

KIC 006755944

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})
006755944-01	OBS	4072.01	0.692976	131.804314	64.6	0.885	17.1	20.0	2.30	6105	1.93	24415.63
006755944-02	OBS	No	601.020209	145.833908	176.8	13.987	8.0	8.1	2.30	6105	3.51	2.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006755944-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006755944-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

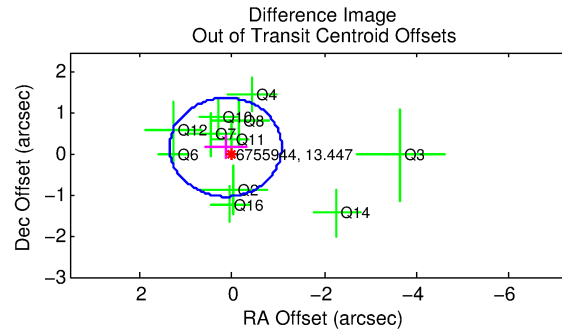
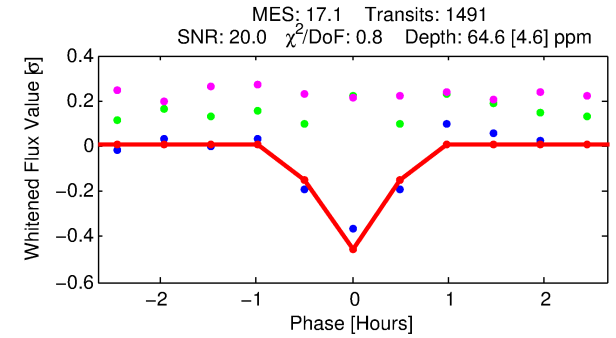
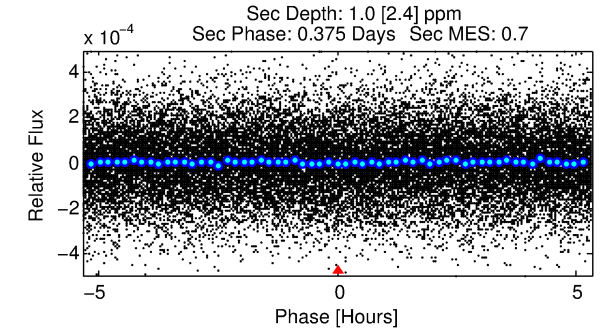
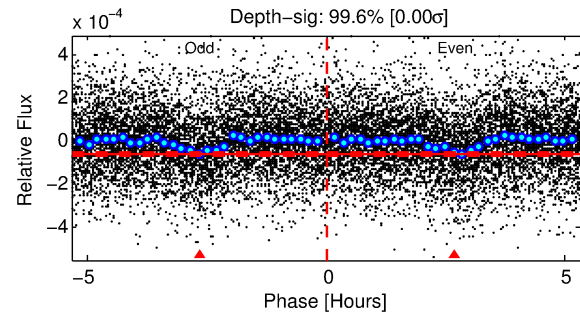
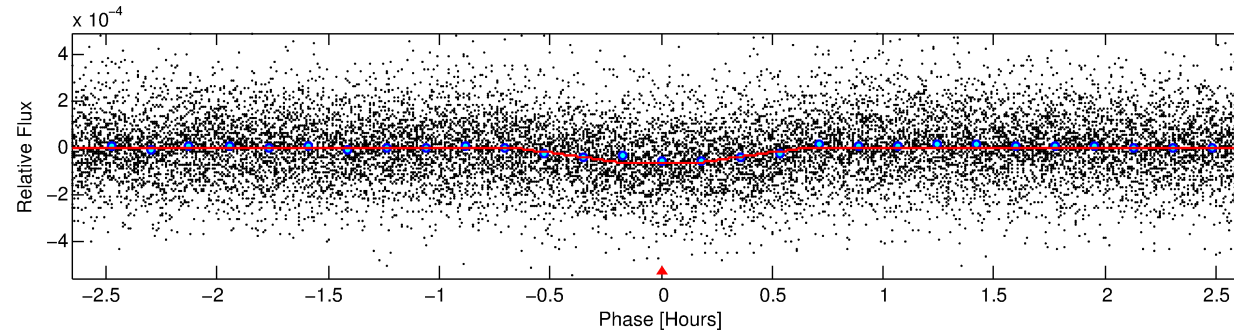
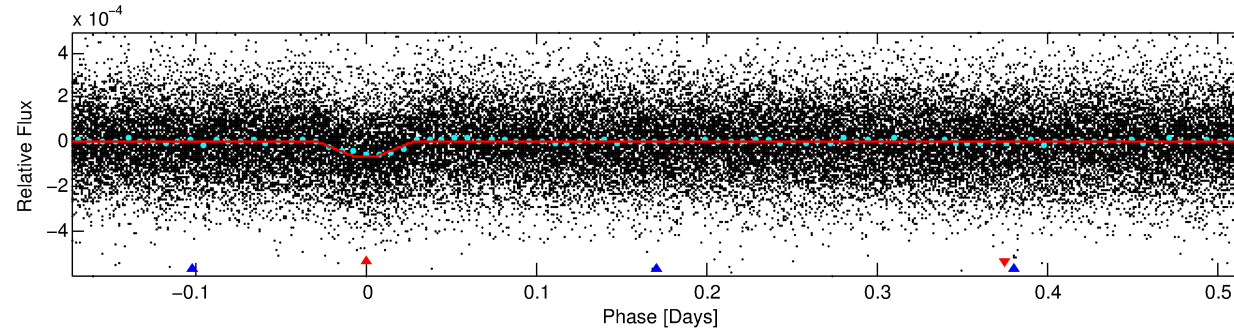
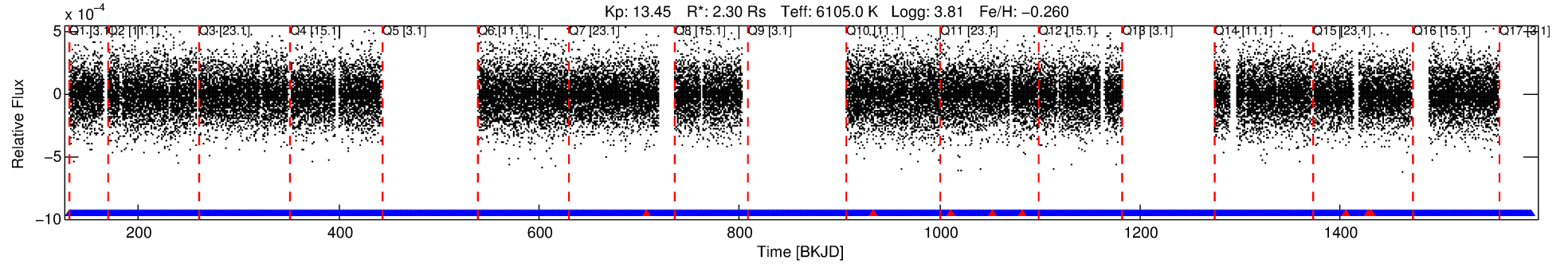
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006755944-01

No Significant Match Found

DV One-Page Summary

KIC: 6755944 Candidate: 1 of 2 Period: 0.693 d
KOI: K04072.01 Corr: 0.904



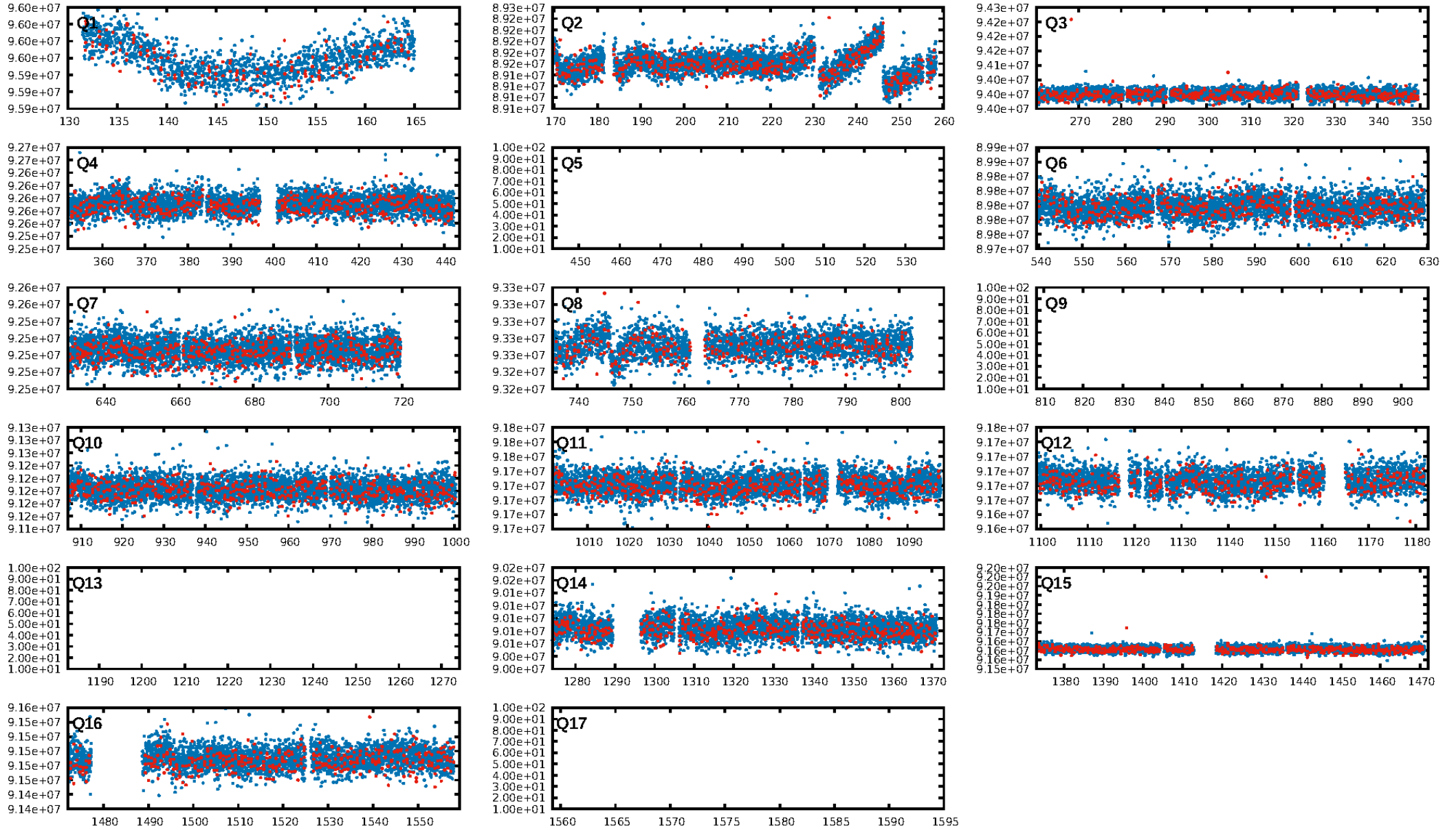
DV Fit Results:

Period = 0.69298 [0.00001] d
Epoch = 131.8043 [0.0008] BKJD
Rp/R* = 0.0077 [0.0019]
a/R* = 5.28 [6.28]
b = 0.50 [1.86]
Seff = 24415.63 [13712.46]
Teq = 3187 [448] K
Rp = 1.93 [0.85] Re
a = 0.0164 [0.0057] AU
Ag = 0.04 [0.10] [-9.46σ]
Teffp = 2224 [1325] K [-0.69σ]

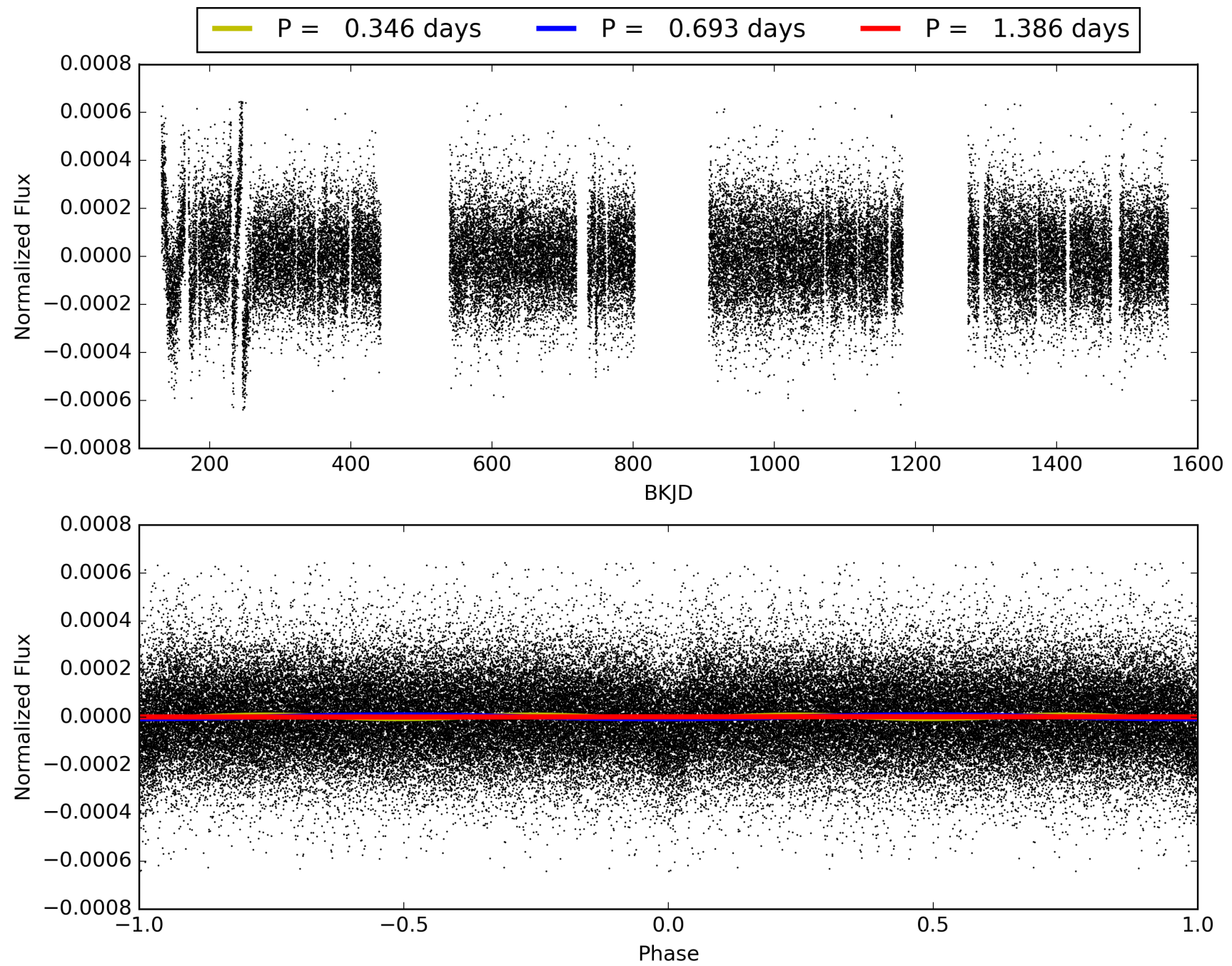
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [1028.02σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.88e-64
RollingBand-figt: 0.99 [1435/1443]
GhostDiagnostic-chr: 4.997
Centroid-sig: N/A
Centroid-so: 0.593 arcsec [0.84σ]
OotOffset-rm: 0.220 arcsec [0.55σ]
OotOffset-st: 4/3/4/0 [11]
KicOffset-rm: 0.165 arcsec [0.38σ]
KicOffset-st: 4/3/4/0 [11]
DiffImageQuality-fgm: 0.91 [10/11]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 006755944-01, PDC Light Curves

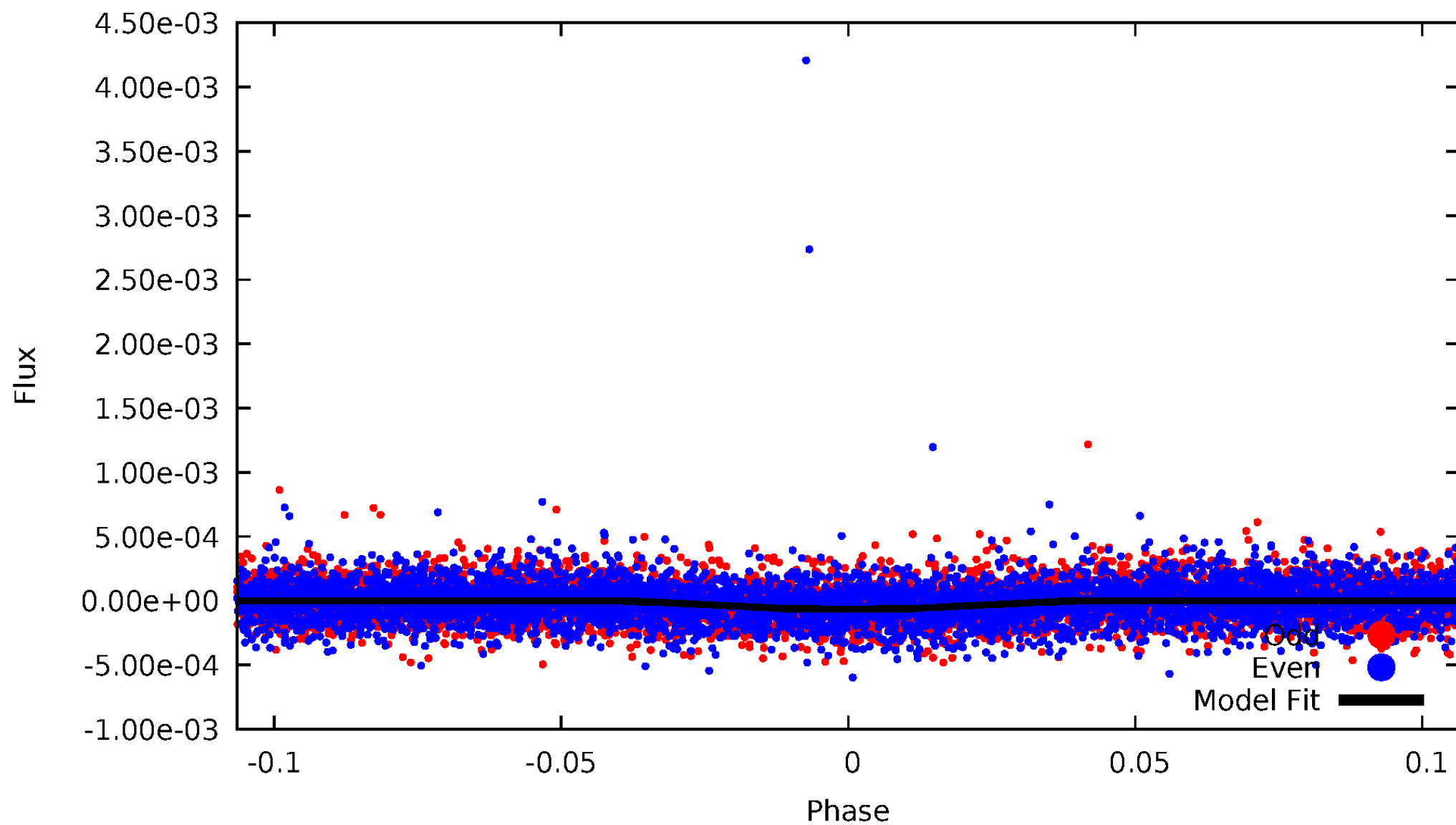


TCE 006755944-01



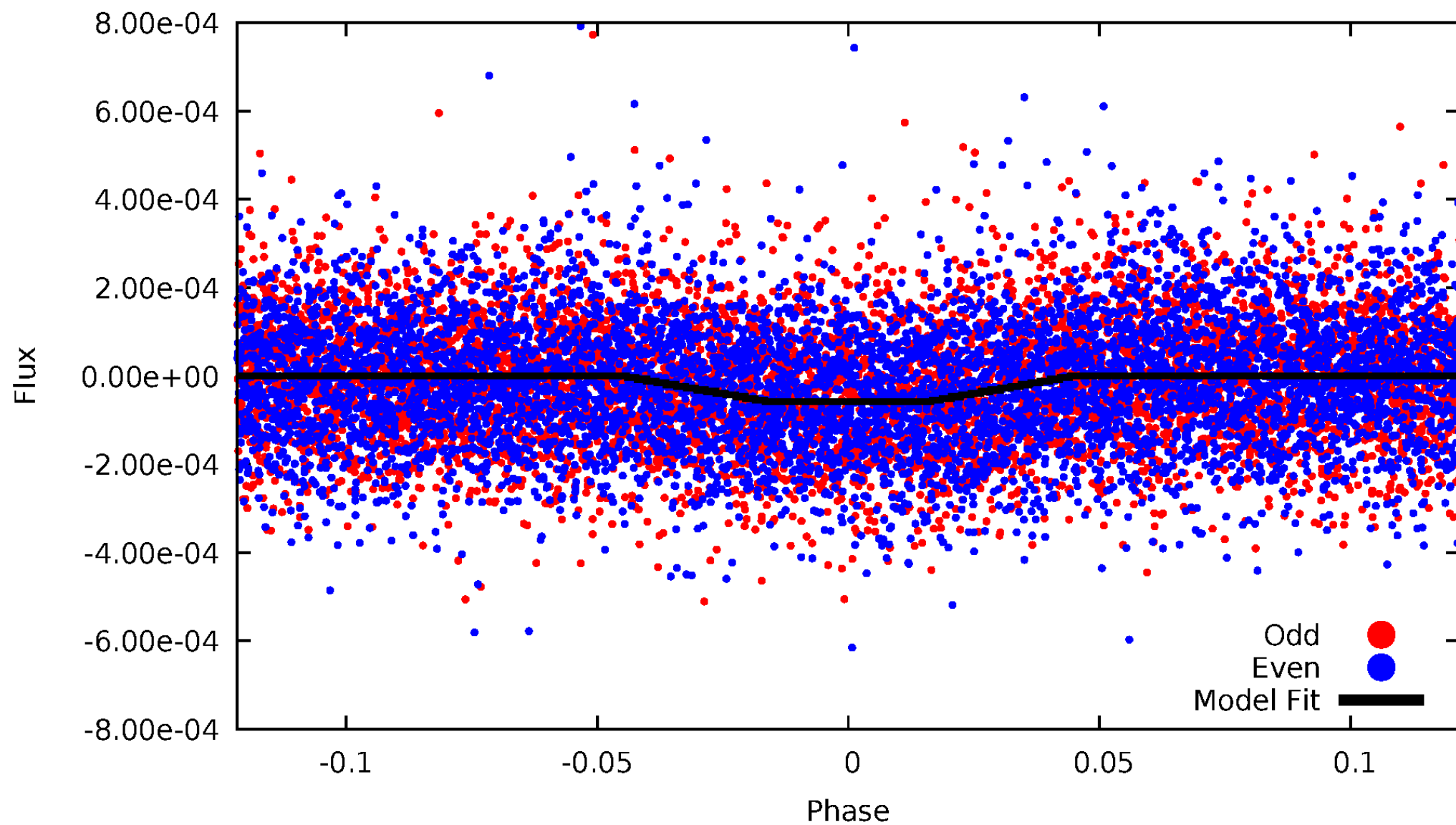
DV Odd/Even

TCE 006755944-01

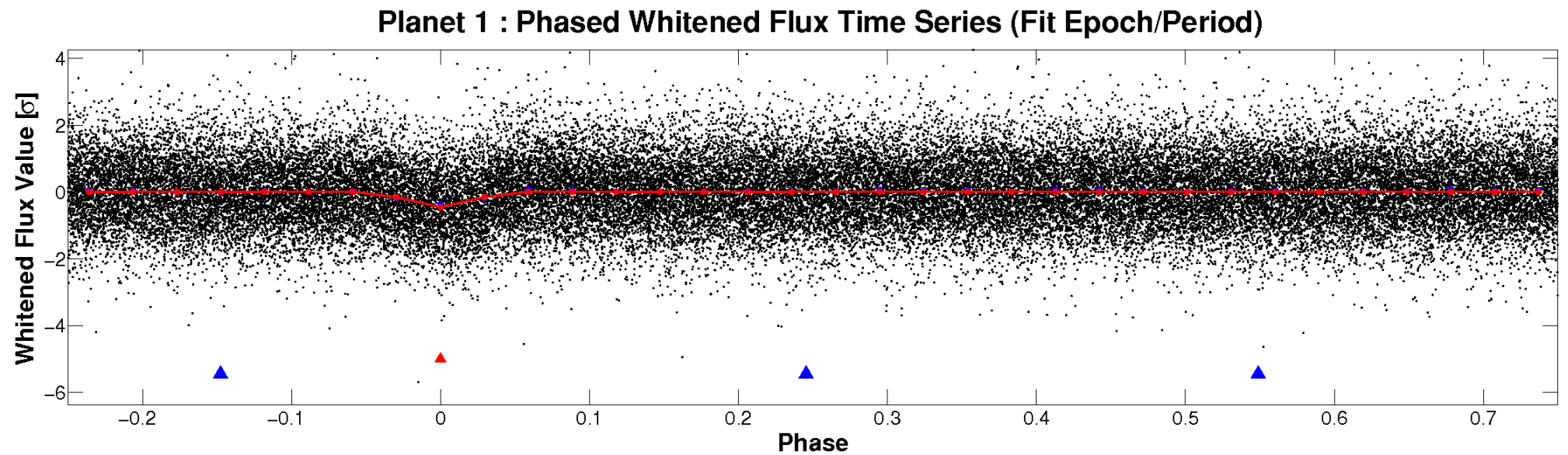
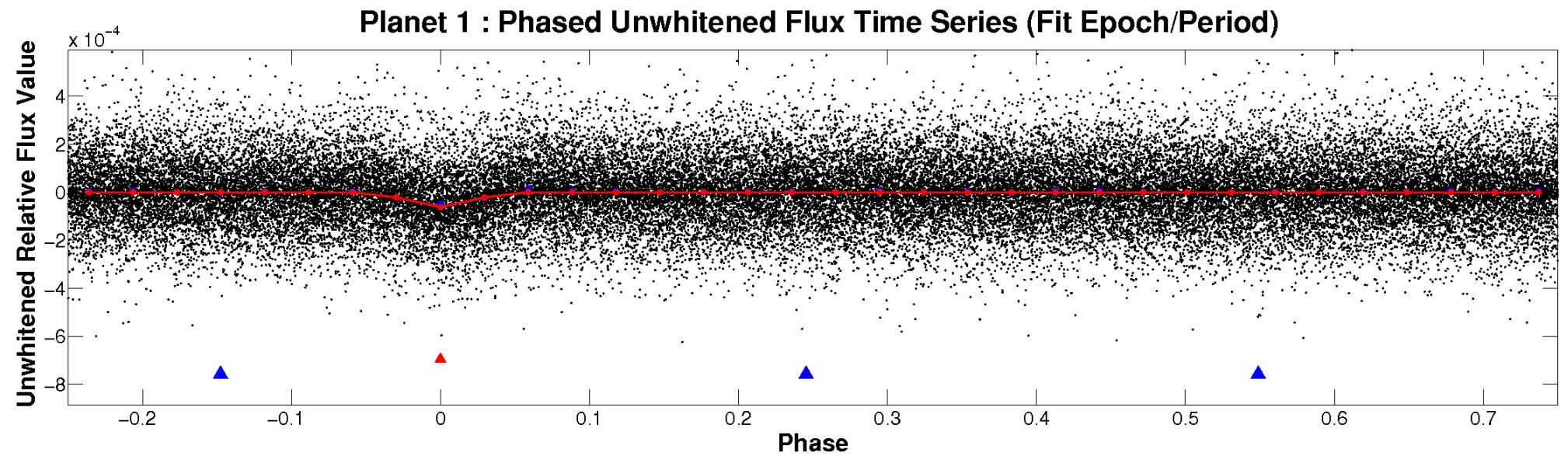


ALT Odd/Even

TCE 006755944-01

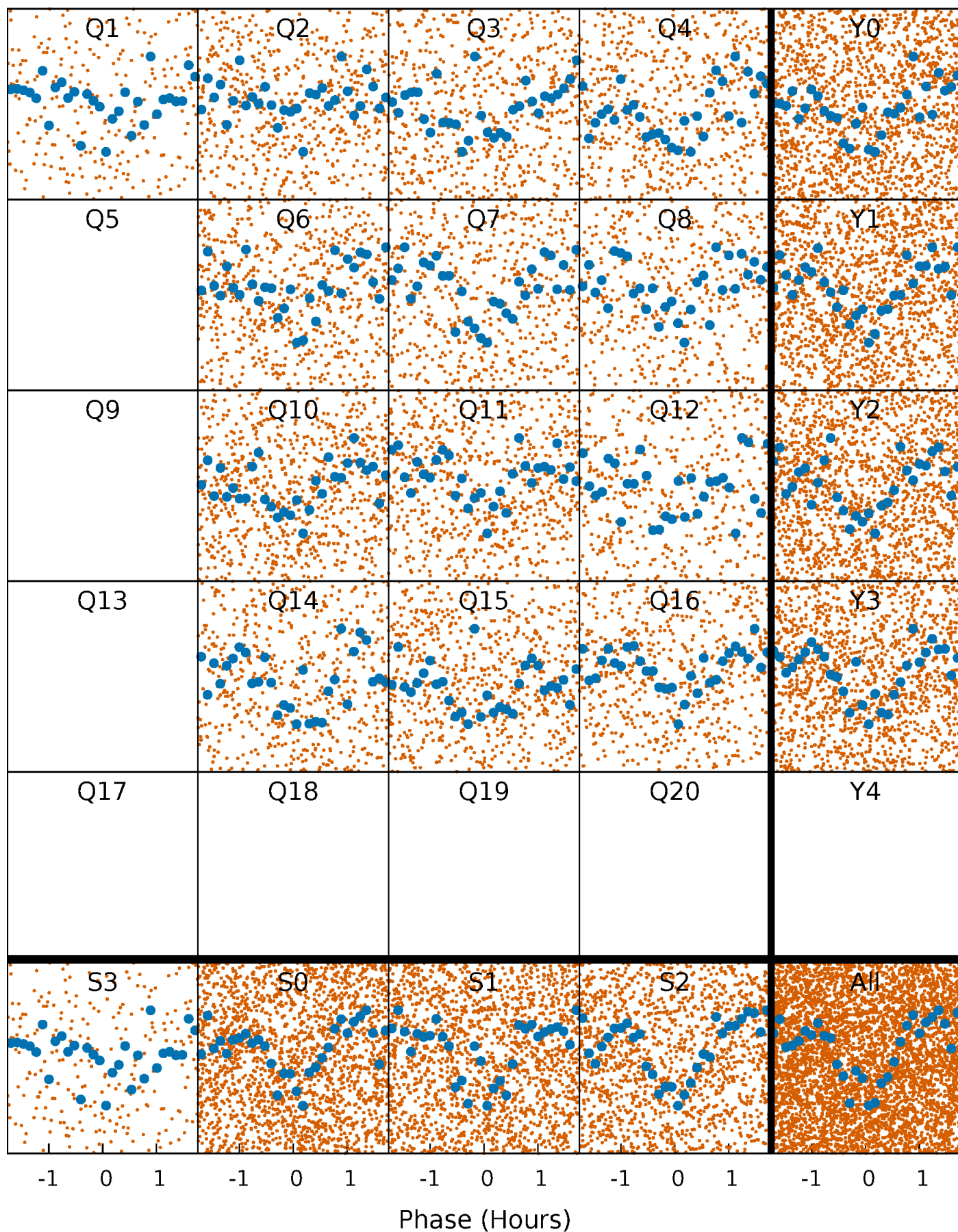


Non-Whitened Vs. Whitened Light Curve



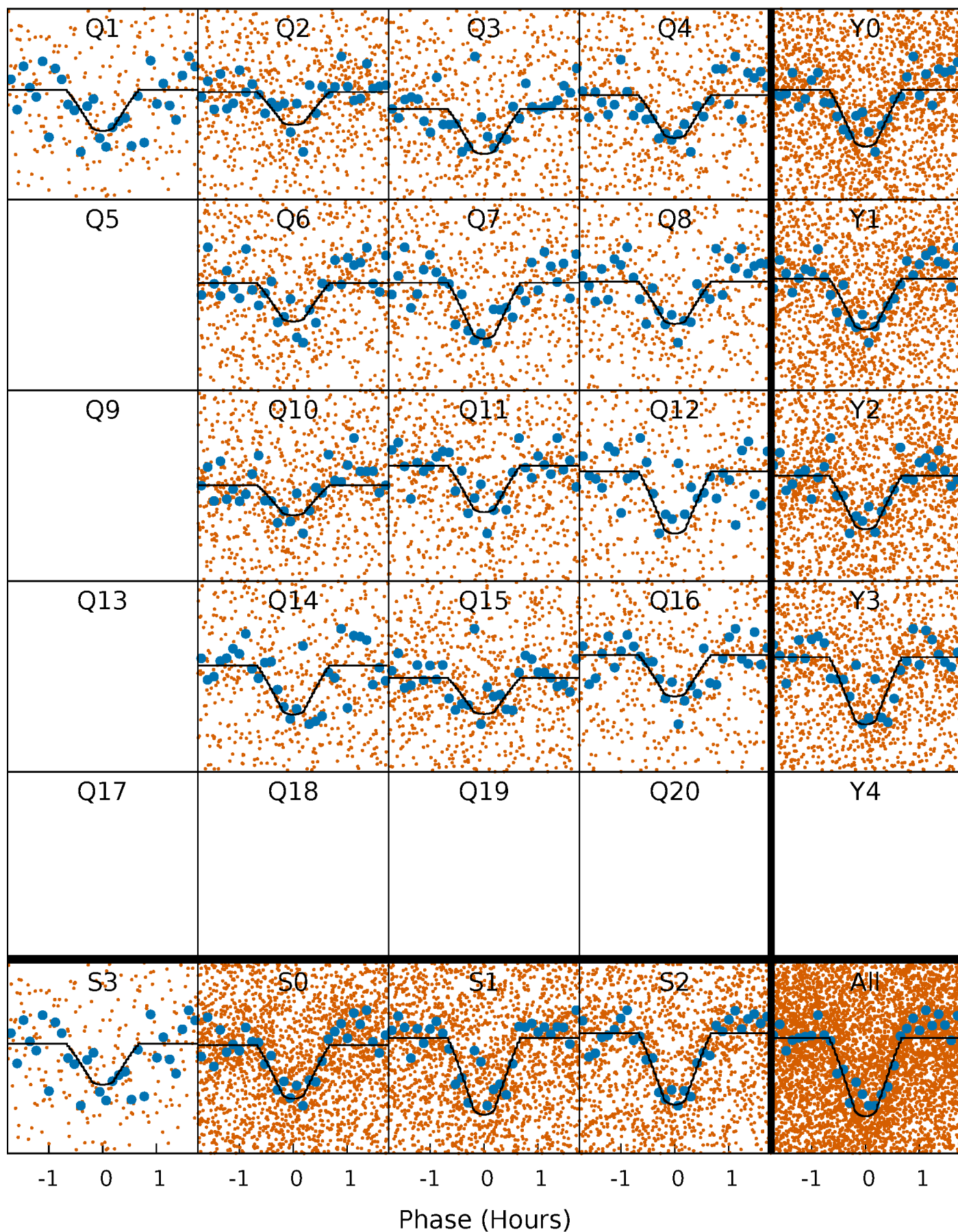
PDC Quarter-Phased Transit Curves

TCE 006755944-01 P= 0.692976 Days $T_0=131.804314$ (BKJD)



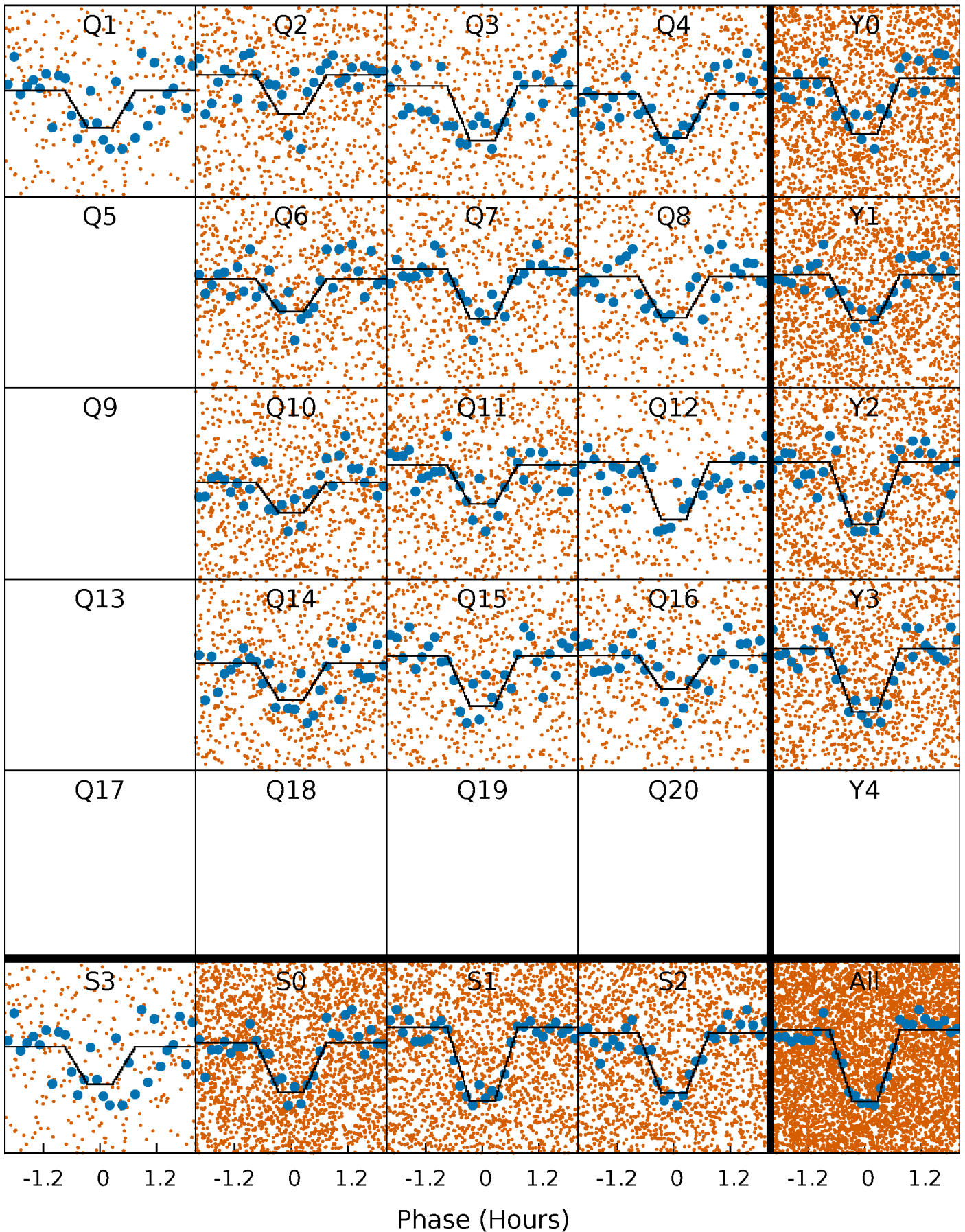
DV Quarter-Phased Transit Curves

TCE 006755944-01 P= 0.692976 Days $T_0=131.804314$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

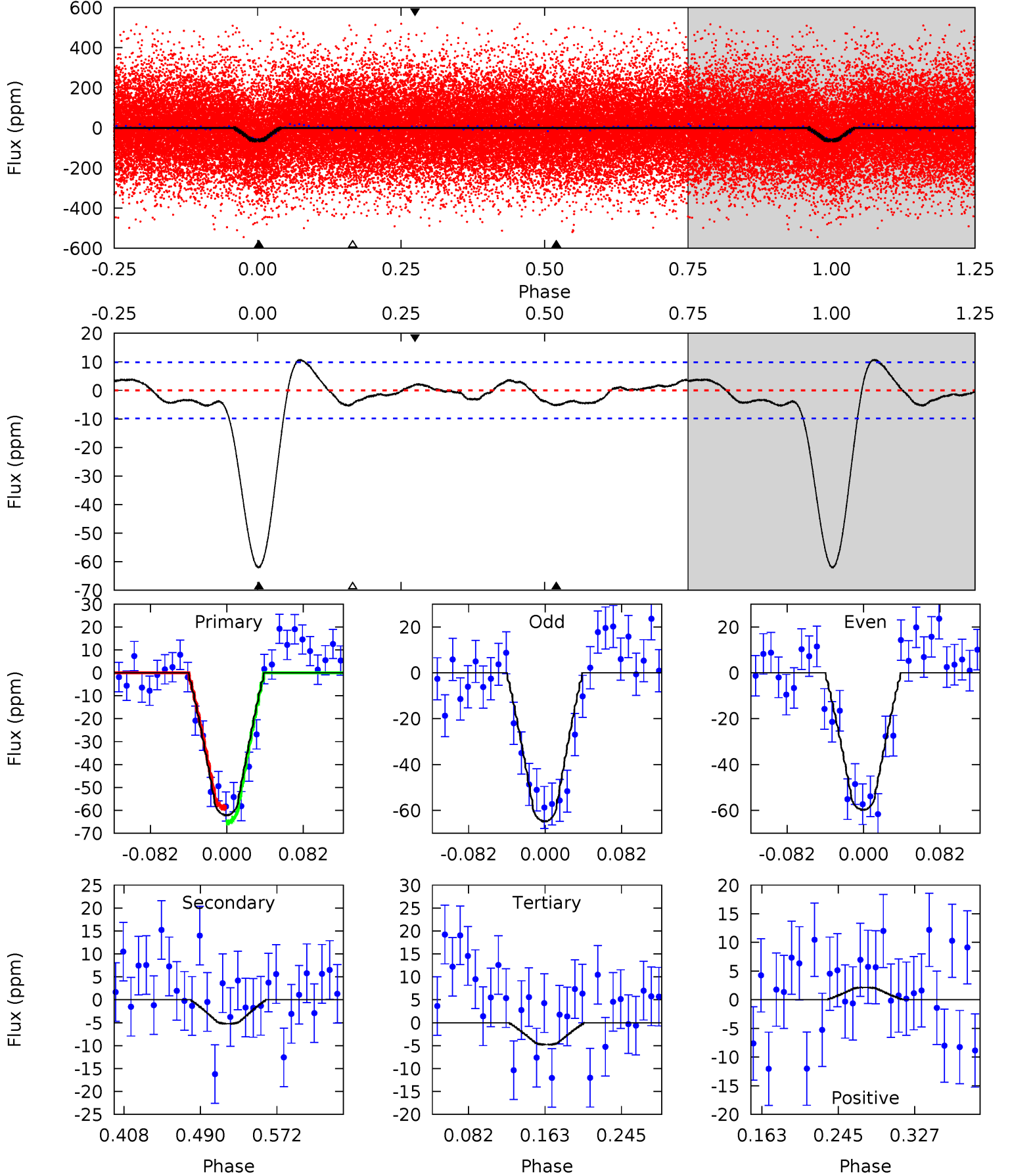
TCE 006755944-01 P= 0.692976 Days $T_0=131.804314$ (BKJD)



DV Model-Shift Uniqueness Test

006755944-01, P = 0.692976 Days, E = 131.111338 Days

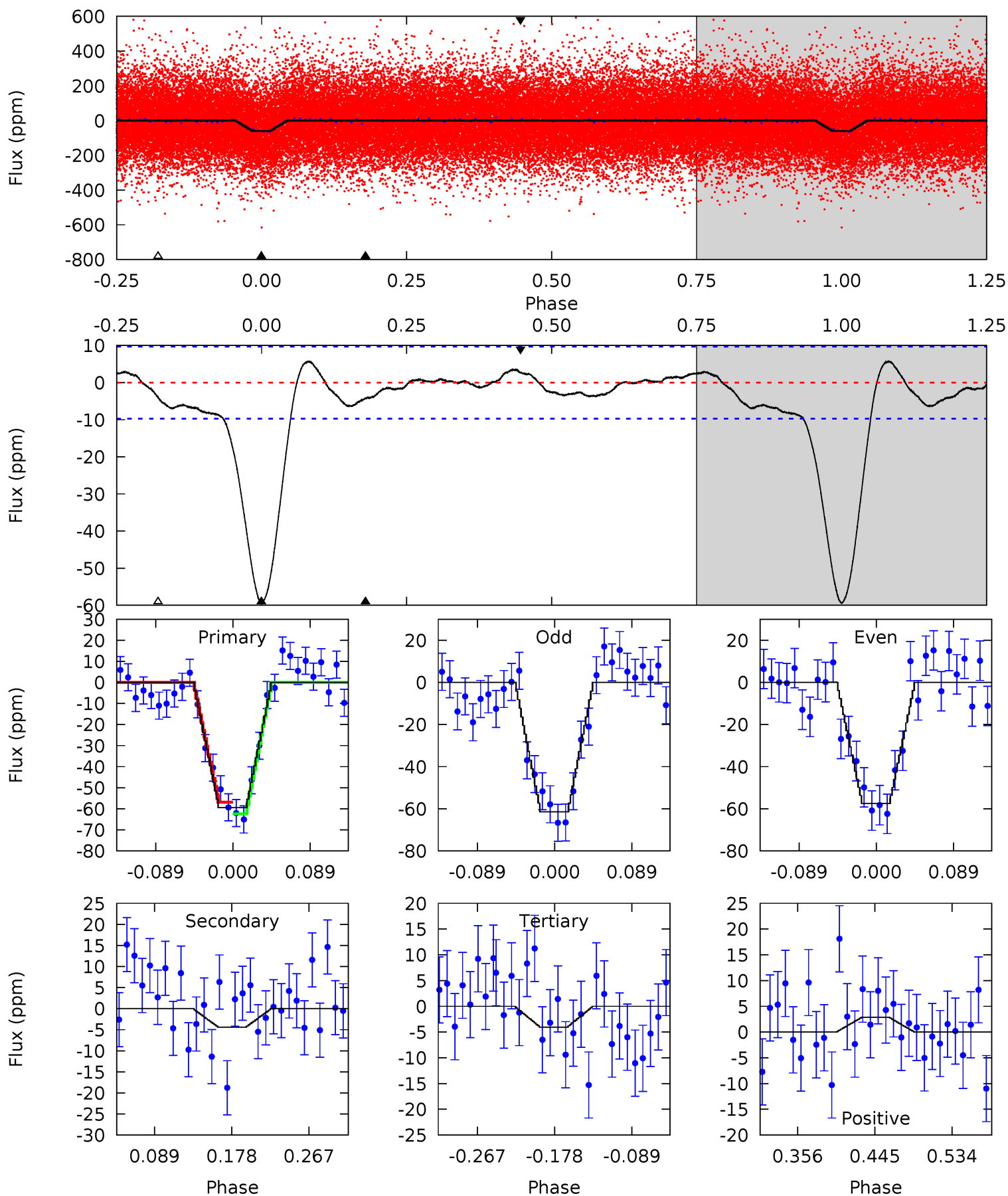
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.1	2.45	2.25	1.00	4.61	1.74	1.35	26.9	28.1	0.20	1.45	1.18	0.87	0.15	1.46



Alt Model-Shift Uniqueness Test

006755944-01, P = 0.692976 Days, E = 131.111338 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.1	2.09	1.91	1.35	4.59	1.70	1.38	26.2	26.7	0.18	0.74	0.94	0.97	0.09	1.30



Stellar Parameters For KIC 006755944

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6105^{+181}_{-163}	$3.805^{+0.320}_{-0.100}$	$-0.260^{+0.350}_{-0.250}$	$2.304^{+0.424}_{-0.847}$	$1.235^{+0.230}_{-0.253}$	$0.142^{+0.292}_{-0.043}$
	+3%/-3%	+8%/-3%	+135%/-96%	+18%/-37%	+19%/-20%	+205%/-31%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006755944-01 / KOI 4072.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-5 ± 2	$1.80^{+0.58}_{-0.50}$	4373^{+264}_{-431}	-3058^{+6504}_{-627}	$0.234^{+0.244}_{-0.121}$
Alt.	-4 ± 2	$1.84^{+0.59}_{-0.55}$	4393^{+257}_{-415}	-3281^{+6606}_{-508}	$0.194^{+0.232}_{-0.111}$

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 $A_{obs} \gg 1.0$

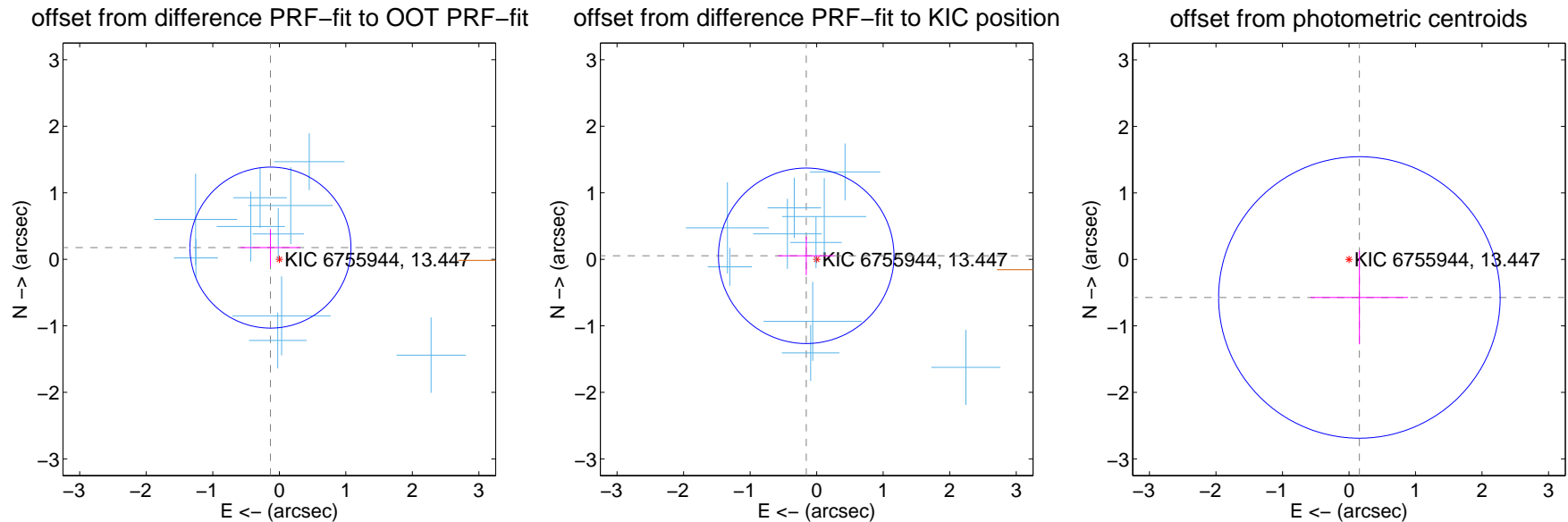
DV Centroid Data

Supplemental centroid analysis for 006755944-01. Kepler magnitude: 13.45. Transit SNR 19.99

There are 10 quarters with good PRF difference image offsets

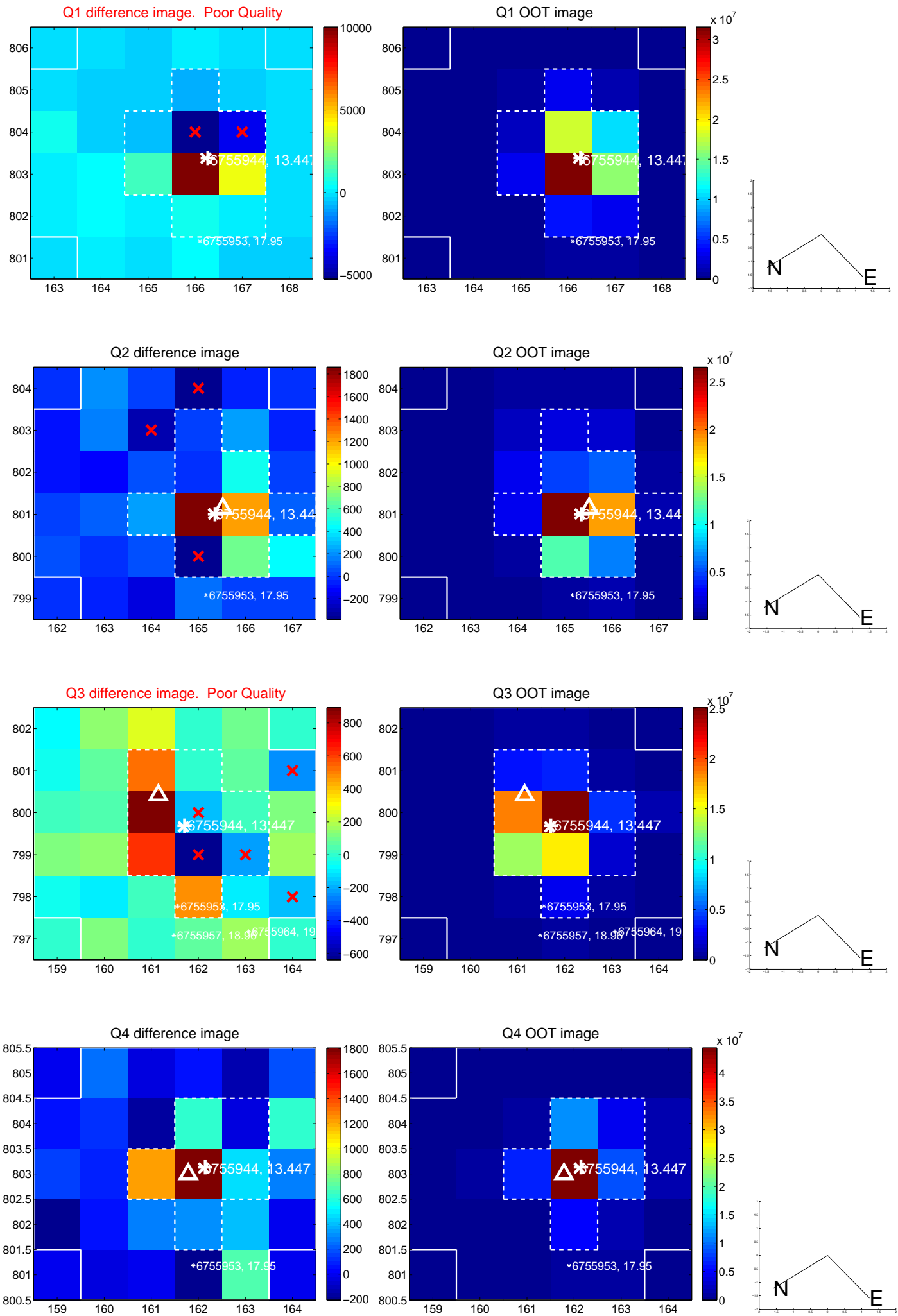
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.220 ± 0.403	0.55	0.133 ± 0.450	0.175 ± 0.279
PRF-fit source offset from KIC position	0.165 ± 0.440	0.38	0.157 ± 0.424	0.053 ± 0.290
photometric centroid source offset	0.59 ± 0.71	0.84	-0.16 ± 0.73	-0.57 ± 0.70

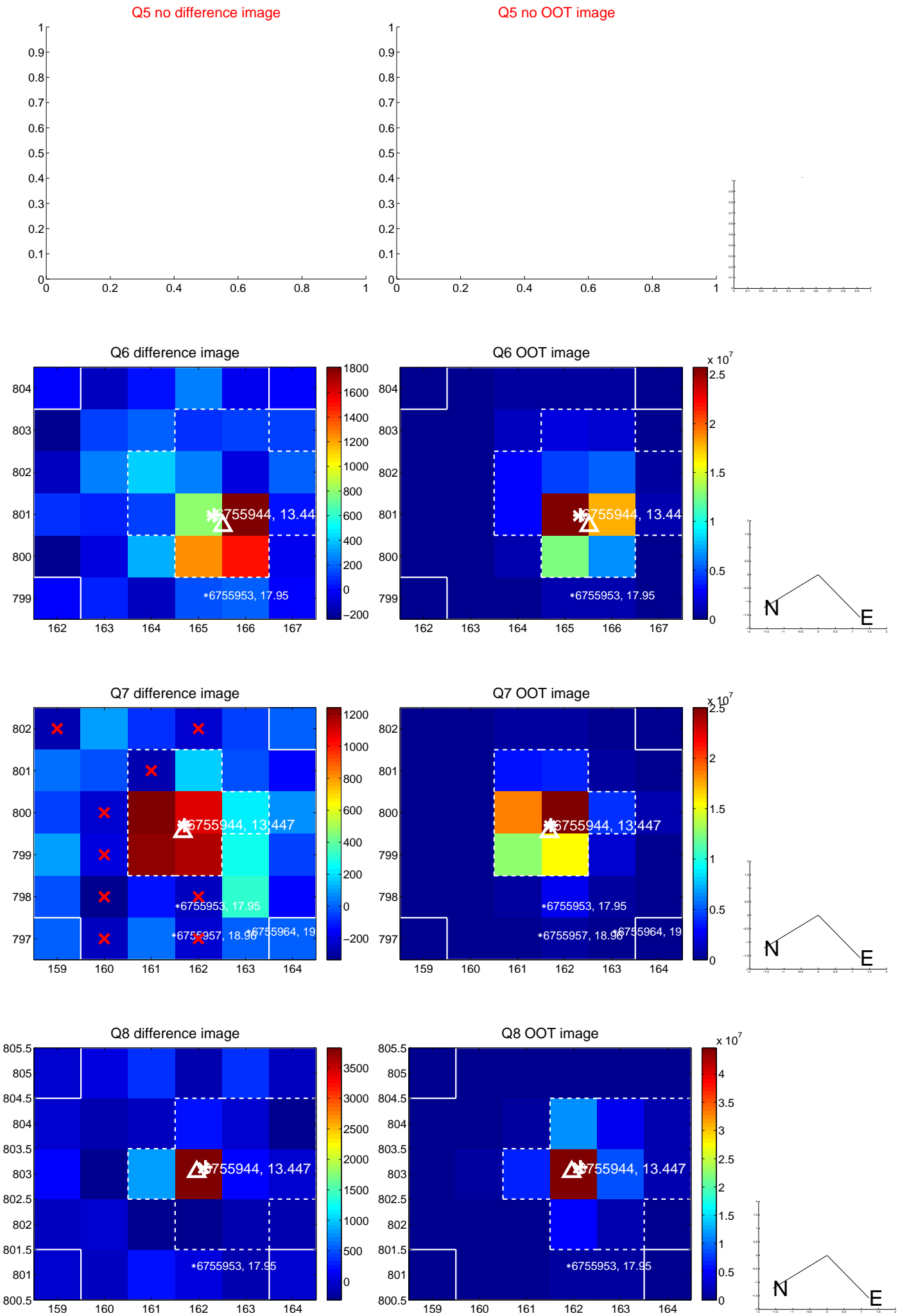


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

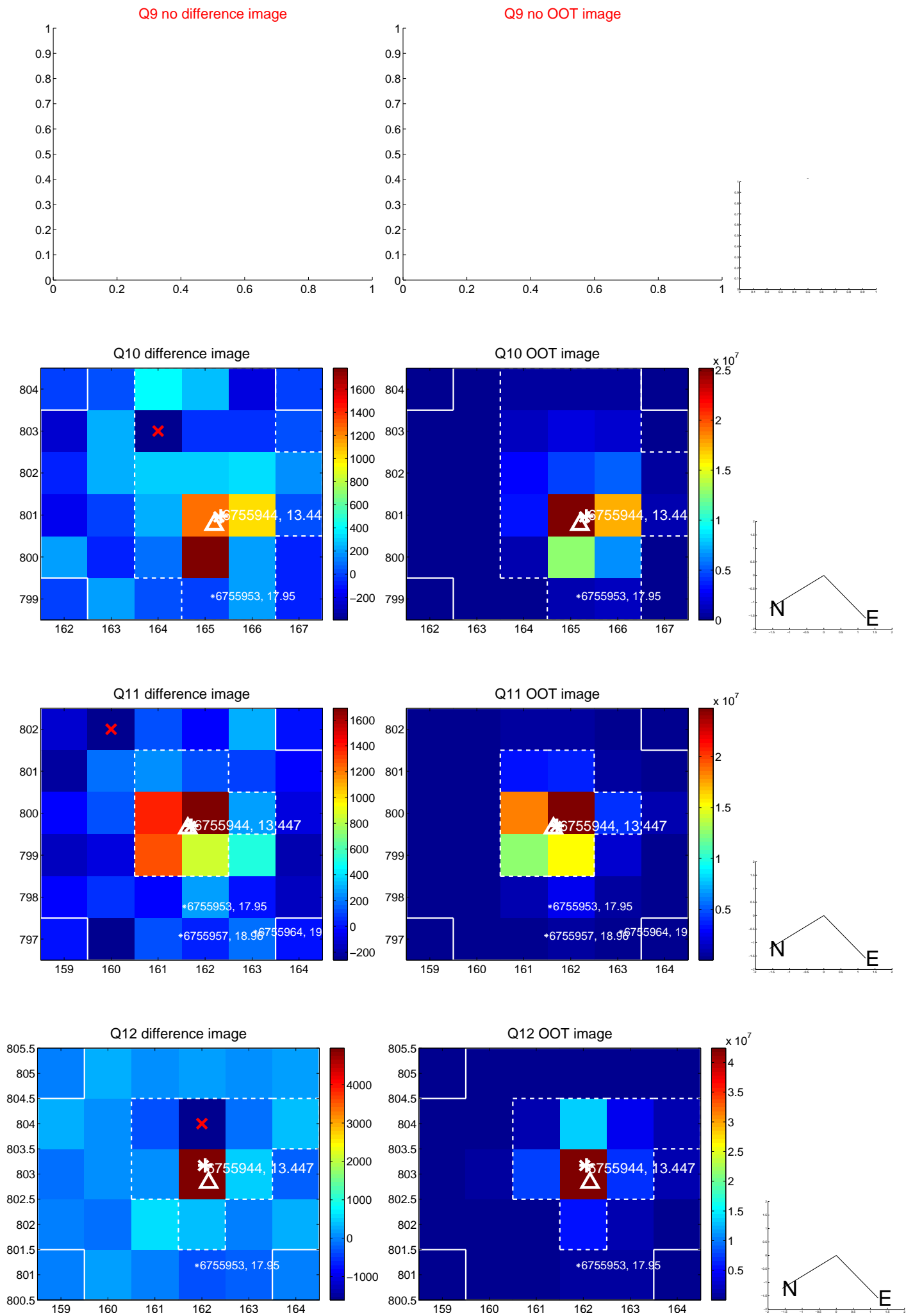
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



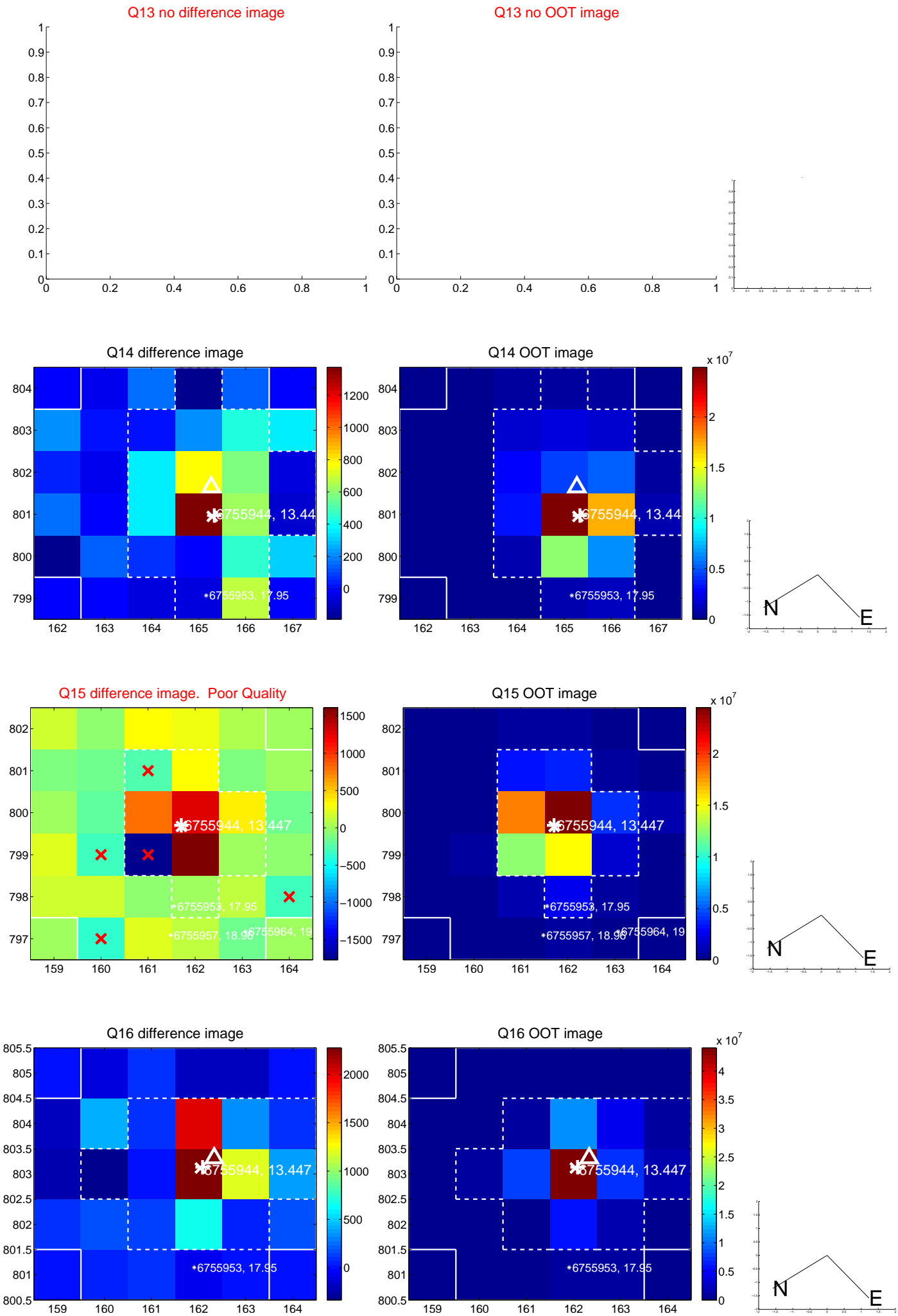
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



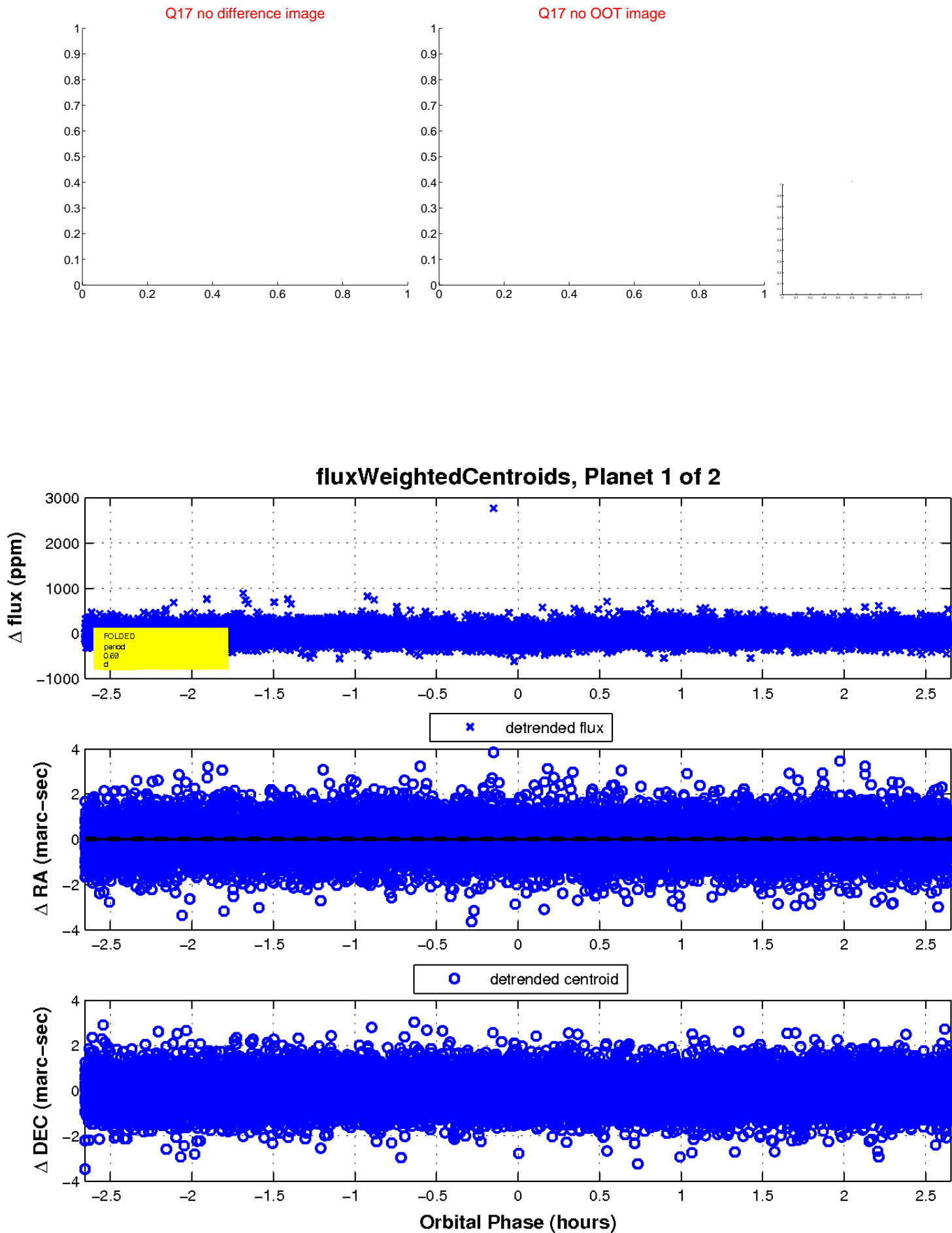
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

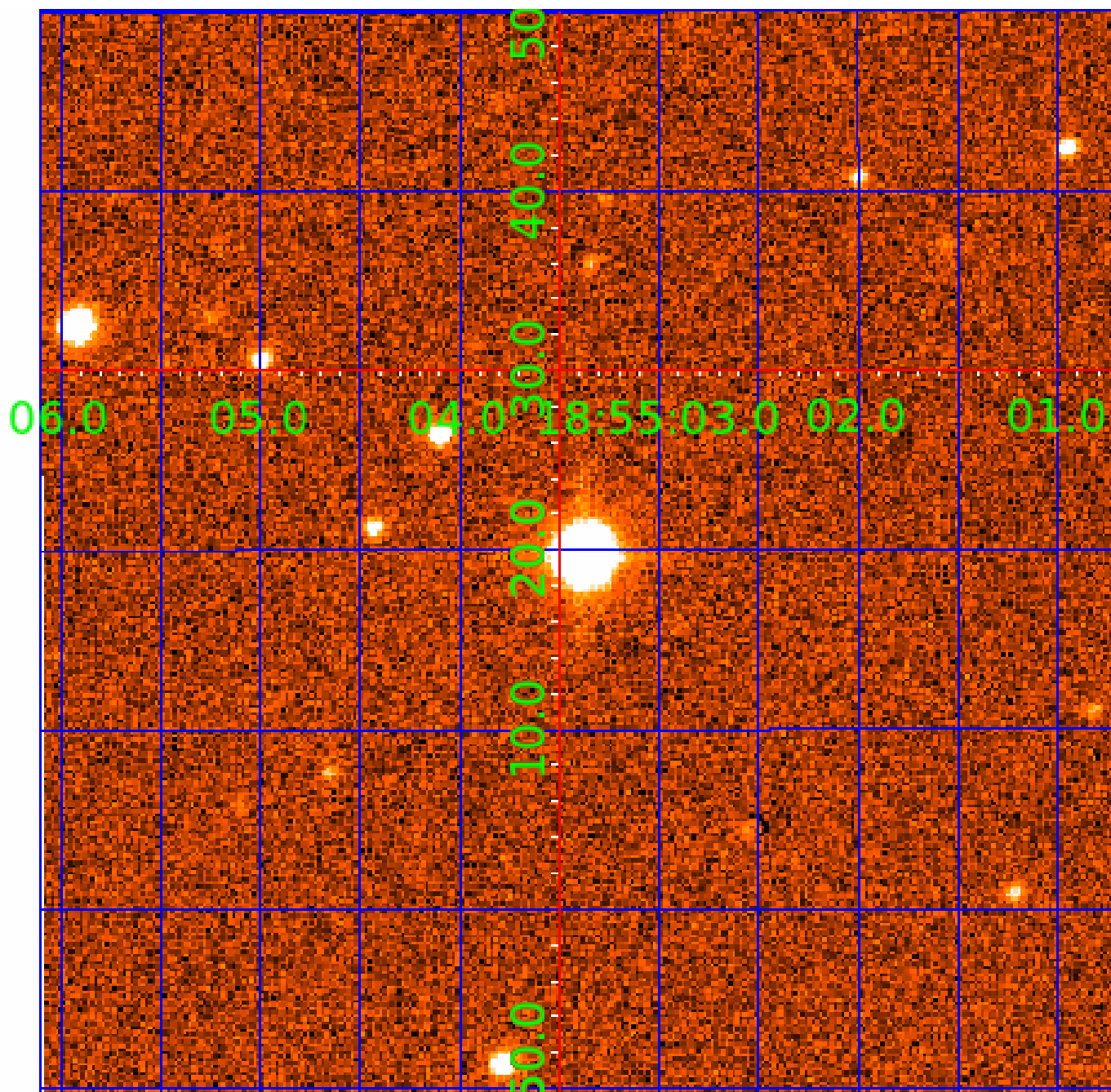


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006755944

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})
006755944-01	OBS	4072.01	0.692976	131.804314	64.6	0.885	17.1	20.0	2.30	6105	1.93	24415.63
006755944-02	OBS	No	601.020209	145.833908	176.8	13.987	8.0	8.1	2.30	6105	3.51	2.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006755944-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006755944-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

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

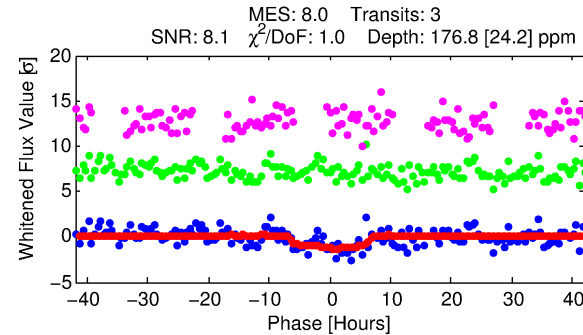
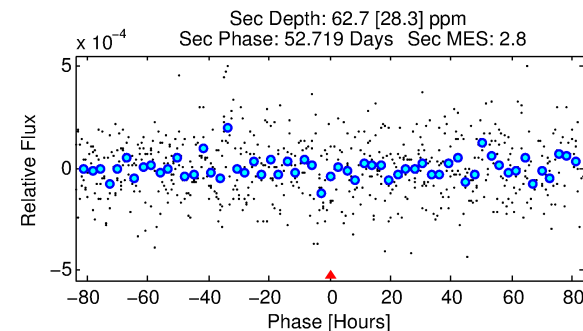
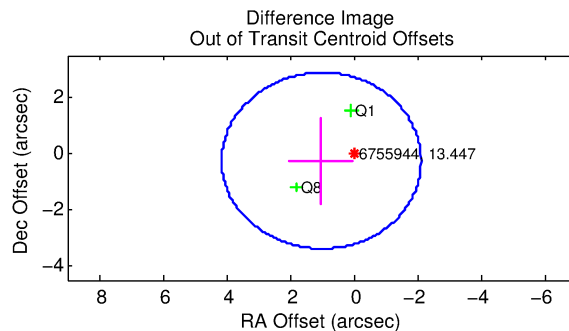
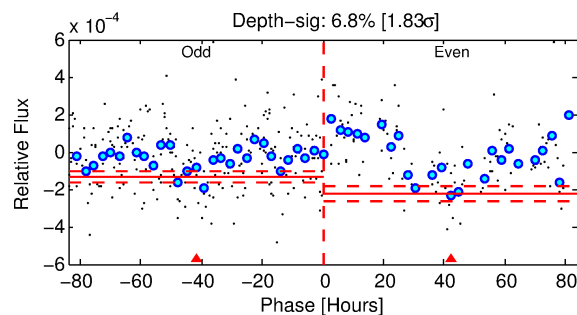
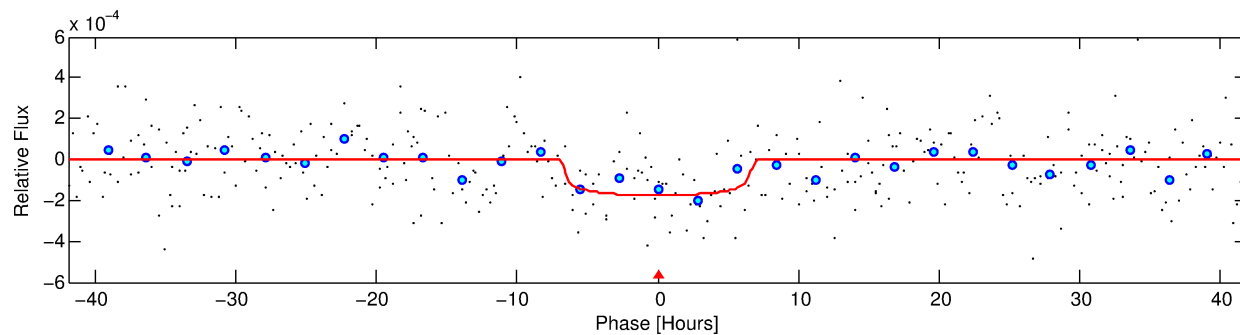
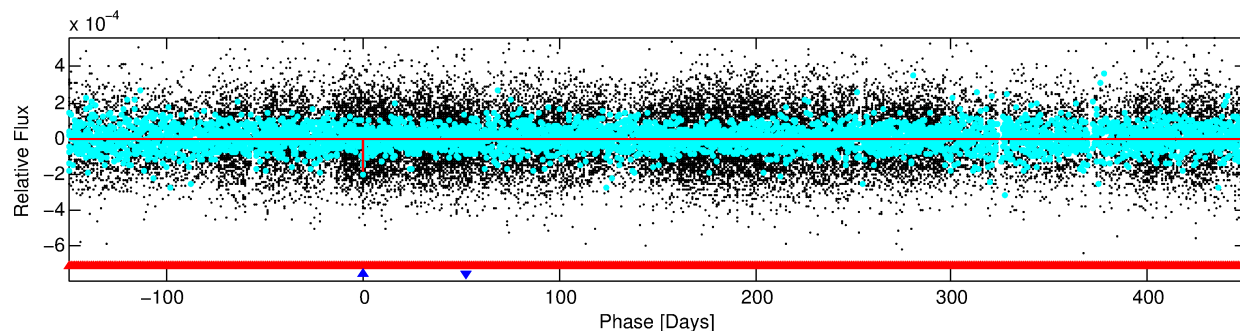
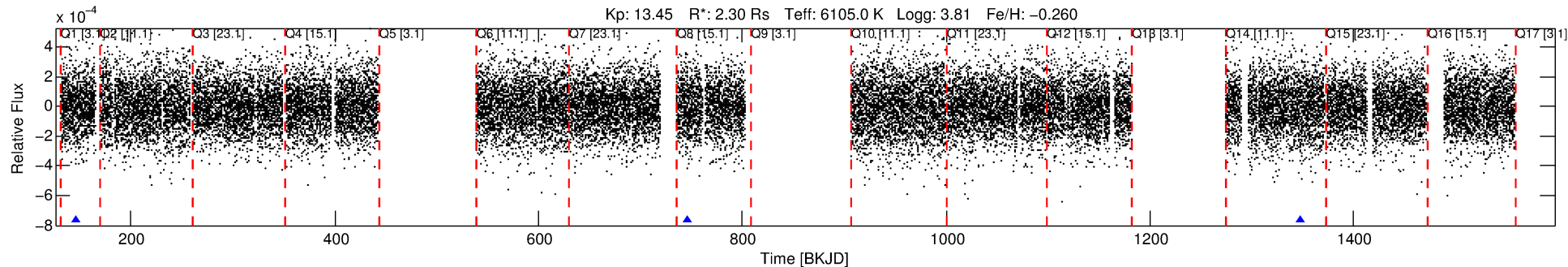
Ephemeris Match Information For 006755944-02

No Significant Match Found

DV One-Page Summary

KIC: 6755944 Candidate: 2 of 2 Period: 601.020 d
KOI: K04072 Corr: No Ephemeris Match

Kp: 13.45 R*: 2.30 Rs Teff: 6105.0 K Logg: 3.81 Fe/H: -0.260



DV Fit Results:

Period = 601.02021 [0.01976] d
Epoch = 145.8339 [0.0266] BKJD
Rp/R* = 0.0140 [0.0044]
a/R* = 171.80 [278.86]
b = 0.87 [0.46]
Seff = 2.95 [1.66]
Teq = 334 [47] K
Rp = 3.51 [1.70] Re
a = 1.4960 [0.5191] AU
Ag = 6257.30 [5930.35] [1.05σ]
Teff = 4596 [898] K [4.74σ]

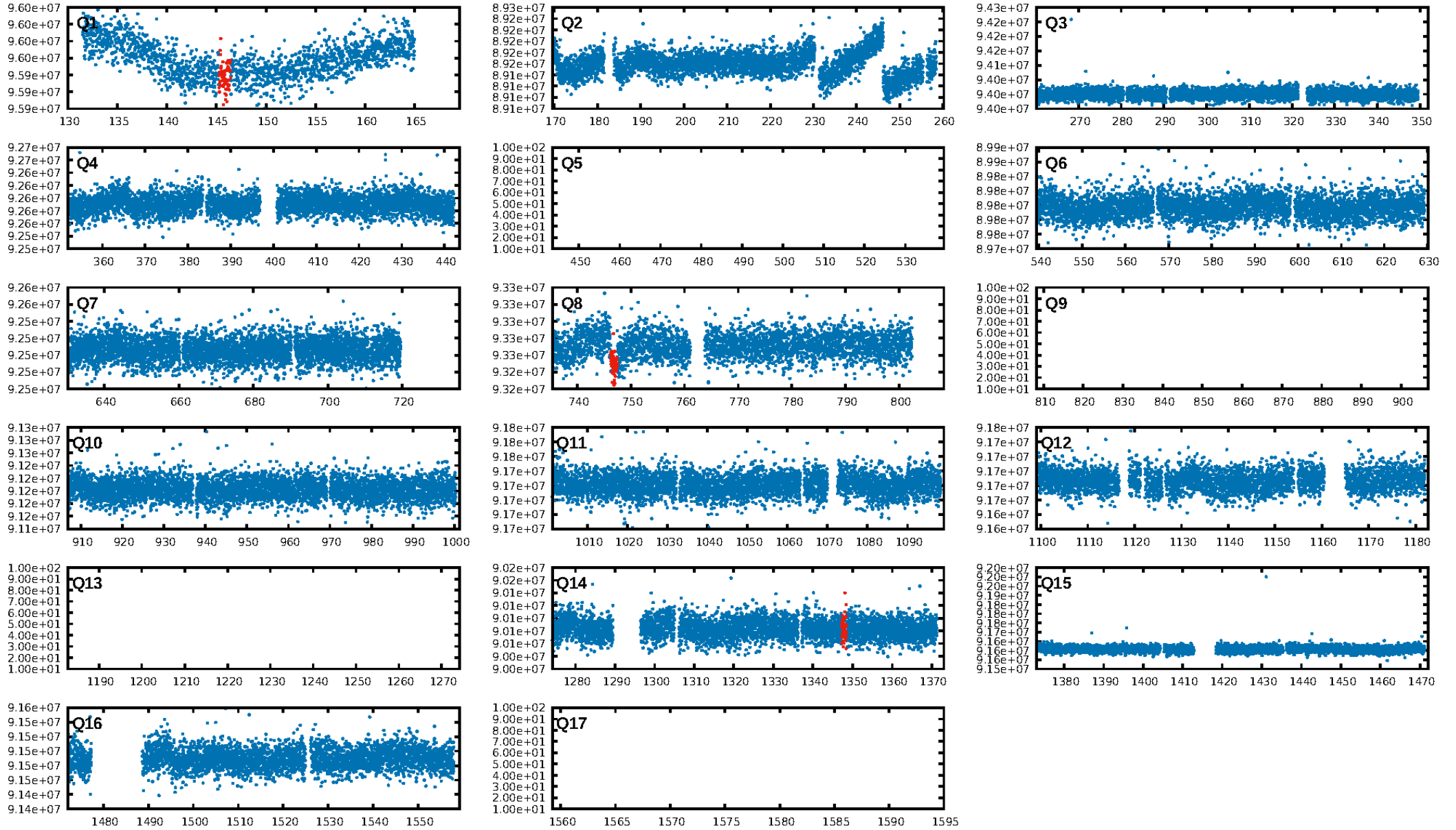
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1028.02σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 15.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.46e-13
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -1.249
Centroid-sig: N/A
Centroid-so: 1.276 arcsec [0.79σ]
OotOffset-rm: 1.041 arcsec [1.00σ]
KicOffset-rm: 1.145 arcsec [1.07σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/3]

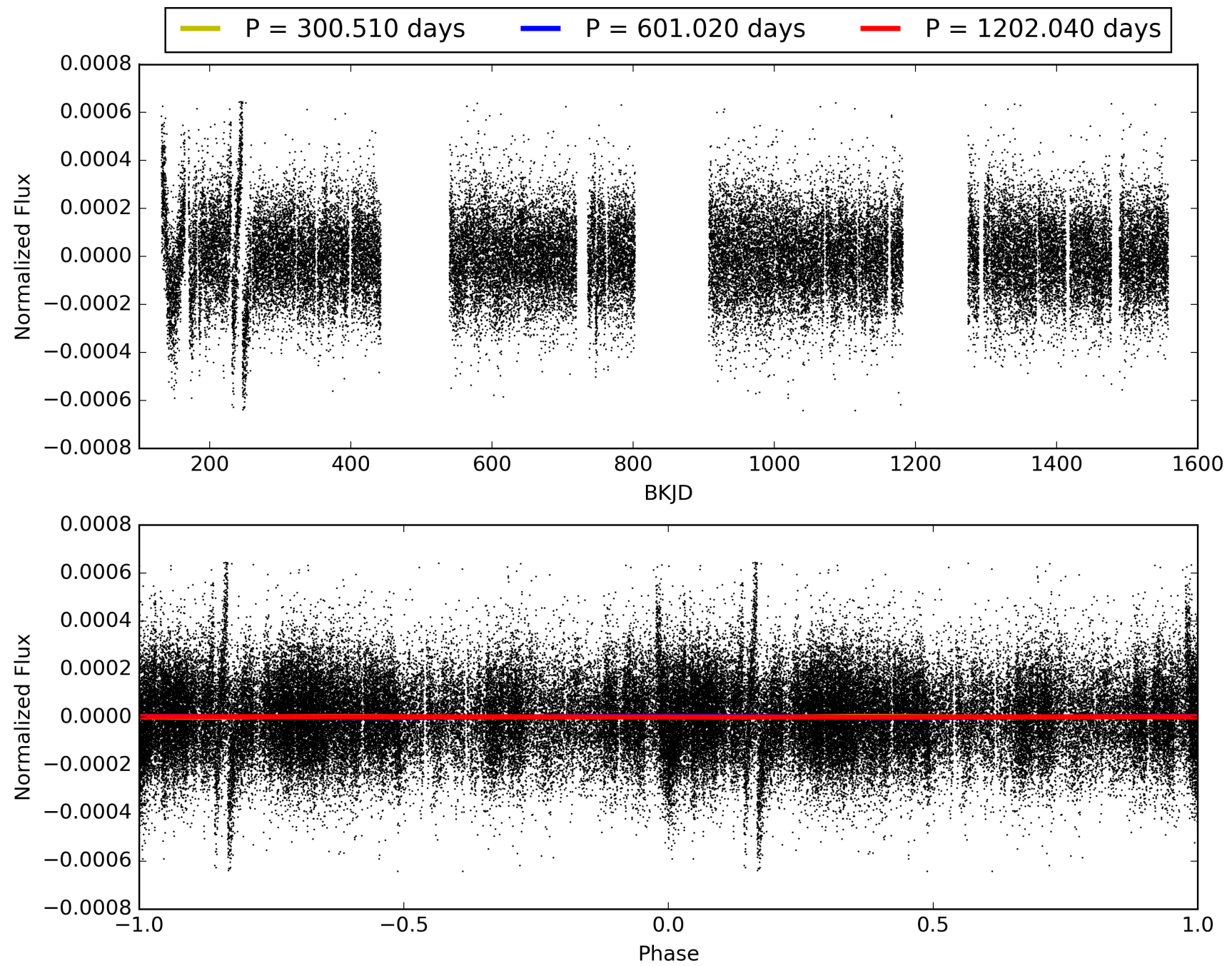
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:47:14 Z

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

TCE 006755944-02, PDC Light Curves

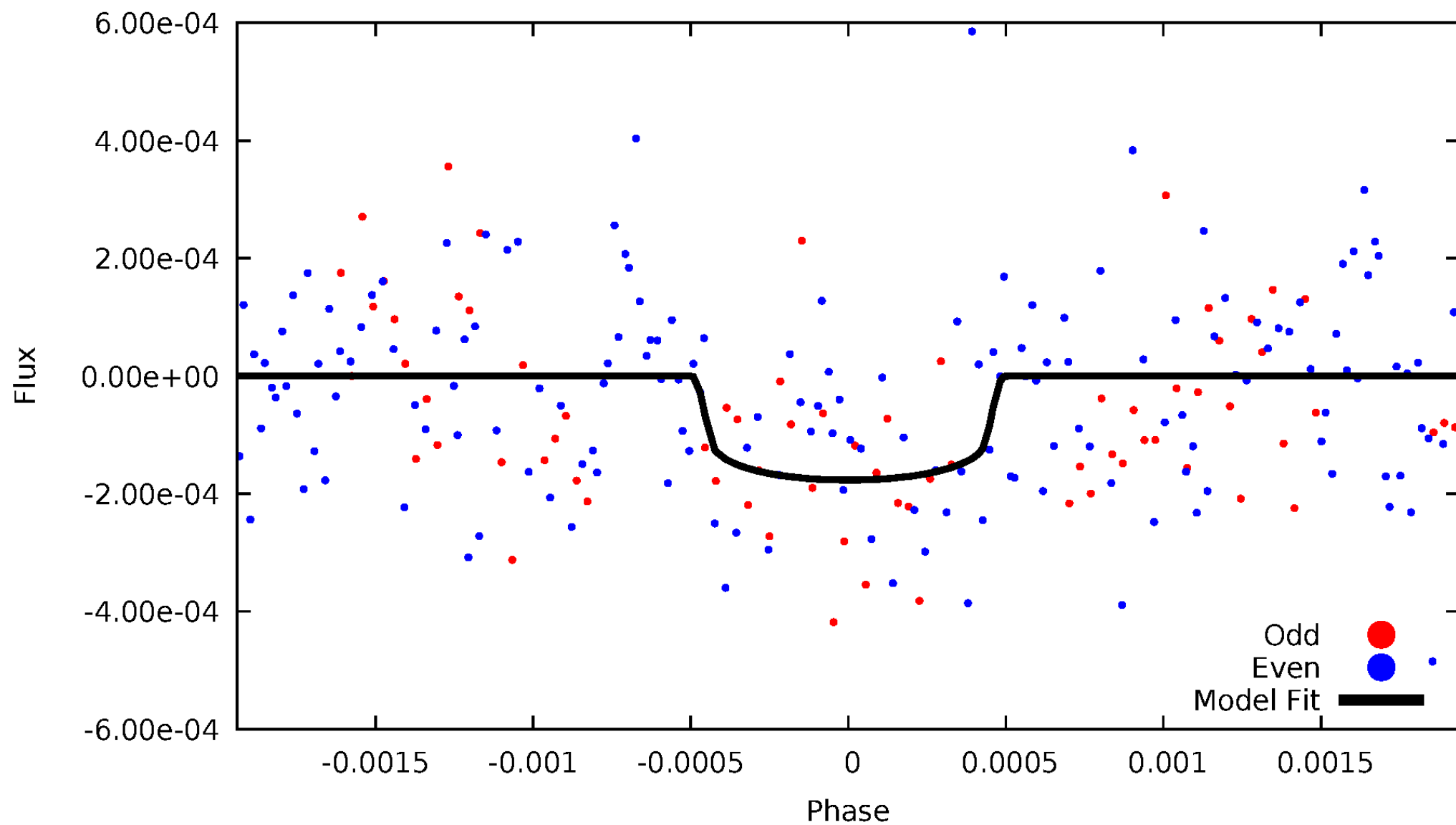


TCE 006755944-02



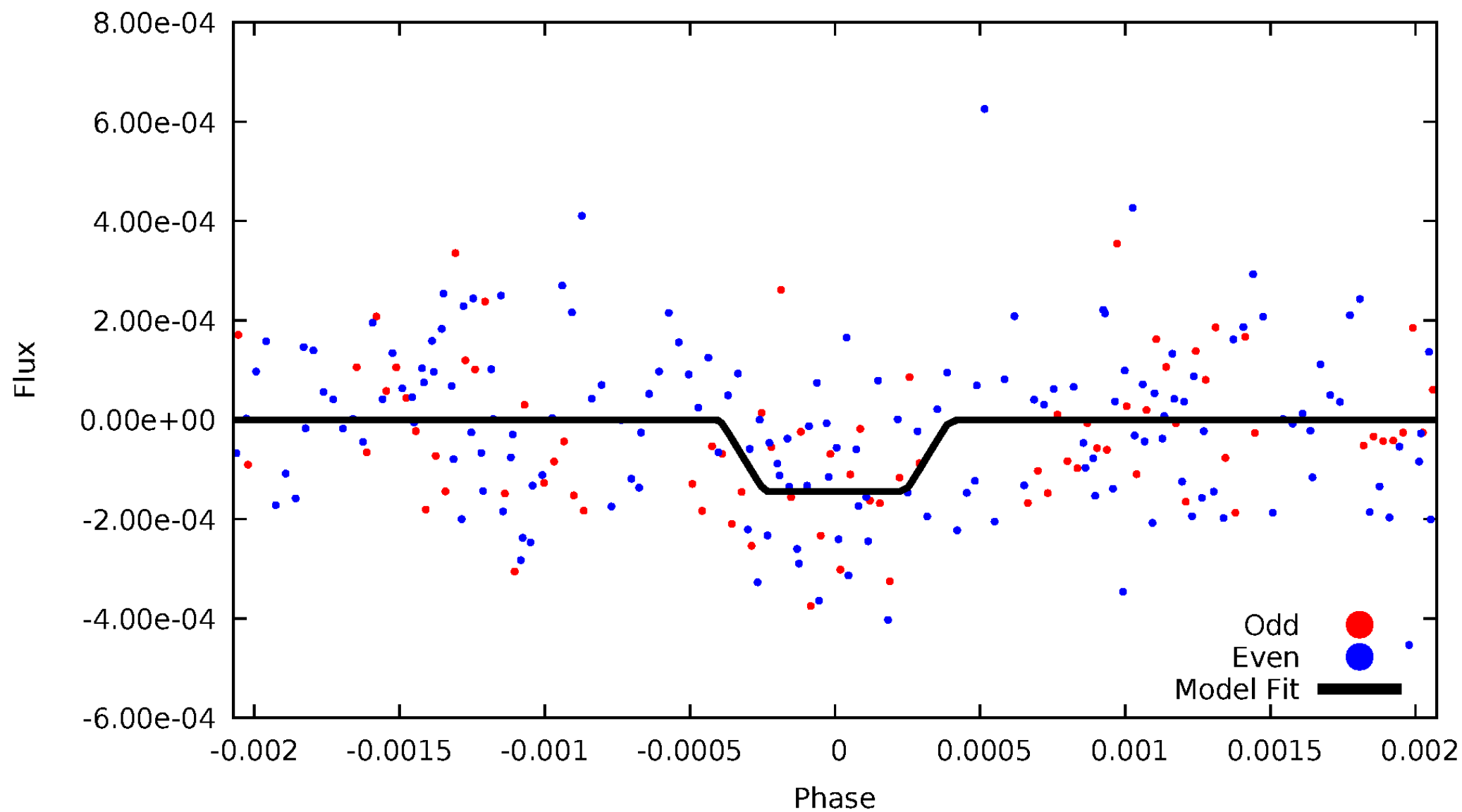
DV Odd/Even

TCE 006755944-02



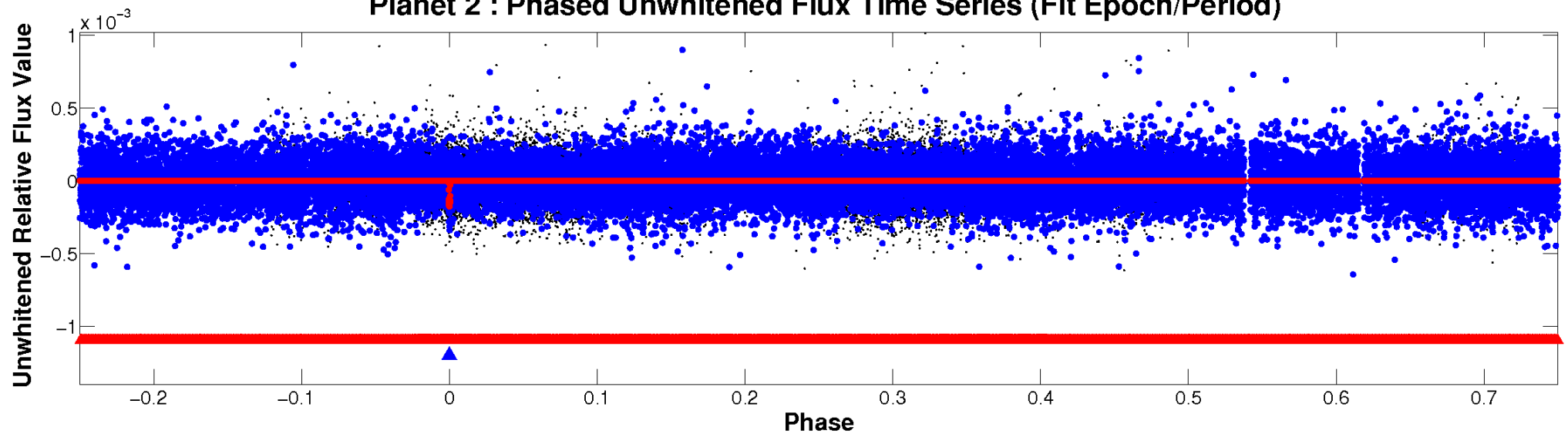
ALT Odd/Even

TCE 006755944-02

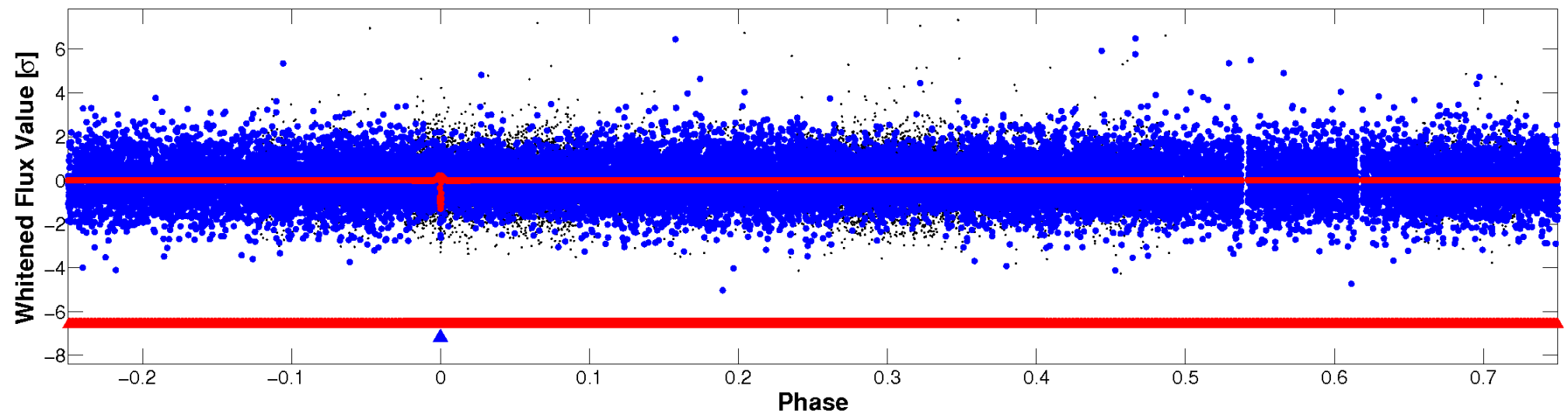


Non-Whitened Vs. Whitened Light Curve

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



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



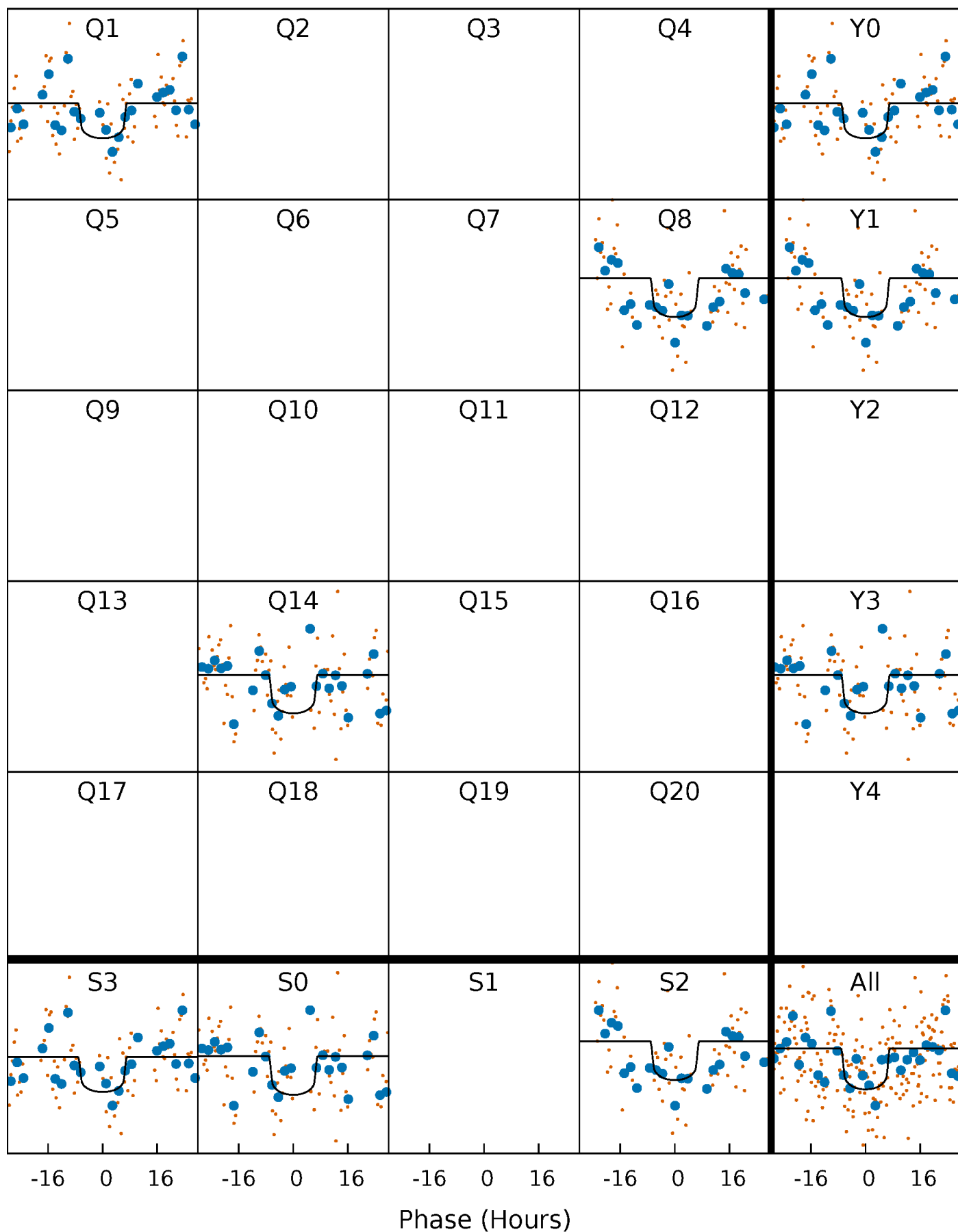
PDC Quarter-Phased Transit Curves

TCE 006755944-02 P=601.020209 Days $T_0=145.833908$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 006755944-02 P=601.020209 Days $T_0=145.833908$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

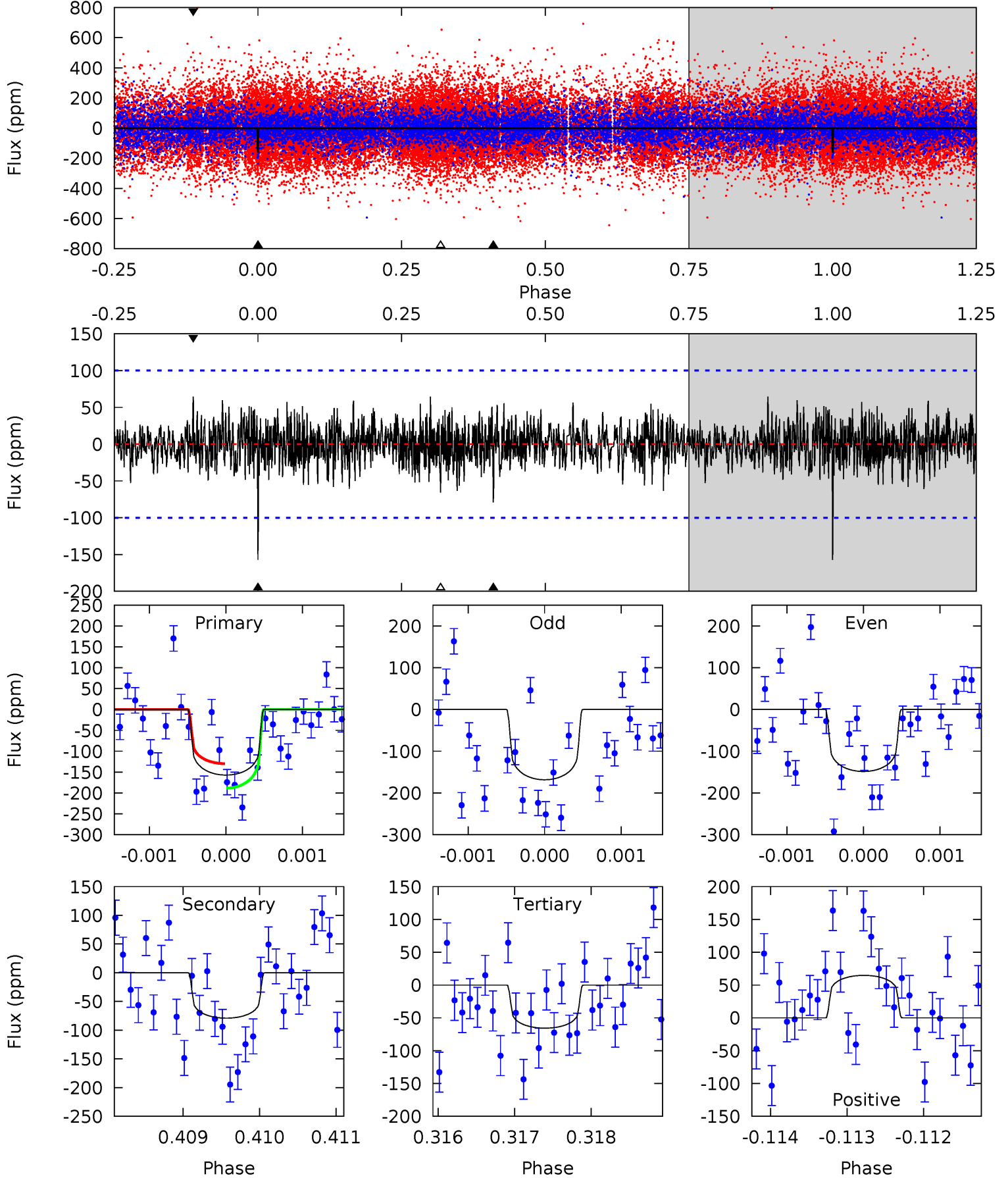
TCE 006755944-02 P=600.923755 Days $T_0=145.952576$ (BKJD)



DV Model-Shift Uniqueness Test

006755944-02, P = 601.020209 Days, E = 145.833908 Days

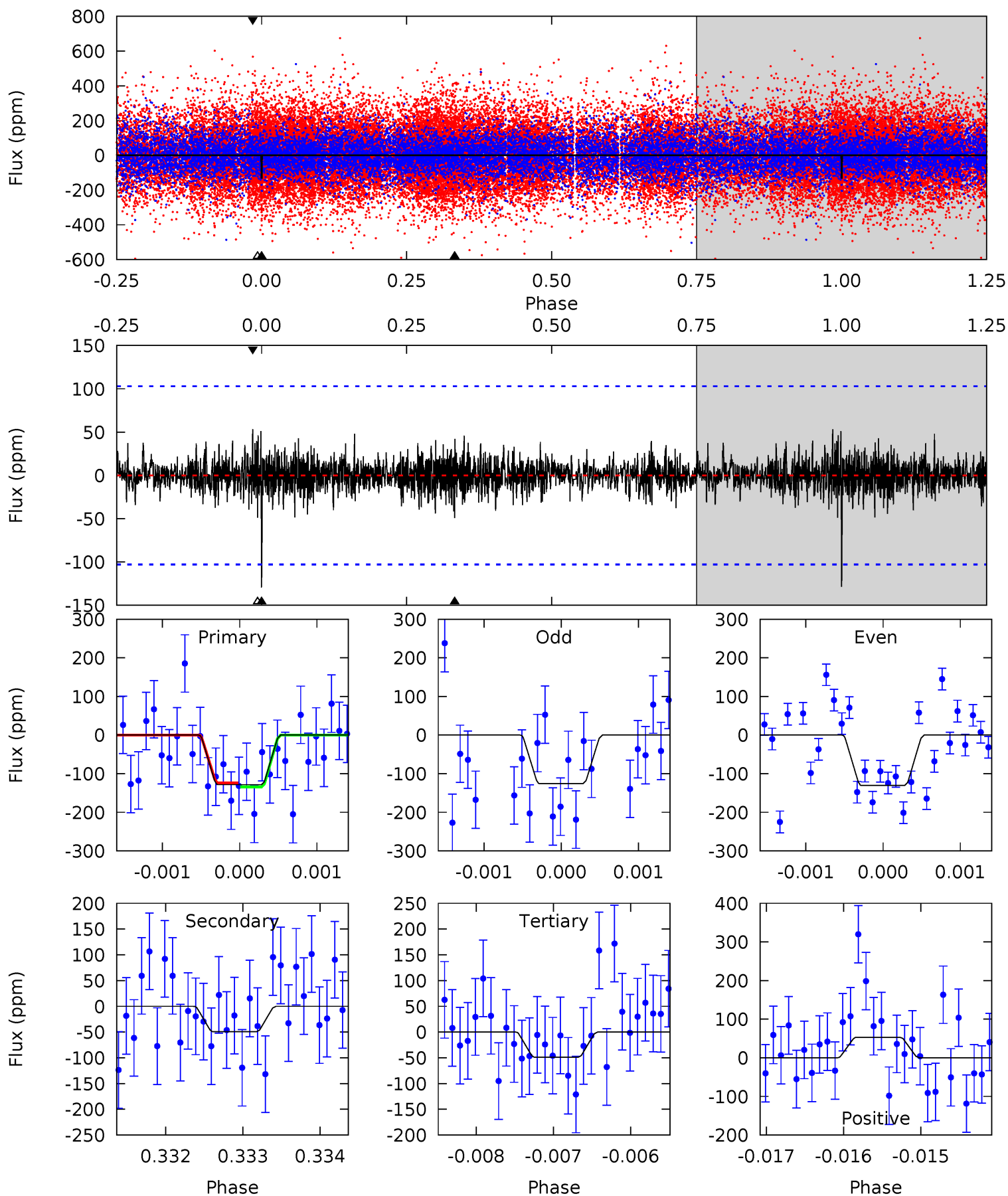
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.54	4.30	3.57	3.52	5.45	3.29	1.08	4.97	5.02	0.73	0.78	0.53	0.94	0.29	1.60



Alt Model-Shift Uniqueness Test

006755944-02, P = 600.923755 Days, E = 145.952576 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.86	2.63	2.60	2.84	5.49	3.36	0.68	4.25	4.02	0.02	-0.21	0.11	1.00	0.29	0.28



Stellar Parameters For KIC 006755944

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6105^{+181}_{-163}	$3.805^{+0.320}_{-0.100}$	$-0.260^{+0.350}_{-0.250}$	$2.304^{+0.424}_{-0.847}$	$1.235^{+0.230}_{-0.253}$	$0.142^{+0.292}_{-0.043}$
	+3%/-3%	+8%/-3%	+135%/-96%	+18%/-37%	+19%/-20%	+205%/-31%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006755944-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-79 ± 18	$3.33^{+1.22}_{-1.15}$	459^{+29}_{-40}	4965^{+945}_{-595}	8728^{+11602}_{-4190}
Alt.	-49 ± 19	$2.78^{+1.20}_{-1.10}$	458^{+28}_{-45}	4818^{+1109}_{-680}	7784^{+13941}_{-4332}

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 $A_{obs} \gg 1.0$

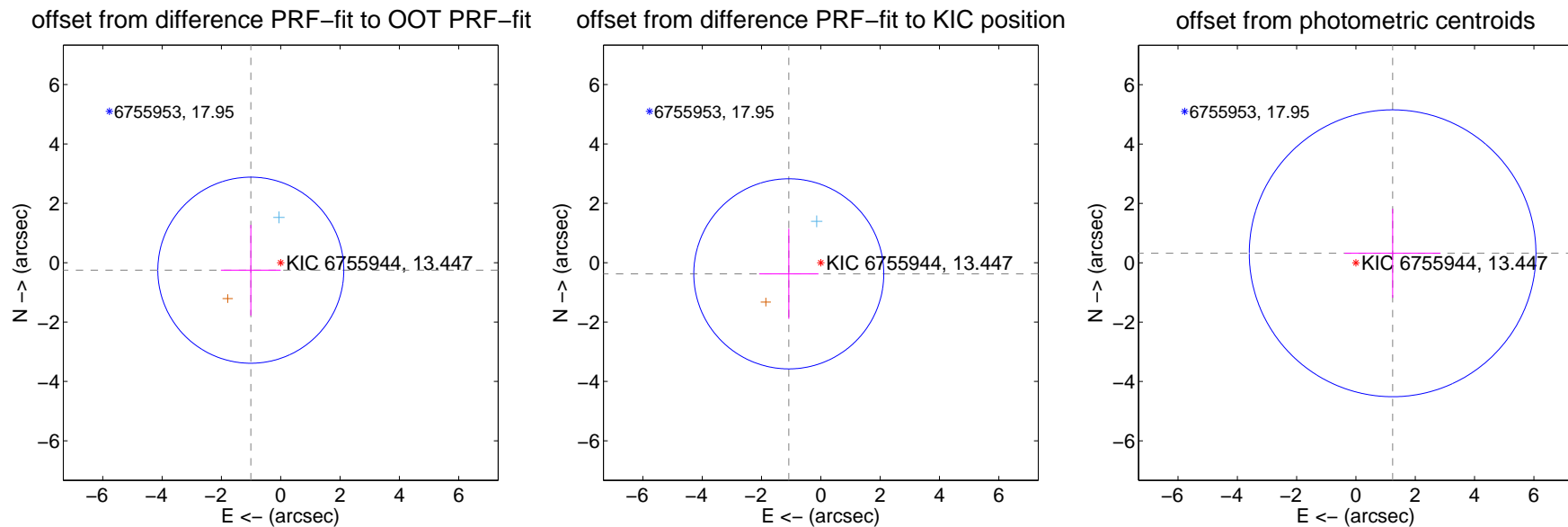
DV Centroid Data

Supplemental centroid analysis for 006755944-02. Kepler magnitude: 13.45. Transit SNR 8.09

There are 1 quarters with good PRF difference image offsets

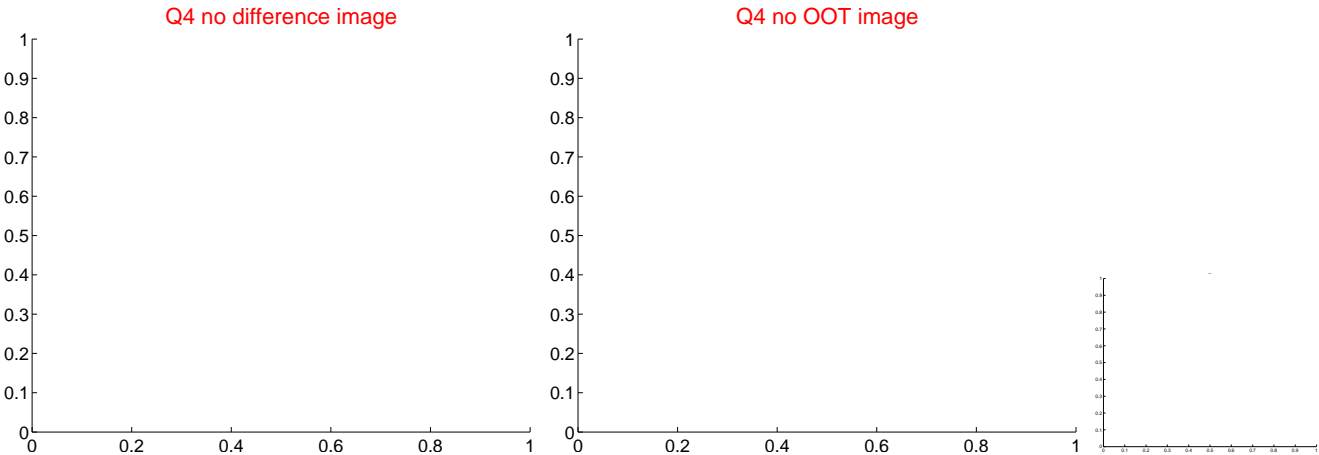
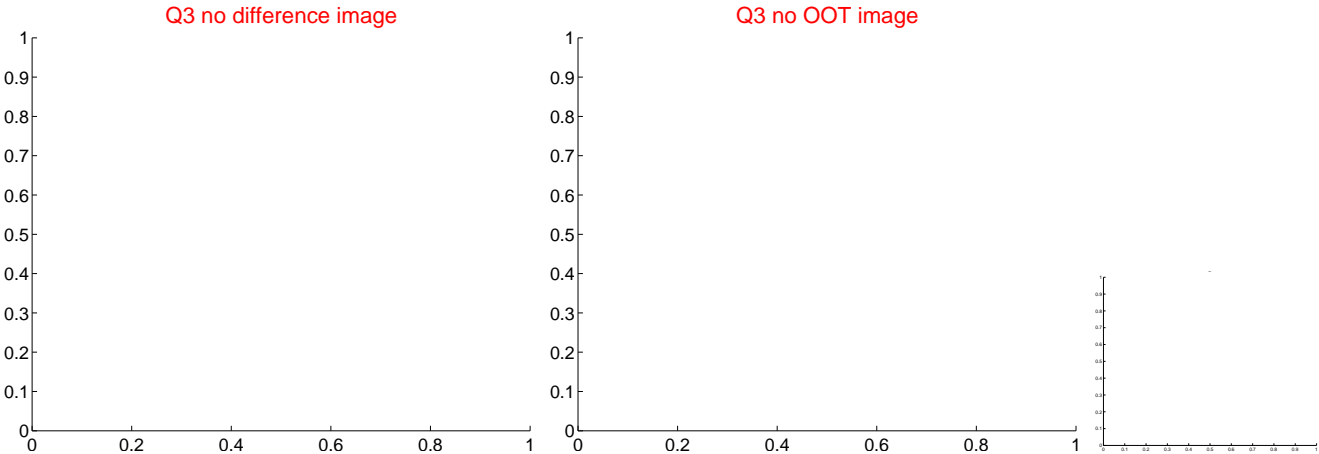
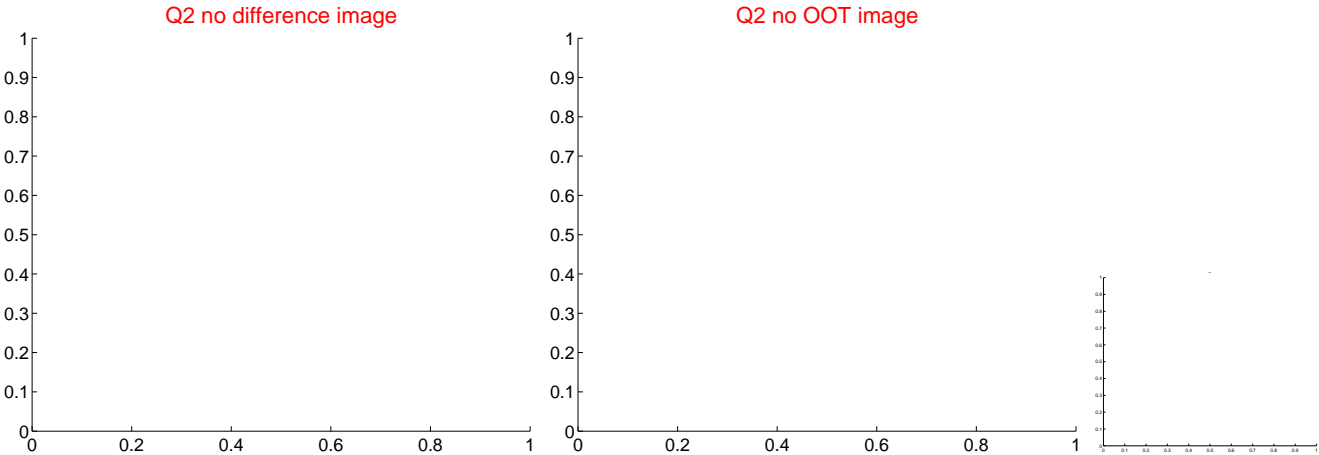
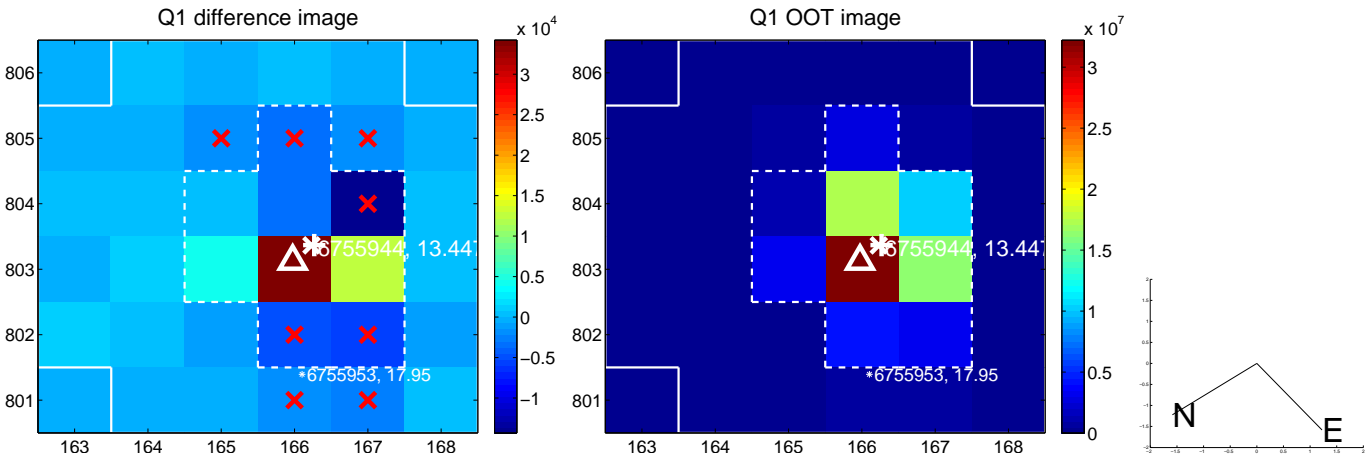
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.041 ± 1.045	1.00	1.009 ± 1.007	-0.253 ± 1.526
PRF-fit source offset from KIC position	1.145 ± 1.067	1.07	1.082 ± 1.000	-0.375 ± 1.517
photometric centroid source offset	1.28 ± 1.61	0.79	-1.24 ± 1.62	0.32 ± 1.50

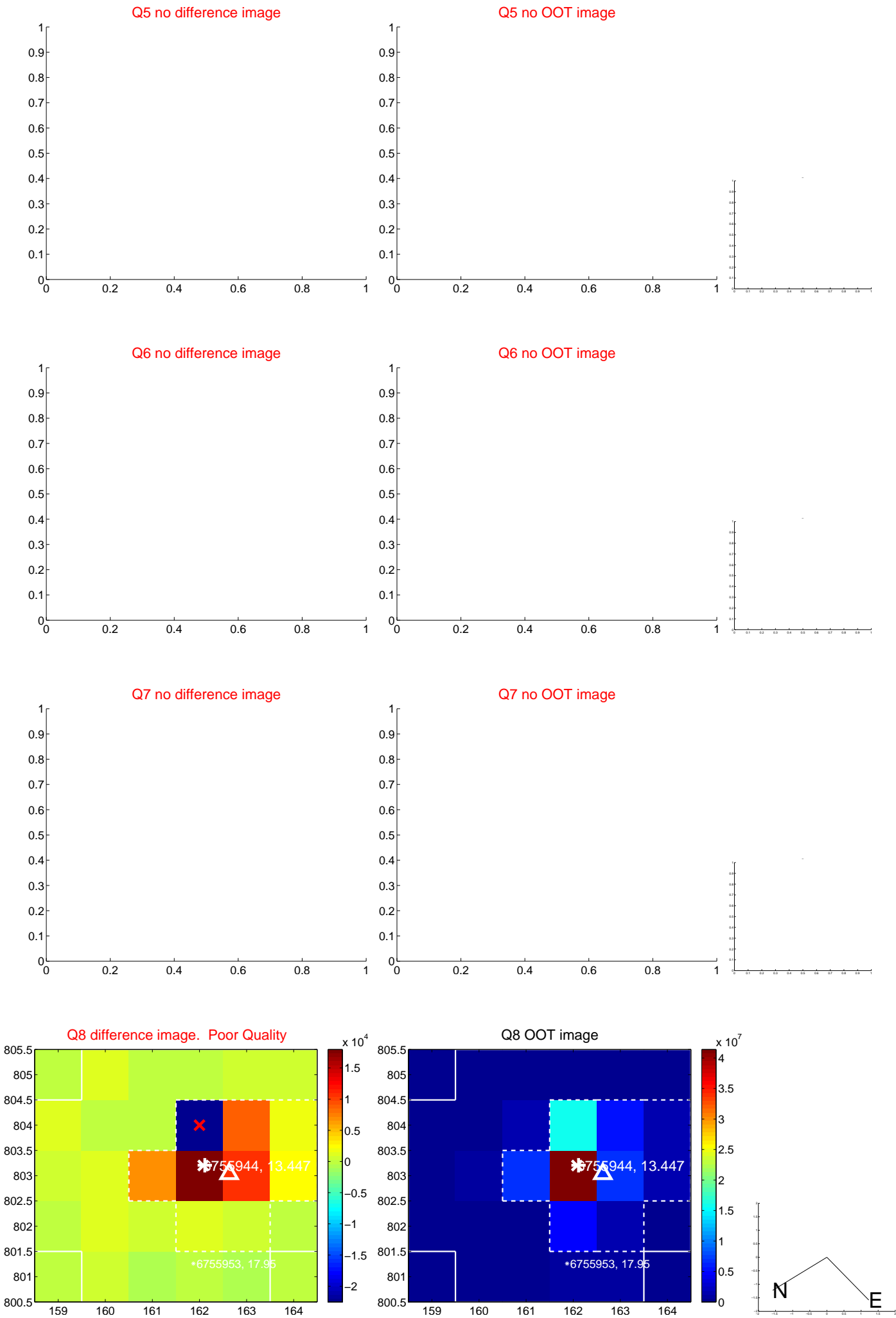


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

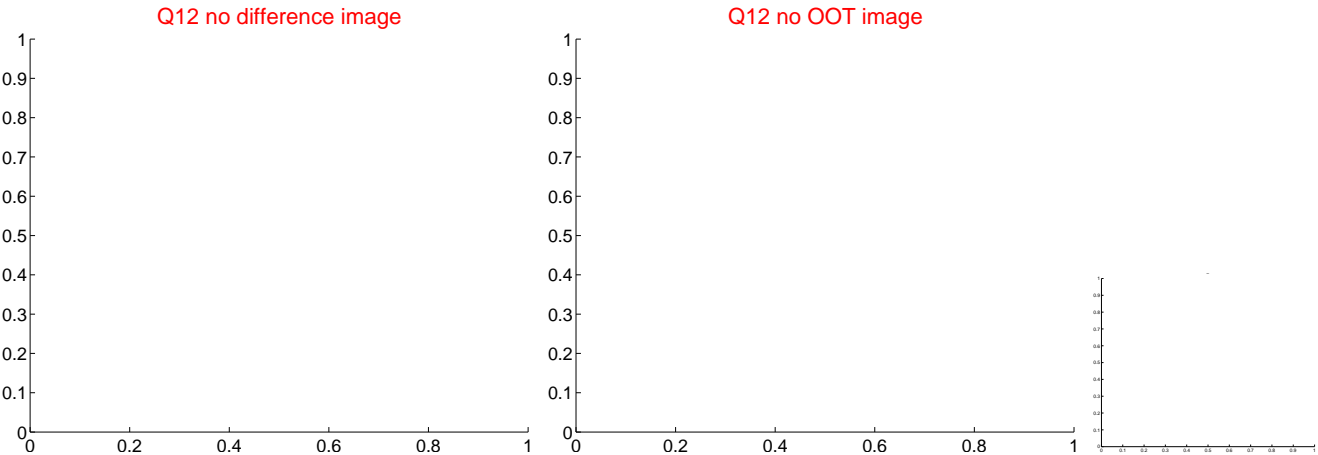
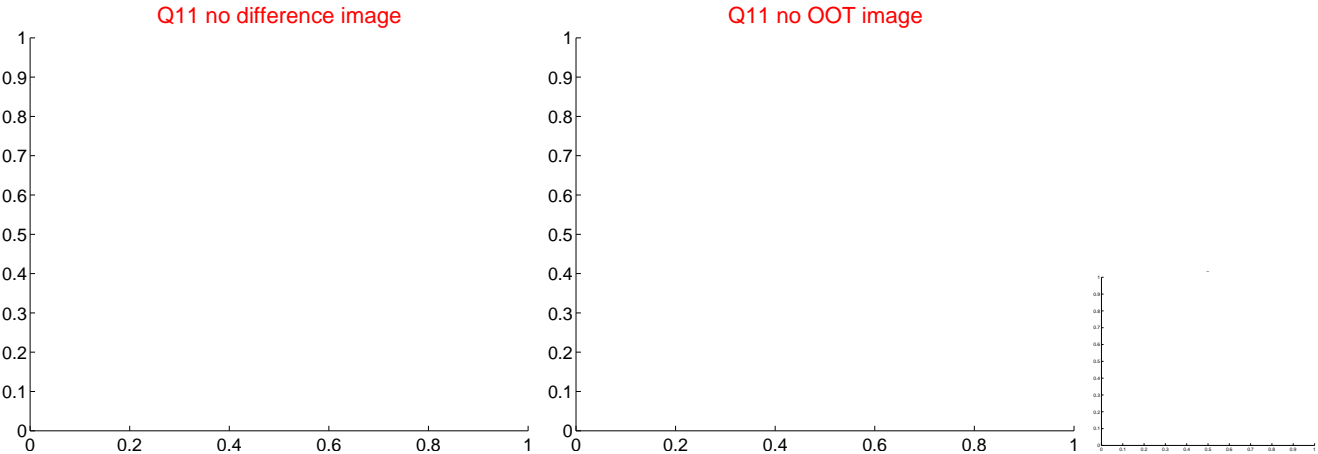
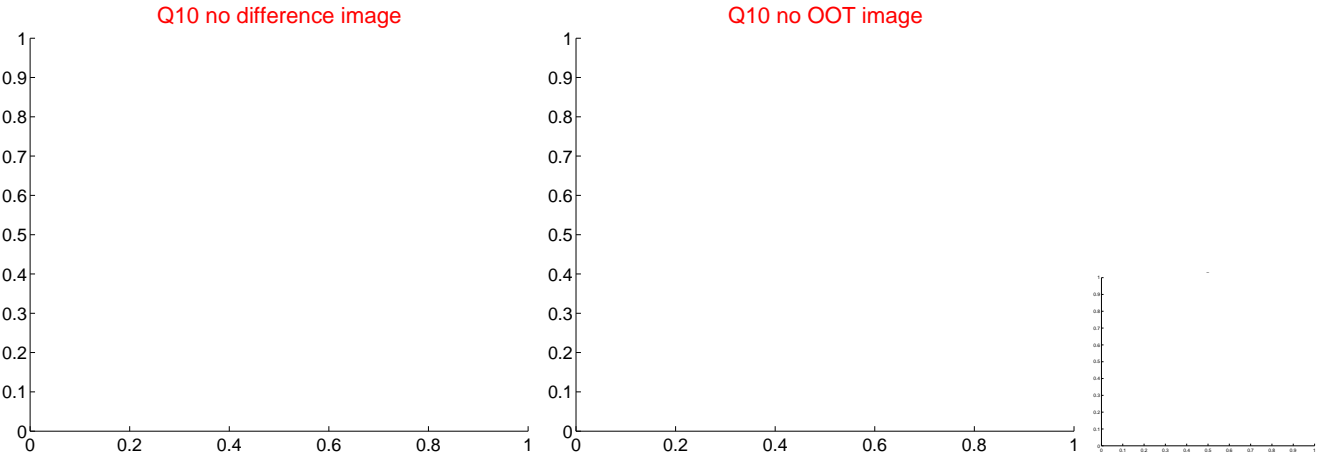
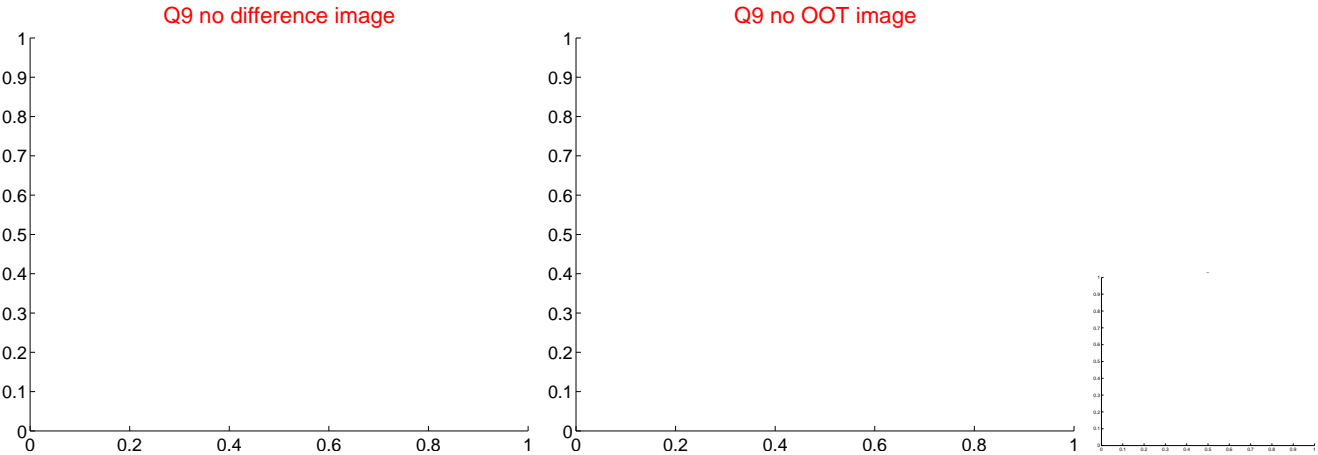
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



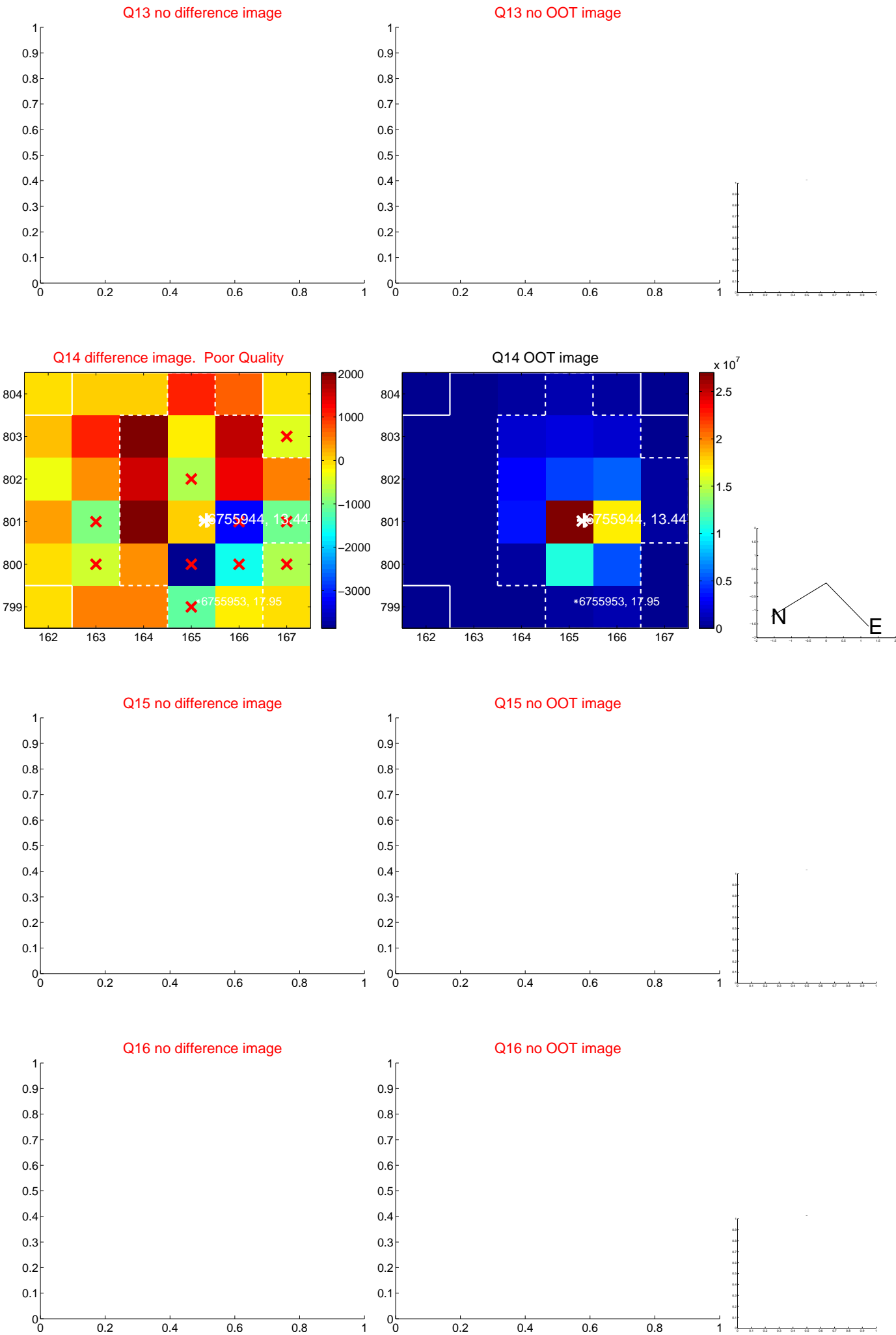
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



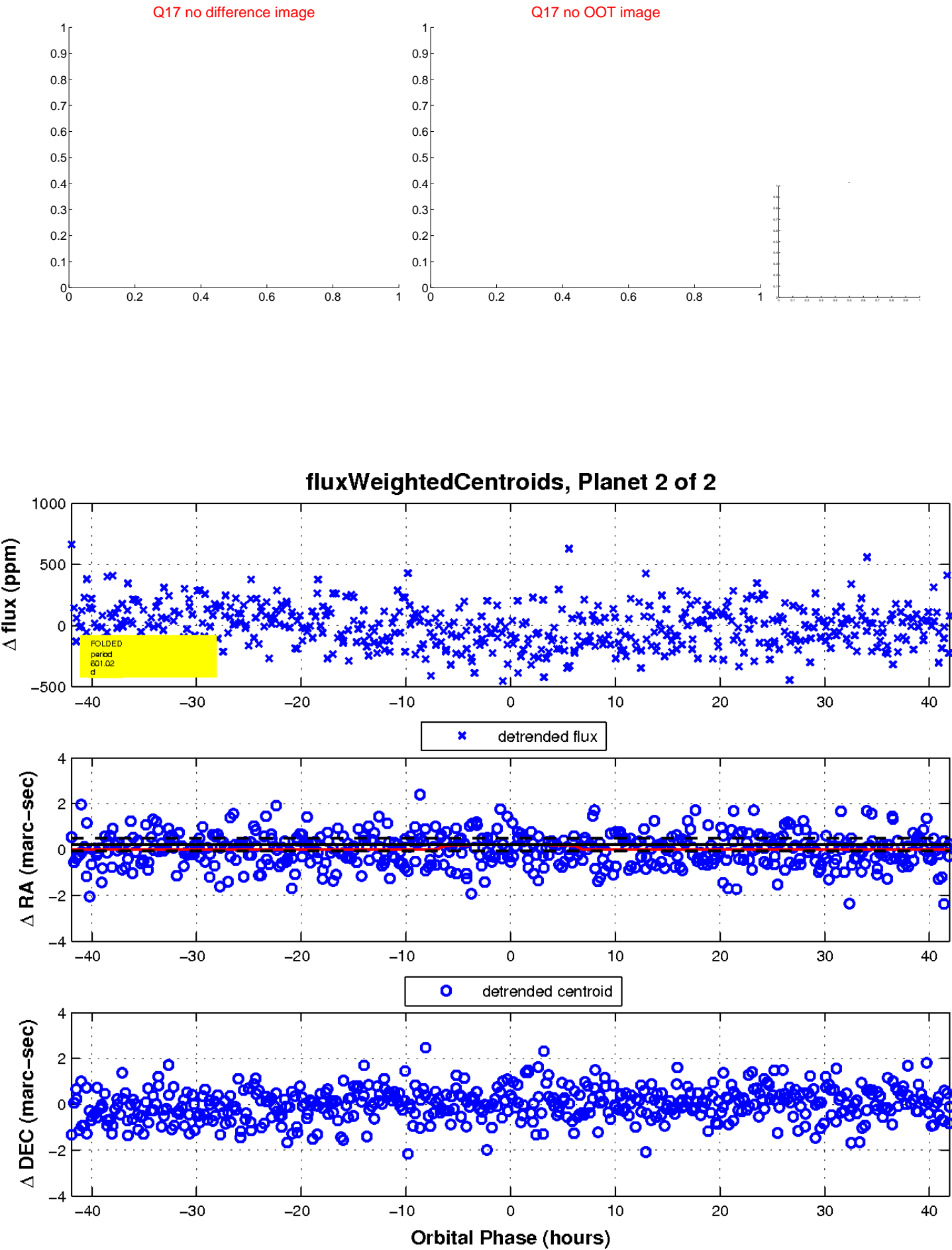
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

