

KIC 008757910

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})
008757910-01	OBS	1269.01	1.309995	131.870903	111.3	0.995	17.3	31.4	2.09	6426	2.61	9395.57
008757910-02	OBS	No	0.655006	131.862260	49.4	0.732	7.7	12.0	2.09	6426	1.85	23674.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008757910-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
008757910-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET

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.

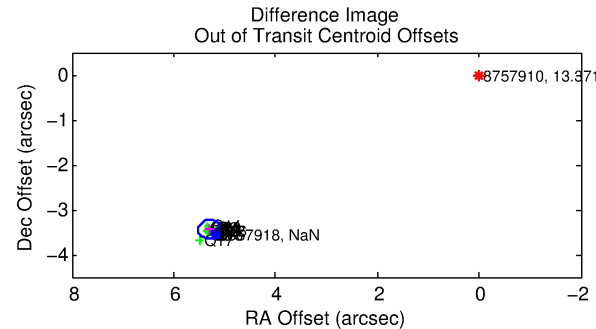
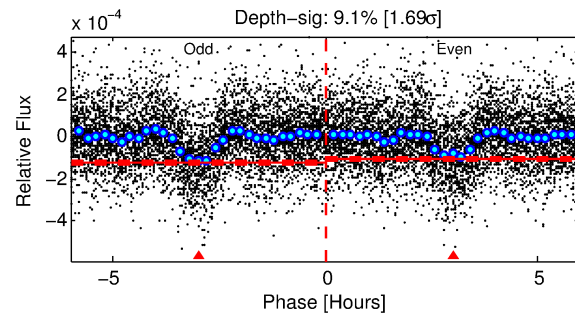
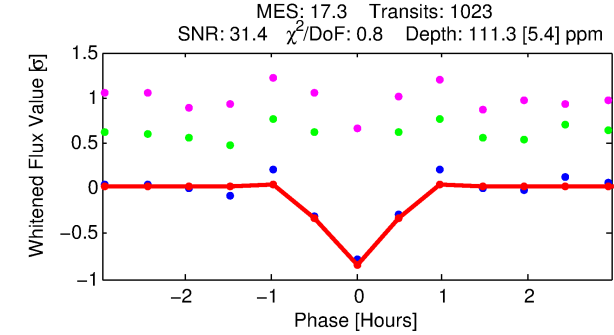
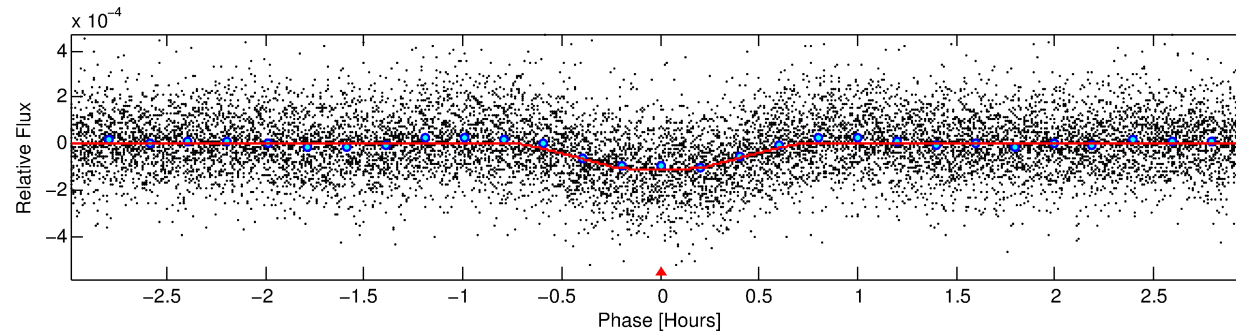
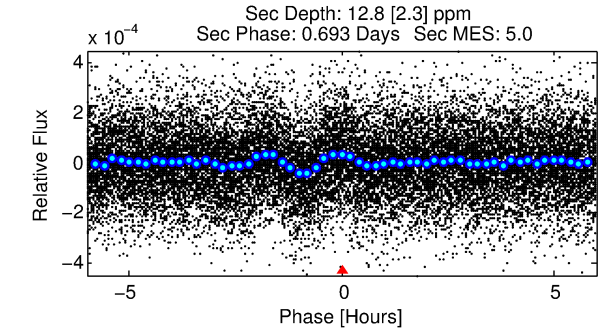
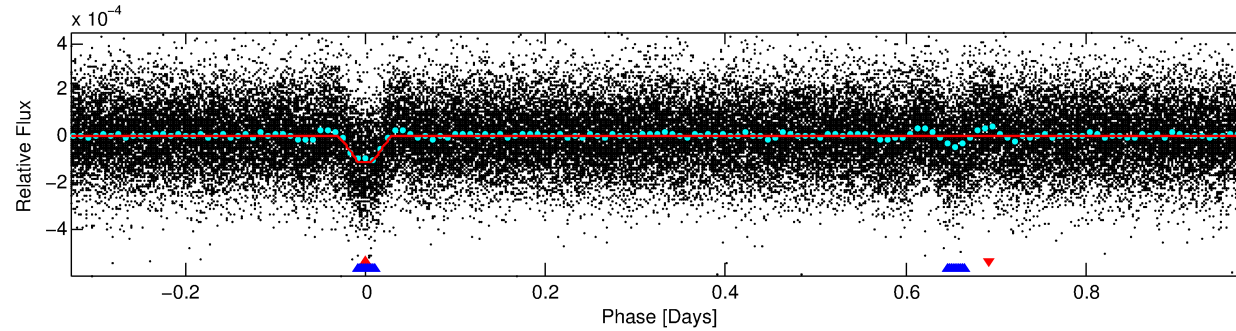
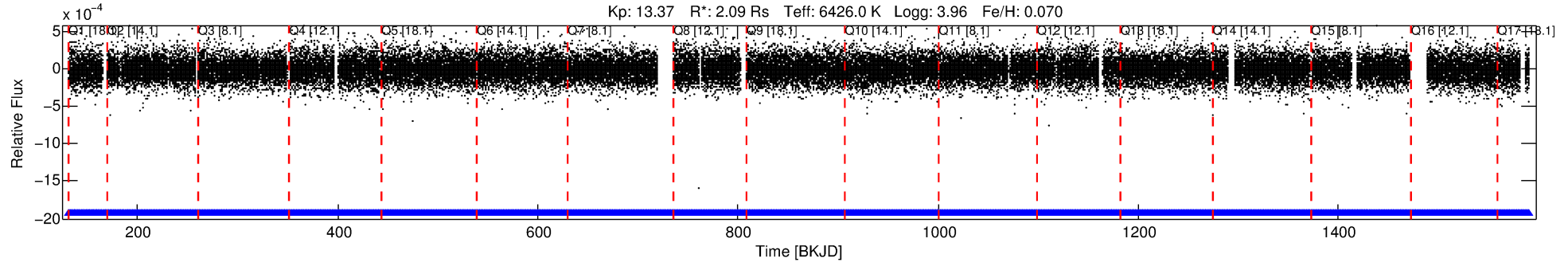
Ephemeris Match Information For 008757910-01

No Significant Match Found

DV One-Page Summary

KIC: 8757910 Candidate: 1 of 2 Period: 1.310 d
KOI: K01269 Corr: No Ephemeris Match

Kp: 13.37 R*: 2.09 Rs Teff: 6426.0 K Logg: 3.96 Fe/H: 0.070



DV Fit Results:

Period = 1.31000 [0.00000] d
Epoch = 131.8709 [0.0006] BKJD
Rp/R* = 0.0114 [0.0022]
a/R* = 4.67 [4.73]
b = 0.90 [0.22]
Seff = 9395.57 [4477.87]
Teq = 2510 [299] K
Rp = 2.61 [0.98] Re
a = 0.0266 [0.0079] AU
Ag = 0.74 [0.46] [-0.57σ]
Teffp = 3596 [394] K [2.19σ]

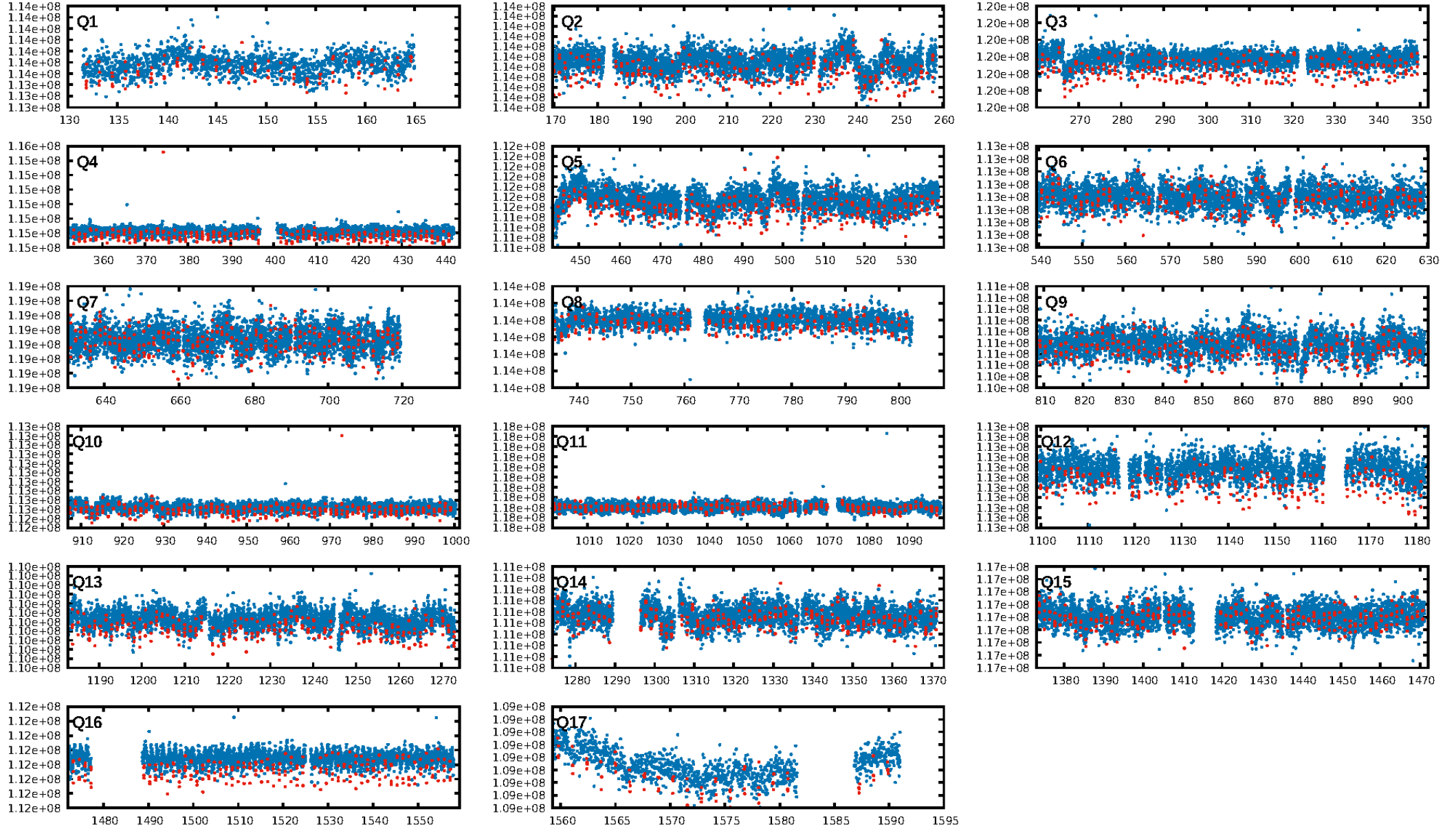
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [12.72σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.86e-64
RollingBand-fgt: 1.00 [977/977]
GhostDiagnostic-chr: 0.04129
Centroid-sig: 0.0%
Centroid-so: 9.173 arcsec [21.68σ]
OotOffset-rm: 6.329 arcsec [89.83σ]
KicOffset-rm: 6.300 arcsec [89.46σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

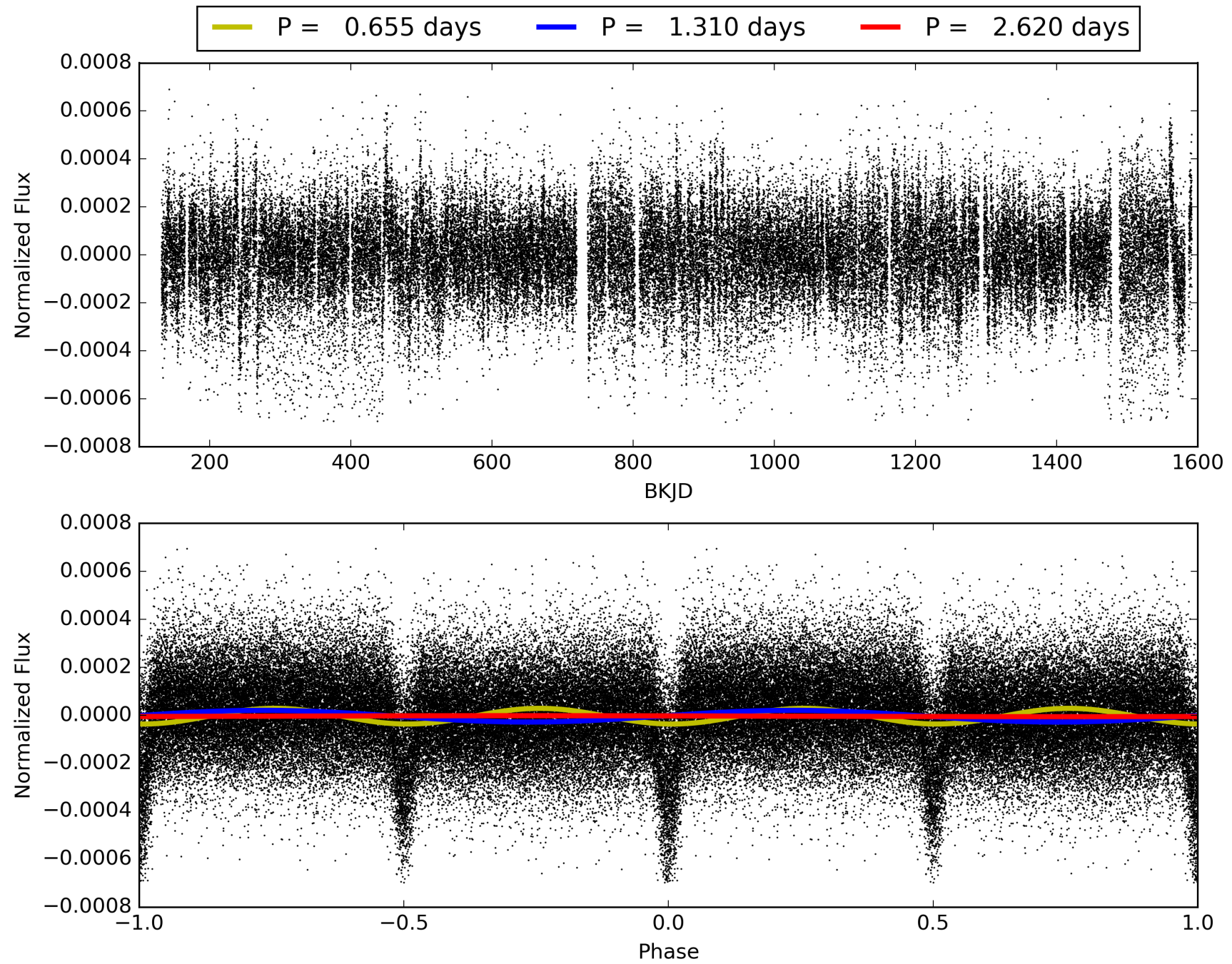
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008757910-01, PDC Light Curves

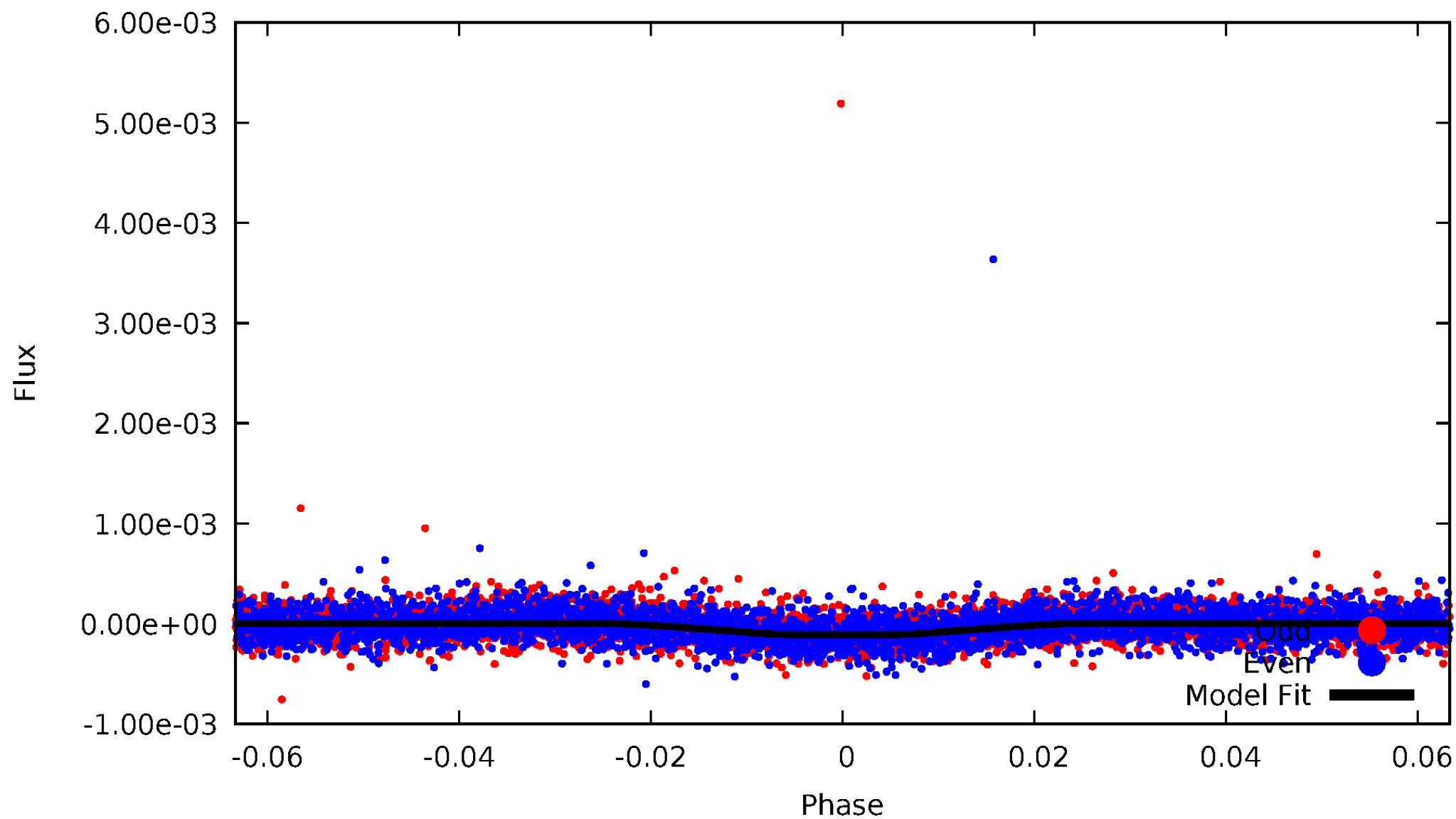


TCE 008757910-01



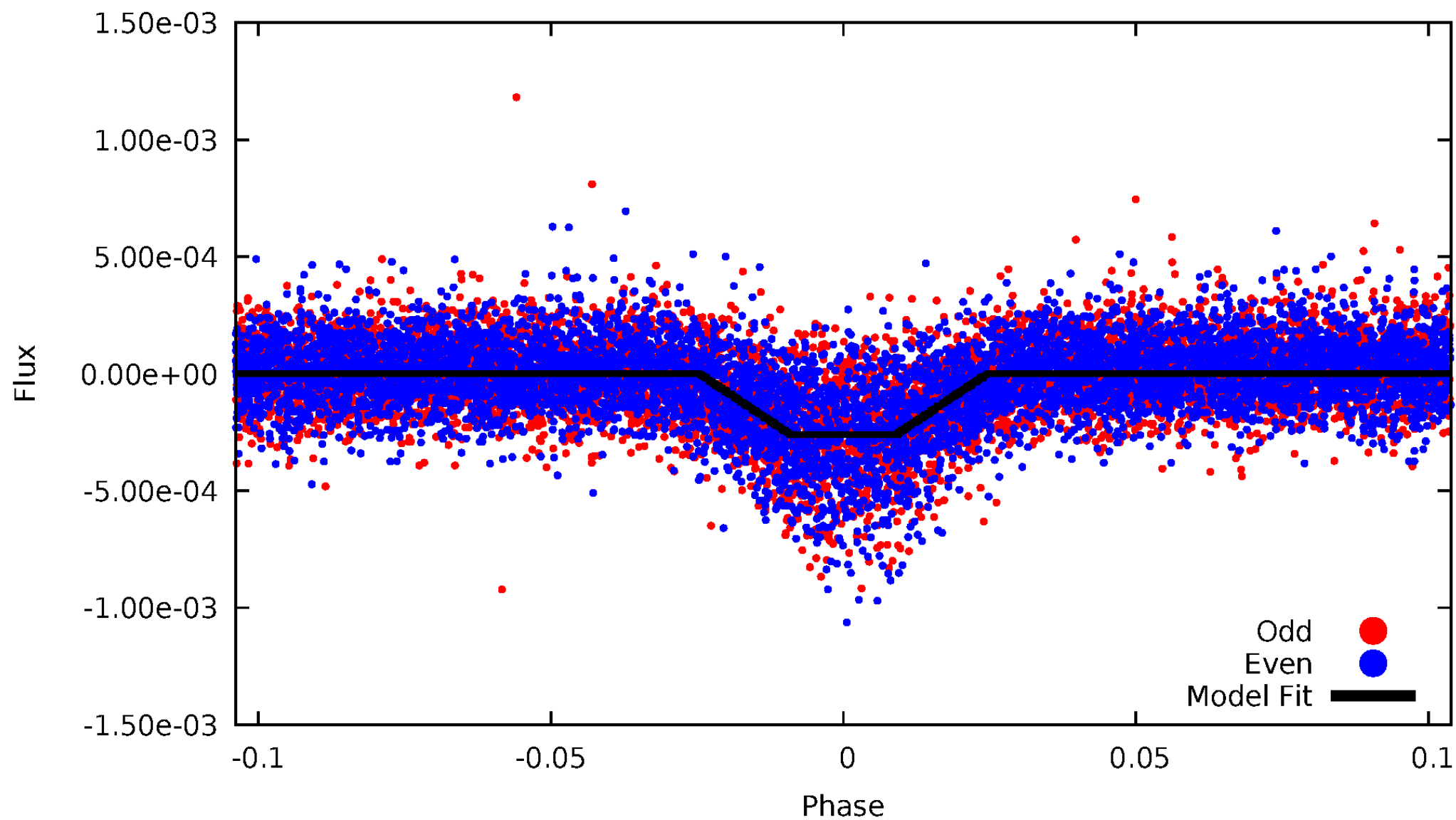
DV Odd/Even

TCE 008757910-01

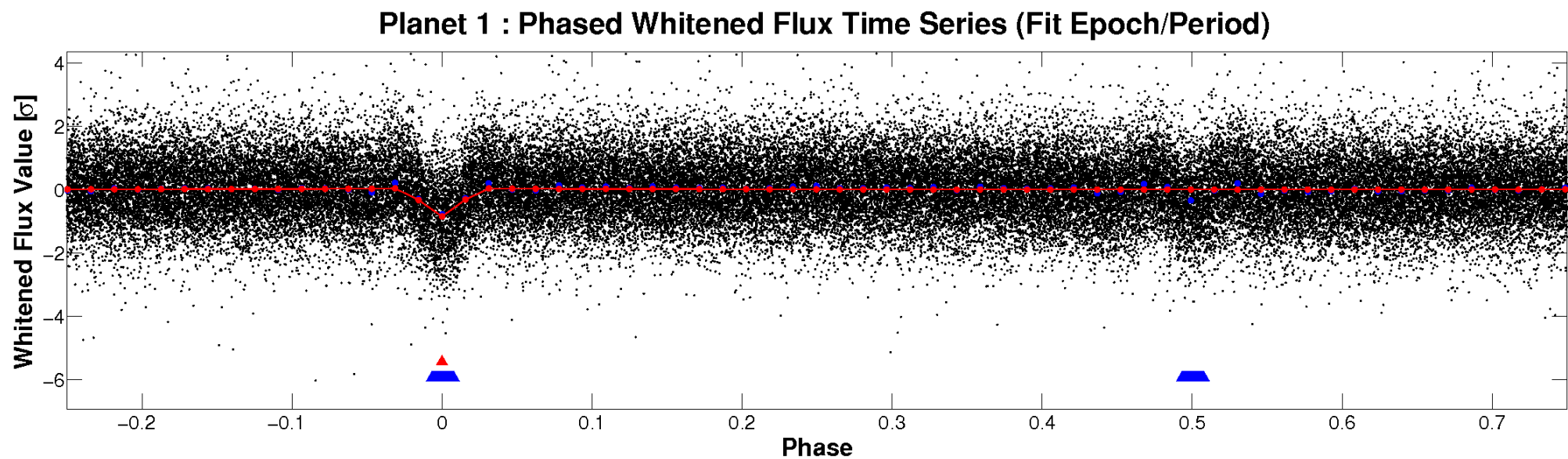
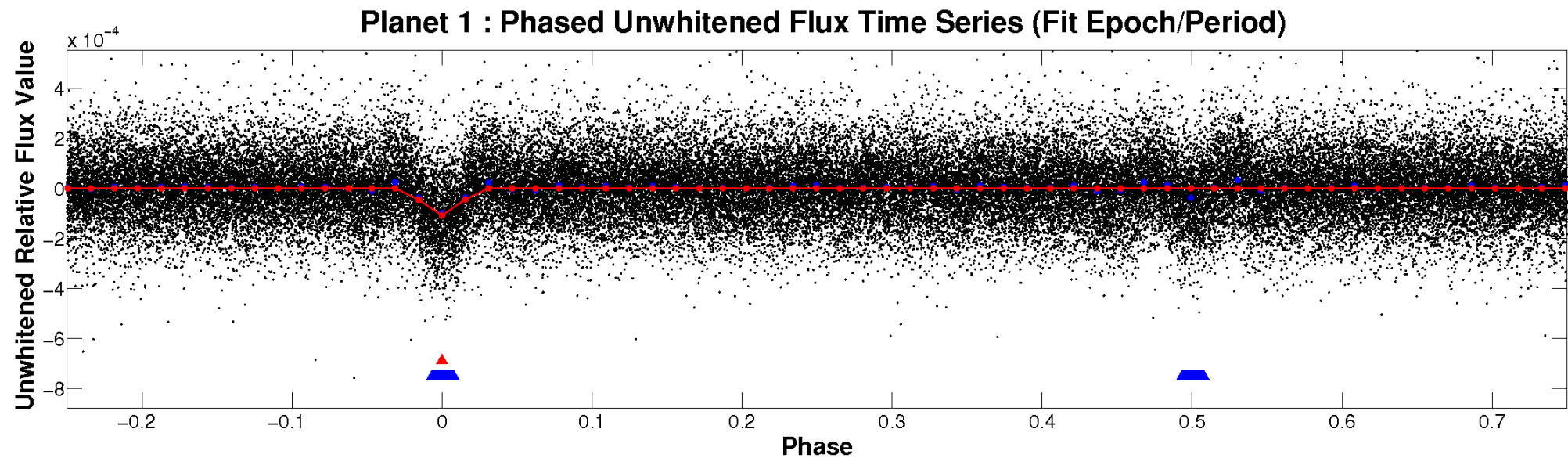


ALT Odd/Even

TCE 008757910-01

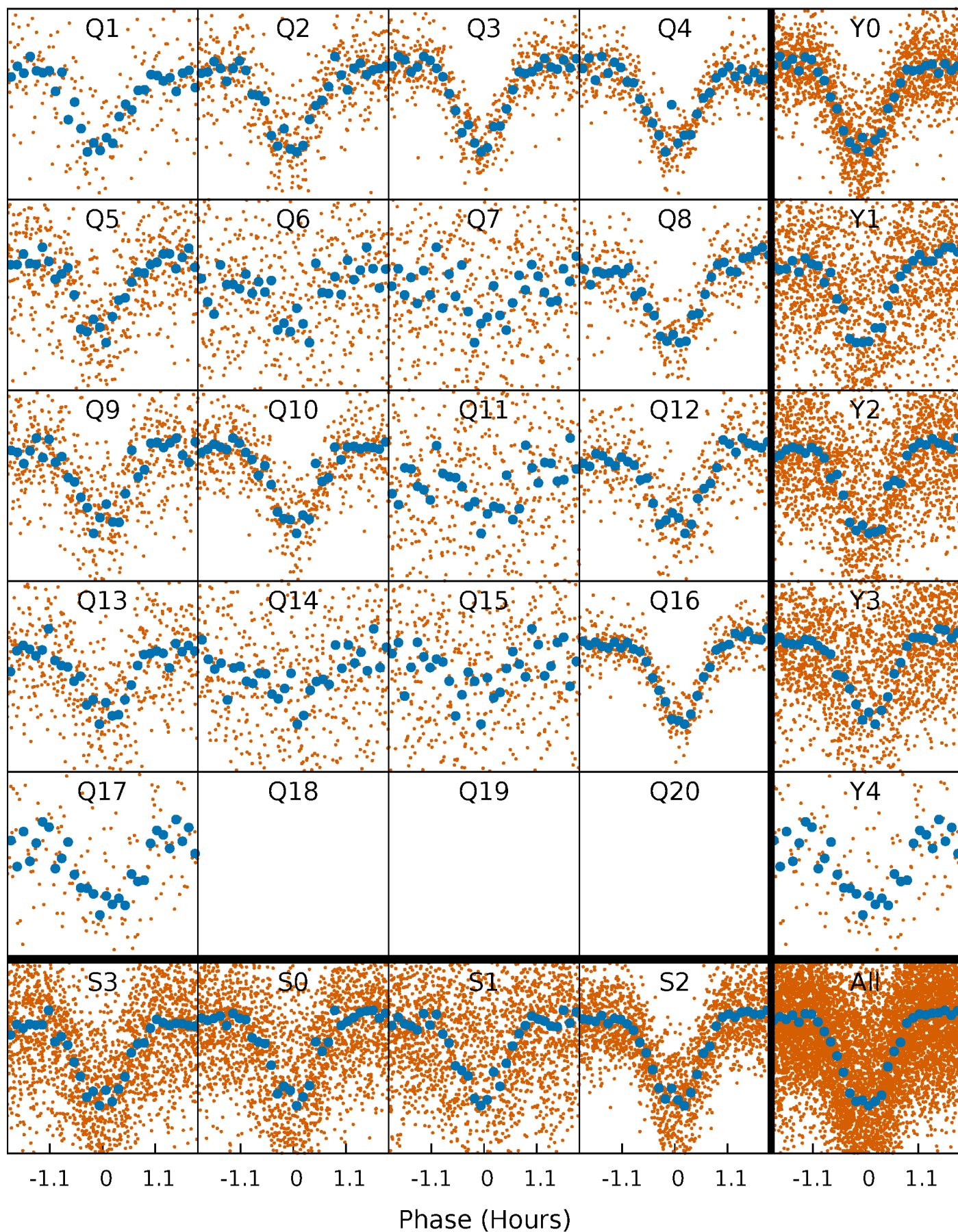


Non-Whitened Vs. Whitened Light Curve



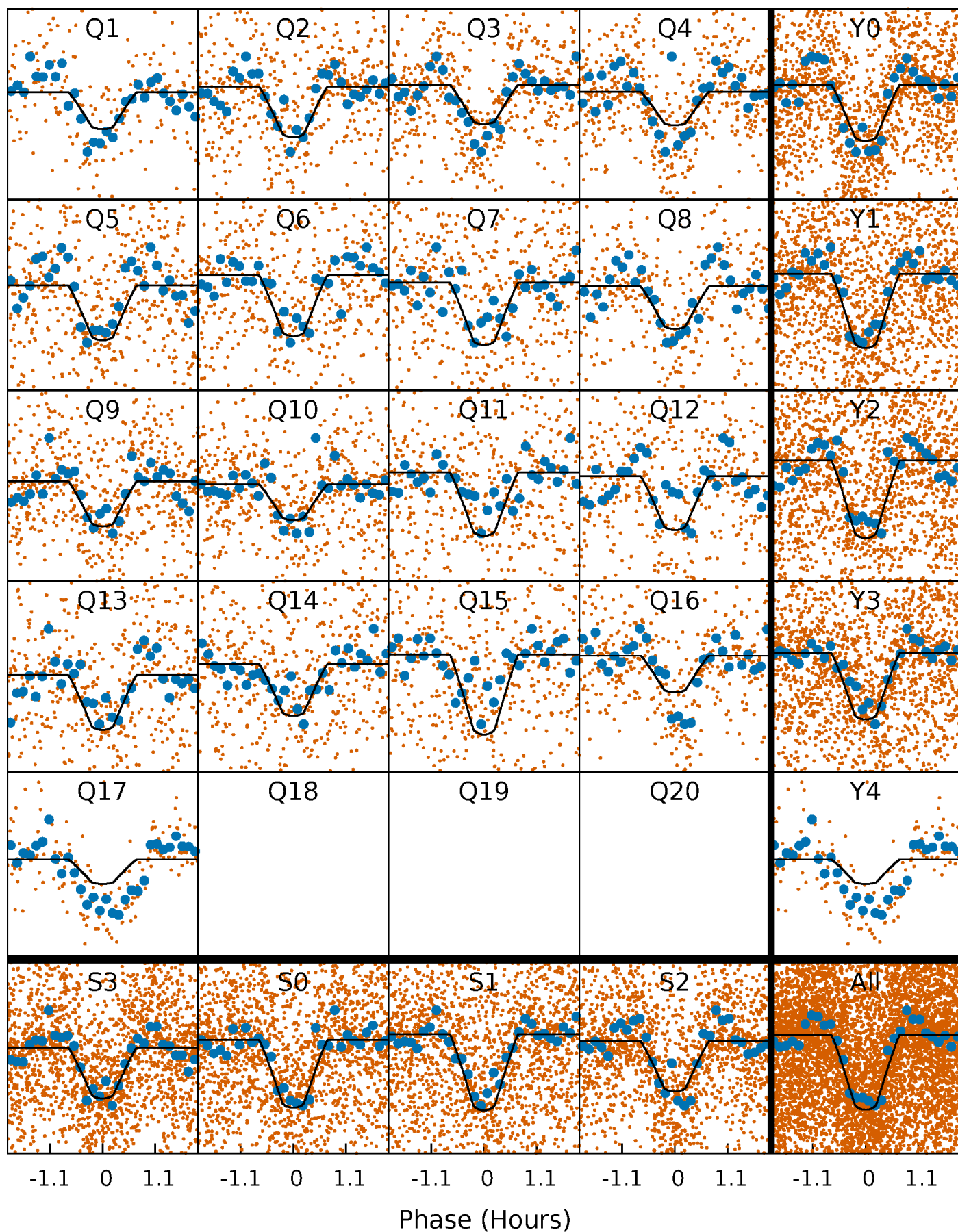
PDC Quarter-Phased Transit Curves

TCE 008757910-01 P= 1.309995 Days $T_0=131.870903$ (BKJD)



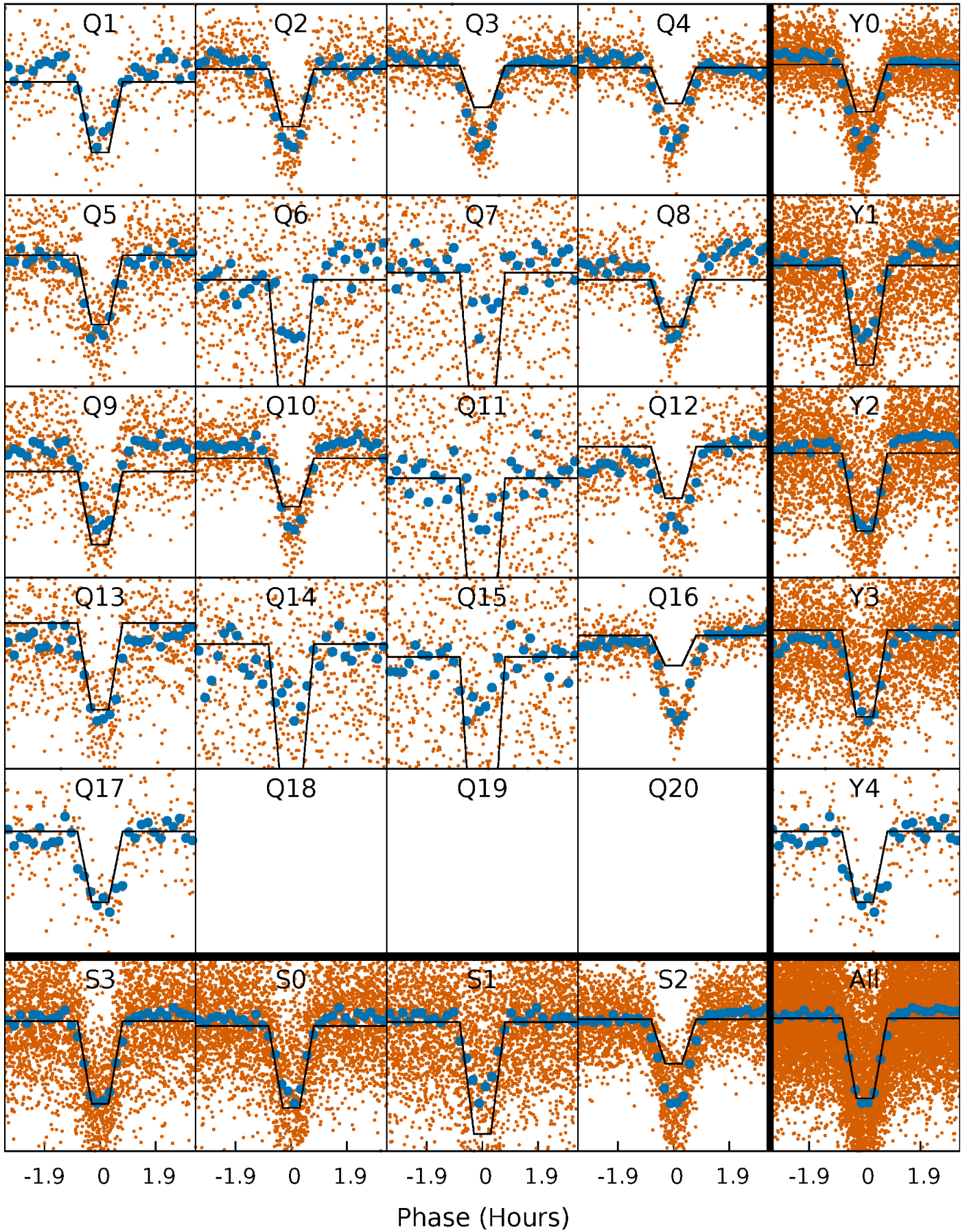
DV Quarter-Phased Transit Curves

TCE 008757910-01 P= 1.309995 Days $T_0=131.870903$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

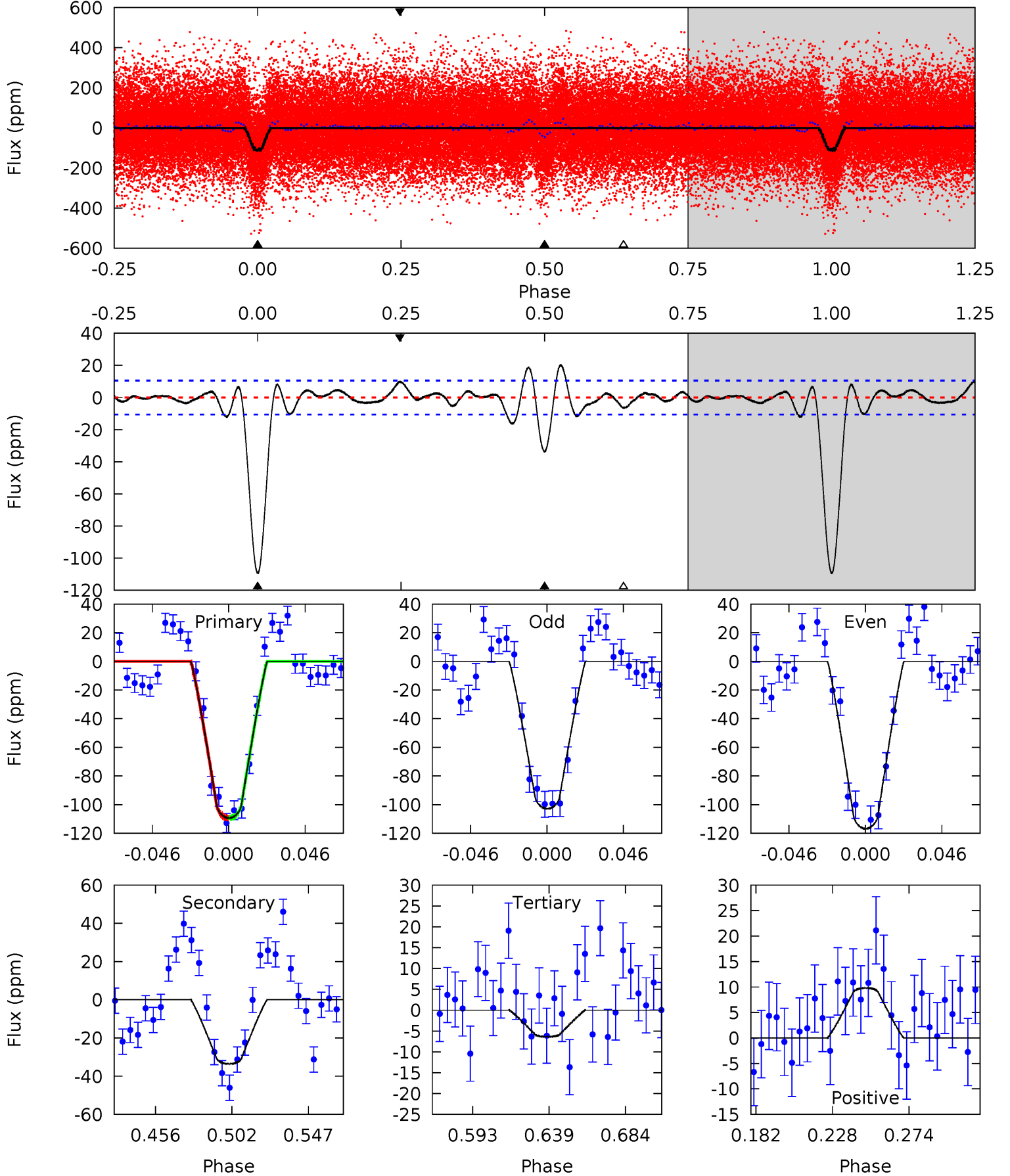
TCE 008757910-01 P= 1.309997 Days $T_0=131.869796$ (BKJD)



DV Model-Shift Uniqueness Test

008757910-01, P = 1.309995 Days, E = 130.560908 Days

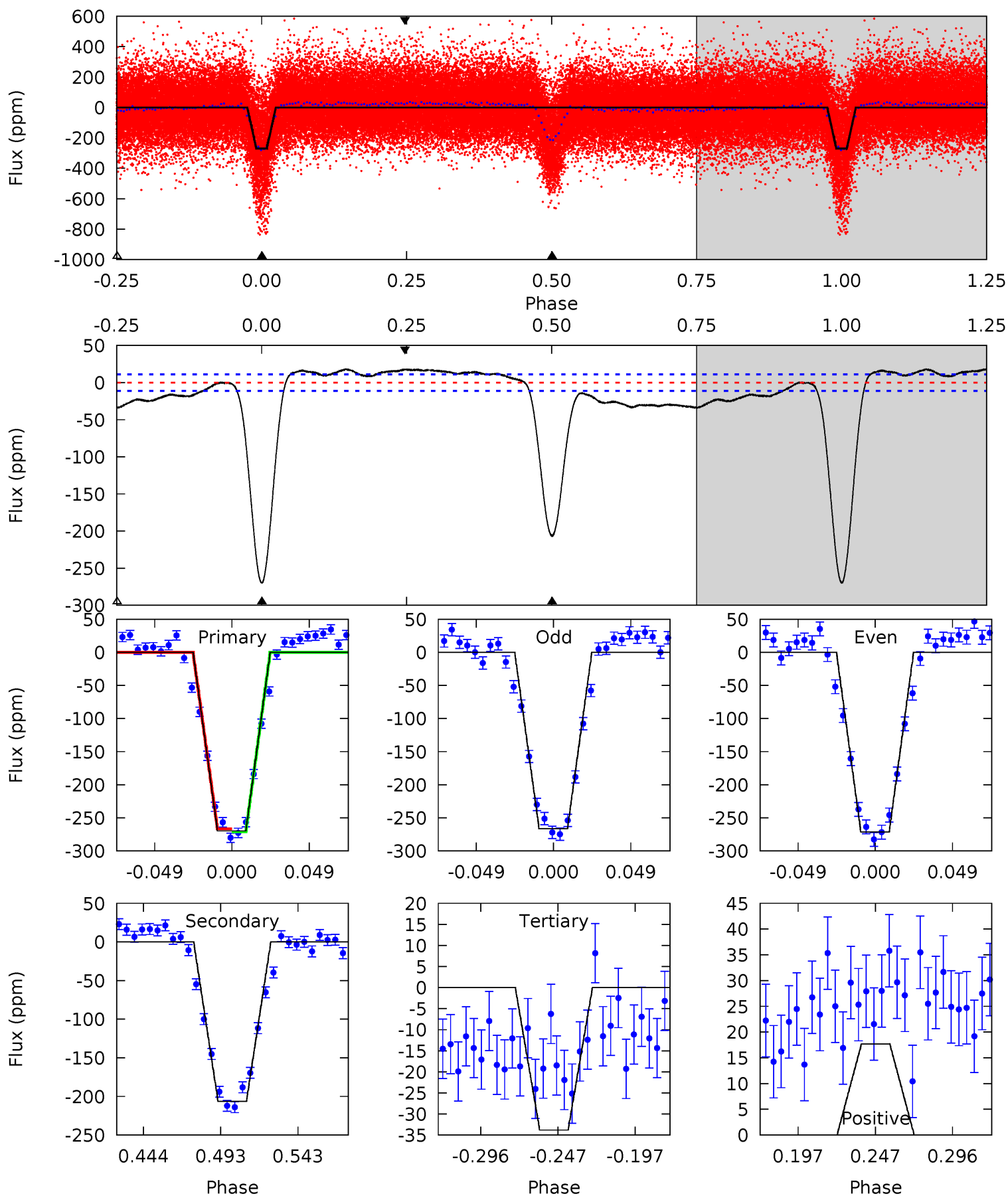
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.7	15.0	2.84	4.38	4.73	2.00	1.90	45.9	44.3	12.1	10.6	3.12	0.96	0.16	0.03



Alt Model-Shift Uniqueness Test

008757910-01, P = 1.309997 Days, E = 130.559799 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
114.3	87.5	14.3	7.50	4.71	1.97	8.10	100.0	106.8	73.2	80.0	1.06	1.04	0.06	0.94



Stellar Parameters For KIC 008757910

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6426^{+173}_{-192}	$3.965^{+0.266}_{-0.114}$	$0.070^{+0.250}_{-0.300}$	$2.089^{+0.449}_{-0.673}$	$1.466^{+0.154}_{-0.307}$	$0.227^{+0.364}_{-0.092}$
	+3%/-3%	+7%/-3%	+357%/-429%	+21%/-32%	+11%/-21%	+161%/-41%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008757910-01 / KOI 1269.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-34 ± 2	$2.46^{+0.64}_{-0.56}$	3445^{+215}_{-291}	4557^{+455}_{-371}	$2.093^{+1.365}_{-0.731}$
Alt.	-206 ± 2	$3.49^{+0.75}_{-0.73}$	3458^{+239}_{-276}	6035^{+508}_{-436}	$6.559^{+3.919}_{-2.033}$

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

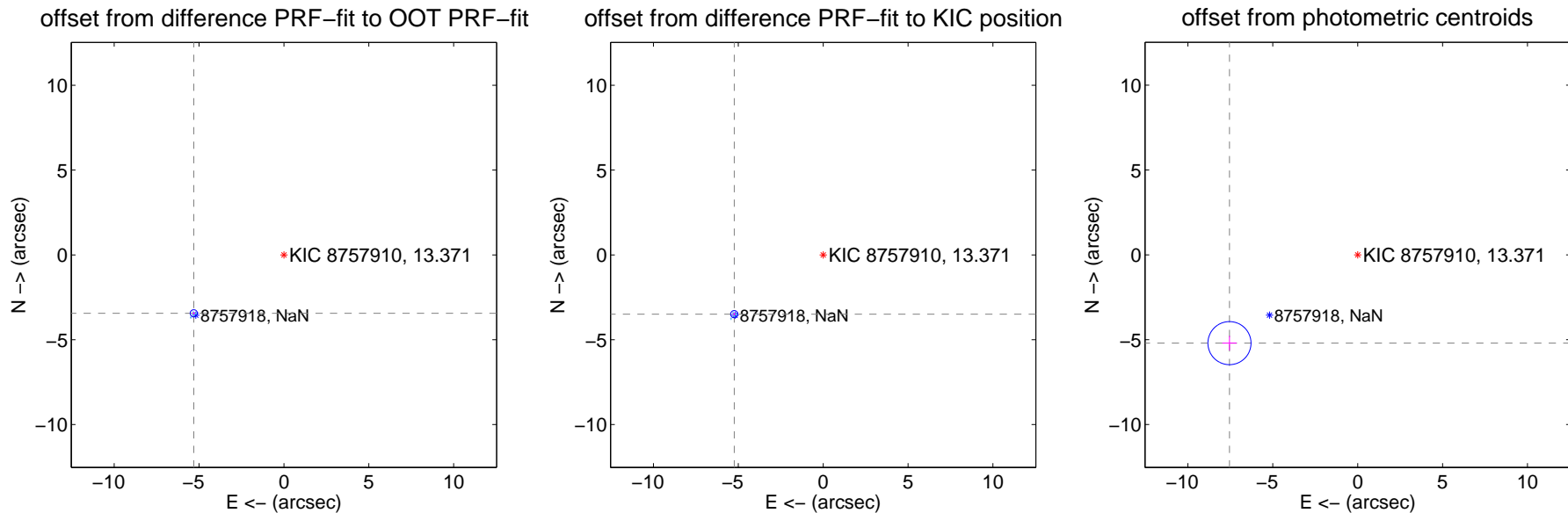
DV Centroid Data

Supplemental centroid analysis for 008757910-01. Kepler magnitude: 13.37. Transit SNR 31.37

There are 17 quarters with good PRF difference image offsets

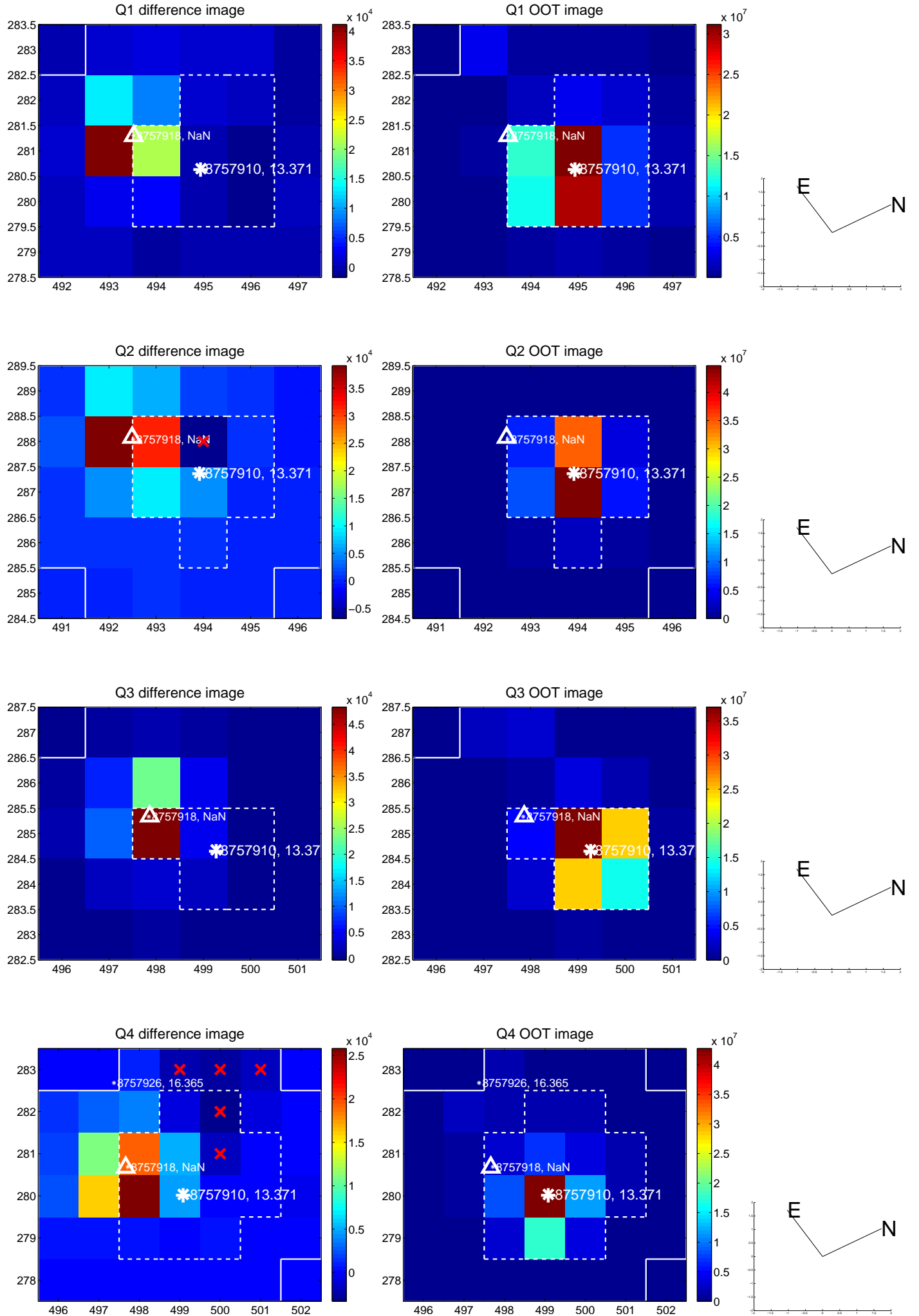
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.329 \pm 0.070	89.83	5.311 \pm 0.070	-3.444 \pm 0.070
PRF-fit source offset from KIC position	6.300 \pm 0.070	89.46	5.242 \pm 0.070	-3.494 \pm 0.070
photometric centroid source offset	9.17 \pm 0.42	21.68	7.55 \pm 0.42	-5.21 \pm 0.43

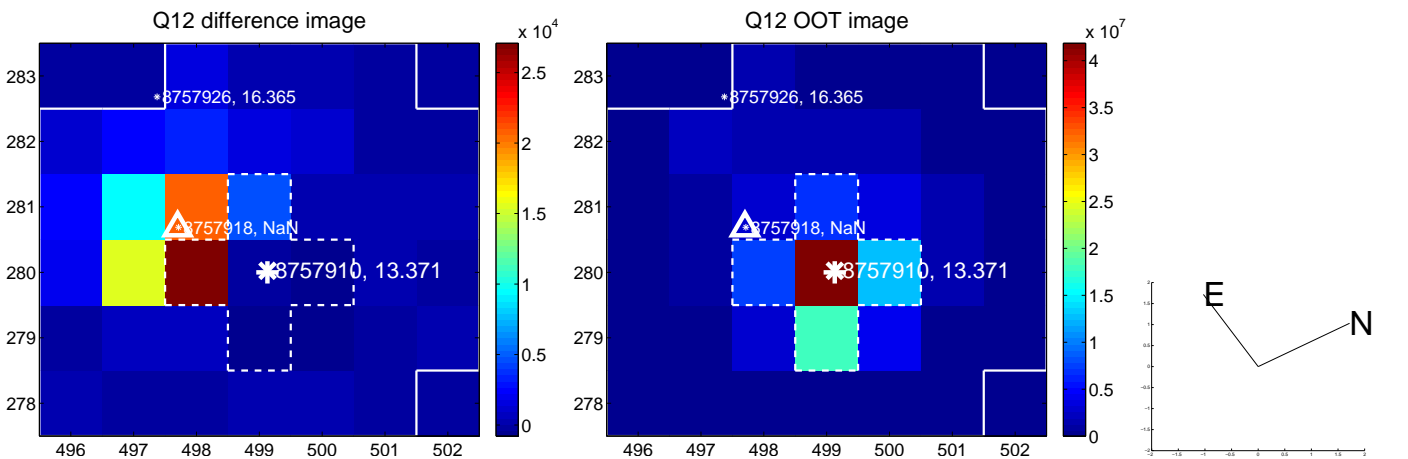
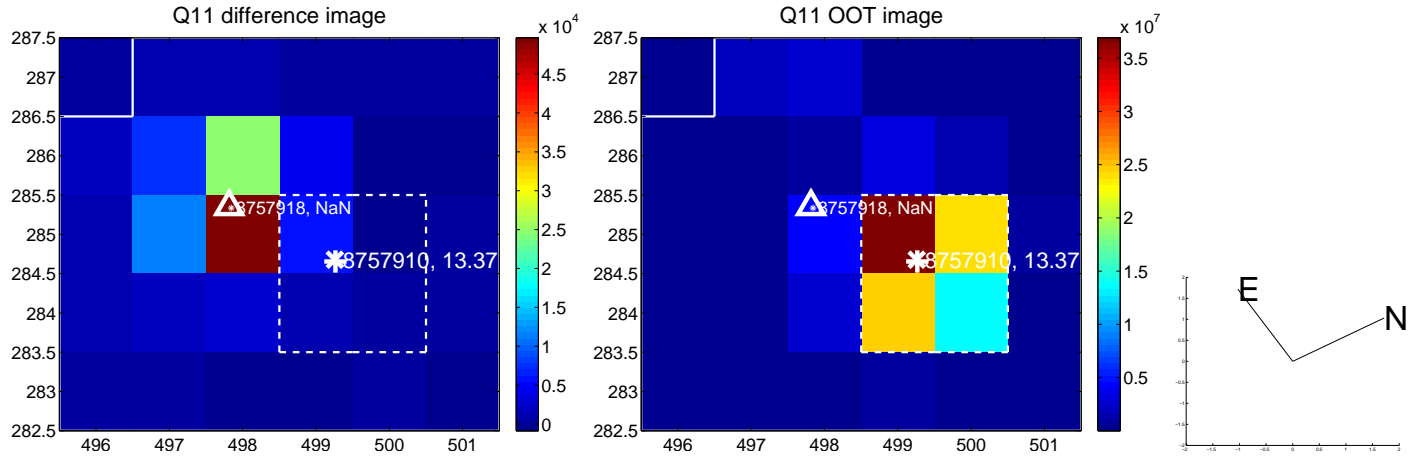
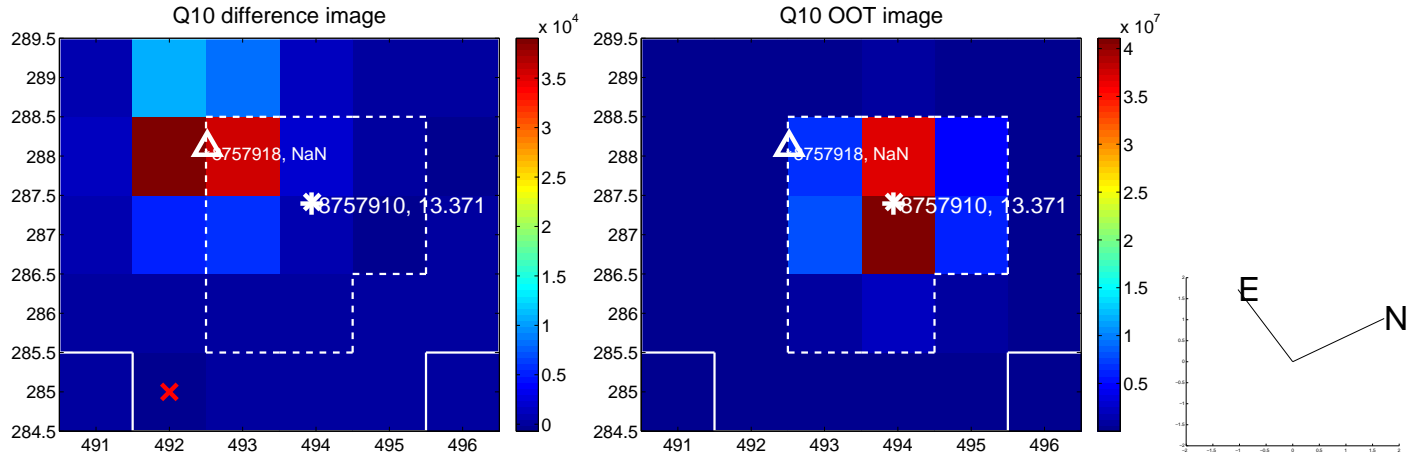
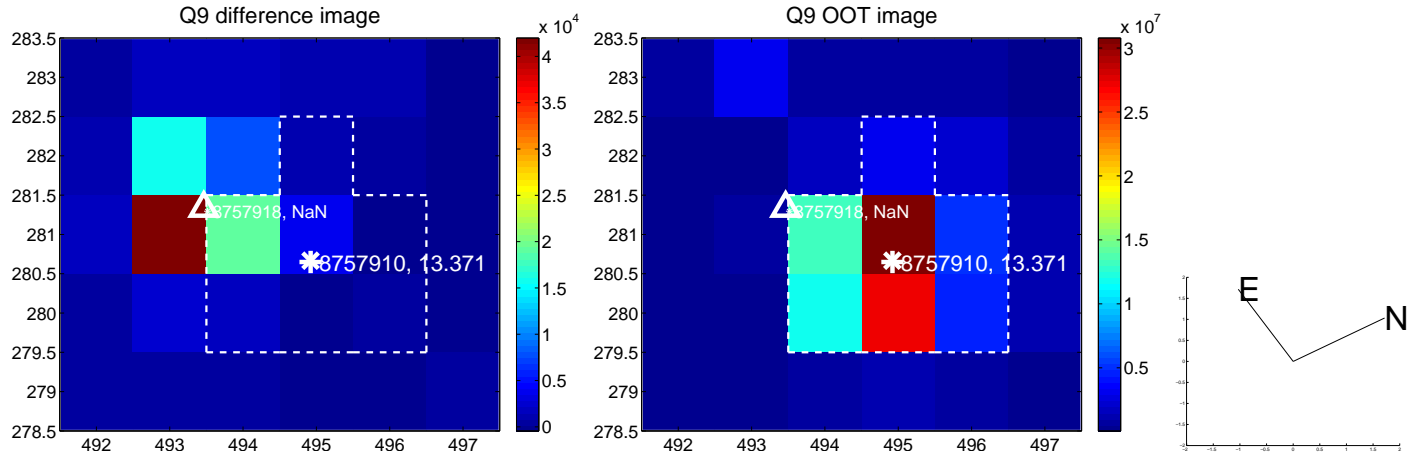


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

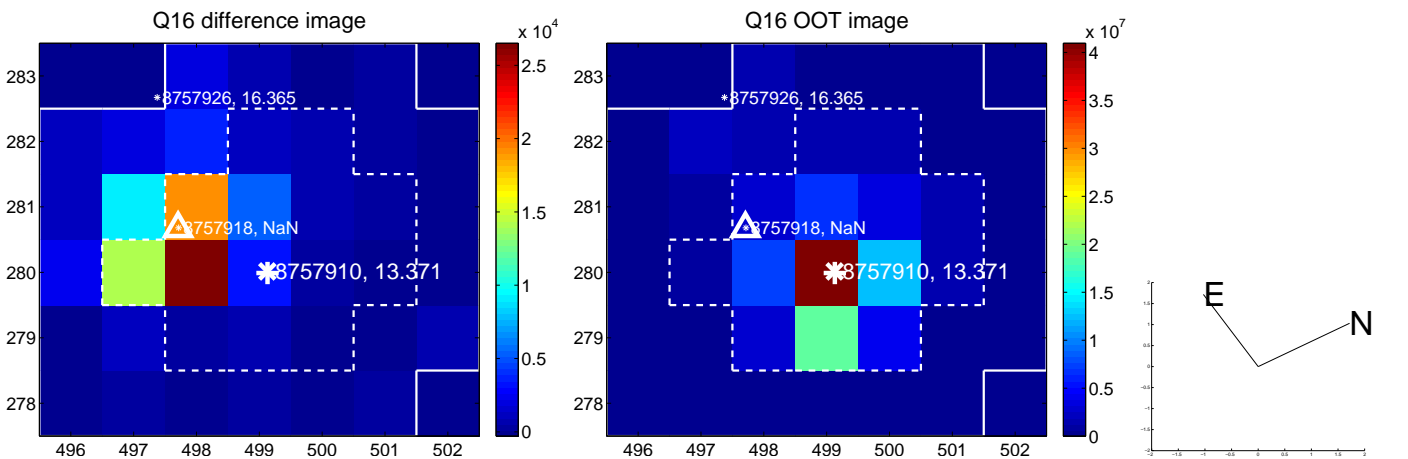
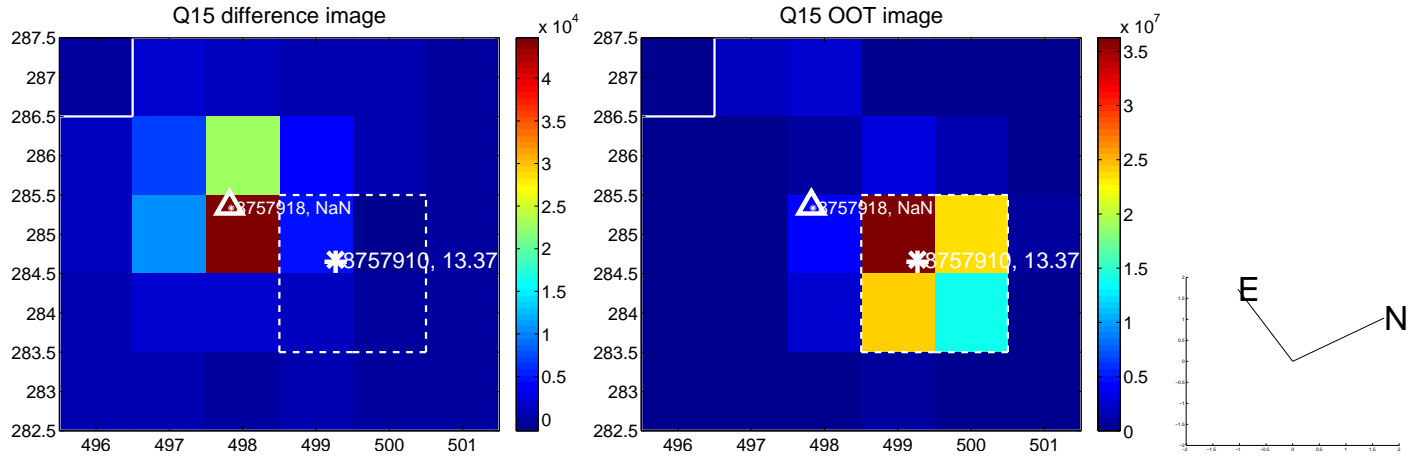
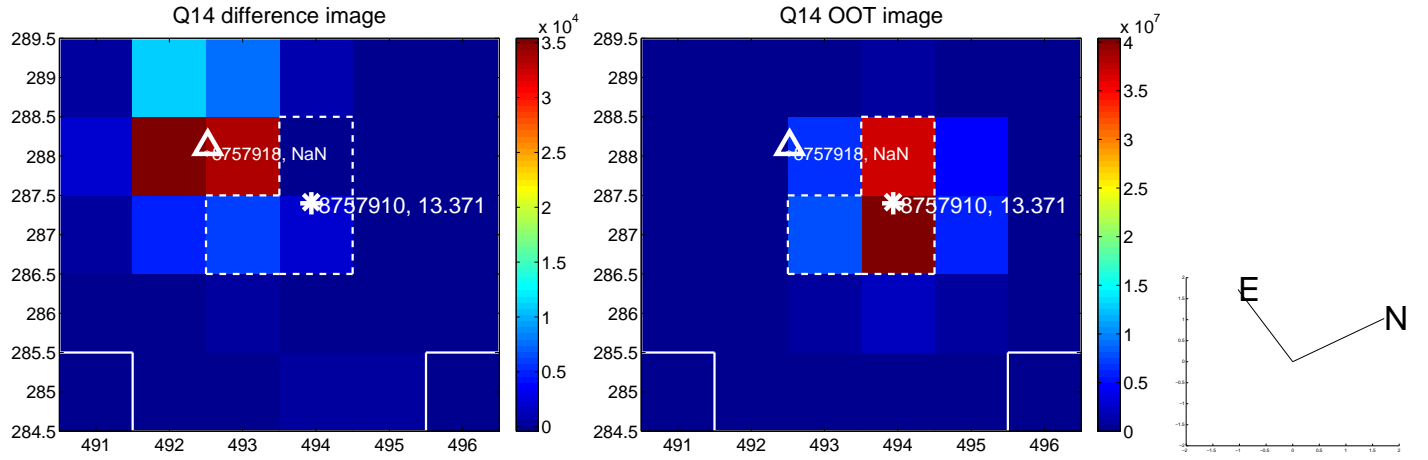
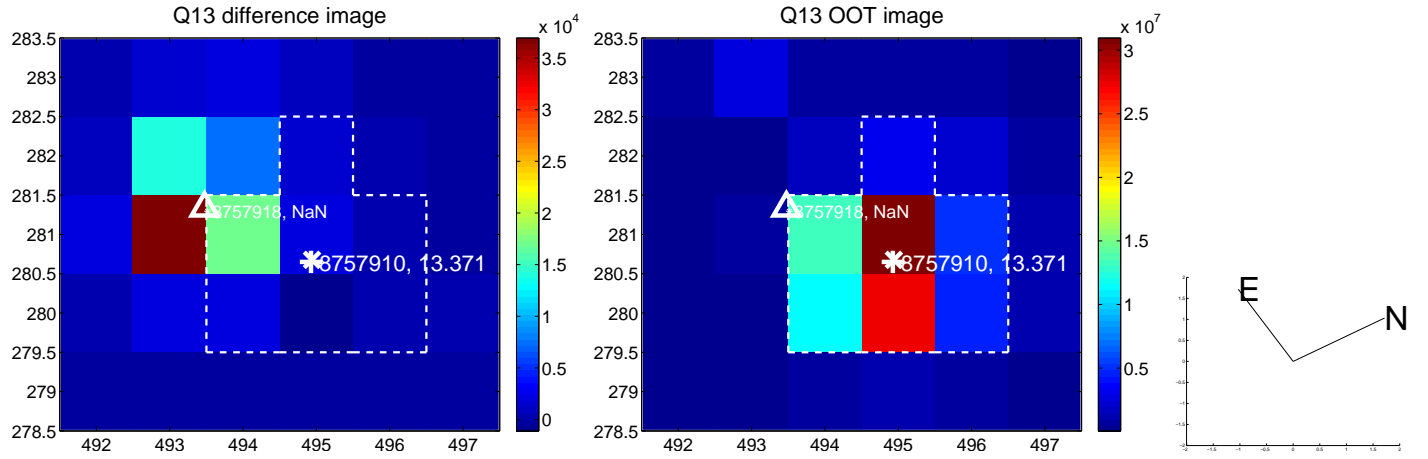
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



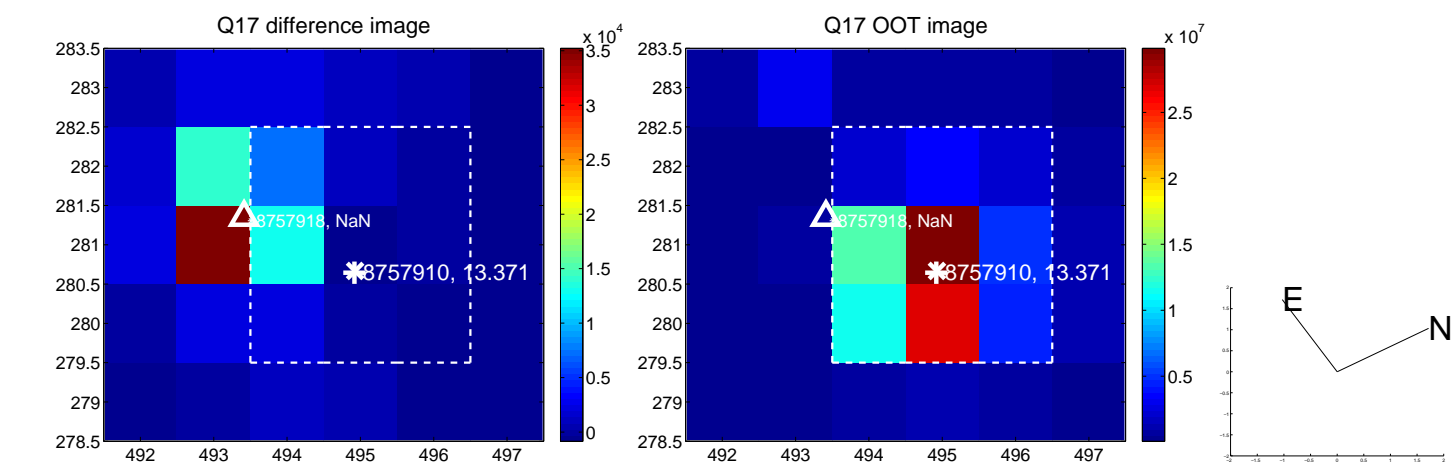
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



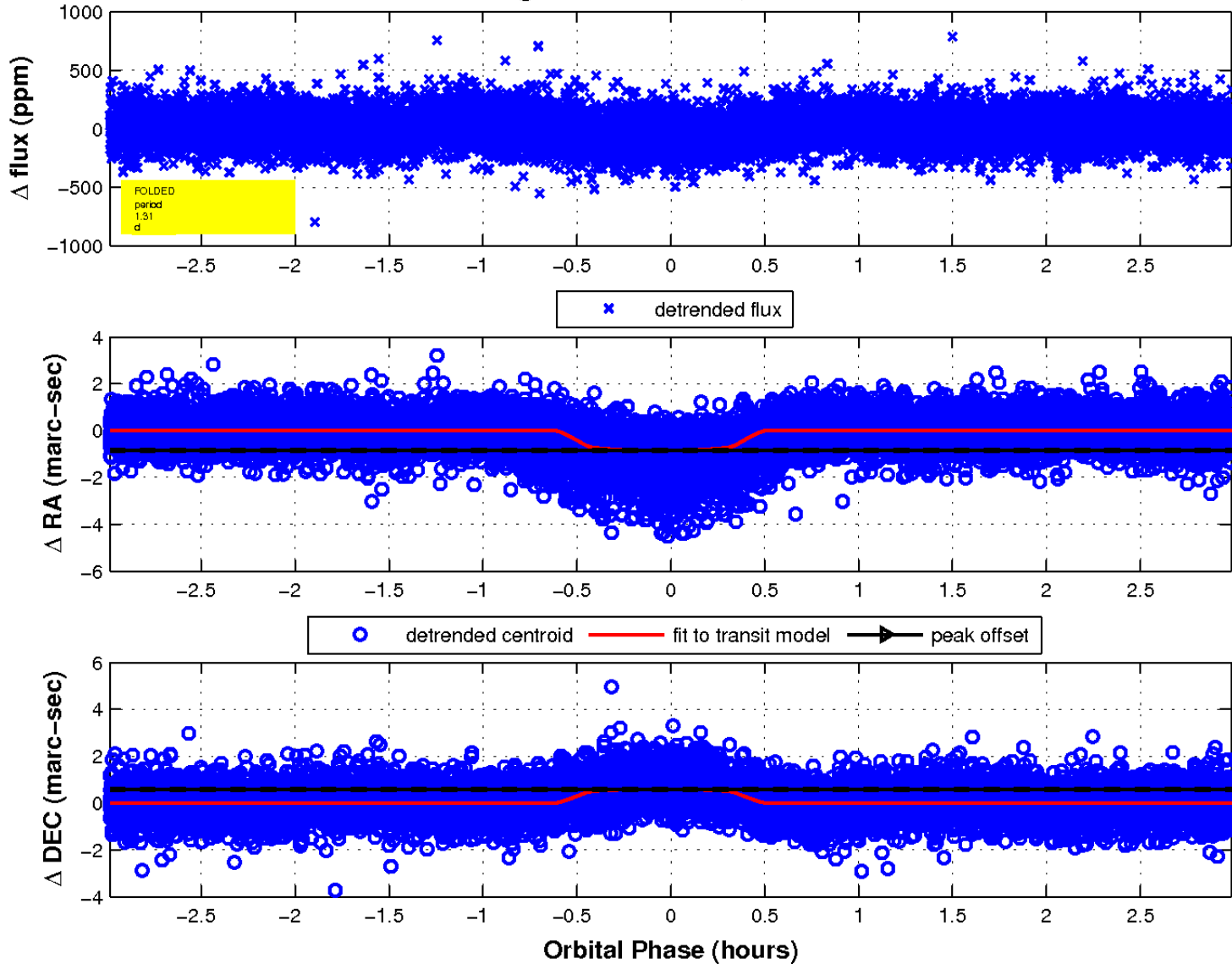
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



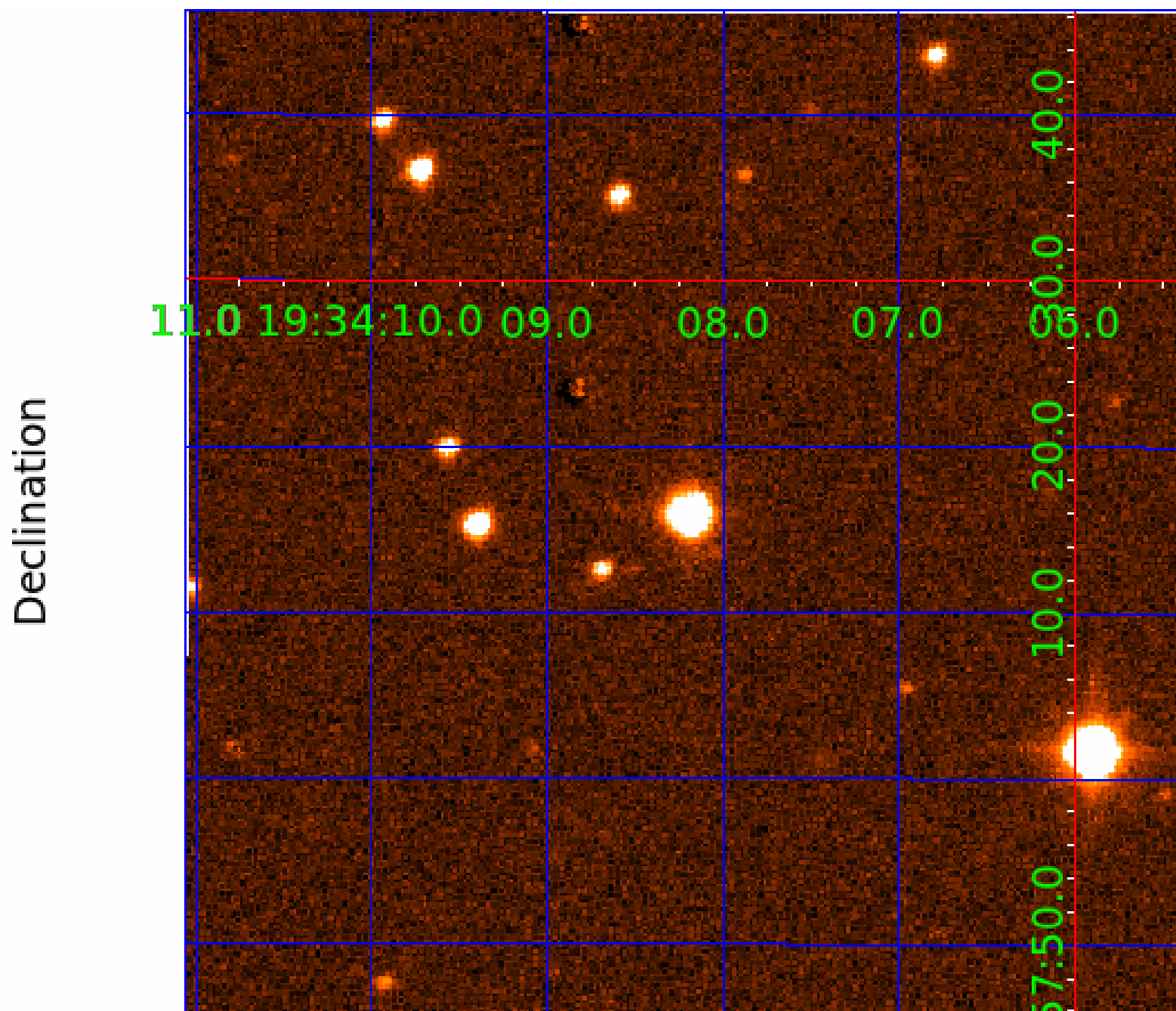
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image



KIC 008757910

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})
008757910-01	OBS	1269.01	1.309995	131.870903	111.3	0.995	17.3	31.4	2.09	6426	2.61	9395.57
008757910-02	OBS	No	0.655006	131.862260	49.4	0.732	7.7	12.0	2.09	6426	1.85	23674.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008757910-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
008757910-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET

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.

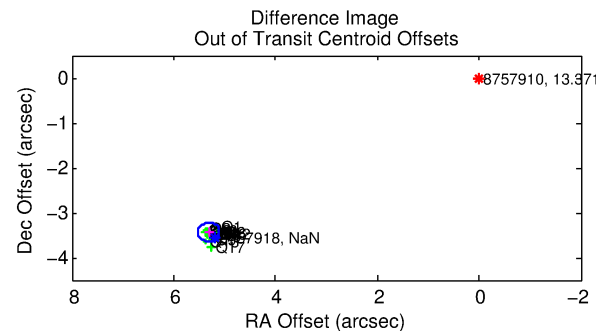
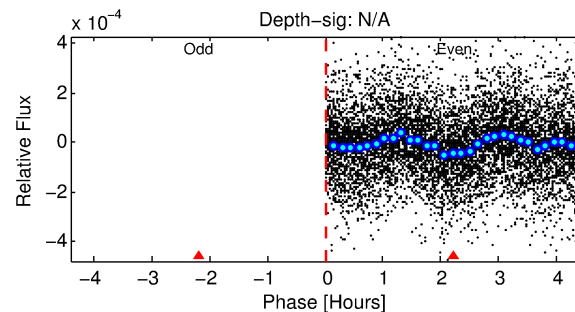
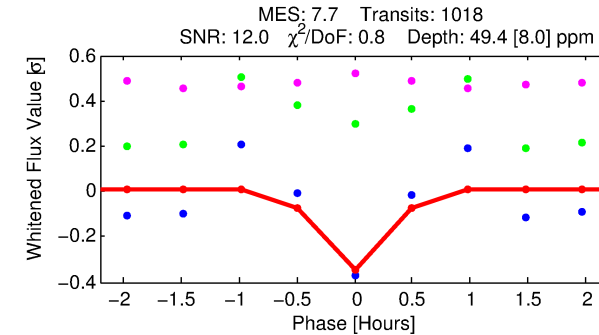
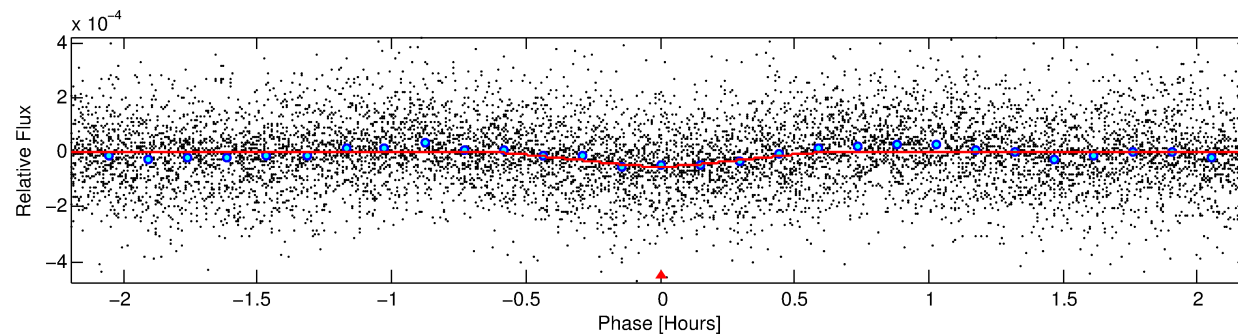
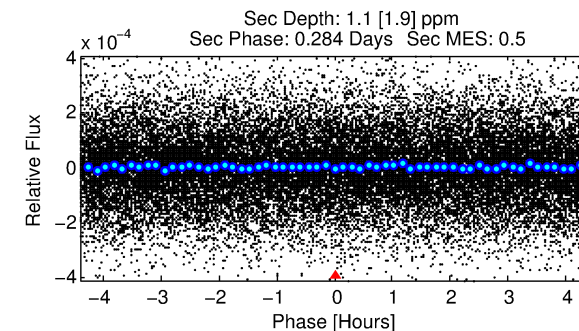
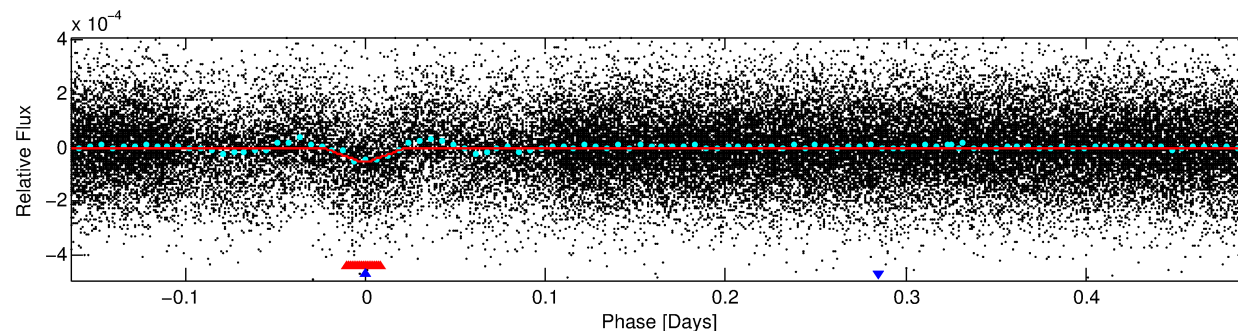
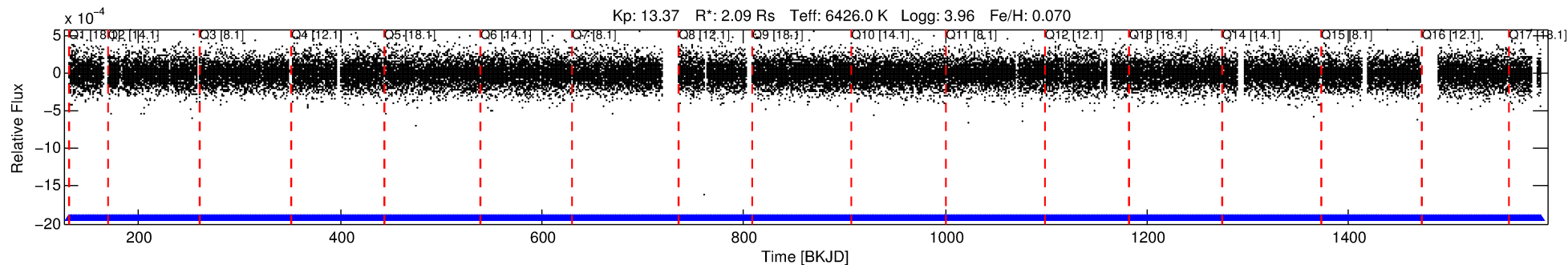
Ephemeris Match Information For 008757910-02

No Significant Match Found

DV One-Page Summary

KIC: 8757910 Candidate: 2 of 2 Period: 0.655 d
KOI: K01269 Corr: No Ephemeris Match

Kp: 13.37 R*: 2.09 Rs Teff: 6426.0 K Logg: 3.96 Fe/H: 0.070



DV Fit Results:

Period = 0.65501 [0.00001] d
Epoch = 131.8623 [0.0012] BKJD
Rp/R* = 0.0081 [0.0032]
a/R* = 2.47 [4.66]
b = 0.95 [0.23]
Seff = 23674.95 [11283.34]
Teff = 3163 [377] K
Rp = 1.86 [0.94] Re
a = 0.0168 [0.0050] AU
Ag = 0.05 [0.10] [-9.78σ]
Teffp = 2311 [1095] K [-0.74σ]

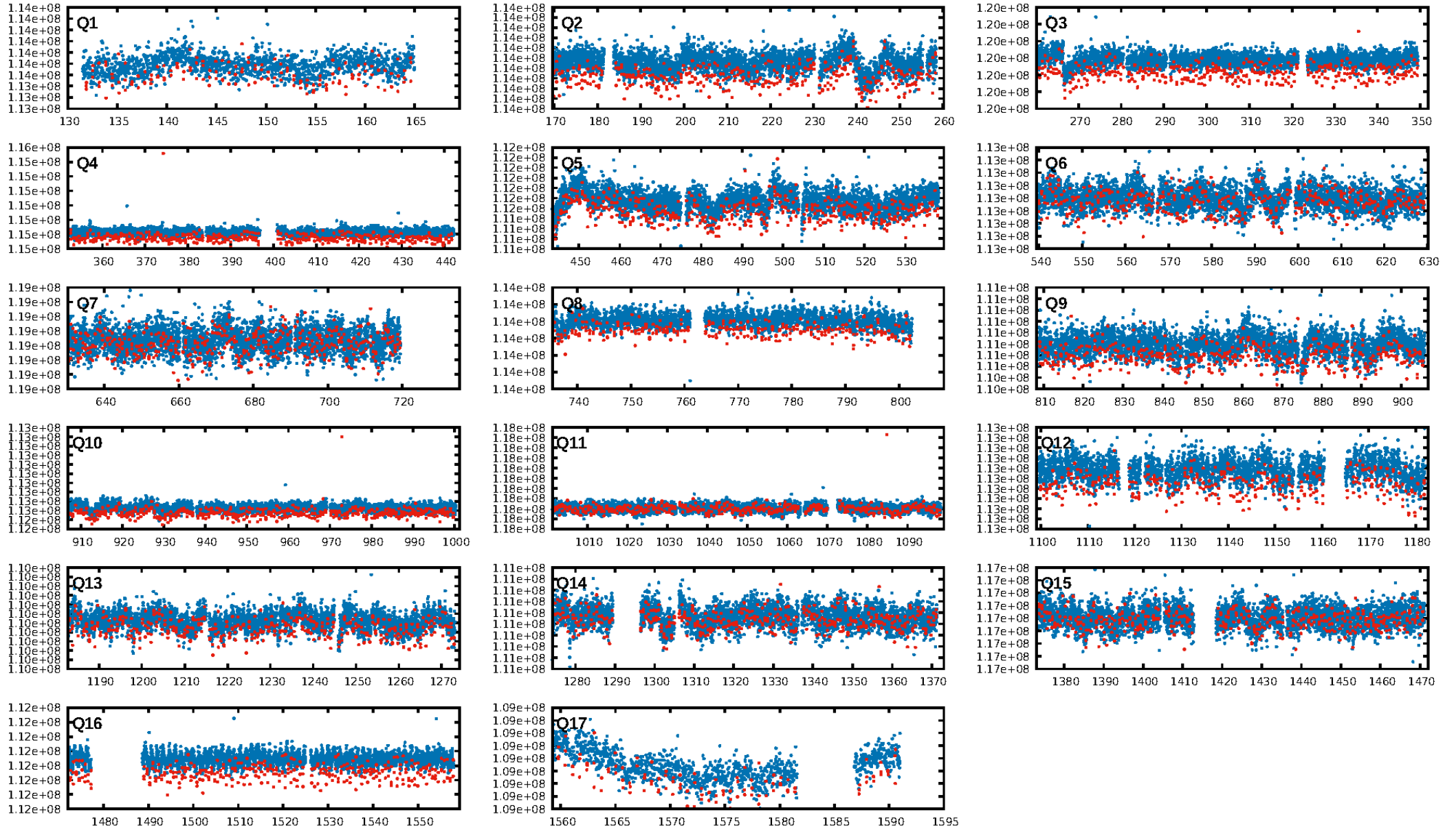
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [12.72σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.47e-14
RollingBand-fgt: 1.00 [973/973]
GhostDiagnostic-chr: -0.3889
Centroid-sig: 20.6%
Centroid-so: 0.663 arcsec [0.81σ]
OotOffset-rm: 6.326 arcsec [89.08σ]
KicOffset-rm: 6.291 arcsec [88.42σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
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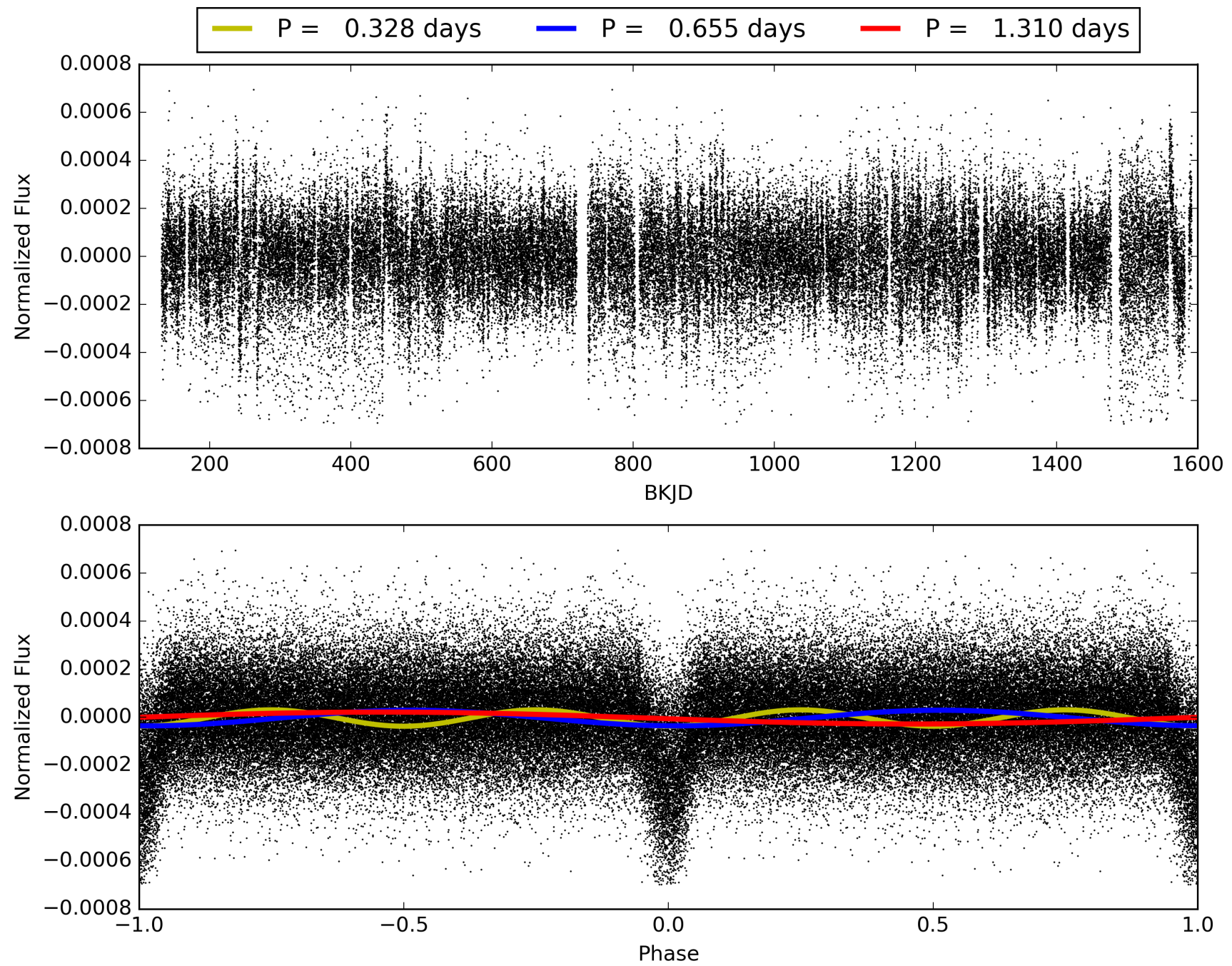
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TCE 008757910-02, PDC Light Curves

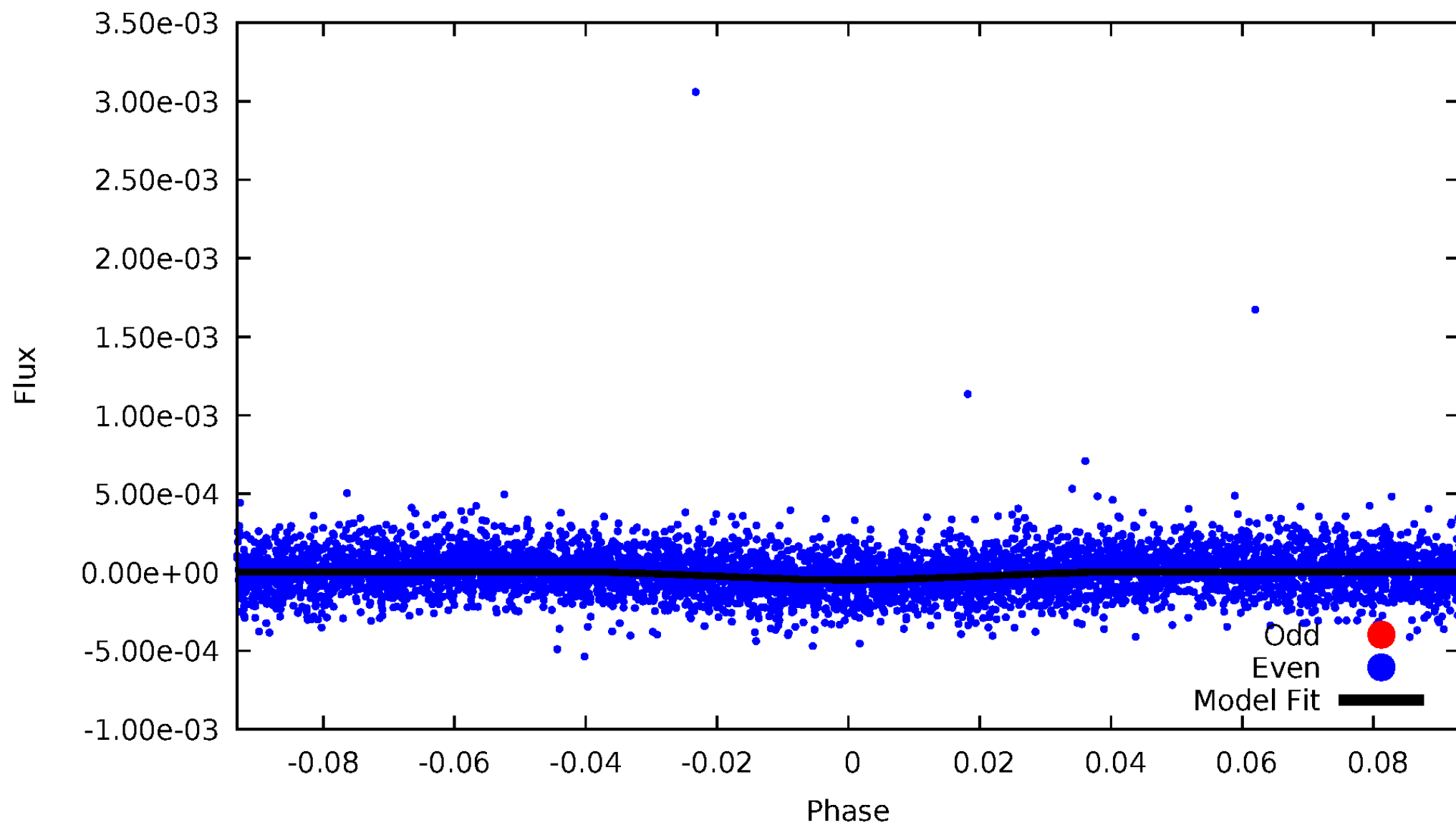


TCE 008757910-02



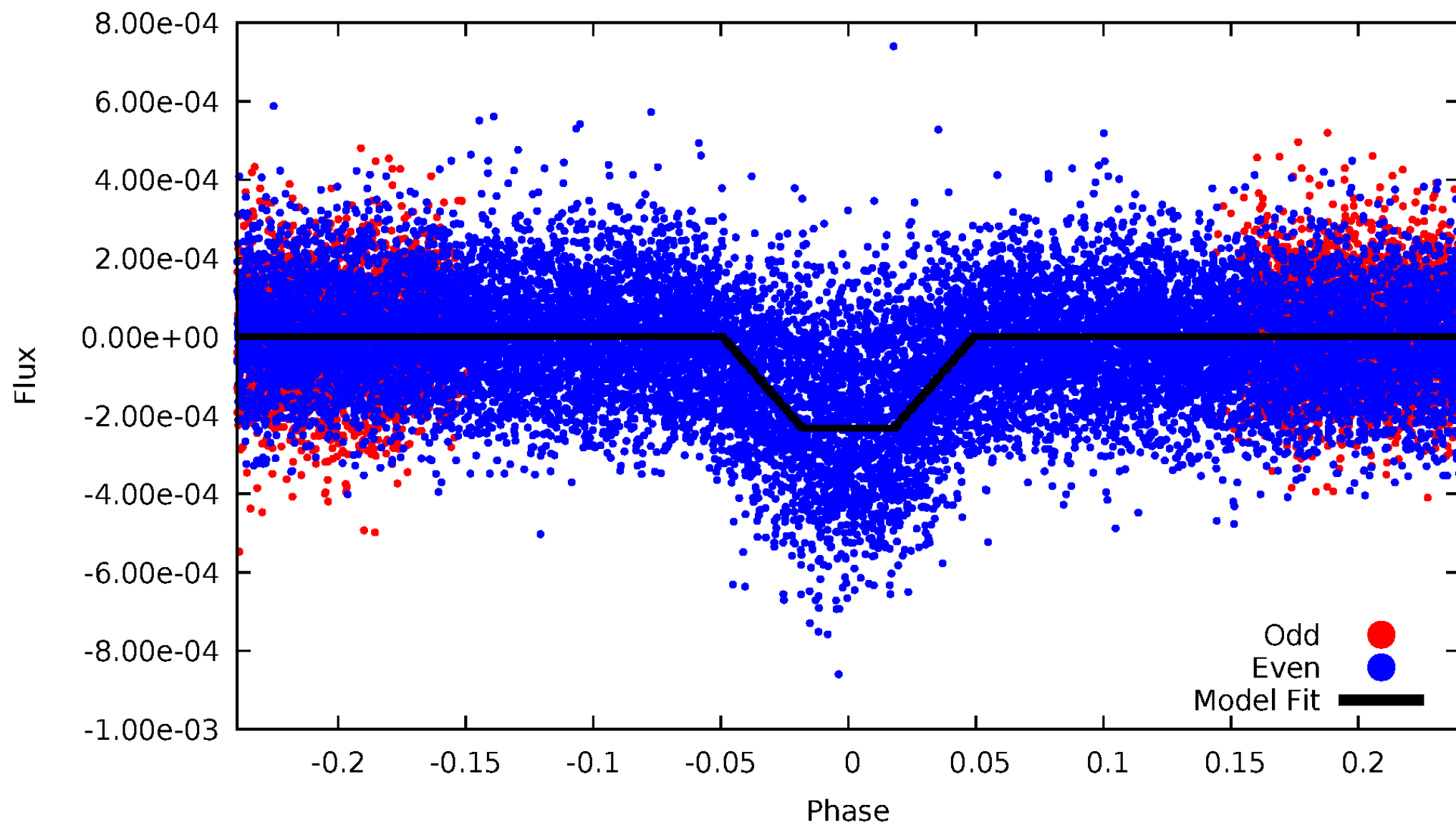
DV Odd/Even

TCE 008757910-02



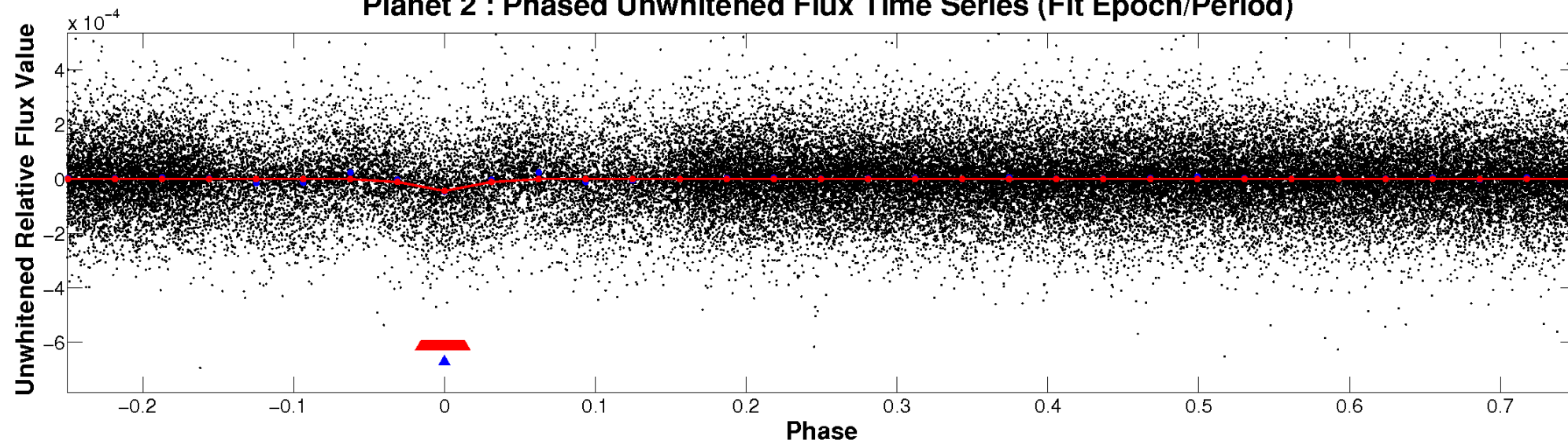
ALT Odd/Even

TCE 008757910-02

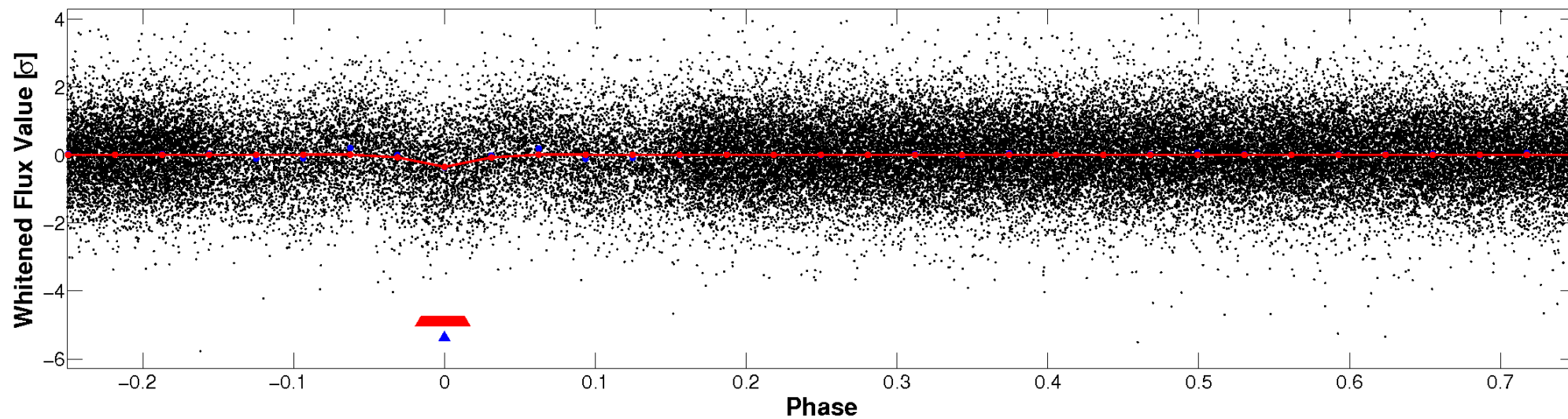


Non-Whitened Vs. Whitened Light Curve

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

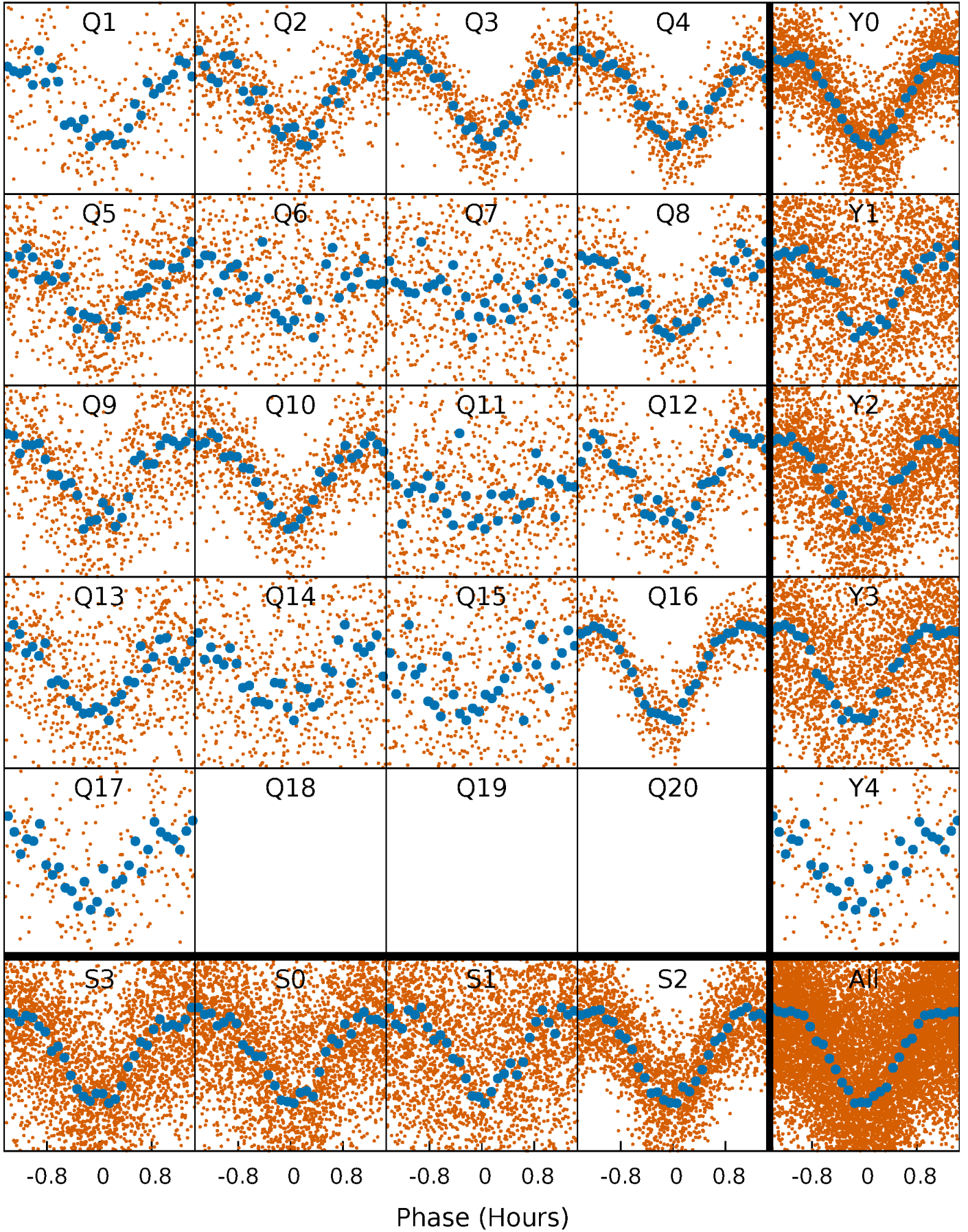


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



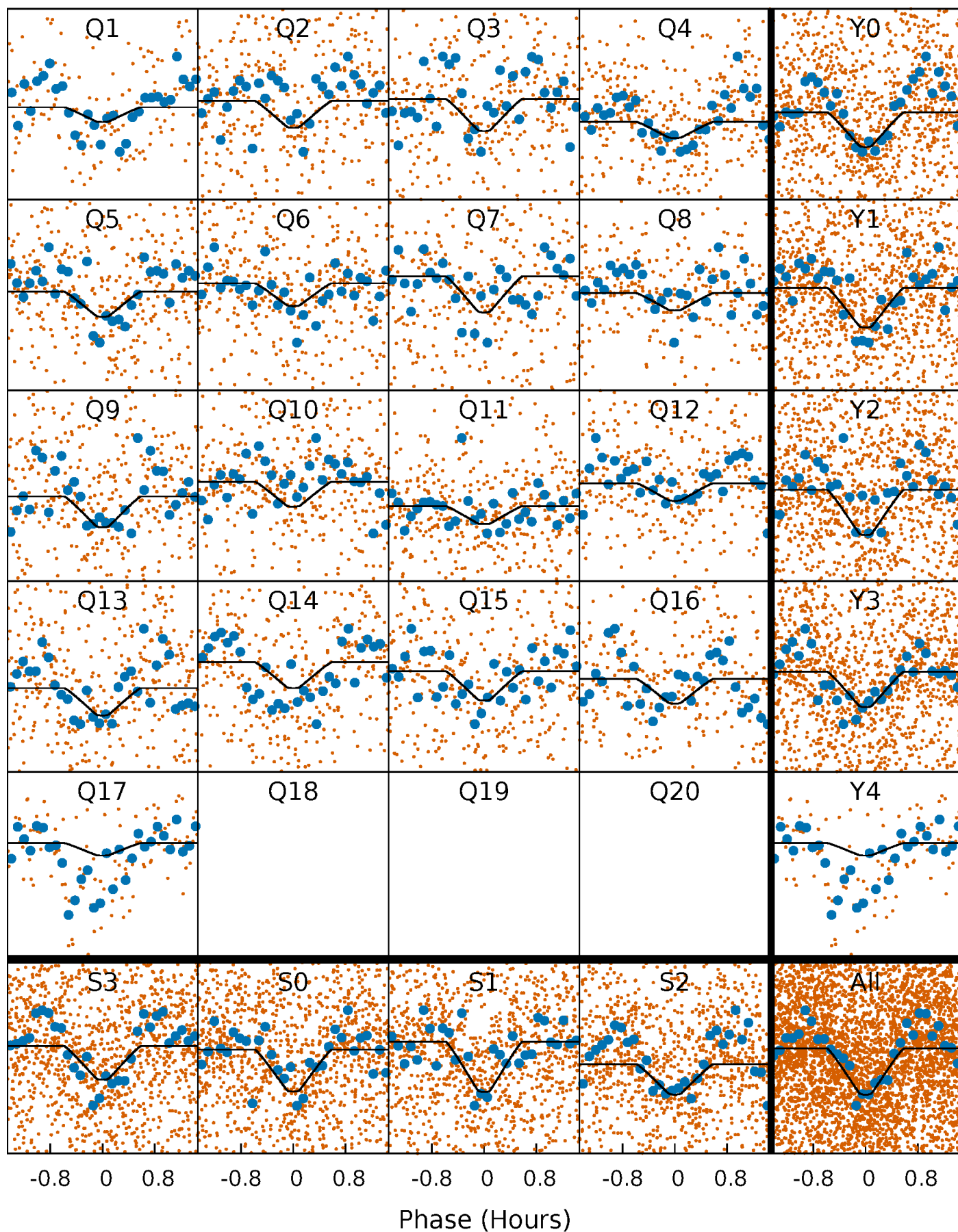
PDC Quarter-Phased Transit Curves

TCE 008757910-02 P= 0.655006 Days $T_0=131.862260$ (BKJD)



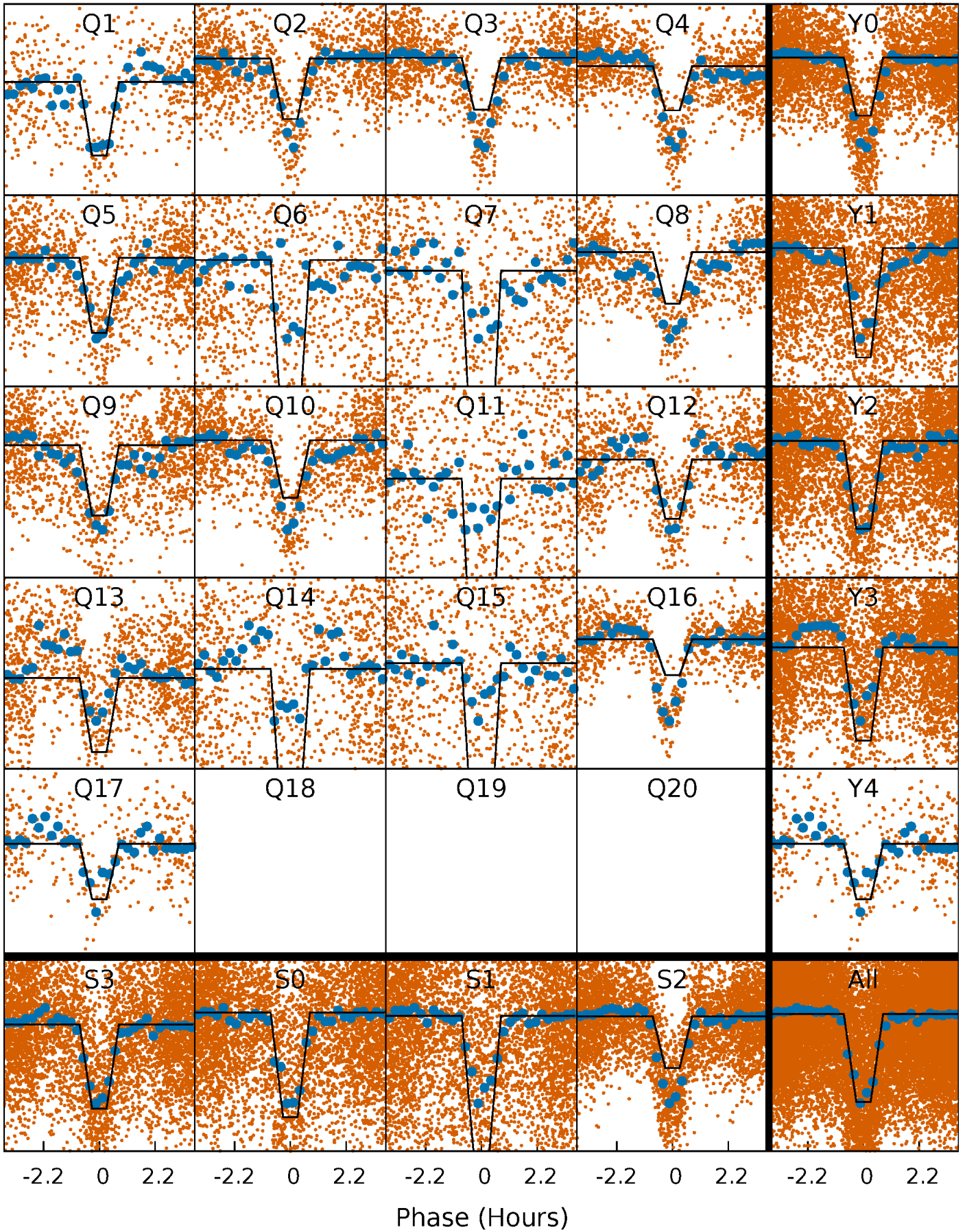
DV Quarter-Phased Transit Curves

TCE 008757910-02 P= 0.655006 Days $T_0=131.862260$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

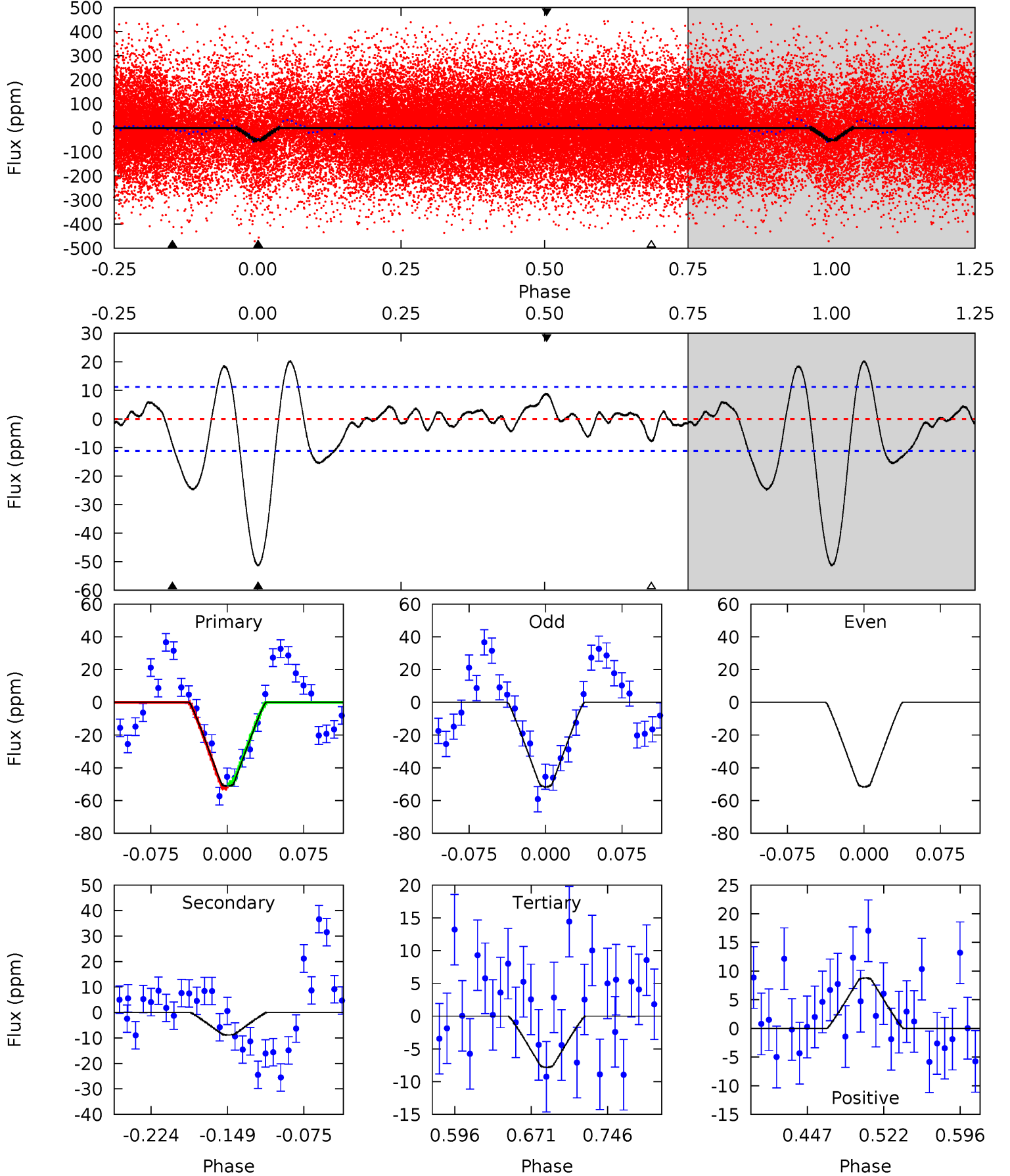
TCE 008757910-02 P= 0.655006 Days $T_0=131.862458$ (BKJD)



DV Model-Shift Uniqueness Test

008757910-02, P = 0.655006 Days, E = 131.207254 Days

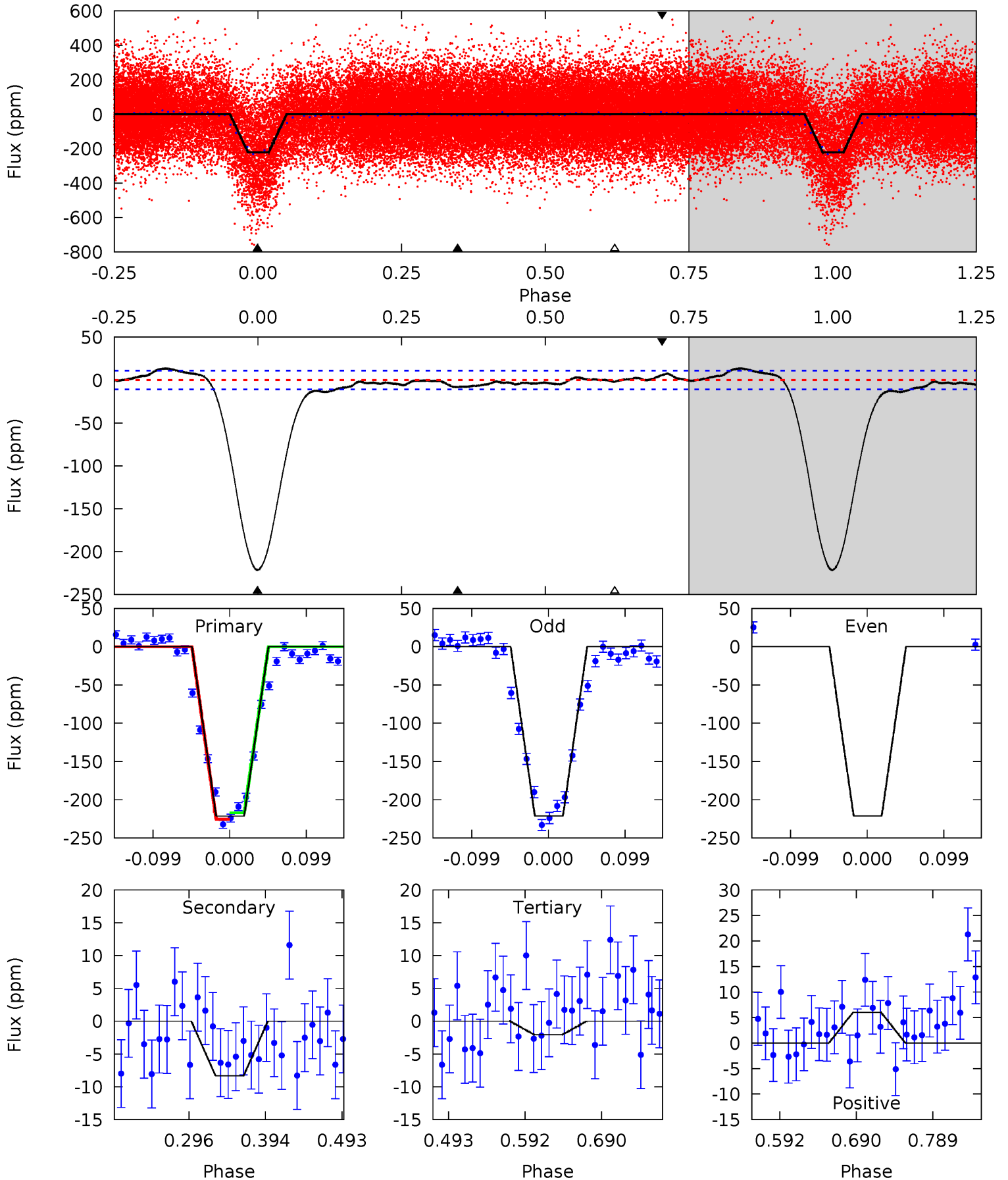
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.1	3.63	3.22	3.63	4.63	1.78	1.61	17.9	17.5	0.41	0.00	0	1.02	0.28	0.51



Alt Model-Shift Uniqueness Test

008757910-02, P = 0.655006 Days, E = 131.207452 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
93.1	3.50	0.86	2.53	4.57	1.65	2.26	92.2	90.5	2.63	0.97	0	0.99	0.06	1.77



Stellar Parameters For KIC 008757910

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6426^{+173}_{-192}	$3.965^{+0.266}_{-0.114}$	$0.070^{+0.250}_{-0.300}$	$2.089^{+0.449}_{-0.673}$	$1.466^{+0.154}_{-0.307}$	$0.227^{+0.364}_{-0.092}$
	+3%/-3%	+7%/-3%	+357%/-429%	+21%/-32%	+11%/-21%	+161%/-41%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008757910-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-9 ± 2	$1.75^{+0.86}_{-0.71}$	4347^{+297}_{-332}	3289^{+1448}_{-6644}	$0.402^{+0.881}_{-0.219}$
Alt.	-8 ± 2	$3.29^{+0.89}_{-0.79}$	4355^{+285}_{-371}	-3585^{+480}_{-269}	$0.111^{+0.102}_{-0.046}$

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

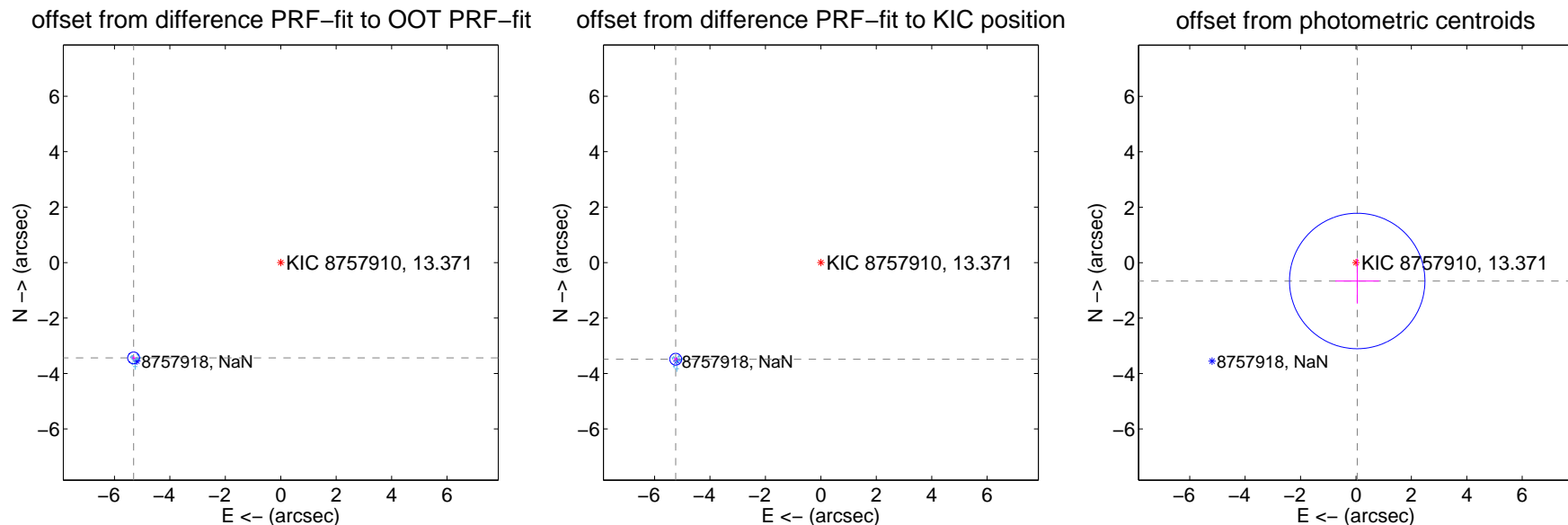
DV Centroid Data

Supplemental centroid analysis for 008757910-02. Kepler magnitude: 13.37. Transit SNR 11.99

There are 17 quarters with good PRF difference image offsets

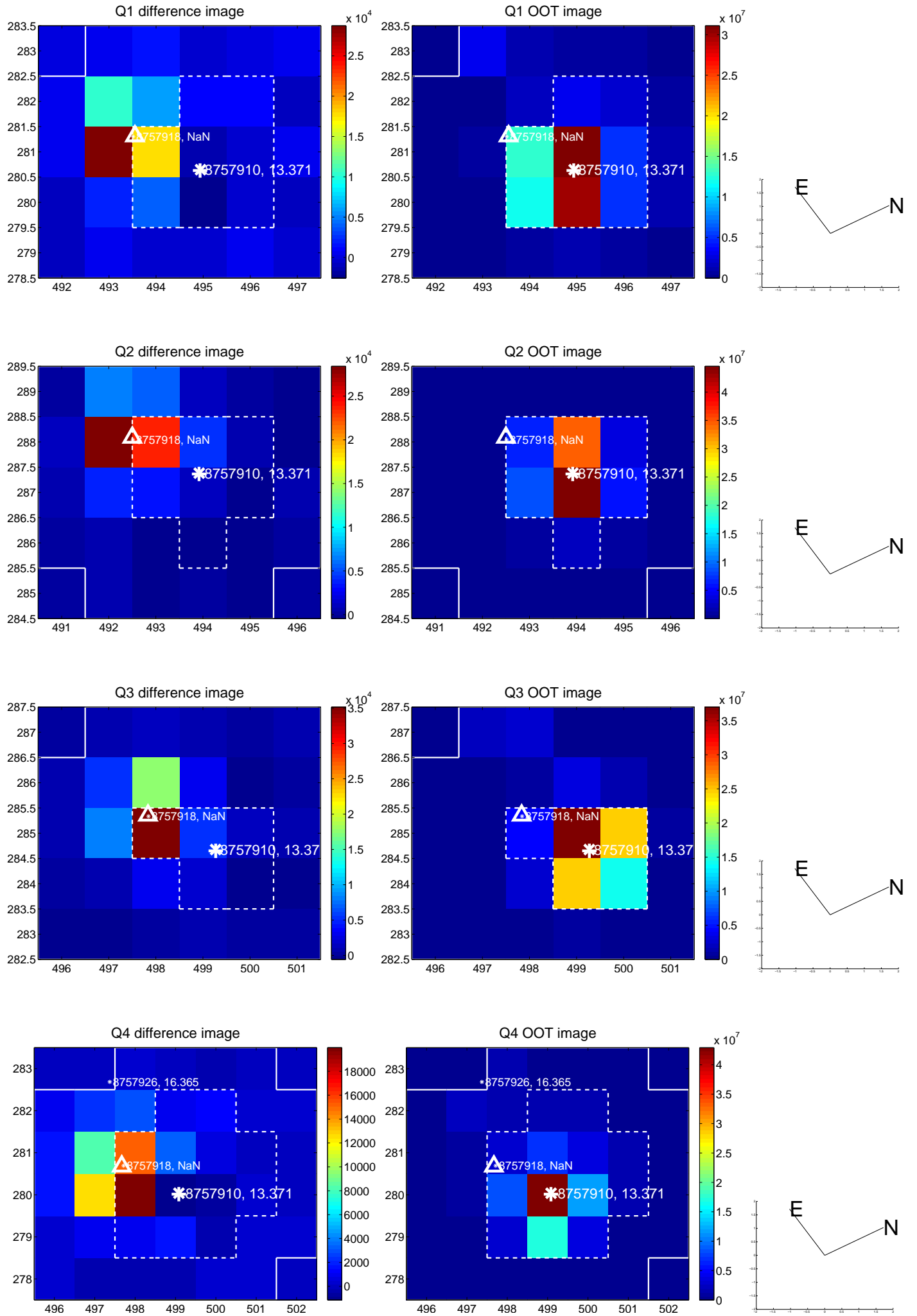
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.326 \pm 0.071	89.08	5.310 \pm 0.071	-3.438 \pm 0.072
PRF-fit source offset from KIC position	6.291 \pm 0.071	88.42	5.236 \pm 0.071	-3.486 \pm 0.071
photometric centroid source offset	0.66 \pm 0.81	0.81	-0.05 \pm 0.79	-0.66 \pm 0.81

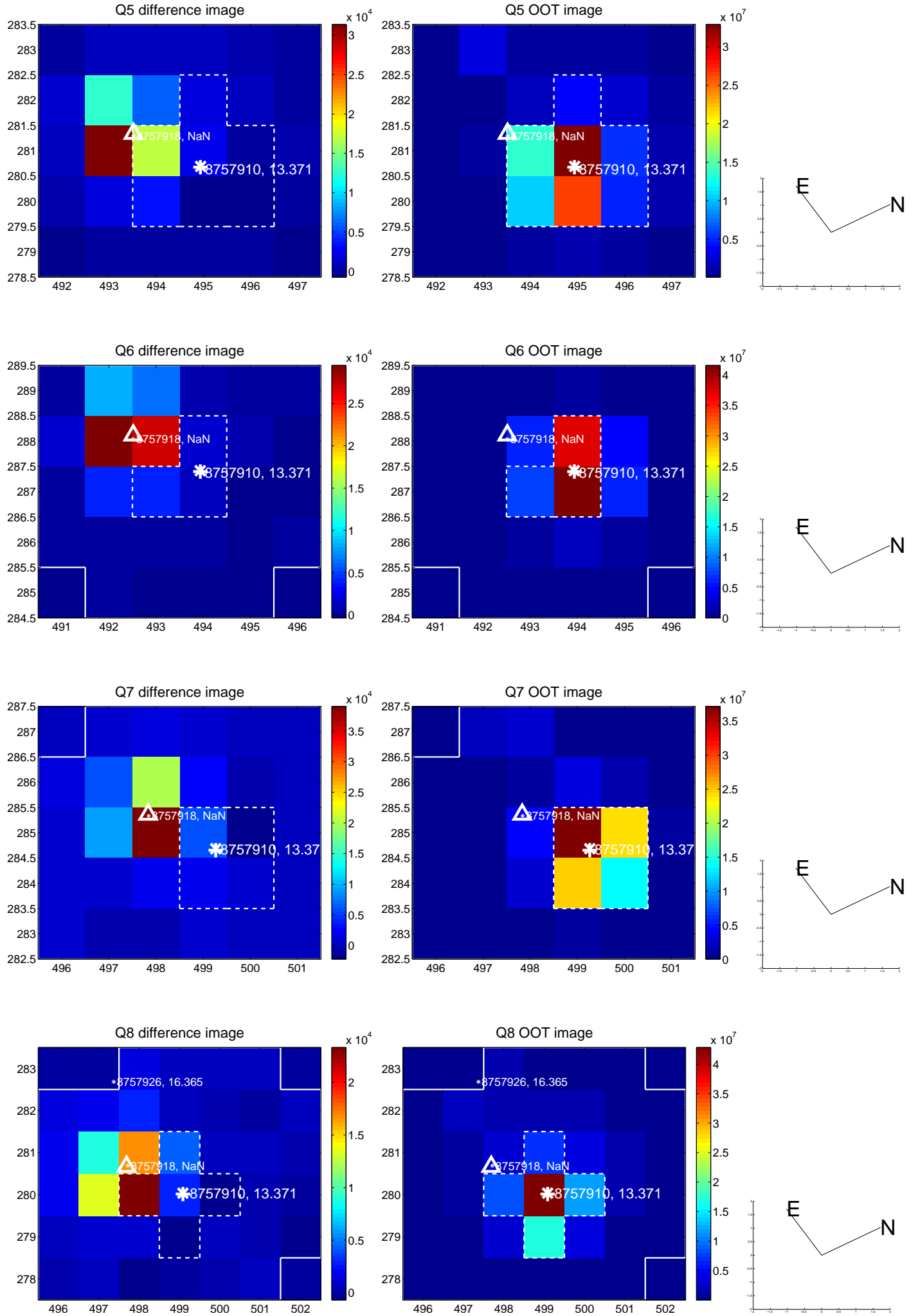


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

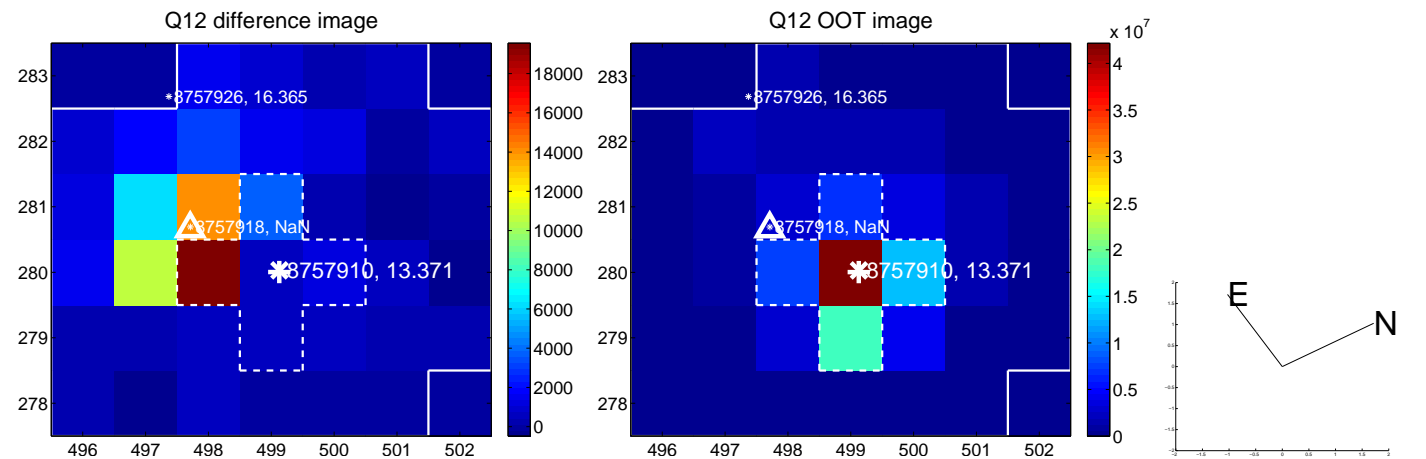
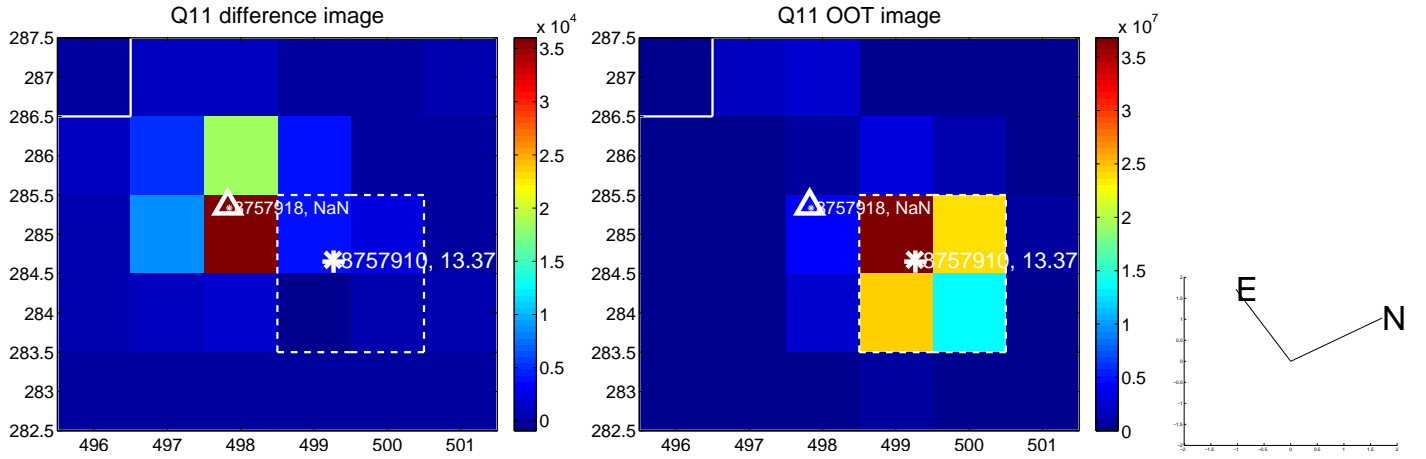
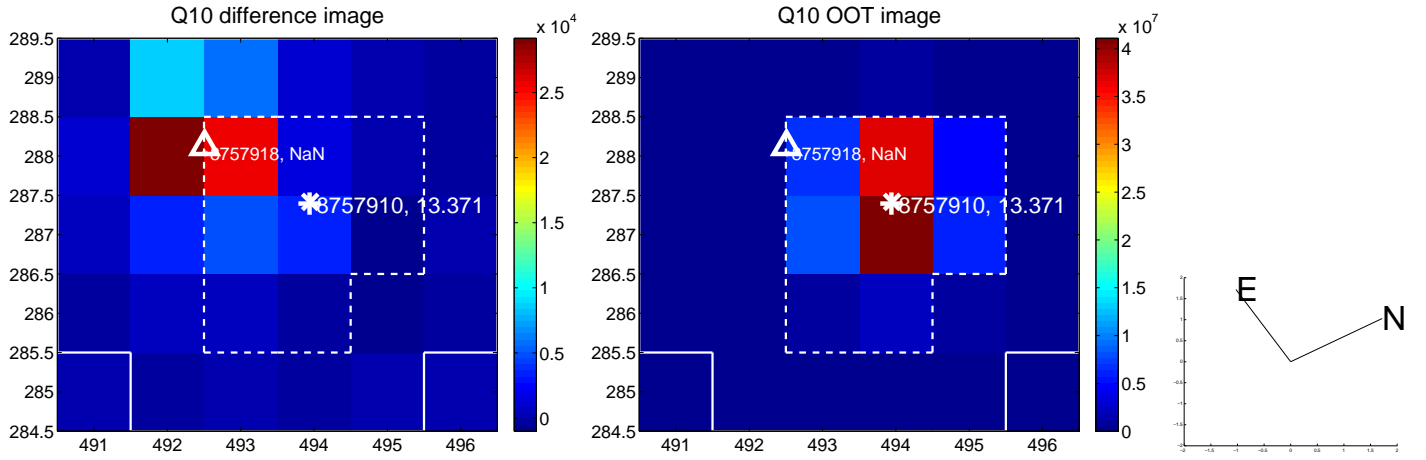
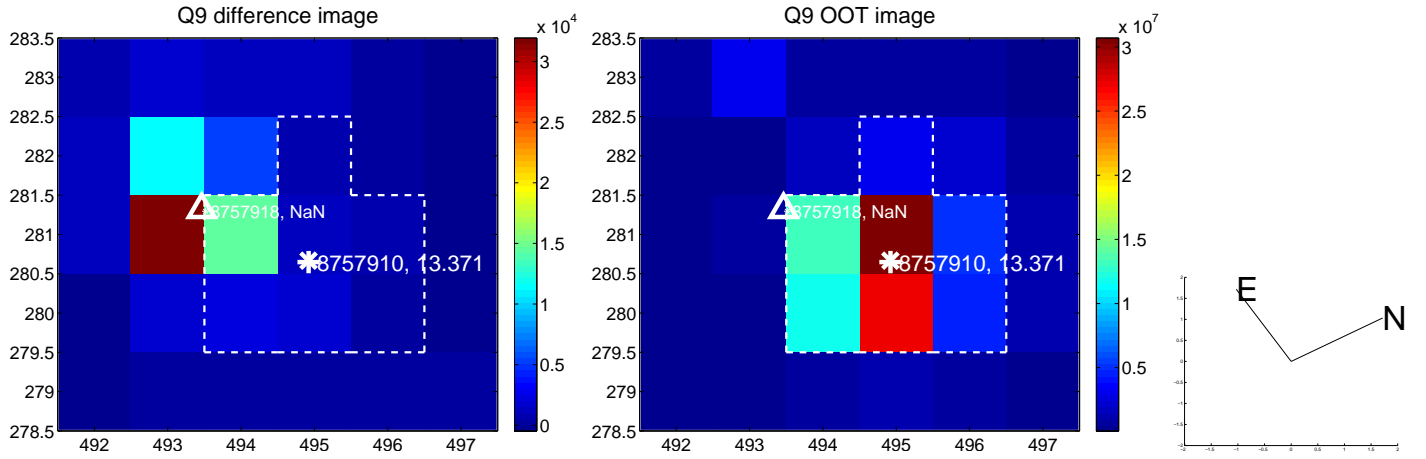
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



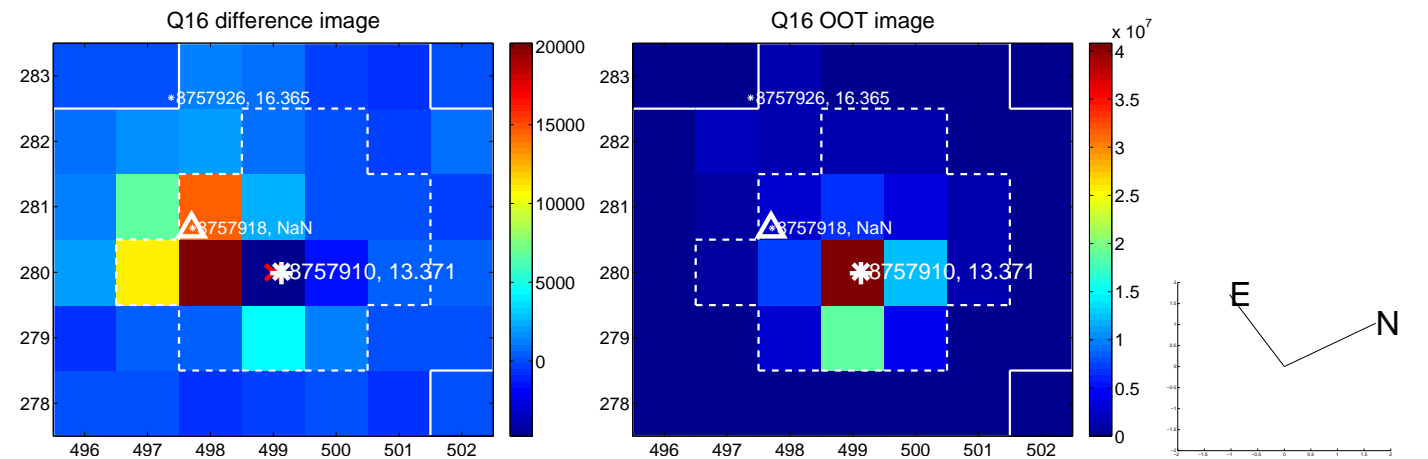
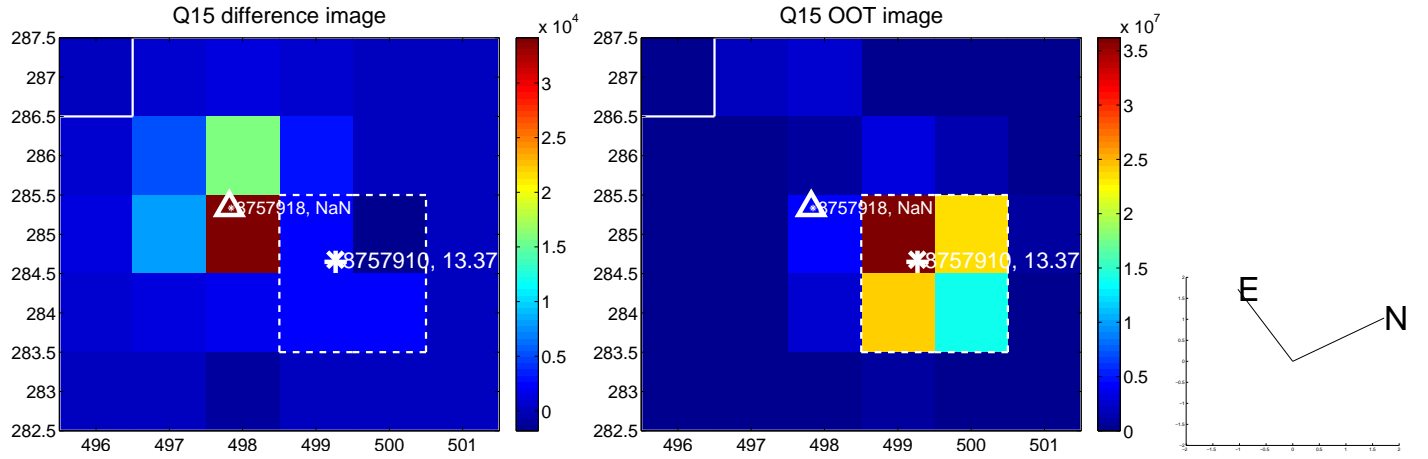
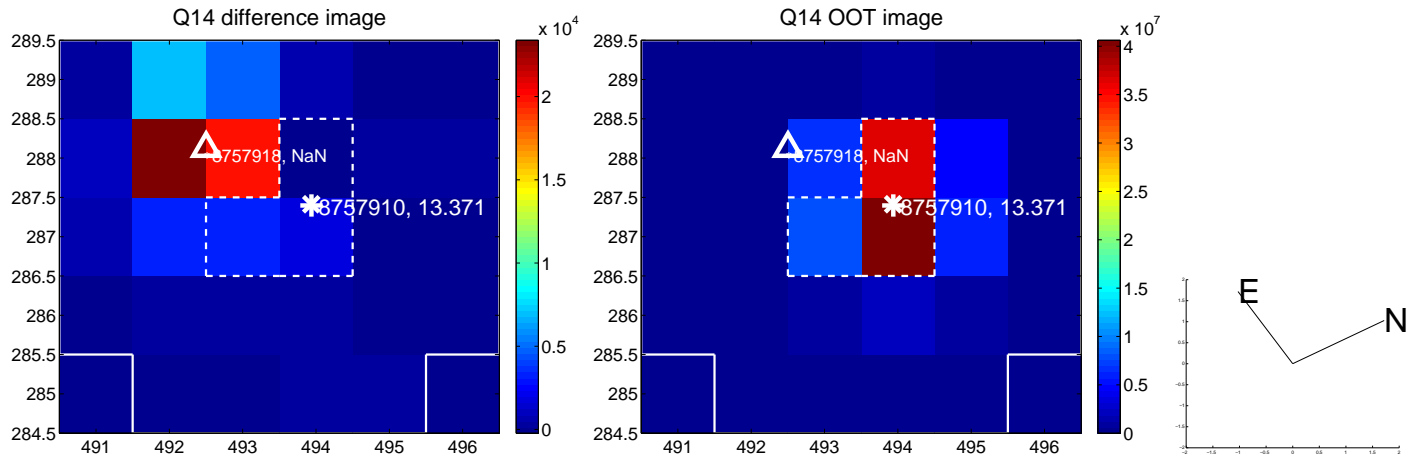
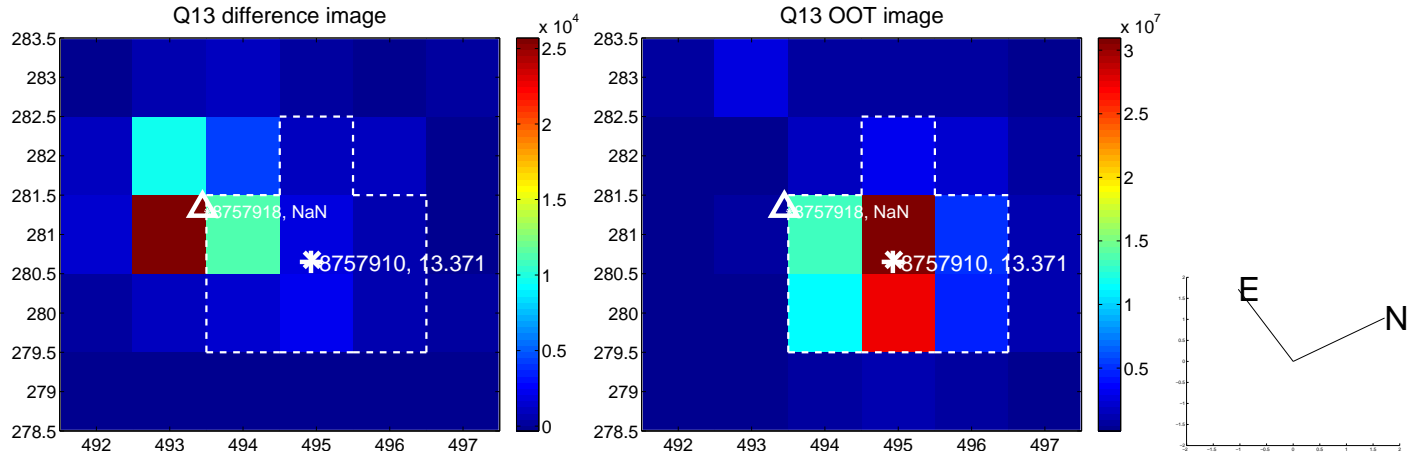
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



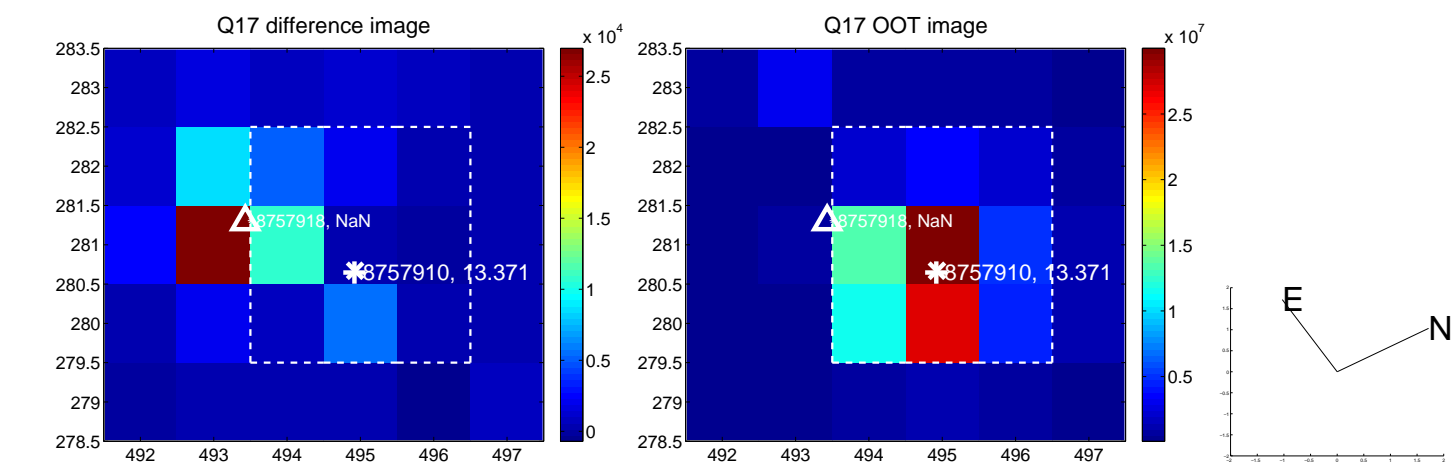
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



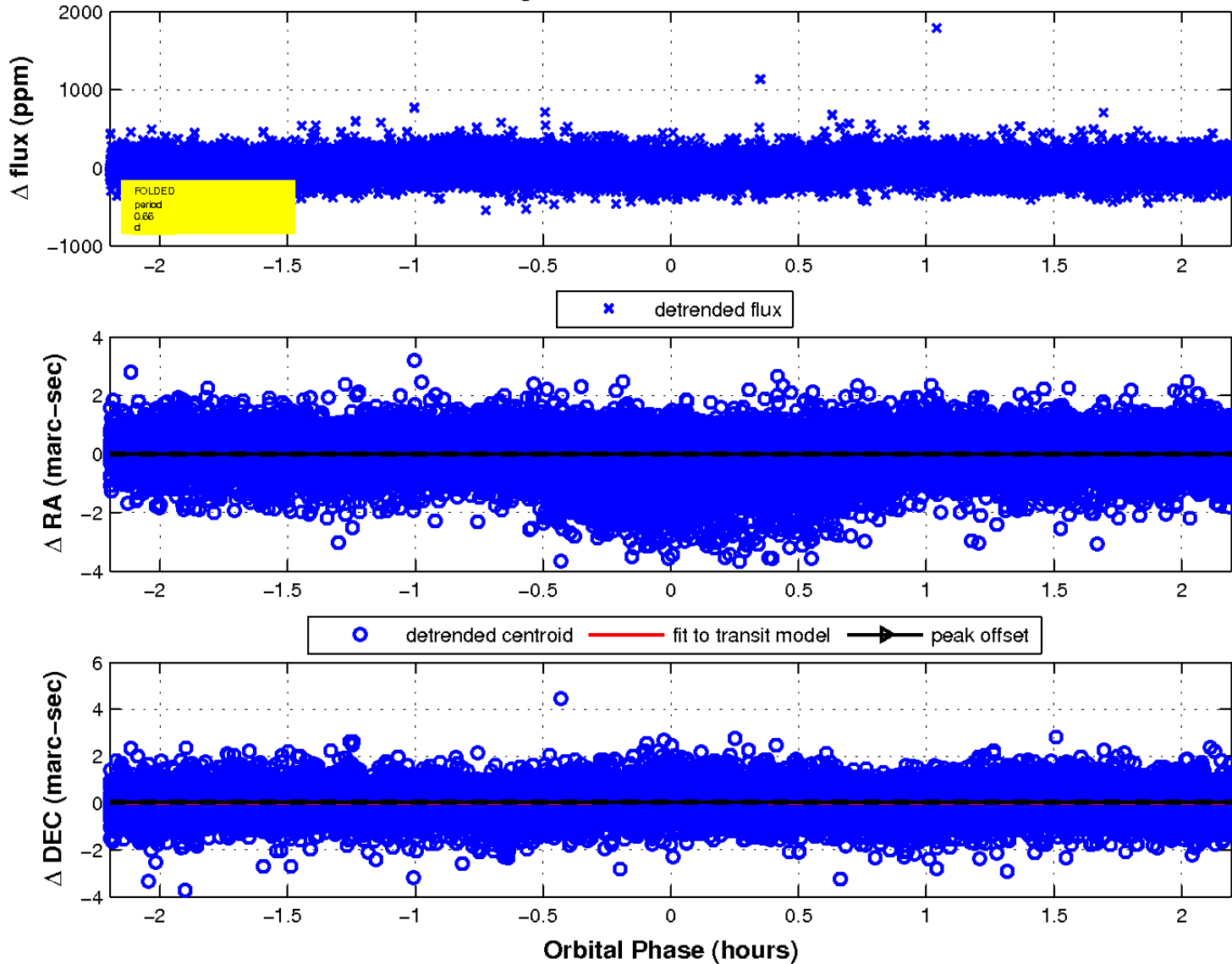
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fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

