

KIC 005206233

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})
005206233-01	OBS	3779.01	6.195841	134.237170	2561.6	2.588	129.7	83.5	0.81	5608	5.23	143.90
005206233-02	OBS	No	6.195867	137.371447	997.5	2.362	40.7	38.8	0.81	5608	3.29	143.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005206233-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
005206233-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET

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.

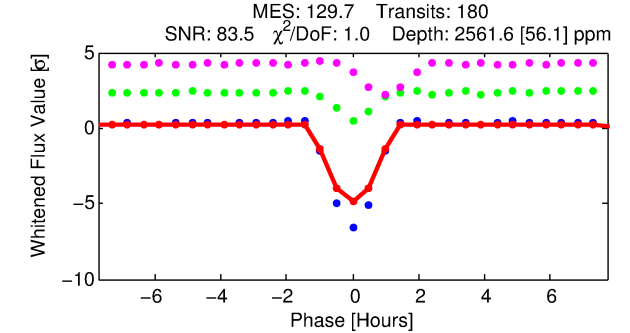
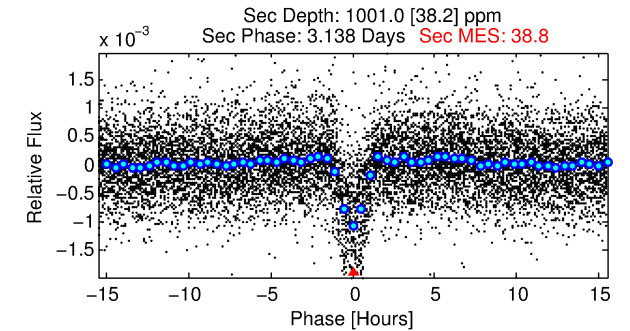
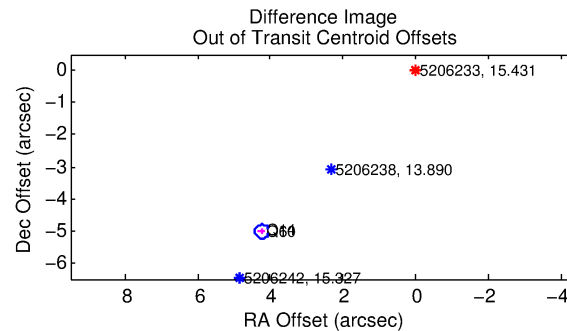
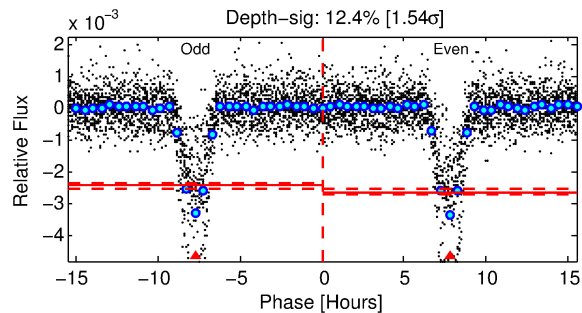
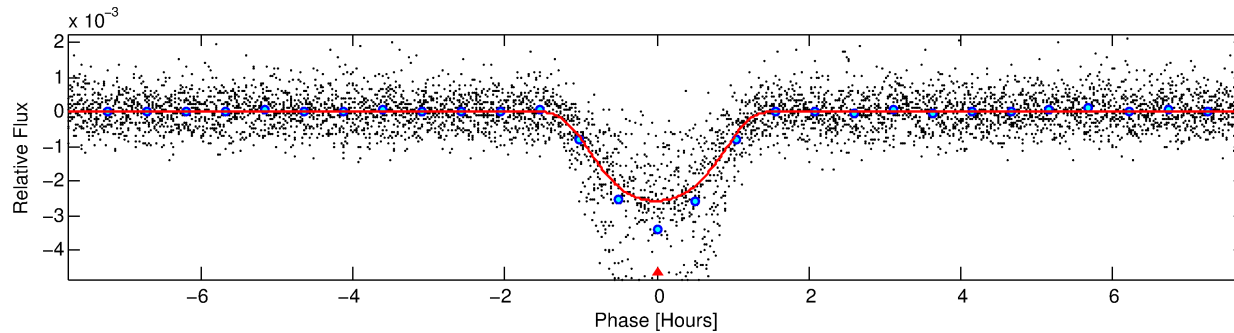
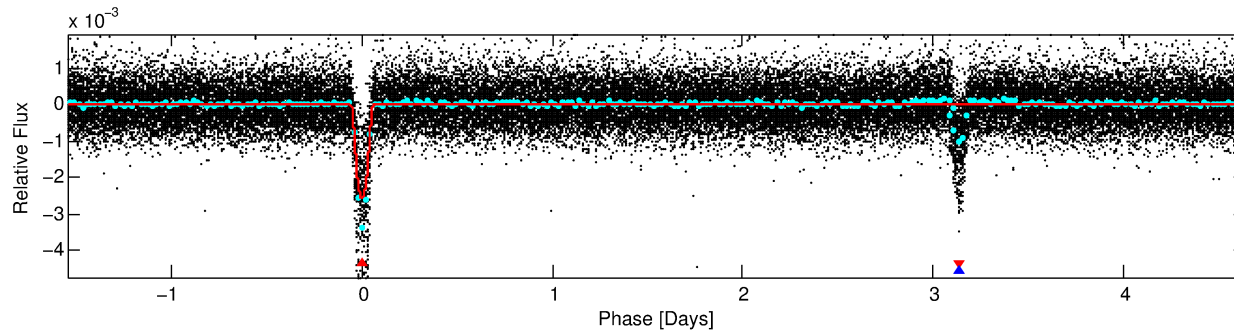
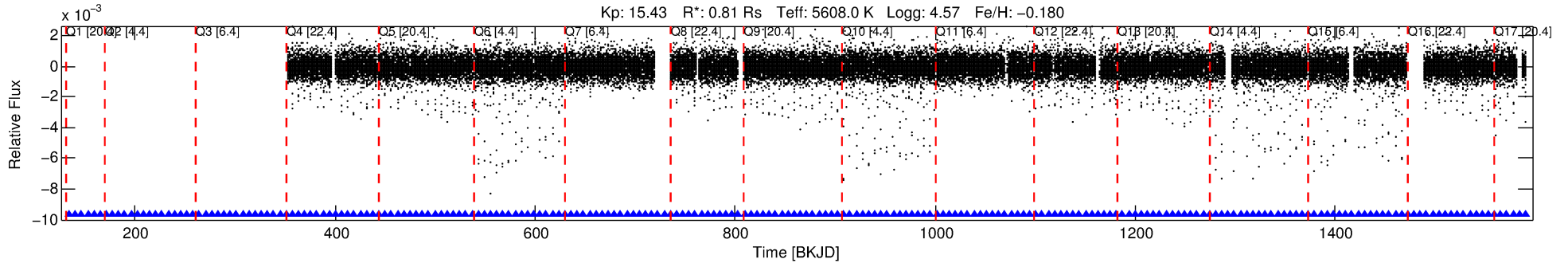
Ephemeris Match Information For 005206233-01

No Significant Match Found

DV One-Page Summary

KIC: 5206233 Candidate: 1 of 2 Period: 6.196 d
KOI: K03779.01 Corr: 0.989

Kp: 15.43 R*: 0.81 Rs Teff: 5608.0 K Logg: 4.57 Fe/H: -0.180



DV Fit Results:

Period = 6.19584 [0.00001] d
Epoch = 134.2372 [0.0008] BKJD
Rp/R* = 0.0589 [0.0013]
a/R* = 8.96 [0.28]
b = 0.94 [0.01]
Seff = 143.90 [48.35]
Teq = 883 [74] K
Rp = 5.23 [1.34] Re
a = 0.0638 [0.0136] AU
Ag = 81.97 [25.75] [3.14σ]
Teff = 4109 [149] K [19.41σ]

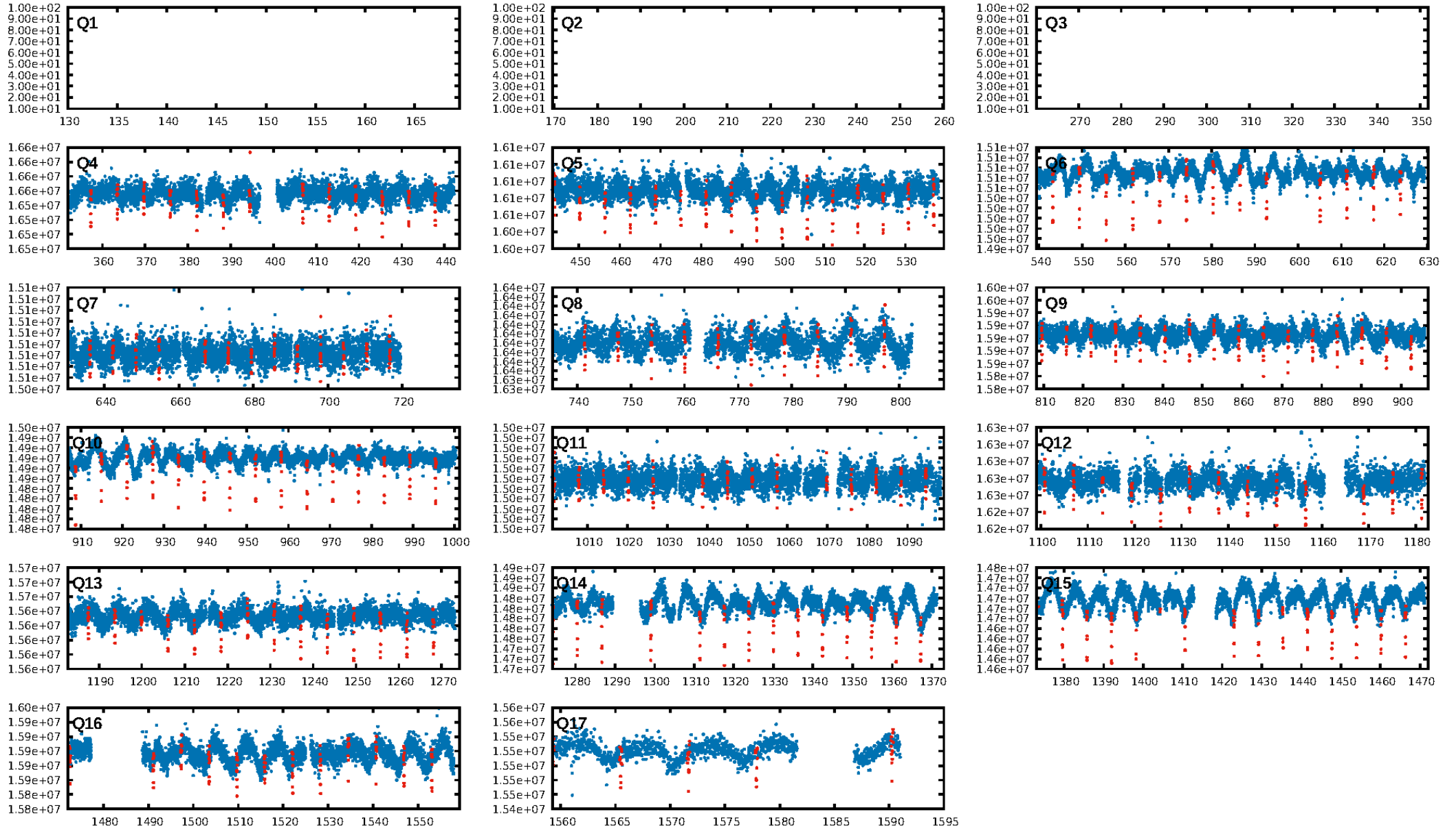
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [175/175]
GhostDiagnostic-chr: -0.2776
Centroid-sig: 0.0%
Centroid-so: 13.028 arcsec [113.38σ]
OotOffset-rm: 6.569 arcsec [92.84σ]
KicOffset-rm: 6.619 arcsec [89.99σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [14/14]

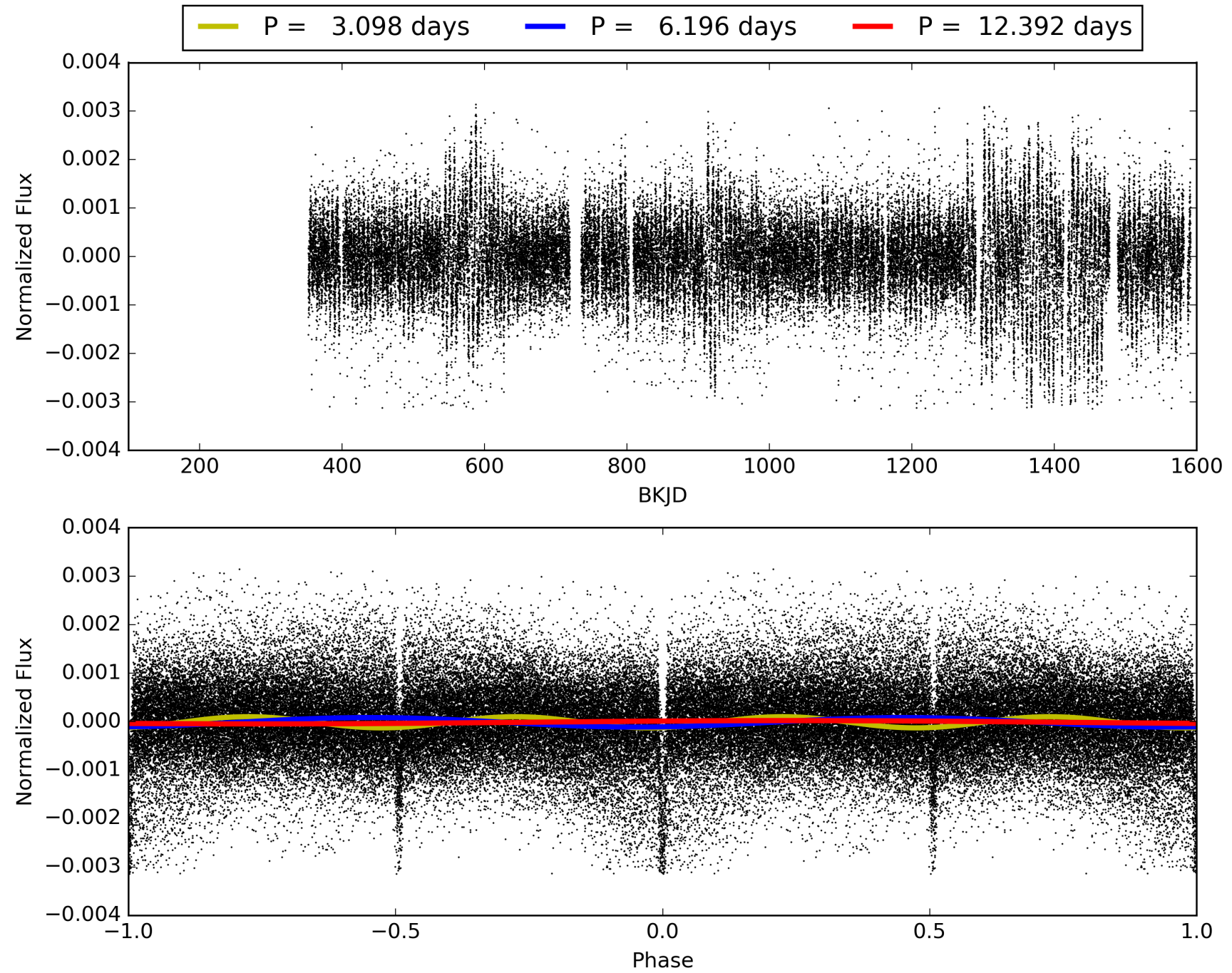
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 18:01:20 Z

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

TCE 005206233-01, PDC Light Curves

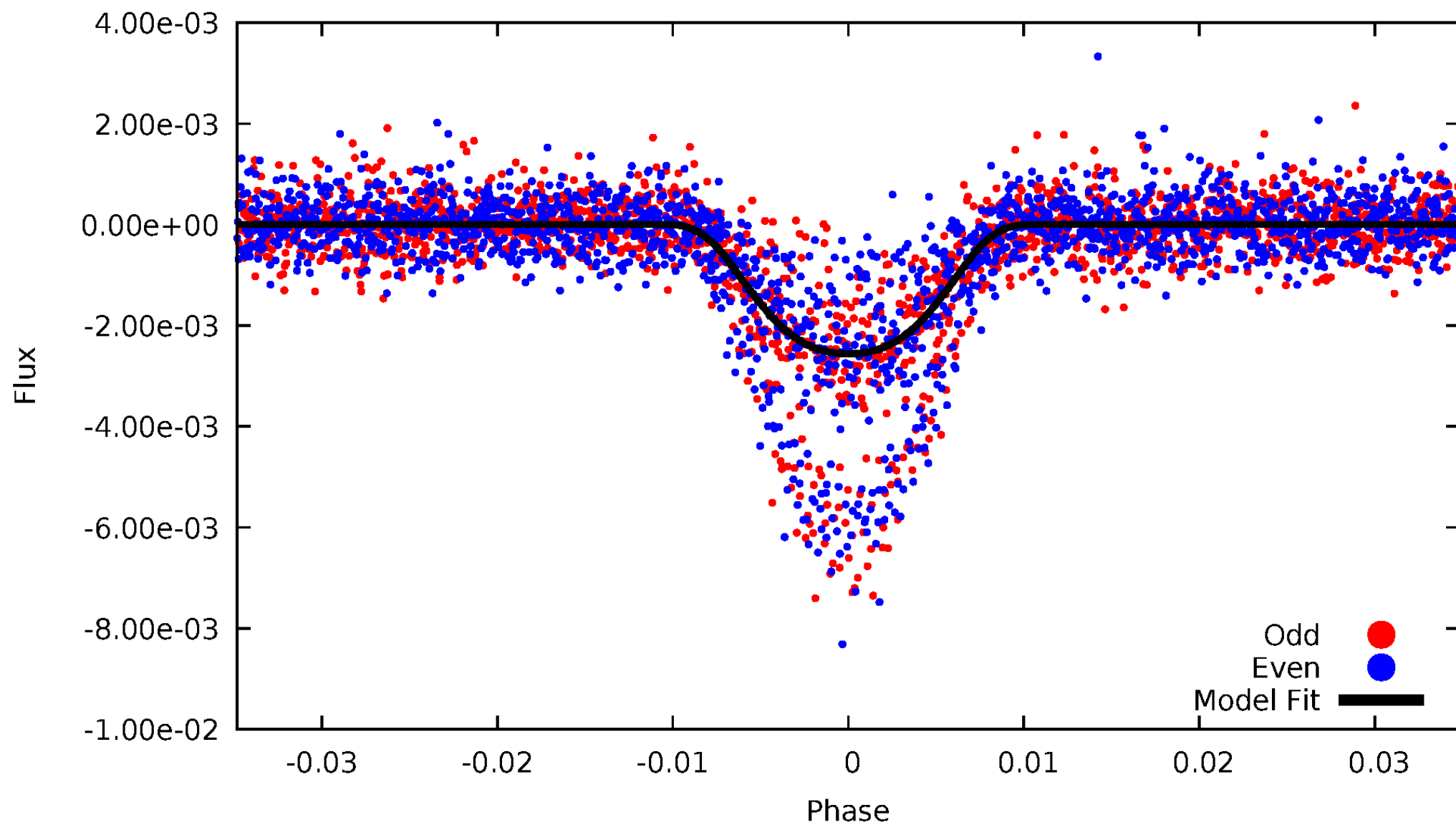


TCE 005206233-01



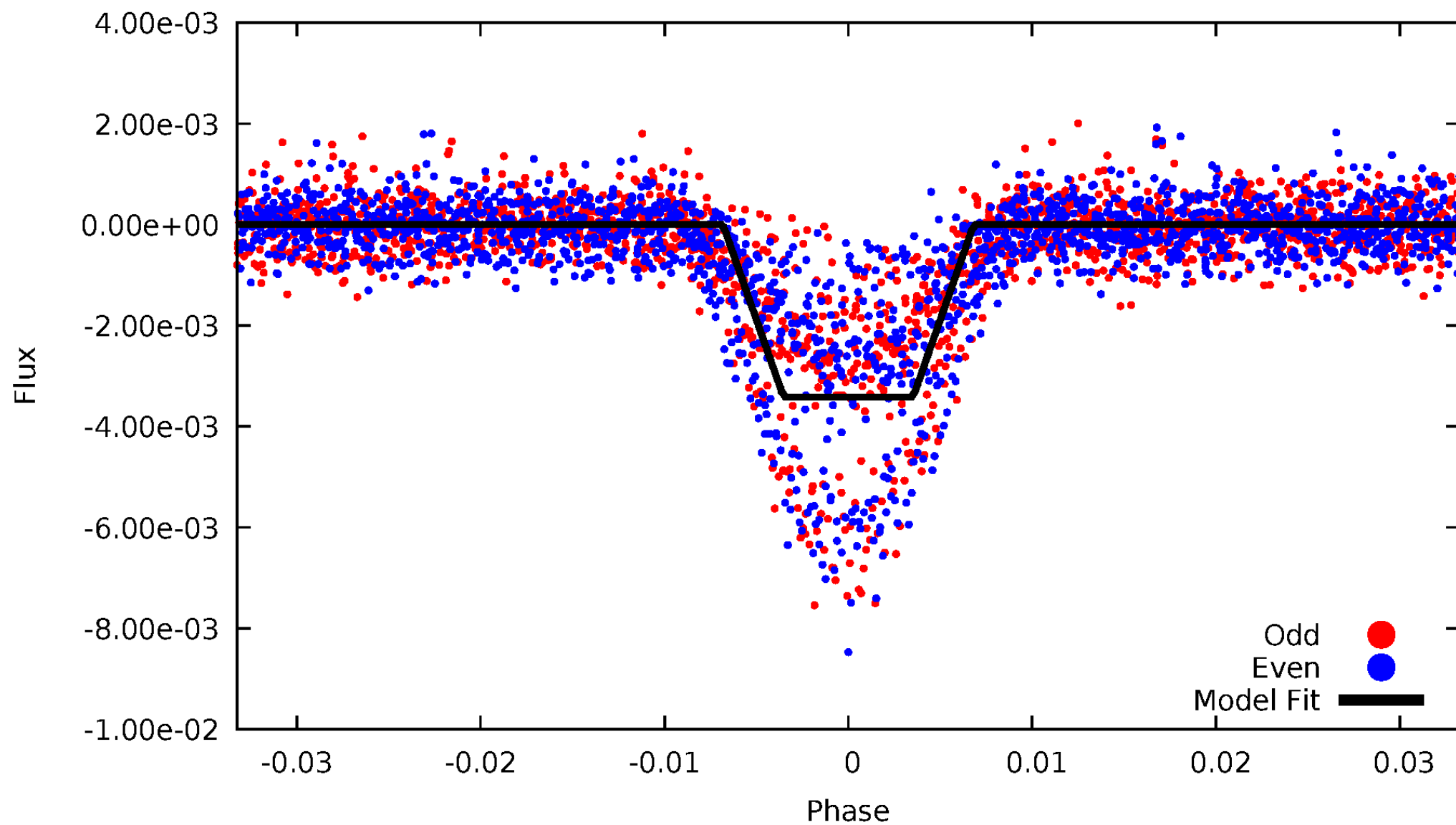
DV Odd/Even

TCE 005206233-01

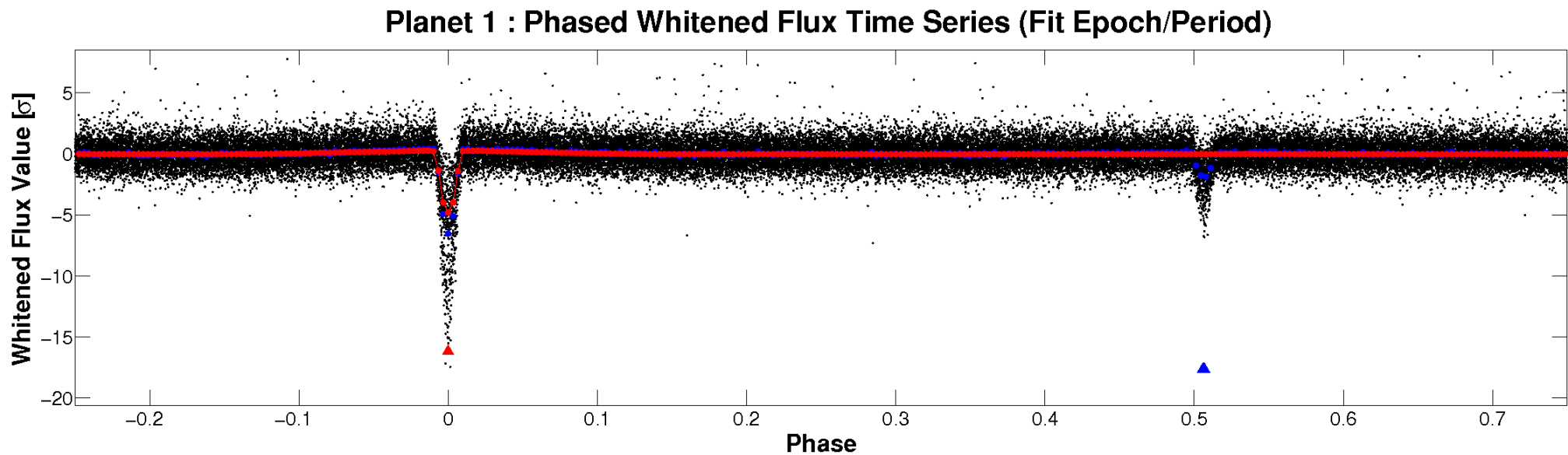
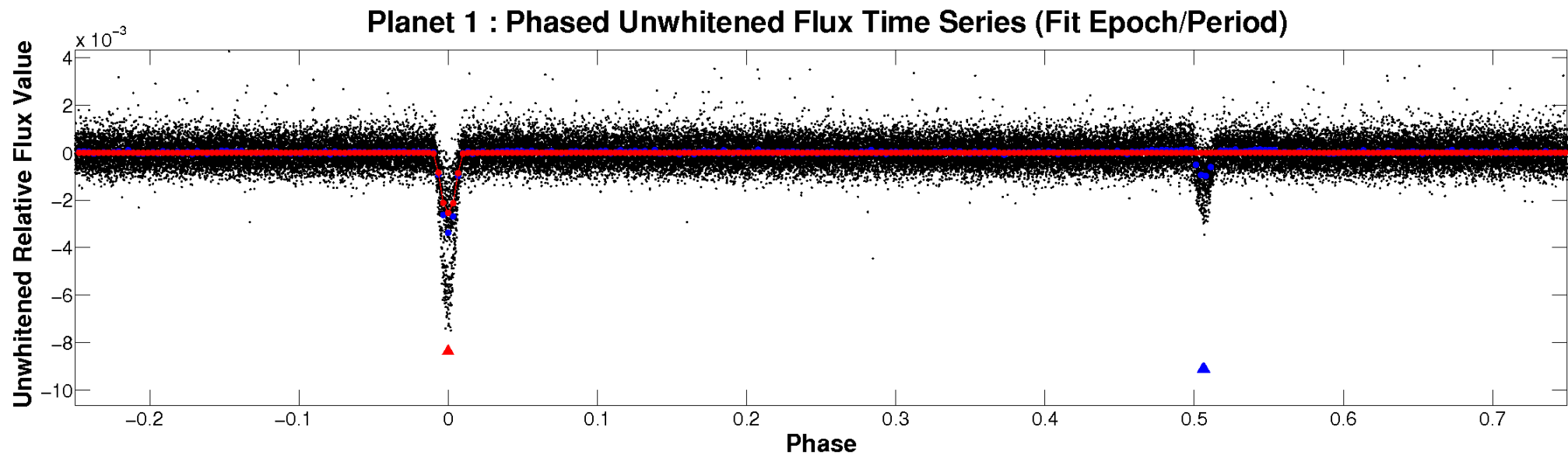


ALT Odd/Even

TCE 005206233-01

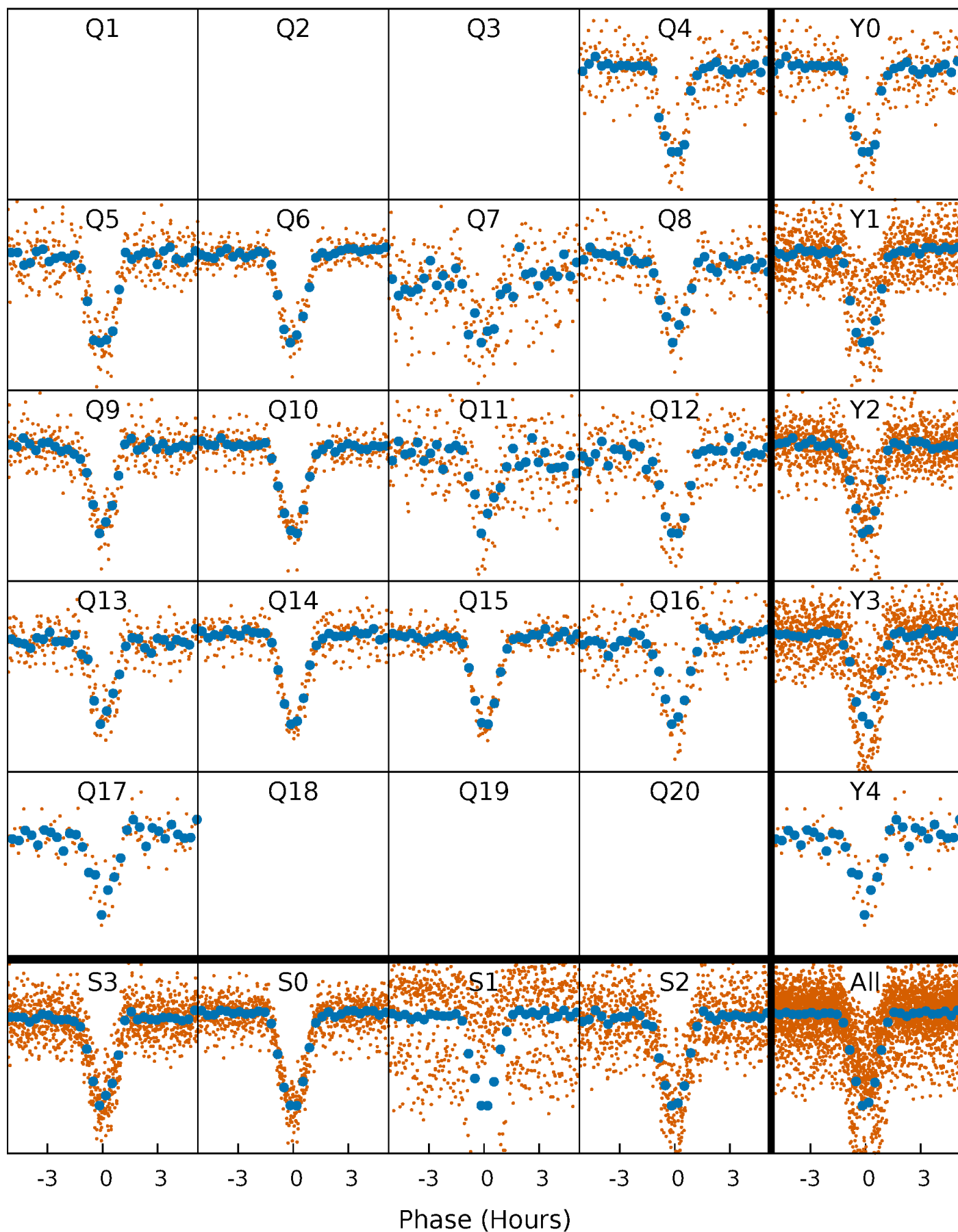


Non-Whitened Vs. Whitened Light Curve



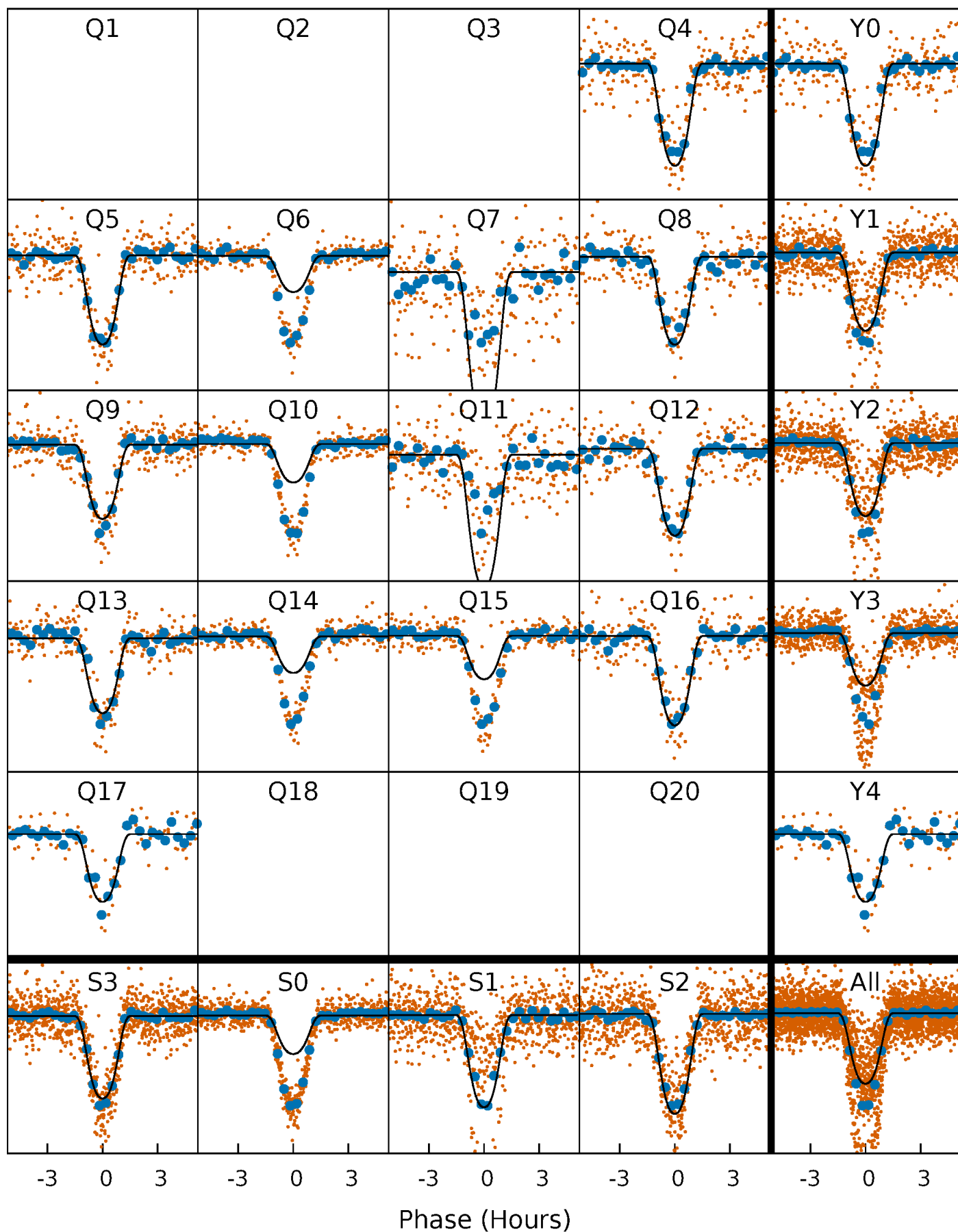
PDC Quarter-Phased Transit Curves

TCE 005206233-01 P= 6.195841 Days $T_0=134.237170$ (BKJD)



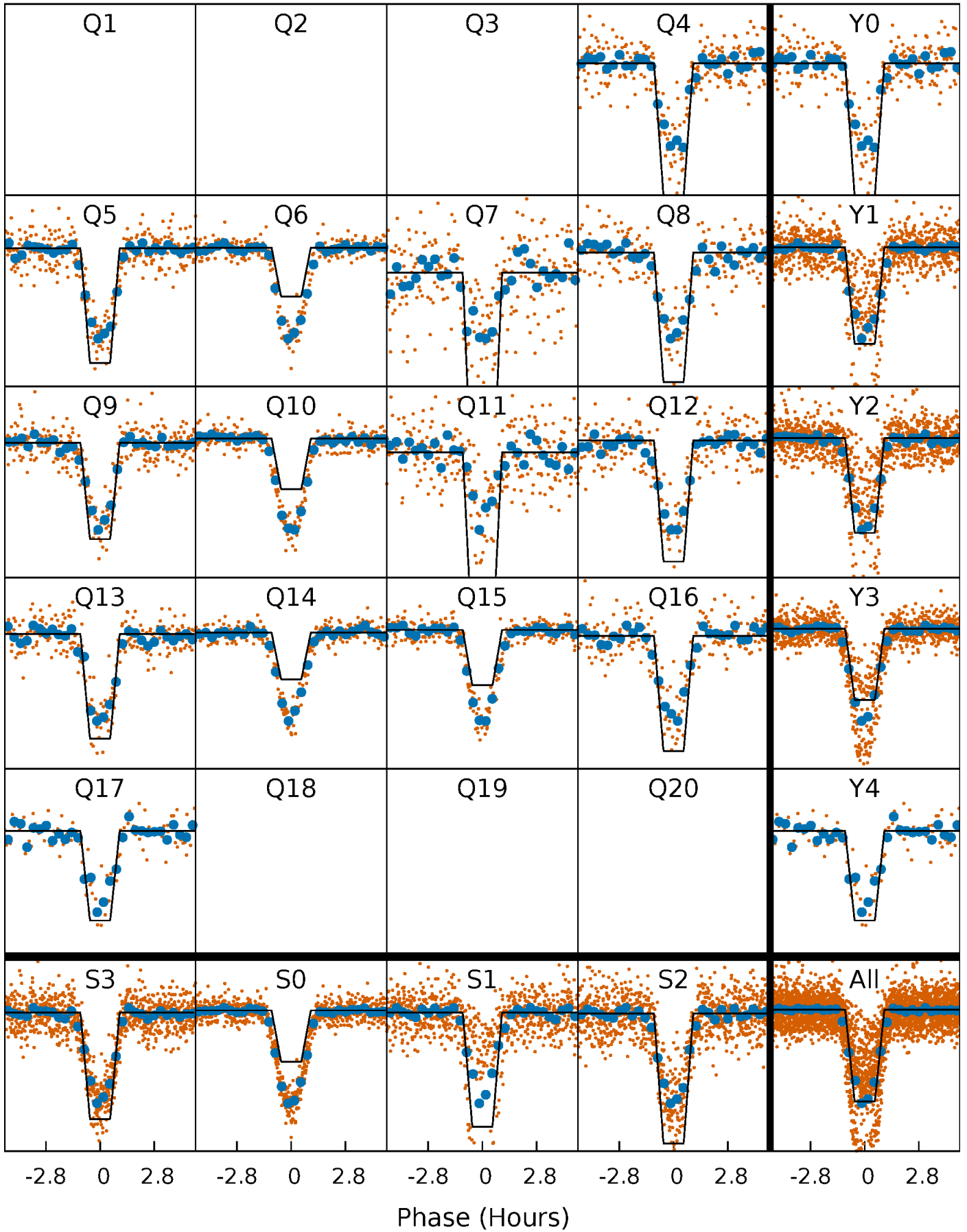
DV Quarter-Phased Transit Curves

TCE 005206233-01 P= 6.195841 Days $T_0=134.237170$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

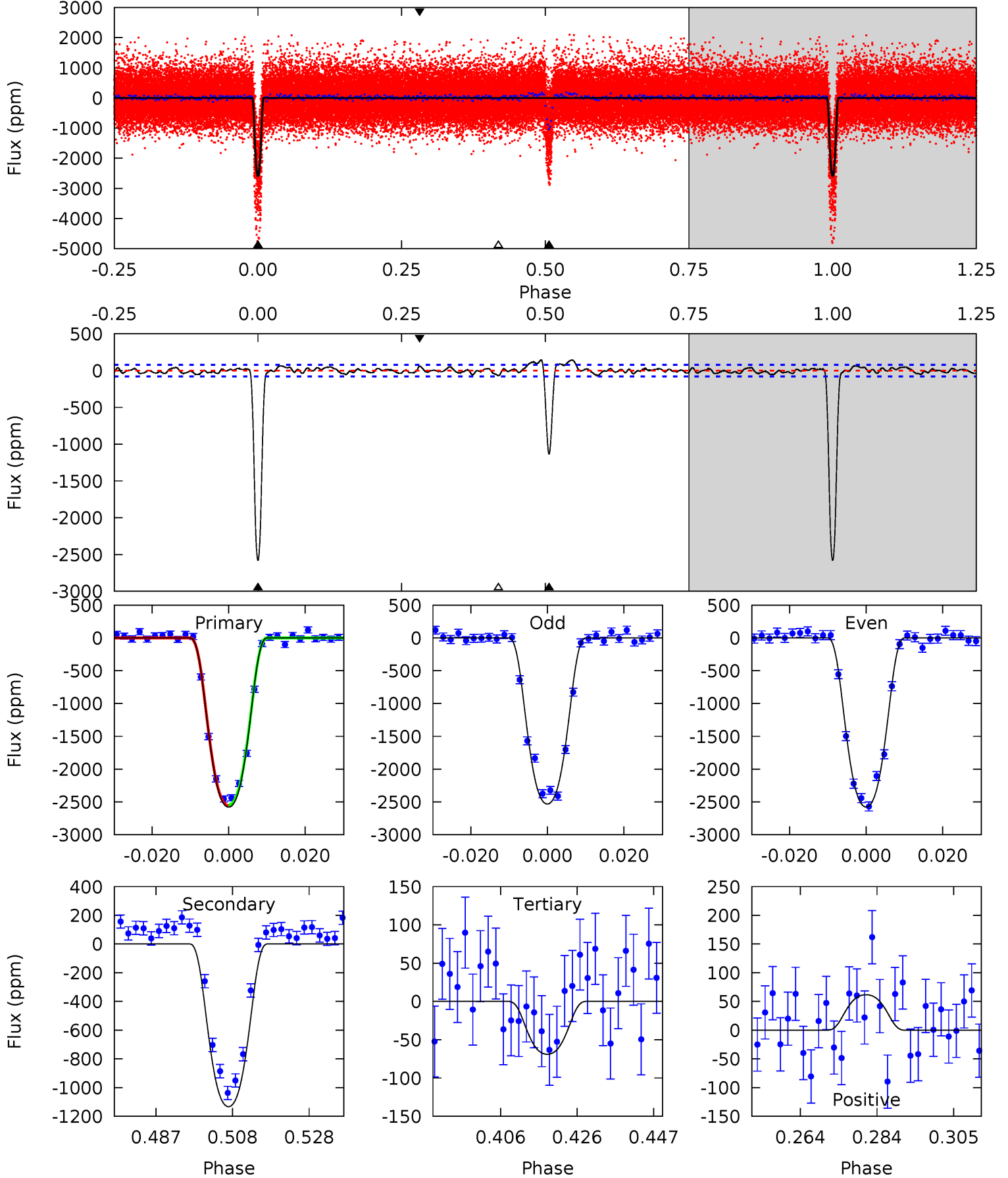
TCE 005206233-01 P= 6.195871 Days $T_0=134.233036$ (BKJD)



DV Model-Shift Uniqueness Test

005206233-01, P = 6.195841 Days, E = 134.237170 Days

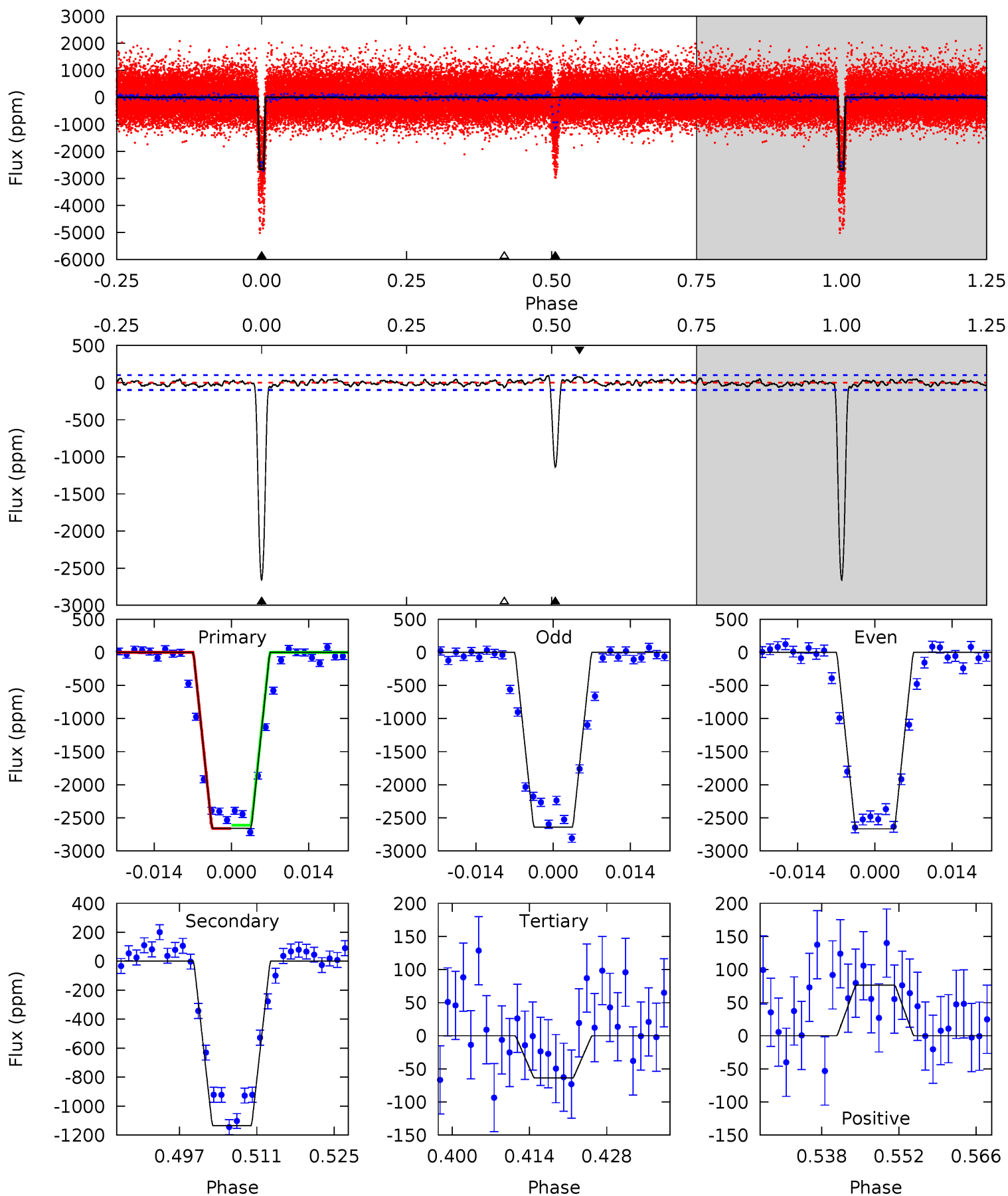
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
160.8	70.6	4.30	3.85	4.89	2.32	2.15	156.5	156.9	66.3	66.7	1.42	1.19	0.05	0



Alt Model-Shift Uniqueness Test

005206233-01, P = 6.195871 Days, E = 134.233036 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
131.2	56.1	3.15	3.78	4.96	2.46	1.37	128.1	127.4	52.9	52.3	0.66	1.22	0.03	0



Stellar Parameters For KIC 005206233

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5608^{+186}_{-186}	$4.573^{+0.031}_{-0.168}$	$-0.180^{+0.300}_{-0.300}$	$0.813^{+0.207}_{-0.069}$	$0.909^{+0.094}_{-0.104}$	$2.382^{+0.422}_{-1.094}$
	+3%/-3%	+1%/-4%	+167%/-167%	+25%/-8%	+10%/-11%	+18%/-46%
Source	KIC0	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 005206233-01 / KOI 3779.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1133 ± 16	$5.43^{+0.71}_{-0.43}$	1265^{+69}_{-56}	4428^{+121}_{-125}	86^{+11}_{-17}
Alt.	-1136 ± 20	$5.35^{+0.68}_{-0.39}$	1263^{+75}_{-63}	4440^{+127}_{-131}	88^{+11}_{-17}

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 $A_{obs} \gg 1.0$

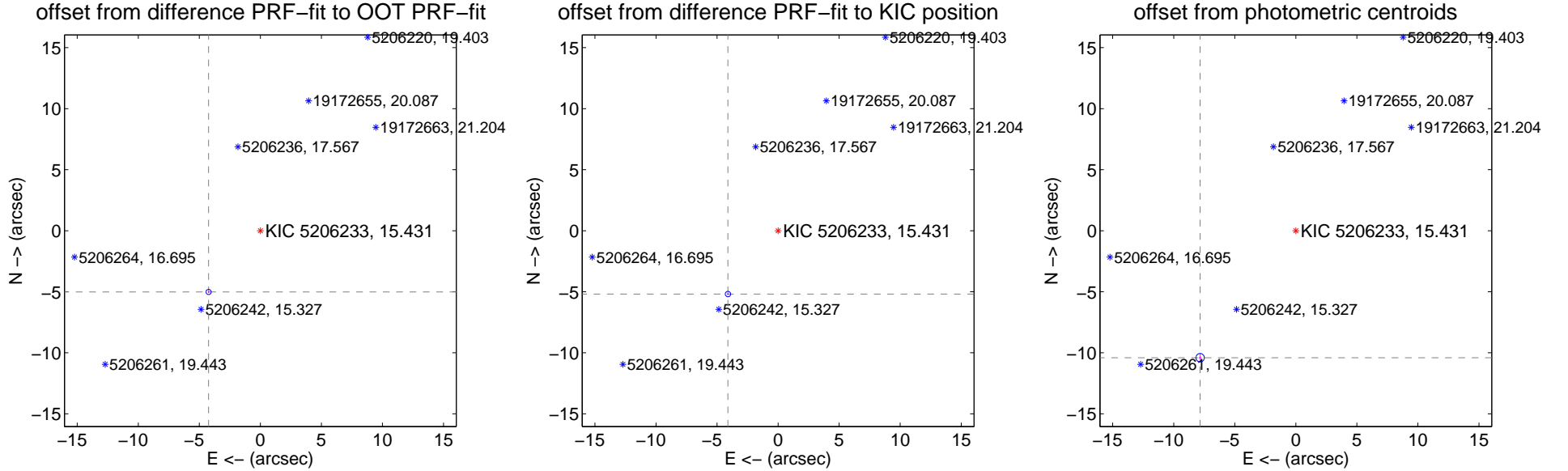
DV Centroid Data

Supplemental centroid analysis for 005206233-01. Kepler magnitude: 15.43. Transit SNR 83.48

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.569 ± 0.071	92.84	4.240 ± 0.067	-5.017 ± 0.073
PRF-fit source offset from KIC position	6.619 ± 0.074	89.99	4.109 ± 0.069	-5.189 ± 0.076
photometric centroid source offset	13.03 ± 0.11	113.38	7.84 ± 0.12	-10.41 ± 0.11



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

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

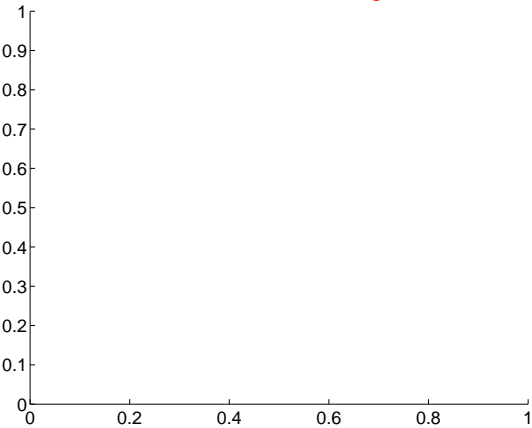
Q1 no difference image



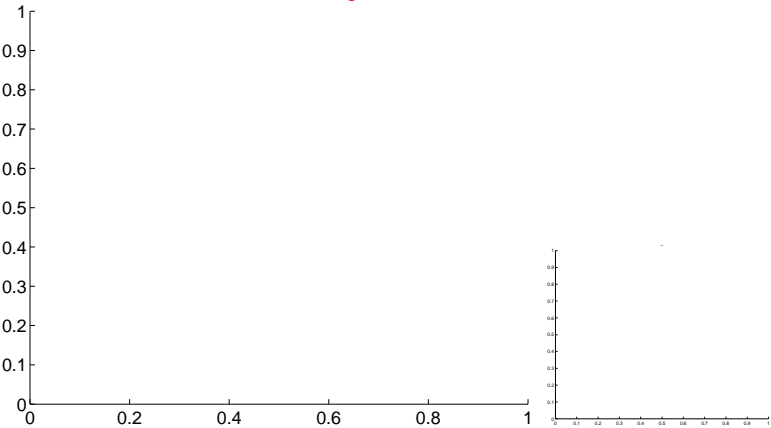
Q1 no OOT image



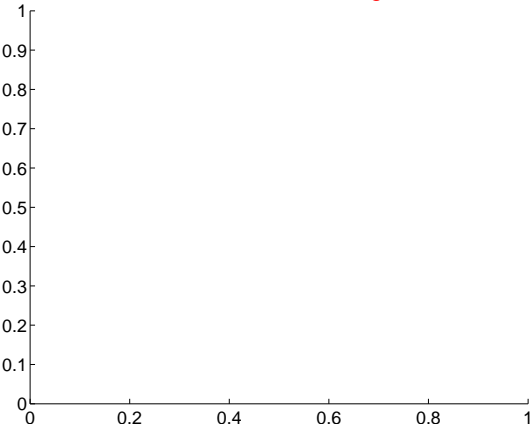
Q2 no difference image



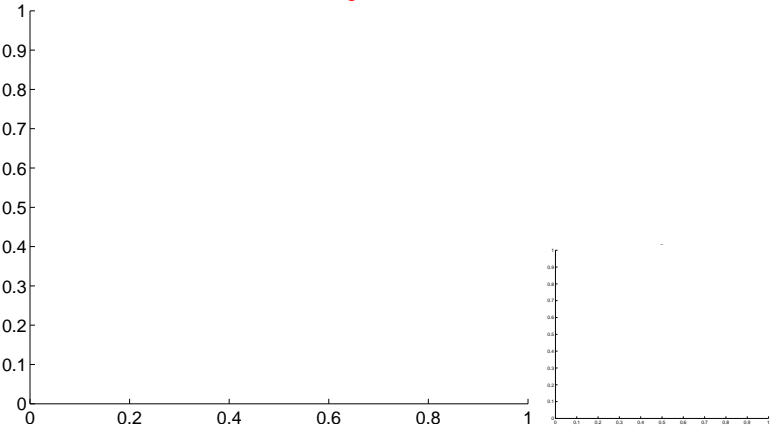
Q2 no OOT image



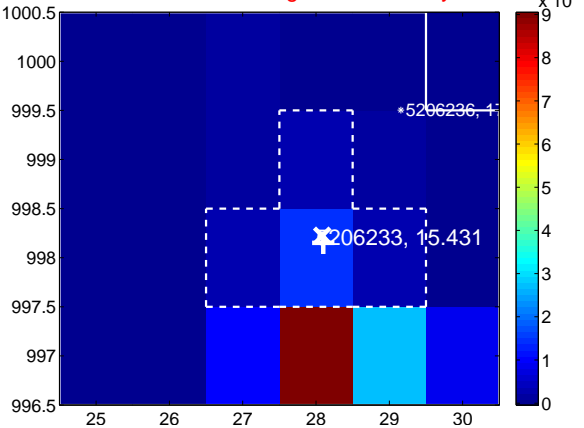
Q3 no difference image



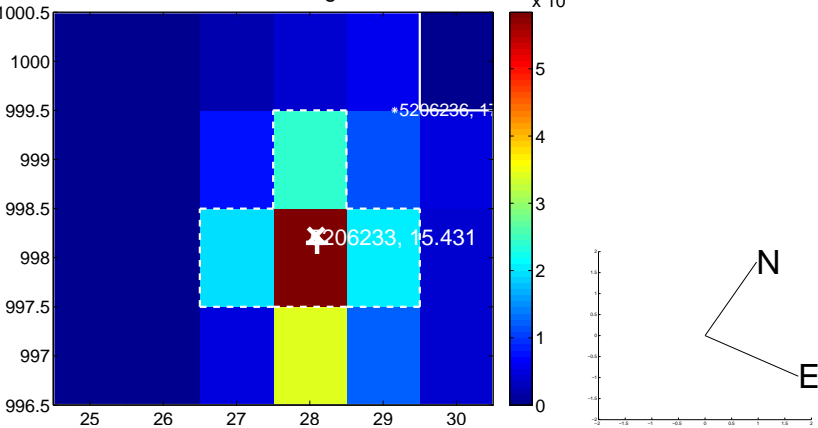
Q3 no OOT image



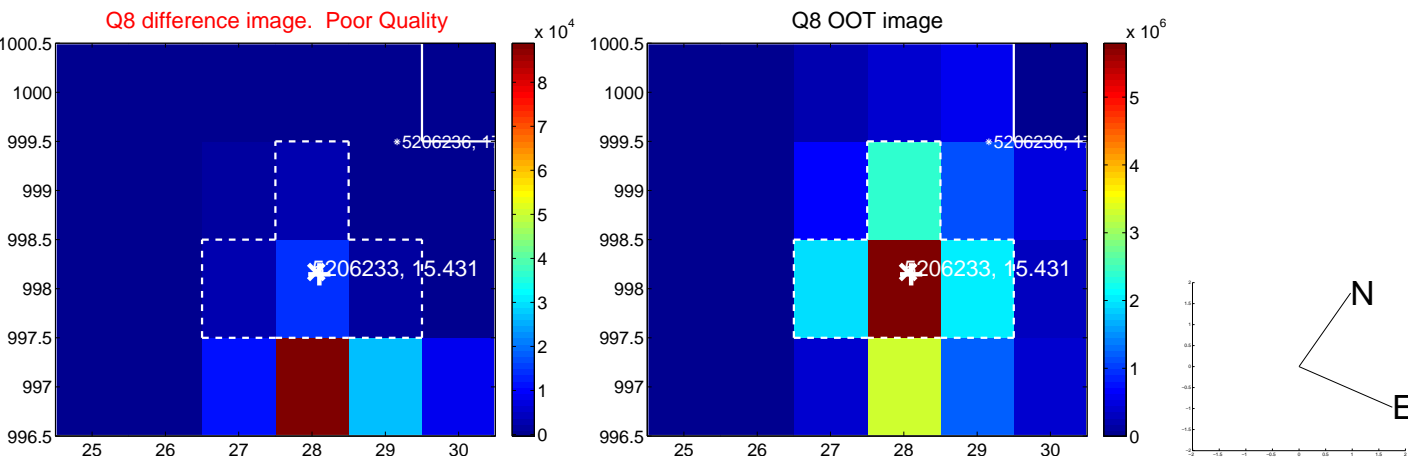
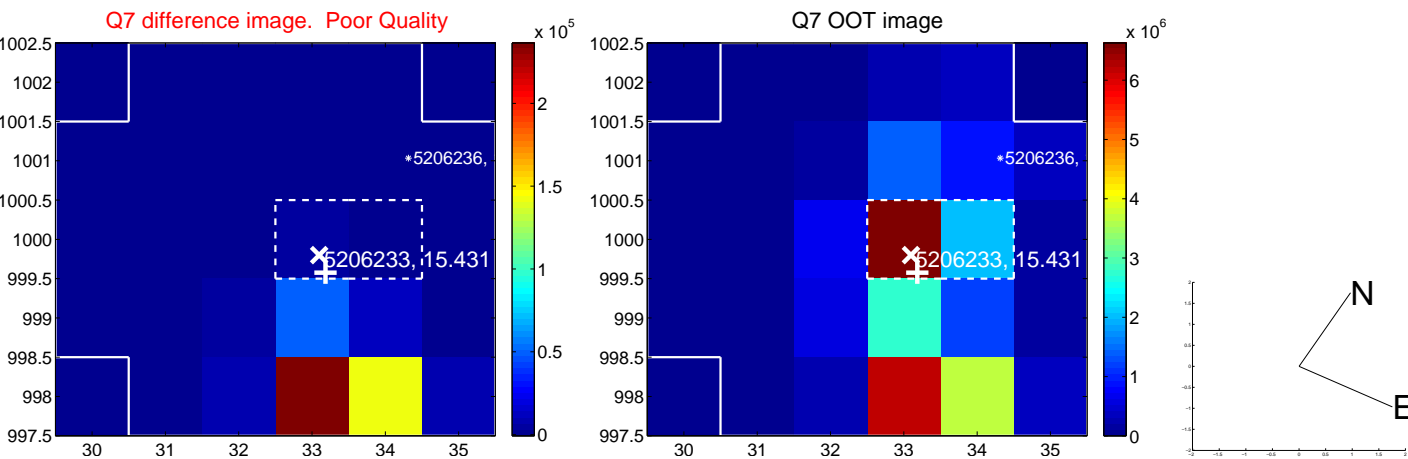
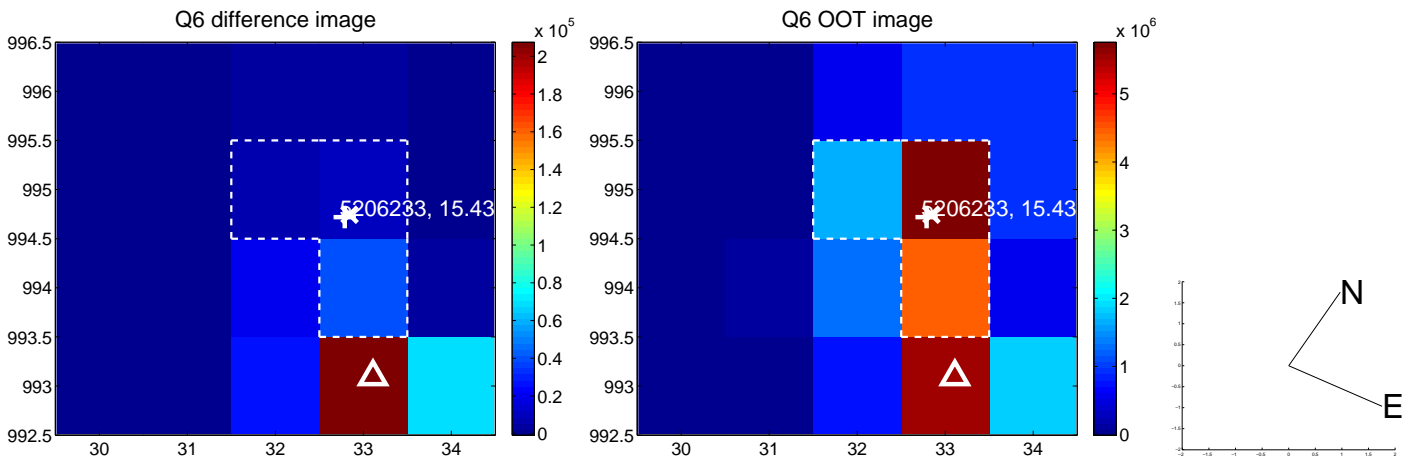
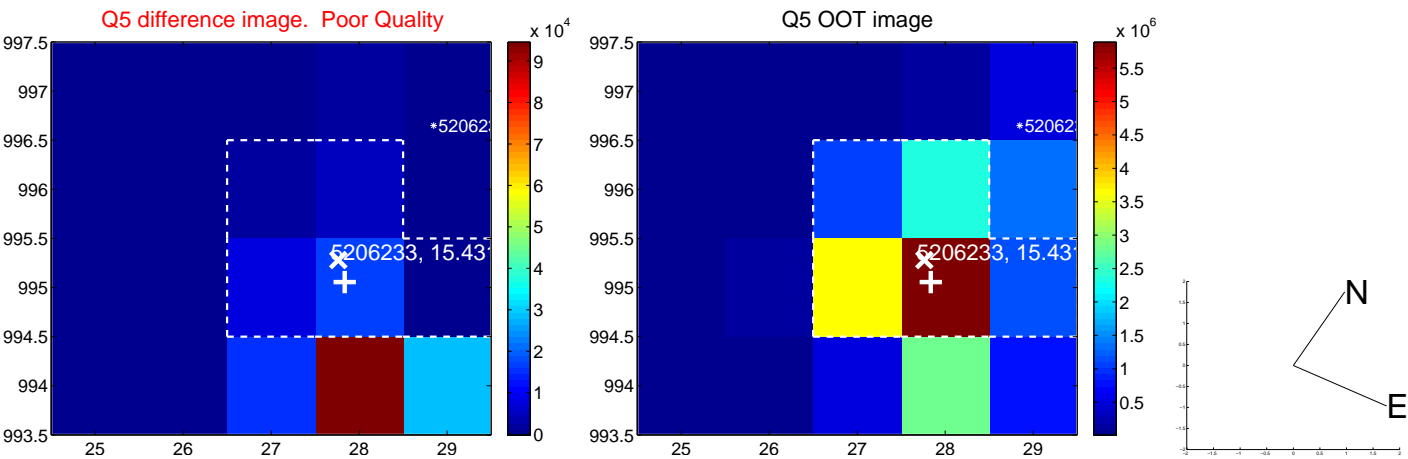
Q4 difference image. Poor Quality



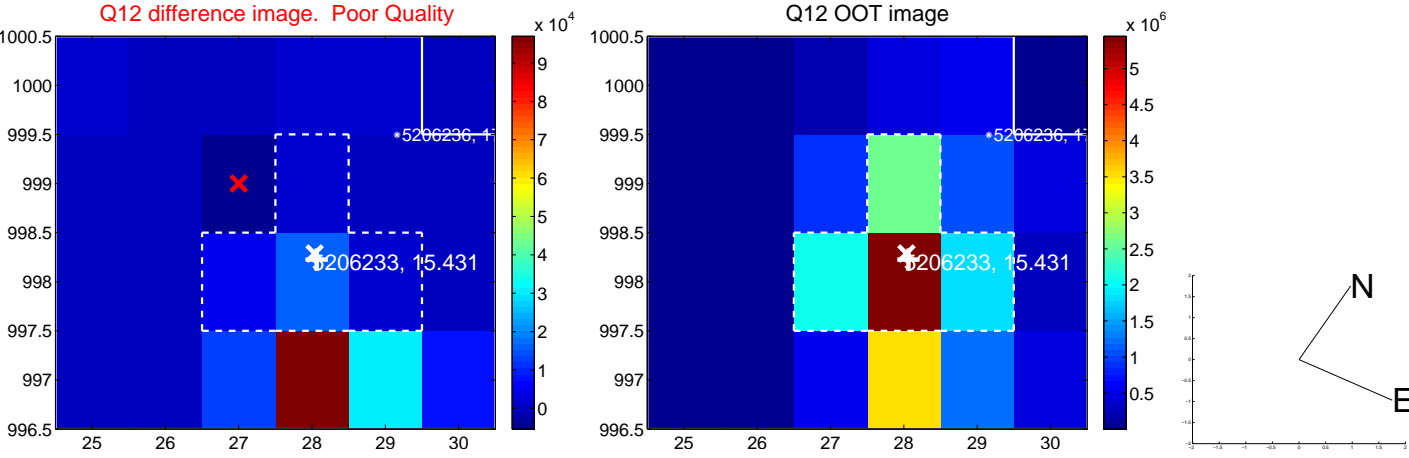
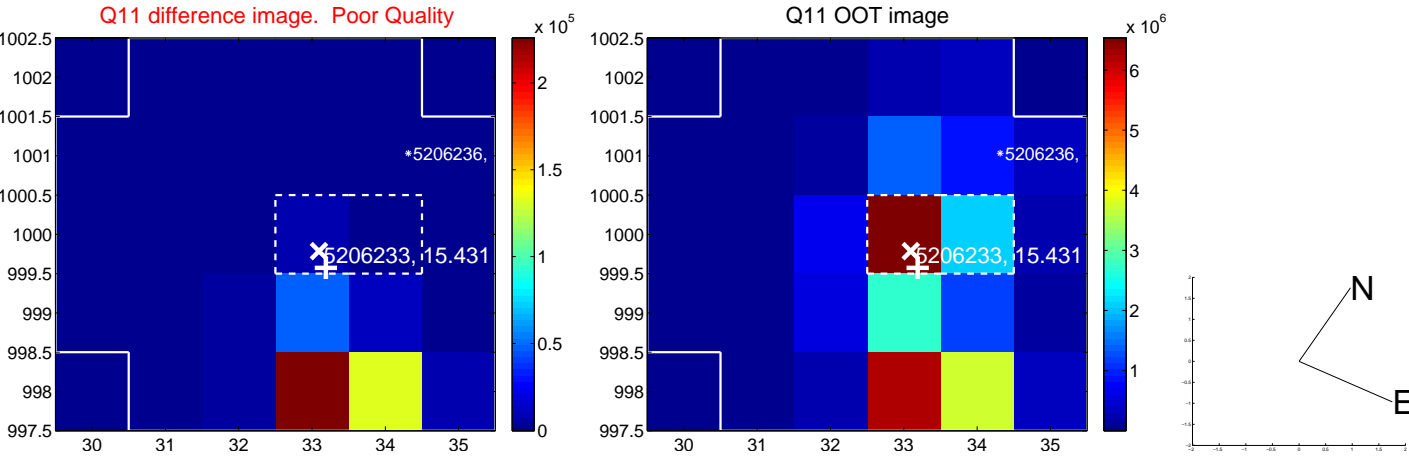
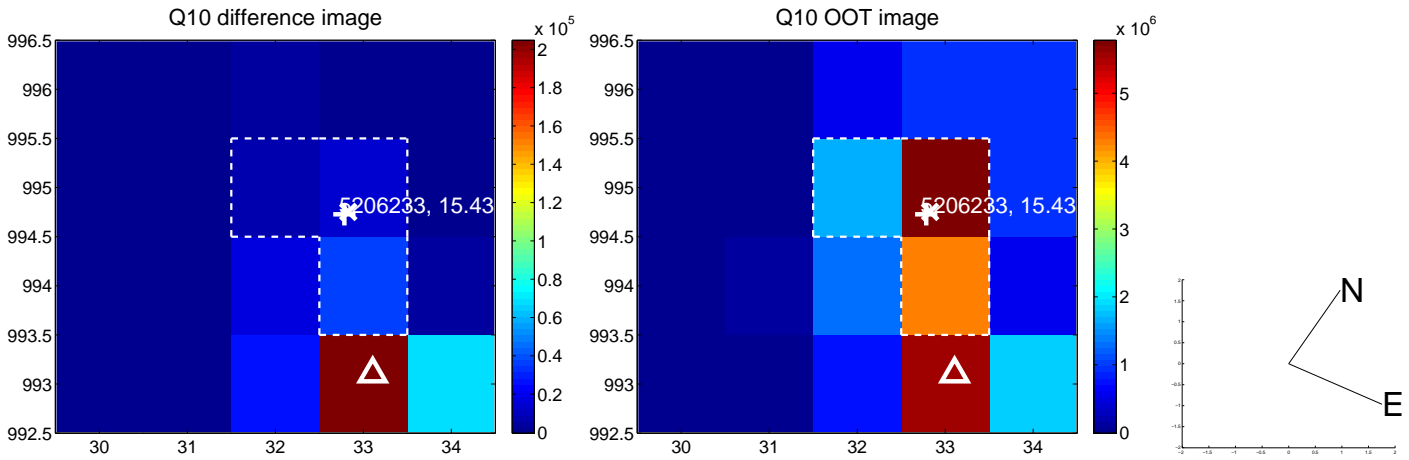
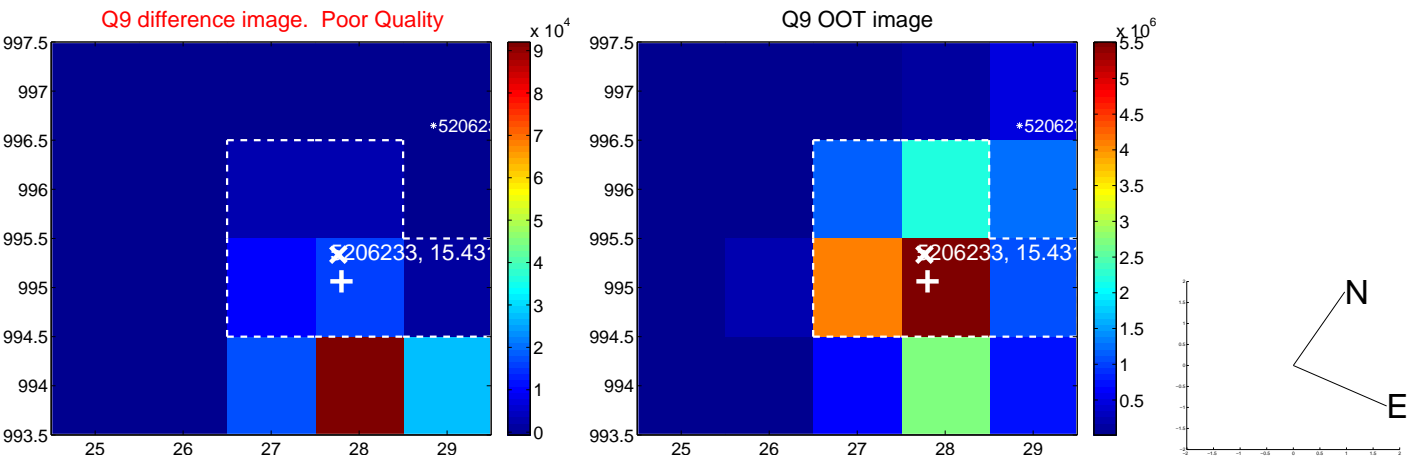
Q4 OOT image



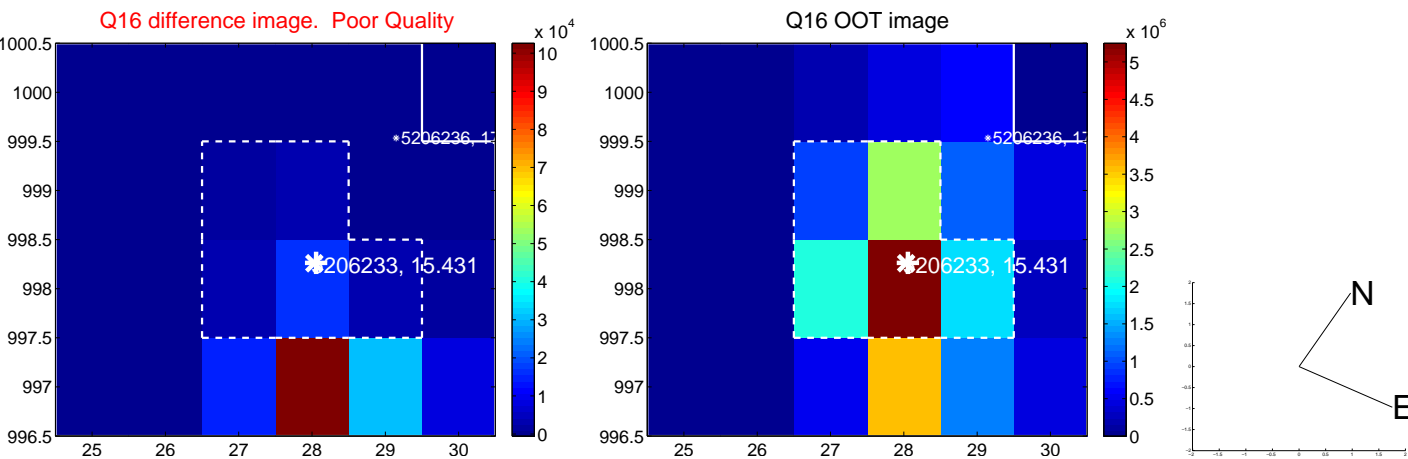
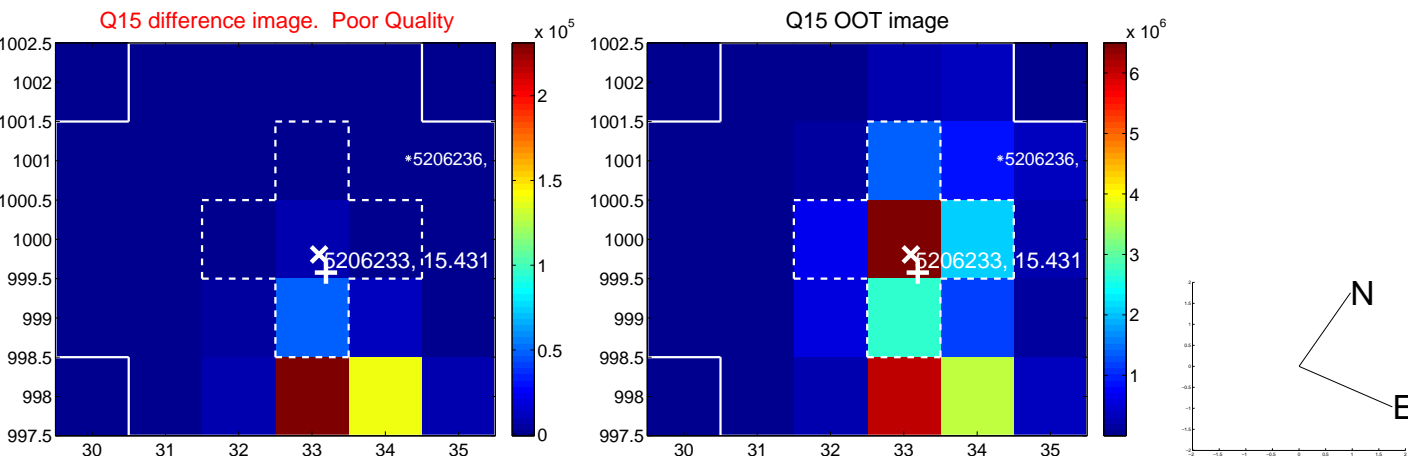
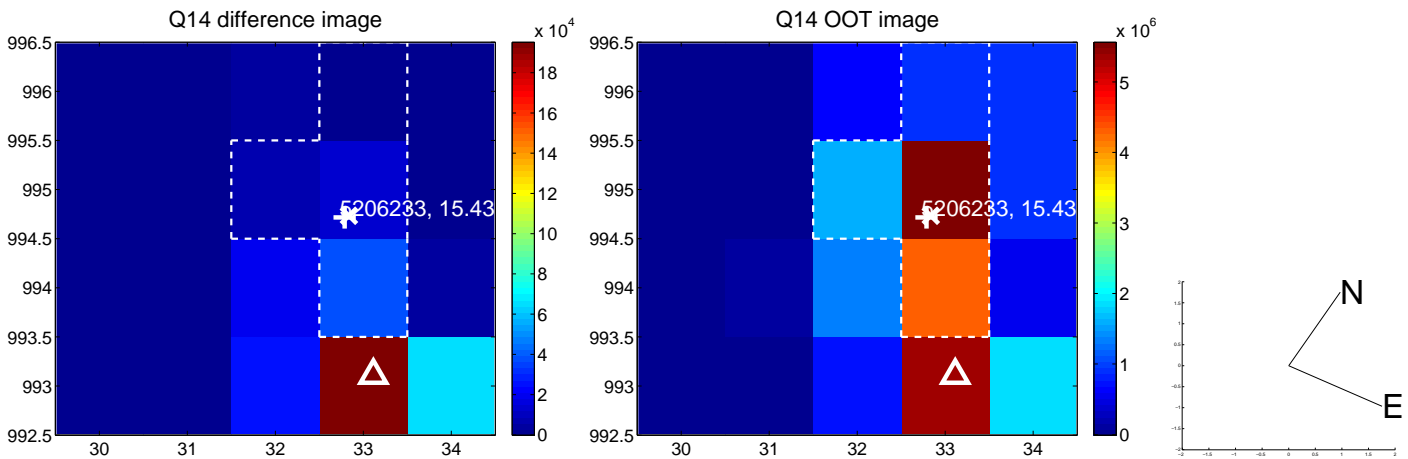
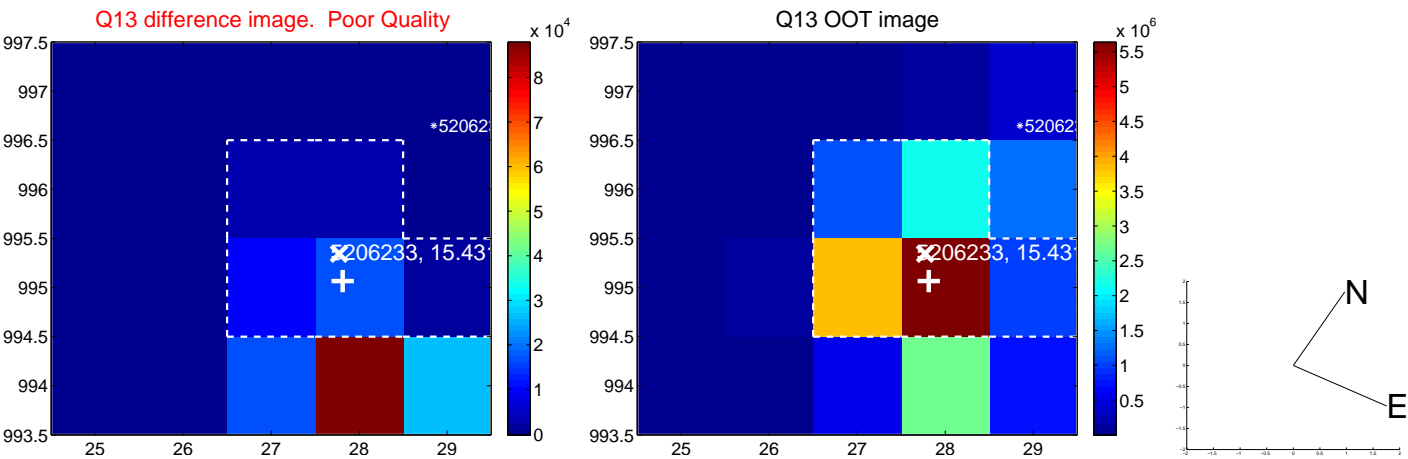
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



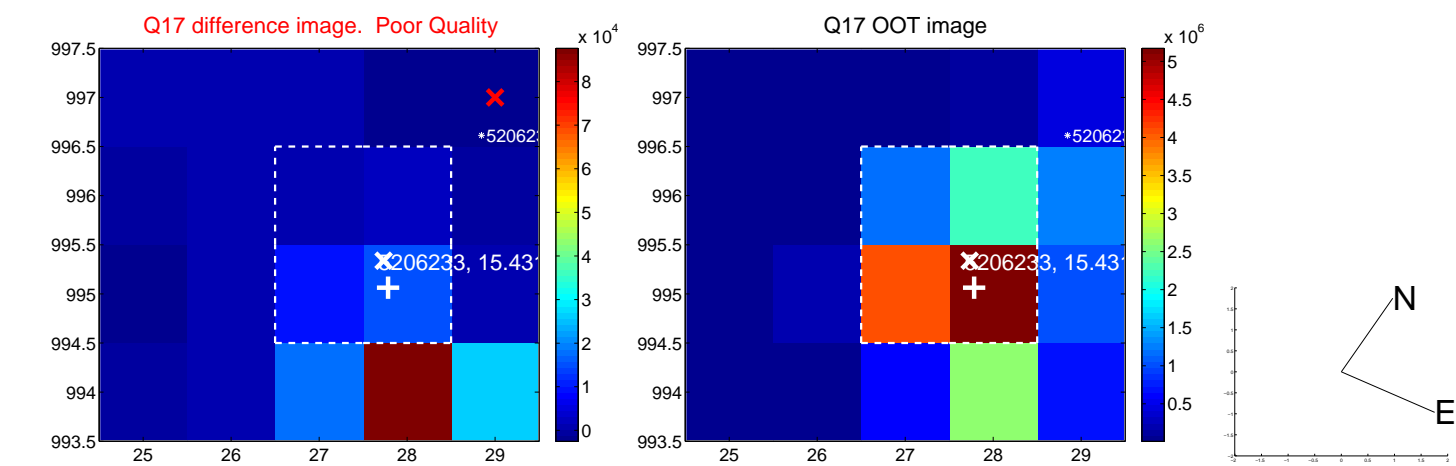
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



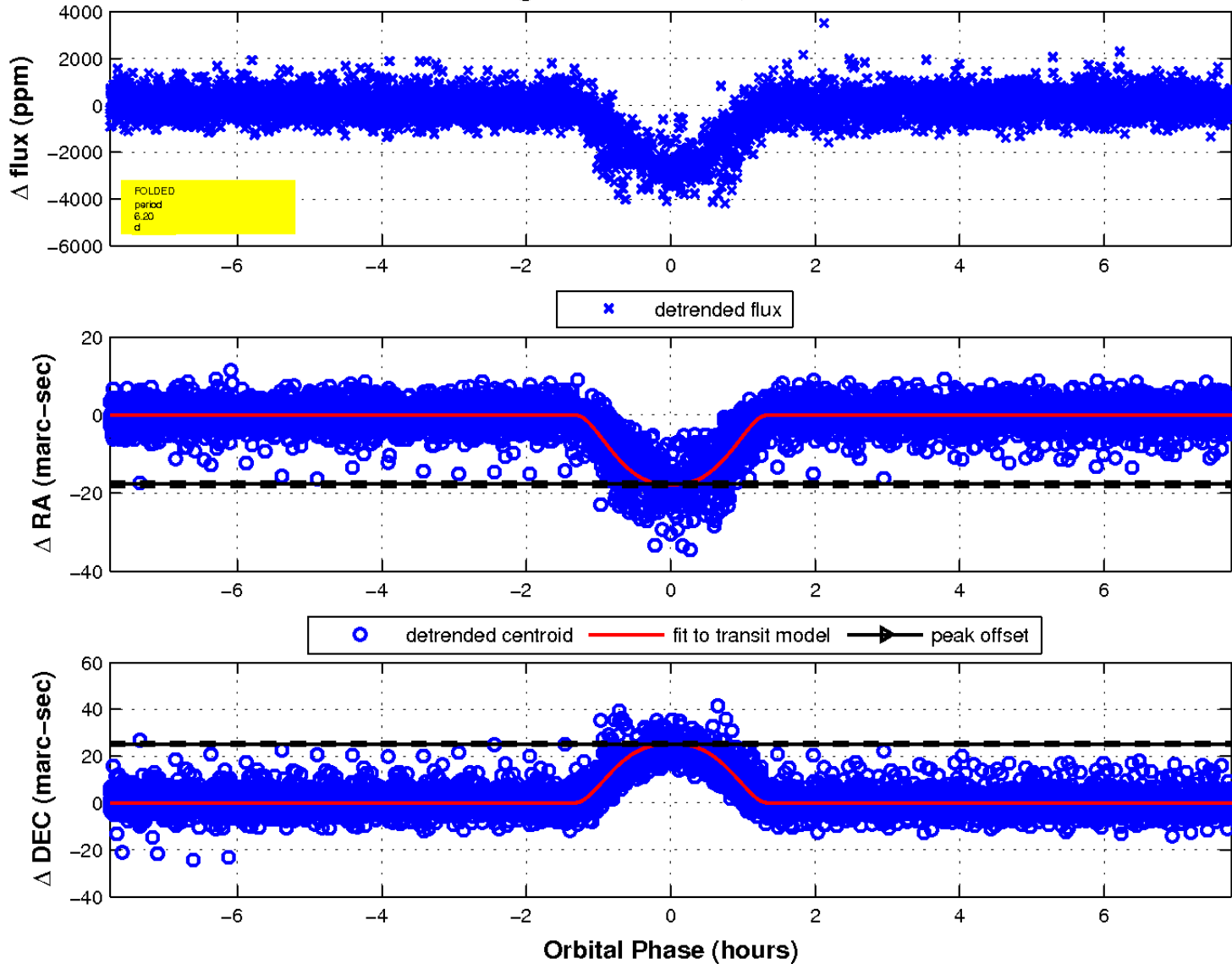
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

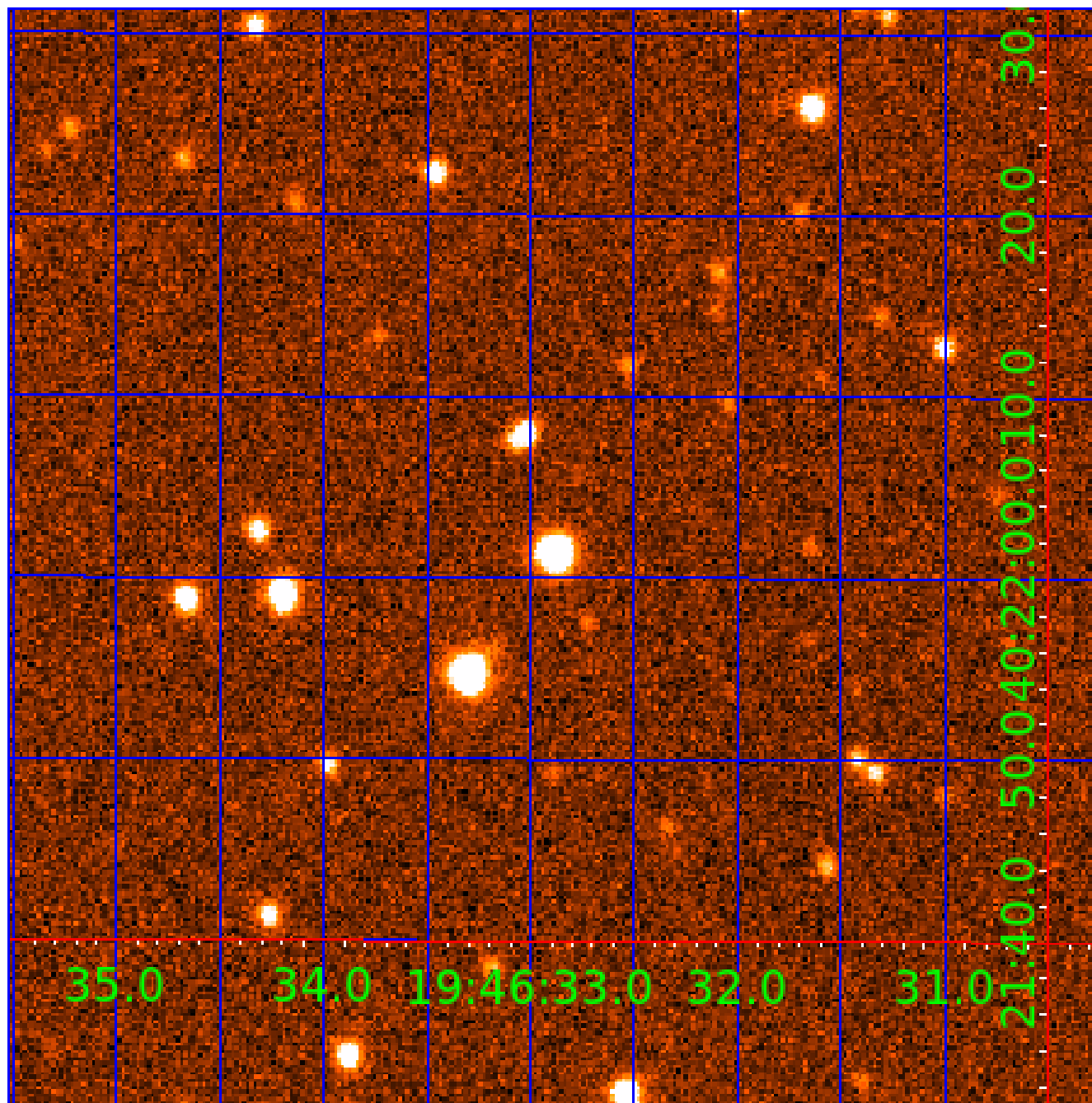


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 005206233

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})
005206233-01	OBS	3779.01	6.195841	134.237170	2561.6	2.588	129.7	83.5	0.81	5608	5.23	143.90
005206233-02	OBS	No	6.195867	137.371447	997.5	2.362	40.7	38.8	0.81	5608	3.29	143.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005206233-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
005206233-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET

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.

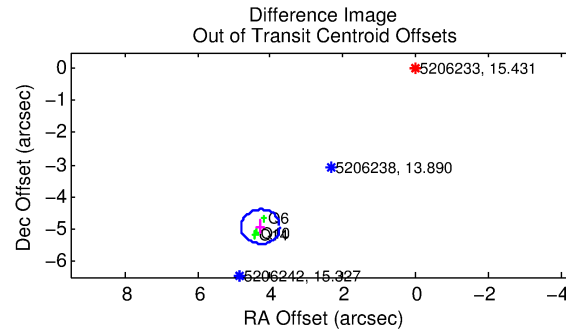
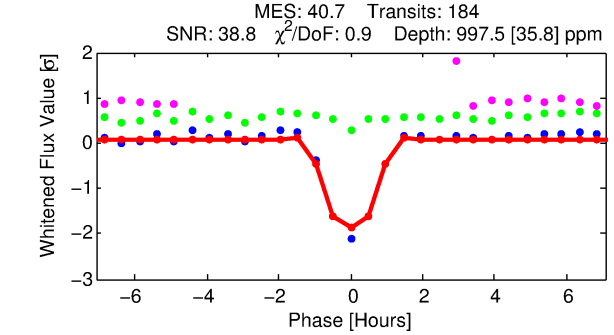
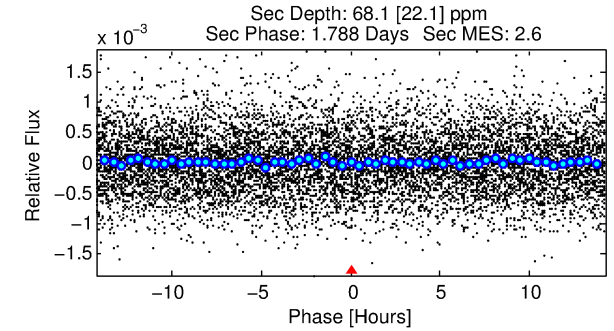
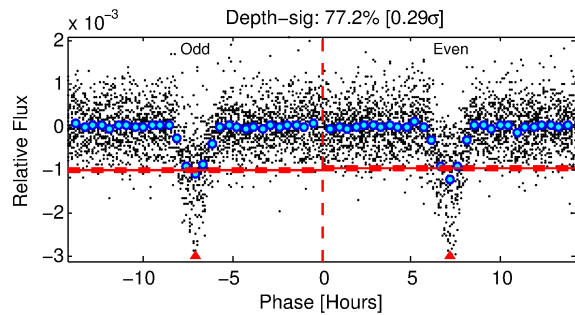
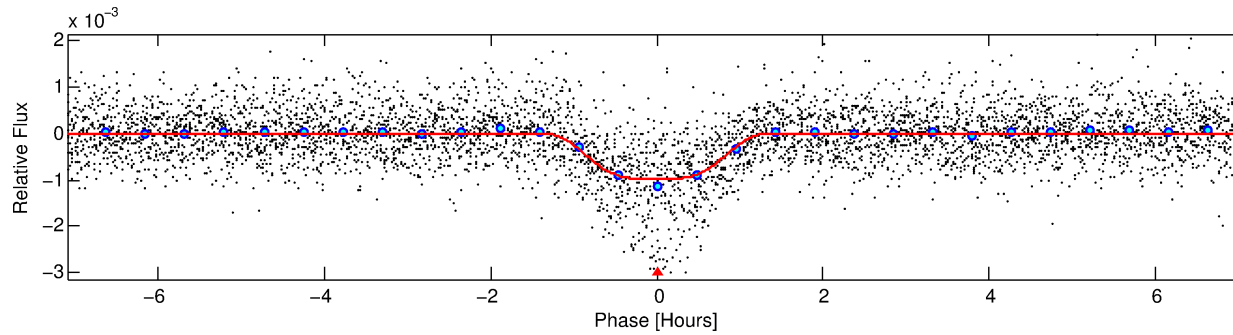
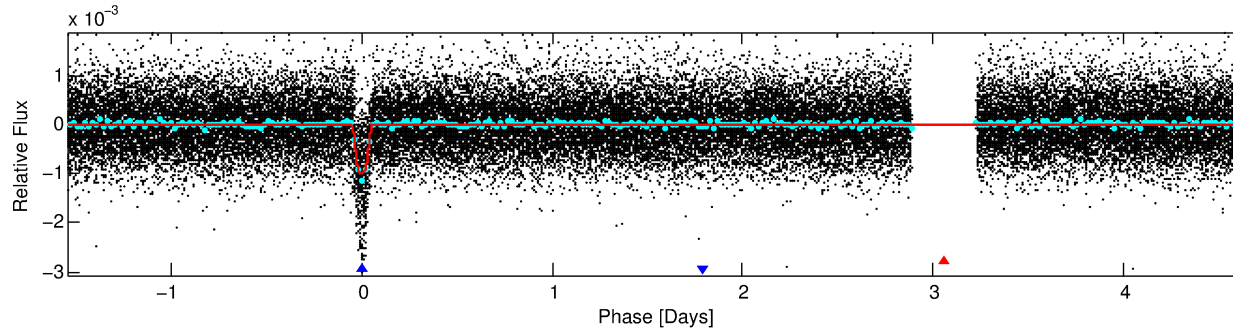
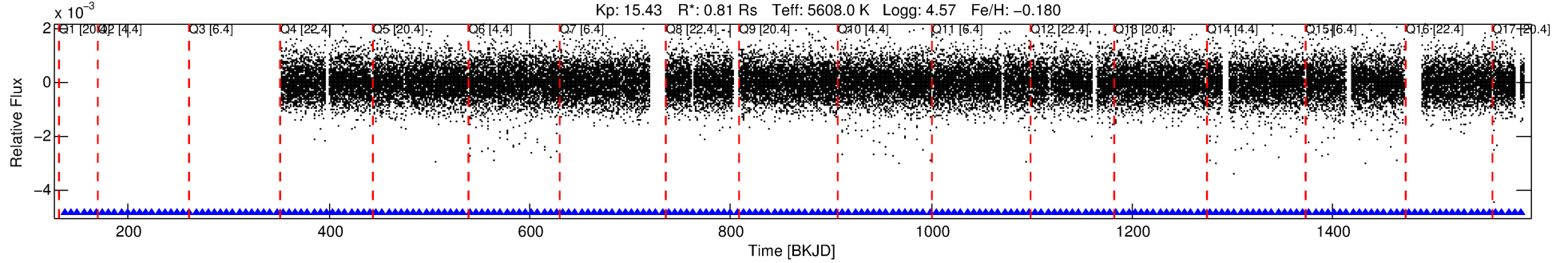
Ephemeris Match Information For 005206233-02

No Significant Match Found

DV One-Page Summary

KIC: 5206233 Candidate: 2 of 2 Period: 6.196 d
KOI: K03779 Corr: No Ephemeris Match

Kp: 15.43 R*: 0.81 Rs Teff: 5608.0 K Logg: 4.57 Fe/H: -0.180



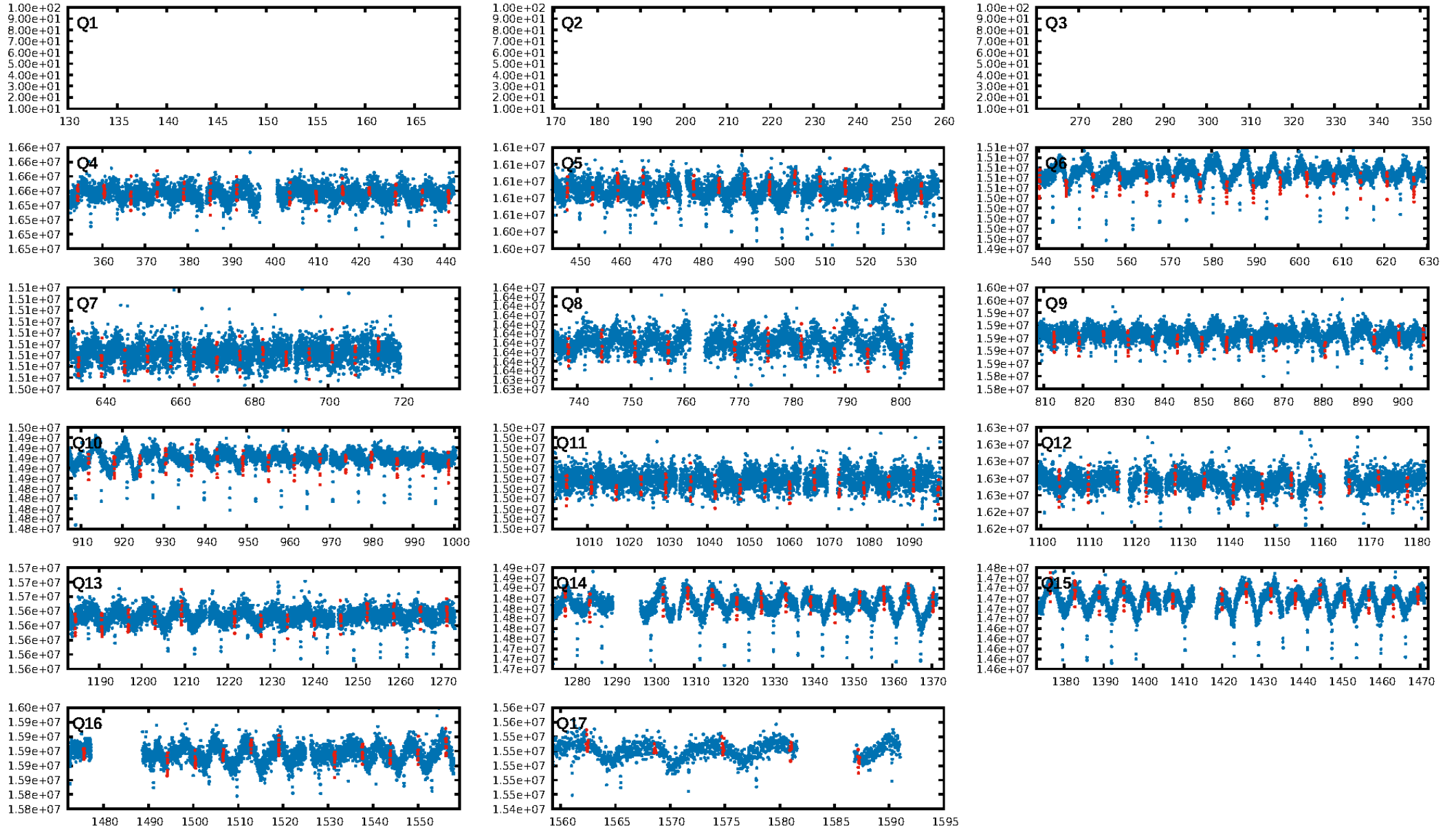
DV Fit Results:

Period = 6.19587 [0.00001] d
Epoch = 137.3714 [0.0016] BKJD
Rp/R* = 0.0371 [0.0013]
a/R* = 8.43 [0.89]
b = 0.95 [0.01]
Seff = 143.90 [48.35]
Teq = 883 [74] K
Rp = 3.29 [0.85] Re
a = 0.0638 [0.0136] AU
Ag = 14.08 [6.40] [2.05σ]
Teff = 2645 [237] K [7.09σ]

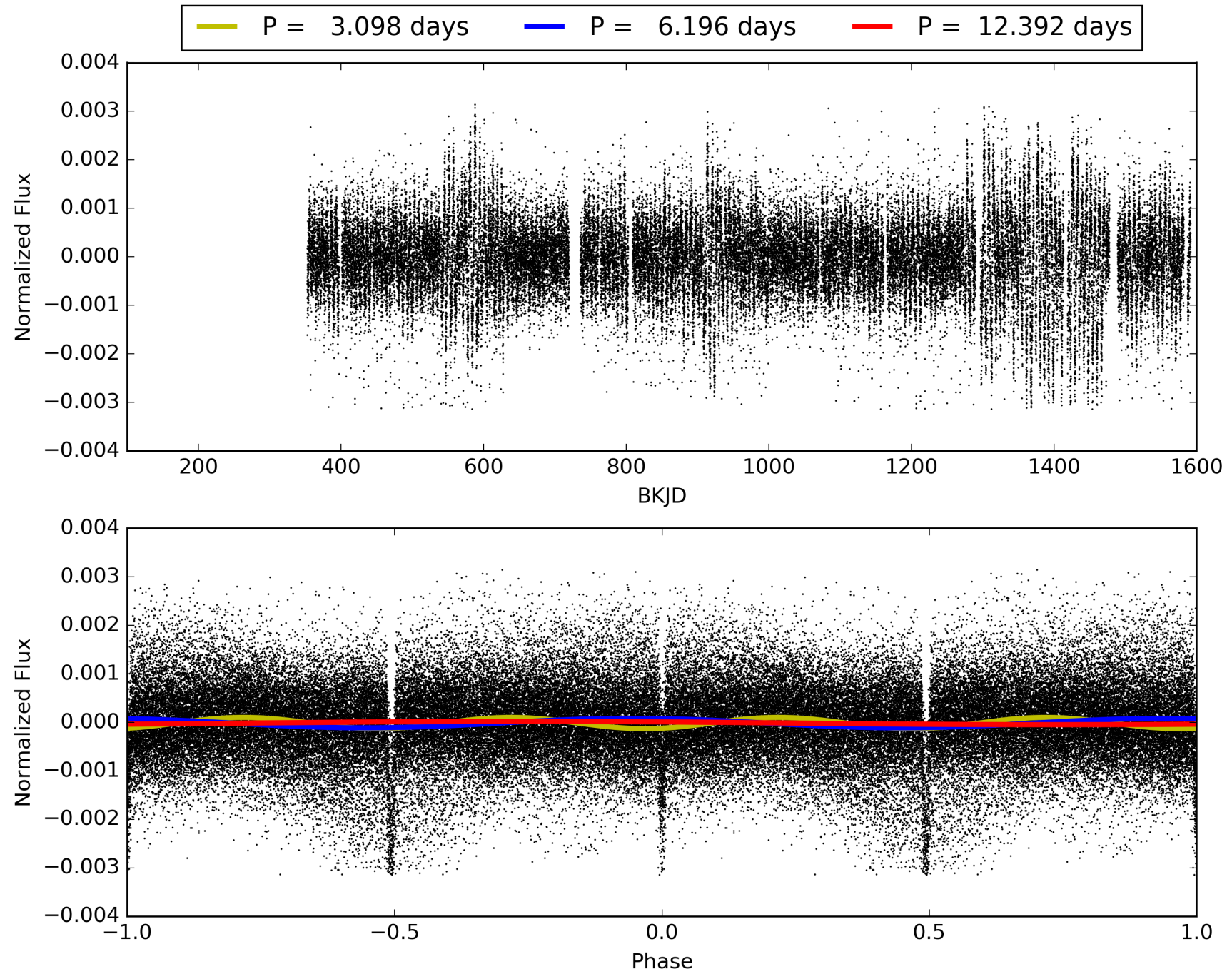
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [179/179]
GhostDiagnostic-chr: -0.2922
Centroid-sig: 0.0%
Centroid-so: 11.540 arcsec [40.00σ]
OotOffset-rm: 6.521 arcsec [36.66σ]
KicOffset-rm: 6.550 arcsec [35.89σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 005206233-02, PDC Light Curves

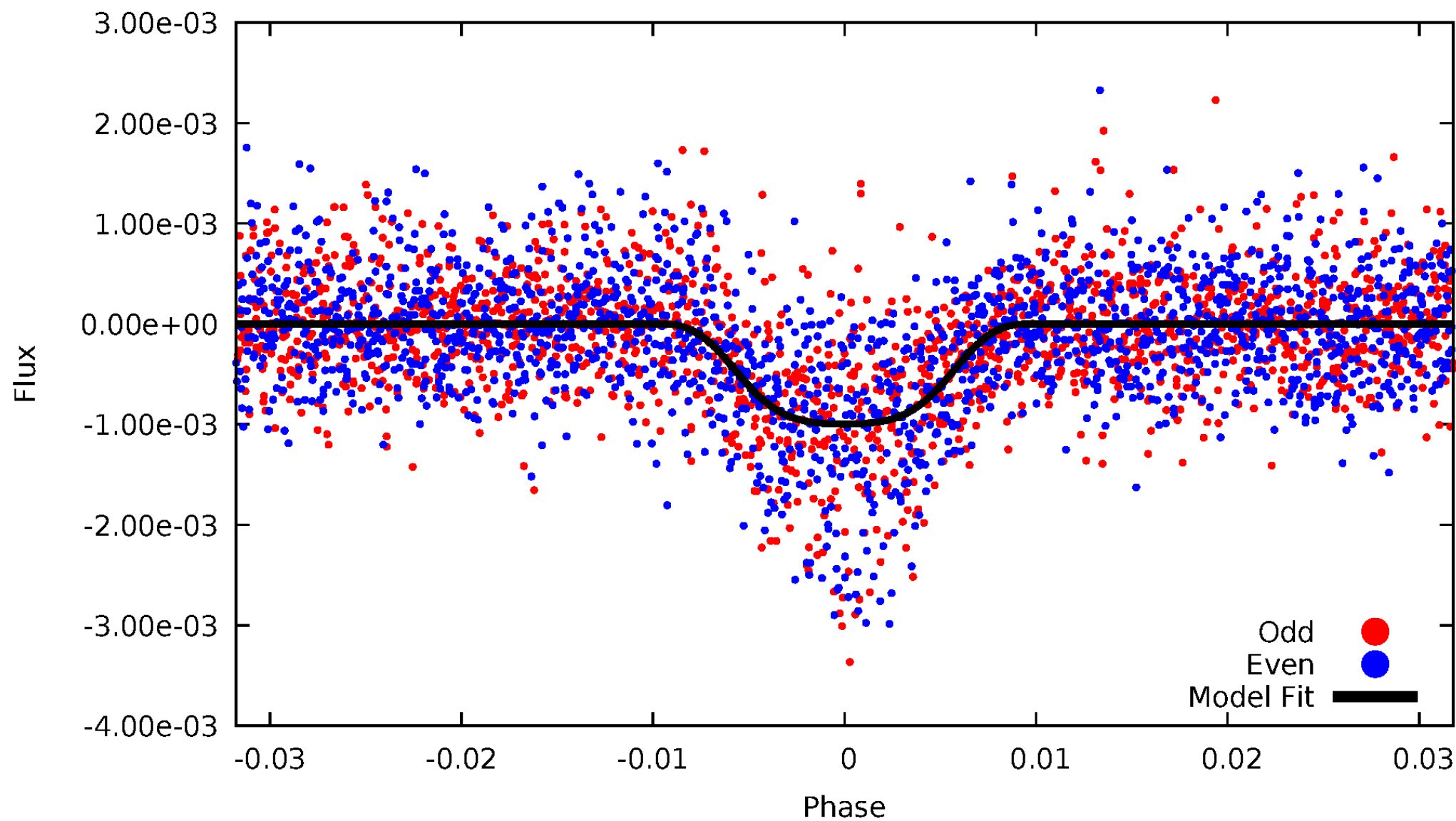


TCE 005206233-02



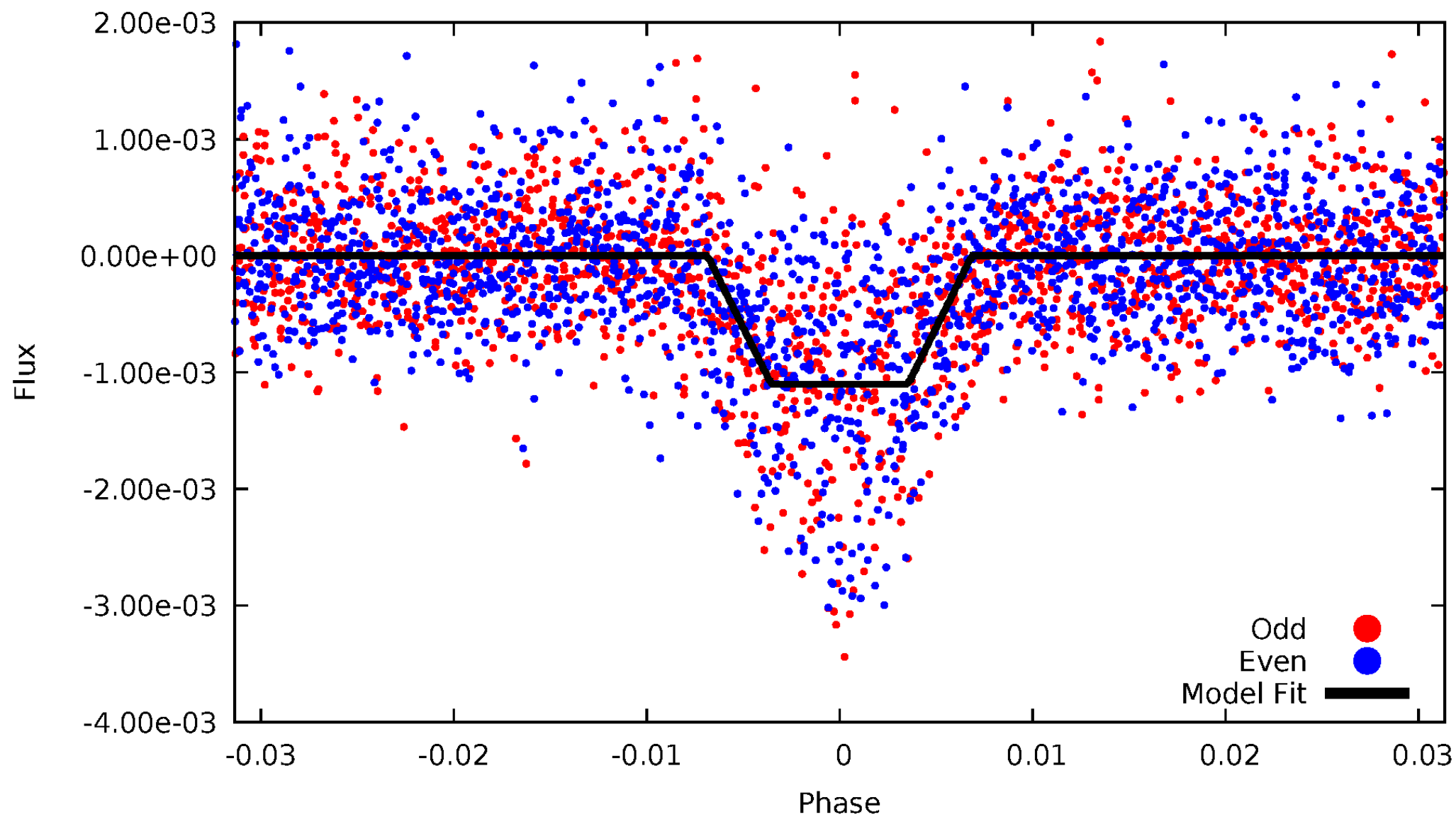
DV Odd/Even

TCE 005206233-02



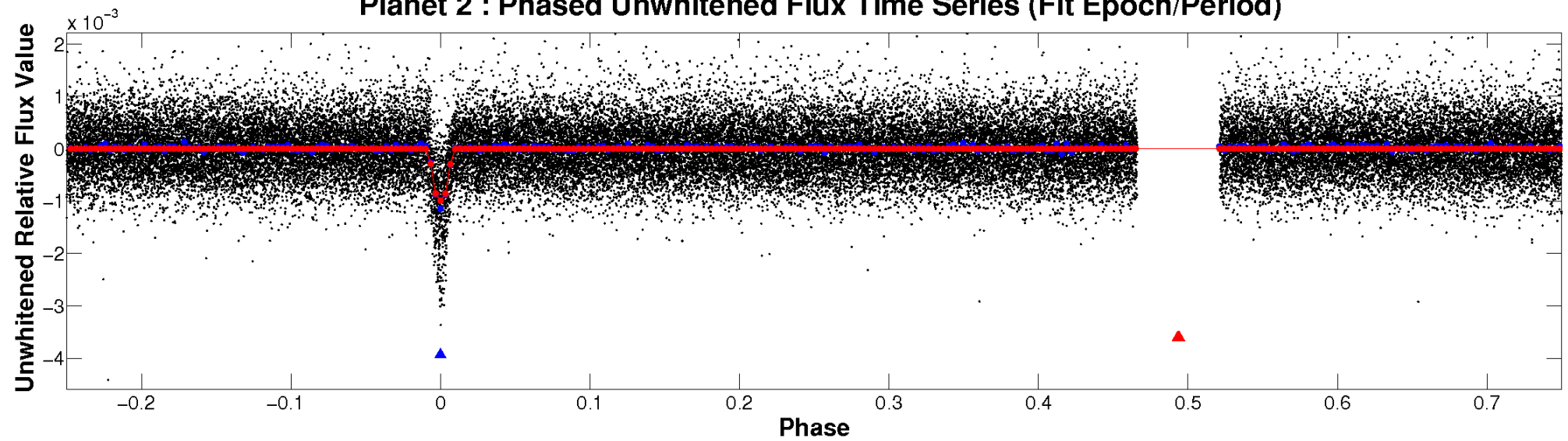
ALT Odd/Even

TCE 005206233-02

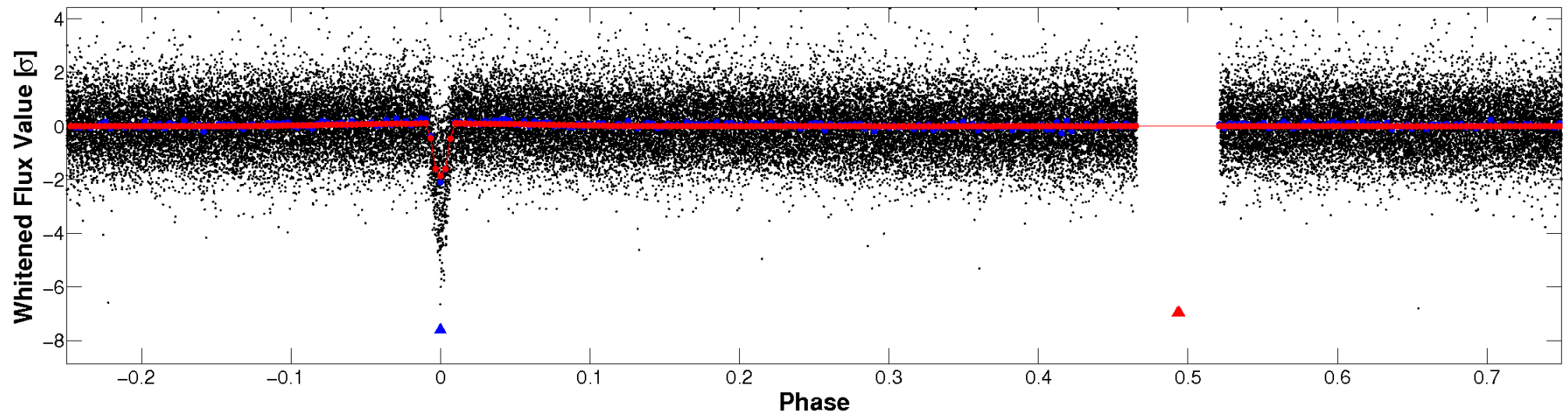


Non-Whitened Vs. Whitened Light Curve

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

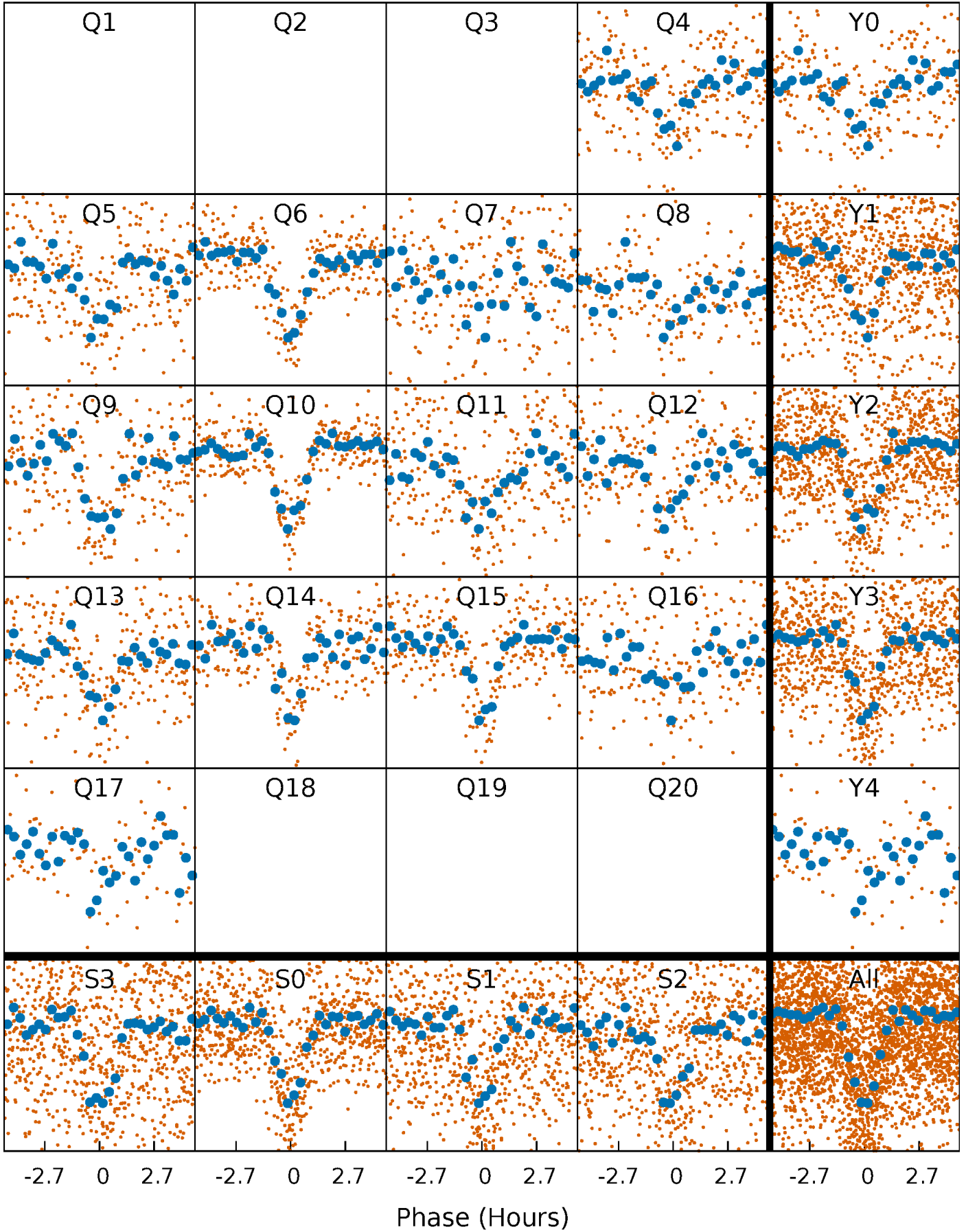


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



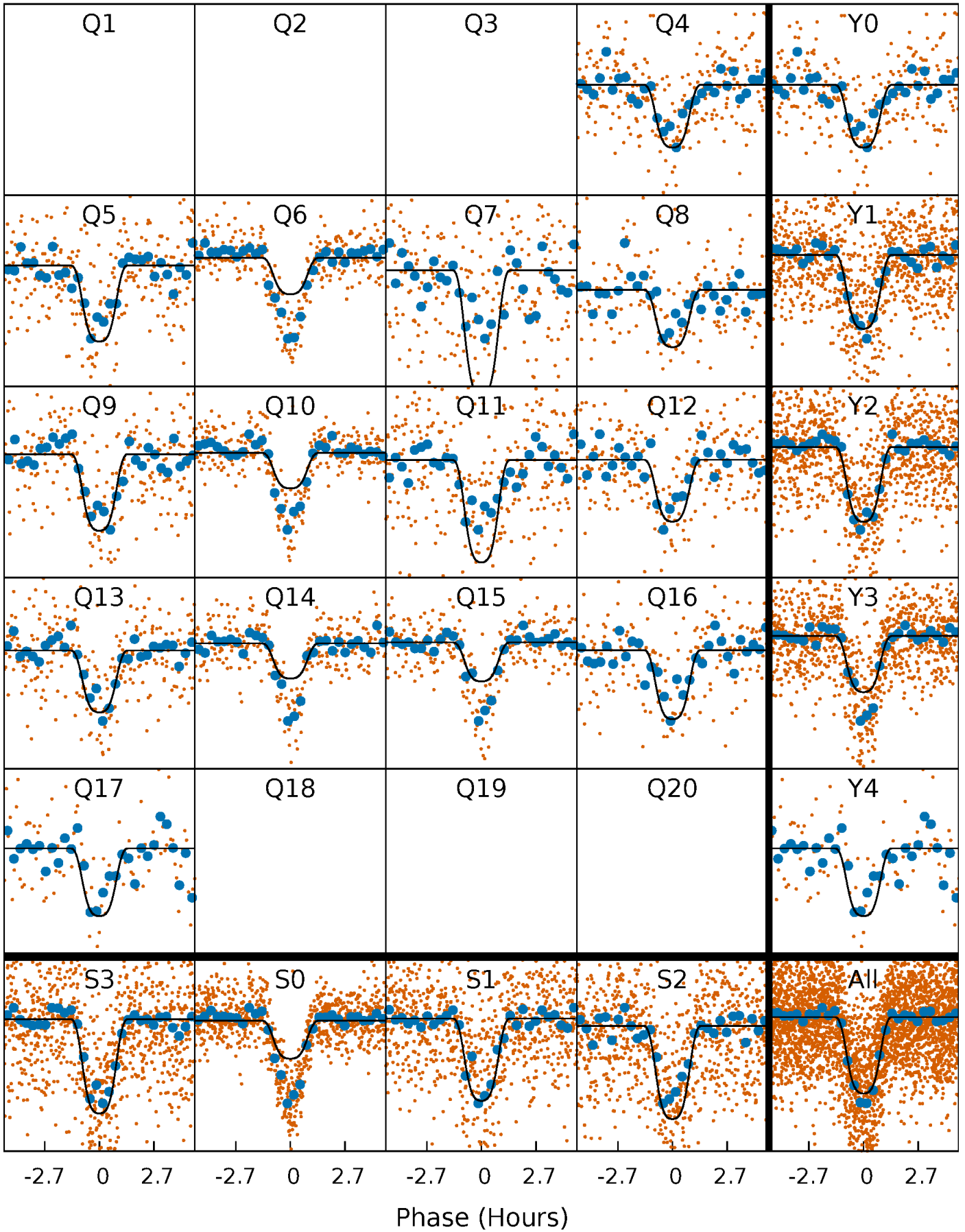
PDC Quarter-Phased Transit Curves

TCE 005206233-02 P= 6.195867 Days $T_0=137.371446$ (BKJD)



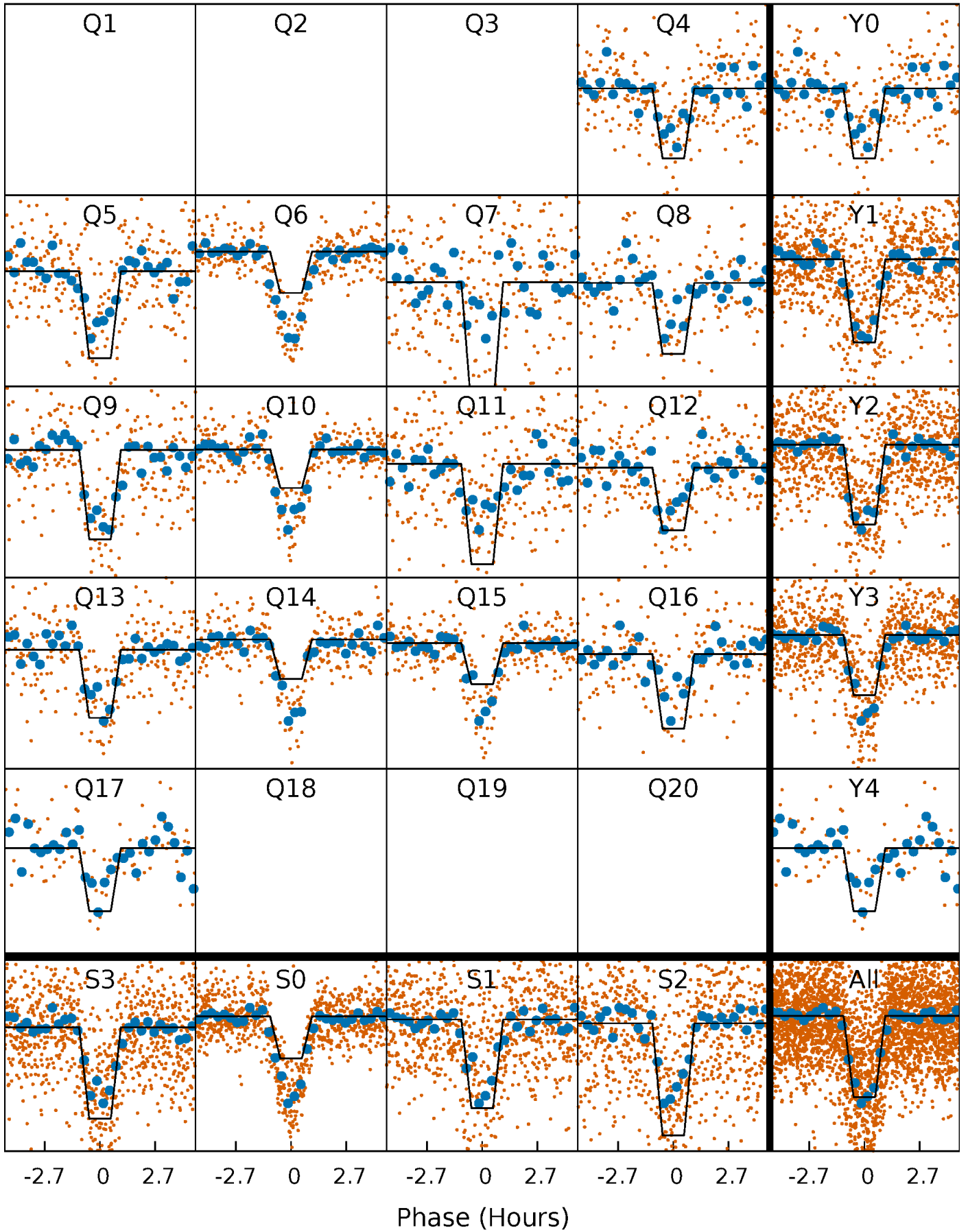
DV Quarter-Phased Transit Curves

TCE 005206233-02 P= 6.195867 Days $T_0=137.371446$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

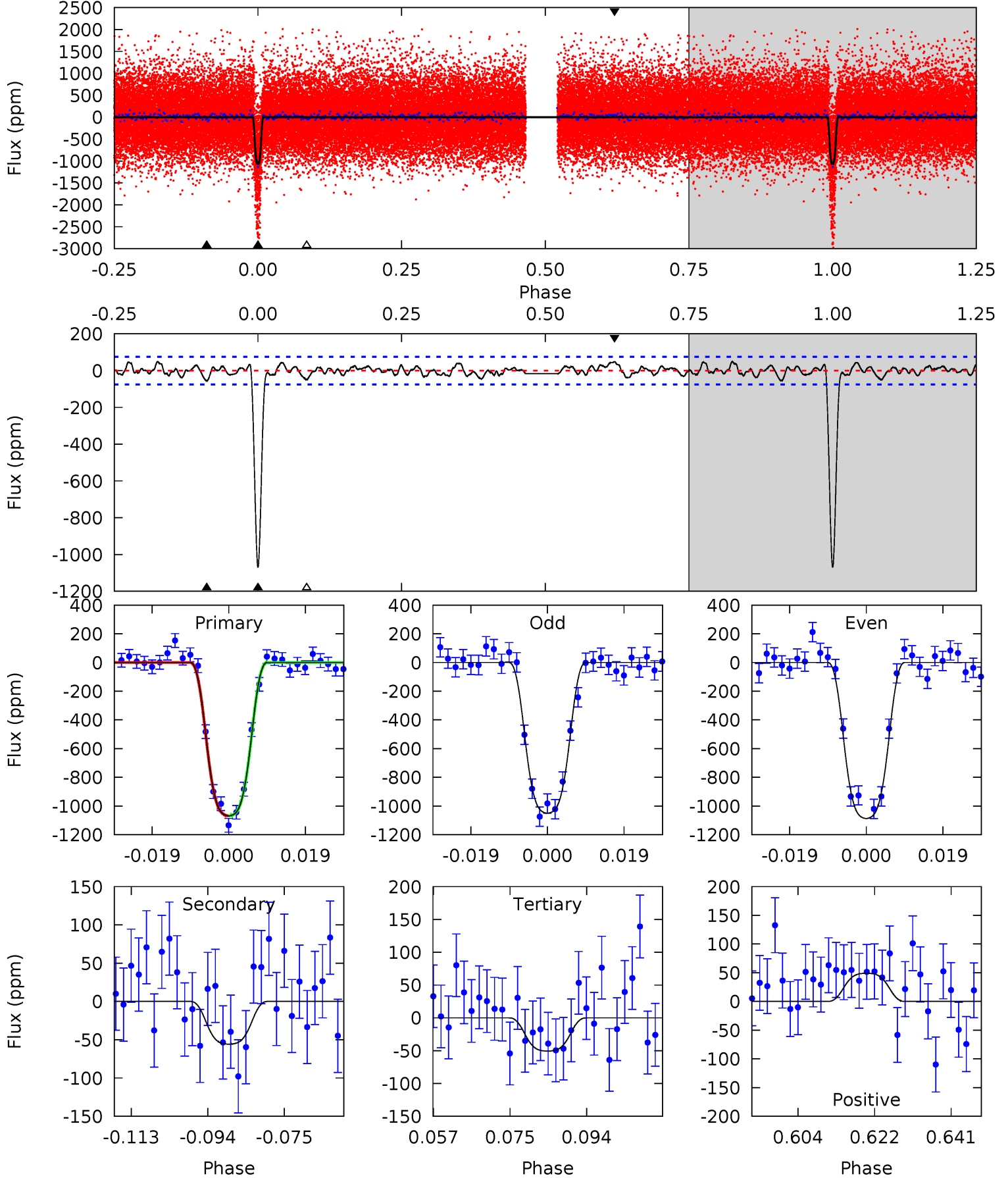
TCE 005206233-02 P= 6.195865 Days $T_0=137.371936$ (BKJD)



DV Model-Shift Uniqueness Test

005206233-02, P = 6.195867 Days, E = 137.371446 Days

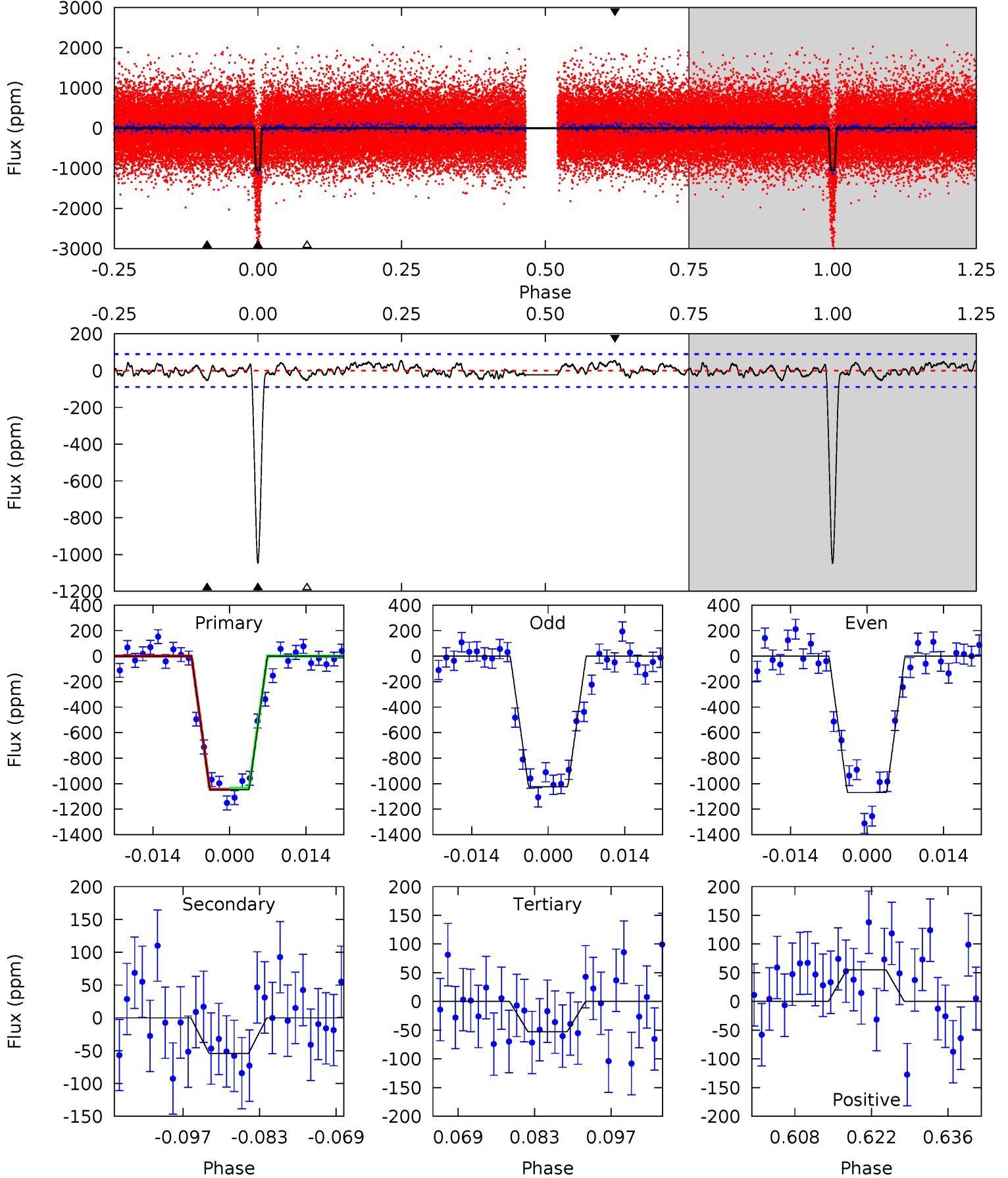
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
69.5	3.62	3.29	3.19	4.90	2.35	1.28	66.2	66.3	0.33	0.43	1.20	1.15	0.04	0.02



Alt Model-Shift Uniqueness Test

005206233-02, P = 6.195865 Days, E = 137.371936 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
58.1	3.02	2.92	3.06	4.96	2.46	1.26	55.2	55.1	0.10	-0.04	1.28	1.15	0.05	0.29



Stellar Parameters For KIC 005206233

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5608^{+186}_{-186}	$4.573^{+0.031}_{-0.168}$	$-0.180^{+0.300}_{-0.300}$	$0.813^{+0.207}_{-0.069}$	$0.909^{+0.094}_{-0.104}$	$2.382^{+0.422}_{-1.094}$
	+3%/-3%	+1%/-4%	+167%/-167%	+25%/-8%	+10%/-11%	+18%/-46%
Source	KIC0	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 005206233-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-56 ± 15	$3.43^{+0.46}_{-0.28}$	1267^{+77}_{-61}	3114^{+132}_{-146}	10^{+4}_{-3}
Alt.	-54 ± 18	$3.07^{+0.38}_{-0.26}$	1264^{+79}_{-60}	3204^{+164}_{-190}	12^{+5}_{-4}

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

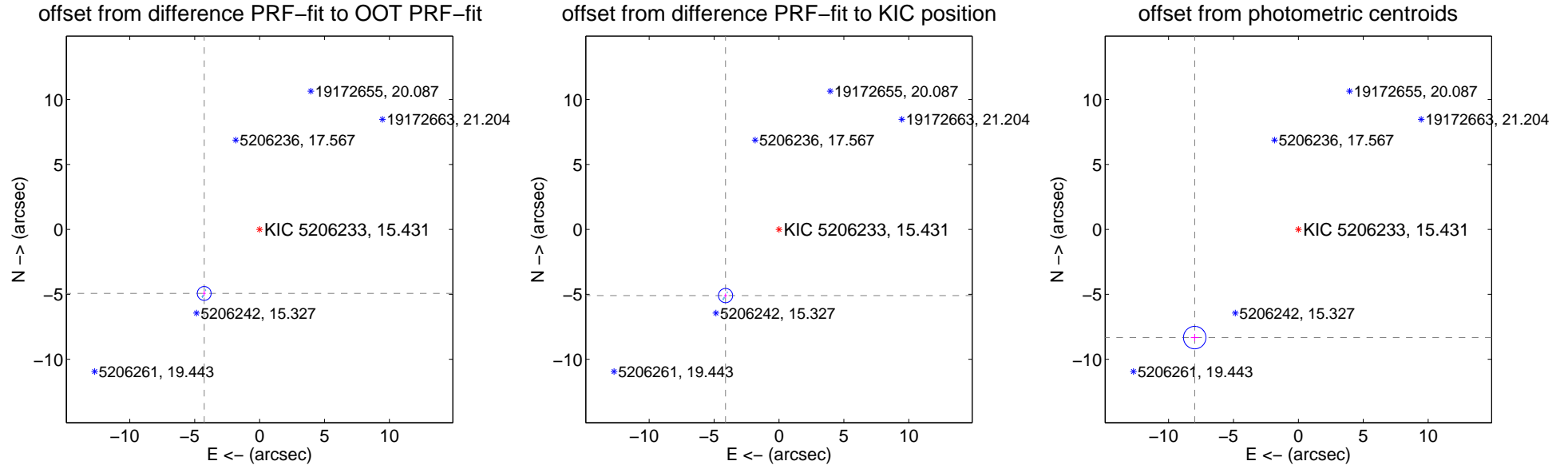
DV Centroid Data

Supplemental centroid analysis for 005206233-02. Kepler magnitude: 15.43. Transit SNR 38.79

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

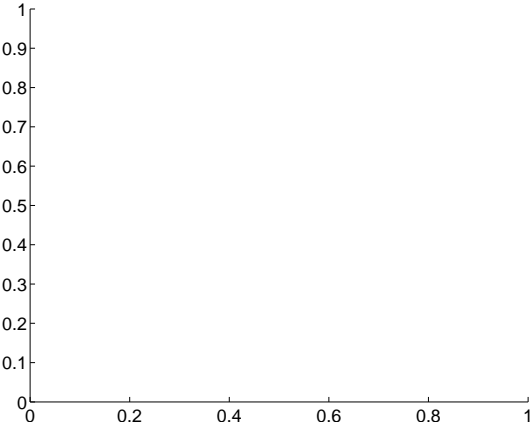
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.521 ± 0.178	36.66	4.267 ± 0.117	-4.931 ± 0.212
PRF-fit source offset from KIC position	6.550 ± 0.182	35.89	4.117 ± 0.110	-5.095 ± 0.162
photometric centroid source offset	11.54 ± 0.29	40.00	7.99 ± 0.30	-8.33 ± 0.28



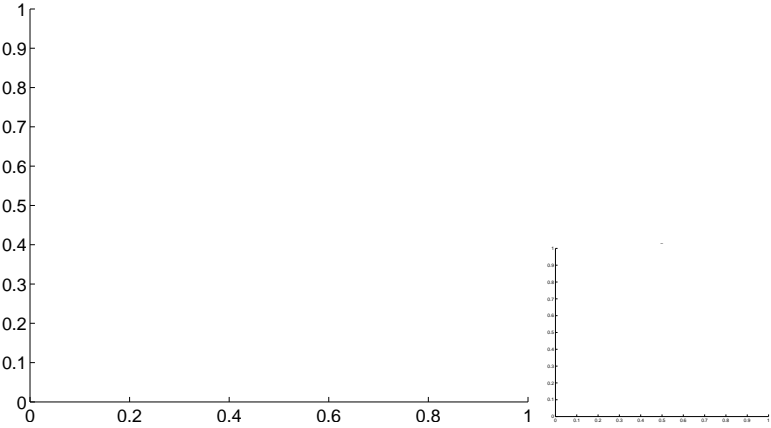
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

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

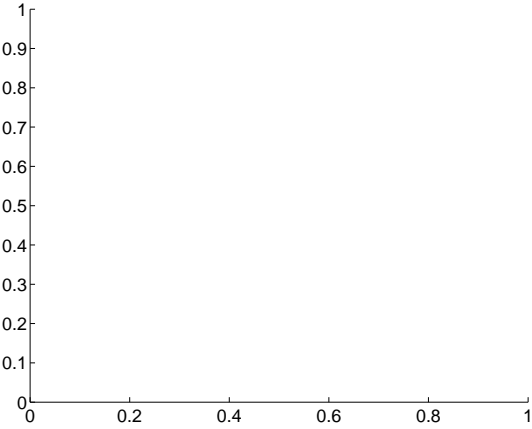
Q1 no difference image



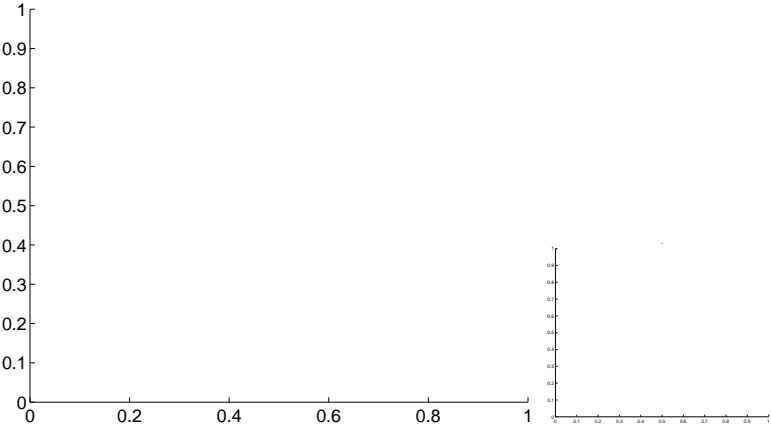
Q1 no OOT image



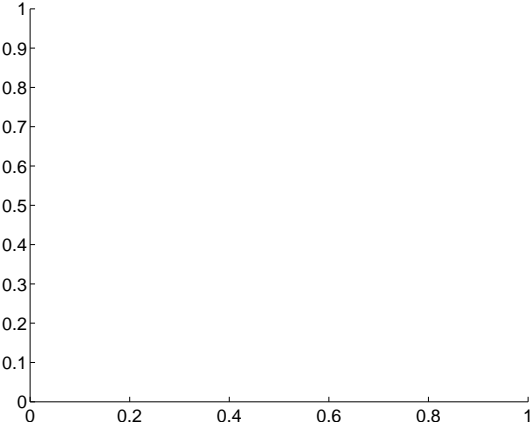
Q2 no difference image



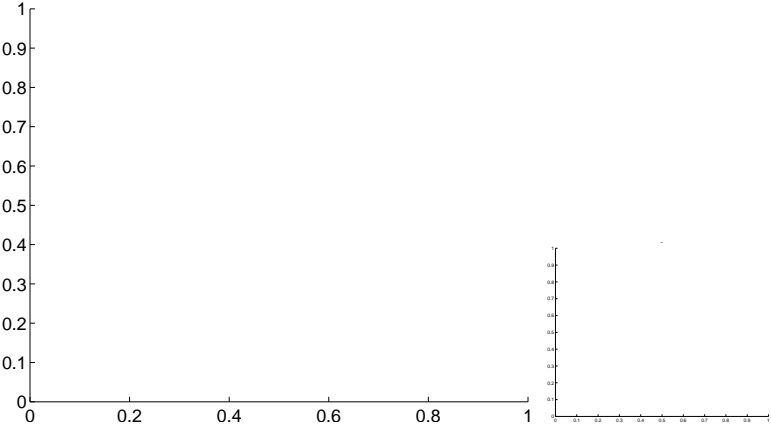
Q2 no OOT image



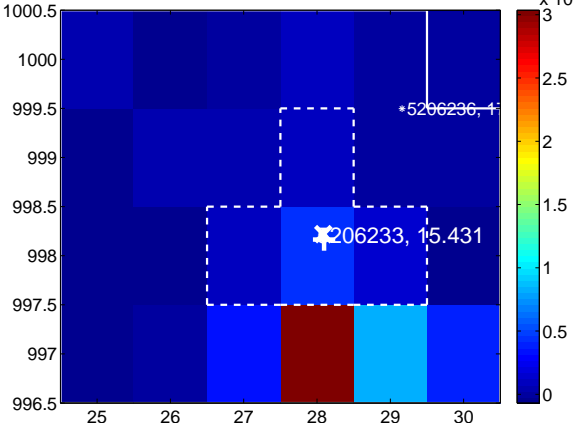
Q3 no difference image



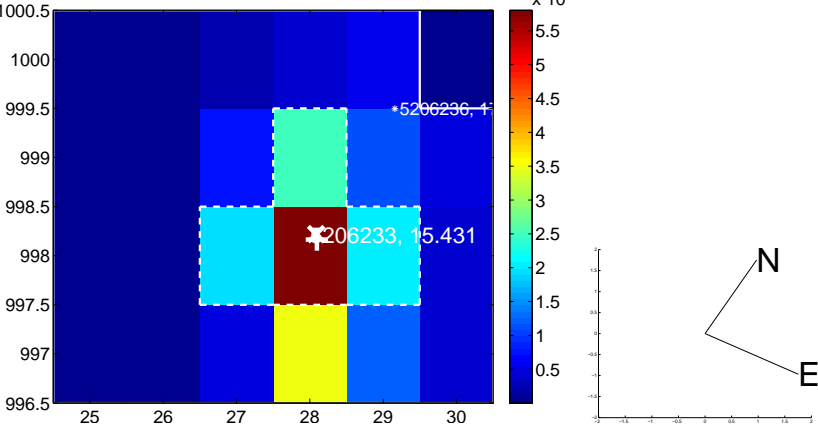
Q3 no OOT image



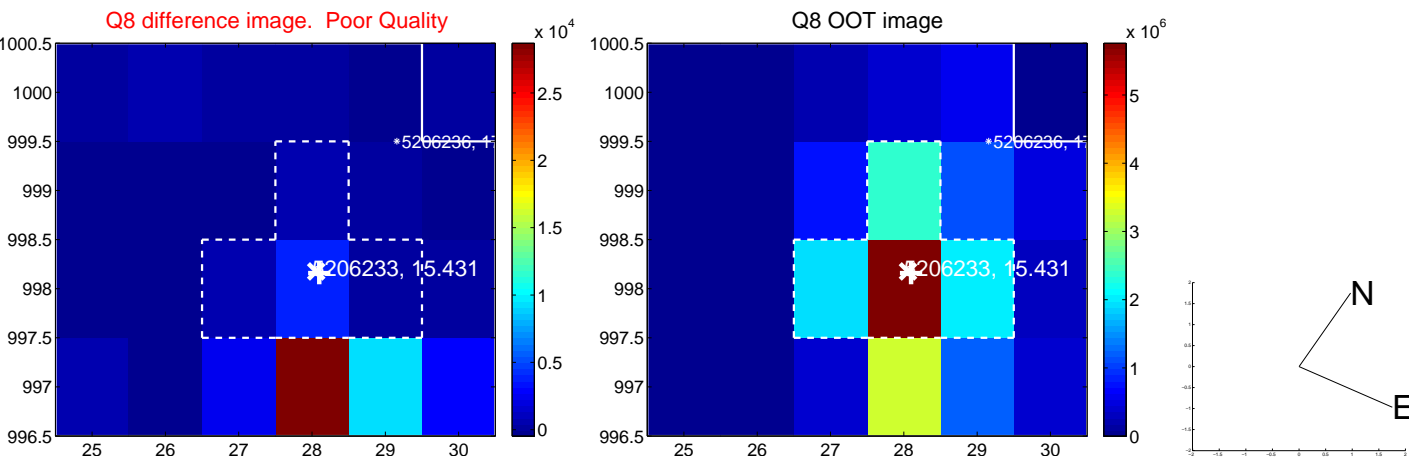
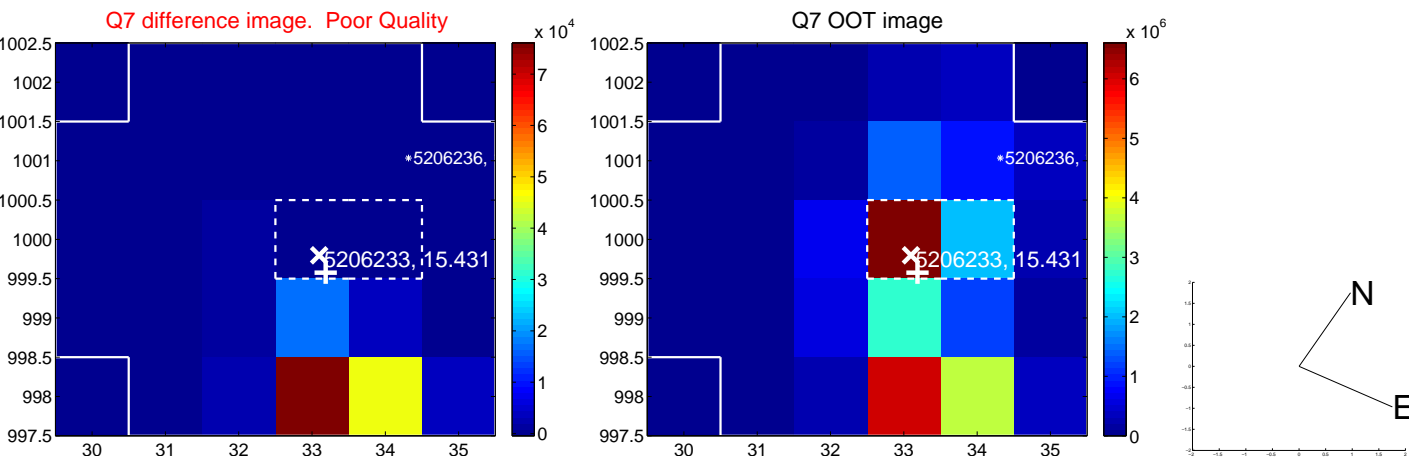
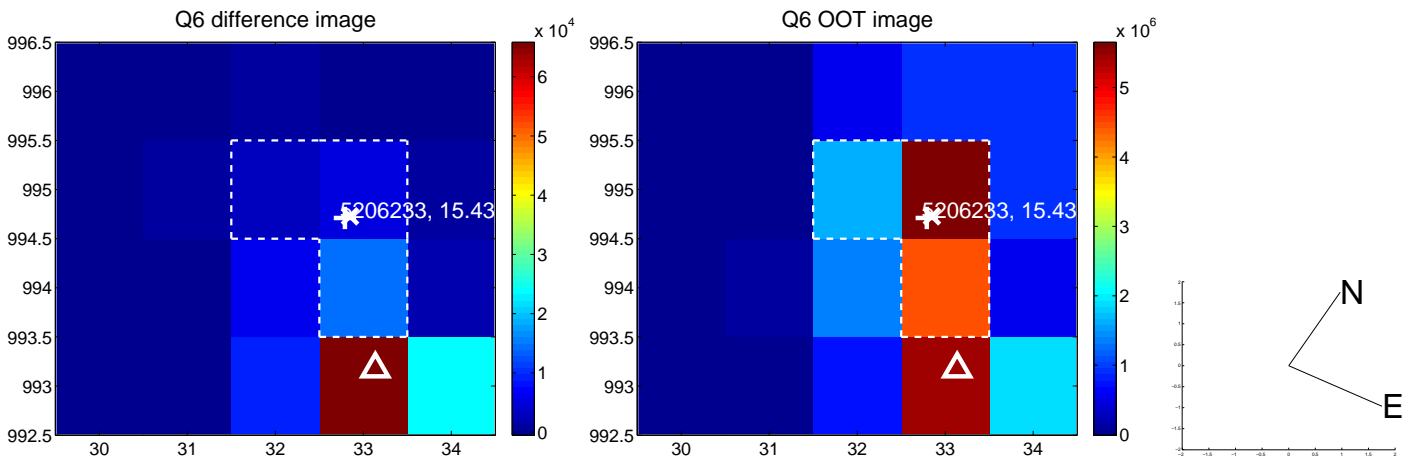
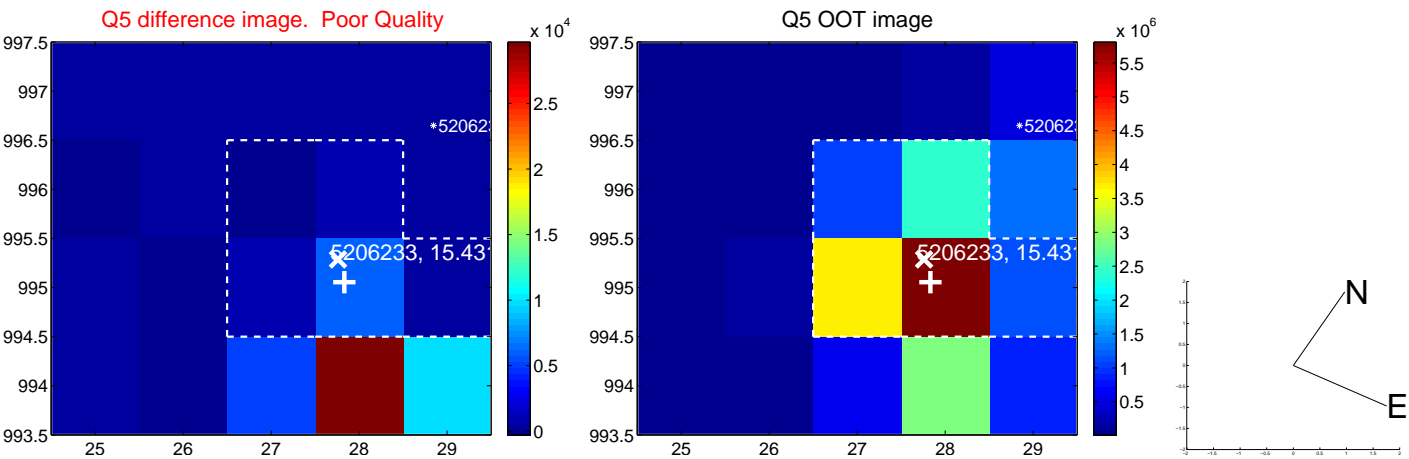
Q4 difference image. Poor Quality



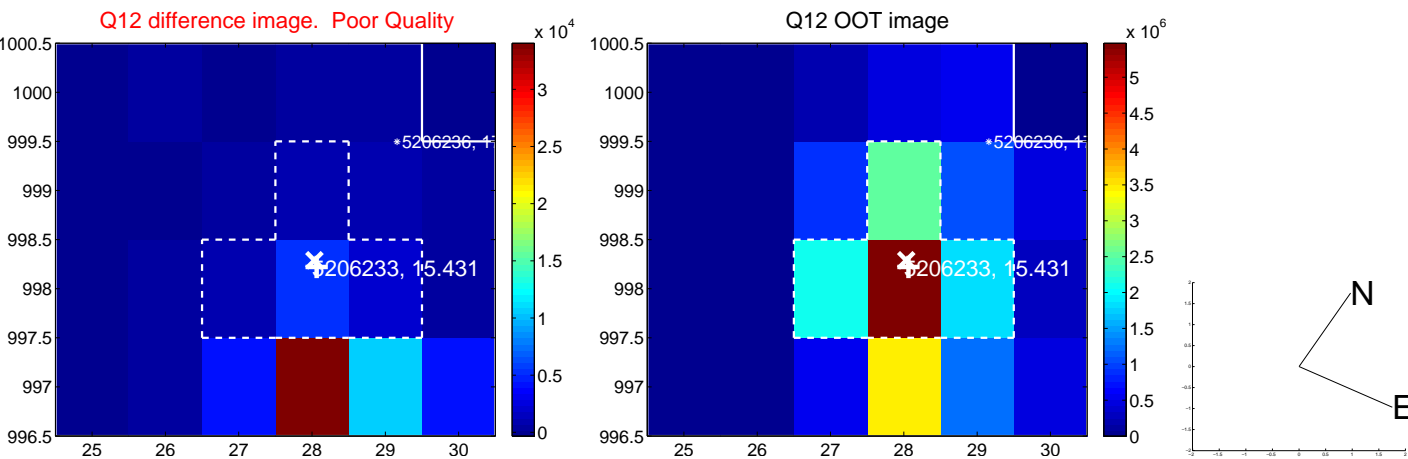
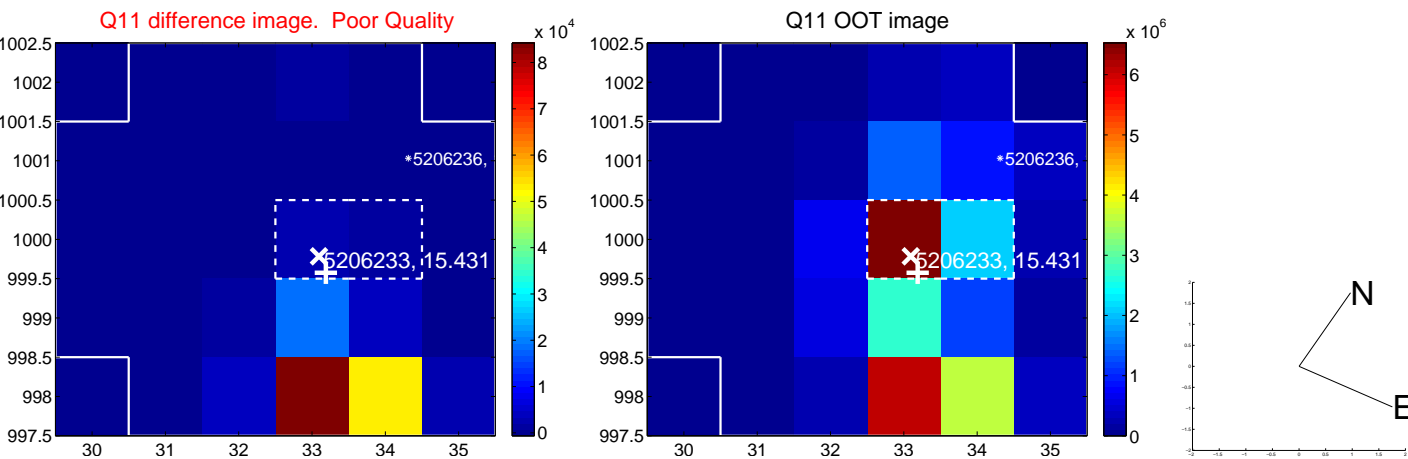
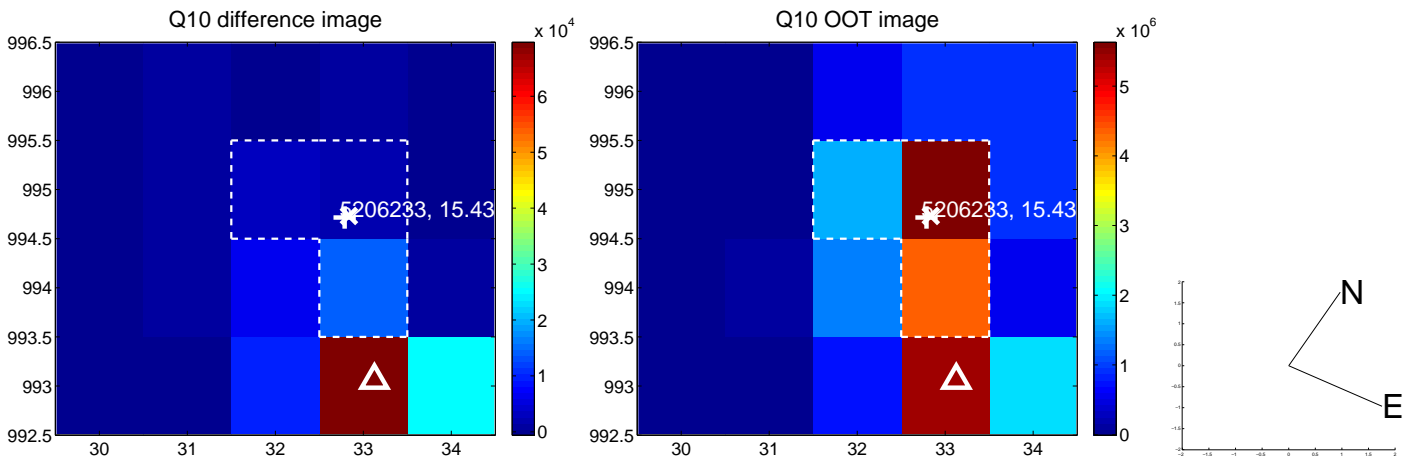
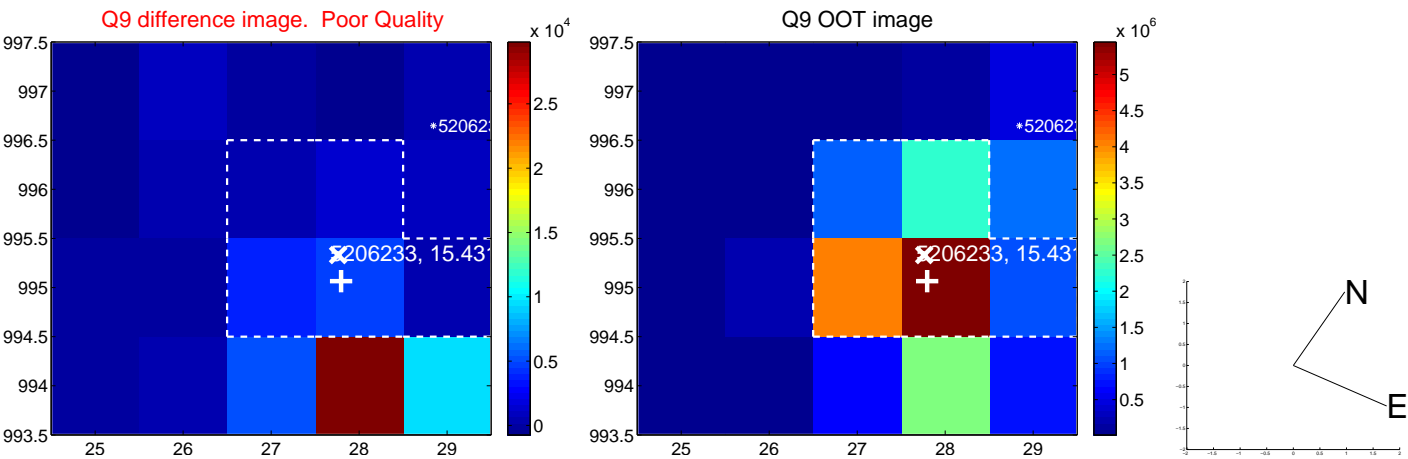
Q4 OOT image



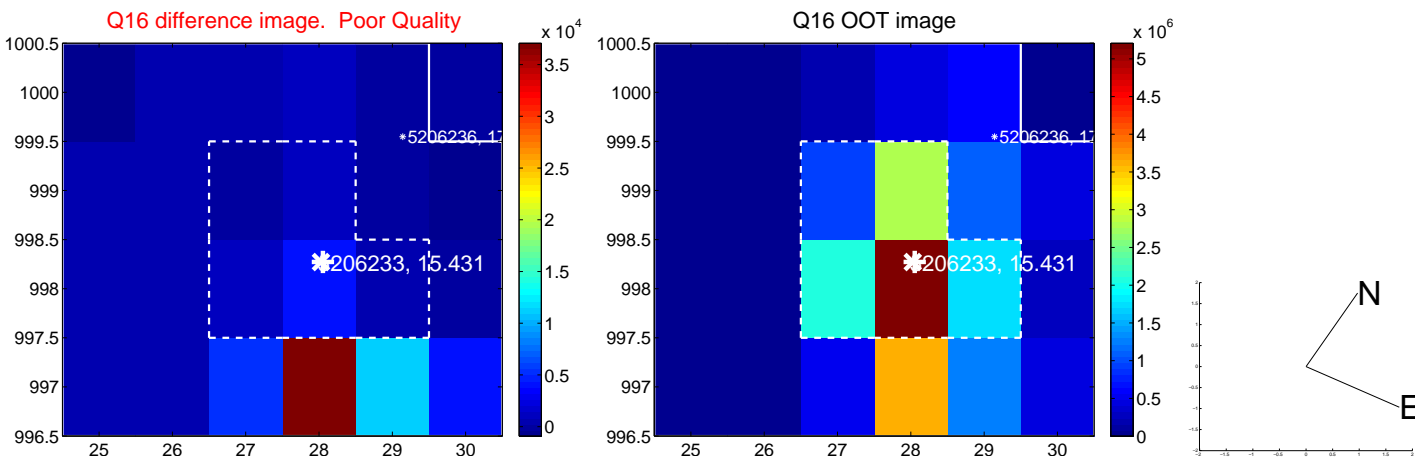
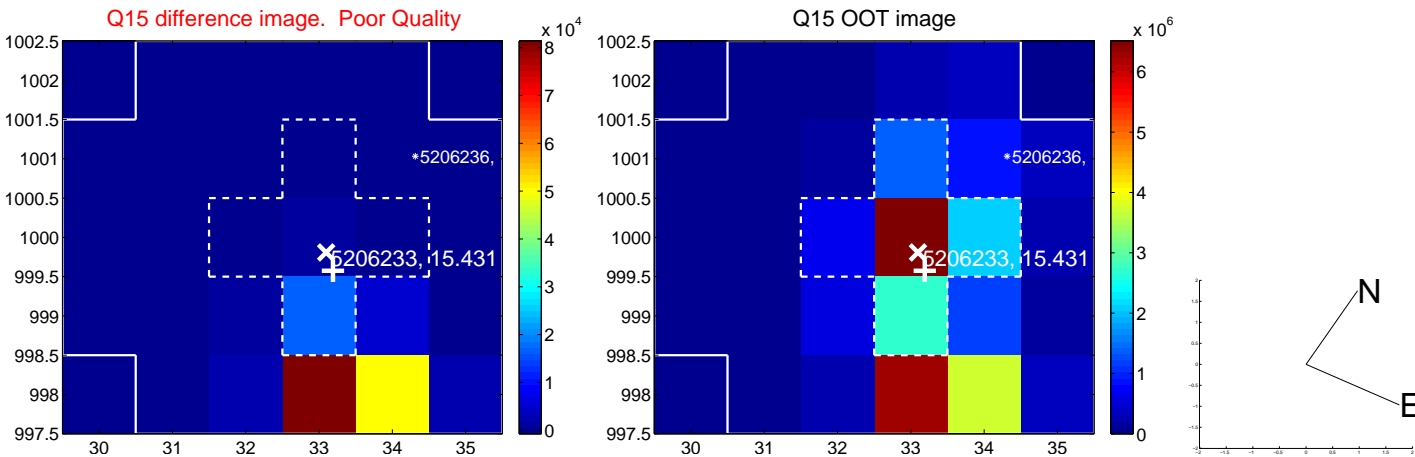
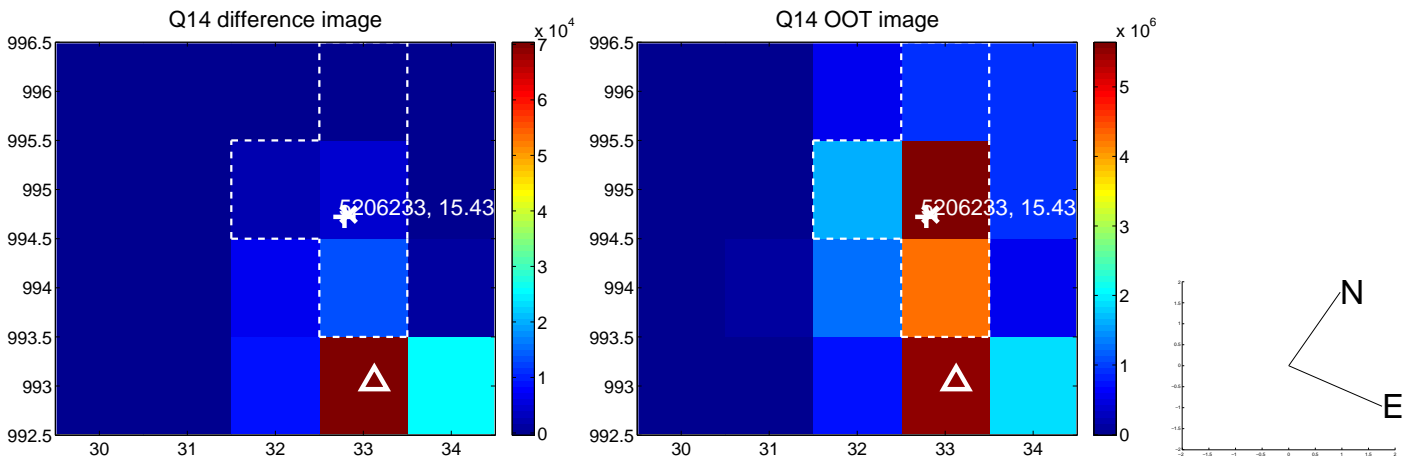
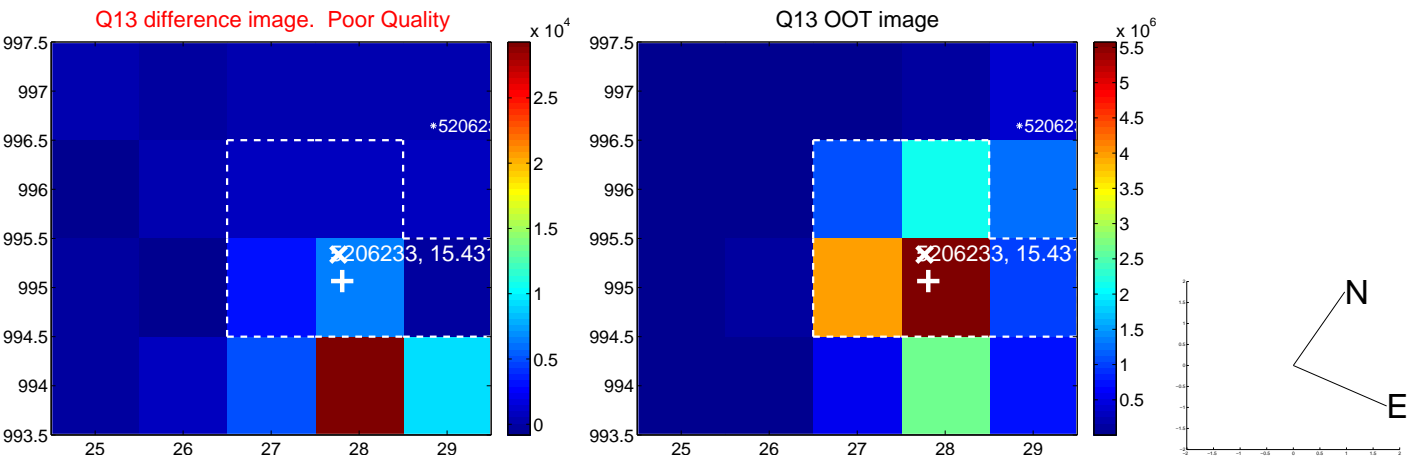
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



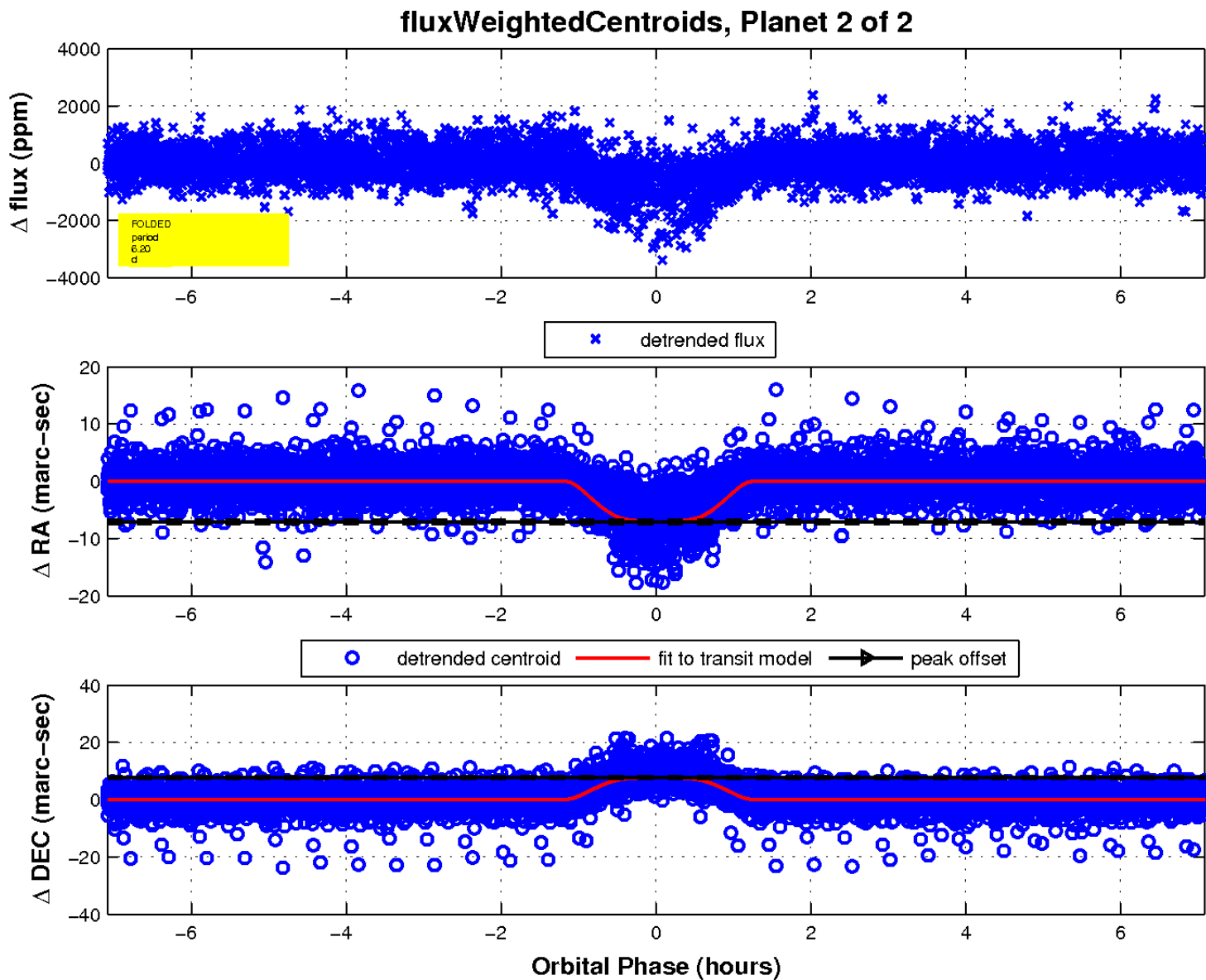
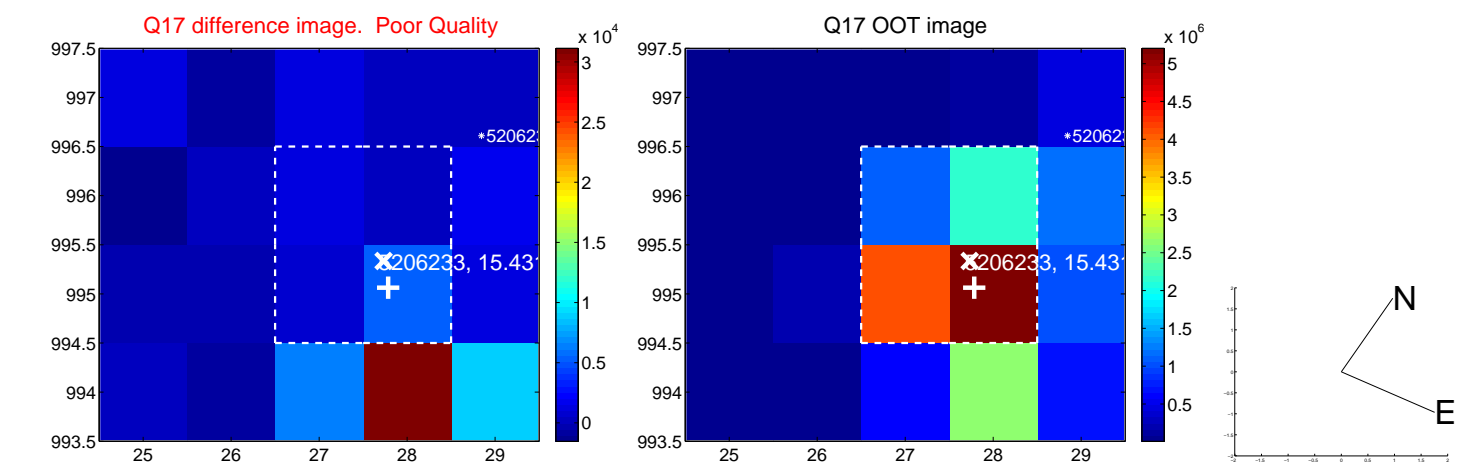
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

