

KIC 010394172

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})
010394172-01	OBS	No	2.663709	133.244356	15.2	10.428	9.4	9.1	2.18	9229	0.91	12853.92
010394172-02	OBS	No	2.663495	132.005016	13.9	17.031	8.9	10.7	2.18	9229	0.85	12855.29

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010394172-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
010394172-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

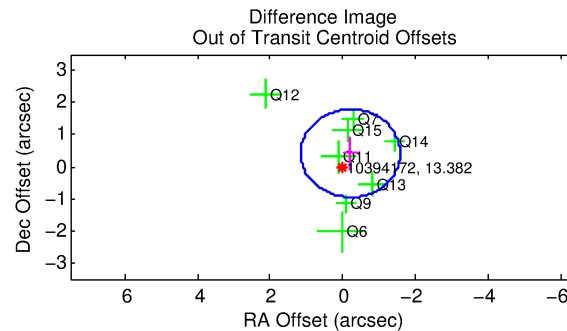
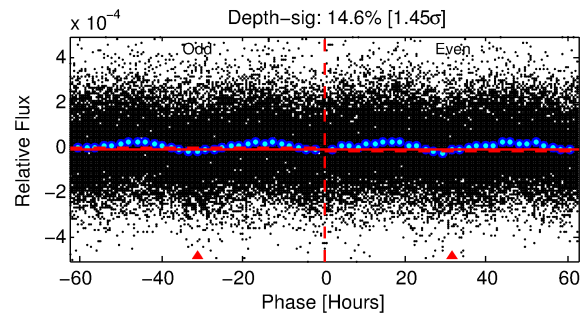
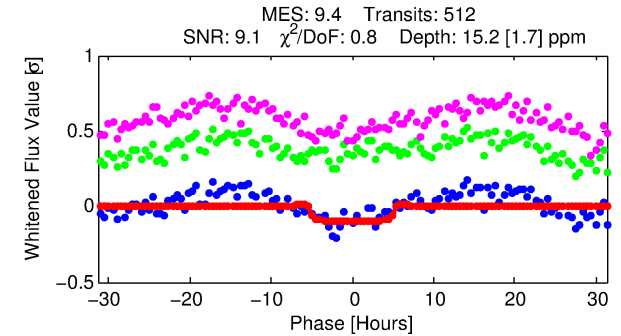
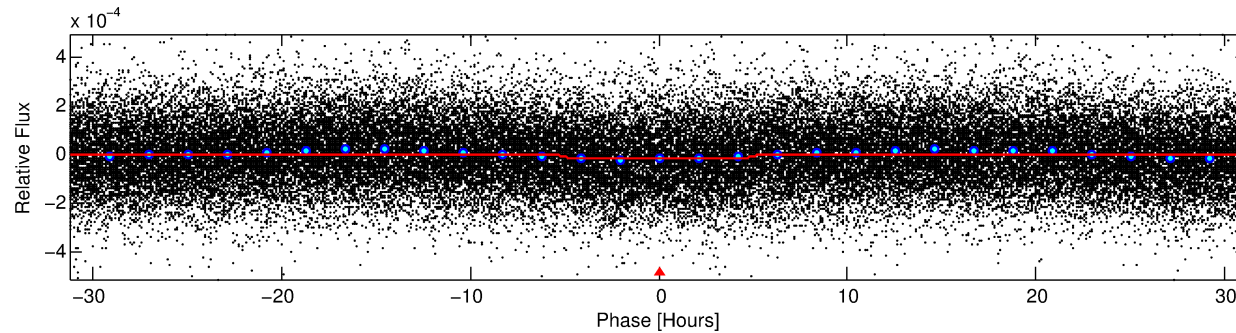
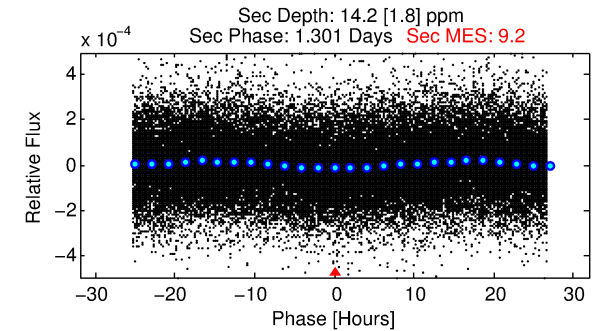
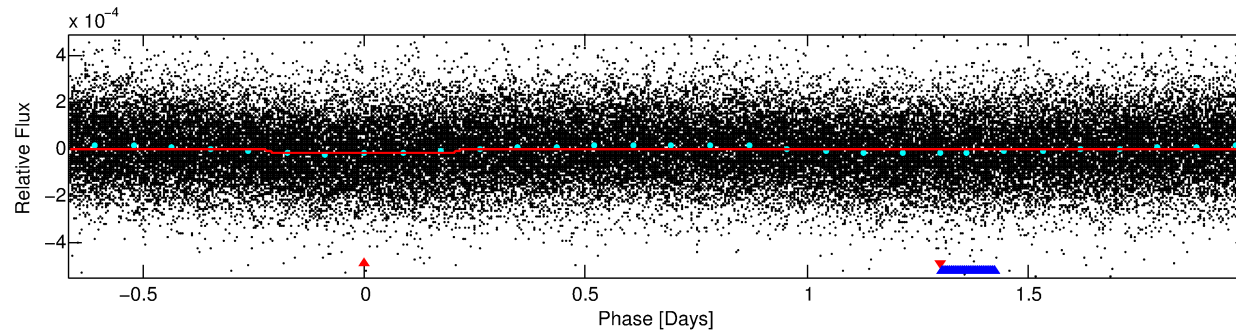
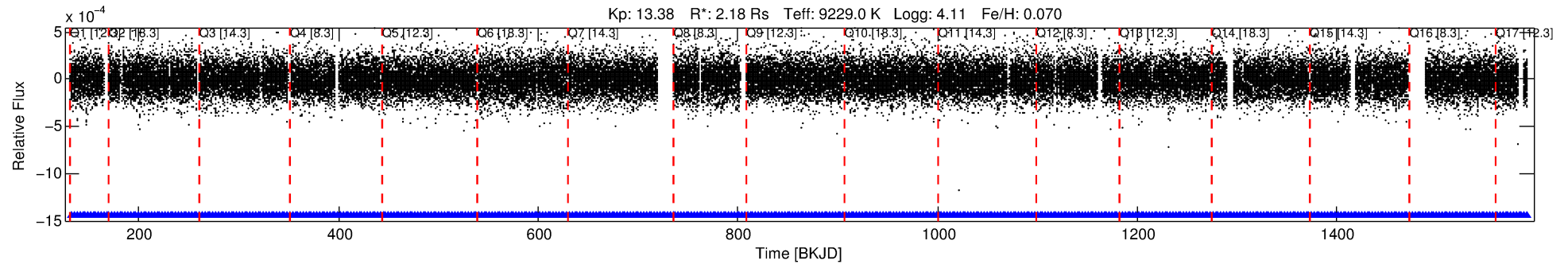
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010394172-01

No Significant Match Found

DV One-Page Summary

KIC: 10394172 Candidate: 1 of 2 Period: 2.664 d



DV Fit Results:

Period = 2.66371 [0.00004] d
Epoch = 133.2444 [0.0092] BKJD
Rp/R* = 0.0038 [0.0007]
a/R* = 1.66 [1.29]
b = 0.68 [0.99]
Seff = 12853.92 [5204.52]
Teq = 2715 [275] K
Rp = 0.91 [0.35] Re
a = 0.0490 [0.0130] AU
Ag = 22.63 [12.04] [1.80σ]
Teffp = 9156 [1000] K [6.21σ]

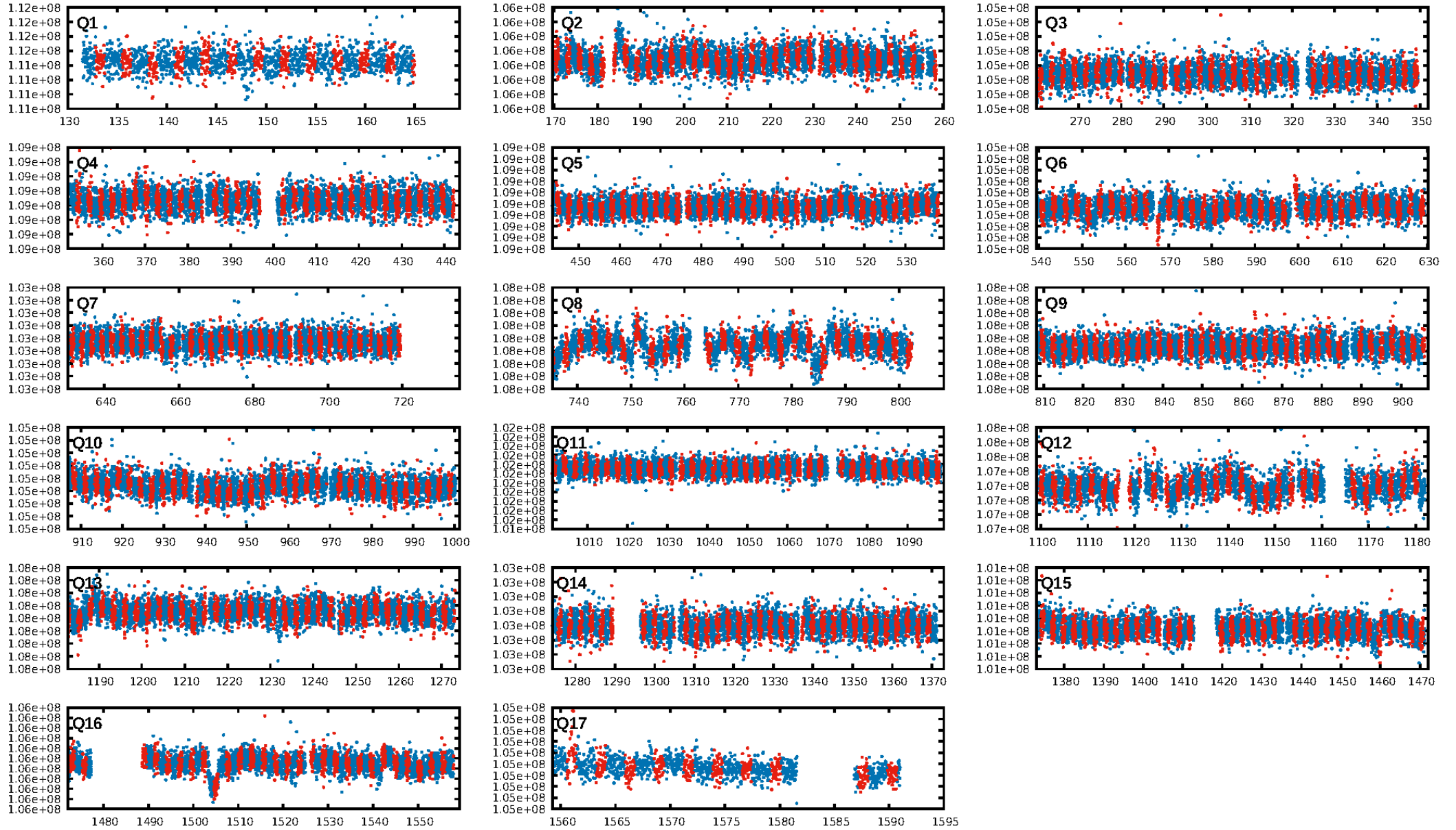
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [489/489]
GhostDiagnostic-chr: 2.175
Centroid-sig: 35.5%
Centroid-so: 1.041 arcsec [0.88σ]
OotOffset-rm: 0.465 arcsec [1.02σ]
OotOffset-st: 2/3/1/2 [8]
KicOffset-rm: 0.474 arcsec [1.02σ]
KicOffset-st: 2/3/1/2 [8]
DiffImageQuality-fgm: 0.88 [7/8]
DiffImageOverlap-fno: 1.00 [17/17]

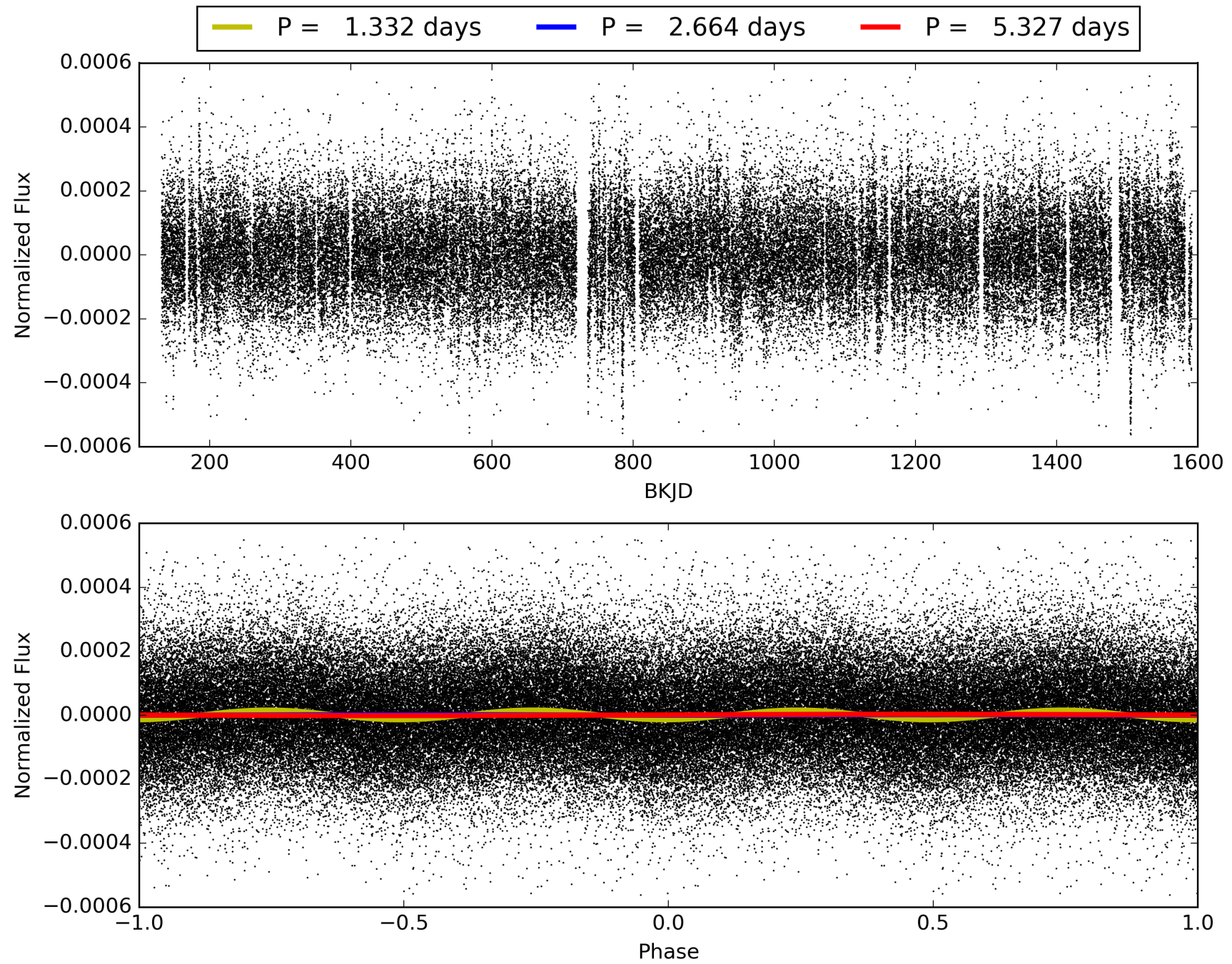
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:32:11 Z

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

TCE 010394172-01, PDC Light Curves

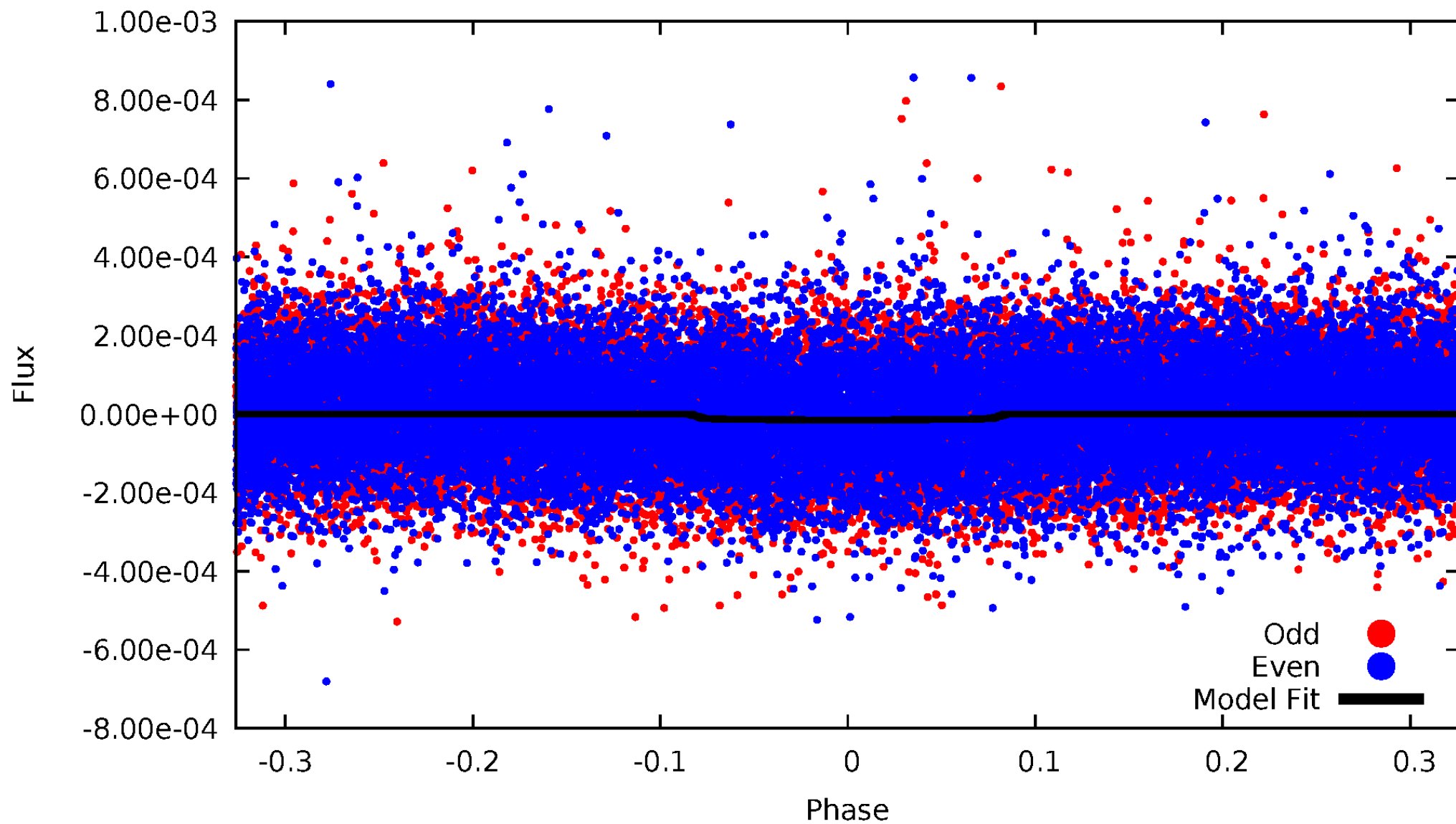


TCE 010394172-01



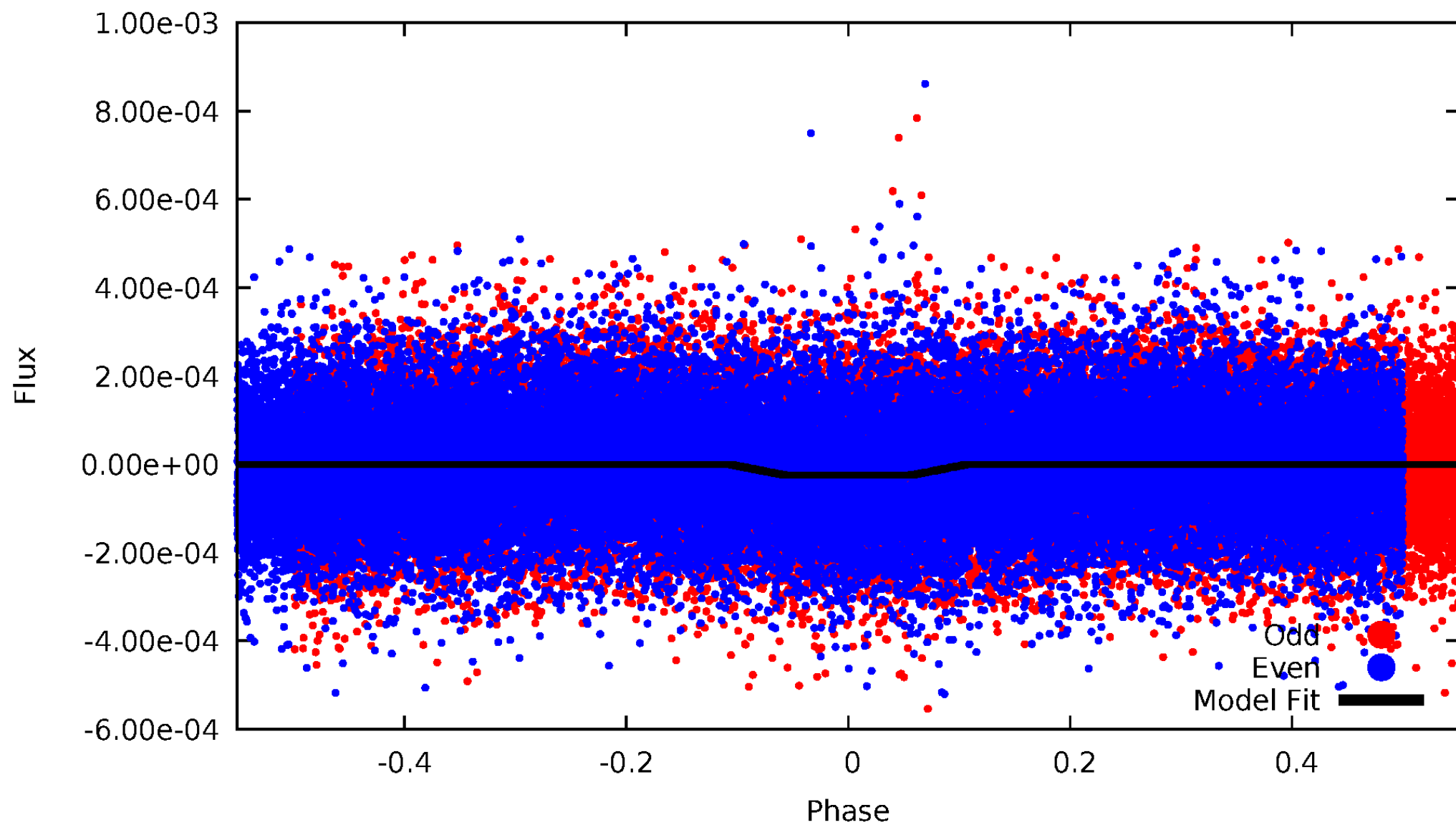
DV Odd/Even

TCE 010394172-01

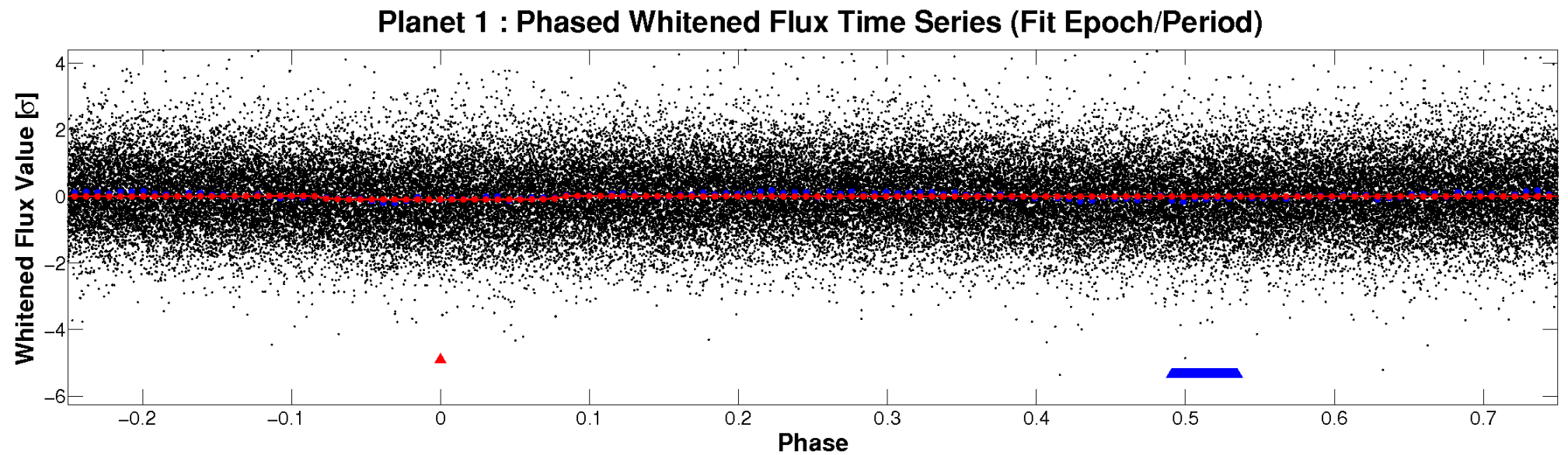
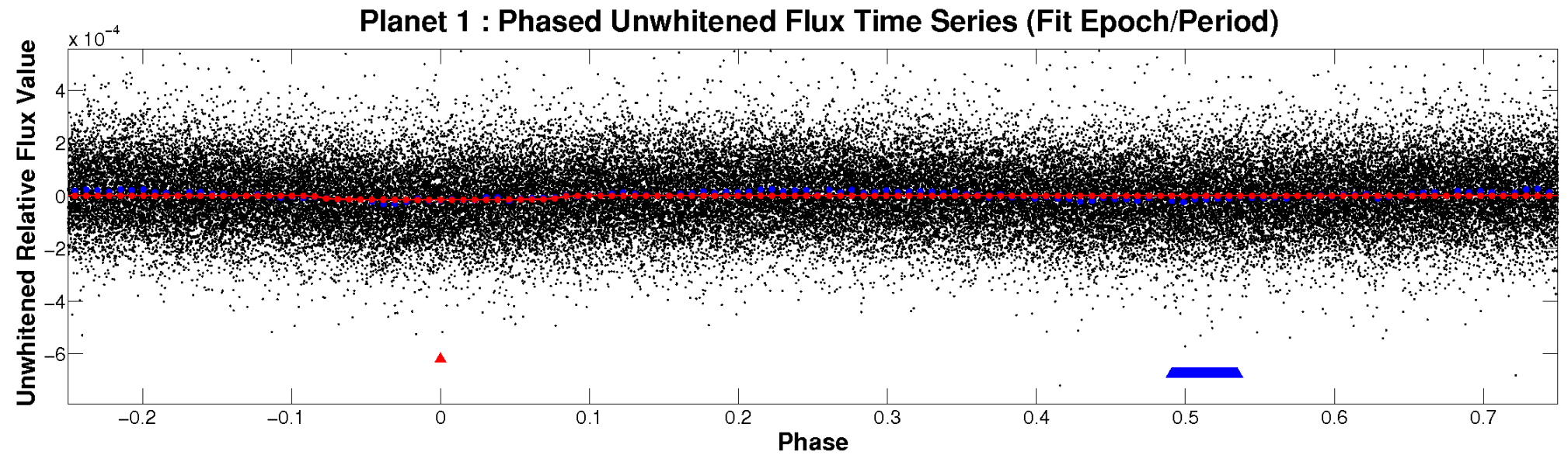


ALT Odd/Even

TCE 010394172-01

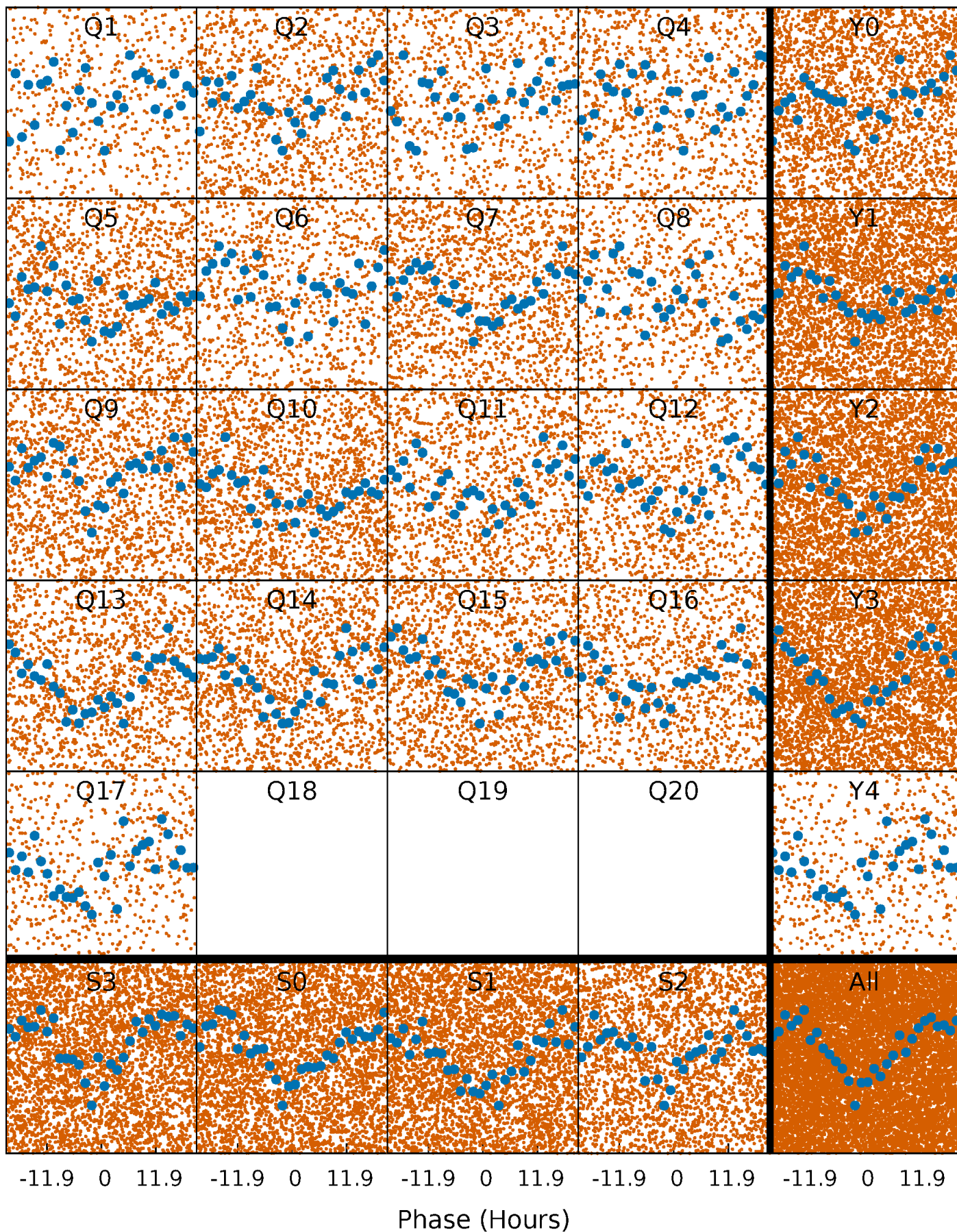


Non-Whitened Vs. Whitened Light Curve



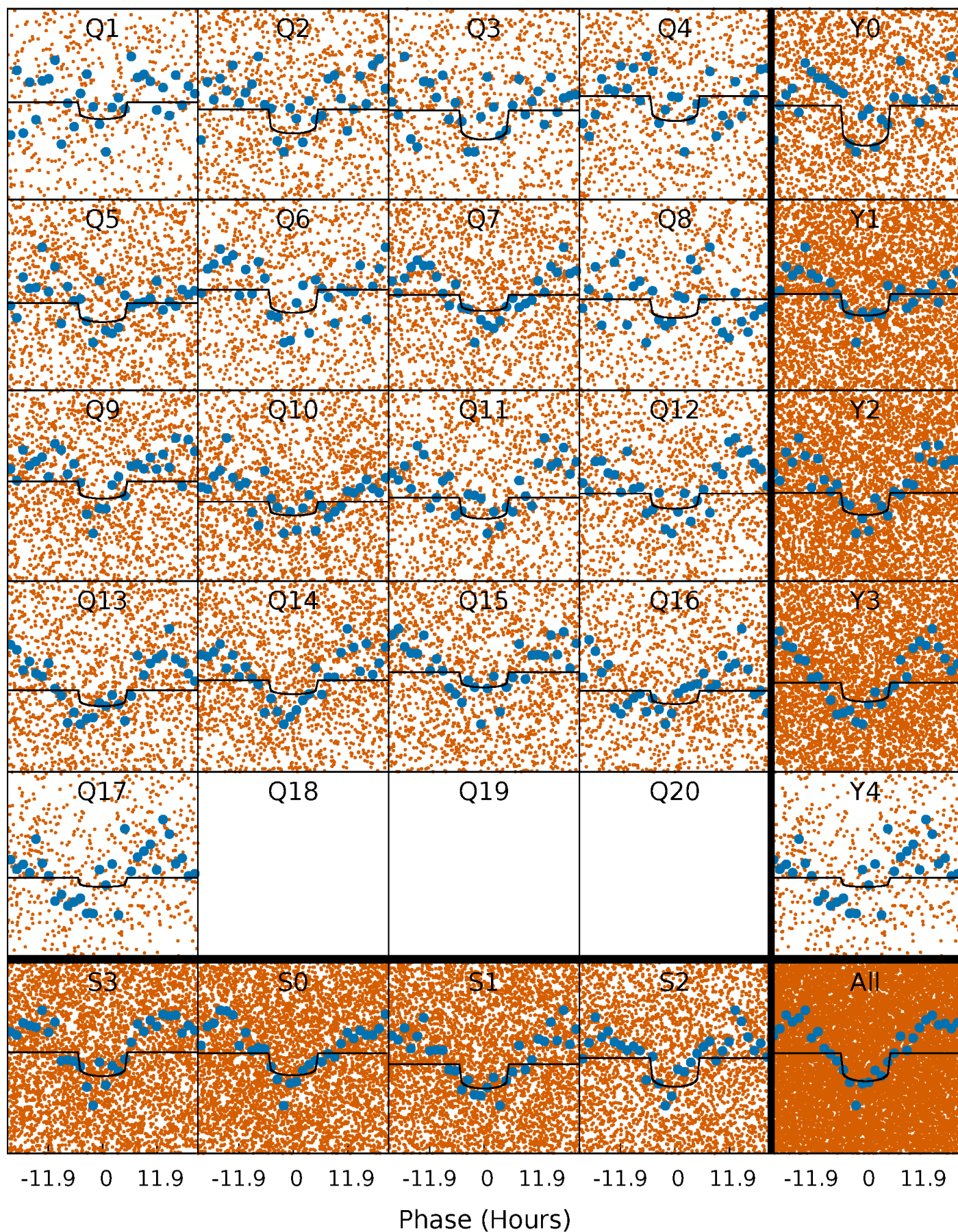
PDC Quarter-Phased Transit Curves

TCE 010394172-01 P= 2.663709 Days $T_0=133.244356$ (BKJD)



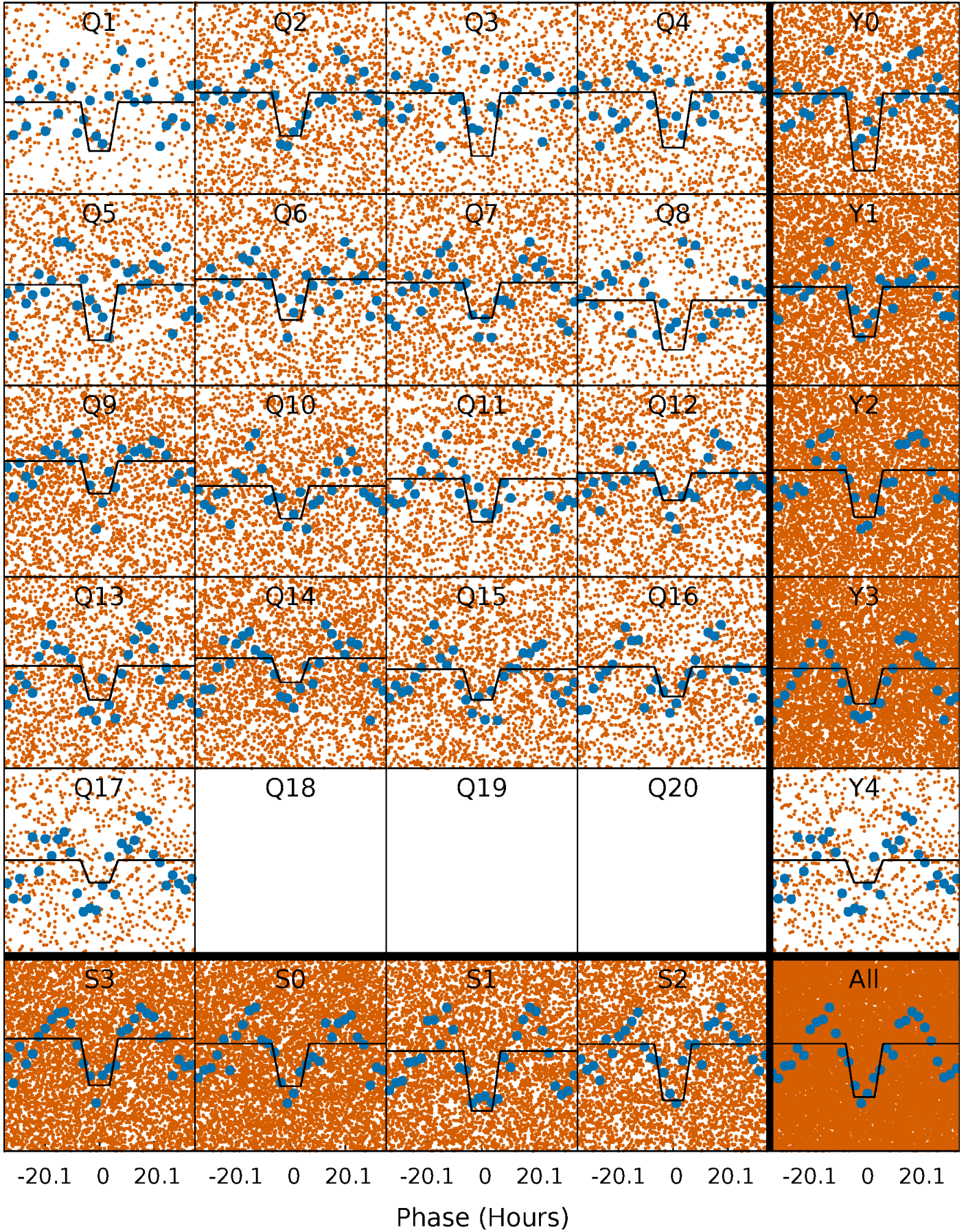
DV Quarter-Phased Transit Curves

TCE 010394172-01 P= 2.663709 Days $T_0=133.244356$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

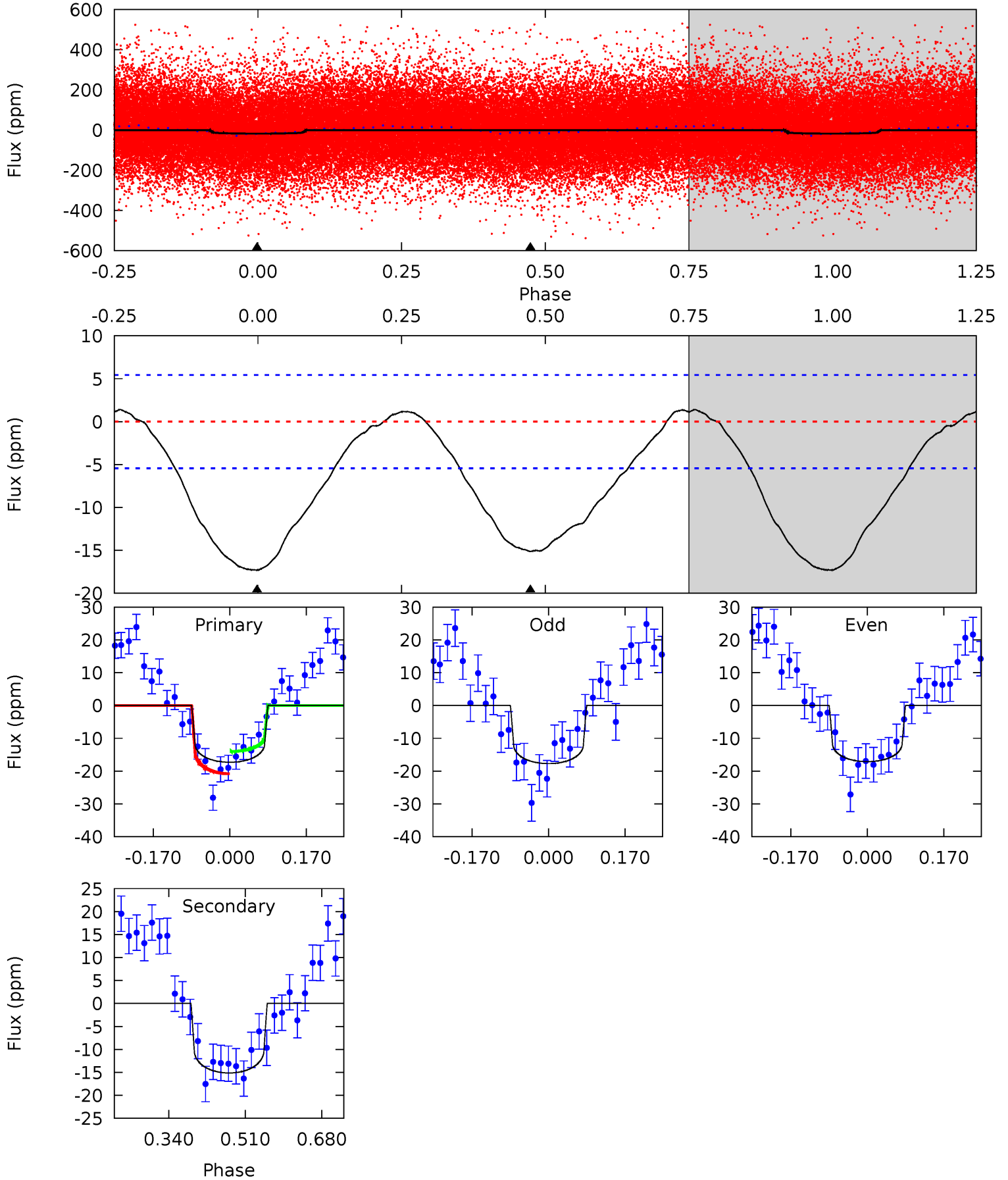
TCE 010394172-01 P= 2.663509 Days $T_0=133.260838$ (BKJD)



DV Model-Shift Uniqueness Test

010394172-01, P = 2.663709 Days, E = 130.580647 Days

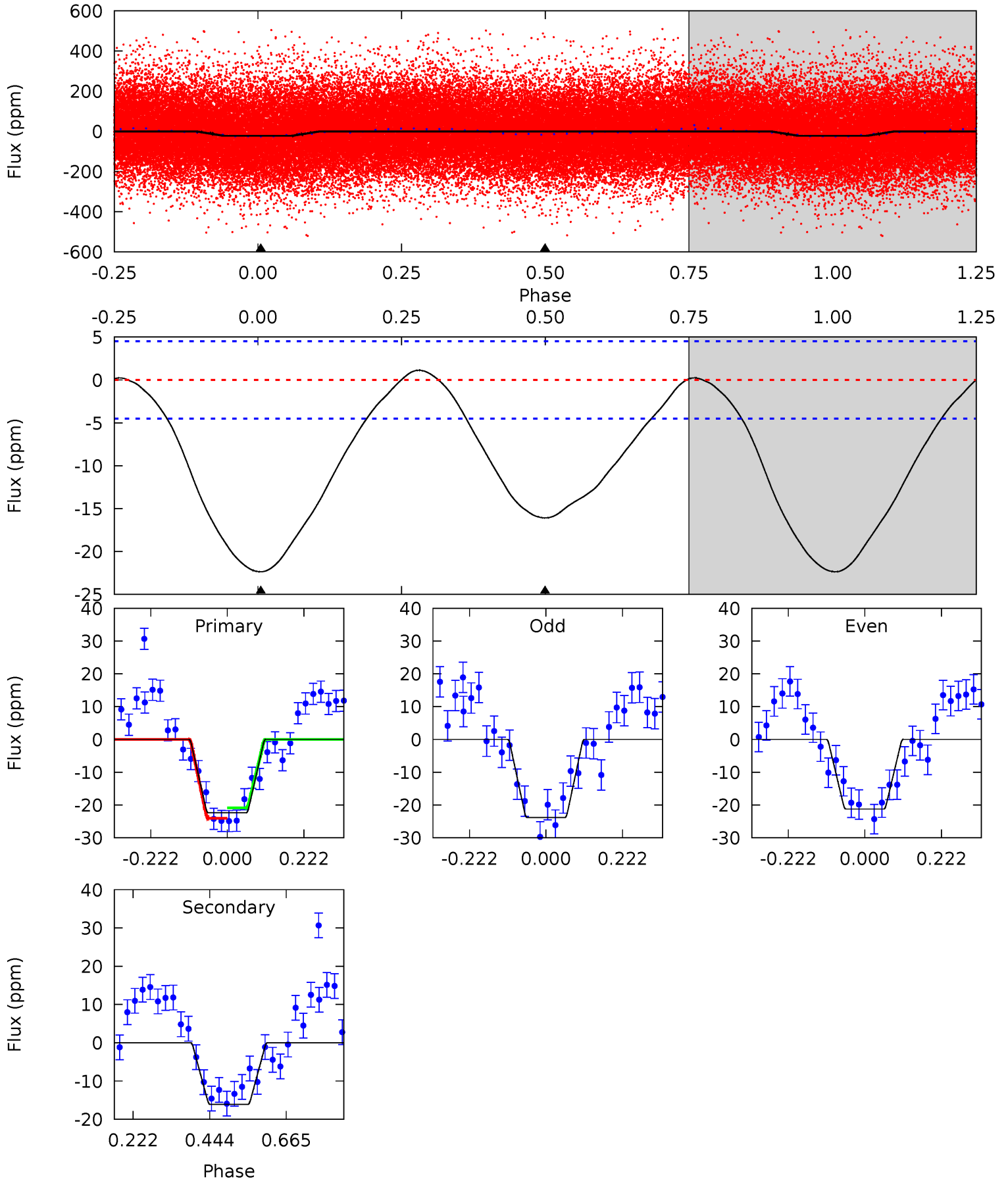
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	12.4	0	0	4.45	1.37	1.35	14.2	14.2	12.4	12.4	0.25	0.90	0.08	2.78



Alt Model-Shift Uniqueness Test

010394172-01, P = 2.663509 Days, E = 130.597329 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	15.7	0	0	4.39	1.22	0.65	21.8	21.8	15.7	15.7	1.24	1.03	0.05	1.57



Stellar Parameters For KIC 010394172

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9229^{+255}_{-438}	$4.106^{+0.148}_{-0.181}$	$0.070^{+0.150}_{-0.700}$	$2.179^{+0.736}_{-0.536}$	$2.207^{+0.396}_{-0.594}$	$0.300^{+0.280}_{-0.144}$
	+3%/-5%	+4%/-4%	+214%/-1000%	+34%/-25%	+18%/-27%	+93%/-48%
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 010394172-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-15 ± 1	$0.90^{+0.23}_{-0.21}$	3787^{+274}_{-261}	9282^{+1595}_{-1106}	24^{+16}_{-9}
Alt.	-16 ± 1	$1.15^{+0.29}_{-0.22}$	3800^{+266}_{-303}	7991^{+968}_{-719}	16^{+8}_{-5}

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

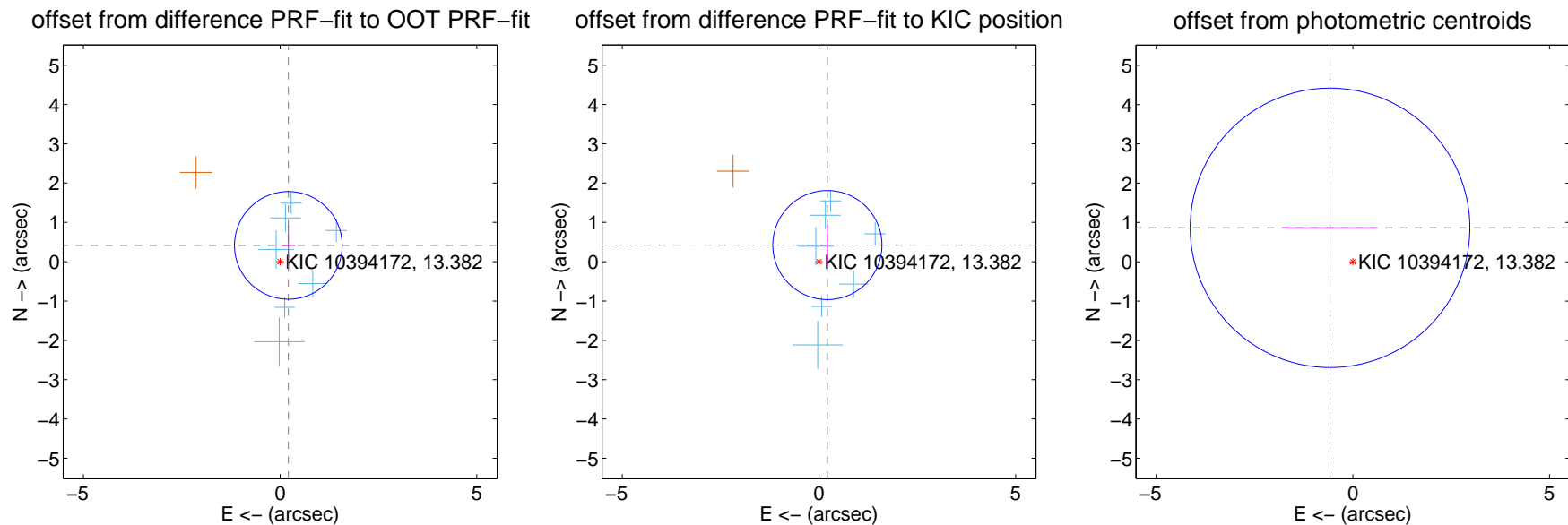
DV Centroid Data

Supplemental centroid analysis for 010394172-01. Kepler magnitude: 13.38. Transit SNR 9.12

There are 7 quarters with good PRF difference image offsets

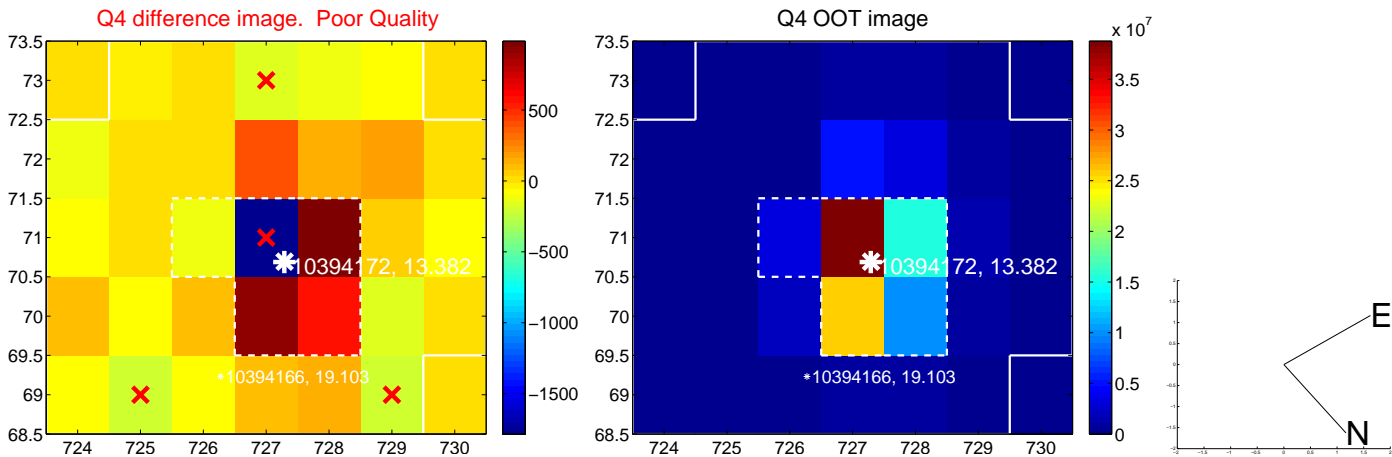
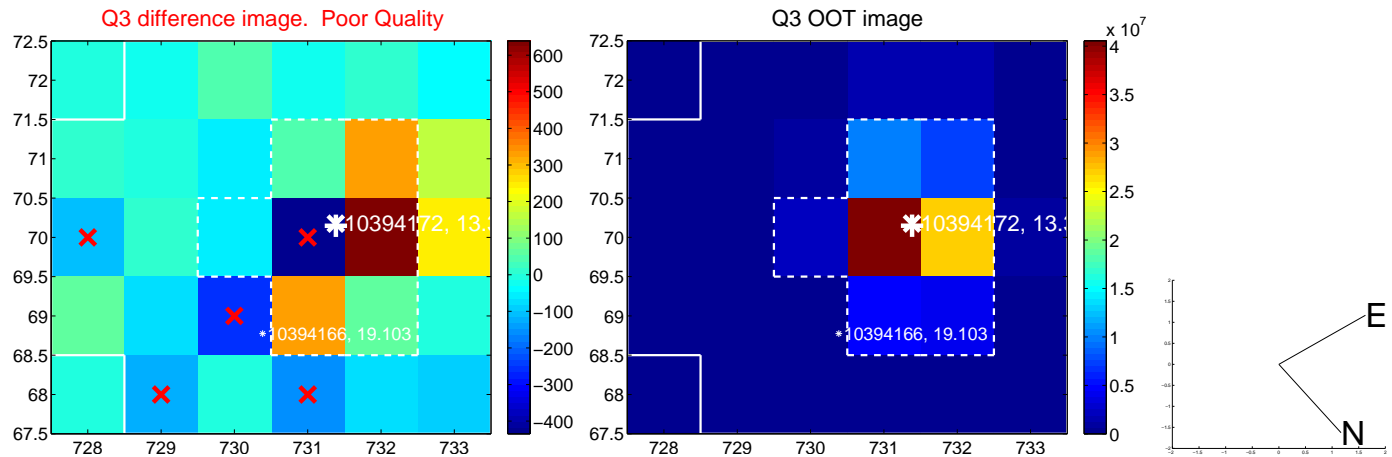
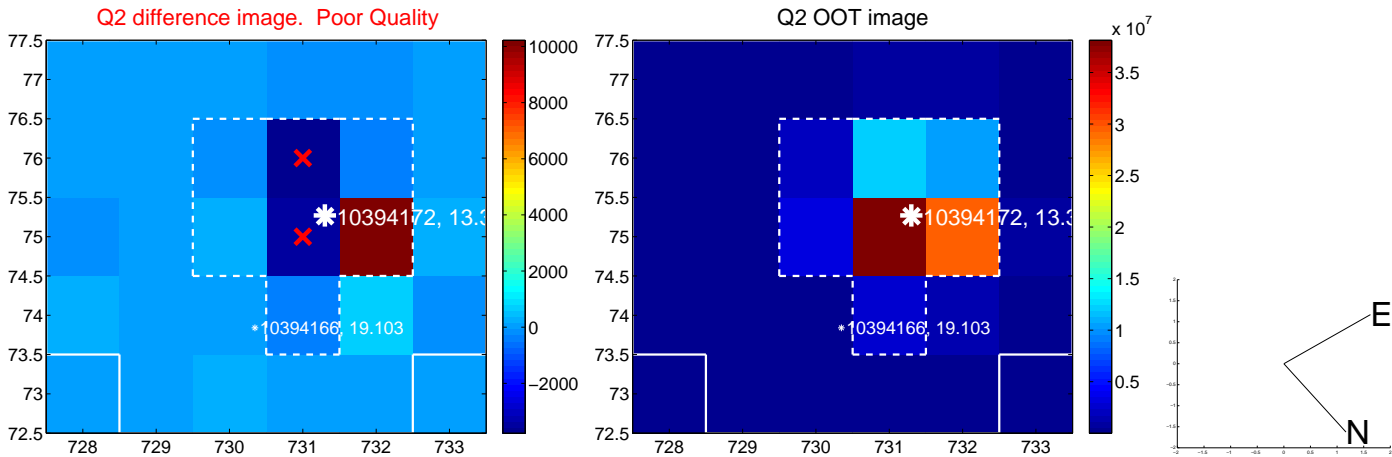
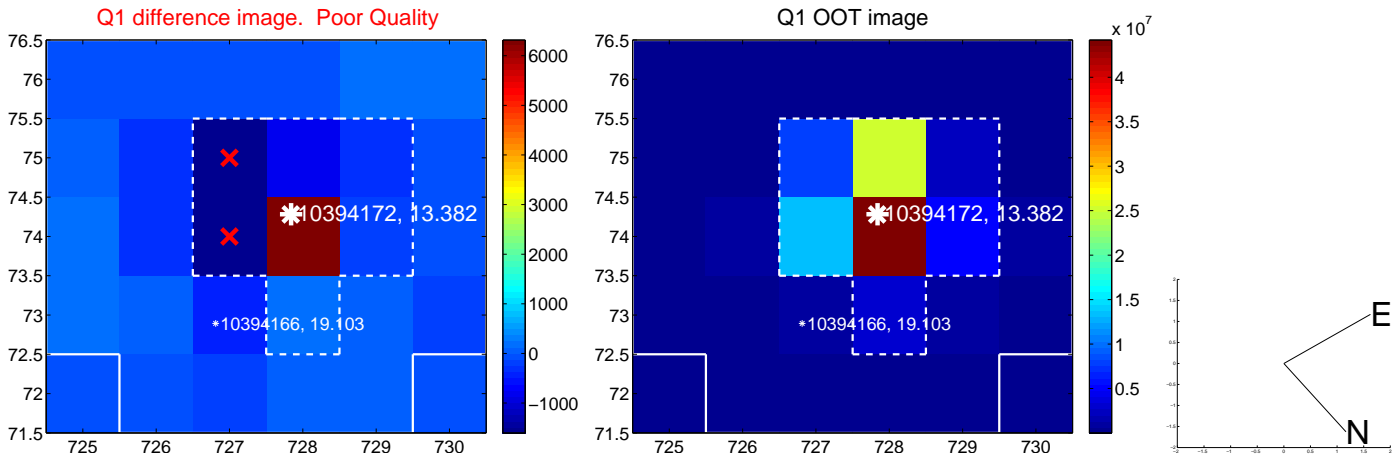
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.465 ± 0.456	1.02	-0.209 ± 0.172	0.415 ± 0.503
PRF-fit source offset from KIC position	0.474 ± 0.462	1.02	-0.213 ± 0.180	0.423 ± 0.510
photometric centroid source offset	1.04 ± 1.19	0.88	0.58 ± 1.18	0.86 ± 1.19

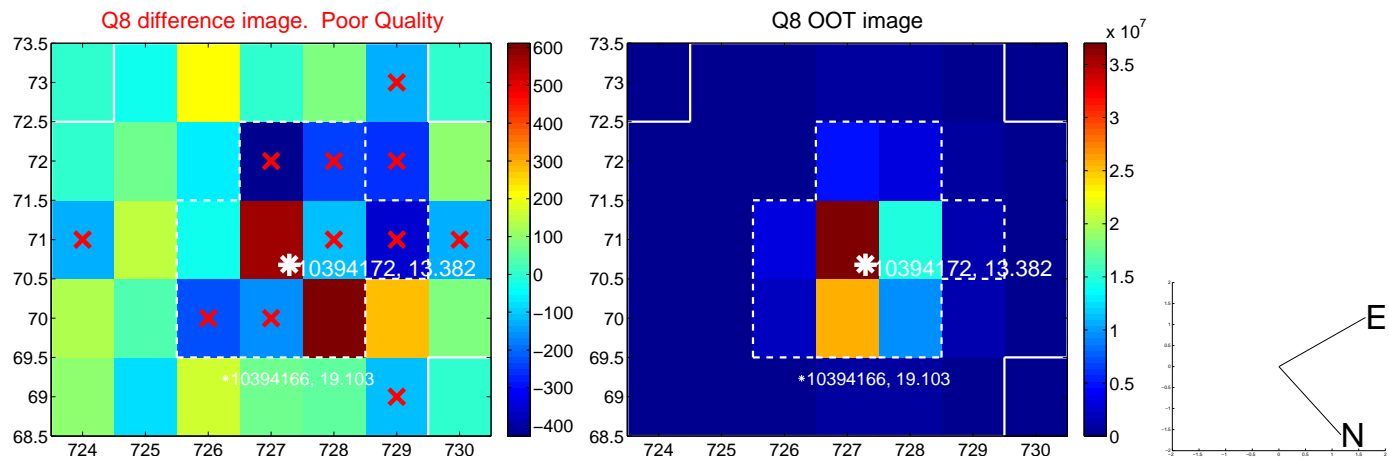
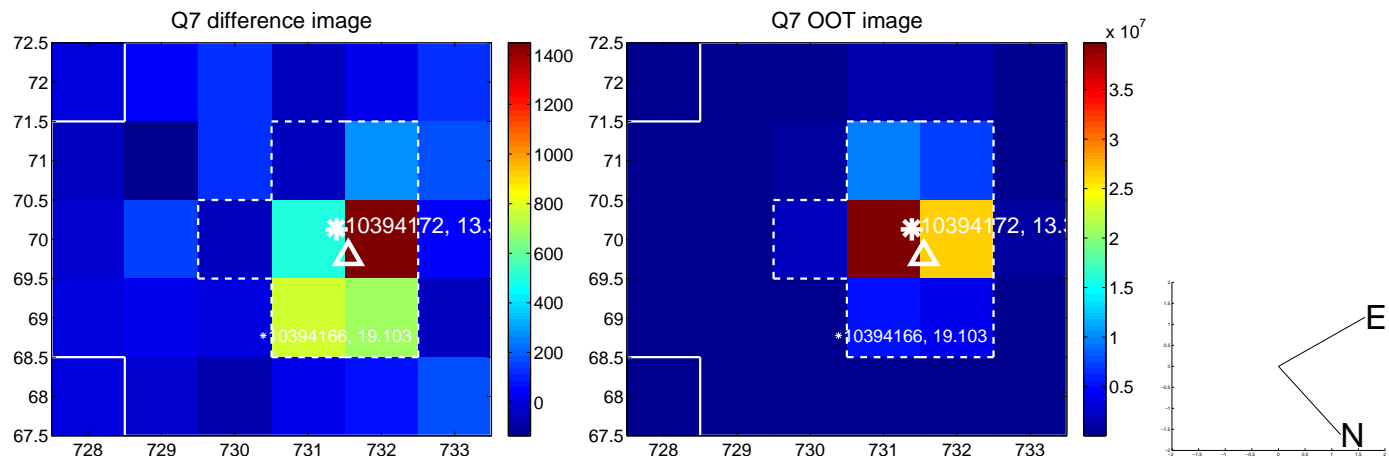
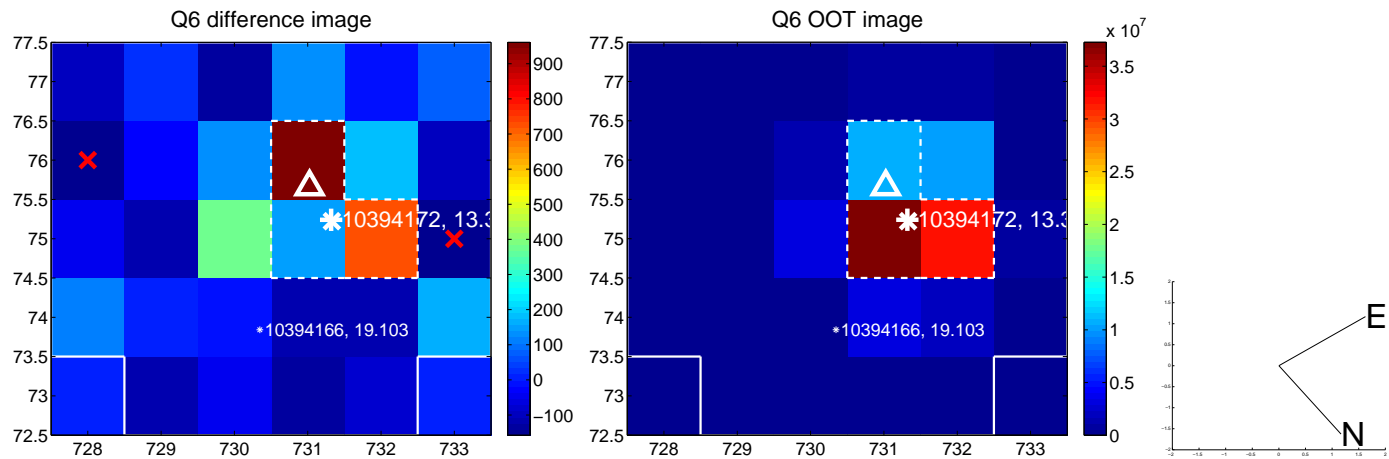
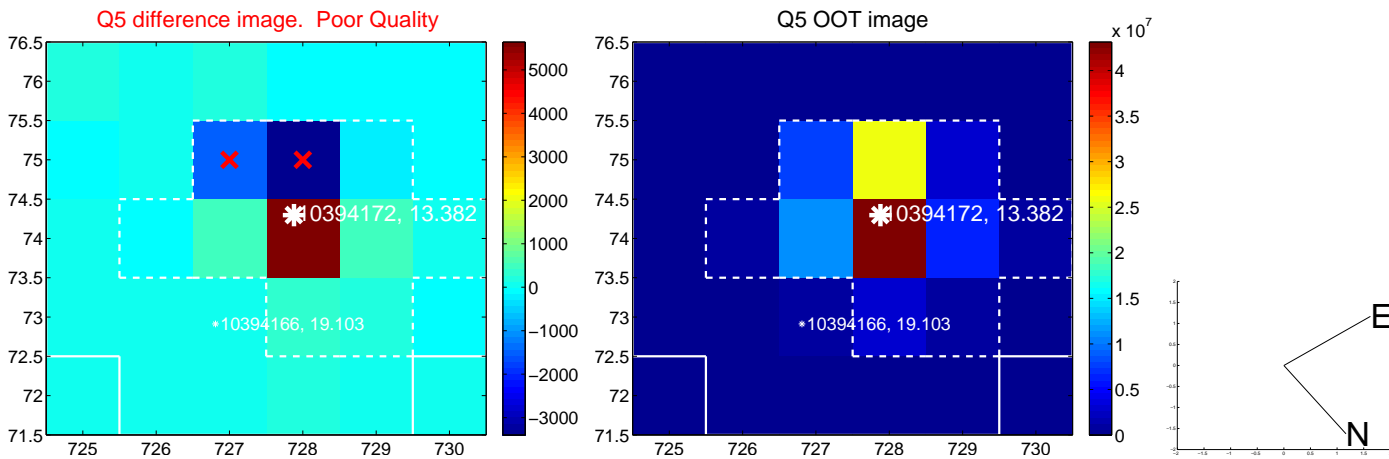


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

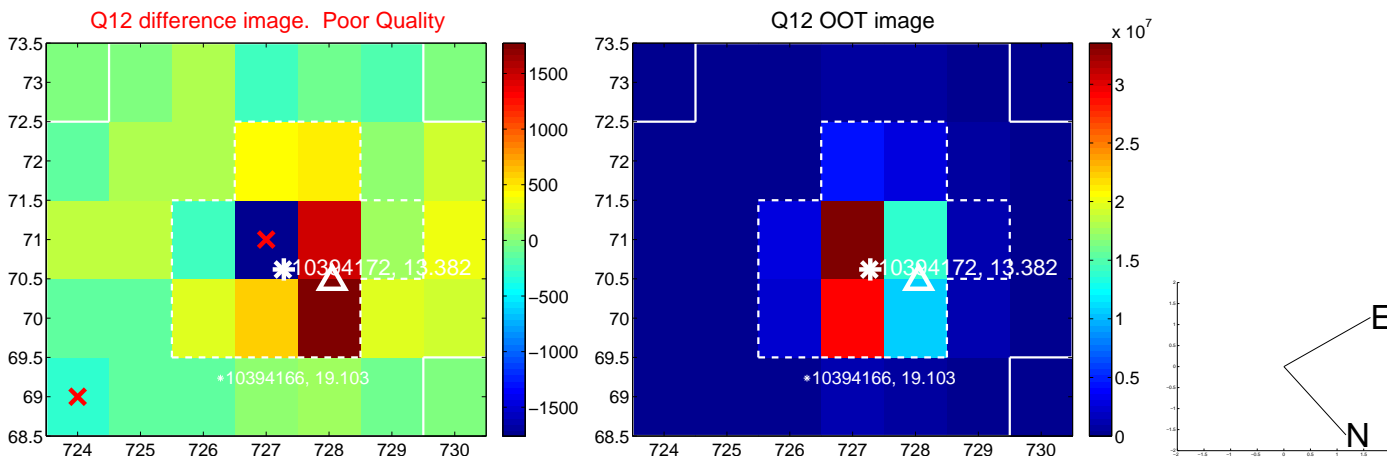
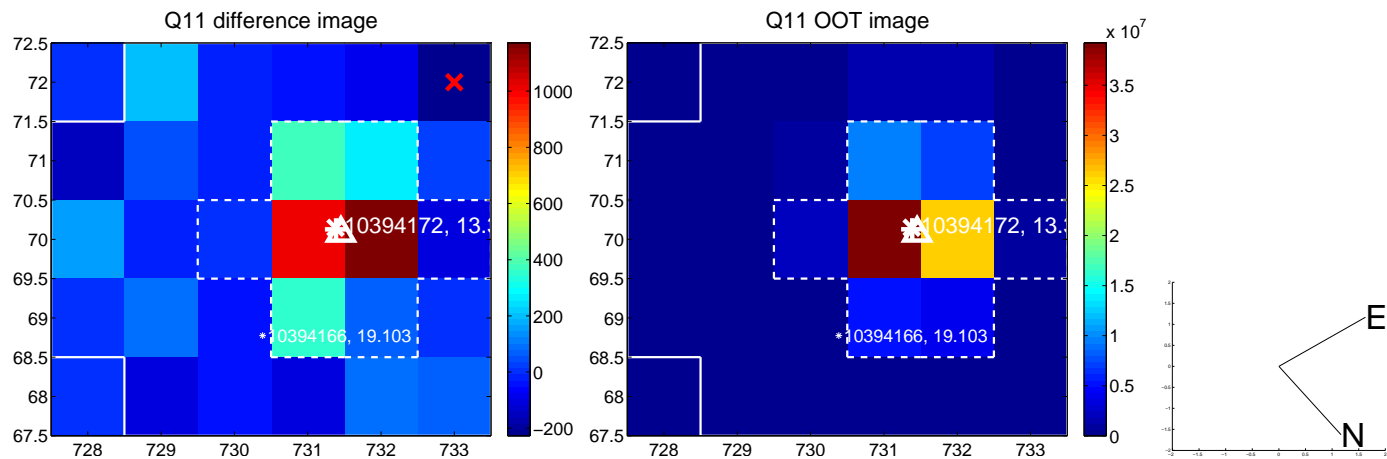
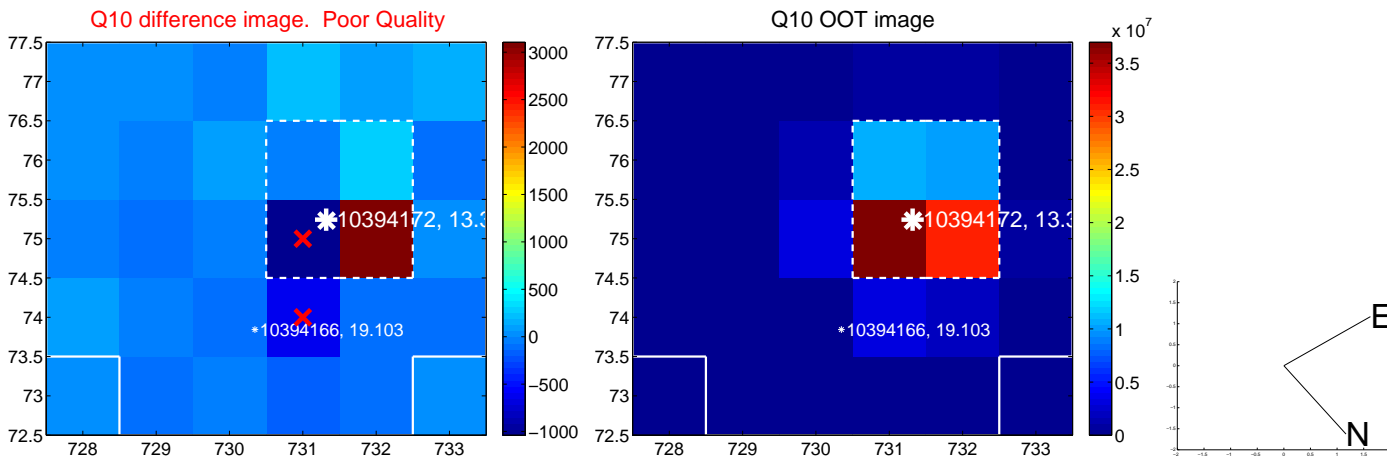
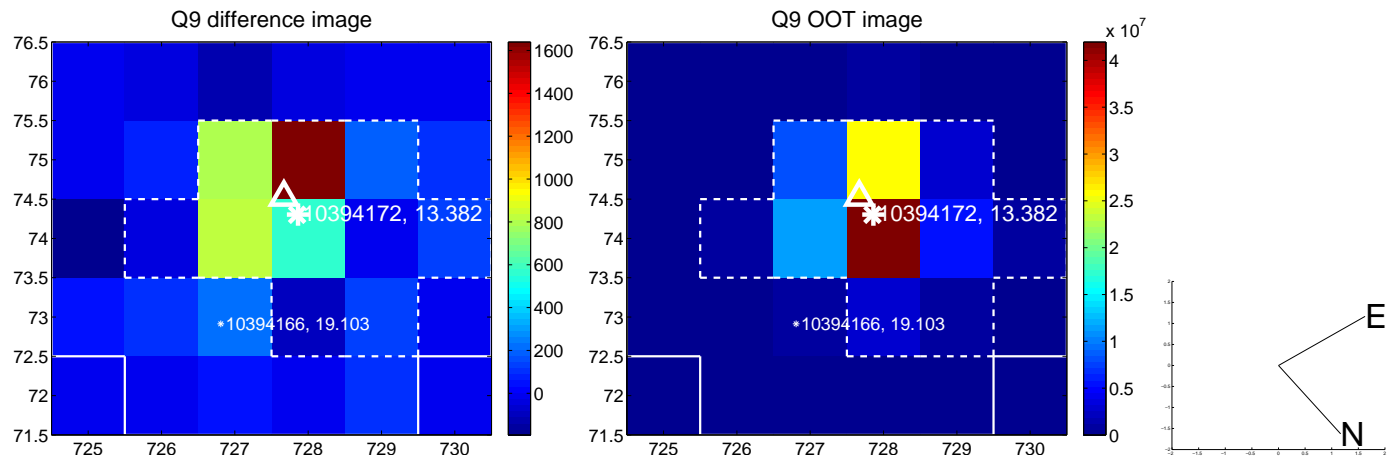
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



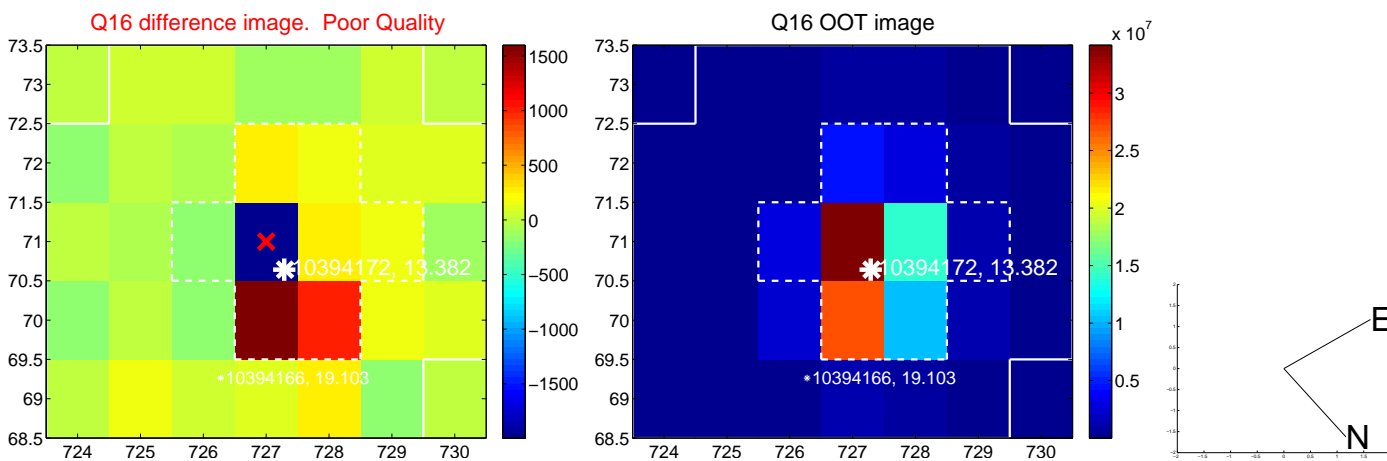
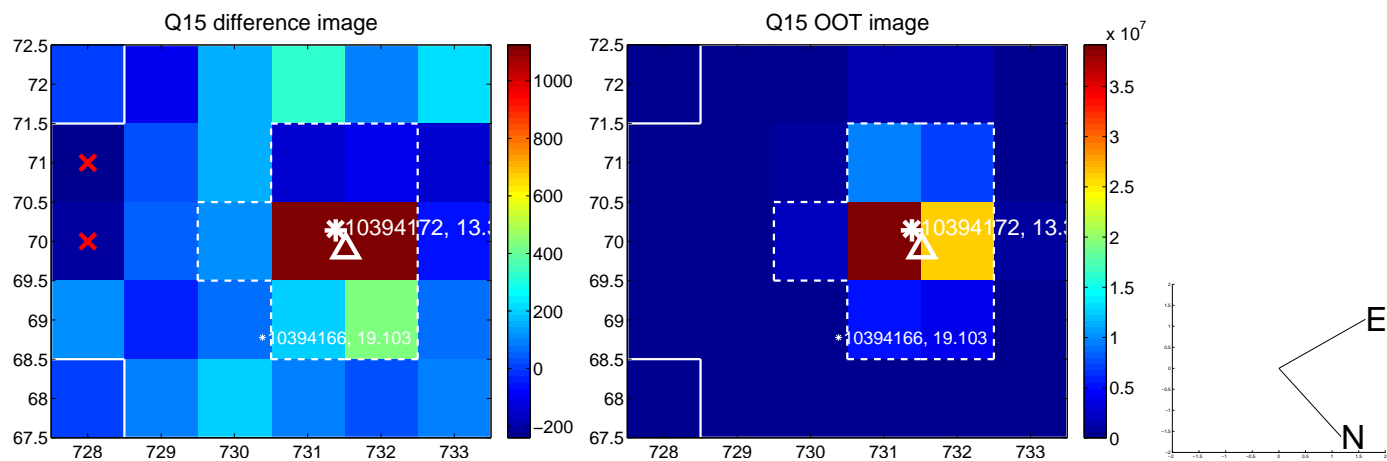
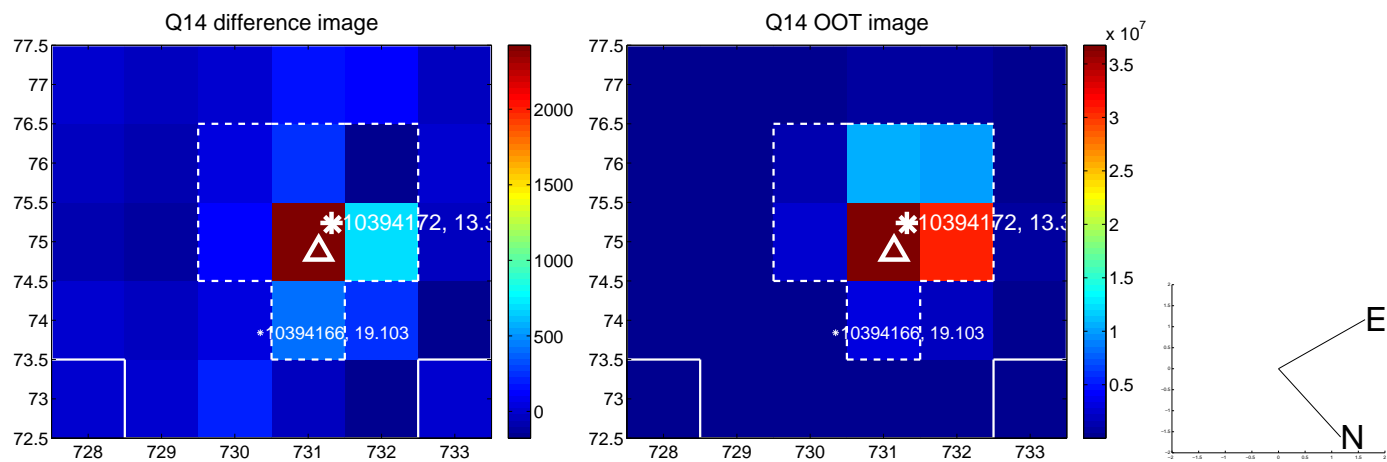
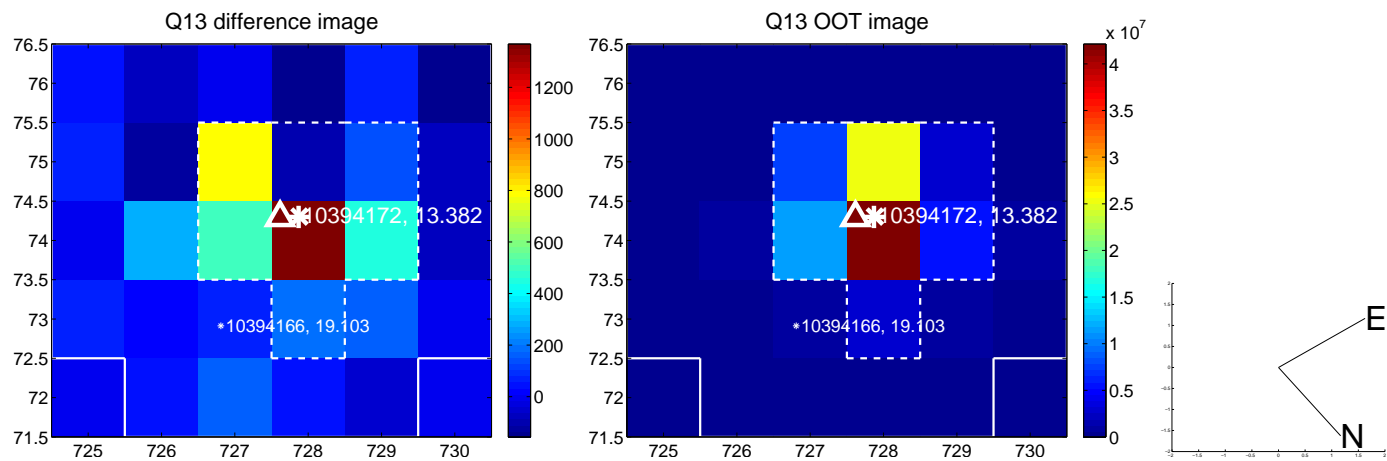
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



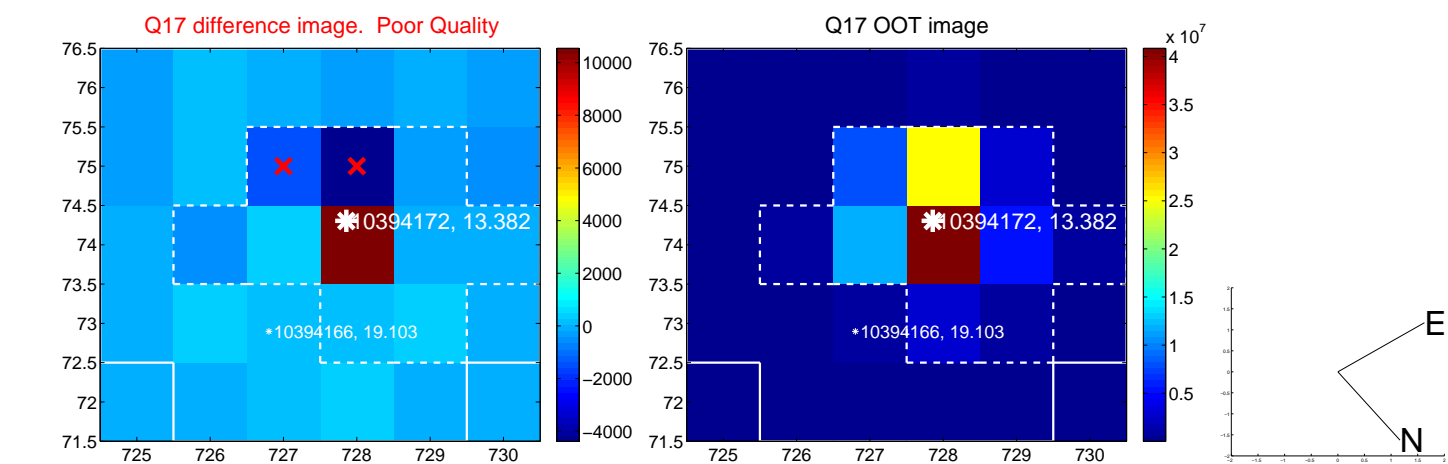
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



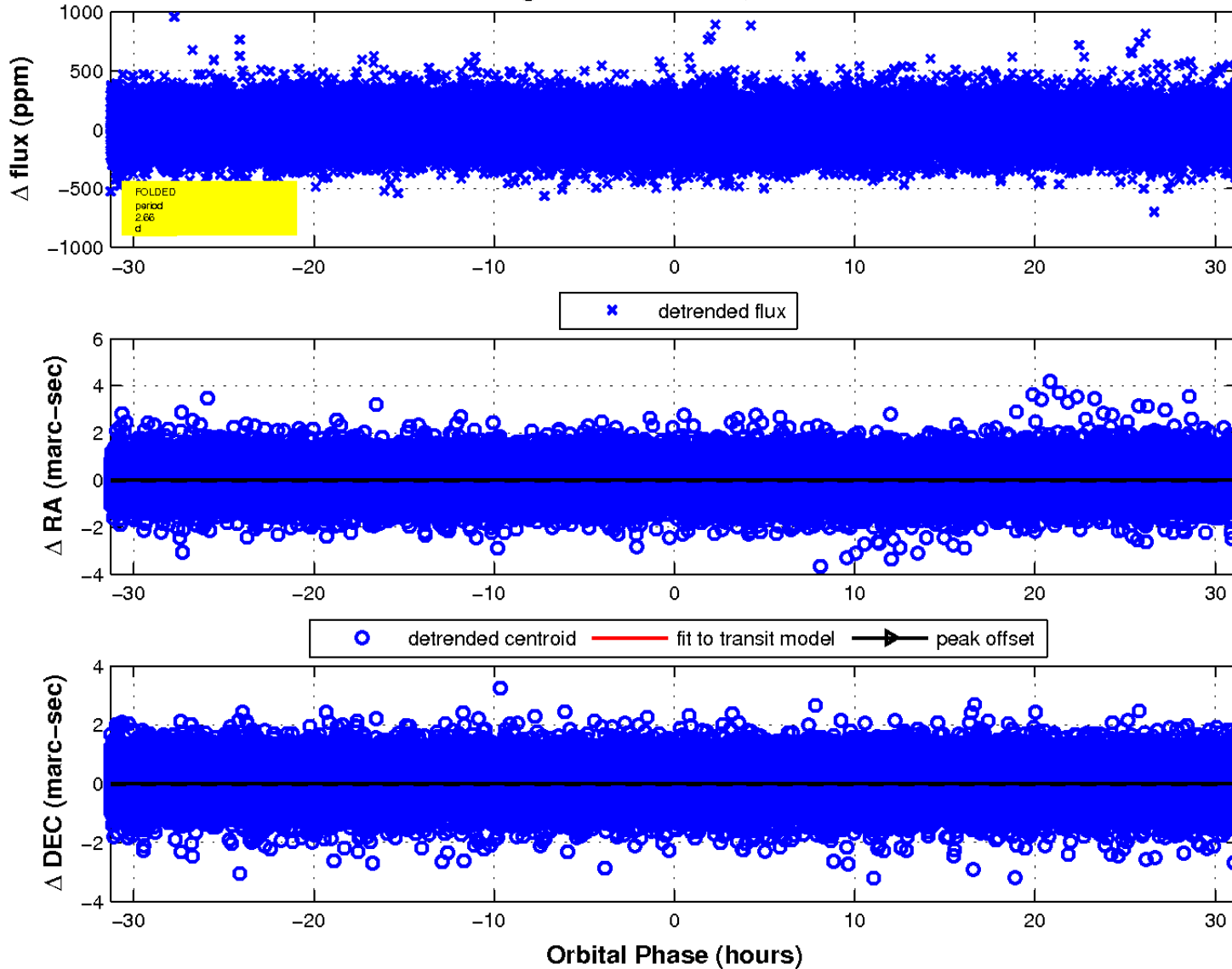
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 2



This plot does not exist for this TCE.

KIC 010394172

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})
010394172-01	OBS	No	2.663709	133.244356	15.2	10.428	9.4	9.1	2.18	9229	0.91	12853.92
010394172-02	OBS	No	2.663495	132.005016	13.9	17.031	8.9	10.7	2.18	9229	0.85	12855.29

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010394172-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
010394172-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

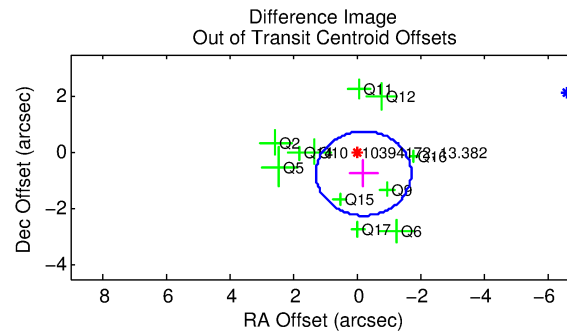
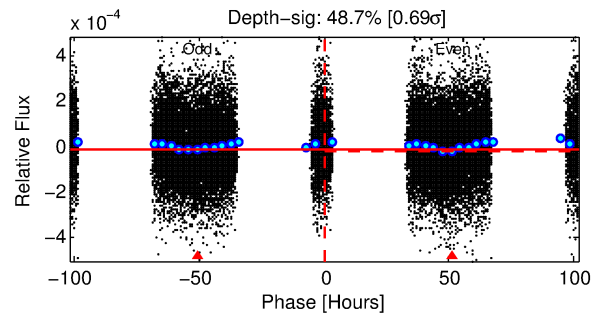
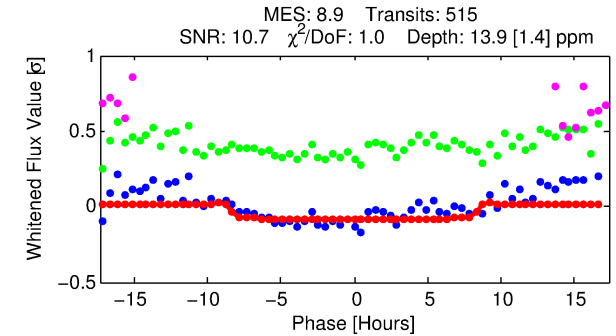
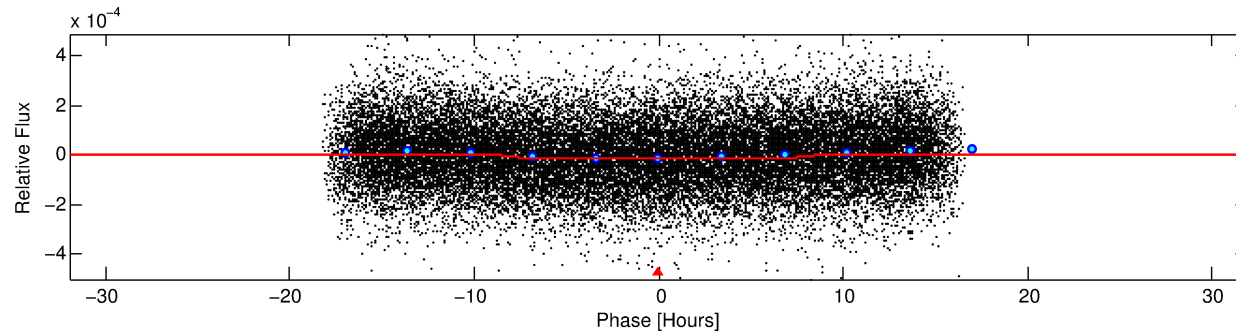
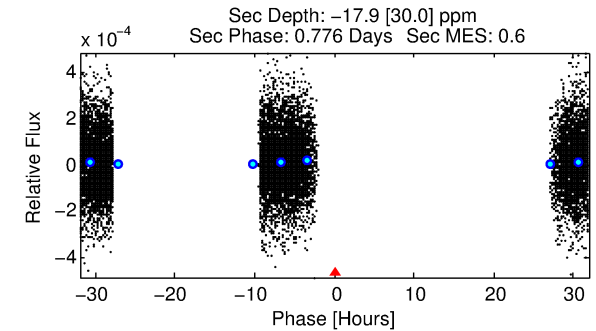
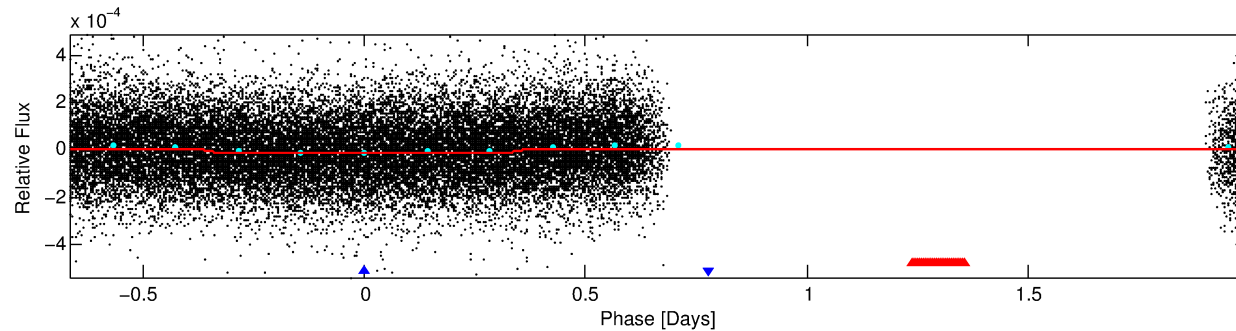
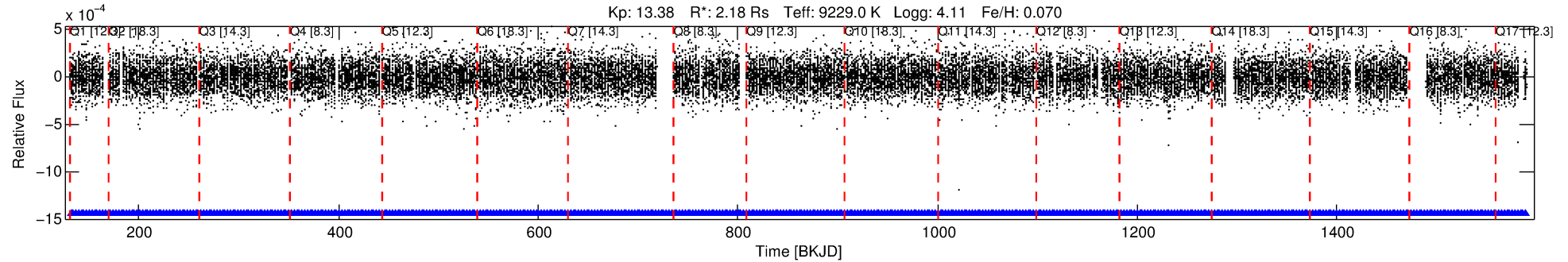
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010394172-02

No Significant Match Found

DV One-Page Summary

KIC: 10394172 Candidate: 2 of 2 Period: 2.663 d



DV Fit Results:

Period = 2.66350 [0.00005] d
Epoch = 132.0050 [0.0110] BKJD
Rp/R* = 0.0036 [0.0015]
a/R* = 1.25 [1.32]
b = 0.56 [3.57]
Seff = 12855.29 [5205.07]
Teff = 2715 [275] K
Rp = 0.85 [0.46] Re
a = 0.0490 [0.0130] AU
Ag = N/A
Teffp = N/A

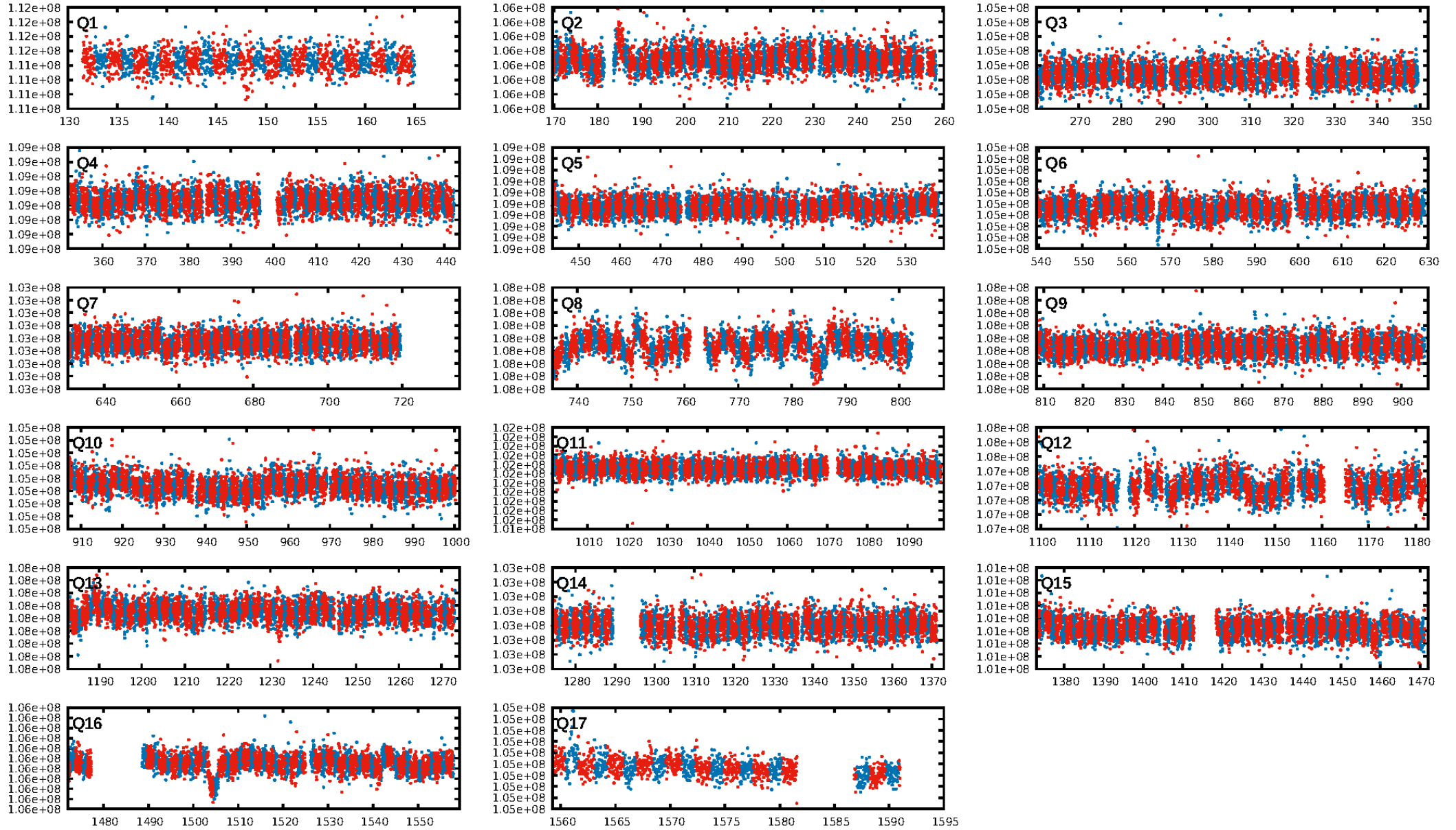
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [492/492]
GhostDiagnostic-chr: 13.73
Centroid-sig: 10.0%
Centroid-so: 1.904 arcsec [1.83σ]
OotOffset-rm: 0.777 arcsec [1.55σ]
KicOffset-rm: 0.761 arcsec [1.56σ]
OotOffset-st: 4/2/2/3 [11]
KicOffset-st: 4/2/2/3 [11]
DiffImageQuality-fgm: 0.73 [8/11]
DiffImageOverlap-fno: 0.00 [0/17]

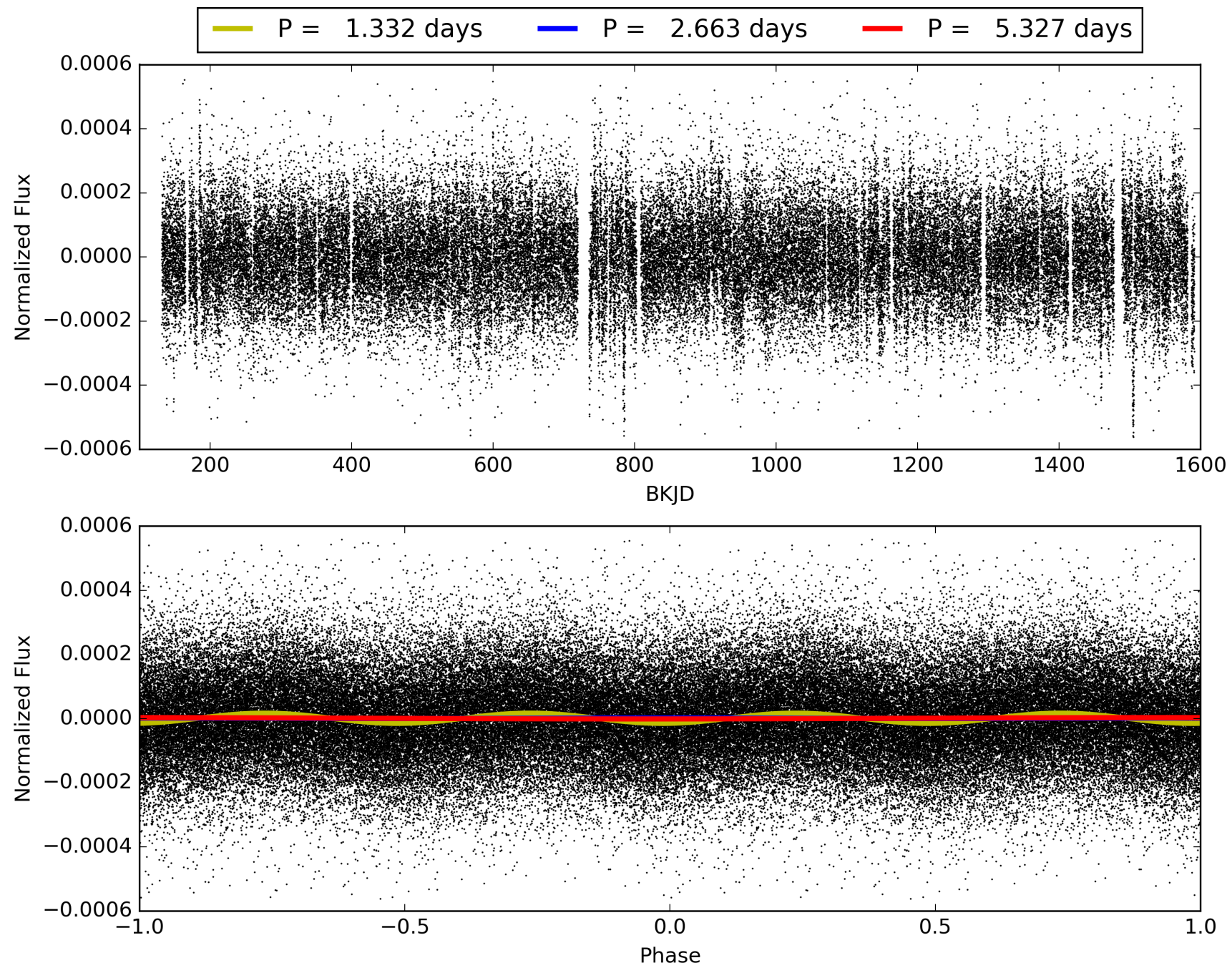
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:32:25 Z

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

TCE 010394172-02, PDC Light Curves

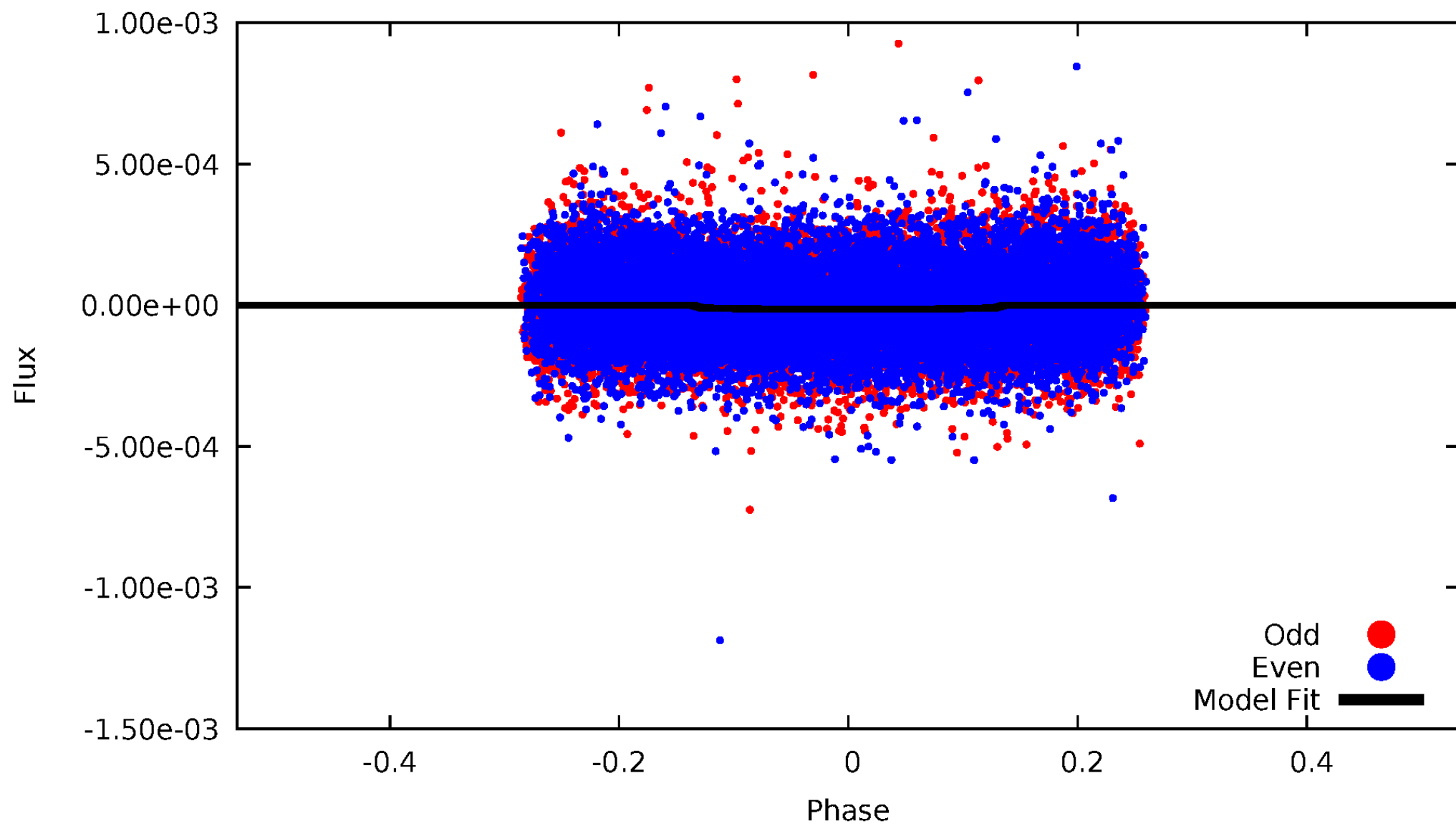


TCE 010394172-02



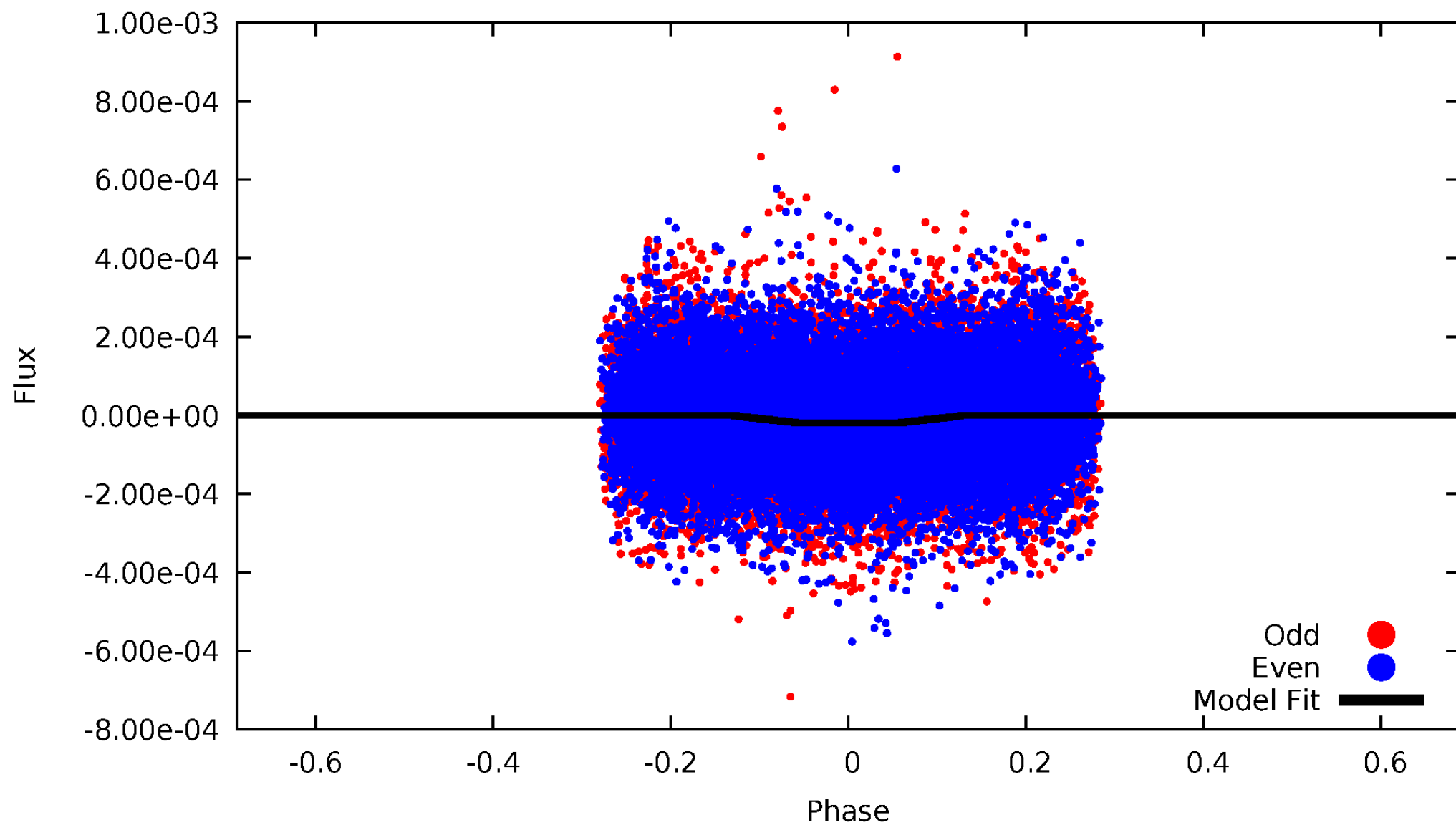
DV Odd/Even

TCE 010394172-02



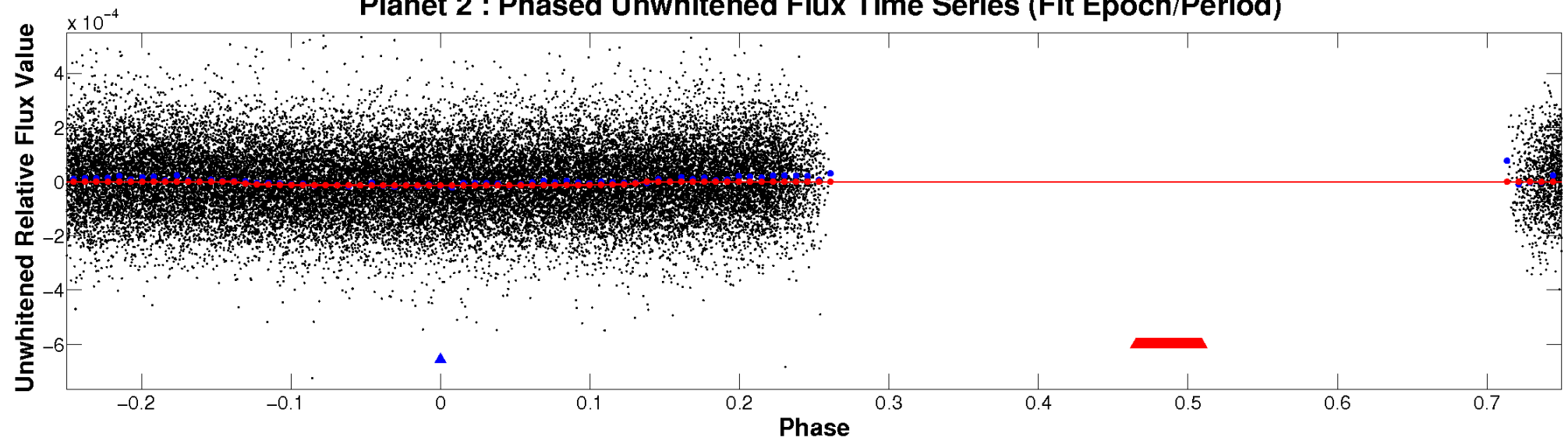
ALT Odd/Even

TCE 010394172-02

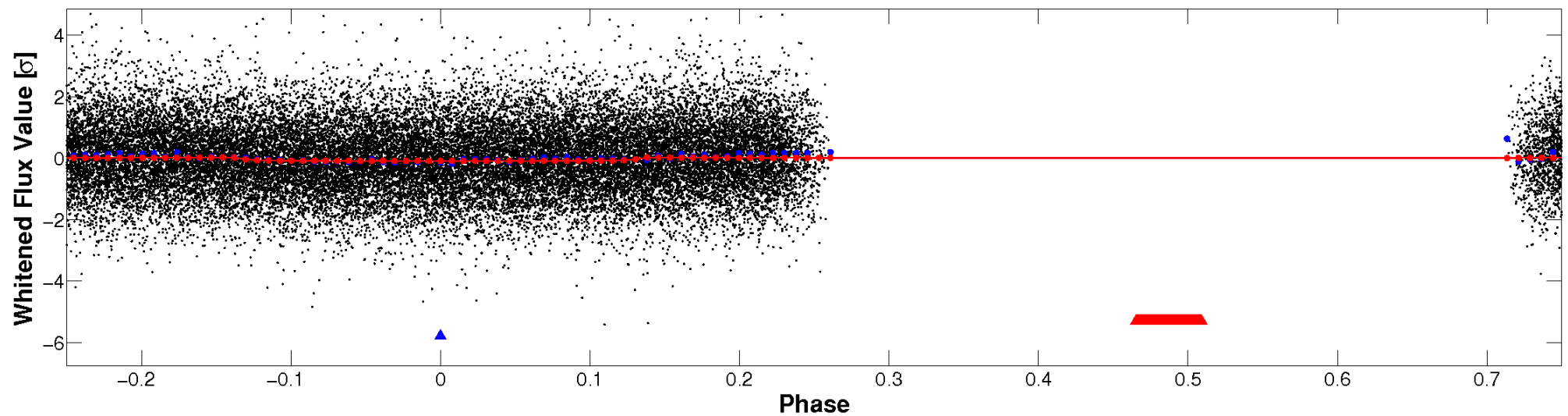


Non-Whitened Vs. Whitened Light Curve

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

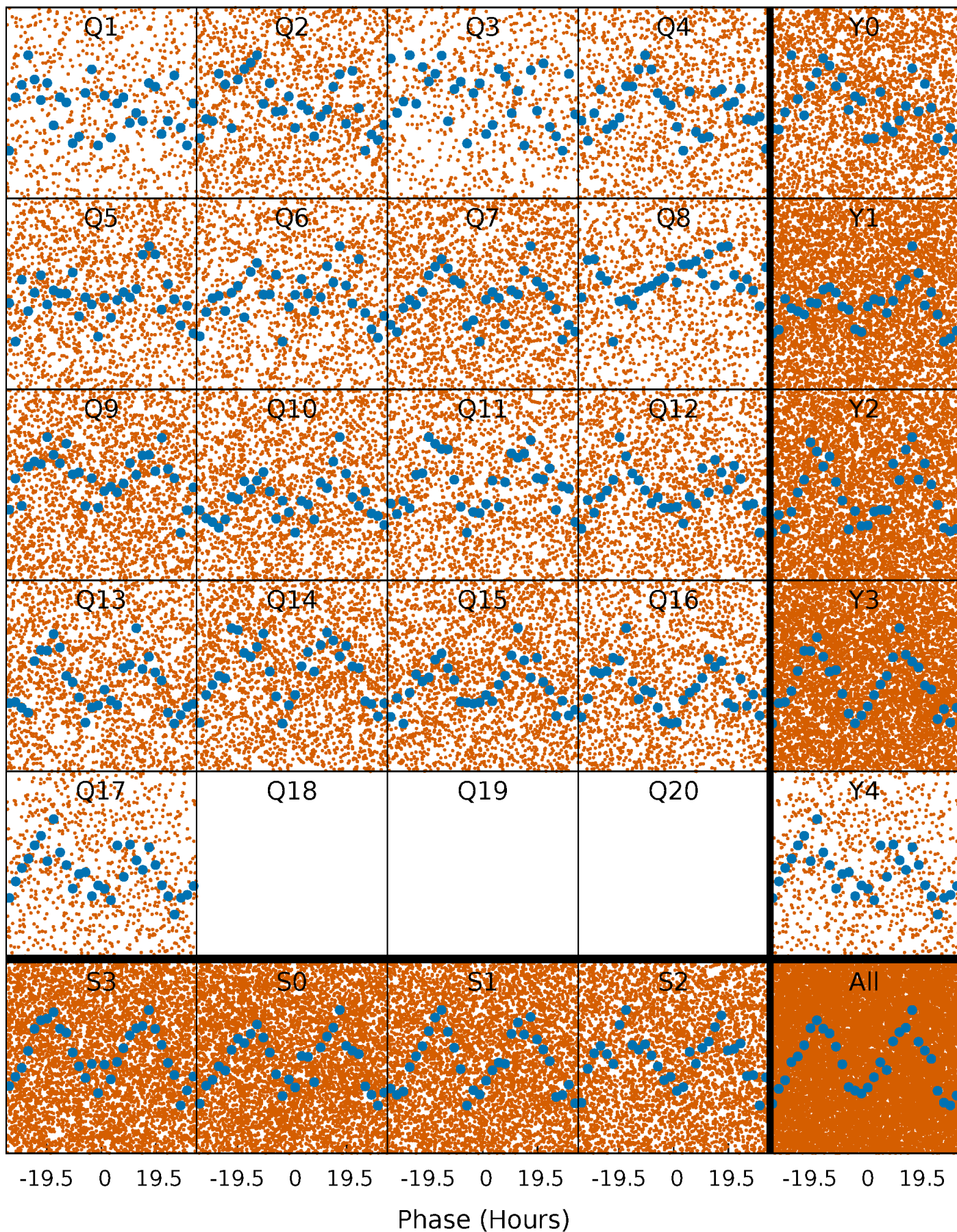


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



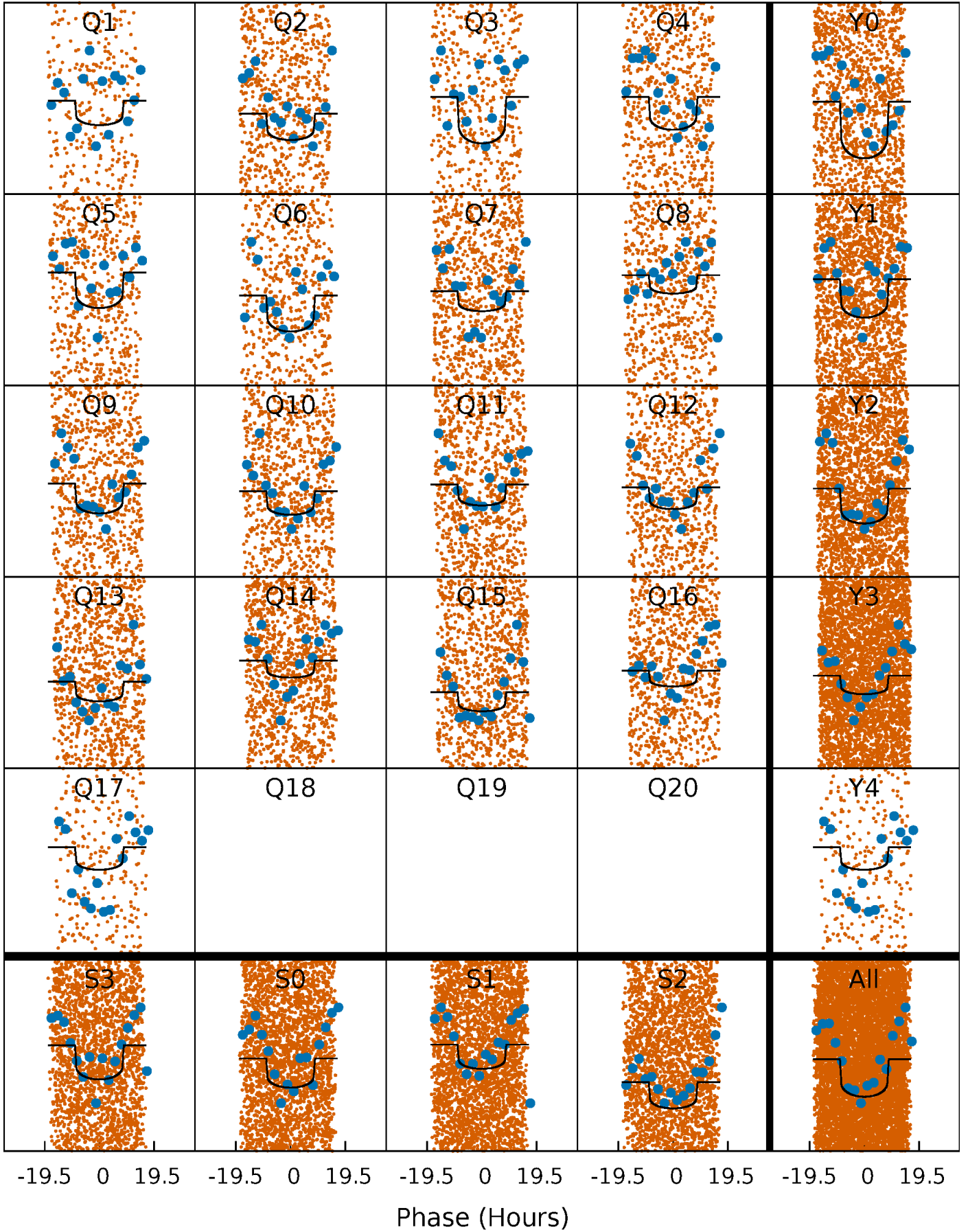
PDC Quarter-Phased Transit Curves

TCE 010394172-02 P= 2.663495 Days $T_0=132.005016$ (BKJD)



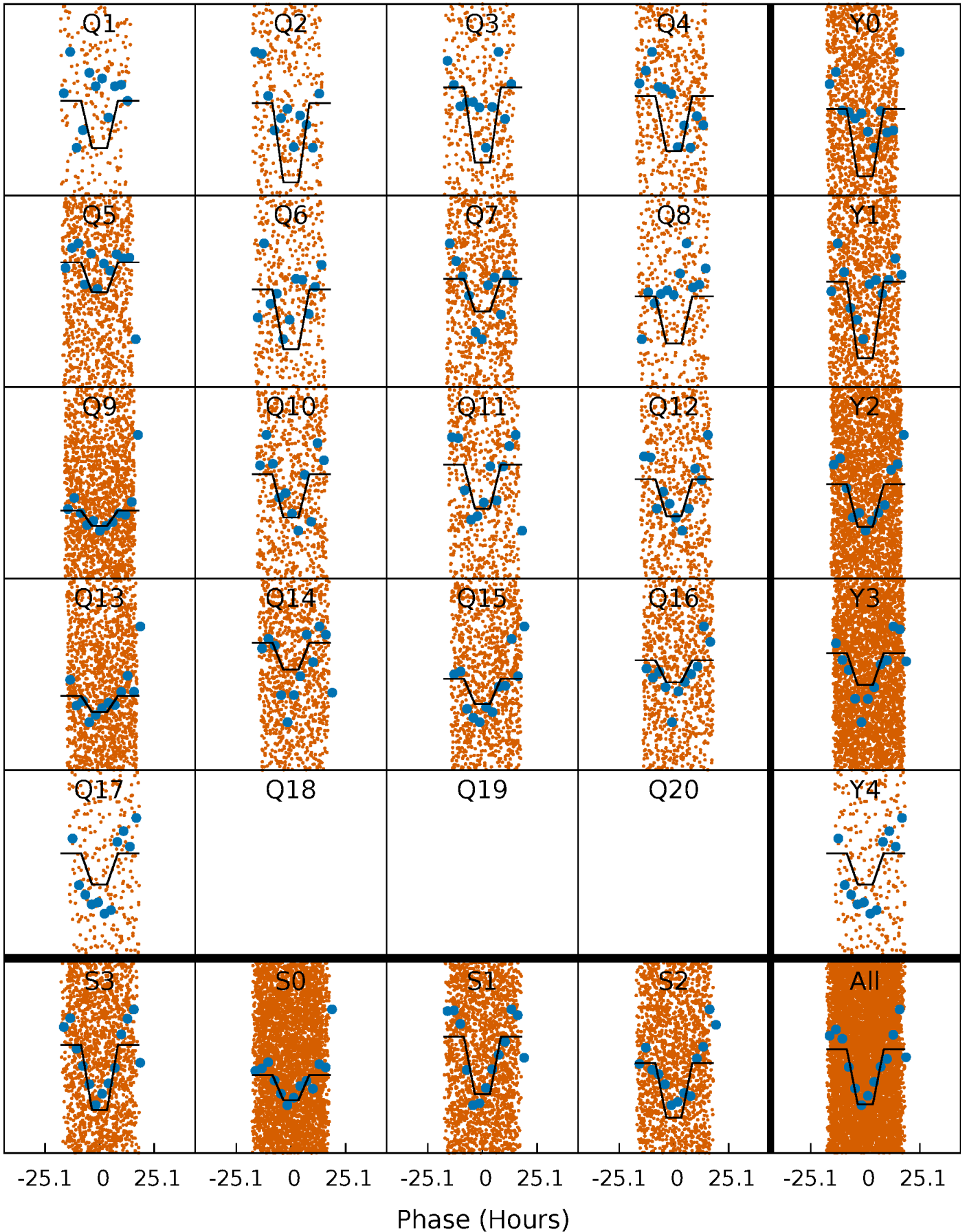
DV Quarter-Phased Transit Curves

TCE 010394172-02 P= 2.663495 Days $T_0=132.005016$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

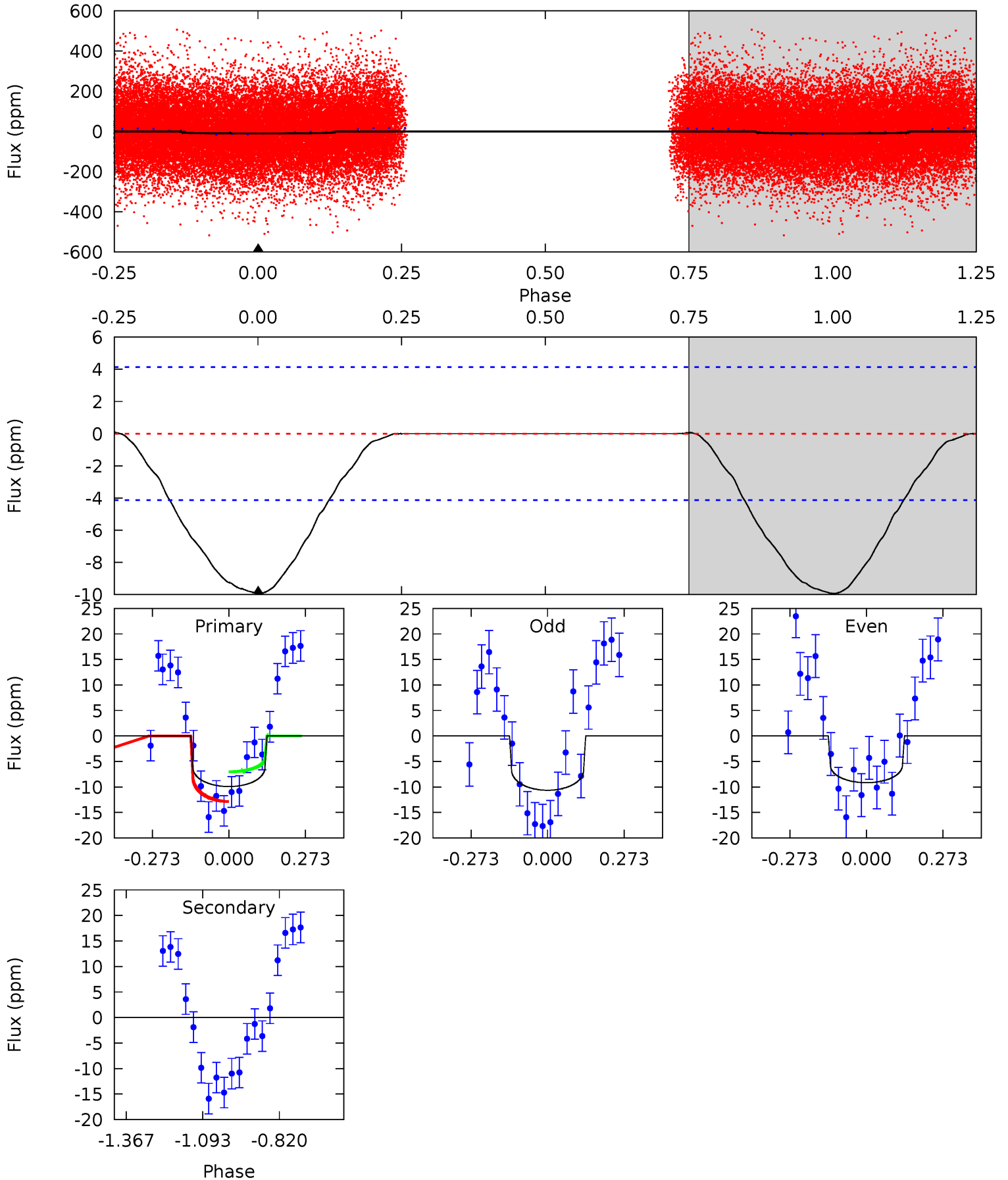
TCE 010394172-02 P= 2.663396 Days $T_0=131.991304$ (BKJD)



DV Model-Shift Uniqueness Test

010394172-02, P = 2.663495 Days, E = 129.341521 Days

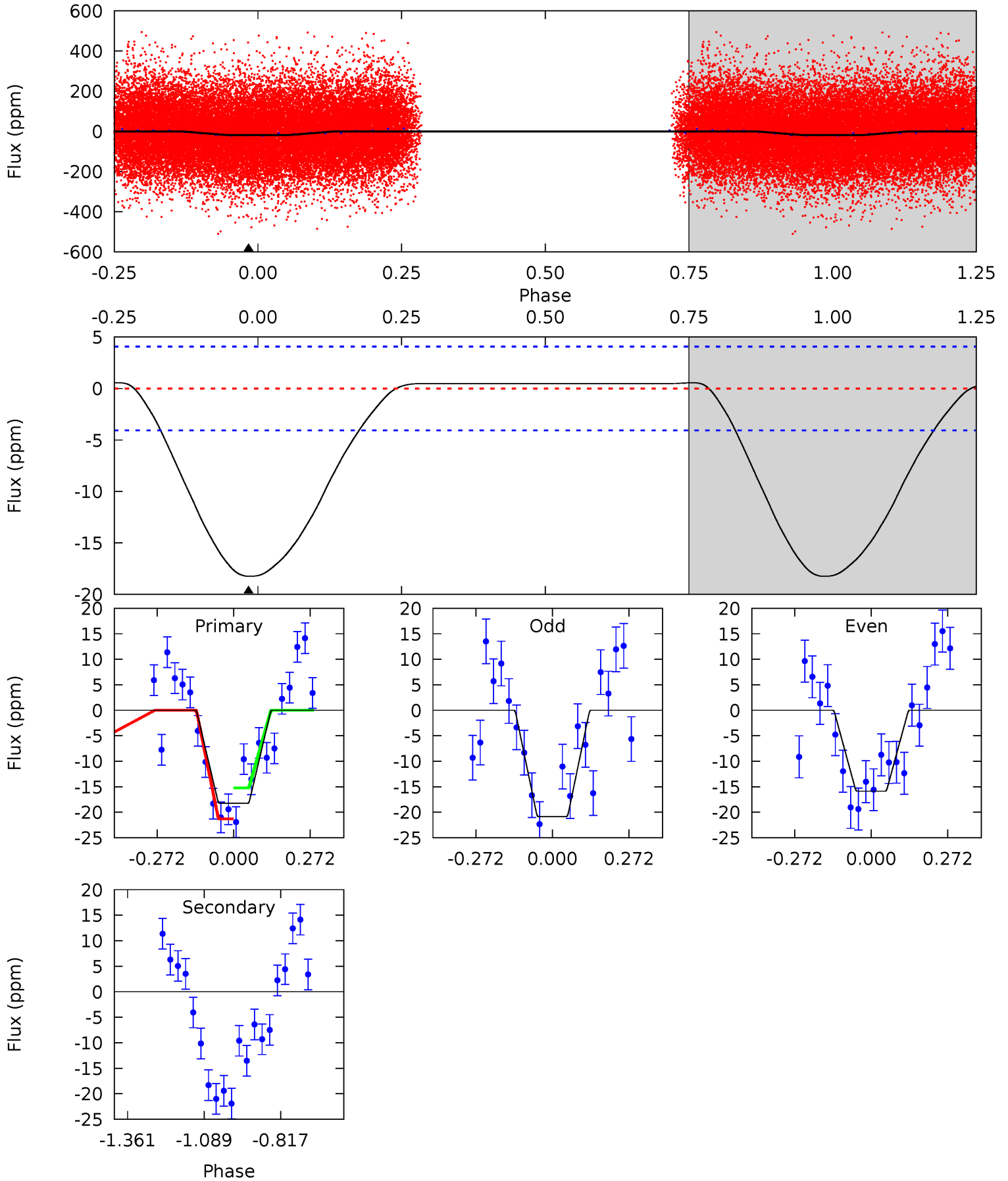
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	0	0	0	4.35	1.10	0.10	10.4	10.4	0	0	0.78	1.17	0.01	3.12



Alt Model-Shift Uniqueness Test

010394172-02, P = 2.663396 Days, E = 129.327908 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.5	0	0	0	4.35	1.10	0.65	19.5	19.5	0	0	2.67	1.04	0.03	3.25



Stellar Parameters For KIC 010394172

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9229^{+255}_{-438}	$4.106^{+0.148}_{-0.181}$	$0.070^{+0.150}_{-0.700}$	$2.179^{+0.736}_{-0.536}$	$2.207^{+0.396}_{-0.594}$	$0.300^{+0.280}_{-0.144}$
	+3%/-5%	+4%/-4%	+214%/-1000%	+34%/-25%	+18%/-27%	+93%/-48%
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 010394172-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1	$0.85^{+0.39}_{-0.33}$	3780^{+282}_{-267}	-3595^{+8096}_{-1433}	$-0.087^{+1.782}_{-2.094}$
Alt.	0 ± 1	$1.05^{+0.45}_{-0.35}$	3796^{+272}_{-272}	-3415^{+7476}_{-1182}	$0.017^{+1.177}_{-1.356}$

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 $A_{obs} \gg 1.0$

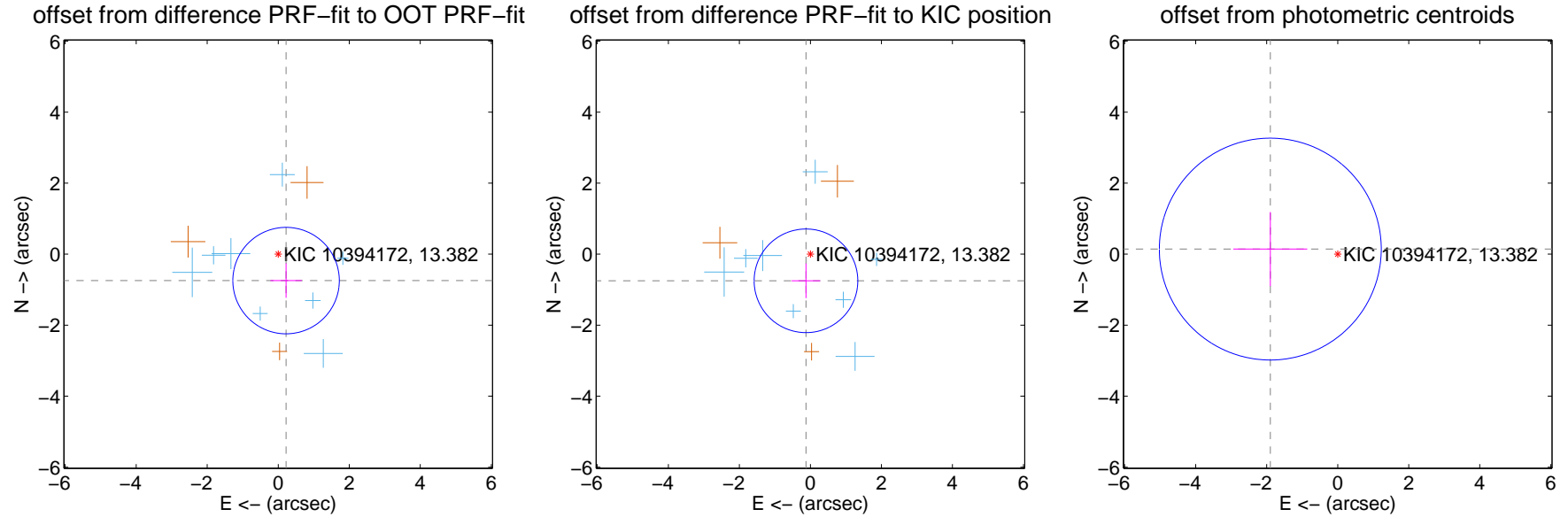
DV Centroid Data

Supplemental centroid analysis for 010394172-02. Kepler magnitude: 13.38. Transit SNR 10.75

There are 8 quarters with good PRF difference image offsets

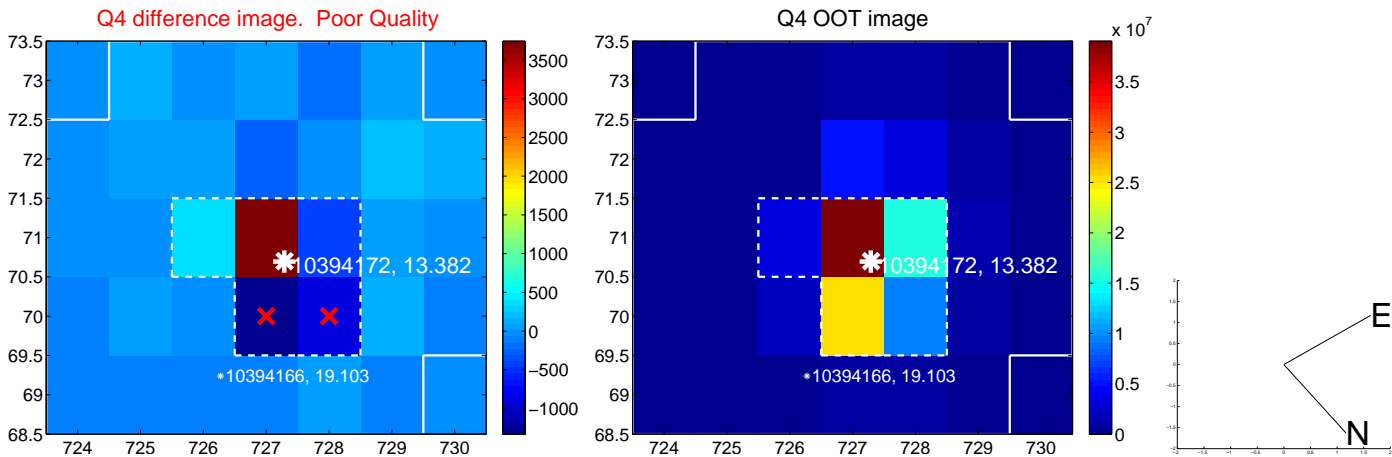
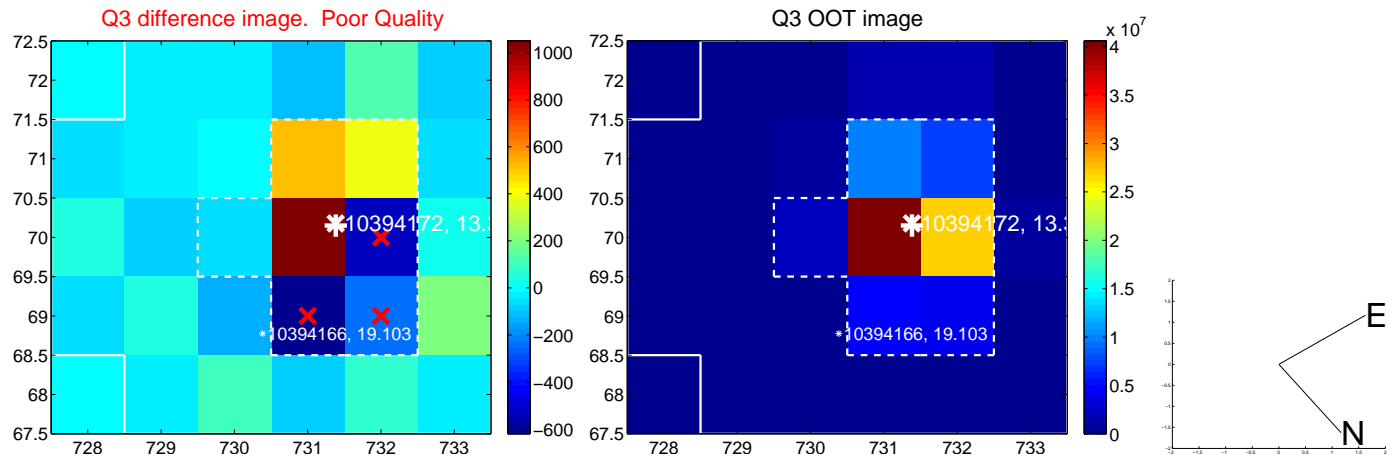
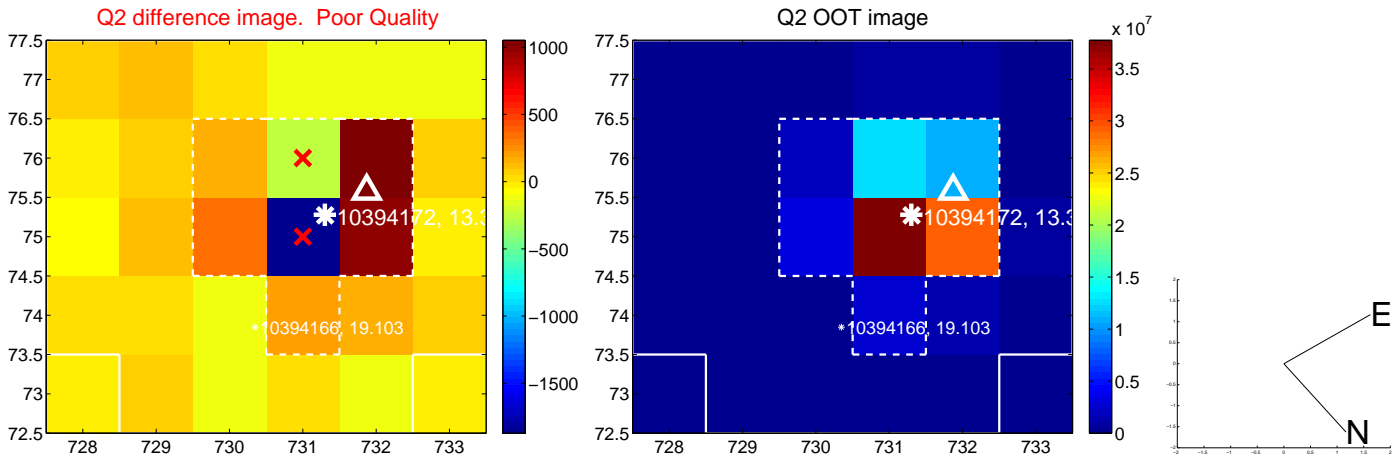
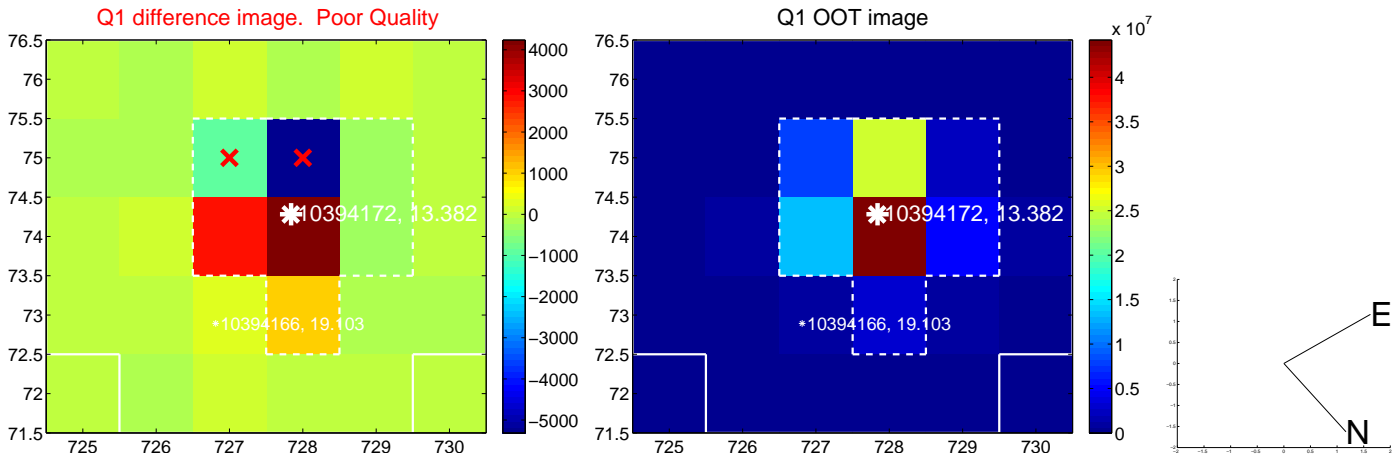
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.777 ± 0.500	1.55	-0.221 ± 0.443	-0.744 ± 0.486
PRF-fit source offset from KIC position	0.761 ± 0.487	1.56	0.125 ± 0.401	-0.751 ± 0.489
photometric centroid source offset	1.90 ± 1.04	1.83	1.90 ± 1.04	0.14 ± 1.04

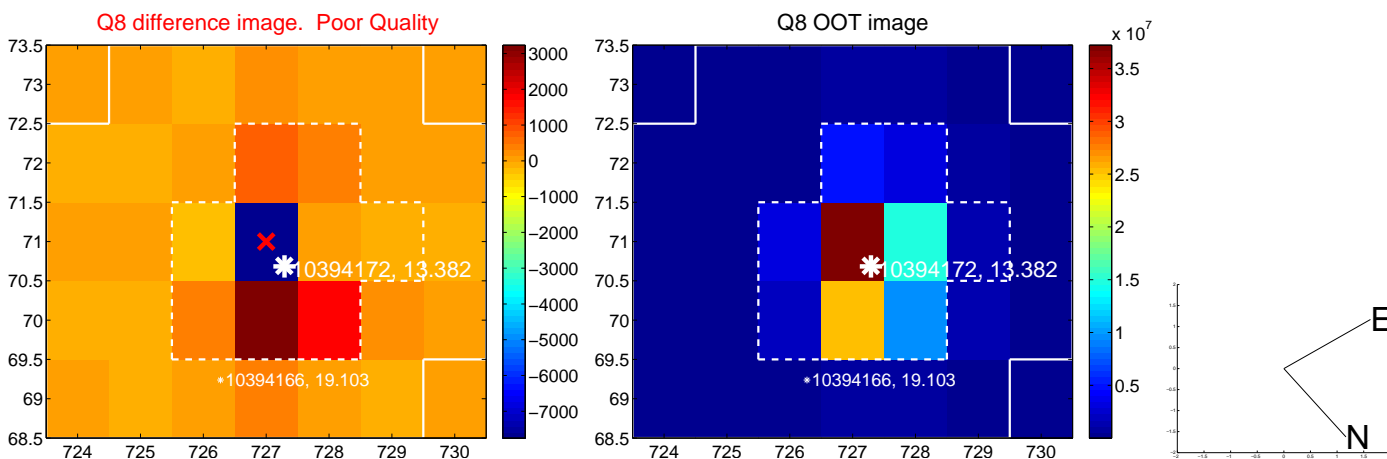
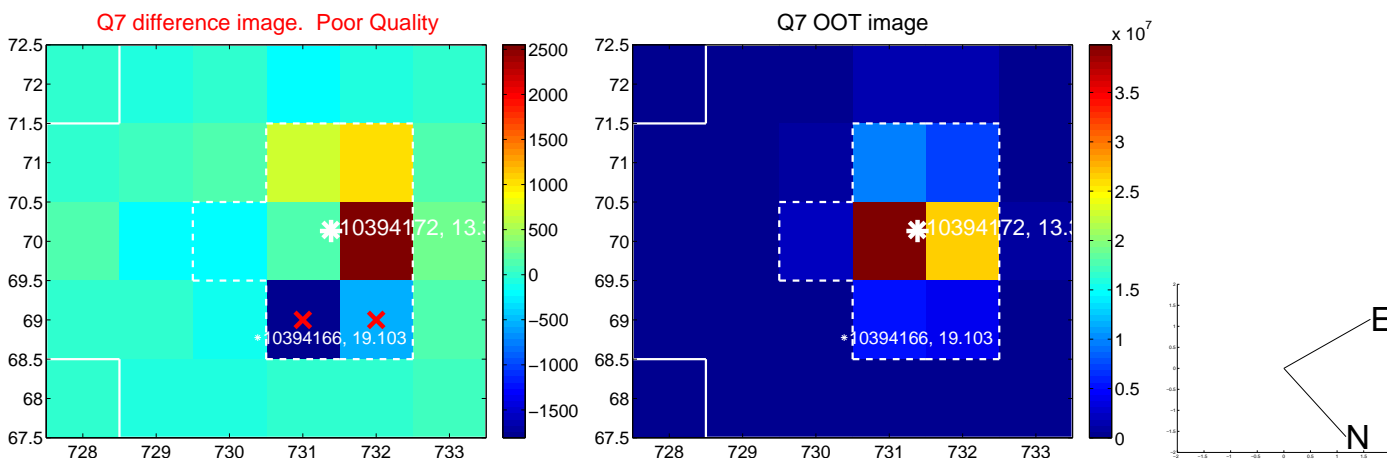
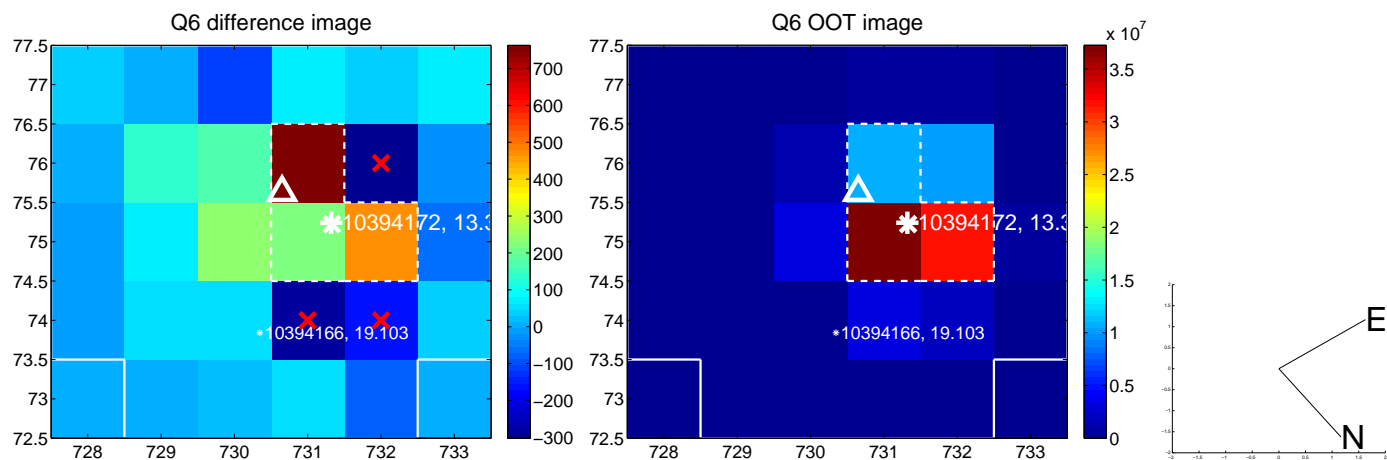
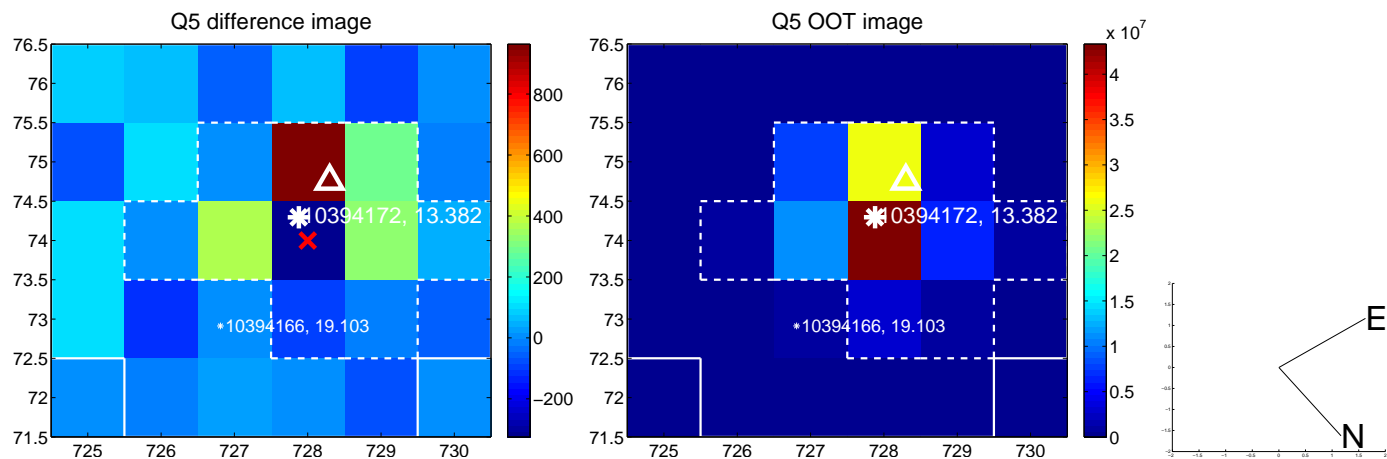


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

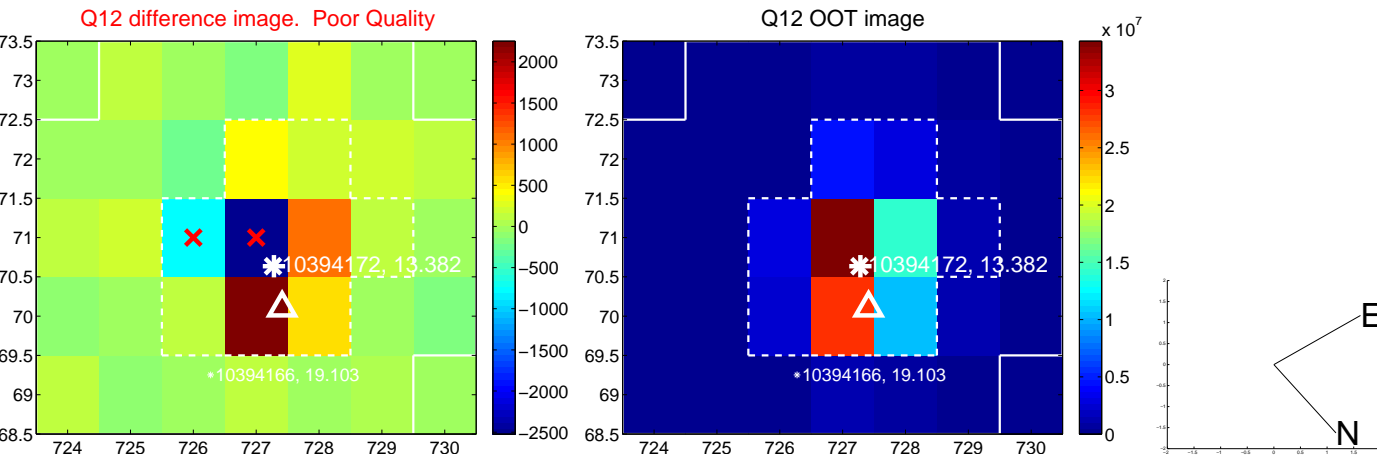
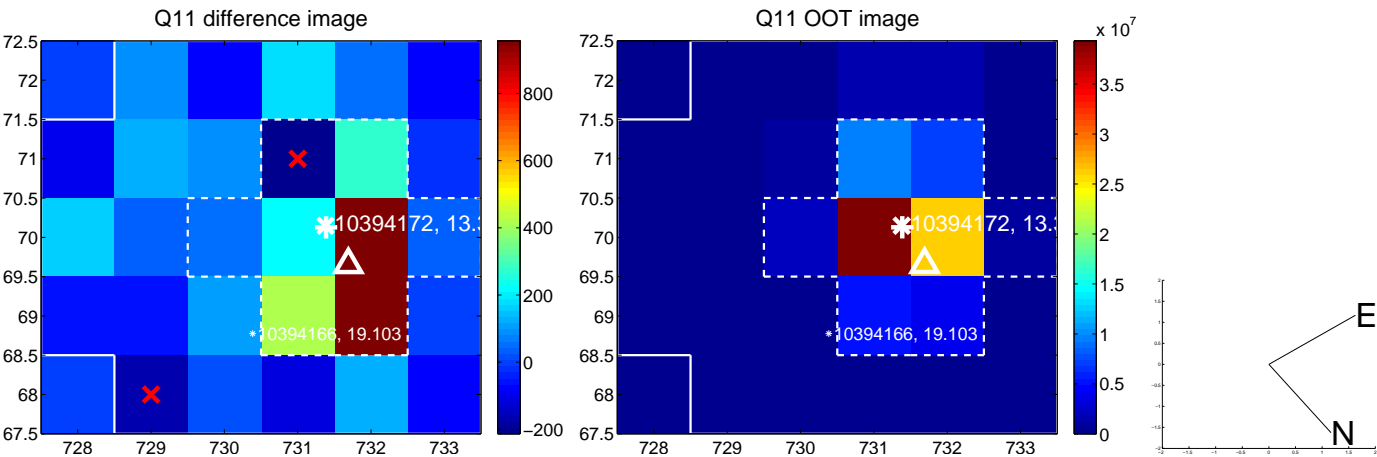
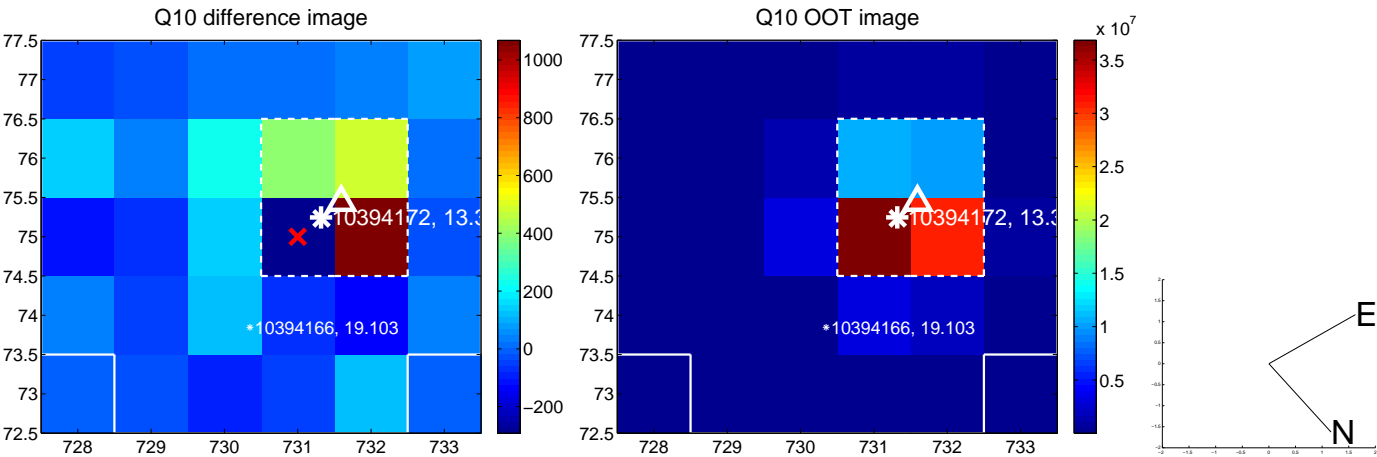
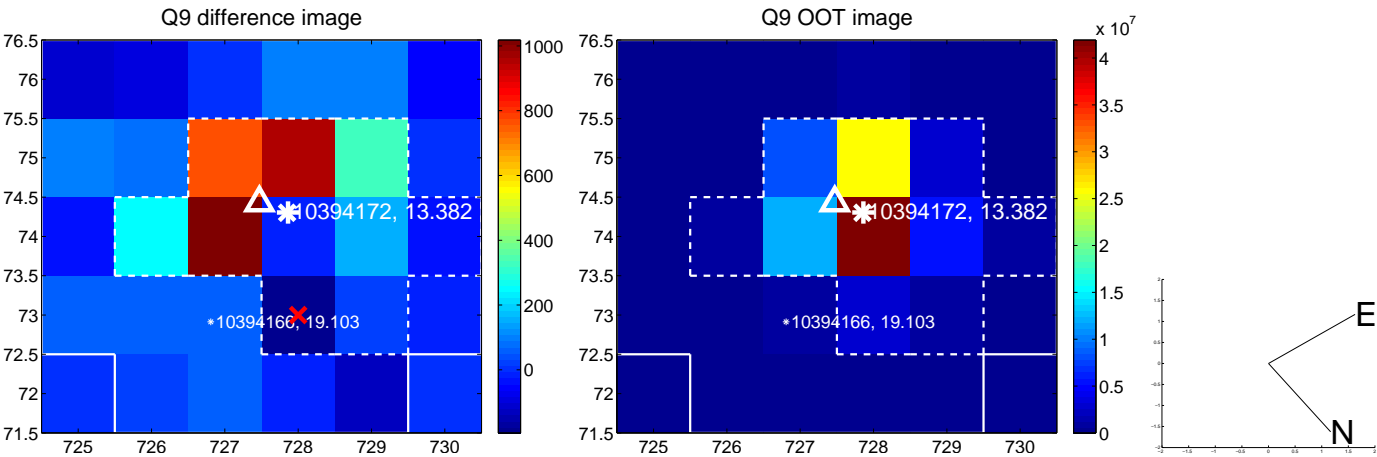
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



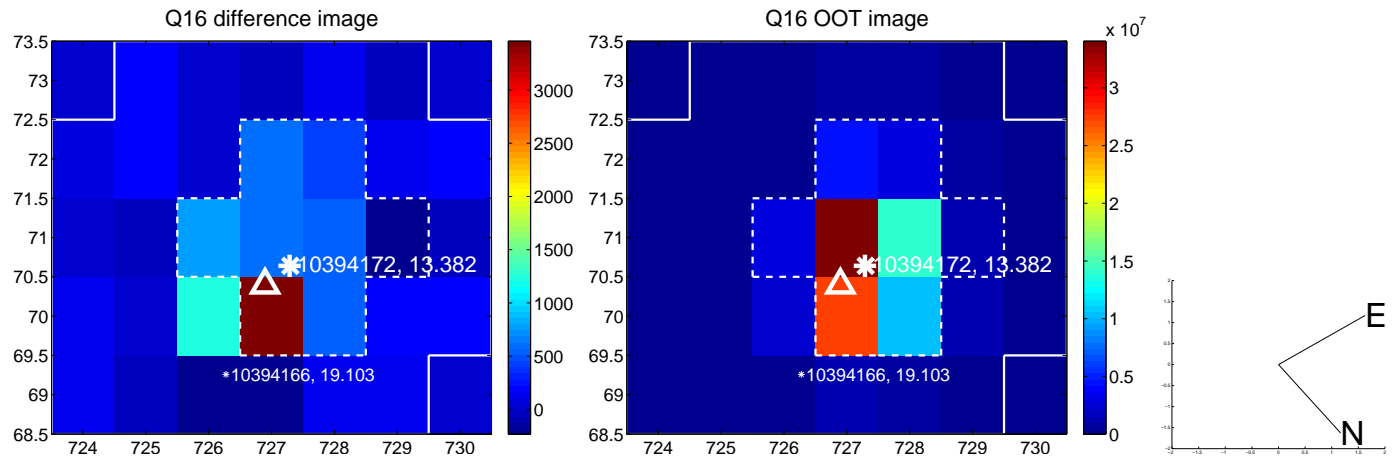
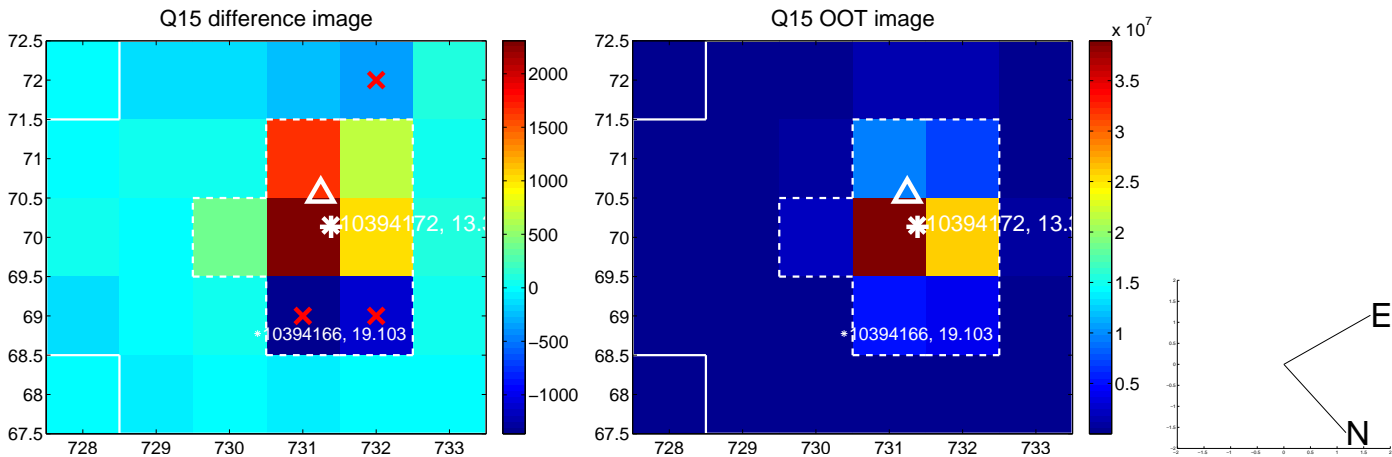
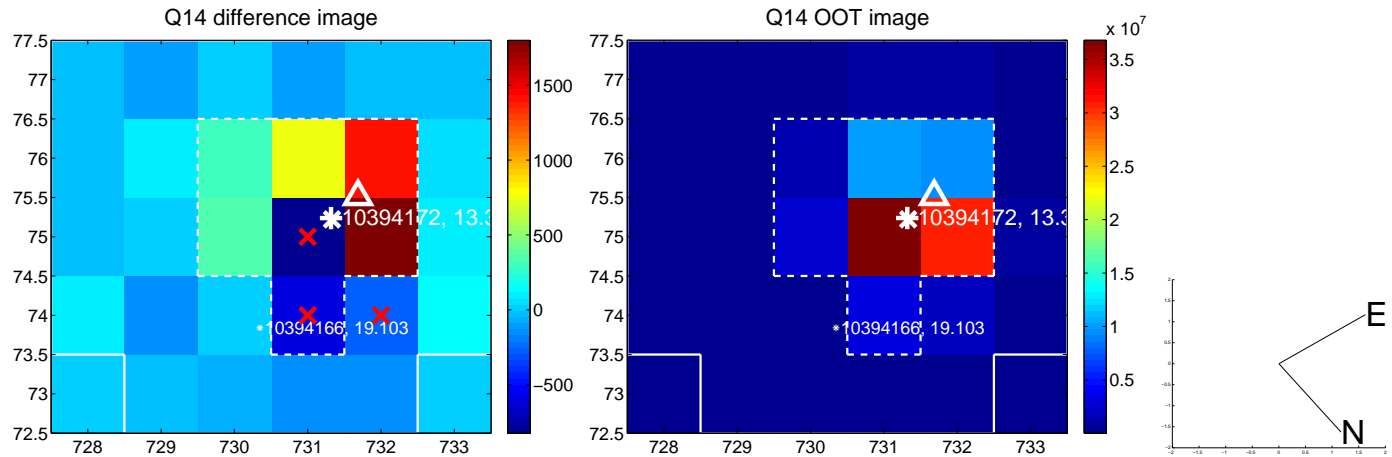
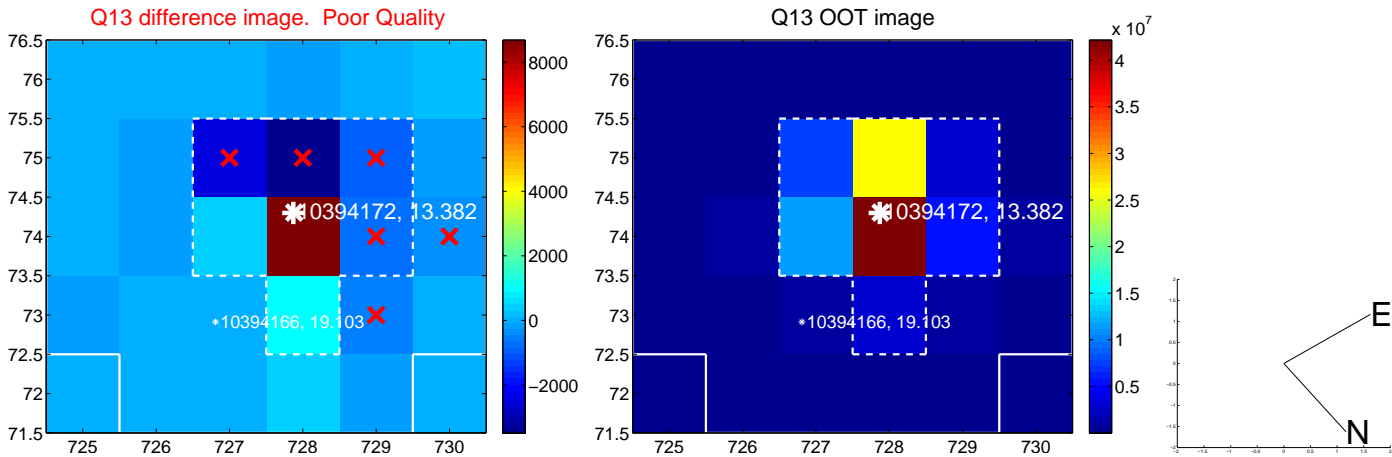
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



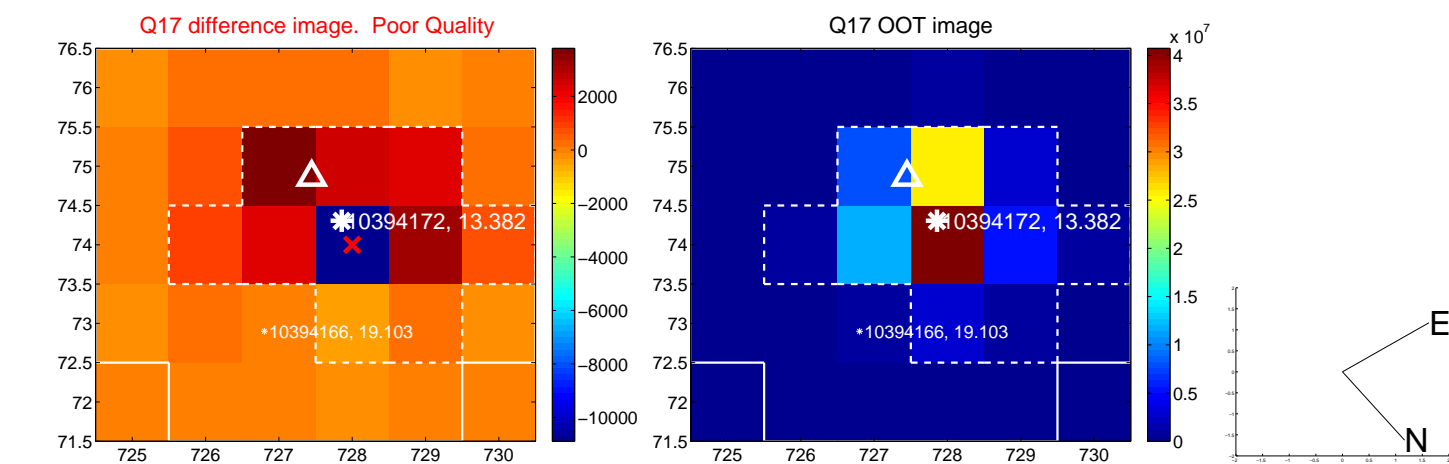
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



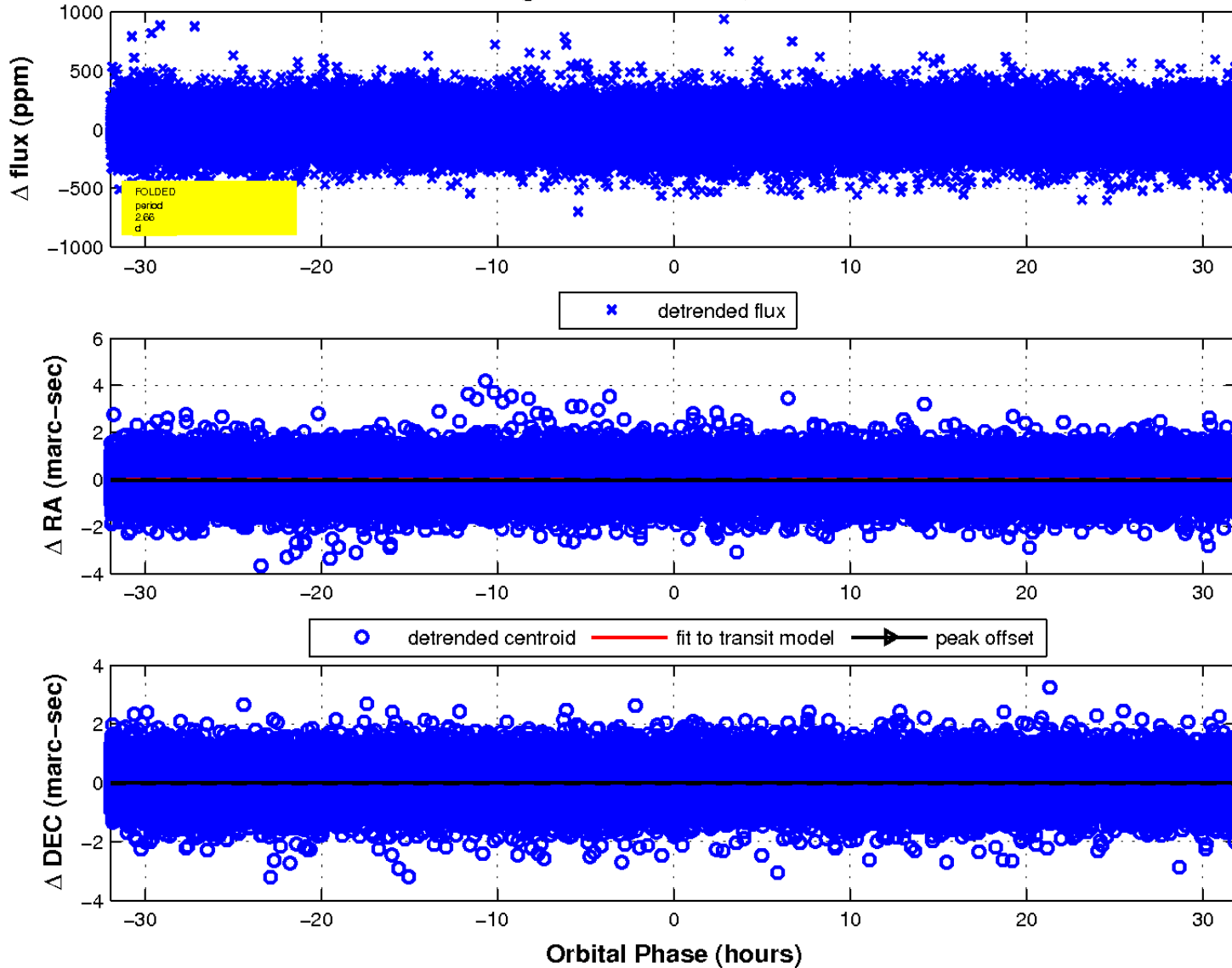
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



This plot does not exist for this TCE.