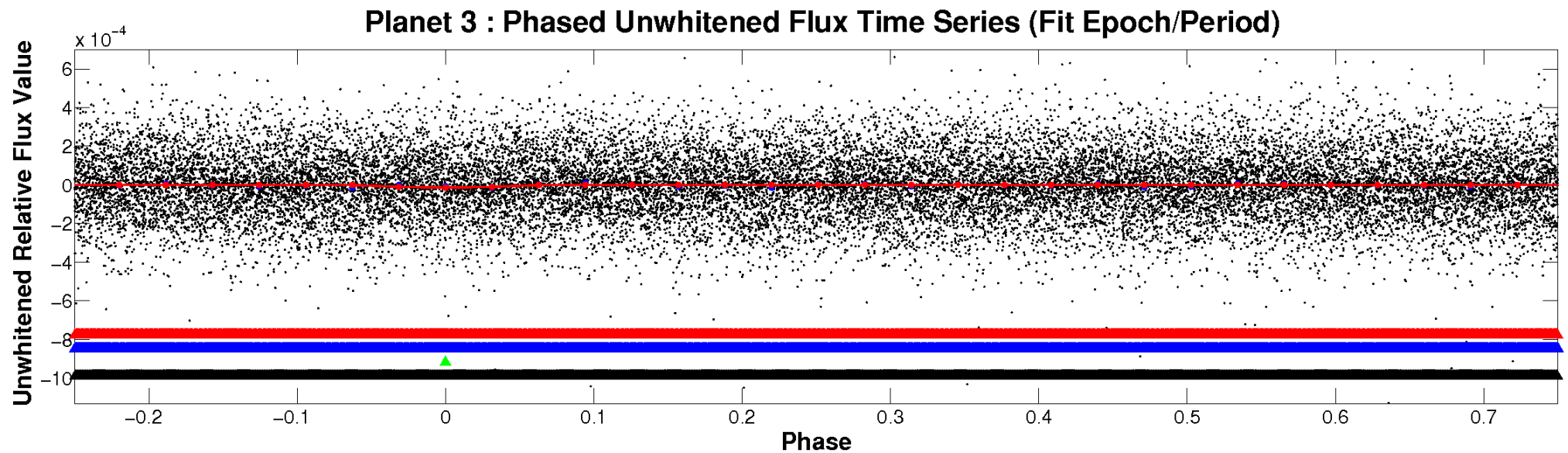


ALT Odd/Even

TCE 007533694-03

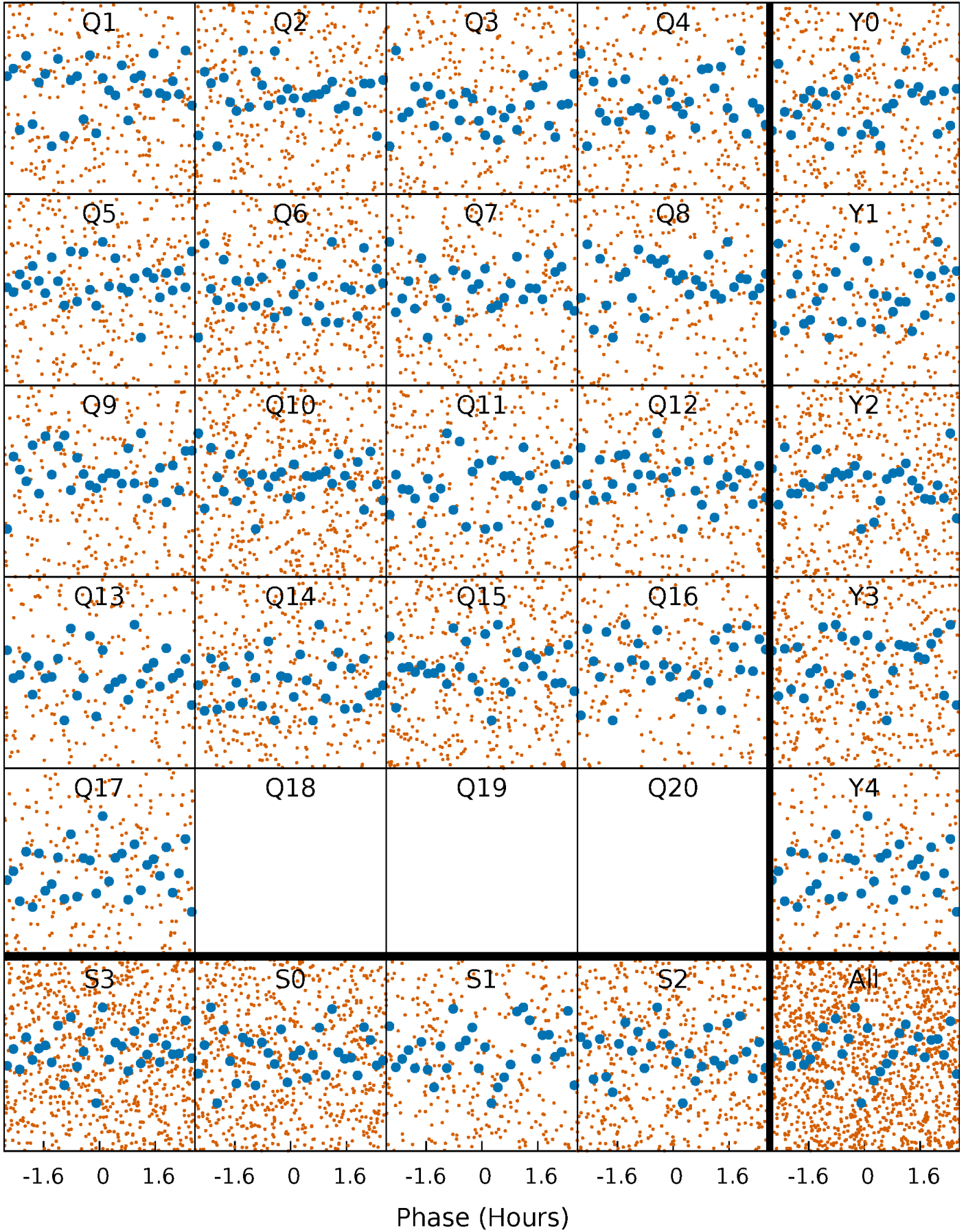


Non-Whitened Vs. Whitened Light Curve



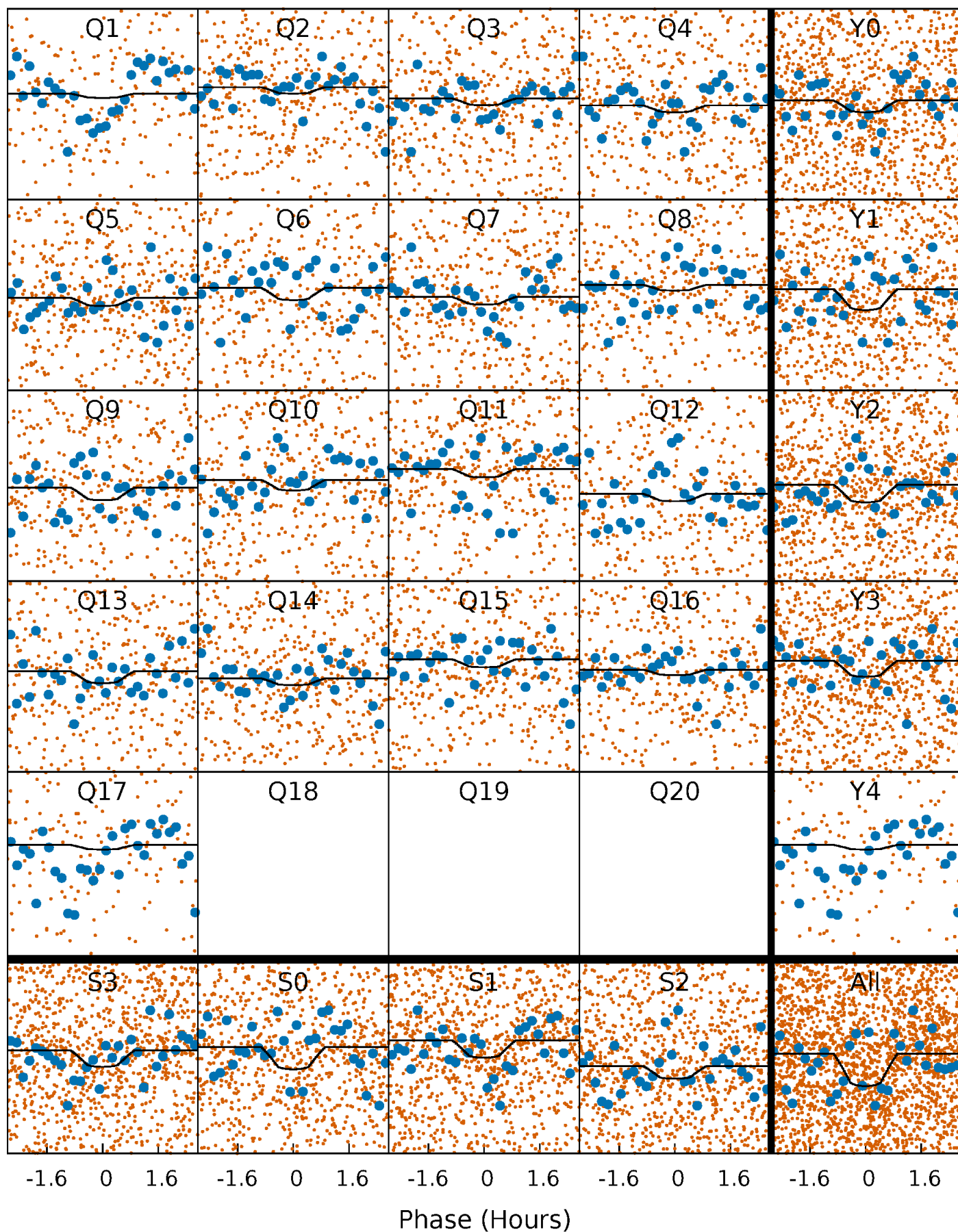
PDC Quarter-Phased Transit Curves

TCE 007533694-03 P= 0.650420 Days $T_0=131.766315$ (BKJD)



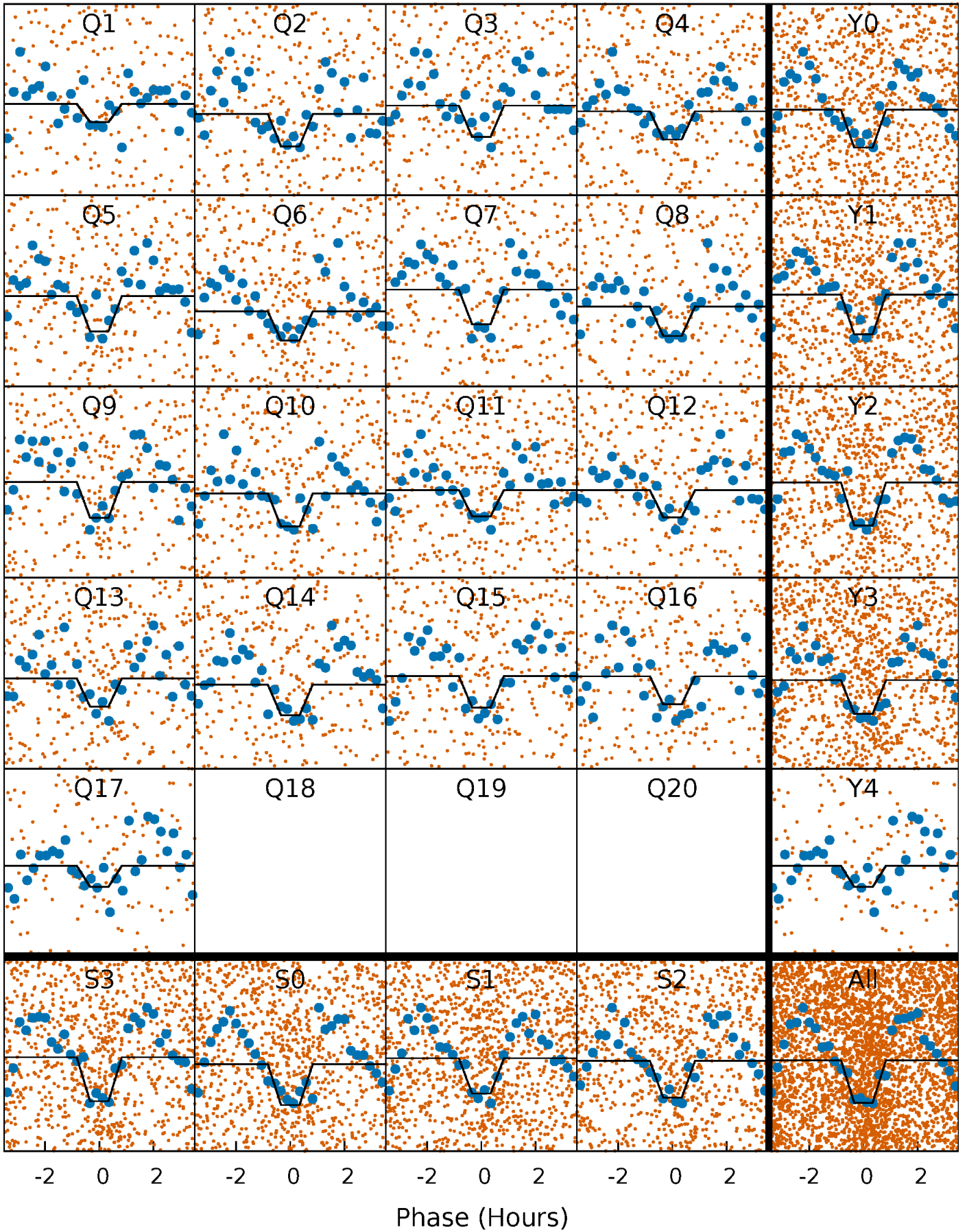
DV Quarter-Phased Transit Curves

TCE 007533694-03 $P = 0.650420$ Days $T_0 = 131.766315$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

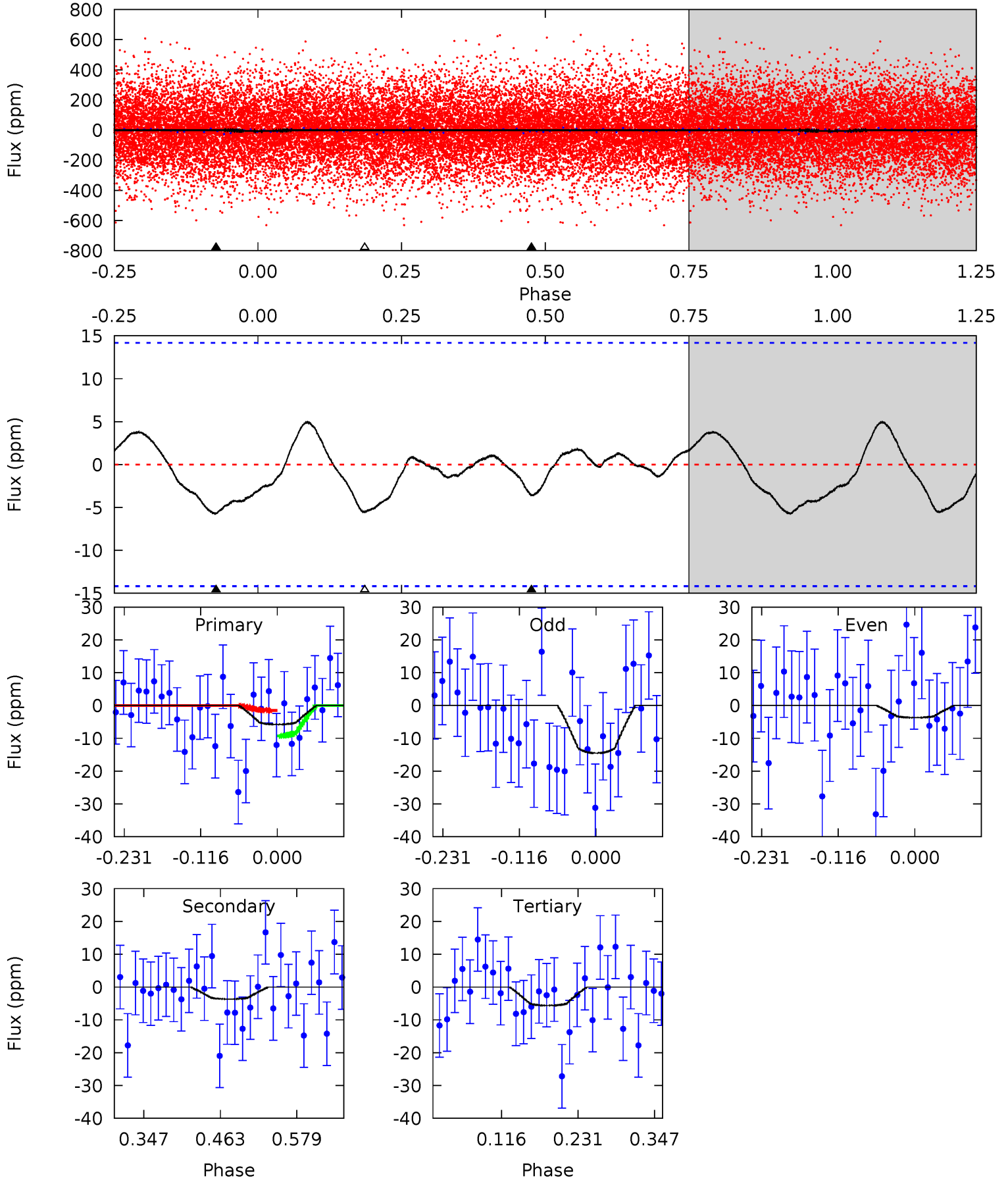
TCE 007533694-03 P= 0.651220 Days $T_0=131.655162$ (BKJD)



DV Model-Shift Uniqueness Test

007533694-03, P = 0.650420 Days, E = 131.115895 Days

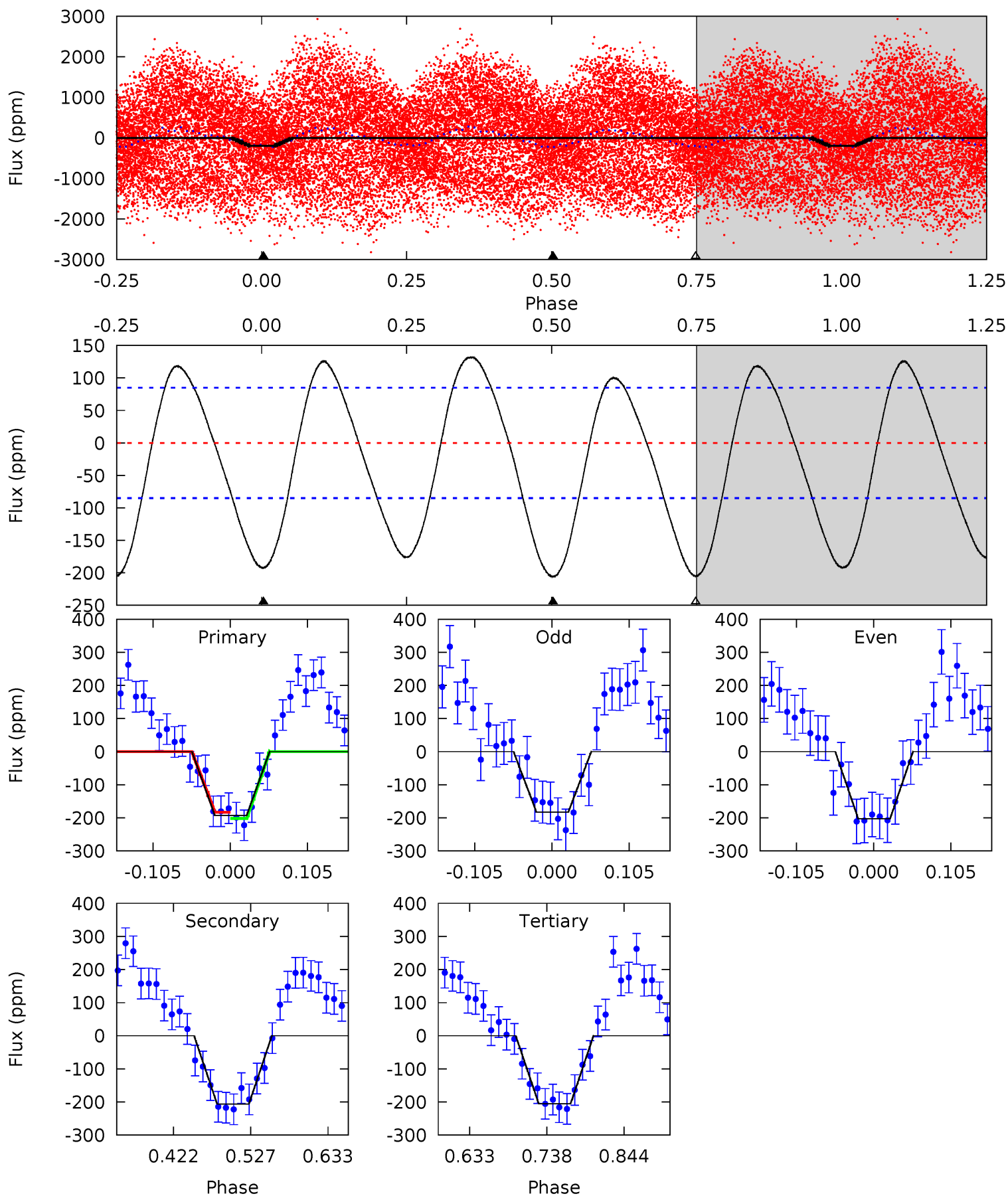
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.85	1.17	1.80	0	4.53	1.57	0.81	0.05	1.85	-0.63	1.17	1.73	1.14	0.47	1.24



Alt Model-Shift Uniqueness Test

007533694-03, P = 0.651220 Days, E = 131.655162 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	11.1	11.0	0	4.55	1.62	5.91	-0.68	10.3	0.04	11.1	0.53	1.10	0.39	0.50



Stellar Parameters For KIC 007533694

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8076^{+223}_{-335}	$3.817^{+0.352}_{-0.110}$	$0.070^{+0.250}_{-0.450}$	$3.017^{+0.704}_{-1.206}$	$2.178^{+0.318}_{-0.590}$	$0.112^{+0.305}_{-0.040}$
	+3%/-4%	+9%/-3%	+357%/-643%	+23%/-40%	+15%/-27%	+273%/-36%
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 007533694-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4 ± 3	$1.13^{+0.78}_{-0.60}$	6102^{+446}_{-616}	4282^{+3546}_{-9053}	$0.452^{+1.935}_{-0.400}$
Alt.	-206 ± 19	$4.42^{+1.08}_{-1.11}$	6103^{+455}_{-627}	7763^{+1080}_{-943}	$2.104^{+1.525}_{-0.696}$

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

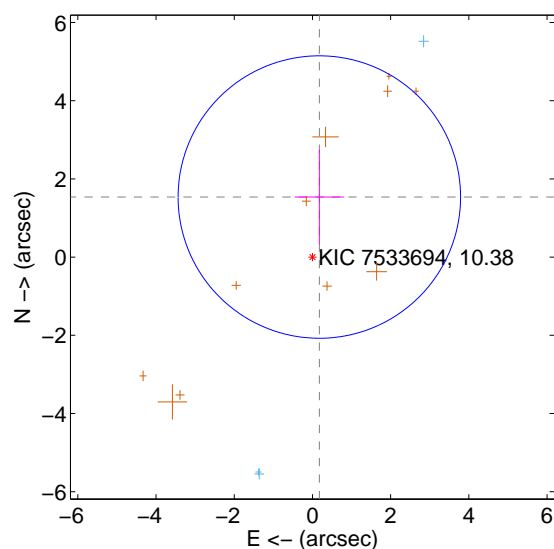
Supplemental centroid analysis for 007533694-03. **Kepler magnitude: 10.38.** Transit SNR 2.53

There are 3 quarters with good PRF difference image offsets

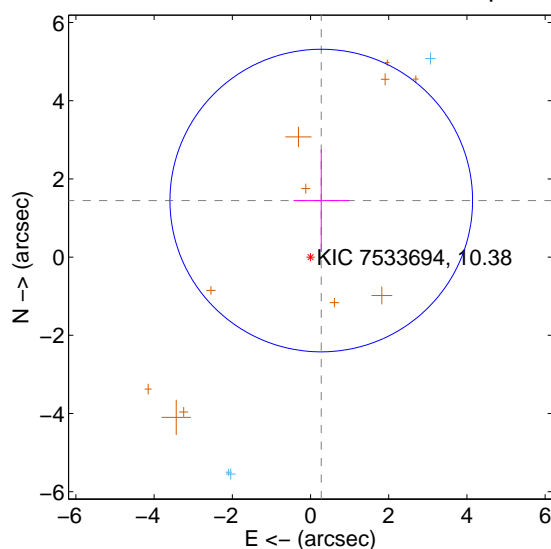
The direct PRF centroid is offset from the target star catalog position by about 0.65 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.546 ± 1.204	1.28	-0.176 ± 0.629	1.536 ± 1.210
PRF-fit source offset from KIC position	1.472 ± 1.290	1.14	-0.275 ± 0.710	1.447 ± 1.306
photometric centroid source offset	1.02 ± 0.91	1.12	0.11 ± 0.75	-1.01 ± 0.91

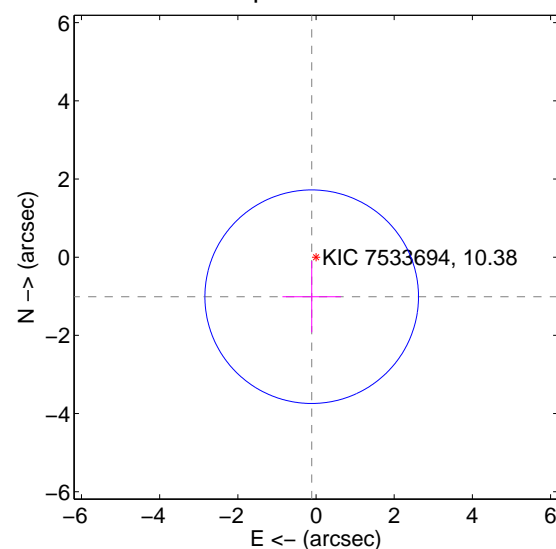
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

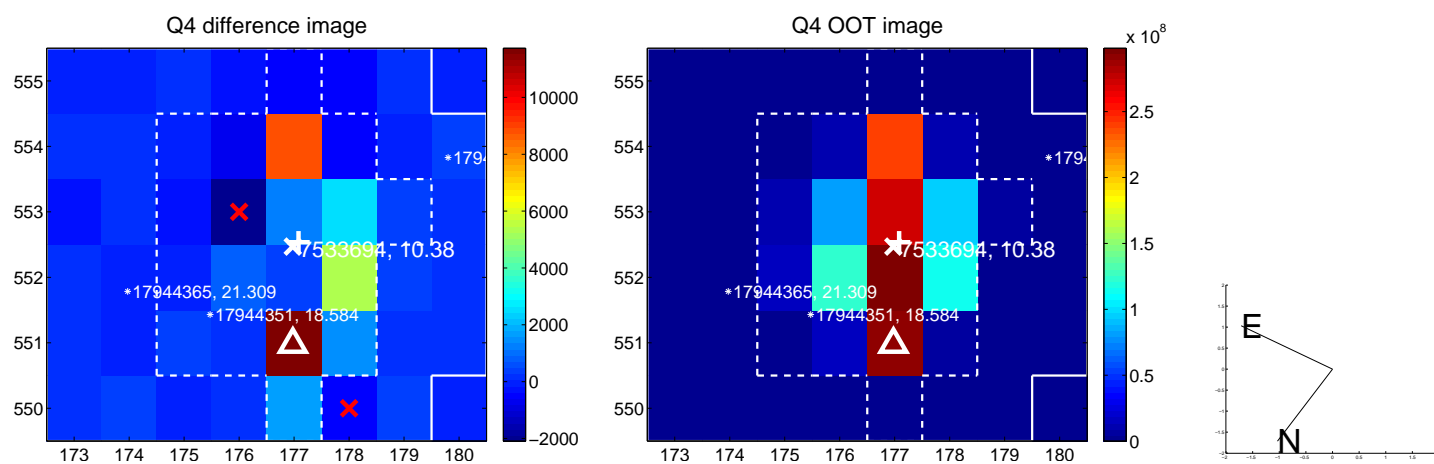
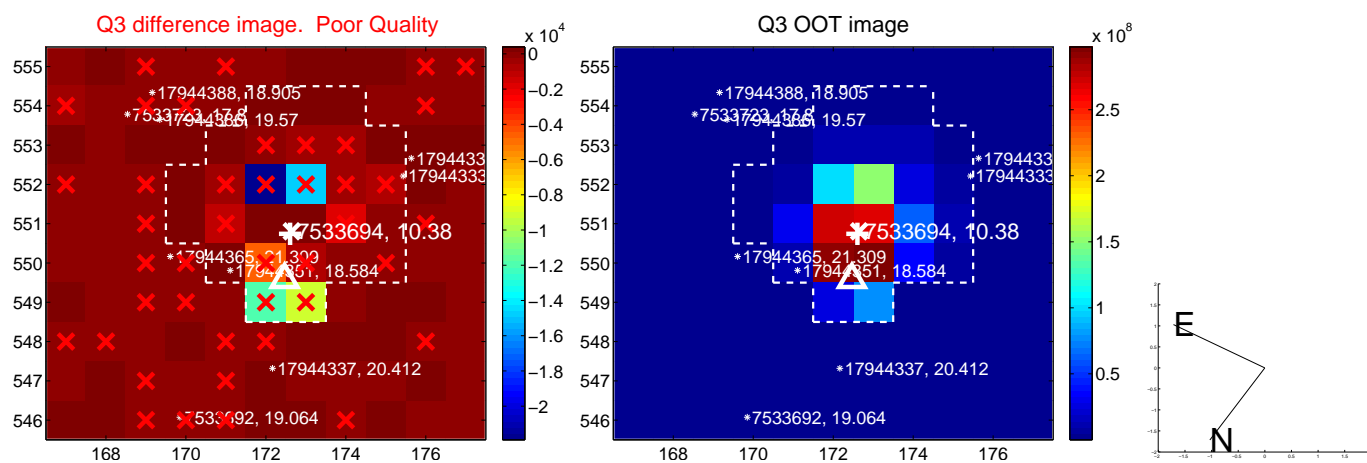
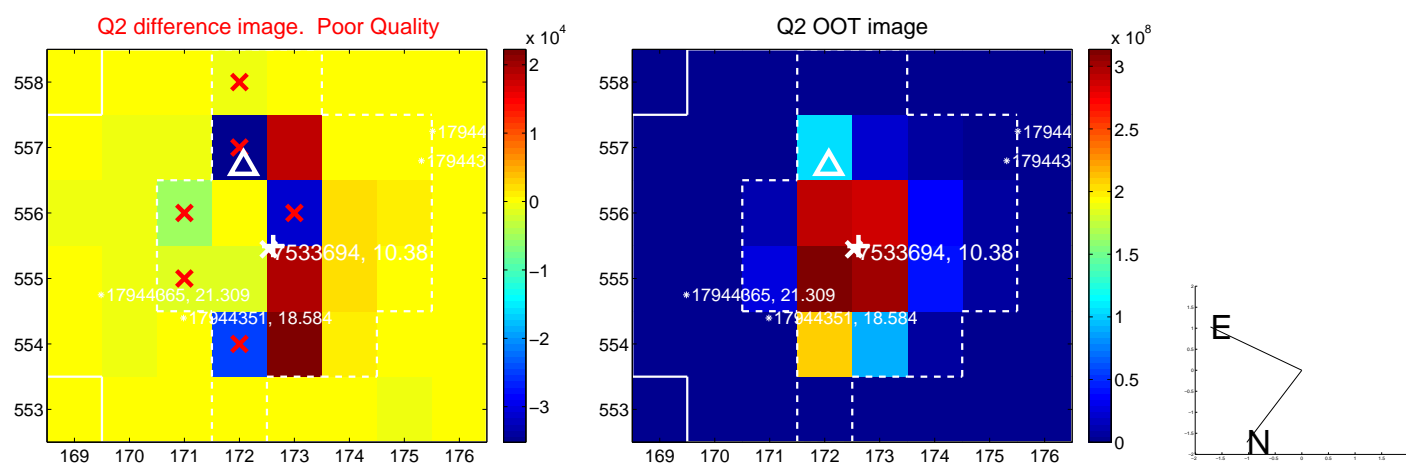
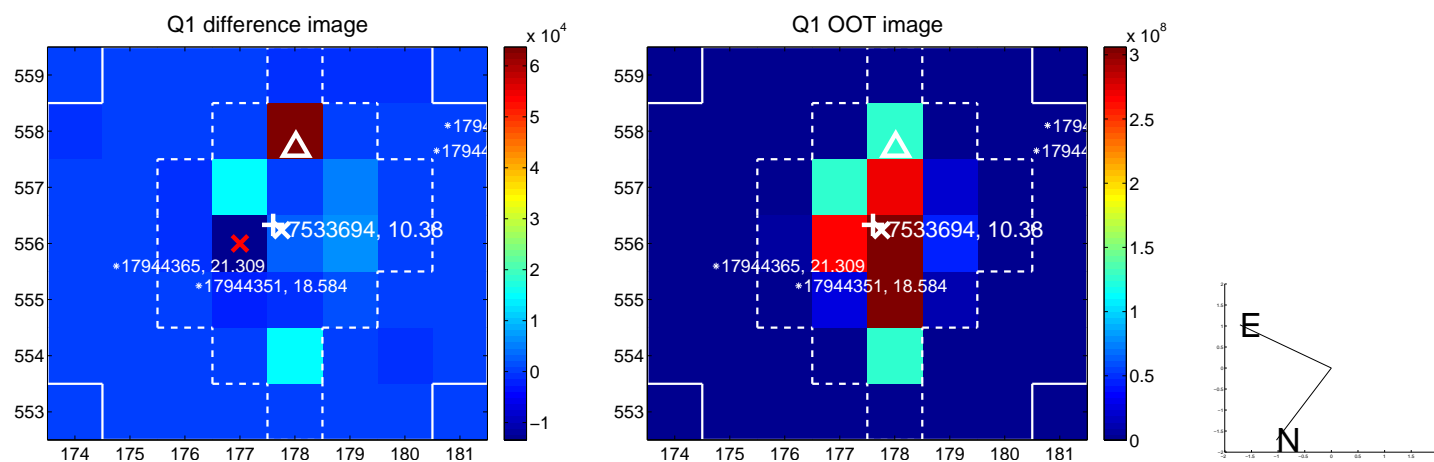


offset from photometric centroids

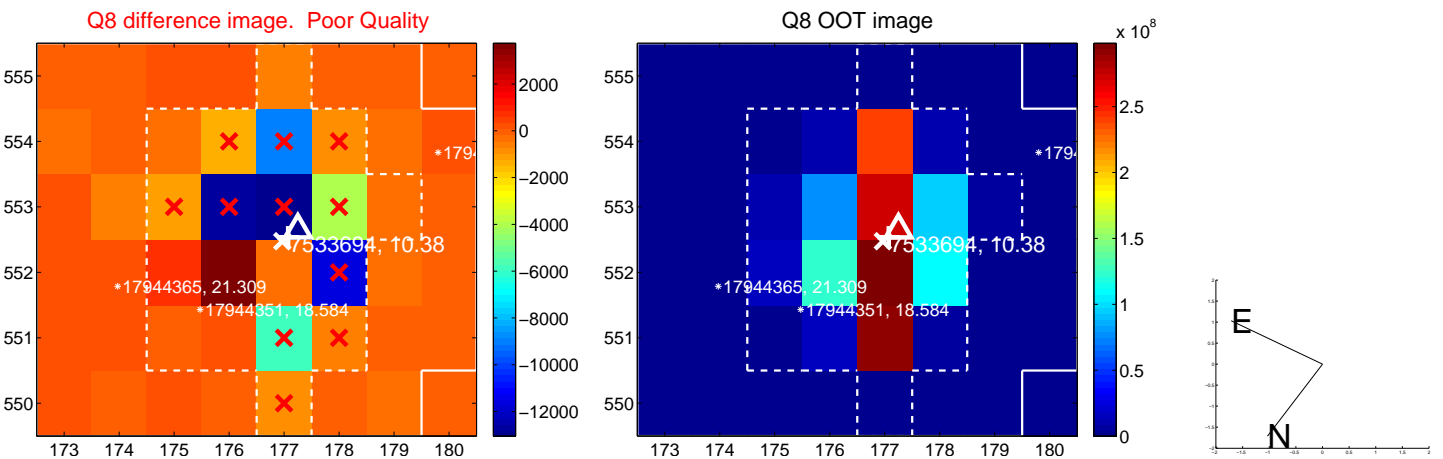
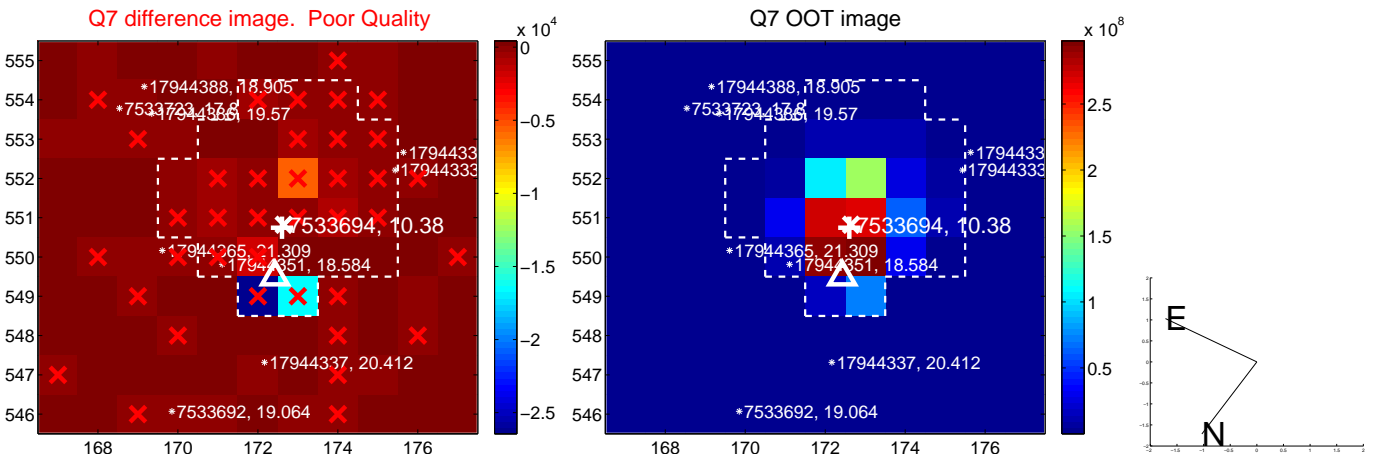
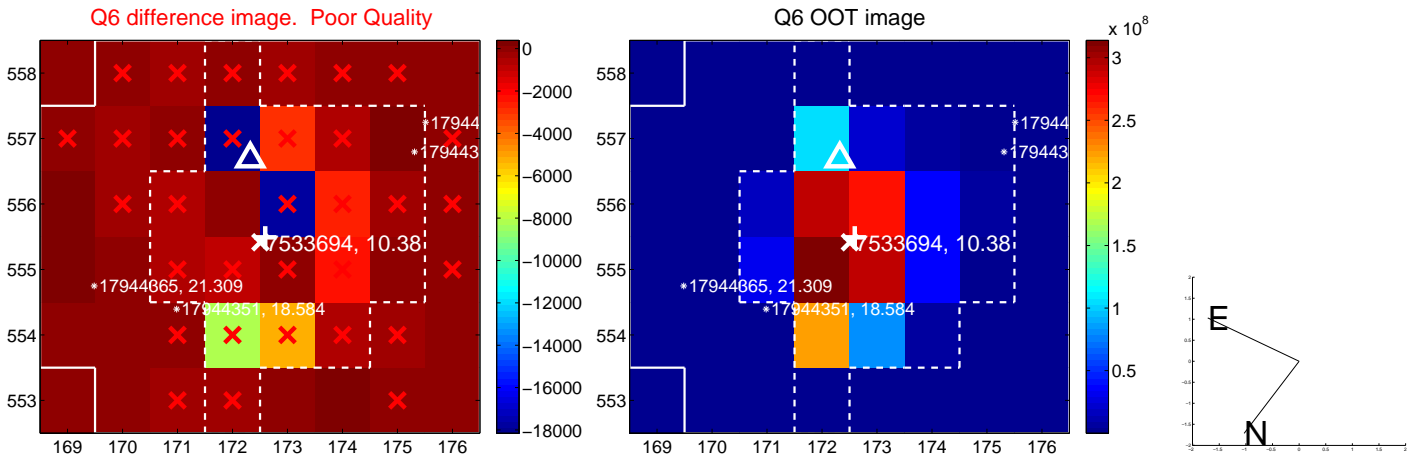
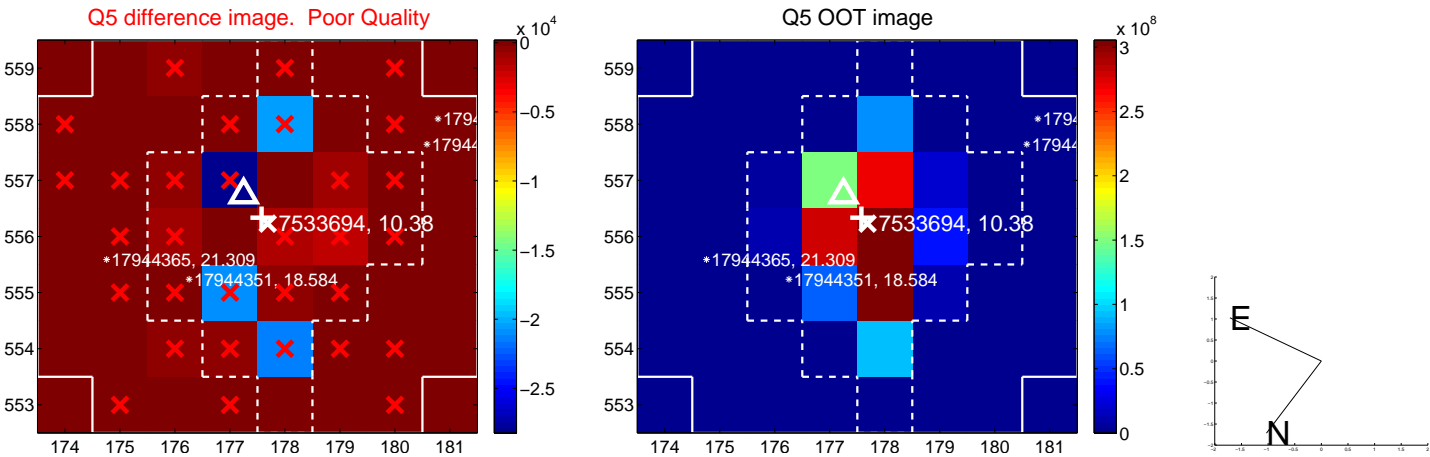


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

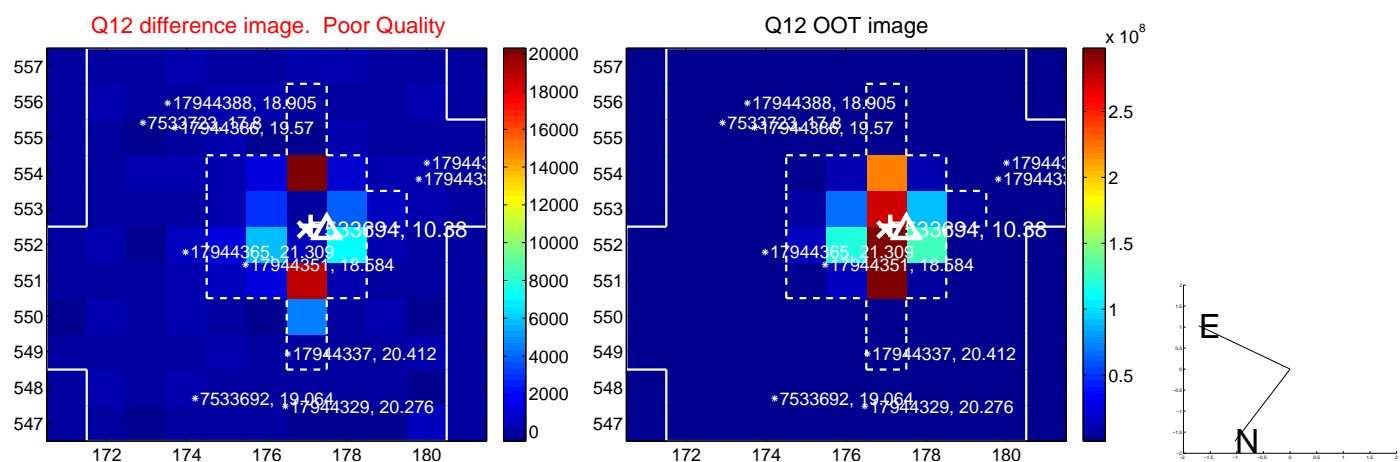
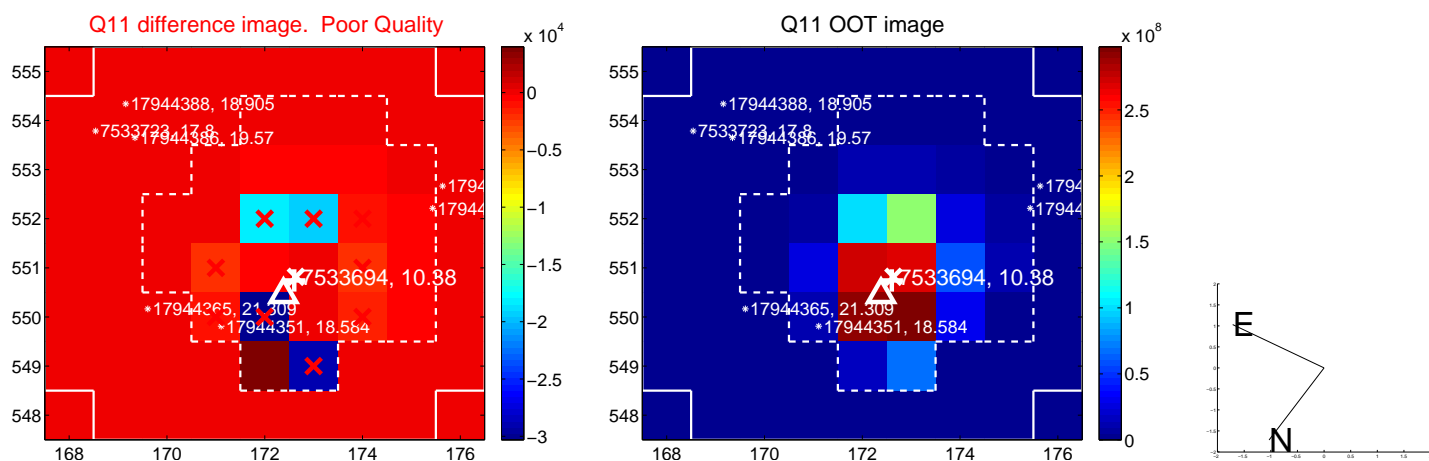
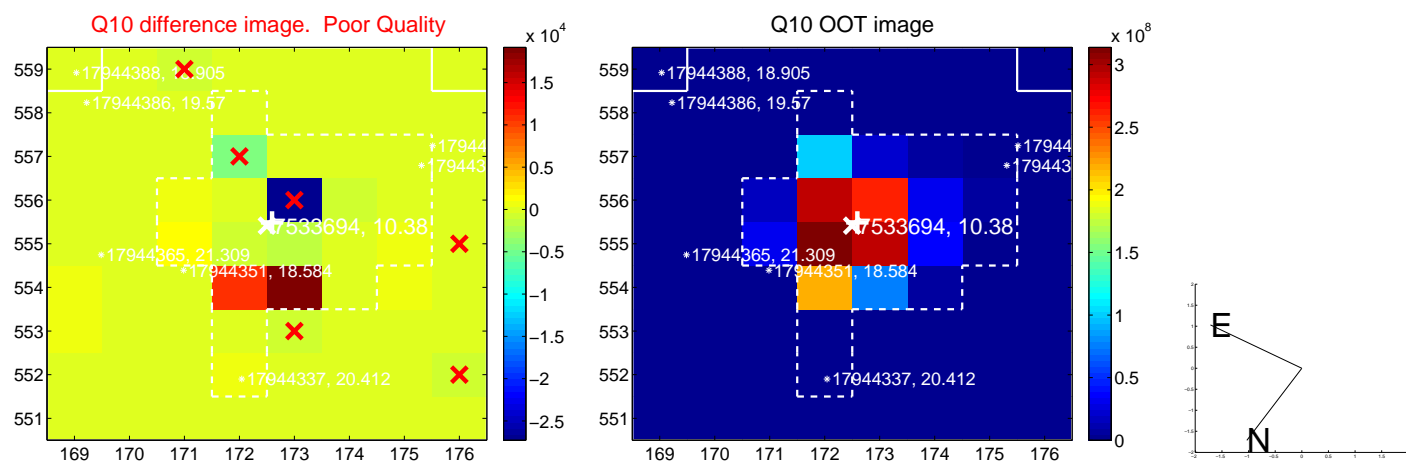
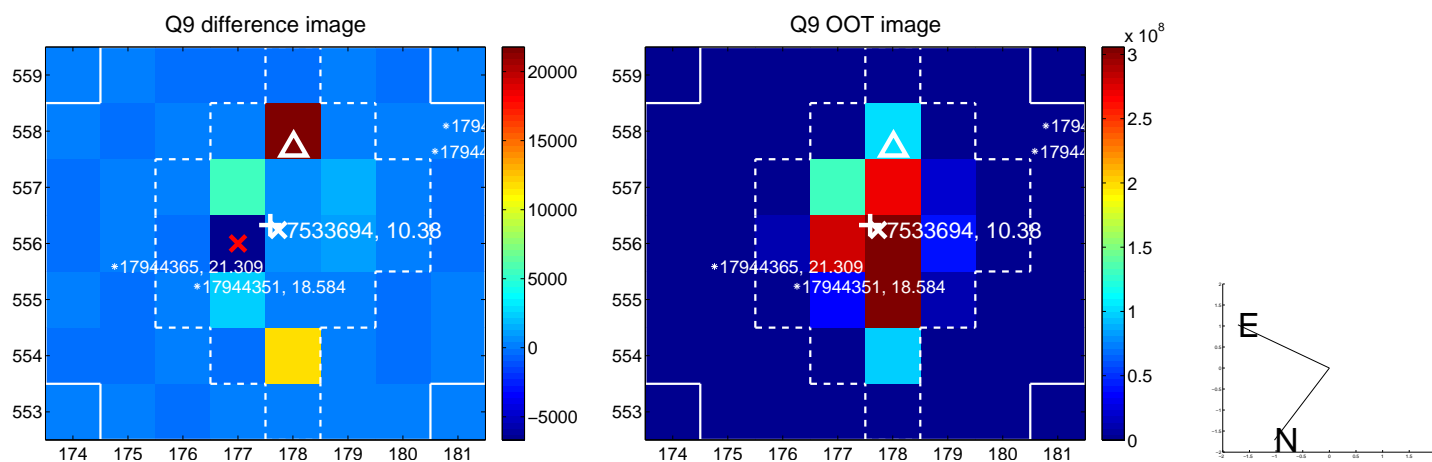
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



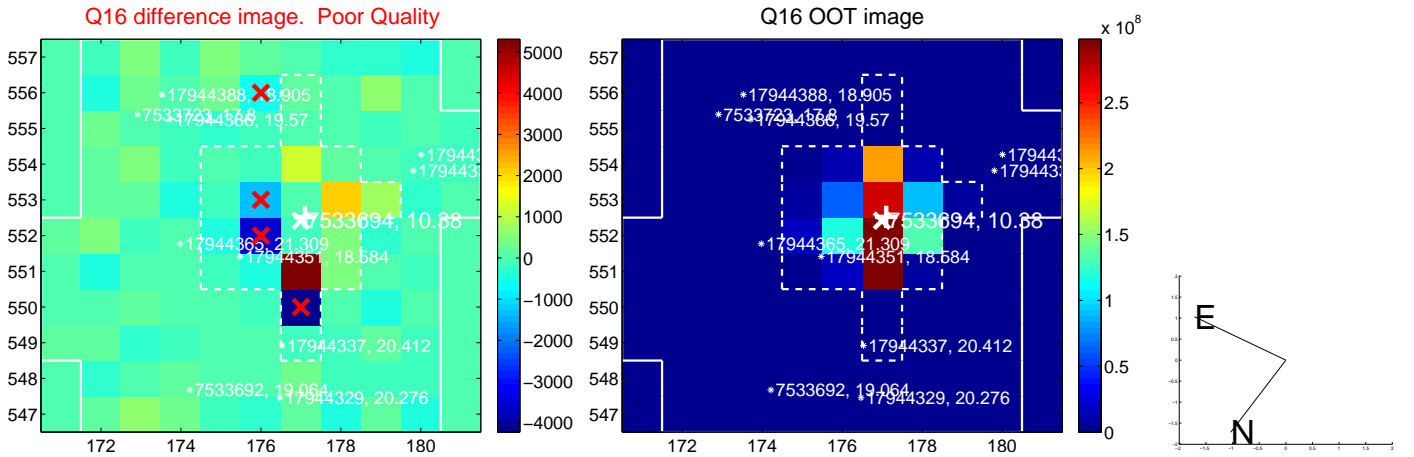
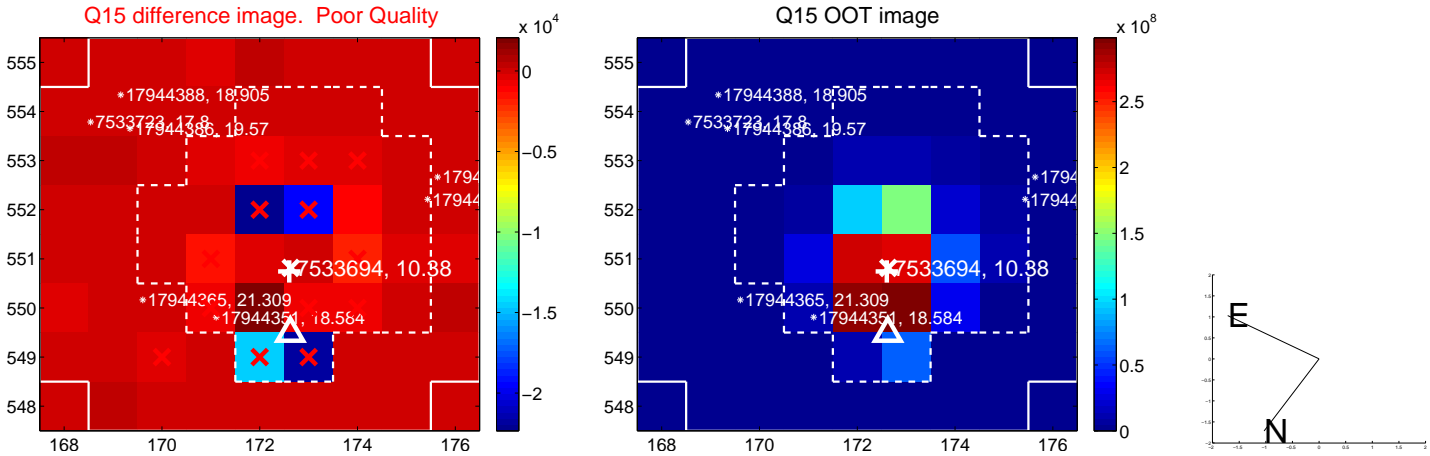
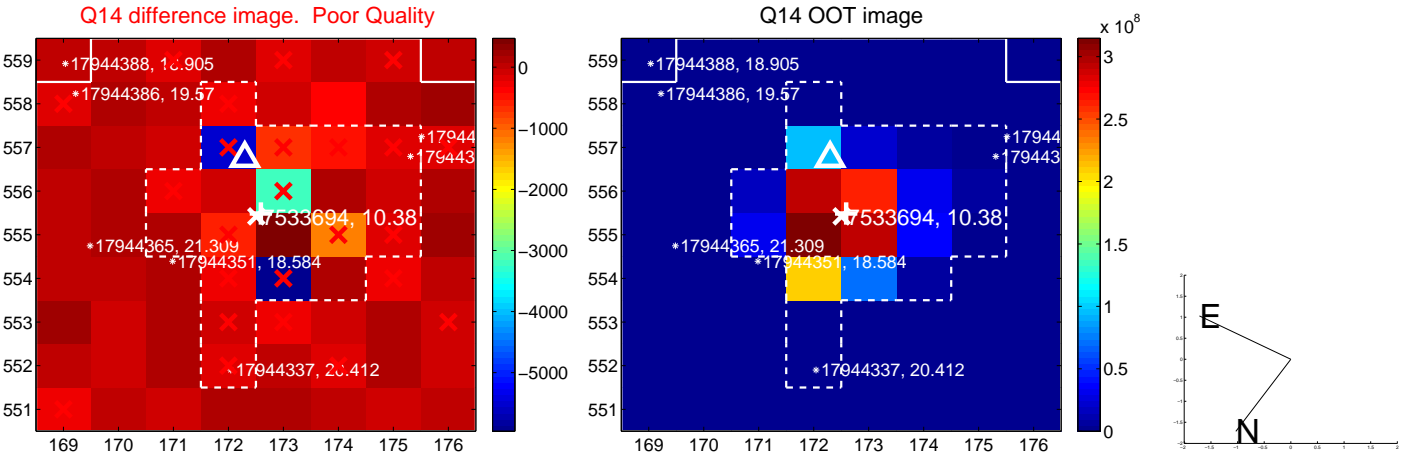
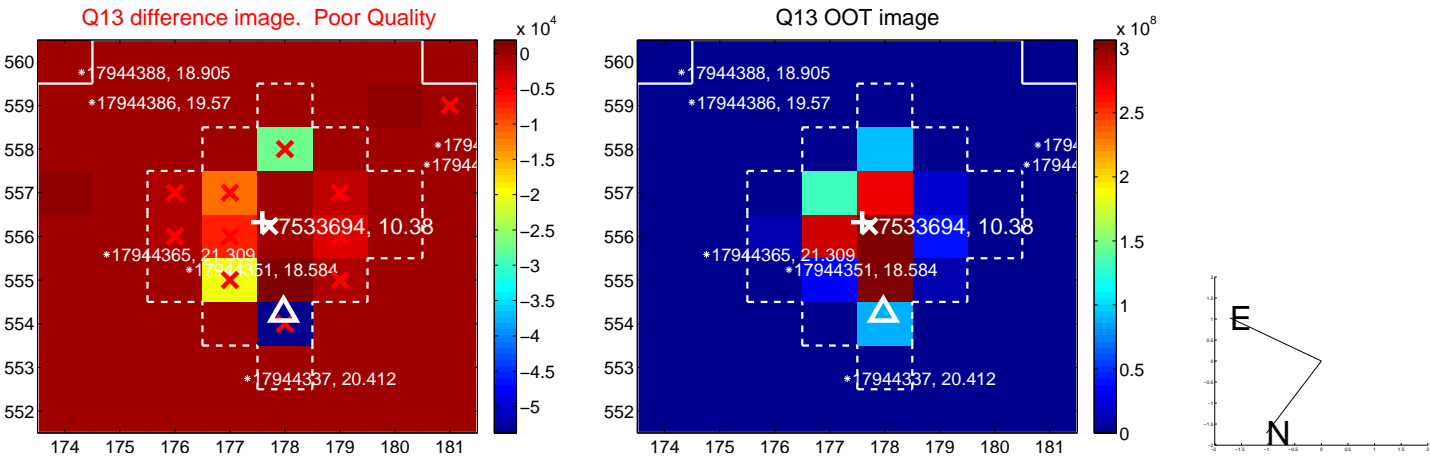
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



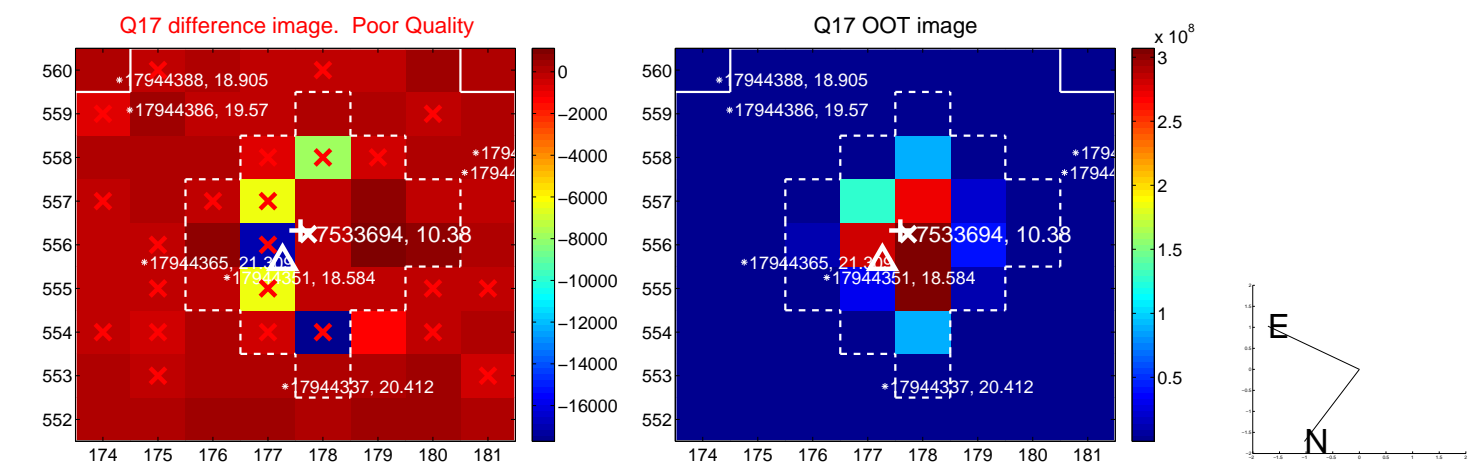
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



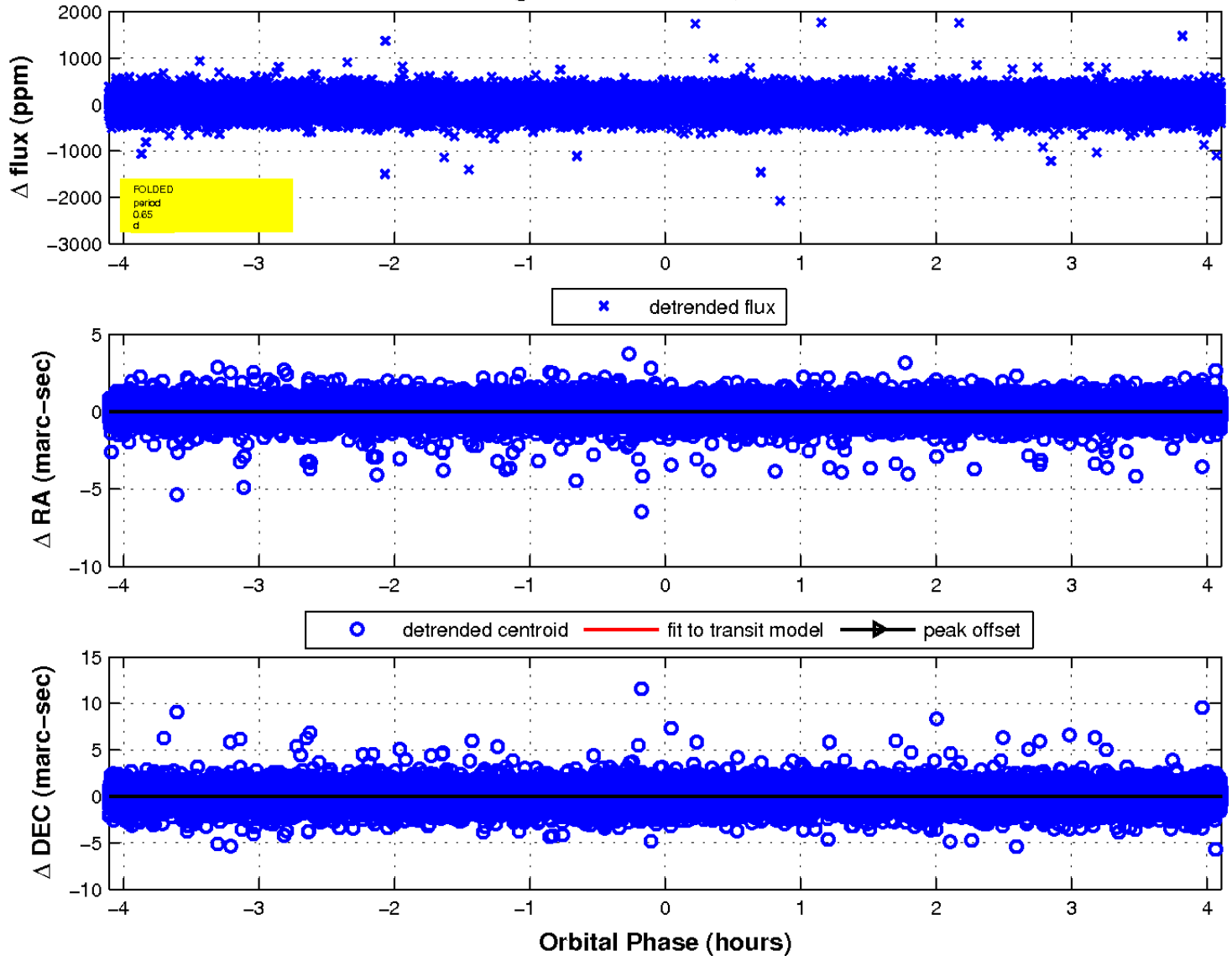
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

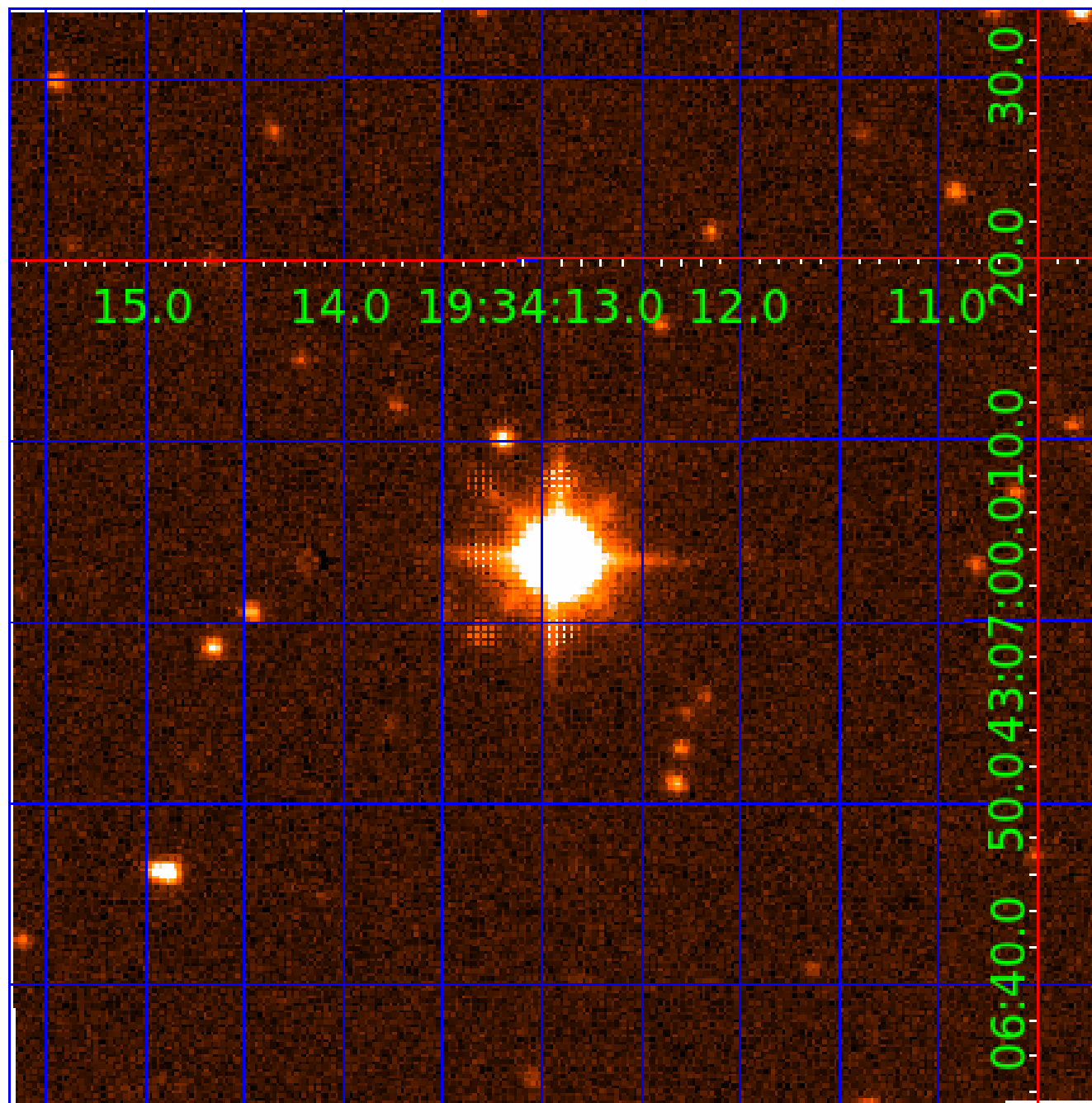


fluxWeightedCentroids, Planet 3 of 4



UKIRT Image

Declination



KIC 007533694

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})
007533694-01	OBS	No	0.588188	132.076930	48.2	1.499	13.7	18.4	3.02	8076	2.25	109322.27
007533694-02	OBS	No	0.588183	131.651482	40.4	1.454	12.3	15.6	3.02	8076	1.95	109323.51
007533694-03	OBS	No	0.650420	131.766315	14.2	1.370	10.5	2.5	3.02	8076	1.22	95602.87
007533694-04	OBS	No	0.649176	131.987964	19.0	0.514	9.1	2.3	3.02	8076	1.41	95847.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007533694-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
007533694-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—SAME_NTL_PERIOD—CENT_SATURATED
007533694-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
007533694-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_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.

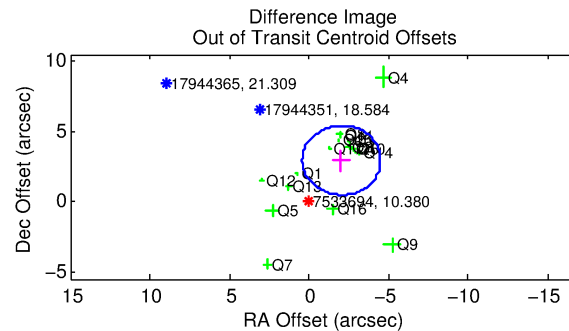
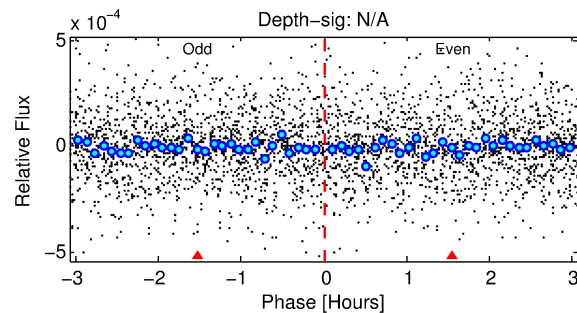
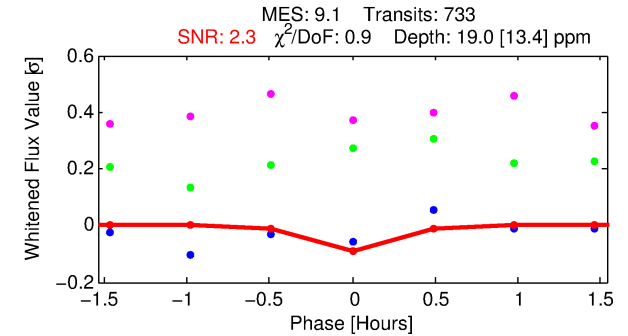
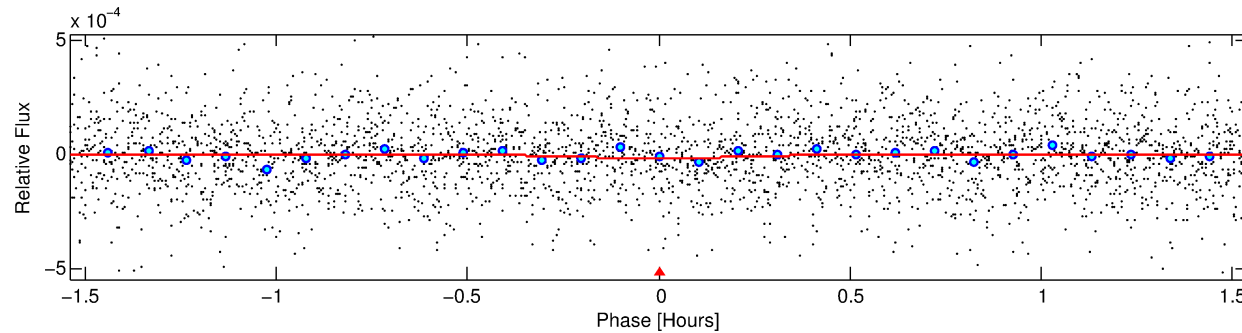
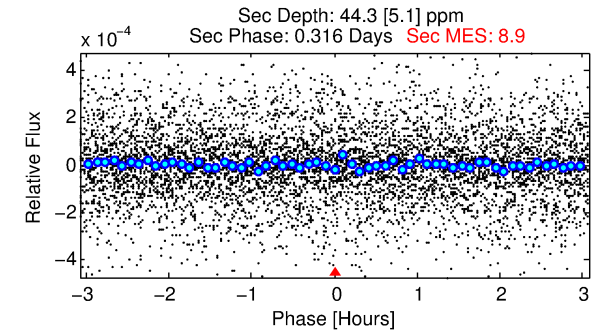
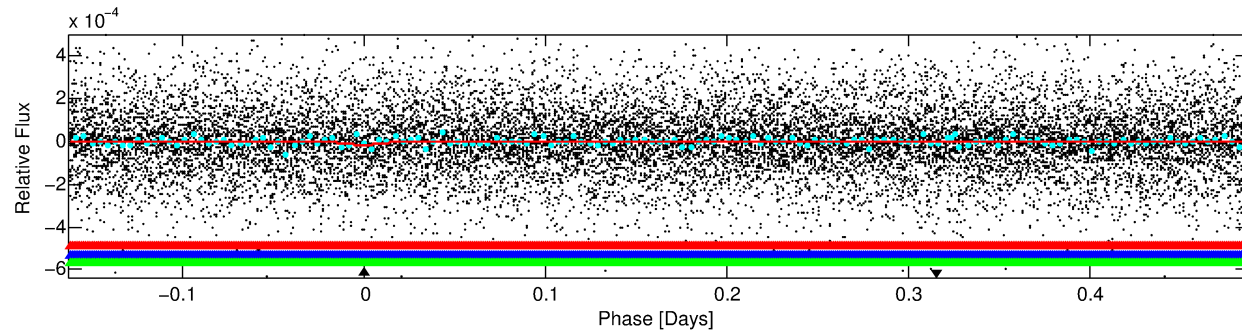
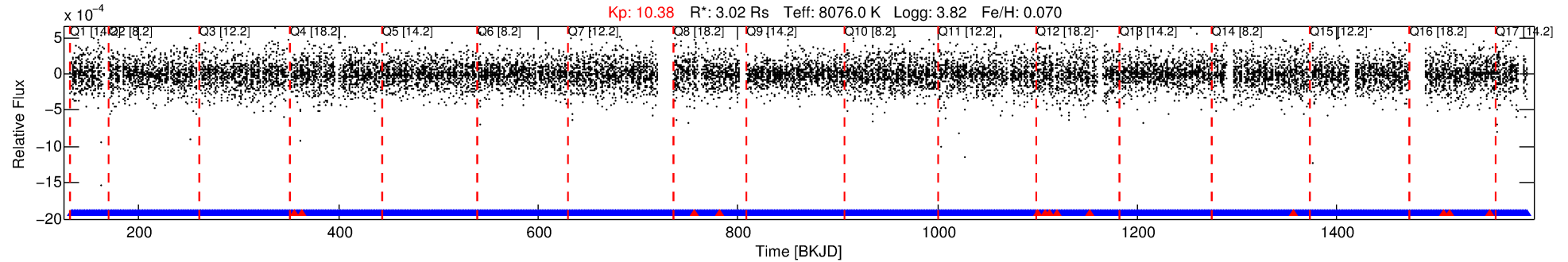
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007533694-04

No Significant Match Found

DV One-Page Summary

KIC: 7533694 Candidate: 4 of 4 Period: 0.649 d



DV Fit Results:

Period = 0.64918 [0.00005] d
Epoch = 131.9880 [0.0055] BKJD
Rp/R* = 0.0043 [0.0040]
a/R* = 8.46 [41.68]
b = 0.50 [7.64]
Seff = 95847.37 [59896.16]
Teff = 4487 [701] K
Rp = 1.41 [1.43] Re
a = 0.0190 [0.0072] AU
Ag = 4.41 [8.65] [0.39σ]
Teffp = 10055 [4707] K [1.17σ]

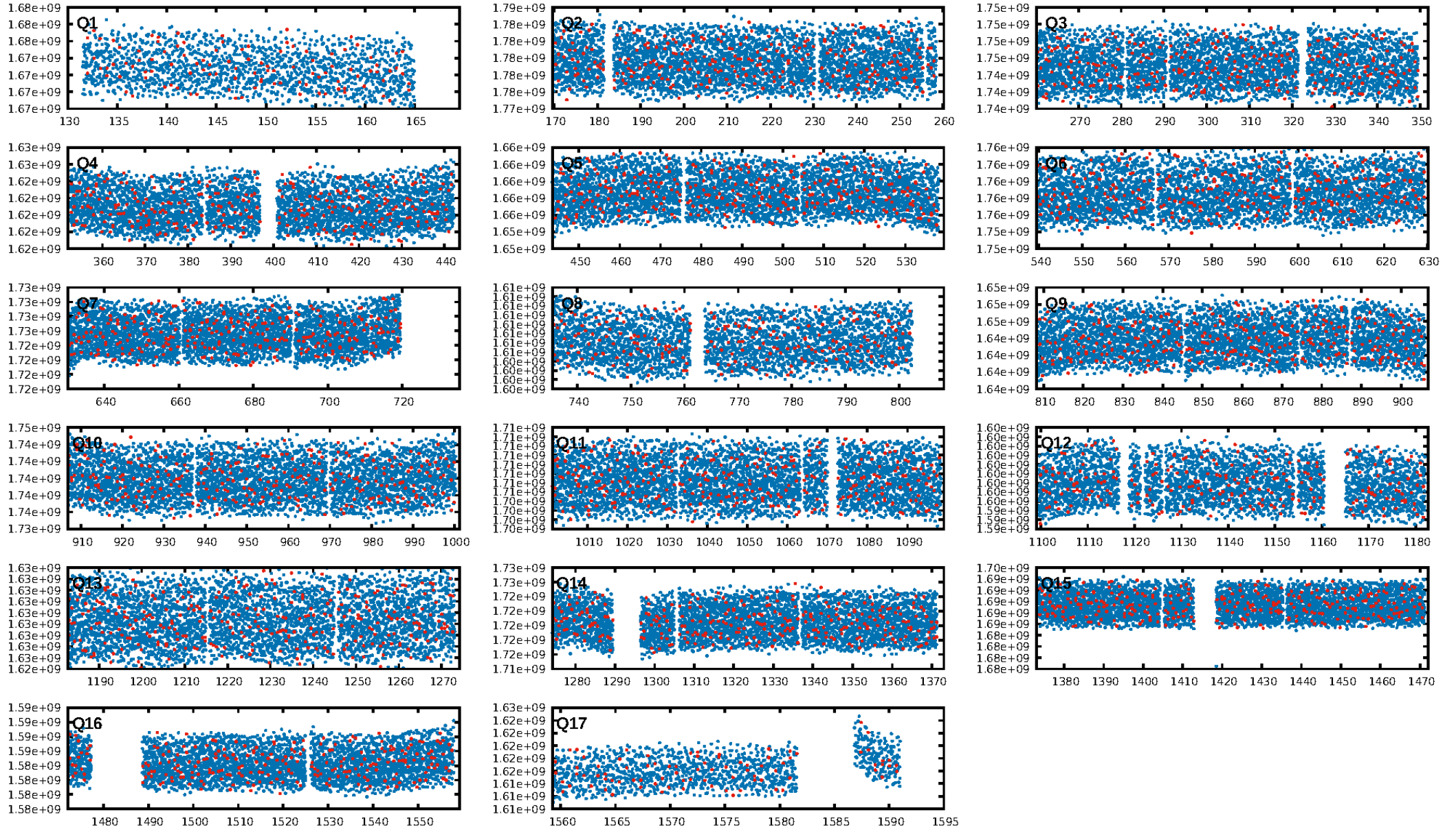
DV Diagnostic Results:

ShortPeriod-sig: 64.4% [0.92σ]
LongPeriod-sig: 1.6% [0.02σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.51e-15
RollingBand-fgt: 0.98 [692/706]
GhostDiagnostic-chr: 2.931
Centroid-sig: 0.1%
Centroid-so: 2.001 arcsec [2.02σ]
OotOffset-rm: 3.593 arcsec [4.36σ]
KicOffset-rm: 3.472 arcsec [4.10σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 0.00 [0/17]

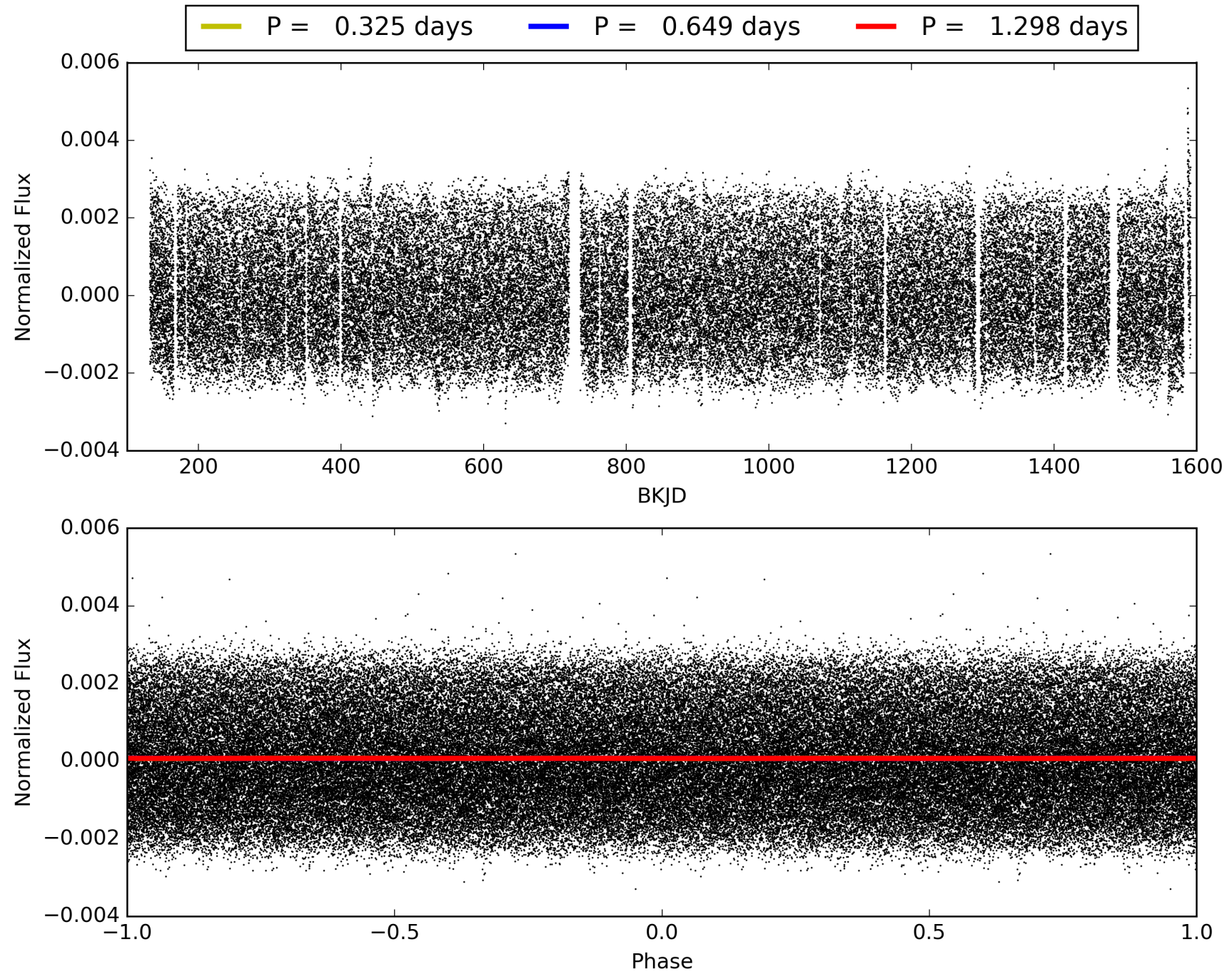
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:01:56 Z

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

TCE 007533694-04, PDC Light Curves

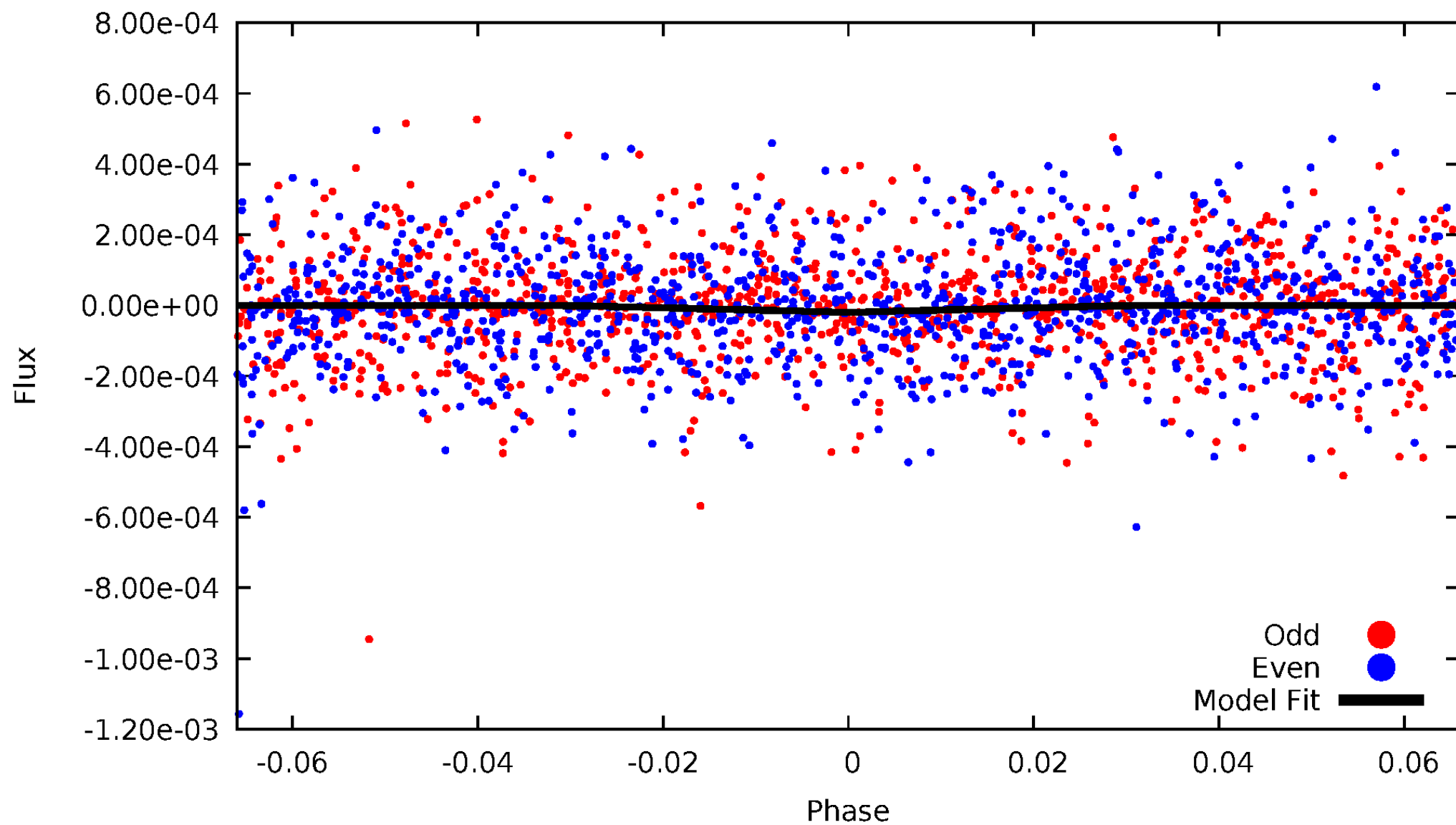


TCE 007533694-04



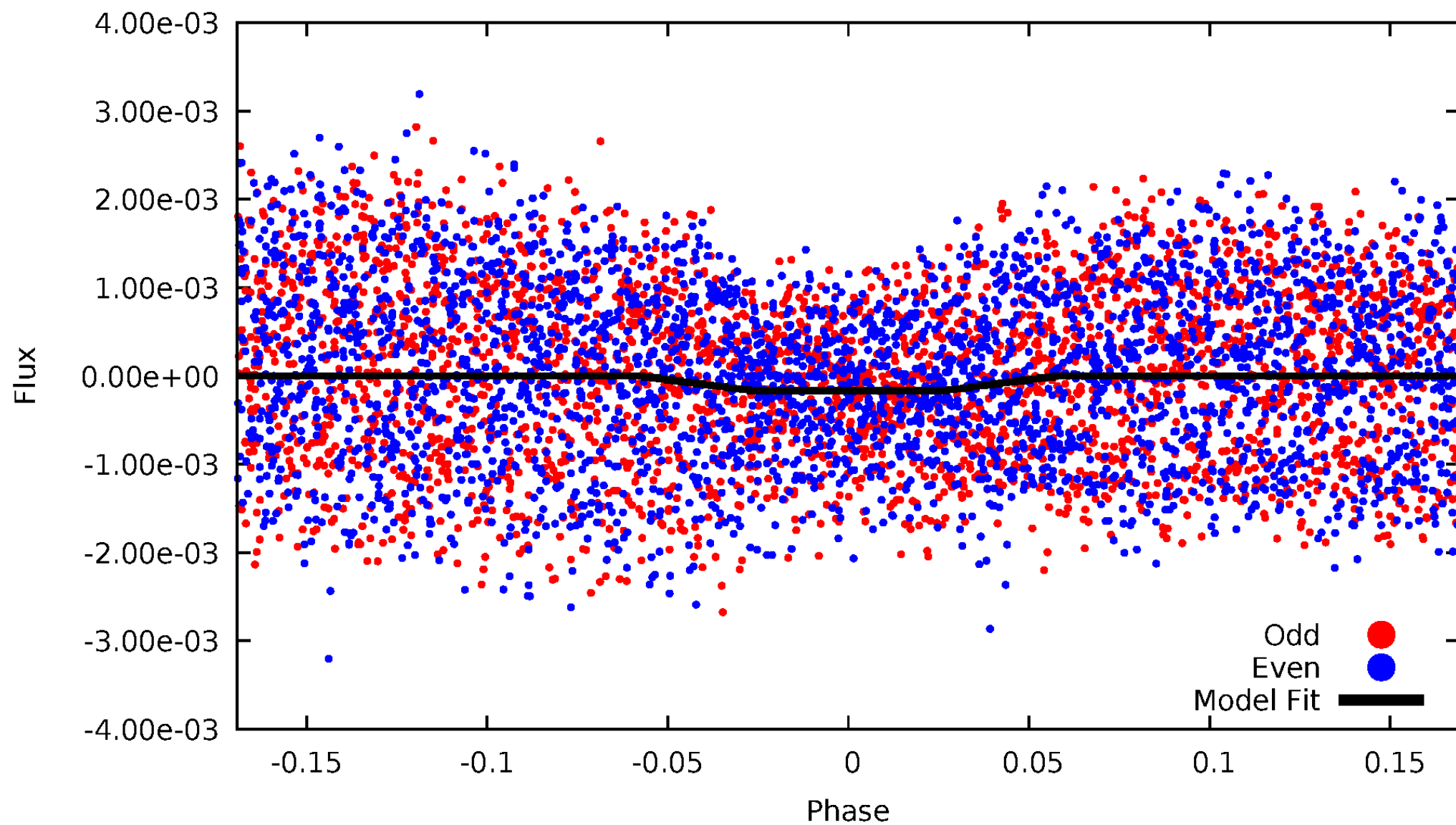
DV Odd/Even

TCE 007533694-04



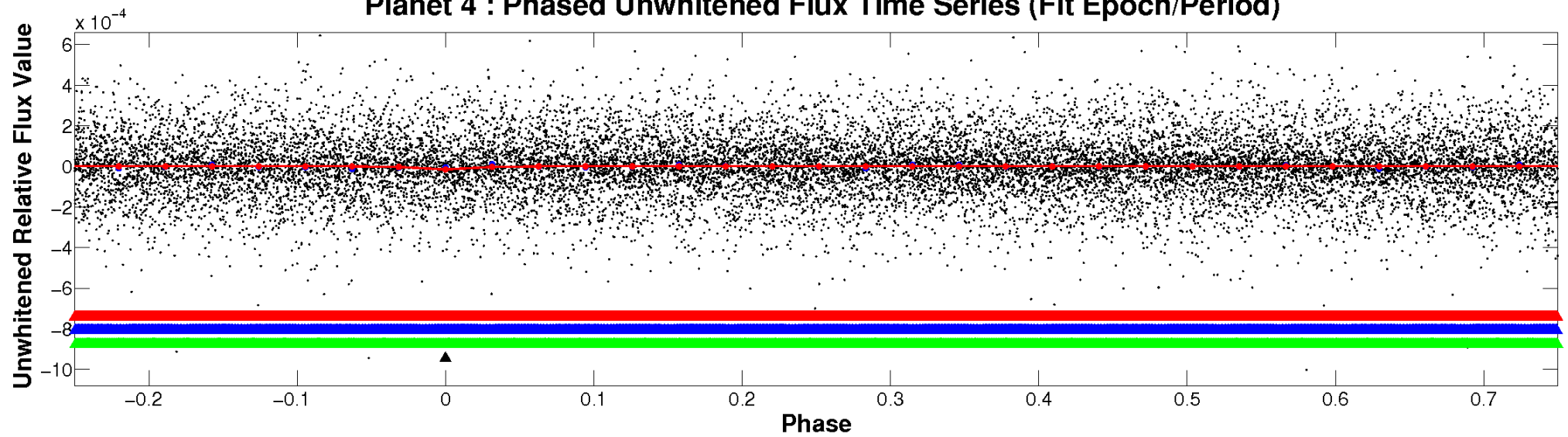
ALT Odd/Even

TCE 007533694-04

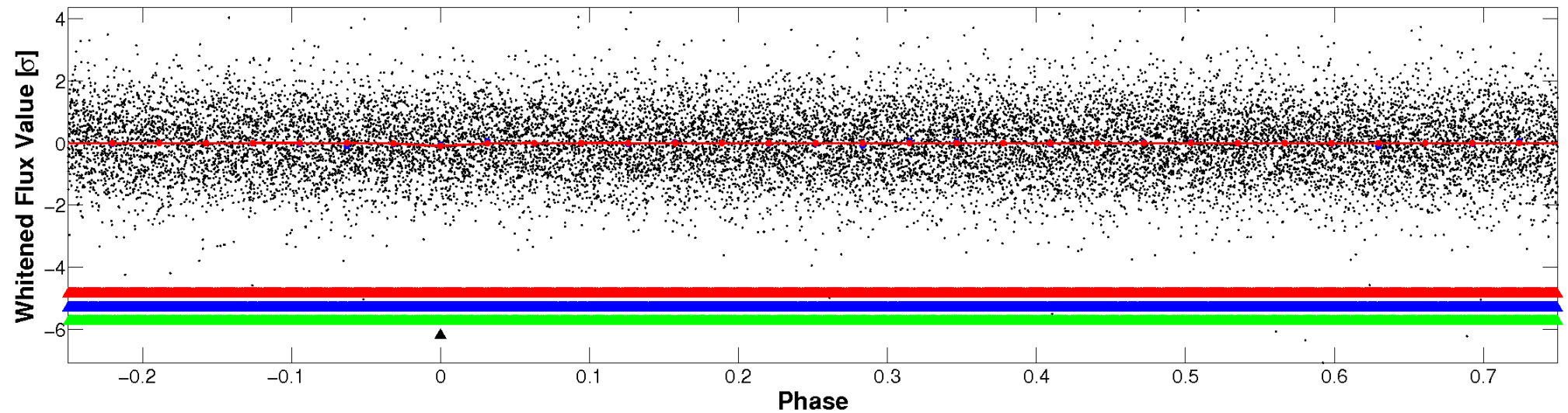


Non-Whitened Vs. Whitened Light Curve

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

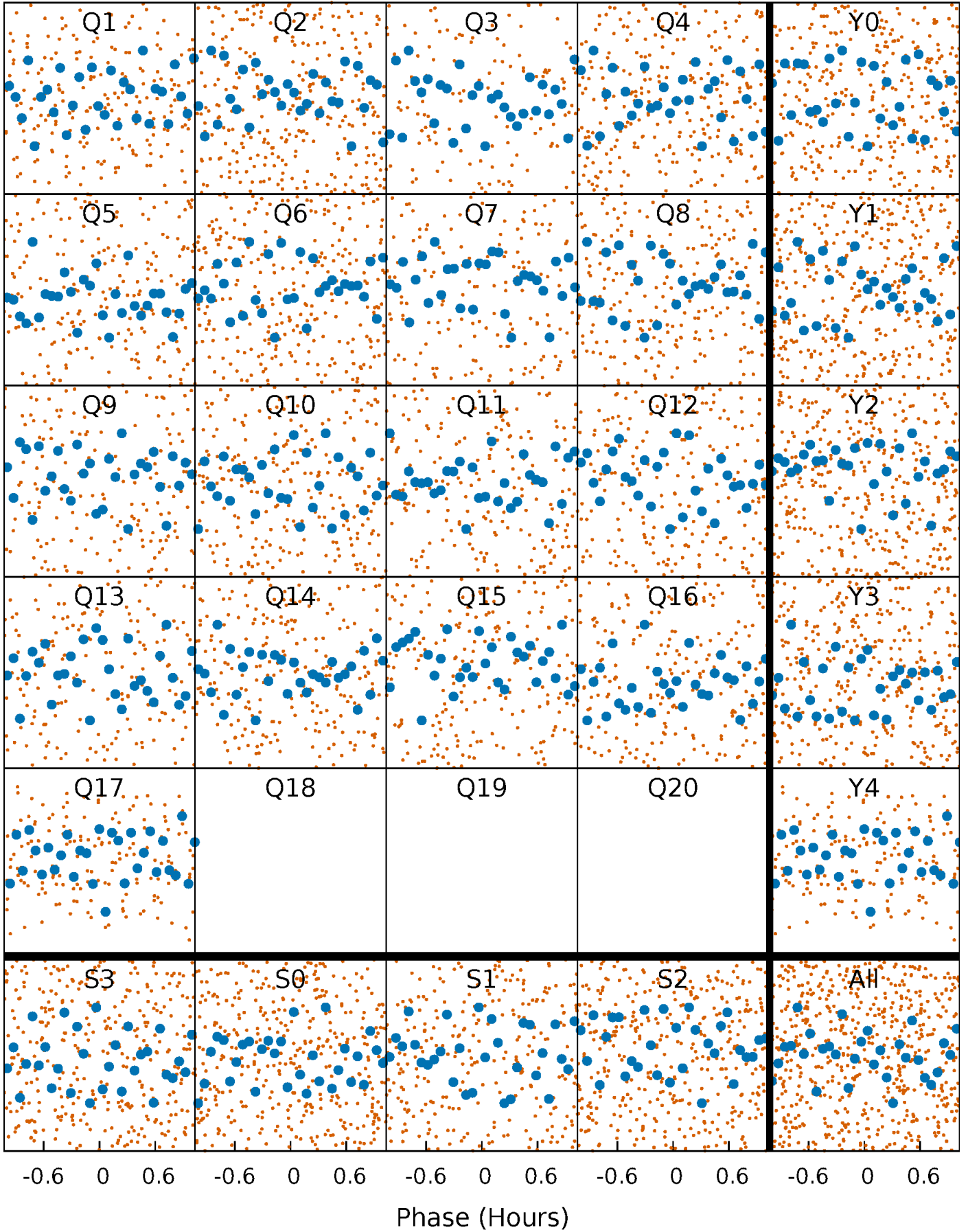


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



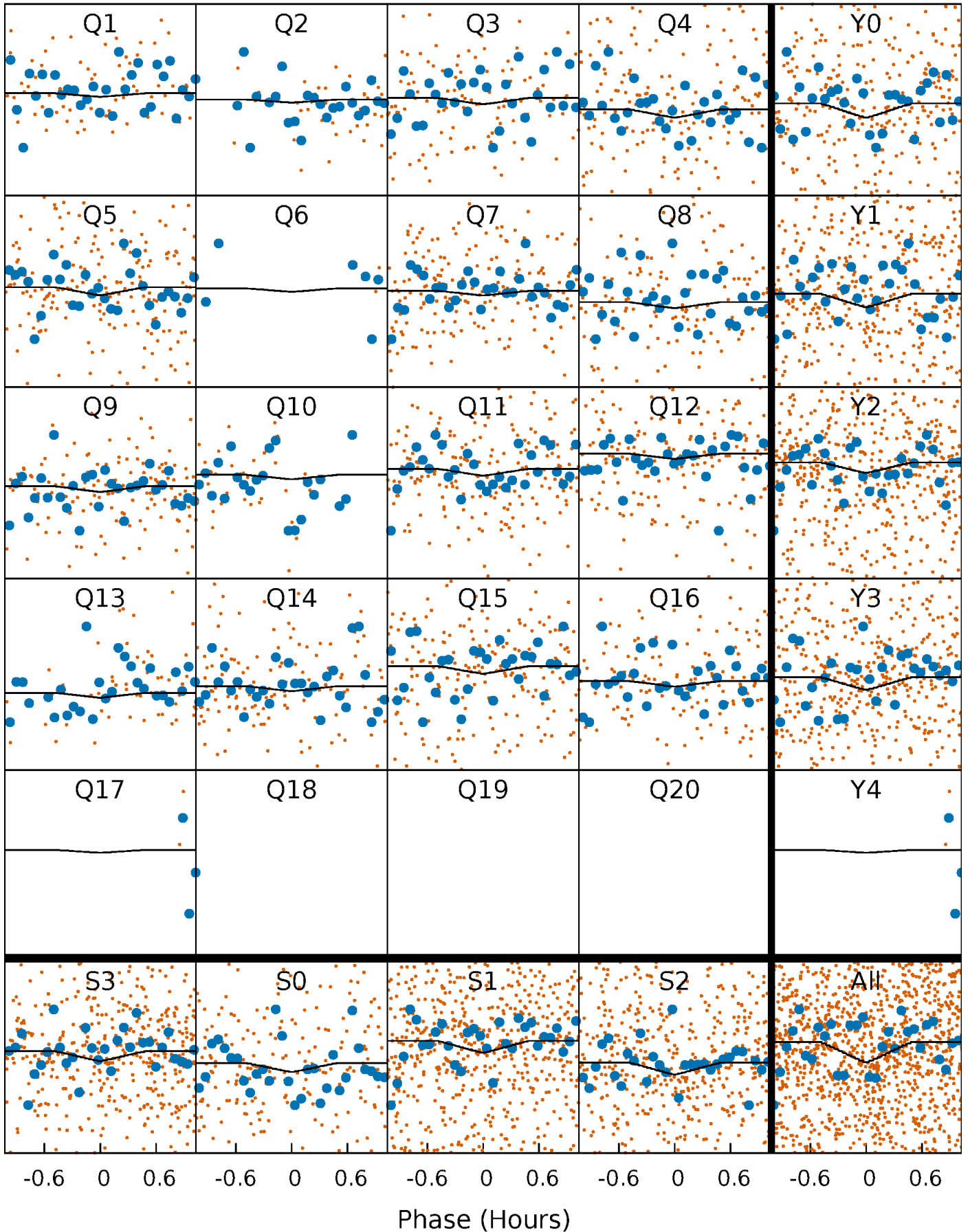
PDC Quarter-Phased Transit Curves

TCE 007533694-04 P= 0.649176 Days $T_0=131.987964$ (BKJD)



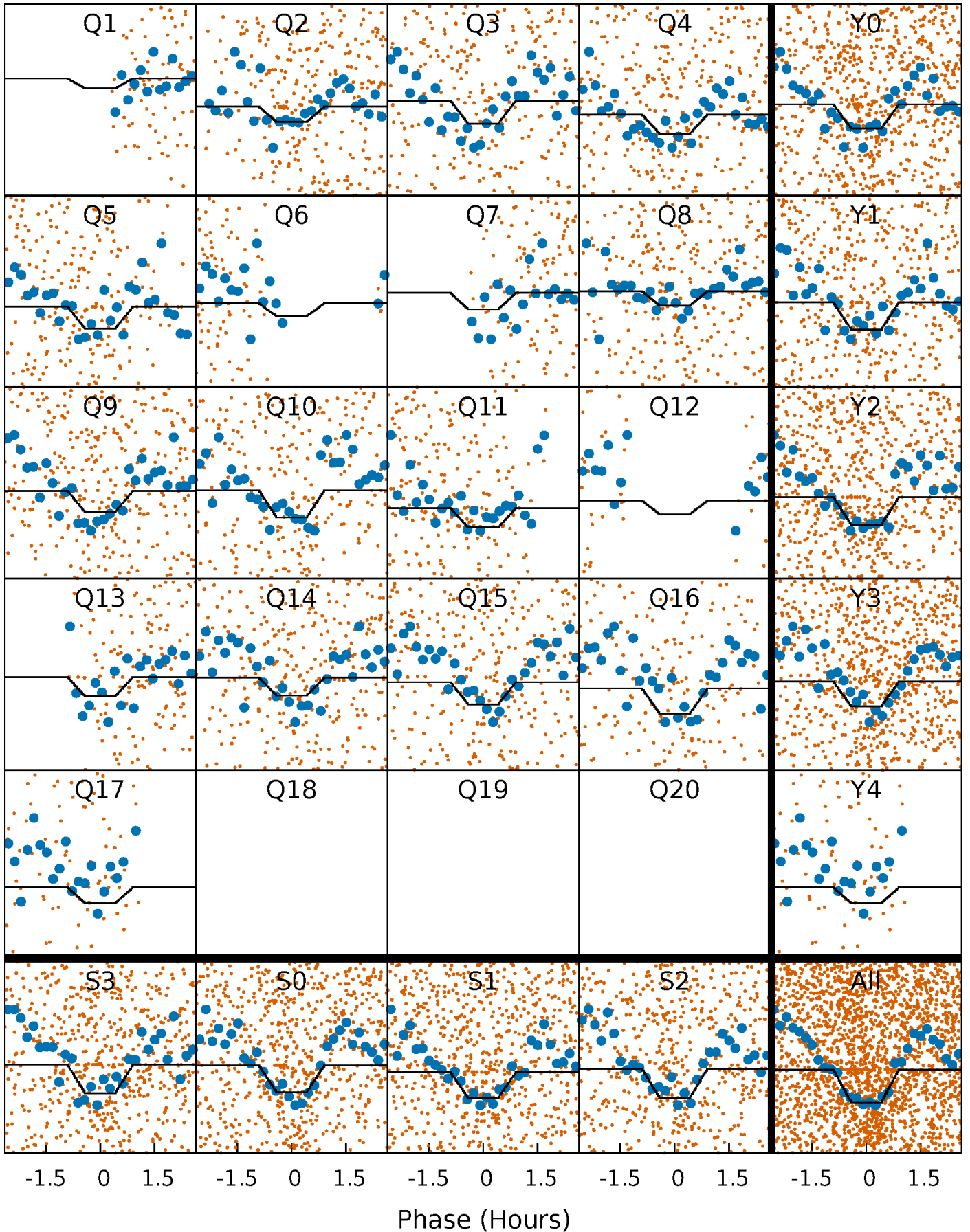
DV Quarter-Phased Transit Curves

TCE 007533694-04 $P = 0.649176$ Days $T_0 = 131.987964$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

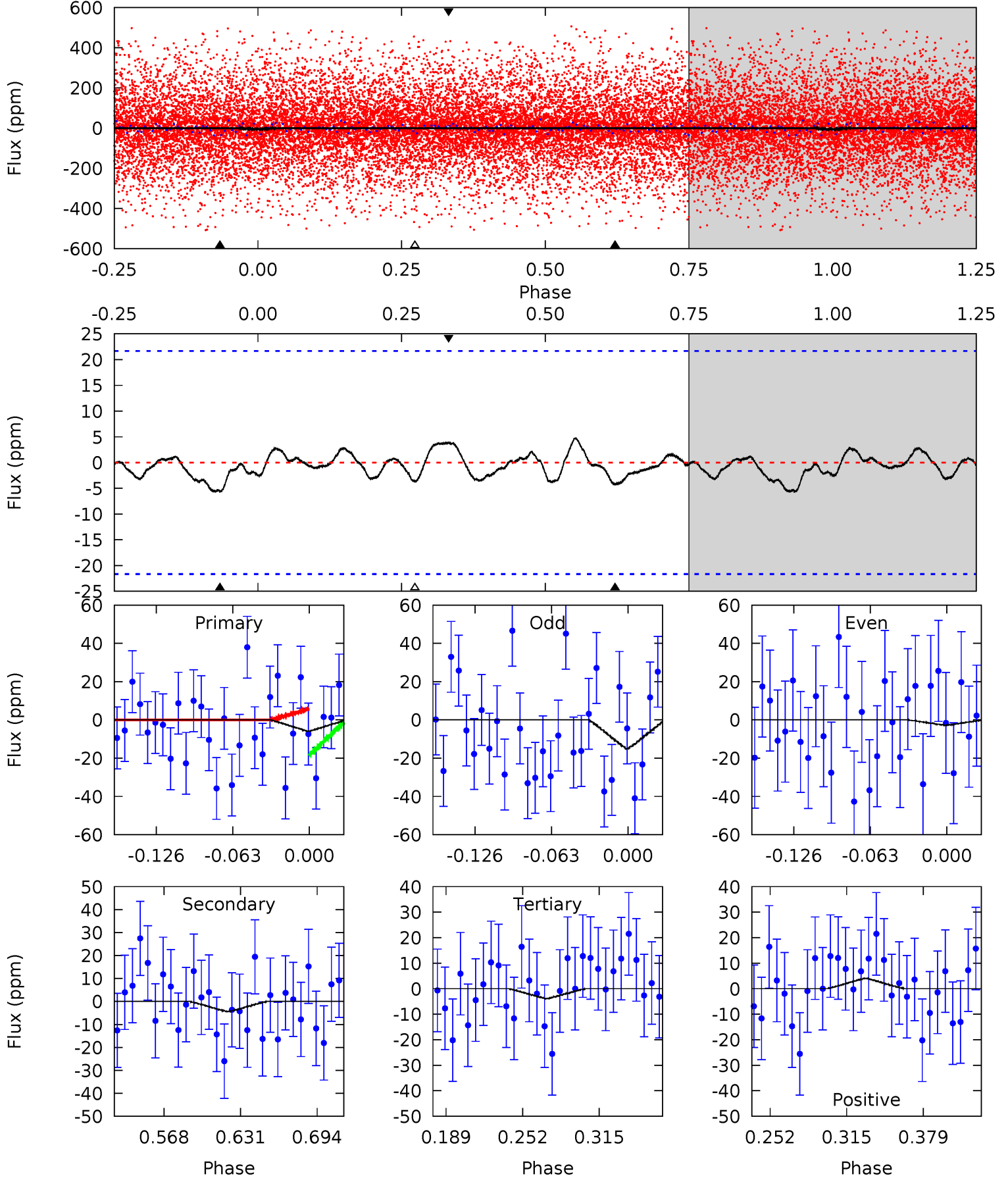
TCE 007533694-04 P= 0.651215 Days $T_0=131.826473$ (BKJD)



DV Model-Shift Uniqueness Test

007533694-04, P = 0.649176 Days, E = 131.338788 Days

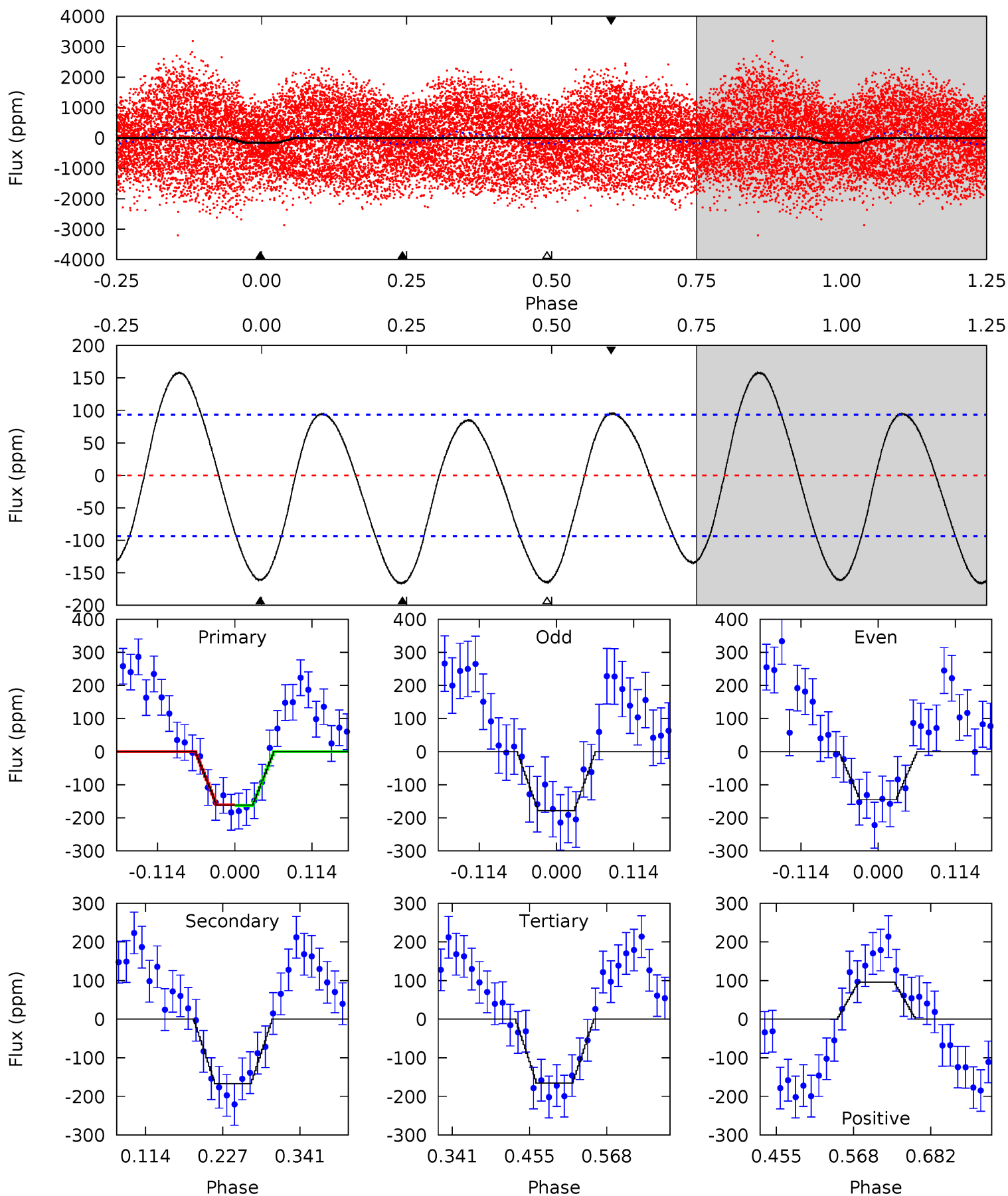
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.25	0.95	0.83	0.87	4.66	1.86	0.43	0.43	0.38	0.12	0.08	1.32	0.59	0.45	1.36



Alt Model-Shift Uniqueness Test

007533694-04, P = 0.651215 Days, E = 131.826473 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.84	8.09	8.01	4.64	4.54	1.58	4.70	-0.18	3.19	0.08	3.45	0.80	1.64	0.49	0.06



Stellar Parameters For KIC 007533694

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8076^{+223}_{-335}	$3.817^{+0.352}_{-0.110}$	$0.070^{+0.250}_{-0.450}$	$3.017^{+0.704}_{-1.206}$	$2.178^{+0.318}_{-0.590}$	$0.112^{+0.305}_{-0.040}$
	+3%/-4%	+9%/-3%	+357%/-643%	+23%/-40%	+15%/-27%	+273%/-36%
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 007533694-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4 ± 5	$1.48^{+1.24}_{-0.94}$	6088^{+443}_{-620}	-3206^{+11135}_{-2041}	$0.276^{+2.088}_{-0.328}$
Alt.	-167 ± 21	$3.92^{+1.41}_{-1.43}$	6066^{+457}_{-585}	7696^{+2611}_{-1349}	$2.162^{+2.933}_{-0.983}$

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

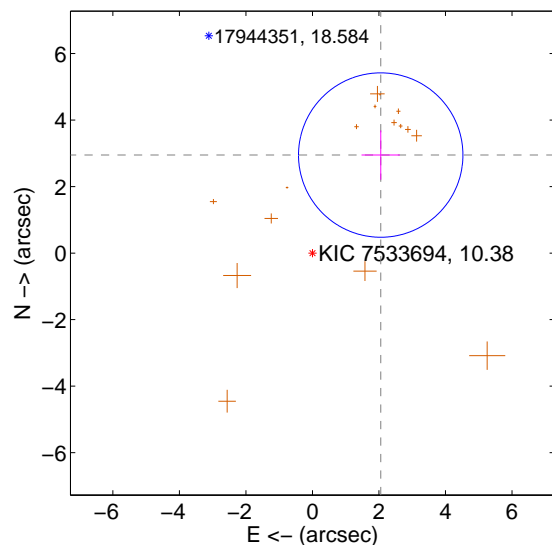
Supplemental centroid analysis for 007533694-04. **Kepler magnitude: 10.38.** Transit SNR 2.28

There are 0 quarters with good PRF difference image offsets

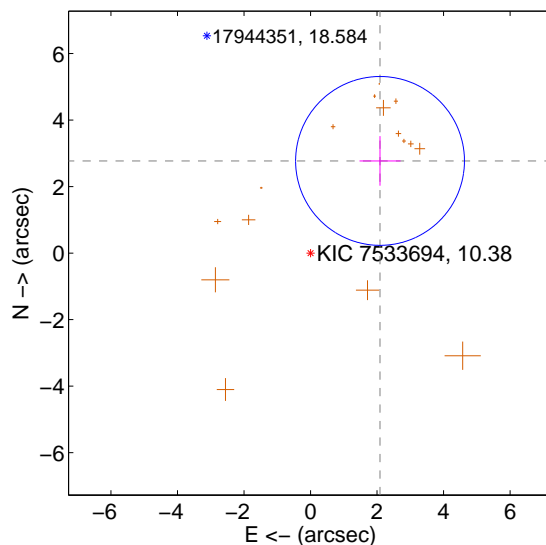
The direct PRF centroid is offset from the target star catalog position by about 0.65 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.593 ± 0.824	4.36	-2.053 ± 0.578	2.948 ± 0.742
PRF-fit source offset from KIC position	3.472 ± 0.846	4.10	-2.090 ± 0.618	2.772 ± 0.746
photometric centroid source offset	2.00 ± 0.99	2.02	-1.40 ± 0.90	-1.43 ± 1.07

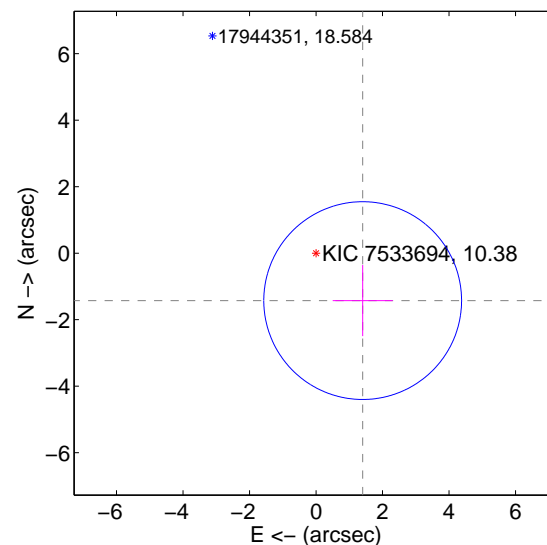
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

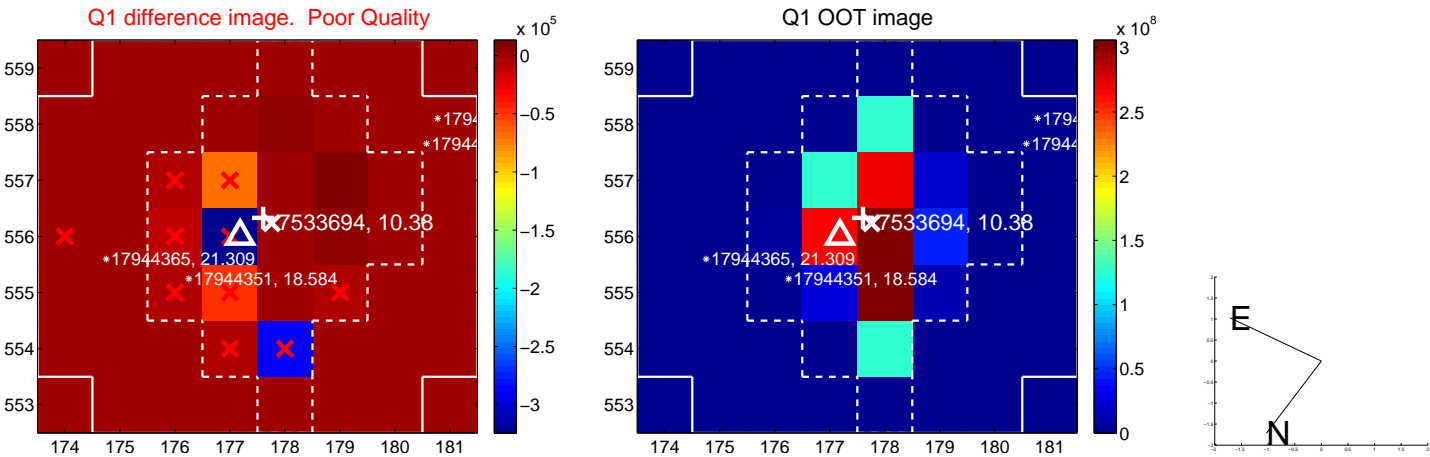


offset from photometric centroids

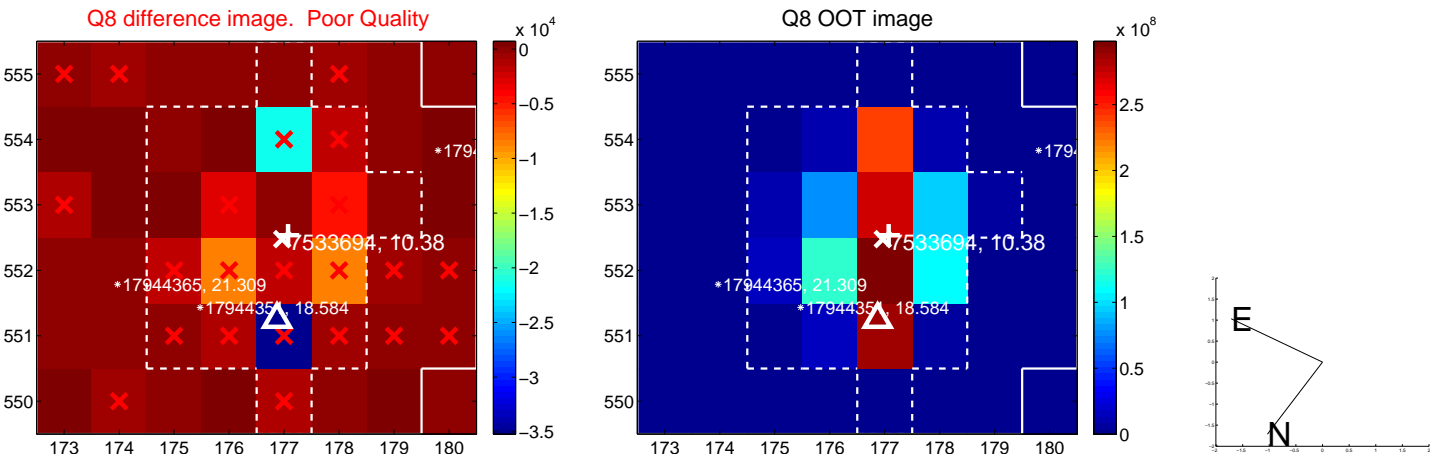
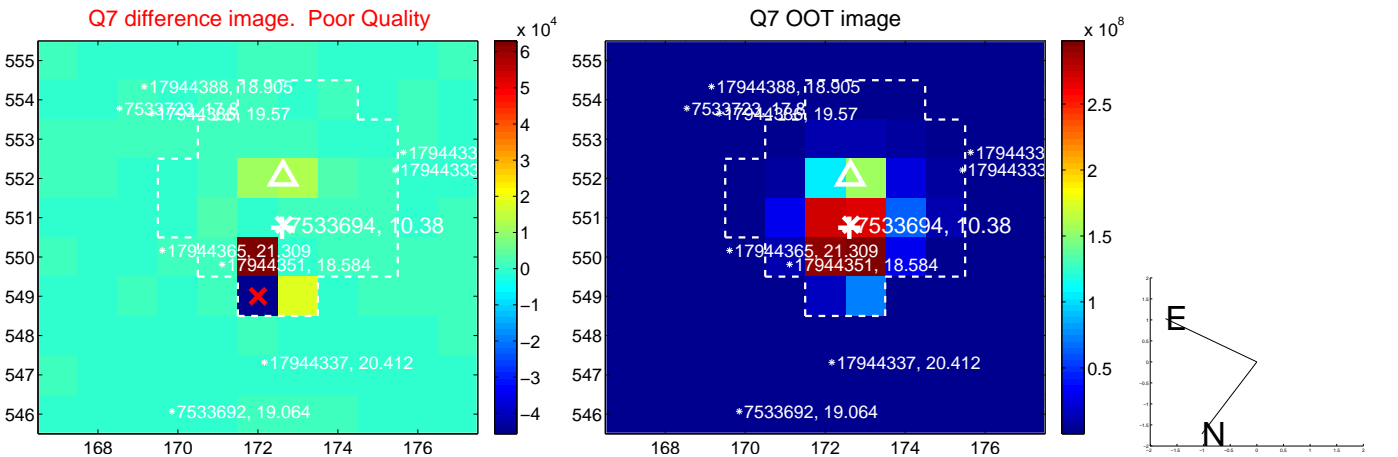
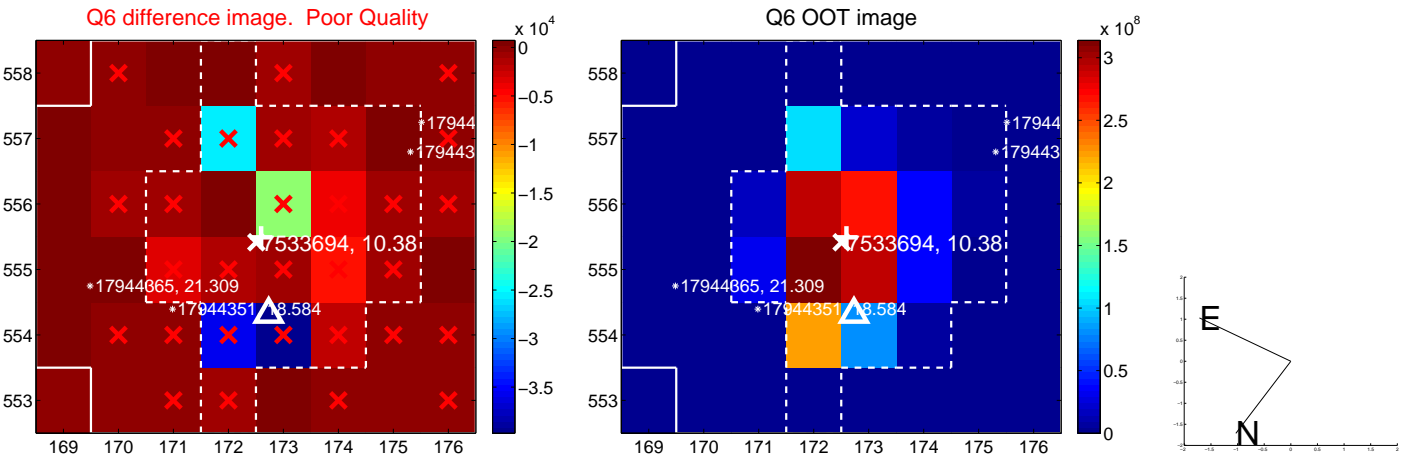
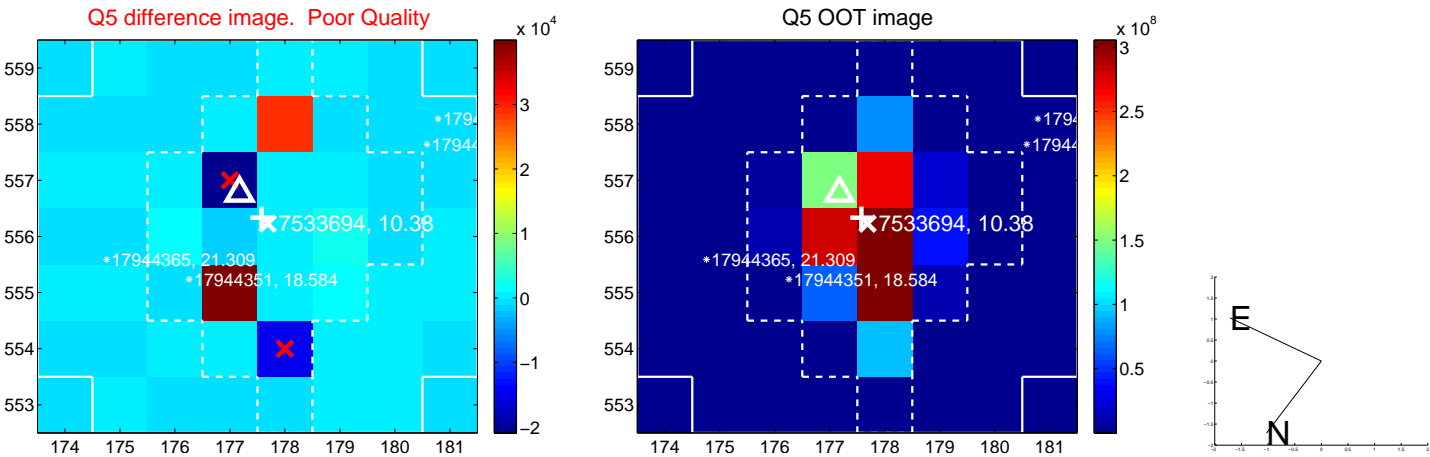


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

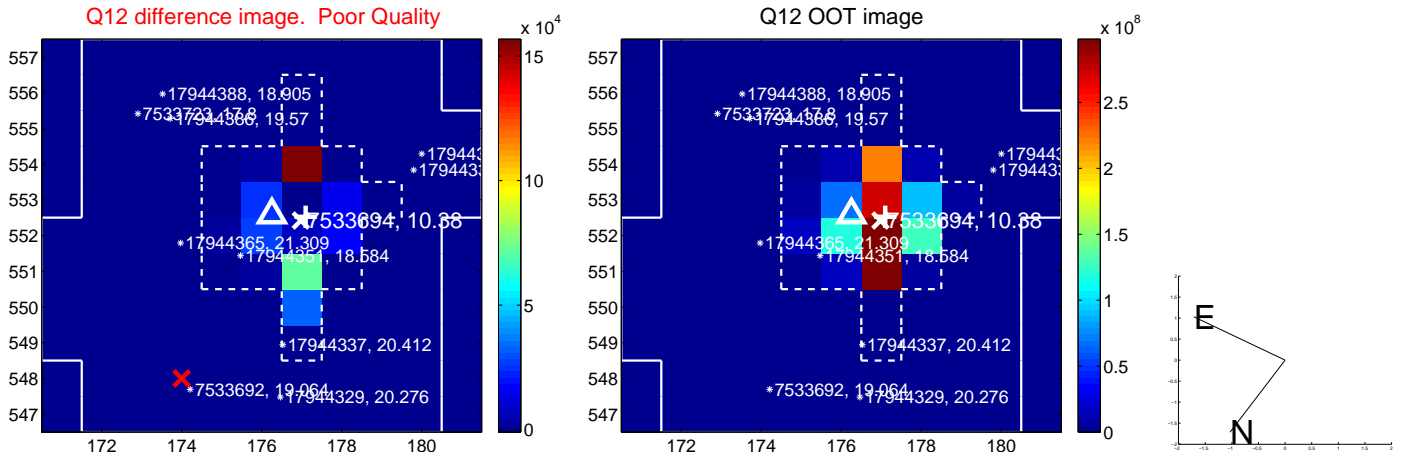
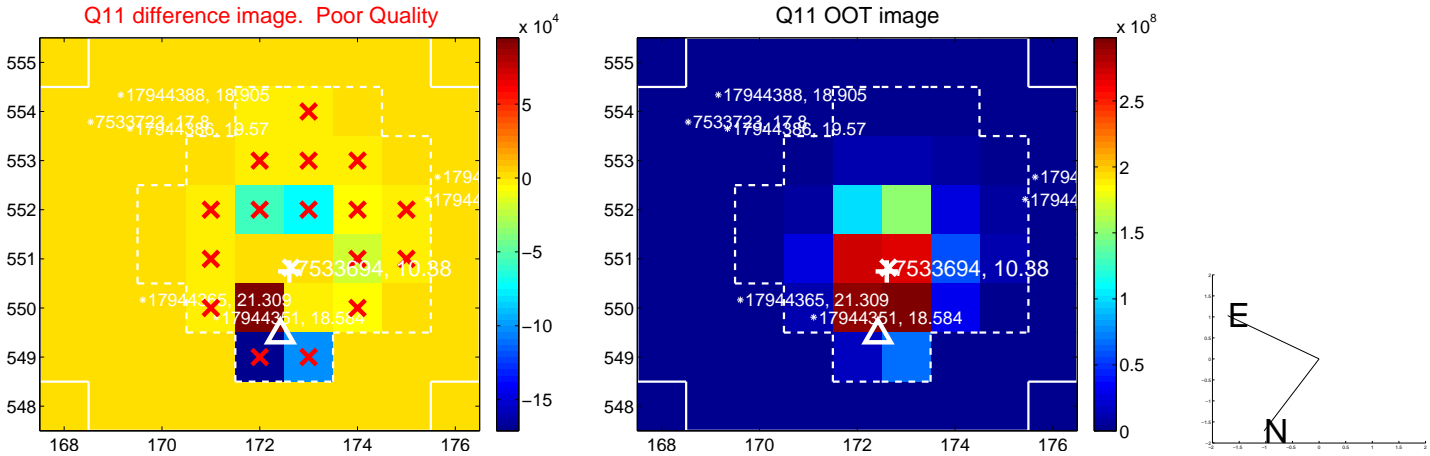
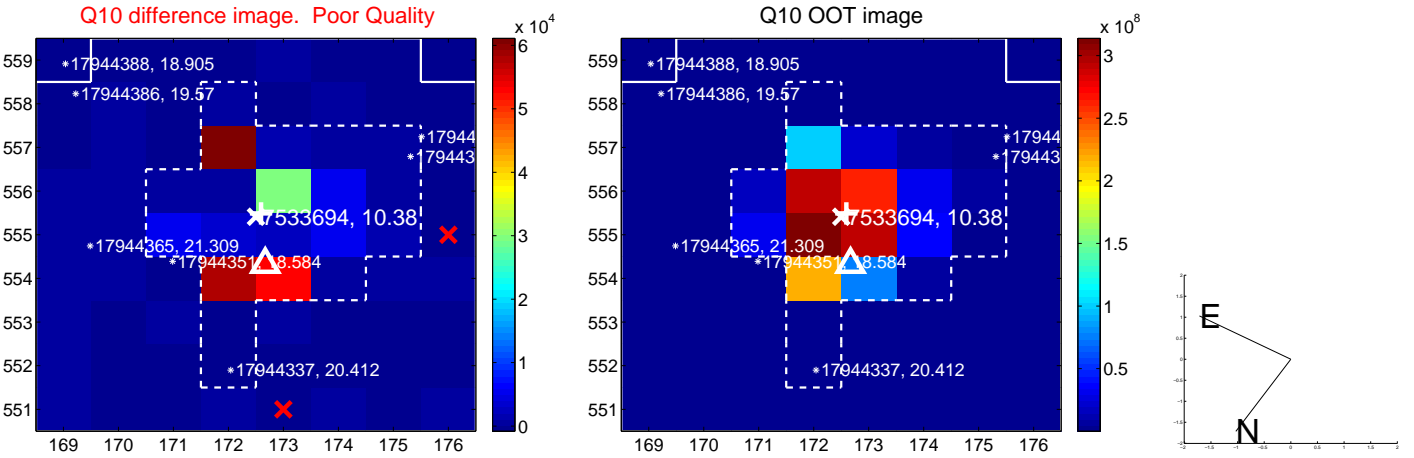
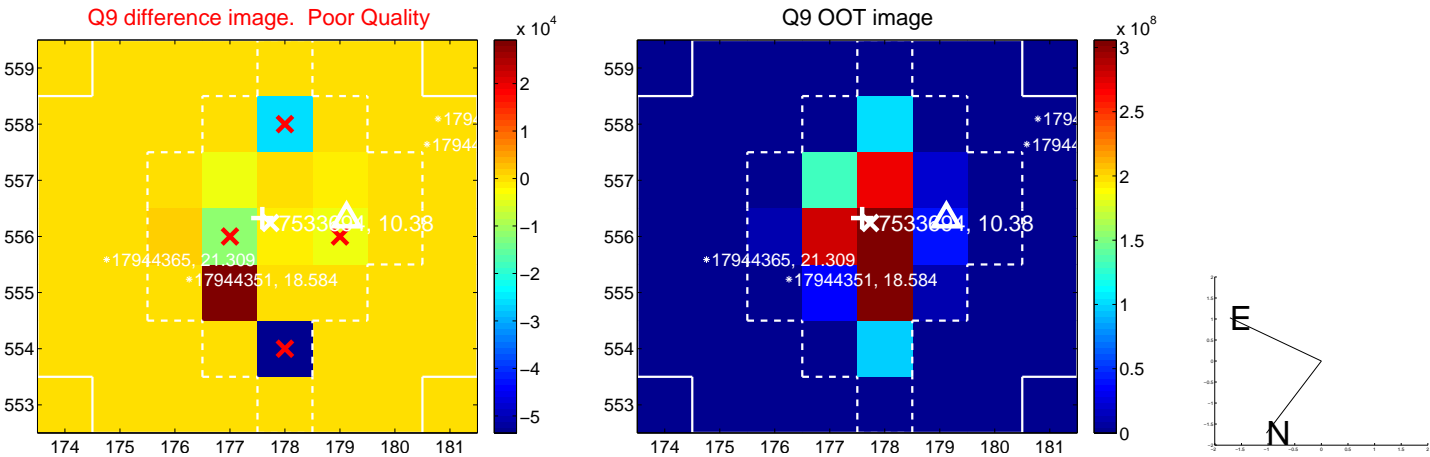
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



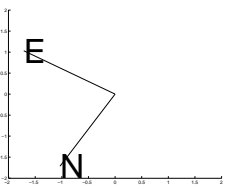
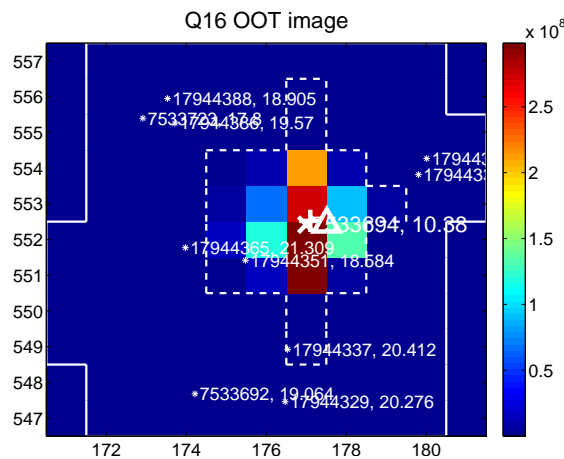
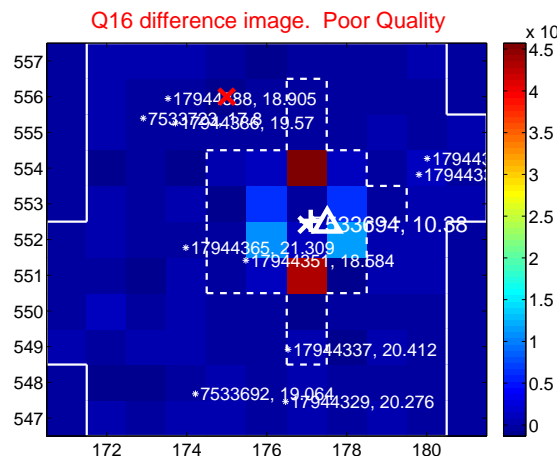
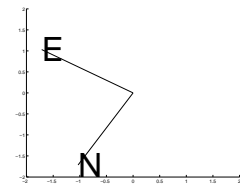
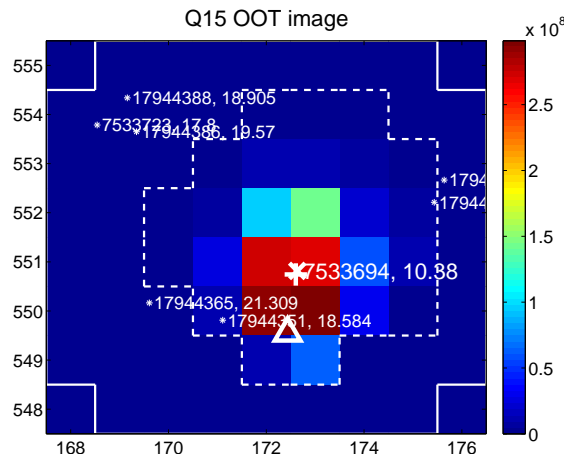
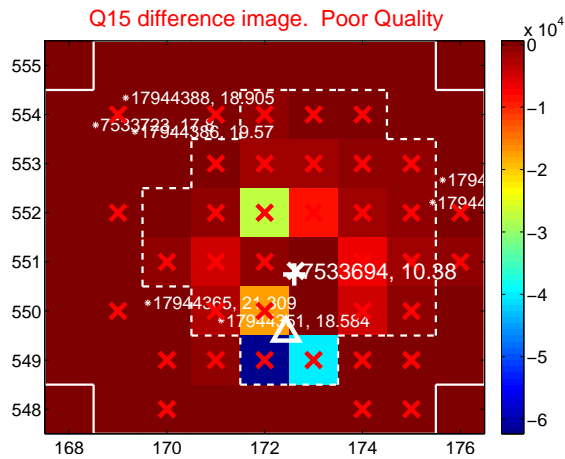
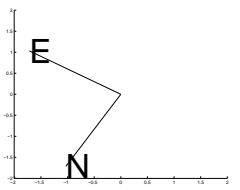
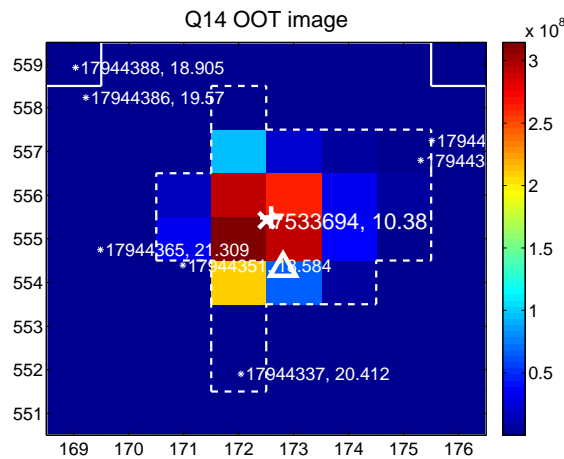
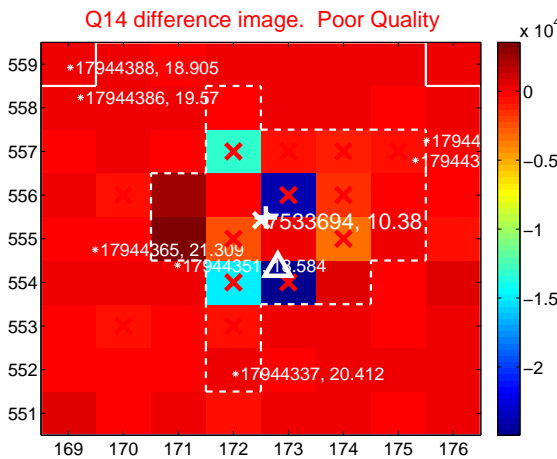
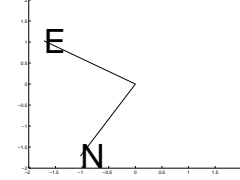
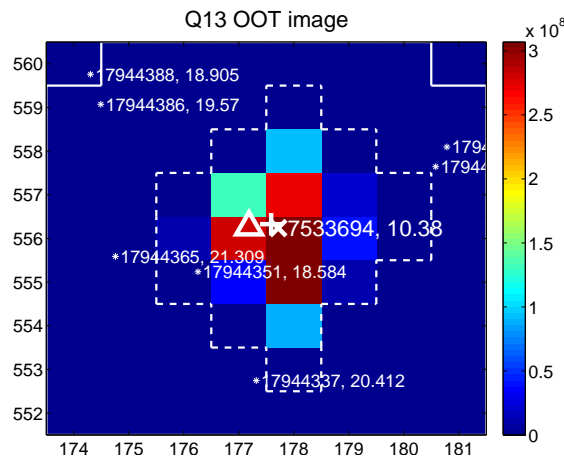
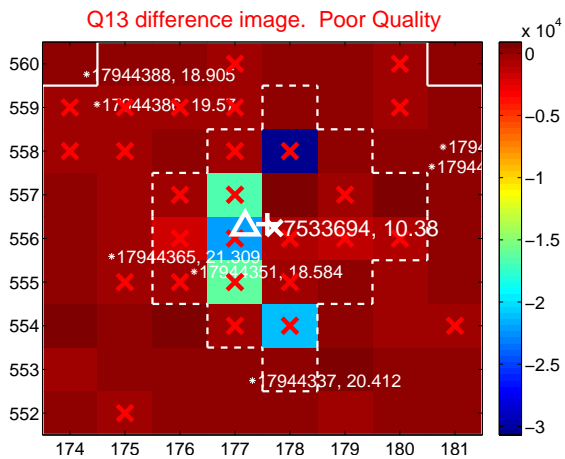
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



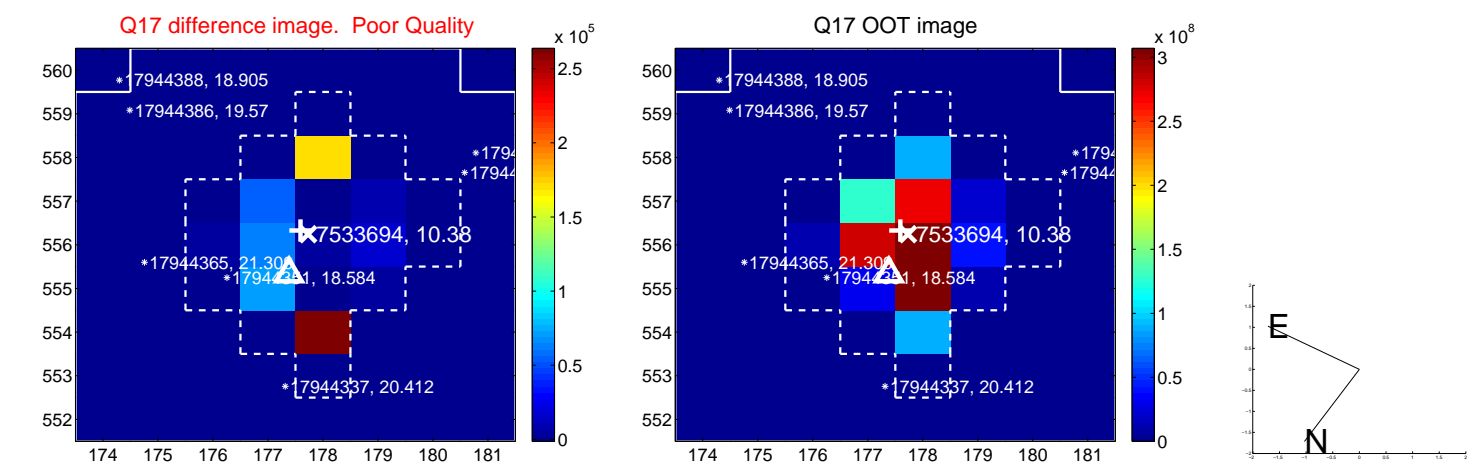
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



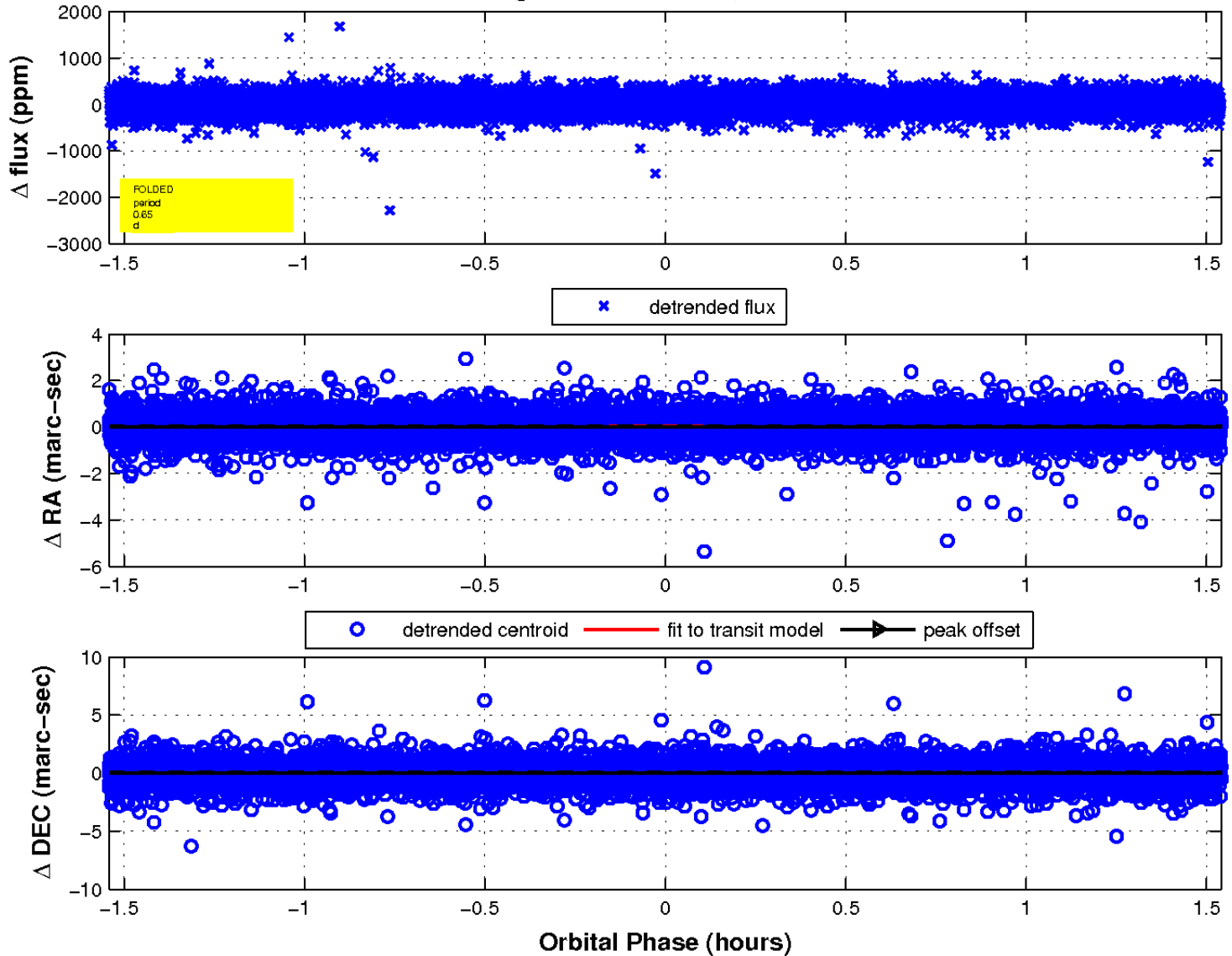
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 4 of 4



UKIRT Image

Declination

