

KIC 003945791

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})
003945791-01	OBS	No	2.130203	133.566366	37.4	9.566	11.2	10.6	3.75	6675	2.40	16693.40
003945791-02	OBS	No	101.283060	150.413006	346.5	3.621	8.2	8.3	3.75	6675	12.16	96.92
003945791-03	OBS	No	202.676001	226.332165	324.8	4.918	8.0	6.3	3.75	6675	7.29	38.43
003945791-04	OBS	No	154.502983	217.939181	419.6	3.440	8.2	7.8	3.75	6675	11.62	55.19
003945791-05	OBS	No	30.572013	159.384350	199.9	1.961	7.8	8.6	3.75	6675	6.18	478.64
003945791-06	OBS	No	117.675893	188.803171	362.3	2.795	7.9	7.8	3.75	6675	7.81	79.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003945791-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
003945791-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003945791-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
003945791-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003945791-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT
003945791-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

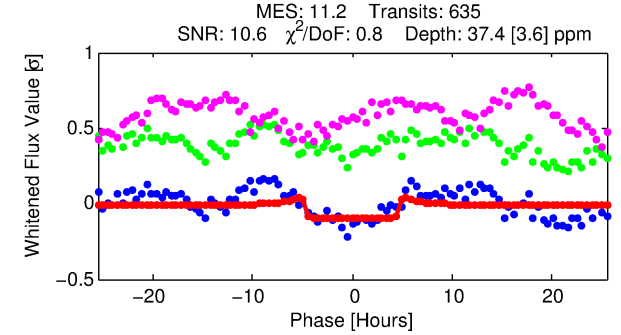
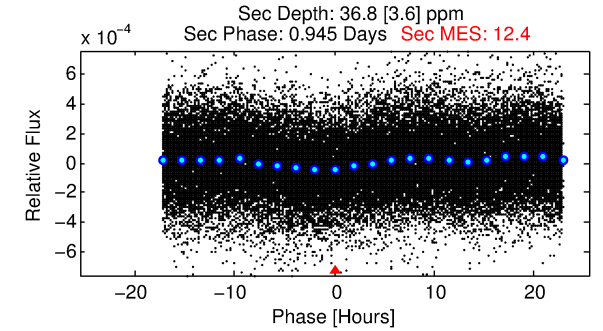
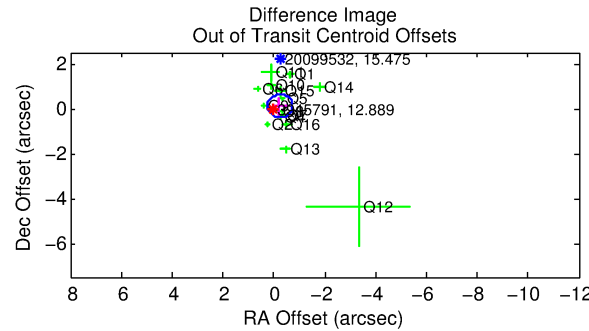
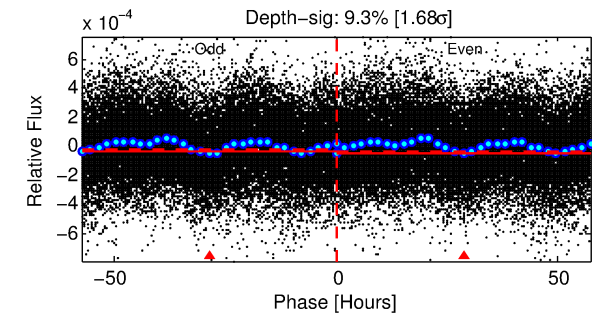
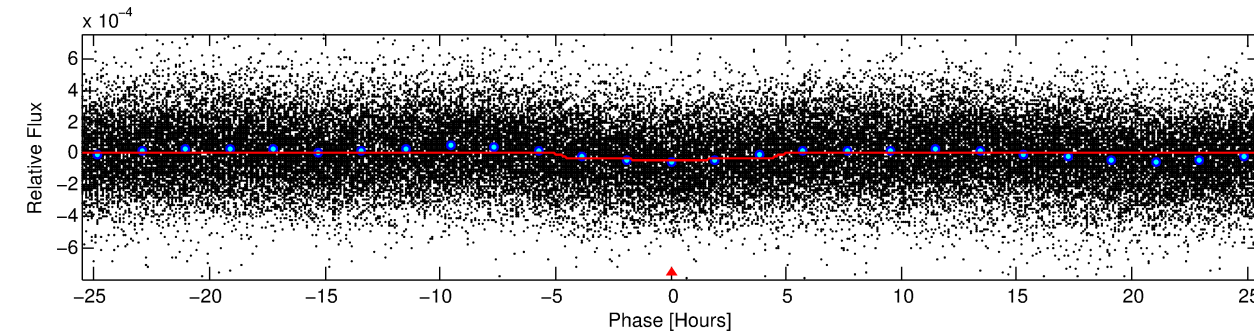
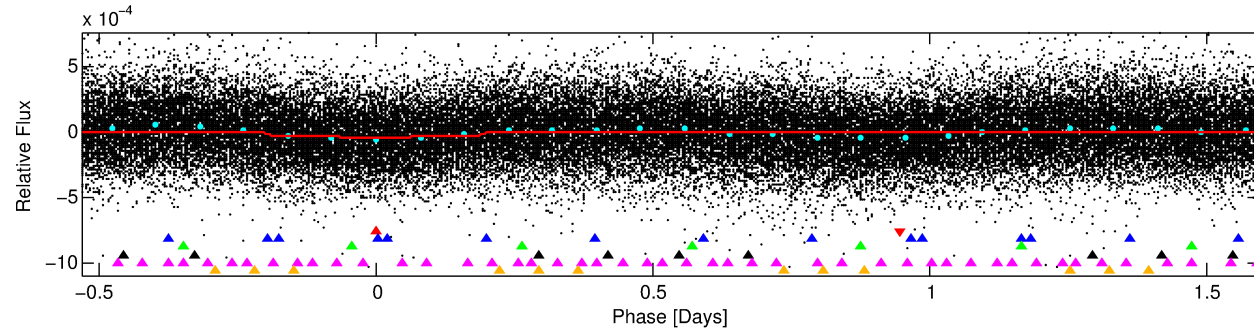
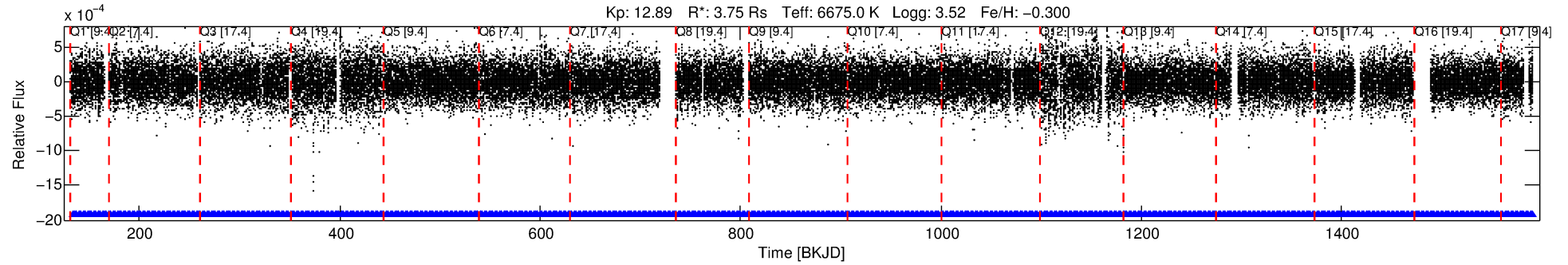
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003945791-01

No Significant Match Found

DV One-Page Summary

KIC: 3945791 Candidate: 1 of 6 Period: 2.130 d



DV Fit Results:

Period = 2.13020 [0.00002] d
Epoch = 133.5664 [0.0044] BKJD
Rp/R* = 0.0059 [0.0019]
a/R* = 1.59 [1.79]
b = 0.58 [2.12]
Seff = 16693.40 [10234.16]
Teq = 2898 [444] K
Rp = 2.40 [1.24] Re
a = 0.0388 [0.0146] AU
Ag = 5.26 [4.73] [0.90 σ]
Teffp = 6786 [1155] K [3.14 σ]

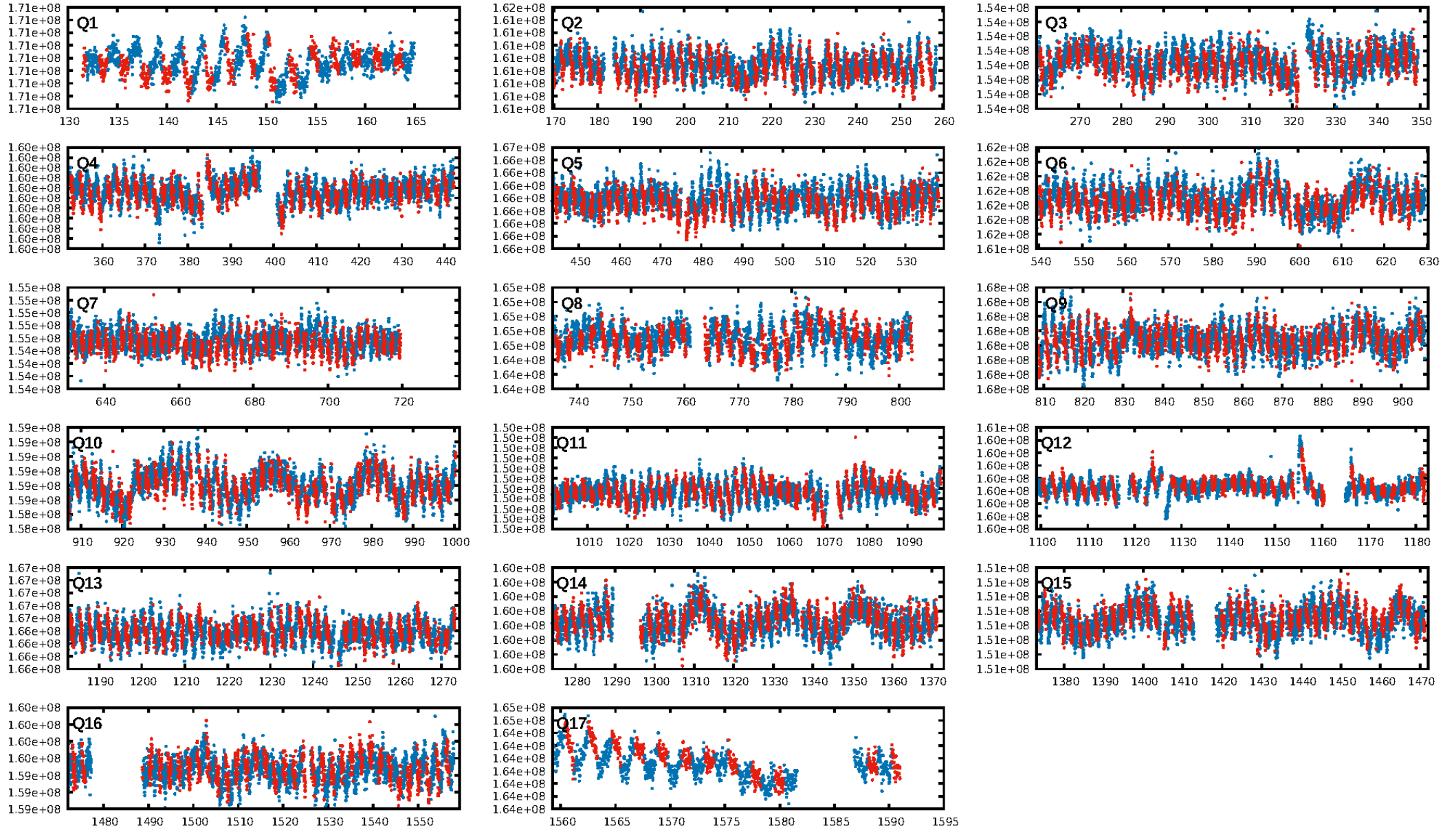
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [69.90 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.27e-19
RollingBand-fgt: 1.00 [607/607]
GhostDiagnostic-chr: 1.545
Centroid-sig: 19.1%
Centroid-so: 0.318 arcsec [0.67 σ]
OotOffset-rm: 0.256 arcsec [1.52 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-rm: 0.136 arcsec [0.79 σ]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 1.00 [17/17]

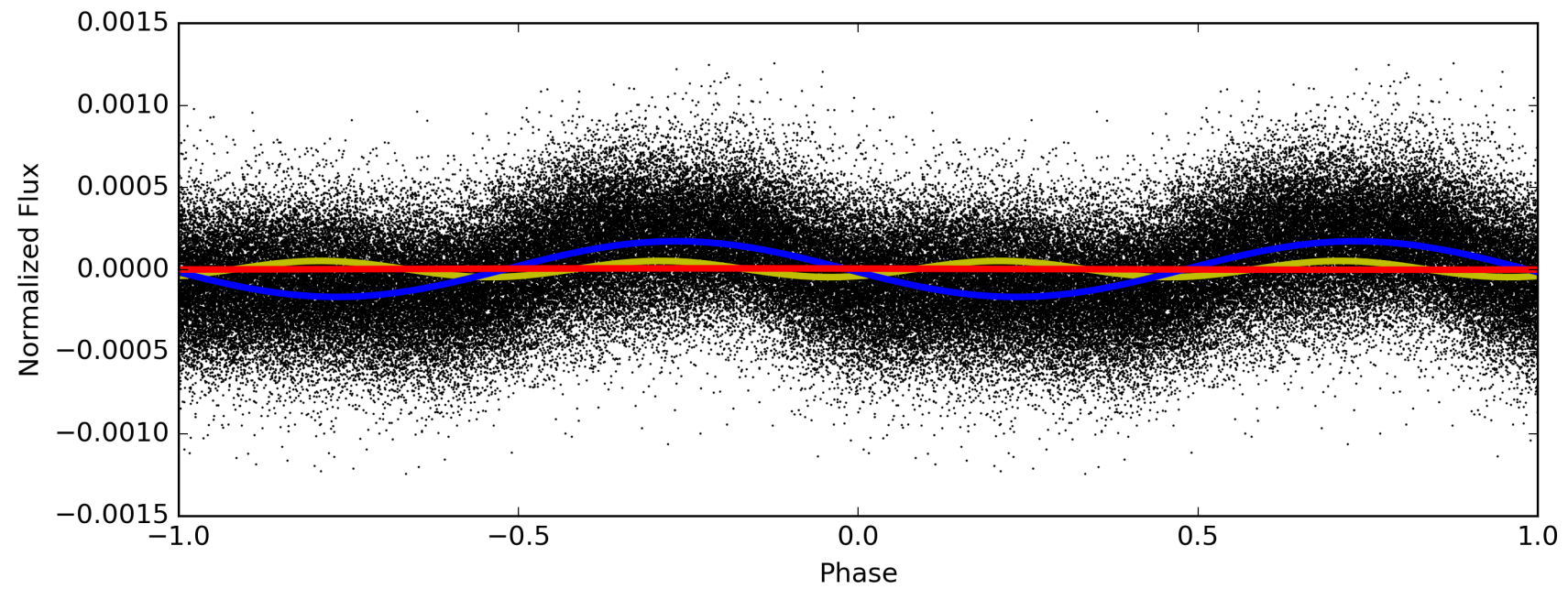
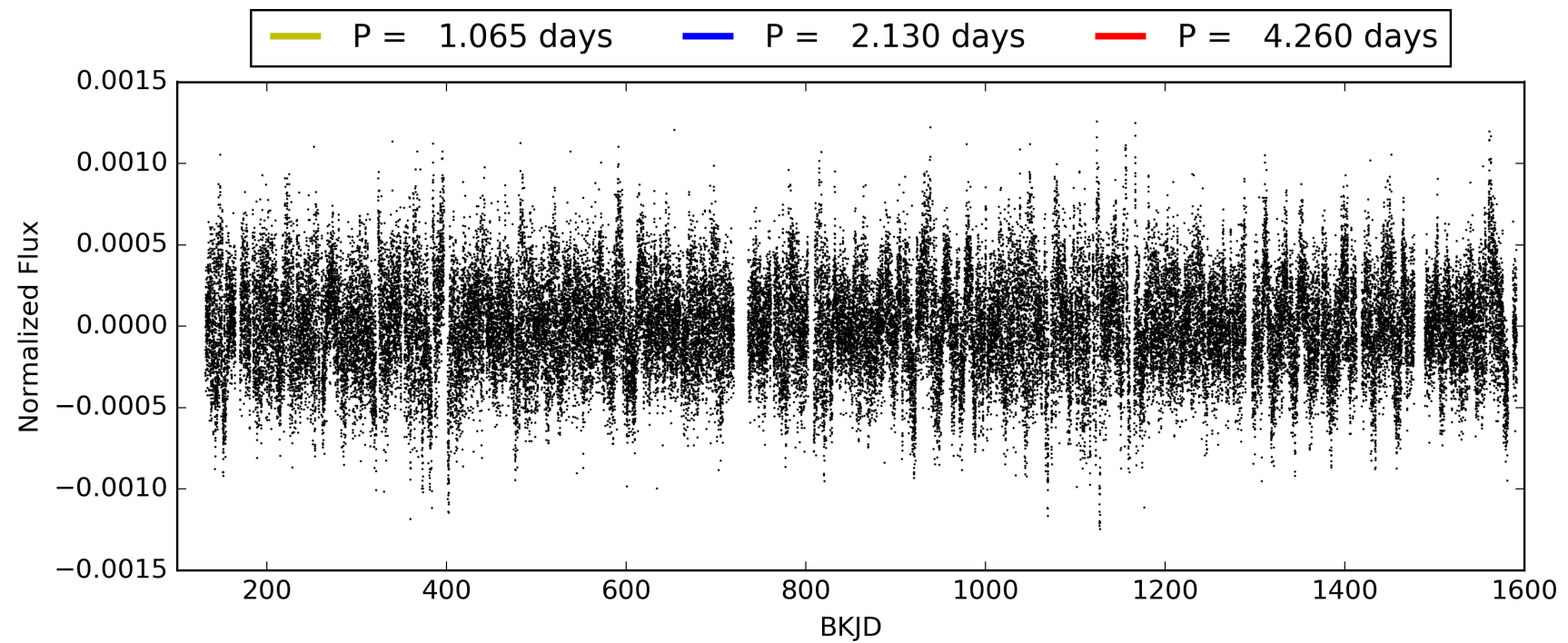
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 22:55:46 Z

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

TCE 003945791-01, PDC Light Curves

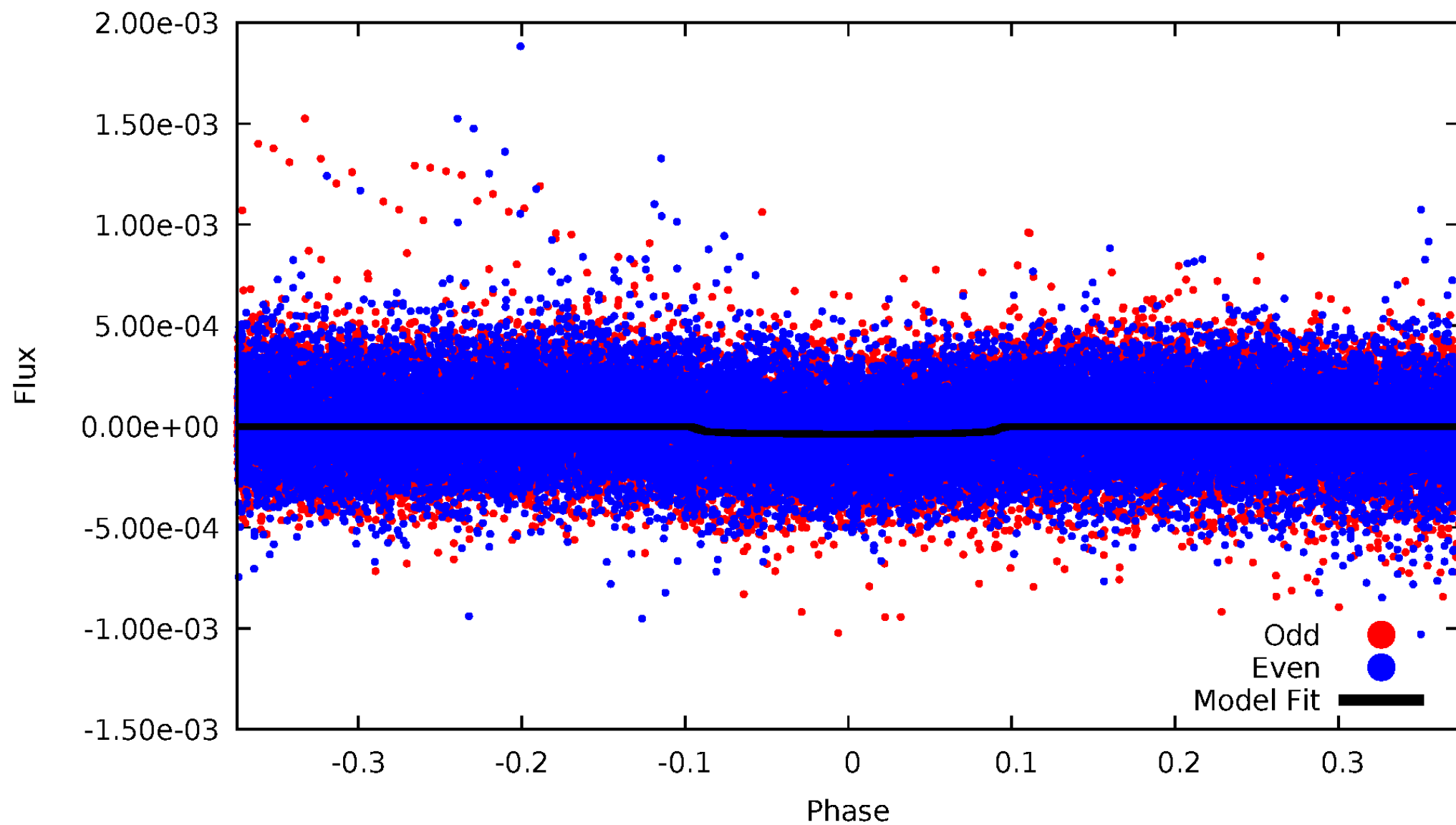


TCE 003945791-01



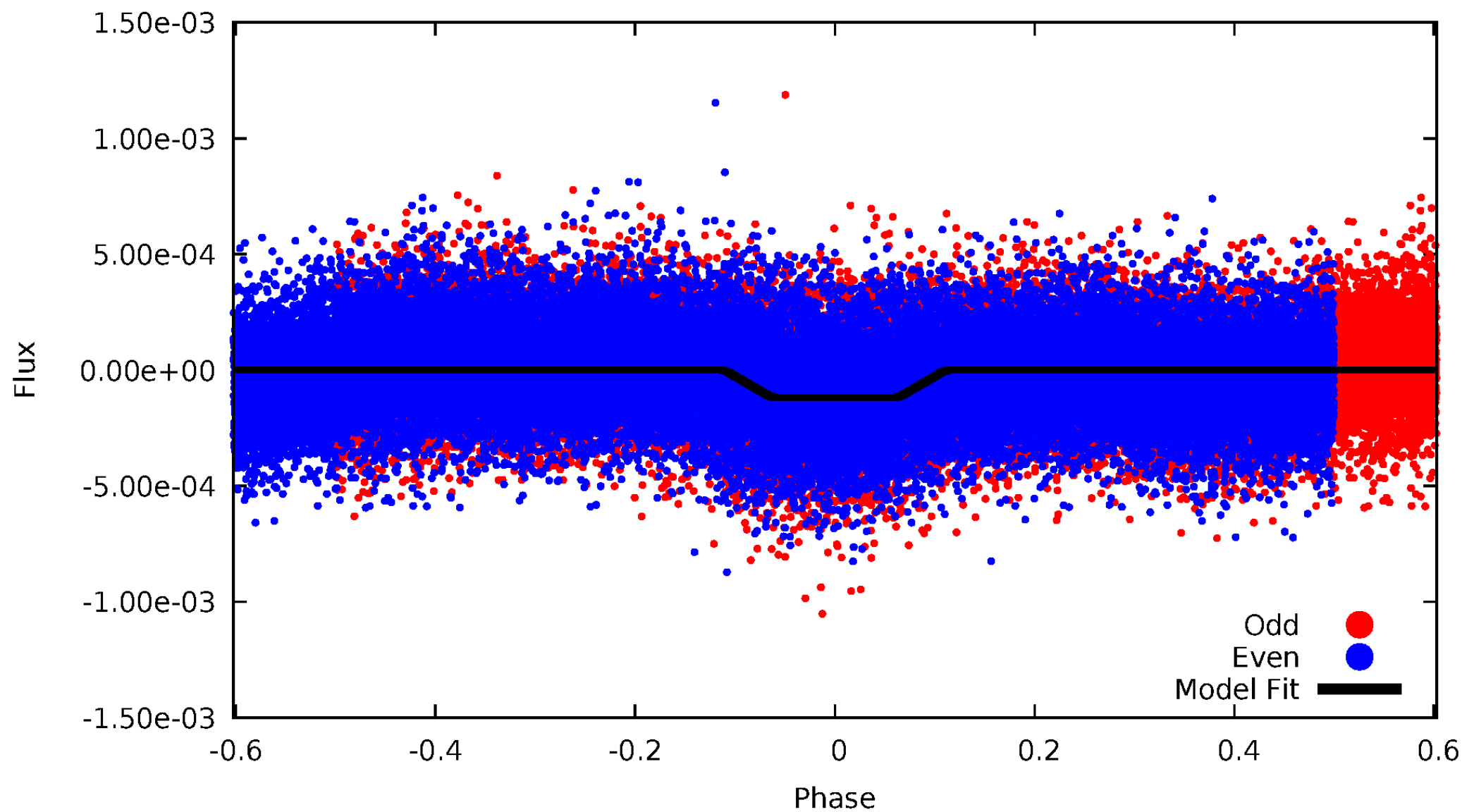
DV Odd/Even

TCE 003945791-01

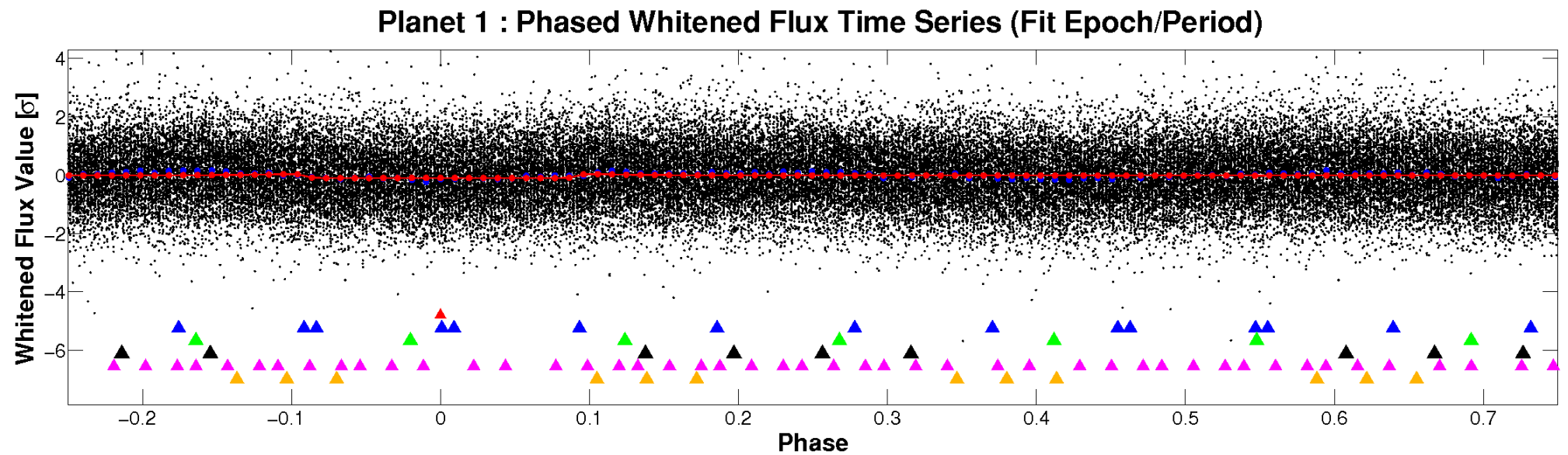
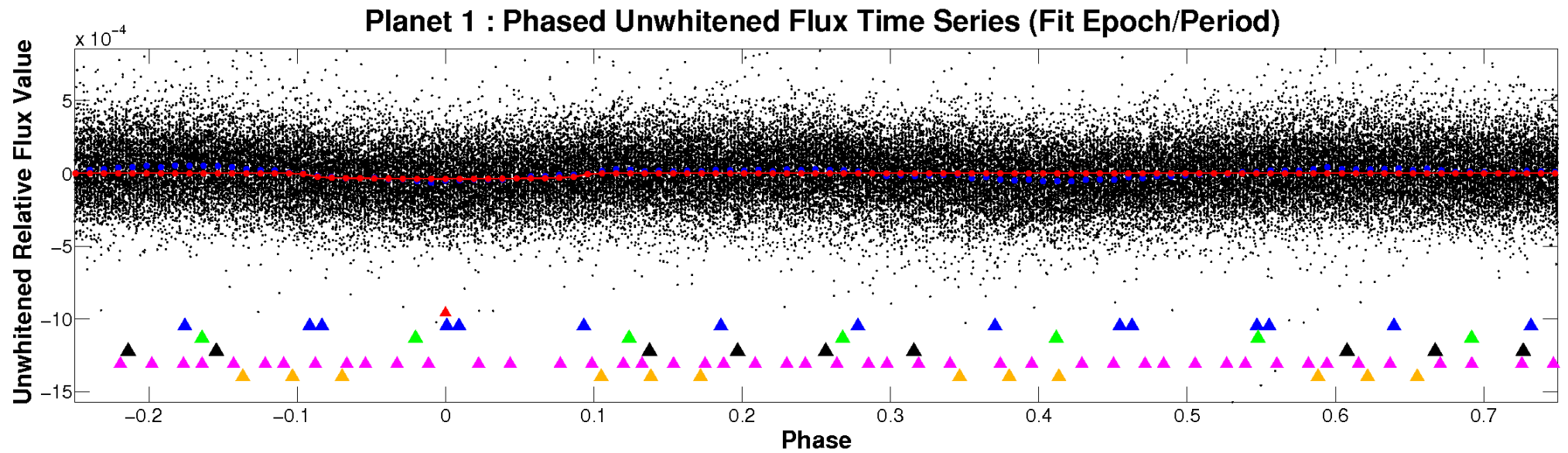


ALT Odd/Even

TCE 003945791-01

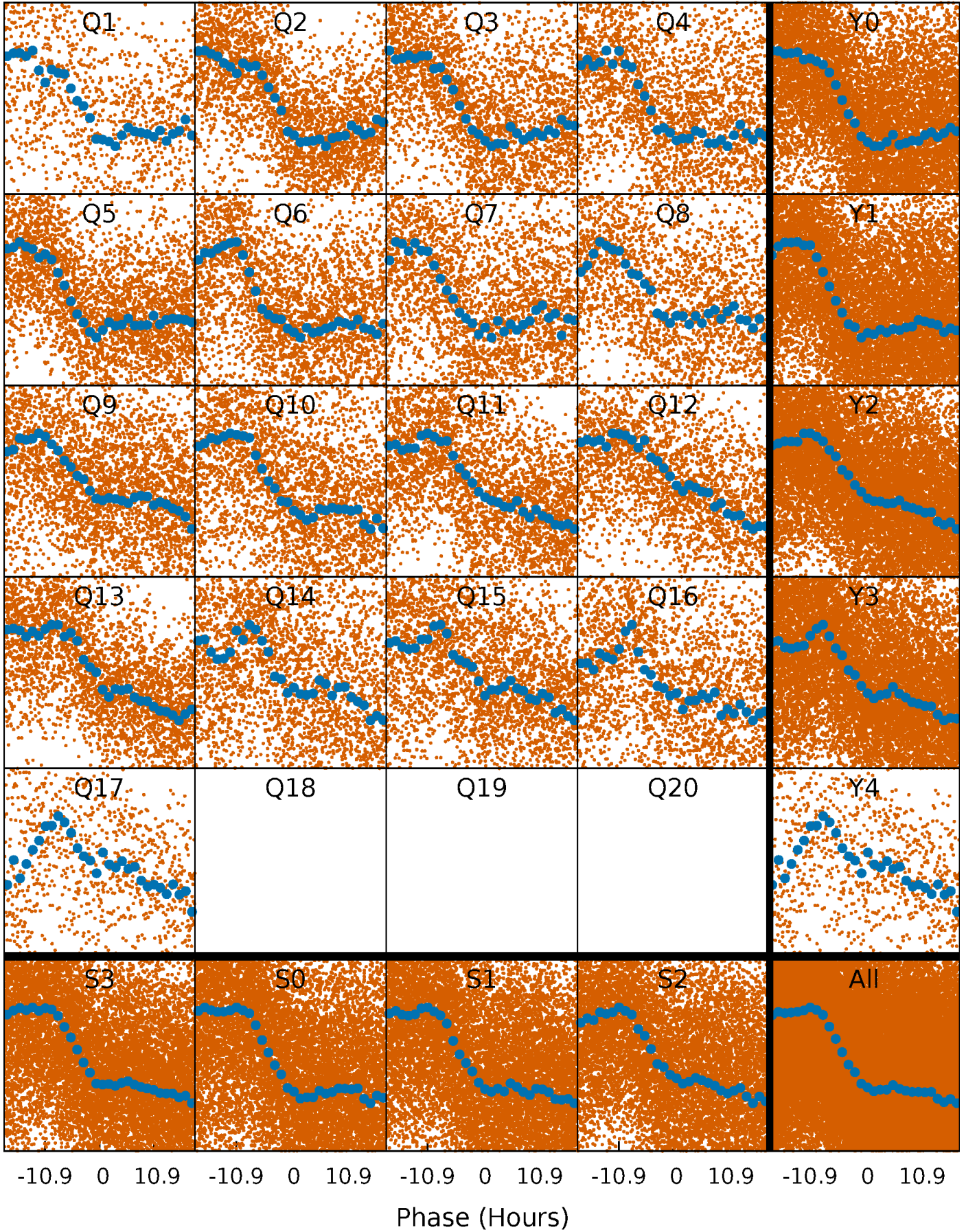


Non-Whitened Vs. Whitened Light Curve



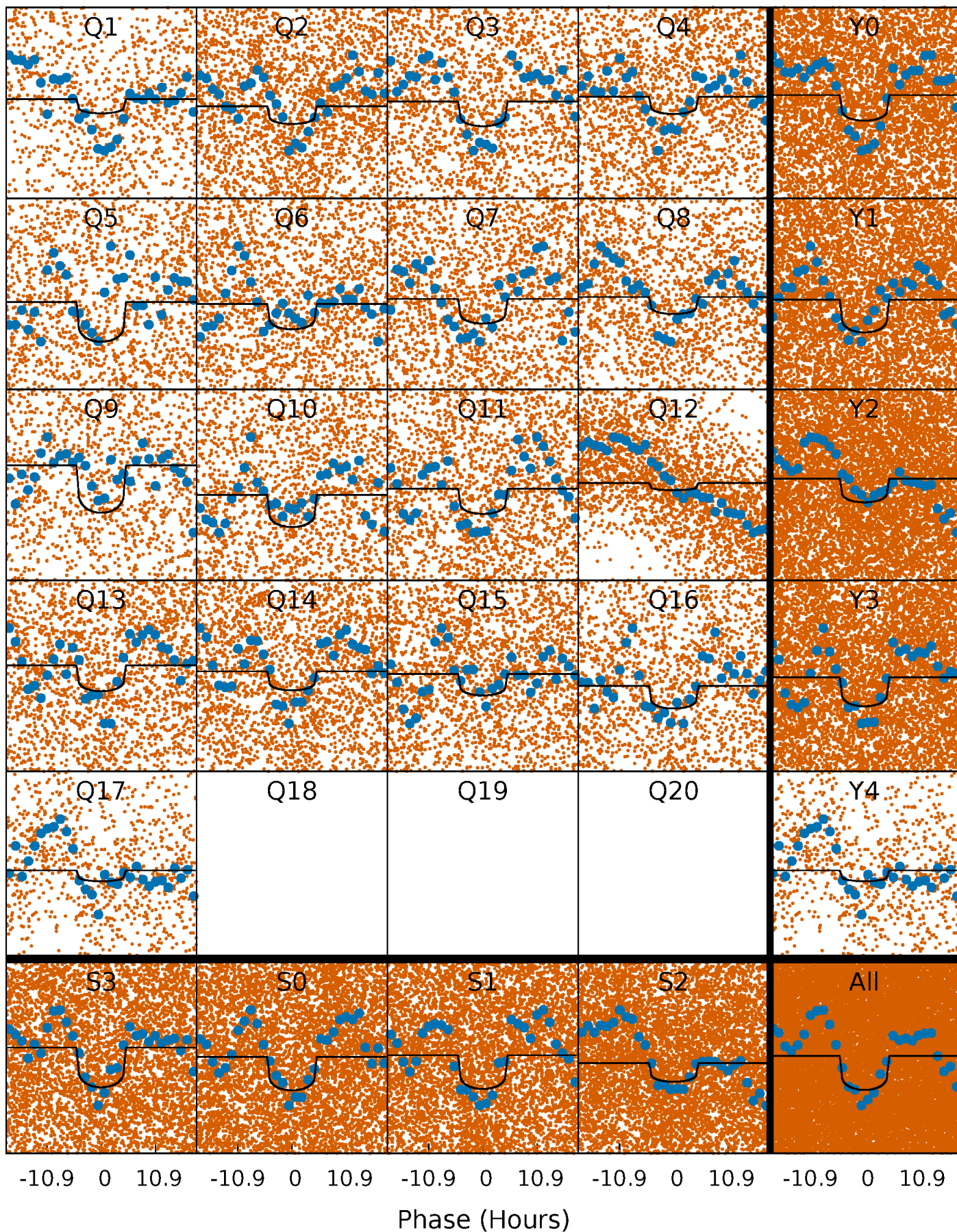
PDC Quarter-Phased Transit Curves

TCE 003945791-01 P= 2.130203 Days $T_0=133.566366$ (BKJD)



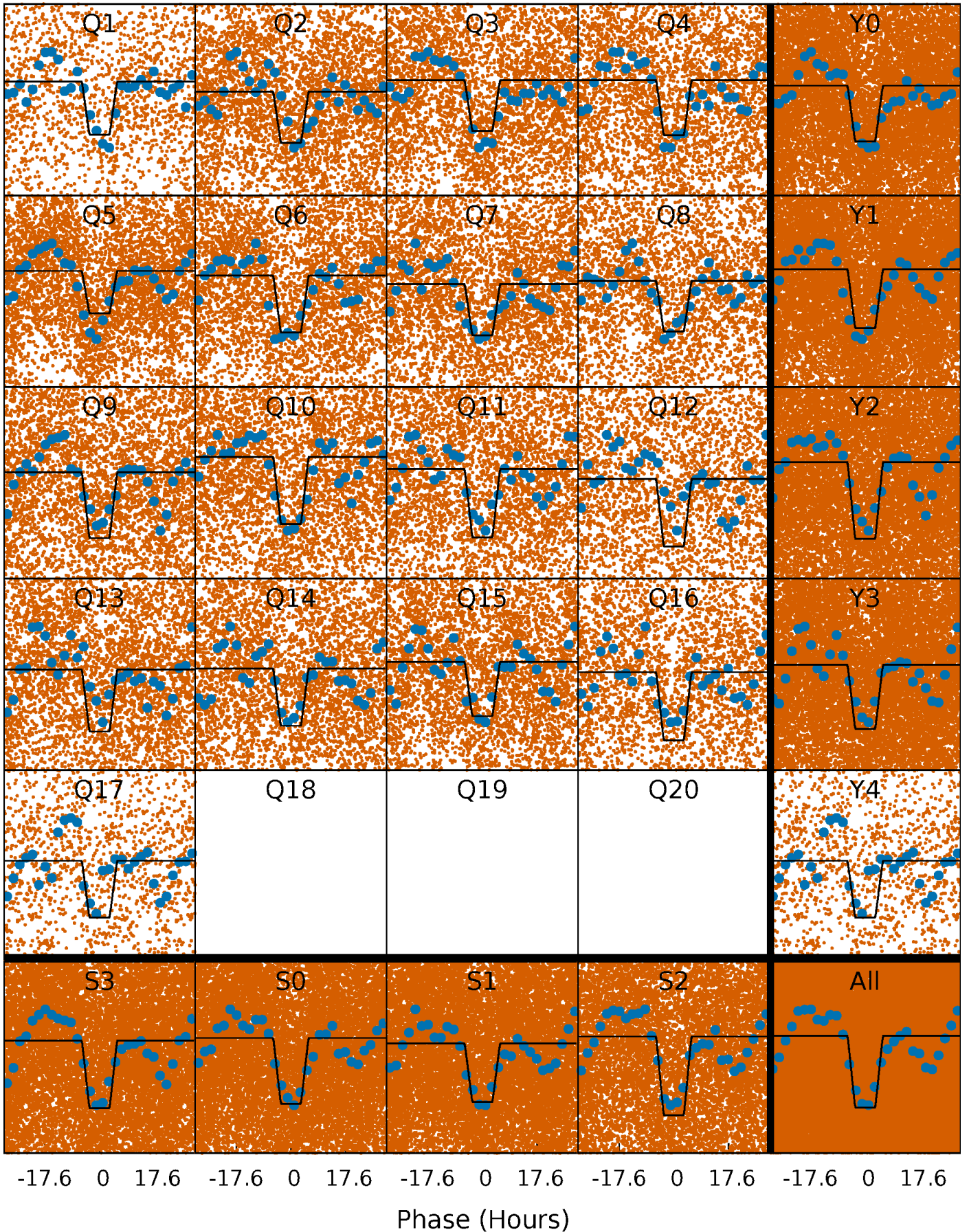
DV Quarter-Phased Transit Curves

TCE 003945791-01 P= 2.130203 Days $T_0=133.566366$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

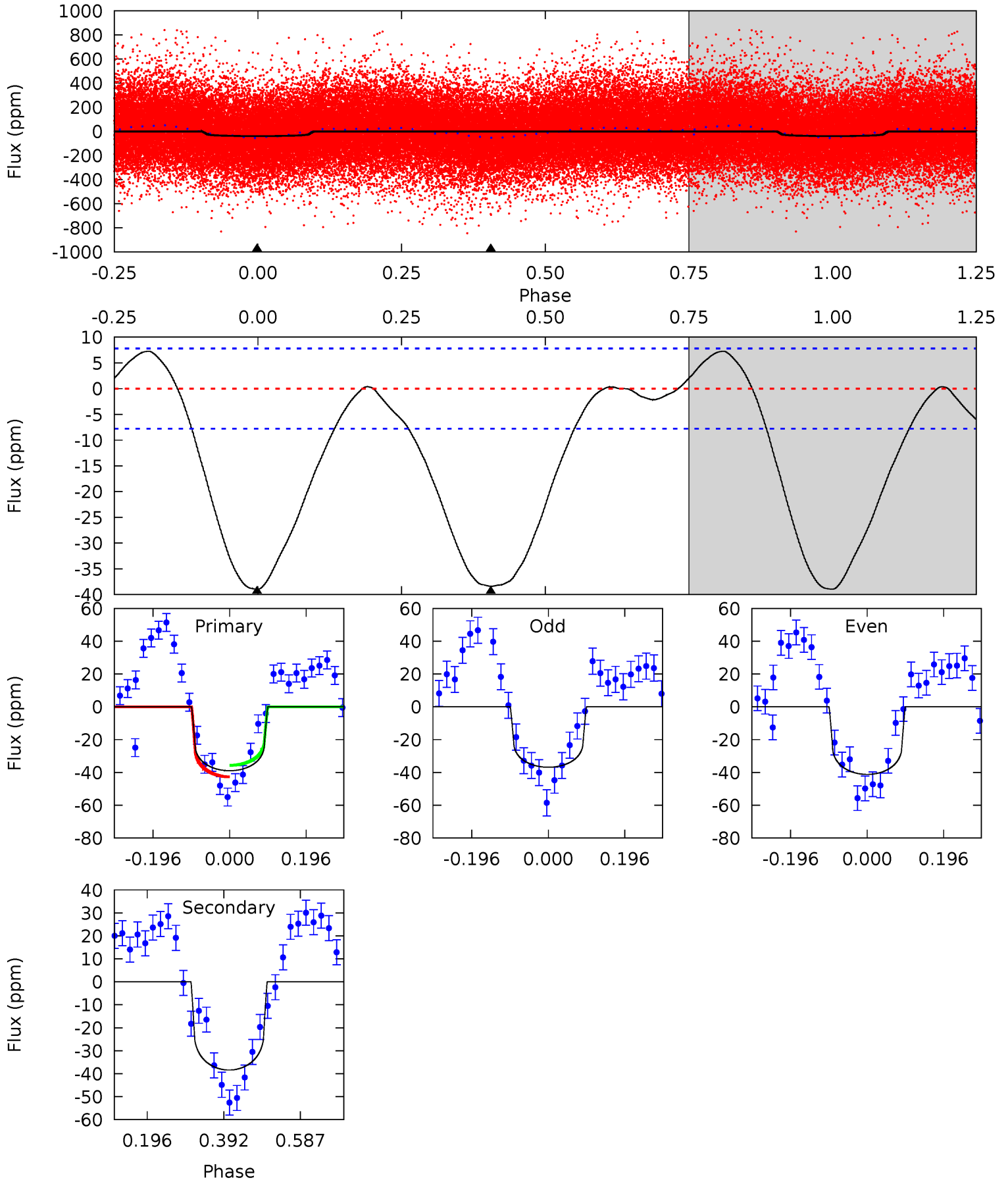
TCE 003945791-01 P= 2.130284 Days $T_0=133.540157$ (BKJD)



DV Model-Shift Uniqueness Test

003945791-01, P = 2.130203 Days, E = 131.436163 Days

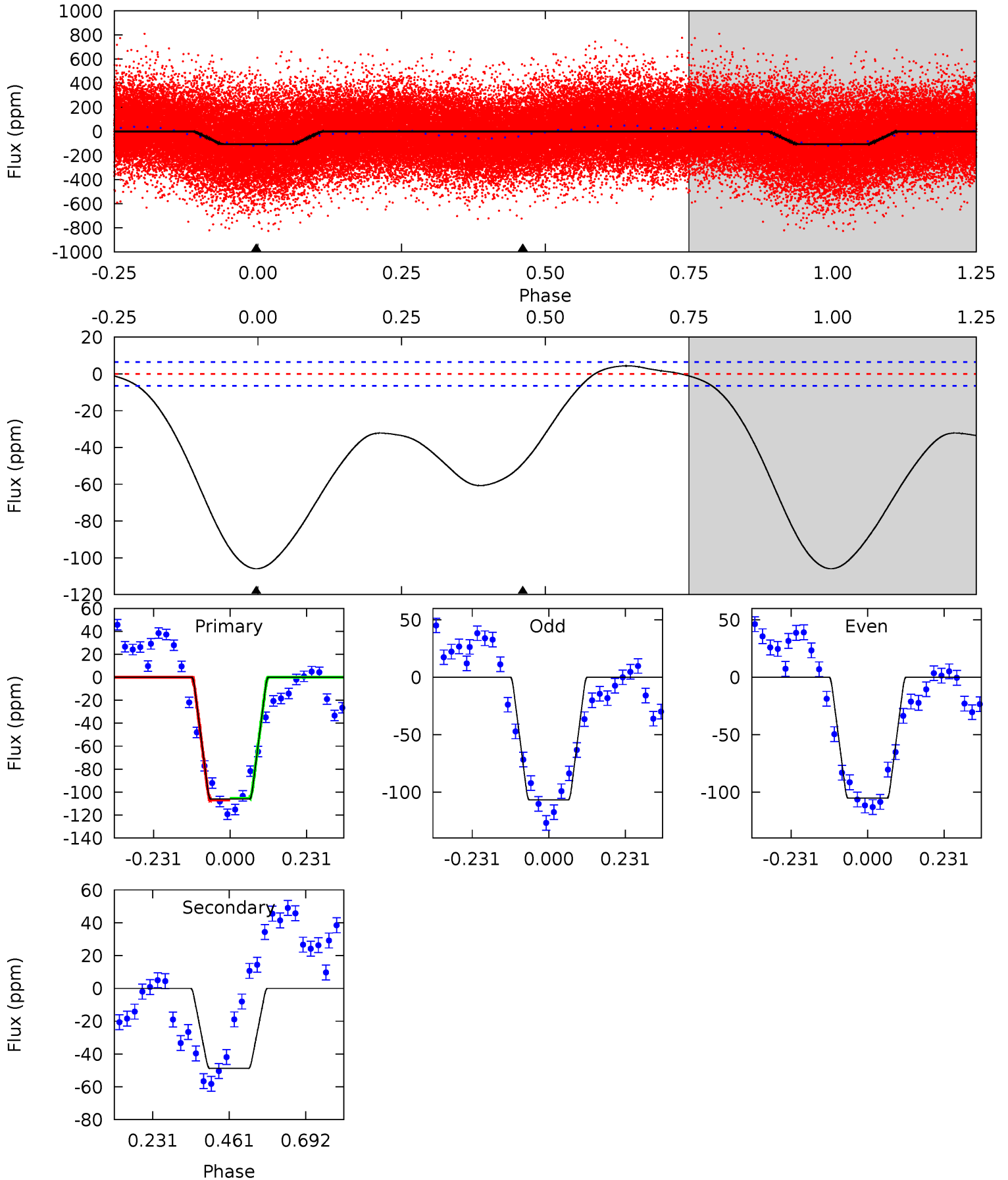
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.1	21.8	0	0	4.42	1.29	1.50	22.1	22.1	21.8	21.8	1.26	1.03	0.16	2.03



Alt Model-Shift Uniqueness Test

003945791-01, P = 2.130284 Days, E = 131.409873 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
71.9	33.1	0	0	4.39	1.20	7.82	71.9	71.9	33.1	33.1	0.51	1.04	0.04	0.49



Stellar Parameters For KIC 003945791

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6675^{+182}_{-202}	$3.522^{+0.352}_{-0.088}$	$-0.300^{+0.350}_{-0.250}$	$3.755^{+0.371}_{-1.482}$	$1.711^{+0.199}_{-0.369}$	$0.045^{+0.128}_{-0.013}$
	+3%/-3%	+10%/-2%	+117%/-83%	+10%/-39%	+12%/-22%	+281%/-29%
Source	PHO1	FLK73	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 003945791-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-38 ± 2	$2.28^{+0.80}_{-0.79}$	3969^{+215}_{-365}	6685^{+1829}_{-871}	$6.035^{+8.343}_{-2.613}$
Alt.	-49 ± 1	$4.19^{+0.97}_{-1.04}$	3976^{+210}_{-359}	5217^{+551}_{-439}	$2.319^{+1.647}_{-0.805}$

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 $A_{obs} \gg 1.0$

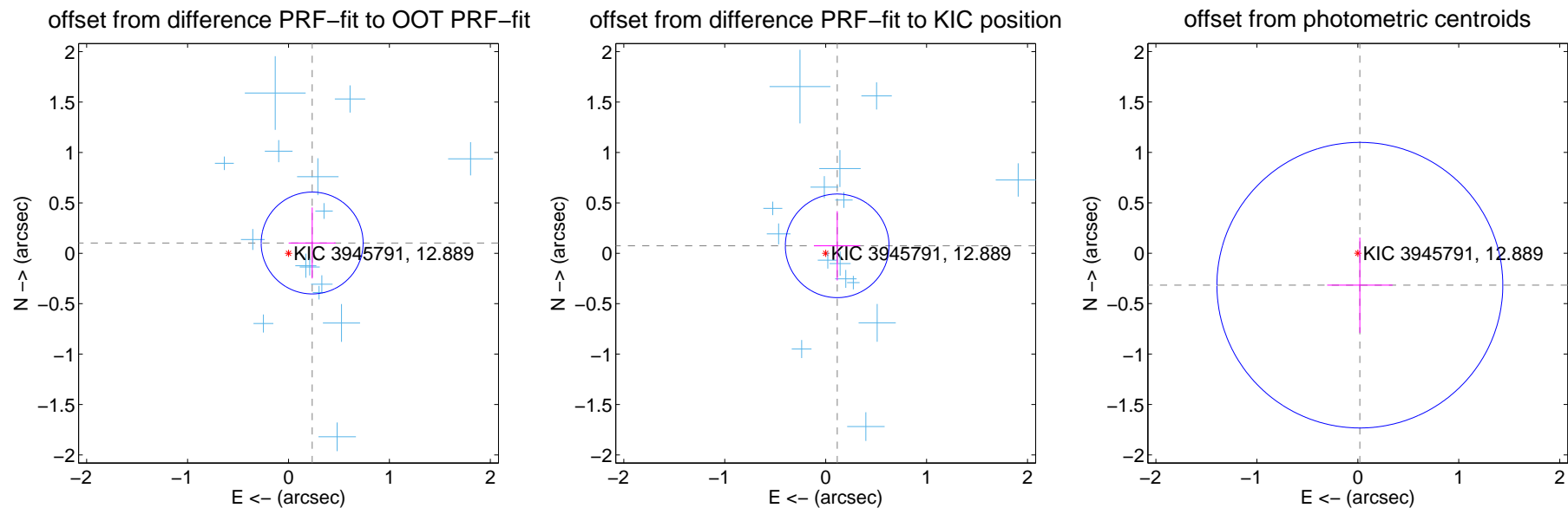
DV Centroid Data

Supplemental centroid analysis for 003945791-01. Kepler magnitude: 12.89. Transit SNR 10.57

There are 15 quarters with good PRF difference image offsets

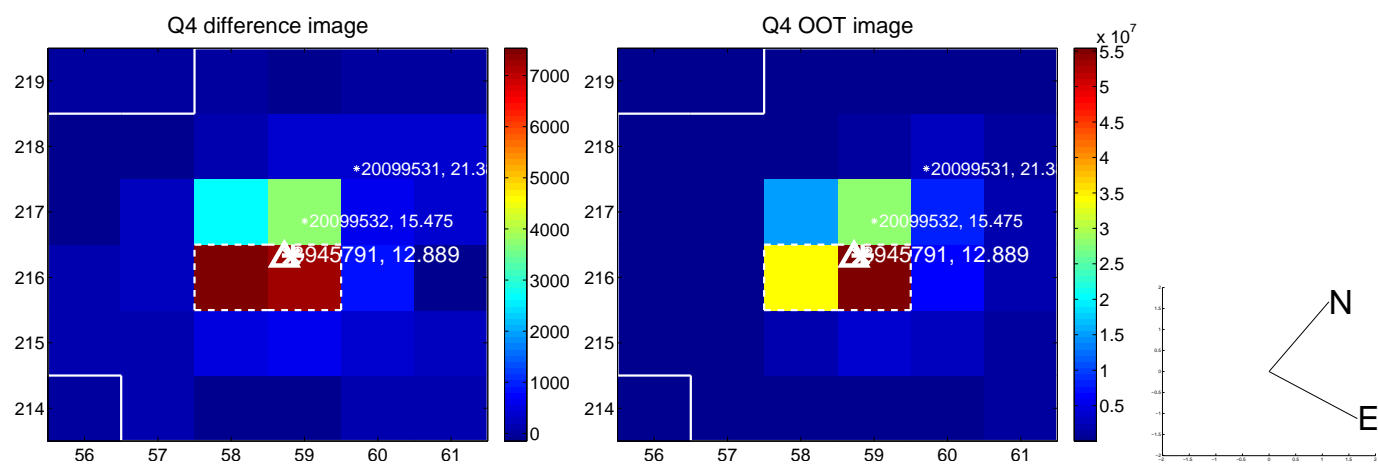
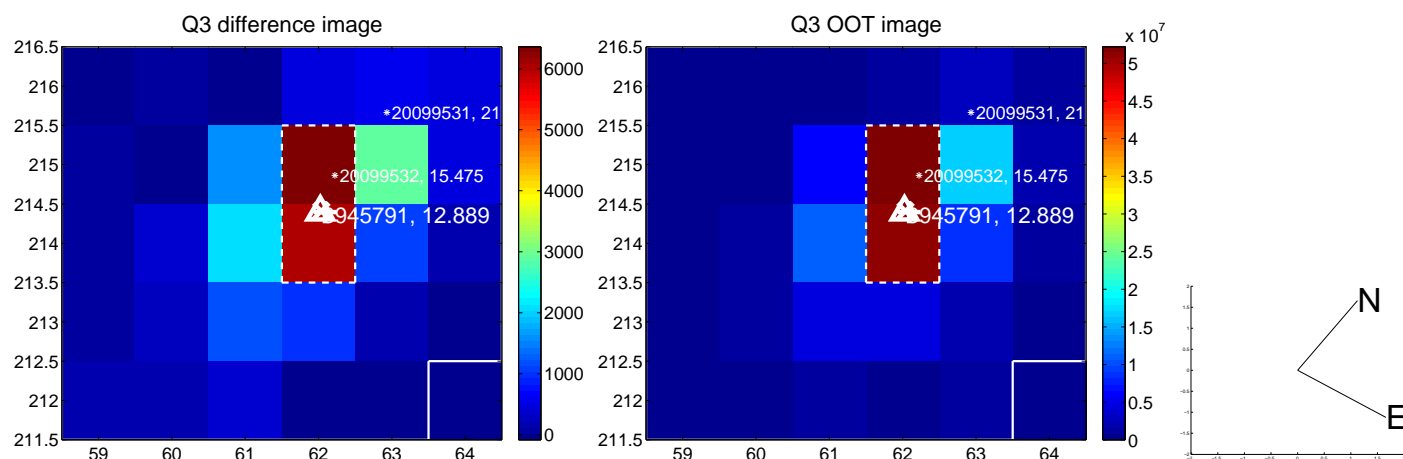
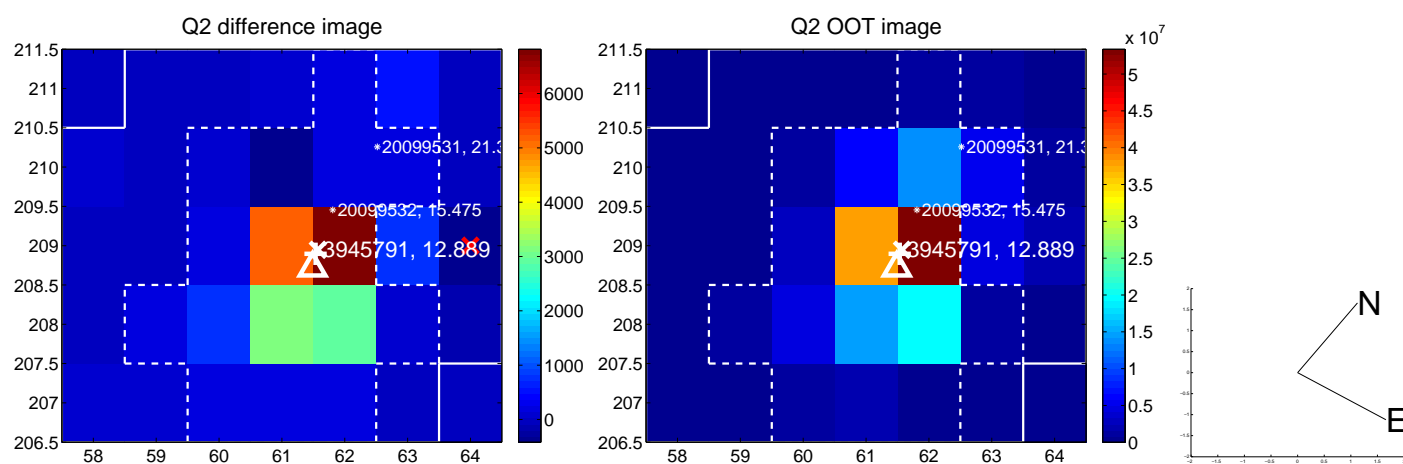
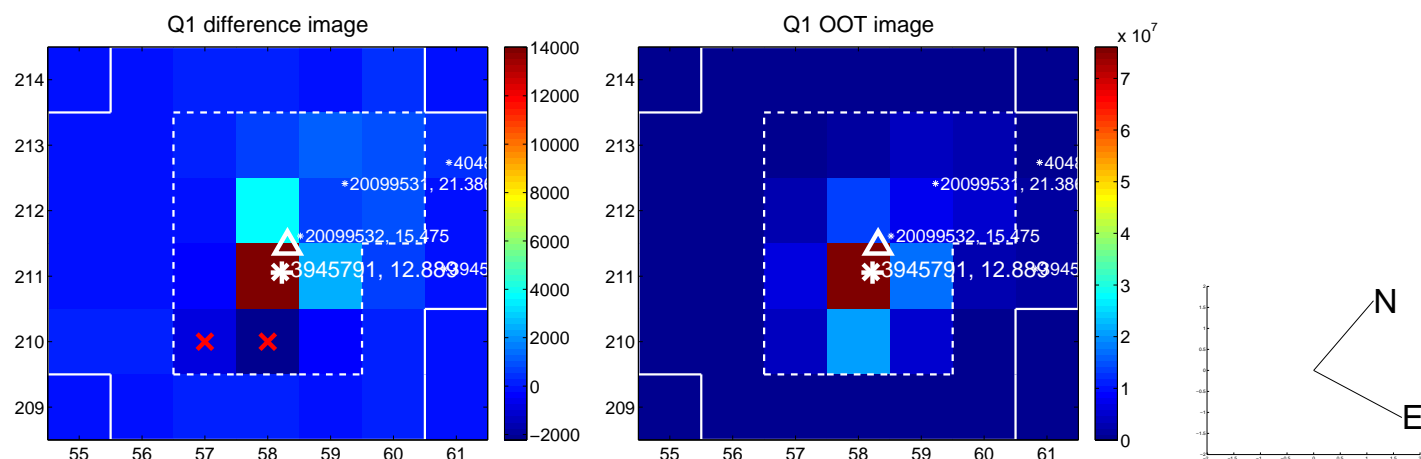
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.256 ± 0.168	1.52	-0.234 ± 0.233	0.102 ± 0.352
PRF-fit source offset from KIC position	0.136 ± 0.171	0.79	-0.114 ± 0.229	0.074 ± 0.344
photometric centroid source offset	0.32 ± 0.47	0.67	-0.02 ± 0.32	-0.32 ± 0.47

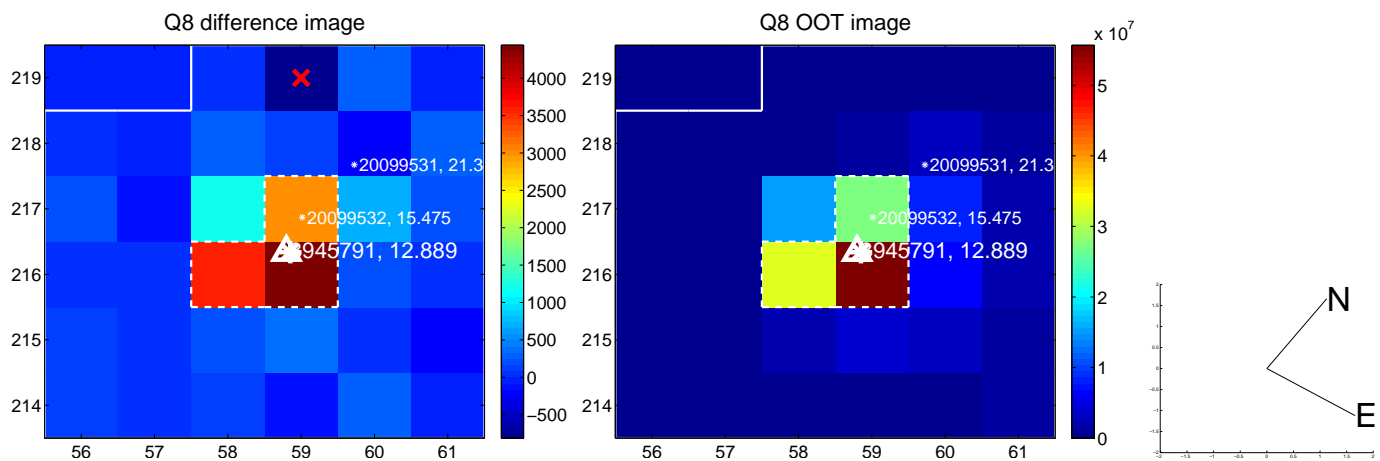
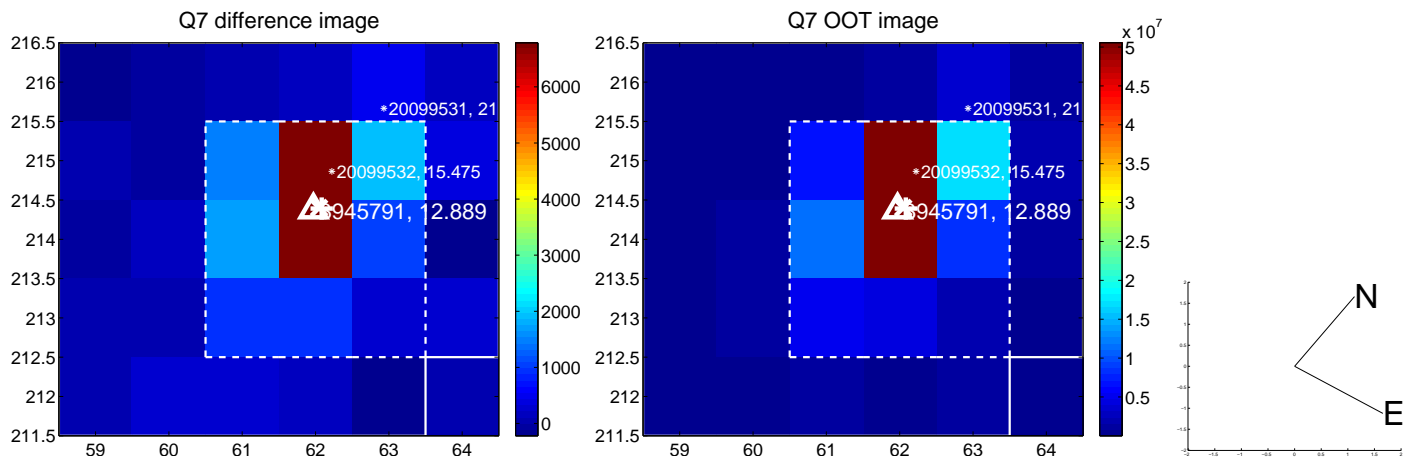
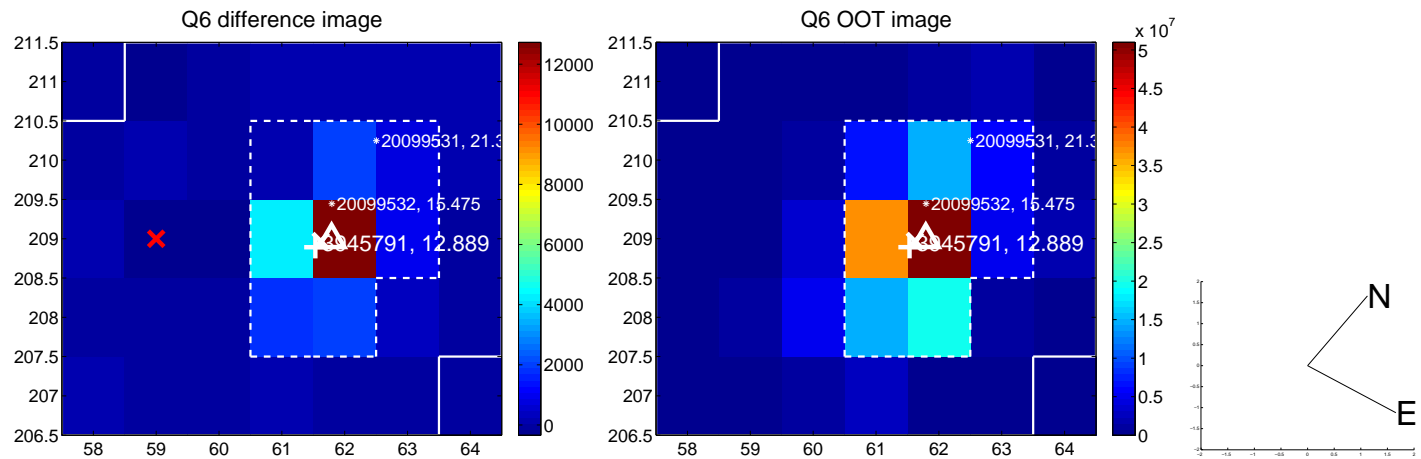
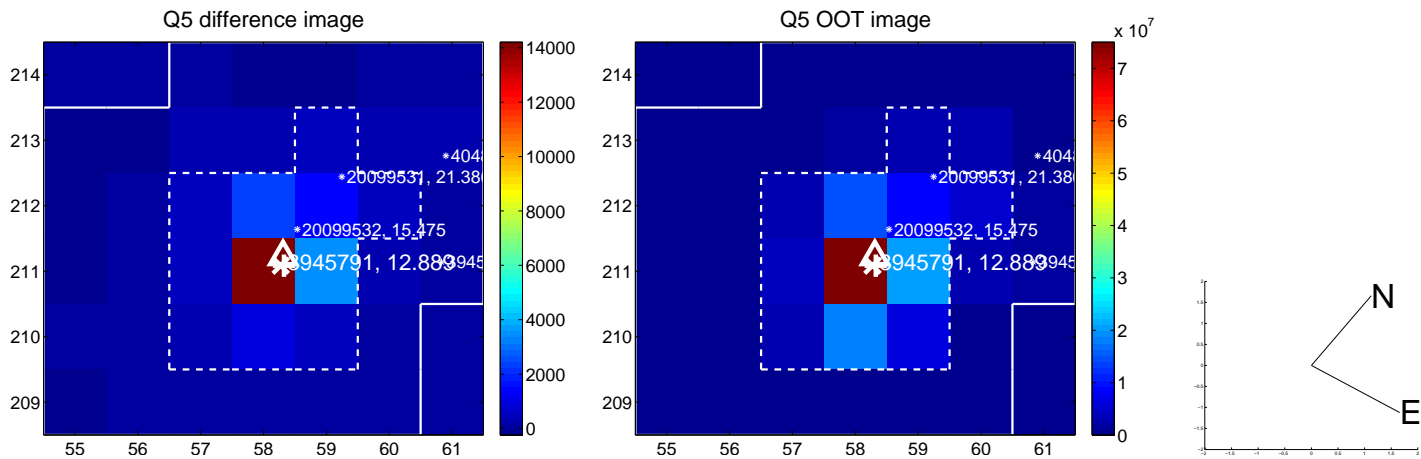


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

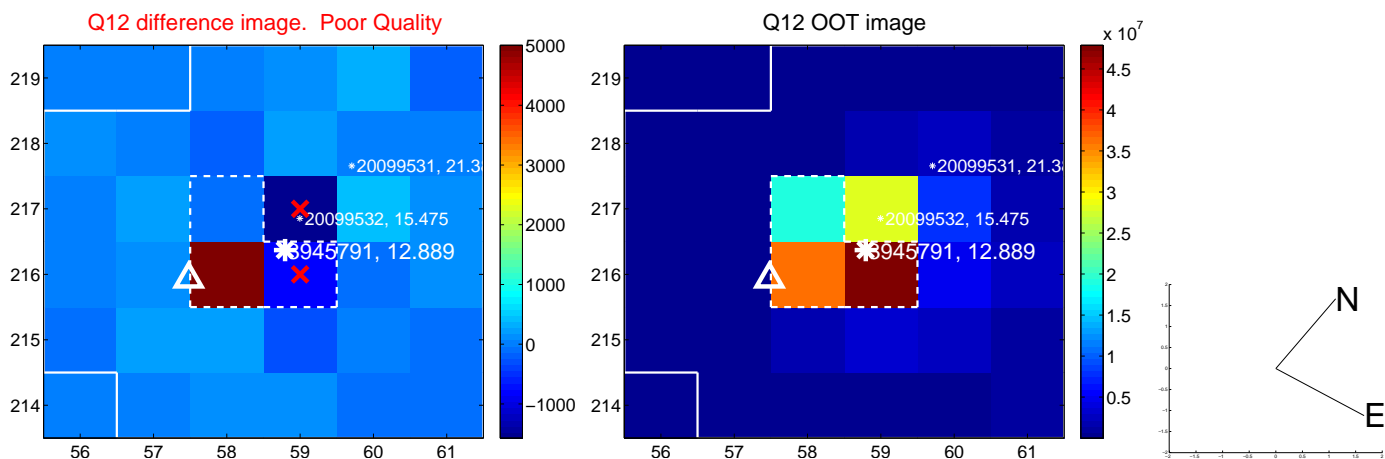
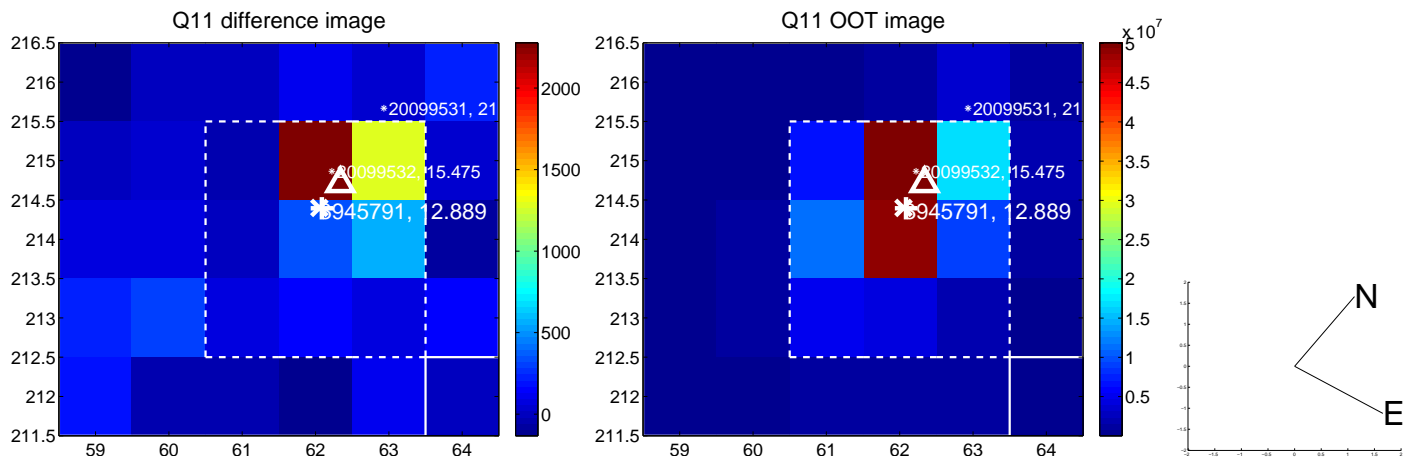
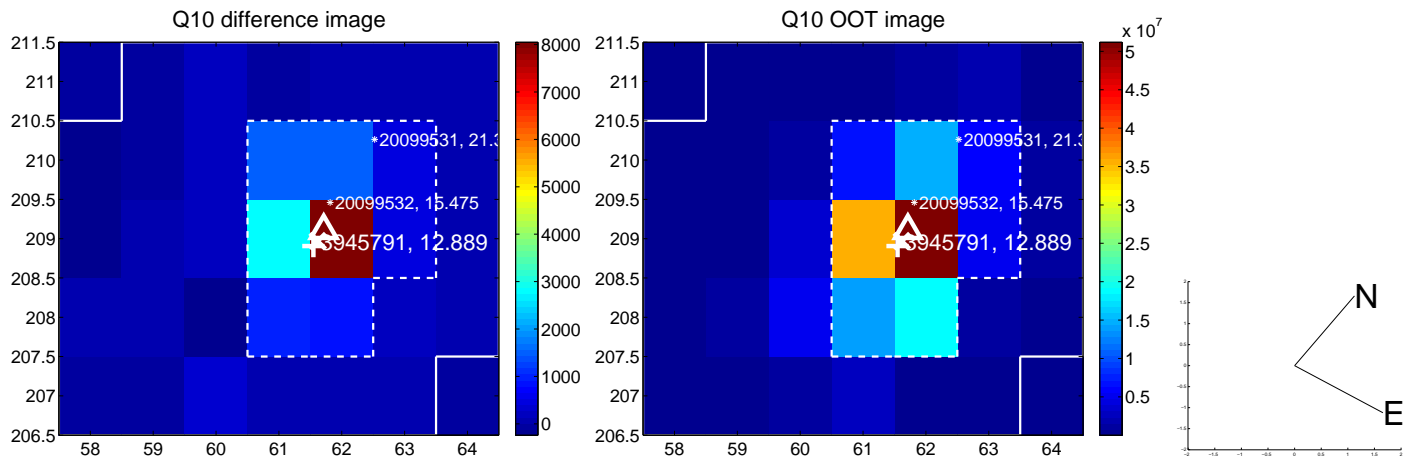
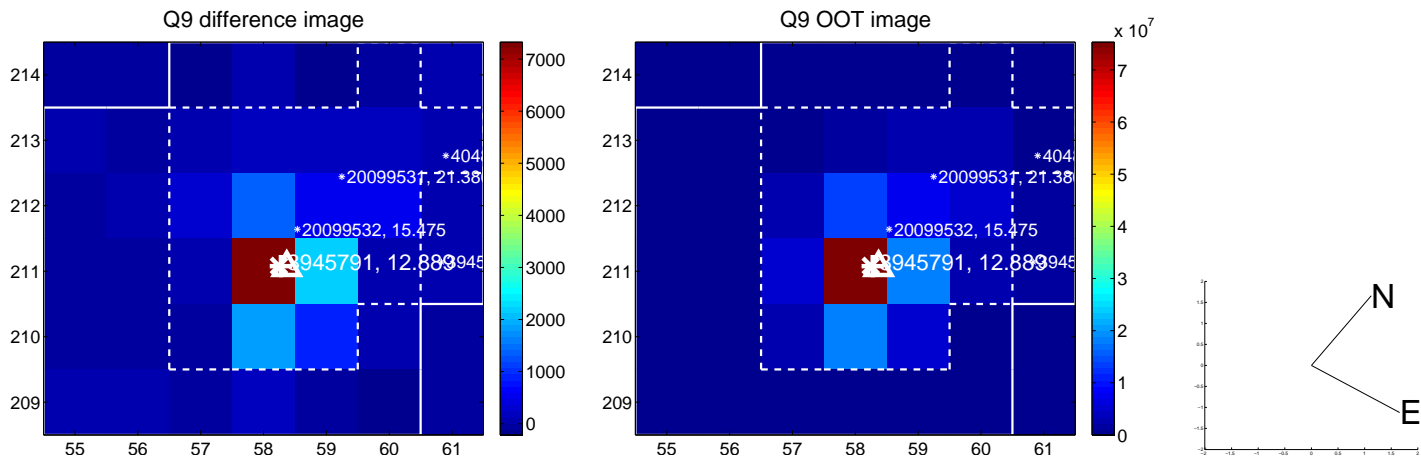
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



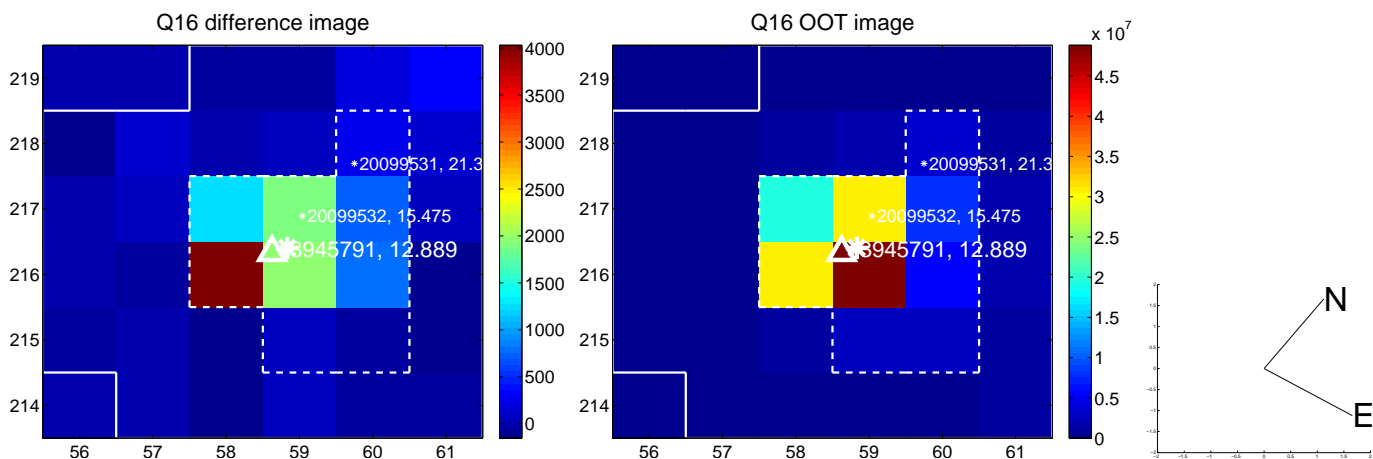
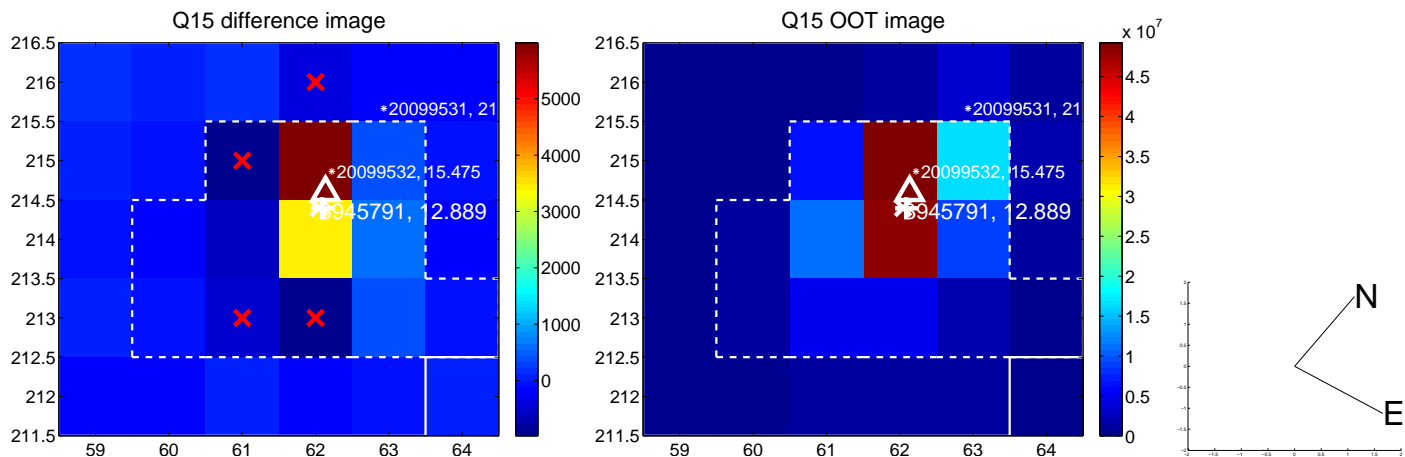
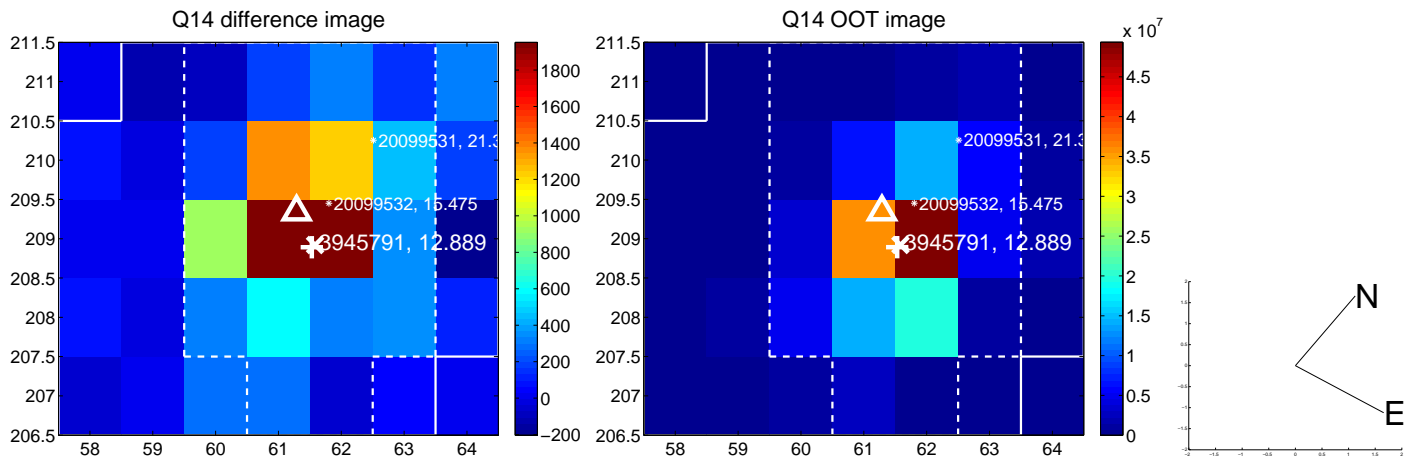
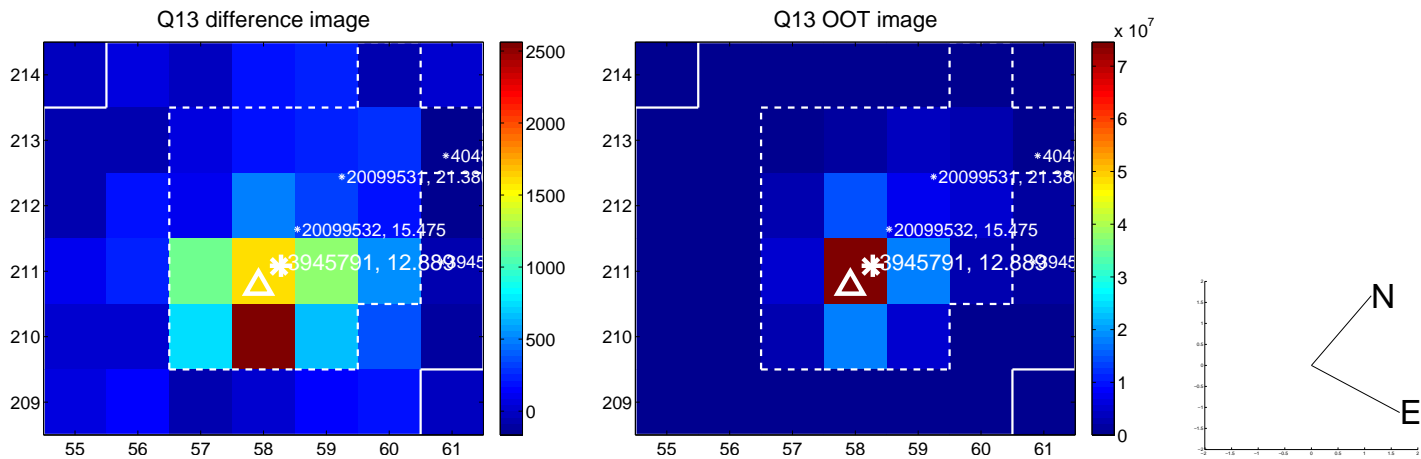
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



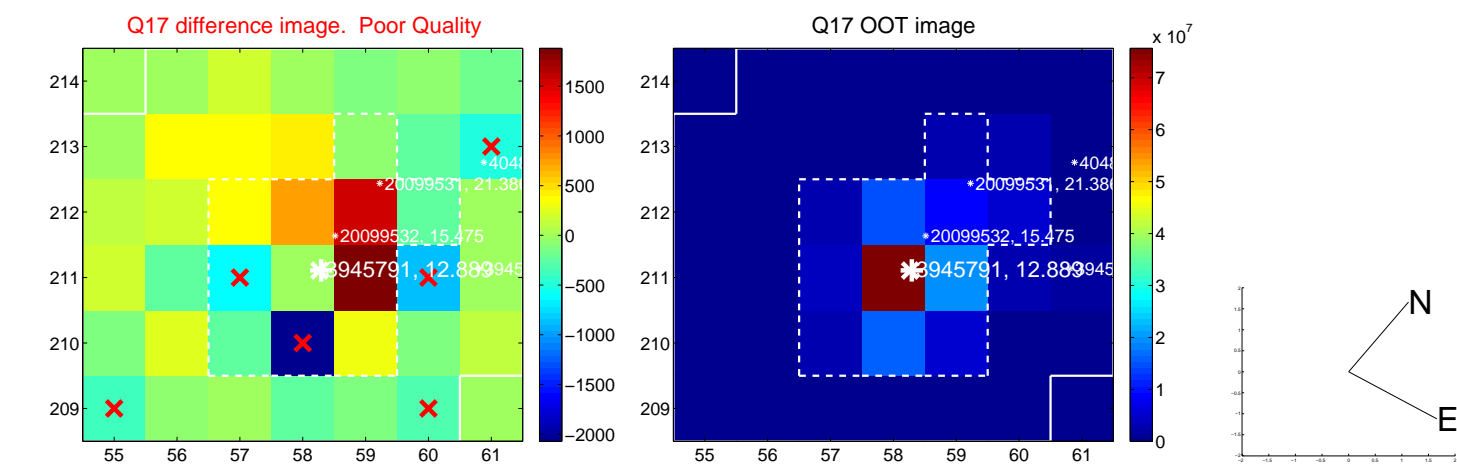
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



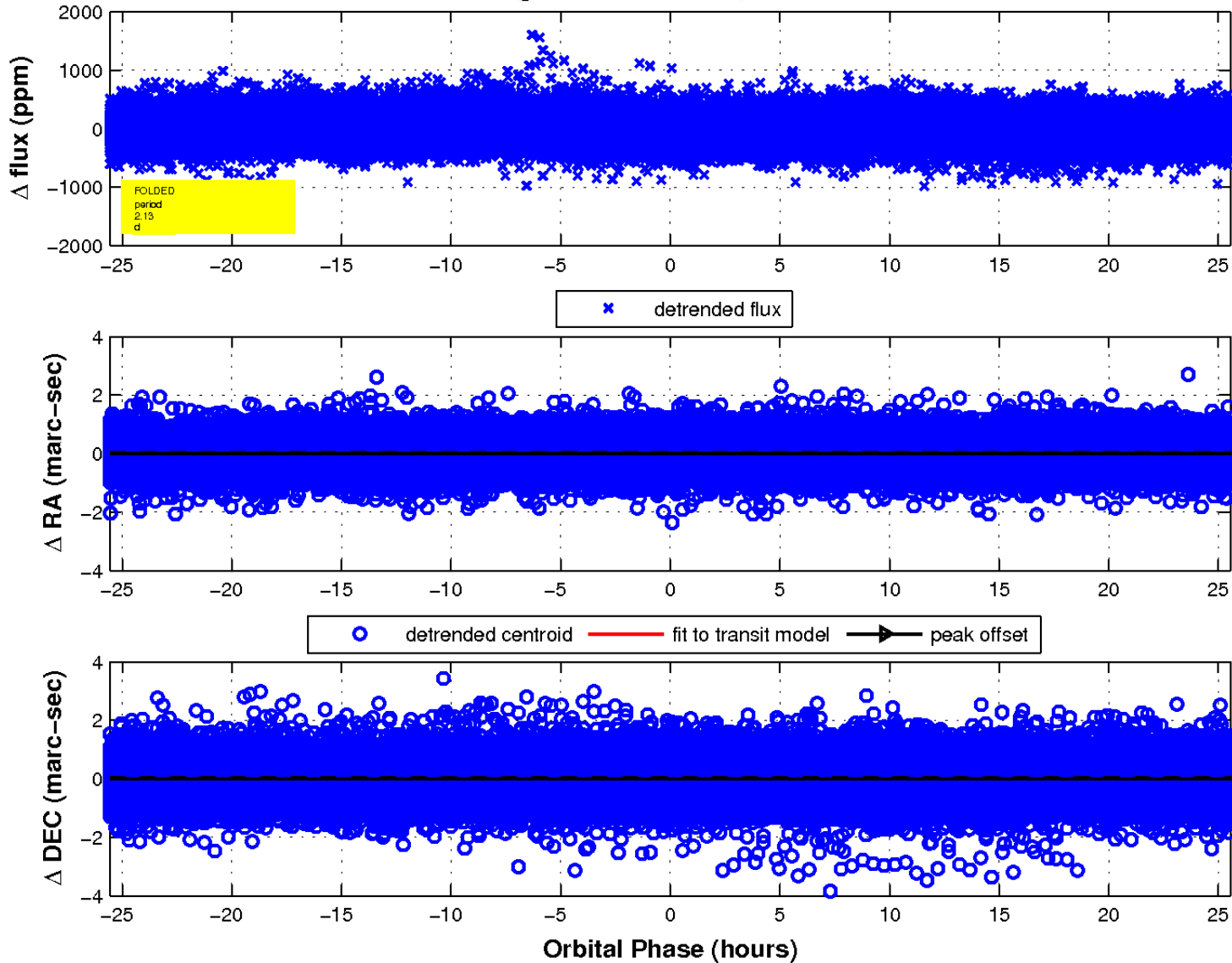
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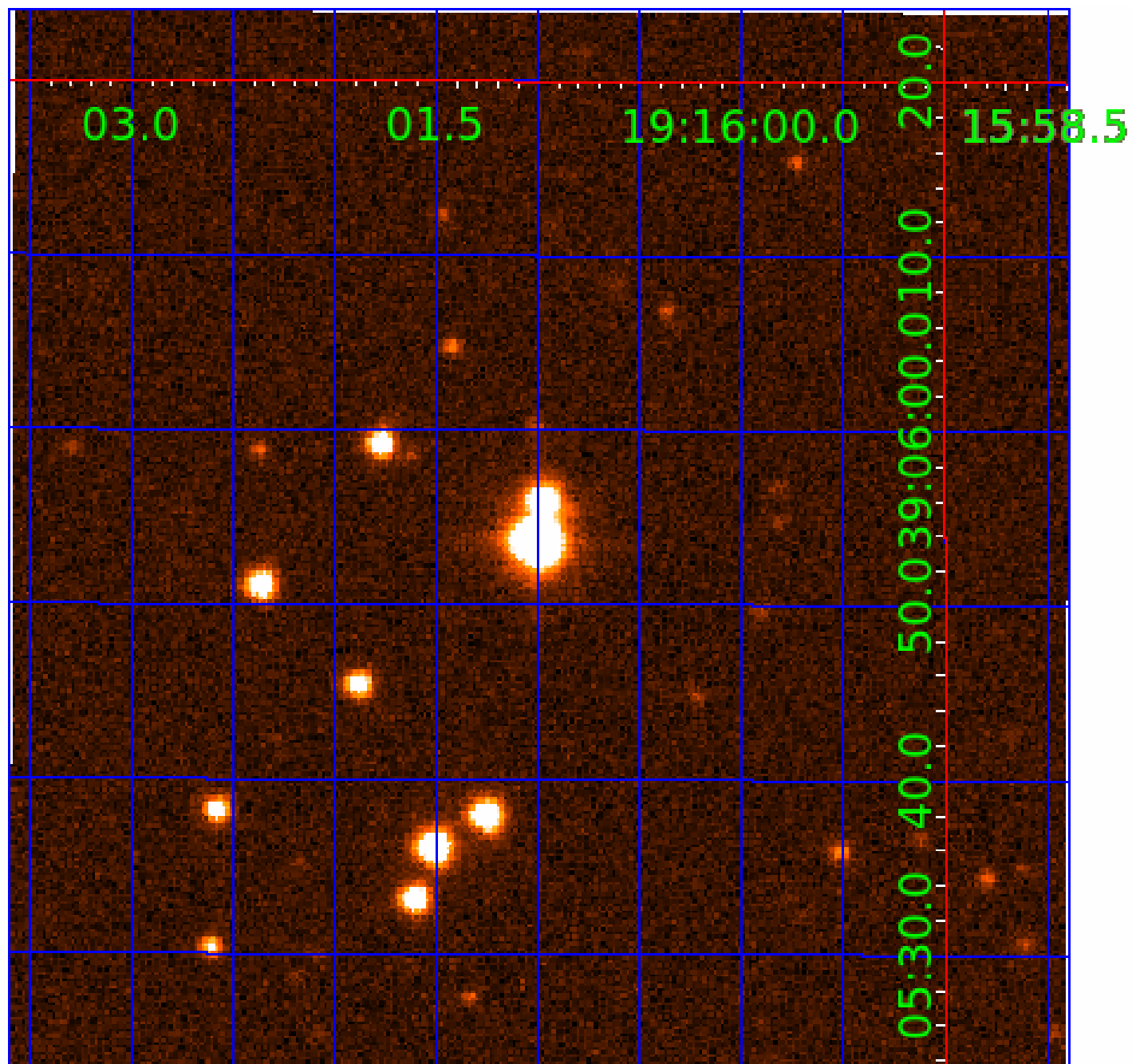


fluxWeightedCentroids, Planet 1 of 6



UKIRT Image

Declination



KIC 003945791

Q1-17 DR25 TCE Parameters

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Robovetter Results

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003945791-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003945791-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
003945791-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003945791-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT
003945791-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

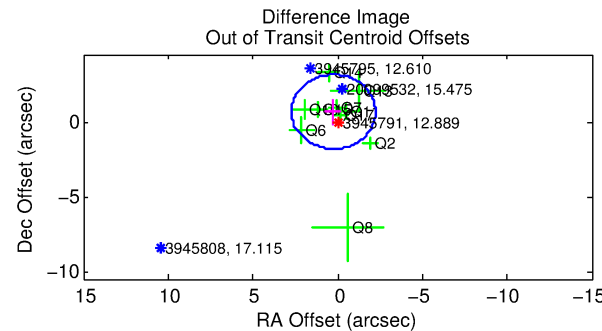
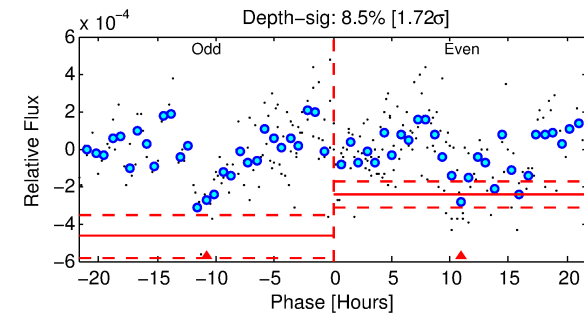
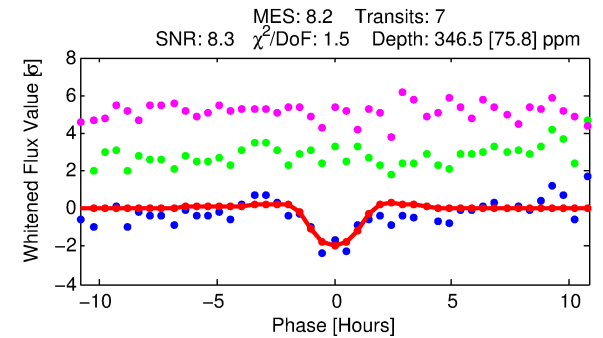
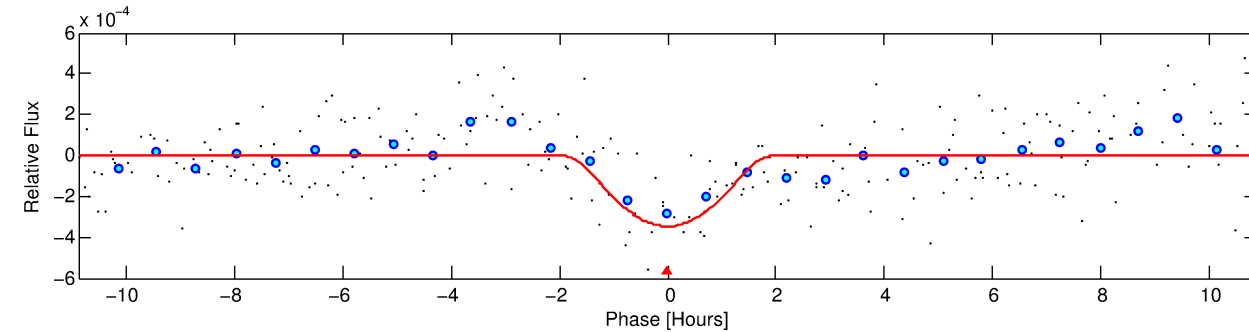
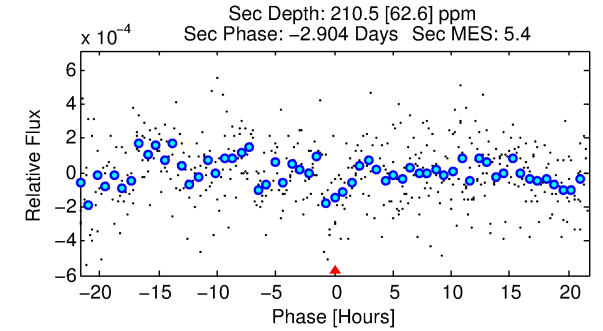
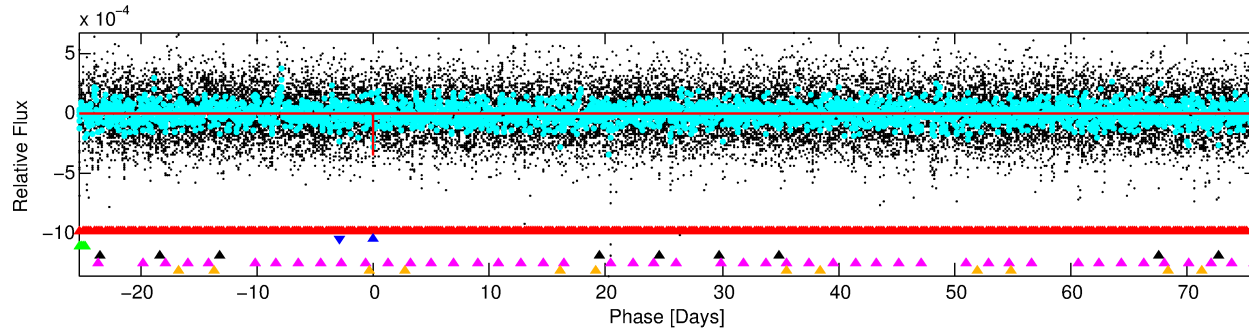
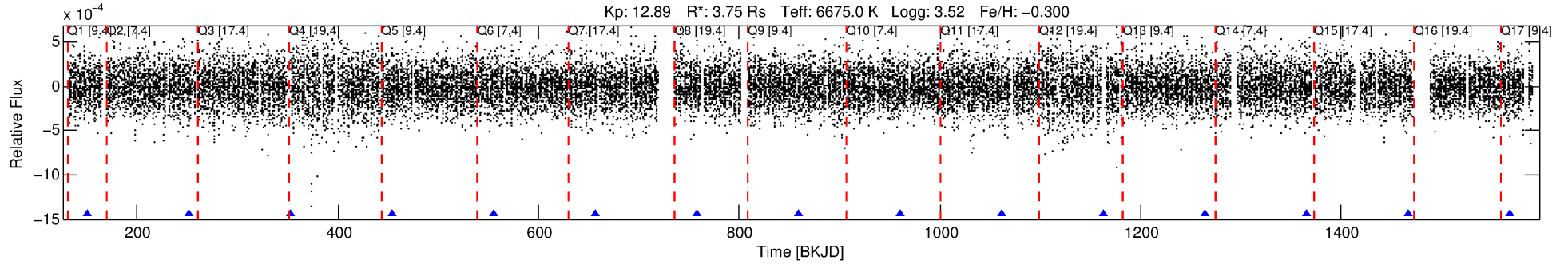
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003945791-02

No Significant Match Found

DV One-Page Summary

KIC: 3945791 Candidate: 2 of 6 Period: 101.283 d



DV Fit Results:

Period = 101.28306 [0.00135] d
Epoch = 150.4130 [0.0117] BKJD
Rp/R* = 0.0297 [0.1093]
a/R* = 56.94 [65.21]
b = 0.99 [0.18]
Seff = 96.91 [59.42]
Teq = 800 [123] K
Rp = 12.16 [45.06] Re
a = 0.5087 [0.1918] AU
Ag = 202.70 [1500.17] [0.13σ]
Teffp = 4667 [8609] K [0.45σ]

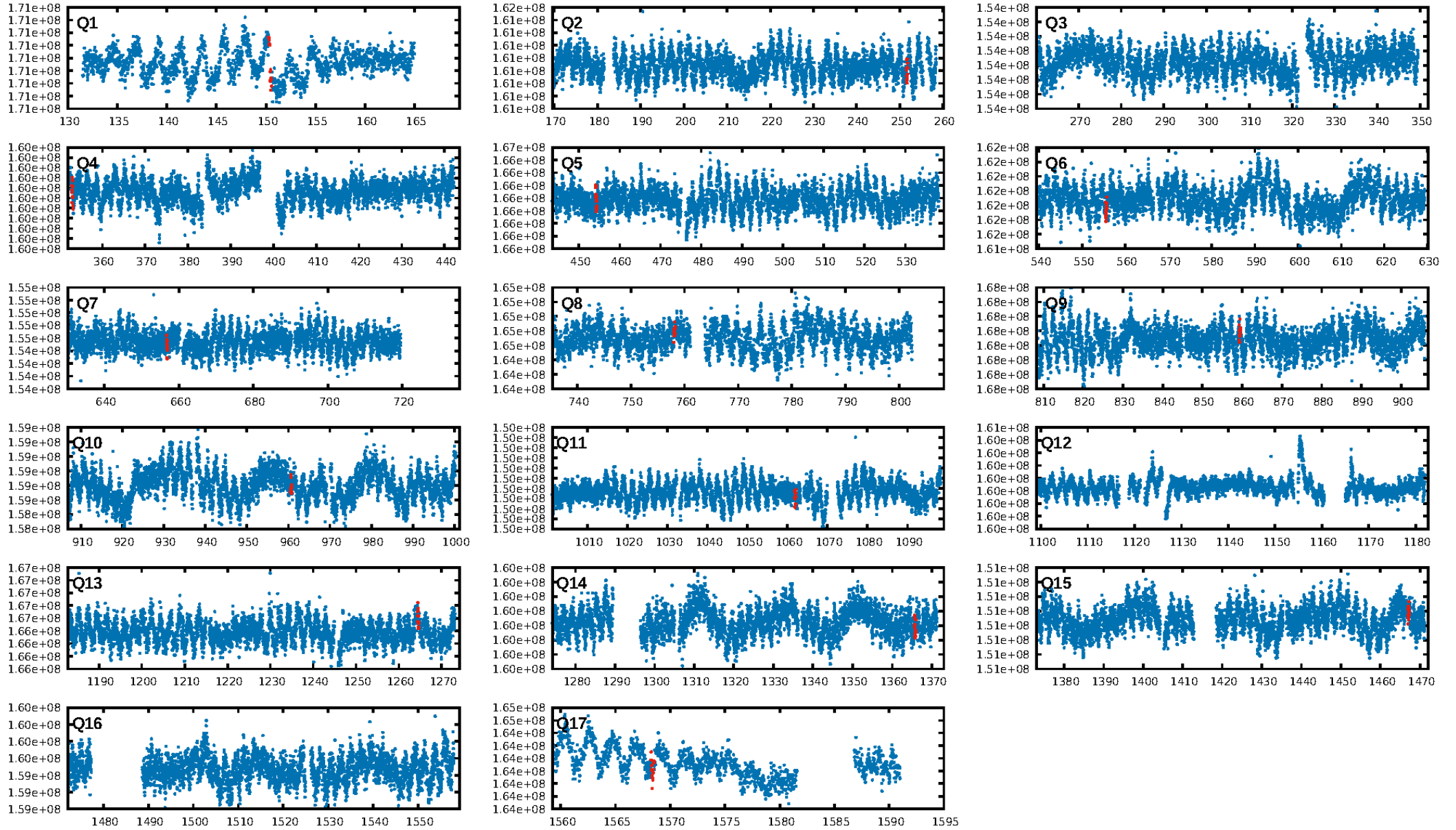
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [412.12σ]
LongPeriod-sig: 100.0% [86.01σ]
ModelChiSquare2-sig: 2.0%
ModelChiSquareGof-sig: 76.8%
Bootstrap-pfa: 1.03e-10
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.4531
Centroid-sig: 36.3%
Centroid-so: 0.516 arcsec [0.77σ]
OotOffset-rm: 0.716 arcsec [0.87σ]
KicOffset-rm: 0.788 arcsec [0.97σ]
OotOffset-st: 4/3/1/2 [10]
KicOffset-st: 4/3/1/2 [10]
DiffImageQuality-fgm: 0.60 [6/10]
DiffImageOverlap-fno: 0.46 [6/13]

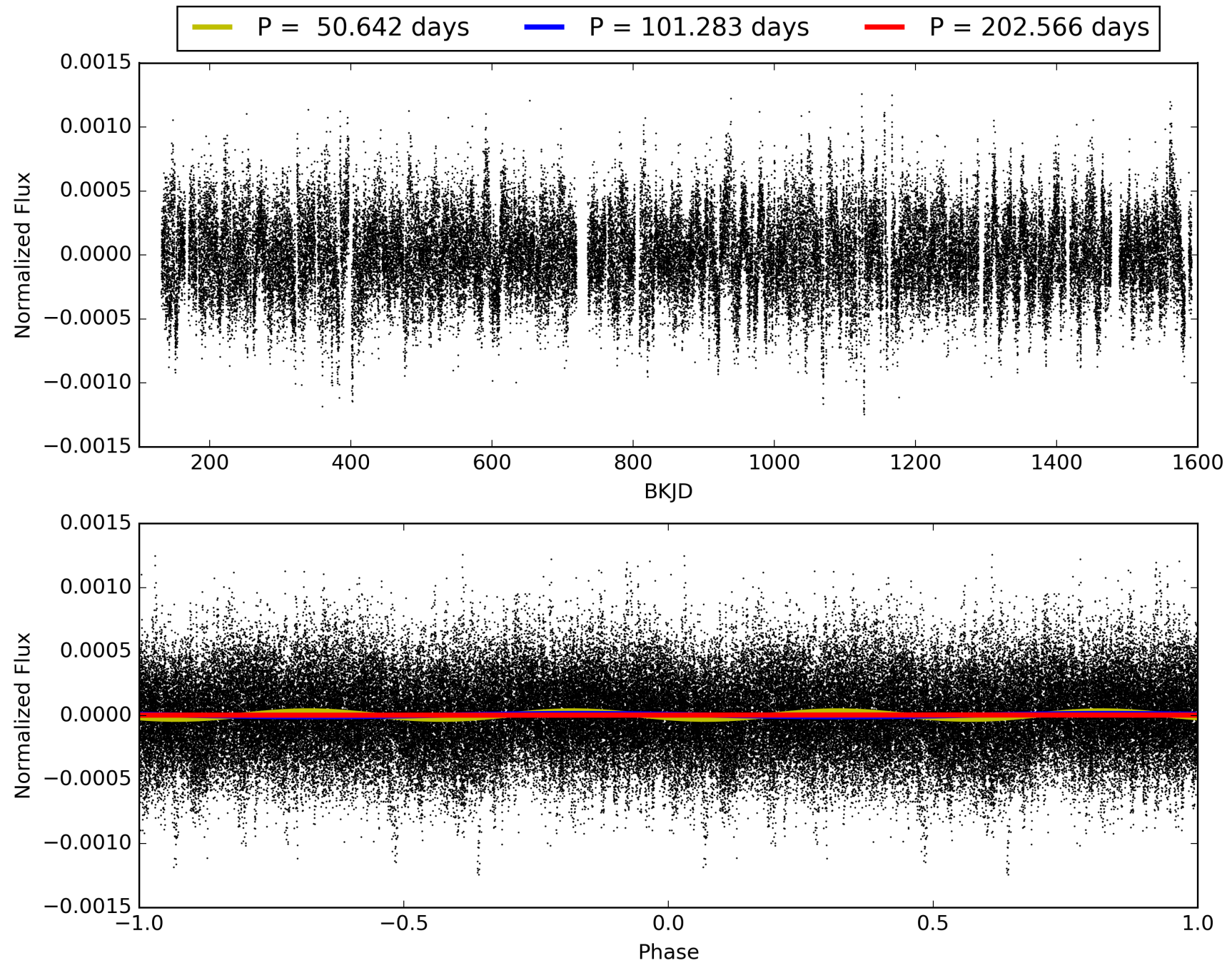
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 22:55:58 Z

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

TCE 003945791-02, PDC Light Curves

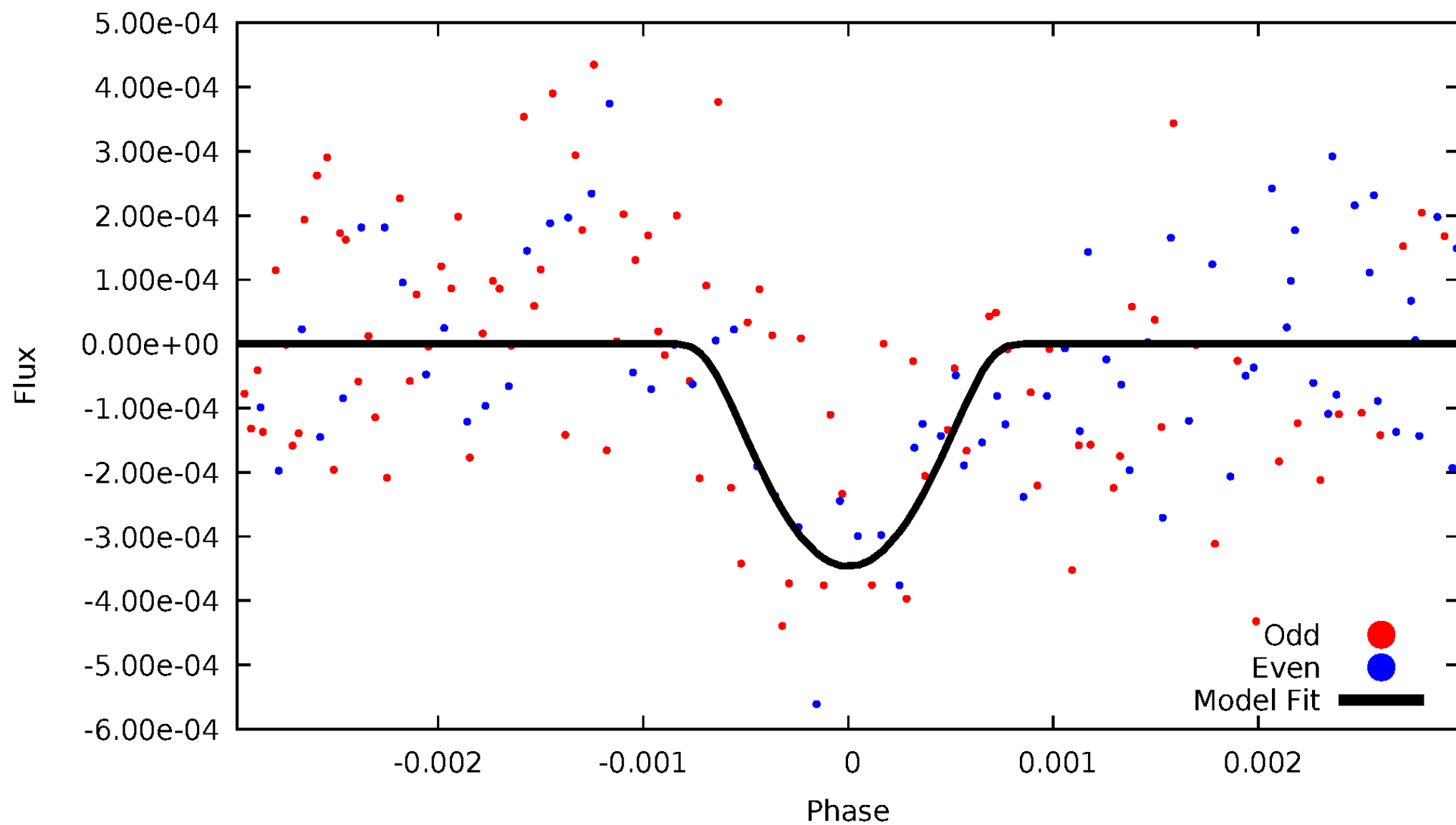


TCE 003945791-02



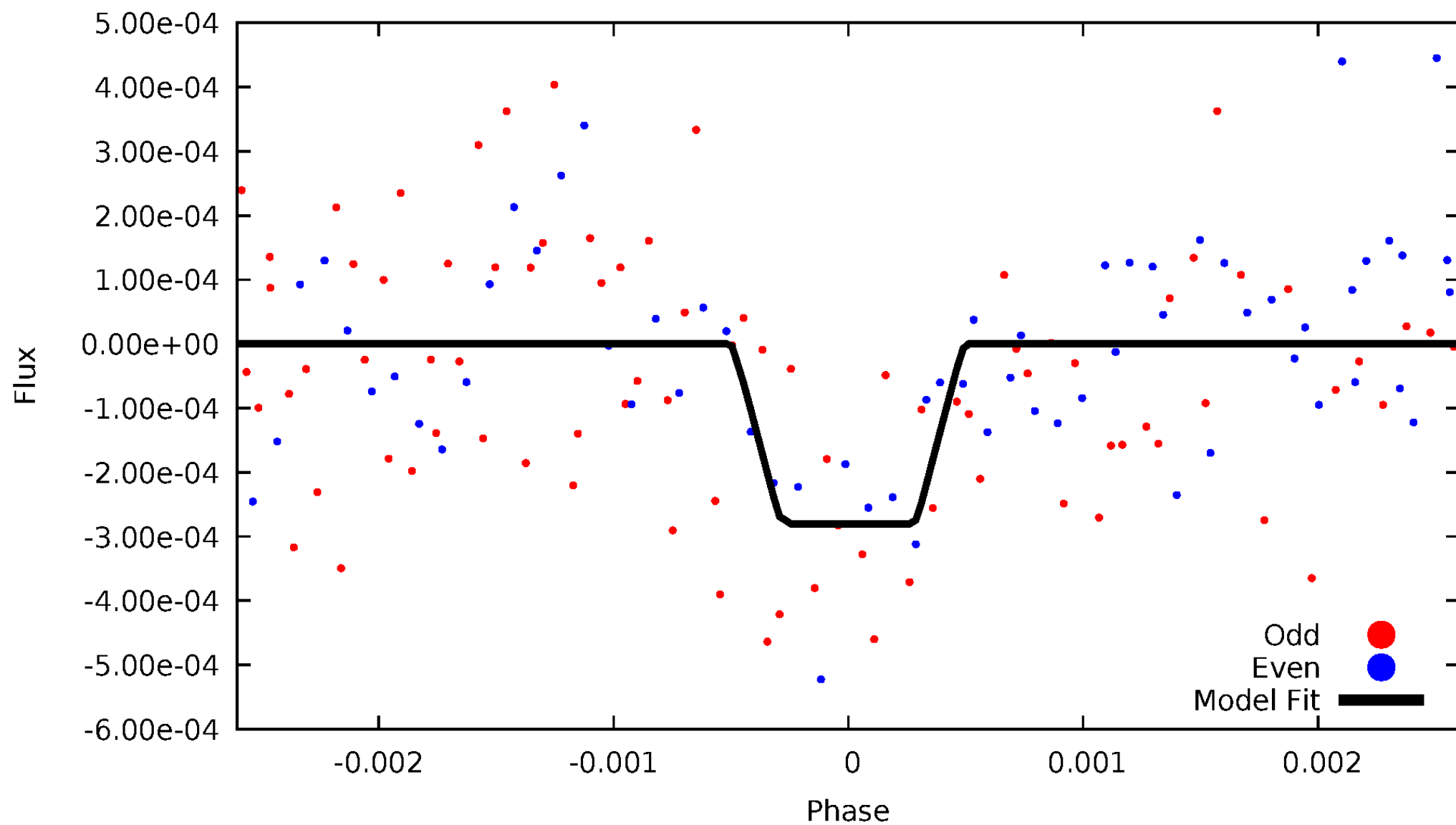
DV Odd/Even

TCE 003945791-02



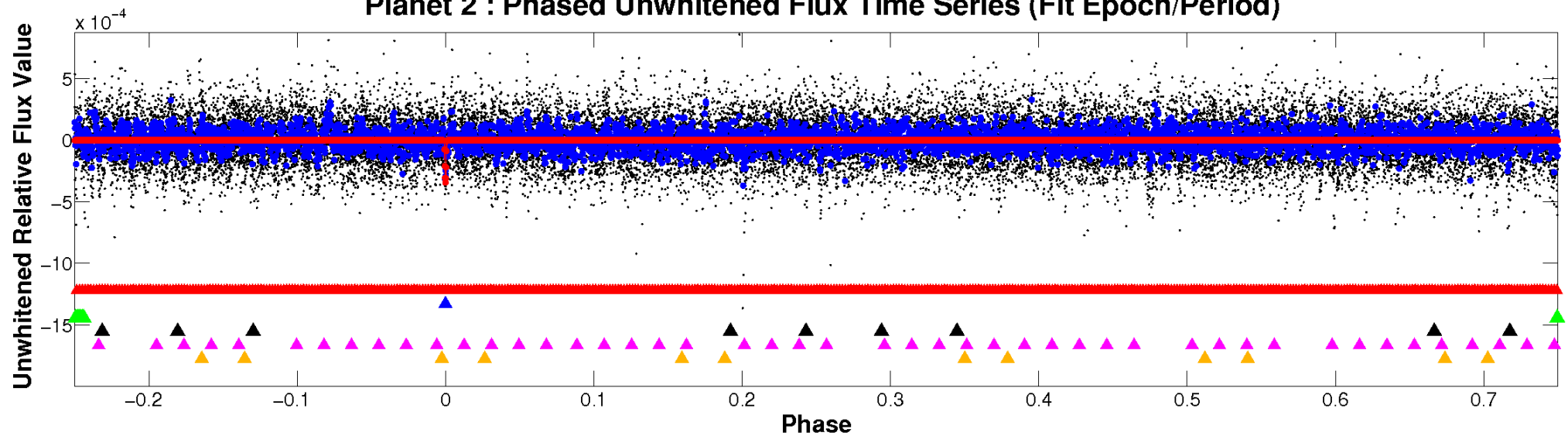
ALT Odd/Even

TCE 003945791-02

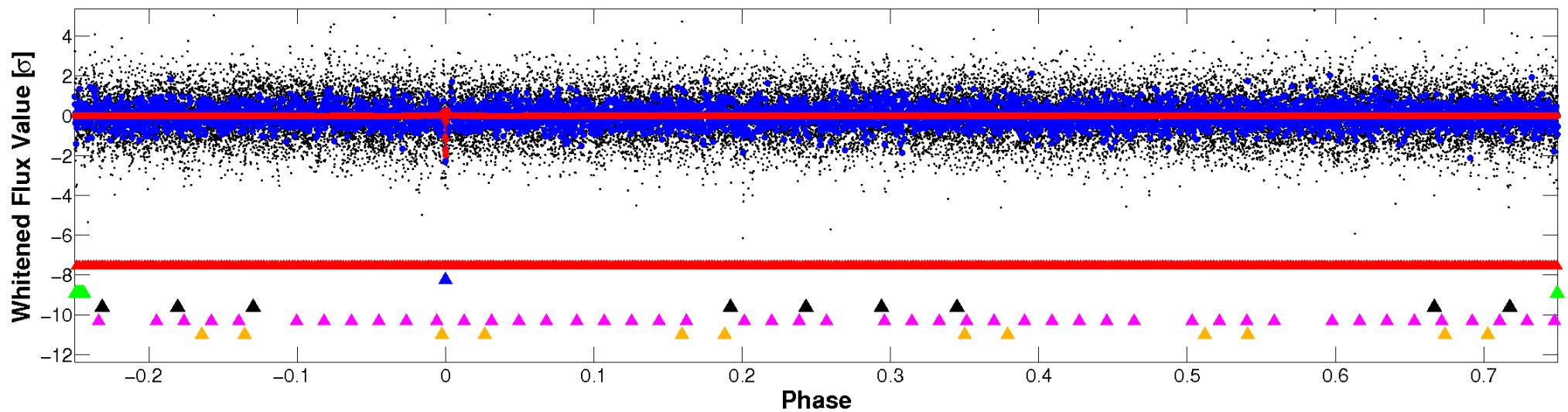


Non-Whitened Vs. Whitened Light Curve

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

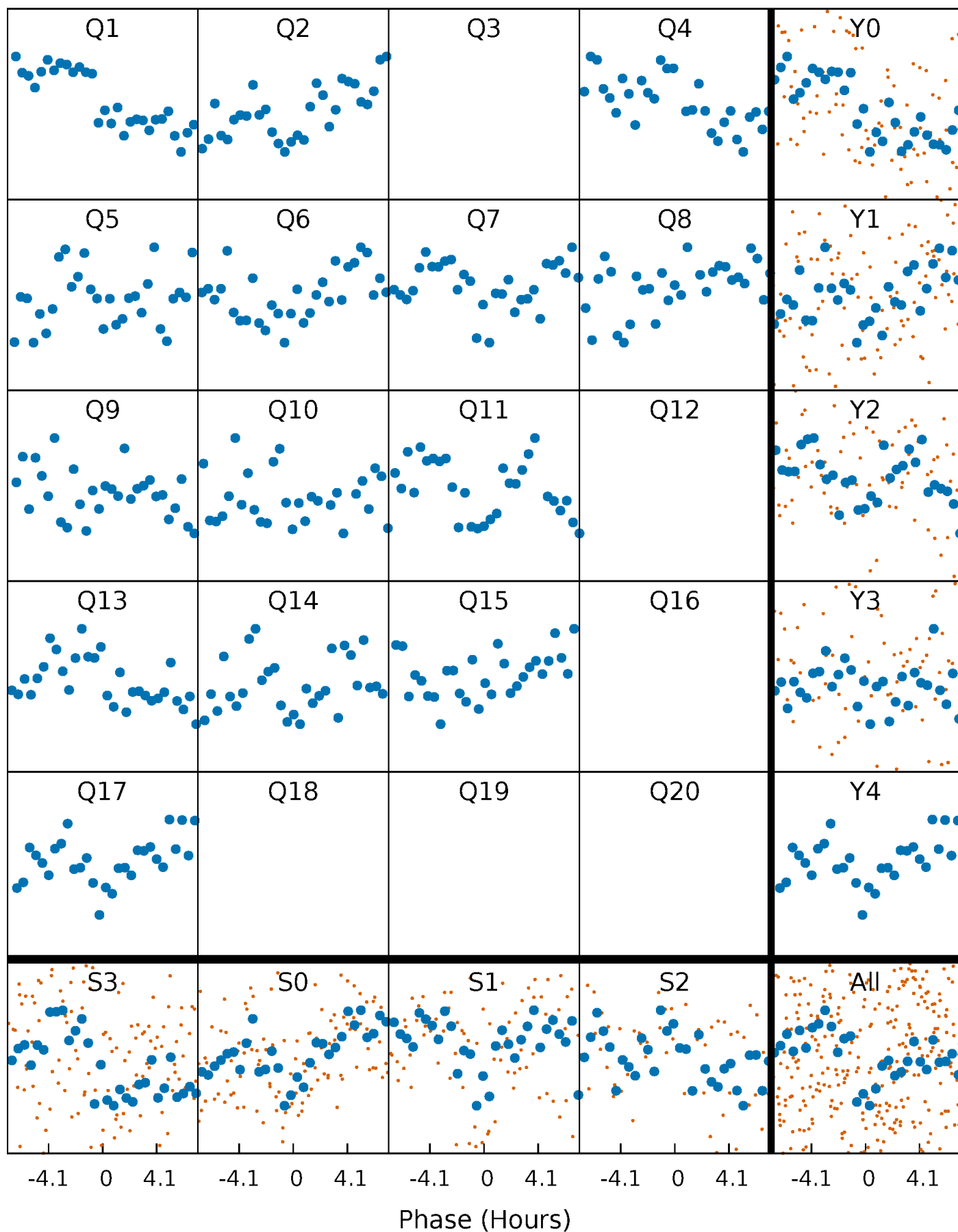


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



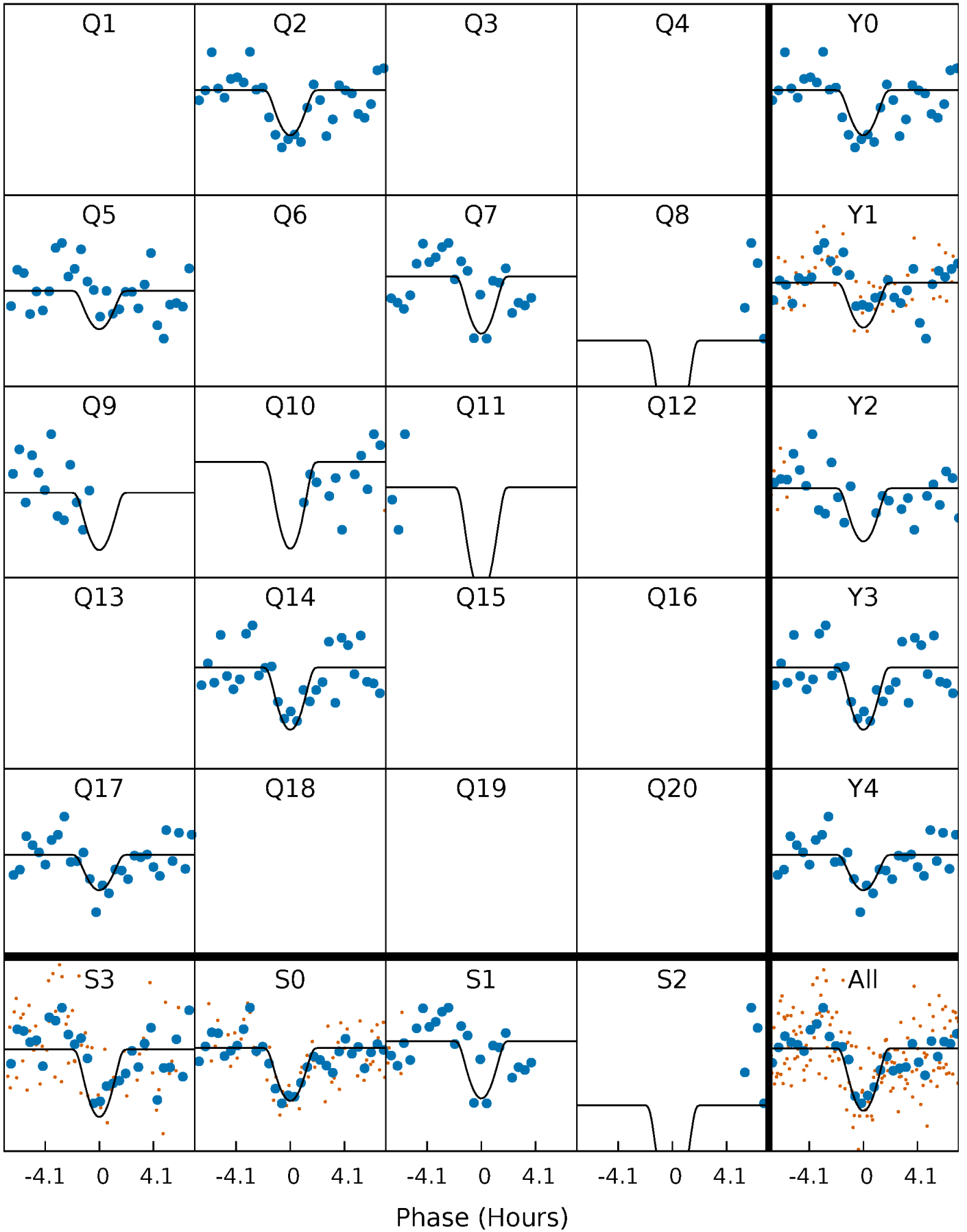
PDC Quarter-Phased Transit Curves

TCE 003945791-02 P=101.283060 Days $T_0=150.413006$ (BKJD)



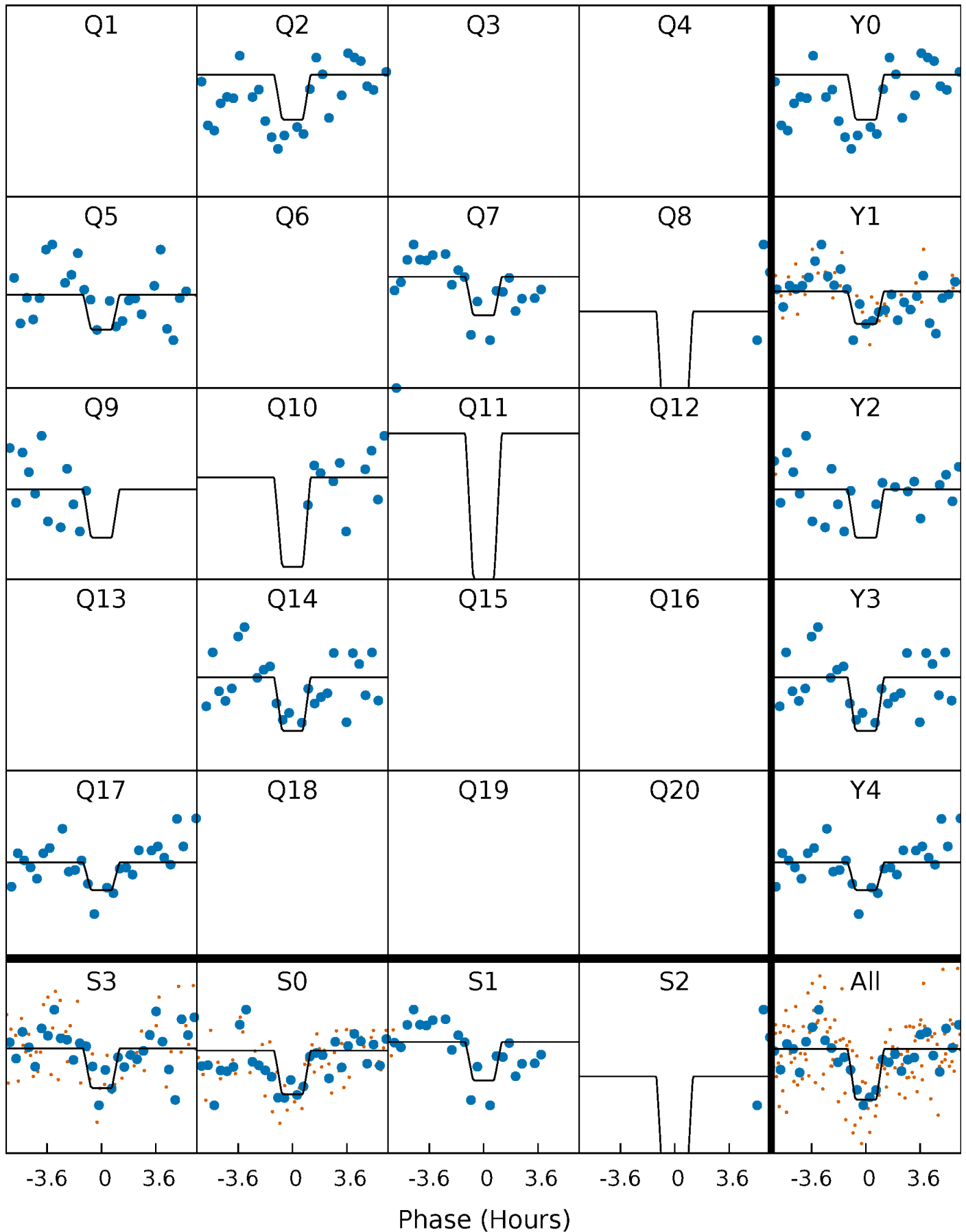
DV Quarter-Phased Transit Curves

TCE 003945791-02 $P=101.283060$ Days $T_0=150.413006$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

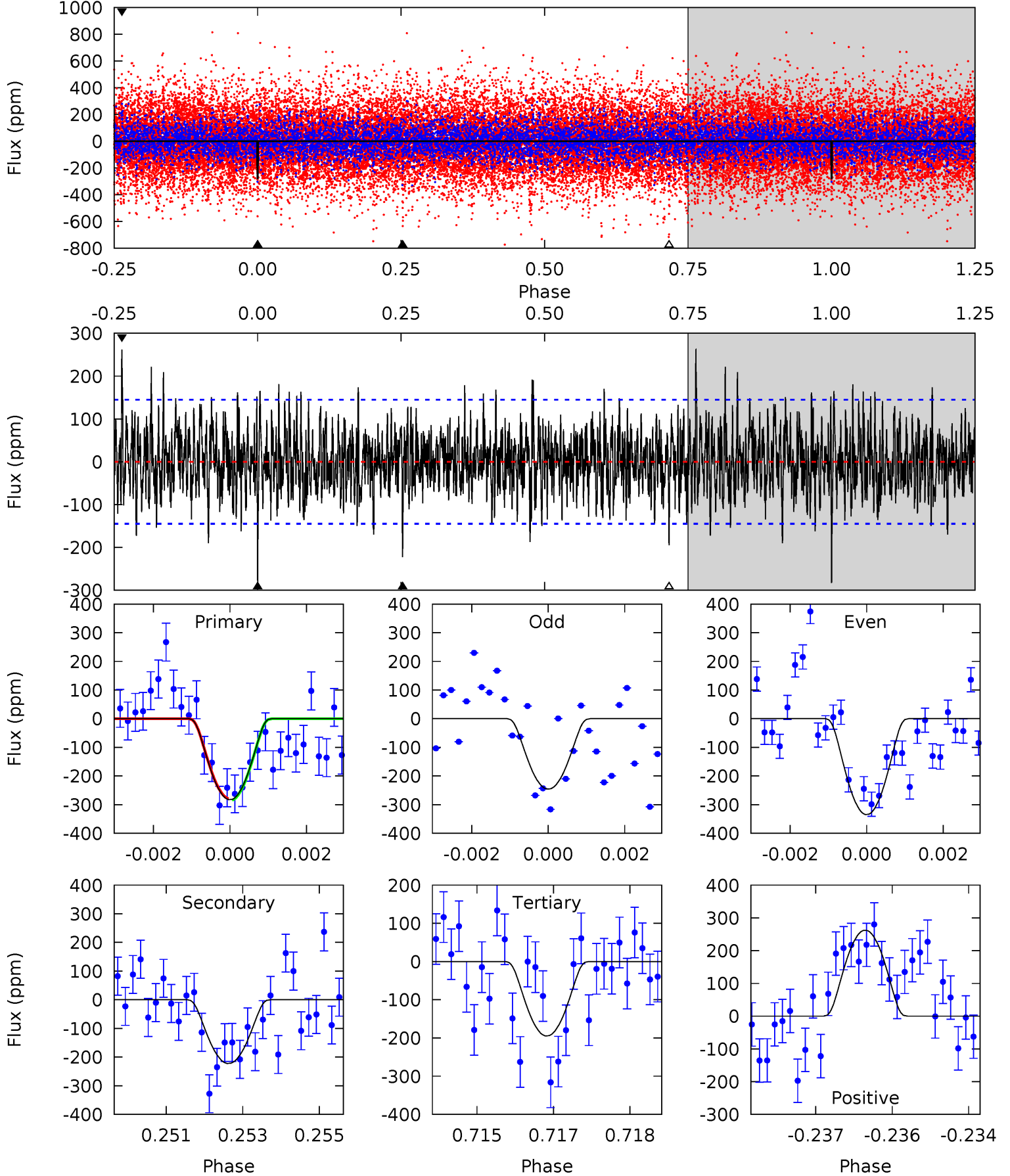
TCE 003945791-02 P=101.282582 Days $T_0=150.415827$ (BKJD)



DV Model-Shift Uniqueness Test

003945791-02, P = 101.283060 Days, E = 49.129946 Days

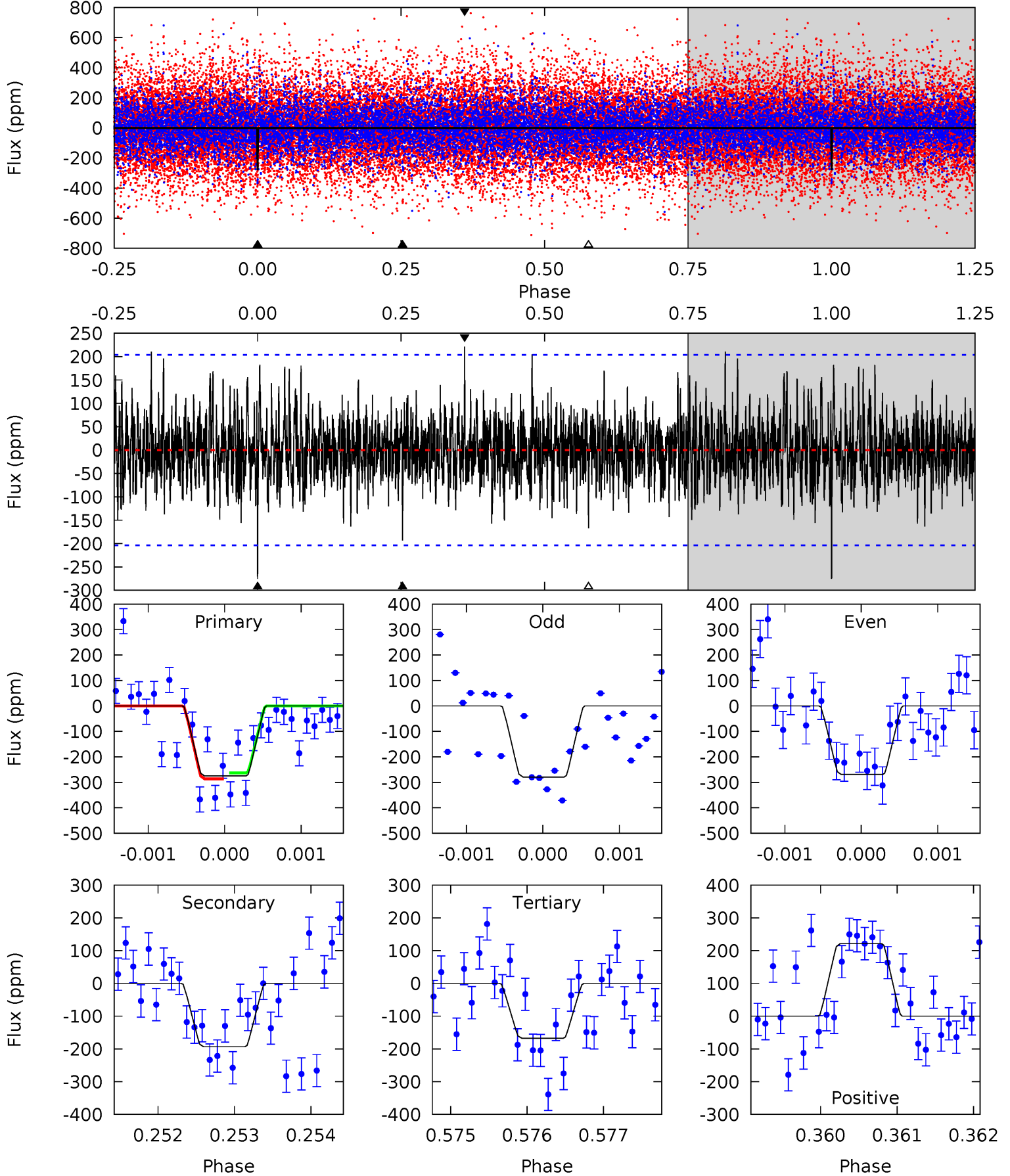
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	8.25	7.23	9.73	5.37	3.16	2.25	3.26	0.76	1.02	-1.47	1.64	1.11	0.48	0.09



Alt Model-Shift Uniqueness Test

003945791-02, P = 101.282582 Days, E = 49.133245 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.37	5.18	4.48	5.93	5.46	3.31	1.45	2.89	1.44	0.70	-0.75	0.13	0.93	0.45	0.31



Stellar Parameters For KIC 003945791

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6675^{+182}_{-202}	$3.522^{+0.352}_{-0.088}$	$-0.300^{+0.350}_{-0.250}$	$3.755^{+0.371}_{-1.482}$	$1.711^{+0.199}_{-0.369}$	$0.045^{+0.128}_{-0.013}$
	+3%/-3%	+10%/-2%	+117%/-83%	+10%/-39%	+12%/-22%	+281%/-29%
Source	PHO1	FLK73	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 003945791-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-222 ± 27	$31.99^{+30.91}_{-22.93}$	1102^{+56}_{-98}	3359^{+1851}_{-611}	32^{+360}_{-24}
Alt.	-193 ± 37	$30.21^{+36.43}_{-20.93}$	1104^{+53}_{-103}	3320^{+1688}_{-655}	30^{+288}_{-24}

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 $A_{obs} \gg 1.0$

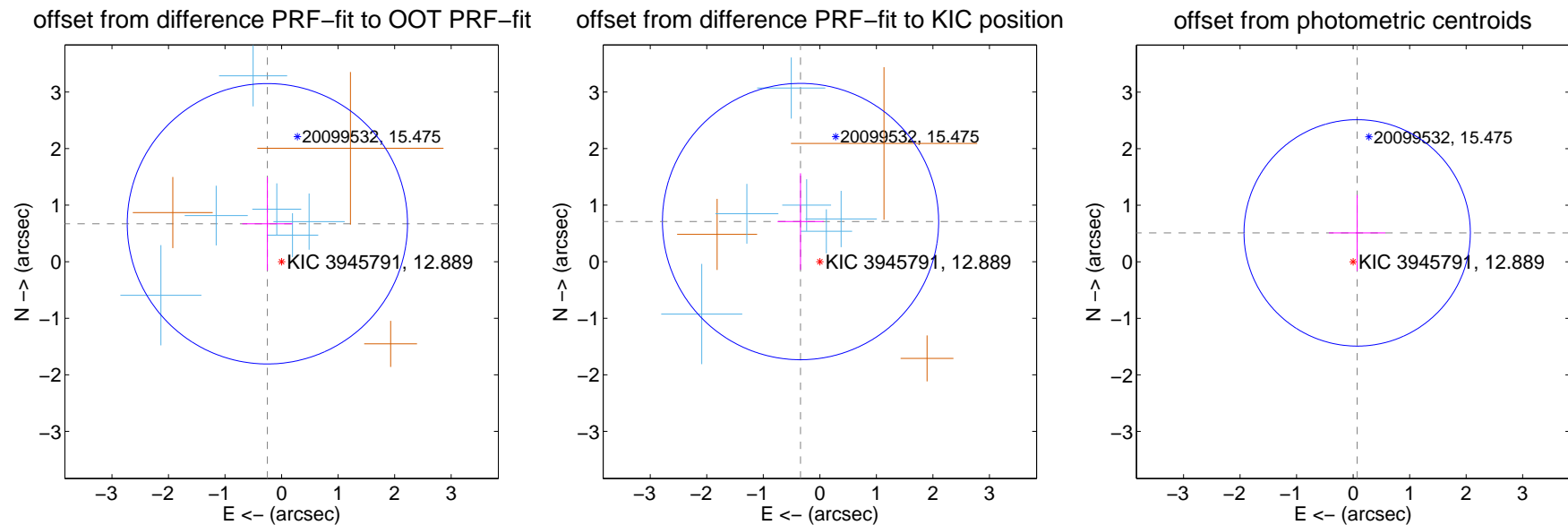
DV Centroid Data

Supplemental centroid analysis for 003945791-02. Kepler magnitude: 12.89. Transit SNR 8.27

There are 6 quarters with good PRF difference image offsets

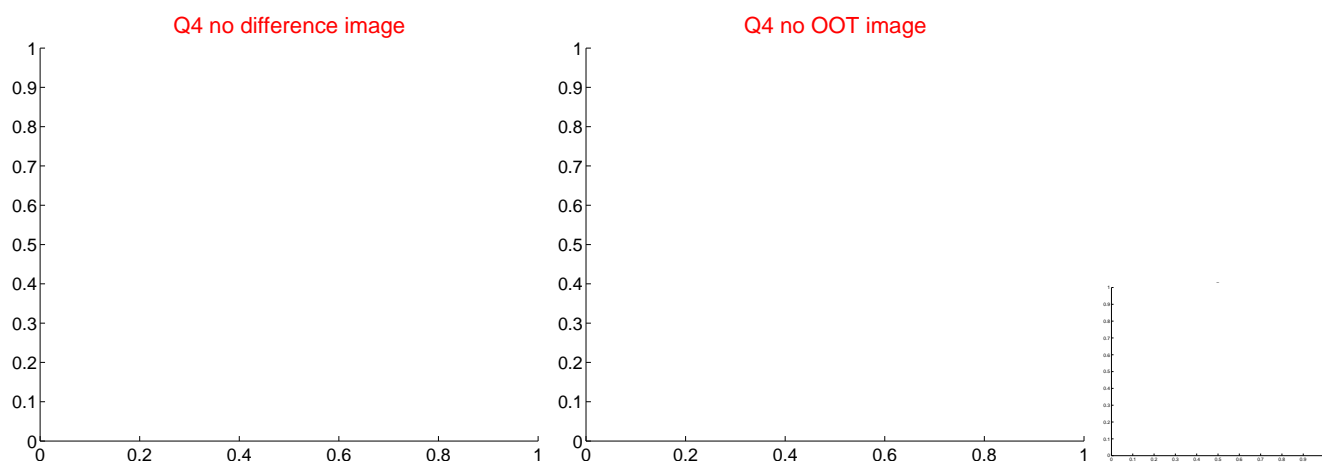
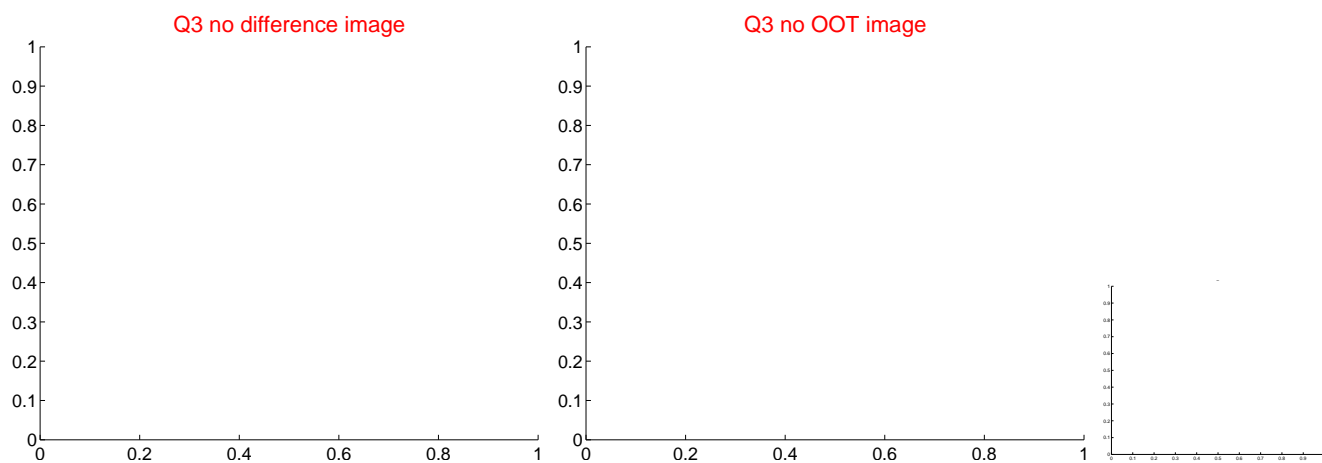
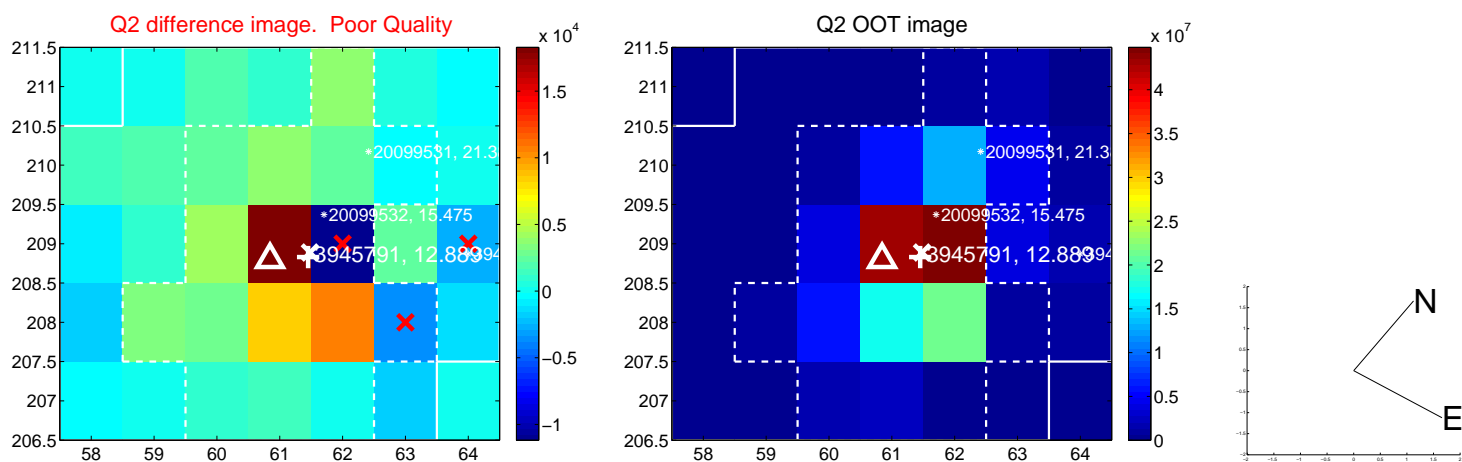
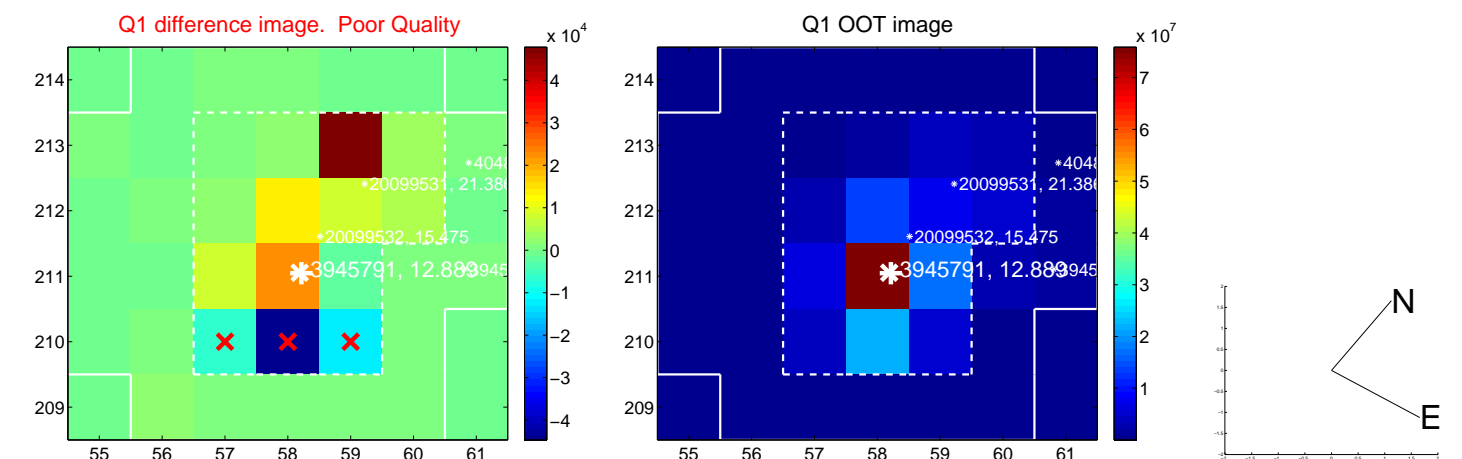
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.716 ± 0.826	0.87	0.251 ± 0.445	0.671 ± 0.826
PRF-fit source offset from KIC position	0.788 ± 0.814	0.97	0.341 ± 0.407	0.710 ± 0.854
photometric centroid source offset	0.52 ± 0.67	0.77	-0.07 ± 0.50	0.51 ± 0.67

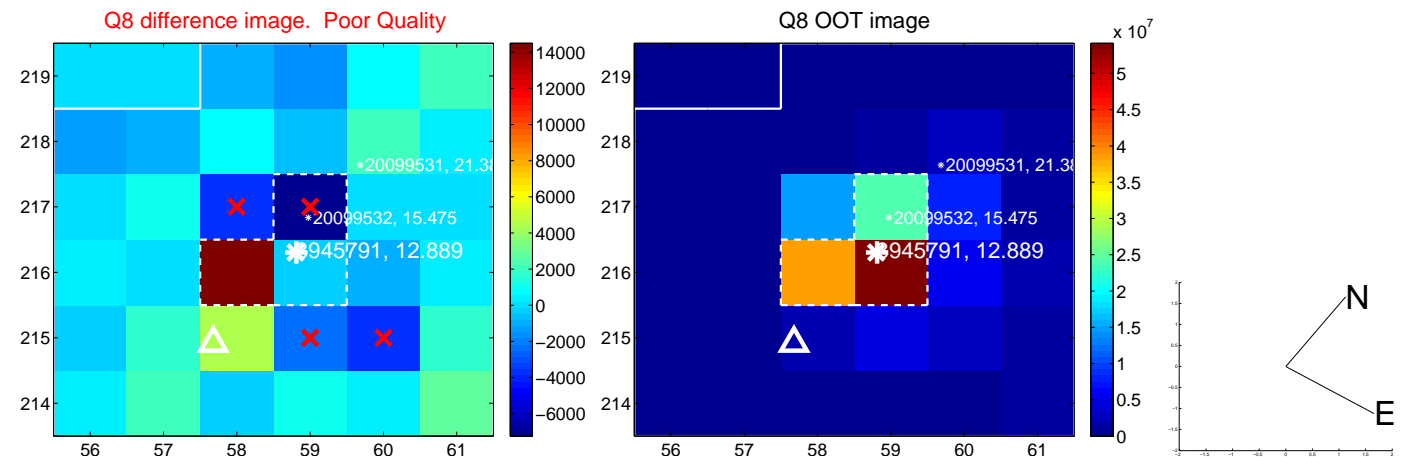
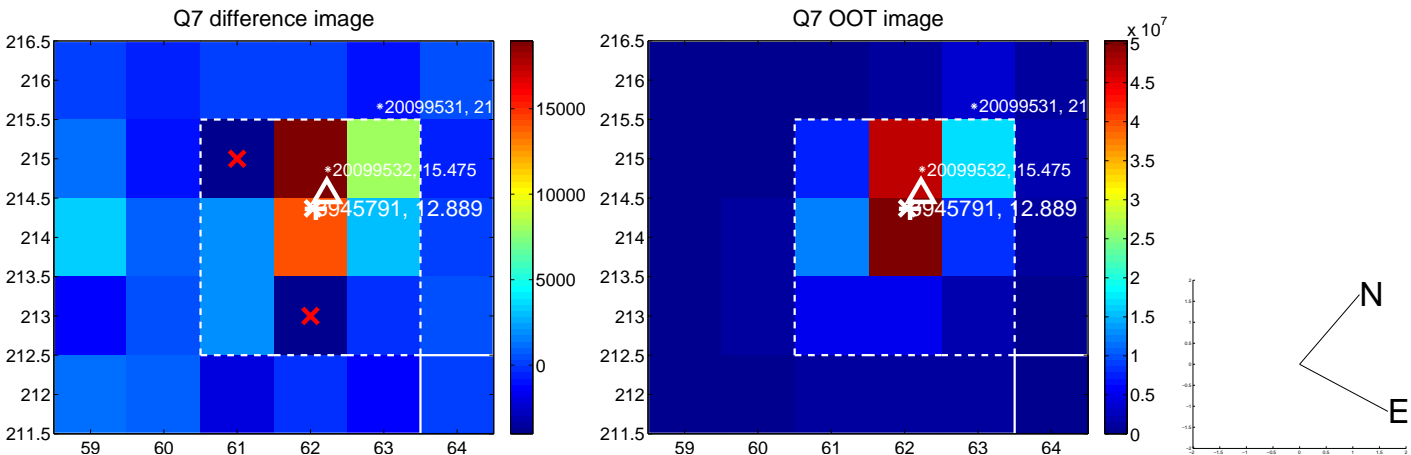
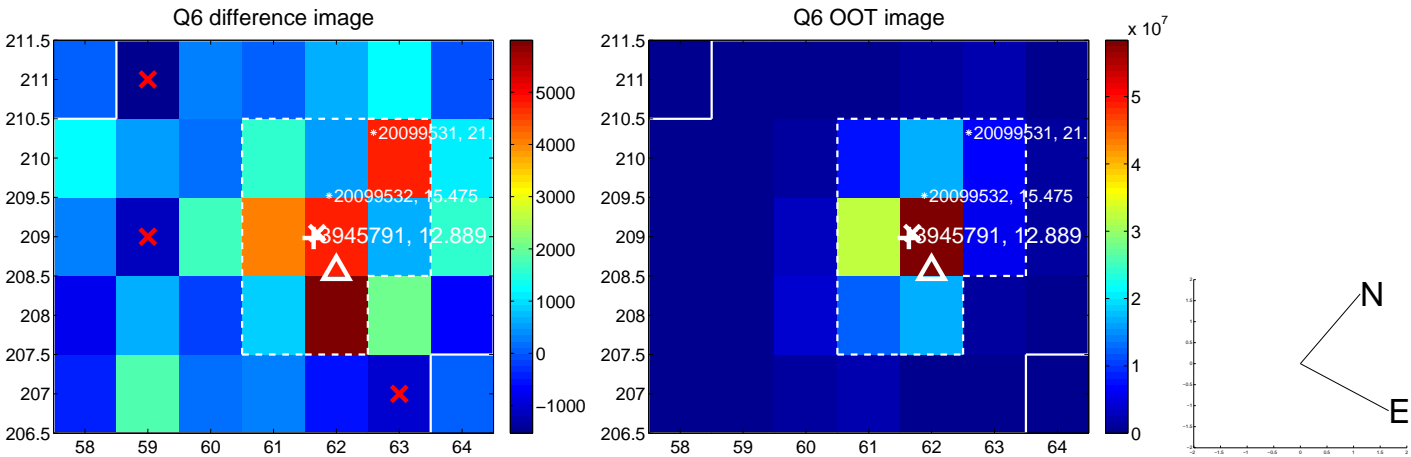
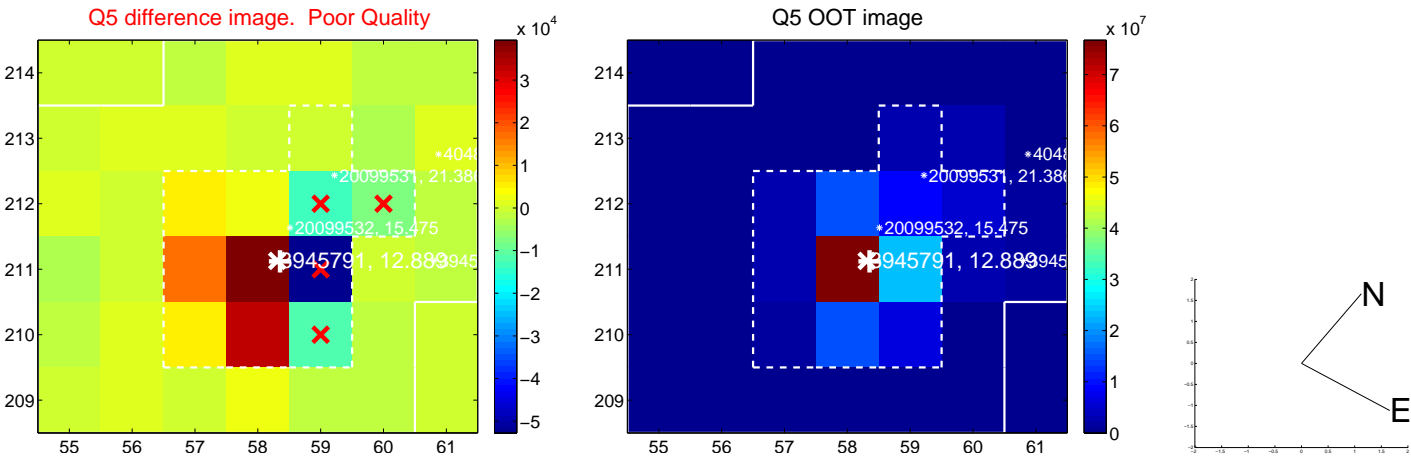


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

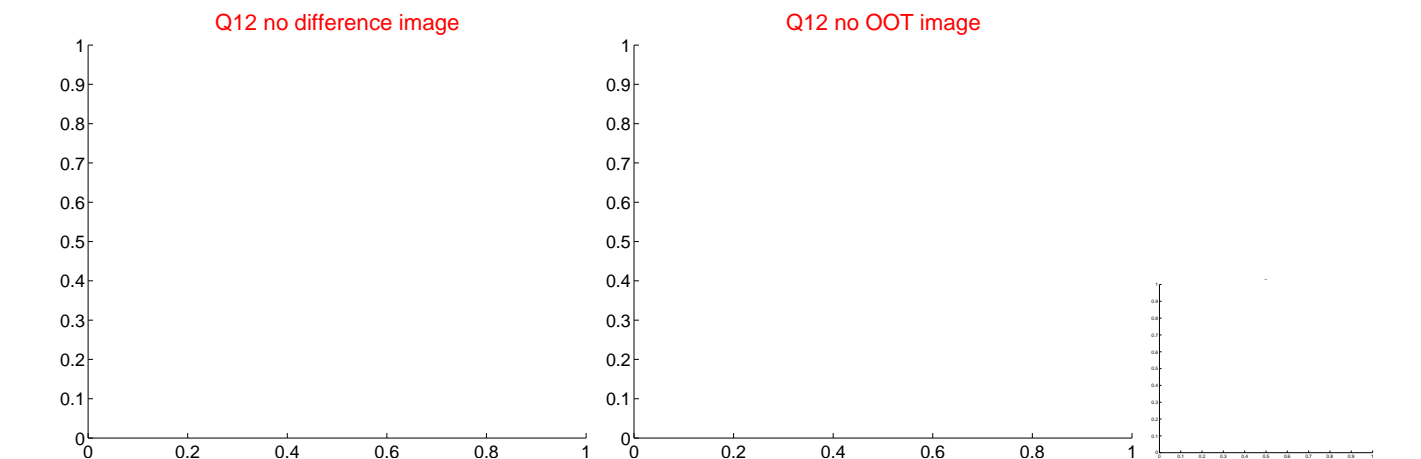
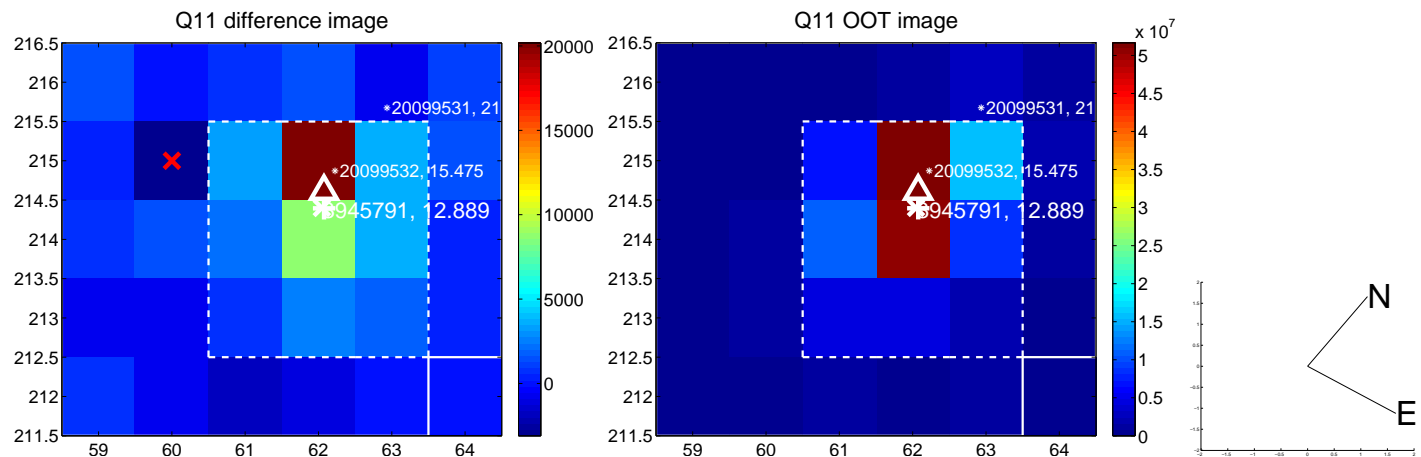
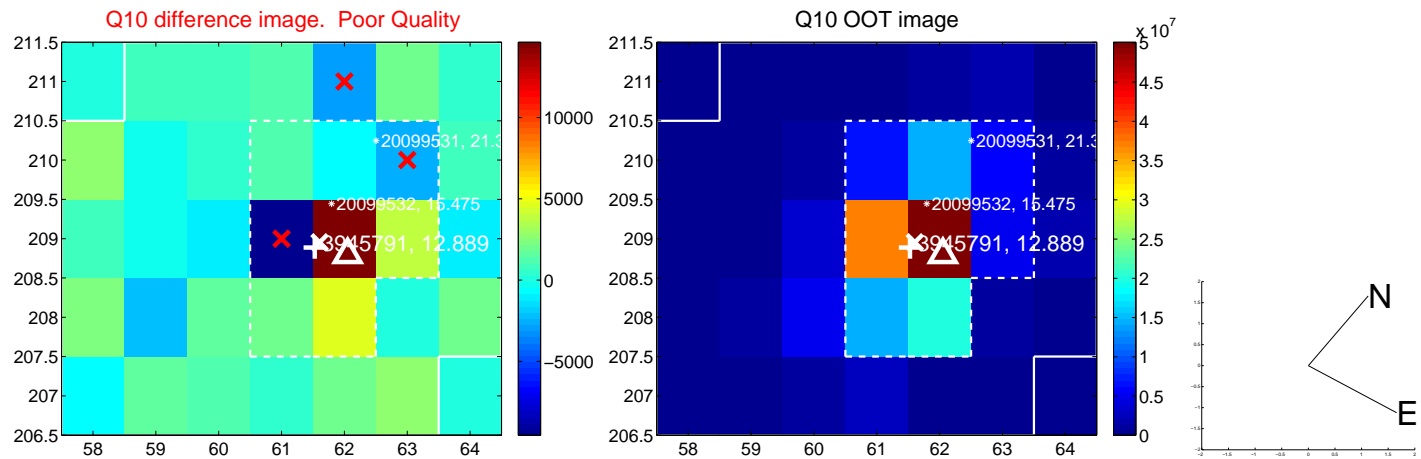
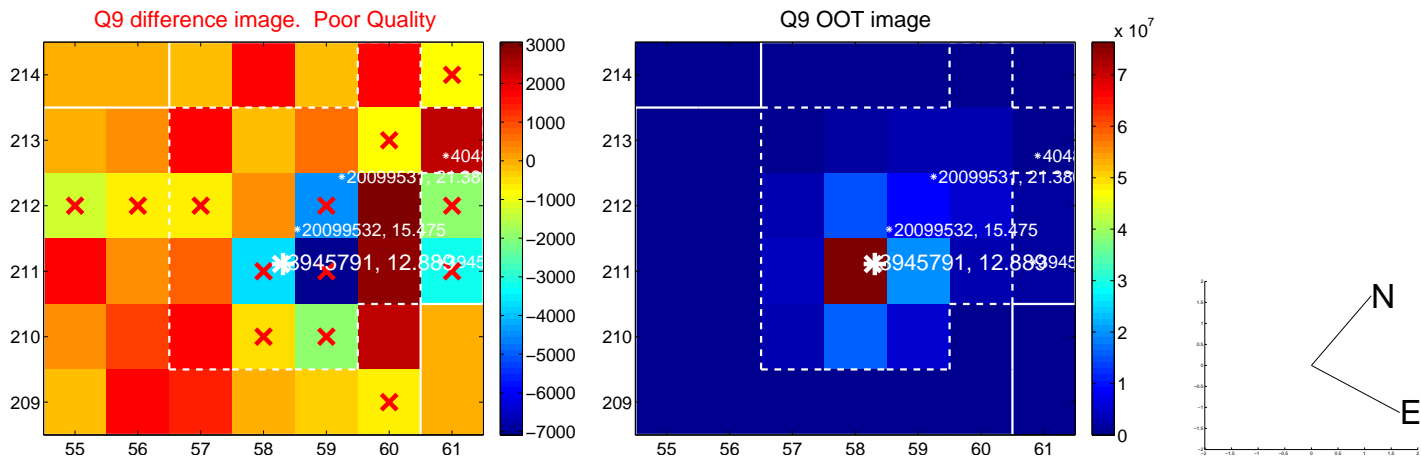
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



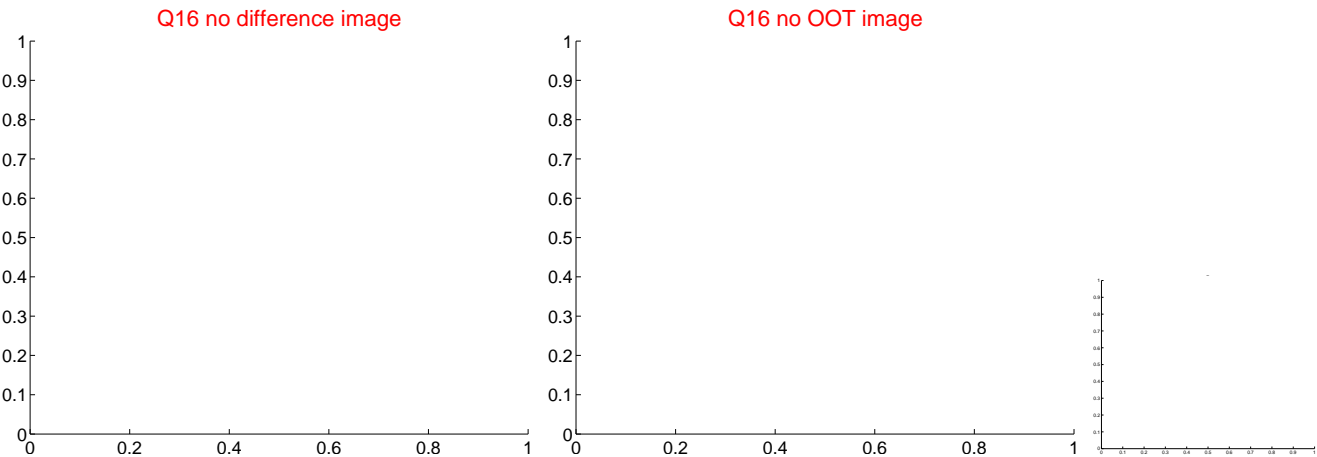
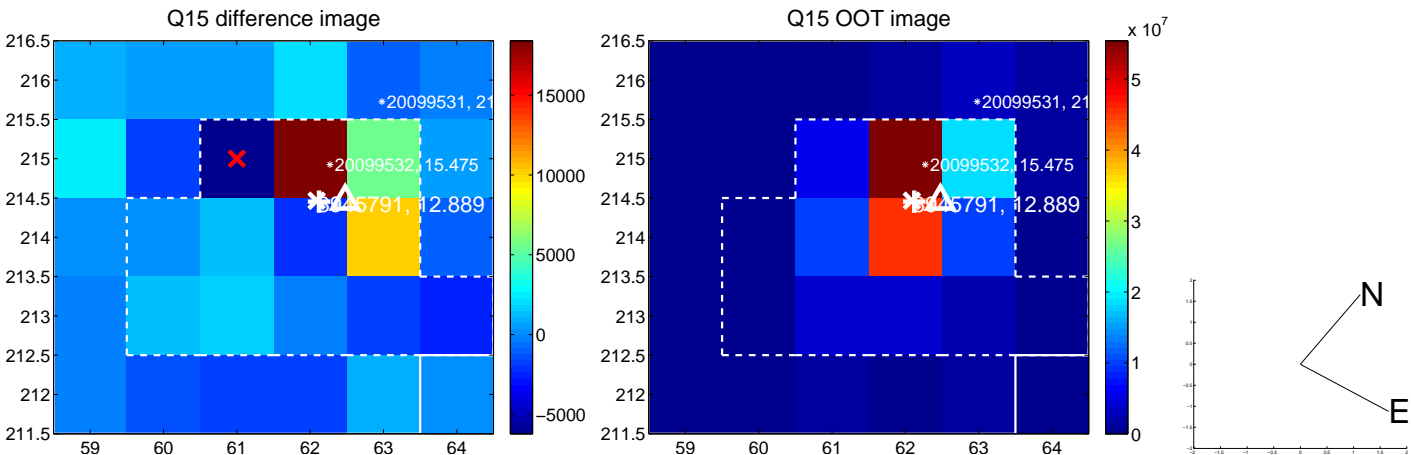
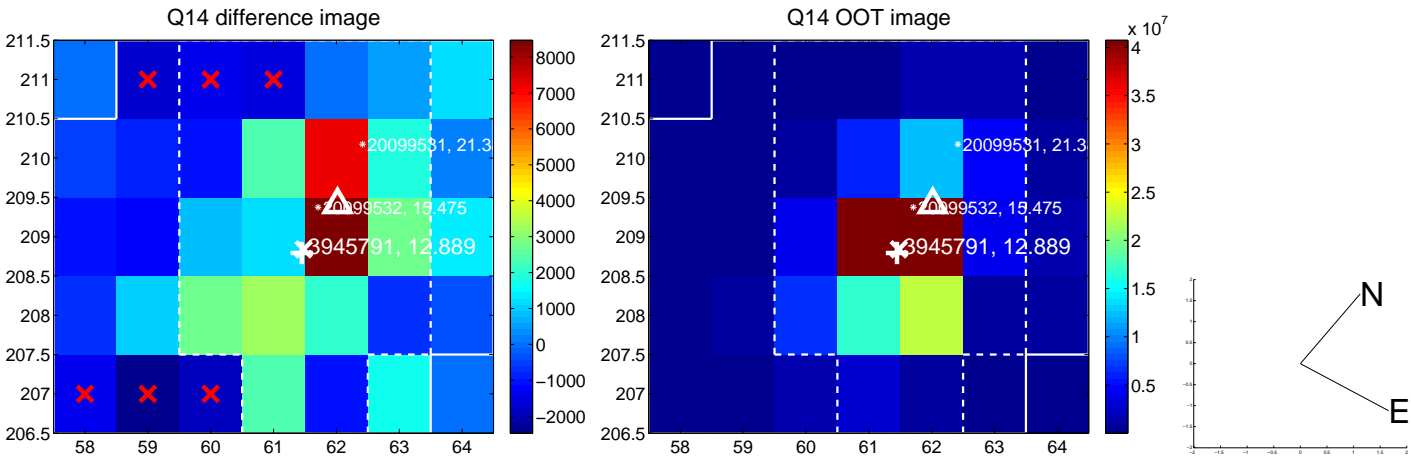
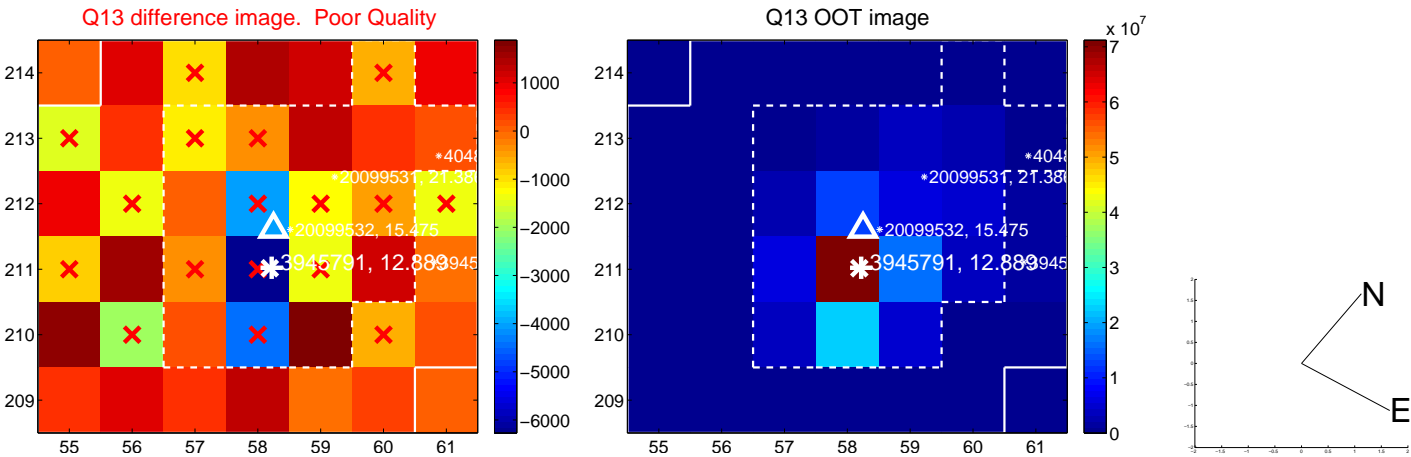
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



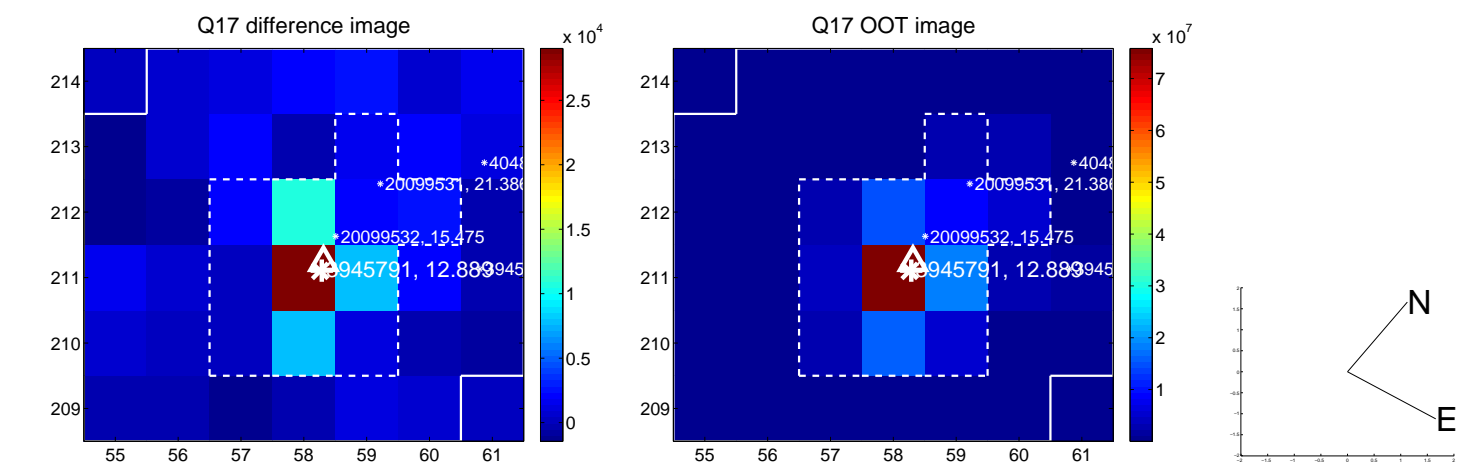
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



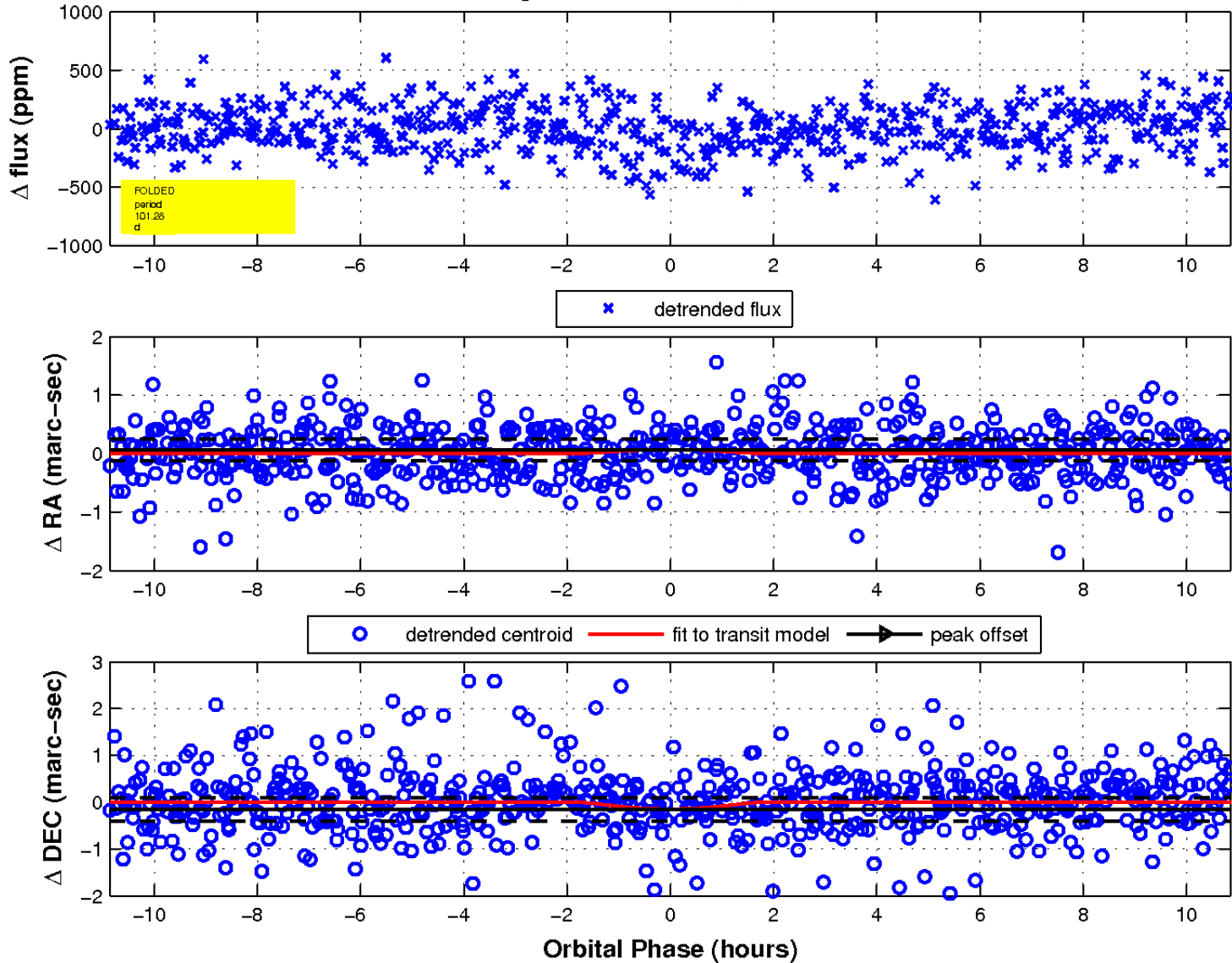
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

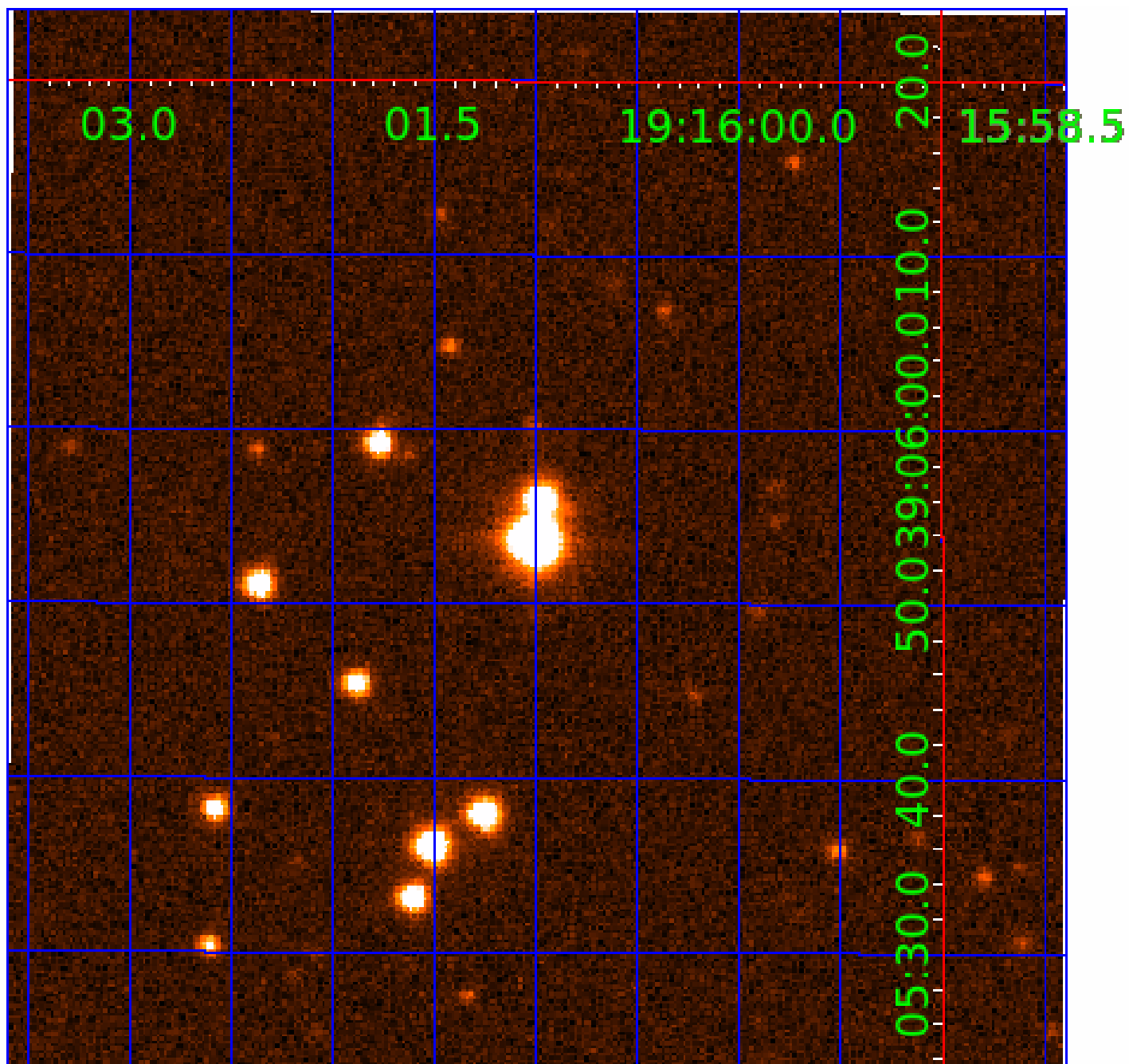


fluxWeightedCentroids, Planet 2 of 6



UKIRT Image

Declination



KIC 003945791

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})
003945791-01	OBS	No	2.130203	133.566366	37.4	9.566	11.2	10.6	3.75	6675	2.40	16693.40
003945791-02	OBS	No	101.283060	150.413006	346.5	3.621	8.2	8.3	3.75	6675	12.16	96.92
003945791-03	OBS	No	202.676001	226.332165	324.8	4.918	8.0	6.3	3.75	6675	7.29	38.43
003945791-04	OBS	No	154.502983	217.939181	419.6	3.440	8.2	7.8	3.75	6675	11.62	55.19
003945791-05	OBS	No	30.572013	159.384350	199.9	1.961	7.8	8.6	3.75	6675	6.18	478.64
003945791-06	OBS	No	117.675893	188.803171	362.3	2.795	7.9	7.8	3.75	6675	7.81	79.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003945791-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
003945791-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003945791-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
003945791-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003945791-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT
003945791-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

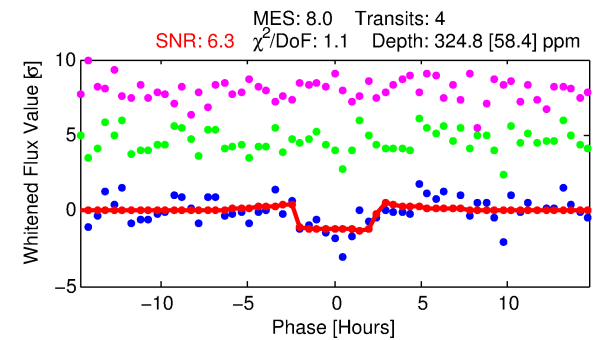
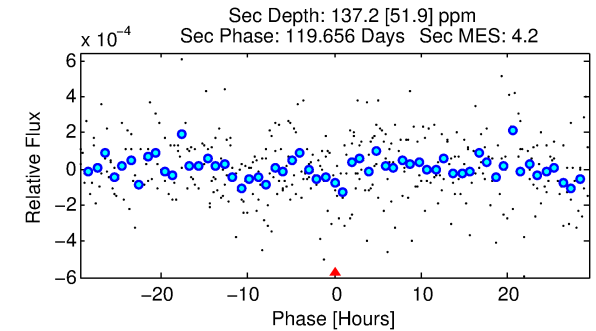
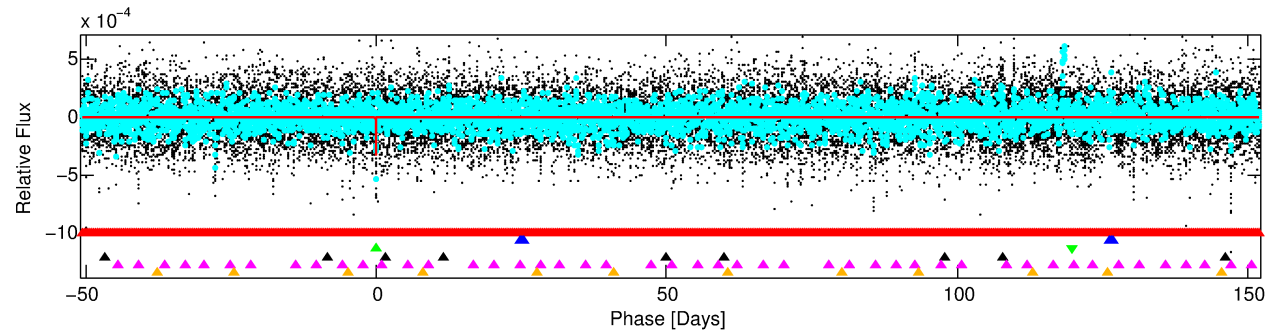
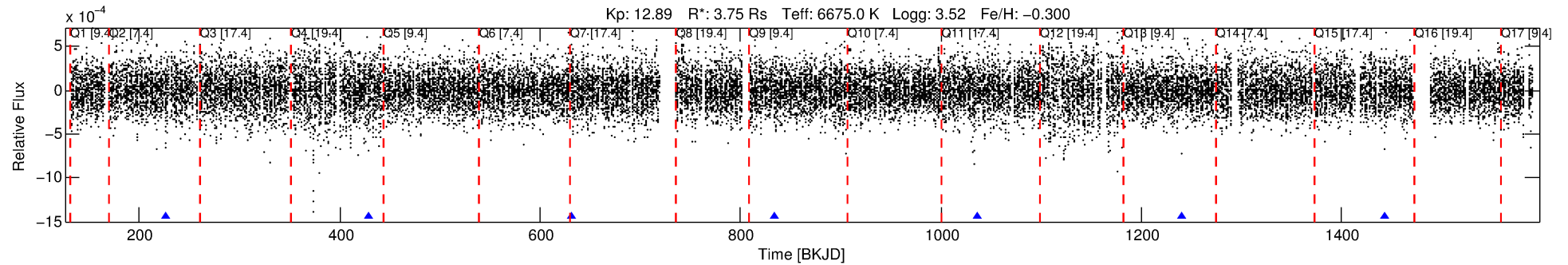
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003945791-03

No Significant Match Found

DV One-Page Summary

KIC: 3945791 Candidate: 3 of 6 Period: 202.676 d

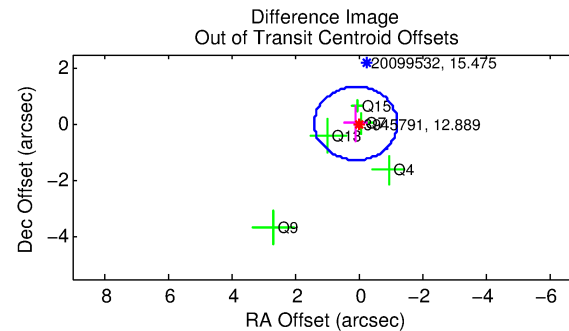
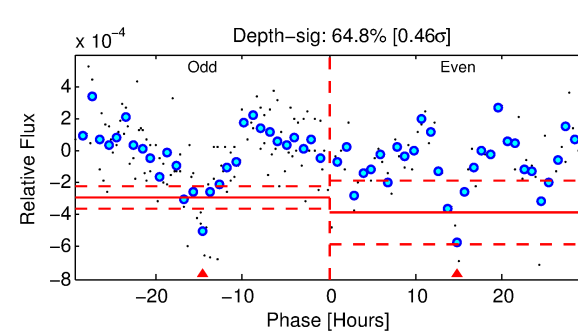
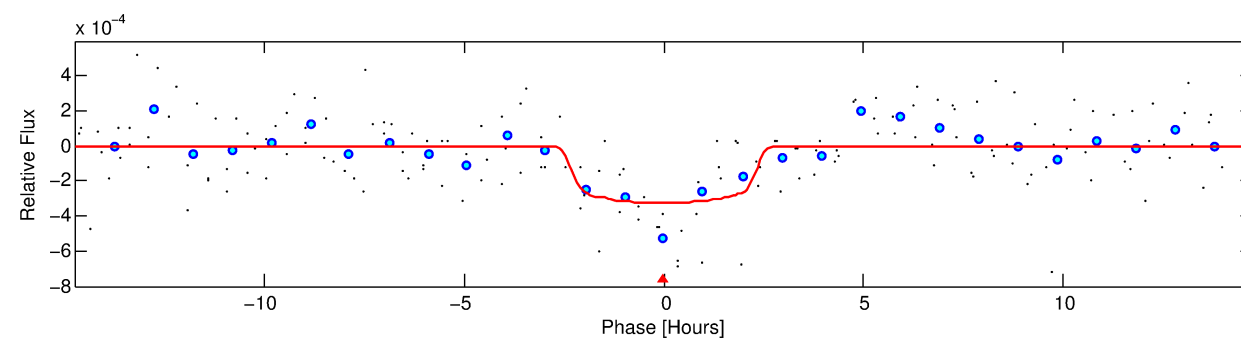


DV Fit Results:

Period = 202.67600 [0.00235] d
Epoch = 226.3322 [0.0103] BKJD
Rp/R* = 0.0178 [0.0137]
a/R* = 225.82 [982.51]
b = 0.72 [2.91]
Seff = 38.43 [23.56]
Teq = 635 [97] K
Rp = 7.29 [6.31] Re
a = 0.8078 [0.3046] AU
Ag = 927.07 [1573.30] [0.59σ]
Teffp = 5417 [2155] K [2.22σ]

DV Diagnostic Results:

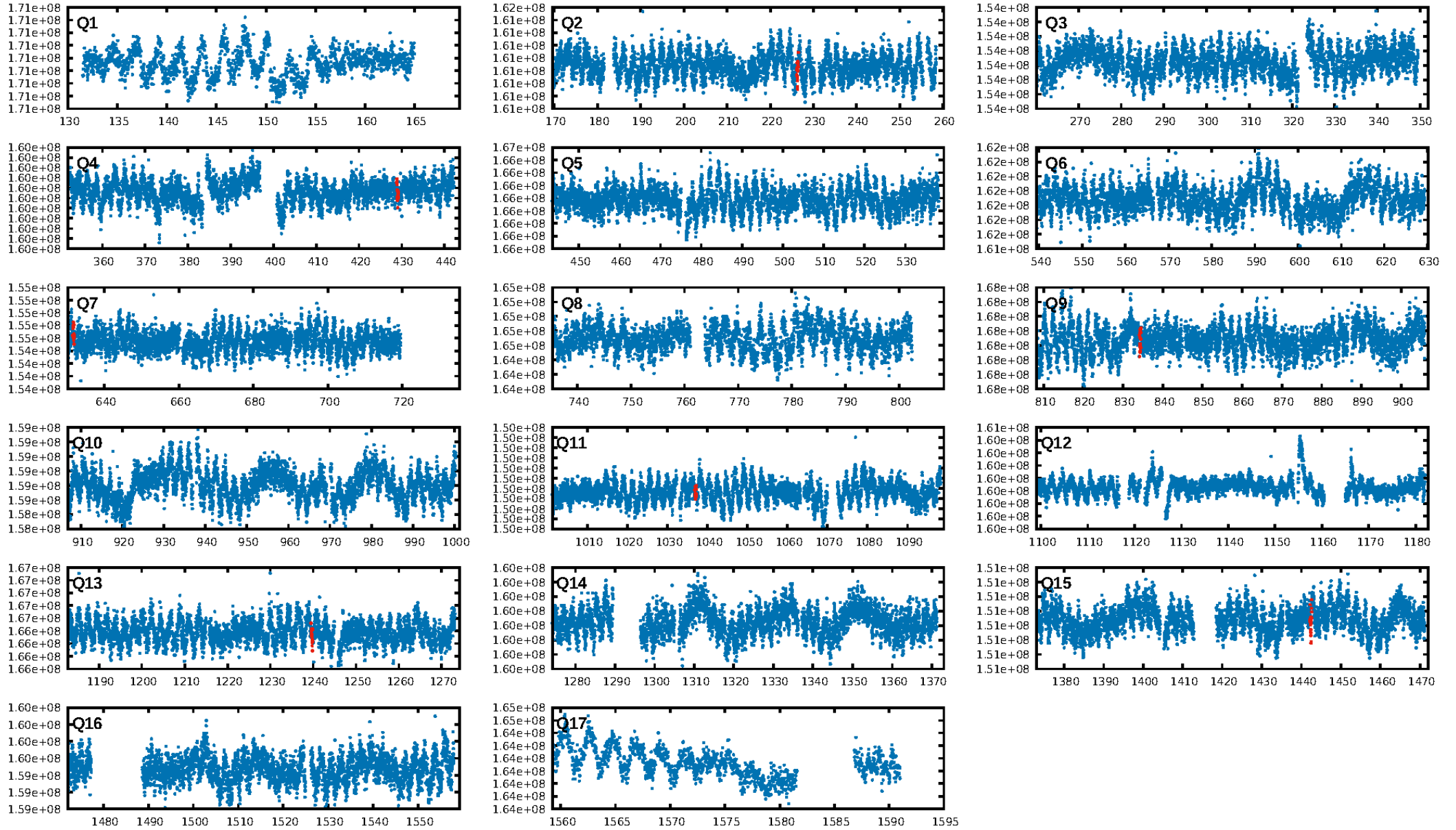
ShortPeriod-sig: 100.0% [192.64σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 30.0%
ModelChiSquareGof-sig: 94.0%
Bootstrap-pfa: 1.63e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.0436
Centroid-sig: 9.8%
Centroid-so: 0.826 arcsec [1.35σ]
OotOffset-rm: 0.096 arcsec [0.22σ]
KicOffset-rm: 0.243 arcsec [0.54σ]
OotOffset-st: 0/2/1/2 [5]
KicOffset-st: 0/2/1/2 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 0.43 [3/7]



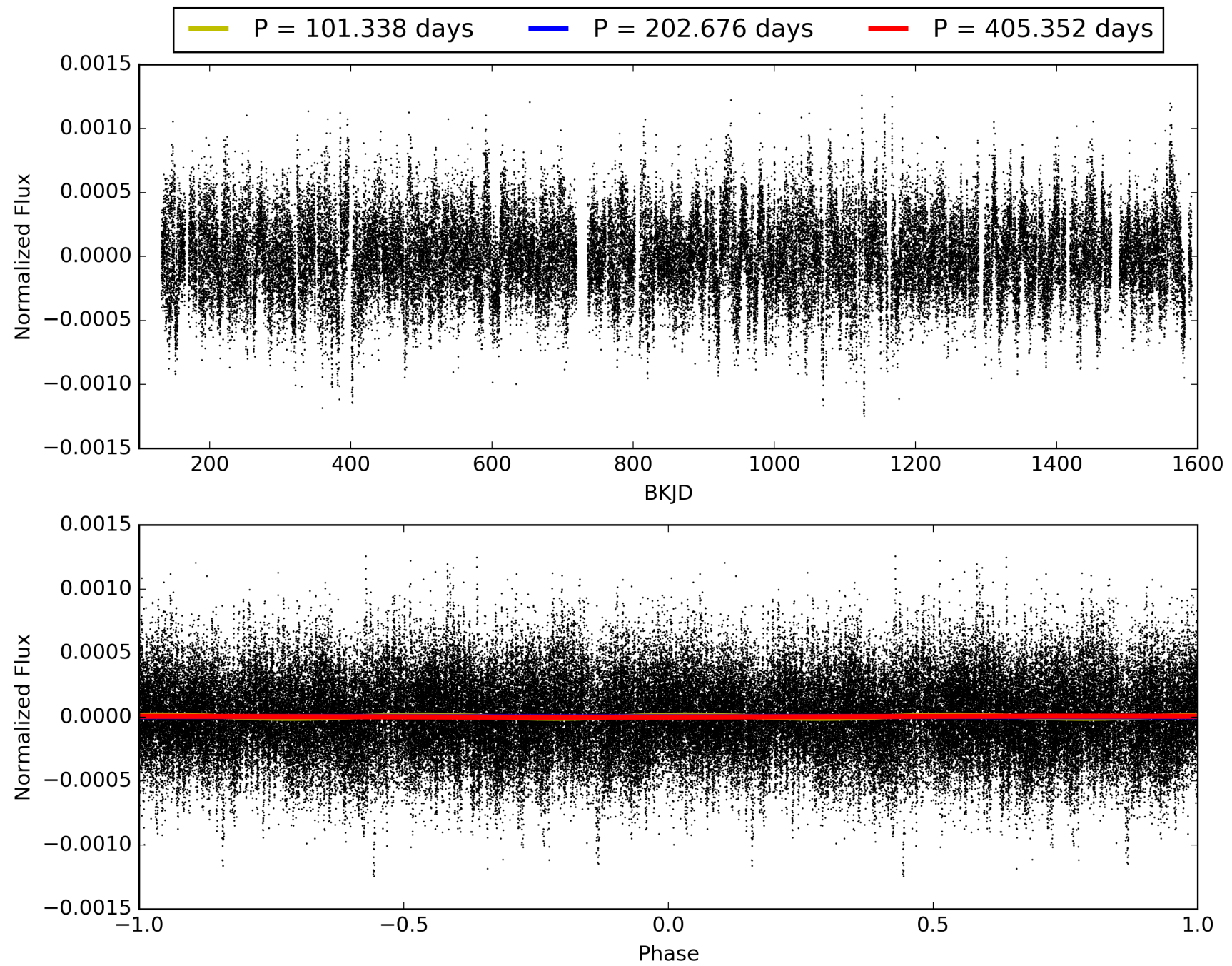
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 22:56:04 Z

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

TCE 003945791-03, PDC Light Curves

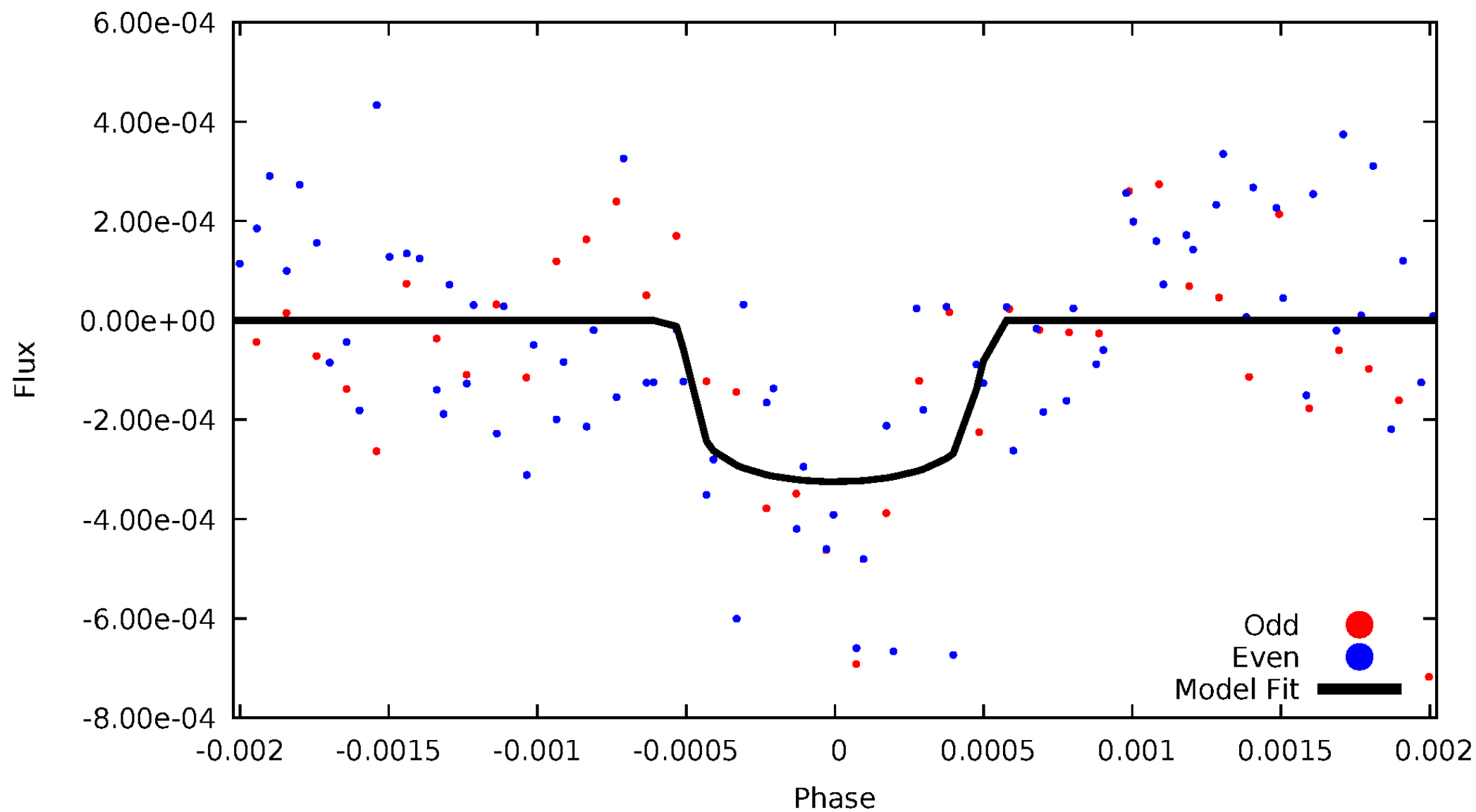


TCE 003945791-03



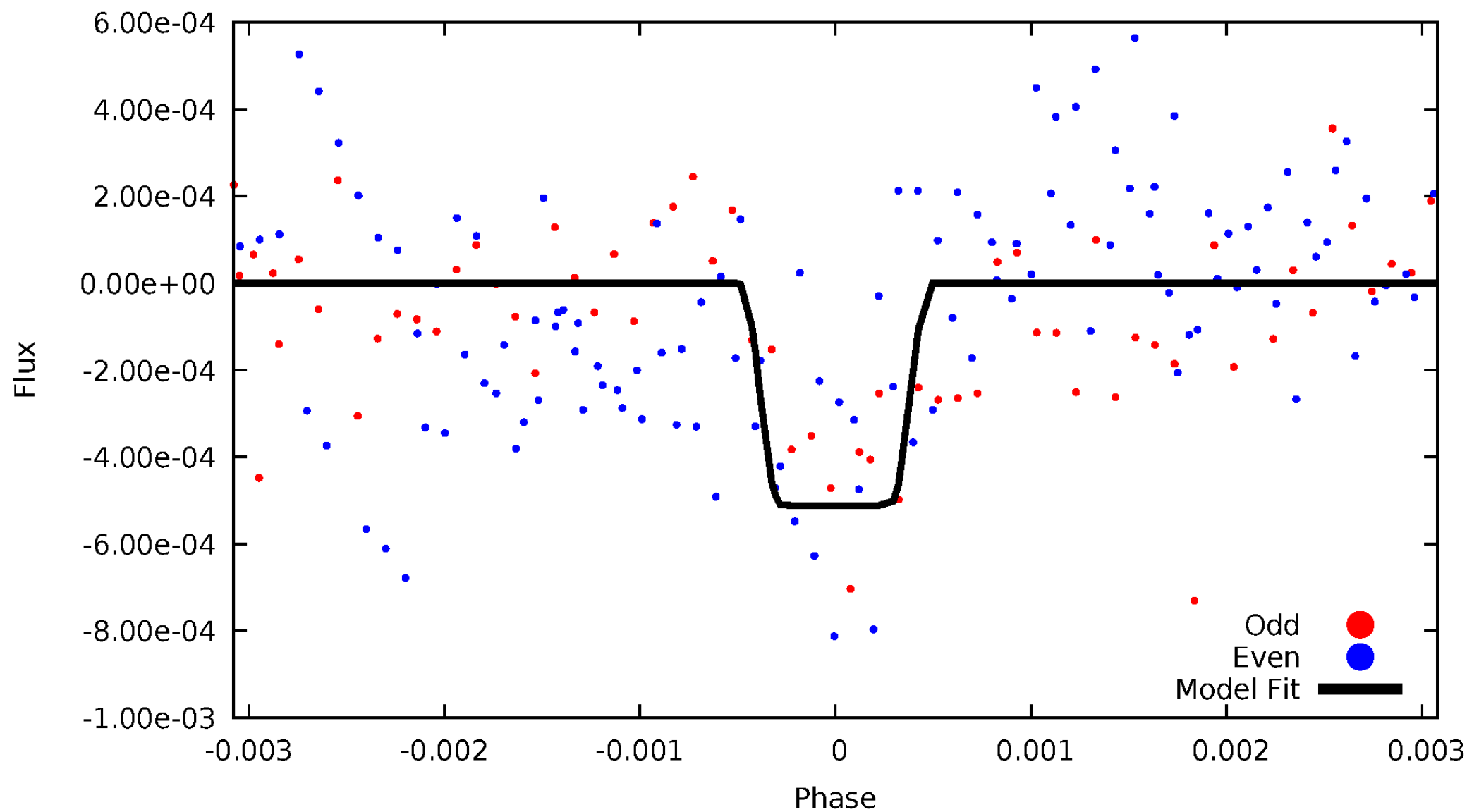
DV Odd/Even

TCE 003945791-03



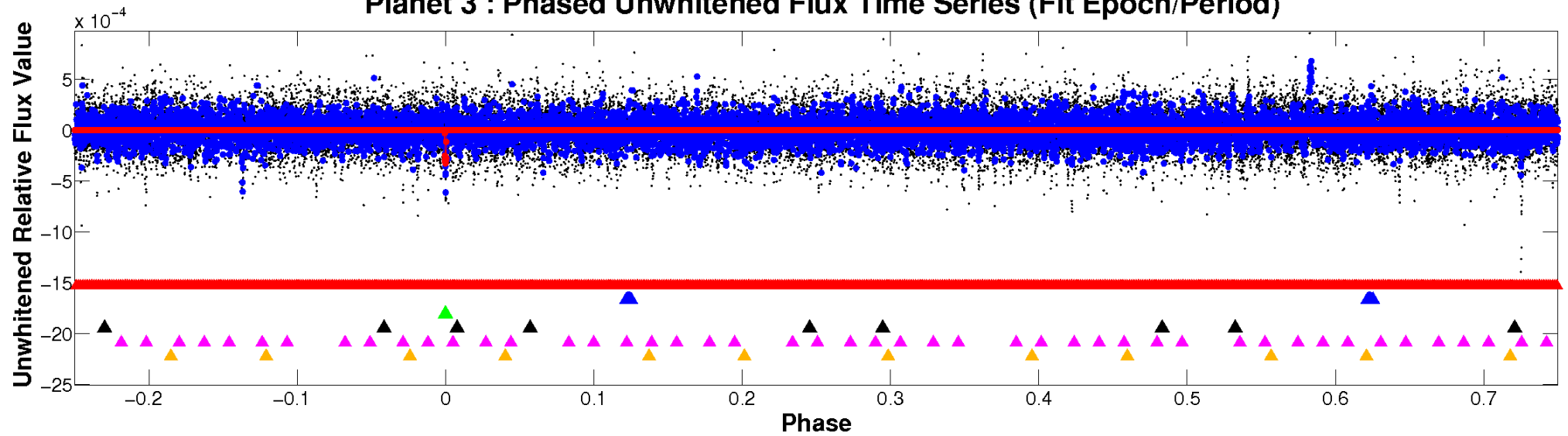
ALT Odd/Even

TCE 003945791-03

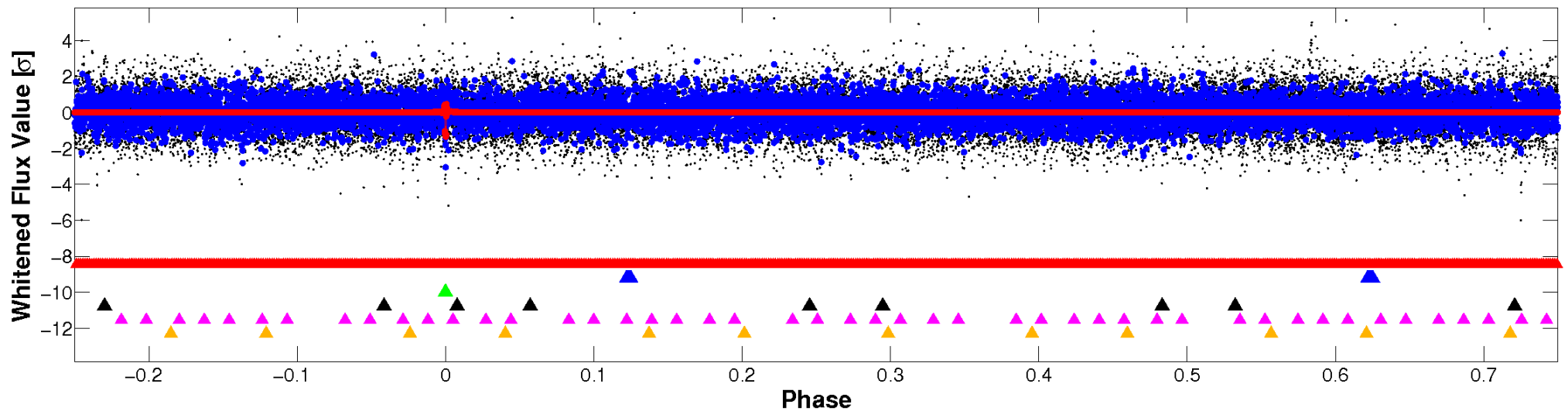


Non-Whitened Vs. Whitened Light Curve

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

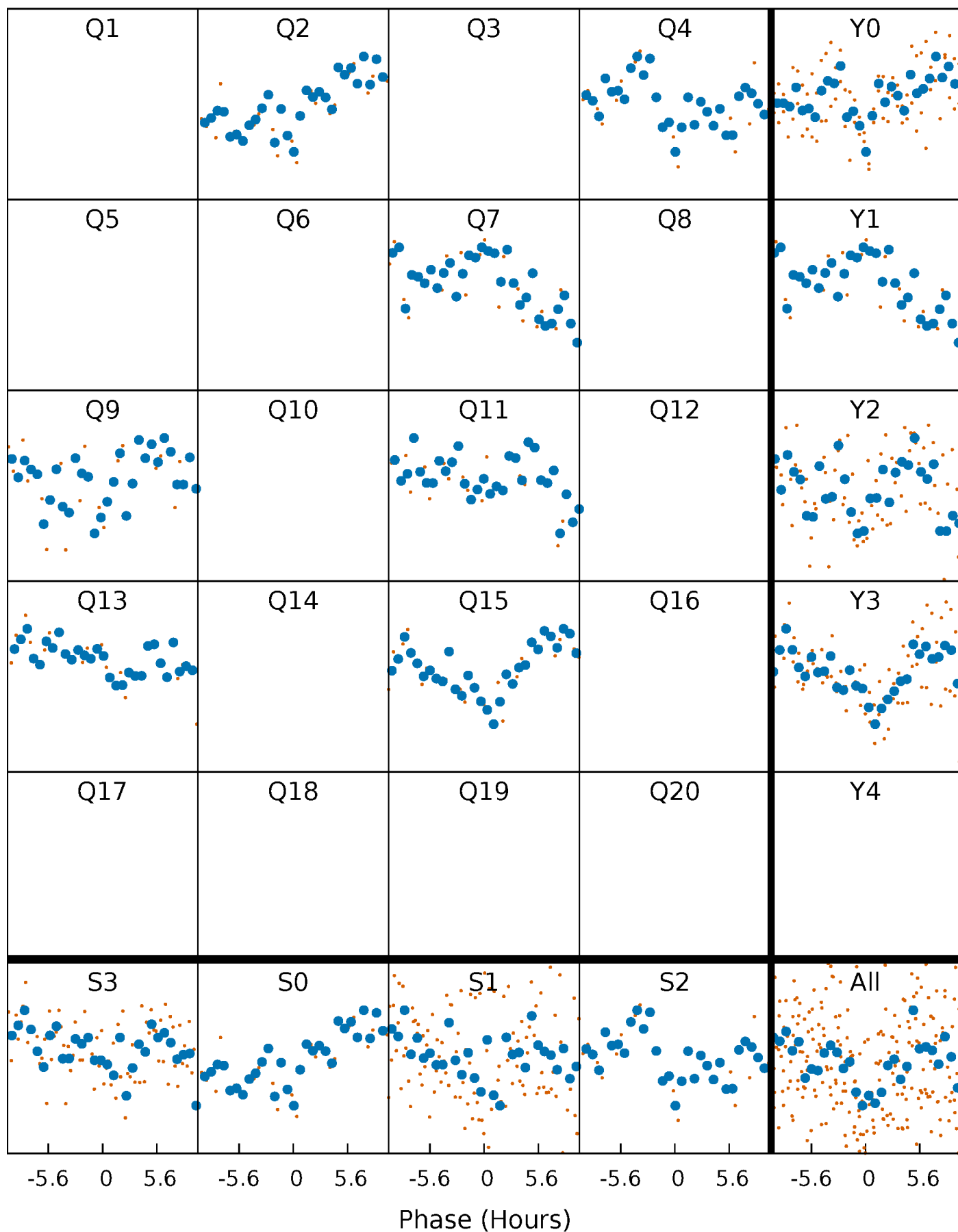


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



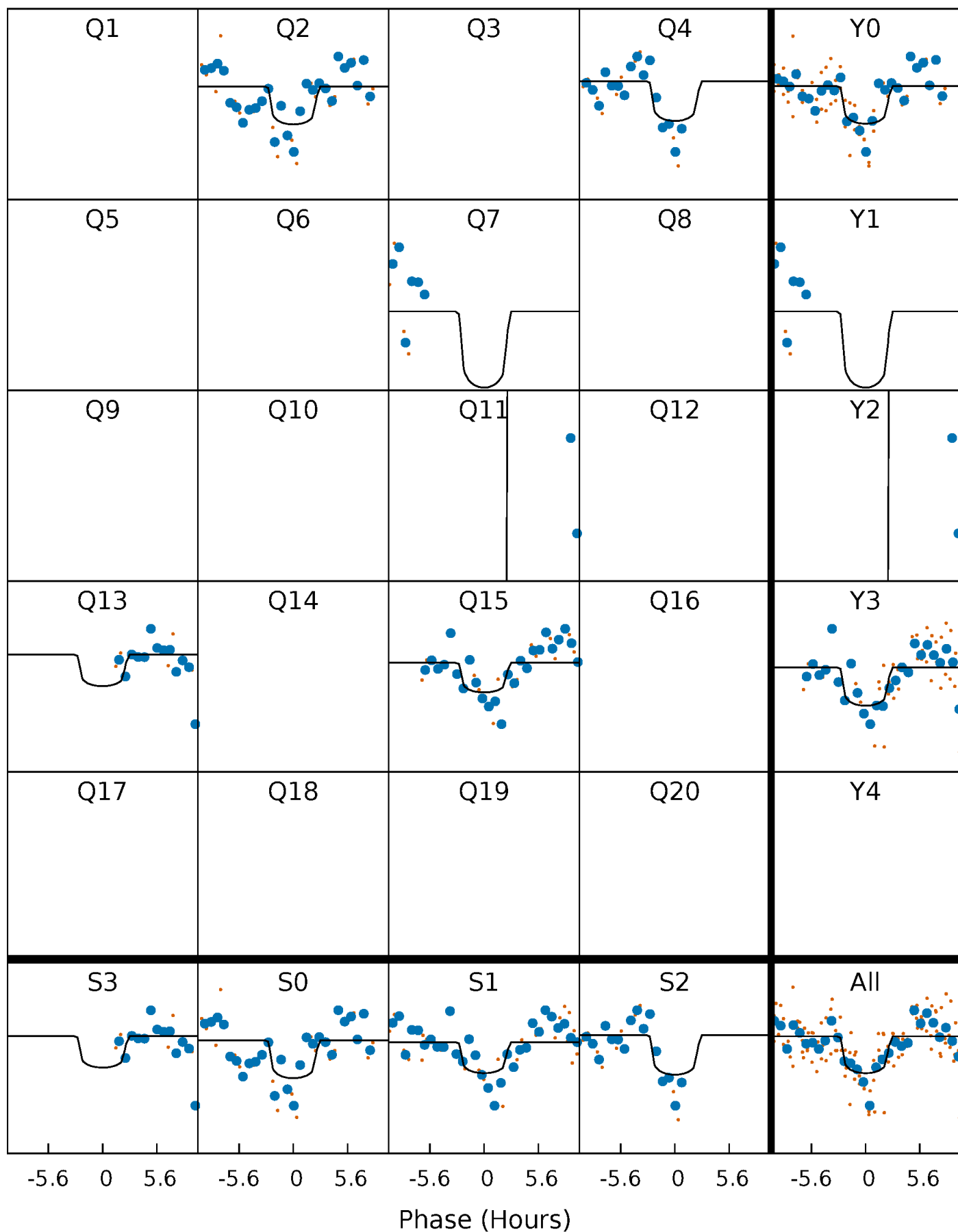
PDC Quarter-Phased Transit Curves

TCE 003945791-03 $P=202.676002$ Days $T_0=226.332165$ (BKJD)



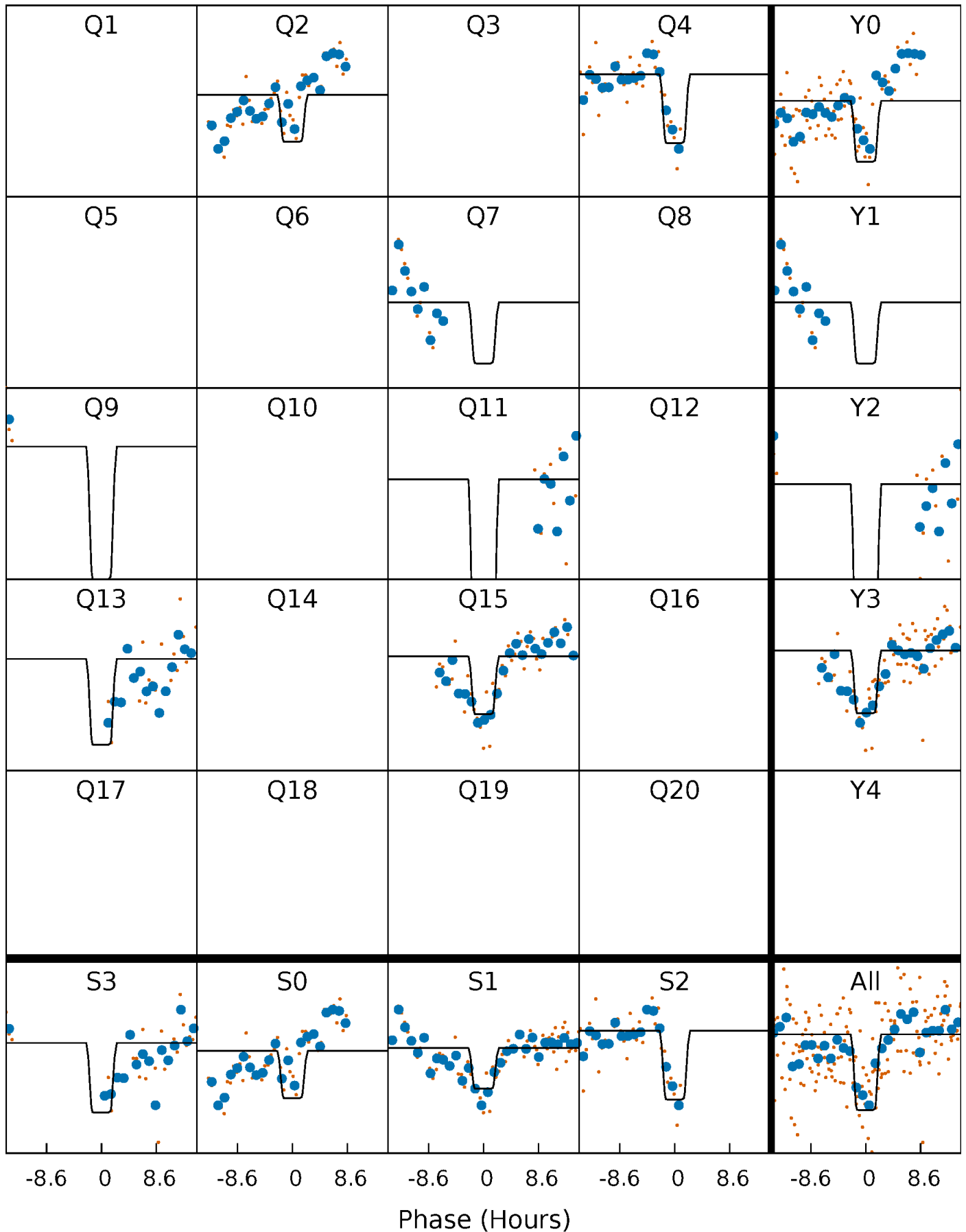
DV Quarter-Phased Transit Curves

TCE 003945791-03 $P=202.676002$ Days $T_0=226.332165$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

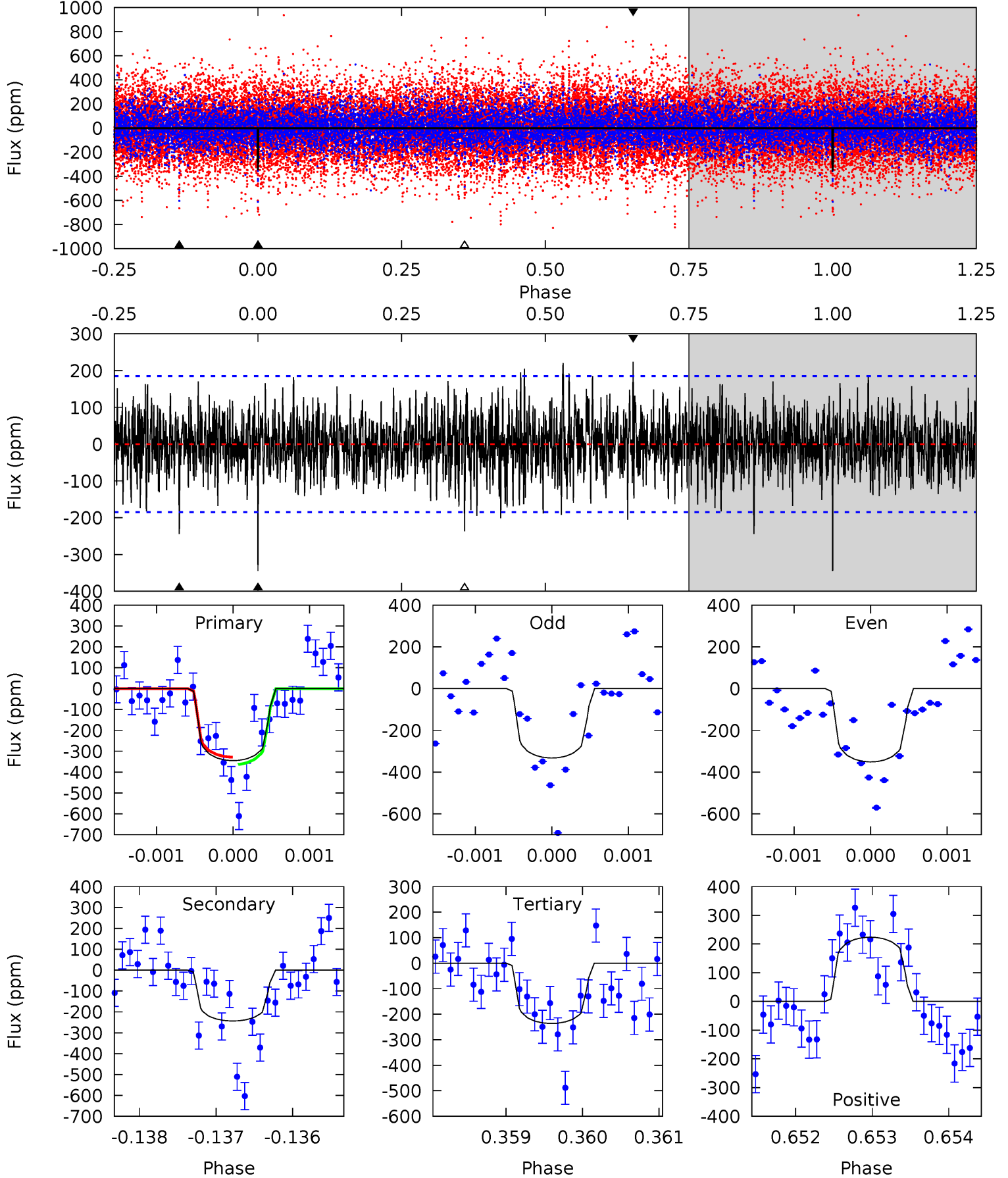
TCE 003945791-03 $P=202.684458$ Days $T_0=226.322536$ (BKJD)



DV Model-Shift Uniqueness Test

003945791-03, P = 202.676002 Days, E = 23.656163 Days

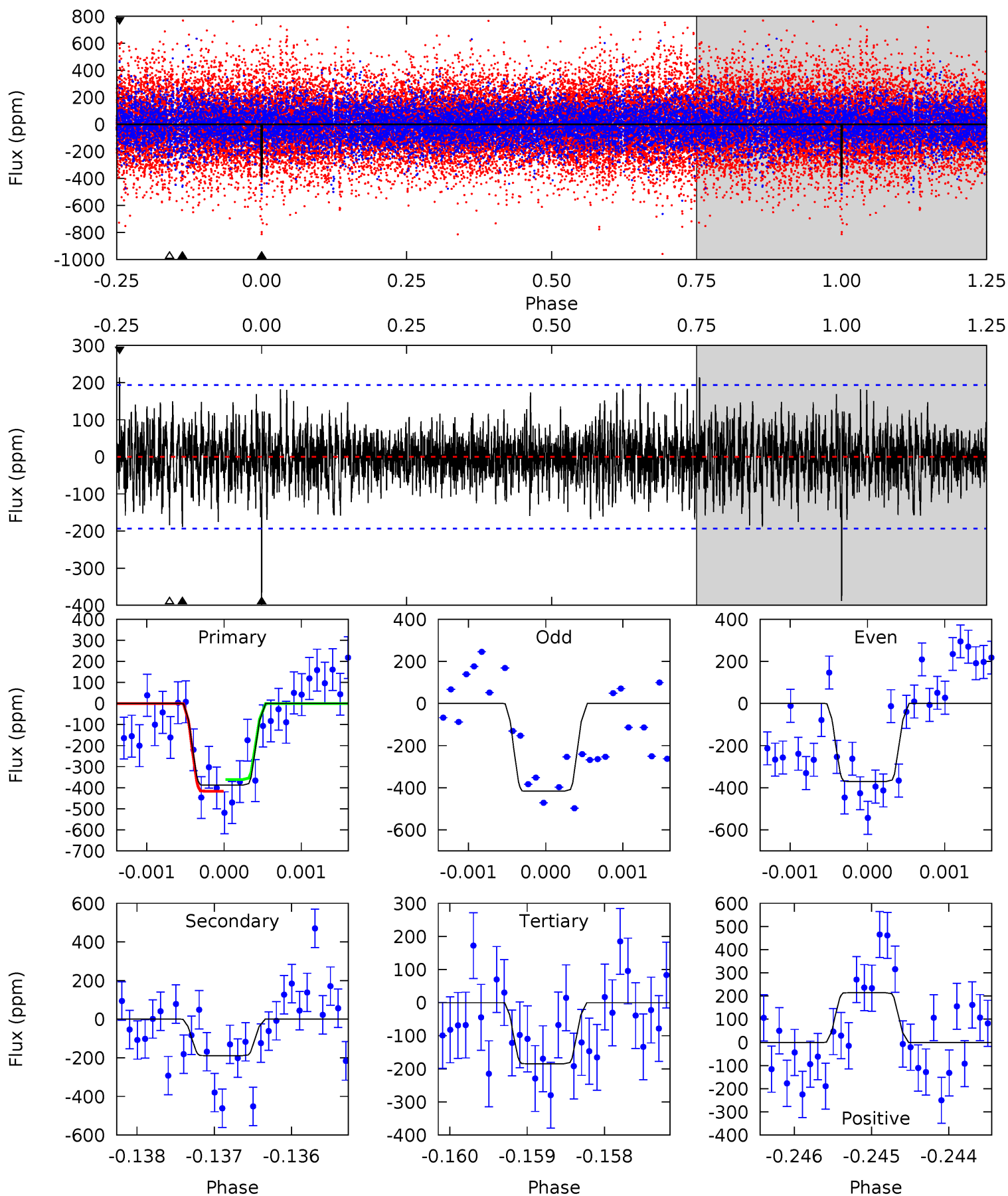
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	7.17	6.96	6.59	5.45	3.28	1.82	3.21	3.58	0.21	0.58	0.25	0.86	0.39	0.52



Alt Model-Shift Uniqueness Test

003945791-03, P = 202.684458 Days, E = 23.638078 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	5.33	5.21	6.05	5.47	3.31	1.53	5.75	4.91	0.11	-0.72	0.62	0.95	0.36	0.78



Stellar Parameters For KIC 003945791

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6675^{+182}_{-202}	$3.522^{+0.352}_{-0.088}$	$-0.300^{+0.350}_{-0.250}$	$3.755^{+0.371}_{-1.482}$	$1.711^{+0.199}_{-0.369}$	$0.045^{+0.128}_{-0.013}$
	+3%/-3%	+10%/-2%	+117%/-83%	+10%/-39%	+12%/-22%	+281%/-29%
Source	PHO1	FLK73	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 003945791-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-243 ± 34	$7.55^{+5.70}_{-4.45}$	871^{+46}_{-79}	5787^{+4026}_{-1075}	1477^{+7508}_{-975}
Alt.	-189 ± 35	$9.01^{+5.80}_{-4.84}$	872^{+43}_{-88}	5129^{+2248}_{-916}	826^{+3009}_{-529}

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

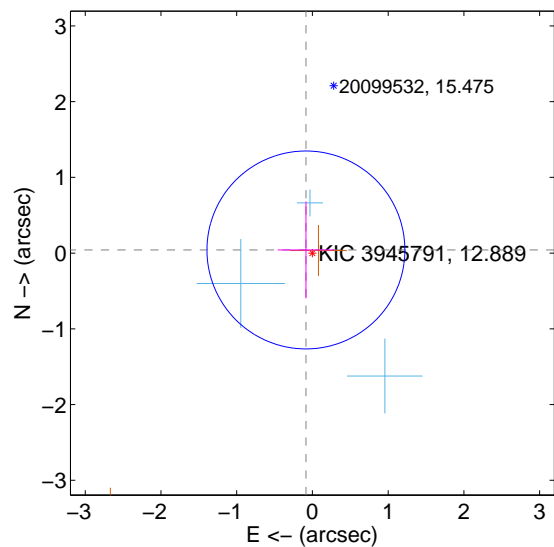
Supplemental centroid analysis for 003945791-03. Kepler magnitude: 12.89. Transit SNR 6.26

There are 3 quarters with good PRF difference image offsets

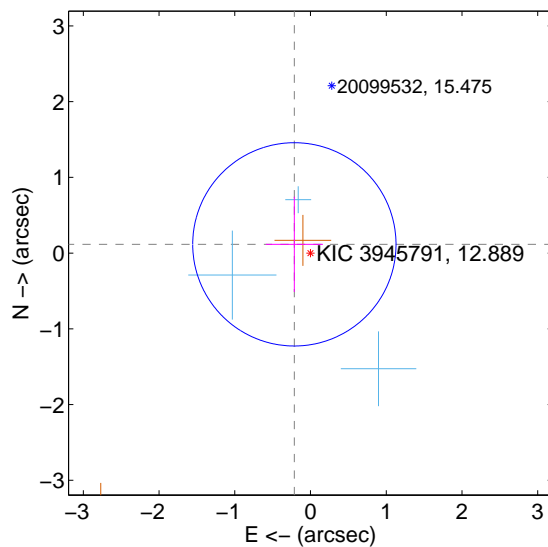
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.096 ± 0.436	0.22	0.086 ± 0.373	0.041 ± 0.640
PRF-fit source offset from KIC position	0.243 ± 0.447	0.54	0.213 ± 0.378	0.115 ± 0.629
photometric centroid source offset	0.83 ± 0.61	1.35	0.54 ± 0.50	0.63 ± 0.68

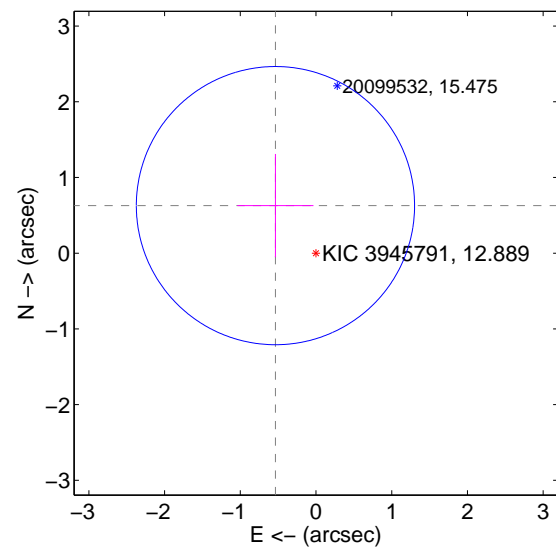
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

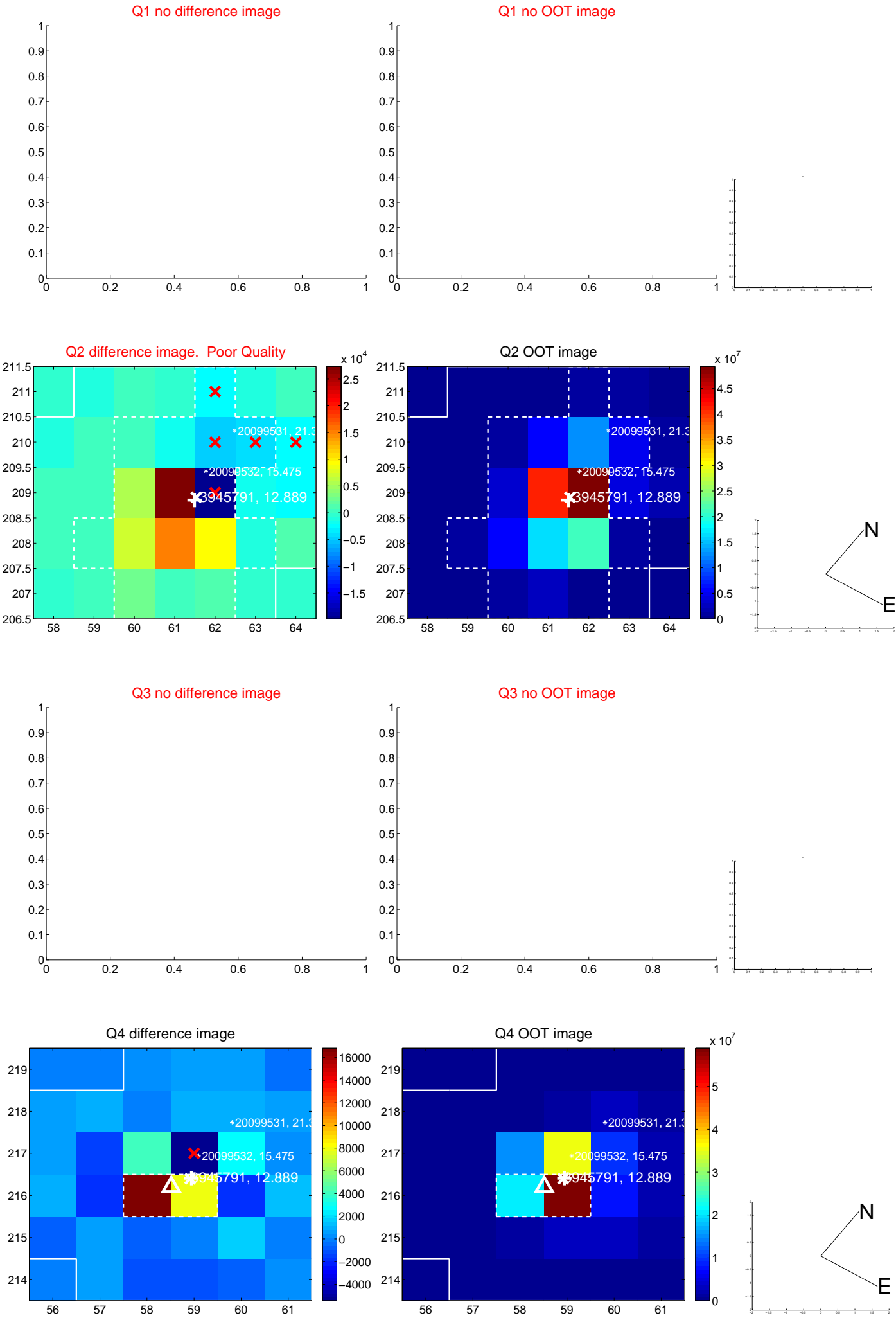


offset from photometric centroids



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.

Q5 no difference image



Q5 no OOT image



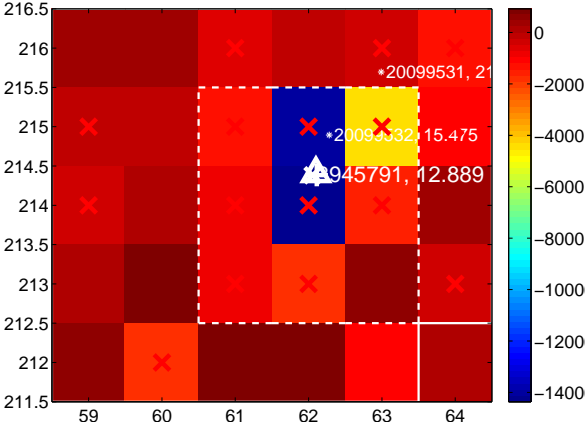
Q6 no difference image



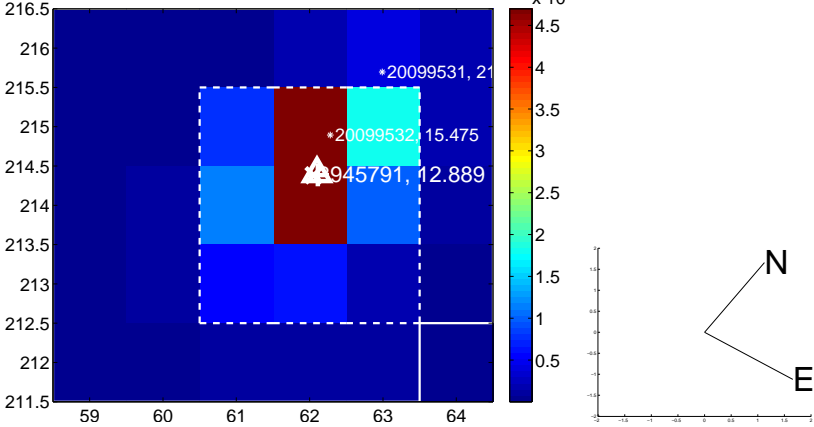
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



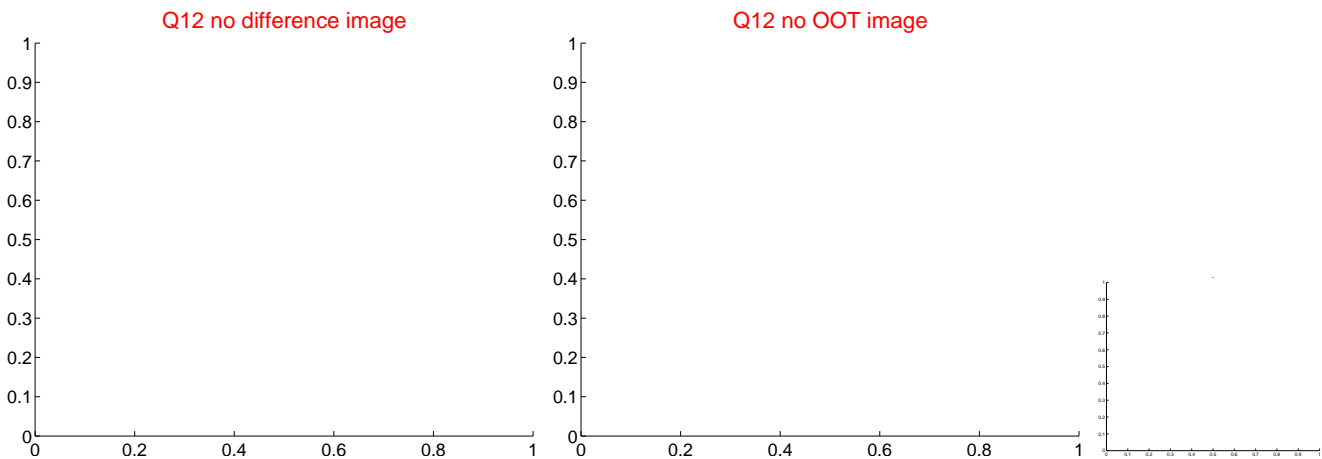
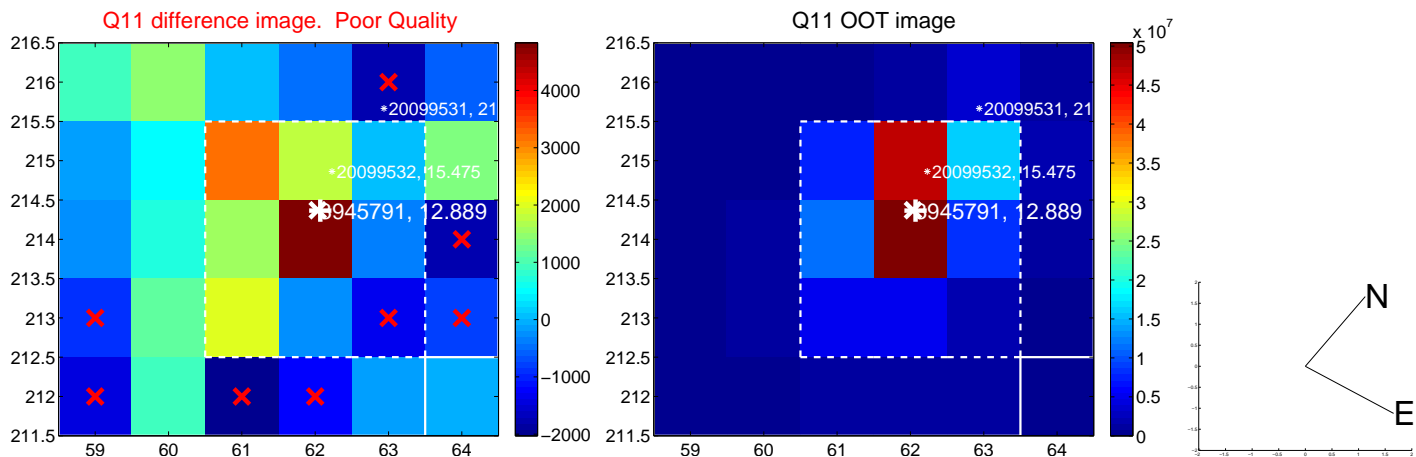
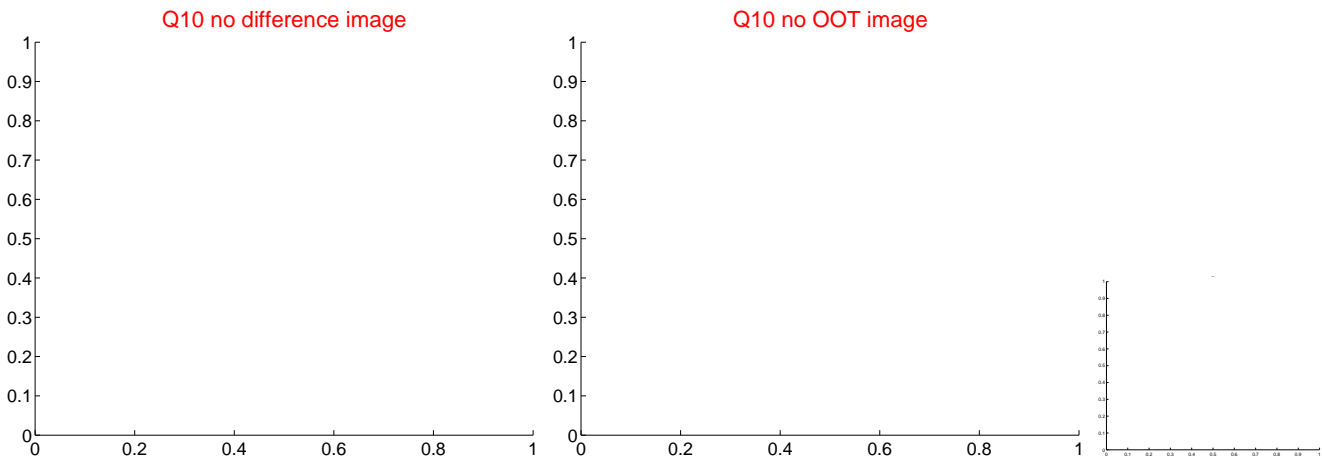
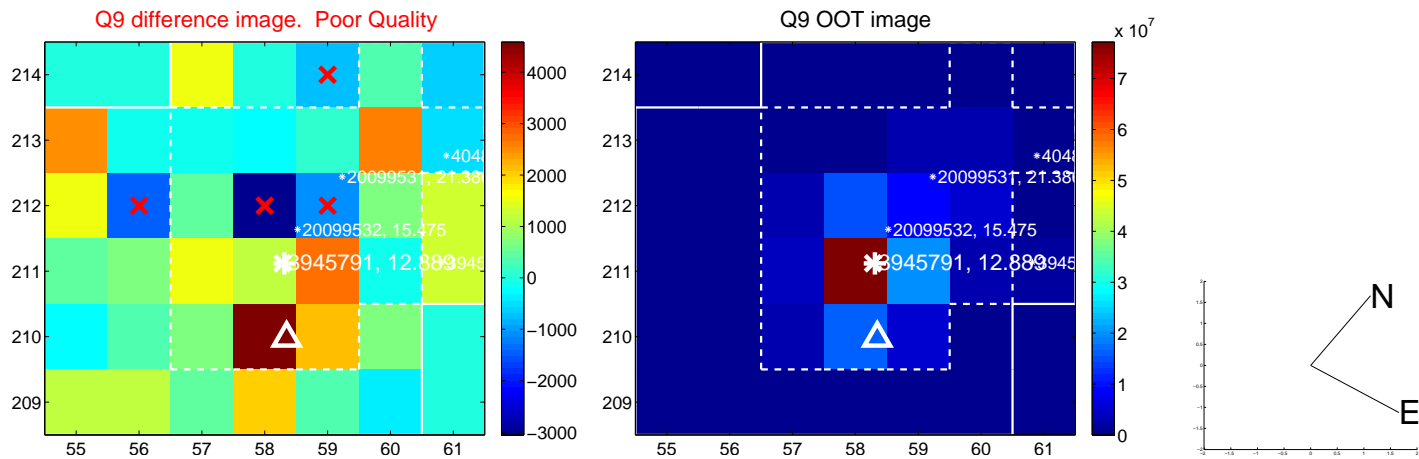
Q8 no difference image



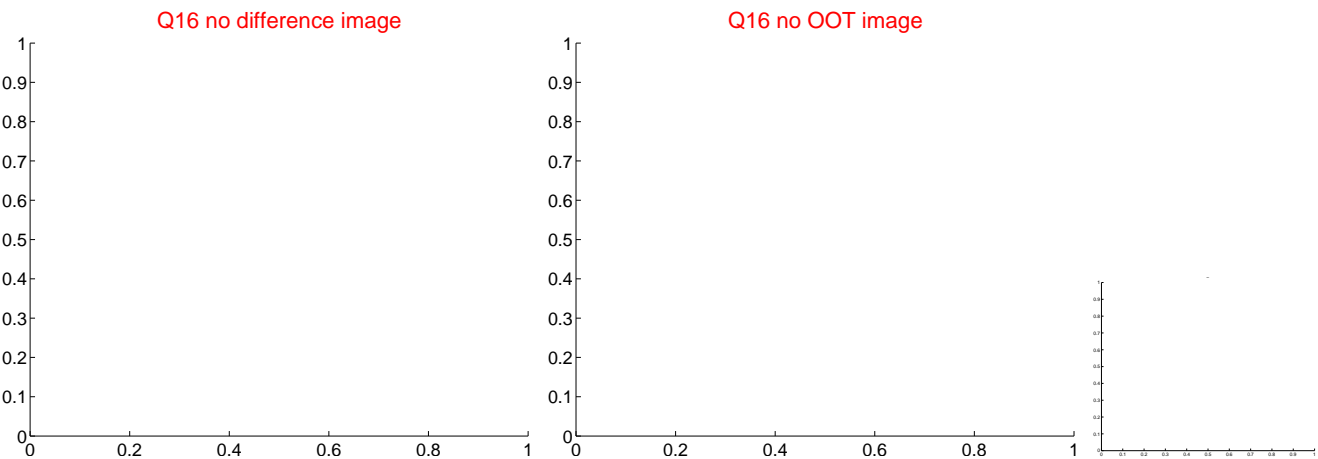
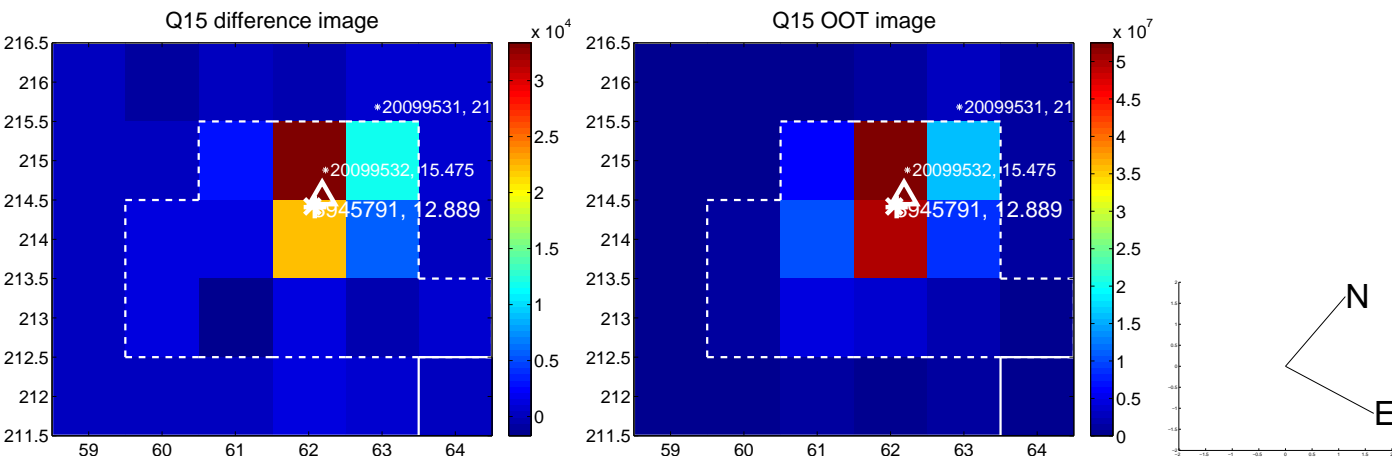
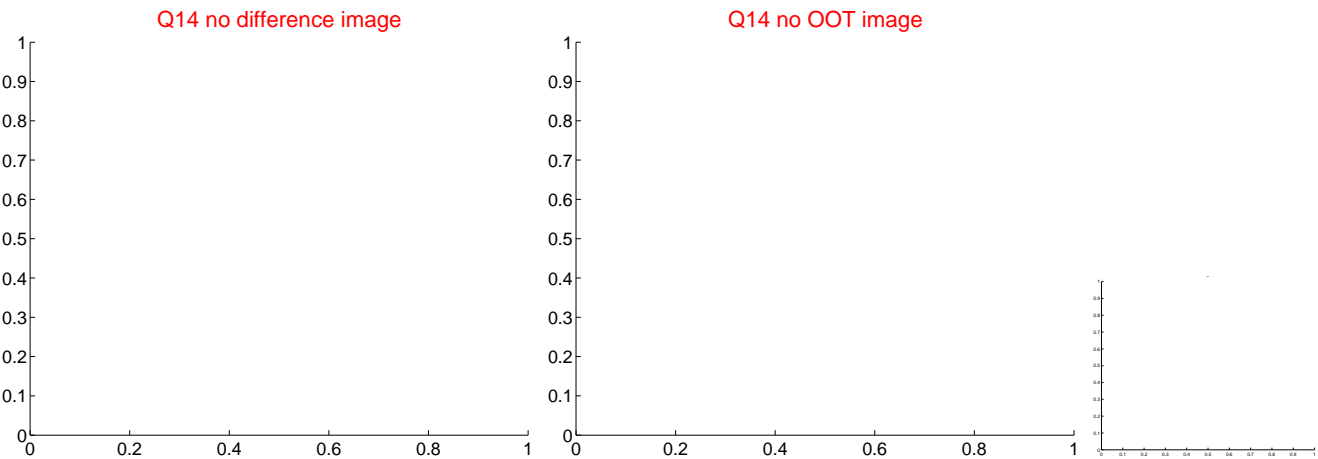
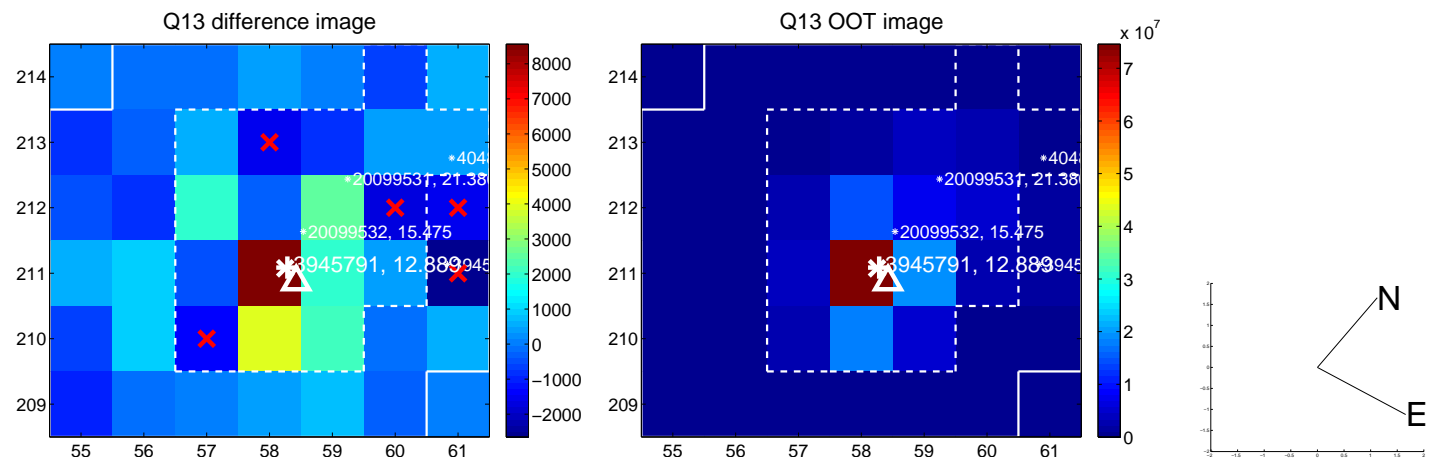
Q8 no OOT image



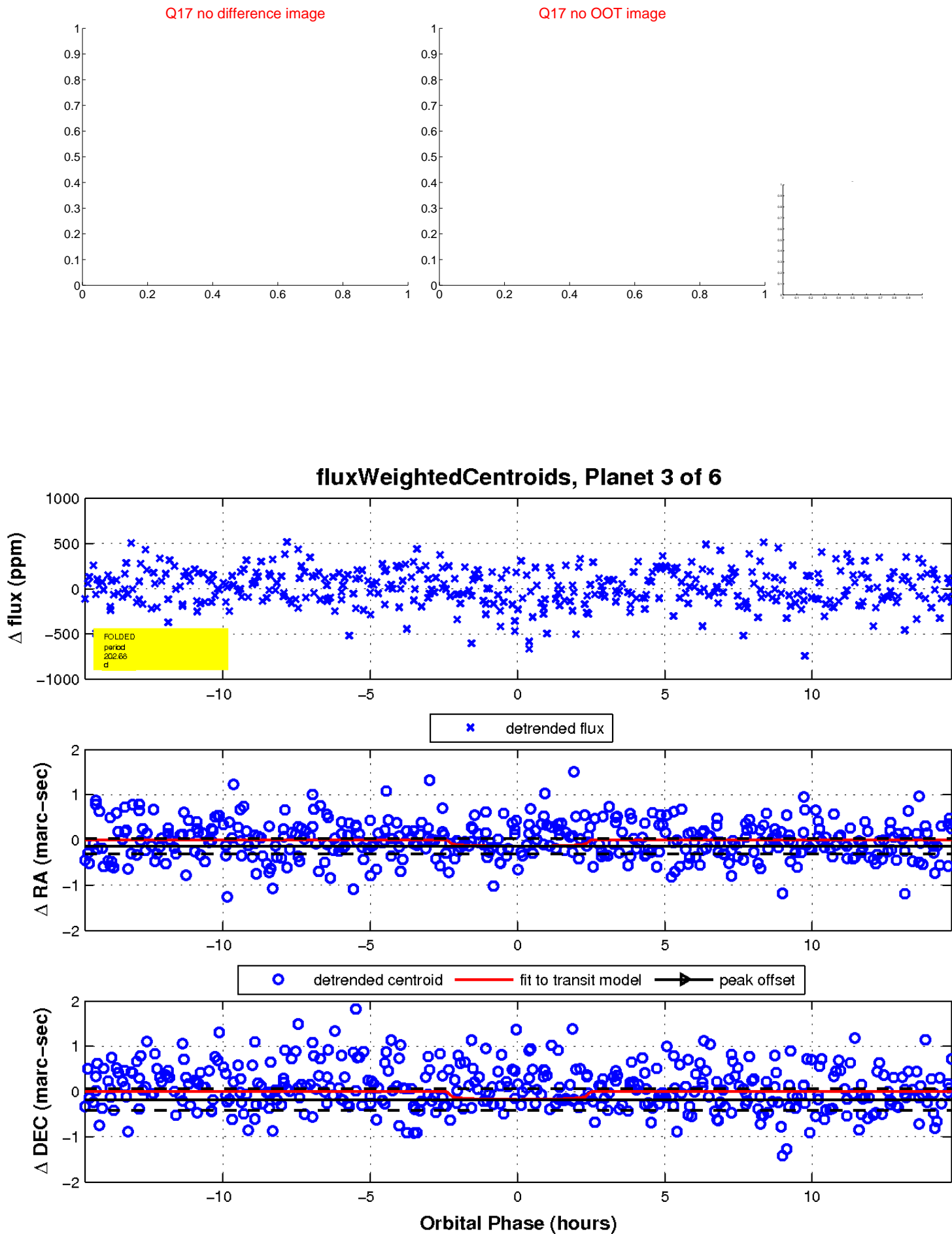
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

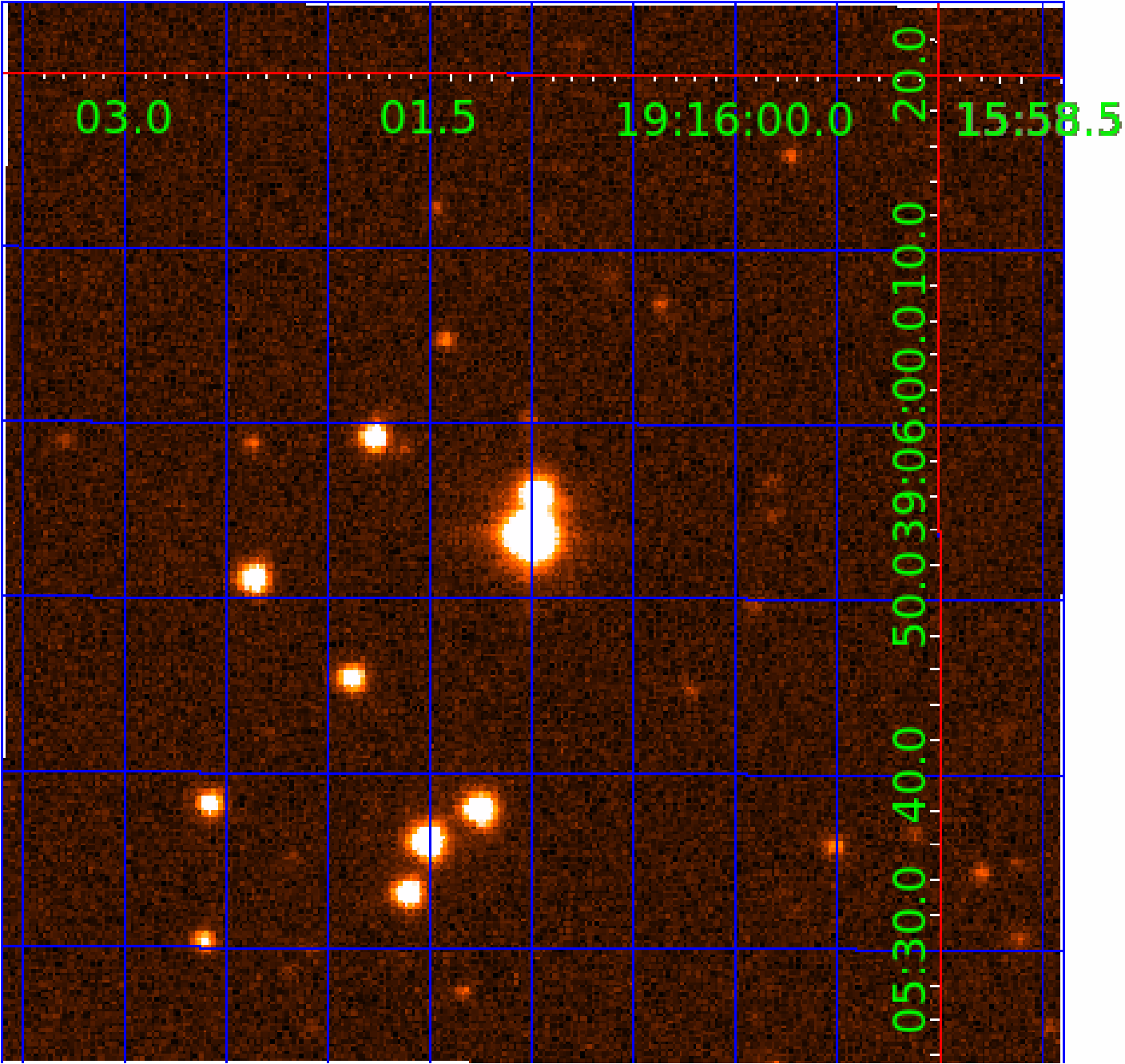


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003945791

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})
003945791-01	OBS	No	2.130203	133.566366	37.4	9.566	11.2	10.6	3.75	6675	2.40	16693.40
003945791-02	OBS	No	101.283060	150.413006	346.5	3.621	8.2	8.3	3.75	6675	12.16	96.92
003945791-03	OBS	No	202.676001	226.332165	324.8	4.918	8.0	6.3	3.75	6675	7.29	38.43
003945791-04	OBS	No	154.502983	217.939181	419.6	3.440	8.2	7.8	3.75	6675	11.62	55.19
003945791-05	OBS	No	30.572013	159.384350	199.9	1.961	7.8	8.6	3.75	6675	6.18	478.64
003945791-06	OBS	No	117.675893	188.803171	362.3	2.795	7.9	7.8	3.75	6675	7.81	79.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003945791-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
003945791-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003945791-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
003945791-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003945791-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT
003945791-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

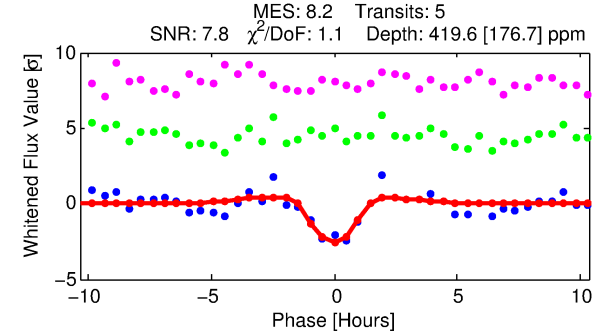
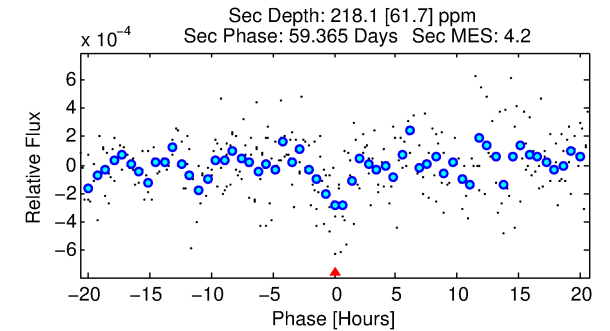
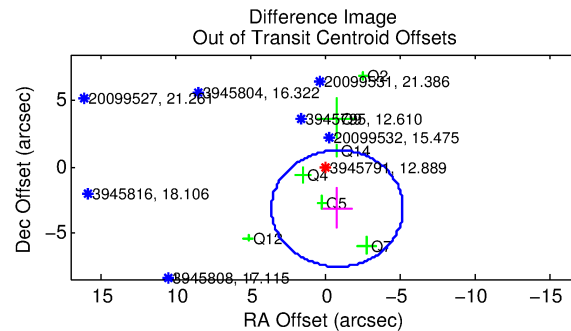
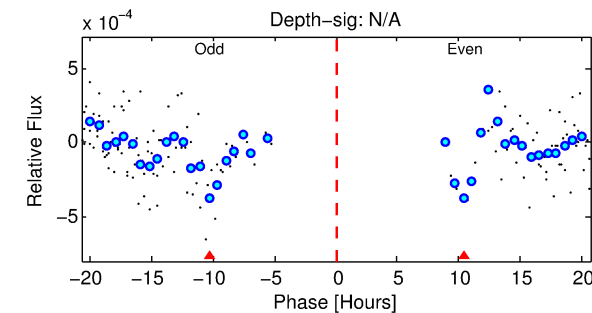
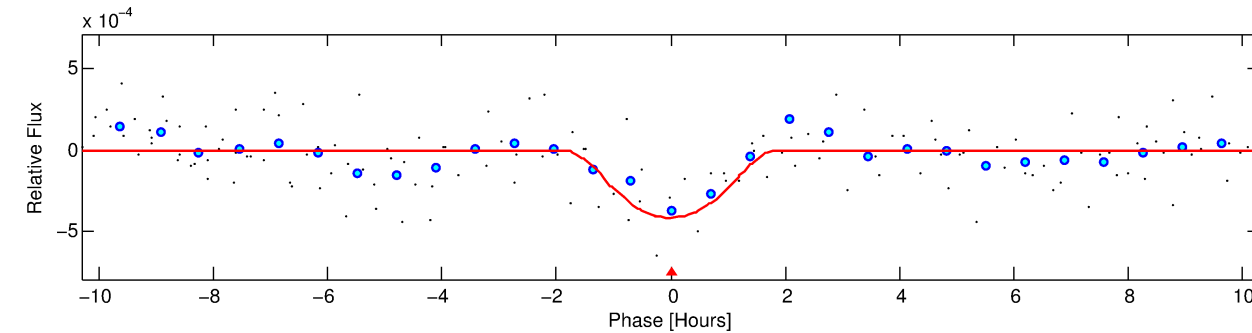
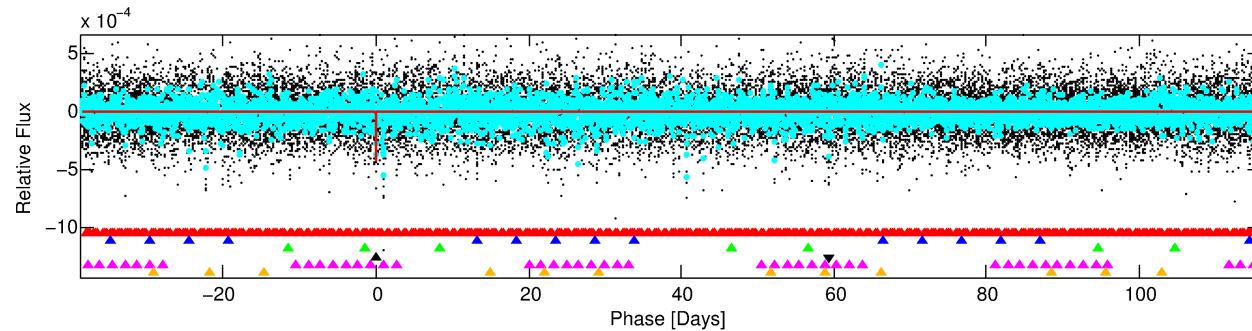
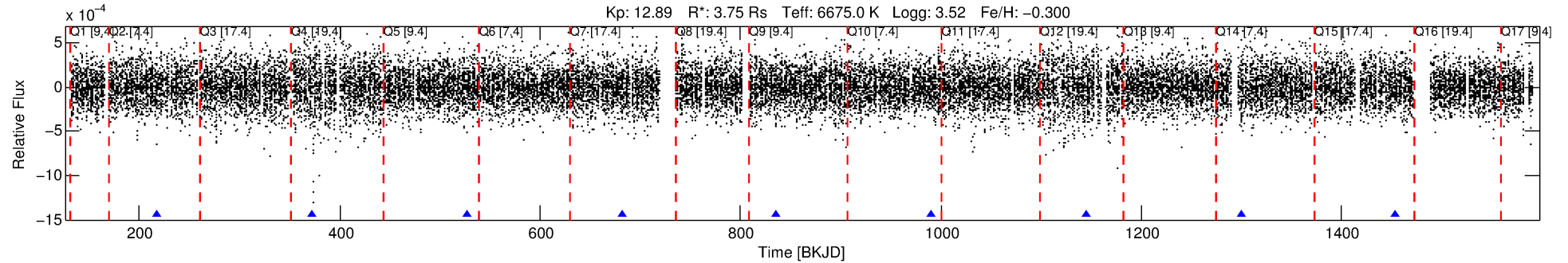
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003945791-04

No Significant Match Found

DV One-Page Summary

KIC: 3945791 Candidate: 4 of 6 Period: 154.503 d



DV Fit Results:

Period = 154.50298 [0.00201] d
Epoch = 217.9392 [0.0095] BKJD
Rp/R* = 0.0284 [0.0545]
a/R* = 99.59 [81.81]
b = 0.99 [0.11]
Seff = 55.19 [33.83]
Teq = 695 [107] K
Rp = 11.62 [22.81] Re
a = 0.6741 [0.2542] AU
Ag = 403.88 [1576.18] [0.26] σ
Teffp = 4817 [4646] K [0.89] σ

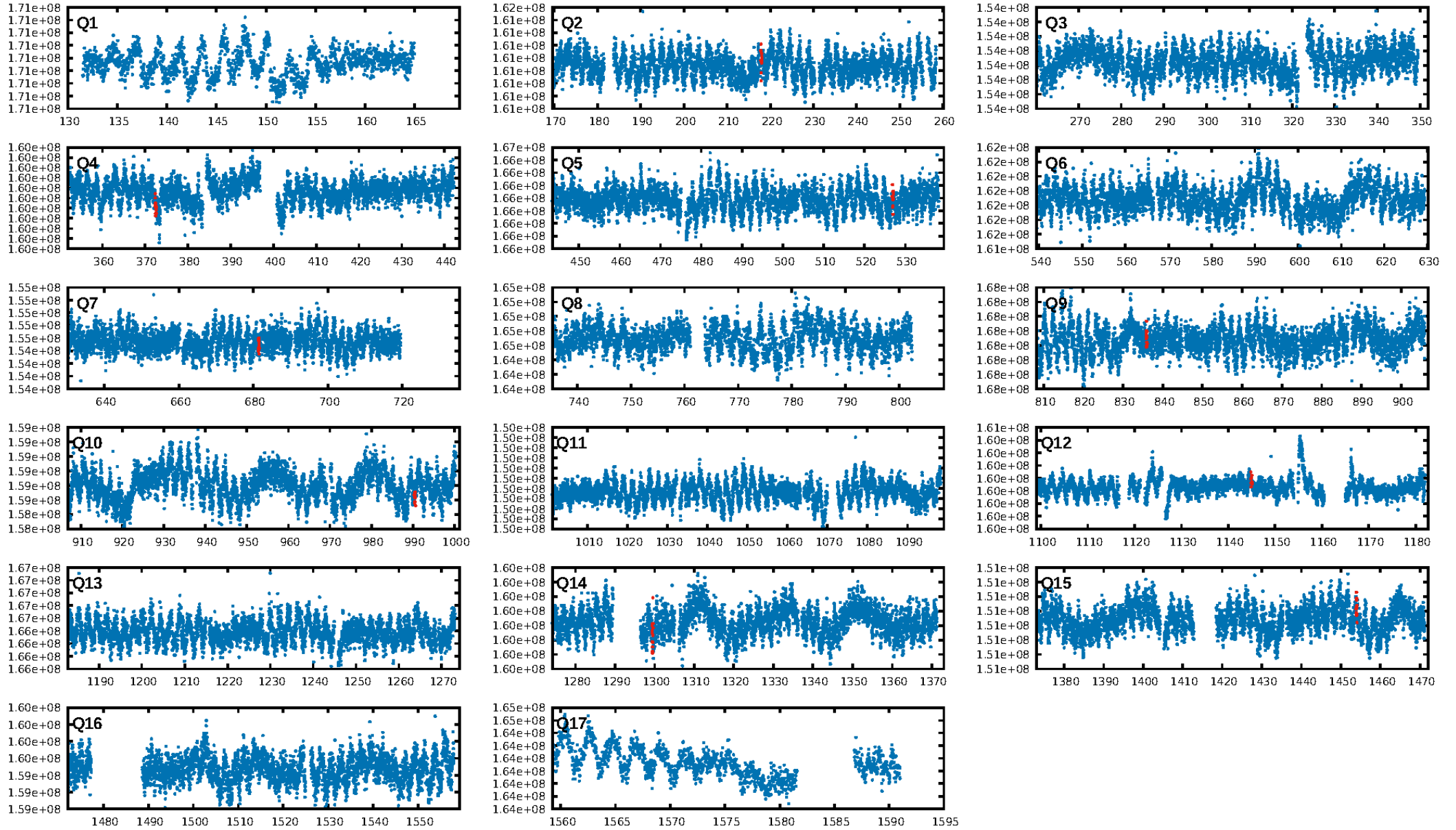
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [199.39] σ
LongPeriod-sig: 100.0% [192.64] σ
ModelChiSquare2-sig: 28.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.20e-09
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 365.8
Centroid-sig: 0.0%
Centroid-so: 1.589 arcsec [2.47] σ
OotOffset-rm: 3.280 arcsec [2.24] σ
KicOffset-rm: 3.230 arcsec [2.16] σ
OotOffset-st: 2/1/2/2 [7]
KicOffset-st: 2/1/2/2 [7]
DiffImageQuality-fgm: 0.29 [2/7]
DiffImageOverlap-fno: 0.44 [4/9]

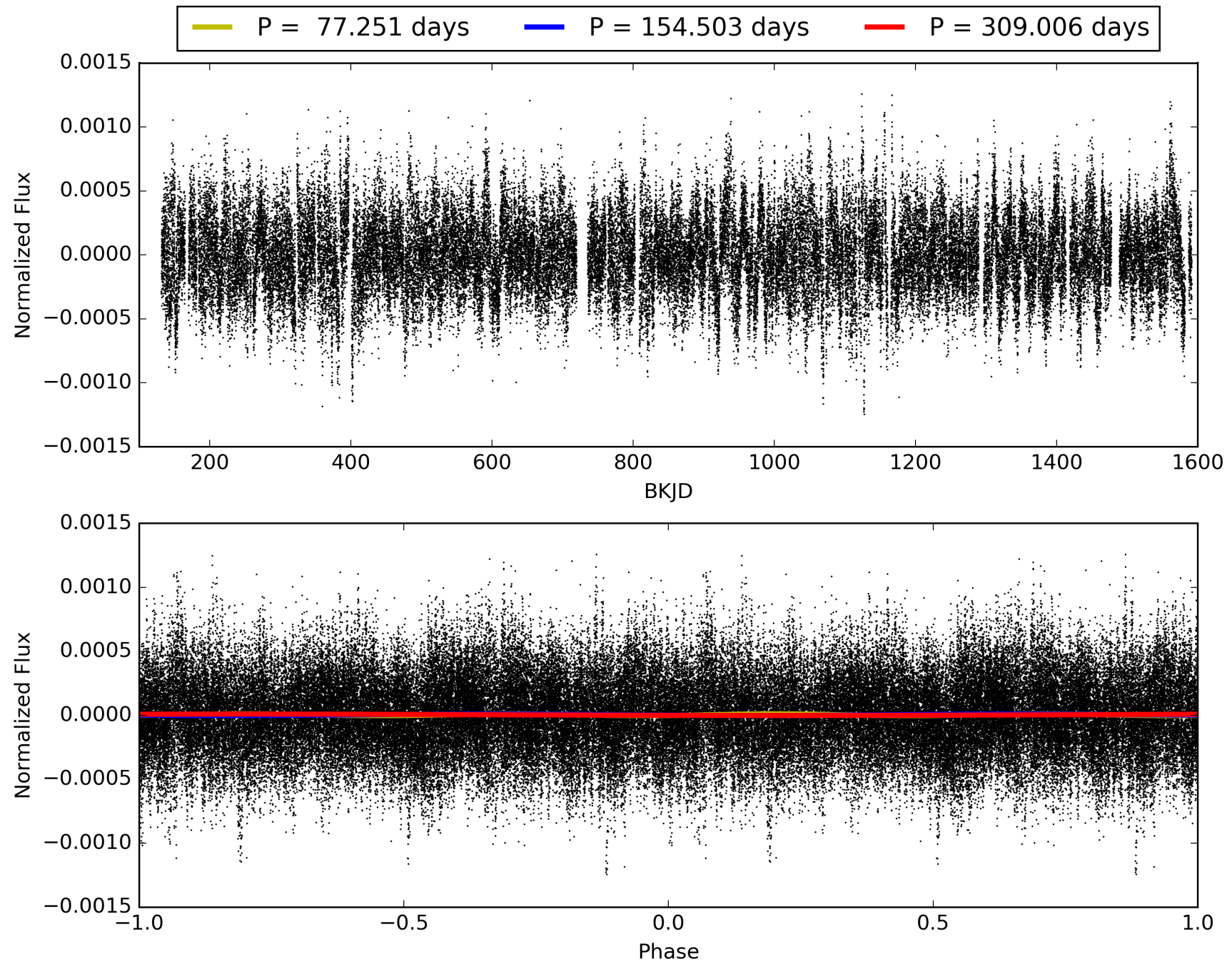
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 22:56:11 Z

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

TCE 003945791-04, PDC Light Curves

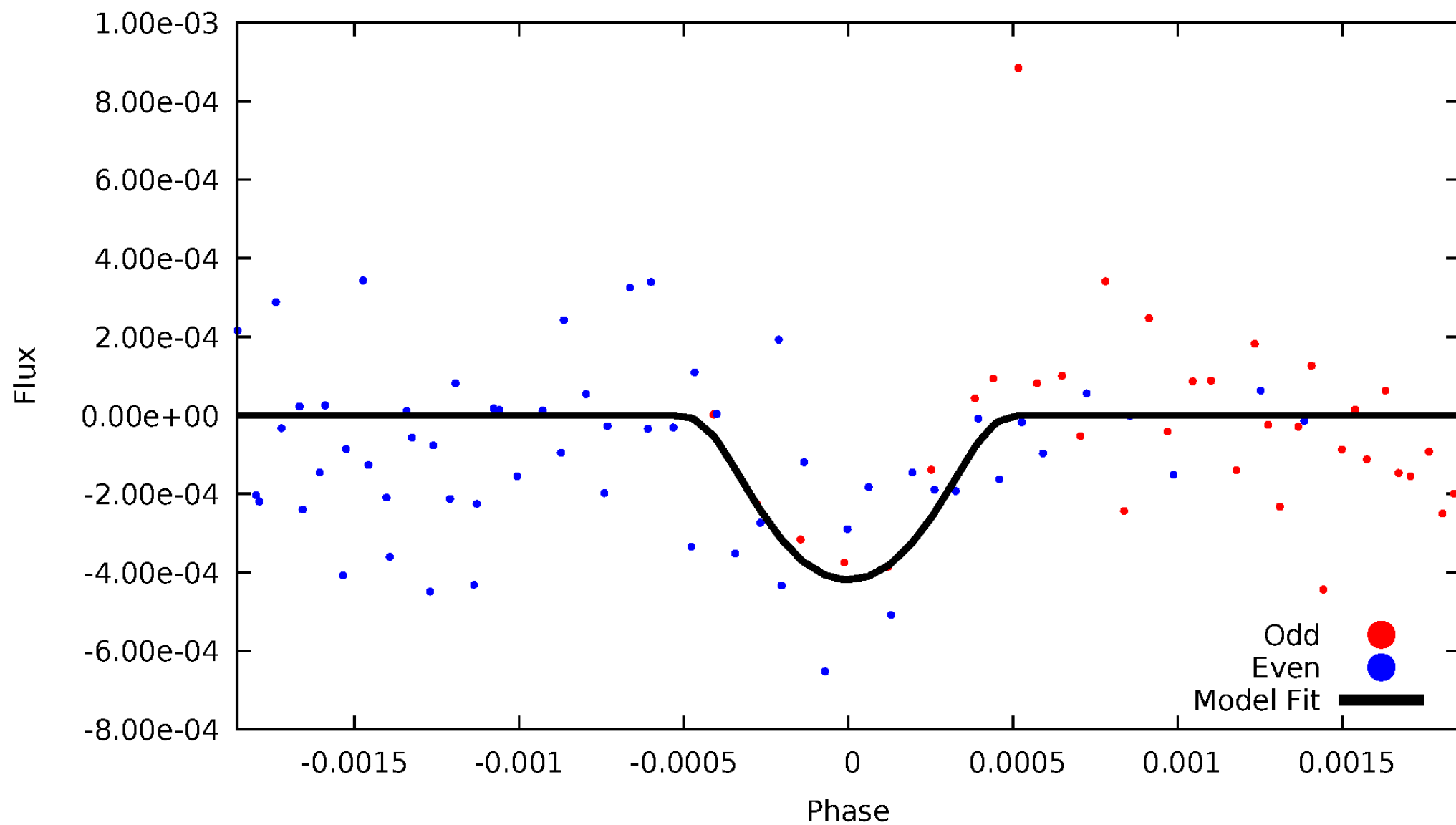


TCE 003945791-04



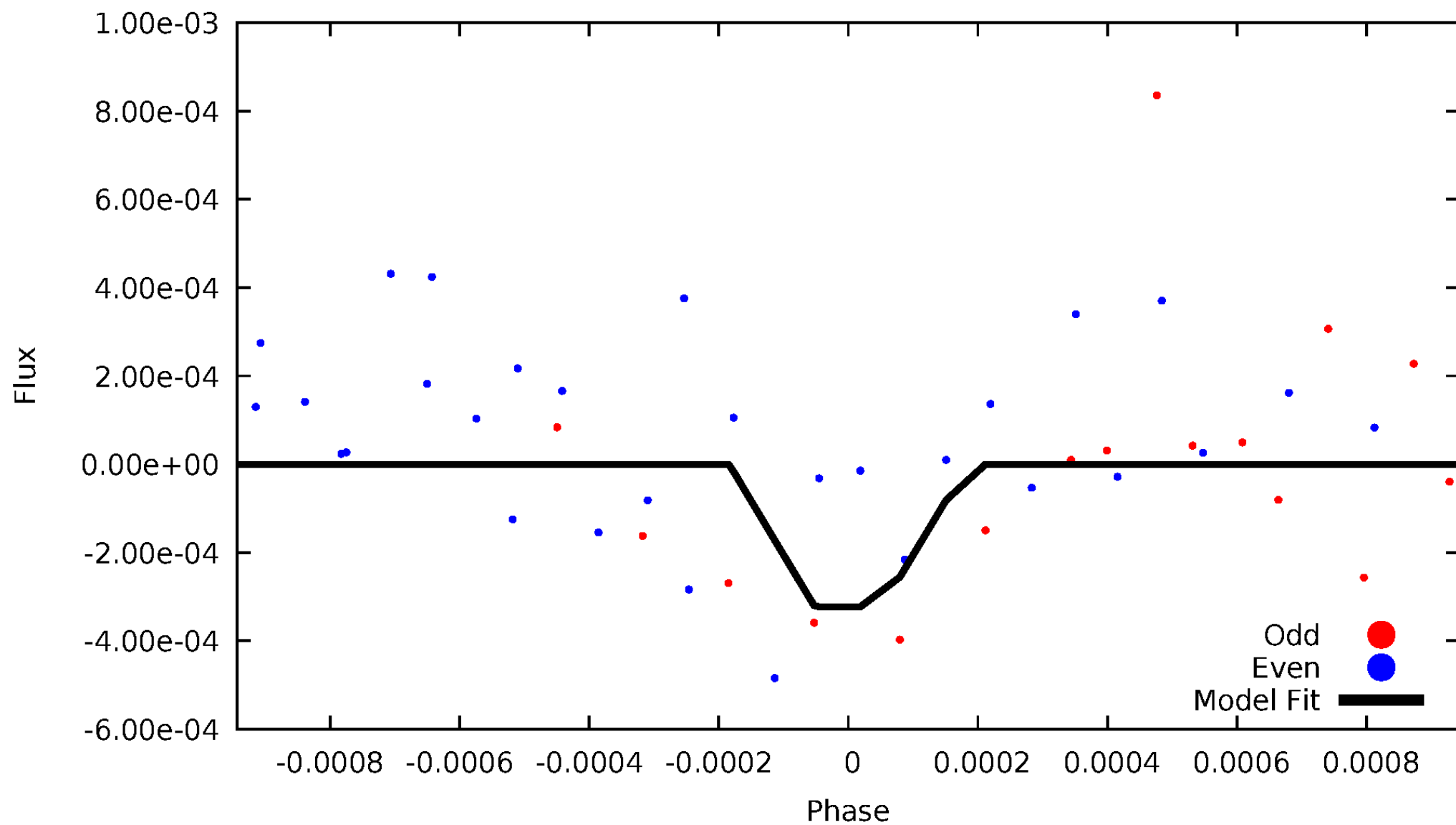
DV Odd/Even

TCE 003945791-04



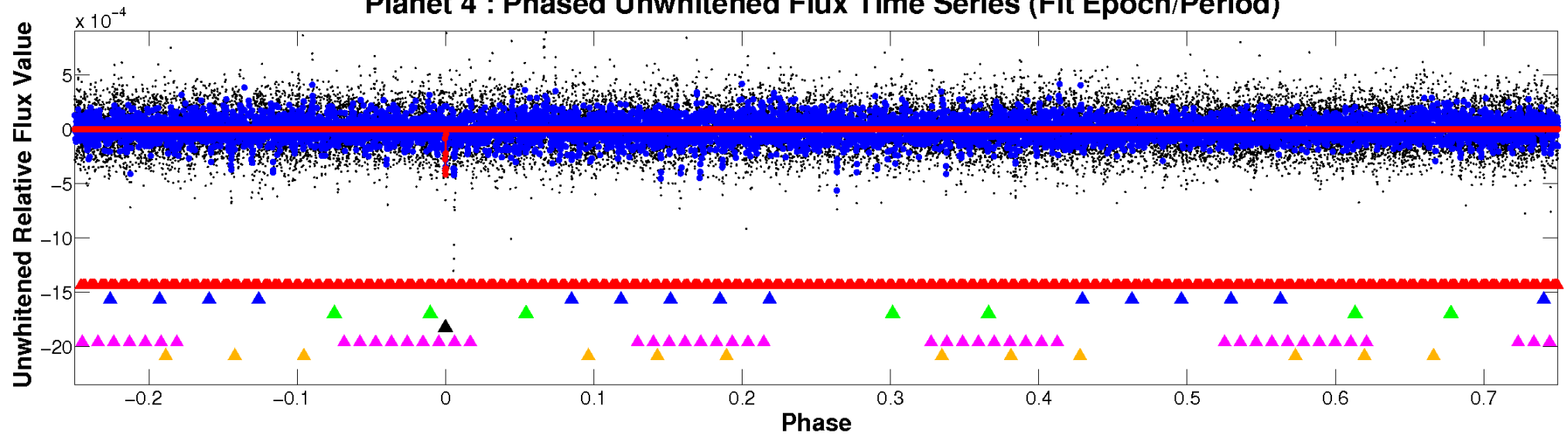
ALT Odd/Even

TCE 003945791-04

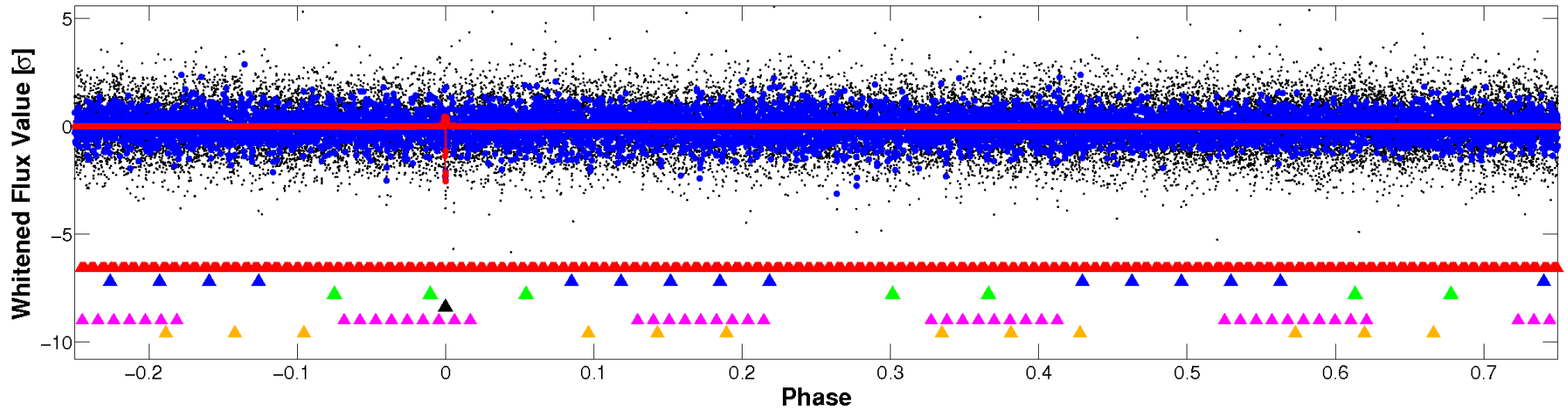


Non-Whitened Vs. Whitened Light Curve

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

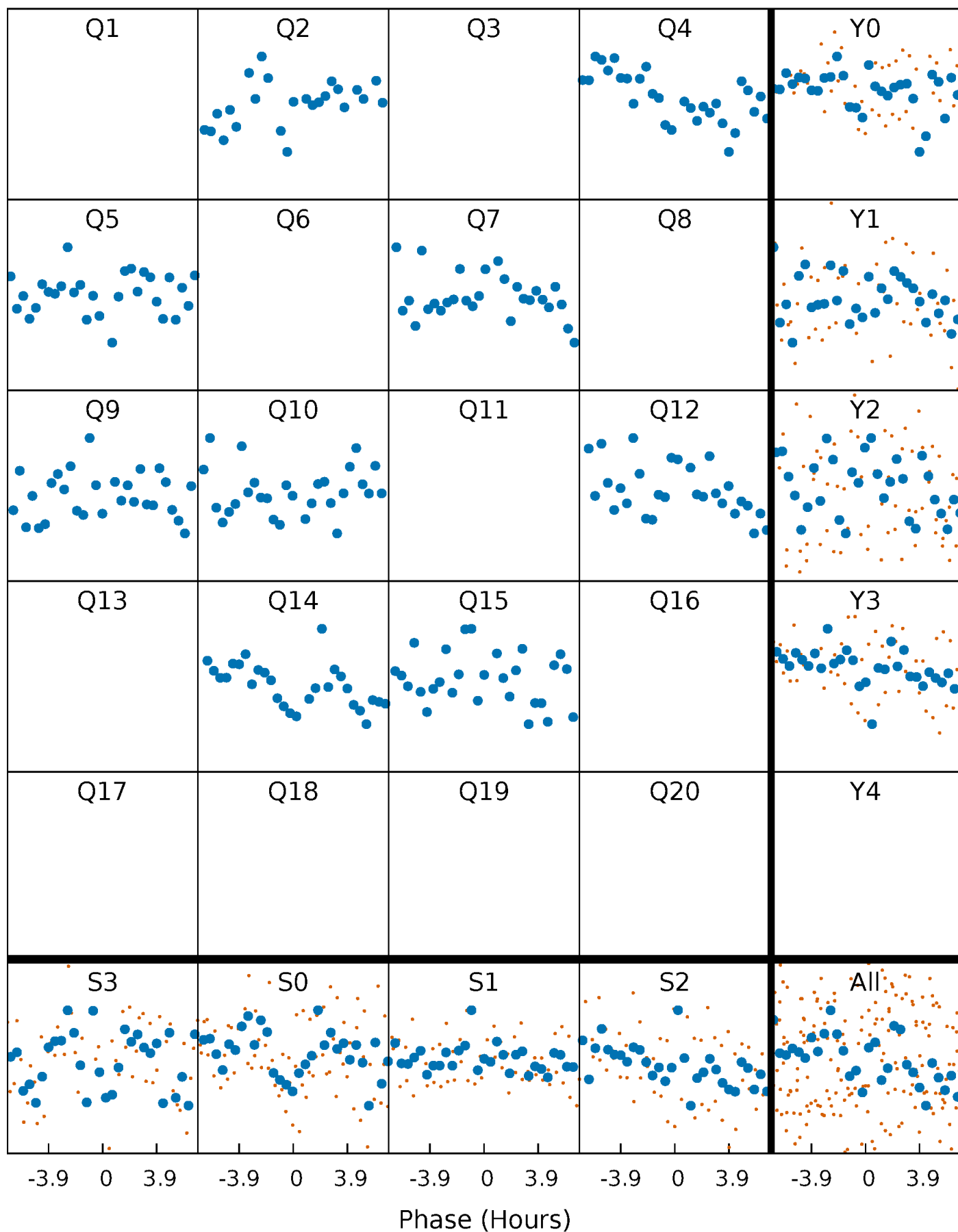


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



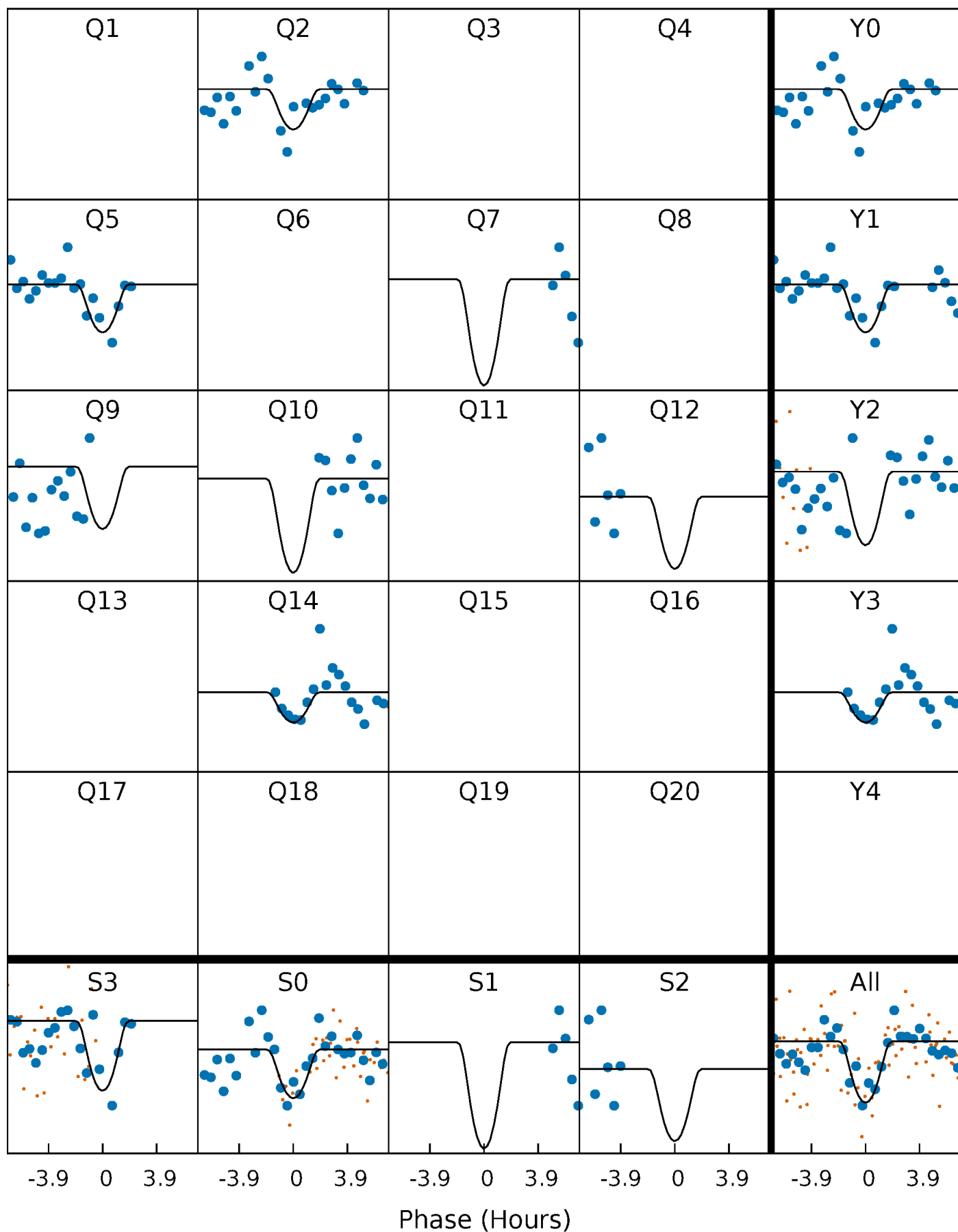
PDC Quarter-Phased Transit Curves

TCE 003945791-04 P=154.502983 Days $T_0=217.939181$ (BKJD)



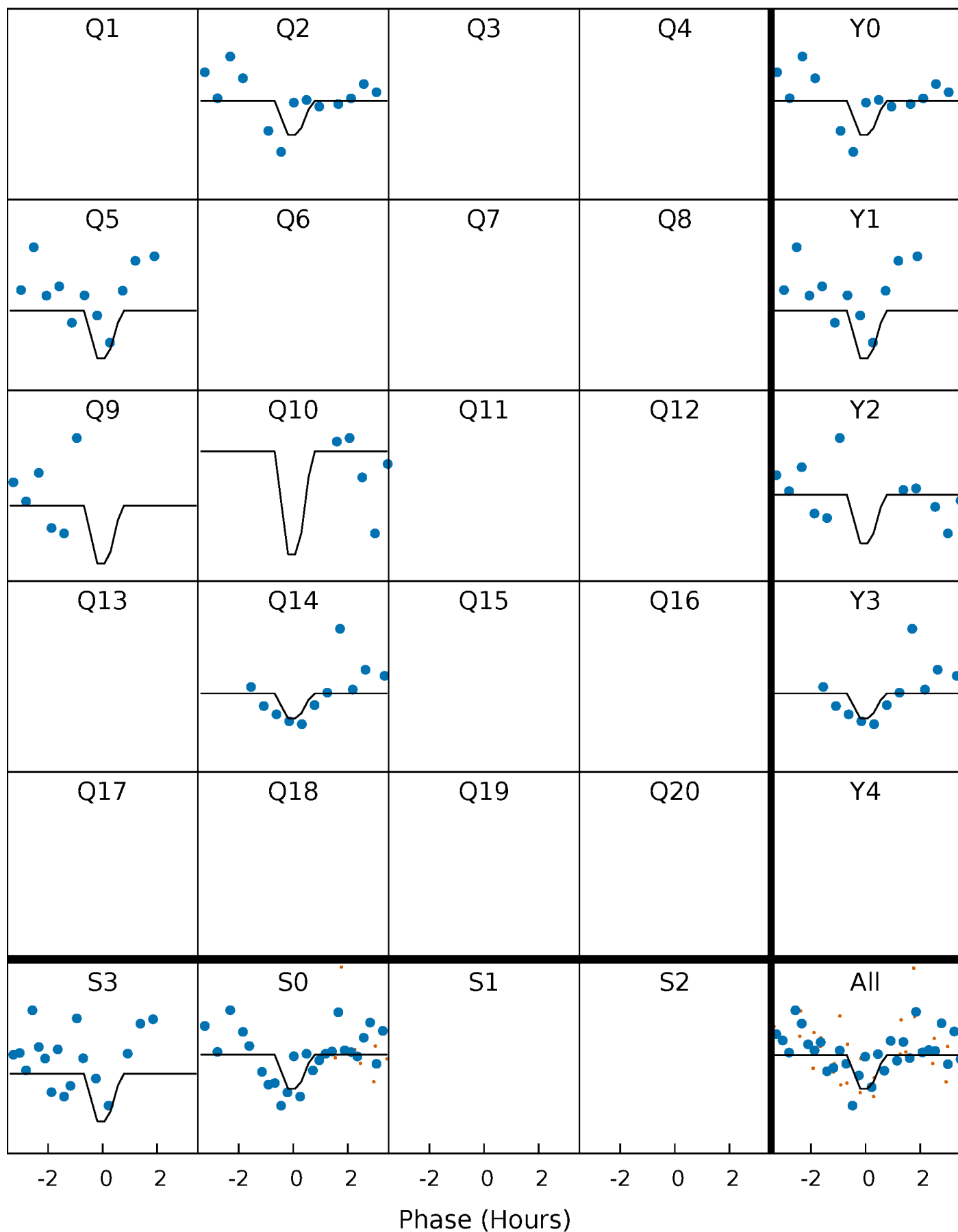
DV Quarter-Phased Transit Curves

TCE 003945791-04 P=154.502983 Days $T_0=217.939181$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

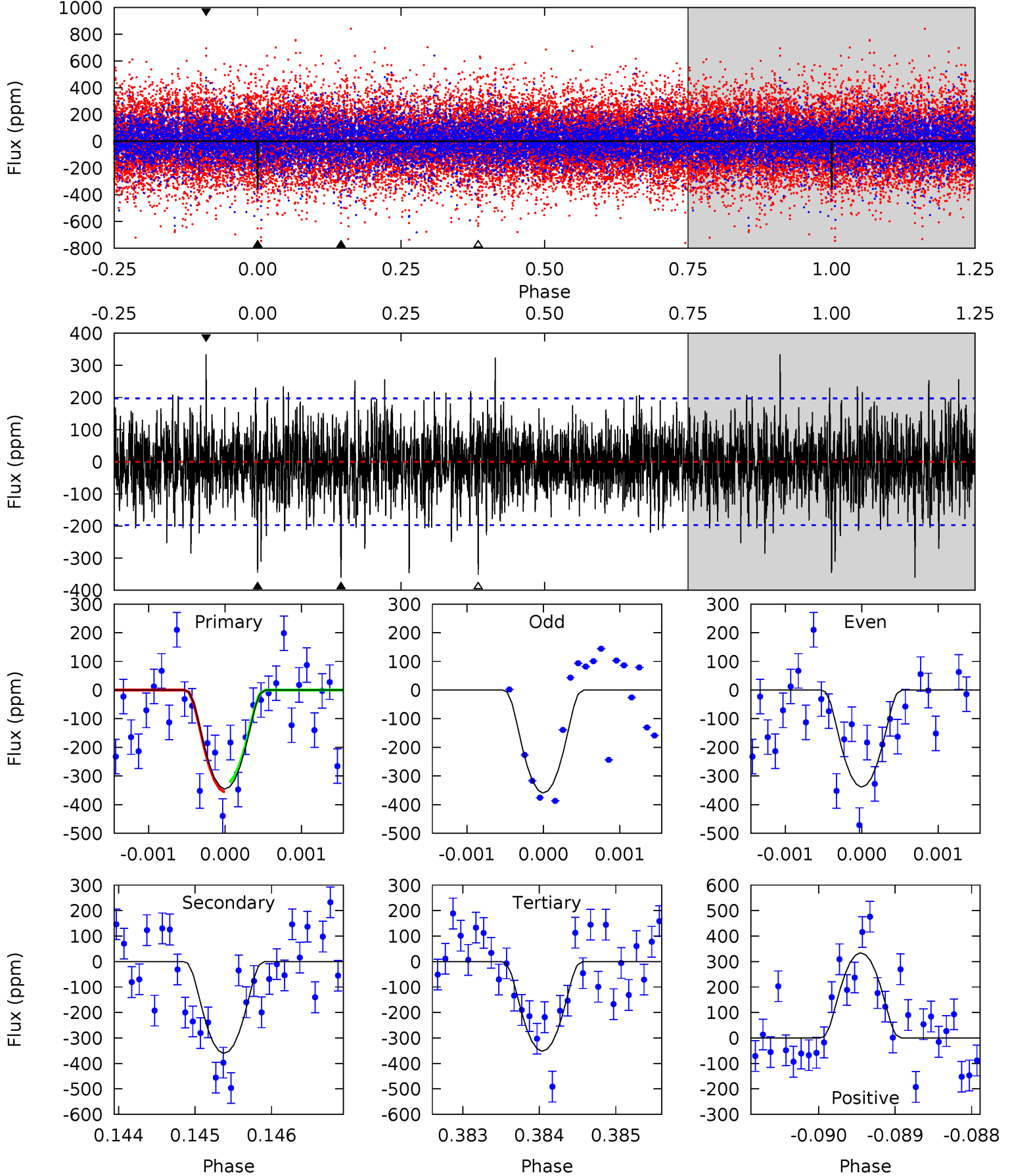
TCE 003945791-04 P=154.502918 Days $T_0=217.945898$ (BKJD)



DV Model-Shift Uniqueness Test

003945791-04, P = 154.502983 Days, E = 63.436198 Days

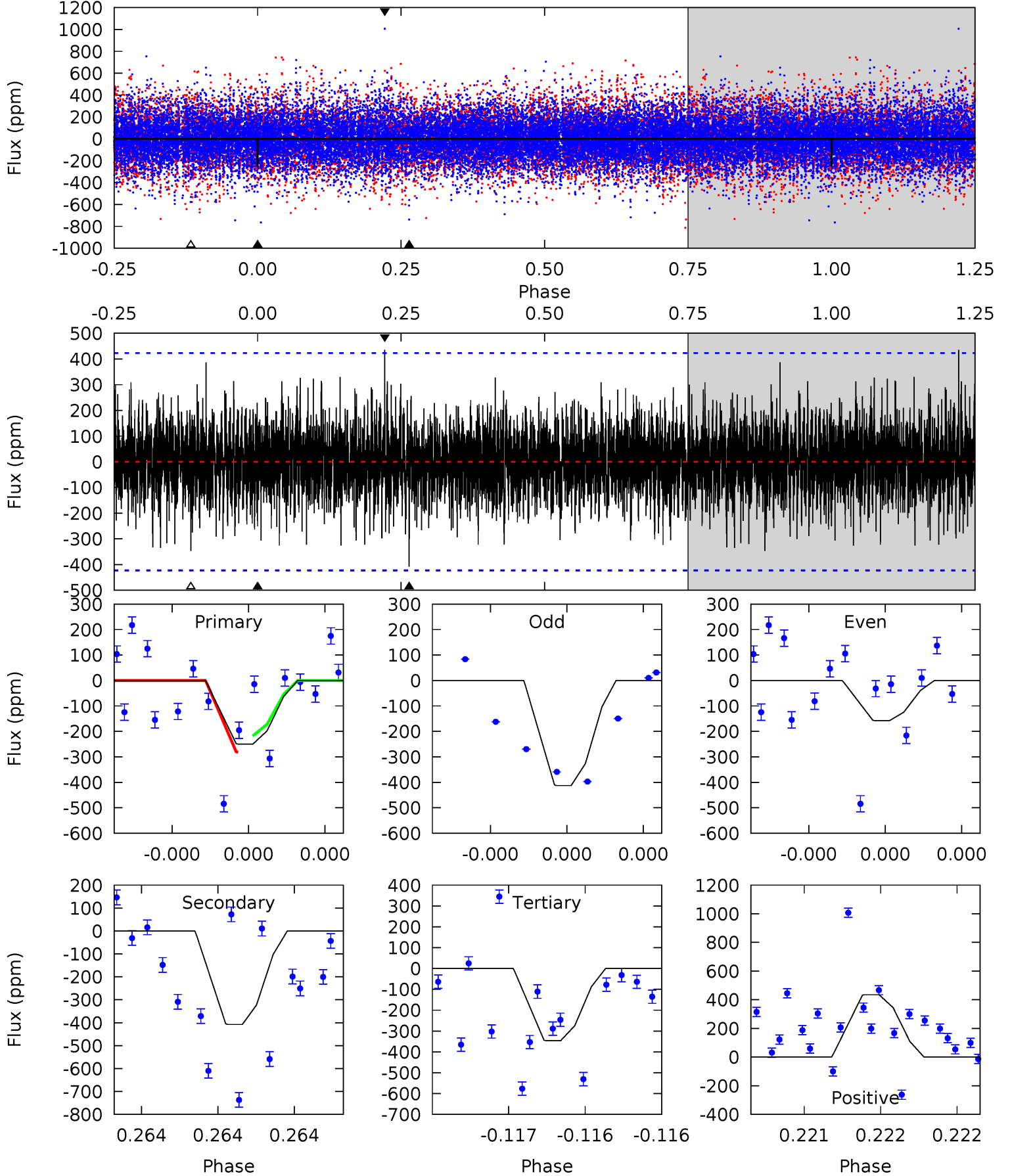
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.55	9.96	9.72	9.24	5.45	3.29	2.02	-0.18	0.31	0.24	0.72	0.27	0.77	0.48	0.46



Alt Model-Shift Uniqueness Test

003945791-04, P = 154.502918 Days, E = 63.442980 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.34	5.44	4.62	5.81	5.65	3.59	1.25	-1.28	-2.47	0.82	-0.37	1.62	1.22	0.52	0.43



Stellar Parameters For KIC 003945791

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6675^{+182}_{-202}	$3.522^{+0.352}_{-0.088}$	$-0.300^{+0.350}_{-0.250}$	$3.755^{+0.371}_{-1.482}$	$1.711^{+0.199}_{-0.369}$	$0.045^{+0.128}_{-0.013}$
	+3%/-3%	+10%/-2%	+117%/-83%	+10%/-39%	+12%/-22%	+281%/-29%
Source	PHO1	FLK73	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 003945791-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-360 ± 36	$18.83^{+19.14}_{-13.02}$	952^{+50}_{-90}	4340^{+3154}_{-904}	257^{+2199}_{-193}
Alt.	-408 ± 75	$17.74^{+17.22}_{-12.30}$	956^{+51}_{-83}	4551^{+3621}_{-937}	325^{+3065}_{-241}

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 $A_{obs} \gg 1.0$

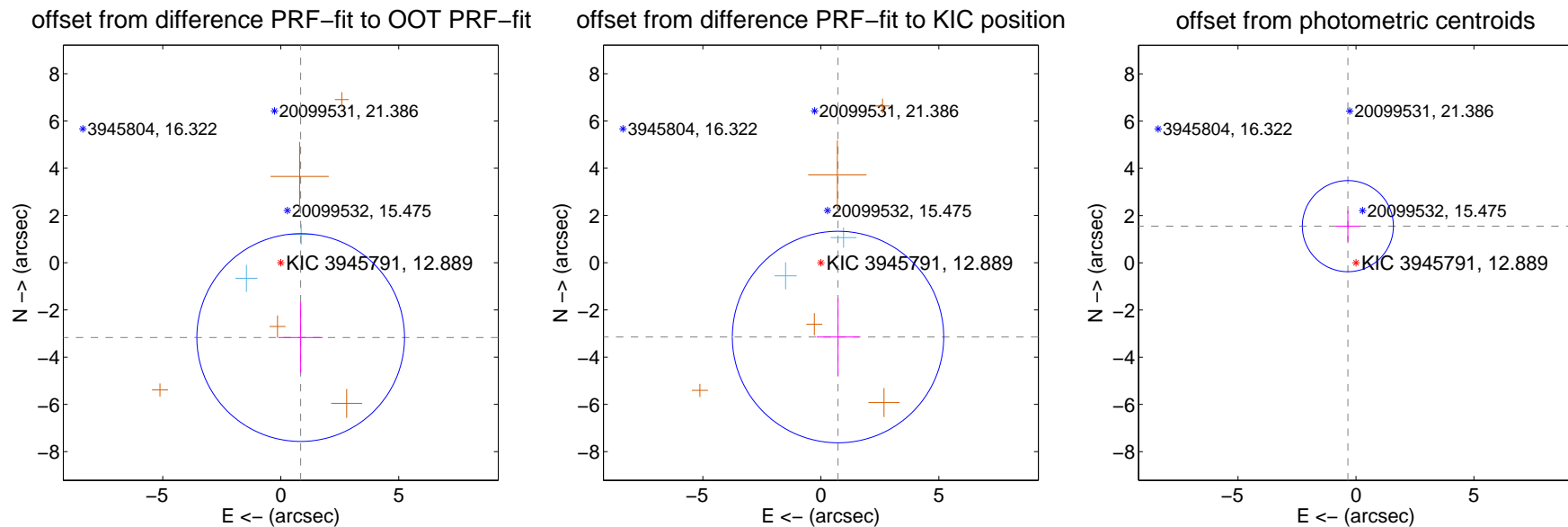
DV Centroid Data

Supplemental centroid analysis for 003945791-04. Kepler magnitude: 12.89. Transit SNR 7.79

There are 2 quarters with good PRF difference image offsets

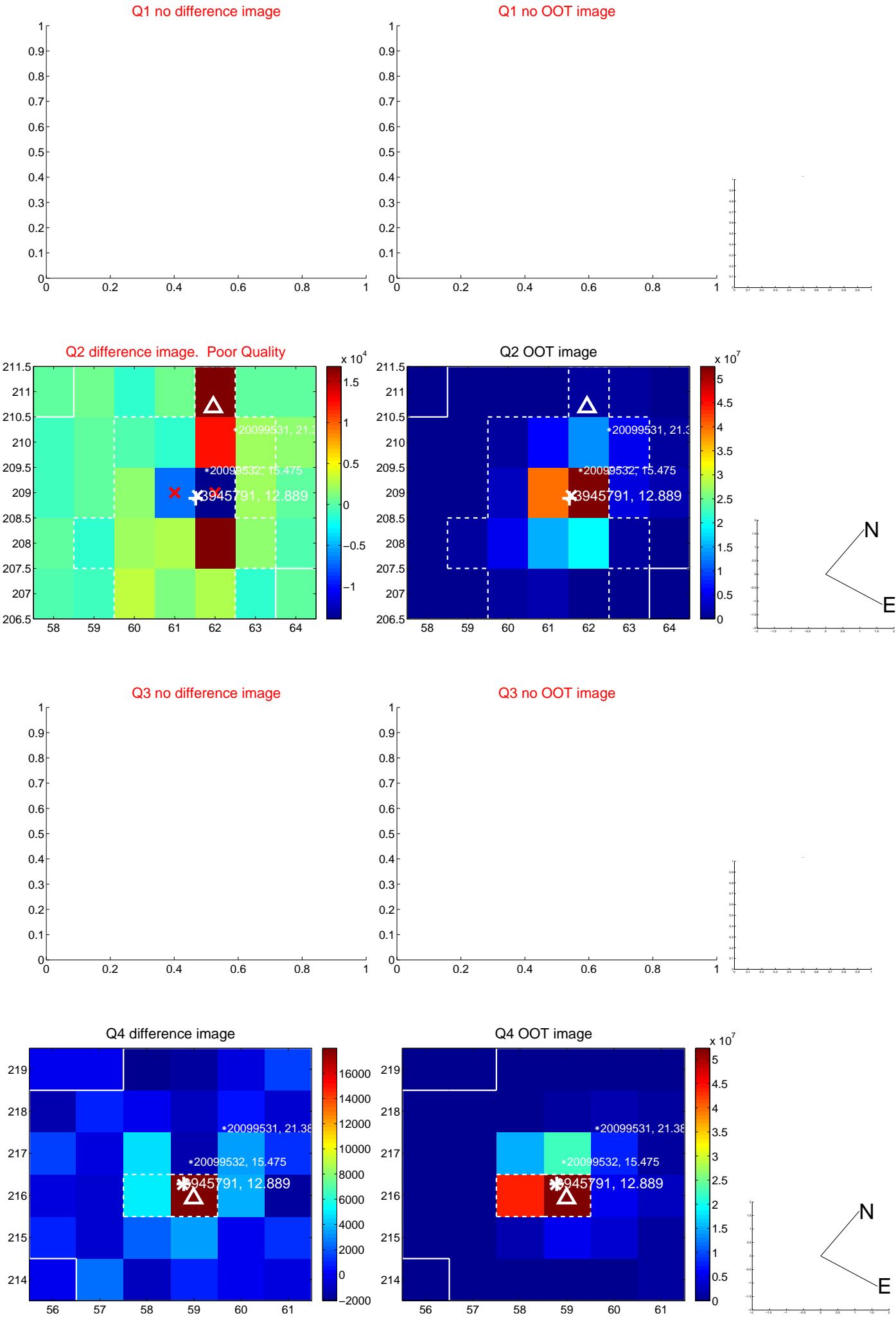
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.280 ± 1.466	2.24	-0.845 ± 0.939	-3.169 ± 1.497
PRF-fit source offset from KIC position	3.230 ± 1.493	2.16	-0.727 ± 0.902	-3.147 ± 1.637
photometric centroid source offset	1.59 ± 0.64	2.47	0.34 ± 0.50	1.55 ± 0.65

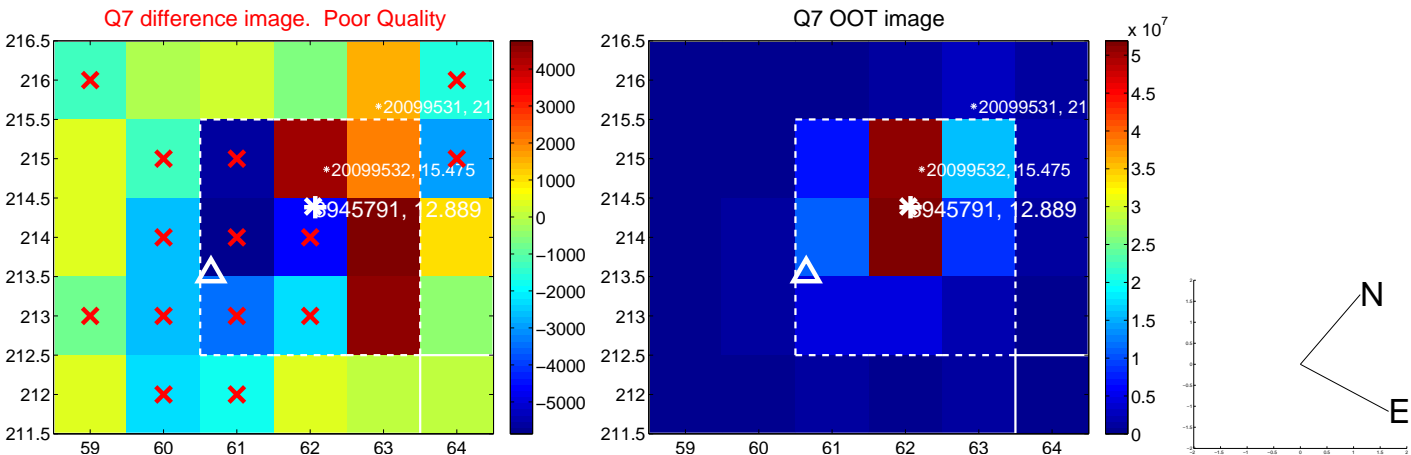
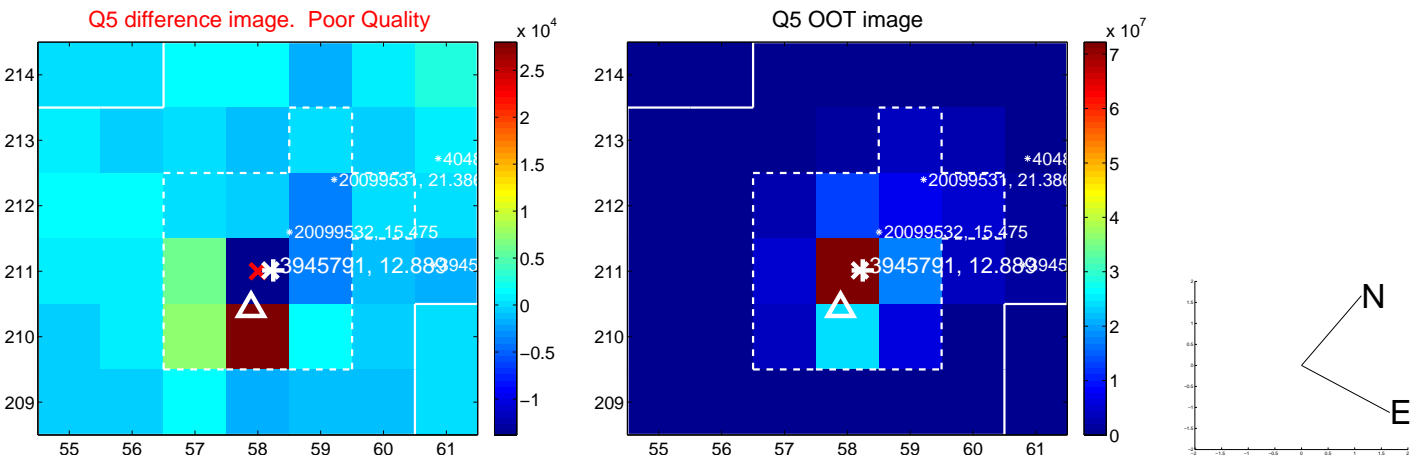


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

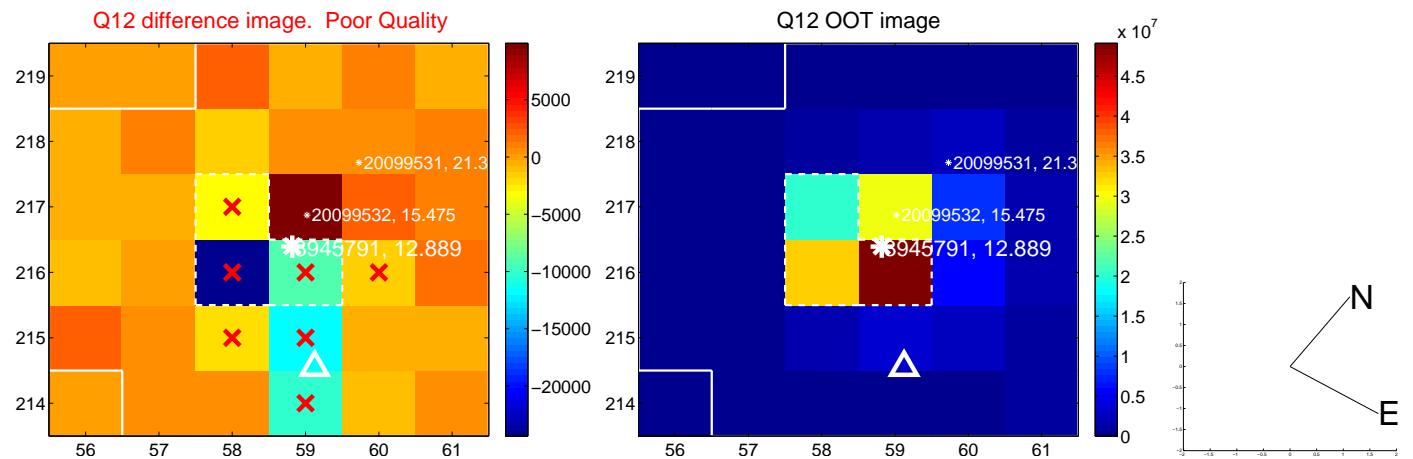
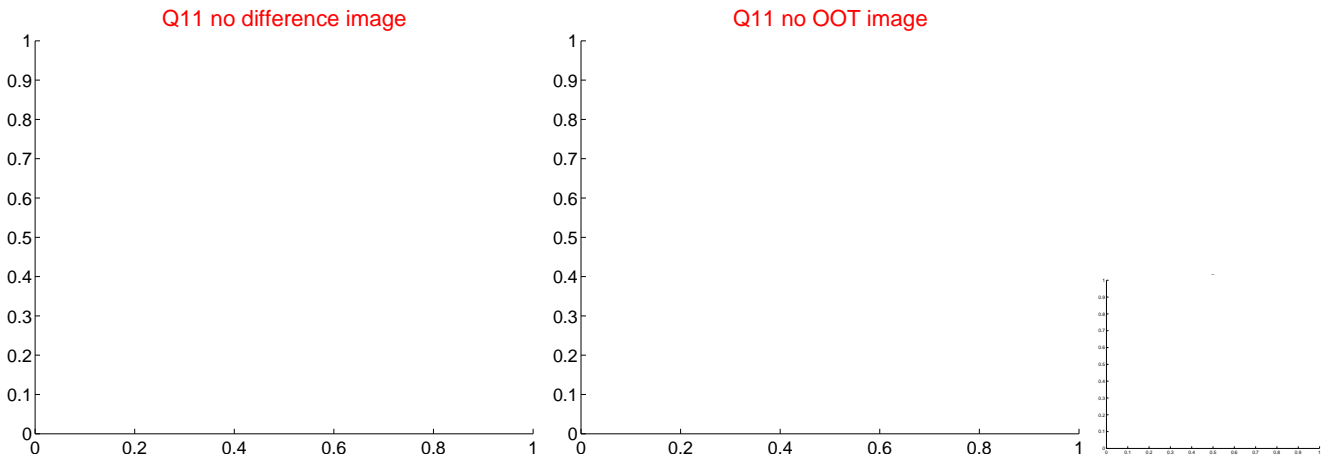
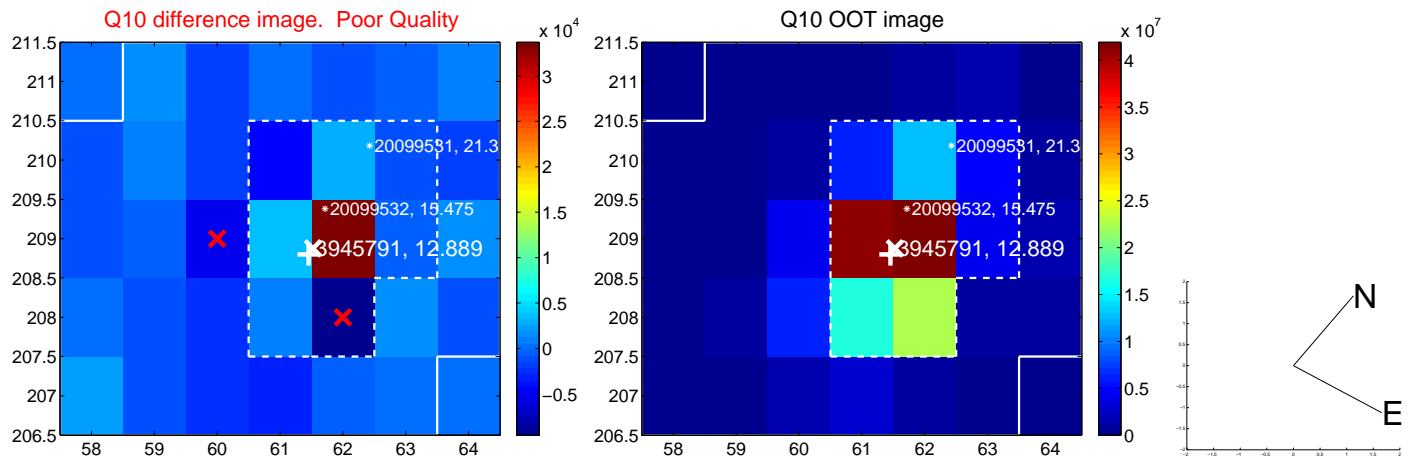
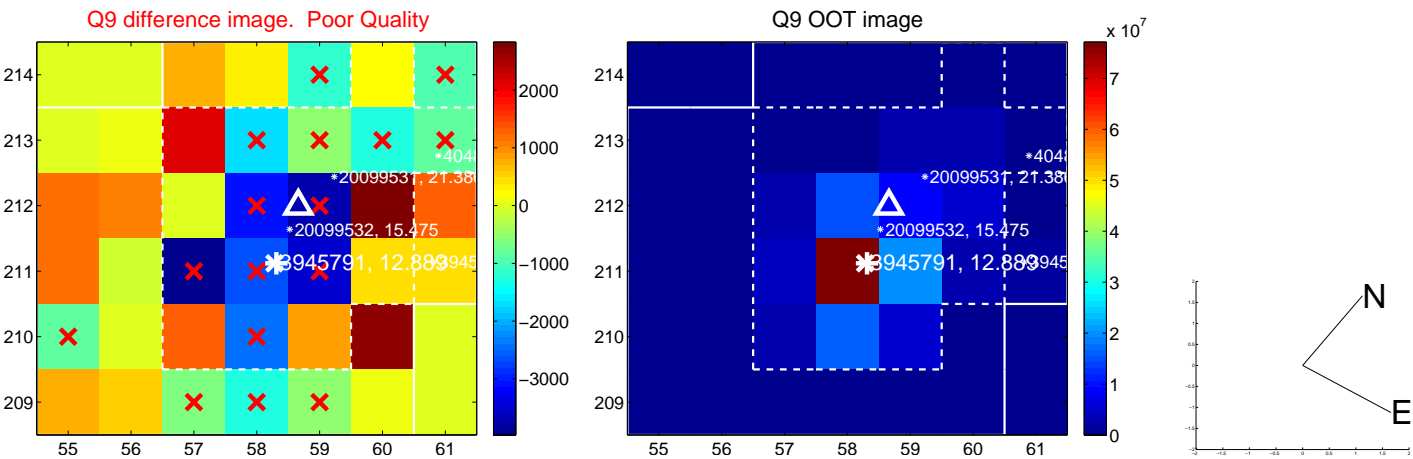
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



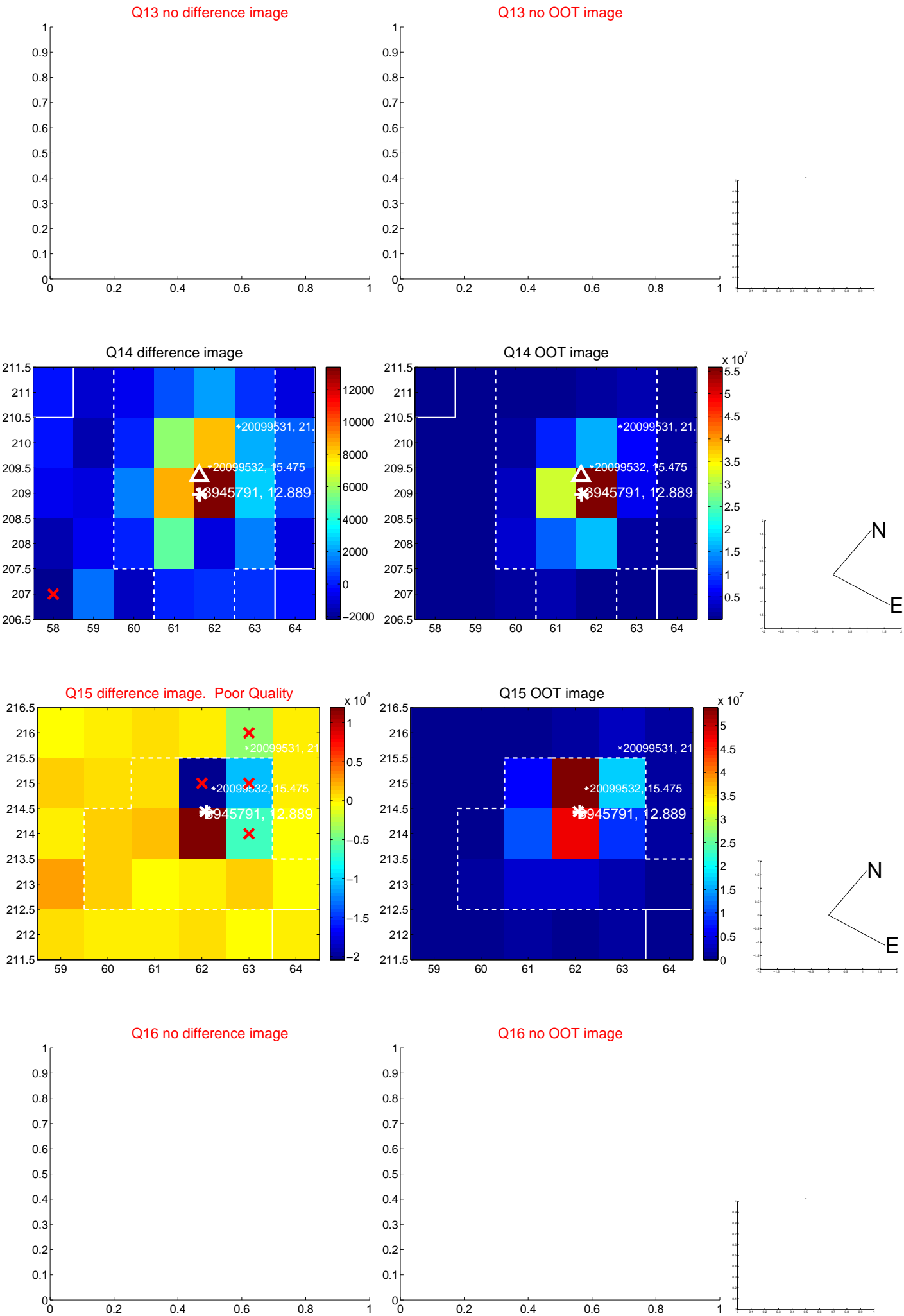
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



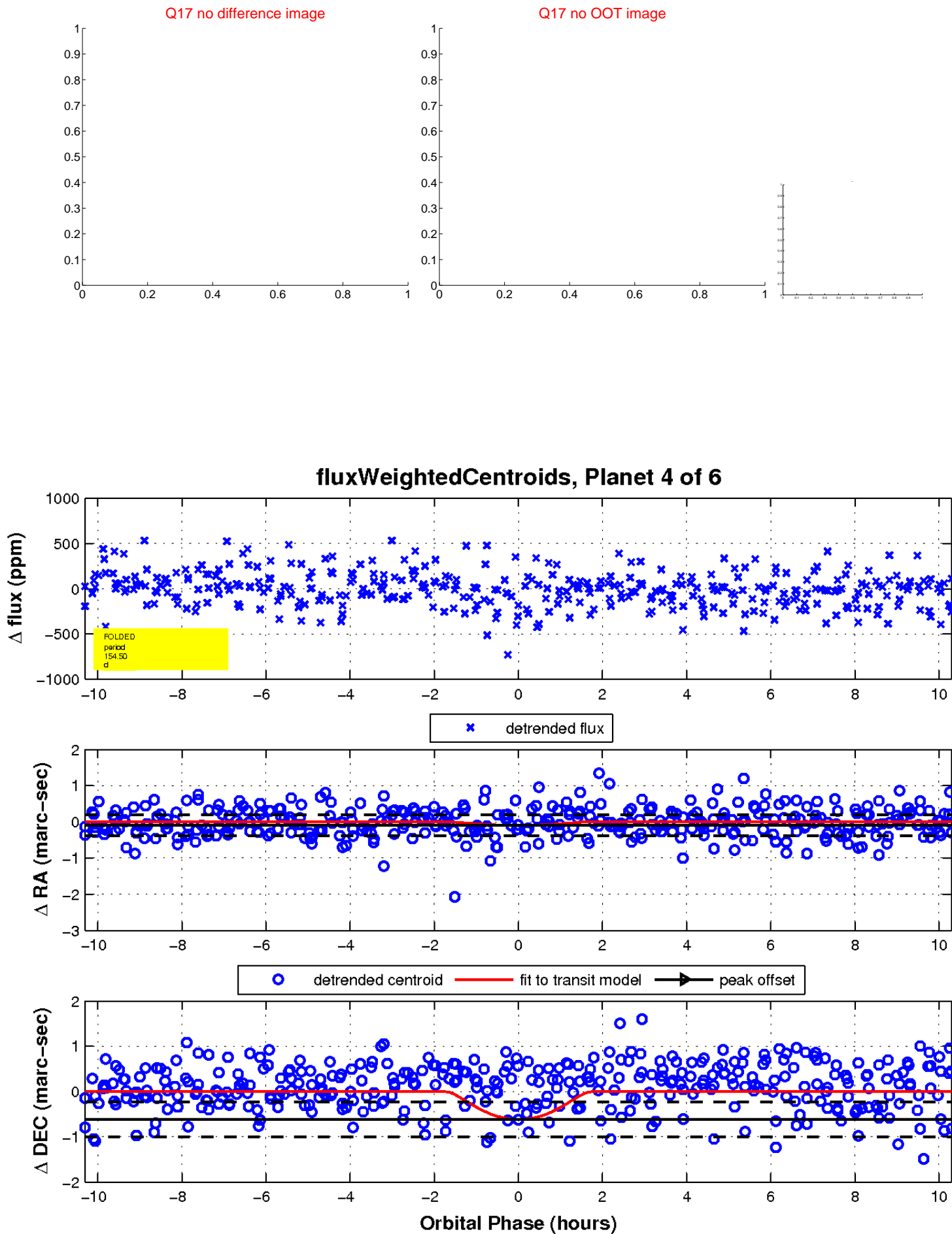
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

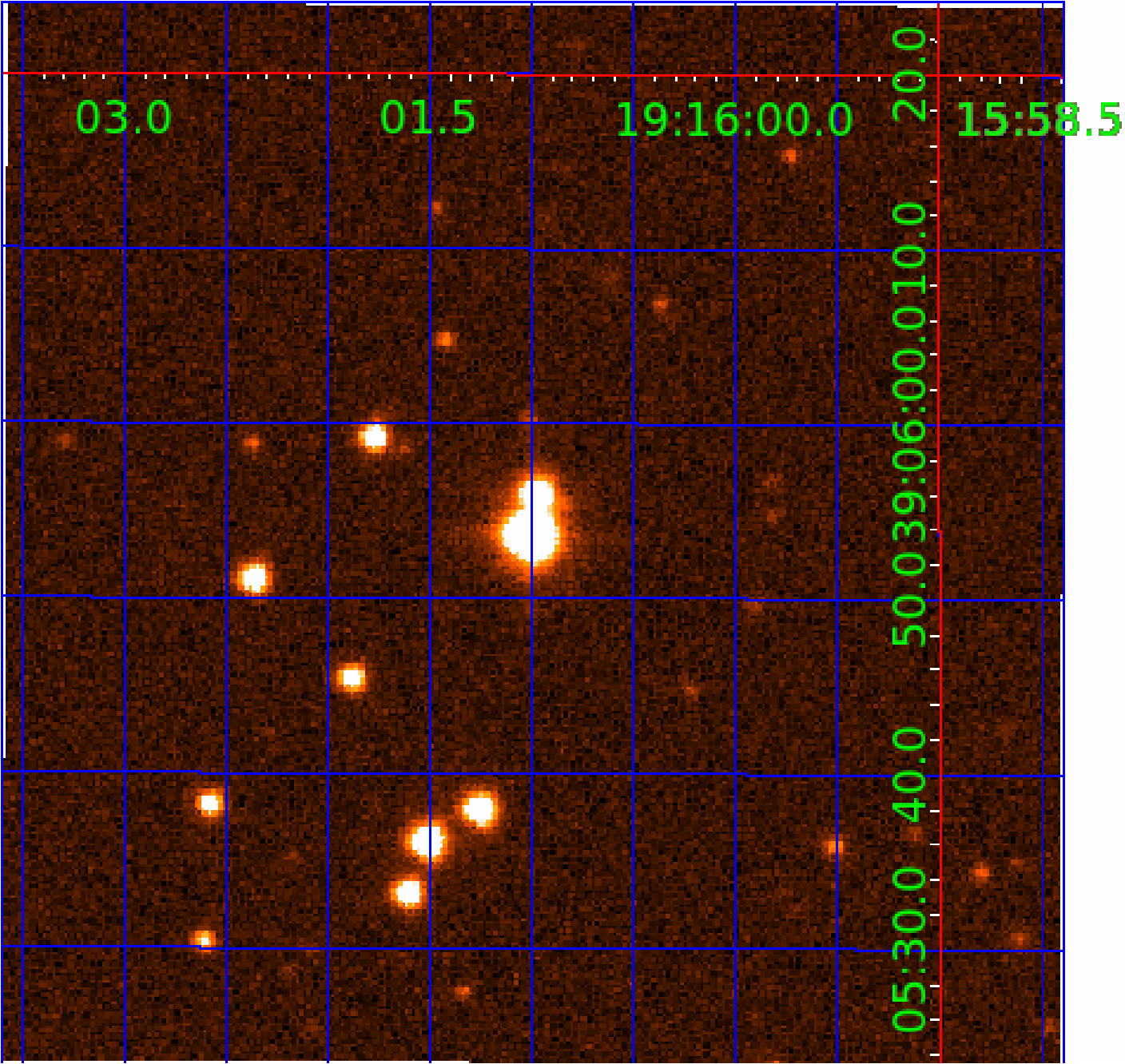


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003945791

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})
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Robovetter Results

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003945791-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003945791-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
003945791-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003945791-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT
003945791-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

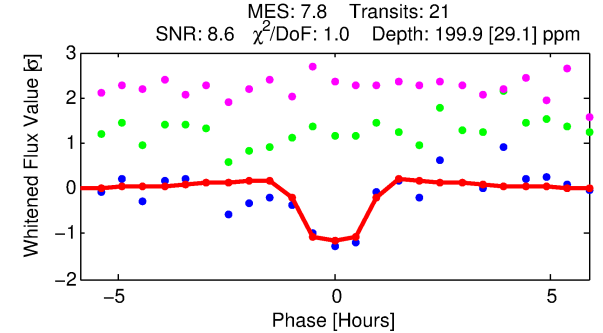
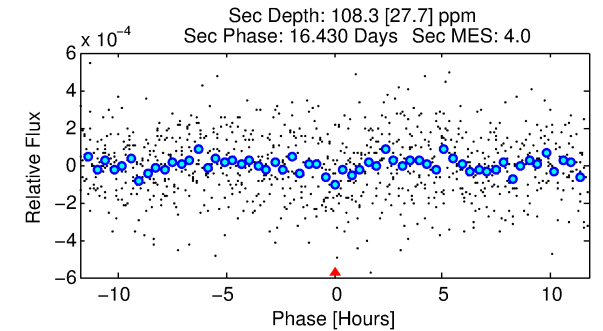
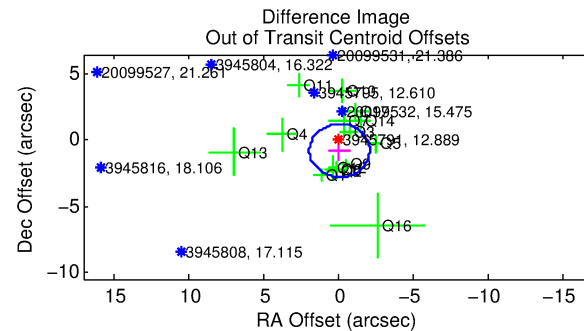
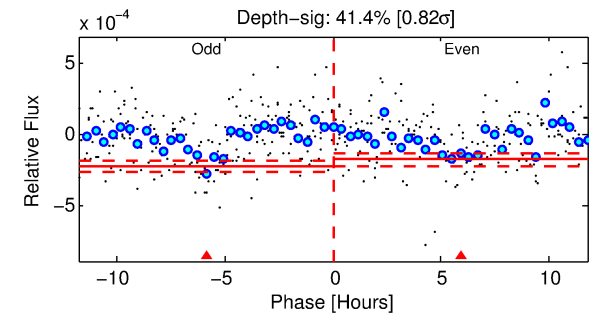
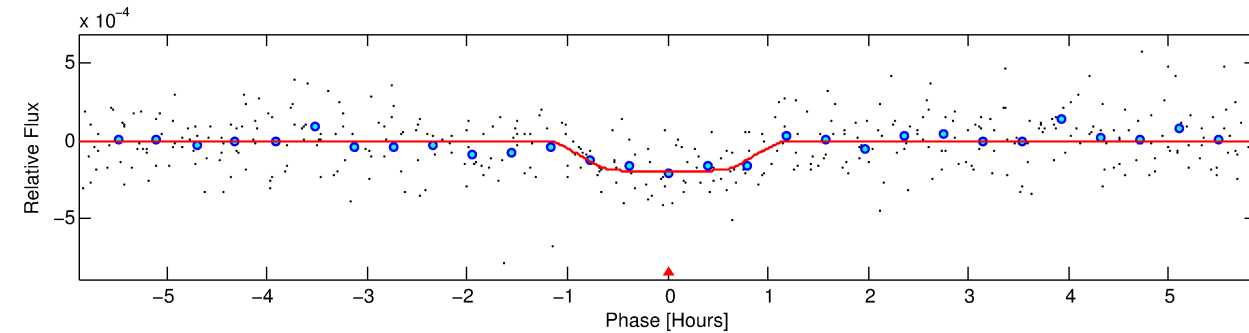
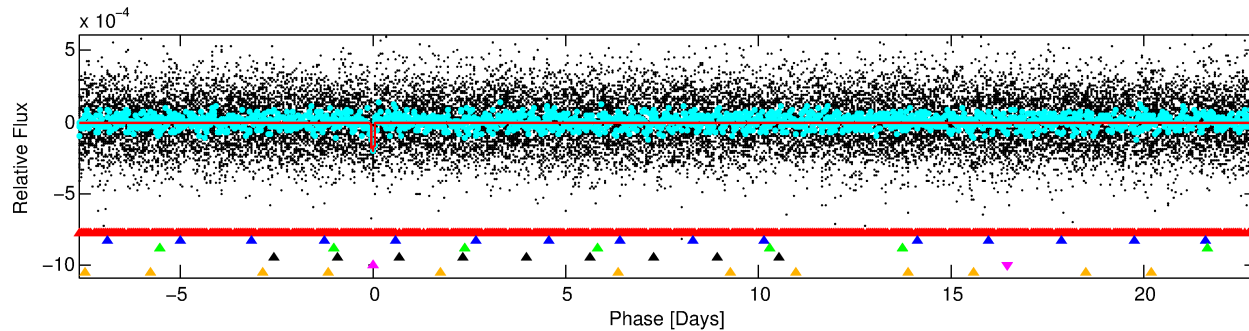
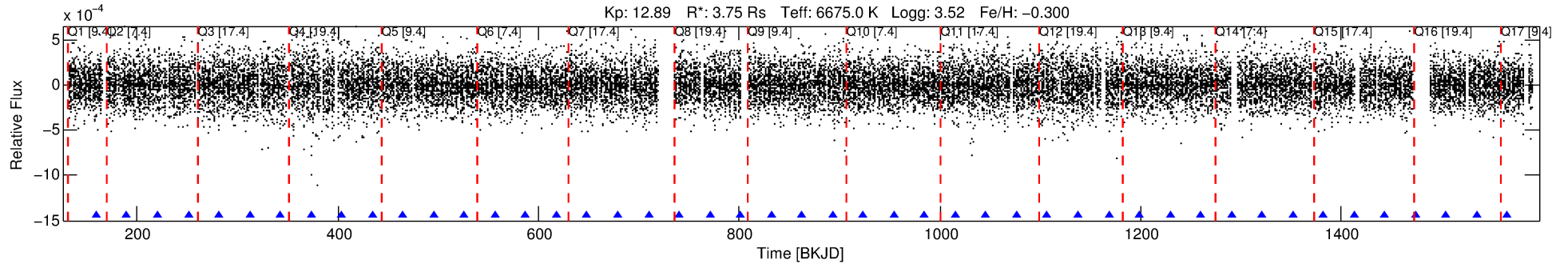
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003945791-05

No Significant Match Found

DV One-Page Summary

KIC: 3945791 Candidate: 5 of 6 Period: 30.572 d



DV Fit Results:

Period = 30.57201 [0.00025] d
Epoch = 159.3843 [0.0067] BKJD
Rp/R* = 0.0151 [0.0083]
a/R* = 56.47 [181.88]
b = 0.90 [0.70]
Seff = 478.64 [293.44]
Teq = 1193 [183] K
Rp = 6.18 [4.19] Re
a = 0.2289 [0.0863] AU
Ag = 81.73 [104.58] [0.77 σ]
Teffp = 5545 [1575] K [2.75 σ]

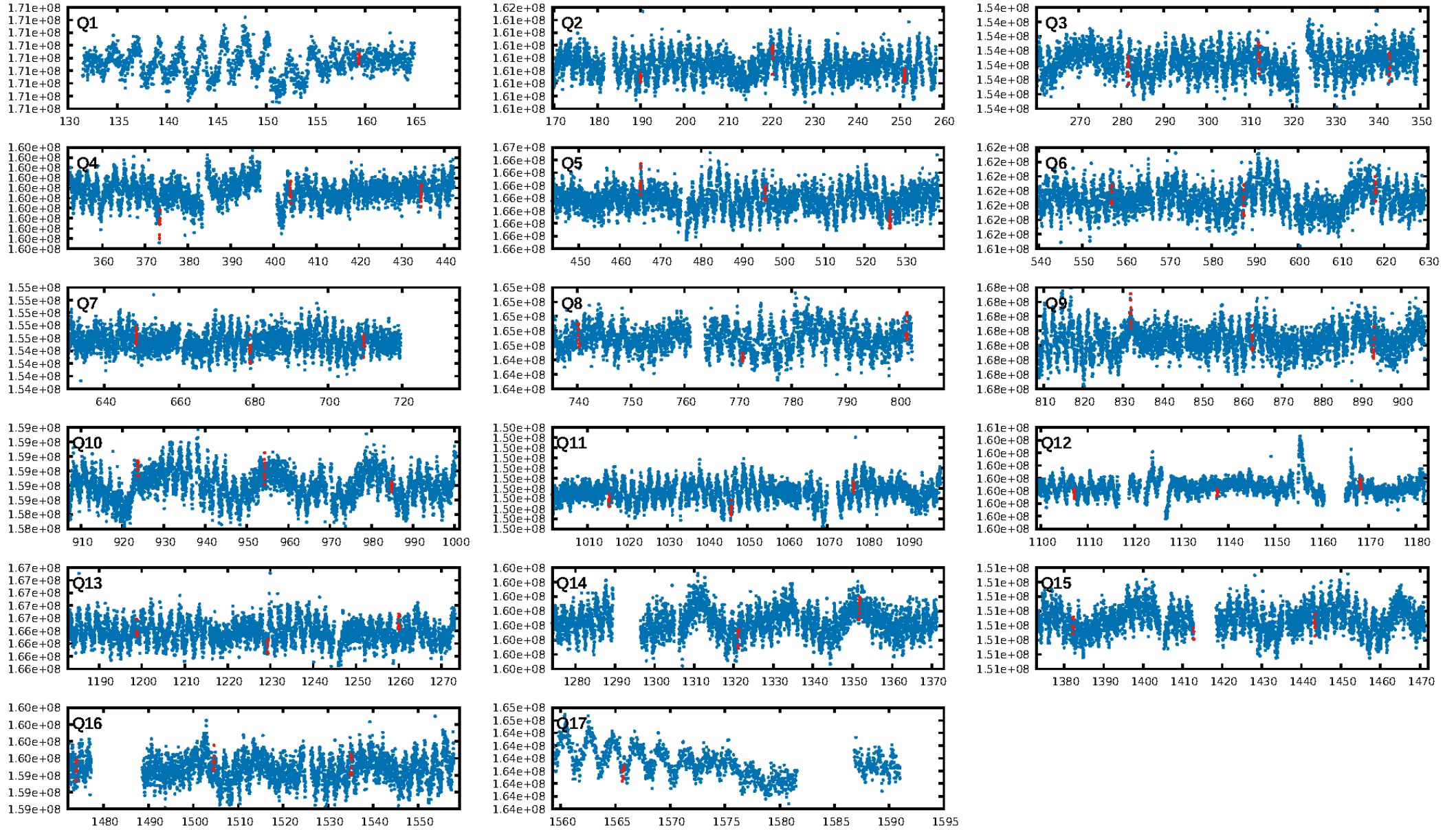
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [69.90 σ]
LongPeriod-sig: 100.0% [412.12 σ]
ModelChiSquare2-sig: 82.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.37e-10
RollingBand-fgt: 1.00 [20/20]
GhostDiagnostic-chr: -2.722
Centroid-sig: 13.7%
Centroid-so: 0.578 arcsec [1.20 σ]
OotOffset-rm: 0.796 arcsec [1.18 σ]
OotOffset-st: 4/3/3/5 [15]
KicOffset-rm: 0.813 arcsec [1.07 σ]
KicOffset-st: 4/3/3/5 [15]
DiffImageQuality-fgm: 0.60 [9/15]
DiffImageOverlap-fno: 0.94 [15/16]

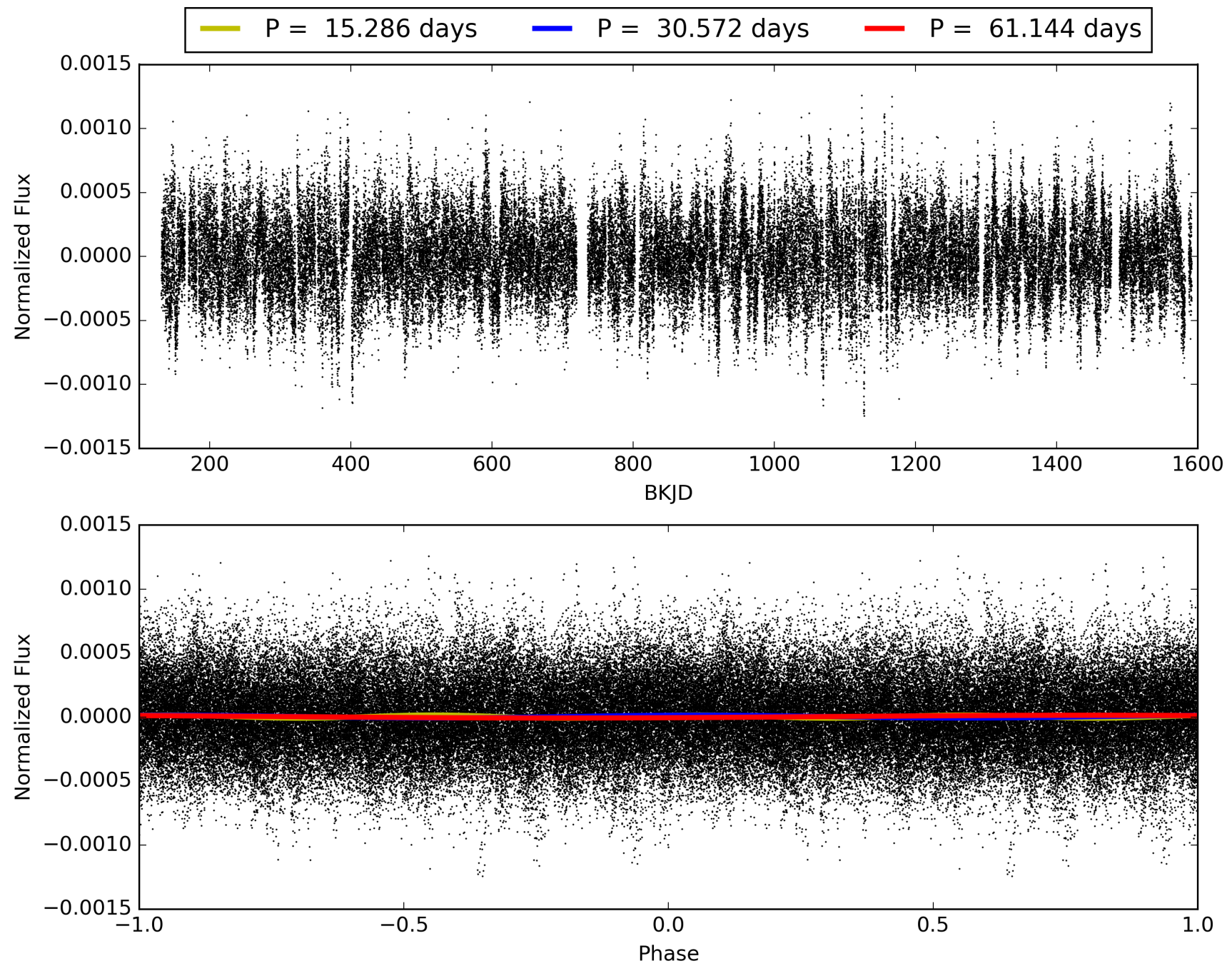
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 22:56:16 Z

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

TCE 003945791-05, PDC Light Curves

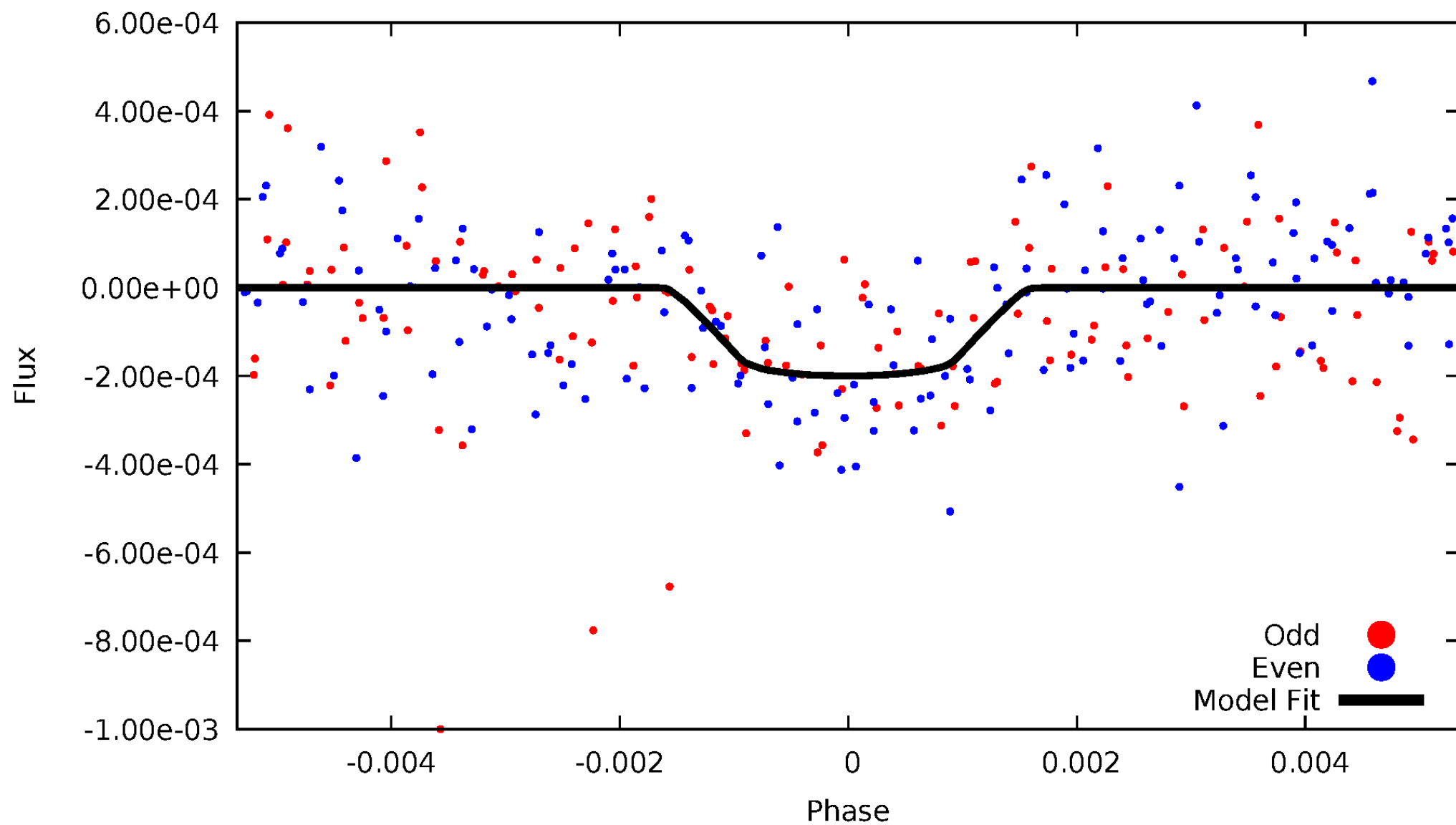


TCE 003945791-05



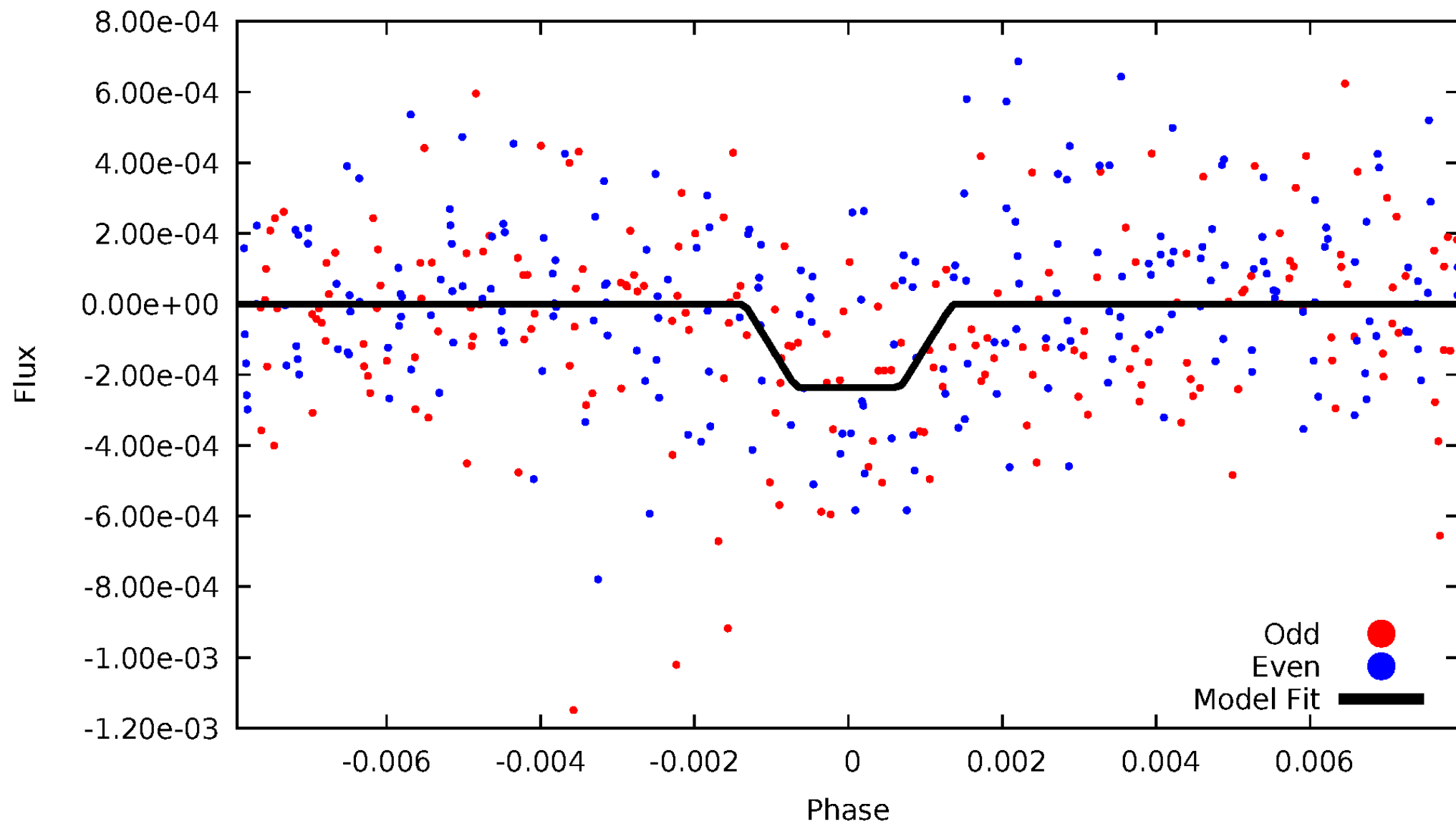
DV Odd/Even

TCE 003945791-05



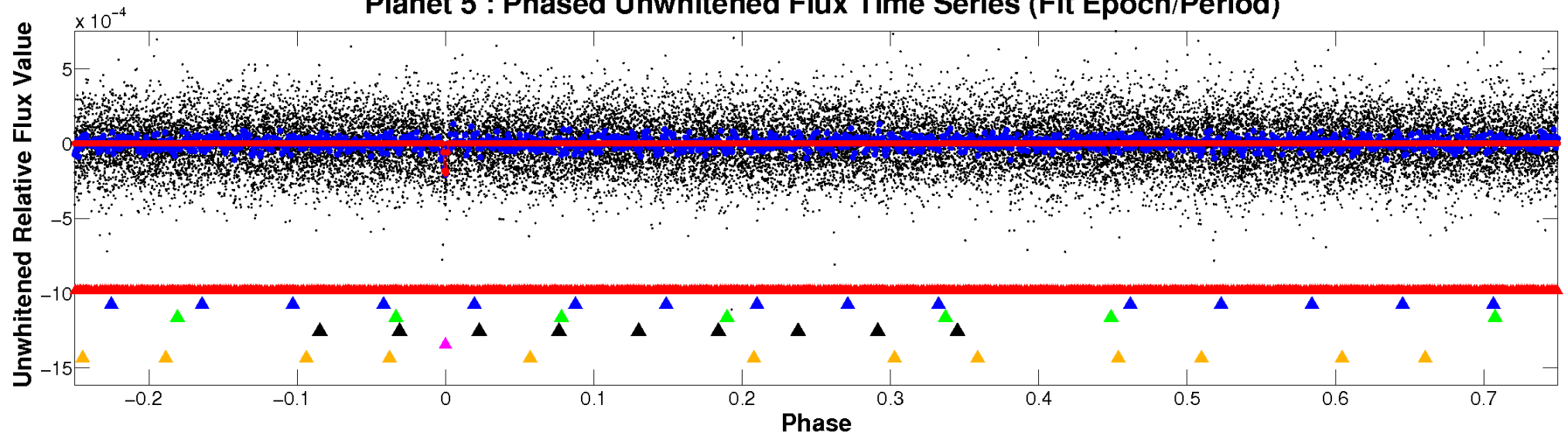
ALT Odd/Even

TCE 003945791-05

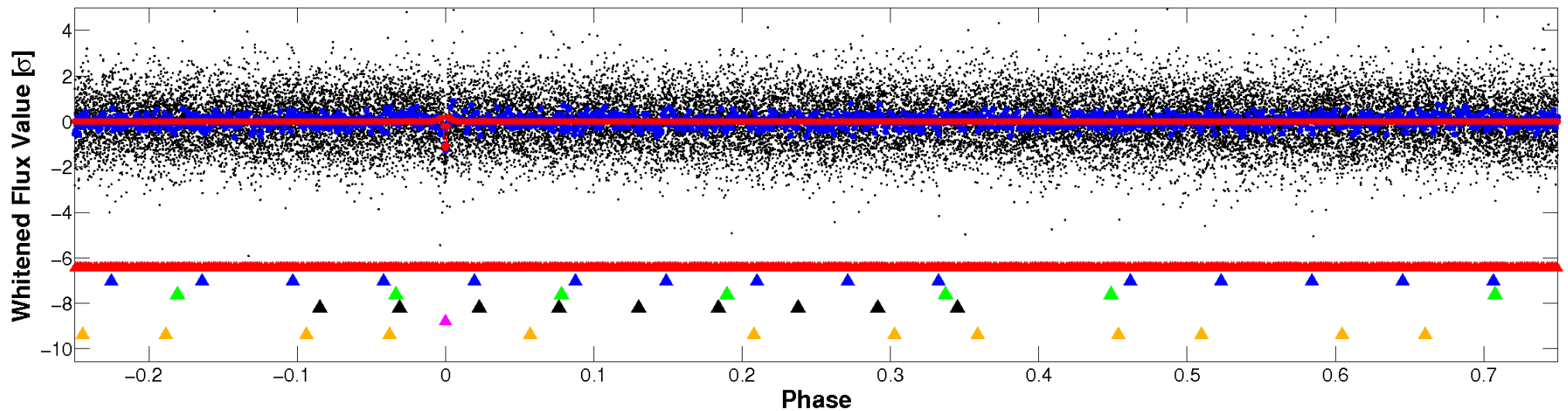


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

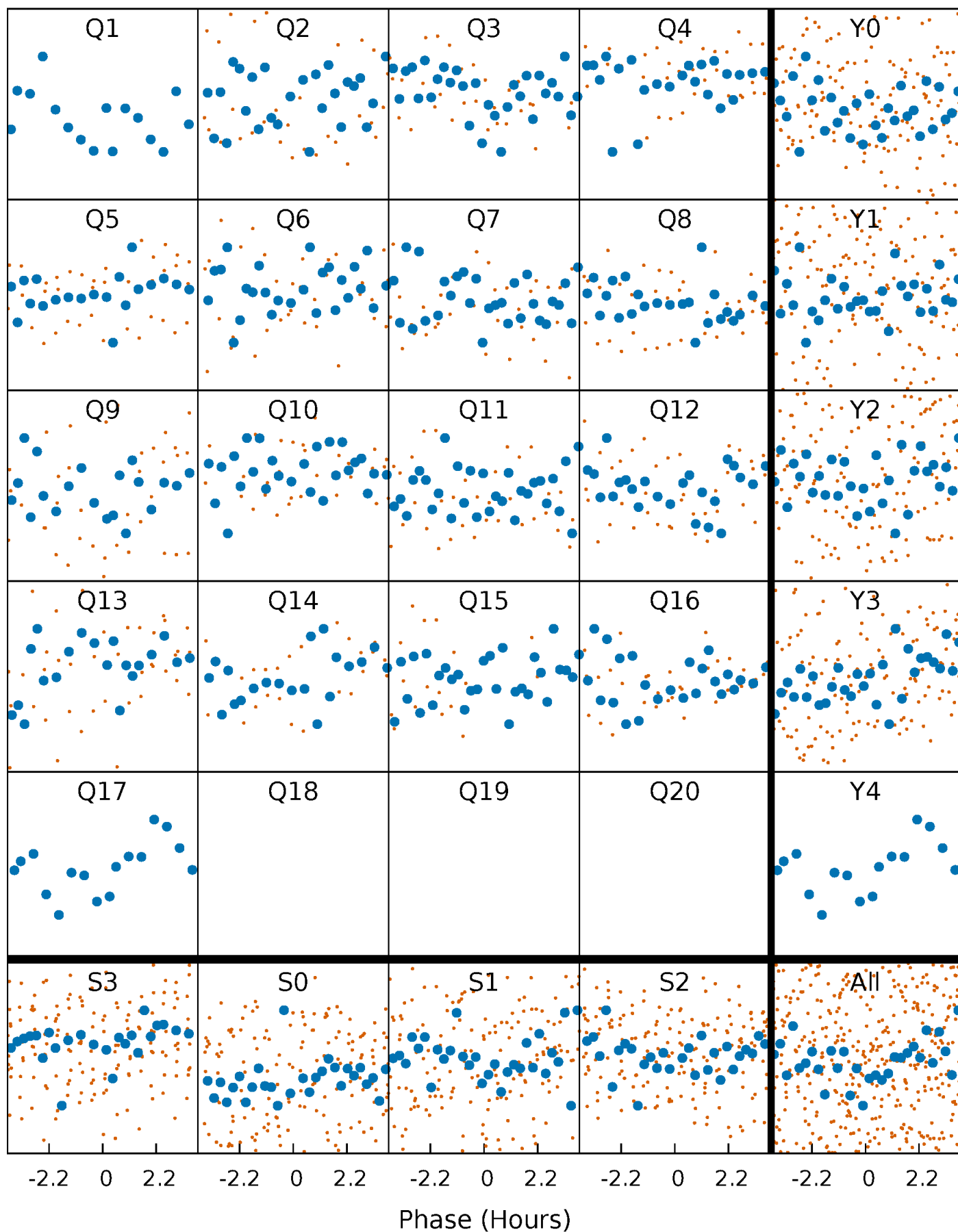


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



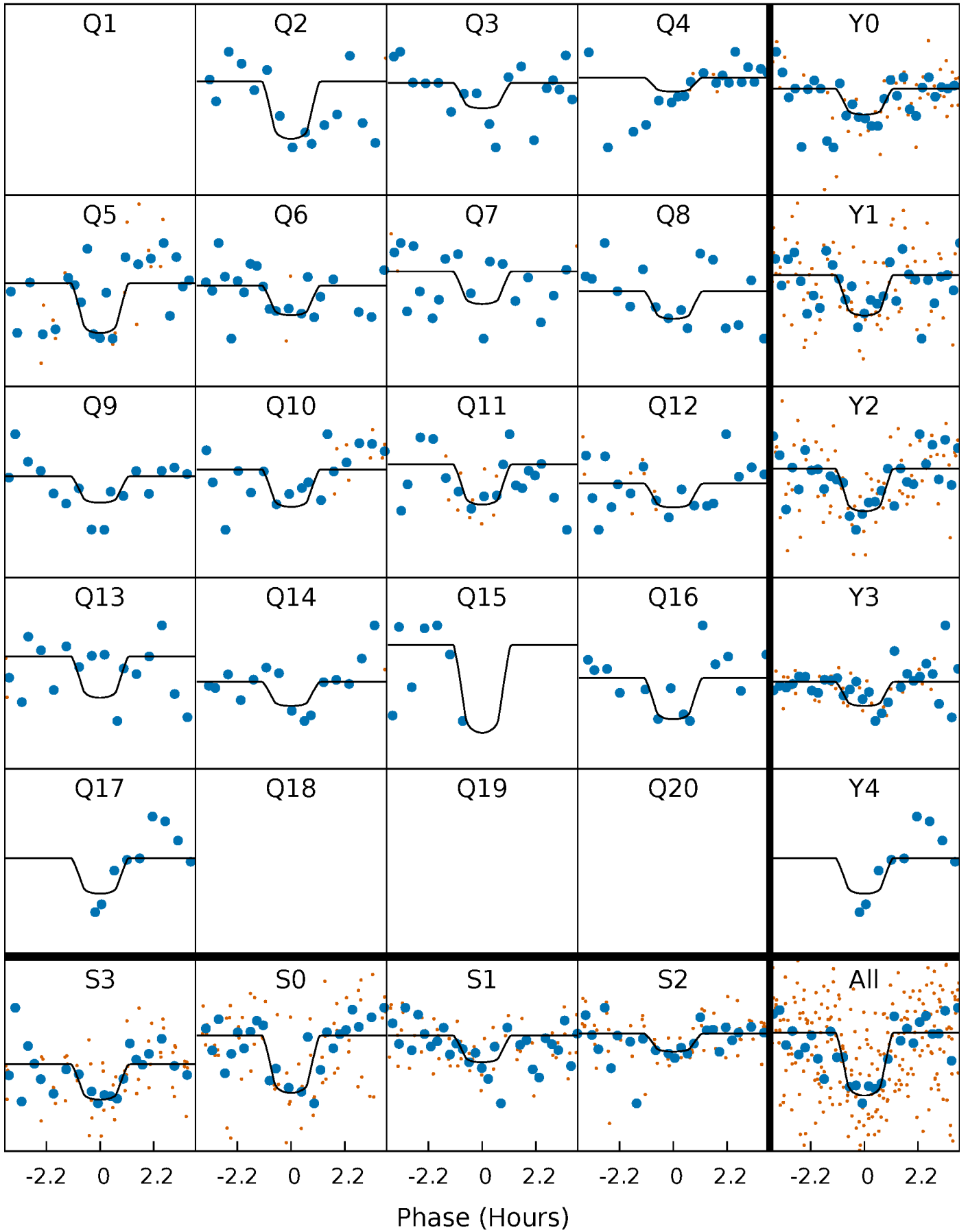
PDC Quarter-Phased Transit Curves

TCE 003945791-05 $P = 30.572013$ Days $T_0 = 159.384350$ (BKJD)



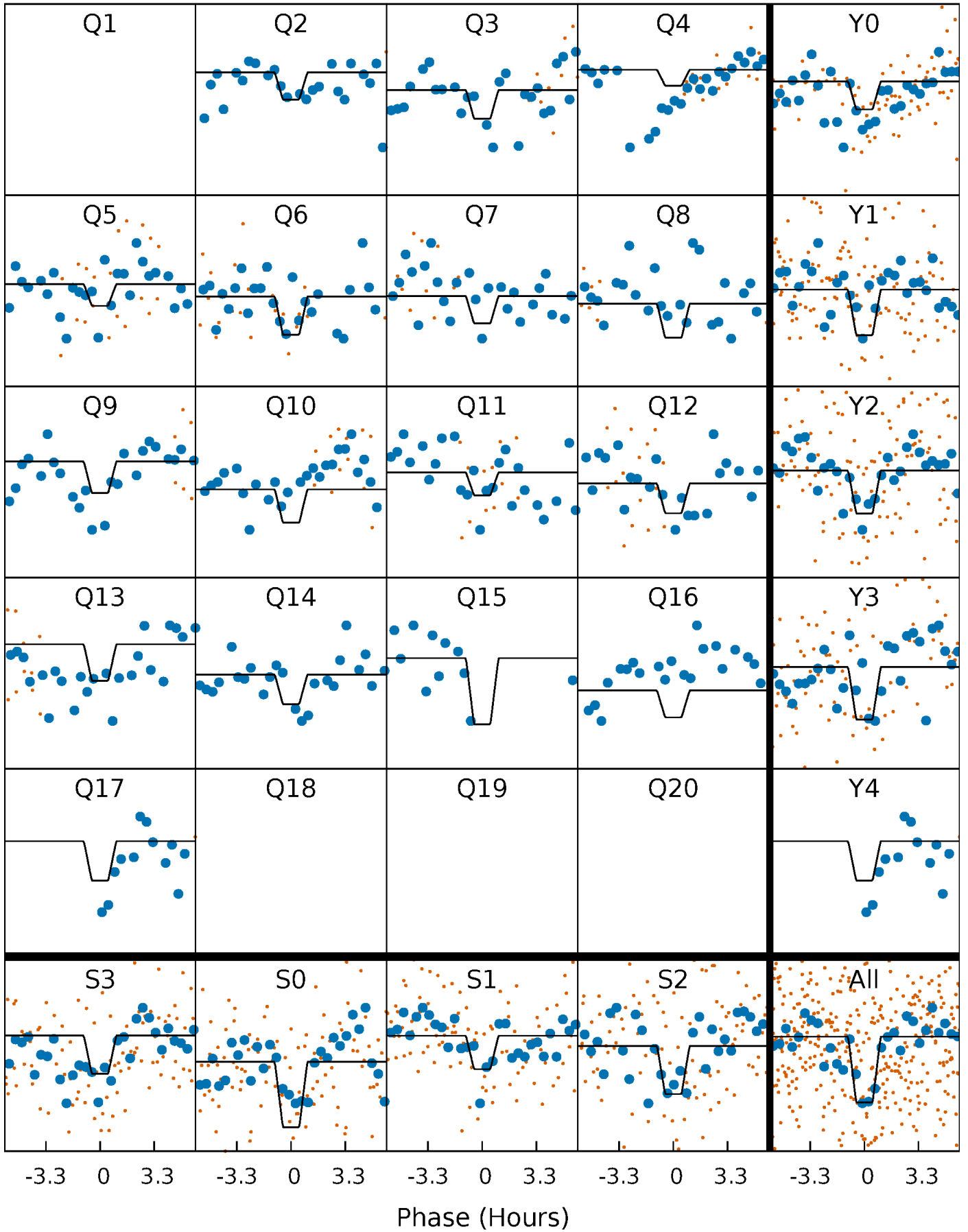
DV Quarter-Phased Transit Curves

TCE 003945791-05 $P = 30.572013$ Days $T_0 = 159.384350$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

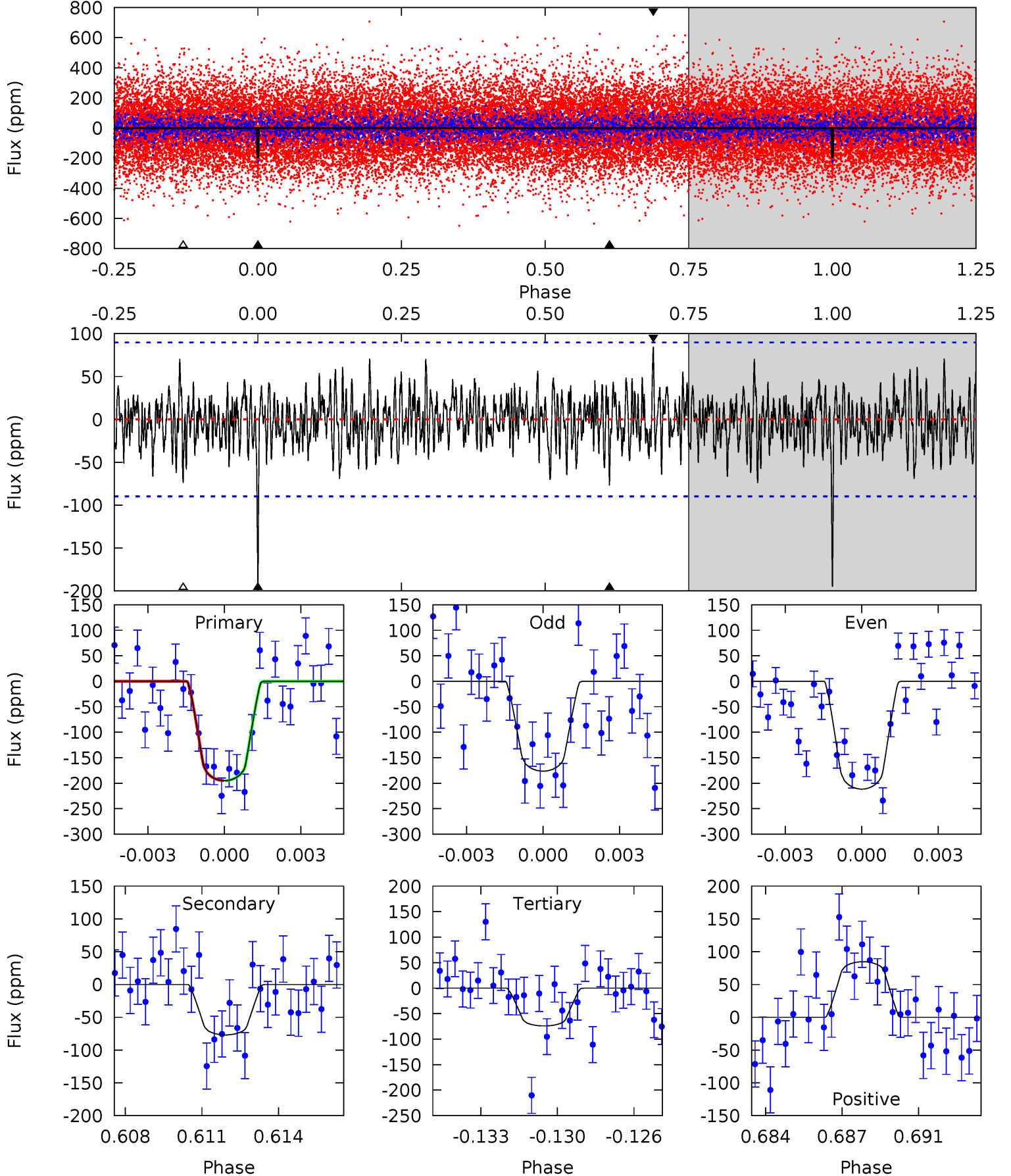
TCE 003945791-05 $P = 30.571743$ Days $T_0 = 159.386305$ (BKJD)



DV Model-Shift Uniqueness Test

003945791-05, P = 30.572013 Days, E = 128.812337 Days

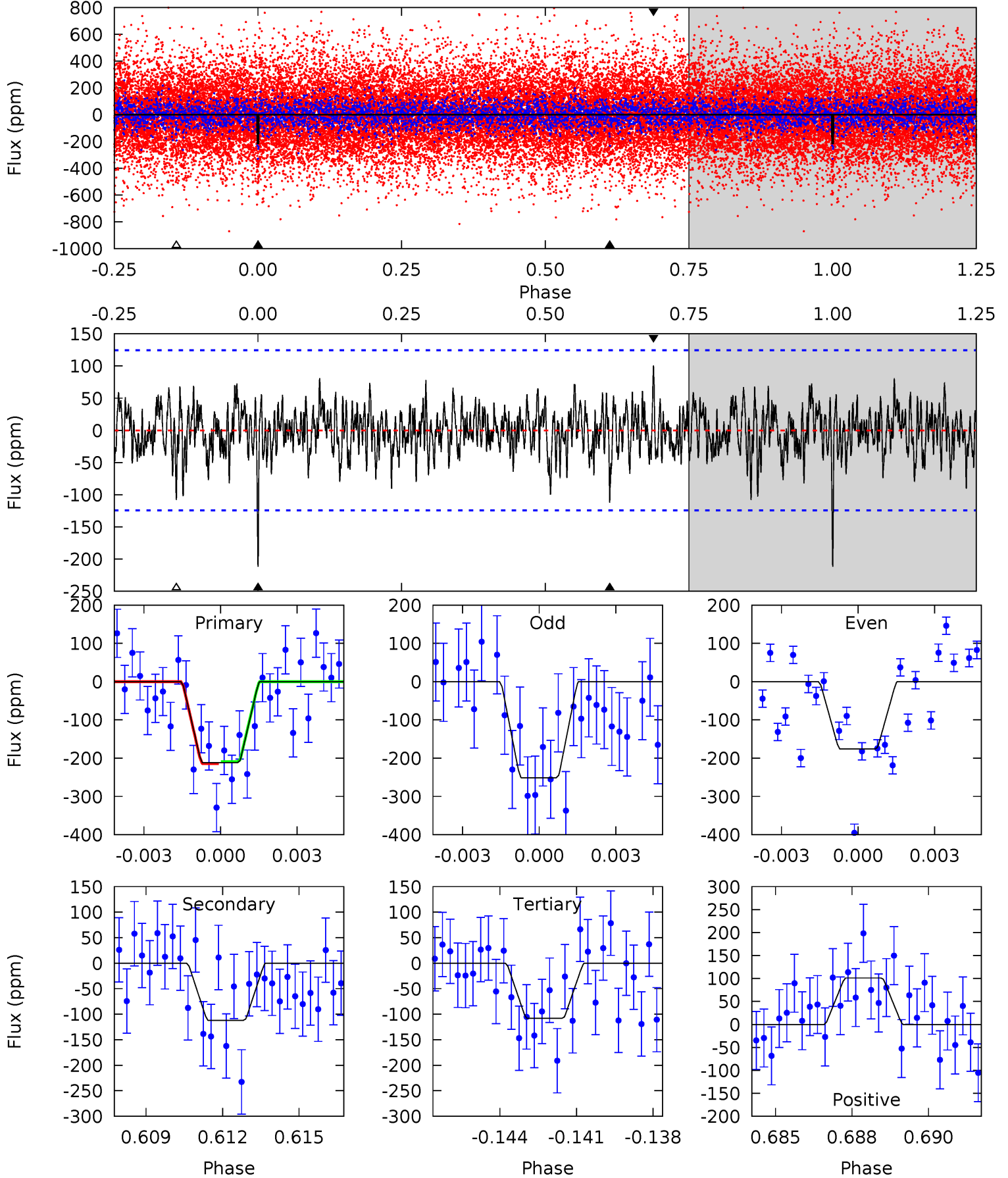
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	4.49	4.33	4.94	5.23	2.94	1.41	7.05	6.44	0.16	-0.45	1.03	1.00	0.30	0.00



Alt Model-Shift Uniqueness Test

003945791-05, P = 30.571743 Days, E = 128.814562 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.97	4.75	4.57	4.28	5.27	3.00	1.26	4.40	4.68	0.18	0.47	1.58	0.95	0.32	0.10



Stellar Parameters For KIC 003945791

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6675^{+182}_{-202}	$3.522^{+0.352}_{-0.088}$	$-0.300^{+0.350}_{-0.250}$	$3.755^{+0.371}_{-1.482}$	$1.711^{+0.199}_{-0.369}$	$0.045^{+0.128}_{-0.013}$
	+3%/-3%	+10%/-2%	+117%/-83%	+10%/-39%	+12%/-22%	+281%/-29%
Source	PHO1	FLK73	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 003945791-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-77 ± 17	$5.74^{+3.49}_{-2.80}$	1635^{+94}_{-176}	5041^{+2078}_{-767}	64^{+204}_{-39}
Alt.	-112 ± 24	$6.01^{+3.17}_{-3.00}$	1643^{+85}_{-149}	5464^{+2245}_{-845}	87^{+279}_{-50}

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 $A_{obs} \gg 1.0$

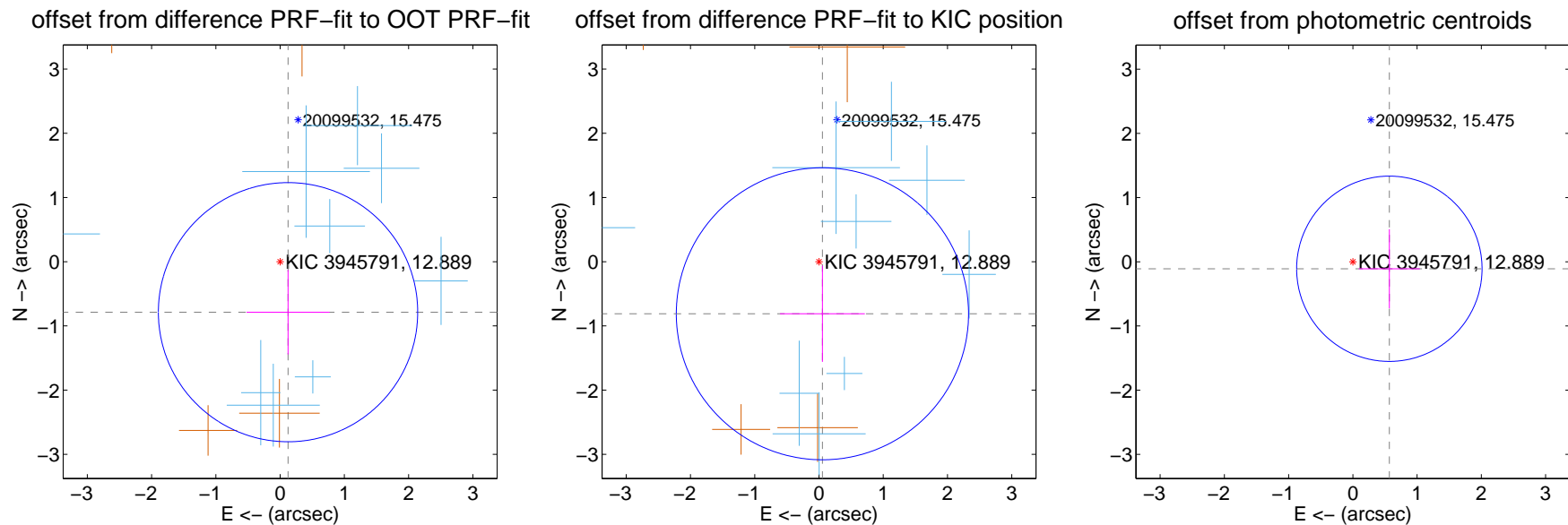
DV Centroid Data

Supplemental centroid analysis for 003945791-05. Kepler magnitude: 12.89. Transit SNR 8.61

There are 9 quarters with good PRF difference image offsets

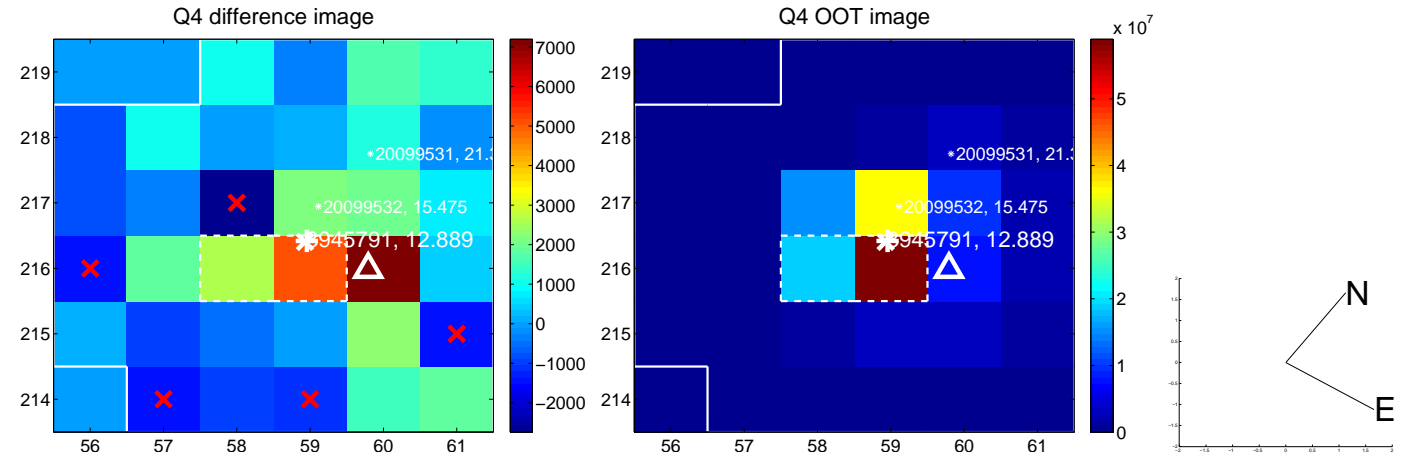
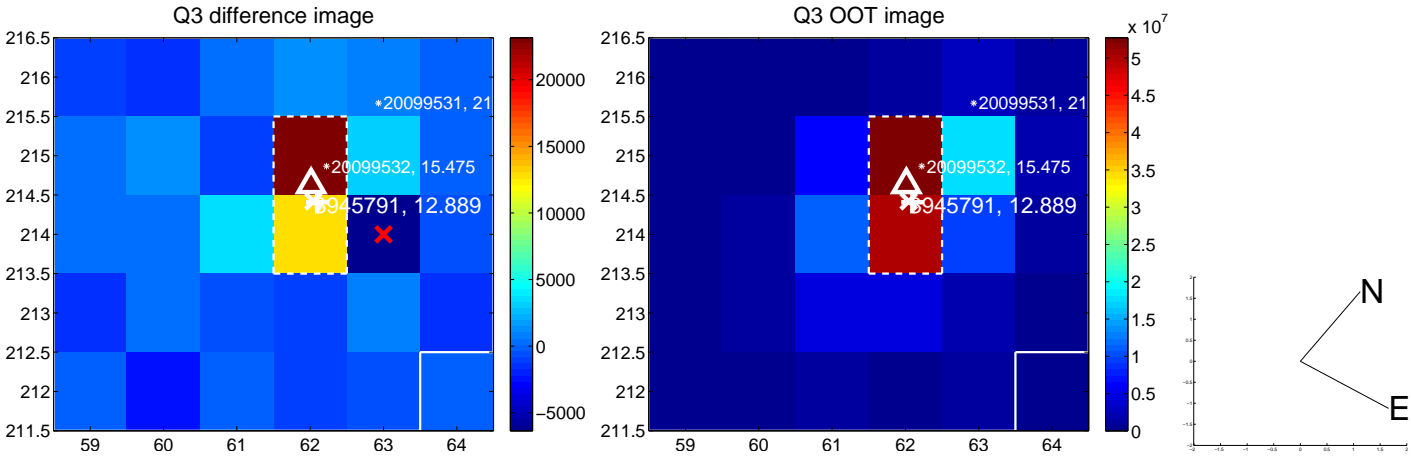
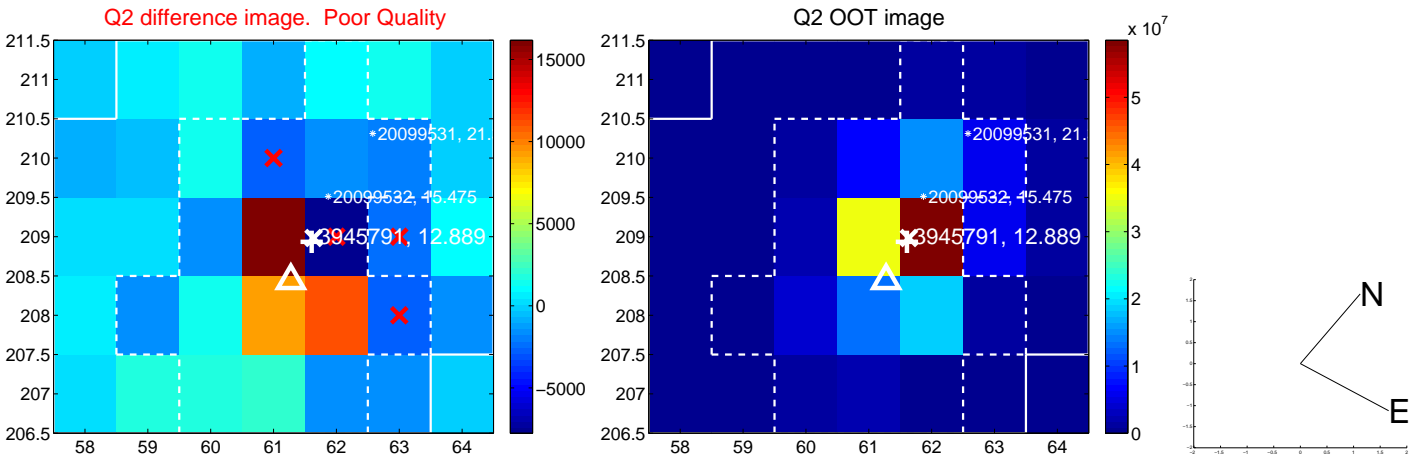
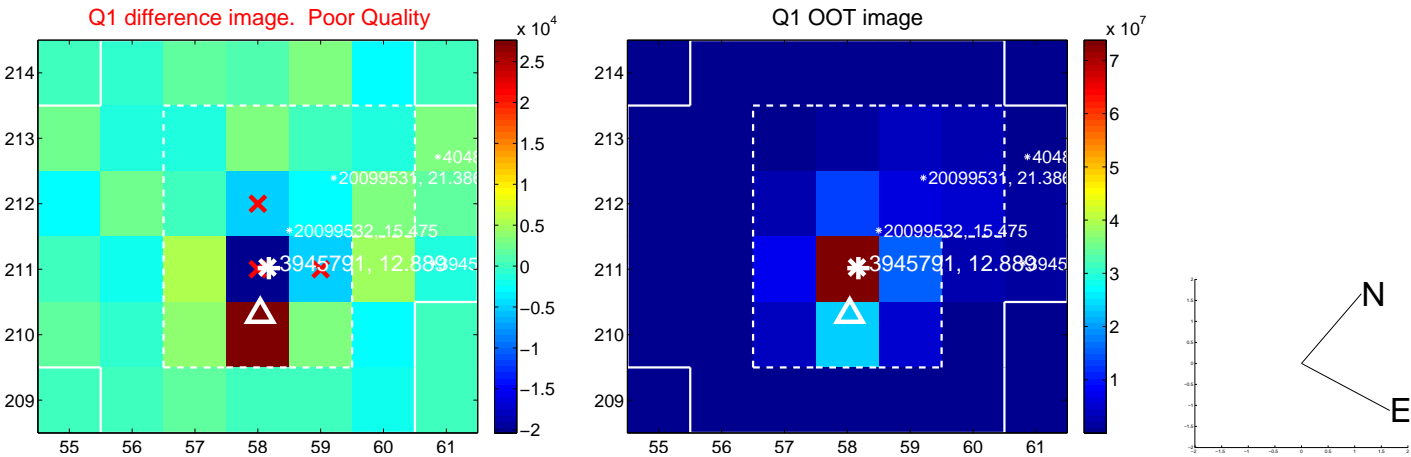
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.796 ± 0.673	1.18	-0.123 ± 0.646	-0.786 ± 0.657
PRF-fit source offset from KIC position	0.813 ± 0.758	1.07	-0.053 ± 0.660	-0.811 ± 0.749
photometric centroid source offset	0.58 ± 0.48	1.20	-0.57 ± 0.48	-0.11 ± 0.62

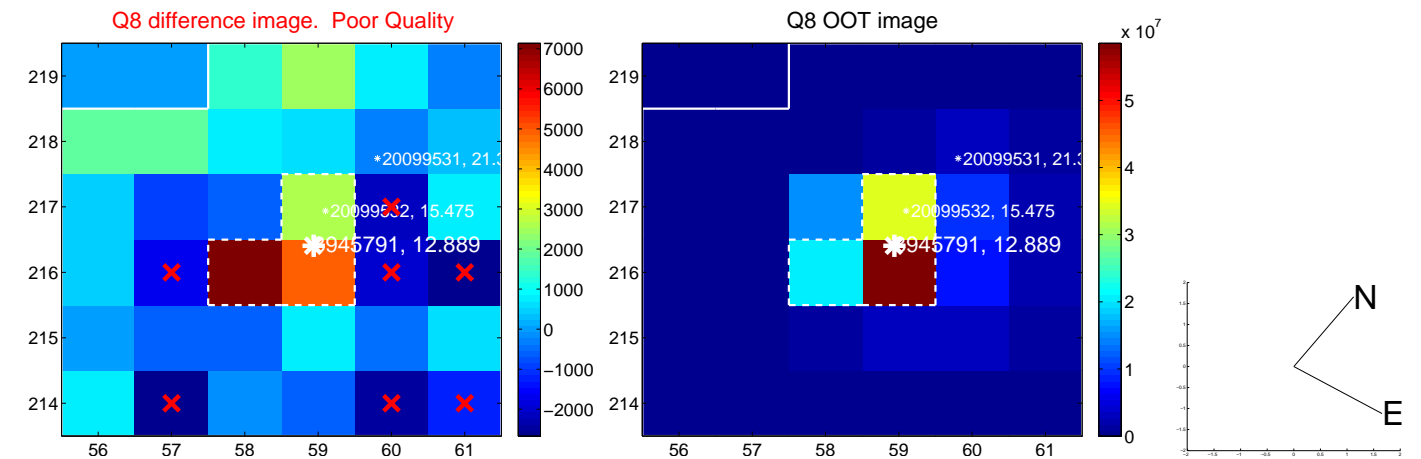
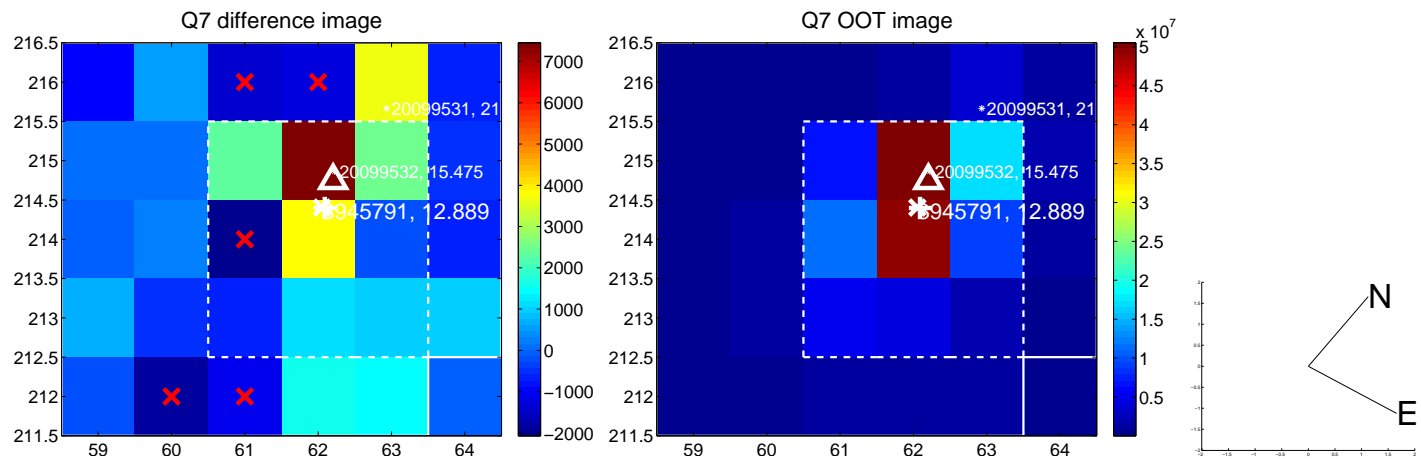
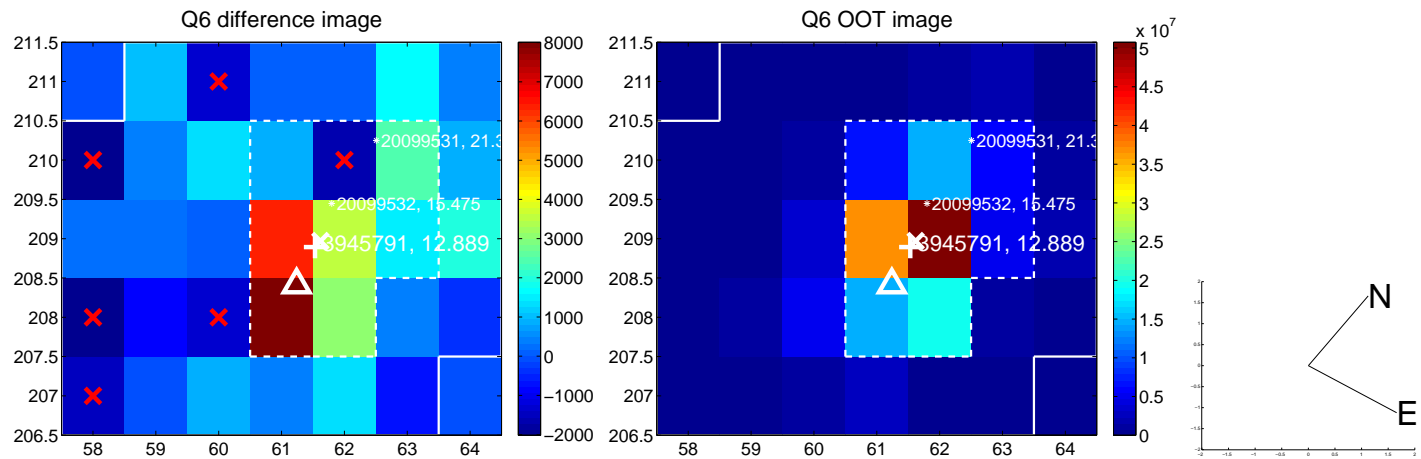
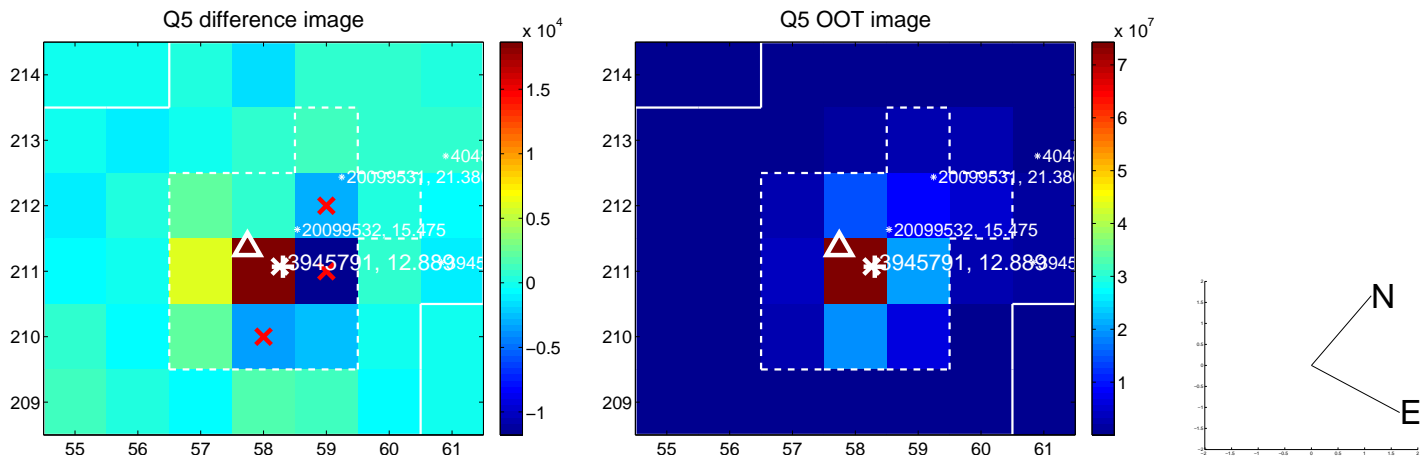


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

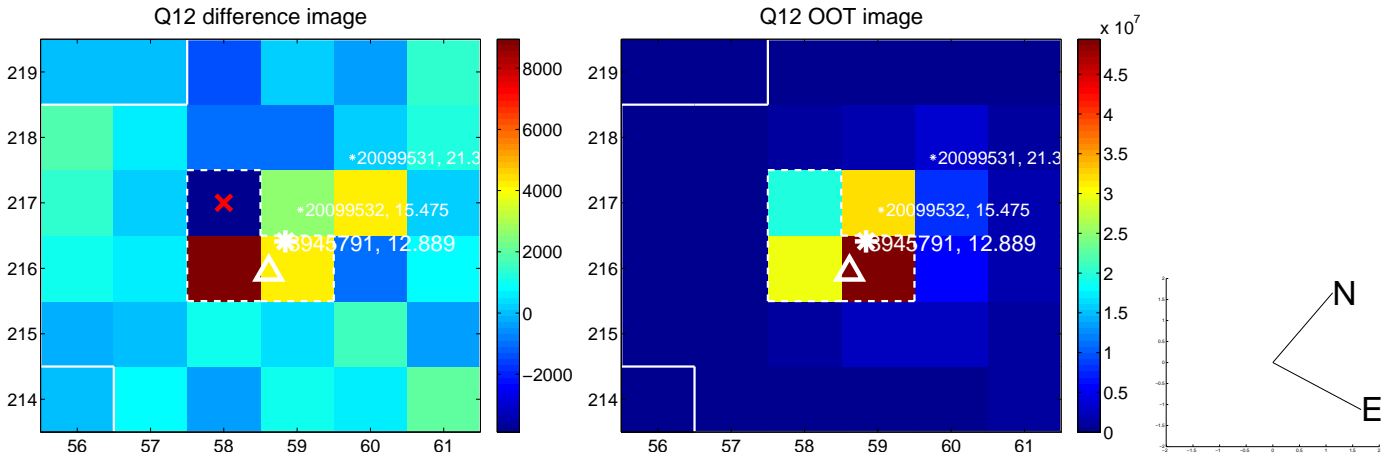
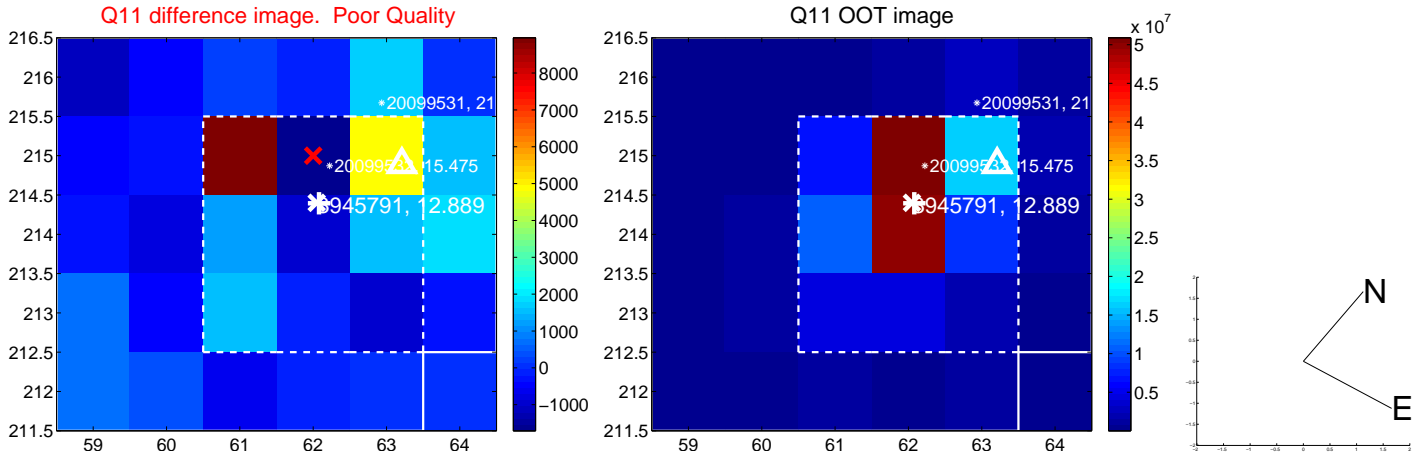
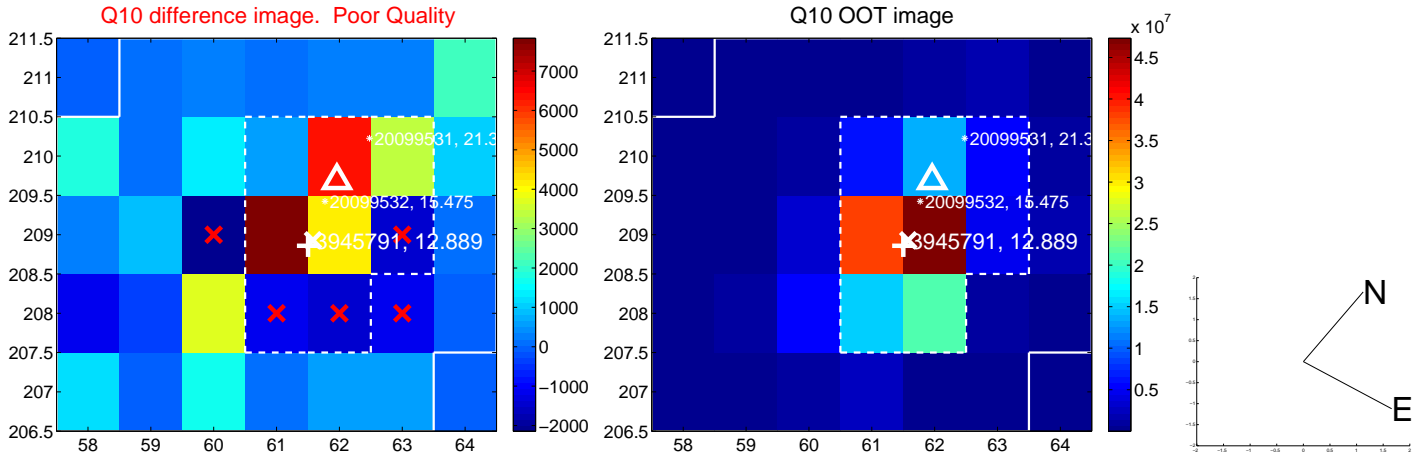
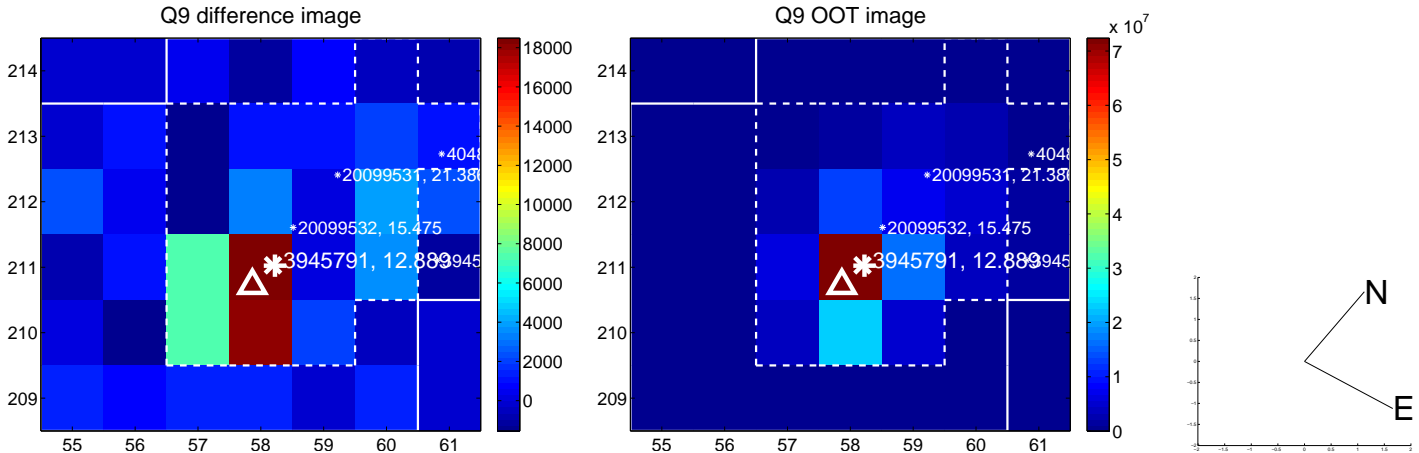
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



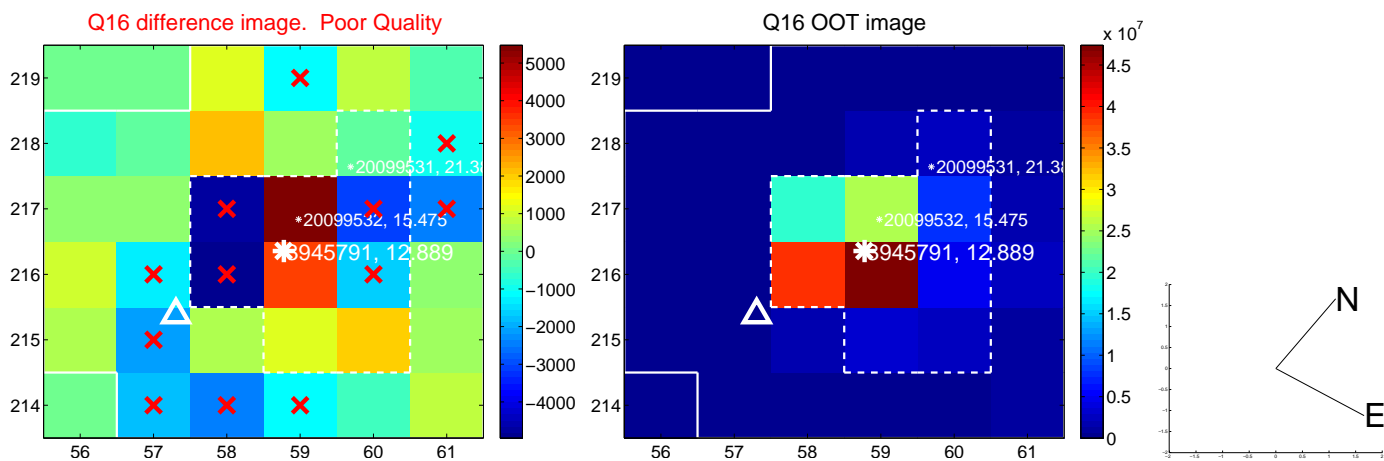
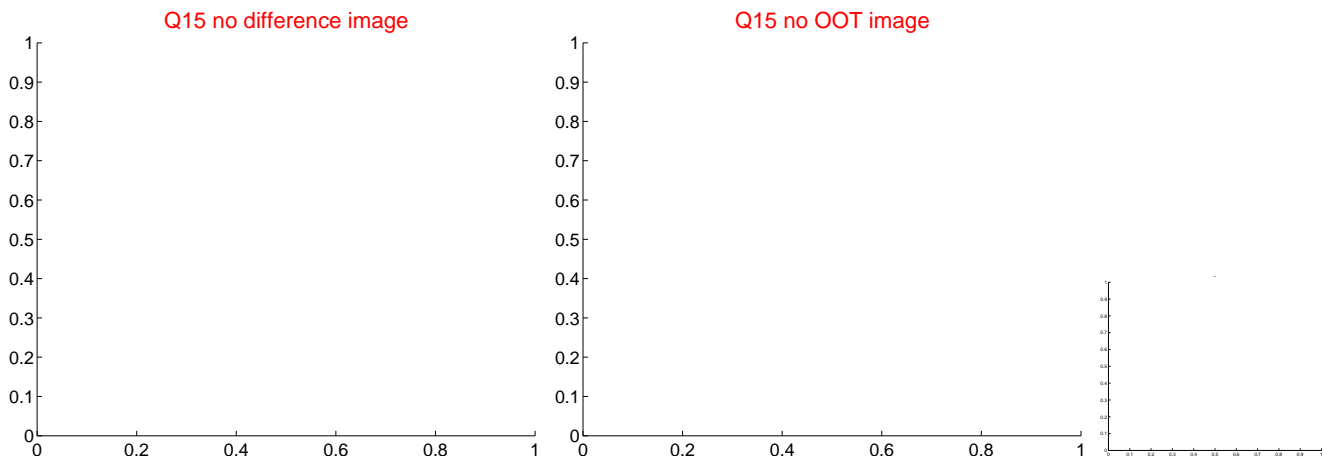
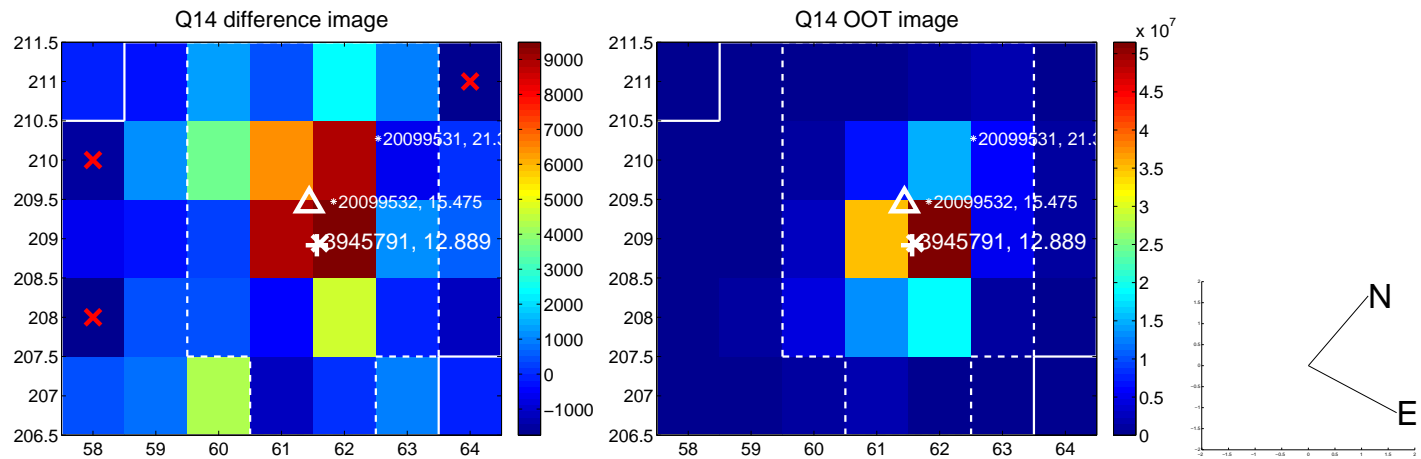
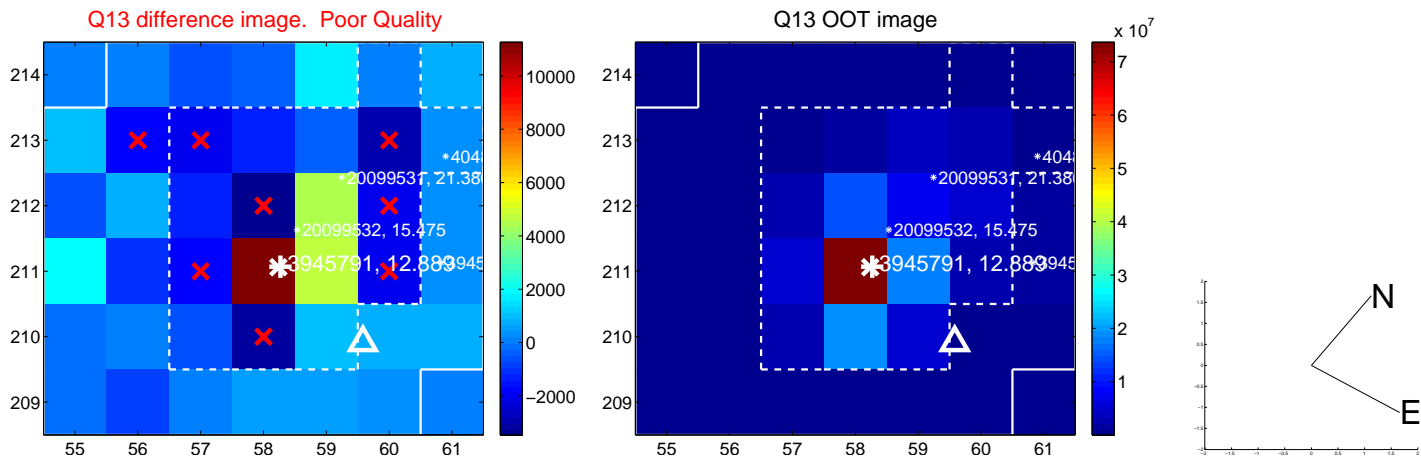
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



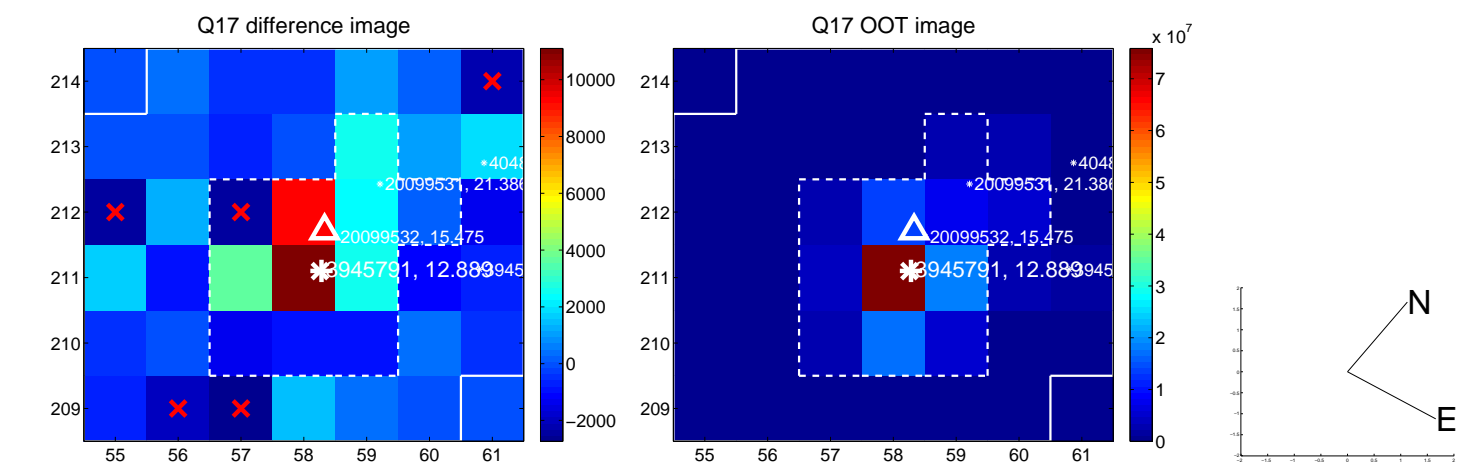
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



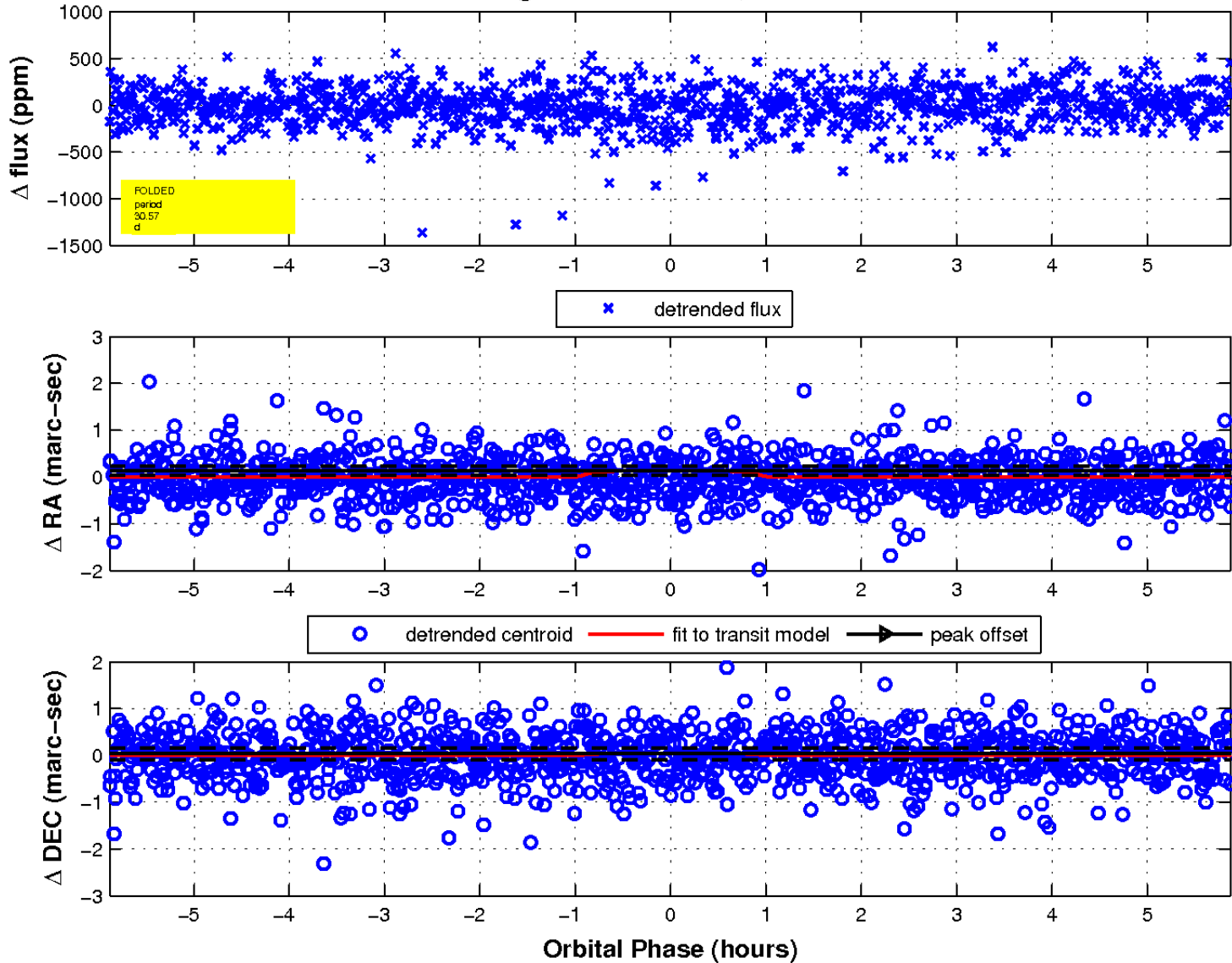
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

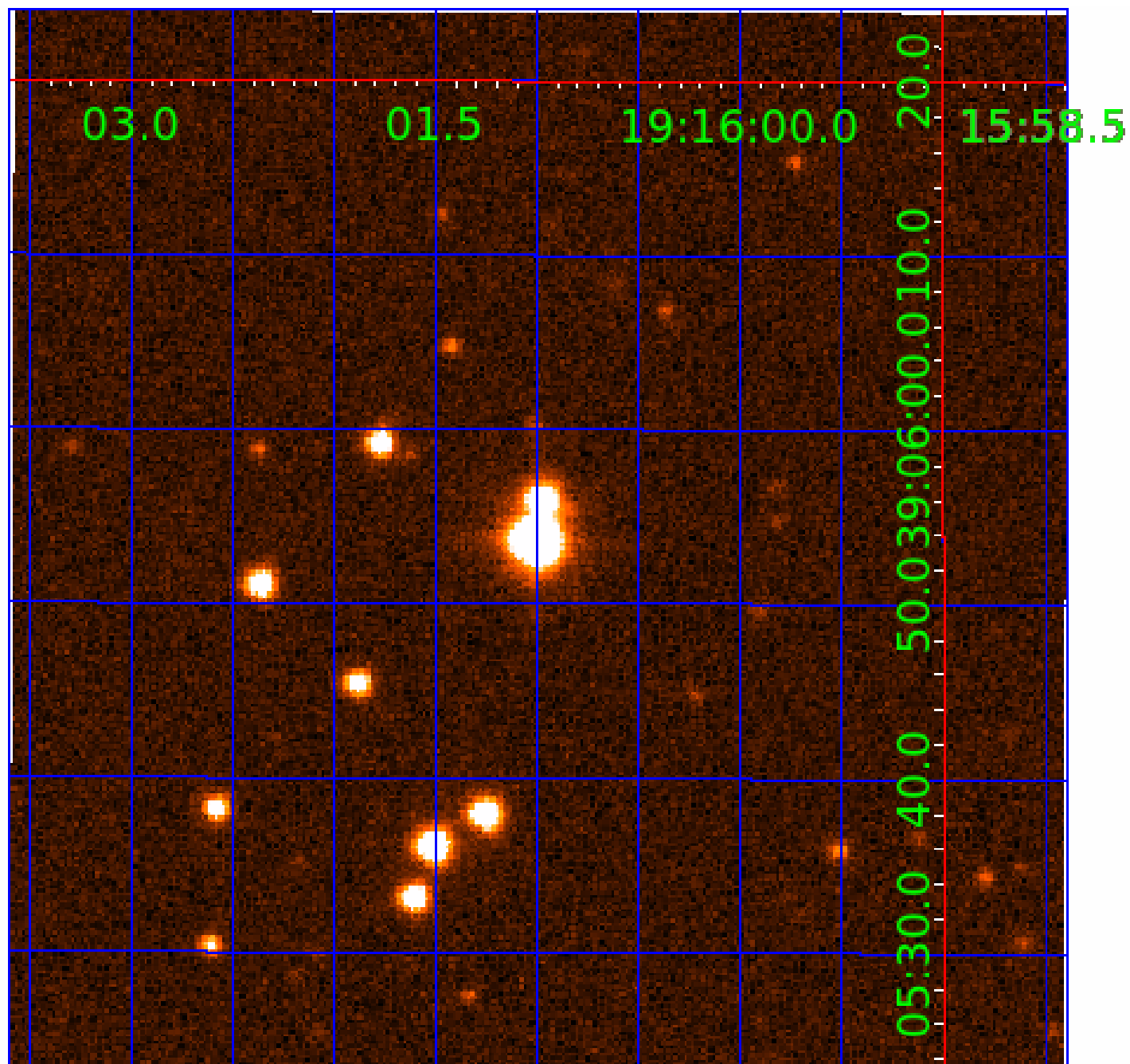


fluxWeightedCentroids, Planet 5 of 6



UKIRT Image

Declination



KIC 003945791

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})
003945791-01	OBS	No	2.130203	133.566366	37.4	9.566	11.2	10.6	3.75	6675	2.40	16693.40
003945791-02	OBS	No	101.283060	150.413006	346.5	3.621	8.2	8.3	3.75	6675	12.16	96.92
003945791-03	OBS	No	202.676001	226.332165	324.8	4.918	8.0	6.3	3.75	6675	7.29	38.43
003945791-04	OBS	No	154.502983	217.939181	419.6	3.440	8.2	7.8	3.75	6675	11.62	55.19
003945791-05	OBS	No	30.572013	159.384350	199.9	1.961	7.8	8.6	3.75	6675	6.18	478.64
003945791-06	OBS	No	117.675893	188.803171	362.3	2.795	7.9	7.8	3.75	6675	7.81	79.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003945791-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
003945791-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003945791-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
003945791-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003945791-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_ALT
003945791-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

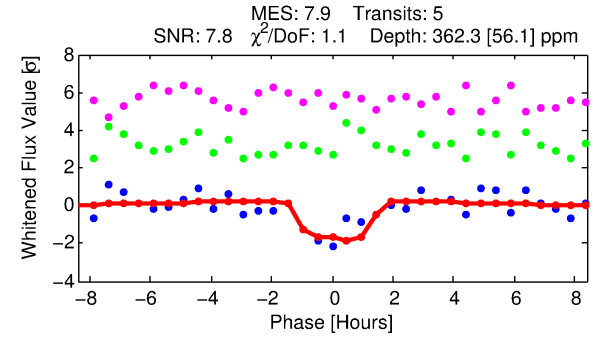
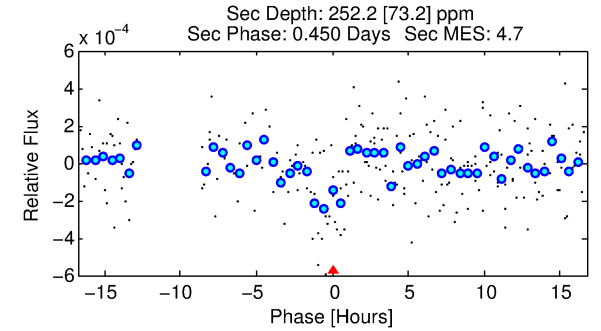
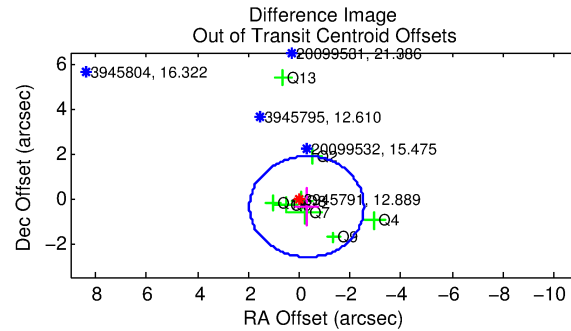
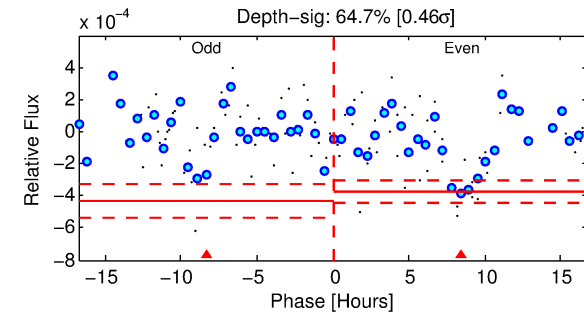
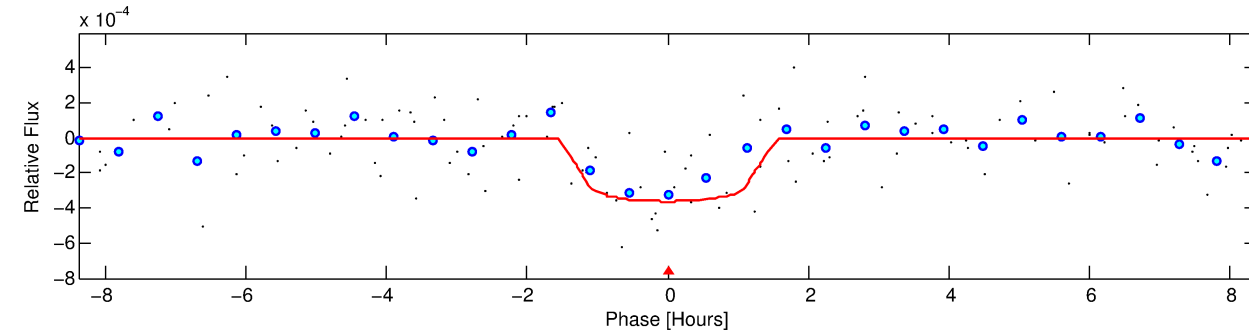
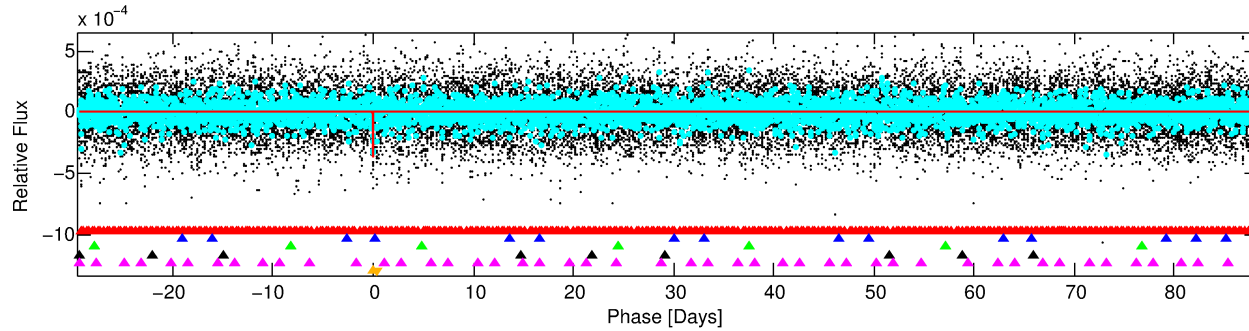
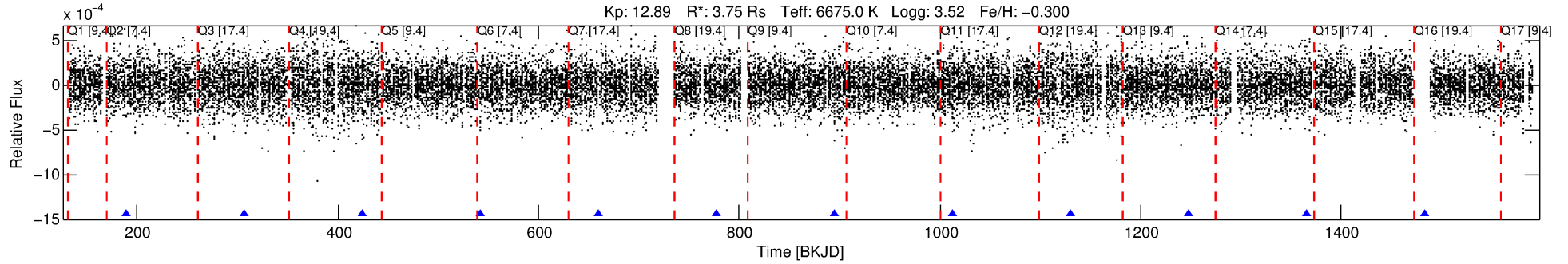
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003945791-06

No Significant Match Found

DV One-Page Summary

KIC: 3945791 Candidate: 6 of 6 Period: 117.676 d



DV Fit Results:

Period = 117.67589 [0.00168] d
Epoch = 188.8032 [0.0090] BKJD
Rp/R* = 0.0191 [0.0260]
a/R* = 215.48 [1709.77]
b = 0.77 [4.26]
Seff = 79.35 [48.64]
Teq = 761 [117] K
Rp = 7.81 [11.11] Re
a = 0.5622 [0.2120] AU
Ag = 719.76 [2025.85] [0.35 σ]
Teffp = 6095 [4194] K [1.27 σ]

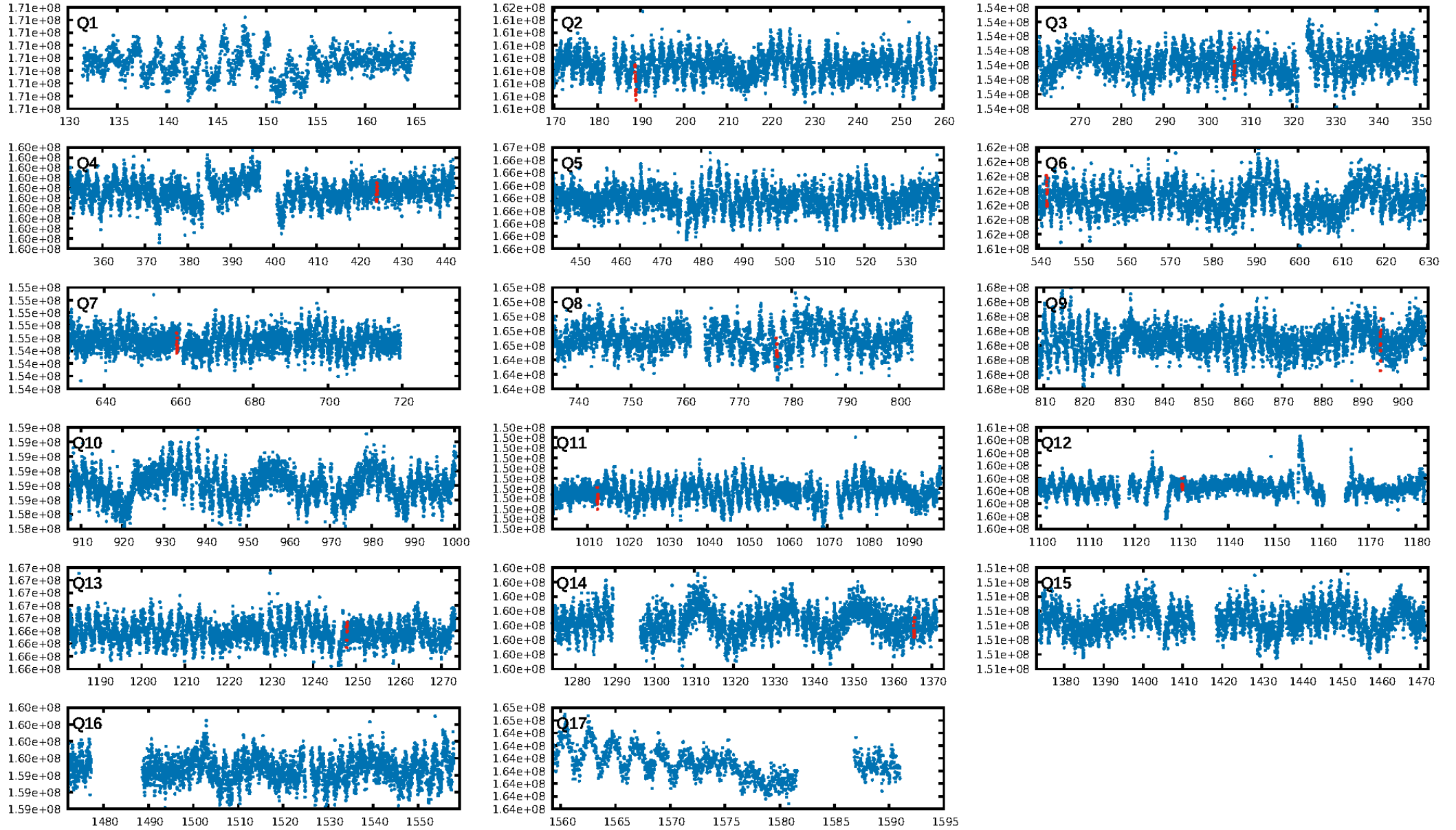
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [86.01 σ]
LongPeriod-sig: 100.0% [199.39 σ]
ModelChiSquare2-sig: 25.5%
ModelChiSquareGof-sig: 98.3%
Bootstrap-pfa: 6.16e-10
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.7951
Centroid-sig: 0.0%
Centroid-so: 1.167 arcsec [2.15 σ]
OotOffset-rm: 0.475 arcsec [0.63 σ]
KicOffset-rm: 0.389 arcsec [0.49 σ]
OotOffset-st: 2/2/2 [8]
KicOffset-st: 2/2/2 [8]
DiffImageQuality-fgm: 0.62 [5/8]
DiffImageOverlap-fno: 0.40 [4/10]

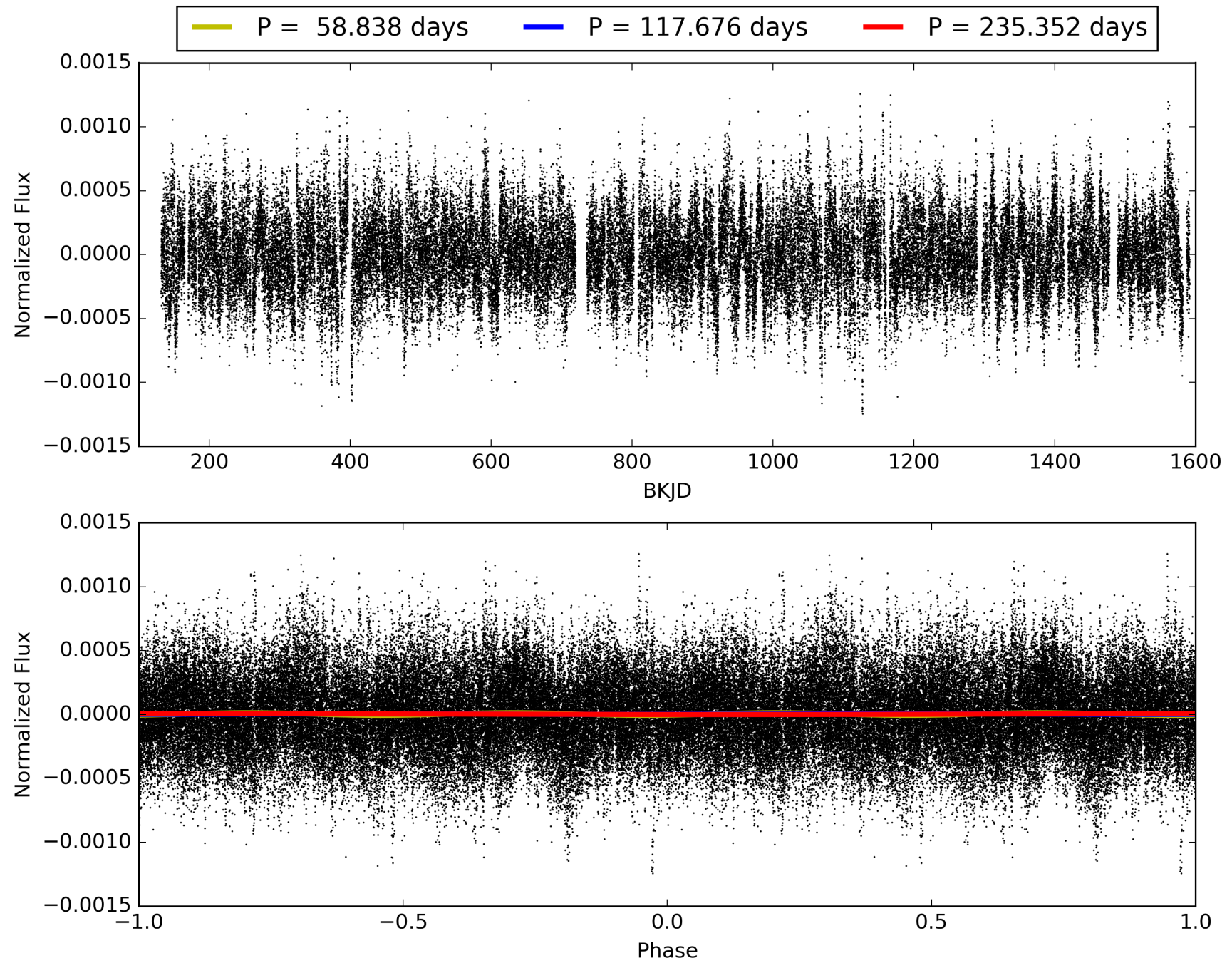
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 22:56:22 Z

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

TCE 003945791-06, PDC Light Curves

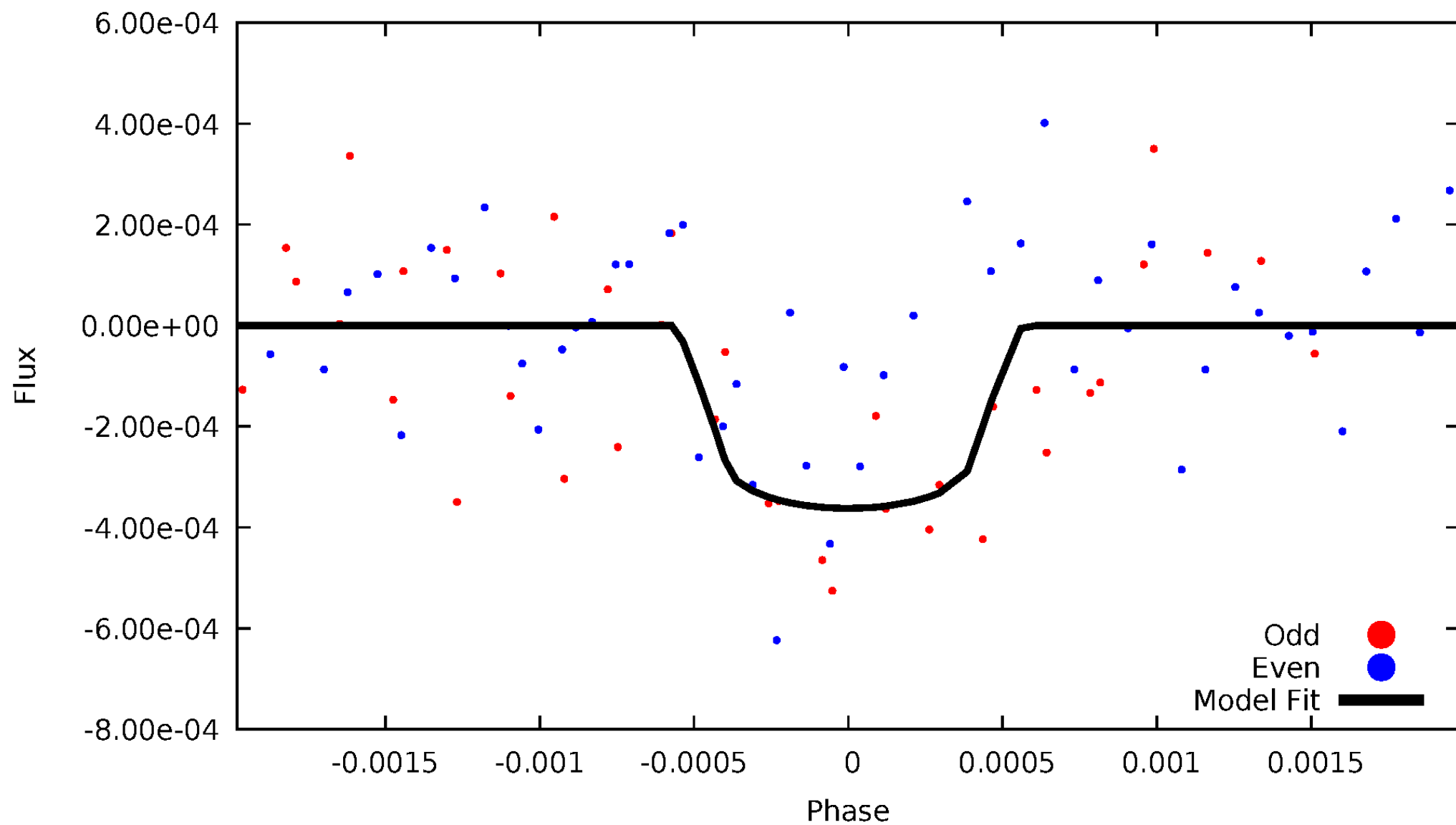


TCE 003945791-06



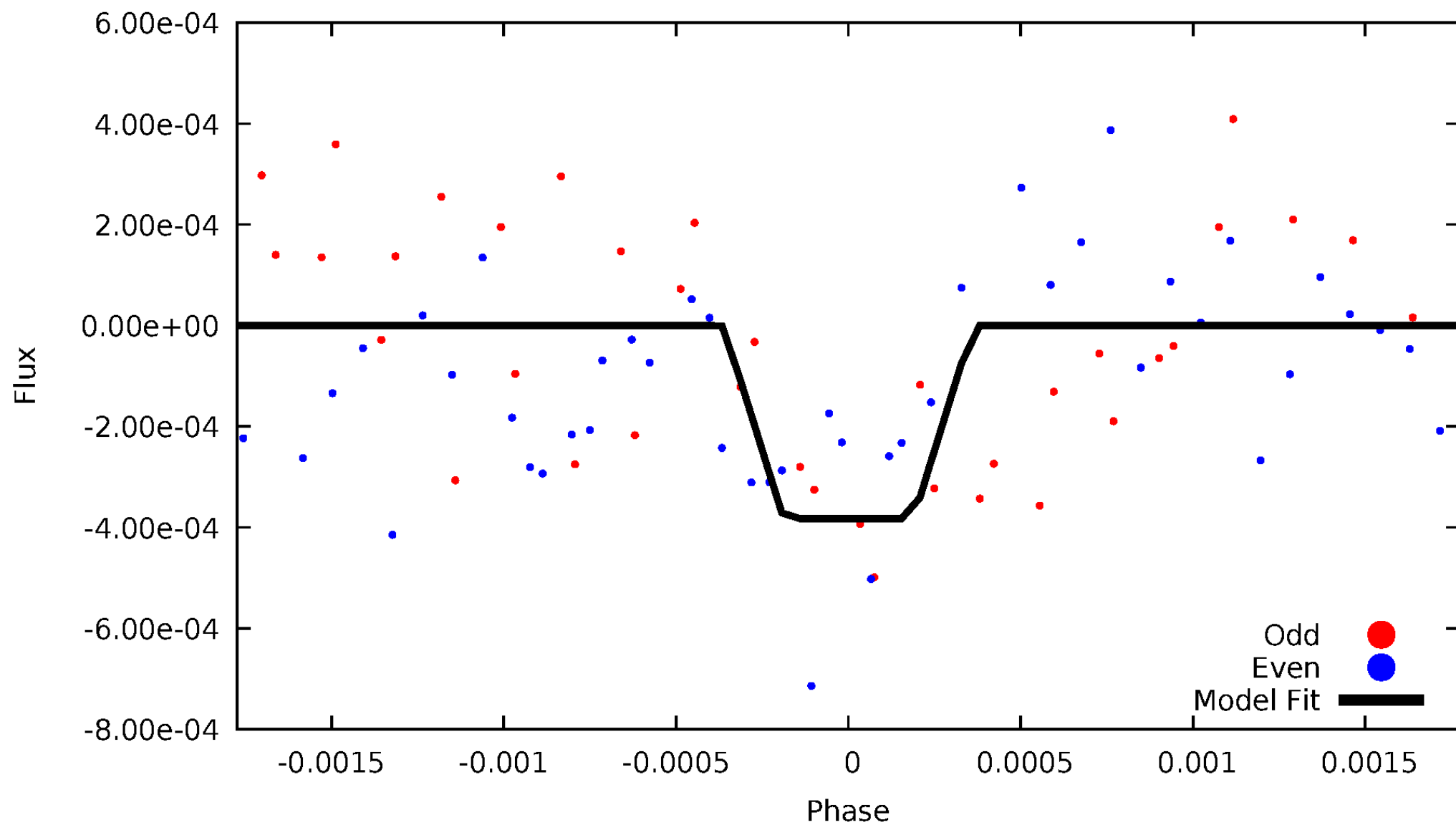
DV Odd/Even

TCE 003945791-06



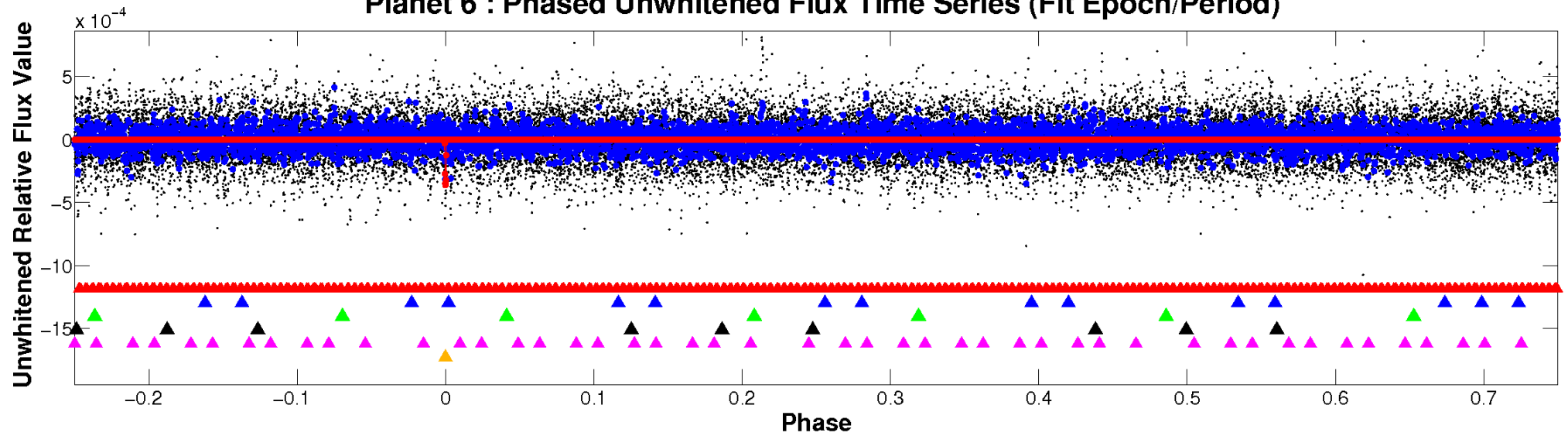
ALT Odd/Even

TCE 003945791-06

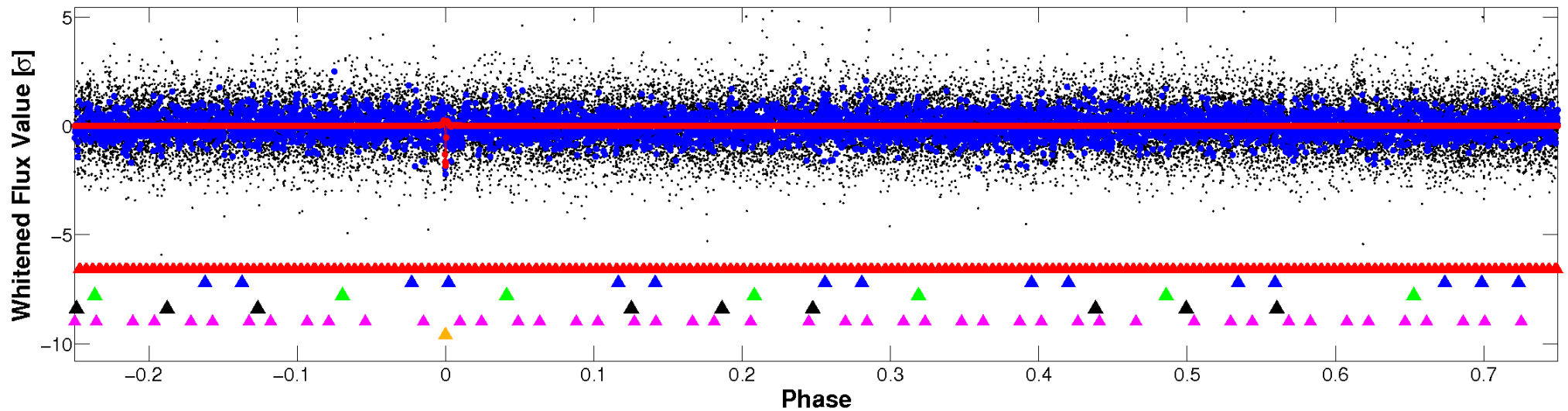


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

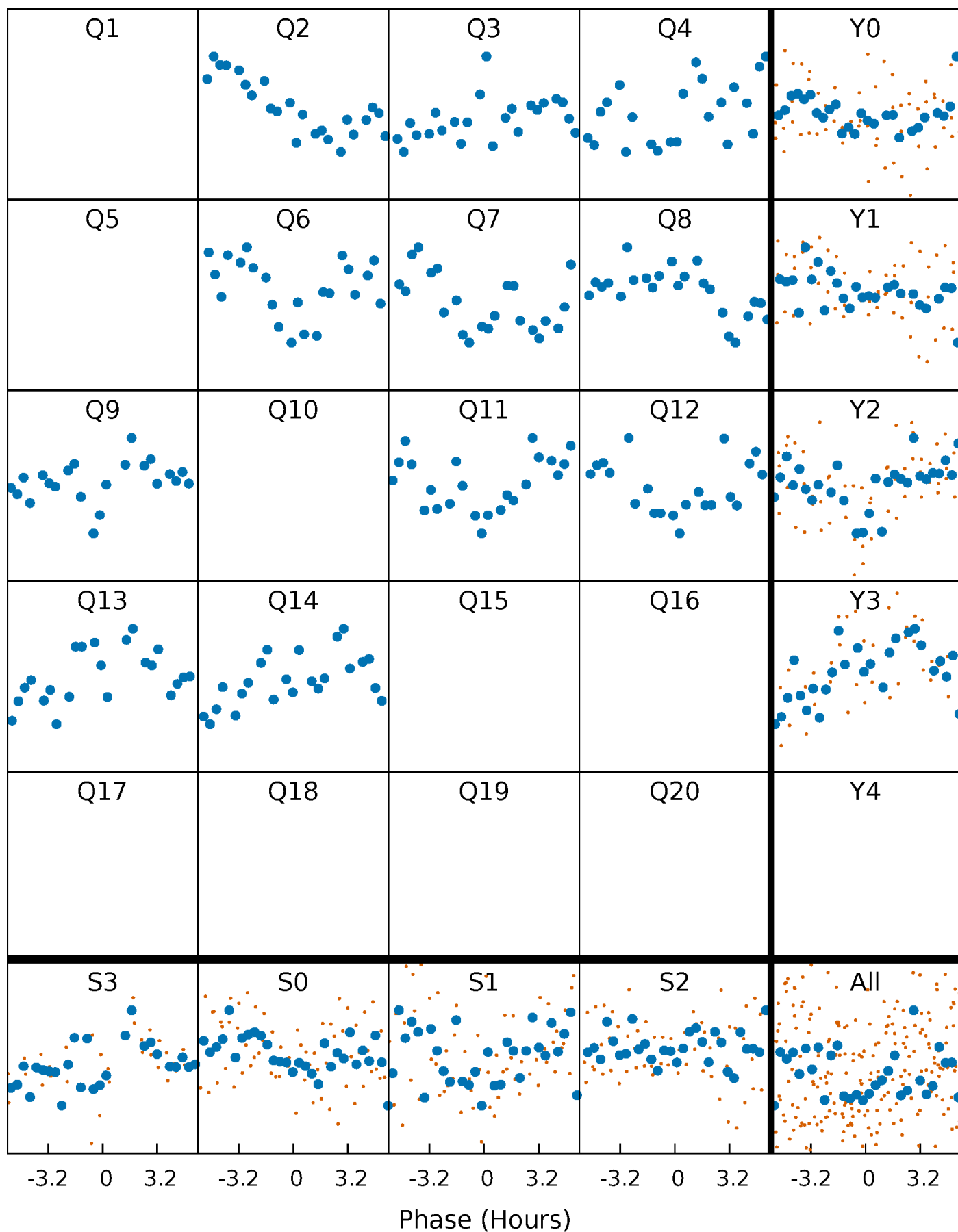


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



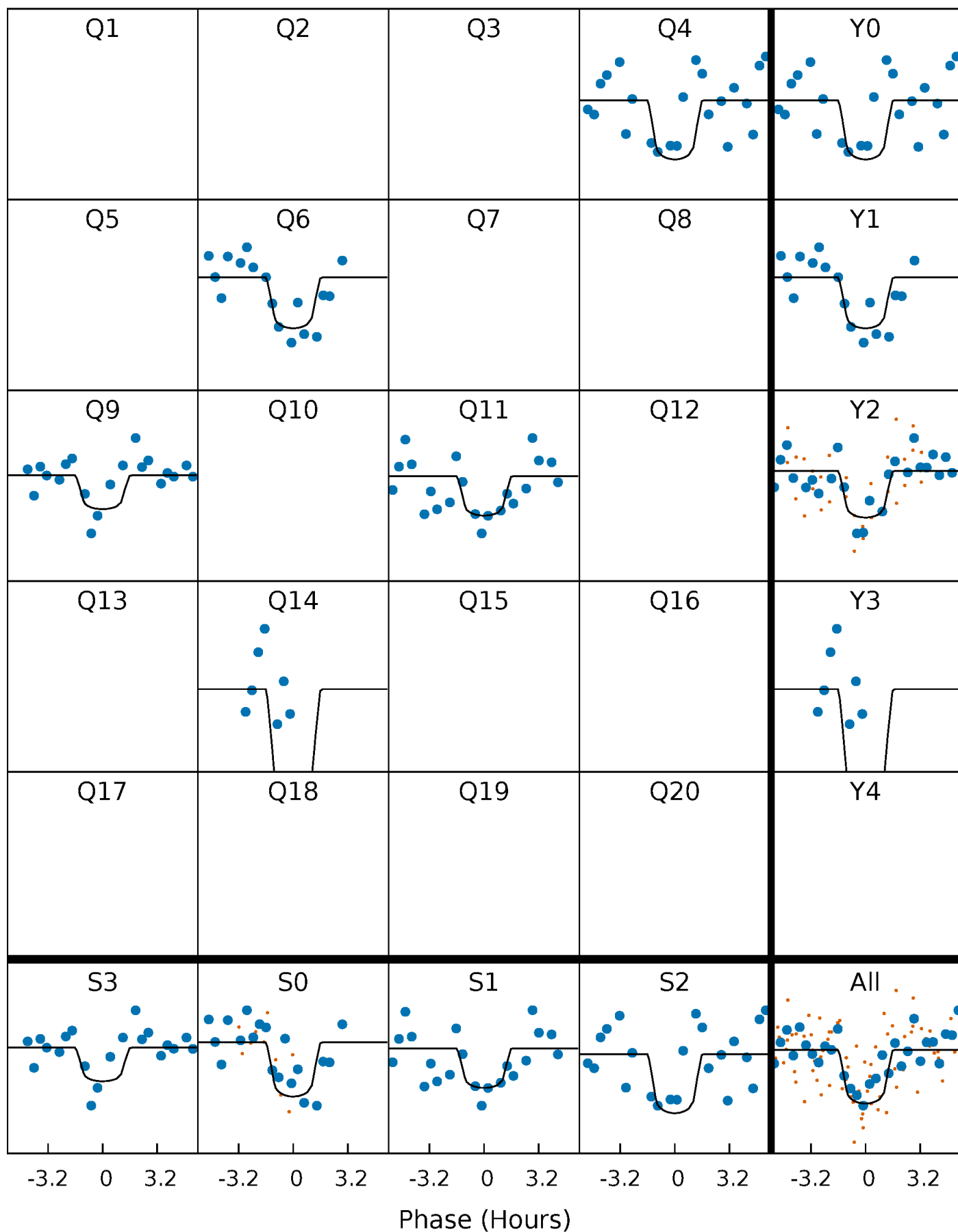
PDC Quarter-Phased Transit Curves

TCE 003945791-06 P=117.675893 Days $T_0=188.803171$ (BKJD)



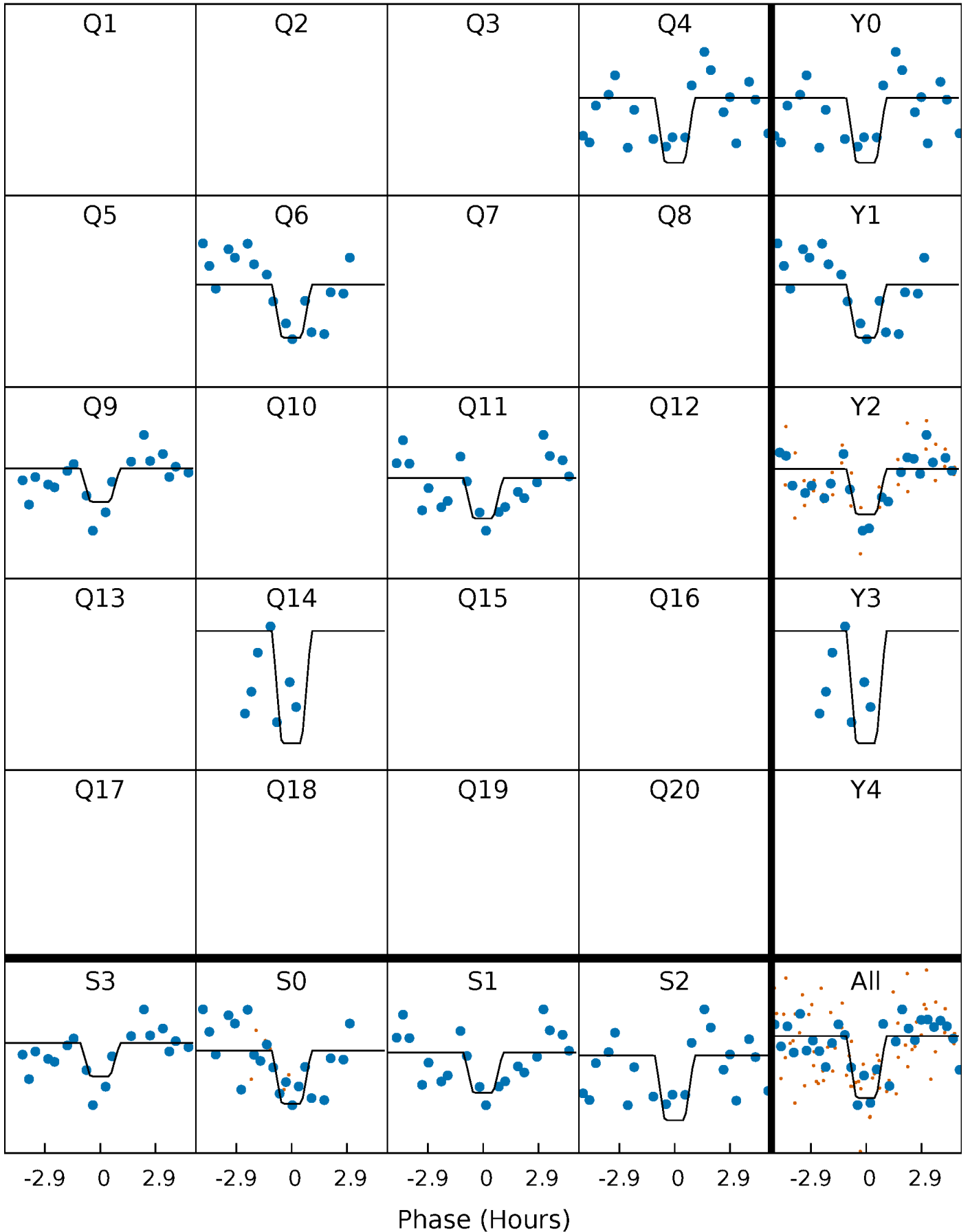
DV Quarter-Phased Transit Curves

TCE 003945791-06 P=117.675893 Days $T_0=188.803171$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

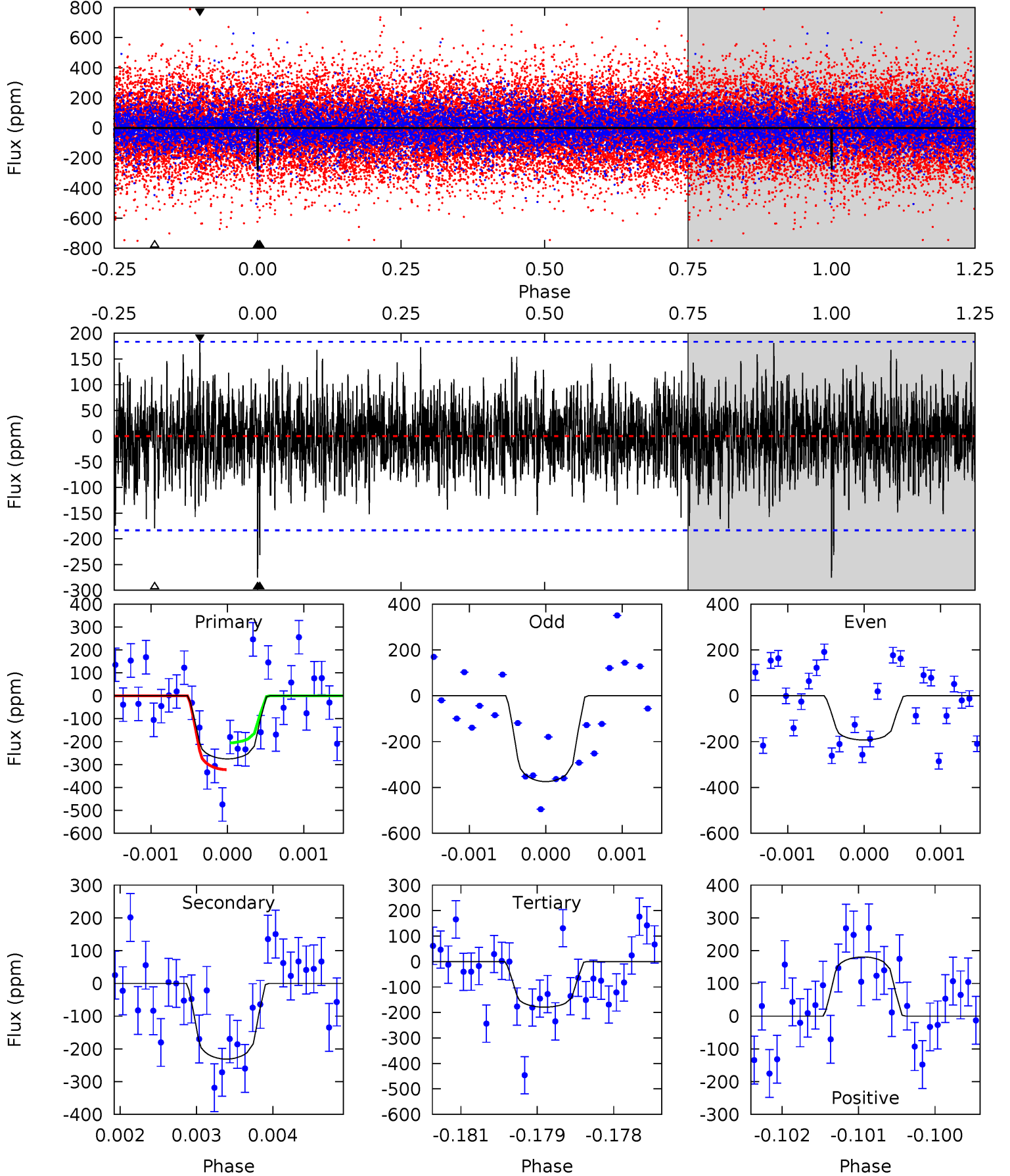
TCE 003945791-06 P=117.675651 Days $T_0=188.789908$ (BKJD)



DV Model-Shift Uniqueness Test

003945791-06, $P = 117.675893$ Days, $E = 71.127278$ Days

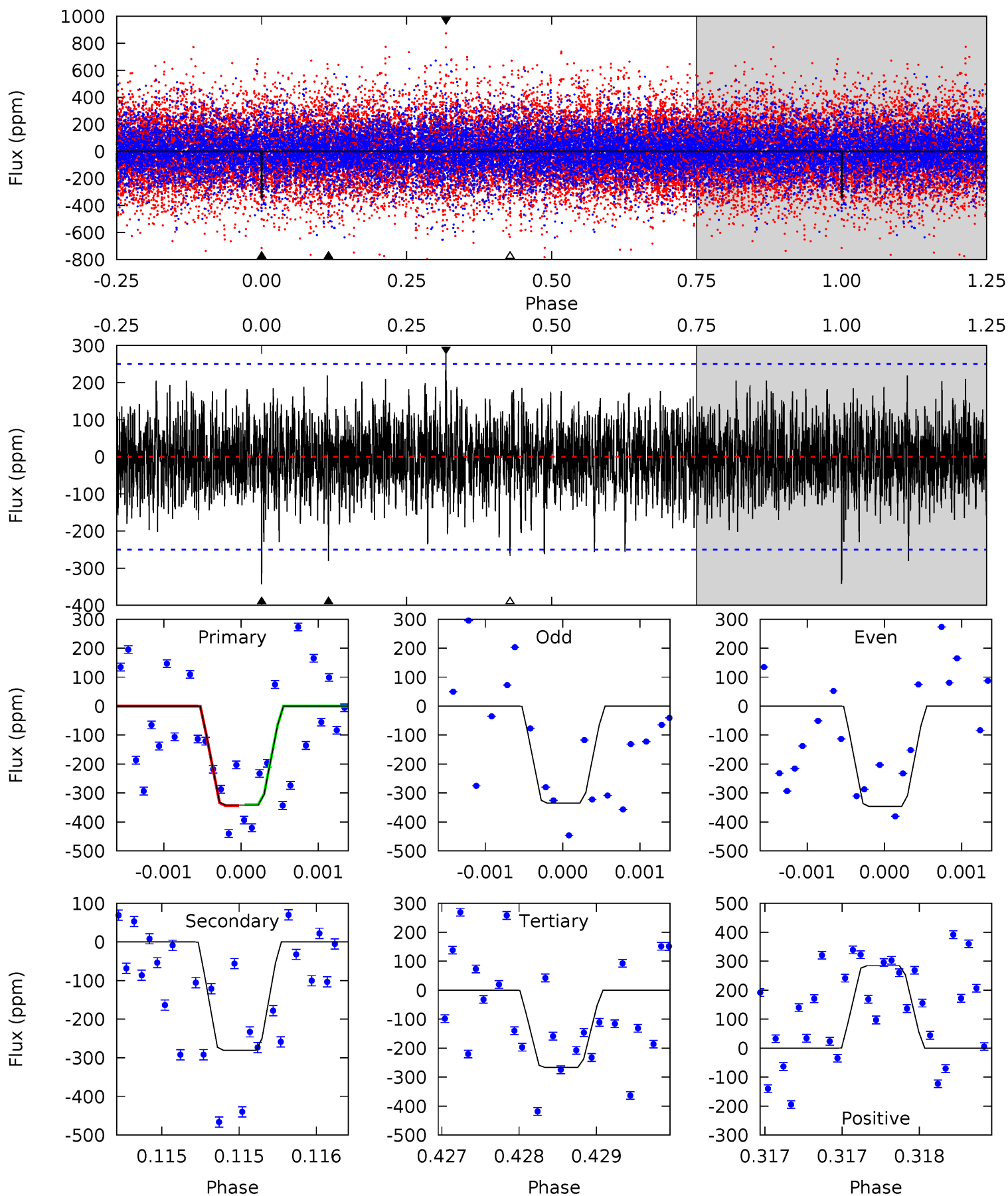
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.16	6.85	5.31	5.35	5.44	3.27	1.52	2.85	2.81	1.54	1.50	2.69	0.76	0.40	1.71



Alt Model-Shift Uniqueness Test

003945791-06, P = 117.675651 Days, E = 71.114257 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.54	6.19	5.88	6.27	5.52	3.39	1.60	1.65	1.27	0.30	-0.08	0.13	1.22	0.45	0.05



Stellar Parameters For KIC 003945791

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6675^{+182}_{-202}	$3.522^{+0.352}_{-0.088}$	$-0.300^{+0.350}_{-0.250}$	$3.755^{+0.371}_{-1.482}$	$1.711^{+0.199}_{-0.369}$	$0.045^{+0.128}_{-0.013}$
	+3%/-3%	+10%/-2%	+117%/-83%	+10%/-39%	+12%/-22%	+281%/-29%
Source	PHO1	FLK73	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 003945791-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-231 ± 34	$9.79^{+9.98}_{-6.18}$	1045^{+54}_{-97}	5109^{+3713}_{-1142}	409^{+2809}_{-306}
Alt.	-280 ± 45	$9.83^{+8.99}_{-6.25}$	1044^{+62}_{-90}	5366^{+4519}_{-1227}	521^{+3221}_{-386}

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 $A_{obs} \gg 1.0$

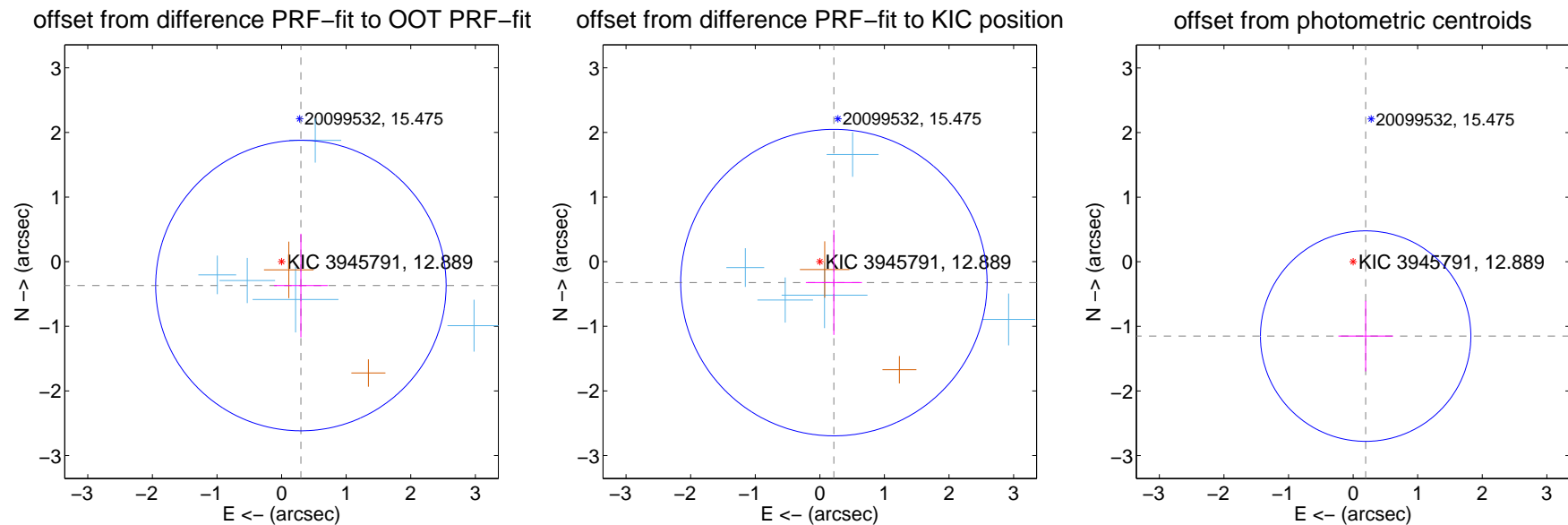
DV Centroid Data

Supplemental centroid analysis for 003945791-06. Kepler magnitude: 12.89. Transit SNR 7.79

There are 5 quarters with good PRF difference image offsets

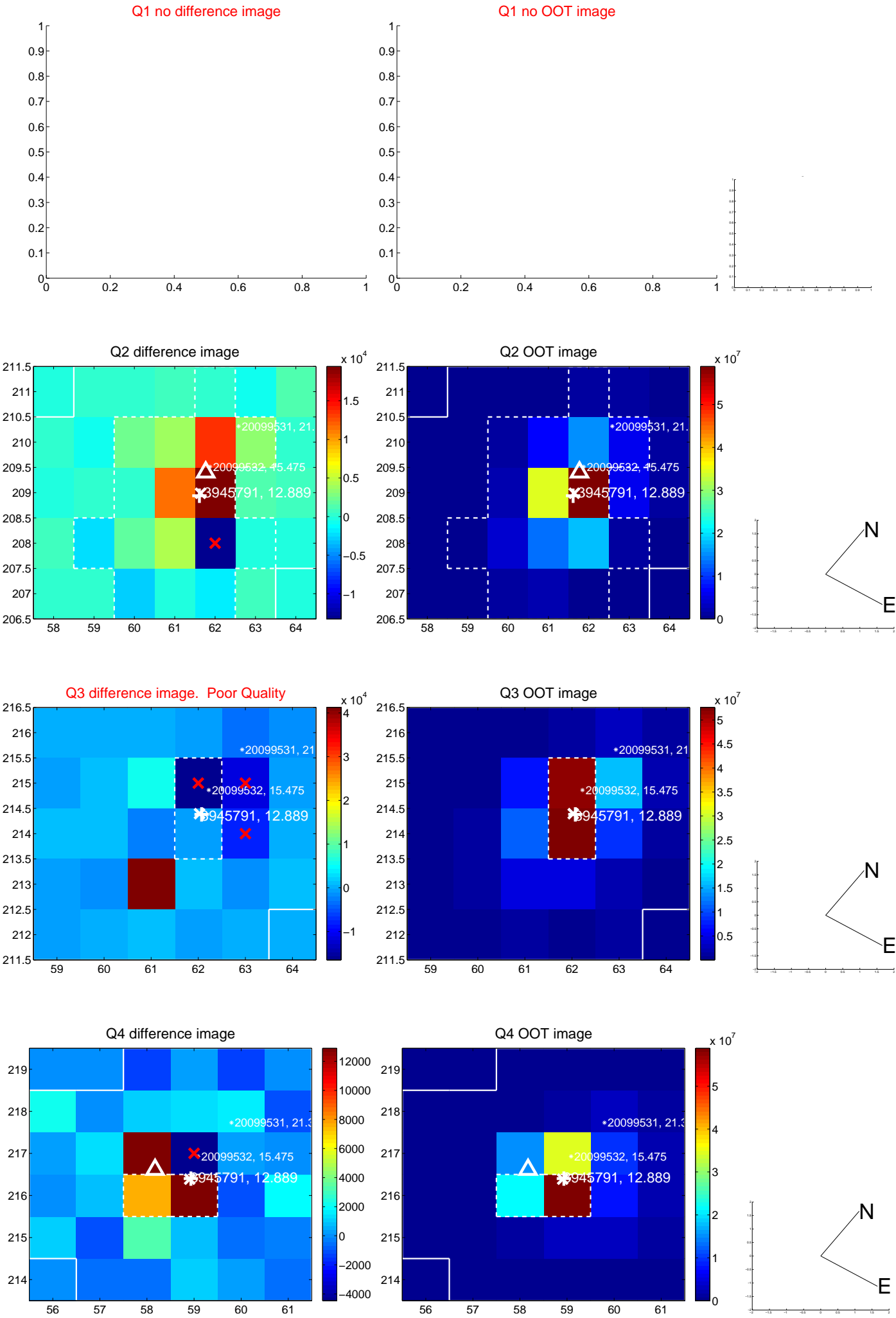
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.475 ± 0.749	0.63	-0.299 ± 0.416	-0.369 ± 0.802
PRF-fit source offset from KIC position	0.389 ± 0.790	0.49	-0.217 ± 0.434	-0.323 ± 0.809
photometric centroid source offset	1.17 ± 0.54	2.15	-0.19 ± 0.42	-1.15 ± 0.55

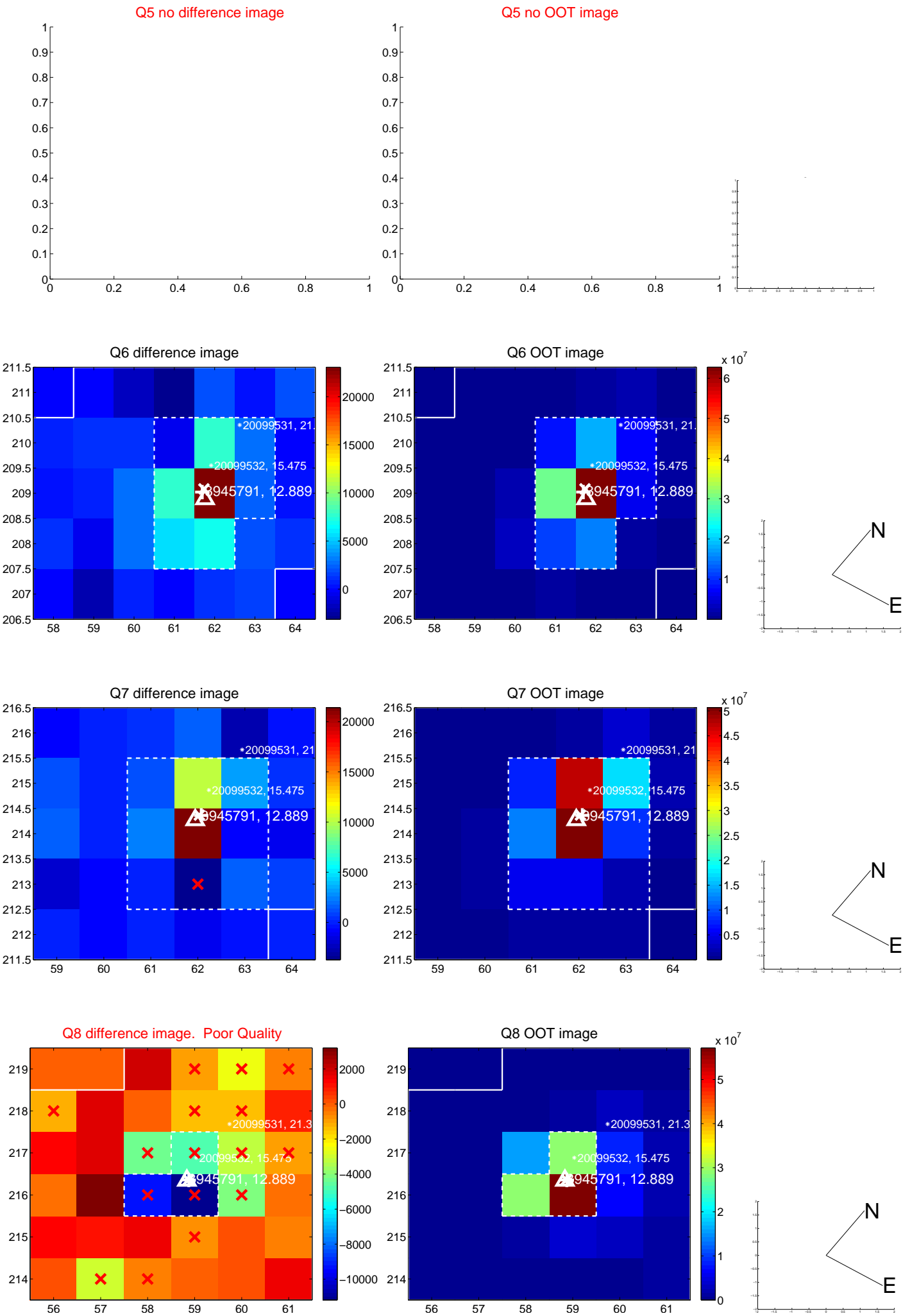


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

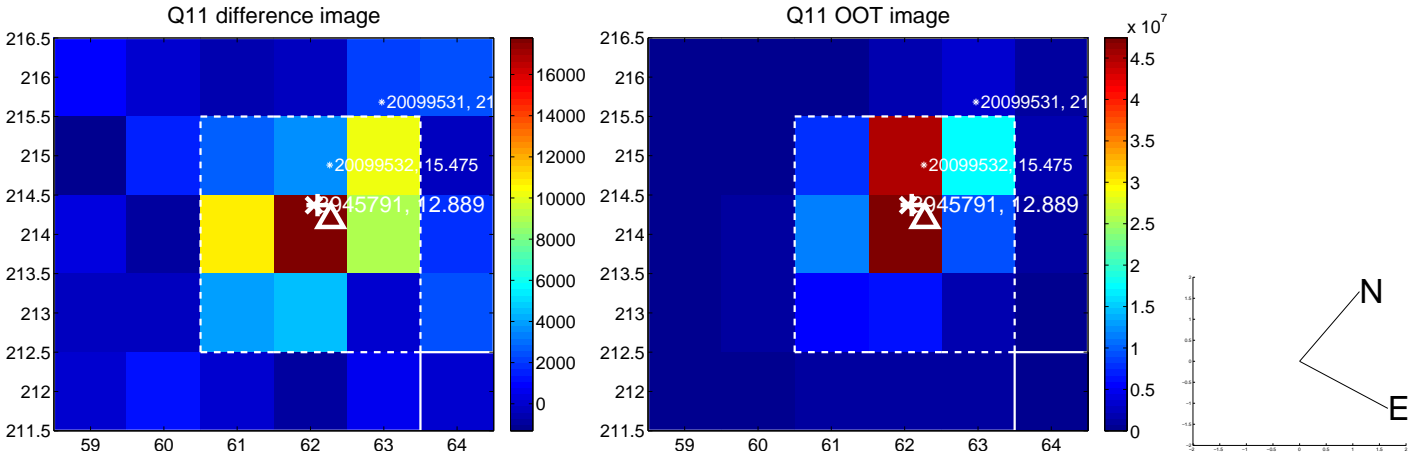
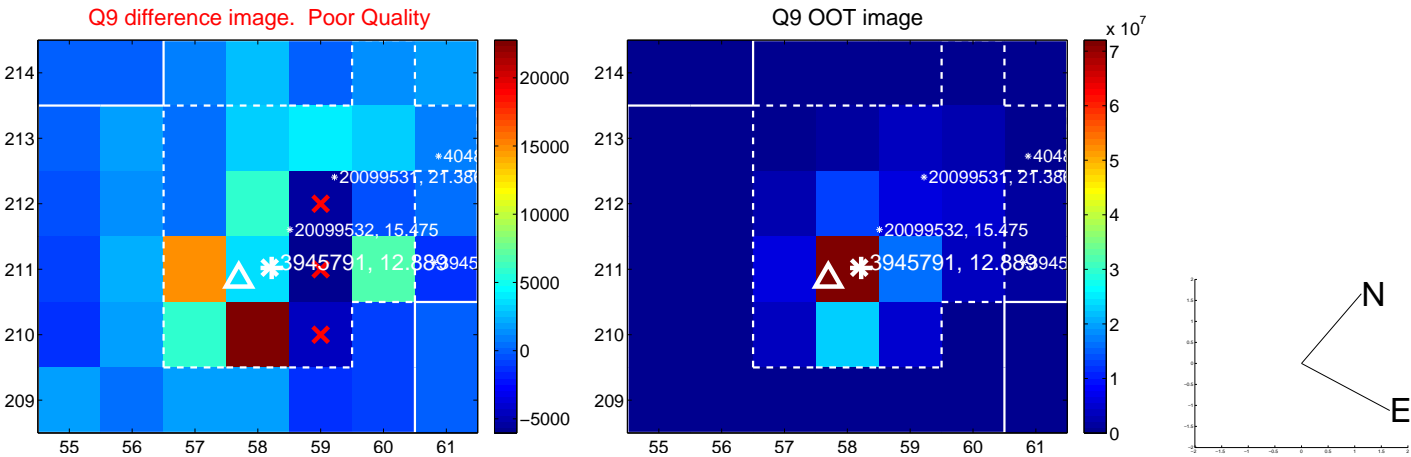
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



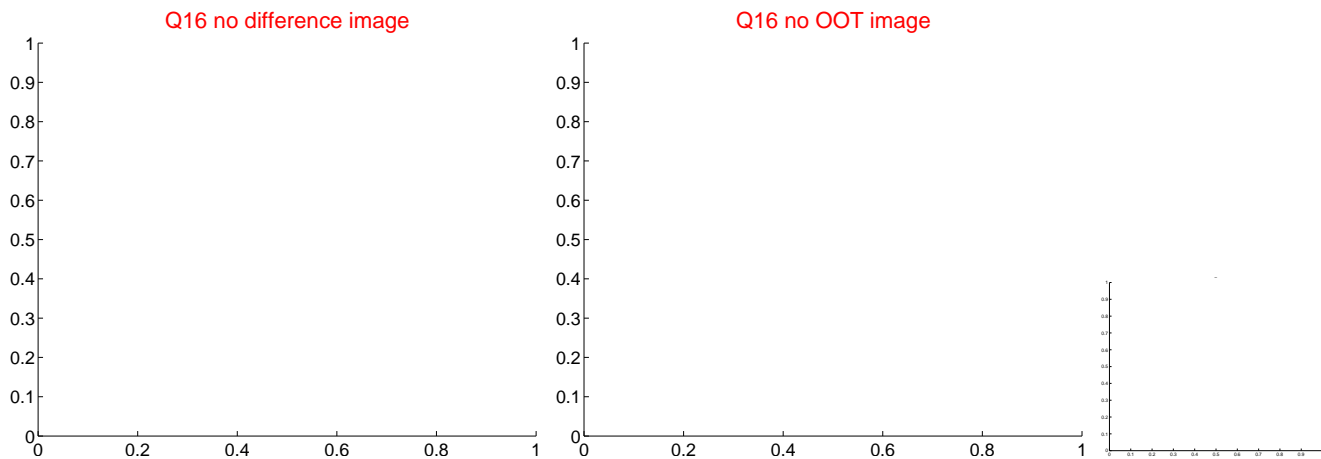
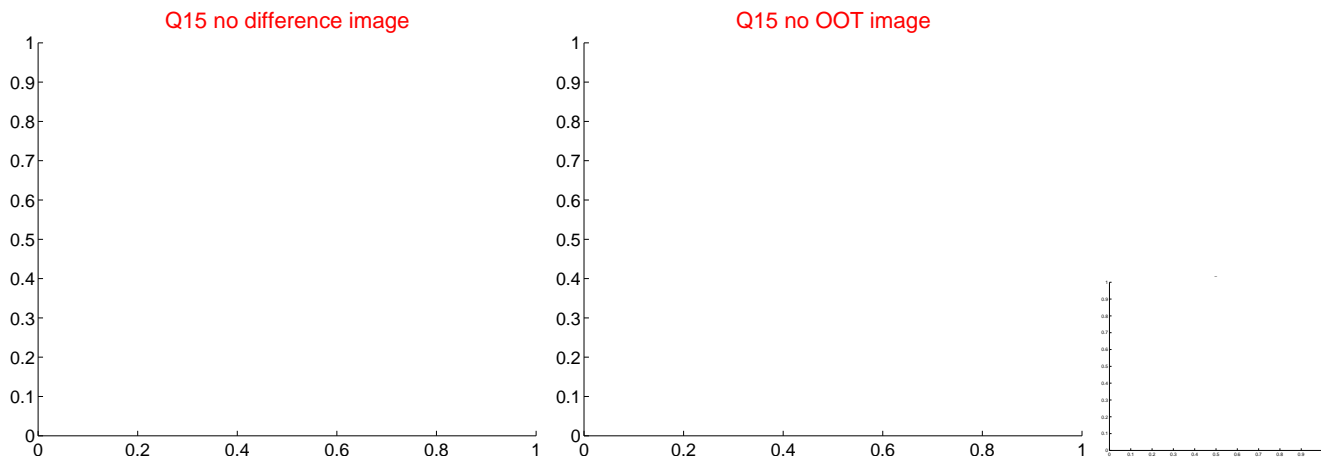
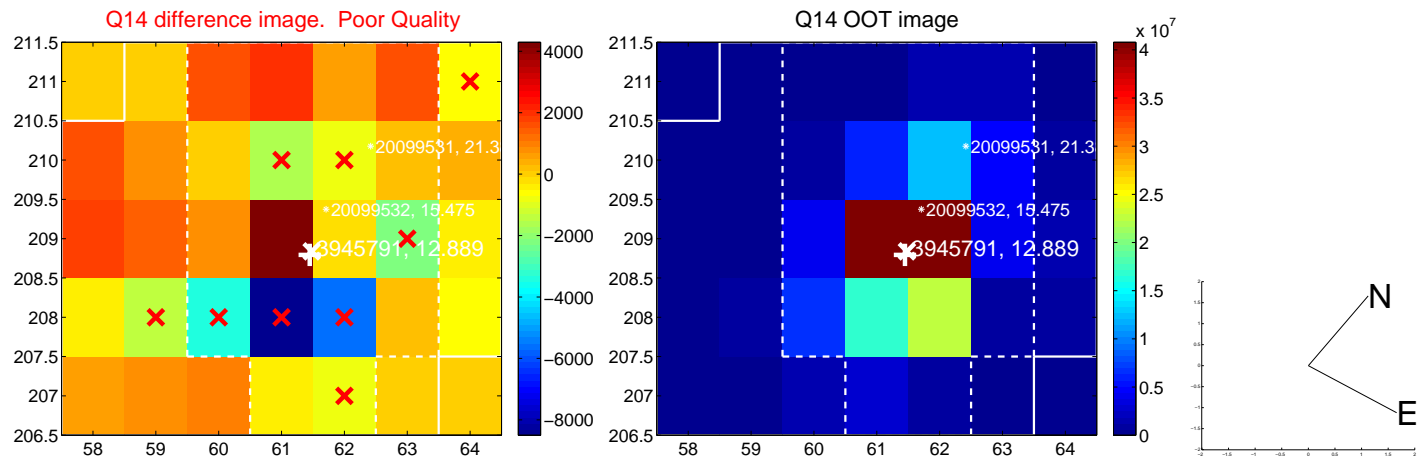
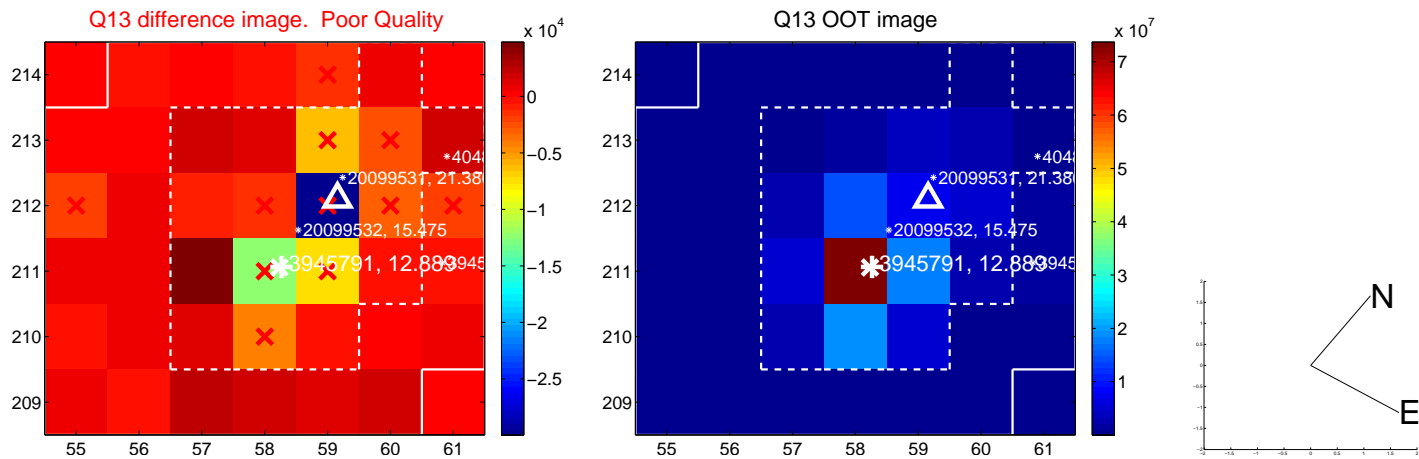
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



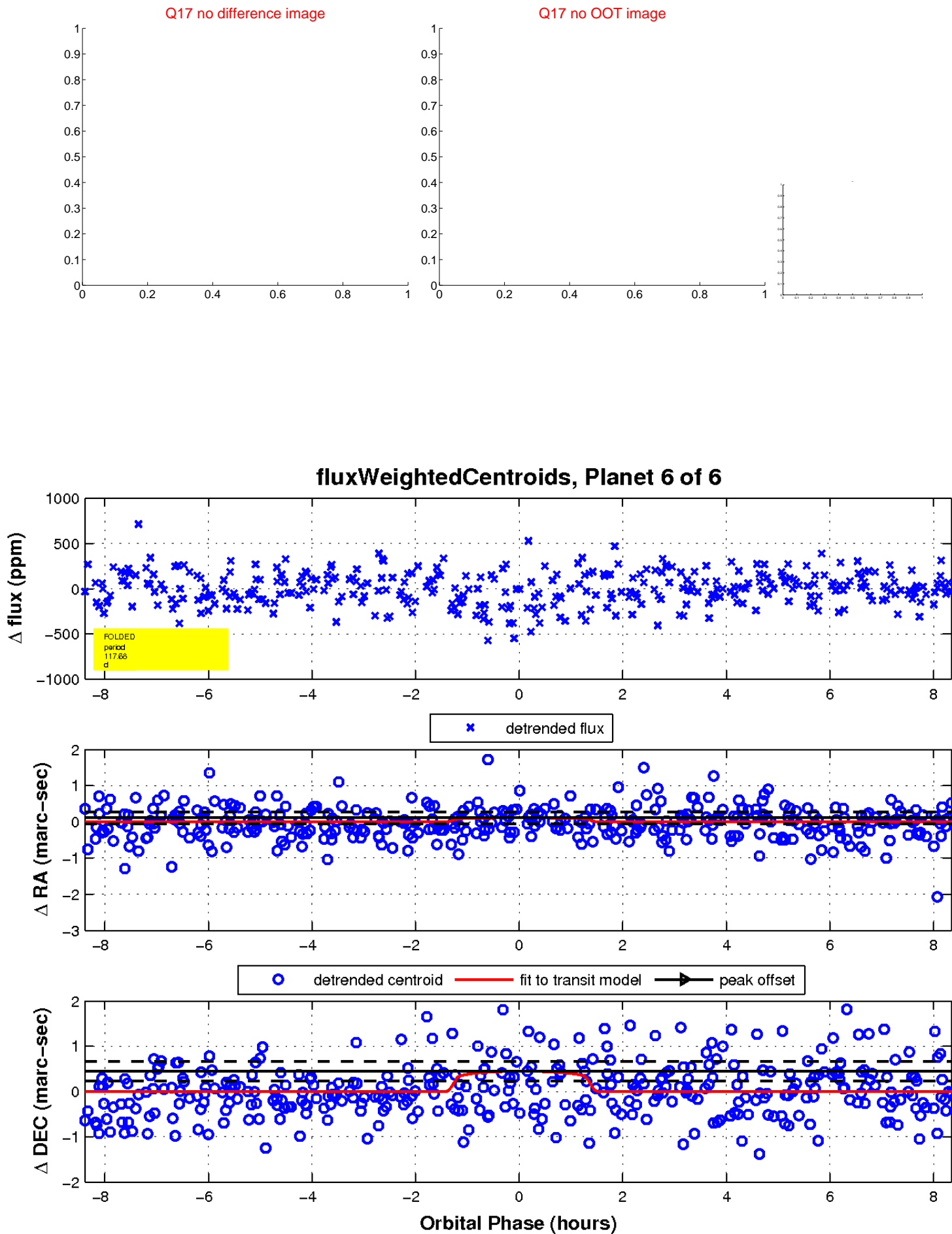
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

