

KIC 011135694

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})
011135694-01	OBS	4896.02	49.536066	172.223392	217.5	10.401	9.3	9.6	1.02	6118	1.84	18.91
011135694-02	OBS	4896.01	19.594637	150.138490	142.3	7.089	8.1	9.1	1.02	6118	1.38	65.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011135694-01	OBS	PC	0.97	0	0	0	0	NO_COMMENT
011135694-02	OBS	PC	0.93	0	0	0	0	NO_COMMENT

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

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

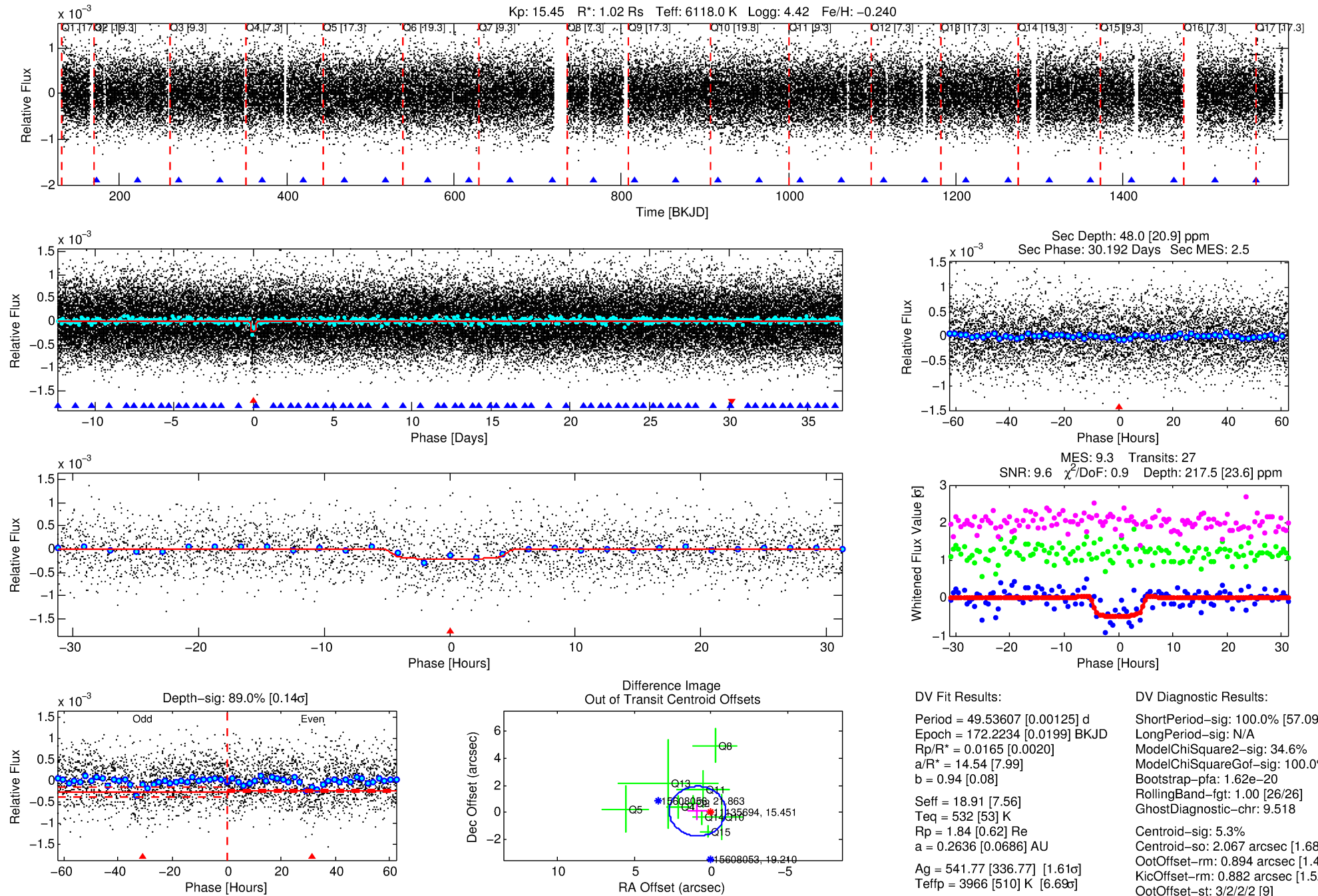
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011135694-01

No Significant Match Found

DV One-Page Summary

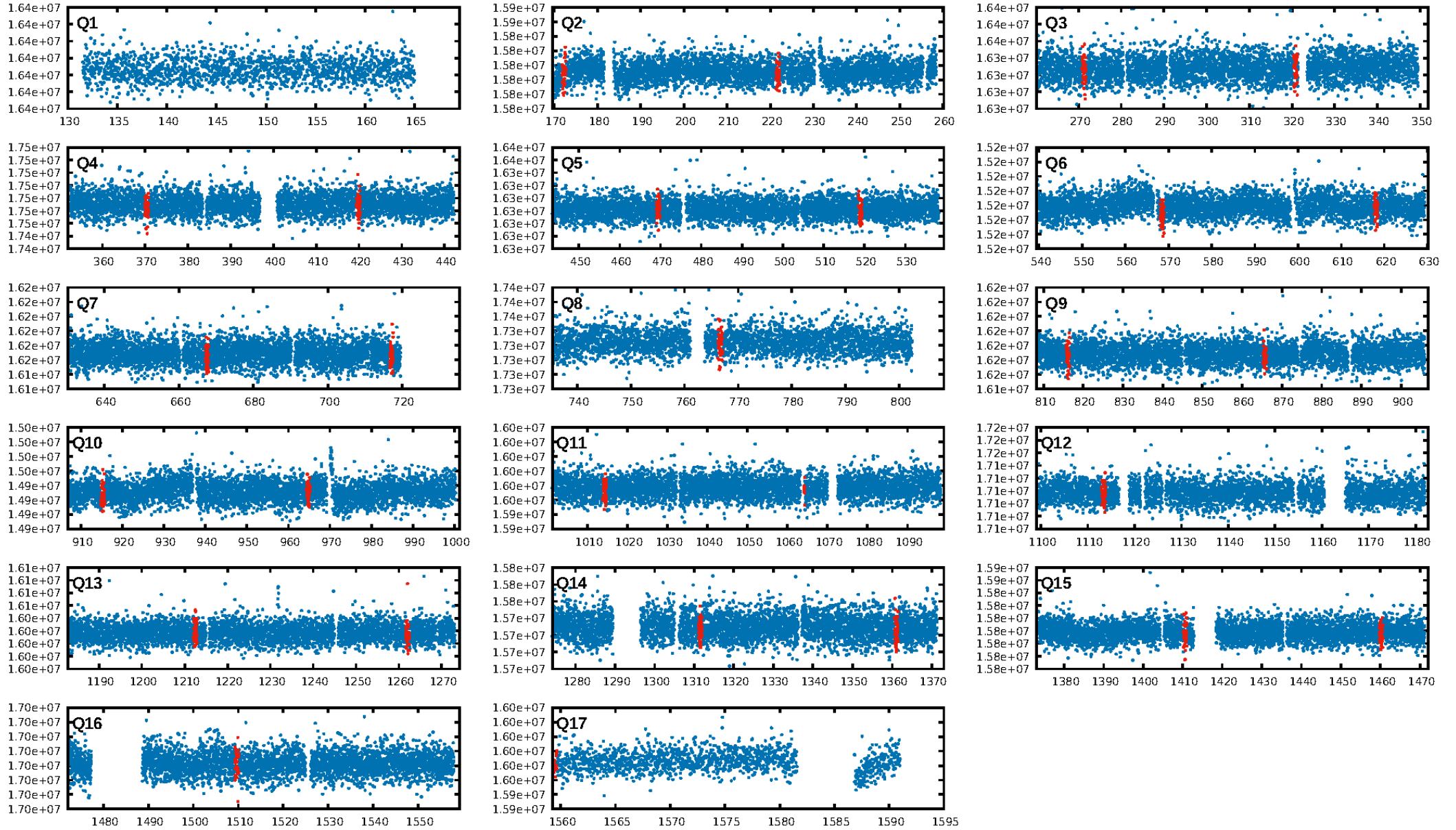
KIC: 11135694 Candidate: 1 of 2 Period: 49.536 d
KOI: K04896 Corr: No Ephemeris Match



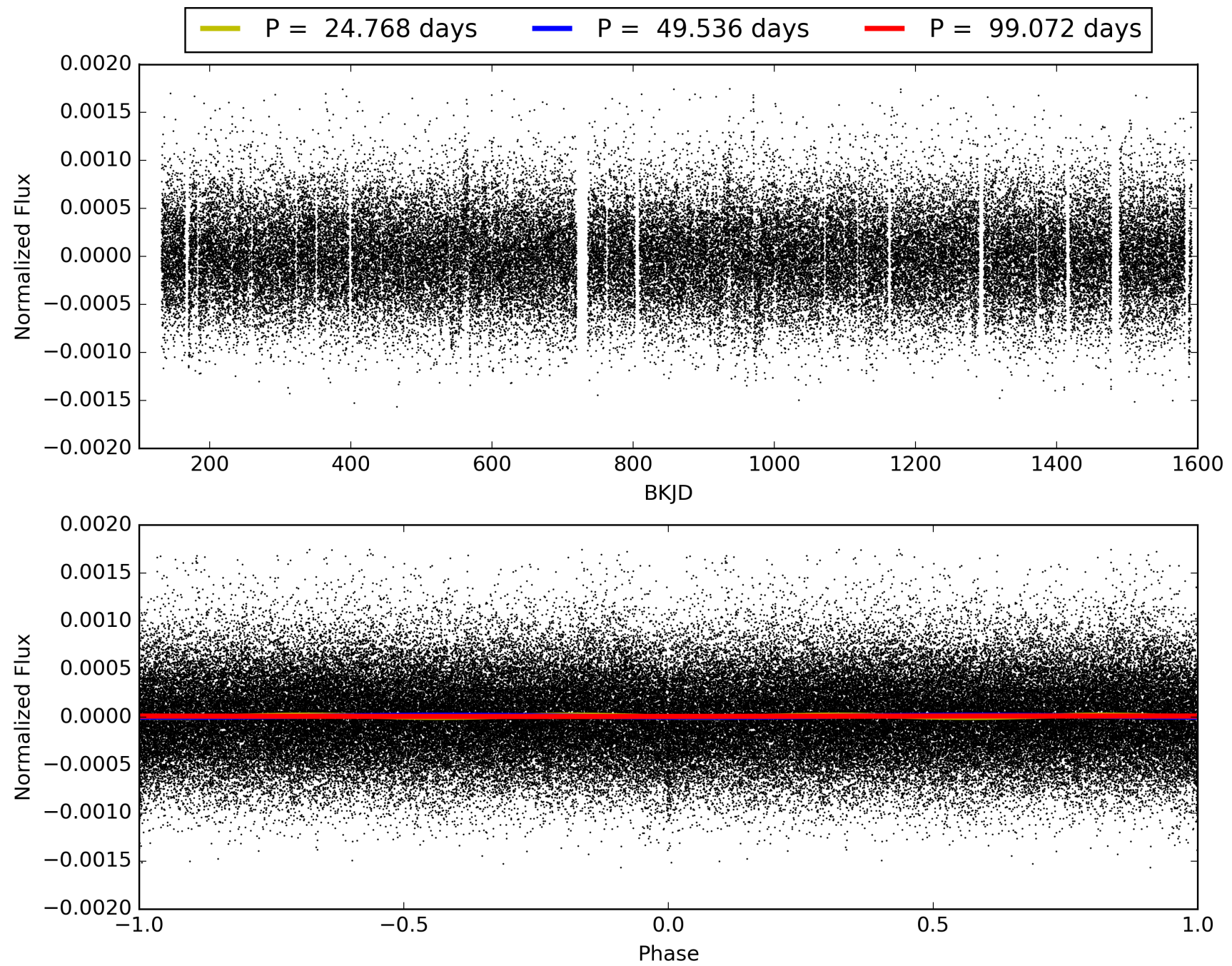
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:50:35 Z

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

TCE 011135694-01, PDC Light Curves

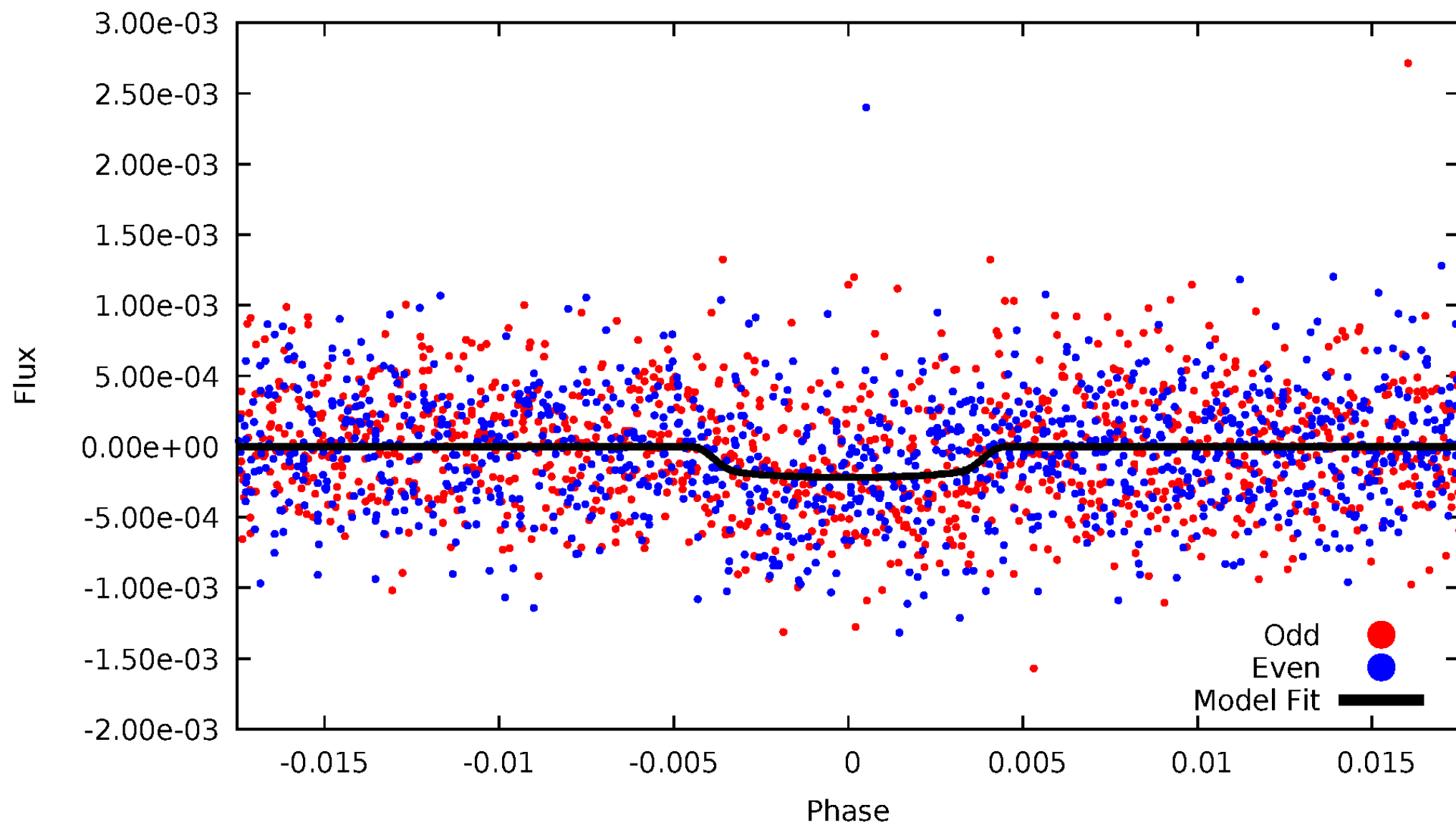


TCE 011135694-01



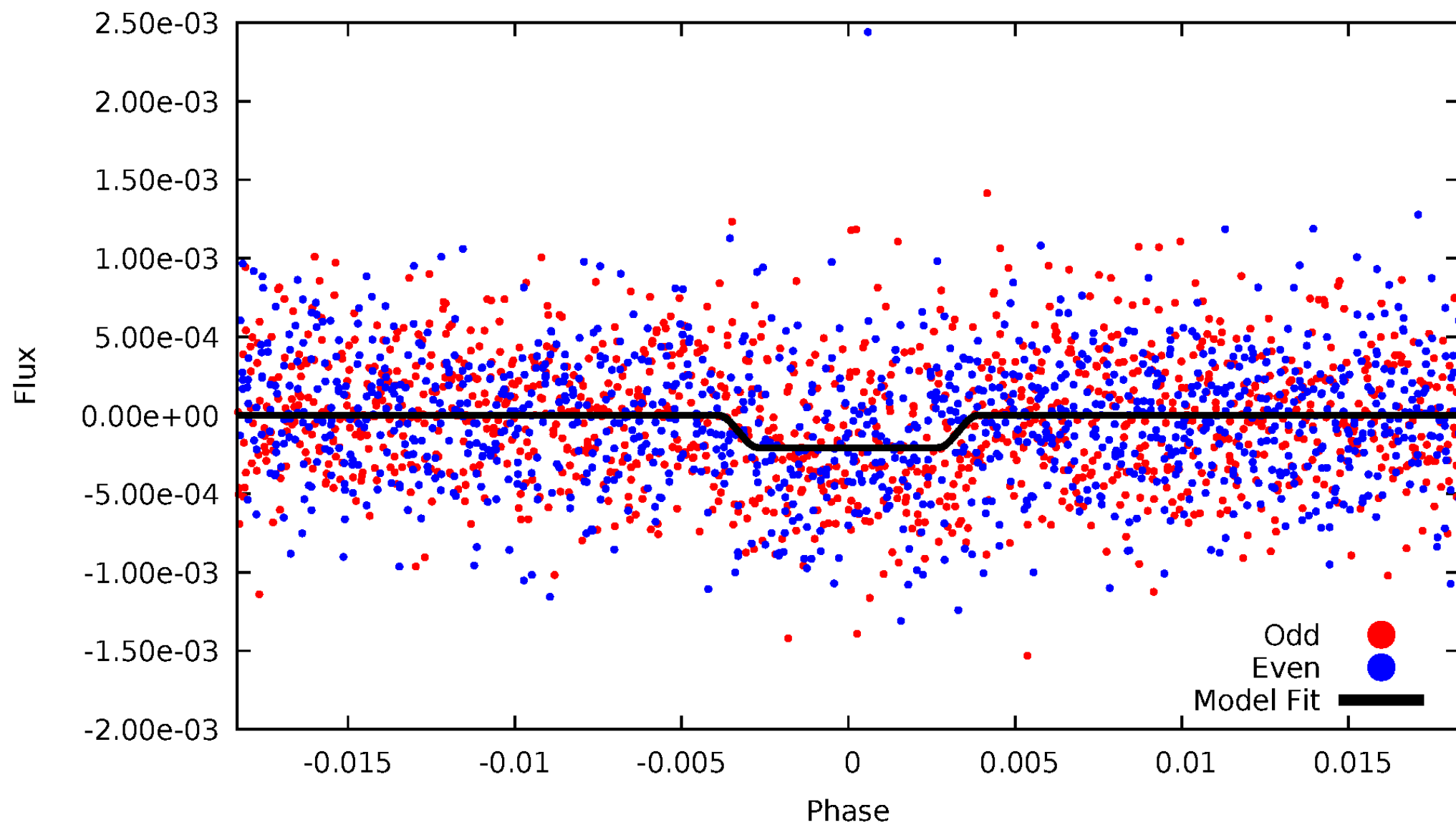
DV Odd/Even

TCE 011135694-01



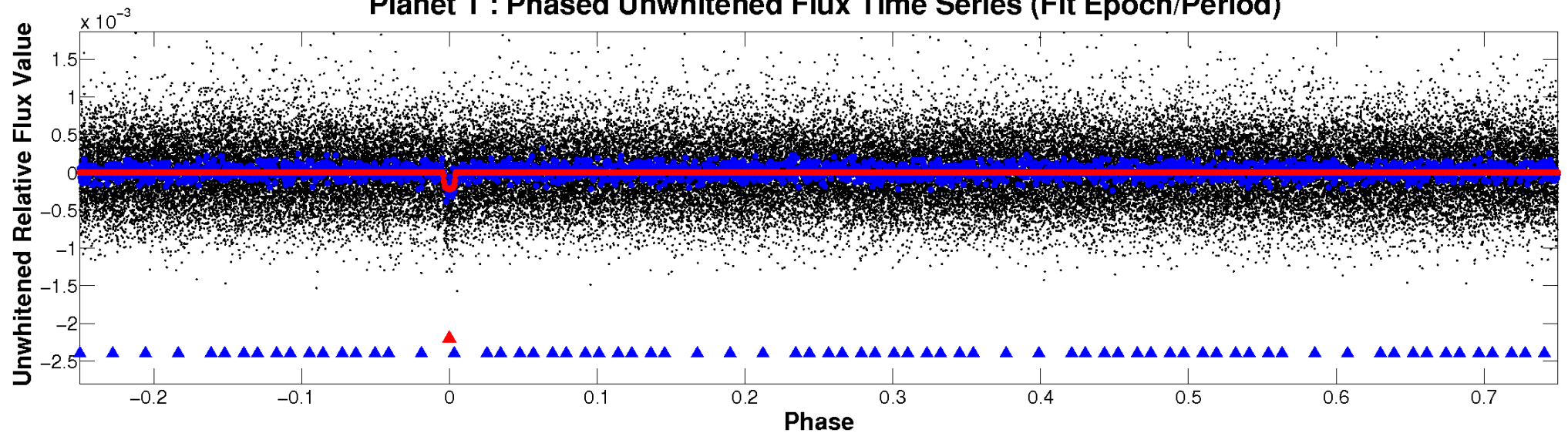
ALT Odd/Even

TCE 011135694-01

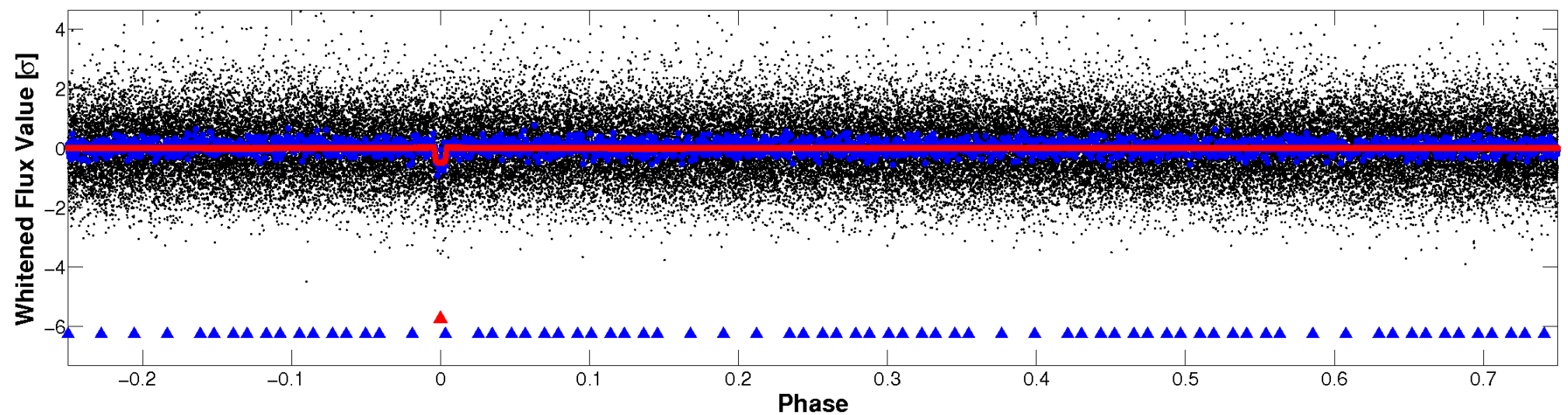


Non-Whitened Vs. Whitened Light Curve

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



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



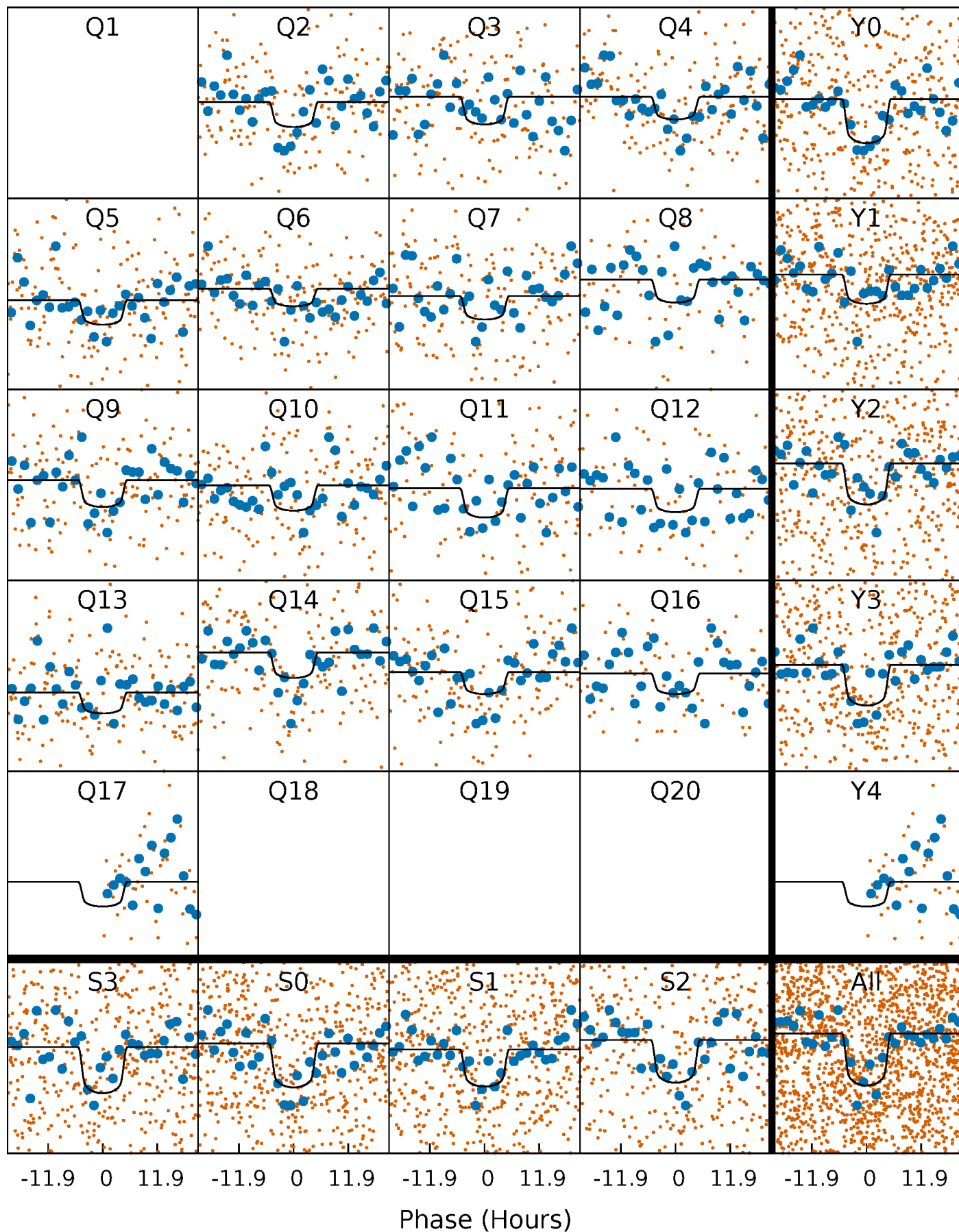
PDC Quarter-Phased Transit Curves

TCE 011135694-01 P= 49.536066 Days $T_0=172.223392$ (BKJD)



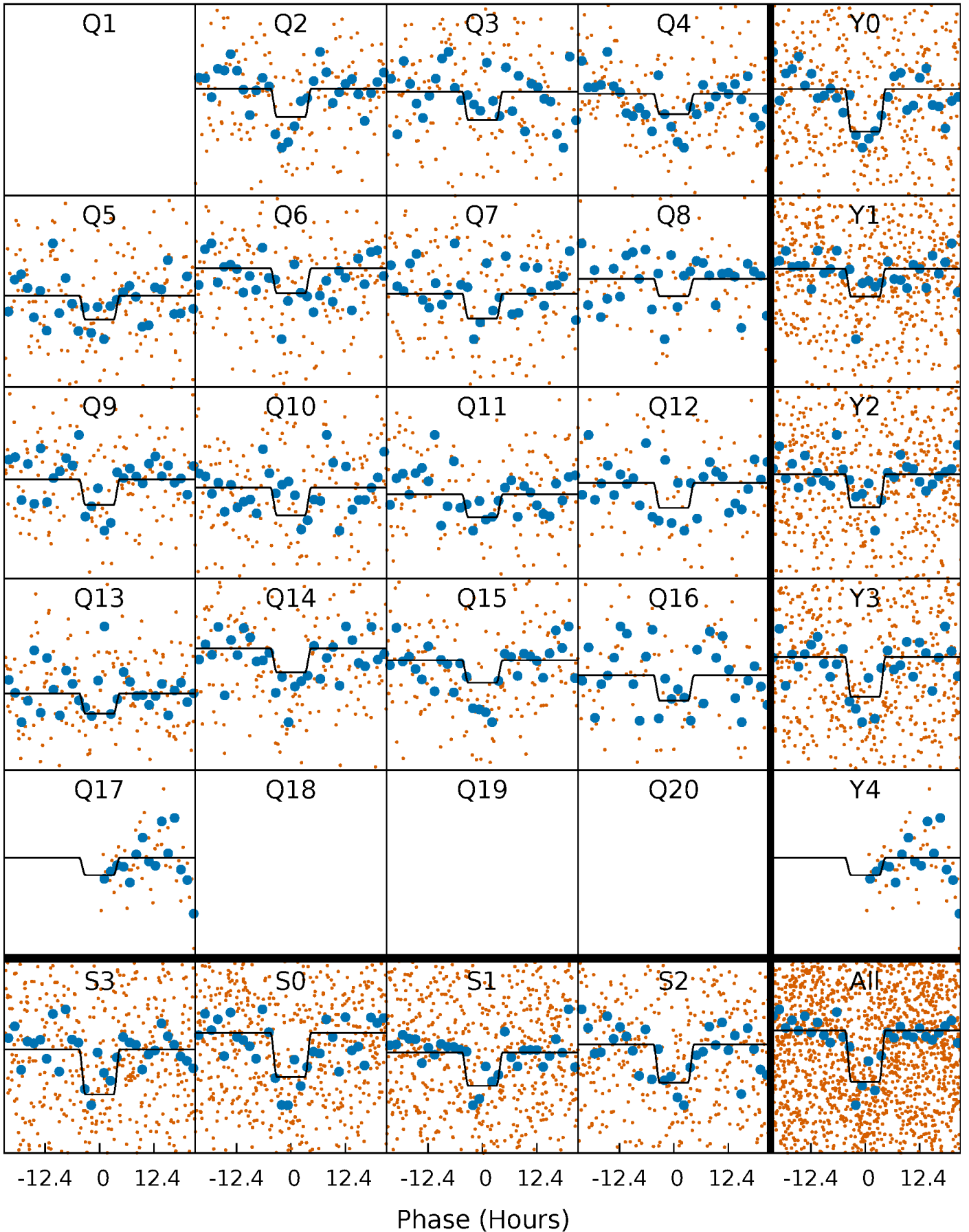
DV Quarter-Phased Transit Curves

TCE 011135694-01 P= 49.536066 Days $T_0=172.223392$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

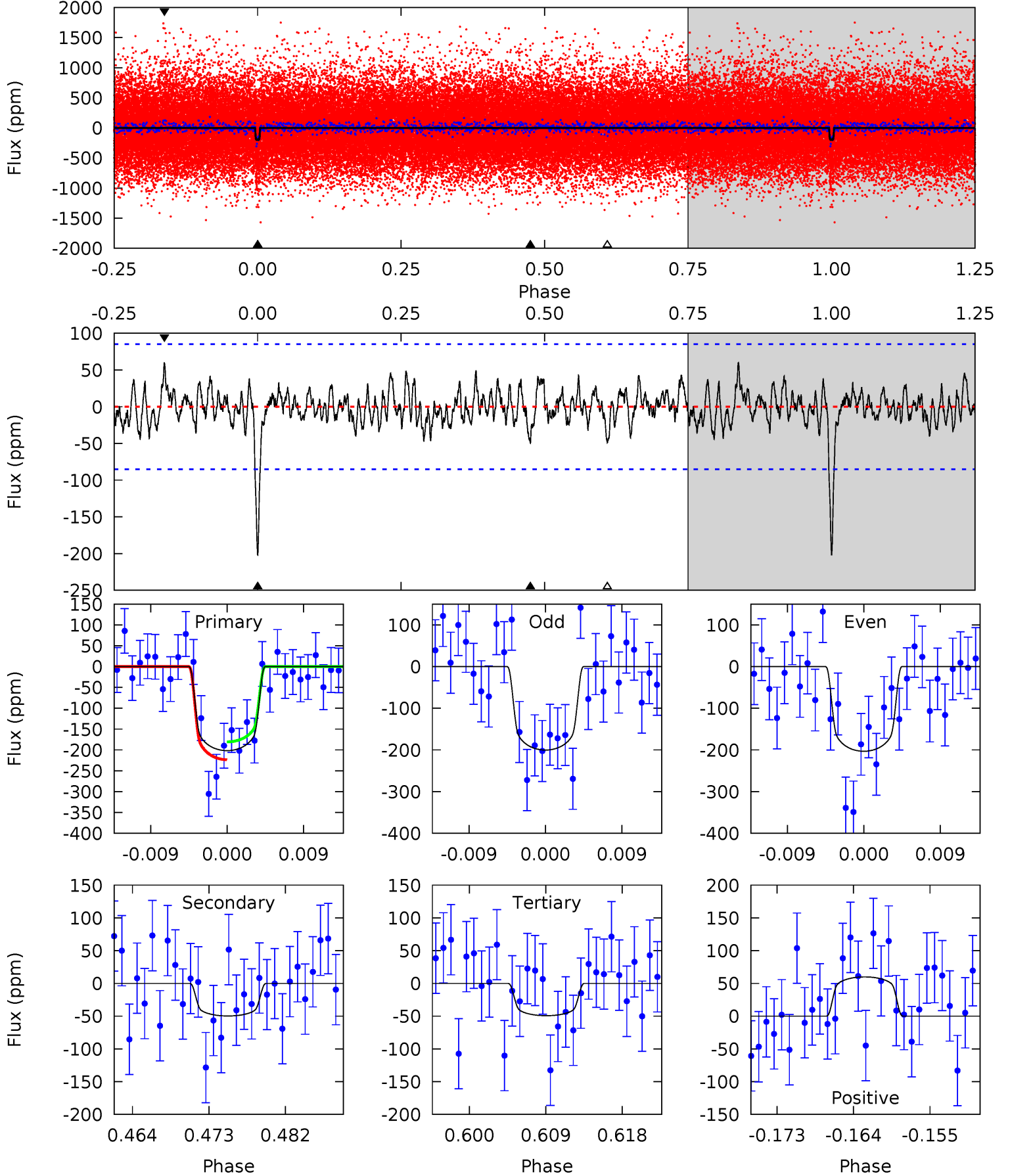
TCE 011135694-01 P= 49.536185 Days $T_0=172.217341$ (BKJD)



DV Model-Shift Uniqueness Test

011135694-01, P = 49.536066 Days, E = 122.687326 Days

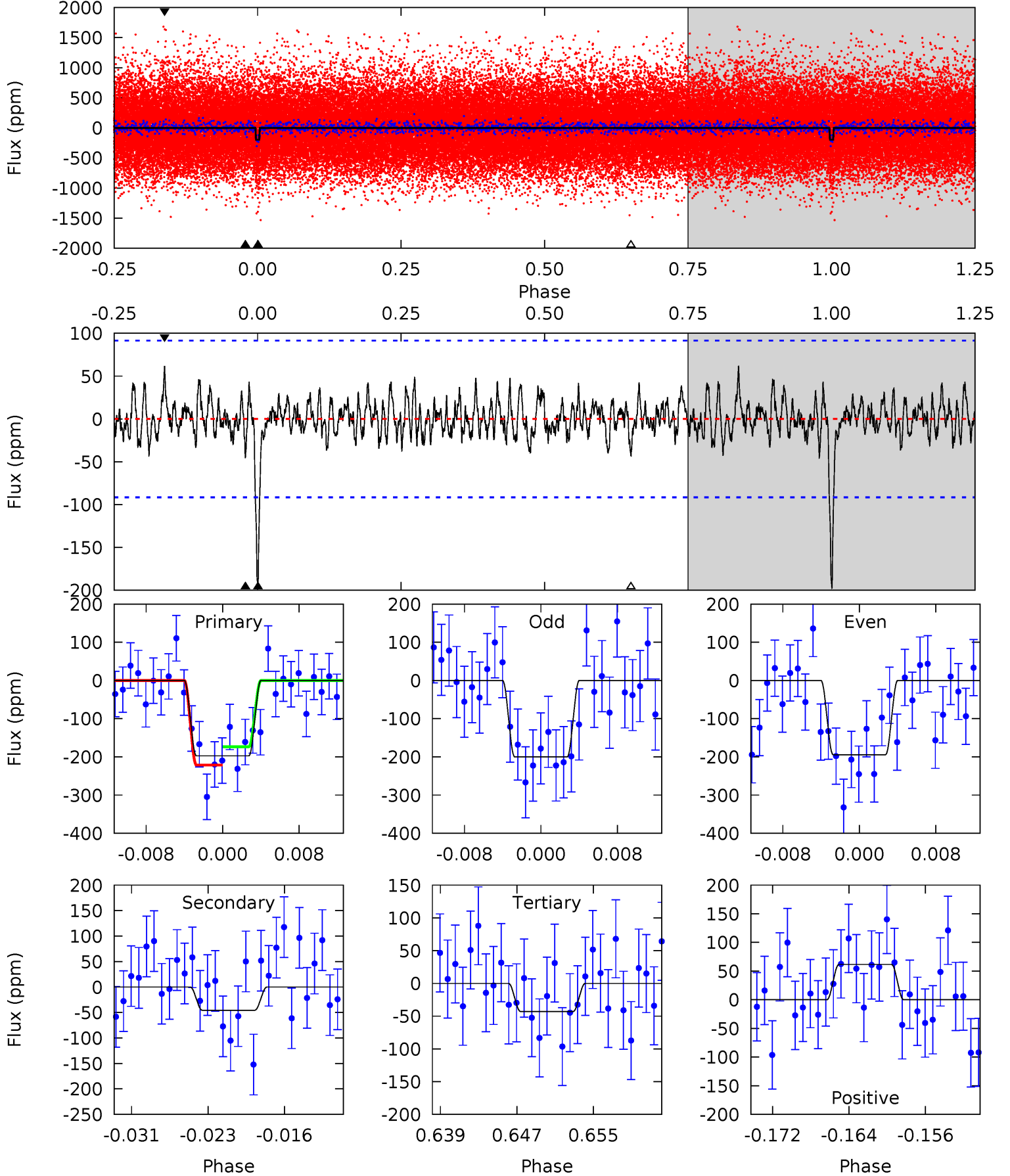
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	2.95	2.92	3.54	5.04	2.61	1.10	9.02	8.40	0.03	-0.60	0.08	1.05	0.23	1.27



Alt Model-Shift Uniqueness Test

011135694-01, P = 49.536185 Days, E = 122.681156 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	2.53	2.38	3.42	5.07	2.66	0.95	8.57	7.53	0.15	-0.90	0.16	1.14	0.24	1.33



Stellar Parameters For KIC 011135694

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6118^{+191}_{-212}	$4.416^{+0.087}_{-0.203}$	$-0.240^{+0.300}_{-0.300}$	$1.023^{+0.320}_{-0.137}$	$0.995^{+0.153}_{-0.125}$	$1.308^{+0.590}_{-0.647}$
	+3%/-3%	+2%/-5%	+125%/-125%	+31%/-13%	+15%/-13%	+45%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011135694-01 / KOI 4896.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-50 ± 17	$1.89^{+0.38}_{-0.30}$	750^{+60}_{-40}	4232^{+349}_{-340}	513^{+285}_{-216}
Alt.	-46 ± 18	$1.67^{+0.34}_{-0.29}$	757^{+52}_{-43}	4359^{+427}_{-405}	594^{+396}_{-262}

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 $A_{obs} \gg 1.0$

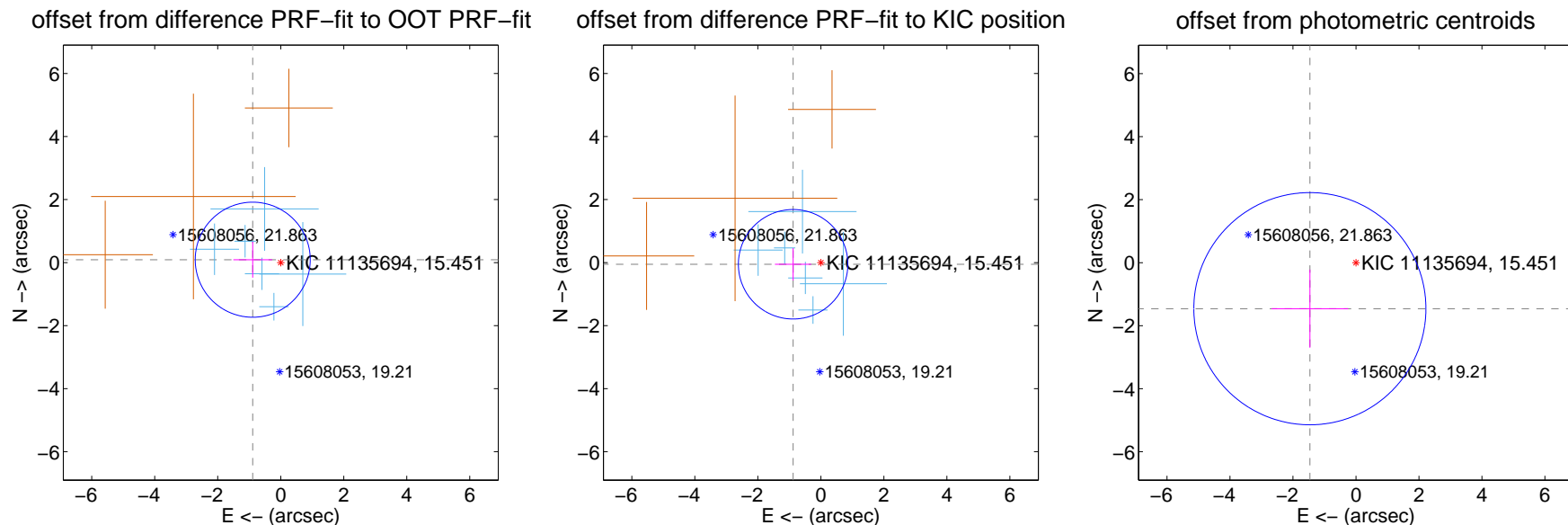
DV Centroid Data

Supplemental centroid analysis for 011135694-01. Kepler magnitude: 15.45. Transit SNR 9.58

There are 6 quarters with good PRF difference image offsets

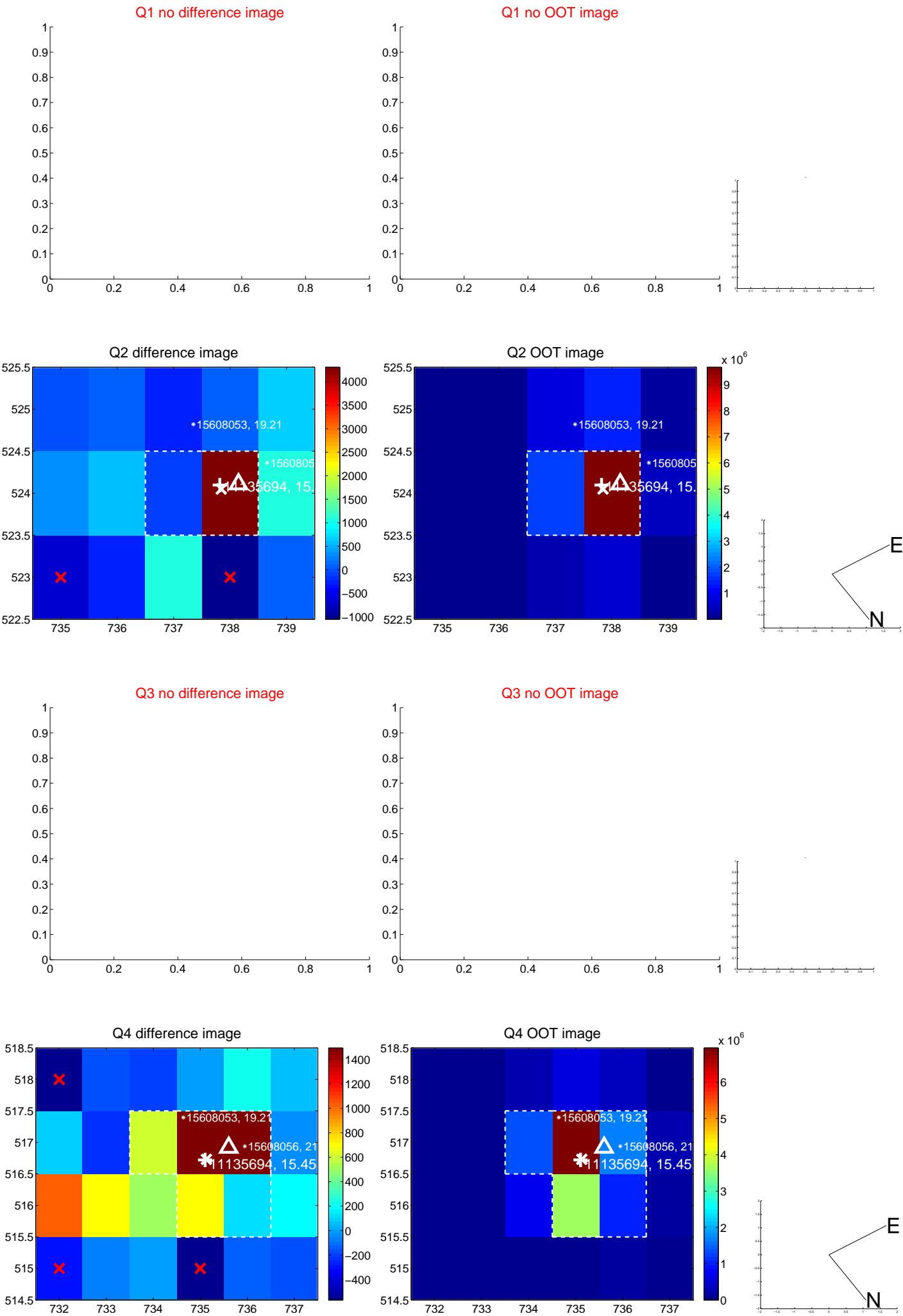
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.894 ± 0.608	1.47	0.889 ± 0.616	0.091 ± 0.569
PRF-fit source offset from KIC position	0.882 ± 0.579	1.52	0.881 ± 0.577	-0.053 ± 0.513
photometric centroid source offset	2.07 ± 1.23	1.68	1.46 ± 1.22	-1.46 ± 1.24

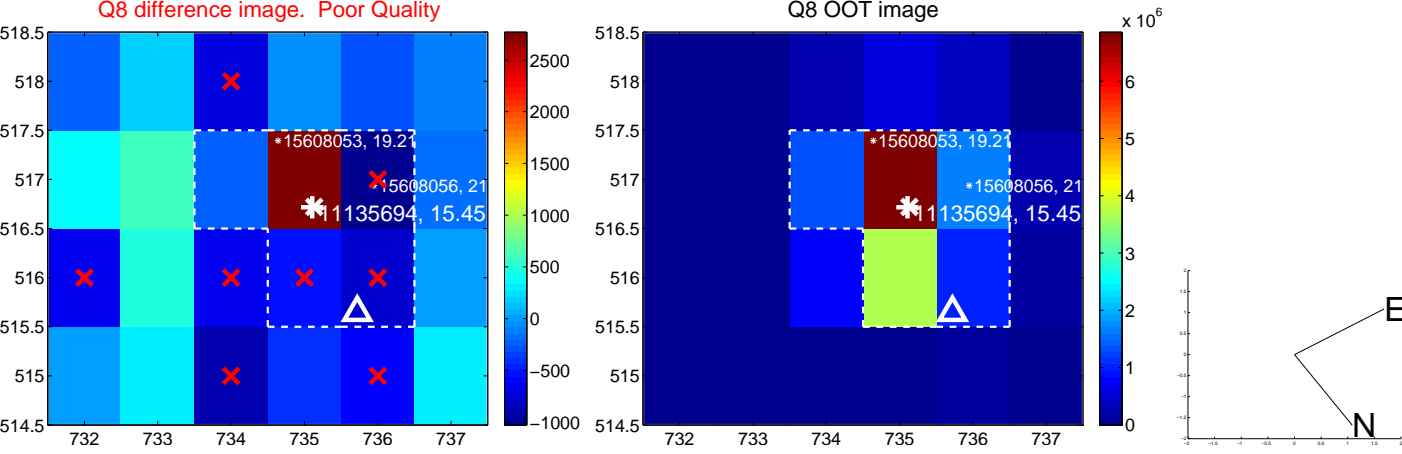
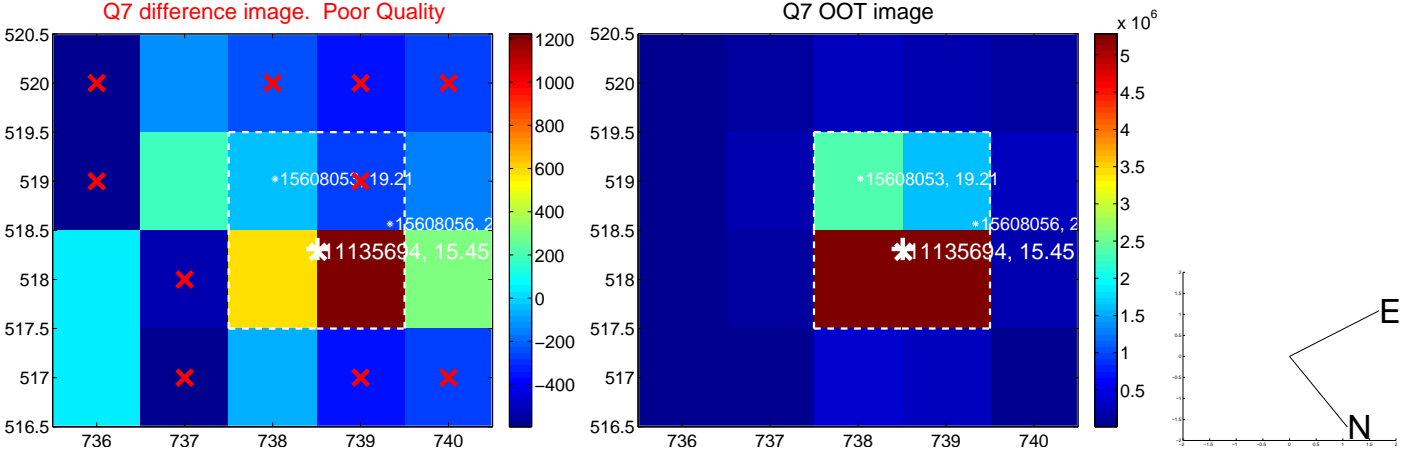
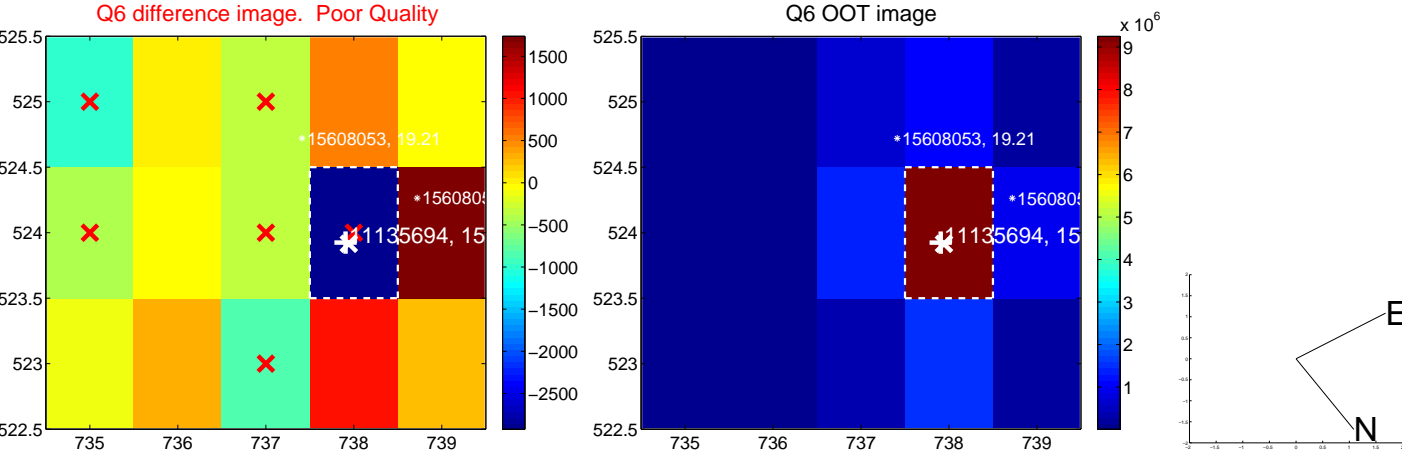
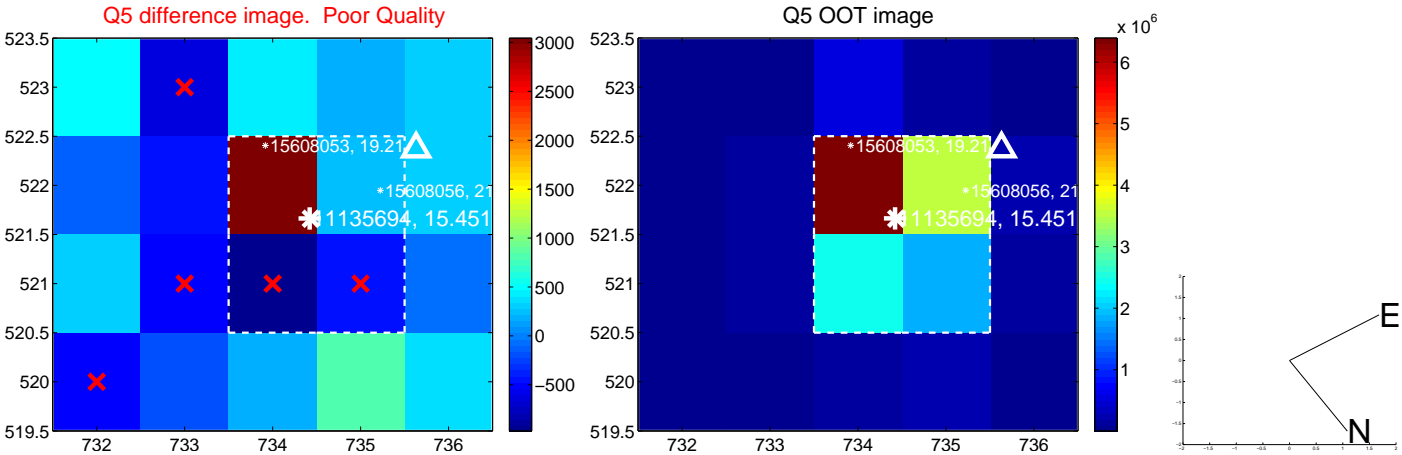


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

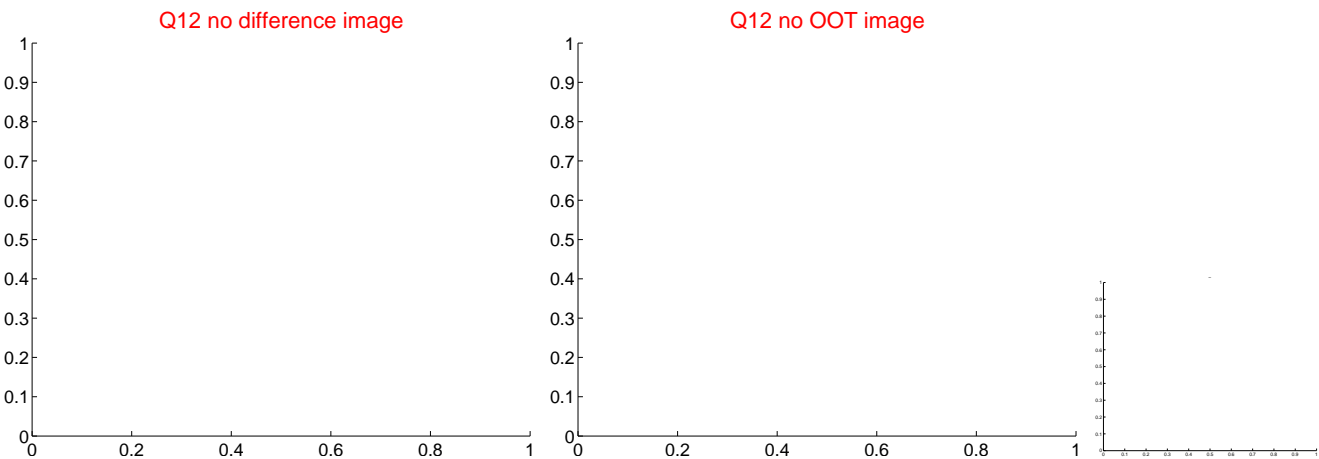
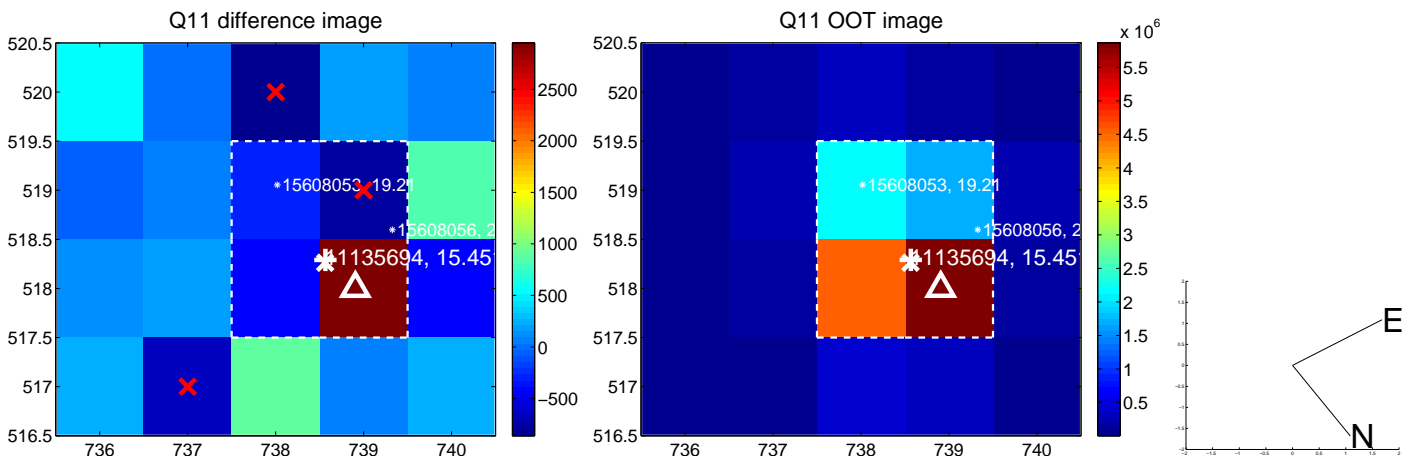
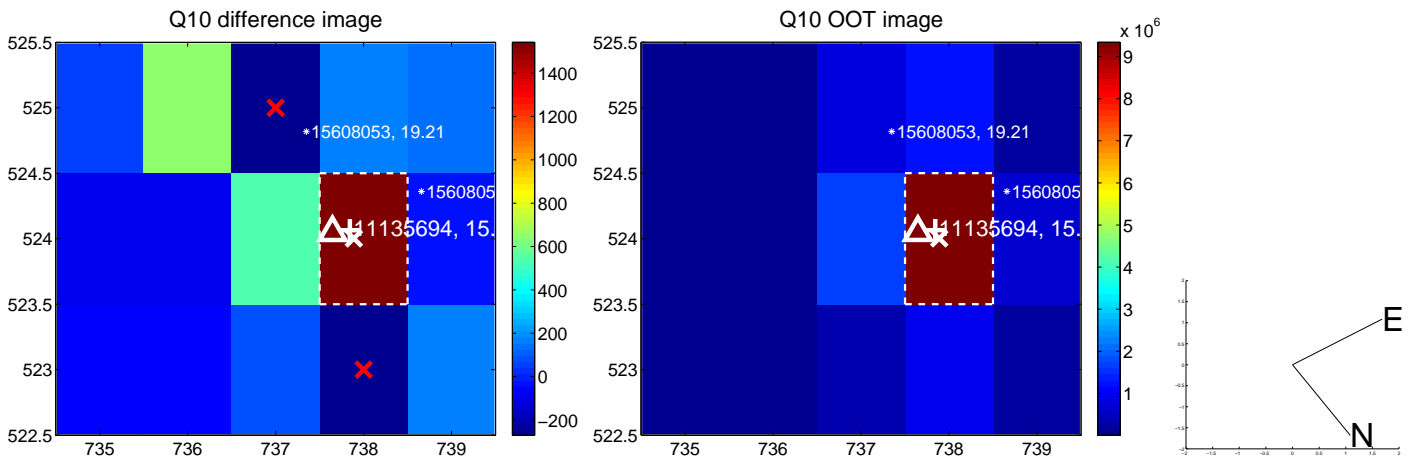
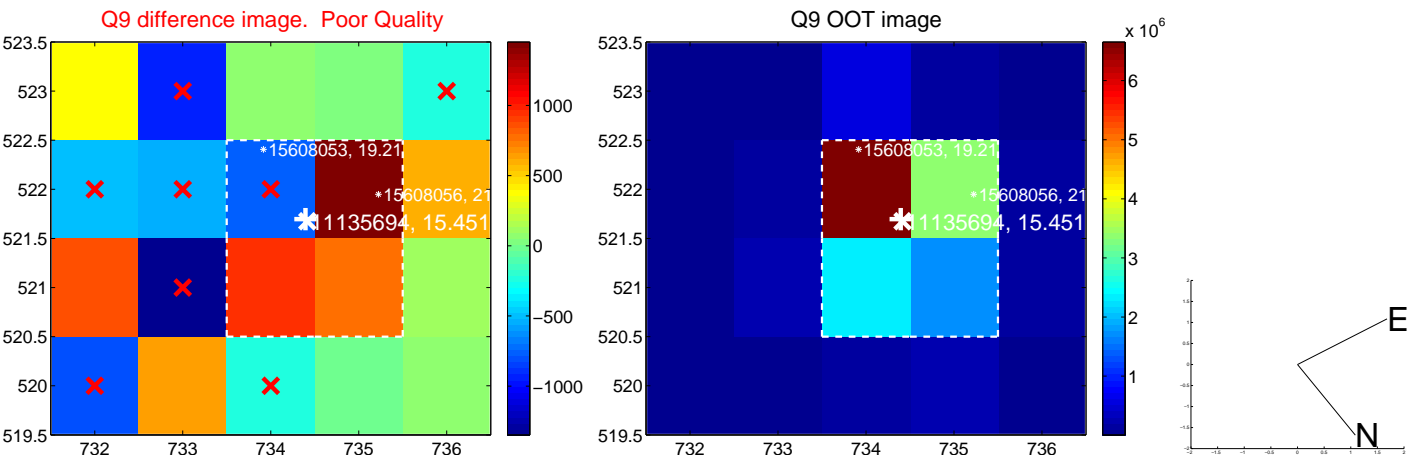
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



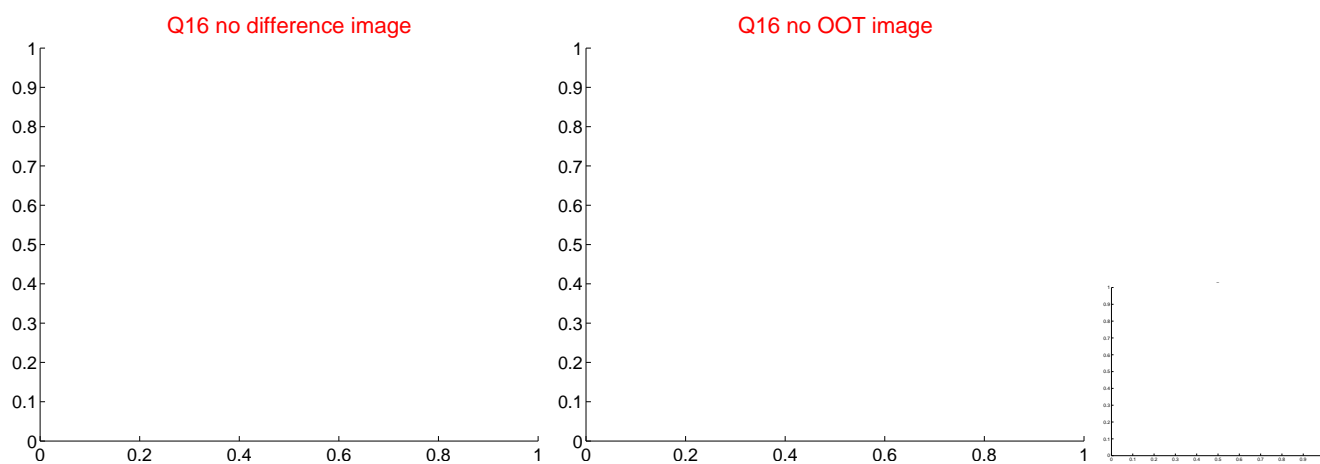
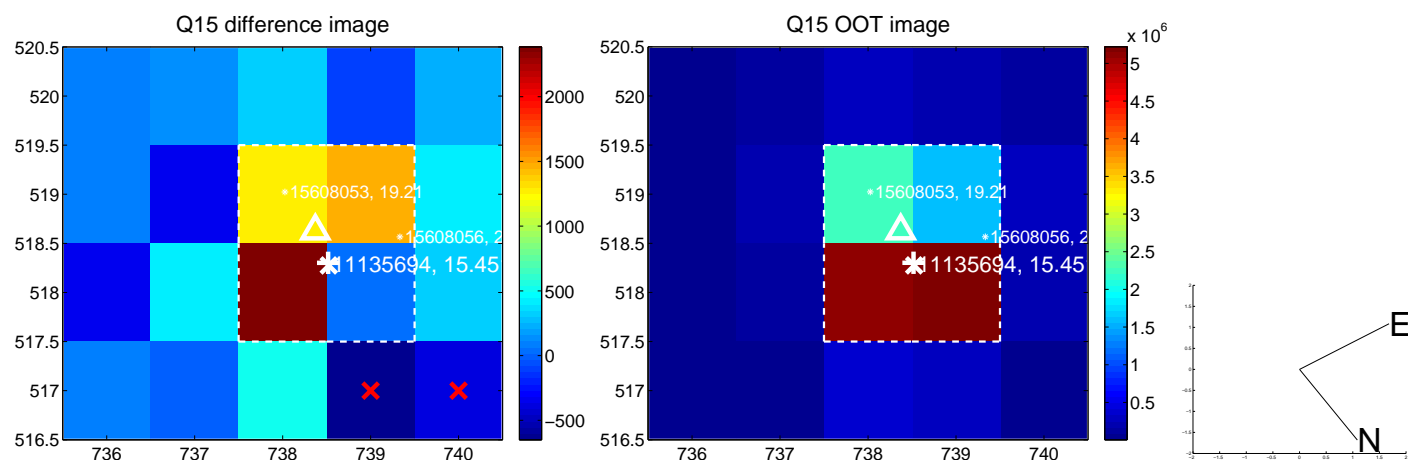
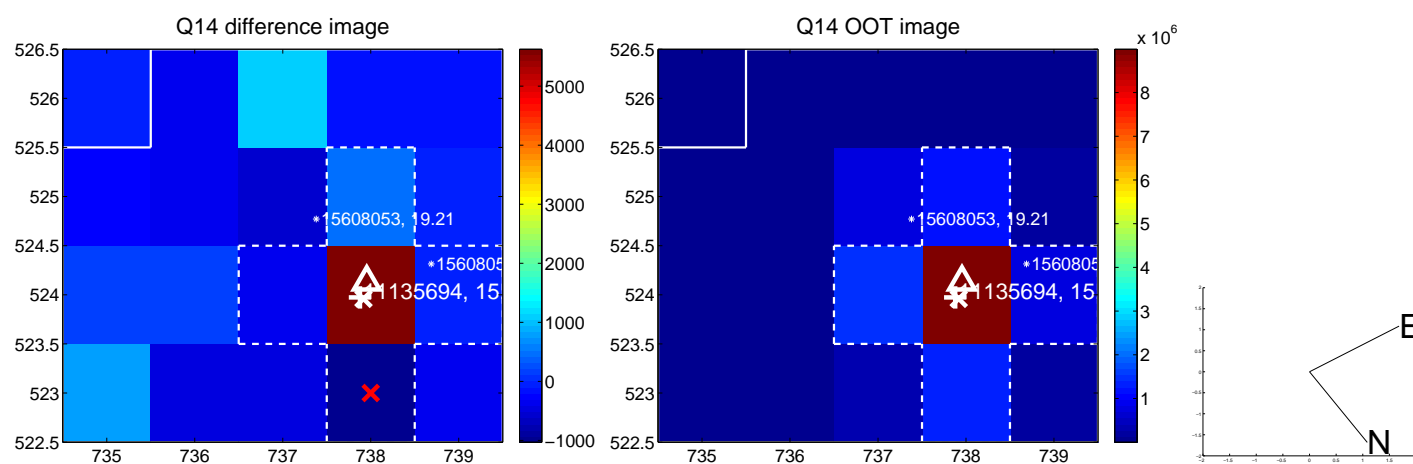
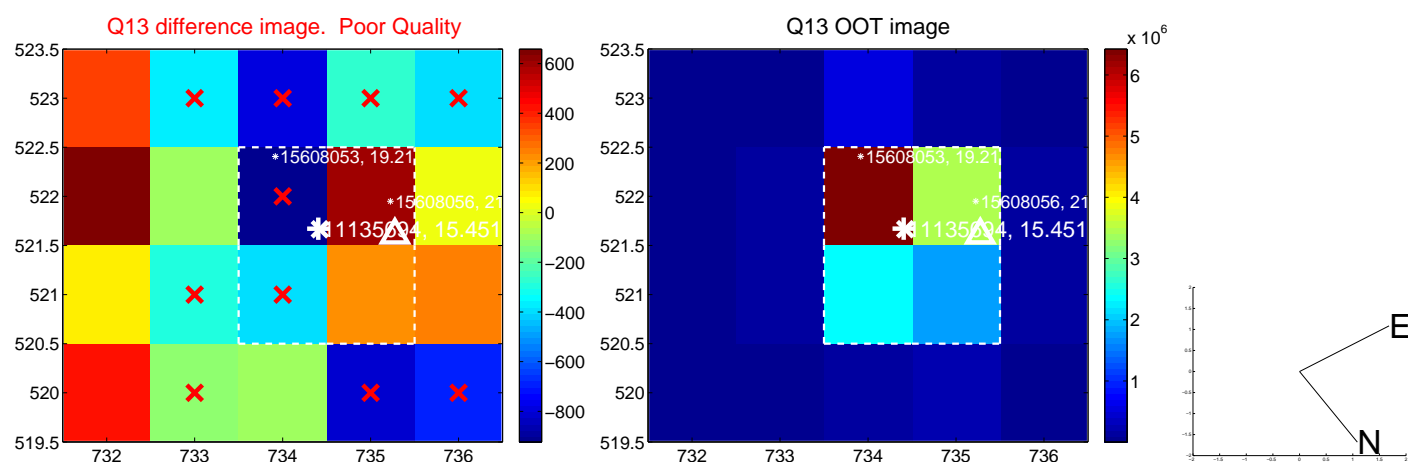
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



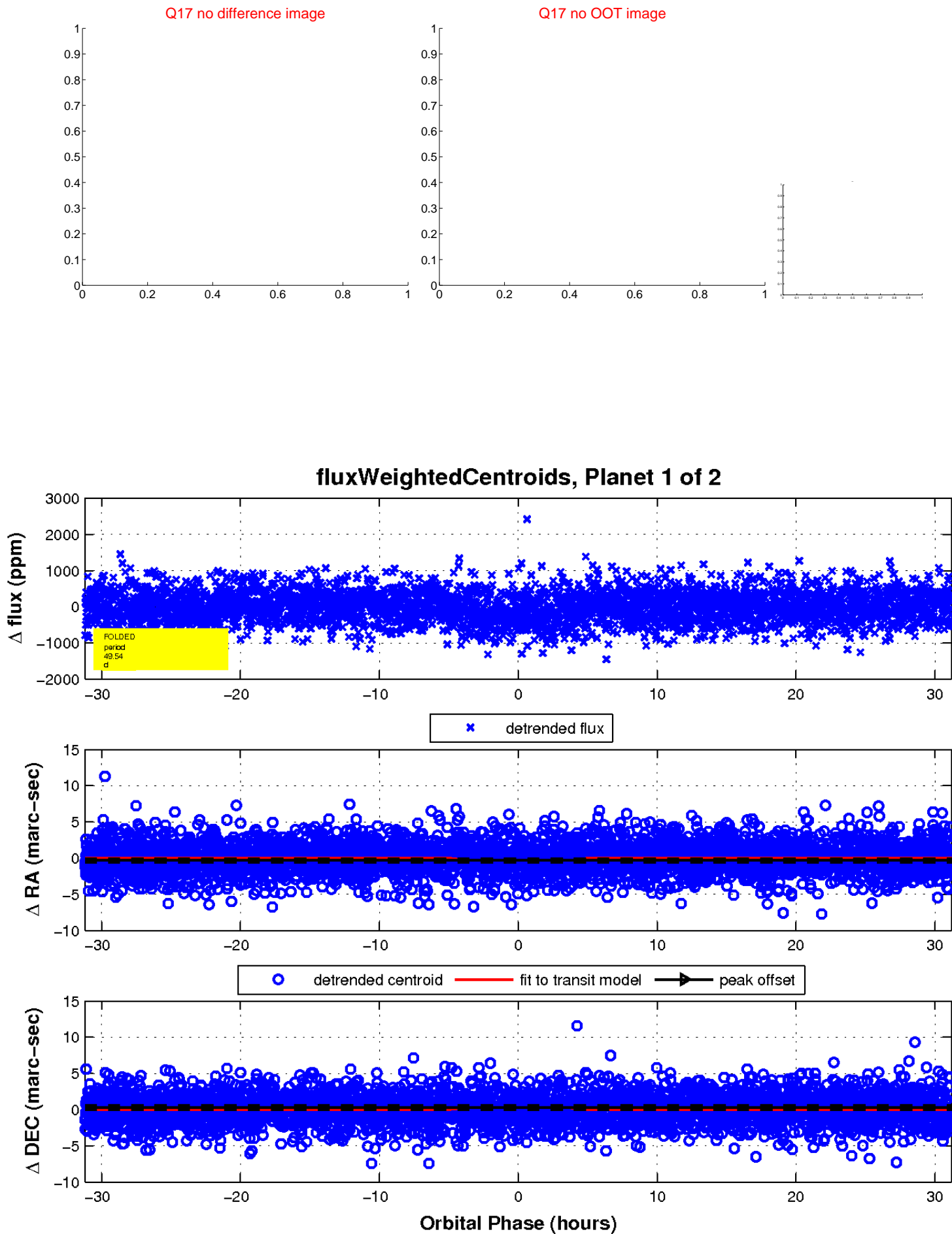
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

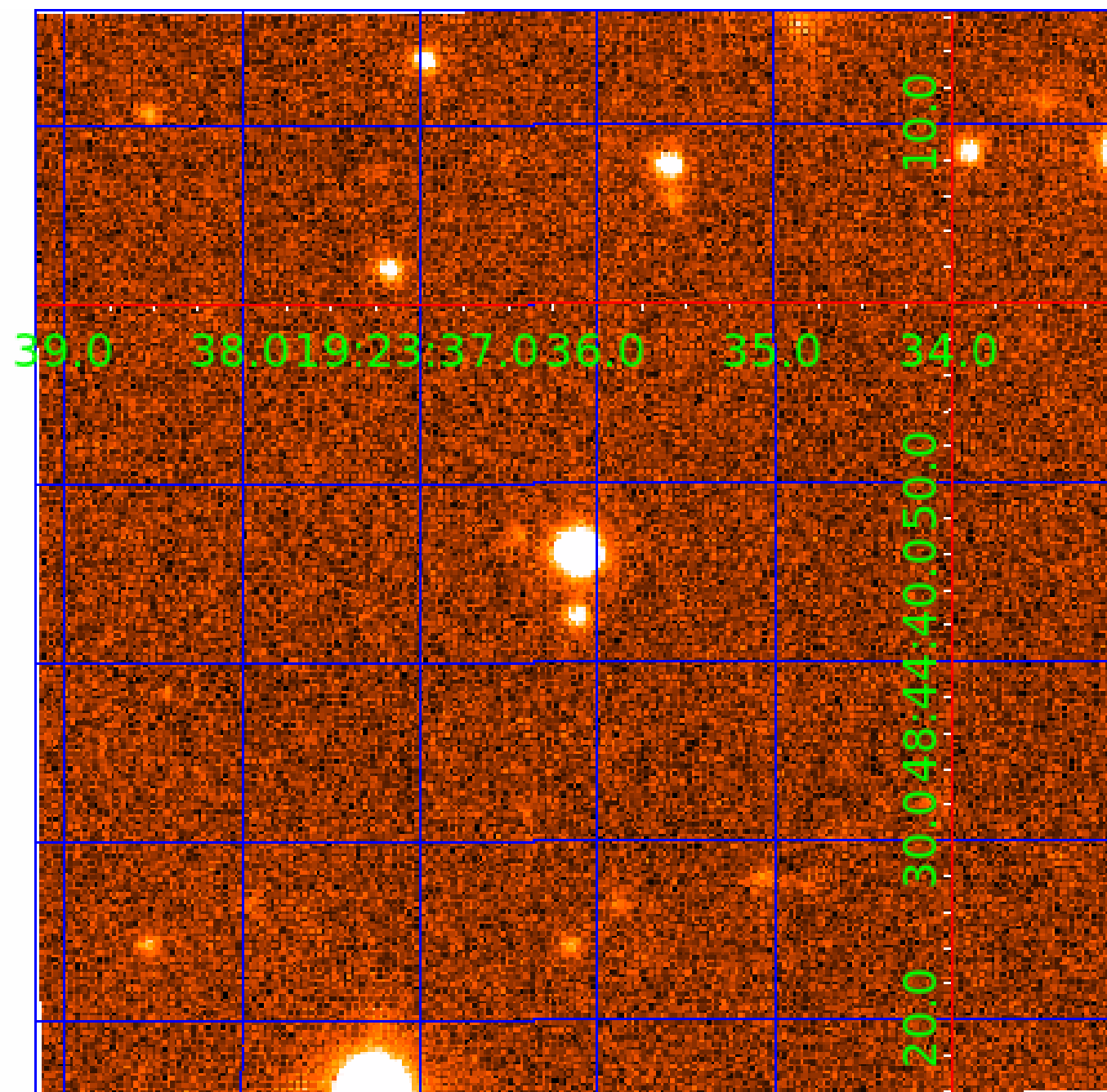


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011135694

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})
011135694-01	OBS	4896.02	49.536066	172.223392	217.5	10.401	9.3	9.6	1.02	6118	1.84	18.91
011135694-02	OBS	4896.01	19.594637	150.138490	142.3	7.089	8.1	9.1	1.02	6118	1.38	65.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011135694-01	OBS	PC	0.97	0	0	0	0	NO_COMMENT
011135694-02	OBS	PC	0.93	0	0	0	0	NO_COMMENT

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

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

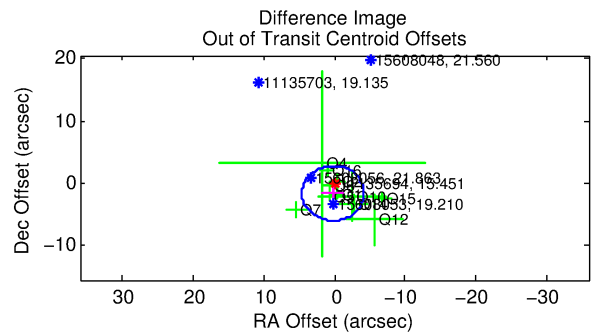
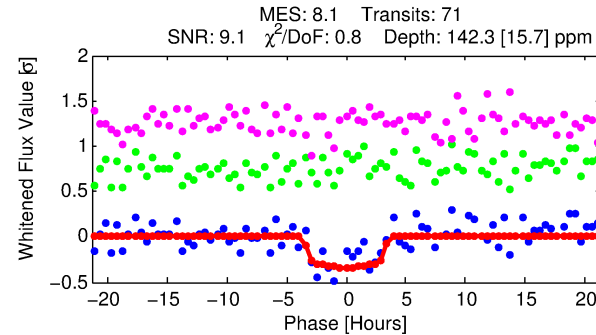
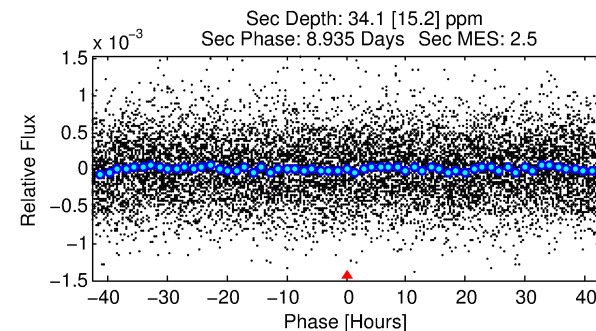
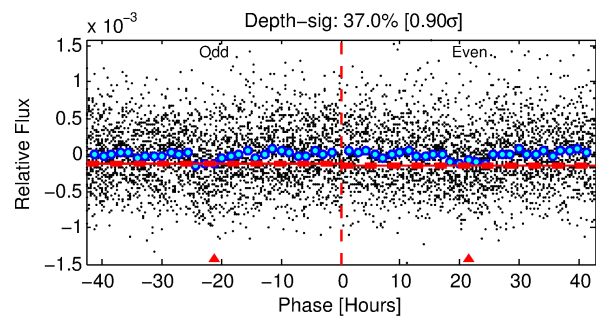
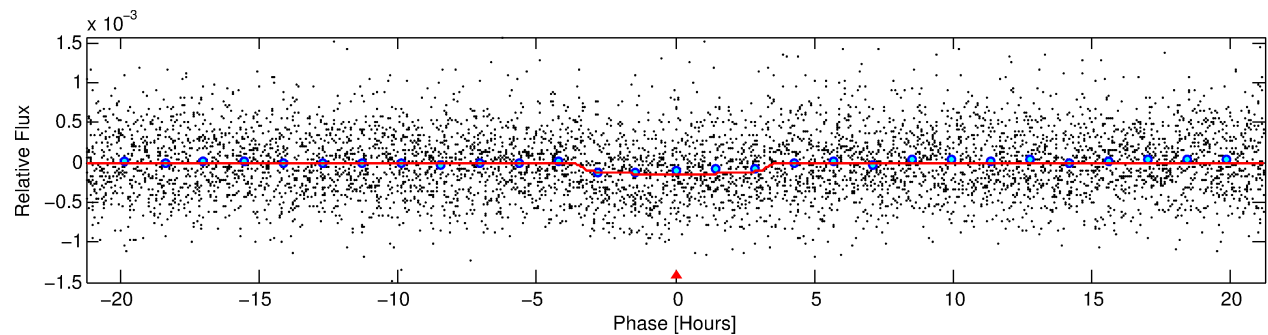
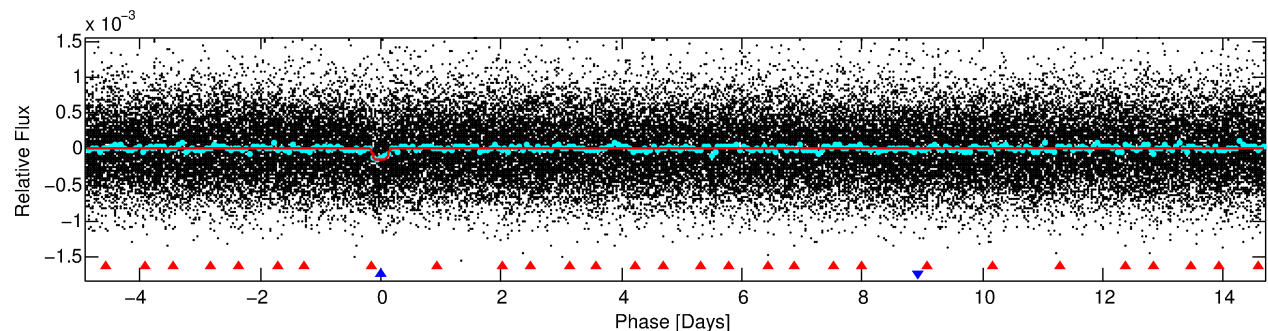
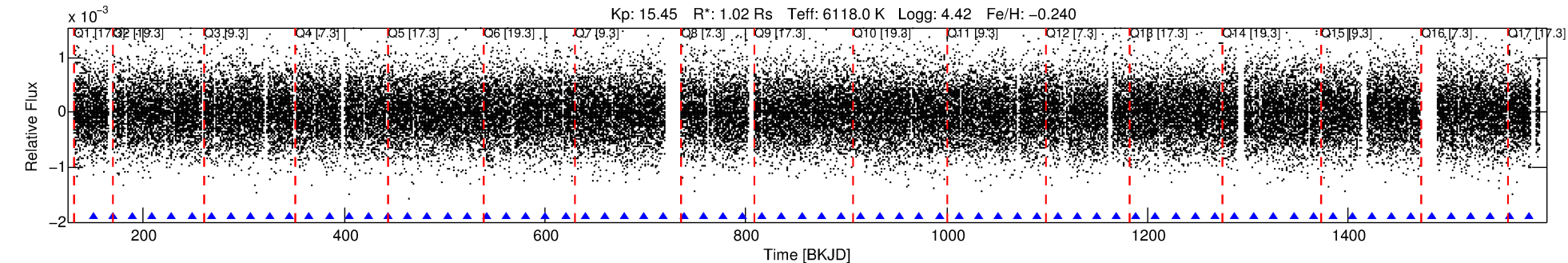
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011135694-02

No Significant Match Found

DV One-Page Summary

KIC: 11135694 Candidate: 2 of 2 Period: 19.595 d
KOI: K04896.01 Corr: 0.904



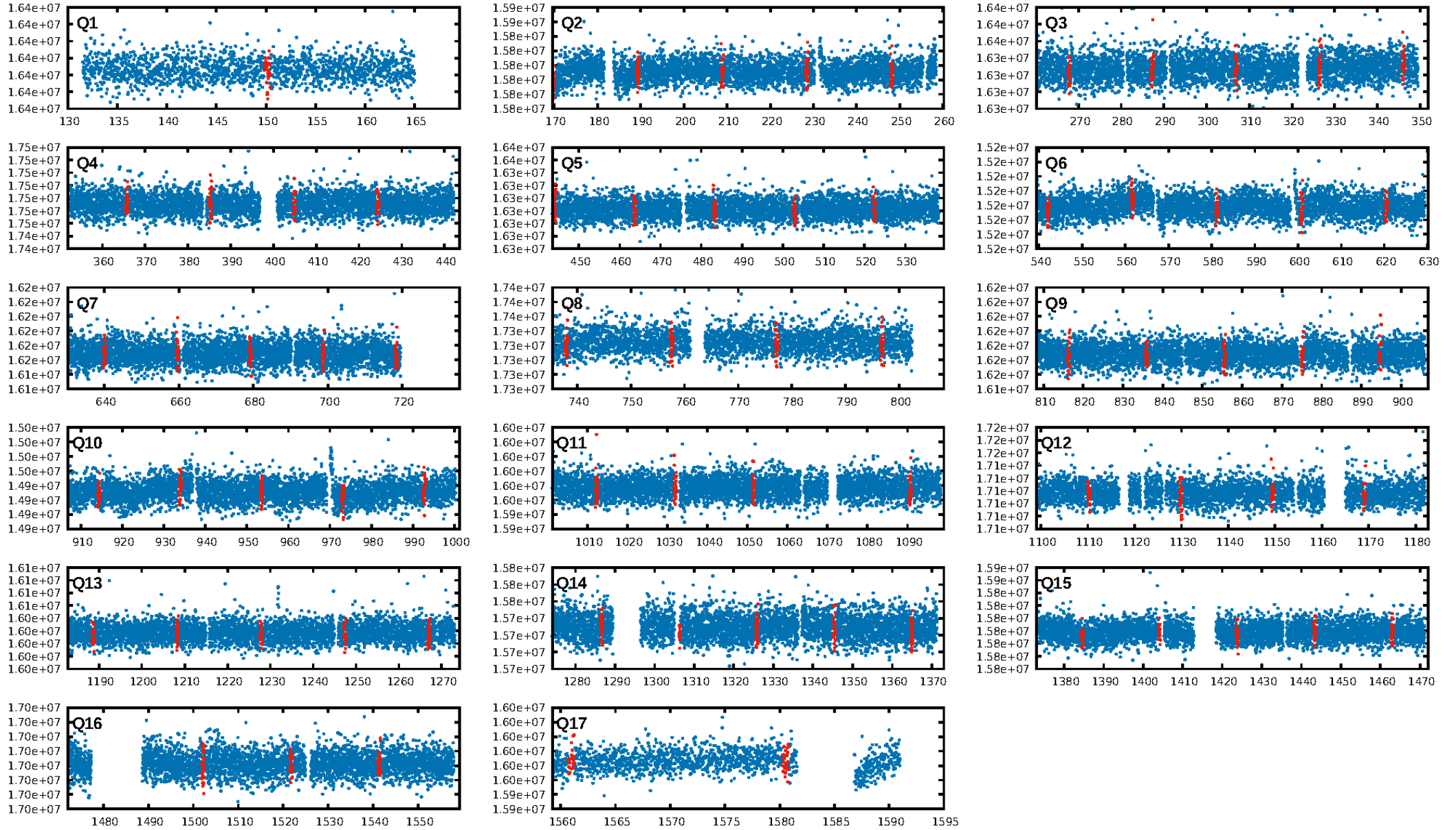
DV Fit Results:

Period = 19.59464 [0.00034] d
Epoch = 150.1385 [0.0142] BKJD
Rp/R* = 0.0124 [0.0062]
a/R* = 11.66 [30.02]
b = 0.85 [0.86]
Seff = 65.12 [26.03]
Teff = 724 [72] K
Rp = 1.38 [0.81] Re
a = 0.1420 [0.0370] AU
Ag = 197.83 [227.78] [0.86 σ]
Teffp = 4200 [1152] K [3.01 σ]

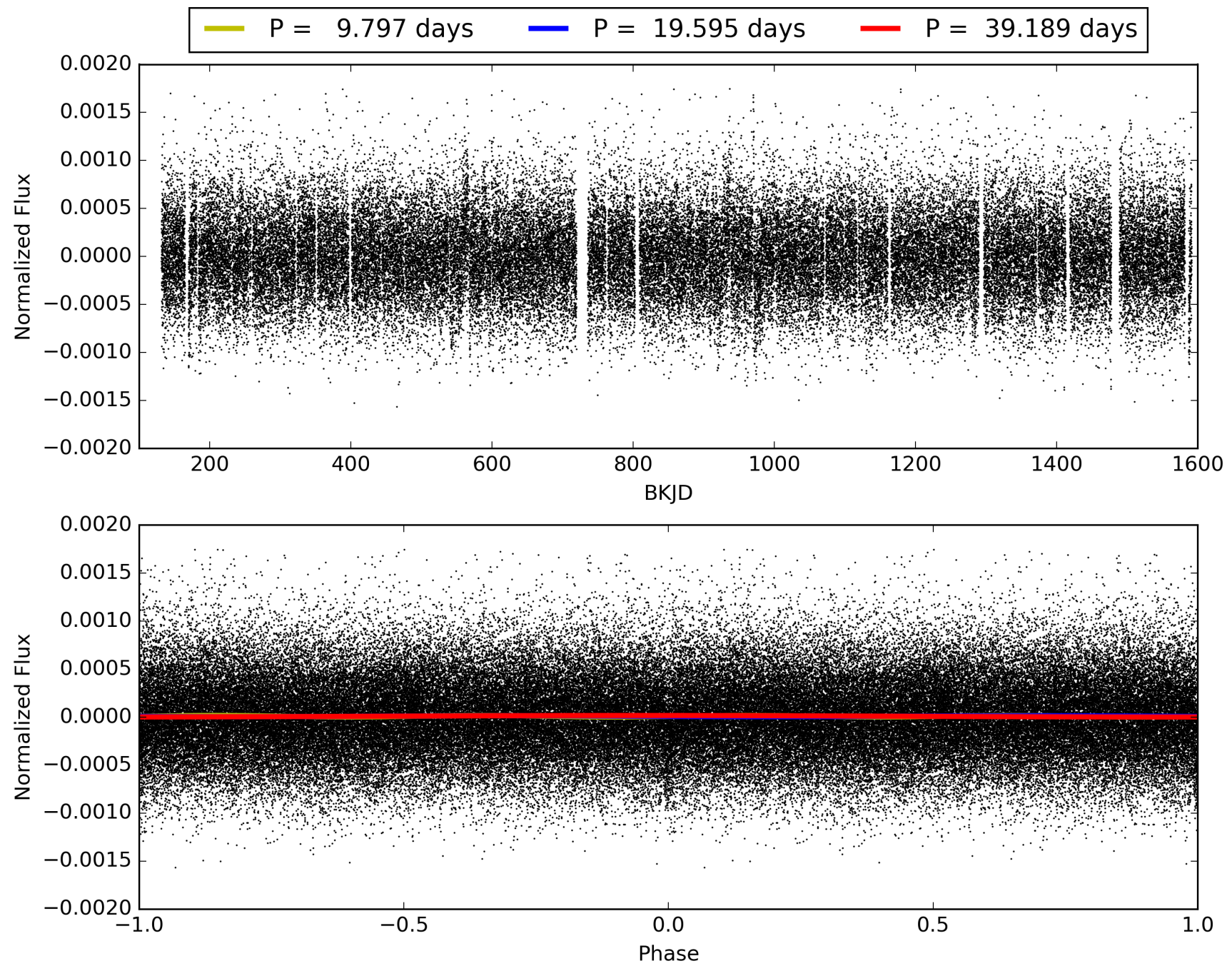
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [57.09 σ]
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.96e-16
RollingBand-fgt: 1.00 [68/68]
GhostDiagnostic-chr: 2.929
Centroid-sig: 18.5%
Centroid-so: 1.193 arcsec [0.87 σ]
OotOffset-rm: 1.615 arcsec [1.10 σ]
KicOffset-rm: 1.806 arcsec [1.23 σ]
OotOffset-st: 4/2/3/2 [11]
KicOffset-st: 4/2/3/2 [11]
DiffImageQuality-fgm: 0.36 [4/11]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 011135694-02, PDC Light Curves

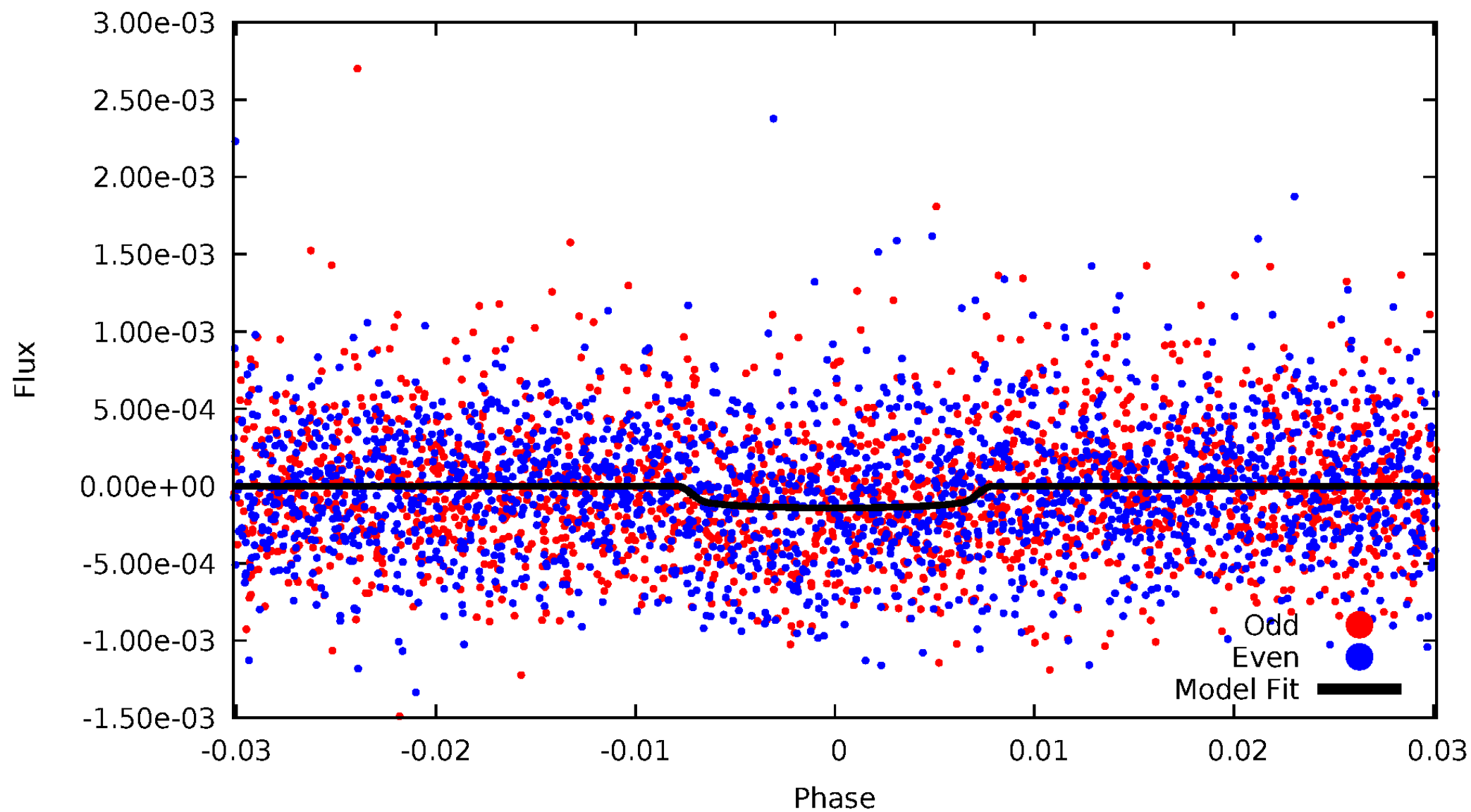


TCE 011135694-02



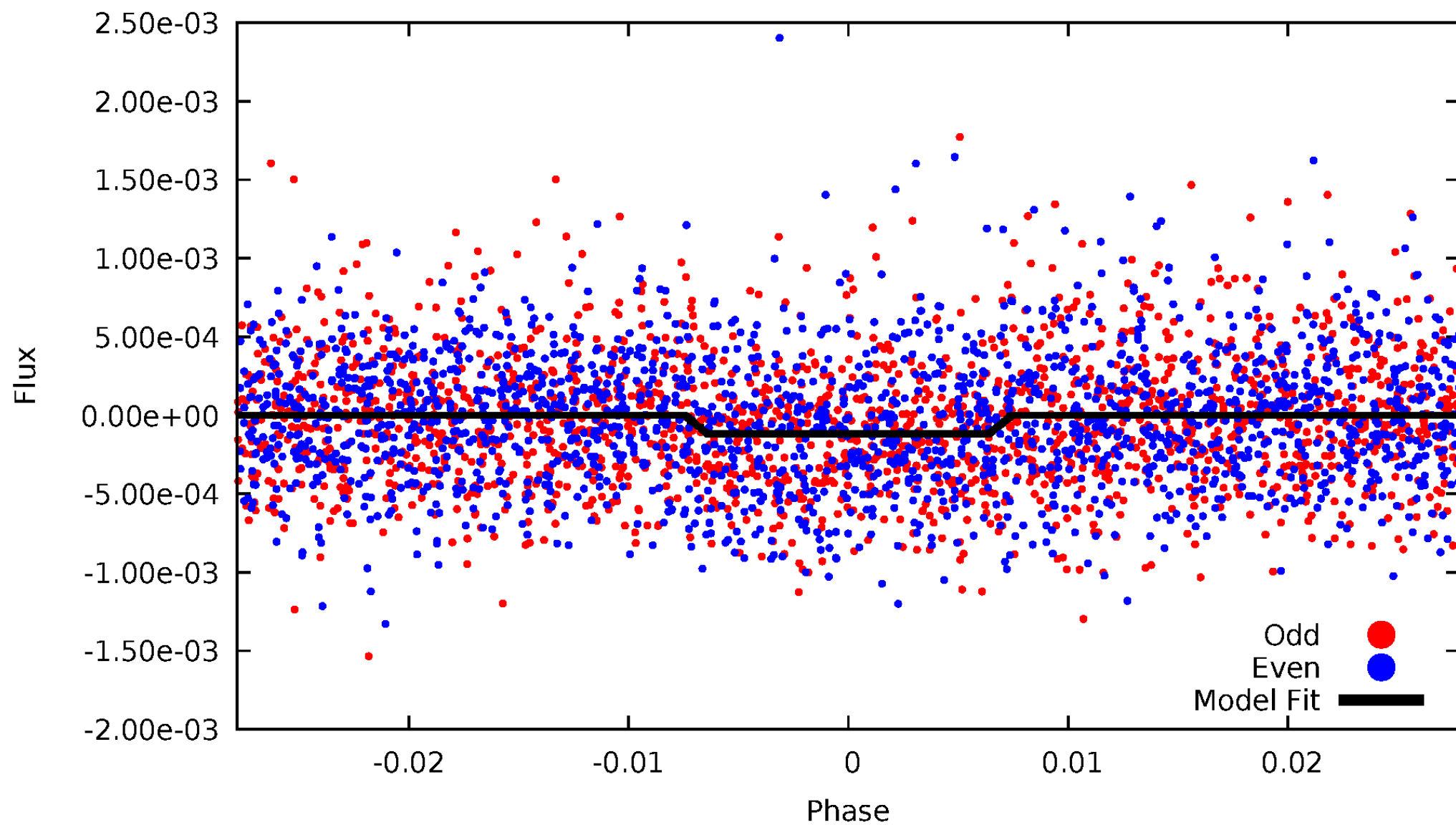
DV Odd/Even

TCE 011135694-02



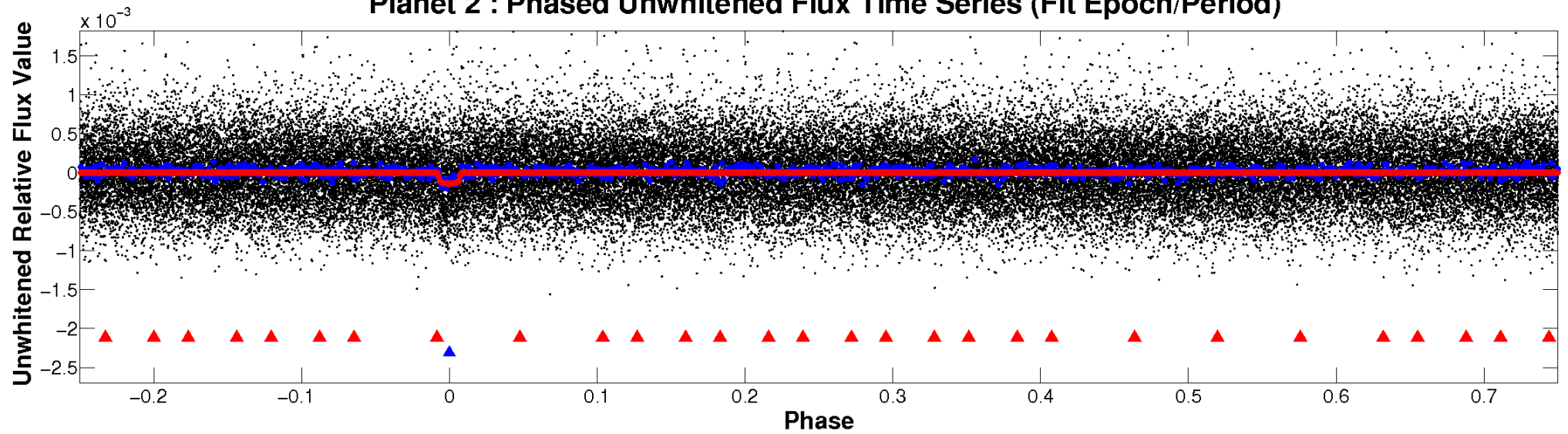
ALT Odd/Even

TCE 011135694-02

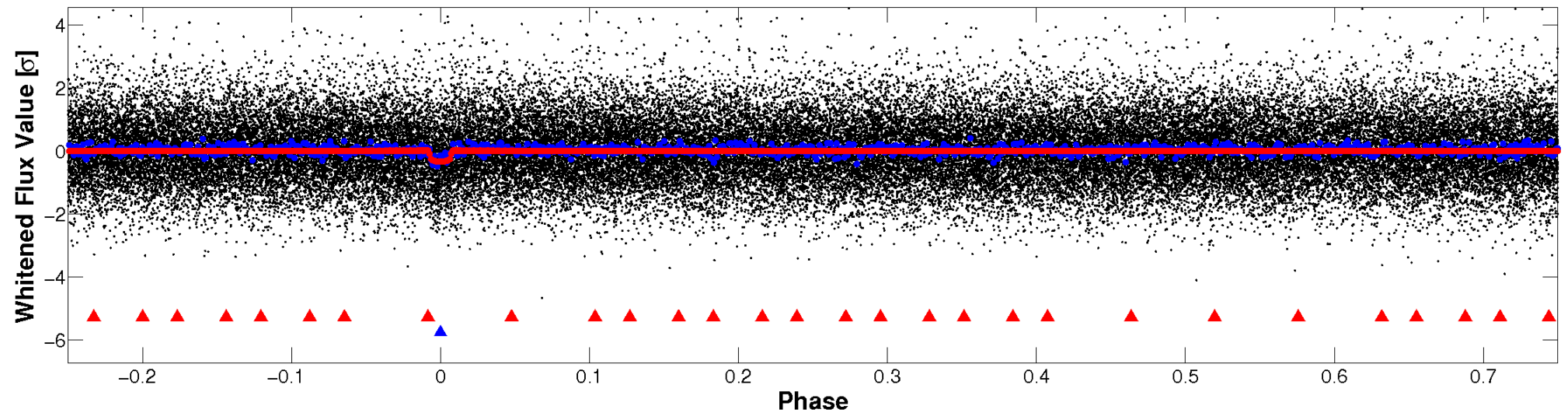


Non-Whitened Vs. Whitened Light Curve

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

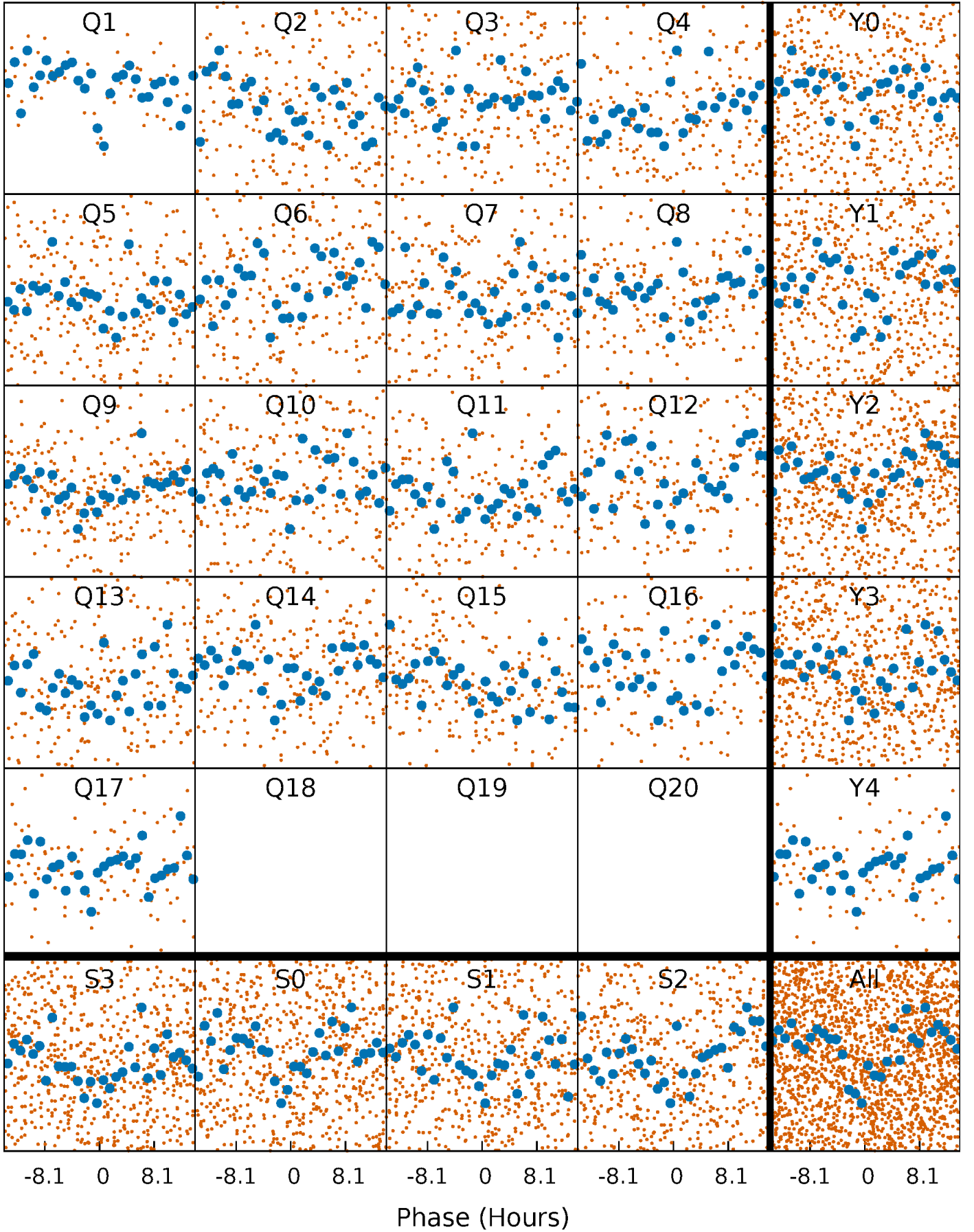


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



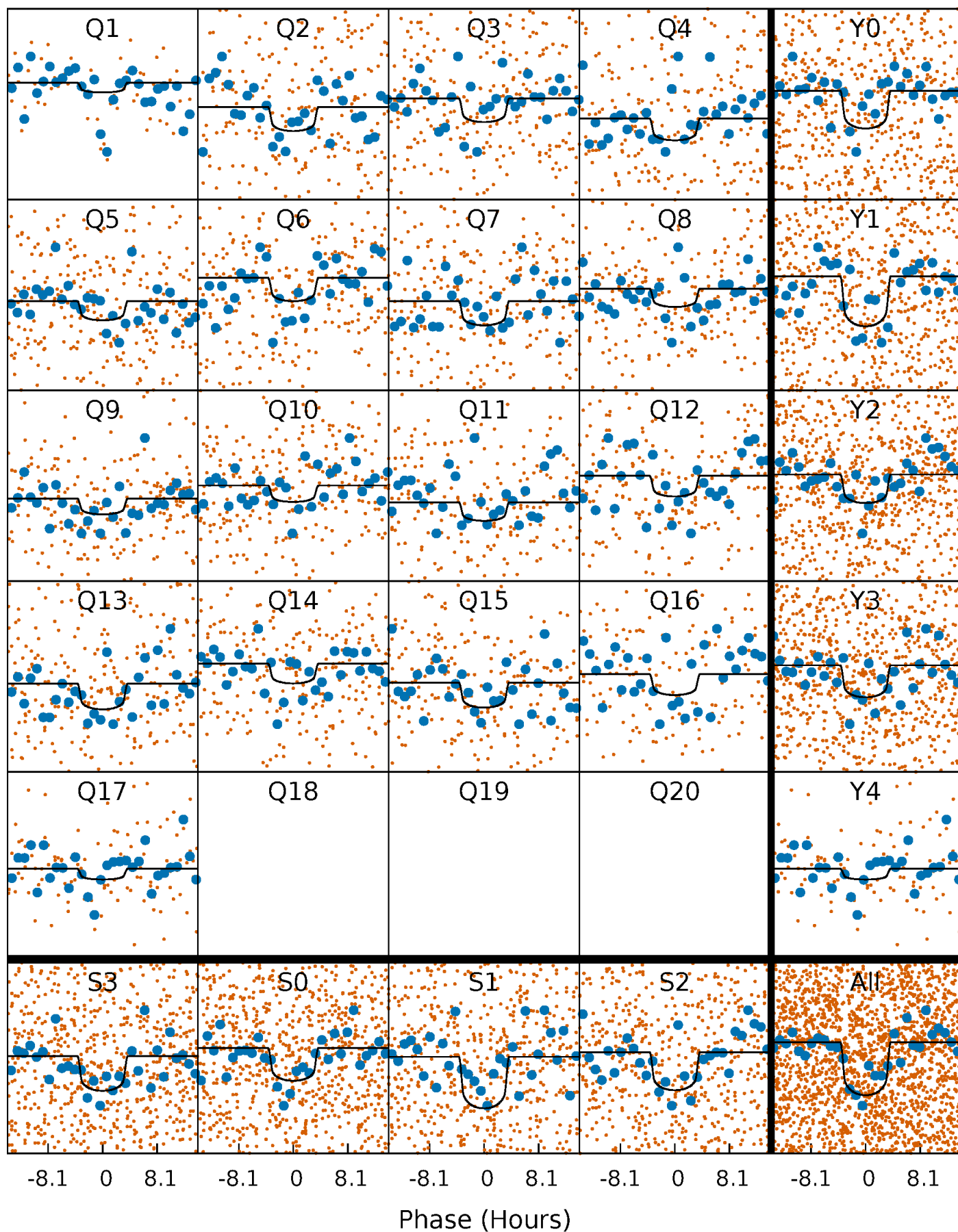
PDC Quarter-Phased Transit Curves

TCE 011135694-02 P= 19.594637 Days $T_0=150.138490$ (BKJD)



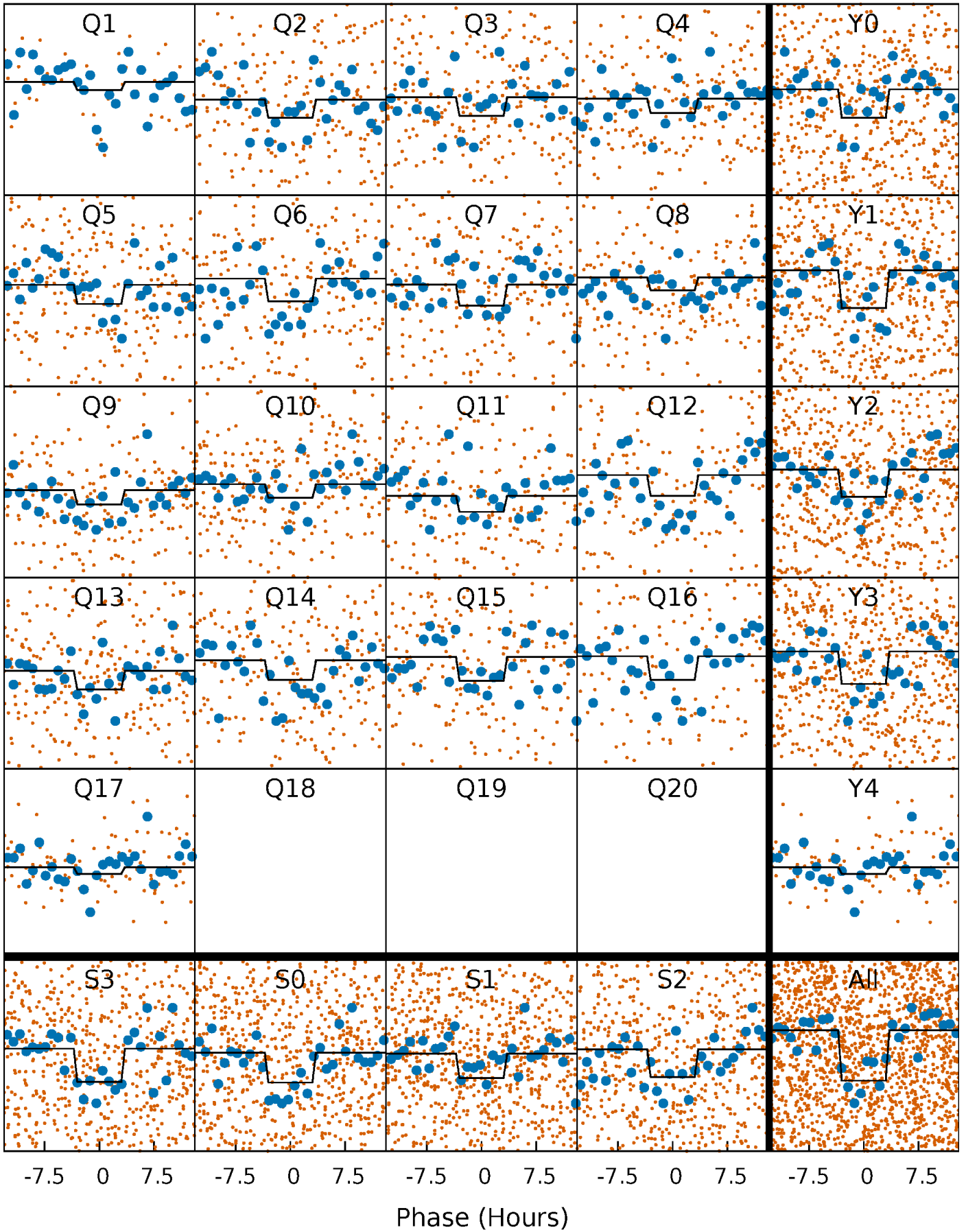
DV Quarter-Phased Transit Curves

TCE 011135694-02 P= 19.594637 Days $T_0=150.138490$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

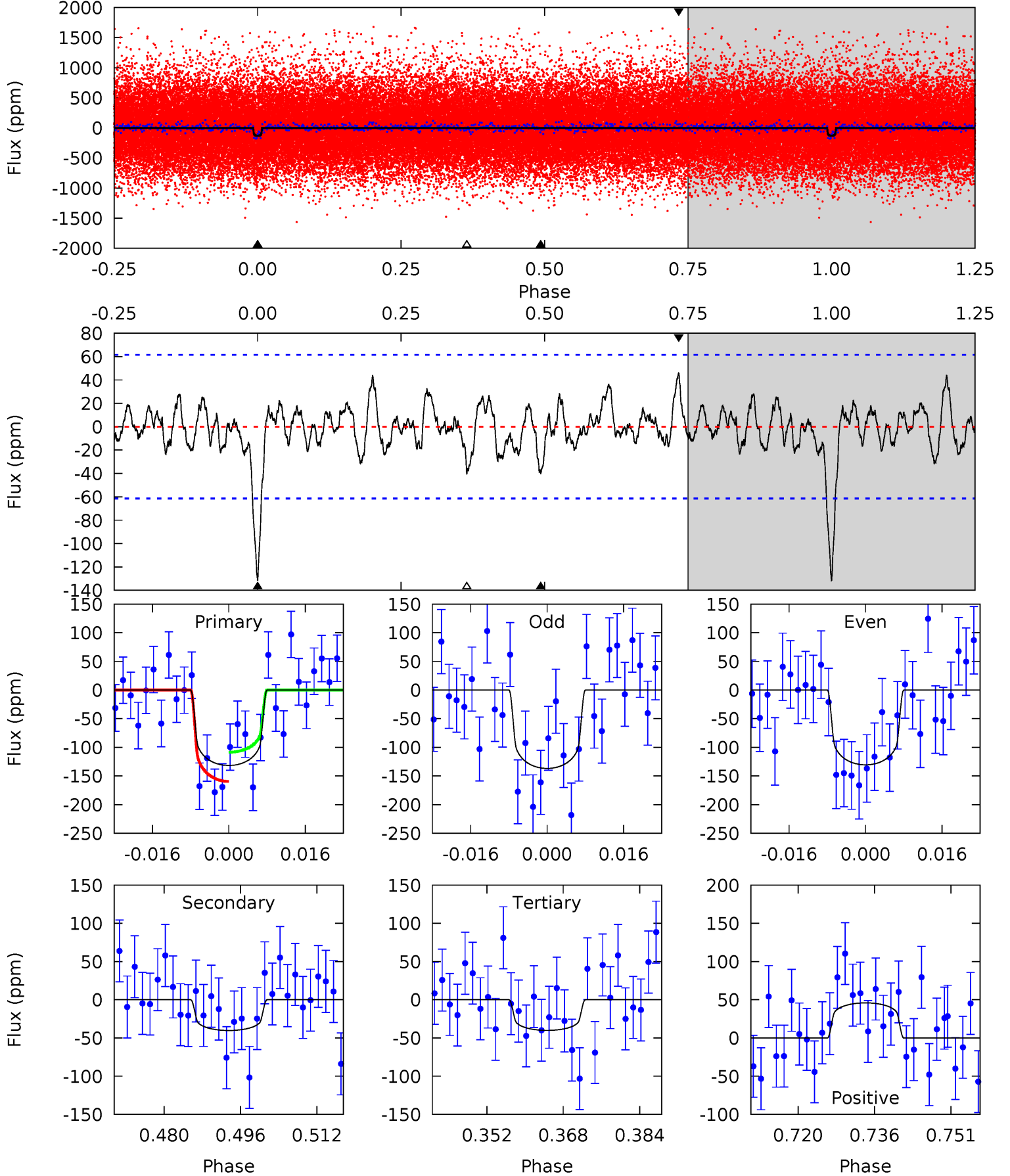
TCE 011135694-02 P= 19.594657 Days $T_0=150.138481$ (BKJD)



DV Model-Shift Uniqueness Test

011135694-02, P = 19.594637 Days, E = 130.543853 Days

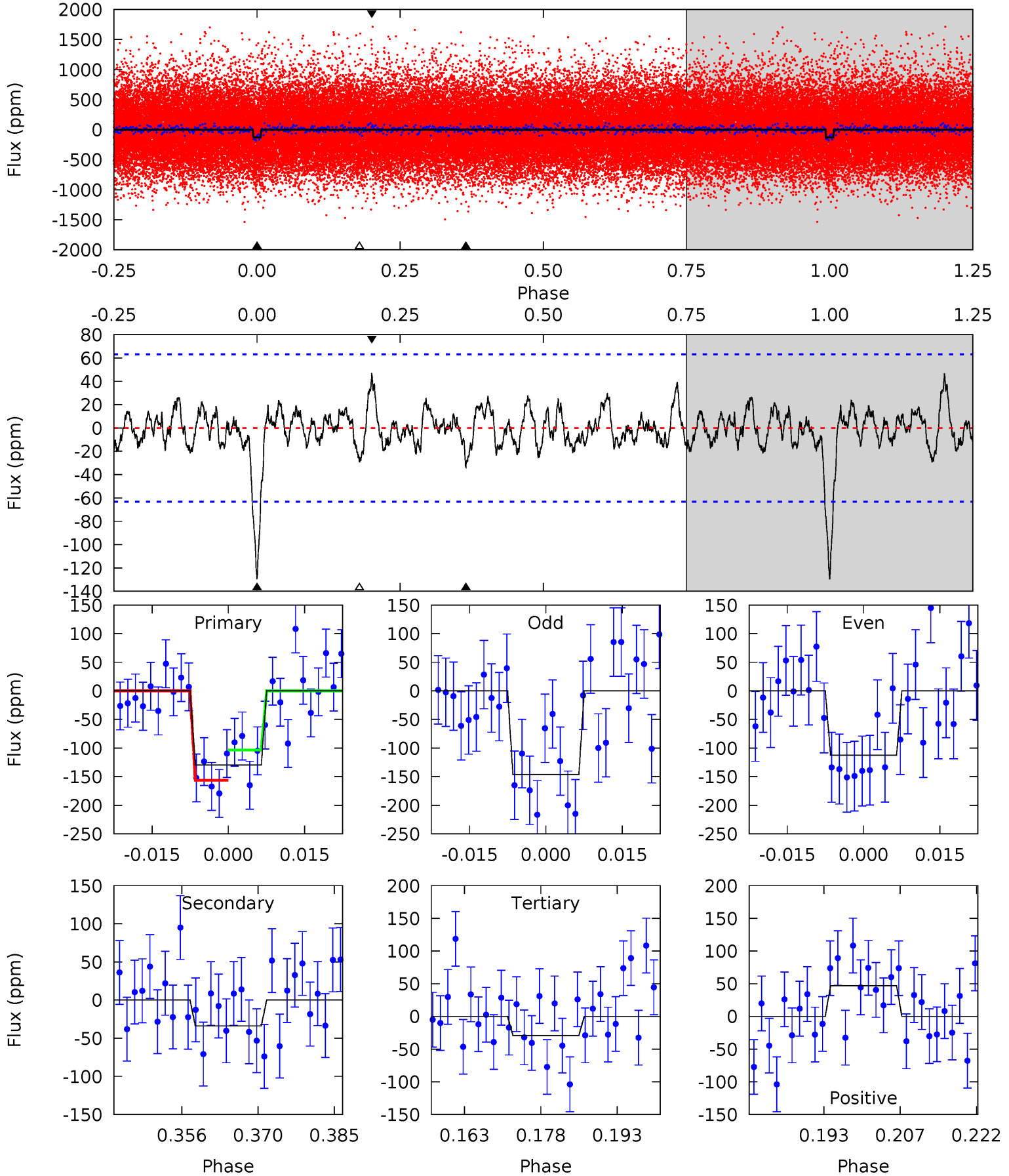
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	3.22	3.21	3.68	4.94	2.41	1.18	7.35	6.88	0.01	-0.46	0.25	0.87	0.26	2.05



Alt Model-Shift Uniqueness Test

011135694-02, P = 19.594657 Days, E = 130.543824 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	2.65	2.28	3.68	4.95	2.44	0.99	7.87	6.47	0.37	-1.03	1.32	1.03	0.27	2.07



Stellar Parameters For KIC 011135694

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6118^{+191}_{-212}	$4.416^{+0.087}_{-0.203}$	$-0.240^{+0.300}_{-0.300}$	$1.023^{+0.320}_{-0.137}$	$0.995^{+0.153}_{-0.125}$	$1.308^{+0.590}_{-0.647}$
	+3%/-3%	+2%/-5%	+125%/-125%	+31%/-13%	+15%/-13%	+45%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011135694-02 / KOI 4896.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-40 ± 12	$1.44^{+0.74}_{-0.67}$	1029^{+72}_{-63}	4550^{+1451}_{-698}	217^{+546}_{-132}
Alt.	-34 ± 13	$1.32^{+0.73}_{-0.66}$	1032^{+74}_{-59}	4489^{+1855}_{-680}	206^{+741}_{-130}

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 $A_{obs} \gg 1.0$

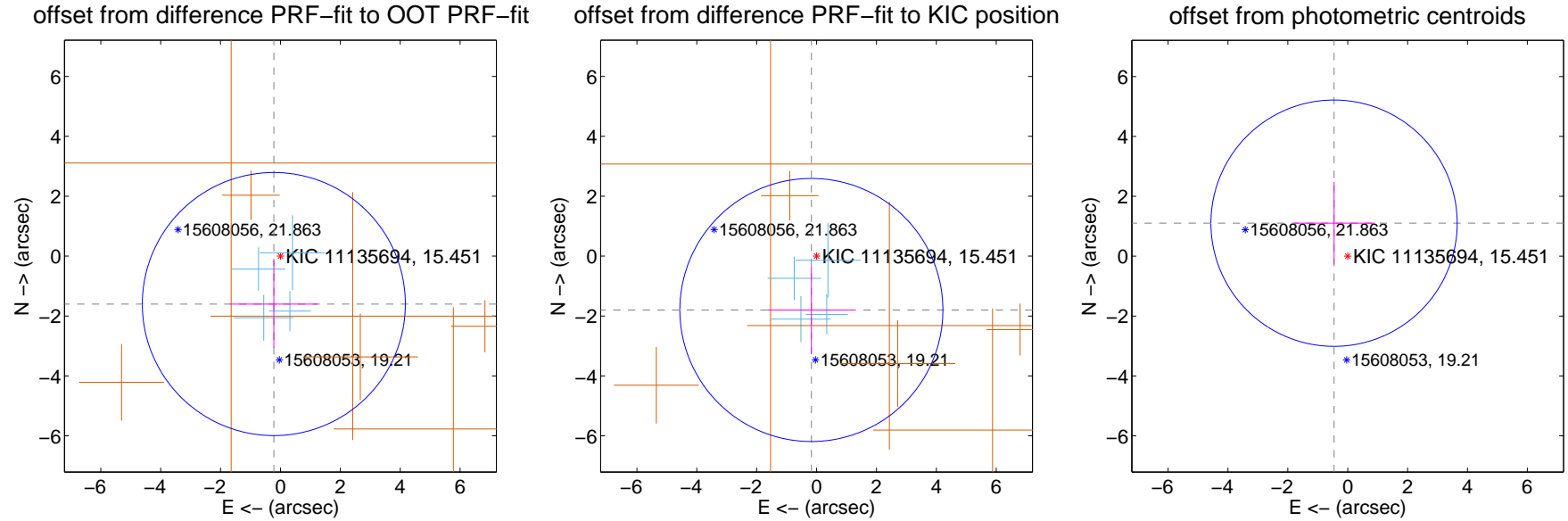
DV Centroid Data

Supplemental centroid analysis for 011135694-02. Kepler magnitude: 15.45. Transit SNR 9.06

There are 4 quarters with good PRF difference image offsets

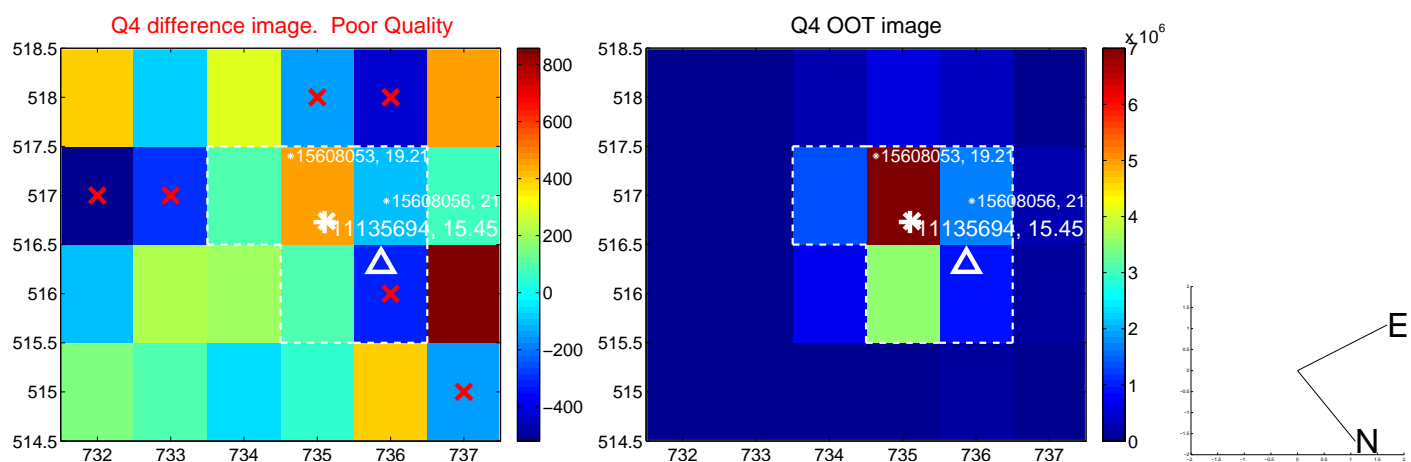
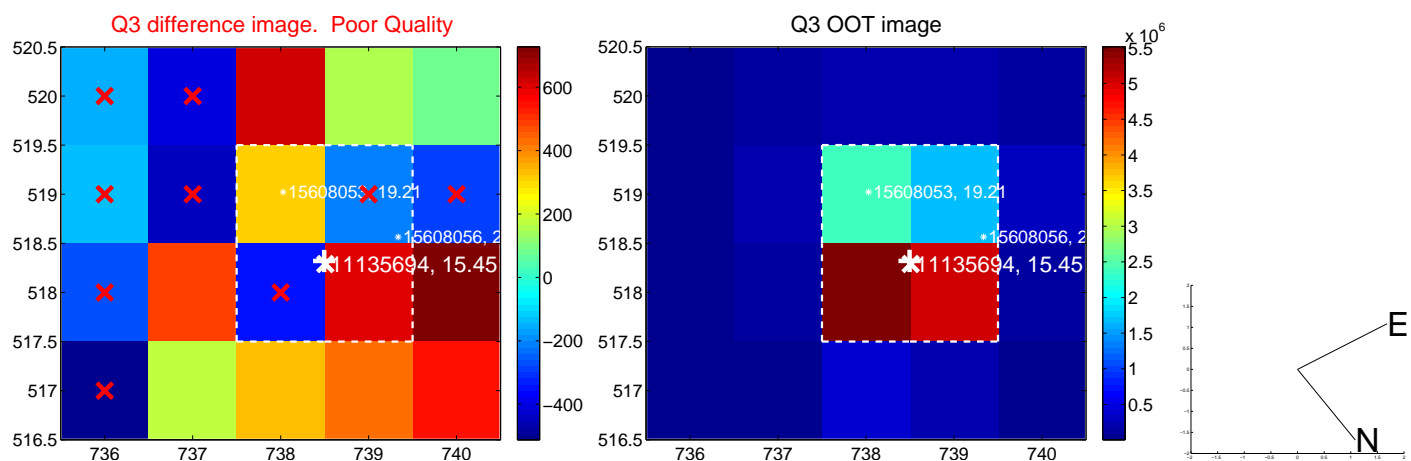
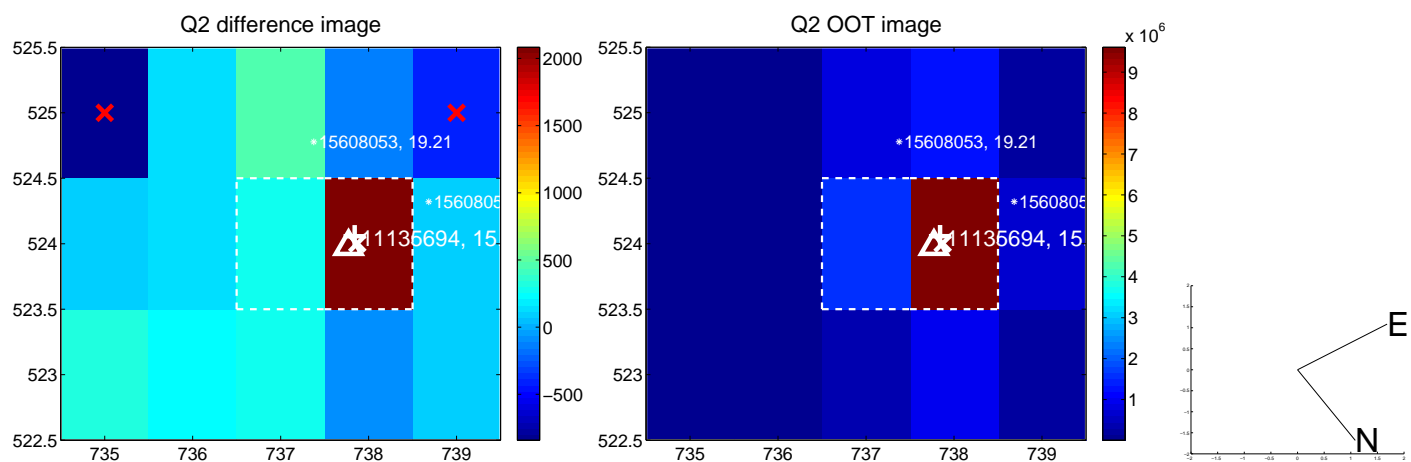
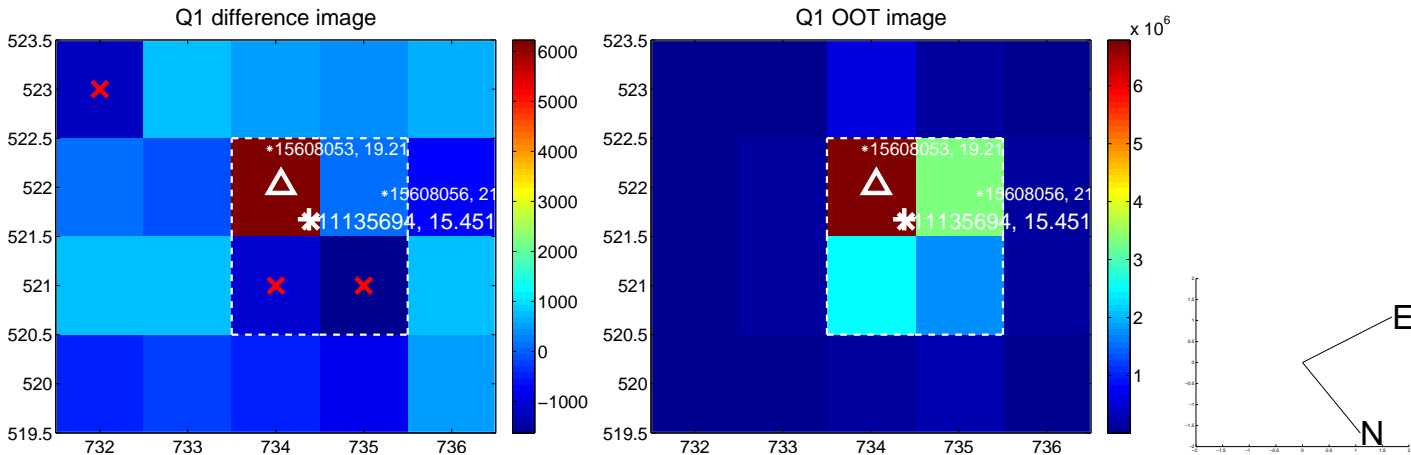
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.615 ± 1.464	1.10	0.221 ± 1.469	-1.600 ± 1.464
PRF-fit source offset from KIC position	1.806 ± 1.464	1.23	0.174 ± 1.469	-1.798 ± 1.464
photometric centroid source offset	1.19 ± 1.37	0.87	0.46 ± 1.35	1.10 ± 1.37

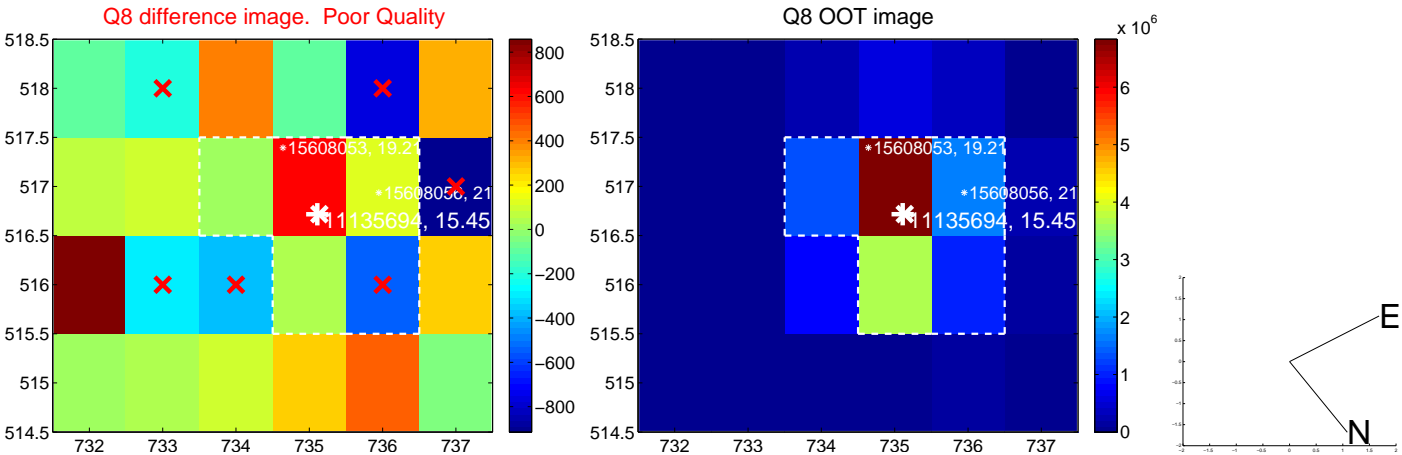
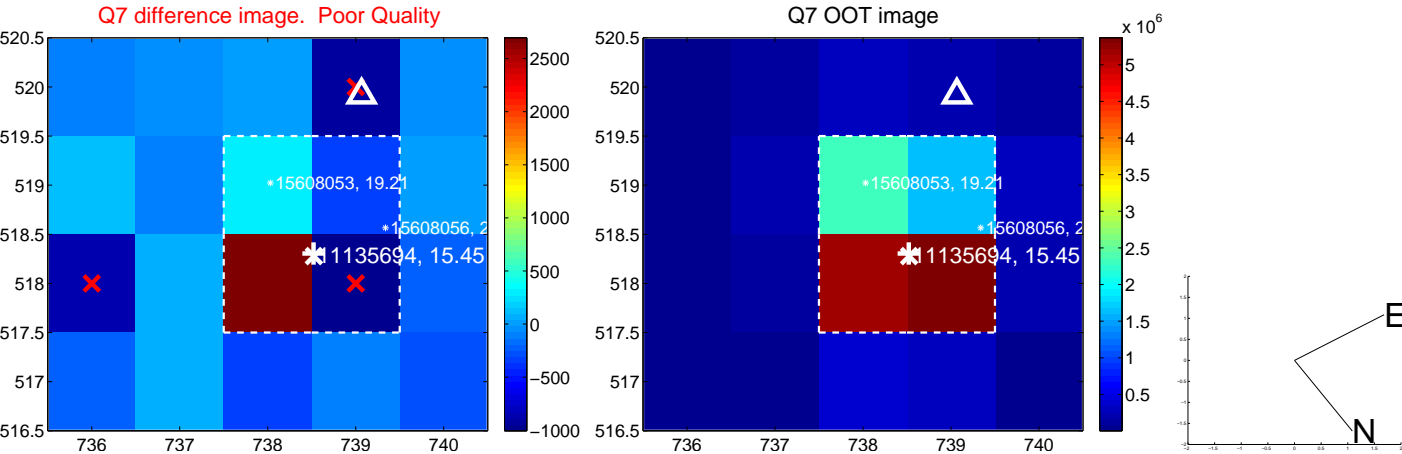
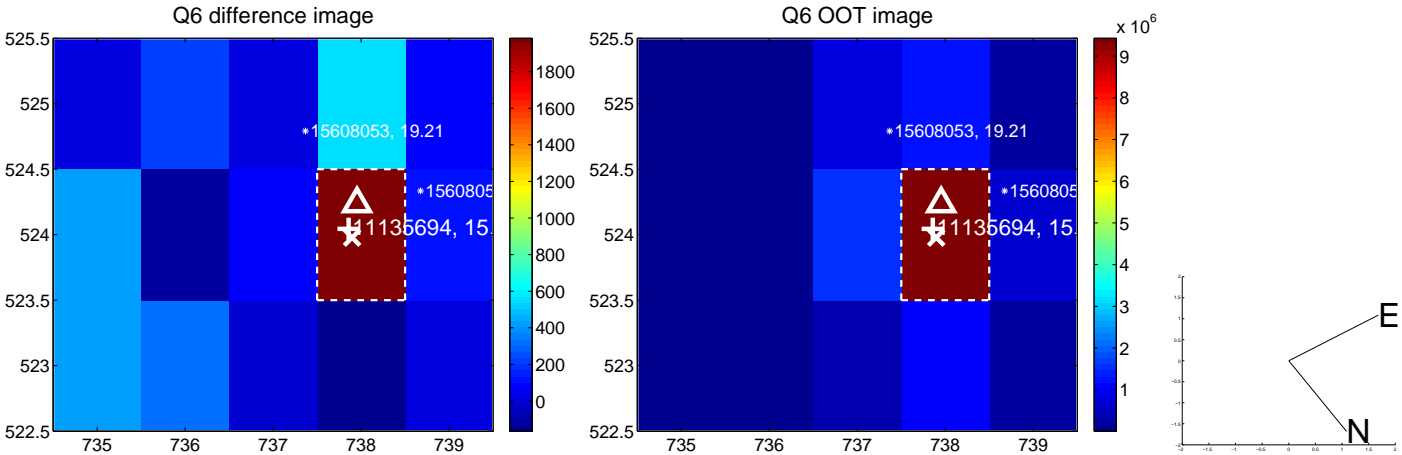
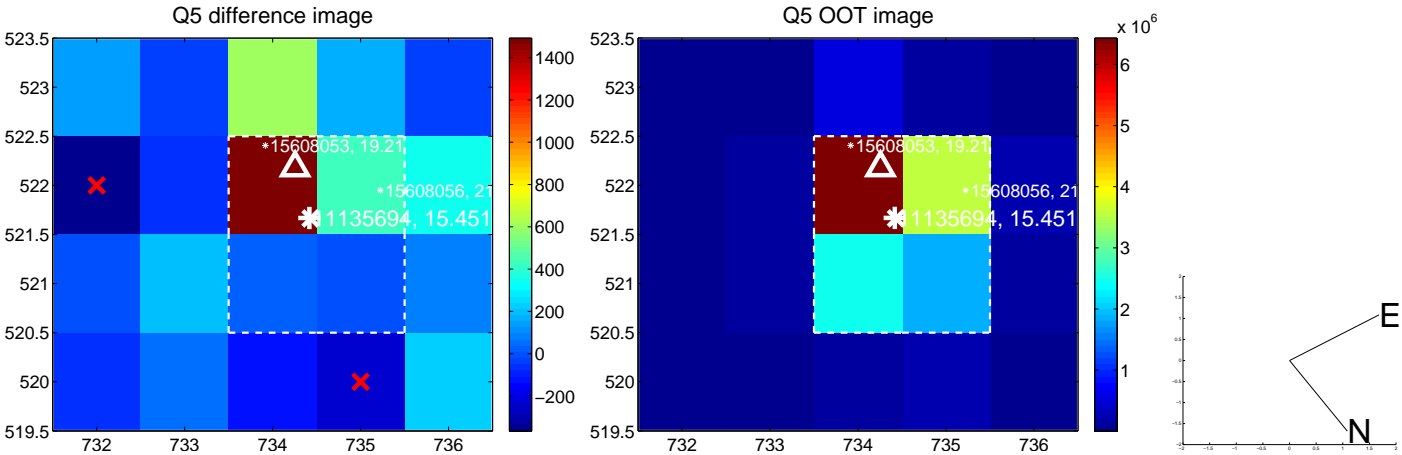


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

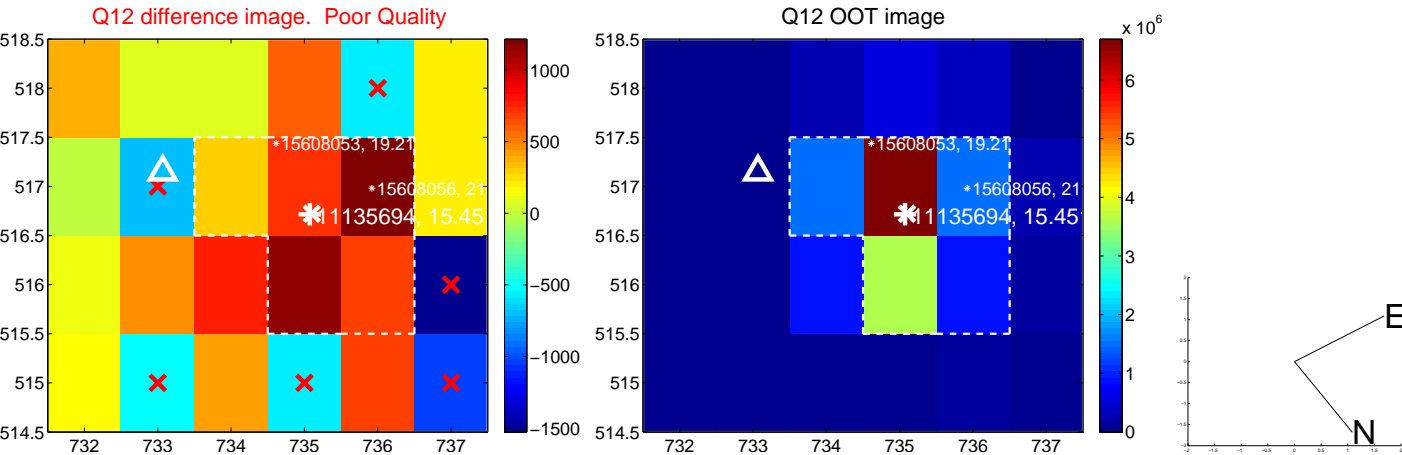
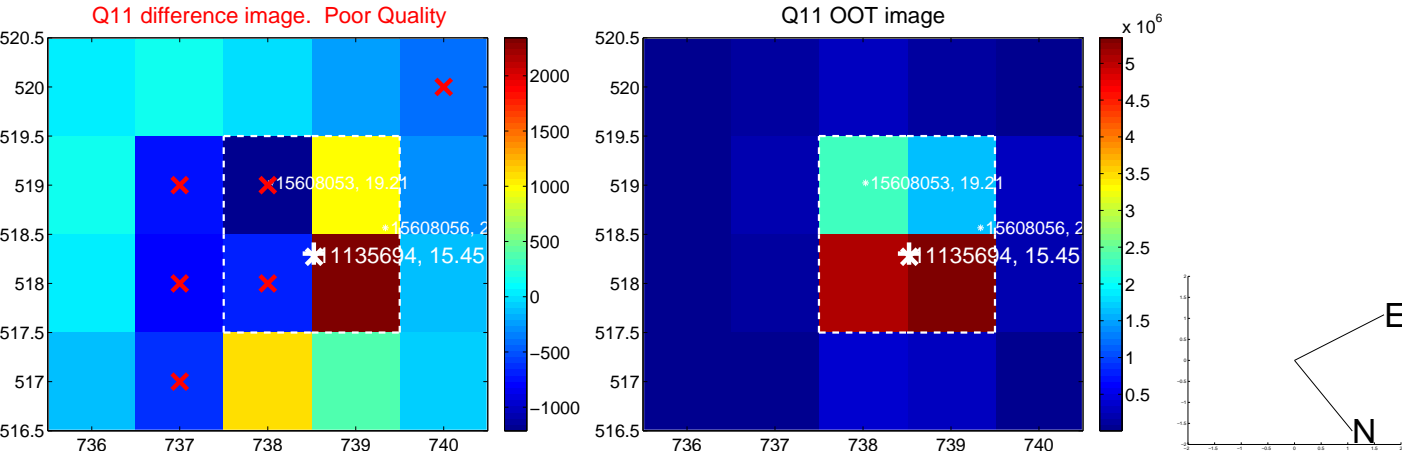
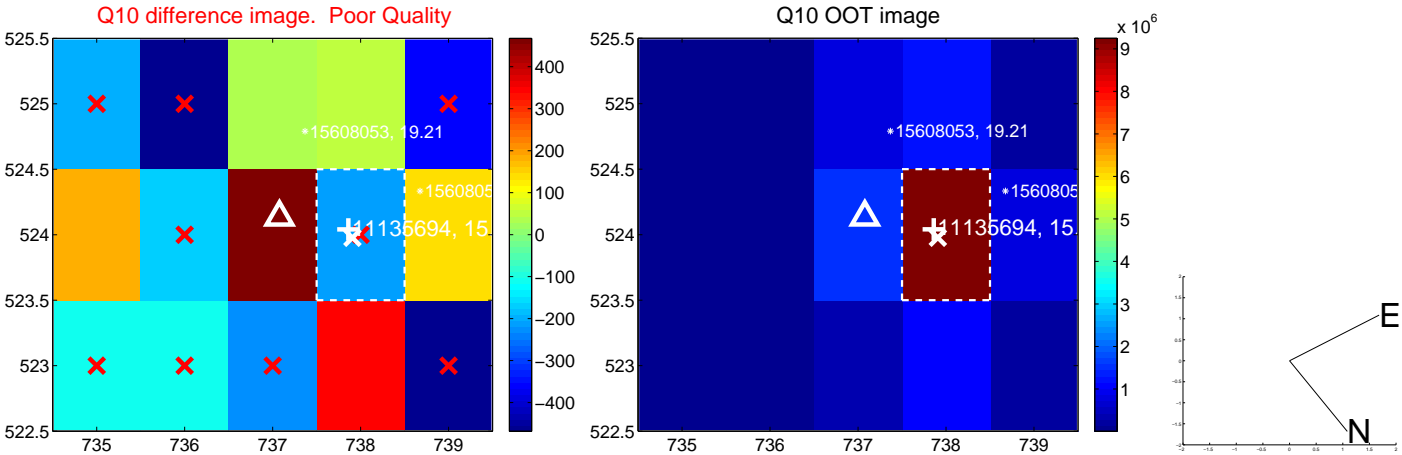
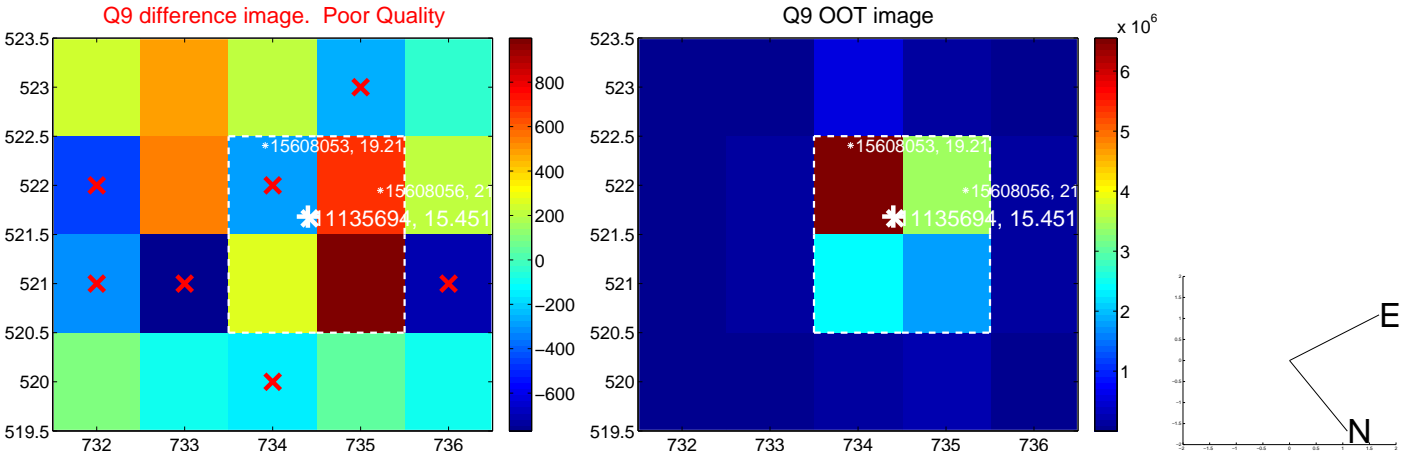
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



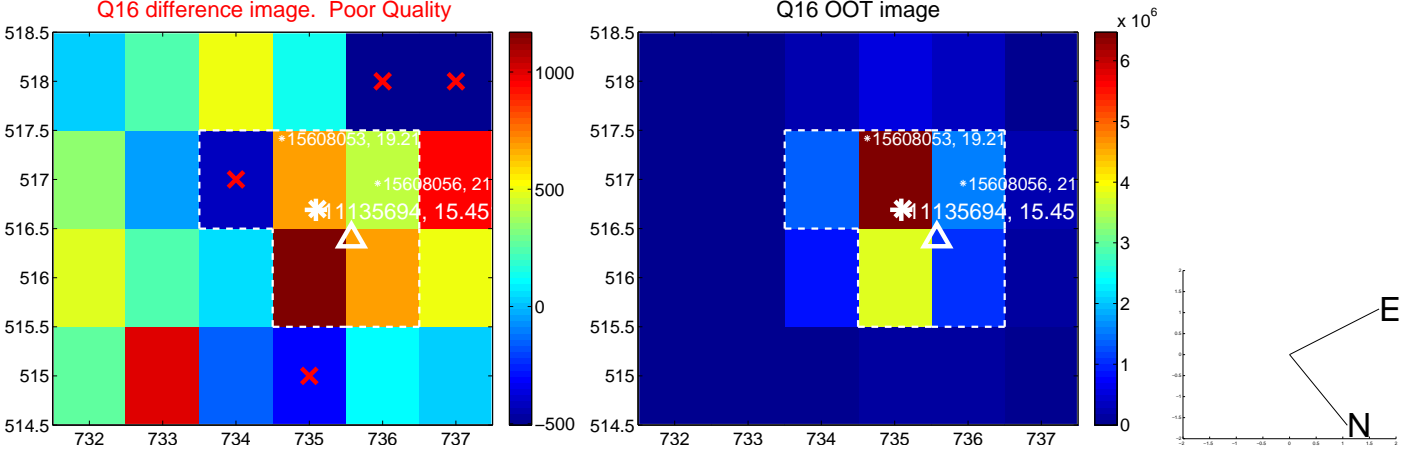
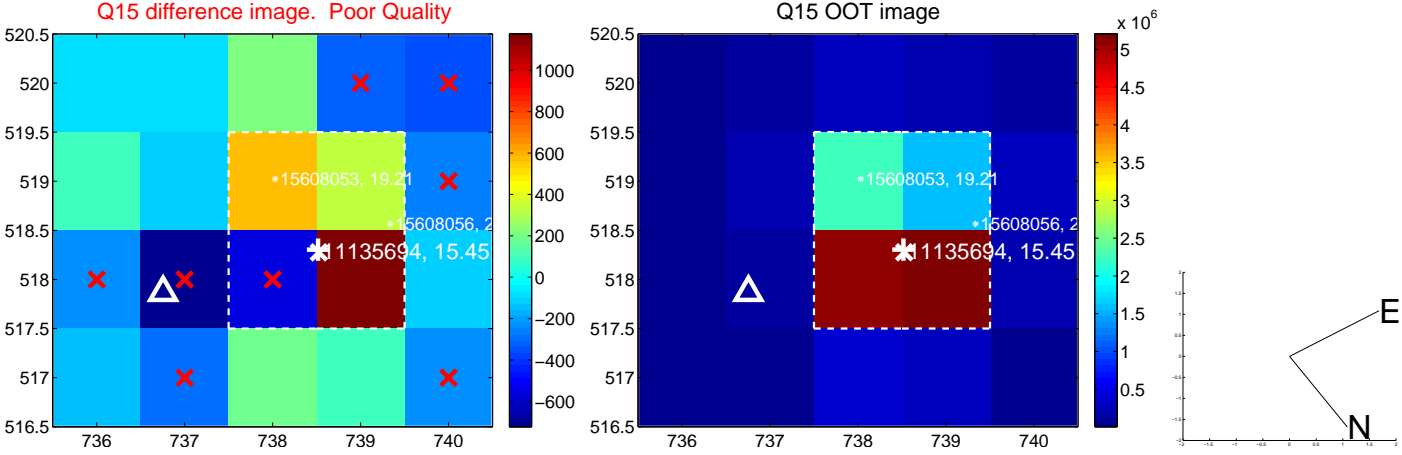
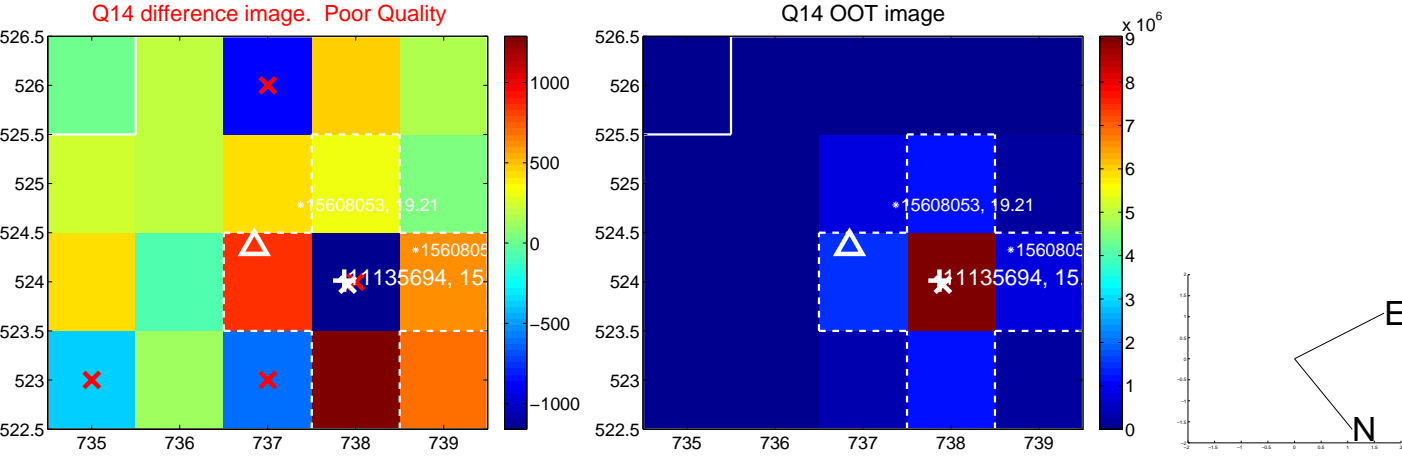
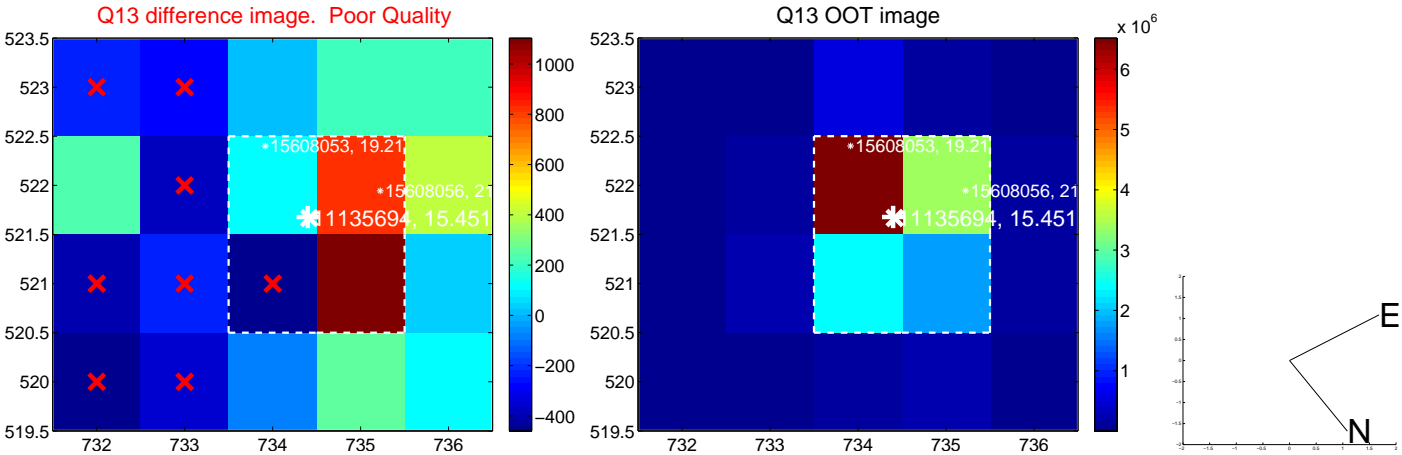
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



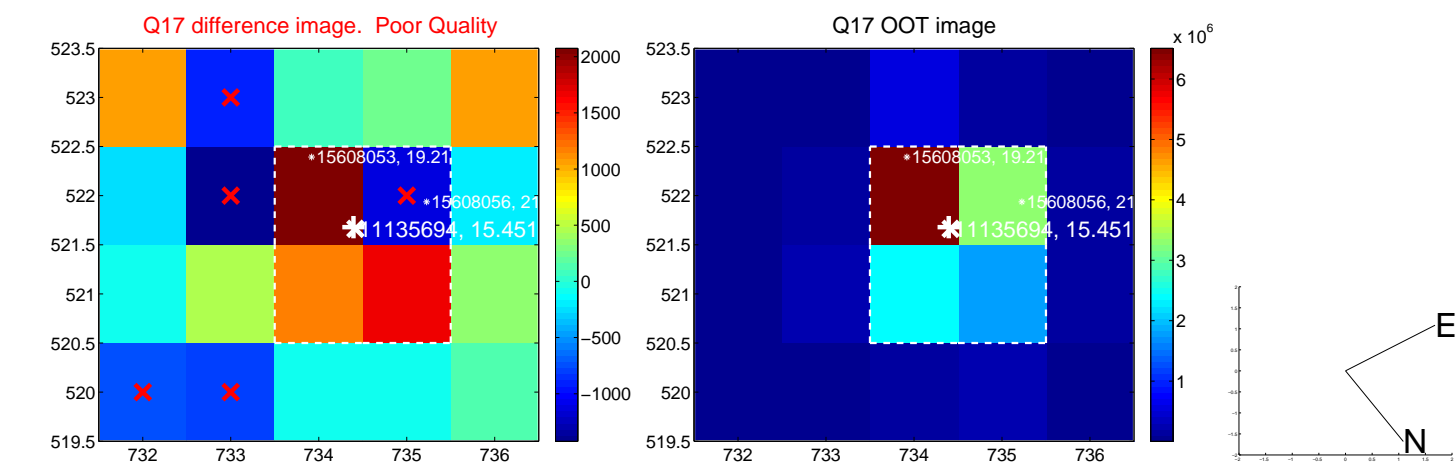
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



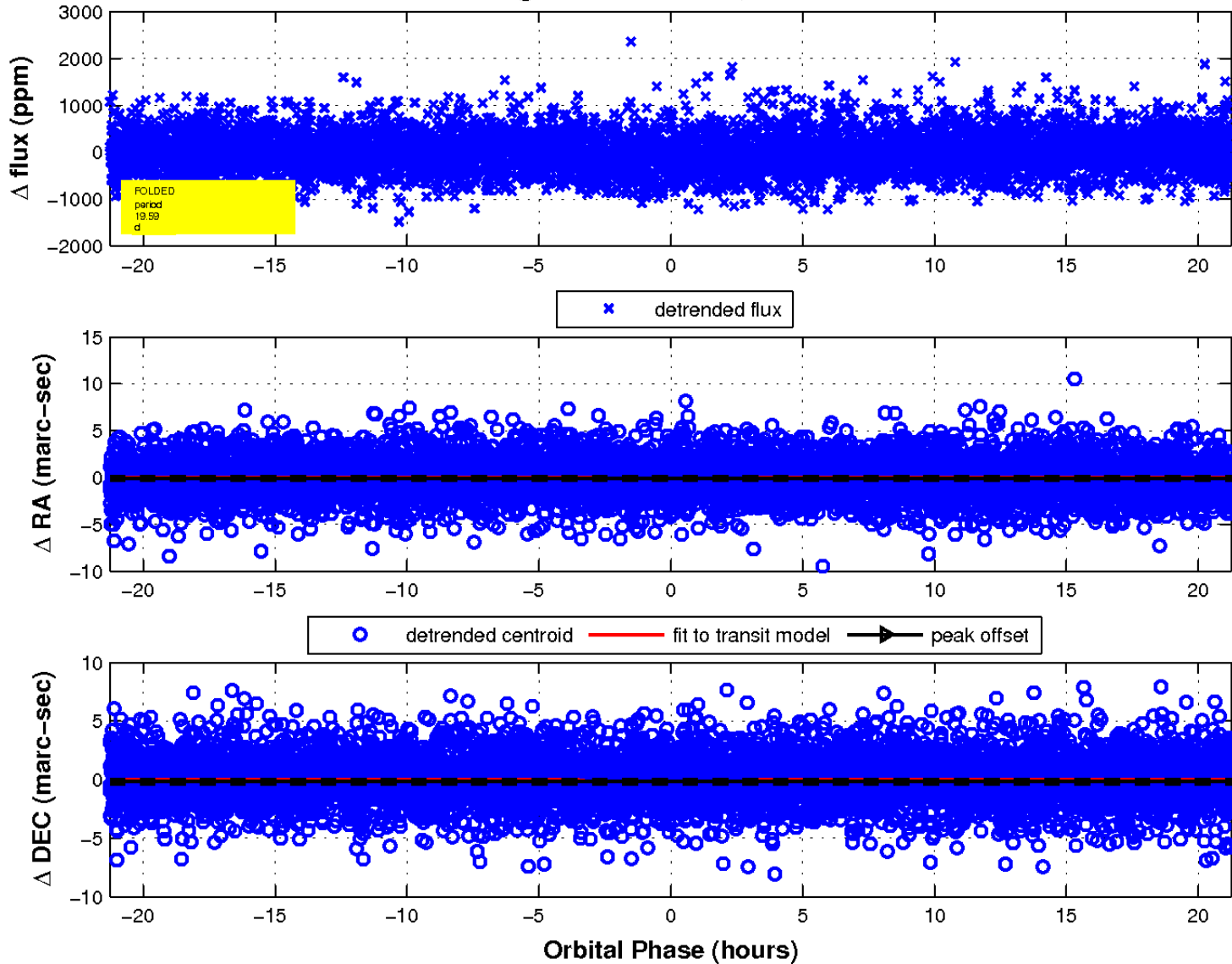
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

