

KIC 006757160

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})
006757160-01	OBS	No	1.393554	131.636195	244.2	5.375	9.2	10.1	2.39	6971	4.34	15928.50
006757160-02	OBS	No	1.393525	132.581980	253.3	3.043	8.1	9.7	2.39	6971	4.43	15928.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006757160-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006757160-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

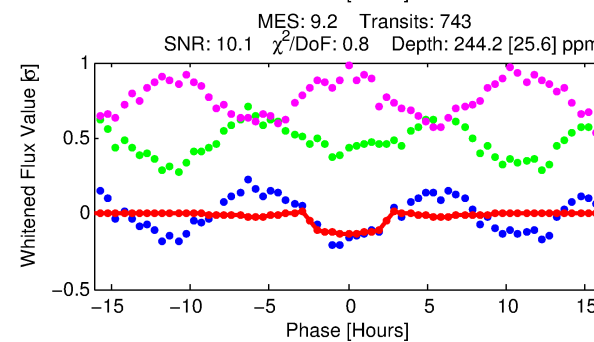
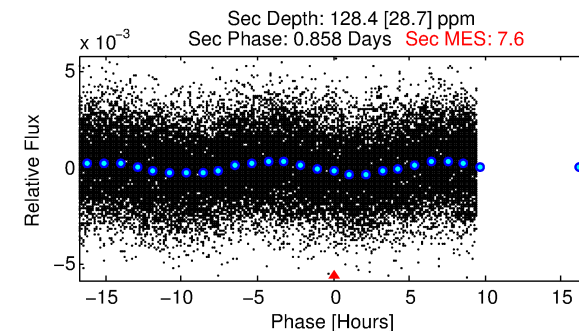
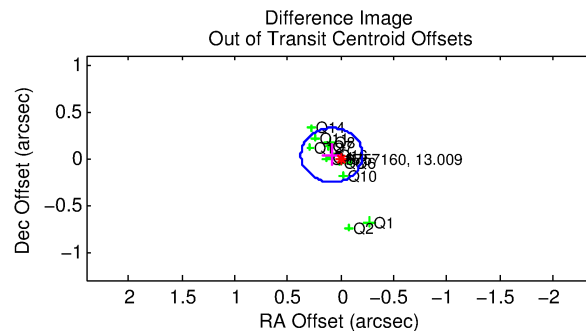
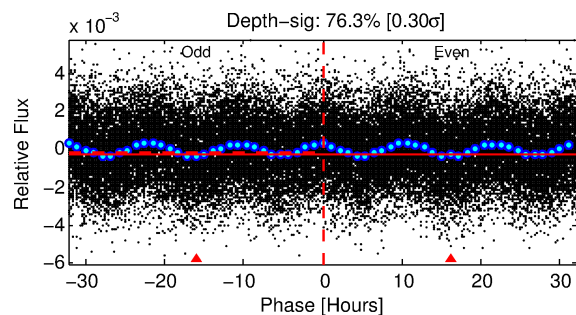
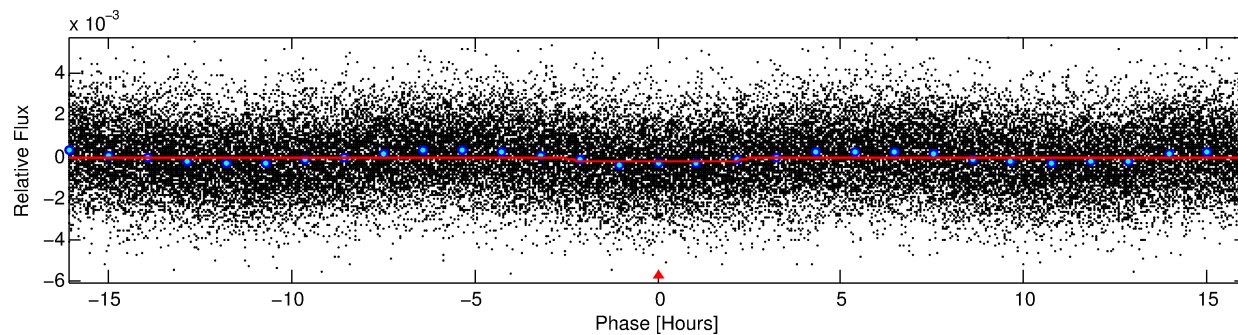
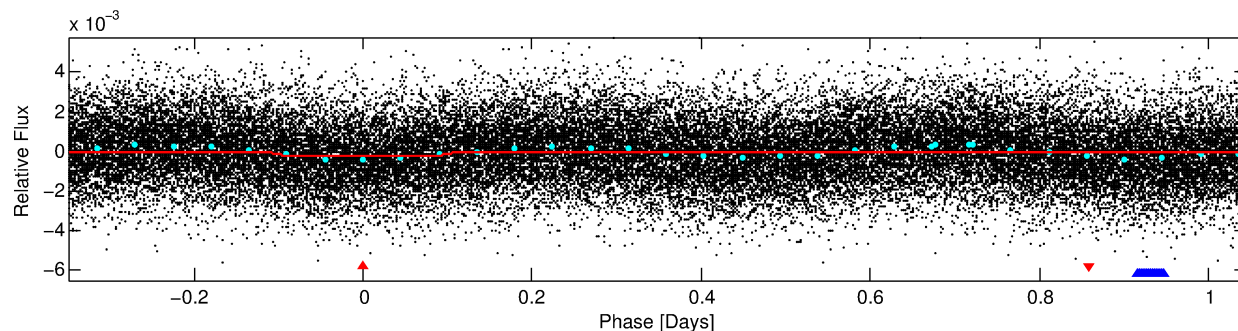
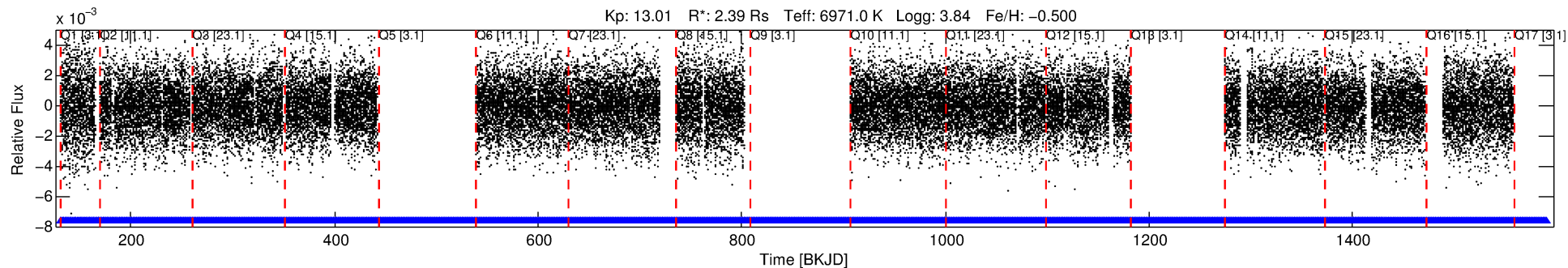
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006757160-01

No Significant Match Found

DV One-Page Summary

KIC: 6757160 Candidate: 1 of 2 Period: 1.394 d



DV Fit Results:

Period = 1.39355 [0.00002] d
Epoch = 131.6362 [0.0049] BKJD
Rp/R* = 0.0166 [0.0025]
a/R* = 1.33 [0.49]
b = 0.90 [0.18]
Seff = 15928.50 [12116.52]
Teq = 2865 [545] K
Rp = 4.34 [2.12] Re
a = 0.0275 [0.0126] AU
Ag = 2.85 [2.37] [0.78 σ]
Teff = 5753 [591] K [3.59 σ]

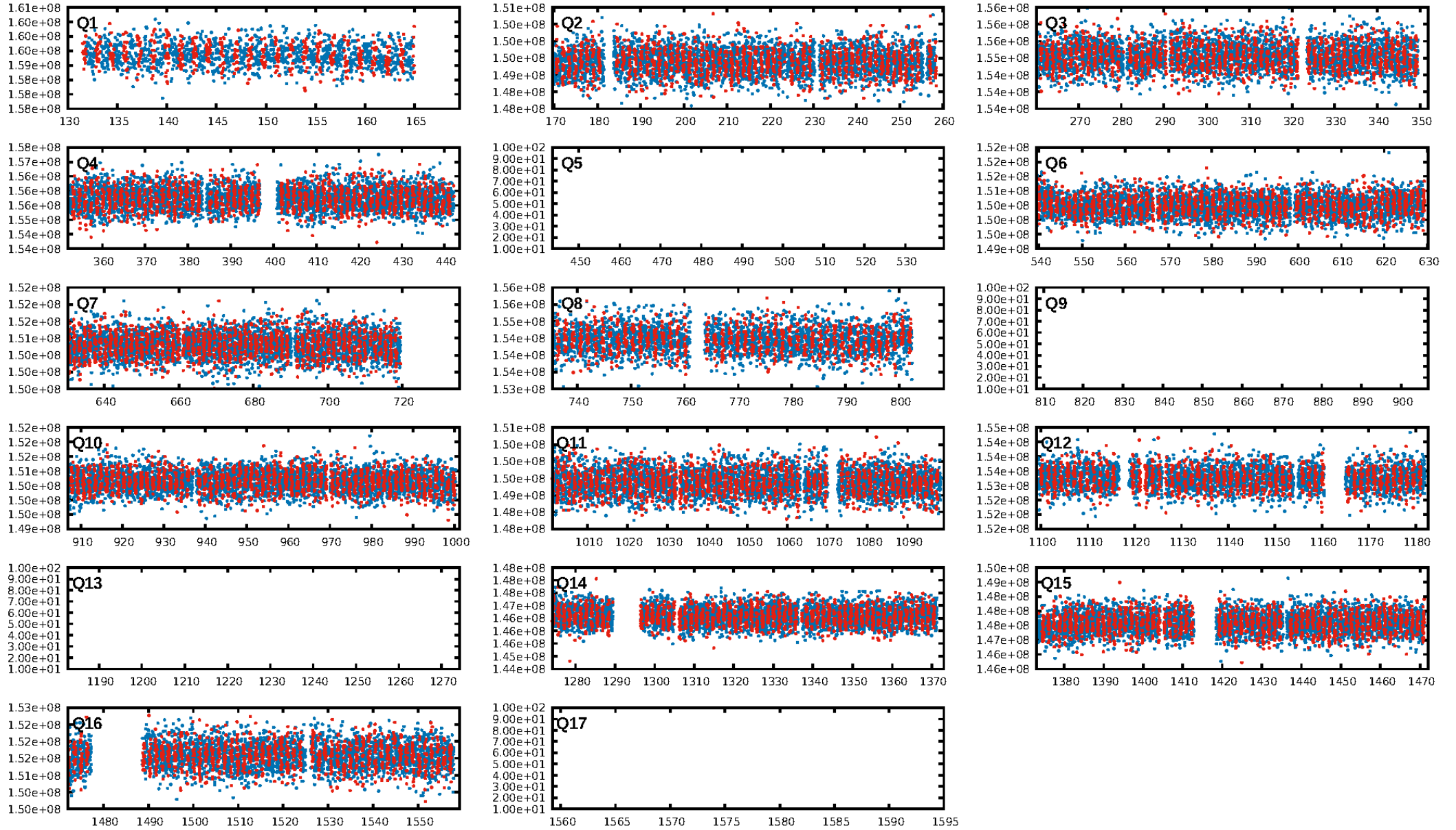
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.12e-20
RollingBand-fgt: 1.00 [718/718]
GhostDiagnostic-chr: 2.207
Centroid-sig: 0.9%
Centroid-so: 0.174 arcsec [1.97 σ]
OotOffset-rm: 0.090 arcsec [0.93 σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-rm: 0.170 arcsec [1.59 σ]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 0.00 [0/13]

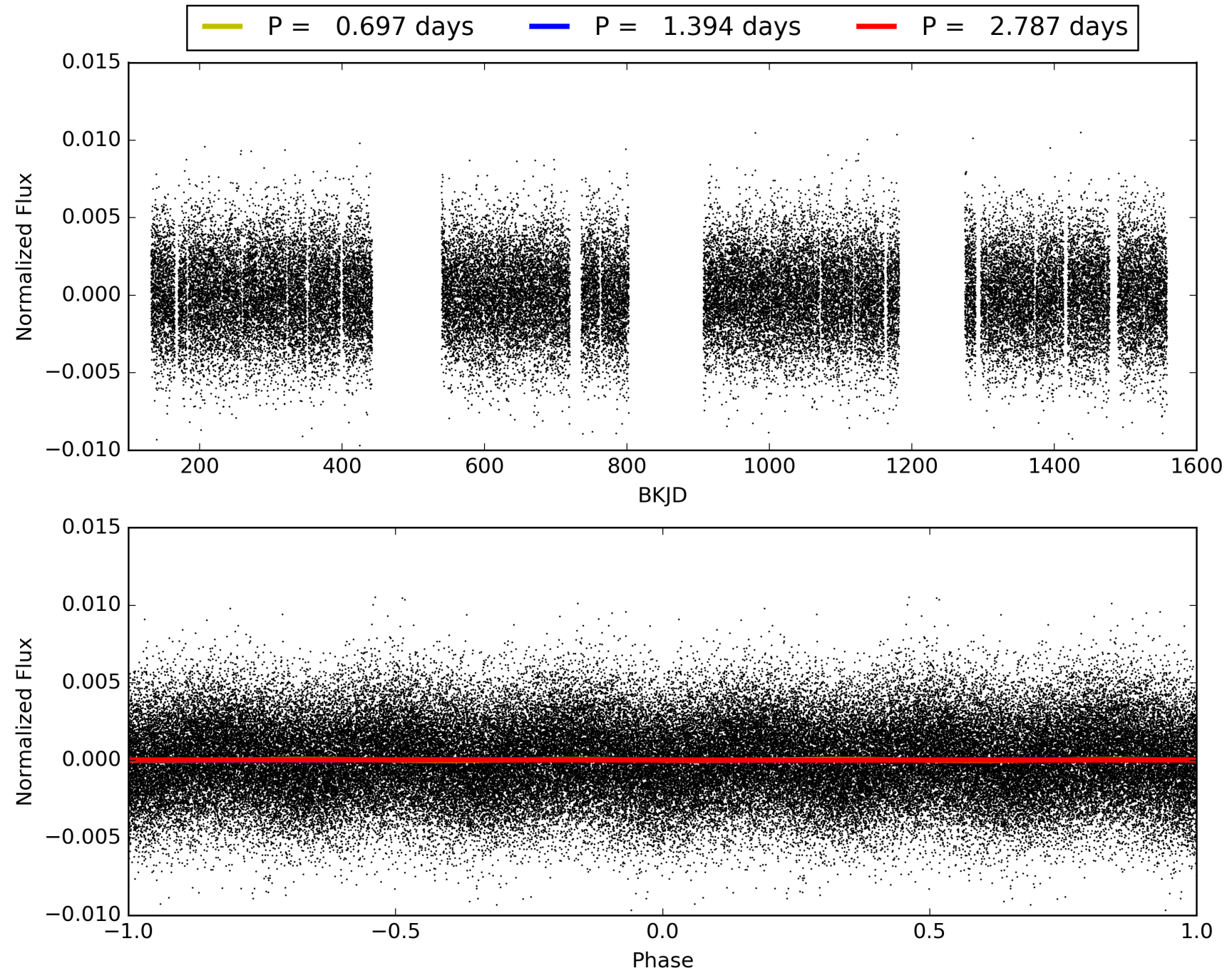
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:15:54 Z

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

TCE 006757160-01, PDC Light Curves

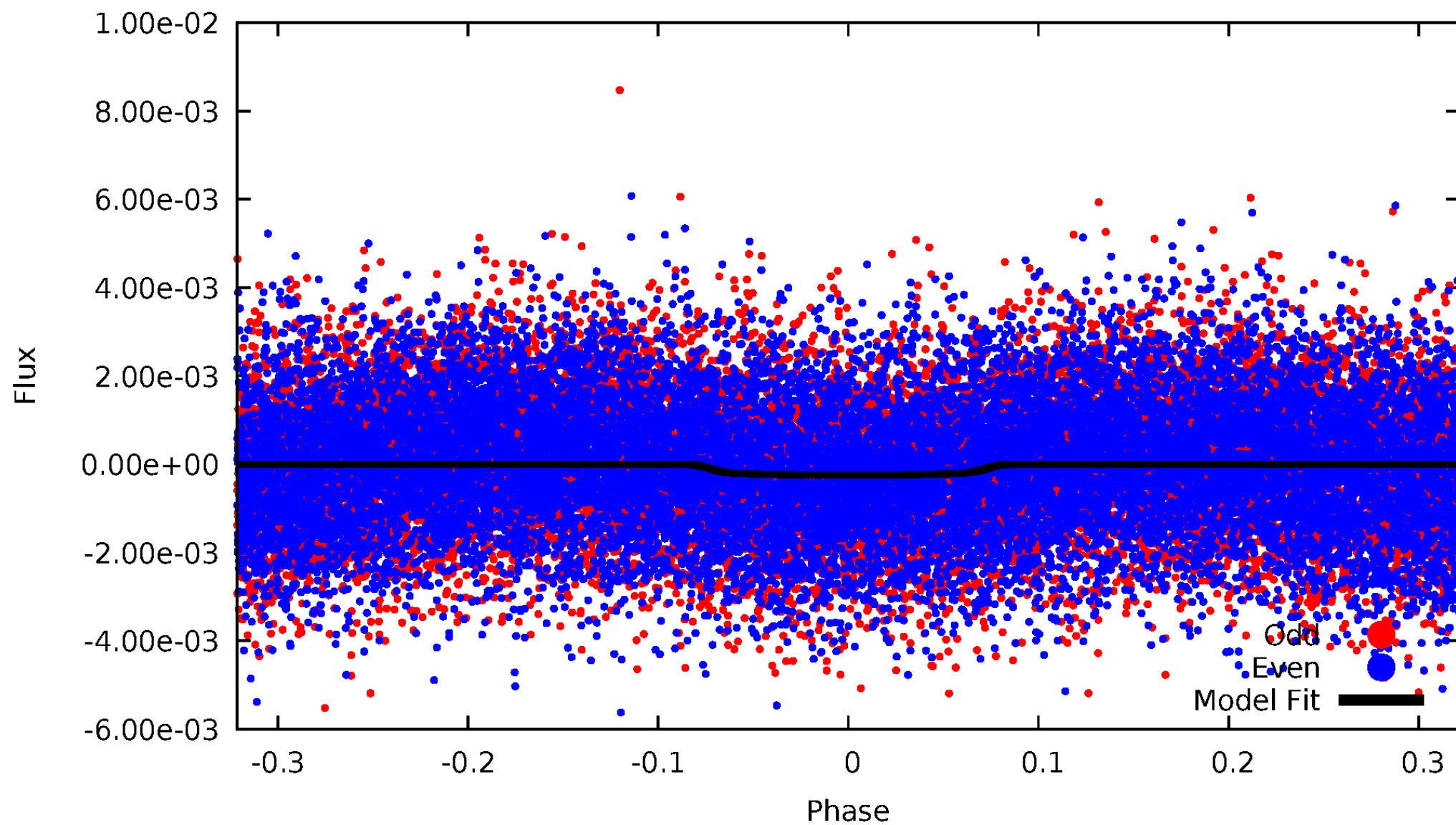


TCE 006757160-01



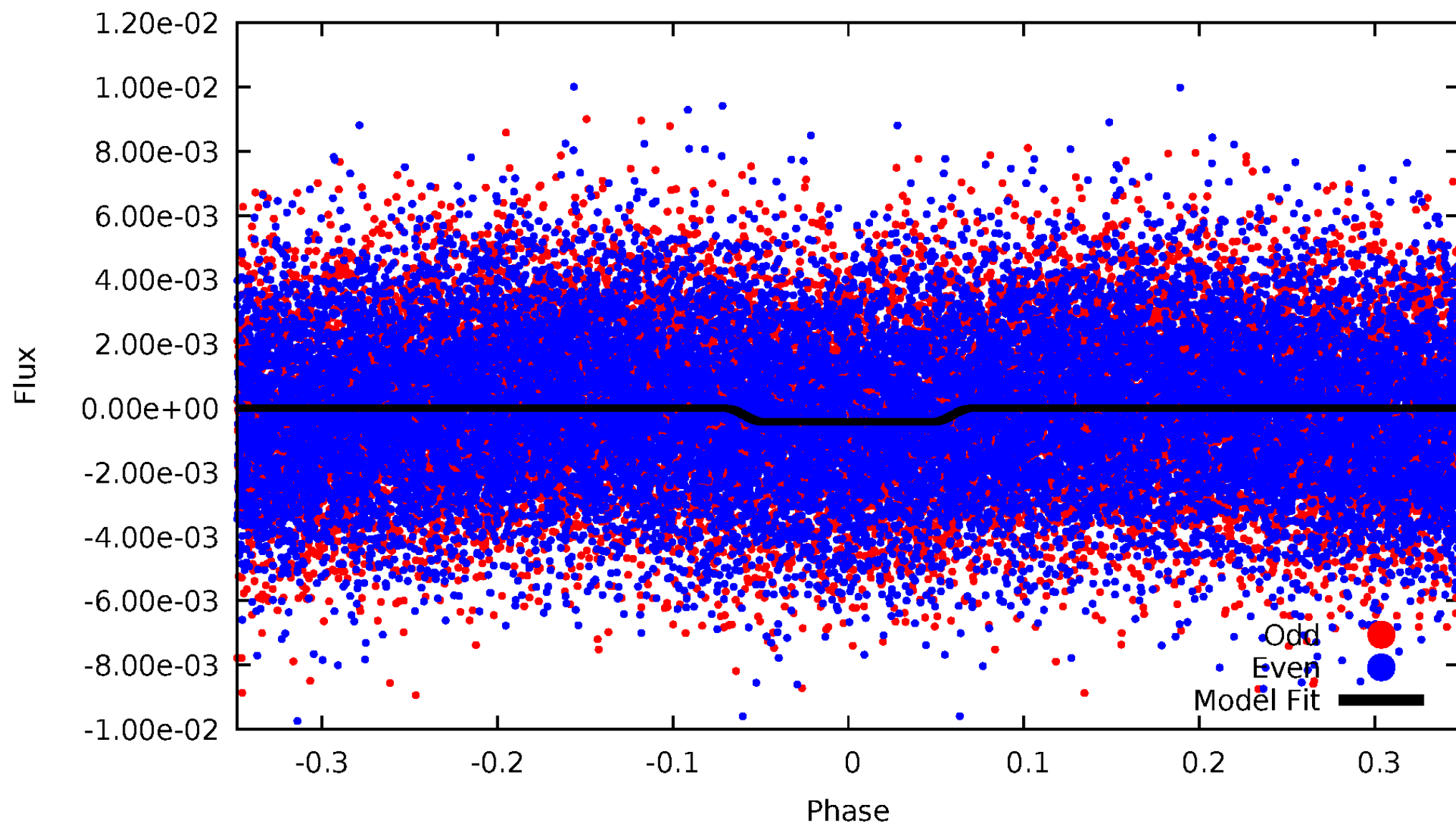
DV Odd/Even

TCE 006757160-01



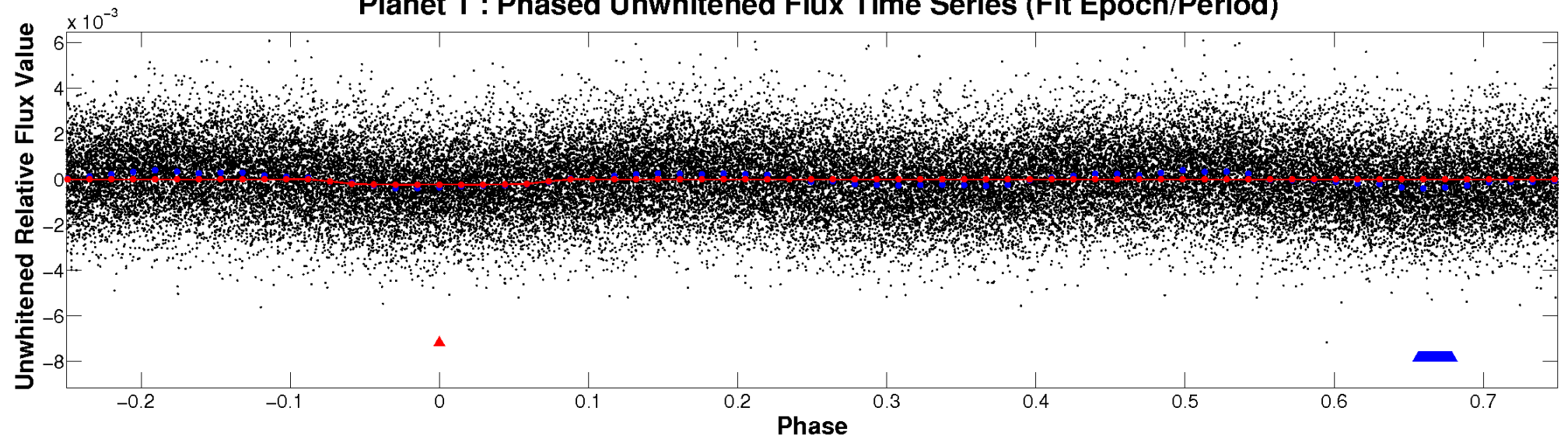
ALT Odd/Even

TCE 006757160-01

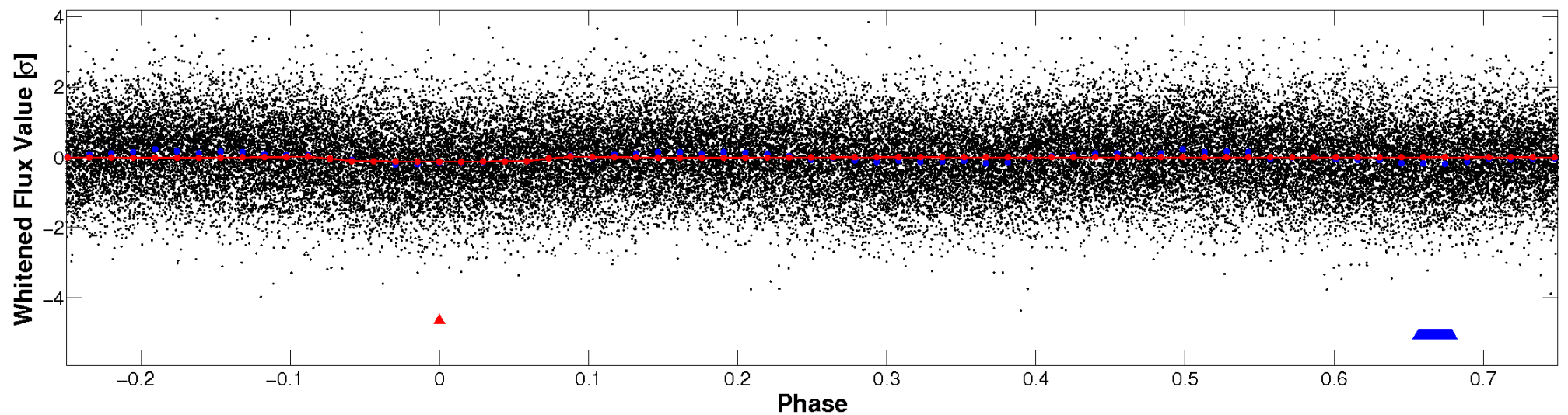


Non-Whitened Vs. Whitened Light Curve

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

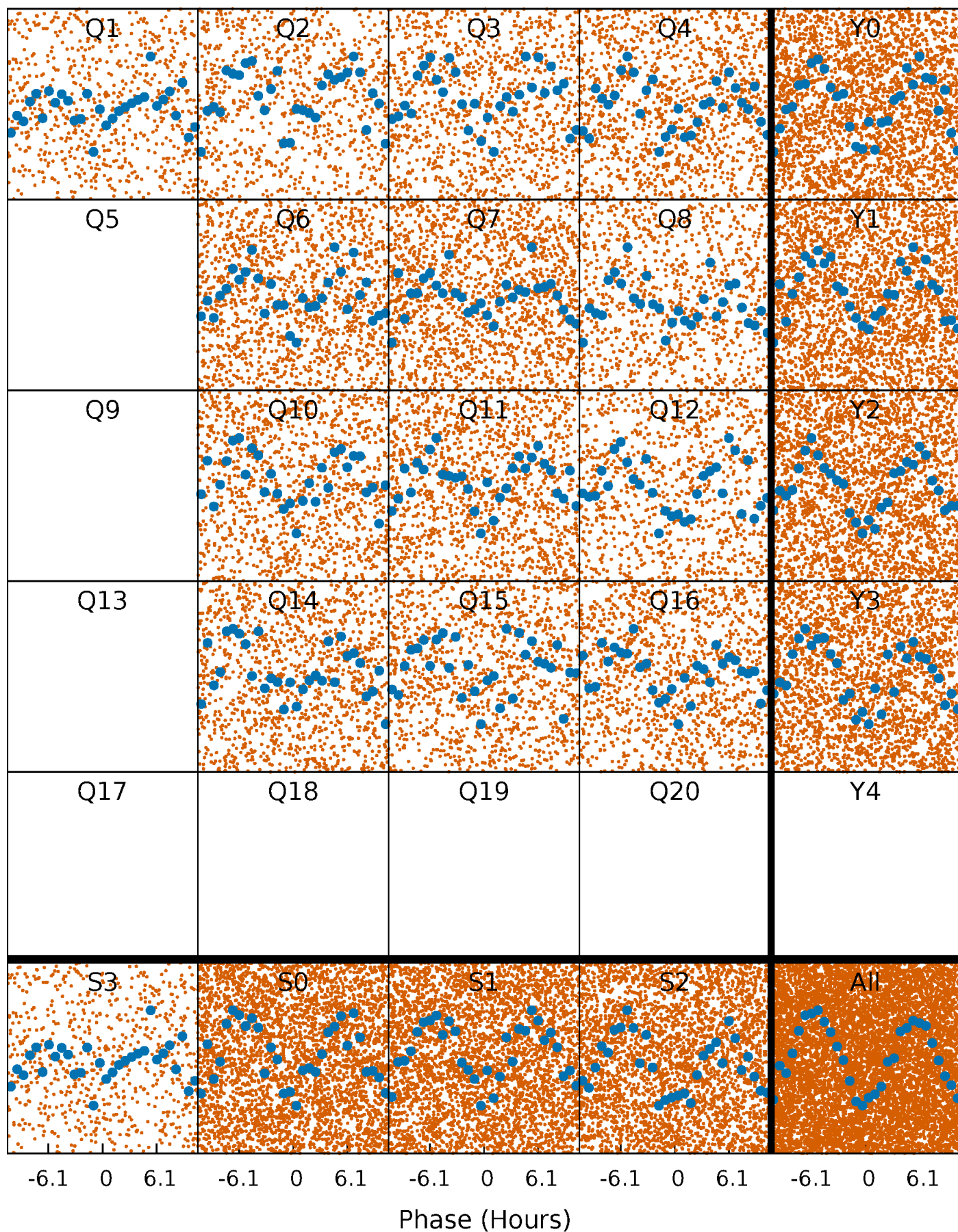


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



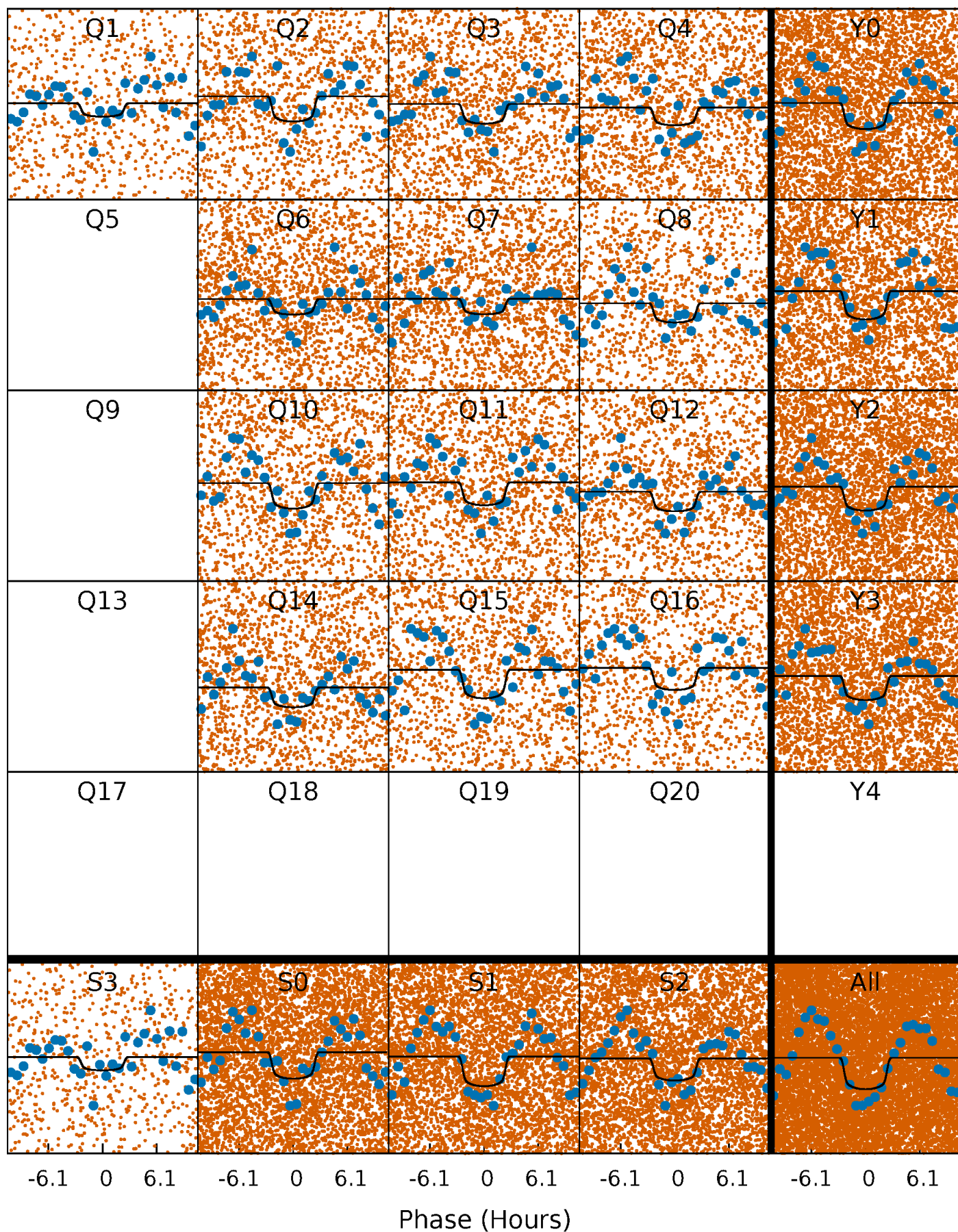
PDC Quarter-Phased Transit Curves

TCE 006757160-01 P= 1.393554 Days $T_0=131.636195$ (BKJD)



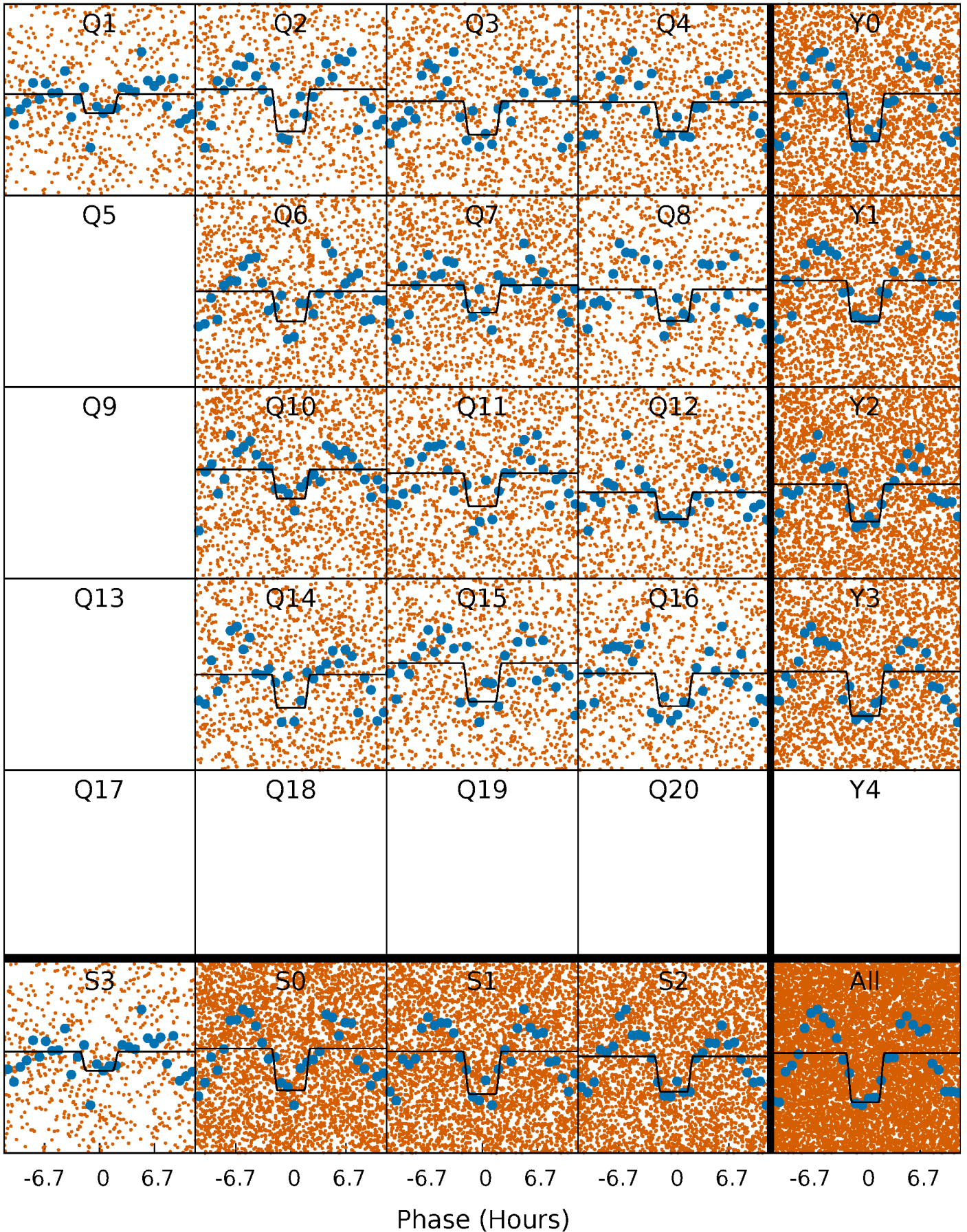
DV Quarter-Phased Transit Curves

TCE 006757160-01 P= 1.393554 Days $T_0=131.636195$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

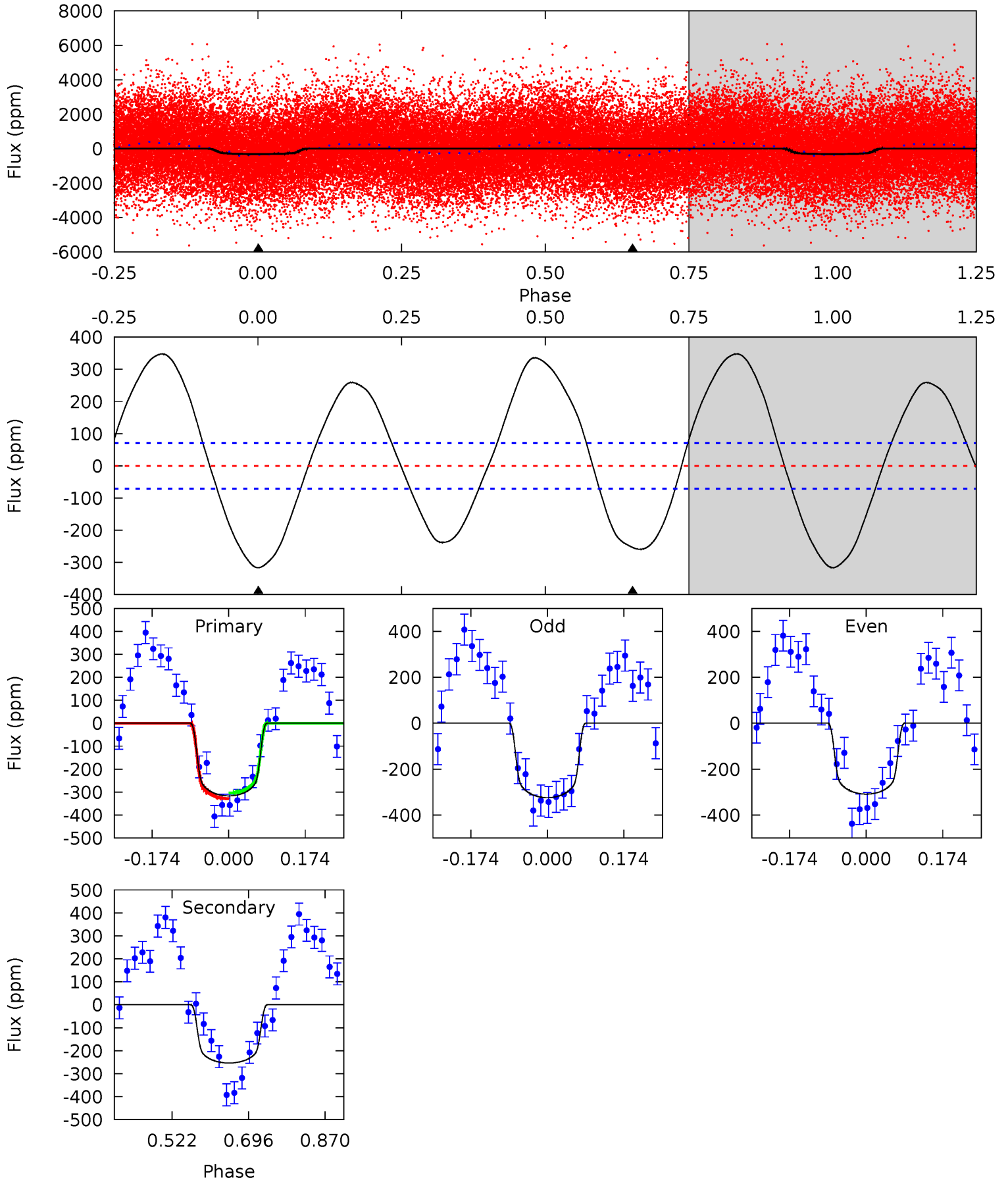
TCE 006757160-01 P= 1.393544 Days $T_0=131.640240$ (BKJD)



DV Model-Shift Uniqueness Test

006757160-01, P = 1.393554 Days, E = 130.242641 Days

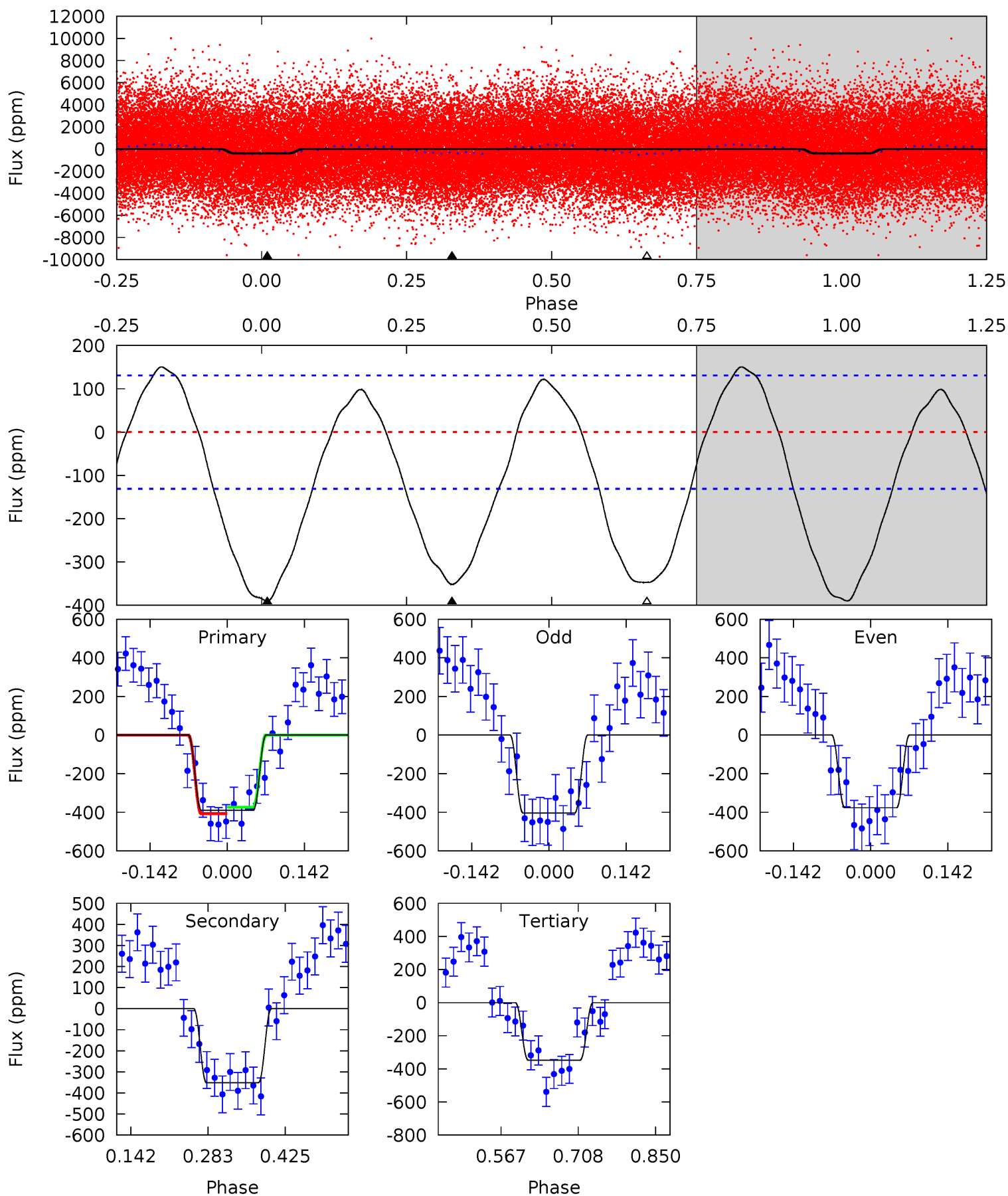
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.9	15.9	0	0	4.45	1.36	11.3	19.9	19.9	15.9	15.9	0.49	0.97	0.52	0.76



Alt Model-Shift Uniqueness Test

006757160-01, P = 1.393544 Days, E = 130.246696 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	12.1	11.9	0	4.49	1.47	6.13	1.46	13.4	0.16	12.1	0.46	1.00	0.28	0.58



Stellar Parameters For KIC 006757160

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6971^{+214}_{-285}	$3.838^{+0.440}_{-0.110}$	$-0.500^{+0.250}_{-0.300}$	$2.390^{+0.475}_{-1.109}$	$1.433^{+0.189}_{-0.351}$	$0.148^{+0.628}_{-0.050}$
	+3%/-4%	+11%/-3%	+50%/-60%	+20%/-46%	+13%/-24%	+424%/-34%
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 006757160-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-254 ± 16	$4.06^{+1.07}_{-1.11}$	3893^{+291}_{-459}	6669^{+764}_{-570}	$6.337^{+5.097}_{-2.260}$
Alt.	-352 ± 29	$5.08^{+1.14}_{-1.25}$	3902^{+291}_{-461}	6488^{+533}_{-490}	$5.792^{+3.695}_{-1.957}$

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

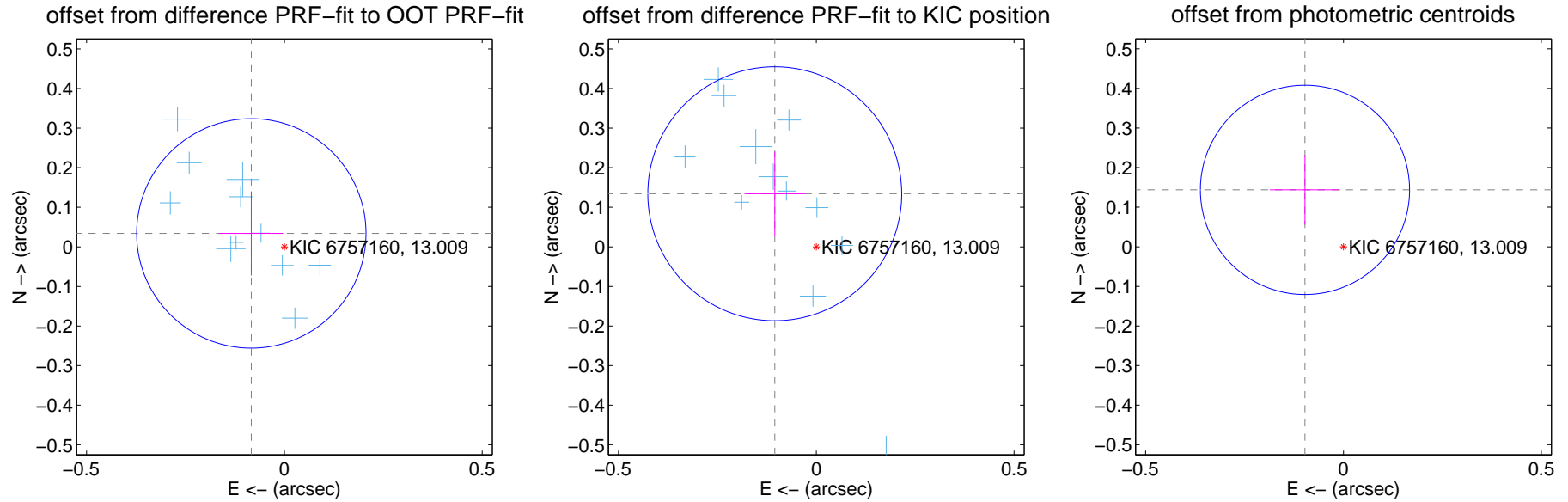
DV Centroid Data

Supplemental centroid analysis for 006757160-01. Kepler magnitude: 13.01. Transit SNR 10.10

There are 13 quarters with good PRF difference image offsets

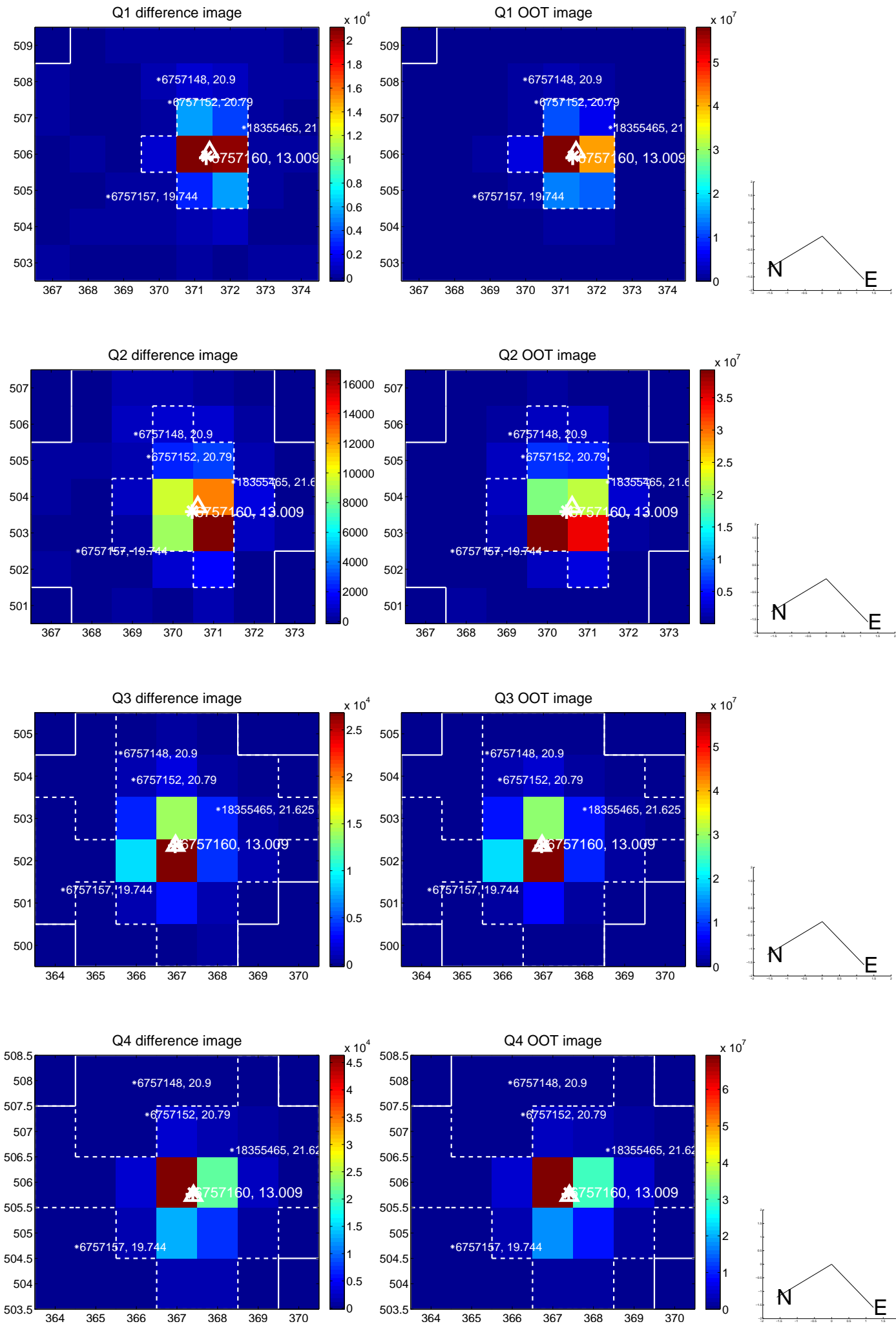
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.090 ± 0.097	0.93	0.084 ± 0.081	0.034 ± 0.106
PRF-fit source offset from KIC position	0.170 ± 0.107	1.59	0.105 ± 0.076	0.134 ± 0.107
photometric centroid source offset	0.17 ± 0.09	1.97	0.10 ± 0.09	0.14 ± 0.09

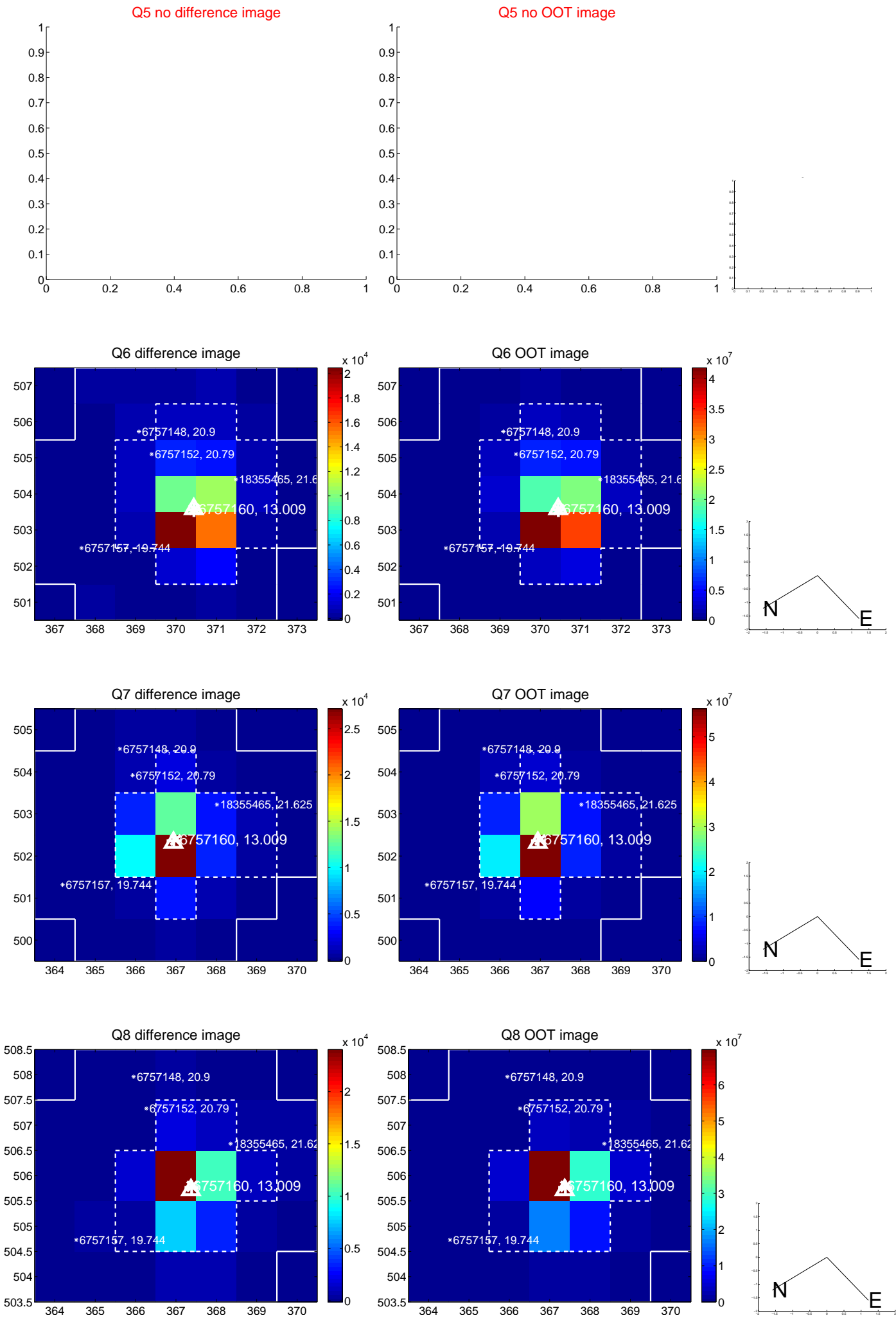


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

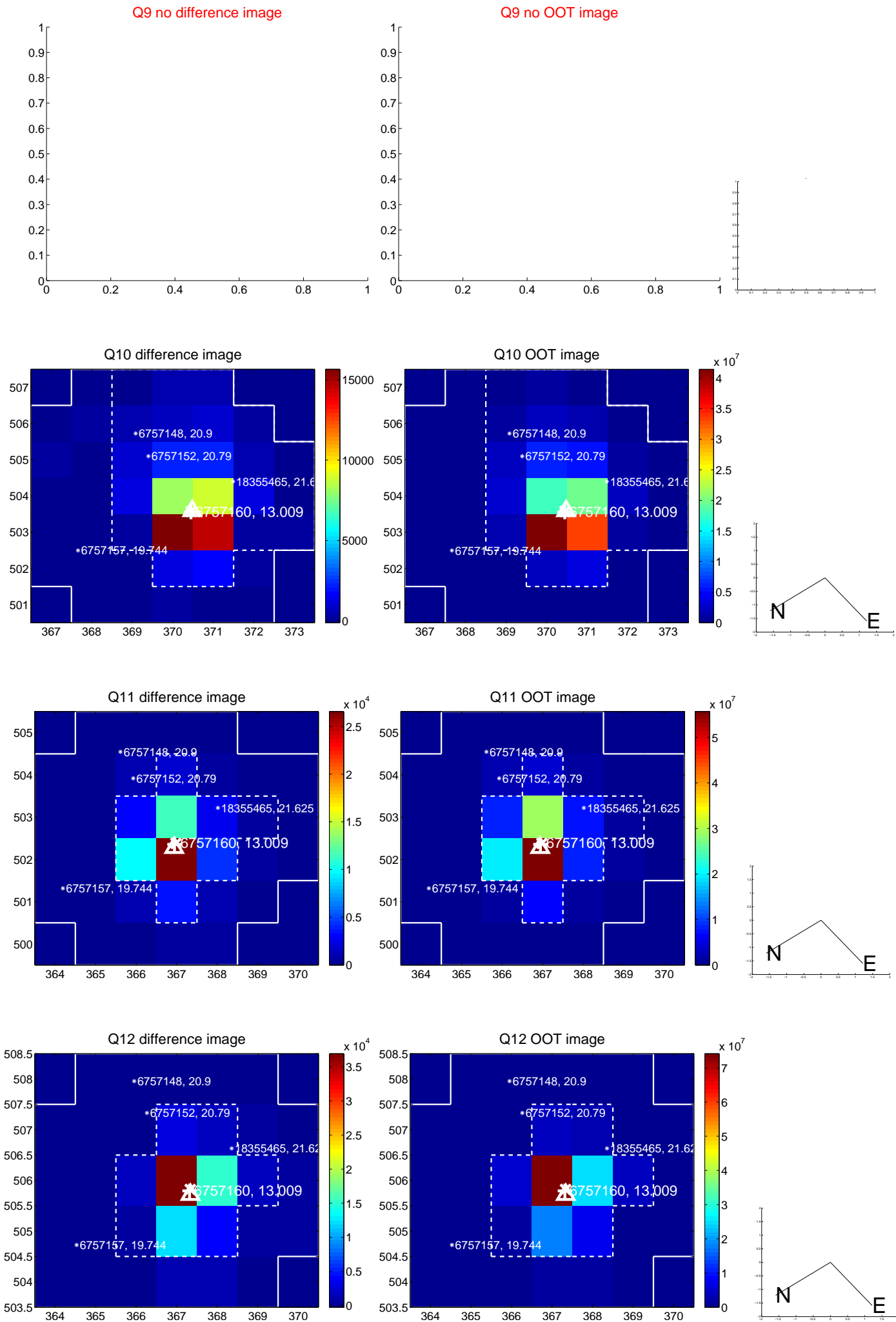
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



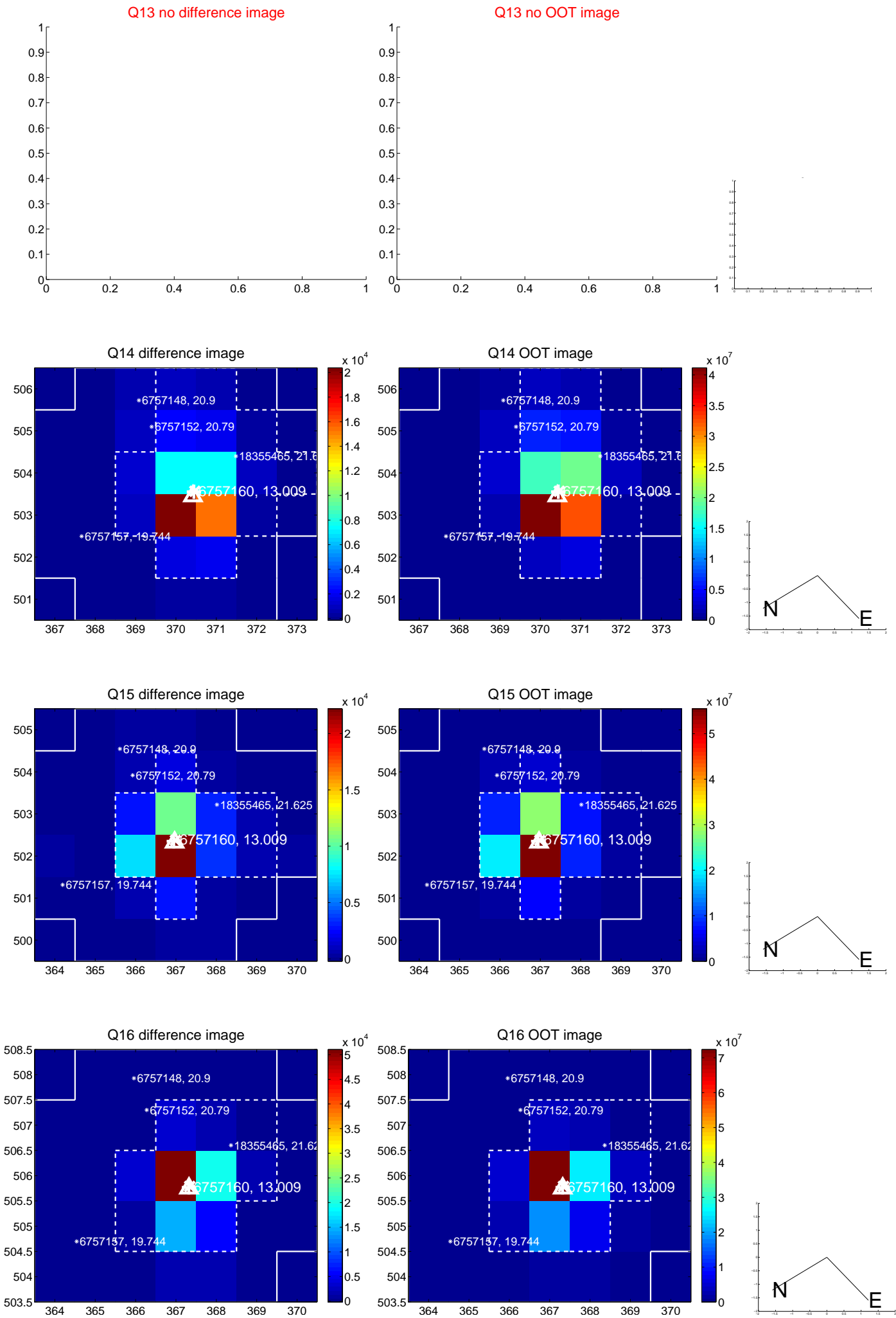
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



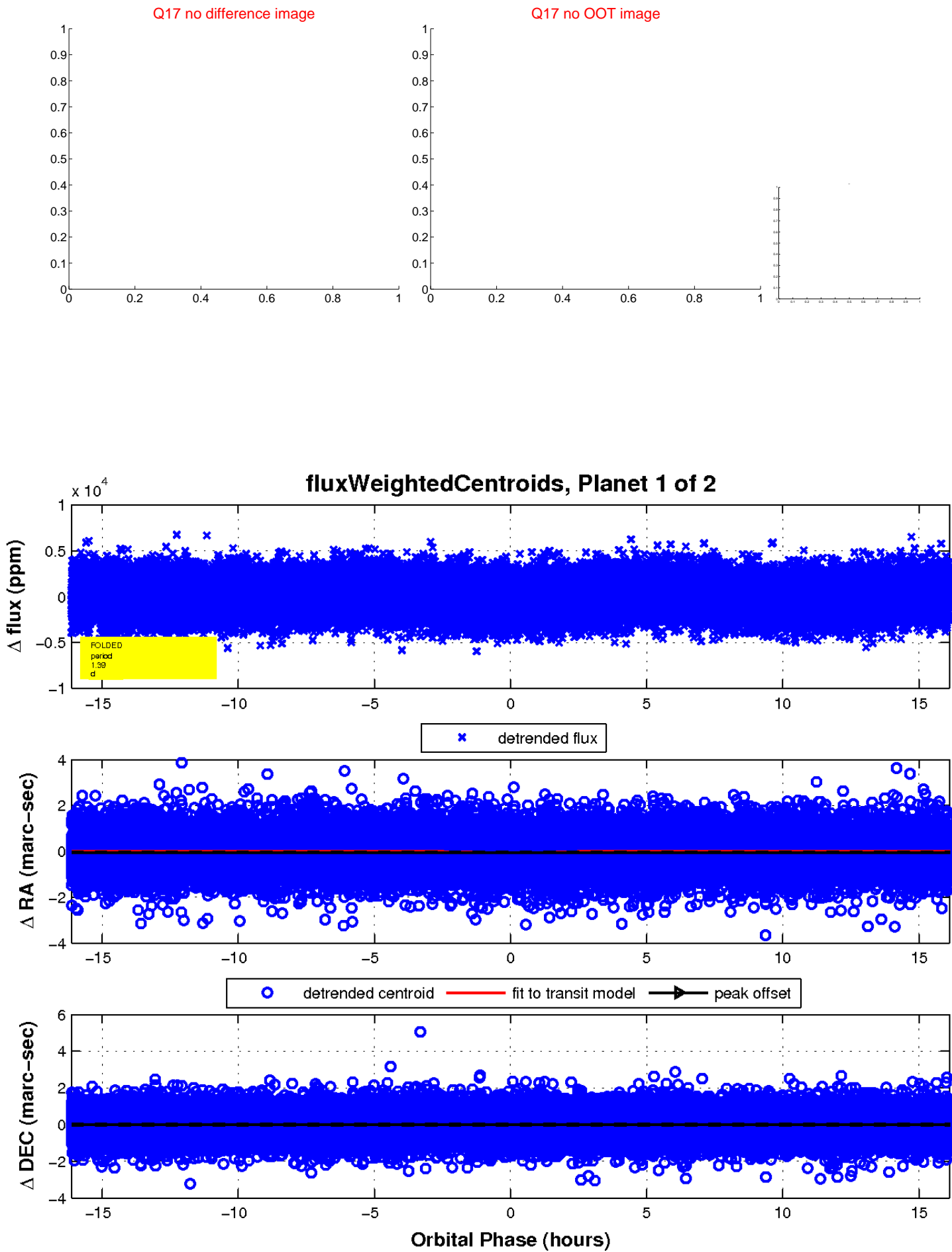
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

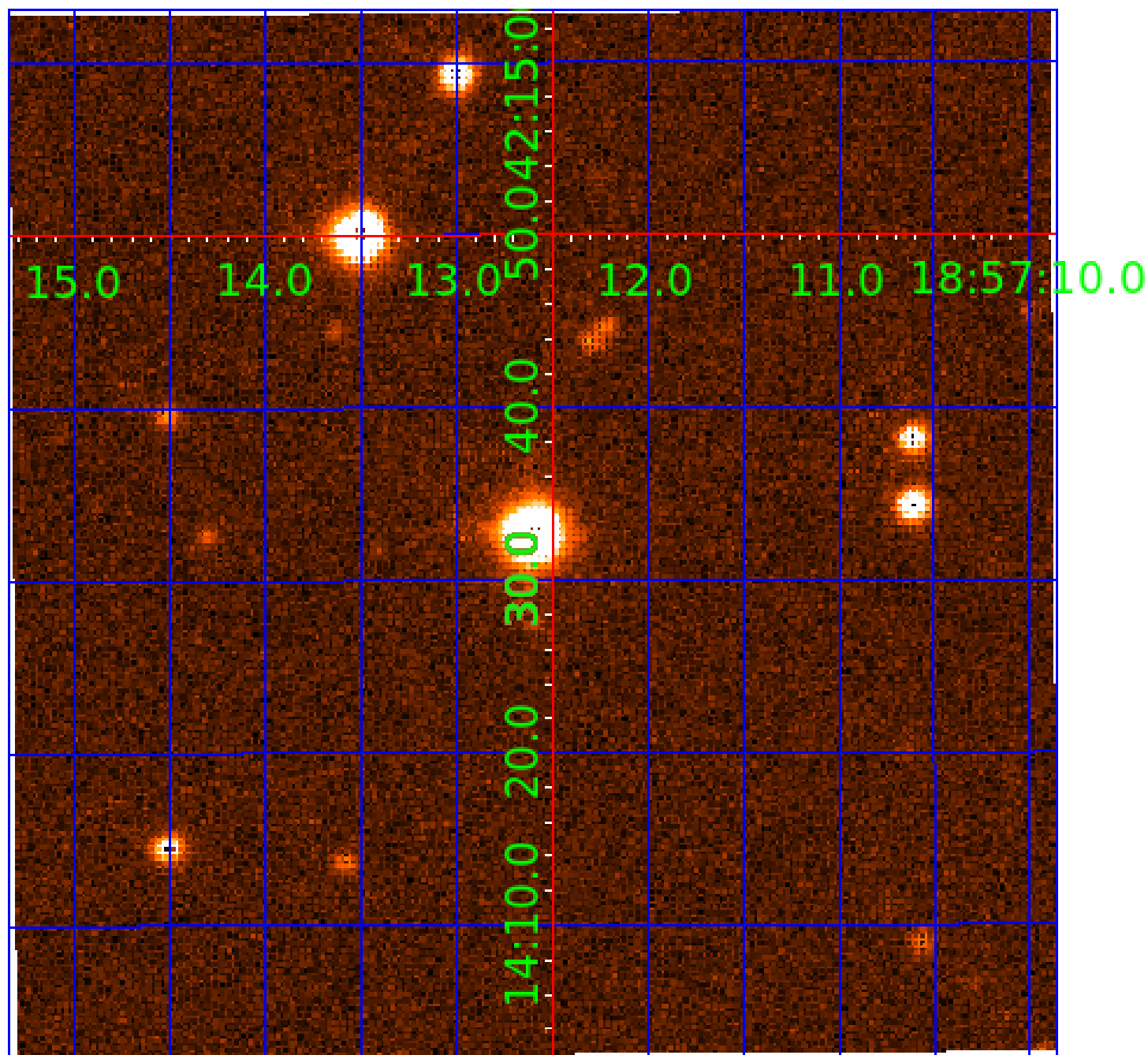


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006757160

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})
006757160-01	OBS	No	1.393554	131.636195	244.2	5.375	9.2	10.1	2.39	6971	4.34	15928.50
006757160-02	OBS	No	1.393525	132.581980	253.3	3.043	8.1	9.7	2.39	6971	4.43	15928.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006757160-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006757160-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

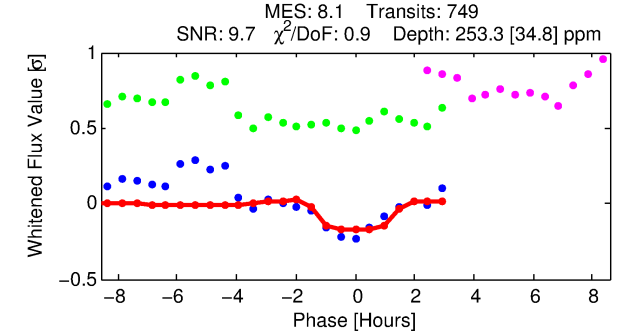
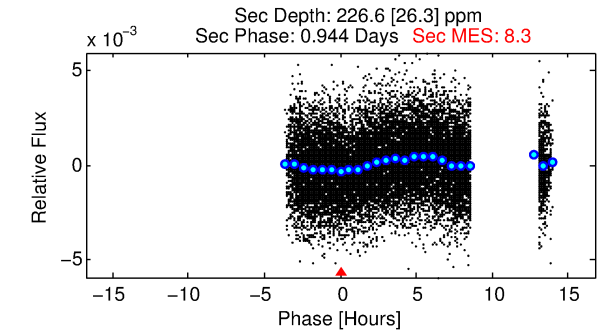
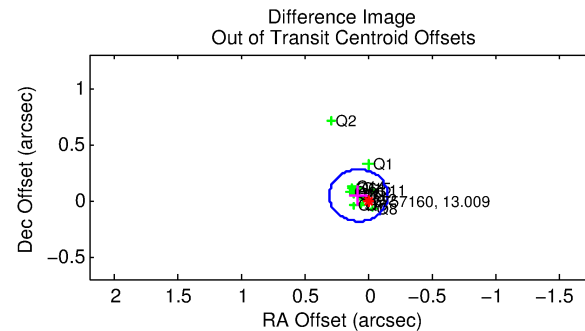
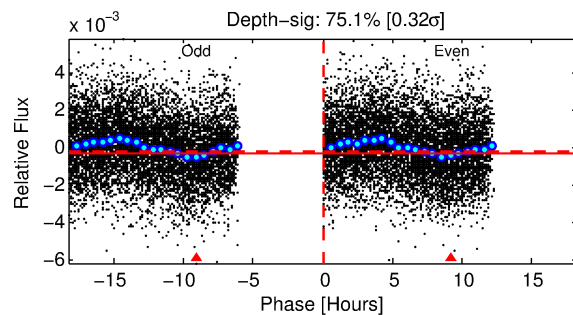
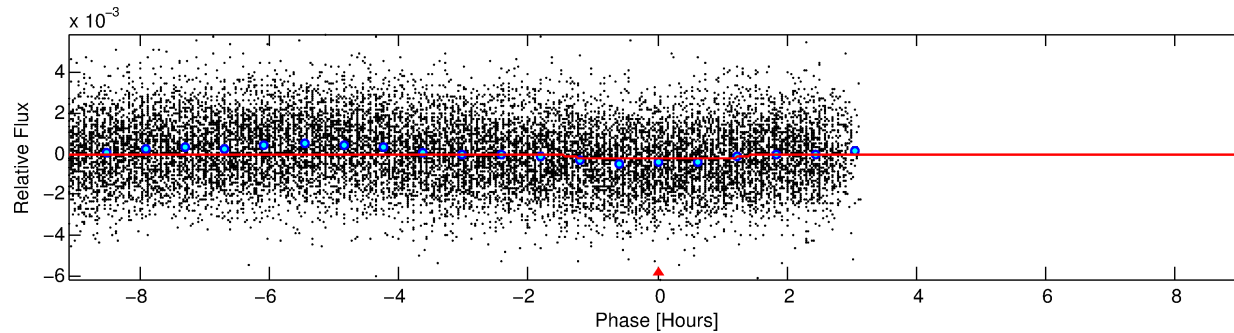
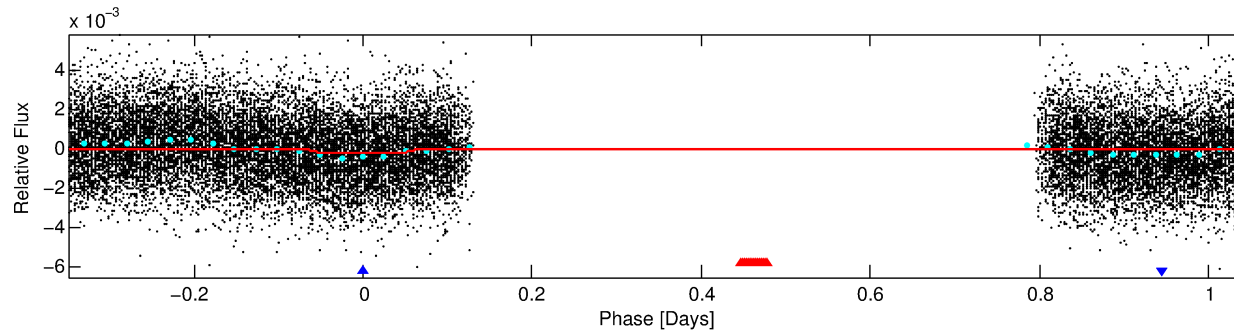
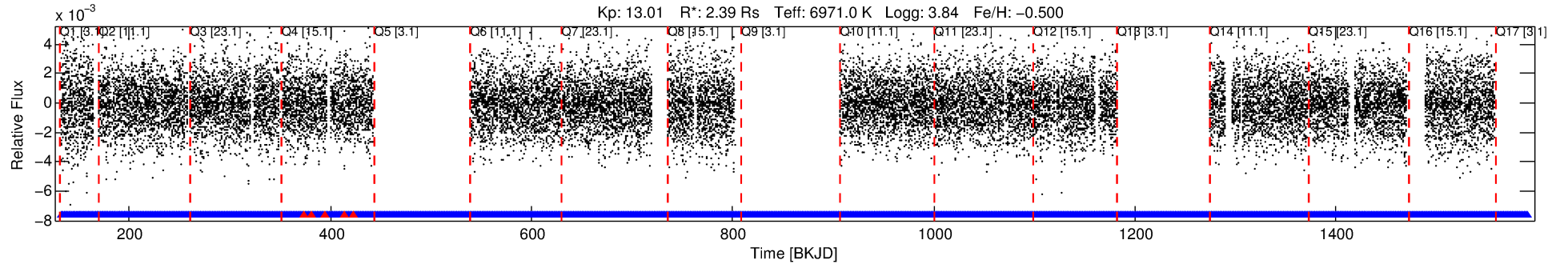
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006757160-02

No Significant Match Found

DV One-Page Summary

KIC: 6757160 Candidate: 2 of 2 Period: 1.394 d



DV Fit Results:

Period = 1.39352 [0.00001] d
Epoch = 132.5820 [0.0039] BKJD
Rp/R* = 0.0170 [0.0056]
a/R* = 1.89 [2.66]
b = 0.90 [0.41]
Seff = 15928.95 [12116.86]
Teq = 2865 [545] K
Rp = 4.43 [2.52] Re
a = 0.0275 [0.0126] AU
Ag = 4.82 [4.82] [0.79 σ]
Teffp = 6563 [1131] K [2.95 σ]

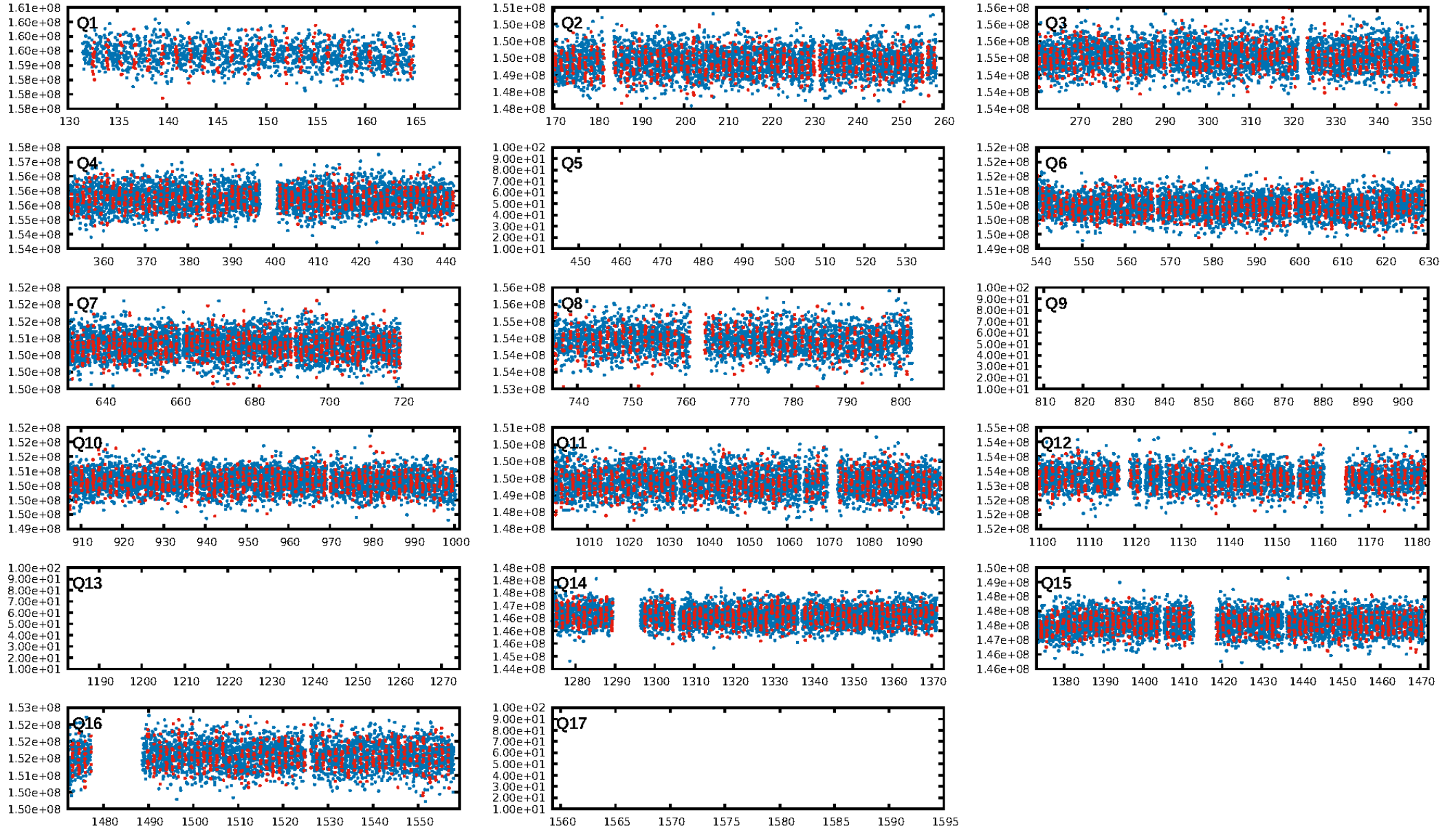
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.80e-20
RollingBand-fgt: 0.99 [720/725]
GhostDiagnostic-chr: 1.213
Centroid-sig: 26.5%
Centroid-so: 0.102 arcsec [0.93 σ]
OotOffset-rm: 0.094 arcsec [1.23 σ]
KicOffset-rm: 0.193 arcsec [2.29 σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

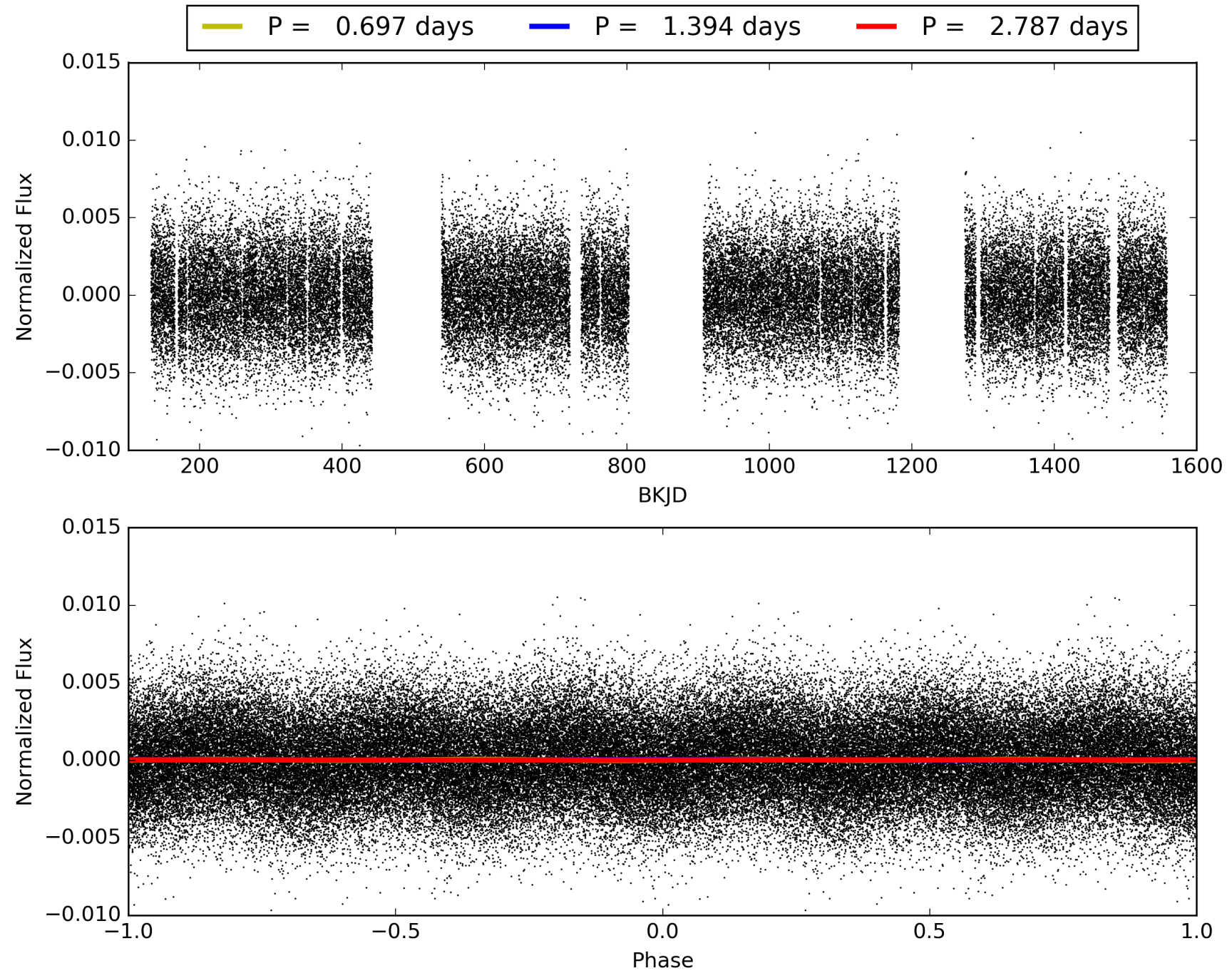
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:16:05 Z

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

TCE 006757160-02, PDC Light Curves

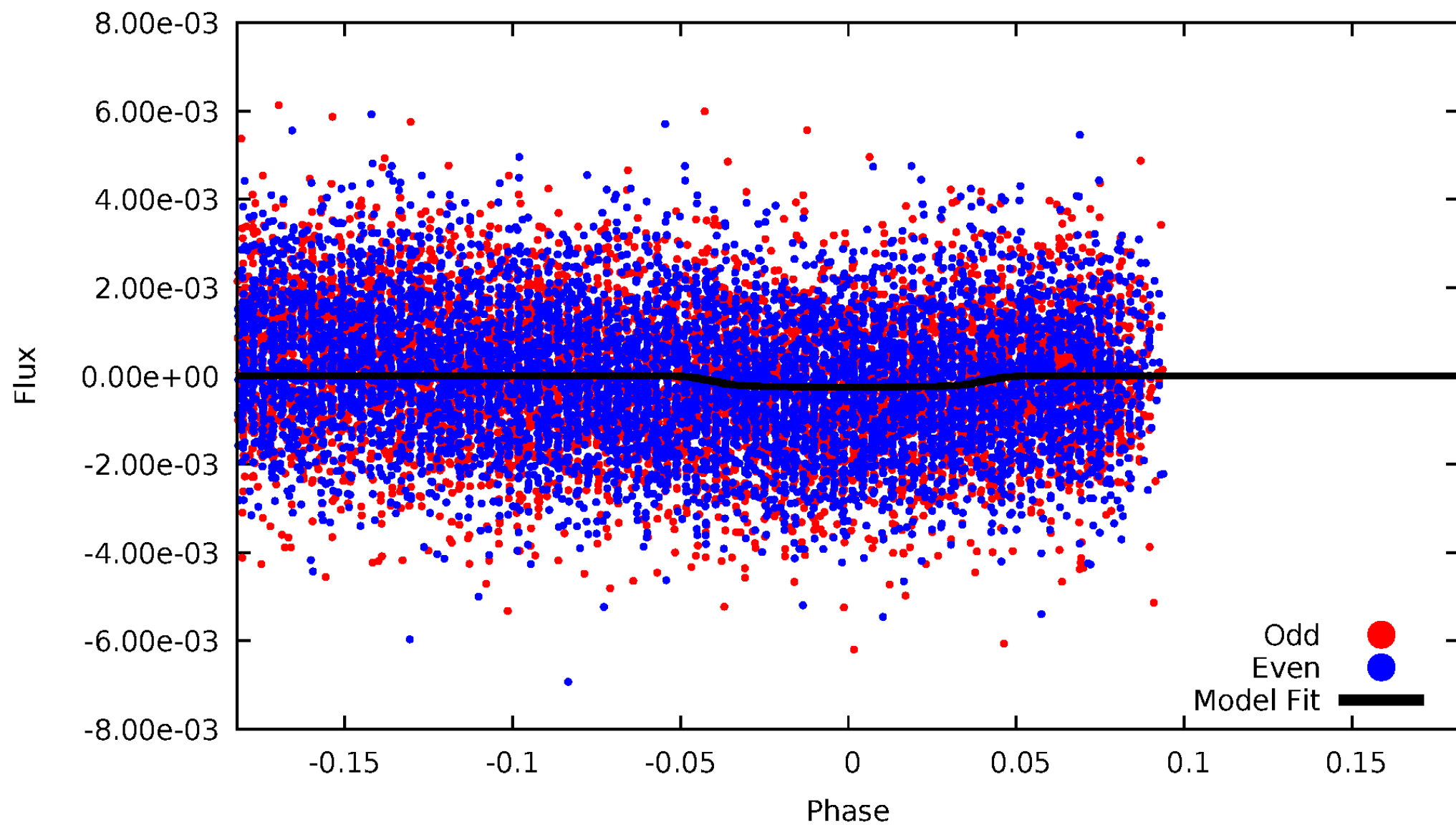


TCE 006757160-02



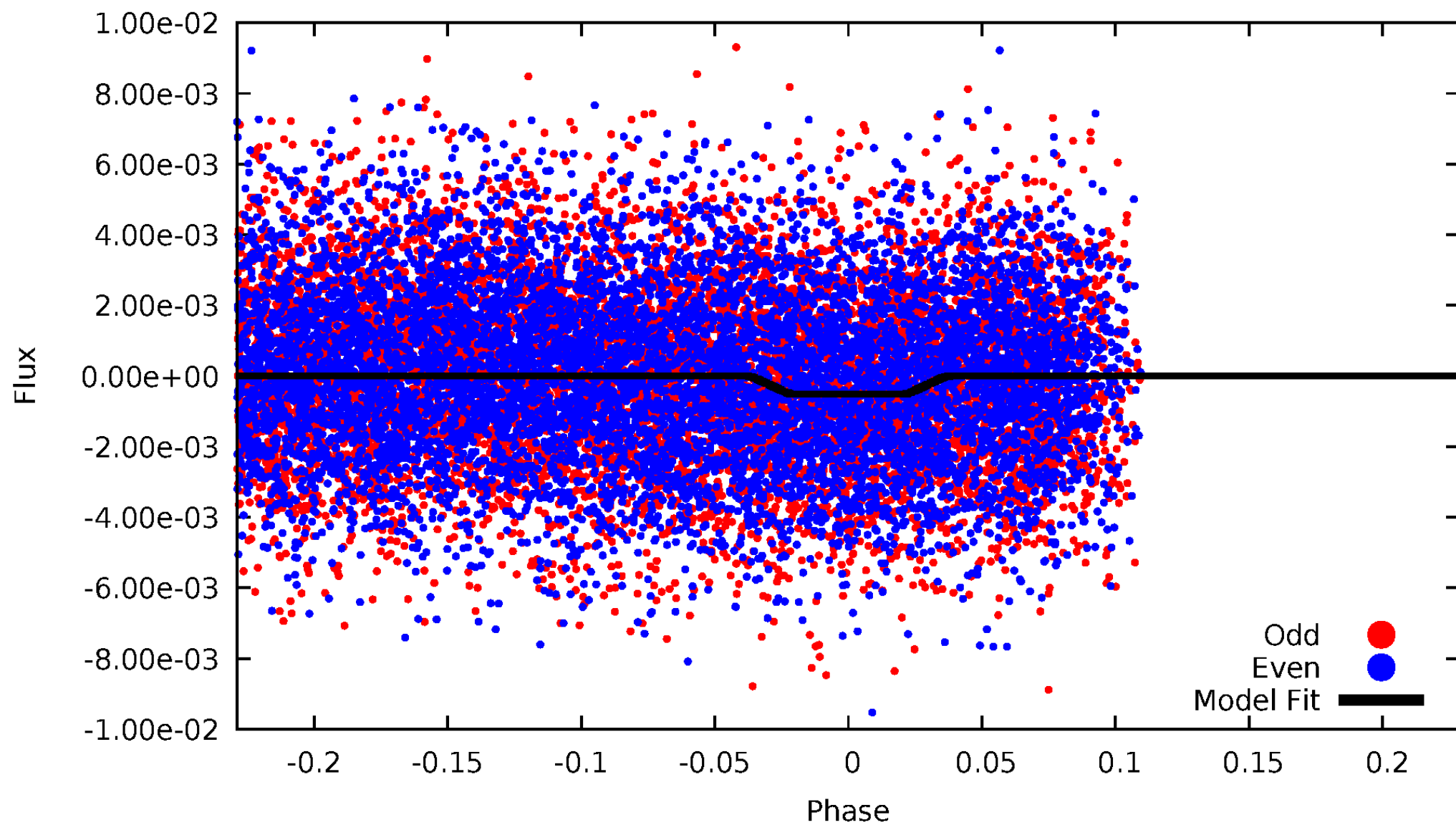
DV Odd/Even

TCE 006757160-02



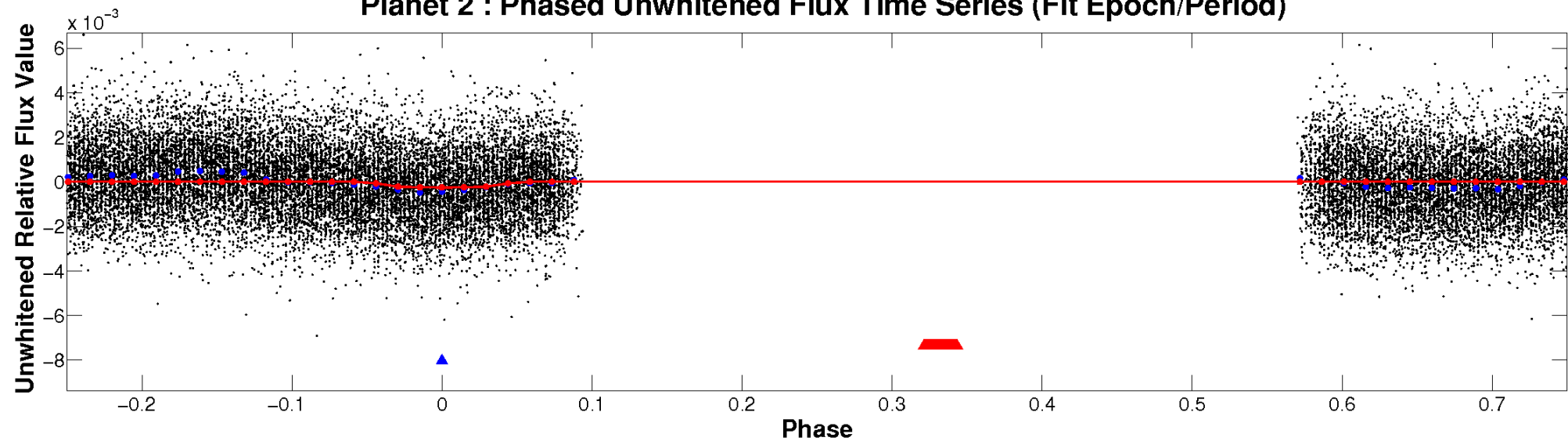
ALT Odd/Even

TCE 006757160-02

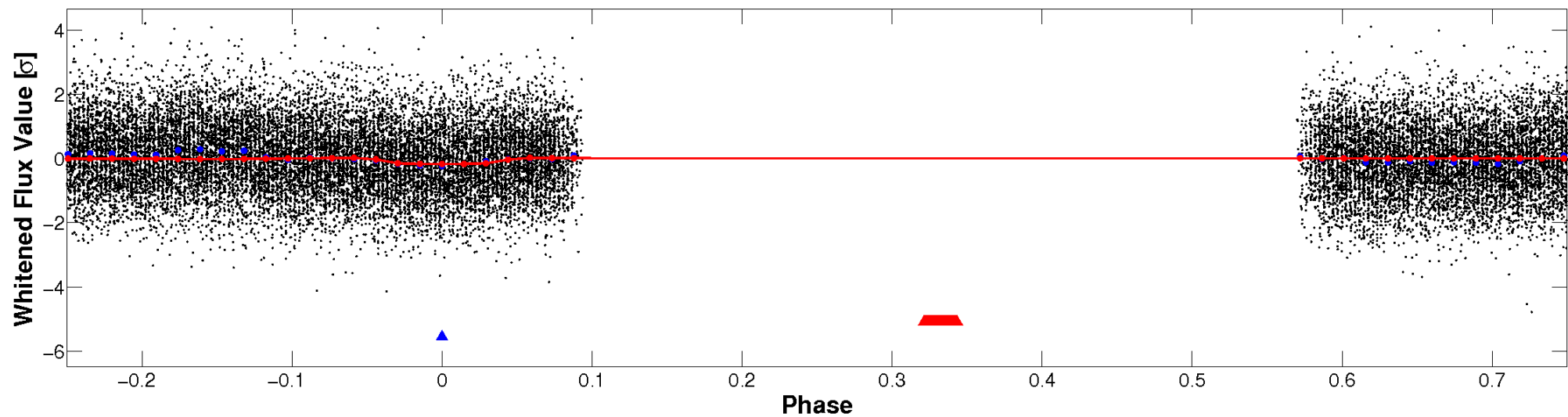


Non-Whitened Vs. Whitened Light Curve

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

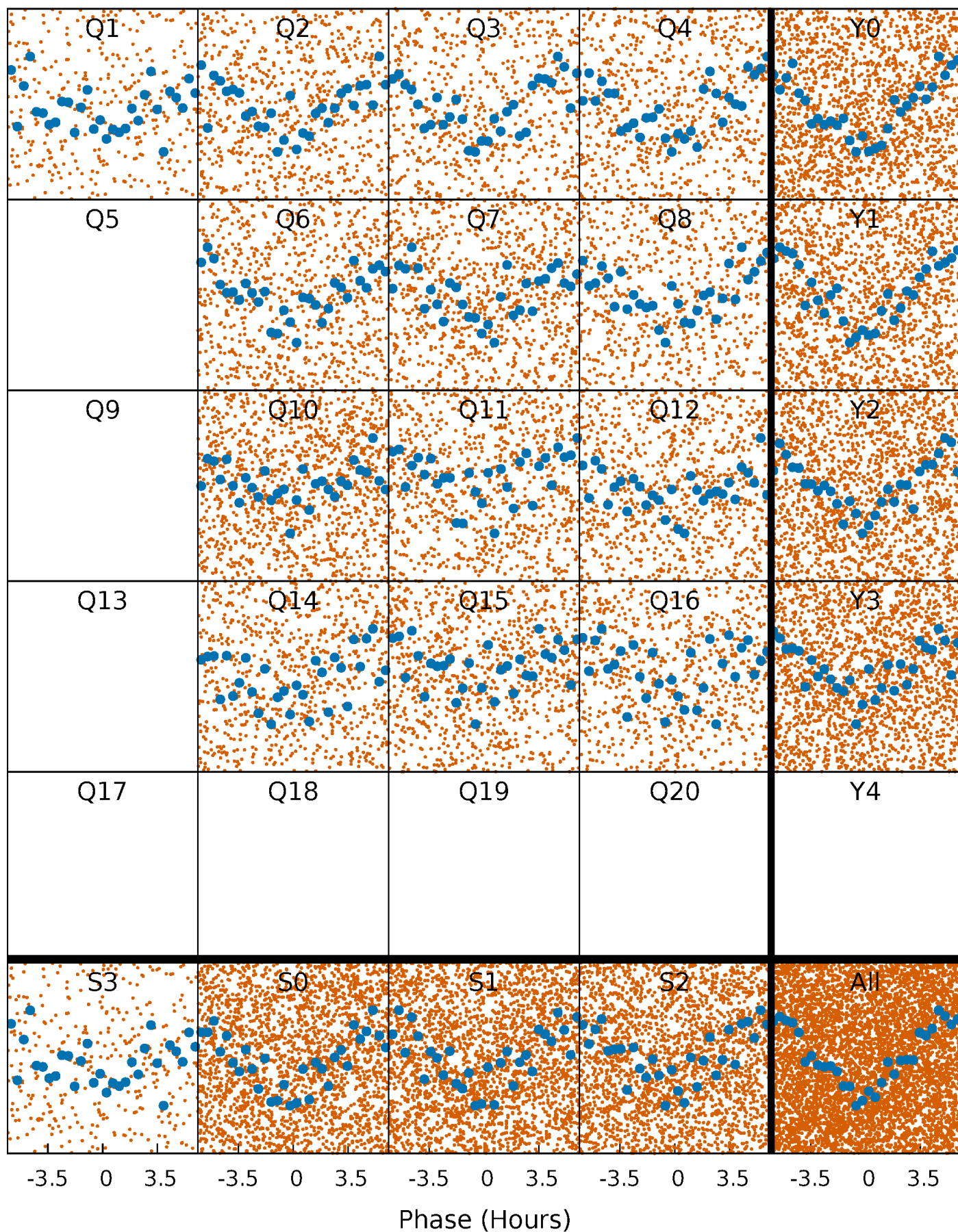


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



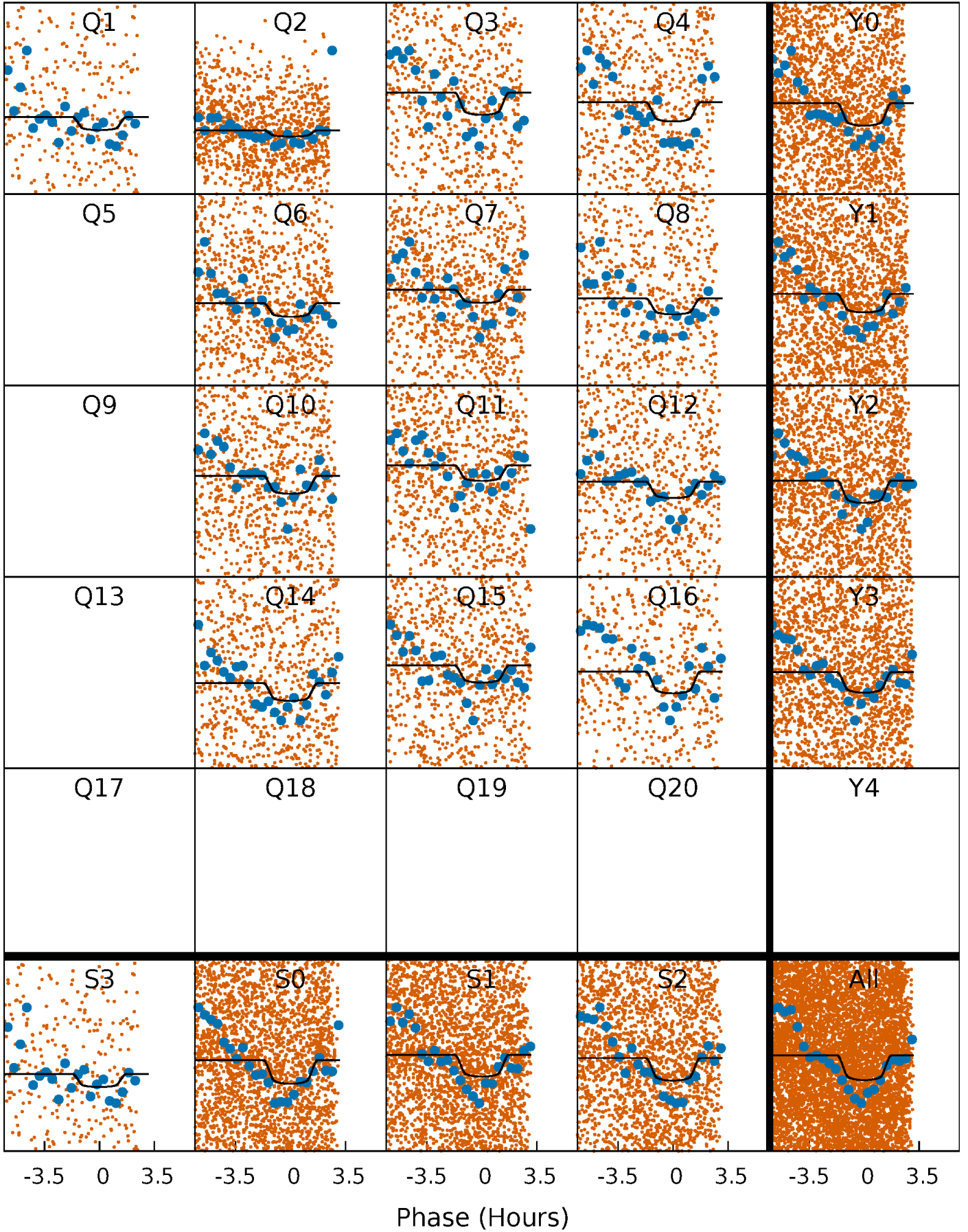
PDC Quarter-Phased Transit Curves

TCE 006757160-02 $P = 1.393525$ Days $T_0 = 132.581980$ (BKJD)



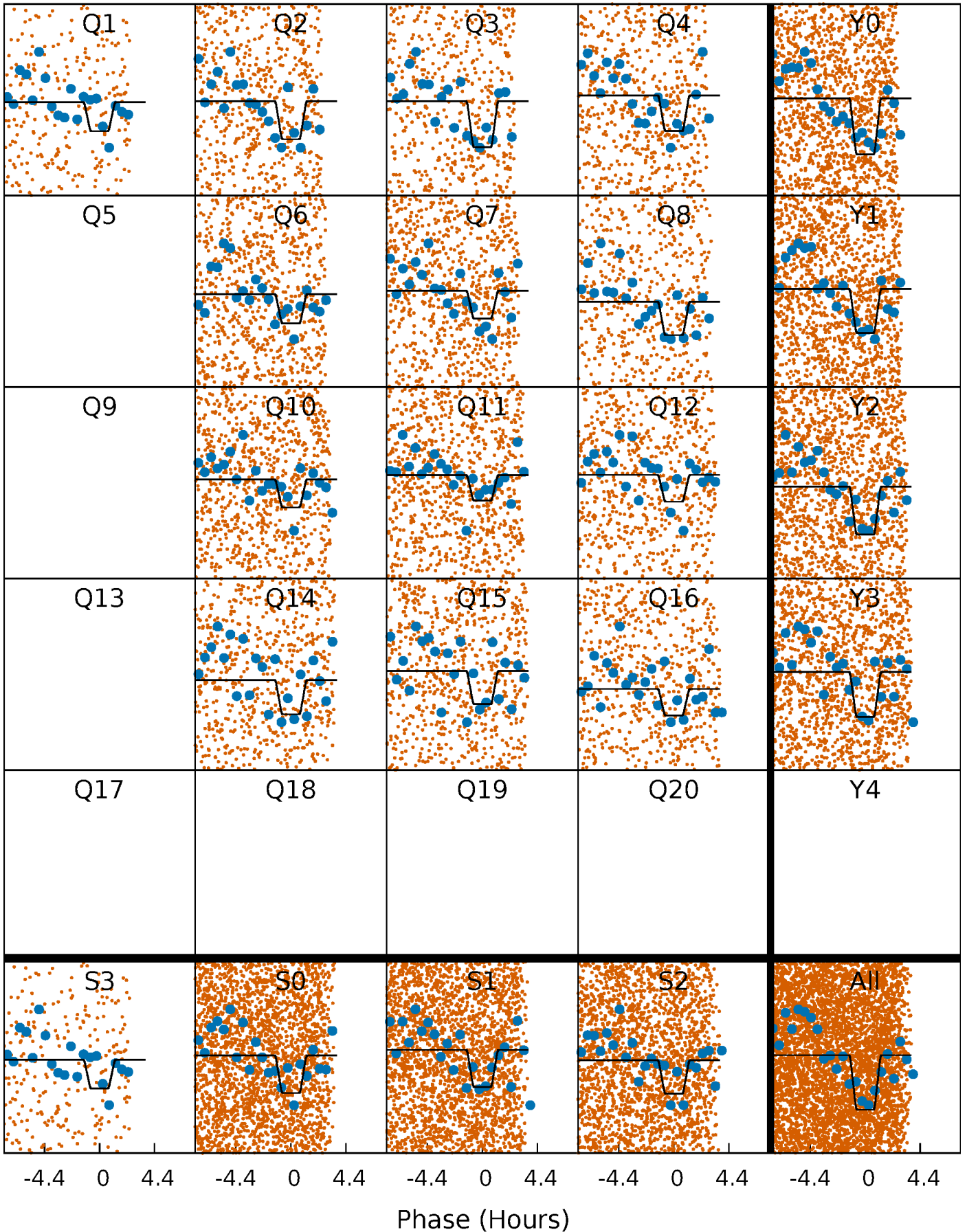
DV Quarter-Phased Transit Curves

TCE 006757160-02 P= 1.393525 Days $T_0=132.581980$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

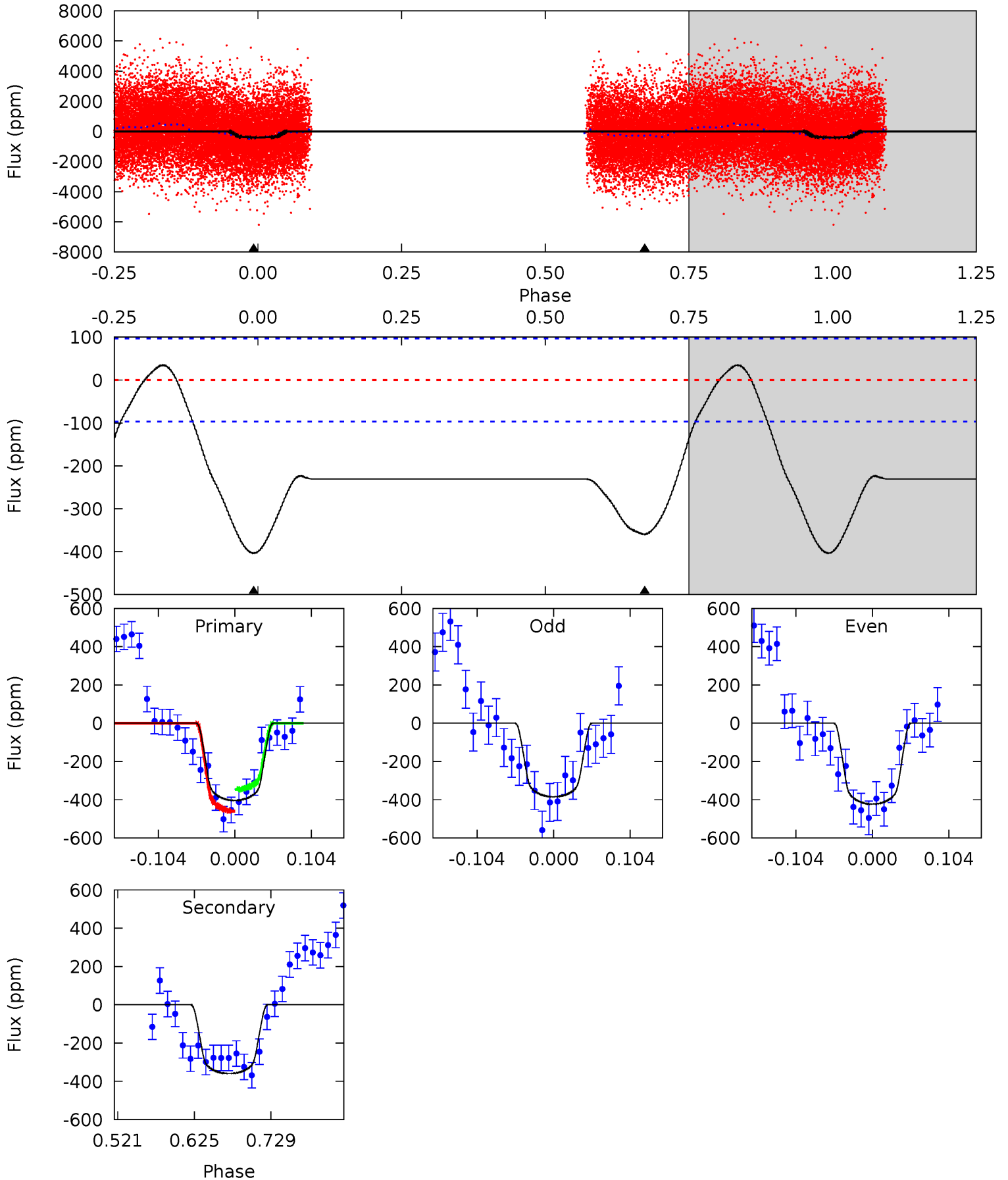
TCE 006757160-02 P= 1.393501 Days $T_0=132.583964$ (BKJD)



DV Model-Shift Uniqueness Test

006757160-02, P = 1.393525 Days, E = 131.188455 Days

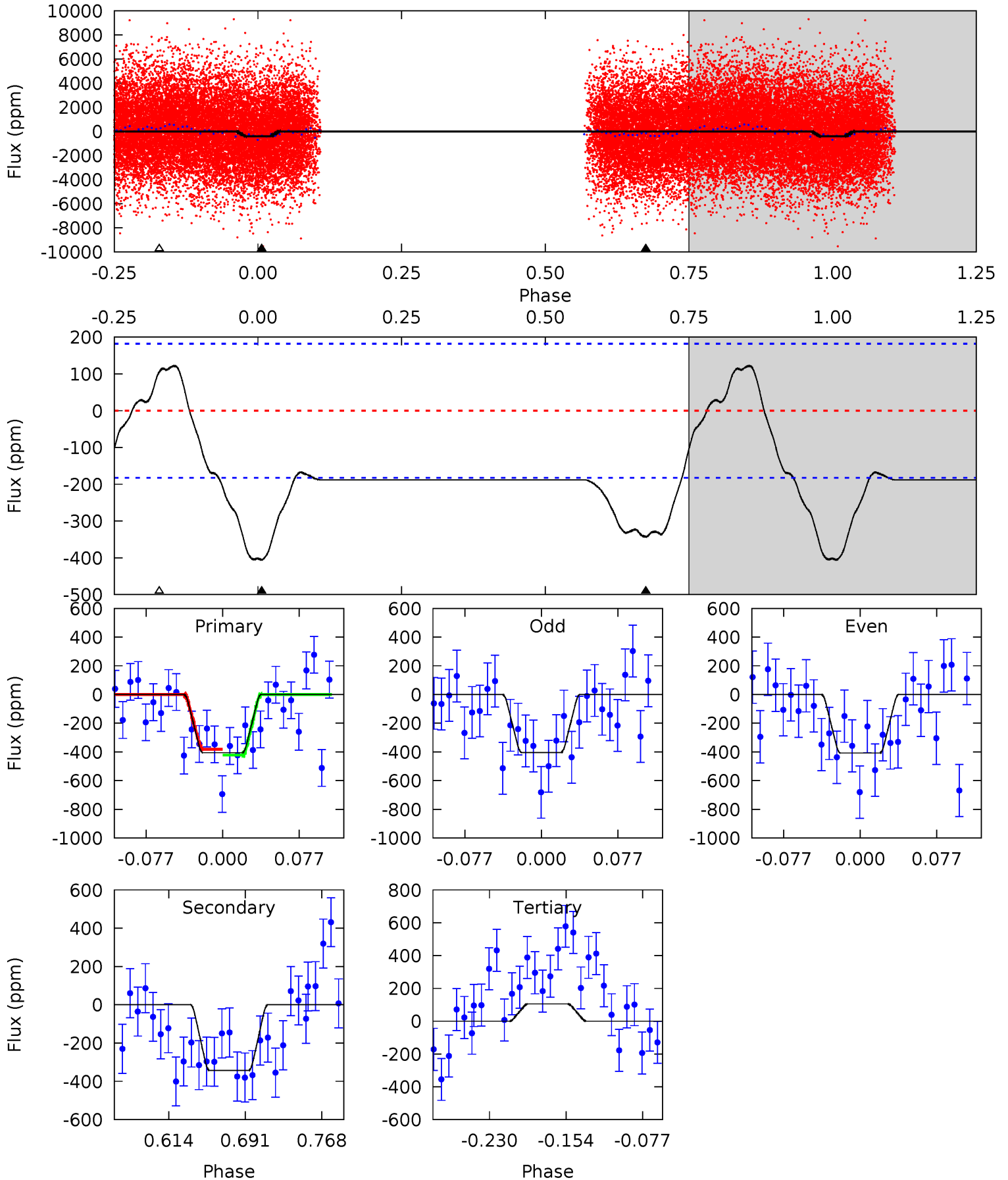
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.0	16.9	0	0	4.56	1.62	1.75	19.0	19.0	16.9	16.9	0.90	1.08	0.08	2.79



Alt Model-Shift Uniqueness Test

006757160-02, P = 1.393501 Days, E = 131.190463 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	8.69	-2.66	0	4.62	1.77	2.65	12.9	10.3	11.3	8.69	0.05	1.05	0.23	0.53



Stellar Parameters For KIC 006757160

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6971^{+214}_{-285}	$3.838^{+0.440}_{-0.110}$	$-0.500^{+0.250}_{-0.300}$	$2.390^{+0.475}_{-1.109}$	$1.433^{+0.189}_{-0.351}$	$0.148^{+0.628}_{-0.050}$
	+3%/-4%	+11%/-3%	+50%/-60%	+20%/-46%	+13%/-24%	+424%/-34%
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 006757160-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-360 ± 21	$4.01^{+1.62}_{-1.59}$	3867^{+323}_{-438}	7346^{+2378}_{-1133}	$9.477^{+15.761}_{-4.679}$
Alt.	-343 ± 39	$5.45^{+1.92}_{-1.78}$	3869^{+308}_{-452}	6123^{+1093}_{-719}	$4.871^{+5.692}_{-2.229}$

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 $A_{obs} \gg 1.0$

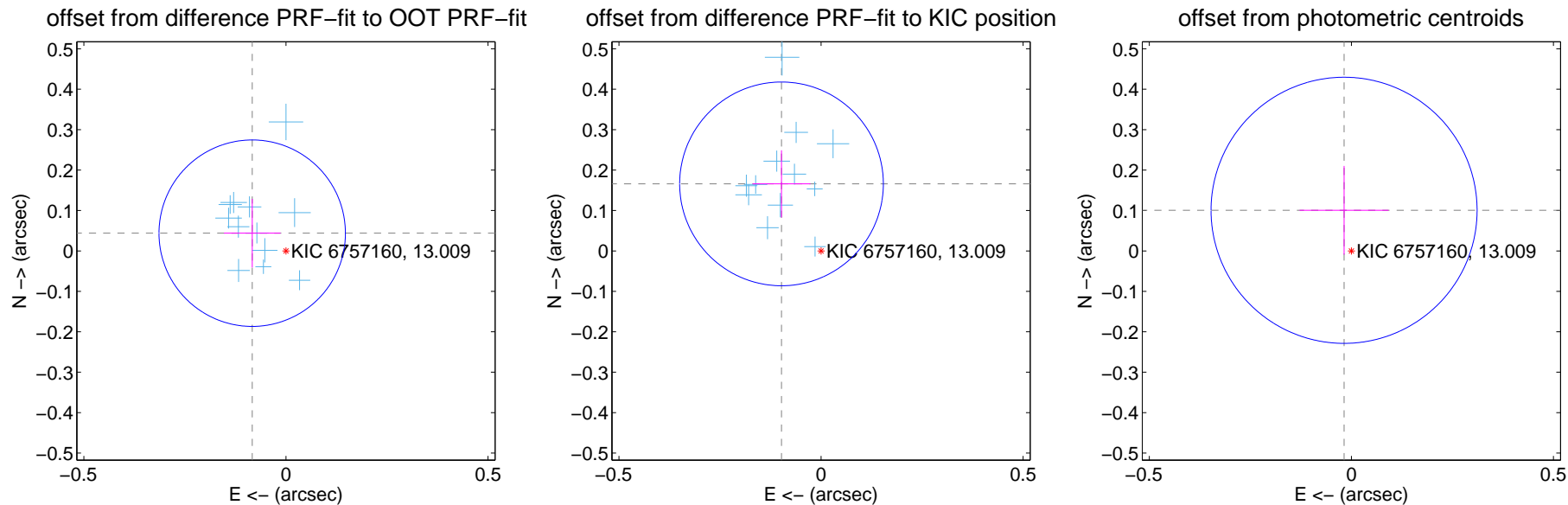
DV Centroid Data

Supplemental centroid analysis for 006757160-02. Kepler magnitude: 13.01. Transit SNR 9.70

There are 13 quarters with good PRF difference image offsets

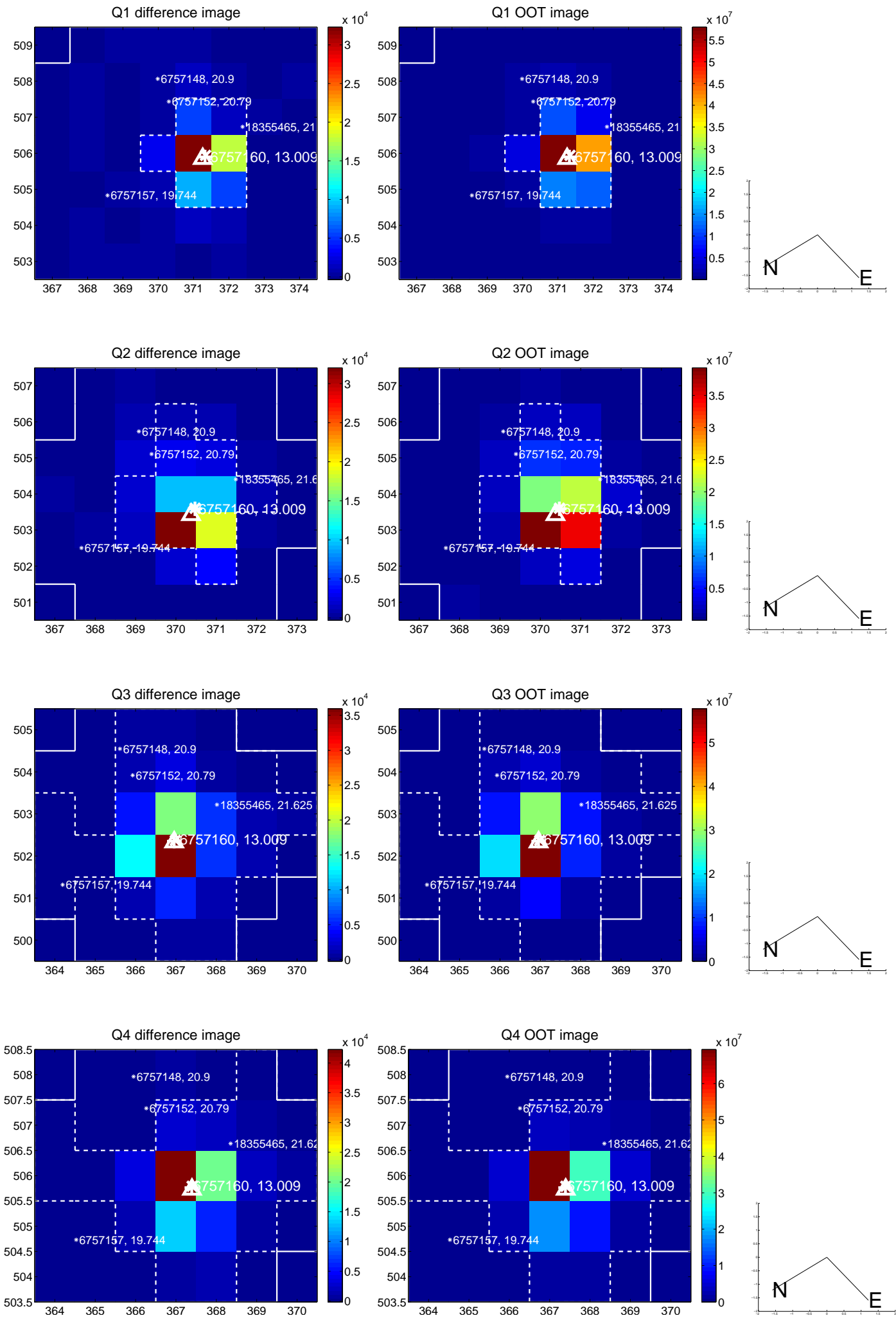
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.094 ± 0.077	1.23	0.083 ± 0.070	0.044 ± 0.085
PRF-fit source offset from KIC position	0.193 ± 0.084	2.29	0.098 ± 0.072	0.166 ± 0.083
photometric centroid source offset	0.10 ± 0.11	0.93	0.02 ± 0.11	0.10 ± 0.11

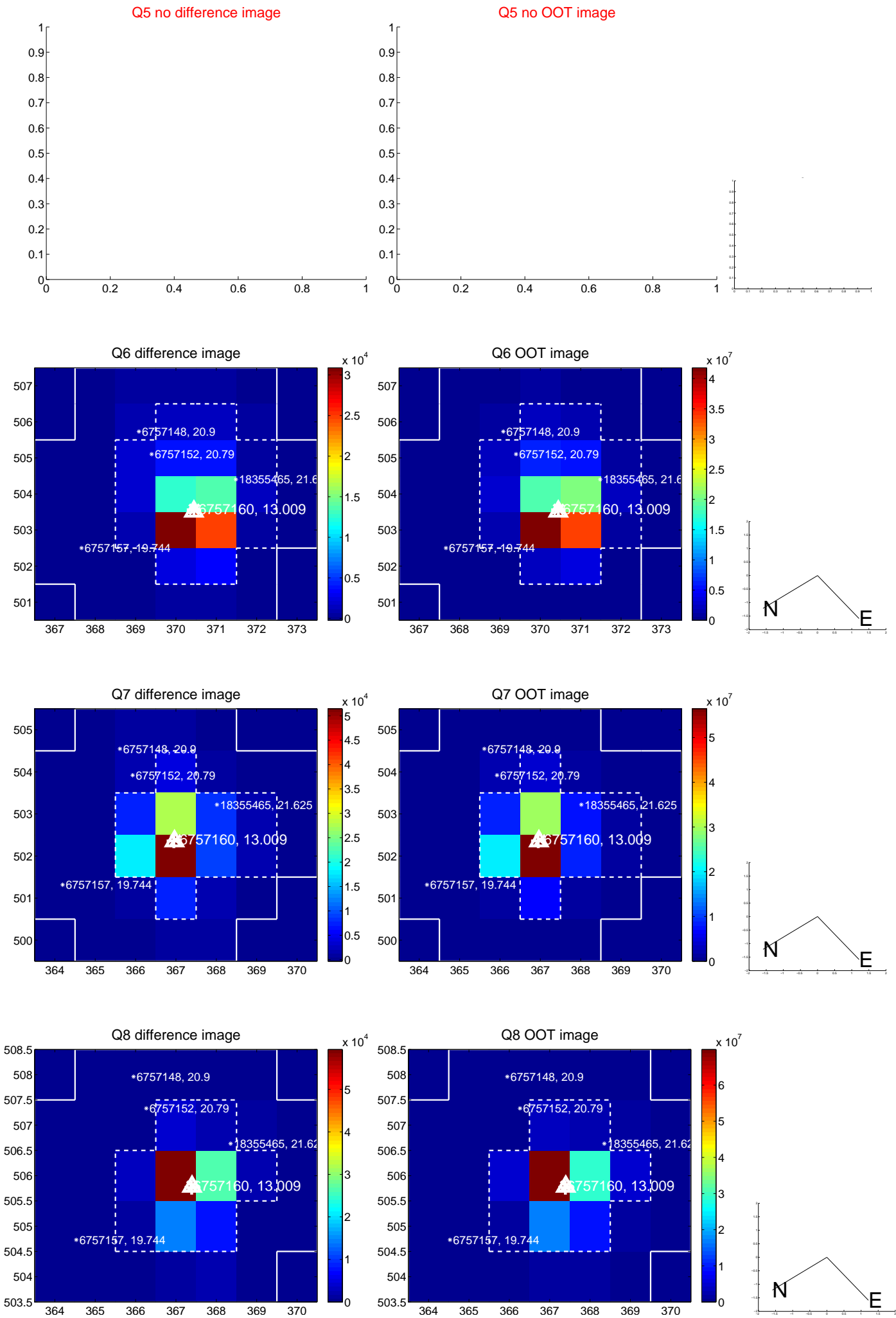


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

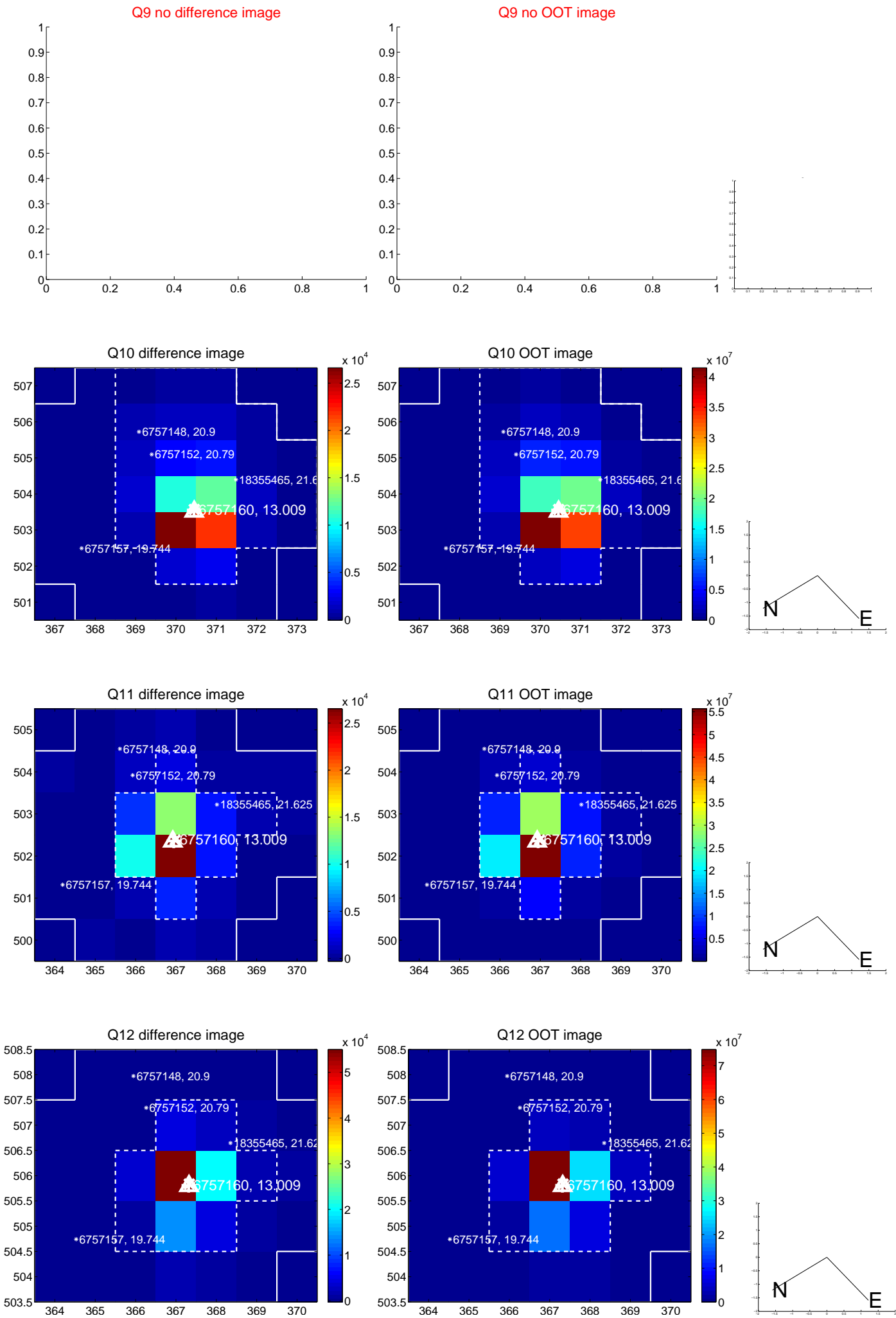
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



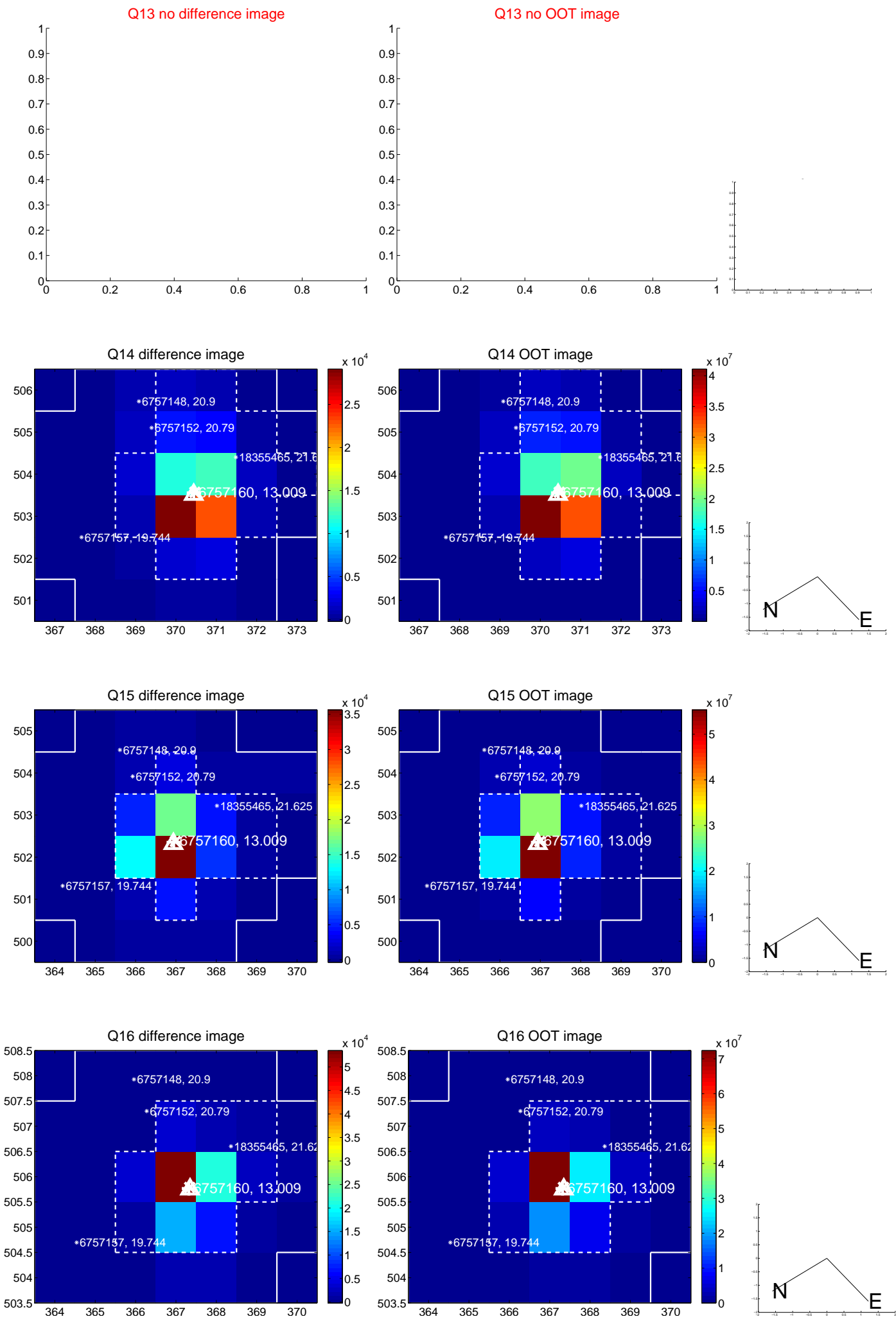
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



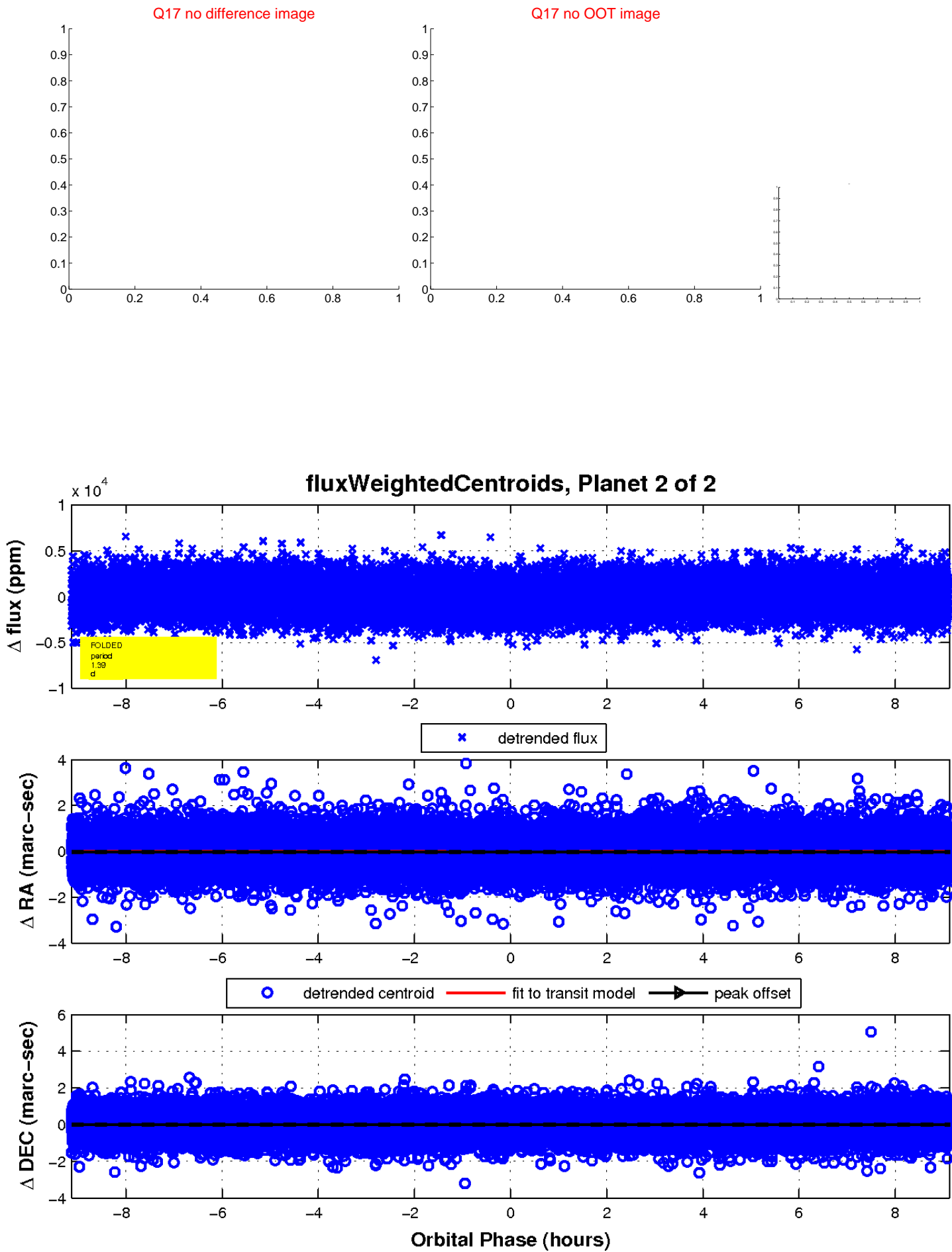
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

