

KIC 011753767

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})
011753767-01	OBS	No	175.064382	214.991791	499.0	2.837	12.6	7.6	1.38	6520	3.26	8.28
011753767-02	OBS	No	441.051581	449.688768	324.6	3.500	13.1	-1.0	1.38	6520	2.50	2.42
011753767-03	OBS	No	2.415967	133.132508	54.7	6.679	10.4	6.8	1.38	6520	1.19	2501.36
011753767-04	OBS	No	272.474711	175.078749	1843.8	6.000	54.2	-1.0	1.38	6520	5.95	4.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011753767-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
011753767-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
011753767-03	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
011753767-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

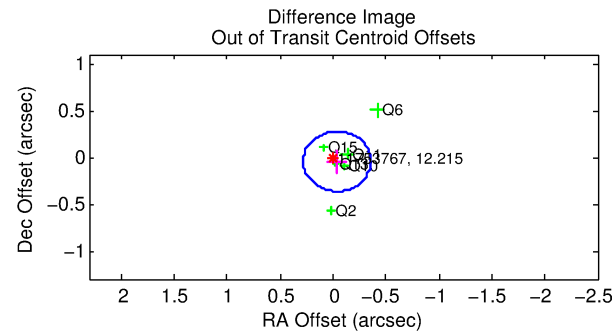
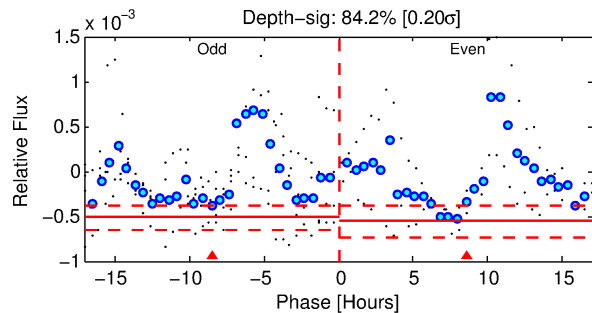
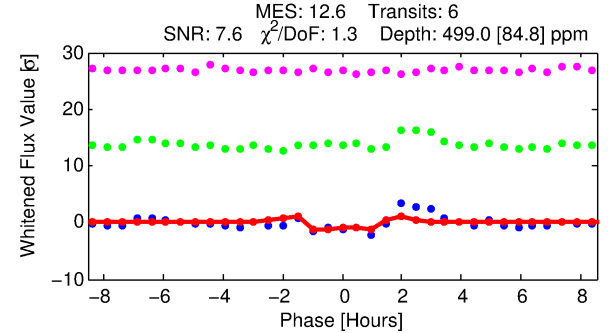
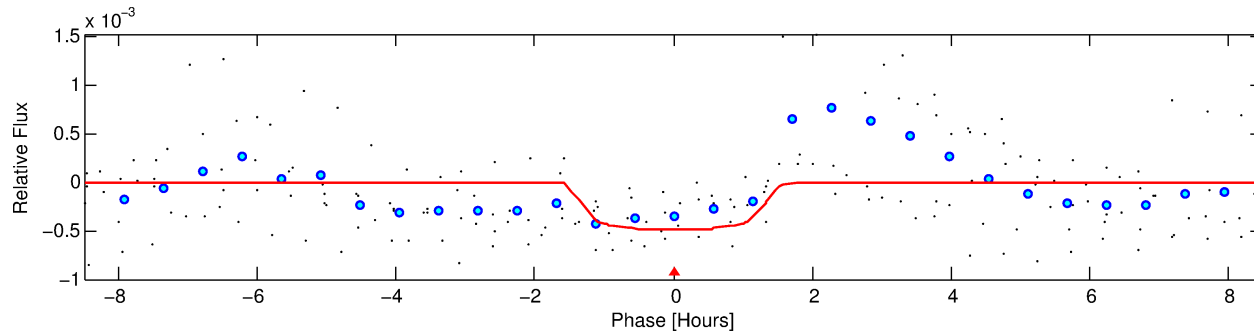
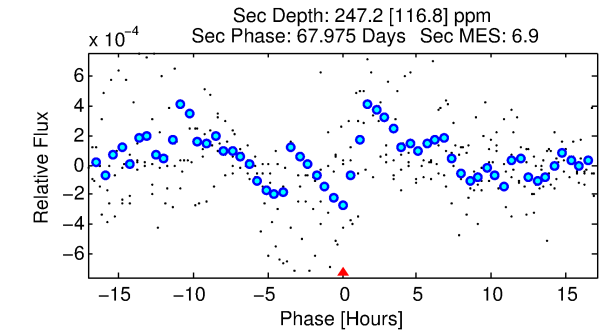
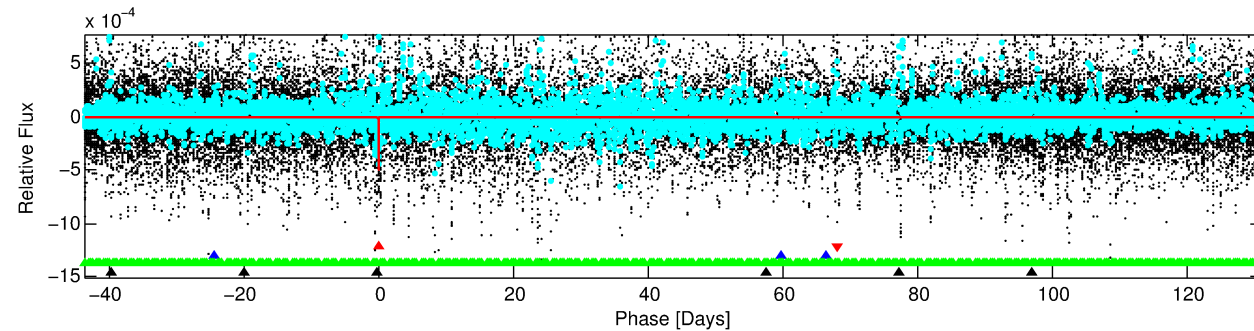
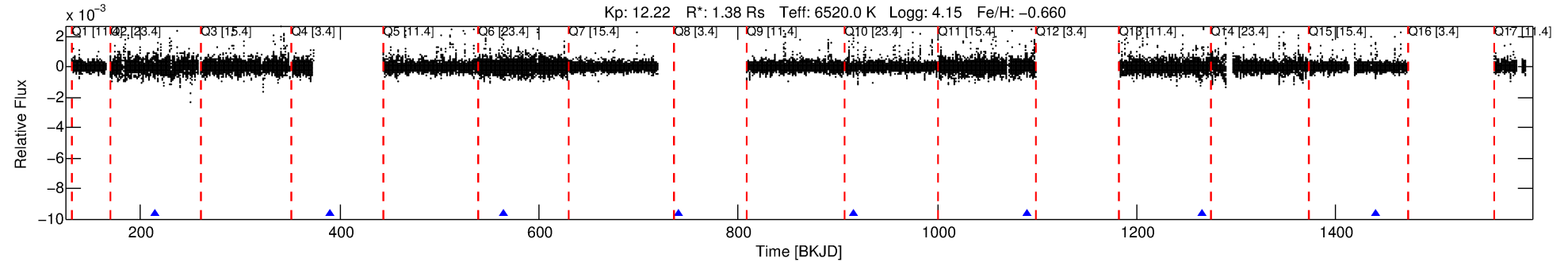
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011753767-01

No Significant Match Found

DV One-Page Summary

KIC: 11753767 Candidate: 1 of 4 Period: 175.064 d



DV Fit Results:

Period = 175.06438 [0.00130] d
Epoch = 214.9918 [0.0061] BKJD
Rp/R* = 0.0217 [0.0193]
a/R* = 371.13 [1789.25]
b = 0.65 [4.28]
Seff = 8.28 [3.87]
Teq = 433 [51] K
Rp = 3.26 [3.03] Re
a = 0.6085 [0.1661] AU
Ag = 4743.44 [9003.64] [0.53σ]
Teffp = 5550 [2562] K [2.00σ]

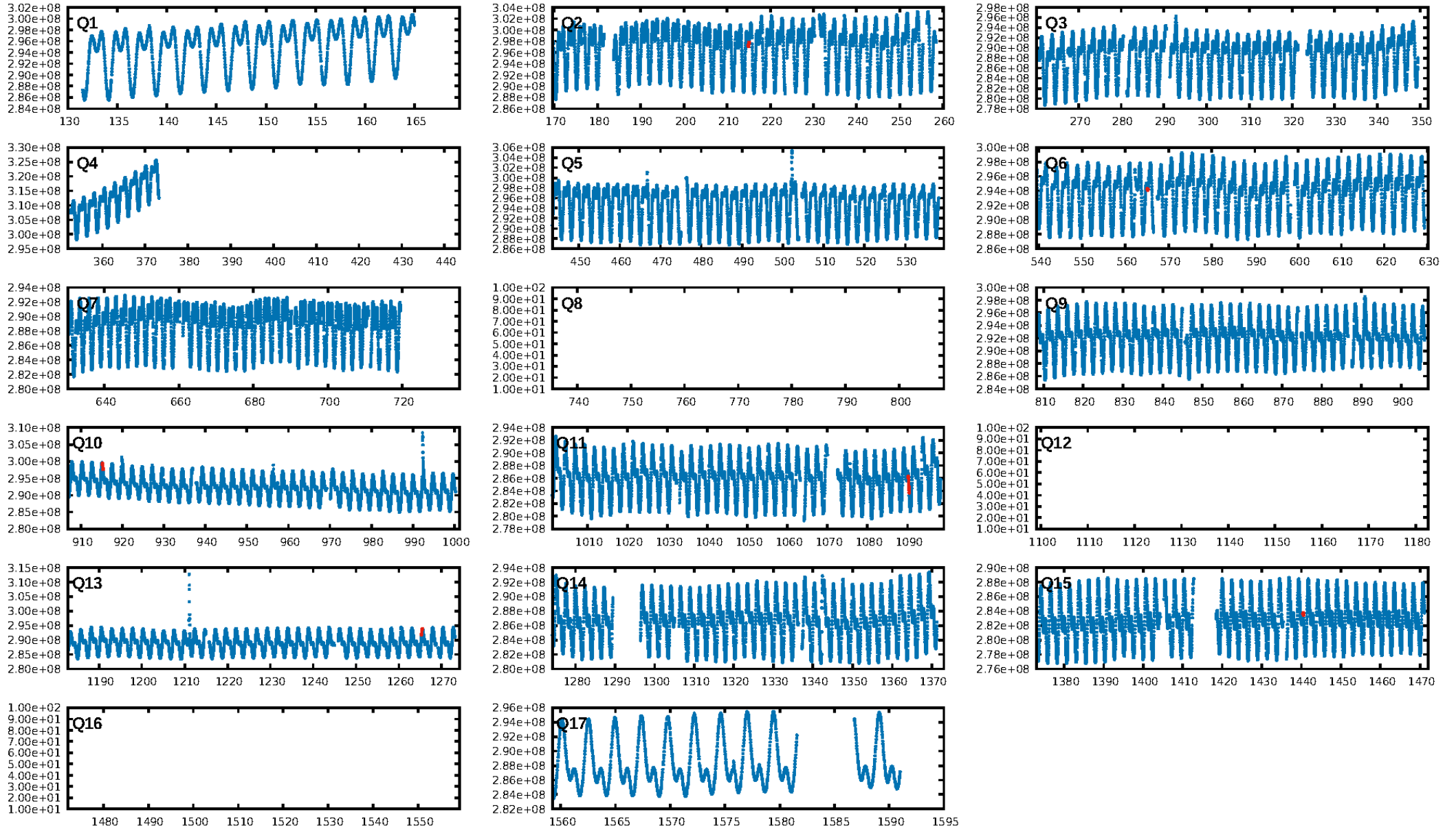
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [571.04σ]
LongPeriod-sig: 100.0% [352.26σ]
ModelChiSquare2-sig: 1.5%
ModelChiSquareGof-sig: 93.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.07718
Centroid-sig: N/A
Centroid-so: 0.786 arcsec [1.39σ]
OotOffset-rm: 0.059 arcsec [0.55σ]
KicOffset-rm: 0.107 arcsec [0.80σ]
OotOffset-st: 3/2/0/1 [6]
KicOffset-st: 3/2/0/1 [6]
DiffImageQuality-fgm: 0.33 [2/6]
DiffImageOverlap-fno: 0.50 [3/6]

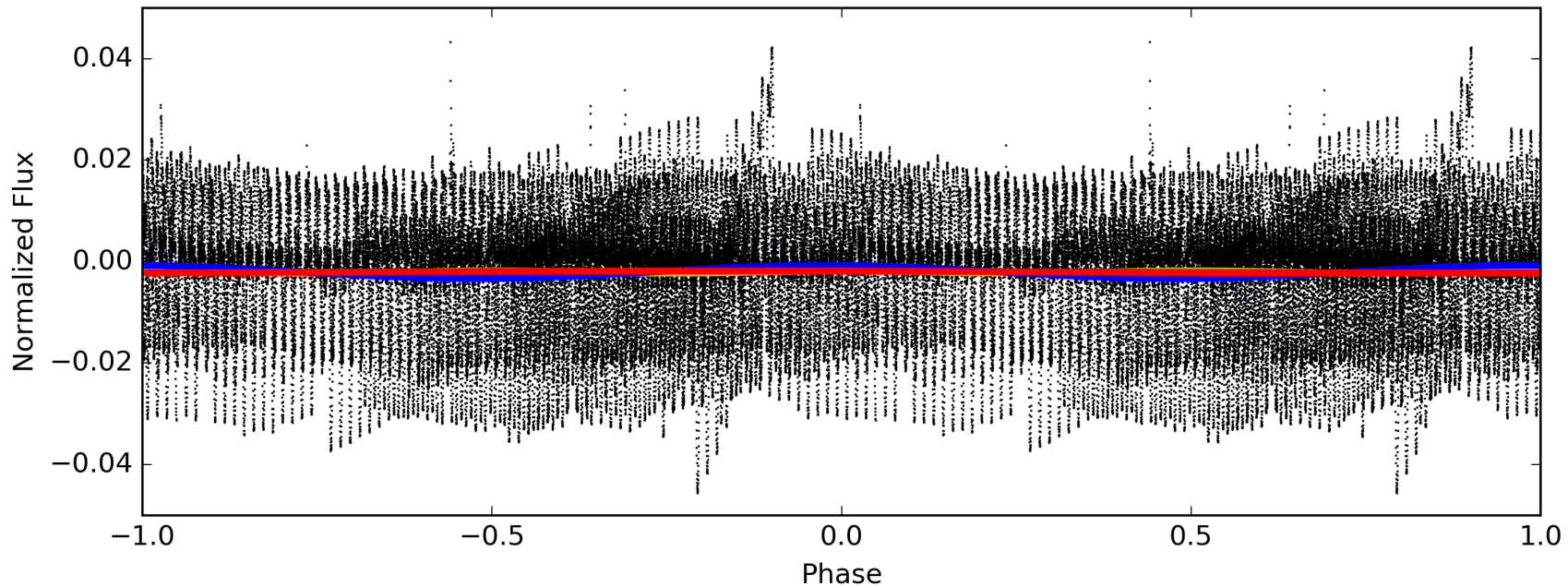
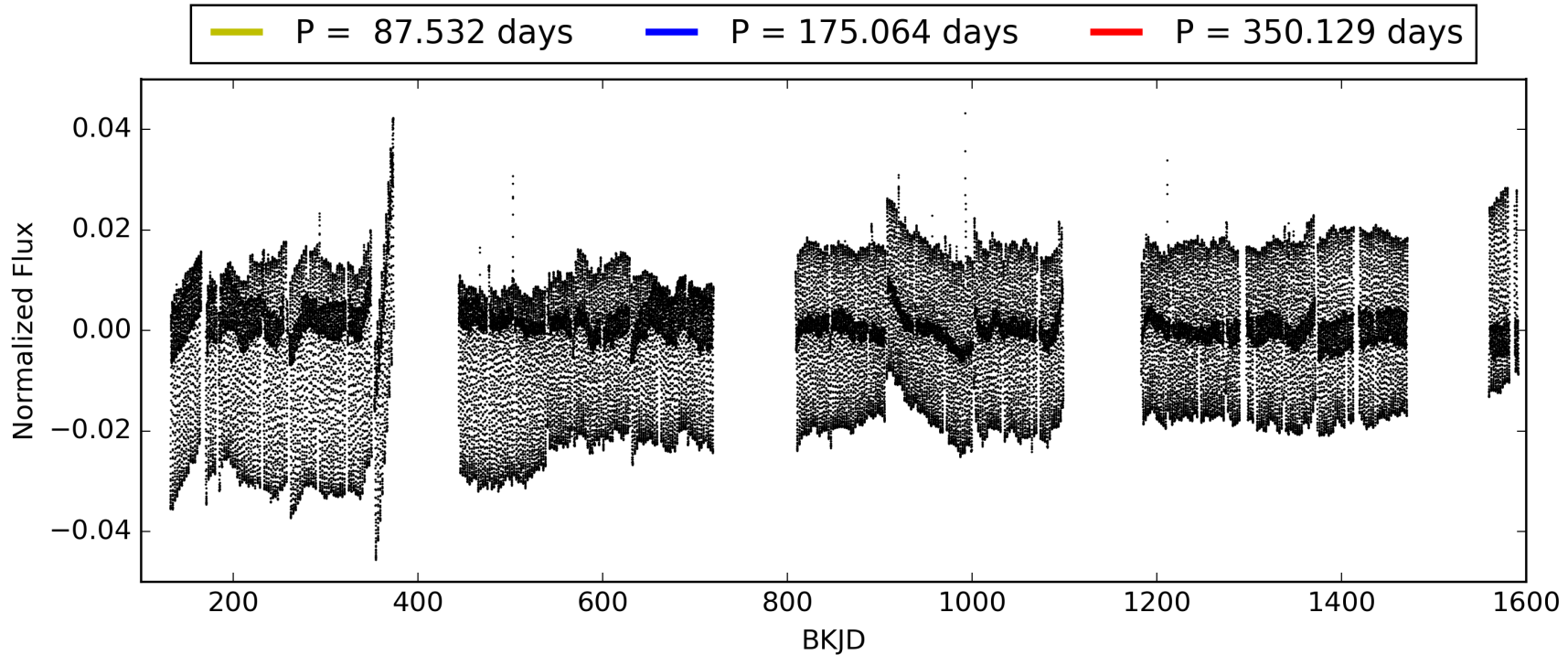
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:20:25 Z

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

TCE 011753767-01, PDC Light Curves

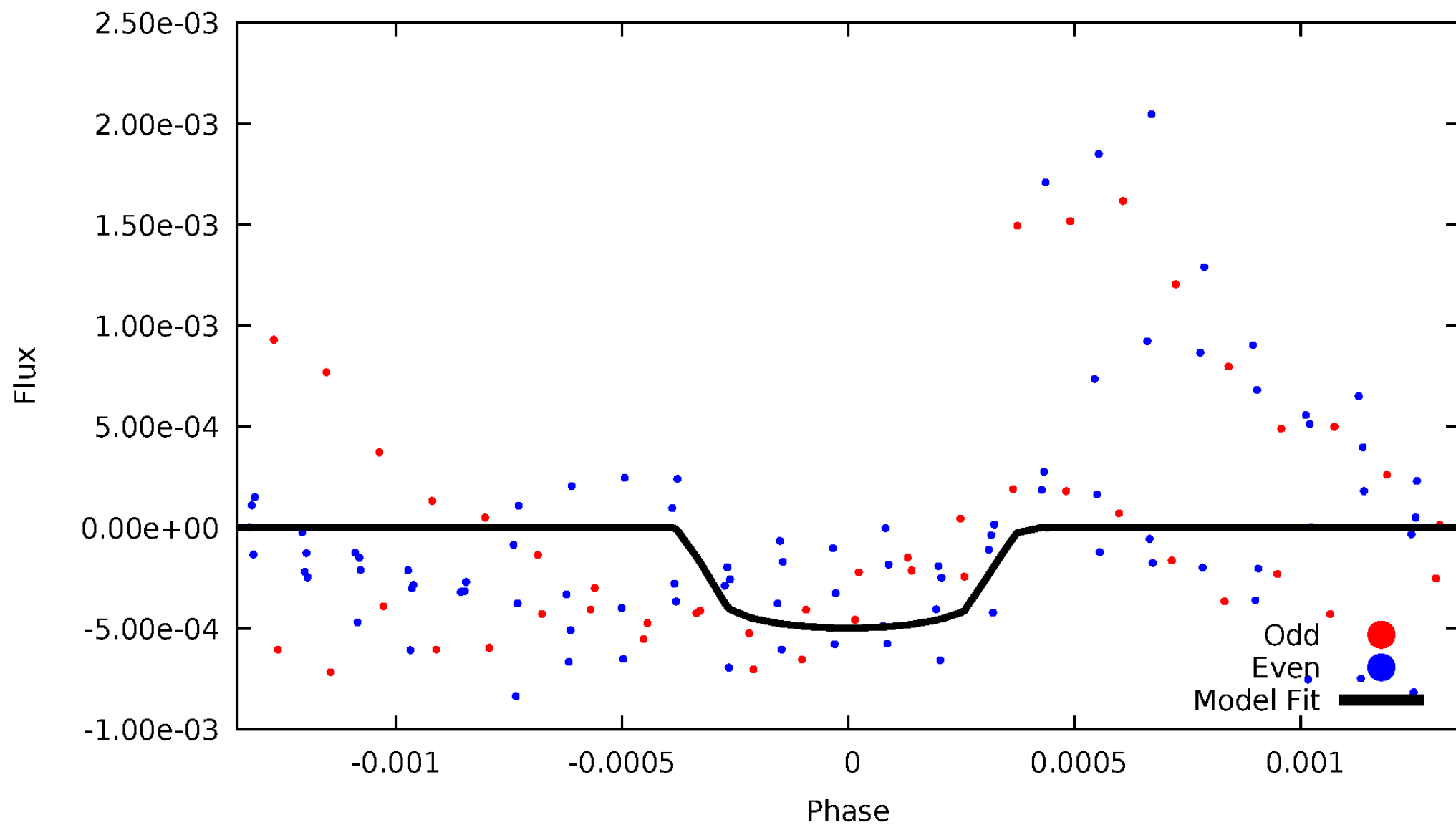


TCE 011753767-01



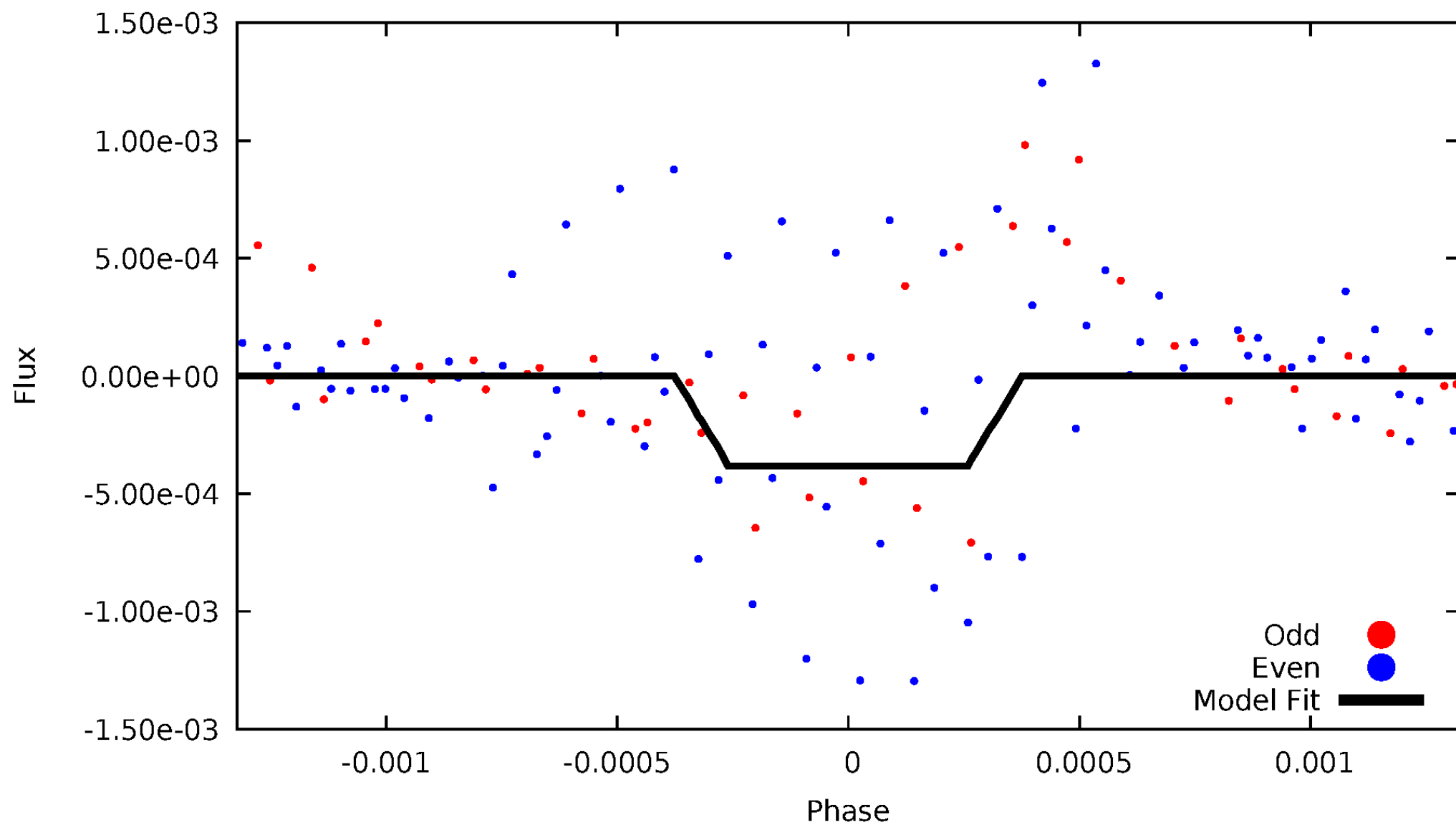
DV Odd/Even

TCE 011753767-01



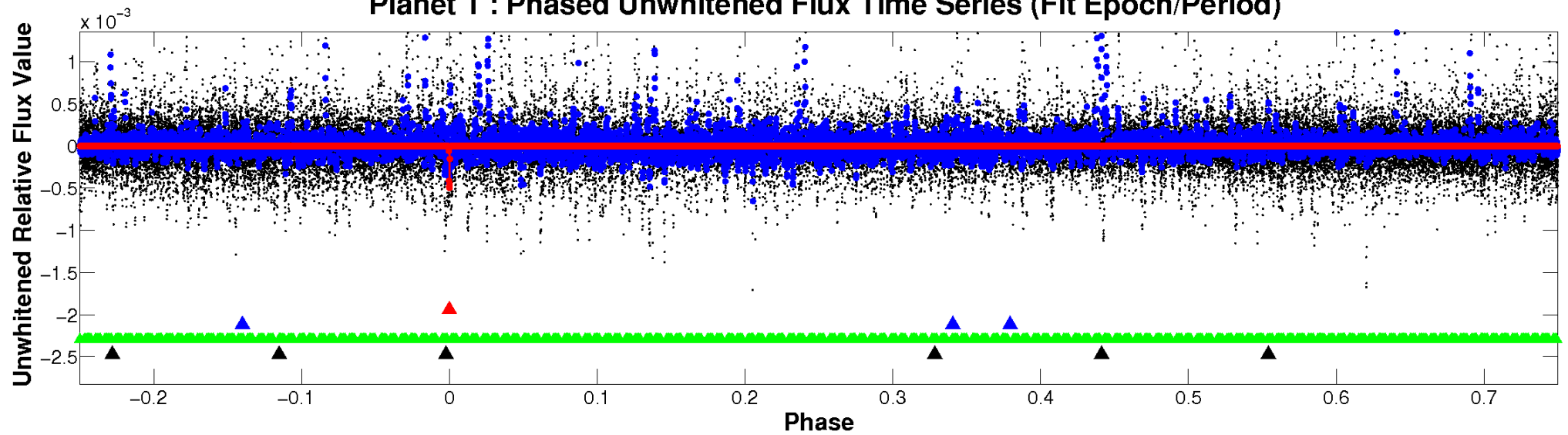
ALT Odd/Even

TCE 011753767-01

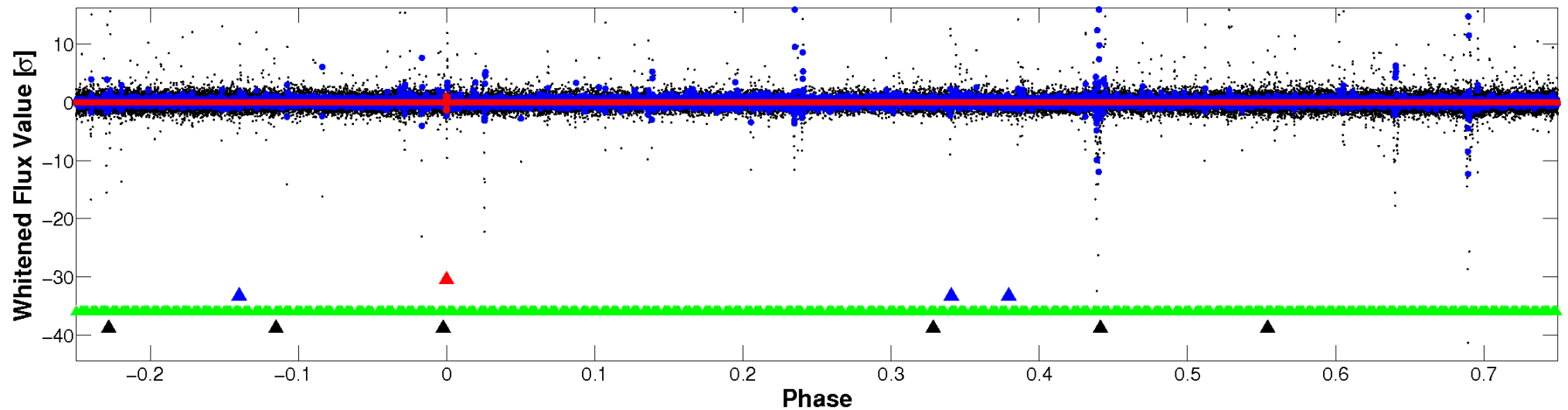


Non-Whitened Vs. Whitened Light Curve

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

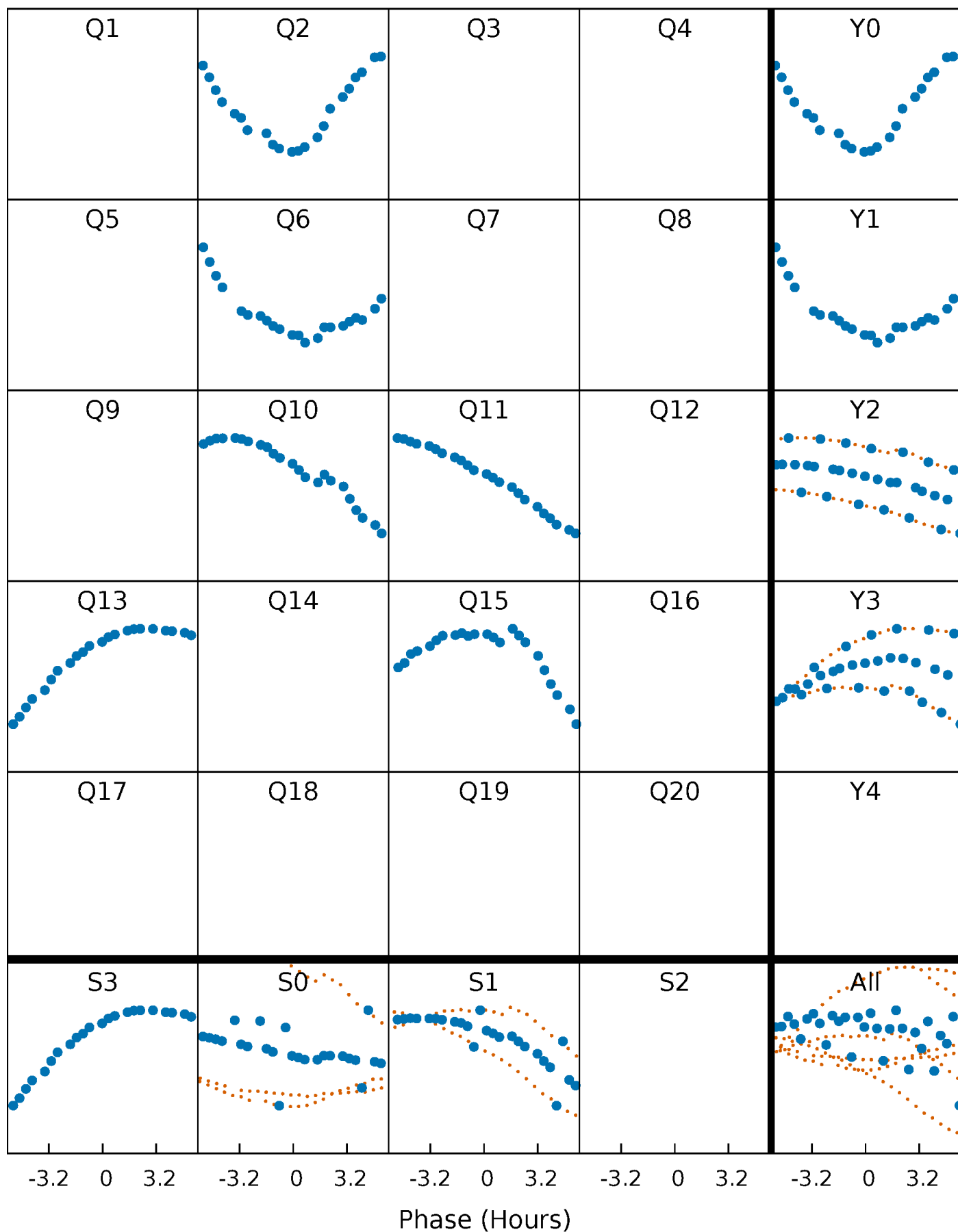


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



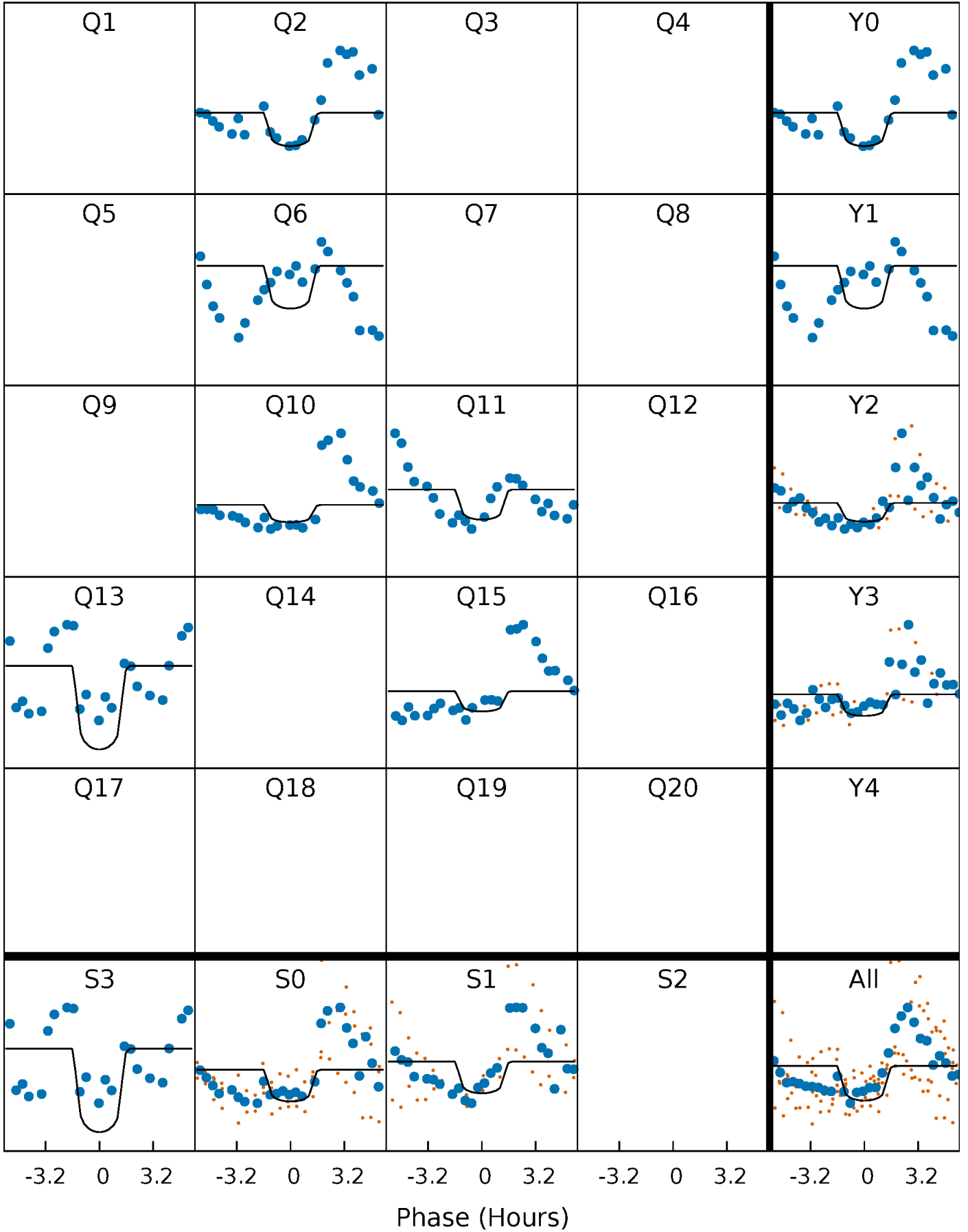
PDC Quarter-Phased Transit Curves

TCE 011753767-01 P=175.064382 Days $T_0=214.991792$ (BKJD)



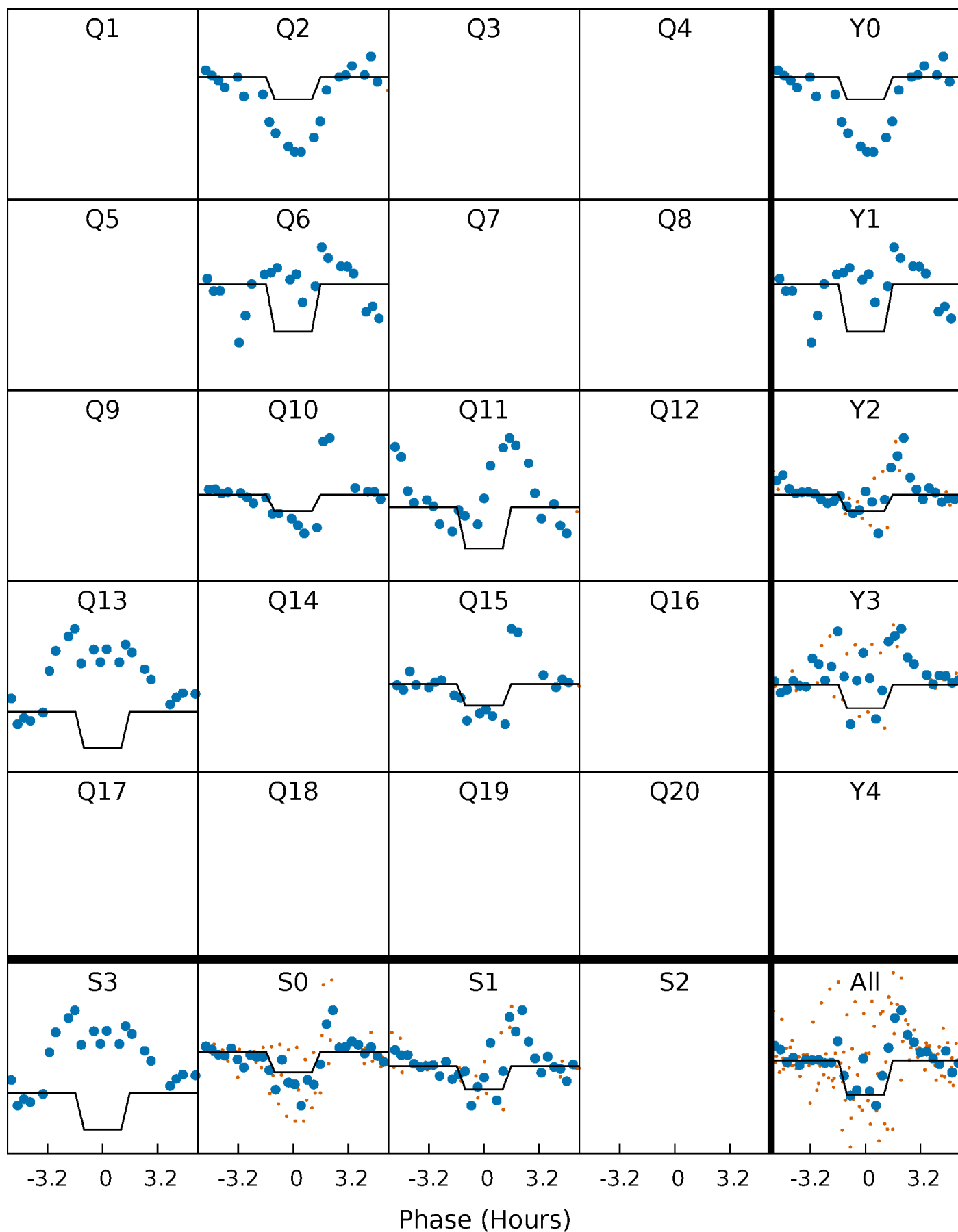
DV Quarter-Phased Transit Curves

TCE 011753767-01 P=175.064382 Days $T_0=214.991792$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

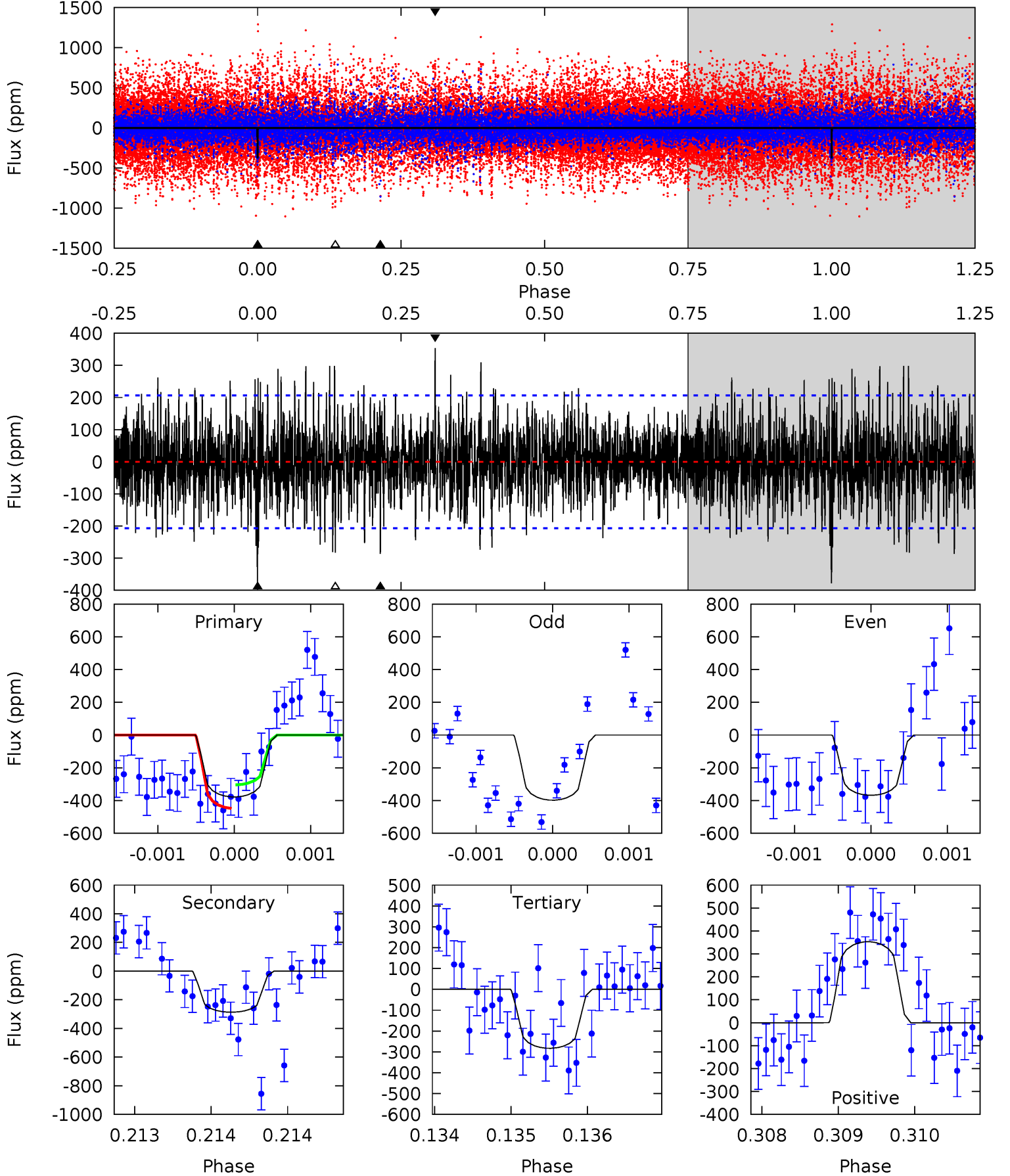
TCE 011753767-01 P=175.062864 Days $T_0=215.000833$ (BKJD)



DV Model-Shift Uniqueness Test

011753767-01, P = 175.064382 Days, E = 39.927410 Days

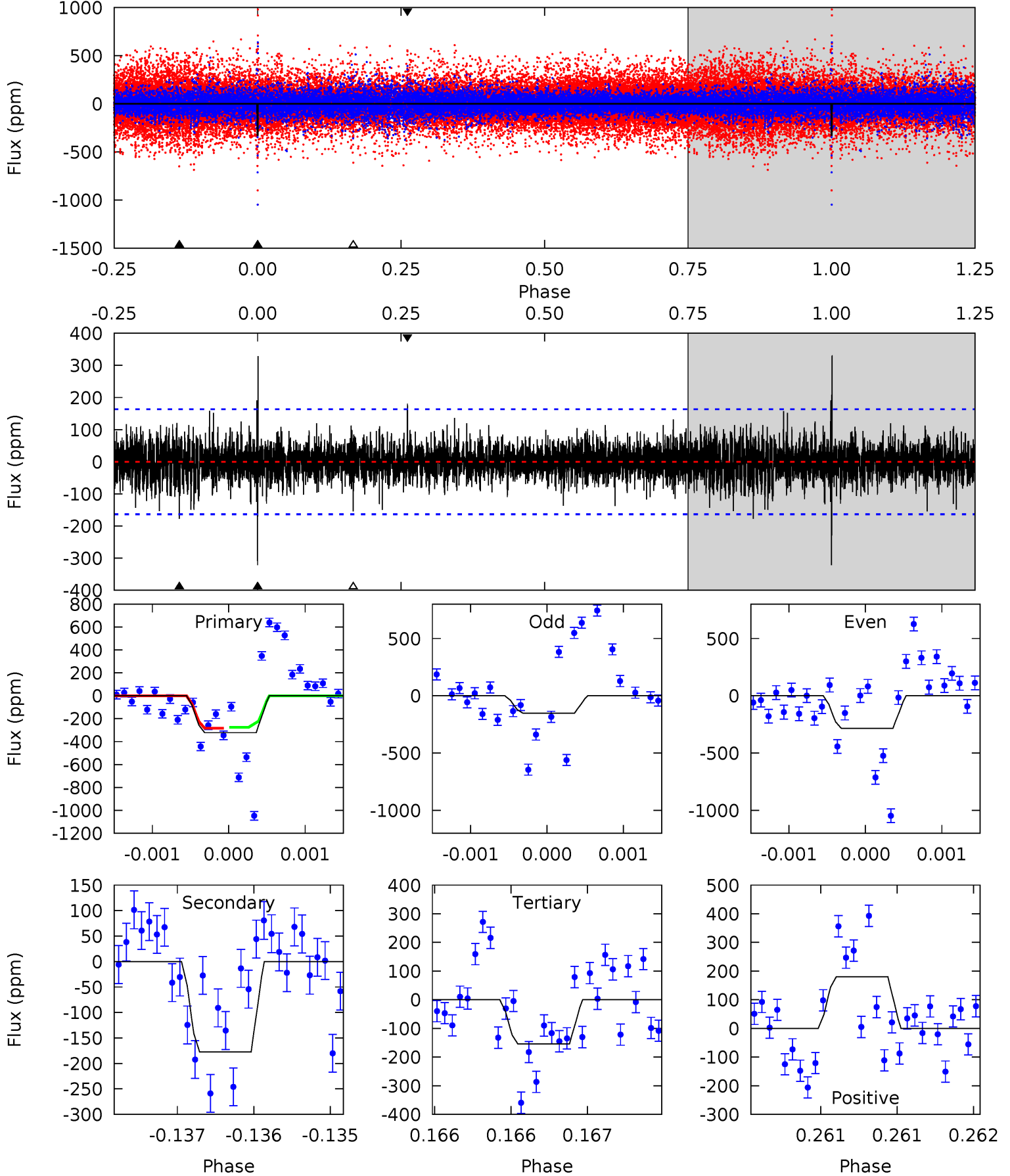
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	7.62	7.51	9.39	5.50	3.37	2.18	2.53	0.66	0.11	-1.76	0.36	0.96	0.48	1.92



Alt Model-Shift Uniqueness Test

011753767-01, $P = 175.062864$ Days, $E = 39.937969$ 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	5.98	5.21	6.08	5.51	3.38	1.31	5.65	4.77	0.77	-0.10	2.27	0.99	0.50	0



Stellar Parameters For KIC 011753767

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6520^{+147}_{-180}	$4.152^{+0.273}_{-0.168}$	$-0.660^{+0.350}_{-0.300}$	$1.376^{+0.361}_{-0.361}$	$0.980^{+0.137}_{-0.100}$	$0.529^{+0.789}_{-0.241}$
	+2%/-3%	+7%/-4%	+53%/-45%	+26%/-26%	+14%/-10%	+149%/-46%
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 011753767-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-287 ± 38	$3.66^{+2.79}_{-2.29}$	598^{+43}_{-46}	5429^{+3583}_{-1161}	4464^{+26441}_{-3090}
Alt.	-177 ± 30	$3.41^{+2.68}_{-2.10}$	597^{+46}_{-46}	4950^{+3078}_{-956}	3103^{+17509}_{-2179}

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

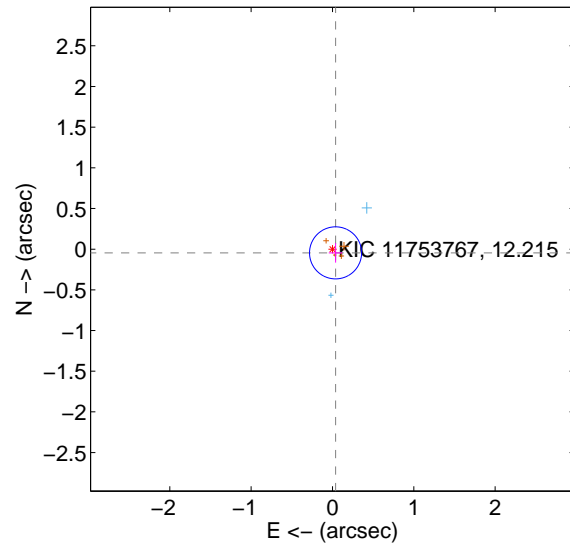
Supplemental centroid analysis for 011753767-01. Kepler magnitude: 12.21. Transit SNR 7.63

There are 2 quarters with good PRF difference image offsets

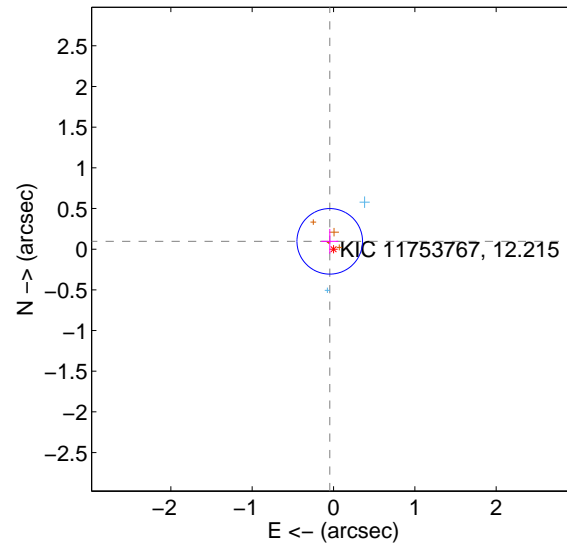
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.059 ± 0.107	0.55	-0.038 ± 0.084	-0.045 ± 0.120
PRF-fit source offset from KIC position	0.107 ± 0.134	0.80	0.046 ± 0.105	0.096 ± 0.152
photometric centroid source offset	0.79 ± 0.56	1.39	-0.29 ± 0.58	0.73 ± 0.56

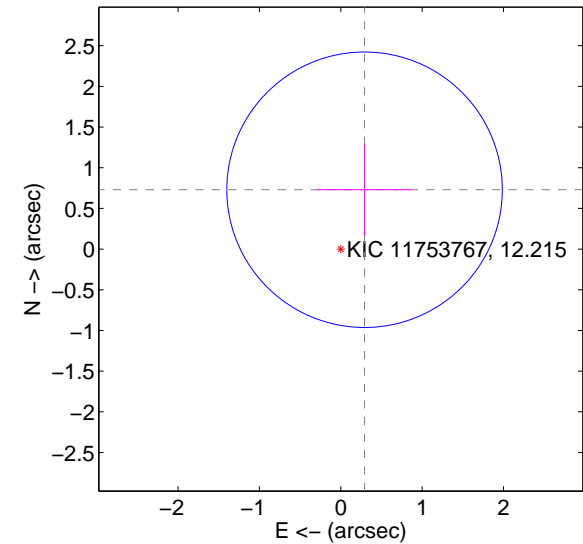
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

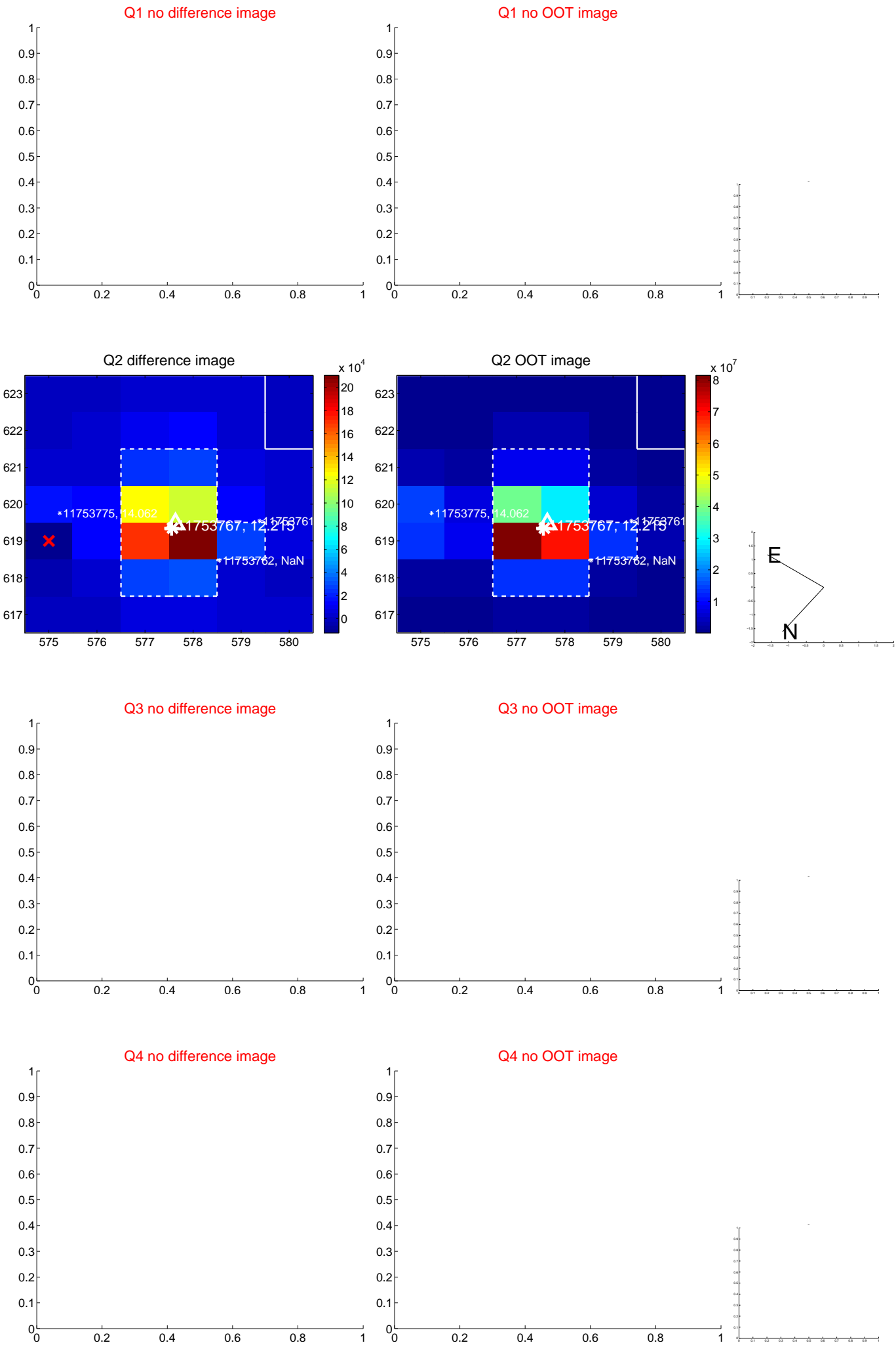


offset from photometric centroids

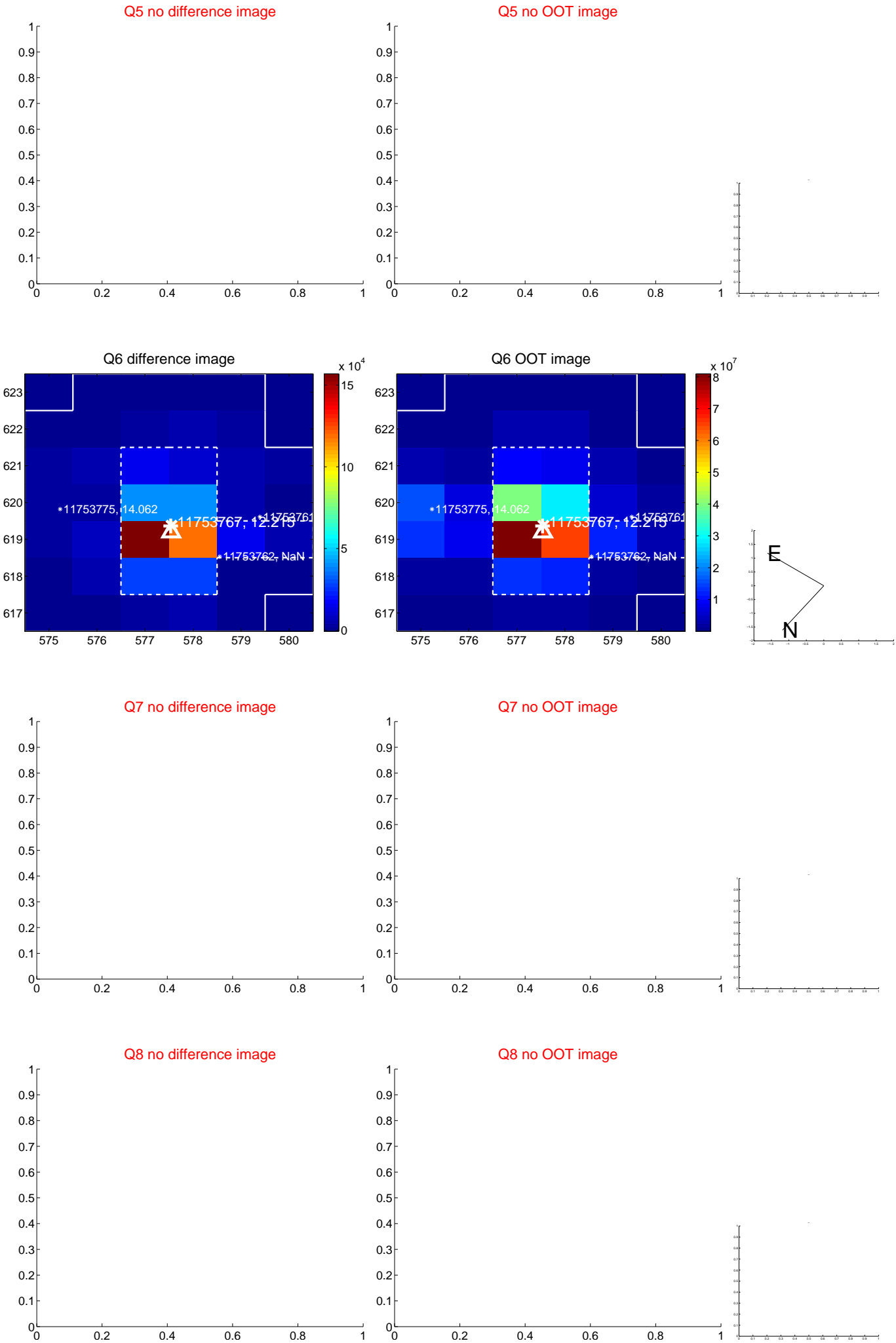


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

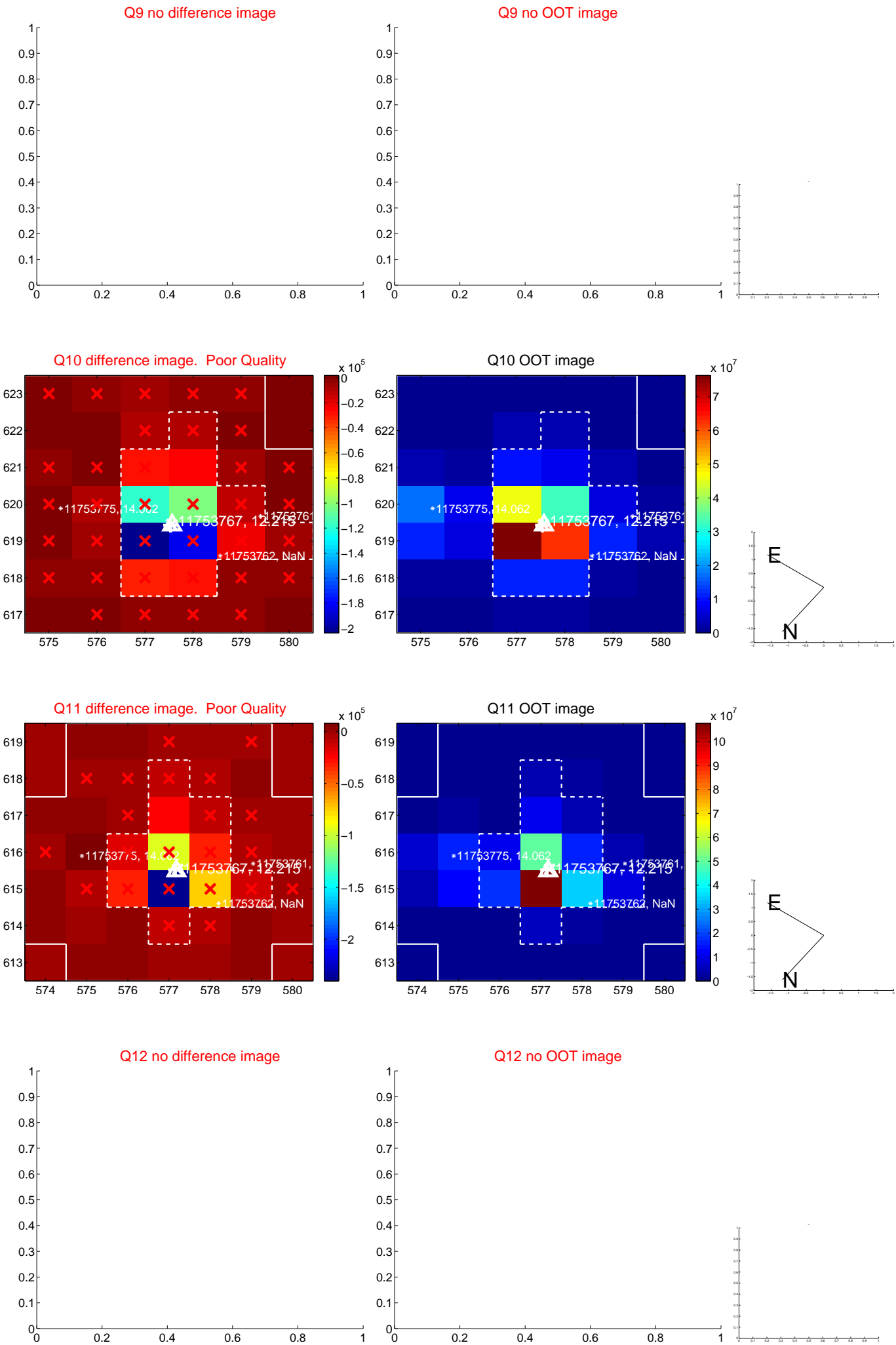
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



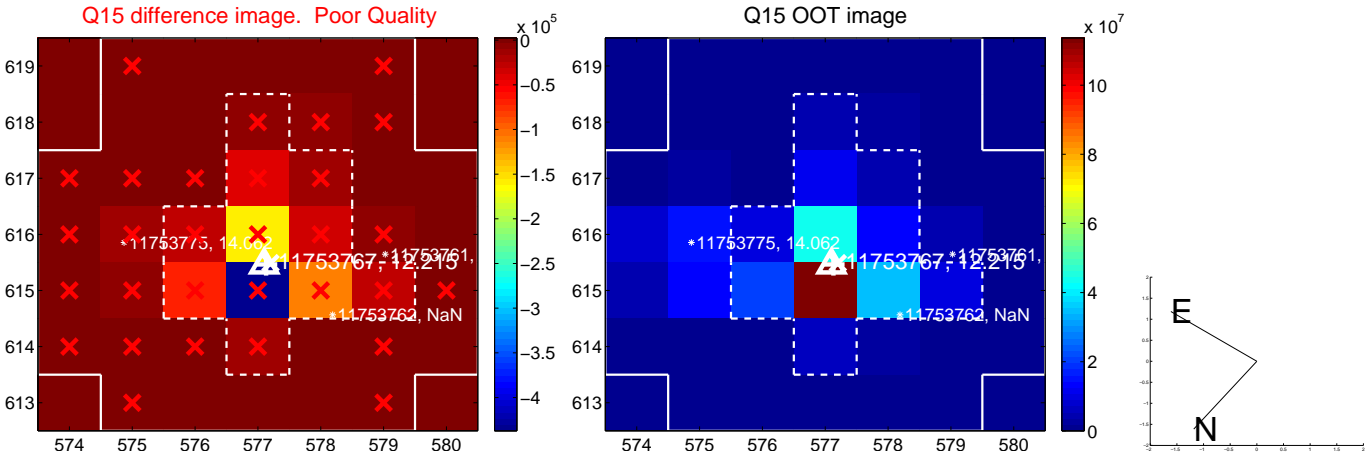
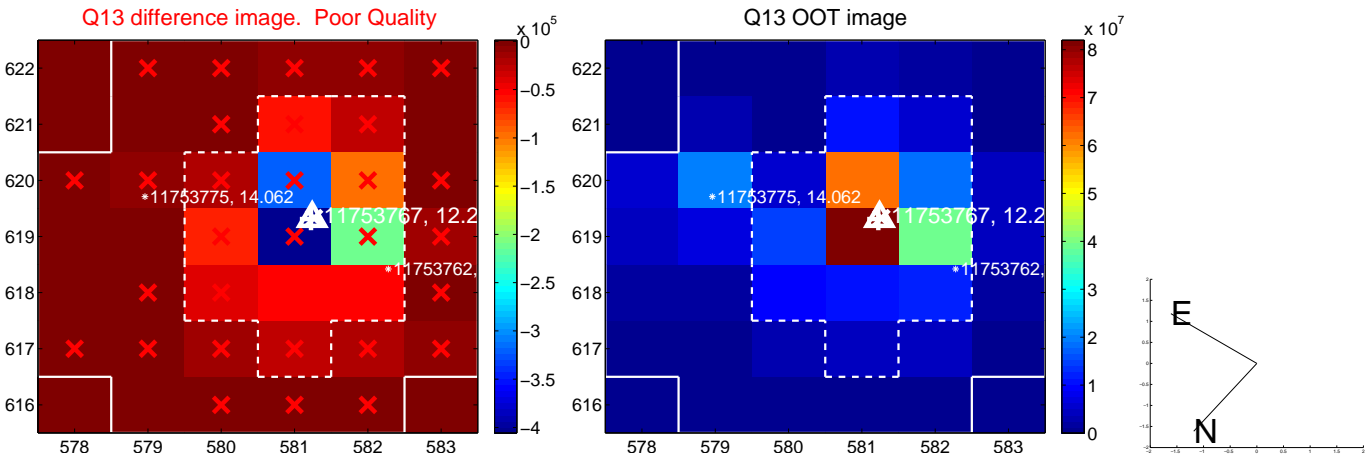
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



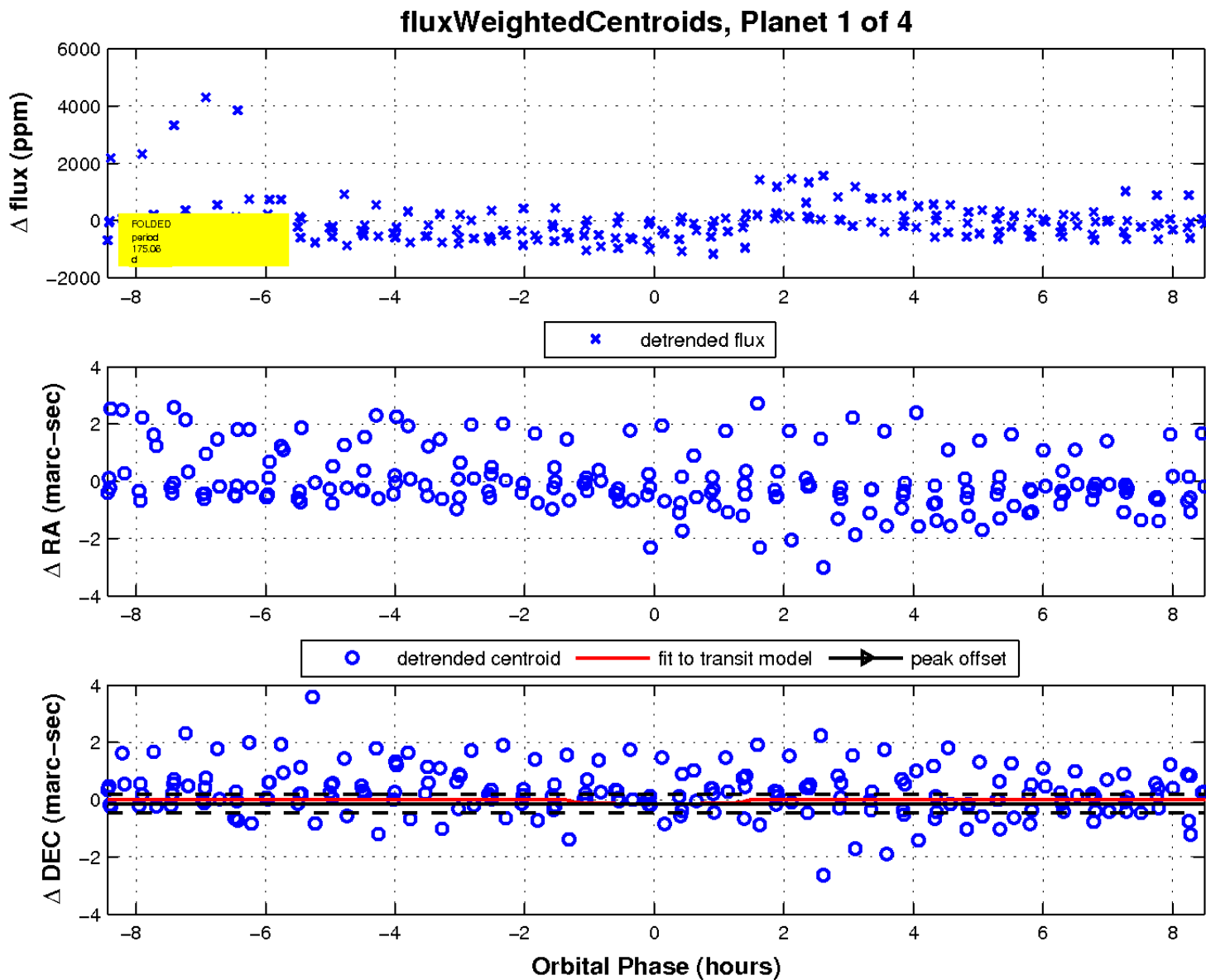
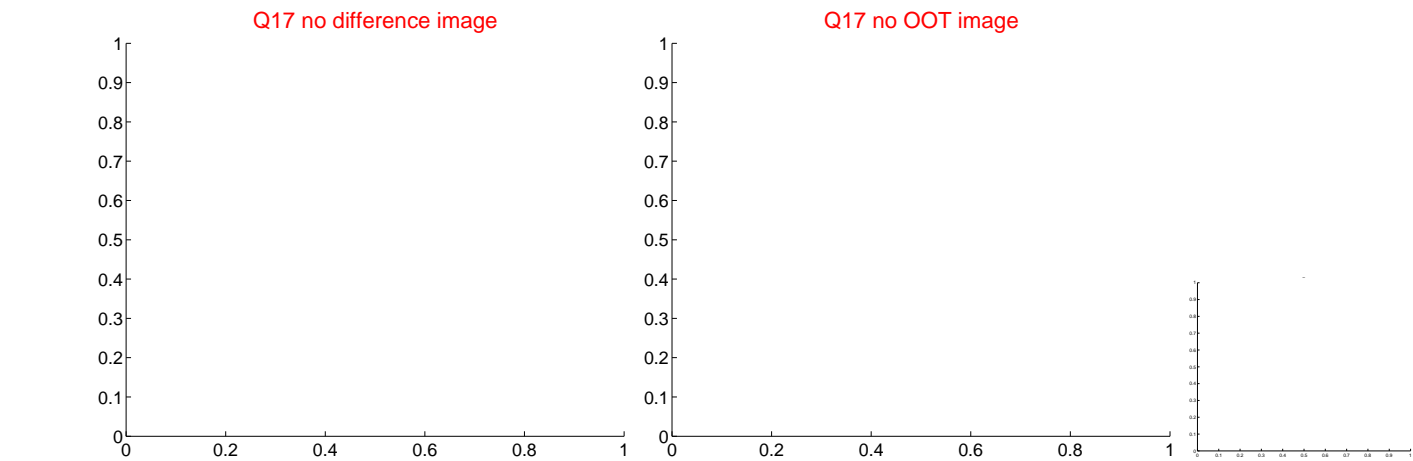
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



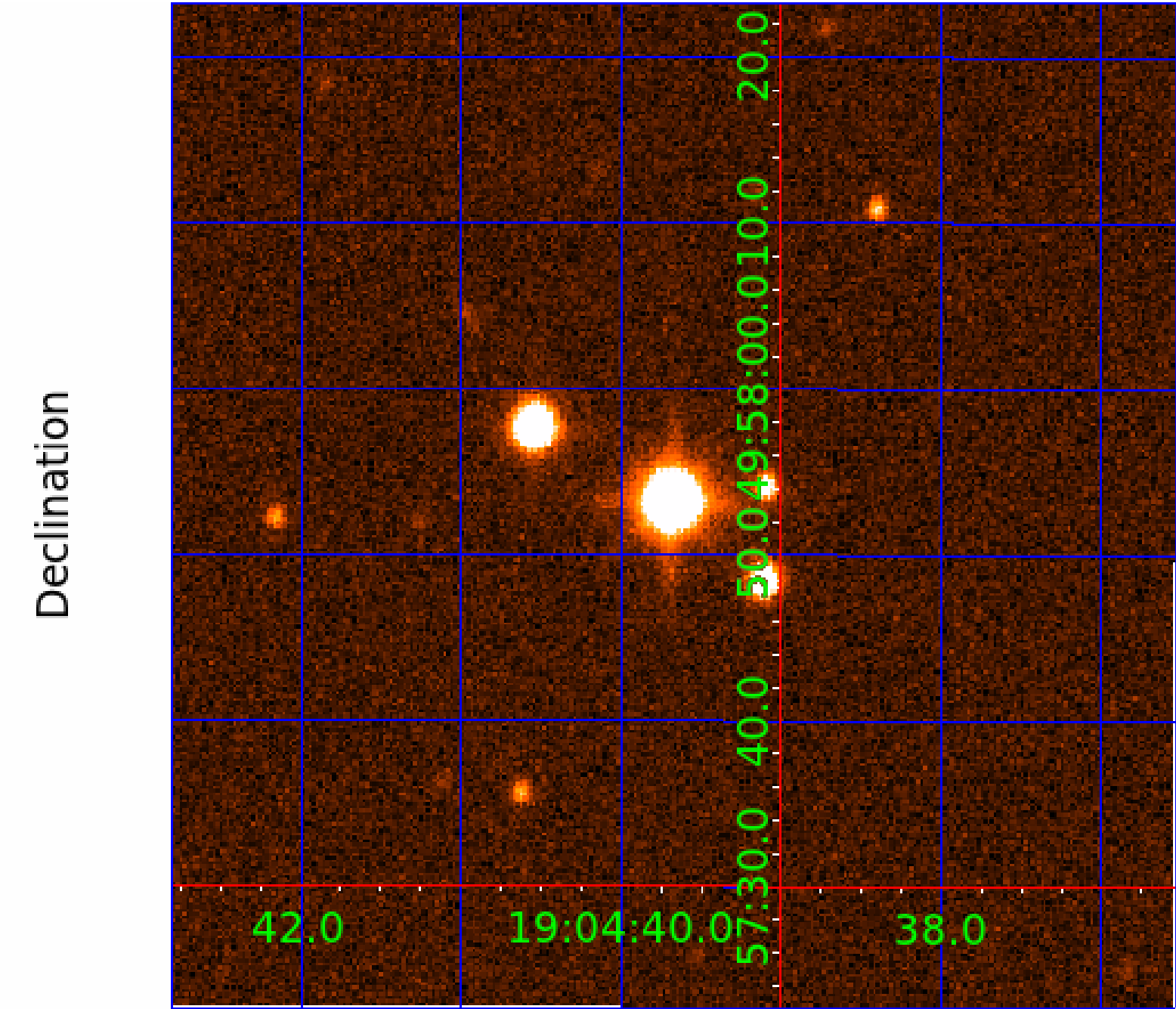
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 011753767

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})
011753767-01	OBS	No	175.064382	214.991791	499.0	2.837	12.6	7.6	1.38	6520	3.26	8.28
011753767-02	OBS	No	441.051581	449.688768	324.6	3.500	13.1	-1.0	1.38	6520	2.50	2.42
011753767-03	OBS	No	2.415967	133.132508	54.7	6.679	10.4	6.8	1.38	6520	1.19	2501.36
011753767-04	OBS	No	272.474711	175.078749	1843.8	6.000	54.2	-1.0	1.38	6520	5.95	4.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011753767-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
011753767-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
011753767-03	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
011753767-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

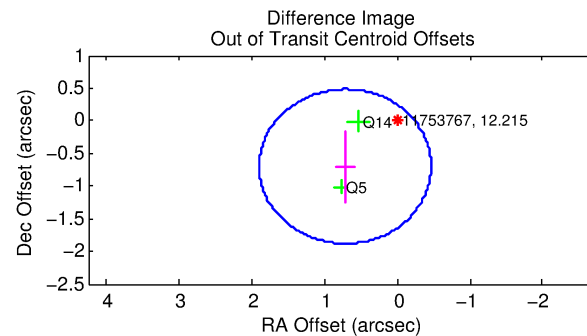
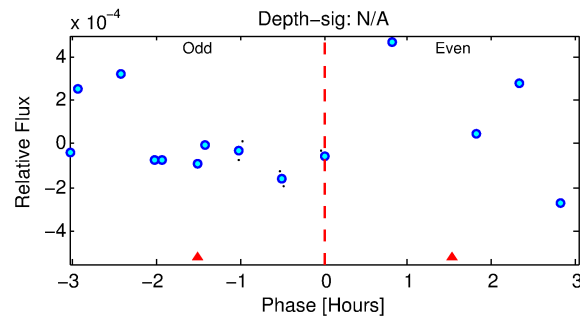
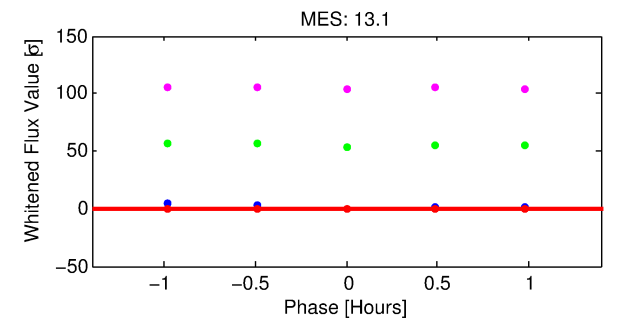
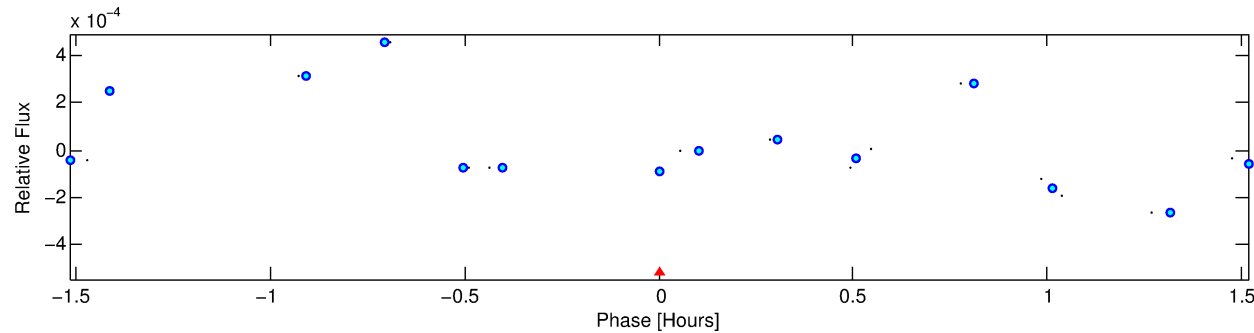
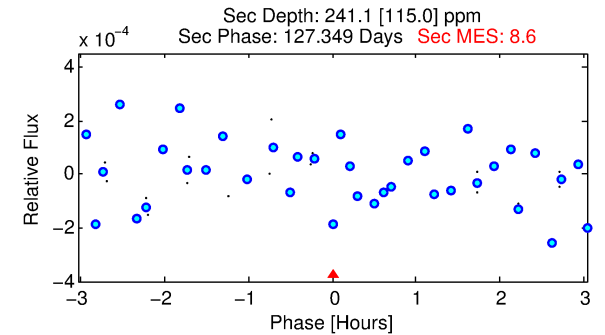
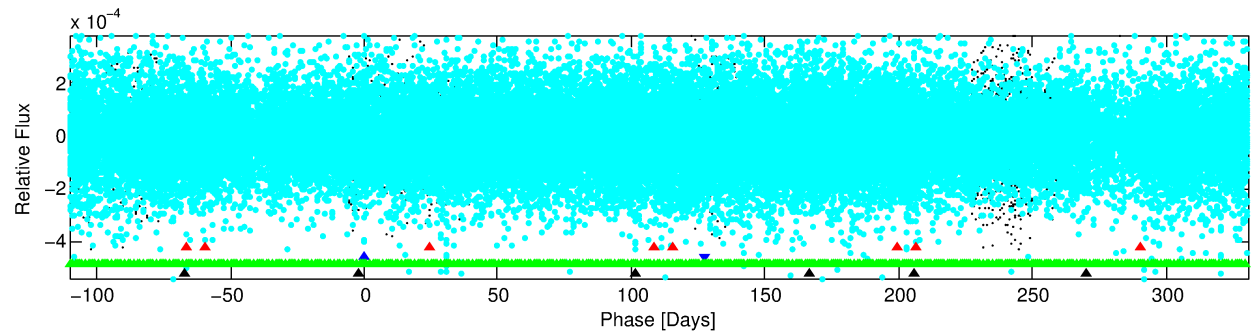
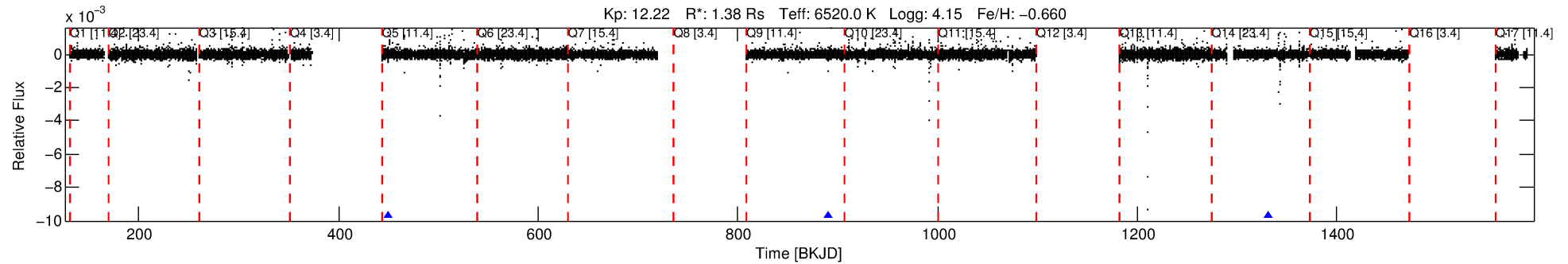
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011753767-02

No Significant Match Found

DV One-Page Summary

KIC: 11753767 Candidate: 2 of 4 Period: 441.052 d



TPS TCE Results:

Period = 441.05158 d
Epoch = 449.6888 BKJD

DV fit results are unavailable

DV Diagnostic Results:

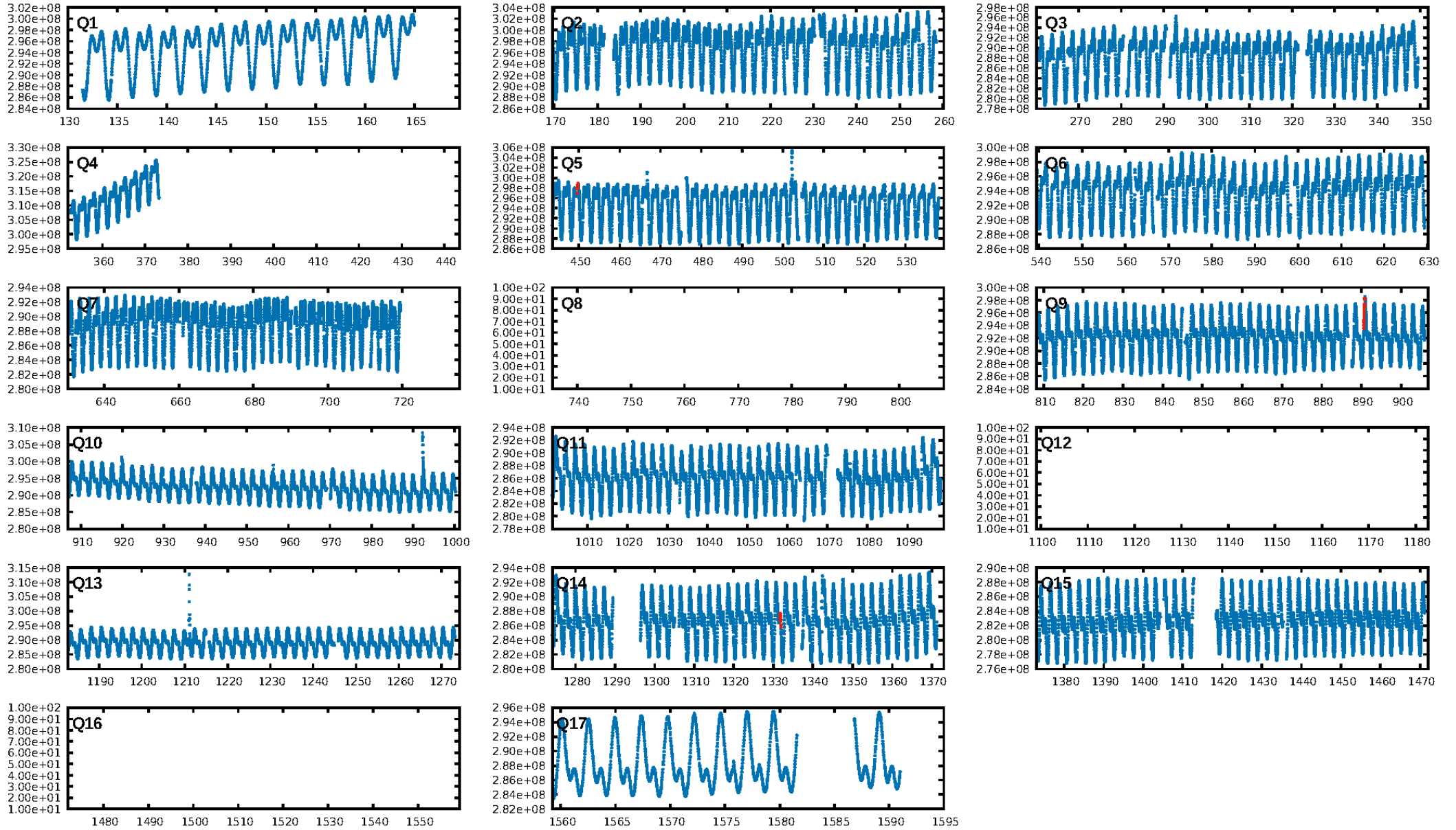
ShortPeriod-sig: 100.0% [582.45σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.5962

Centroid-sig: N/A
Centroid-so: 9.251 arcsec [0.63σ]
OotOffset-rm: 1.000 arcsec [2.54σ]
KicOffset-rm: 0.974 arcsec [2.43σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 0.50 [1/2]

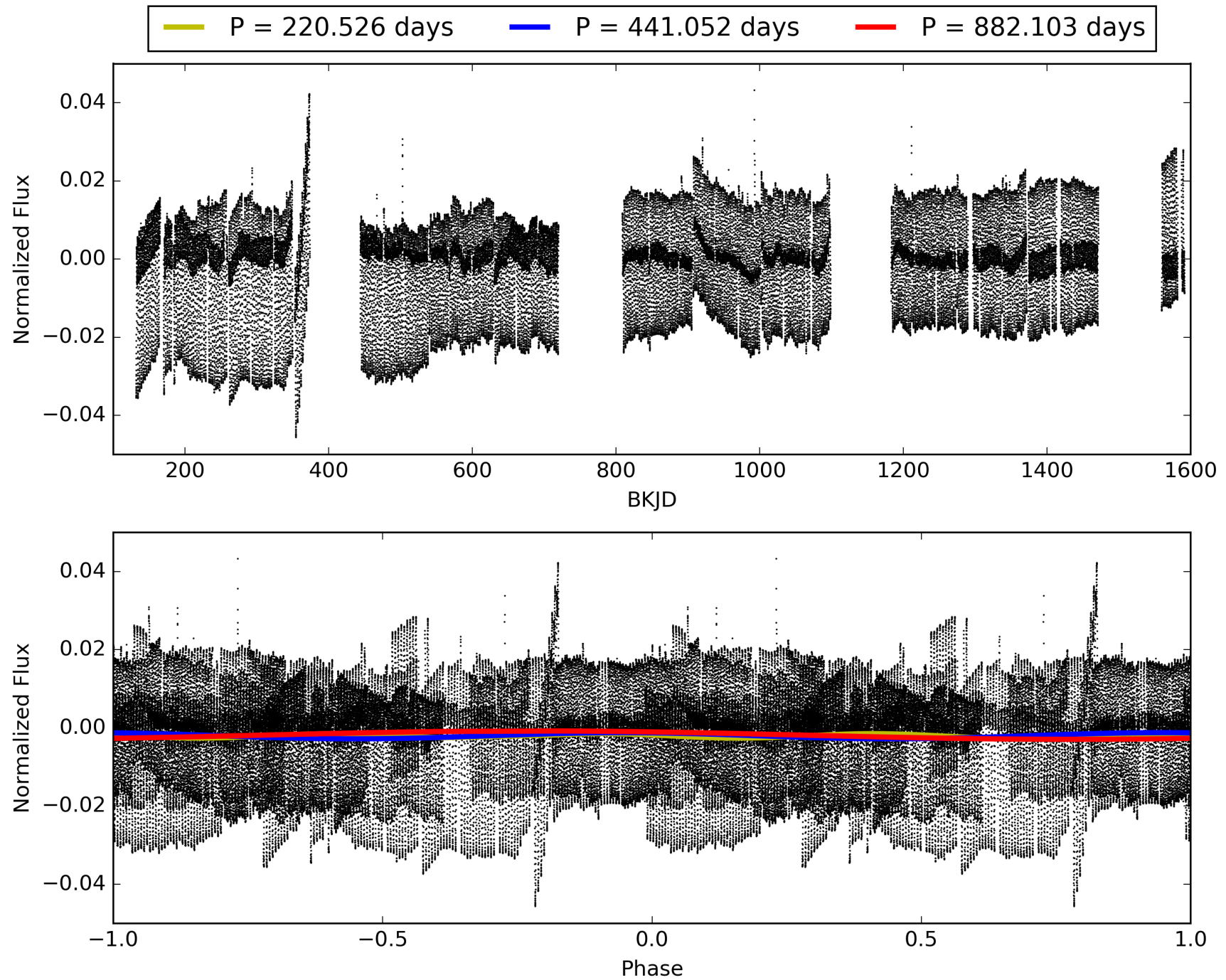
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:21:39 Z

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

TCE 011753767-02, PDC Light Curves

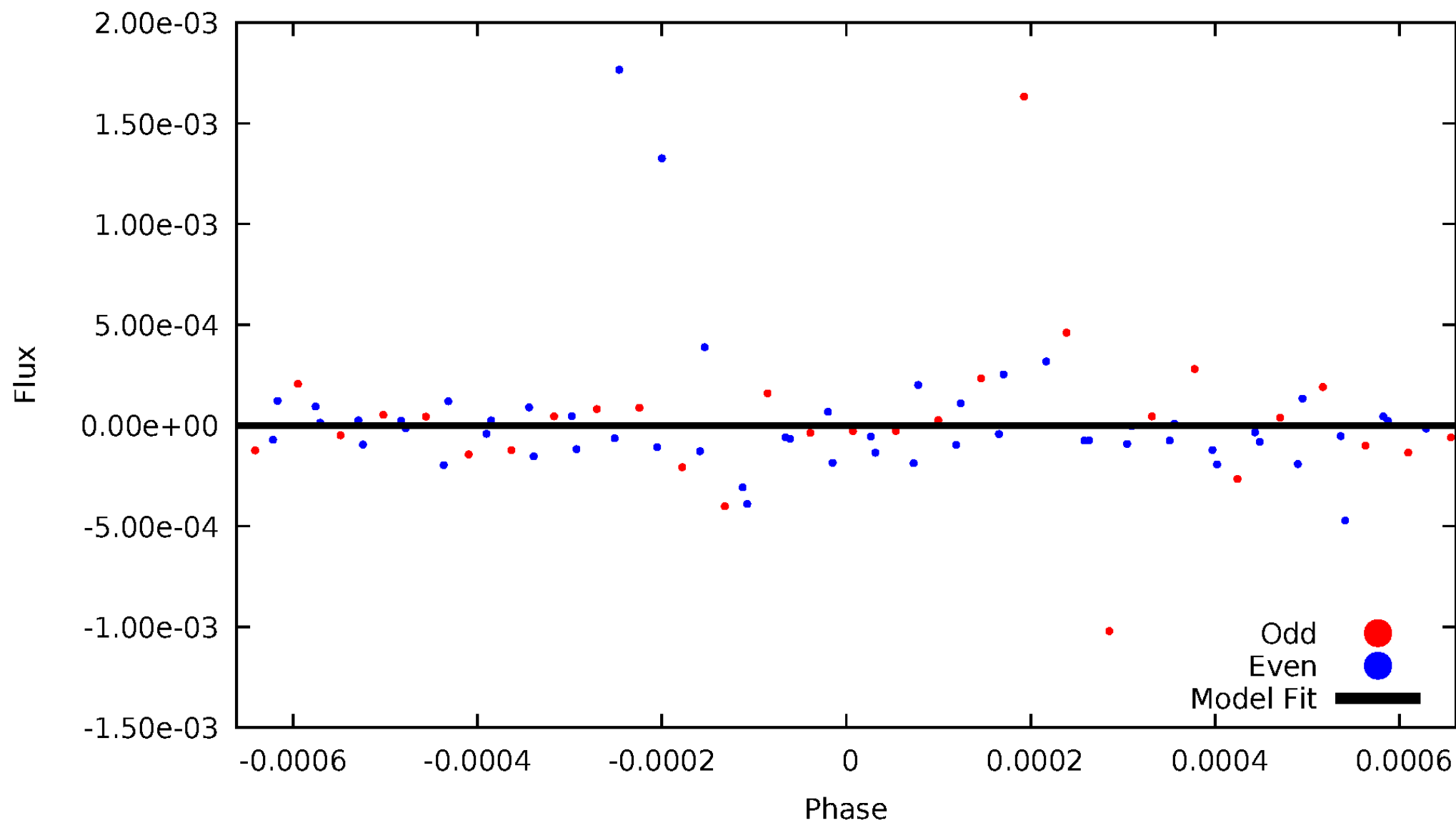


TCE 011753767-02



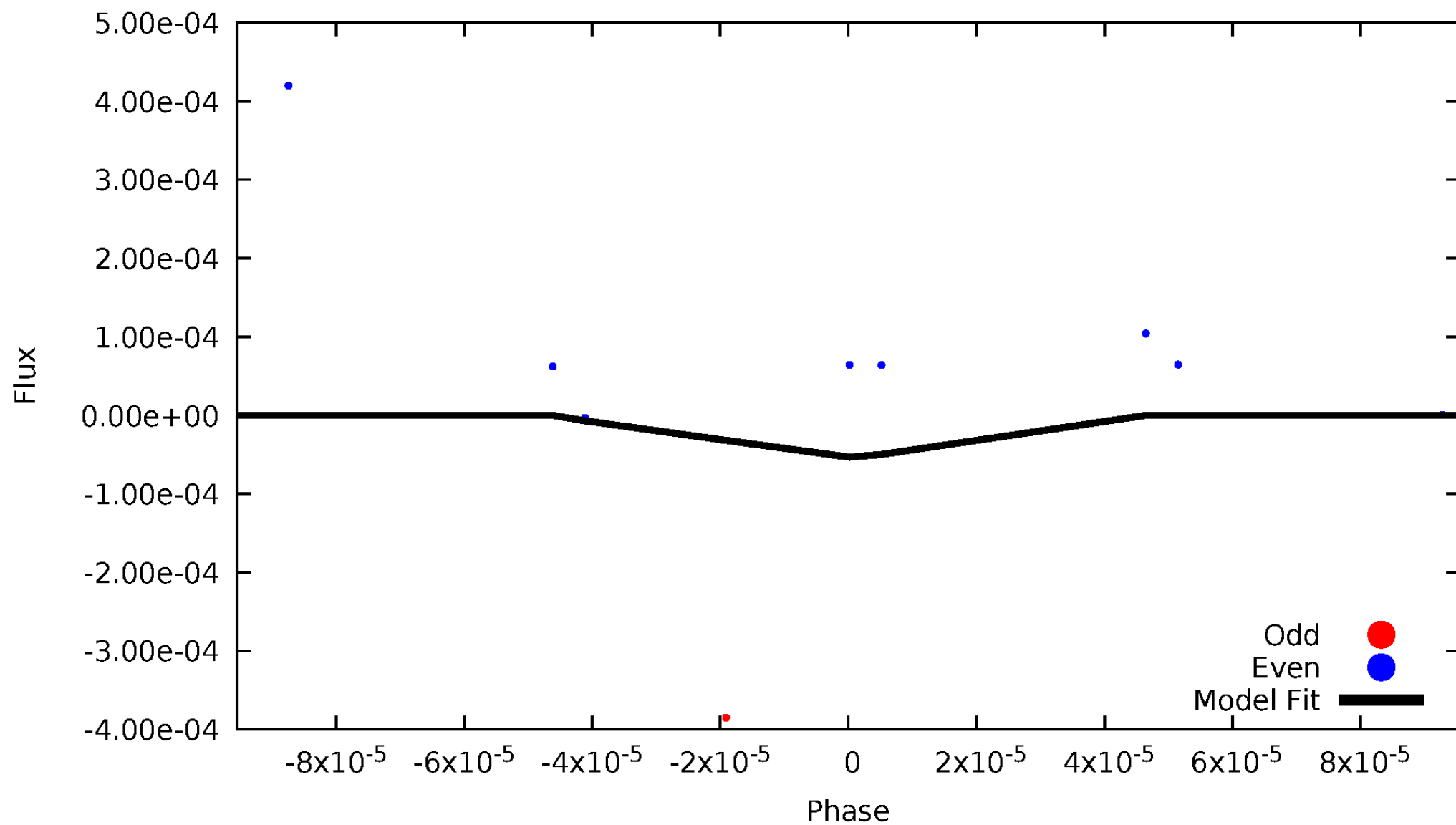
DV Odd/Even

TCE 011753767-02



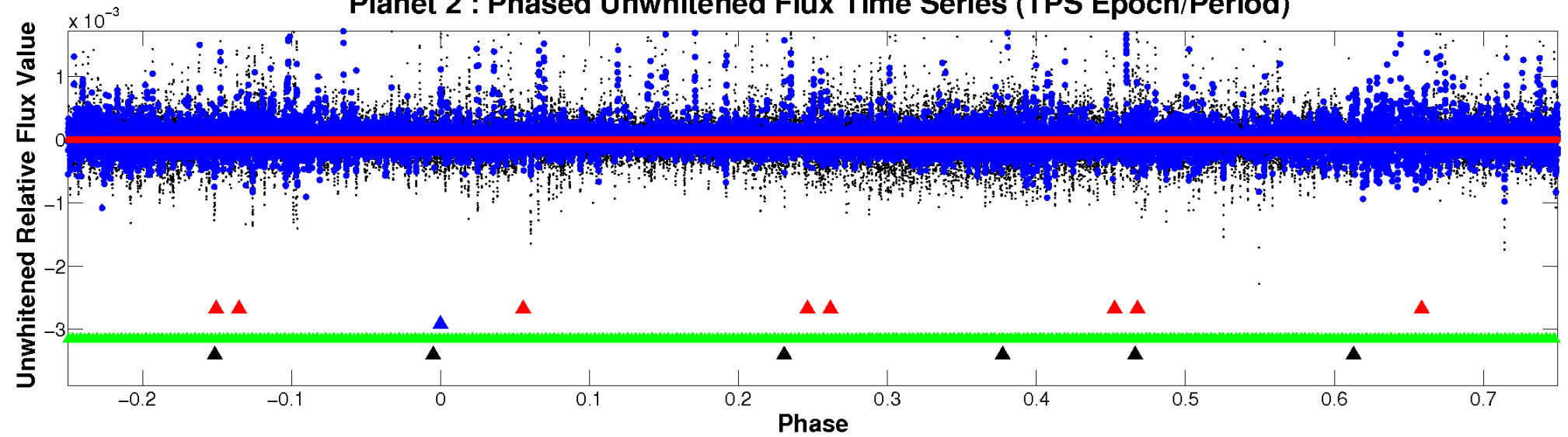
ALT Odd/Even

TCE 011753767-02



Non-Whitened Vs. Whitened Light Curve

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

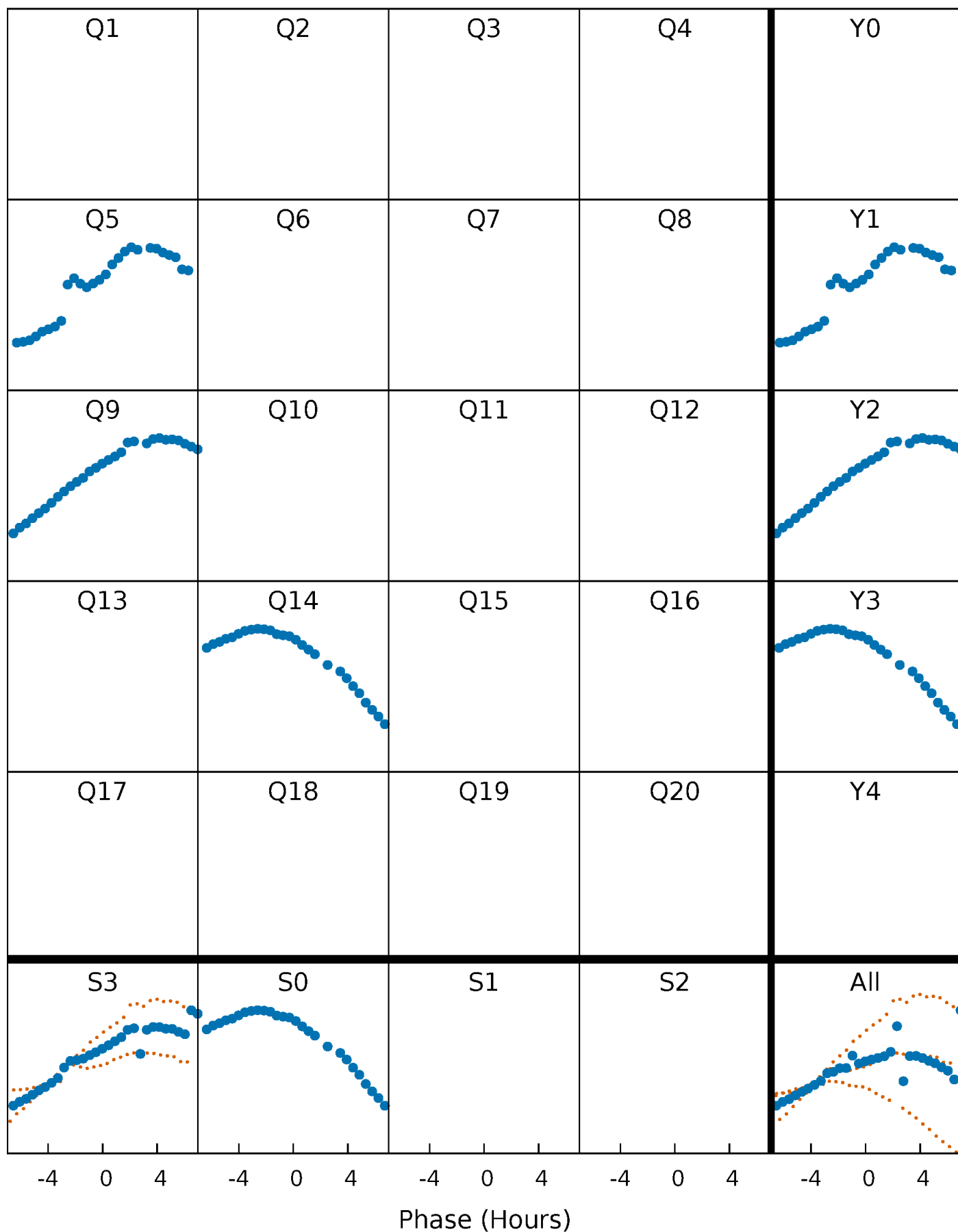


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



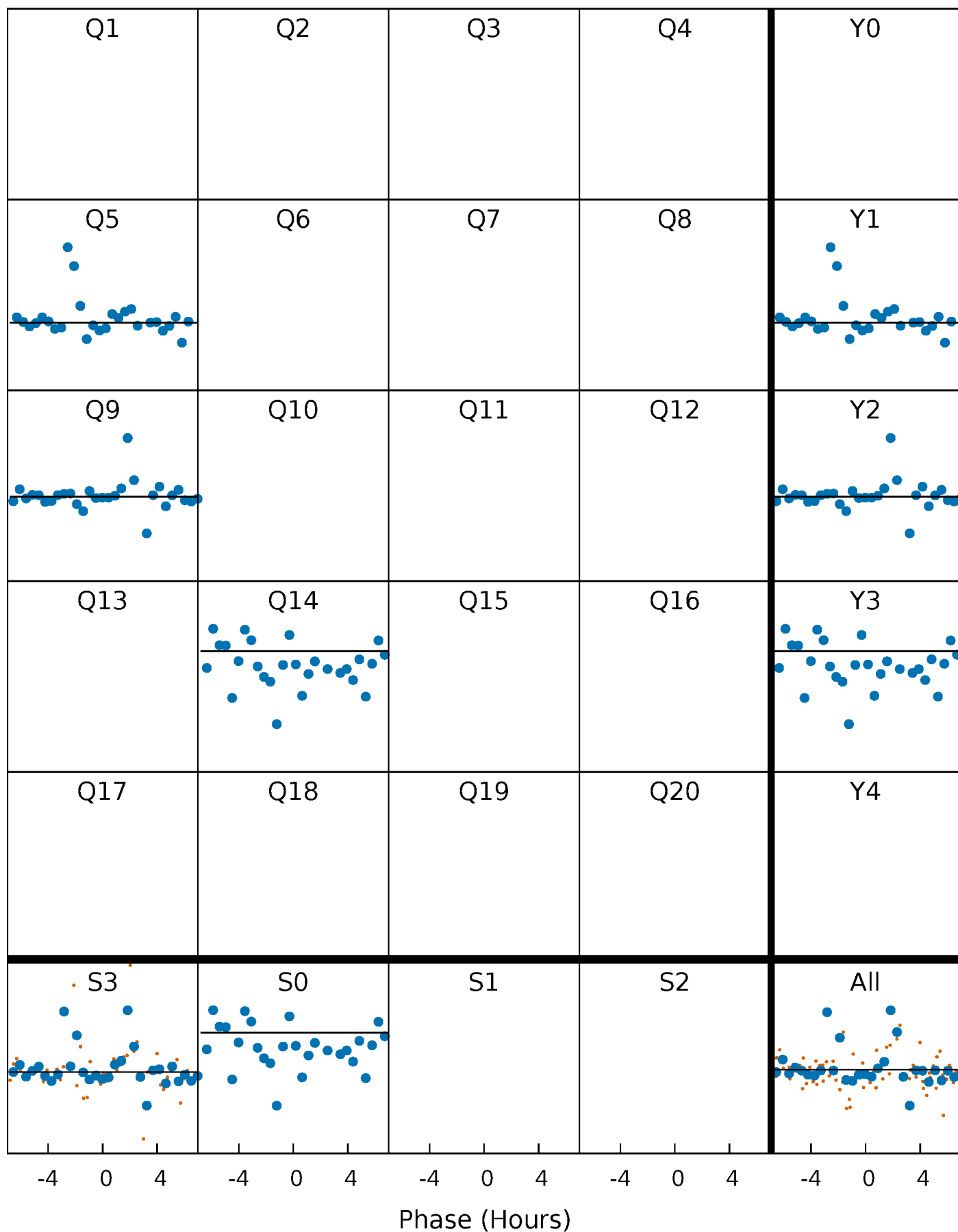
PDC Quarter-Phased Transit Curves

TCE 011753767-02 P=441.051581 Days $T_0=449.688768$ (BKJD)



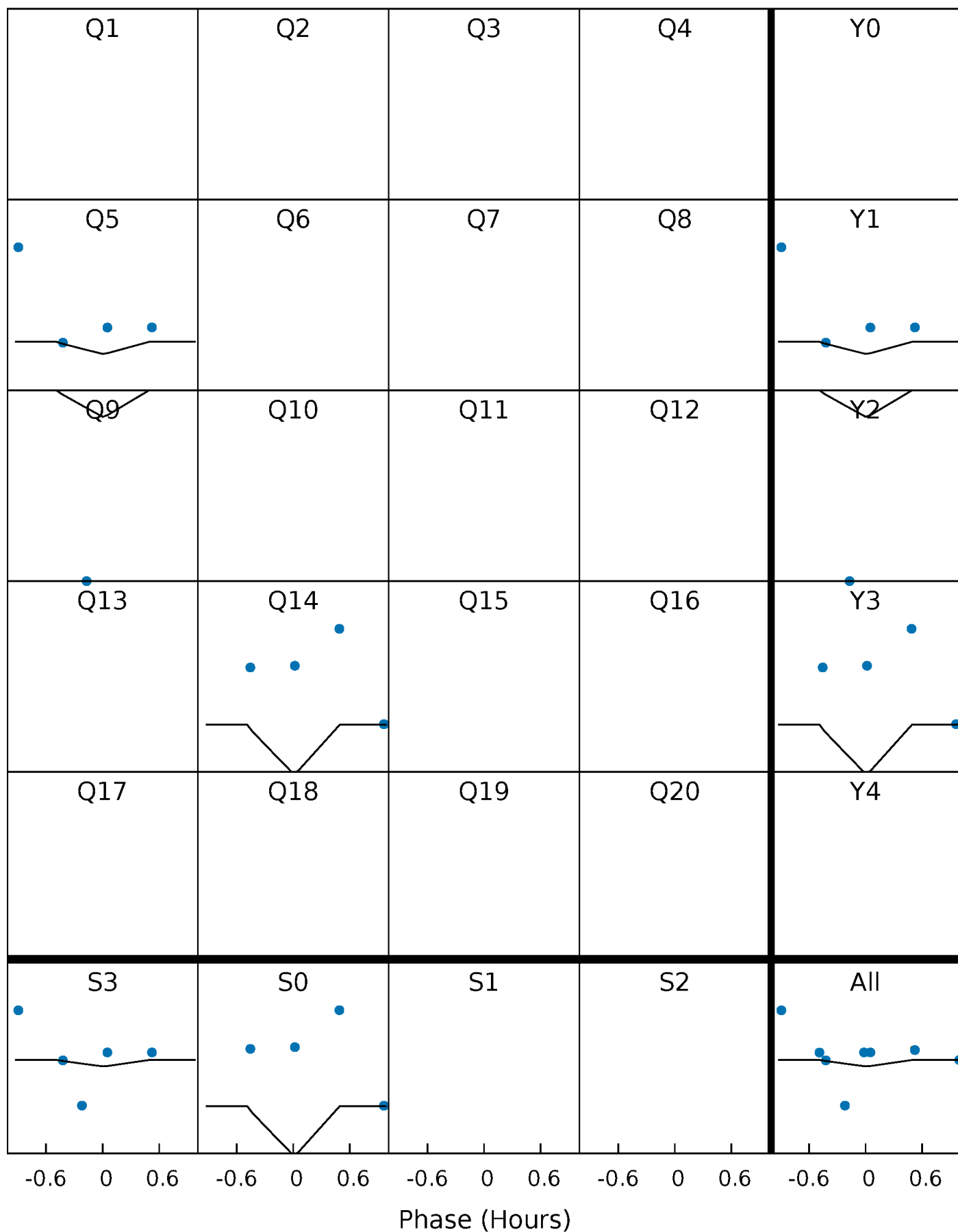
DV Quarter-Phased Transit Curves

TCE 011753767-02 $P=441.051581$ Days $T_0=449.688768$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

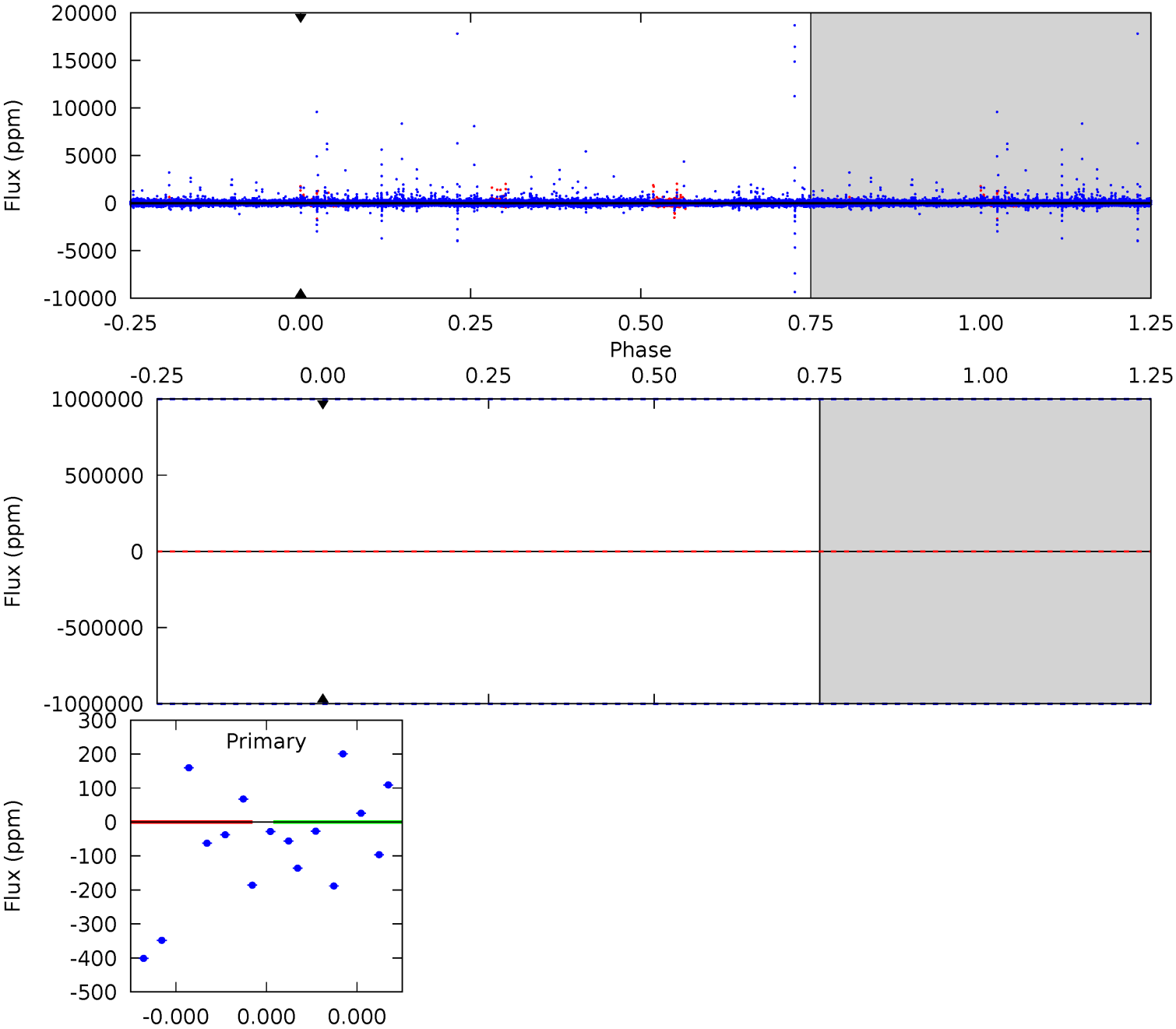
TCE 011753767-02 P=441.051581 Days $T_0=449.823041$ (BKJD)



DV Model-Shift Uniqueness Test

011753767-02, P = 441.051581 Days, E = 8.637187 Days

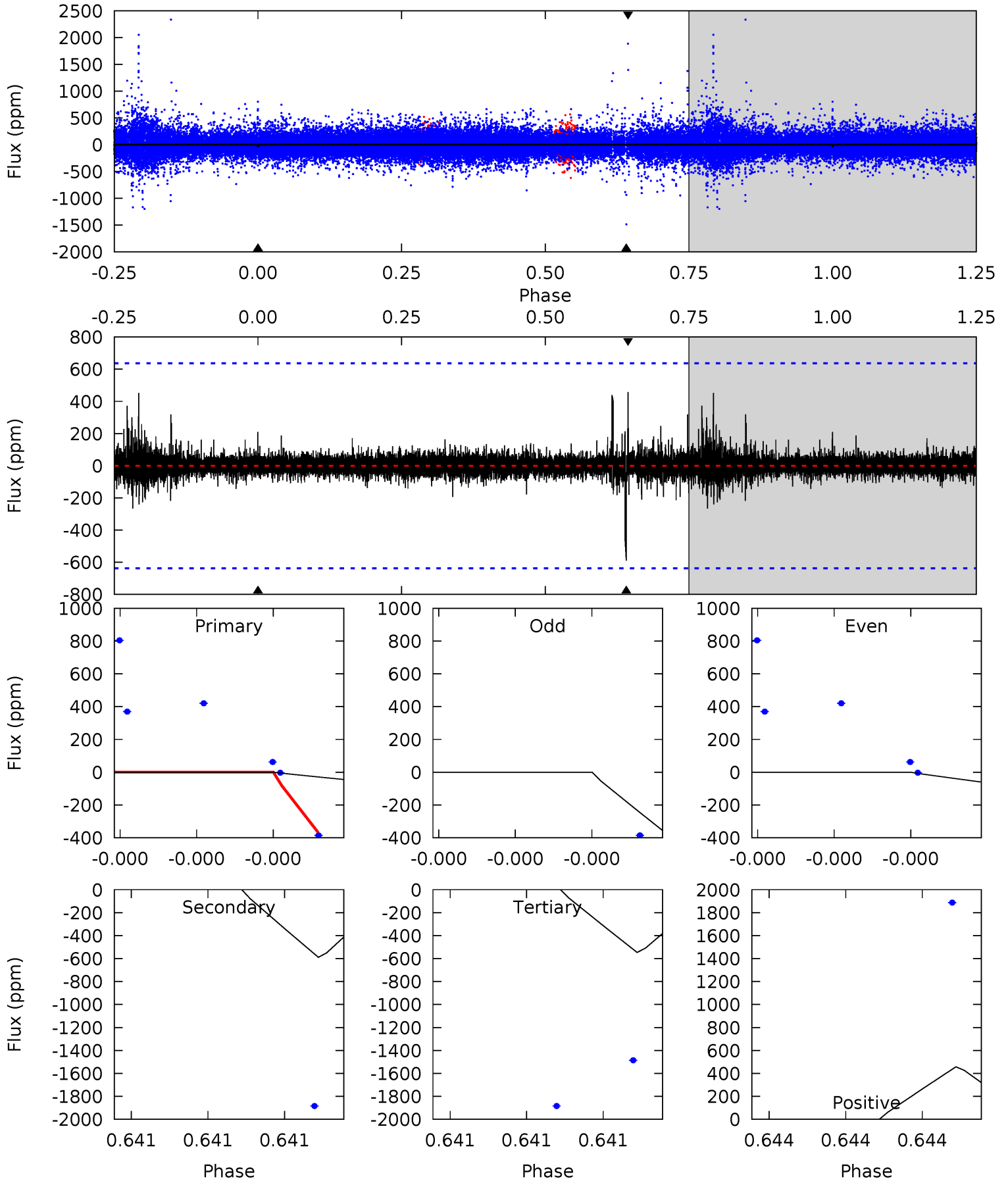
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

011753767-02, P = 441.051581 Days, E = 8.771460 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.45	5.52	5.12	4.29	5.97	4.07	0.36	-4.67	-3.84	0.40	1.24	1.28	1.00	0.44	1.39



Stellar Parameters For KIC 011753767

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6520^{+147}_{-180}	$4.152^{+0.273}_{-0.168}$	$-0.660^{+0.350}_{-0.300}$	$1.376^{+0.361}_{-0.361}$	$0.980^{+0.137}_{-0.100}$	$0.529^{+0.789}_{-0.241}$
	+2%/-3%	+7%/-4%	+53%/-45%	+26%/-26%	+14%/-10%	+149%/-46%
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 011753767-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$11.34^{+11.27}_{-7.83}$	440^{+35}_{-36}	3702^{+24922}_{-29438}	$1947^{+1077398}_{-957610}$
Alt.	-589 ± 107	$10.61^{+12.52}_{-7.70}$	441^{+31}_{-37}	4052^{+3190}_{-869}	3792^{+41901}_{-3009}

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 $A_{obs} \gg 1.0$

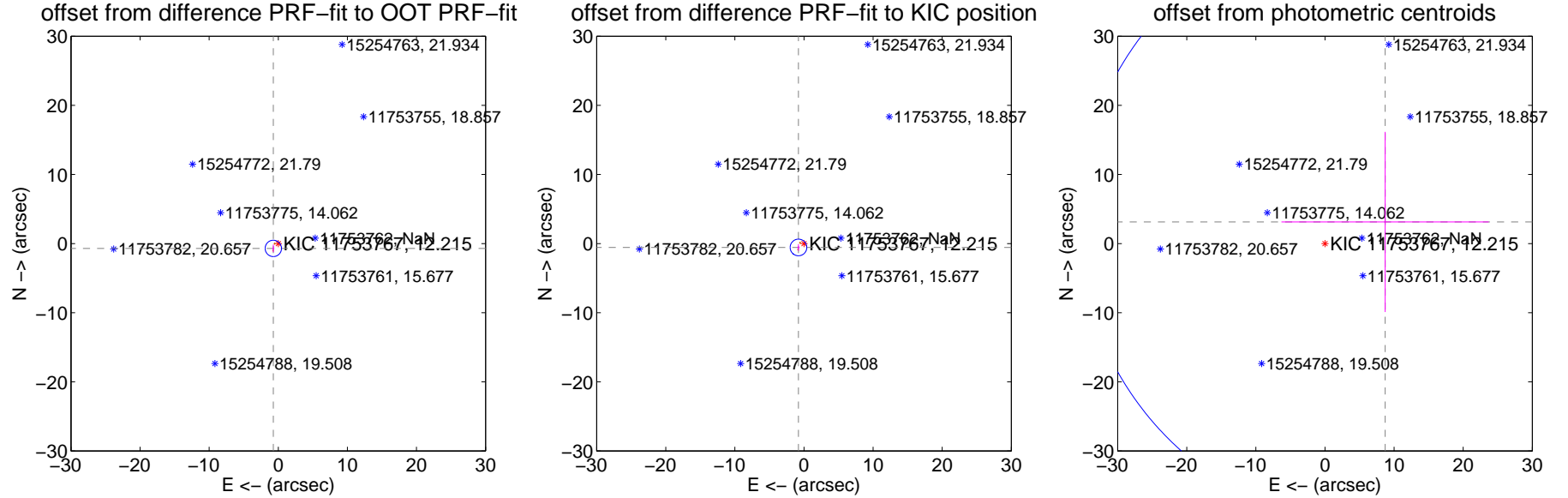
DV Centroid Data

Supplemental centroid analysis for 011753767-02. Kepler magnitude: 12.21. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.000 ± 0.394	2.54	0.716 ± 0.137	-0.698 ± 0.547
PRF-fit source offset from KIC position	0.974 ± 0.401	2.43	0.797 ± 0.164	-0.560 ± 0.478
photometric centroid source offset	9.25 ± 14.78	0.63	-8.70 ± 15.00	3.13 ± 13.03

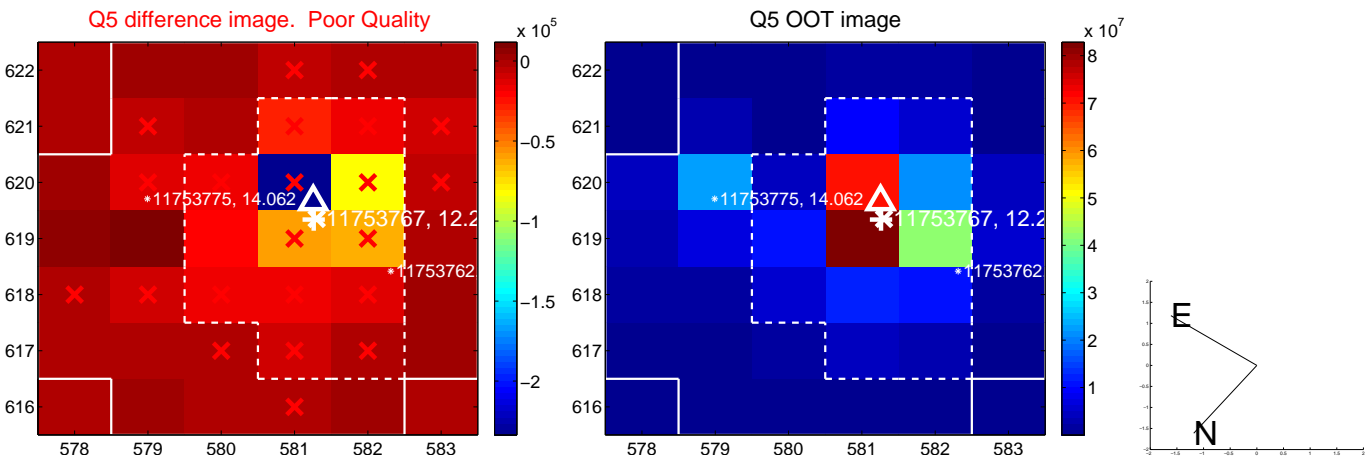


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



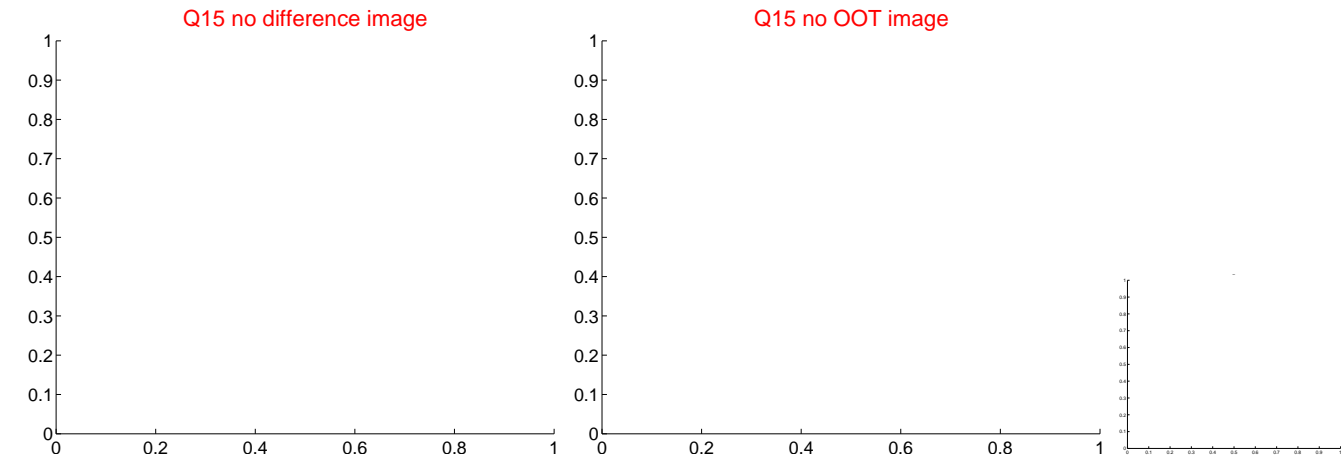
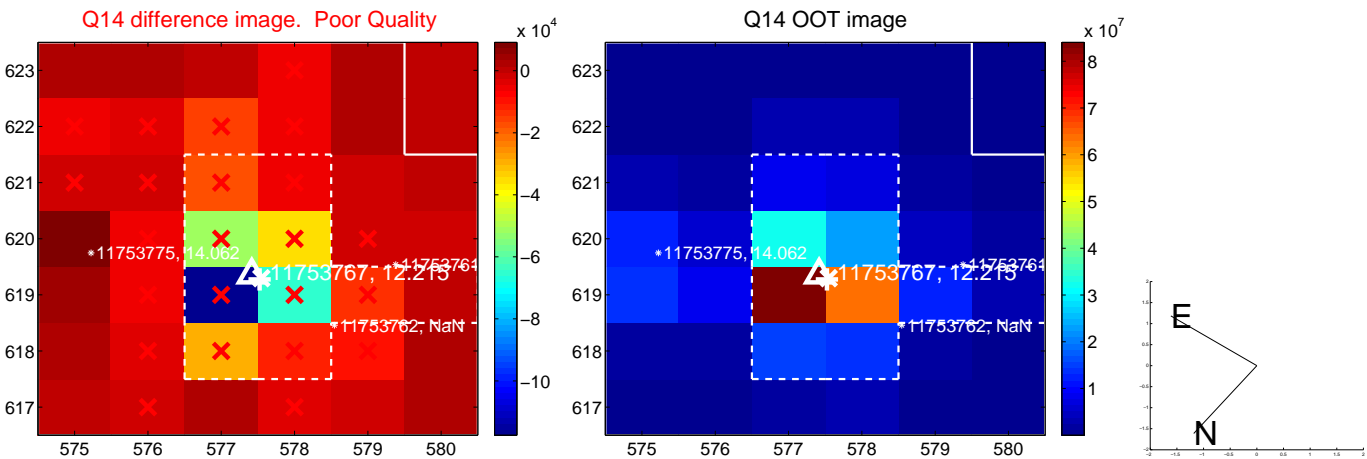
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



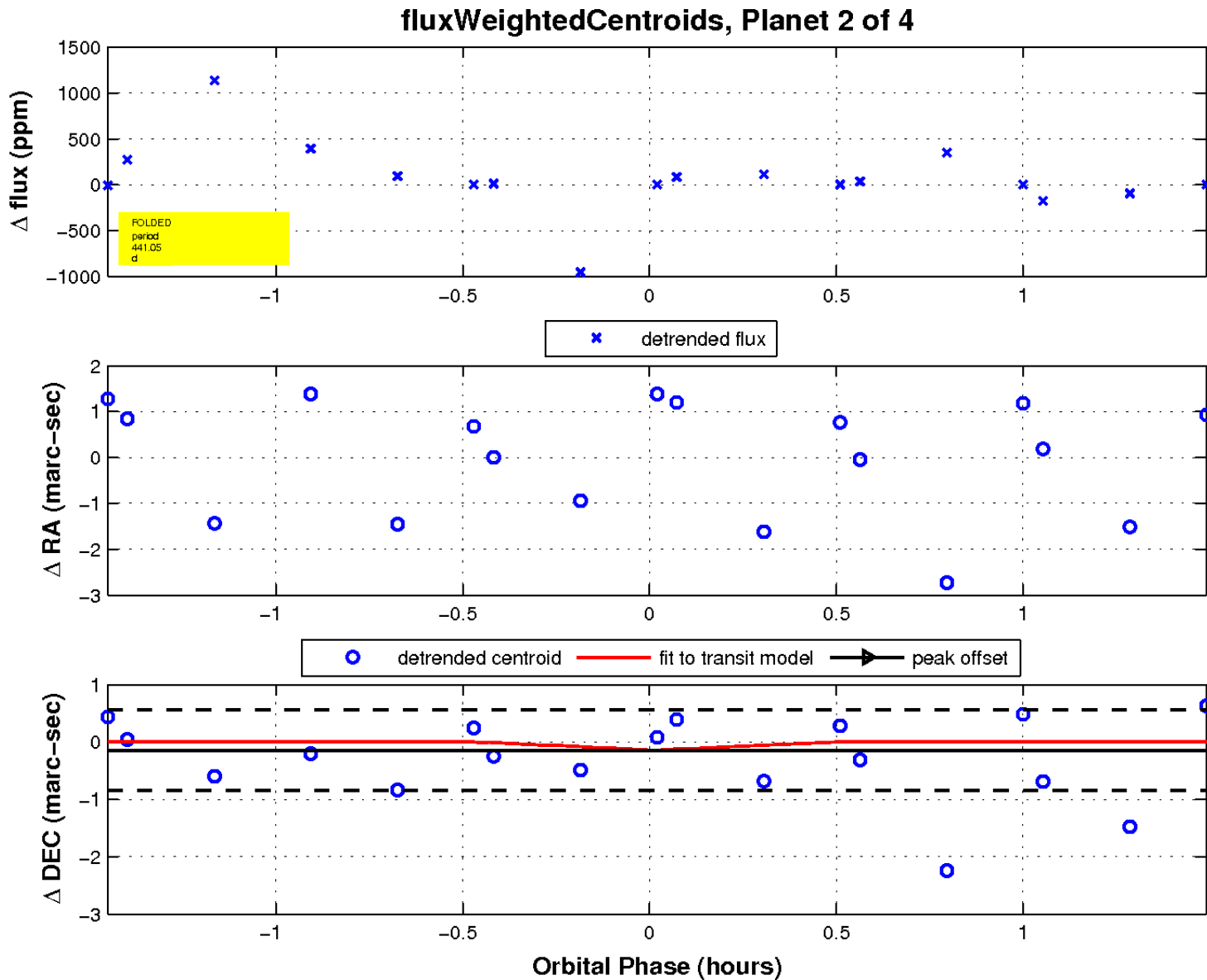
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



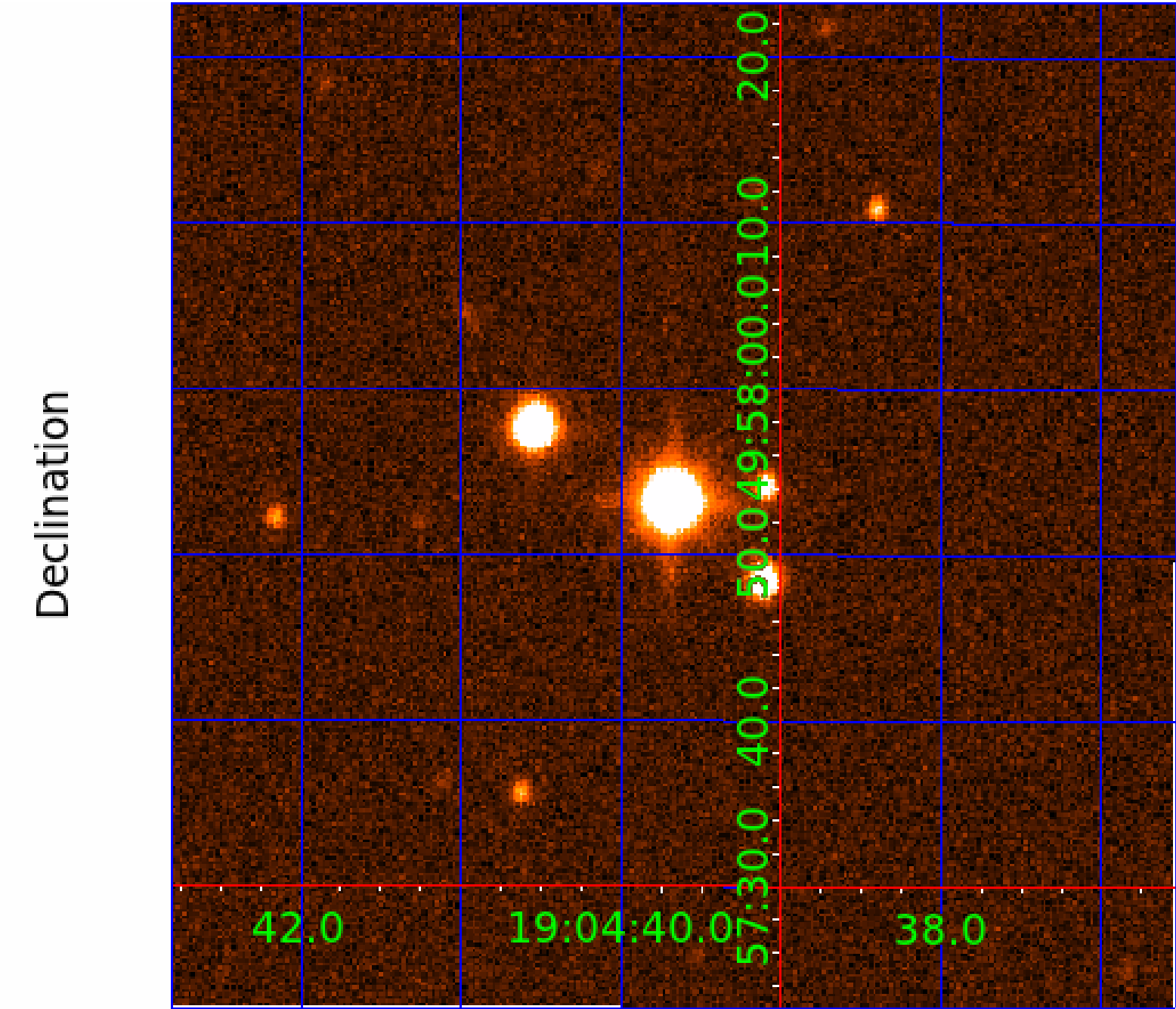
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



UKIRT Image



KIC 011753767

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})
011753767-01	OBS	No	175.064382	214.991791	499.0	2.837	12.6	7.6	1.38	6520	3.26	8.28
011753767-02	OBS	No	441.051581	449.688768	324.6	3.500	13.1	-1.0	1.38	6520	2.50	2.42
011753767-03	OBS	No	2.415967	133.132508	54.7	6.679	10.4	6.8	1.38	6520	1.19	2501.36
011753767-04	OBS	No	272.474711	175.078749	1843.8	6.000	54.2	-1.0	1.38	6520	5.95	4.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011753767-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
011753767-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
011753767-03	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
011753767-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

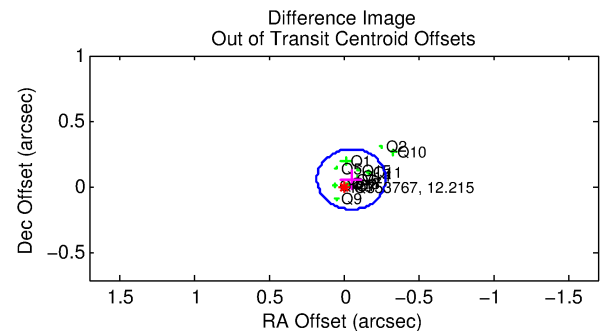
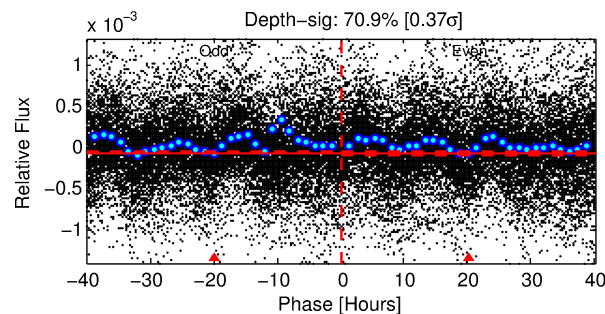
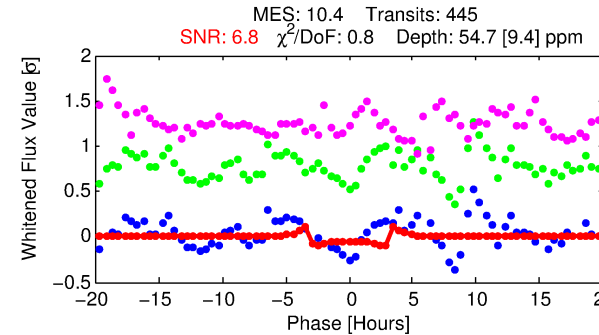
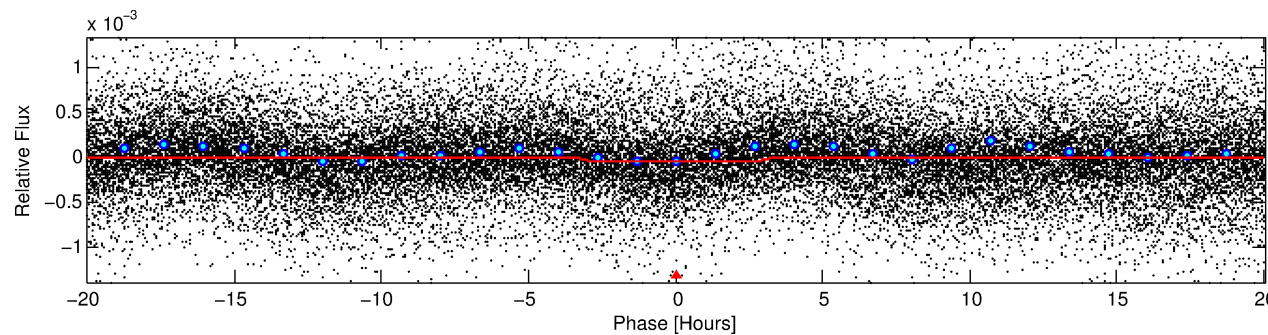
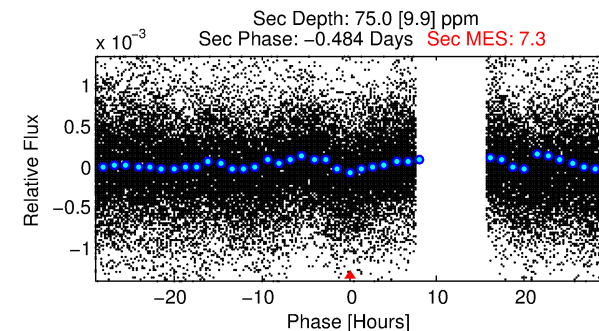
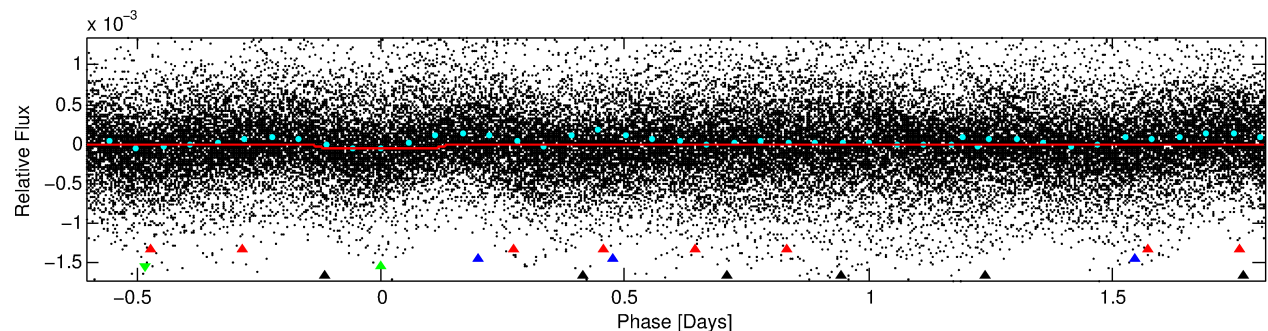
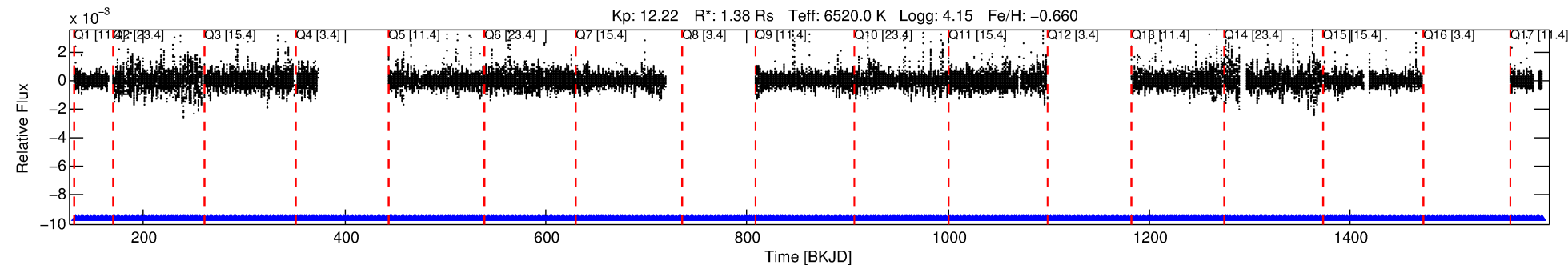
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011753767-03

No Significant Match Found

DV One-Page Summary

KIC: 11753767 Candidate: 3 of 4 Period: 2.416 d



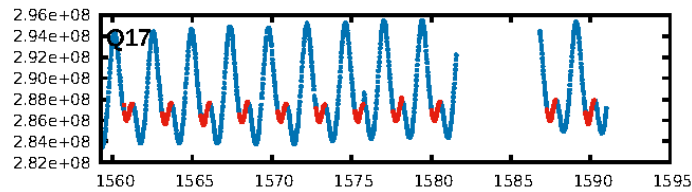
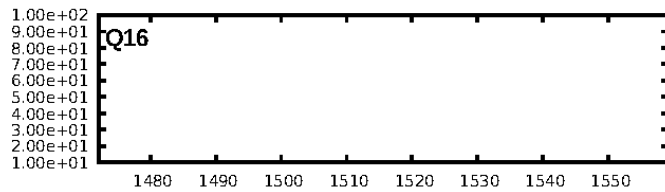
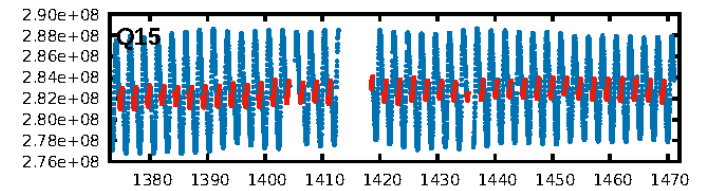
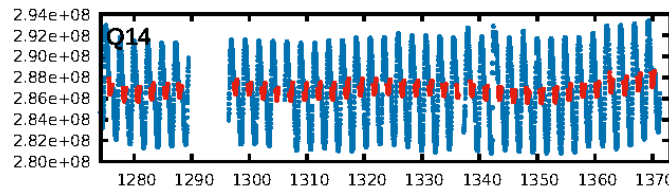
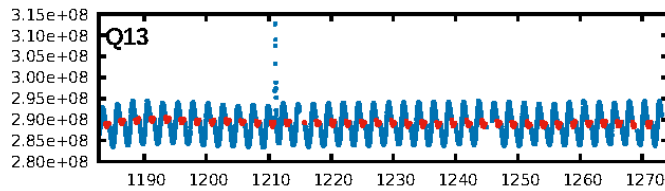
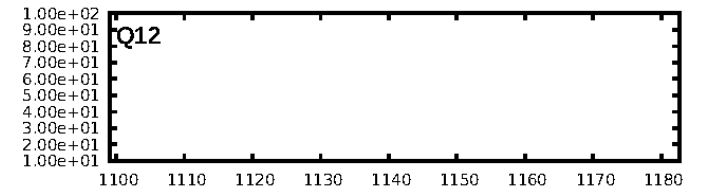
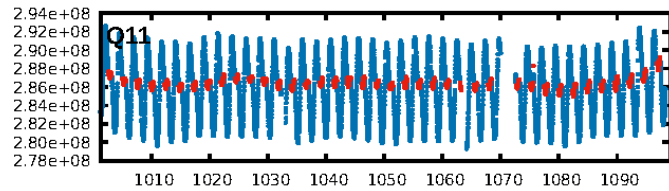
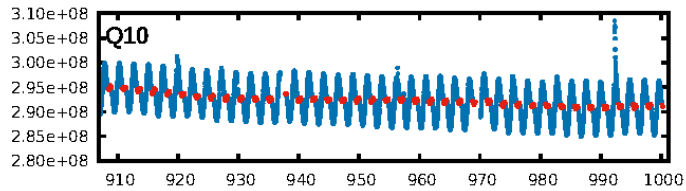
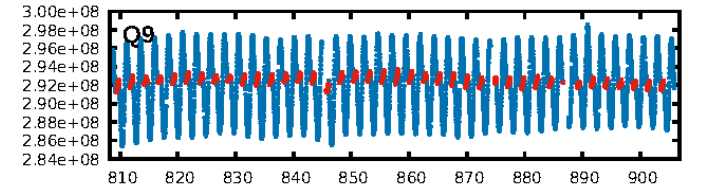
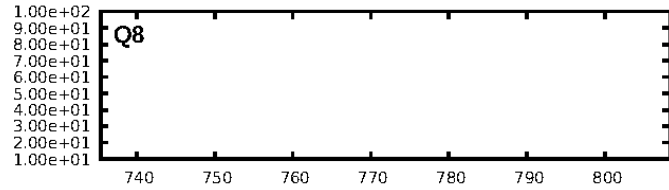
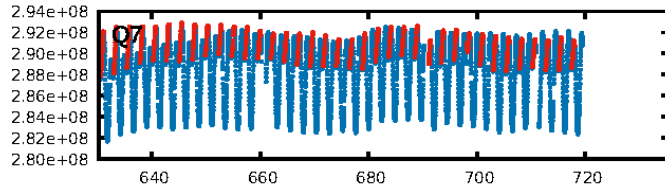
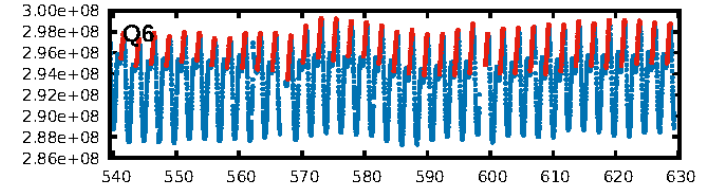
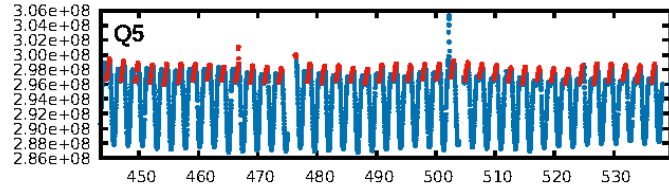
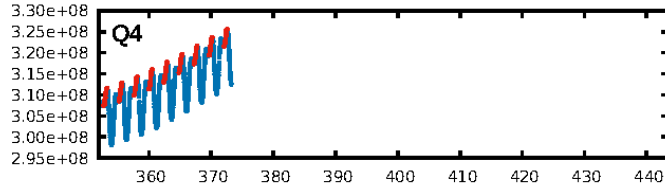
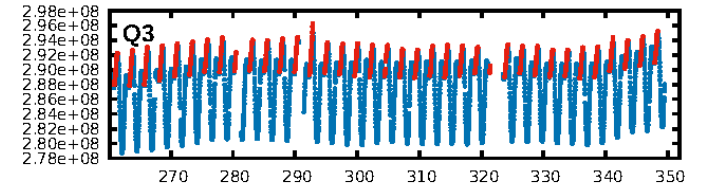
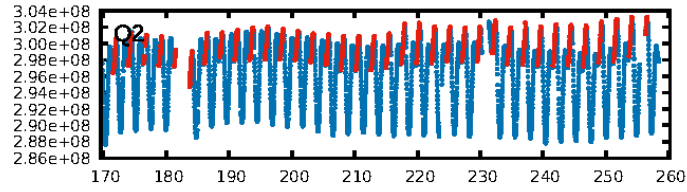
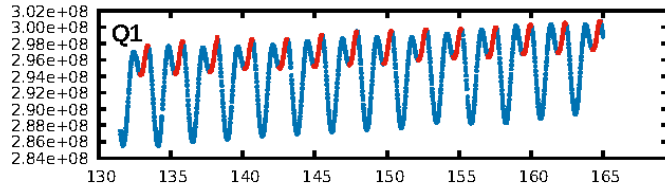
DV Fit Results:

Period = 2.41597 [0.00002] d
Epoch = 133.1325 [0.0028] BKJD
Rp/R* = 0.0079 [0.0012]
a/R* = 1.55 [0.60]
b = 0.90 [0.13]
Seff = 2501.36 [1168.98]
Teq = 1803 [211] K
Rp = 1.19 [0.36] Re
a = 0.0350 [0.0096] AU
Ag = 35.76 [20.12] [1.73σ]
Teffp = 6818 [596] K [7.93σ]

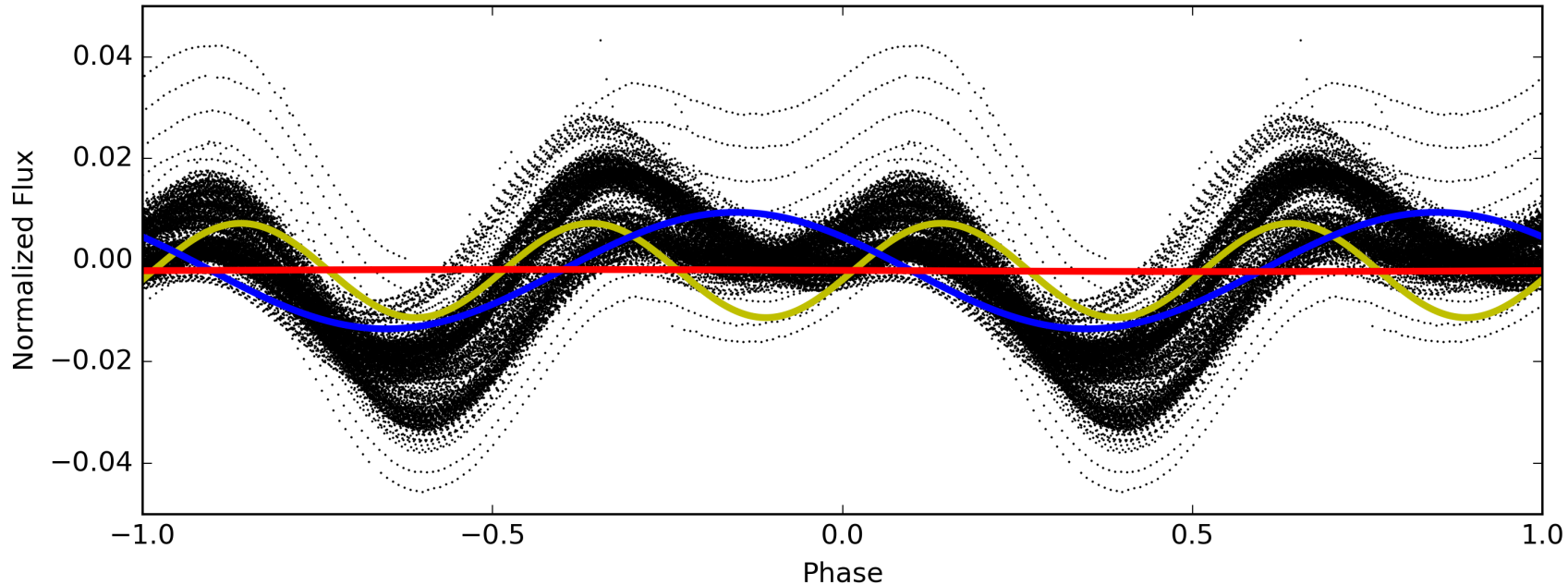
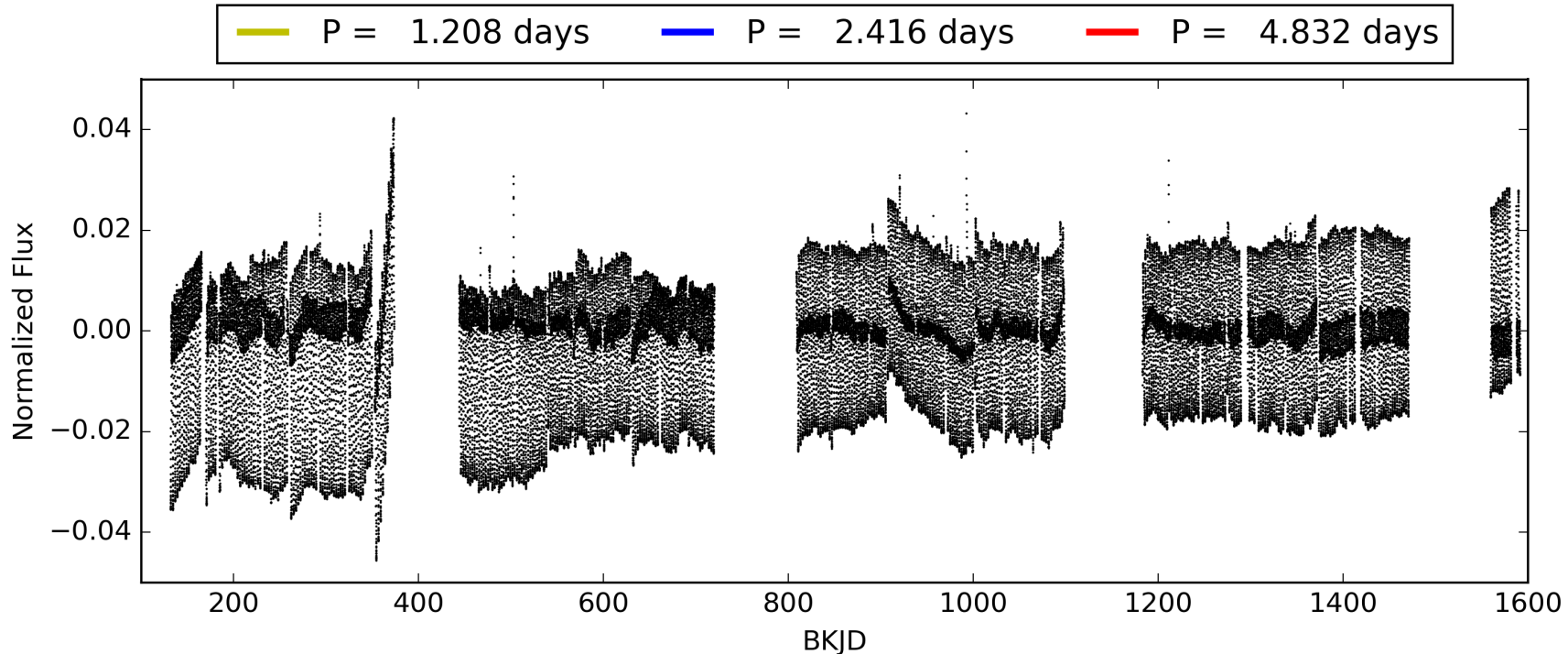
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [571.04σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [411/411]
GhostDiagnostic-chr: 3.042
Centroid-sig: N/A
Centroid-so: 0.919 arcsec [1.71σ]
OotOffset-rm: 0.081 arcsec [1.06σ]
KicOffset-rm: 0.228 arcsec [3.28σ]
OotOffset-st: 4/4/1/5 [14]
KicOffset-st: 4/4/1/5 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 011753767-03, PDC Light Curves

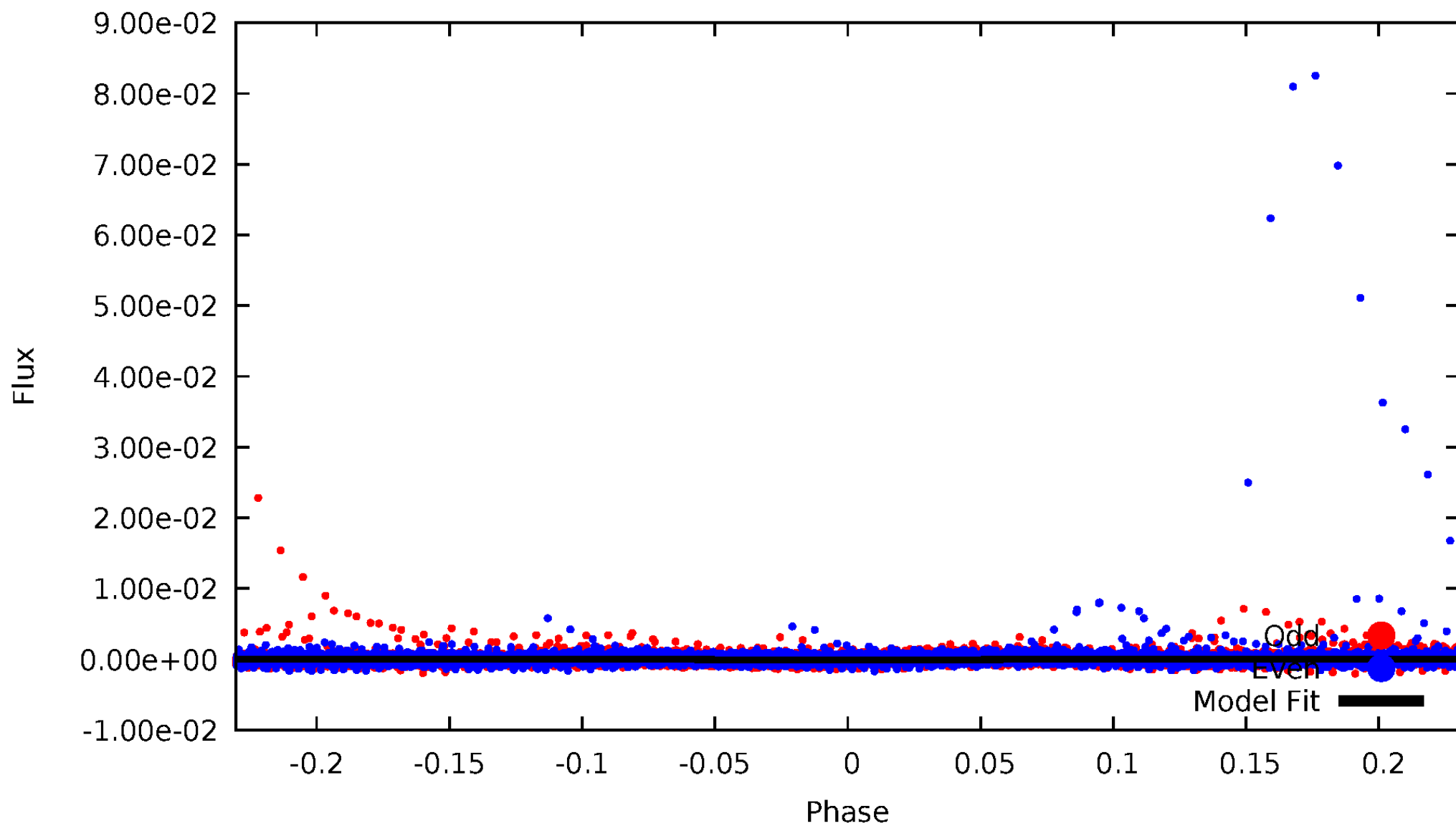


TCE 011753767-03



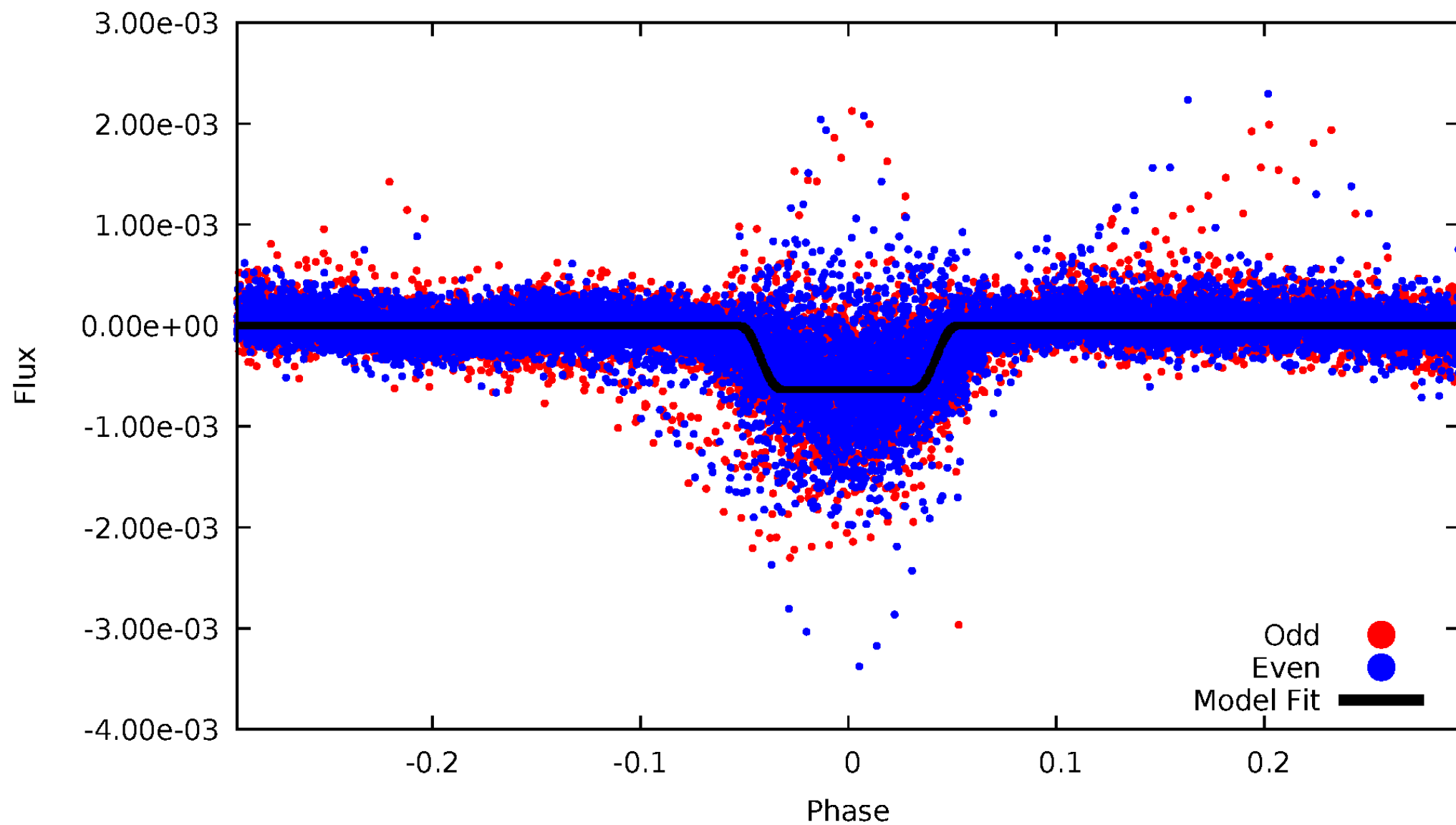
DV Odd/Even

TCE 011753767-03



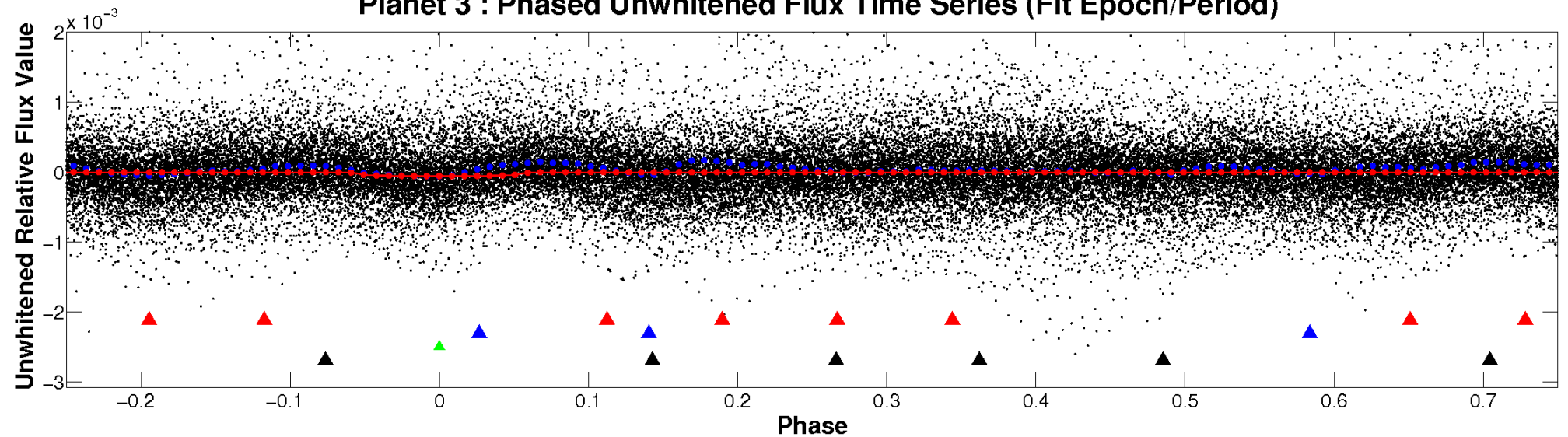
ALT Odd/Even

TCE 011753767-03

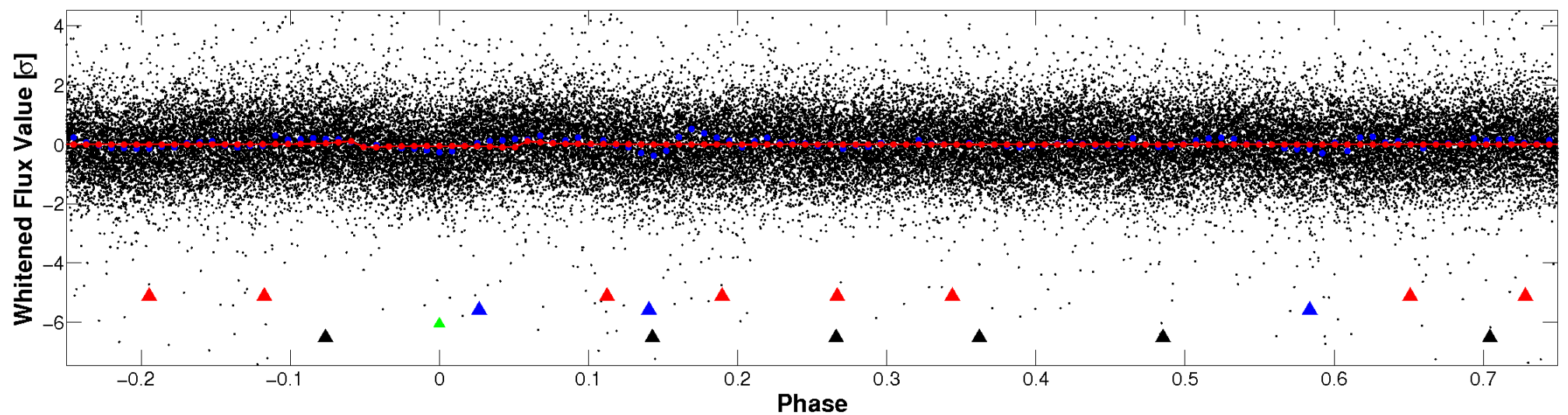


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

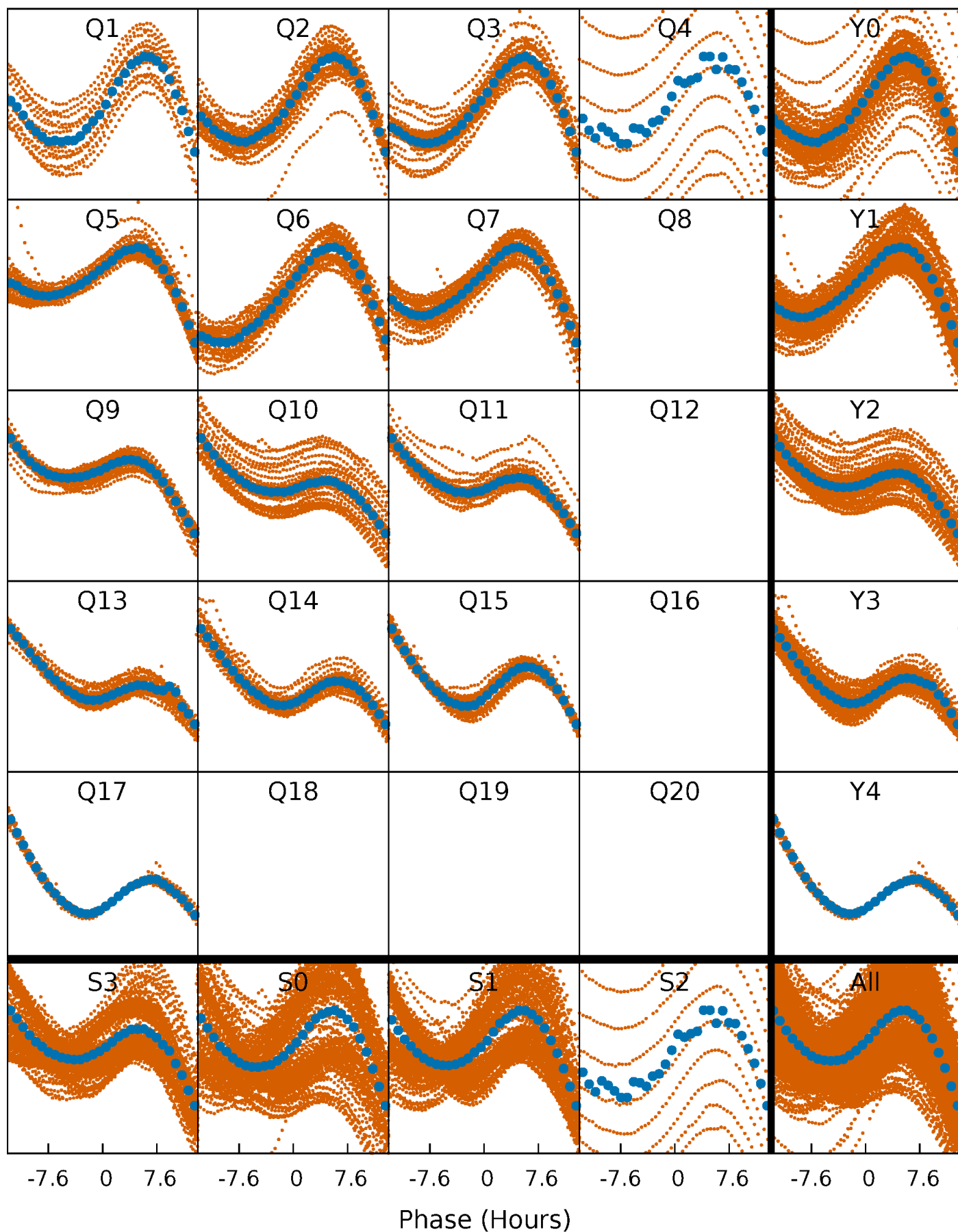


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



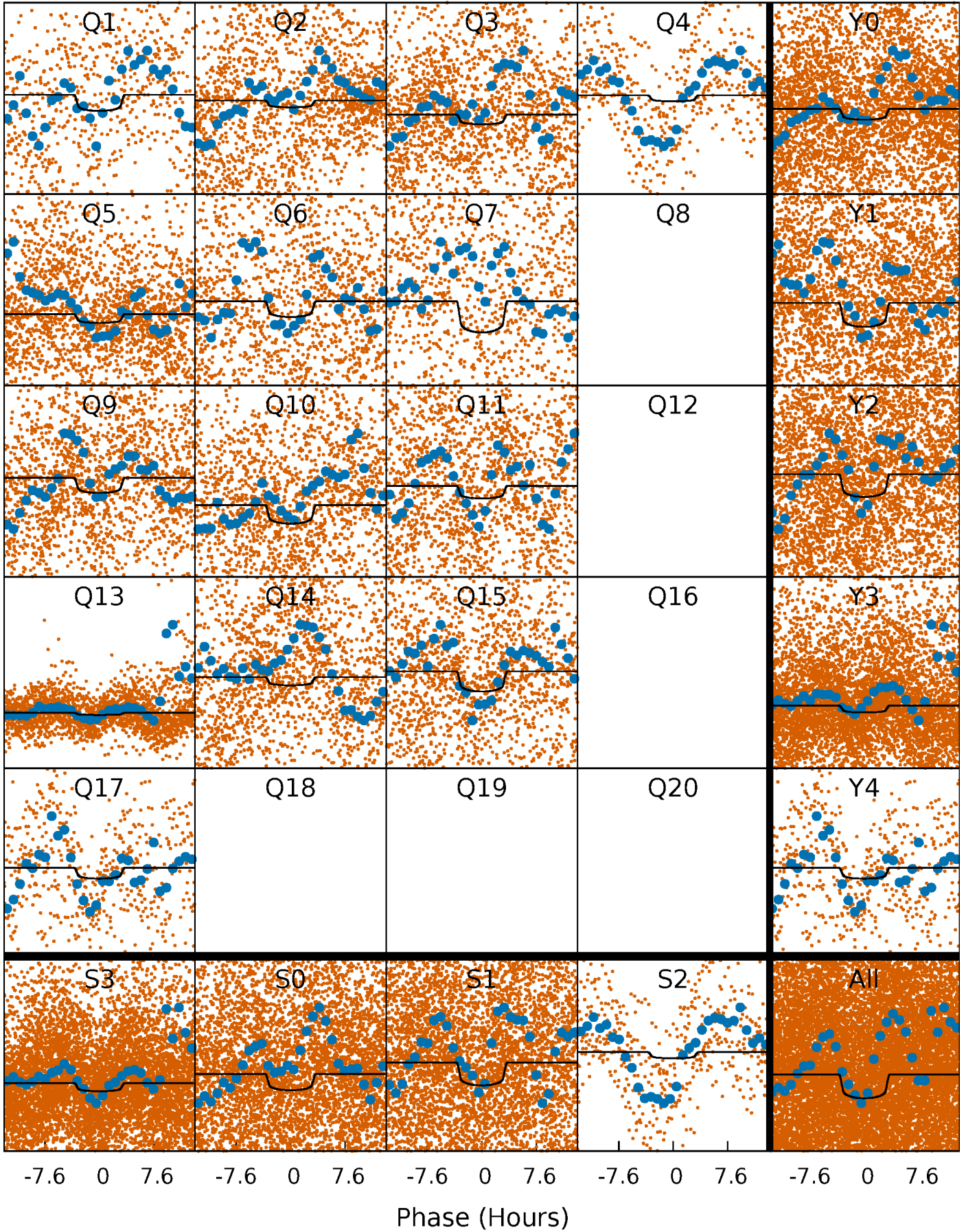
PDC Quarter-Phased Transit Curves

TCE 011753767-03 P= 2.415967 Days $T_0=133.132508$ (BKJD)



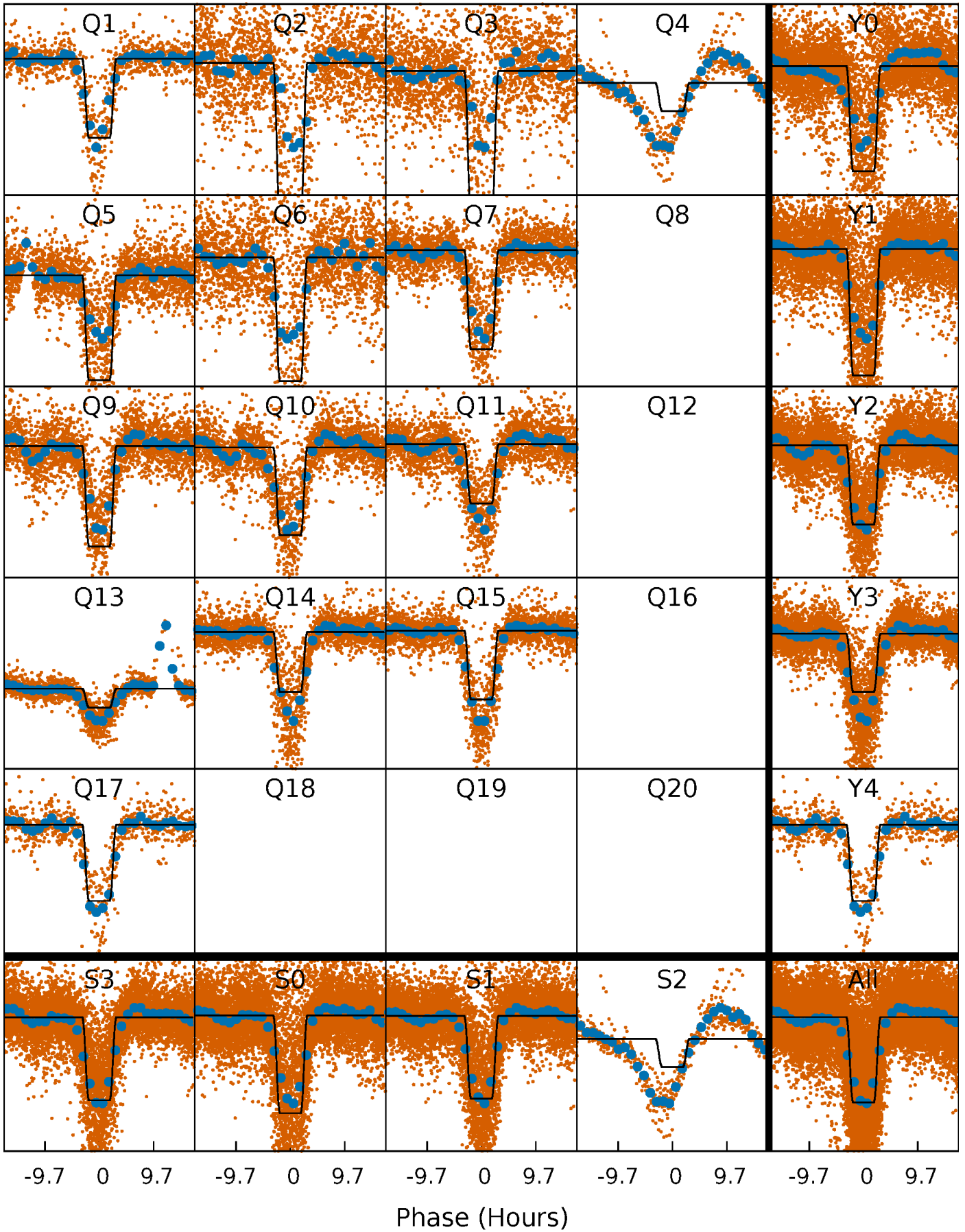
DV Quarter-Phased Transit Curves

TCE 011753767-03 P= 2.415967 Days $T_0=133.132508$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

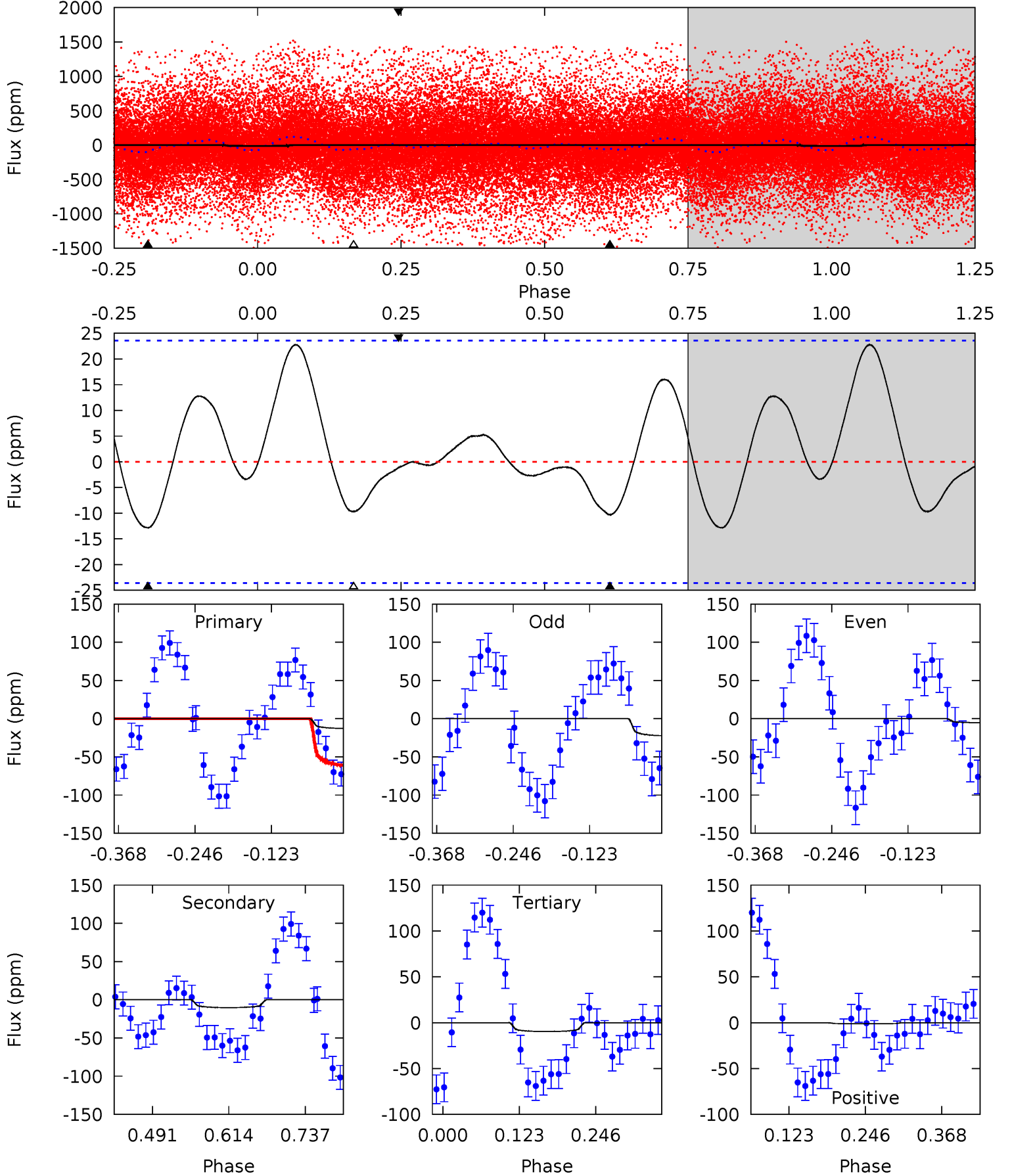
TCE 011753767-03 P= 2.415874 Days $T_0=133.126774$ (BKJD)



DV Model-Shift Uniqueness Test

011753767-03, P = 2.415967 Days, E = 130.716541 Days

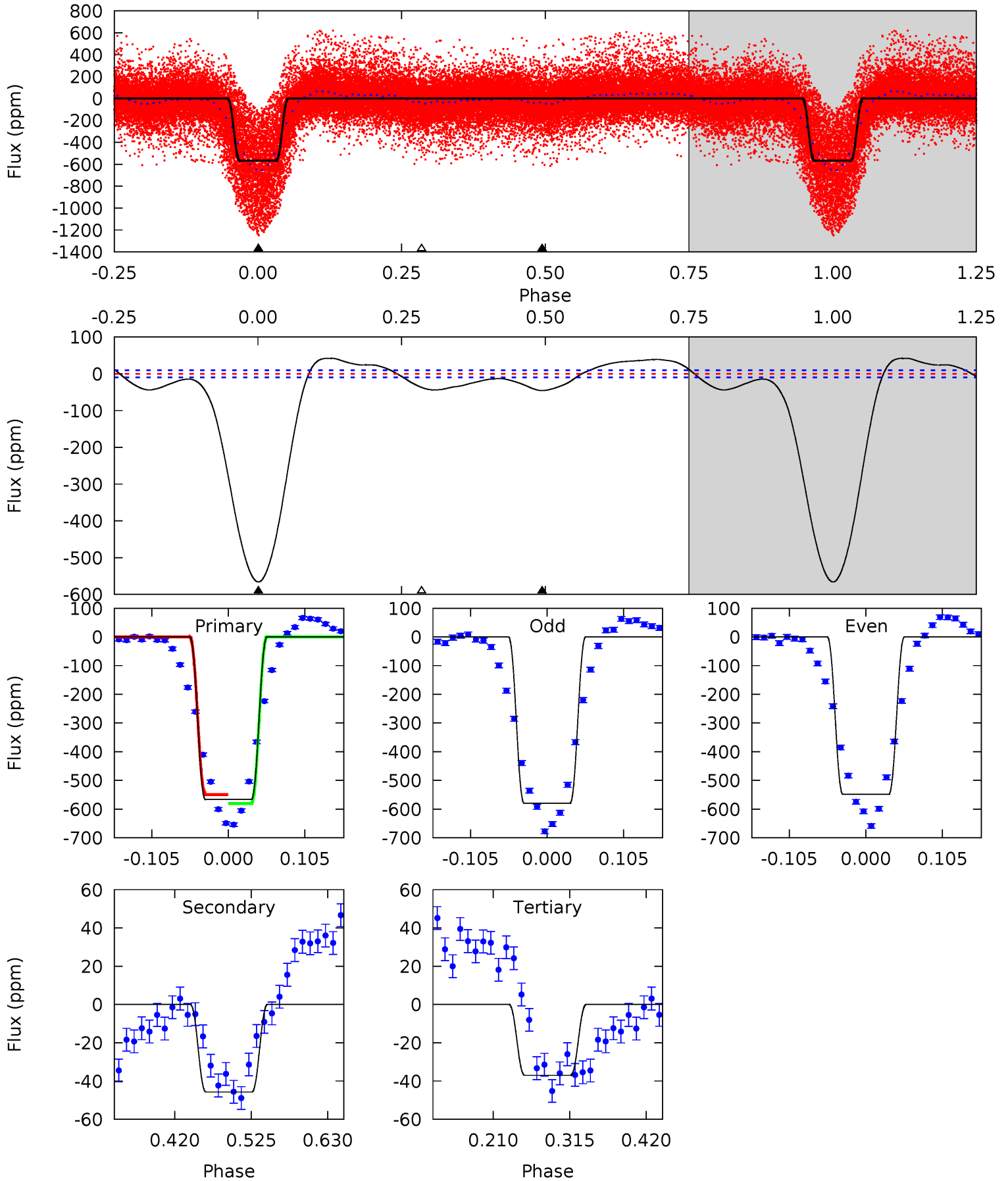
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.46	1.97	1.86	-0.22	4.52	1.54	1.47	0.61	2.68	0.12	2.19	1.66	0.04	0.64	2.68



Alt Model-Shift Uniqueness Test

011753767-03, P = 2.415874 Days, E = 130.710900 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
265.5	21.5	17.4	0	4.55	1.62	14.5	248.2	265.5	4.10	21.5	7.25	0.99	0.07	7.28



Stellar Parameters For KIC 011753767

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6520^{+147}_{-180}	$4.152^{+0.273}_{-0.168}$	$-0.660^{+0.350}_{-0.300}$	$1.376^{+0.361}_{-0.361}$	$0.980^{+0.137}_{-0.100}$	$0.529^{+0.789}_{-0.241}$
	+2%/-3%	+7%/-4%	+53%/-45%	+26%/-26%	+14%/-10%	+149%/-46%
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 011753767-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-10 ± 5	$1.17^{+0.28}_{-0.24}$	2497^{+183}_{-217}	4275^{+497}_{-563}	$5.030^{+4.531}_{-2.799}$
Alt.	-46 ± 2	$3.73^{+0.60}_{-0.64}$	2487^{+187}_{-209}	3674^{+113}_{-102}	$2.269^{+0.996}_{-0.613}$

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

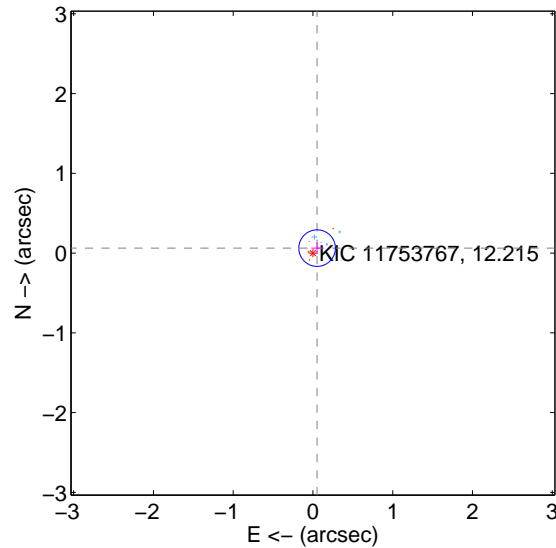
Supplemental centroid analysis for 011753767-03. Kepler magnitude: 12.21. Transit SNR 6.84

There are 7 quarters with good PRF difference image offsets

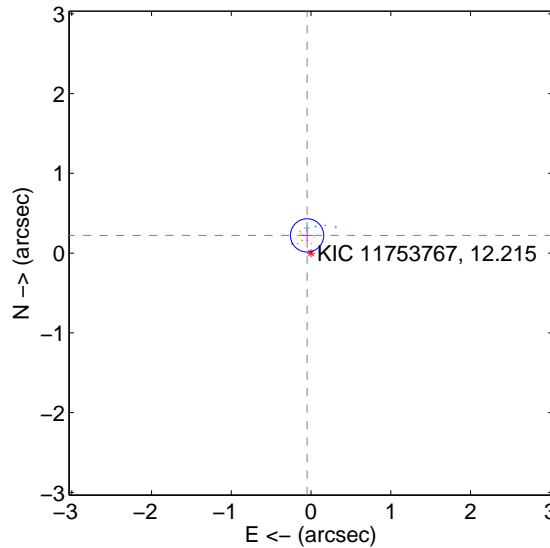
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.081 ± 0.076	1.06	-0.052 ± 0.073	0.062 ± 0.073
PRF-fit source offset from KIC position	0.228 ± 0.069	3.28	0.050 ± 0.077	0.222 ± 0.071
photometric centroid source offset	0.92 ± 0.54	1.71	-0.24 ± 0.55	0.89 ± 0.54

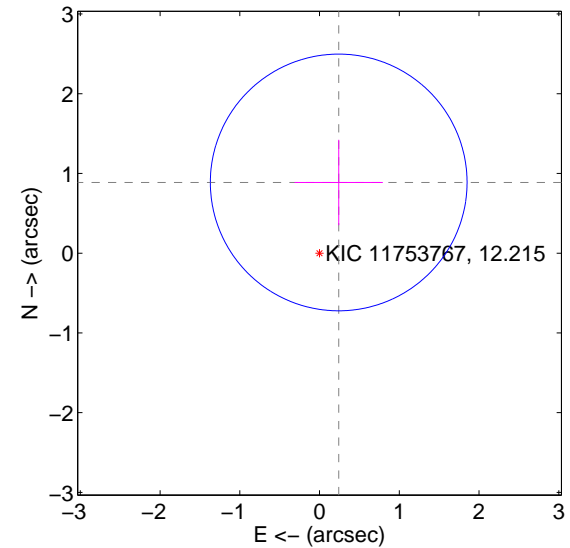
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

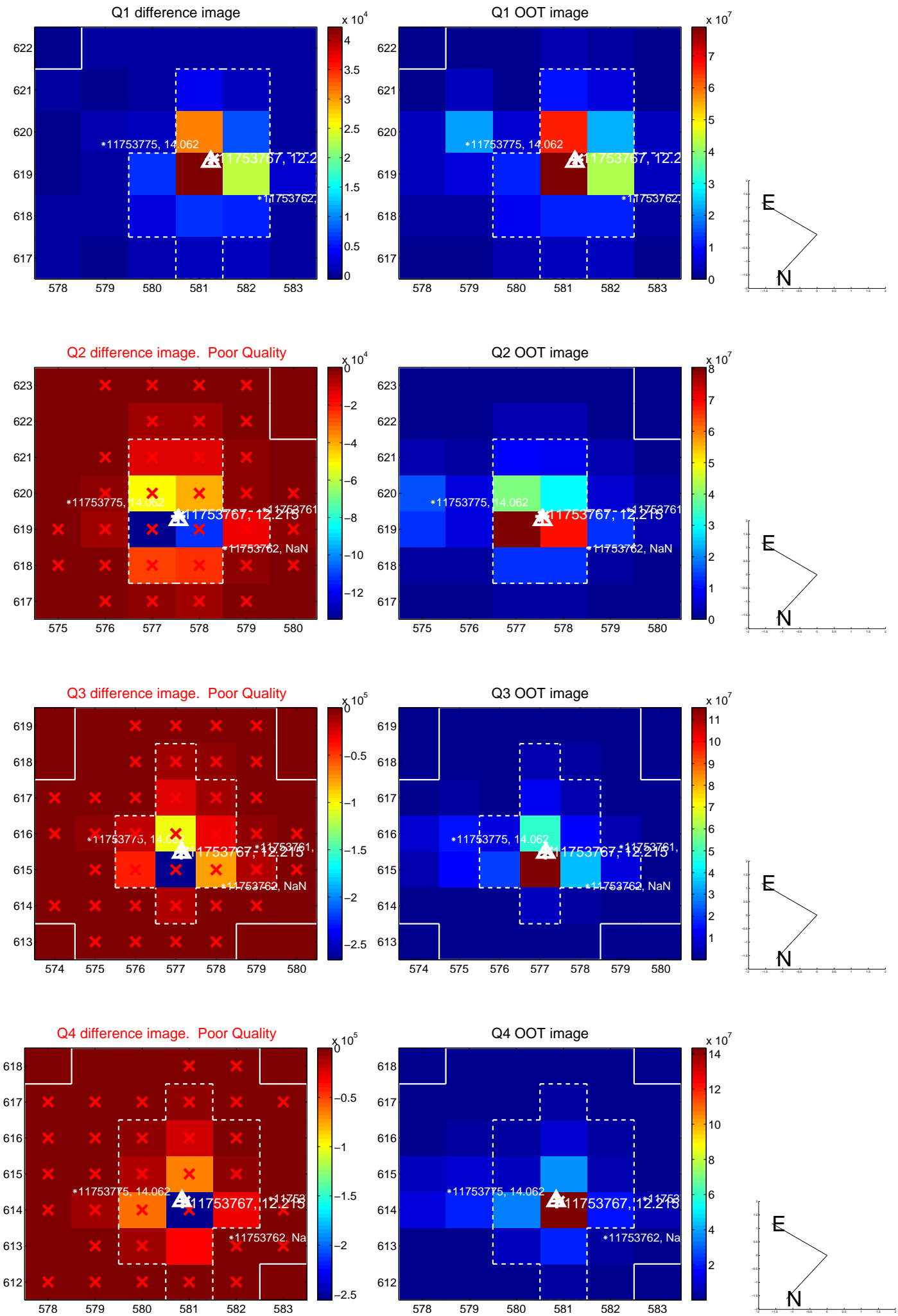


offset from photometric centroids

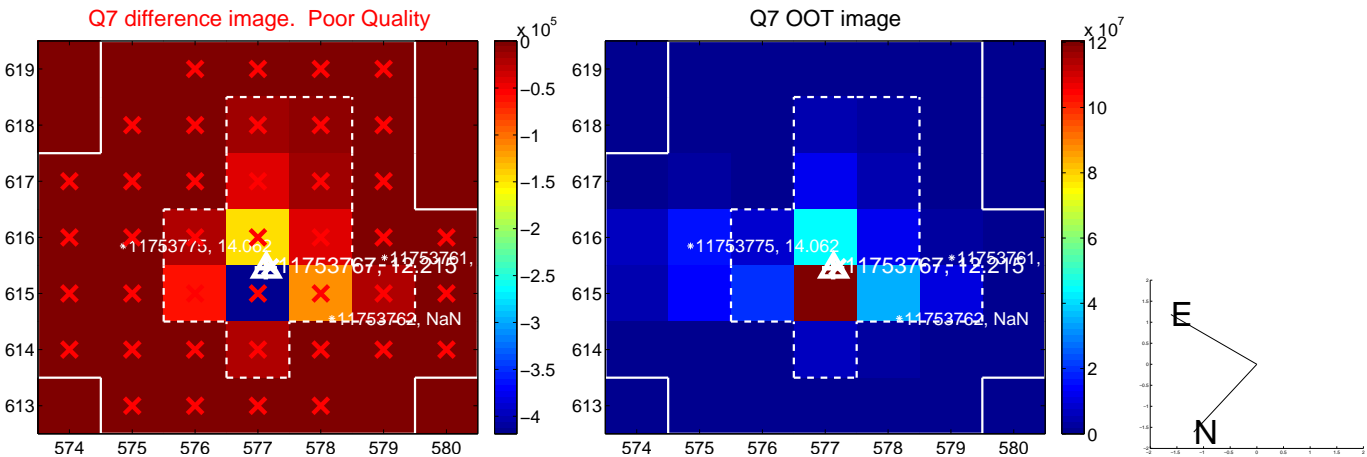
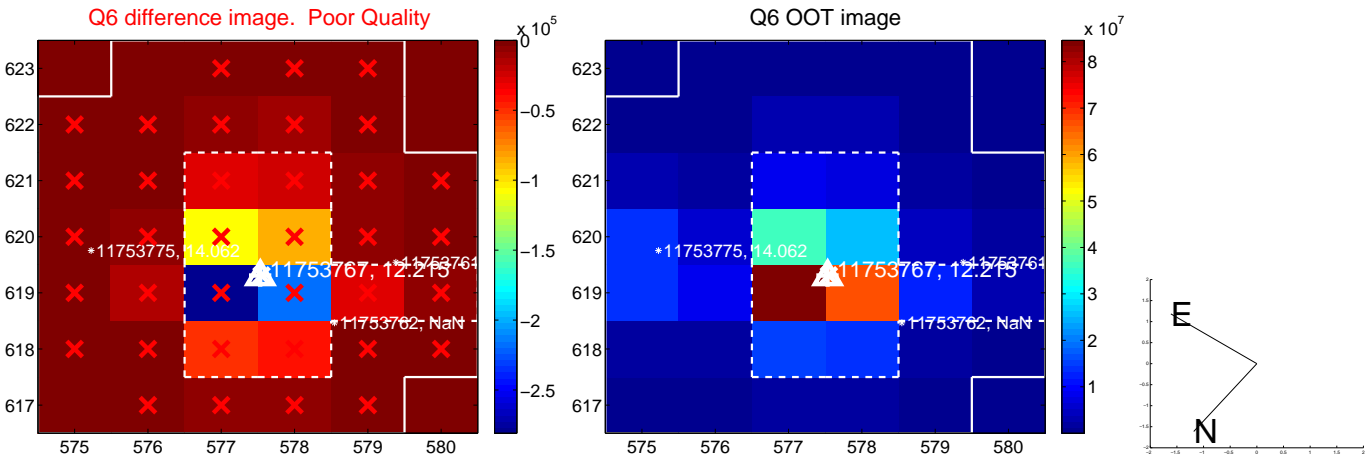
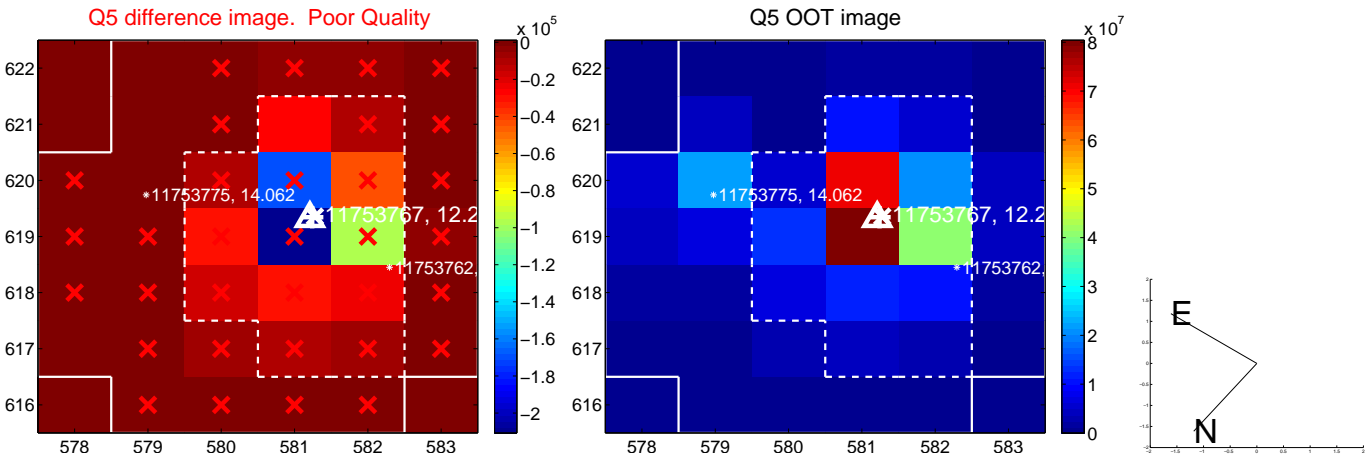


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

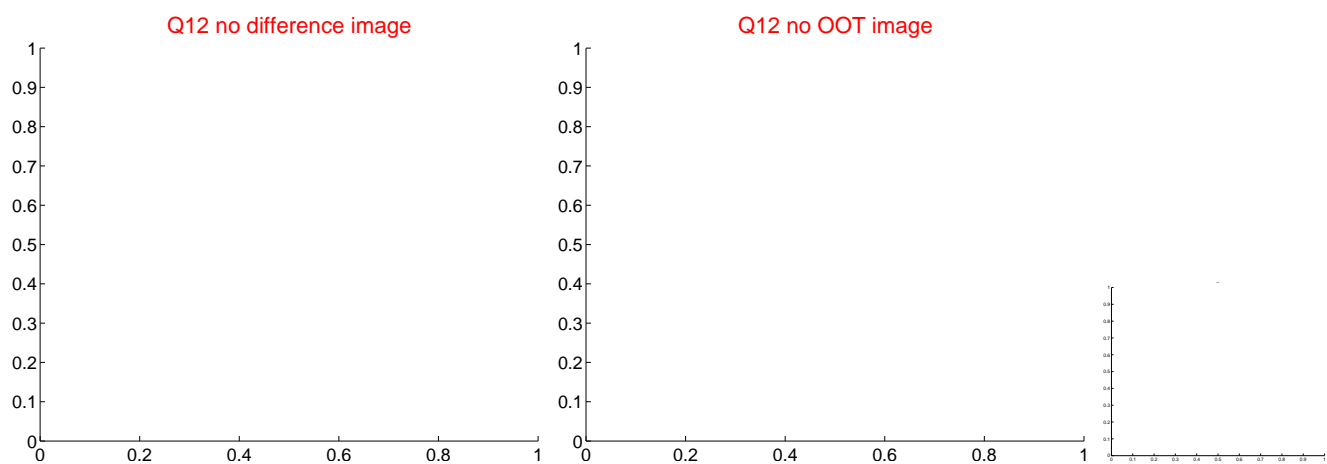
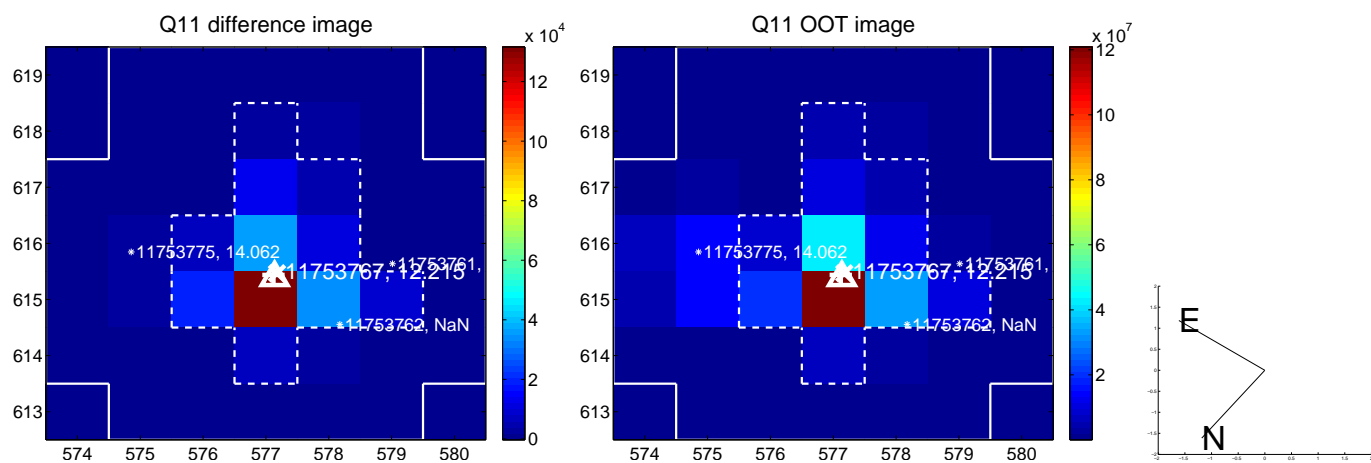
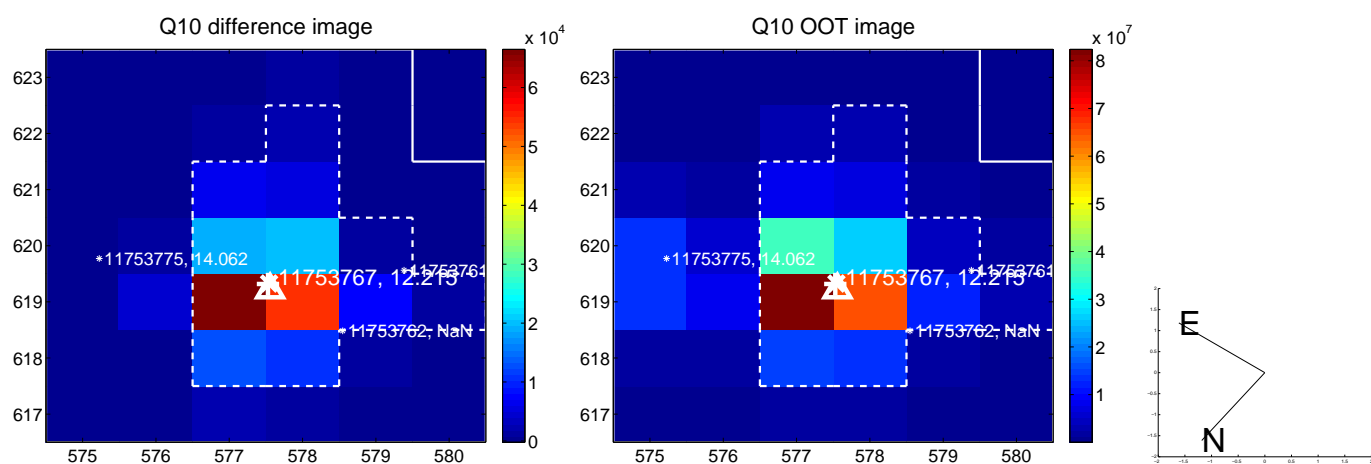
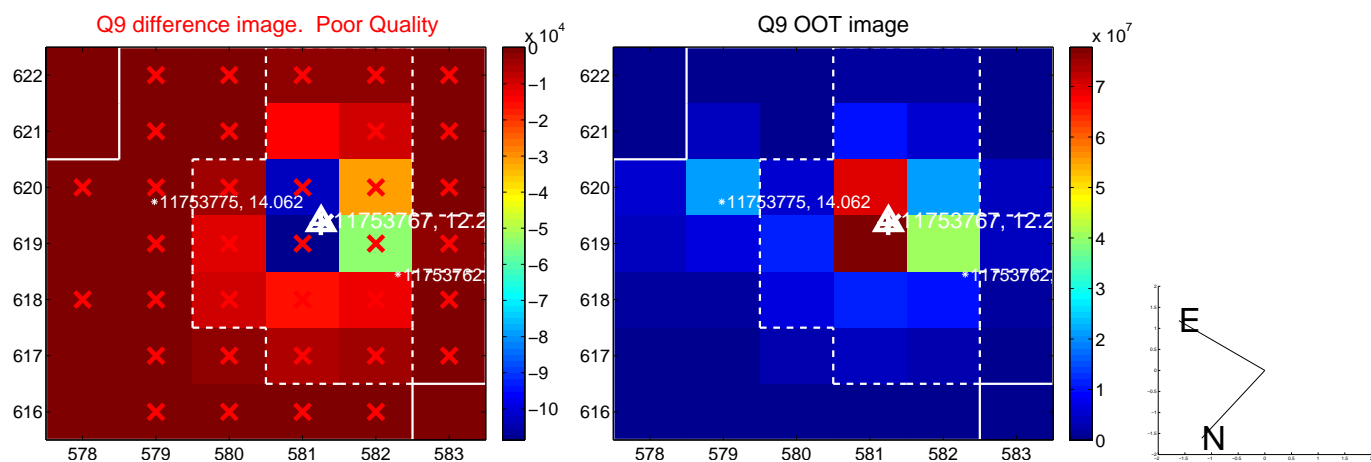
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



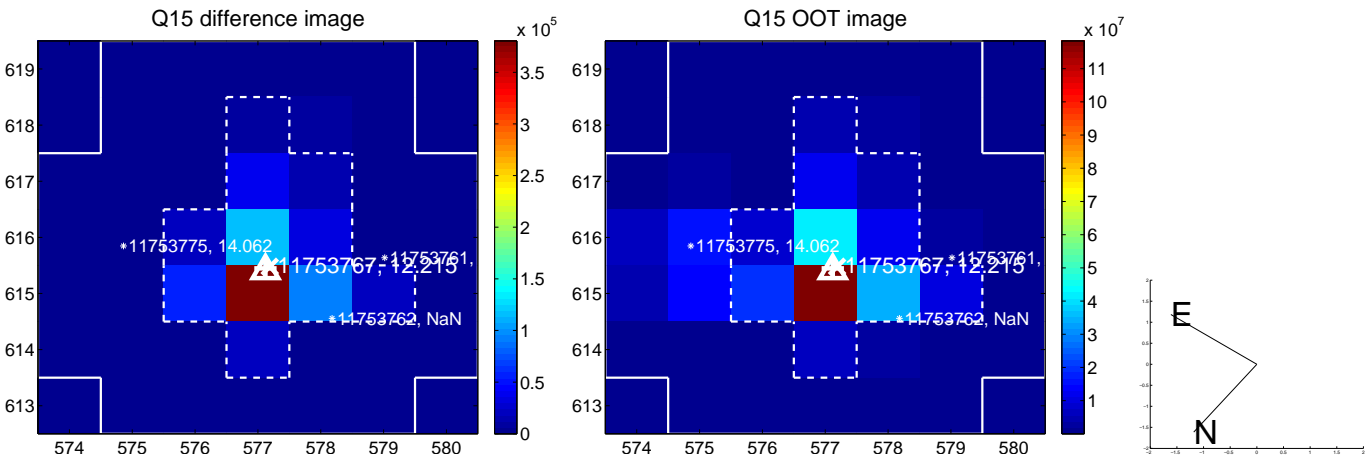
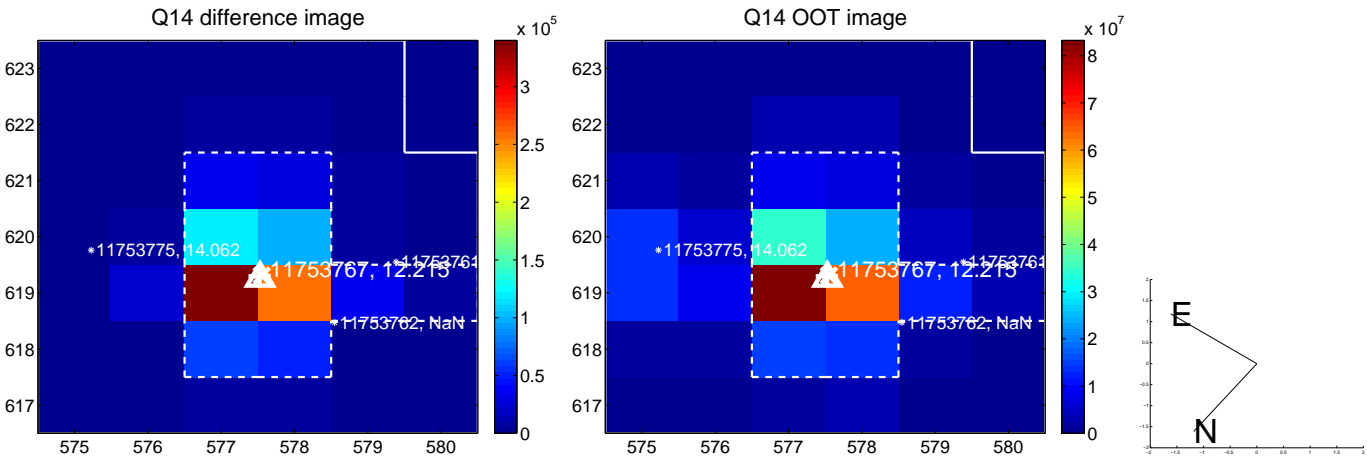
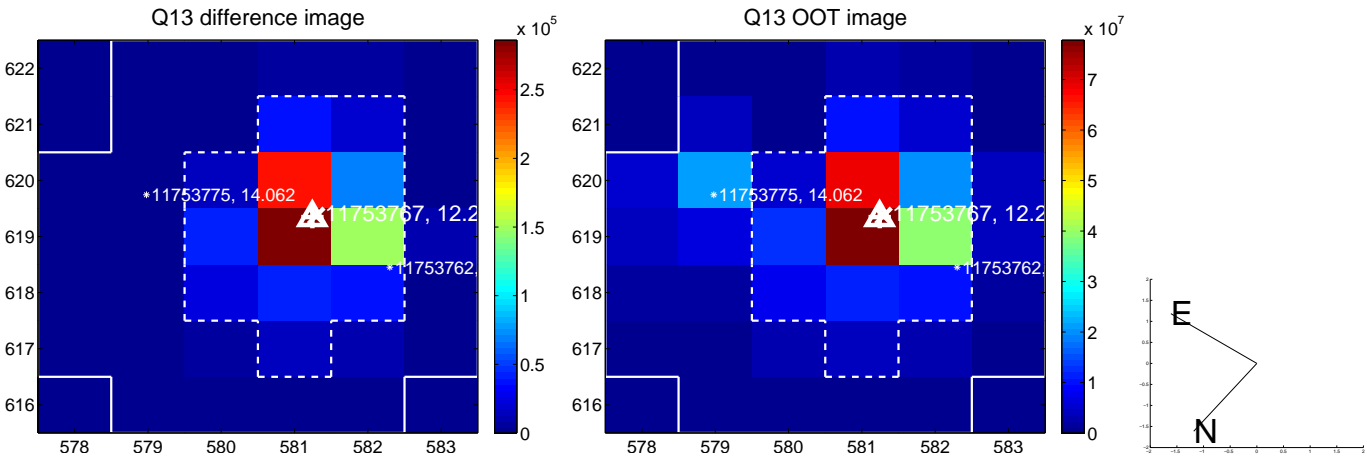
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



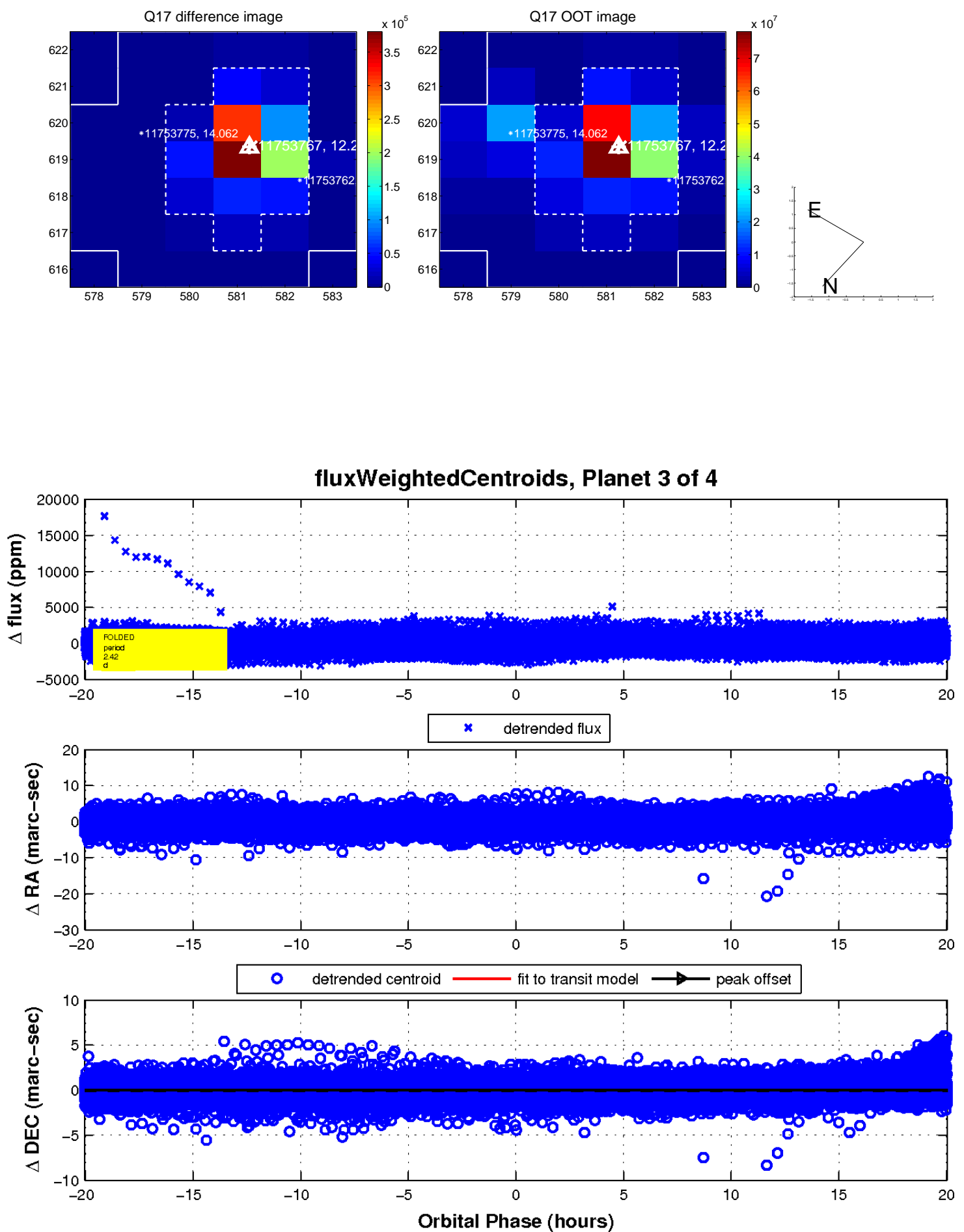
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



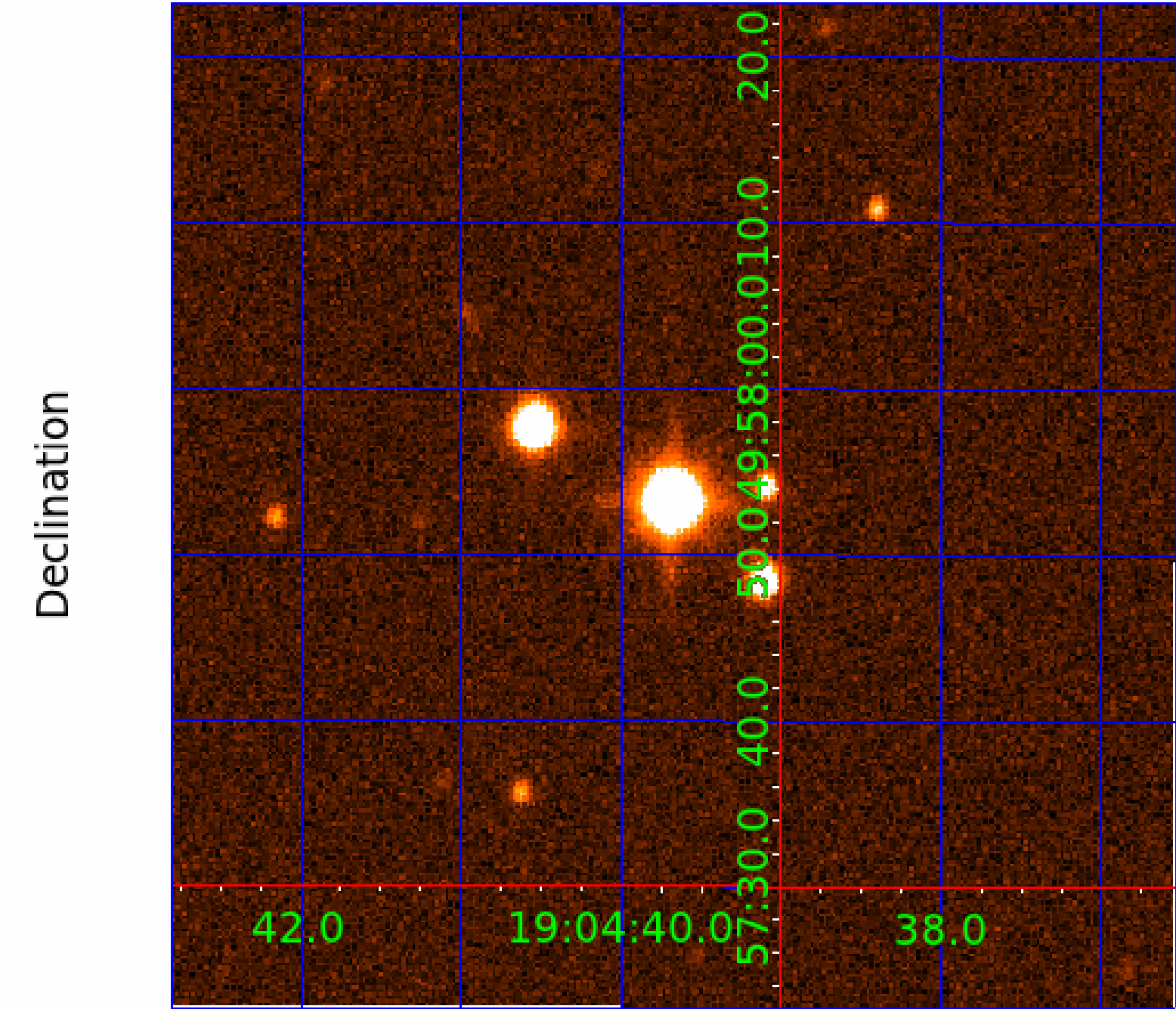
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 011753767

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})
011753767-01	OBS	No	175.064382	214.991791	499.0	2.837	12.6	7.6	1.38	6520	3.26	8.28
011753767-02	OBS	No	441.051581	449.688768	324.6	3.500	13.1	-1.0	1.38	6520	2.50	2.42
011753767-03	OBS	No	2.415967	133.132508	54.7	6.679	10.4	6.8	1.38	6520	1.19	2501.36
011753767-04	OBS	No	272.474711	175.078749	1843.8	6.000	54.2	-1.0	1.38	6520	5.95	4.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011753767-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
011753767-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
011753767-03	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
011753767-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

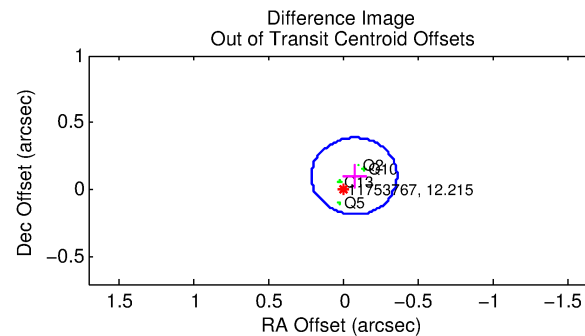
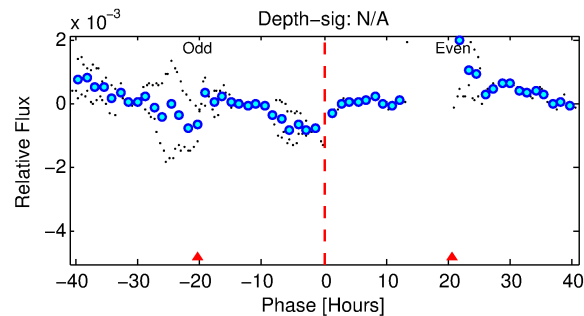
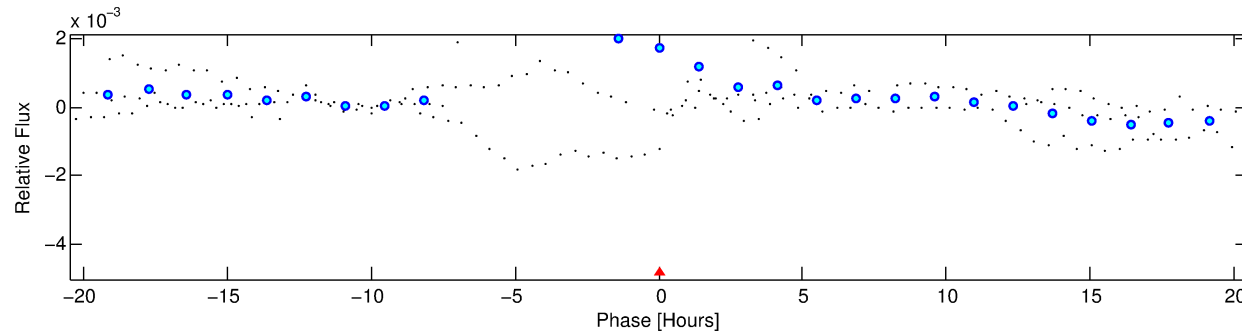
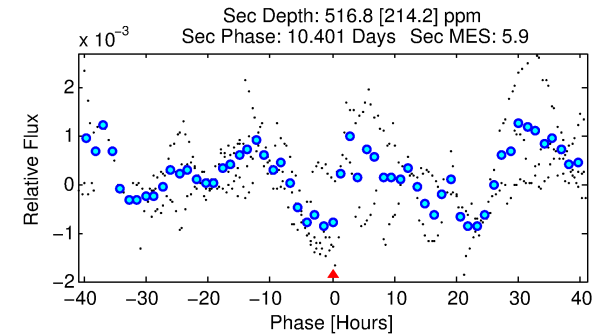
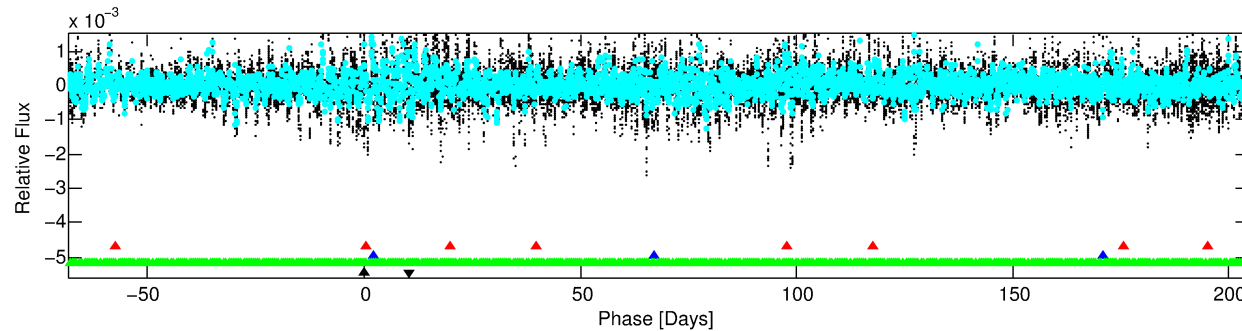
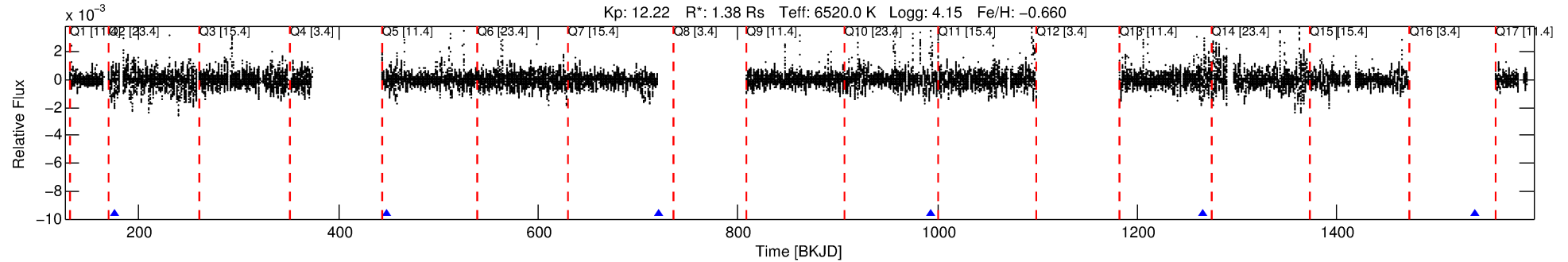
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011753767-04

No Significant Match Found

DV One-Page Summary

KIC: 11753767 Candidate: 4 of 4 Period: 272.475 d



TPS TCE Results:

Period = 272.47471 d
Epoch = 175.0787 BKJD

DV fit results are unavailable

DV Diagnostic Results:

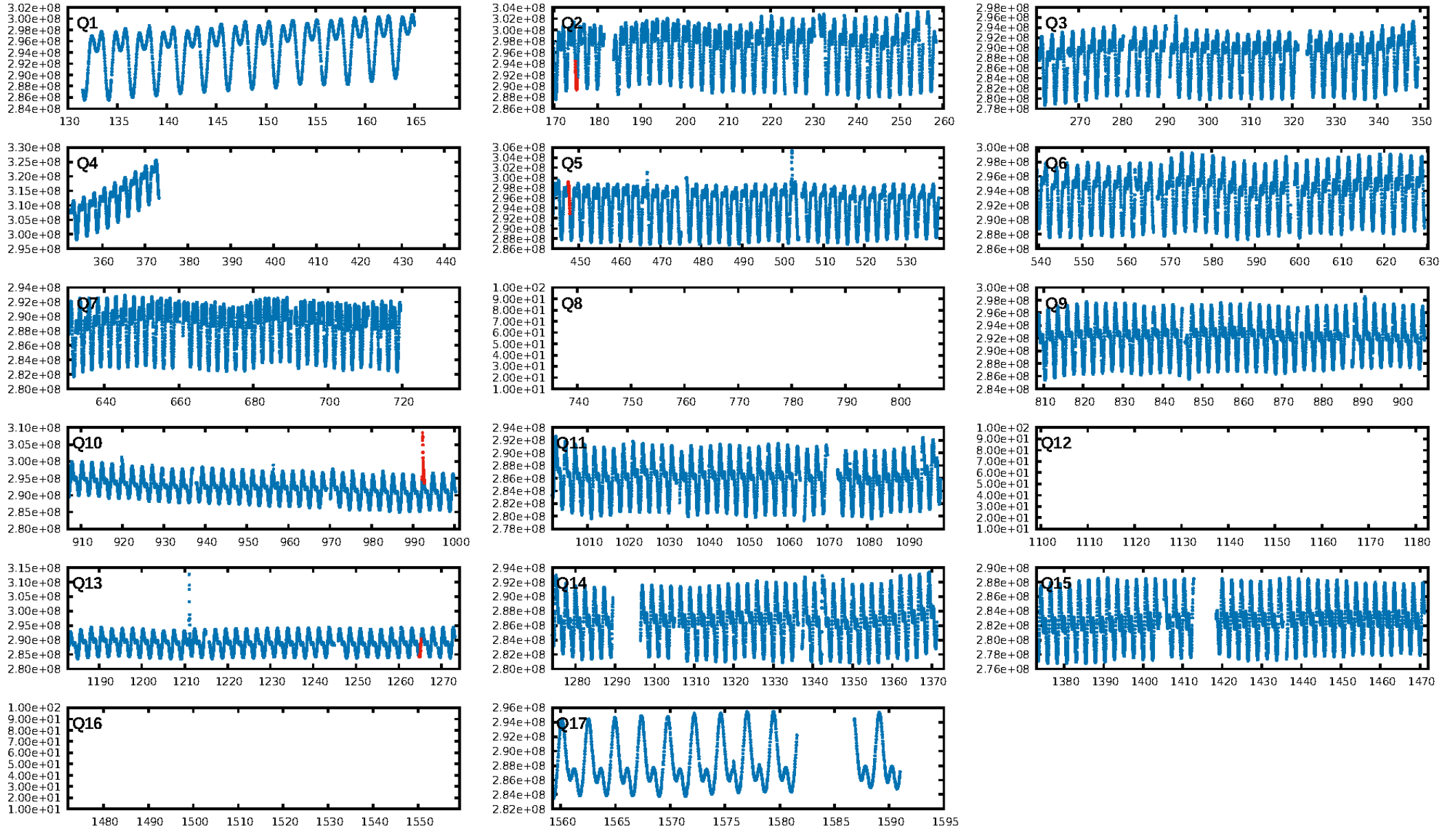
ShortPeriod-sig: 100.0% [352.26 σ]
LongPeriod-sig: 100.0% [582.45 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.4258

Centroid-sig: N/A
Centroid-so: 0.526 arcsec [4.91 σ]
OotOffset-rm: 0.129 arcsec [1.35 σ]
KicOffset-rm: 0.217 arcsec [2.33 σ]
OotOffset-st: 2/0/0/2 [4]
KicOffset-st: 2/0/0/2 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.25 [1/4]

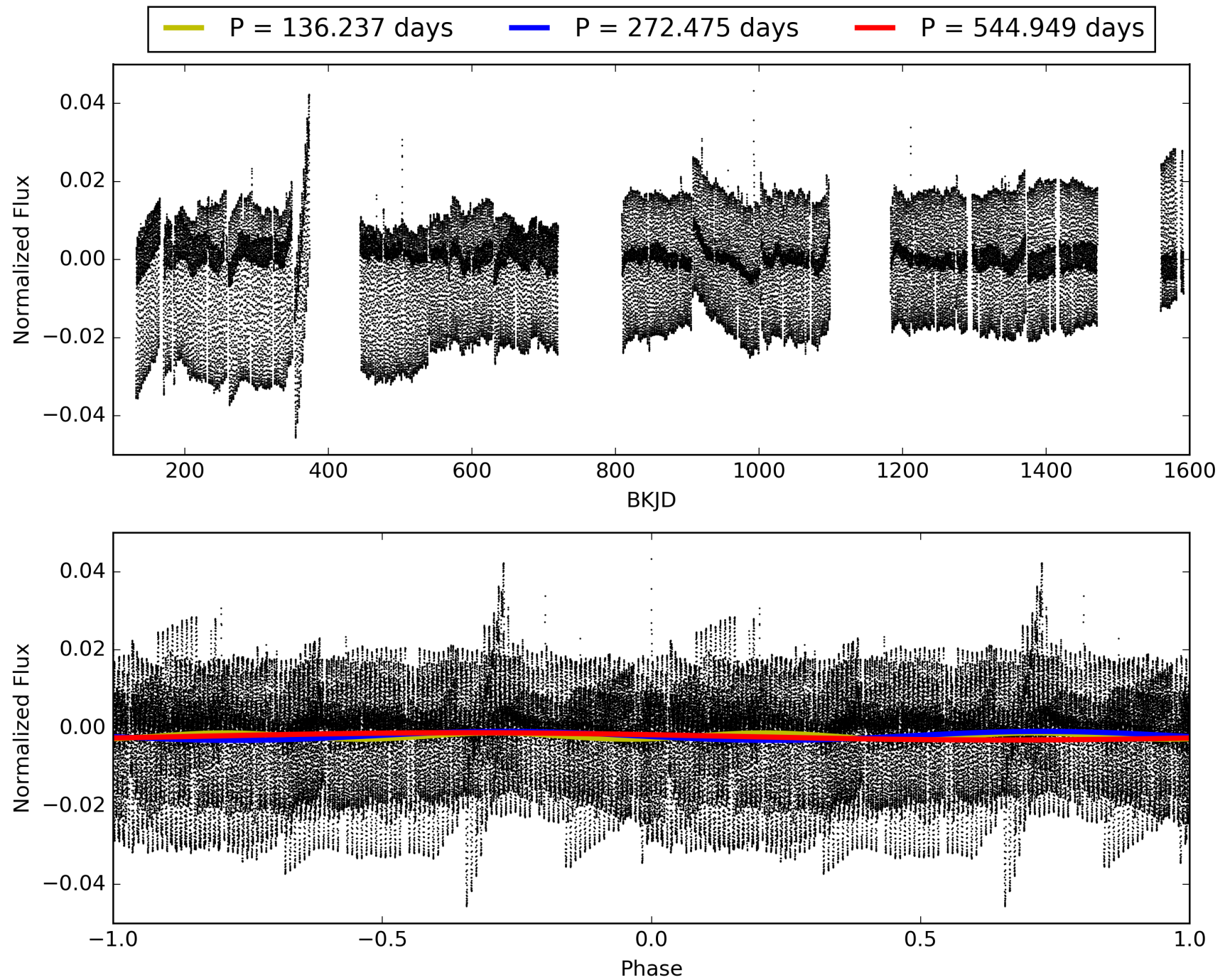
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:21:58 Z

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

TCE 011753767-04, PDC Light Curves

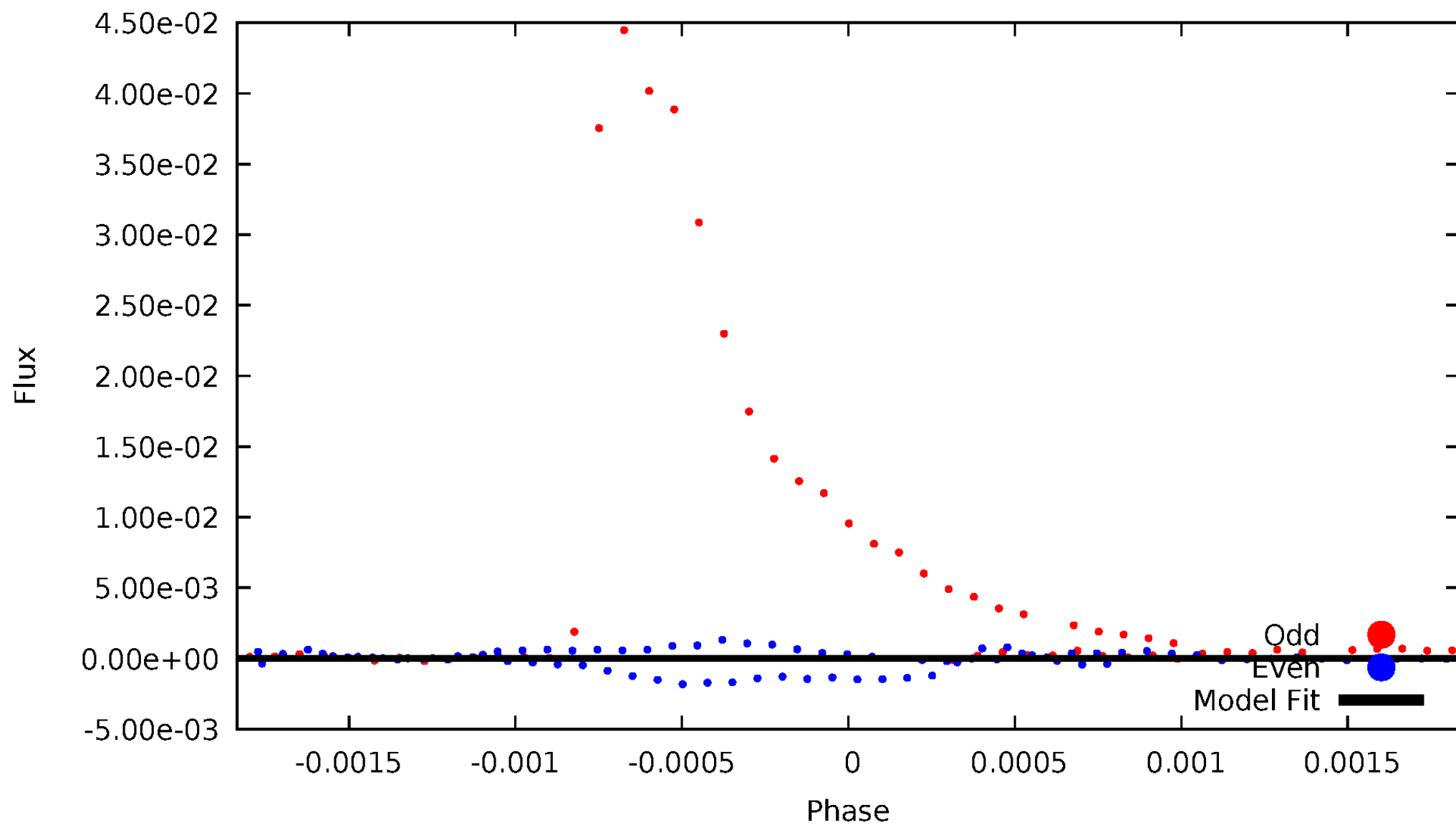


TCE 011753767-04



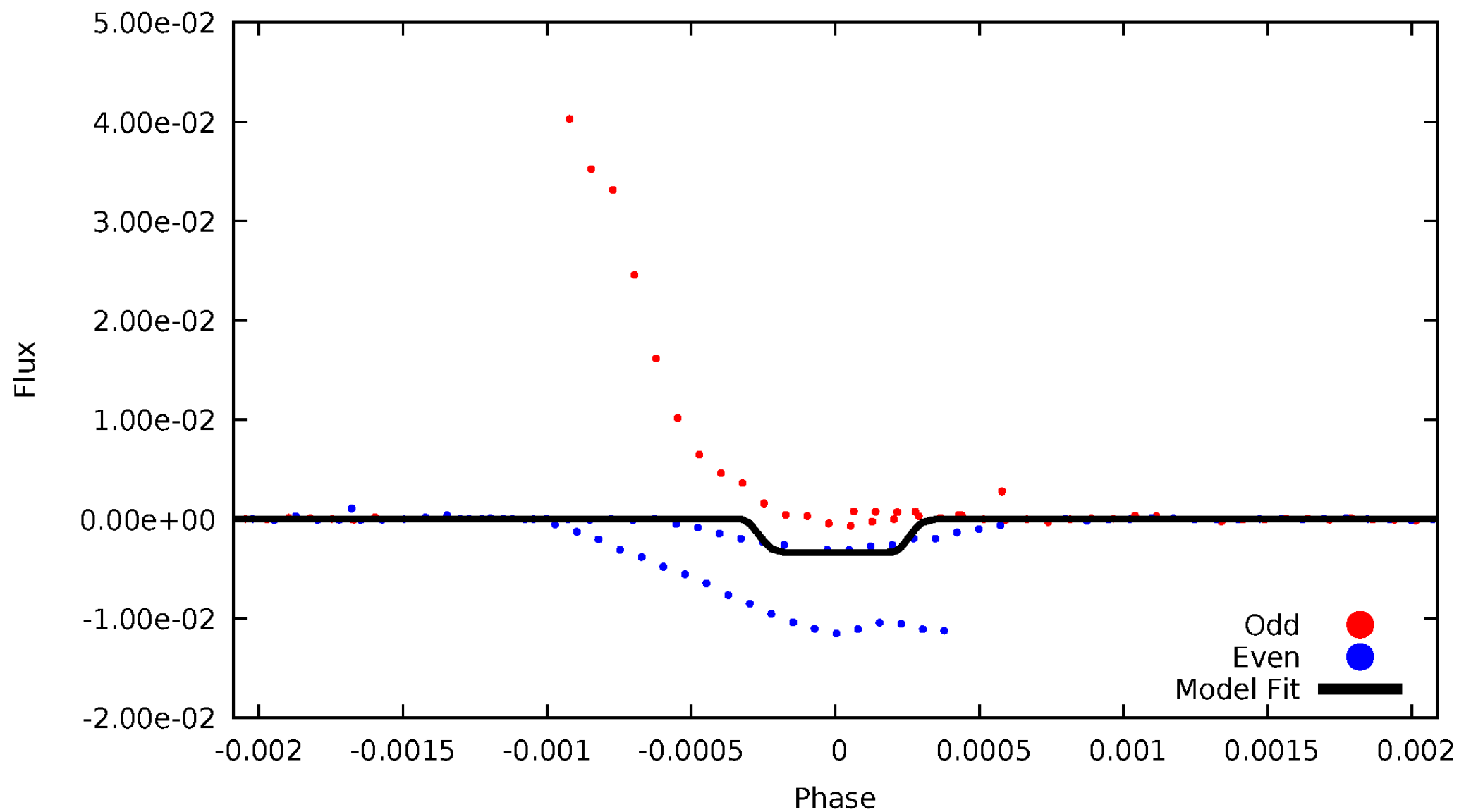
DV Odd/Even

TCE 011753767-04



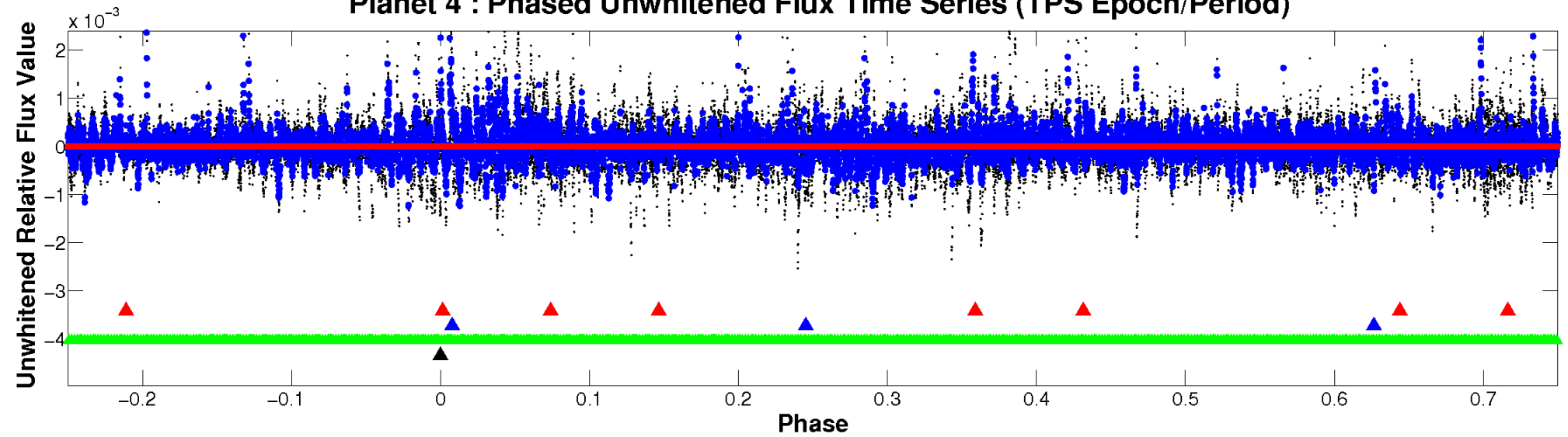
ALT Odd/Even

TCE 011753767-04



Non-Whitened Vs. Whitened Light Curve

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

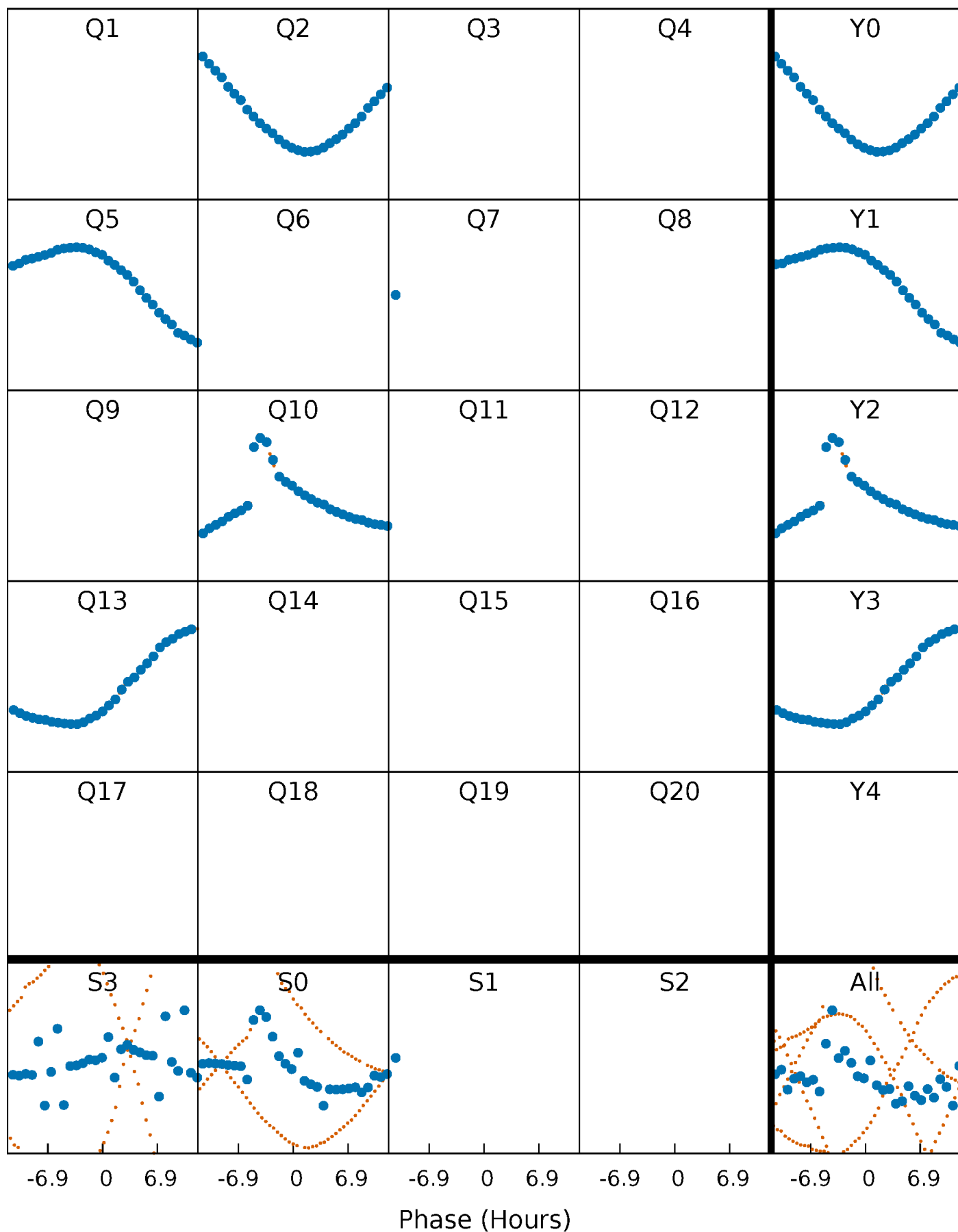


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



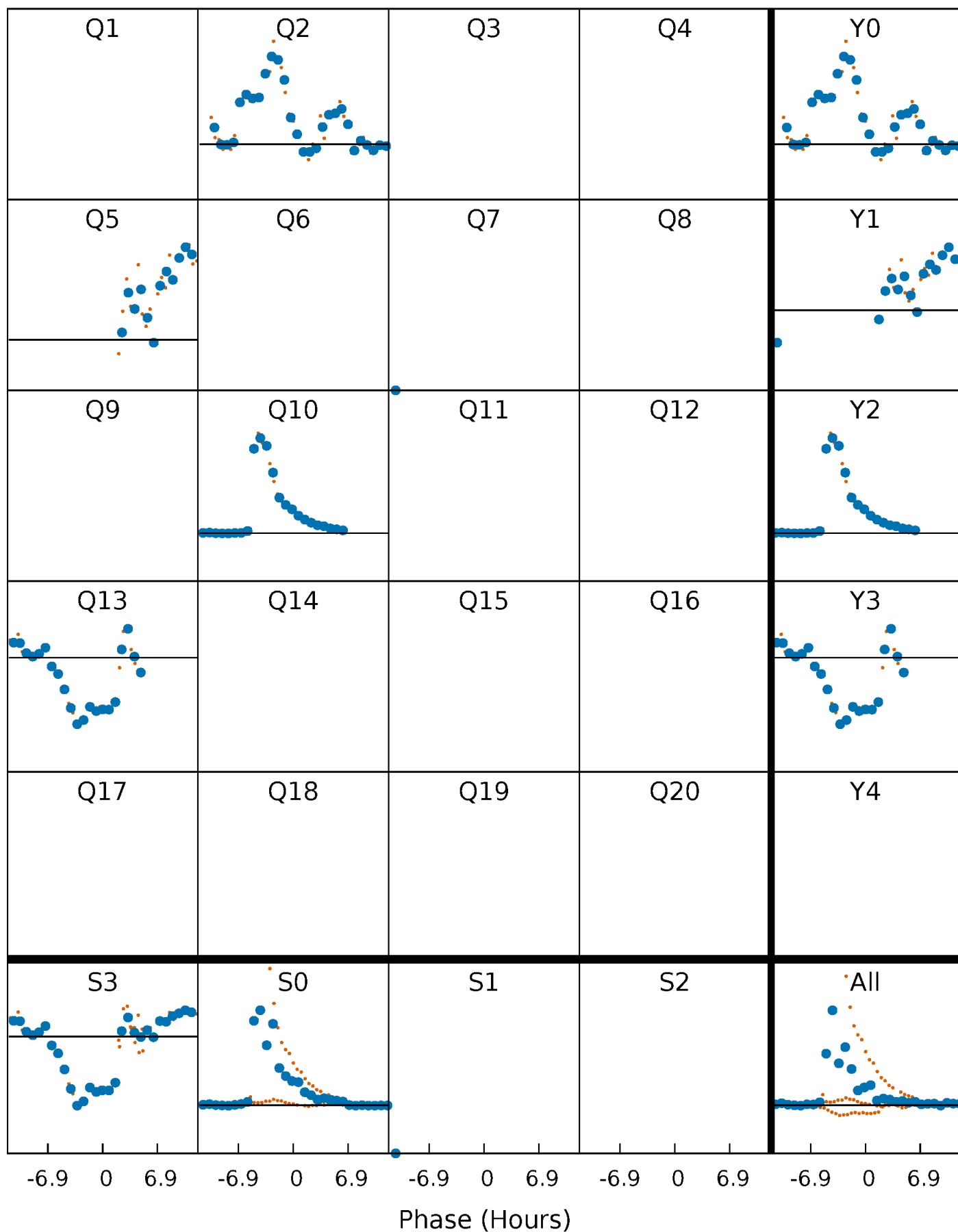
PDC Quarter-Phased Transit Curves

TCE 011753767-04 P=272.474711 Days $T_0=175.078749$ (BKJD)



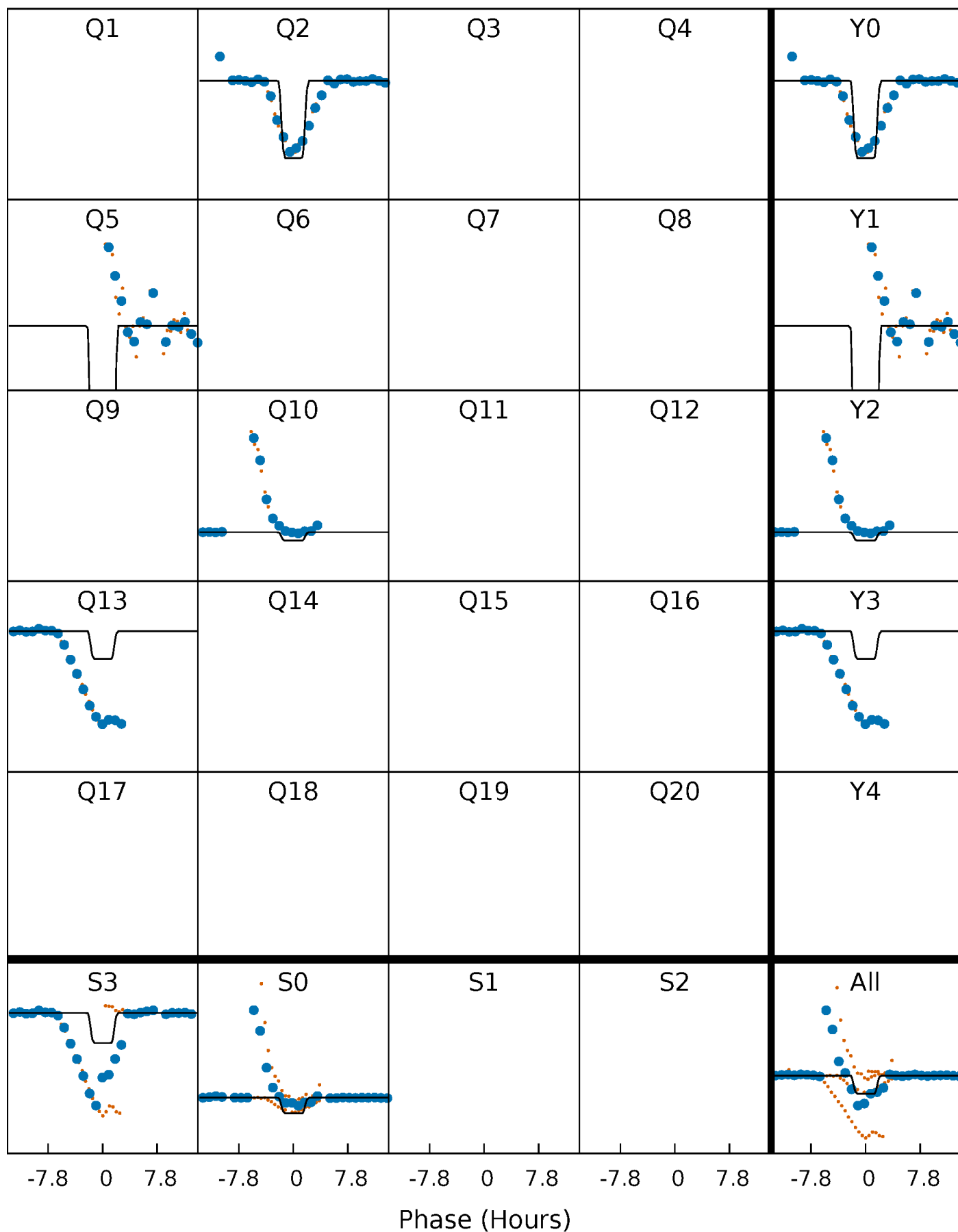
DV Quarter-Phased Transit Curves

TCE 011753767-04 P=272.474711 Days $T_0=175.078749$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

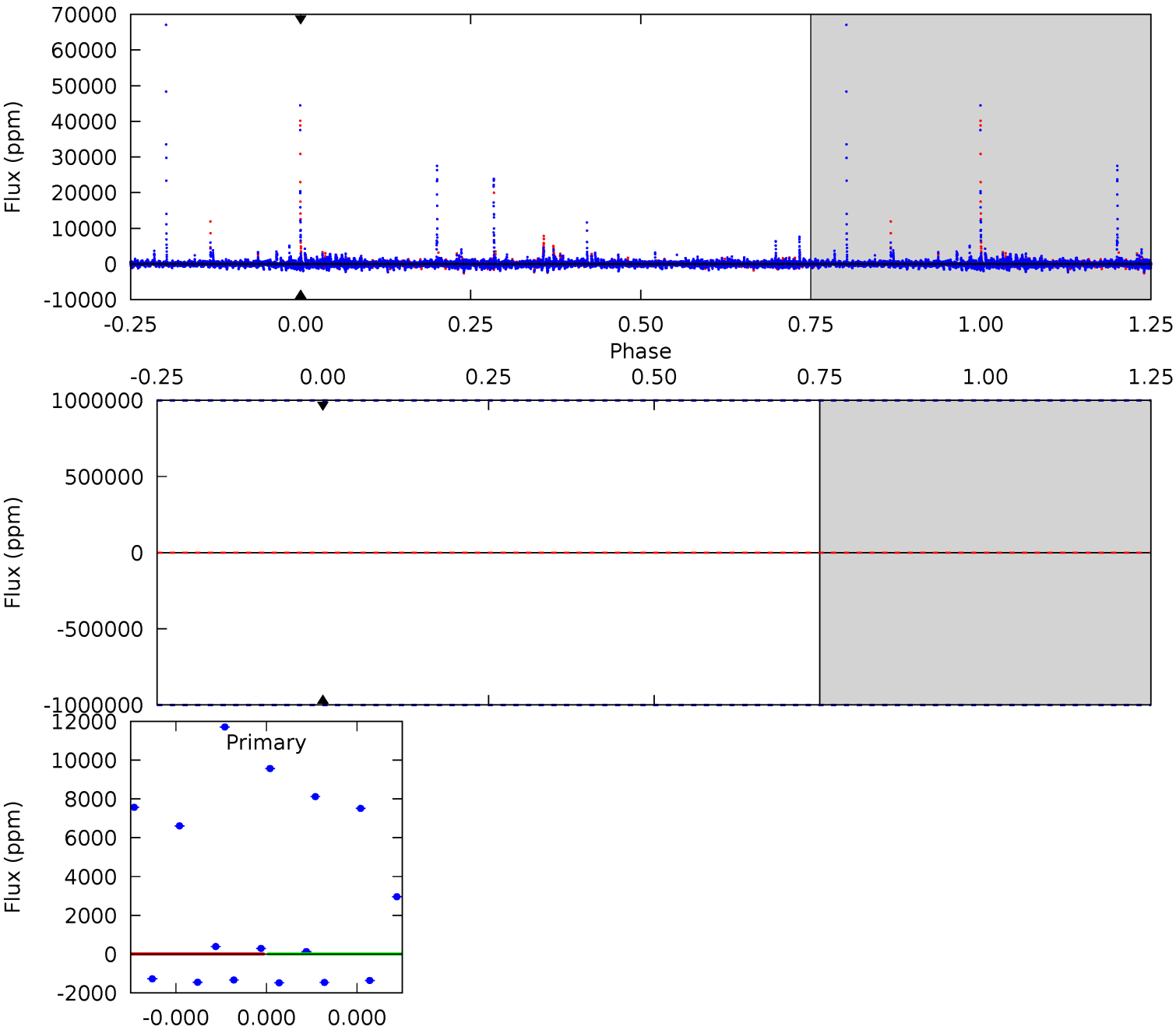
TCE 011753767-04 P=272.474711 Days $T_0=175.146560$ (BKJD)



DV Model-Shift Uniqueness Test

011753767-04, P = 272.474711 Days, E = 175.078749 Days

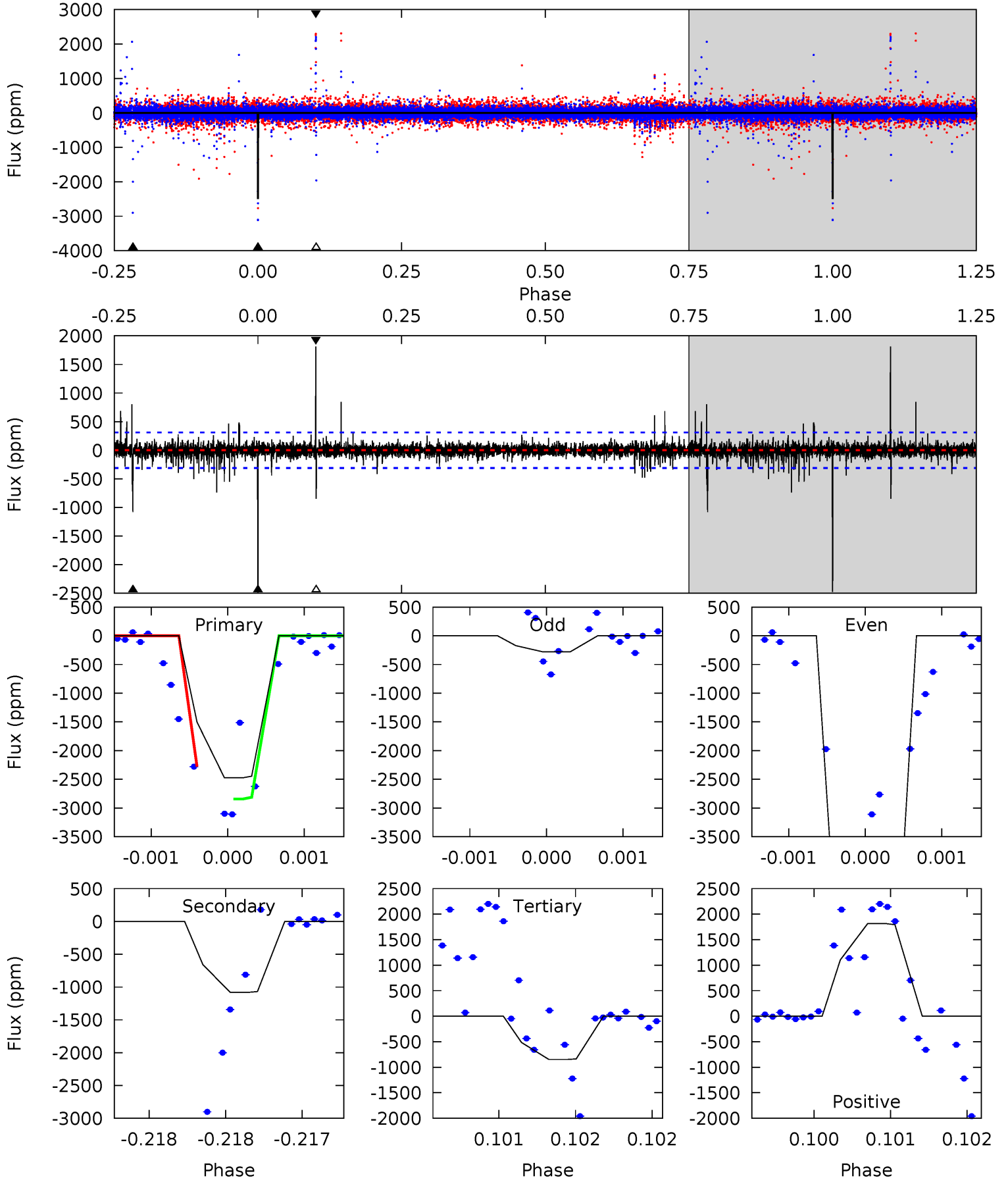
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

011753767-04, P = 272.474711 Days, E = 175.146560 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.8	19.1	15.0	32.1	5.53	3.42	1.29	28.8	11.7	4.14	-13.0	68.4	2.34	0.42	0



Stellar Parameters For KIC 011753767

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6520^{+147}_{-180}	$4.152^{+0.273}_{-0.168}$	$-0.660^{+0.350}_{-0.300}$	$1.376^{+0.361}_{-0.361}$	$0.980^{+0.137}_{-0.100}$	$0.529^{+0.789}_{-0.241}$
	+2%/-3%	+7%/-4%	+53%/-45%	+26%/-26%	+14%/-10%	+149%/-46%
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 011753767-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$11.75^{+13.52}_{-8.23}$	515^{+40}_{-41}	-4034^{+30540}_{-21614}	$-1943.515^{+521860.925}_{-494232.007}$
Alt.	-1080 ± 56	$13.38^{+12.78}_{-9.27}$	515^{+38}_{-43}	4154^{+2675}_{-821}	2245^{+21235}_{-1642}

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 $A_{obs} \gg 1.0$

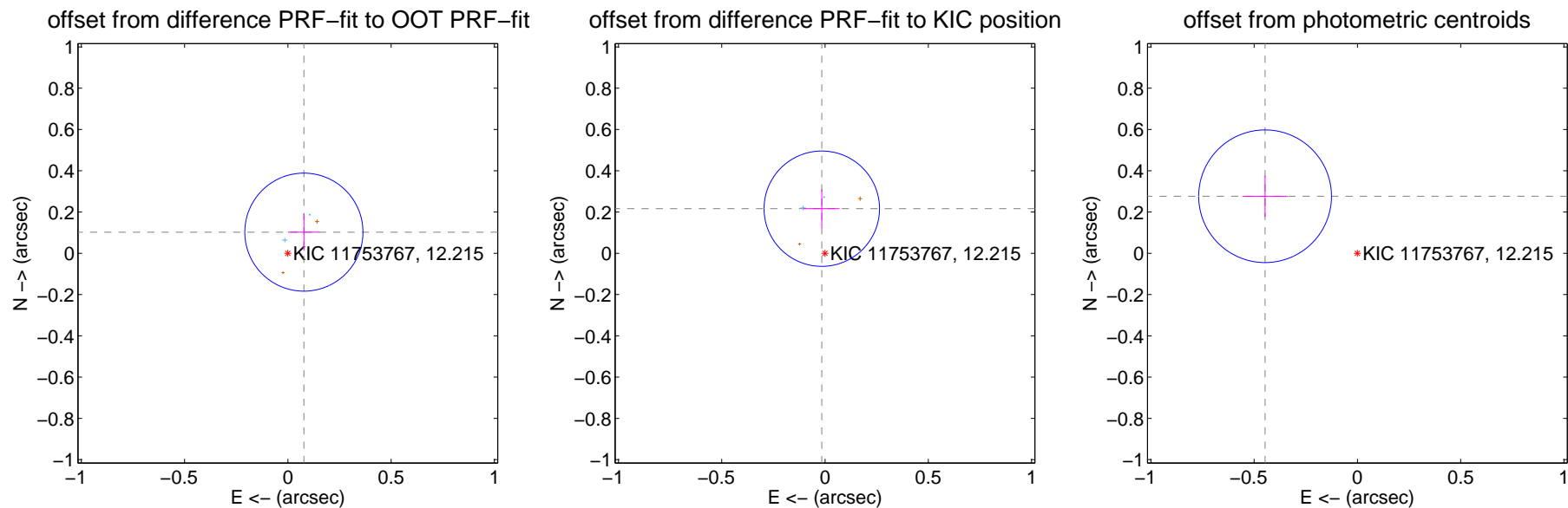
DV Centroid Data

Supplemental centroid analysis for 011753767-04. Kepler magnitude: 12.21. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

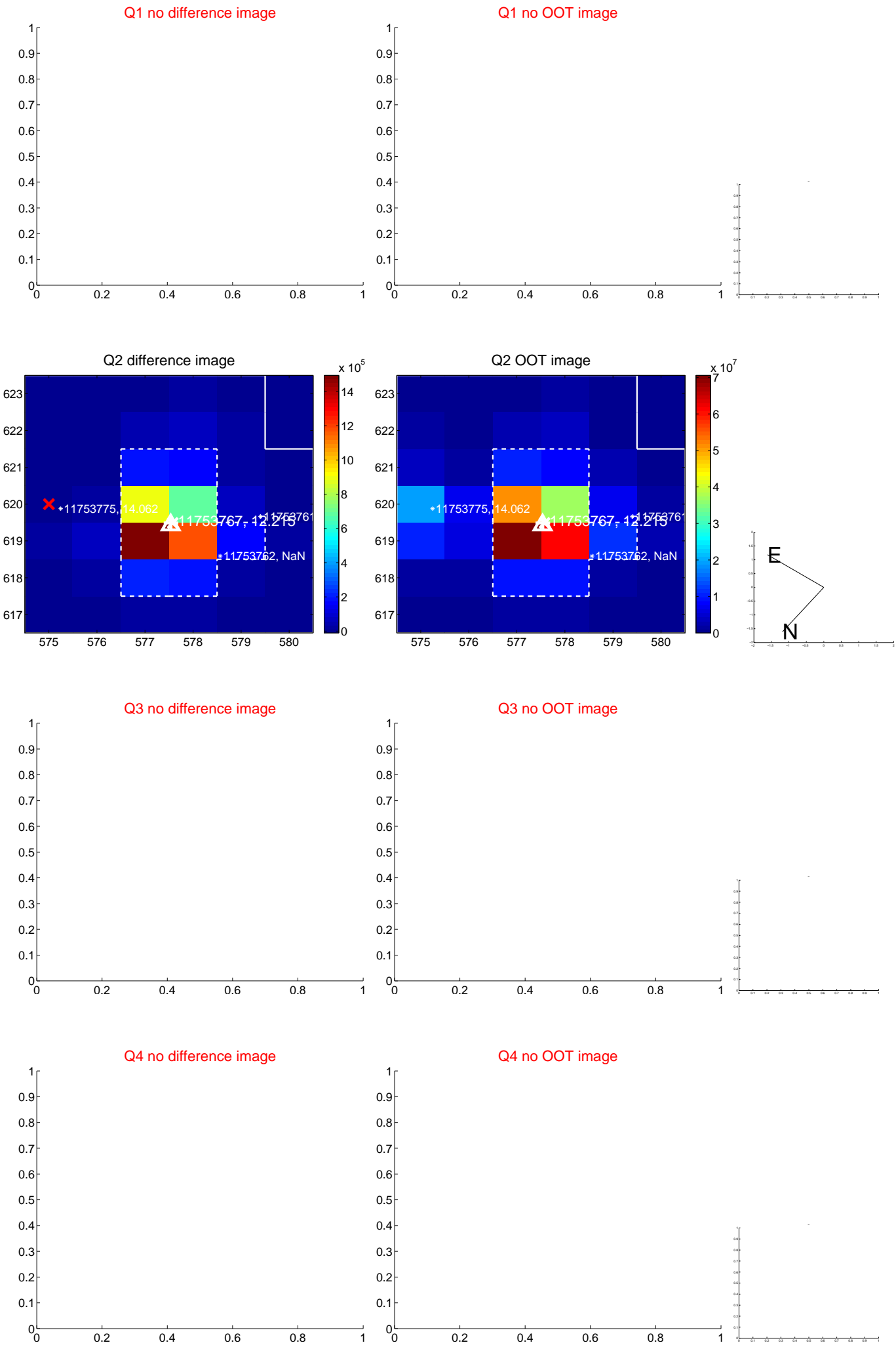
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.129 ± 0.095	1.35	-0.078 ± 0.077	0.102 ± 0.089
PRF-fit source offset from KIC position	0.217 ± 0.093	2.33	0.016 ± 0.086	0.216 ± 0.093
photometric centroid source offset	0.53 ± 0.11	4.91	0.45 ± 0.11	0.28 ± 0.10

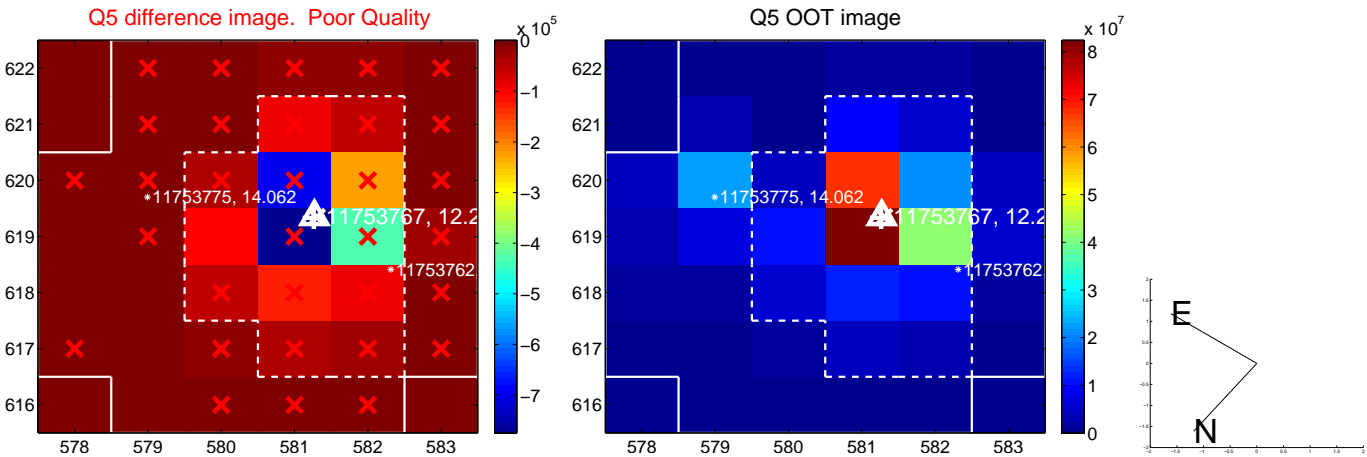


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

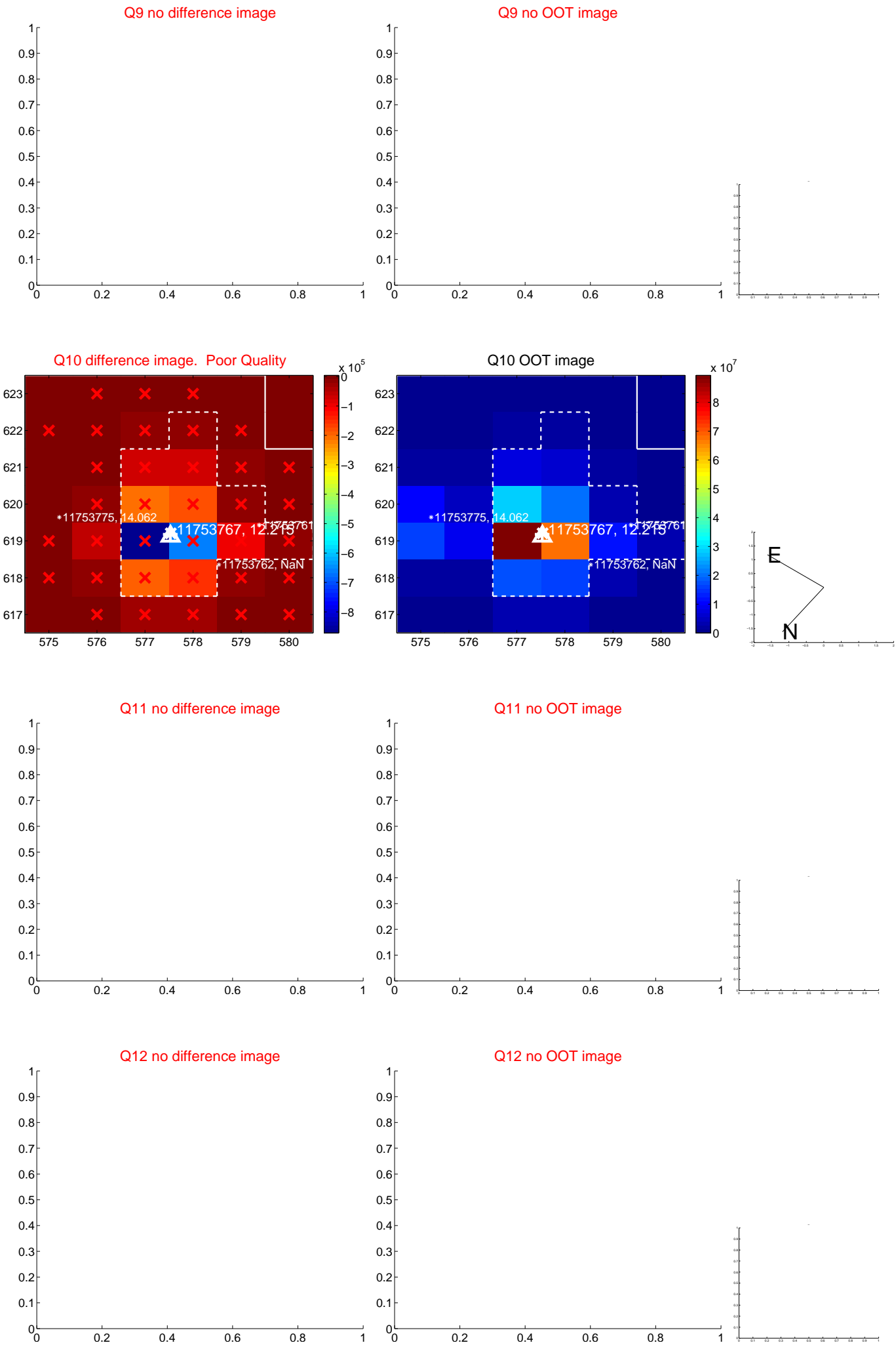
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



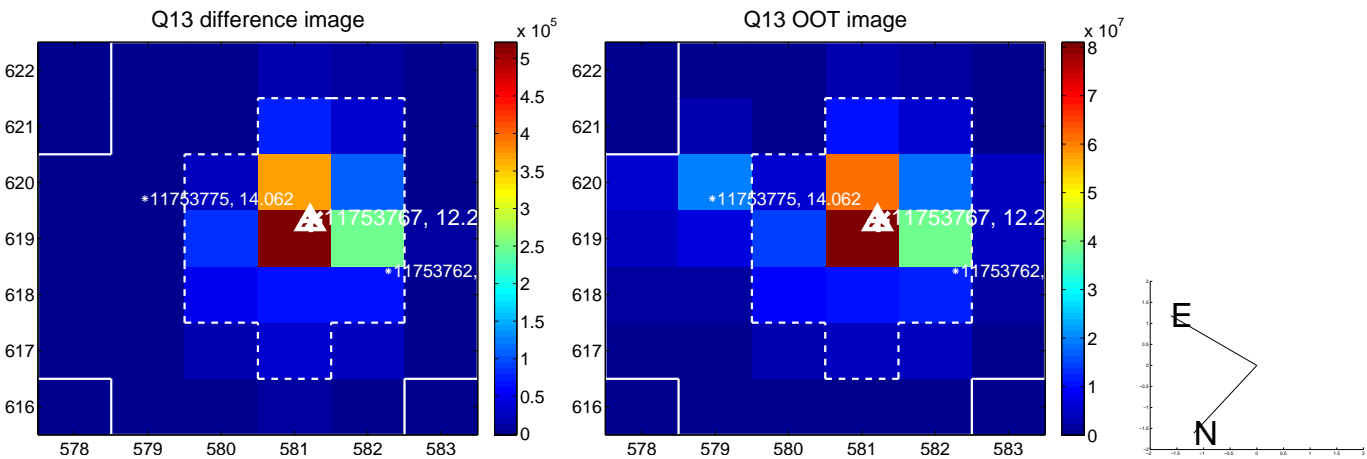
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



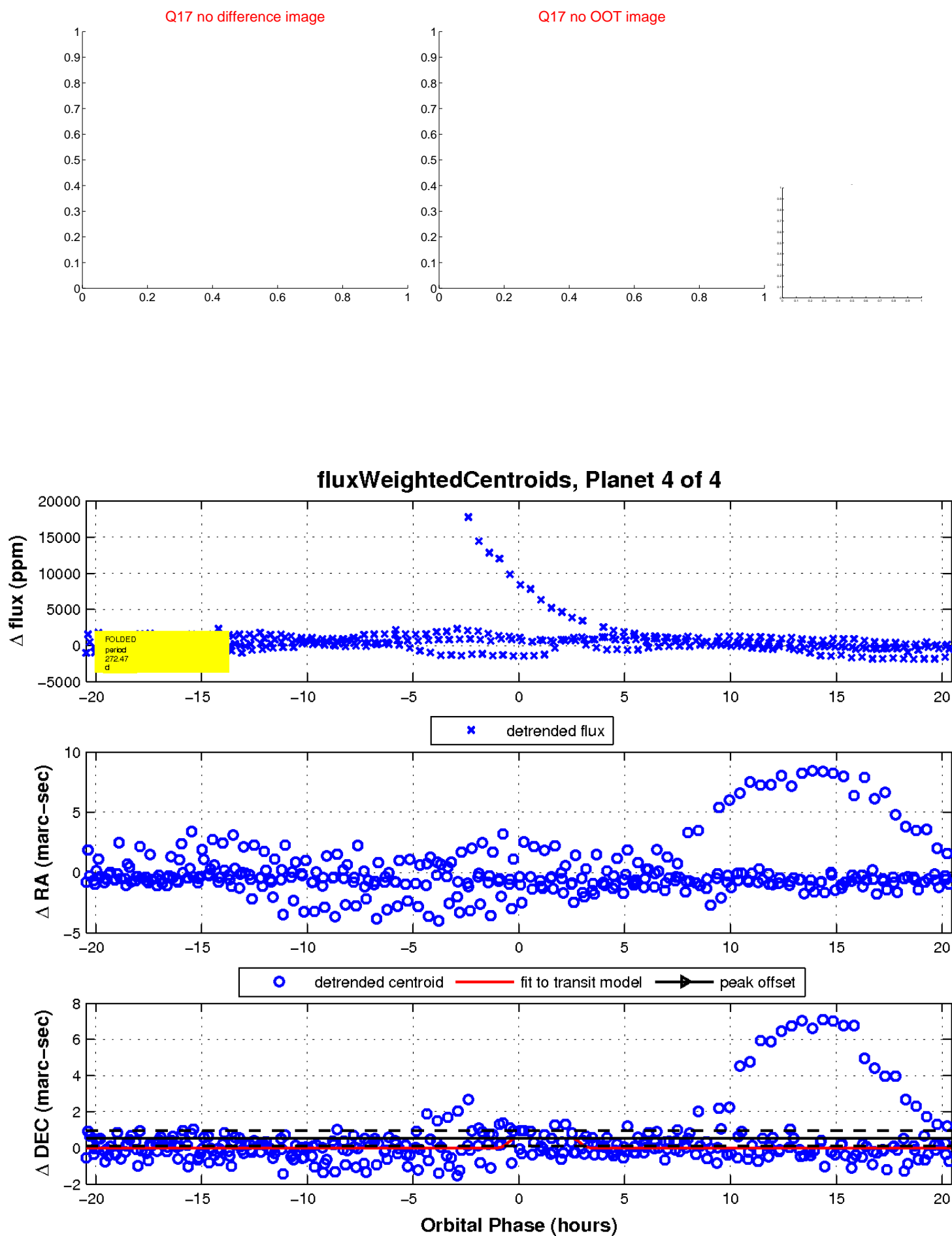
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



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



UKIRT Image

