

KIC 008826718

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})
008826718-01	OBS	No	0.720727	132.187720	35.6	2.146	9.8	6.9	3.35	7915	2.33	97728.35
008826718-02	OBS	No	0.720716	131.849016	42.0	3.864	10.2	9.1	3.35	7915	2.57	97730.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008826718-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
008826718-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

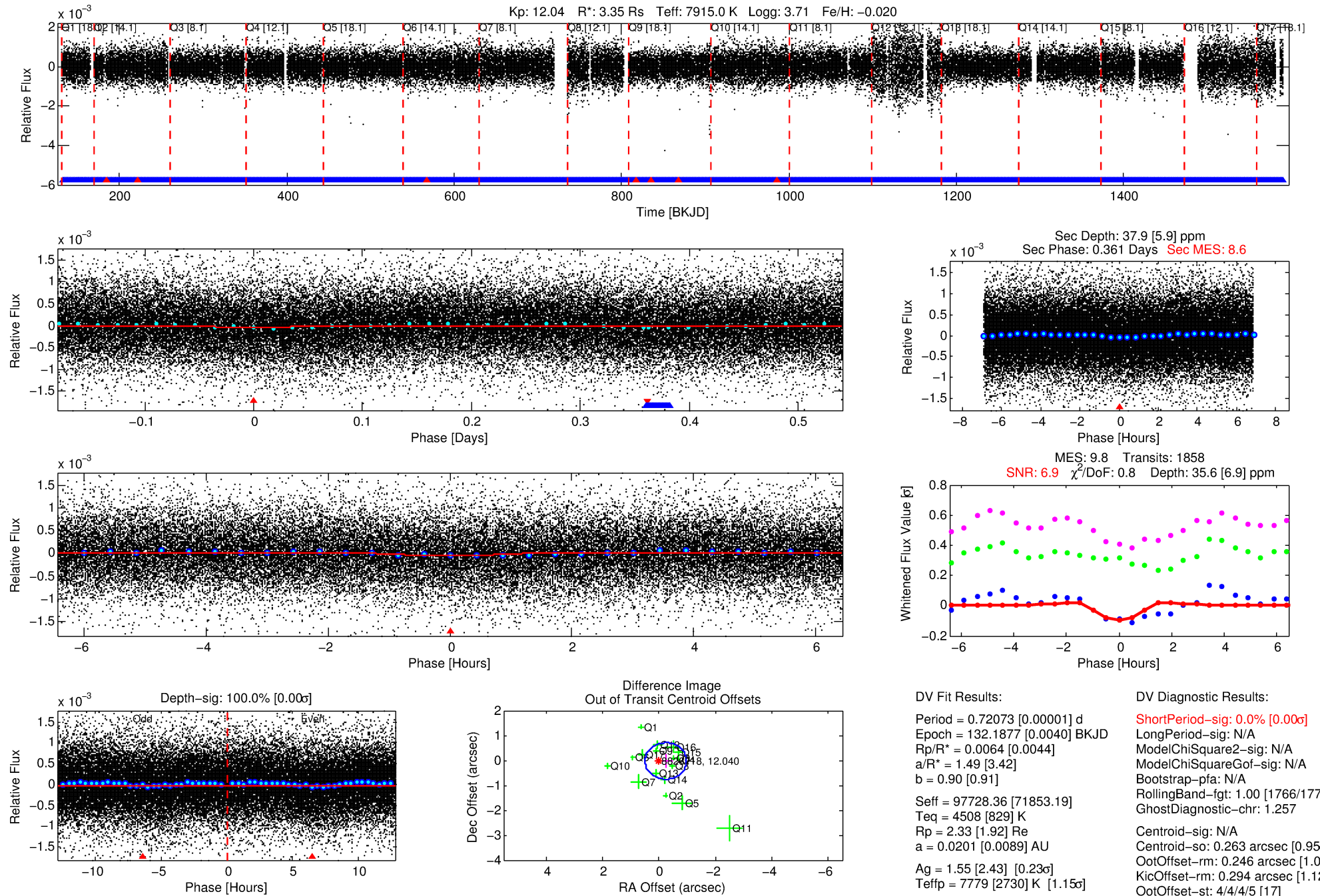
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008826718-01

No Significant Match Found

DV One-Page Summary

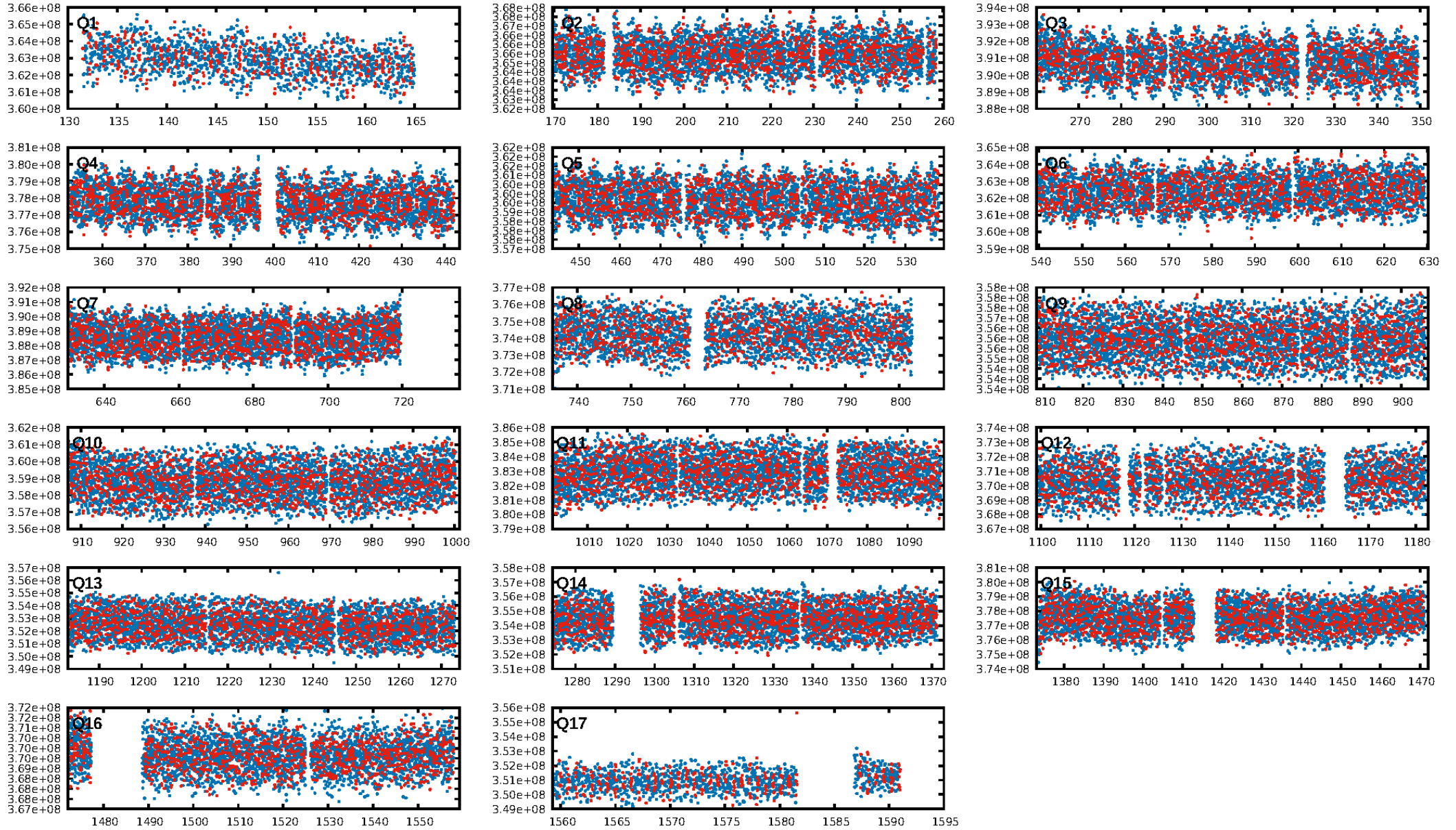
KIC: 8826718 Candidate: 1 of 2 Period: 0.721 d



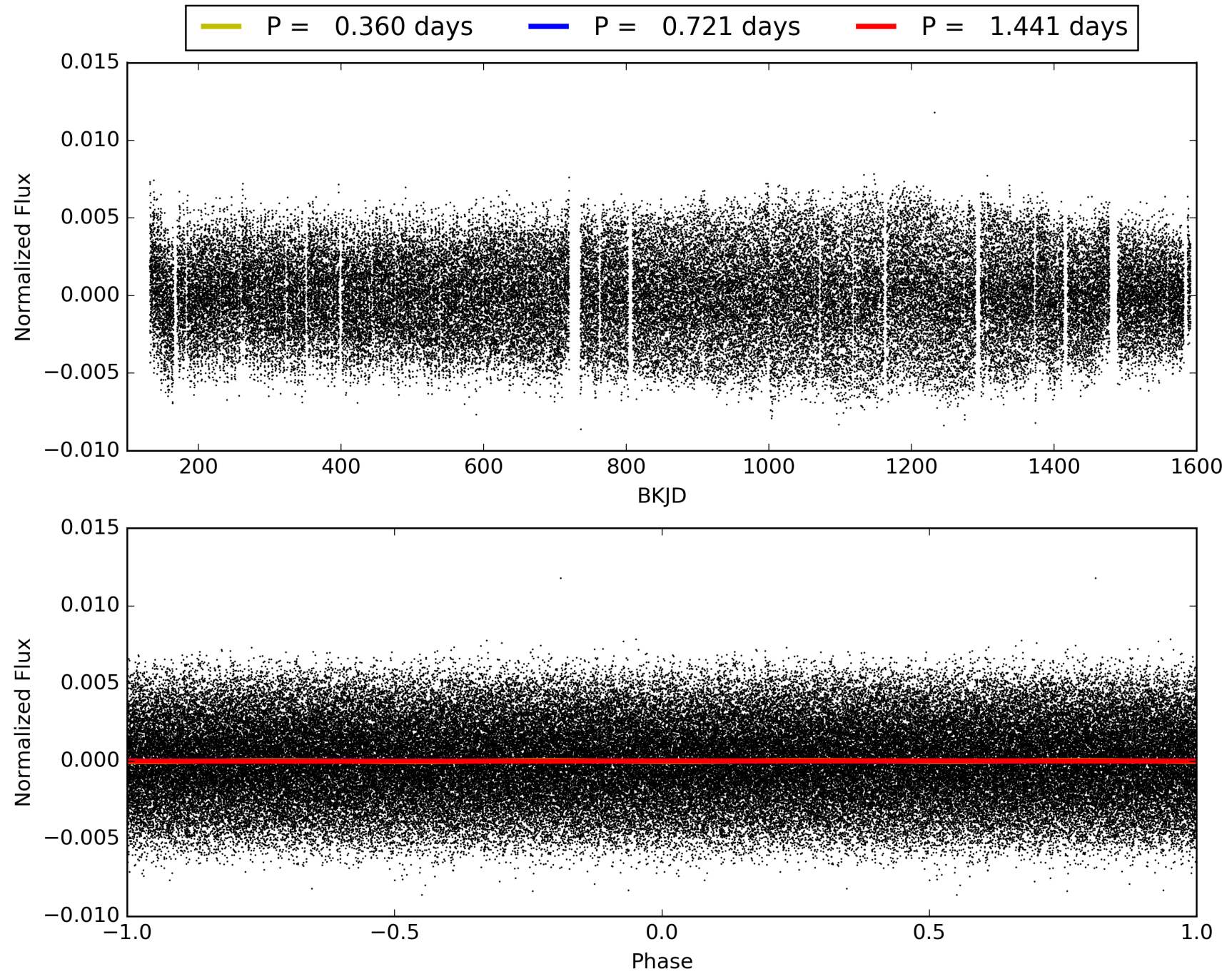
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:13:46 Z

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

TCE 008826718-01, PDC Light Curves

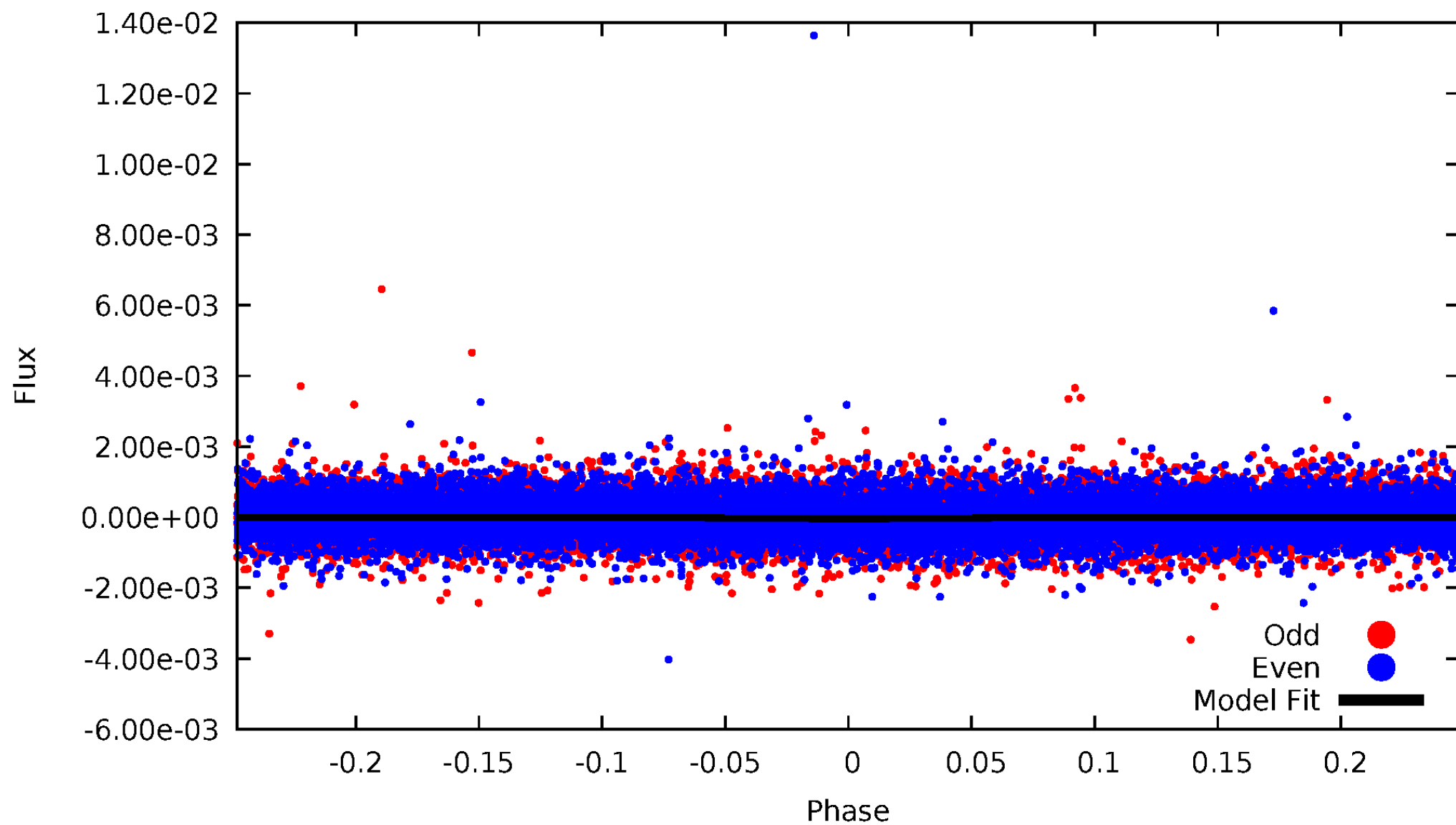


TCE 008826718-01



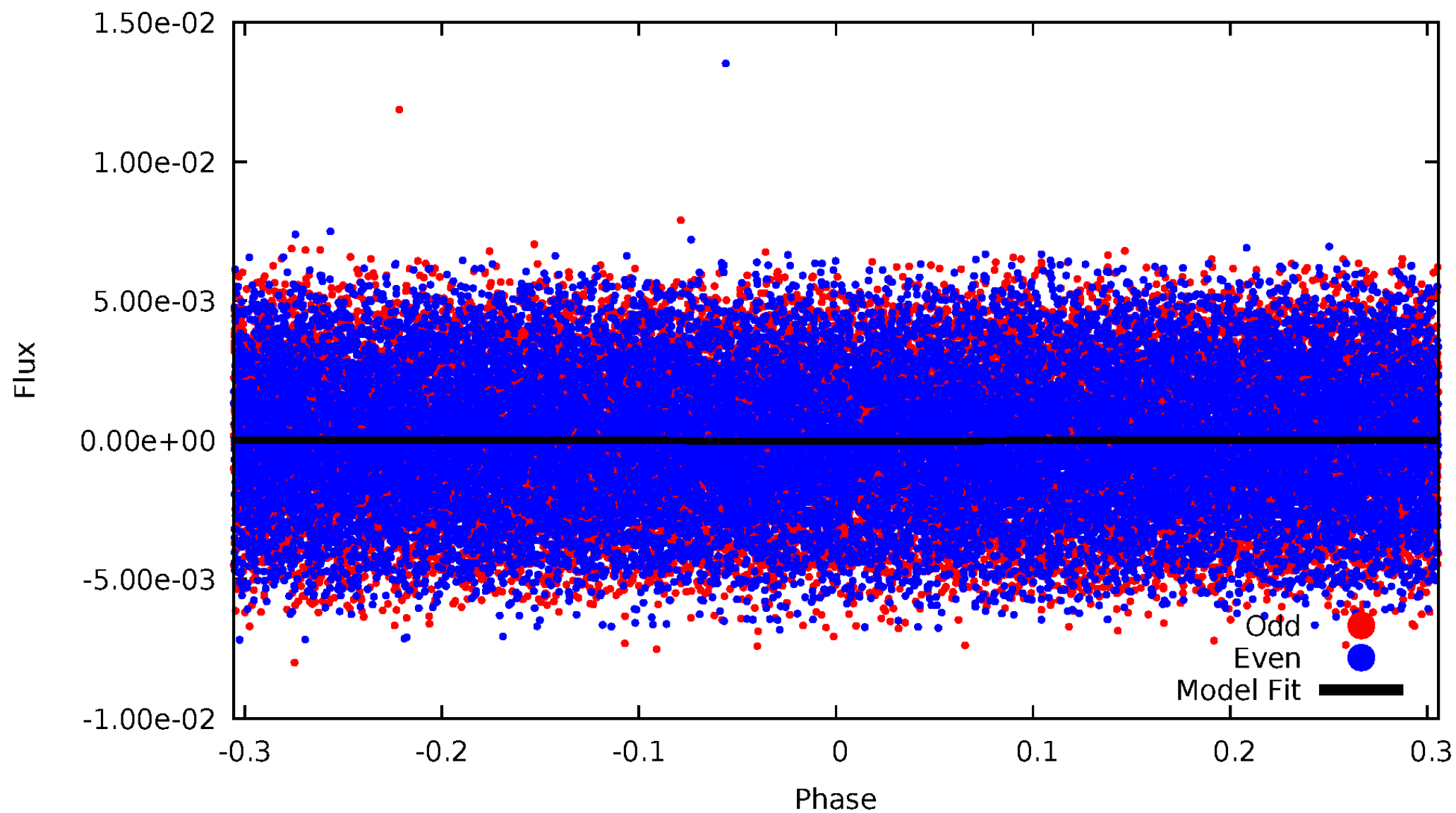
DV Odd/Even

TCE 008826718-01



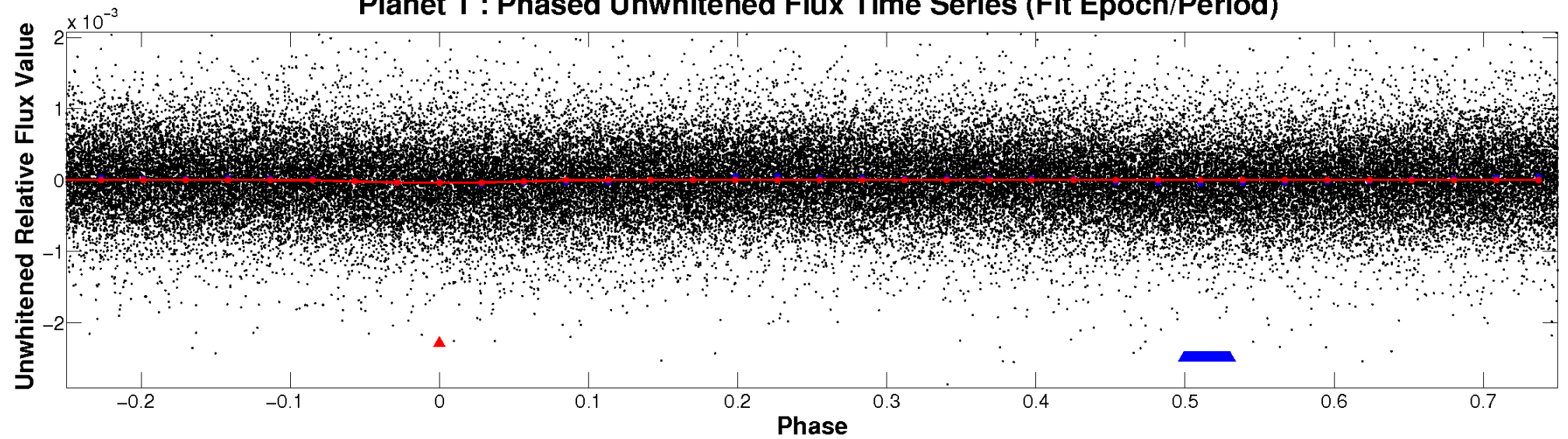
ALT Odd/Even

TCE 008826718-01

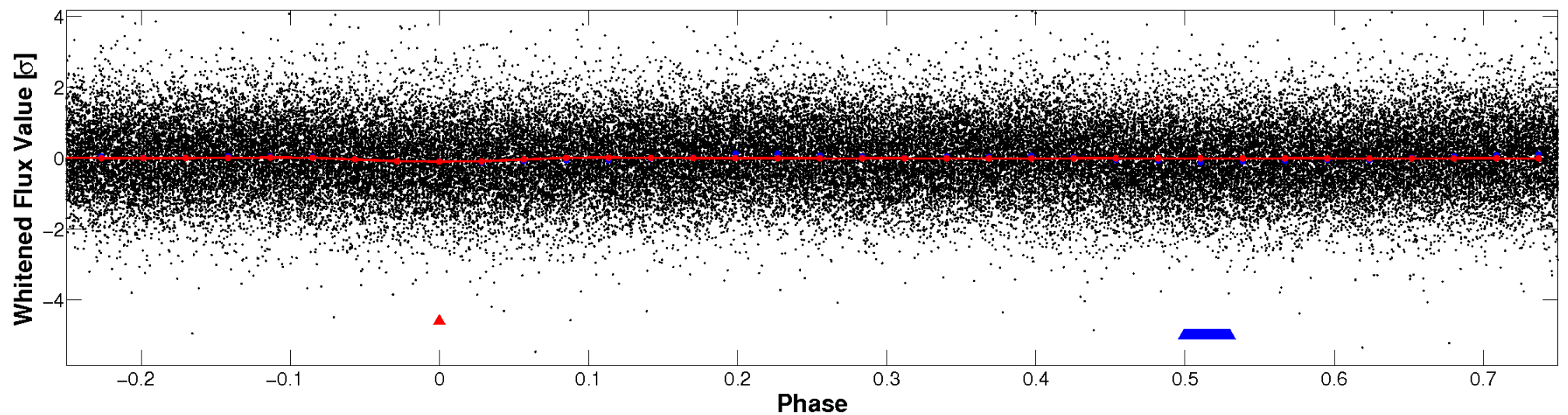


Non-Whitened Vs. Whitened Light Curve

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

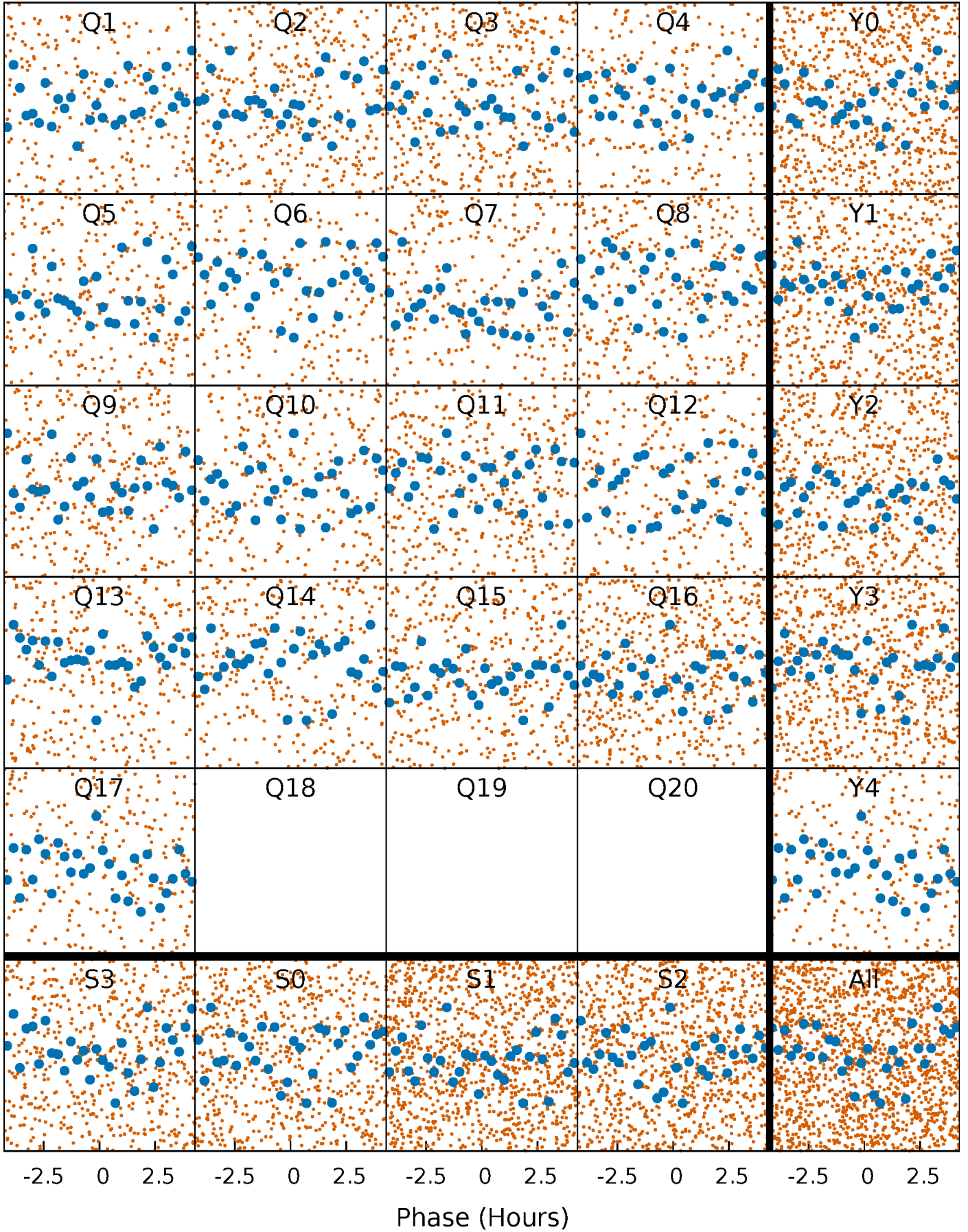


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



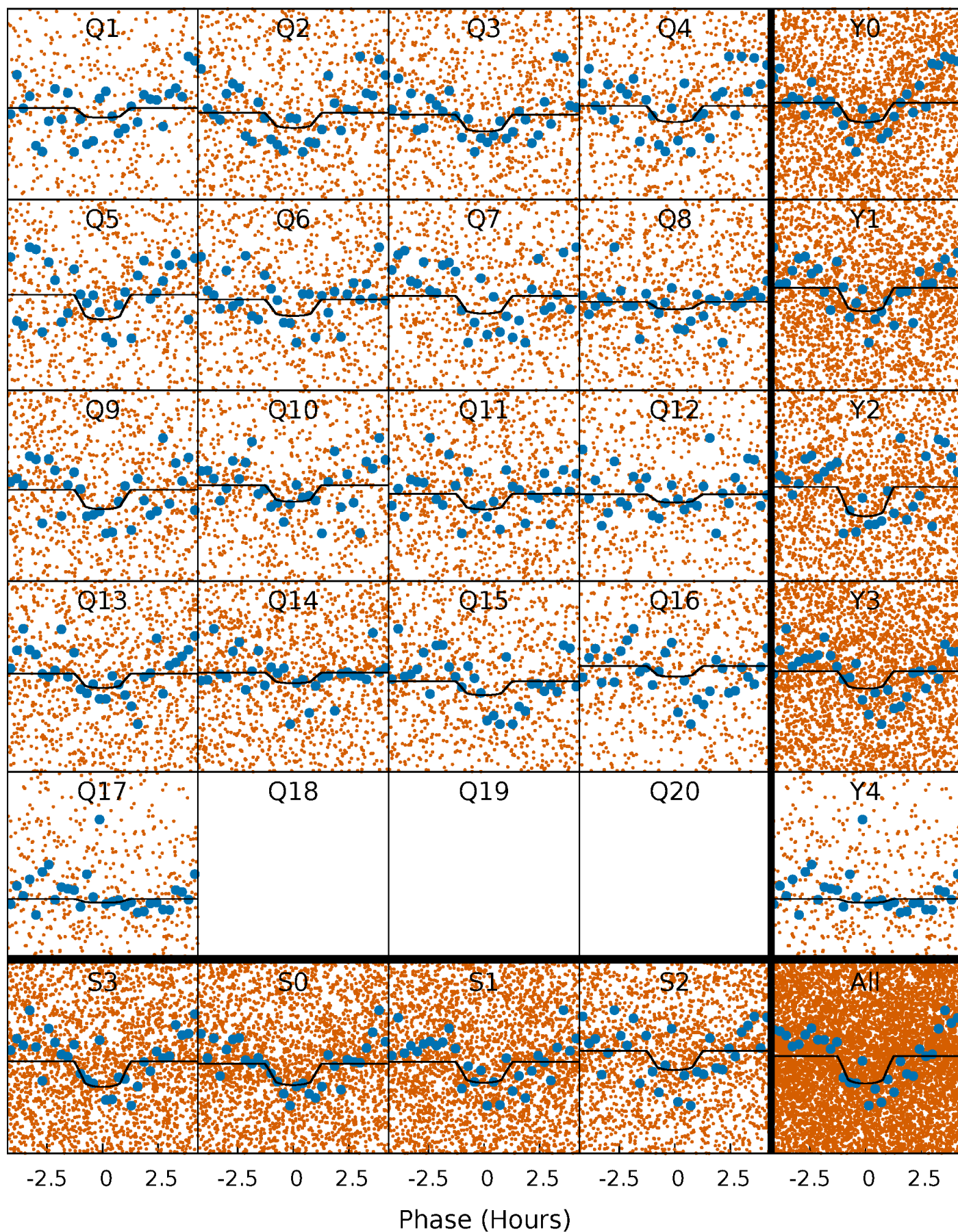
PDC Quarter-Phased Transit Curves

TCE 008826718-01 P= 0.720727 Days $T_0=132.187720$ (BKJD)



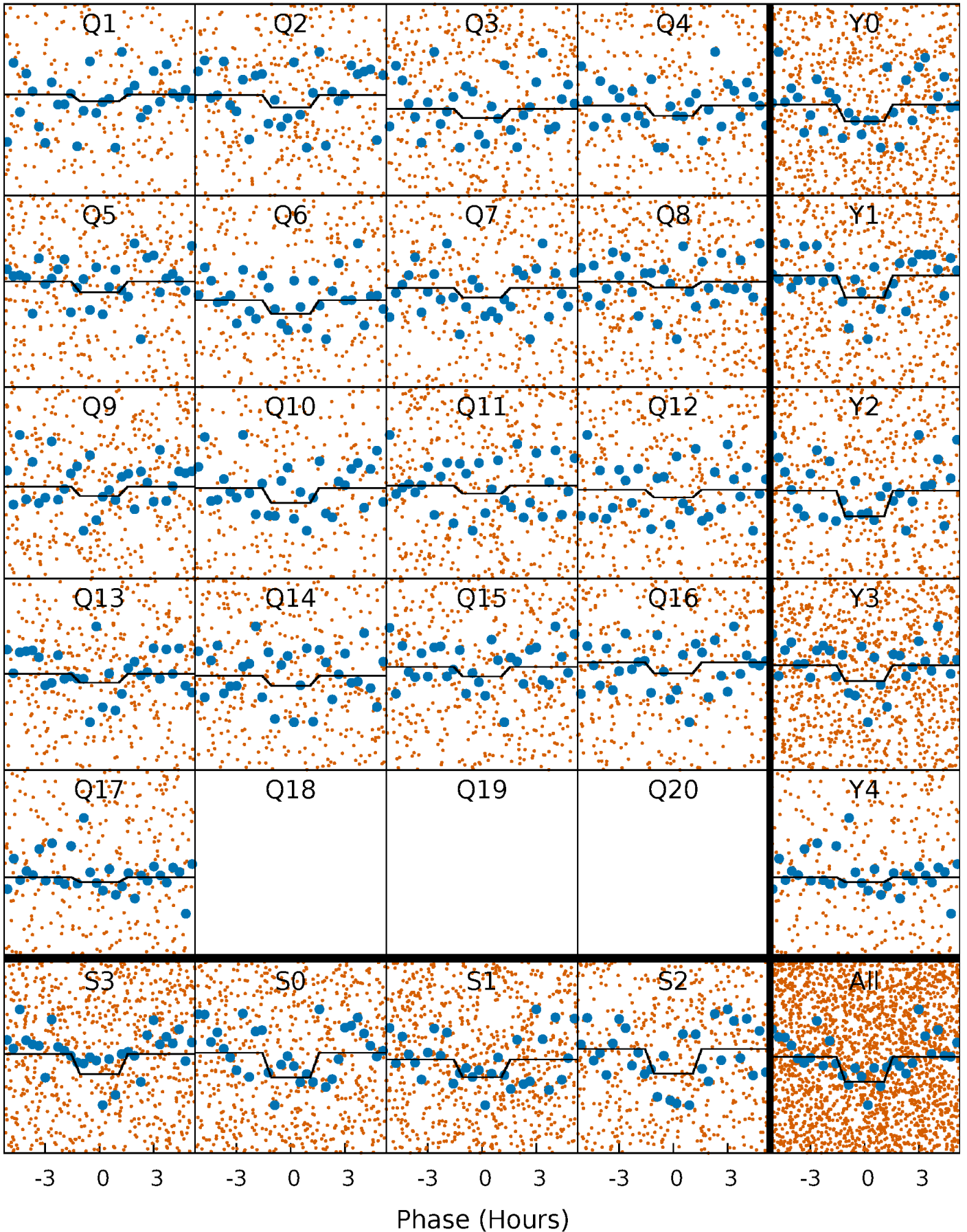
DV Quarter-Phased Transit Curves

TCE 008826718-01 P= 0.720727 Days $T_0=132.187720$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

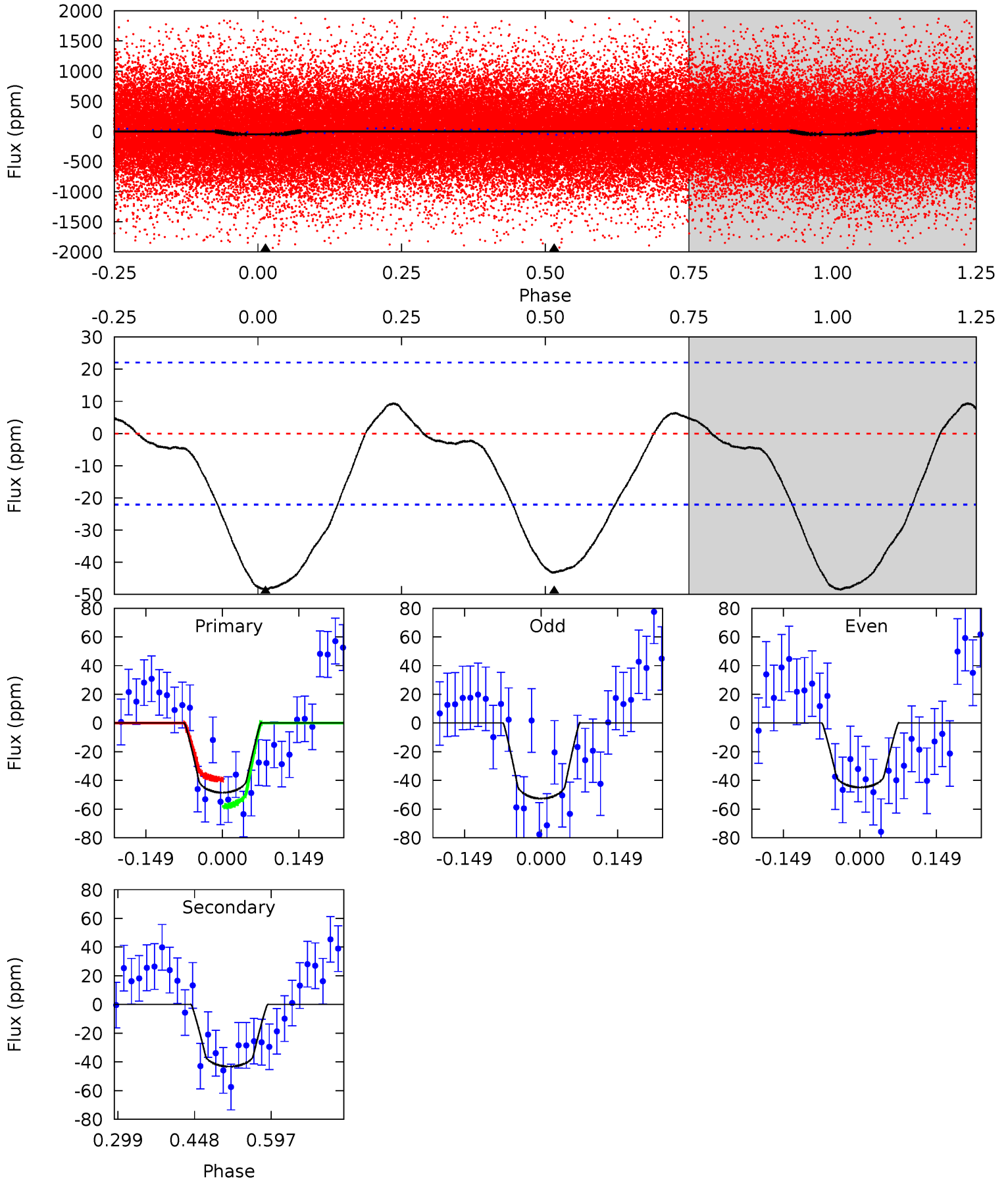
TCE 008826718-01 P= 0.720742 Days $T_0=132.188315$ (BKJD)



DV Model-Shift Uniqueness Test

008826718-01, P = 0.720727 Days, E = 131.466993 Days

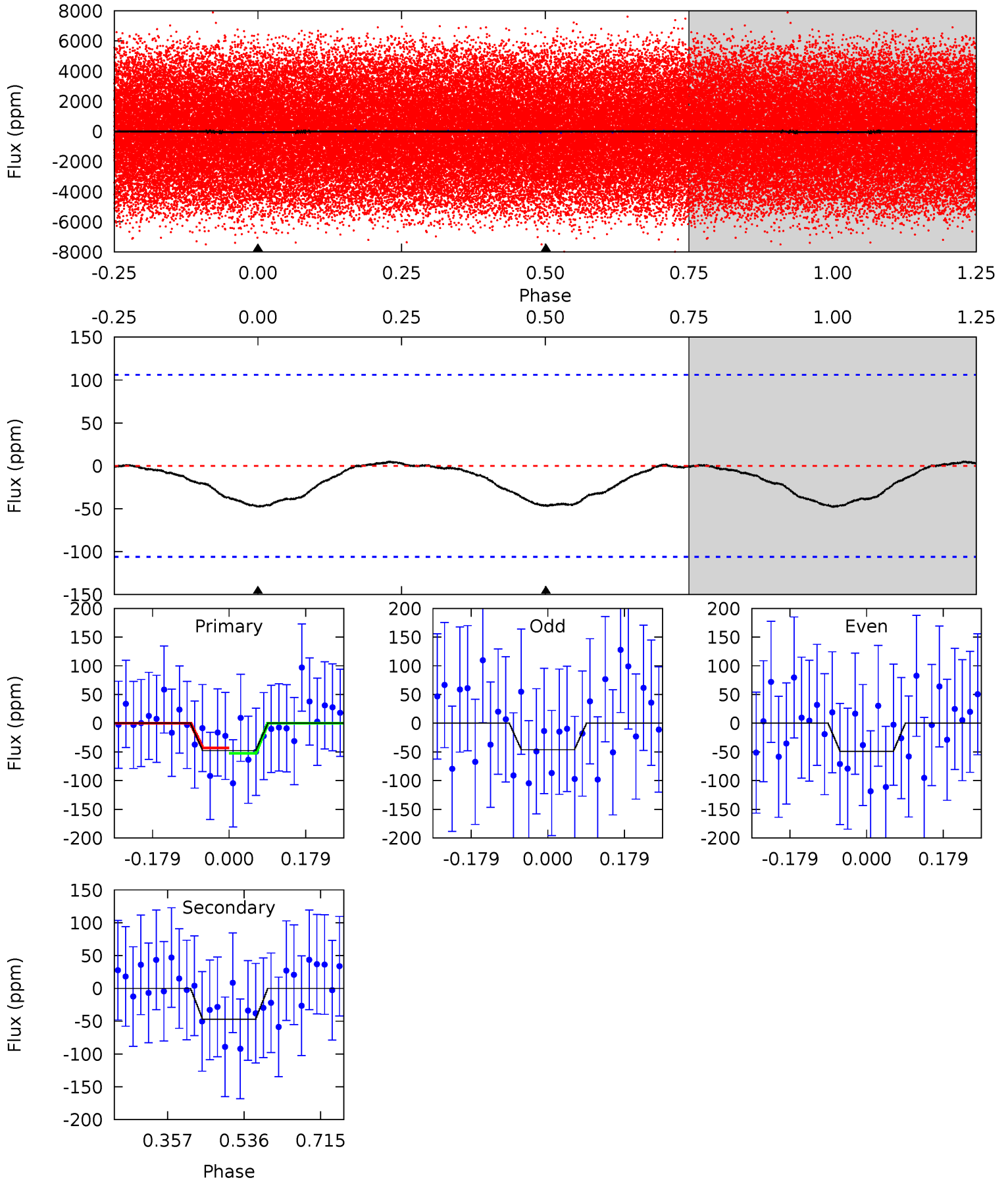
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.84	8.77	0	0	4.48	1.44	0.93	9.84	9.84	8.77	8.77	0.80	0.98	0.16	1.90



Alt Model-Shift Uniqueness Test

008826718-01, P = 0.720742 Days, E = 131.467573 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.00	1.96	0	0	4.44	1.34	0.09	2.00	2.00	1.96	1.96	0.07	1.21	0.10	0.20



Stellar Parameters For KIC 008826718

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7915^{+221}_{-331}	$3.706^{+0.424}_{-0.106}$	$-0.020^{+0.200}_{-0.350}$	$3.346^{+0.691}_{-1.497}$	$2.075^{+0.324}_{-0.526}$	$0.078^{+0.316}_{-0.025}$
	+3%/-4%	+11%/-3%	+1000%/-1750%	+21%/-45%	+16%/-25%	+405%/-32%
Source	KIC0	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 008826718-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-43 ± 5	$2.21^{+1.56}_{-1.23}$	6080^{+486}_{-661}	7377^{+6838}_{-2239}	$2.019^{+8.069}_{-1.373}$
Alt.	-47 ± 24	$2.40^{+1.40}_{-1.24}$	6075^{+470}_{-656}	7034^{+4814}_{-2549}	$1.619^{+5.571}_{-1.130}$

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 $A_{obs} \gg 1.0$

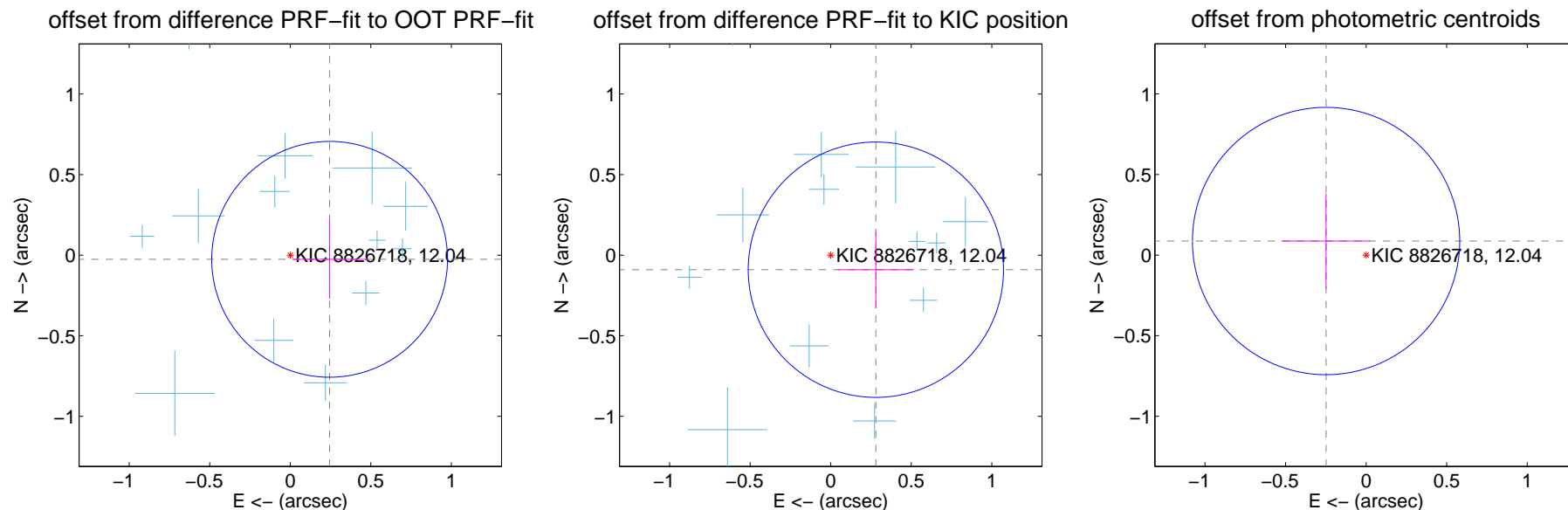
DV Centroid Data

Supplemental centroid analysis for 008826718-01. Kepler magnitude: 12.04. Transit SNR 6.87

There are 17 quarters with good PRF difference image offsets

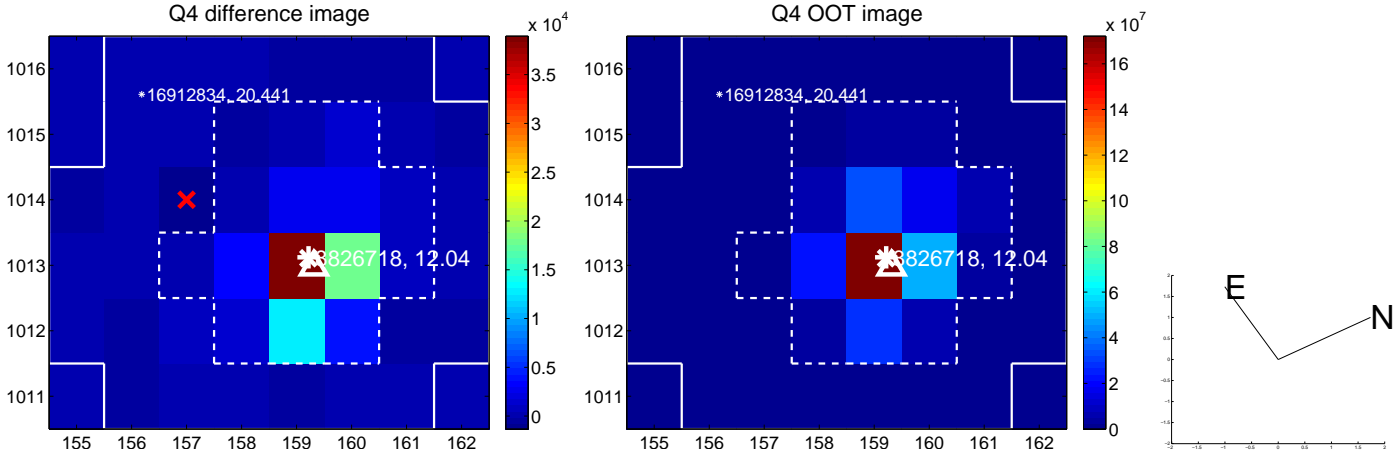
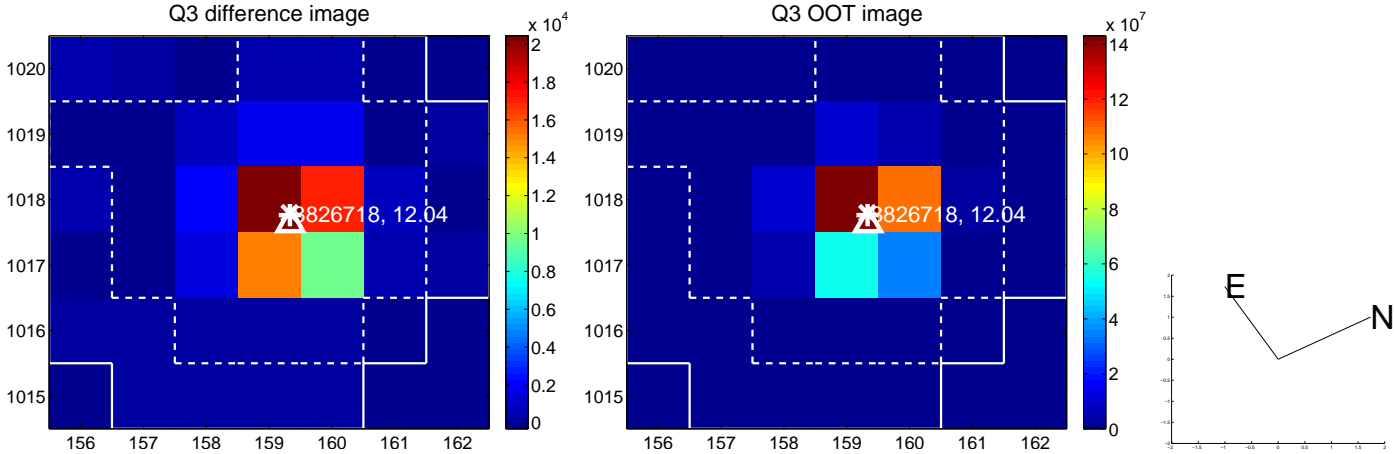
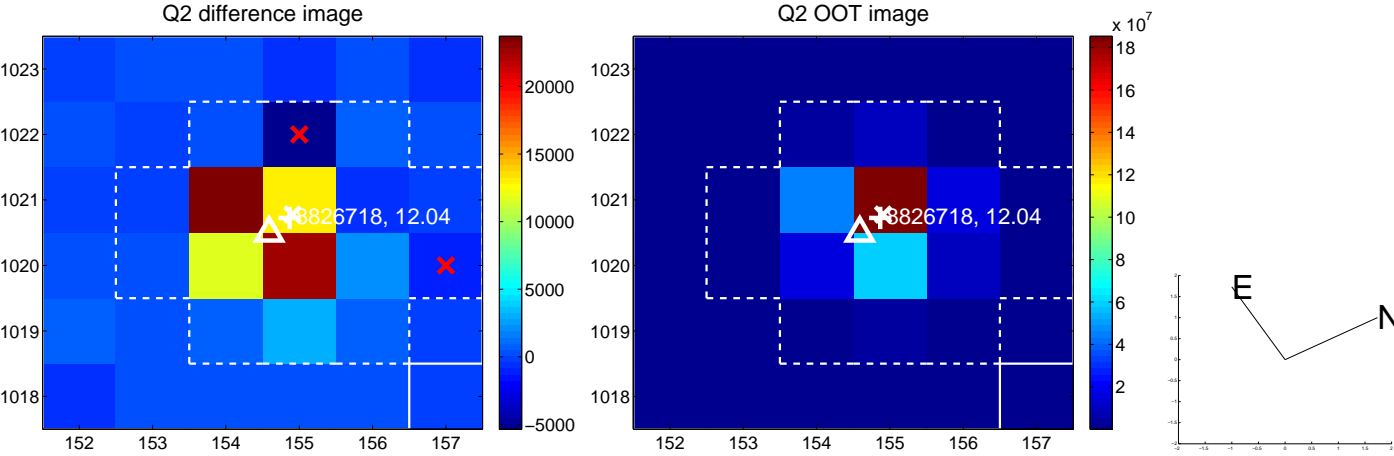
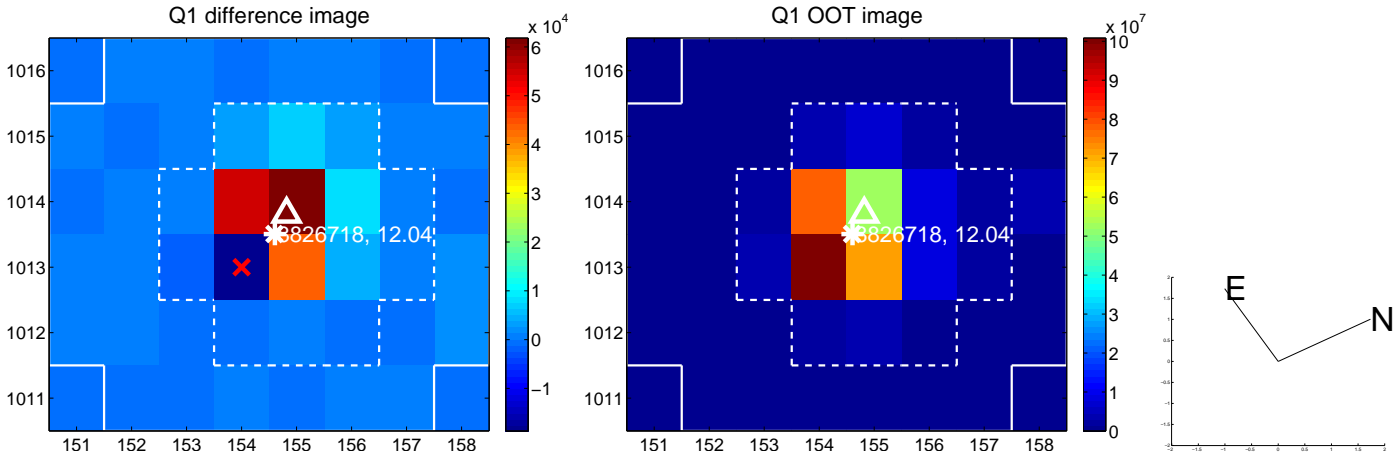
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.246 ± 0.244	1.01	-0.244 ± 0.231	-0.026 ± 0.245
PRF-fit source offset from KIC position	0.294 ± 0.264	1.12	-0.280 ± 0.237	-0.090 ± 0.238
photometric centroid source offset	0.26 ± 0.28	0.95	0.25 ± 0.27	0.09 ± 0.29

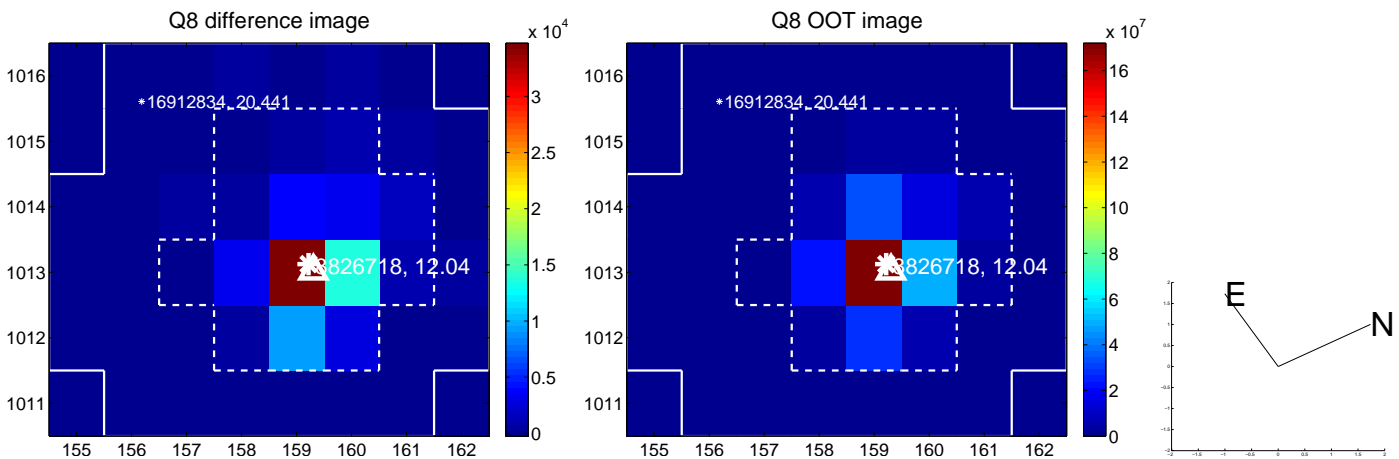
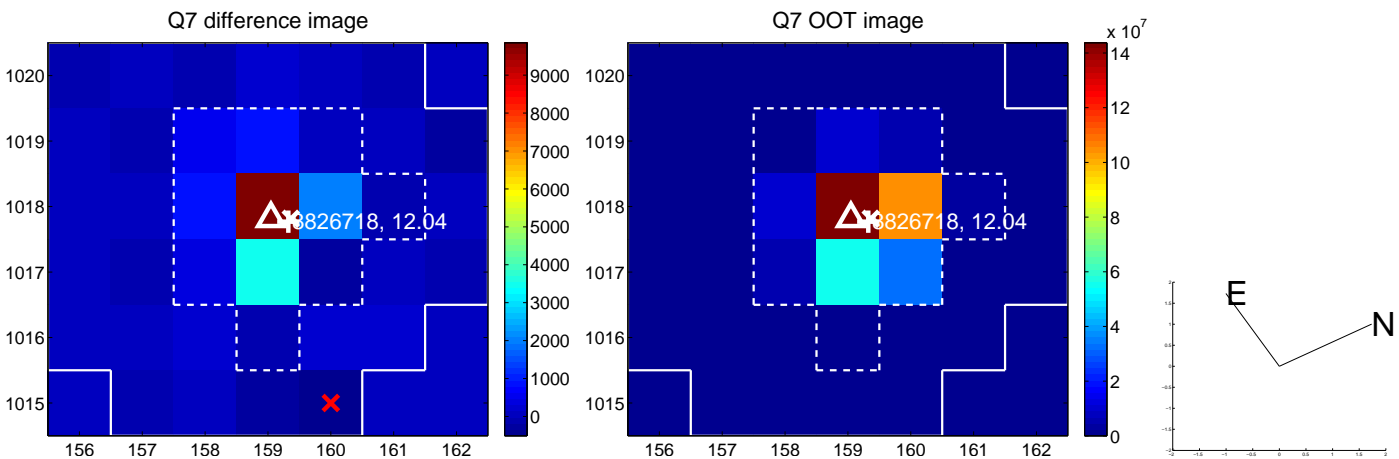
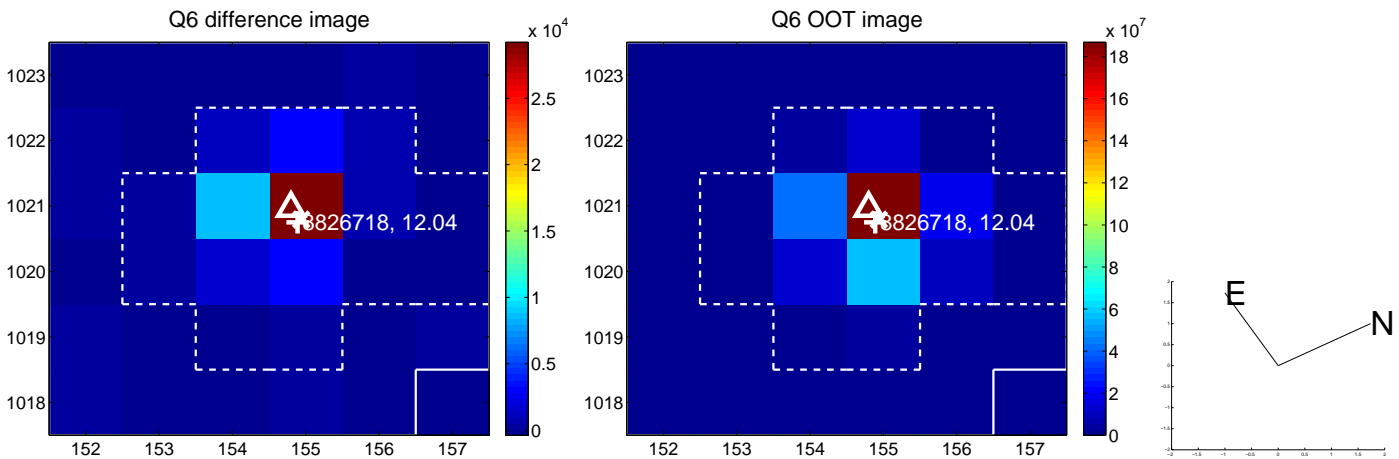
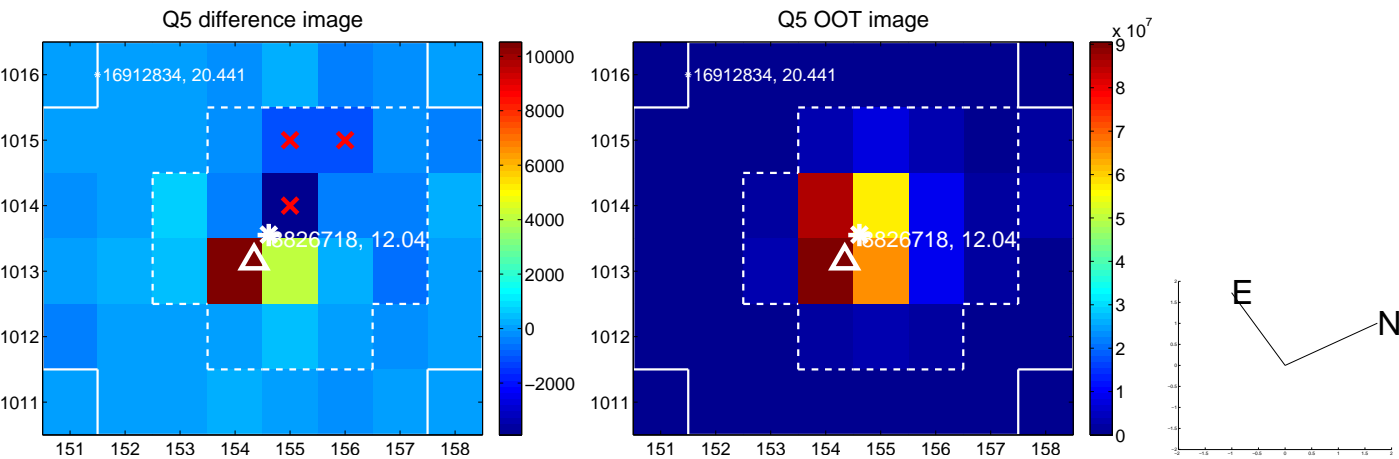


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

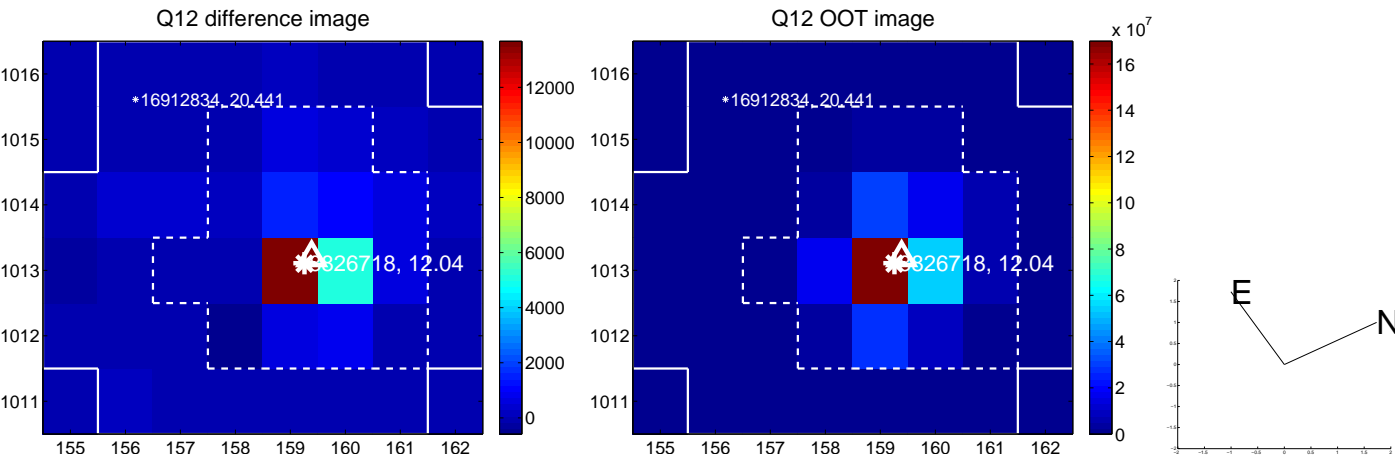
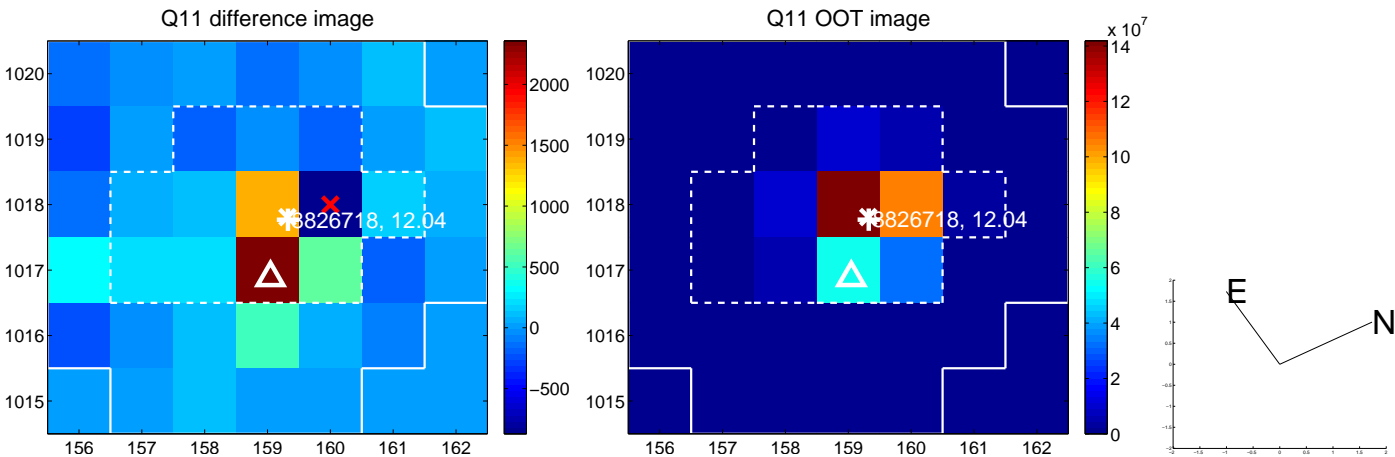
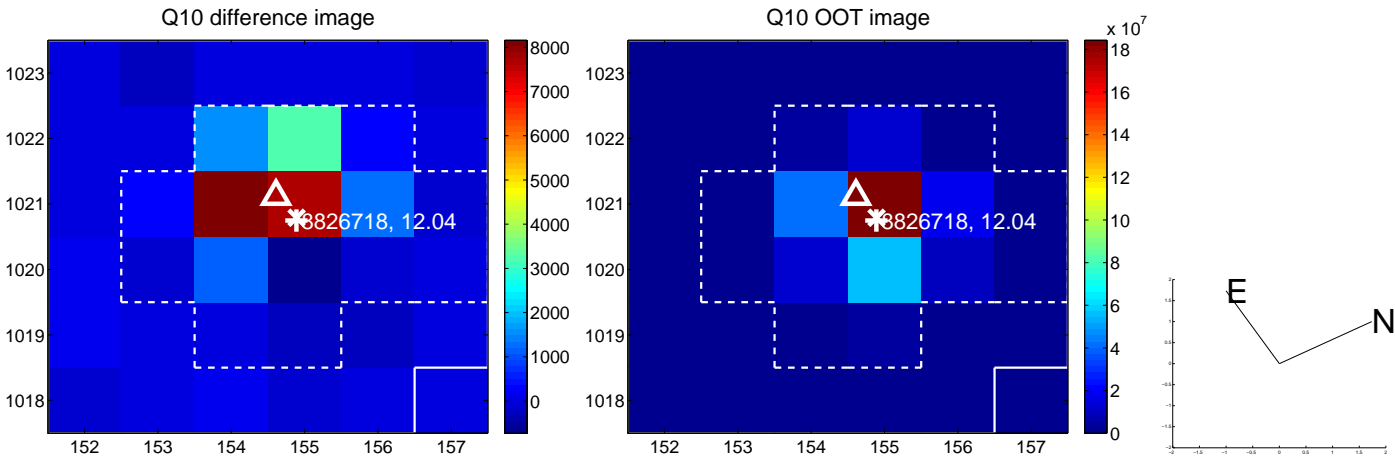
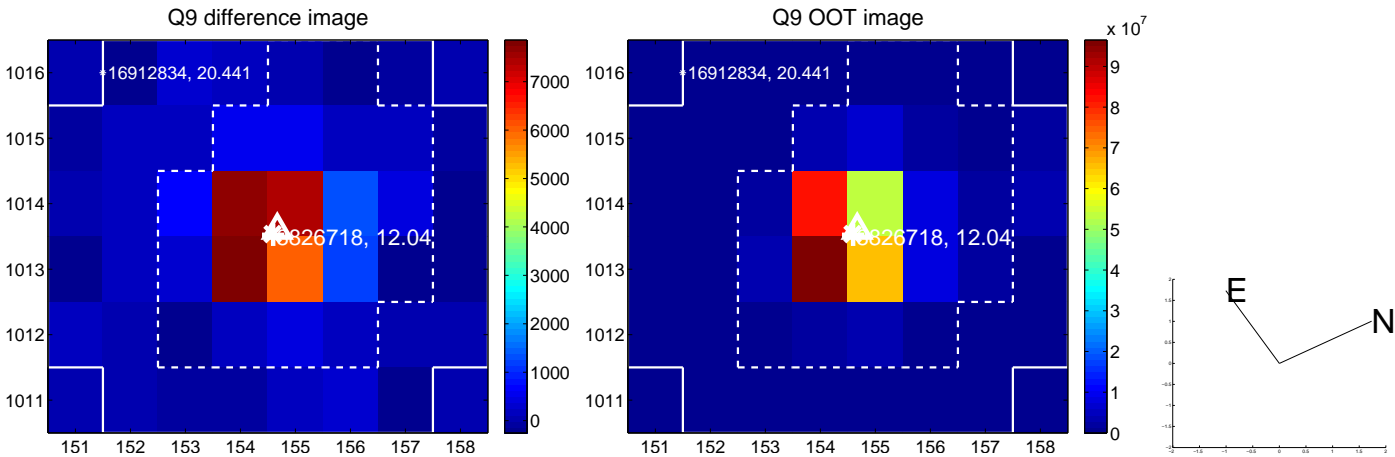
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



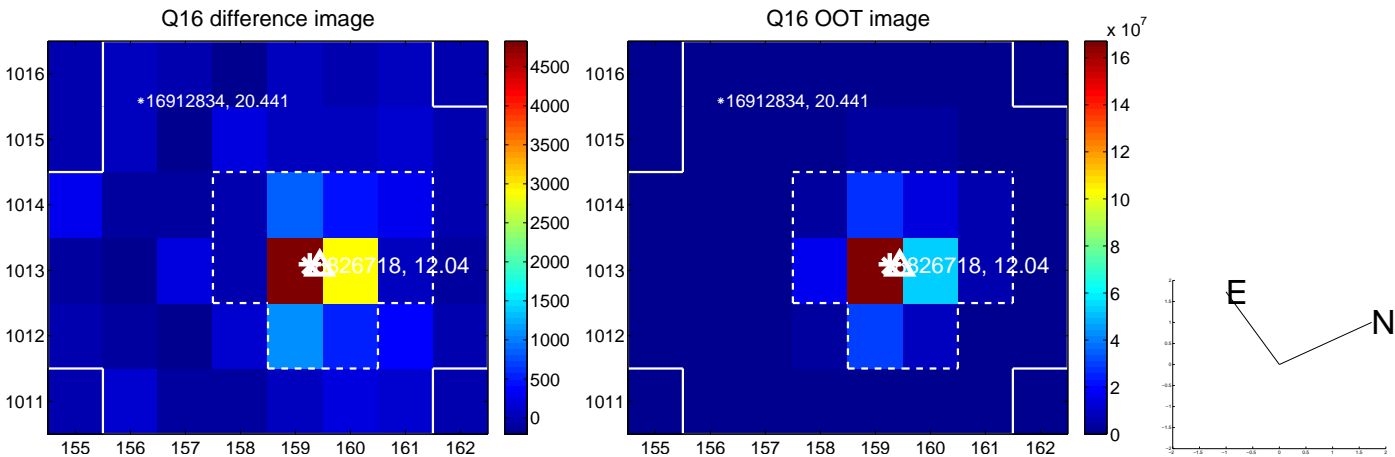
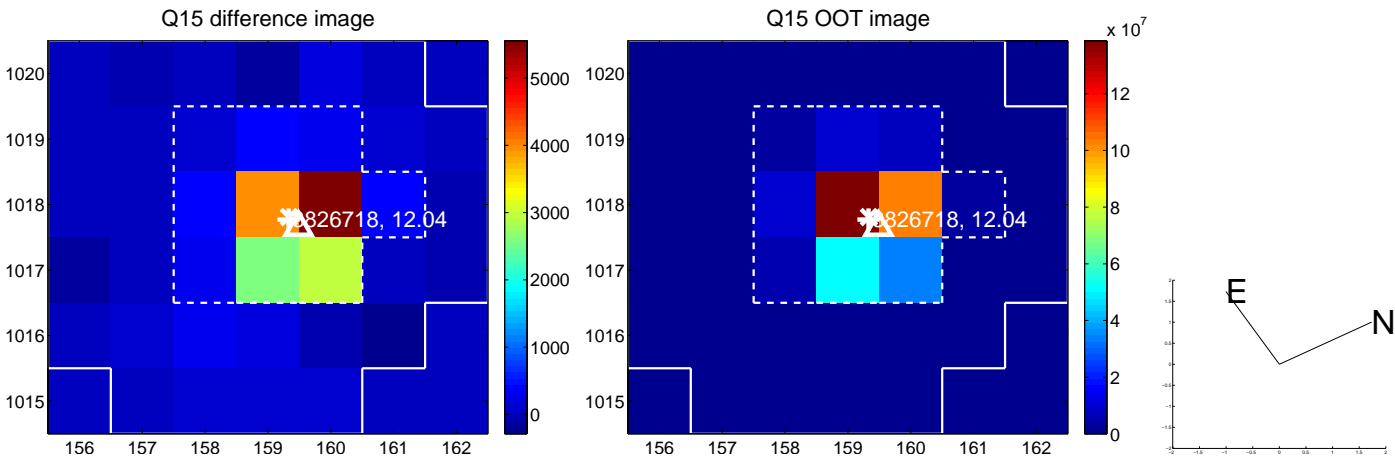
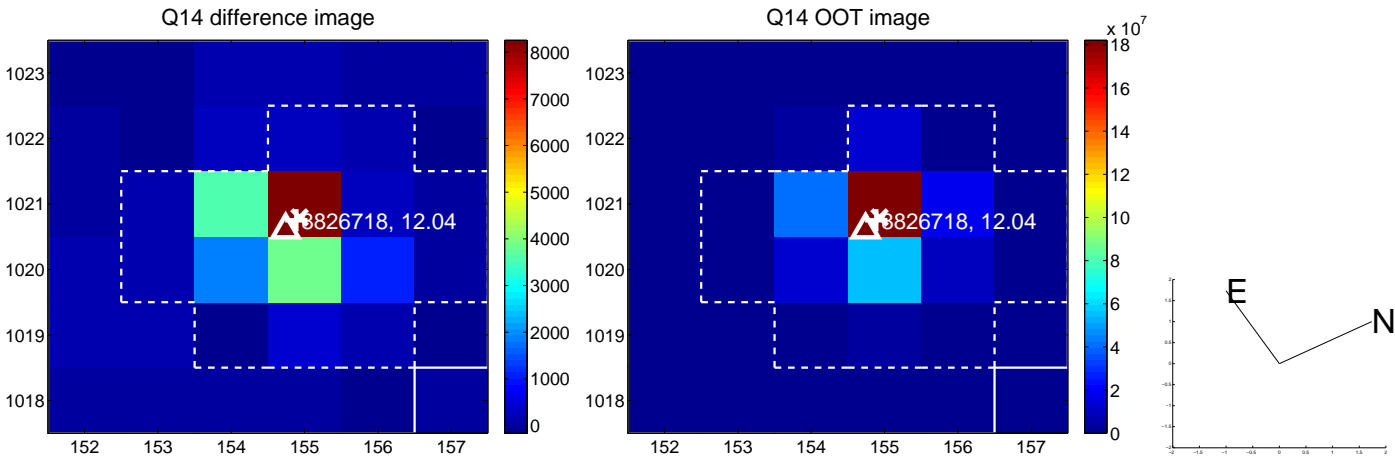
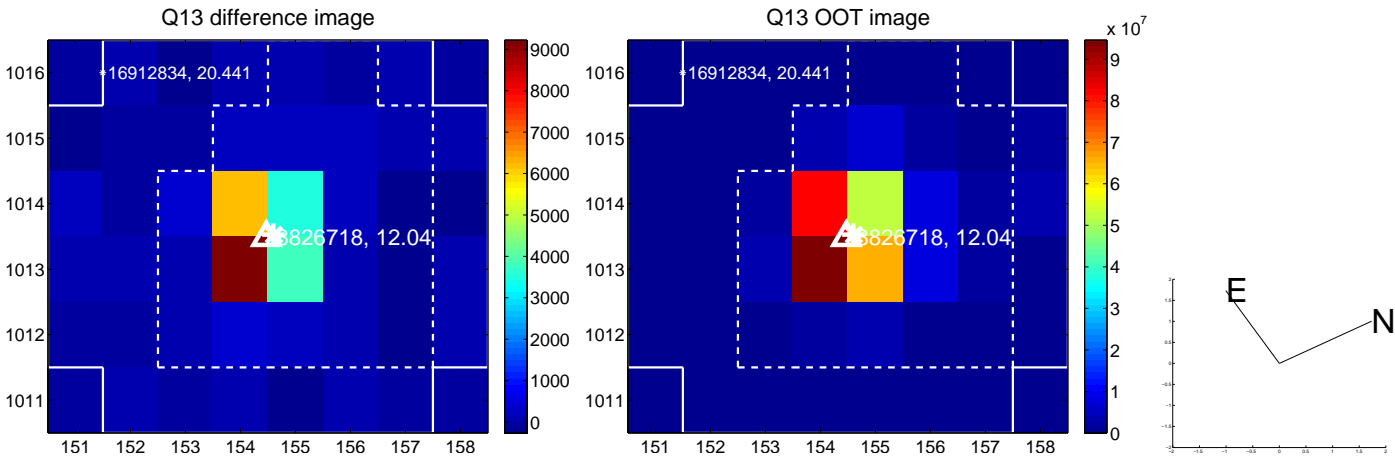
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



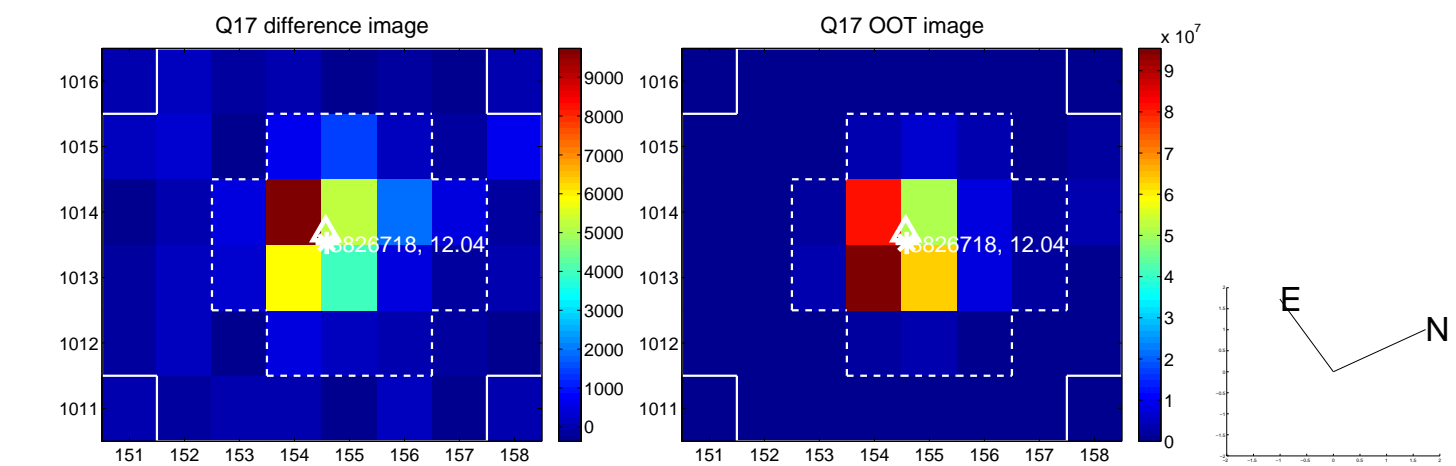
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



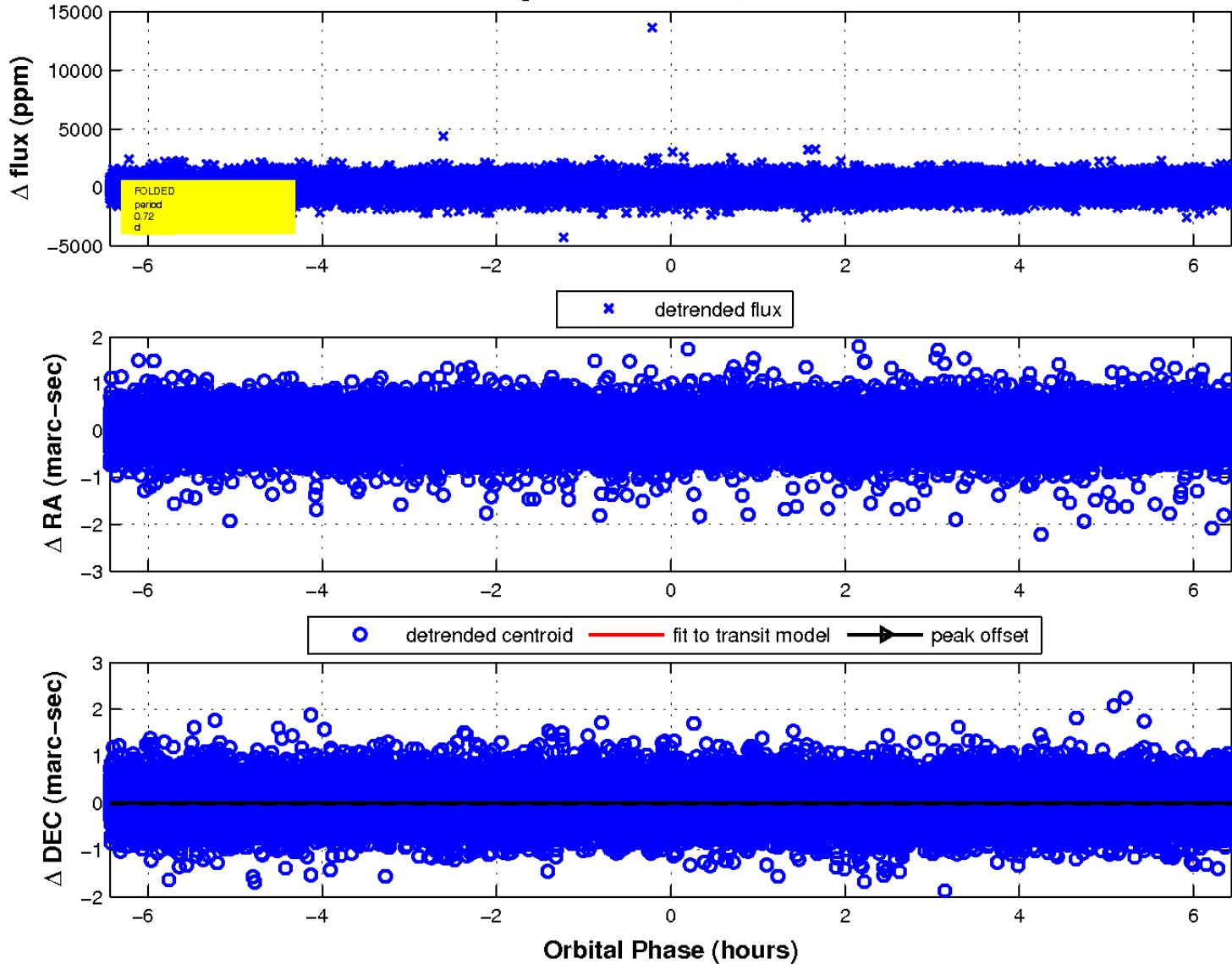
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

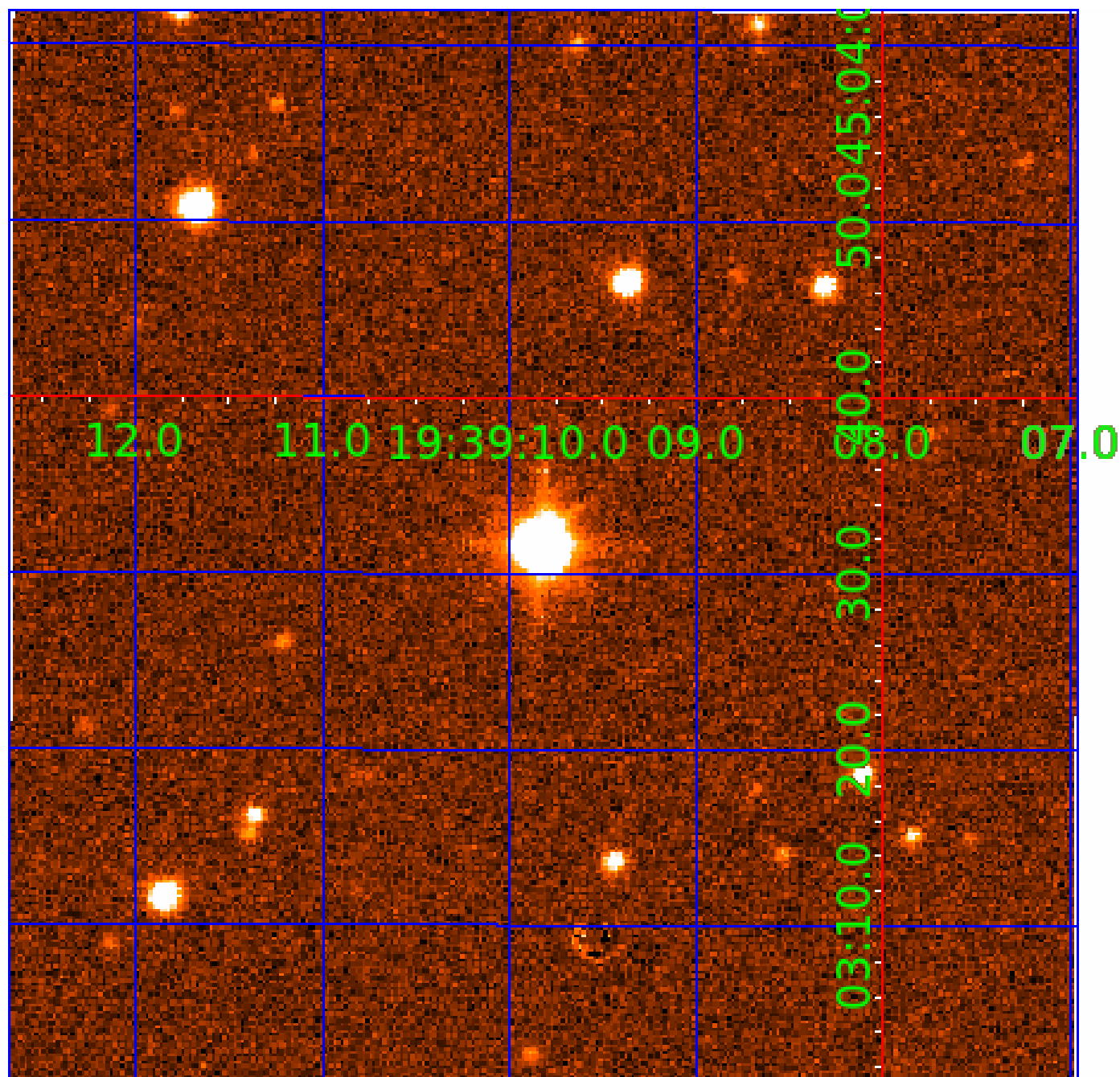


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 008826718

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})
008826718-01	OBS	No	0.720727	132.187720	35.6	2.146	9.8	6.9	3.35	7915	2.33	97728.35
008826718-02	OBS	No	0.720716	131.849016	42.0	3.864	10.2	9.1	3.35	7915	2.57	97730.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008826718-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
008826718-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

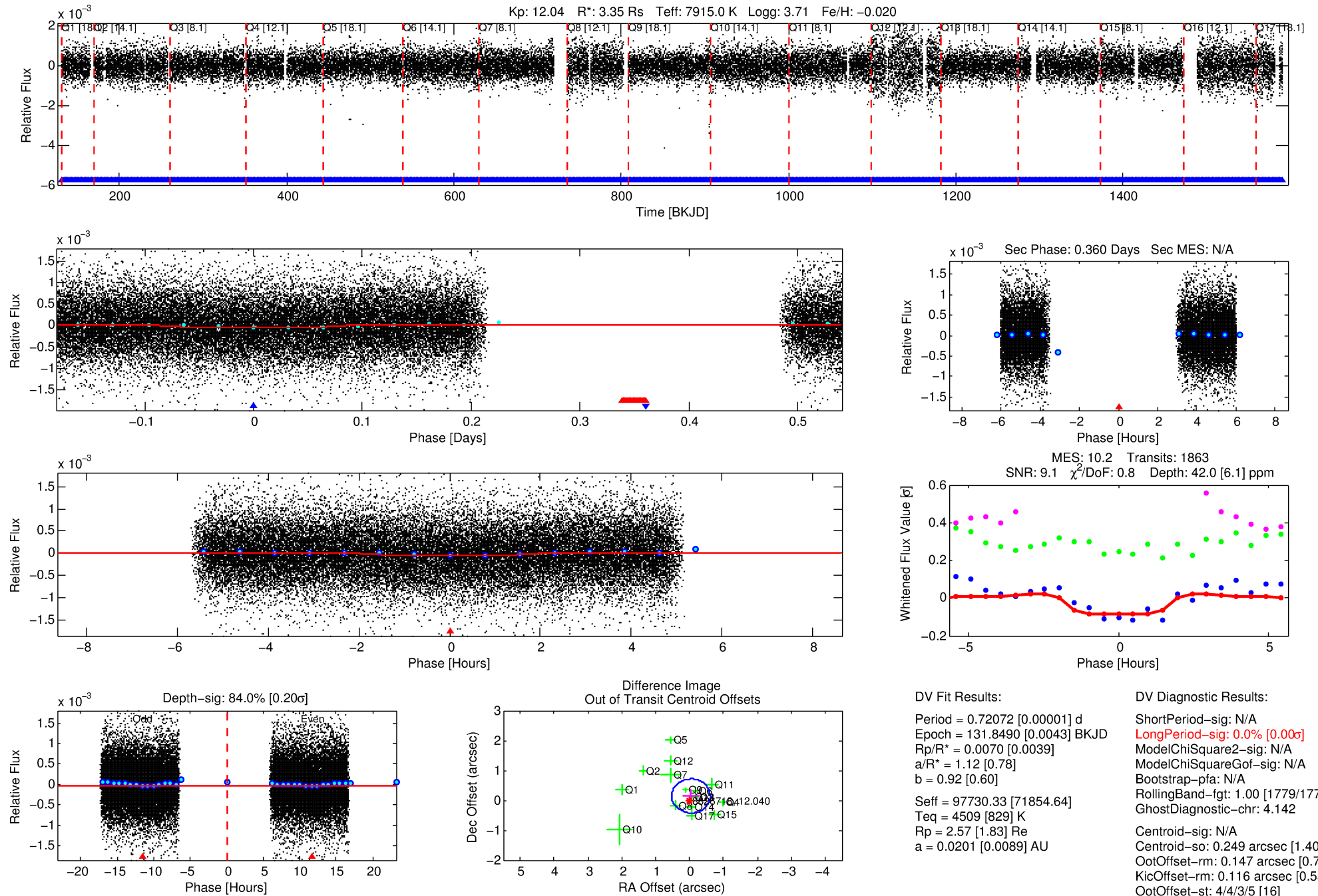
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008826718-02

No Significant Match Found

DV One-Page Summary

KIC: 8826718 Candidate: 2 of 2 Period: 0.721 d



DV Fit Results:

Period = 0.72072 [0.00001] d
Epoch = 131.8490 [0.0043] BKJD
Rp/R* = 0.0070 [0.0039]
a/R* = 1.12 [0.78]
b = 0.92 [0.60]
Seff = 97730.33 [71854.64]
Teff = 4509 [829] K
Rp = 2.57 [1.83] Re
a = 0.0201 [0.0089] AU

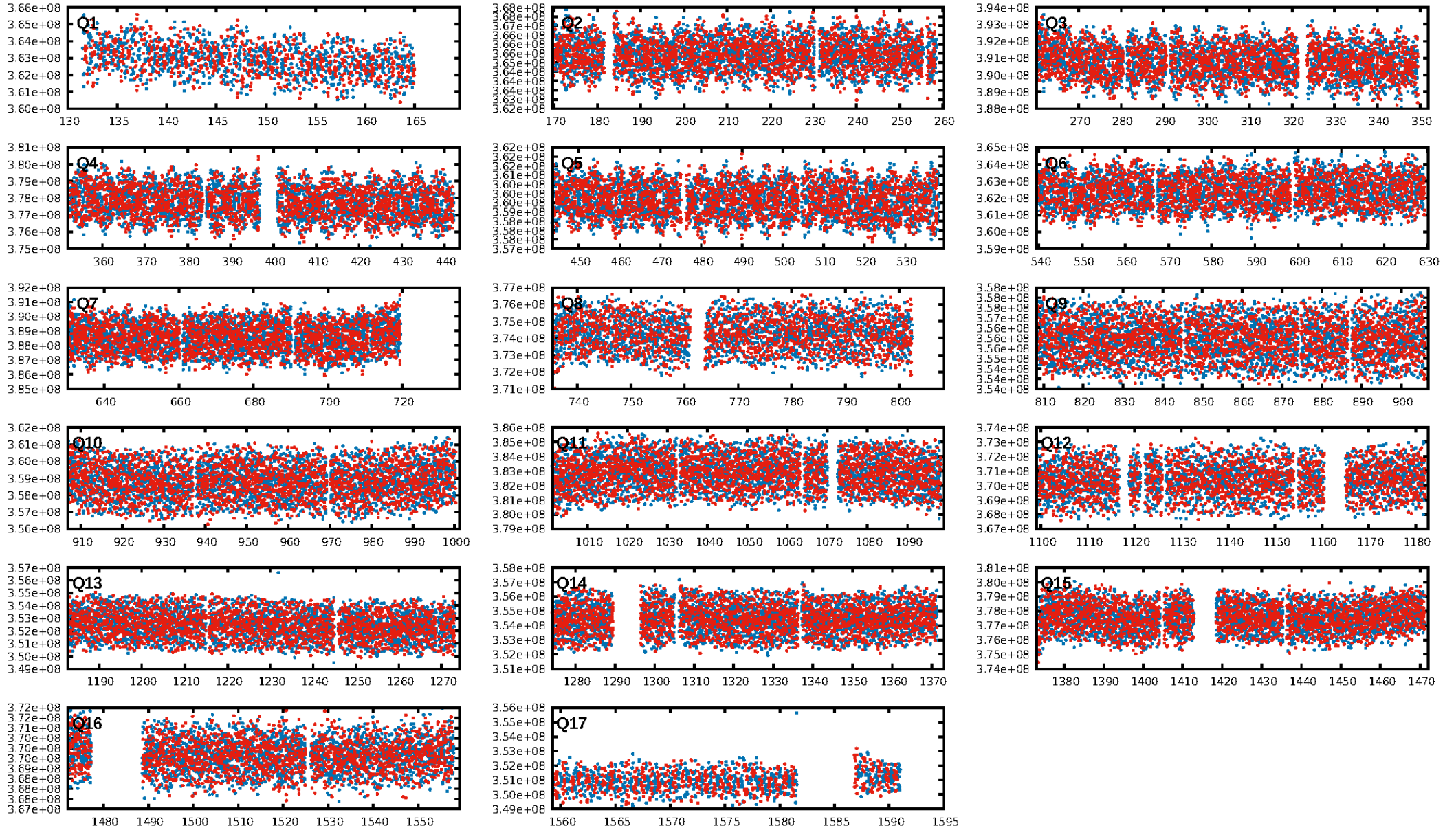
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1779/1779]
GhostDiagnostic-chr: 4.142
Centroid-sig: N/A
Centroid-so: 0.249 arcsec [1.40 σ]
OotOffset-rm: 0.147 arcsec [0.77 σ]
KicOffset-rm: 0.116 arcsec [0.55 σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.88 [14/16]
DiffImageOverlap-fno: 0.00 [0/17]

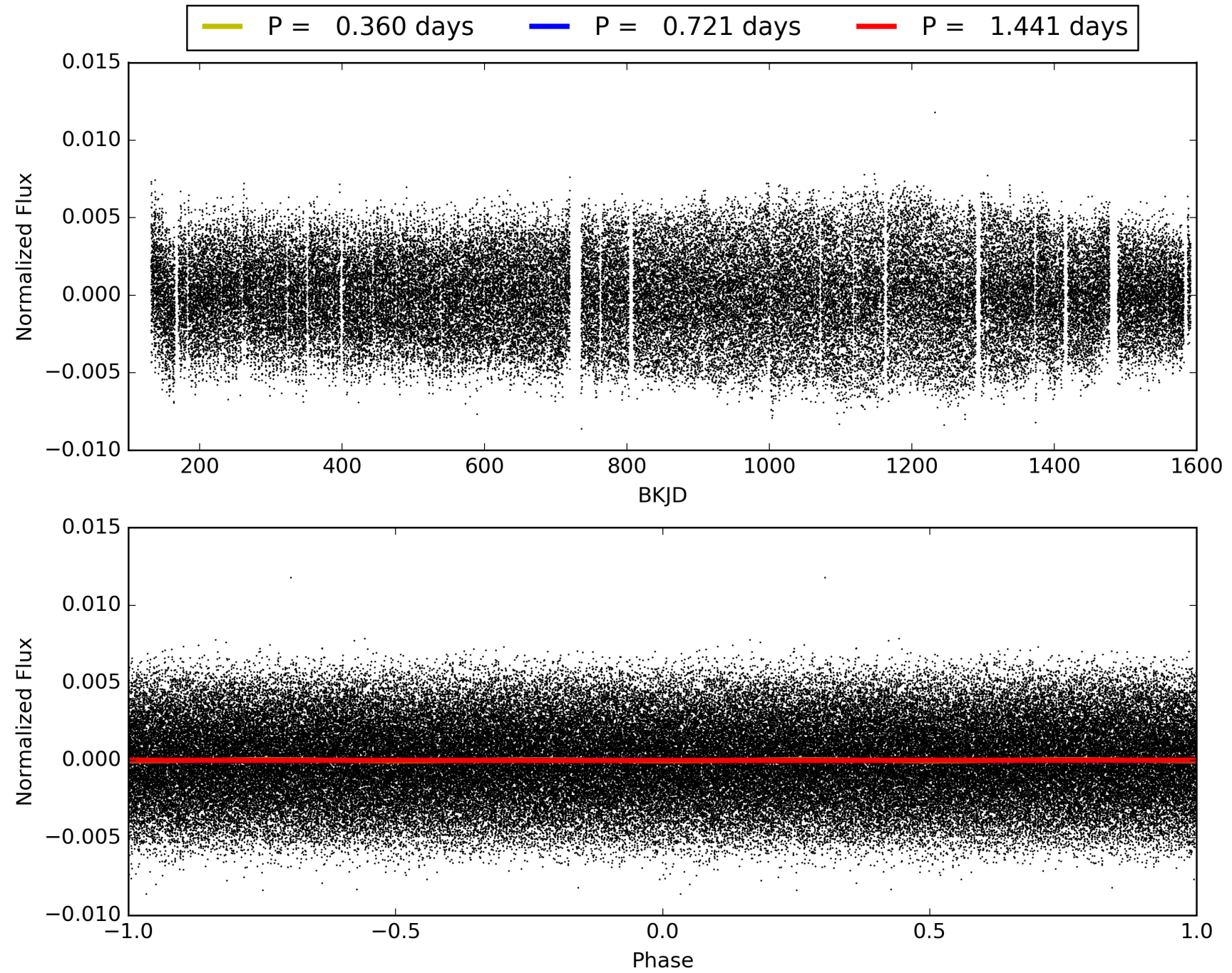
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:13:59 Z

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

TCE 008826718-02, PDC Light Curves

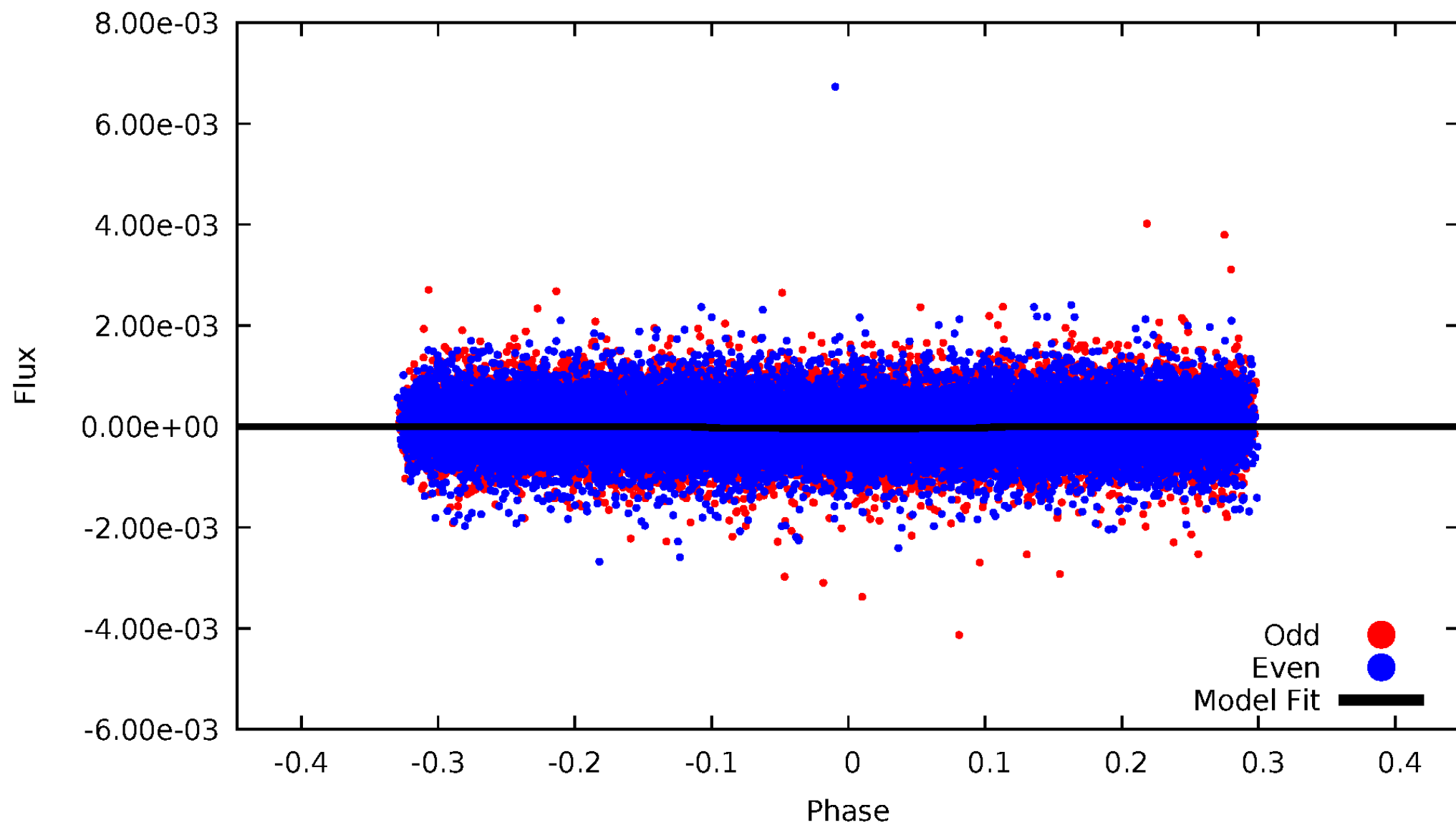


TCE 008826718-02



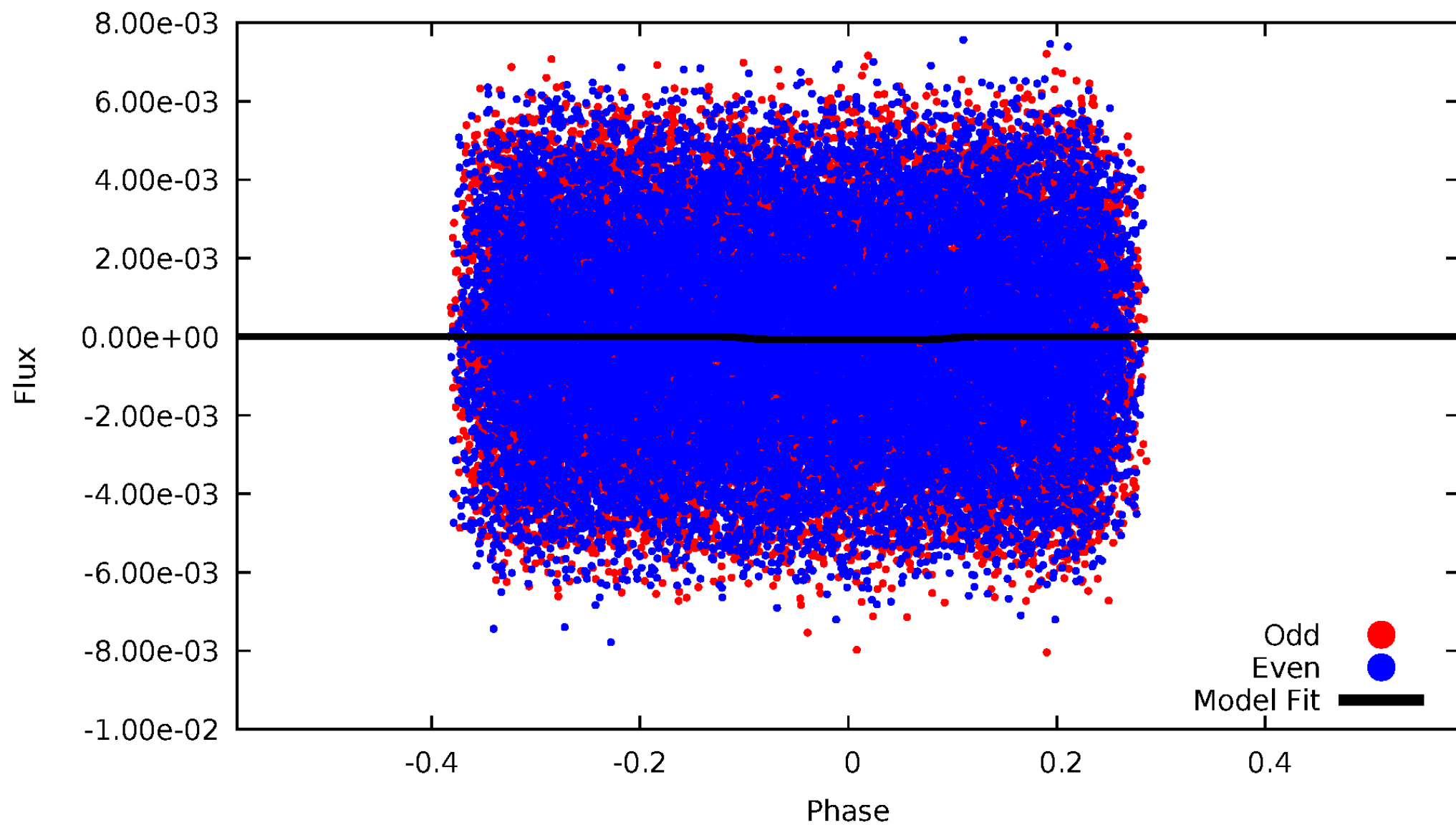
DV Odd/Even

TCE 008826718-02



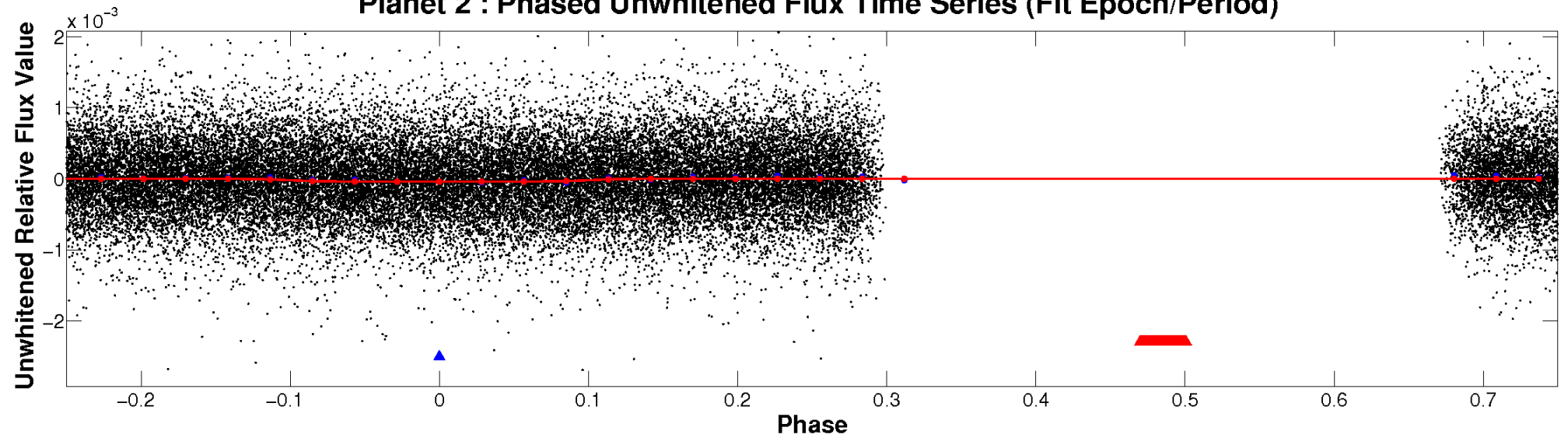
ALT Odd/Even

TCE 008826718-02

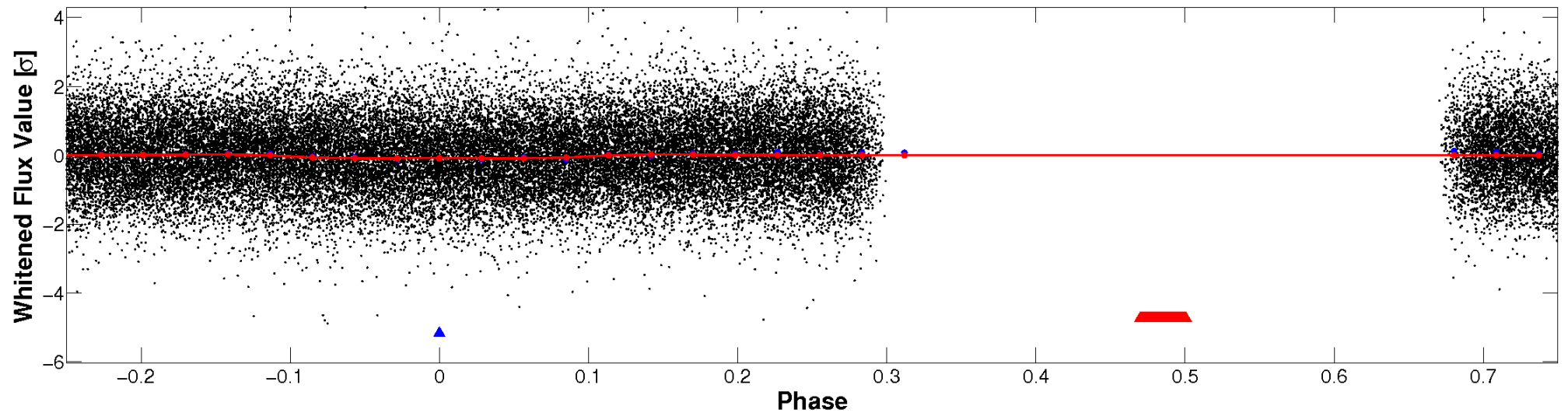


Non-Whitened Vs. Whitened Light Curve

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

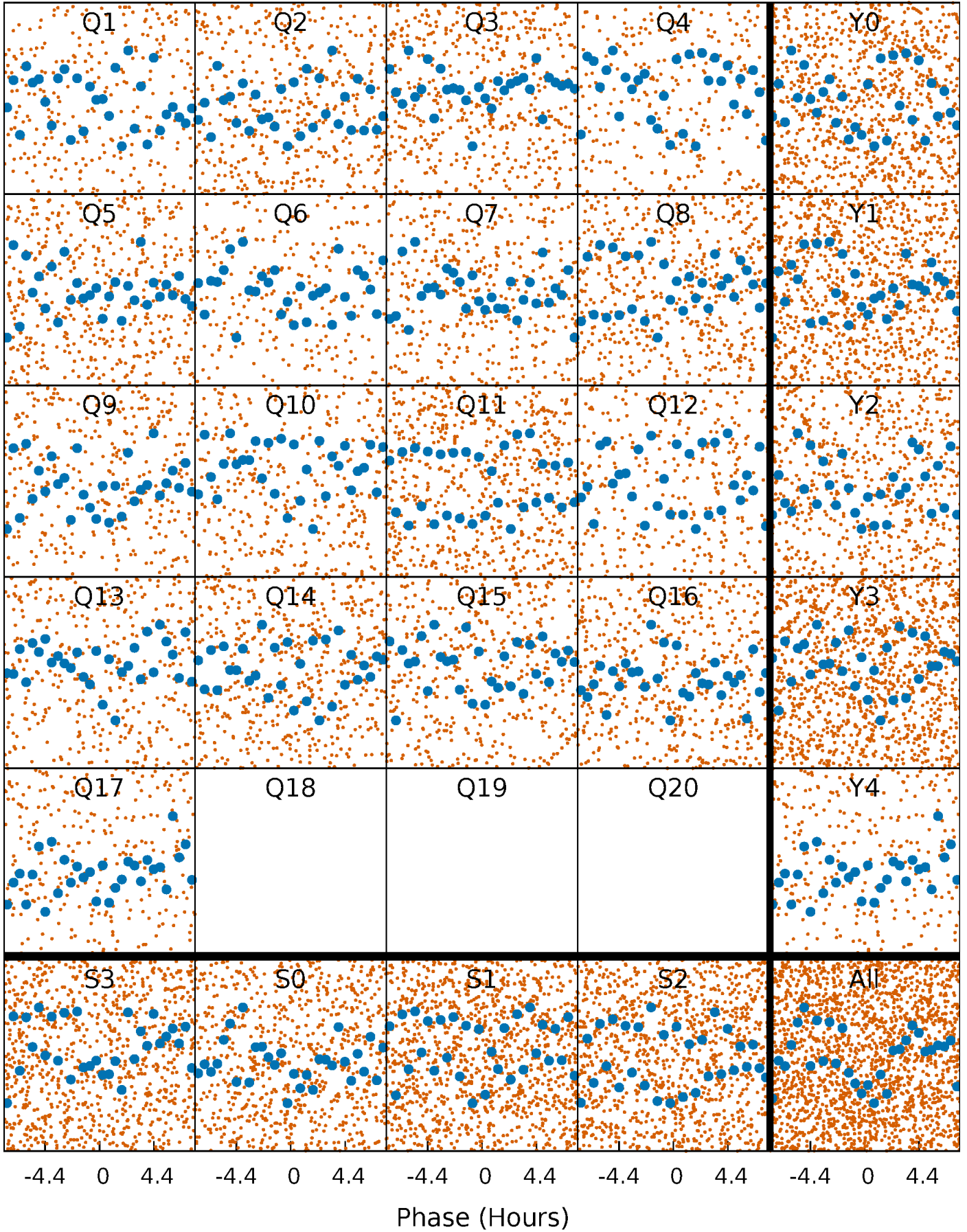


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



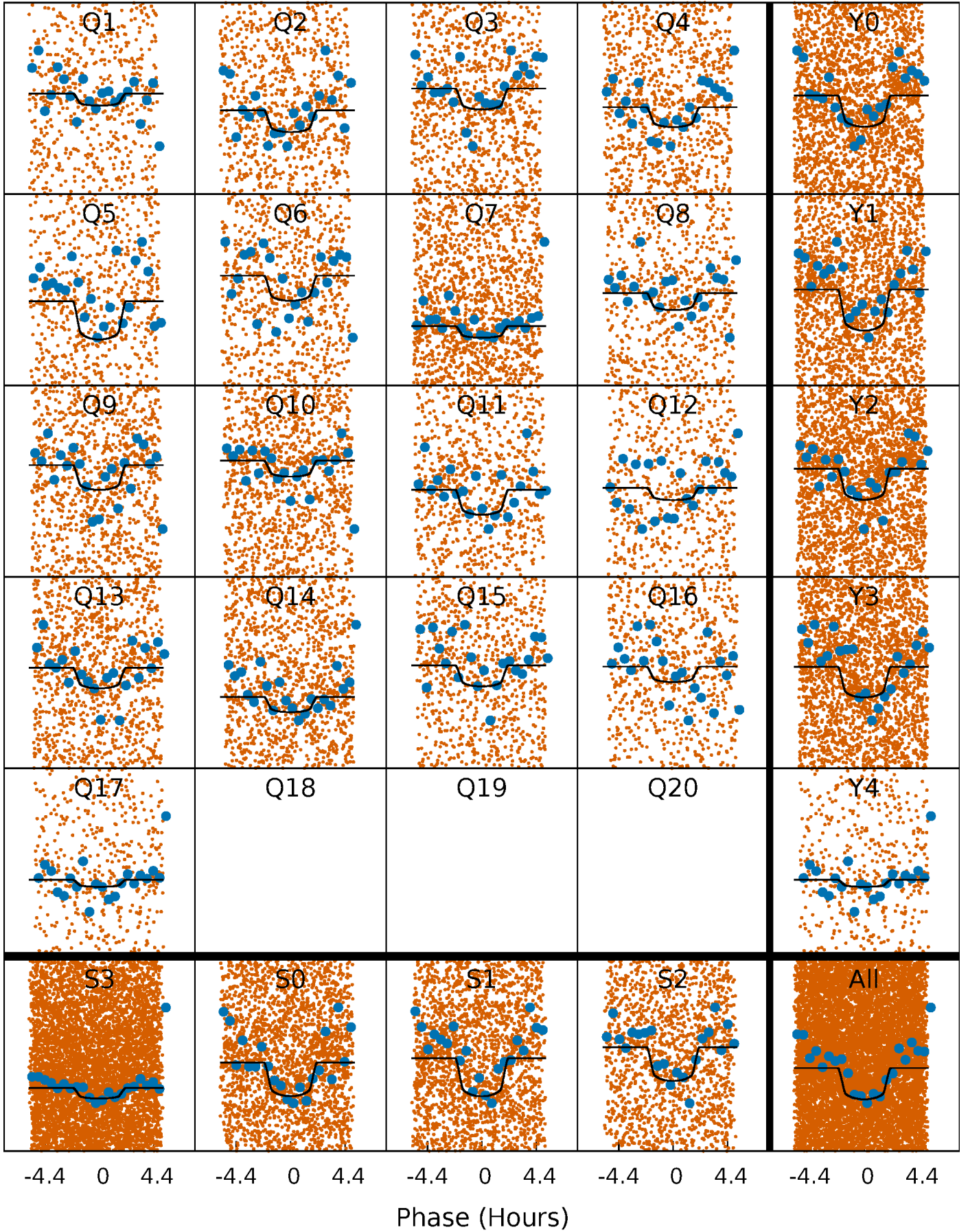
PDC Quarter-Phased Transit Curves

TCE 008826718-02 P= 0.720717 Days $T_0=131.849016$ (BKJD)



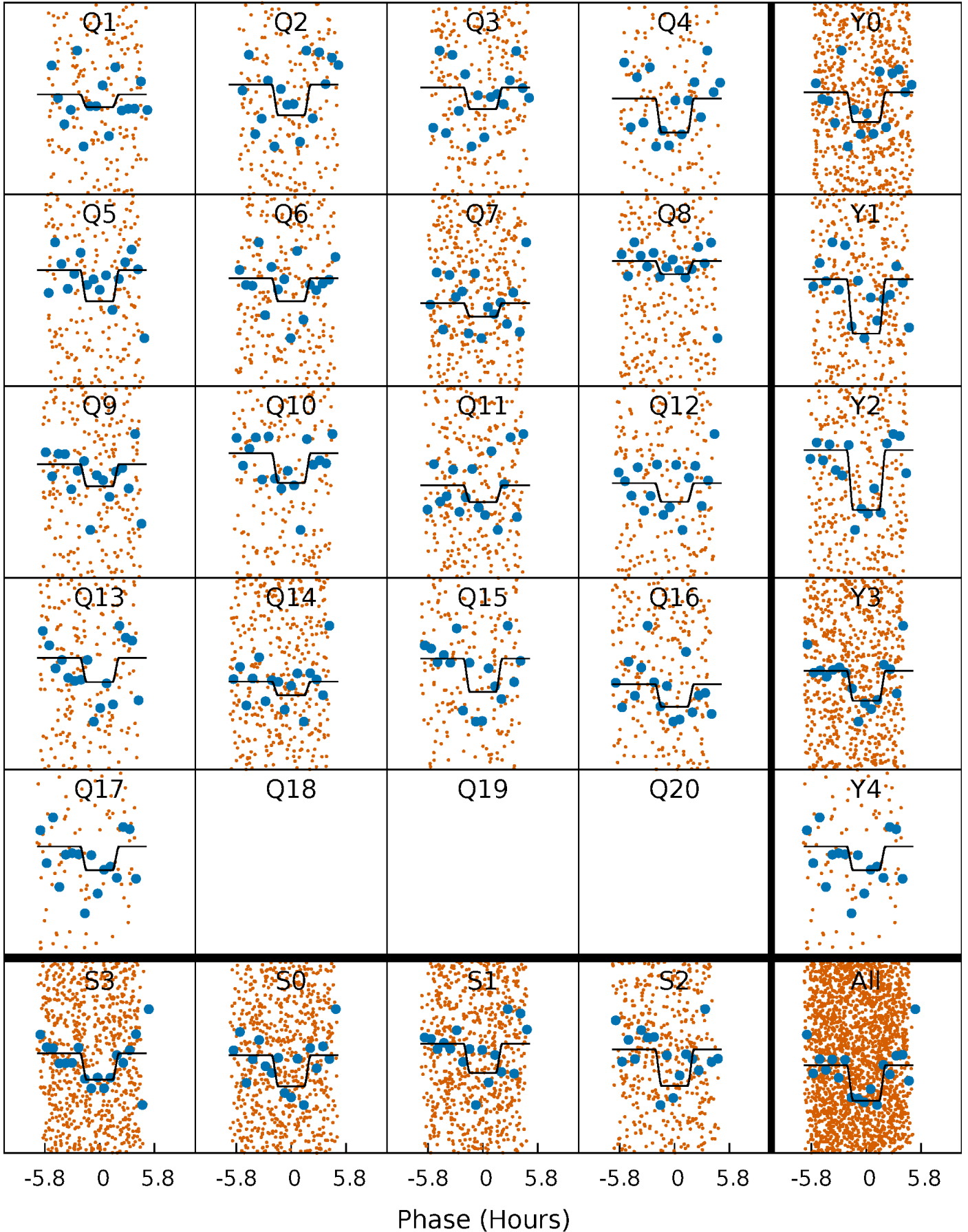
DV Quarter-Phased Transit Curves

TCE 008826718-02 P= 0.720717 Days $T_0=131.849016$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

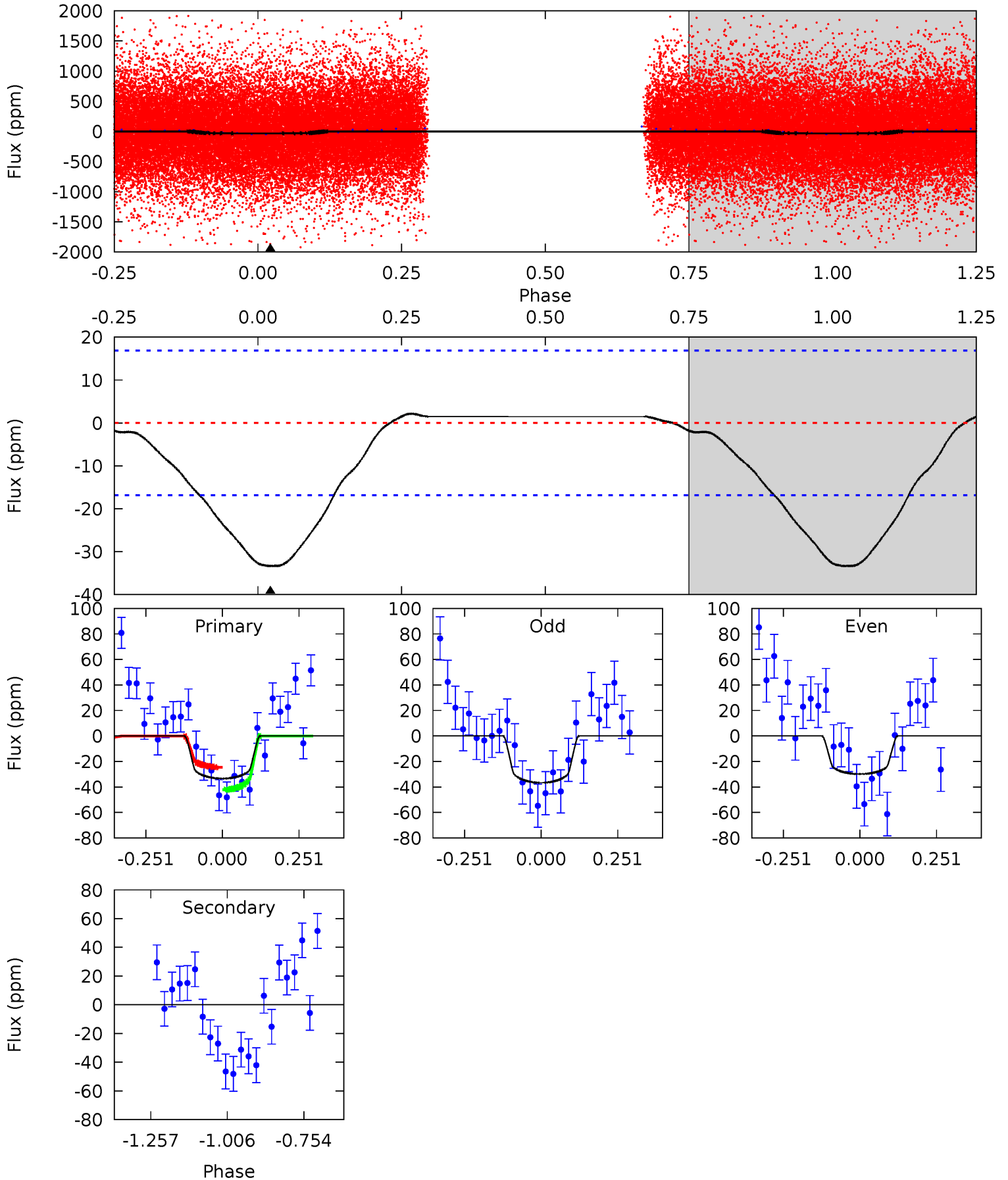
TCE 008826718-02 P= 0.720752 Days $T_0=131.837082$ (BKJD)



DV Model-Shift Uniqueness Test

008826718-02, P = 0.720717 Days, E = 131.128299 Days

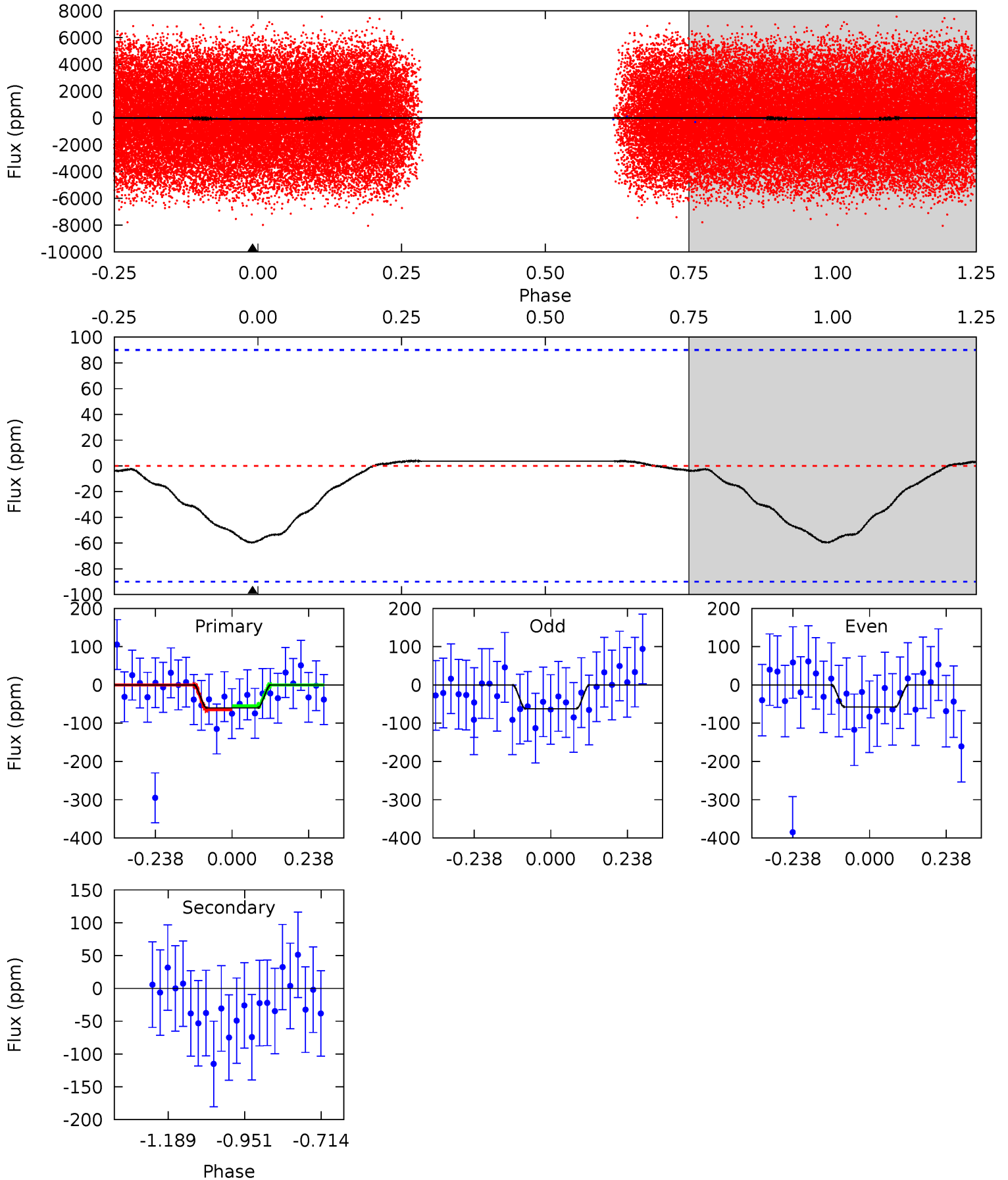
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.65	0	0	0	4.37	1.15	0.34	8.65	8.65	0	0	0.90	1.00	0.06	2.26



Alt Model-Shift Uniqueness Test

008826718-02, P = 0.720752 Days, E = 131.116330 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.91	0	0	0	4.38	1.18	0.12	2.91	2.91	0	0	0.11	0.99	0.06	0.26



Stellar Parameters For KIC 008826718

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7915^{+221}_{-331}	$3.706^{+0.424}_{-0.106}$	$-0.020^{+0.200}_{-0.350}$	$3.346^{+0.691}_{-1.497}$	$2.075^{+0.324}_{-0.526}$	$0.078^{+0.316}_{-0.025}$
	+3%/-4%	+11%/-3%	+1000%/-1750%	+21%/-45%	+16%/-25%	+405%/-32%
Source	KIC0	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 008826718-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 4	$2.34^{+1.52}_{-1.27}$	6102^{+484}_{-707}	-4984^{+1167}_{-645}	$-0.002^{+0.214}_{-0.209}$
Alt.	0 ± 21	$2.75^{+1.45}_{-1.37}$	6101^{+461}_{-740}	-4856^{+10291}_{-1753}	$0.013^{+0.812}_{-0.722}$

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

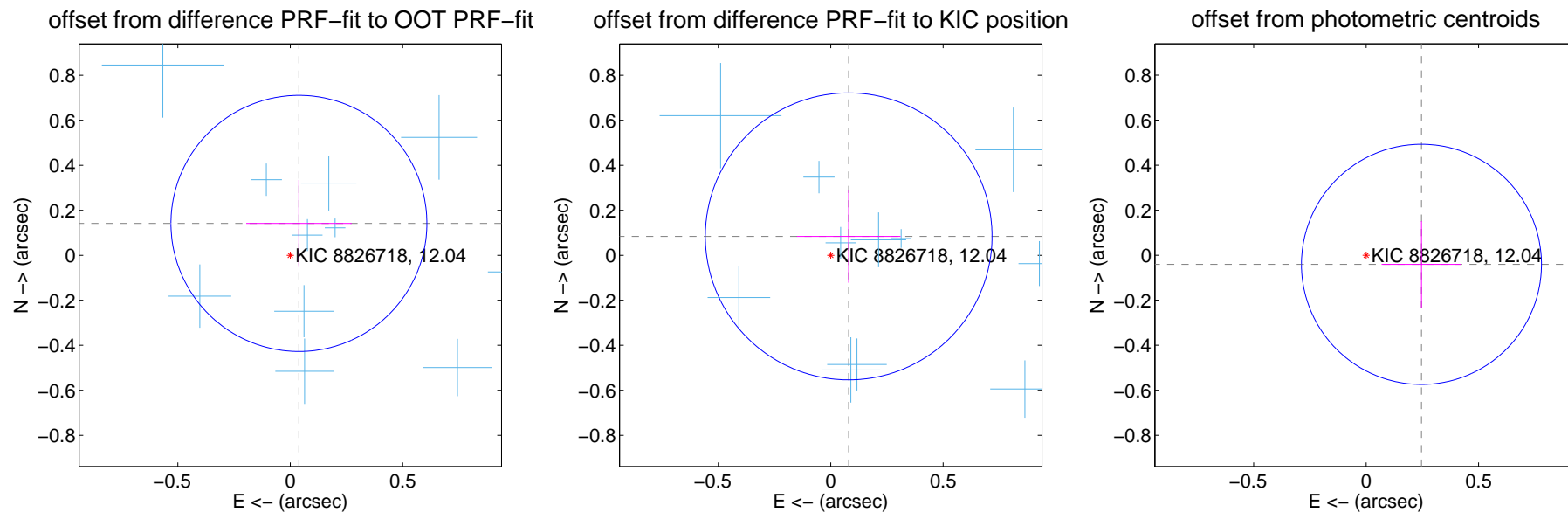
DV Centroid Data

Supplemental centroid analysis for 008826718-02. Kepler magnitude: 12.04. Transit SNR 9.08

There are 14 quarters with good PRF difference image offsets

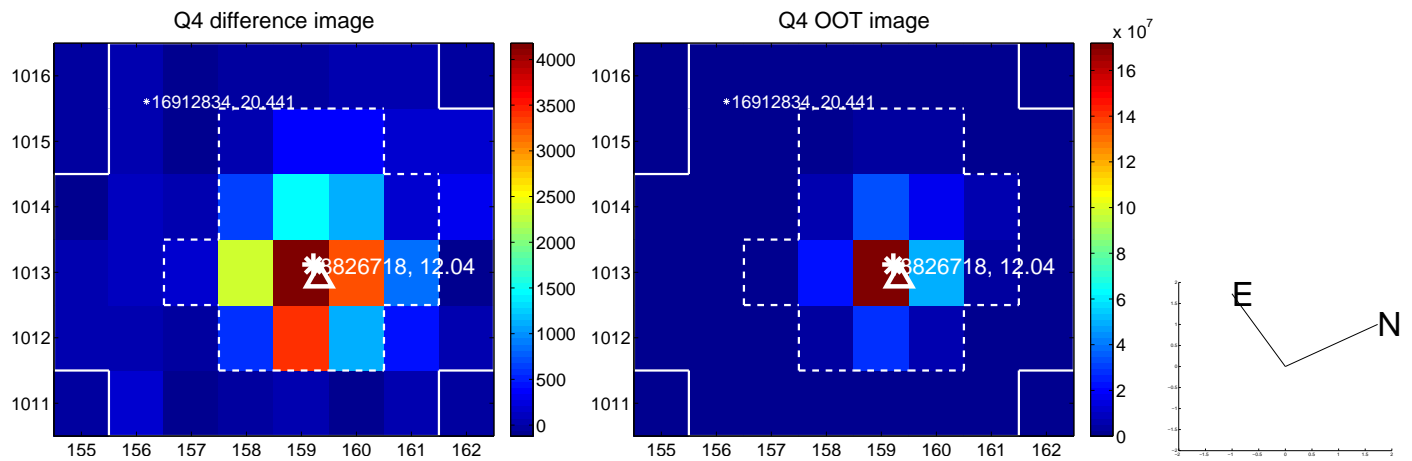
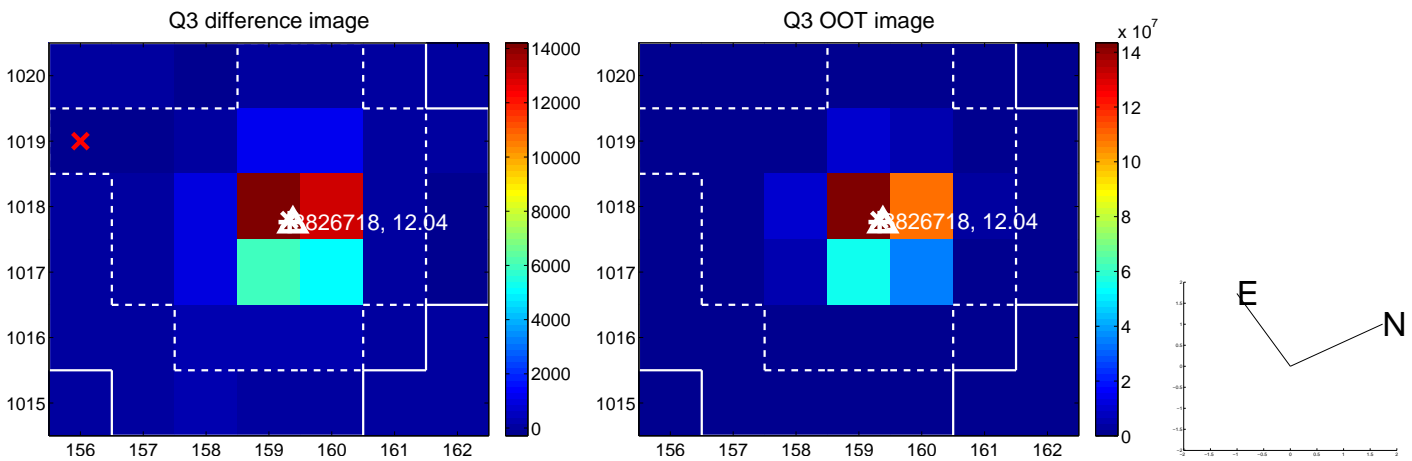
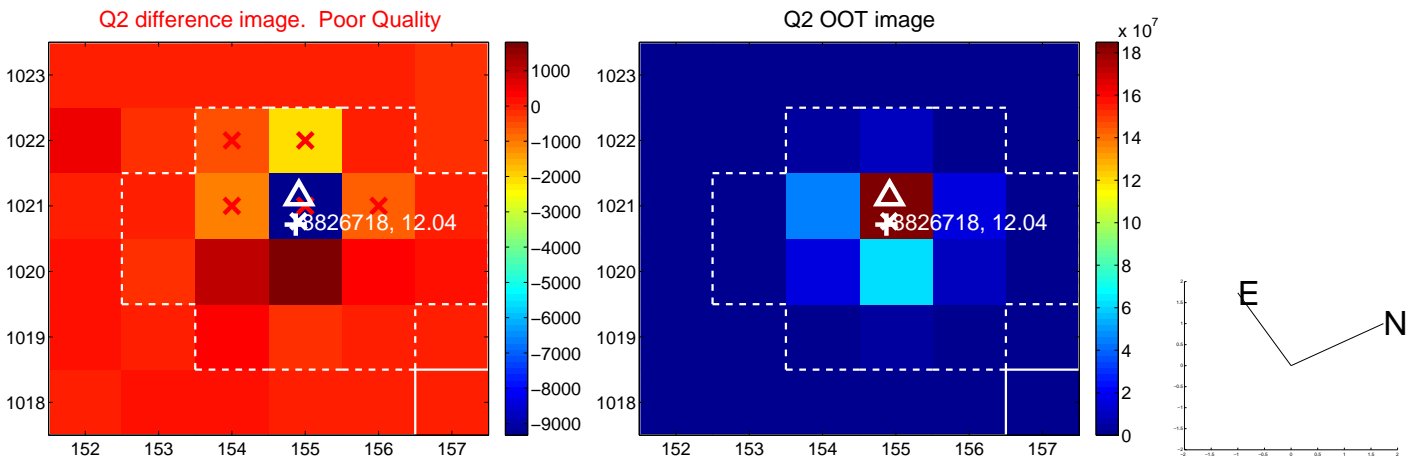
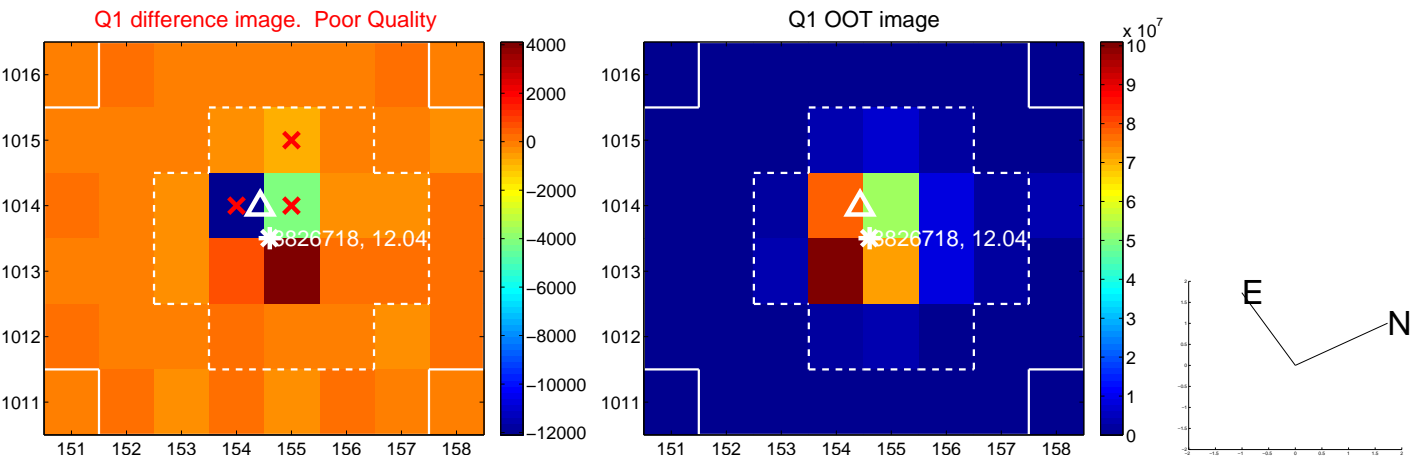
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.147 ± 0.190	0.77	-0.039 ± 0.234	0.142 ± 0.194
PRF-fit source offset from KIC position	0.116 ± 0.213	0.55	-0.080 ± 0.230	0.084 ± 0.206
photometric centroid source offset	0.25 ± 0.18	1.40	-0.25 ± 0.18	-0.04 ± 0.19

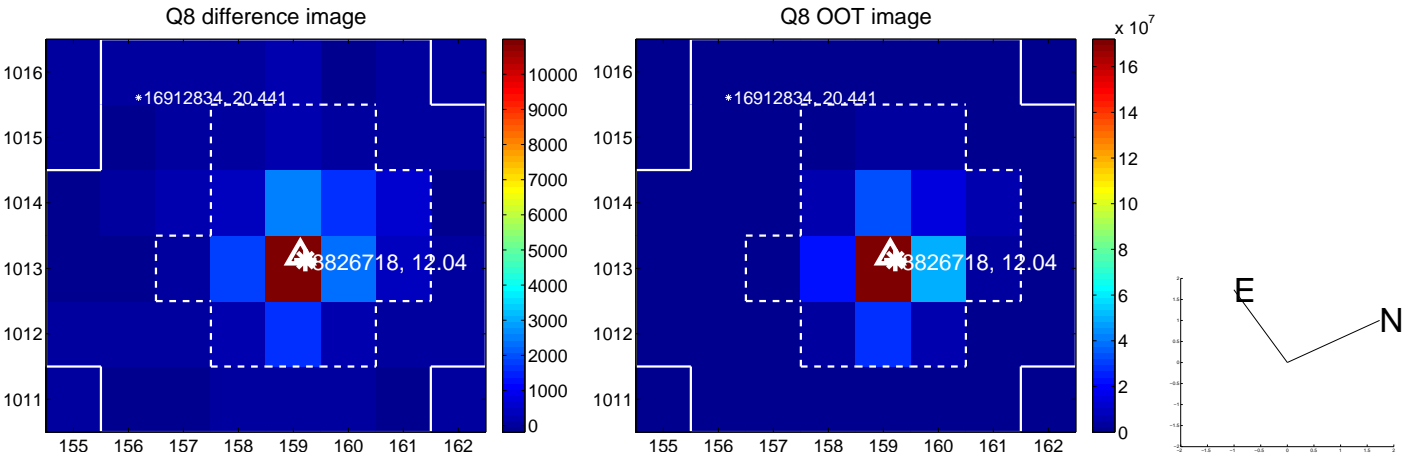
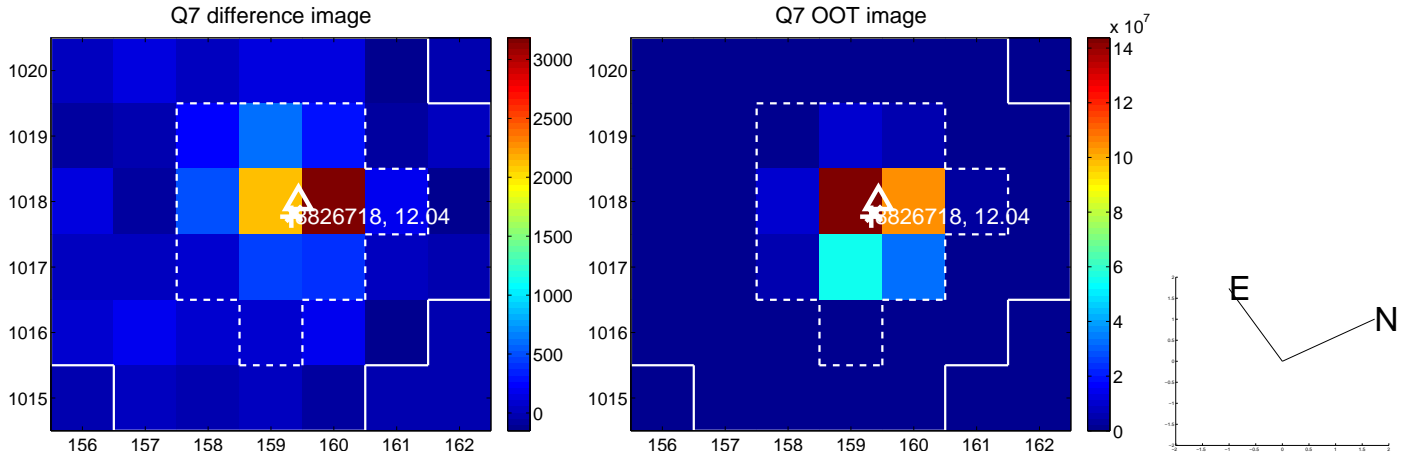
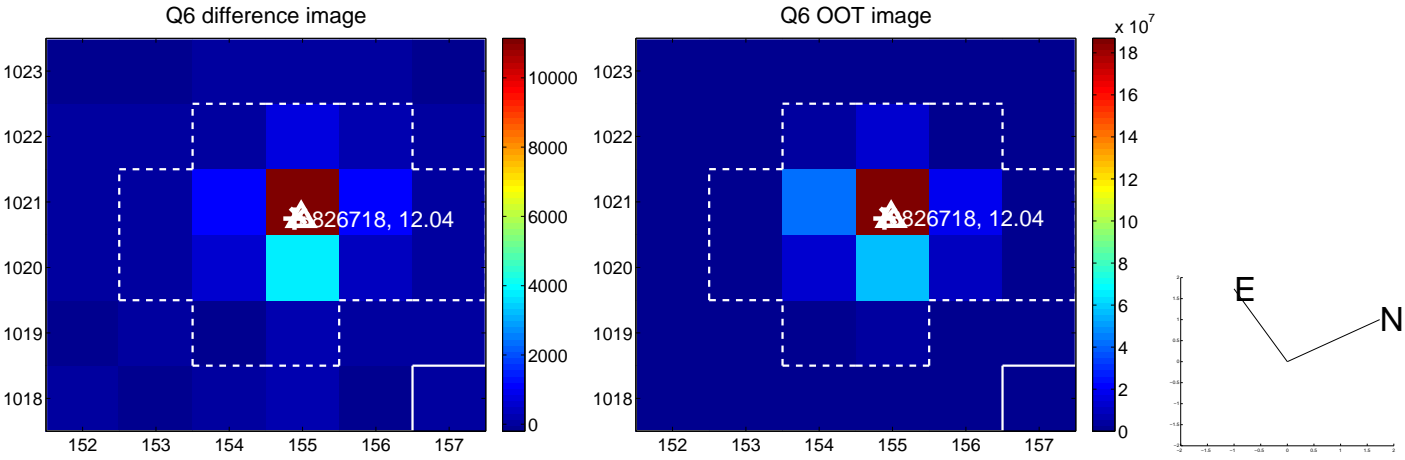
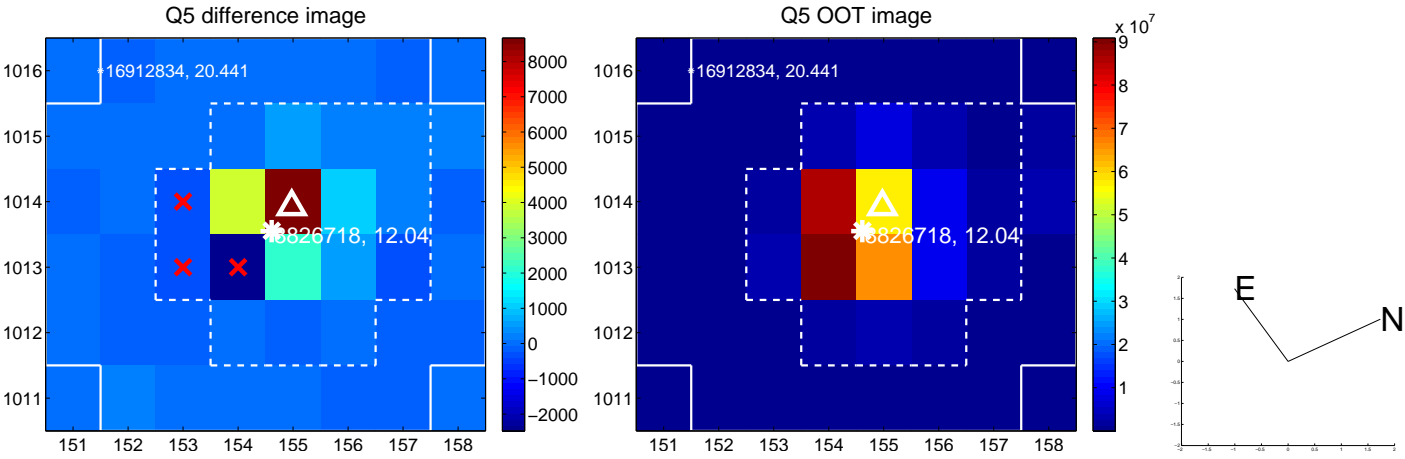


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

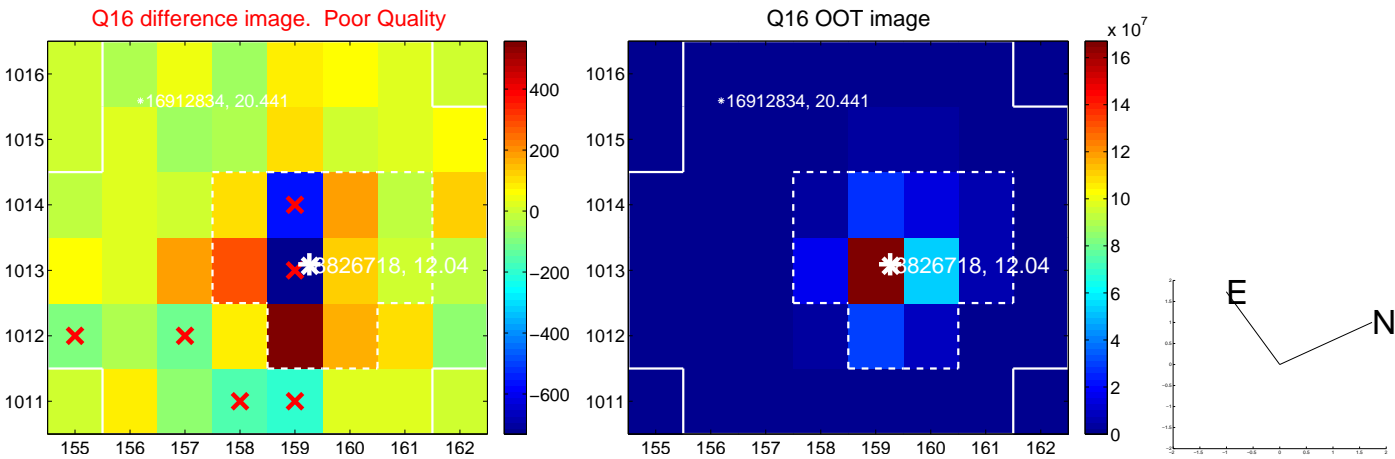
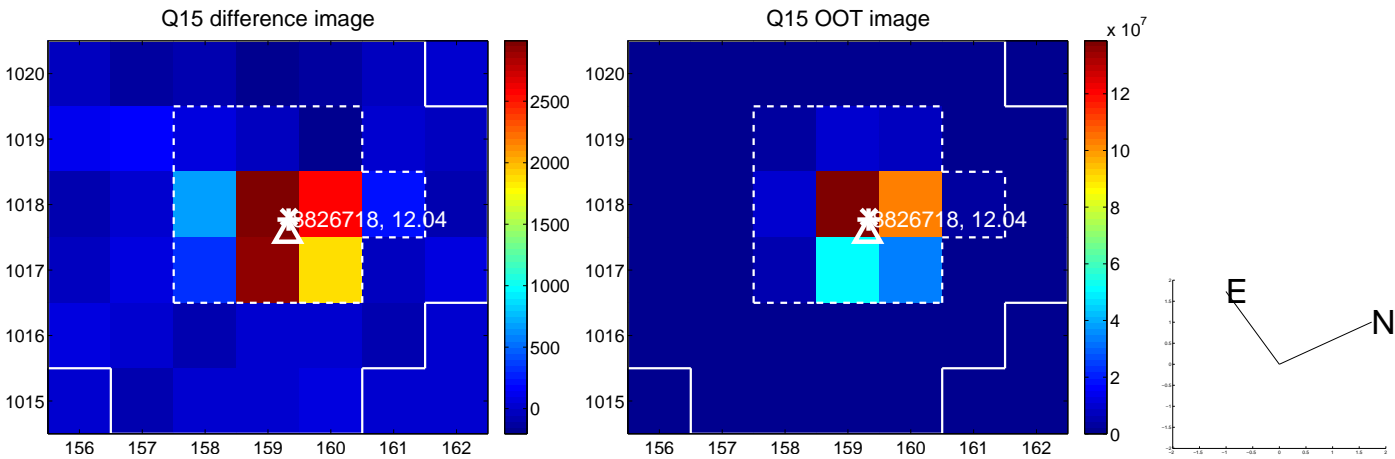
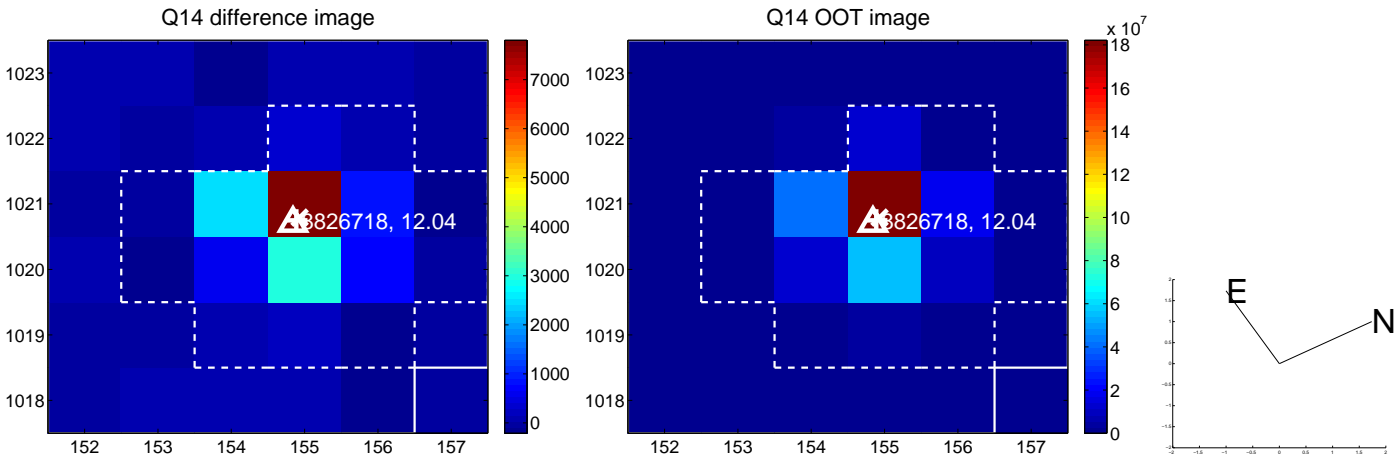
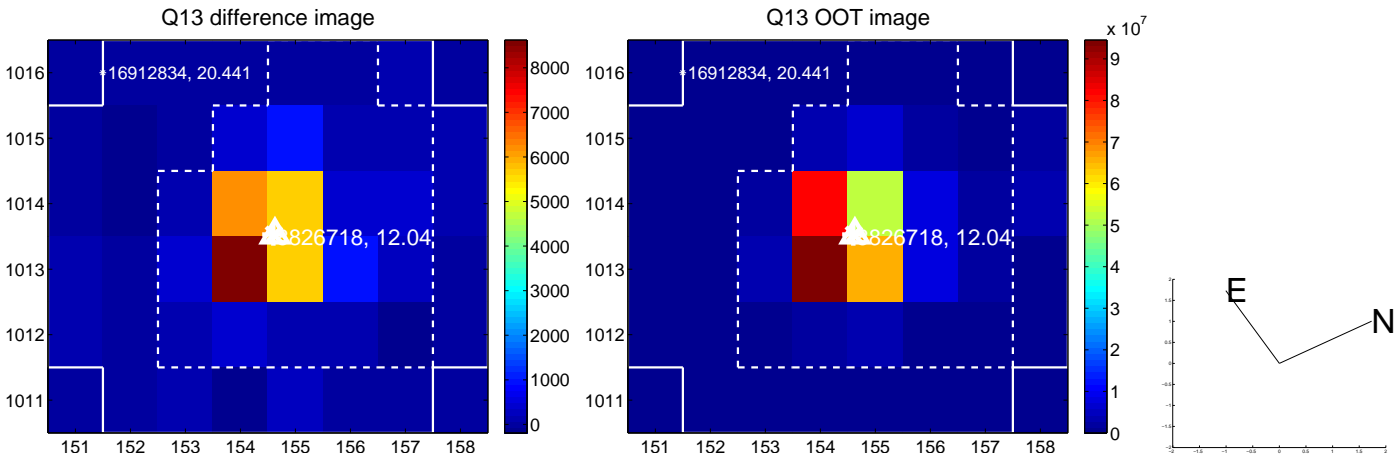
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



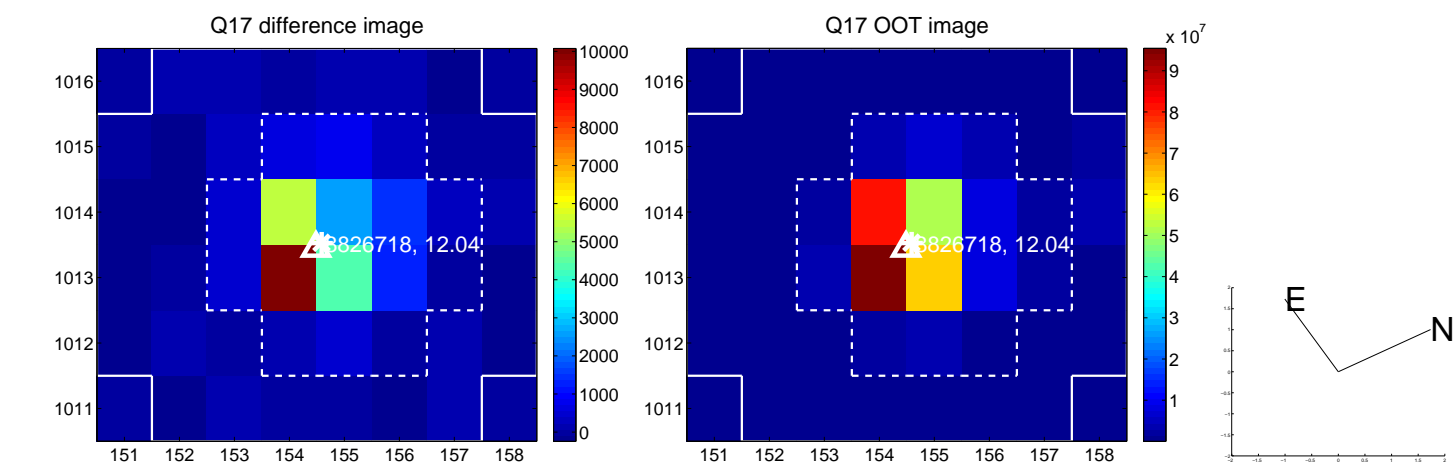
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



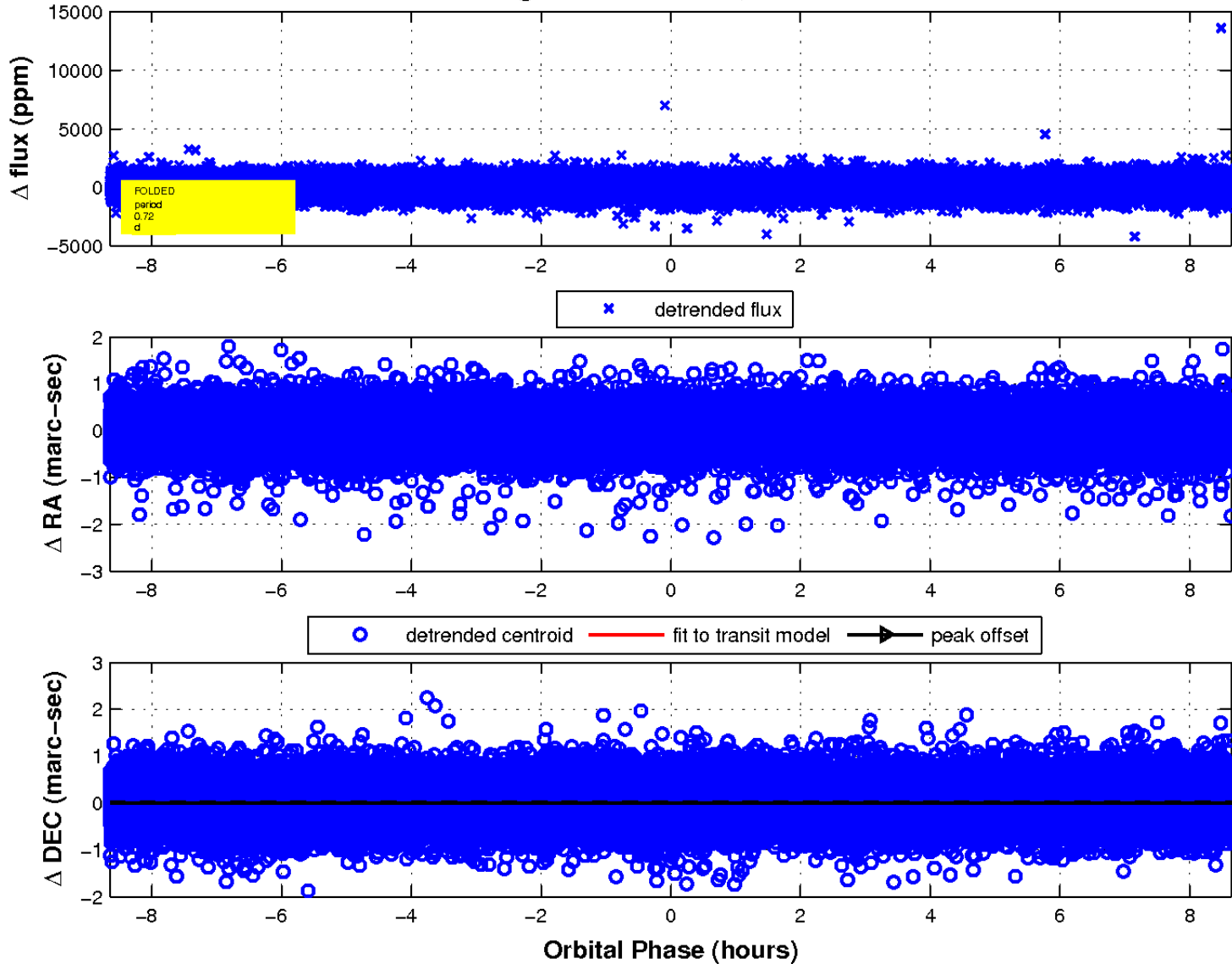
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

