

KIC 006591789

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})
006591789-01	OBS	6735.01	5.088360	134.357028	384668.8	3.000	16250.9	-1.0	0.79	5618	43.16	182.21
006591789-02	OBS	No	5.088404	131.768866	112794.9	4.732	4965.8	3654.3	0.79	5618	39.08	182.21
006591789-03	OBS	No	5.088406	133.833608	9798.0	7.500	507.4	-1.0	0.79	5618	7.75	182.21
006591789-04	OBS	No	5.088368	134.886976	10482.5	14.251	239.8	175.9	0.79	5618	14.61	182.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006591789-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
006591789-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
006591789-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS
006591789-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—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 006591789-01

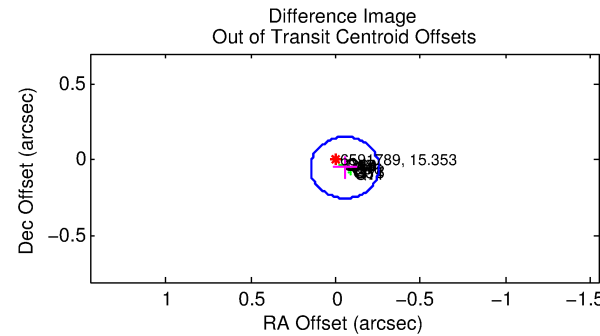
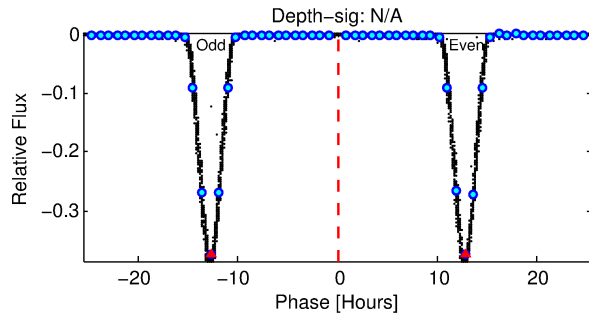
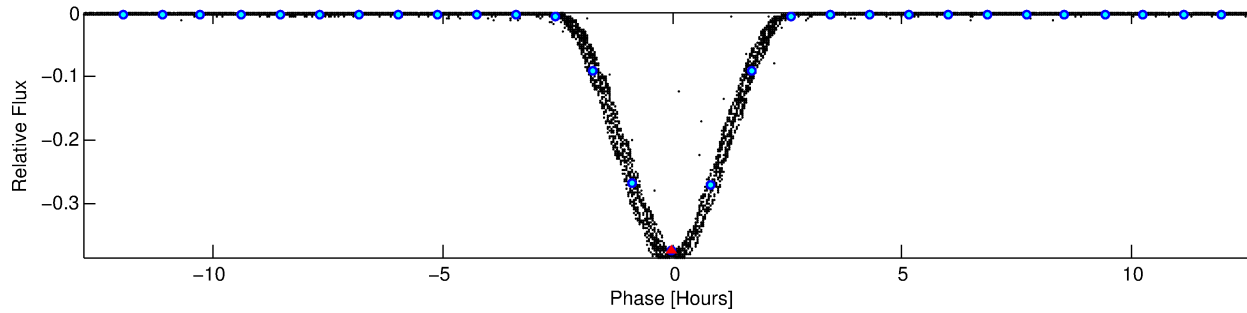
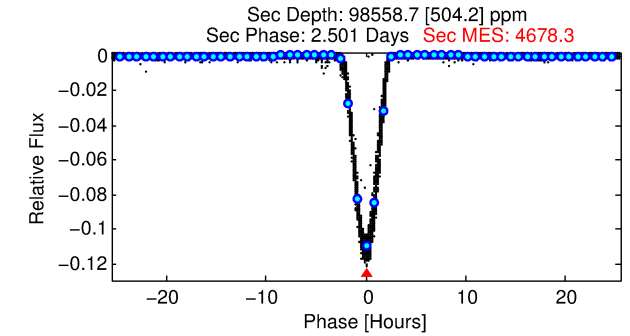
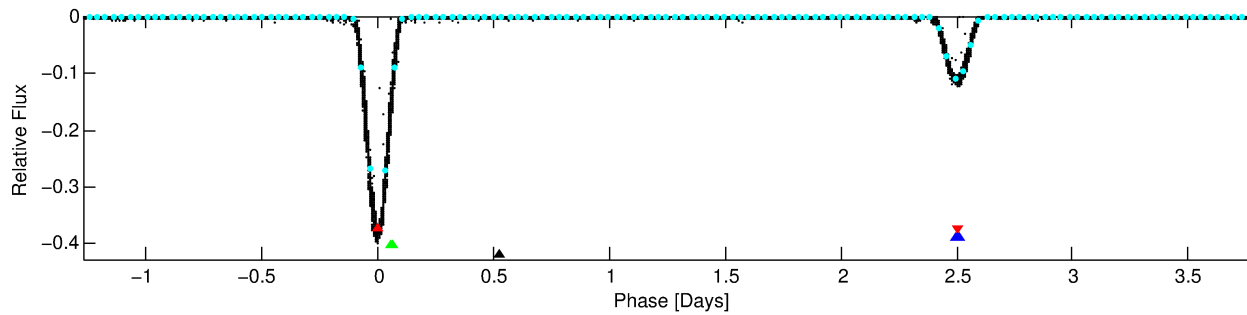
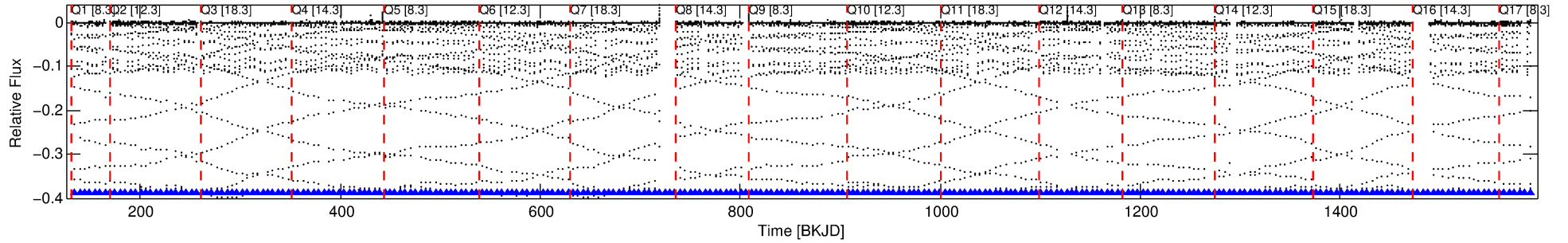
No Significant Match Found

DV One-Page Summary

KIC: 6591789 Candidate: 1 of 4 Period: 5.088 d

KOI: K06735.01 Corr: 0.792

Kp: 15.35 R*: 0.79 Rs Teff: 5618.0 K Logg: 4.58 Fe/H: -0.280



TPS TCE Results:

Period = 5.08836 d
Epoch = 134.3570 BKJD

DV fit results are unavailable

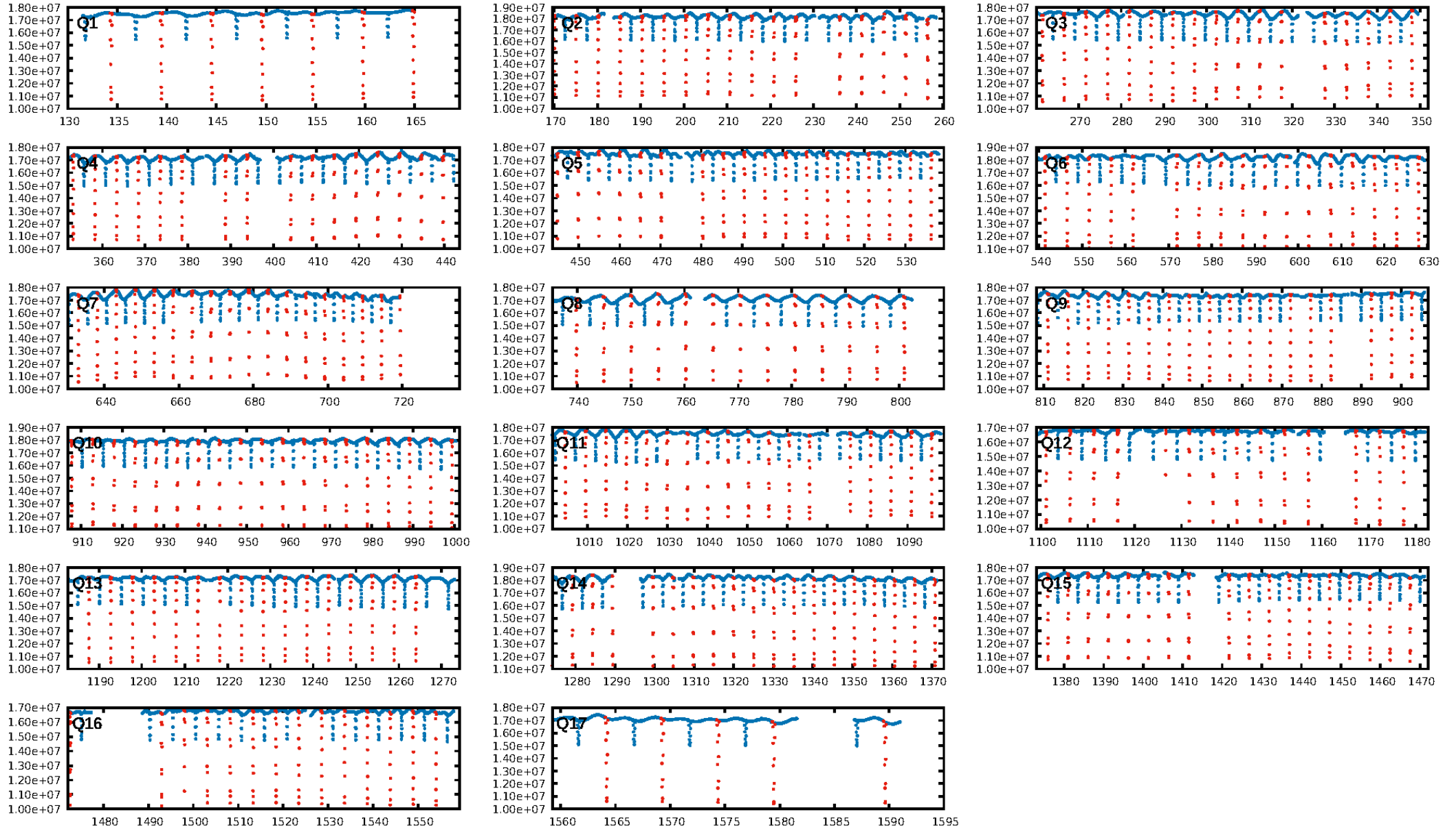
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [251/251]
GhostDiagnostic-chr: 0.5847
Centroid-sig: N/A
Centroid-so: 0.069 arcsec [103.55σ]
OotOffset-rm: 0.073 arcsec [1.08σ]
KicOffset-rm: 0.053 arcsec [0.79σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

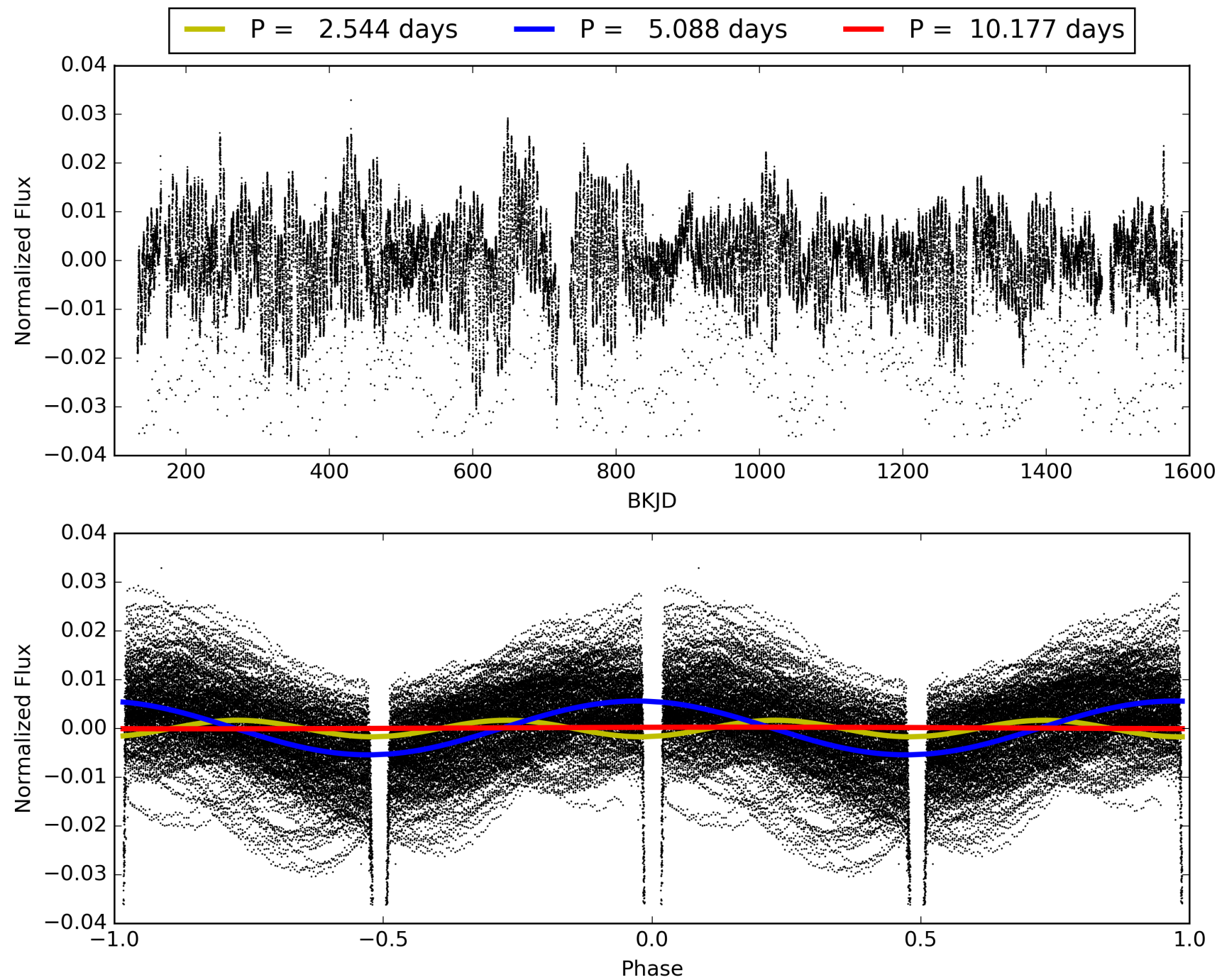
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 02:02:39 Z

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

TCE 006591789-01, PDC Light Curves

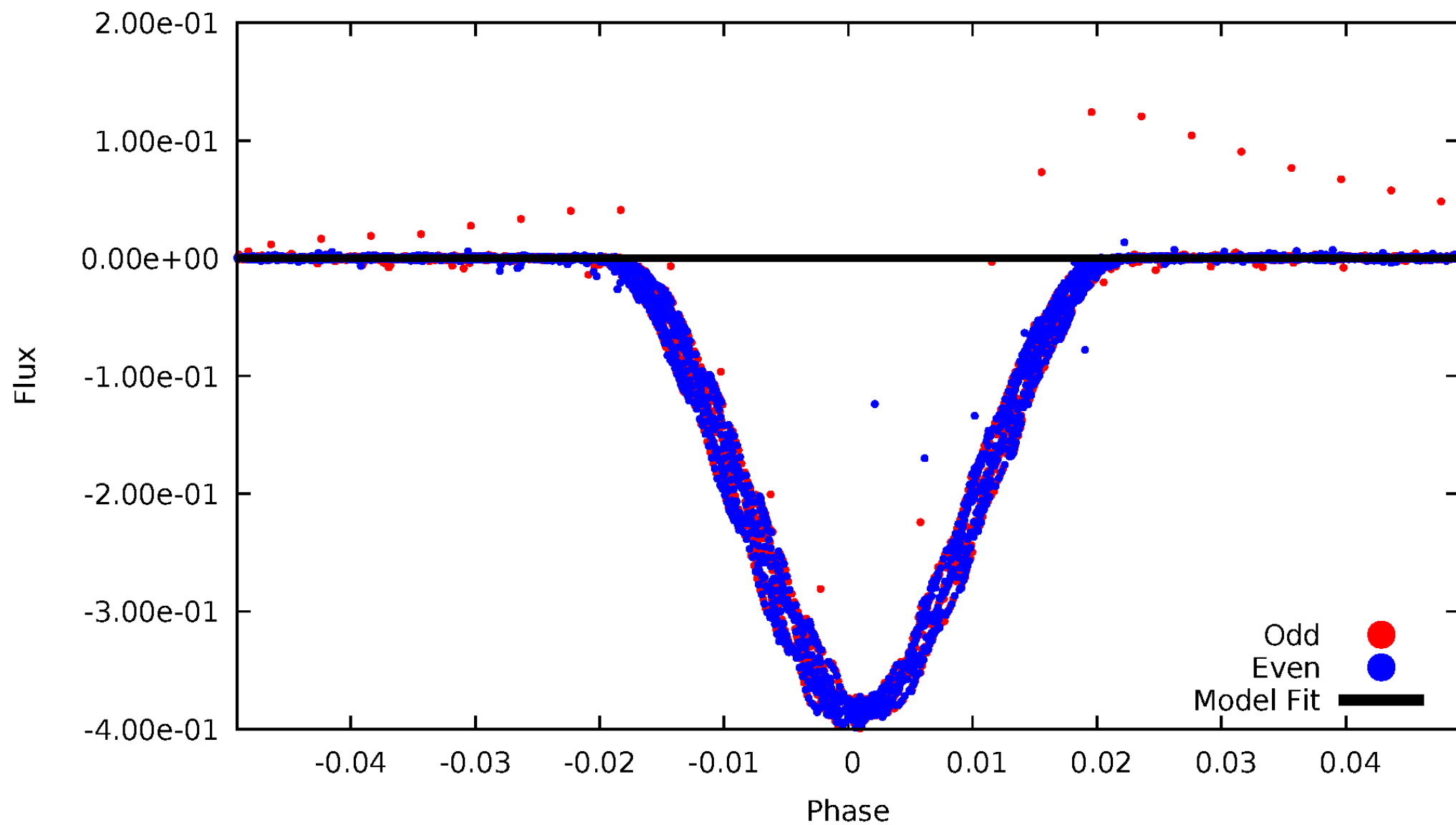


TCE 006591789-01



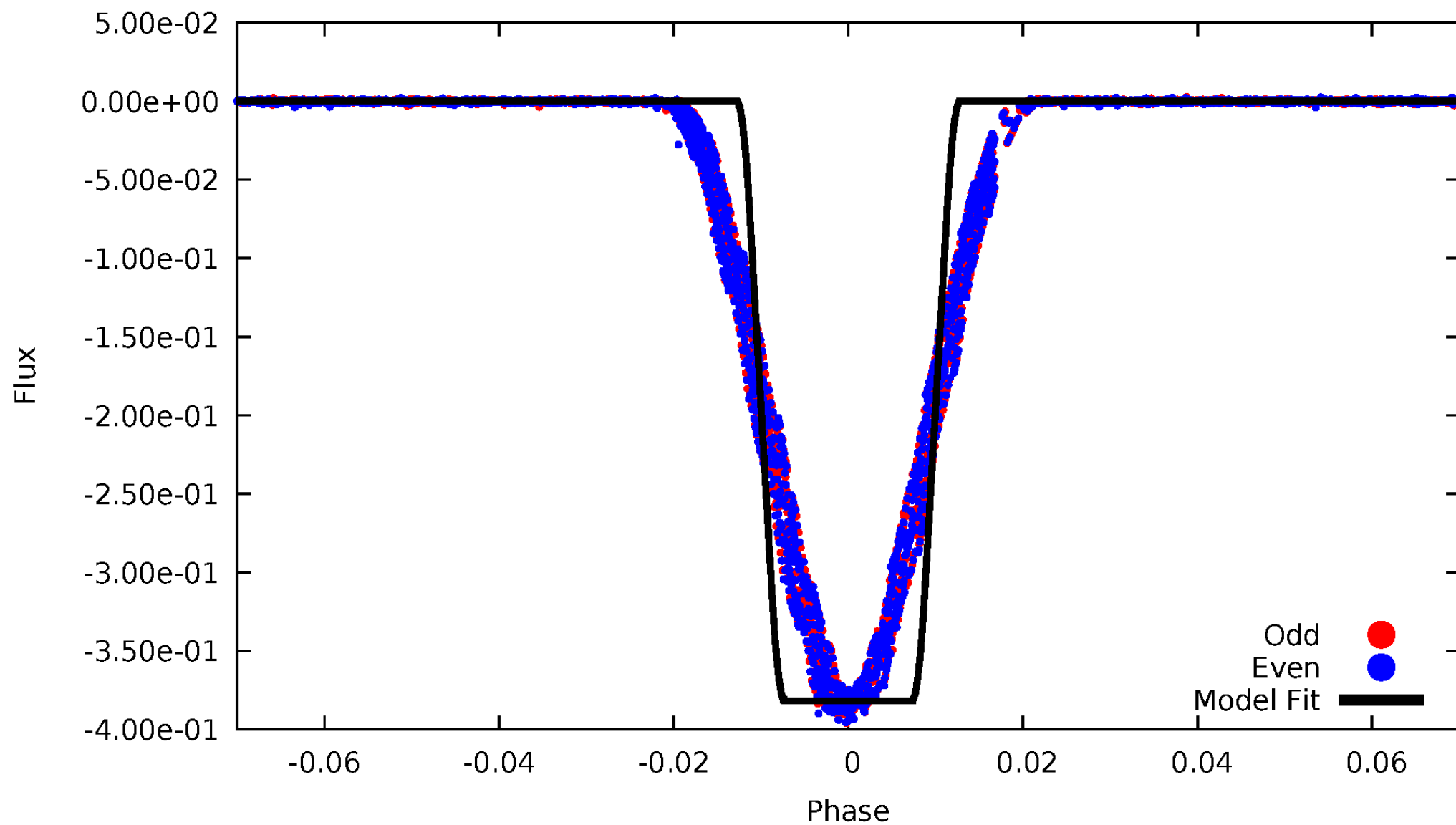
DV Odd/Even

TCE 006591789-01



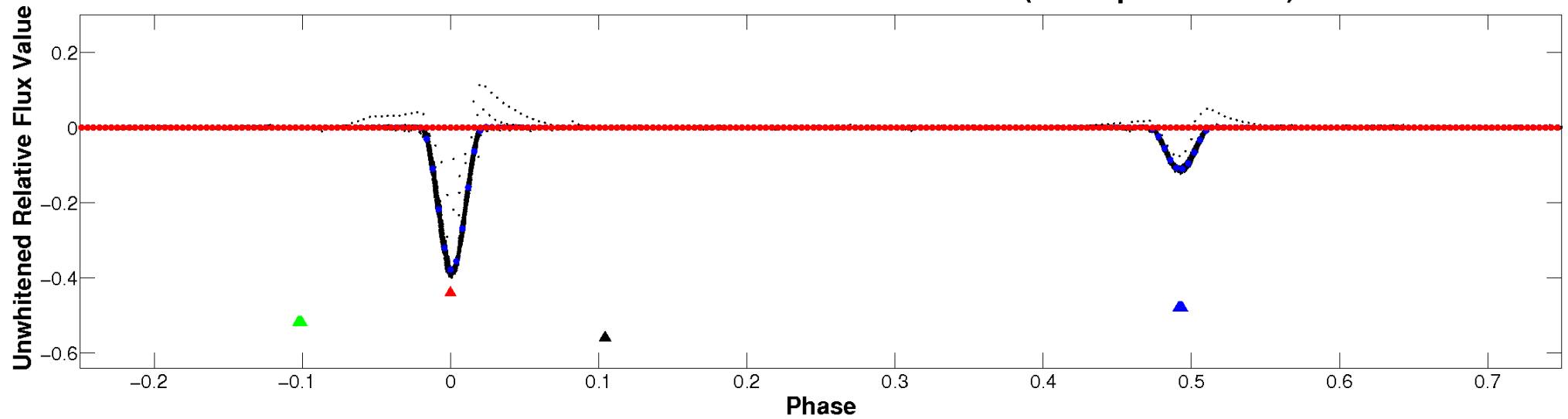
ALT Odd/Even

TCE 006591789-01

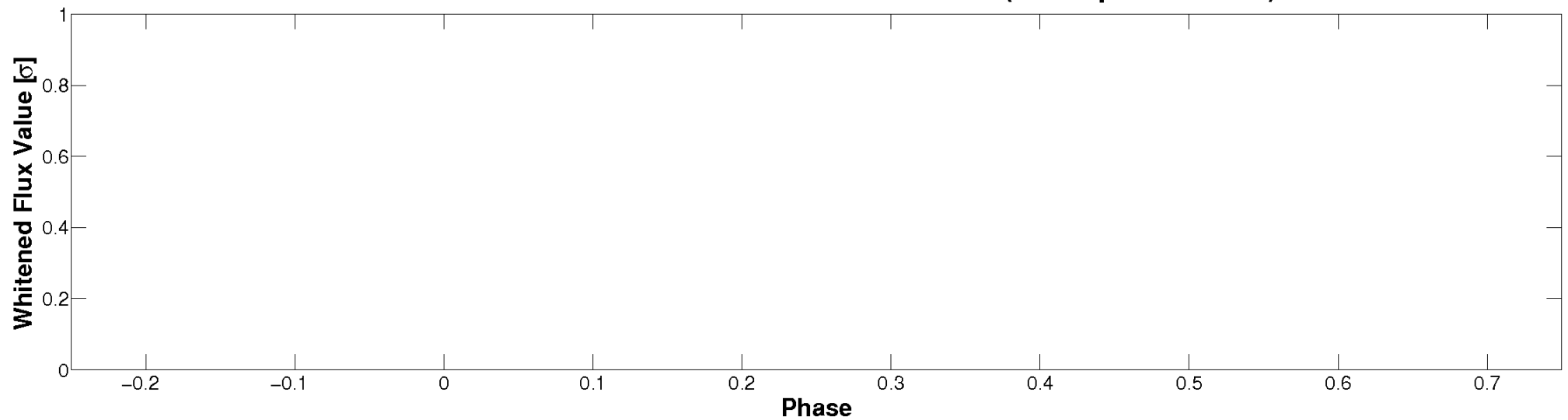


Non-Whitened Vs. Whitened Light Curve

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

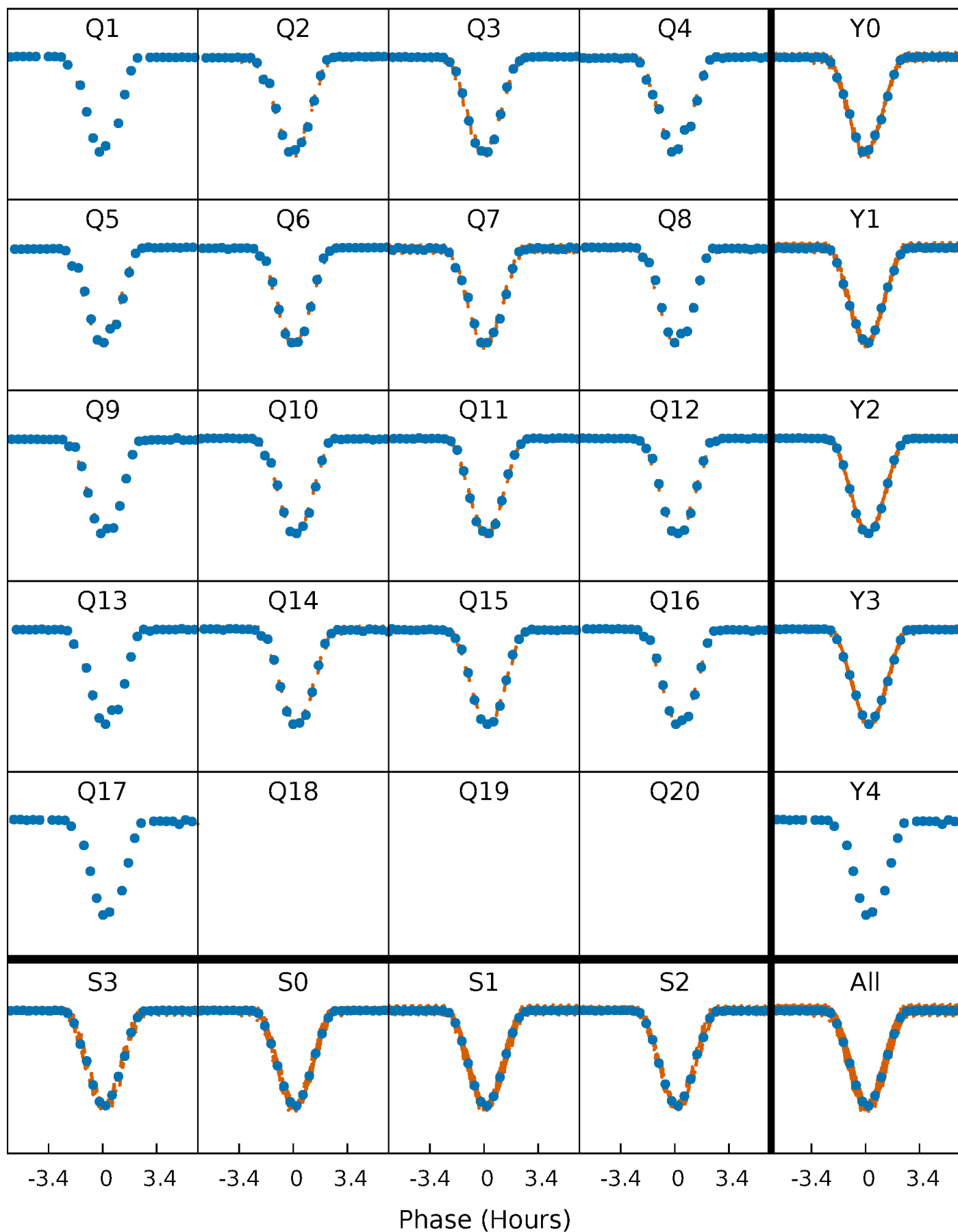


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



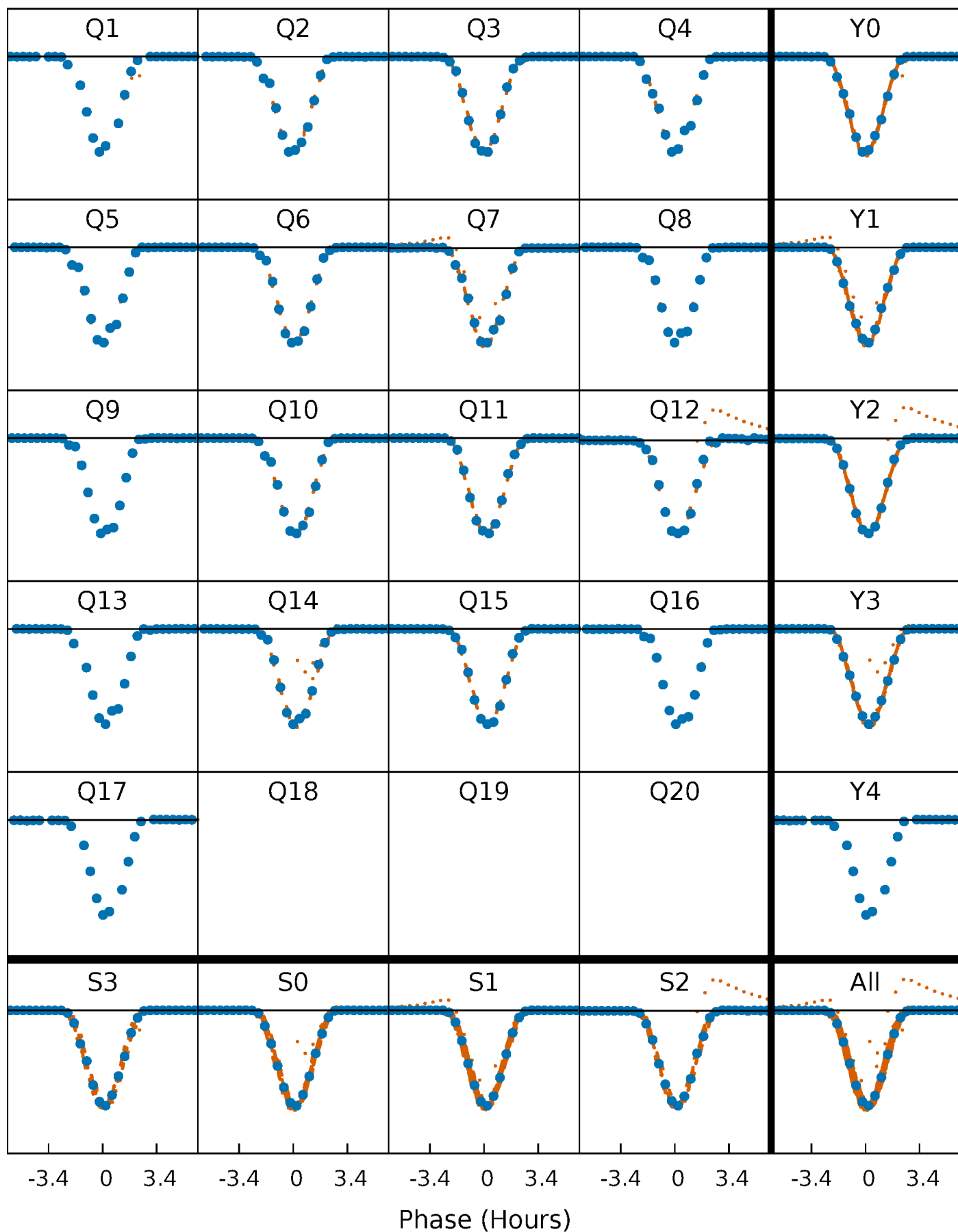
PDC Quarter-Phased Transit Curves

TCE 006591789-01 P= 5.088360 Days $T_0=134.357028$ (BKJD)



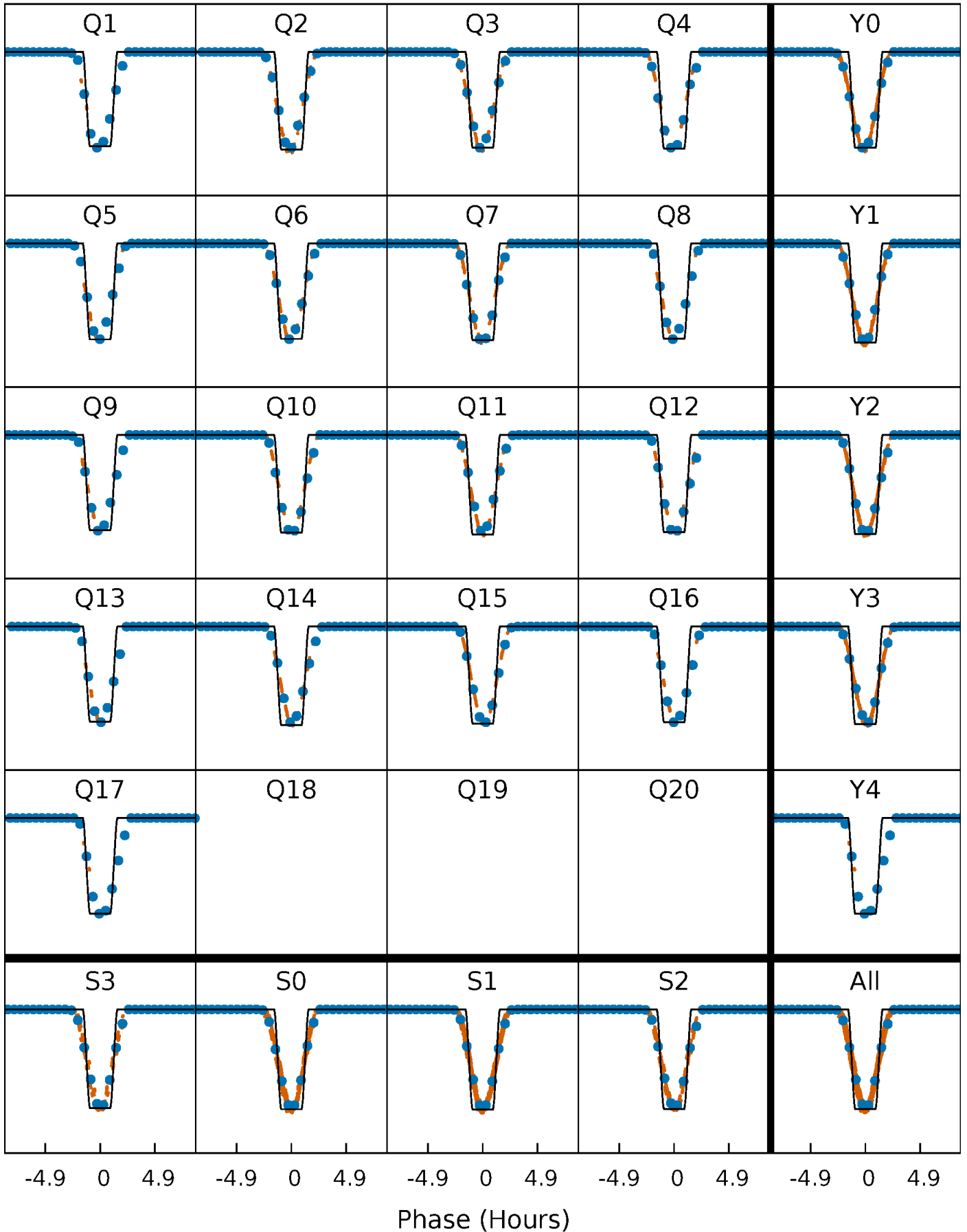
DV Quarter-Phased Transit Curves

TCE 006591789-01 P= 5.088360 Days $T_0=134.357028$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

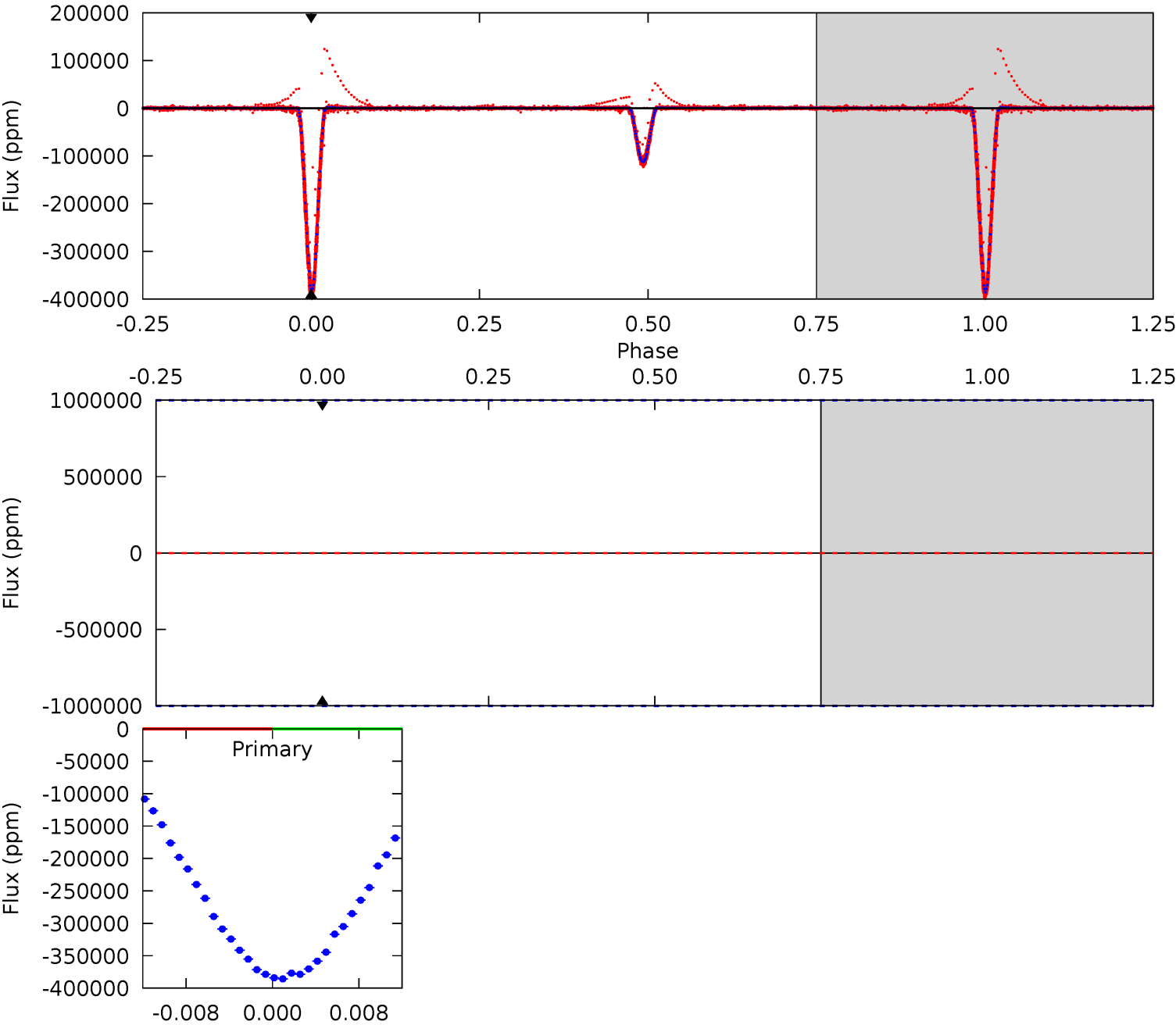
TCE 006591789-01 P= 5.088360 Days $T_0=134.361572$ (BKJD)



DV Model-Shift Uniqueness Test

006591789-01, P = 5.088360 Days, E = 129.268668 Days

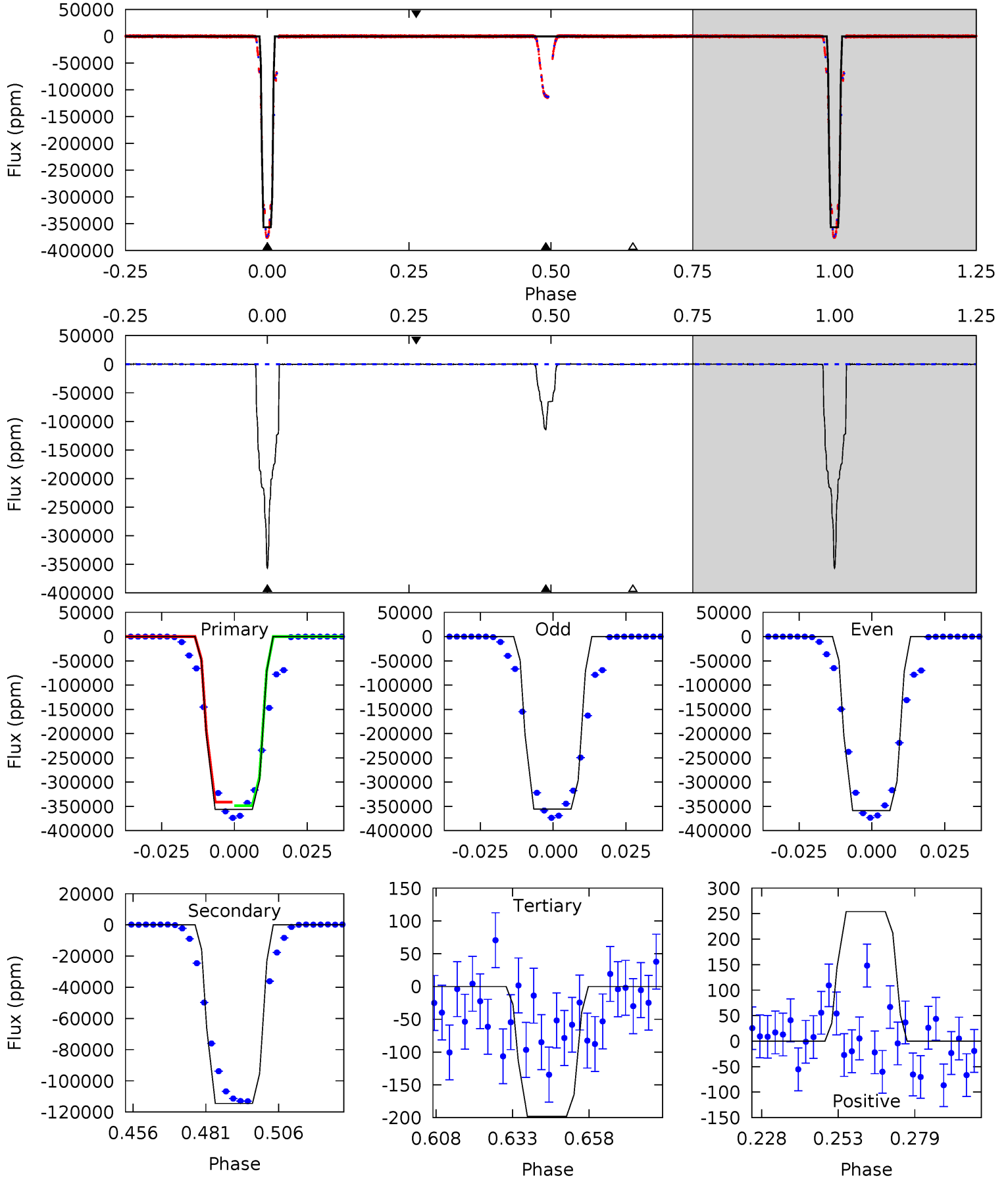
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006591789-01, P = 5.088360 Days, E = 129.273212 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7484	2403	4.16	5.33	4.85	2.24	1.65	7480	7479	2399	2398	31.1	1.00	0.00	0



Stellar Parameters For KIC 006591789

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5618^{+152}_{-152}	$4.583^{+0.038}_{-0.152}$	$-0.280^{+0.300}_{-0.300}$	$0.791^{+0.181}_{-0.065}$	$0.884^{+0.088}_{-0.107}$	$2.517^{+0.493}_{-1.098}$
	+3%/-3%	+1%/-3%	+107%/-107%	+23%/-8%	+10%/-12%	+20%/-44%
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 006591789-01 / KOI 6735.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$44.21^{+10.67}_{-9.24}$	1334^{+75}_{-52}	2851^{+1968}_{-7455}	$4.771^{+92.331}_{-82.985}$
Alt.	-114476 ± 48	$56.44^{+10.12}_{-9.88}$	1335^{+69}_{-53}	4443^{+326}_{-241}	67^{+31}_{-18}

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

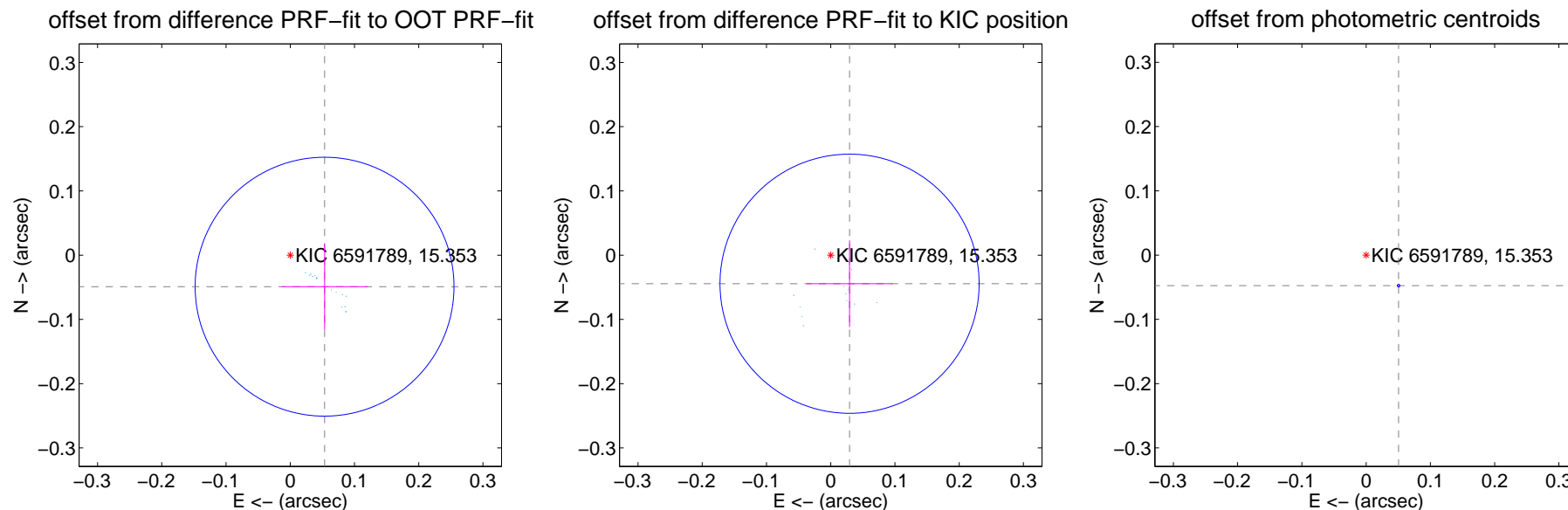
DV Centroid Data

Supplemental centroid analysis for 006591789-01. Kepler magnitude: 15.35. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

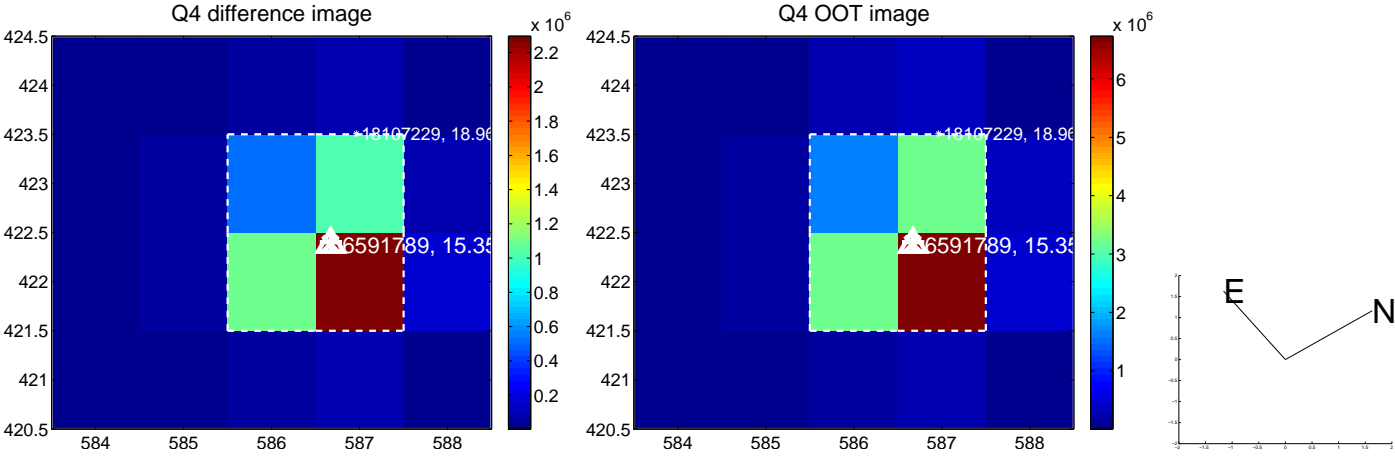
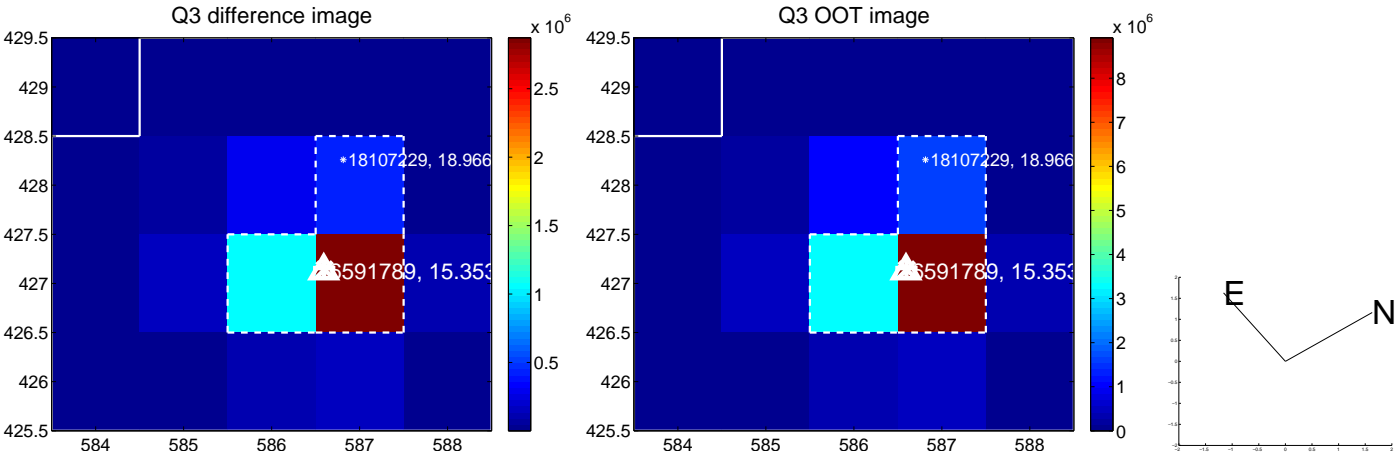
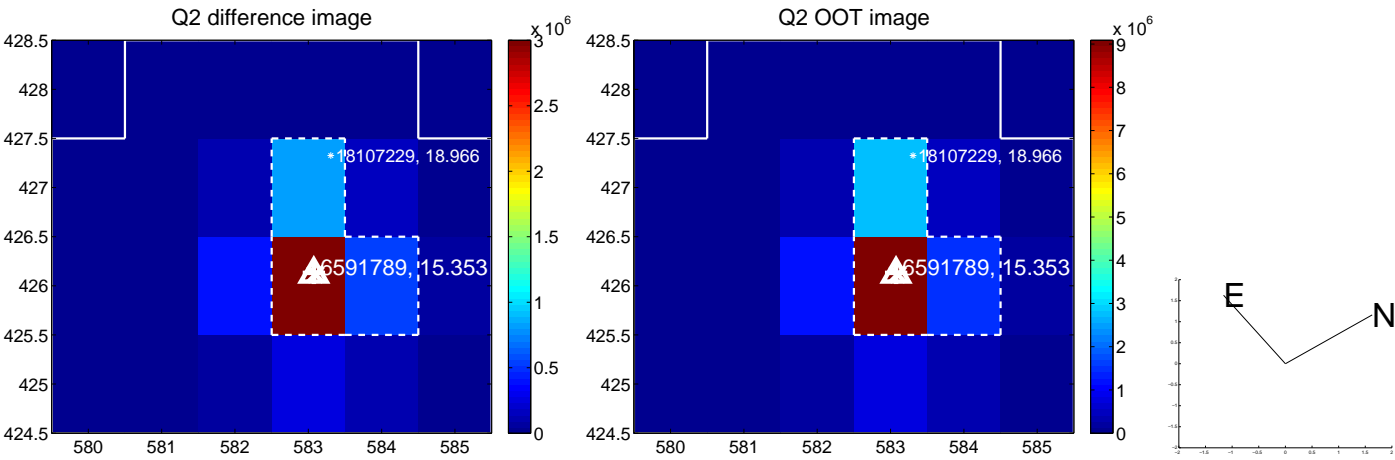
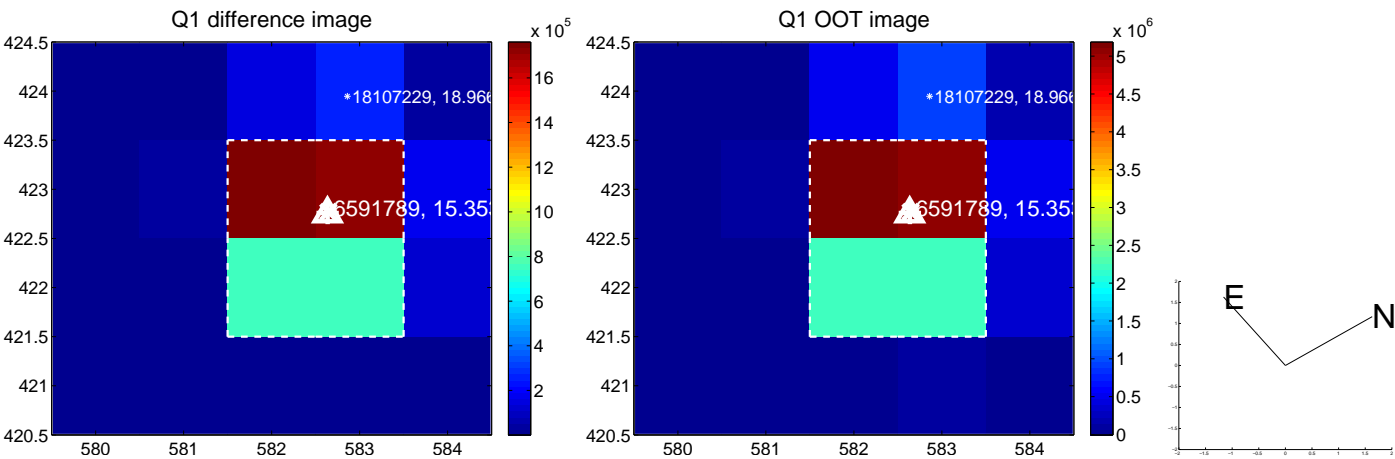
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.073 ± 0.067	1.08	-0.053 ± 0.067	-0.049 ± 0.067
PRF-fit source offset from KIC position	0.053 ± 0.067	0.79	-0.029 ± 0.067	-0.044 ± 0.067
photometric centroid source offset	0.07 ± 0.00	103.55	-0.05 ± 0.00	-0.05 ± 0.00

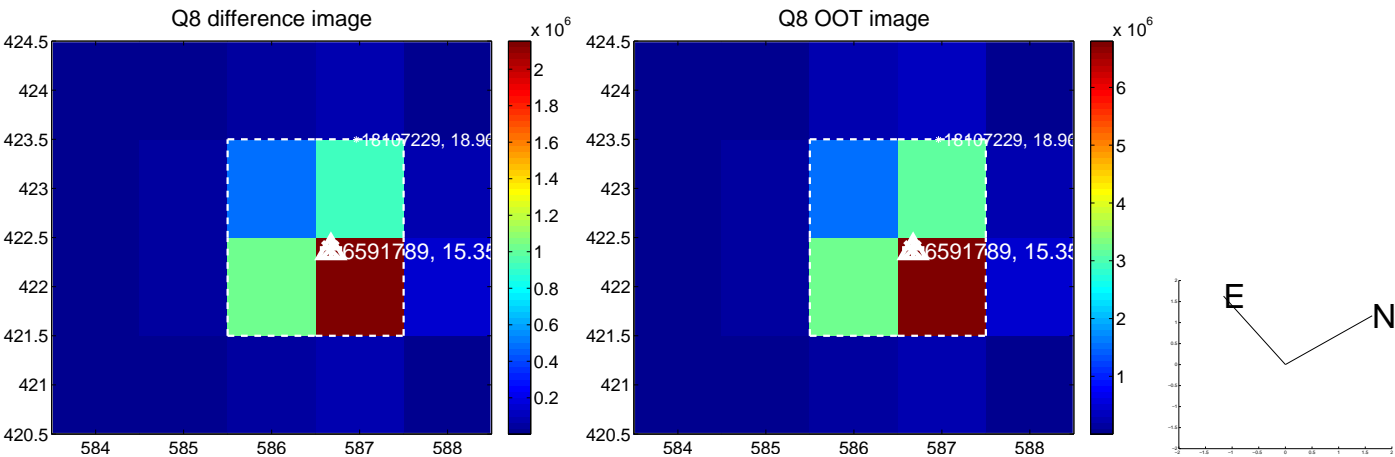
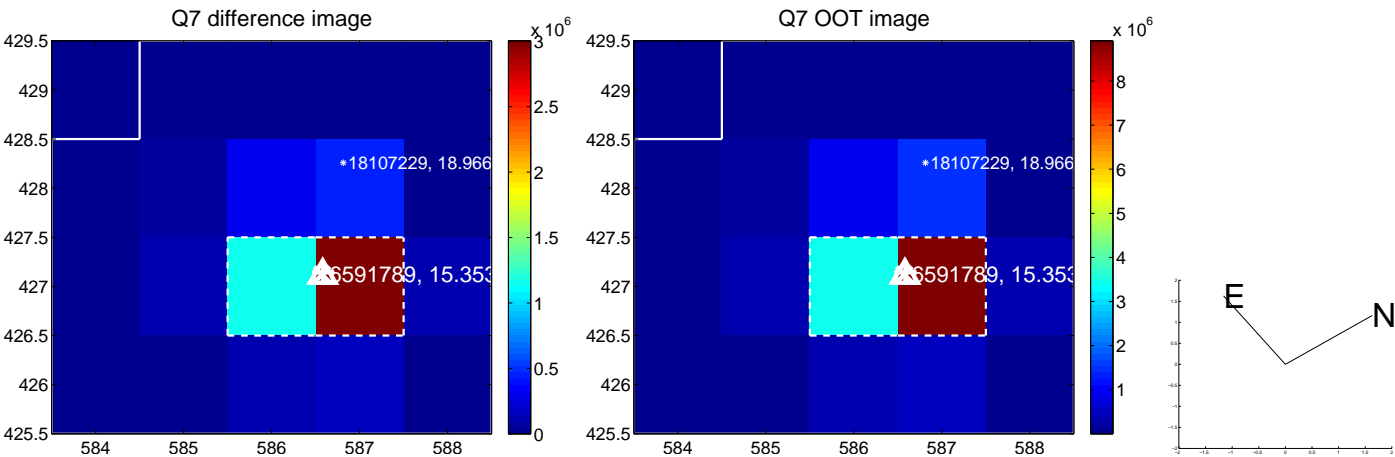
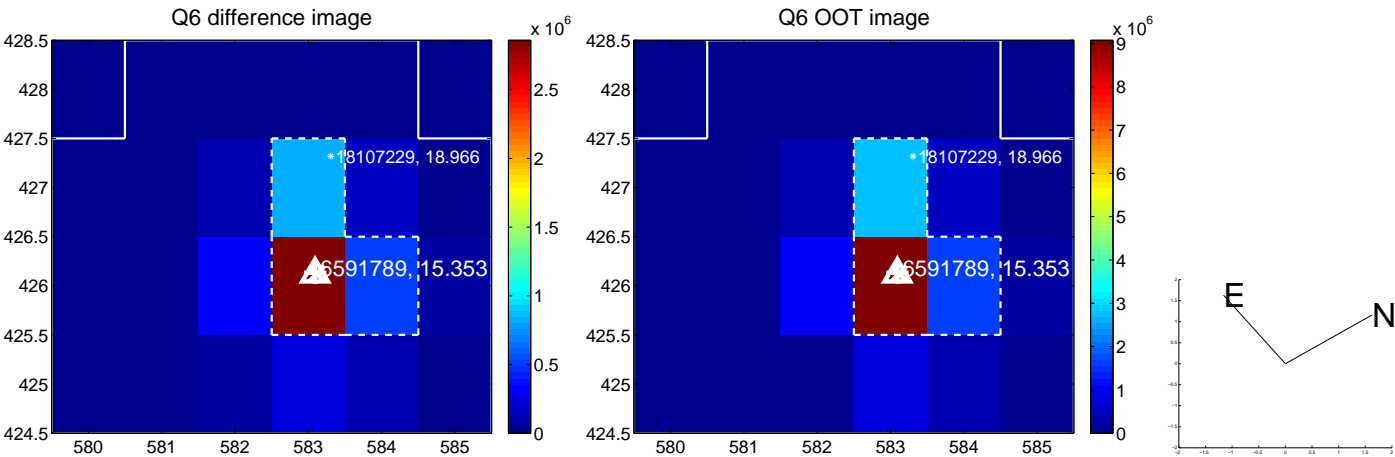
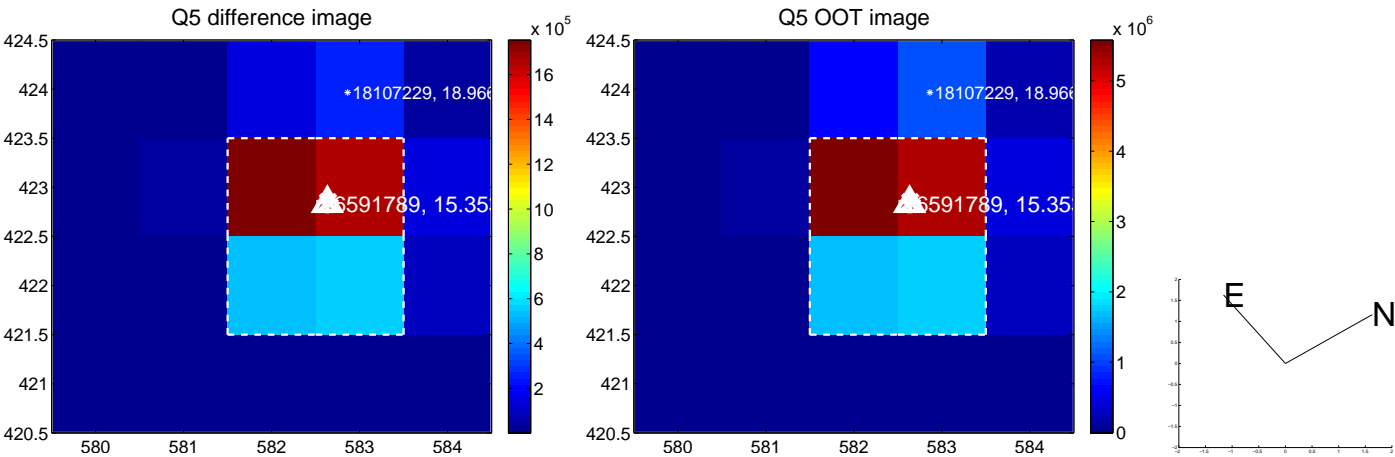


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

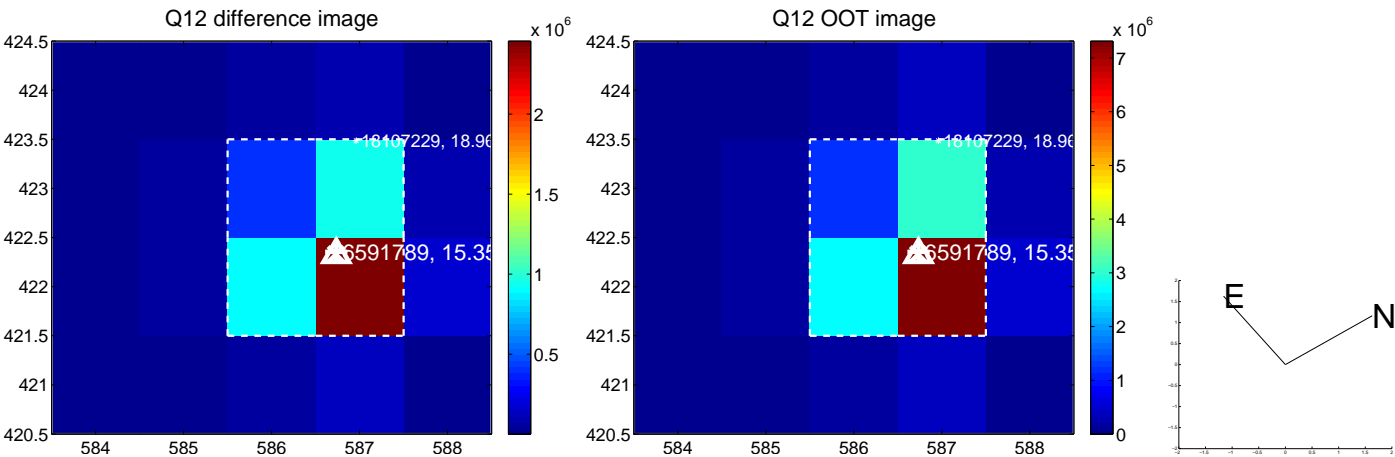
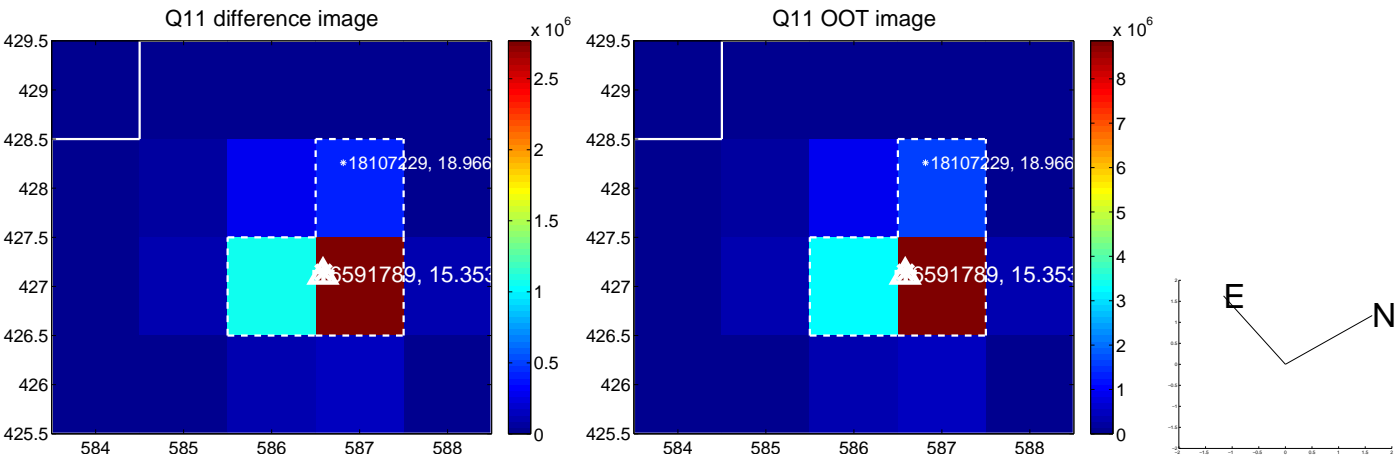
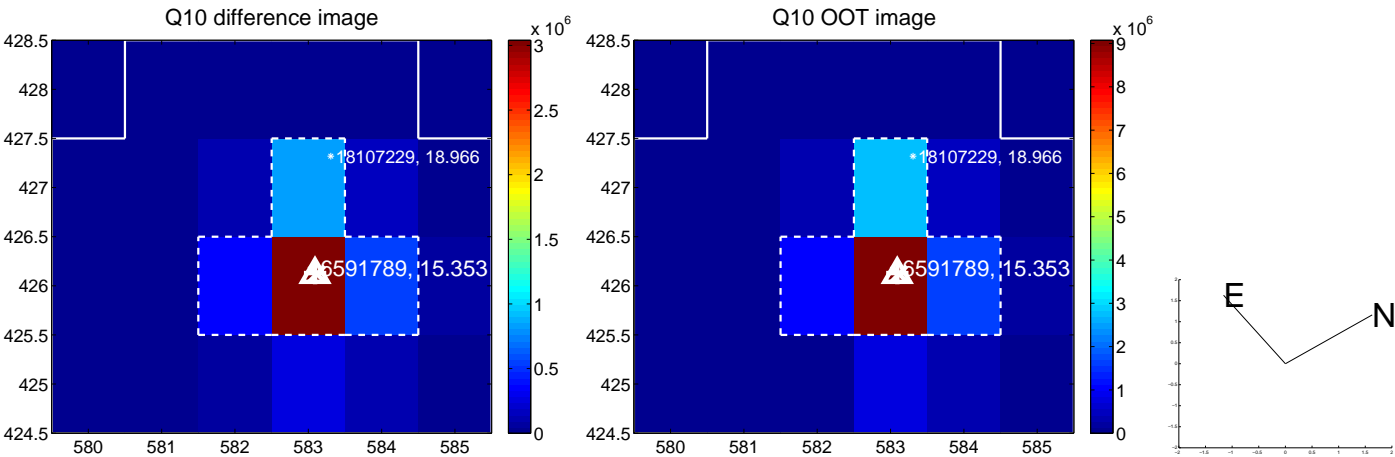
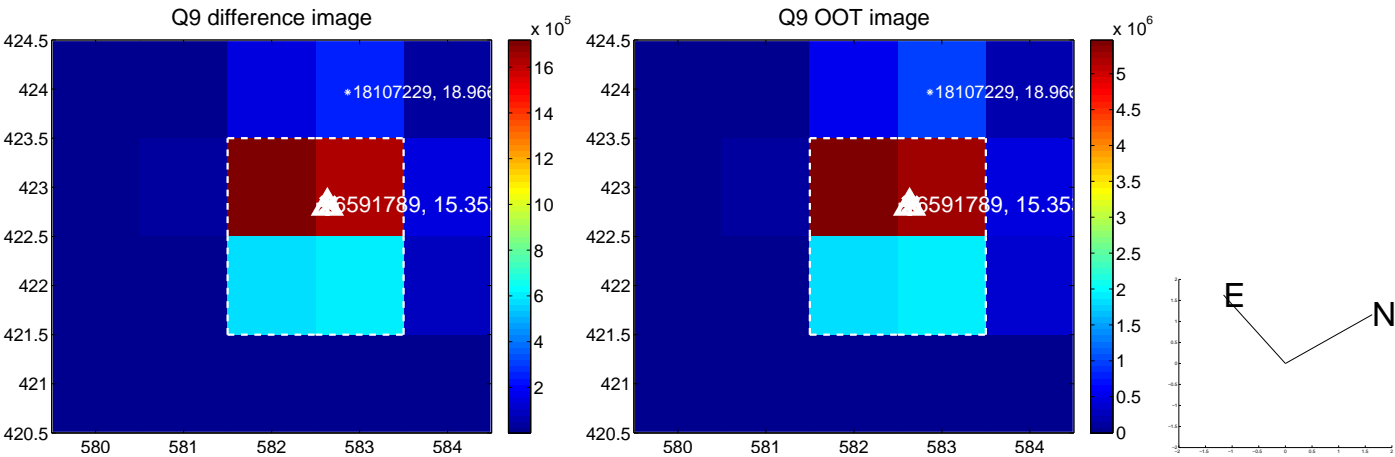
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



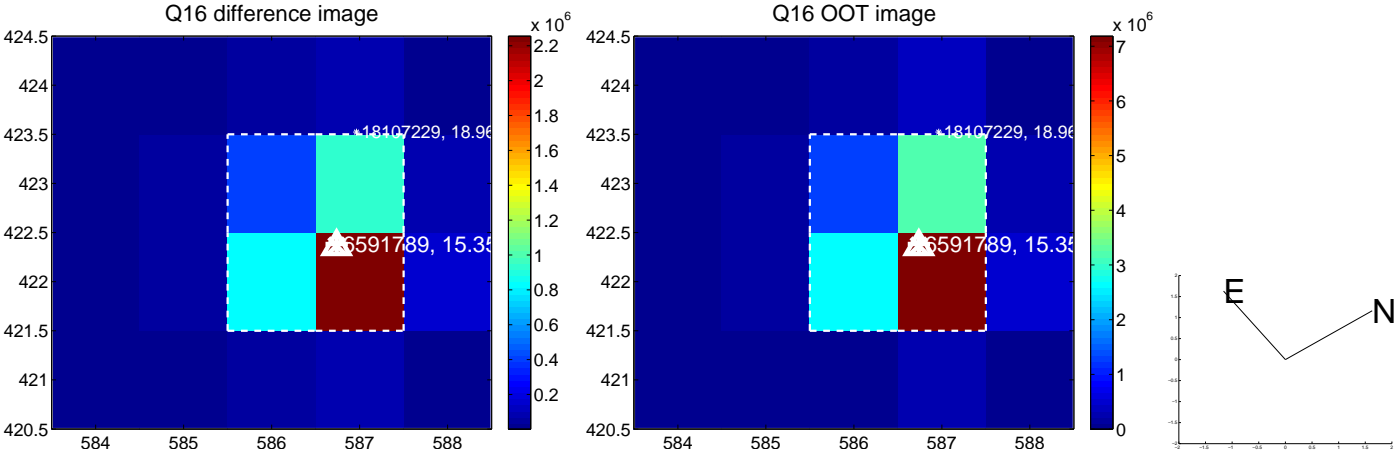
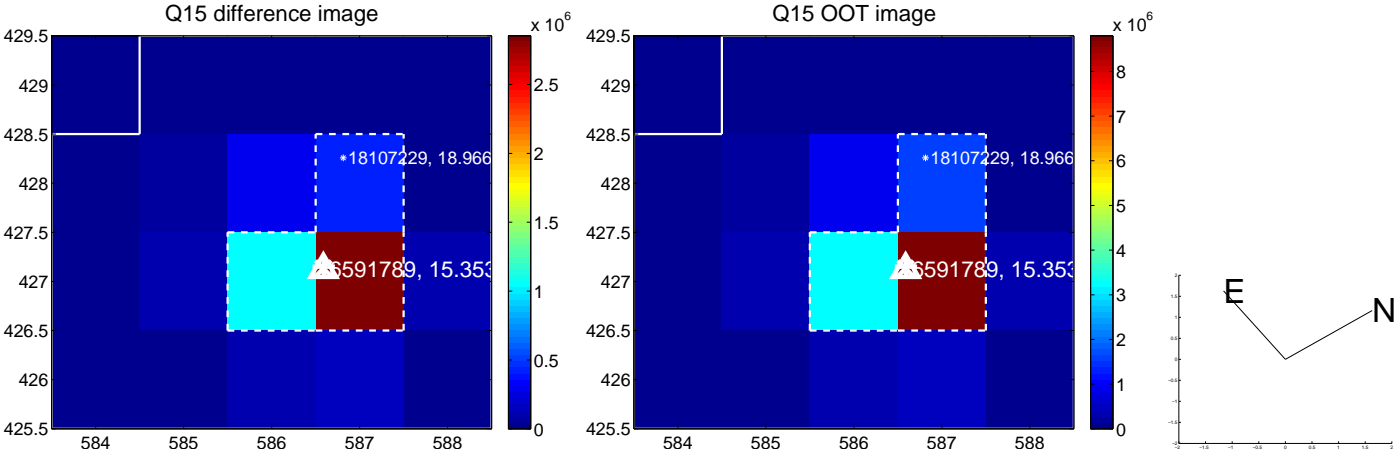
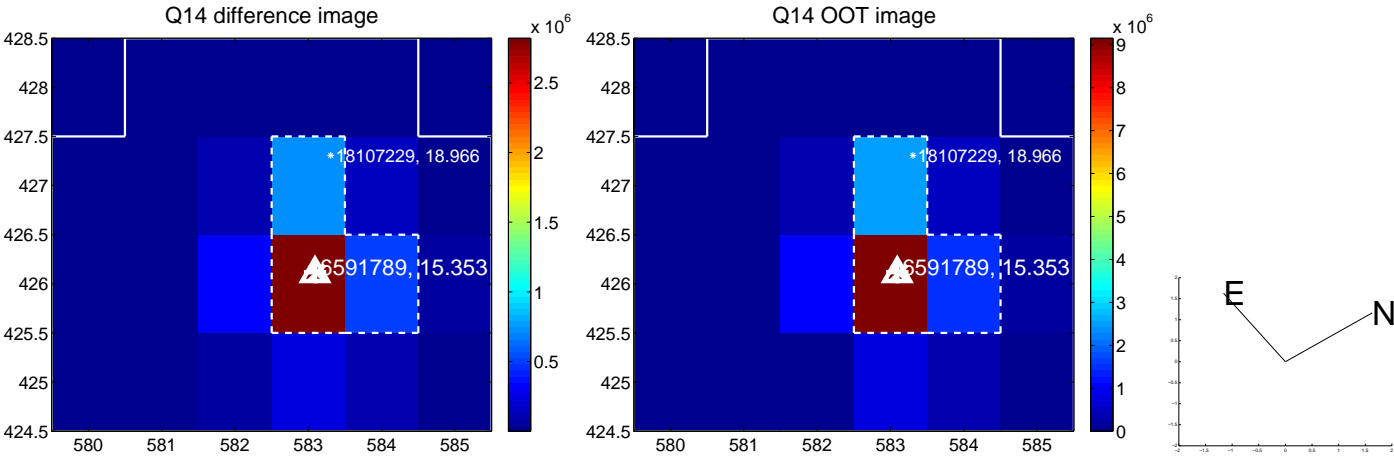
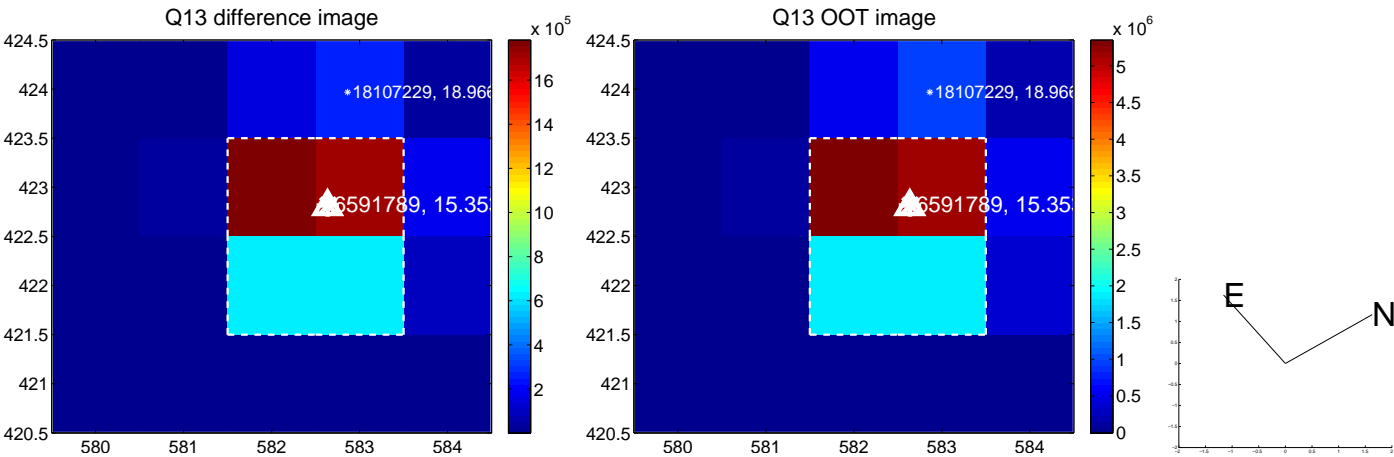
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



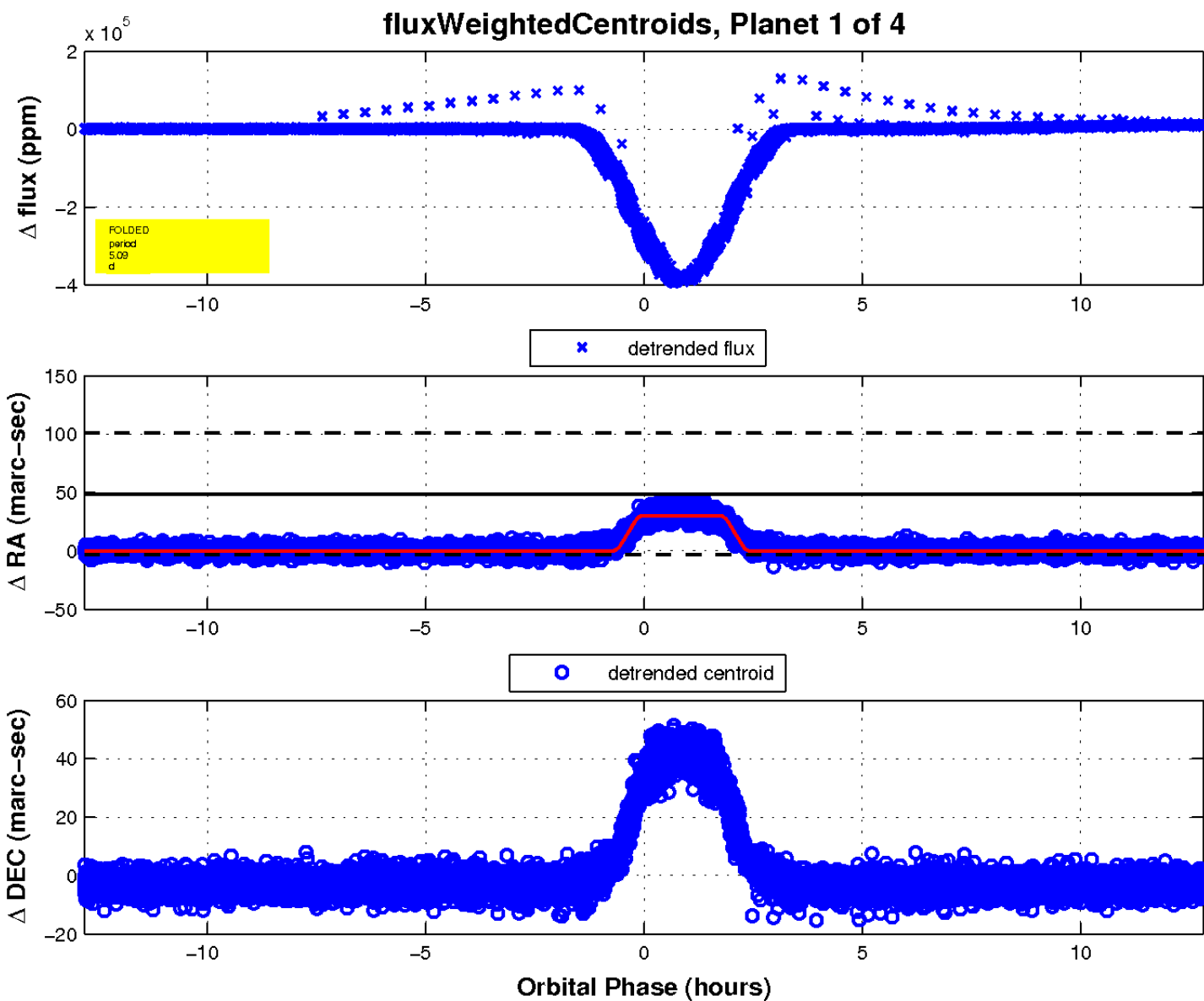
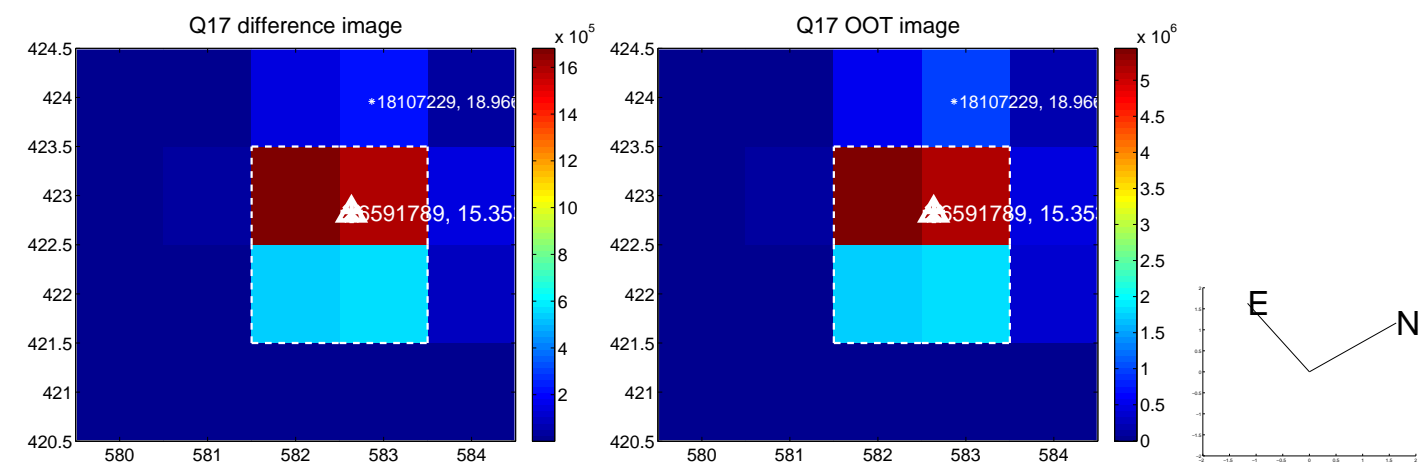
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

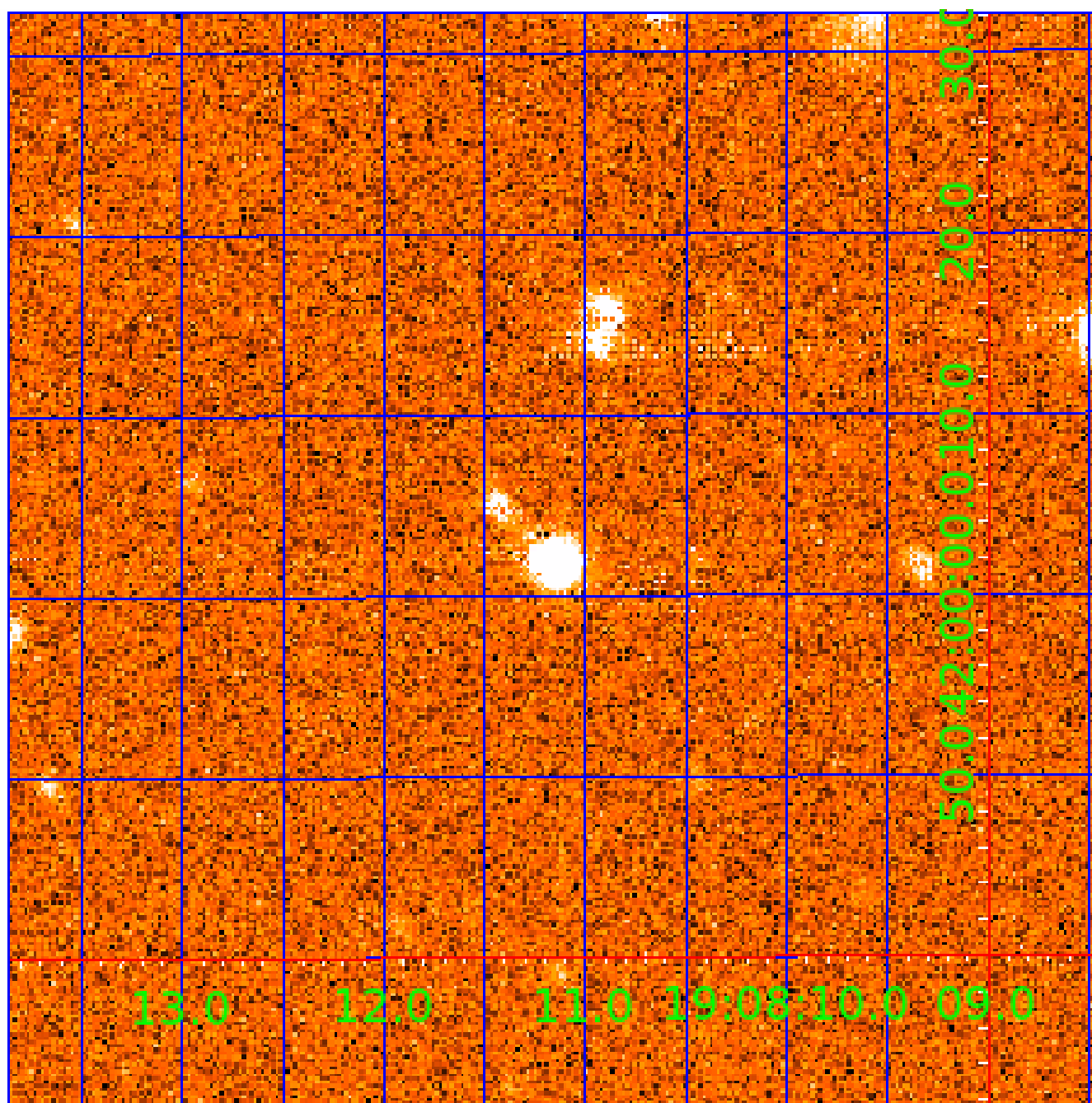


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006591789

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})
006591789-01	OBS	6735.01	5.088360	134.357028	384668.8	3.000	16250.9	-1.0	0.79	5618	43.16	182.21
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006591789-03	OBS	No	5.088406	133.833608	9798.0	7.500	507.4	-1.0	0.79	5618	7.75	182.21
006591789-04	OBS	No	5.088368	134.886976	10482.5	14.251	239.8	175.9	0.79	5618	14.61	182.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006591789-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
006591789-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
006591789-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS
006591789-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—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.

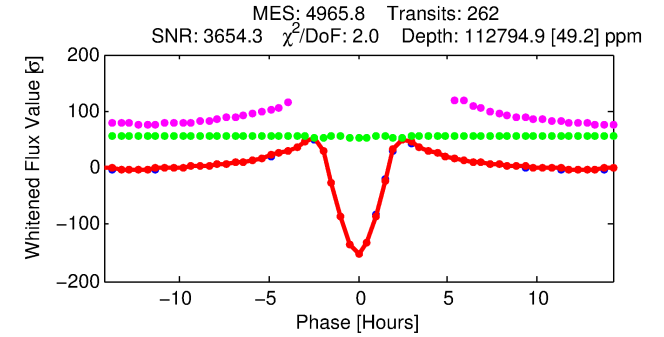
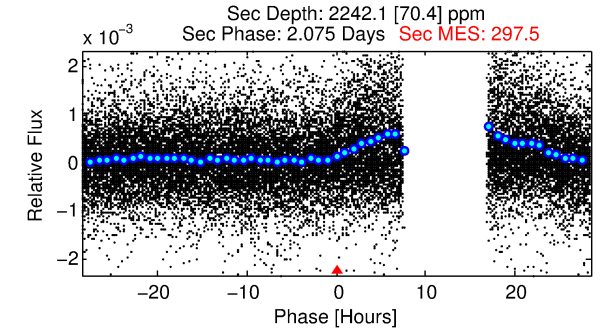
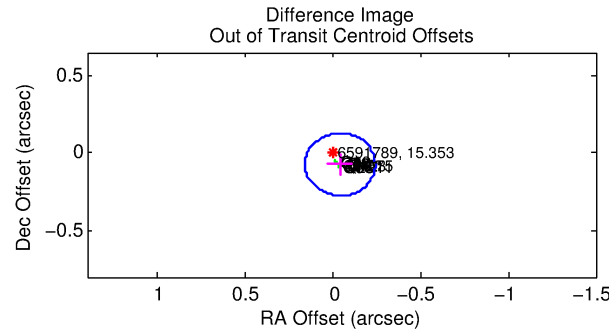
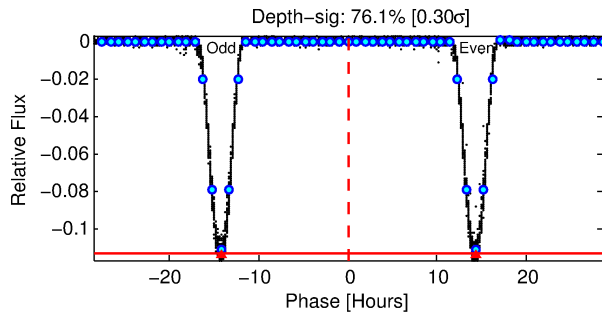
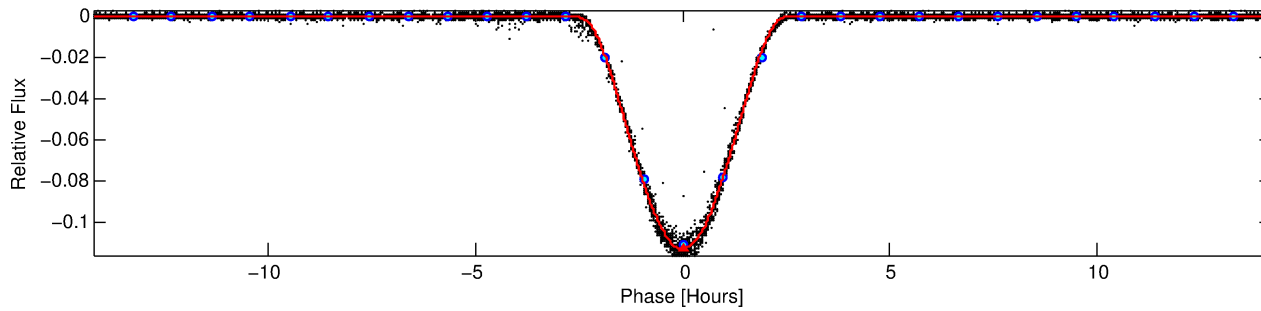
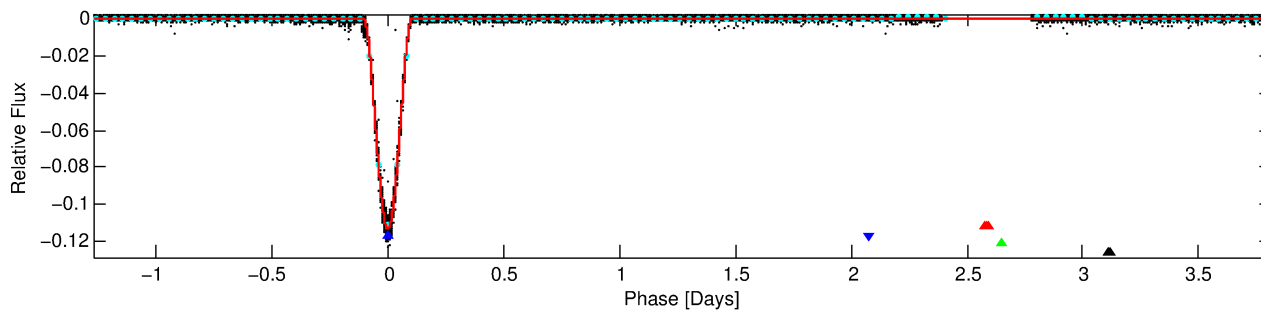
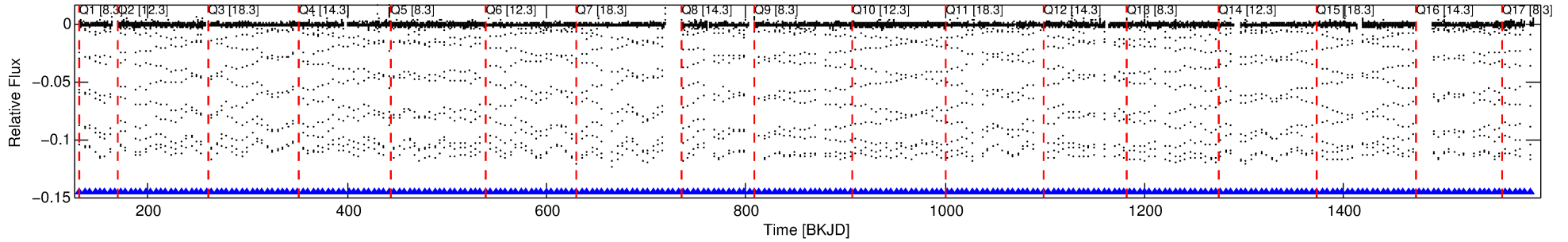
Ephemeris Match Information For 006591789-02

No Significant Match Found

DV One-Page Summary

KIC: 6591789 Candidate: 2 of 4 Period: 5.088 d
KOI: K06735 Corr: No Ephemeris Match

Kp: 15.35 R*: 0.79 Rs Teff: 5618.0 K Logg: 4.58 Fe/H: -0.280



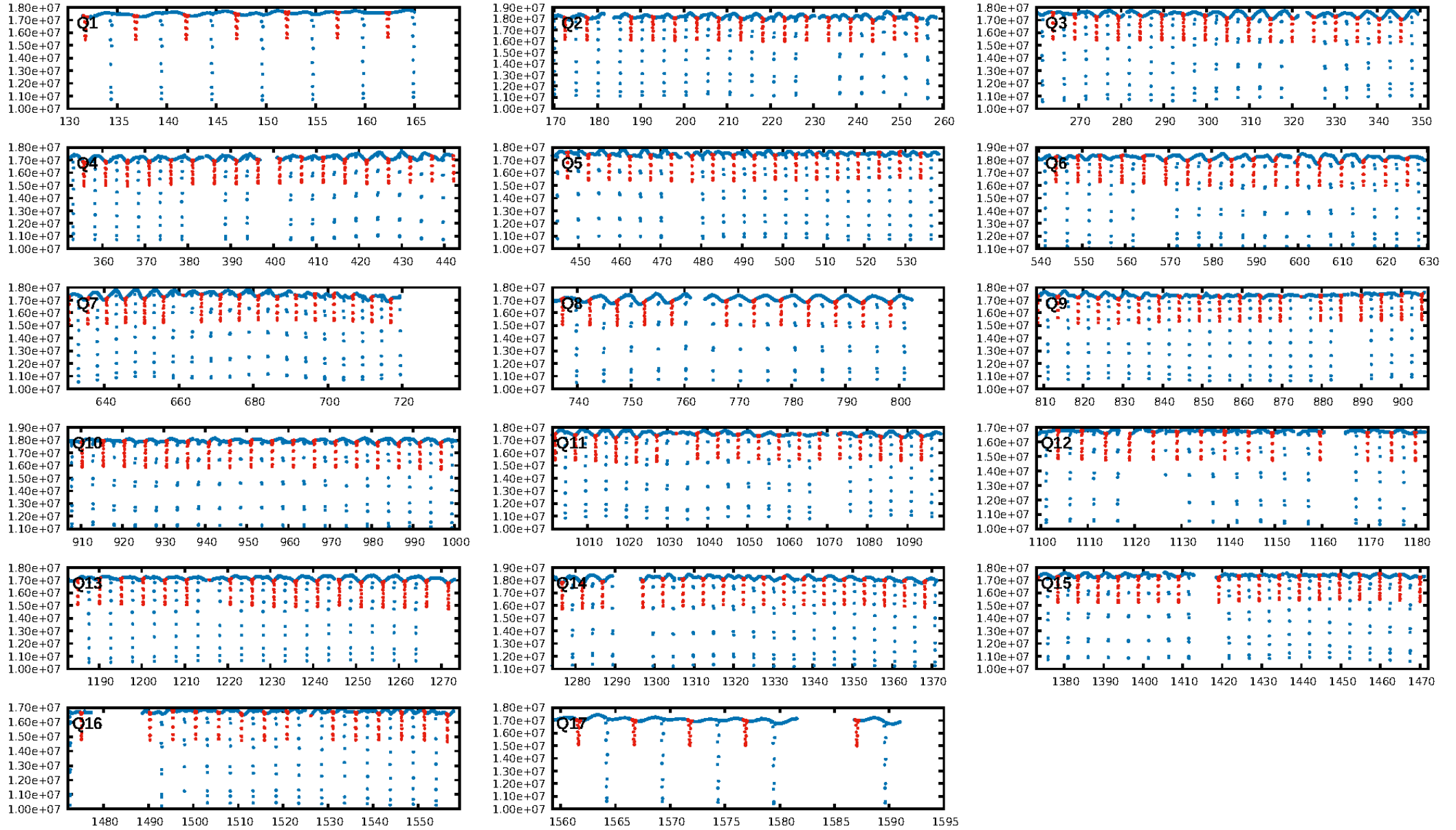
DV Fit Results:

Period = 5.08840 [0.00000] d
Epoch = 131.7689 [0.0000] BKJD
Rp/R* = 0.4527 [0.0173]
a/R* = 9.42 [0.02]
b = 0.90 [0.02]
Seff = 182.21 [54.49]
Teq = 937 [70] K
Rp = 39.08 [9.07] Re
a = 0.0554 [0.0106] AU
Ag = 2.48 [0.72] [2.05σ]
Teffp = 1817 [62] K [9.42σ]

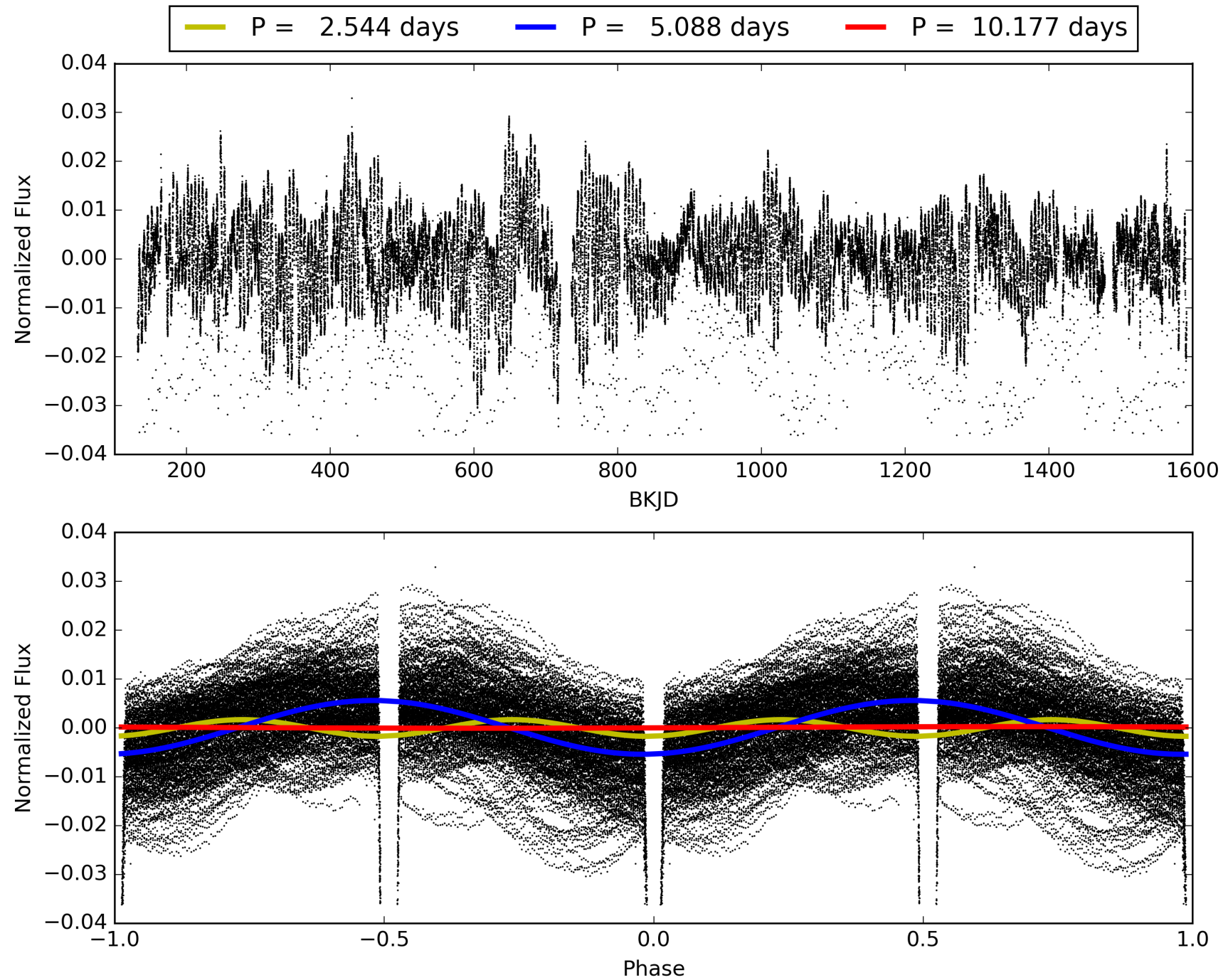
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [250/250]
GhostDiagnostic-chr: 1.938
Centroid-sig: N/A
Centroid-so: 0.084 arcsec [45.39σ]
OotOffset-rm: 0.085 arcsec [1.26σ]
KicOffset-rm: 0.073 arcsec [1.07σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006591789-02, PDC Light Curves

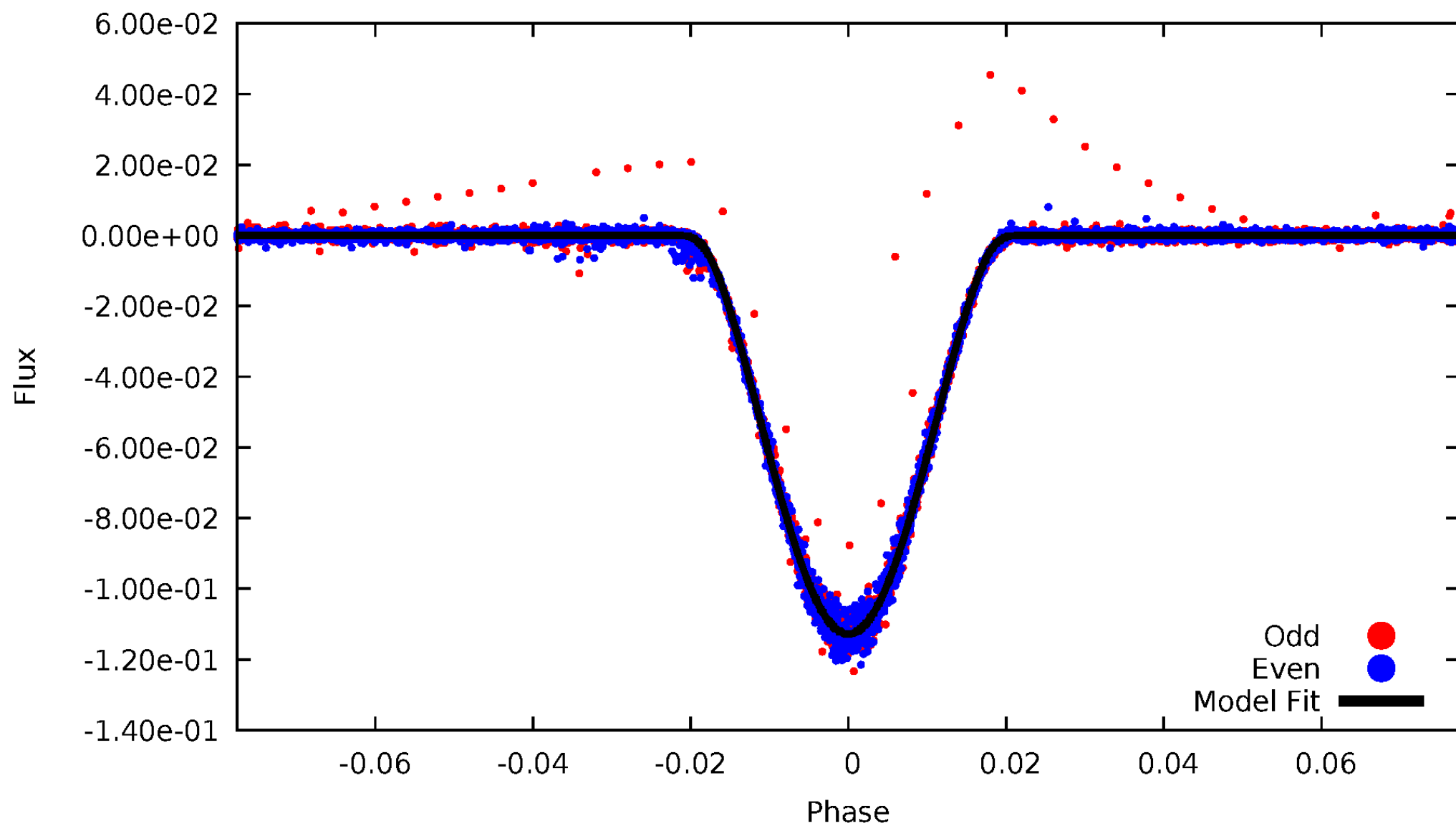


TCE 006591789-02



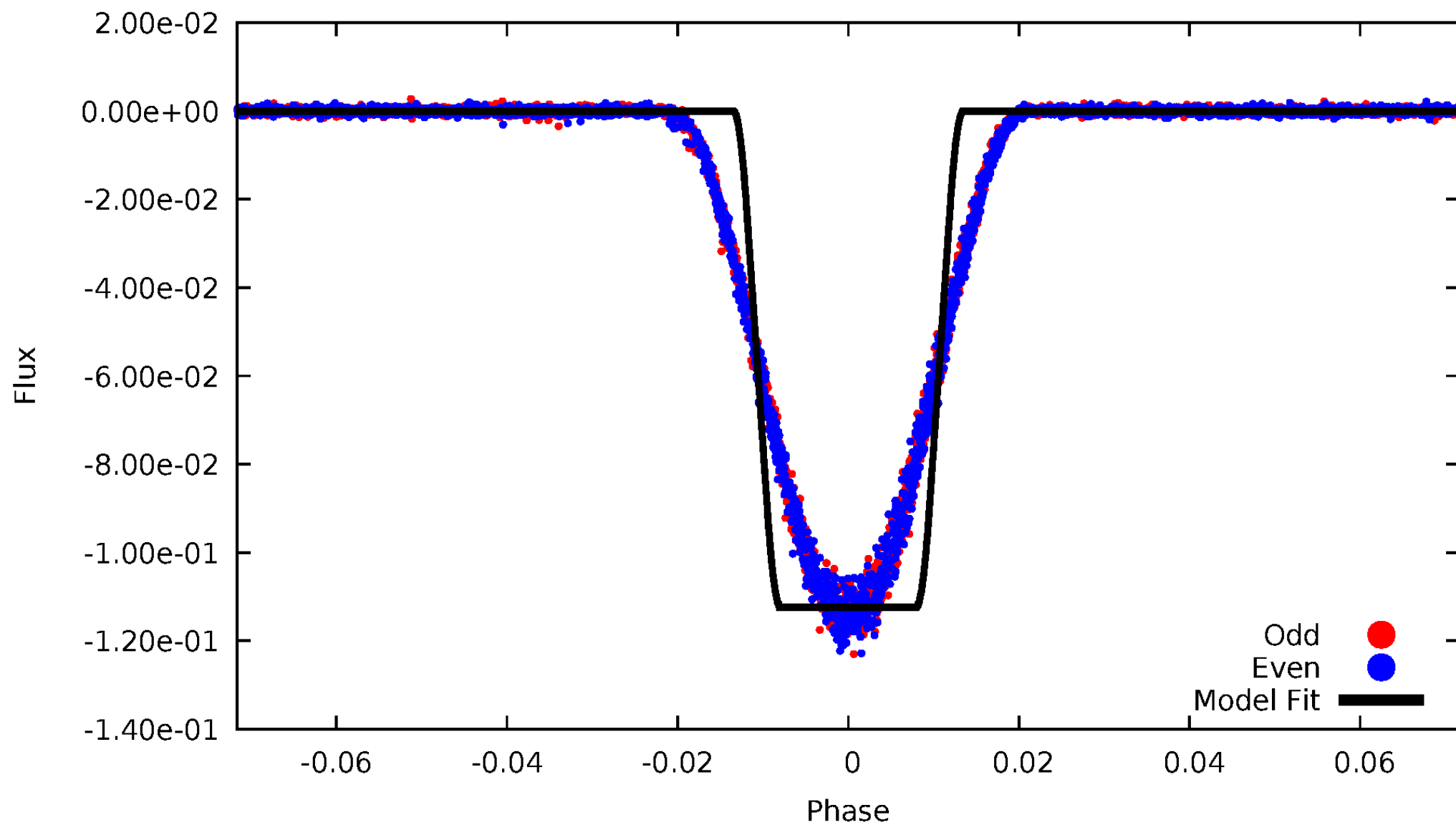
DV Odd/Even

TCE 006591789-02



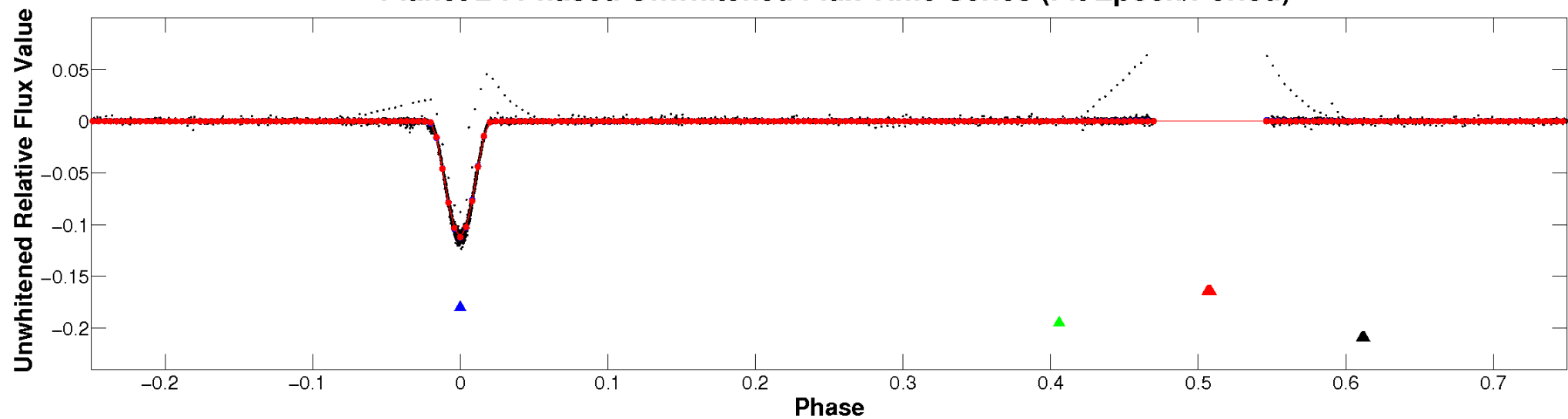
ALT Odd/Even

TCE 006591789-02

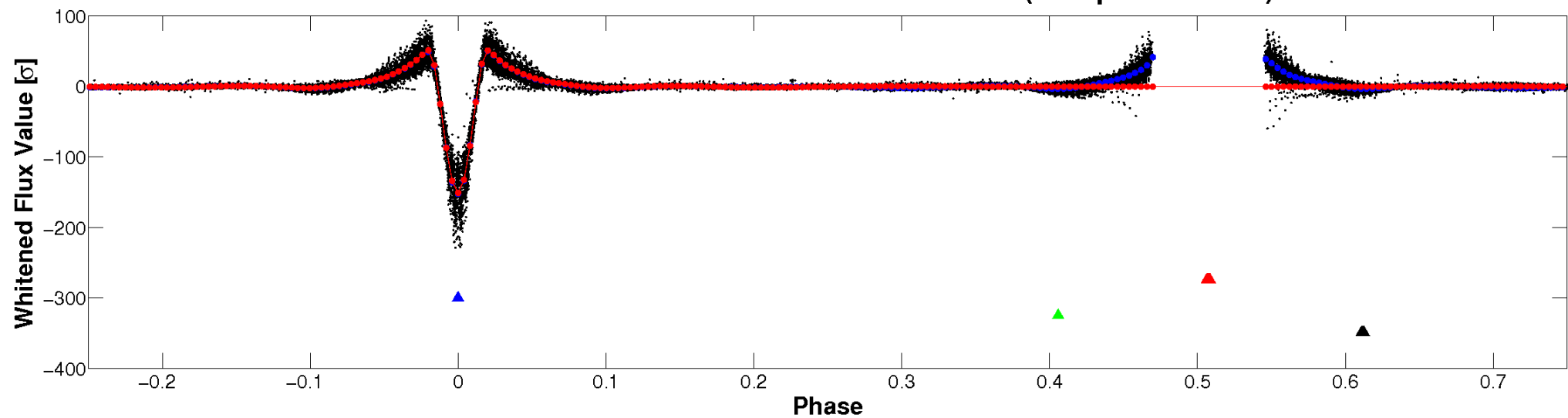


Non-Whitened Vs. Whitened Light Curve

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

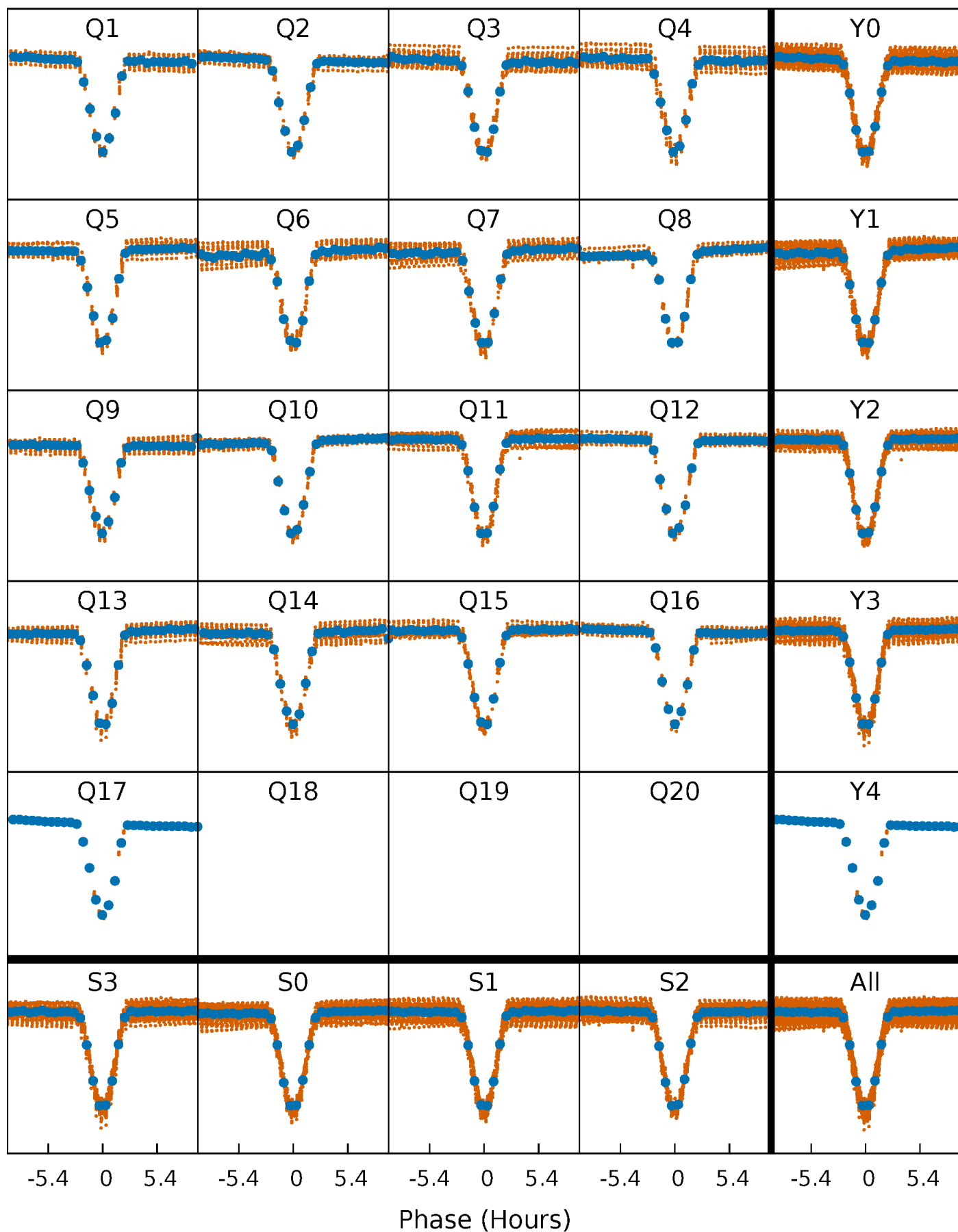


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



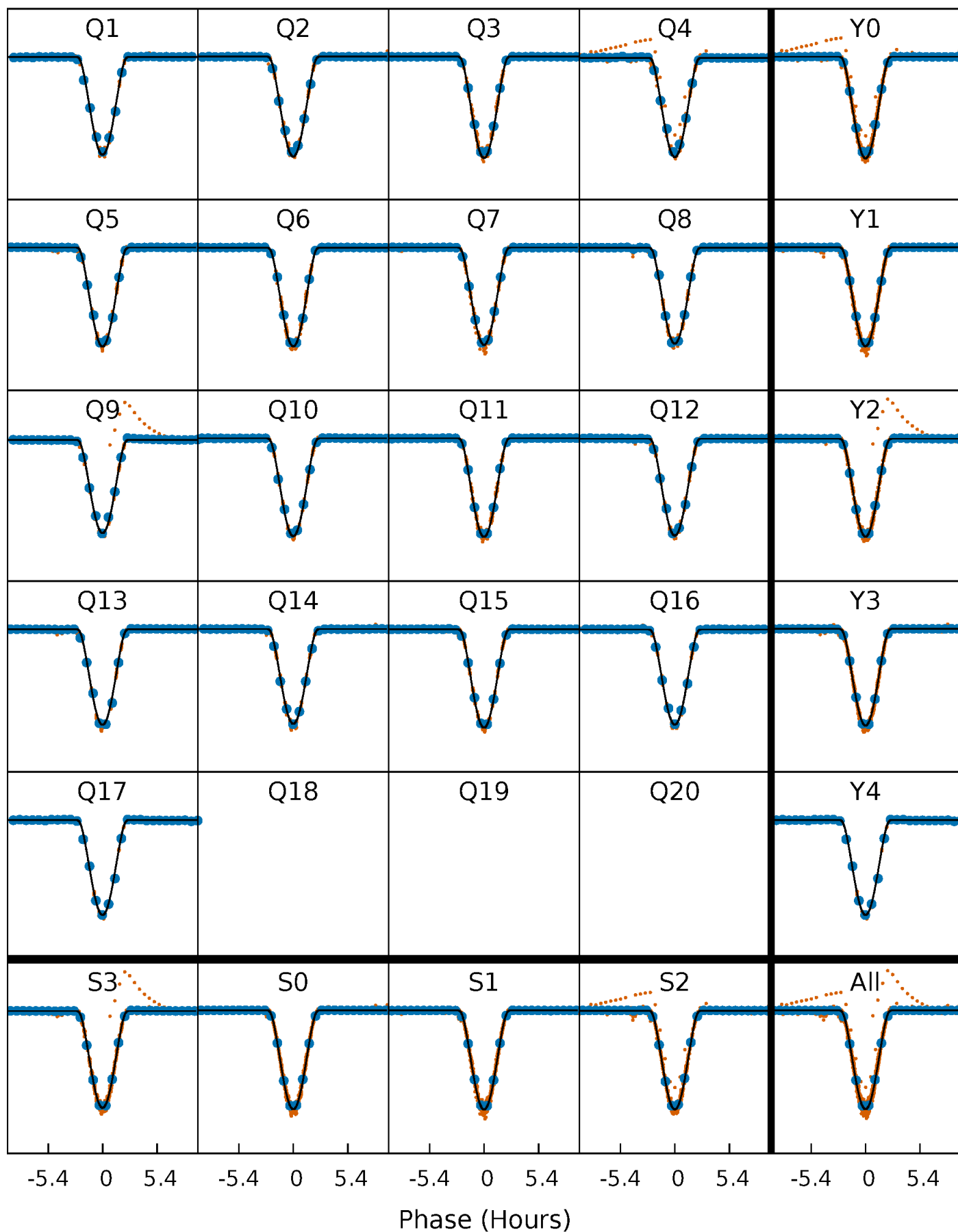
PDC Quarter-Phased Transit Curves

TCE 006591789-02 P= 5.088404 Days $T_0=131.768866$ (BKJD)



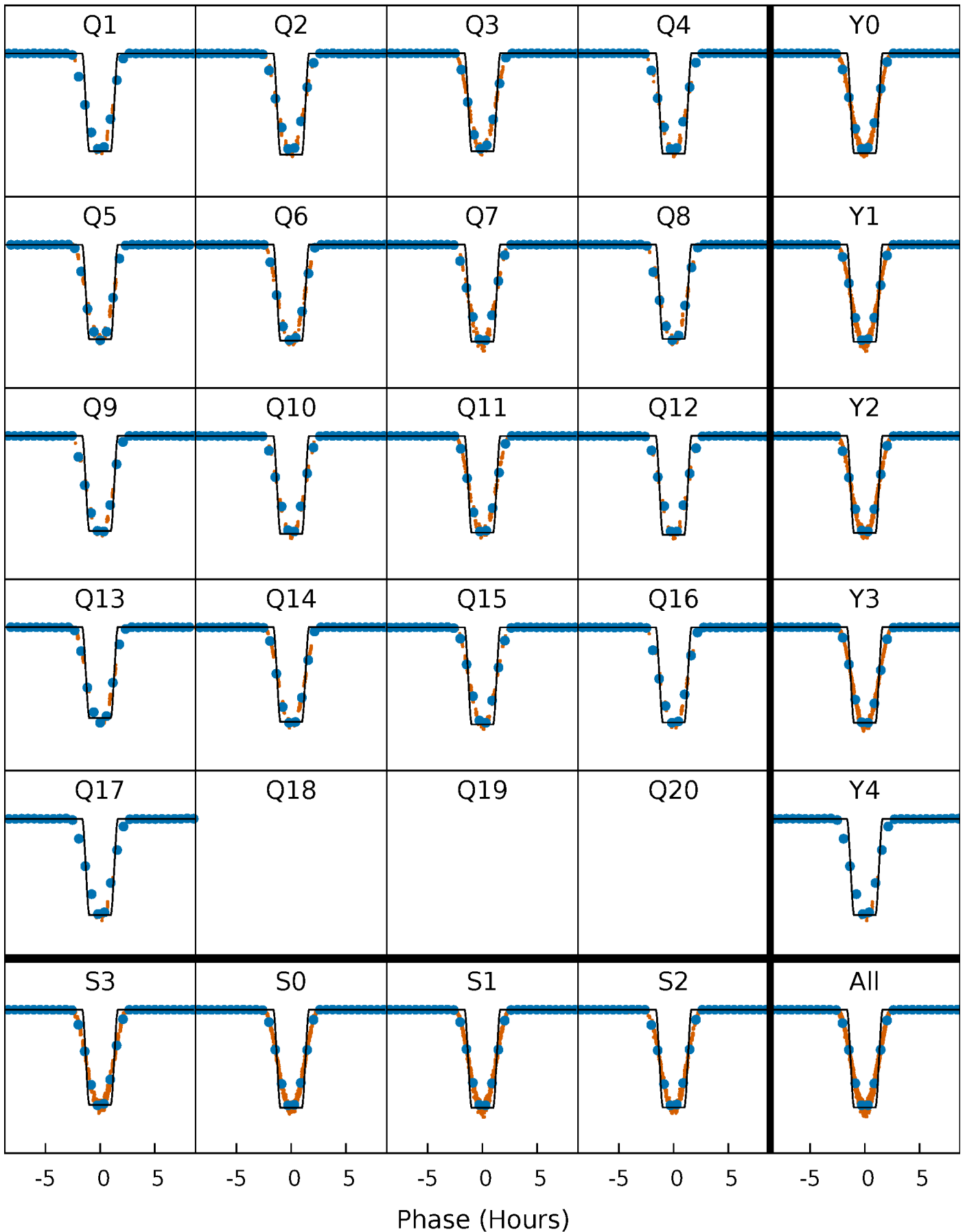
DV Quarter-Phased Transit Curves

TCE 006591789-02 P= 5.088404 Days $T_0=131.768866$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

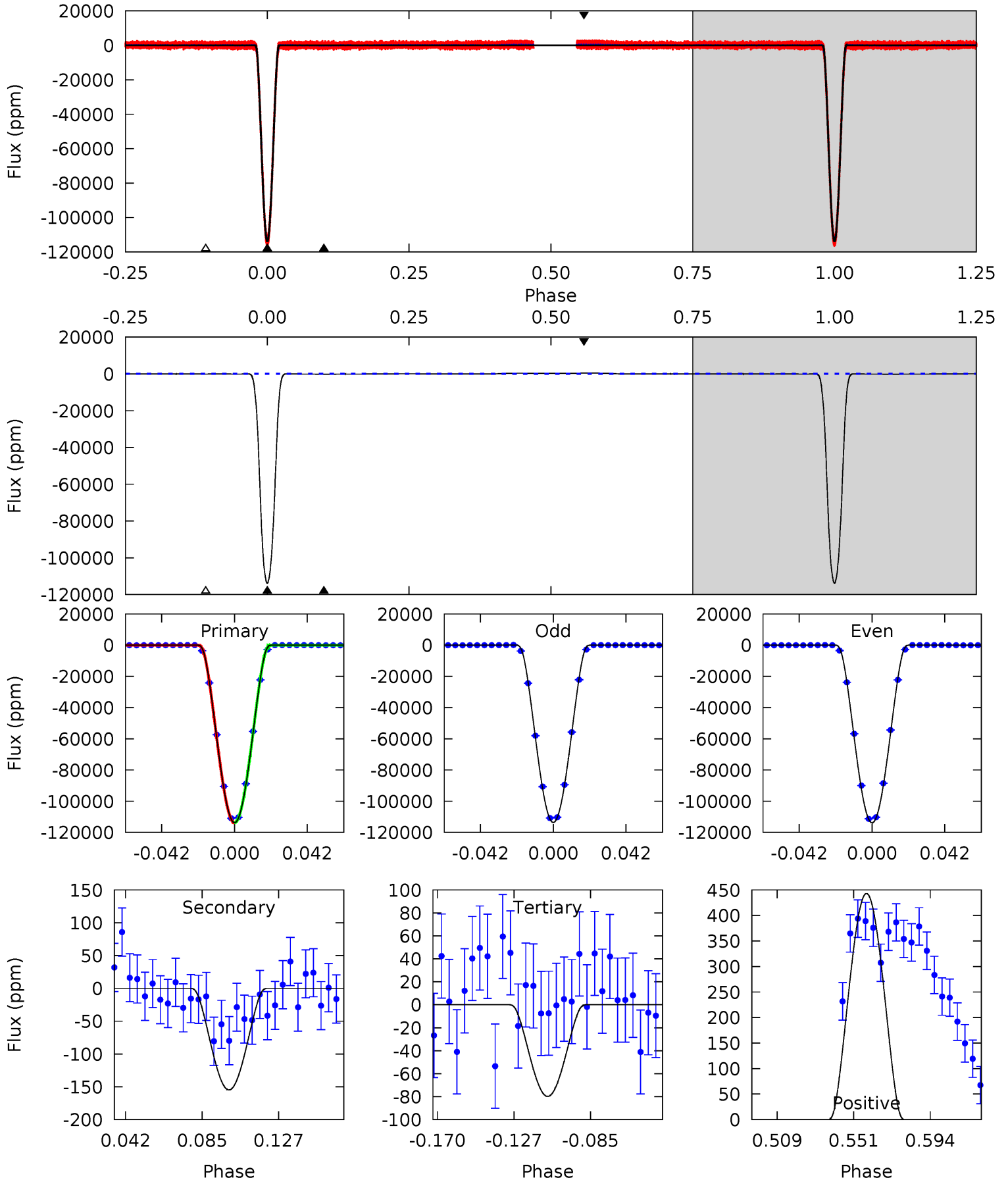
TCE 006591789-02 $P = 5.088392$ Days $T_0 = 131.770407$ (BKJD)



DV Model-Shift Uniqueness Test

006591789-02, P = 5.088404 Days, E = 126.680462 Days

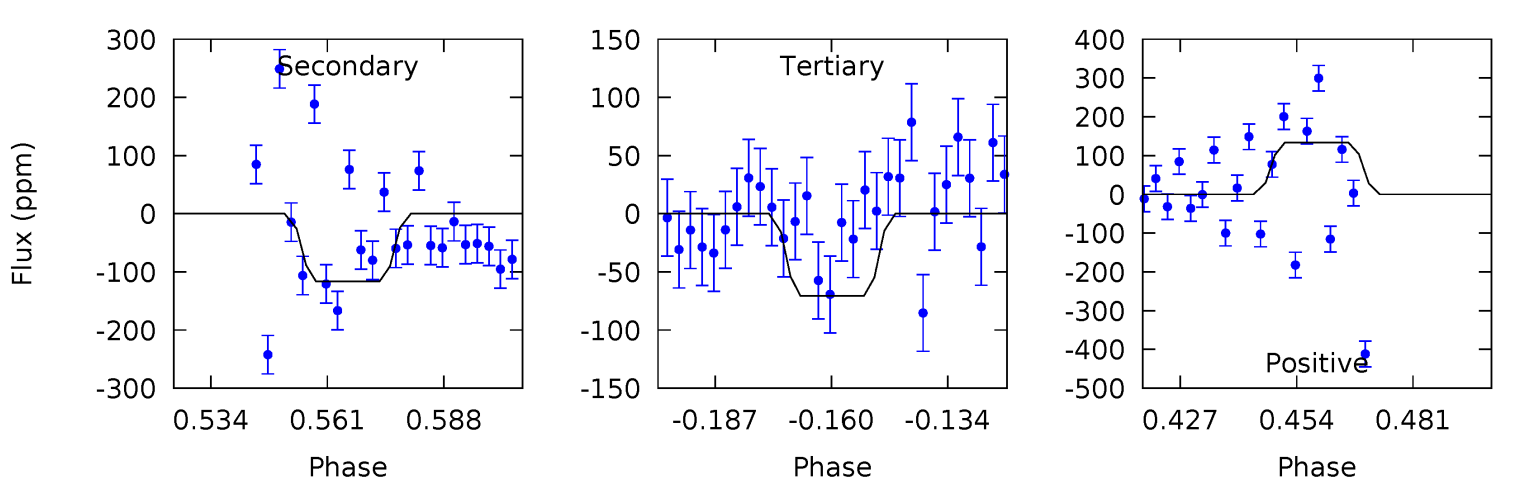
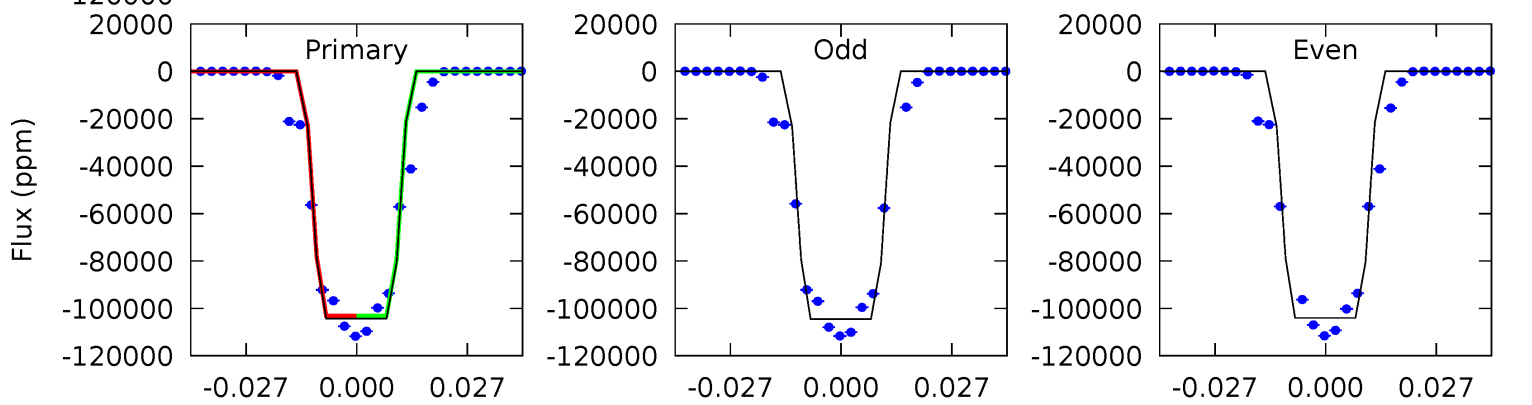
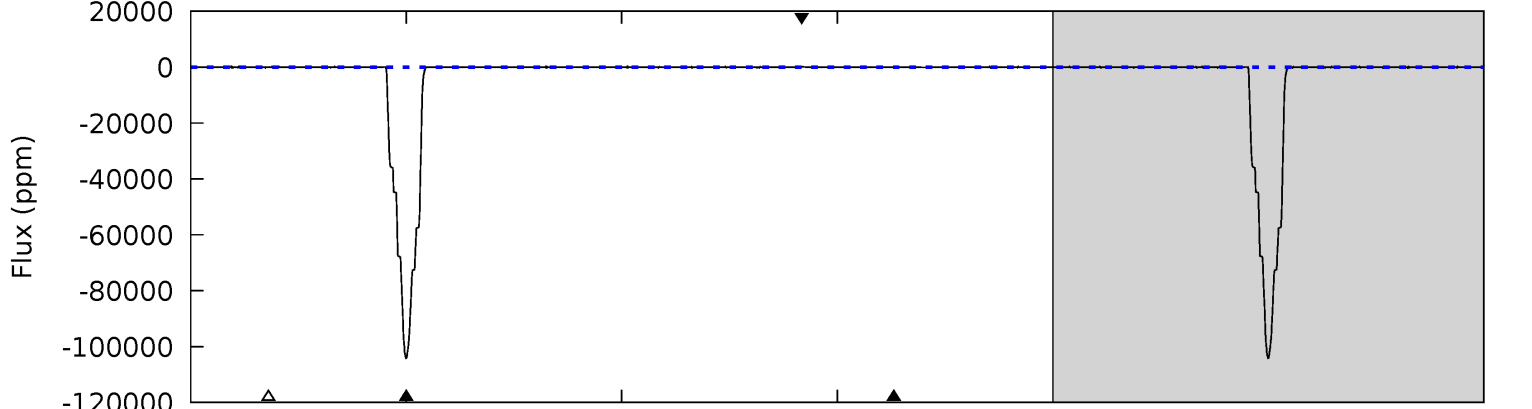
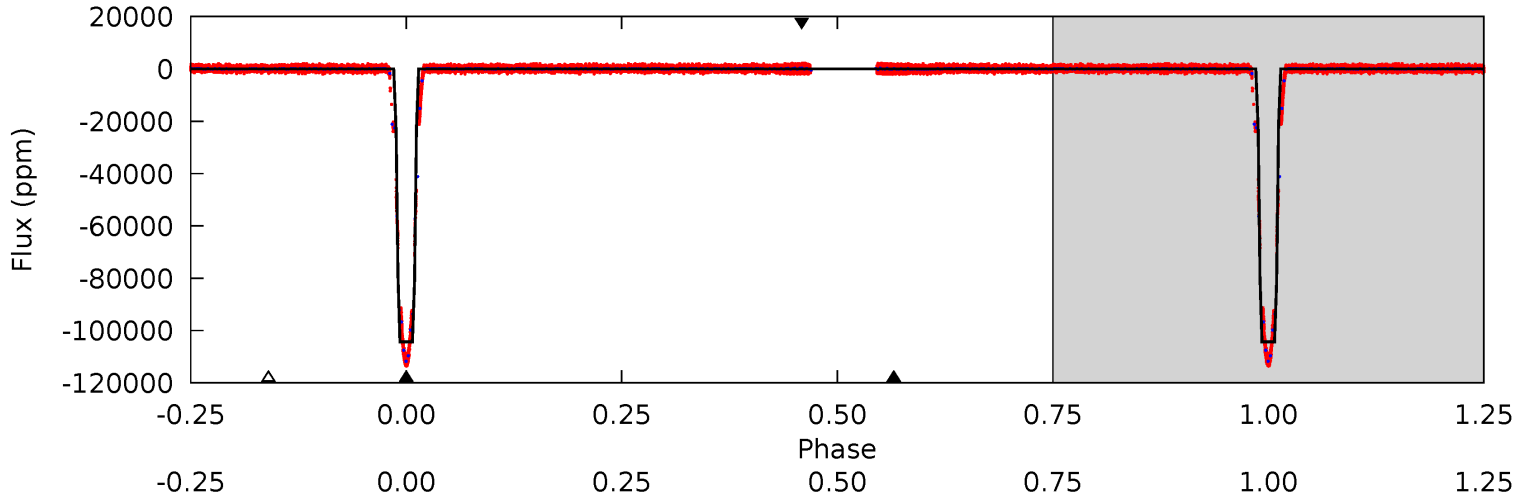
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7849	10.7	5.51	30.6	4.74	2.03	9.98	7843	7818	5.17	-19.9	8.71	0.99	0.00	0



Alt Model-Shift Uniqueness Test

006591789-02, P = 5.088392 Days, E = 126.682015 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4536	5.06	3.08	5.82	4.83	2.22	1.30	4533	4531	1.98	-0.75	9.53	1.00	0.00	2.05



Stellar Parameters For KIC 006591789

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5618^{+152}_{-152}	$4.583^{+0.038}_{-0.152}$	$-0.280^{+0.300}_{-0.300}$	$0.791^{+0.181}_{-0.065}$	$0.884^{+0.088}_{-0.107}$	$2.517^{+0.493}_{-1.098}$
	+3%/-3%	+1%/-3%	+107%/-107%	+23%/-8%	+10%/-12%	+20%/-44%
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 006591789-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-155 ± 14	$40.33^{+5.19}_{-3.28}$	1334^{+73}_{-53}	-1922^{+66}_{-80}	$0.157^{+0.030}_{-0.031}$
Alt.	-116 ± 23	$29.80^{+3.72}_{-2.56}$	1334^{+65}_{-53}	-1835^{+212}_{-108}	$0.214^{+0.063}_{-0.057}$

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 $A_{obs} \gg 1.0$

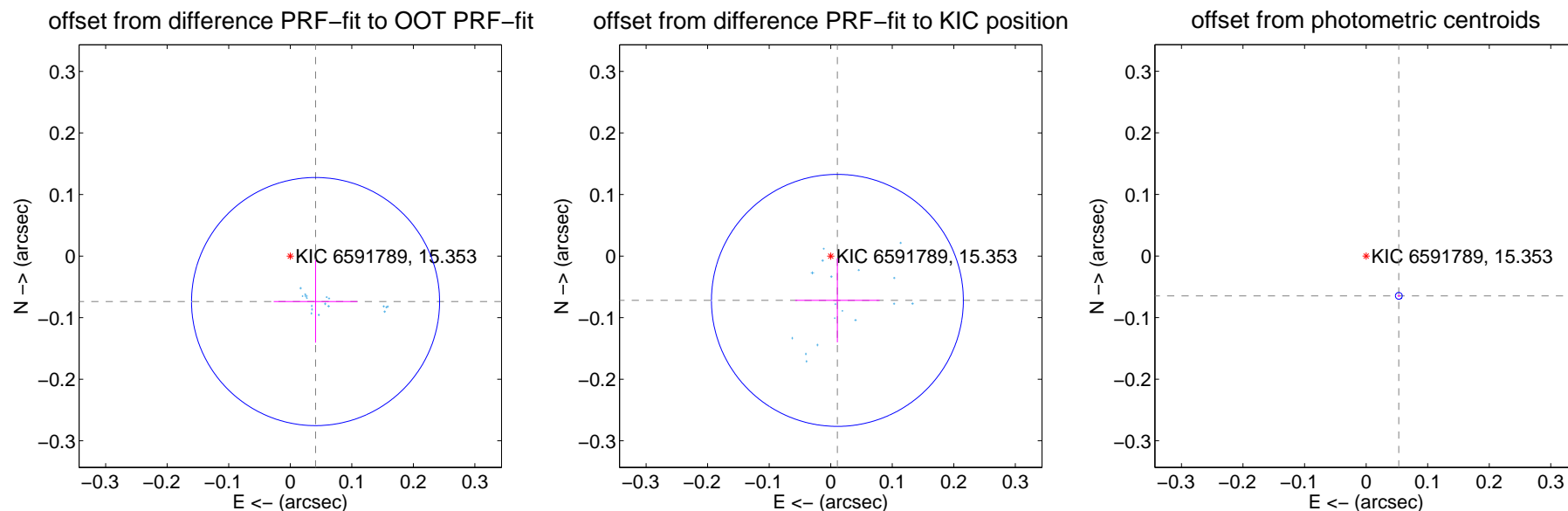
DV Centroid Data

Supplemental centroid analysis for 006591789-02. Kepler magnitude: 15.35. Transit SNR 3654.29

There are 17 quarters with good PRF difference image offsets

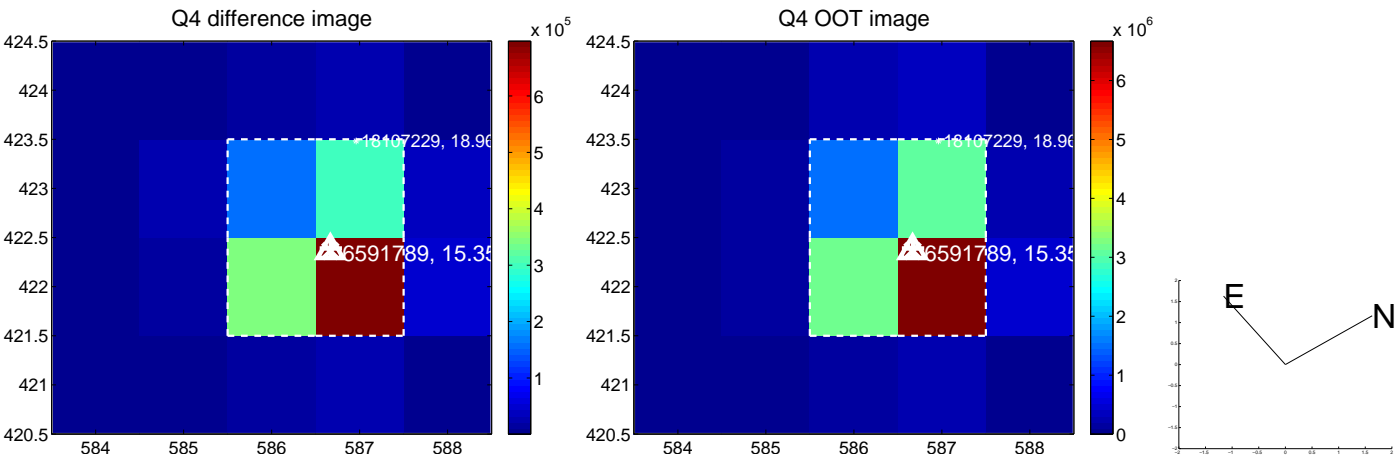
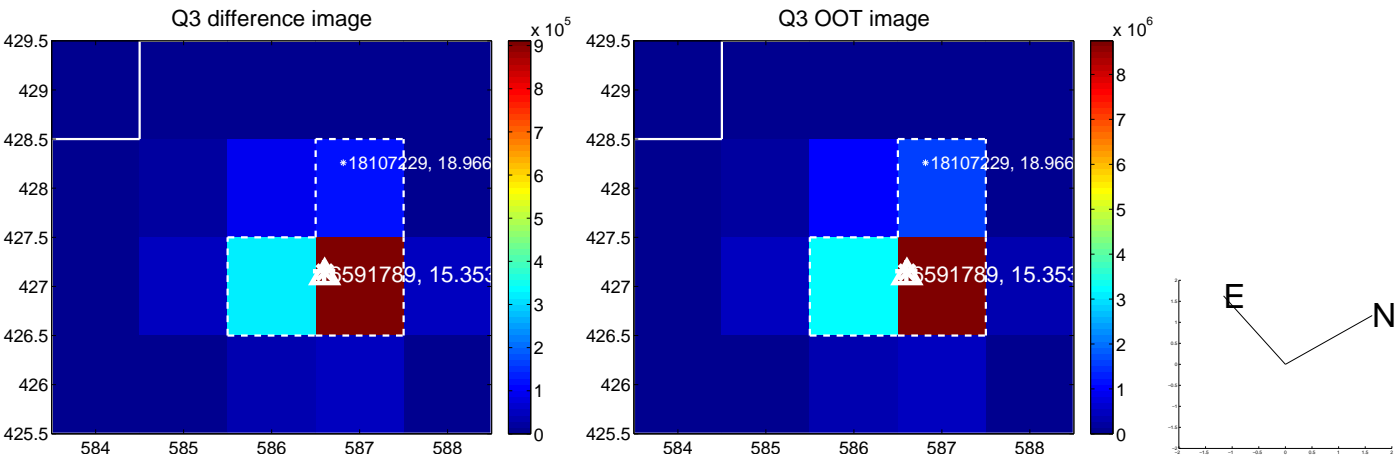
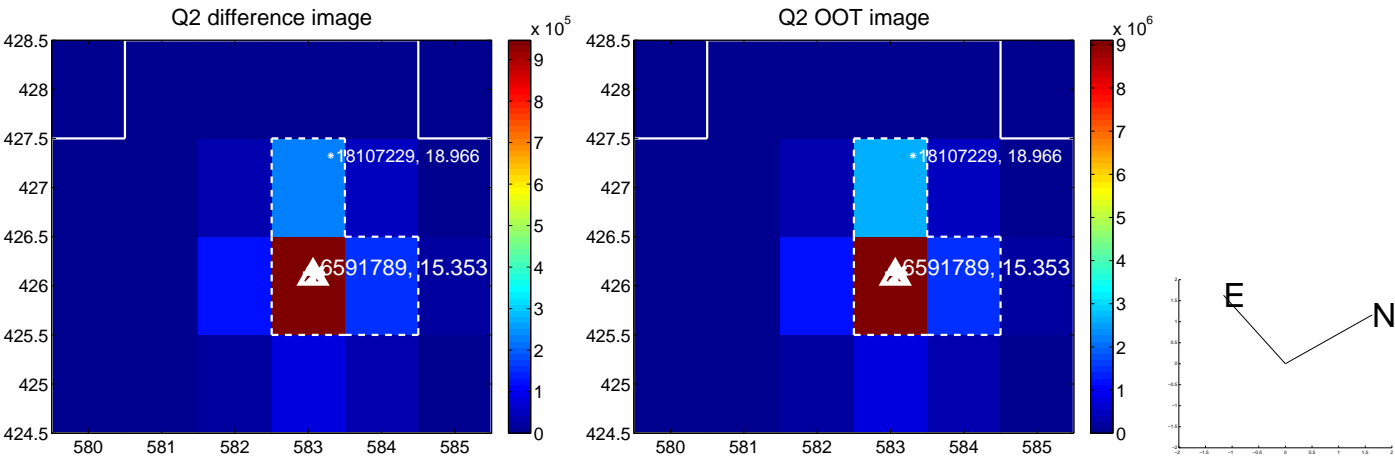
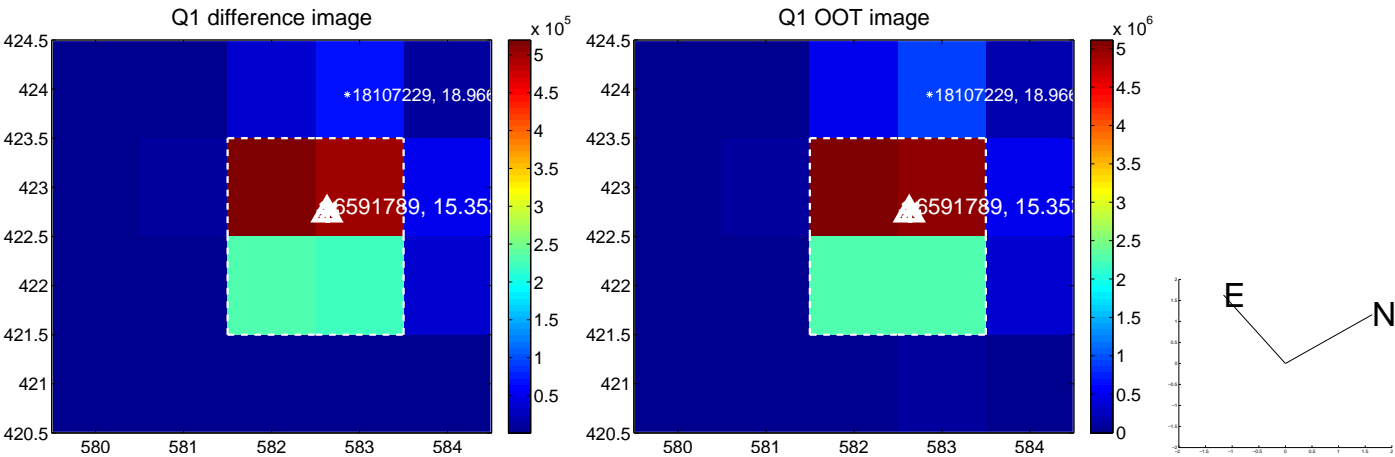
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.085 ± 0.067	1.26	-0.041 ± 0.068	-0.074 ± 0.067
PRF-fit source offset from KIC position	0.073 ± 0.068	1.07	-0.011 ± 0.069	-0.072 ± 0.068
photometric centroid source offset	0.08 ± 0.00	45.39	-0.05 ± 0.00	-0.06 ± 0.00

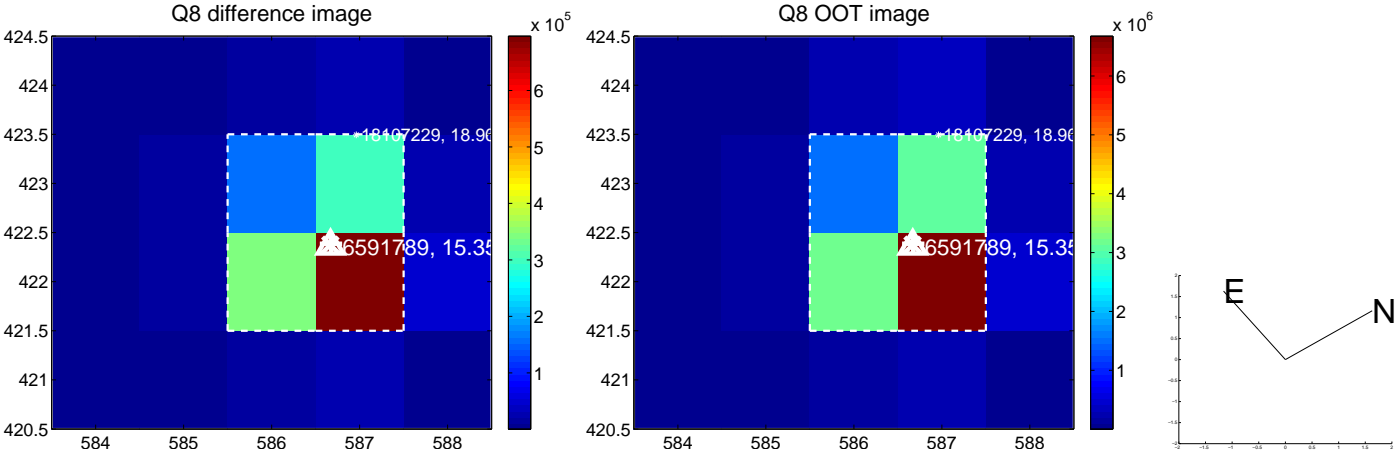
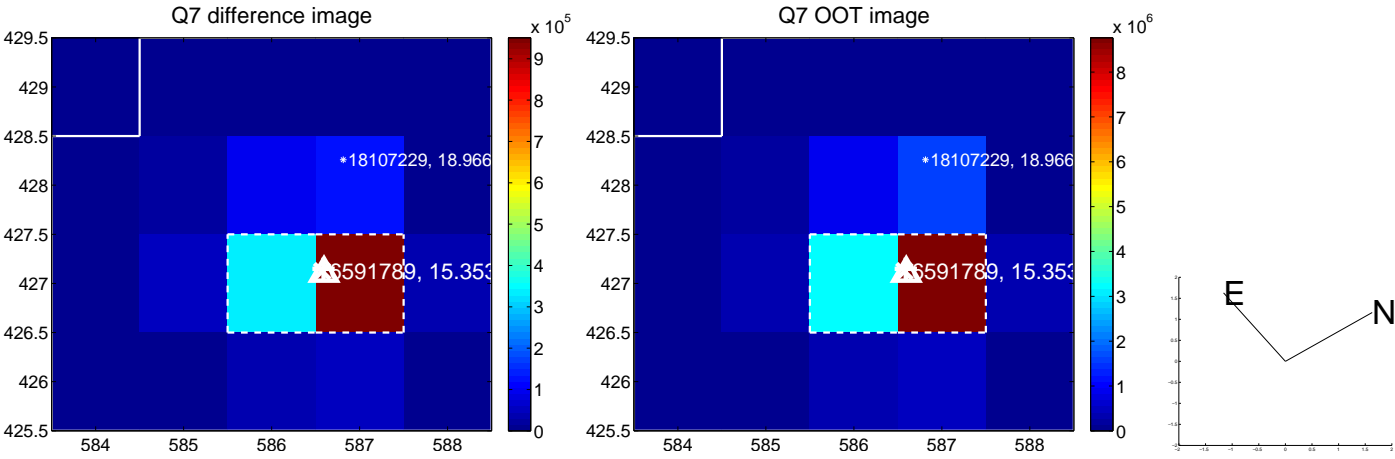
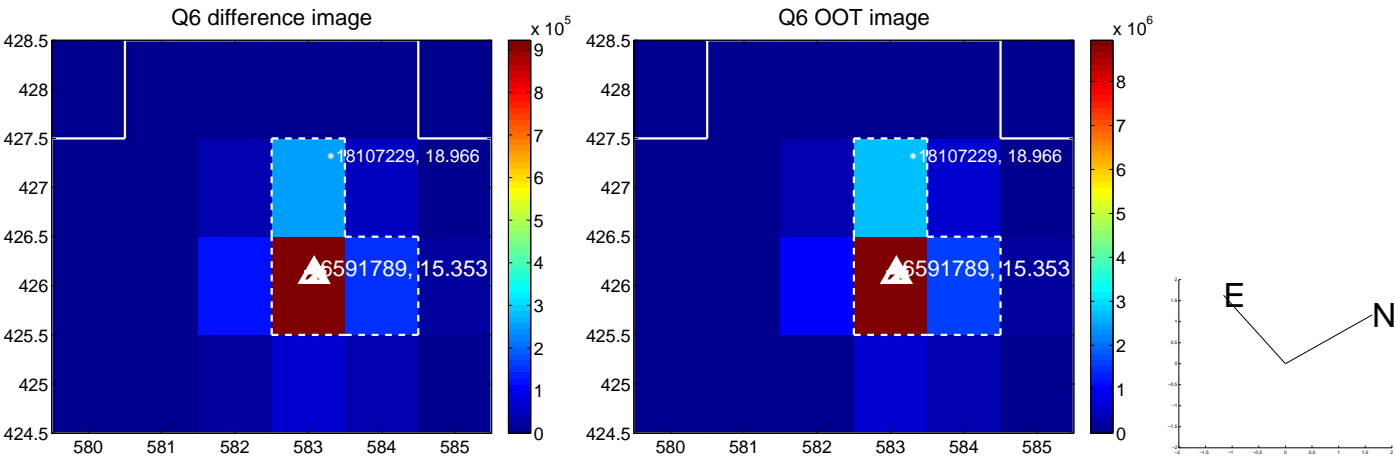
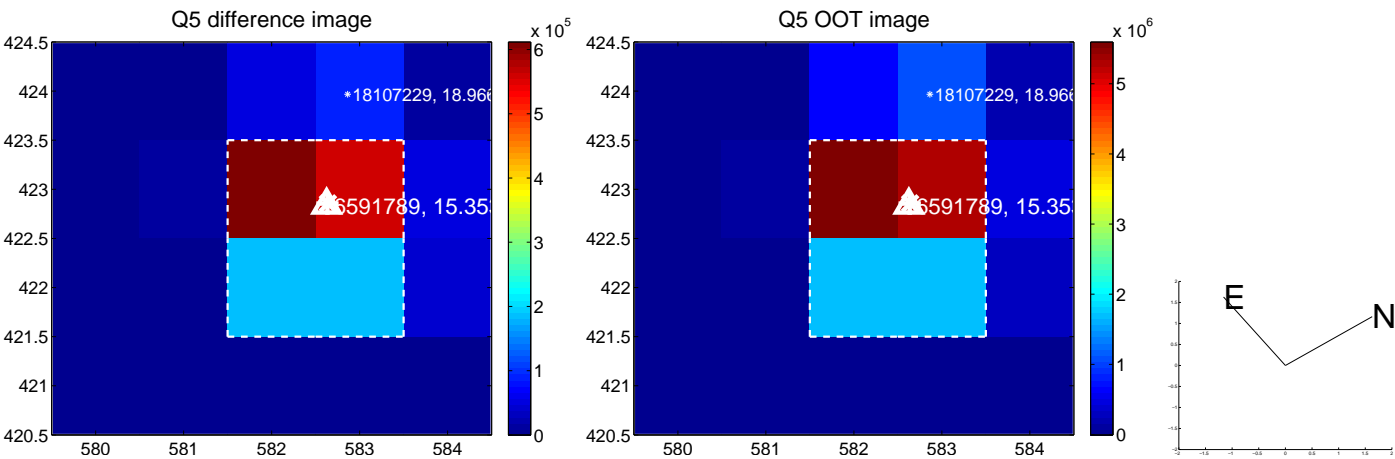


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

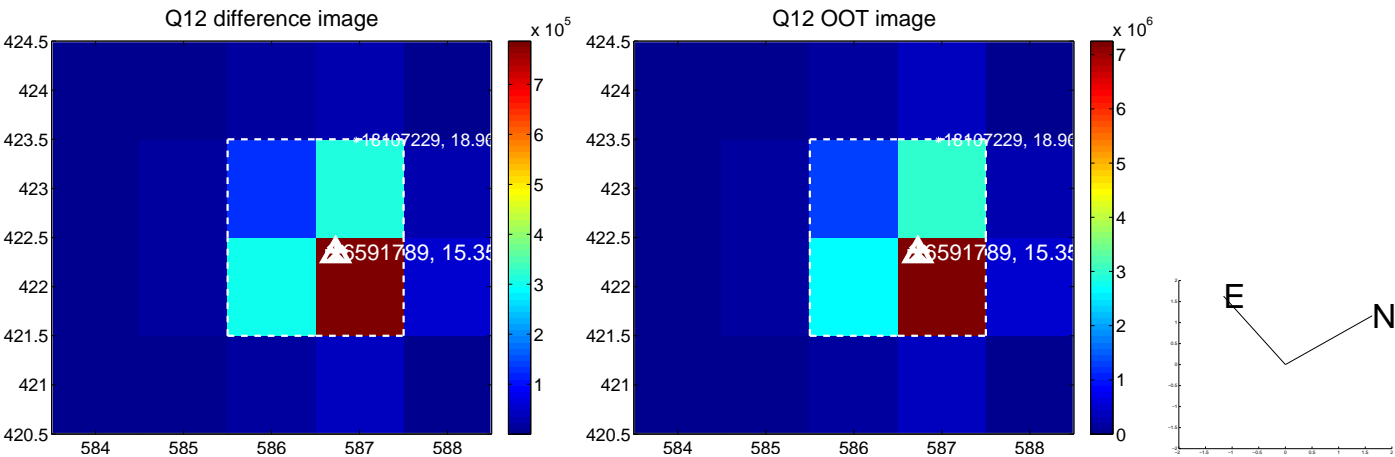
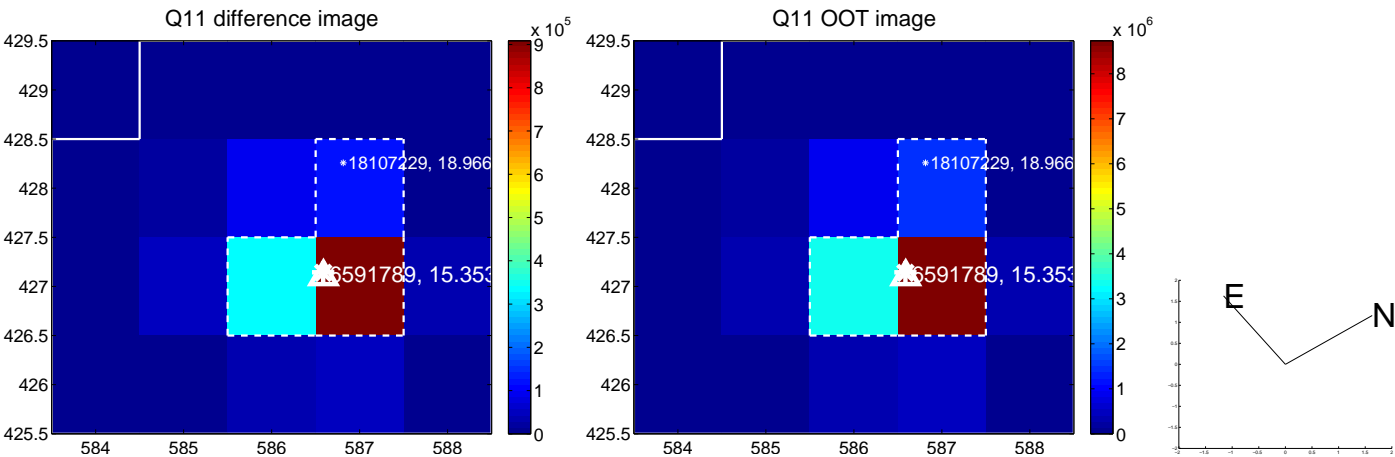
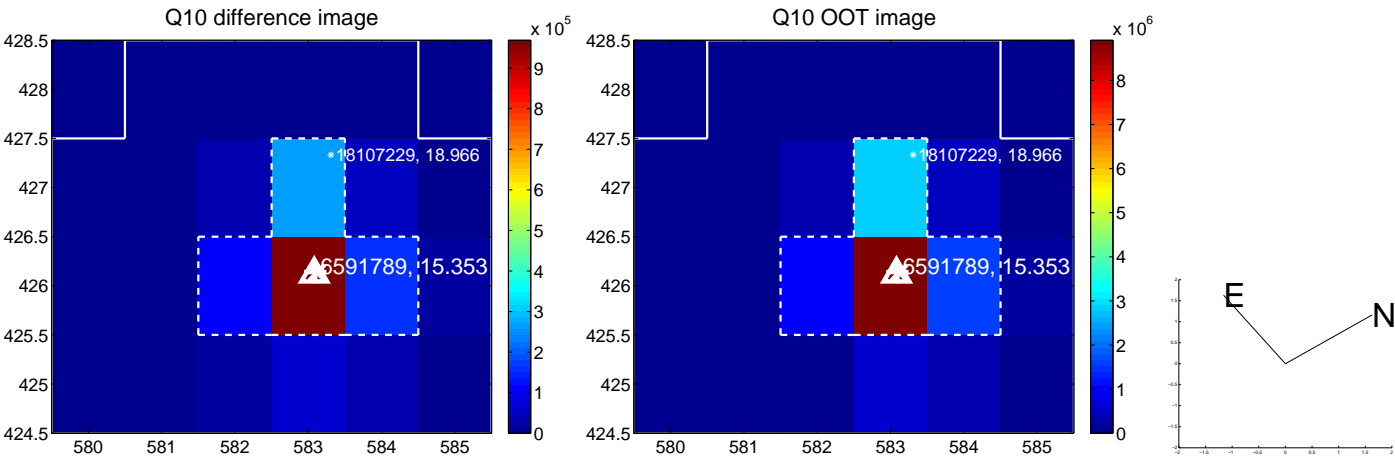
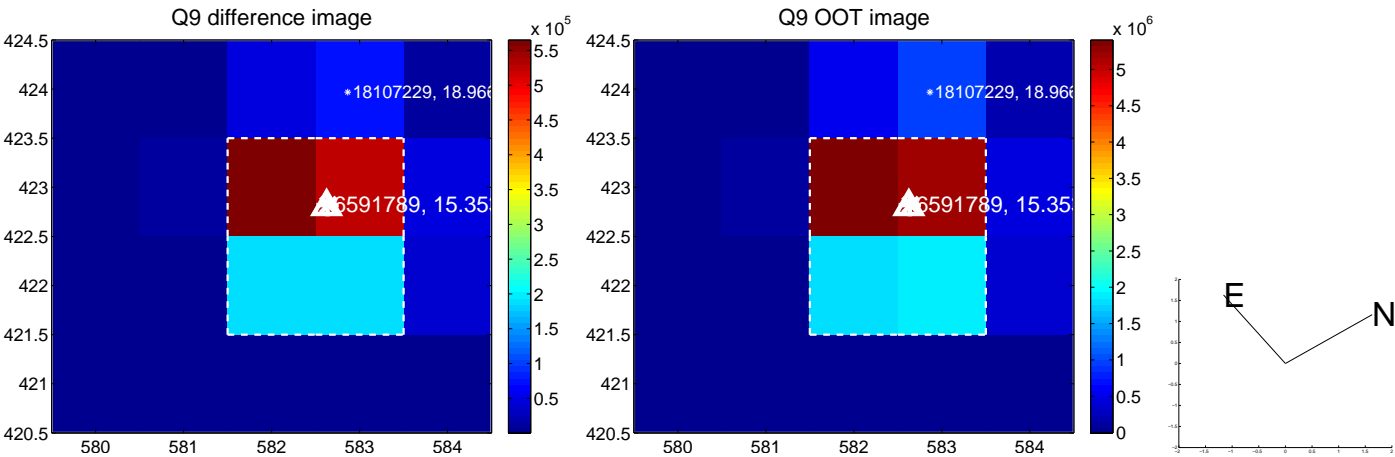
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



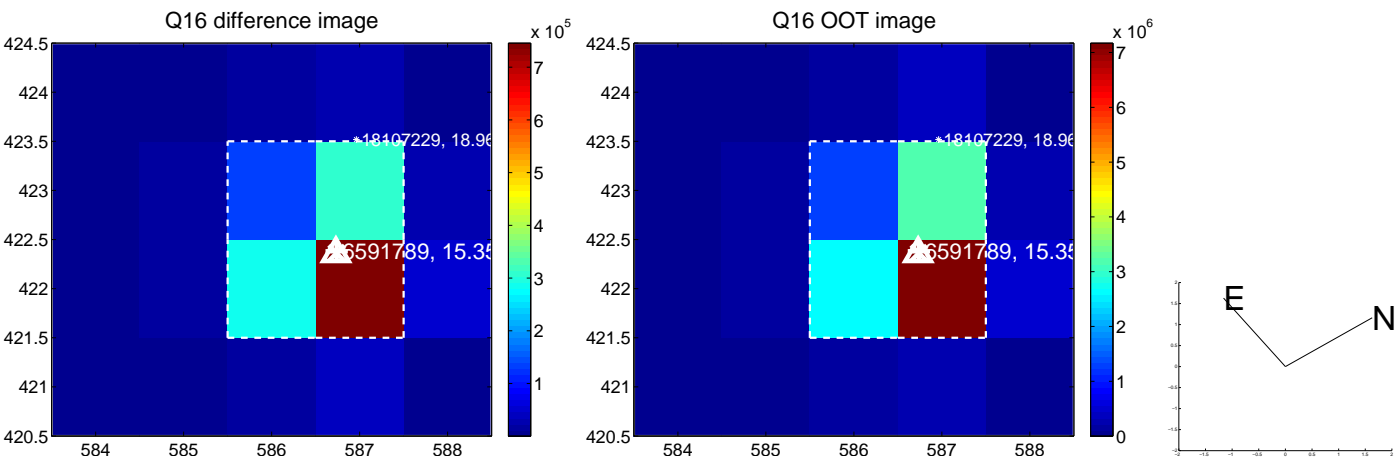
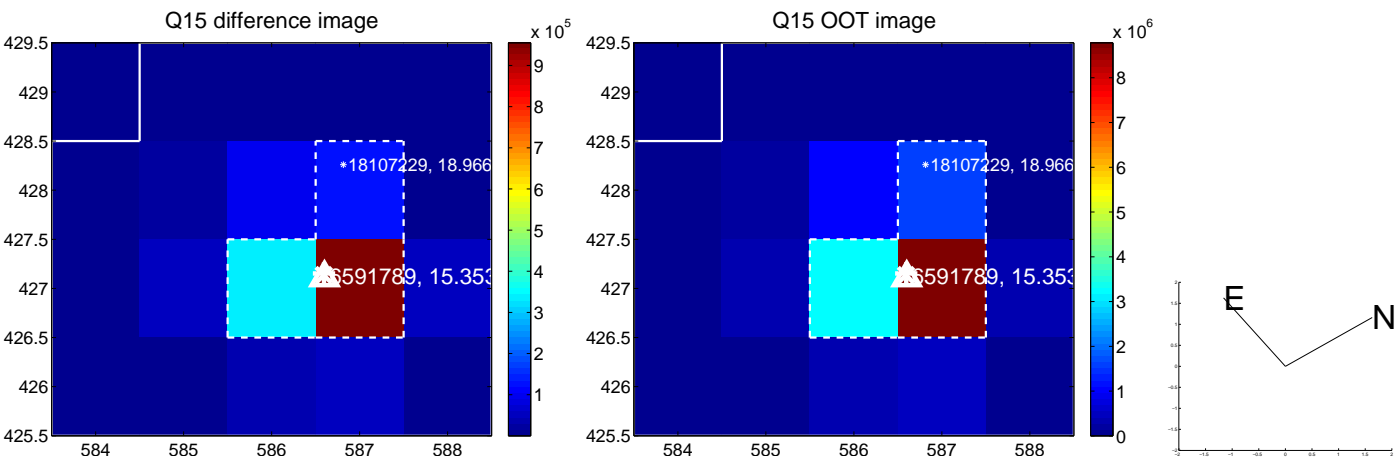
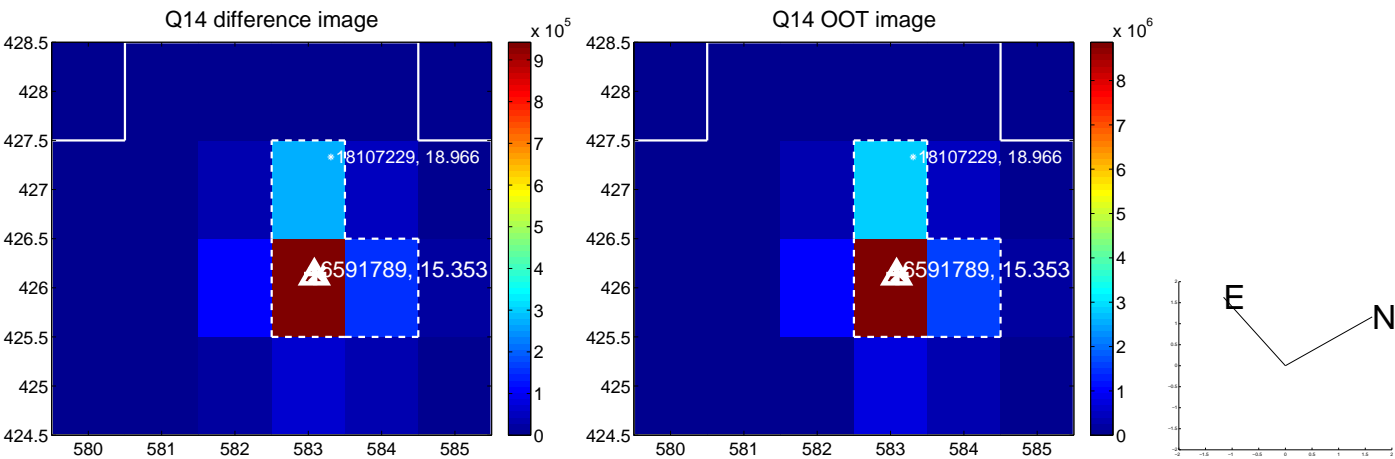
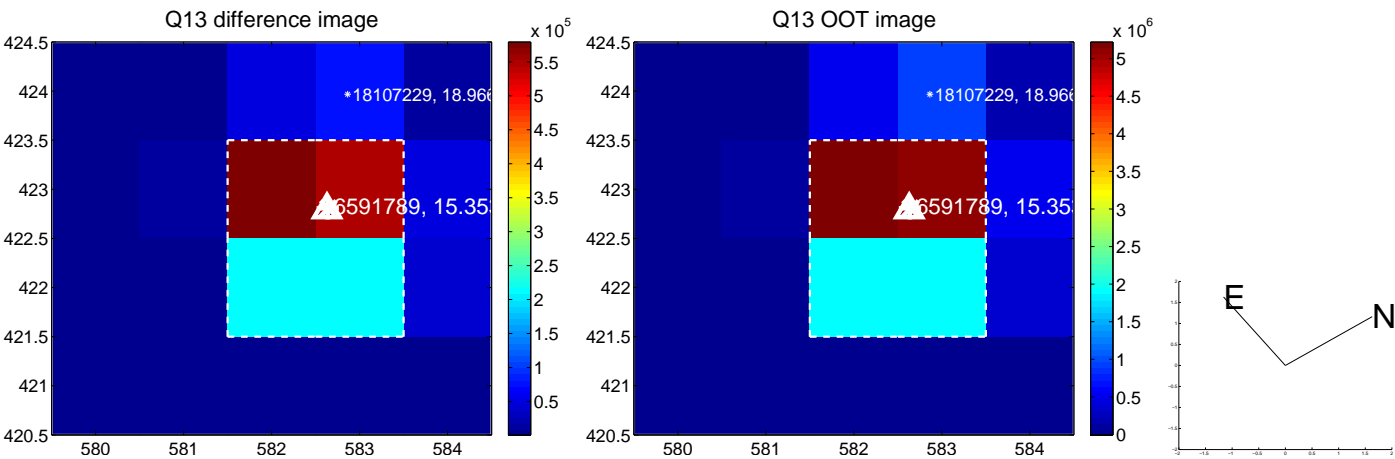
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



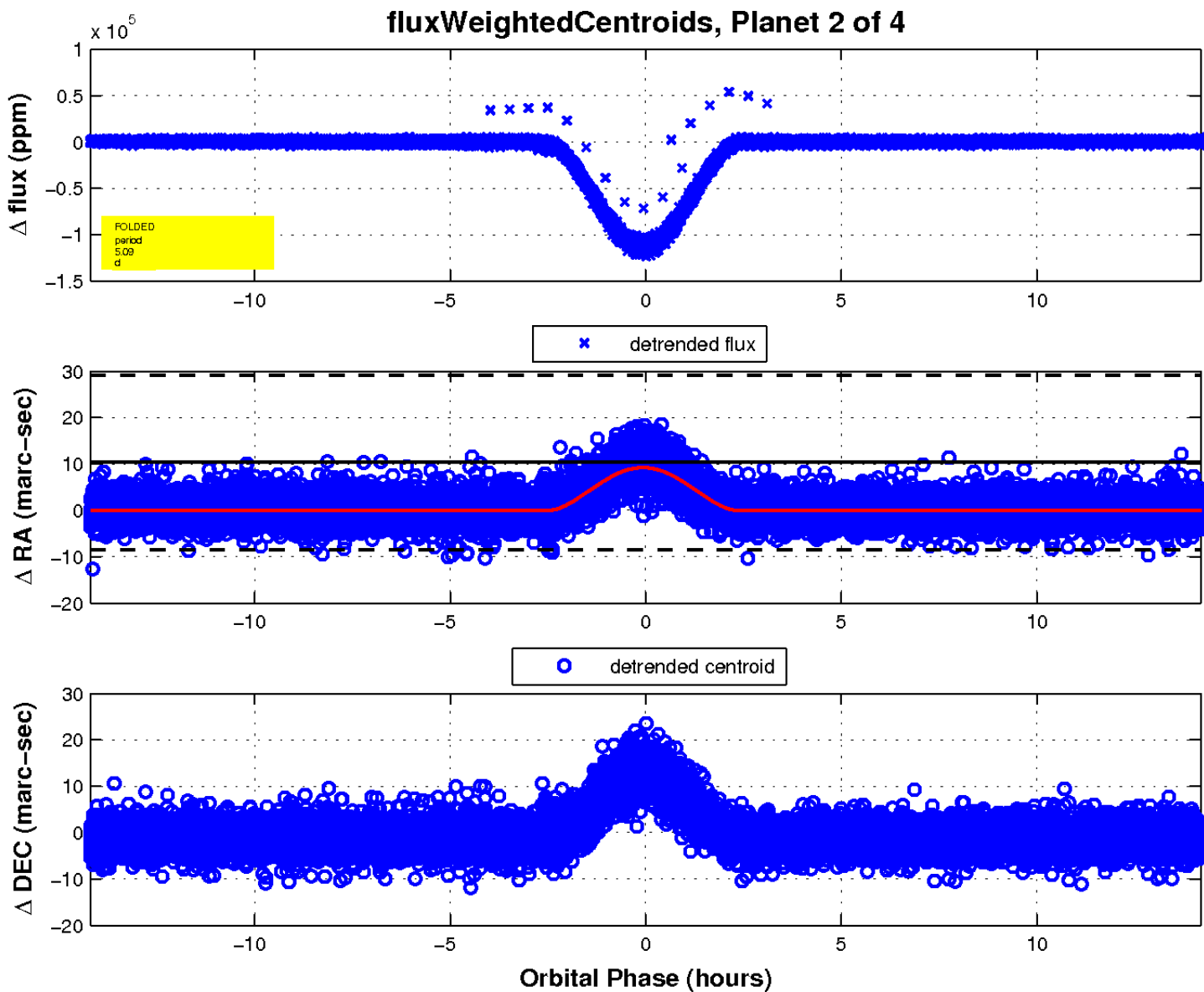
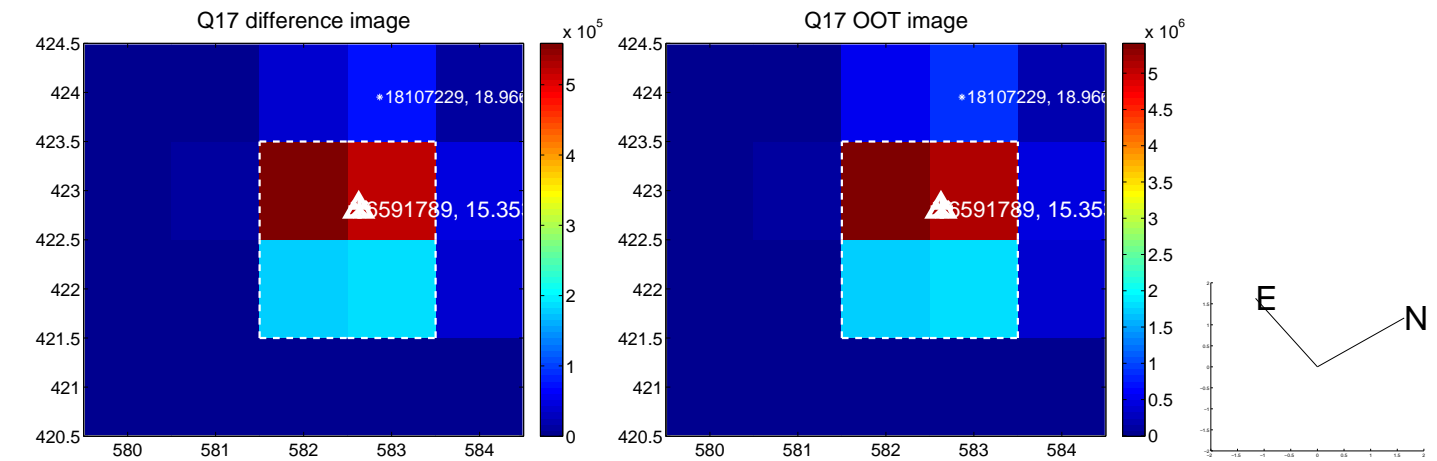
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

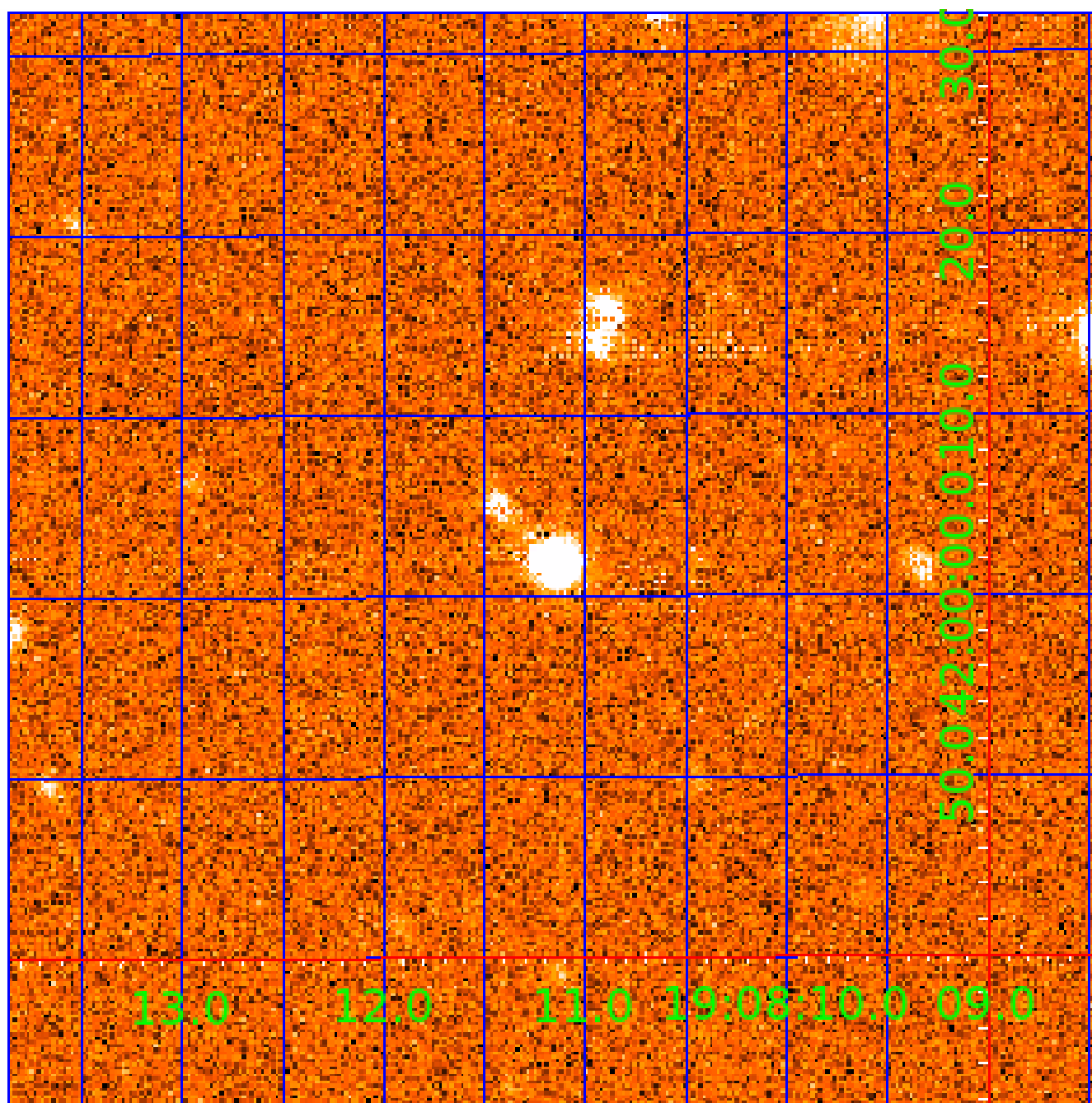


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006591789

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})
006591789-01	OBS	6735.01	5.088360	134.357028	384668.8	3.000	16250.9	-1.0	0.79	5618	43.16	182.21
006591789-02	OBS	No	5.088404	131.768866	112794.9	4.732	4965.8	3654.3	0.79	5618	39.08	182.21
006591789-03	OBS	No	5.088406	133.833608	9798.0	7.500	507.4	-1.0	0.79	5618	7.75	182.21
006591789-04	OBS	No	5.088368	134.886976	10482.5	14.251	239.8	175.9	0.79	5618	14.61	182.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006591789-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
006591789-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
006591789-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS
006591789-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—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 006591789-03

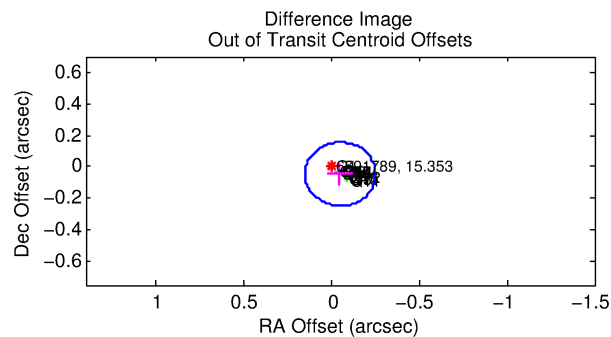
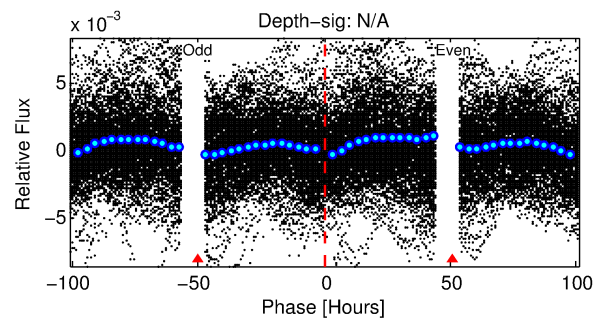
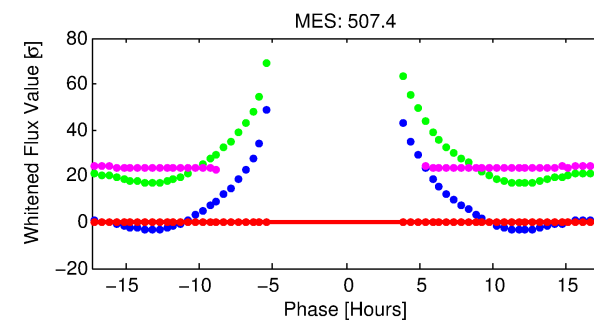
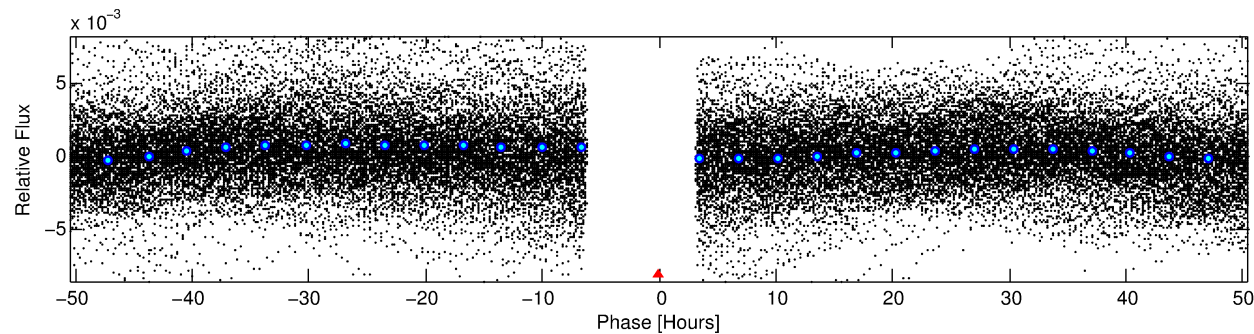
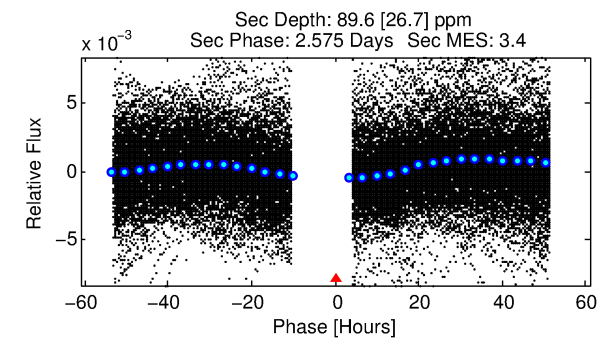
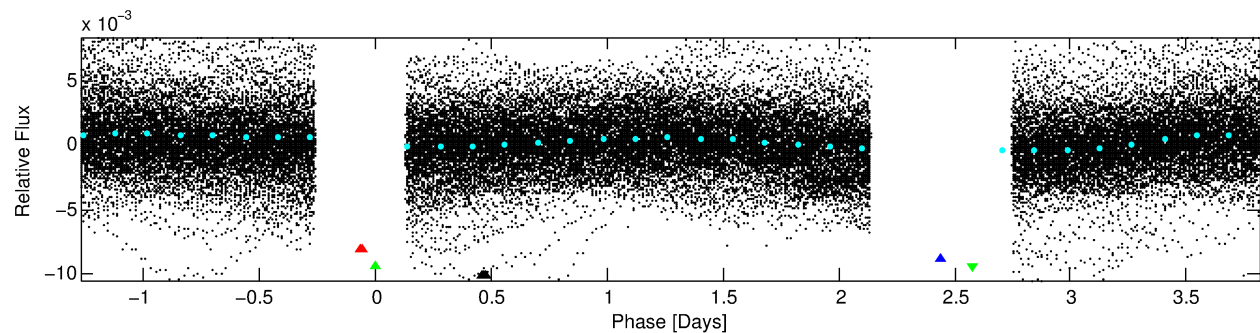
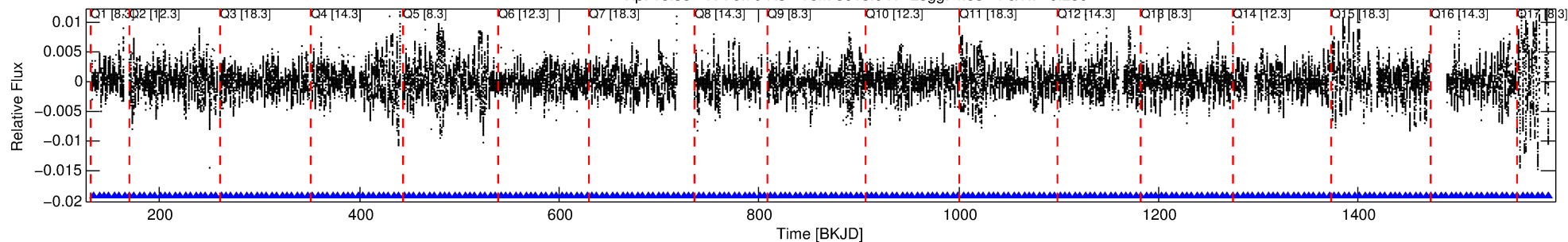
No Significant Match Found

DV One-Page Summary

KIC: 6591789 Candidate: 3 of 4 Period: 5.088 d

KOI: K06735 Corr: No Ephemeris Match

Kp: 15.35 R*: 0.79 Rs Teff: 5618.0 K Logg: 4.58 Fe/H: -0.280



TPS TCE Results:

Period = 5.08841 d

Epoch = 133.8336 BKJD

DV fit results are unavailable

DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]

LongPeriod-sig: N/A

ModelChiSquare2-sig: N/A

ModelChiSquareGof-sig: N/A

Bootstrap-pfa: N/A

RollingBand-fgt: 1.00 [258/258]

GhostDiagnostic-chr: -13.51

Centroid-sig: N/A

Centroid-so: 1.140 arcsec [2.68 σ]

OotOffset-rm: 0.068 arcsec [1.01 σ]

KicOffset-rm: 0.049 arcsec [0.72 σ]

OotOffset-st: 4/4/4/5 [17]

KicOffset-st: 4/4/4/5 [17]

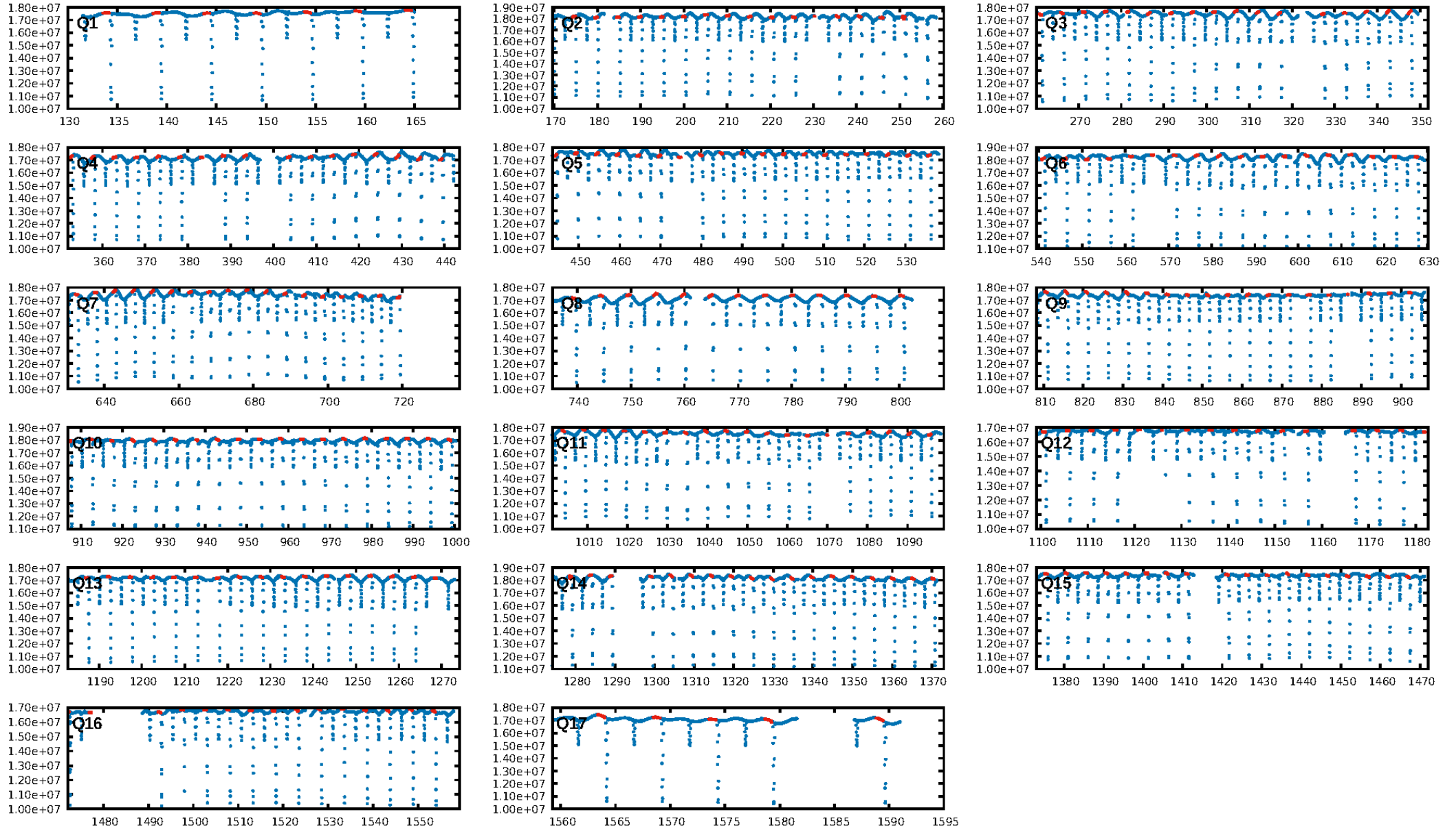
DiffImageQuality-fgm: 1.00 [17/17]

DiffImageOverlap-fno: 0.00 [0/17]

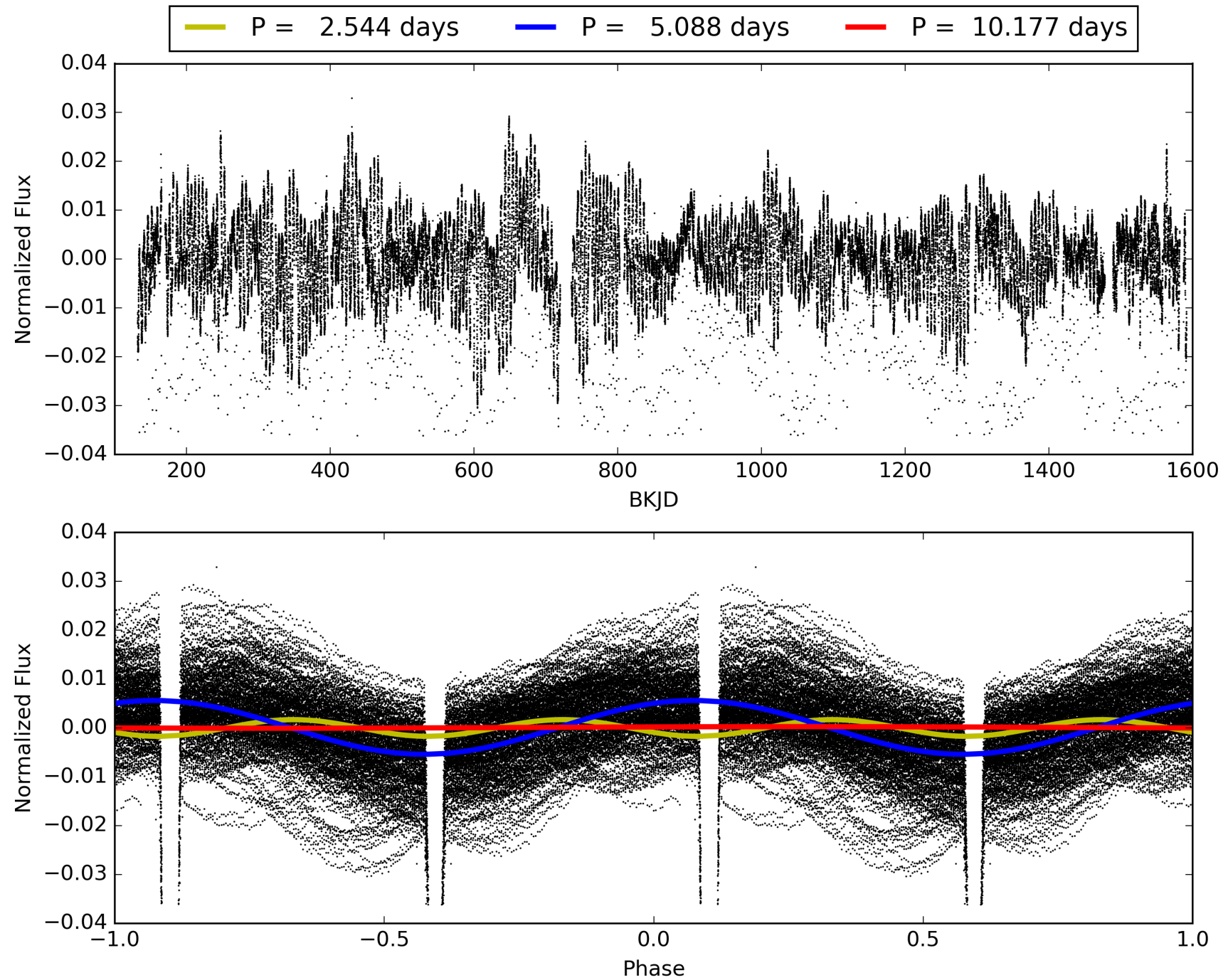
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 02:02:51 Z

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

TCE 006591789-03, PDC Light Curves

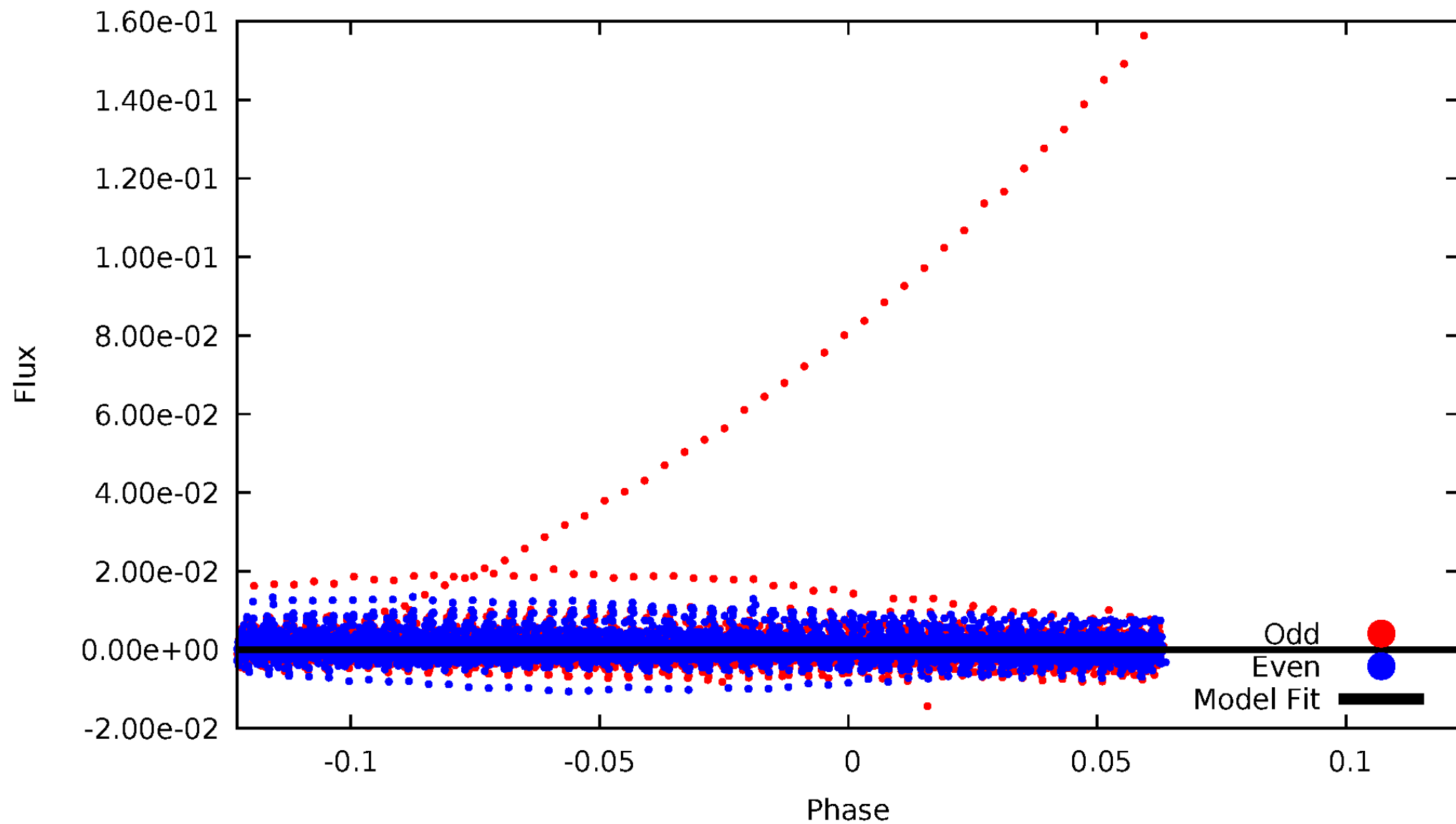


TCE 006591789-03



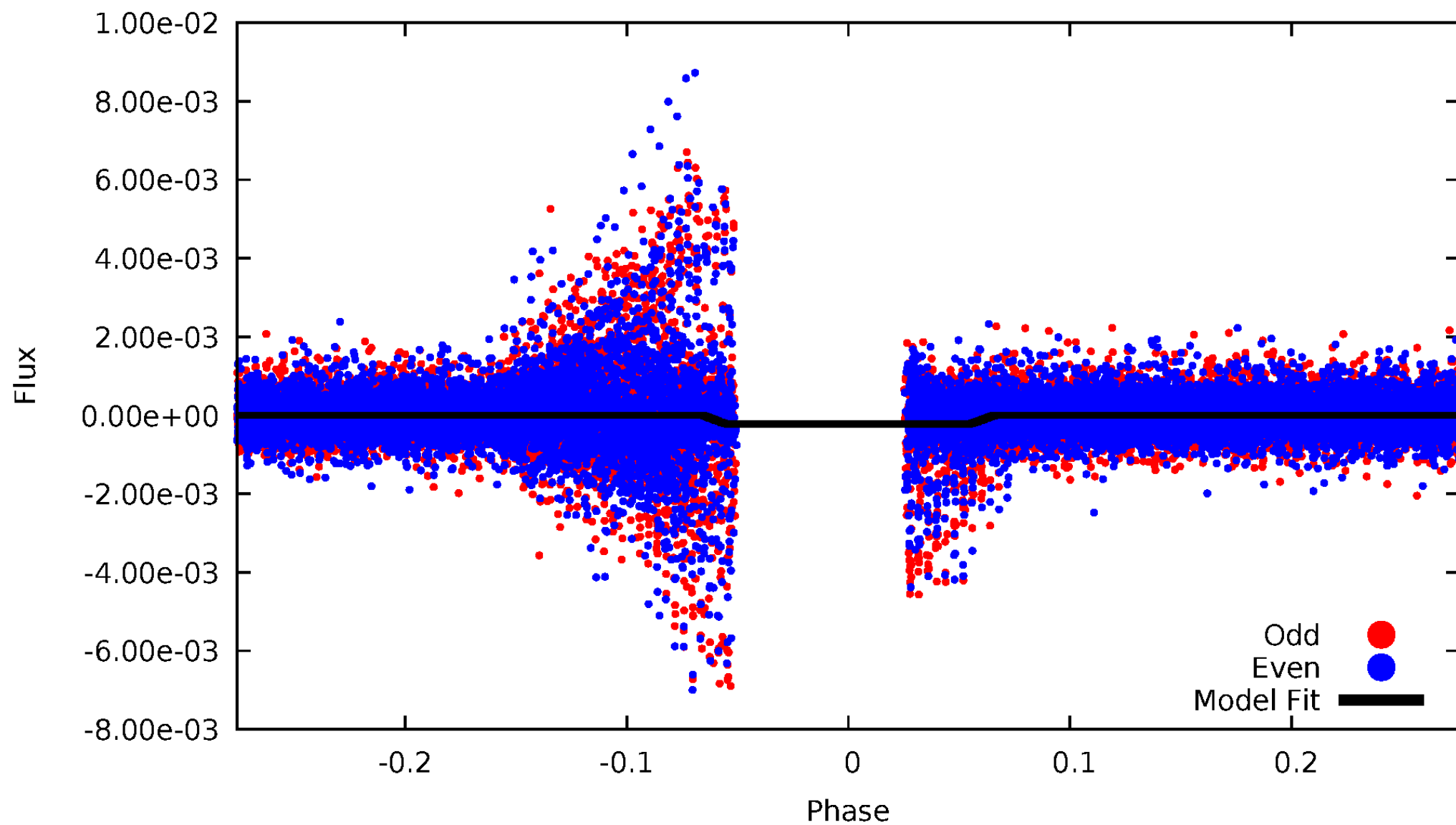
DV Odd/Even

TCE 006591789-03



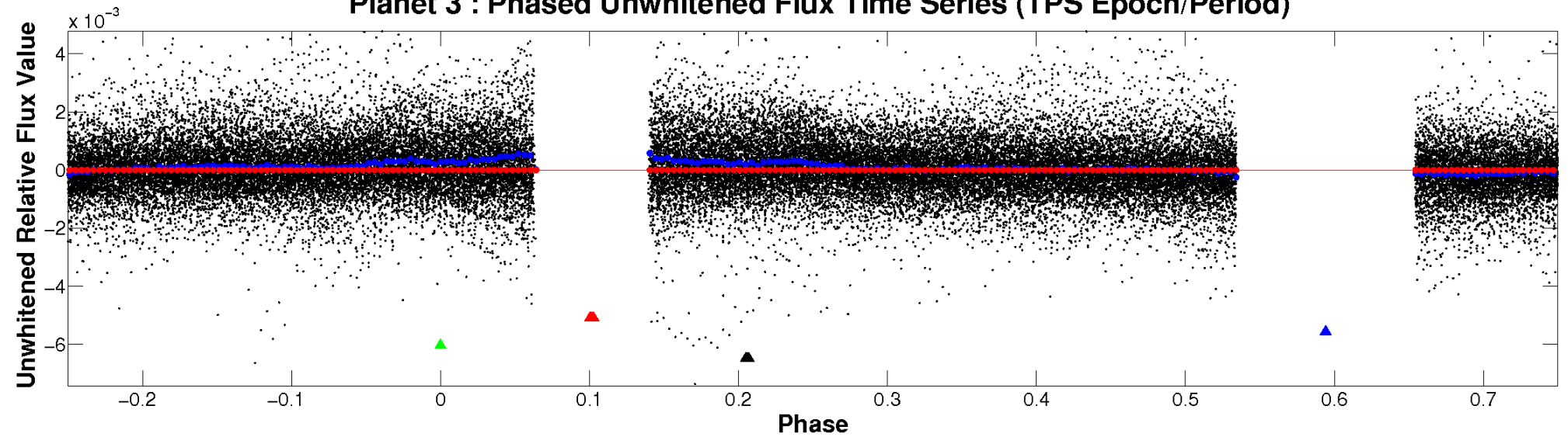
ALT Odd/Even

TCE 006591789-03

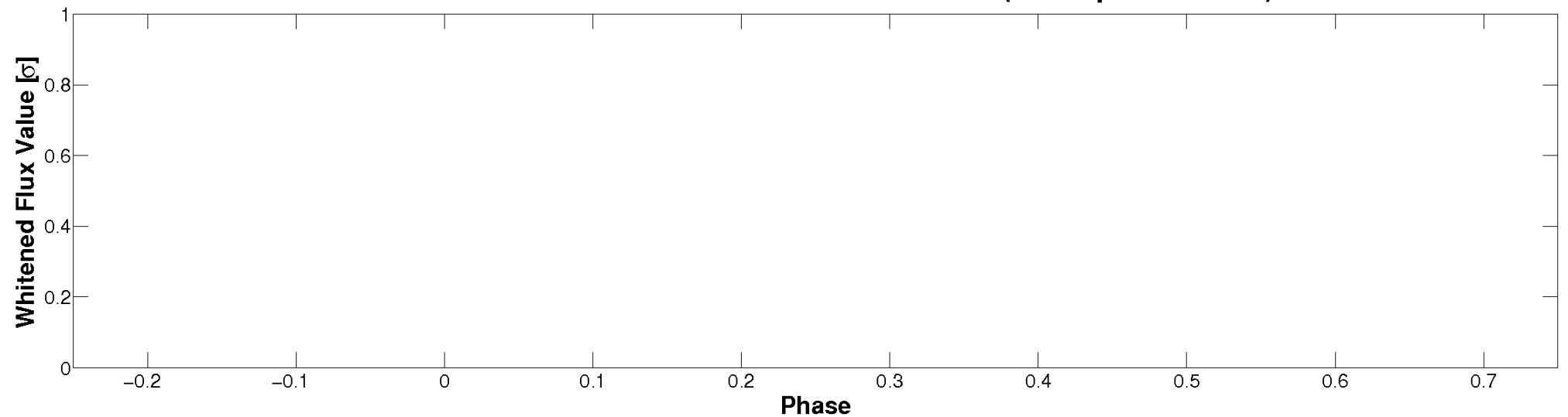


Non-Whitened Vs. Whitened Light Curve

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

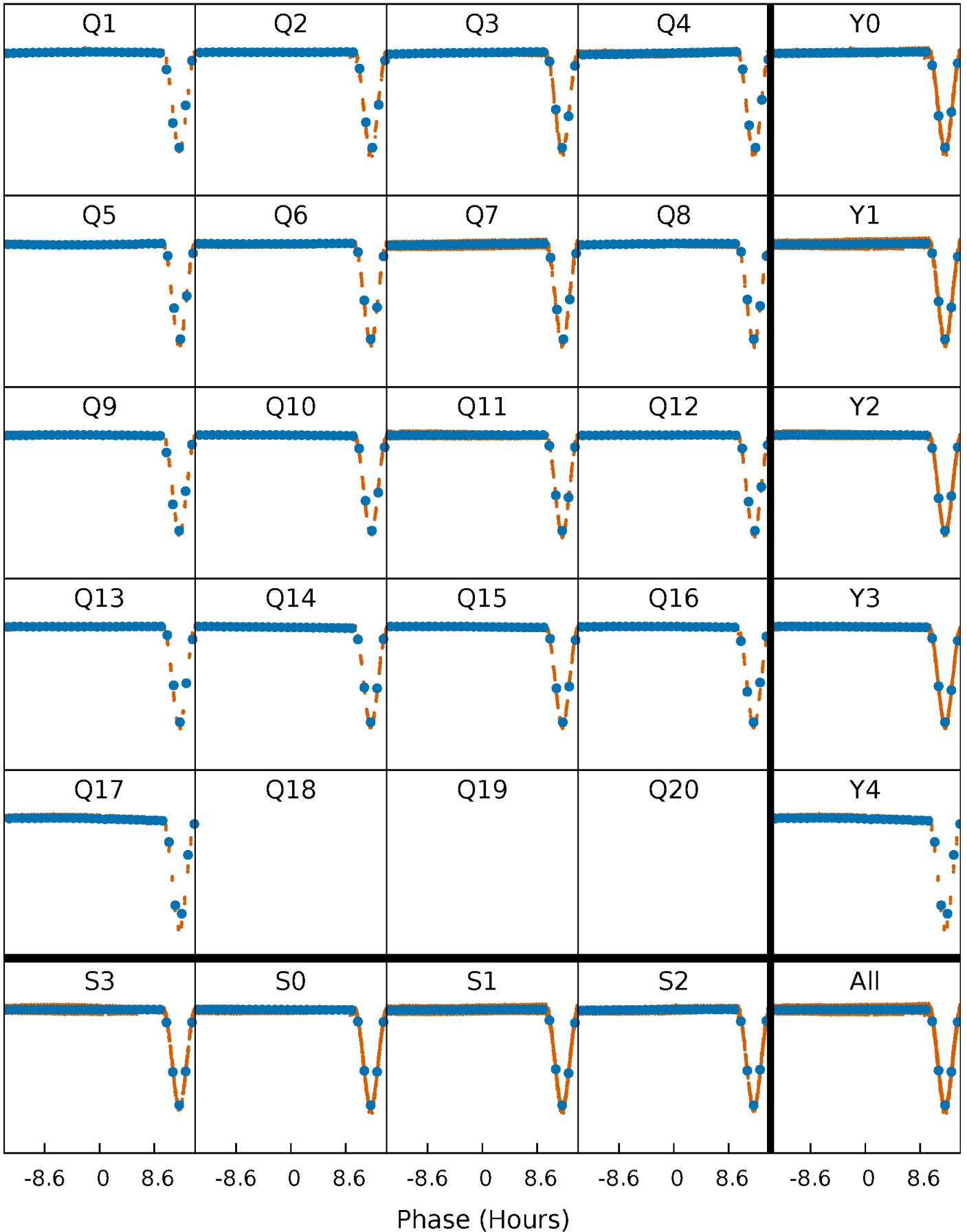


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



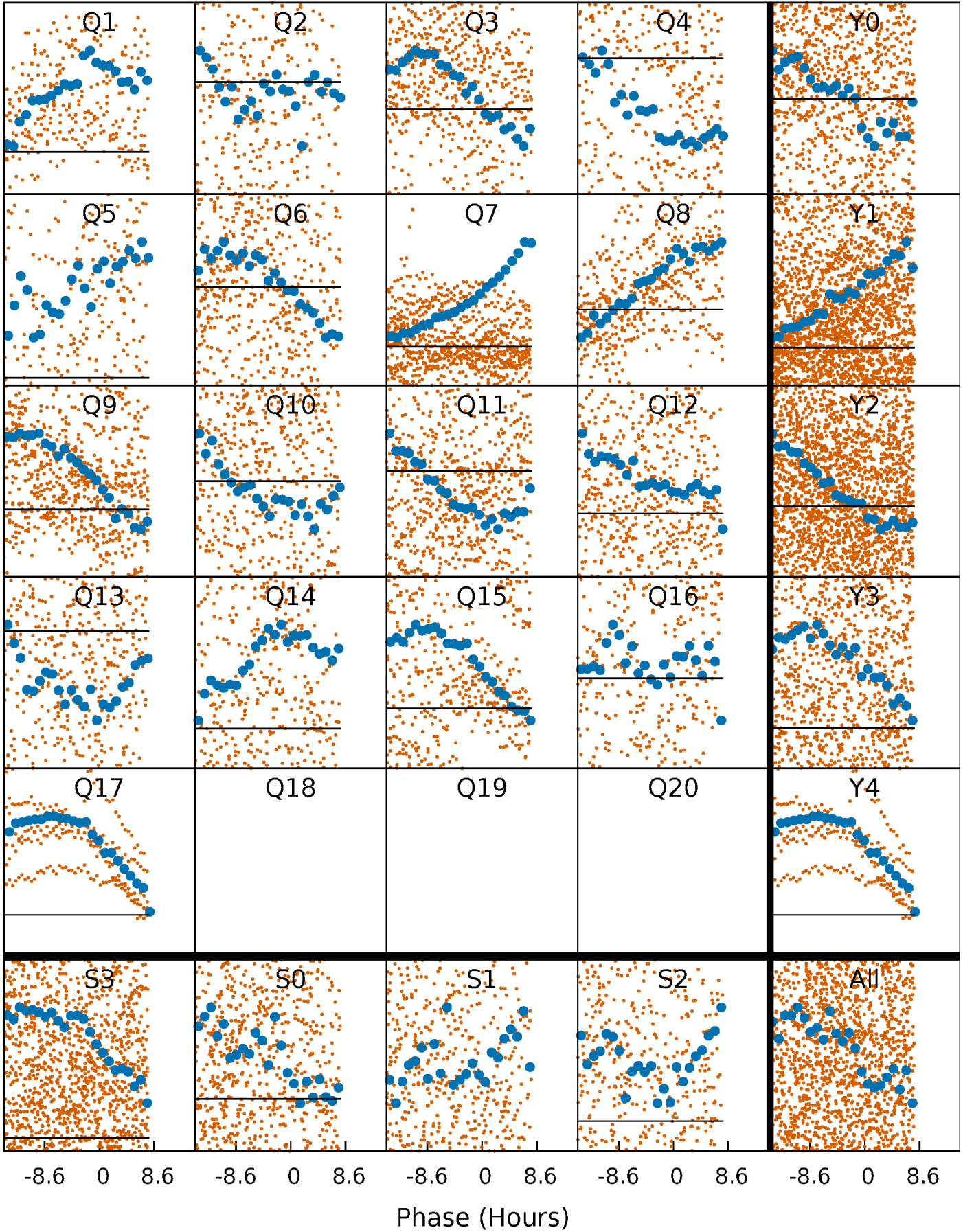
PDC Quarter-Phased Transit Curves

TCE 006591789-03 P= 5.088406 Days $T_0=133.833608$ (BKJD)



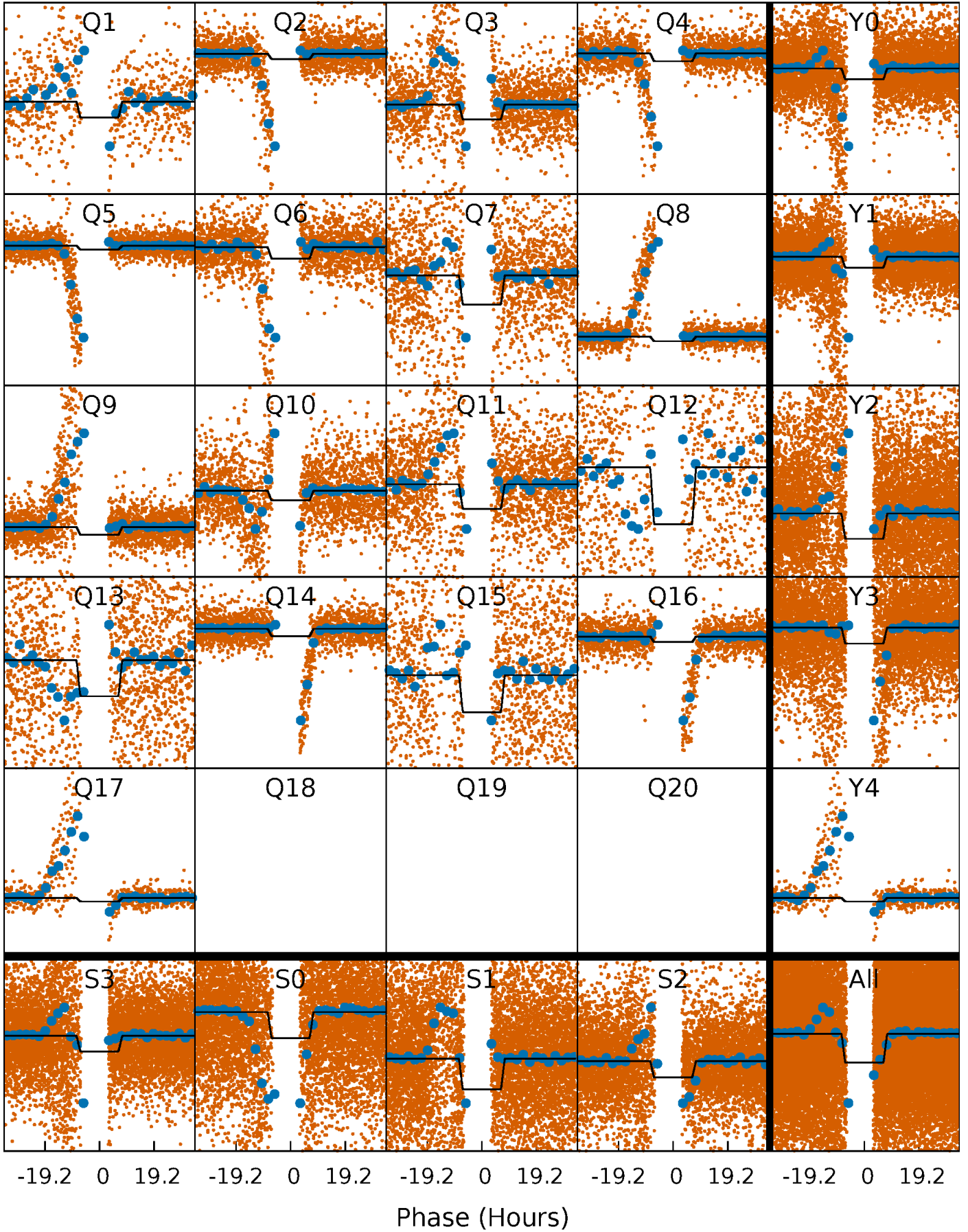
DV Quarter-Phased Transit Curves

TCE 006591789-03 P= 5.088406 Days $T_0=133.833608$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

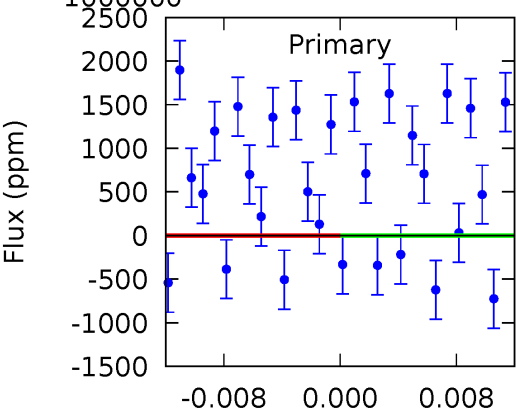
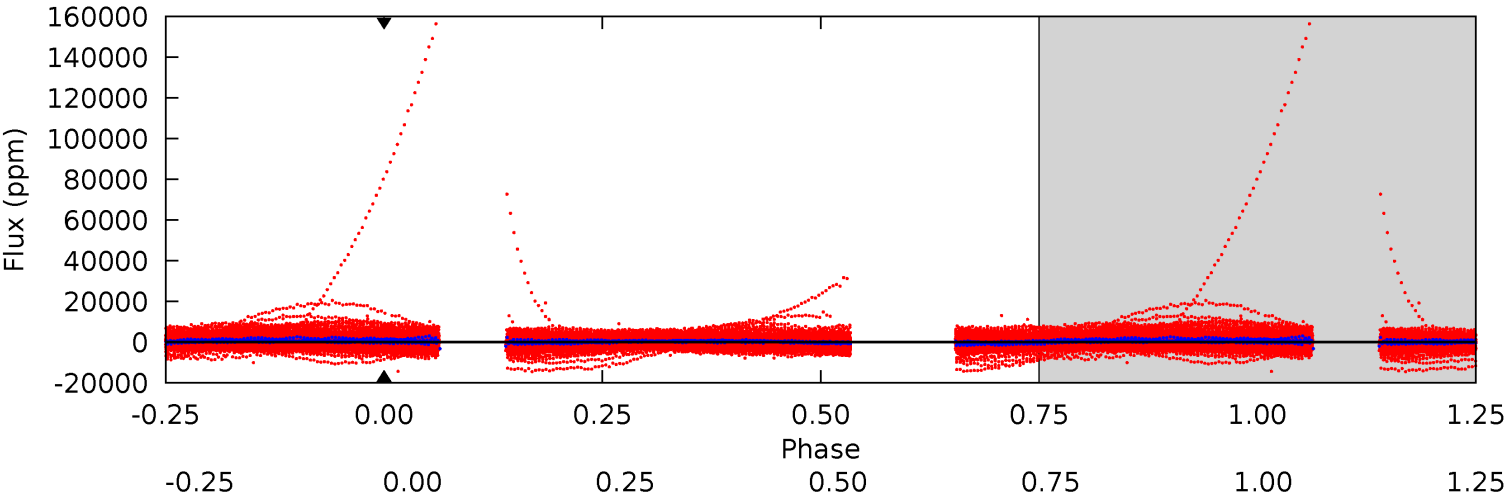
TCE 006591789-03 $P = 5.088406$ Days $T_0 = 134.414467$ (BKJD)



DV Model-Shift Uniqueness Test

006591789-03, P = 5.088406 Days, E = 128.745202 Days

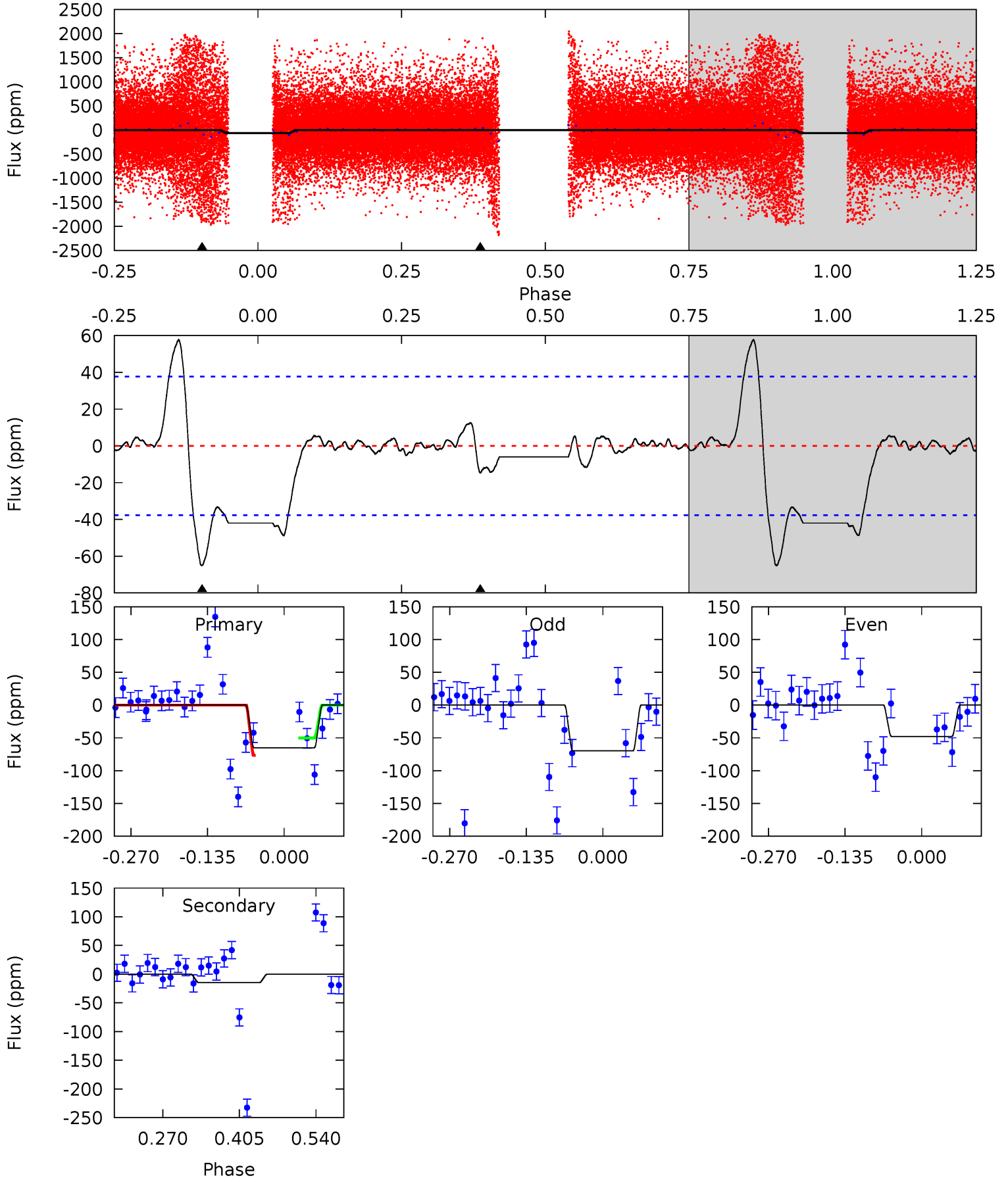
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006591789-03, P = 5.088406 Days, E = 129.326061 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.76	1.76	0	0	4.50	1.49	1.15	7.76	7.76	1.76	1.76	1.31	10.6	0.47	1.33



Stellar Parameters For KIC 006591789

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5618^{+152}_{-152}	$4.583^{+0.038}_{-0.152}$	$-0.280^{+0.300}_{-0.300}$	$0.791^{+0.181}_{-0.065}$	$0.884^{+0.088}_{-0.107}$	$2.517^{+0.493}_{-1.098}$
	+3%/-3%	+1%/-3%	+107%/-107%	+23%/-8%	+10%/-12%	+20%/-44%
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 006591789-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$10.65^{+8.01}_{-6.87}$	1332^{+68}_{-52}	2482^{+9688}_{-14322}	$2.024^{+2477.880}_{-2235.599}$
Alt.	-15 ± 8	$6.79^{+7.14}_{-4.85}$	1332^{+69}_{-52}	1934^{+1029}_{-3947}	$0.452^{+5.441}_{-0.372}$

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 $A_{obs} \gg 1.0$

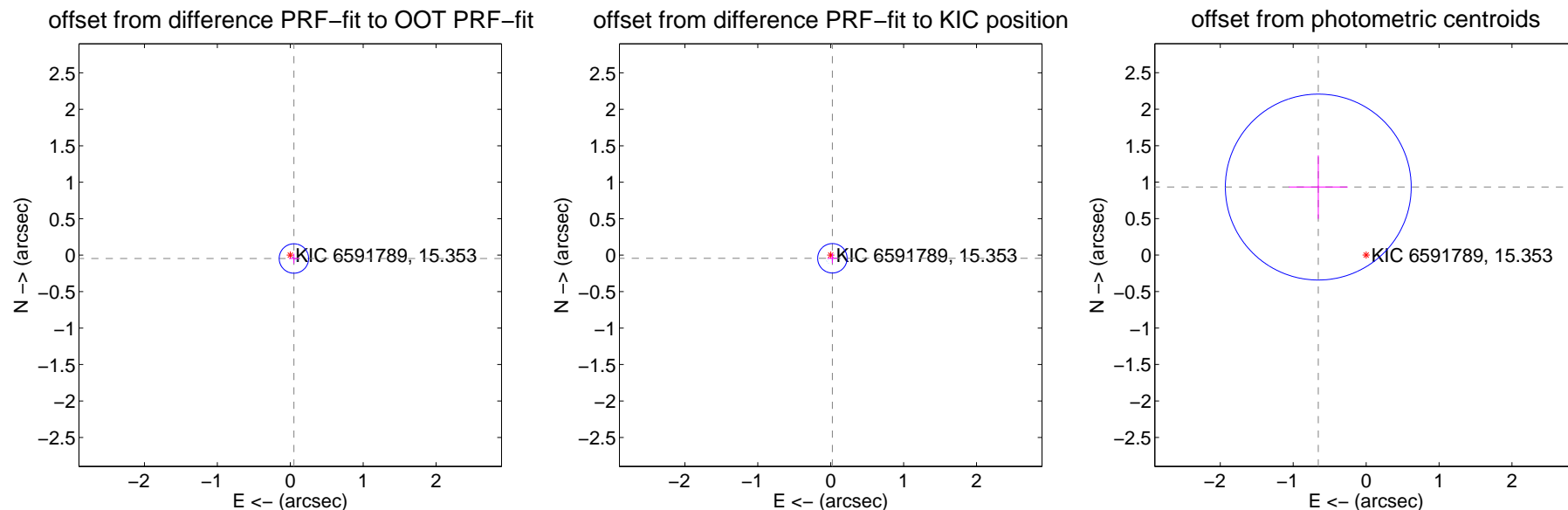
DV Centroid Data

Supplemental centroid analysis for 006591789-03. Kepler magnitude: 15.35. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

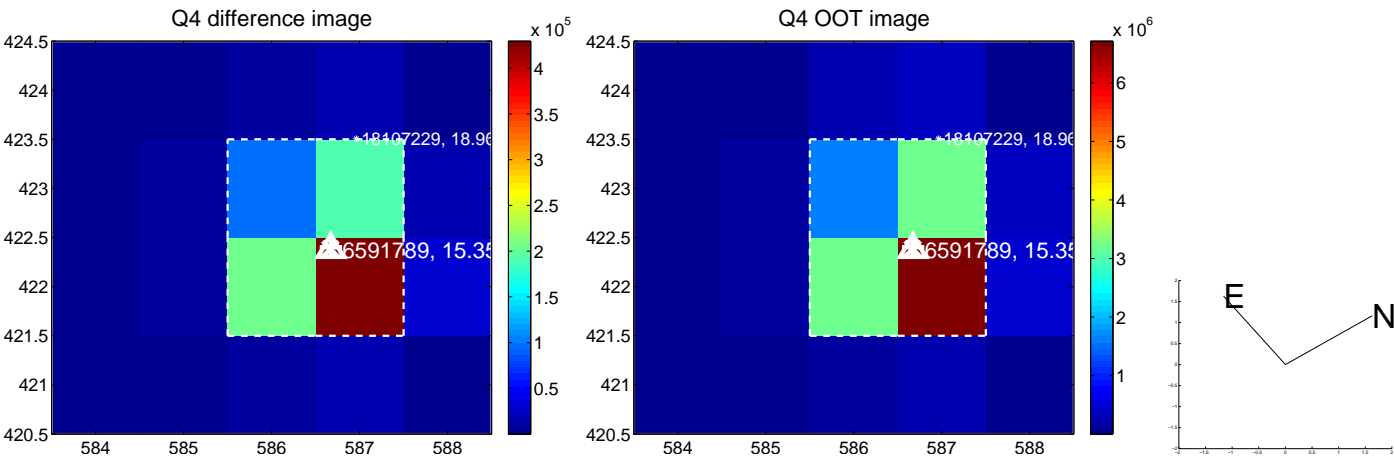
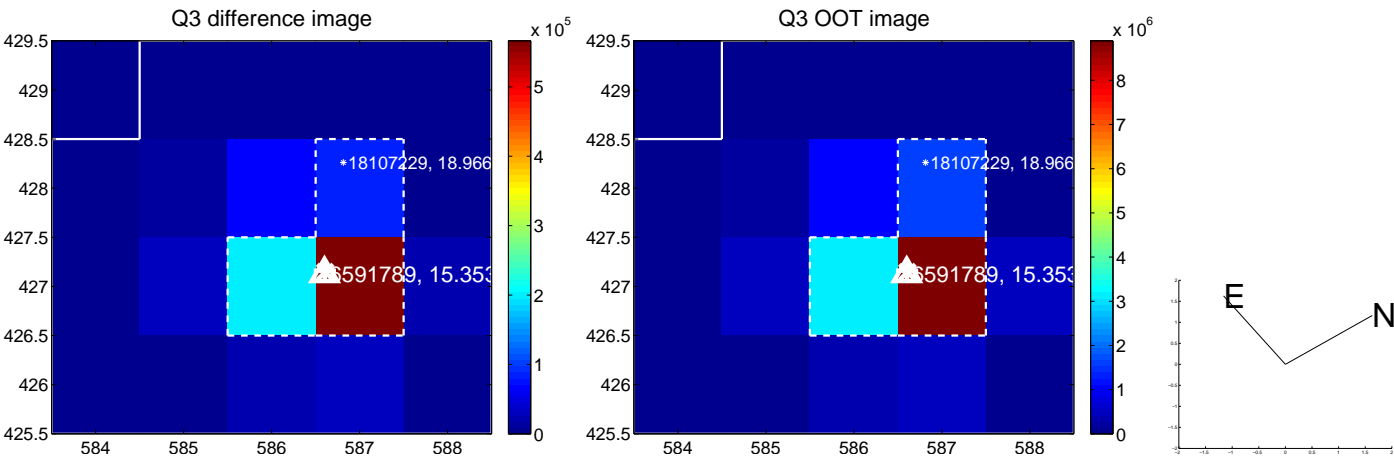
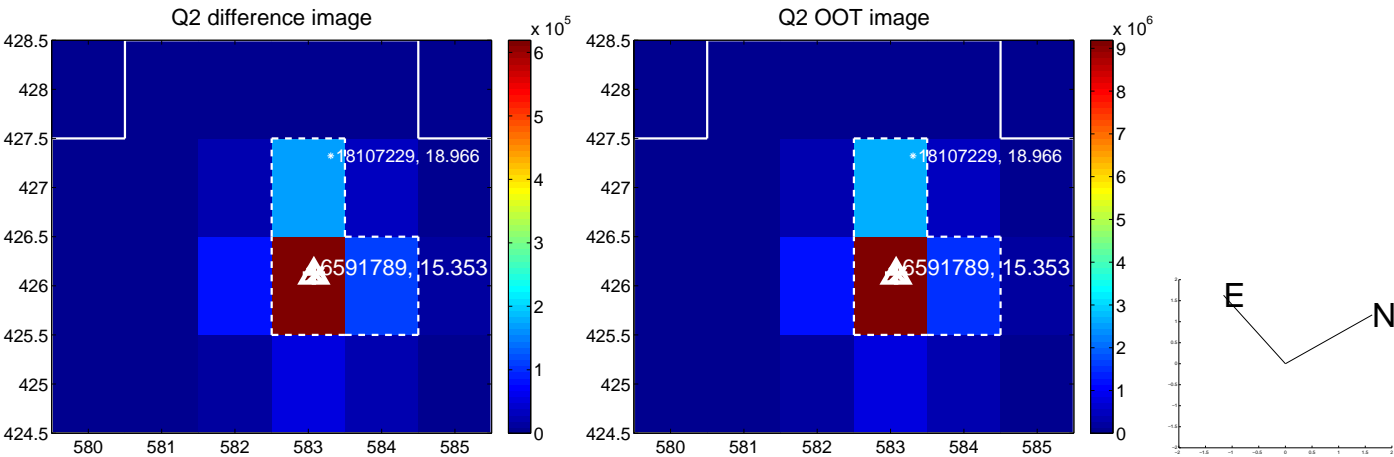
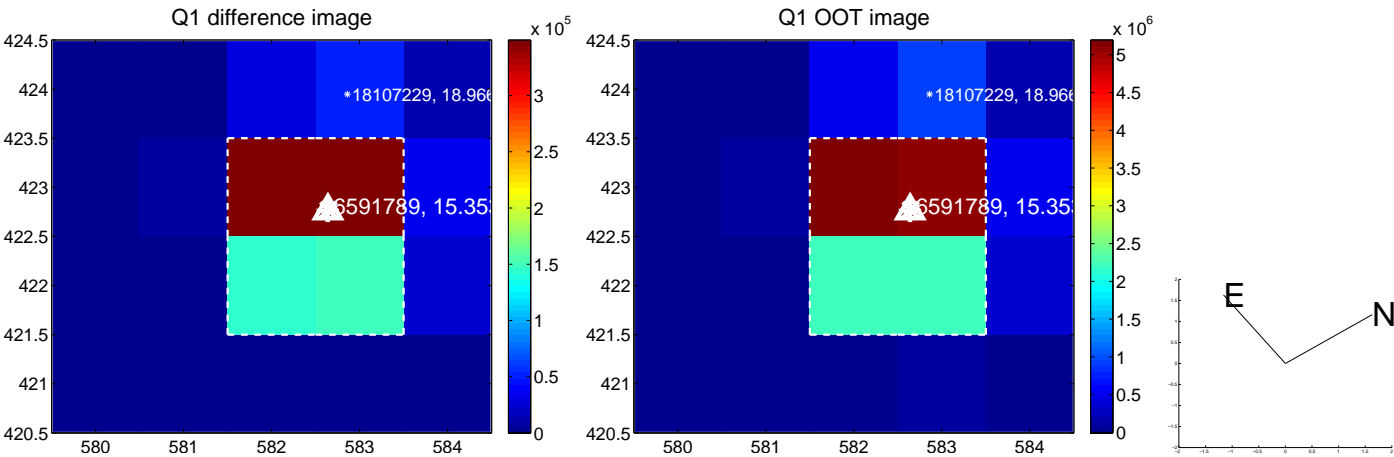
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.068 ± 0.067	1.01	-0.050 ± 0.067	-0.046 ± 0.067
PRF-fit source offset from KIC position	0.049 ± 0.067	0.72	-0.023 ± 0.067	-0.043 ± 0.067
photometric centroid source offset	1.14 ± 0.42	2.68	0.66 ± 0.40	0.93 ± 0.44

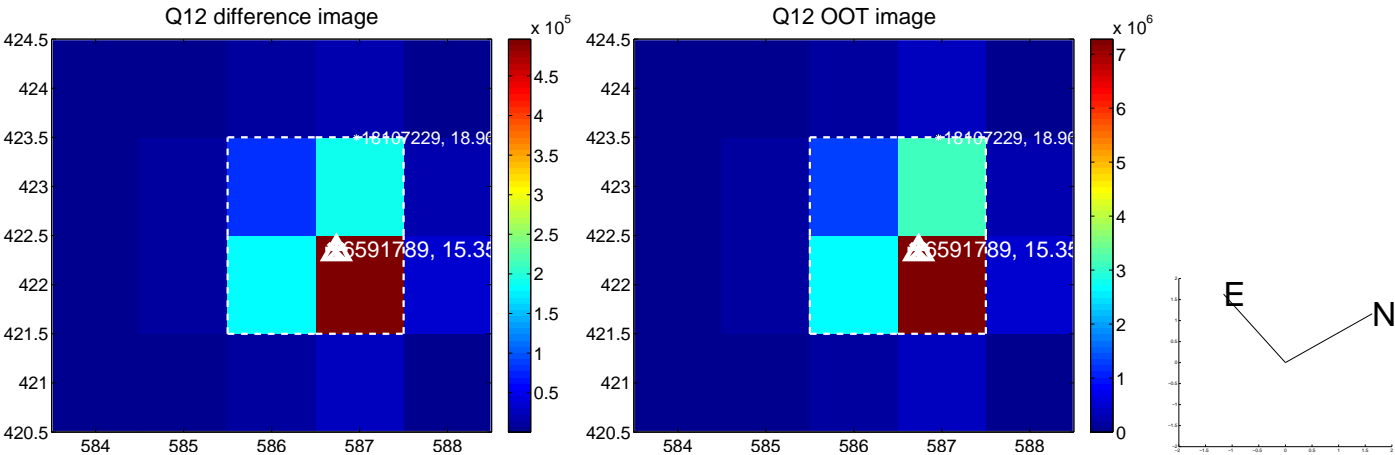
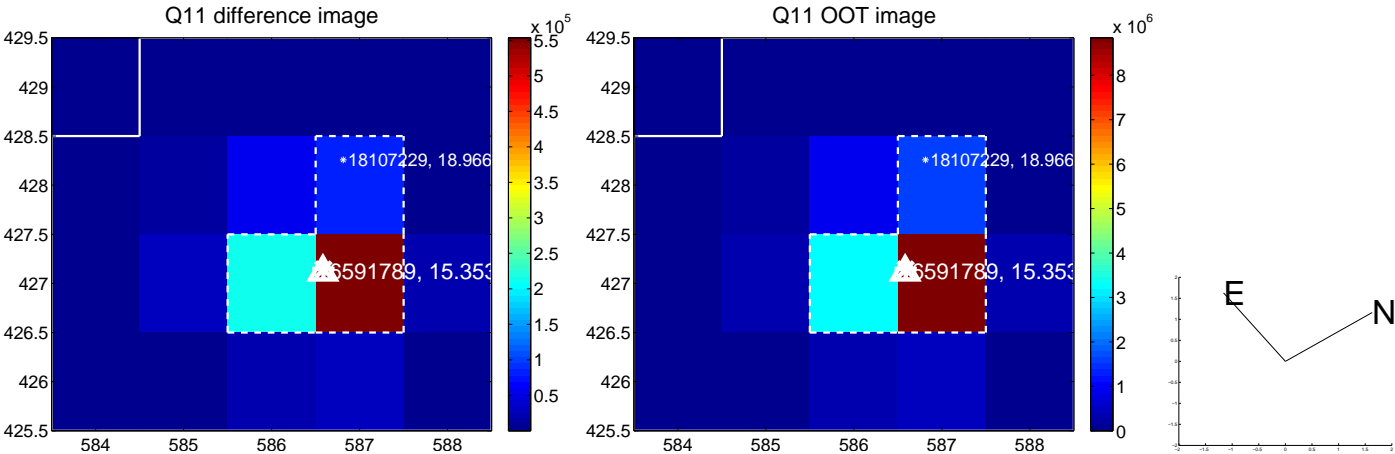
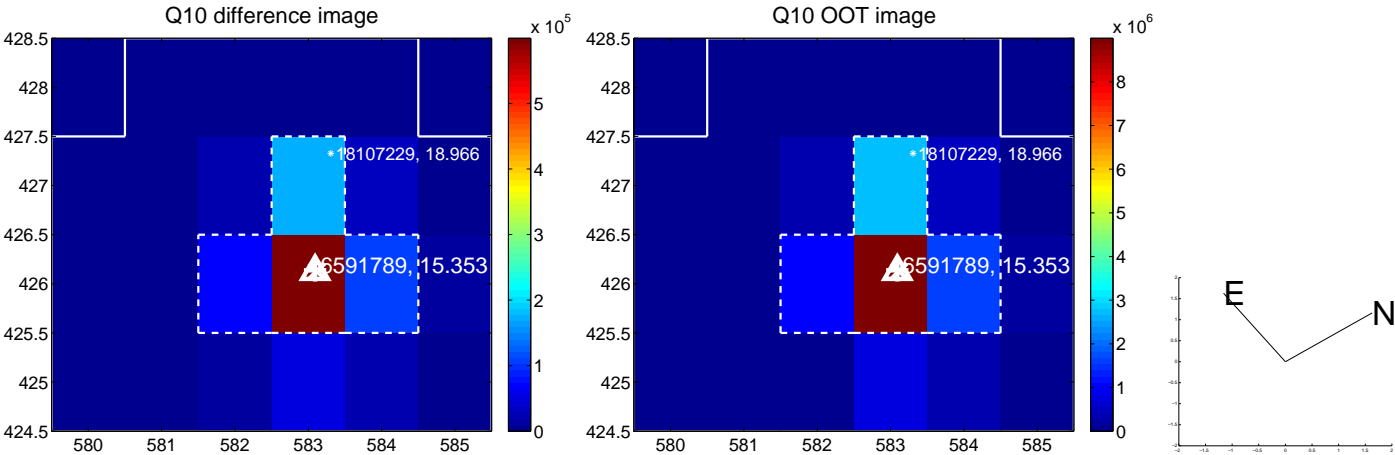
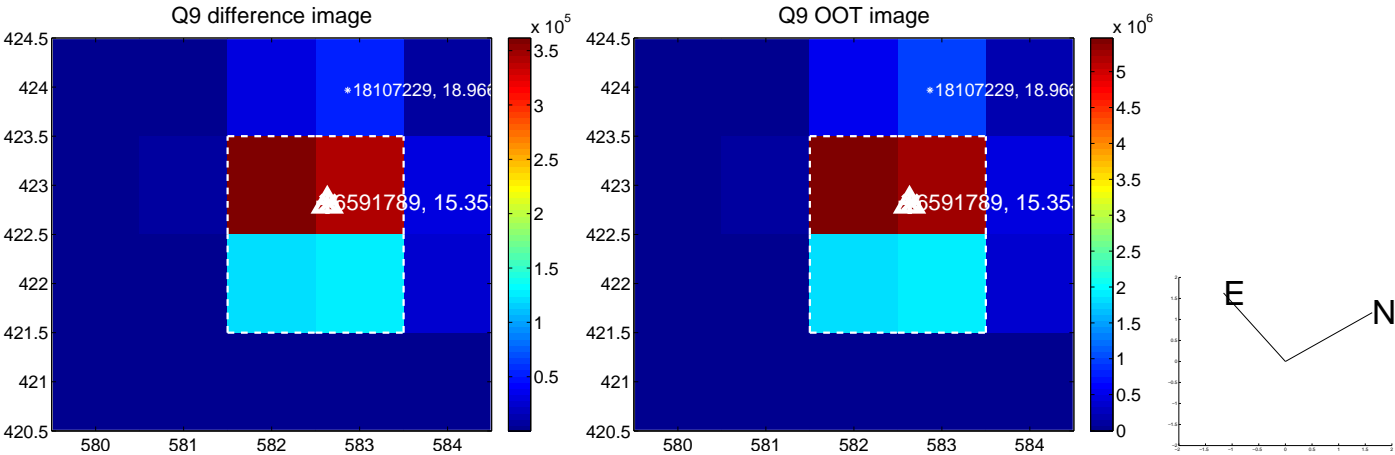


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

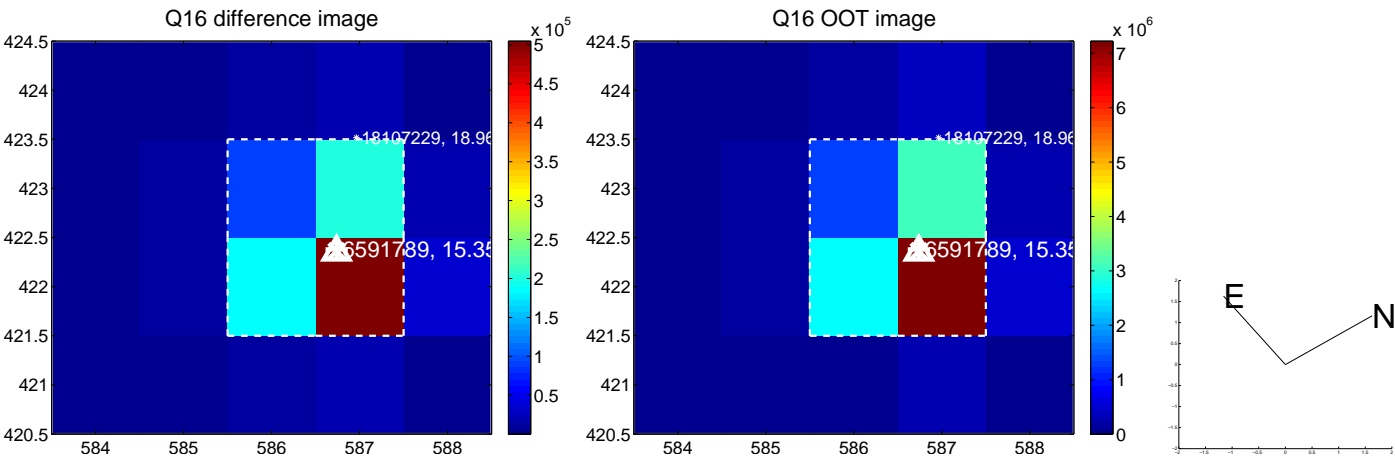
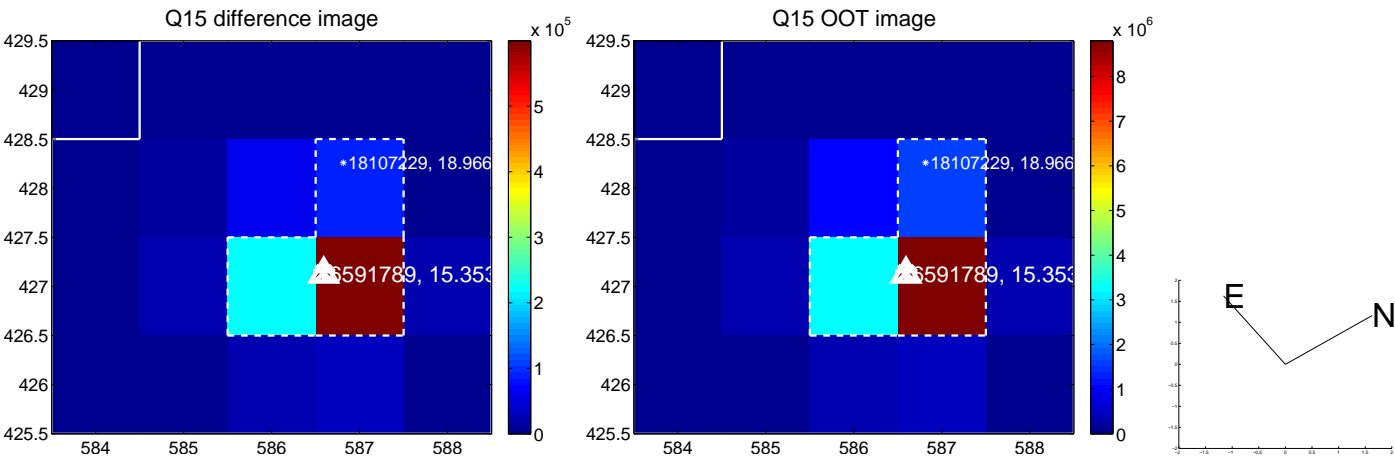
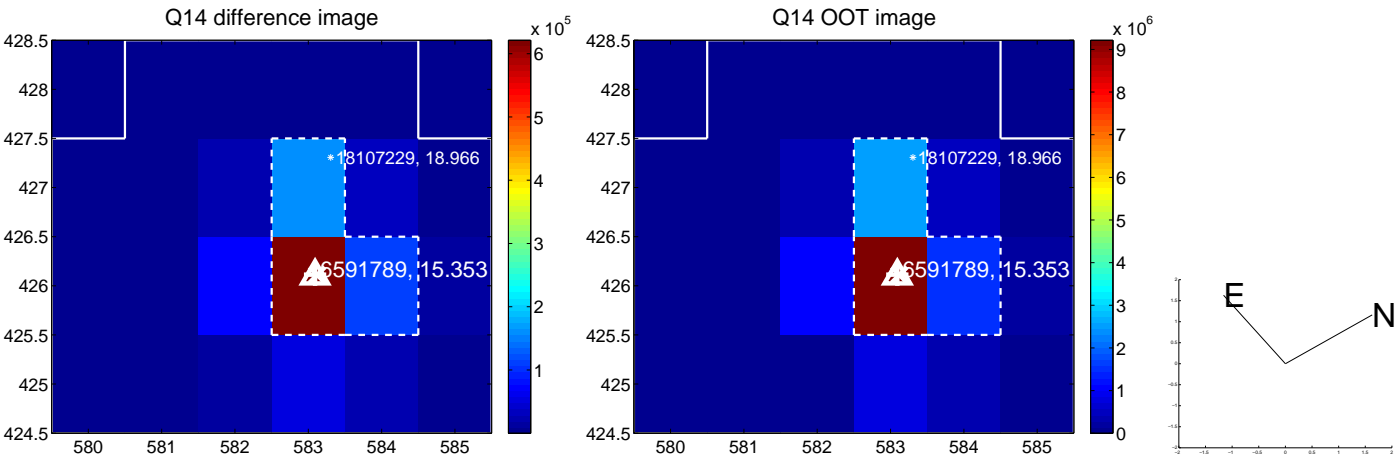
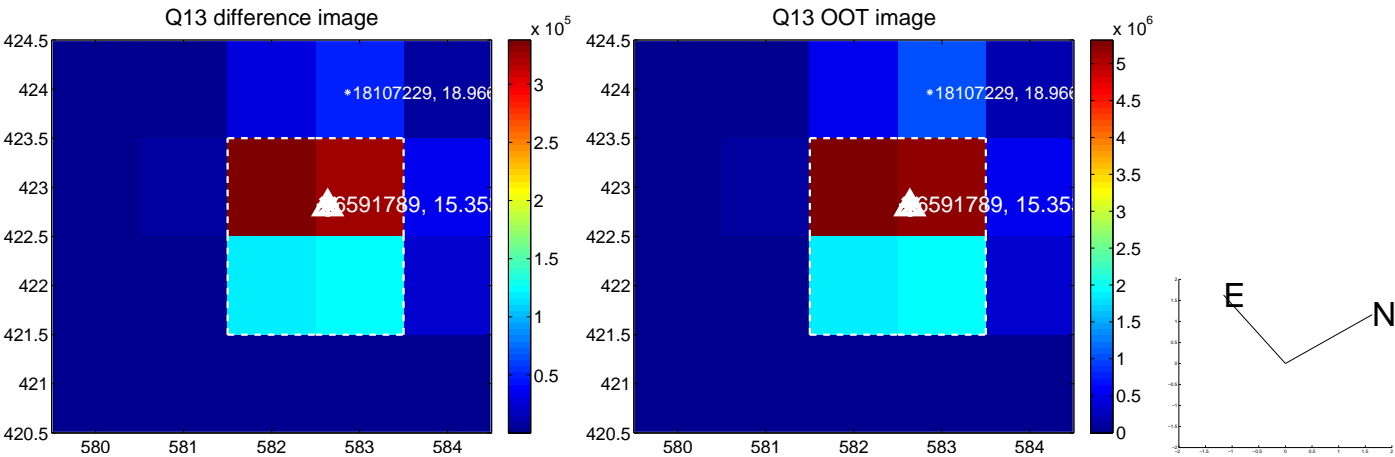
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



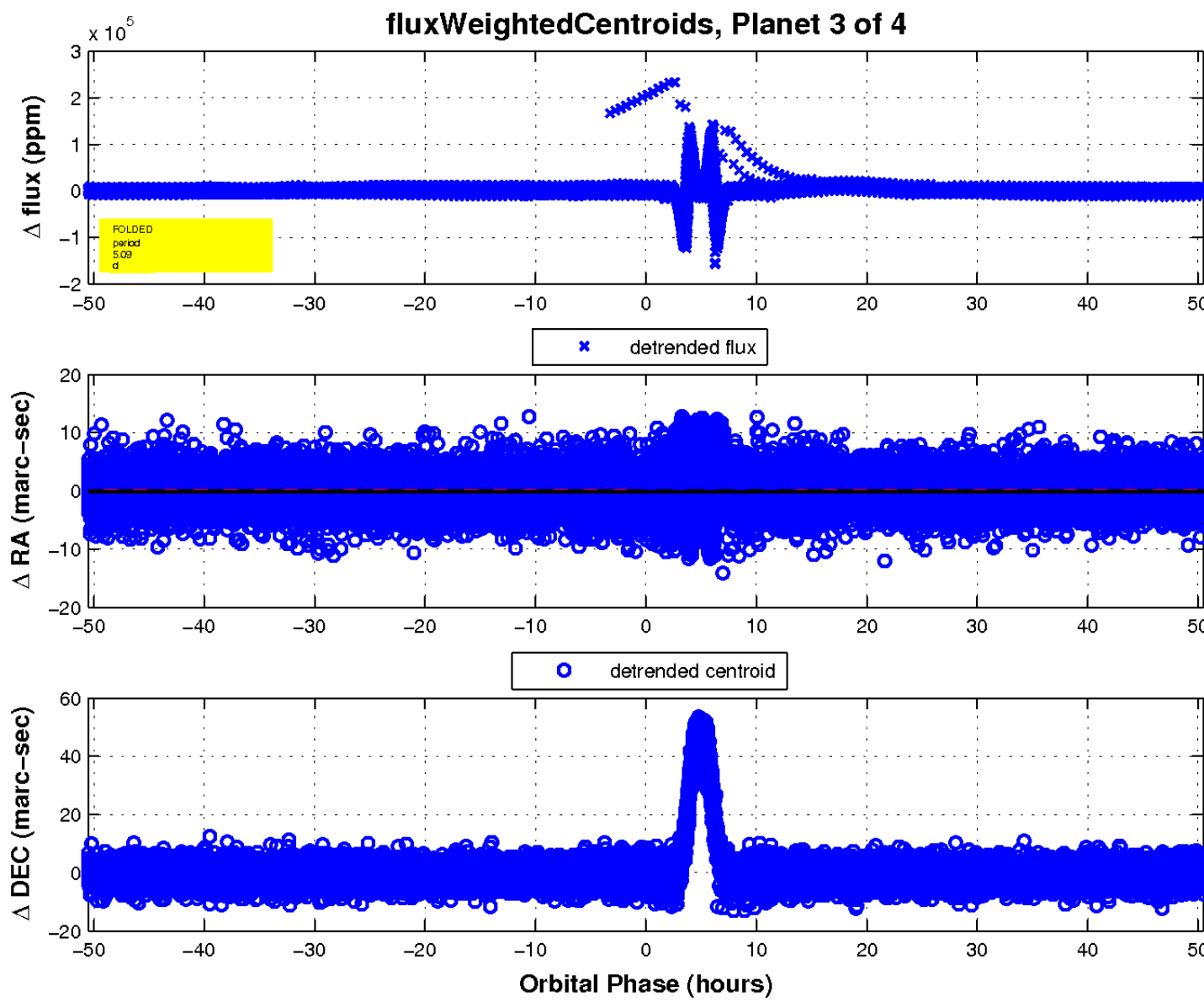
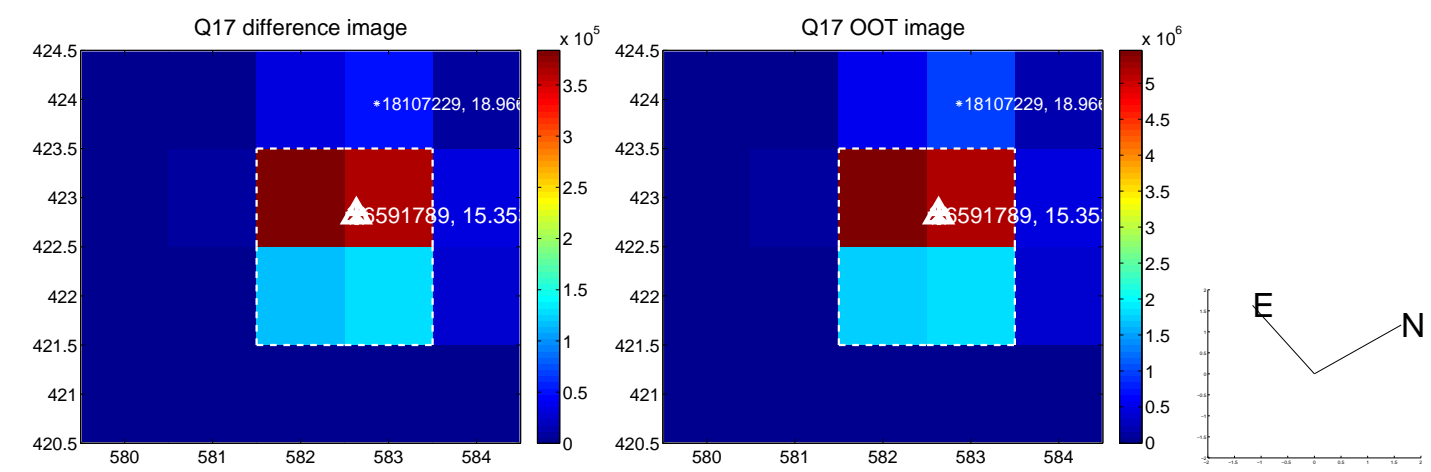
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

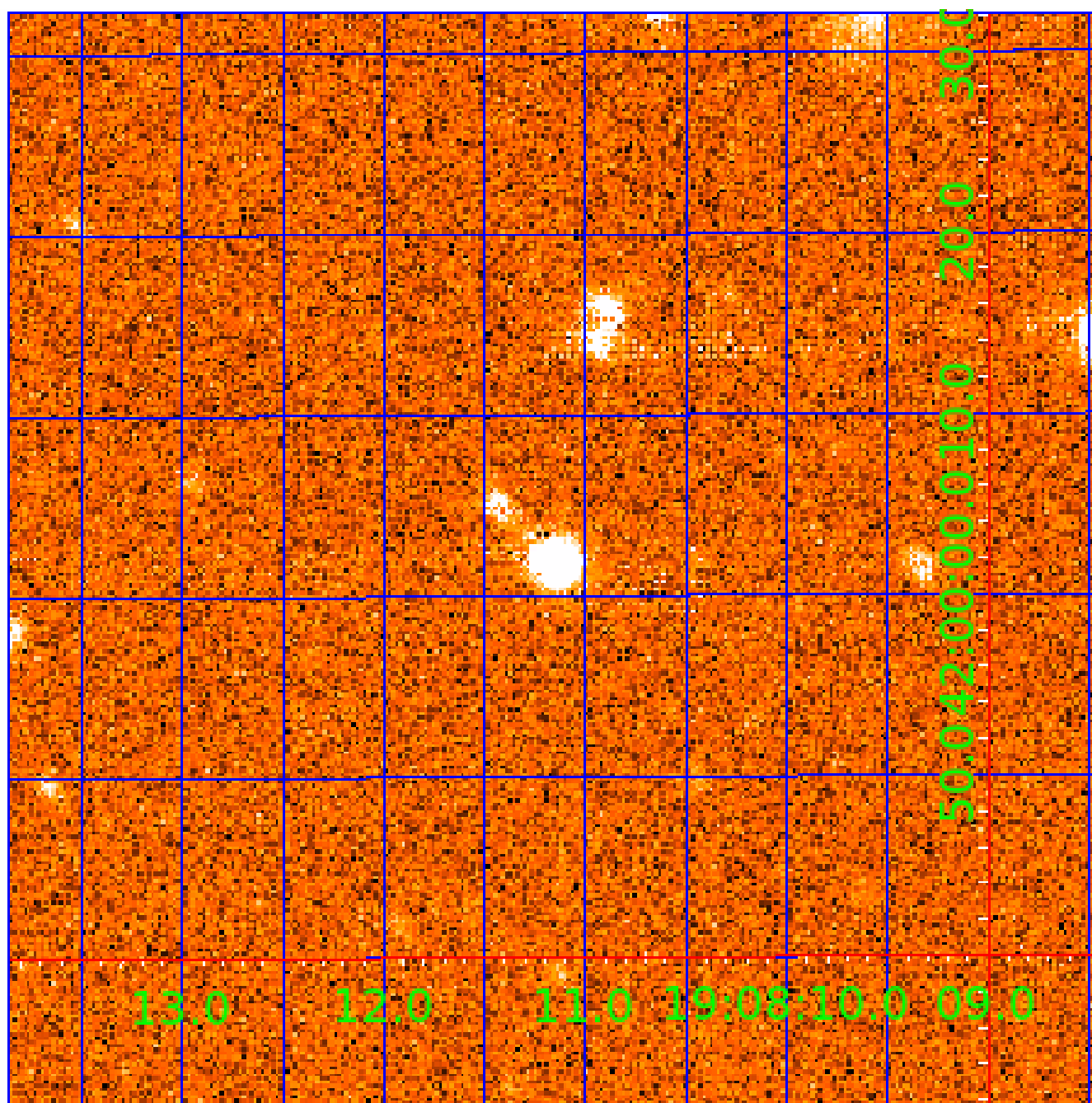


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006591789

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})
006591789-01	OBS	6735.01	5.088360	134.357028	384668.8	3.000	16250.9	-1.0	0.79	5618	43.16	182.21
006591789-02	OBS	No	5.088404	131.768866	112794.9	4.732	4965.8	3654.3	0.79	5618	39.08	182.21
006591789-03	OBS	No	5.088406	133.833608	9798.0	7.500	507.4	-1.0	0.79	5618	7.75	182.21
006591789-04	OBS	No	5.088368	134.886976	10482.5	14.251	239.8	175.9	0.79	5618	14.61	182.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006591789-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
006591789-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
006591789-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS
006591789-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—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 006591789-04

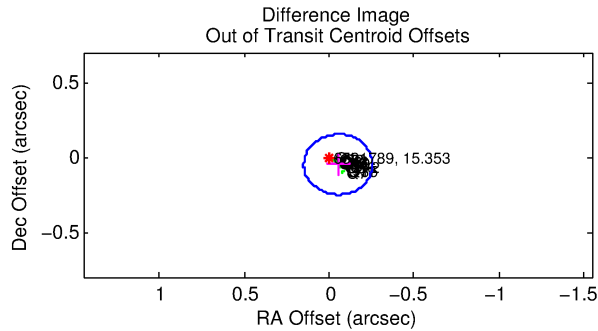
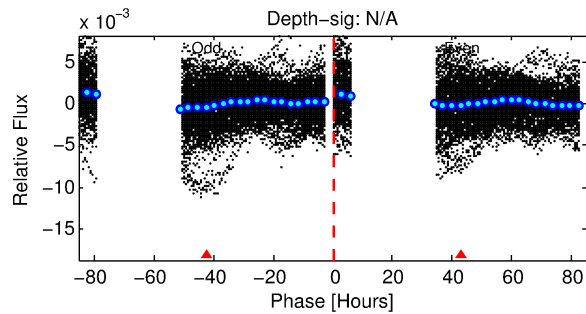
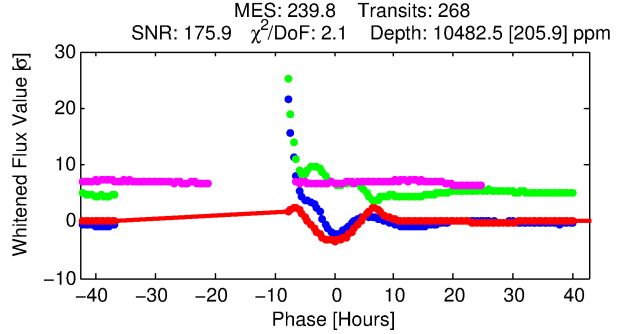
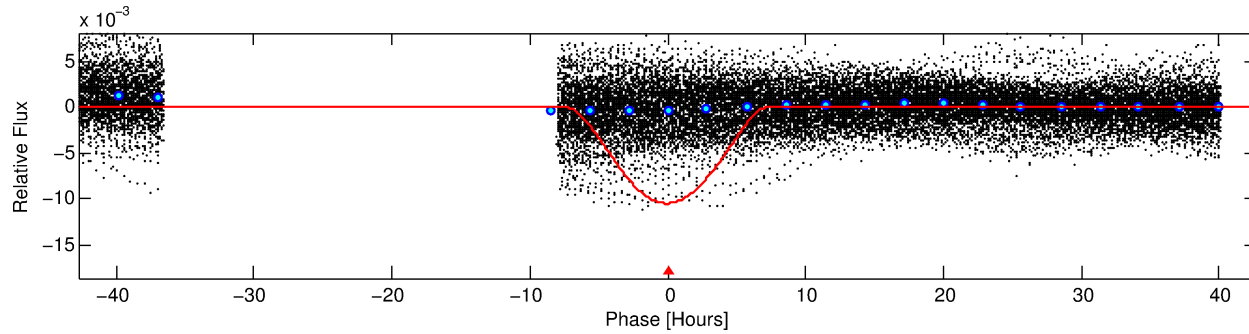
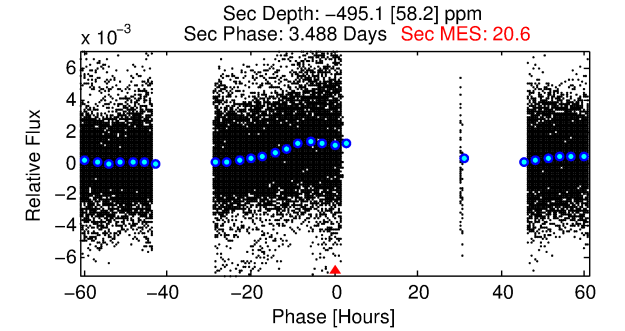
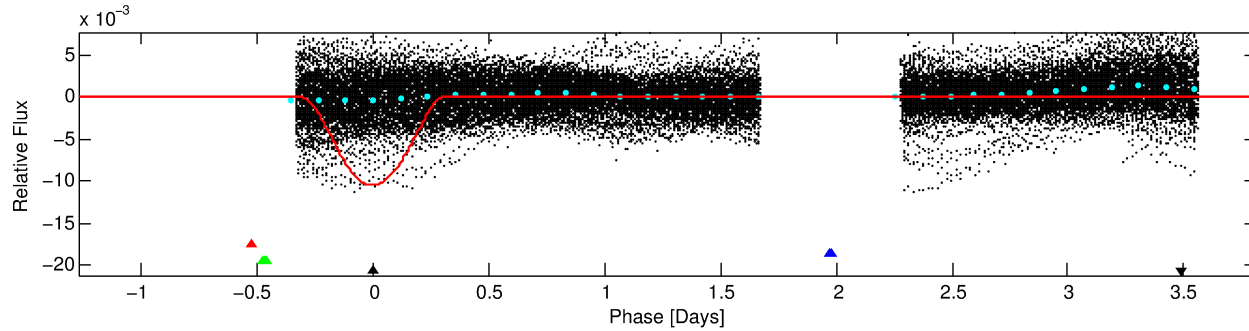
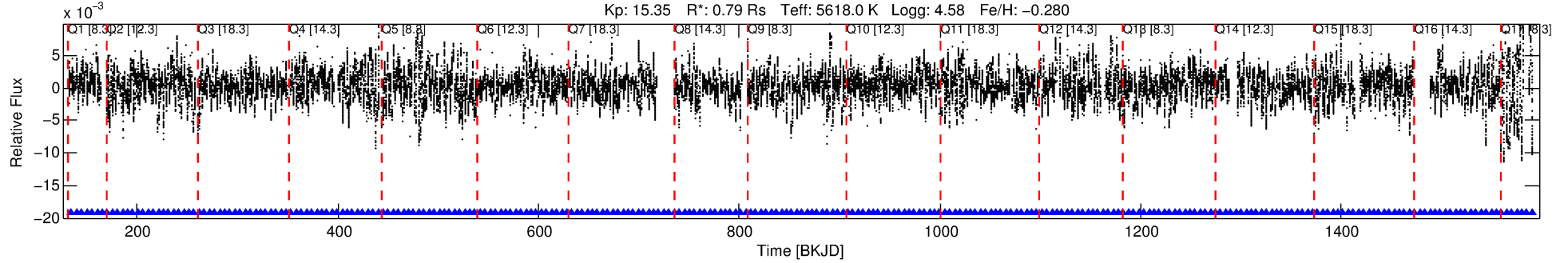
No Significant Match Found

DV One-Page Summary

KIC: 6591789 Candidate: 4 of 4 Period: 5.088 d

KOI: K06735 Corr: No Ephemeris Match

Kp: 15.35 R*: 0.79 Rs Teff: 5618.0 K Logg: 4.58 Fe/H: -0.280



DV Fit Results:

Period = 5.08837 [0.00001] d
Epoch = 134.8870 [0.0015] BKJD
Rp/R* = 0.1692 [0.0200]
a/R* = 1.96 [0.01]
b = 1.00 [0.03]
Seff = 182.21 [54.49]
Teq = 937 [70] K
Rp = 14.61 [3.76] Re
a = 0.0554 [0.0106] AU
Ag = N/A
Teffp = N/A

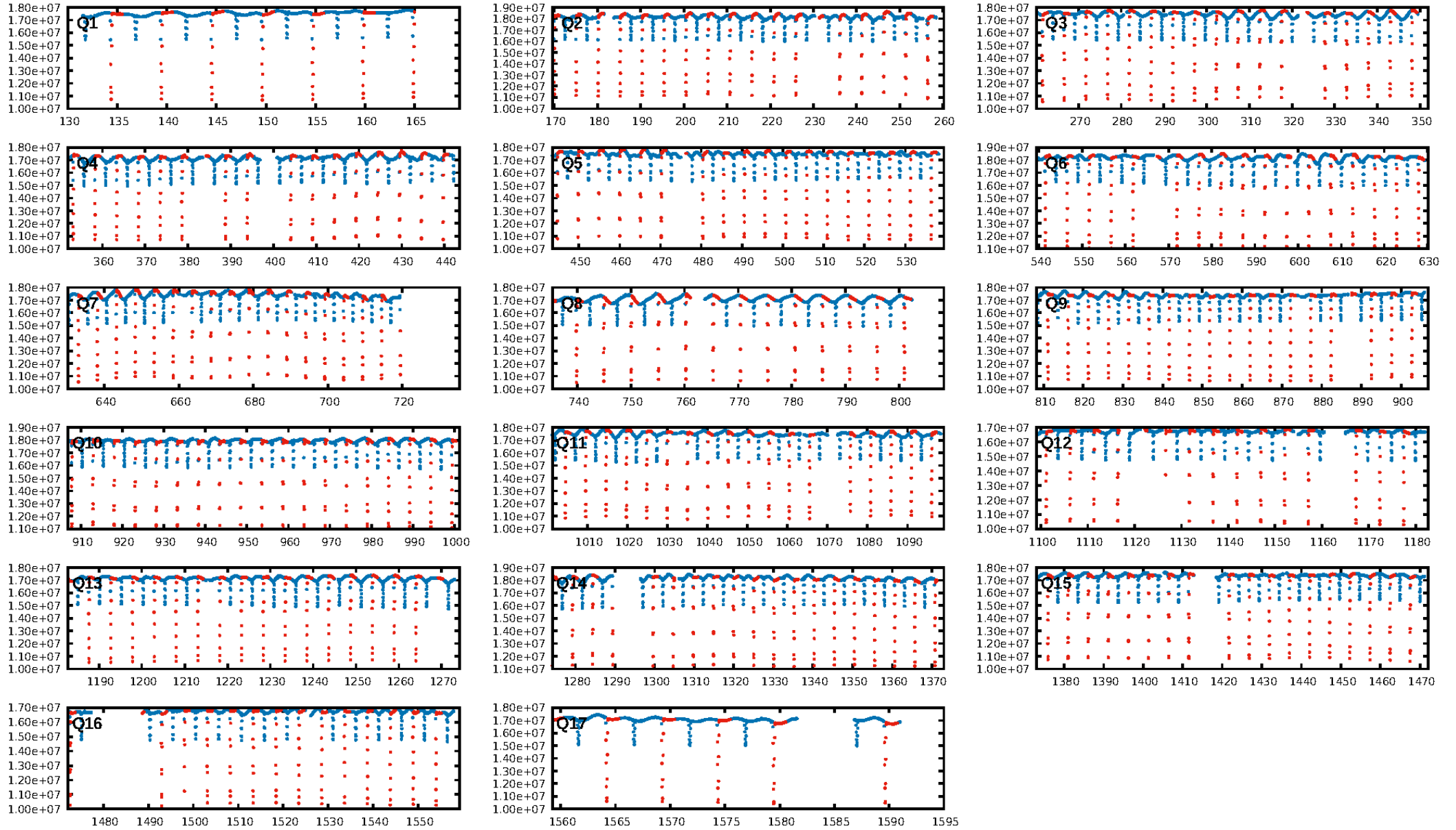
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [256/256]
GhostDiagnostic-chr: -8.07
Centroid-sig: N/A
Centroid-so: 0.095 arcsec [7.69σ]
OotOffset-rm: 0.072 arcsec [1.07σ]
KicOffset-rm: 0.050 arcsec [0.75σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 0.00 [0/17]

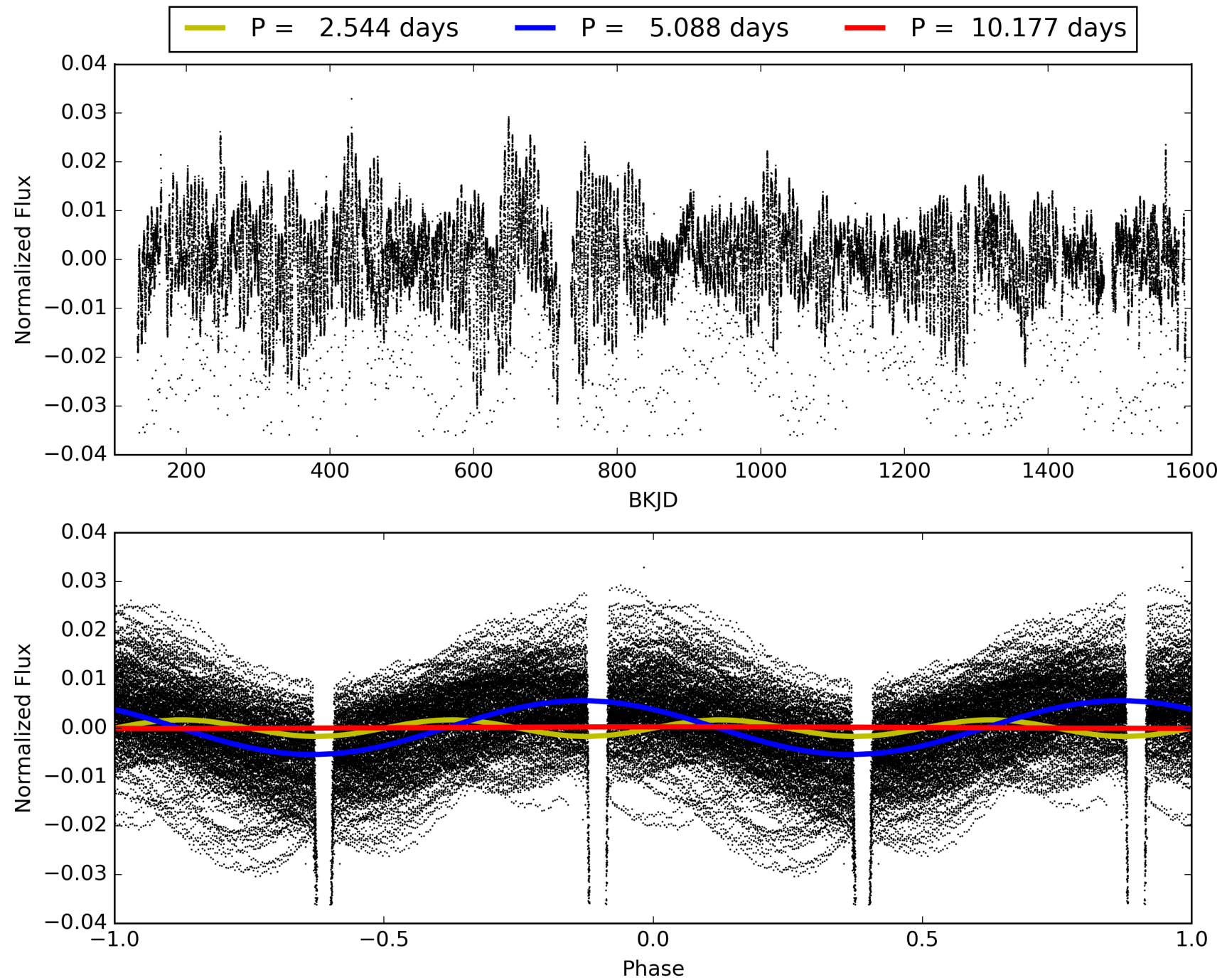
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 02:03:02 Z

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

TCE 006591789-04, PDC Light Curves

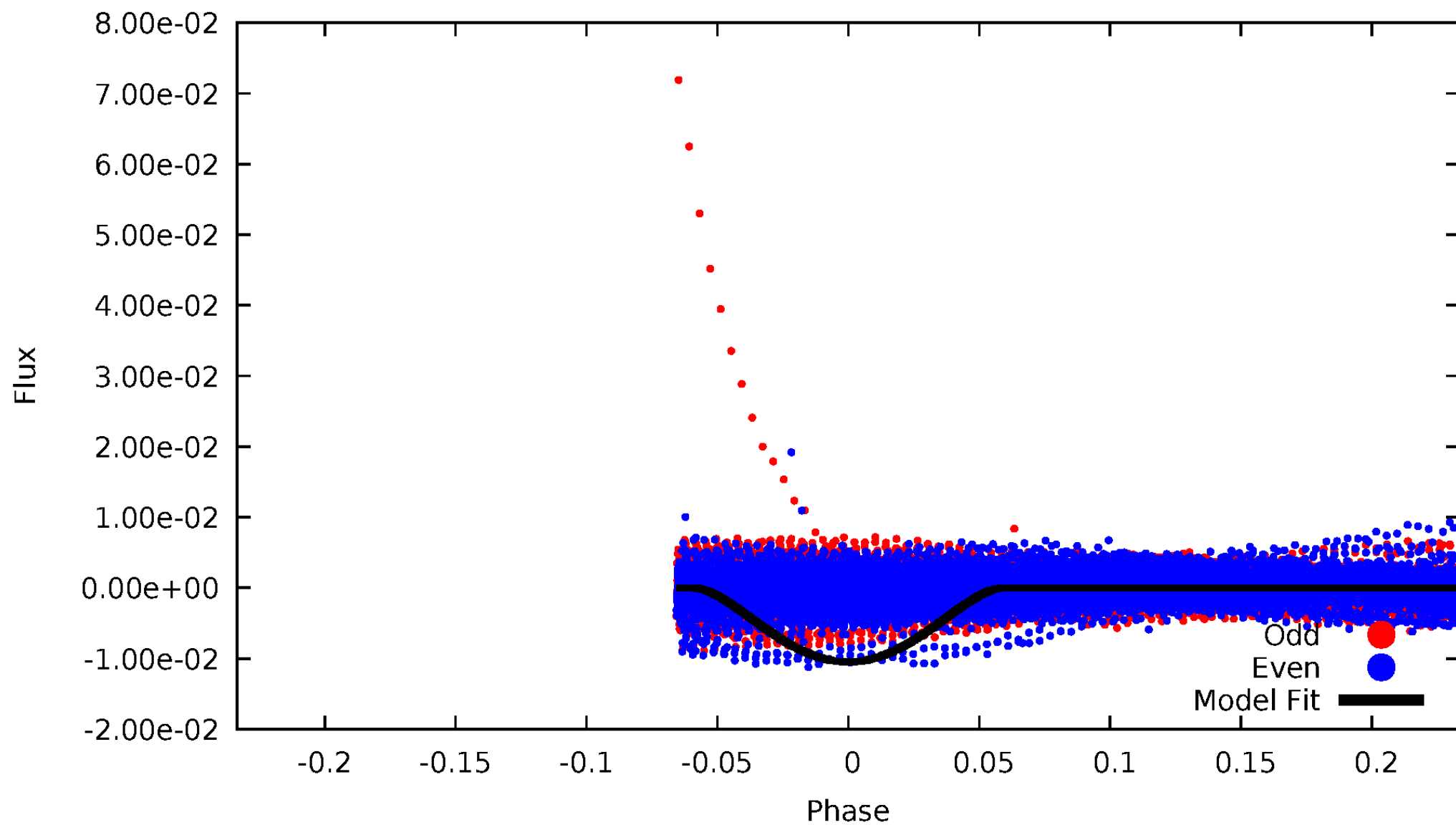


TCE 006591789-04



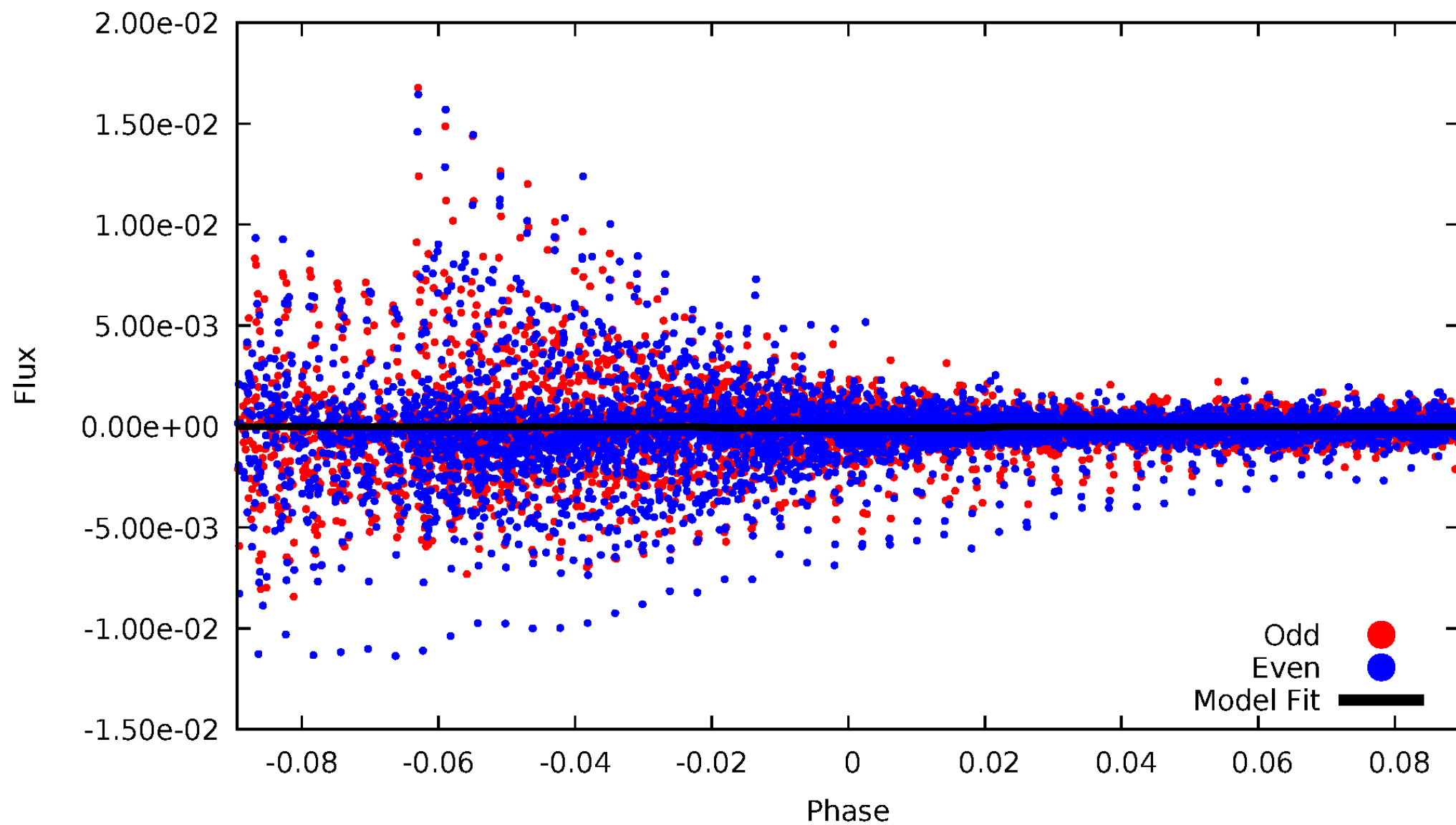
DV Odd/Even

TCE 006591789-04



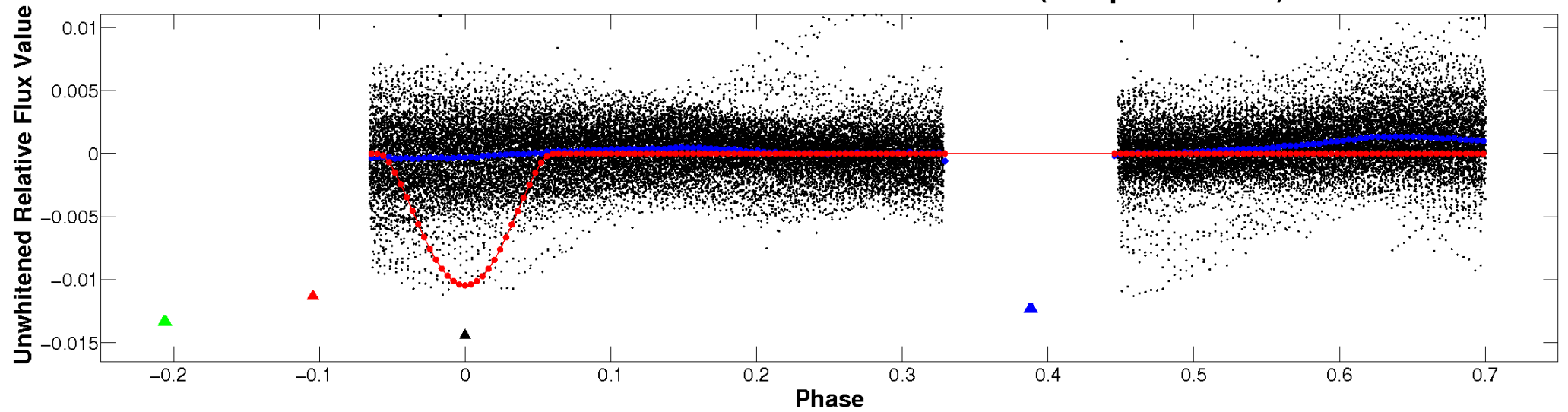
ALT Odd/Even

TCE 006591789-04

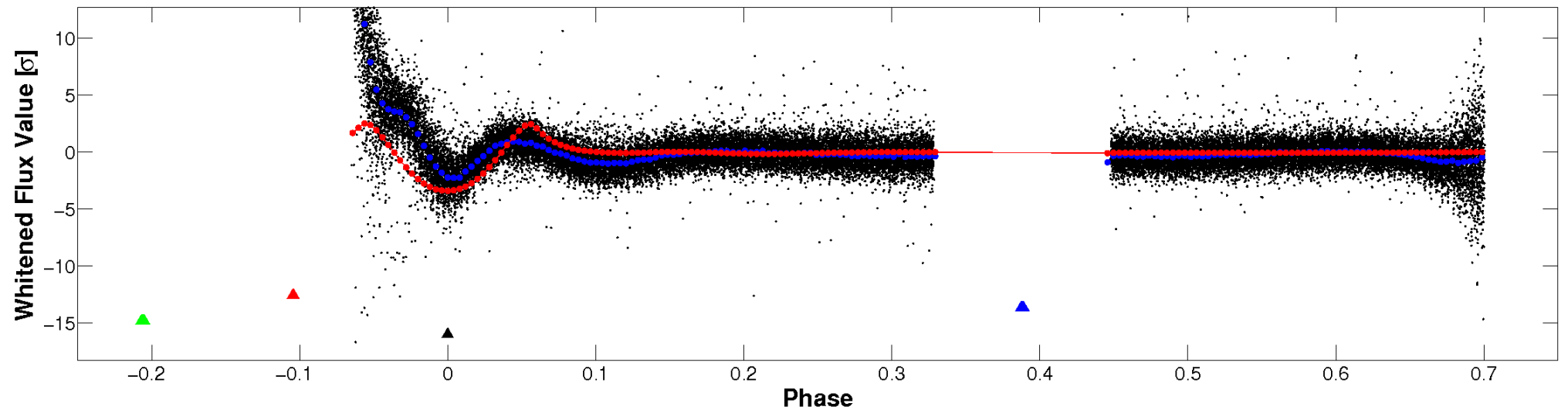


Non-Whitened Vs. Whitened Light Curve

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

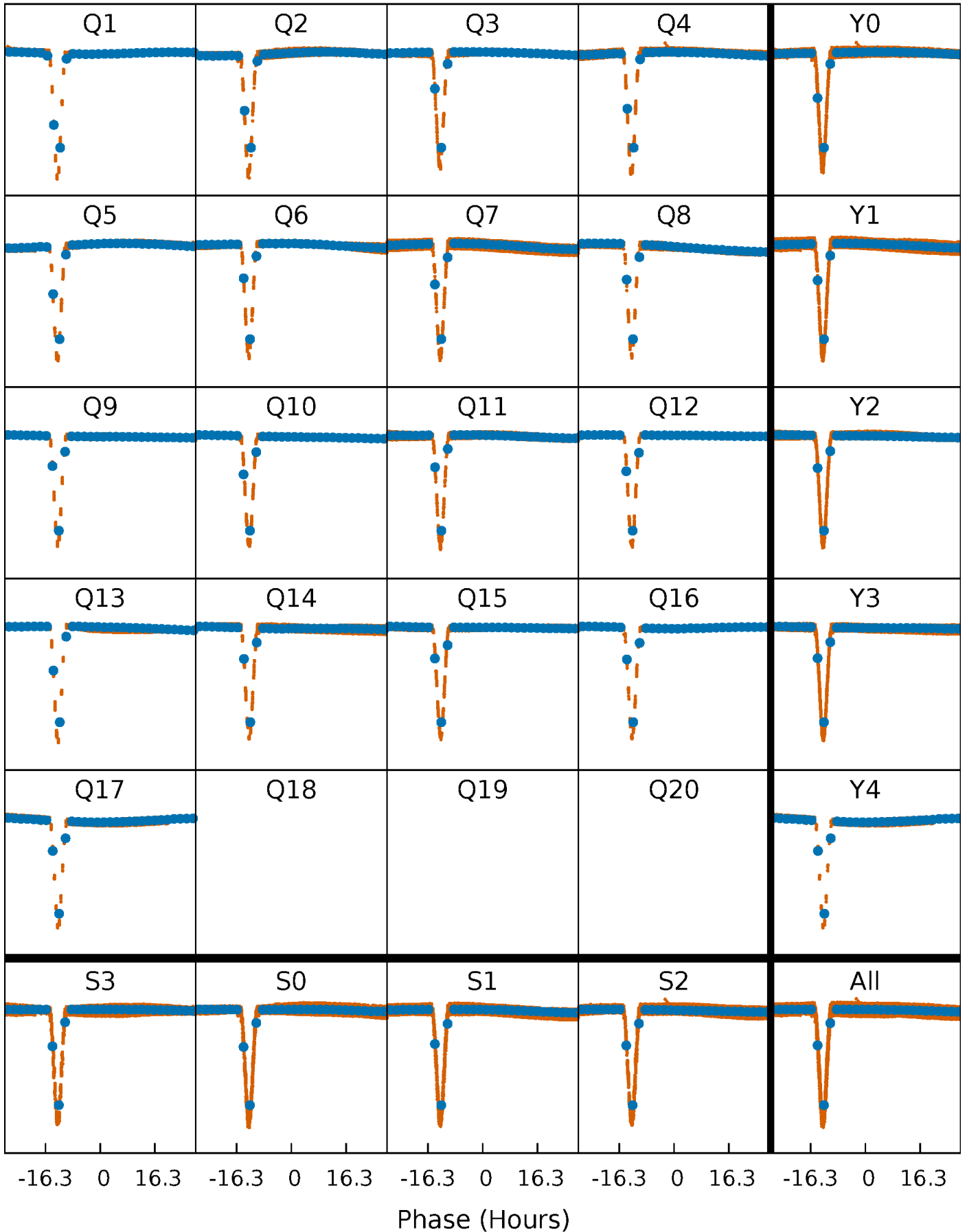


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



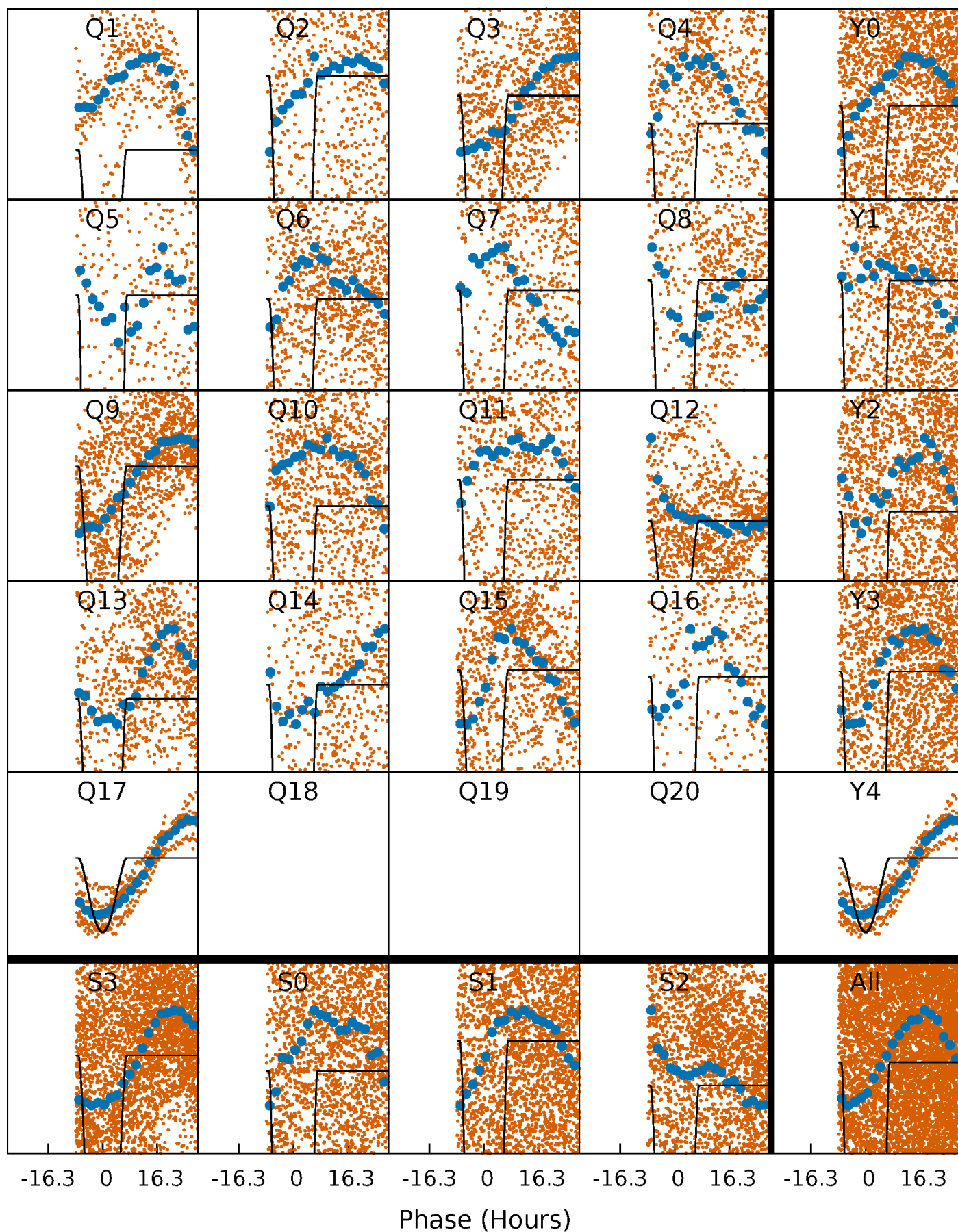
PDC Quarter-Phased Transit Curves

TCE 006591789-04 P= 5.088368 Days $T_0=134.886976$ (BKJD)



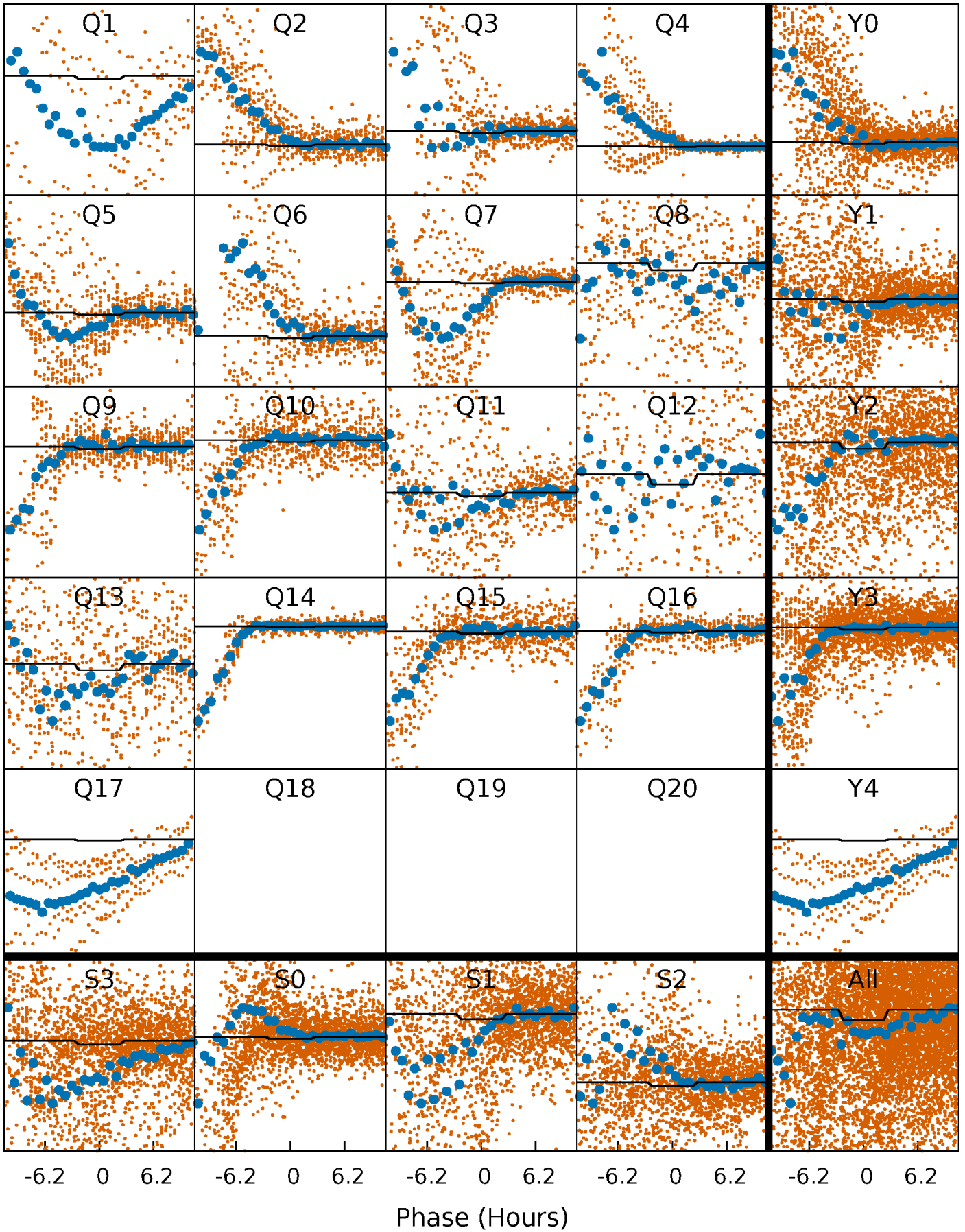
DV Quarter-Phased Transit Curves

TCE 006591789-04 P= 5.088368 Days $T_0=134.886976$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

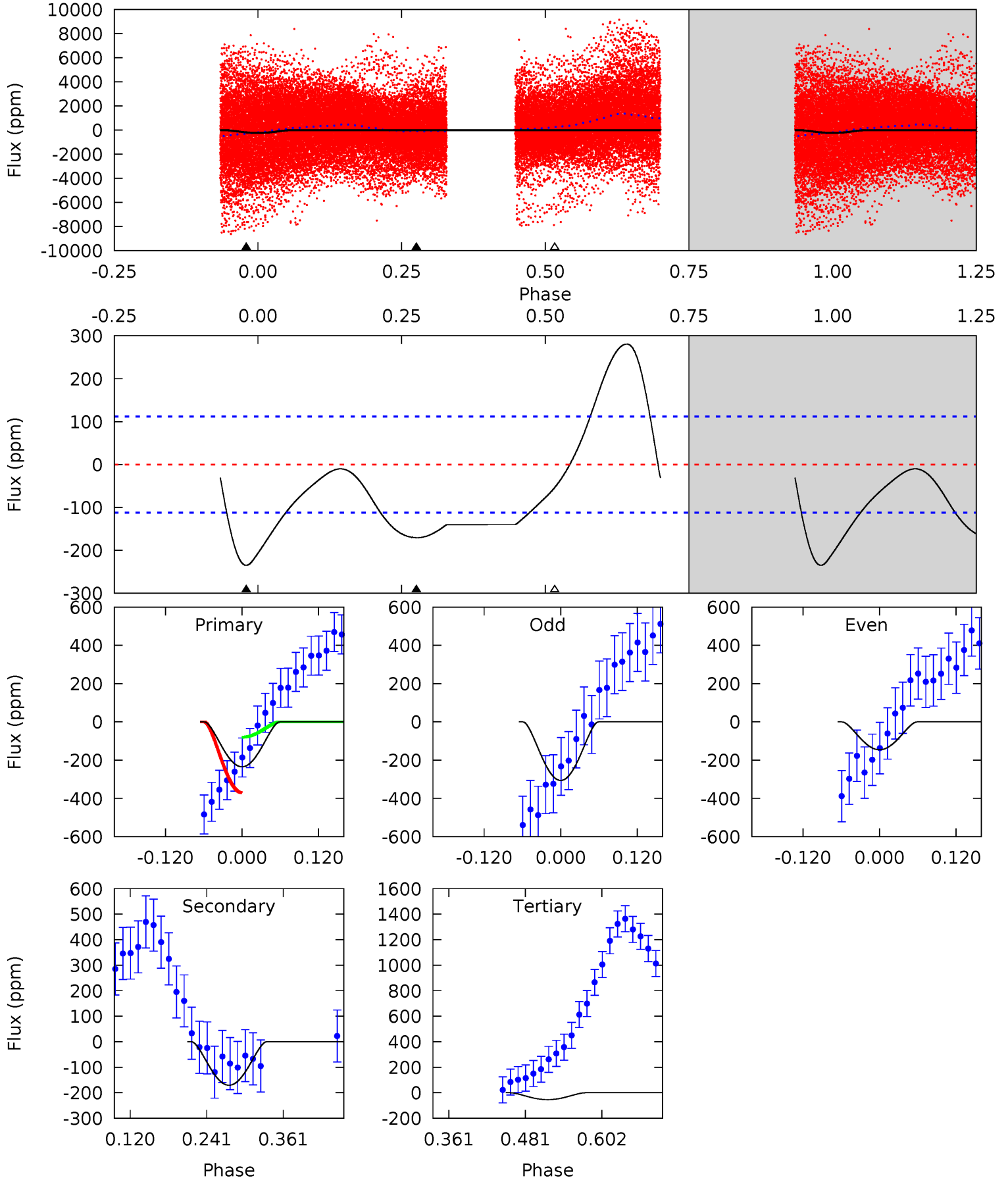
TCE 006591789-04 P= 5.088406 Days $T_0=135.012731$ (BKJD)



DV Model-Shift Uniqueness Test

006591789-04, P = 5.088368 Days, E = 129.798608 Days

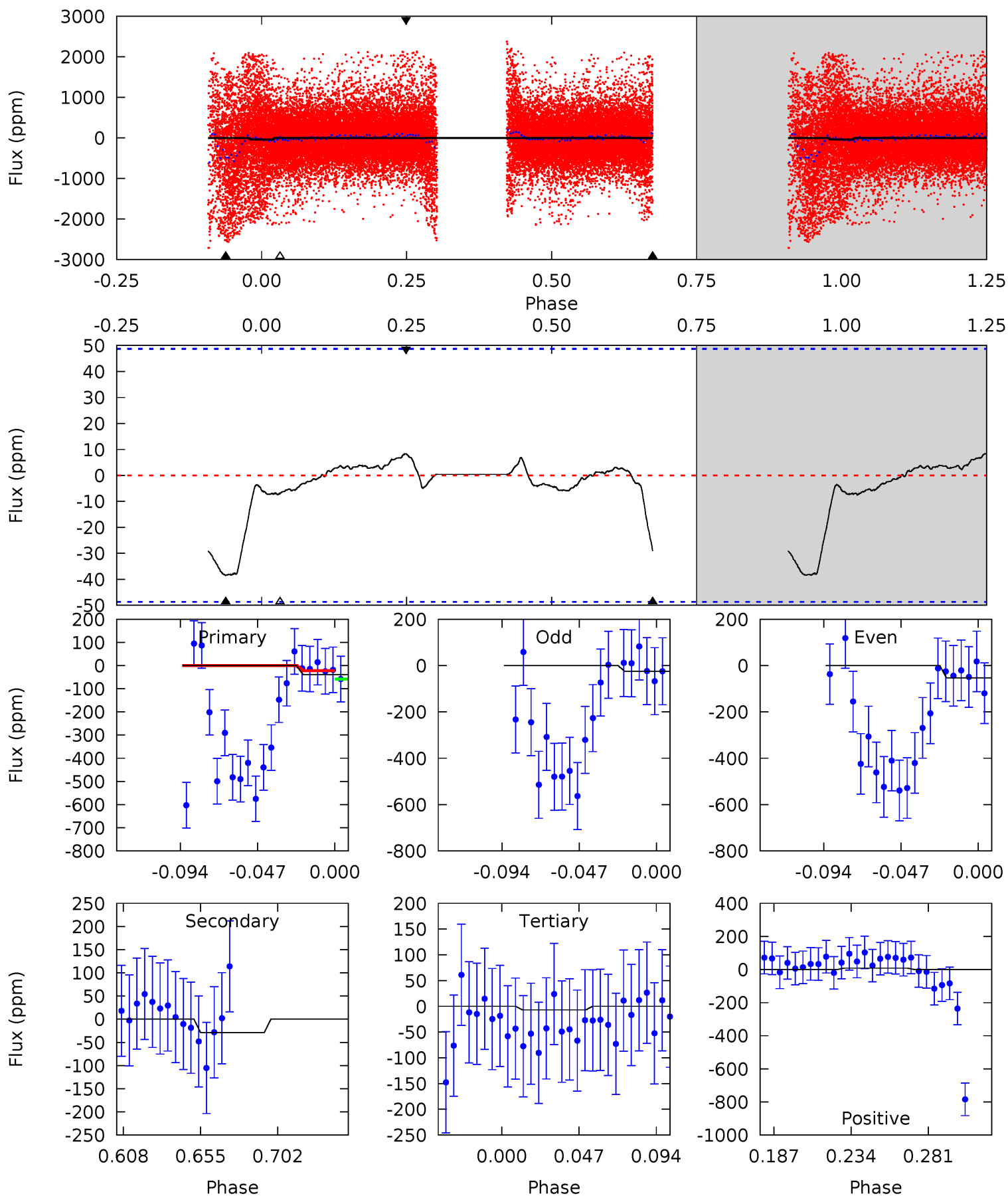
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.50	6.90	2.18	0	4.53	1.55	5.34	7.32	9.50	4.72	6.90	3.25	0.86	0.54	5.24



Alt Model-Shift Uniqueness Test

006591789-04, P = 5.088406 Days, E = 129.924325 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.73	2.82	0.67	0.81	4.72	1.99	0.40	3.06	2.92	2.14	2.01	1.39	-9.49	0.18	1.83



Stellar Parameters For KIC 006591789

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5618^{+152}_{-152}	$4.583^{+0.038}_{-0.152}$	$-0.280^{+0.300}_{-0.300}$	$0.791^{+0.181}_{-0.065}$	$0.884^{+0.088}_{-0.107}$	$2.517^{+0.493}_{-1.098}$
	+3%/-3%	+1%/-3%	+107%/-107%	+23%/-8%	+10%/-12%	+20%/-44%
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 006591789-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-171 ± 25	$15.20^{+2.32}_{-2.07}$	1334^{+70}_{-54}	2349^{+119}_{-106}	$1.238^{+0.445}_{-0.352}$
Alt.	-29 ± 10	$1.54^{+1.45}_{-1.08}$	1334^{+71}_{-51}	3568^{+2114}_{-700}	20^{+186}_{-15}

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

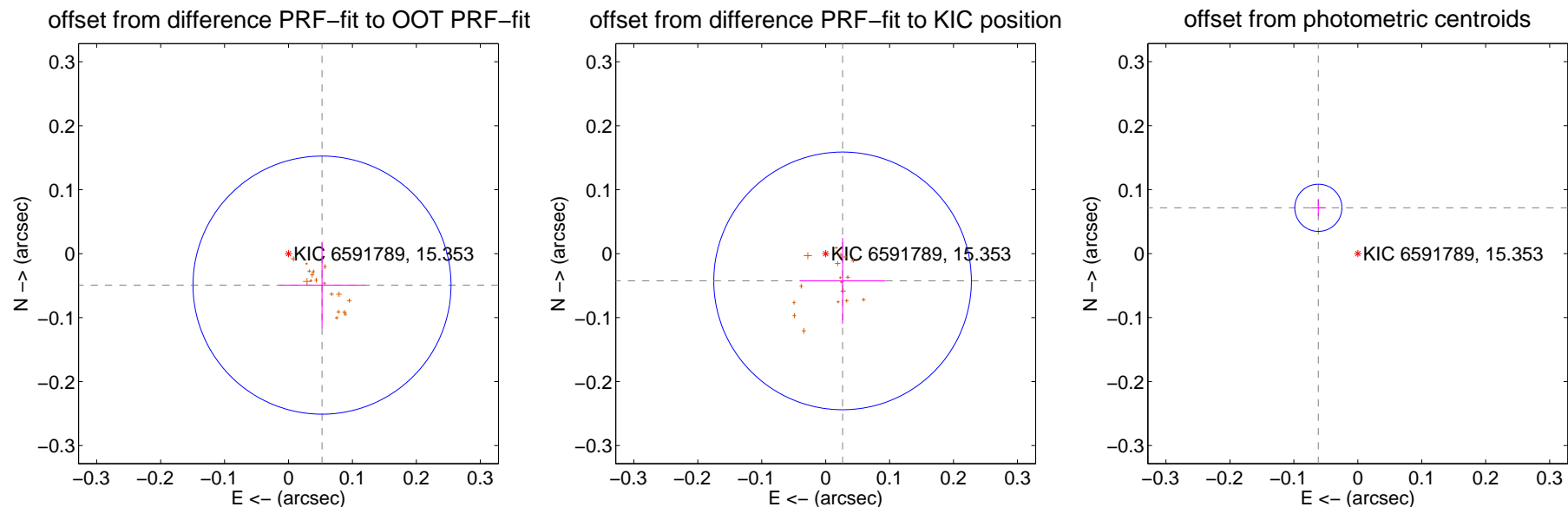
DV Centroid Data

Supplemental centroid analysis for 006591789-04. Kepler magnitude: 15.35. Transit SNR 175.88

There are 0 quarters with good PRF difference image offsets

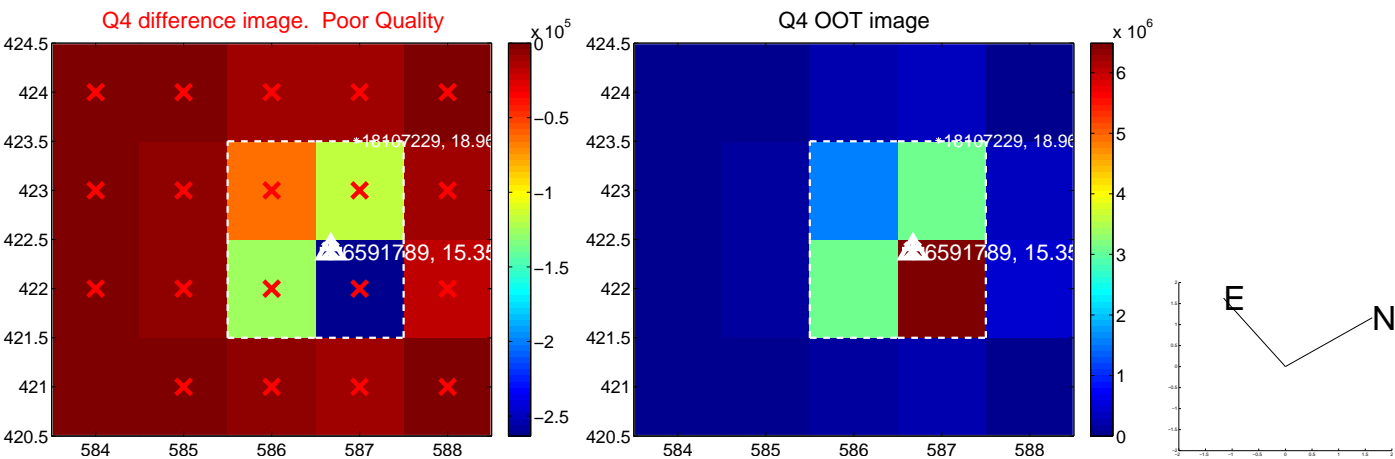
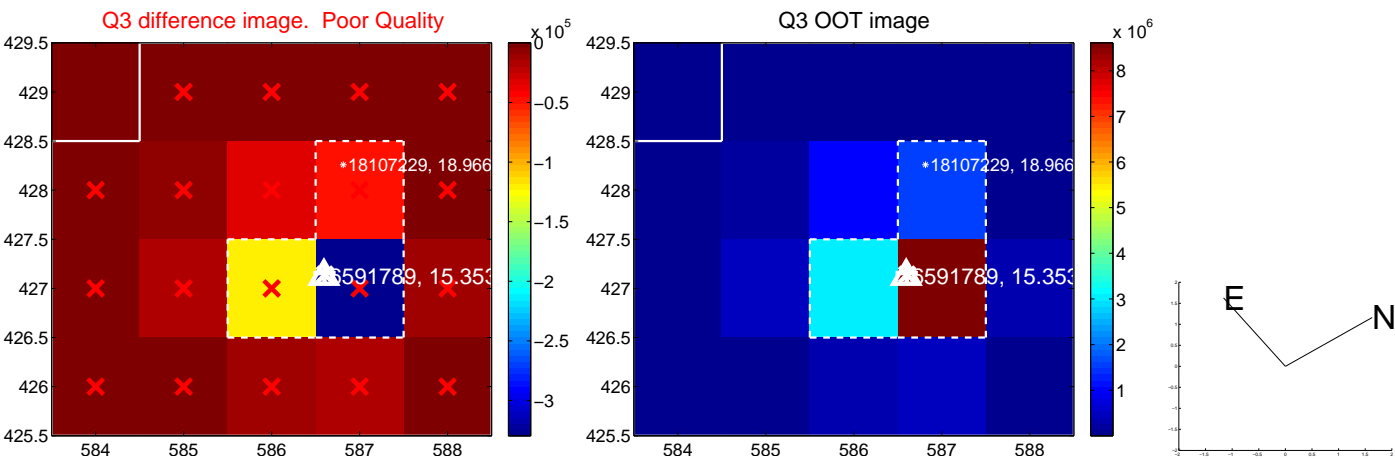
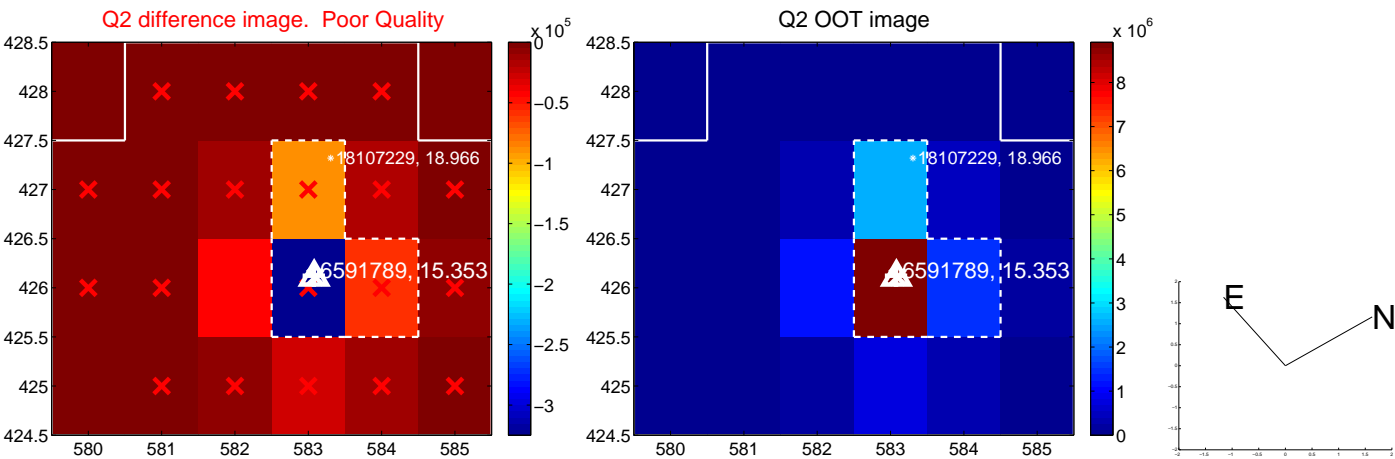
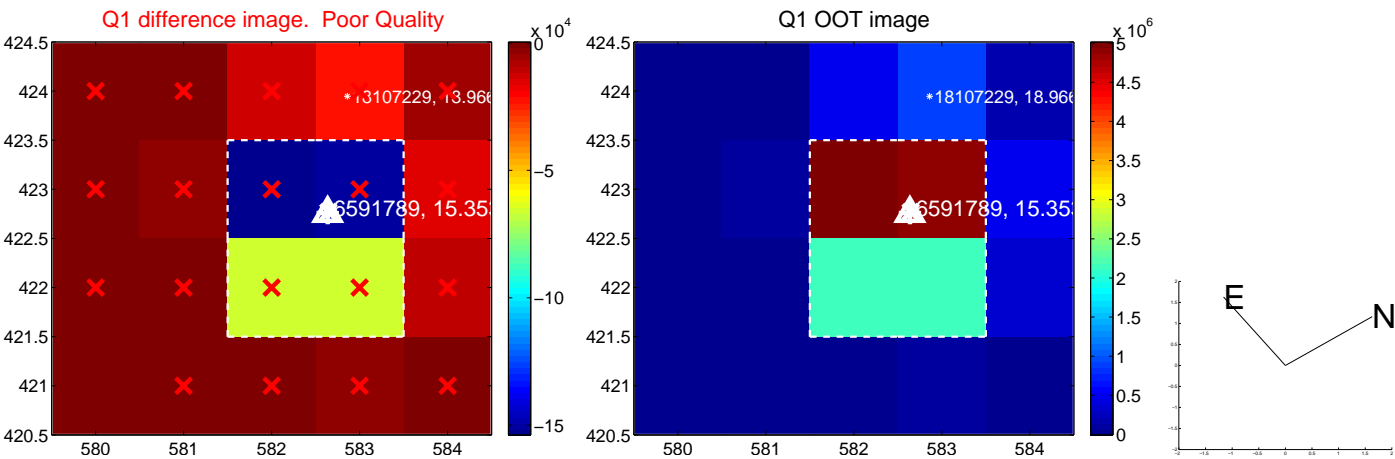
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.072 ± 0.067	1.07	-0.052 ± 0.067	-0.049 ± 0.067
PRF-fit source offset from KIC position	0.050 ± 0.067	0.75	-0.026 ± 0.067	-0.043 ± 0.067
photometric centroid source offset	0.09 ± 0.01	7.69	0.06 ± 0.01	0.07 ± 0.01

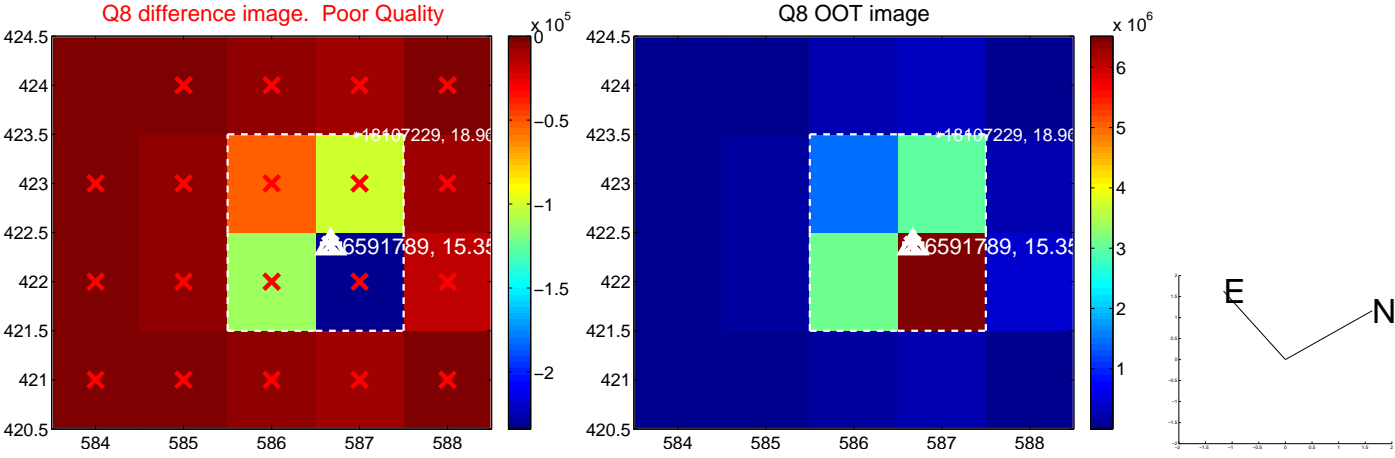
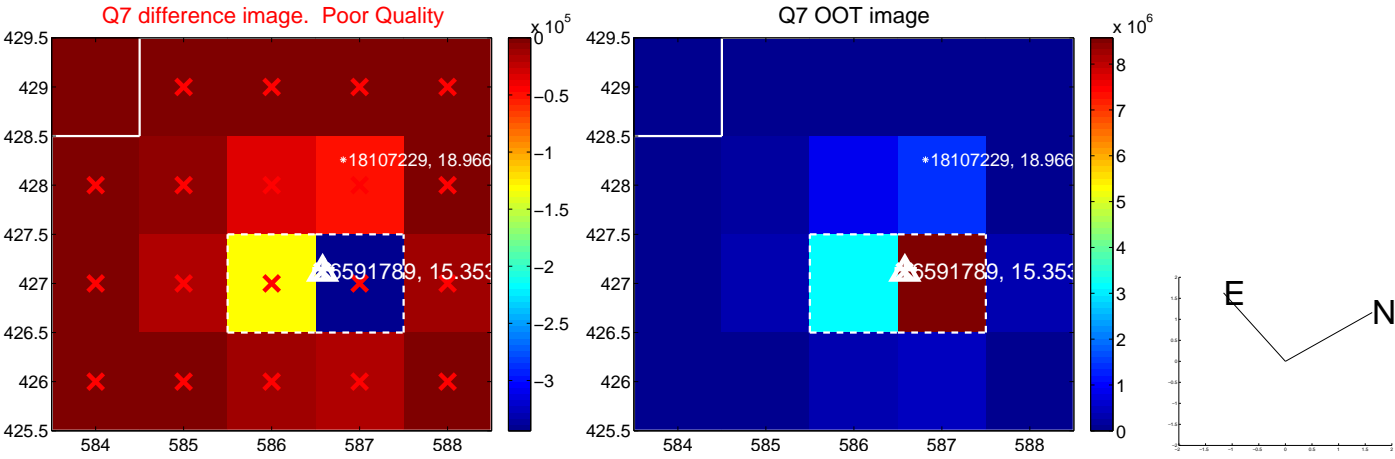
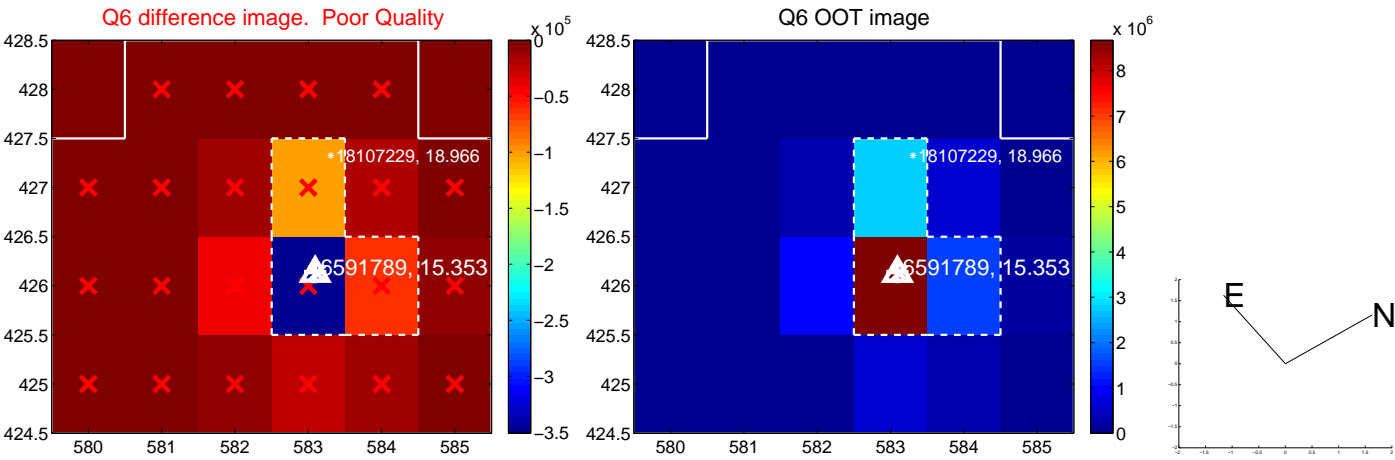
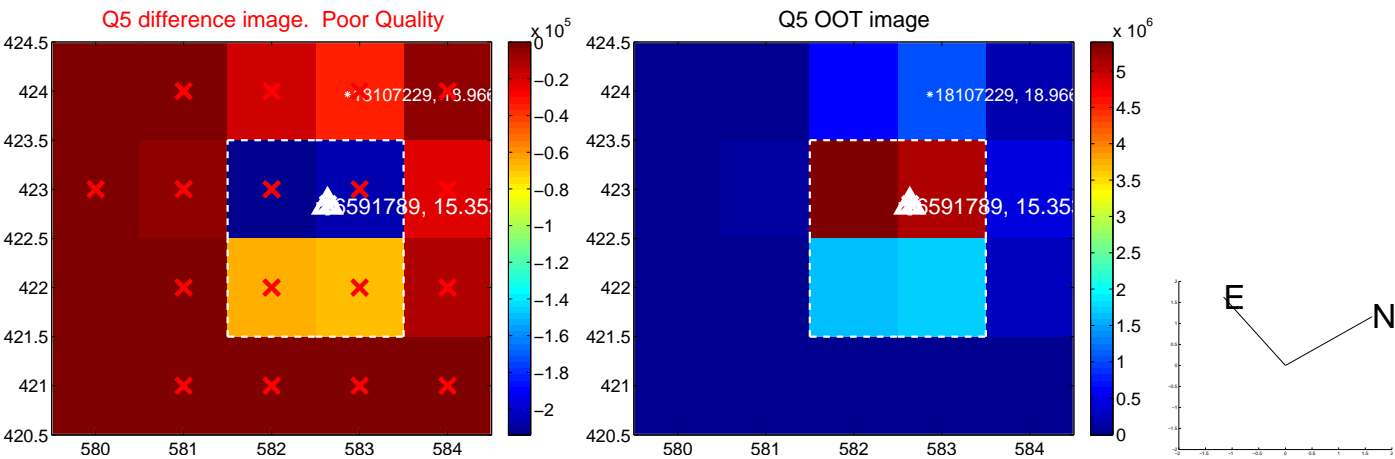


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

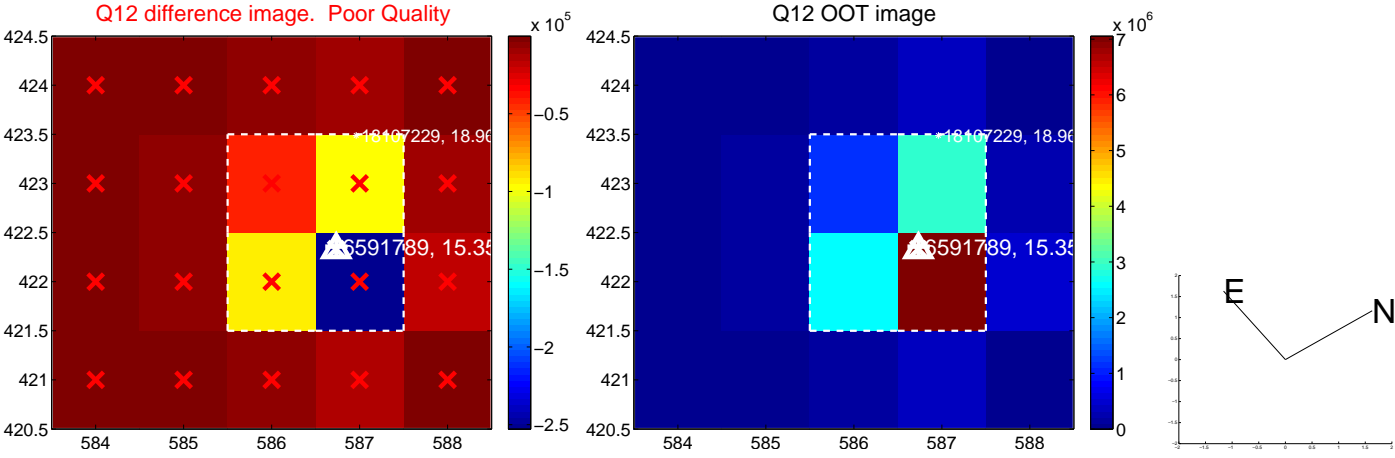
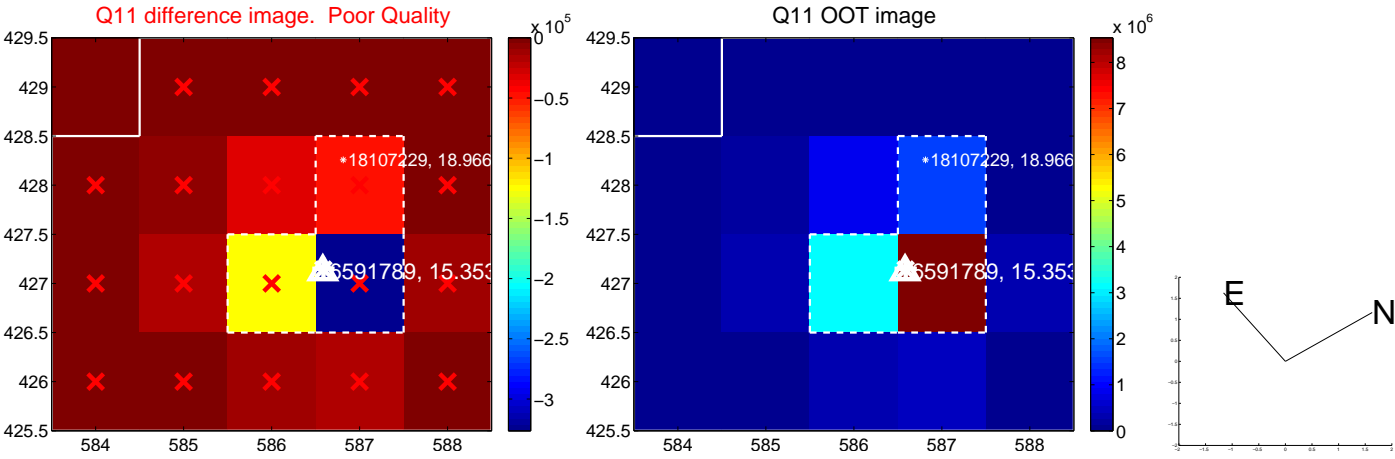
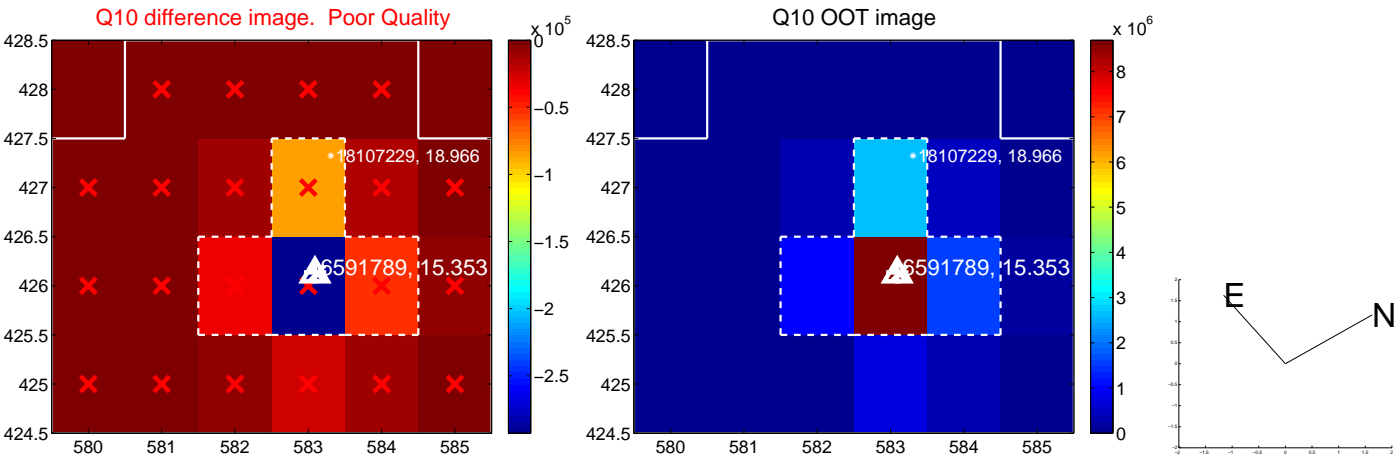
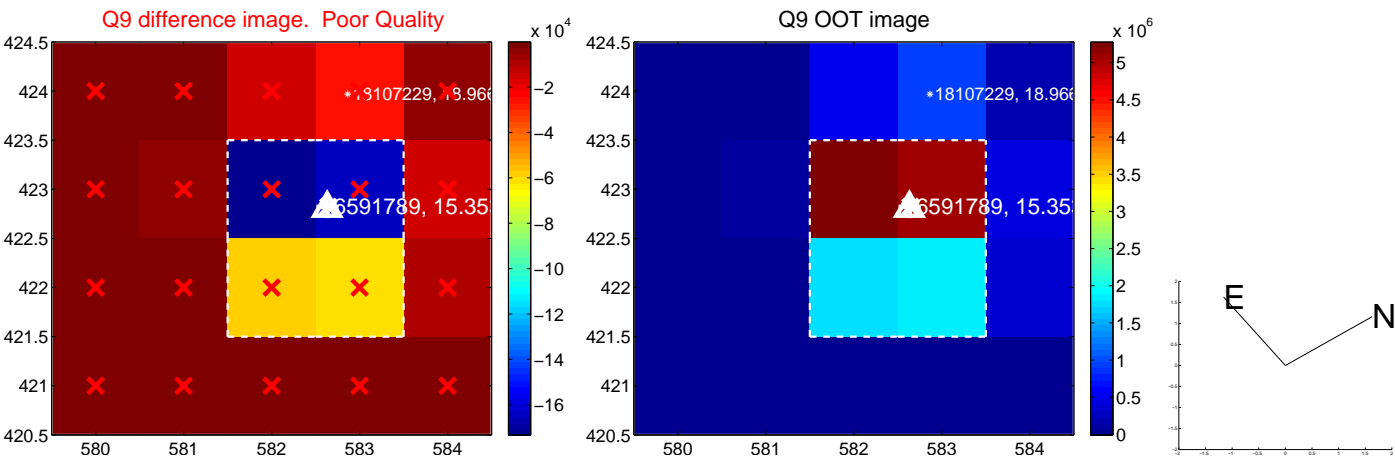
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



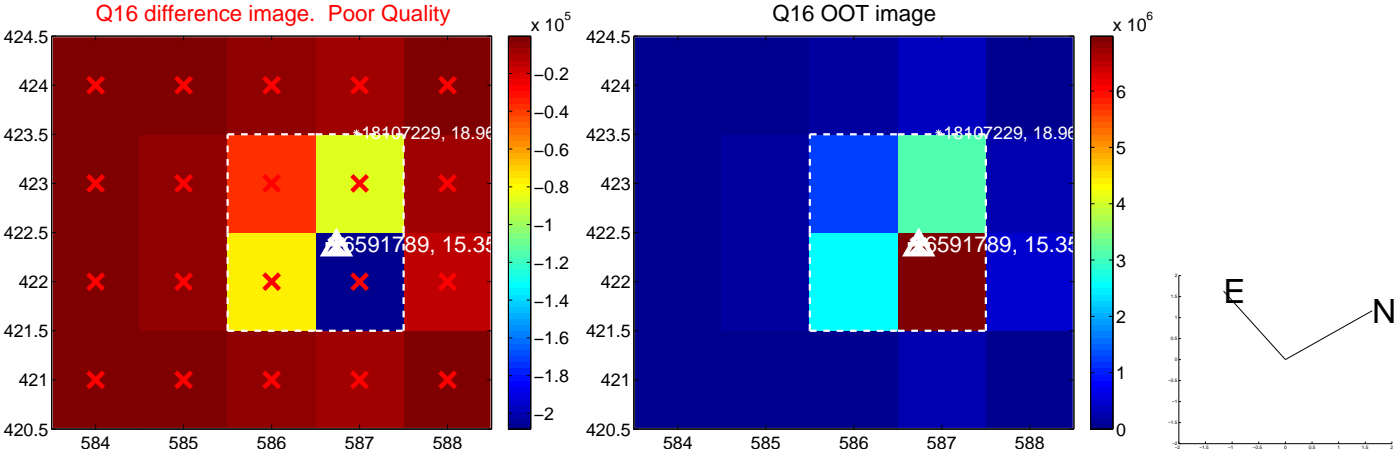
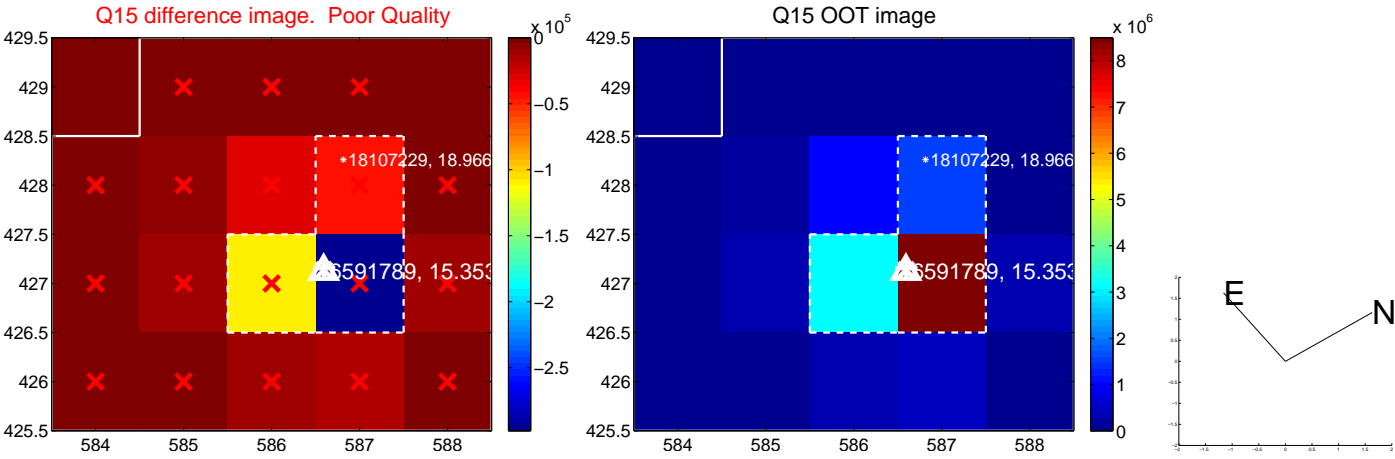
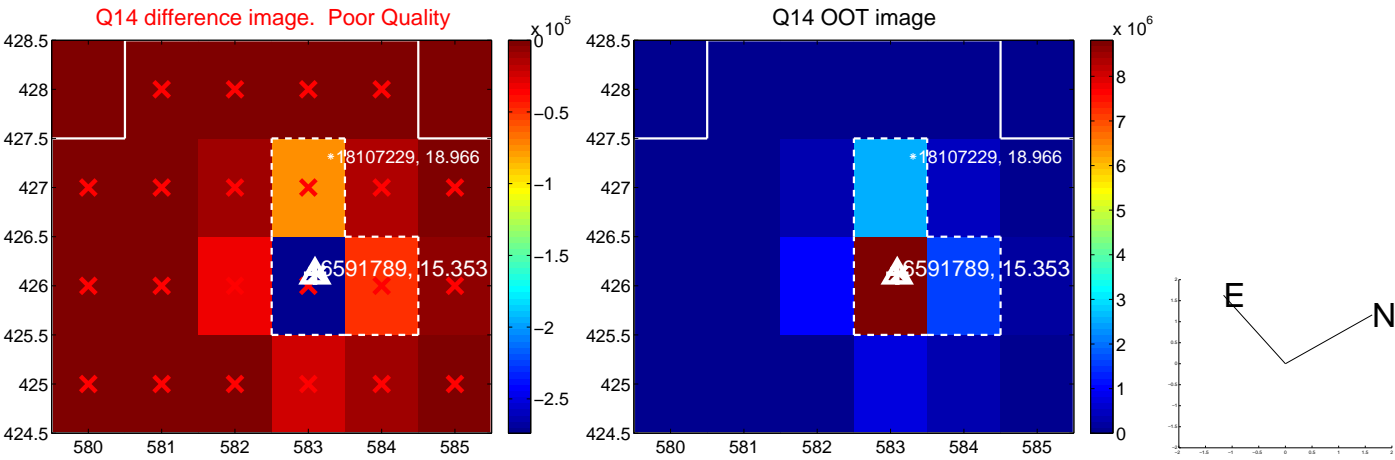
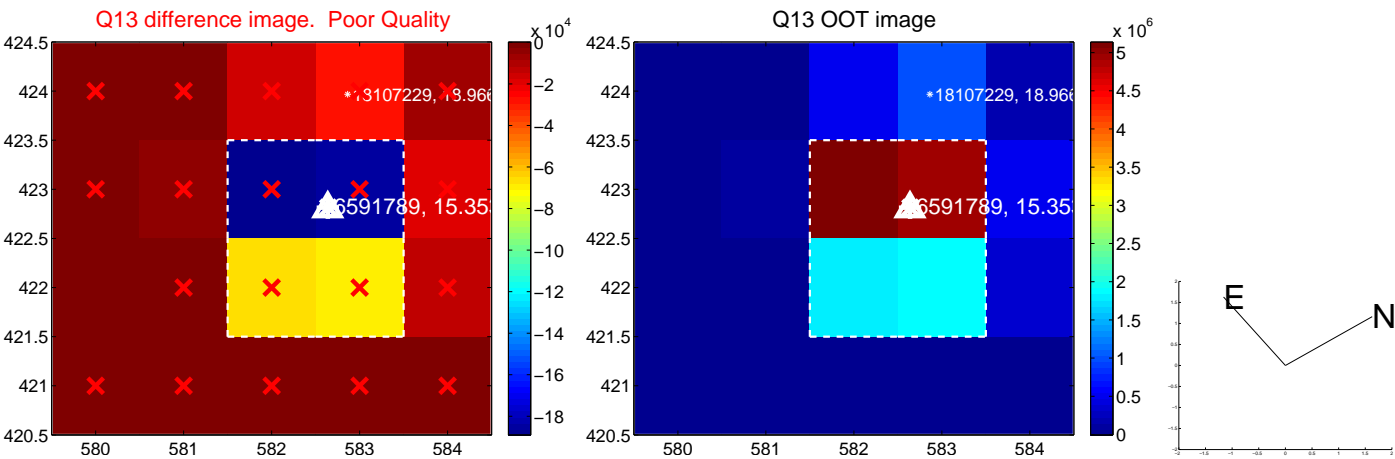
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



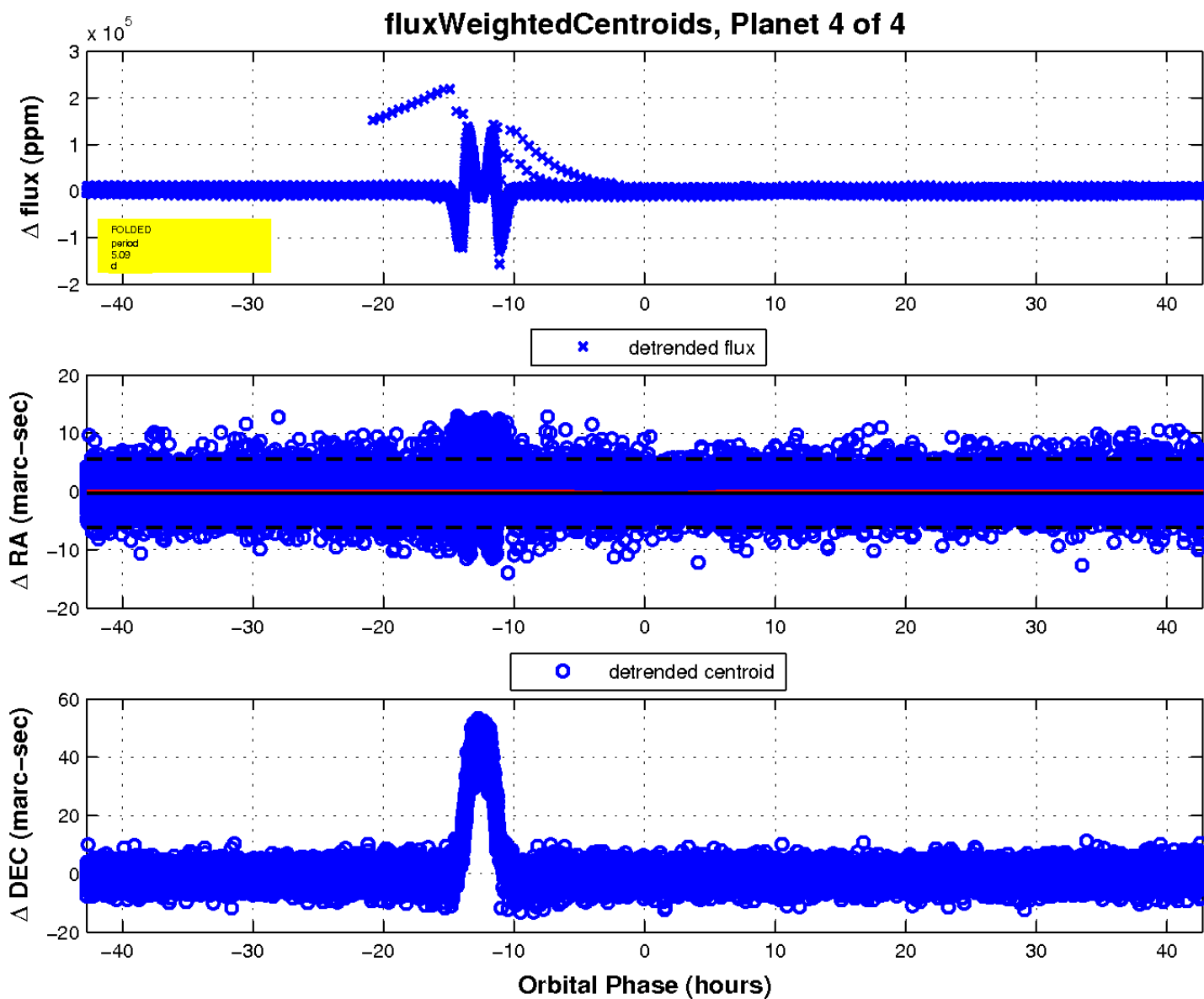
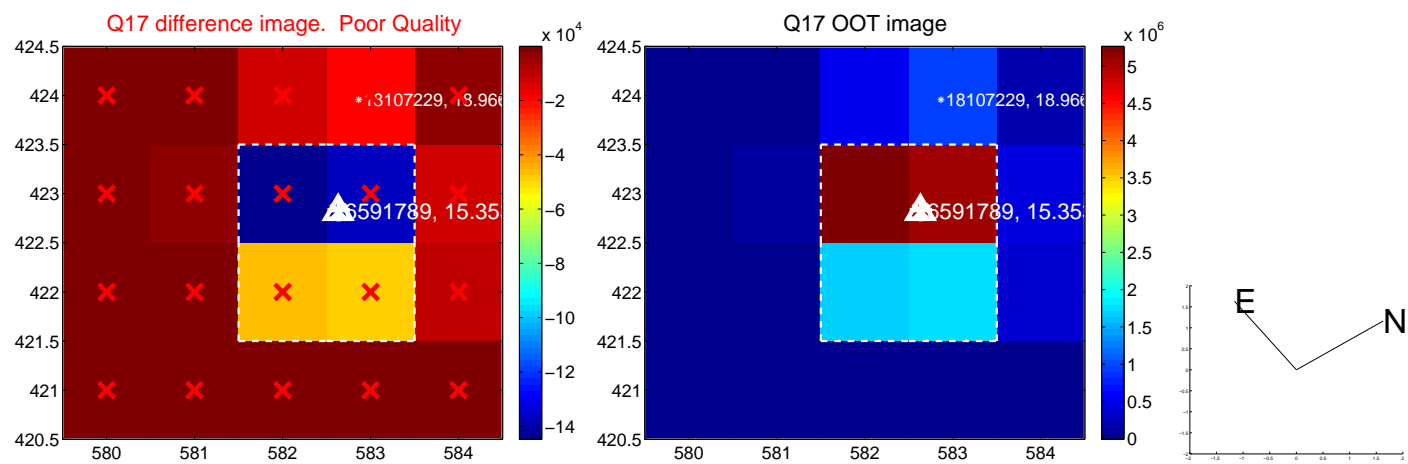
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

