

KIC 007219825

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})
007219825-01	OBS	0238.01	17.232318	135.092065	511.0	4.587	54.0	59.5	1.22	6086	2.96	105.61
007219825-02	OBS	0238.03	363.007582	256.463493	280.6	16.373	11.9	11.6	1.22	6086	2.44	1.81
007219825-03	OBS	0238.02	26.695169	143.999425	118.3	4.651	10.9	10.7	1.22	6086	1.51	58.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007219825-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007219825-02	OBS	PC	0.78	0	0	0	0	CENT_FEW_DIFFS
007219825-03	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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

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

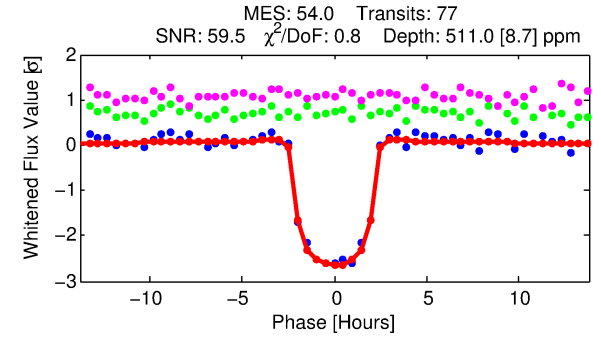
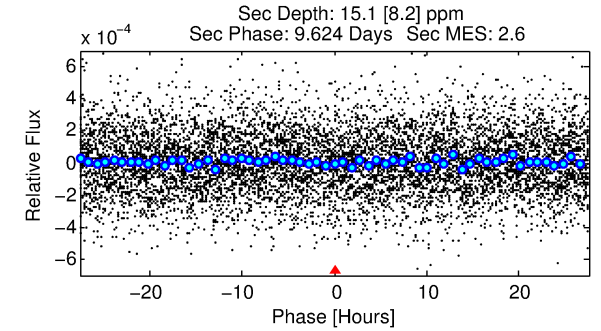
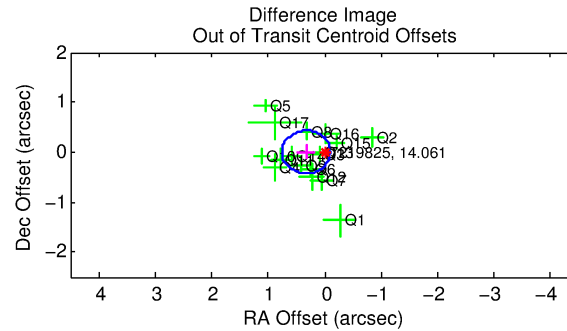
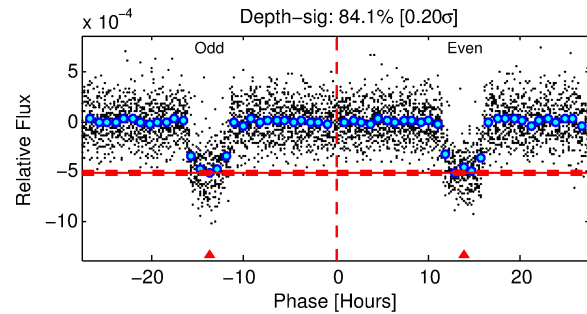
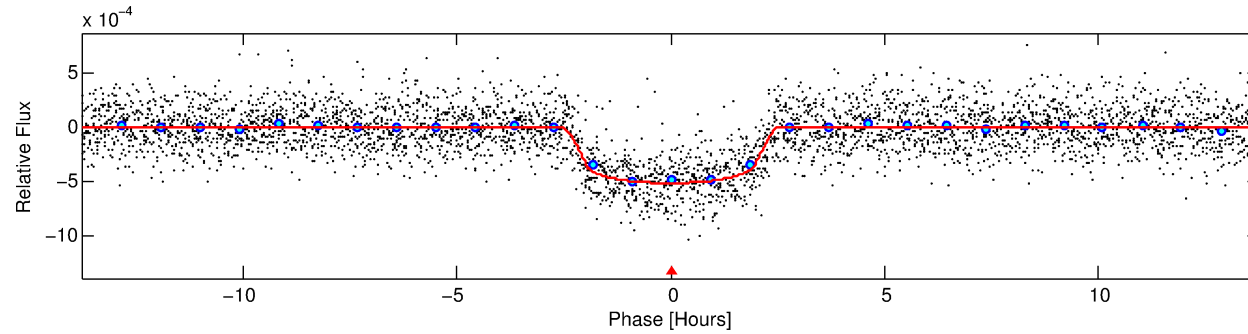
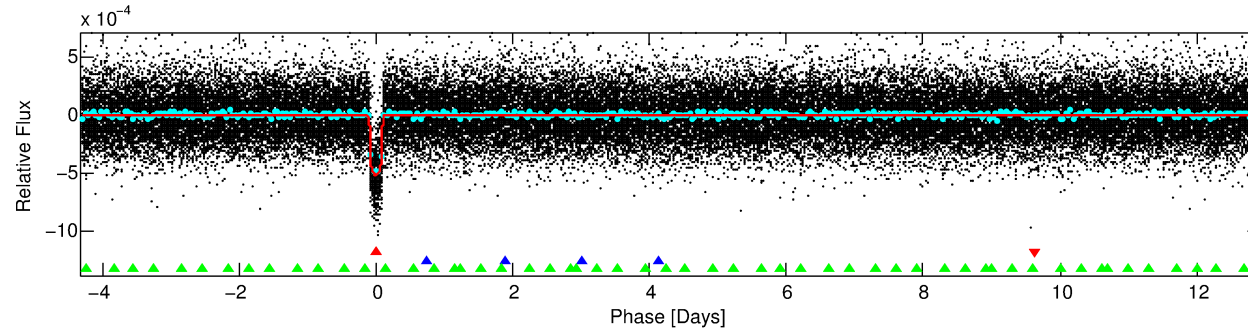
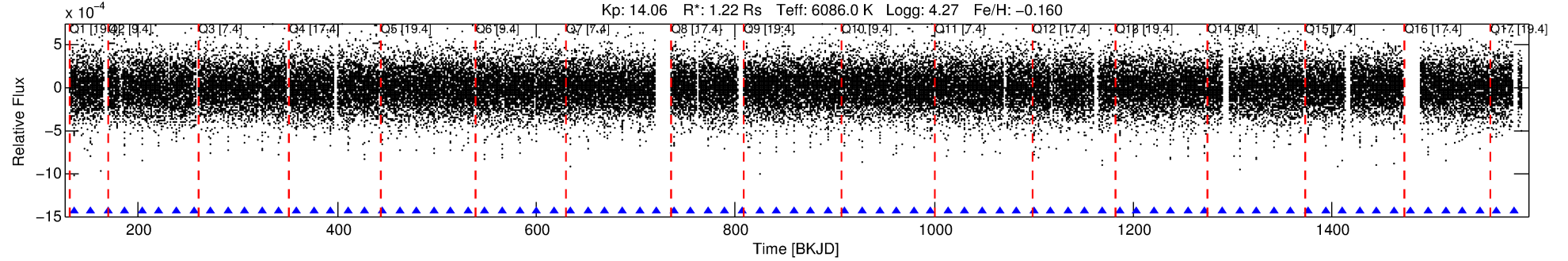
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007219825-01

No Significant Match Found

DV One-Page Summary

KIC: 7219825 Candidate: 1 of 3 Period: 17.232 d
KOI: K00238.01 Name: Kepler-123b Corr: 0.994



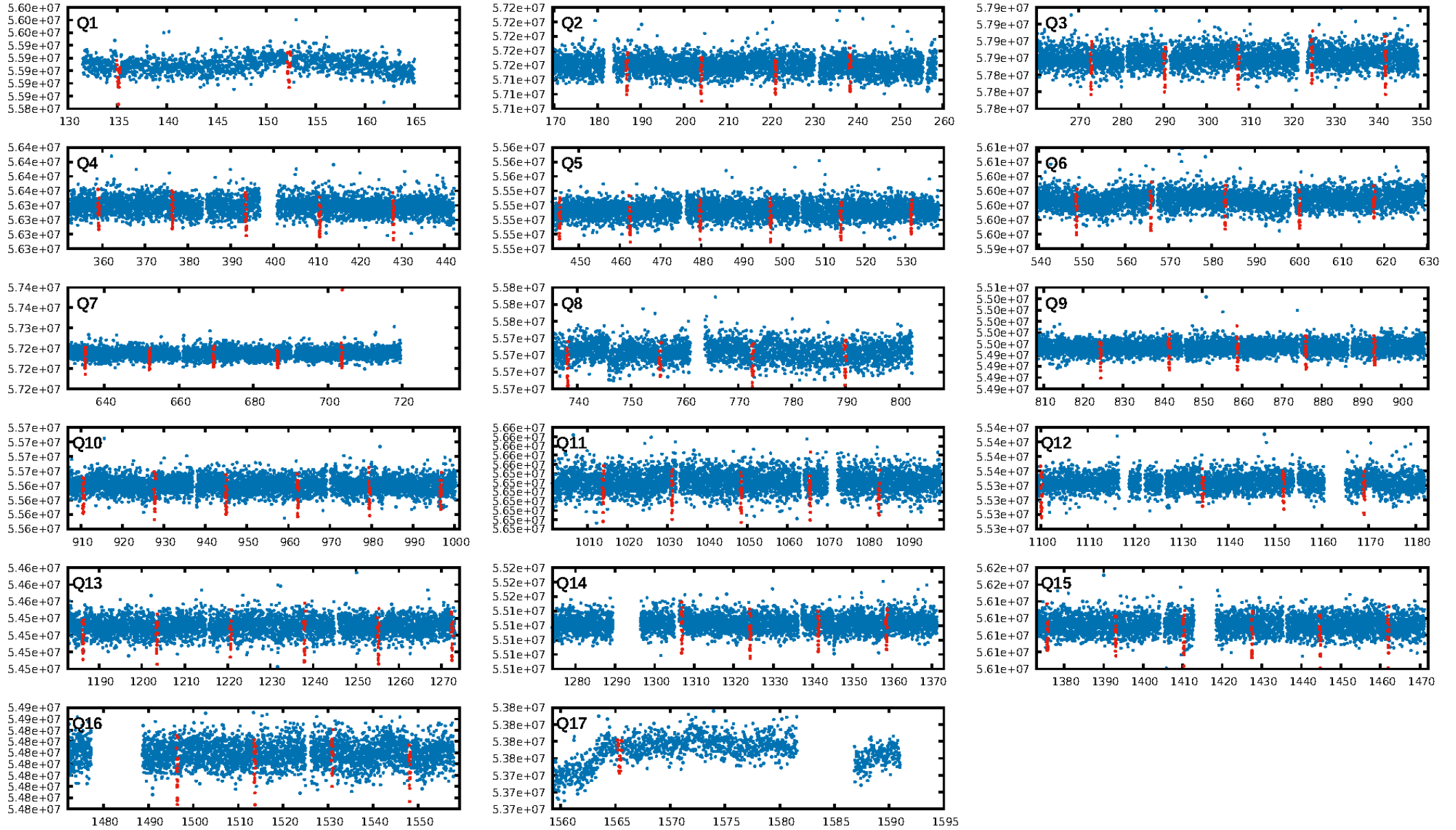
DV Fit Results:

Period = 17.23232 [0.00003] d
Epoch = 135.0921 [0.0016] BKJD
Rp/R* = 0.0223 [0.0028]
a/R* = 20.67 [12.72]
b = 0.73 [0.41]
Seff = 105.61 [26.67]
Teq = 817 [52] K
Rp = 2.96 [0.61] Re
a = 0.1312 [0.0199] AU
Ag = 16.26 [10.47] [1.46 σ]
Teffp = 2538 [384] K [4.44 σ]

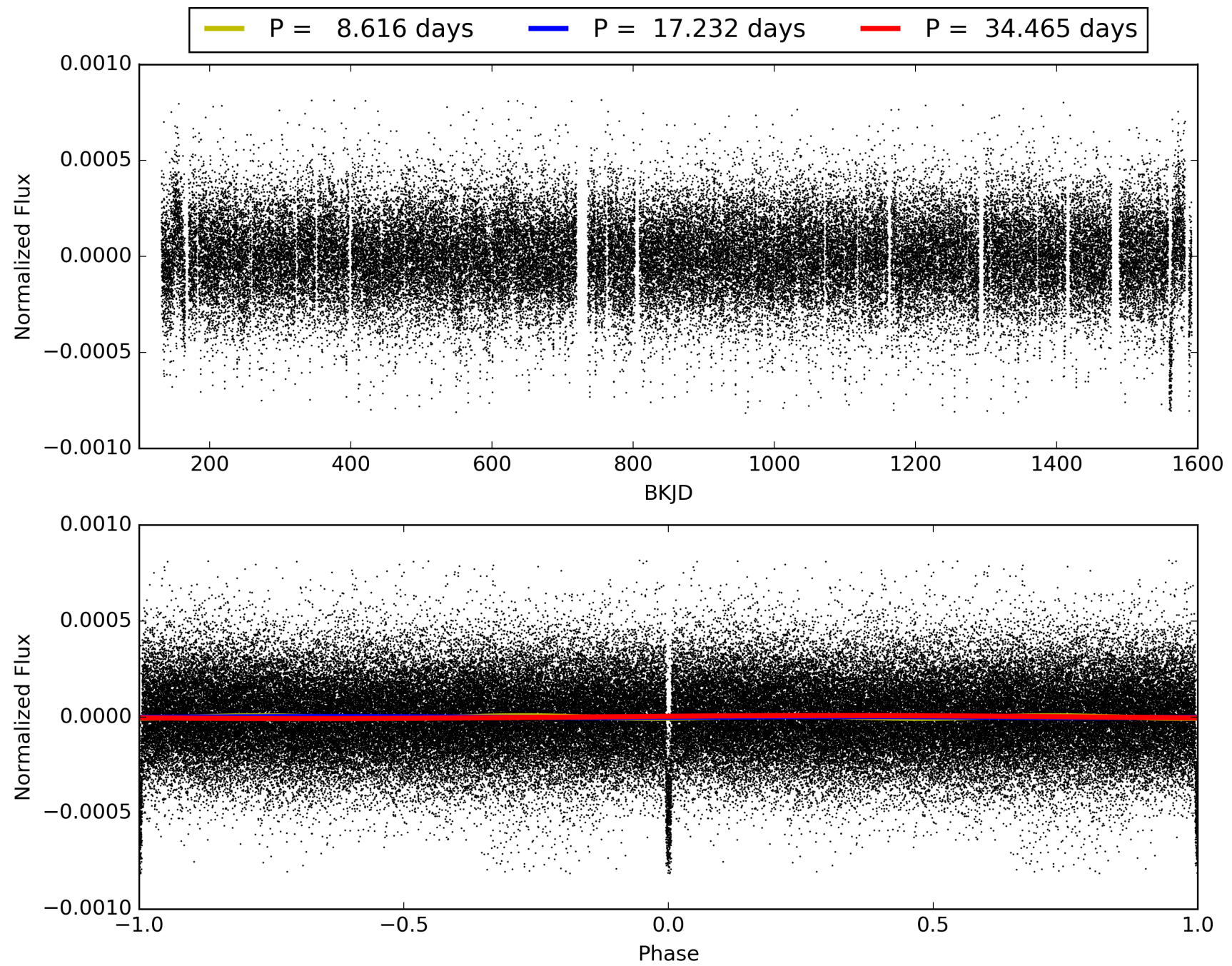
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [34.77 σ]
ModelChiSquare2-sig: 97.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [74/74]
GhostDiagnostic-chr: 10.37
Centroid-sig: 0.2%
Centroid-so: 0.449 arcsec [2.07 σ]
OotOffset-rm: 0.330 arcsec [2.30 σ]
KicOffset-rm: 0.298 arcsec [2.04 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007219825-01, PDC Light Curves

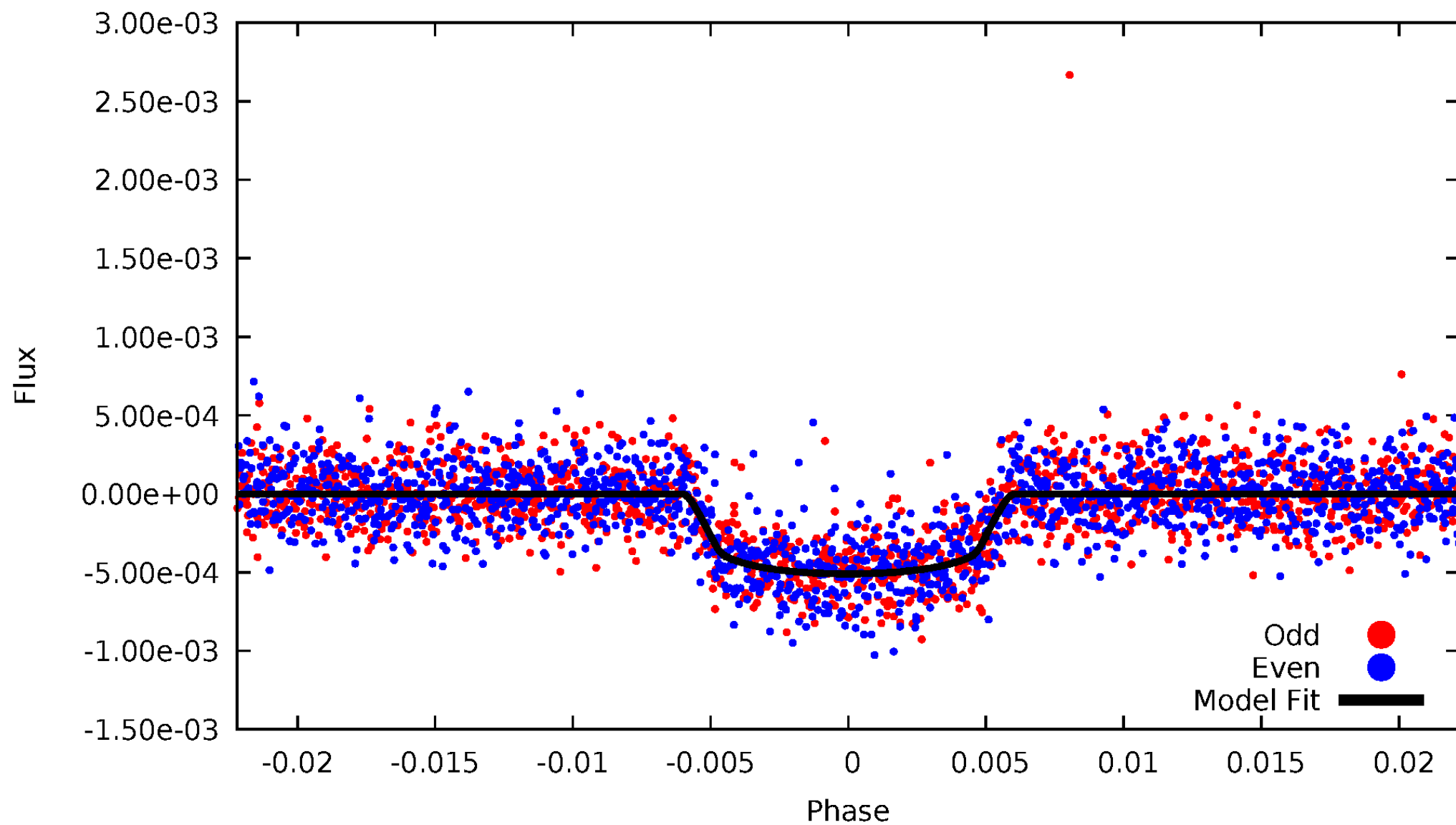


TCE 007219825-01



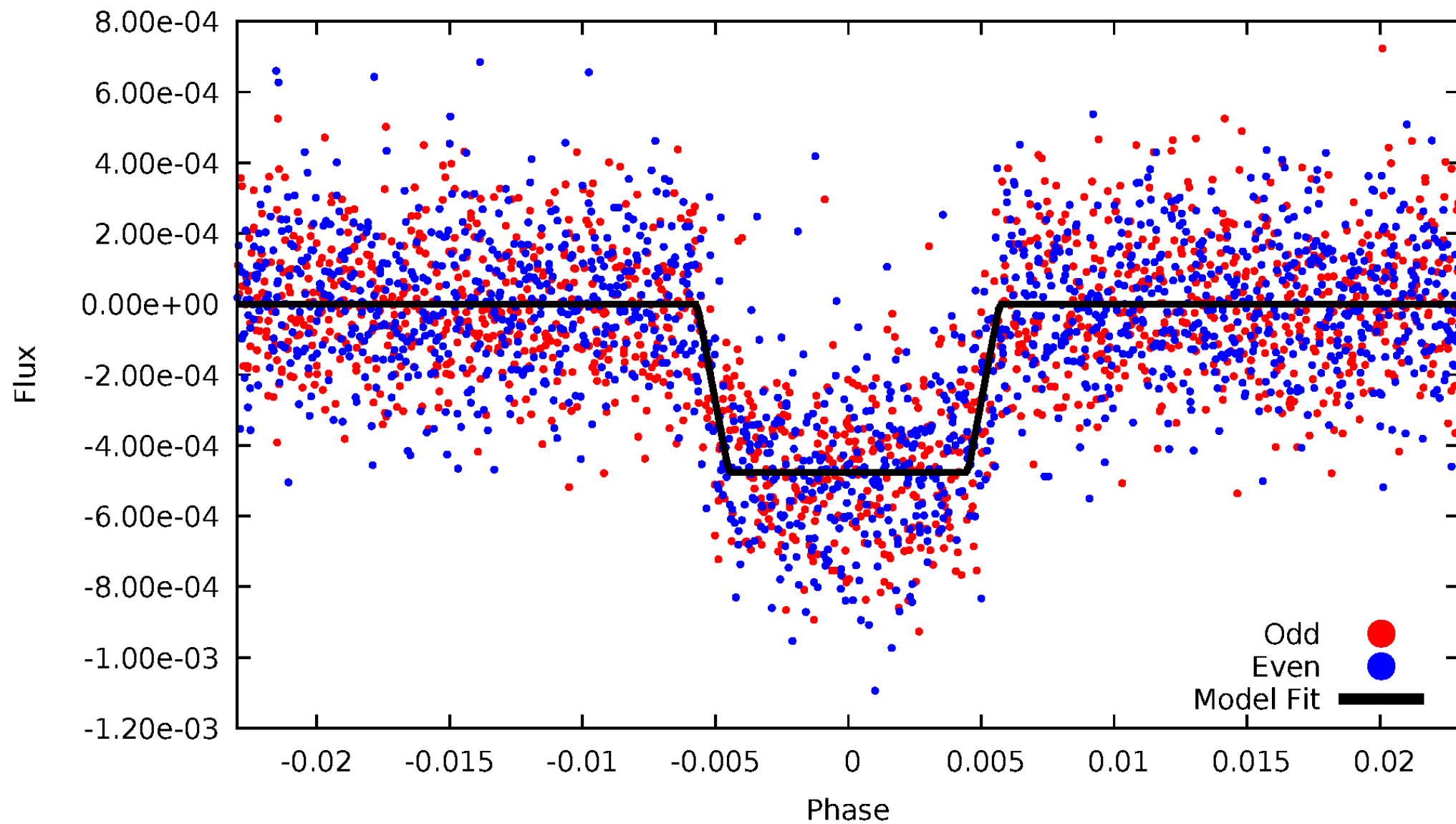
DV Odd/Even

TCE 007219825-01

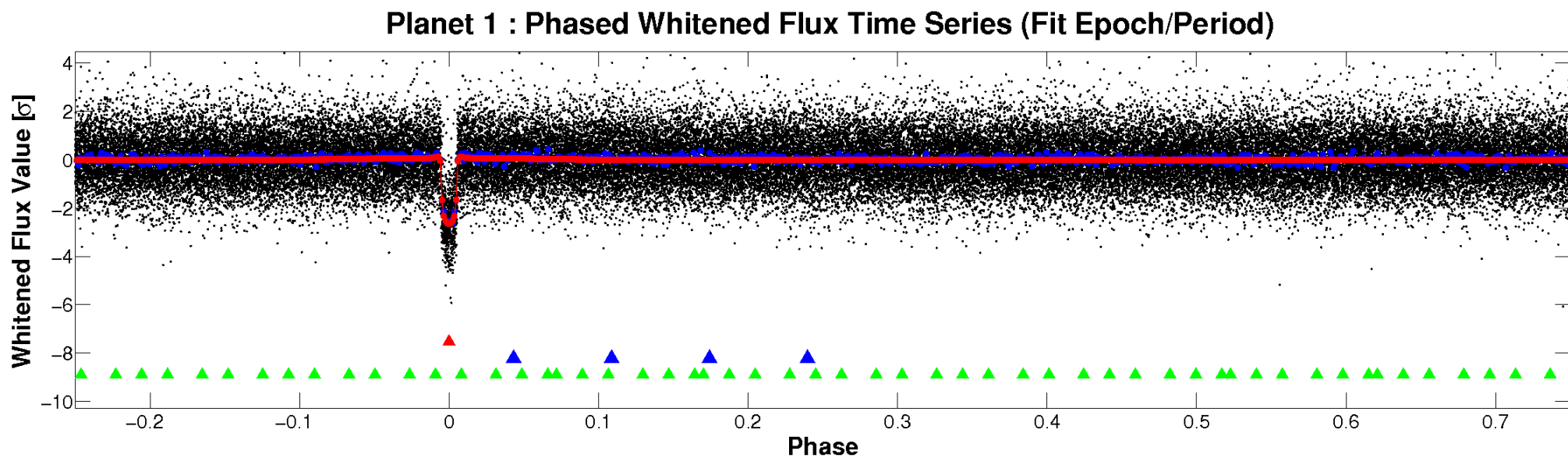
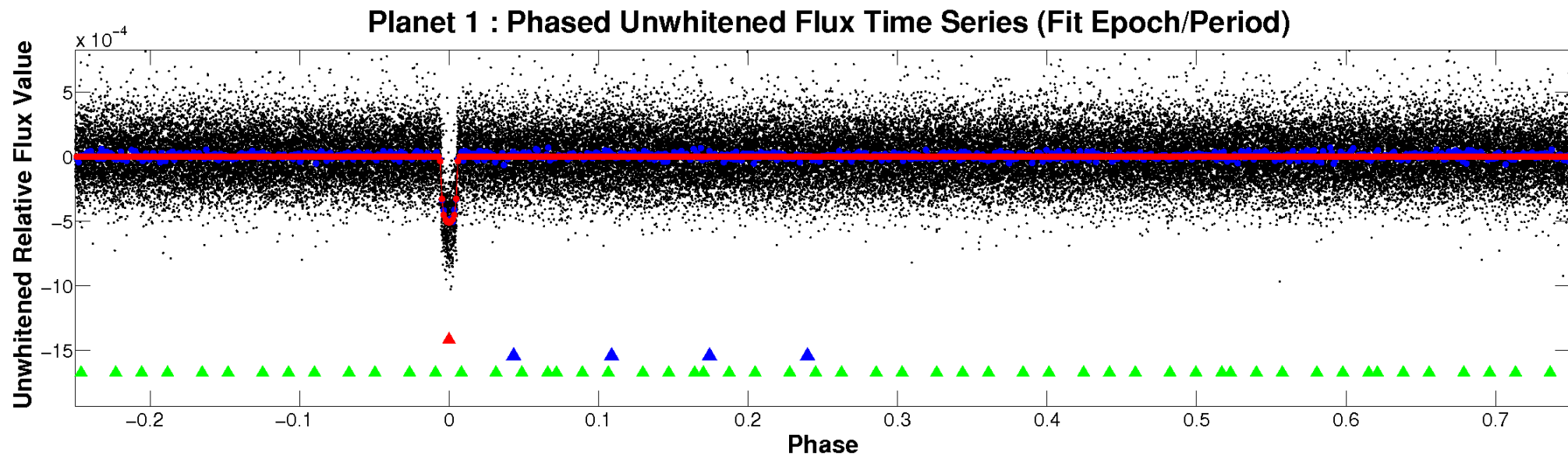


ALT Odd/Even

TCE 007219825-01

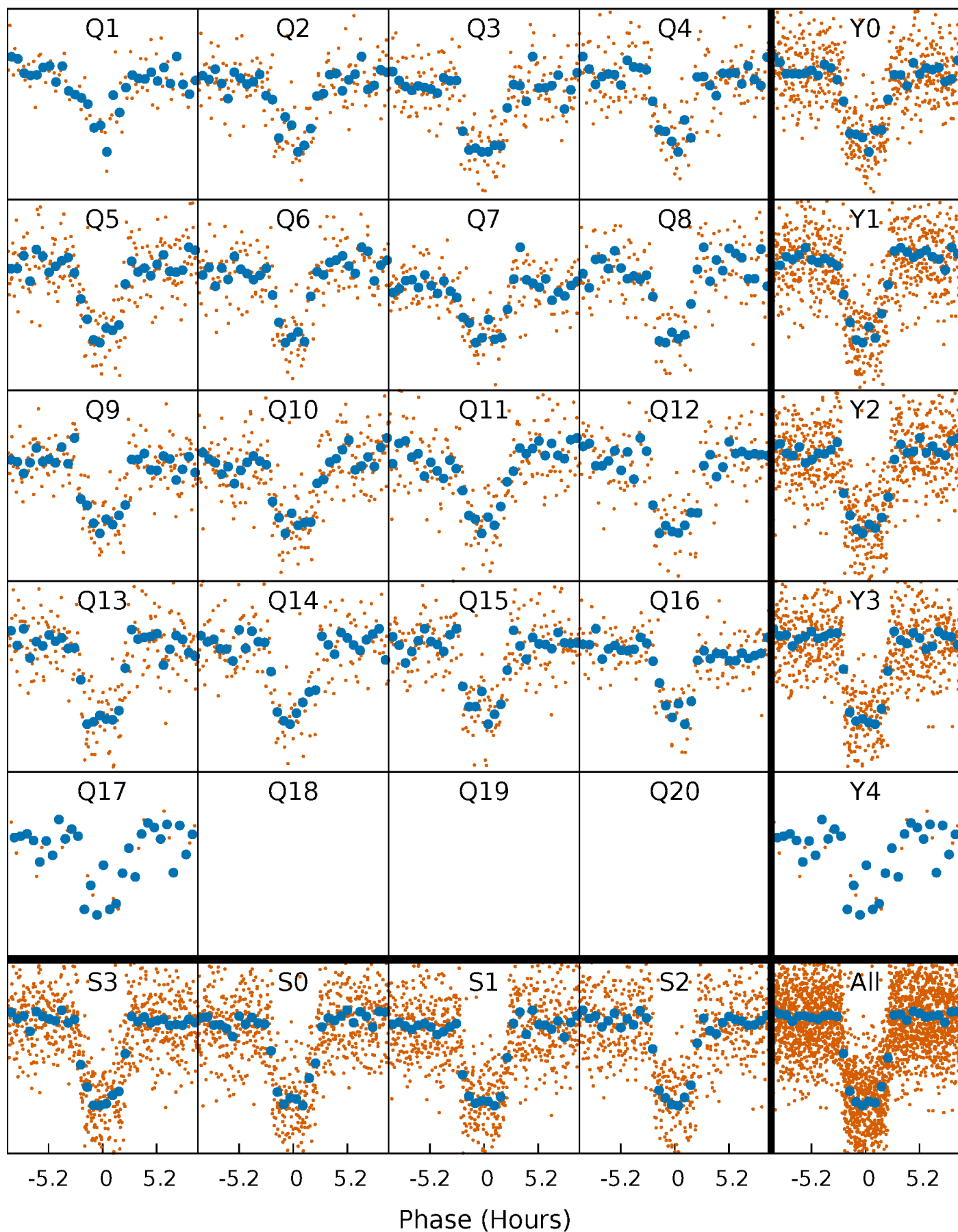


Non-Whitened Vs. Whitened Light Curve



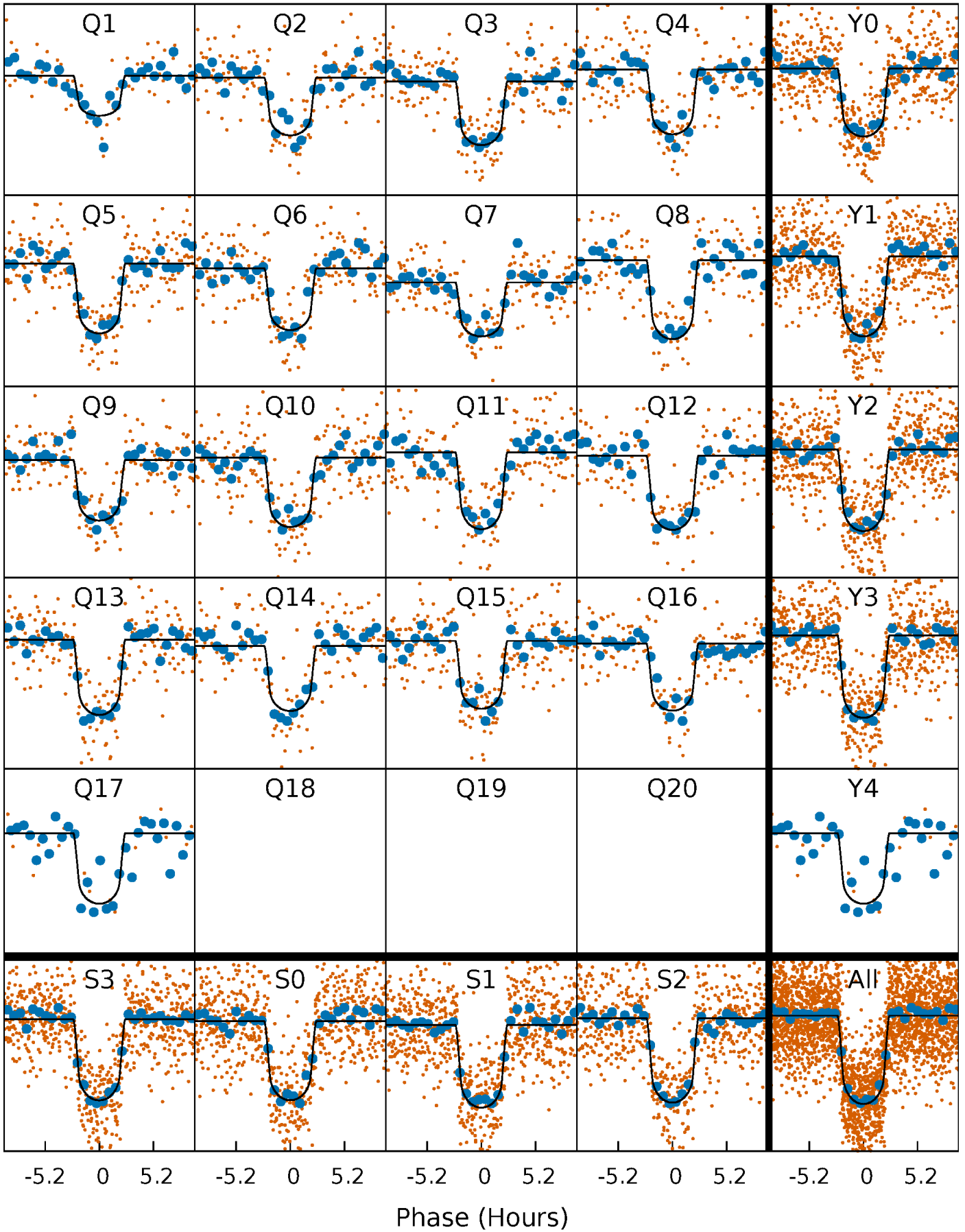
PDC Quarter-Phased Transit Curves

TCE 007219825-01 P= 17.232318 Days $T_0=135.092065$ (BKJD)



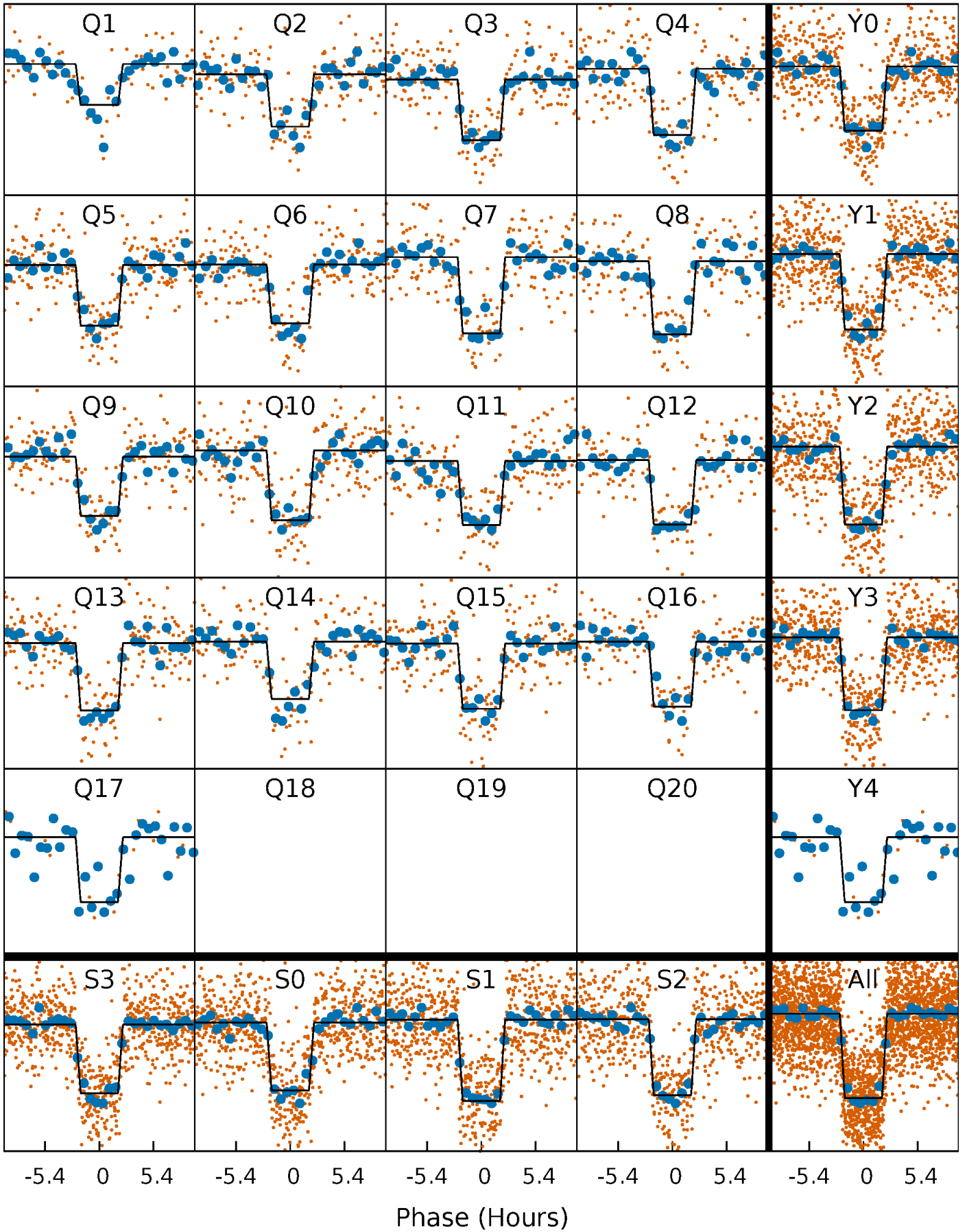
DV Quarter-Phased Transit Curves

TCE 007219825-01 P= 17.232318 Days $T_0=135.092065$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

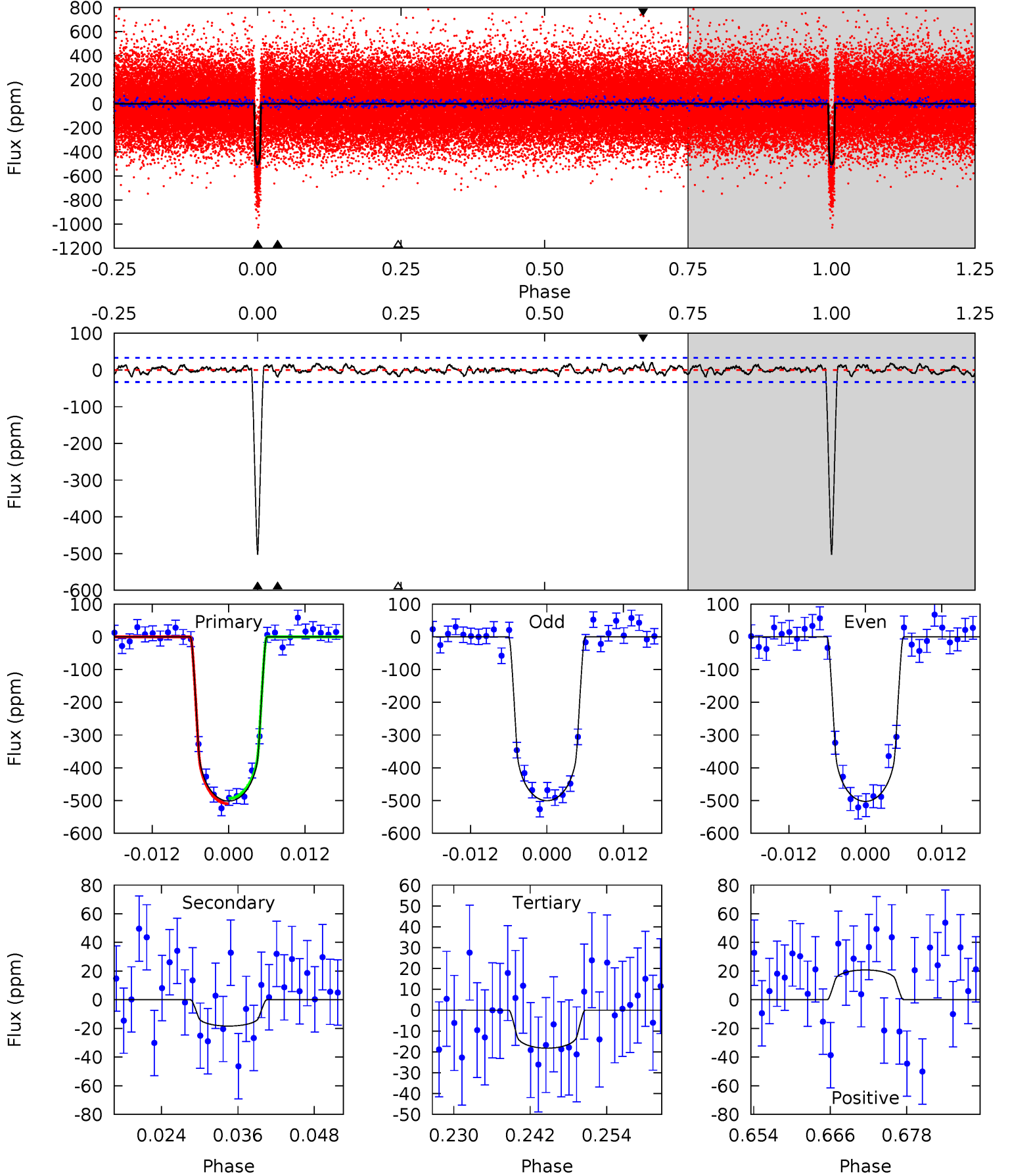
TCE 007219825-01 P= 17.232353 Days $T_0=135.091101$ (BKJD)



DV Model-Shift Uniqueness Test

007219825-01, $P = 17.232318$ Days, $E = 117.859747$ Days

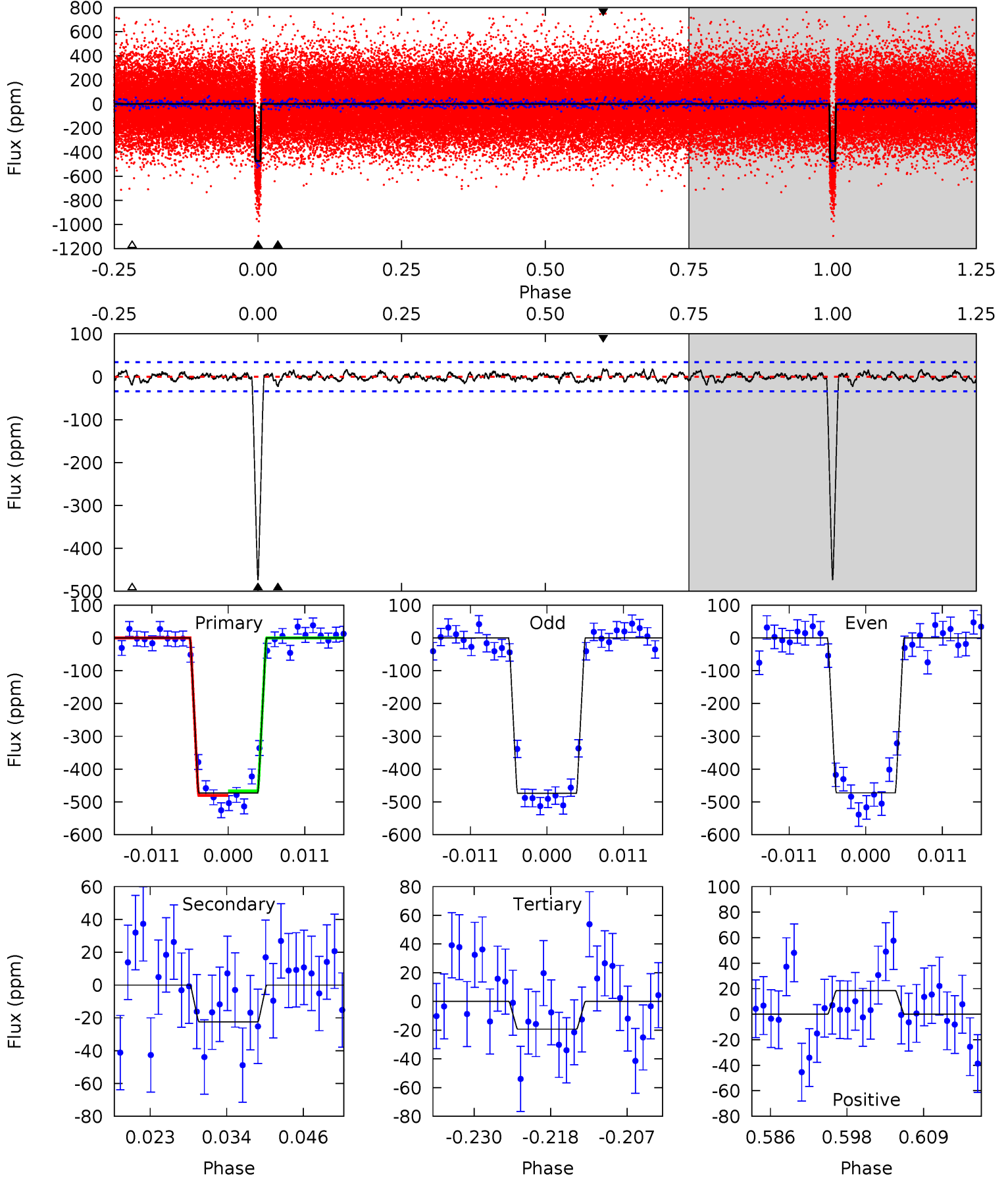
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
76.0	2.78	2.76	3.15	4.99	2.51	1.10	73.2	72.8	0.02	-0.37	0.16	0.99	0.04	1.21



Alt Model-Shift Uniqueness Test

007219825-01, P = 17.232353 Days, E = 117.858748 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
69.8	3.31	2.85	2.74	5.00	2.53	0.96	66.9	67.1	0.46	0.57	0.09	1.00	0.04	1.00



Stellar Parameters For KIC 007219825

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6086^{+133}_{-133}	$4.274^{+0.137}_{-0.112}$	$-0.160^{+0.200}_{-0.150}$	$1.216^{+0.199}_{-0.179}$	$1.013^{+0.096}_{-0.064}$	$0.793^{+0.503}_{-0.262}$
	+2%/-2%	+3%/-3%	+125%/-94%	+16%/-15%	+9%/-6%	+63%/-33%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 007219825-01 / KOI 0238.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-18 ± 7	$2.95^{+0.47}_{-0.49}$	1139^{+56}_{-51}	3239^{+238}_{-242}	20^{+12}_{-8}
Alt.	-22 ± 7	$2.88^{+0.49}_{-0.48}$	1137^{+58}_{-57}	3351^{+213}_{-204}	25^{+15}_{-9}

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 $A_{obs} \gg 1.0$

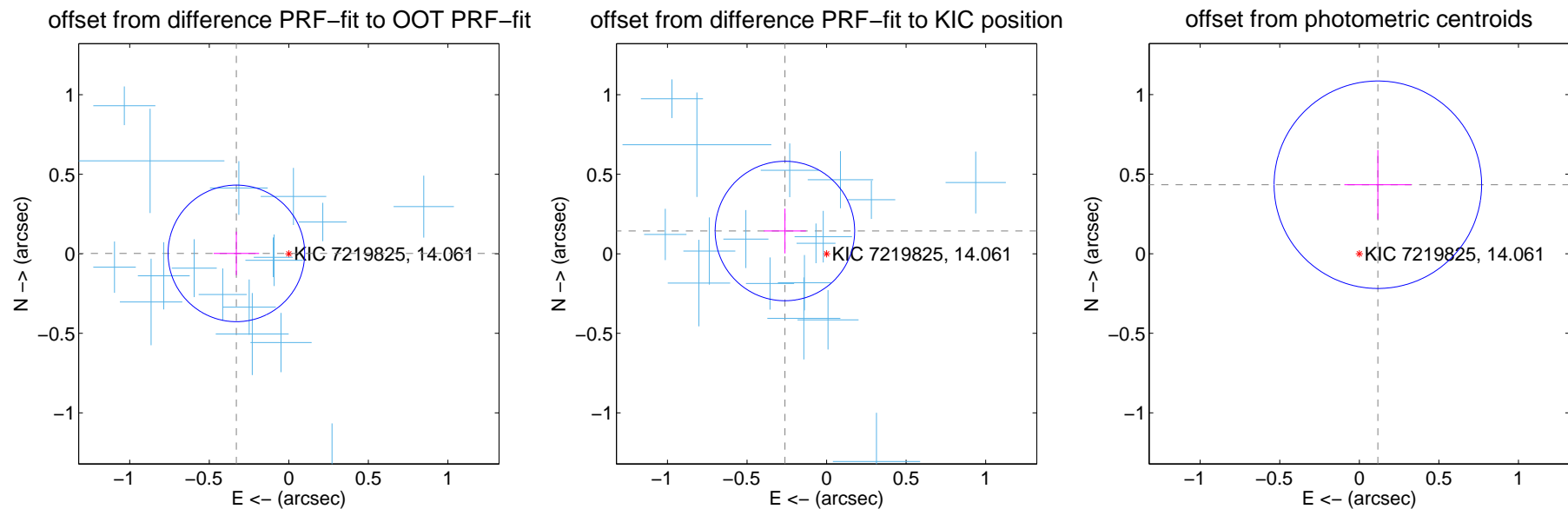
DV Centroid Data

Supplemental centroid analysis for 007219825-01. Kepler magnitude: 14.06. Transit SNR 59.50

There are 17 quarters with good PRF difference image offsets

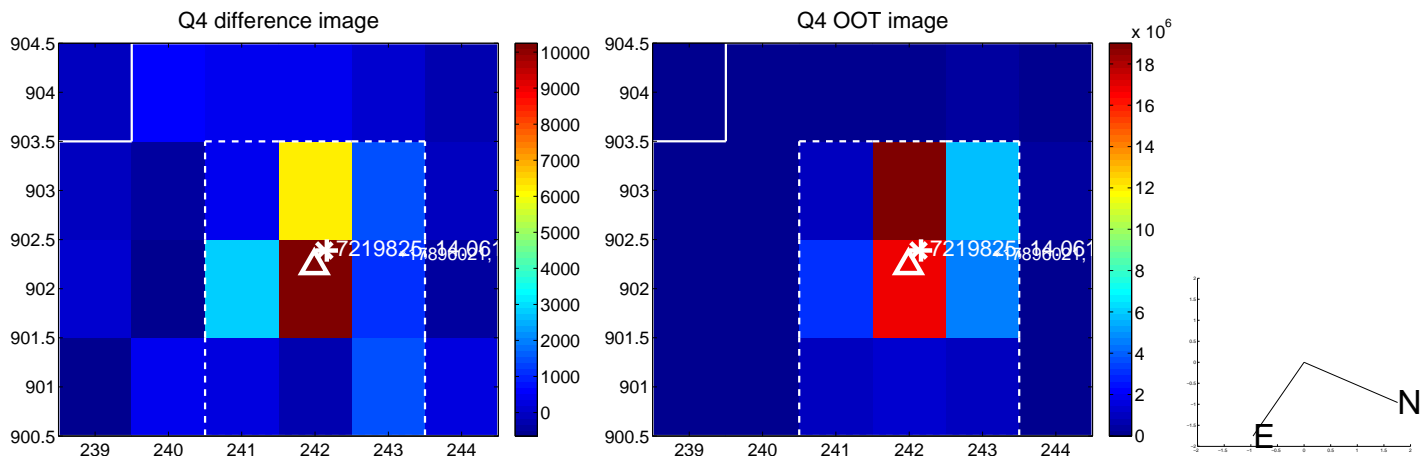
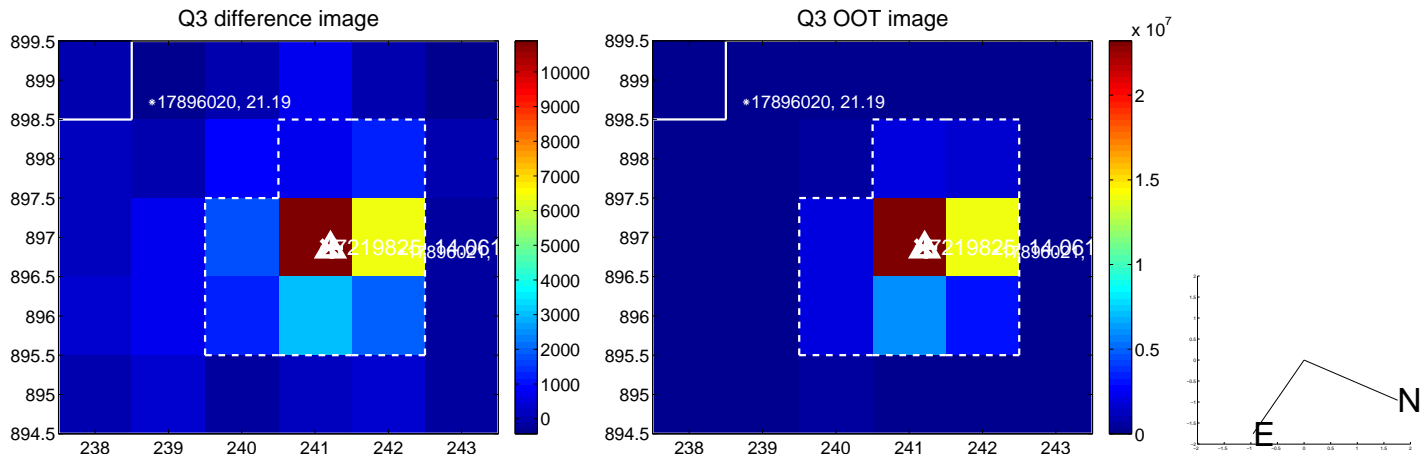
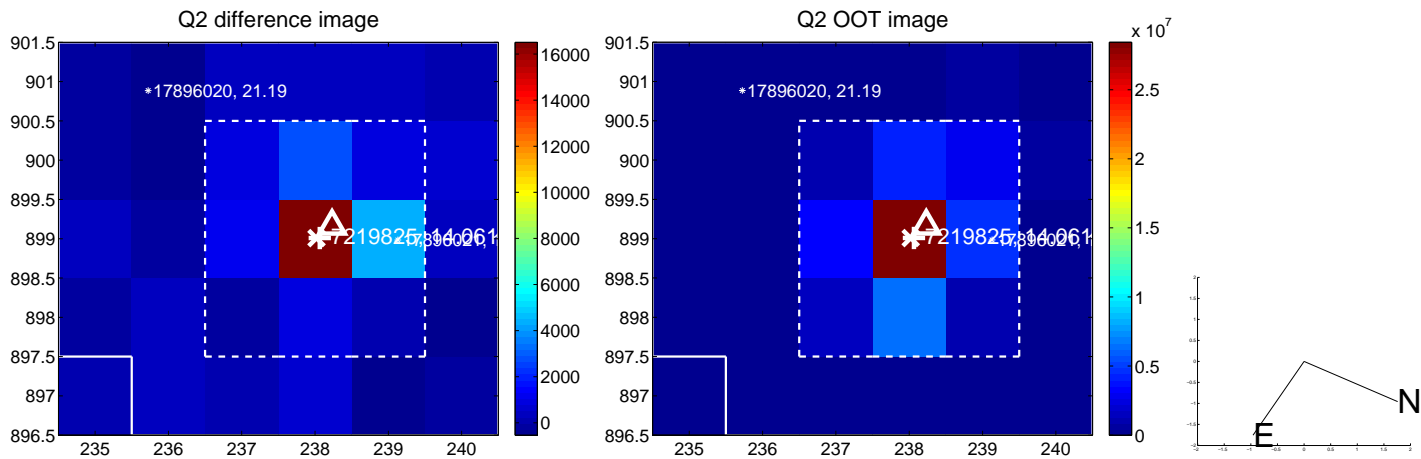
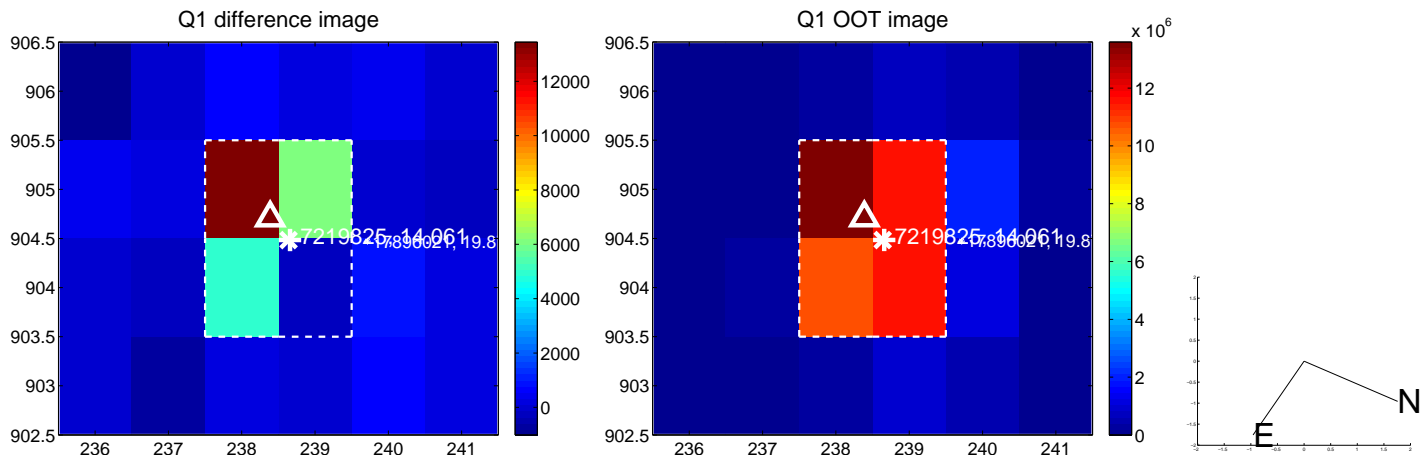
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.330 ± 0.143	2.30	0.330 ± 0.143	0.002 ± 0.137
PRF-fit source offset from KIC position	0.298 ± 0.146	2.04	0.262 ± 0.132	0.143 ± 0.141
photometric centroid source offset	0.45 ± 0.22	2.07	-0.12 ± 0.21	0.43 ± 0.22

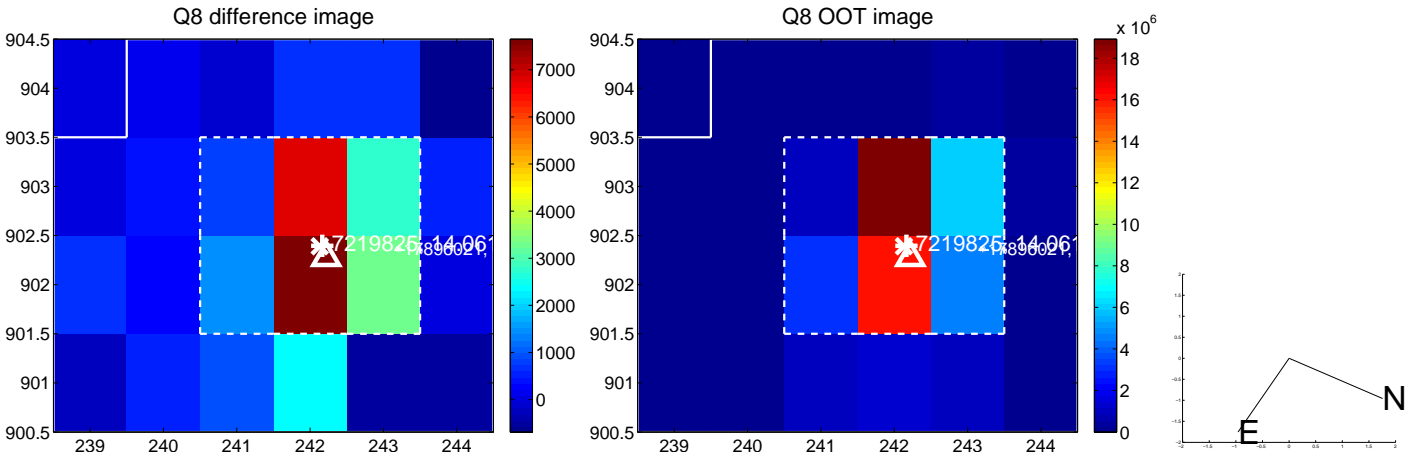
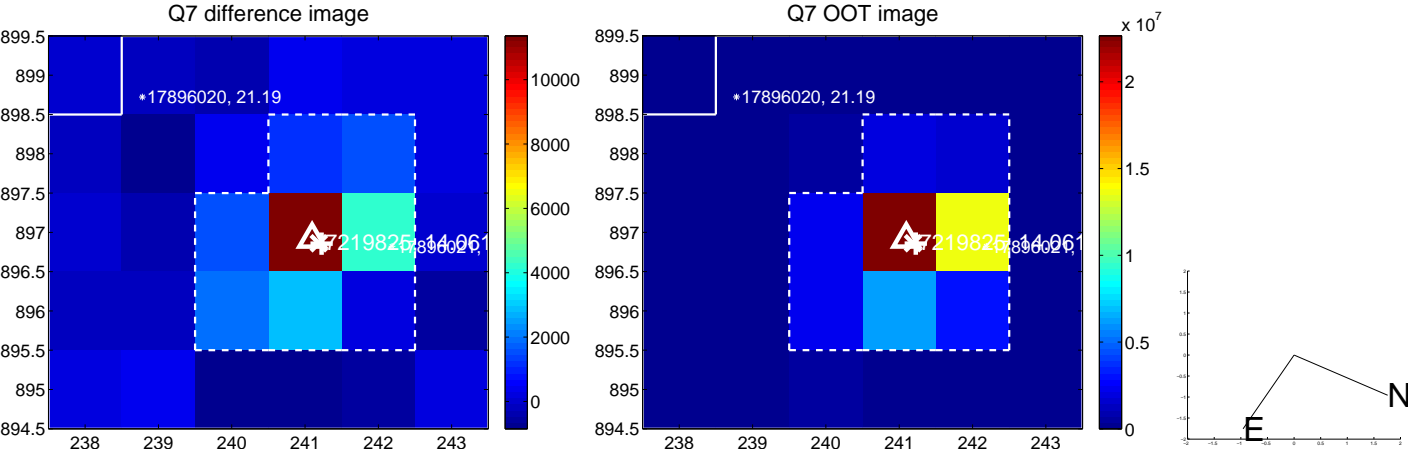
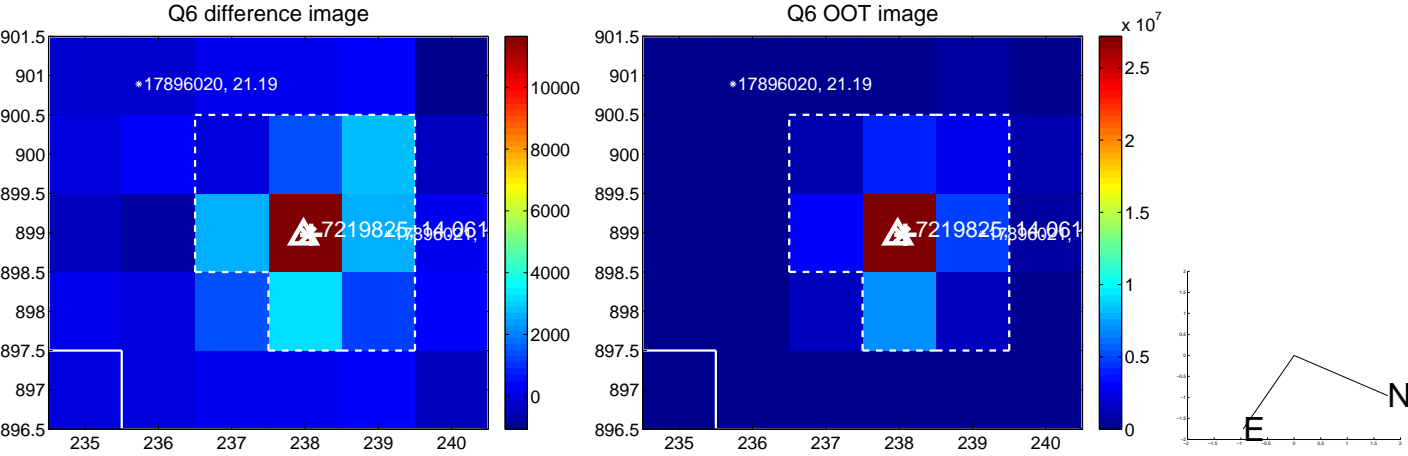
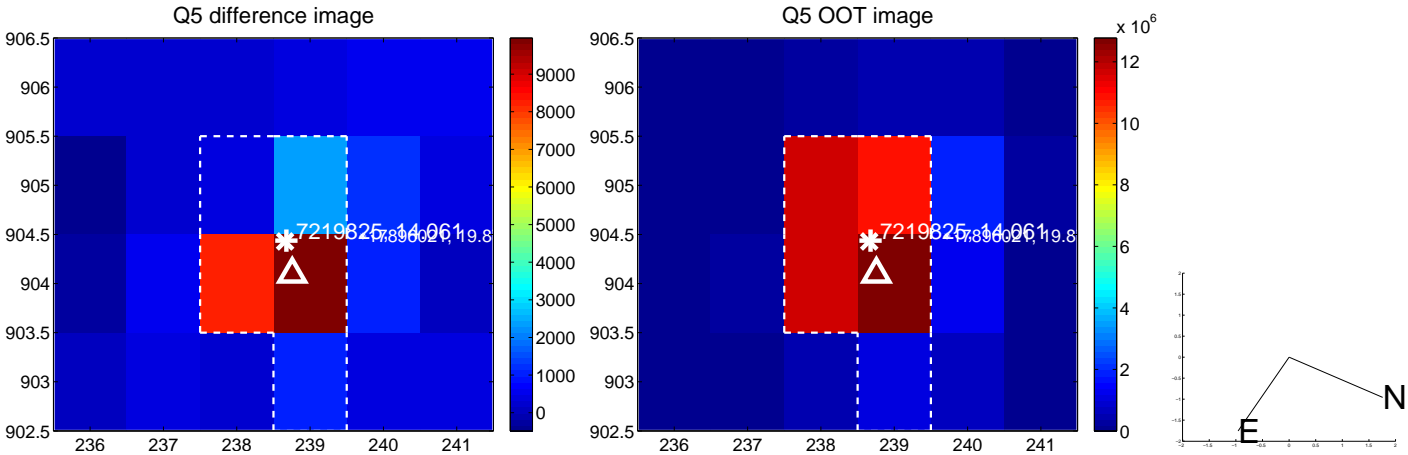


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

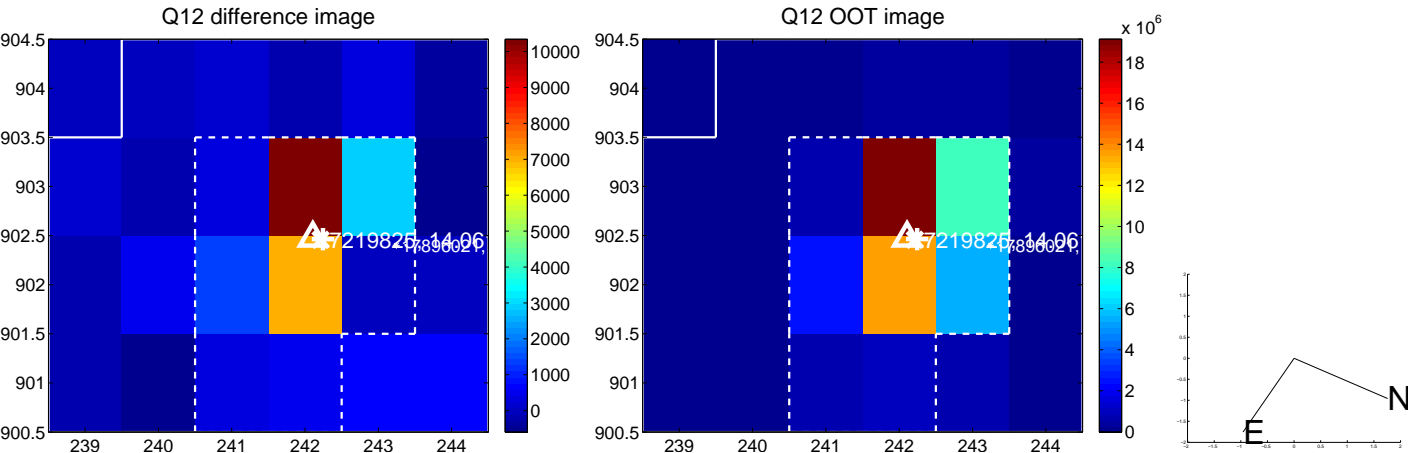
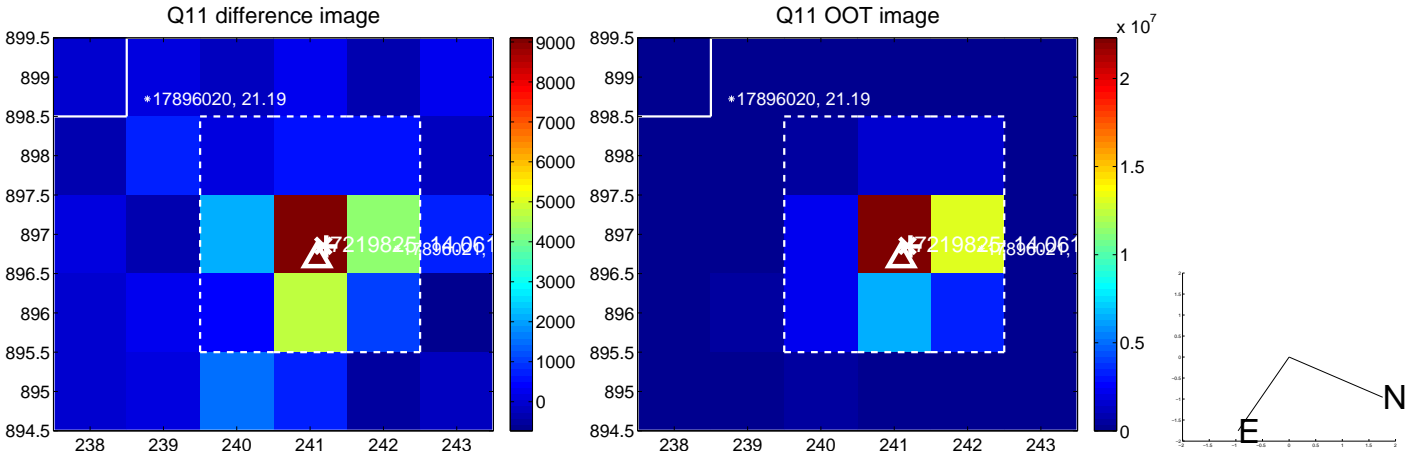
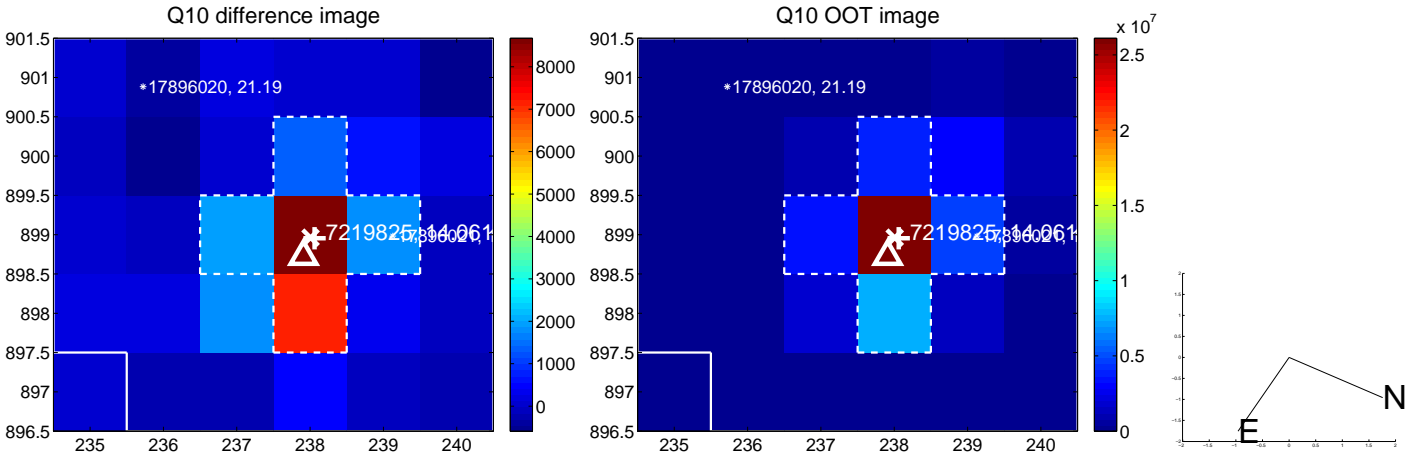
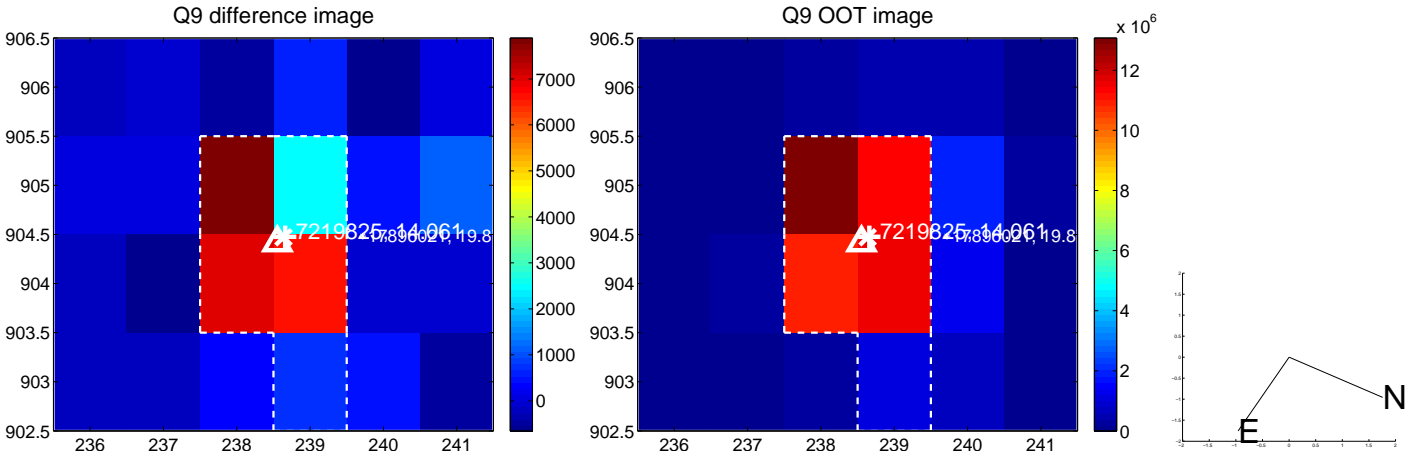
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



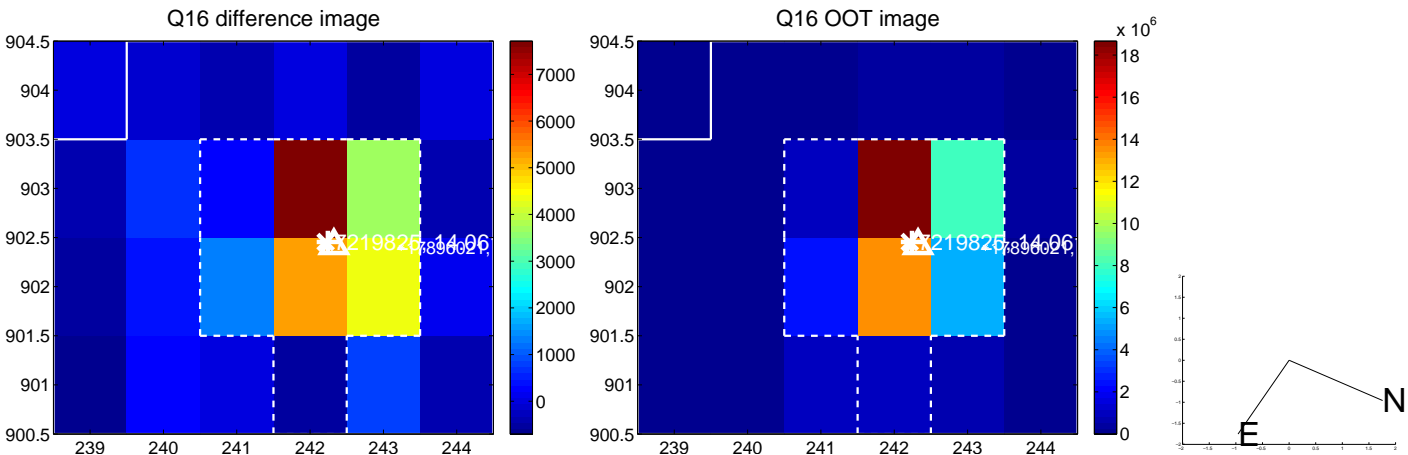
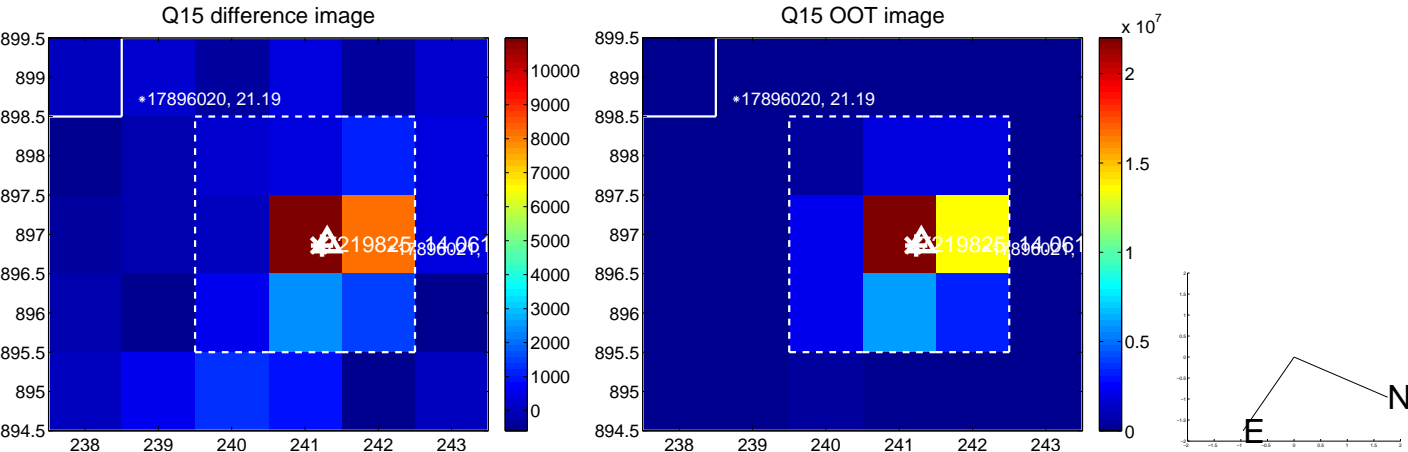
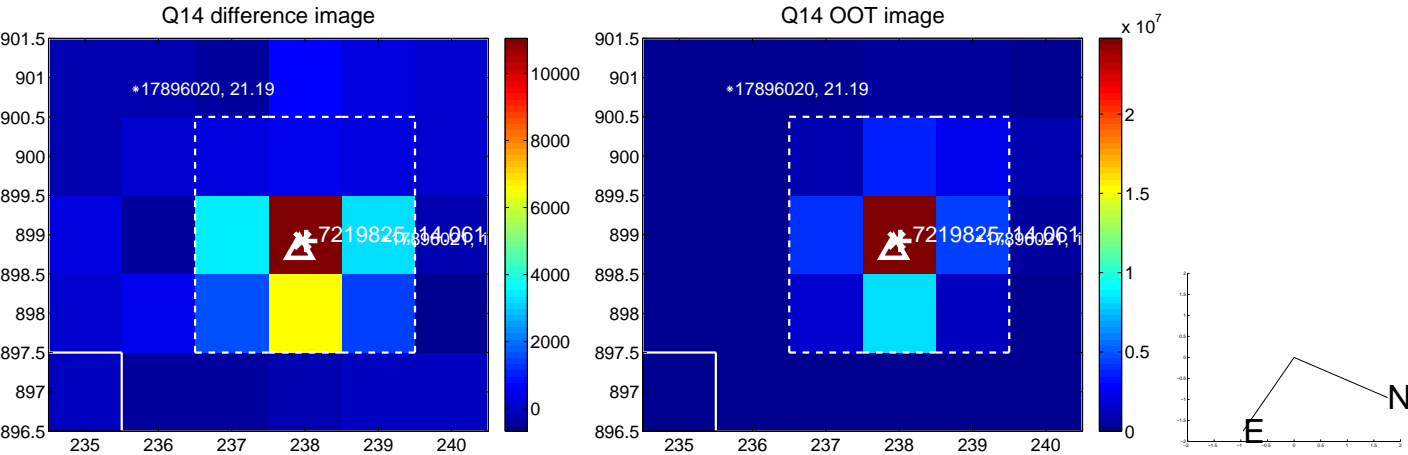
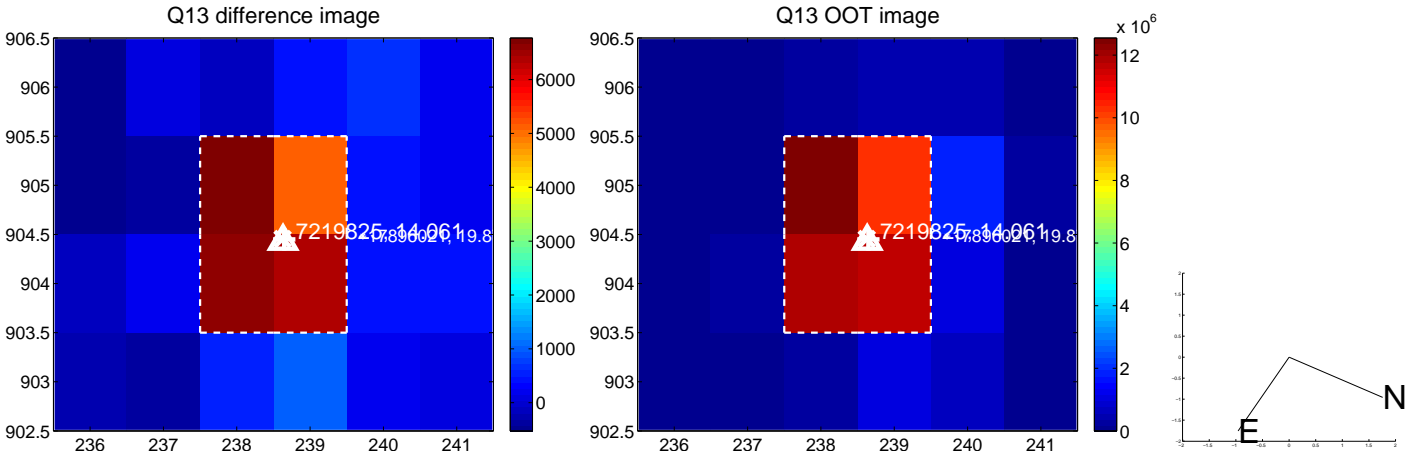
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



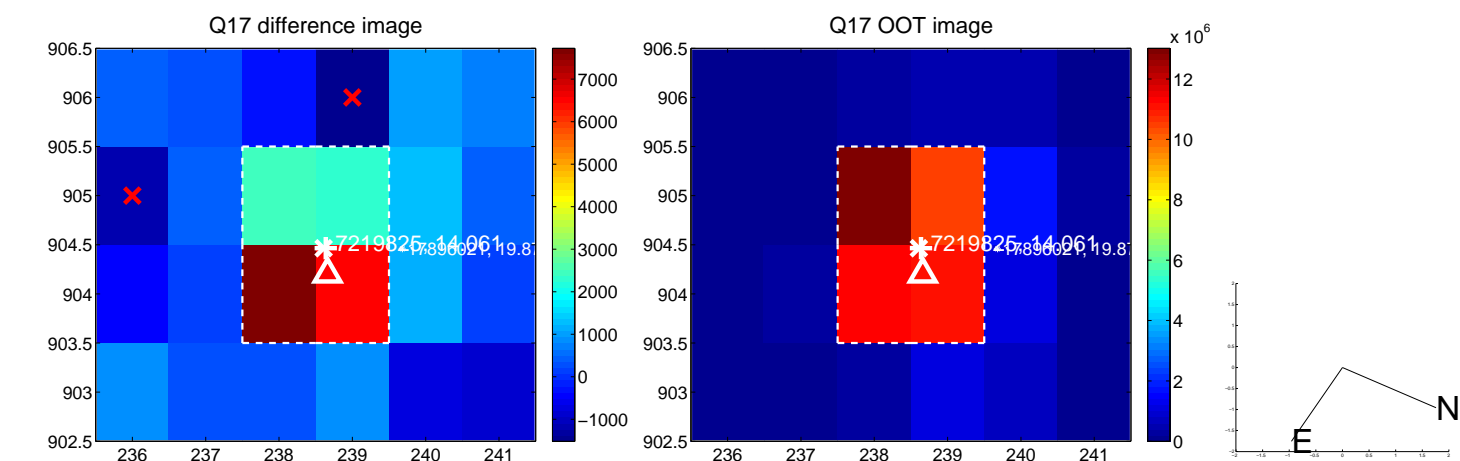
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



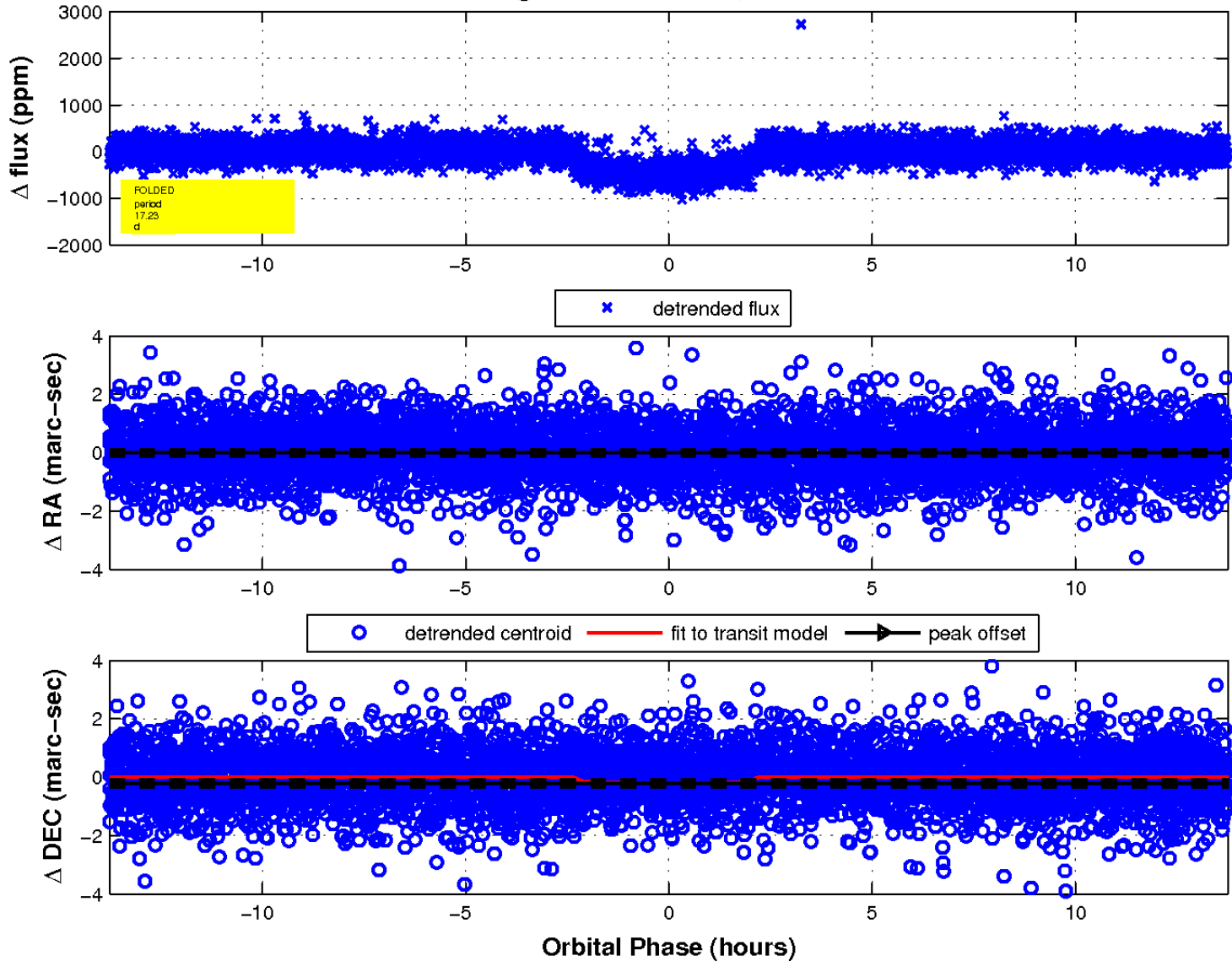
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

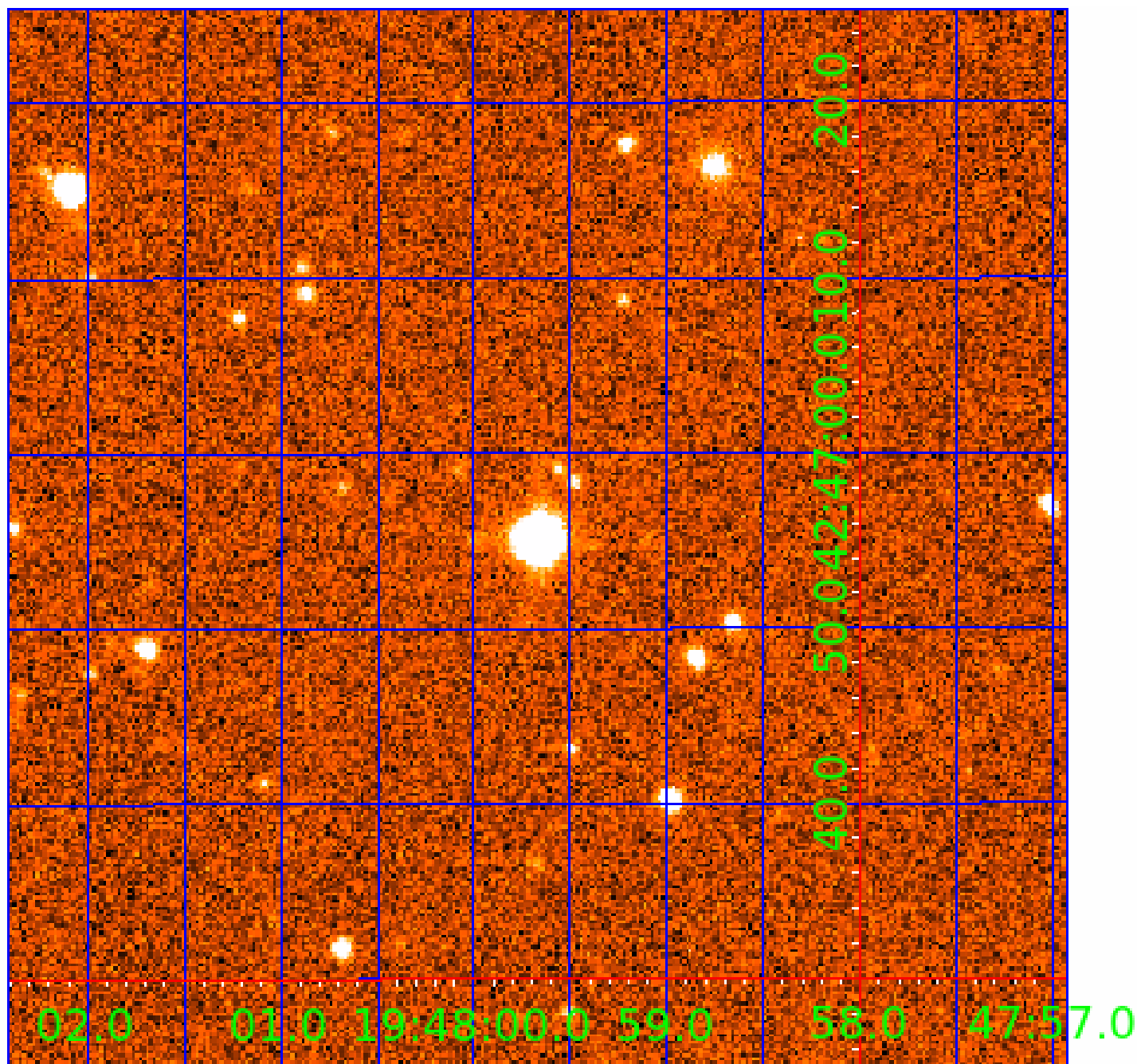


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 007219825

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})
007219825-01	OBS	0238.01	17.232318	135.092065	511.0	4.587	54.0	59.5	1.22	6086	2.96	105.61
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007219825-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007219825-02	OBS	PC	0.78	0	0	0	0	CENT_FEW_DIFFS
007219825-03	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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

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

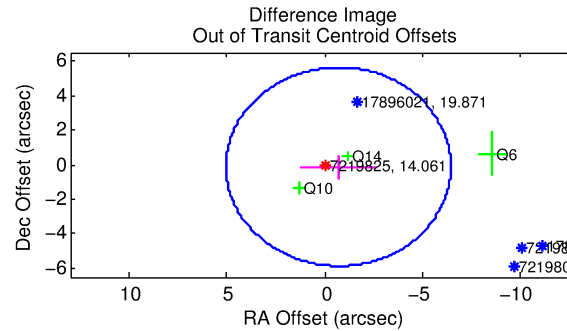
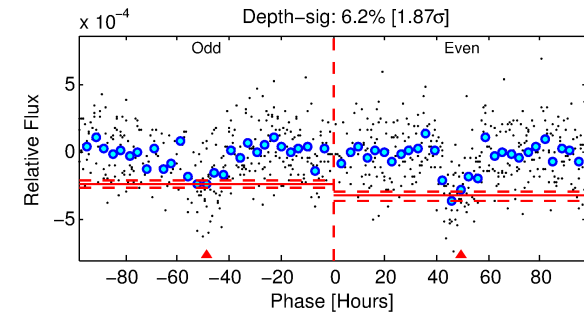
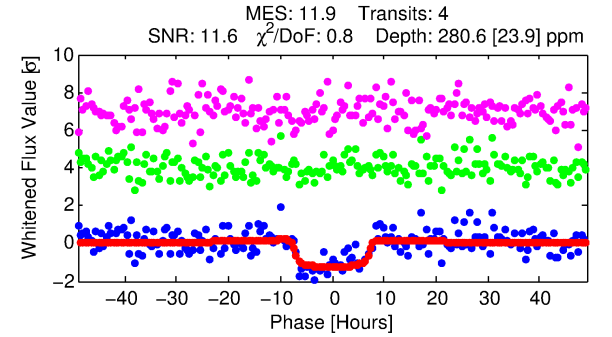
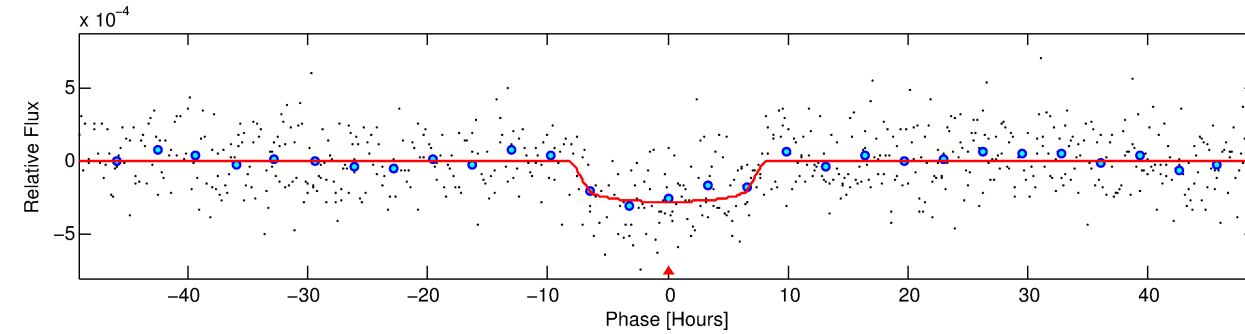
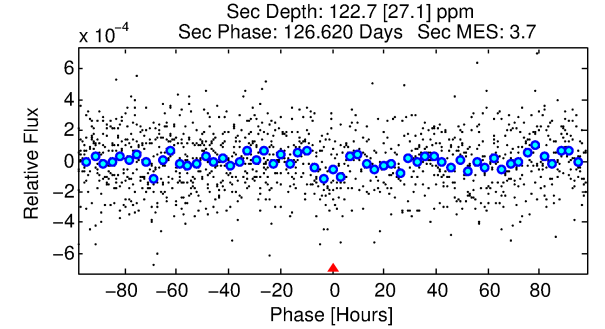
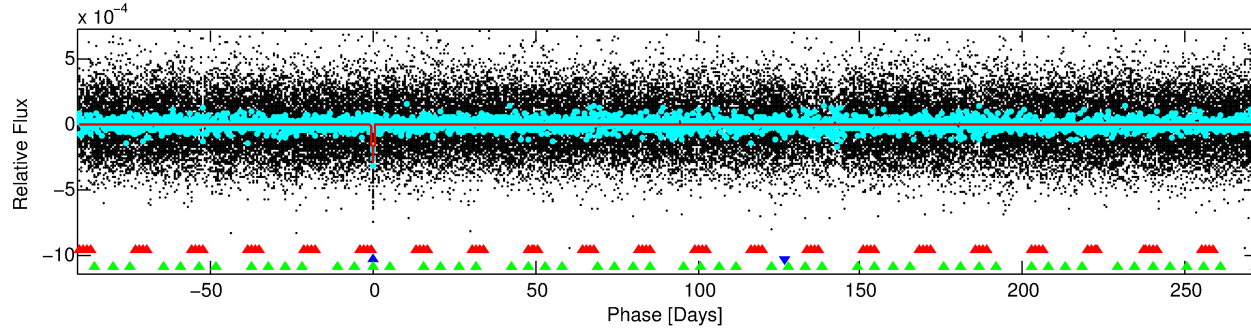
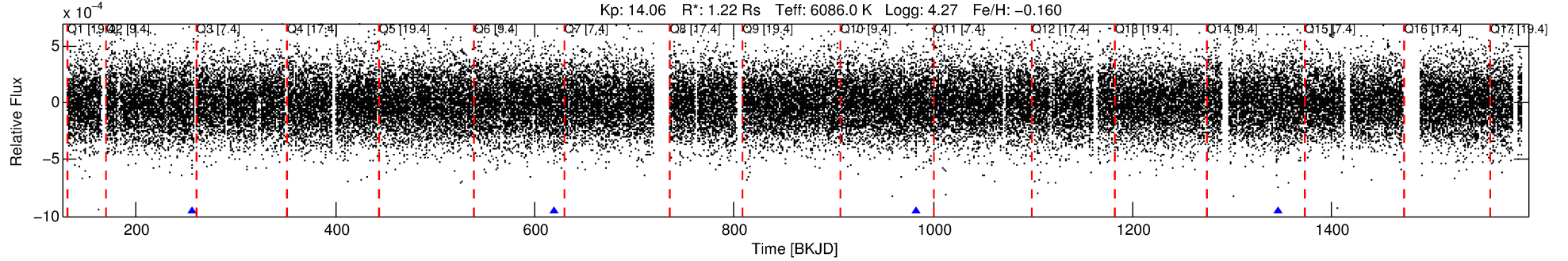
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007219825-02

No Significant Match Found

DV One-Page Summary

KIC: 7219825 Candidate: 2 of 3 Period: 363.008 d
KOI: K00238.03 Corr: 0.837



DV Fit Results:

Period = 363.00758 [0.01271] d
Epoch = 256.4635 [0.0262] BKJD
Rp/R* = 0.0184 [0.0018]
a/R* = 73.86 [32.93]
b = 0.92 [0.08]
Seff = 1.82 [0.46]
Teq = 296 [19] K
Rp = 2.44 [0.47] Re
a = 1.0006 [0.1516] AU
Ag = 11309.90 [4269.12] [2.65σ]
Teffp = 4719 [362] K [12.21σ]

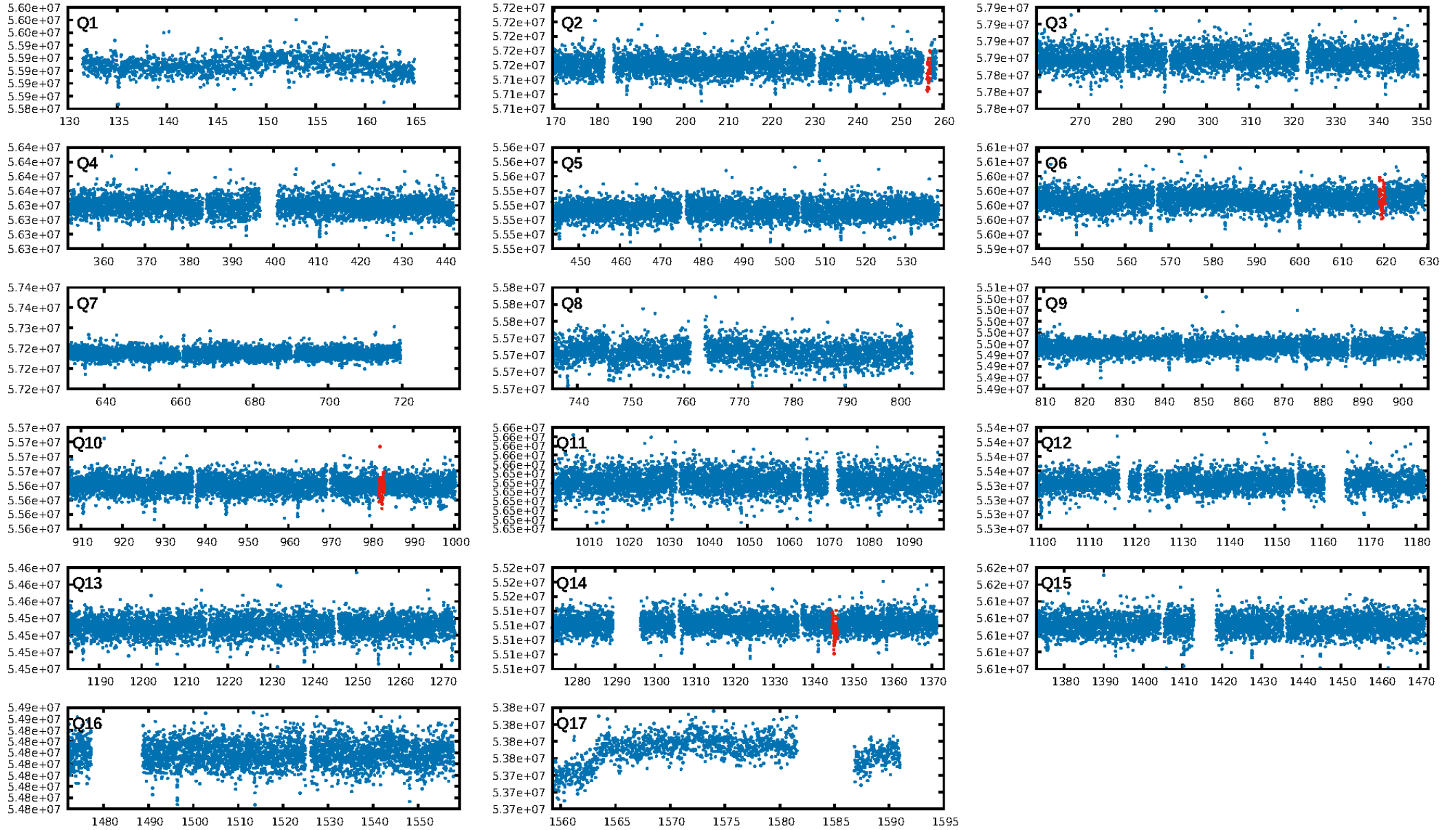
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [474.21σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 28.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.33e-37
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.55
Centroid-sig: 58.6%
Centroid-so: 0.858 arcsec [0.61σ]
OotOffset-rm: 0.714 arcsec [0.37σ]
KicOffset-rm: 0.780 arcsec [0.34σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-st: 3/0/0/0 [3]
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DiffImageOverlap-fno: 0.67 [2/3]

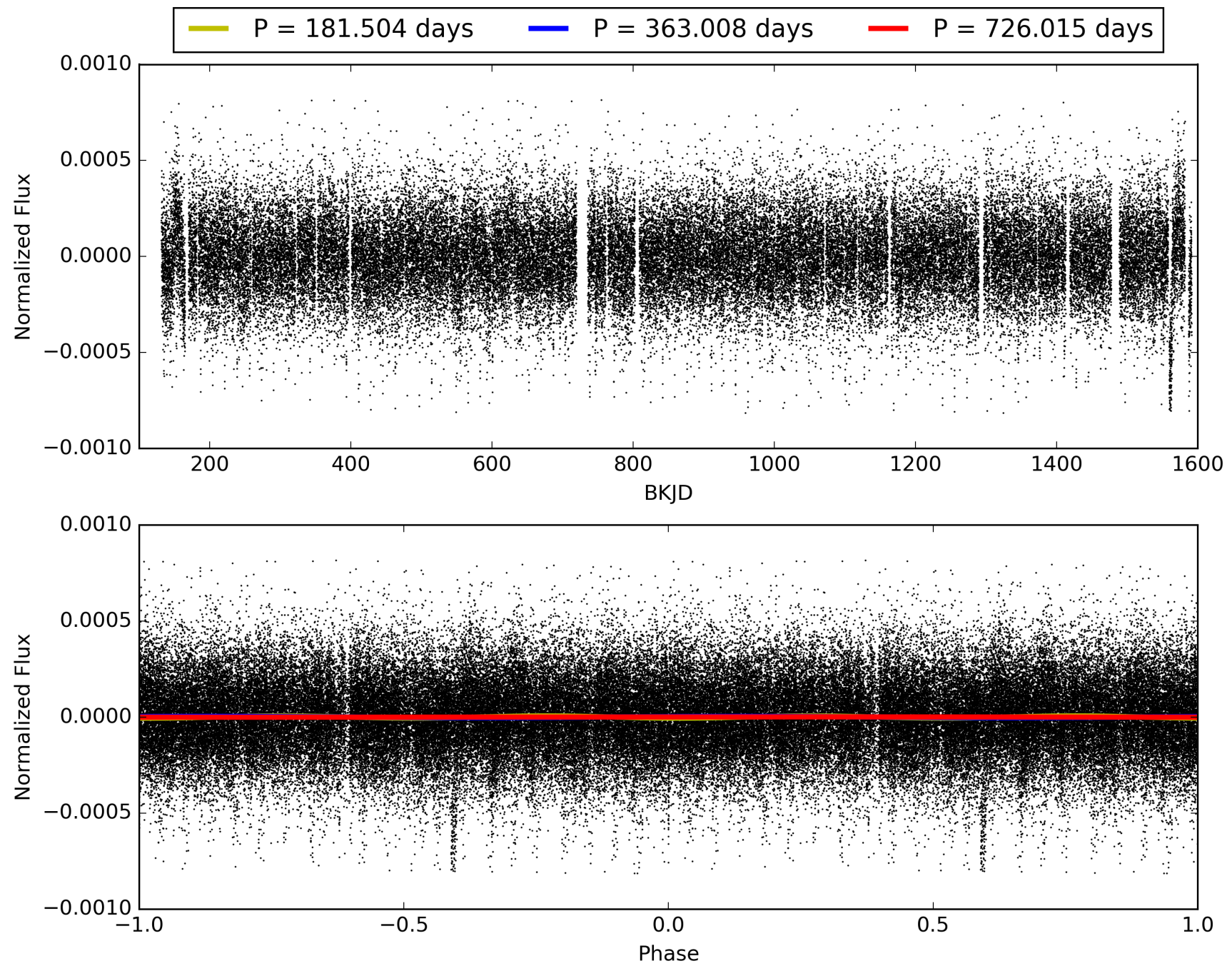
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:22:52 Z

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

TCE 007219825-02, PDC Light Curves

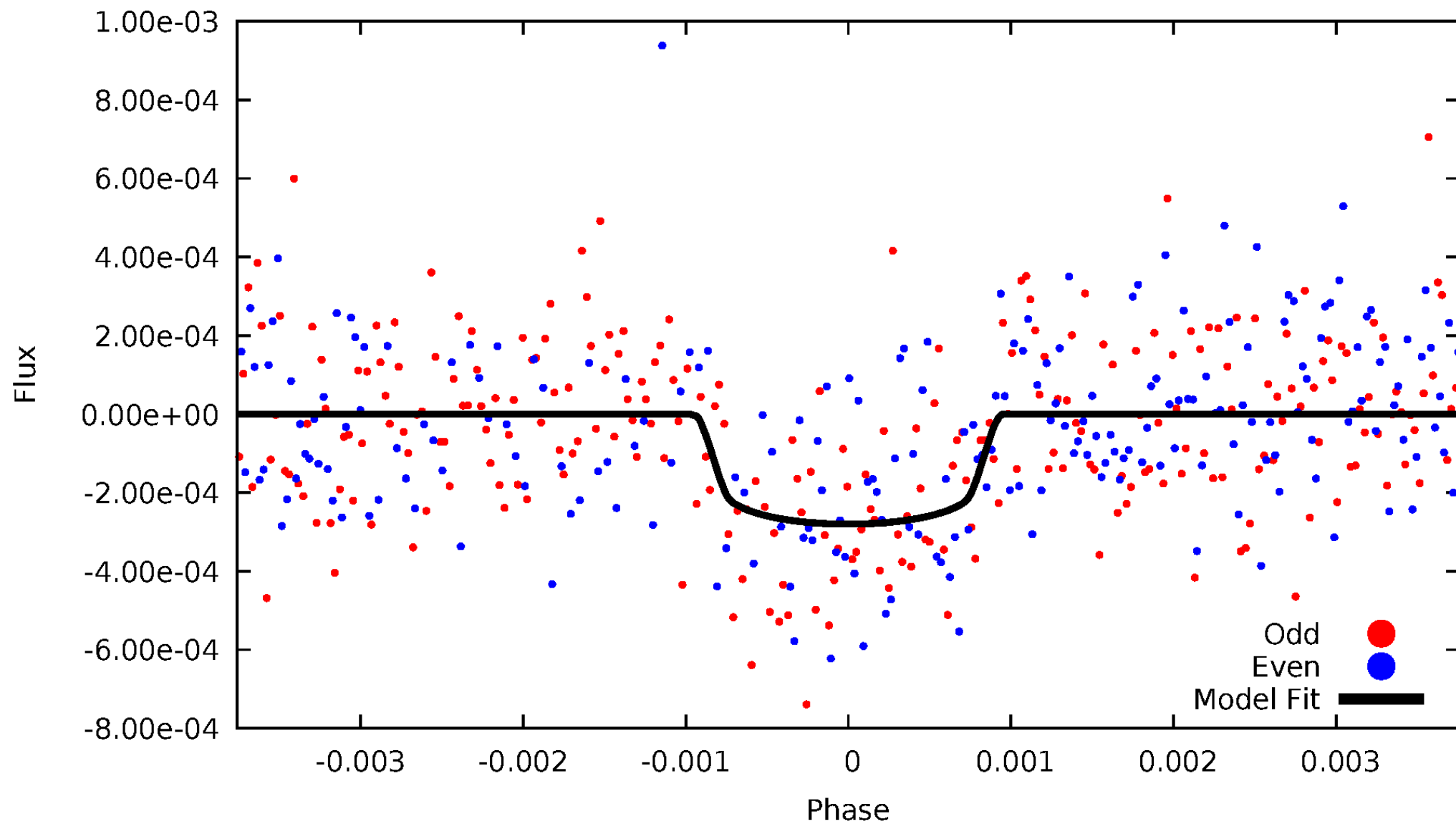


TCE 007219825-02



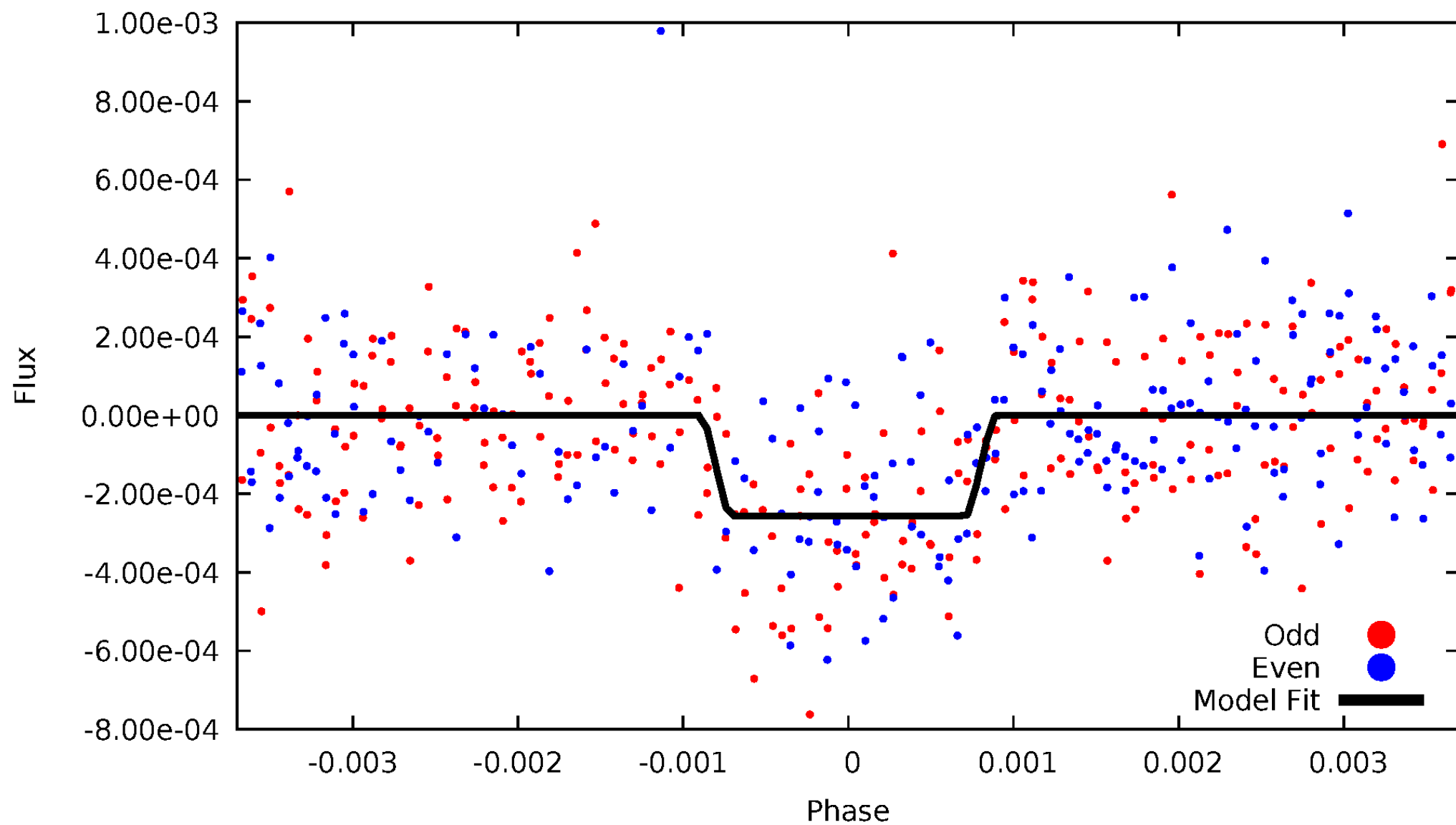
DV Odd/Even

TCE 007219825-02



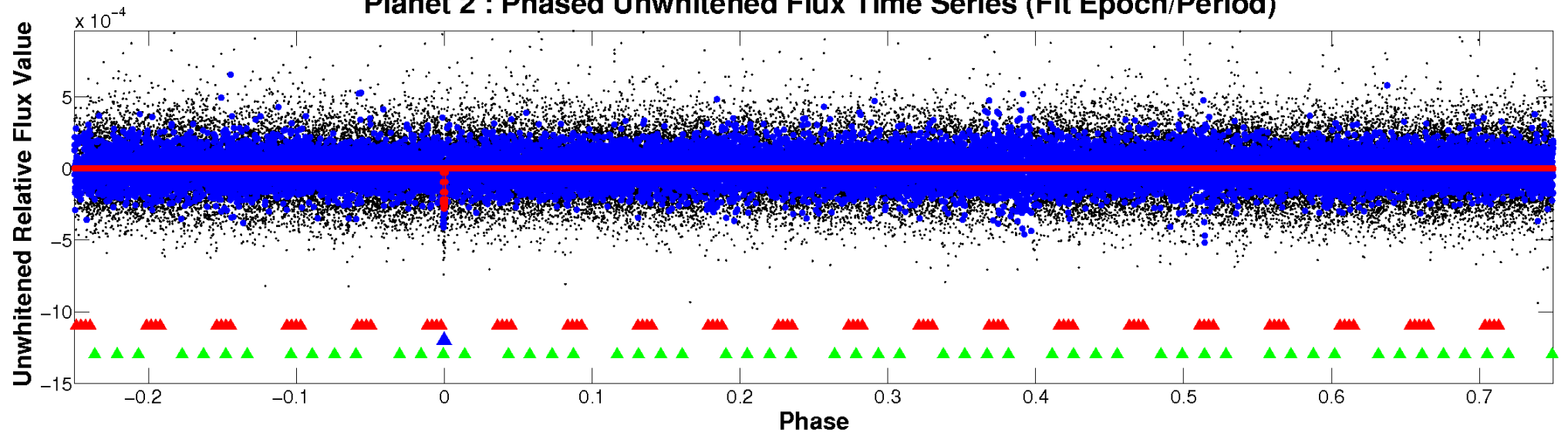
ALT Odd/Even

TCE 007219825-02

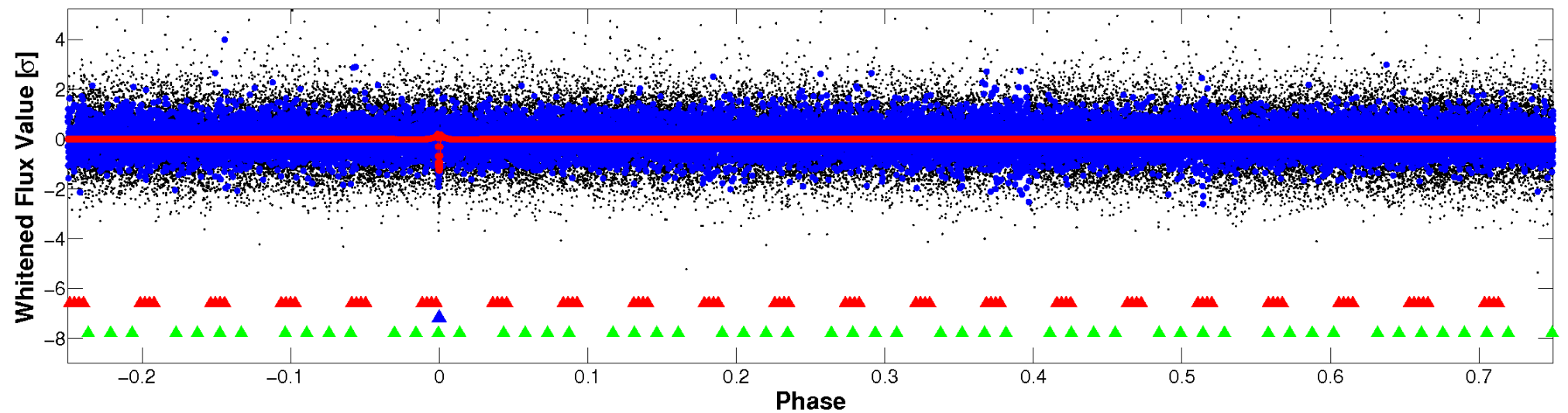


Non-Whitened Vs. Whitened Light Curve

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

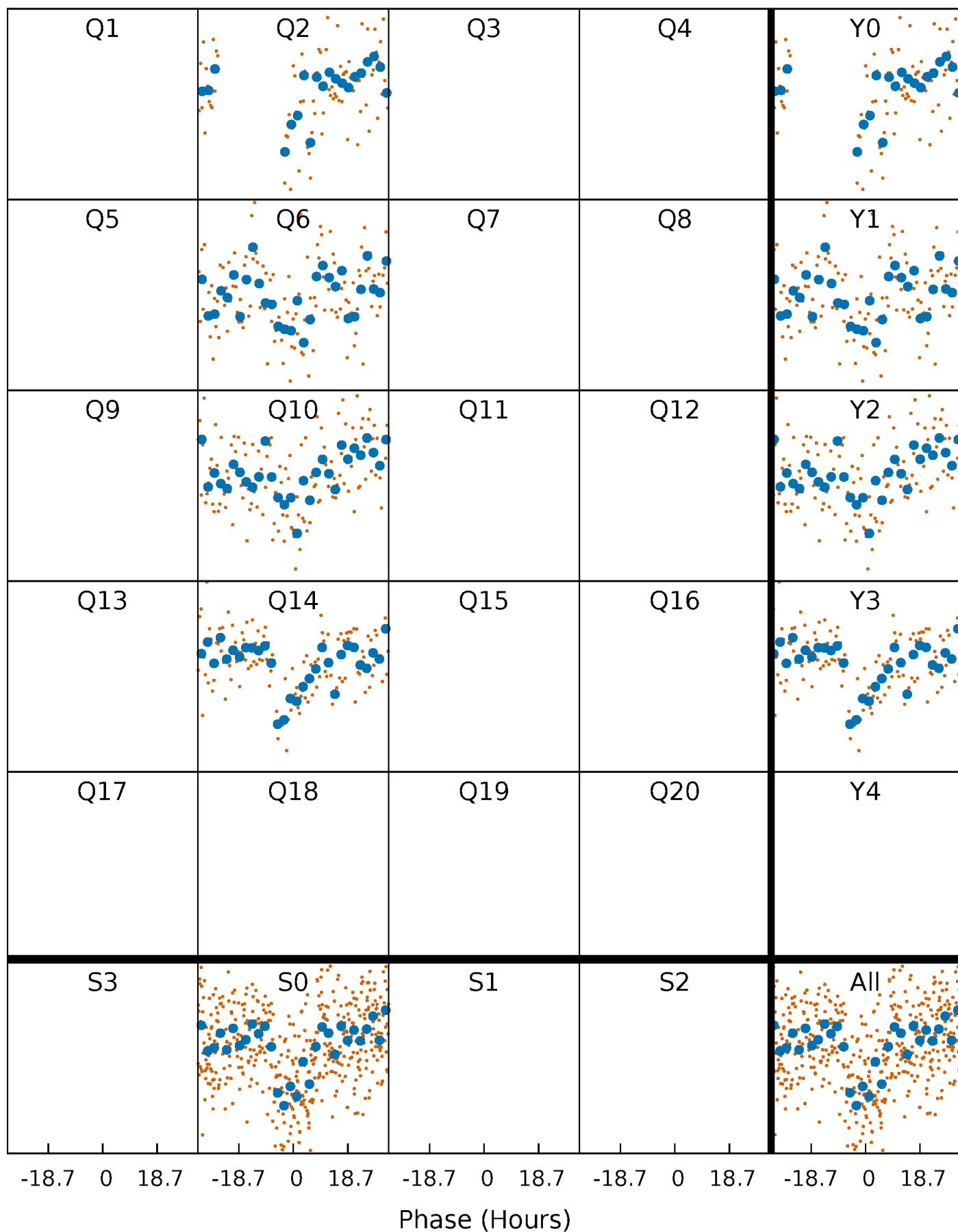


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



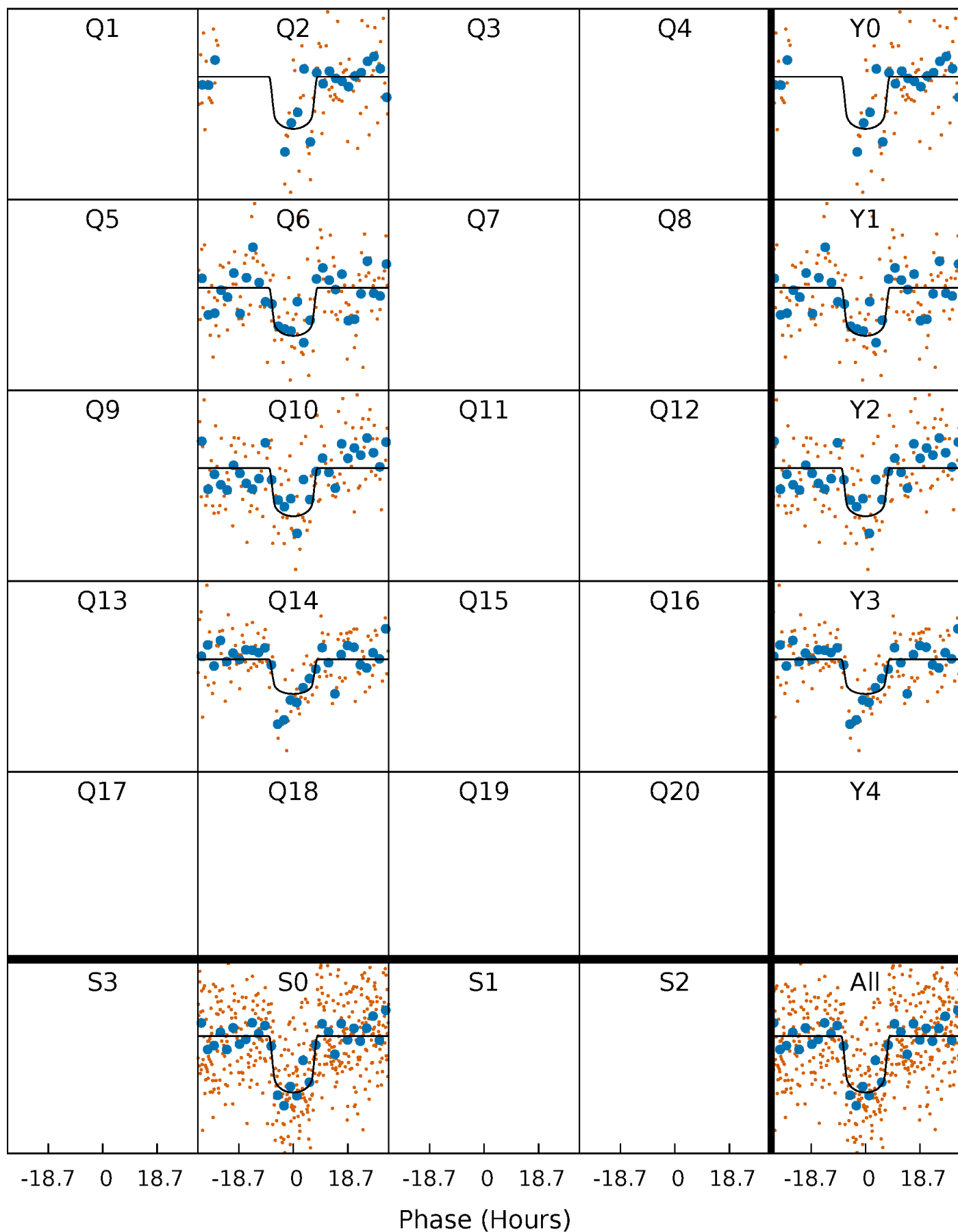
PDC Quarter-Phased Transit Curves

TCE 007219825-02 P=363.007582 Days $T_0=256.463493$ (BKJD)



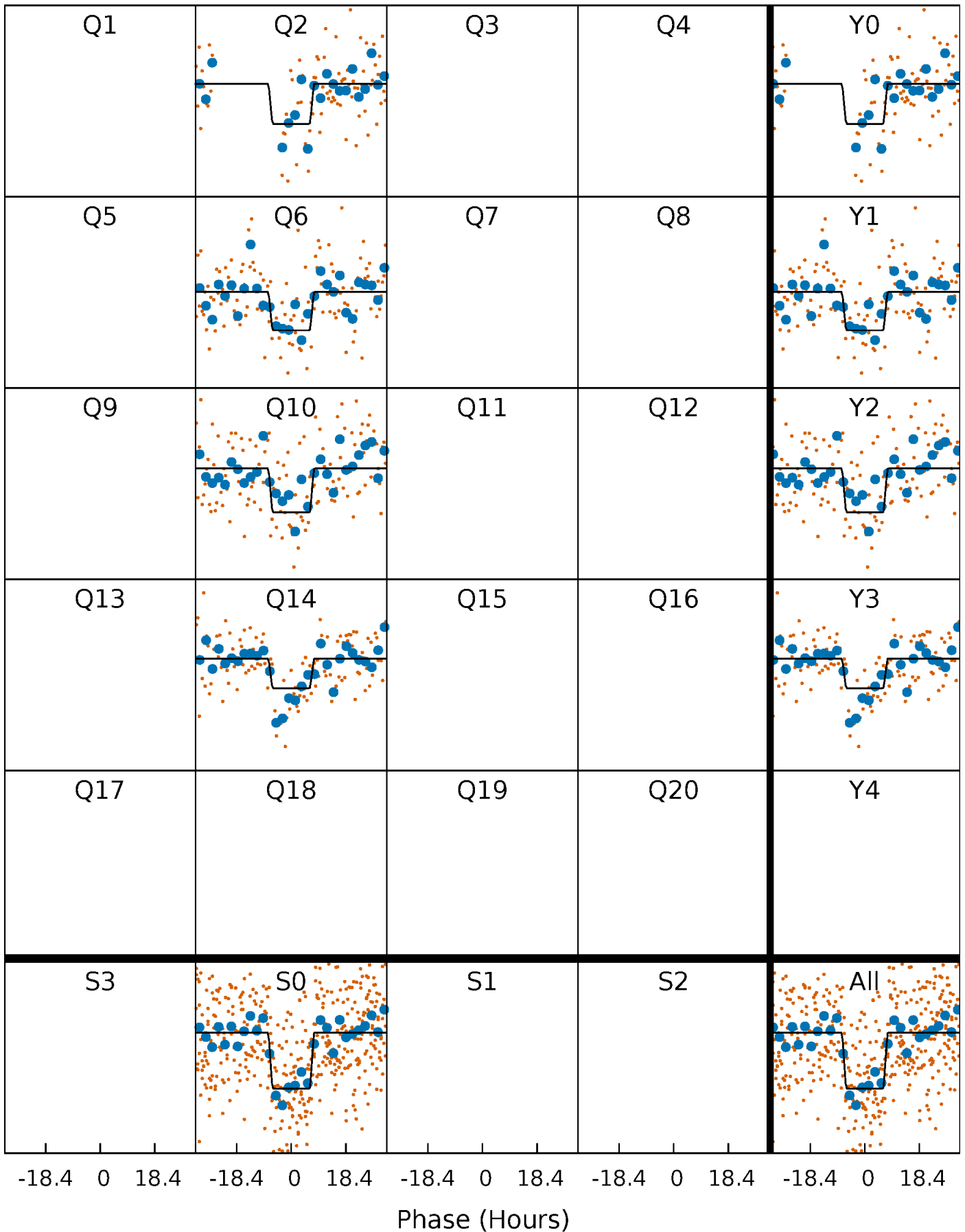
DV Quarter-Phased Transit Curves

TCE 007219825-02 P=363.007582 Days $T_0=256.463493$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

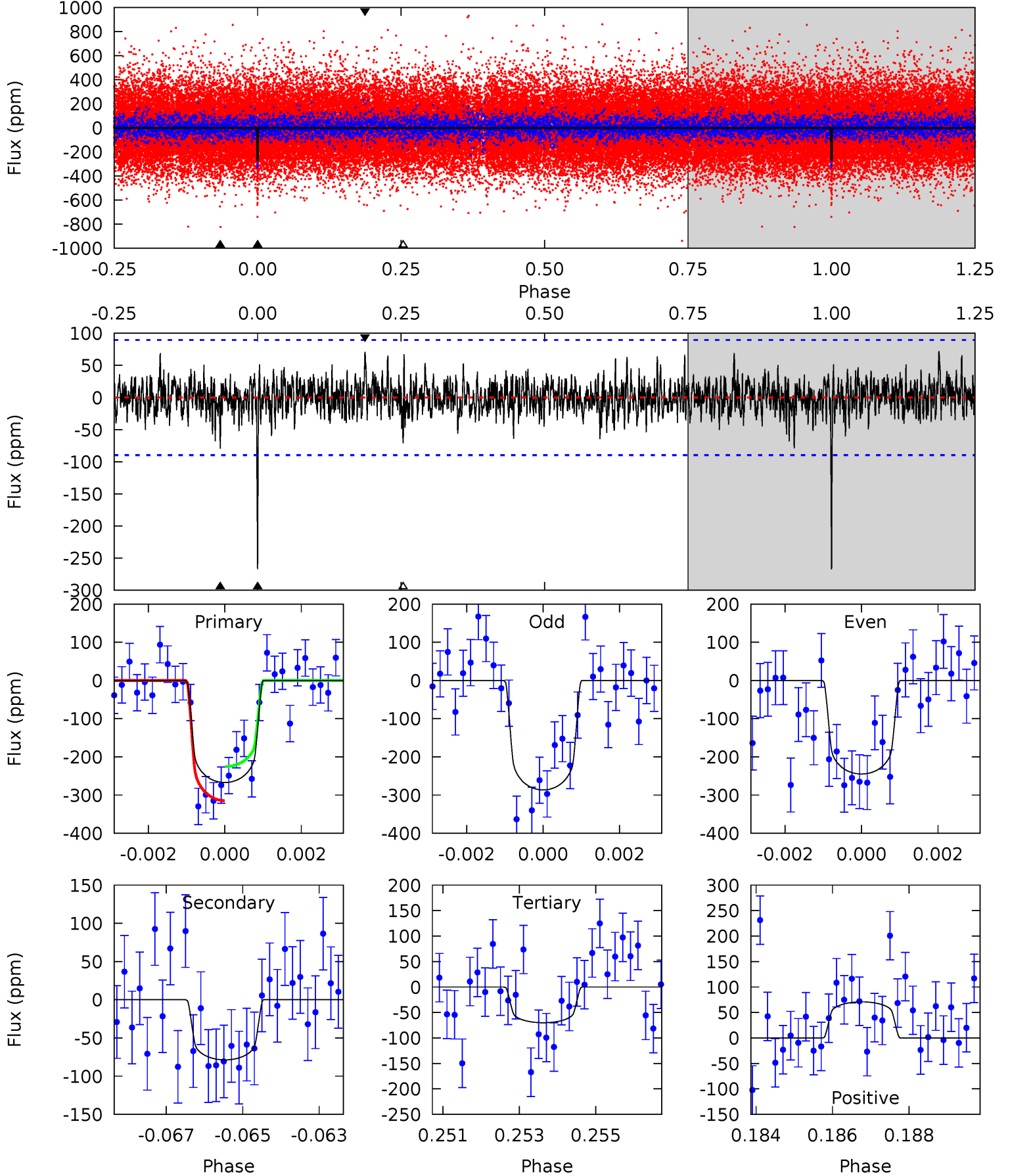
TCE 007219825-02 P=363.002193 Days $T_0=256.470705$ (BKJD)



DV Model-Shift Uniqueness Test

007219825-02, $P = 363.007582$ Days, $E = 256.463493$ Days

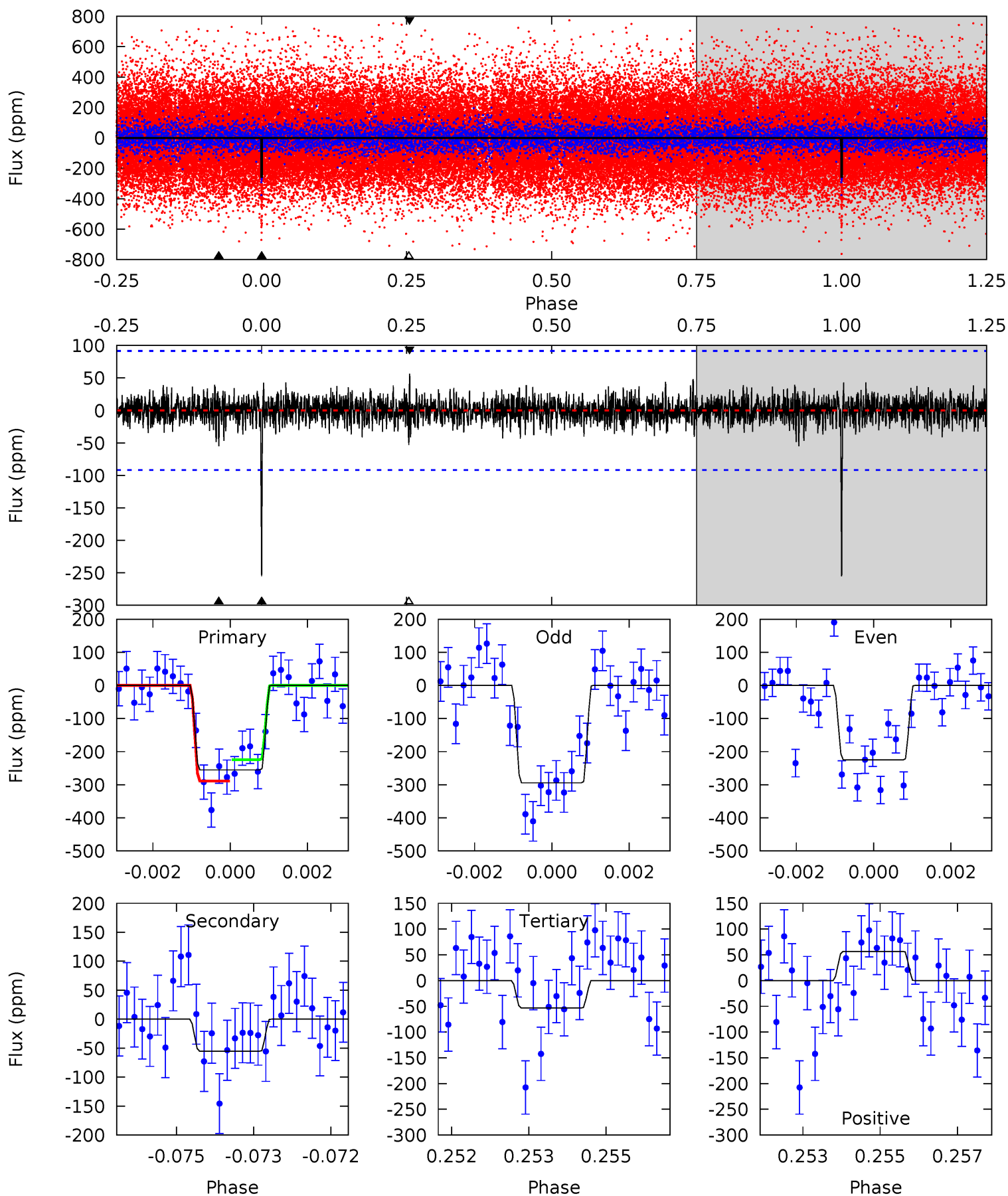
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.9	4.69	4.17	4.22	5.34	3.11	1.17	11.7	11.7	0.51	0.47	1.24	1.08	0.21	2.65



Alt Model-Shift Uniqueness Test

007219825-02, P = 363.002193 Days, E = 256.470705 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	3.22	3.11	3.31	5.35	3.13	0.79	11.8	11.6	0.11	-0.09	2.01	1.09	0.18	1.88



Stellar Parameters For KIC 007219825

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6086^{+133}_{-133}	$4.274^{+0.137}_{-0.112}$	$-0.160^{+0.200}_{-0.150}$	$1.216^{+0.199}_{-0.179}$	$1.013^{+0.096}_{-0.064}$	$0.793^{+0.503}_{-0.262}$
	+2%/-2%	+3%/-3%	+125%/-94%	+16%/-15%	+9%/-6%	+63%/-33%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 007219825-02 / KOI 0238.03

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-79 ± 17	$2.44^{+0.33}_{-0.33}$	412^{+19}_{-20}	4420^{+253}_{-254}	7363^{+2687}_{-2152}
Alt.	-55 ± 17	$2.12^{+0.32}_{-0.29}$	412^{+23}_{-20}	4364^{+324}_{-337}	6764^{+3362}_{-2526}

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 $A_{obs} \gg 1.0$

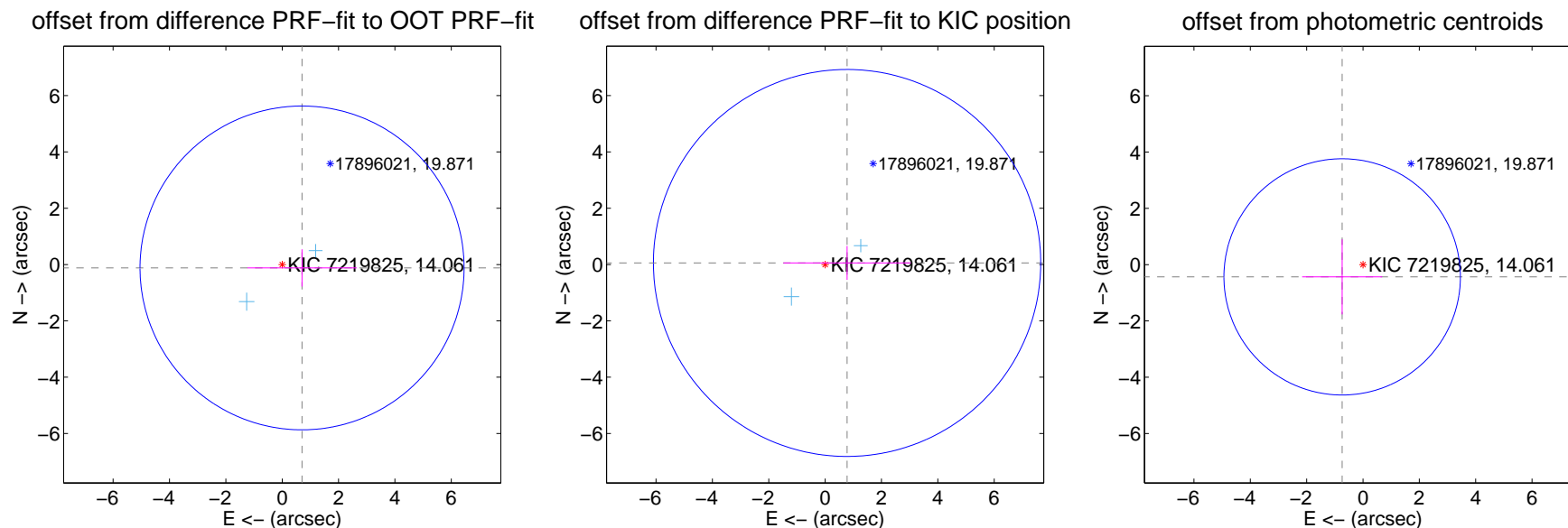
DV Centroid Data

Supplemental centroid analysis for 007219825-02. Kepler magnitude: 14.06. Transit SNR 11.62

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.714 ± 1.916	0.37	-0.704 ± 1.940	-0.120 ± 0.662
PRF-fit source offset from KIC position	0.780 ± 2.290	0.34	-0.778 ± 2.258	0.056 ± 0.603
photometric centroid source offset	0.86 ± 1.40	0.61	0.74 ± 1.42	-0.44 ± 1.33

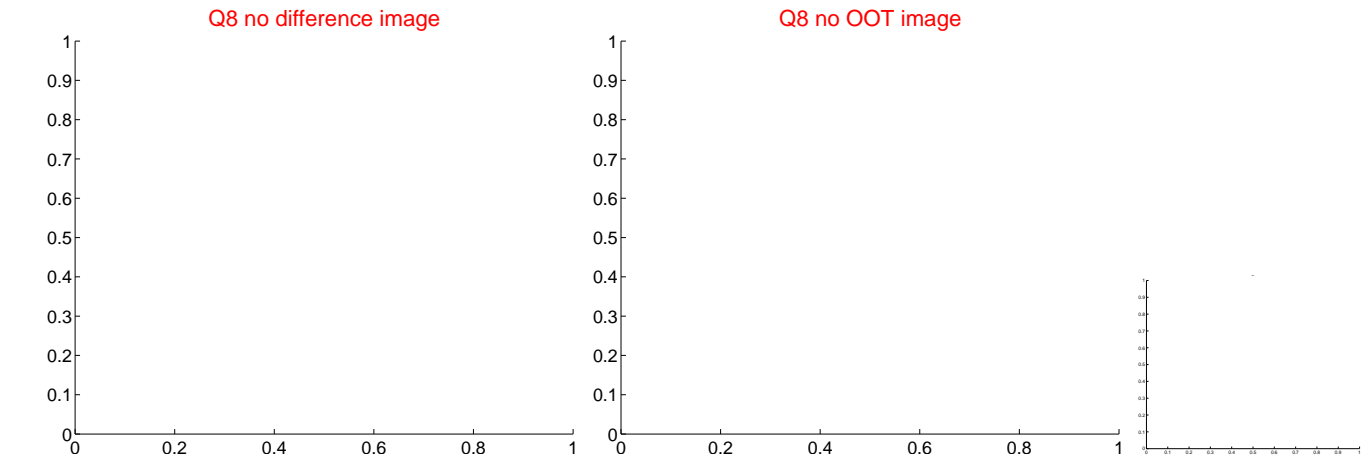
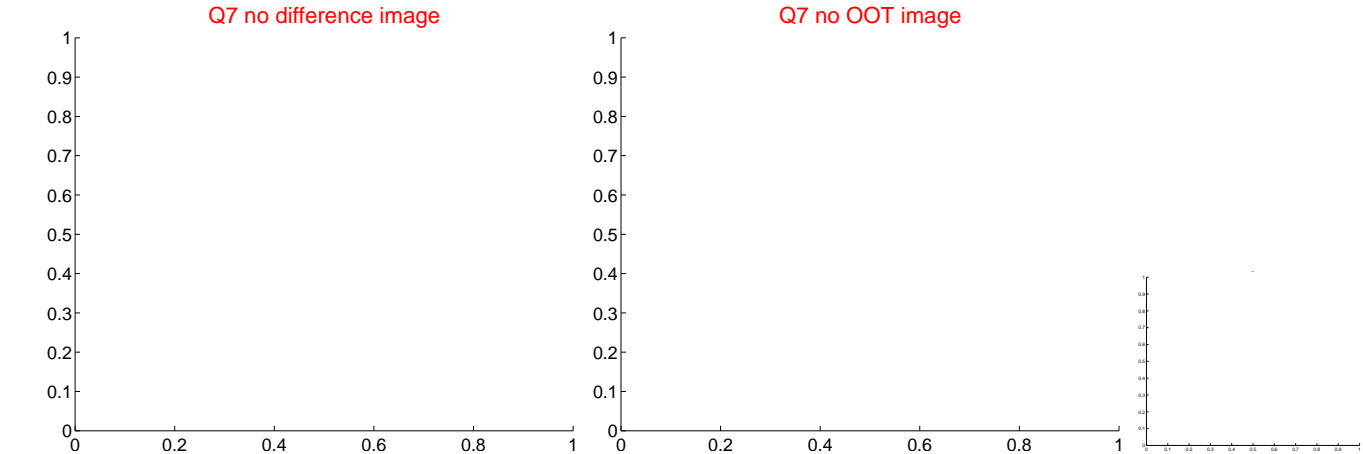
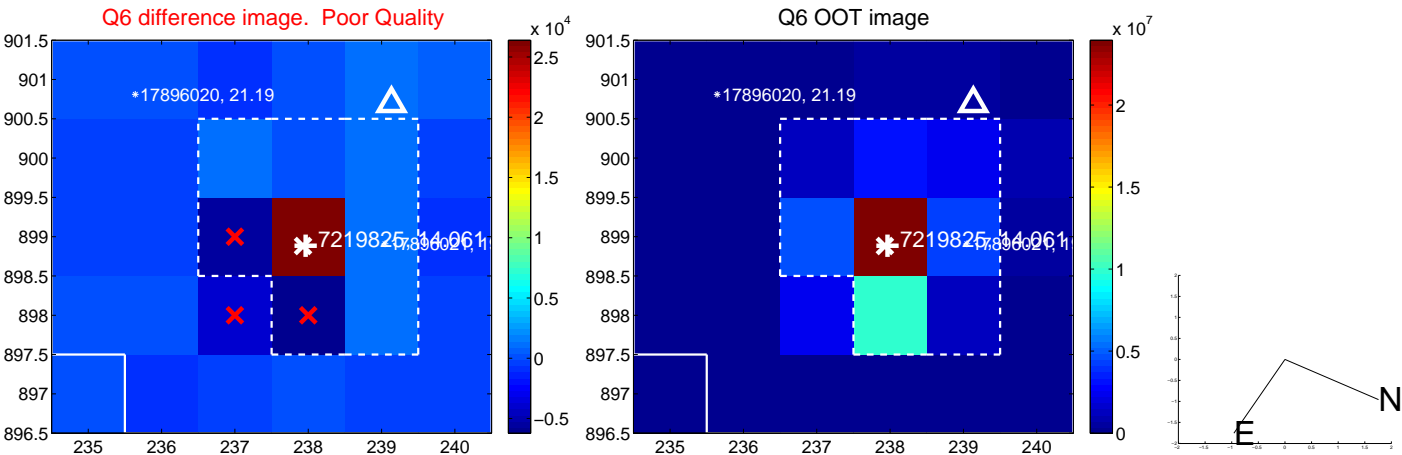
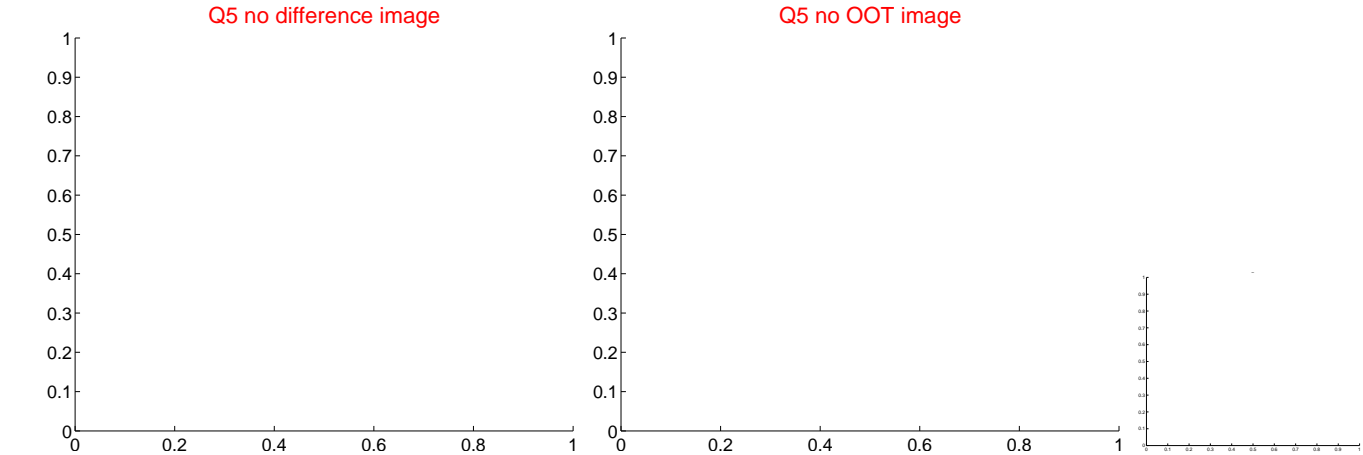


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

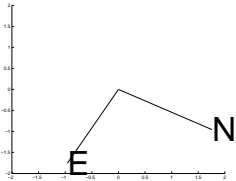
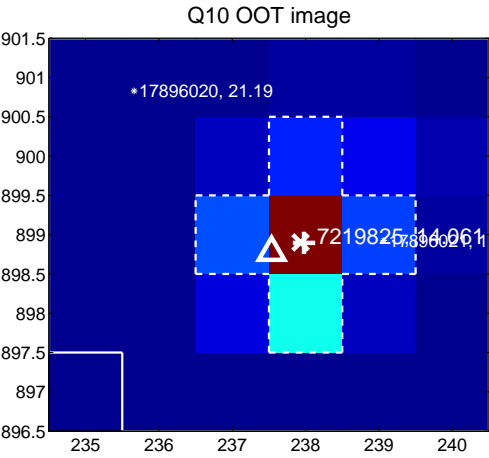
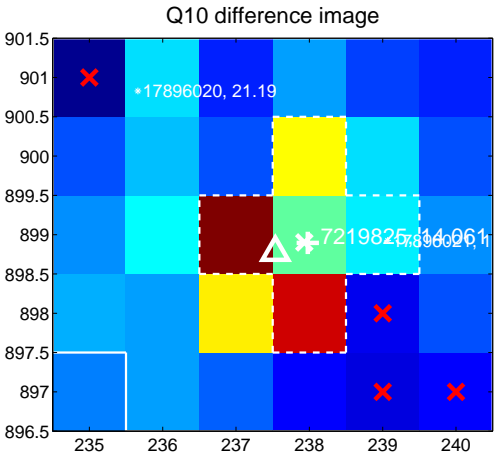


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

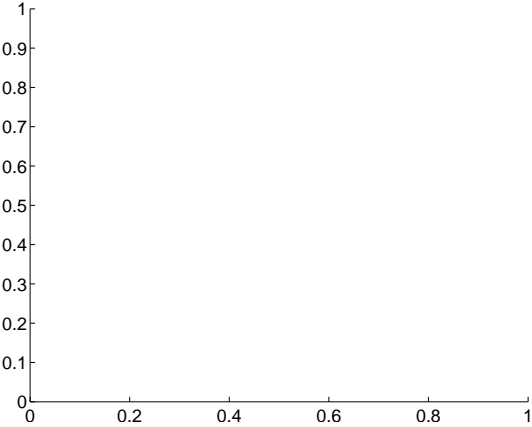
Q9 no difference image



Q9 no OOT image



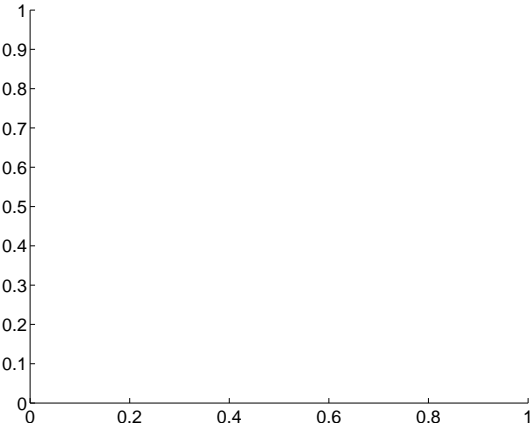
Q11 no difference image



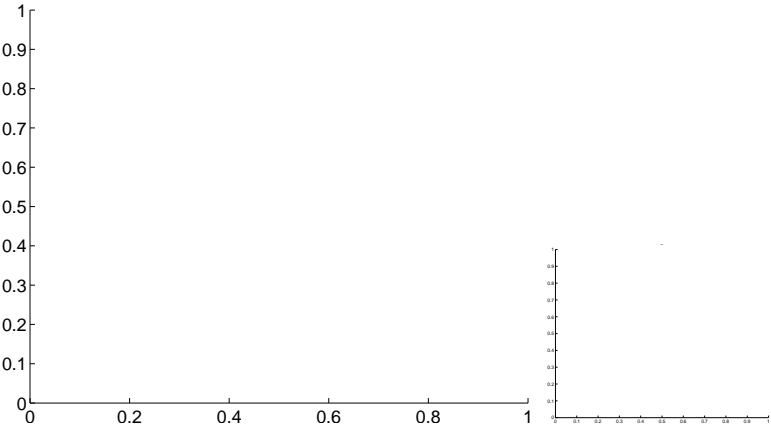
Q11 no OOT image



Q12 no difference image



Q12 no OOT image



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

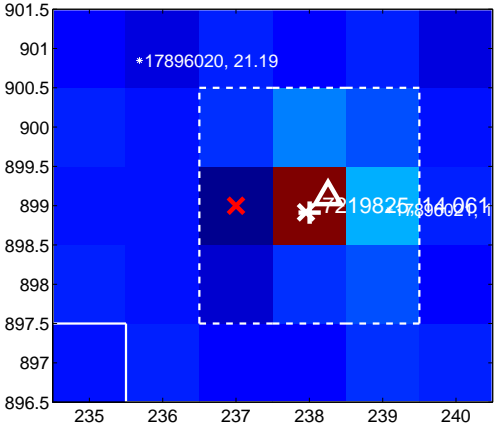
Q13 no difference image



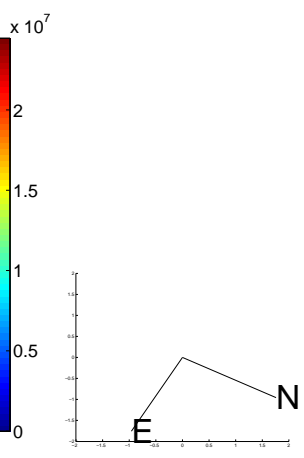
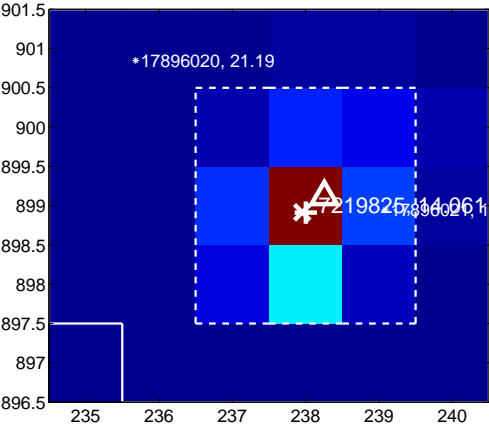
Q13 no OOT image



Q14 difference image



Q14 OOT image



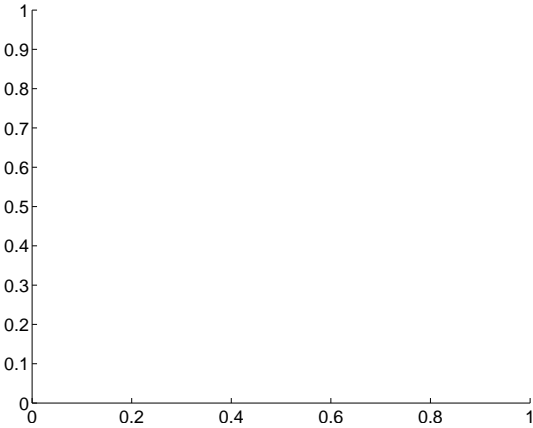
Q15 no difference image



Q15 no OOT image



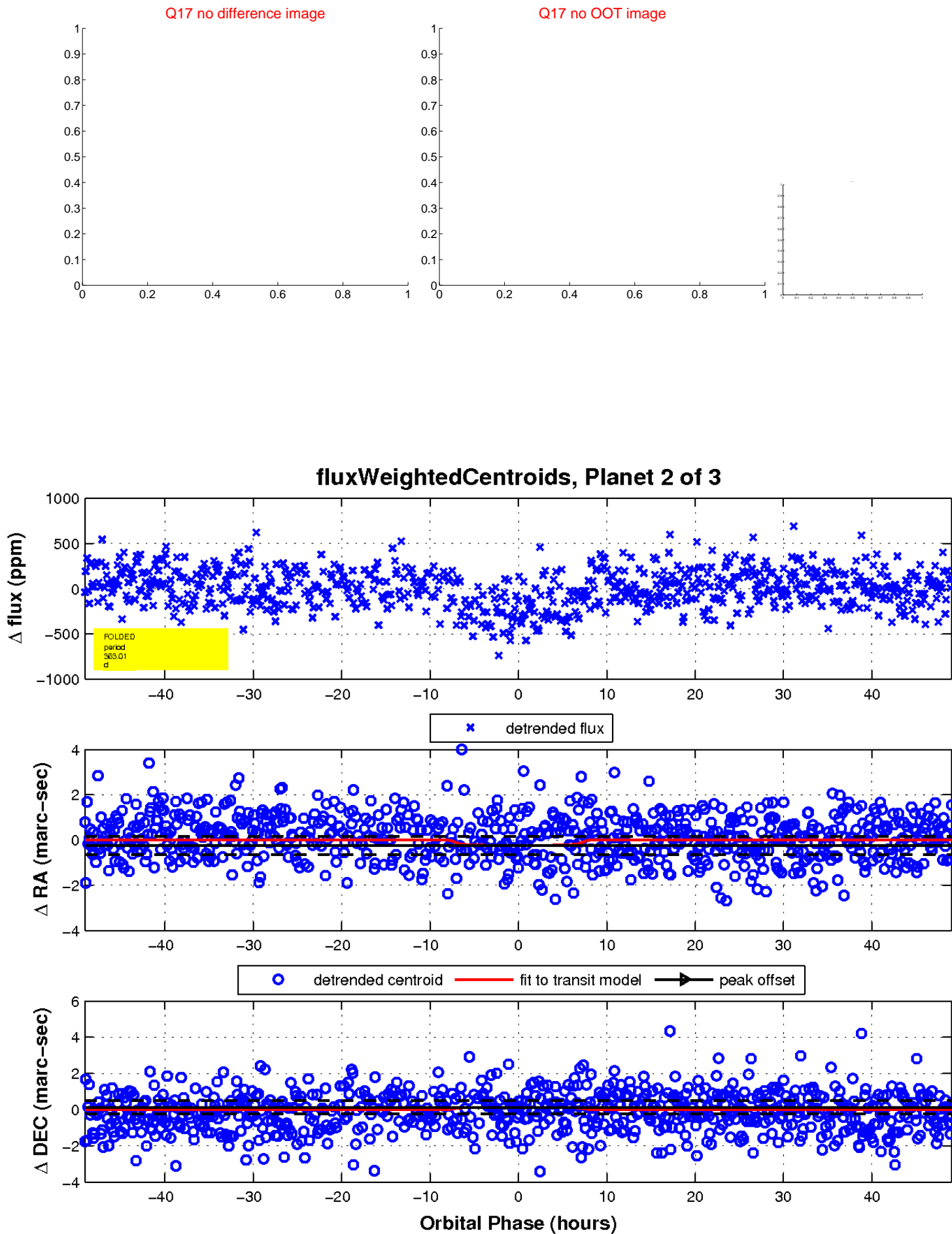
Q16 no difference image



Q16 no OOT image

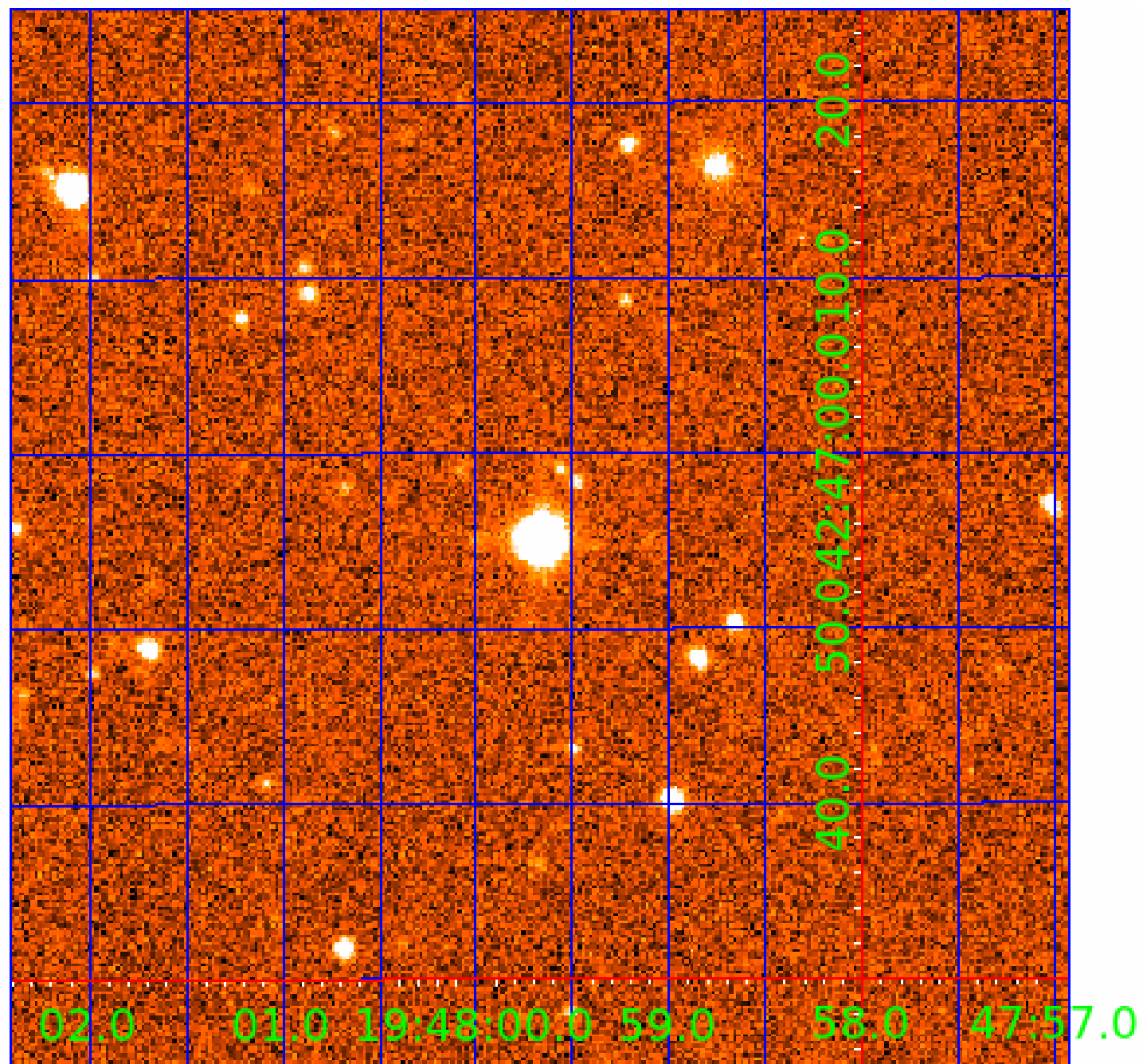


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007219825

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})
007219825-01	OBS	0238.01	17.232318	135.092065	511.0	4.587	54.0	59.5	1.22	6086	2.96	105.61
007219825-02	OBS	0238.03	363.007582	256.463493	280.6	16.373	11.9	11.6	1.22	6086	2.44	1.81
007219825-03	OBS	0238.02	26.695169	143.999425	118.3	4.651	10.9	10.7	1.22	6086	1.51	58.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007219825-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007219825-02	OBS	PC	0.78	0	0	0	0	CENT_FEW_DIFFS
007219825-03	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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

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

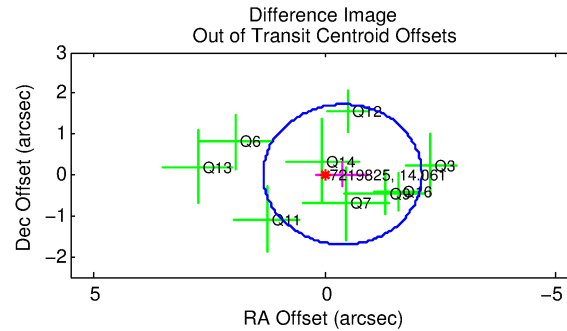
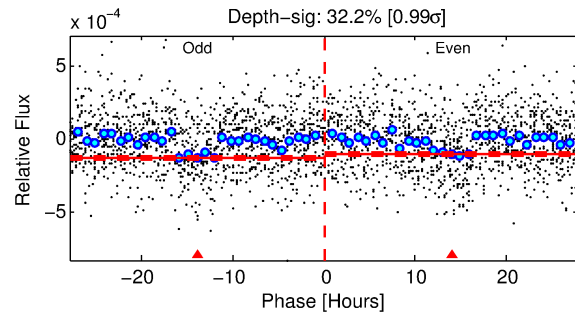
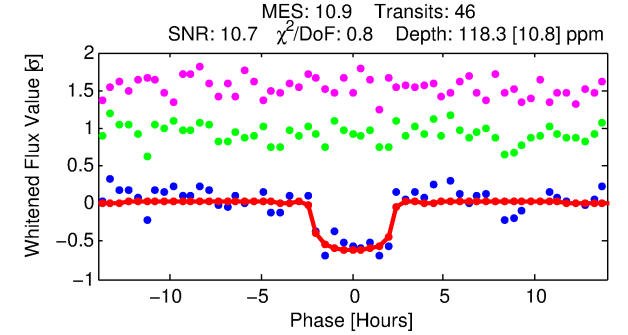
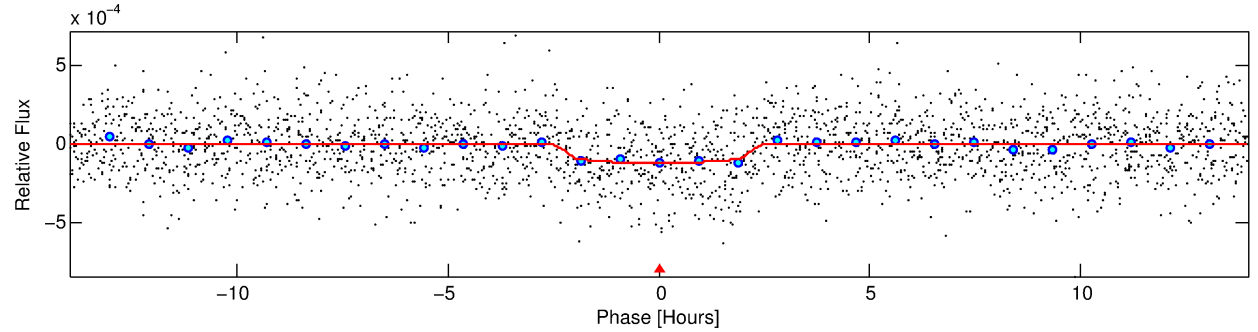
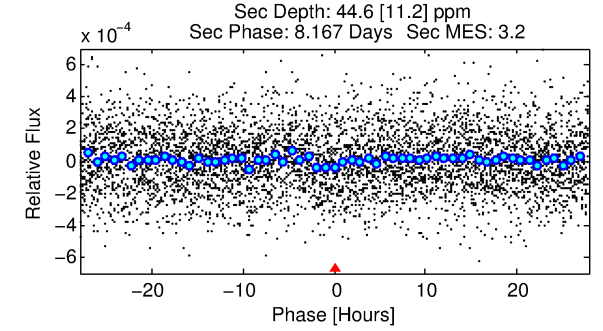
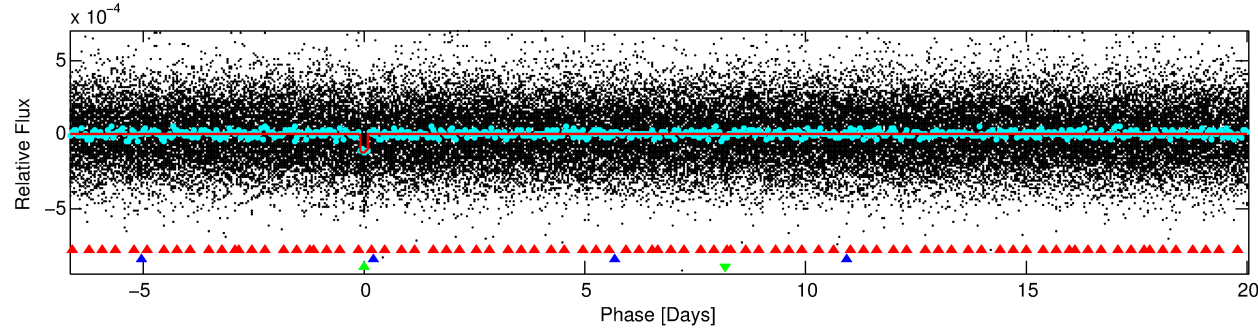
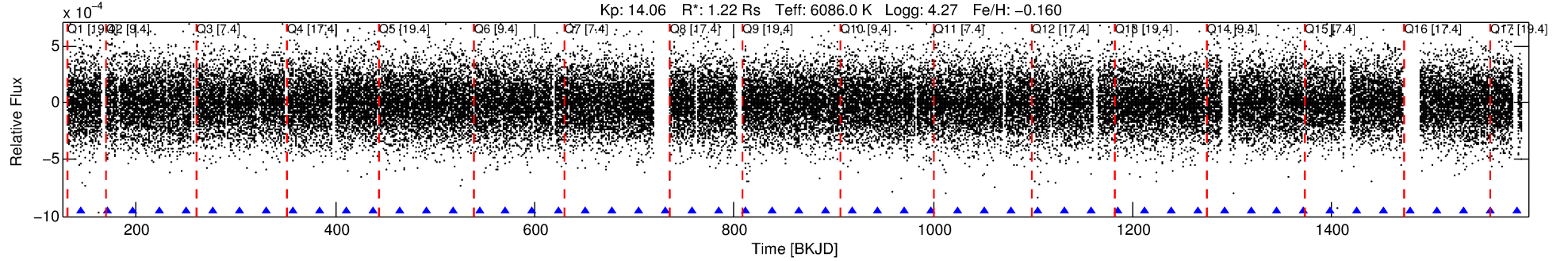
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007219825-03

No Significant Match Found

DV One-Page Summary

KIC: 7219825 Candidate: 3 of 3 Period: 26.695 d
KOI: K00238.02 Name: Kepler-123c Corr: 0.985



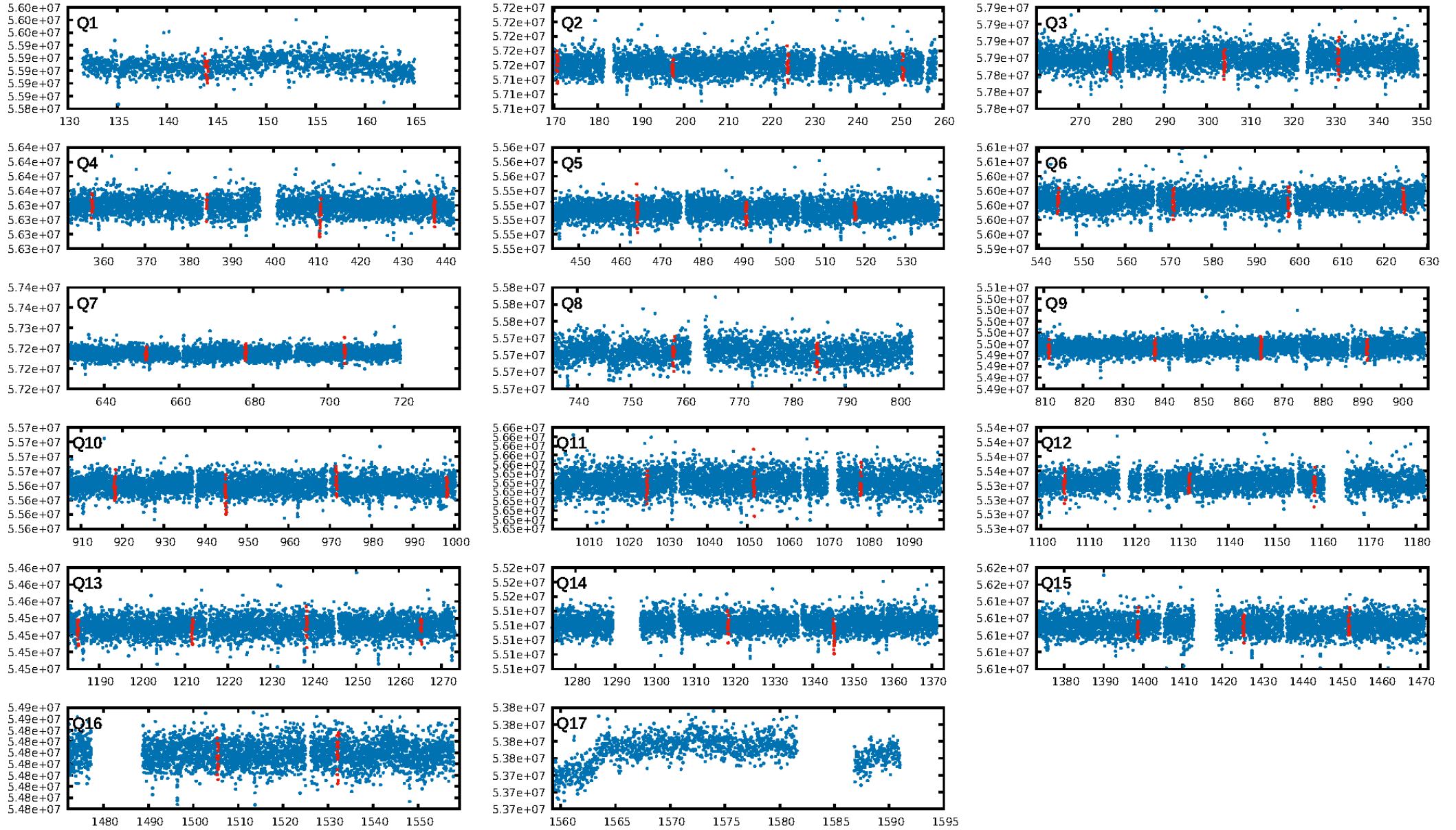
DV Fit Results:

Period = 26.69517 [0.00030] d
Epoch = 143.9994 [0.0089] BKJD
Rp/R* = 0.0113 [0.0072]
a/R* = 23.73 [77.77]
b = 0.85 [1.05]
Seff = 58.92 [14.88]
Teff = 706 [45] K
Rp = 1.51 [0.98] Re
a = 0.1756 [0.0266] AU
Ag = 333.78 [436.81] [0.76σ]
Teffp = 4669 [1506] K [2.63σ]

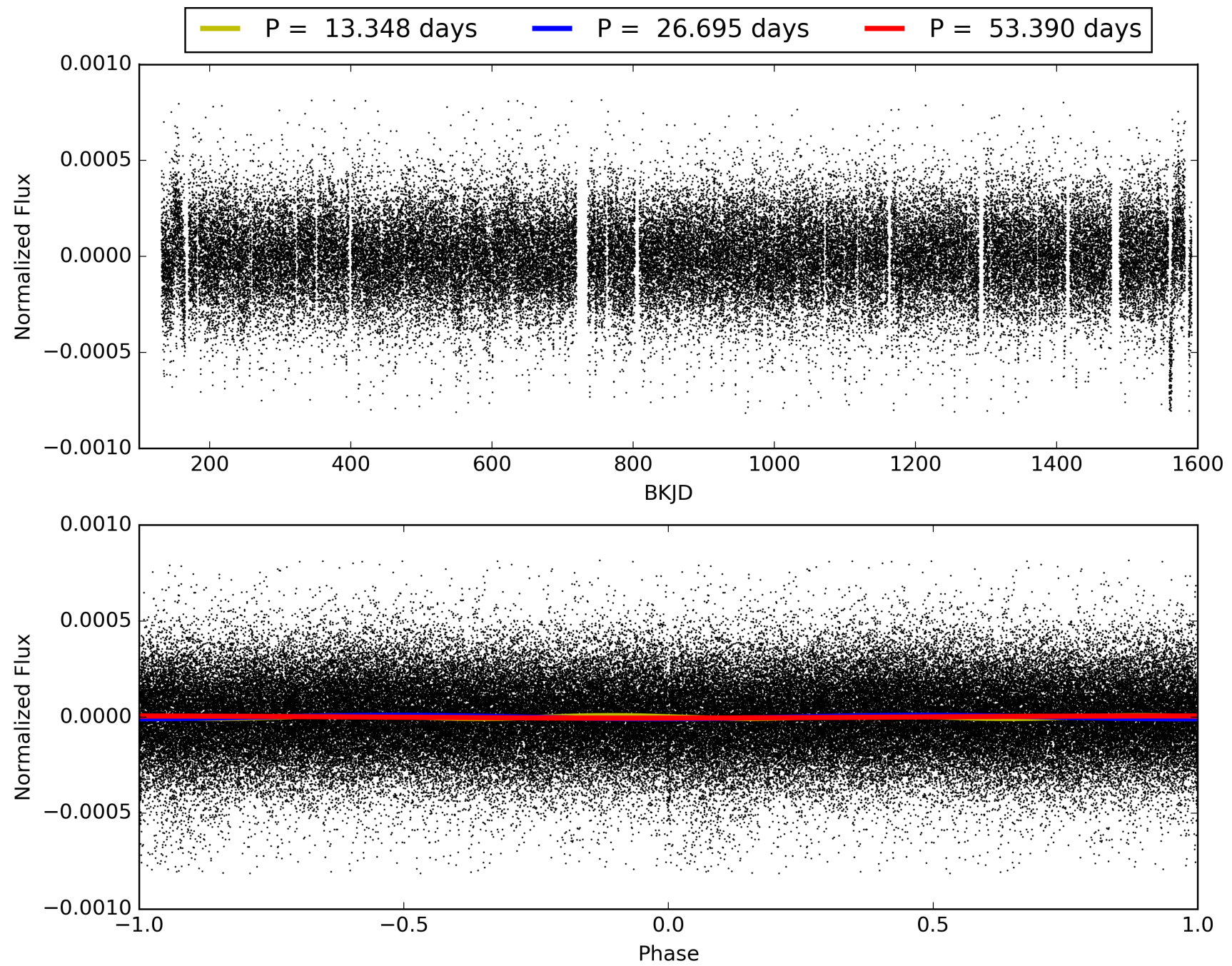
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [34.77σ]
LongPeriod-sig: 100.0% [474.21σ]
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.02e-27
RollingBand-fgt: 1.00 [45/45]
GhostDiagnostic-chr: 1.815
Centroid-sig: 62.7%
Centroid-so: 0.914 arcsec [0.80σ]
OotOffset-rm: 0.388 arcsec [0.68σ]
KicOffset-rm: 0.492 arcsec [0.90σ]
OotOffset-st: 2/3/2/2 [9]
KicOffset-st: 2/3/2/2 [9]
DiffImageQuality-fgm: 0.89 [8/9]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 007219825-03, PDC Light Curves

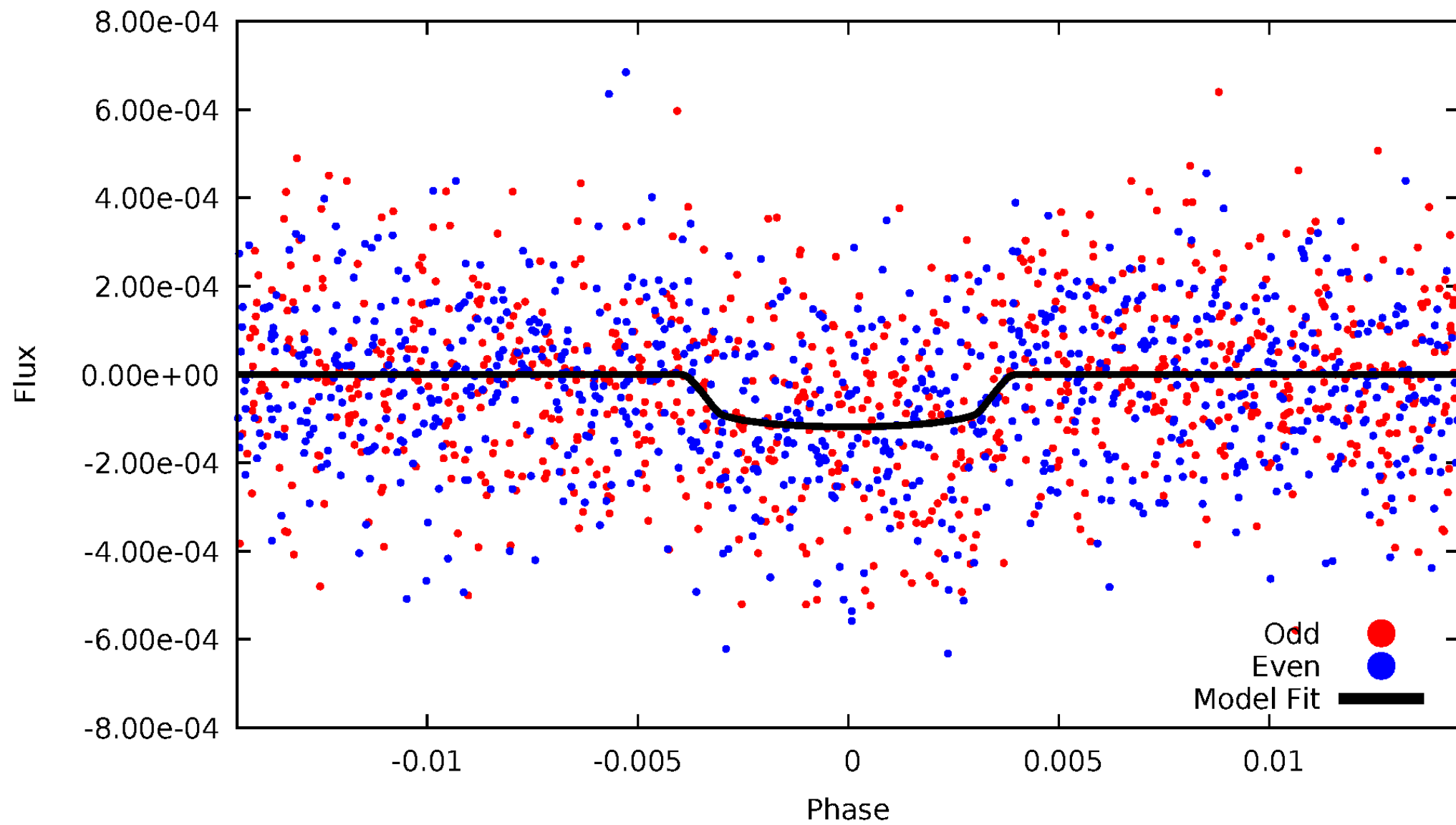


TCE 007219825-03



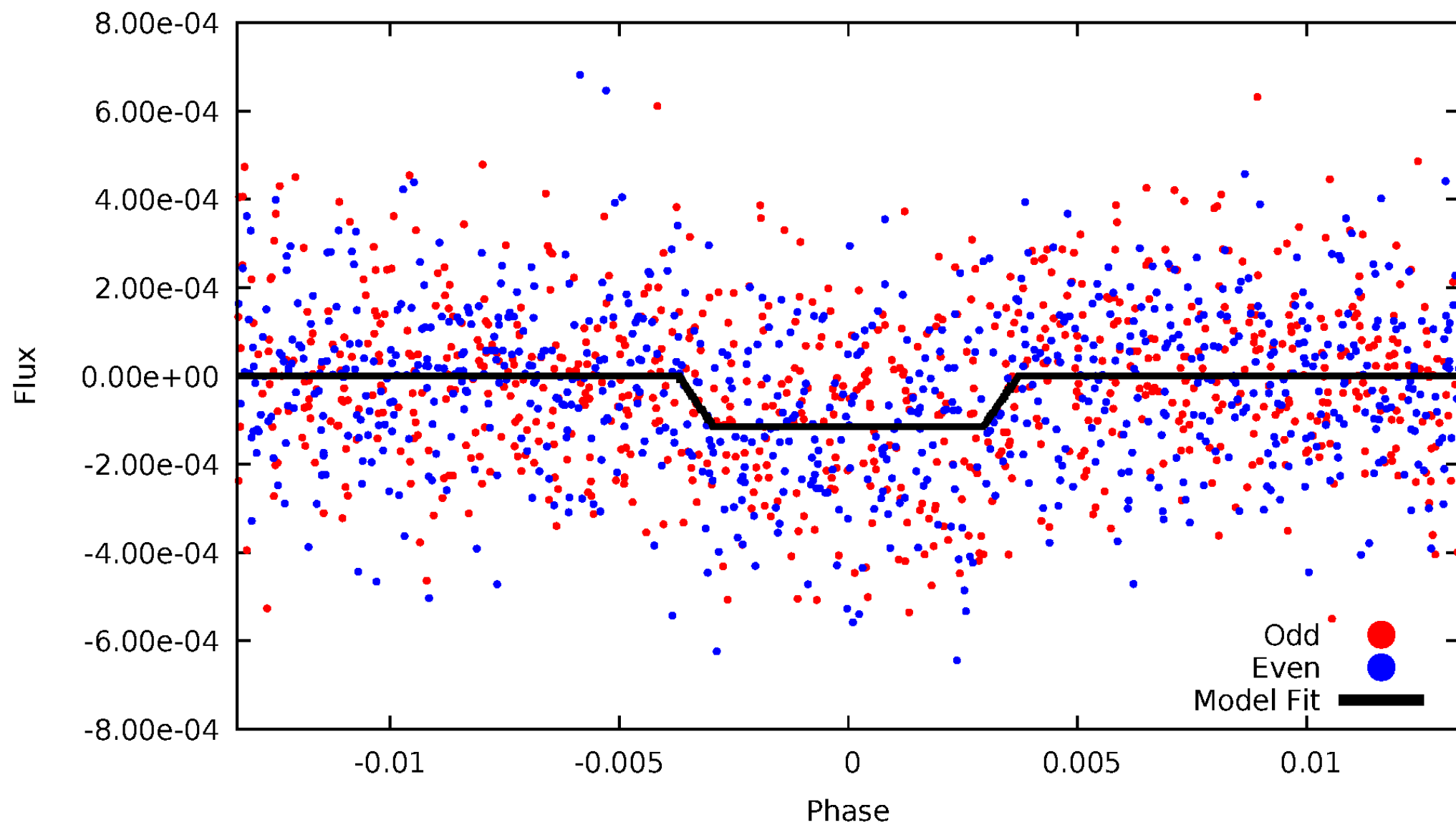
DV Odd/Even

TCE 007219825-03

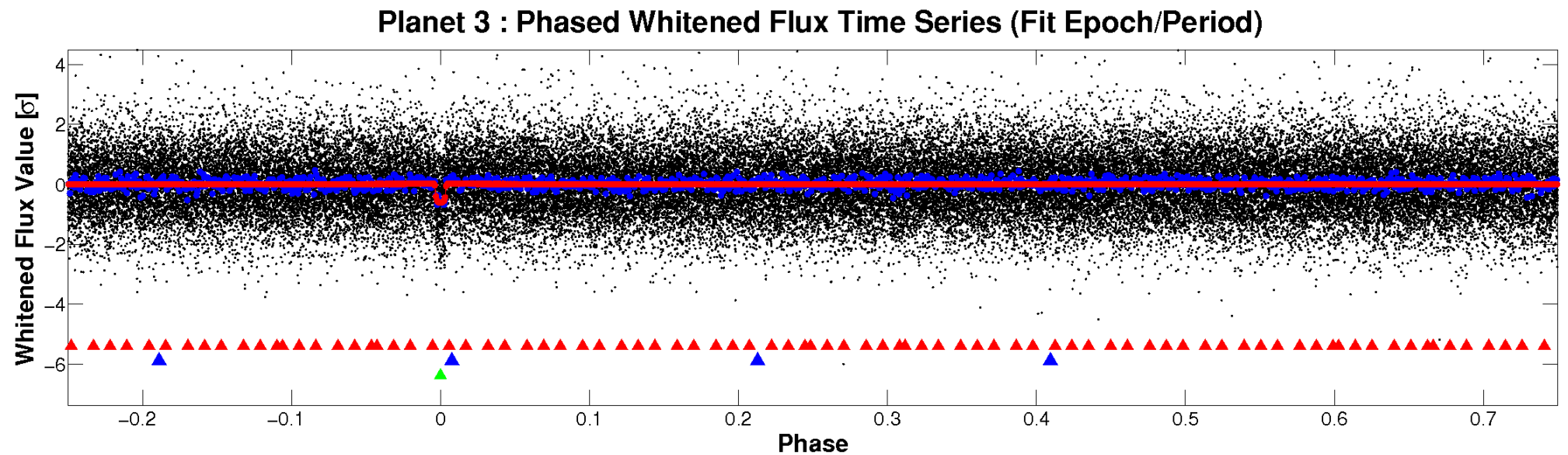
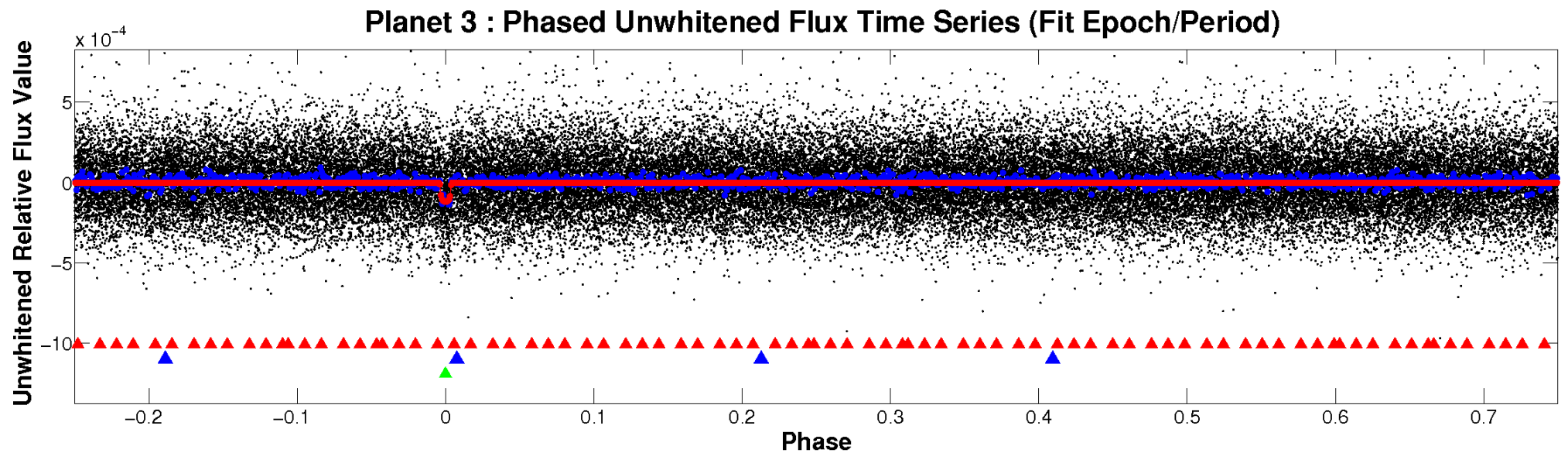


ALT Odd/Even

TCE 007219825-03



Non-Whitened Vs. Whitened Light Curve



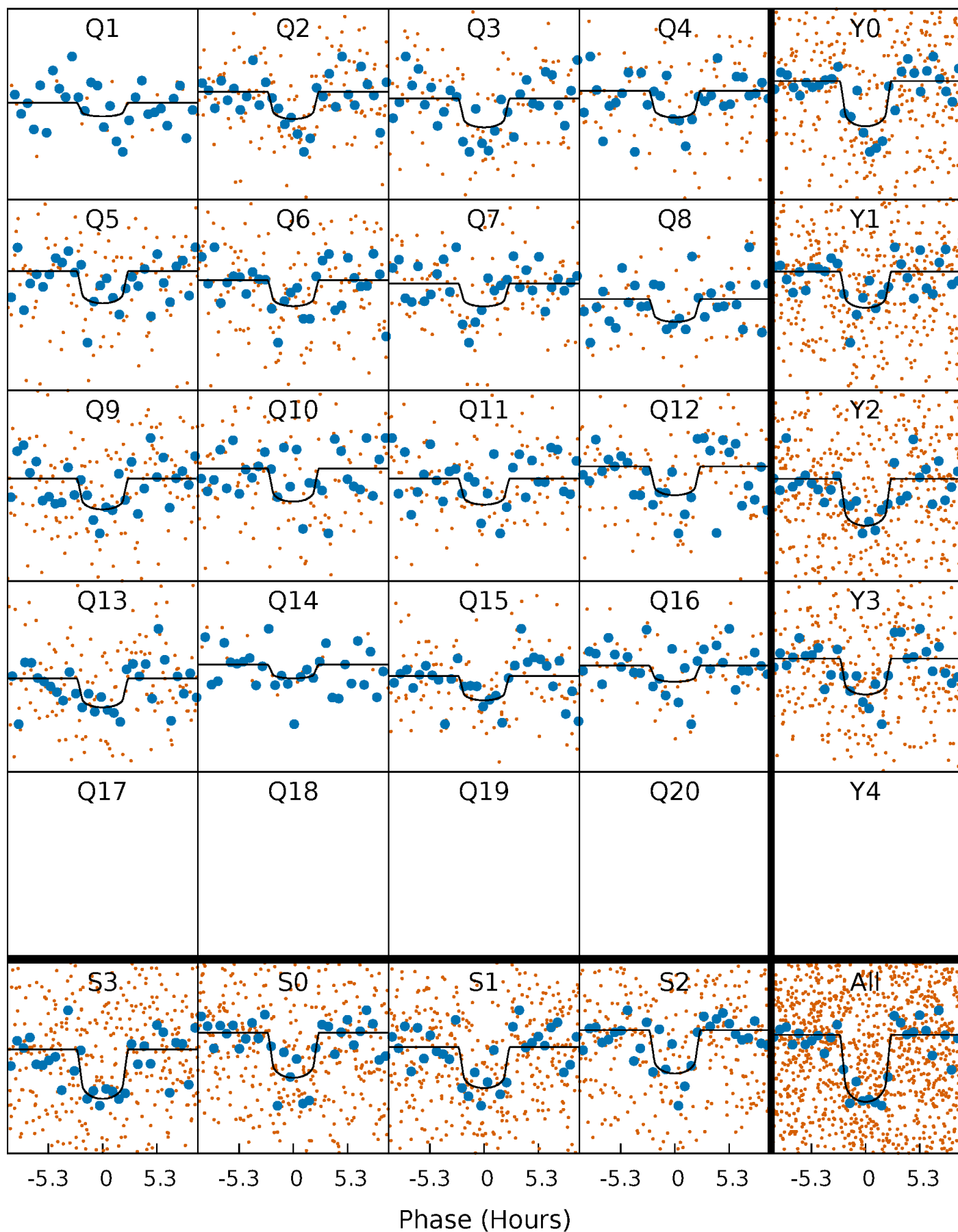
PDC Quarter-Phased Transit Curves

TCE 007219825-03 P= 26.695169 Days $T_0=143.999425$ (BKJD)



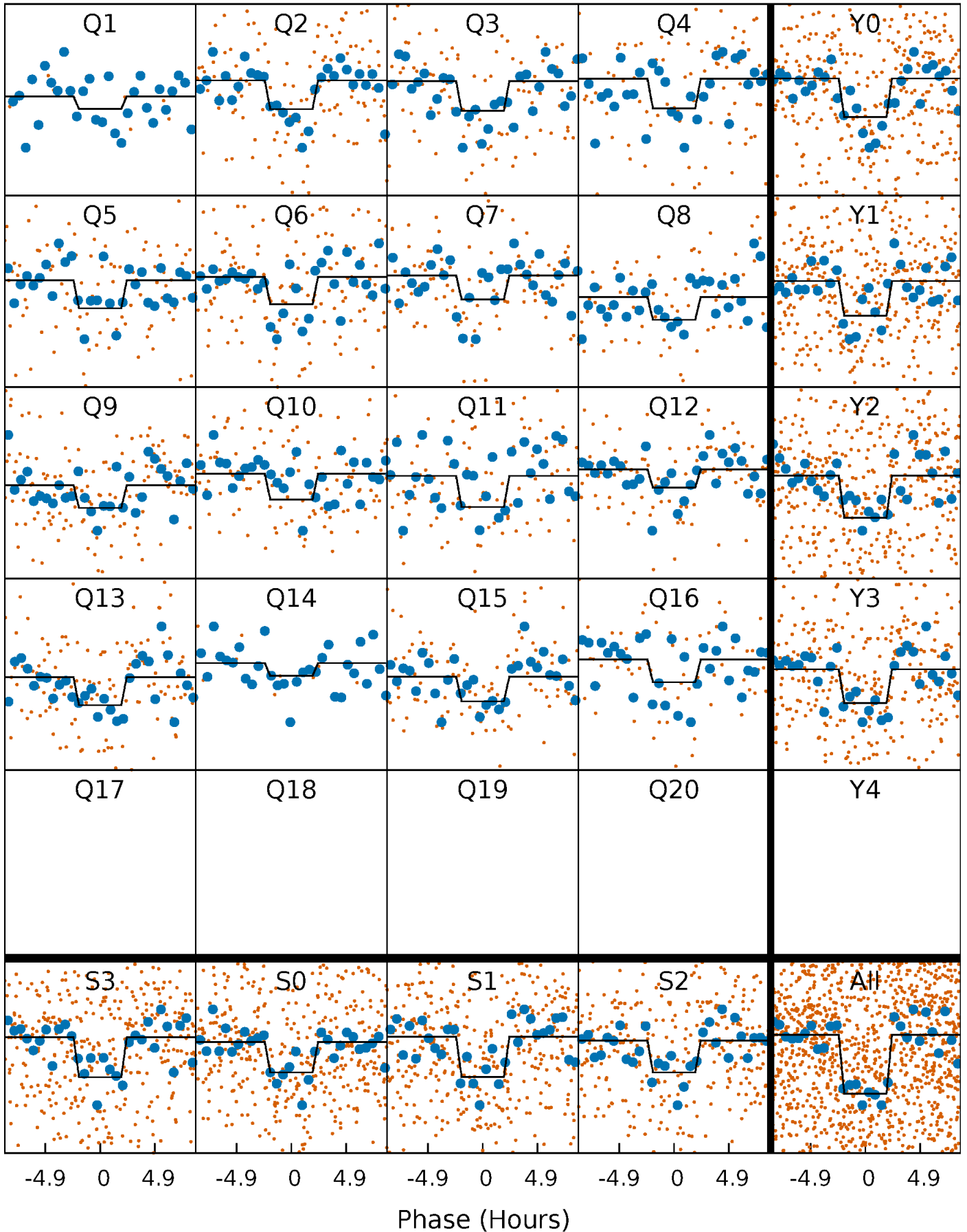
DV Quarter-Phased Transit Curves

TCE 007219825-03 P= 26.695169 Days $T_0=143.999425$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

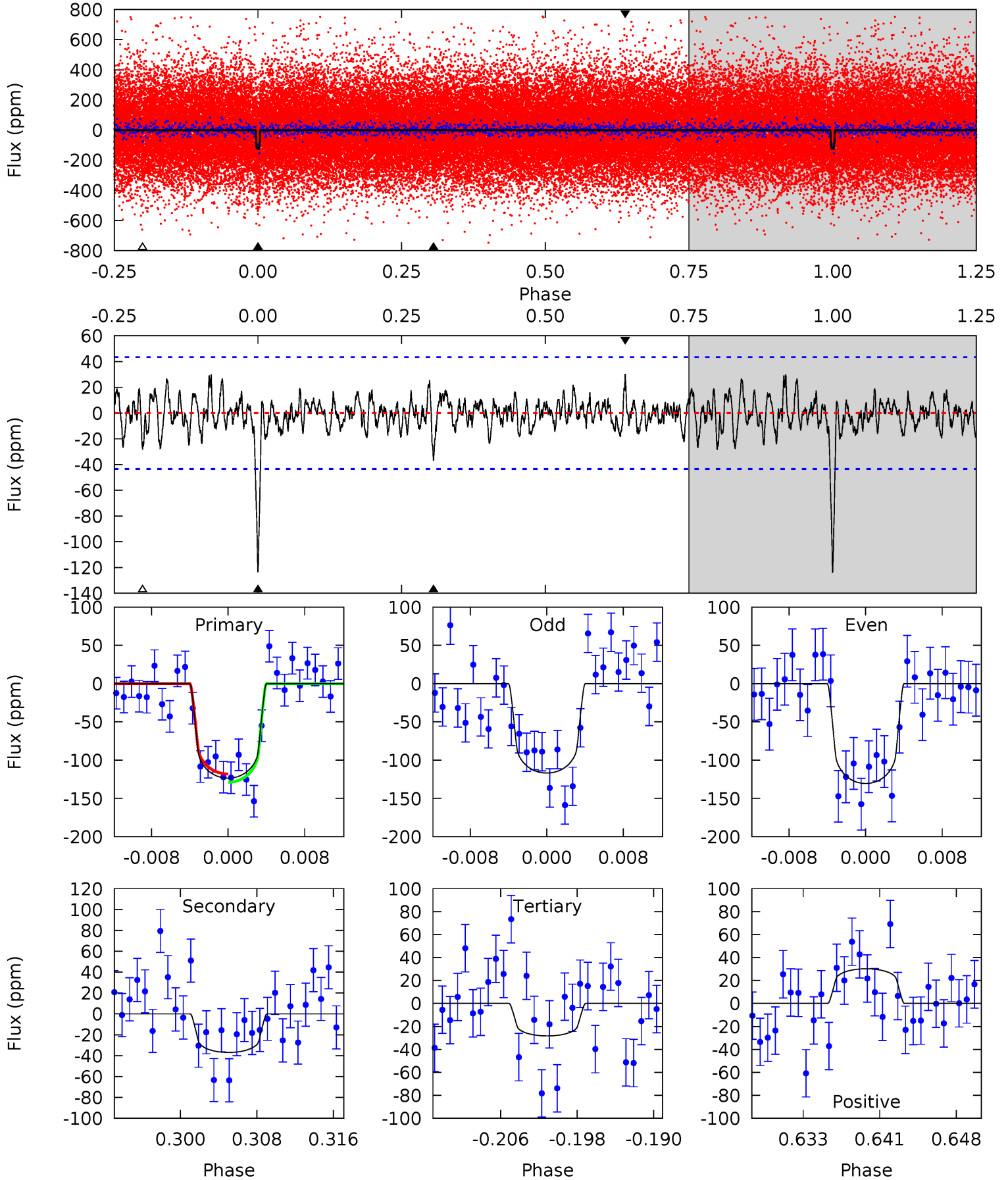
TCE 007219825-03 P= 26.694954 Days $T_0=144.006660$ (BKJD)



DV Model-Shift Uniqueness Test

007219825-03, P = 26.695169 Days, E = 117.304256 Days

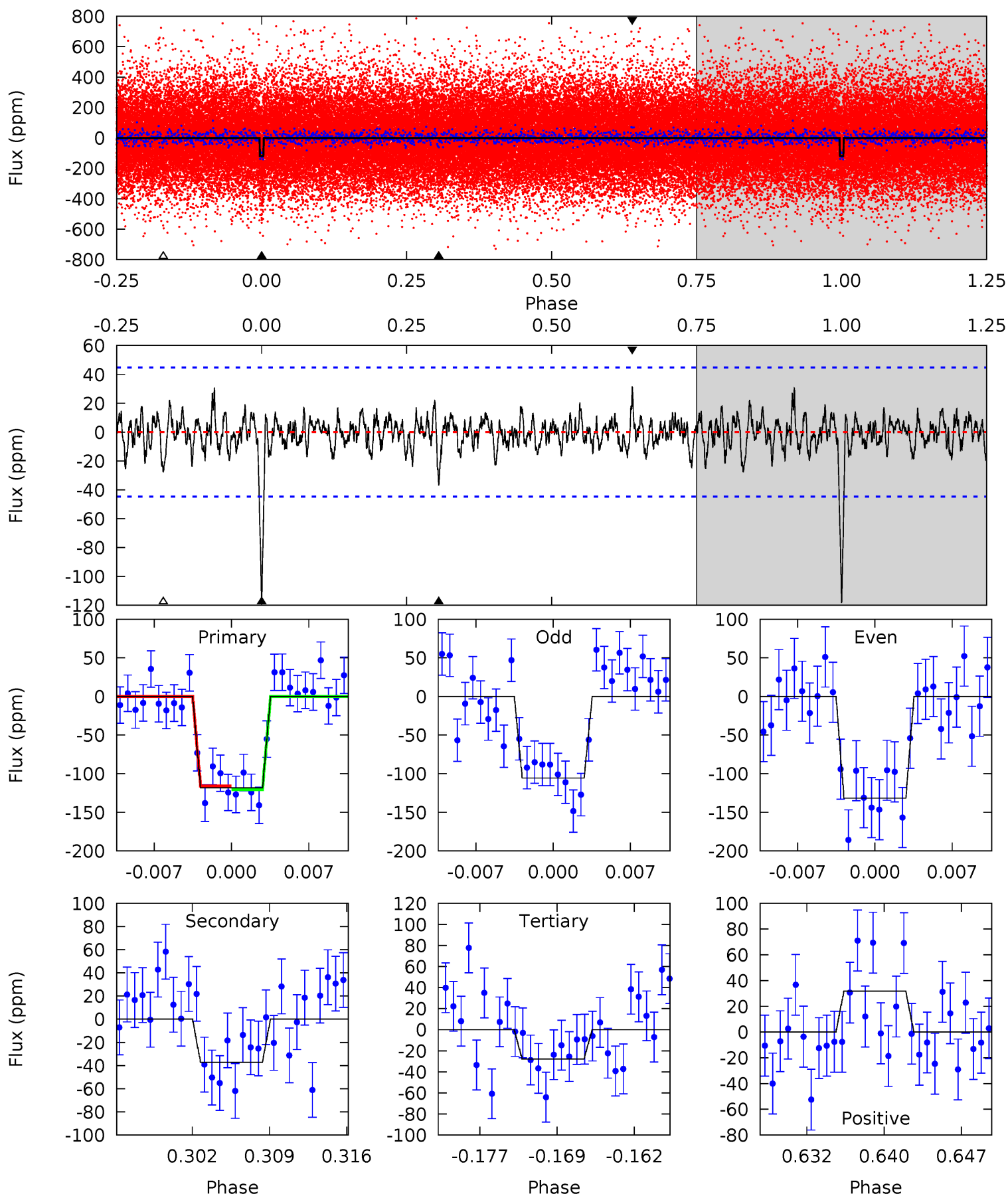
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	4.31	3.30	3.53	5.07	2.66	1.10	11.1	10.9	1.01	0.79	0.80	1.01	0.20	0.63



Alt Model-Shift Uniqueness Test

007219825-03, P = 26.694954 Days, E = 117.311706 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	4.22	3.16	3.60	5.08	2.68	0.98	10.3	9.85	1.06	0.62	1.48	1.07	0.21	0.27



Stellar Parameters For KIC 007219825

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6086^{+133}_{-133}	$4.274^{+0.137}_{-0.112}$	$-0.160^{+0.200}_{-0.150}$	$1.216^{+0.199}_{-0.179}$	$1.013^{+0.096}_{-0.064}$	$0.793^{+0.503}_{-0.262}$
	+2%/-2%	+3%/-3%	+125%/-94%	+16%/-15%	+9%/-6%	+63%/-33%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 007219825-03 / KOI 0238.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-37 ± 9	$1.55^{+0.91}_{-0.82}$	986^{+48}_{-44}	4518^{+1868}_{-693}	257^{+927}_{-158}
Alt.	-37 ± 9	$1.53^{+0.92}_{-0.94}$	983^{+48}_{-50}	4569^{+2520}_{-737}	271^{+1533}_{-169}

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 $A_{obs} \gg 1.0$

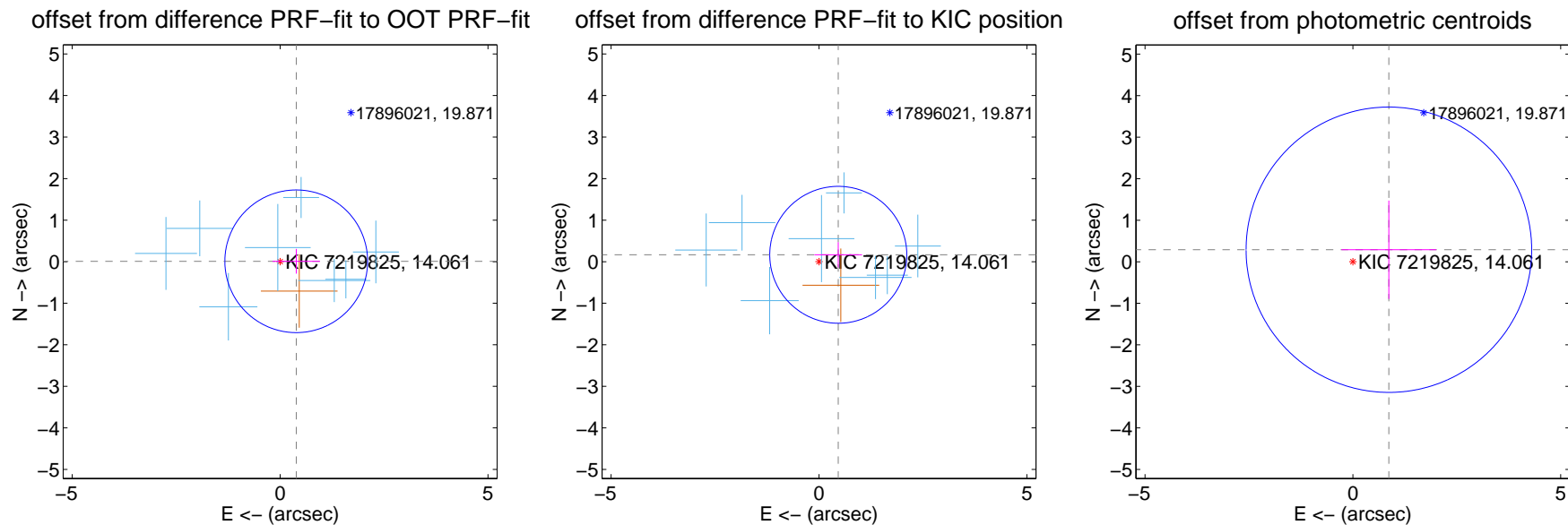
DV Centroid Data

Supplemental centroid analysis for 007219825-03. Kepler magnitude: 14.06. Transit SNR 10.75

There are 8 quarters with good PRF difference image offsets

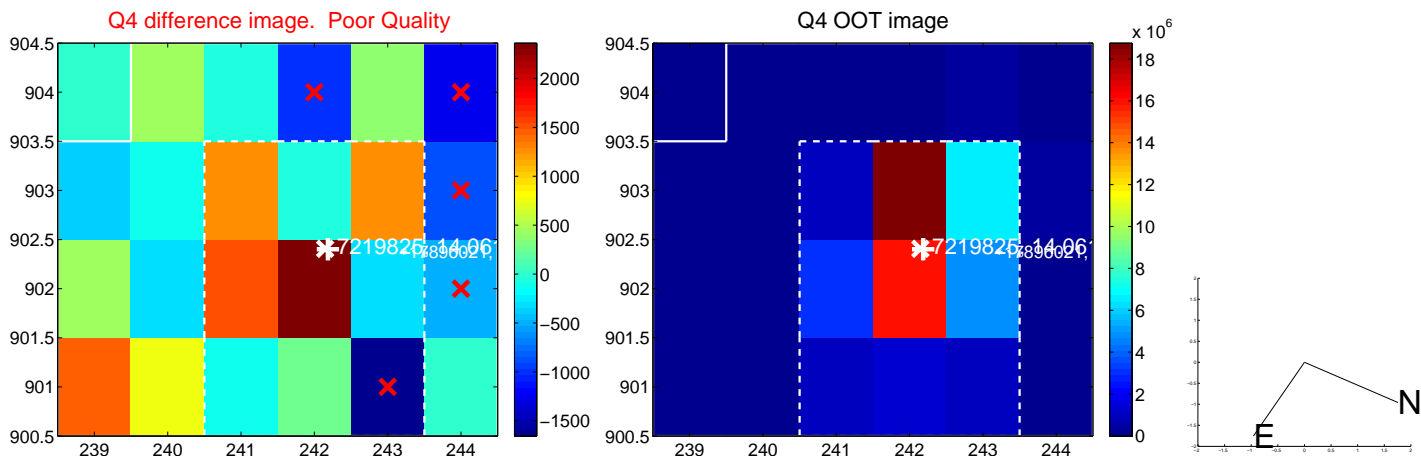
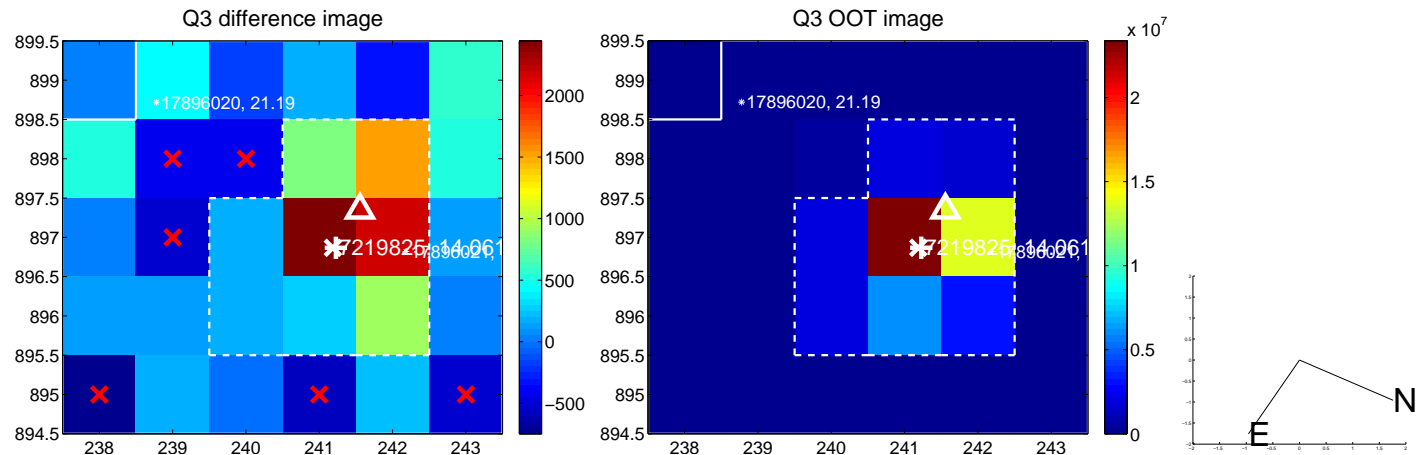
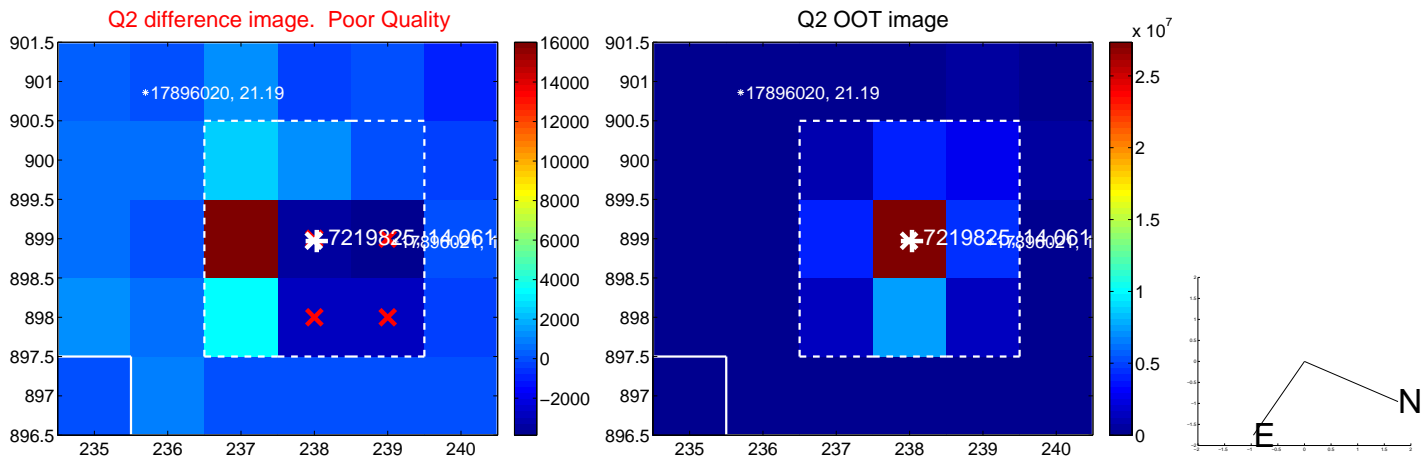
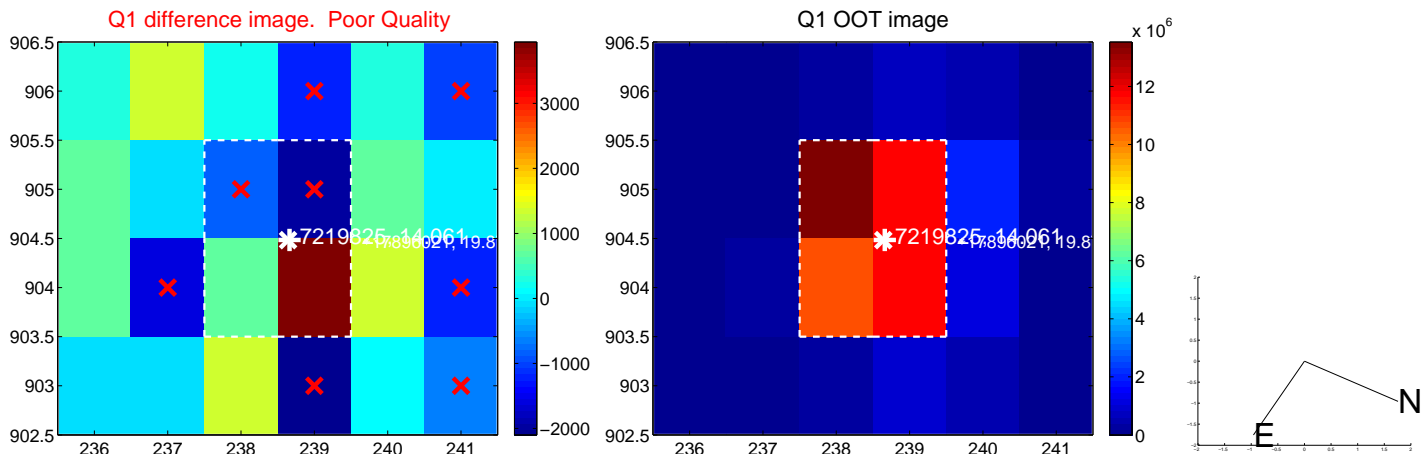
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.388 ± 0.572	0.68	-0.388 ± 0.572	0.010 ± 0.297
PRF-fit source offset from KIC position	0.492 ± 0.549	0.90	-0.464 ± 0.573	0.166 ± 0.306
photometric centroid source offset	0.91 ± 1.14	0.80	-0.87 ± 1.14	0.29 ± 1.18

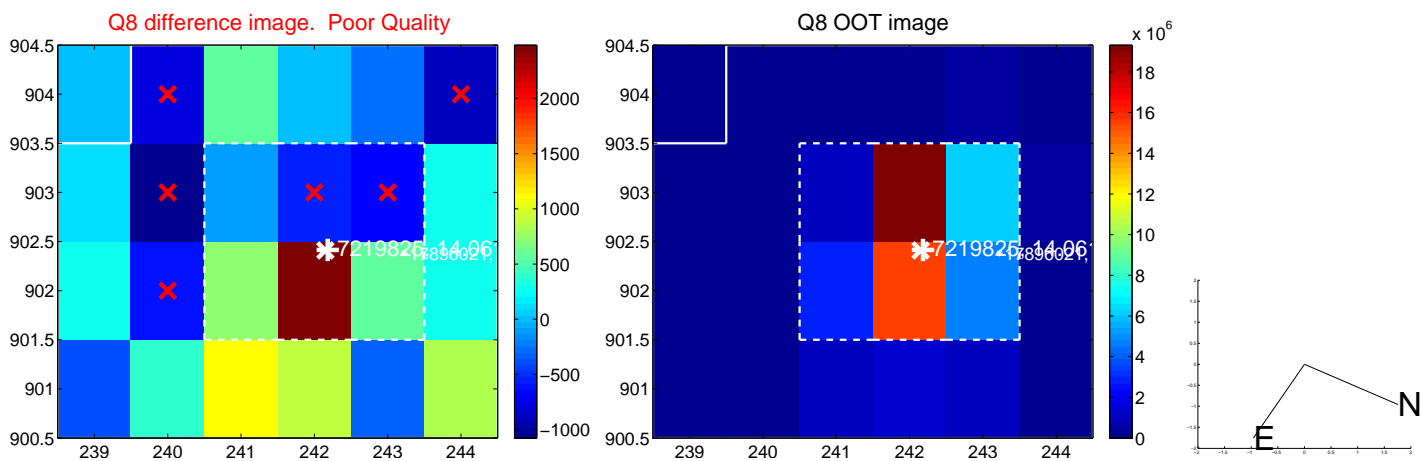
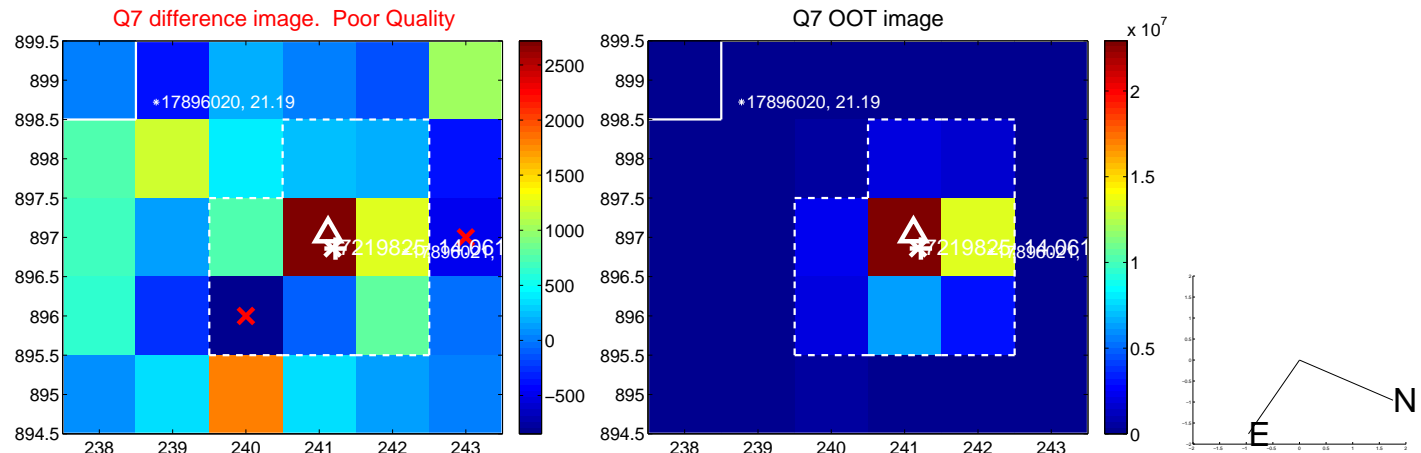
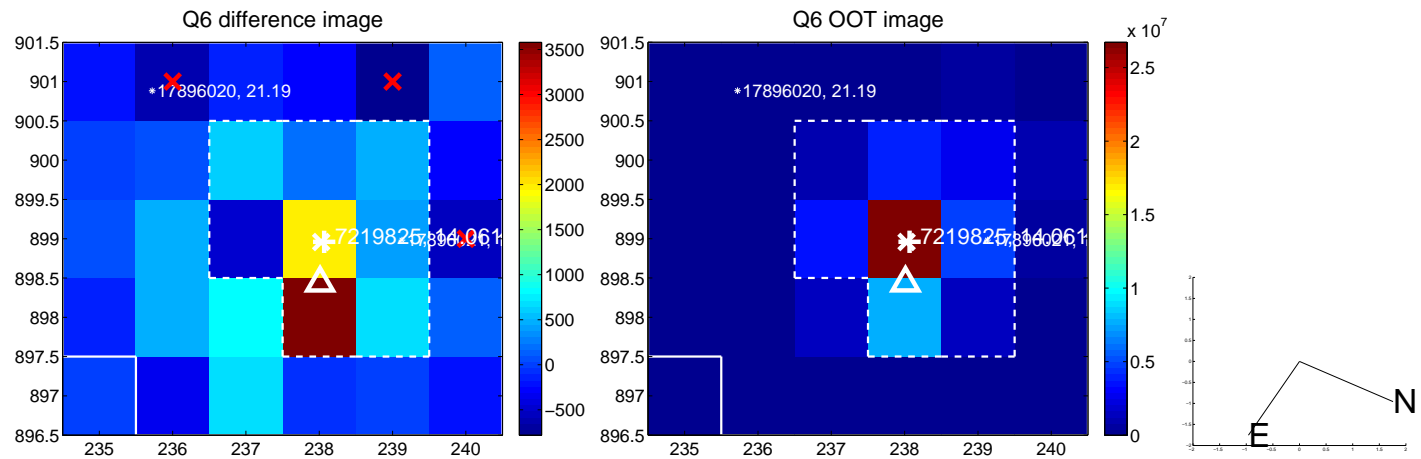
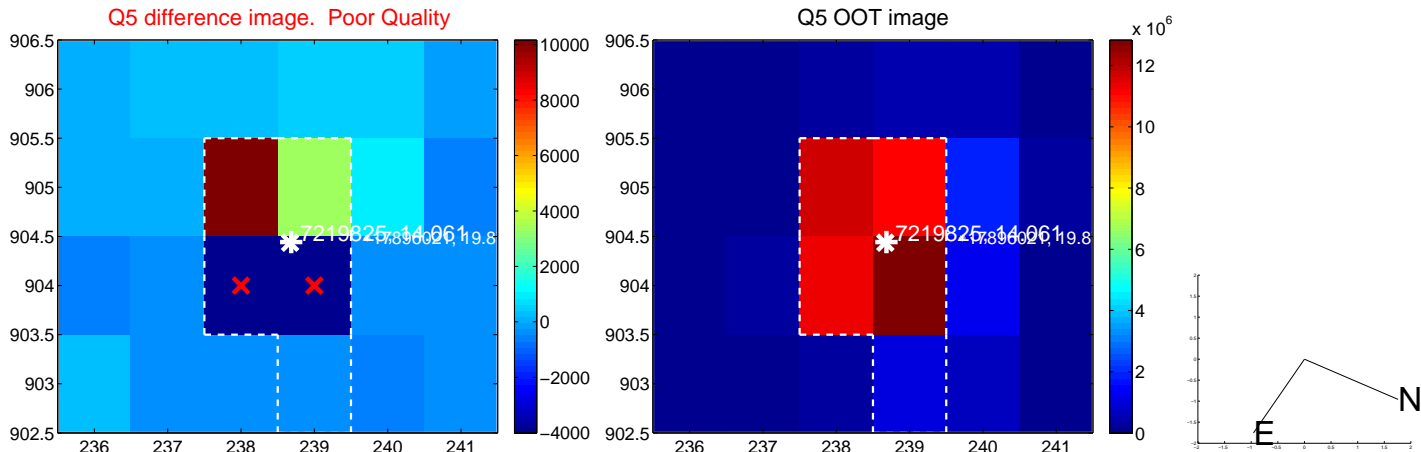


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

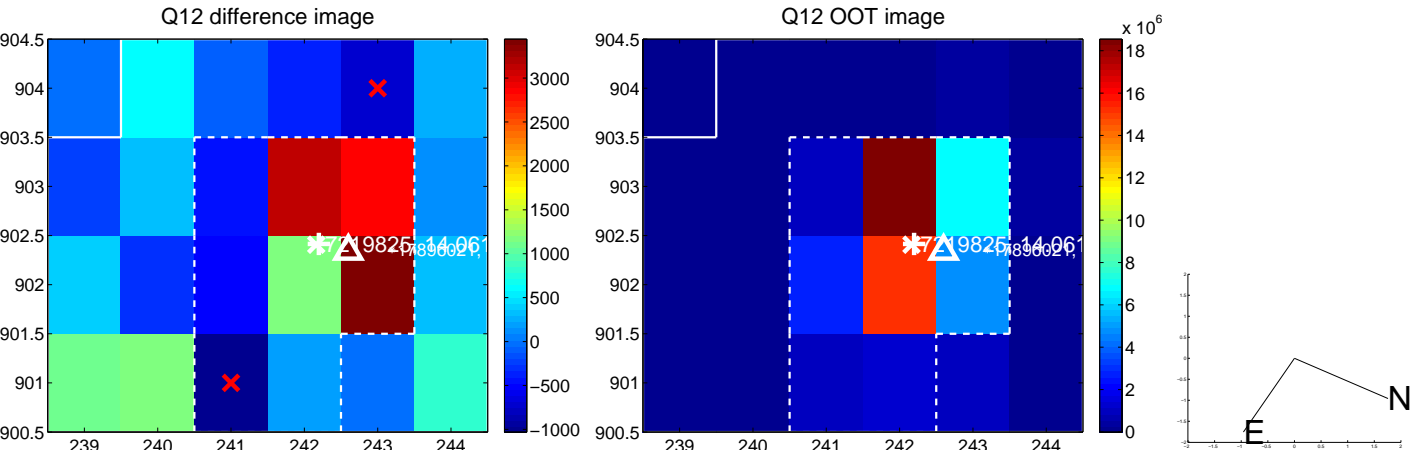
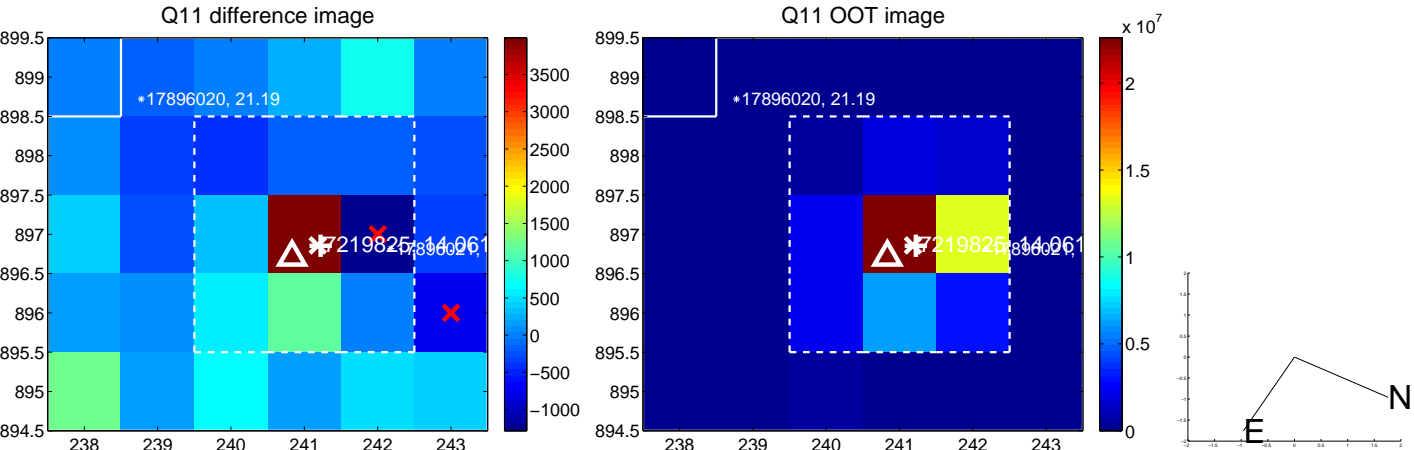
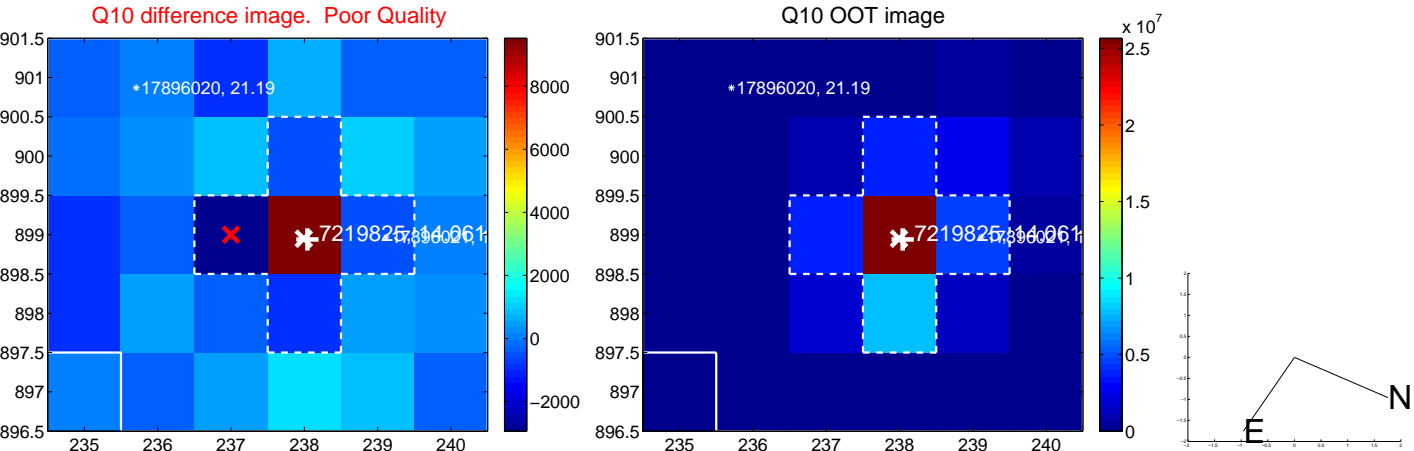
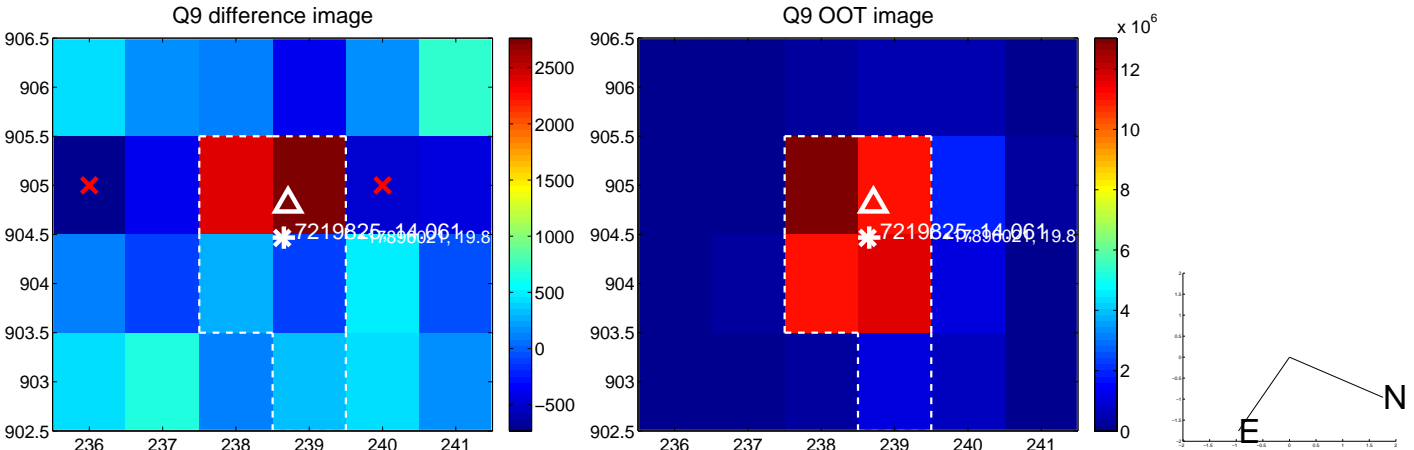
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



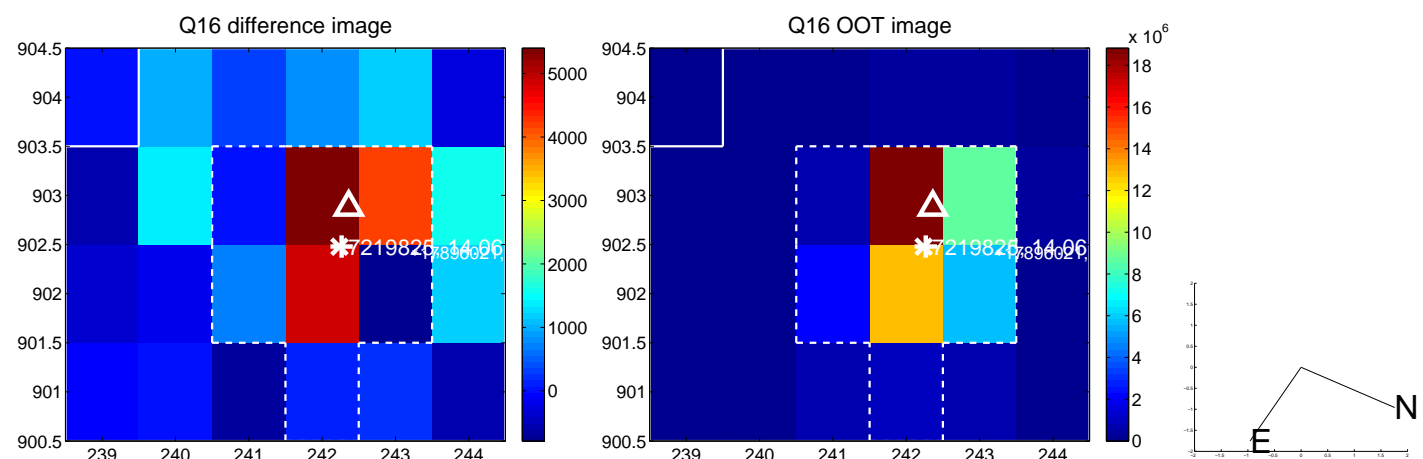
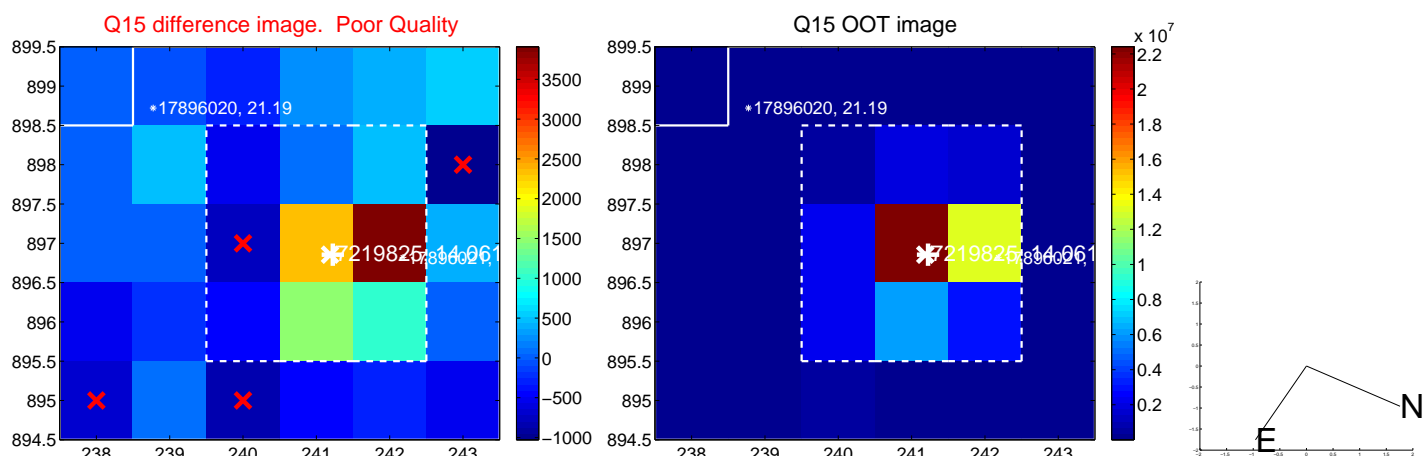
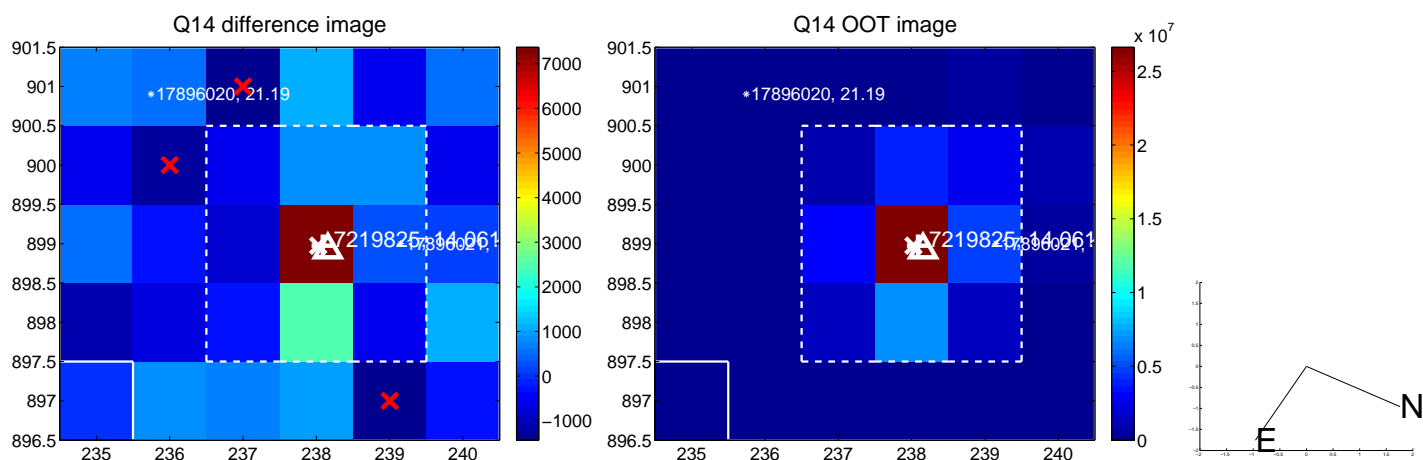
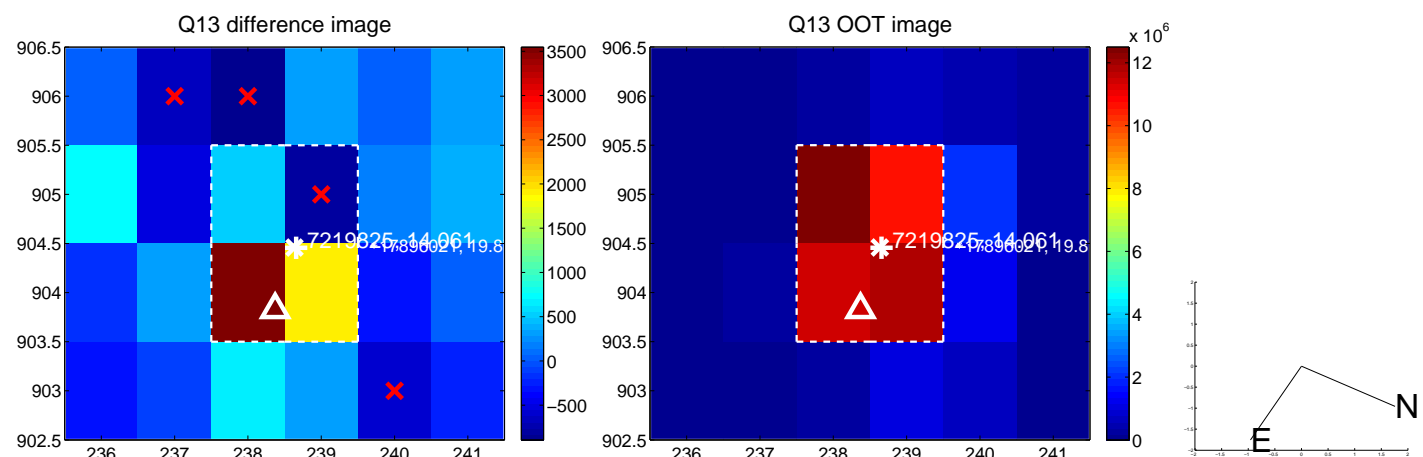
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



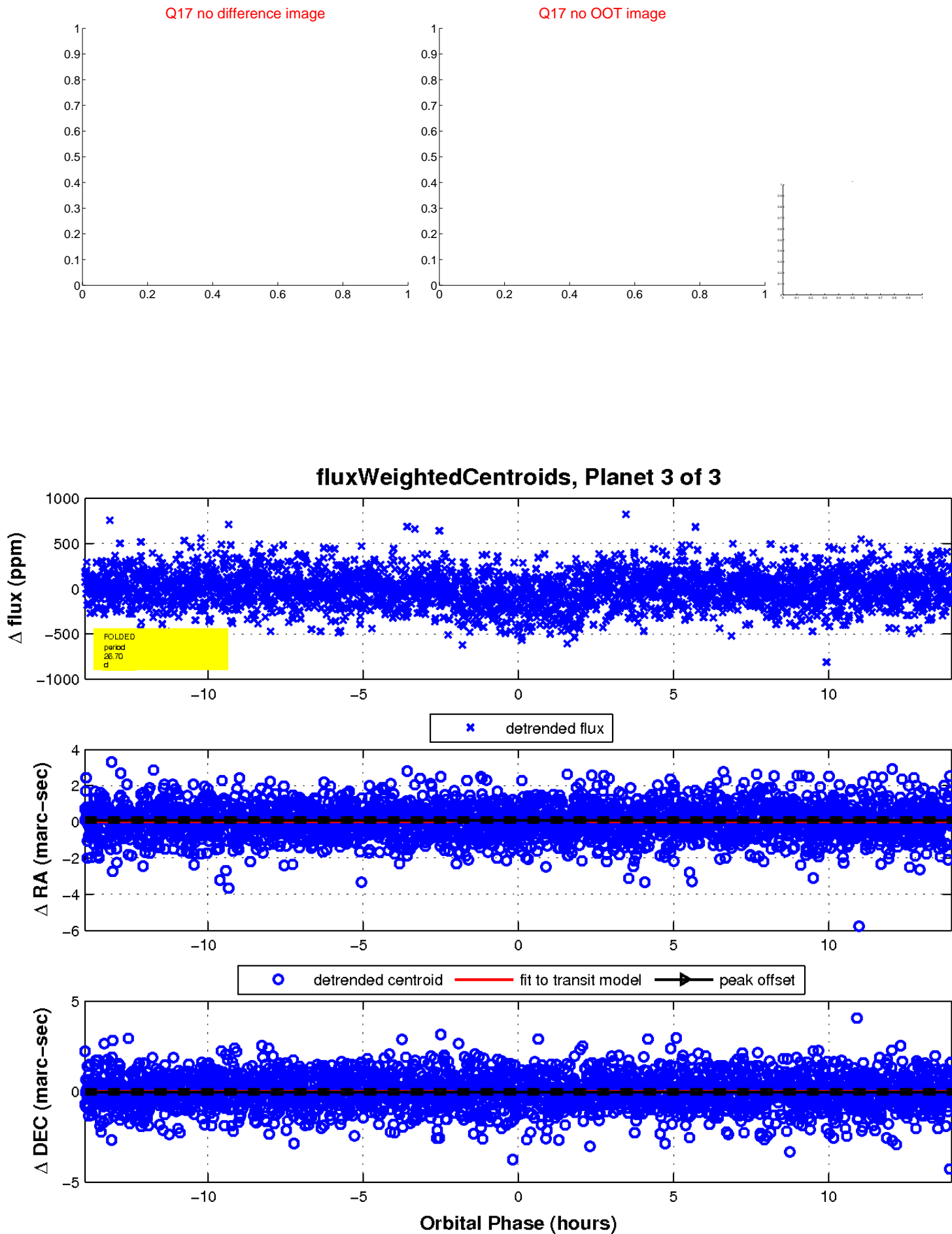
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

