

KIC 006423857

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})
006423857-01	OBS	No	1.197499	131.787797	535.2	7.547	37.9	16.2	0.74	4444	1.62	482.81
006423857-02	OBS	No	0.599714	131.995525	181.6	3.847	13.6	6.7	0.74	4444	1.08	1214.00
006423857-03	OBS	No	1.196747	132.508732	864.6	4.792	13.7	9.9	0.74	4444	2.94	483.22
006423857-04	OBS	No	2.084795	132.192244	1852.6	1.500	11.6	-1.0	0.74	4444	3.04	230.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006423857-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
006423857-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
006423857-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
006423857-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—NO_FITS—CENT_NOFITS

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

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

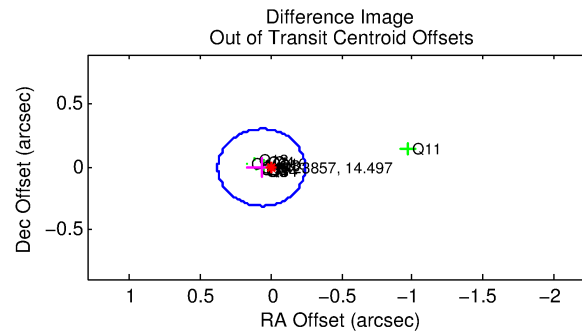
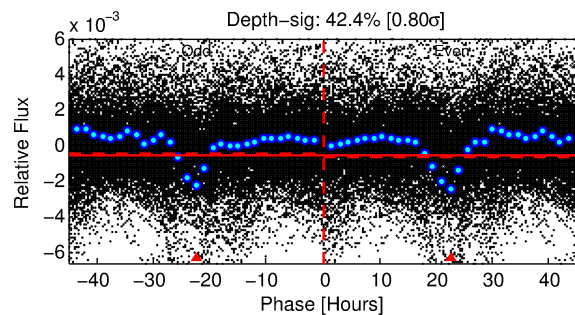
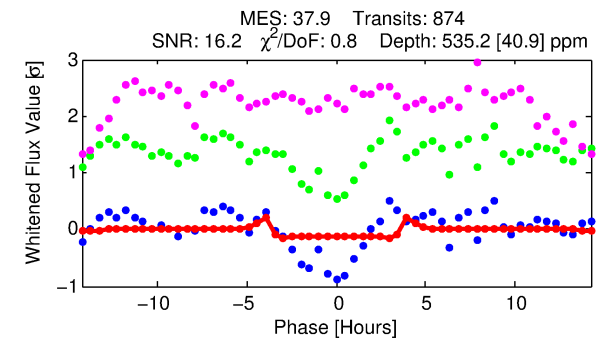
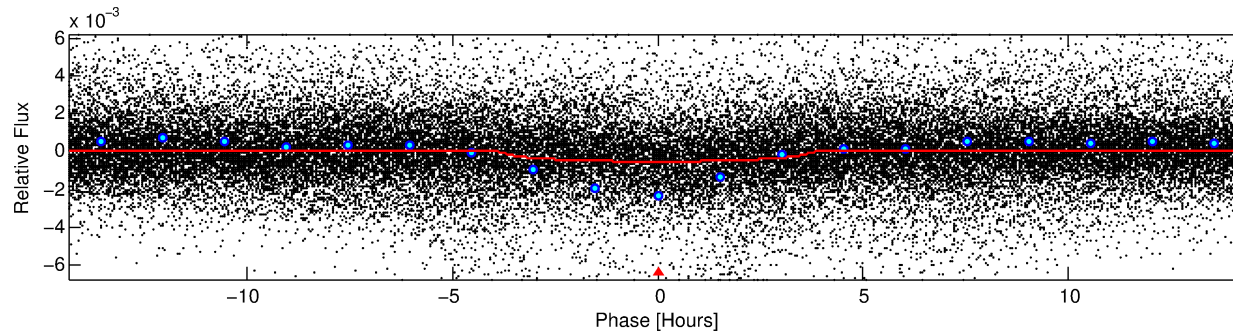
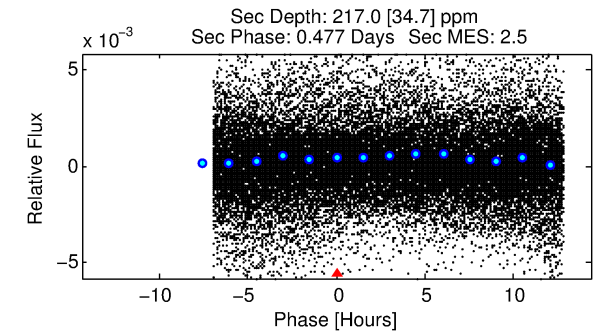
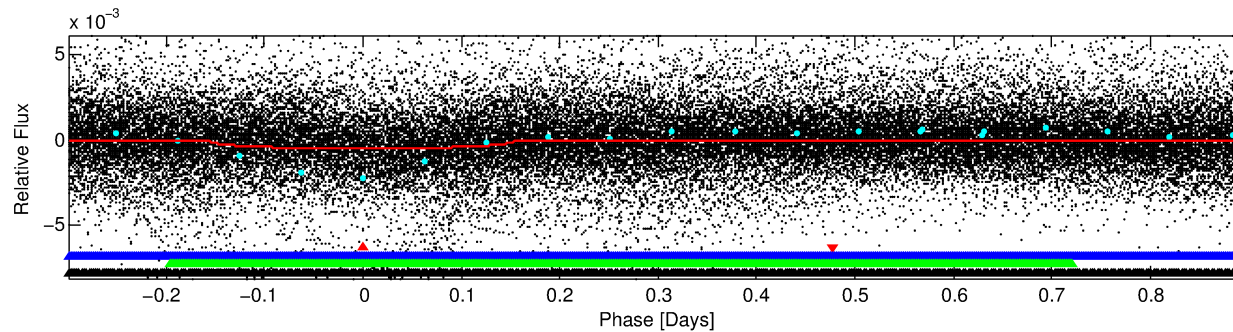
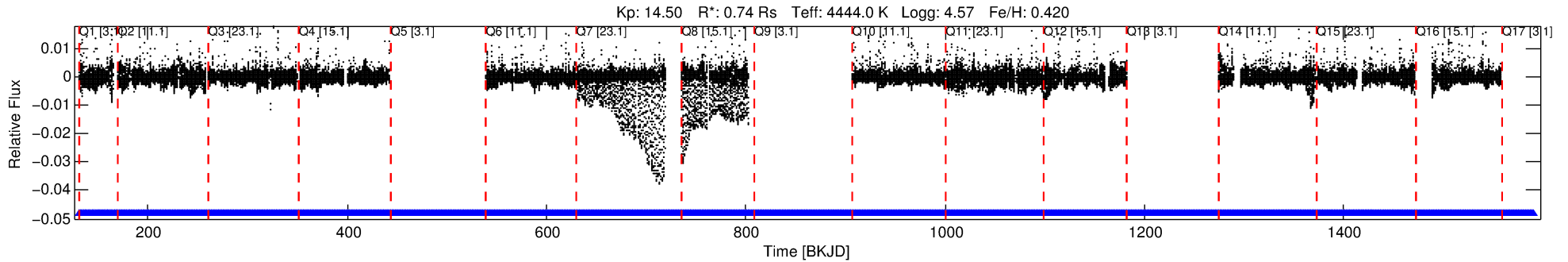
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006423857-01

No Significant Match Found

DV One-Page Summary

KIC: 6423857 Candidate: 1 of 4 Period: 1.197 d



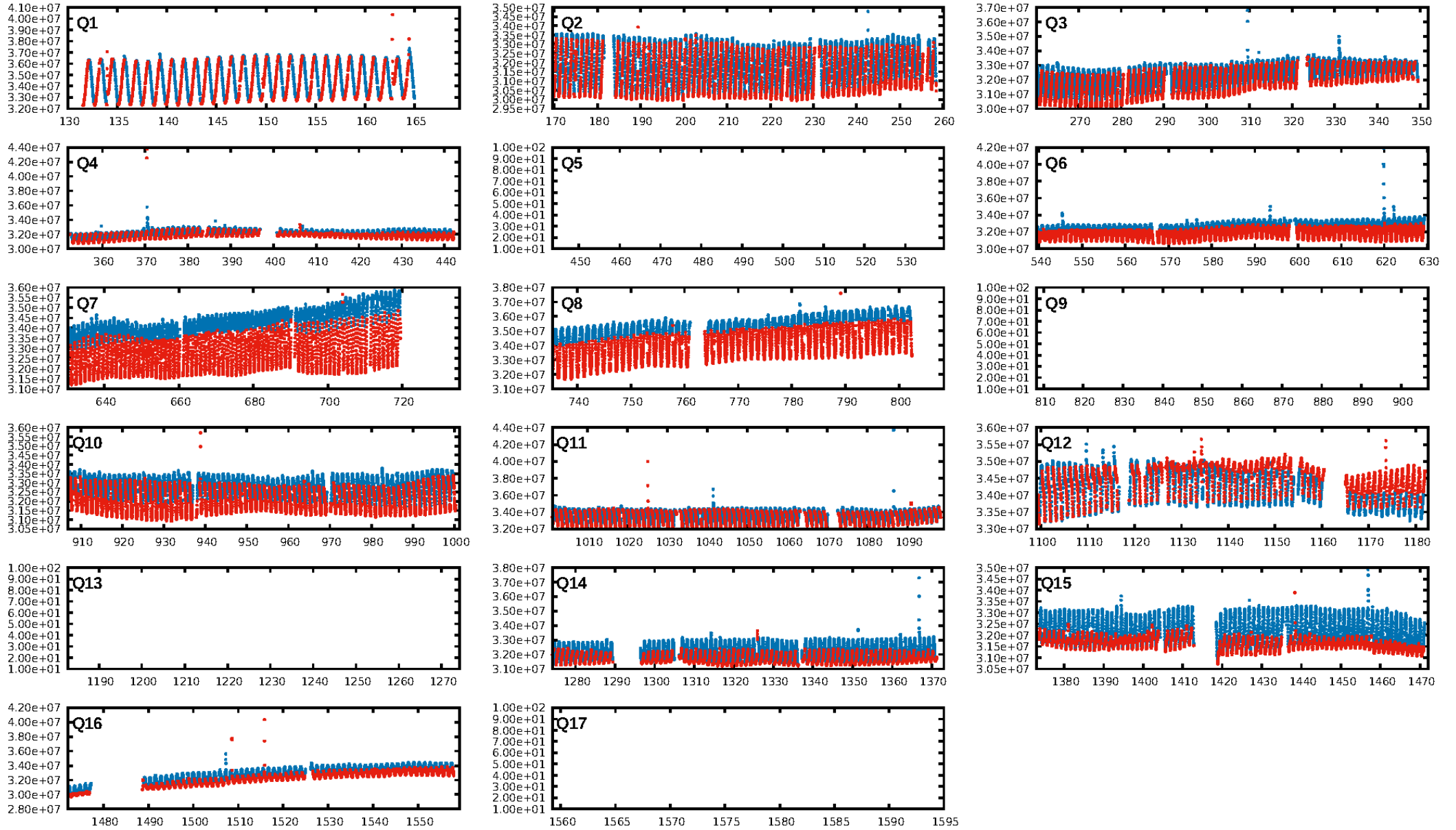
DV Fit Results:

Period = 1.19750 [0.00001] d
Epoch = 131.7878 [0.0013] BKJD
Rp/R* = 0.0201 [0.0034]
a/R* = 1.39 [0.32]
b = 0.01 [61.42]
Seff = 482.81 [84.90]
Teq = 1195 [53] K
Rp = 1.62 [0.30] Re
a = 0.0199 [0.0015] AU
Ag = 17.97 [6.95] [2.44σ]
Teffp = 3805 [377] K [6.86σ]

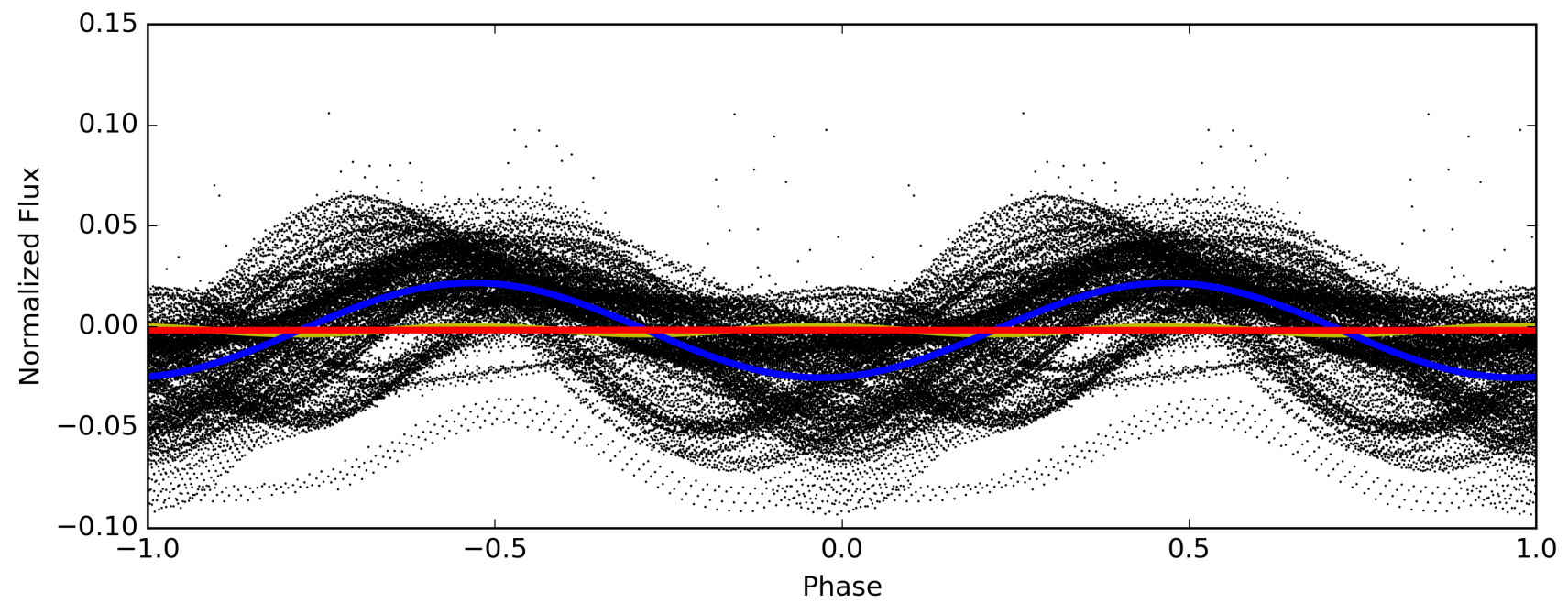
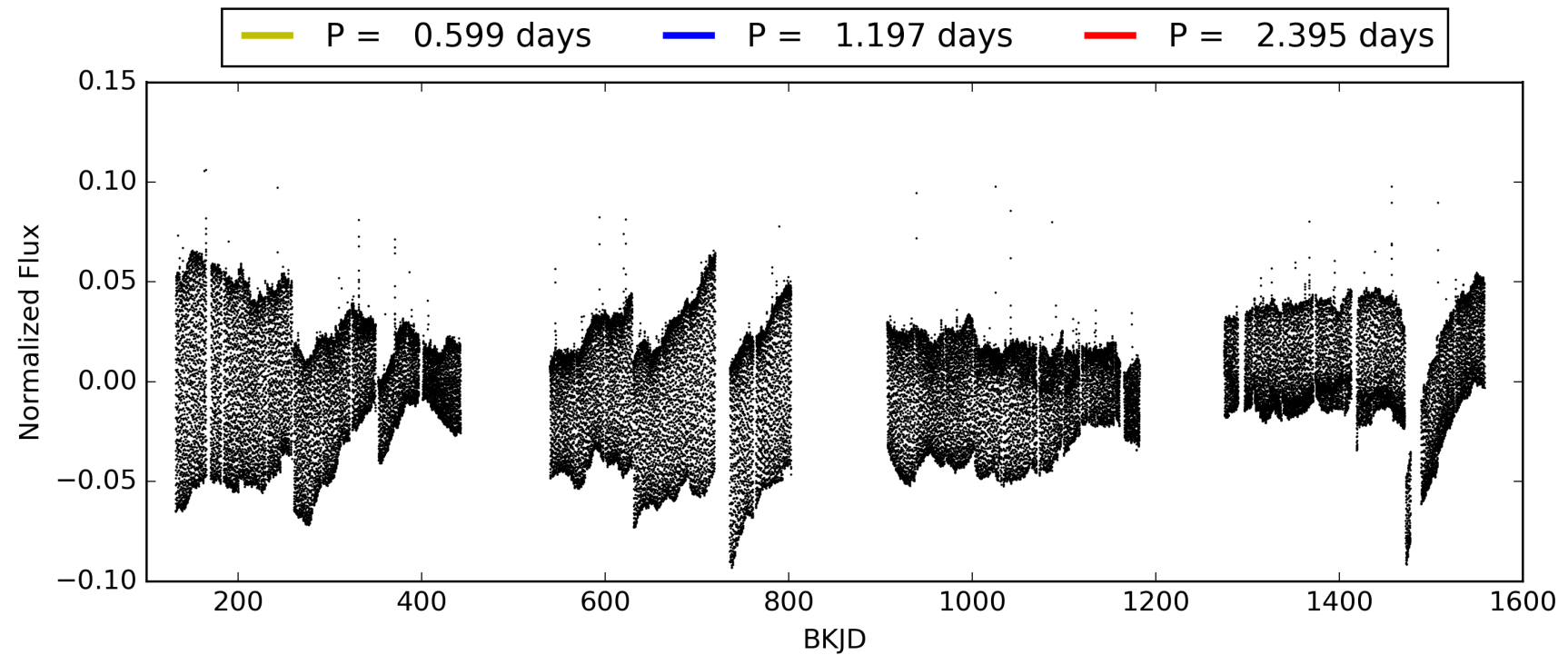
DV Diagnostic Results:

ShortPeriod-sig: 0.2% [0.00σ]
LongPeriod-sig: 99.4% [2.77σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [846/846]
GhostDiagnostic-chr: 0.7566
Centroid-sig: 37.1%
Centroid-so: 0.171 arcsec [1.66σ]
OotOffset-rm: 0.067 arcsec [0.65σ]
KicOffset-rm: 0.076 arcsec [0.89σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 0.92 [12/13]
DiffImageOverlap-fno: 0.00 [0/13]

TCE 006423857-01, PDC Light Curves

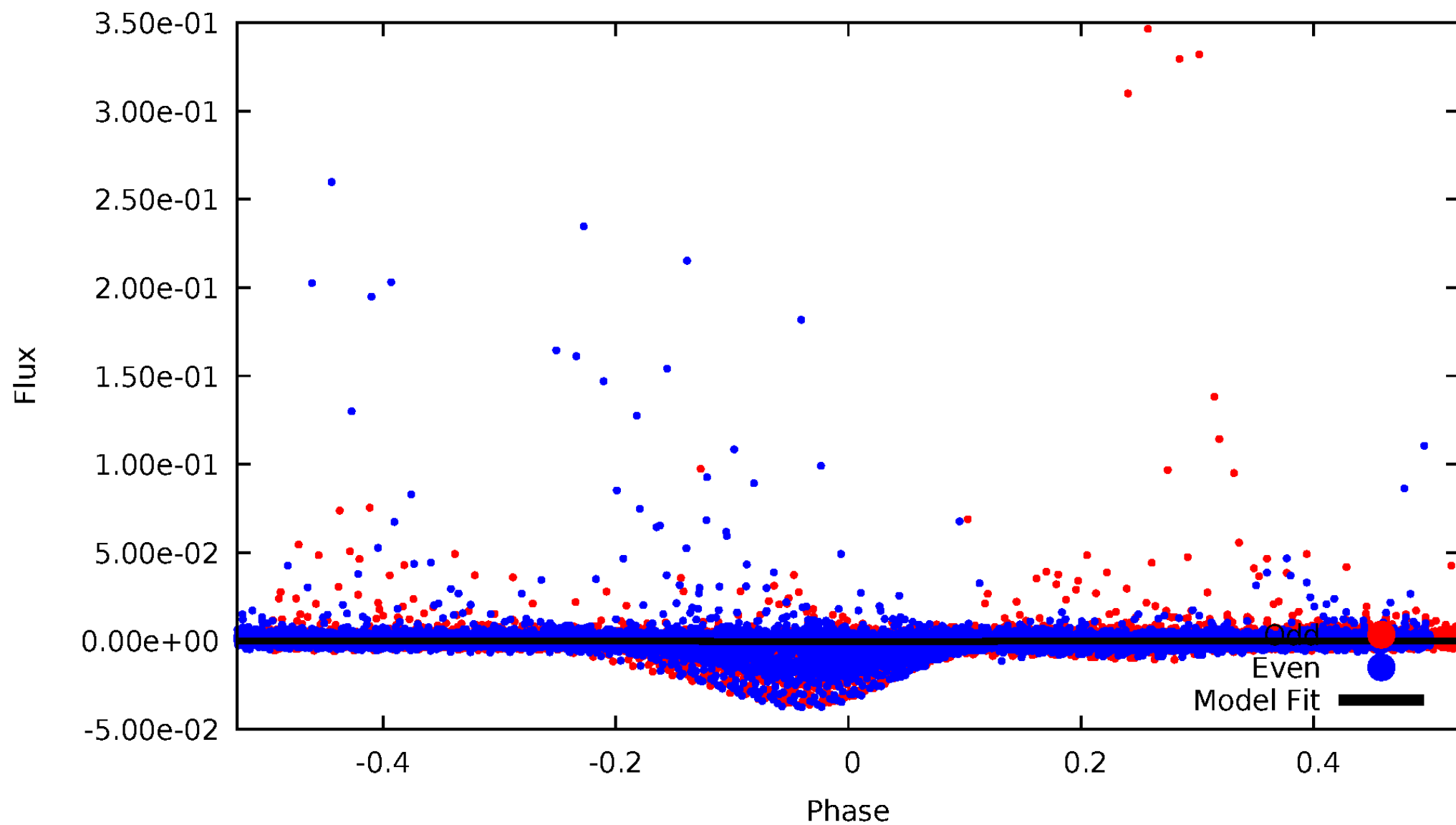


TCE 006423857-01



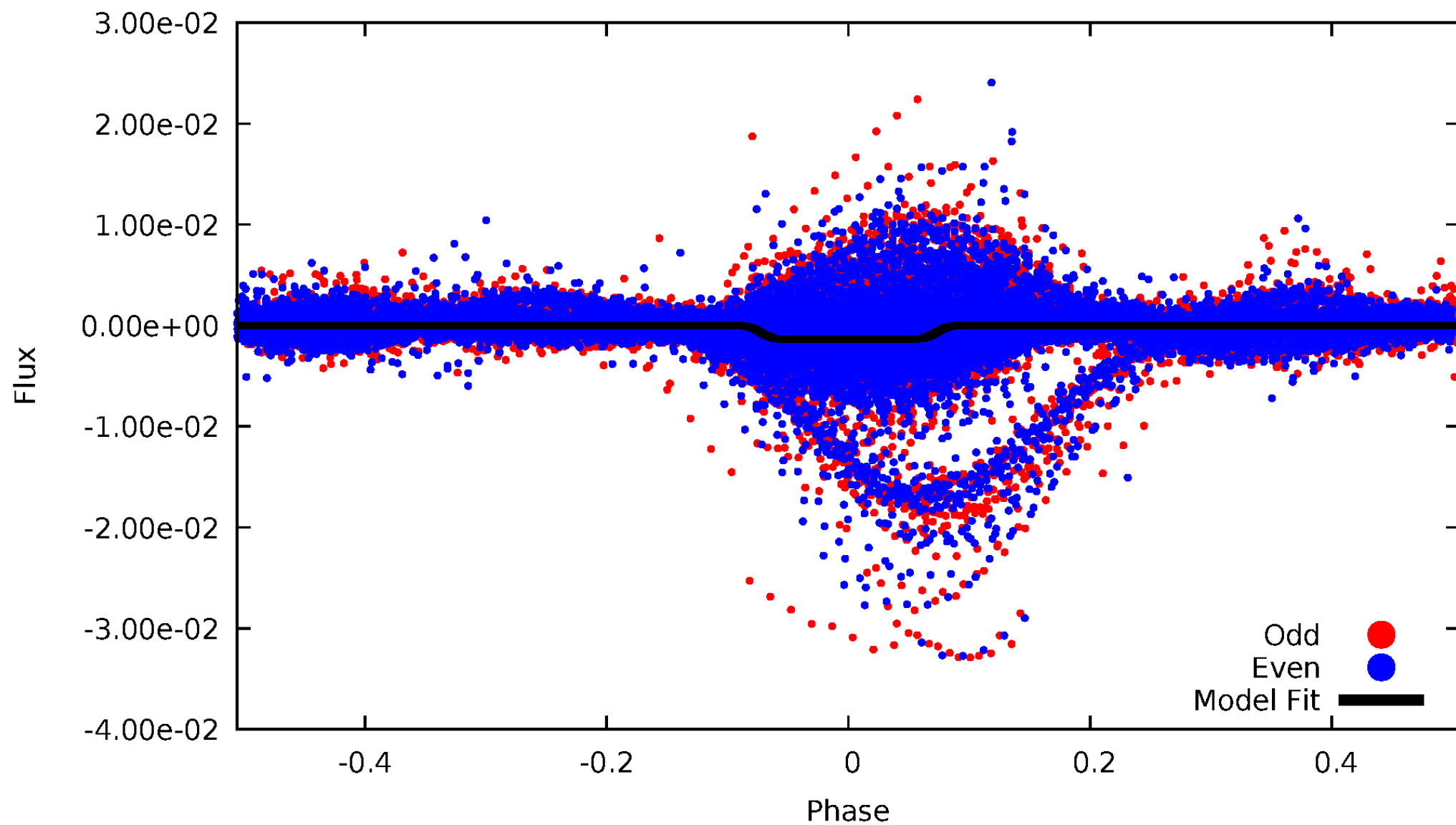
DV Odd/Even

TCE 006423857-01

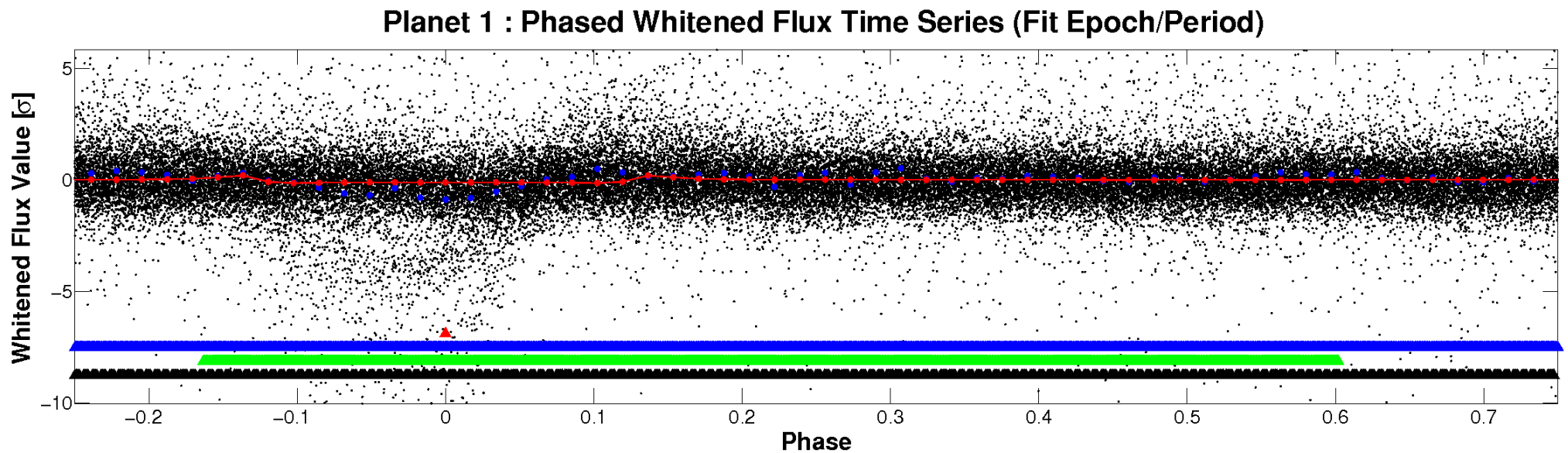
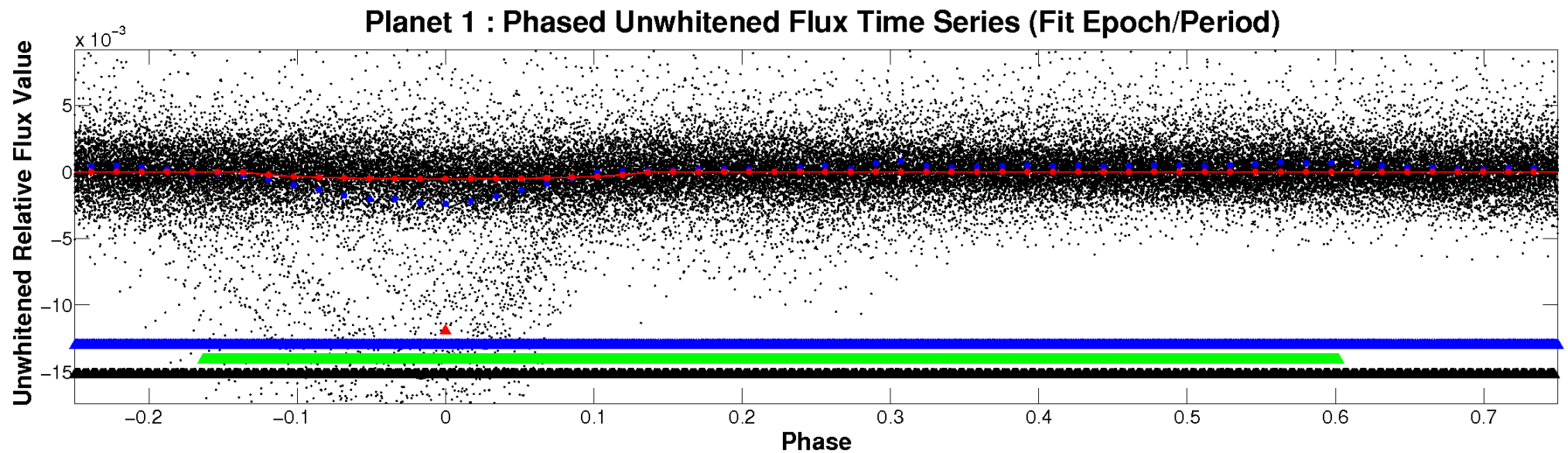


ALT Odd/Even

TCE 006423857-01

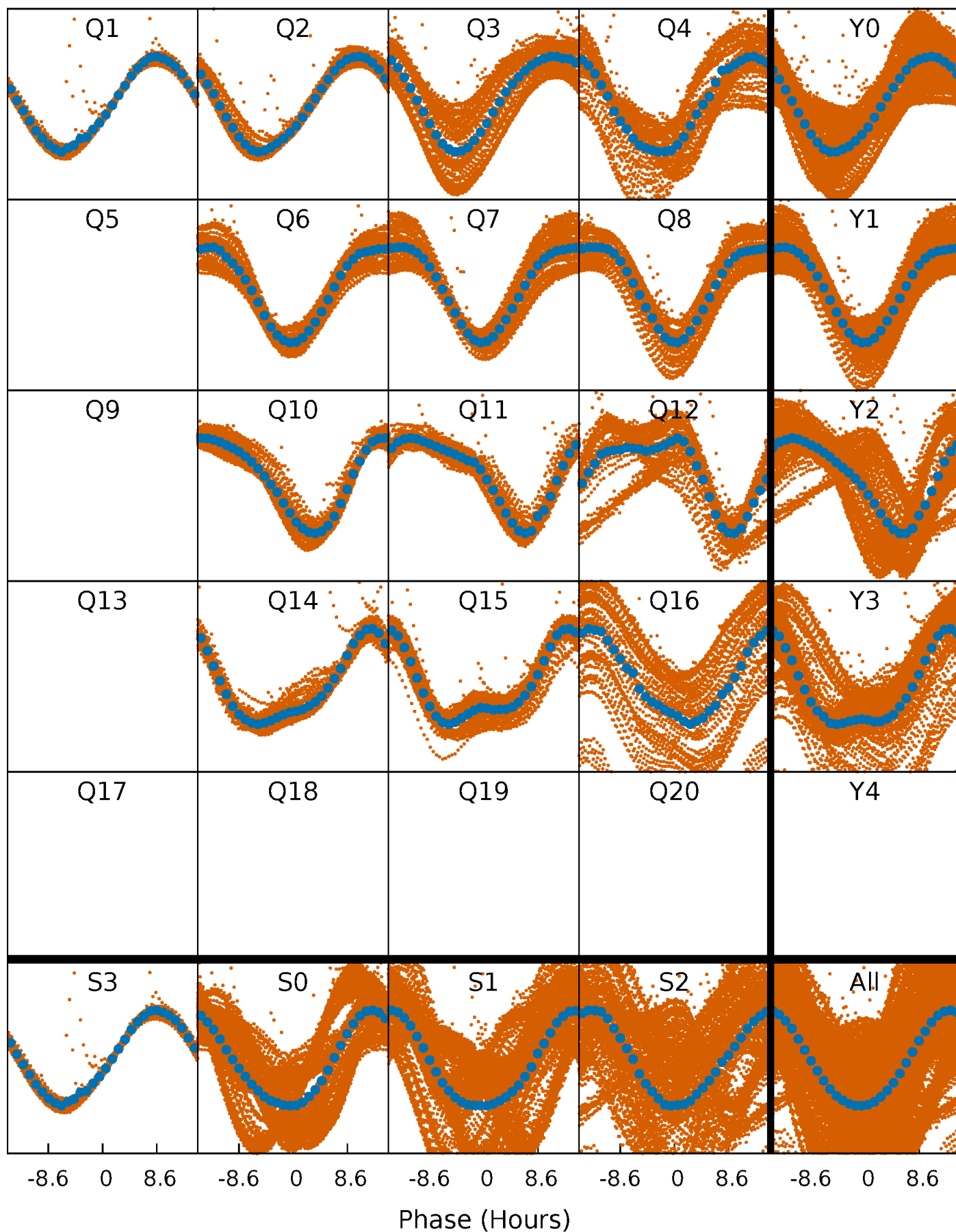


Non-Whitened Vs. Whitened Light Curve



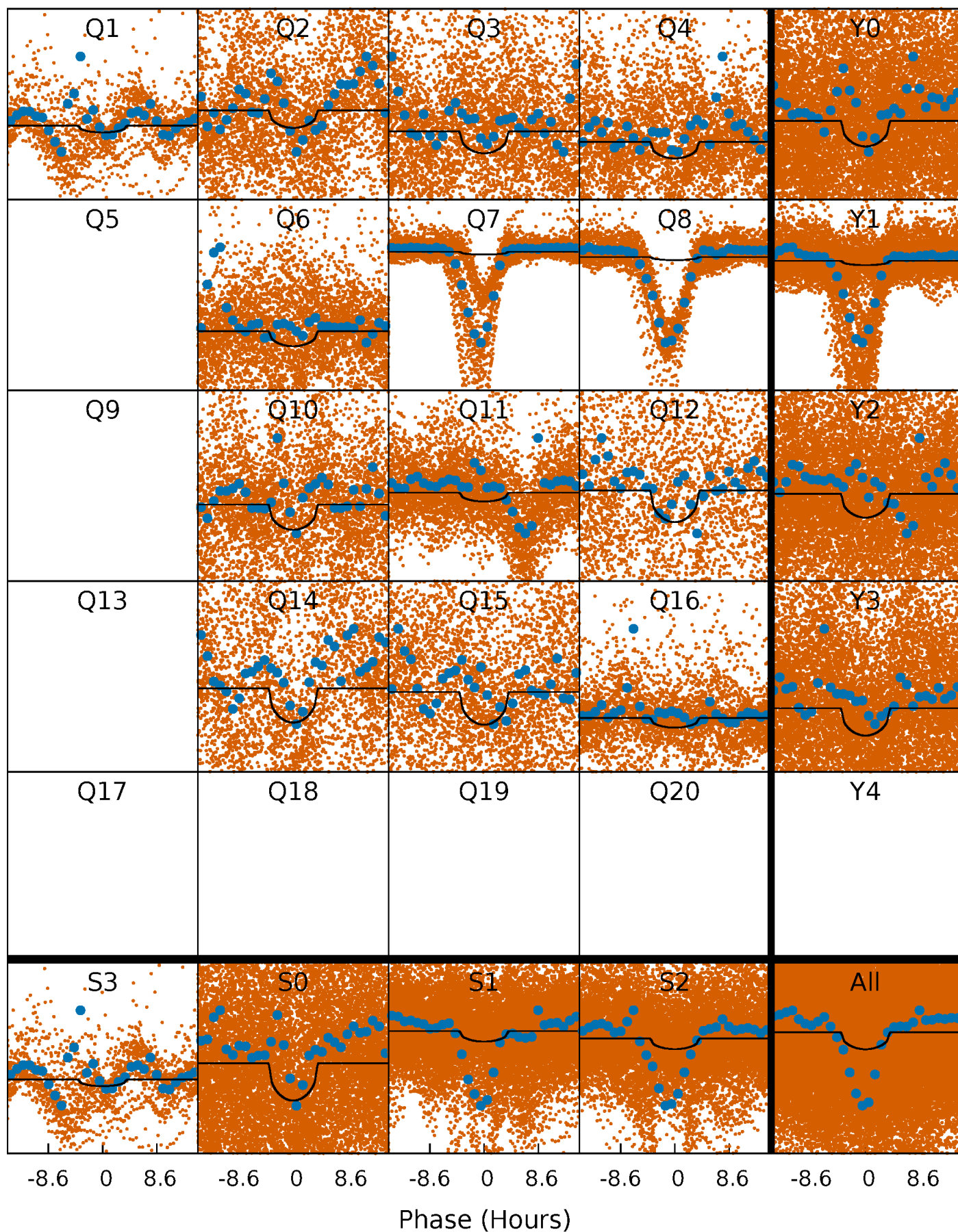
PDC Quarter-Phased Transit Curves

TCE 006423857-01 P= 1.197499 Days $T_0=131.787797$ (BKJD)



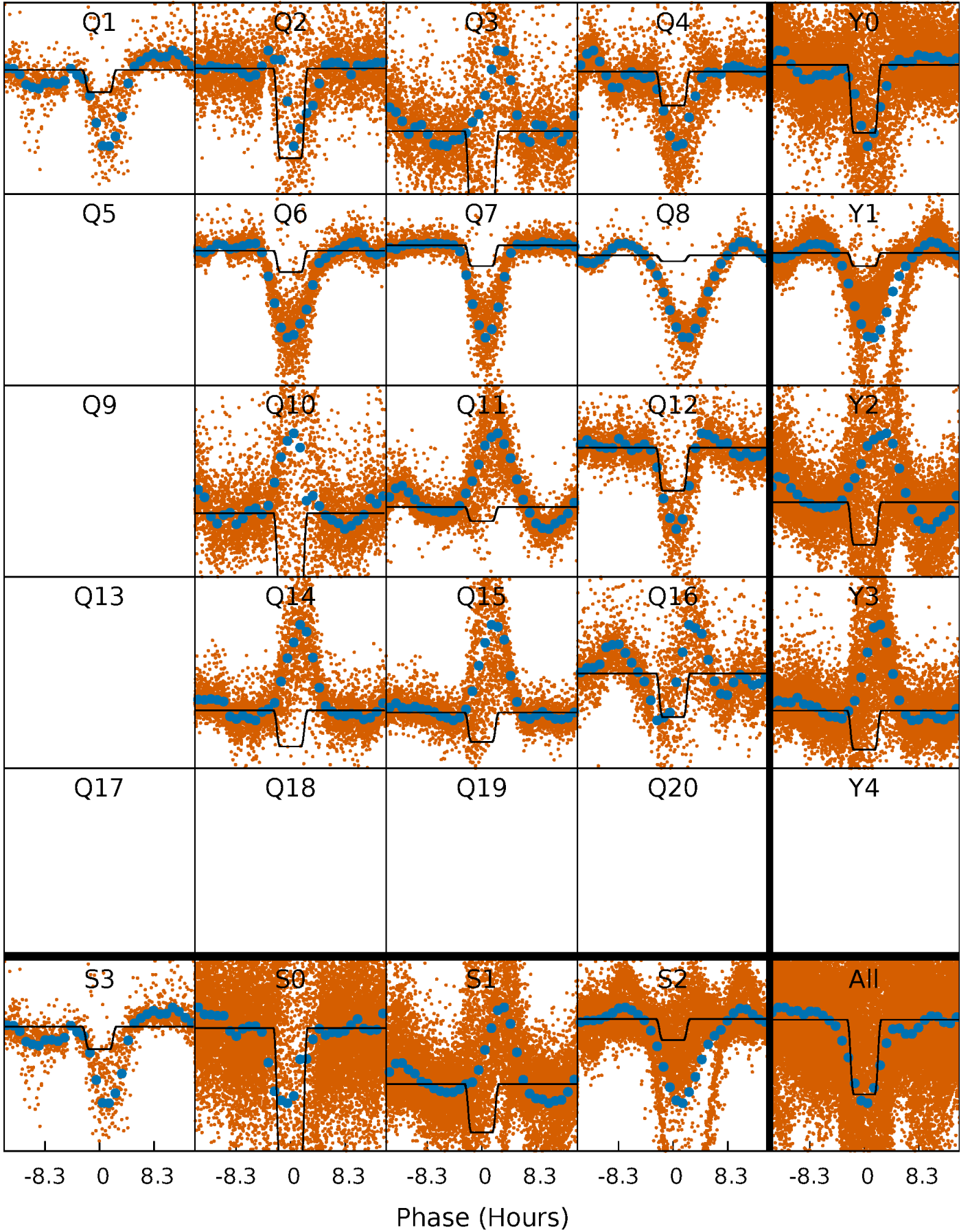
DV Quarter-Phased Transit Curves

TCE 006423857-01 P= 1.197499 Days $T_0=131.787797$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

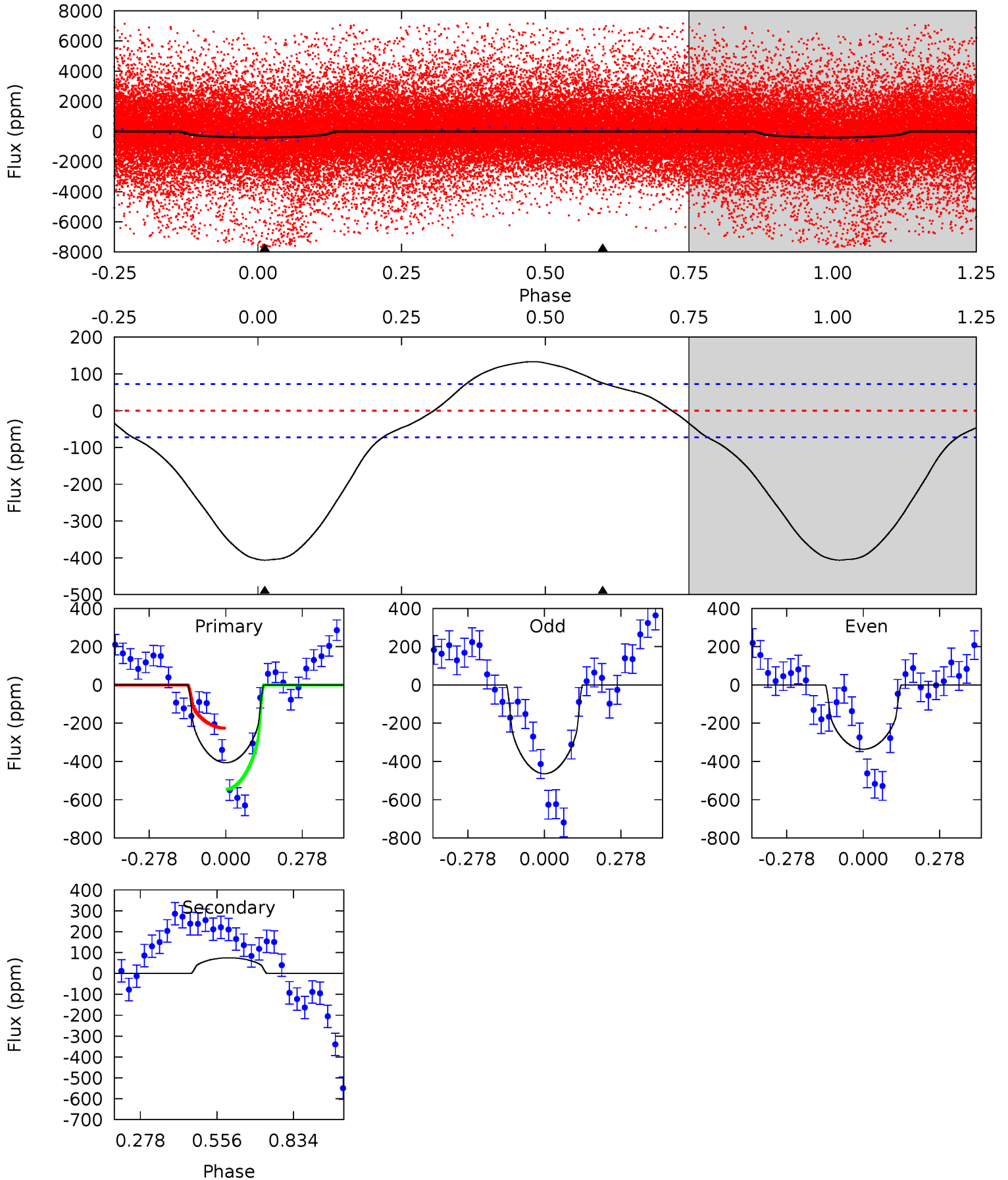
TCE 006423857-01 P= 1.197339 Days $T_0=131.798547$ (BKJD)



DV Model-Shift Uniqueness Test

006423857-01, P = 1.197499 Days, E = 130.590298 Days

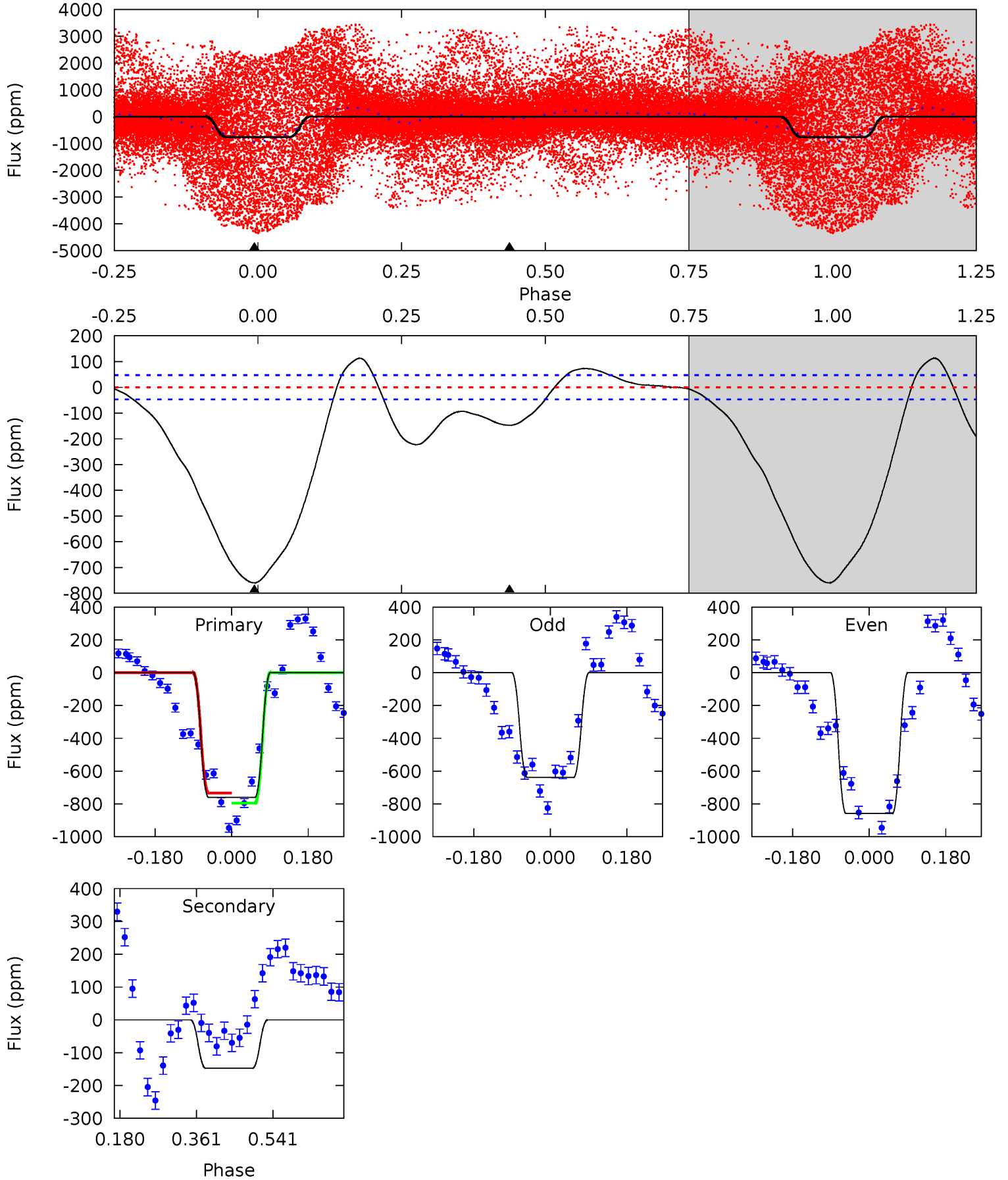
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.4	-4.50	0	0	4.35	1.08	1.88	24.4	24.4	-4.50	-4.50	3.99	3.77	0.25	9.59



Alt Model-Shift Uniqueness Test

006423857-01, P = 1.197339 Days, E = 130.601208 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
71.5	13.9	0	0	4.44	1.34	6.30	71.5	71.5	13.9	13.9	10.3	1.76	0.13	0



Stellar Parameters For KIC 006423857

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4444^{+154}_{-154}	$4.565^{+0.060}_{-0.016}$	$0.420^{+0.050}_{-0.300}$	$0.740^{+0.024}_{-0.063}$	$0.734^{+0.041}_{-0.046}$	$2.550^{+0.645}_{-0.185}$
	+3%/-3%	+1%/-0%	+12%/-71%	+3%/-9%	+6%/-6%	+25%/-7%
Source	PHO1	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 006423857-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	75 ± 17	$1.61^{+0.27}_{-0.26}$	1655^{+63}_{-64}	-3343^{+188}_{-239}	$-6.314^{+1.970}_{-3.068}$
Alt.	-148 ± 11	$2.93^{+0.30}_{-0.29}$	1661^{+59}_{-63}	3051^{+126}_{-117}	$3.806^{+0.887}_{-0.662}$

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 $A_{obs} \gg 1.0$

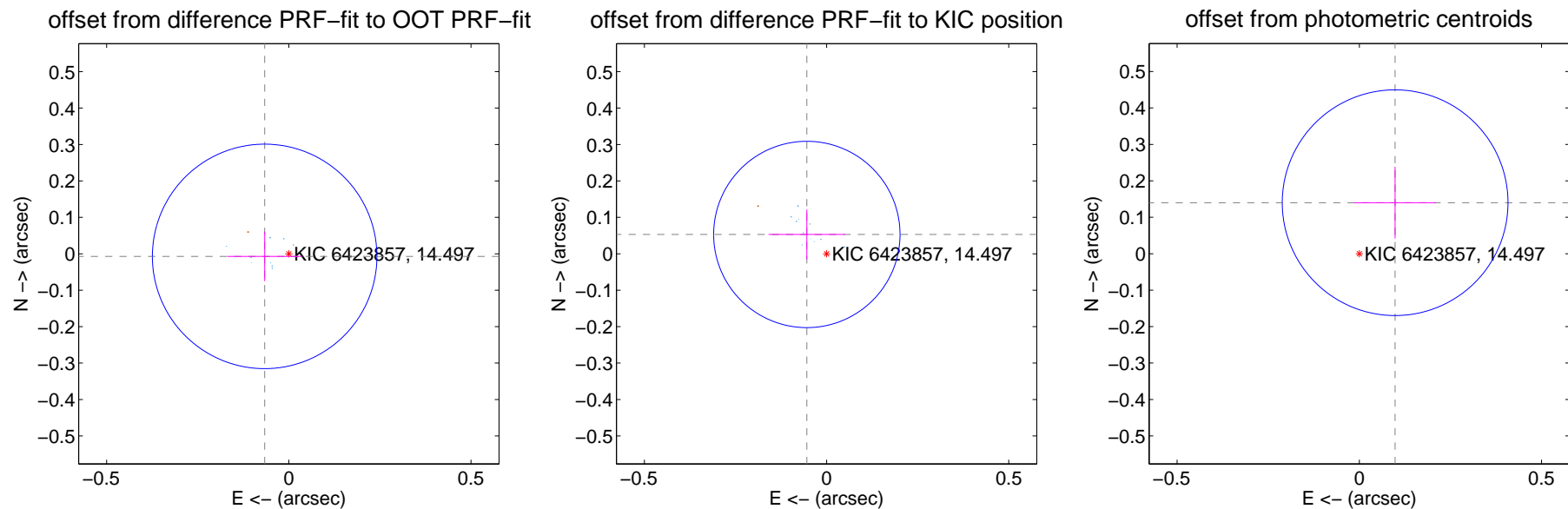
DV Centroid Data

Supplemental centroid analysis for 006423857-01. Kepler magnitude: 14.50. Transit SNR 16.23

There are 12 quarters with good PRF difference image offsets

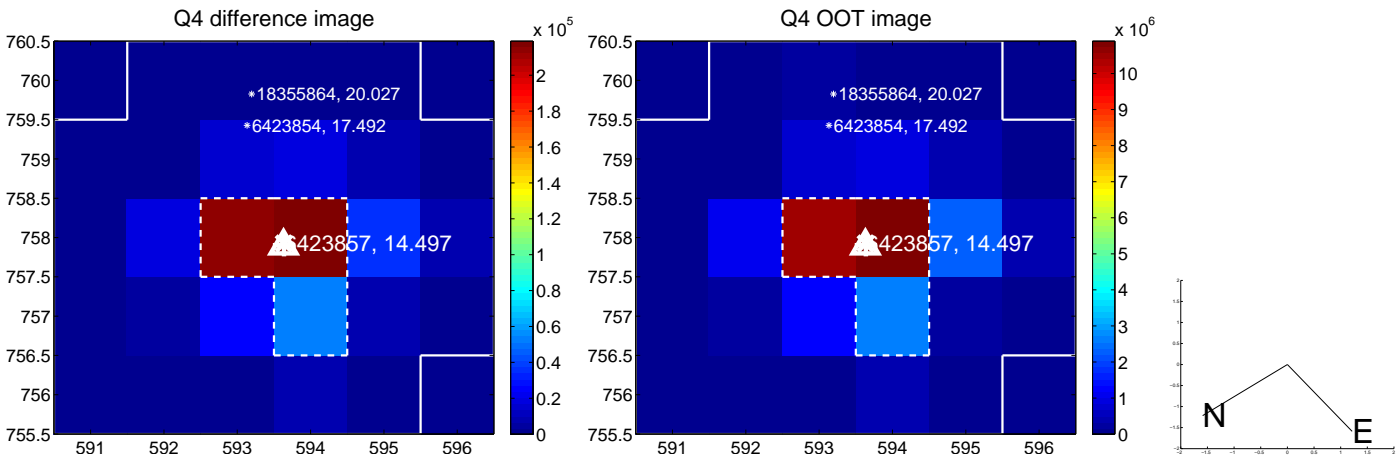
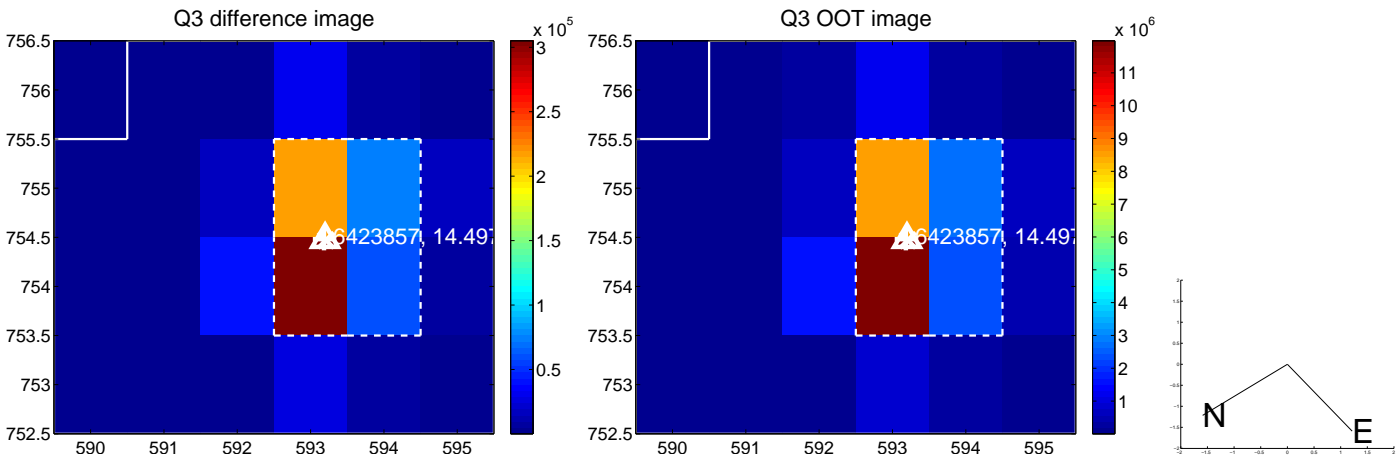
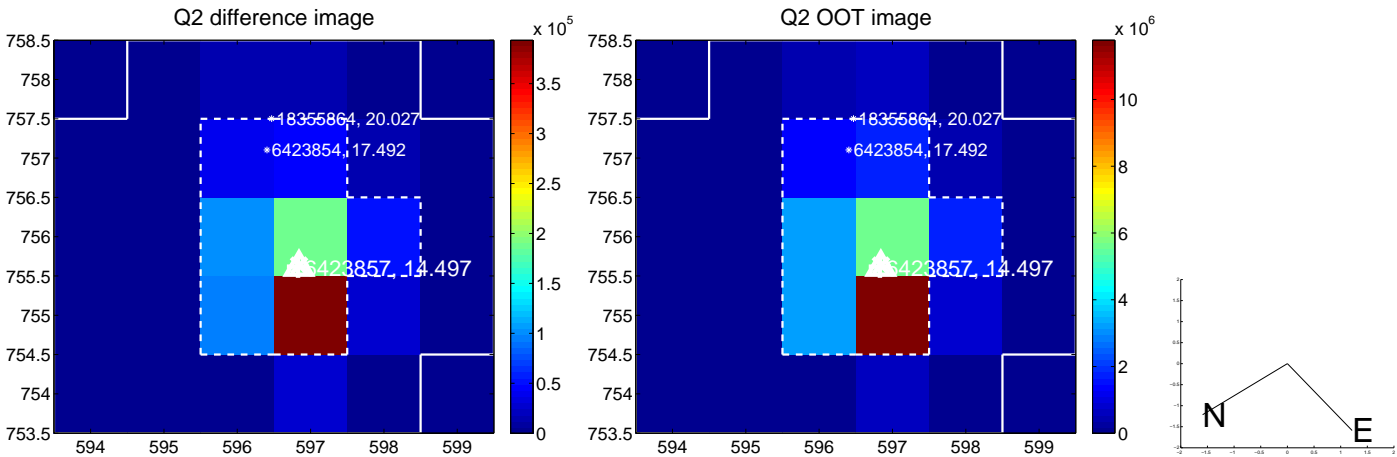
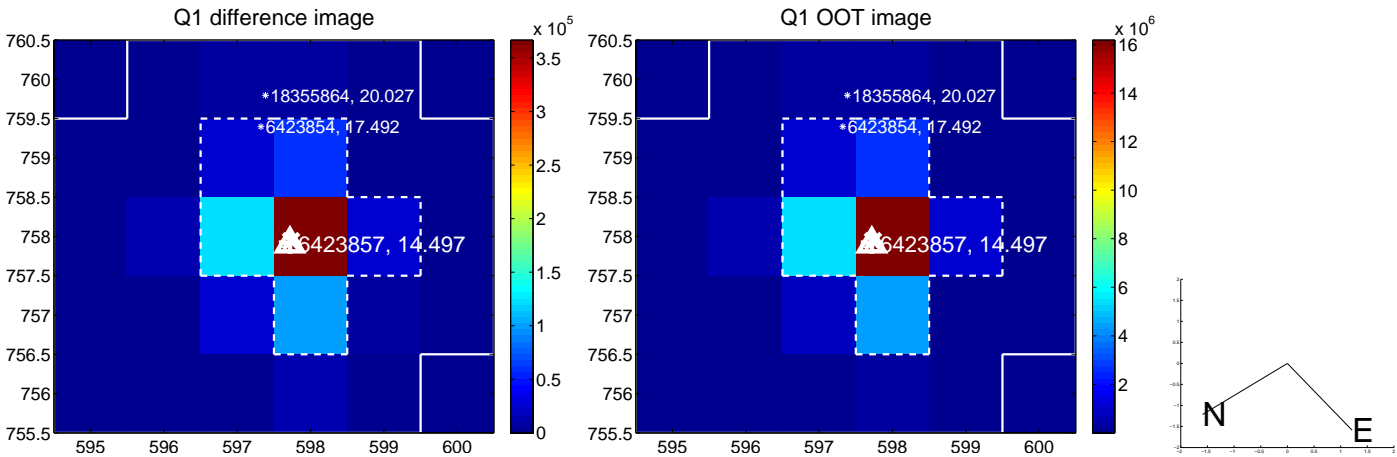
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.067 ± 0.103	0.65	0.066 ± 0.102	-0.007 ± 0.068
PRF-fit source offset from KIC position	0.076 ± 0.085	0.89	0.054 ± 0.105	0.053 ± 0.068
photometric centroid source offset	0.17 ± 0.10	1.66	-0.10 ± 0.11	0.14 ± 0.10

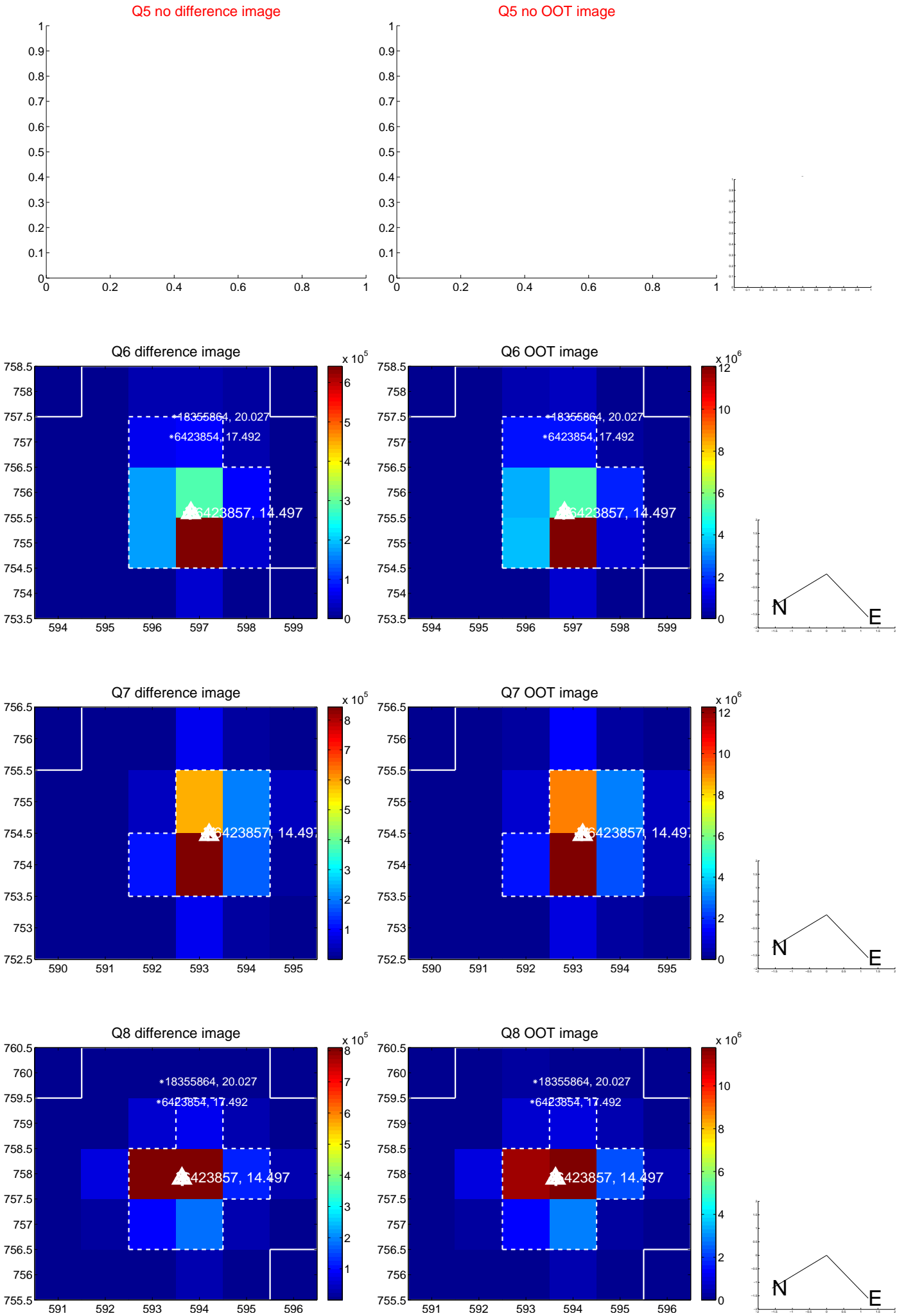


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

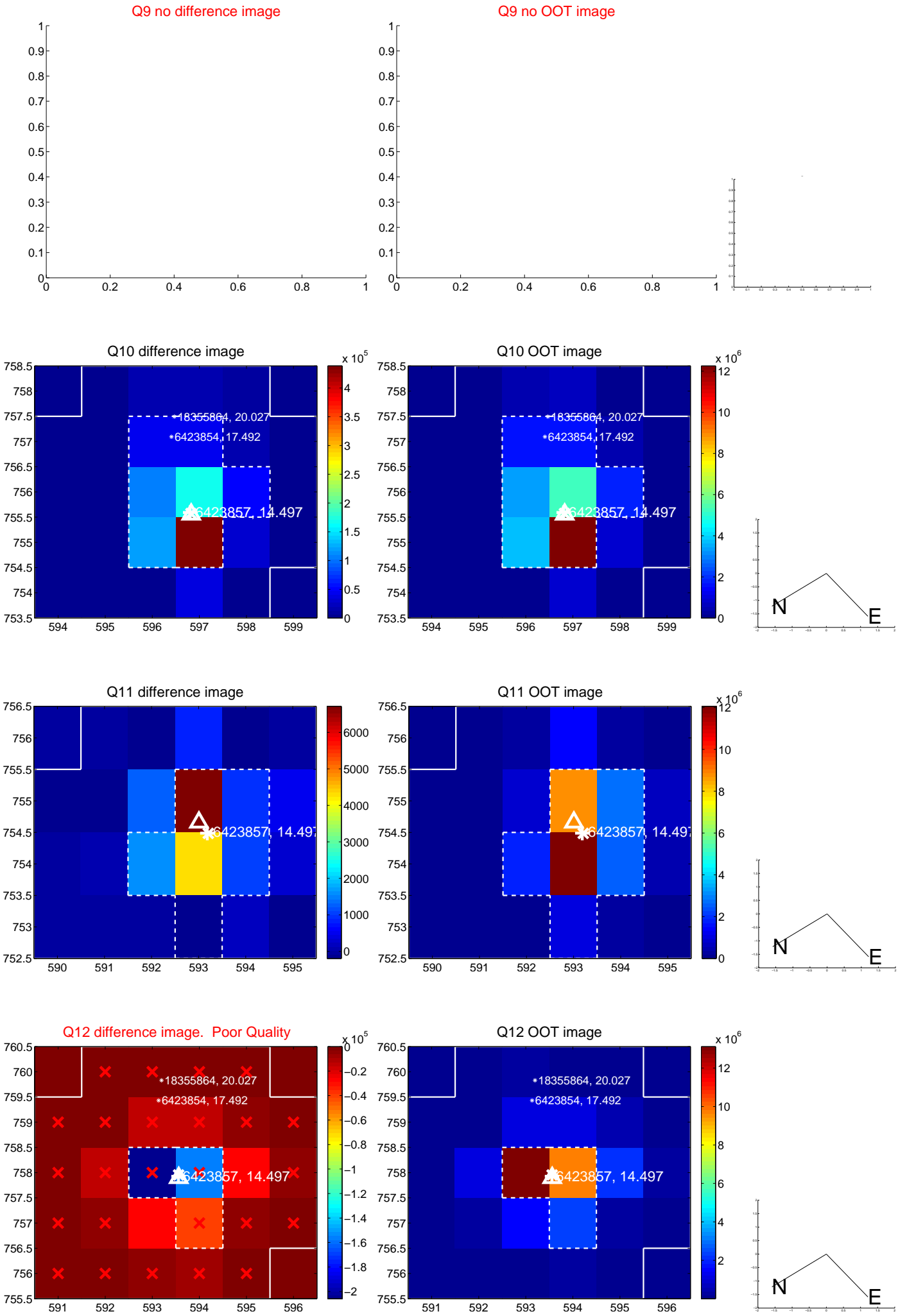
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



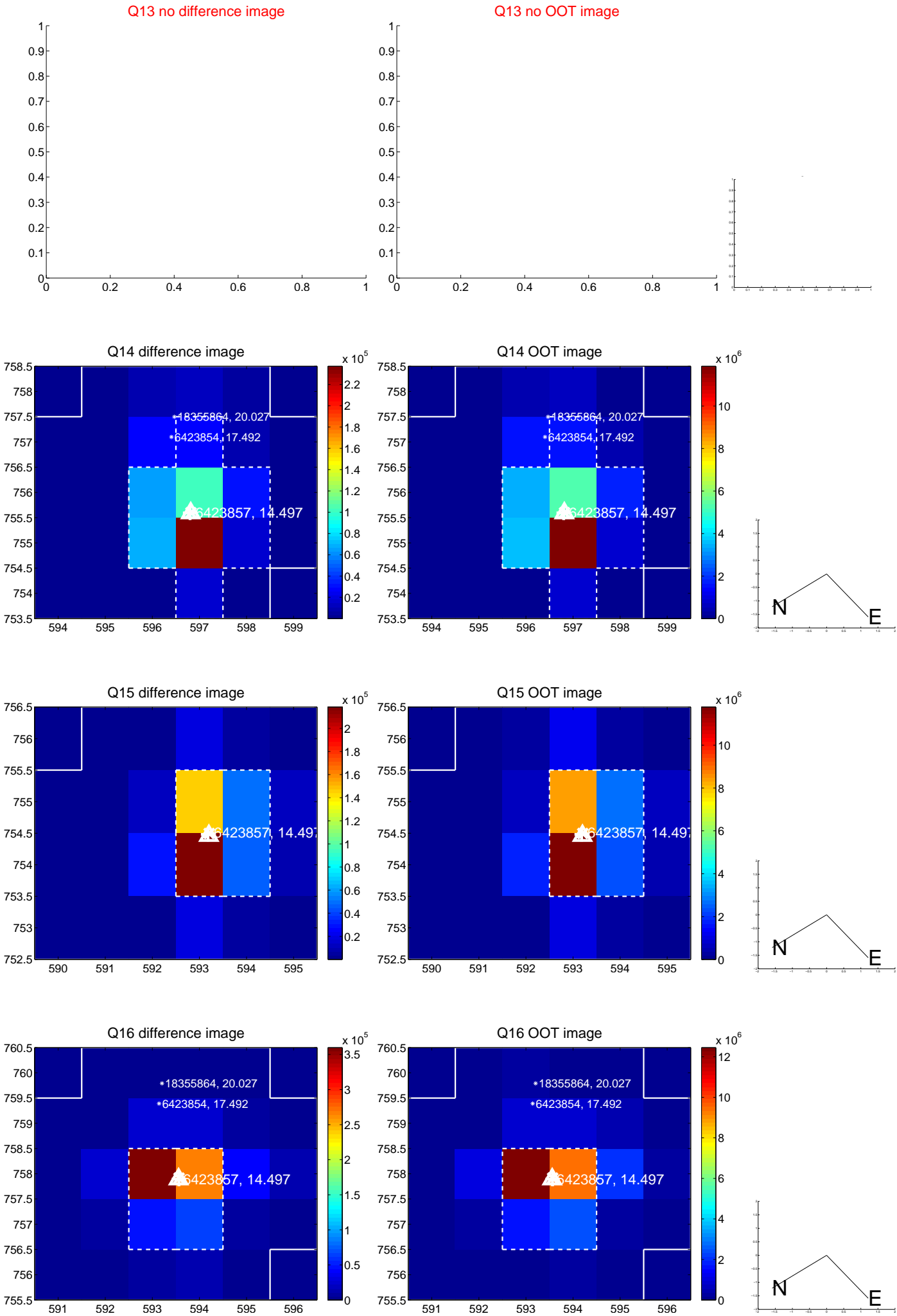
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



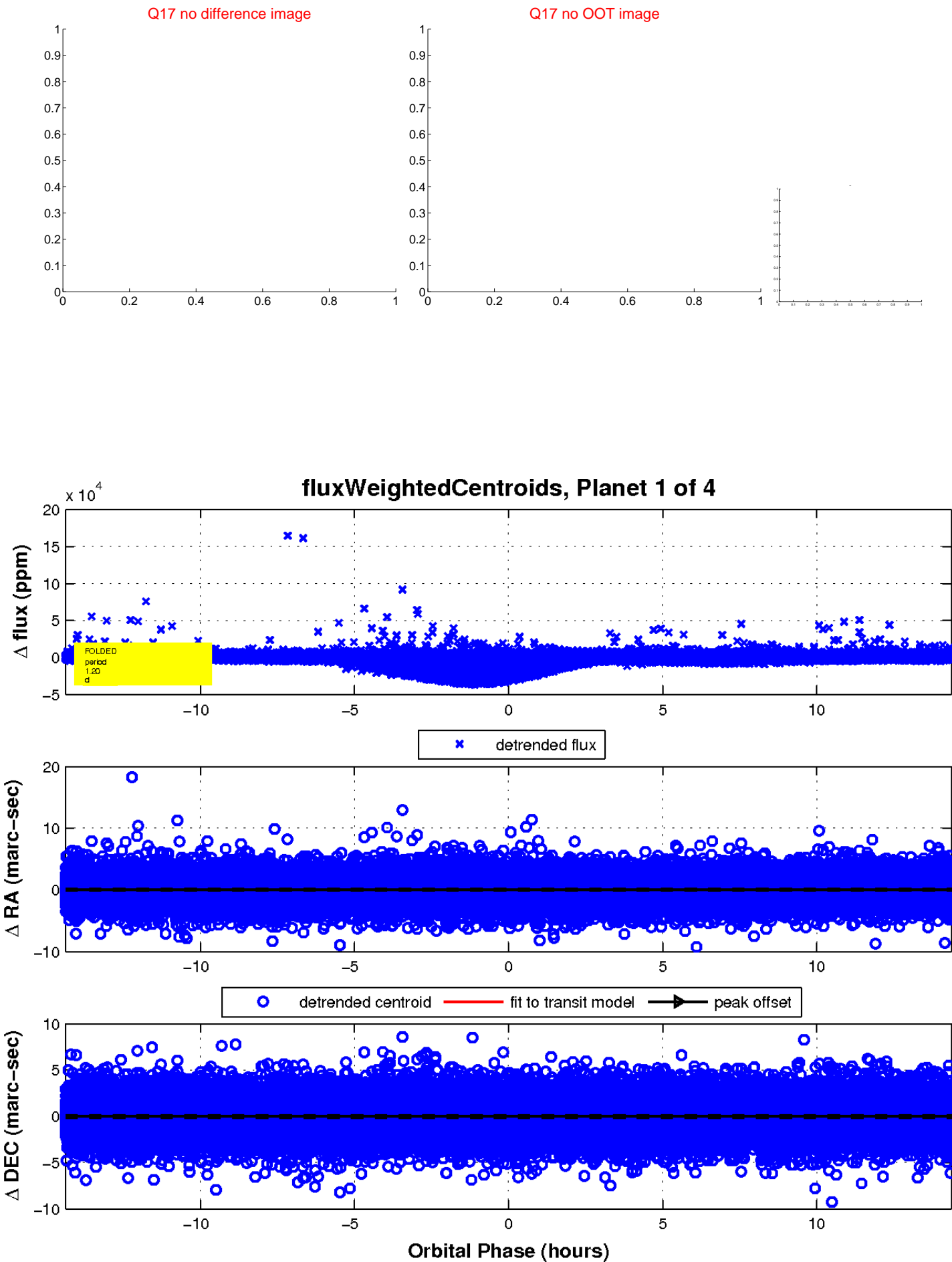
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

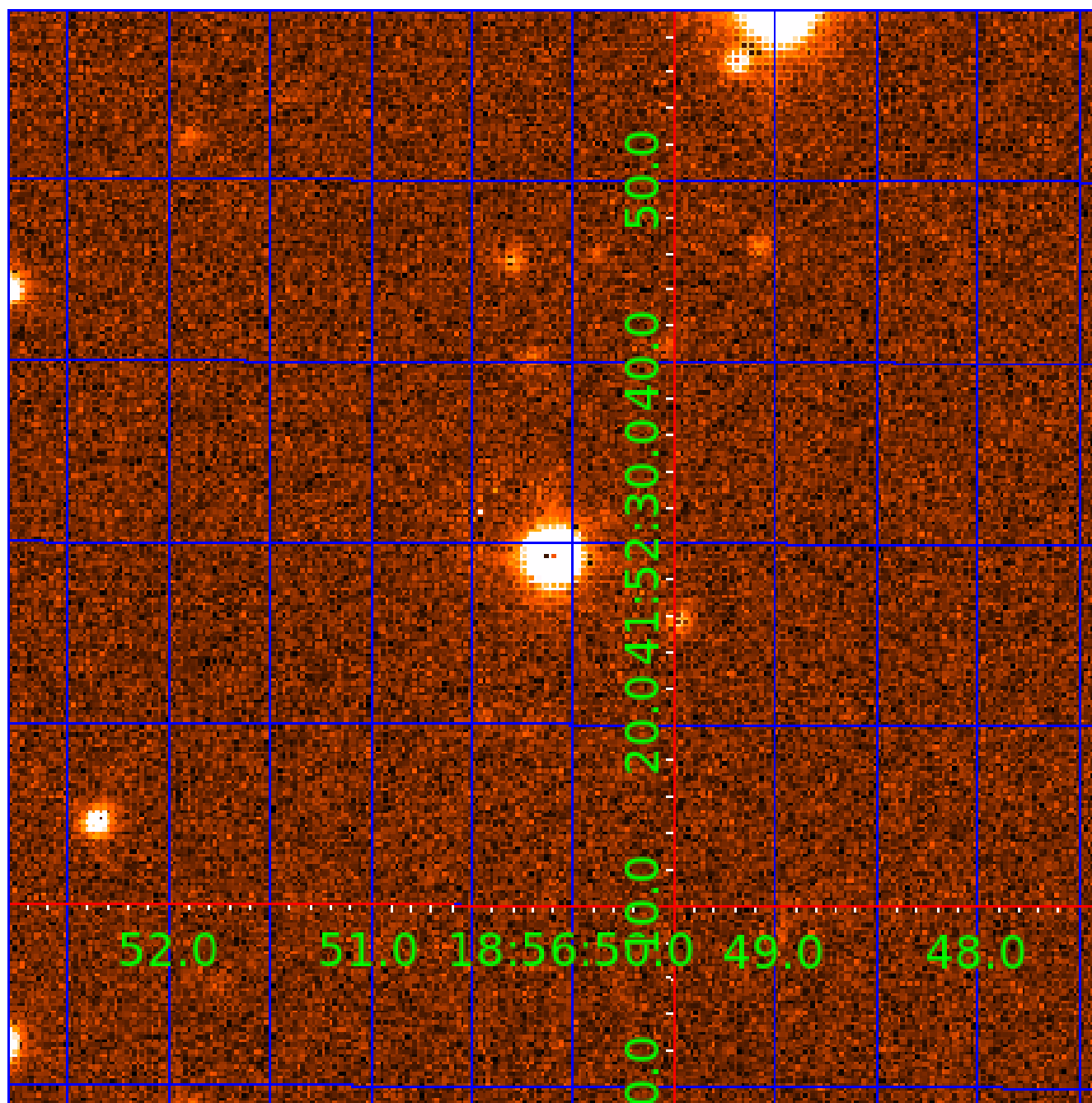


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006423857

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})
006423857-01	OBS	No	1.197499	131.787797	535.2	7.547	37.9	16.2	0.74	4444	1.62	482.81
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006423857-03	OBS	No	1.196747	132.508732	864.6	4.792	13.7	9.9	0.74	4444	2.94	483.22
006423857-04	OBS	No	2.084795	132.192244	1852.6	1.500	11.6	-1.0	0.74	4444	3.04	230.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006423857-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
006423857-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
006423857-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
006423857-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—NO_FITS—CENT_NOFITS

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

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

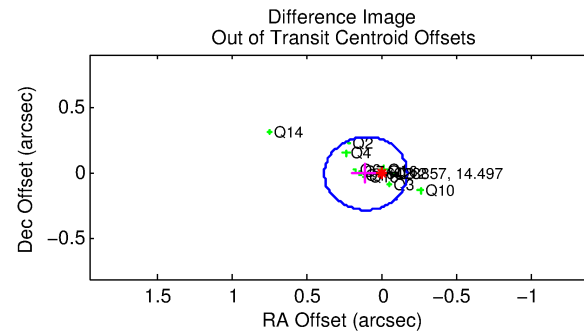
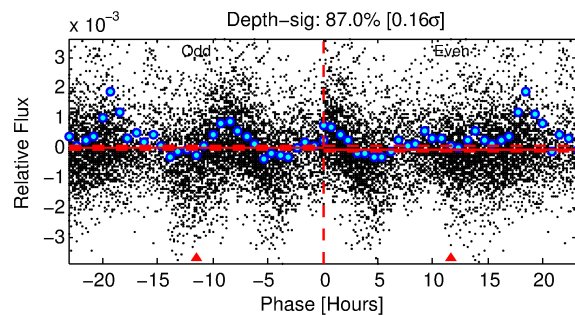
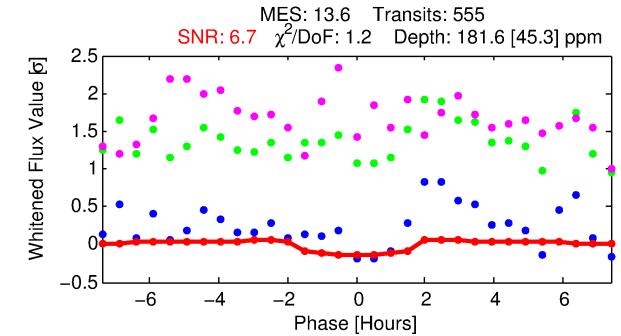
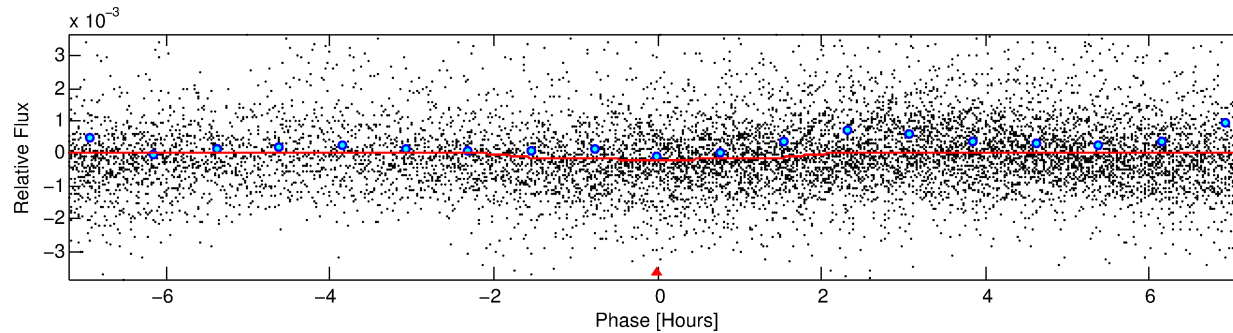
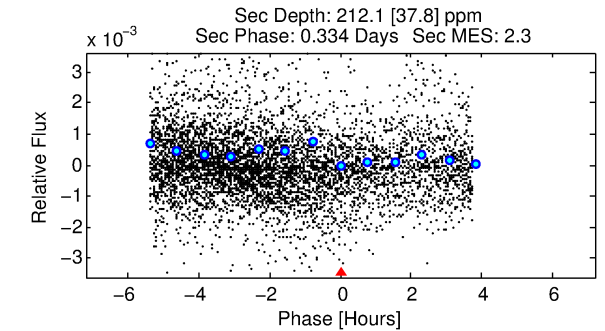
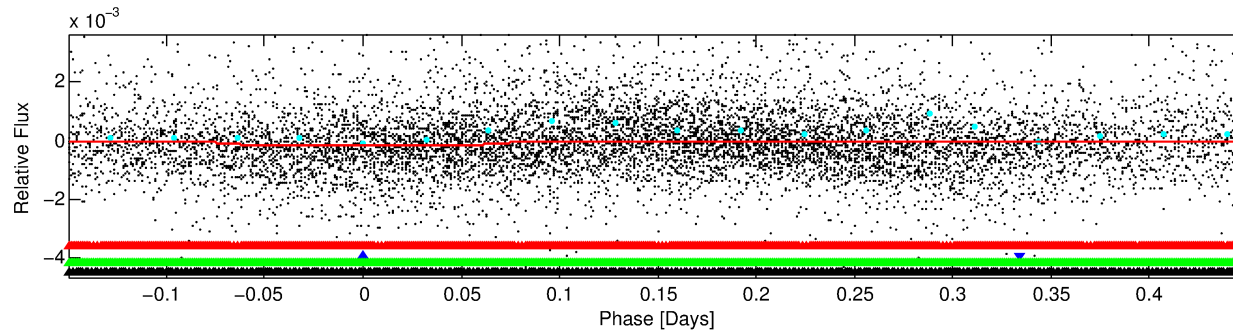
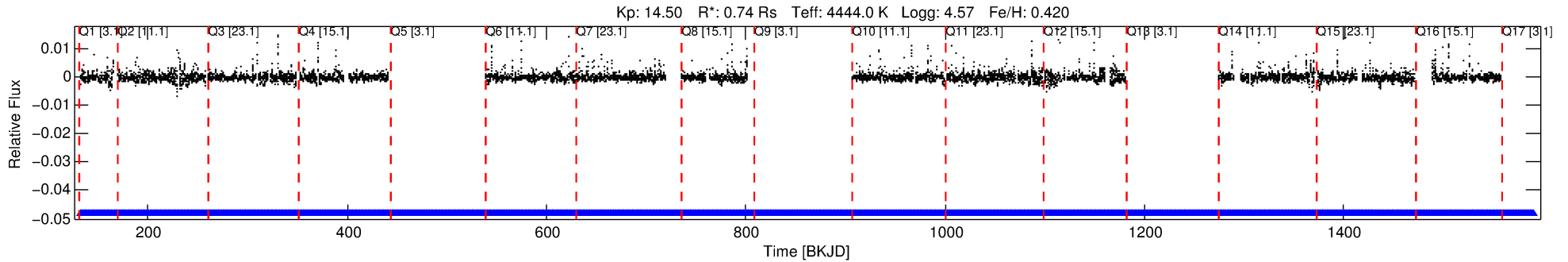
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006423857-02

No Significant Match Found

DV One-Page Summary

KIC: 6423857 Candidate: 2 of 4 Period: 0.600 d



DV Fit Results:

Period = 0.59971 [0.00002] d
Epoch = 131.9955 [0.0054] BKJD
Rp/R* = 0.0134 [0.0109]
a/R* = 1.19 [0.85]
b = 0.74 [1.58]
Seff = 1214.00 [213.46]
Teff = 1505 [66] K
Rp = 1.09 [0.88] Re
a = 0.0126 [0.0009] AU
Ag = 15.62 [25.47] [0.57 σ]
Teffp = 4626 [1889] K [1.65 σ]

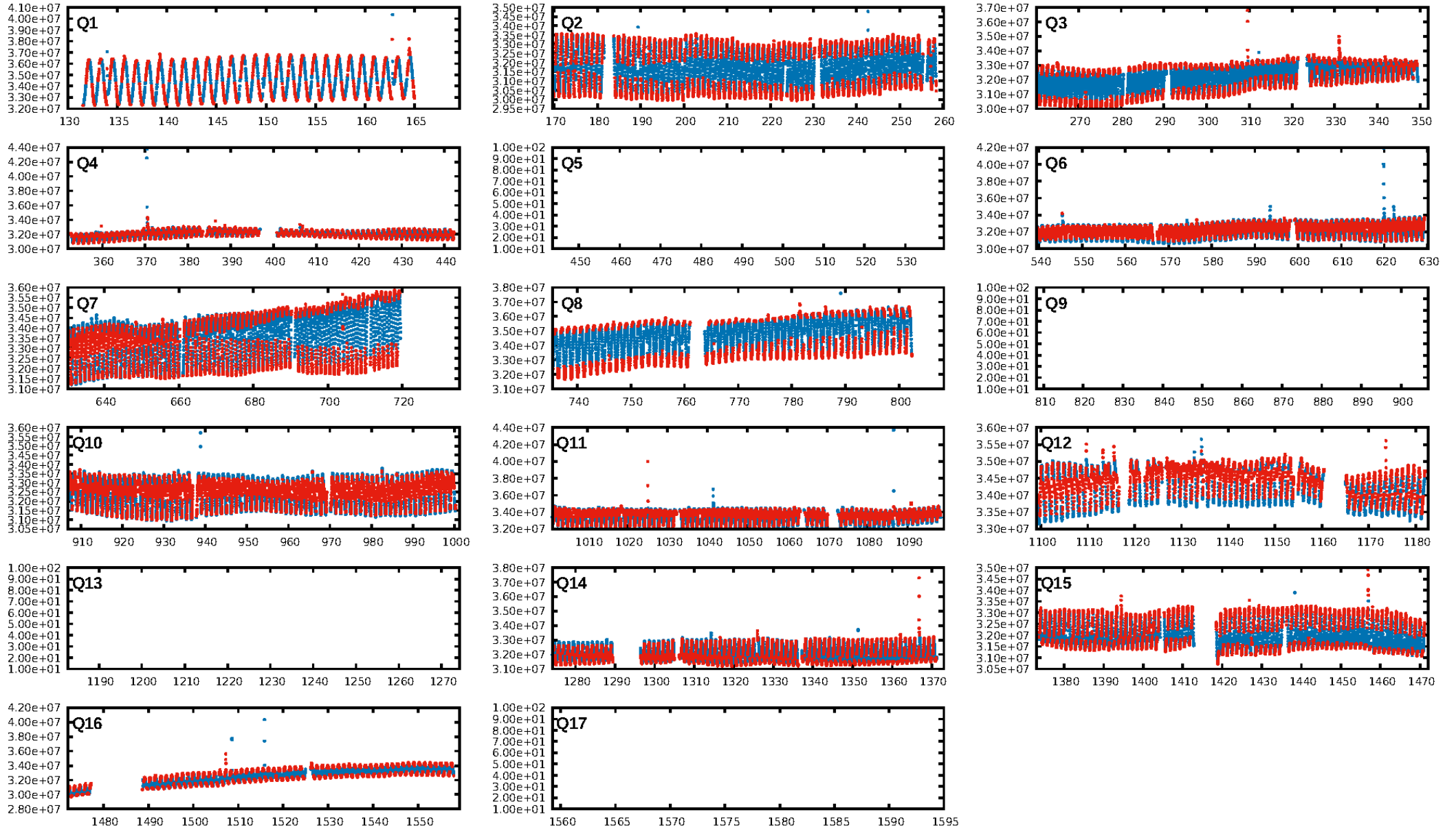
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 98.0% [2.33 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [555/555]
GhostDiagnostic-chr: -0.2179
Centroid-sig: 42.1%
Centroid-so: 0.106 arcsec [0.40 σ]
OotOffset-rm: 0.101 arcsec [1.10 σ]
KicOffset-rm: 0.115 arcsec [1.19 σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 0.54 [7/13]
DiffImageOverlap-fno: 0.23 [3/13]

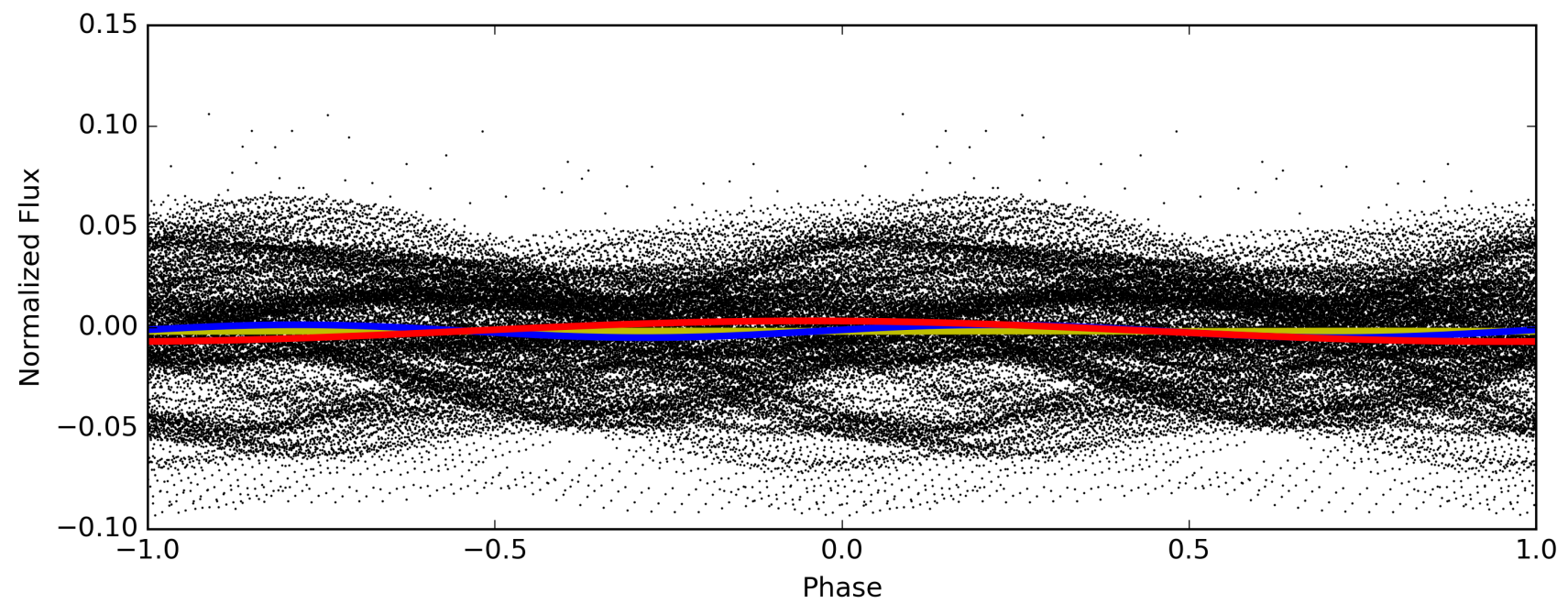
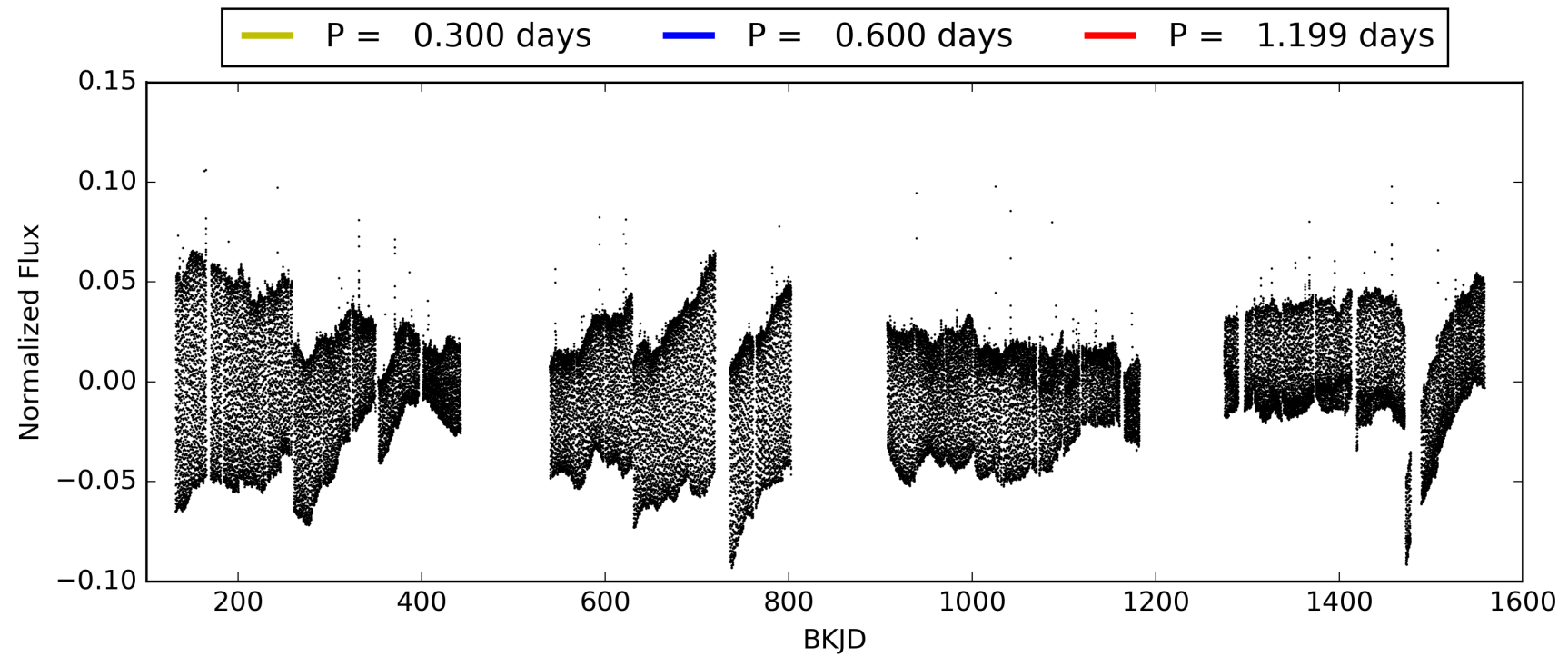
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 08:07:09 Z

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

TCE 006423857-02, PDC Light Curves

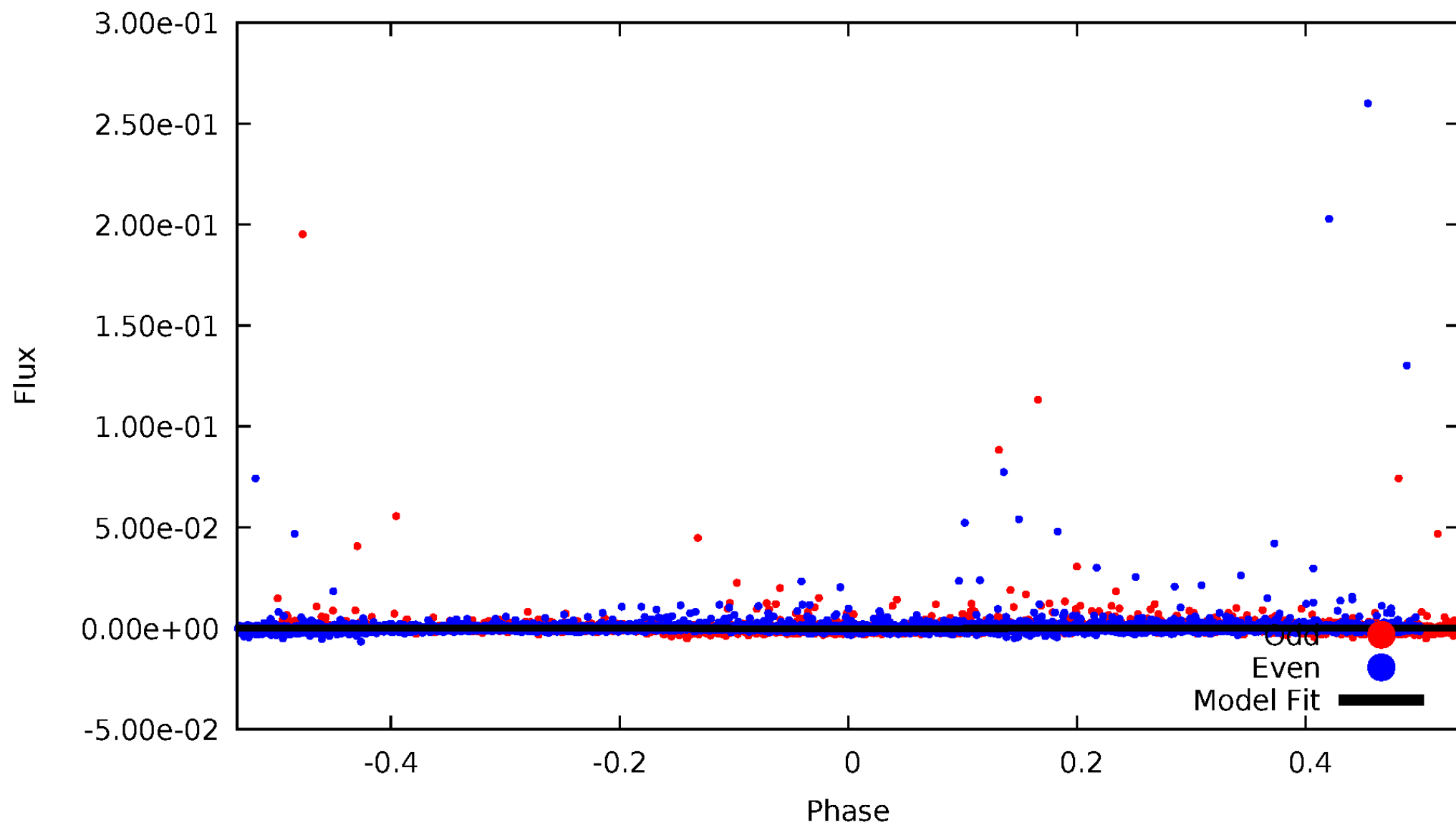


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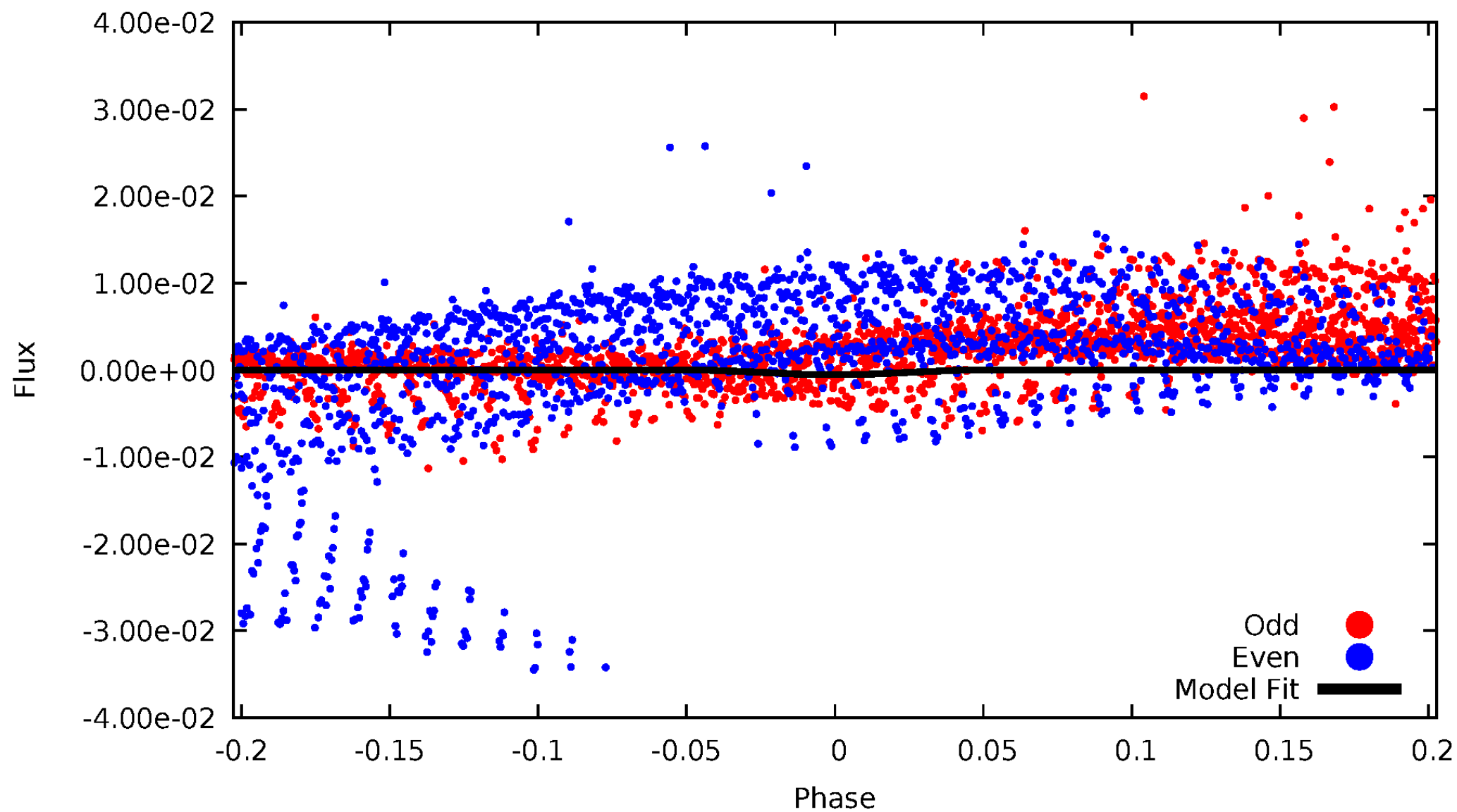
DV Odd/Even

TCE 006423857-02



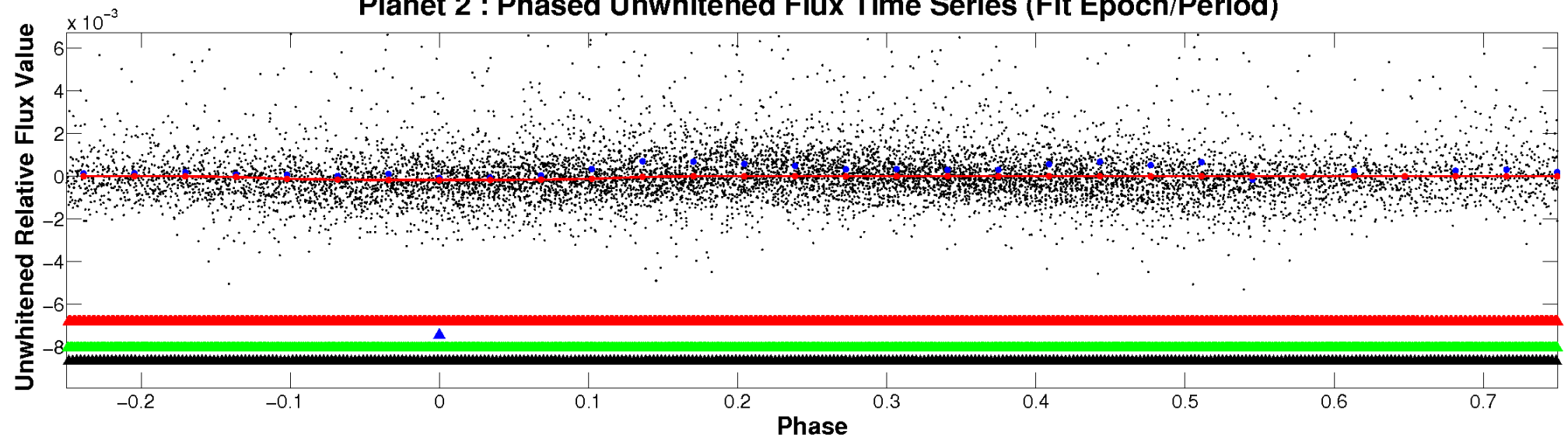
ALT Odd/Even

TCE 006423857-02

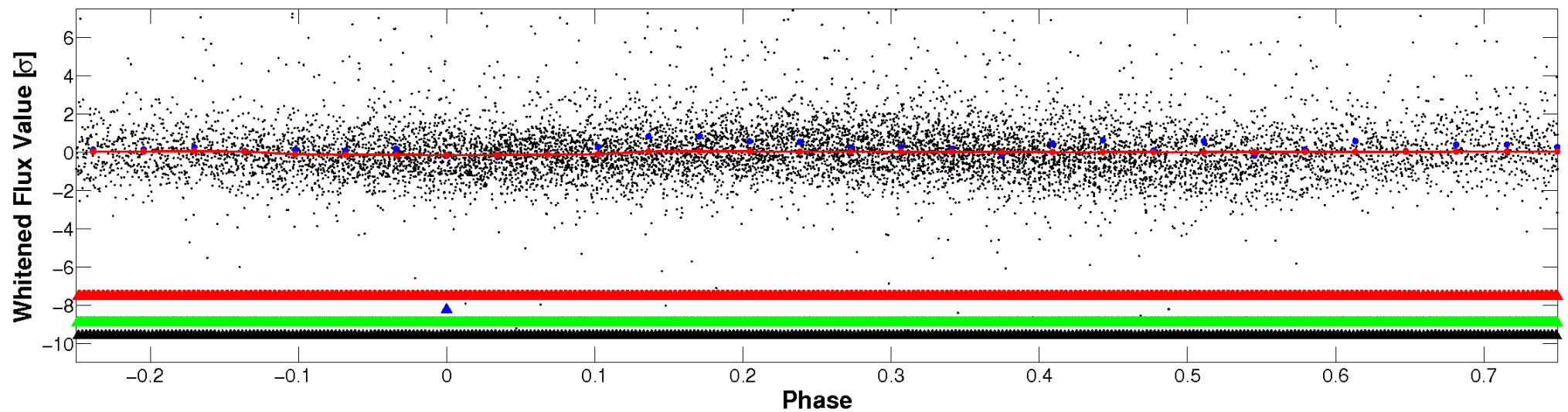


Non-Whitened Vs. Whitened Light Curve

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

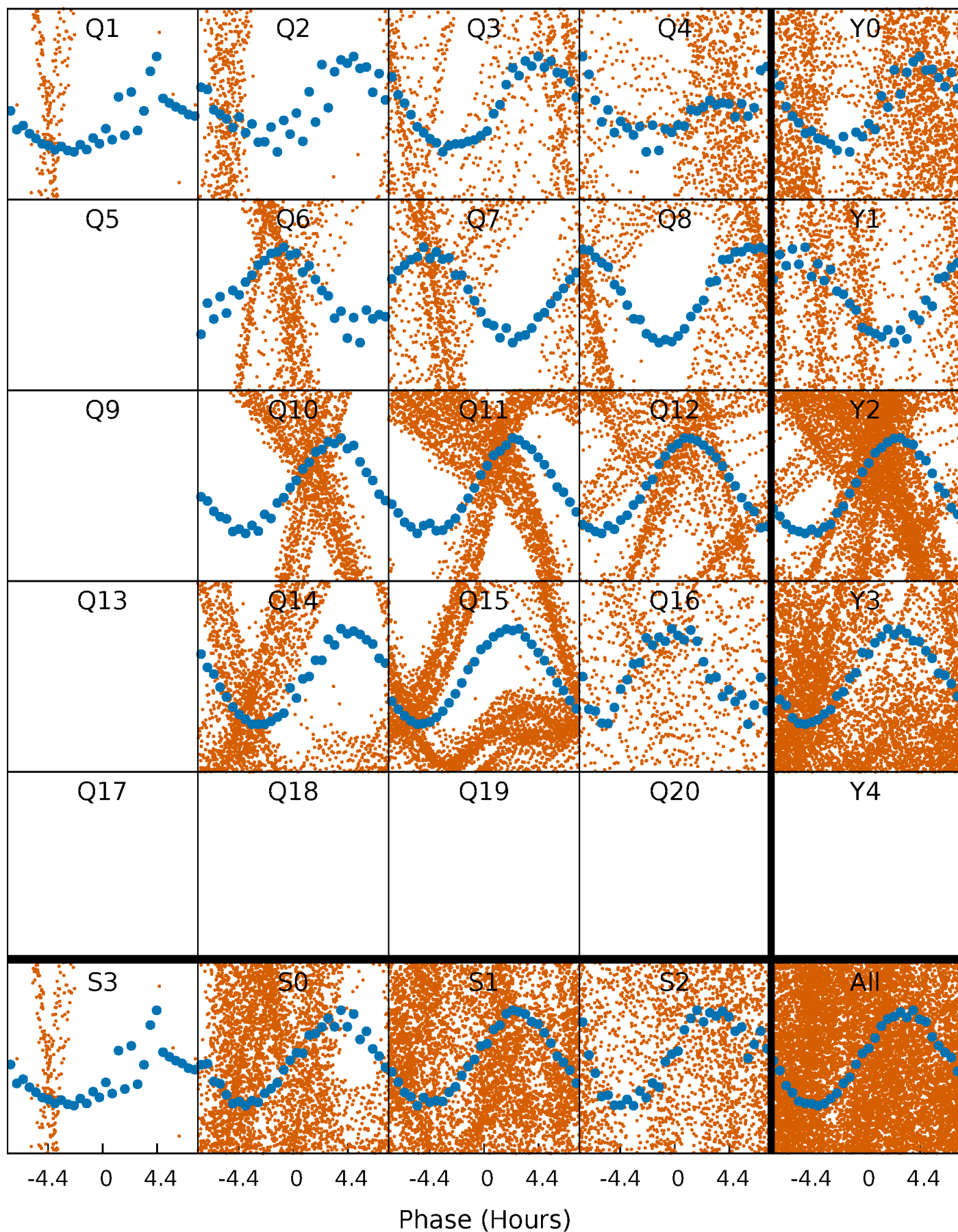


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



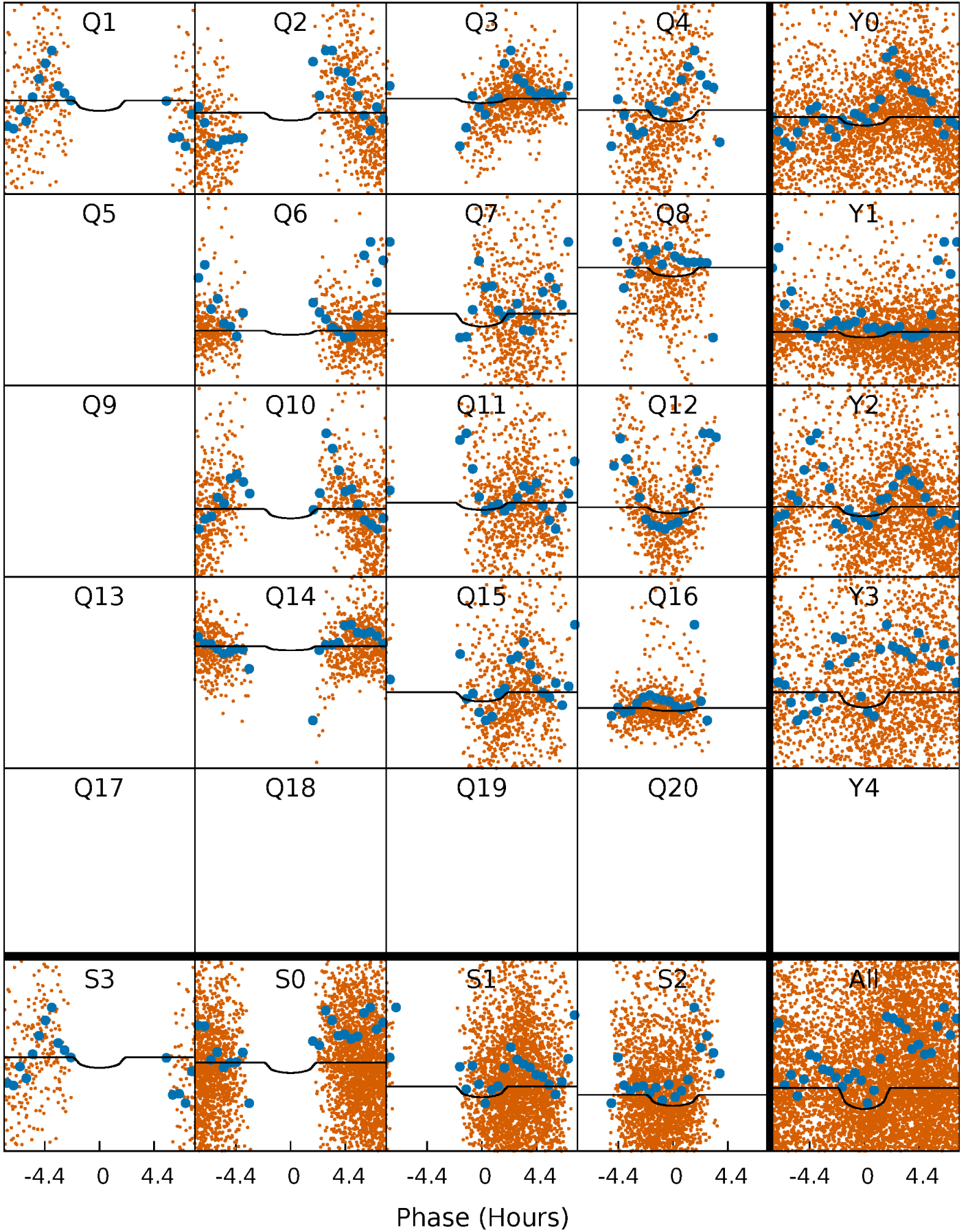
PDC Quarter-Phased Transit Curves

TCE 006423857-02 P= 0.599714 Days $T_0=131.995525$ (BKJD)



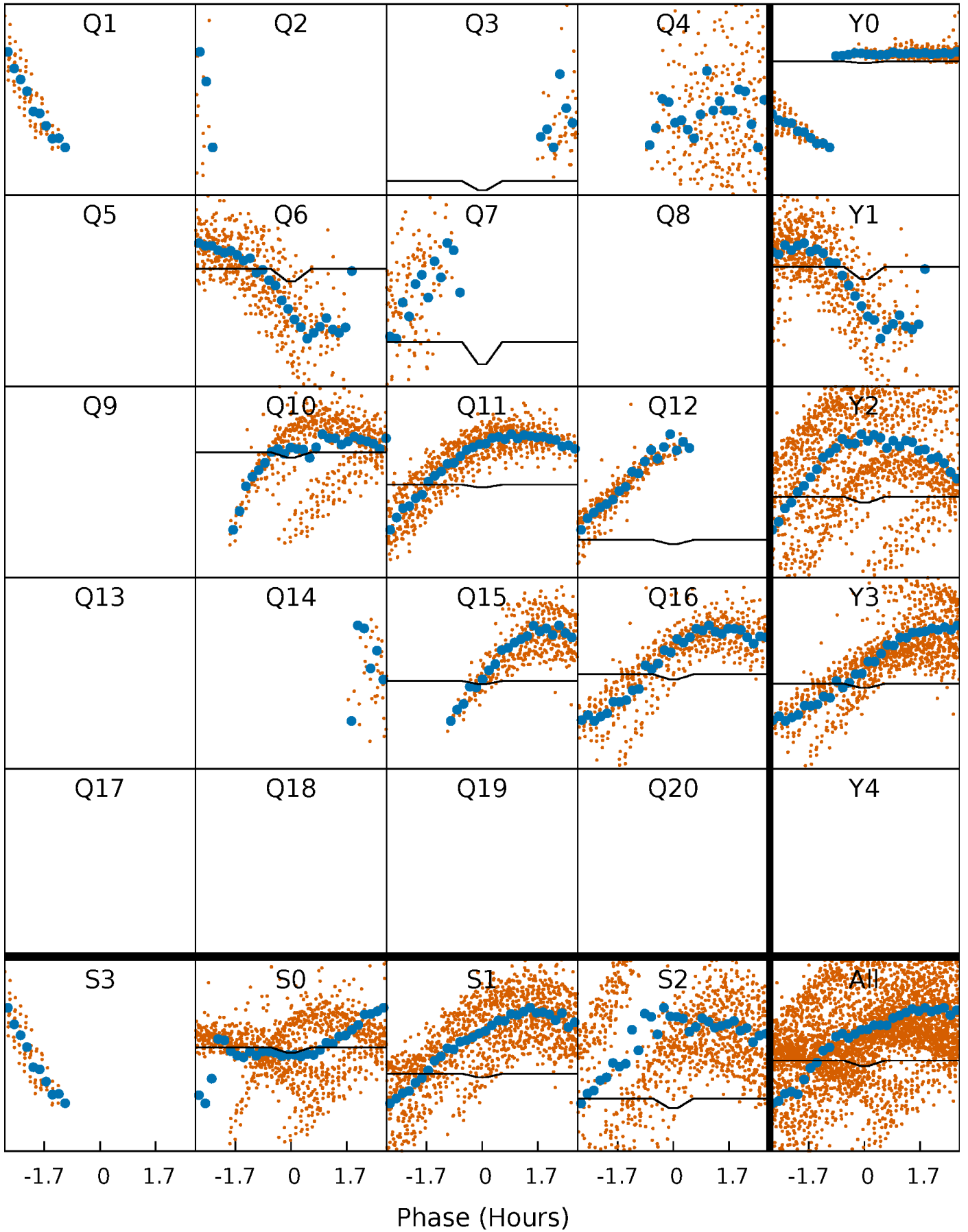
DV Quarter-Phased Transit Curves

TCE 006423857-02 P= 0.599714 Days $T_0=131.995525$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

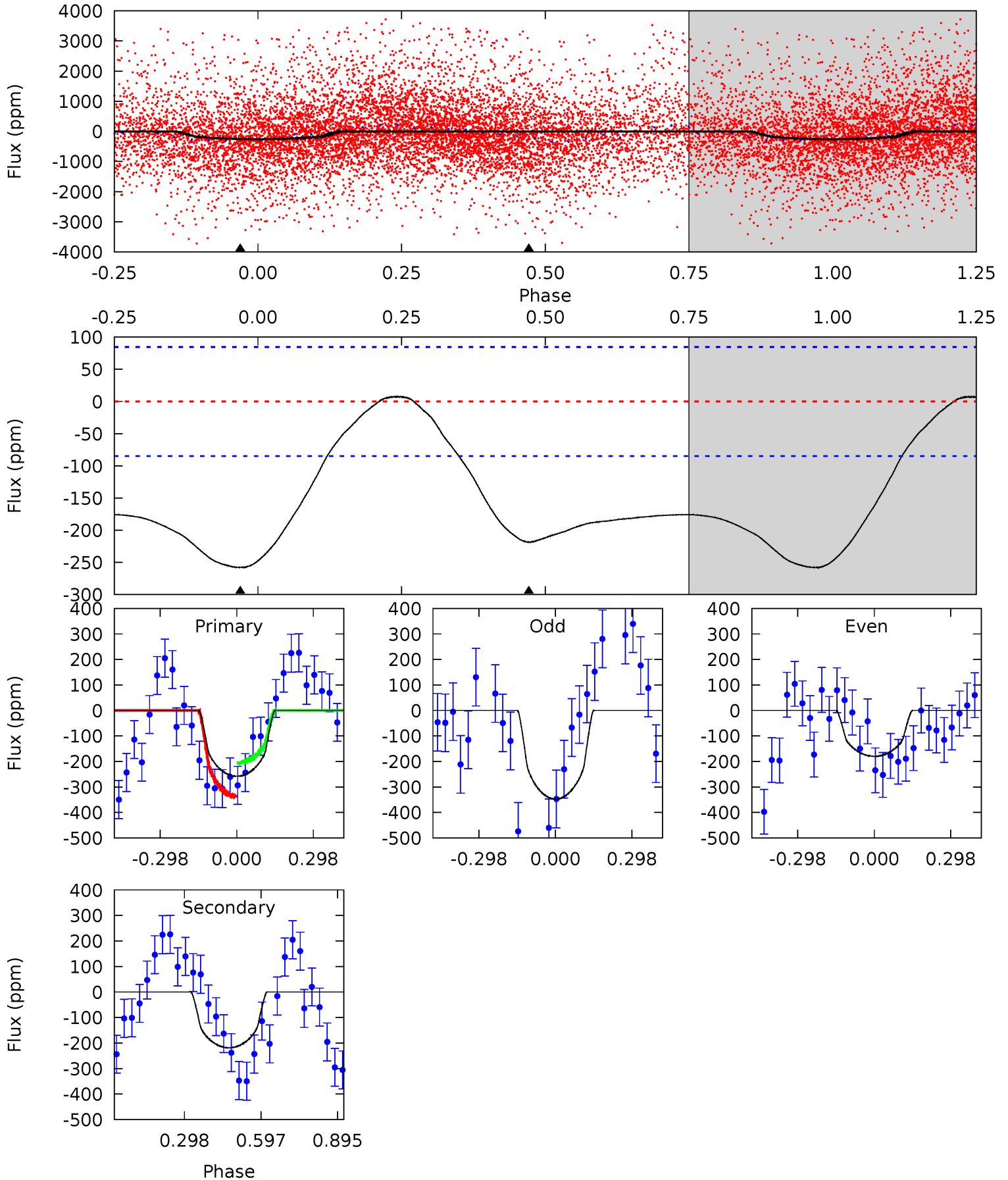
TCE 006423857-02 $P = 0.599450$ Days $T_0 = 131.947359$ (BKJD)



DV Model-Shift Uniqueness Test

006423857-02, P = 0.599714 Days, E = 131.995525 Days

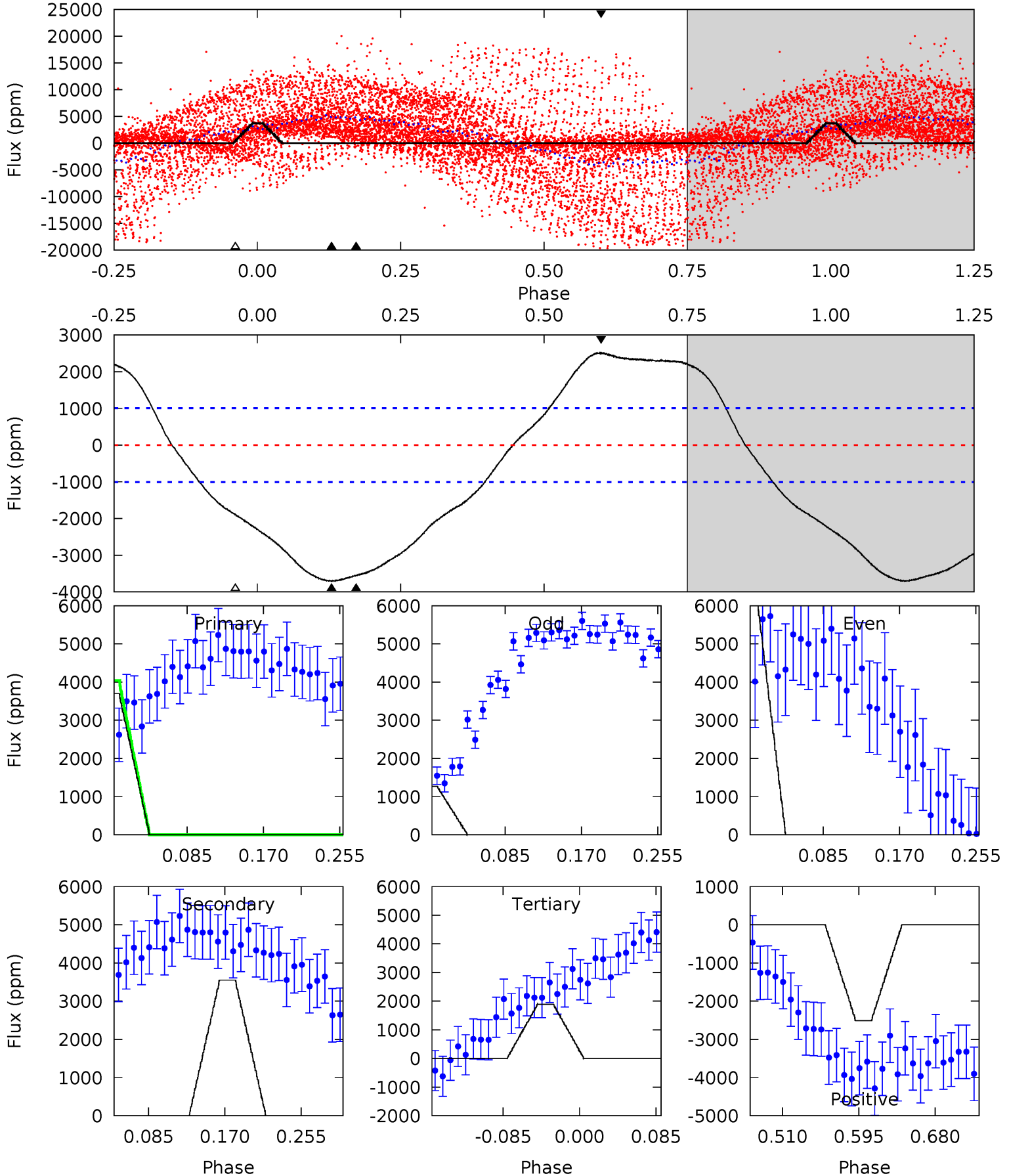
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	11.2	0	0	4.33	1.04	4.04	13.2	13.2	11.2	11.2	4.35	-0.79	0.03	3.50



Alt Model-Shift Uniqueness Test

006423857-02, P = 0.599450 Days, E = 131.947359 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.9	16.2	8.63	11.5	4.60	1.72	8.39	8.24	5.42	7.56	4.73	9.81	1.20	0.40	1.83



Stellar Parameters For KIC 006423857

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4444^{+154}_{-154}	$4.565^{+0.060}_{-0.016}$	$0.420^{+0.050}_{-0.300}$	$0.740^{+0.024}_{-0.063}$	$0.734^{+0.041}_{-0.046}$	$2.550^{+0.645}_{-0.185}$
	+3%/-3%	+1%/-0%	+12%/-71%	+3%/-9%	+6%/-6%	+25%/-7%
Source	PHO1	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 006423857-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-219 ± 20	$1.19^{+0.90}_{-0.68}$	2088^{+75}_{-84}	4373^{+2183}_{-776}	14^{+58}_{-9}
Alt.	-3550 ± 219	$1.87^{+0.86}_{-0.82}$	2089^{+78}_{-75}	6785^{+3128}_{-1178}	89^{+190}_{-48}

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

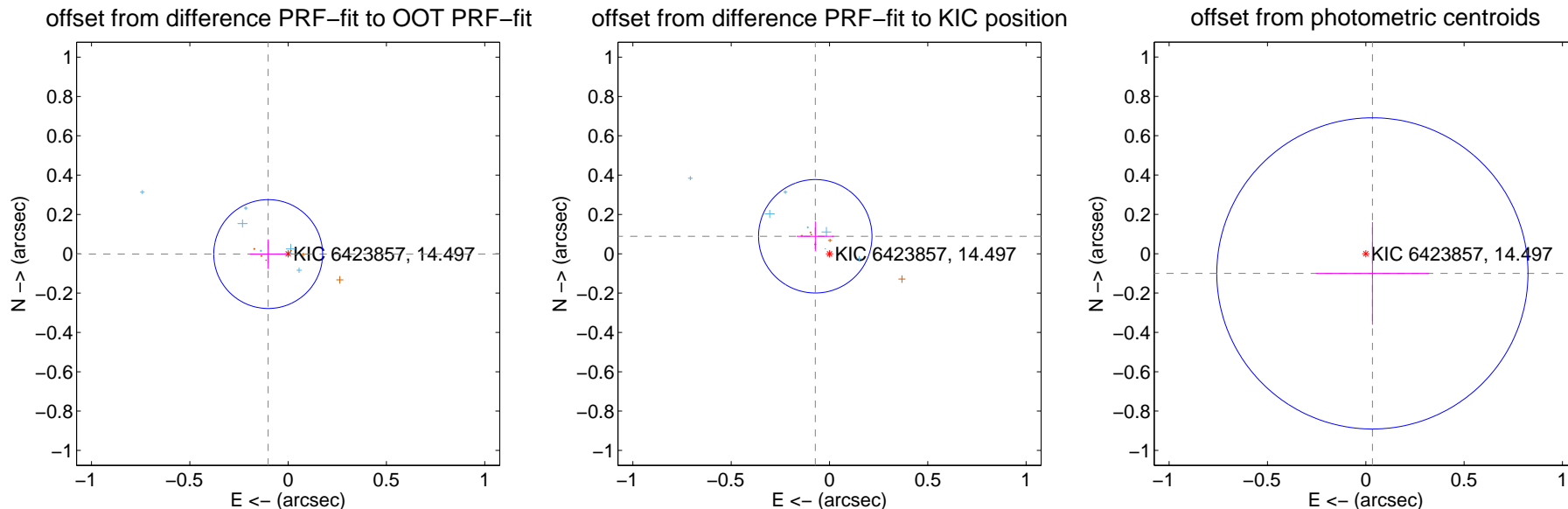
DV Centroid Data

Supplemental centroid analysis for 006423857-02. Kepler magnitude: 14.50. Transit SNR 6.74

There are 7 quarters with good PRF difference image offsets

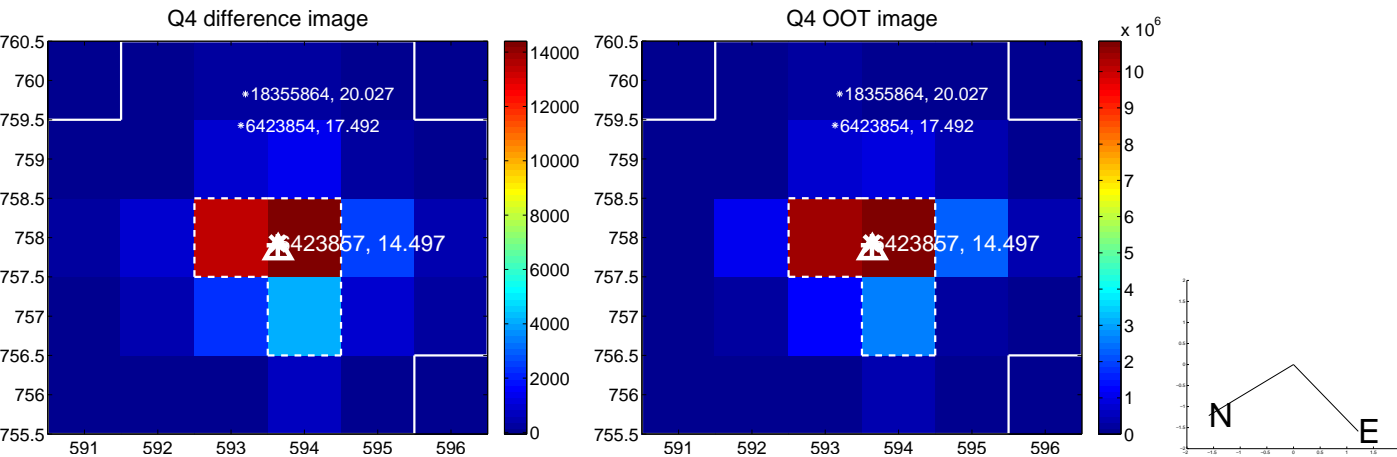
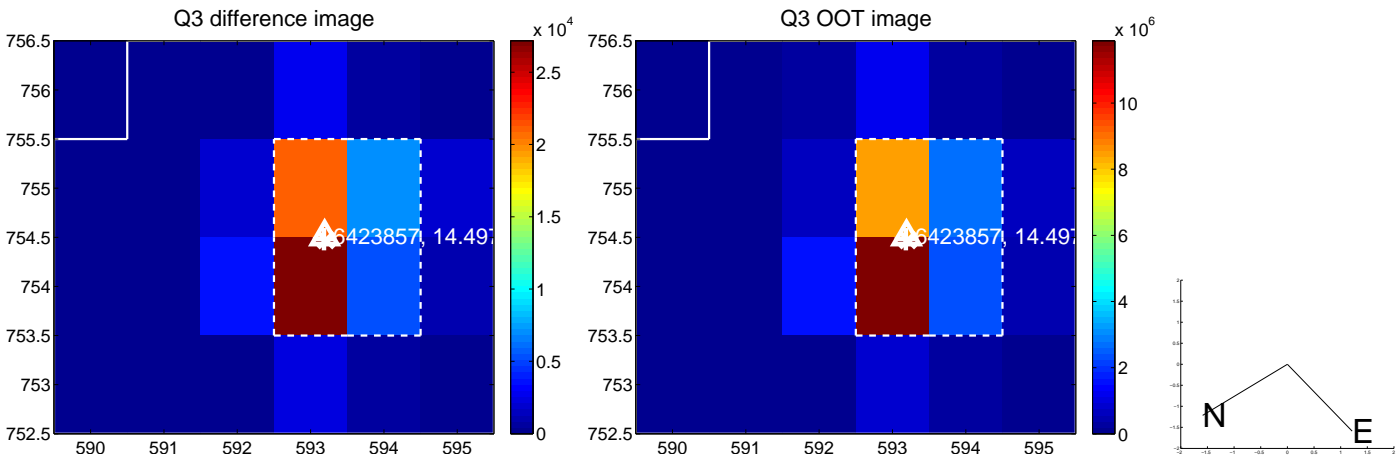
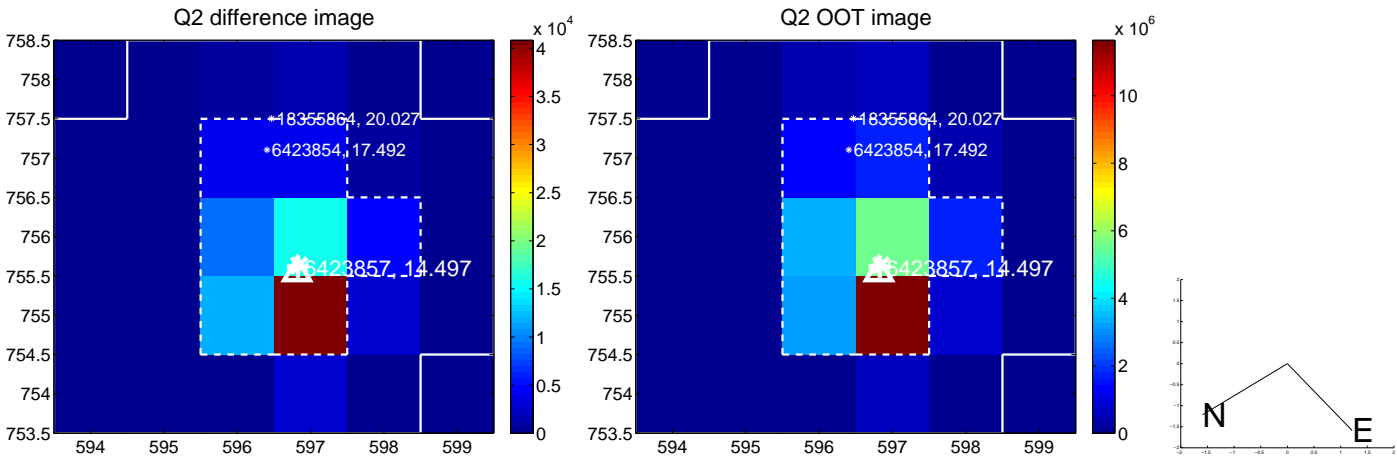
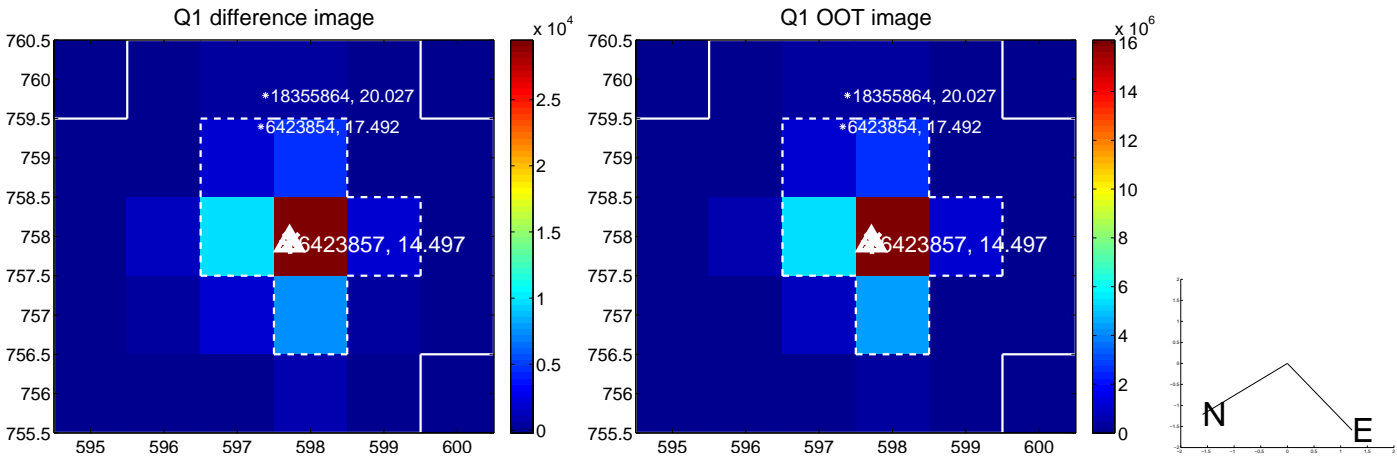
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.101 ± 0.092	1.10	0.101 ± 0.093	-0.001 ± 0.074
PRF-fit source offset from KIC position	0.115 ± 0.096	1.19	0.072 ± 0.095	0.089 ± 0.076
photometric centroid source offset	0.11 ± 0.26	0.40	-0.03 ± 0.29	-0.10 ± 0.26

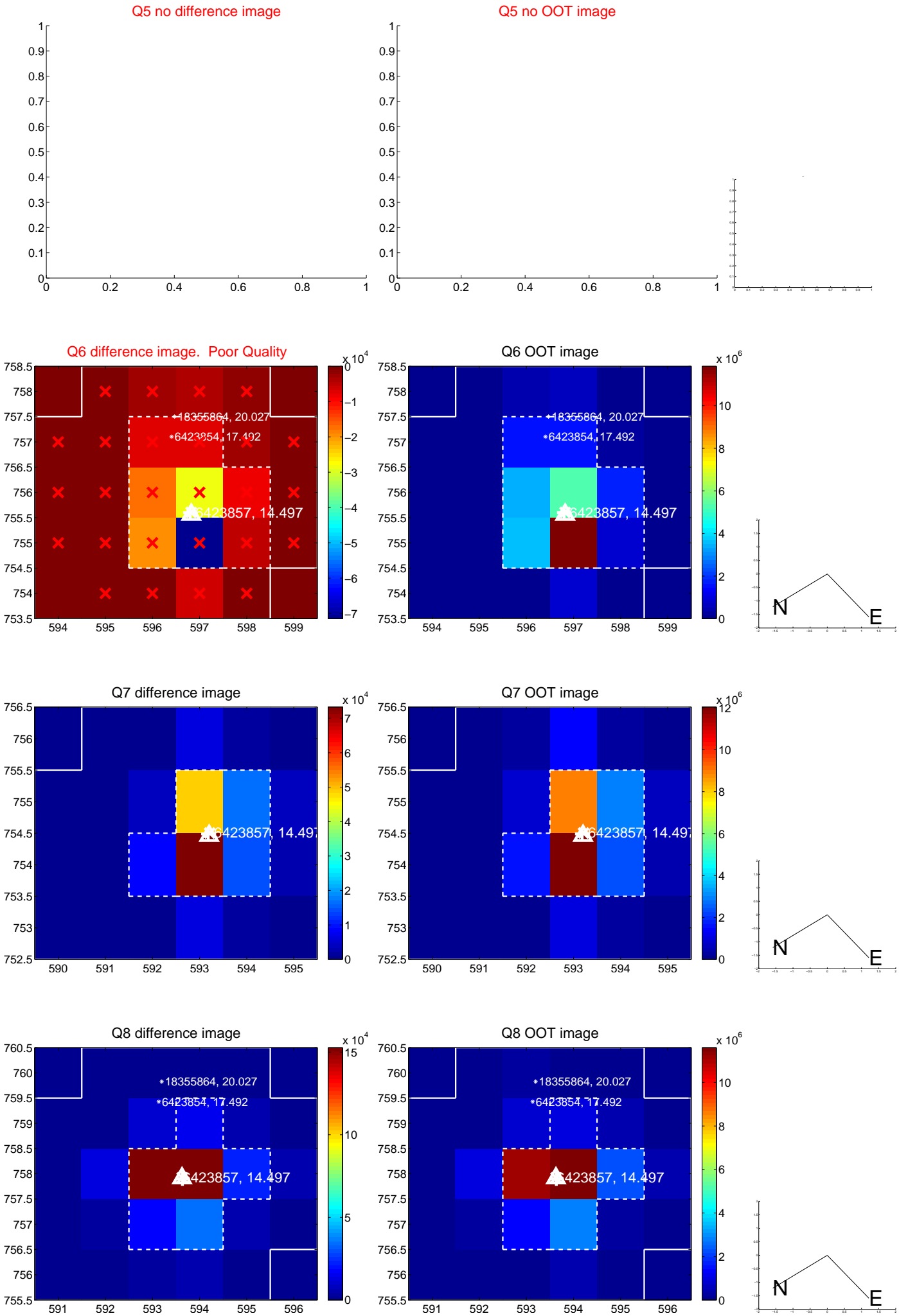


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

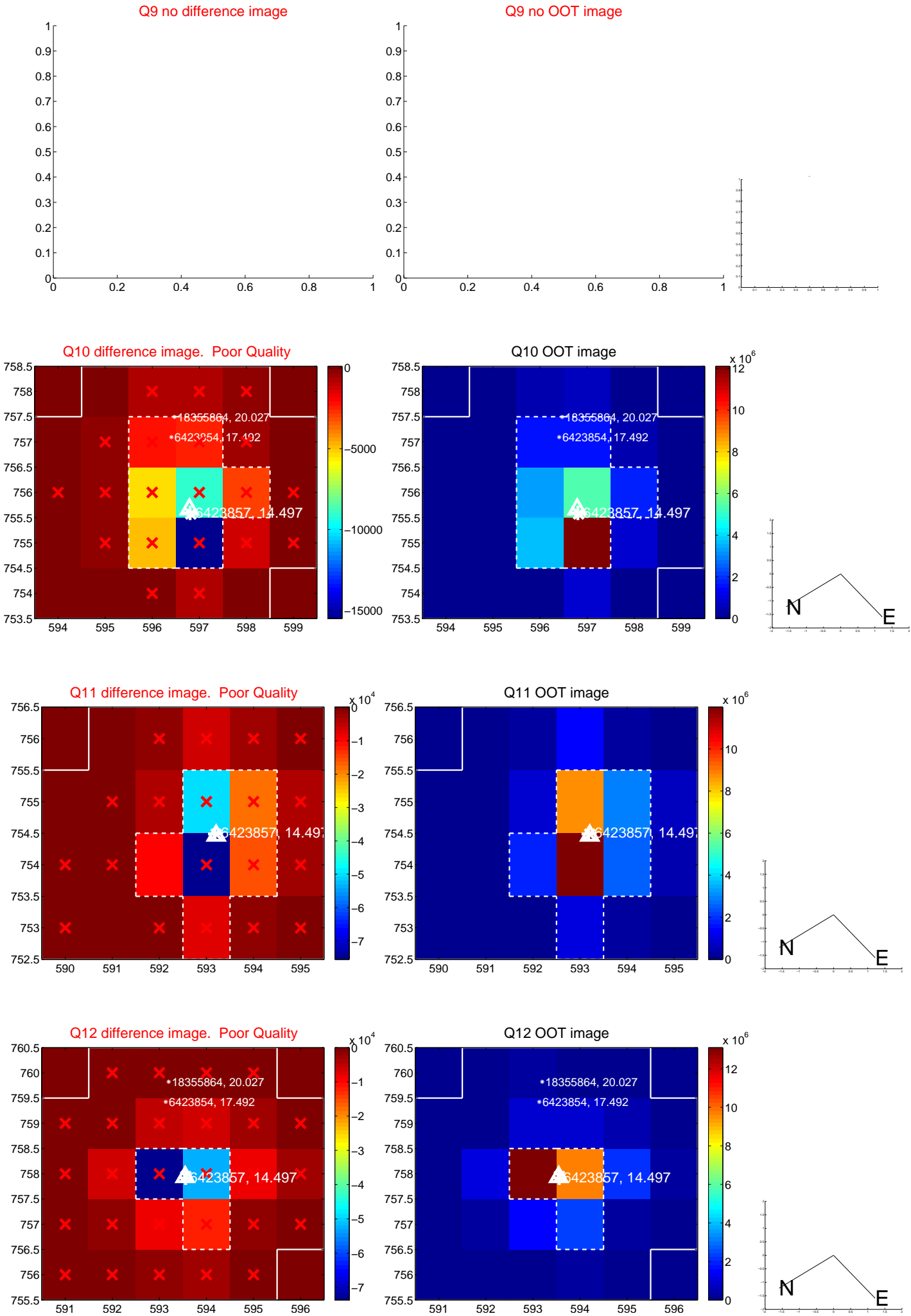
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



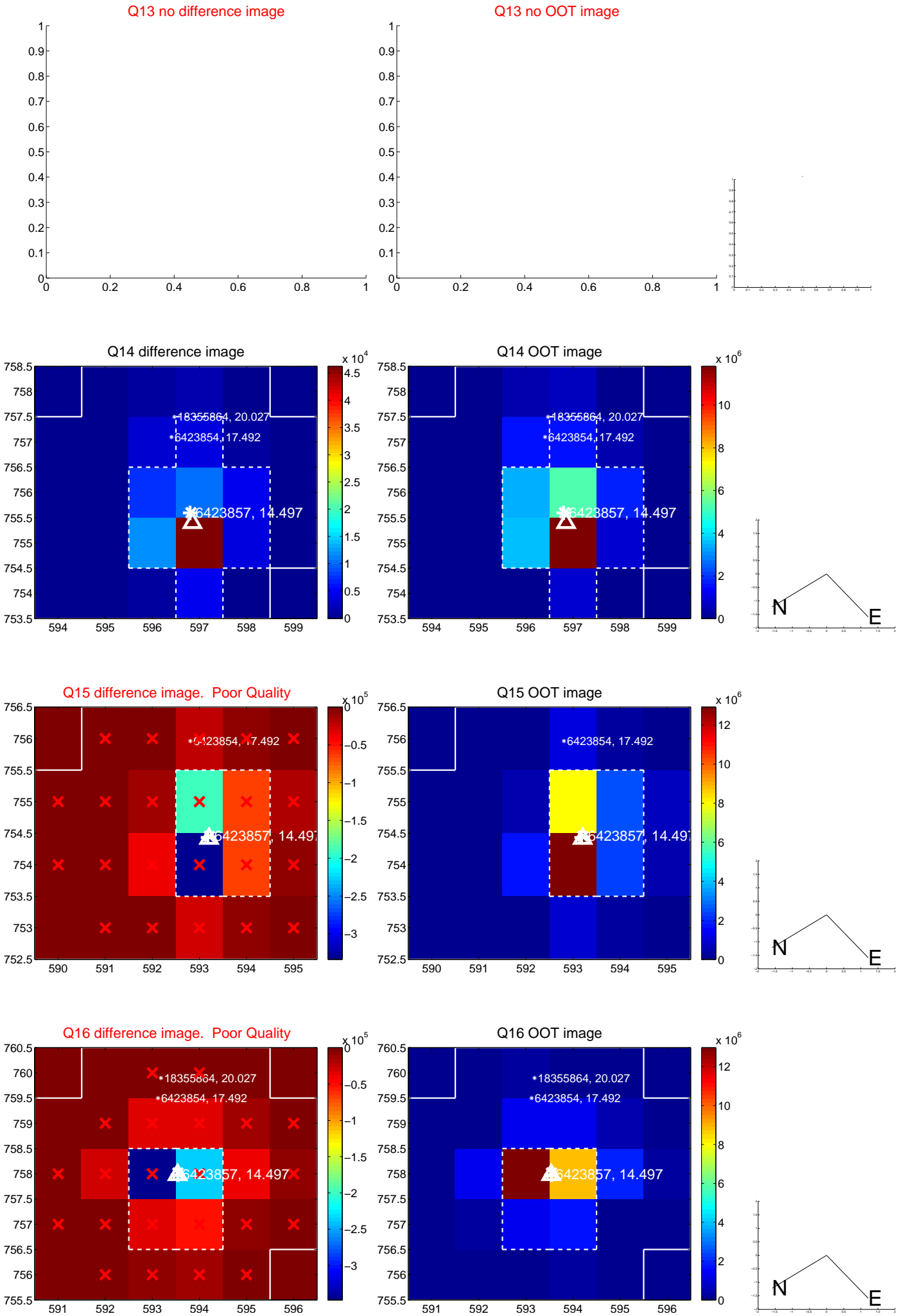
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



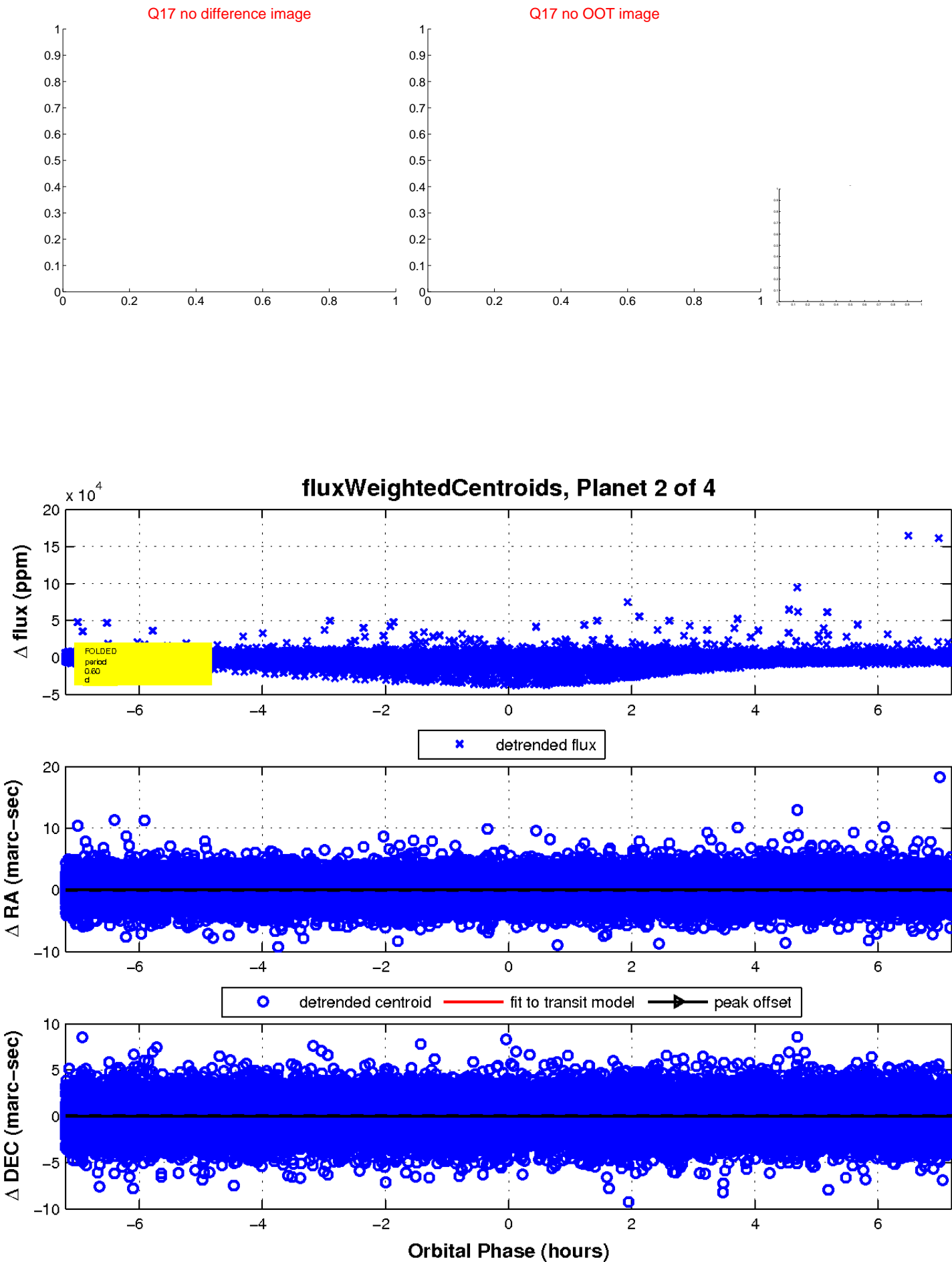
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

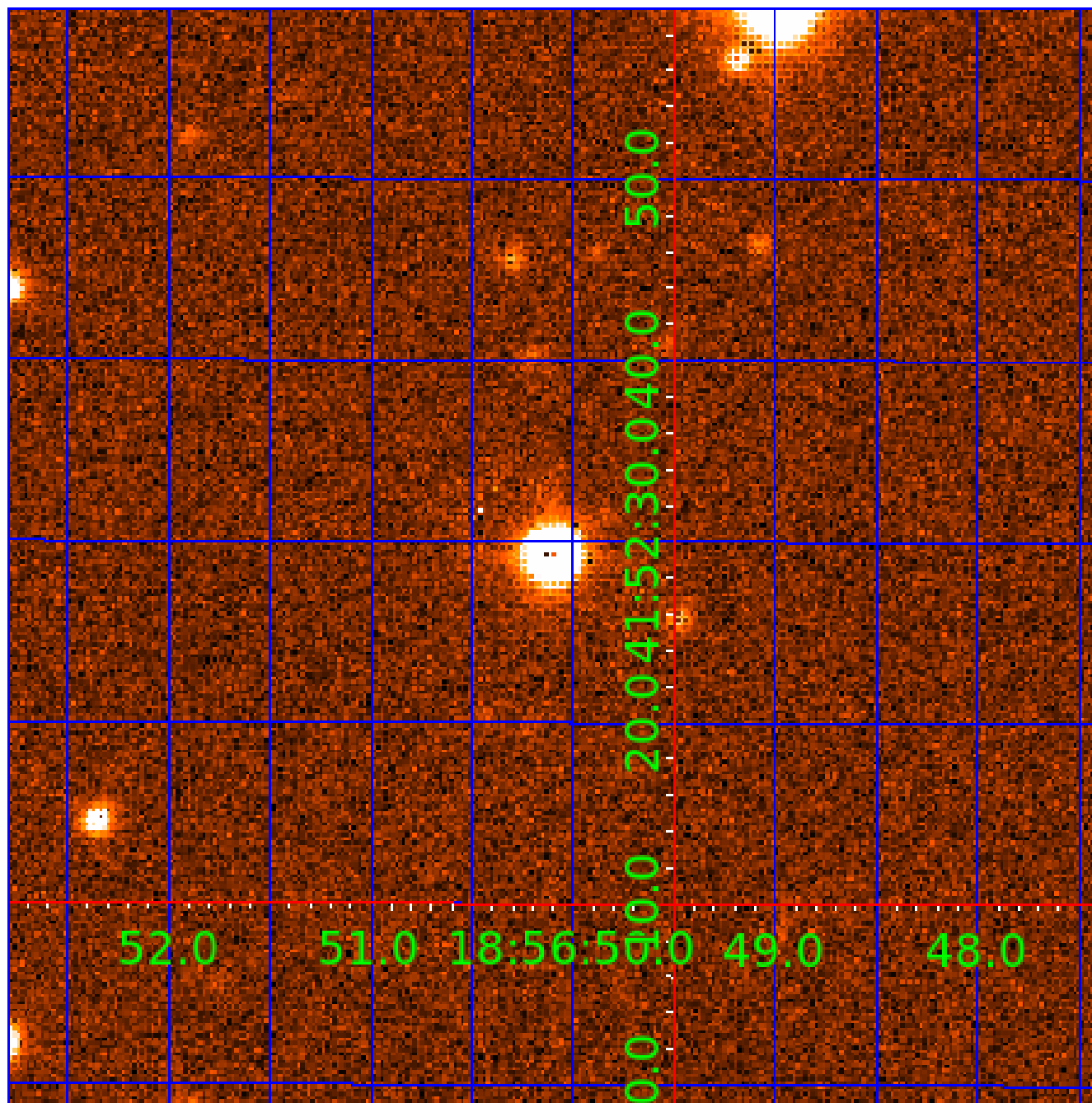


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006423857

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})
006423857-01	OBS	No	1.197499	131.787797	535.2	7.547	37.9	16.2	0.74	4444	1.62	482.81
006423857-02	OBS	No	0.599714	131.995525	181.6	3.847	13.6	6.7	0.74	4444	1.08	1214.00
006423857-03	OBS	No	1.196747	132.508732	864.6	4.792	13.7	9.9	0.74	4444	2.94	483.22
006423857-04	OBS	No	2.084795	132.192244	1852.6	1.500	11.6	-1.0	0.74	4444	3.04	230.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006423857-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
006423857-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
006423857-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
006423857-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—NO_FITS—CENT_NOFITS

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

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

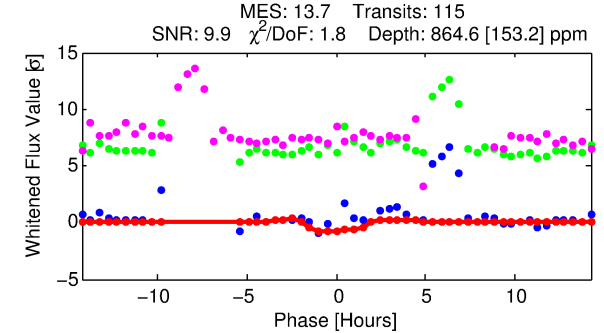
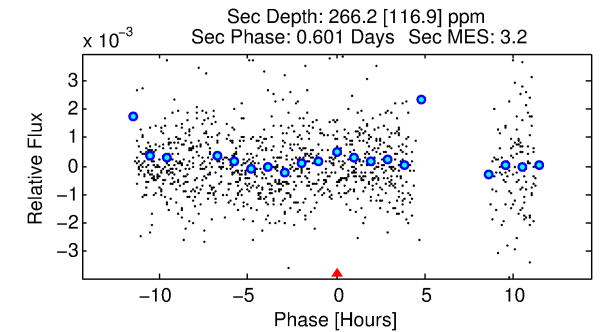
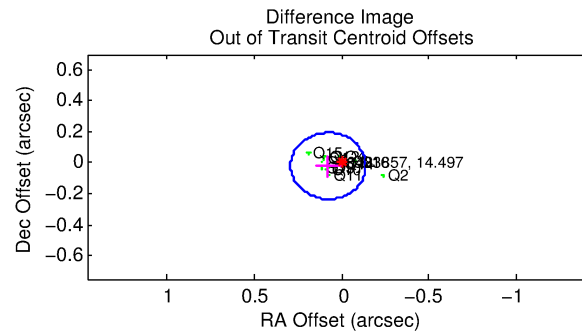
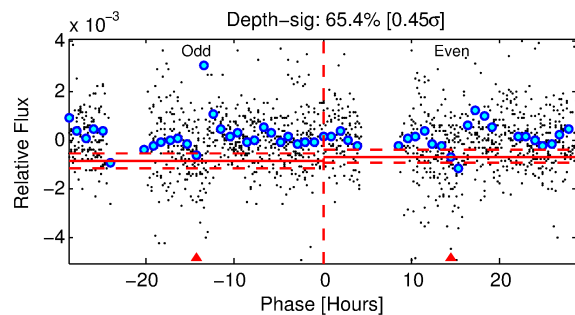
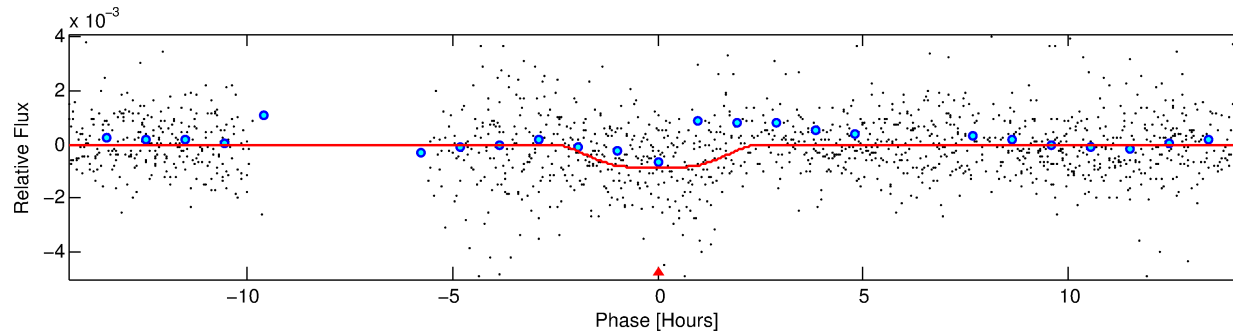
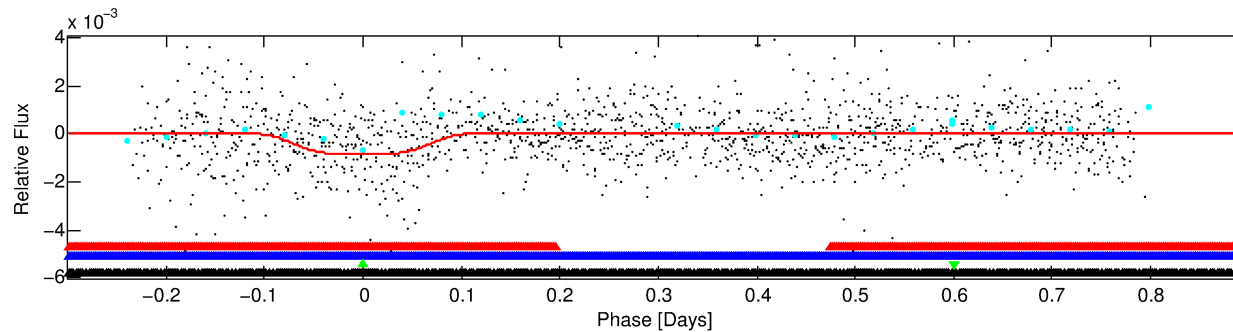
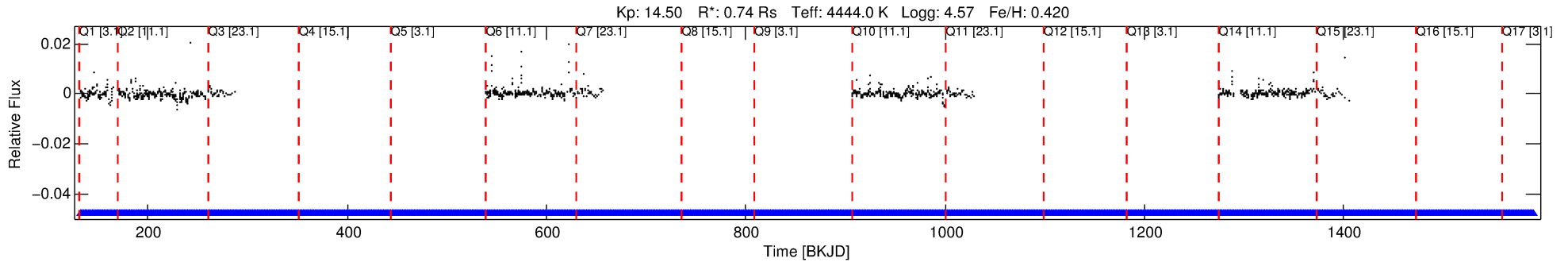
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006423857-03

No Significant Match Found

DV One-Page Summary

KIC: 6423857 Candidate: 3 of 4 Period: 1.197 d



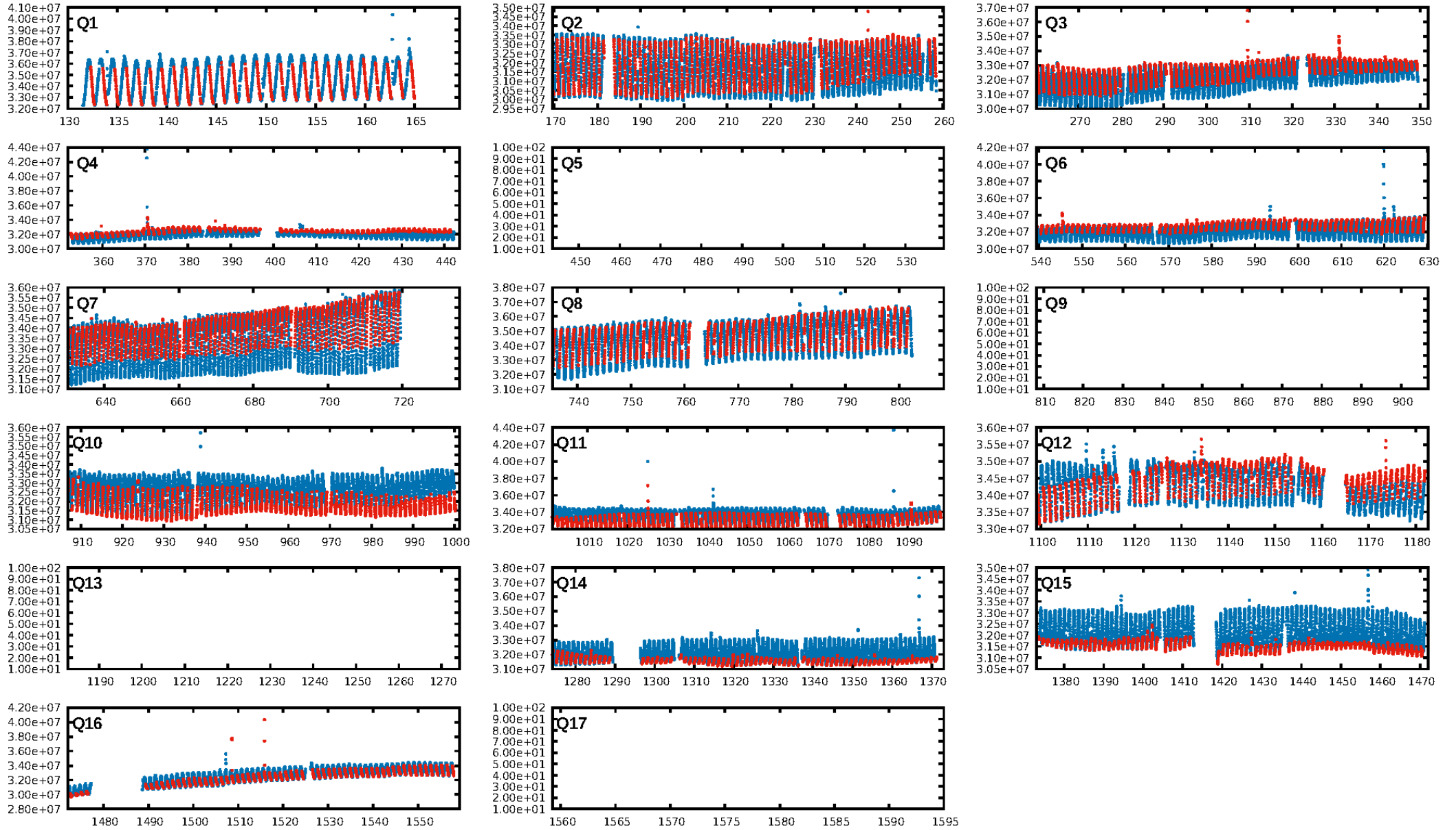
DV Fit Results:

Period = 1.19675 [0.00005] d
Epoch = 132.5087 [0.0090] BKJD
Rp/R* = 0.0365 [0.0049]
a/R* = 1.26 [0.13]
b = 0.95 [0.03]
Seff = 483.22 [84.97]
Teff = 1196 [53] K
Rp = 2.94 [0.47] Re
a = 0.0199 [0.0015] AU
Ag = 6.69 [3.51] [1.62 σ]
Teffp = 2973 [396] K [4.45 σ]

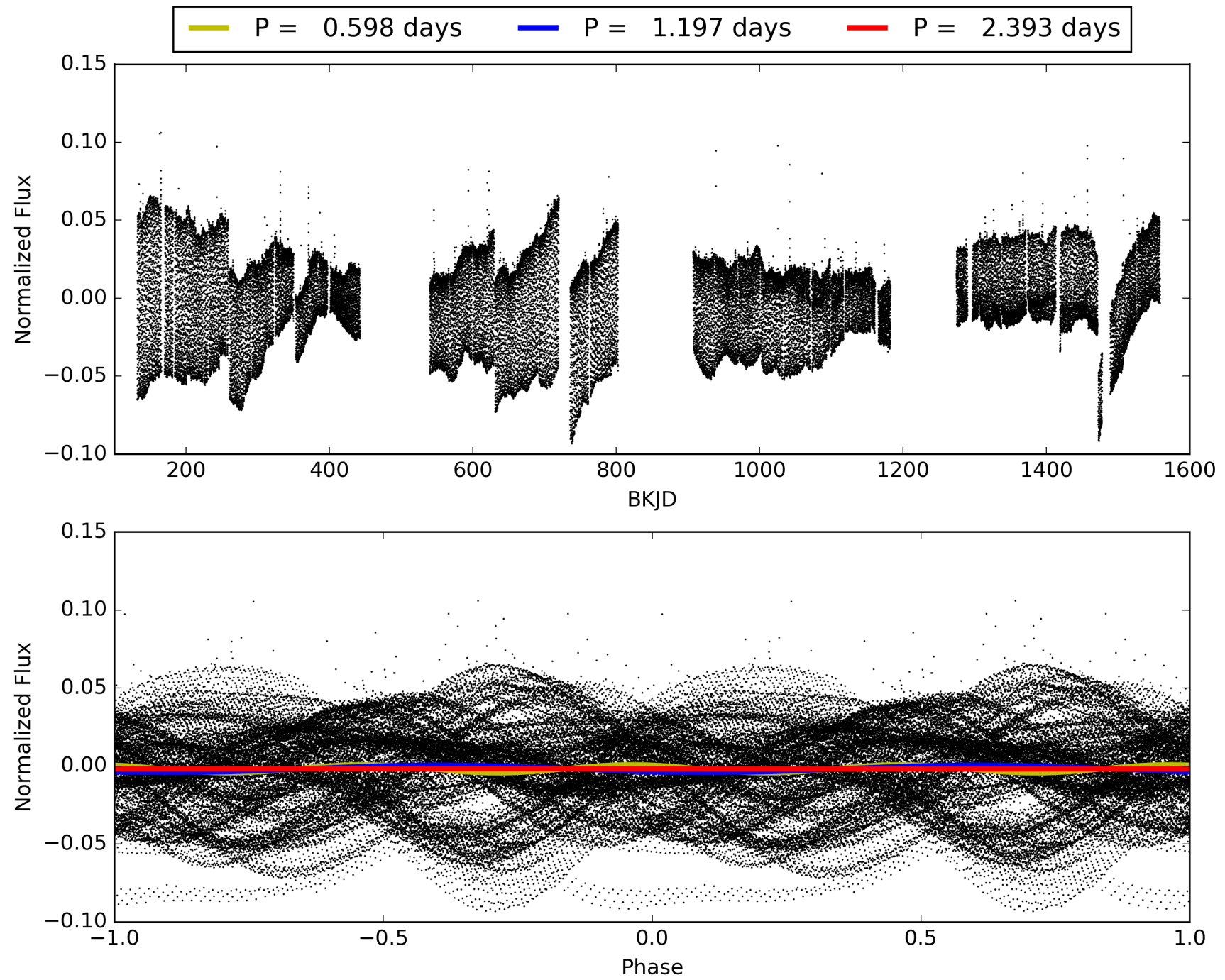
DV Diagnostic Results:

ShortPeriod-sig: 98.0% [2.33 σ]
LongPeriod-sig: 0.2% [0.00 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [111/111]
GhostDiagnostic-chr: 0.7849
Centroid-sig: 2.0%
Centroid-so: 0.156 arcsec [1.79 σ]
OotOffset-rm: 0.079 arcsec [1.11 σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-rm: 0.064 arcsec [0.91 σ]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 0.46 [6/13]
DiffImageOverlap-fno: 0.00 [0/13]

TCE 006423857-03, PDC Light Curves

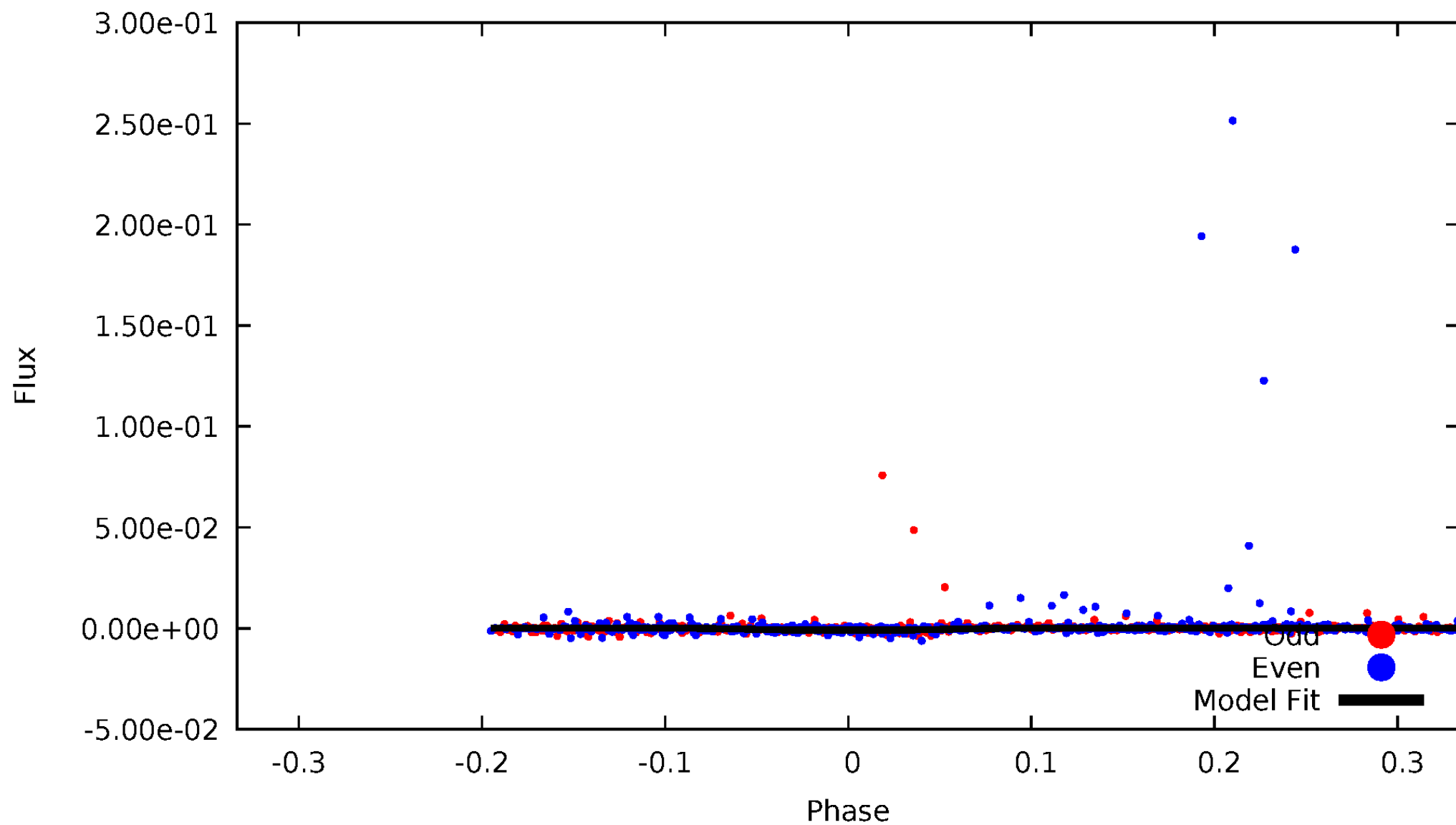


TCE 006423857-03



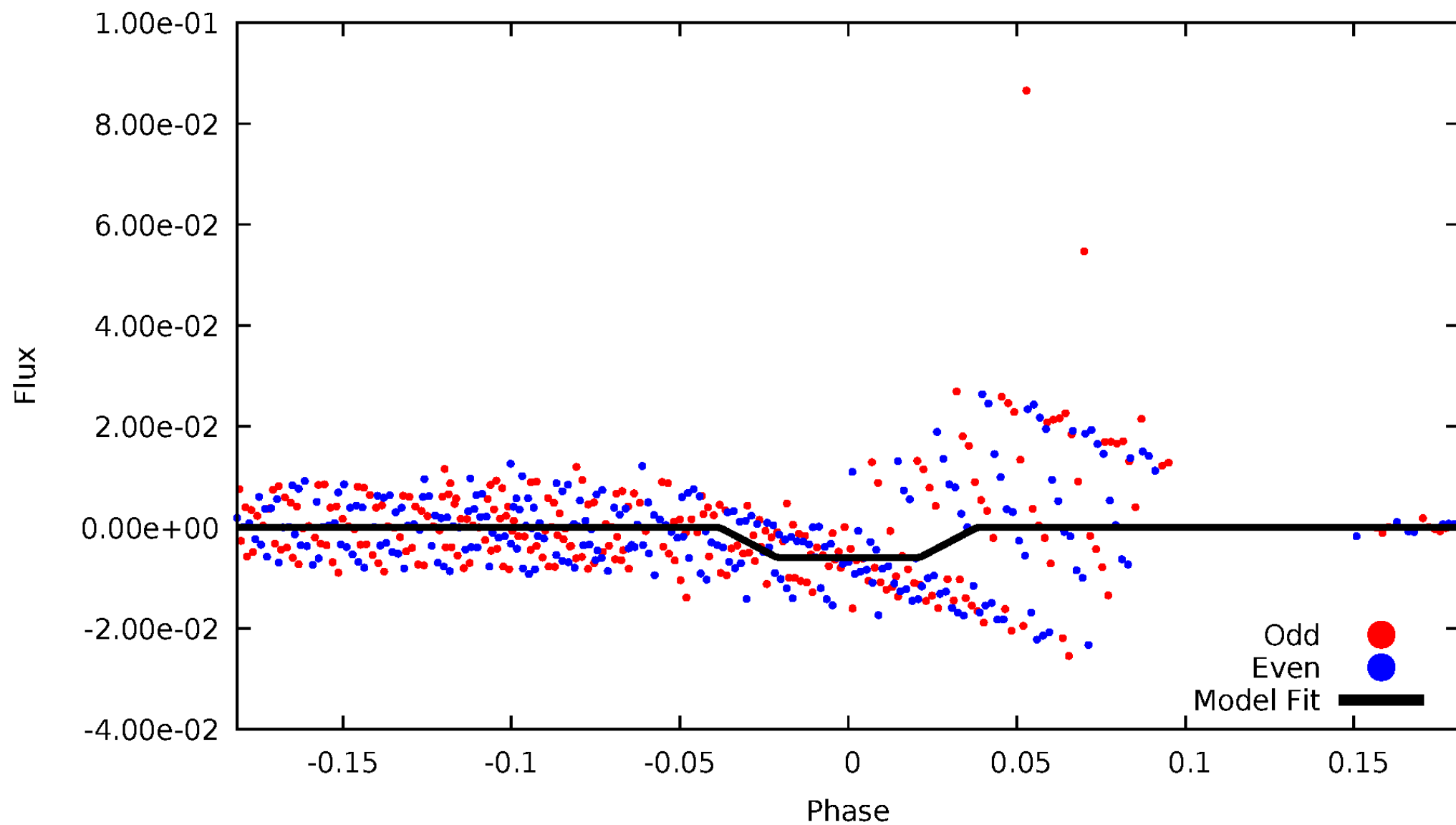
DV Odd/Even

TCE 006423857-03



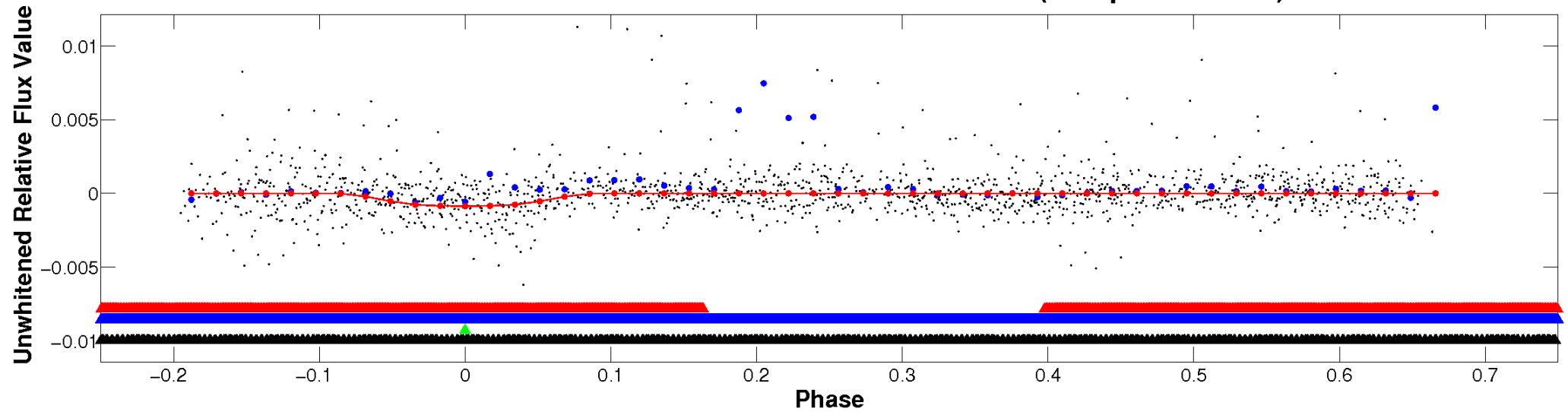
ALT Odd/Even

TCE 006423857-03

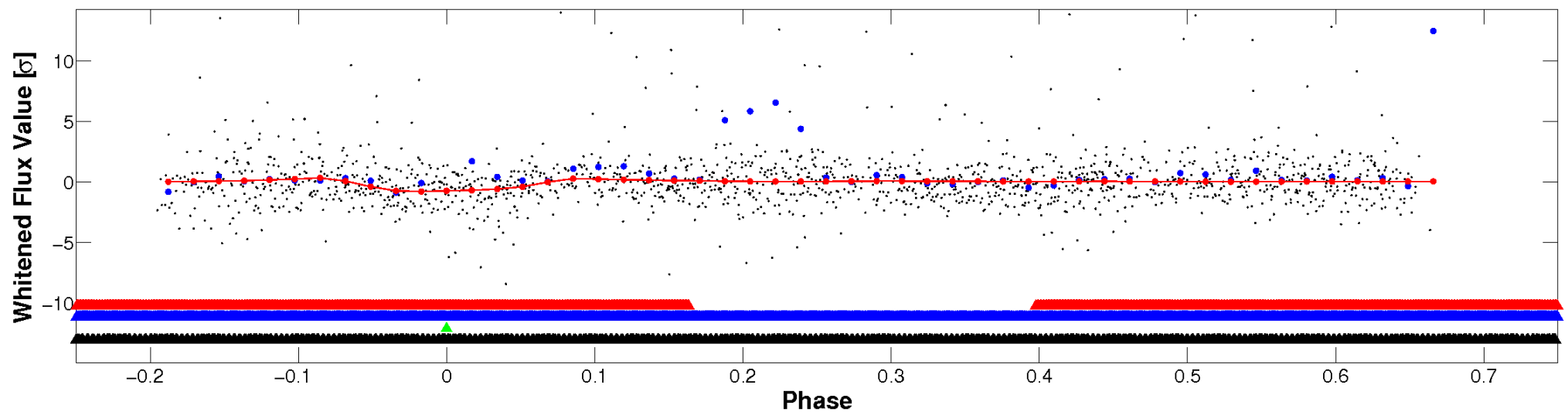


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

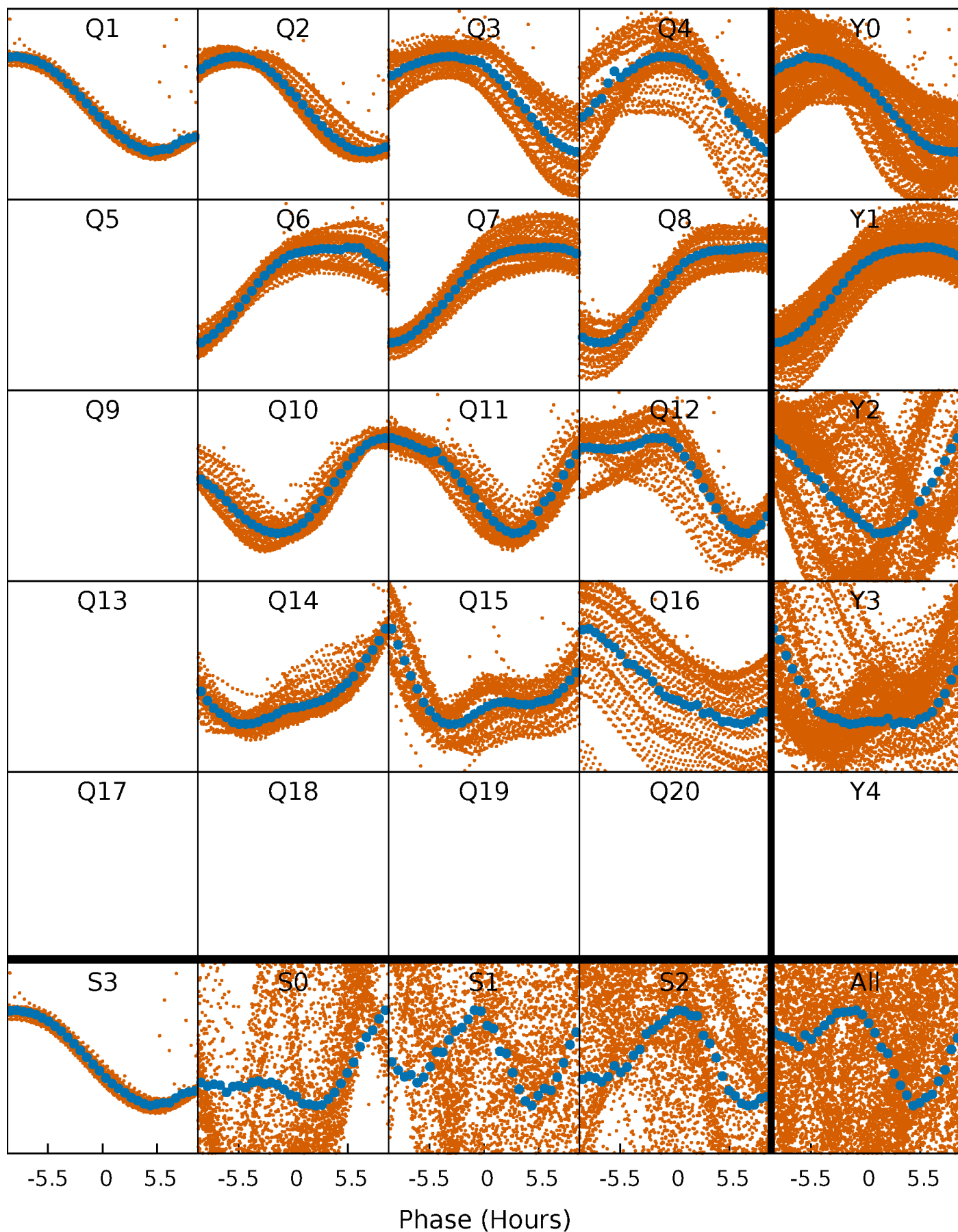


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



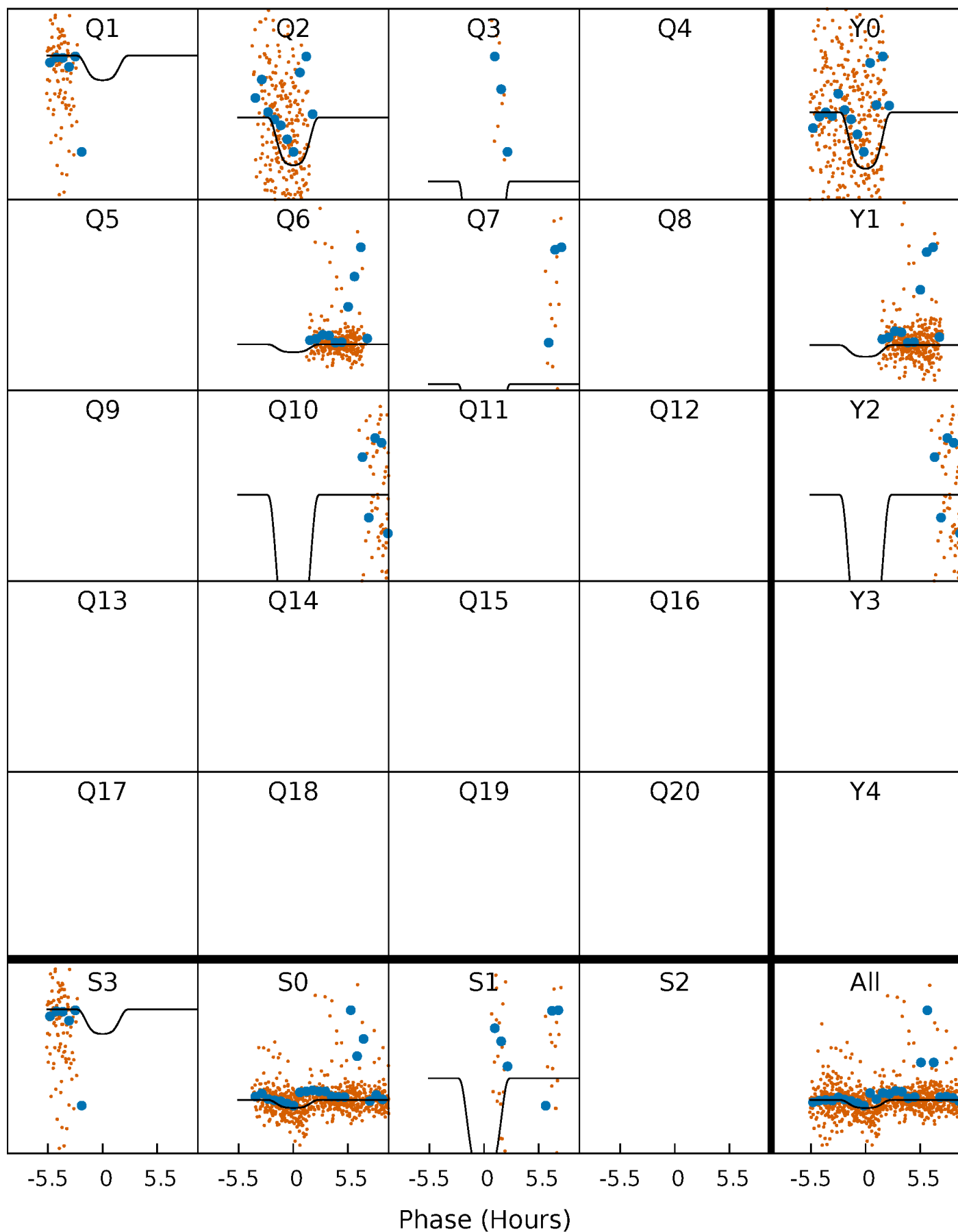
PDC Quarter-Phased Transit Curves

TCE 006423857-03 P= 1.196747 Days $T_0=132.508732$ (BKJD)



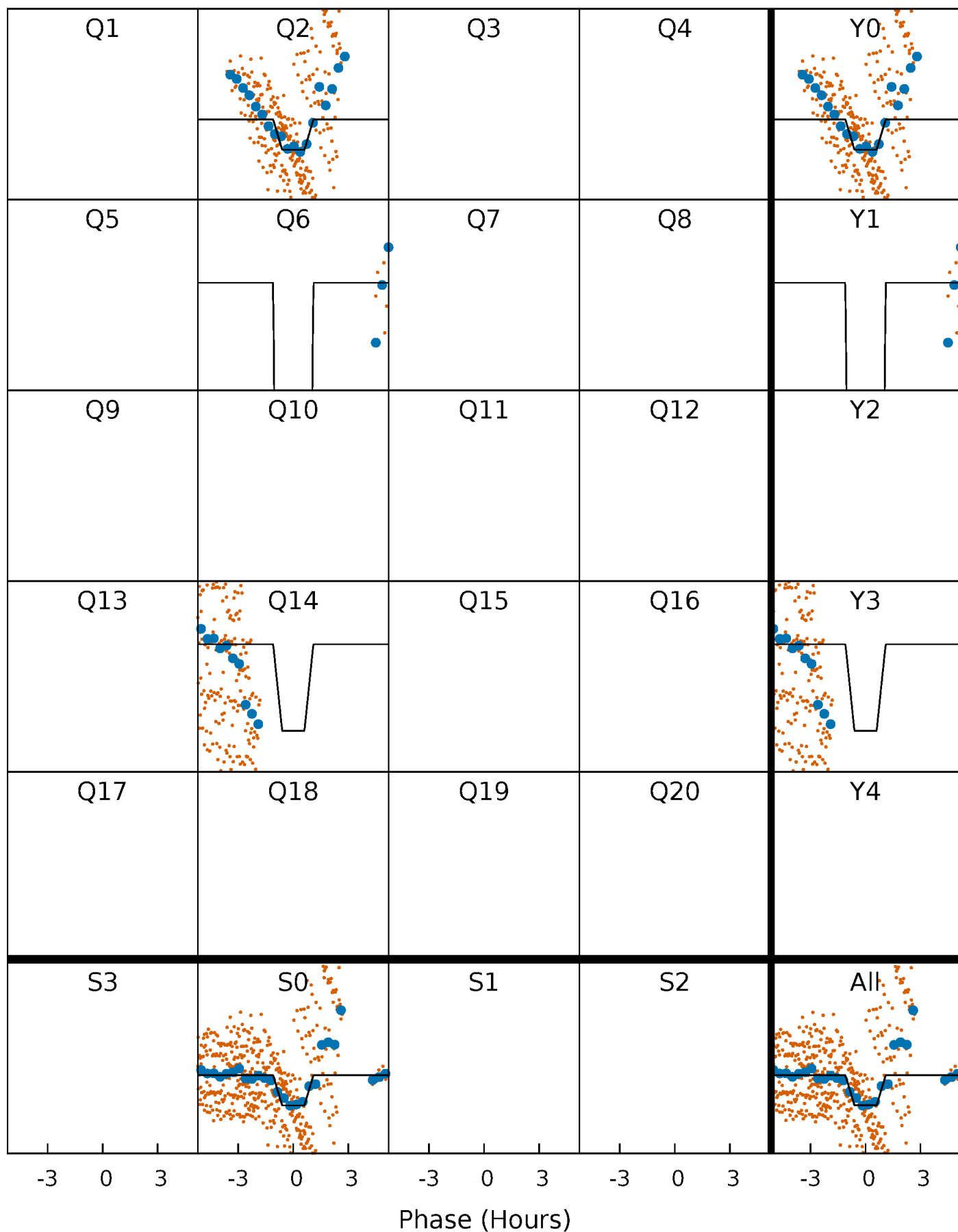
DV Quarter-Phased Transit Curves

TCE 006423857-03 $P = 1.196747$ Days $T_0 = 132.508732$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

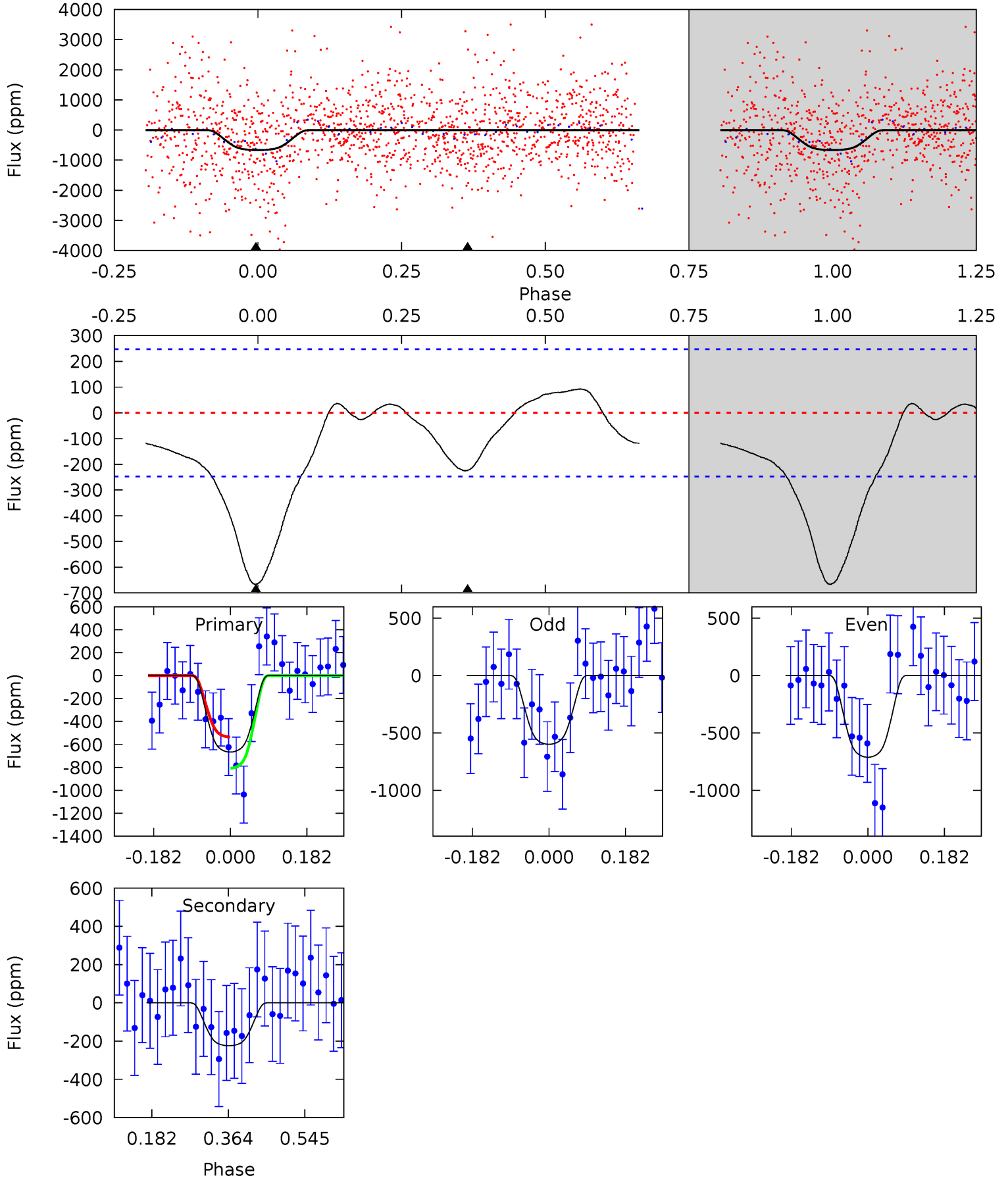
TCE 006423857-03 $P = 1.196414$ Days $T_0 = 132.498376$ (BKJD)



DV Model-Shift Uniqueness Test

006423857-03, P = 1.196747 Days, E = 131.311985 Days

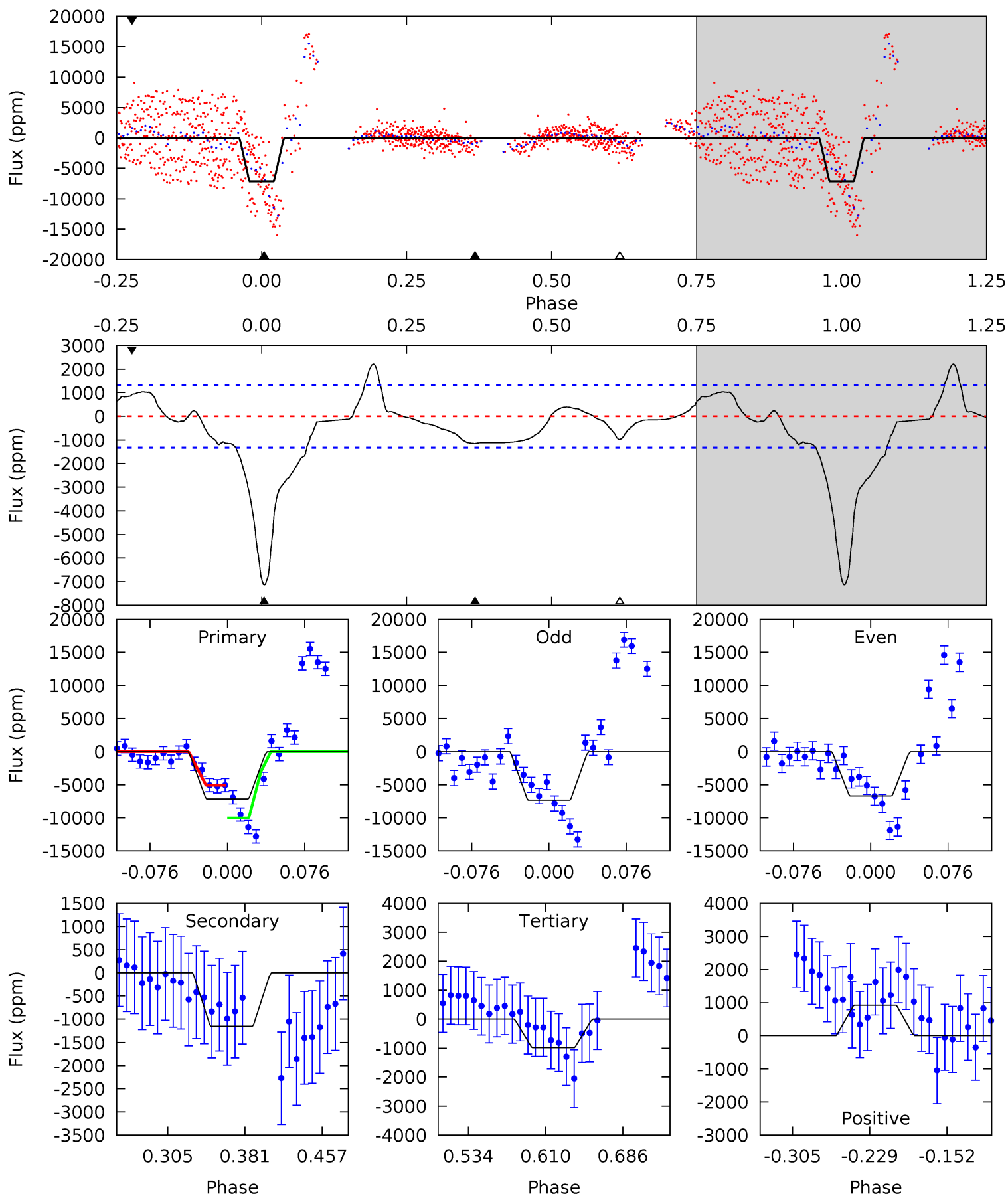
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	4.02	0	0	4.44	1.34	1.36	12.0	12.0	4.02	4.02	1.02	-1.07	0.12	2.33



Alt Model-Shift Uniqueness Test

006423857-03, P = 1.196414 Days, E = 132.498376 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.8	4.01	3.42	3.21	4.62	1.77	2.23	21.4	21.6	0.59	0.81	1.13	0.71	0.24	7.59



Stellar Parameters For KIC 006423857

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4444^{+154}_{-154}	$4.565^{+0.060}_{-0.016}$	$0.420^{+0.050}_{-0.300}$	$0.740^{+0.024}_{-0.063}$	$0.734^{+0.041}_{-0.046}$	$2.550^{+0.645}_{-0.185}$
	+3%/-3%	+1%/-0%	+12%/-71%	+3%/-9%	+6%/-6%	+25%/-7%
Source	PHO1	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 006423857-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-224 ± 56	$2.89^{+0.40}_{-0.40}$	1654^{+66}_{-62}	3258^{+230}_{-221}	$5.839^{+2.716}_{-1.900}$
Alt.	-1152 ± 287	$6.19^{+0.46}_{-0.44}$	1662^{+57}_{-67}	3334^{+165}_{-187}	$6.835^{+1.804}_{-1.911}$

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

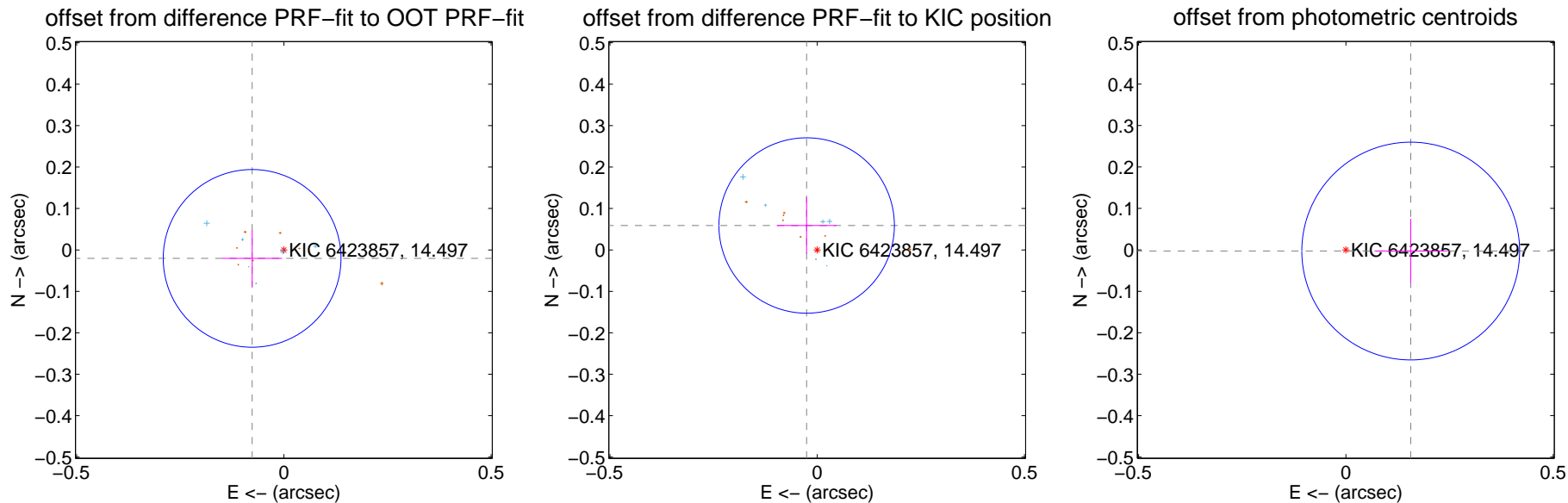
DV Centroid Data

Supplemental centroid analysis for 006423857-03. Kepler magnitude: 14.50. Transit SNR 9.91

There are 6 quarters with good PRF difference image offsets

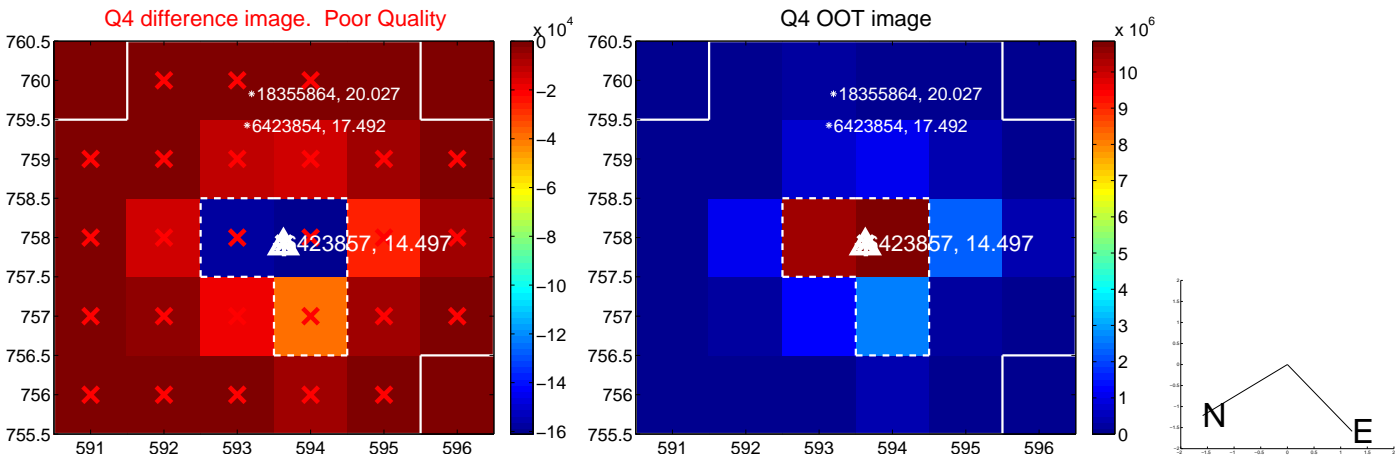
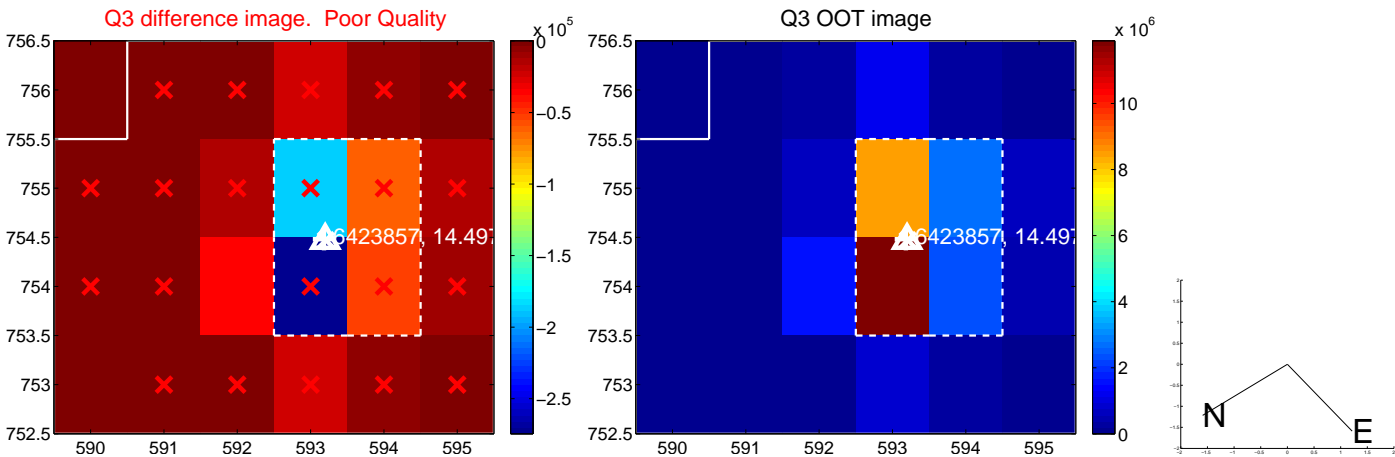
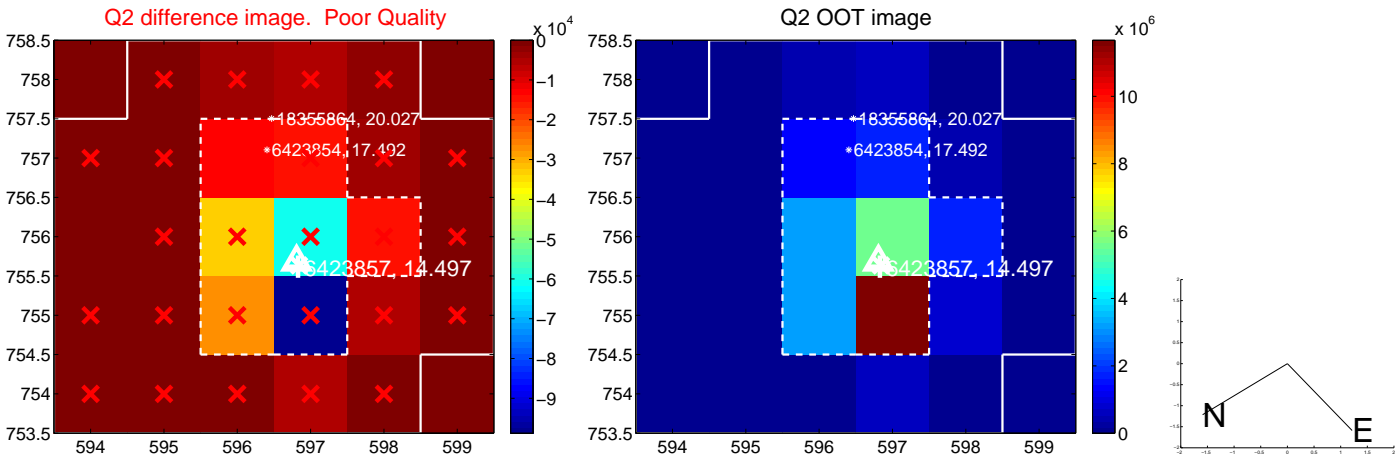
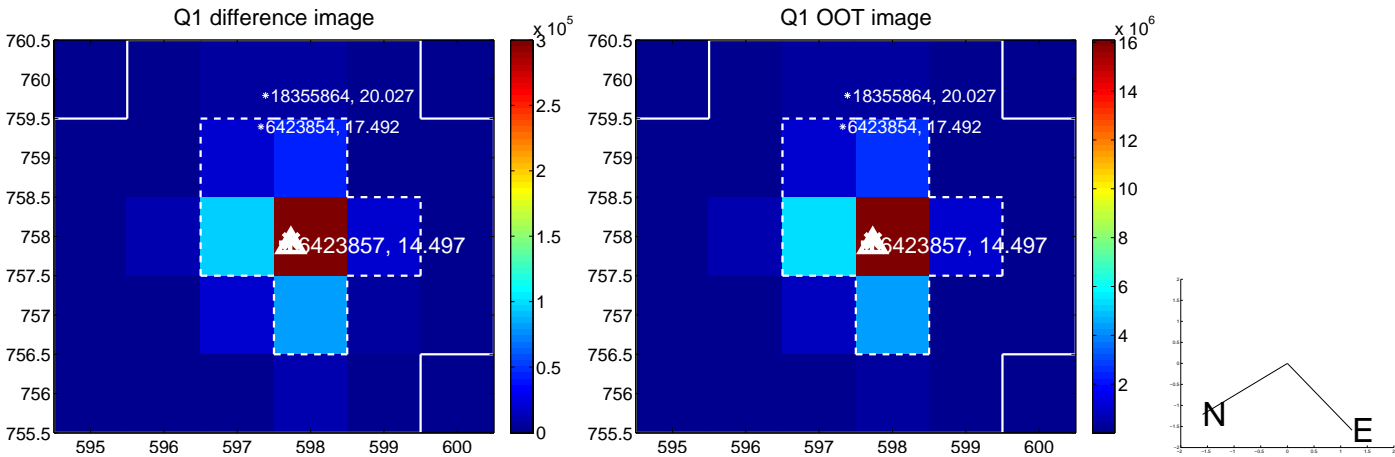
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.079 ± 0.071	1.11	0.077 ± 0.072	-0.020 ± 0.068
PRF-fit source offset from KIC position	0.064 ± 0.071	0.91	0.025 ± 0.072	0.059 ± 0.068
photometric centroid source offset	0.16 ± 0.09	1.79	-0.16 ± 0.09	-0.00 ± 0.08

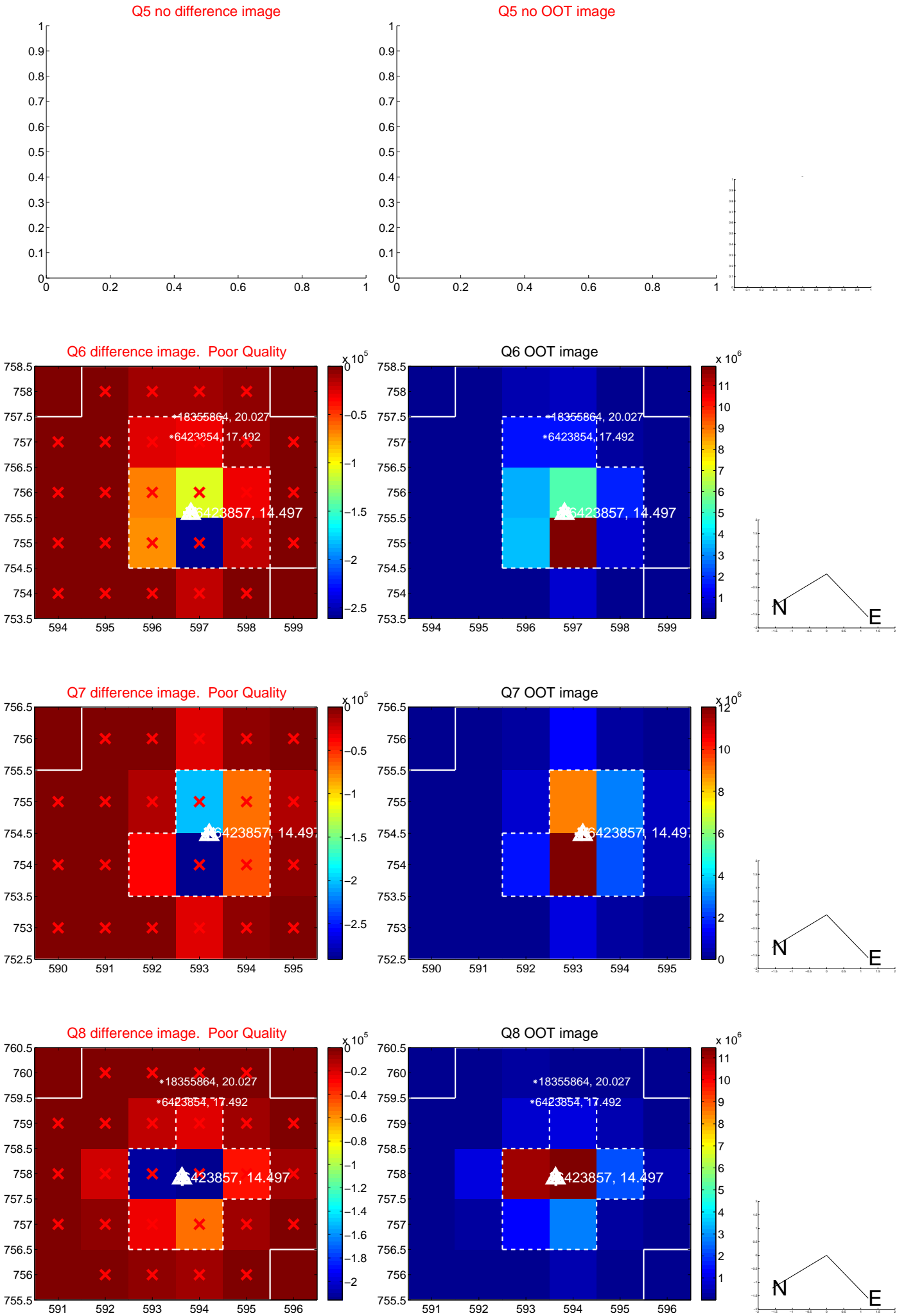


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

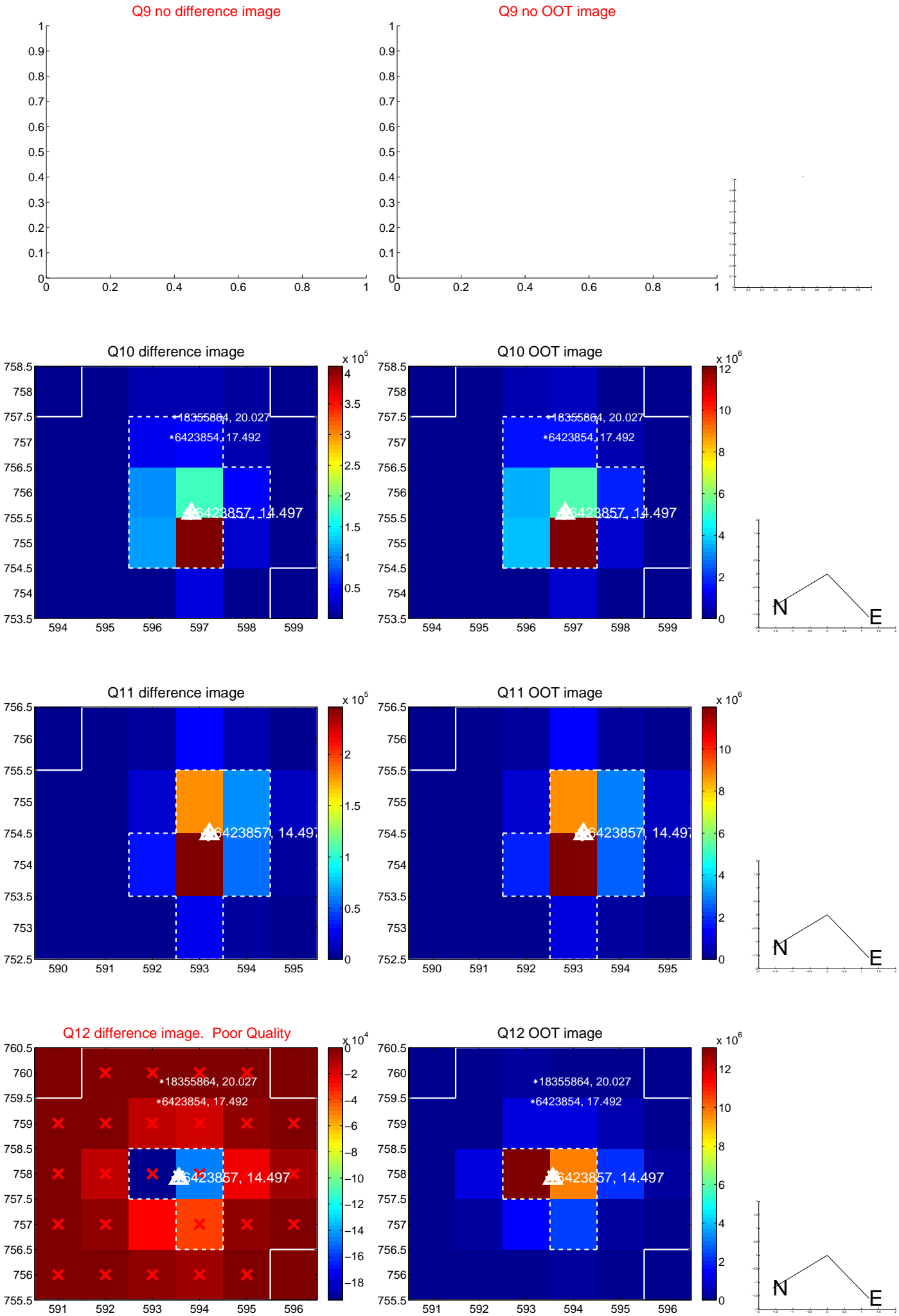
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



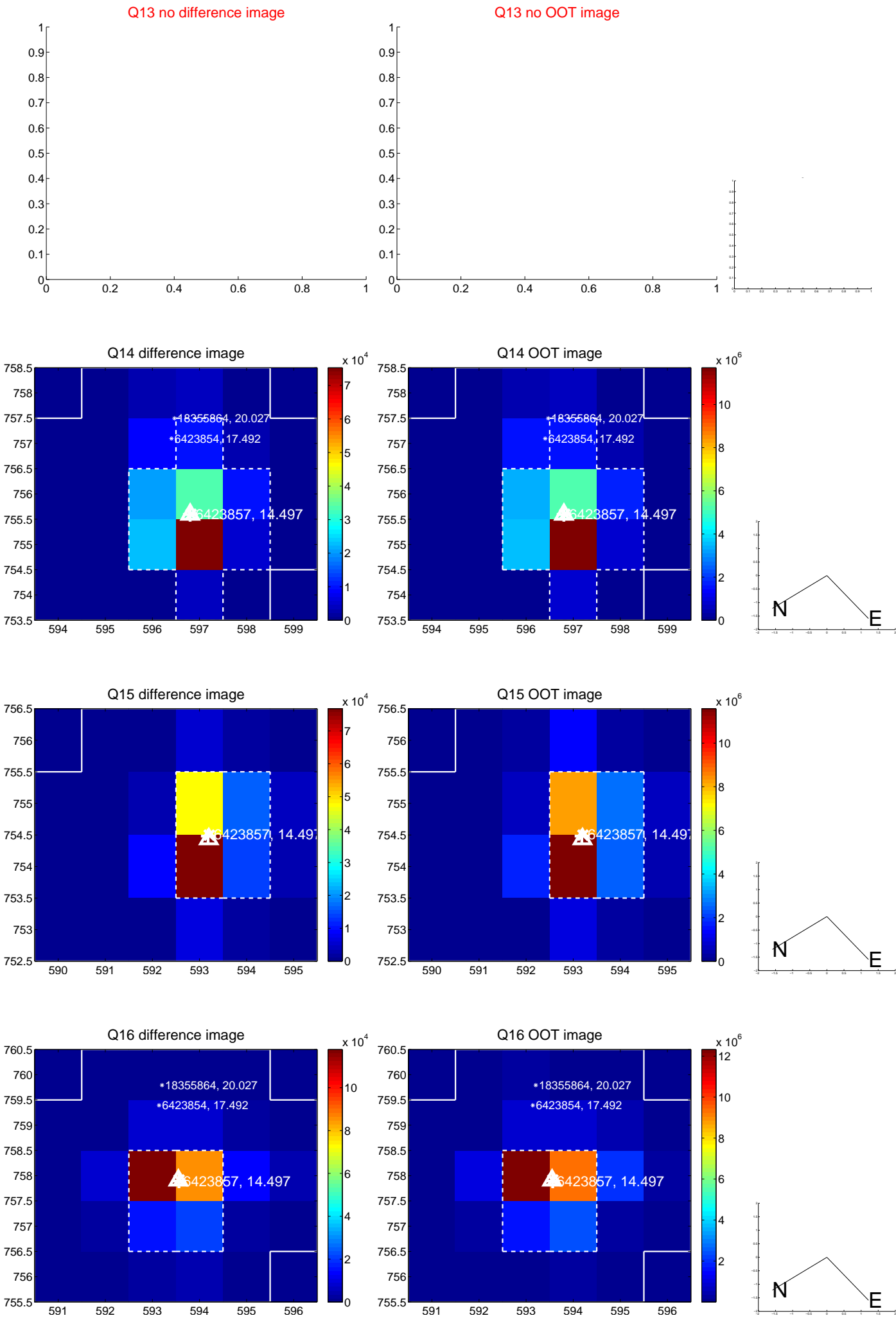
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



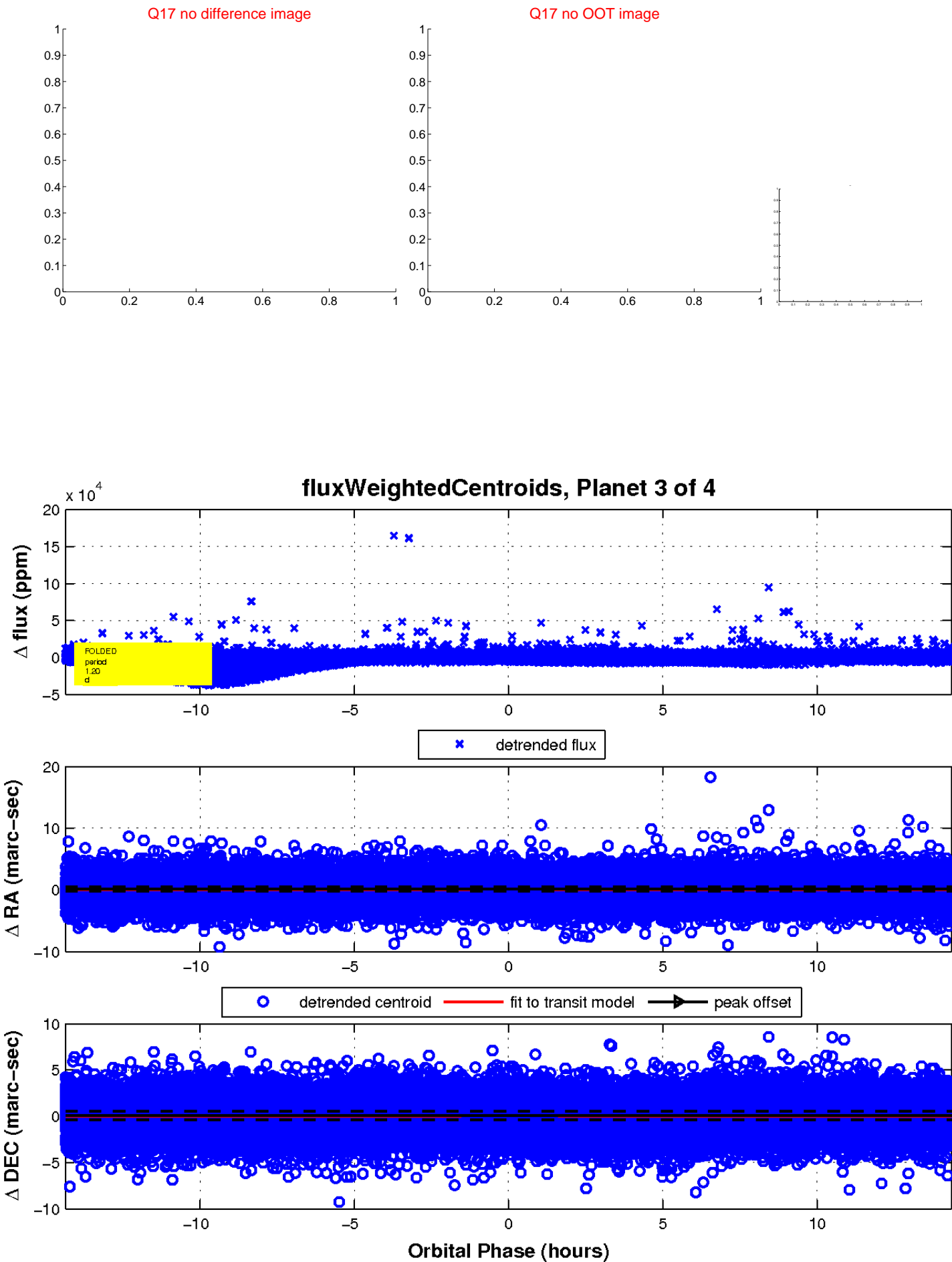
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

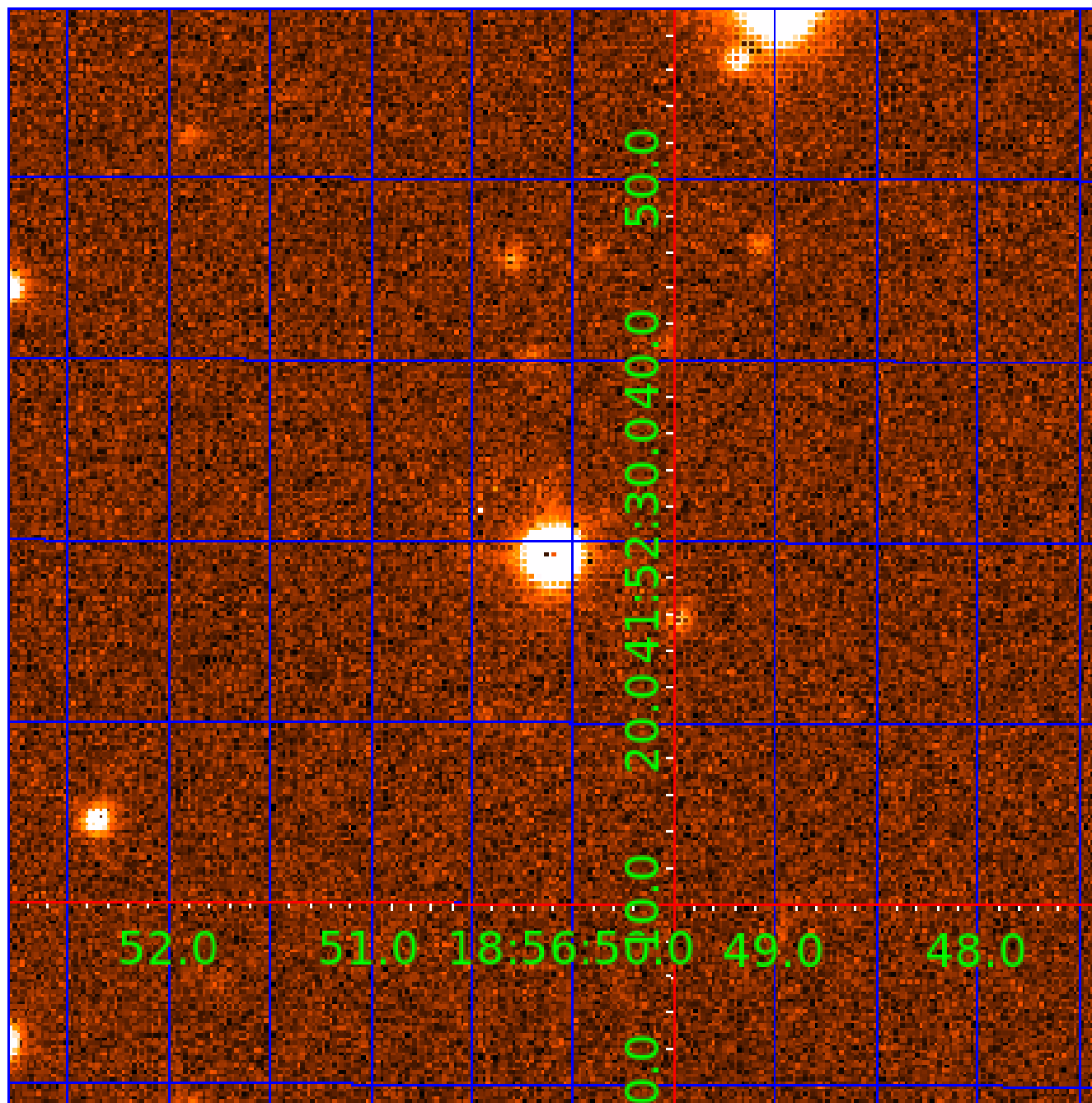


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006423857

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})
006423857-01	OBS	No	1.197499	131.787797	535.2	7.547	37.9	16.2	0.74	4444	1.62	482.81
006423857-02	OBS	No	0.599714	131.995525	181.6	3.847	13.6	6.7	0.74	4444	1.08	1214.00
006423857-03	OBS	No	1.196747	132.508732	864.6	4.792	13.7	9.9	0.74	4444	2.94	483.22
006423857-04	OBS	No	2.084795	132.192244	1852.6	1.500	11.6	-1.0	0.74	4444	3.04	230.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006423857-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
006423857-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
006423857-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
006423857-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—NO_FITS—CENT_NOFITS

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

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

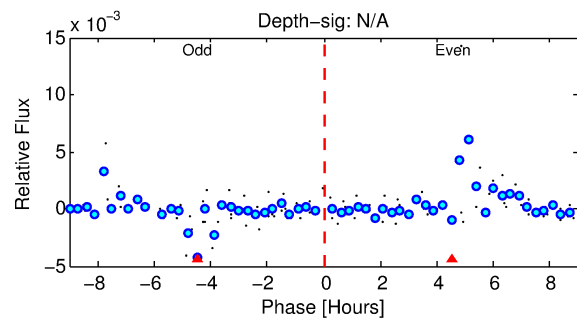
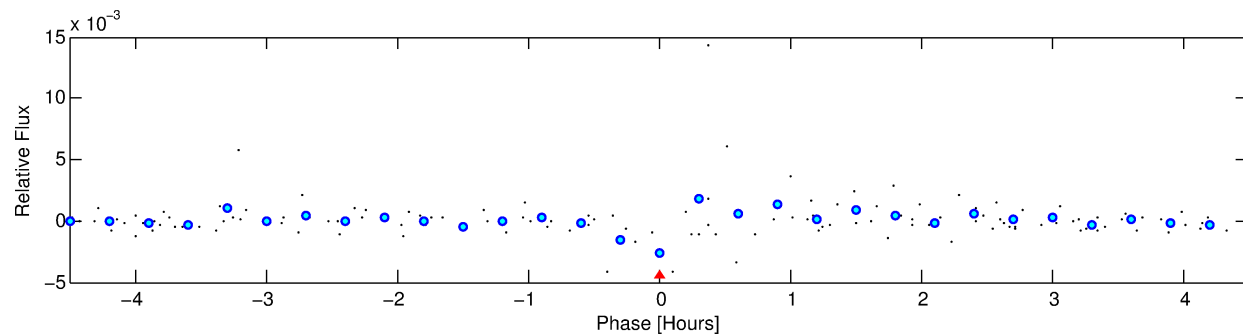
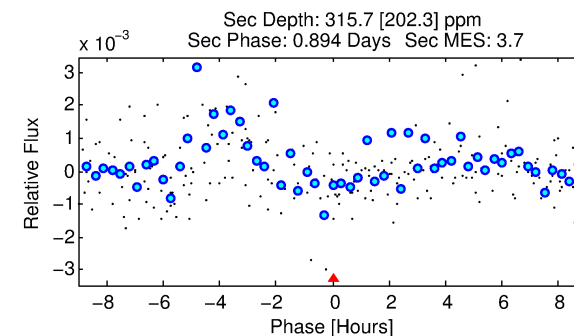
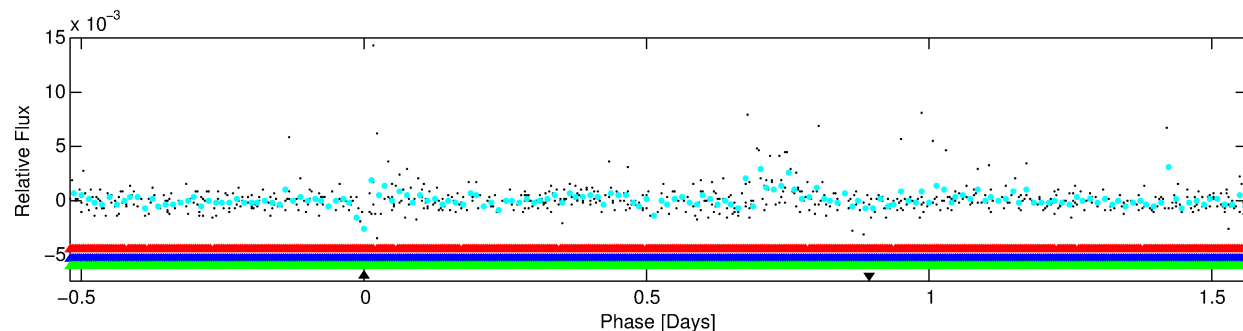
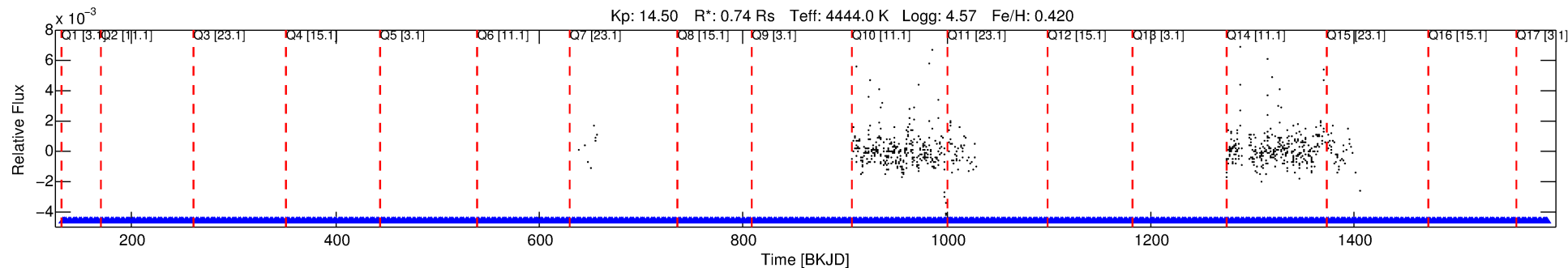
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006423857-04

No Significant Match Found

DV One-Page Summary

KIC: 6423857 Candidate: 4 of 4 Period: 2.085 d



TPS TCE Results:

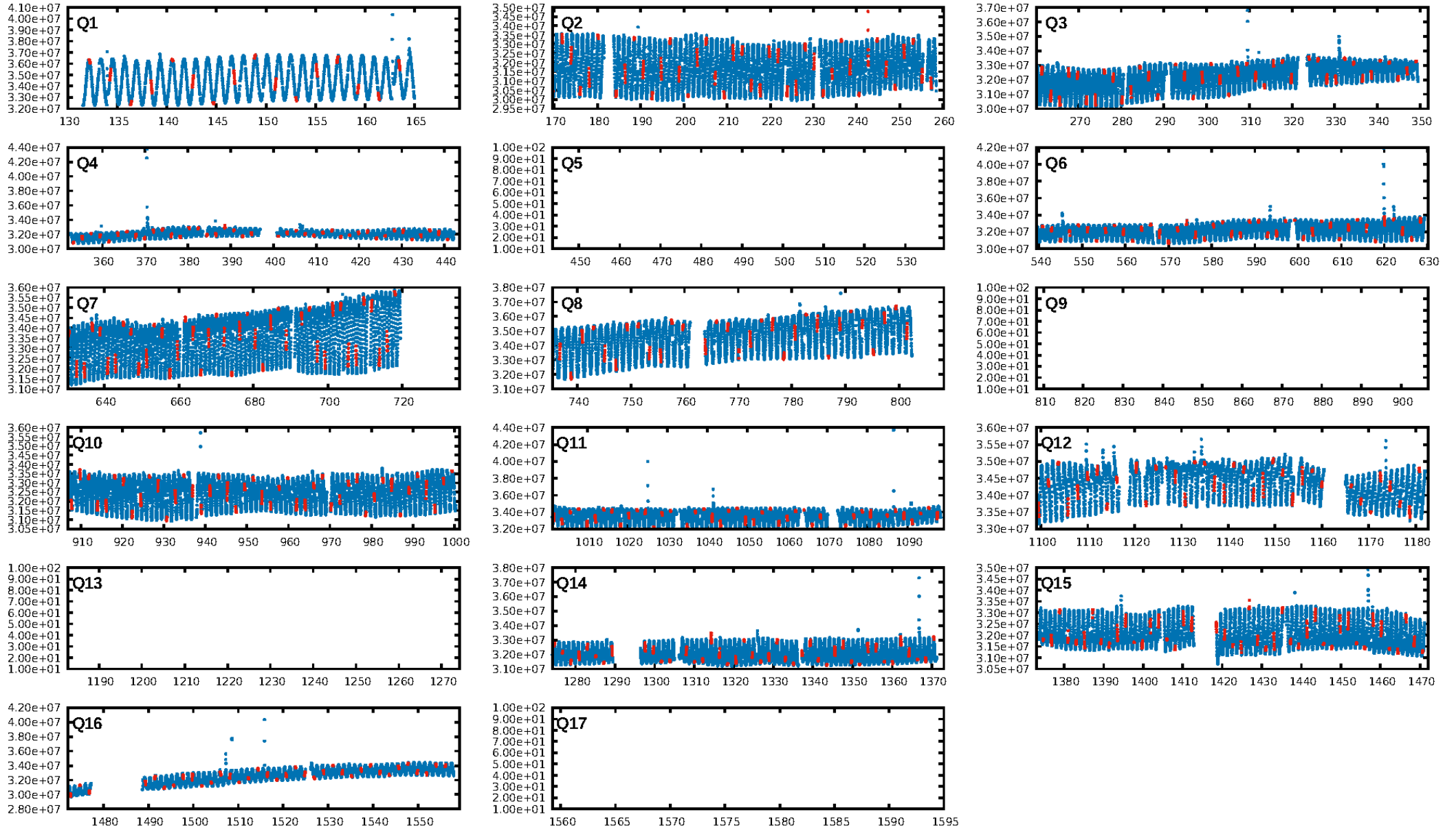
Period = 2.08480 d
Epoch = 132.1922 BKJD

DV fit results are unavailable

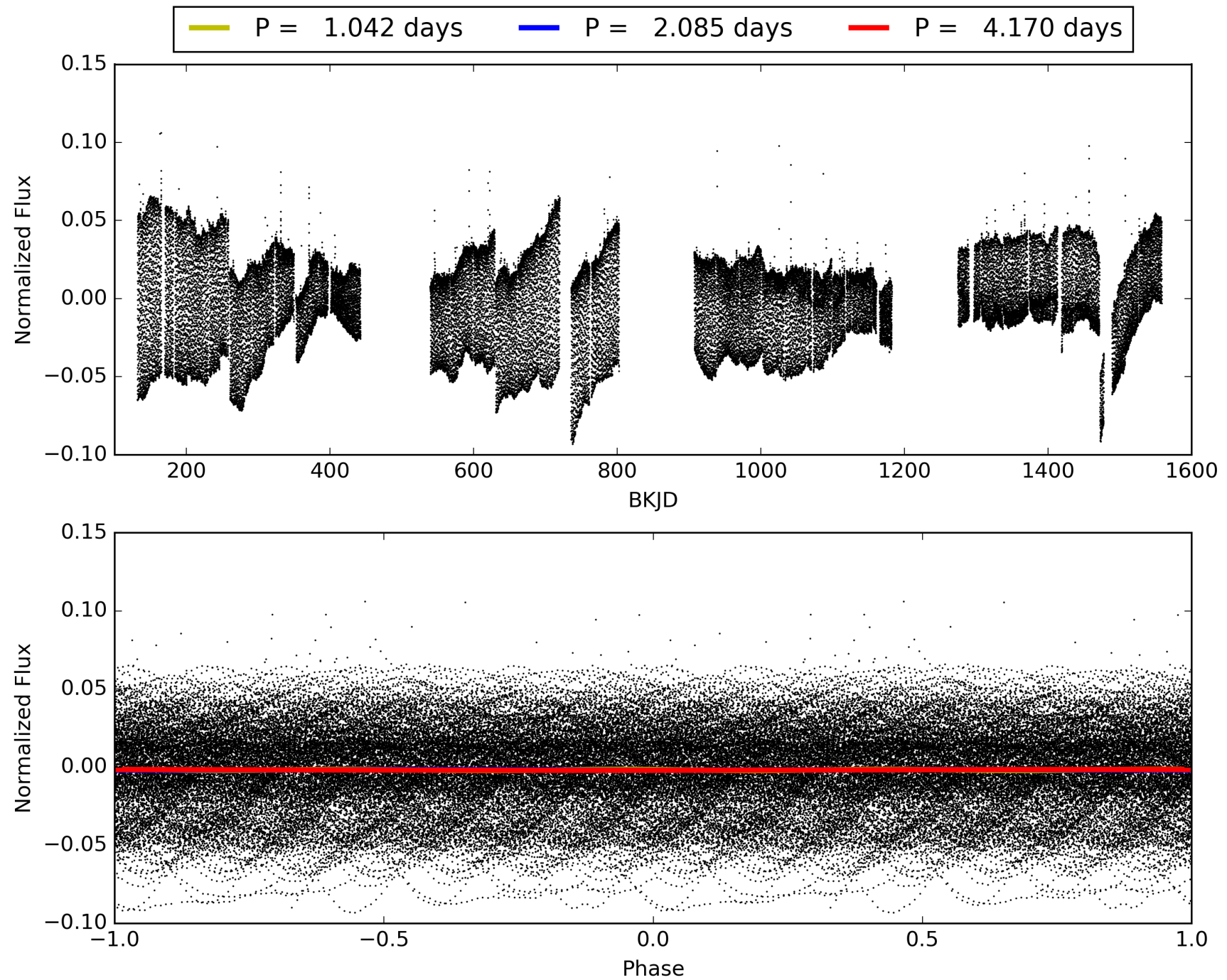
DV Diagnostic Results:

ShortPeriod-sig: 99.4% [2.77σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: N/A
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: N/A

TCE 006423857-04, PDC Light Curves

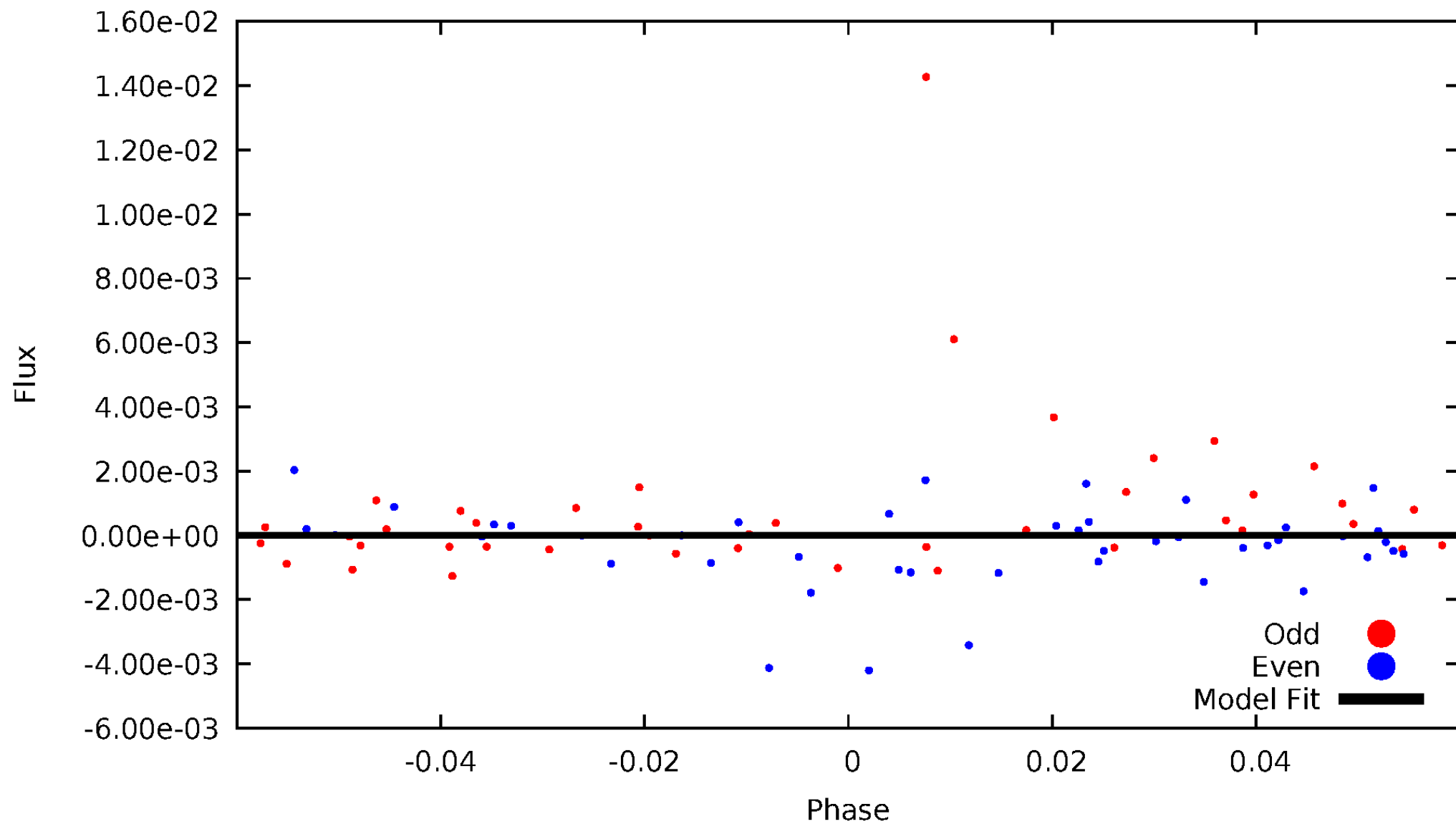


TCE 006423857-04



DV Odd/Even

TCE 006423857-04

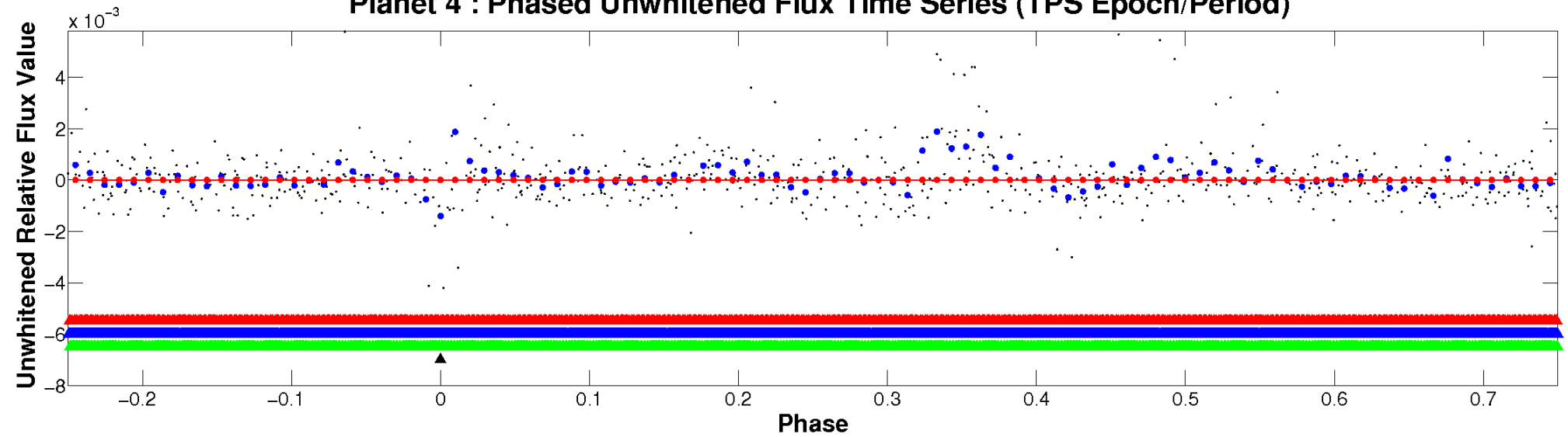


ALT Odd/Even

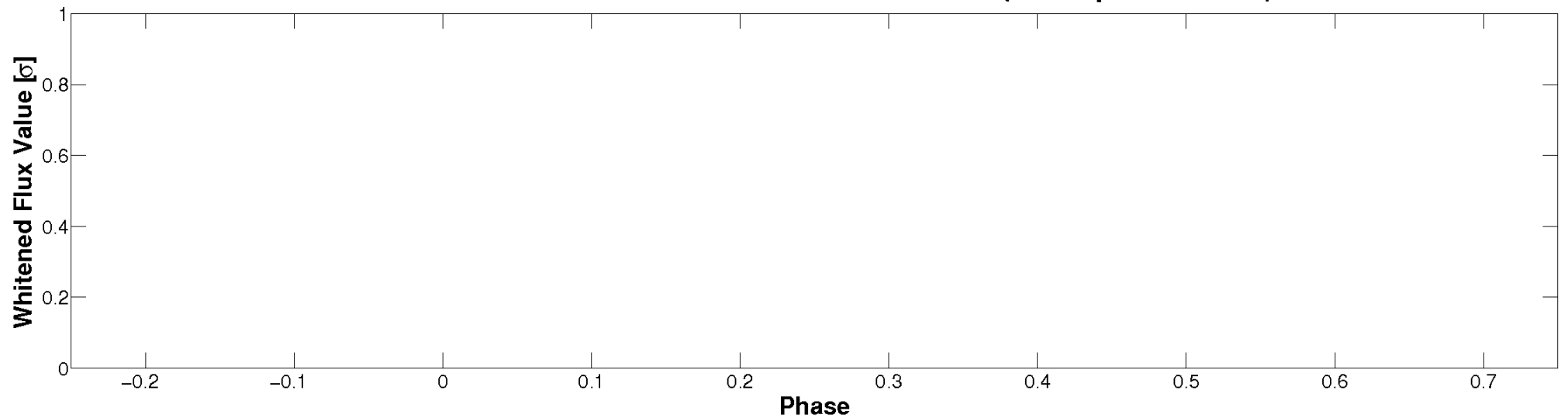
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

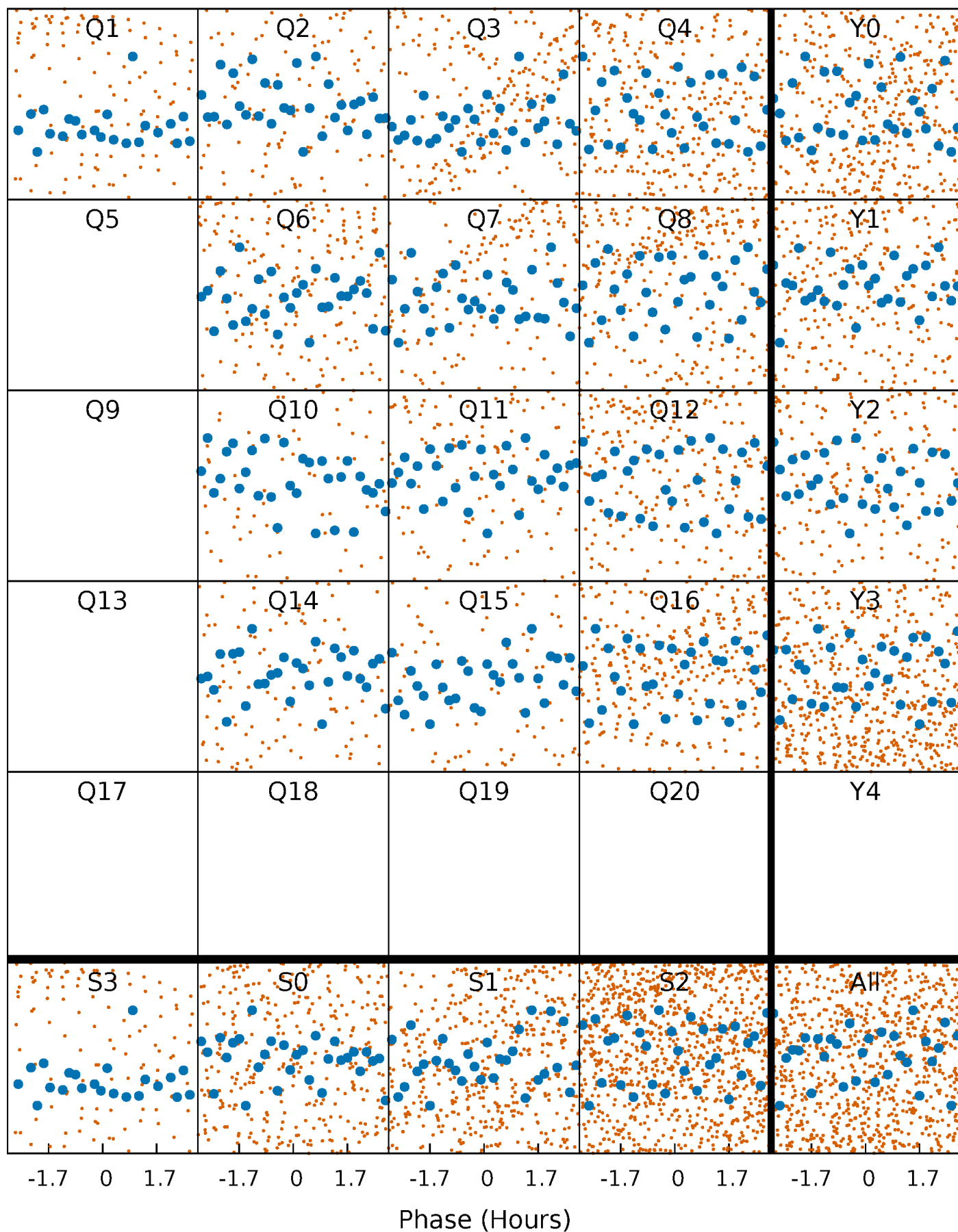


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



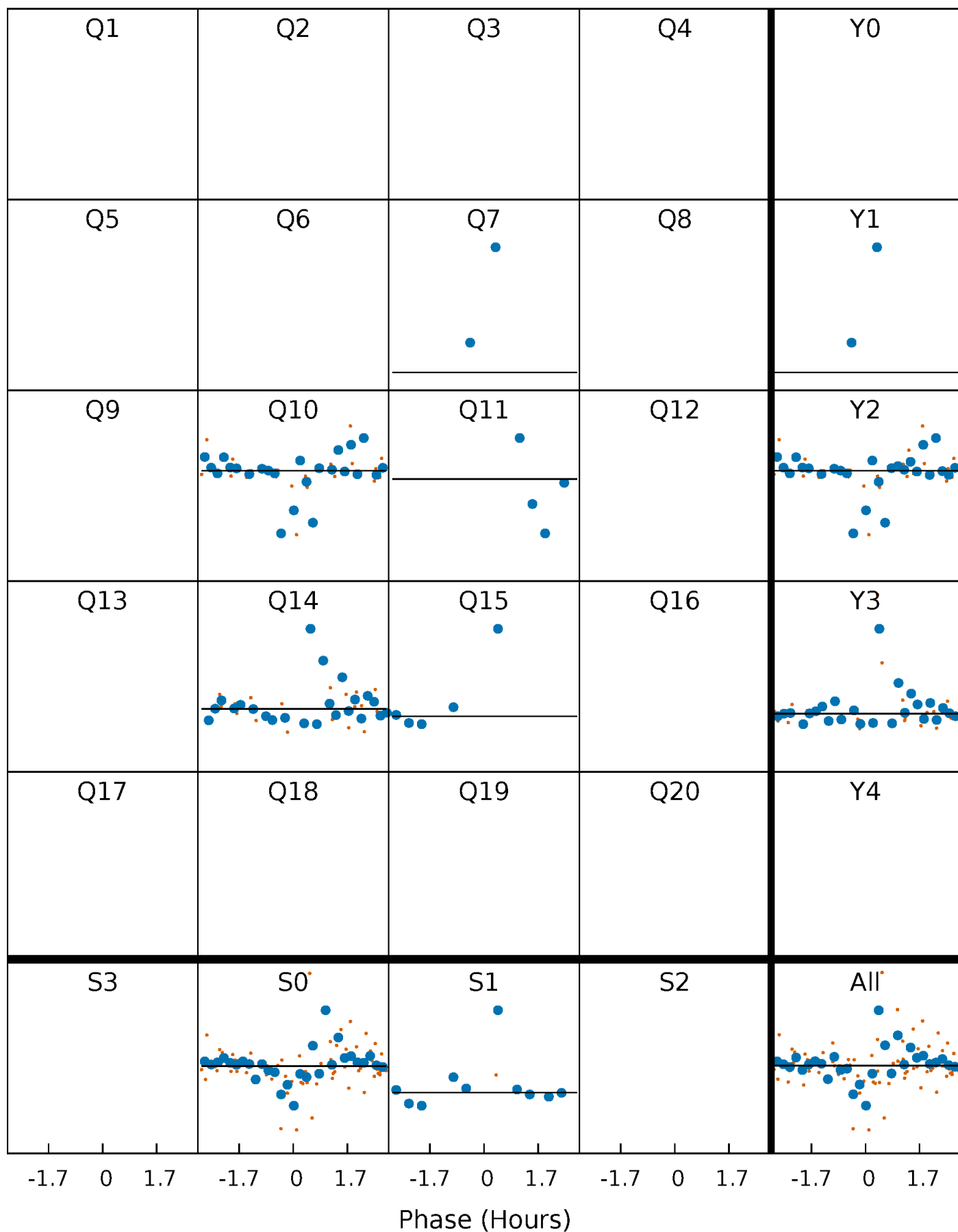
PDC Quarter-Phased Transit Curves

TCE 006423857-04 $P = 2.084795$ Days $T_0 = 132.192244$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 006423857-04 P= 2.084795 Days $T_0=132.192244$ (BKJD)

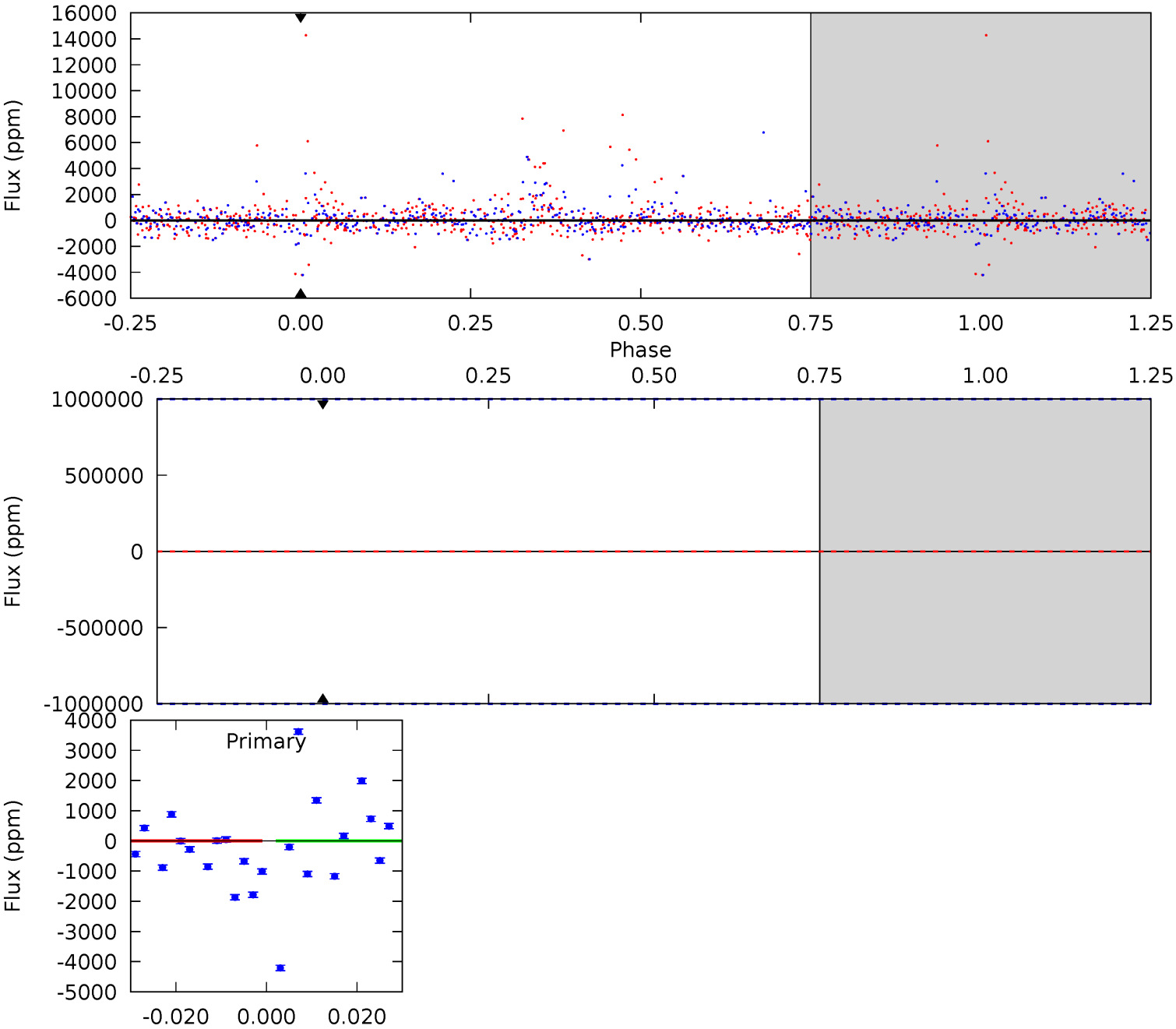


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

006423857-04, P = 2.084795 Days, E = 132.192244 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 006423857

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4444^{+154}_{-154}	$4.565^{+0.060}_{-0.016}$	$0.420^{+0.050}_{-0.300}$	$0.740^{+0.024}_{-0.063}$	$0.734^{+0.041}_{-0.046}$	$2.550^{+0.645}_{-0.185}$
	+3%/-3%	+1%/-0%	+12%/-71%	+3%/-9%	+6%/-6%	+25%/-7%
Source	PHO1	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 006423857-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$6.33^{+6.85}_{-4.29}$	1377^{+49}_{-54}	2738^{+8477}_{-13019}	$3.520^{+2245.032}_{-1693.135}$
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

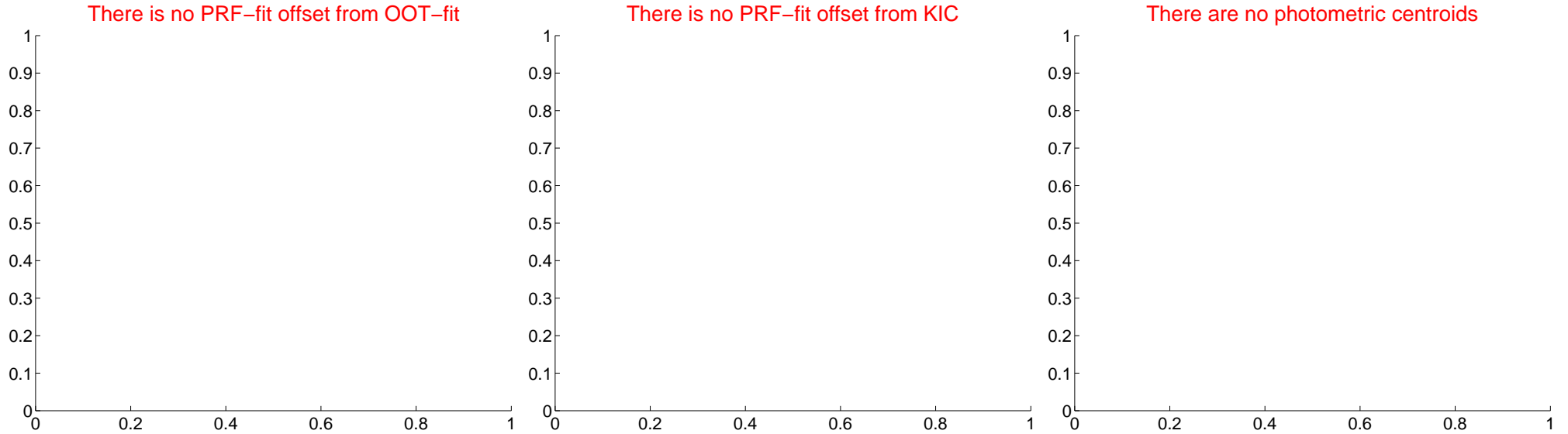
DV Centroid Data

Supplemental centroid analysis for 006423857-04. Kepler magnitude: 14.50. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	—	—	—	—



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.



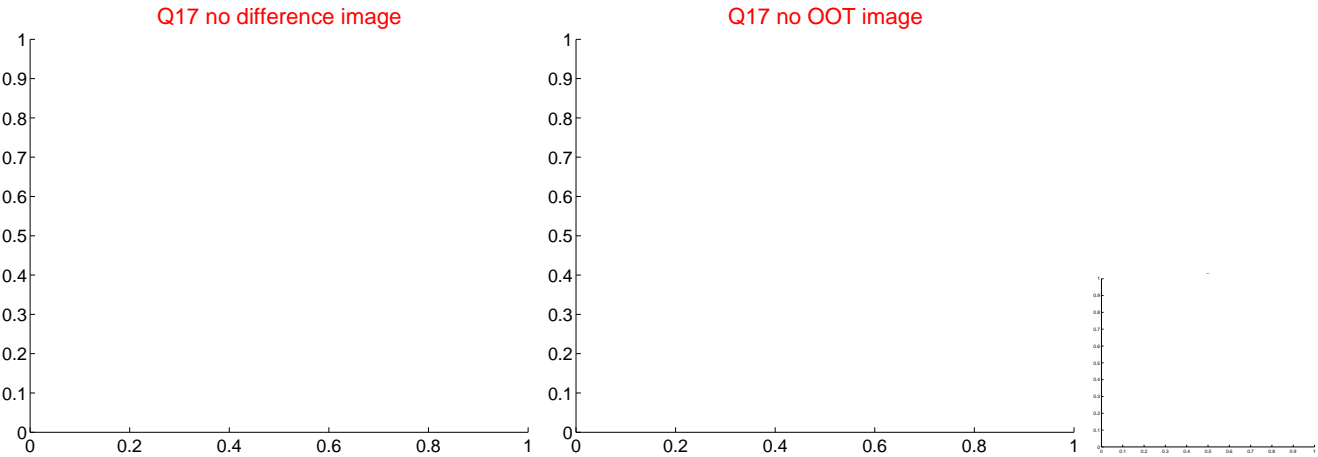
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

