

KIC 006294556

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})
006294556-01	OBS	No	580.941135	191.365388	921.8	7.199	16.6	16.7	2.03	8878	6.65	7.65
006294556-02	OBS	No	0.835885	131.921746	21.6	3.932	9.6	8.5	2.03	8878	1.02	47082.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006294556-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006294556-02	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

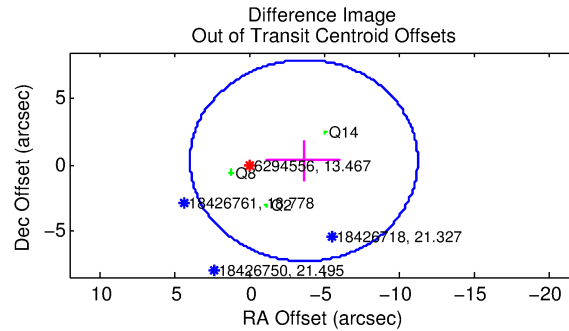
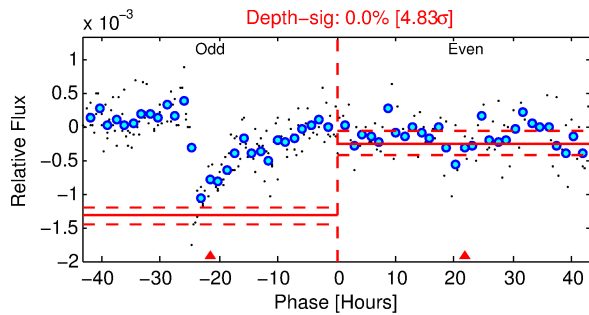
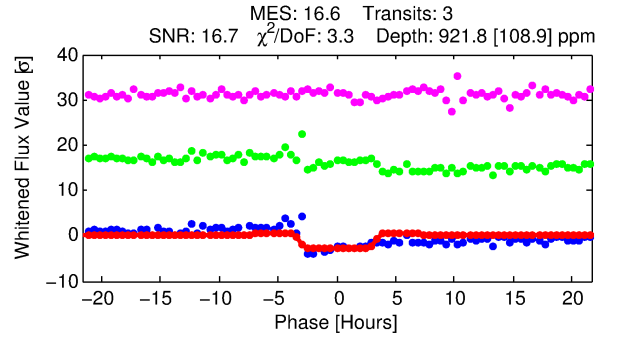
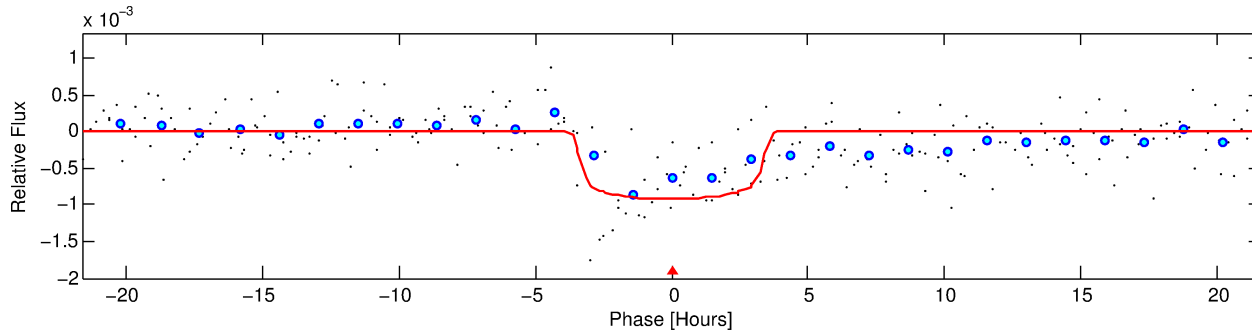
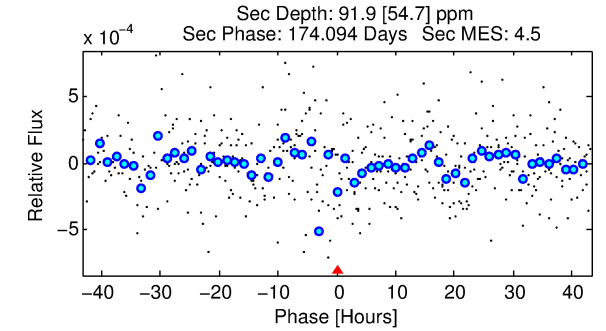
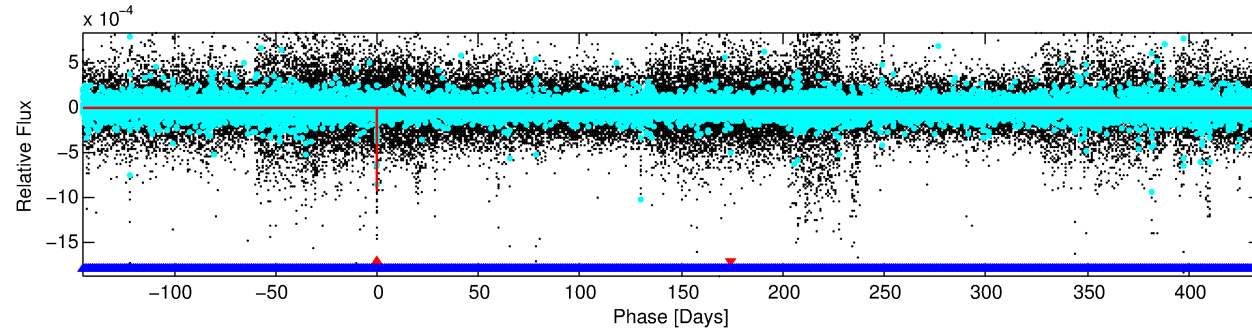
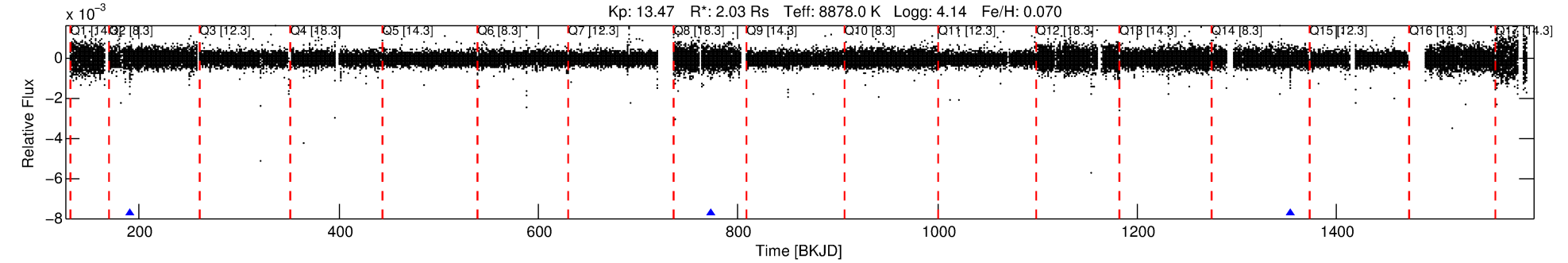
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006294556-01

No Significant Match Found

DV One-Page Summary

KIC: 6294556 Candidate: 1 of 2 Period: 580.941 d



DV Fit Results:

Period = 580.94114 [0.00850] d
Epoch = 191.3654 [0.0103] BKJD
Rp/R* = 0.0300 [0.0098]
a/R* = 457.41 [948.16]
b = 0.71 [1.43]
Seff = 7.65 [3.24]
Teq = 424 [45] K
Rp = 6.65 [3.17] Re
a = 1.7352 [0.4722] AU
Ag = 3443.01 [3302.01] [1.04σ]
Teffp = 5022 [1141] K [4.03σ]

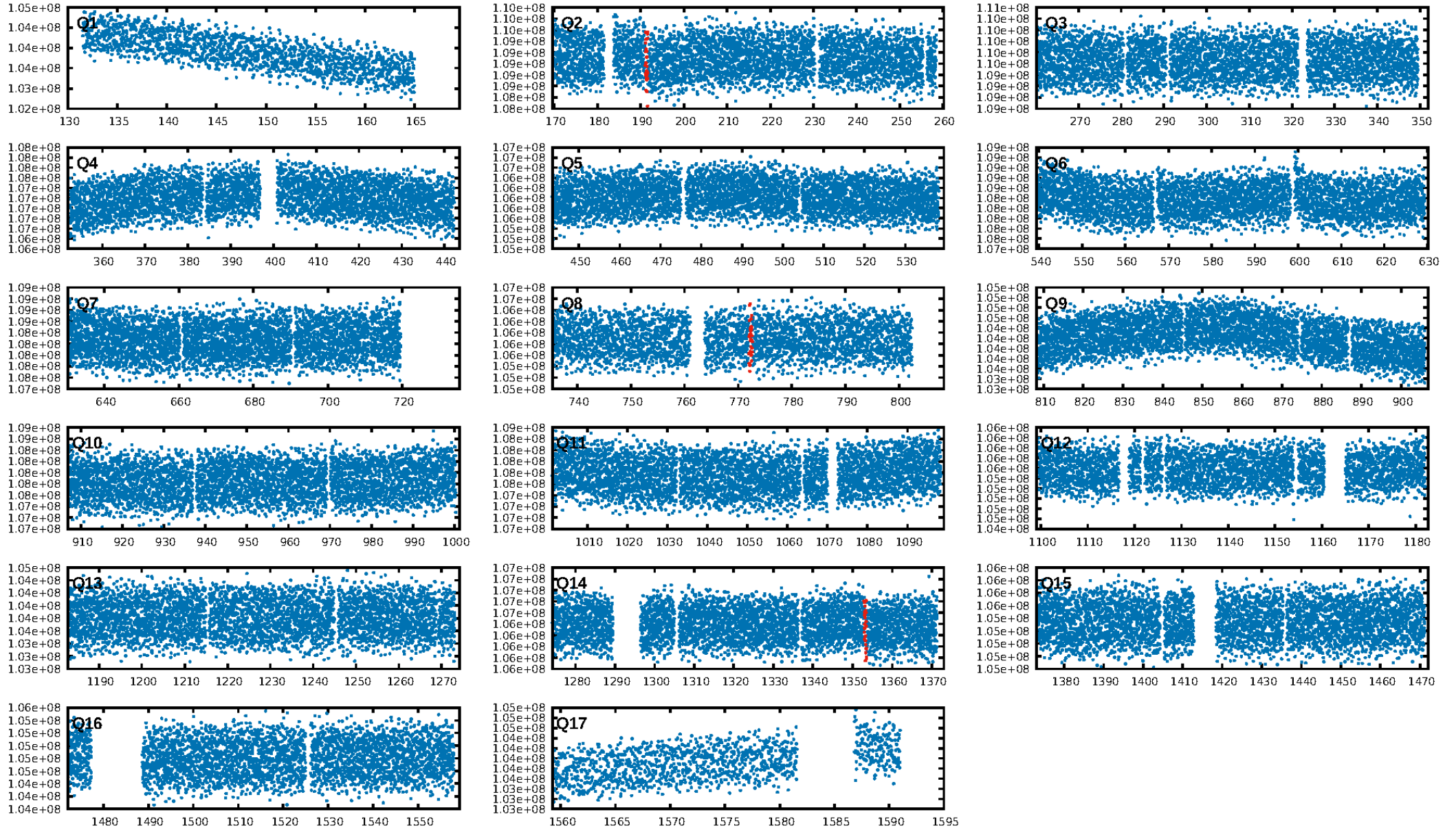
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1697.33σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 7.63e-21
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 9.735
Centroid-sig: 2.1%
Centroid-so: 1.060 arcsec [3.05σ]
OotOffset-rm: 3.690 arcsec [1.45σ]
KicOffset-rm: 3.938 arcsec [2.34σ]
OotOffset-st: 2/0/1/0 [3]
KicOffset-st: 2/0/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/3]

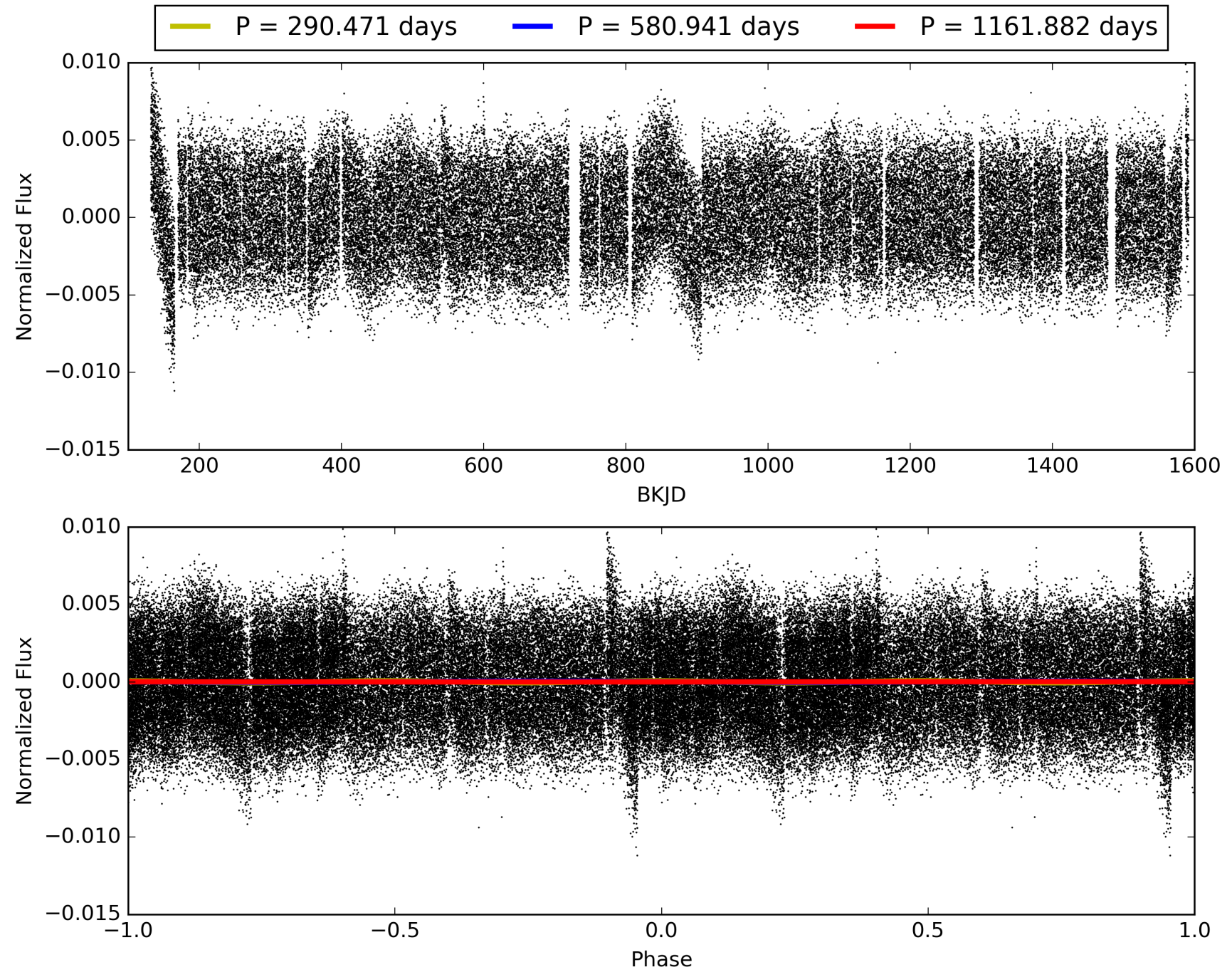
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:05:39 Z

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

TCE 006294556-01, PDC Light Curves

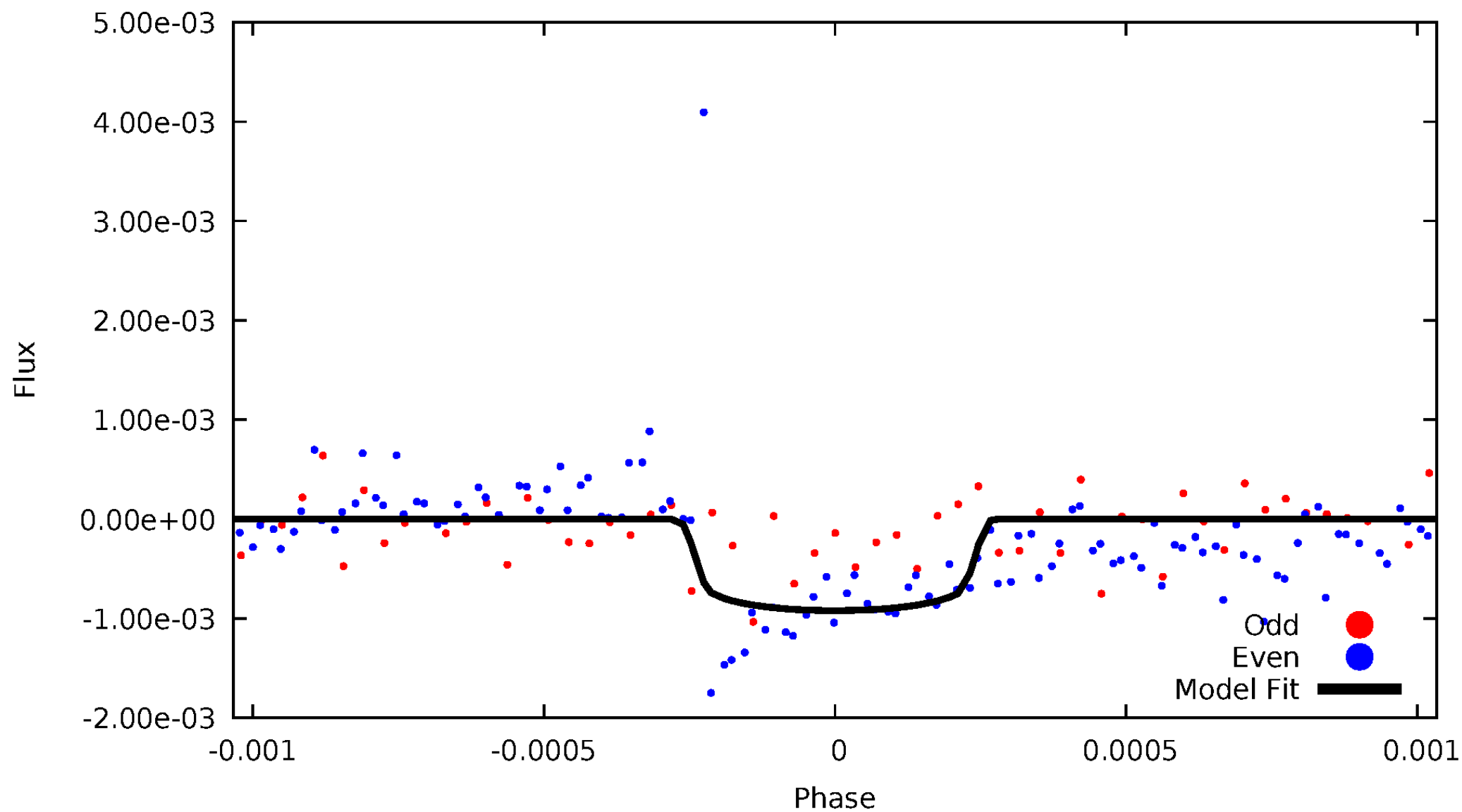


TCE 006294556-01



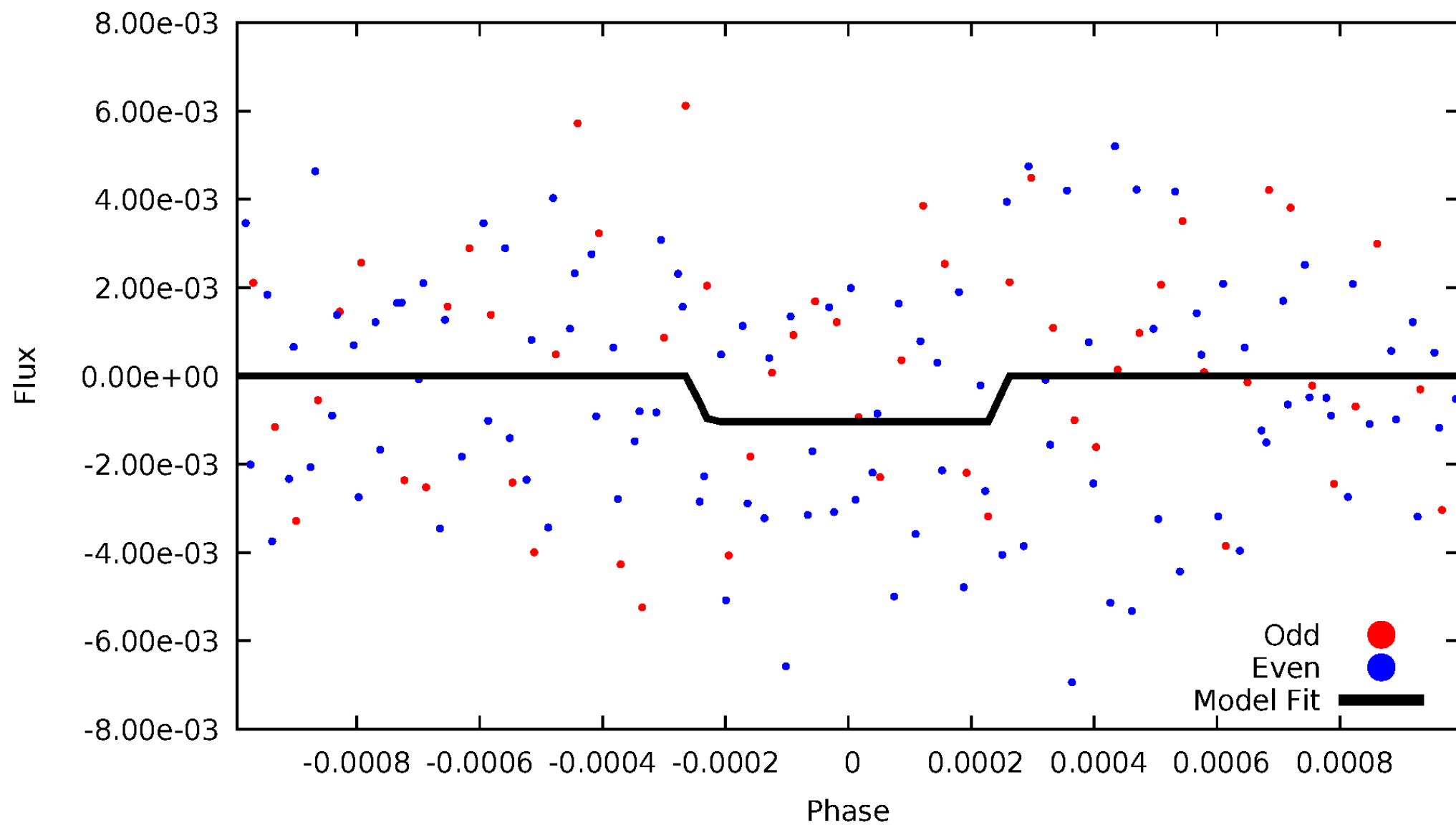
DV Odd/Even

TCE 006294556-01



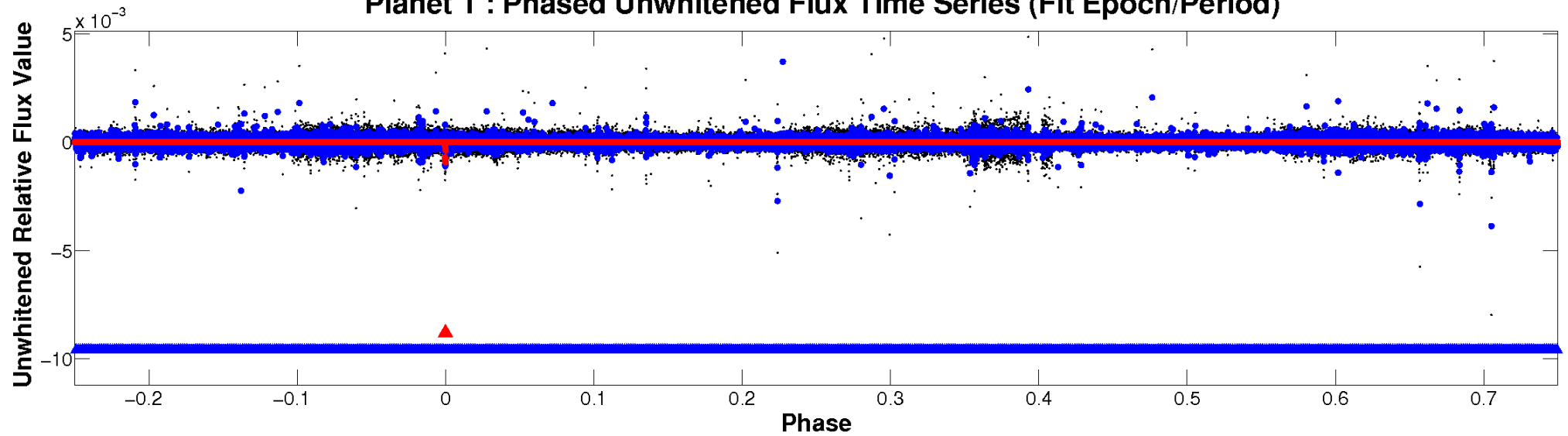
ALT Odd/Even

TCE 006294556-01

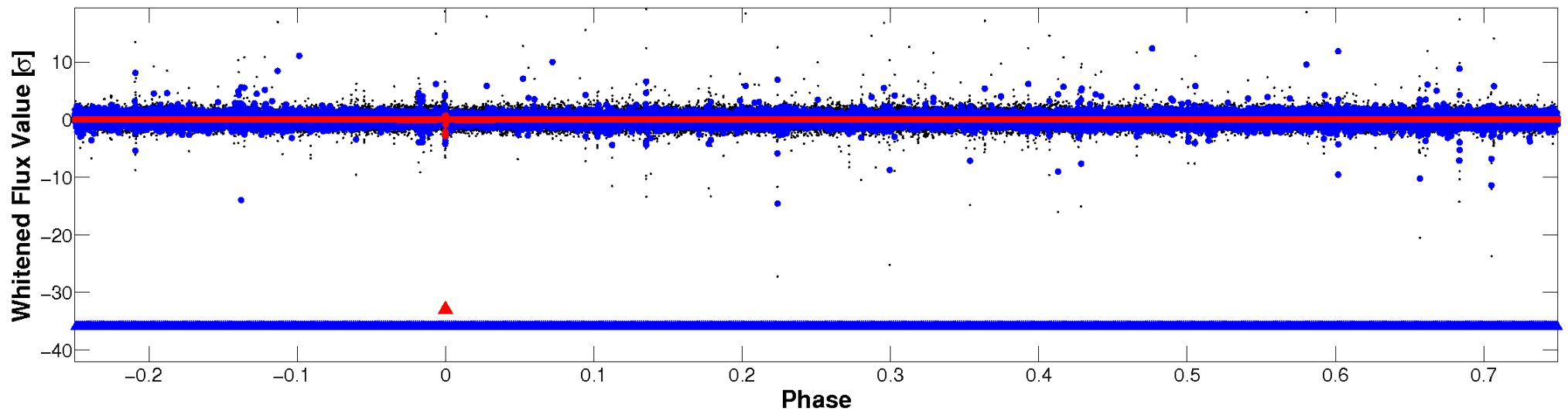


Non-Whitened Vs. Whitened Light Curve

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

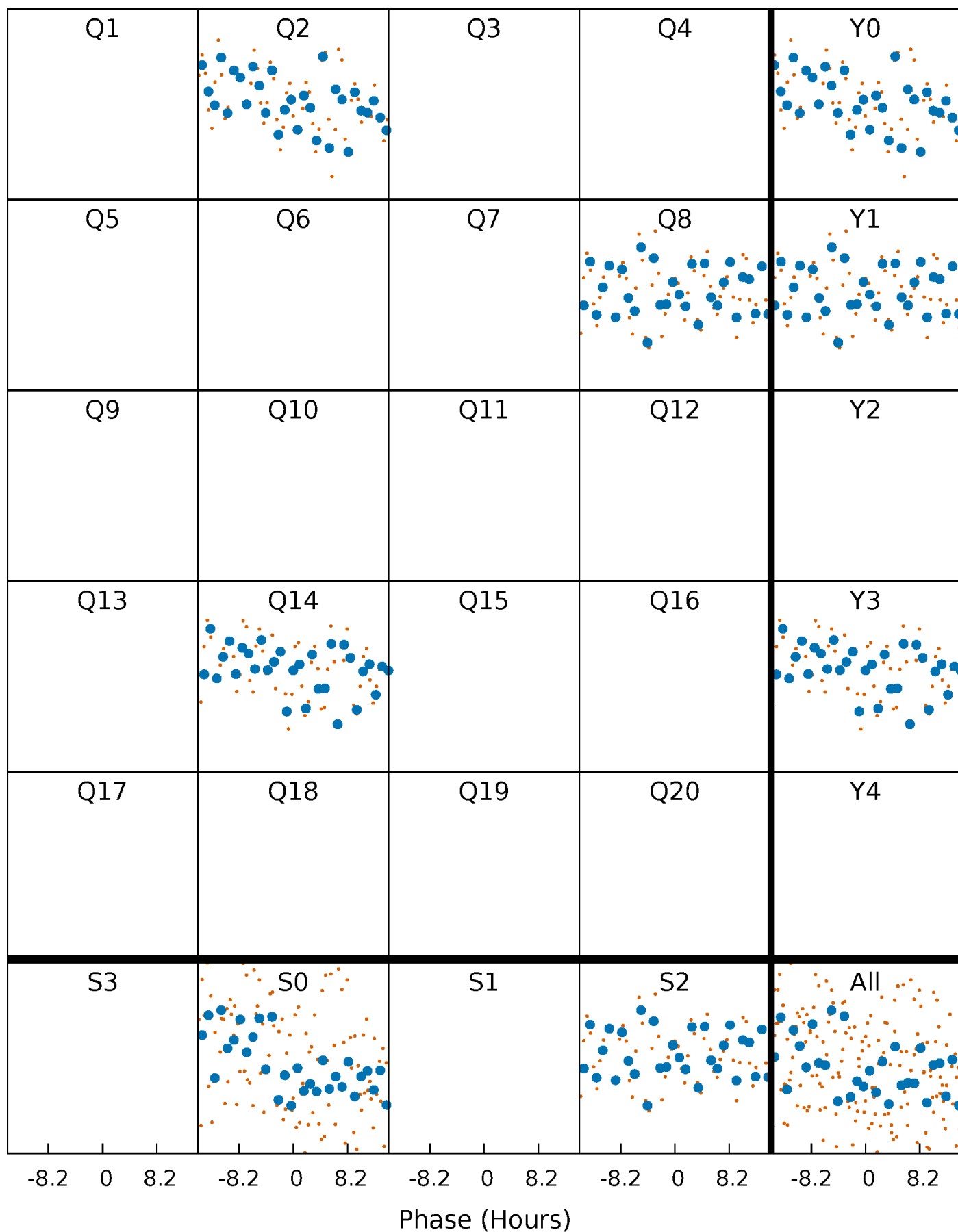


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



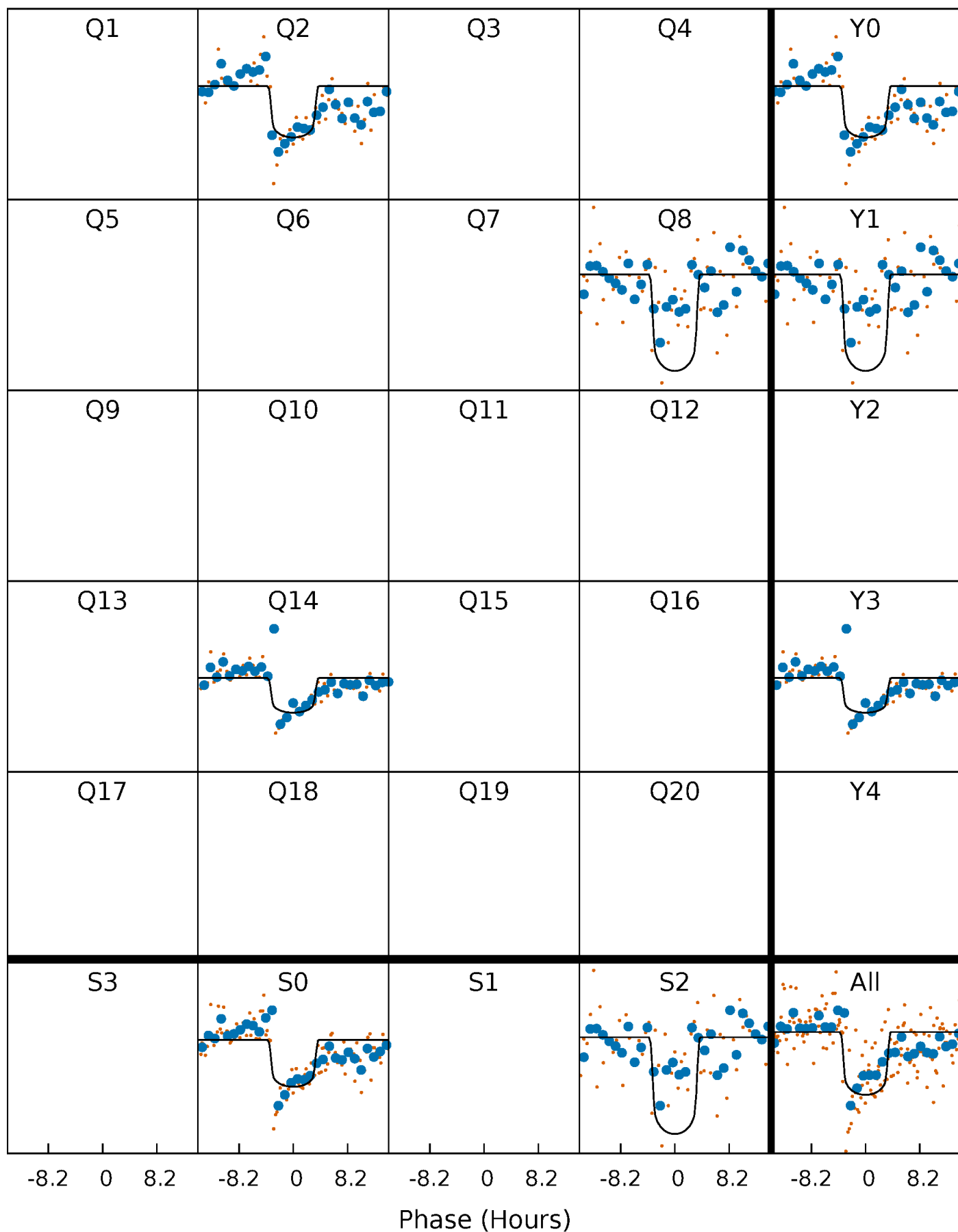
PDC Quarter-Phased Transit Curves

TCE 006294556-01 P=580.941135 Days $T_0=191.365388$ (BKJD)



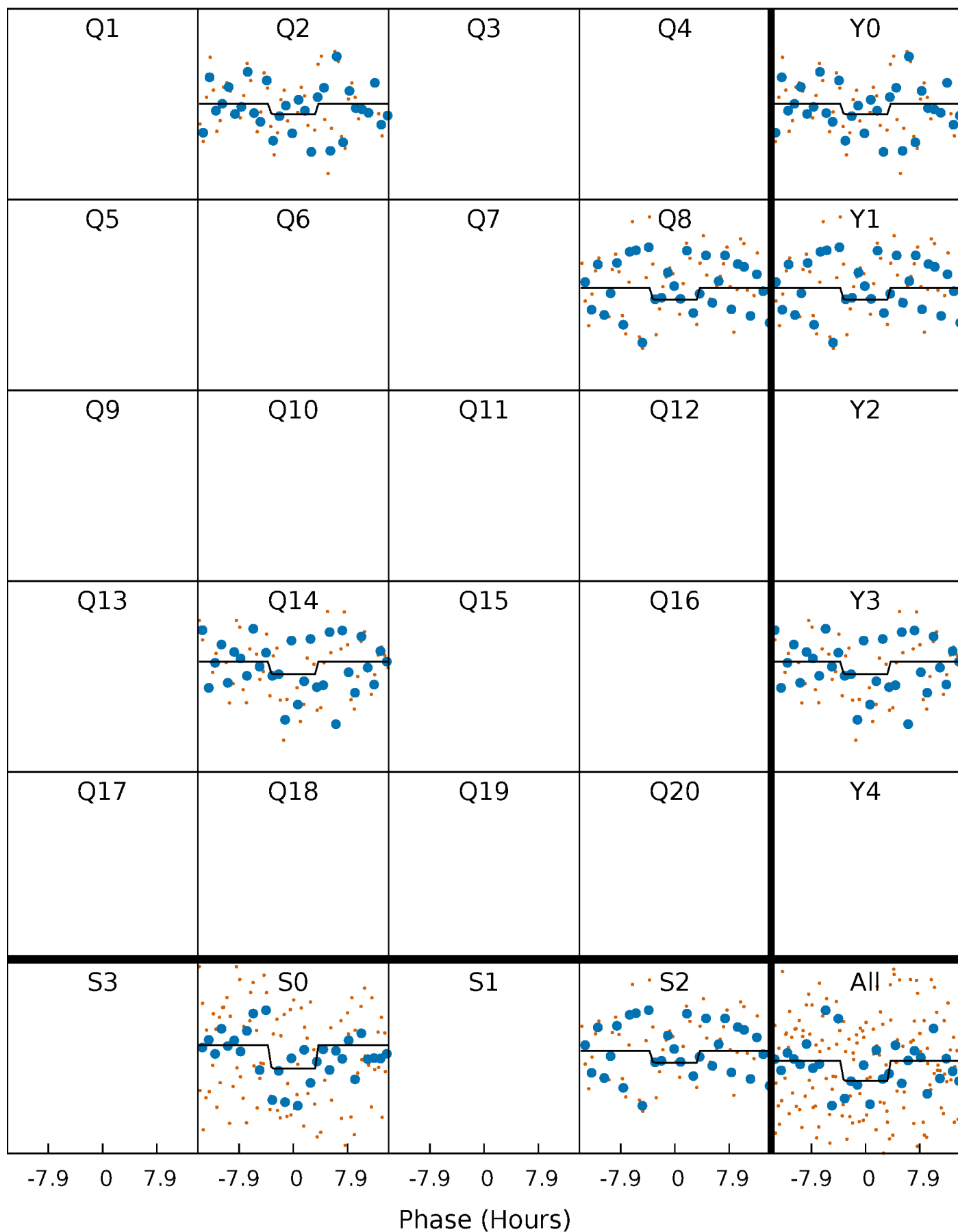
DV Quarter-Phased Transit Curves

TCE 006294556-01 P=580.941135 Days $T_0=191.365388$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

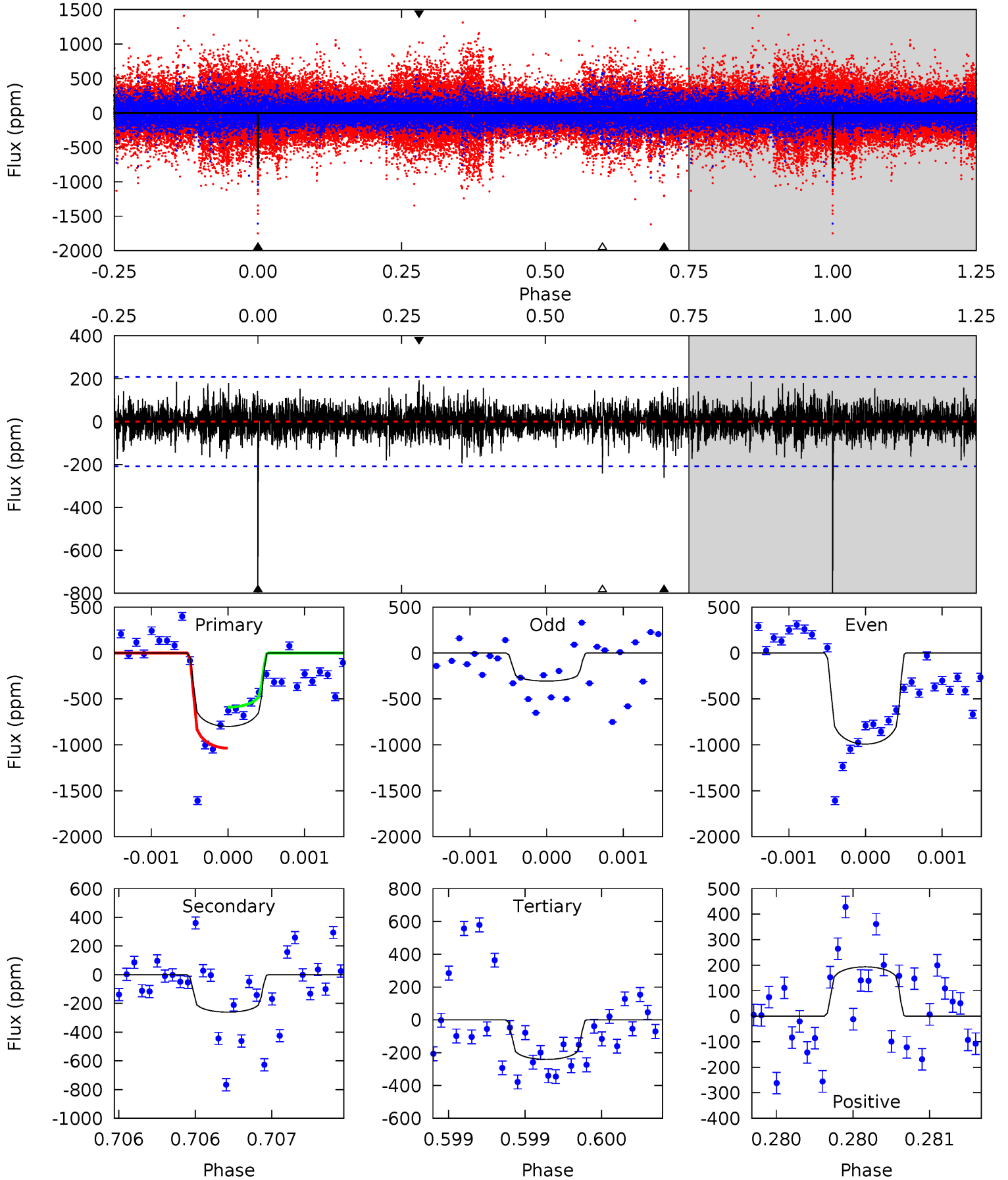
TCE 006294556-01 P=580.939733 Days $T_0=191.398281$ (BKJD)



DV Model-Shift Uniqueness Test

006294556-01, P = 580.941135 Days, E = 191.365388 Days

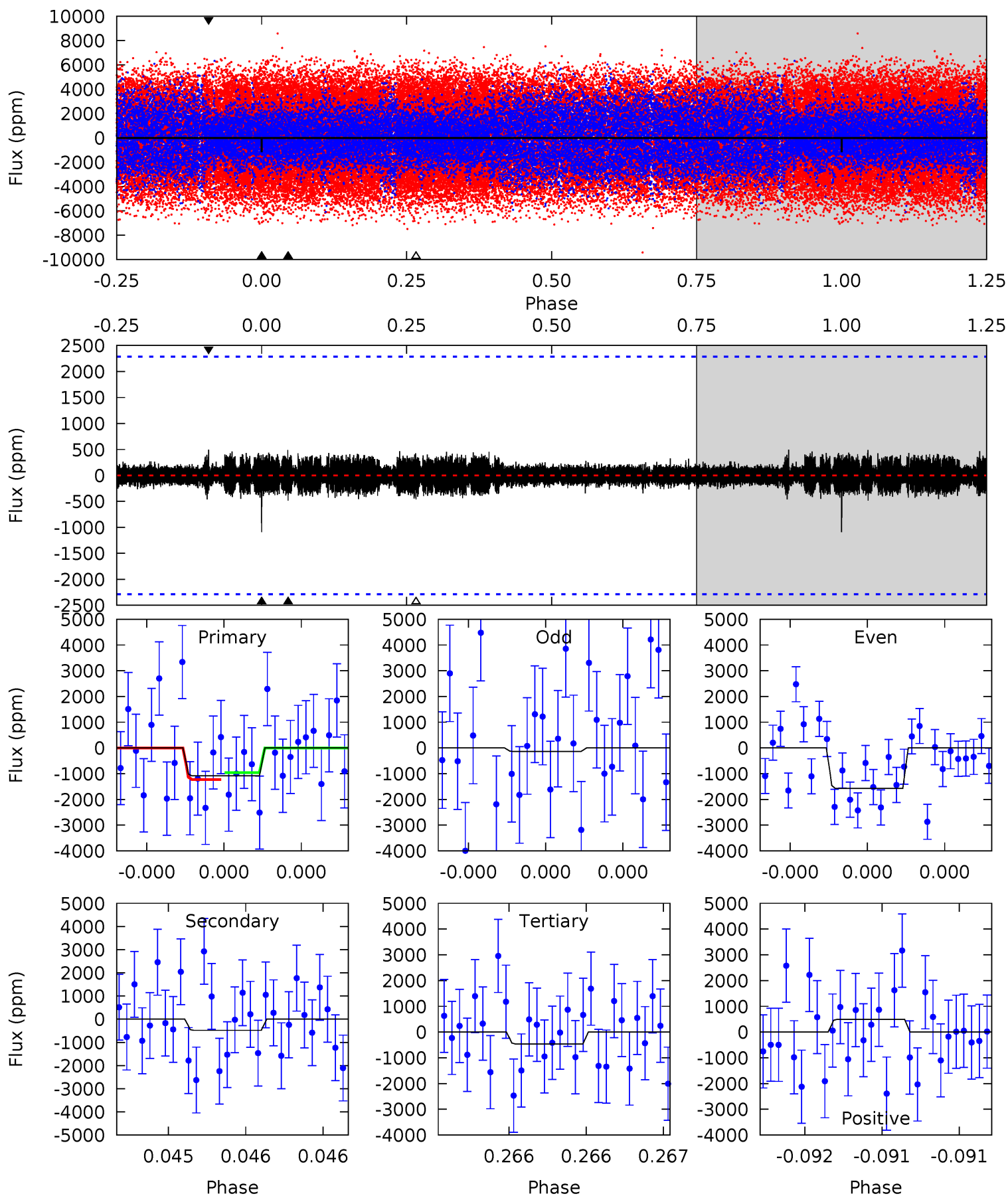
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.3	6.95	6.42	5.15	5.56	3.47	1.25	14.9	16.2	0.53	1.79	9.29	0.97	0.19	5.90



Alt Model-Shift Uniqueness Test

006294556-01, P = 580.939733 Days, E = 191.398281 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.65	1.18	1.12	1.20	5.57	3.48	0.29	1.53	1.45	0.06	-0.02	1.65	0.75	0.31	0.32



Stellar Parameters For KIC 006294556

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8878^{+246}_{-458}	$4.136^{+0.101}_{-0.188}$	$0.070^{+0.250}_{-0.600}$	$2.034^{+0.704}_{-0.433}$	$2.065^{+0.392}_{-0.479}$	$0.345^{+0.211}_{-0.178}$
	+3%/-5%	+2%/-5%	+357%/-857%	+35%/-21%	+19%/-23%	+61%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 006294556-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-261 ± 38	$6.89^{+2.92}_{-2.42}$	600^{+44}_{-43}	6112^{+1588}_{-855}	8781^{+11753}_{-4322}
Alt.	-484 ± 410	$7.49^{+2.53}_{-2.44}$	598^{+46}_{-41}	6840^{+2283}_{-2284}	13293^{+25376}_{-11084}

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 $A_{obs} \gg 1.0$

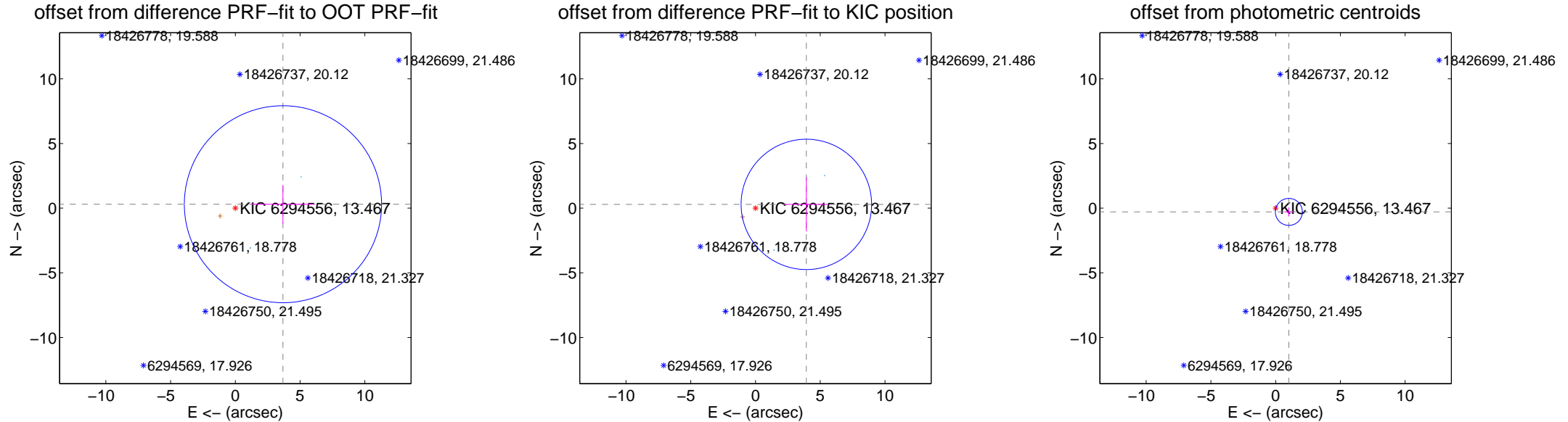
DV Centroid Data

Supplemental centroid analysis for 006294556-01. Kepler magnitude: 13.47. Transit SNR 16.67

There are 2 quarters with good PRF difference image offsets

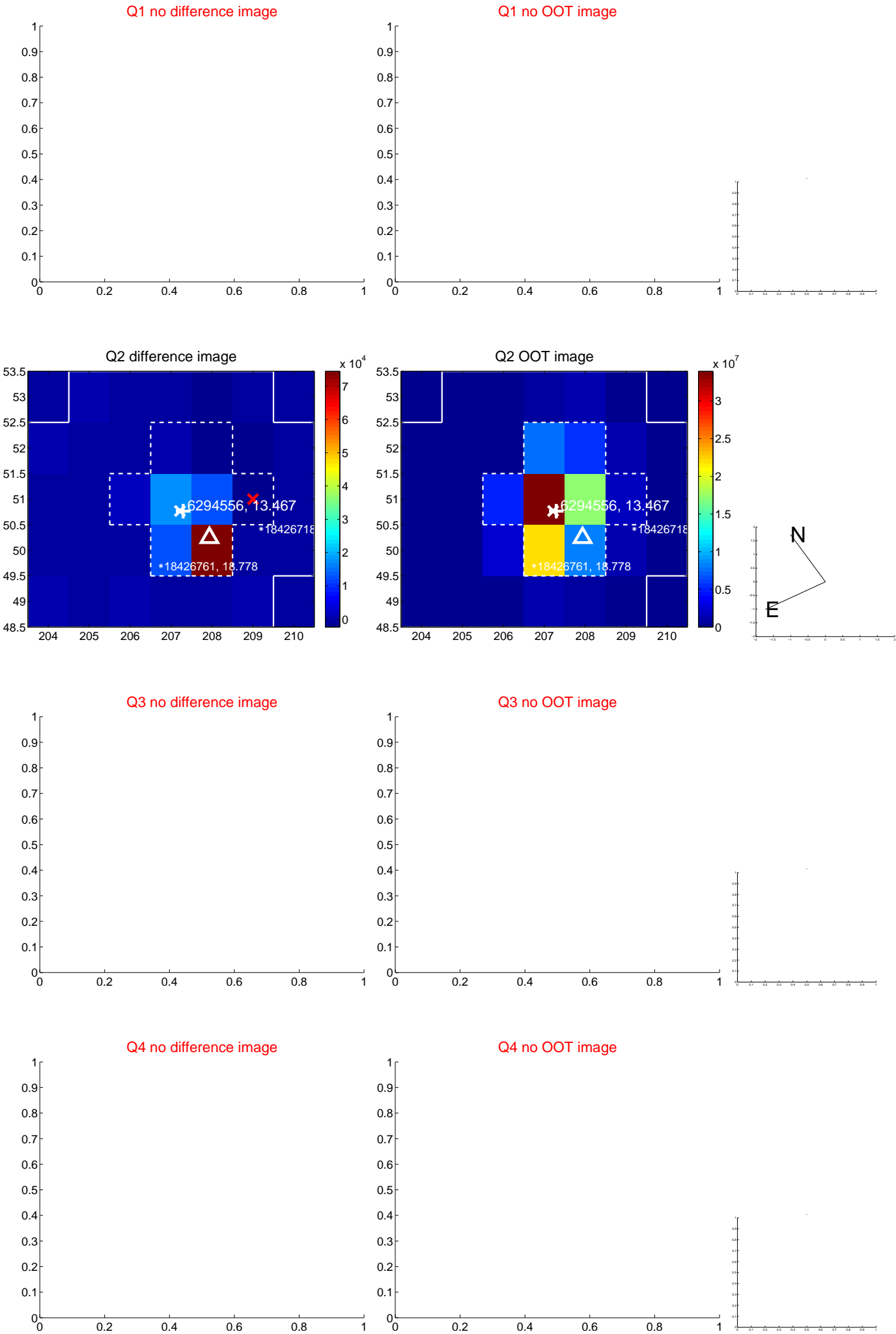
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.690 ± 2.538	1.45	-3.677 ± 2.433	0.305 ± 1.490
PRF-fit source offset from KIC position	3.938 ± 1.679	2.34	-3.927 ± 1.677	0.293 ± 2.094
photometric centroid source offset	1.06 ± 0.35	3.05	-1.02 ± 0.35	-0.29 ± 0.35

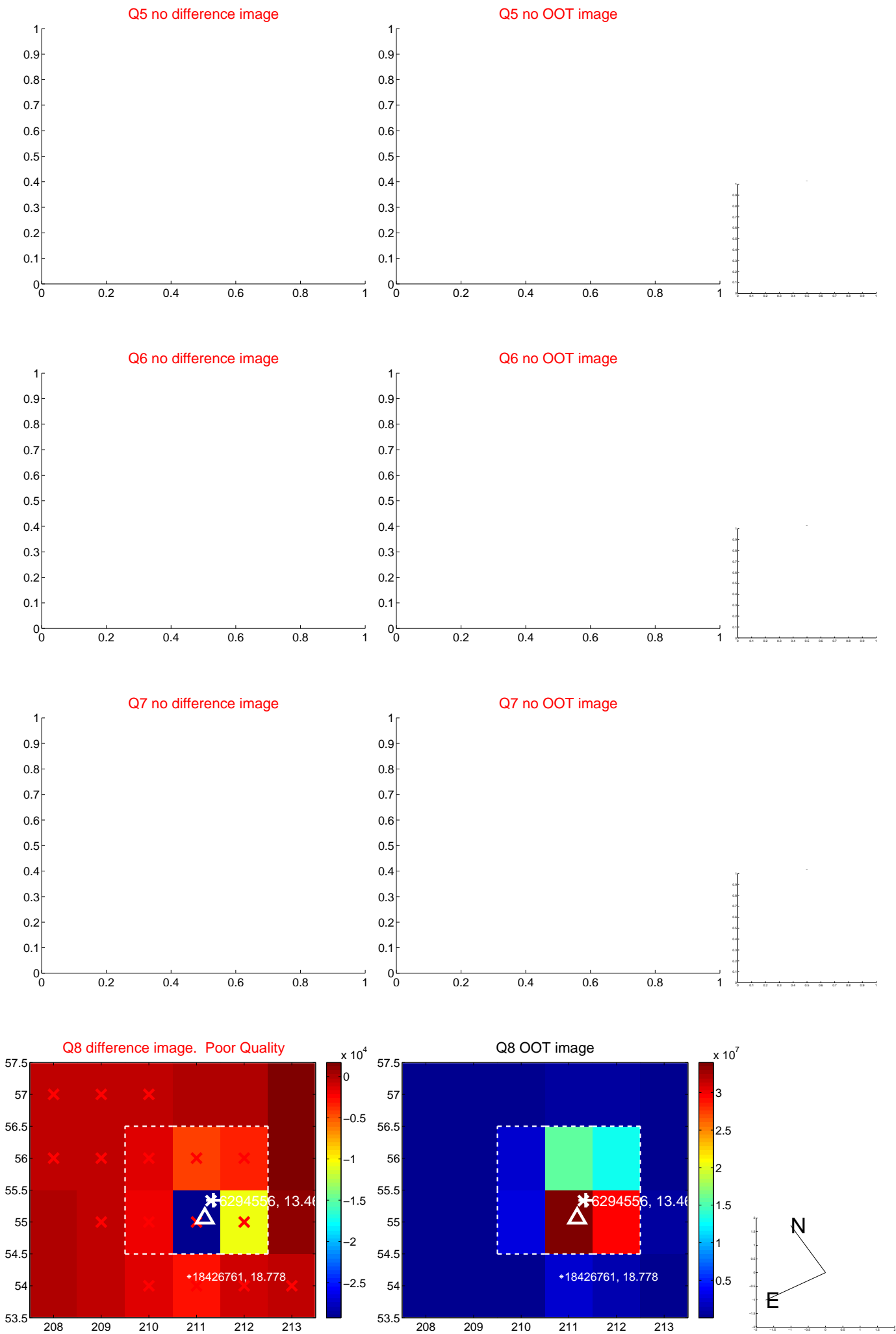


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



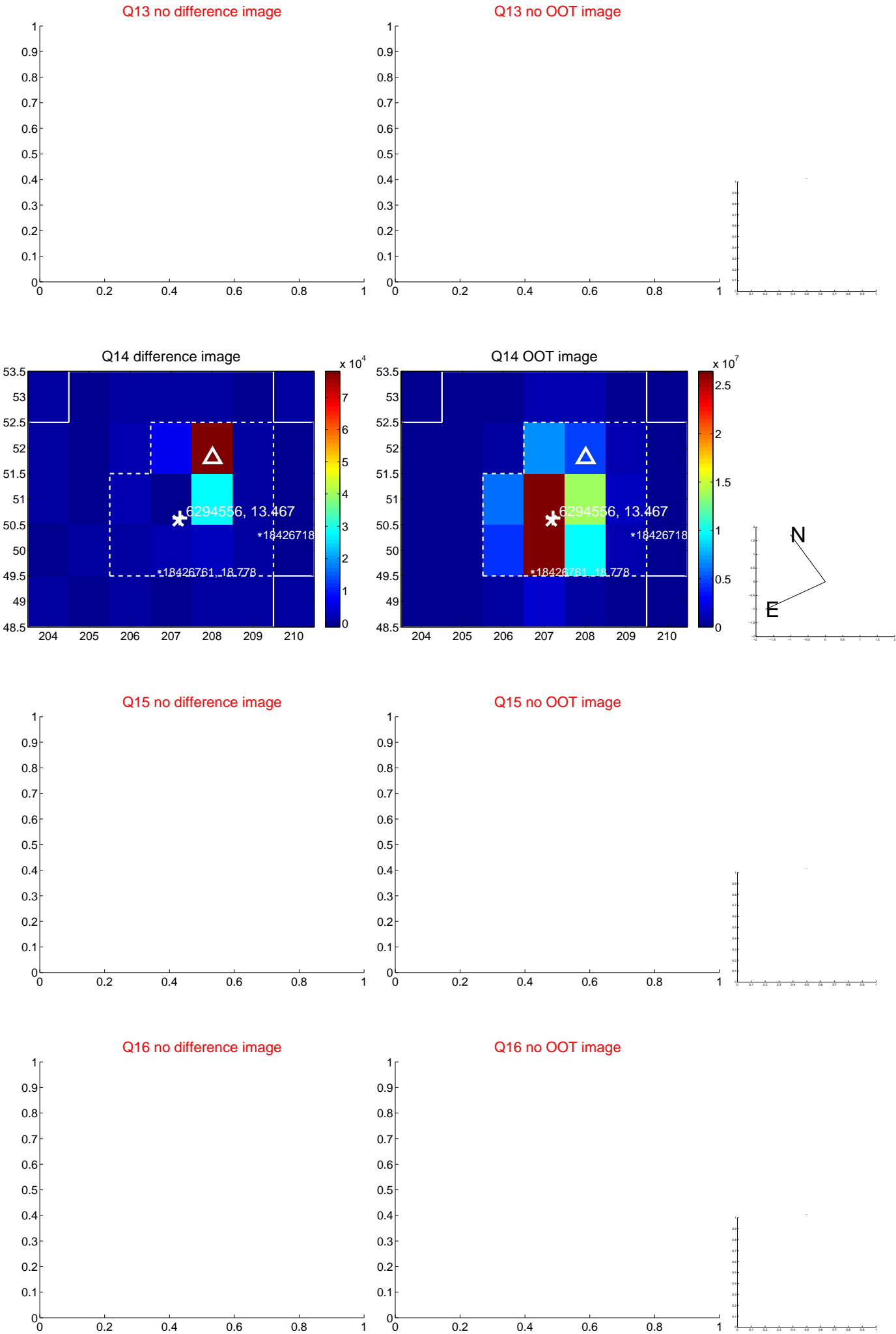
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



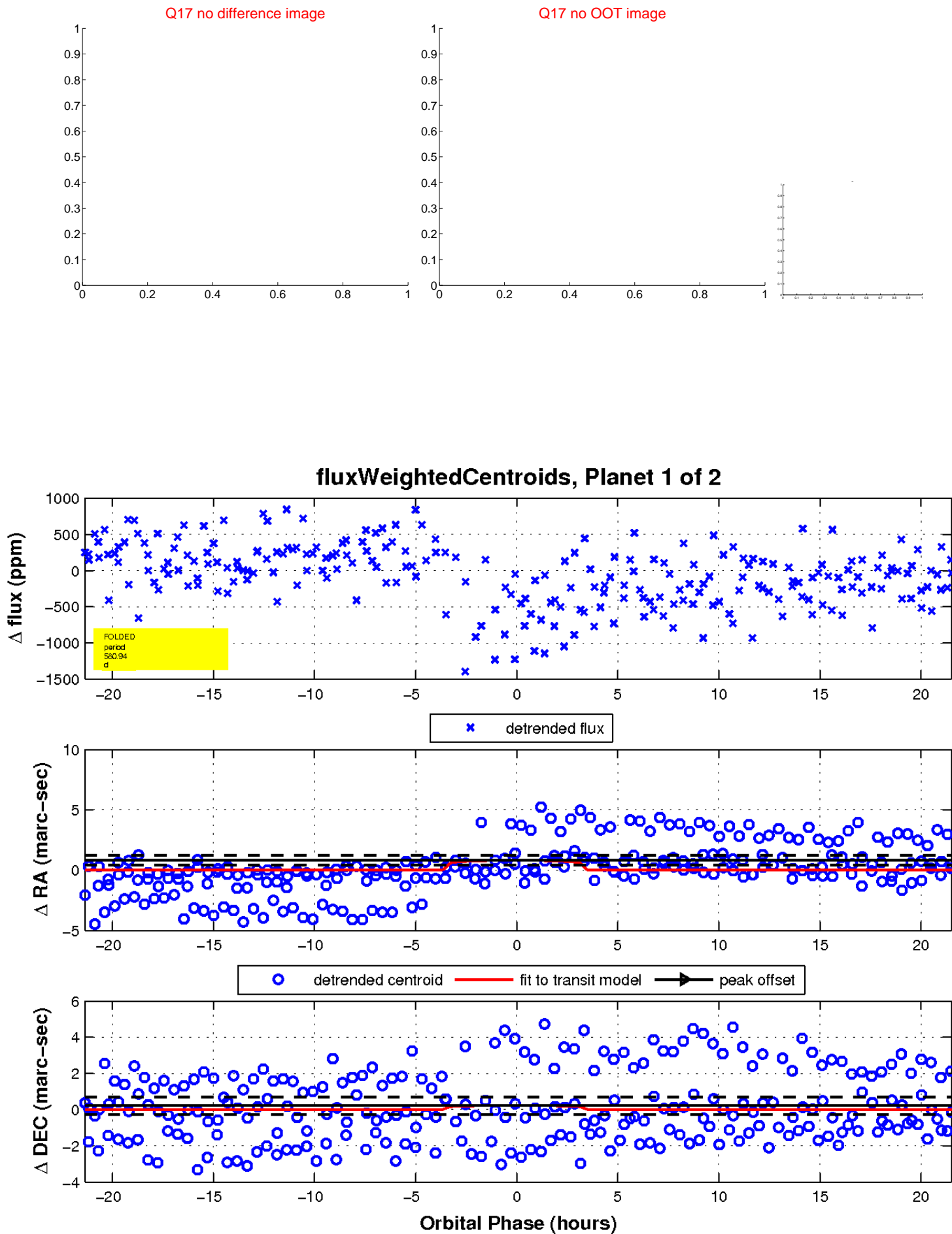
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

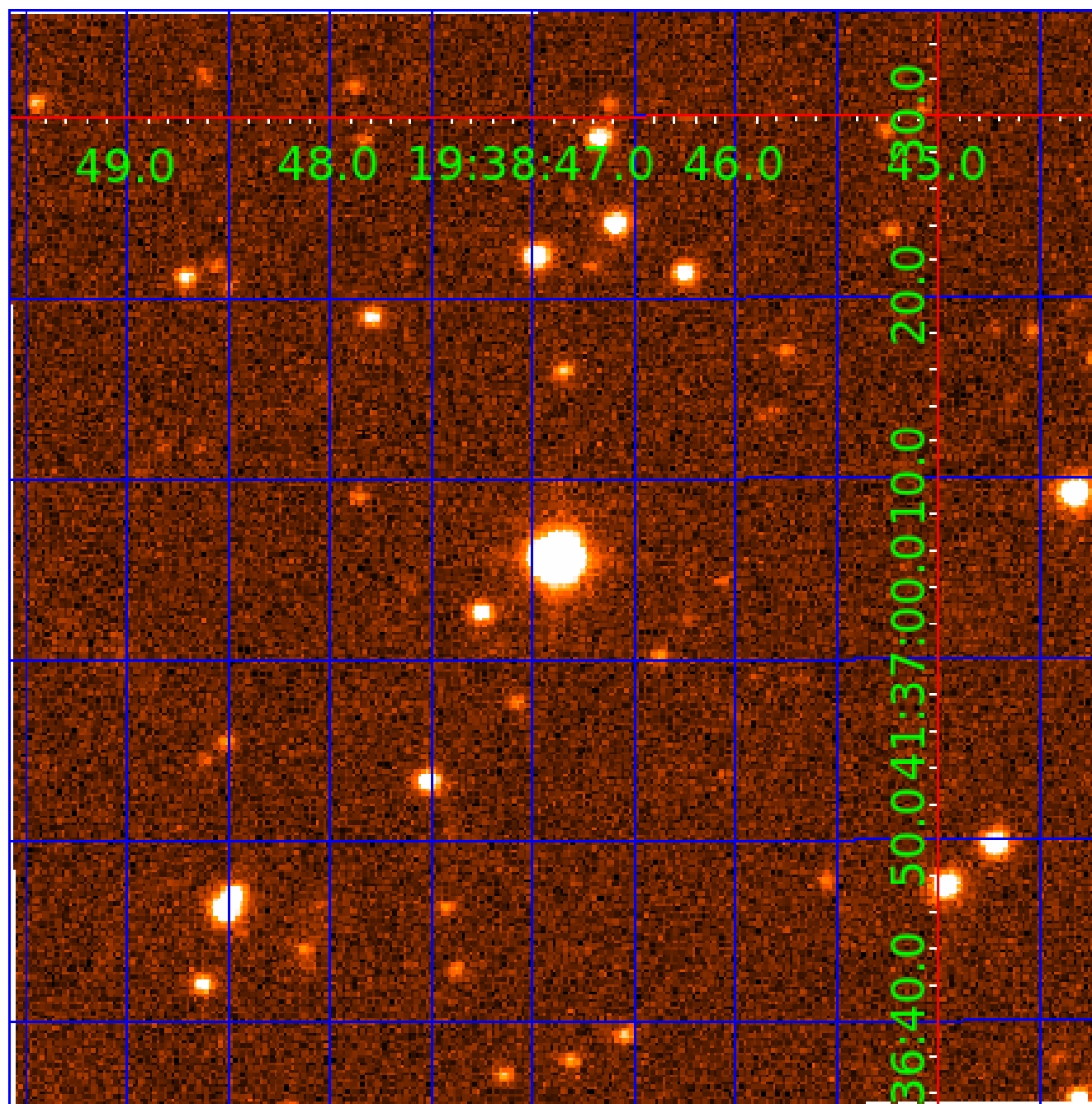


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006294556

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})
006294556-01	OBS	No	580.941135	191.365388	921.8	7.199	16.6	16.7	2.03	8878	6.65	7.65
006294556-02	OBS	No	0.835885	131.921746	21.6	3.932	9.6	8.5	2.03	8878	1.02	47082.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006294556-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006294556-02	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

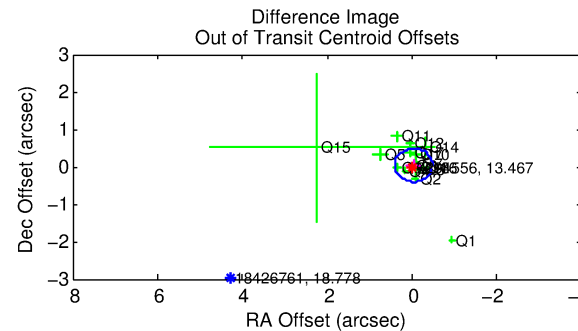
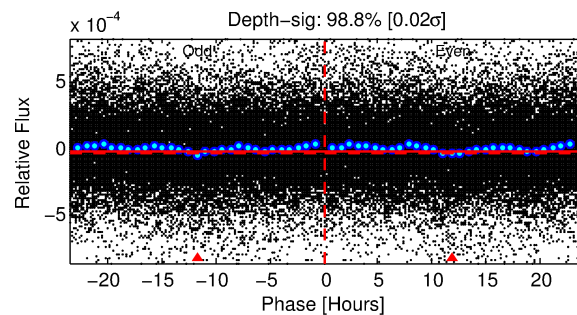
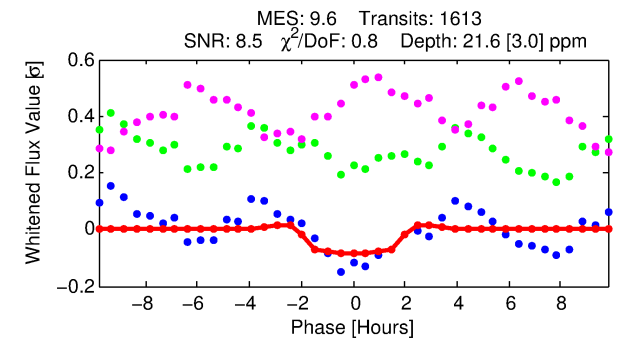
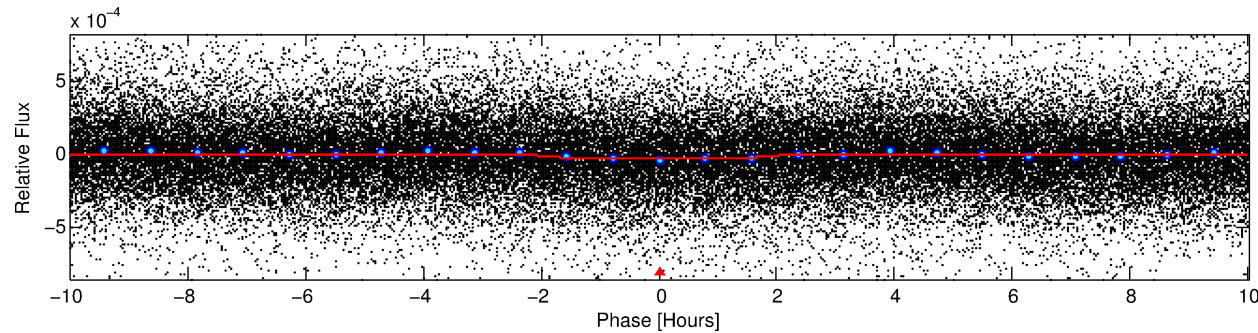
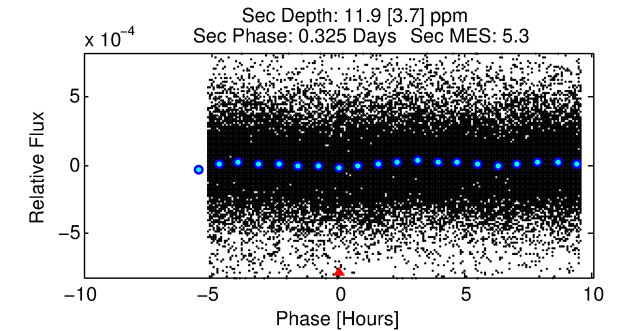
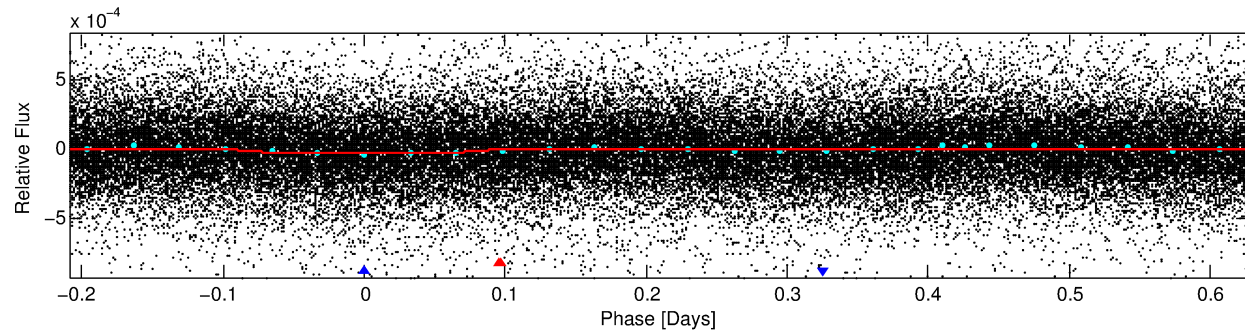
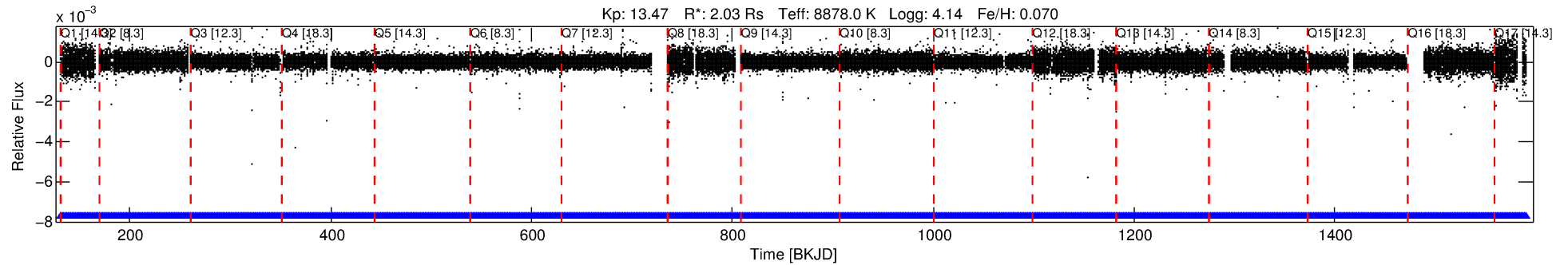
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006294556-02

No Significant Match Found

DV One-Page Summary

KIC: 6294556 Candidate: 2 of 2 Period: 0.836 d



DV Fit Results:

Period = 0.83589 [0.00001] d
Epoch = 131.9217 [0.0043] BKJD
Rp/R* = 0.0046 [0.0011]
a/R* = 1.43 [1.14]
b = 0.70 [1.15]
Seff = 47082.54 [19925.92]
Teff = 3756 [397] K
Rp = 1.02 [0.43] Re
a = 0.0221 [0.0060] AU
Ag = 3.11 [2.15] [0.98σ]
Teffp = 7712 [1196] K [3.14σ]

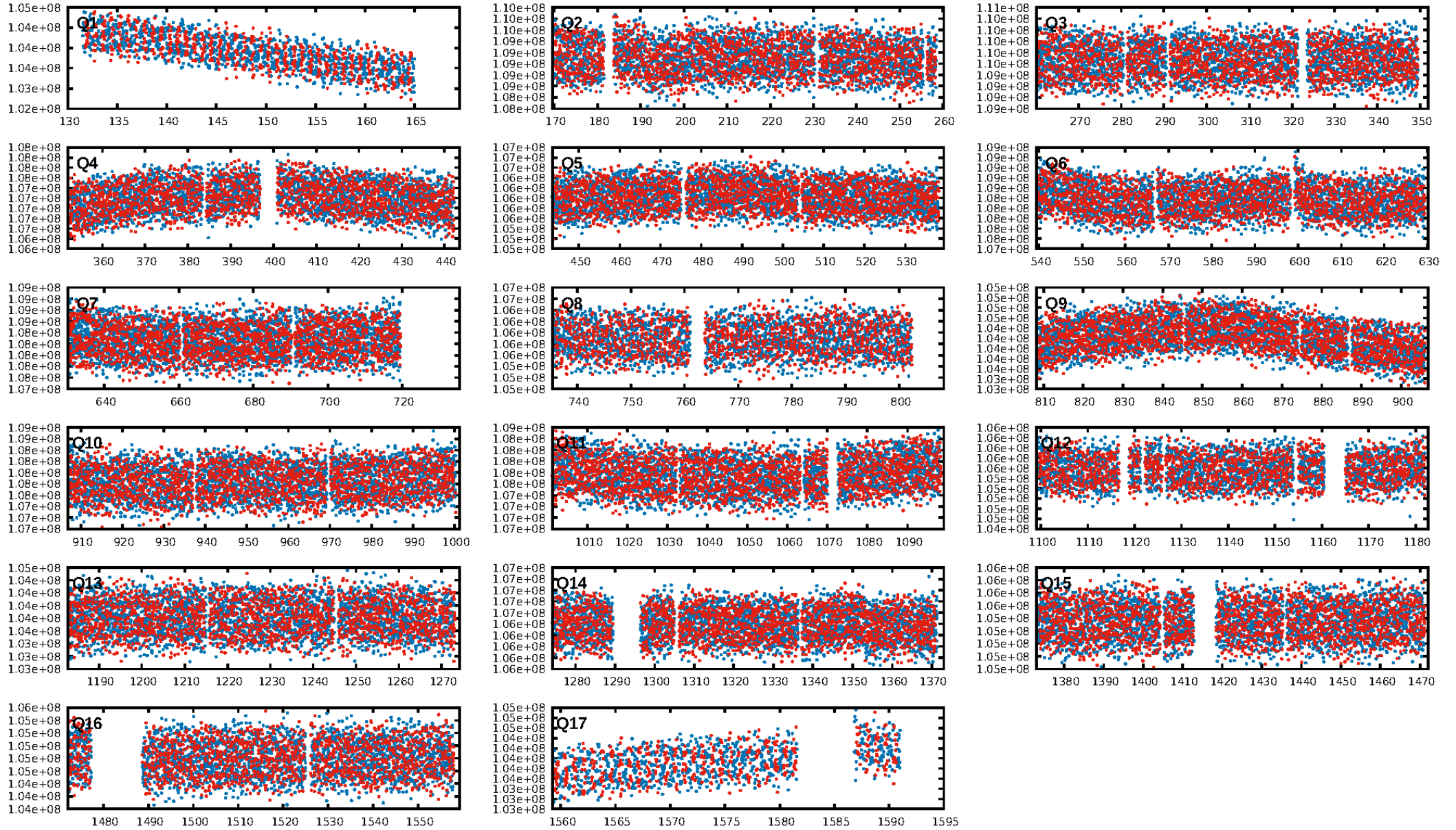
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [1697.33σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.71e-16
RollingBand-fgt: 1.00 [1541/1541]
GhostDiagnostic-chr: 2.777
Centroid-sig: 0.1%
Centroid-so: 1.487 arcsec [2.13σ]
OotOffset-rm: 0.052 arcsec [0.35σ]
KicOffset-rm: 0.182 arcsec [1.15σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

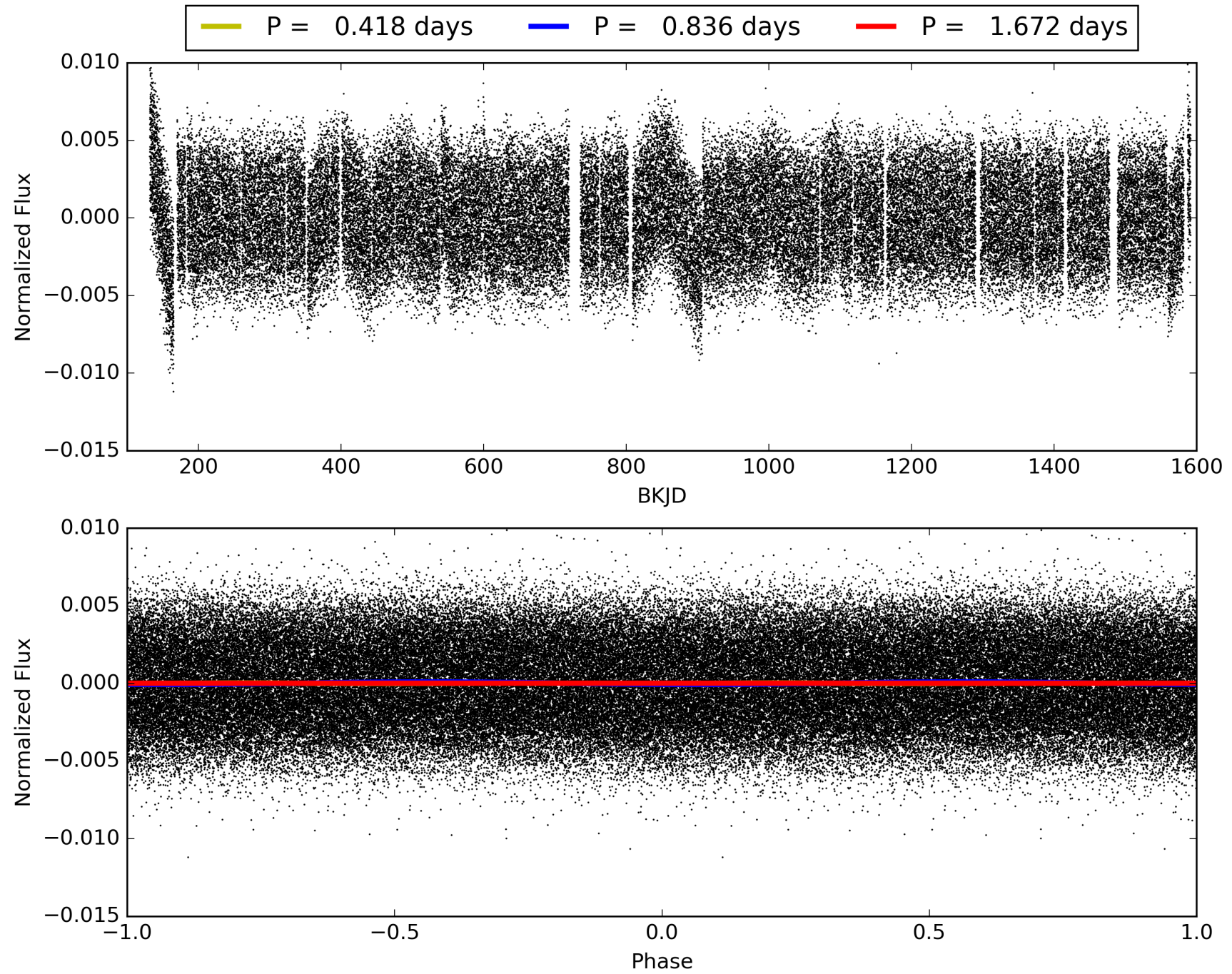
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:05:48 Z

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

TCE 006294556-02, PDC Light Curves

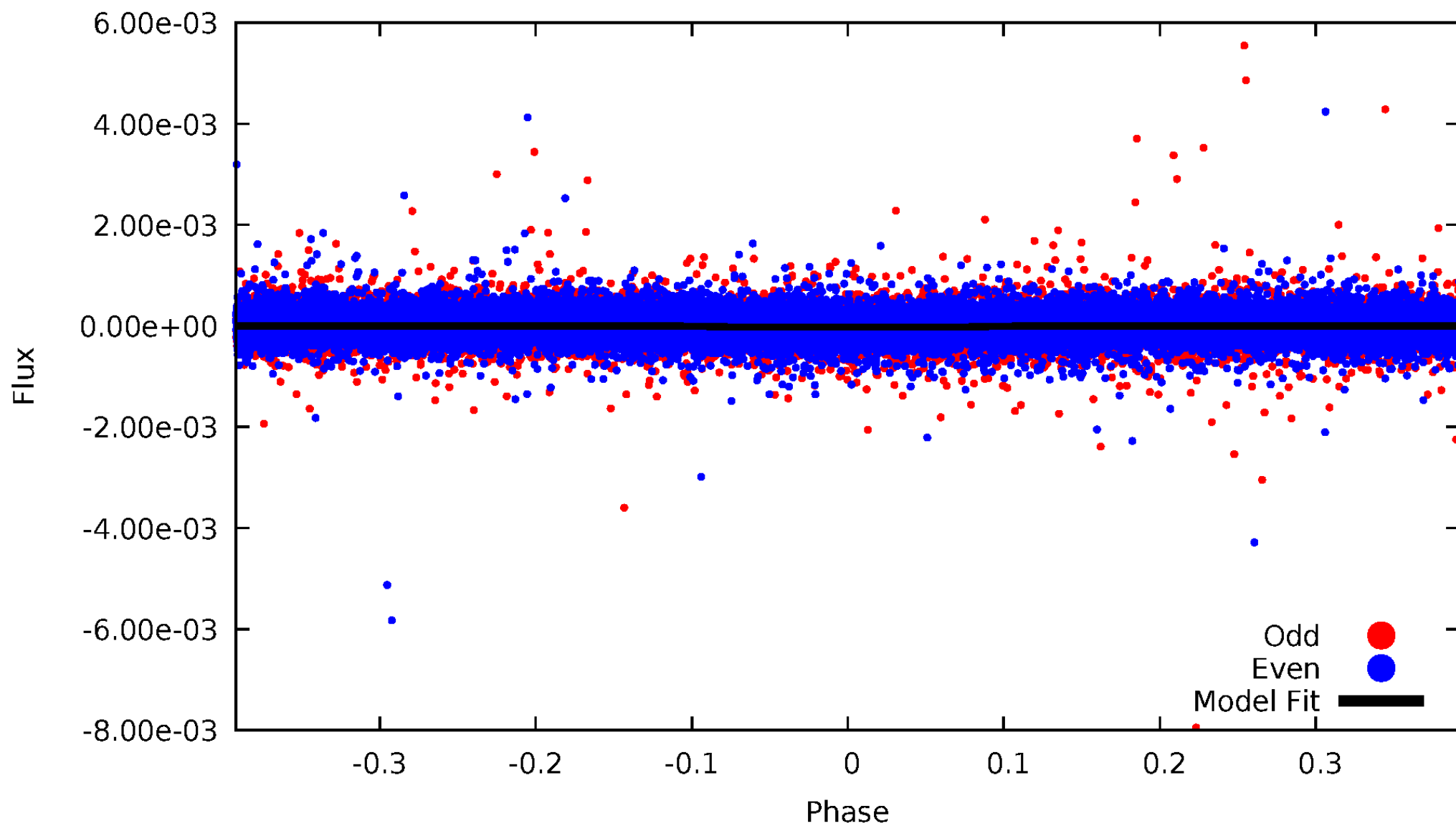


TCE 006294556-02



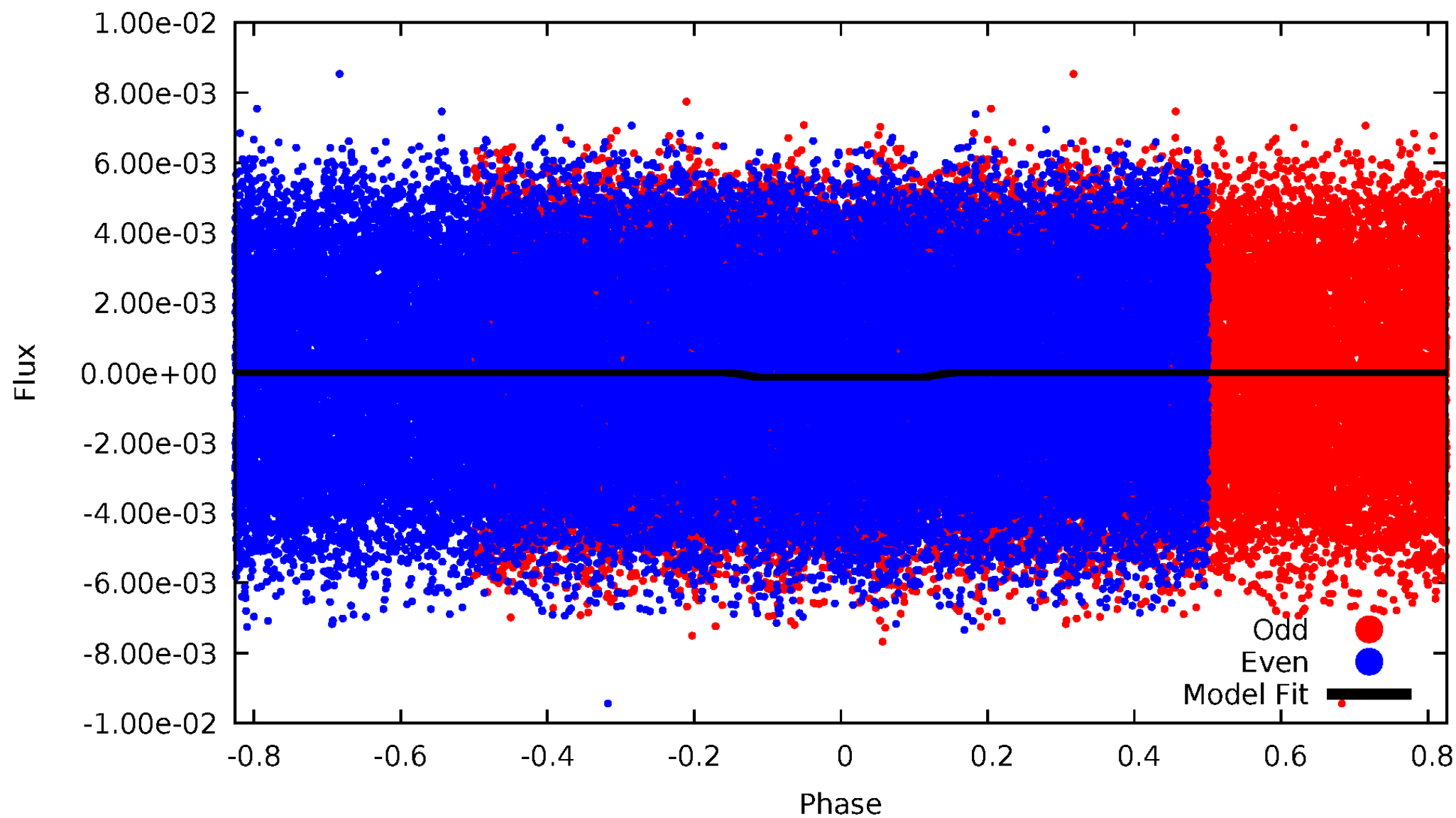
DV Odd/Even

TCE 006294556-02



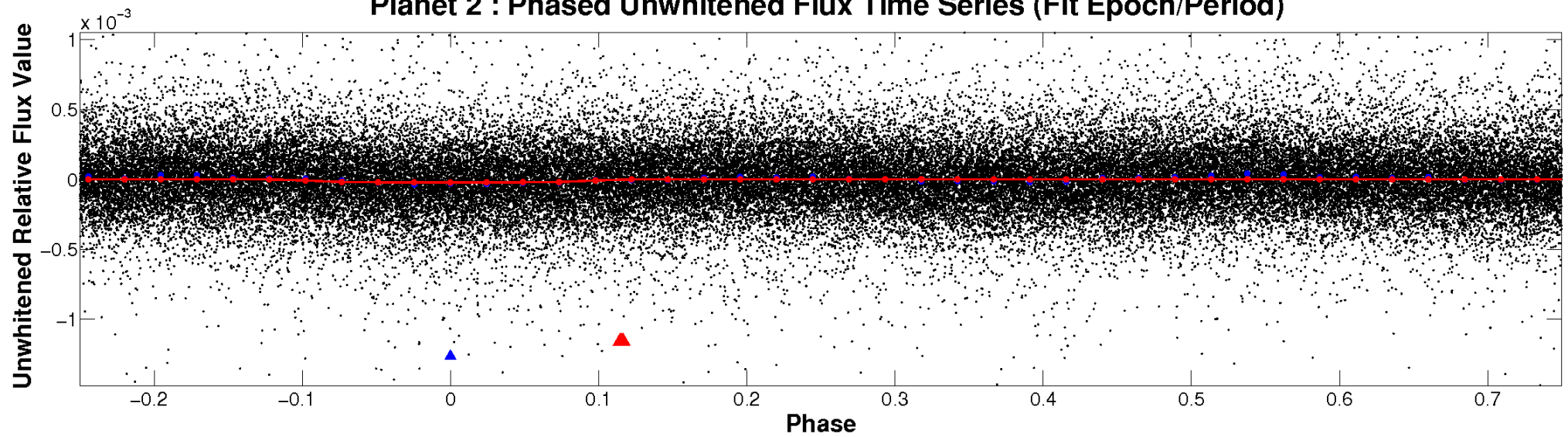
ALT Odd/Even

TCE 006294556-02

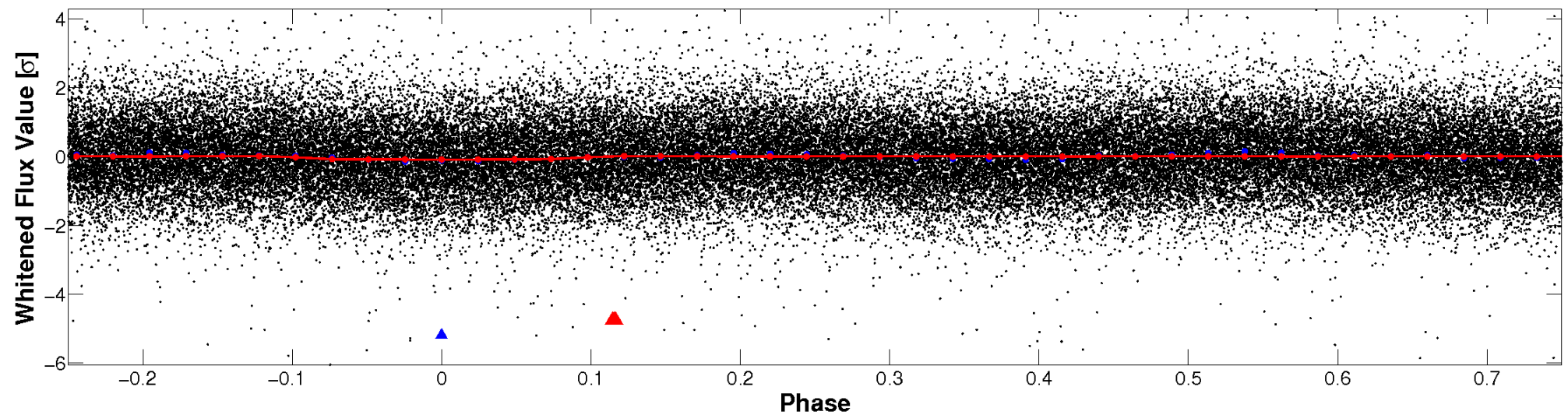


Non-Whitened Vs. Whitened Light Curve

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

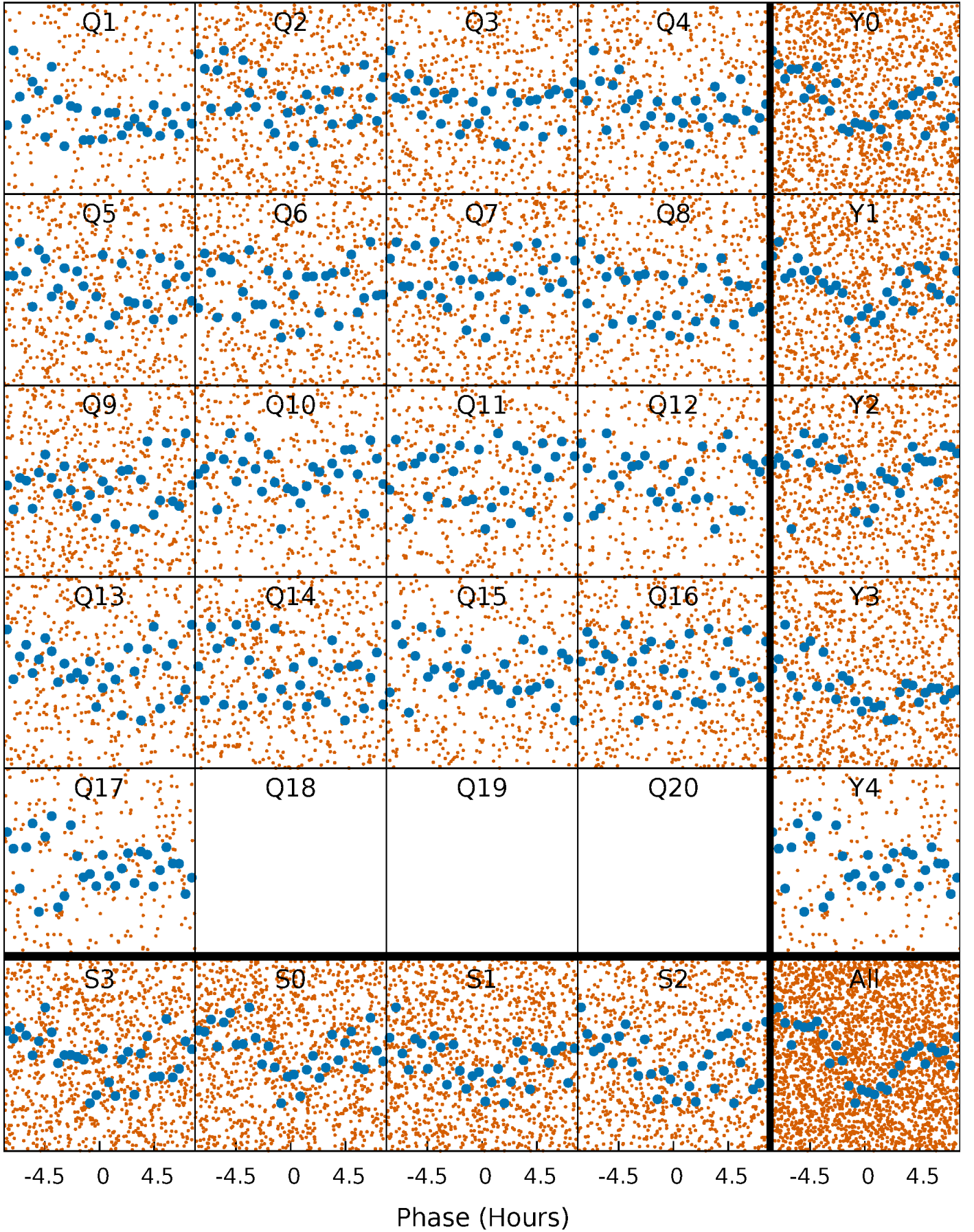


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



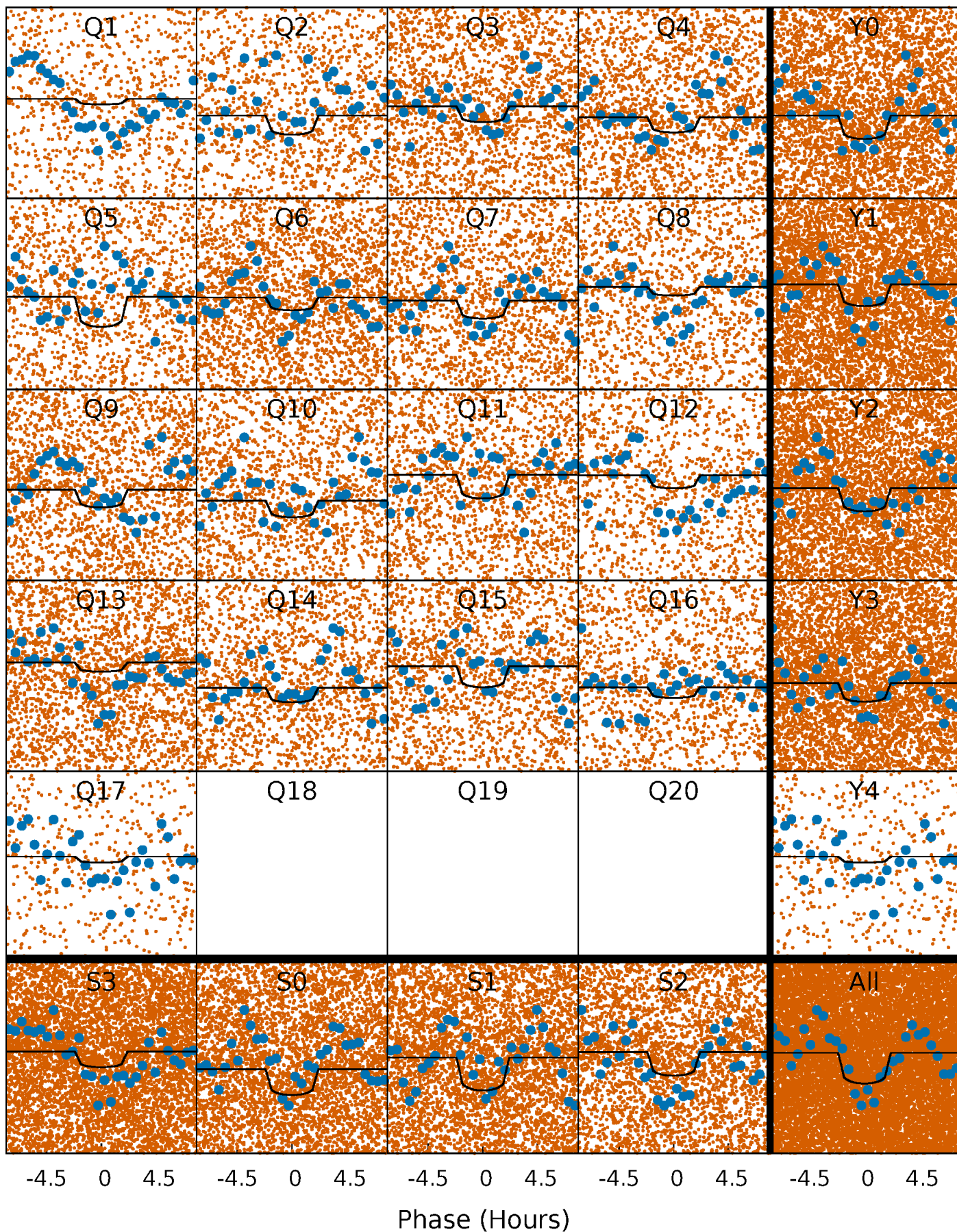
PDC Quarter-Phased Transit Curves

TCE 006294556-02 P= 0.835885 Days $T_0=131.921746$ (BKJD)



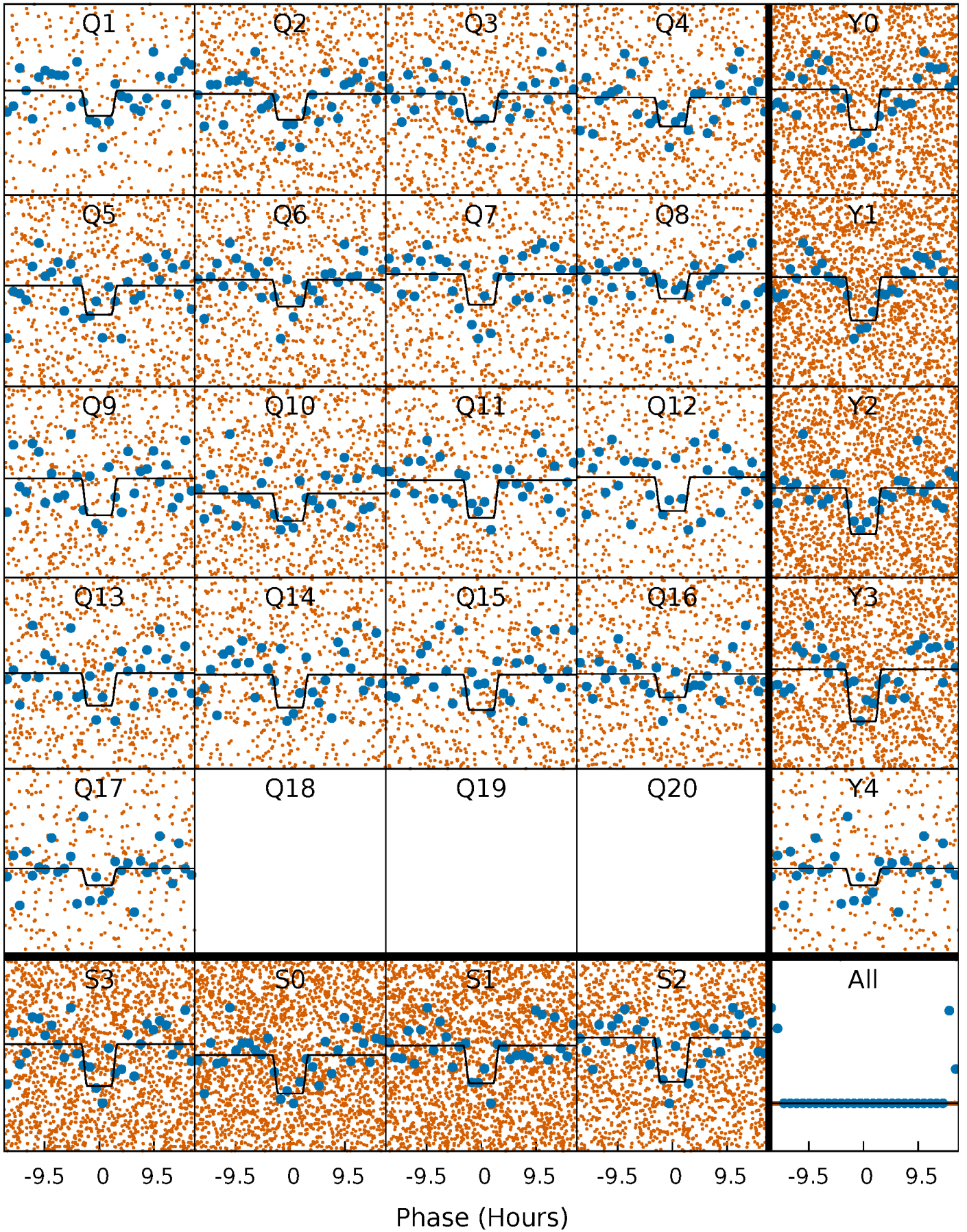
DV Quarter-Phased Transit Curves

TCE 006294556-02 P= 0.835885 Days $T_0=131.921746$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

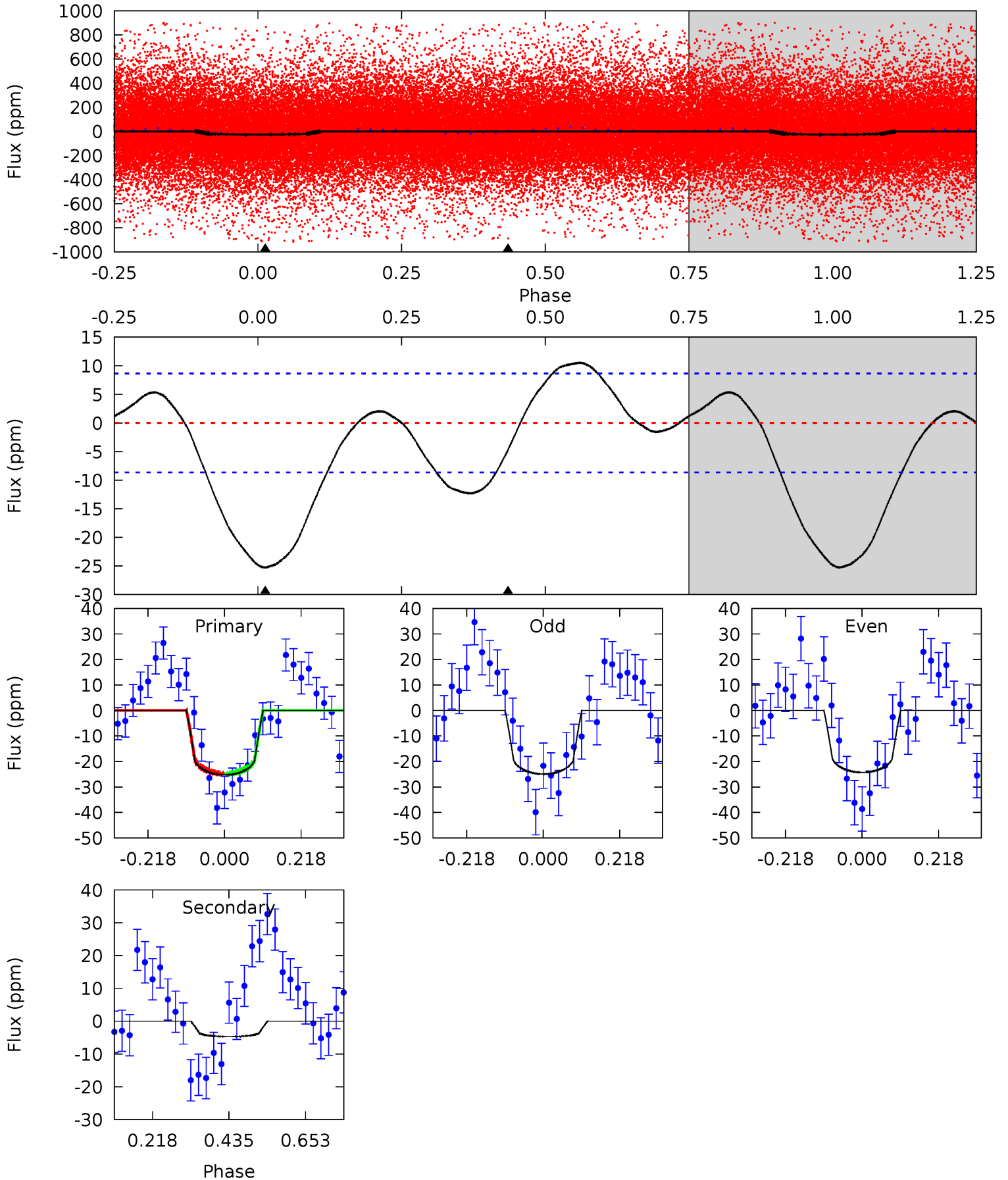
TCE 006294556-02 P= 0.835894 Days $T_0=131.932685$ (BKJD)



DV Model-Shift Uniqueness Test

006294556-02, P = 0.835885 Days, E = 131.085861 Days

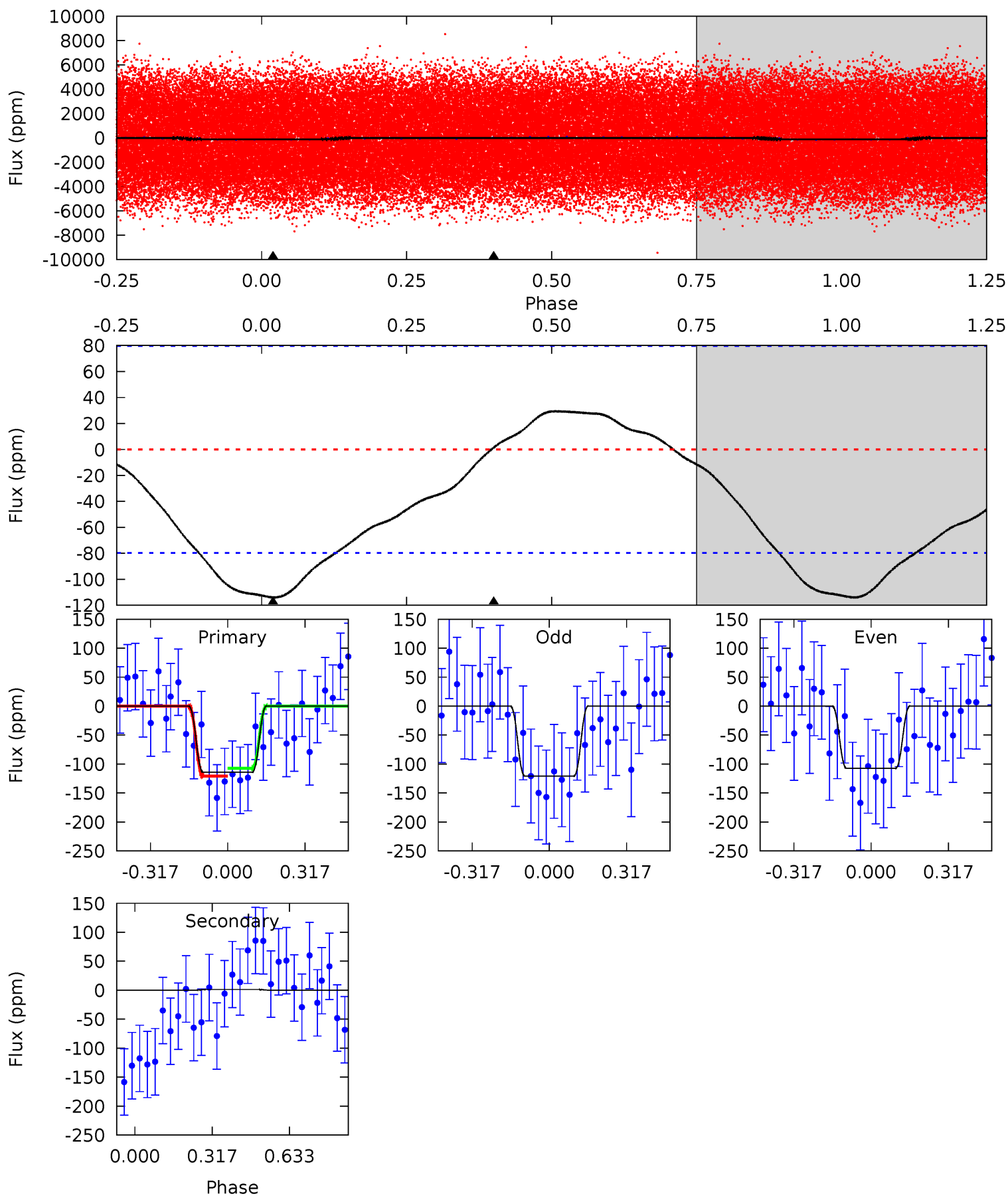
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	2.40	0	0	4.40	1.23	0.86	12.8	12.8	2.40	2.40	0.17	1.21	0.29	0.01



Alt Model-Shift Uniqueness Test

006294556-02, P = 0.835894 Days, E = 131.096791 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.18	-0.07	0	0	4.32	1.00	0.46	6.18	6.18	-0.07	-0.07	0.36	1.07	0.21	0.37



Stellar Parameters For KIC 006294556

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8878^{+246}_{-458}	$4.136^{+0.101}_{-0.188}$	$0.070^{+0.250}_{-0.600}$	$2.034^{+0.704}_{-0.433}$	$2.065^{+0.392}_{-0.479}$	$0.345^{+0.211}_{-0.178}$
	+3%/-5%	+2%/-5%	+357%/-857%	+35%/-21%	+19%/-23%	+61%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 006294556-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-5 ± 2	$1.03^{+0.28}_{-0.29}$	5292^{+389}_{-323}	5426^{+1220}_{-1186}	$1.186^{+1.161}_{-0.638}$
Alt.	1 ± 18	$2.58^{+0.50}_{-0.42}$	5278^{+425}_{-370}	-4342^{+8968}_{-1285}	$0.026^{+0.724}_{-0.734}$

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 $A_{obs} \gg 1.0$

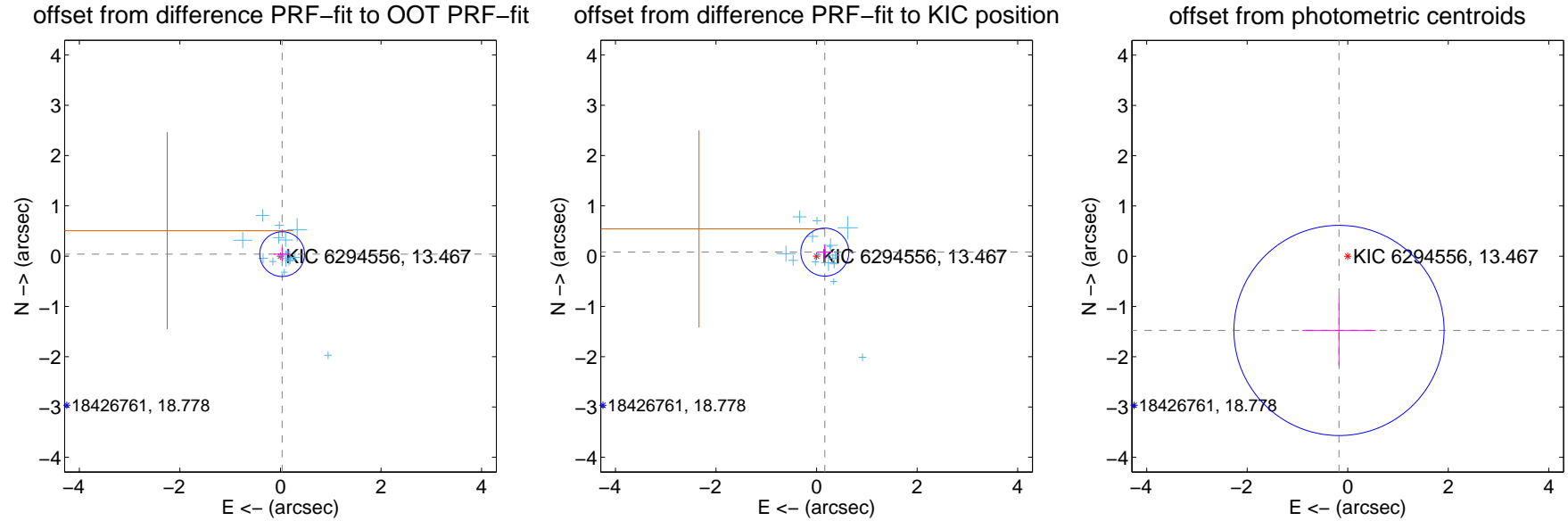
DV Centroid Data

Supplemental centroid analysis for 006294556-02. Kepler magnitude: 13.47. Transit SNR 8.48

There are 16 quarters with good PRF difference image offsets

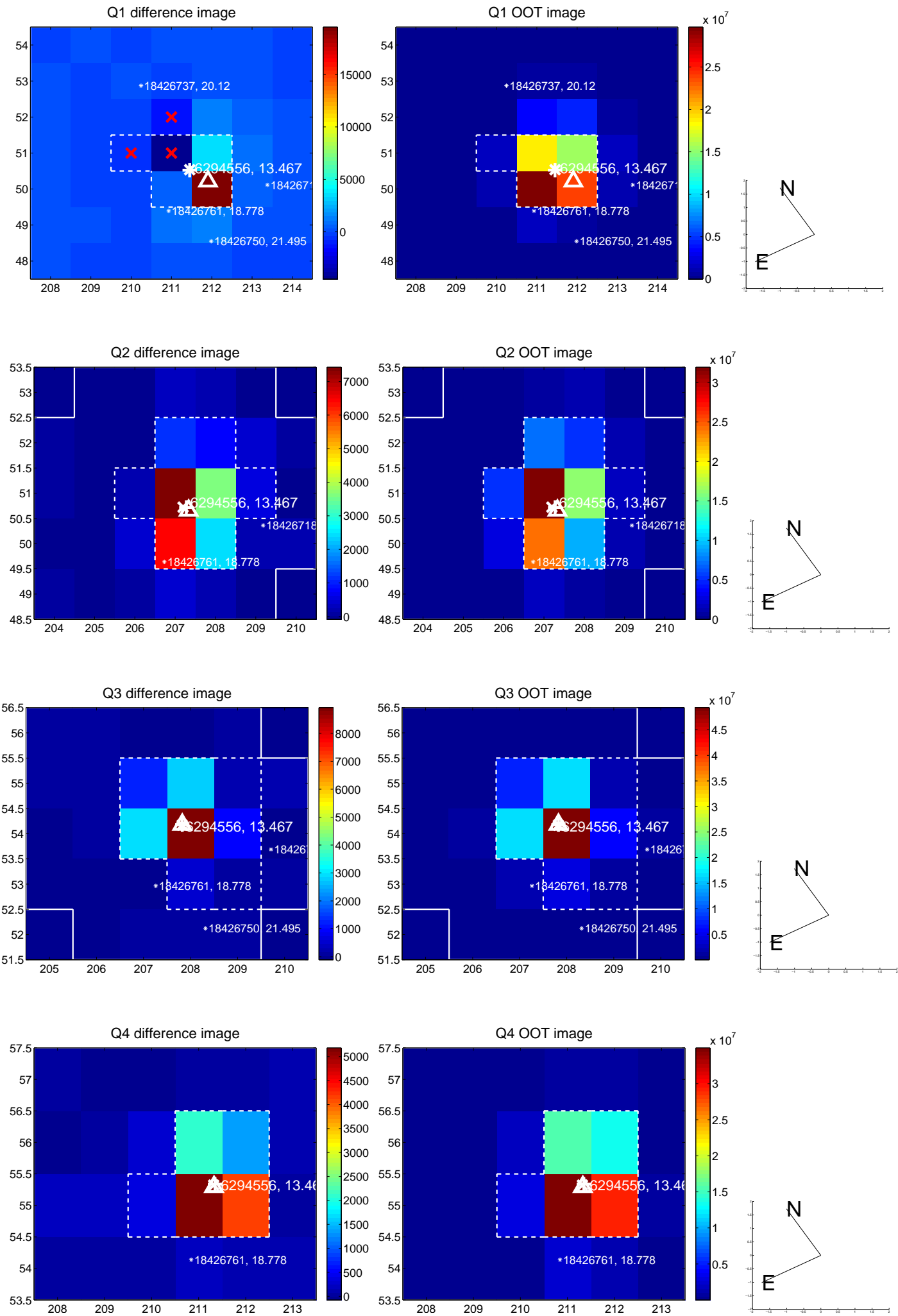
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.052 ± 0.148	0.35	-0.034 ± 0.164	0.040 ± 0.136
PRF-fit source offset from KIC position	0.182 ± 0.159	1.15	-0.164 ± 0.164	0.079 ± 0.136
photometric centroid source offset	1.49 ± 0.70	2.13	0.17 ± 0.73	-1.48 ± 0.70

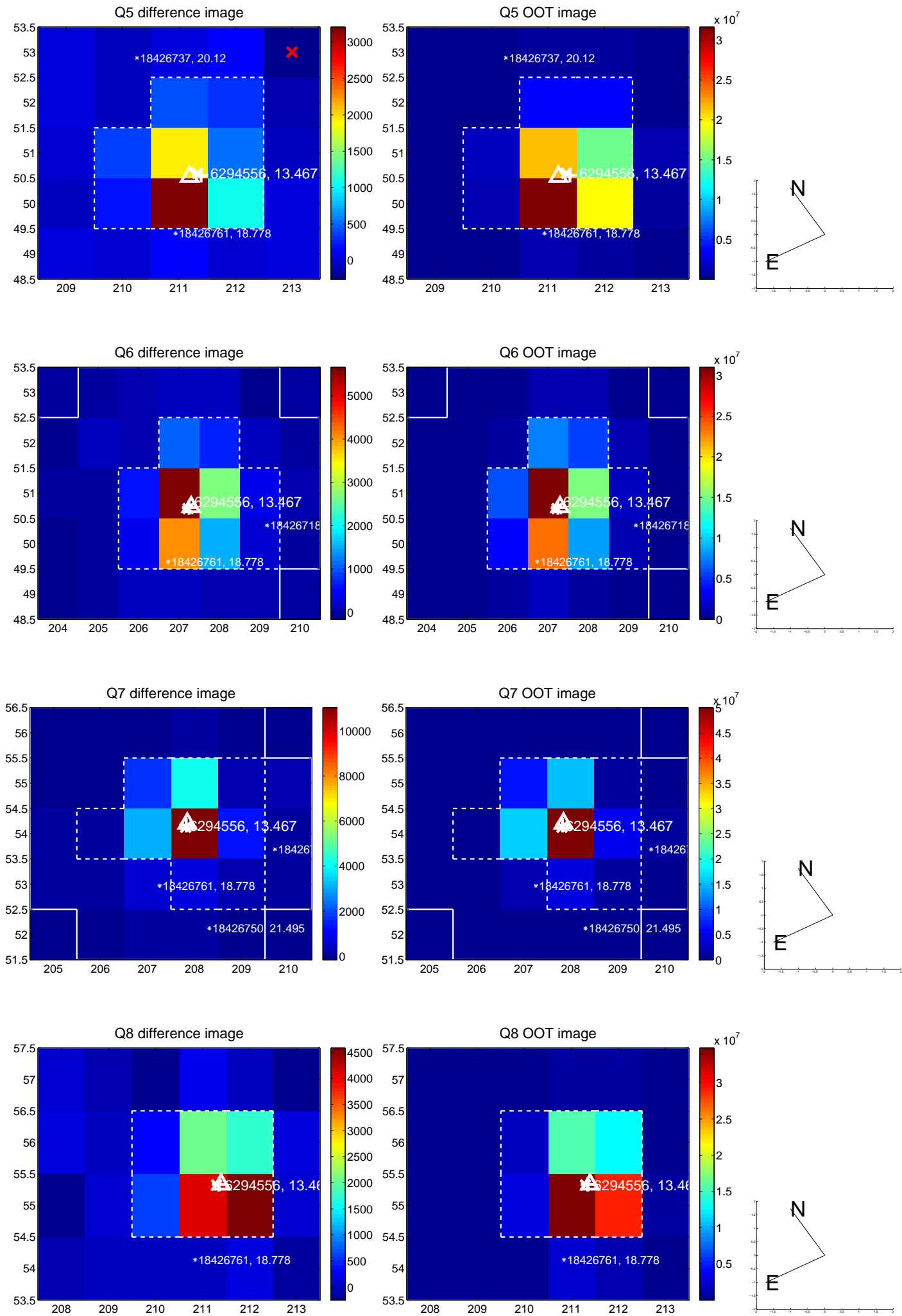


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

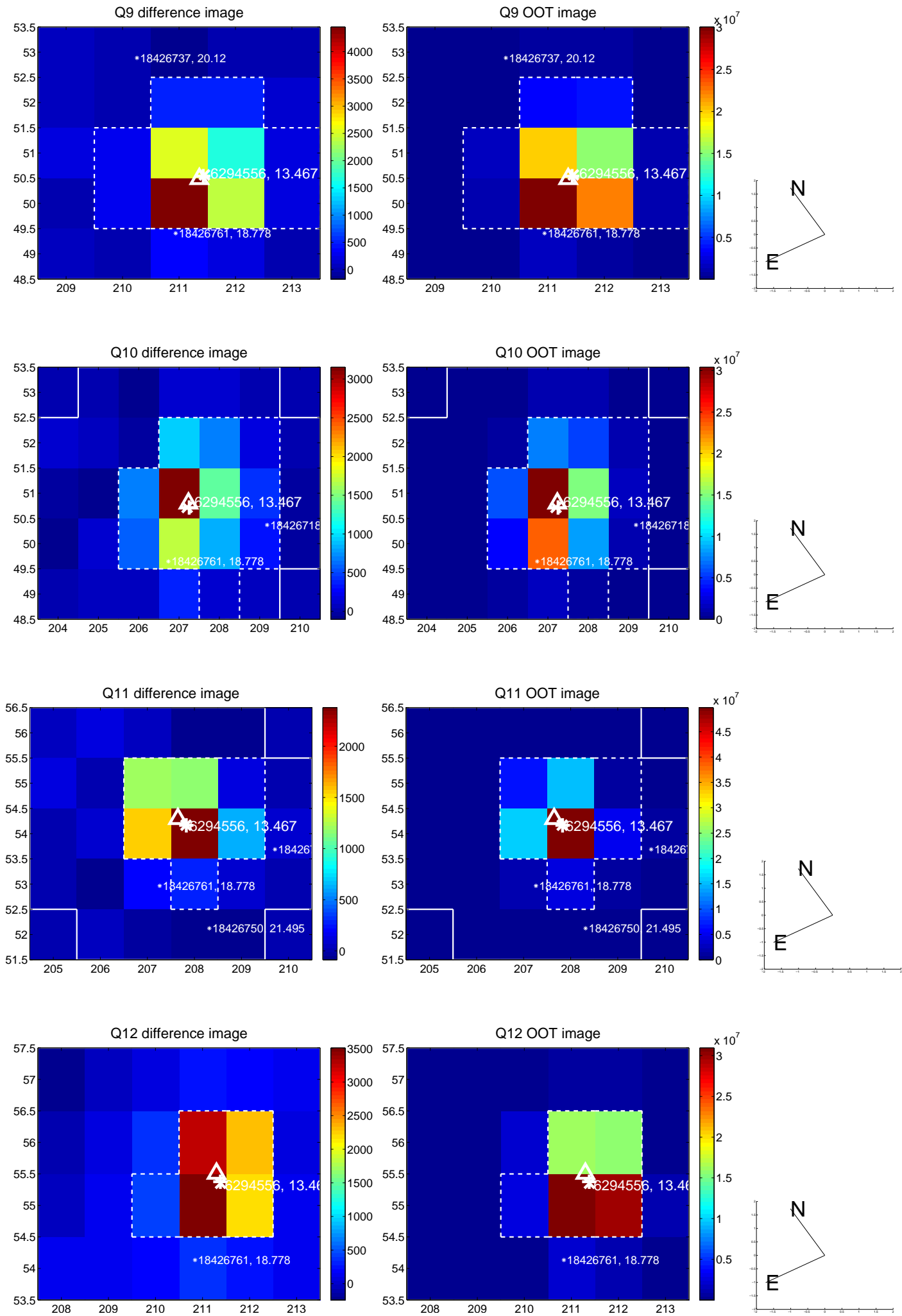
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



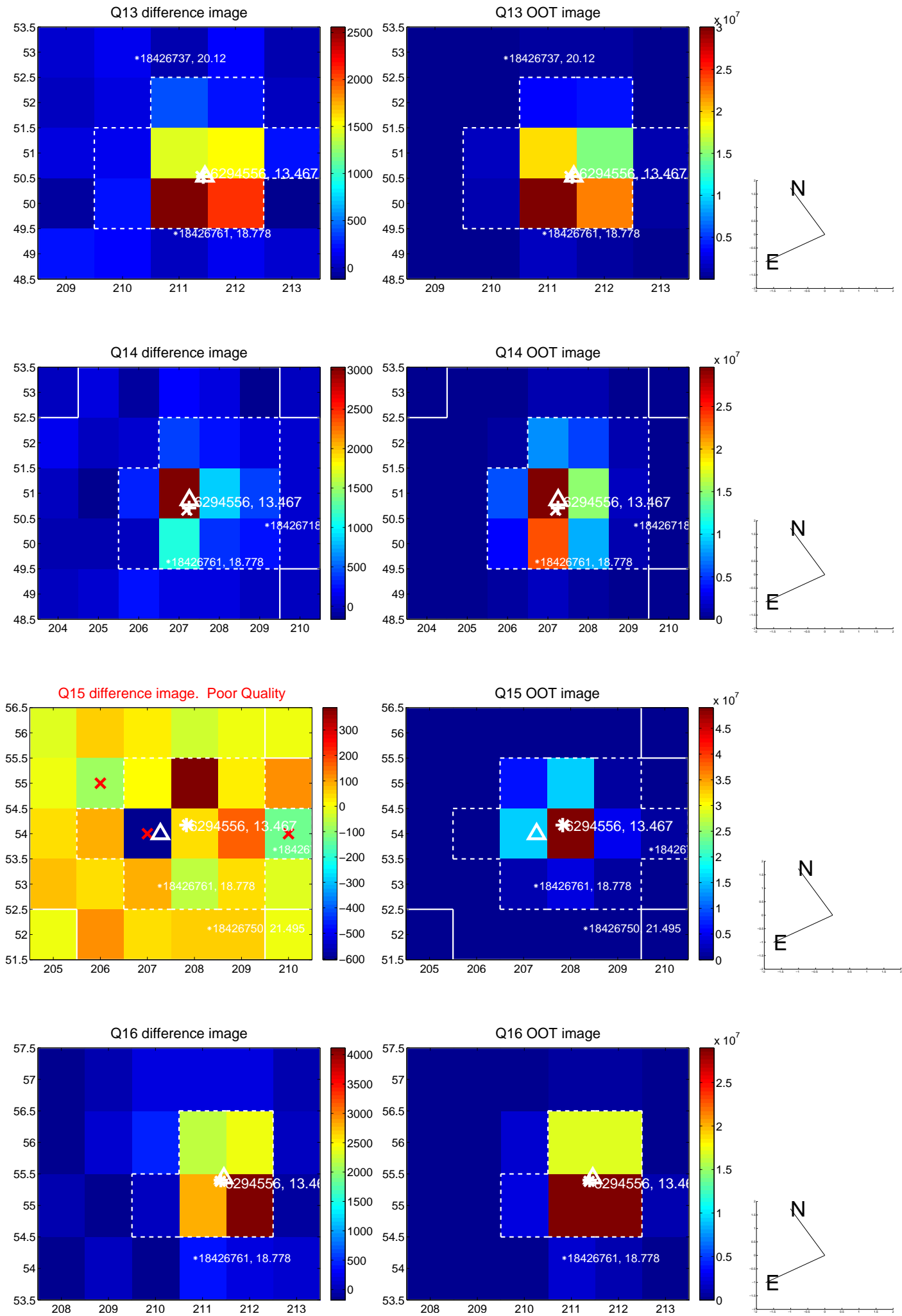
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



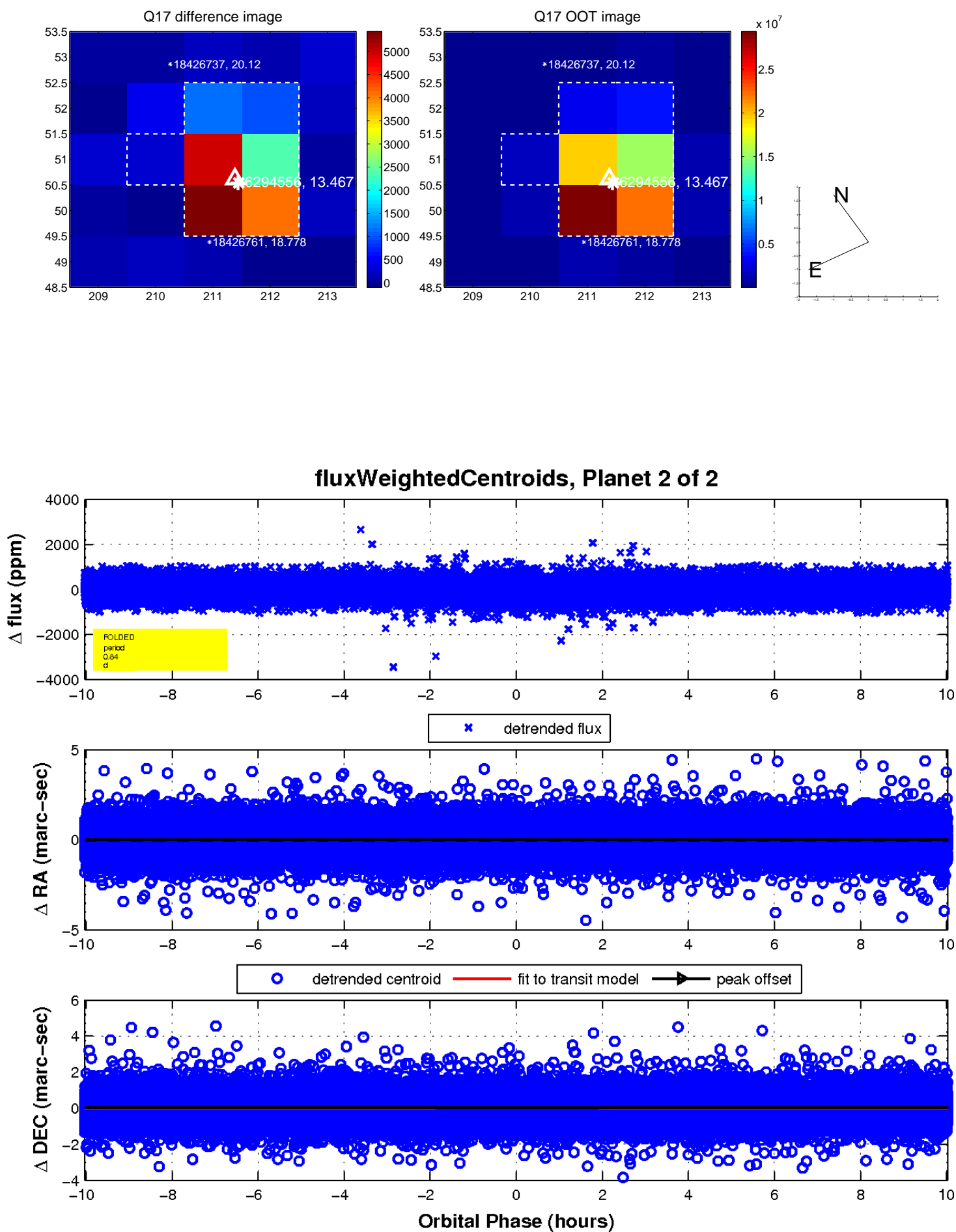
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

