

KIC 007773179

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})
007773179-01	OBS	4038.01	2.156798	133.297779	98.7	6.682	18.2	19.8	0.98	6084	1.15	1115.85
007773179-02	OBS	No	291.738172	194.265364	489.5	17.093	11.2	7.3	0.98	6084	2.62	1.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007773179-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET
007773179-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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 007773179-01

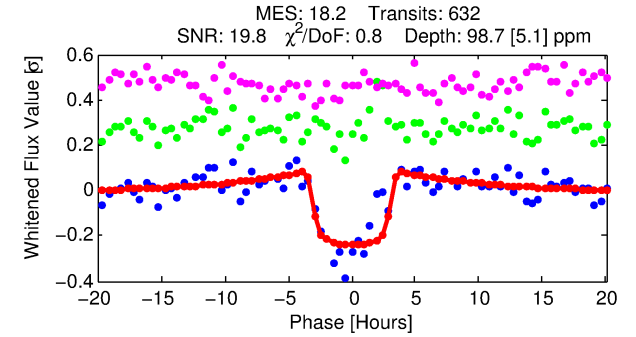
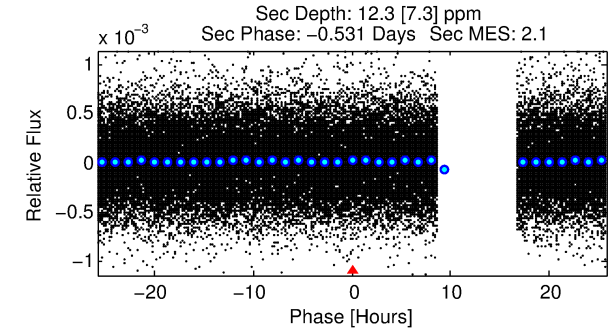
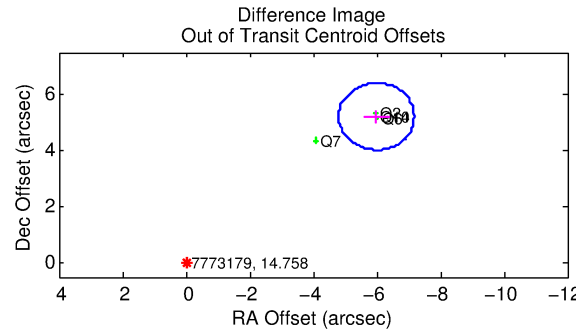
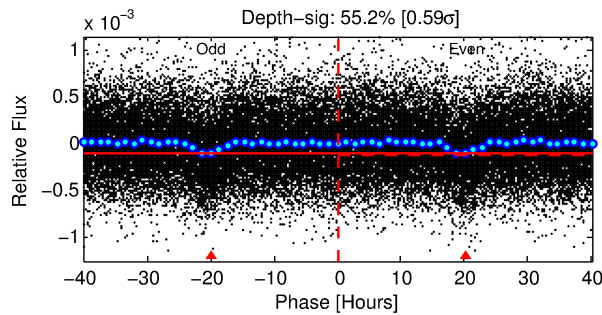
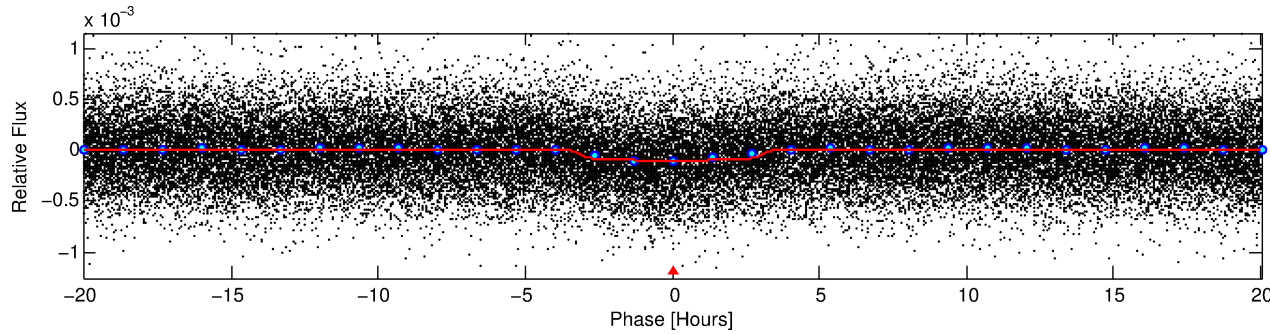
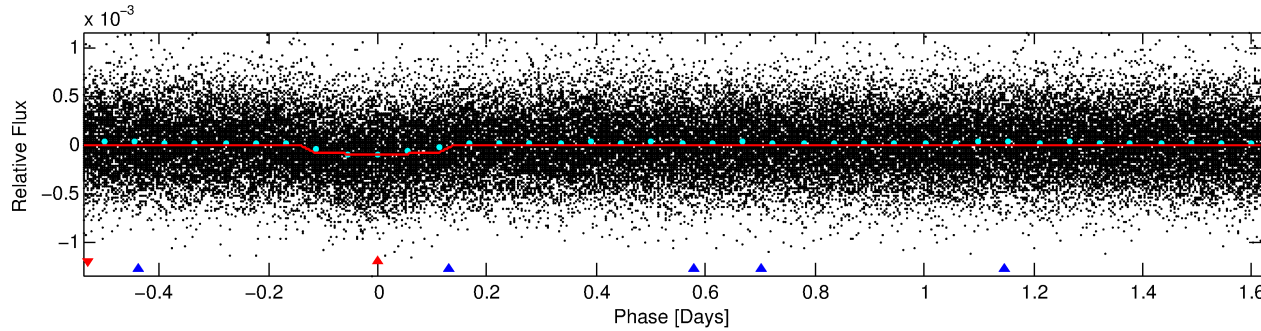
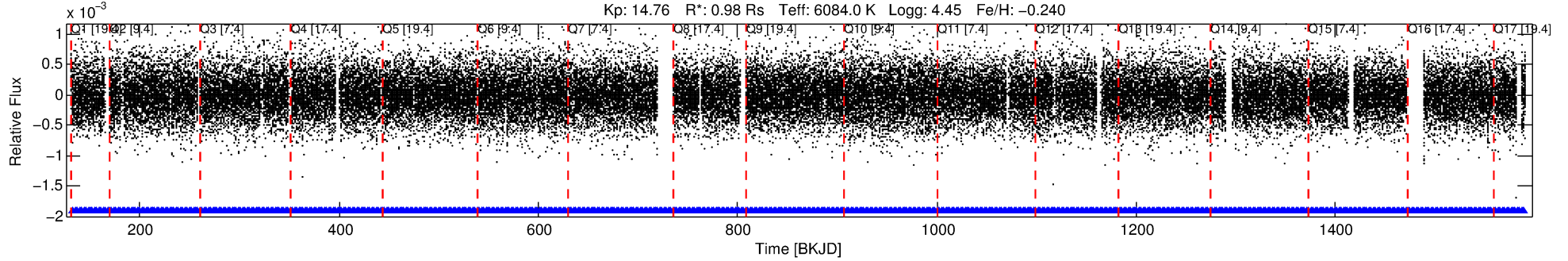
No Significant Match Found

DV One-Page Summary

KIC: 7773179 Candidate: 1 of 2 Period: 2.157 d

KOI: K04038.01 Corr: 0.864

Kp: 14.76 R*: 0.98 Rs Teff: 6084.0 K Logg: 4.45 Fe/H: -0.240



DV Fit Results:

Period = 2.15680 [0.00001] d
Epoch = 133.2978 [0.0031] BKJD
Rp/R* = 0.0107 [0.0014]
a/R* = 1.47 [0.52]
b = 0.90 [0.14]
Seff = 1115.85 [451.40]
Teff = 1474 [149] K
Rp = 1.15 [0.38] Re
a = 0.0326 [0.0084] AU
Ag = 5.46 [4.08] [1.09σ]
Teffp = 3483 [573] K [3.39σ]

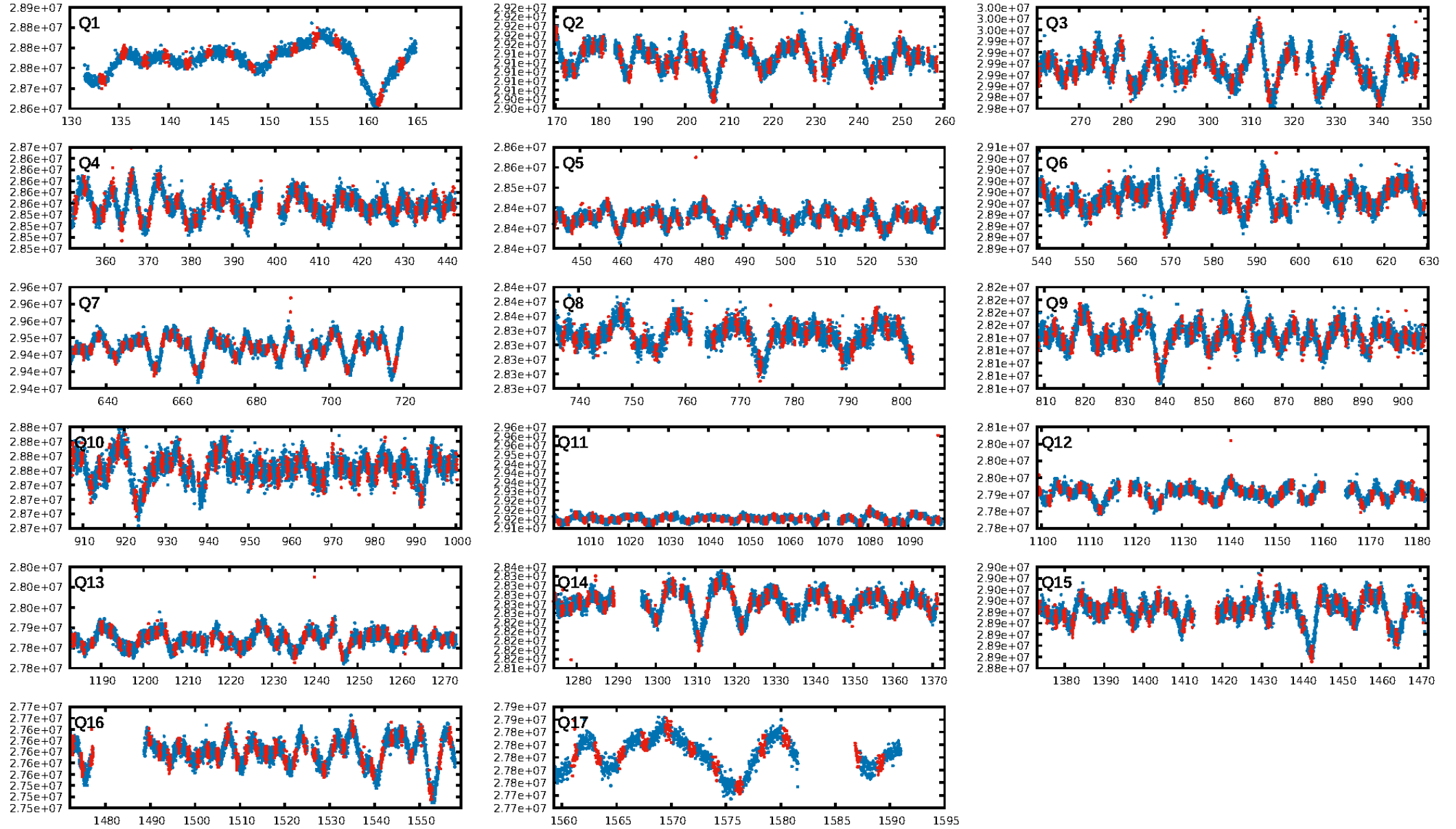
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [378.70σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.68e-64
RollingBand-fgt: 1.00 [605/605]
GhostDiagnostic-chr: -2.958
Centroid-sig: 0.0%
Centroid-so: 4.308 arcsec [7.17σ]
OotOffset-rm: 7.941 arcsec [20.04σ]
KicOffset-rm: 7.984 arcsec [22.00σ]
OotOffset-st: 4/1/0/0 [5]
KicOffset-st: 4/1/0/0 [5]
DiffImageQuality-fgm: 1.00 [5/5]
DiffImageOverlap-fno: 1.00 [17/17]

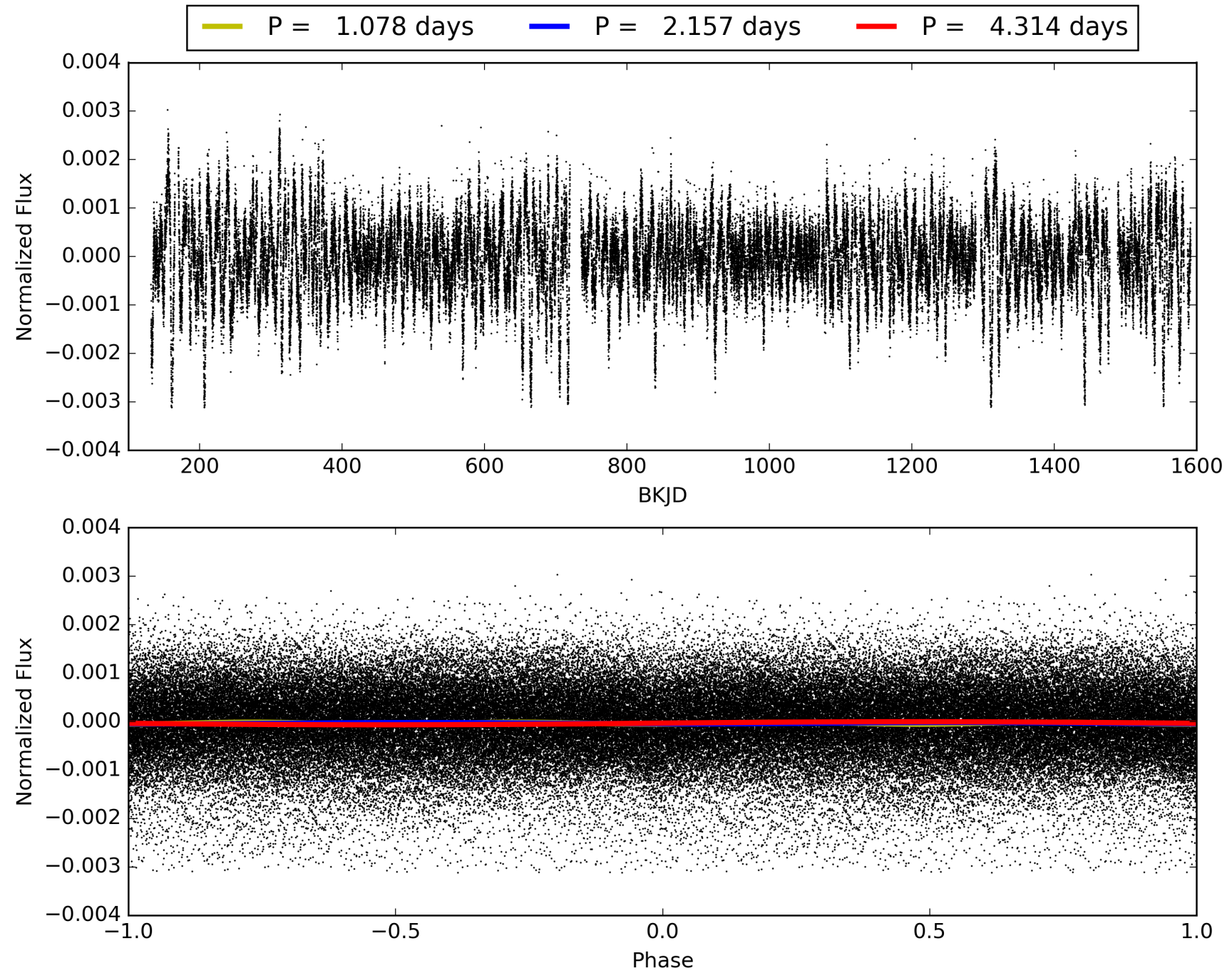
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:01:16 Z

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

TCE 007773179-01, PDC Light Curves

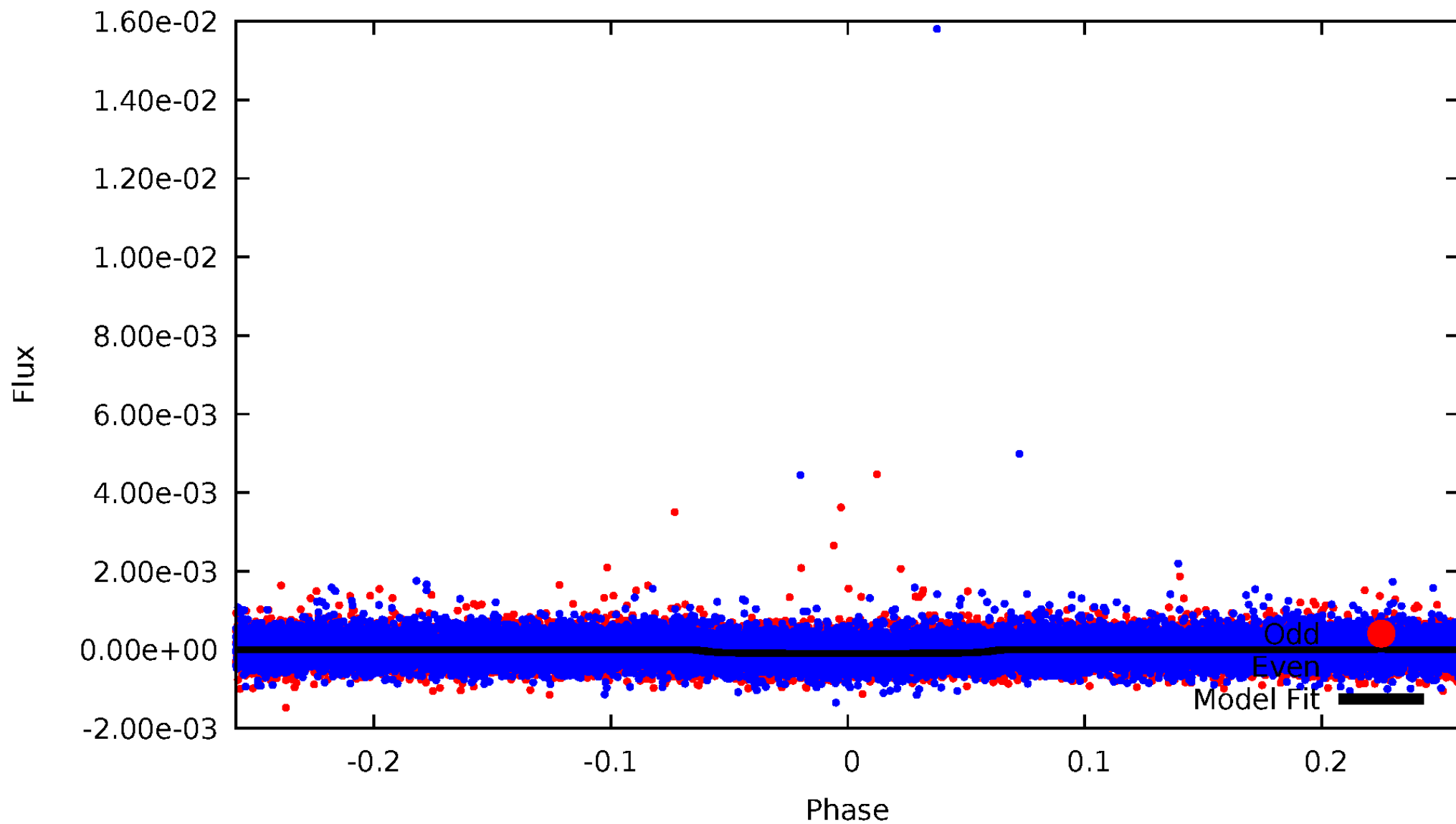


TCE 007773179-01



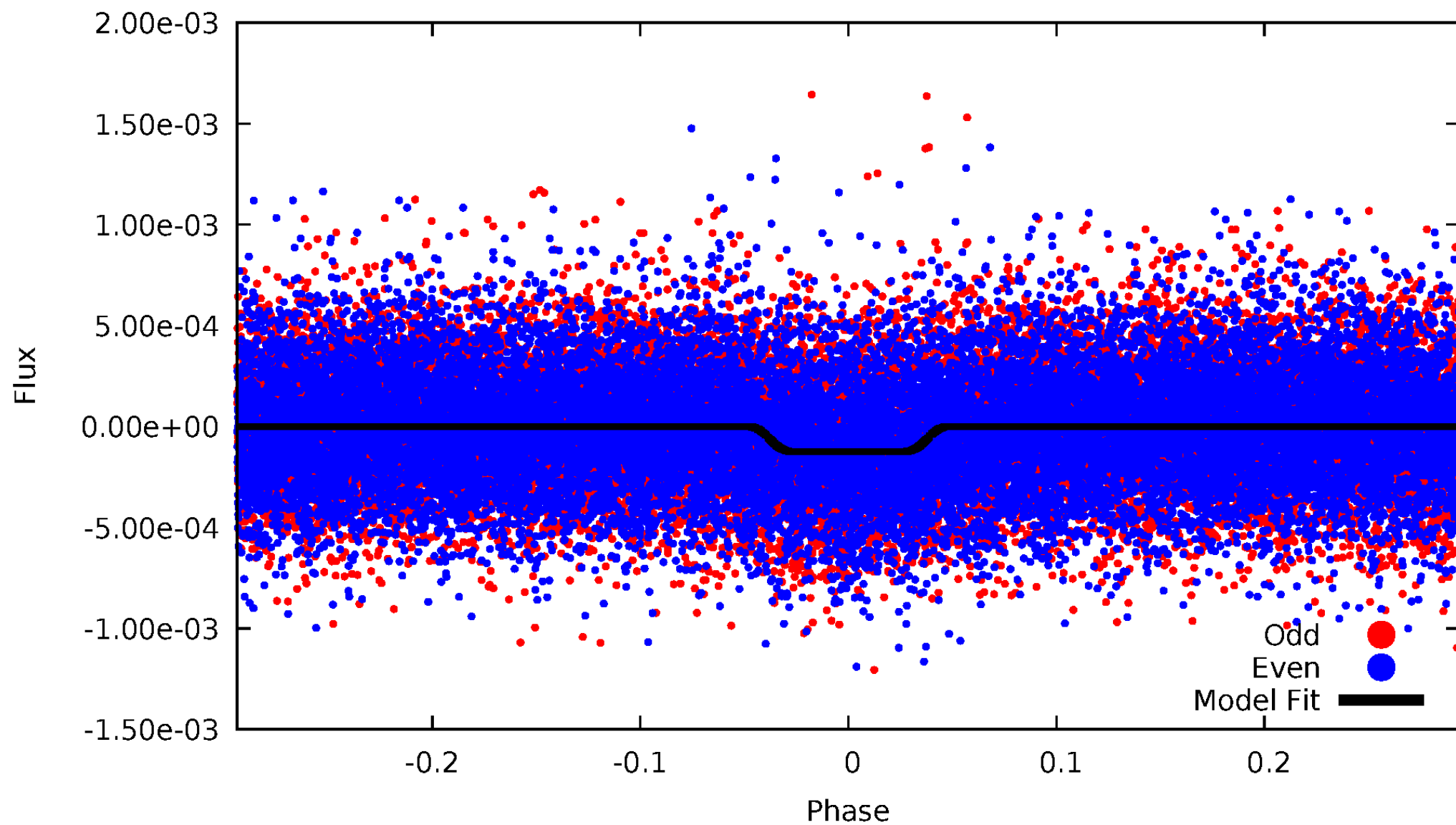
DV Odd/Even

TCE 007773179-01



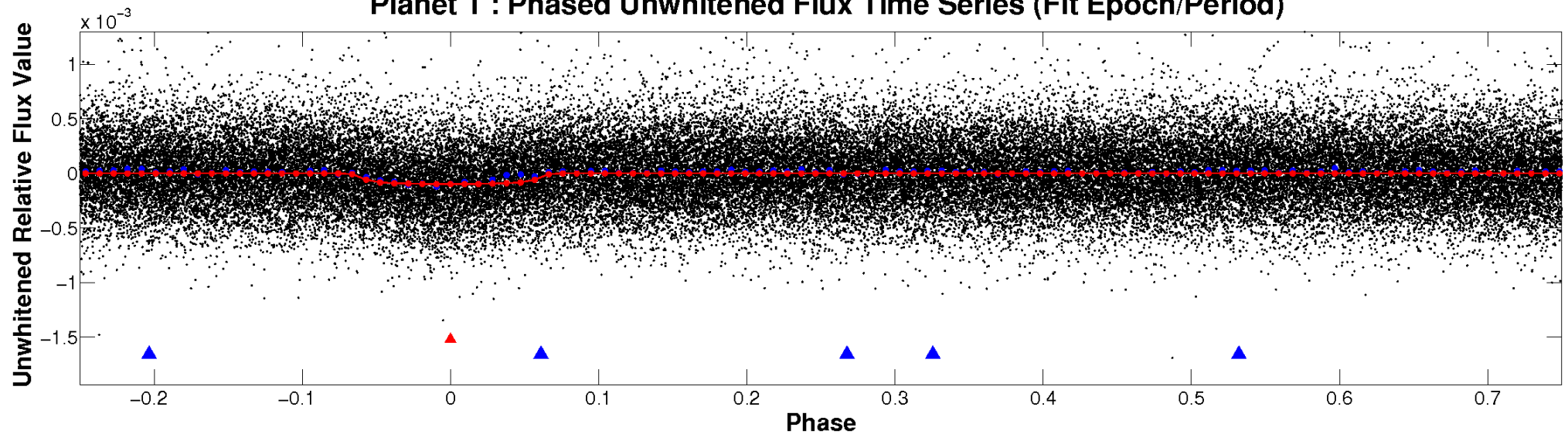
ALT Odd/Even

TCE 007773179-01

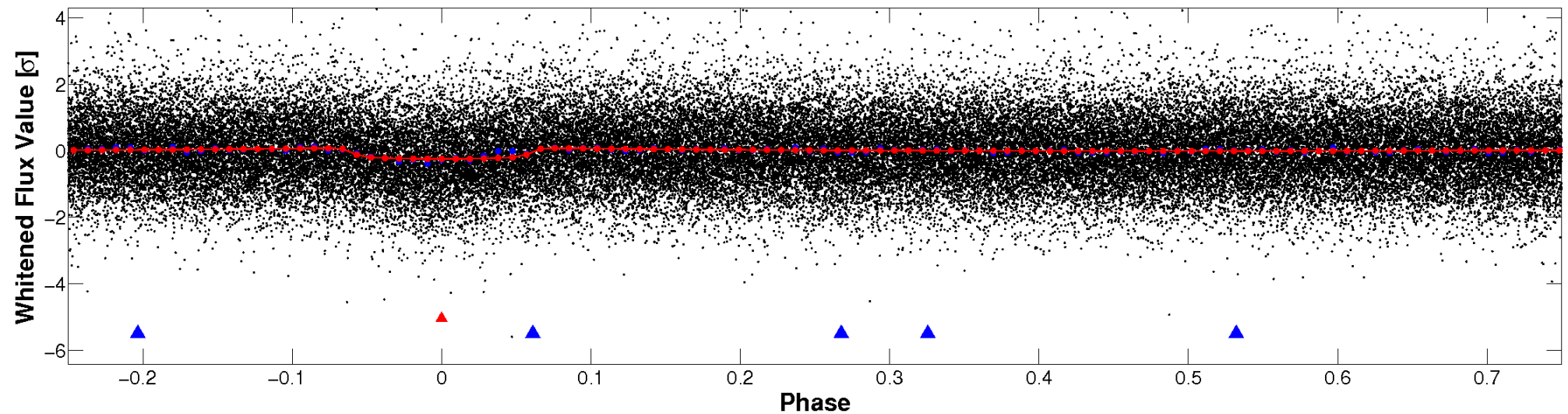


Non-Whitened Vs. Whitened Light Curve

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

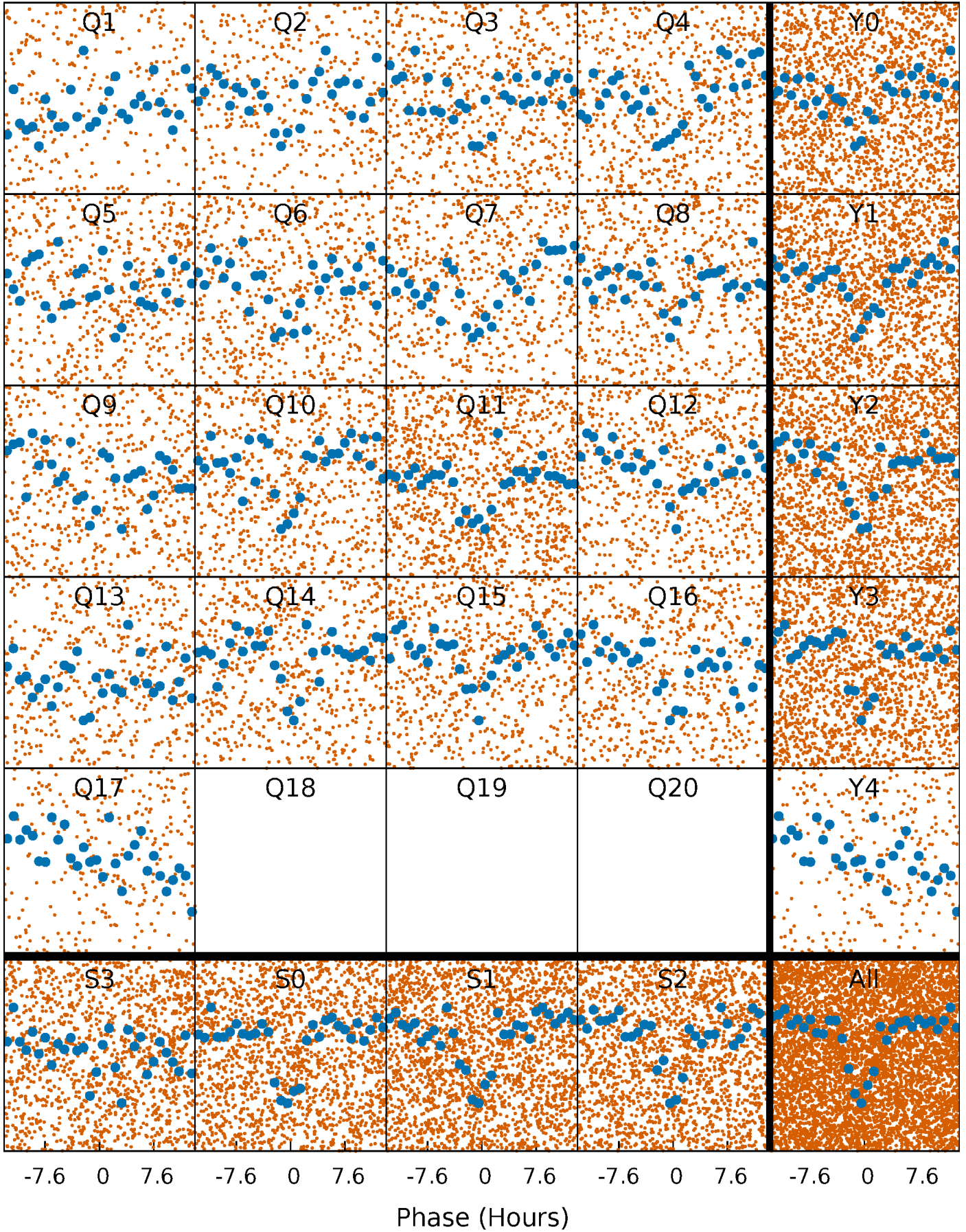


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



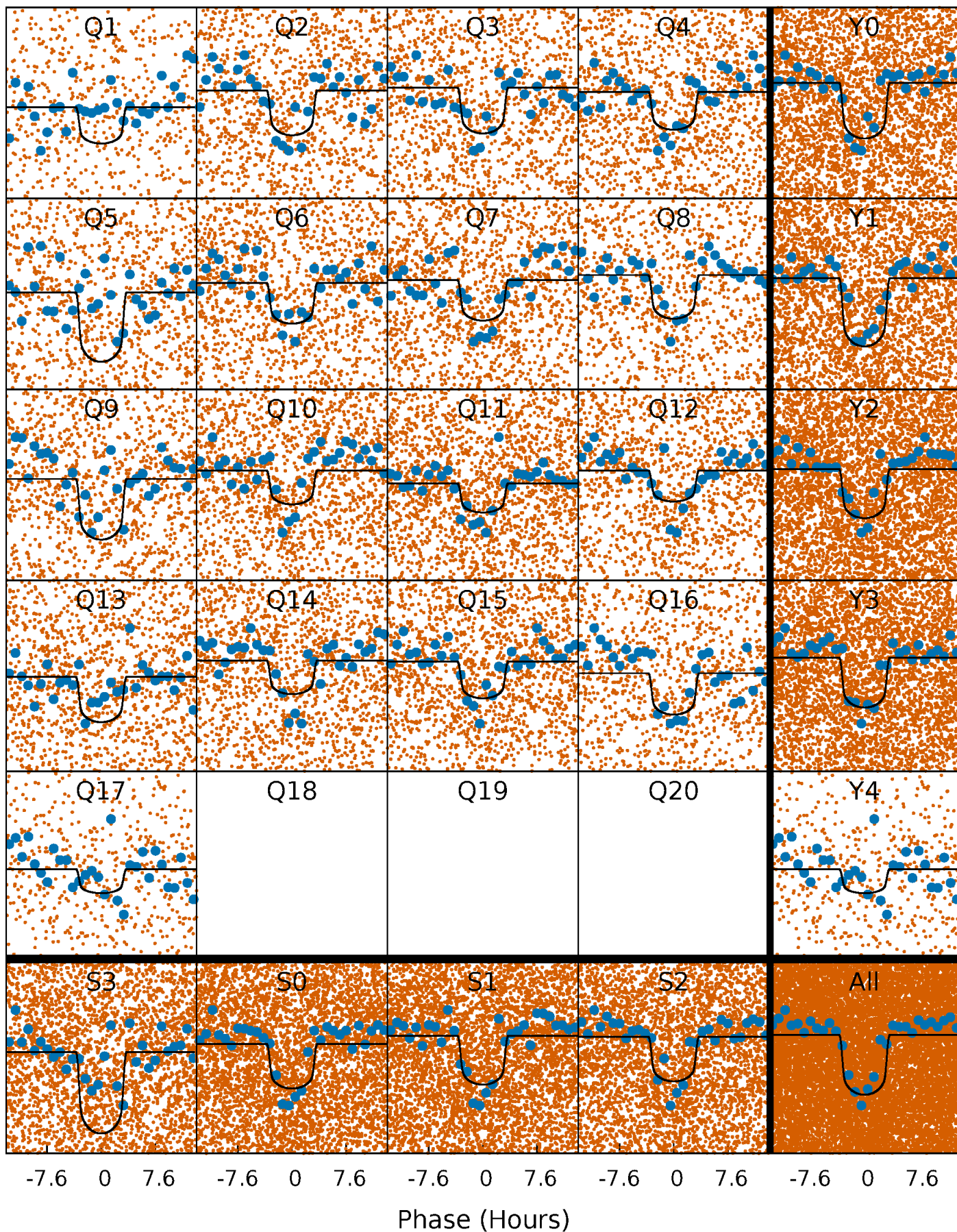
PDC Quarter-Phased Transit Curves

TCE 007773179-01 P= 2.156798 Days $T_0=133.297779$ (BKJD)



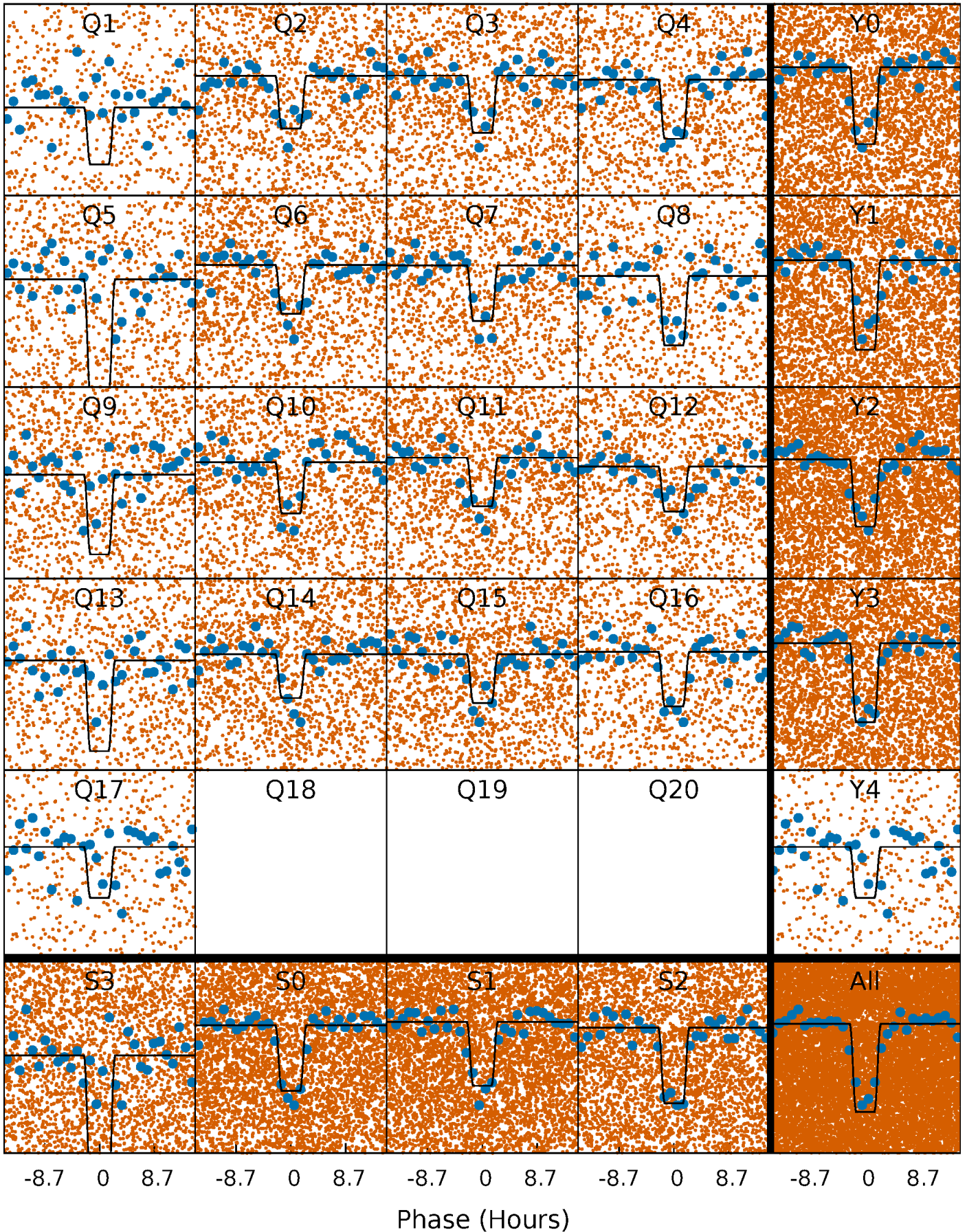
DV Quarter-Phased Transit Curves

TCE 007773179-01 P= 2.156798 Days $T_0=133.297779$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

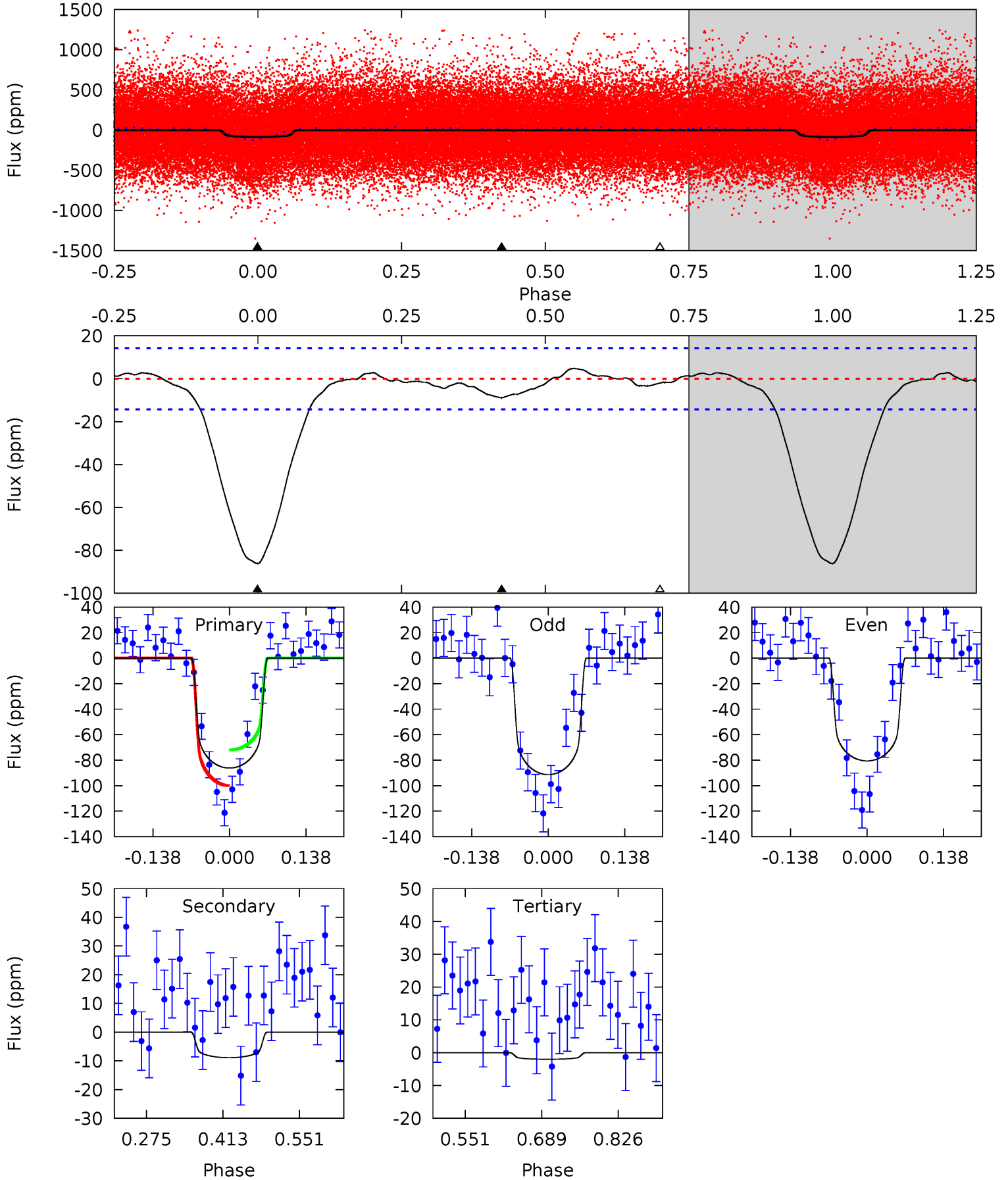
TCE 007773179-01 P= 2.156810 Days $T_0=133.277457$ (BKJD)



DV Model-Shift Uniqueness Test

007773179-01, P = 2.156798 Days, E = 131.140981 Days

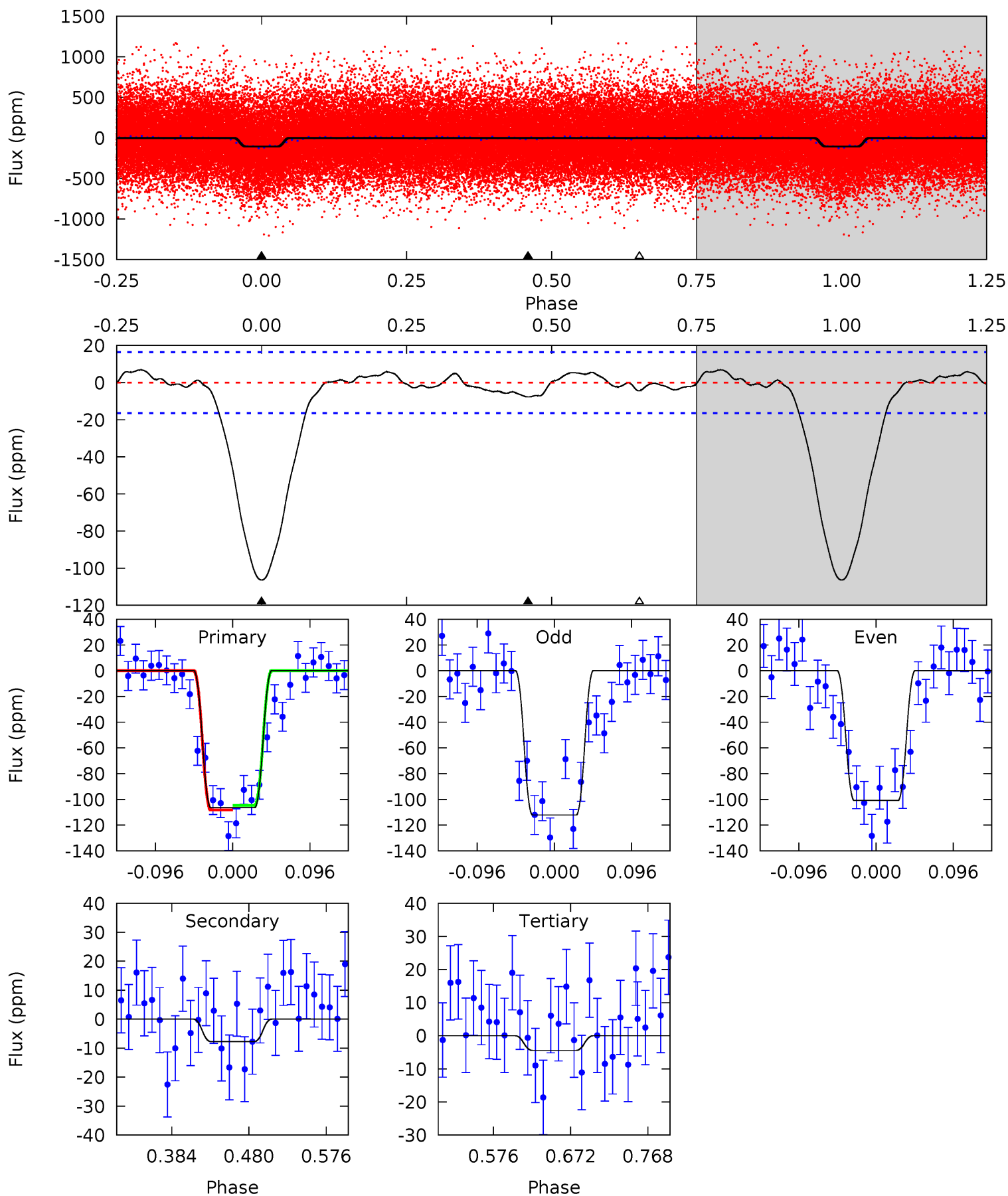
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.1	2.80	0.63	0	4.50	1.48	0.59	26.5	27.1	2.16	2.80	1.70	0.95	0.05	4.43



Alt Model-Shift Uniqueness Test

007773179-01, P = 2.156810 Days, E = 131.120647 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.6	2.14	1.23	0	4.57	1.66	0.82	28.3	29.6	0.91	2.14	1.56	0.99	0.06	0.49



Stellar Parameters For KIC 007773179

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6084^{+169}_{-212}	$4.450^{+0.070}_{-0.210}$	$-0.240^{+0.300}_{-0.300}$	$0.983^{+0.296}_{-0.127}$	$0.991^{+0.142}_{-0.129}$	$1.471^{+0.531}_{-0.751}$
	+3%/-3%	+2%/-5%	+125%/-125%	+30%/-13%	+14%/-13%	+36%/-51%
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 007773179-01 / KOI 4038.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-9 ± 3	$1.20^{+0.24}_{-0.19}$	2104^{+155}_{-115}	3575^{+284}_{-306}	$3.531^{+2.032}_{-1.604}$
Alt.	-8 ± 4	$1.25^{+0.25}_{-0.20}$	2096^{+168}_{-111}	3442^{+304}_{-388}	$2.732^{+2.048}_{-1.302}$

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

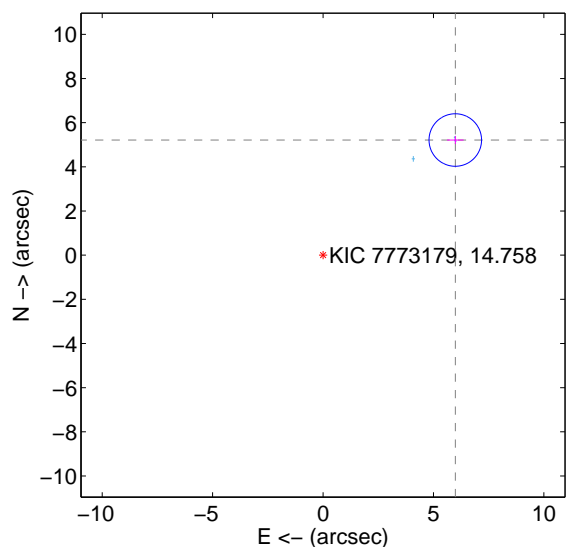
Supplemental centroid analysis for 007773179-01. Kepler magnitude: 14.76. Transit SNR 19.78

There are 5 quarters with good PRF difference image offsets

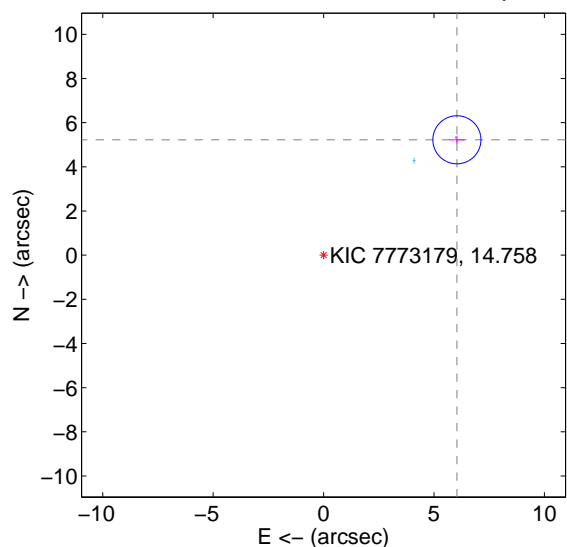
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.941 ± 0.396	20.04	-5.989 ± 0.375	5.215 ± 0.185
PRF-fit source offset from KIC position	7.984 ± 0.363	22.00	-6.037 ± 0.345	5.226 ± 0.170
photometric centroid source offset	4.31 ± 0.60	7.17	-2.58 ± 0.56	3.45 ± 0.62

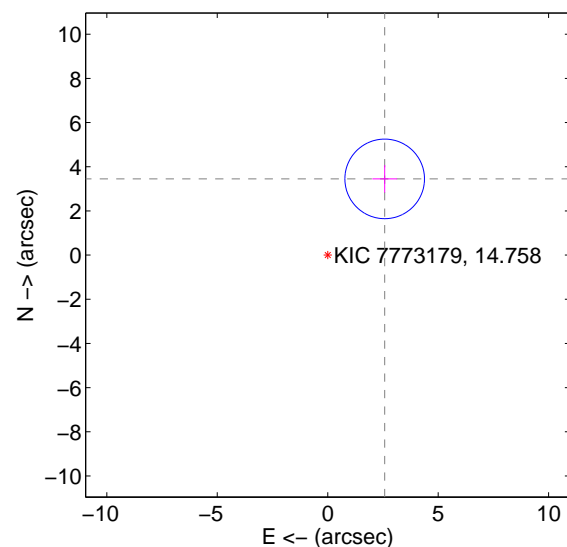
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

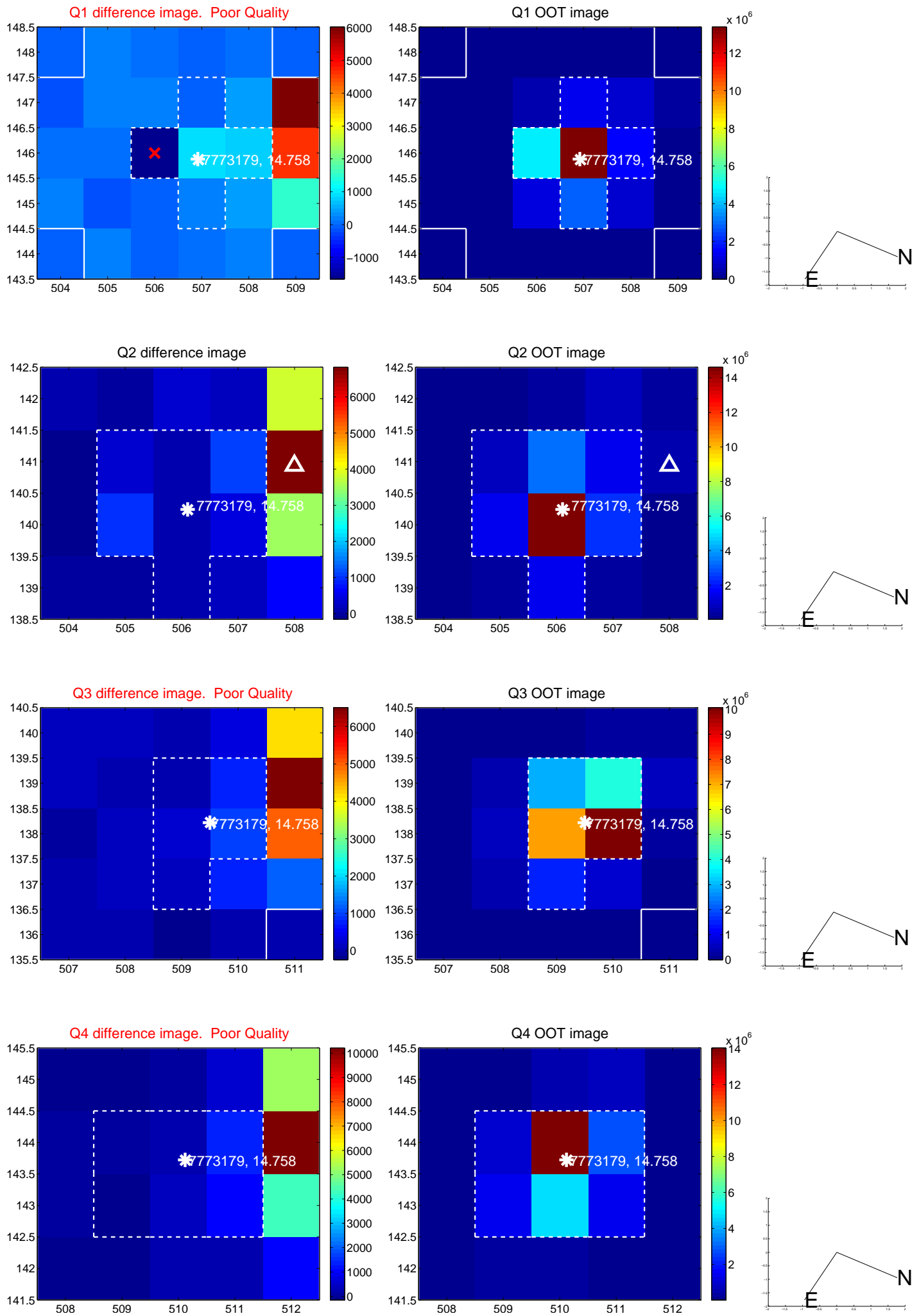


offset from photometric centroids

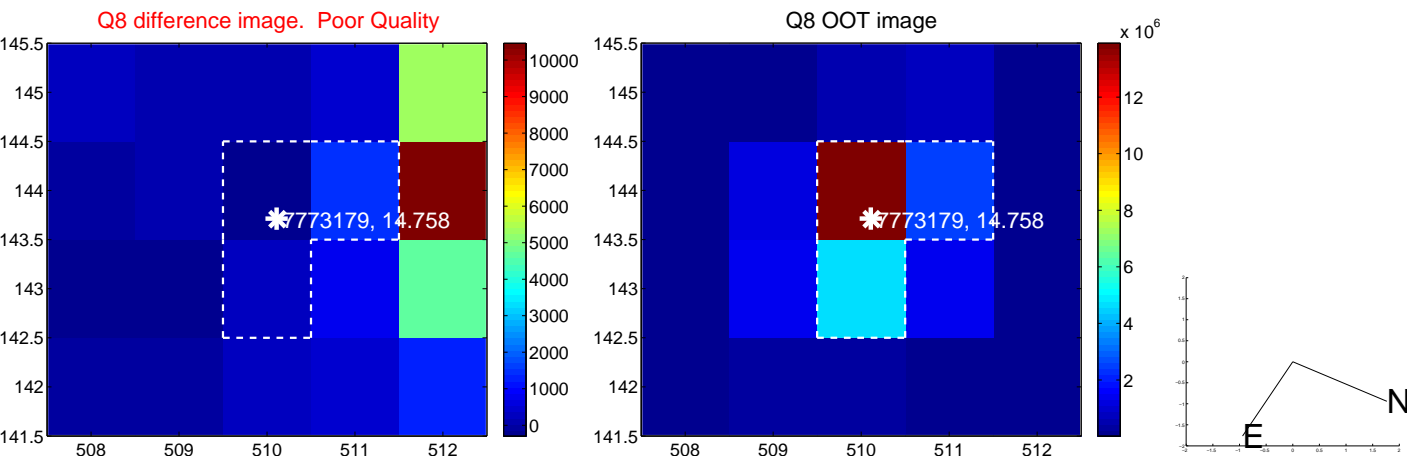
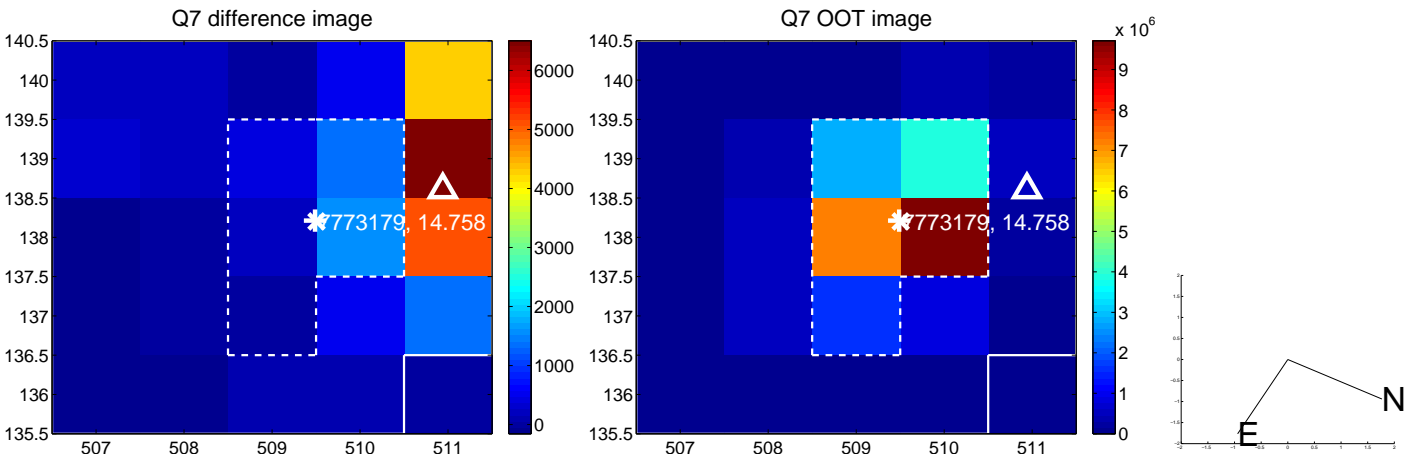
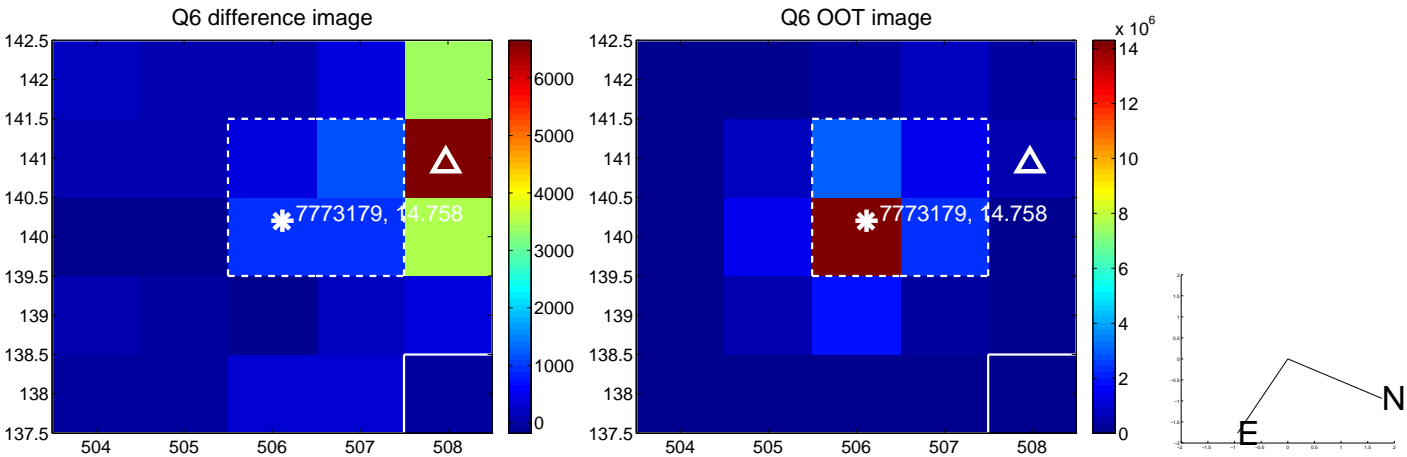
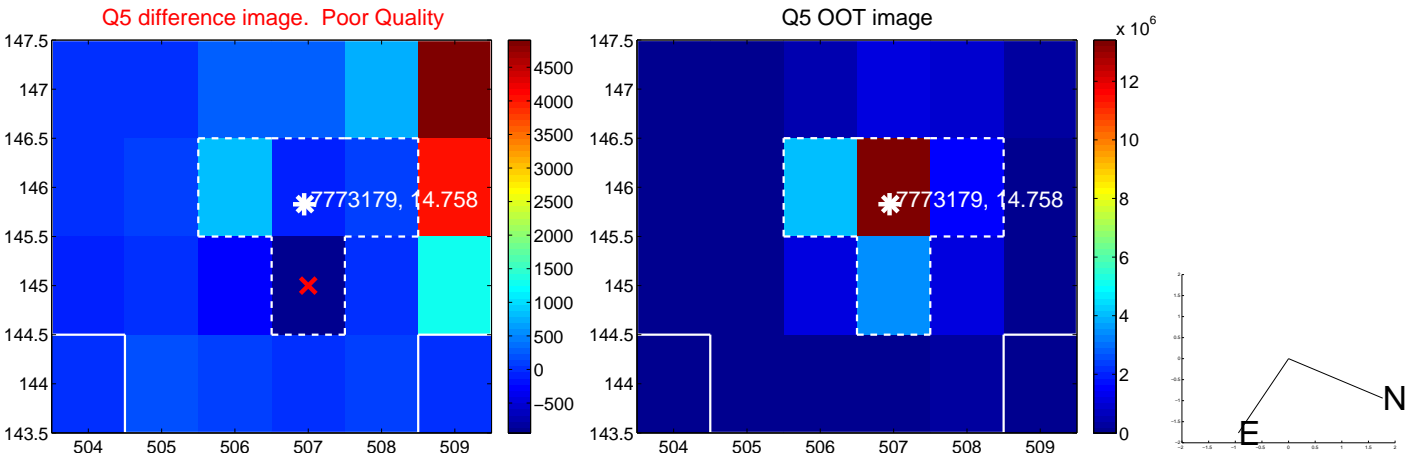


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

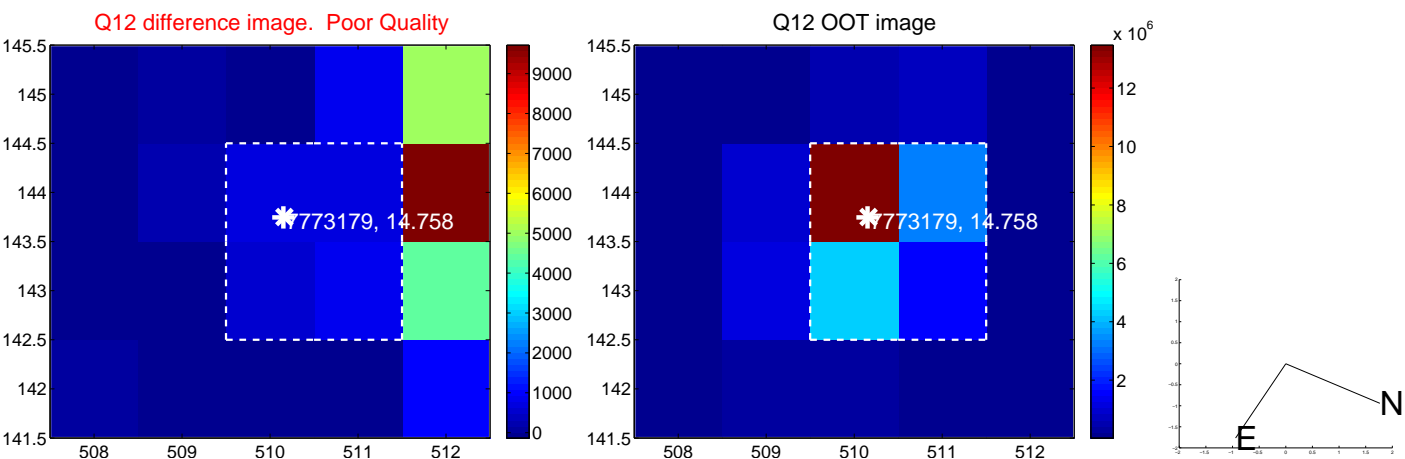
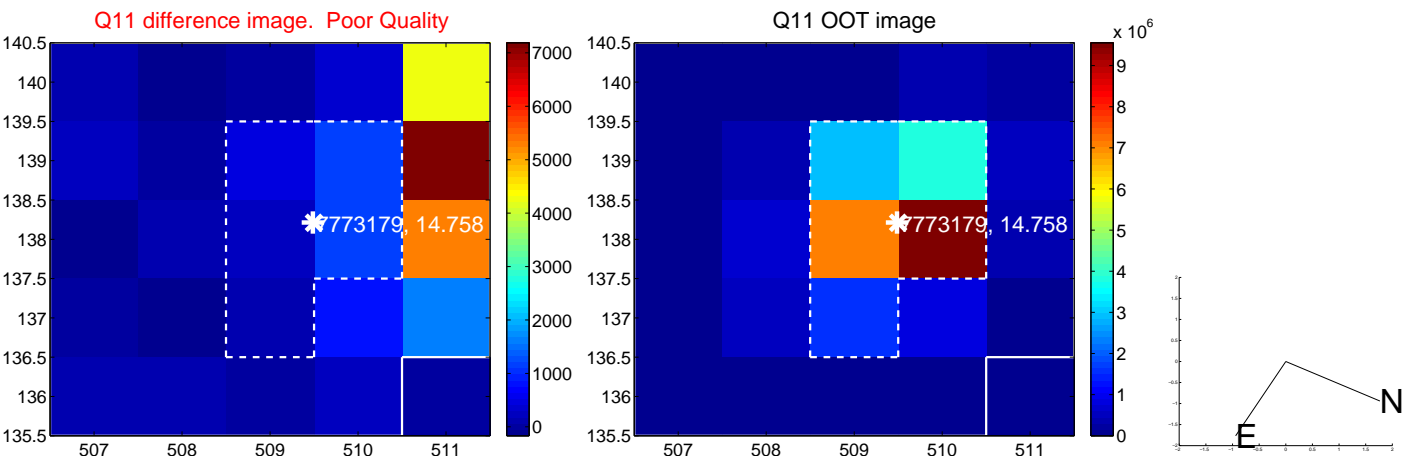
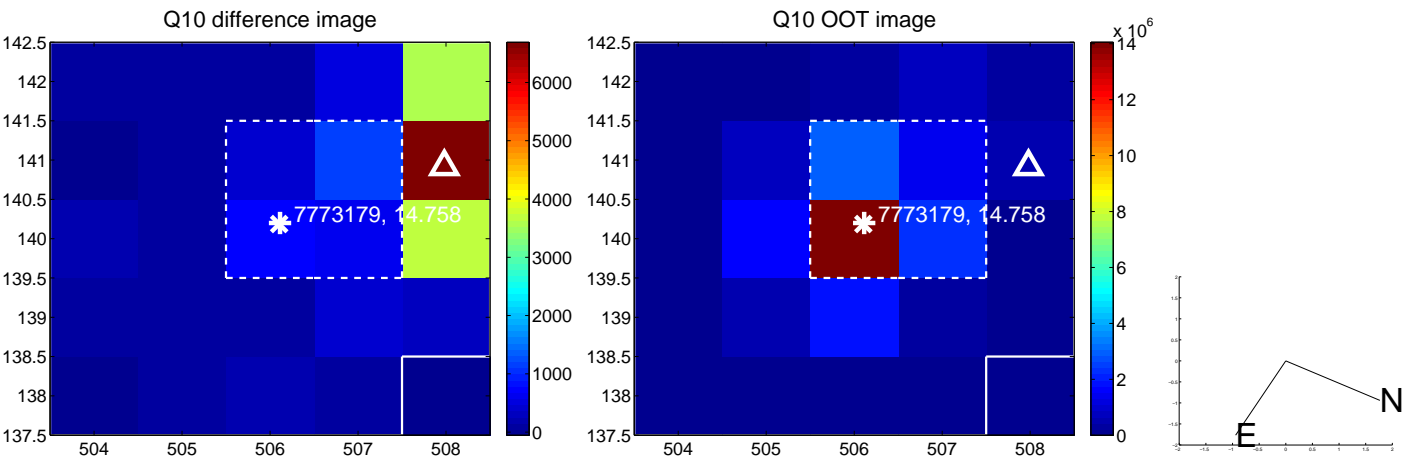
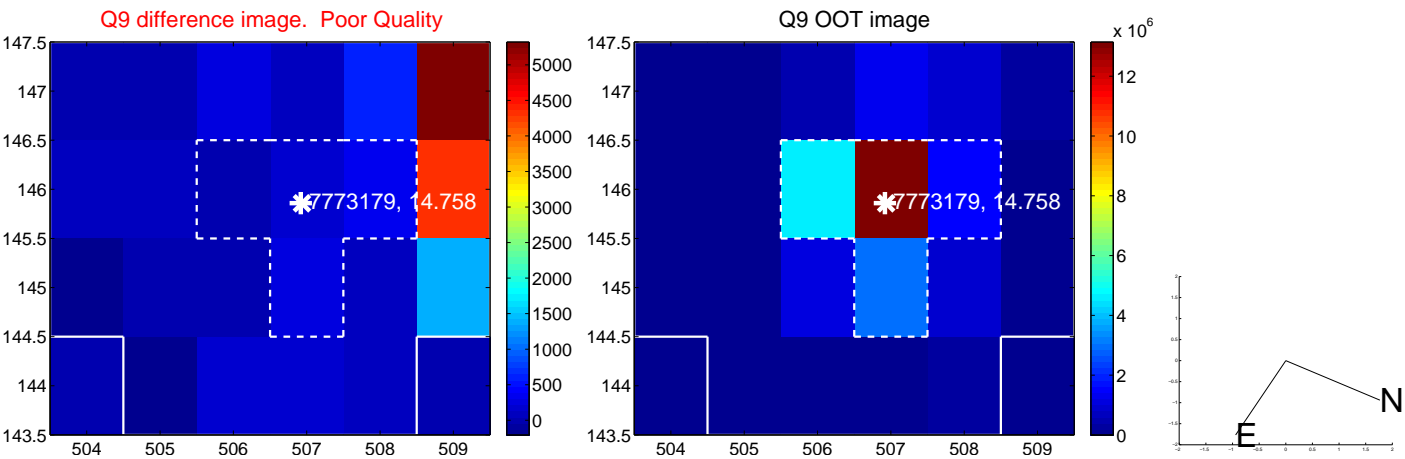
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



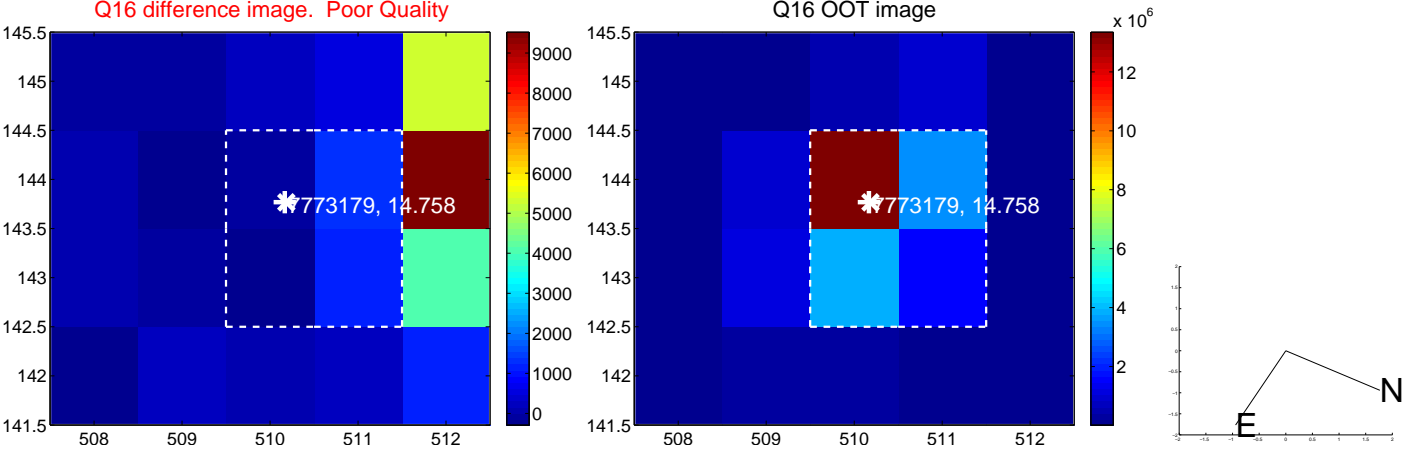
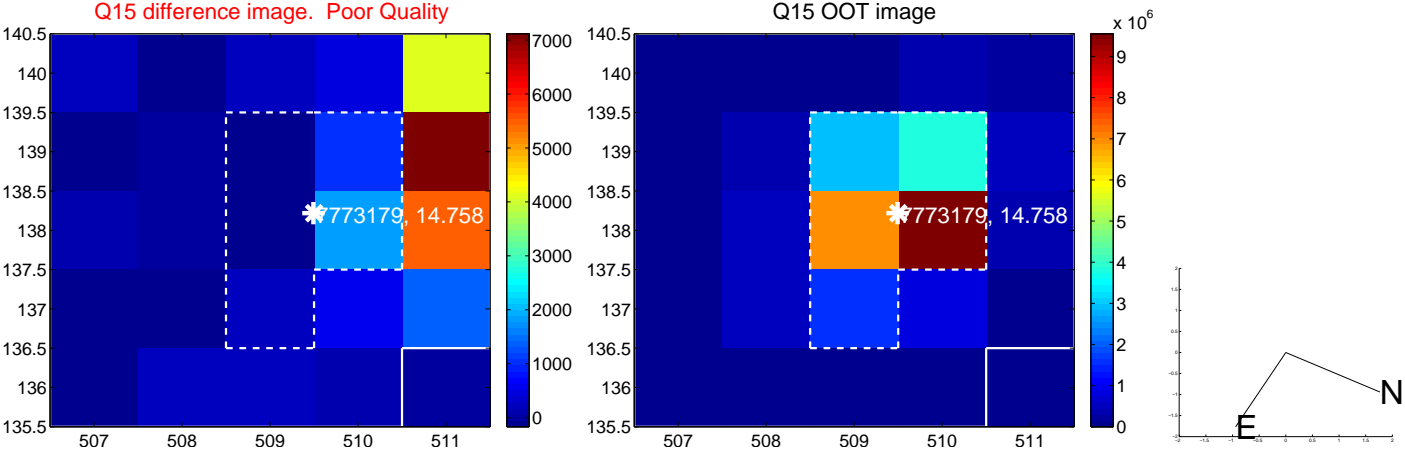
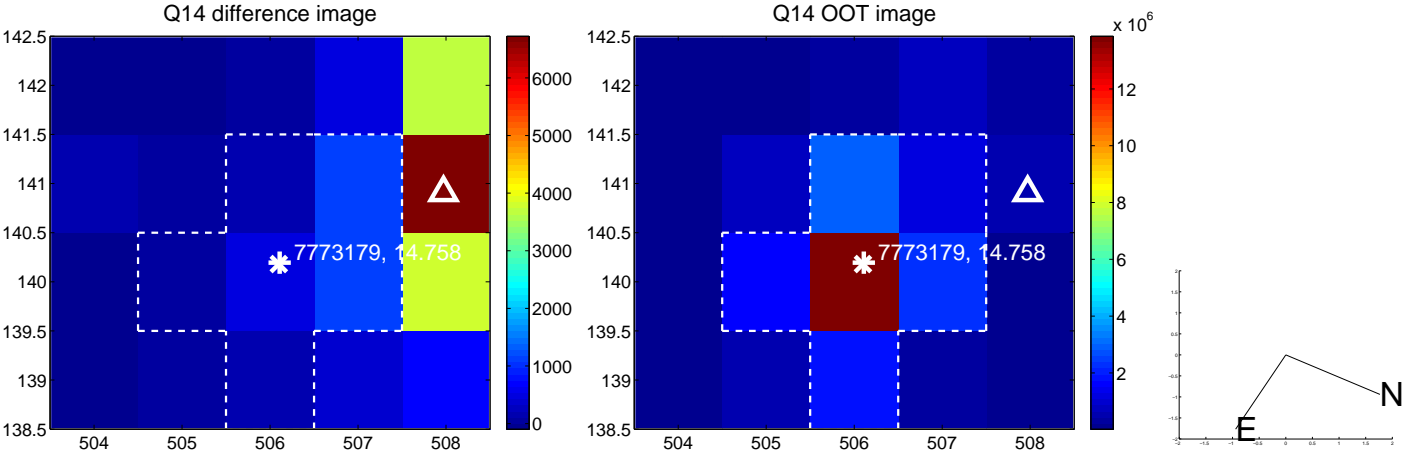
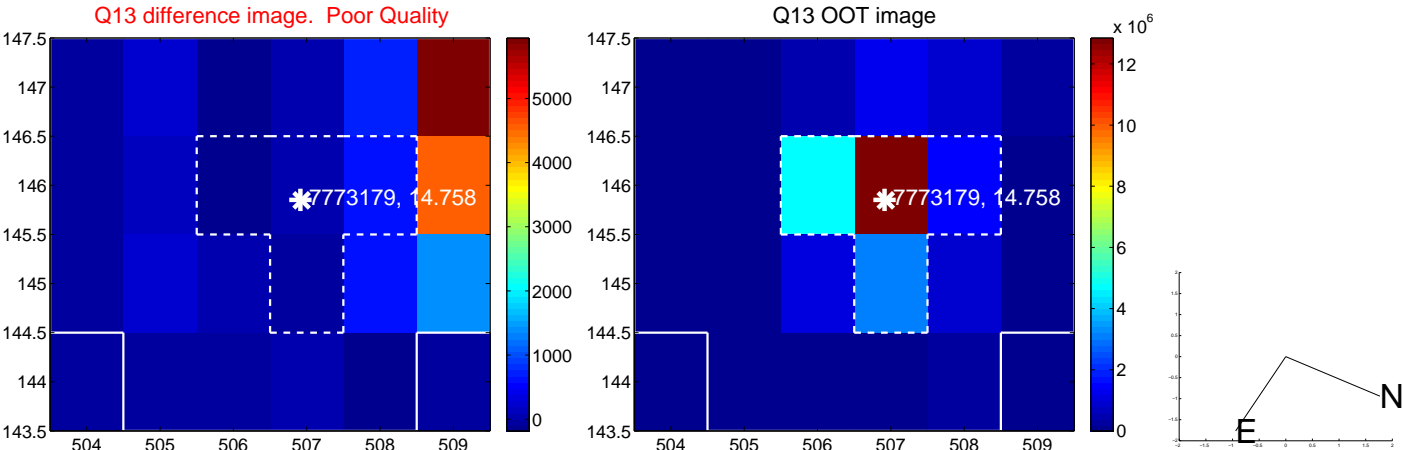
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



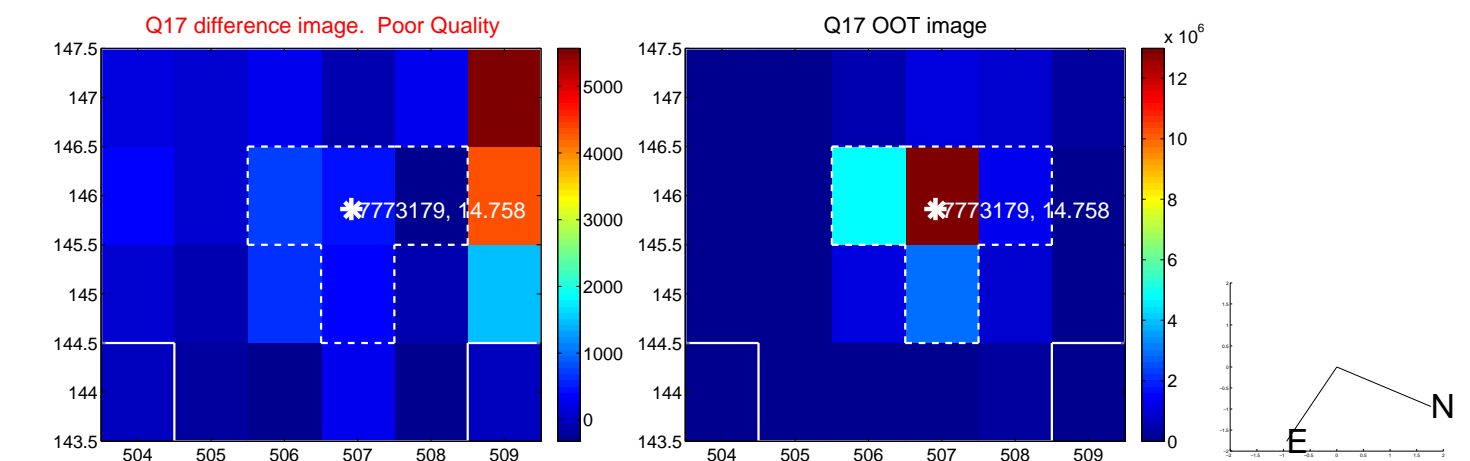
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



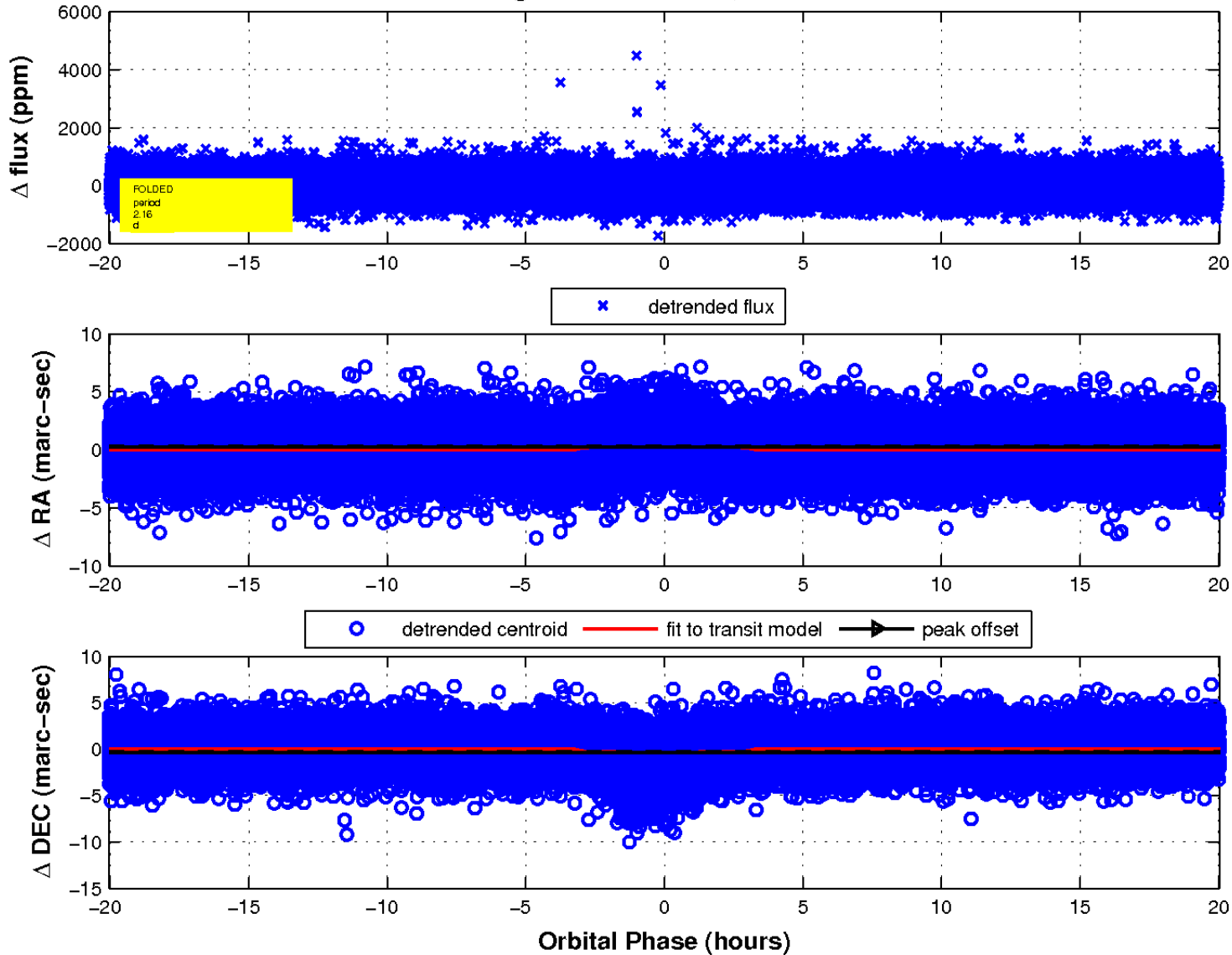
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

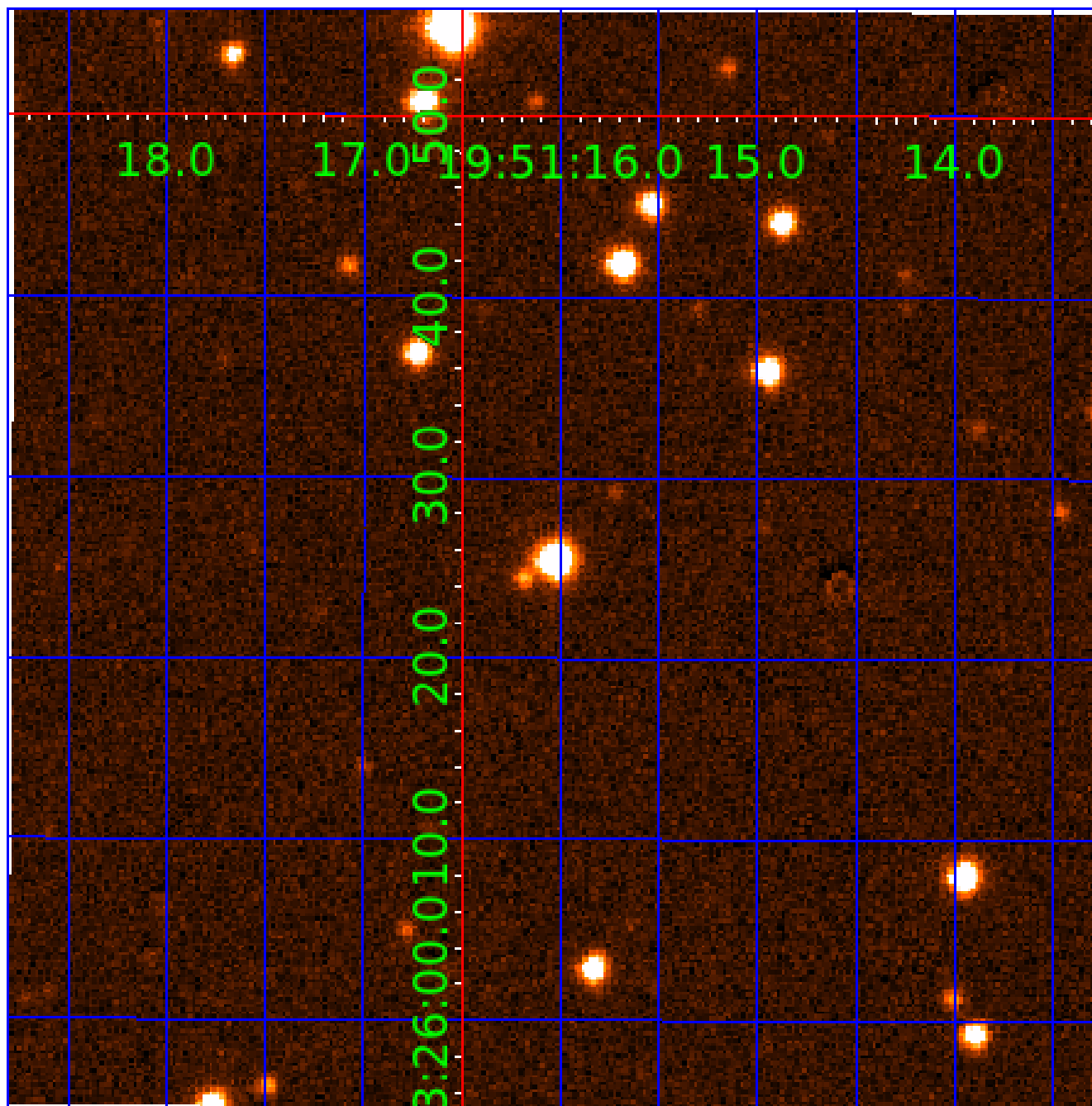


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 007773179

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})
007773179-01	OBS	4038.01	2.156798	133.297779	98.7	6.682	18.2	19.8	0.98	6084	1.15	1115.85
007773179-02	OBS	No	291.738172	194.265364	489.5	17.093	11.2	7.3	0.98	6084	2.62	1.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007773179-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET
007773179-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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 007773179-02

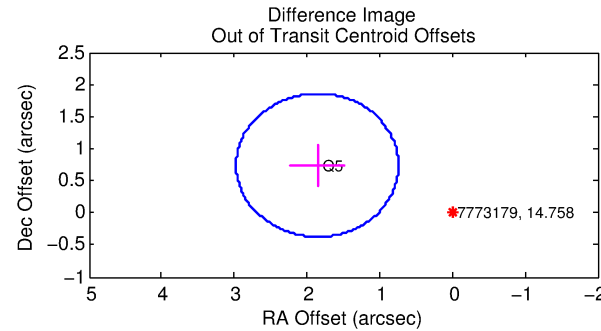
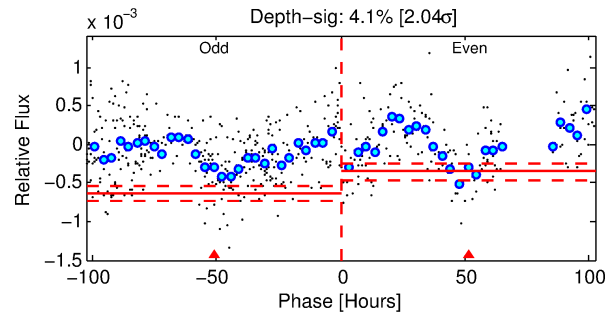
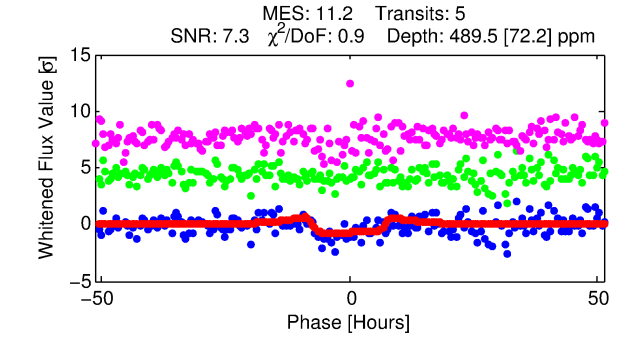
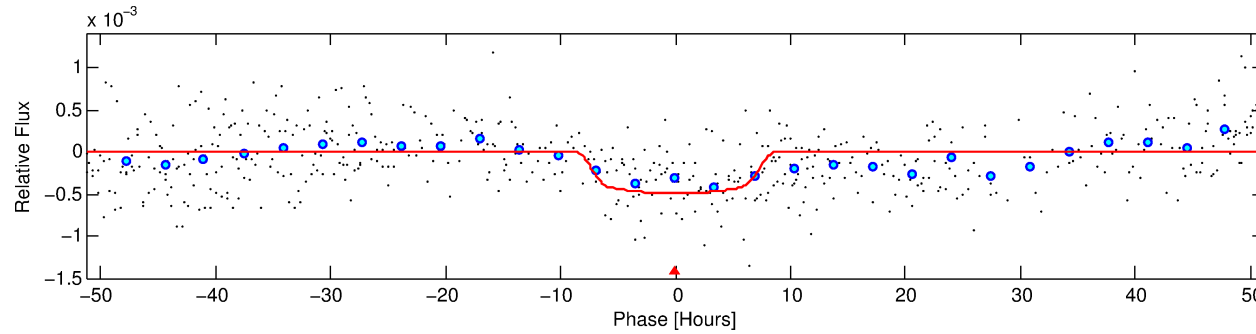
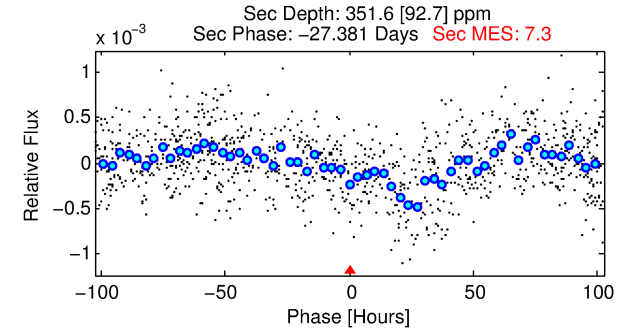
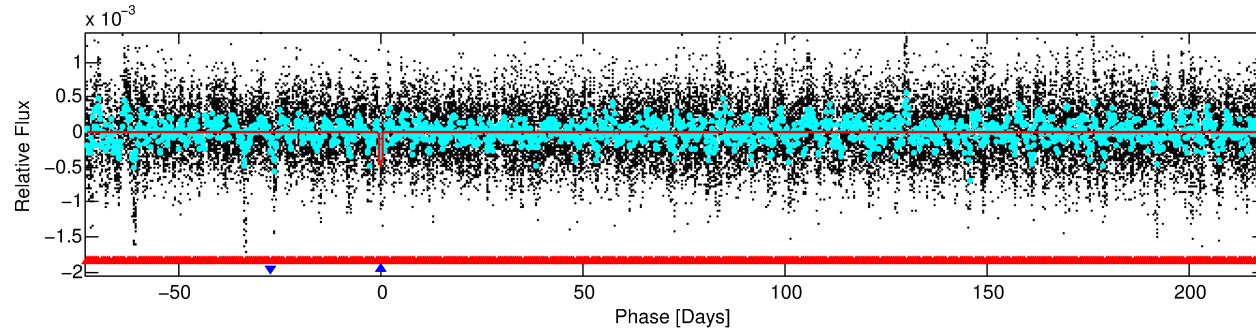
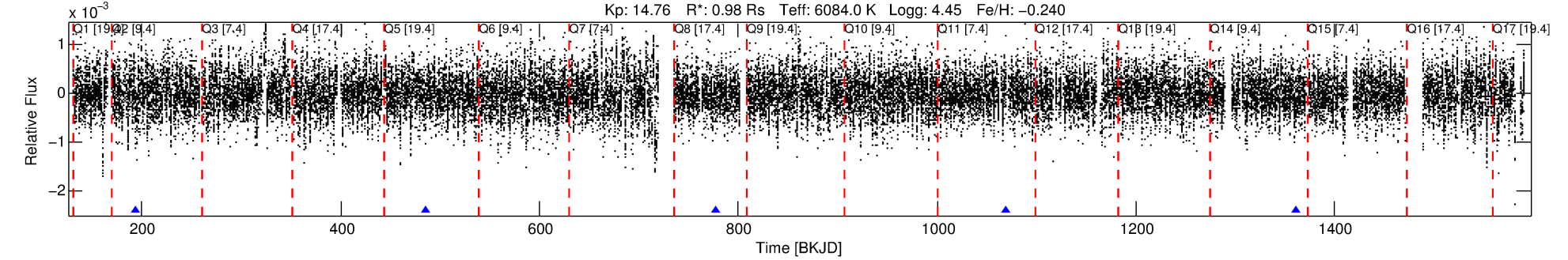
No Significant Match Found

DV One-Page Summary

KIC: 7773179 Candidate: 2 of 2 Period: 291.738 d

KOI: K04038 Corr: No Ephemeris Match

Kp: 14.76 R*: 0.98 Rs Teff: 6084.0 K Logg: 4.45 Fe/H: -0.240



DV Fit Results:

Period = 291.73817 [0.01200] d
Epoch = 194.2654 [0.0270] BKJD
Rp/R* = 0.0244 [0.0026]
a/R* = 58.01 [19.87]
b = 0.92 [0.06]
Seff = 1.61 [0.65]
Teq = 287 [29] K
Rp = 2.62 [0.84] Re
a = 0.8591 [0.2212] AU
Ag = 20850.56 [10599.41] [1.97 σ]
Teff = 5334 [487] K [10.33 σ]

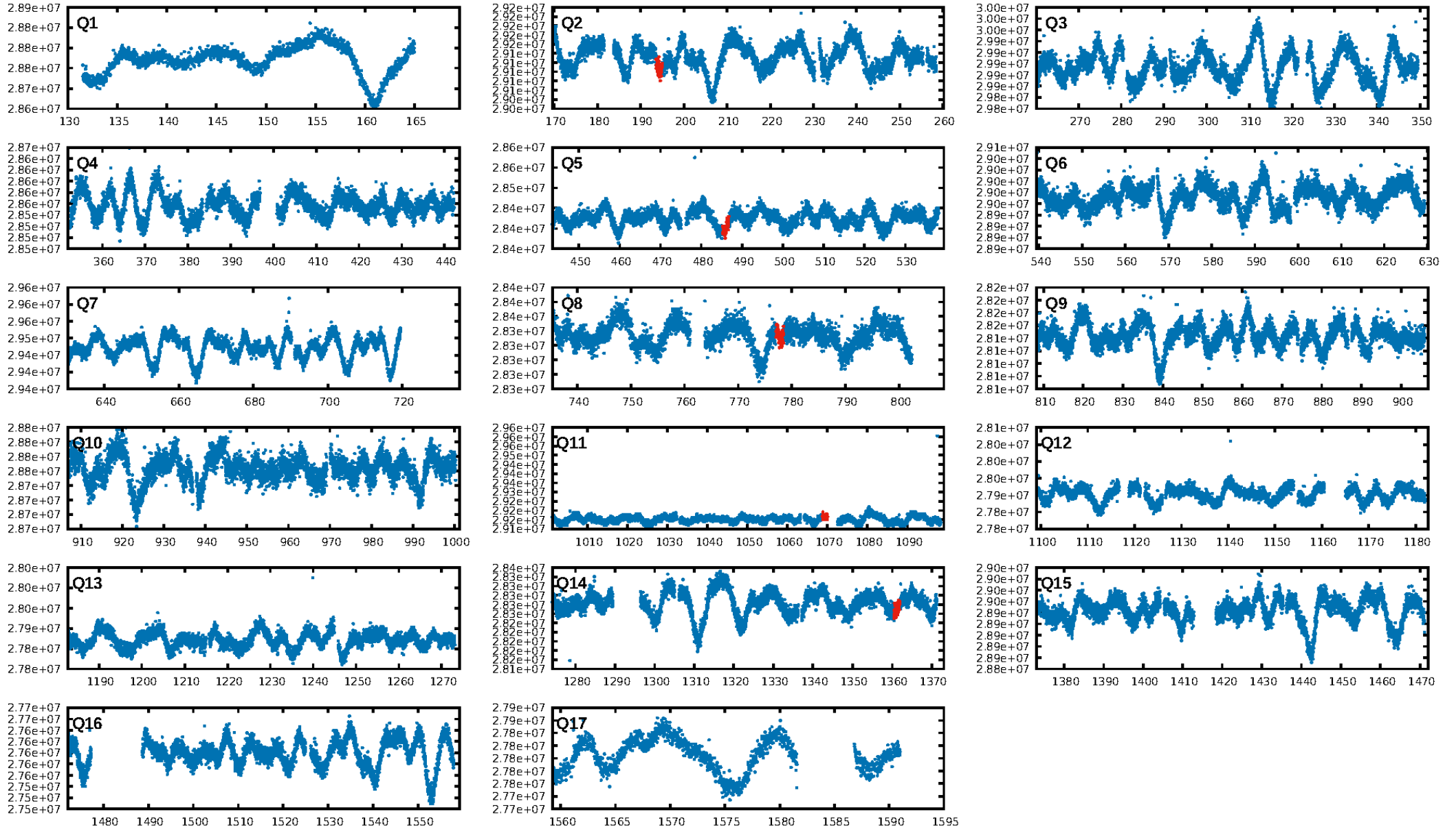
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [378.70 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.58e-14
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.942
Centroid-sig: 68.2%
Centroid-so: 0.489 arcsec [0.47 σ]
OotOffset-rm: 2.001 arcsec [5.38 σ]
KicOffset-rm: 1.986 arcsec [5.33 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.00 [0/4]

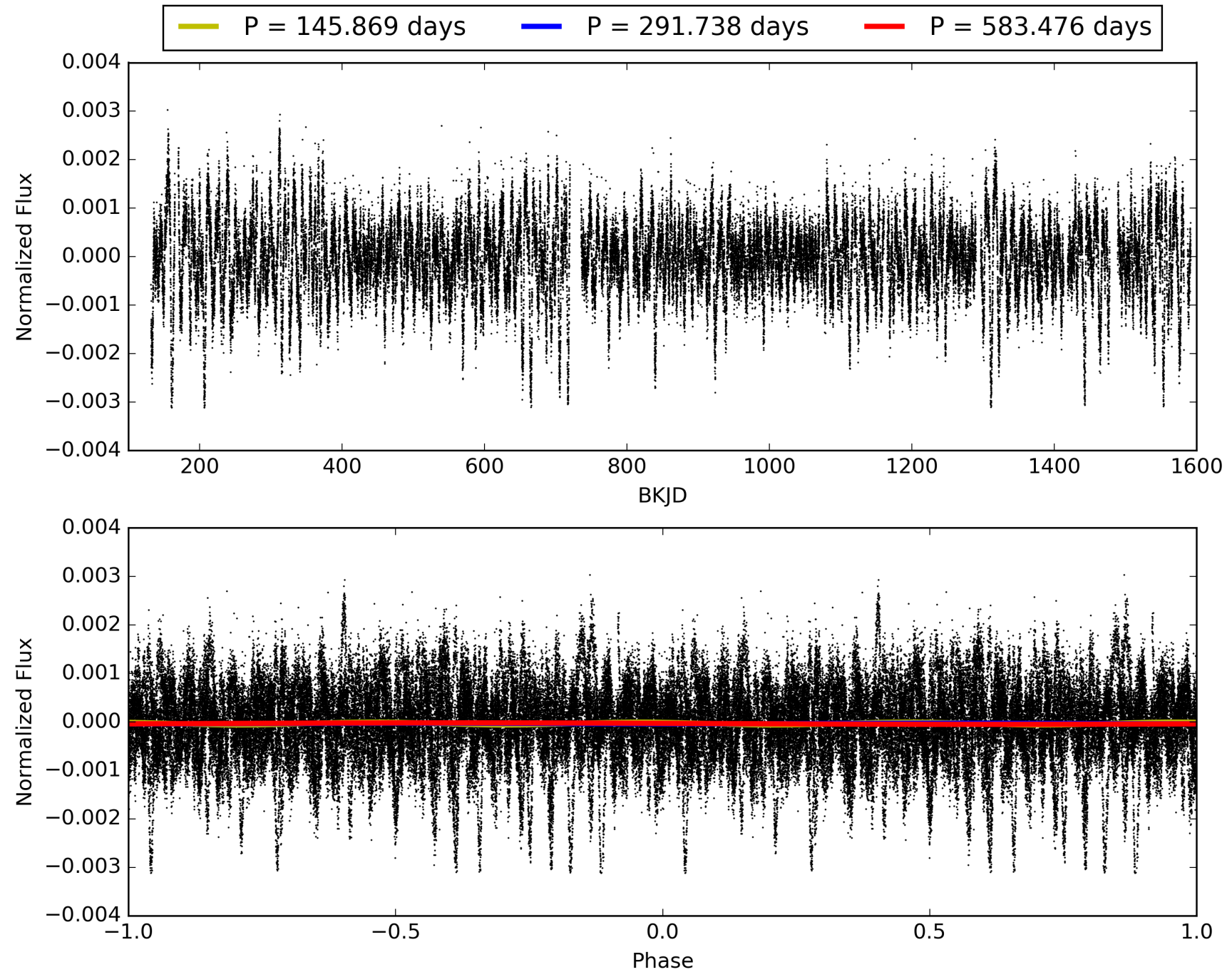
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:01:35 Z

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

TCE 007773179-02, PDC Light Curves

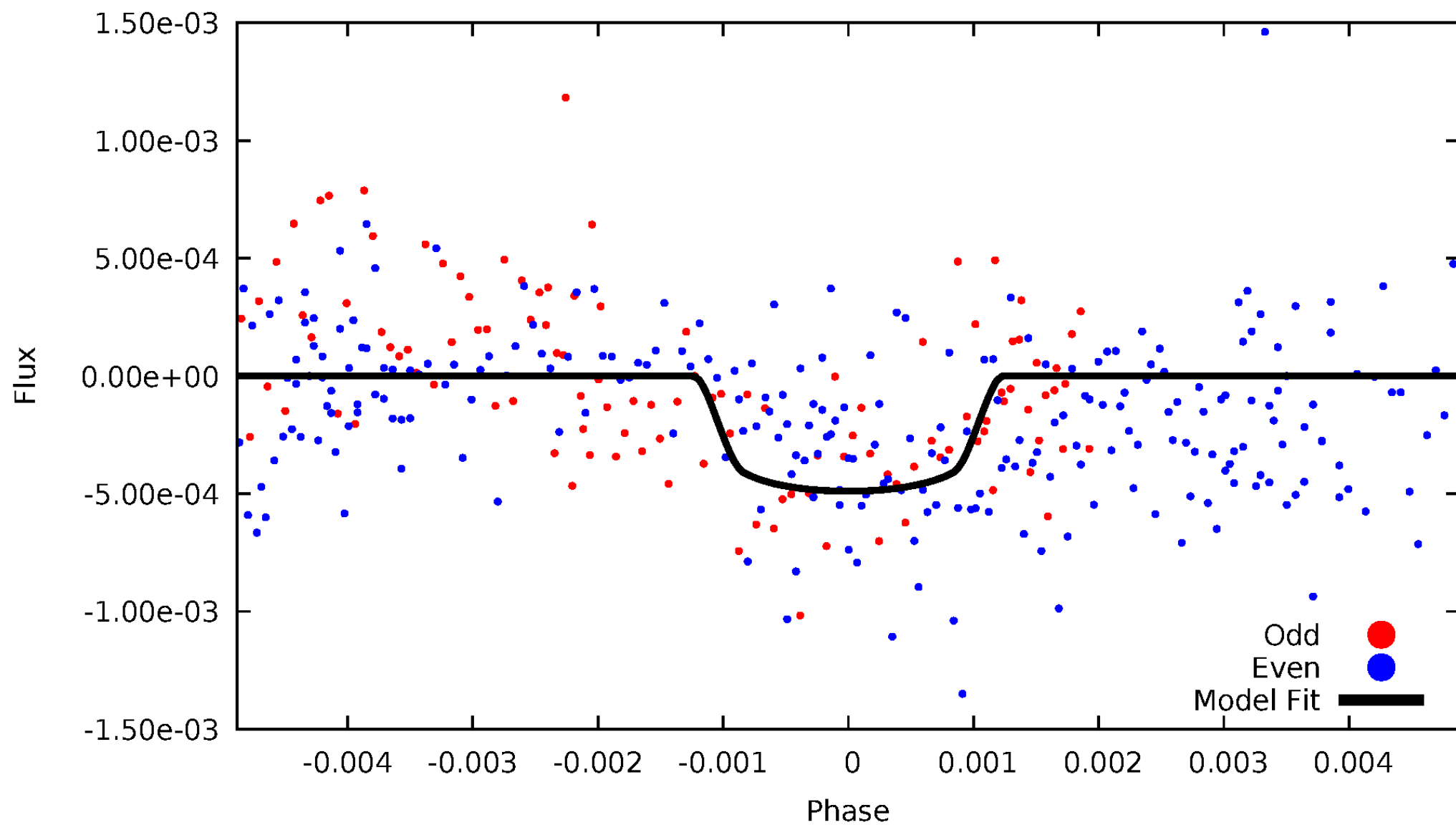


TCE 007773179-02



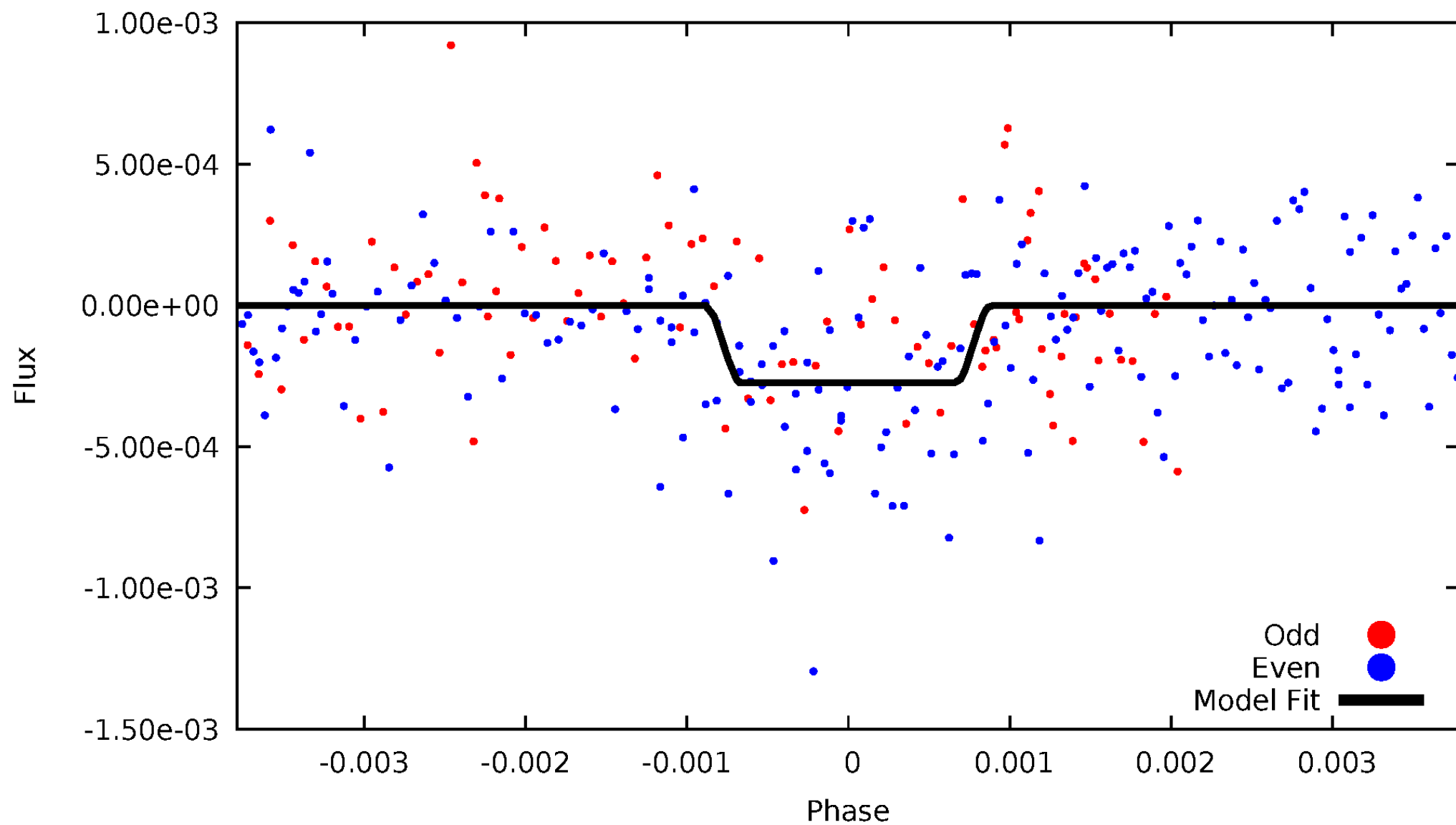
DV Odd/Even

TCE 007773179-02



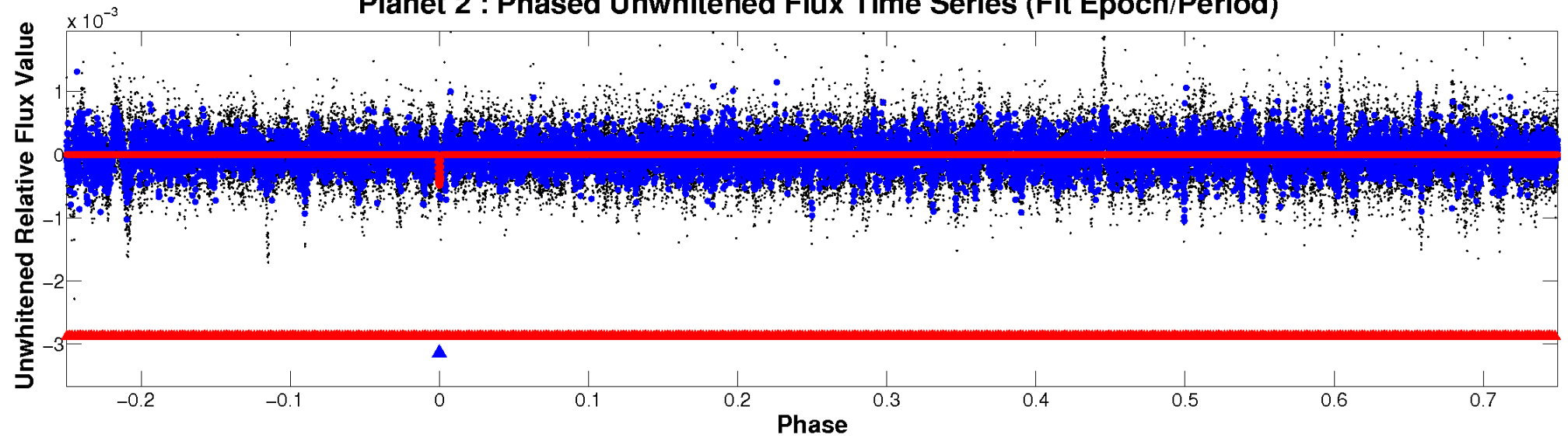
ALT Odd/Even

TCE 007773179-02

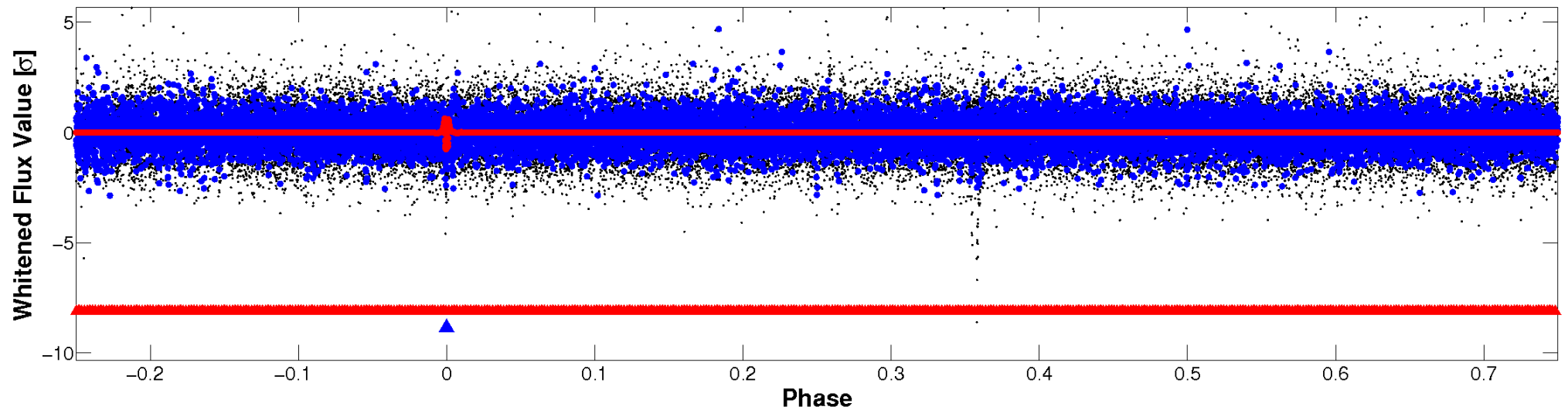


Non-Whitened Vs. Whitened Light Curve

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



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



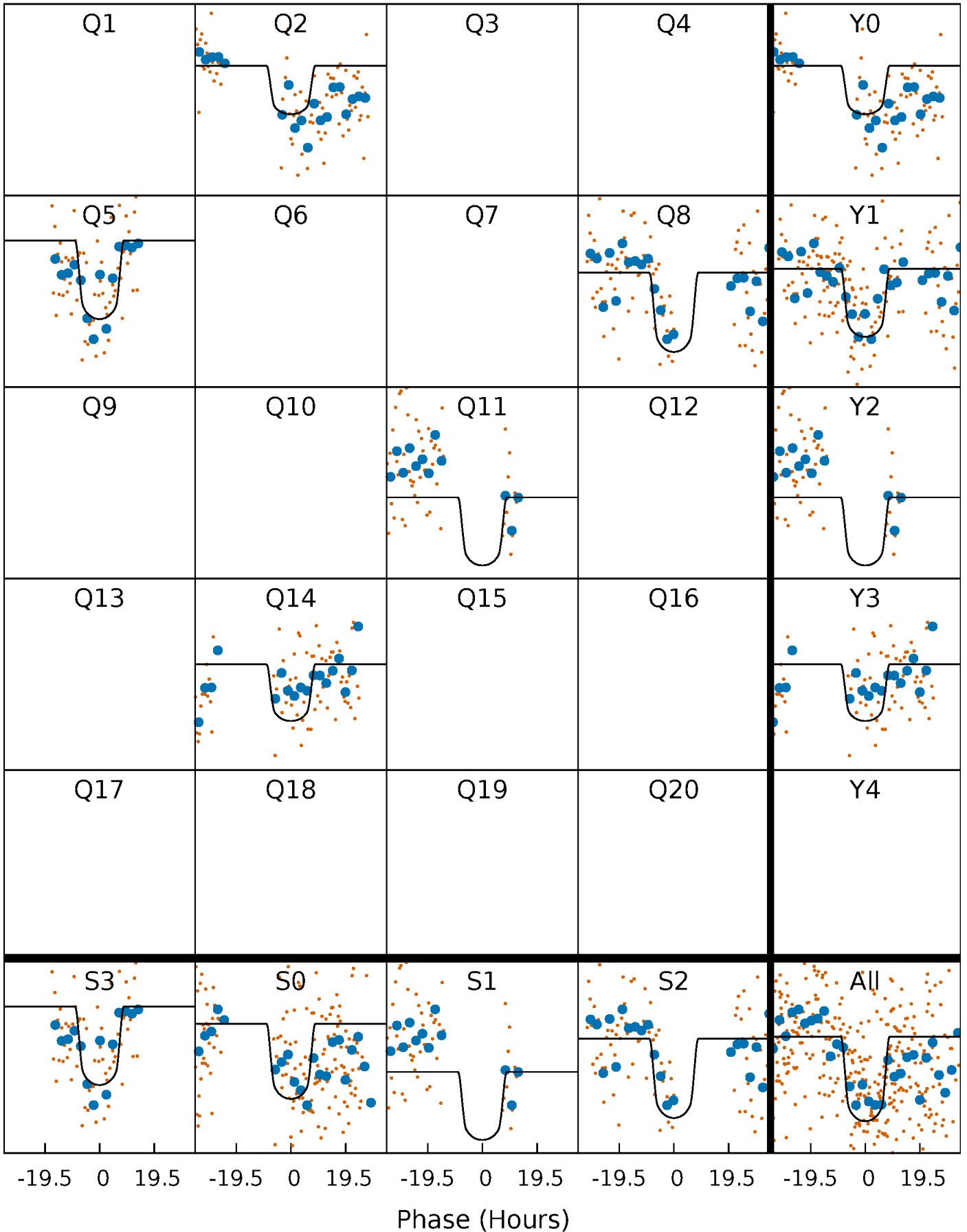
PDC Quarter-Phased Transit Curves

TCE 007773179-02 P=291.738172 Days $T_0=194.265364$ (BKJD)



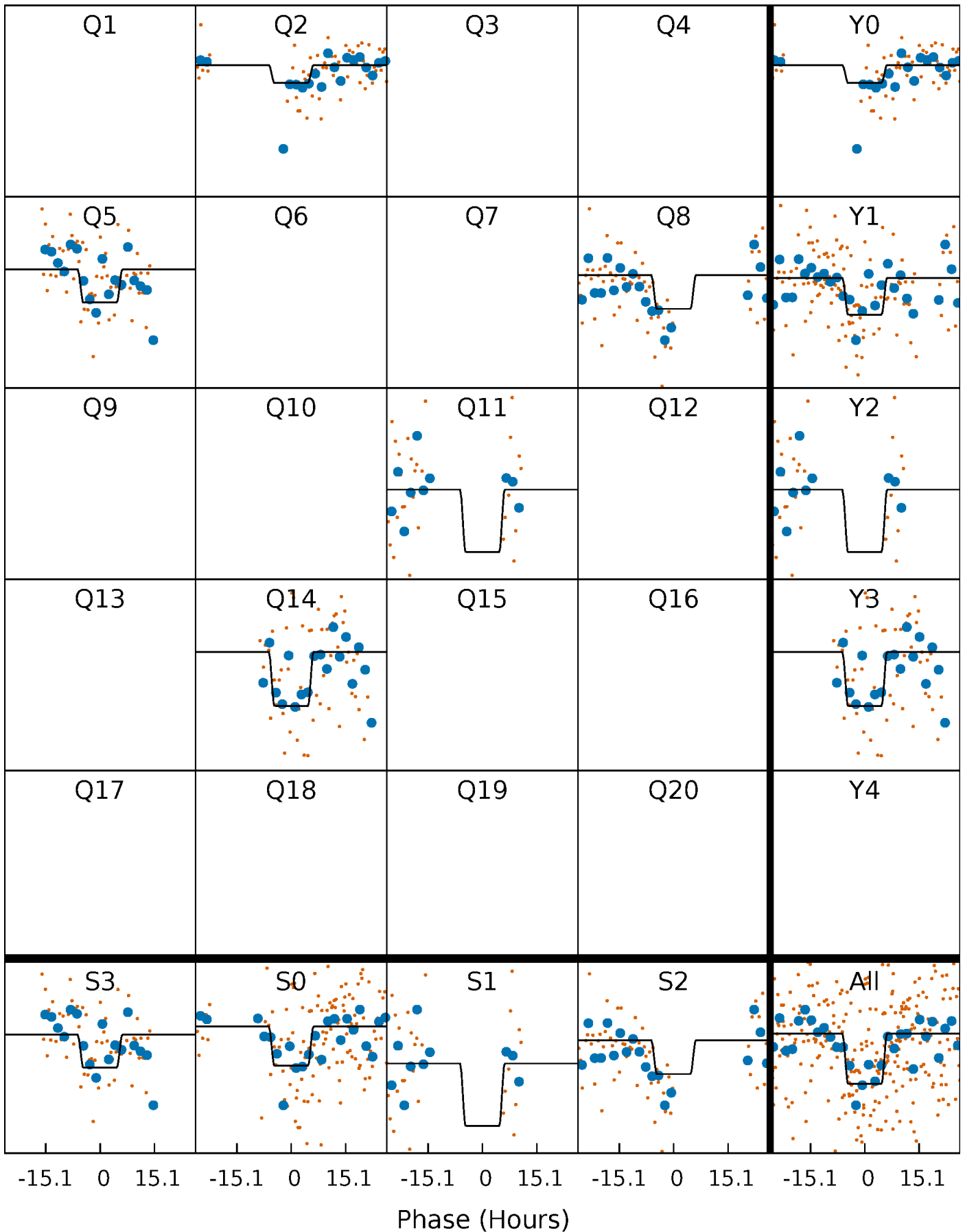
DV Quarter-Phased Transit Curves

TCE 007773179-02 P=291.738172 Days $T_0=194.265364$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

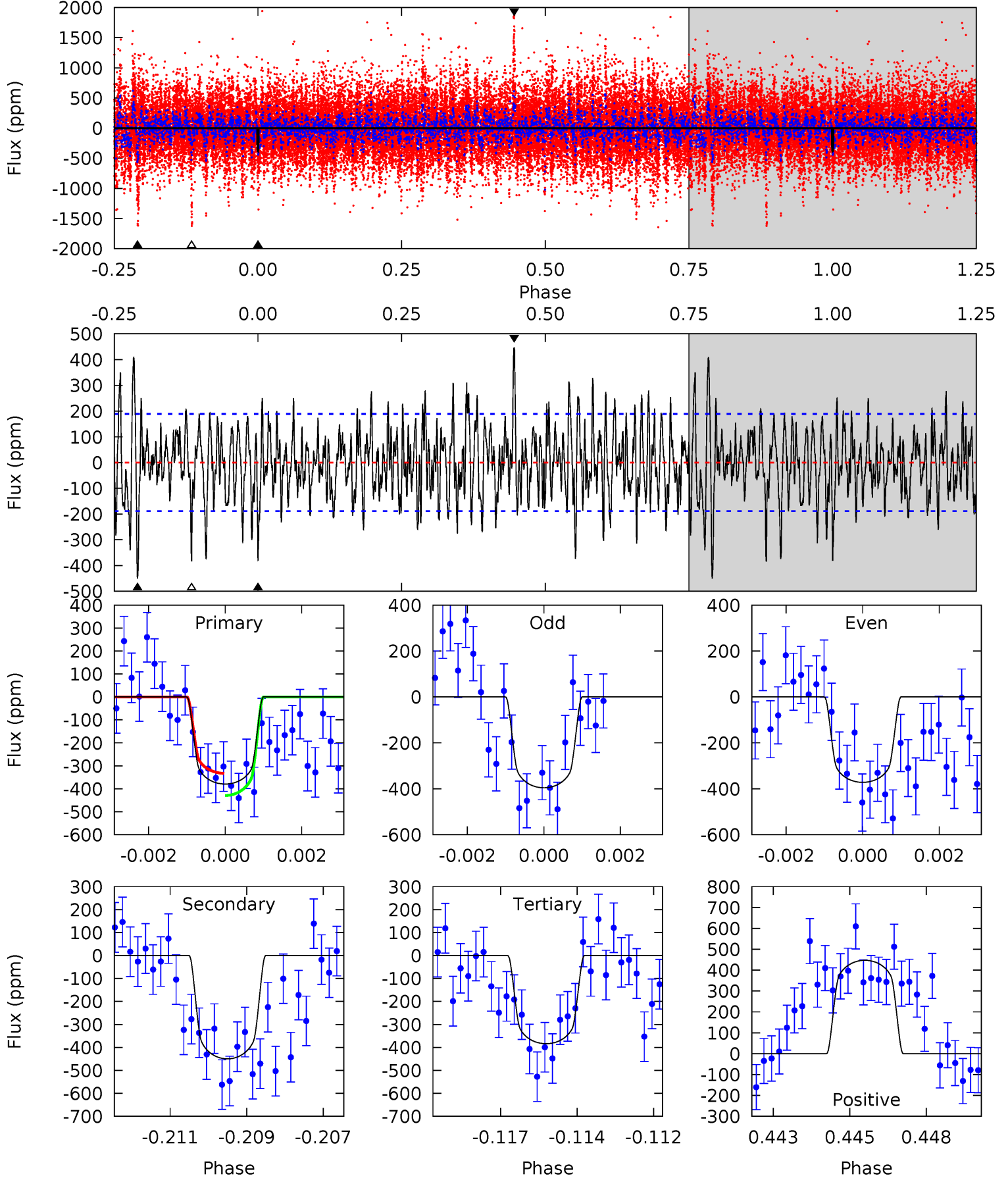
TCE 007773179-02 P=291.784426 Days $T_0=194.185959$ (BKJD)



DV Model-Shift Uniqueness Test

007773179-02, P = 291.738172 Days, E = 194.265364 Days

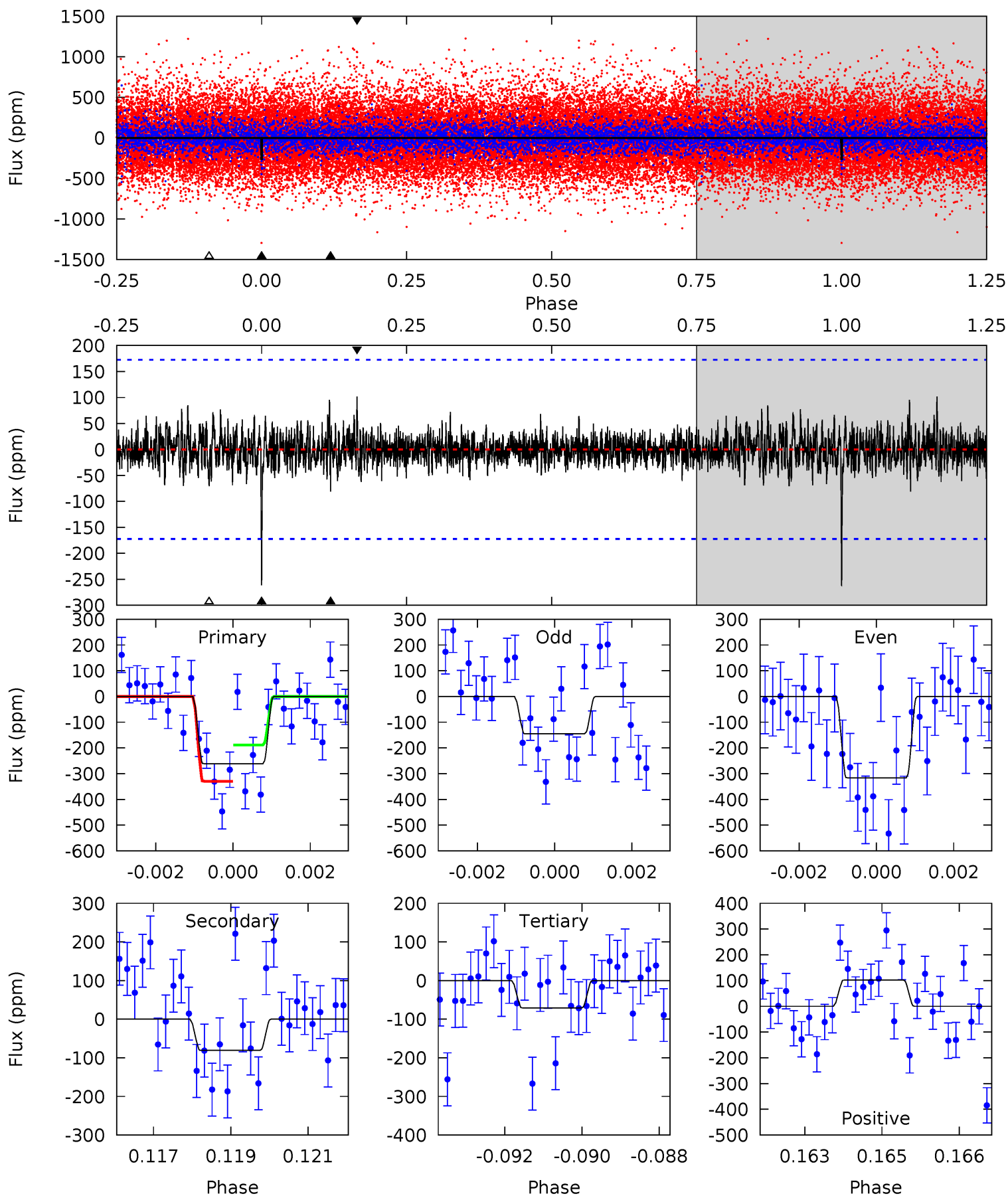
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	12.6	10.8	12.5	5.29	3.02	3.47	-0.13	-1.90	1.85	0.08	0.32	1.06	0.50	1.35



Alt Model-Shift Uniqueness Test

007773179-02, P = 291.784426 Days, E = 194.185959 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.12	2.51	2.20	3.16	5.36	3.14	0.67	5.92	4.96	0.31	-0.65	2.49	0.99	0.28	2.20



Stellar Parameters For KIC 007773179

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6084^{+169}_{-212}	$4.450^{+0.070}_{-0.210}$	$-0.240^{+0.300}_{-0.300}$	$0.983^{+0.296}_{-0.127}$	$0.991^{+0.142}_{-0.129}$	$1.471^{+0.531}_{-0.751}$
	+3%/-3%	+2%/-5%	+125%/-125%	+30%/-13%	+14%/-13%	+36%/-51%
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 007773179-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-450 ± 36	$2.71^{+0.49}_{-0.39}$	410^{+31}_{-21}	5693^{+362}_{-333}	24244^{+8735}_{-6484}
Alt.	-81 ± 32	$1.84^{+0.39}_{-0.34}$	406^{+31}_{-21}	4594^{+510}_{-448}	9110^{+6428}_{-3856}

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

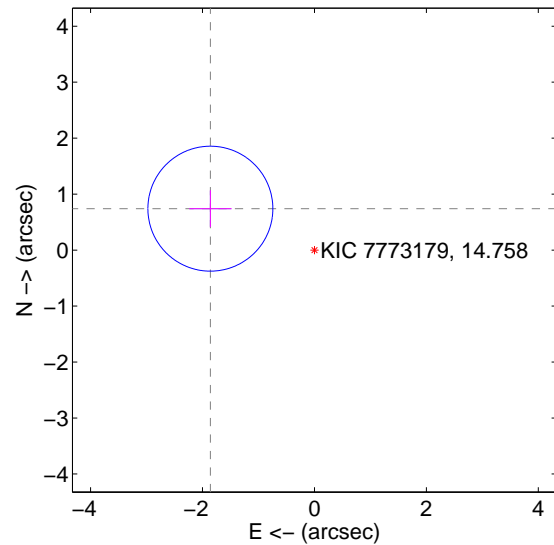
Supplemental centroid analysis for 007773179-02. Kepler magnitude: 14.76. Transit SNR 7.28

There are 1 quarters with good PRF difference image offsets

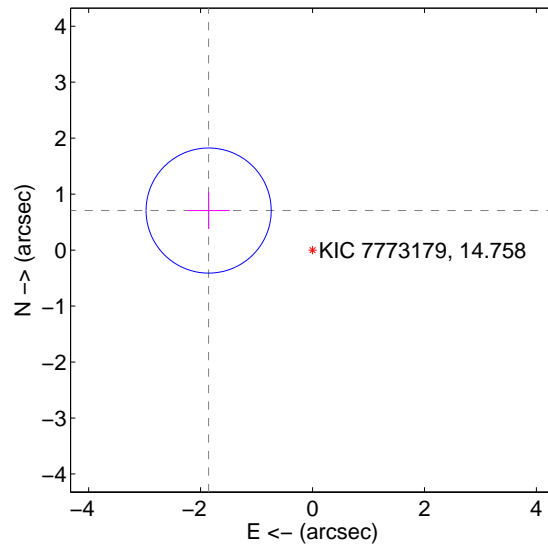
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.001 ± 0.372	5.38	1.859 ± 0.378	0.740 ± 0.329
PRF-fit source offset from KIC position	1.986 ± 0.373	5.33	1.856 ± 0.378	0.706 ± 0.329
photometric centroid source offset	0.49 ± 1.04	0.47	0.17 ± 0.85	0.46 ± 1.06

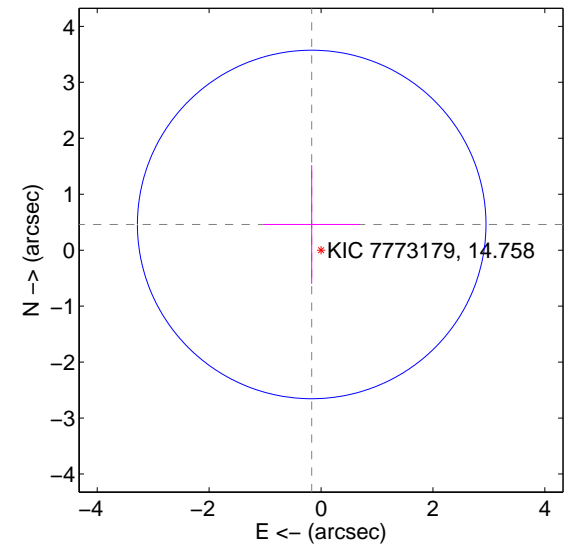
offset from difference PRF-fit to OOT PRF-fit



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.

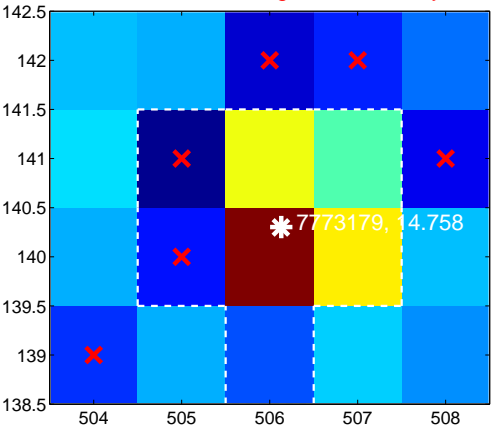
Q1 no difference image



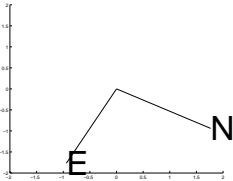
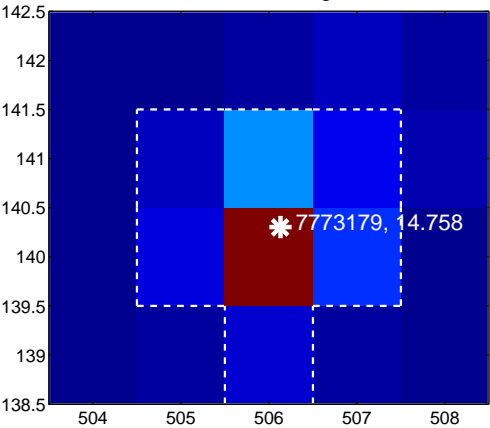
Q1 no OOT image



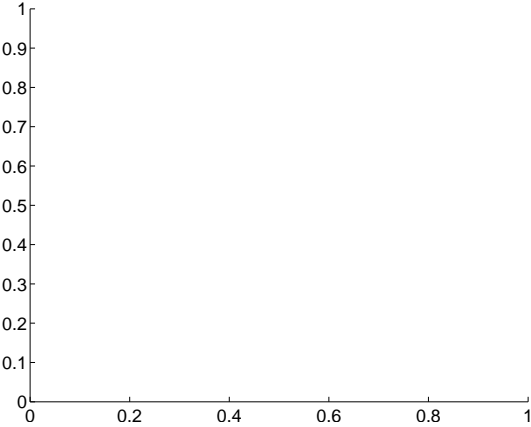
Q2 difference image. Poor Quality



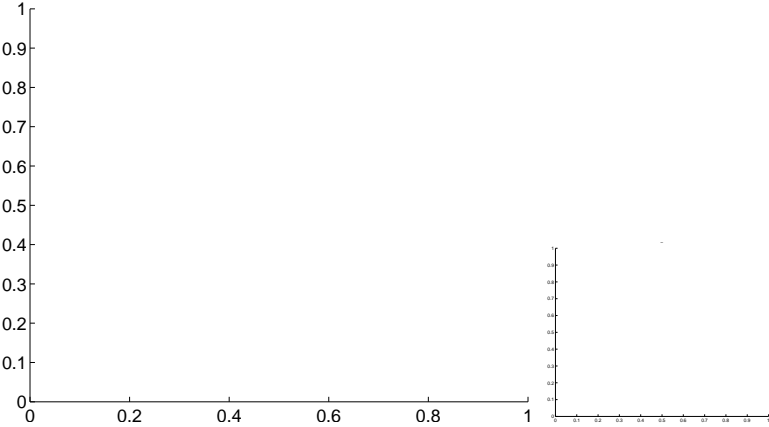
Q2 OOT image



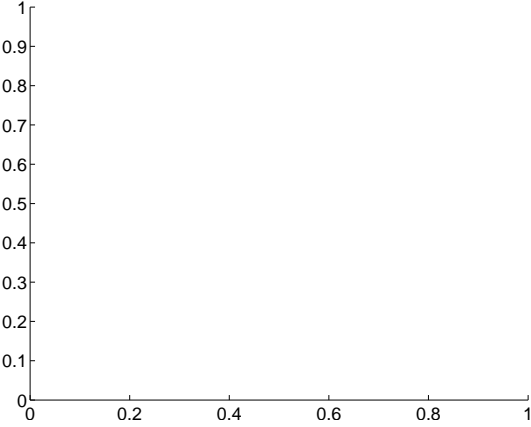
Q3 no difference image



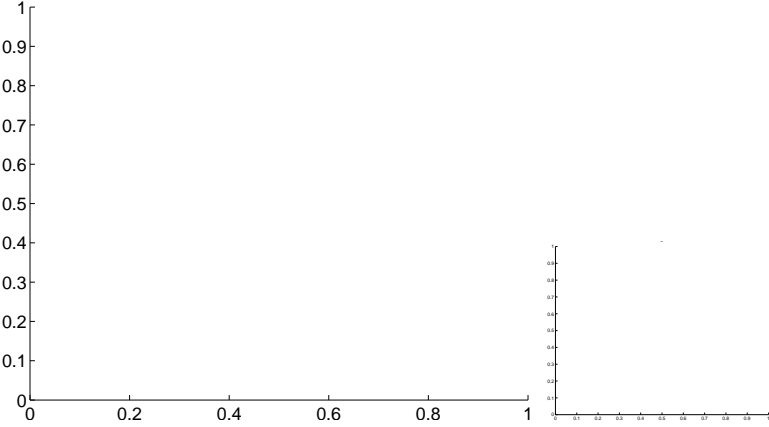
Q3 no OOT image



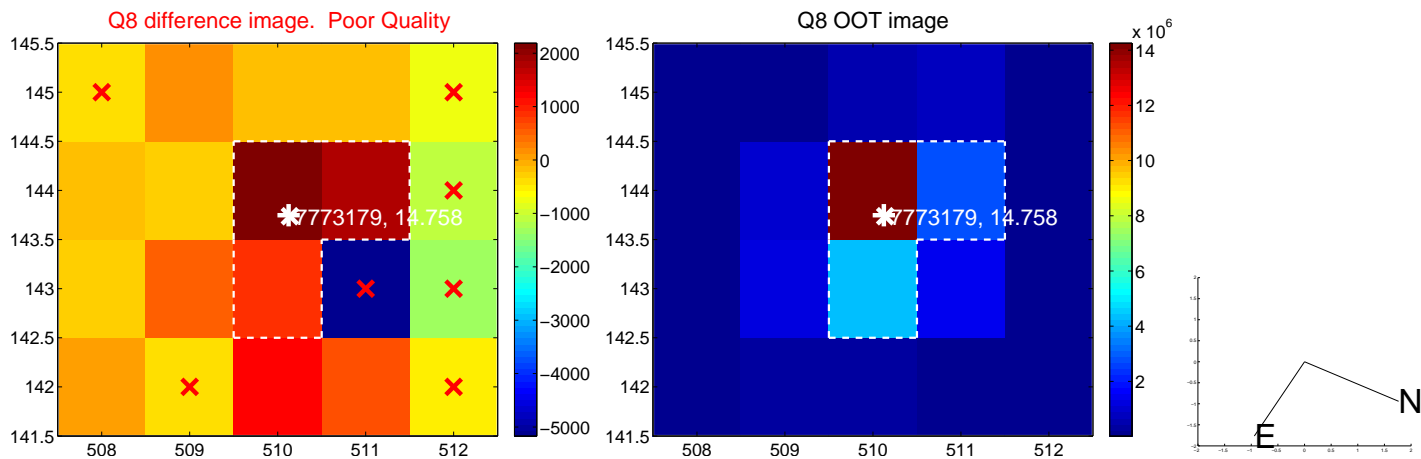
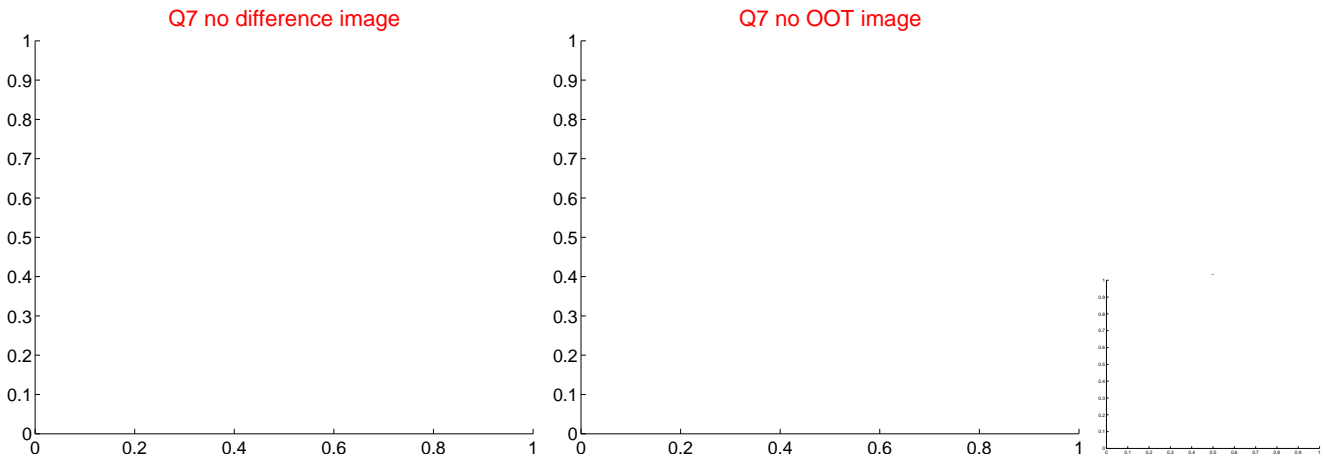
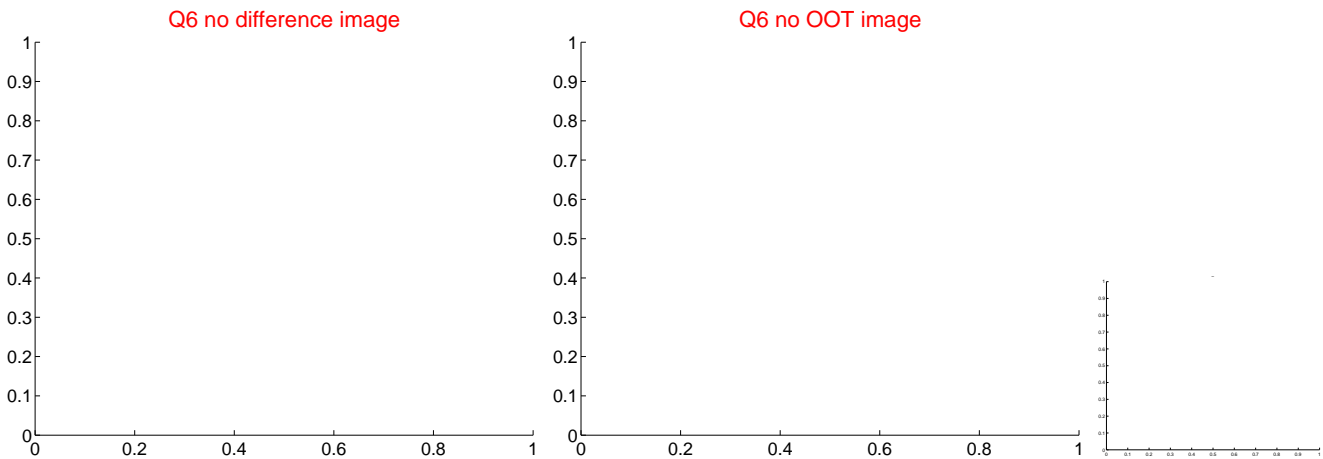
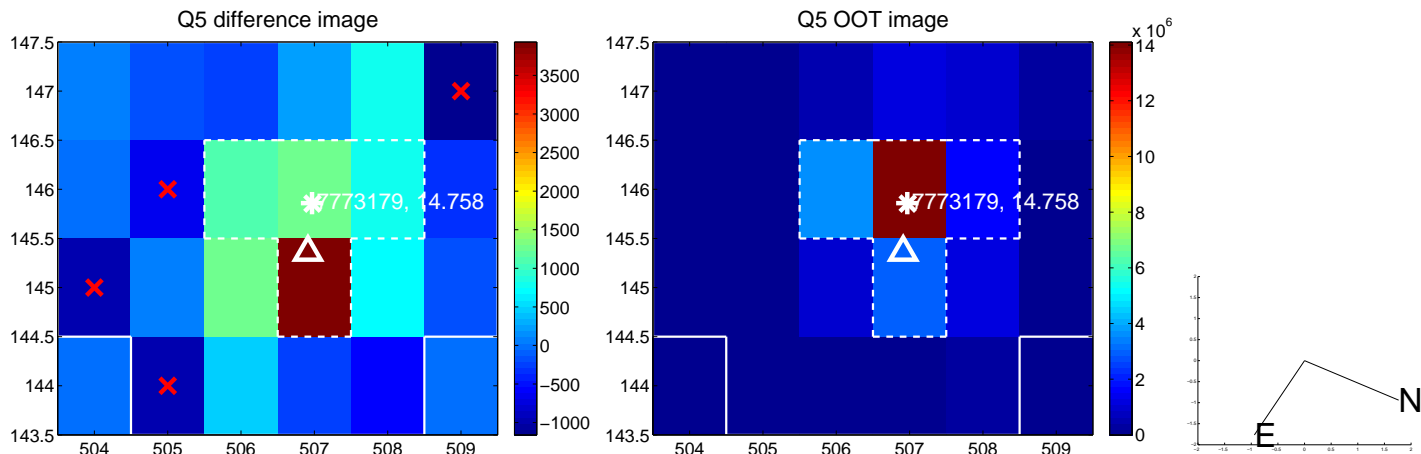
Q4 no difference image



Q4 no OOT image



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

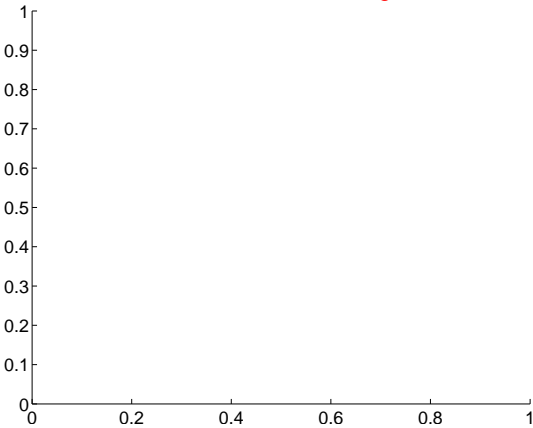


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

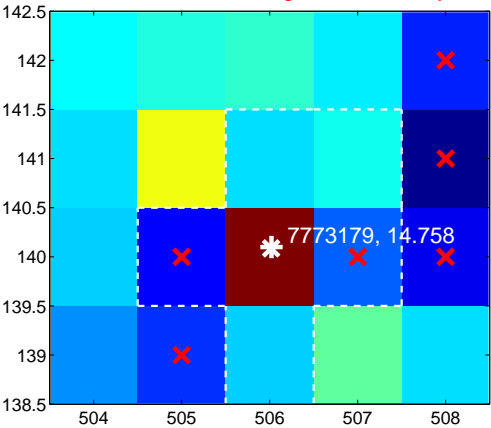
Q13 no difference image



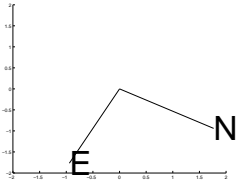
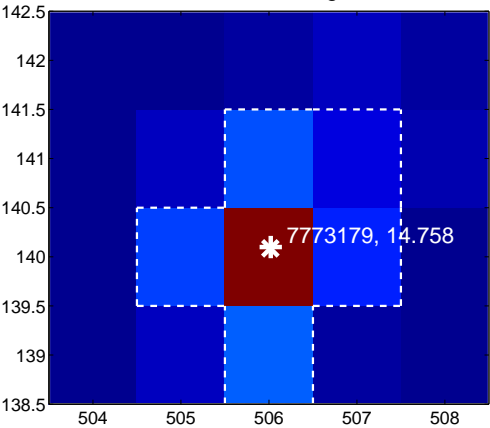
Q13 no OOT image



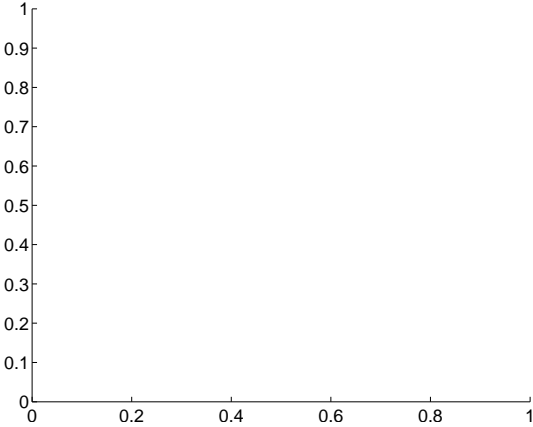
Q14 difference image. Poor Quality



Q14 OOT image



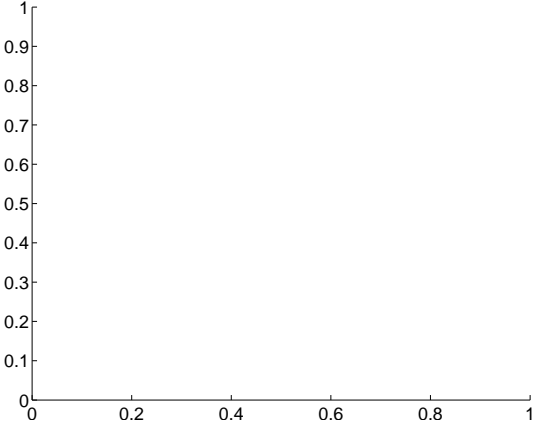
Q15 no difference image



Q15 no OOT image



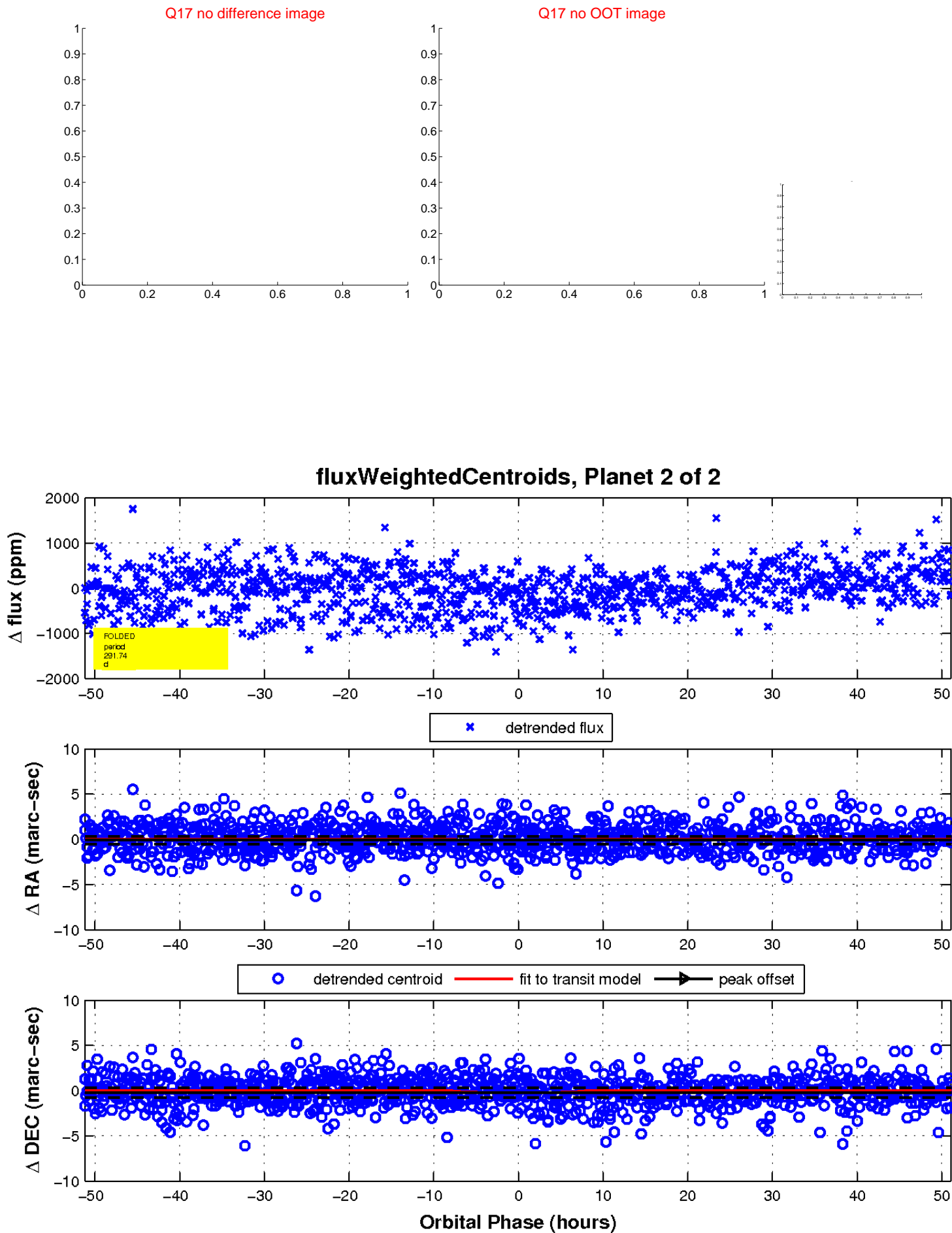
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

