

KIC 008750446

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})
008750446-01	OBS	No	3.097624	134.005468	94.3	10.884	11.5	11.6	2.40	7301	2.36	5819.53
008750446-02	OBS	No	3.096644	132.562207	65.4	18.099	7.7	9.6	2.40	7301	2.02	5821.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008750446-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
008750446-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

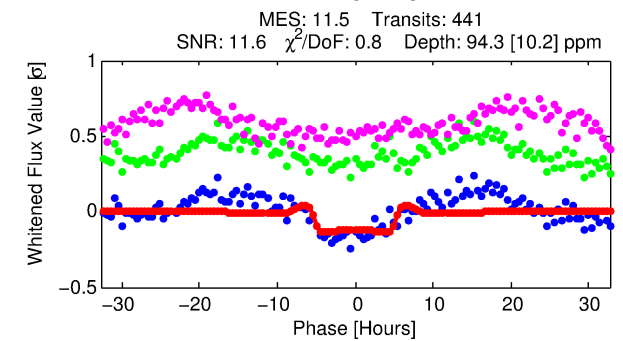
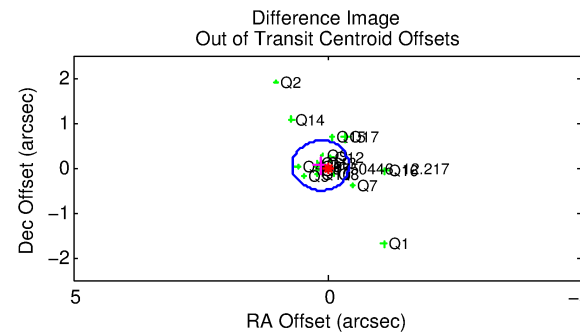
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

Ephemeris Match Information For 008750446-01

No Significant Match Found

KIC: 8750446 Candidate: 1 of 2 Period: 3.098 d

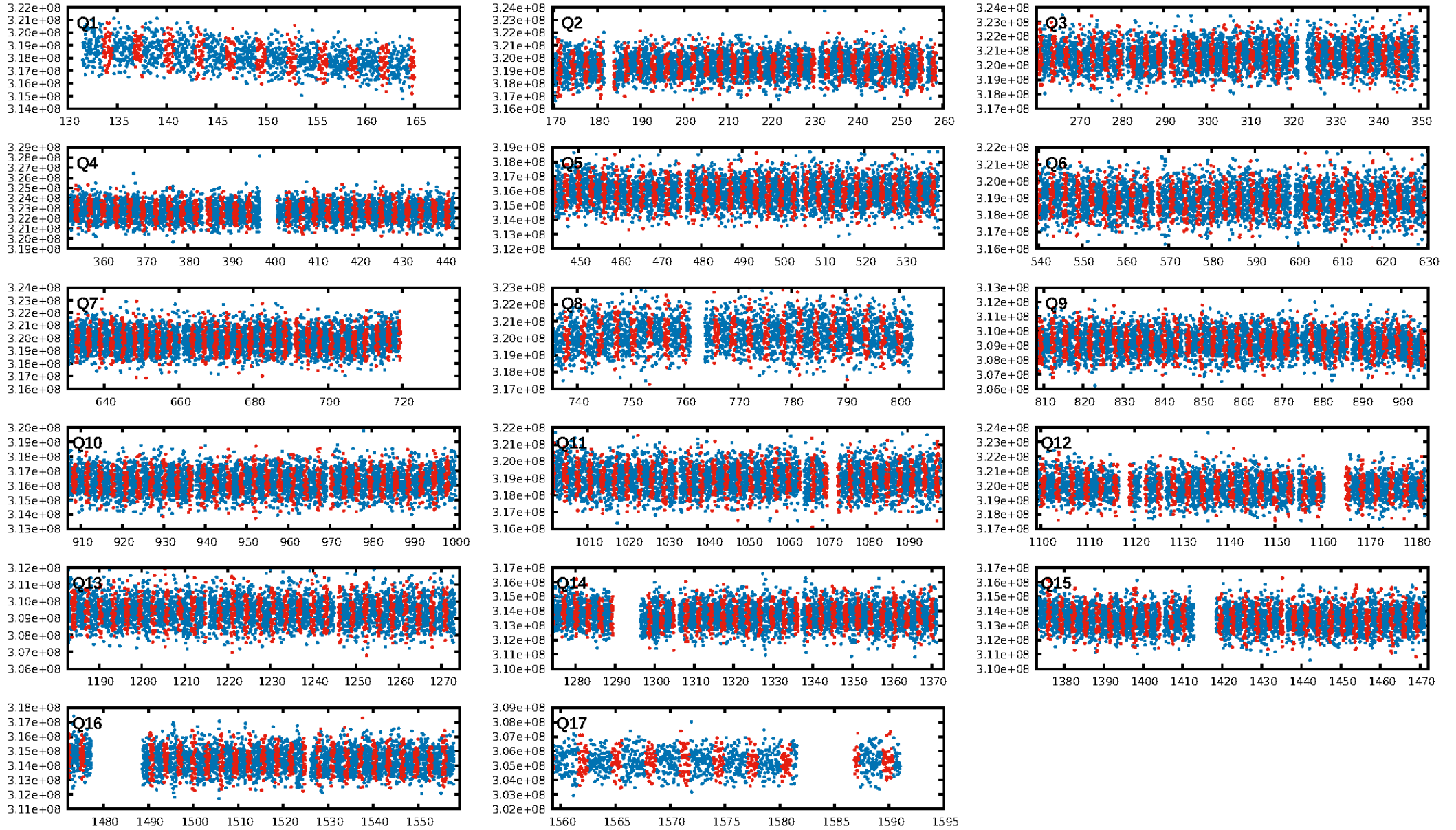


ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.97 [408/421]
GhostDiagnostic-chr: 4.317

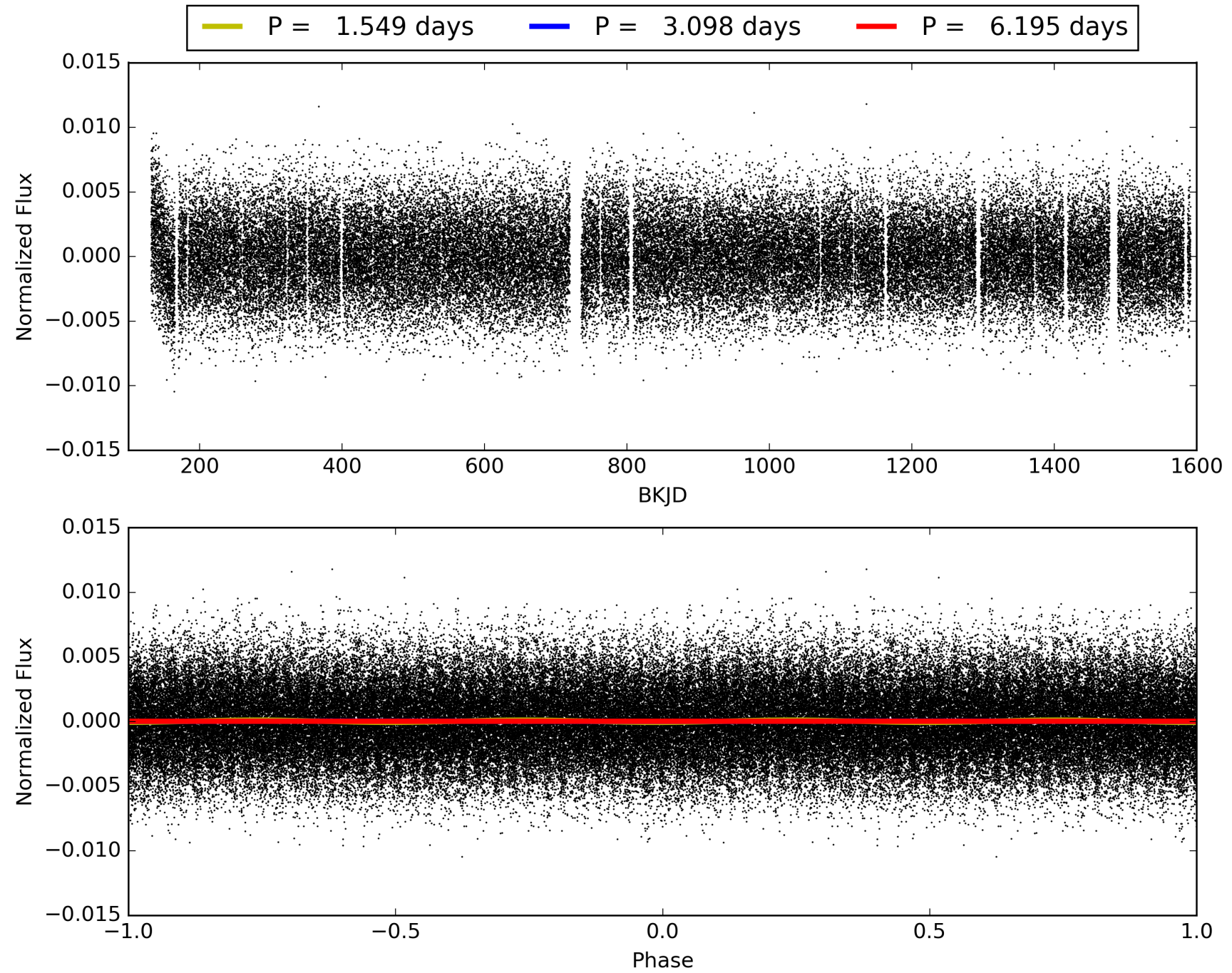
Centroid-sig: 1.1%
Centroid-so: 0.277 arcsec [1.86σ]
OotOffset-rm: 0.143 arcsec [0.77σ]
KicOffset-rm: 0.125 arcsec [0.68σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]

DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008750446-01, PDC Light Curves

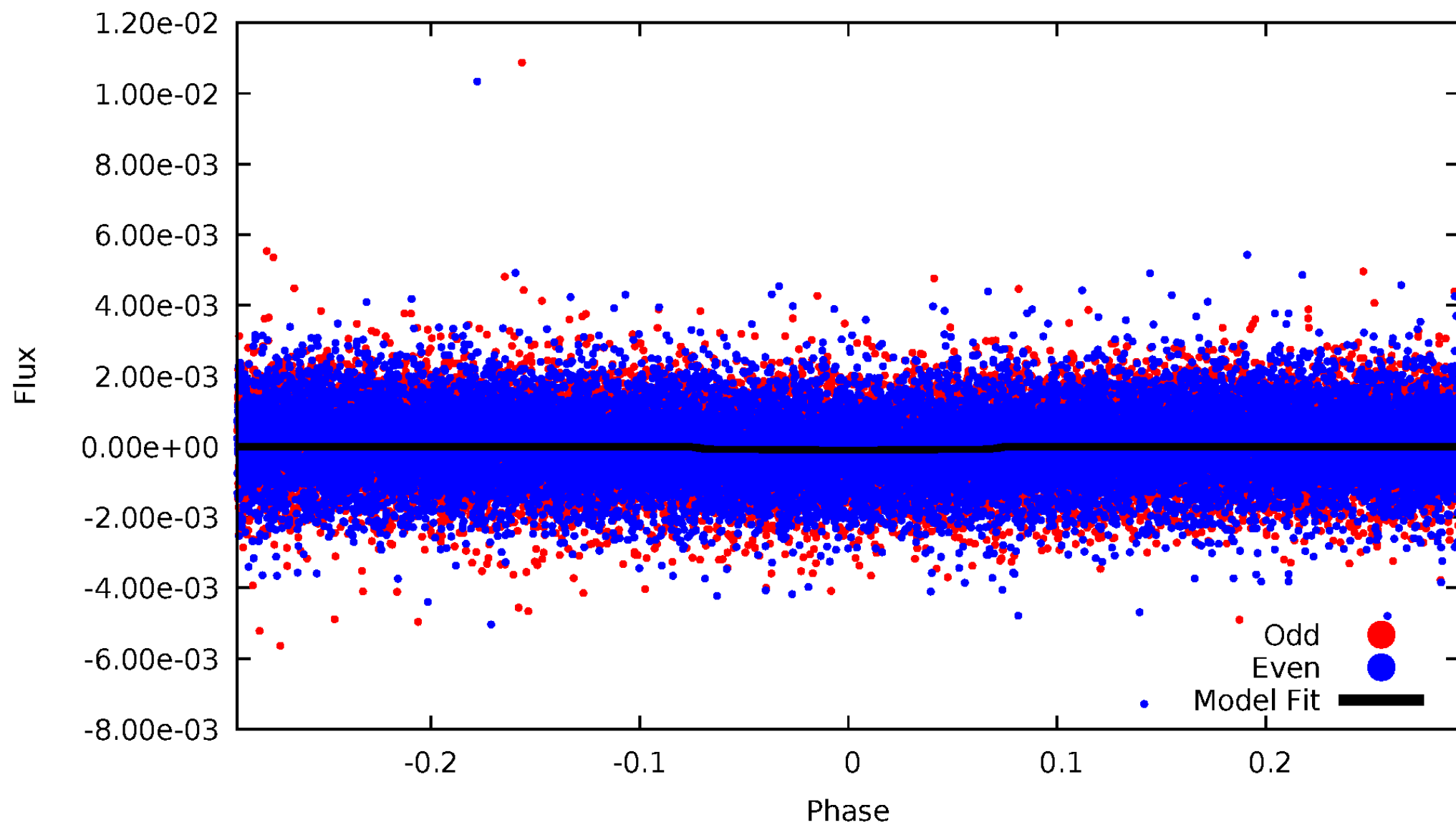


TCE 008750446-01



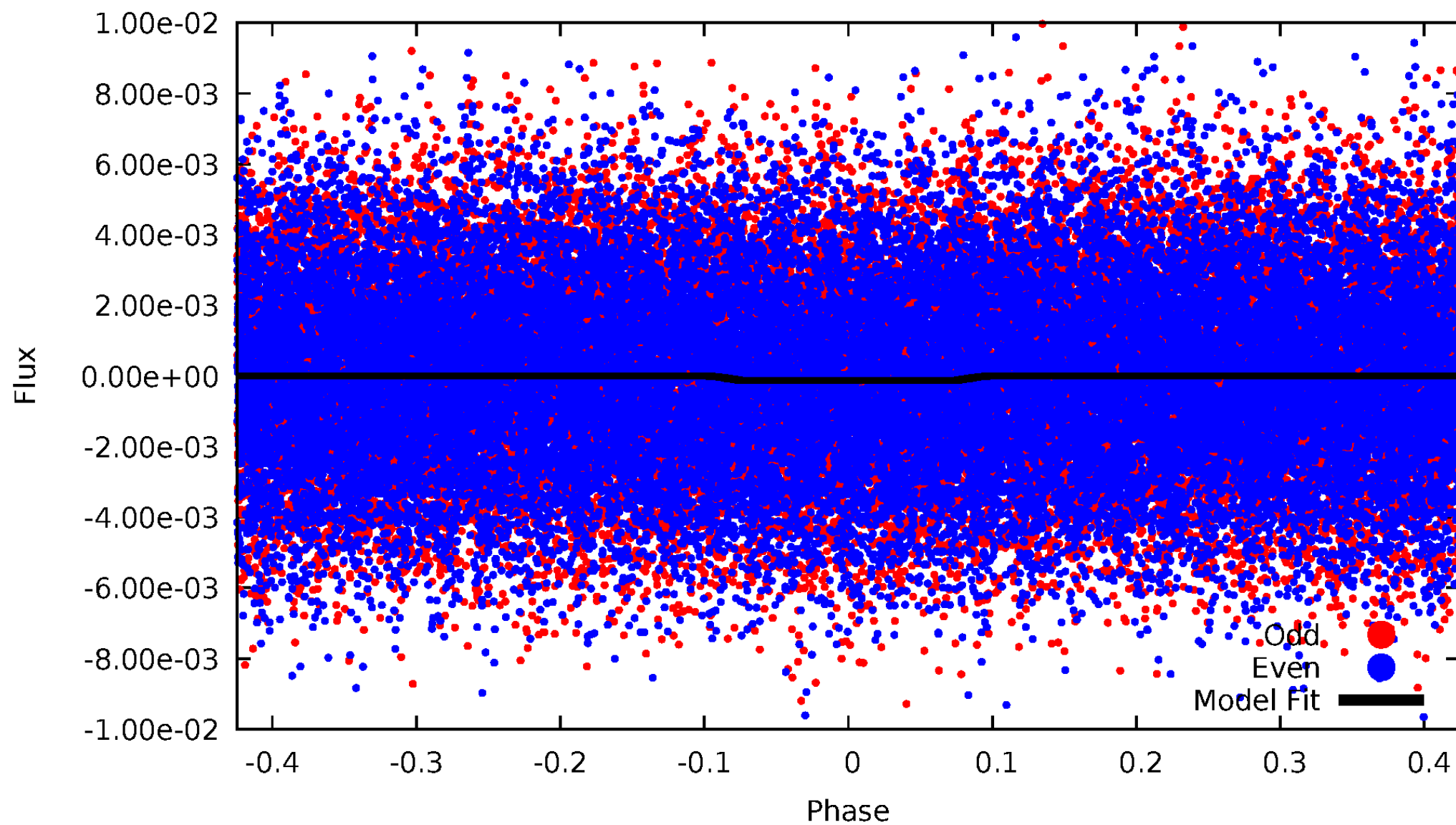
DV Odd/Even

TCE 008750446-01



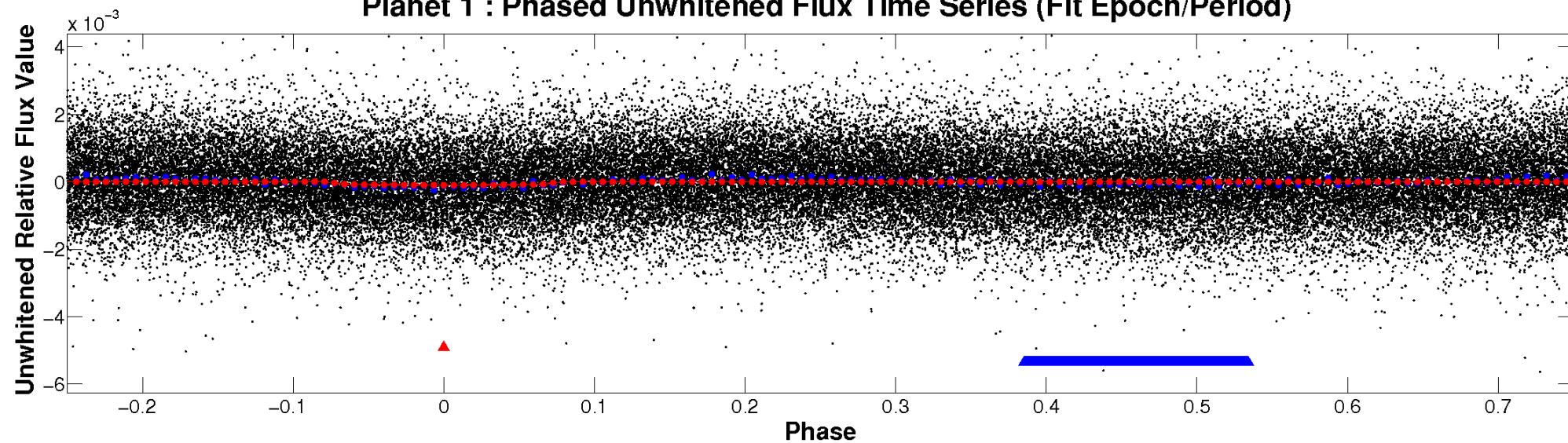
ALT Odd/Even

TCE 008750446-01

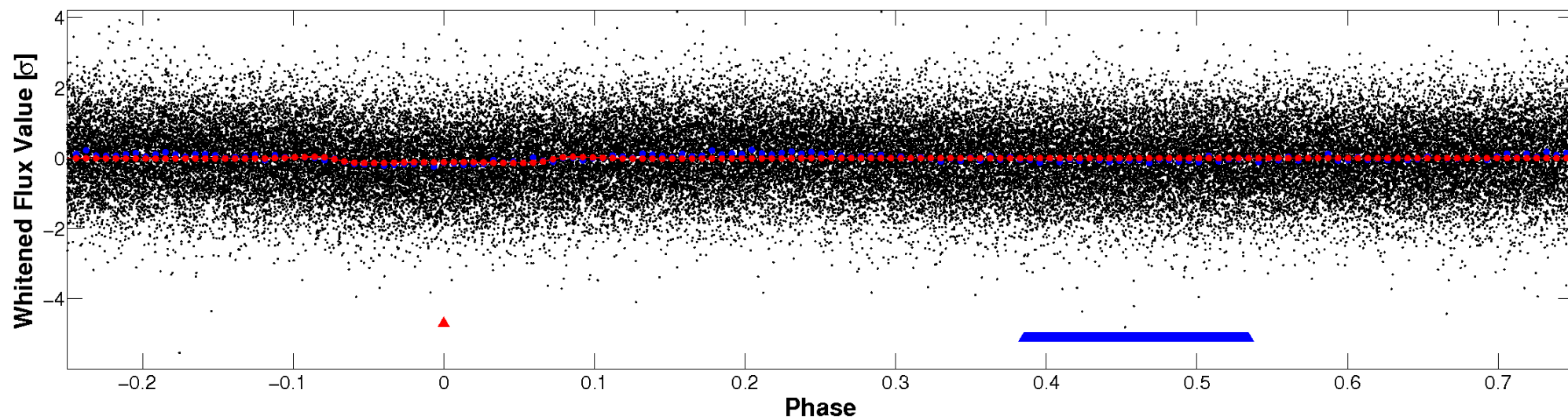


Non-Whitened Vs. Whitened Light Curve

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

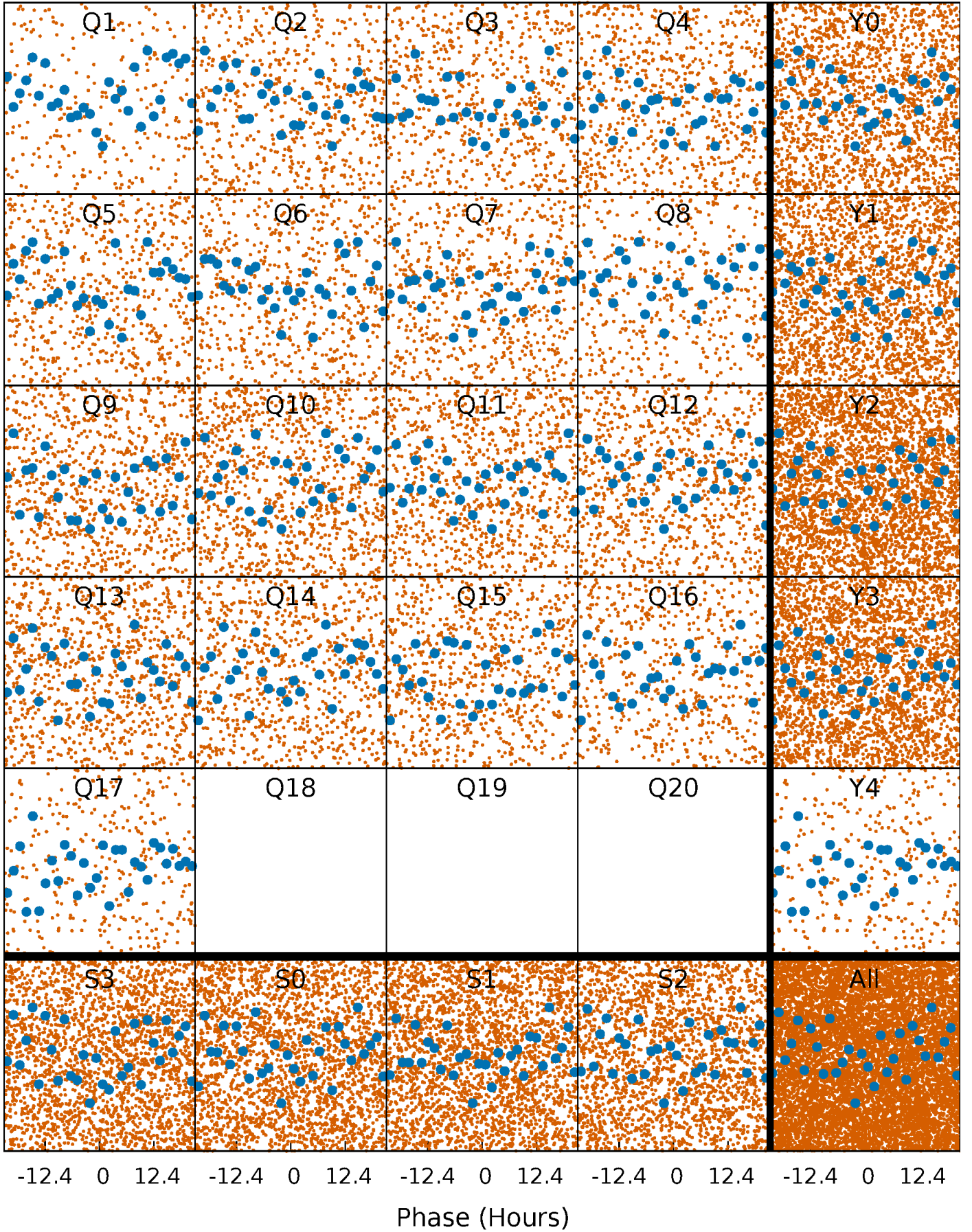


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



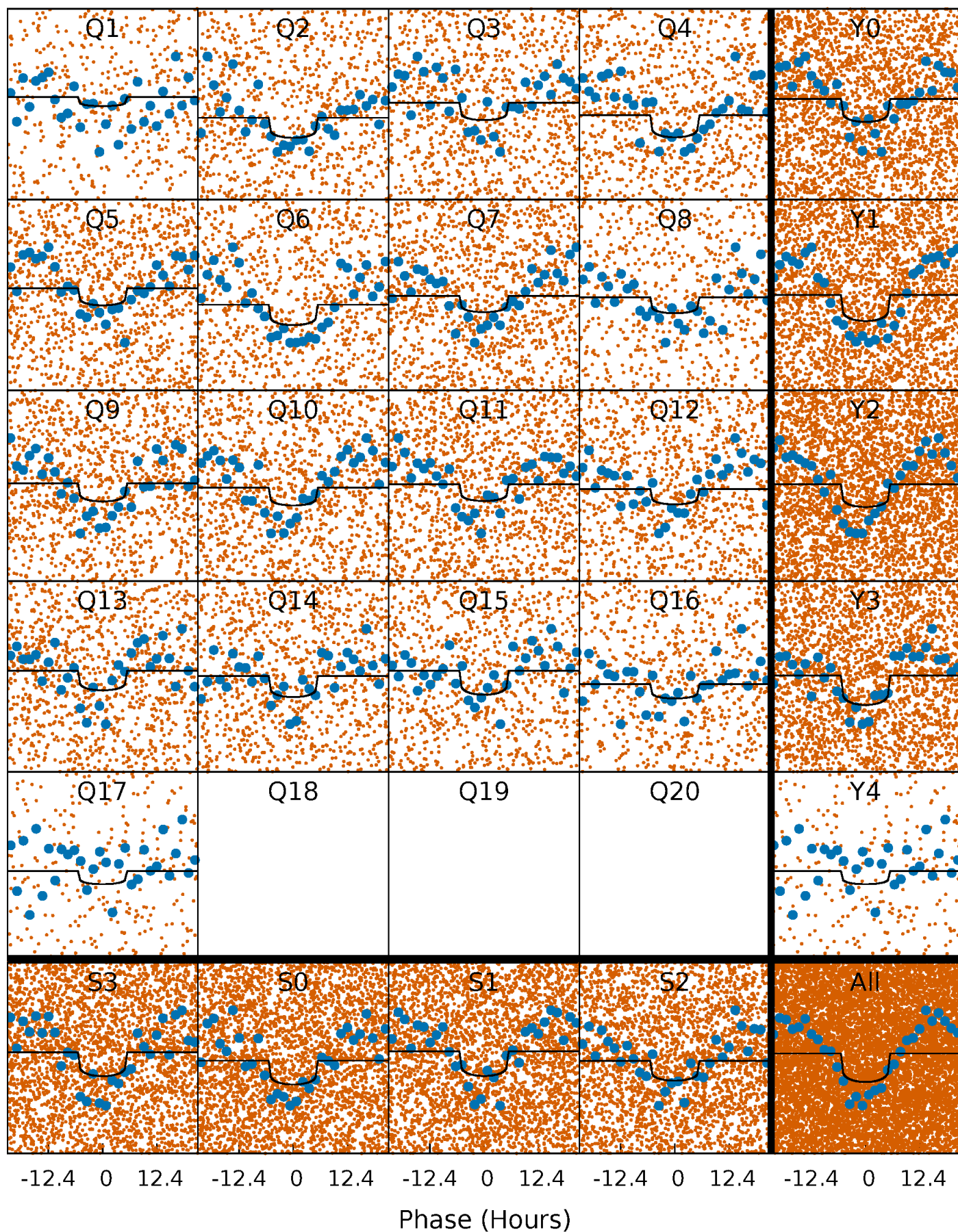
PDC Quarter-Phased Transit Curves

TCE 008750446-01 P= 3.097624 Days $T_0=134.005468$ (BKJD)



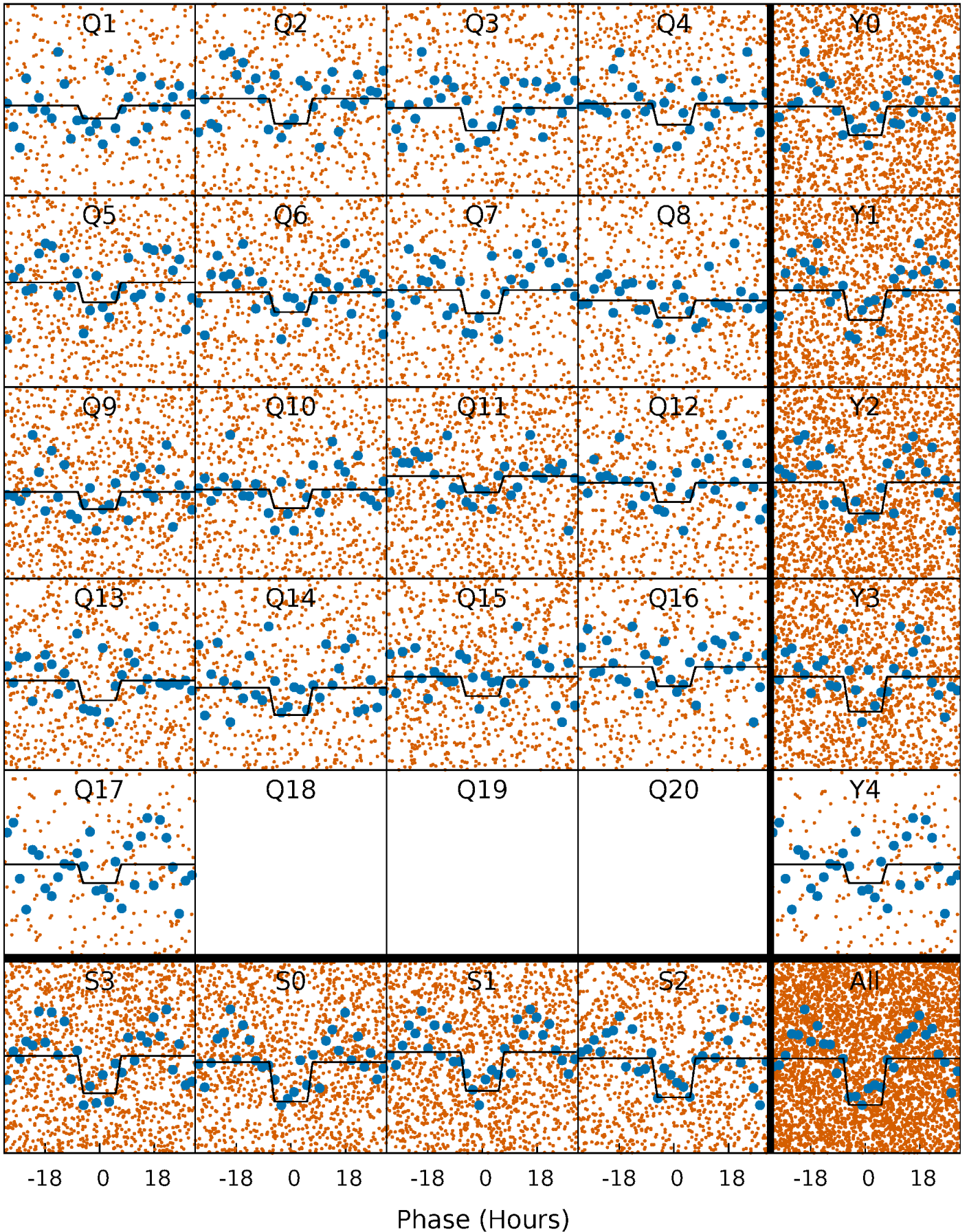
DV Quarter-Phased Transit Curves

TCE 008750446-01 P= 3.097624 Days $T_0=134.005468$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

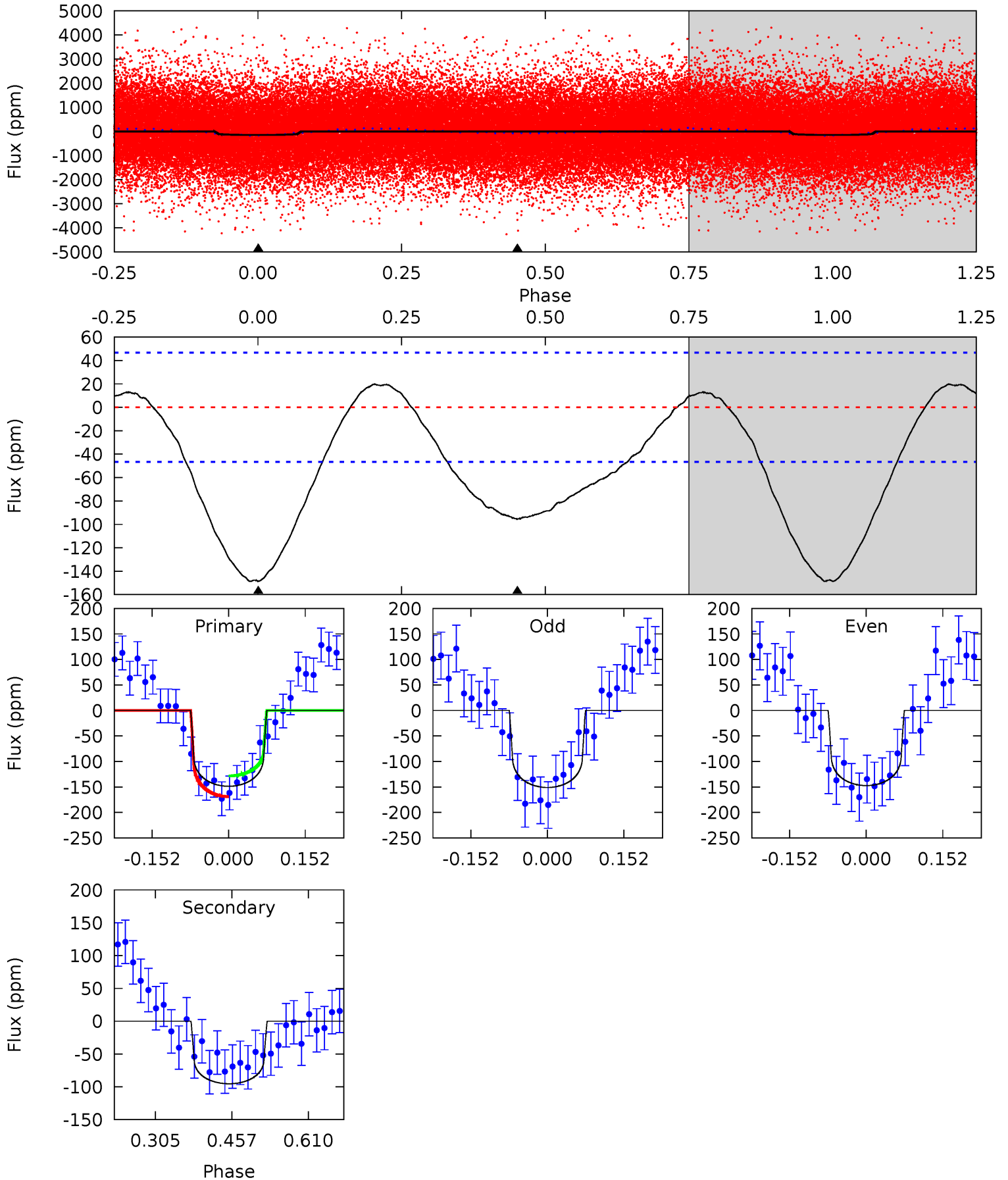
TCE 008750446-01 P= 3.097497 Days $T_0=134.040222$ (BKJD)



DV Model-Shift Uniqueness Test

008750446-01, P = 3.097624 Days, E = 130.907844 Days

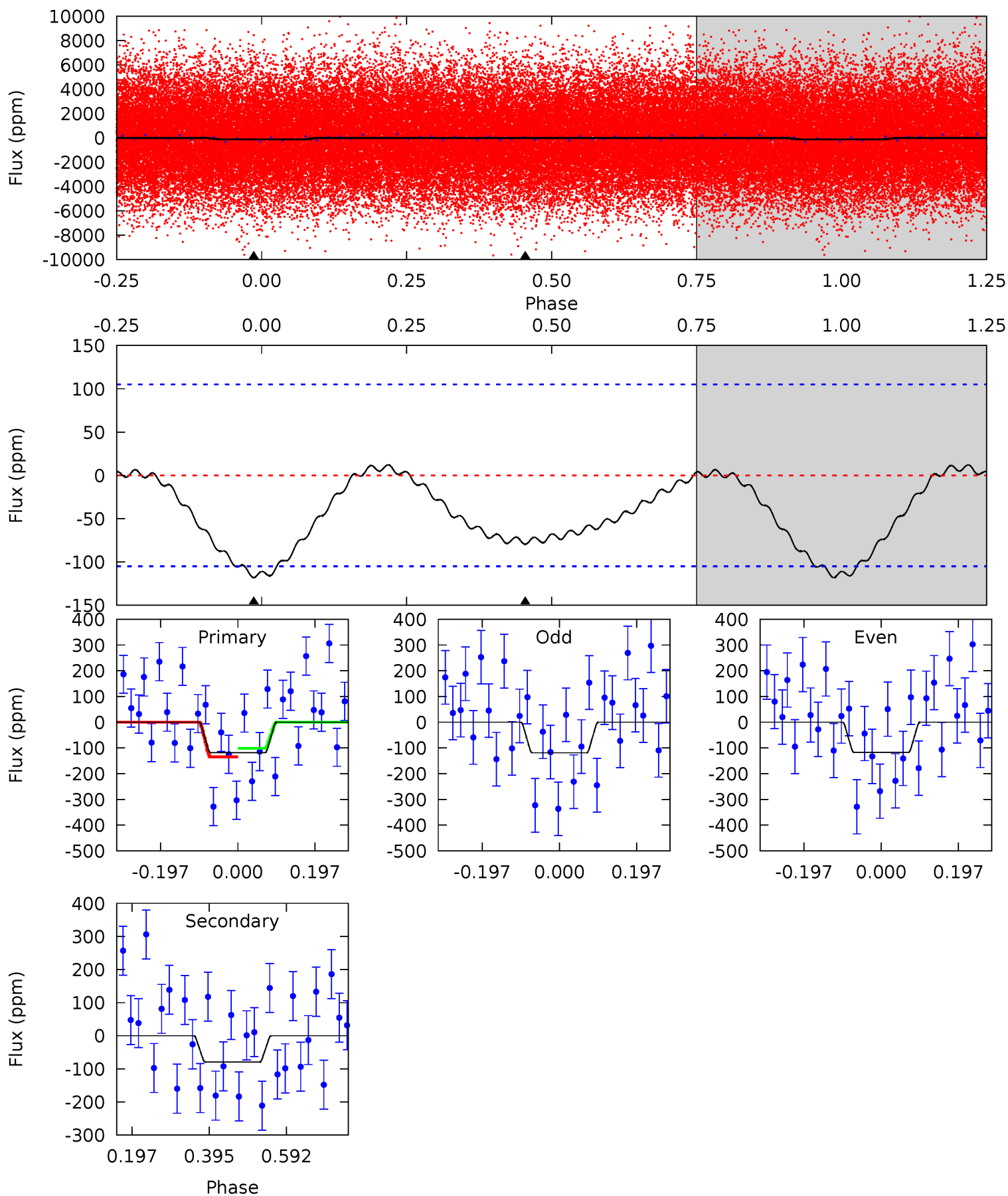
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	9.14	0	0	4.48	1.43	2.17	14.3	14.3	9.14	9.14	0.18	1.02	0.12	1.95



Alt Model-Shift Uniqueness Test

008750446-01, P = 3.097497 Days, E = 130.942725 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.97	3.35	0	0	4.42	1.29	0.55	4.97	4.97	3.35	3.35	0.03	1.12	0.09	0.70



Stellar Parameters For KIC 008750446

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7301^{+80}_{-80}	$3.923^{+0.143}_{-0.117}$	$0.020^{+0.200}_{-0.150}$	$2.403^{+0.498}_{-0.453}$	$1.765^{+0.212}_{-0.159}$	$0.179^{+0.129}_{-0.064}$
	+1%/-1%	+4%/-3%	+1000%/-750%	+21%/-19%	+12%/-9%	+72%/-36%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 008750446-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-95 ± 10	$2.53^{+1.98}_{-1.49}$	3110^{+151}_{-146}	7243^{+6733}_{-1782}	20^{+101}_{-14}
Alt.	-79 ± 24	$3.05^{+1.77}_{-1.52}$	3091^{+161}_{-142}	6153^{+3331}_{-1269}	12^{+38}_{-7}

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

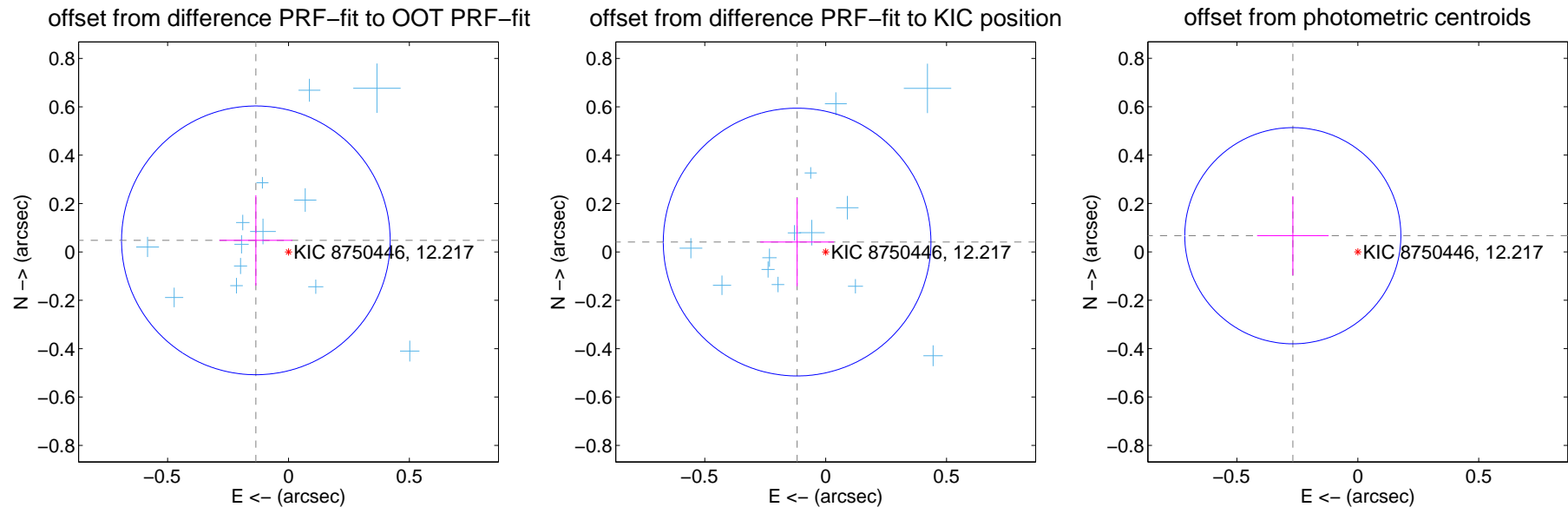
DV Centroid Data

Supplemental centroid analysis for 008750446-01. Kepler magnitude: 12.22. Transit SNR 11.61

There are 16 quarters with good PRF difference image offsets

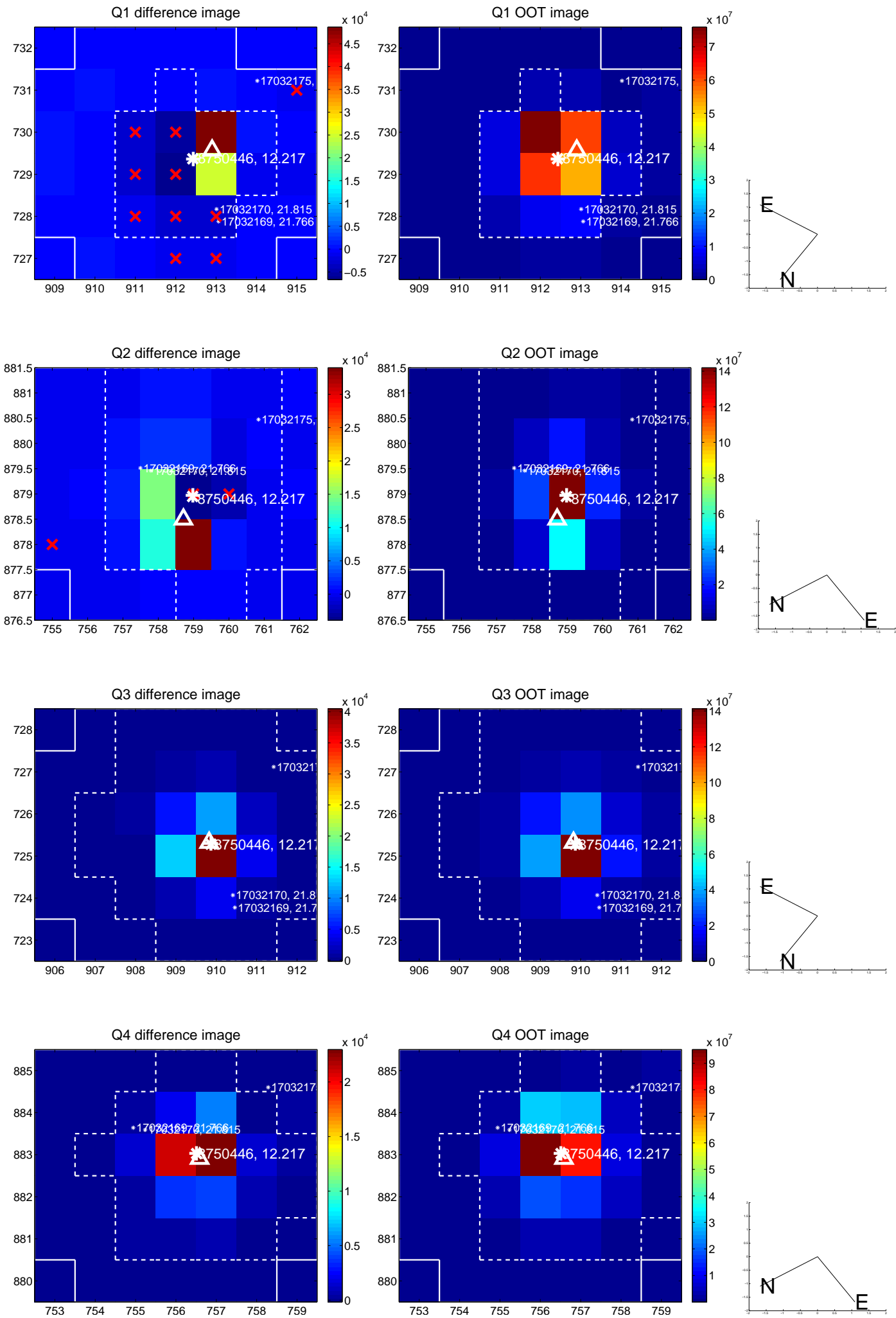
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.143 ± 0.185	0.77	0.135 ± 0.151	0.048 ± 0.187
PRF-fit source offset from KIC position	0.125 ± 0.185	0.68	0.118 ± 0.153	0.041 ± 0.182
photometric centroid source offset	0.28 ± 0.15	1.86	0.27 ± 0.15	0.07 ± 0.16

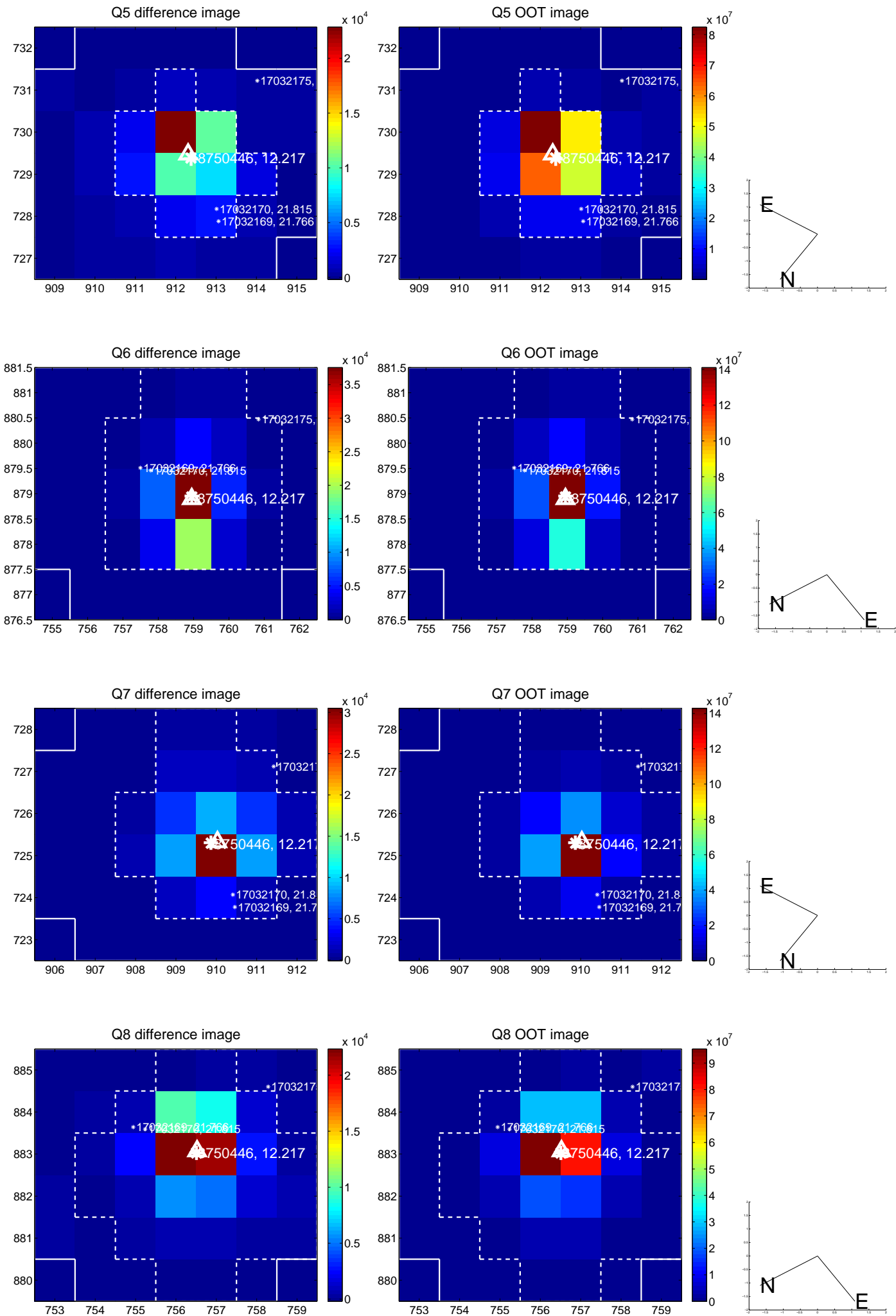


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

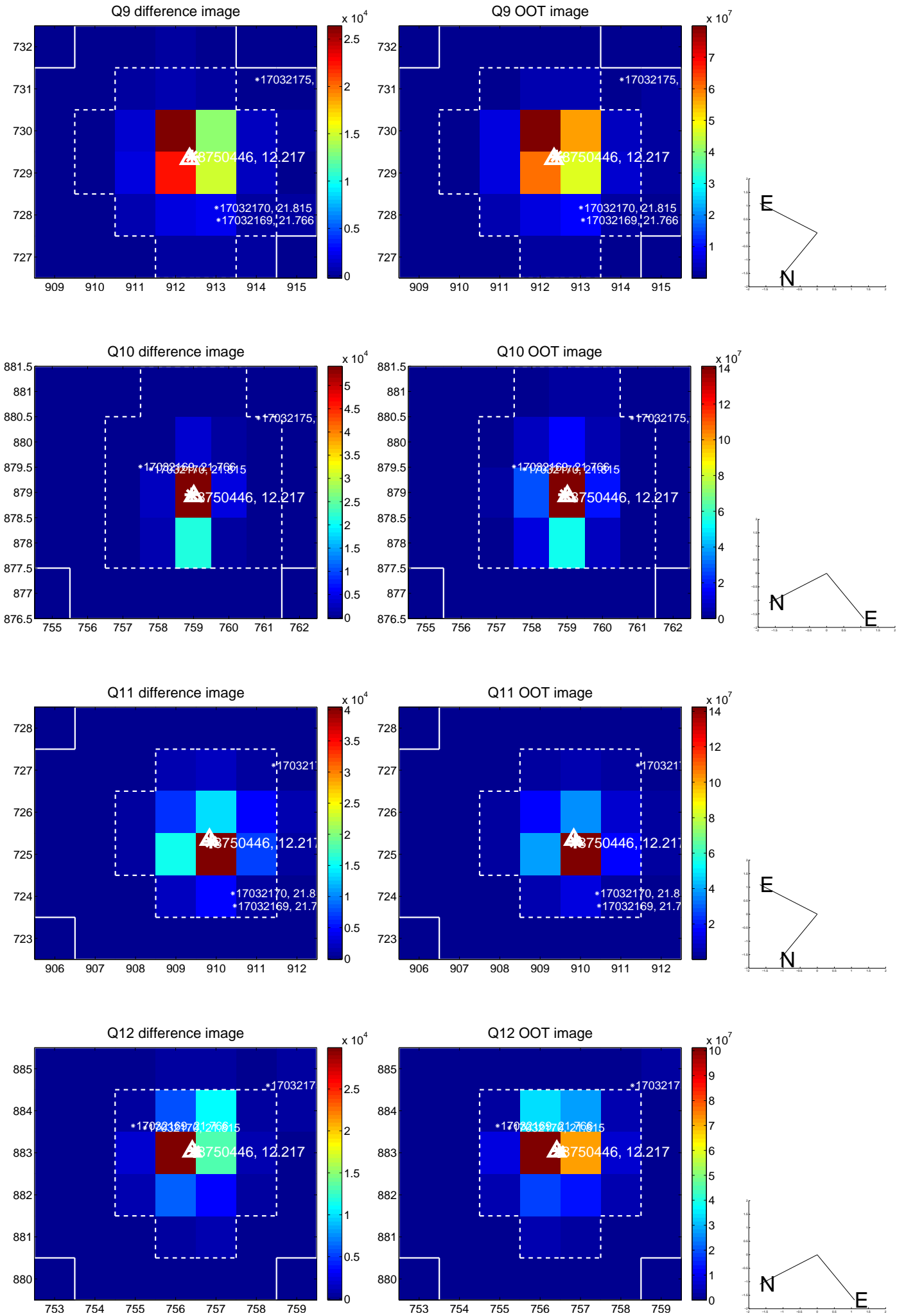
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



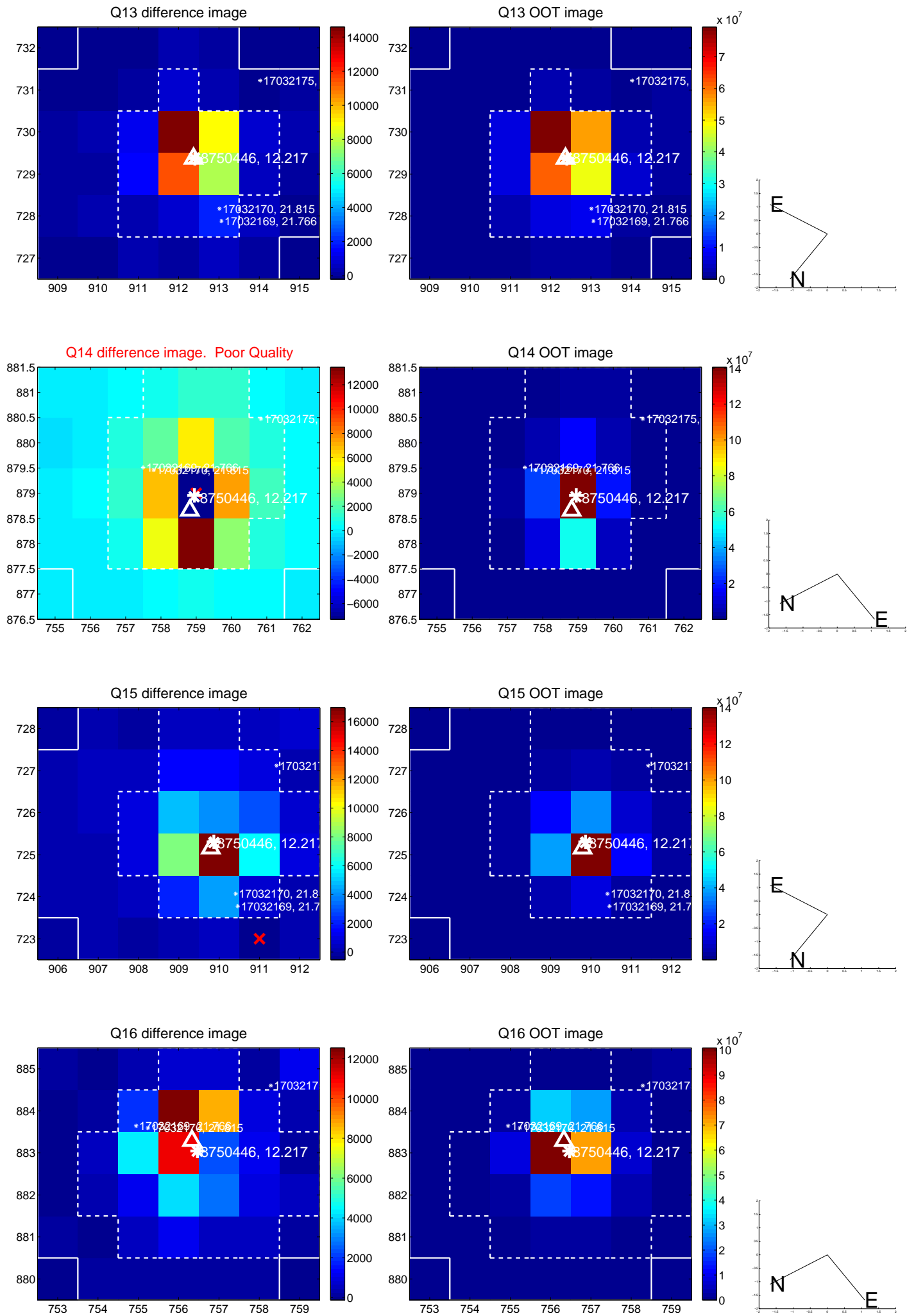
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



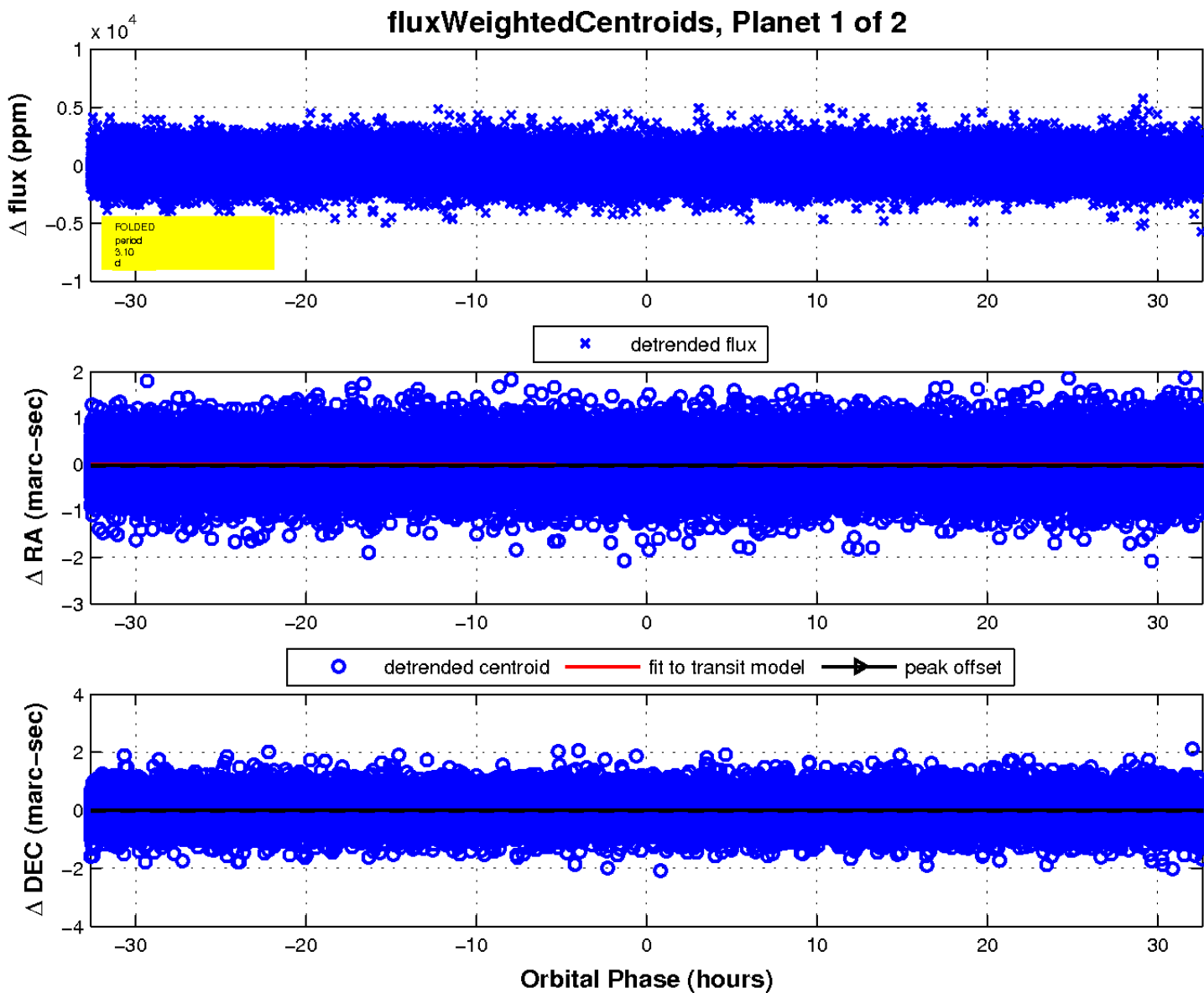
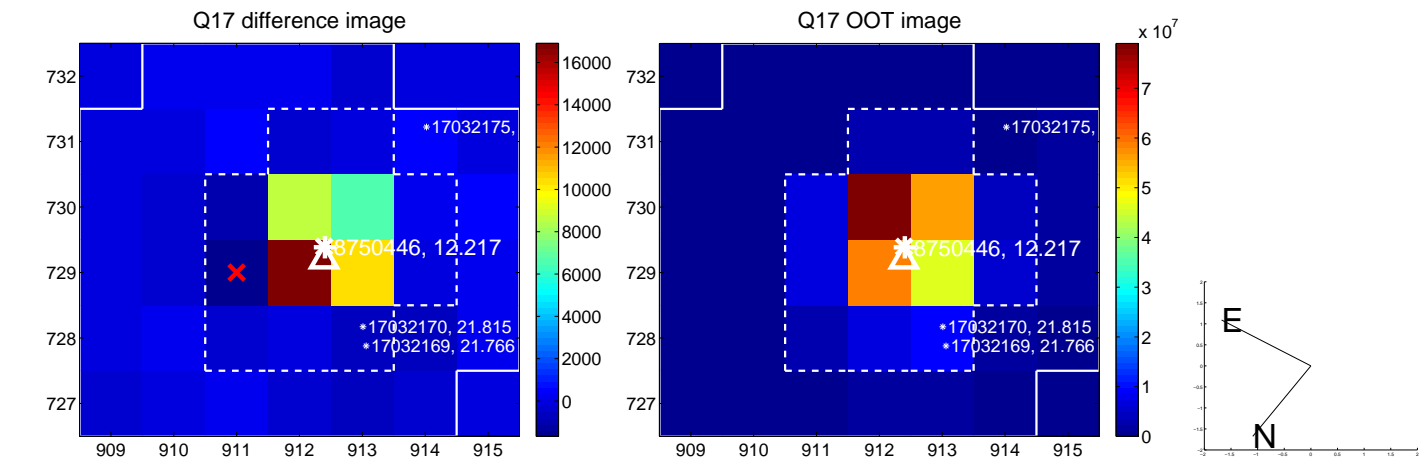
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



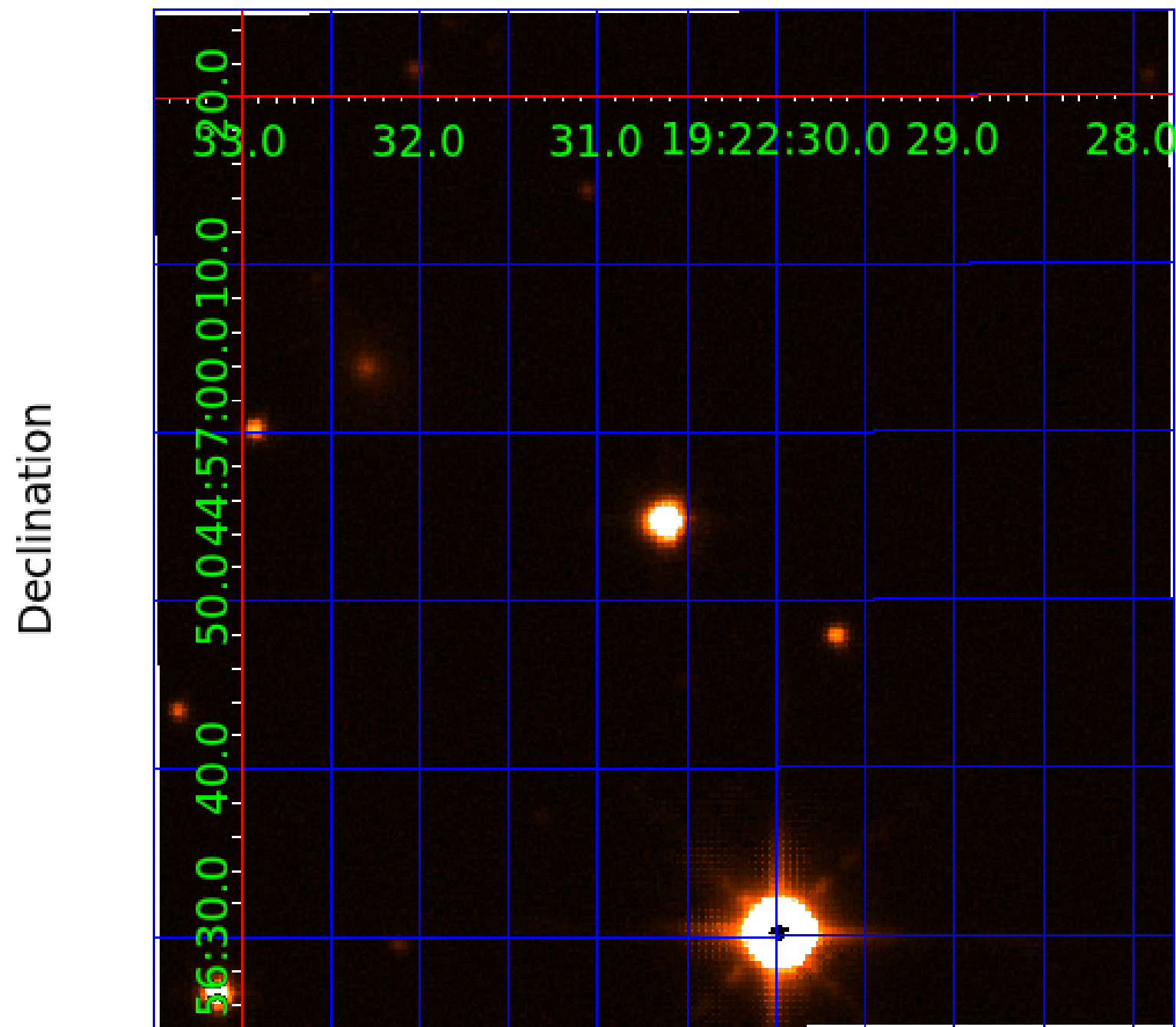
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008750446

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})
008750446-01	OBS	No	3.097624	134.005468	94.3	10.884	11.5	11.6	2.40	7301	2.36	5819.53
008750446-02	OBS	No	3.096644	132.562207	65.4	18.099	7.7	9.6	2.40	7301	2.02	5821.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008750446-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
008750446-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_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.

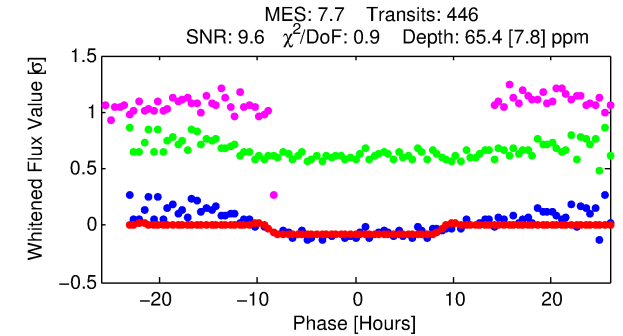
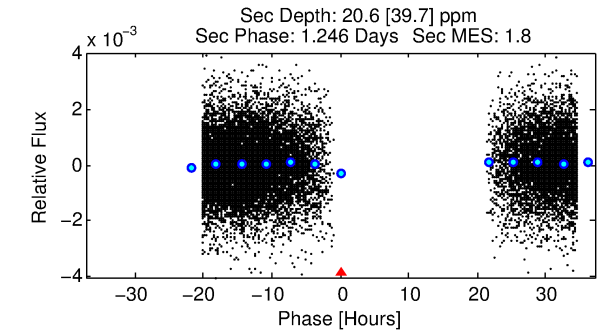
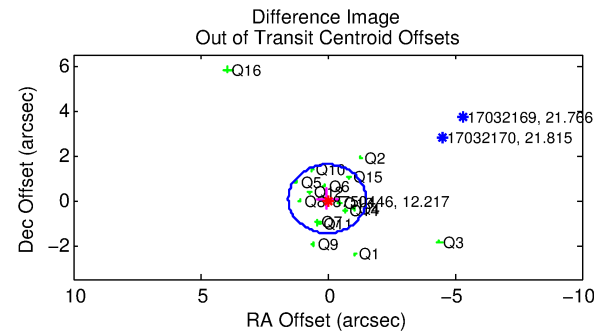
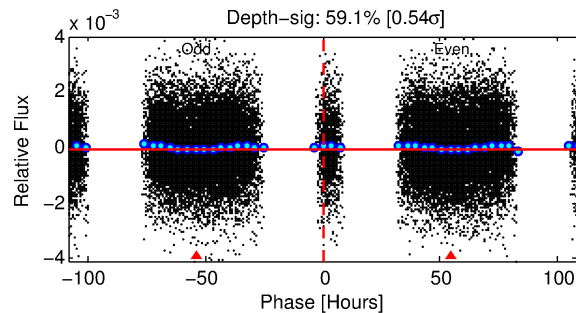
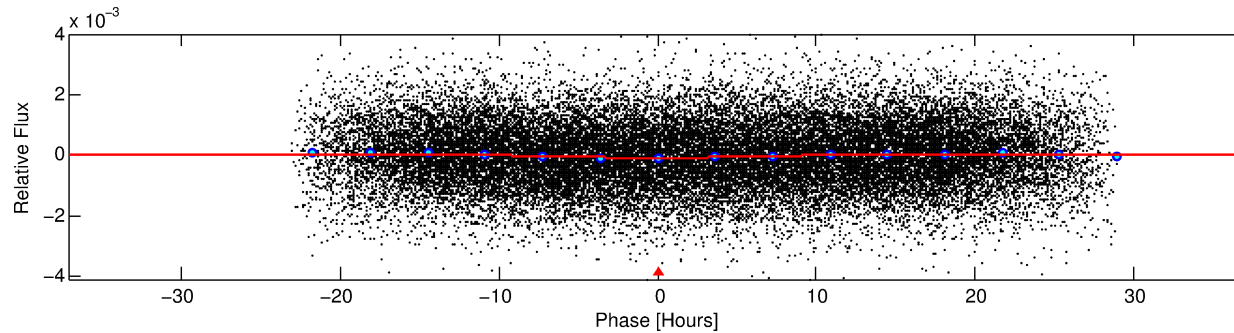
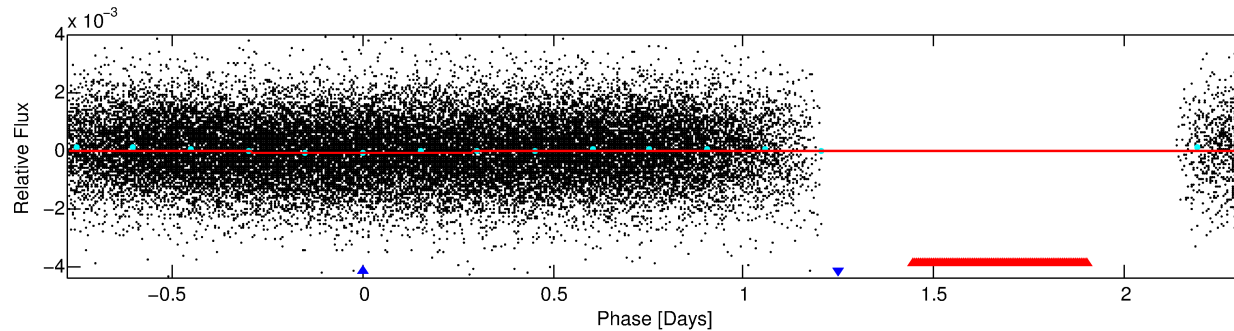
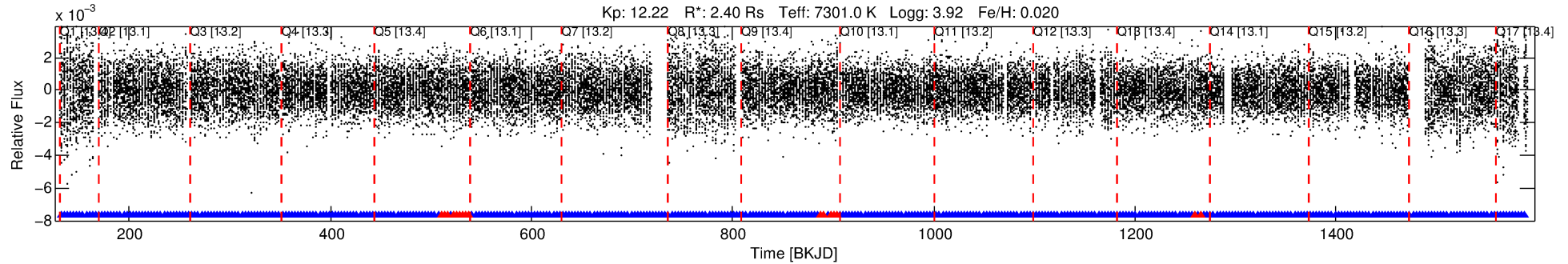
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008750446-02

No Significant Match Found

DV One-Page Summary

KIC: 8750446 Candidate: 2 of 2 Period: 3.097 d



DV Fit Results:

Period = 3.09664 [0.00008] d
Epoch = 132.5622 [0.0186] BKJD
Rp/R* = 0.0077 [0.0074]
a/R* = 1.36 [3.60]
b = 0.51 [8.57]
Seff = 5821.99 [1531.47]
Teq = 2227 [146] K
Rp = 2.02 [1.97] Re
a = 0.0502 [0.0089] AU
Ag = 7.04 [19.15] [0.32 σ]
Teffp = 5609 [3800] K [0.89 σ]

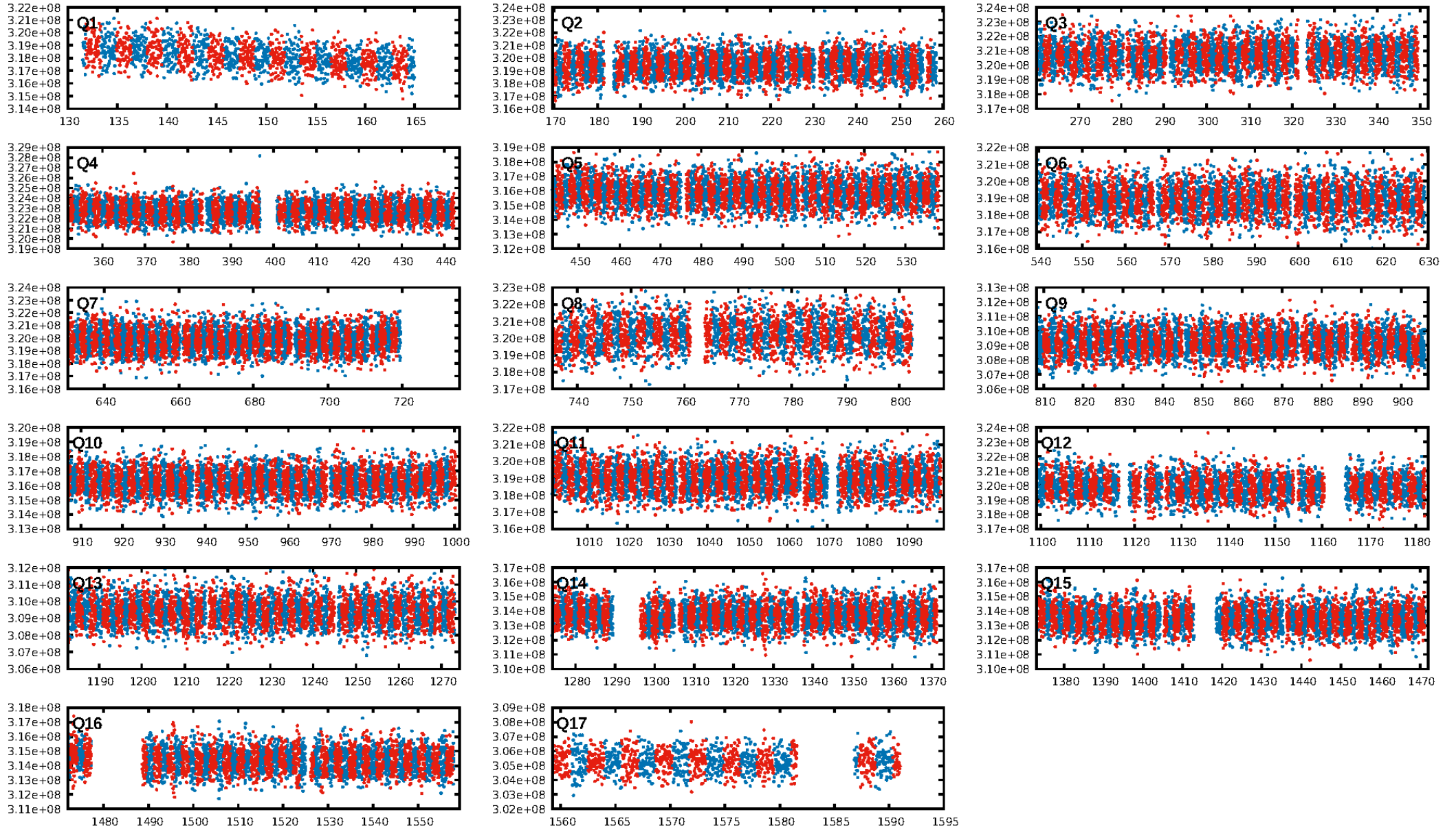
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.96 [409/425]
GhostDiagnostic-chr: 1.656
Centroid-sig: 16.0%
Centroid-so: 0.291 arcsec [1.55 σ]
OotOffset-rm: 0.072 arcsec [0.14 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-rm: 0.052 arcsec [0.10 σ]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.75 [12/16]
DiffImageOverlap-fno: 0.29 [5/17]

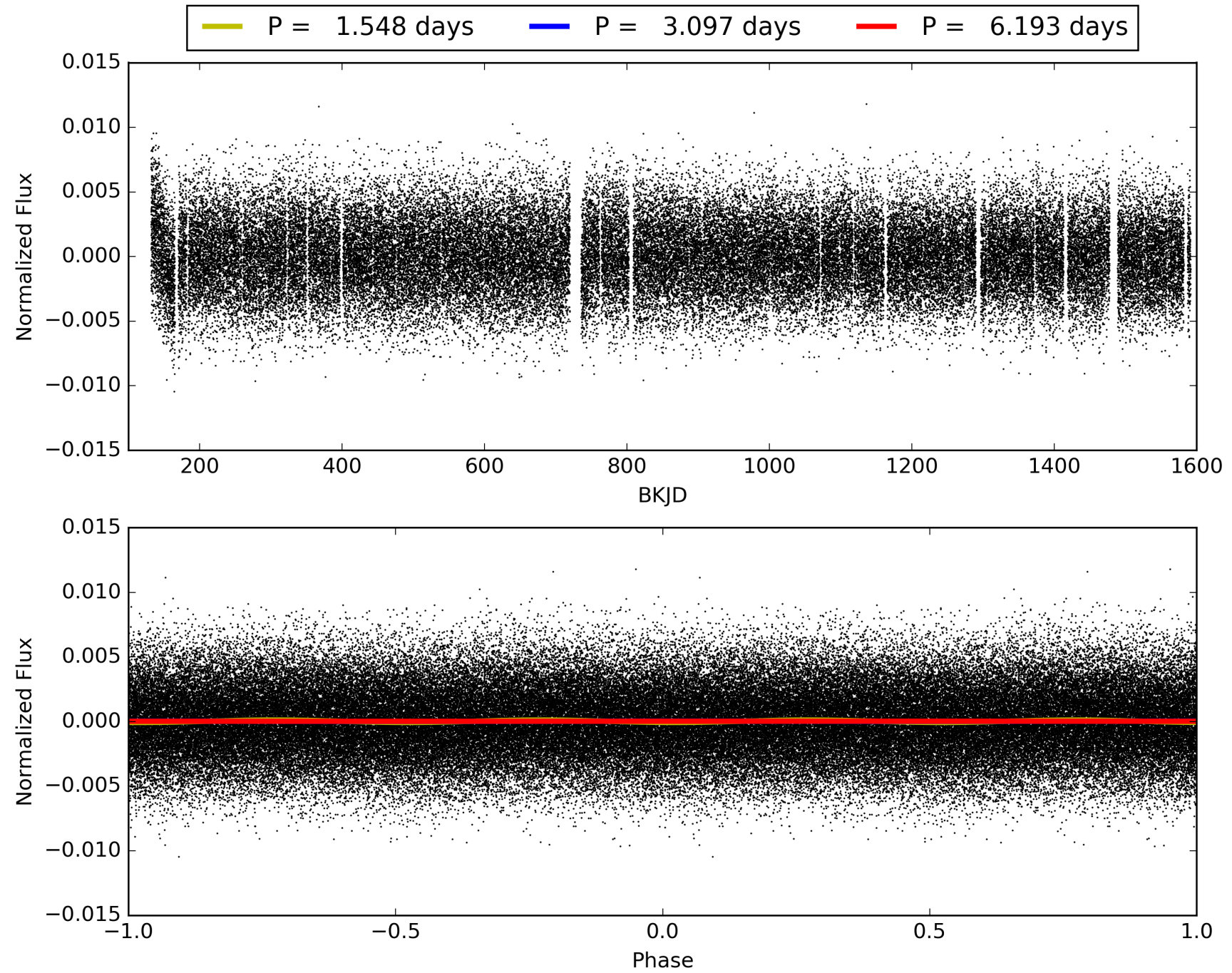
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:28:18 Z

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

TCE 008750446-02, PDC Light Curves

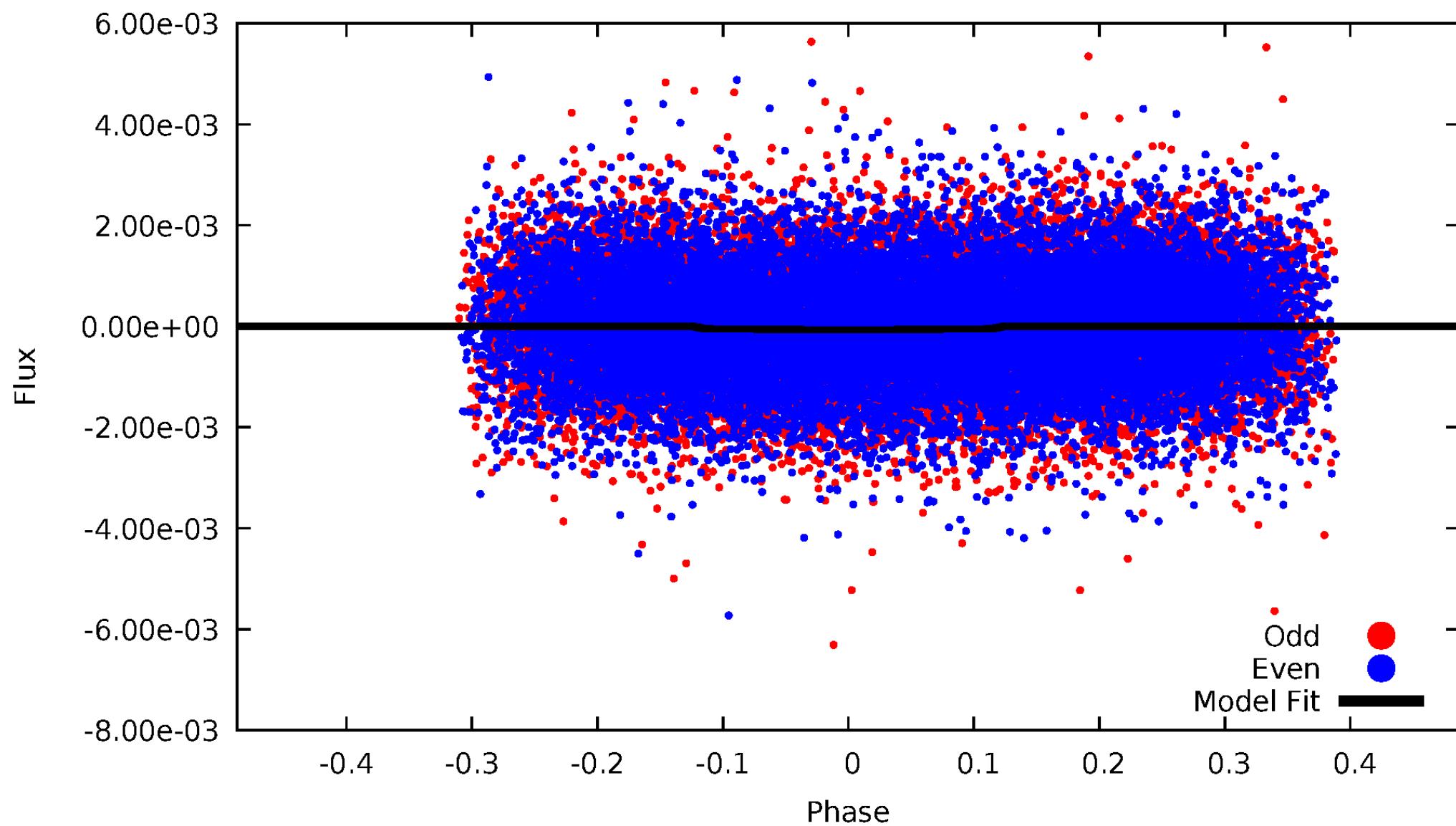


TCE 008750446-02



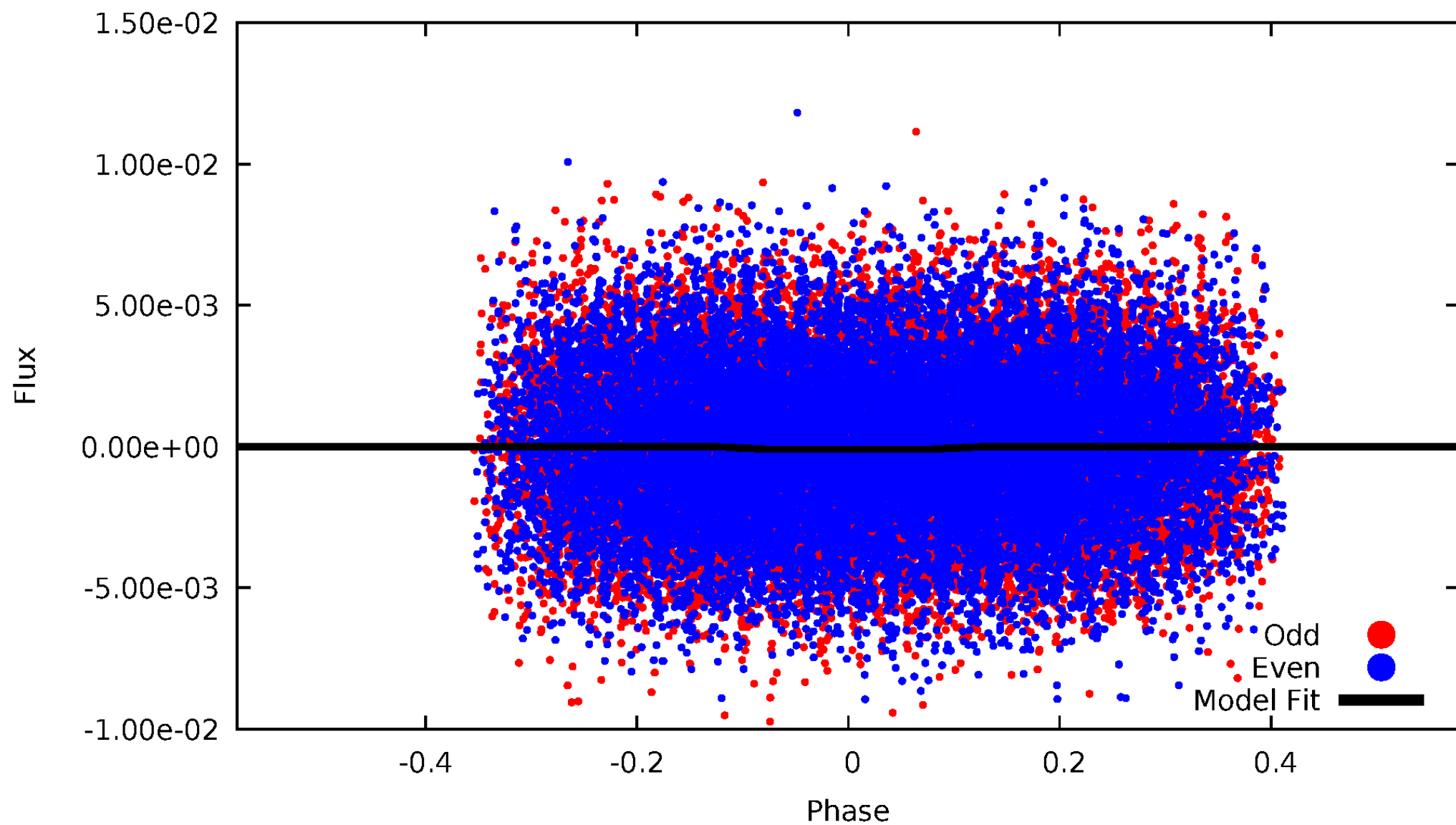
DV Odd/Even

TCE 008750446-02



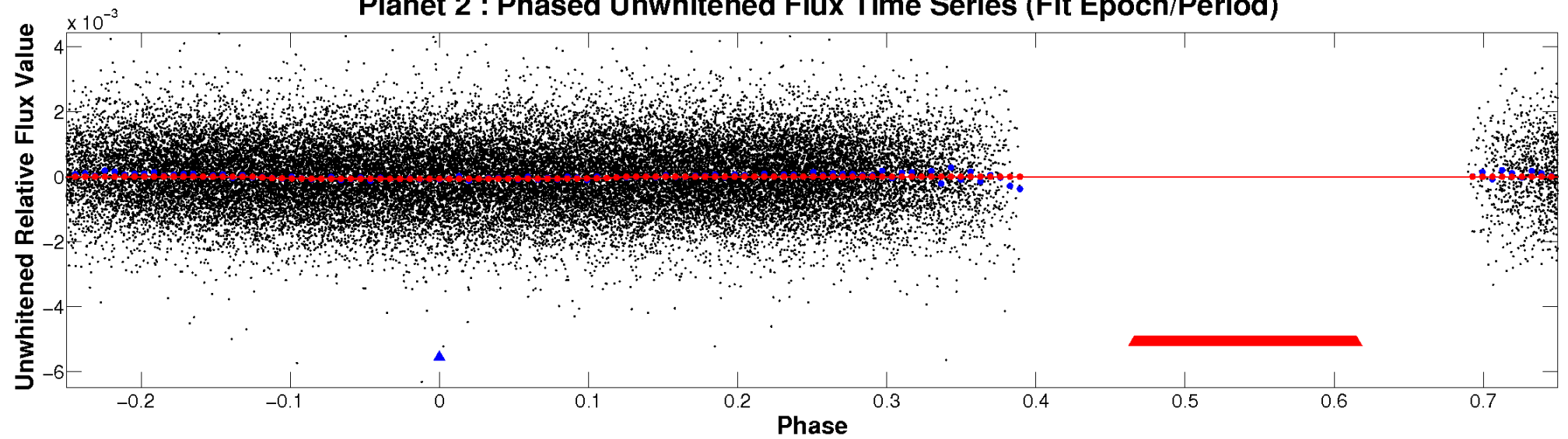
ALT Odd/Even

TCE 008750446-02

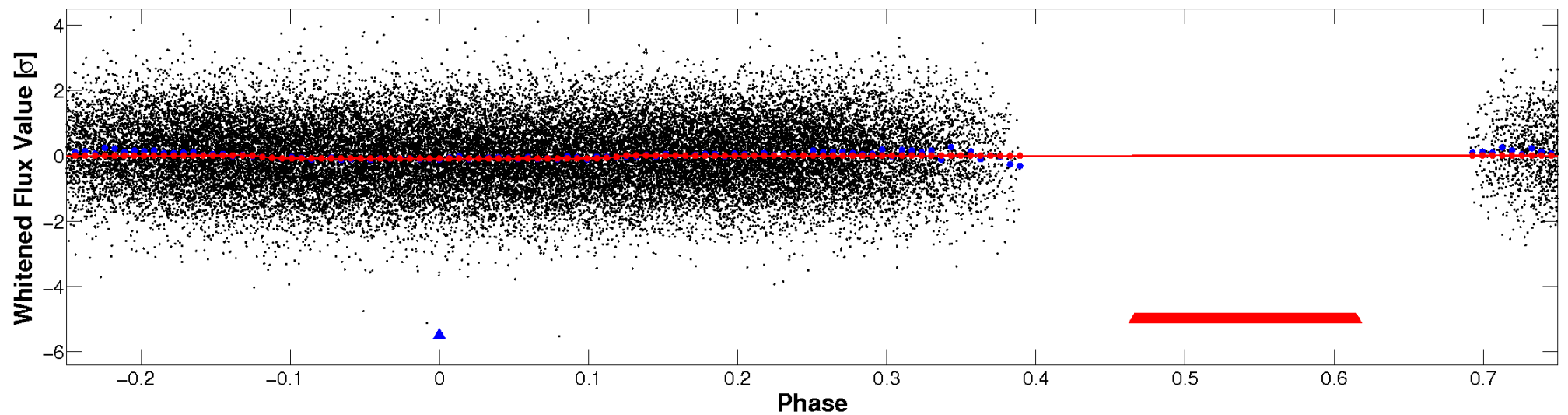


Non-Whitened Vs. Whitened Light Curve

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

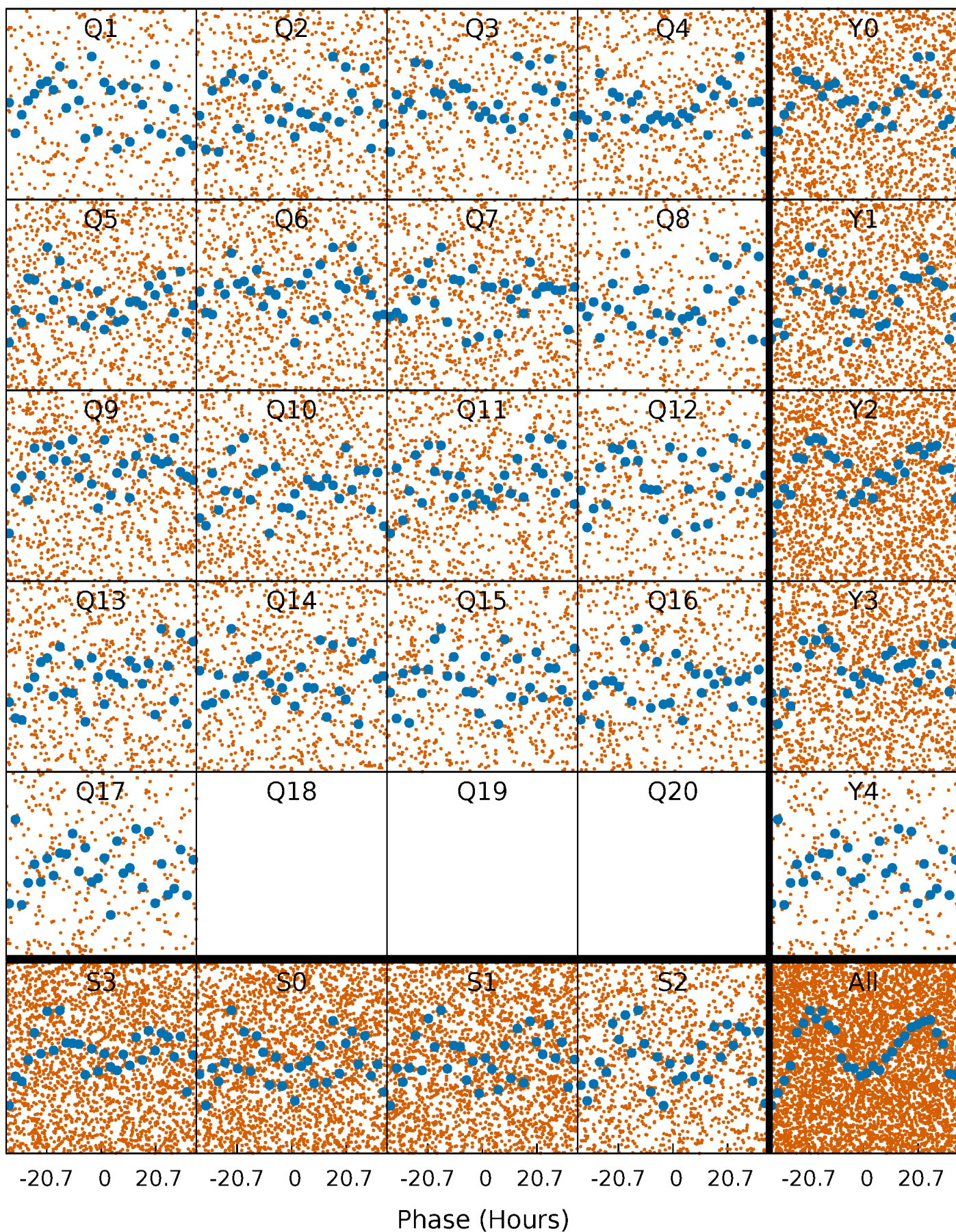


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



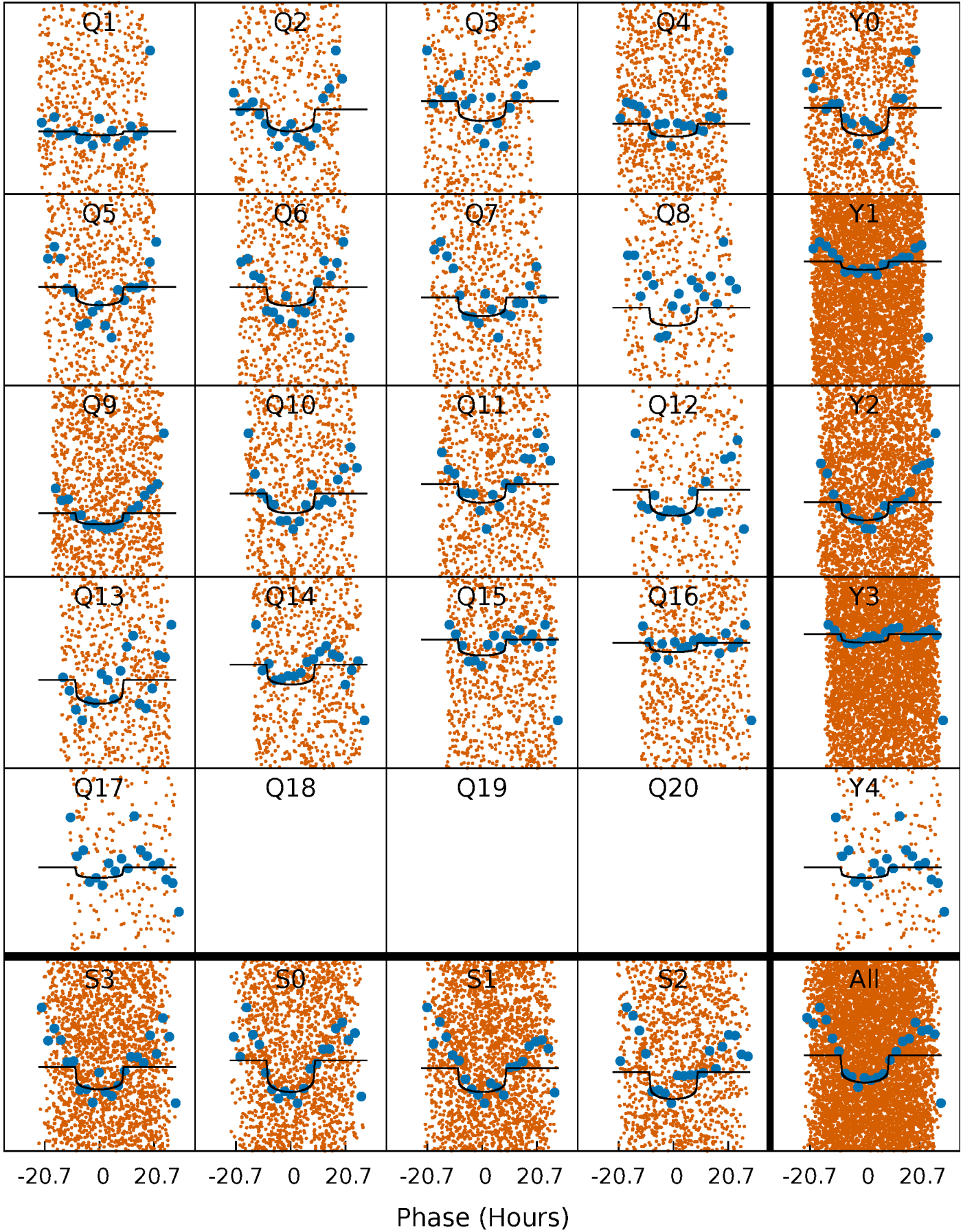
PDC Quarter-Phased Transit Curves

TCE 008750446-02 $P = 3.096644$ Days $T_0 = 132.562207$ (BKJD)



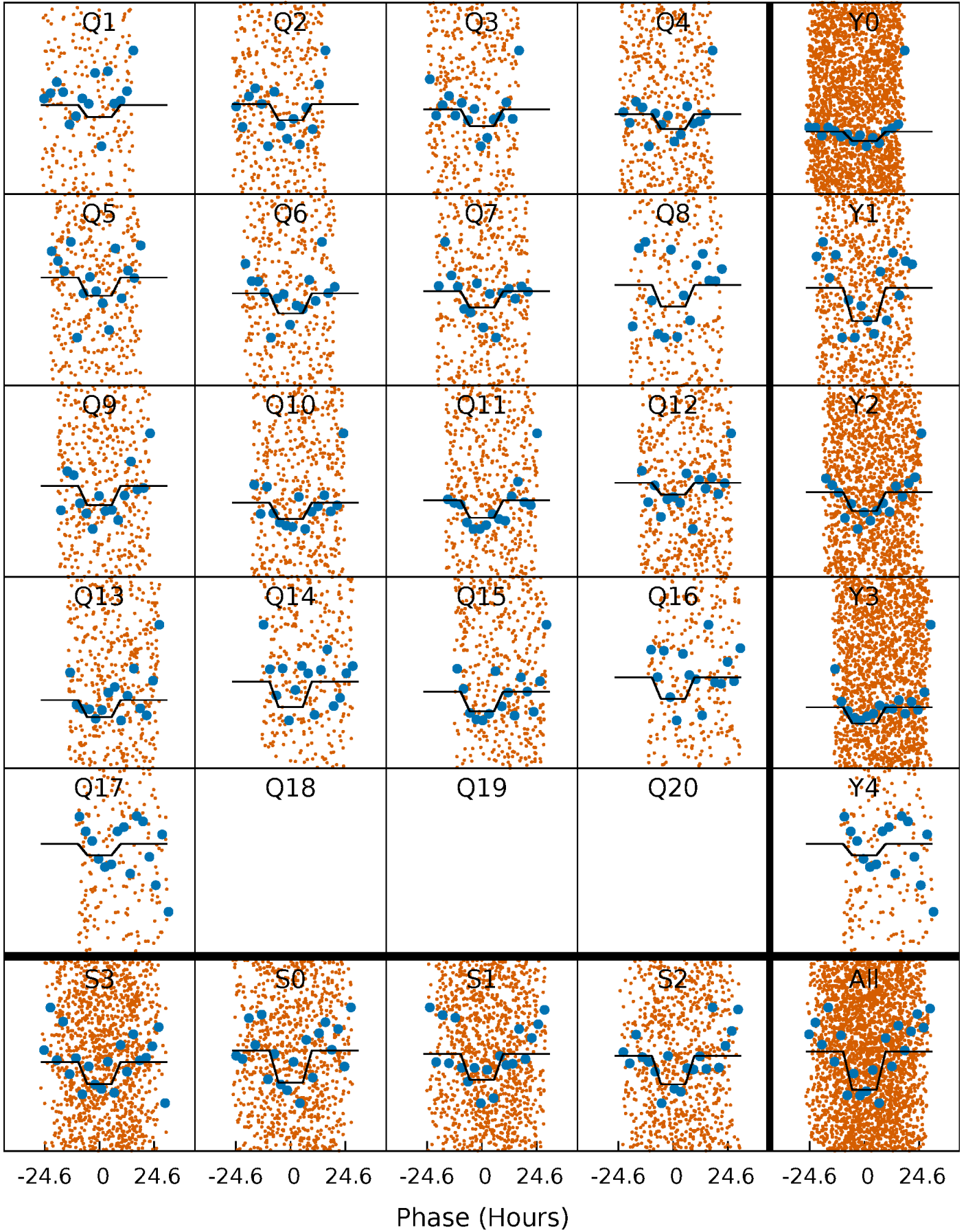
DV Quarter-Phased Transit Curves

TCE 008750446-02 P= 3.096644 Days $T_0=132.562207$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

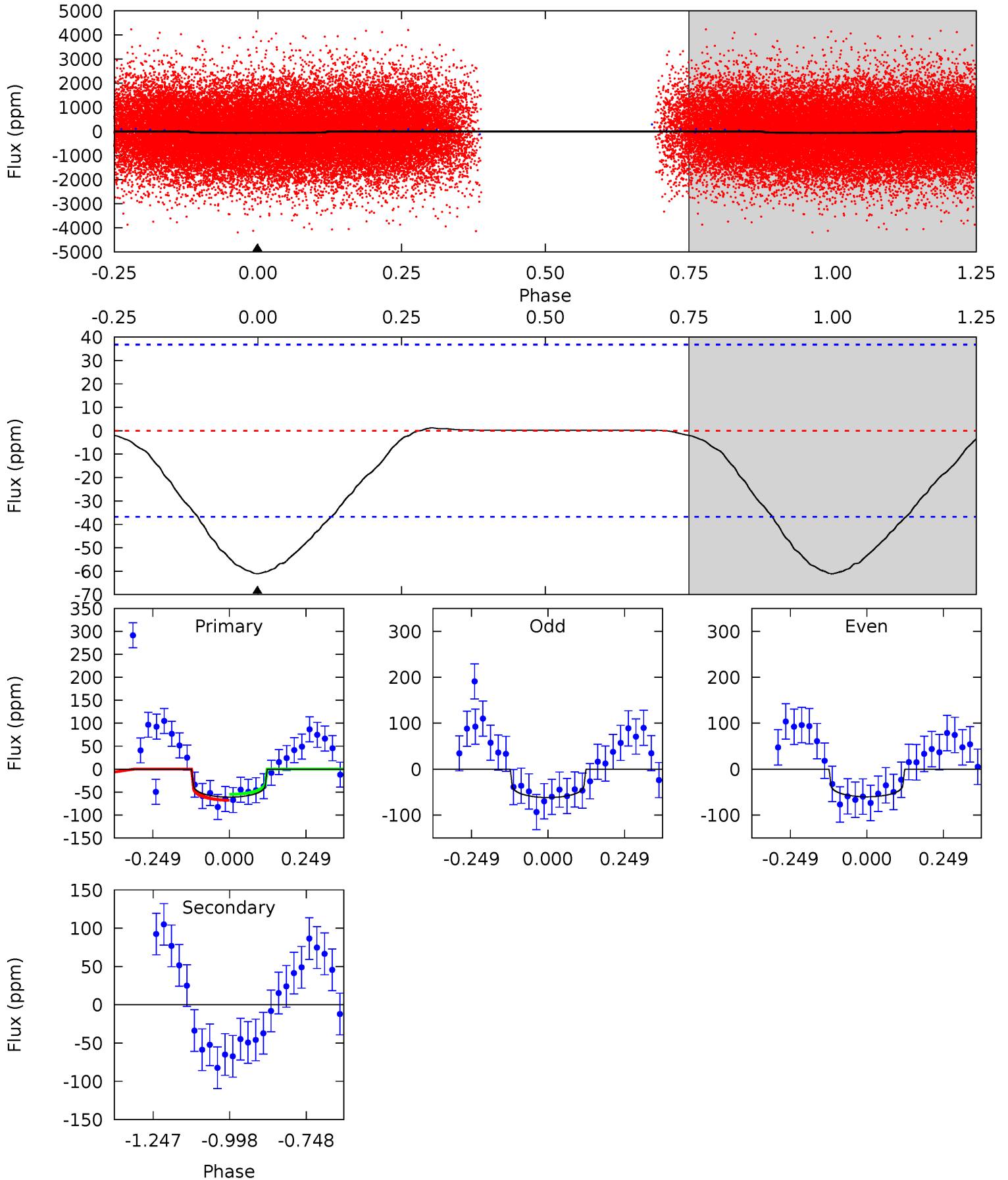
TCE 008750446-02 P= 3.096199 Days $T_0=132.699245$ (BKJD)



DV Model-Shift Uniqueness Test

008750446-02, P = 3.096644 Days, E = 129.465563 Days

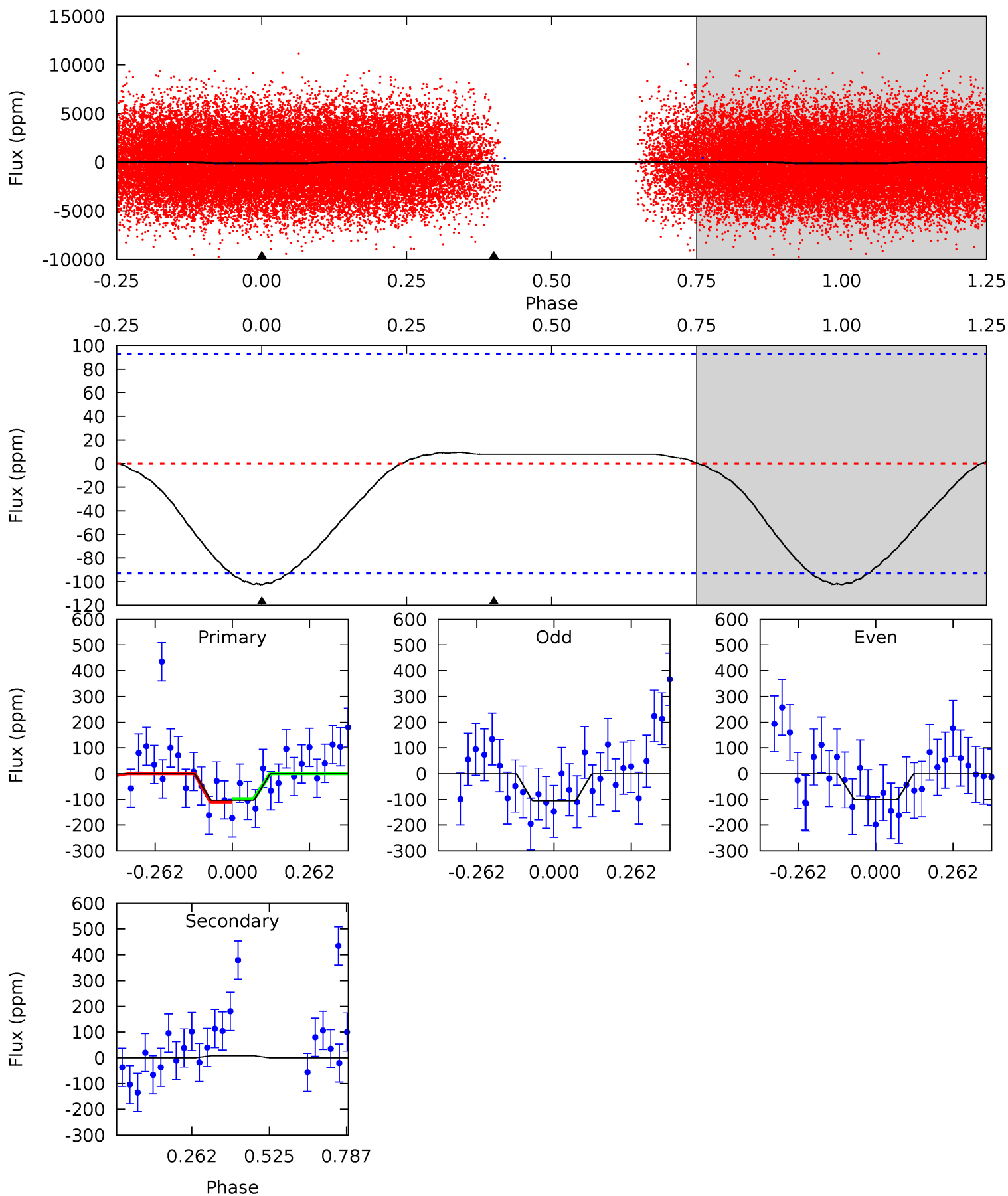
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.26	0	0	0	4.37	1.15	0.16	7.26	7.26	0	0	0.10	0.92	0.02	0.79



Alt Model-Shift Uniqueness Test

008750446-02, P = 3.096199 Days, E = 129.603046 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.80	-0.38	0	0	4.36	1.12	0.27	4.80	4.80	-0.38	-0.38	0.12	1.11	0.08	0.33



Stellar Parameters For KIC 008750446

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7301^{+80}_{-80}	$3.923^{+0.143}_{-0.117}$	$0.020^{+0.200}_{-0.150}$	$2.403^{+0.498}_{-0.453}$	$1.765^{+0.212}_{-0.159}$	$0.179^{+0.129}_{-0.064}$
	+1%/-1%	+4%/-3%	+1000%/-750%	+21%/-19%	+12%/-9%	+72%/-36%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 008750446-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 8	$2.29^{+1.89}_{-1.50}$	3100^{+153}_{-140}	-3021^{+7802}_{-1744}	$0.074^{+3.685}_{-3.185}$
Alt.	8 ± 21	$2.97^{+1.81}_{-1.75}$	3111^{+151}_{-159}	-3868^{+8131}_{-2028}	$-0.865^{+3.322}_{-8.437}$

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 $A_{obs} \gg 1.0$

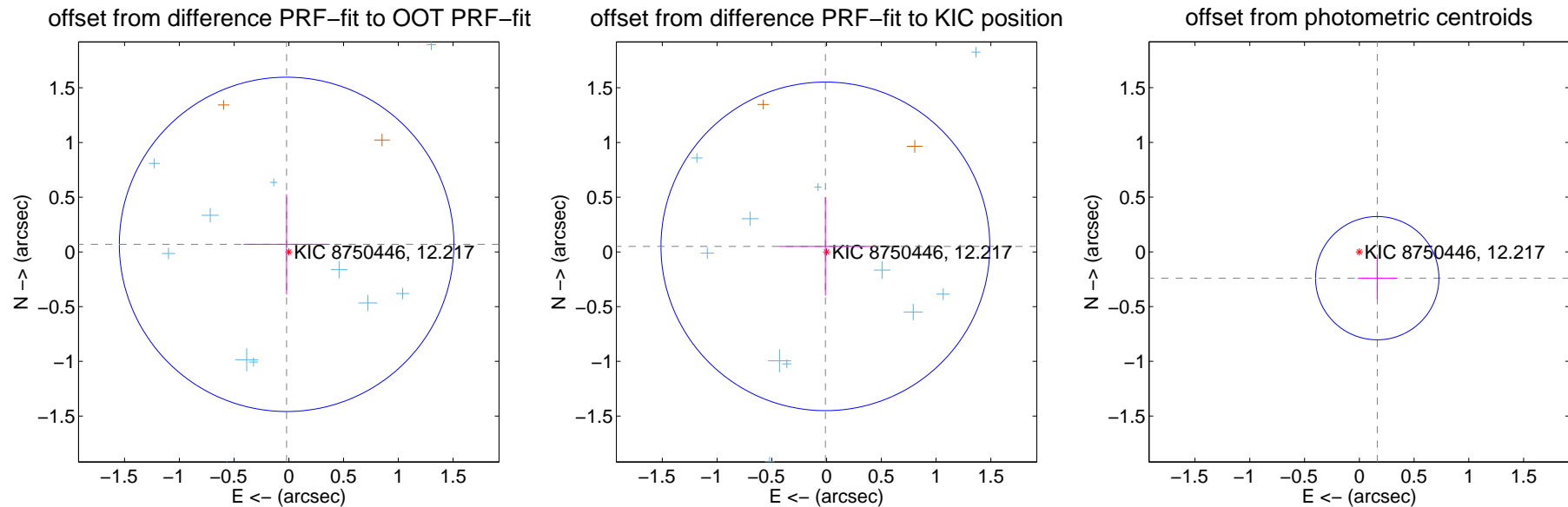
DV Centroid Data

Supplemental centroid analysis for 008750446-02. Kepler magnitude: 12.22. Transit SNR 9.61

There are 12 quarters with good PRF difference image offsets

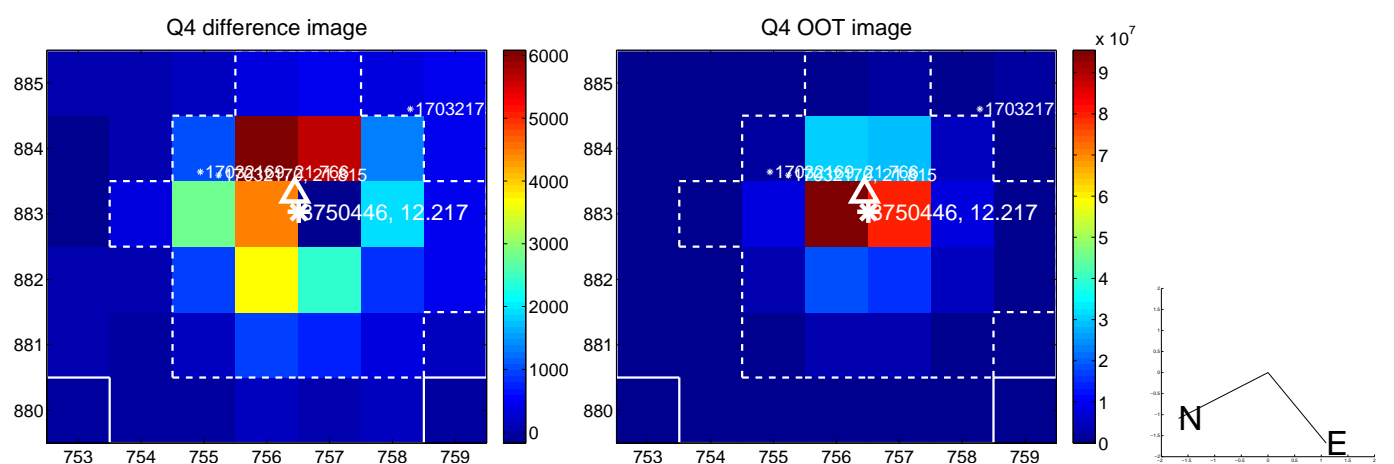
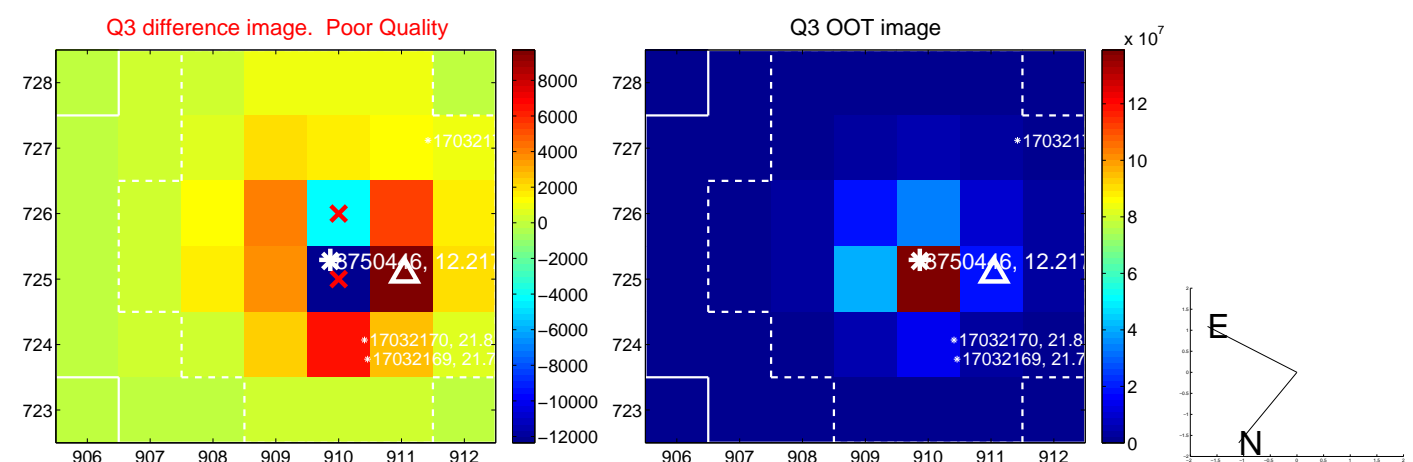
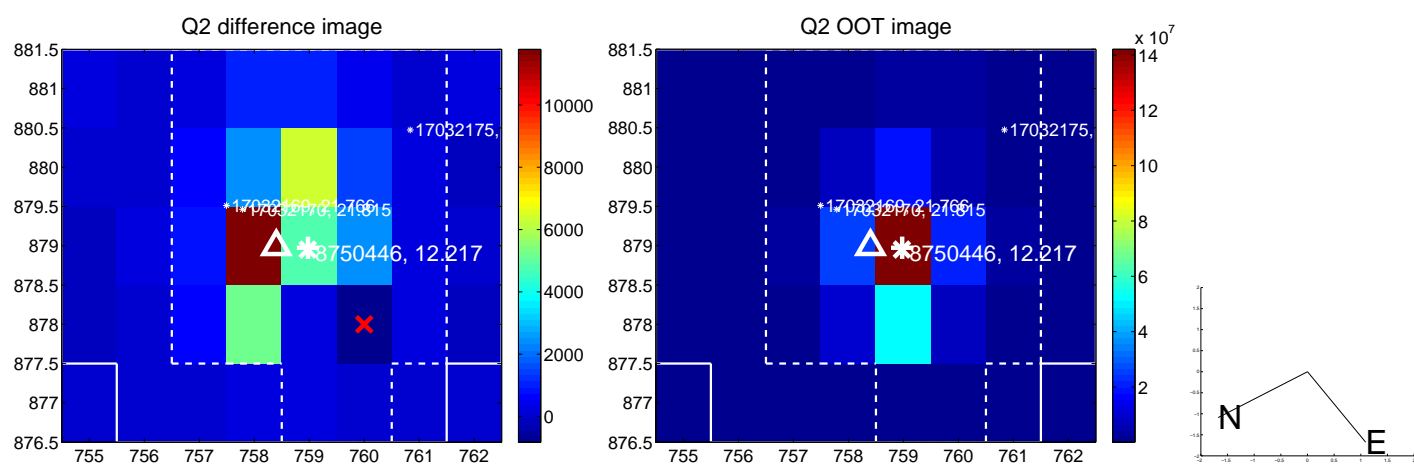
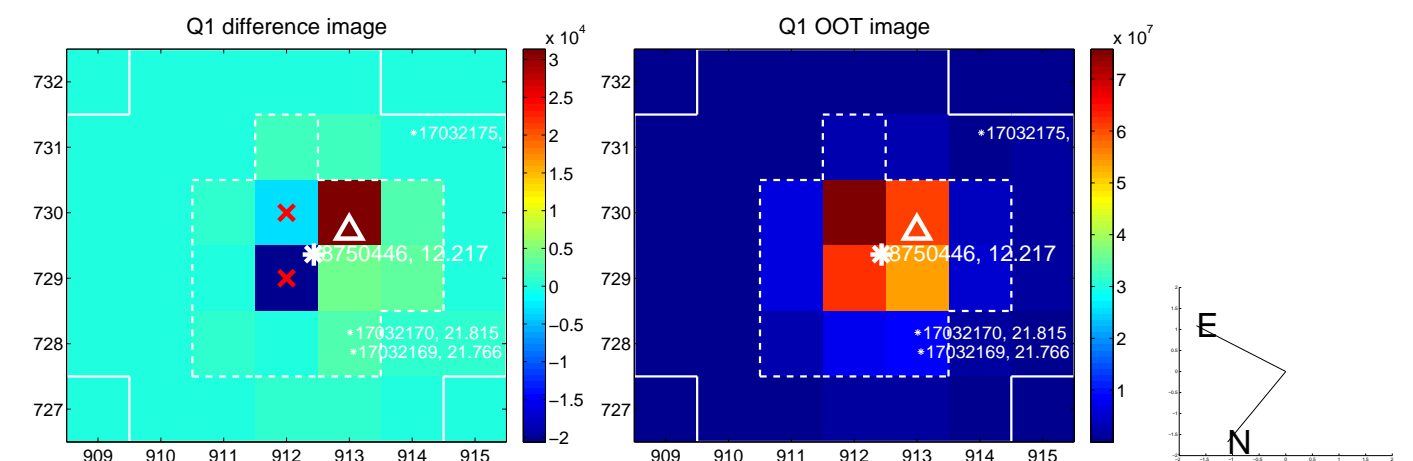
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.072 ± 0.509	0.14	0.020 ± 0.394	0.069 ± 0.458
PRF-fit source offset from KIC position	0.052 ± 0.501	0.10	0.011 ± 0.424	0.051 ± 0.450
photometric centroid source offset	0.29 ± 0.19	1.55	-0.16 ± 0.18	-0.24 ± 0.19

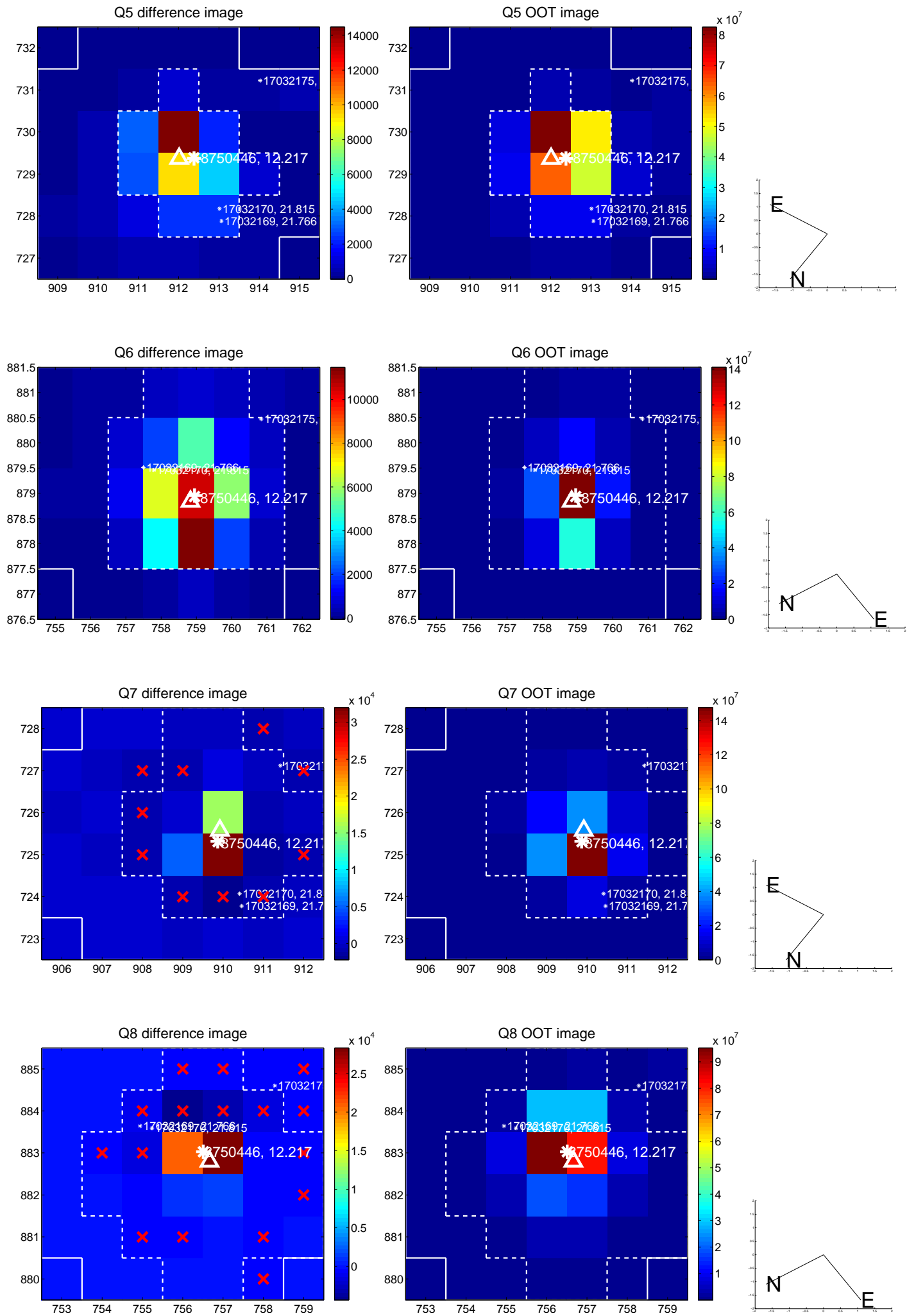


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

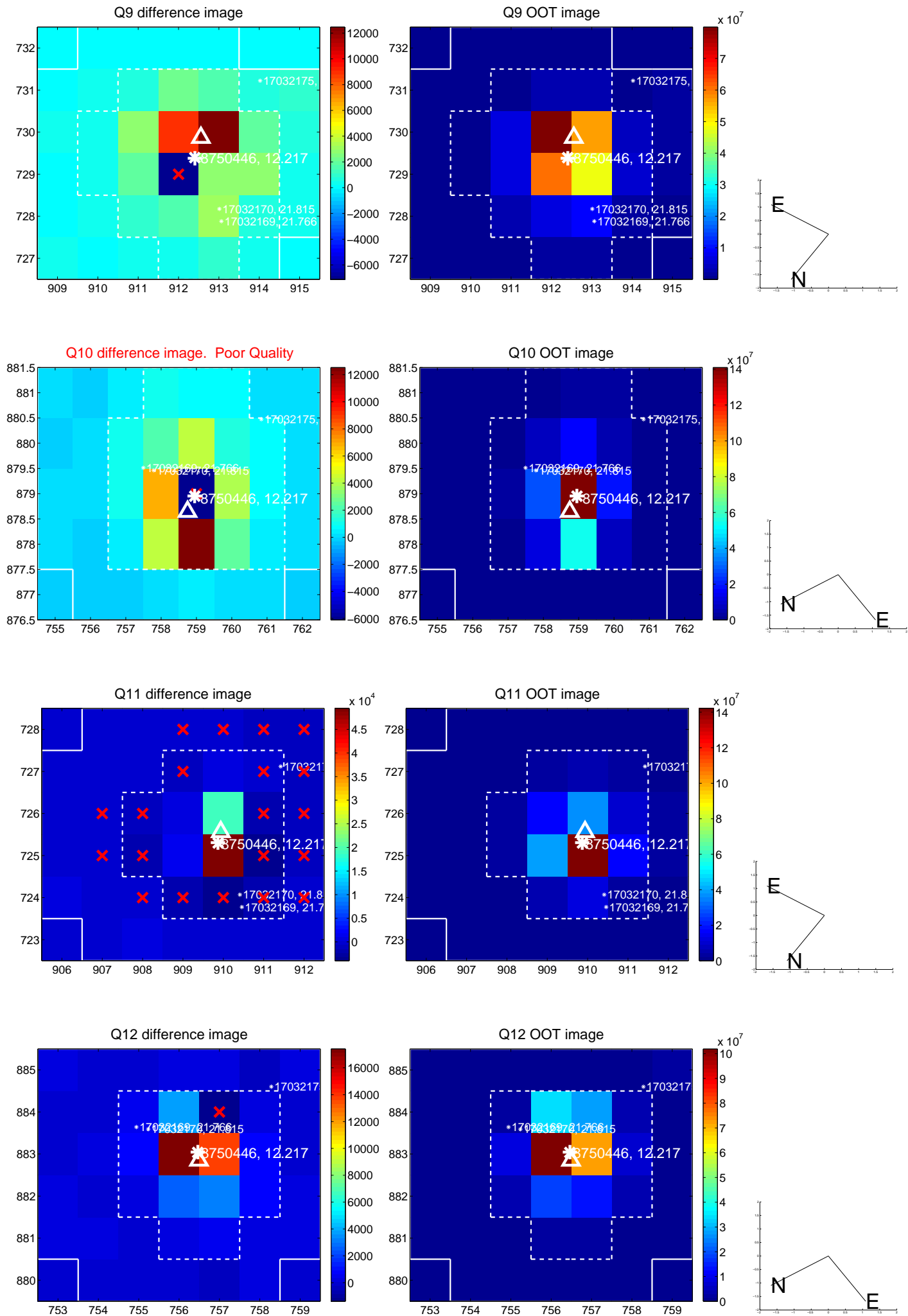
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



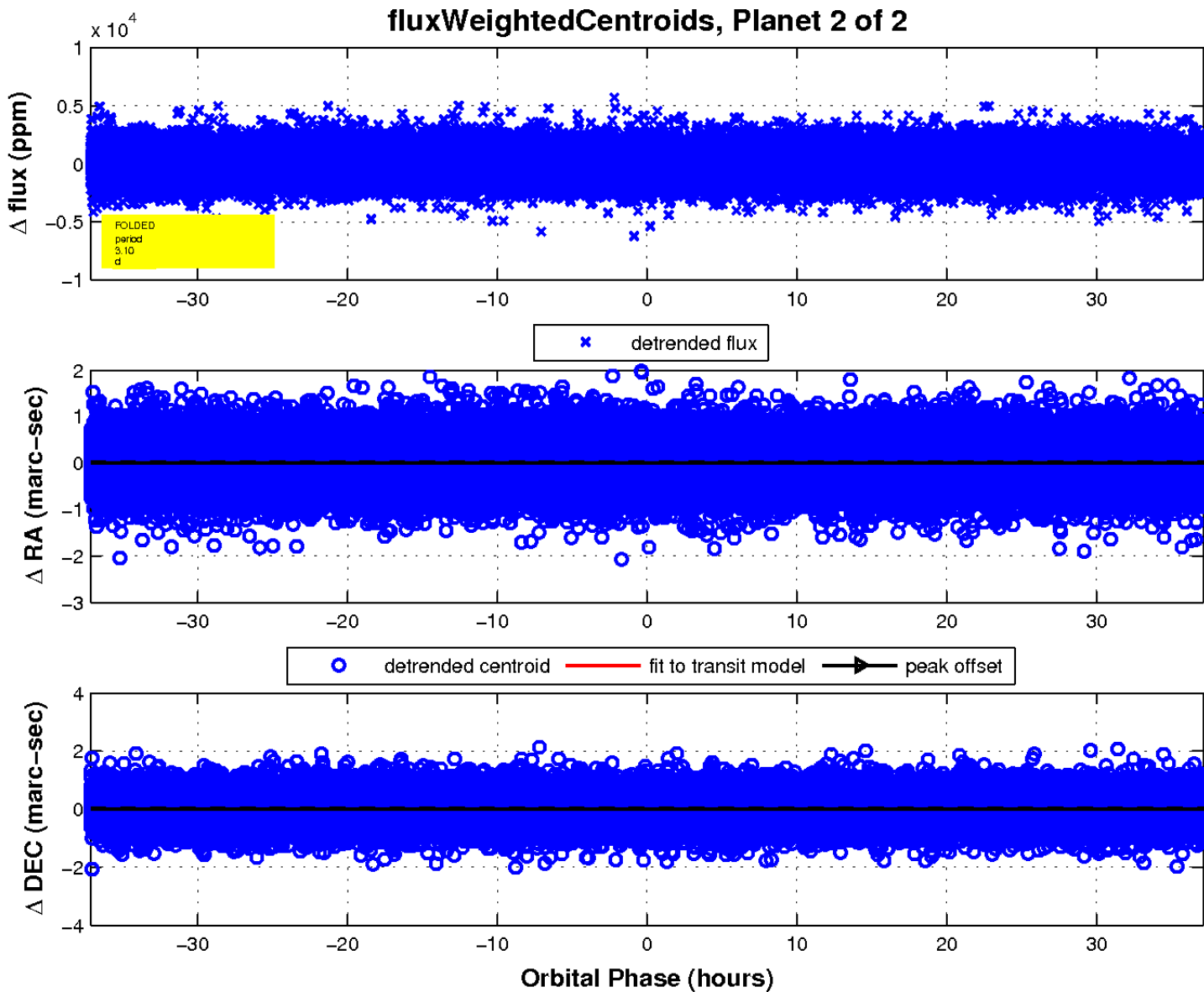
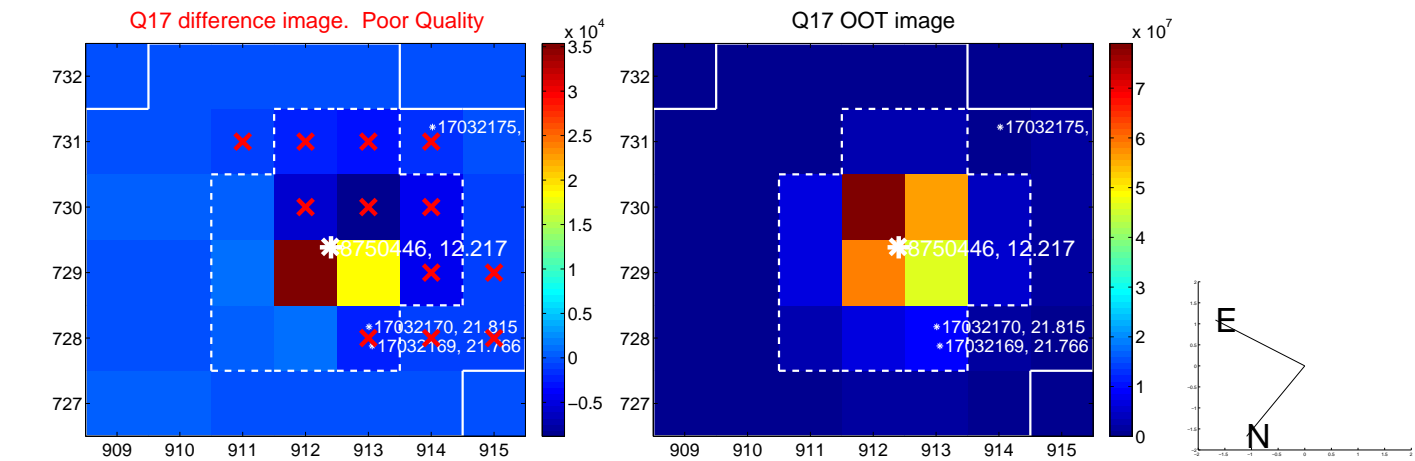
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

