

KIC 008262436

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})
008262436-01	OBS	No	2.038410	132.033441	19.3	8.154	11.9	10.9	3.13	6711	1.53	12392.14
008262436-02	OBS	No	4.076262	135.397474	14.9	15.593	10.9	8.4	3.13	6711	1.42	4918.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008262436-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
008262436-02	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.

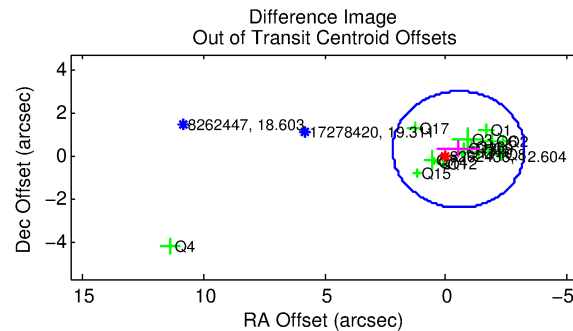
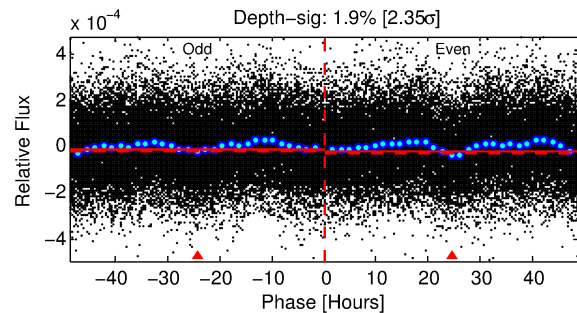
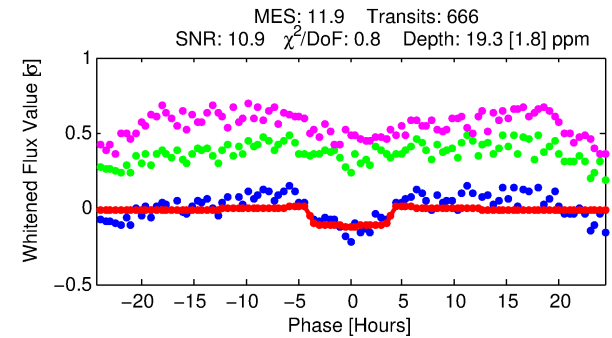
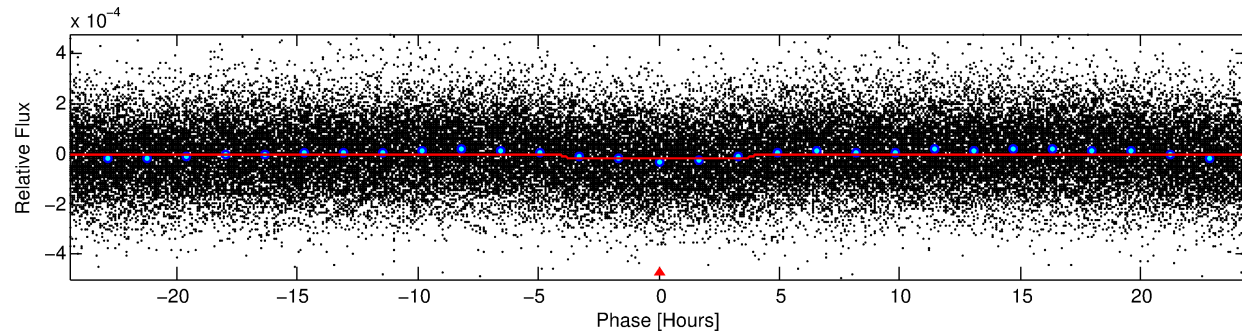
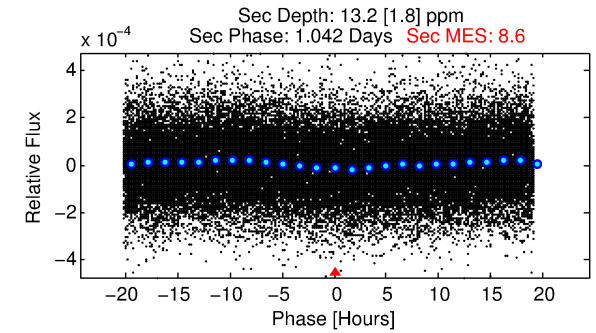
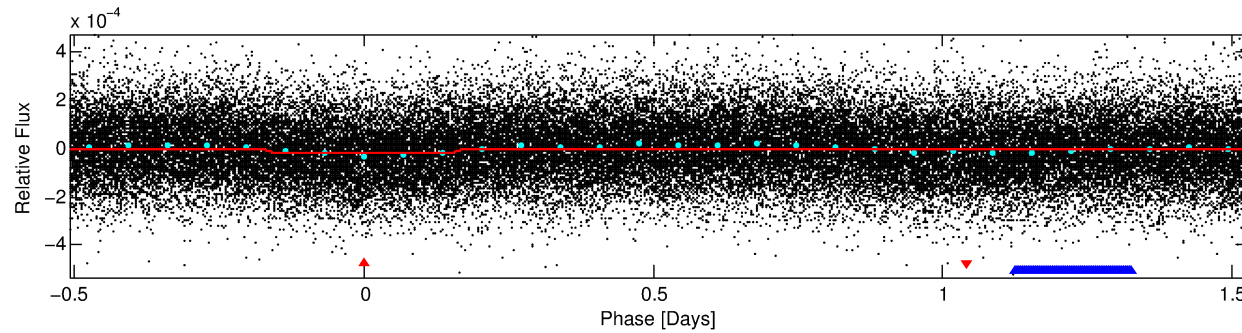
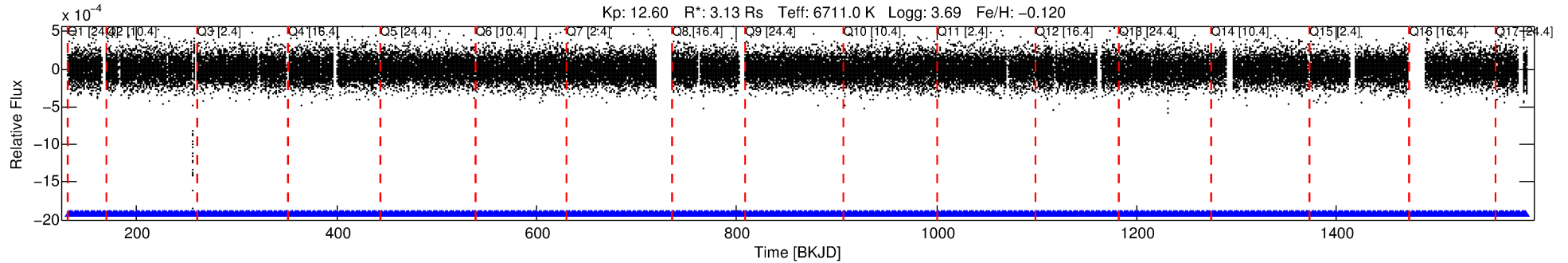
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008262436-01

No Significant Match Found

DV One-Page Summary

KIC: 8262436 Candidate: 1 of 2 Period: 2.038 d



DV Fit Results:

Period = 2.03841 [0.00002] d
Epoch = 132.0334 [0.0060] BKJD
Rp/R* = 0.0045 [0.0011]
a/R* = 1.43 [1.06]
b = 0.82 [0.60]
Seff = 12392.14 [6693.94]
Teq = 2690 [363] K
Rp = 1.53 [0.67] Re
a = 0.0380 [0.0127] AU
Ag = 4.46 [3.29] [1.05σ]
Teffp = 6044 [809] K [3.78σ]

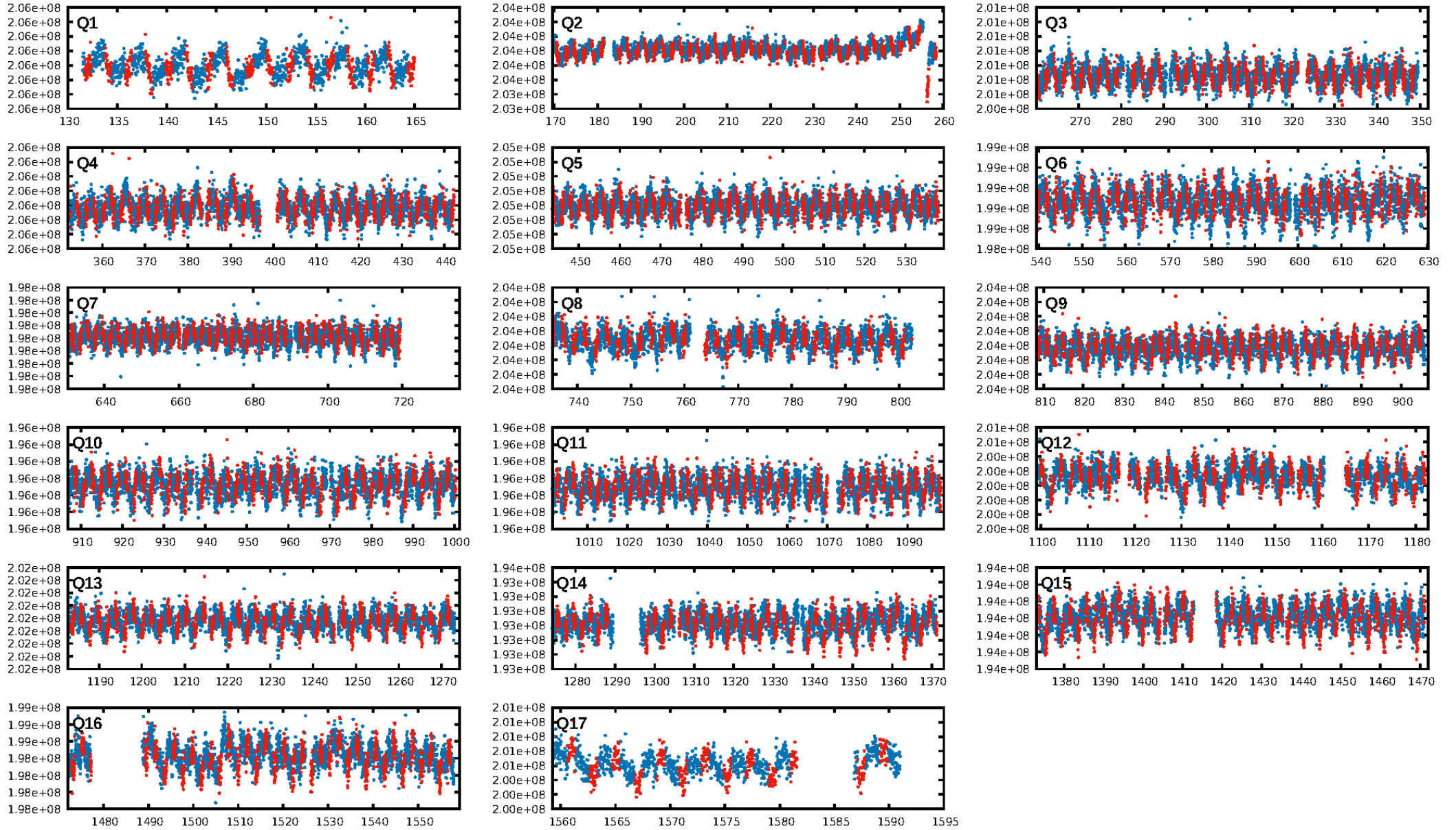
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.5% [2.78σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.23e-22
RollingBand-fgt: 1.00 [636/636]
GhostDiagnostic-chr: 8.496
Centroid-sig: 50.5%
Centroid-so: 0.507 arcsec [0.55σ]
OotOffset-rm: 0.609 arcsec [0.67σ]
KicOffset-rm: 0.676 arcsec [0.89σ]
OotOffset-st: 4/4/4/4 [16]
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DiffImageQuality-fgm: 0.19 [3/16]
DiffImageOverlap-fno: 1.00 [17/17]

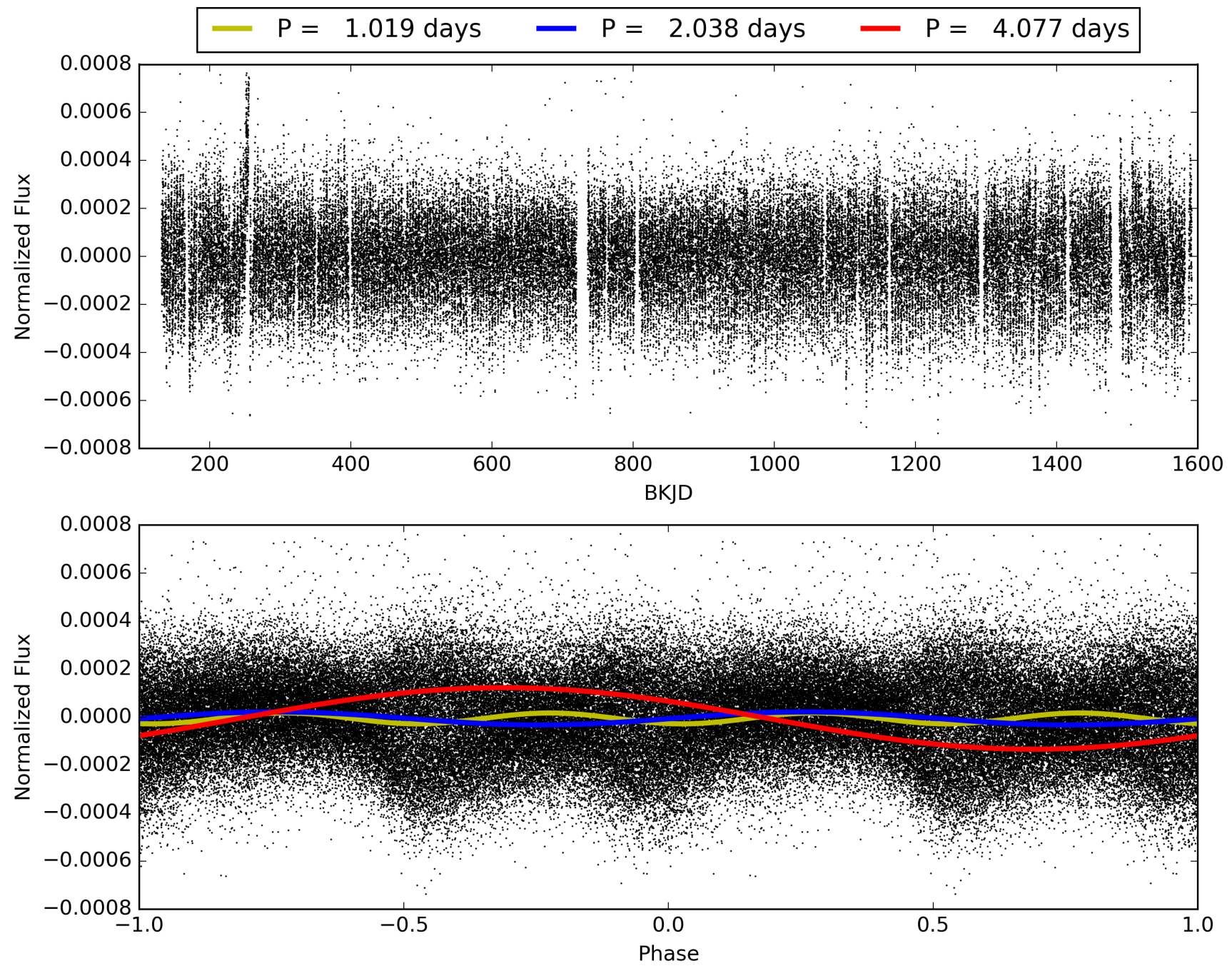
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008262436-01, PDC Light Curves

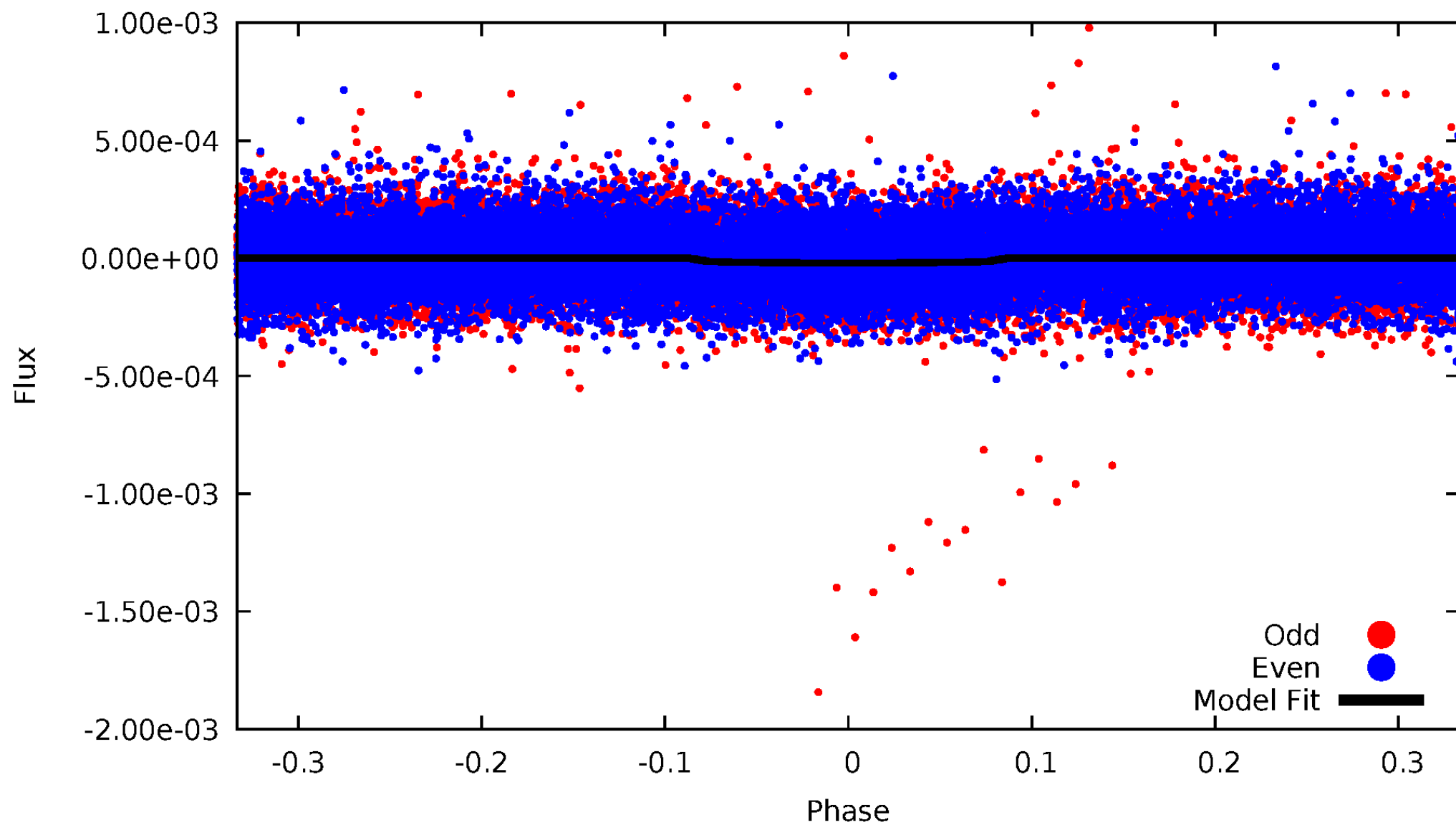


TCE 008262436-01



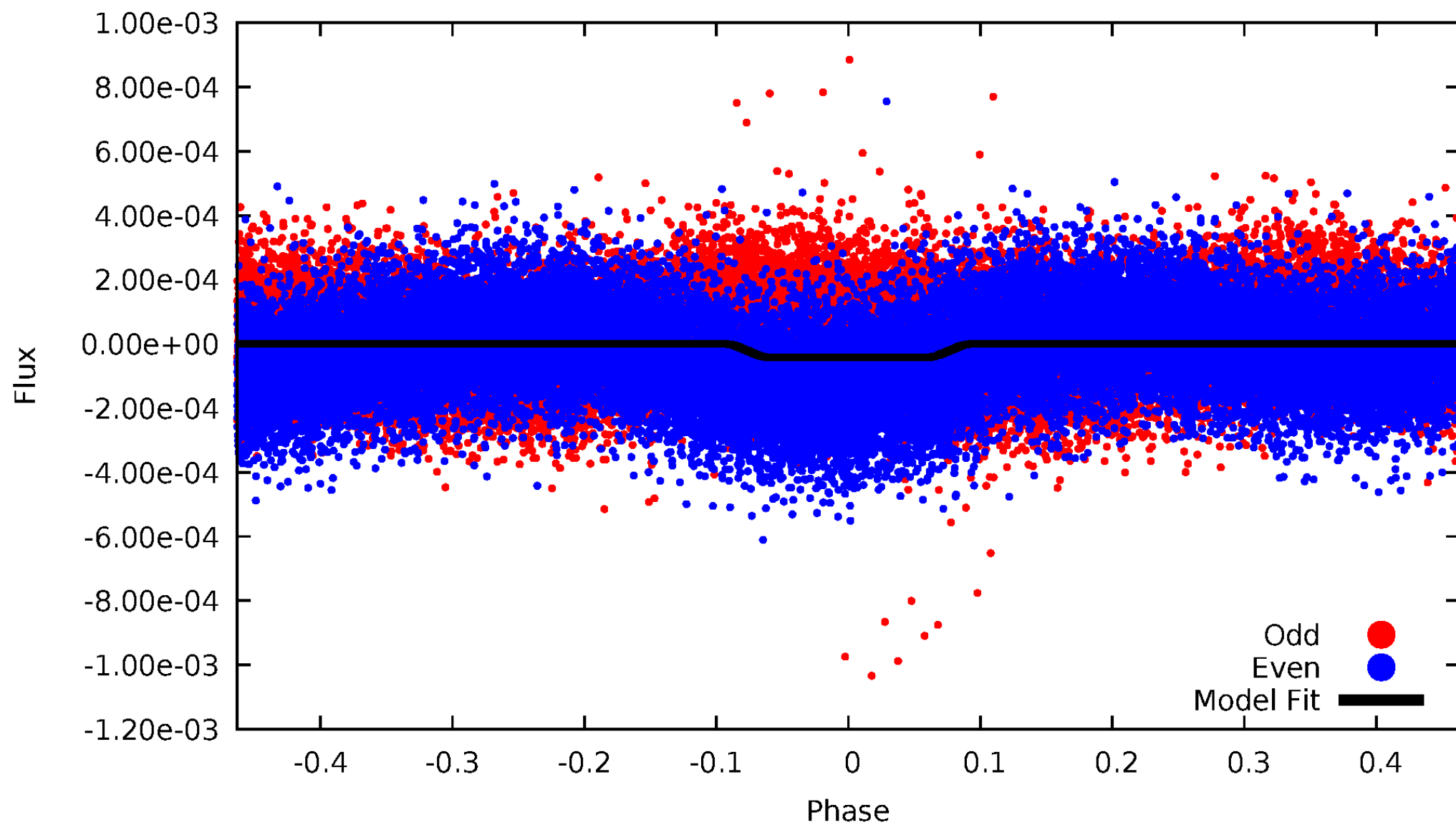
DV Odd/Even

TCE 008262436-01

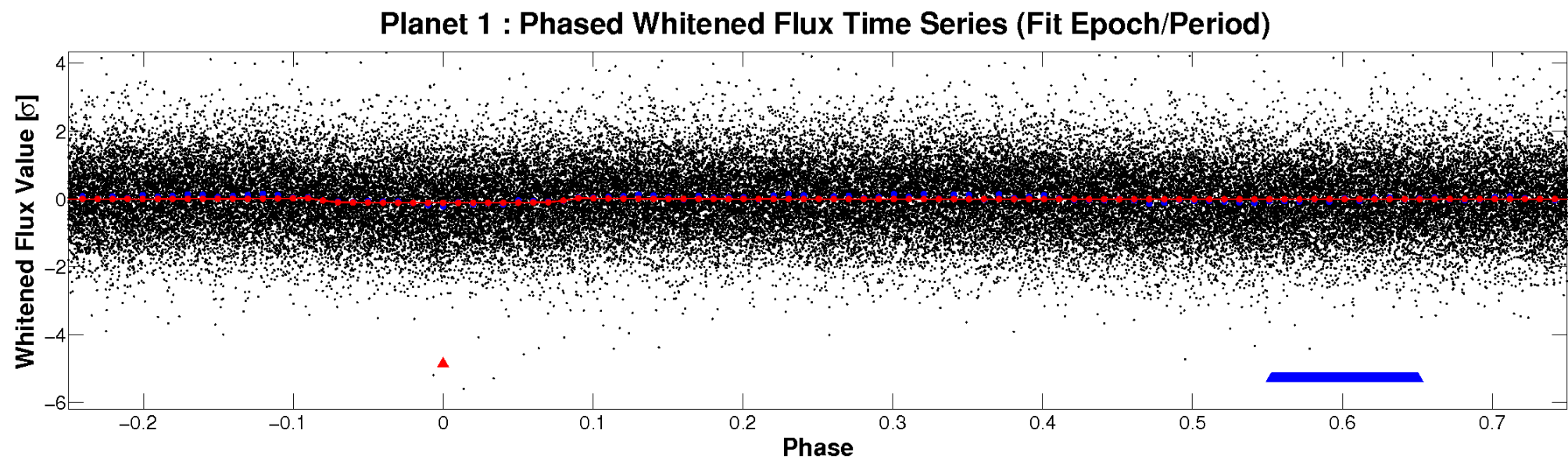
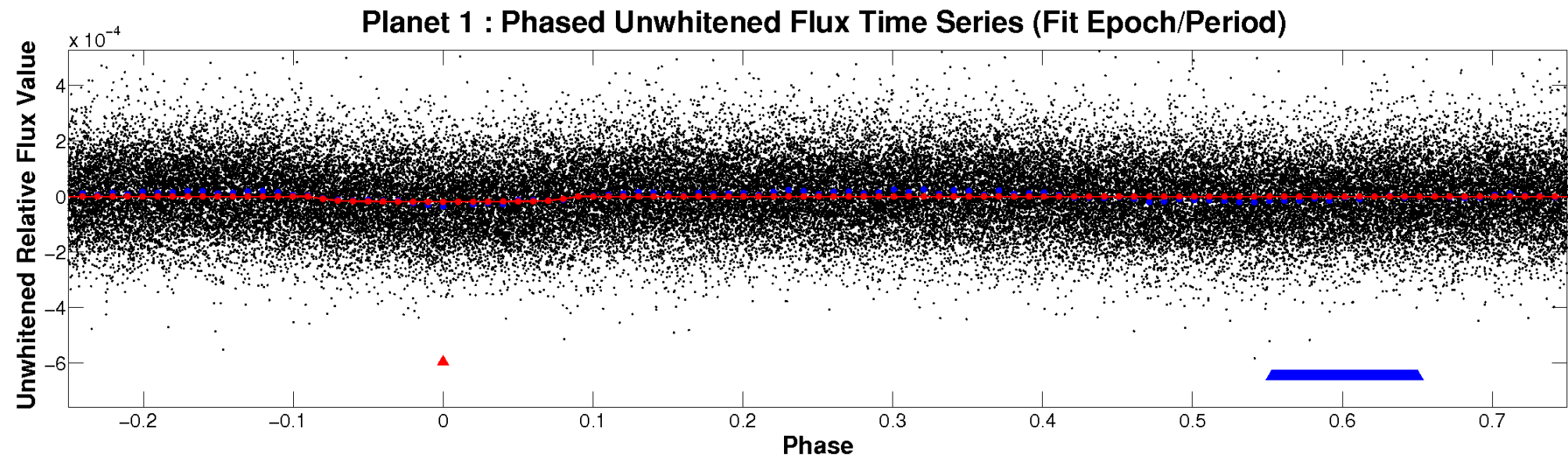


ALT Odd/Even

TCE 008262436-01

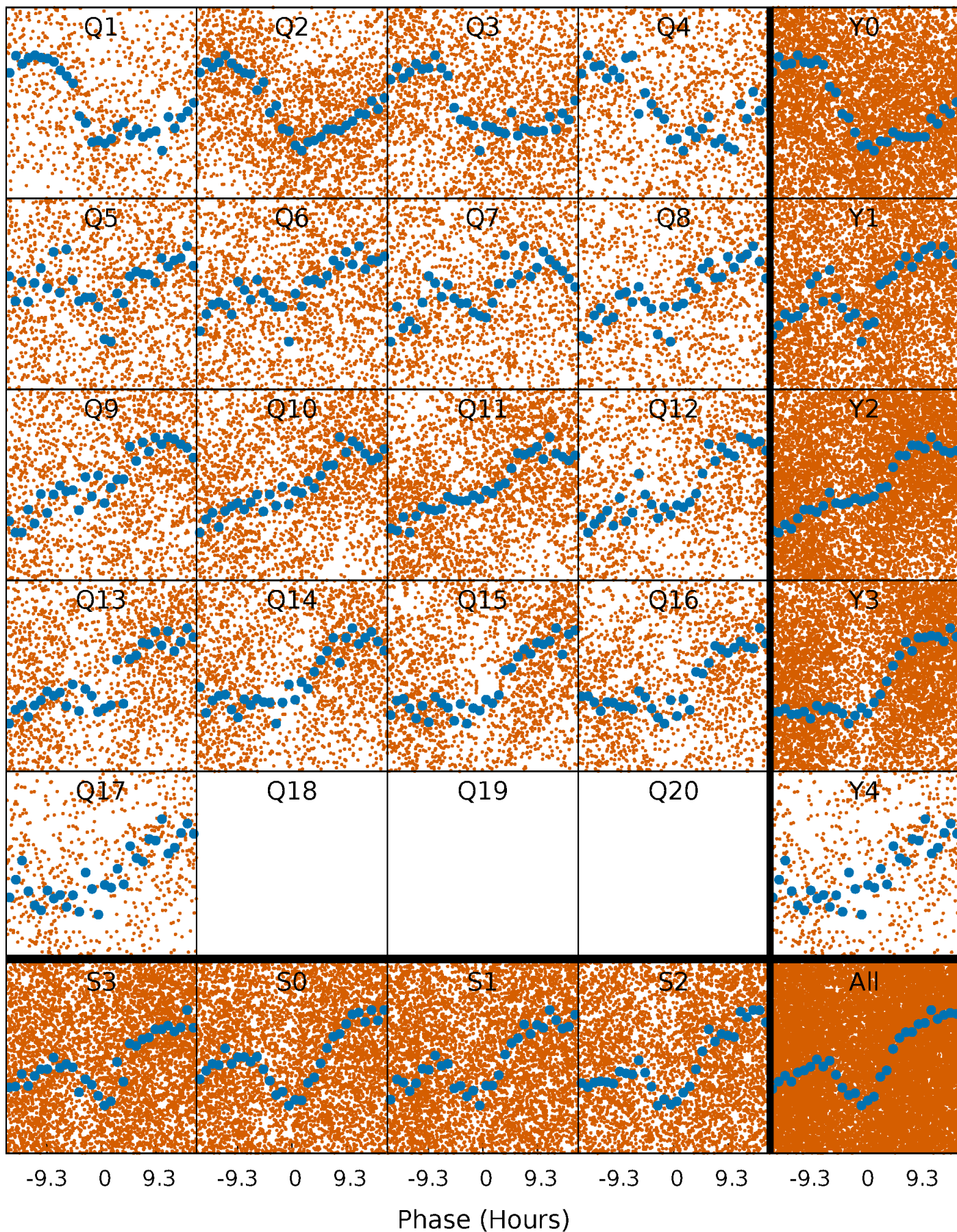


Non-Whitened Vs. Whitened Light Curve



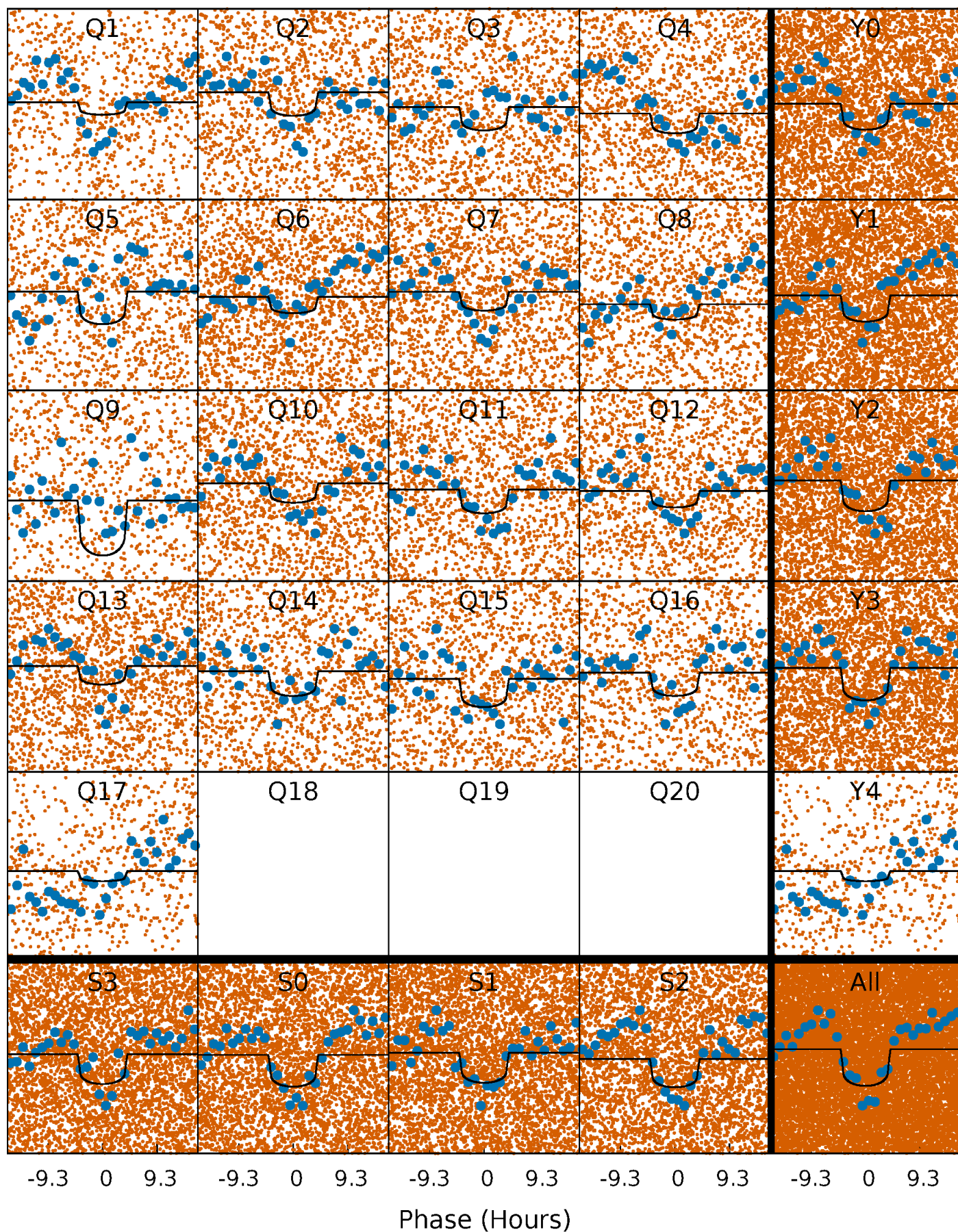
PDC Quarter-Phased Transit Curves

TCE 008262436-01 P= 2.038410 Days $T_0=132.033441$ (BKJD)



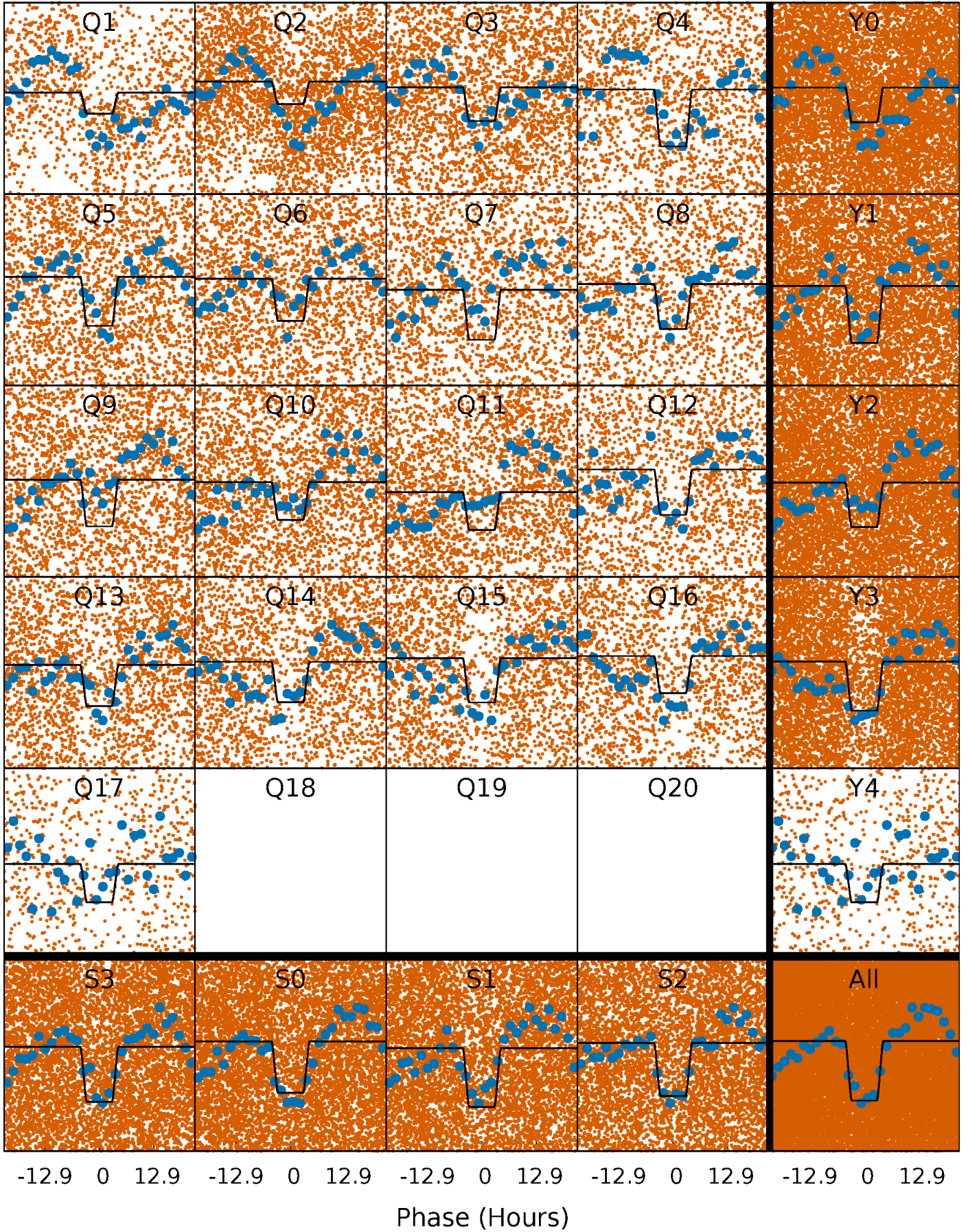
DV Quarter-Phased Transit Curves

TCE 008262436-01 P= 2.038410 Days $T_0=132.033441$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

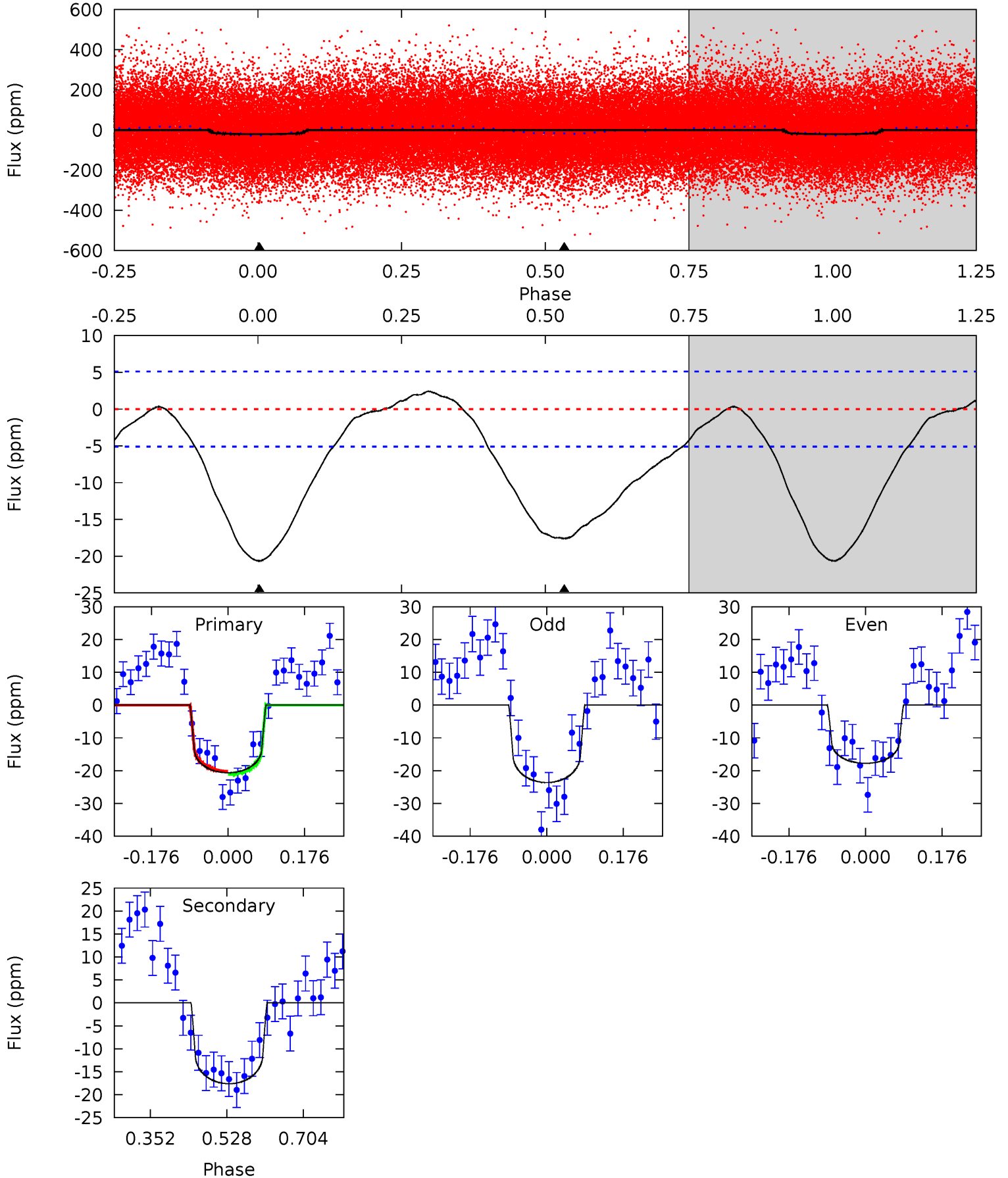
TCE 008262436-01 P= 2.038431 Days $T_0=132.024002$ (BKJD)



DV Model-Shift Uniqueness Test

008262436-01, P = 2.038410 Days, E = 129.995031 Days

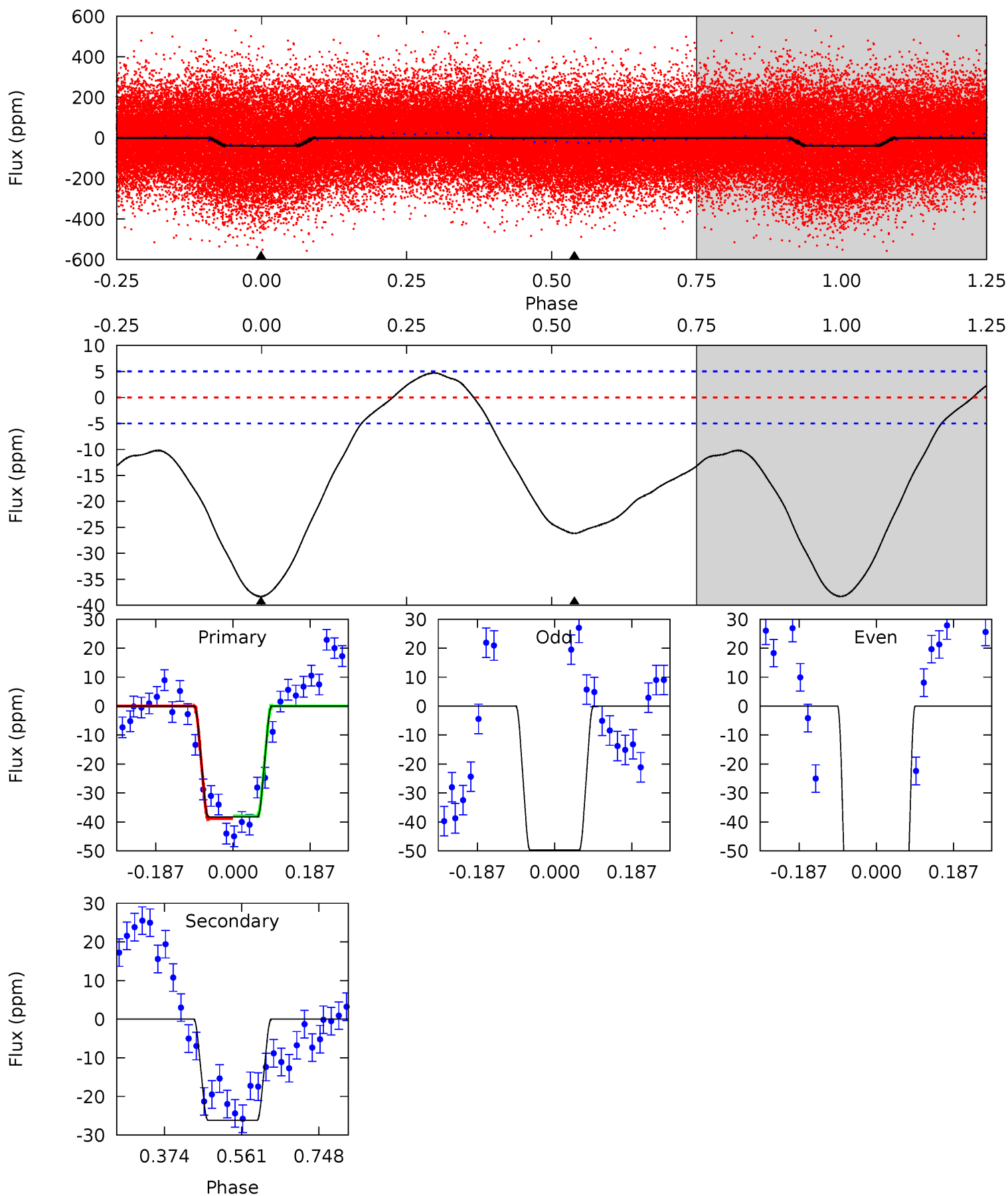
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.0	15.3	0	0	4.44	1.35	2.18	18.0	18.0	15.3	15.3	2.55	1.17	0.10	0.40



Alt Model-Shift Uniqueness Test

008262436-01, P = 2.038431 Days, E = 129.985571 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.9	23.1	0	0	4.43	1.32	6.24	33.9	33.9	23.1	23.1	33.9	0.93	0.11	0.42



Stellar Parameters For KIC 008262436

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6711^{+180}_{-220}	$3.690^{+0.304}_{-0.076}$	$-0.120^{+0.300}_{-0.250}$	$3.135^{+0.401}_{-1.121}$	$1.756^{+0.167}_{-0.390}$	$0.080^{+0.178}_{-0.020}$
	+3%/-3%	+8%/-2%	+250%/-208%	+13%/-36%	+10%/-22%	+222%/-25%
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 008262436-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-18 ± 1	$1.40^{+0.43}_{-0.39}$	3667^{+214}_{-342}	6405^{+1268}_{-735}	$7.019^{+6.691}_{-2.852}$
Alt.	-26 ± 1	$2.08^{+0.52}_{-0.49}$	3672^{+214}_{-311}	5834^{+645}_{-488}	$4.794^{+3.306}_{-1.677}$

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

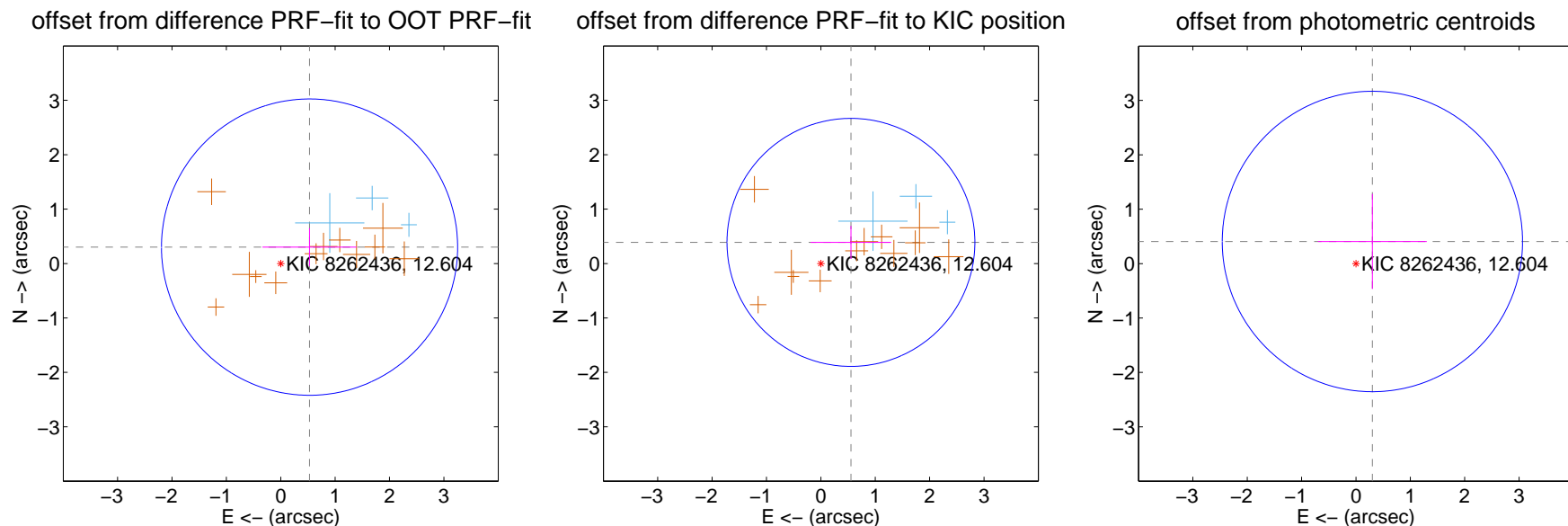
DV Centroid Data

Supplemental centroid analysis for 008262436-01. Kepler magnitude: 12.60. Transit SNR 10.93

There are 3 quarters with good PRF difference image offsets

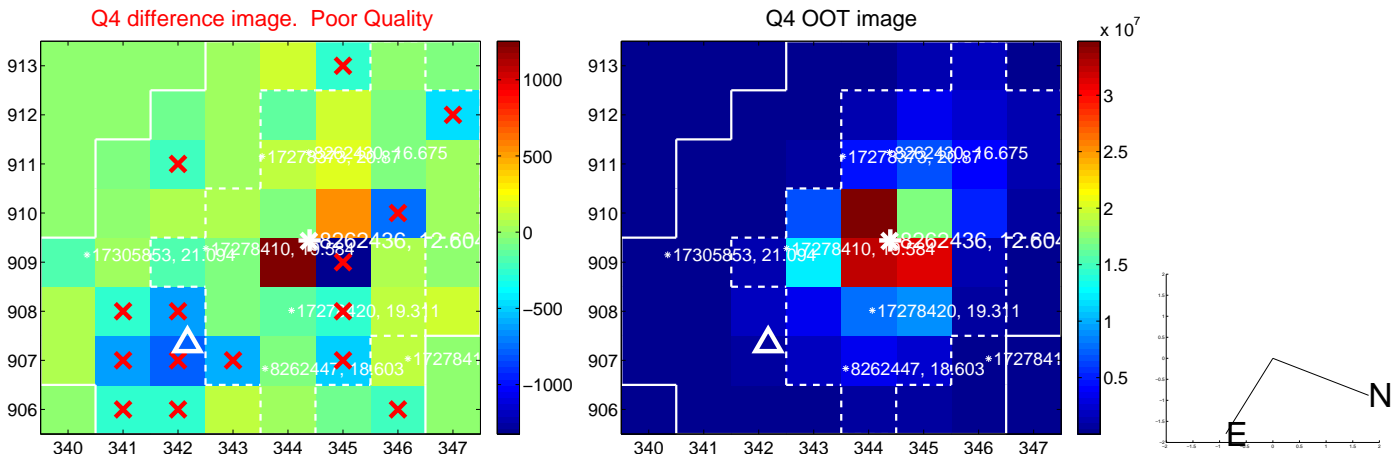
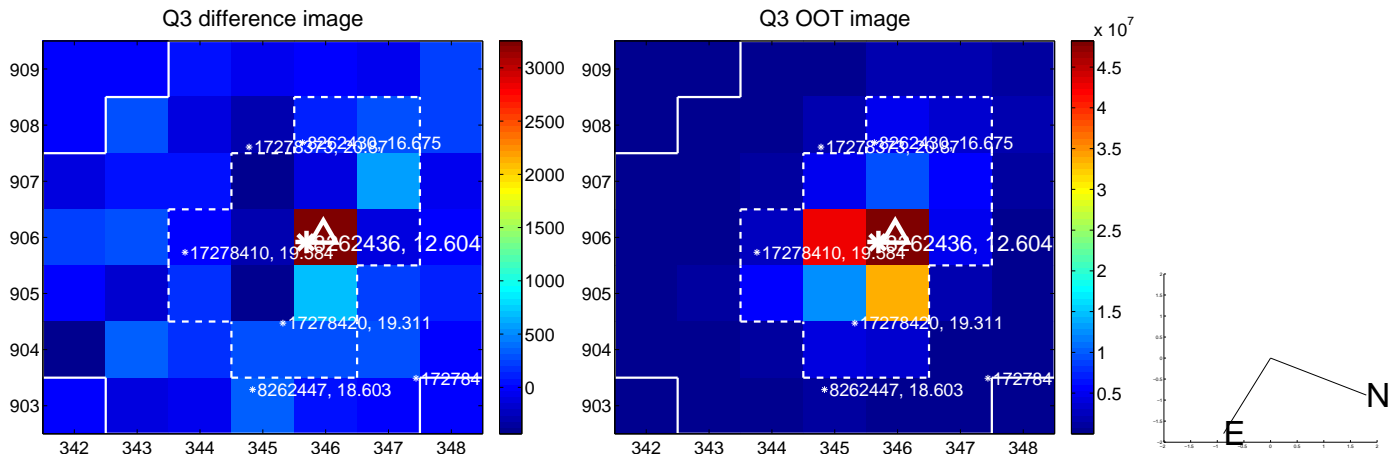
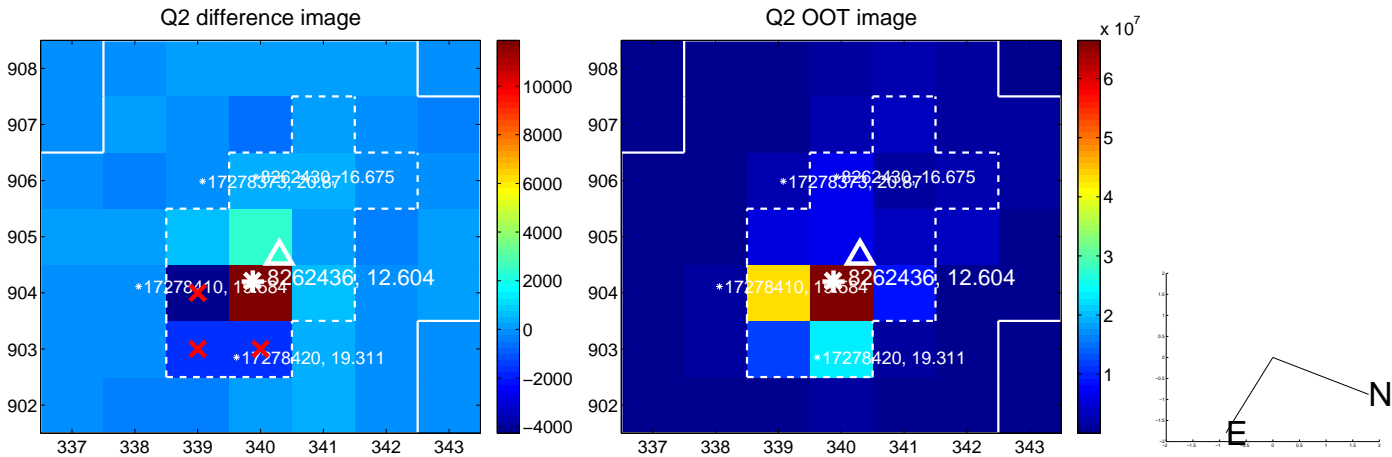
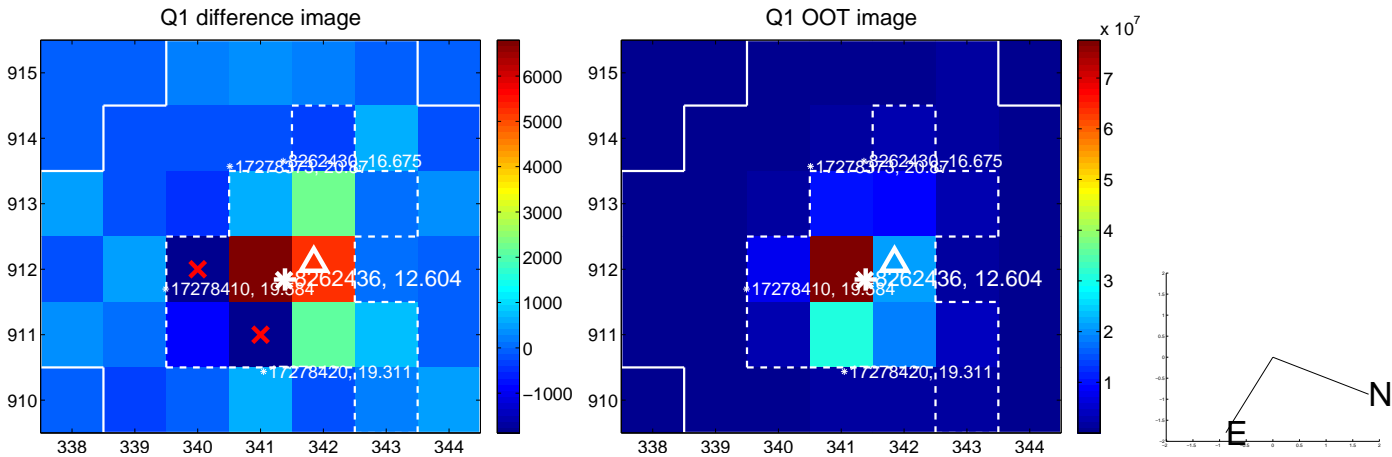
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.609 ± 0.908	0.67	-0.530 ± 0.866	0.302 ± 0.348
PRF-fit source offset from KIC position	0.676 ± 0.760	0.89	-0.553 ± 0.740	0.389 ± 0.304
photometric centroid source offset	0.51 ± 0.92	0.55	-0.30 ± 1.00	0.41 ± 0.87

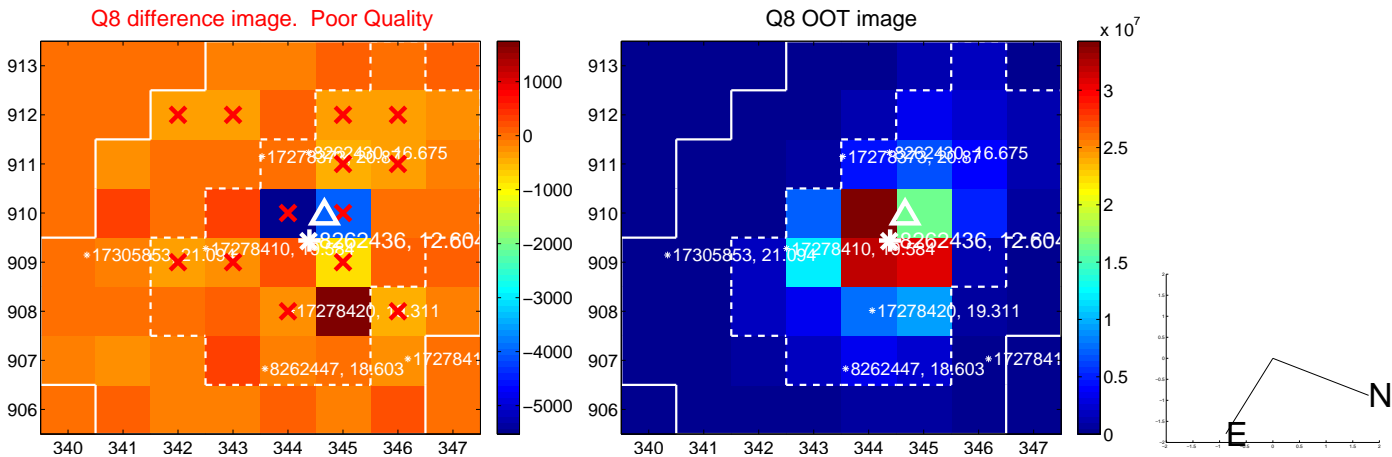
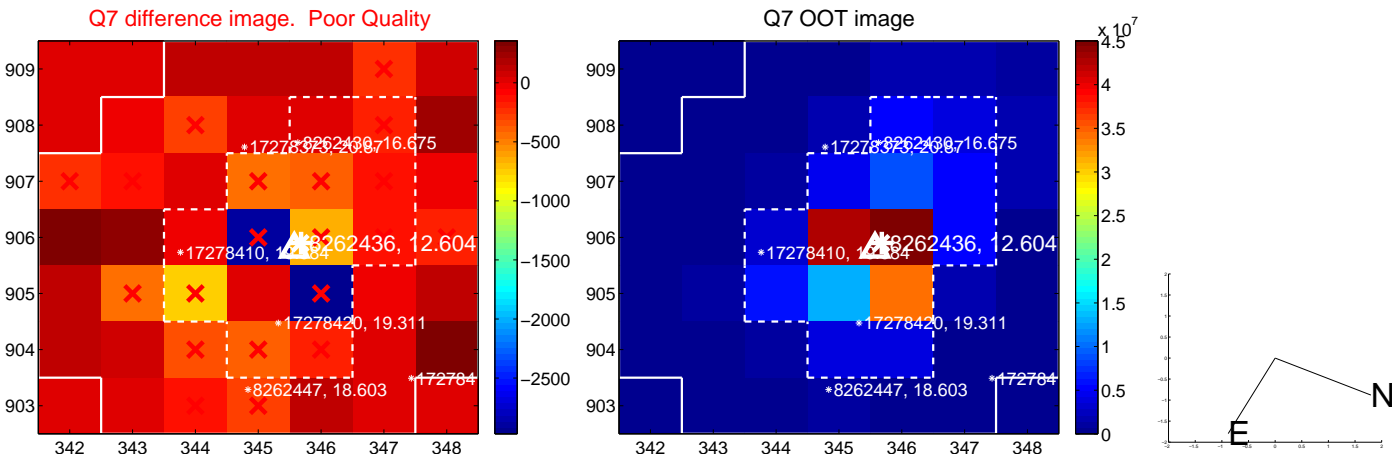
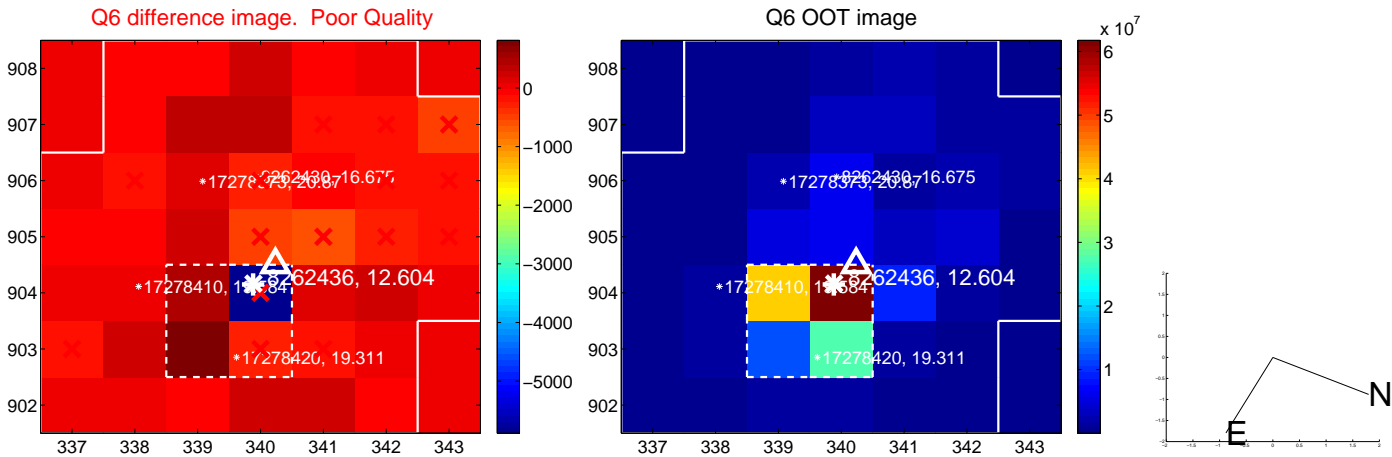
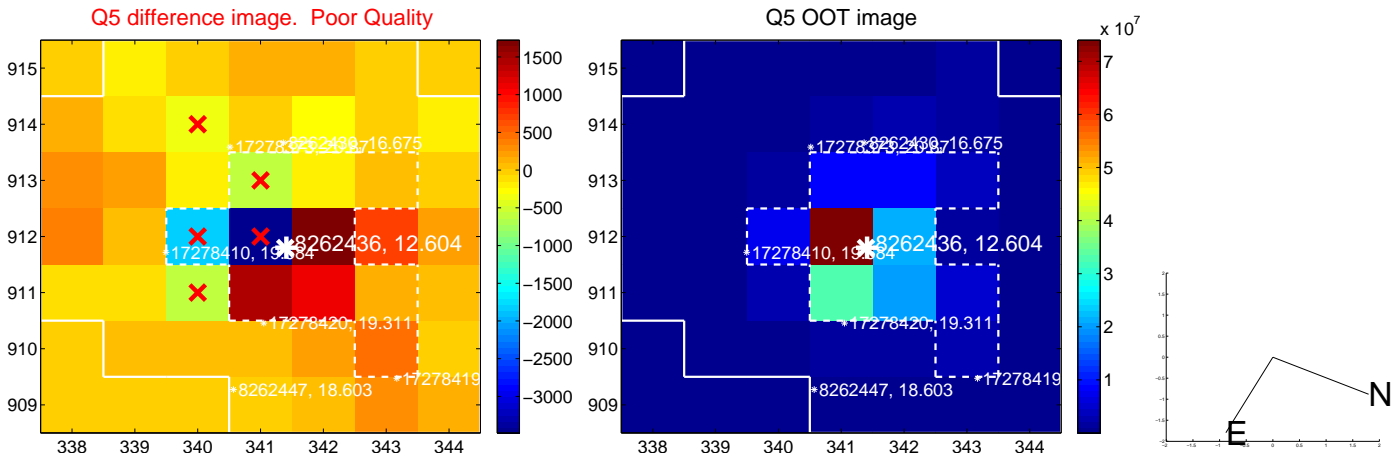


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

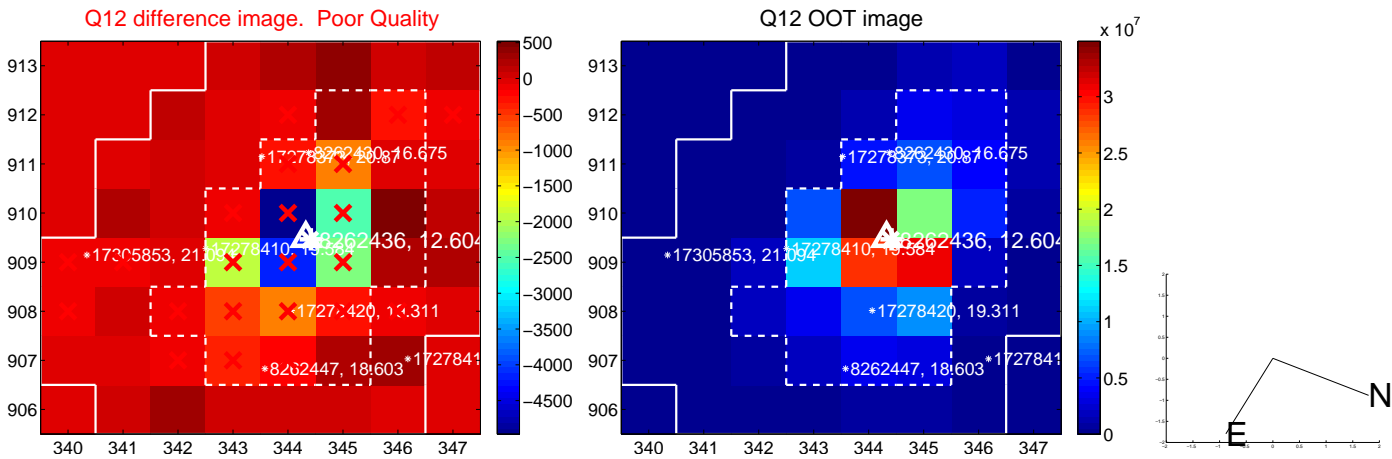
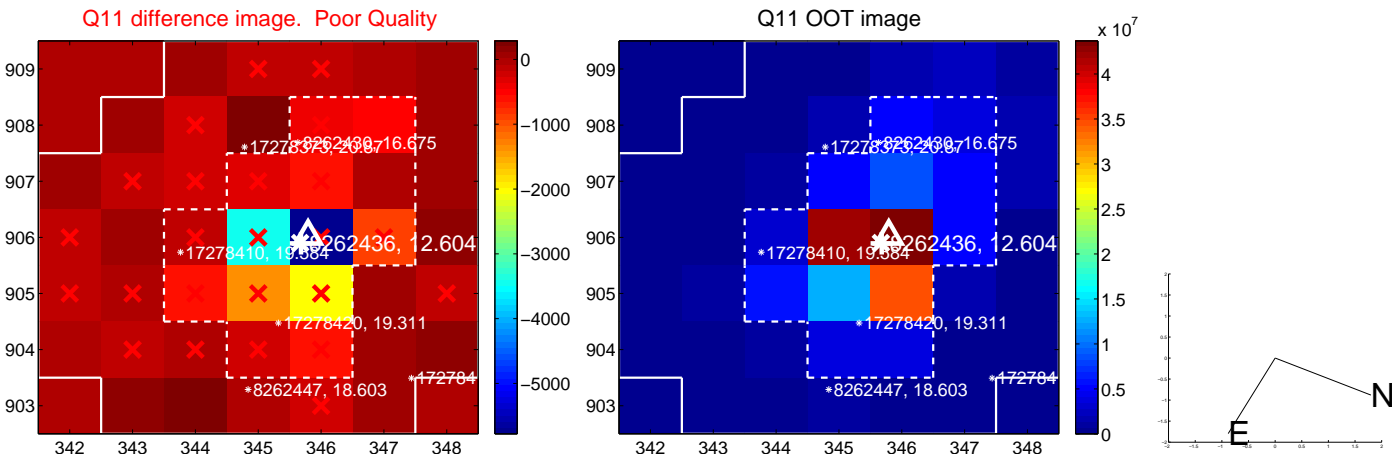
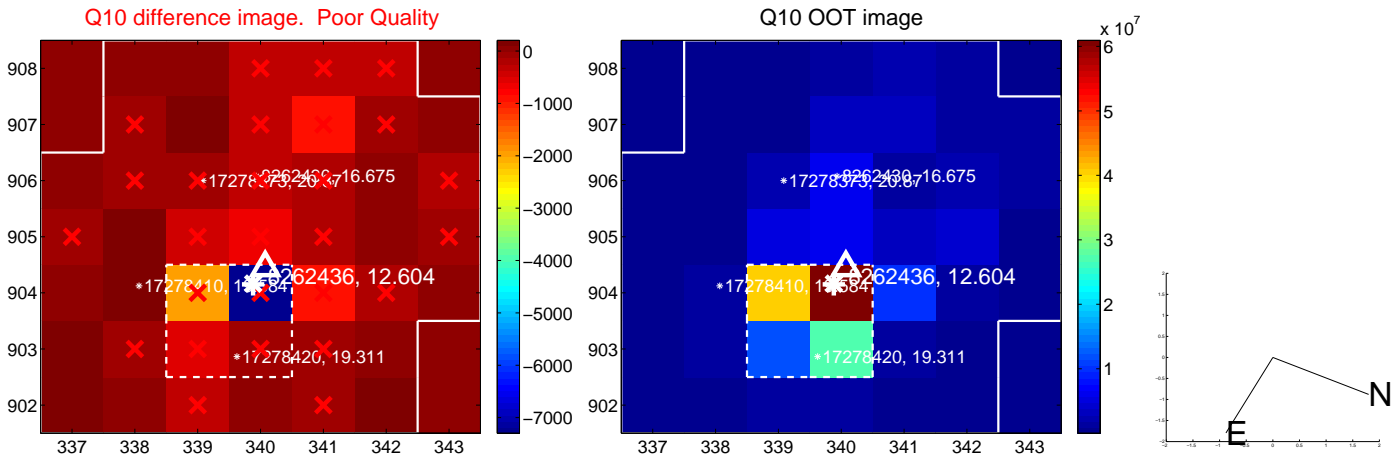
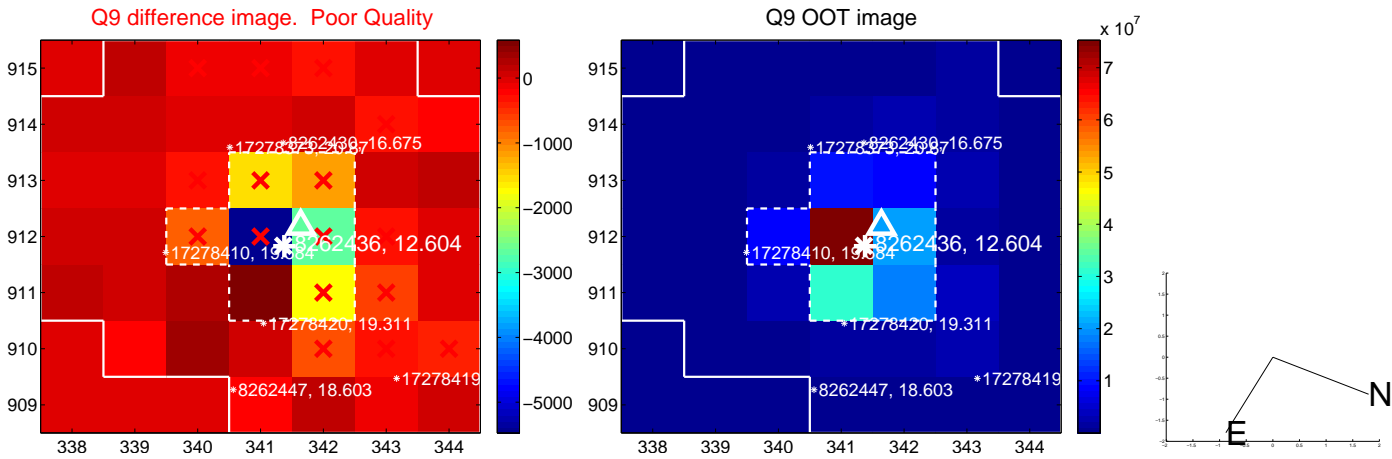
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



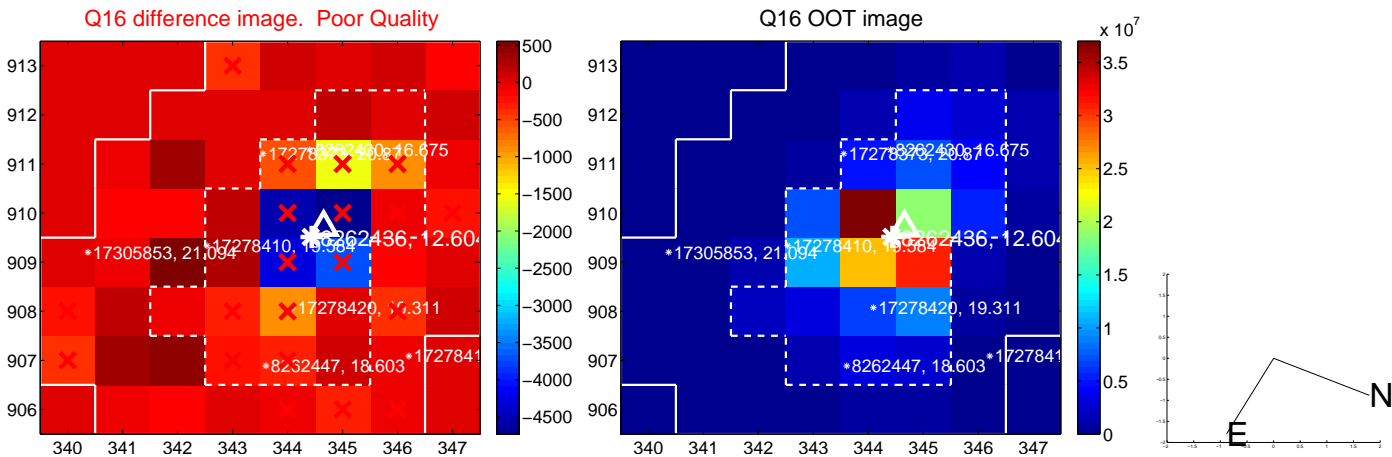
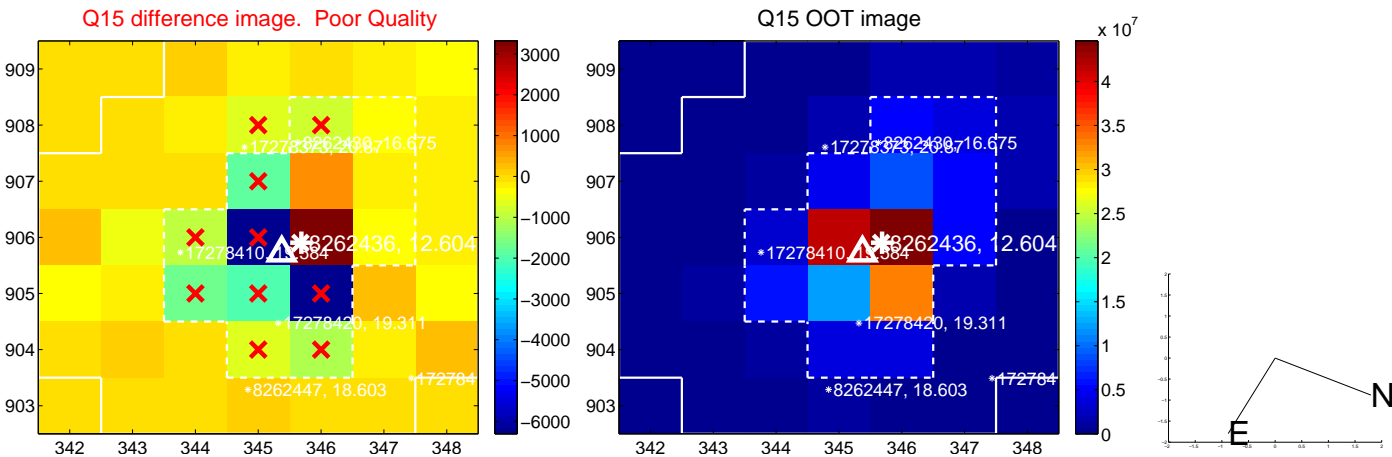
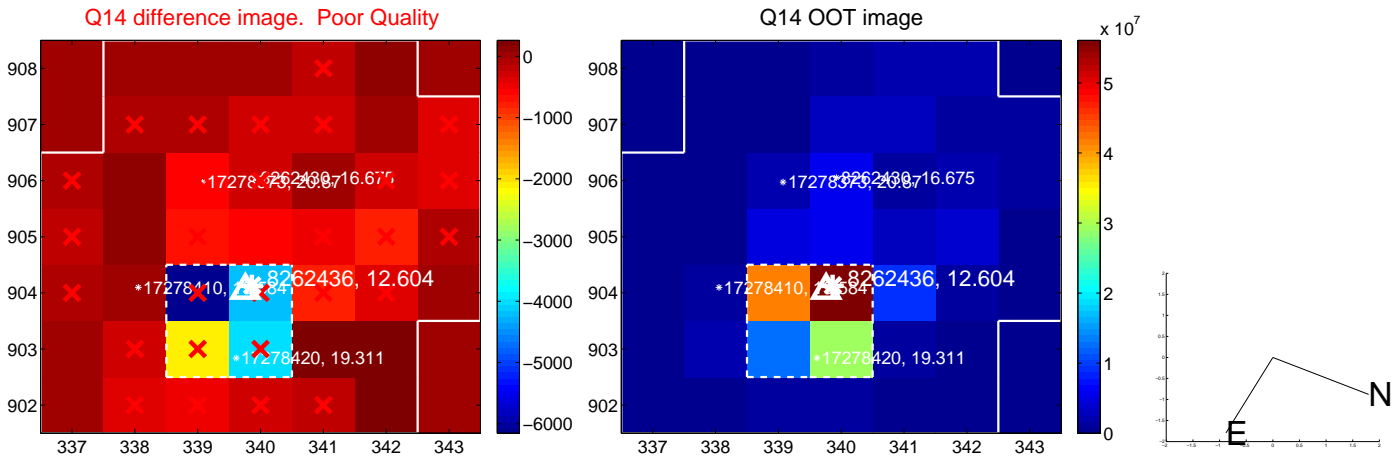
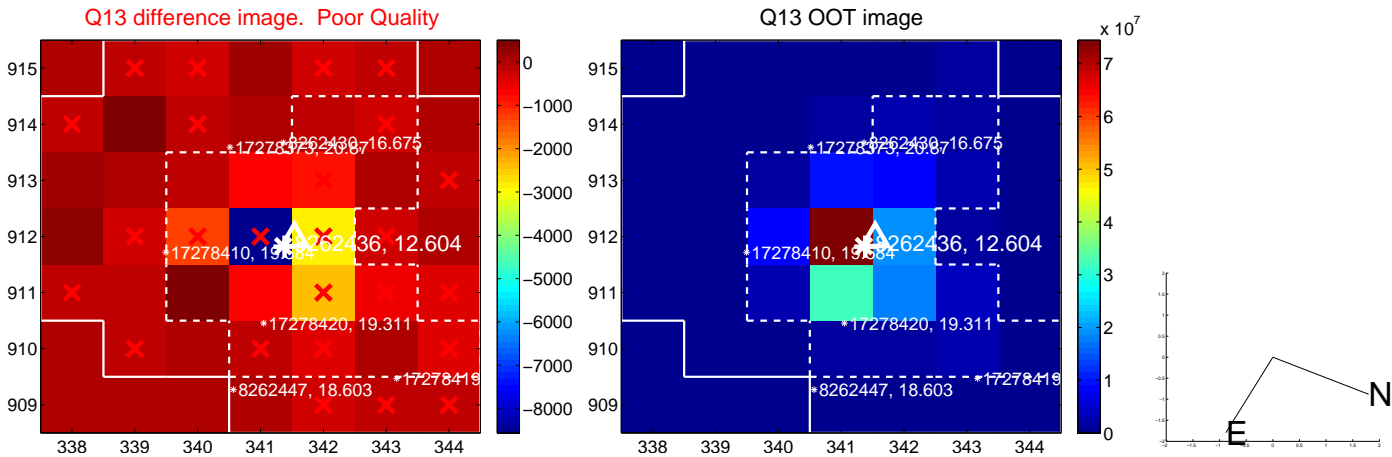
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



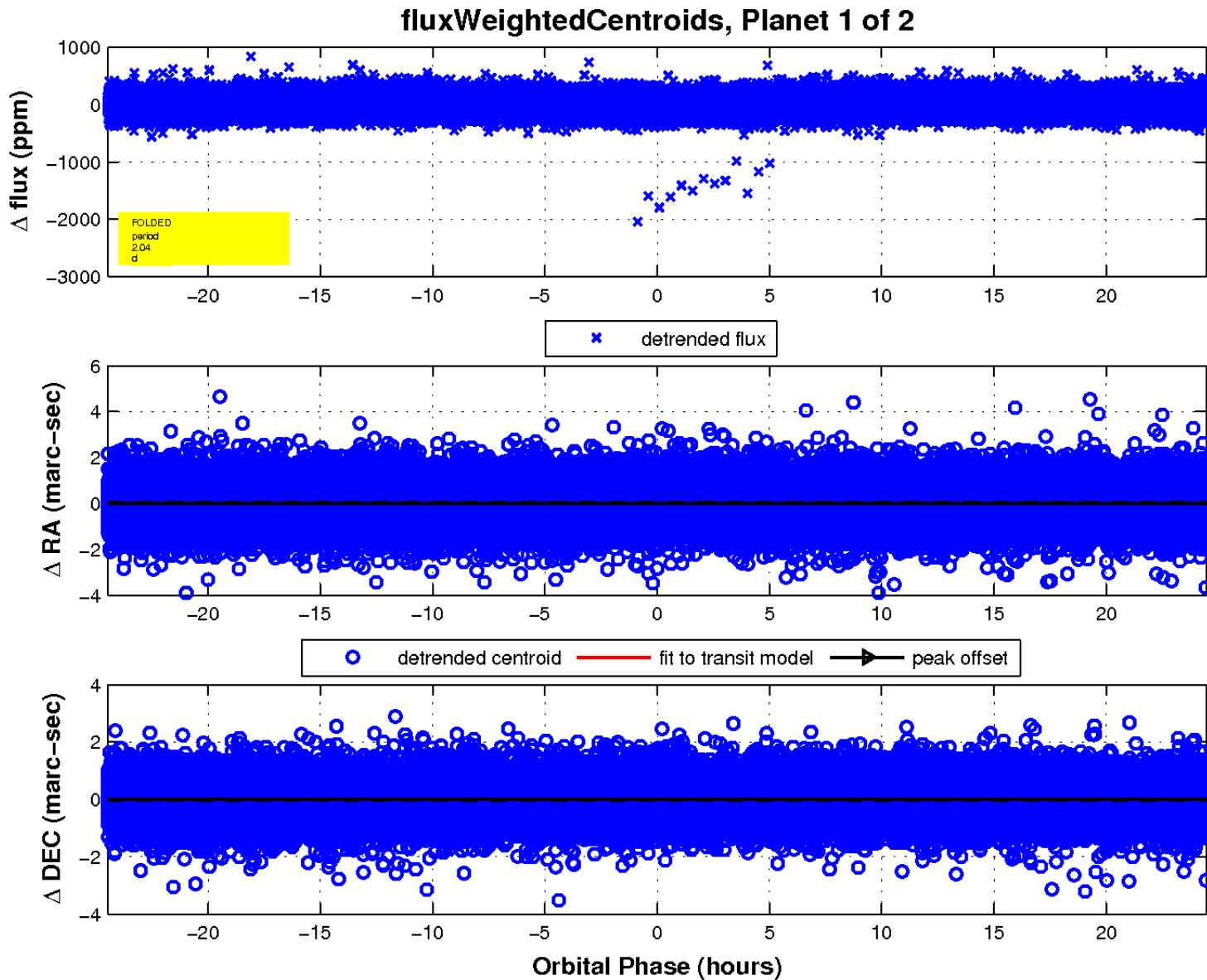
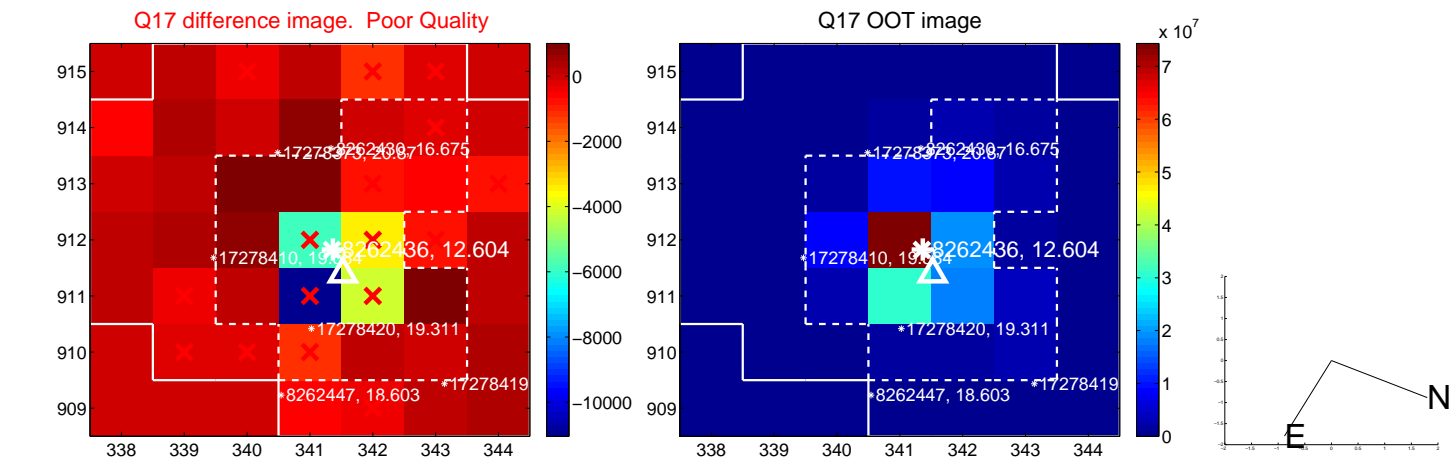
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



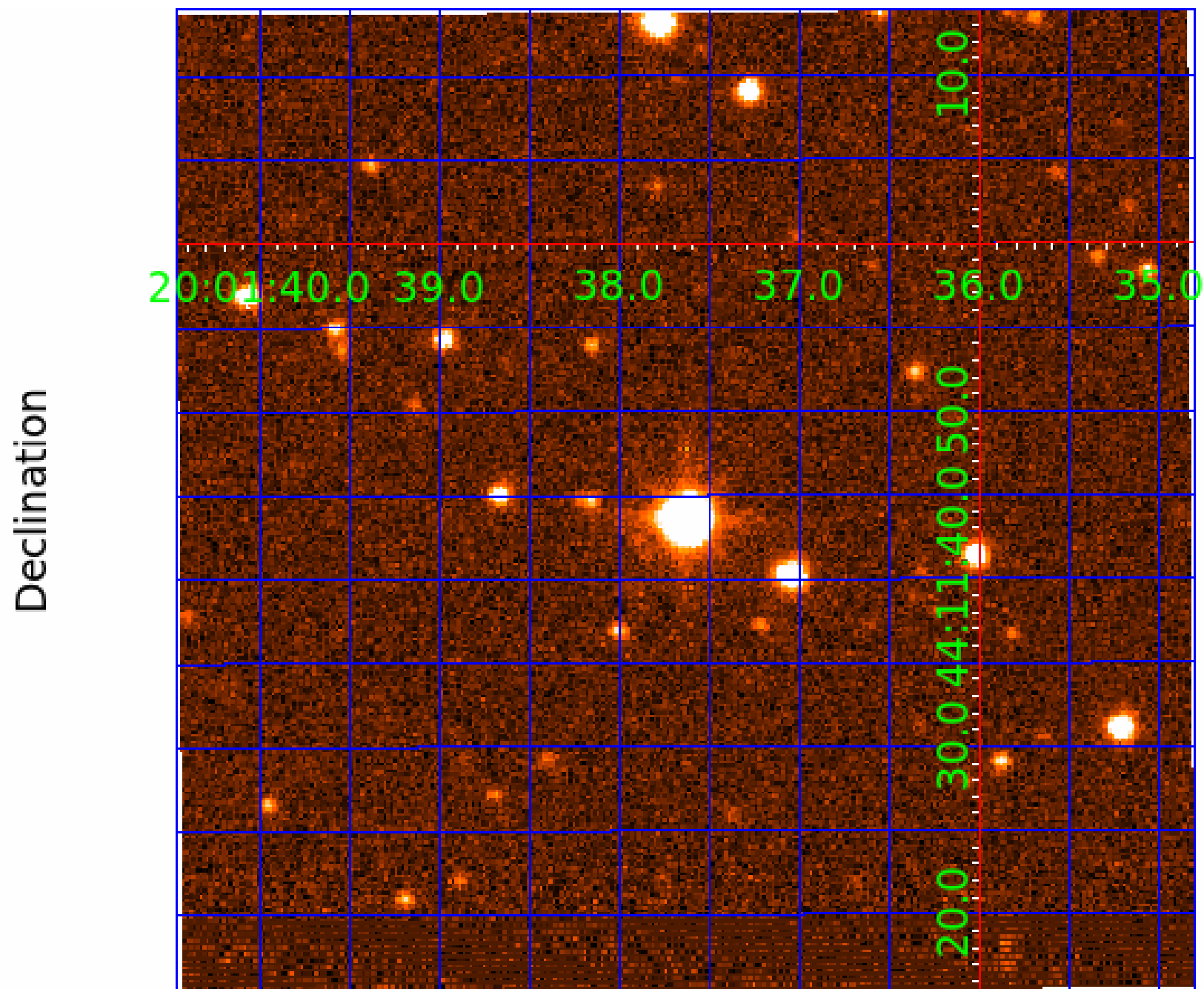
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008262436

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})
008262436-01	OBS	No	2.038410	132.033441	19.3	8.154	11.9	10.9	3.13	6711	1.53	12392.14
008262436-02	OBS	No	4.076262	135.397474	14.9	15.593	10.9	8.4	3.13	6711	1.42	4918.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008262436-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
008262436-02	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.

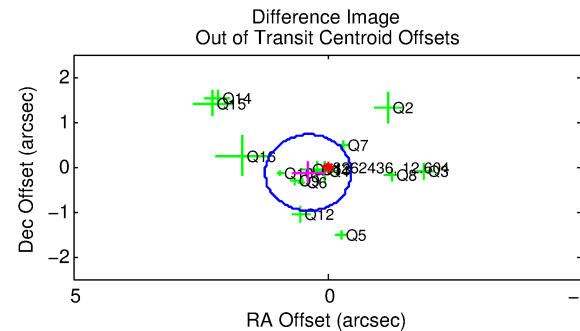
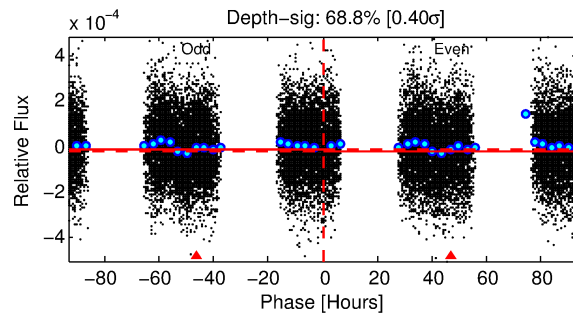
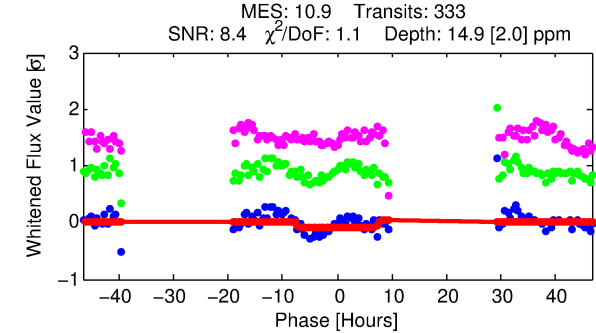
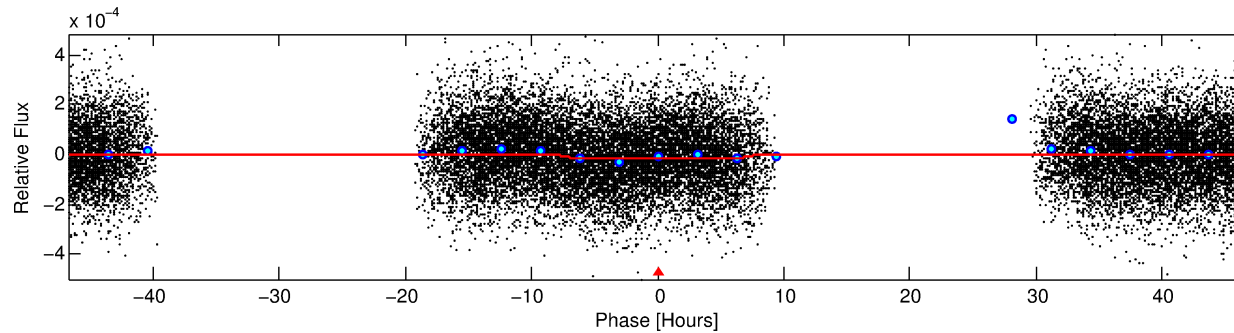
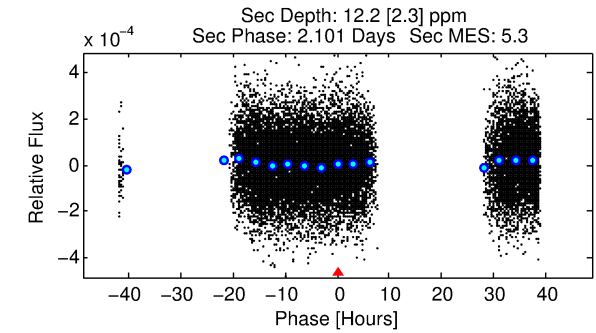
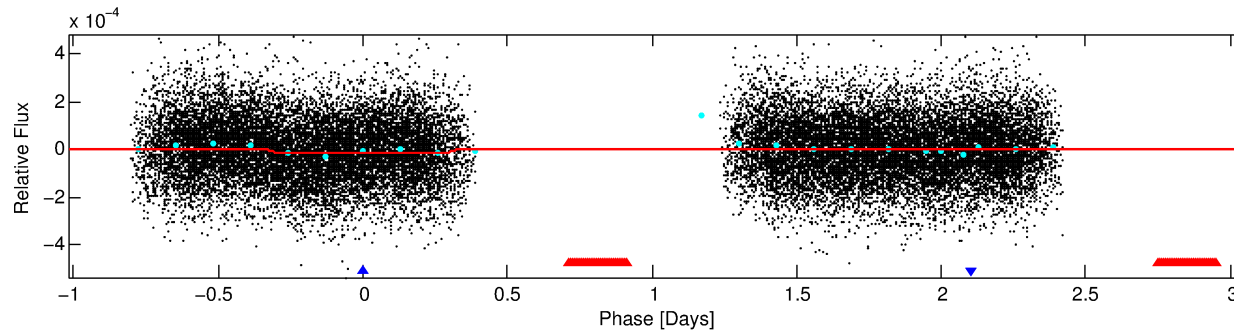
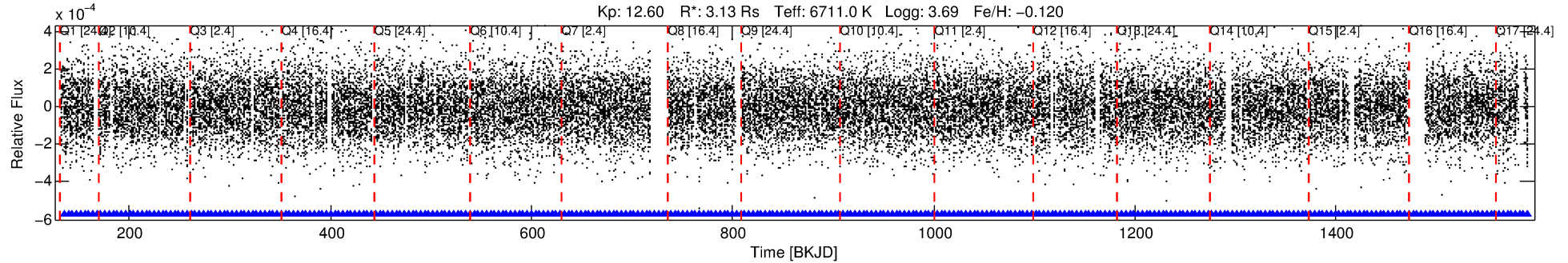
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008262436-02

No Significant Match Found

DV One-Page Summary

KIC: 8262436 Candidate: 2 of 2 Period: 4.076 d



DV Fit Results:

Period = 4.07626 [0.00010] d
Epoch = 135.3975 [0.0202] BKJD
Rp/R* = 0.0041 [0.0010]
a/R* = 1.28 [0.67]
b = 0.91 [0.27]
Seff = 4918.72 [2656.98]
Teq = 2135 [288] K
Rp = 1.42 [0.60] Re
a = 0.0603 [0.0201] AU
Ag = 12.18 [8.80] [1.27σ]
Teffp = 6168 [793] K [4.78σ]

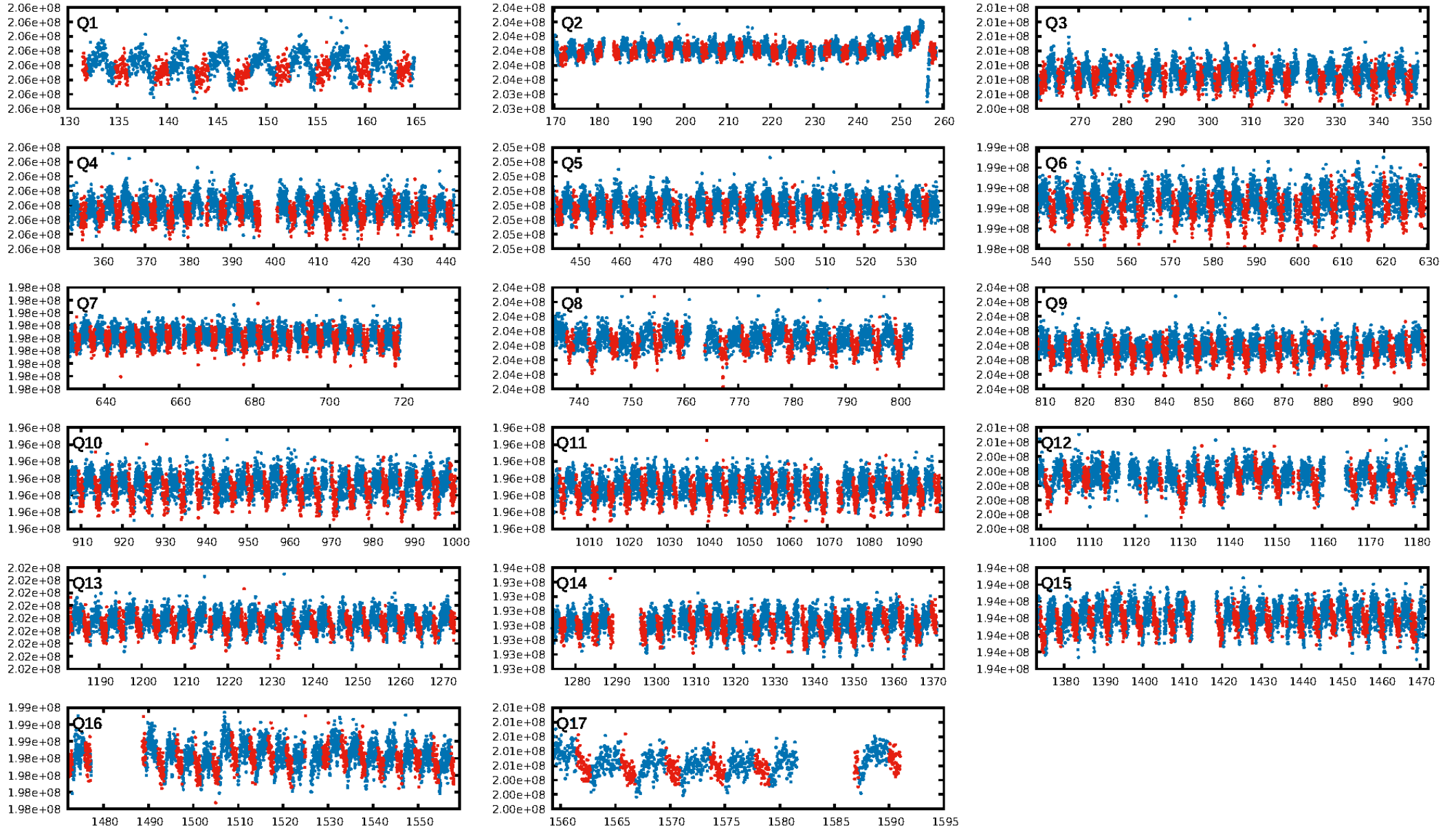
DV Diagnostic Results:

ShortPeriod-sig: 99.5% [2.78σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.39e-18
RollingBand-fgt: 1.00 [317/317]
GhostDiagnostic-chr: 1.135
Centroid-sig: 42.6%
Centroid-so: 0.908 arcsec [0.67σ]
OotOffset-rm: 0.402 arcsec [1.43σ]
KicOffset-rm: 0.424 arcsec [1.66σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 0.87 [13/15]
DiffImageOverlap-fno: 0.00 [0/17]

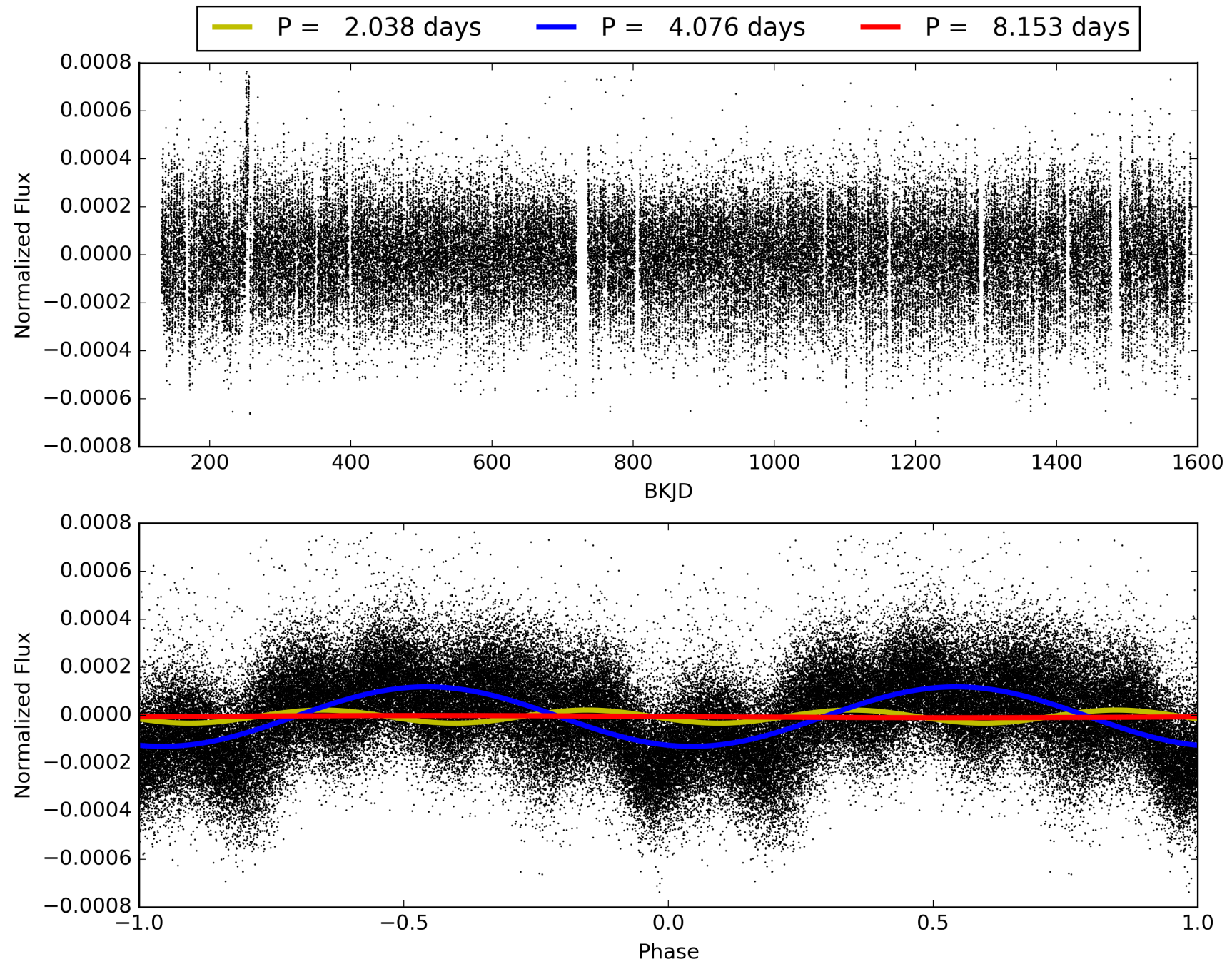
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:38:54 Z

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

TCE 008262436-02, PDC Light Curves

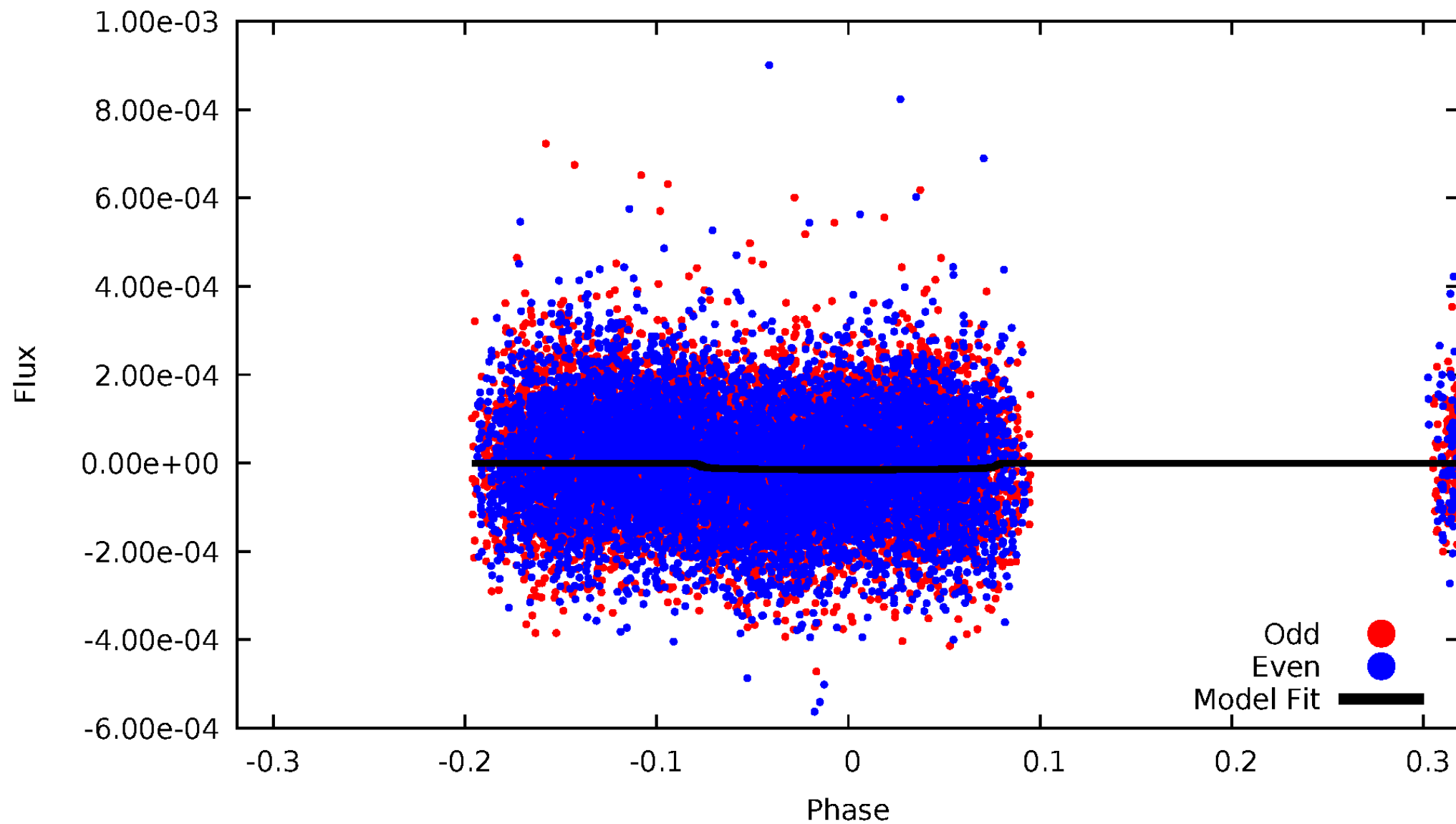


TCE 008262436-02



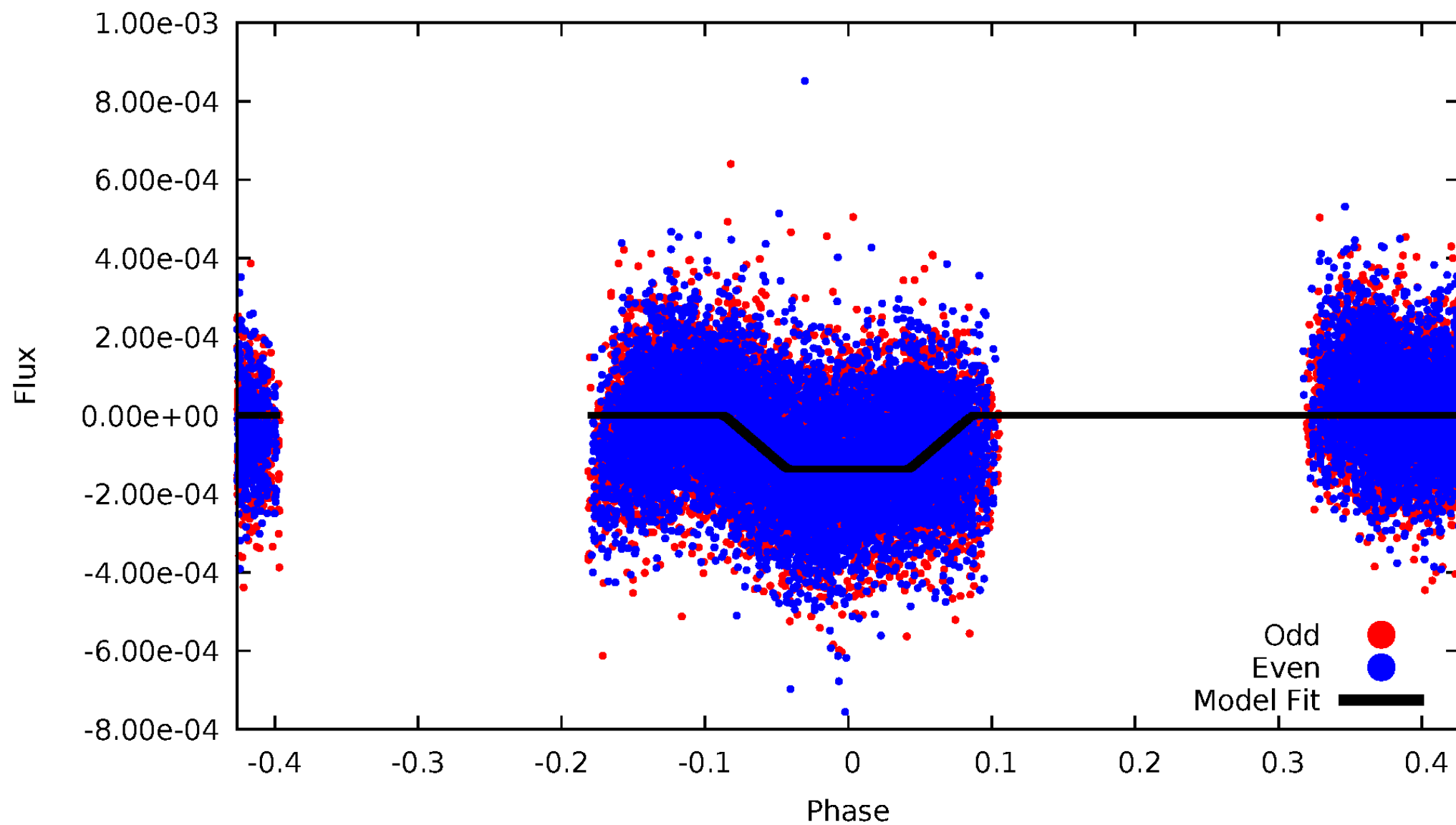
DV Odd/Even

TCE 008262436-02



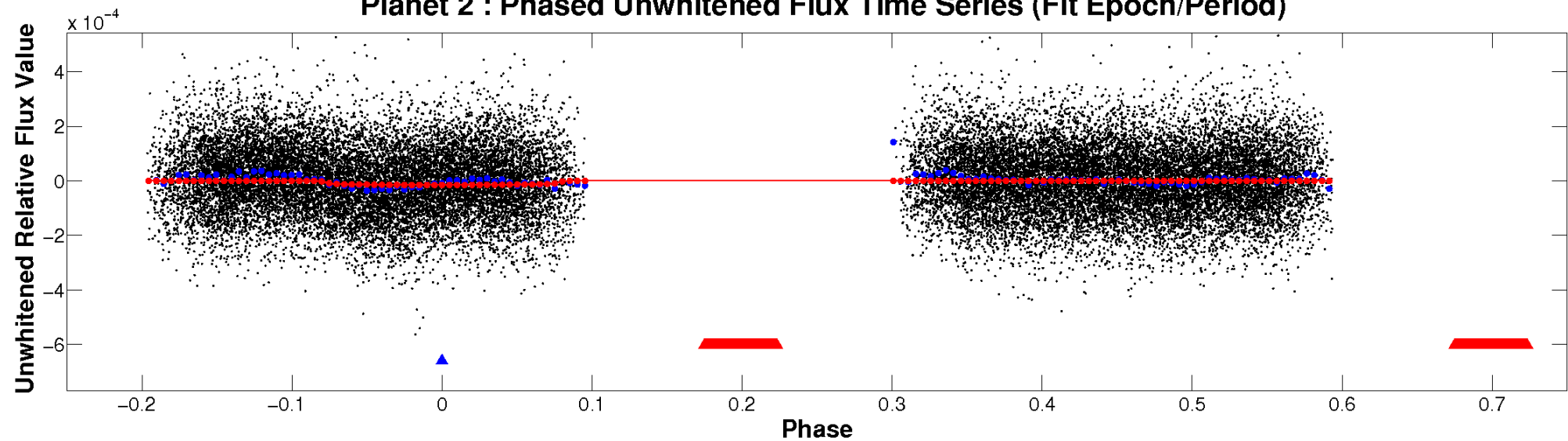
ALT Odd/Even

TCE 008262436-02

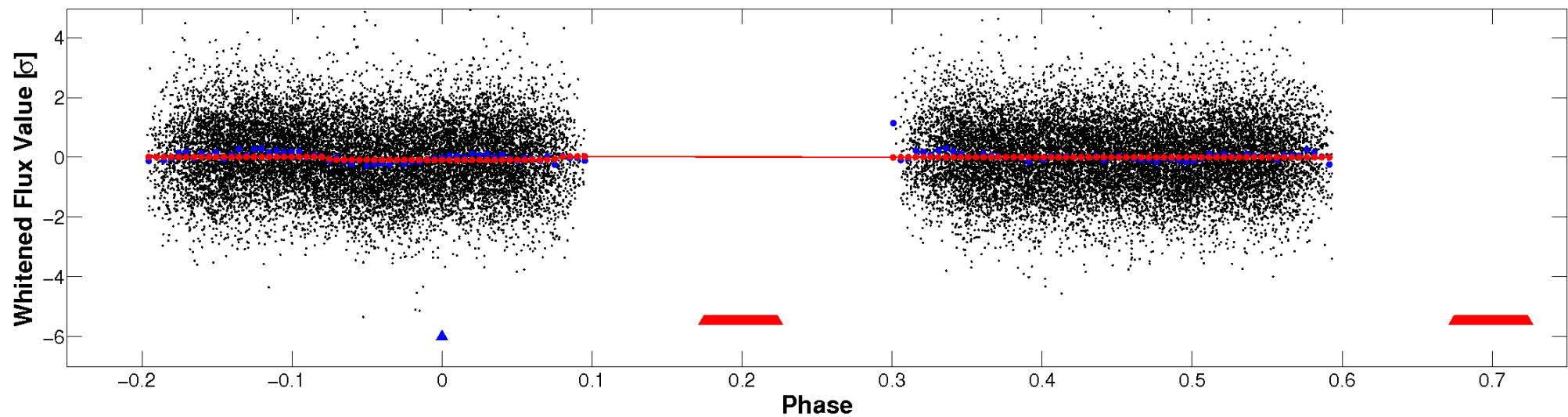


Non-Whitened Vs. Whitened Light Curve

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

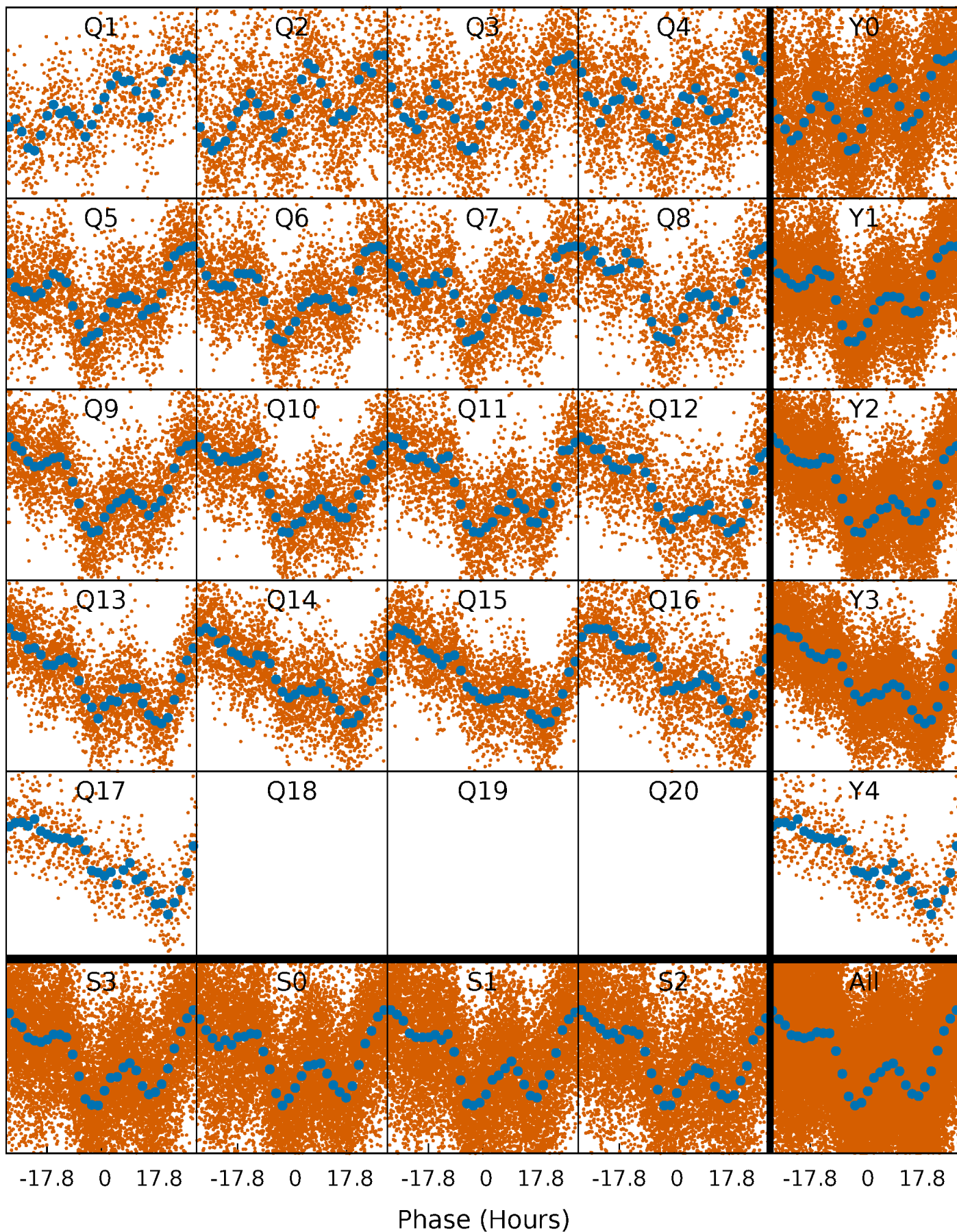


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



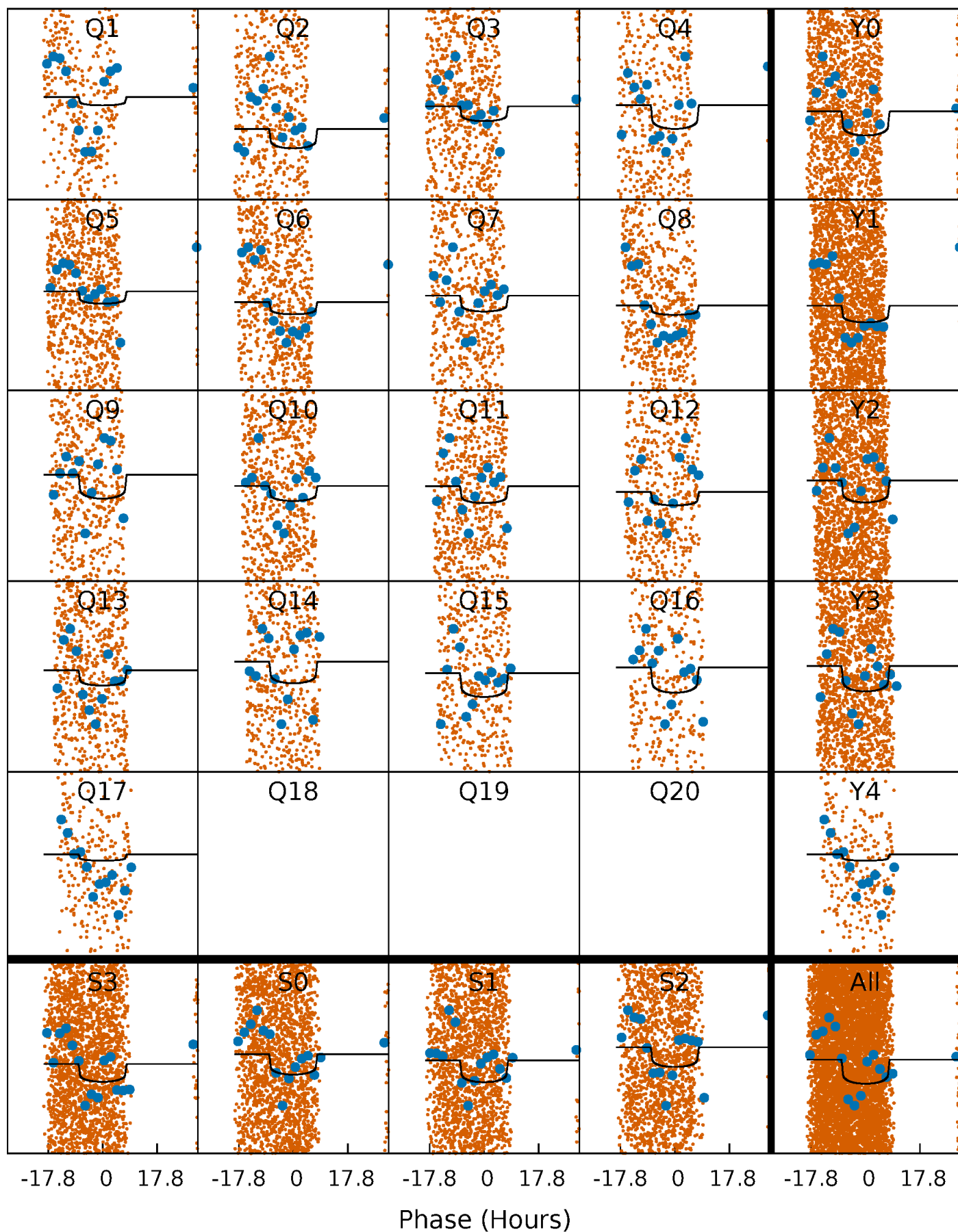
PDC Quarter-Phased Transit Curves

TCE 008262436-02 P= 4.076262 Days $T_0=135.397474$ (BKJD)



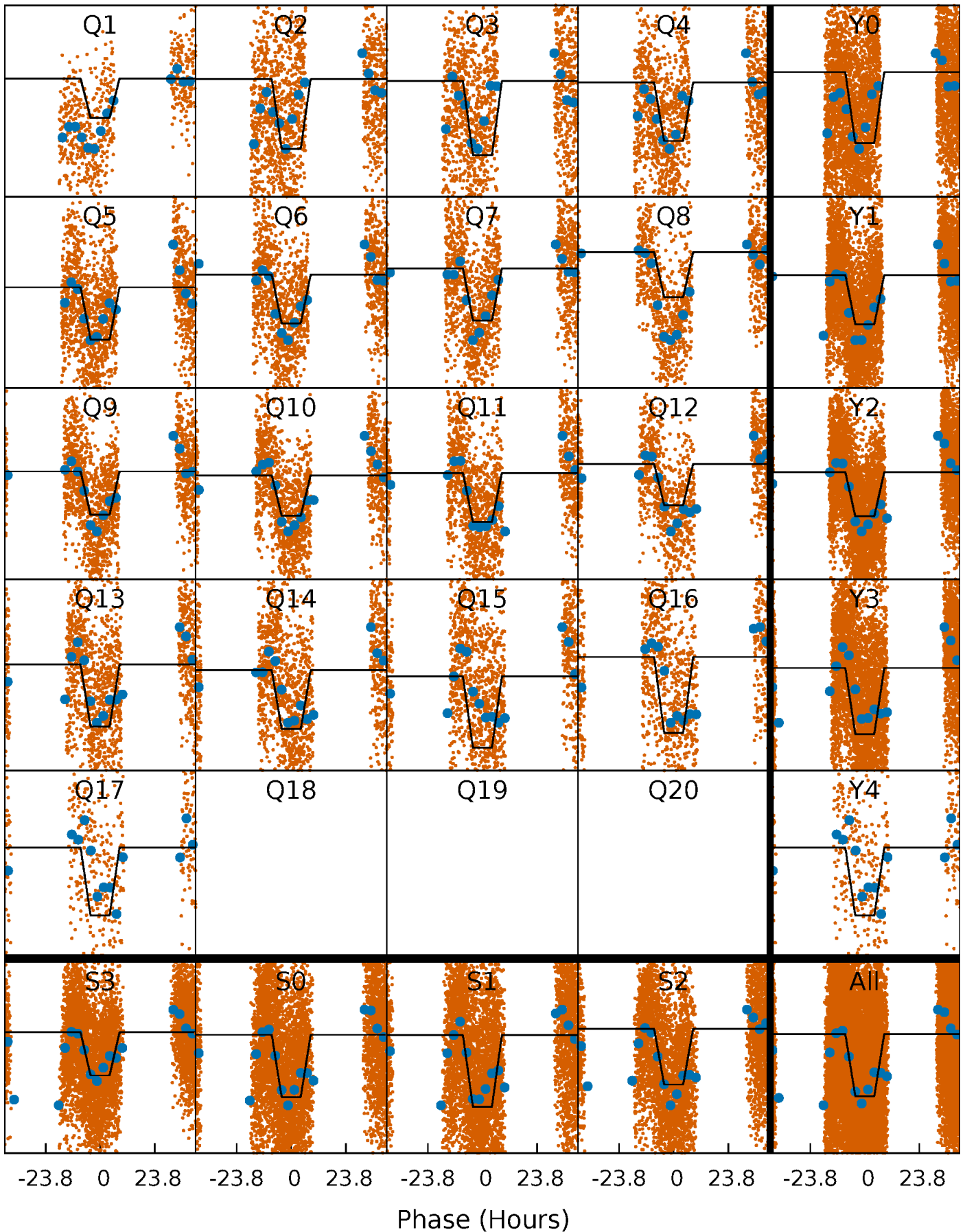
DV Quarter-Phased Transit Curves

TCE 008262436-02 P= 4.076262 Days $T_0=135.397474$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

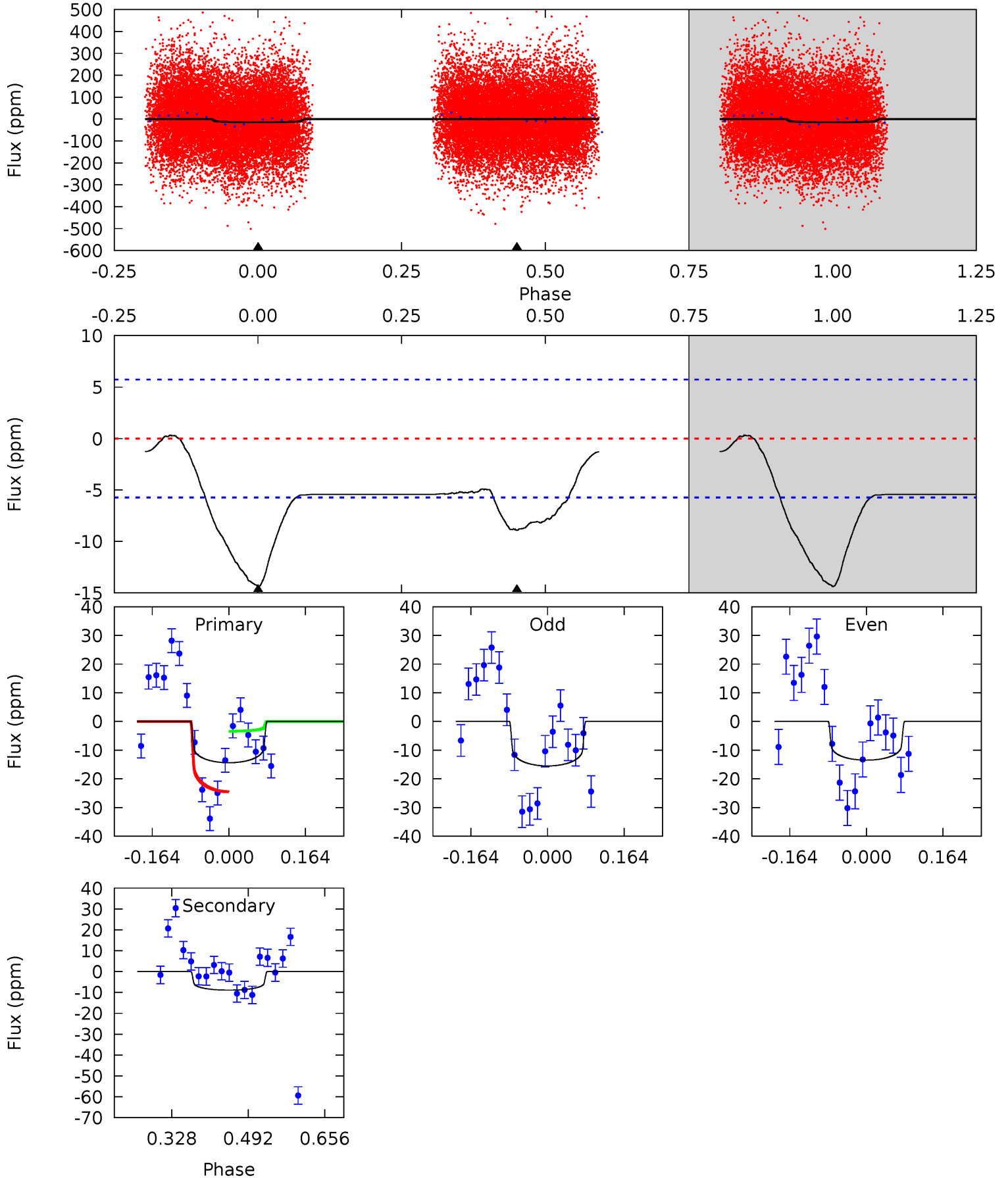
TCE 008262436-02 P= 4.076319 Days $T_0=135.336927$ (BKJD)



DV Model-Shift Uniqueness Test

008262436-02, P = 4.076262 Days, E = 131.321212 Days

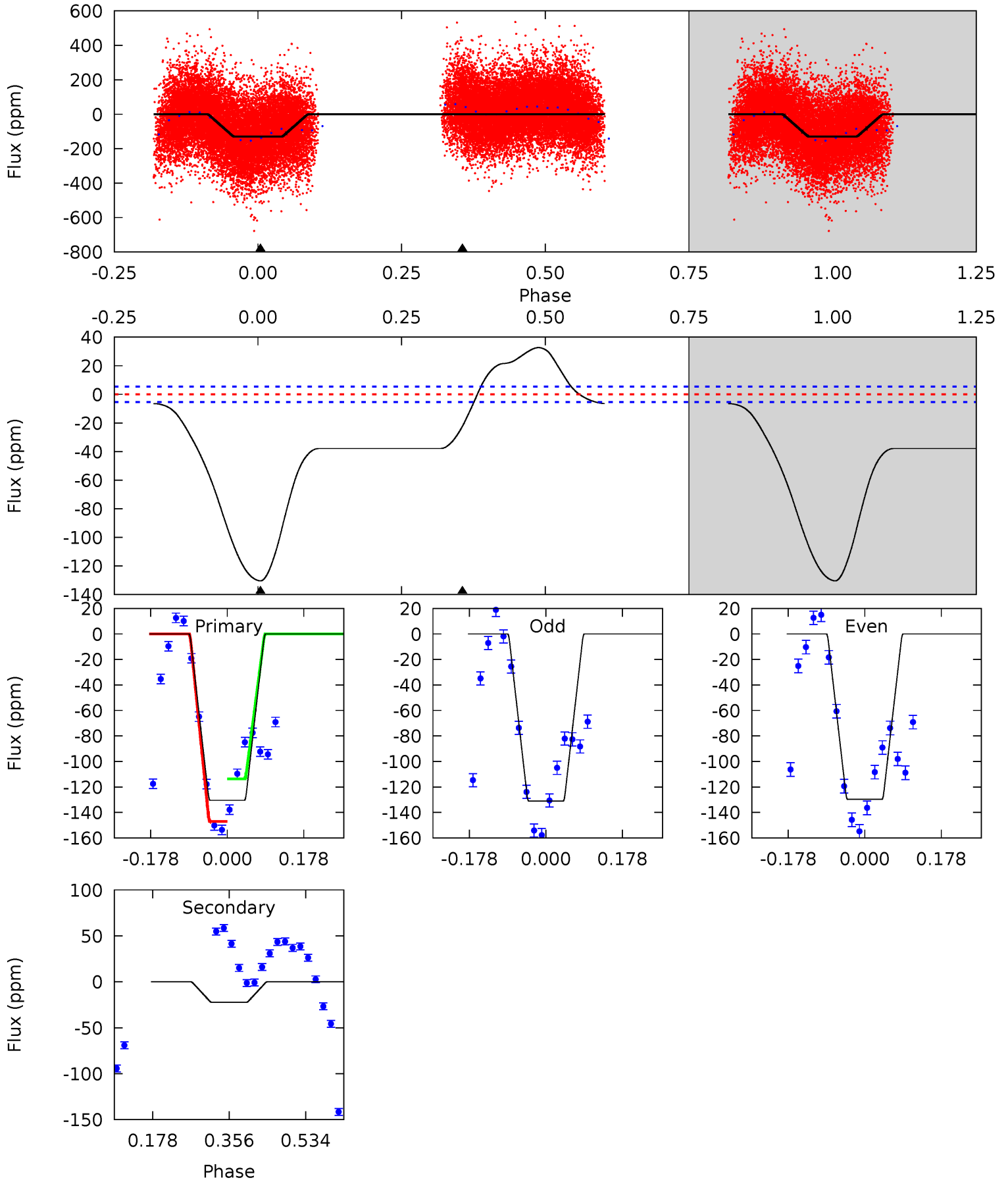
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	6.93	0	0	4.46	1.39	1.10	11.2	11.2	6.93	6.93	0.79	1.21	0.02	8.12



Alt Model-Shift Uniqueness Test

008262436-02, P = 4.076319 Days, E = 131.260608 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
107.6	18.4	0	0	4.44	1.35	4.23	107.6	107.6	18.4	18.4	0.58	1.08	0.20	12.5



Stellar Parameters For KIC 008262436

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6711^{+180}_{-220}	$3.690^{+0.304}_{-0.076}$	$-0.120^{+0.300}_{-0.250}$	$3.135^{+0.401}_{-1.121}$	$1.756^{+0.167}_{-0.390}$	$0.080^{+0.178}_{-0.020}$
	+3%/-3%	+8%/-2%	+250%/-208%	+13%/-36%	+10%/-22%	+222%/-25%
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 008262436-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-9 ± 1	$1.31^{+0.37}_{-0.35}$	2909^{+166}_{-250}	5638^{+814}_{-551}	10^{+8}_{-4}
Alt.	-22 ± 1	$3.85^{+0.59}_{-0.75}$	2907^{+184}_{-235}	4343^{+189}_{-173}	$2.999^{+1.474}_{-0.675}$

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

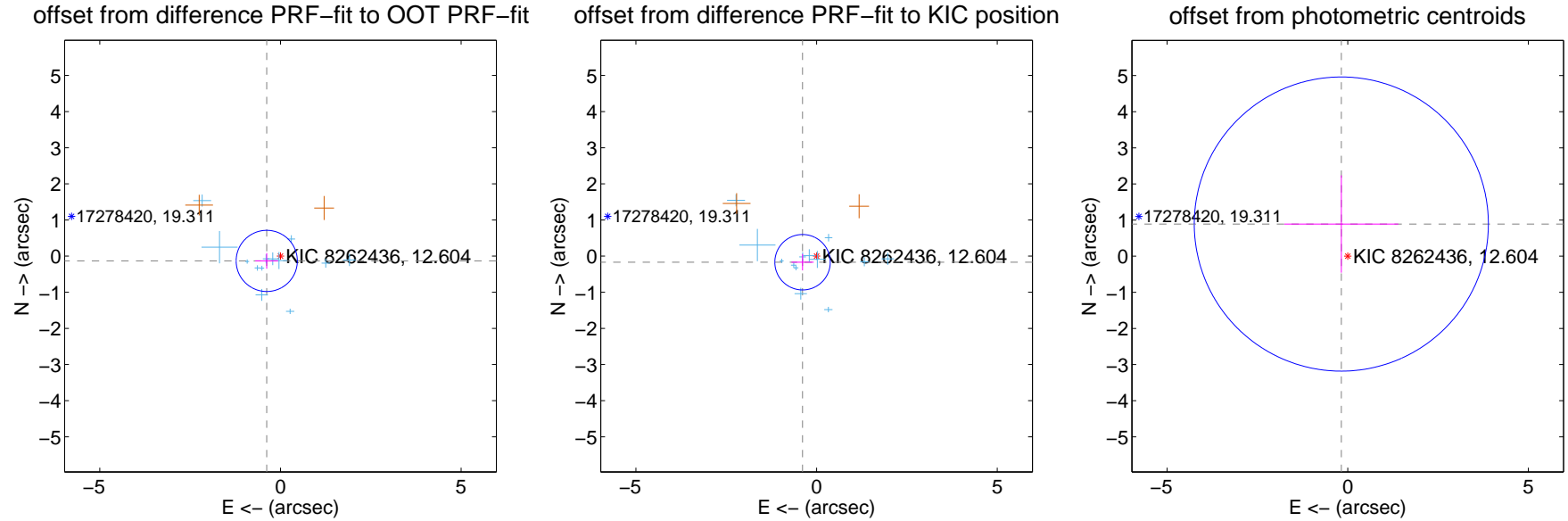
DV Centroid Data

Supplemental centroid analysis for 008262436-02. Kepler magnitude: 12.60. Transit SNR 8.39

There are 13 quarters with good PRF difference image offsets

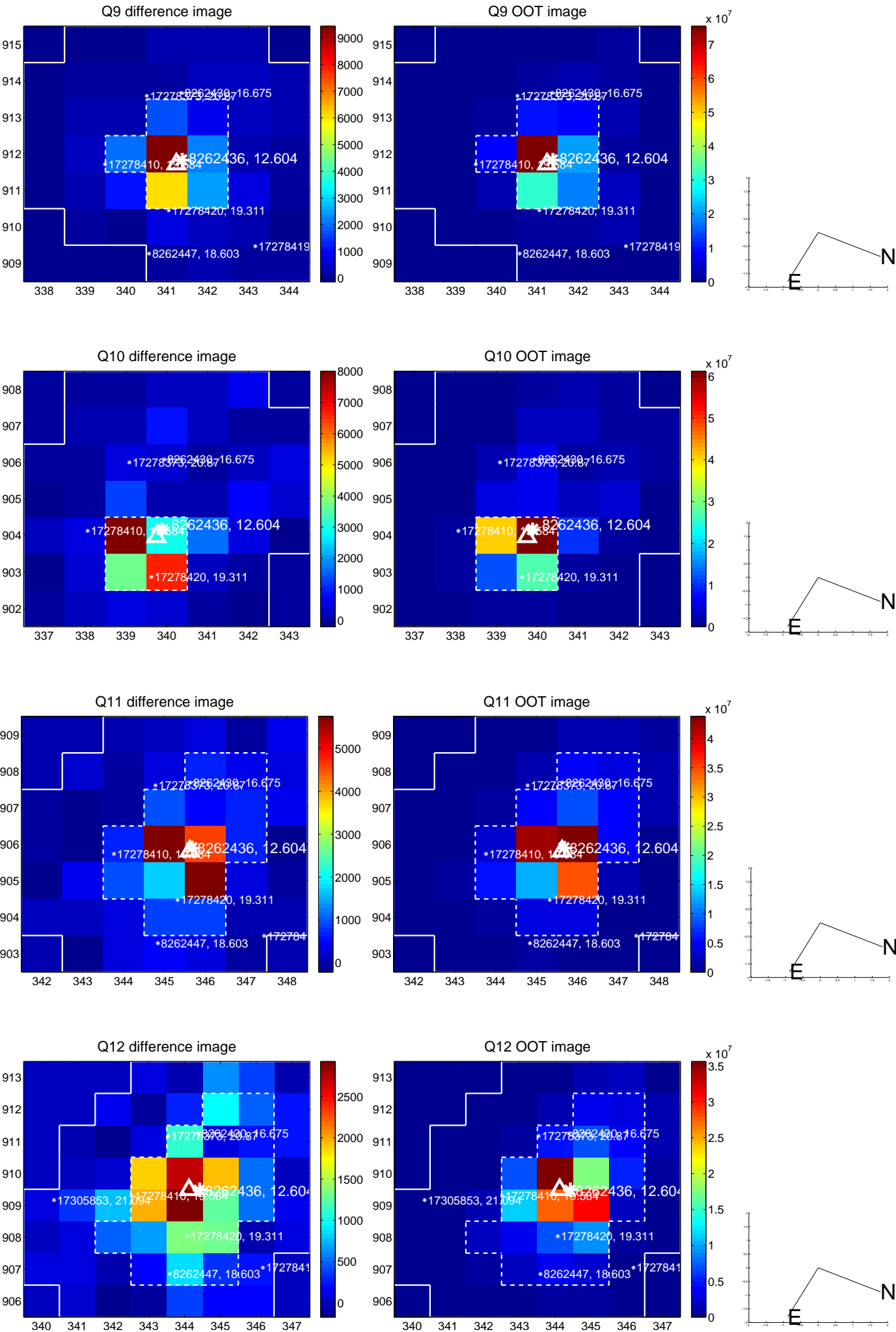
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.402 ± 0.282	1.43	0.380 ± 0.316	-0.132 ± 0.217
PRF-fit source offset from KIC position	0.424 ± 0.256	1.66	0.388 ± 0.307	-0.169 ± 0.226
photometric centroid source offset	0.91 ± 1.36	0.67	0.18 ± 1.58	0.89 ± 1.35

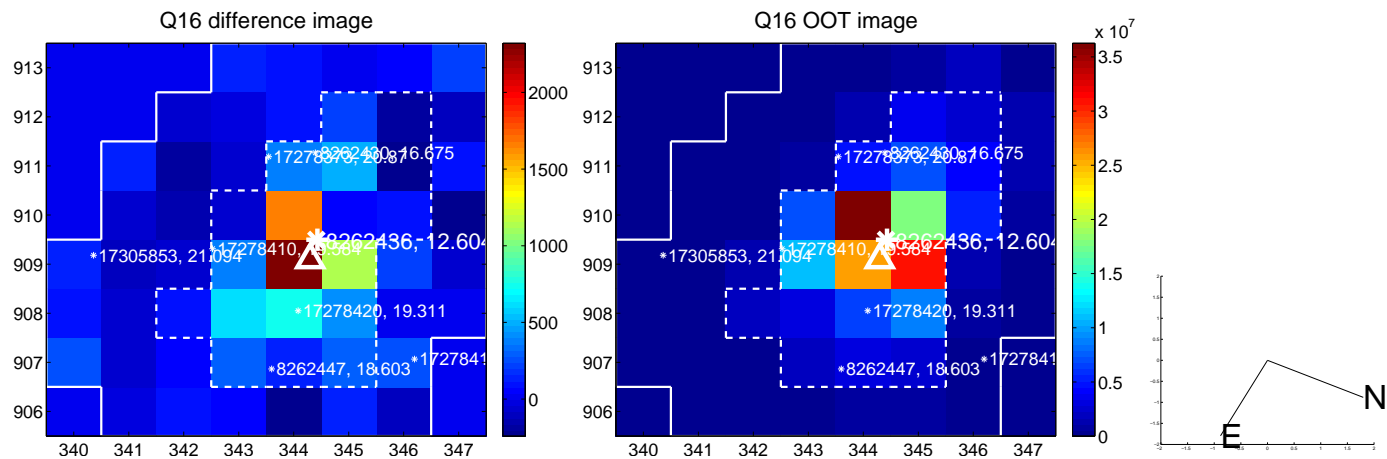
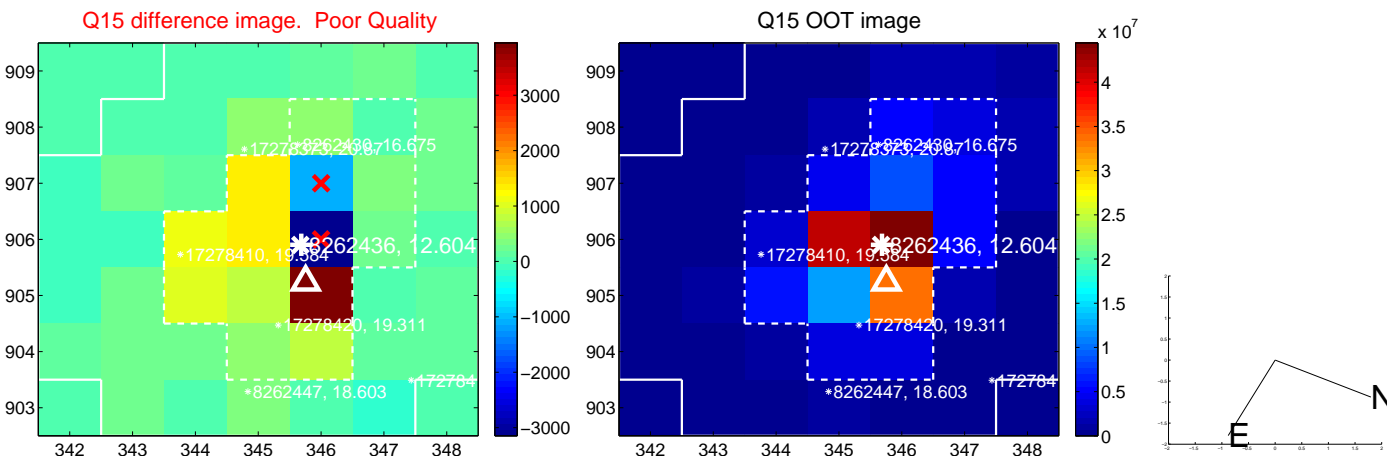
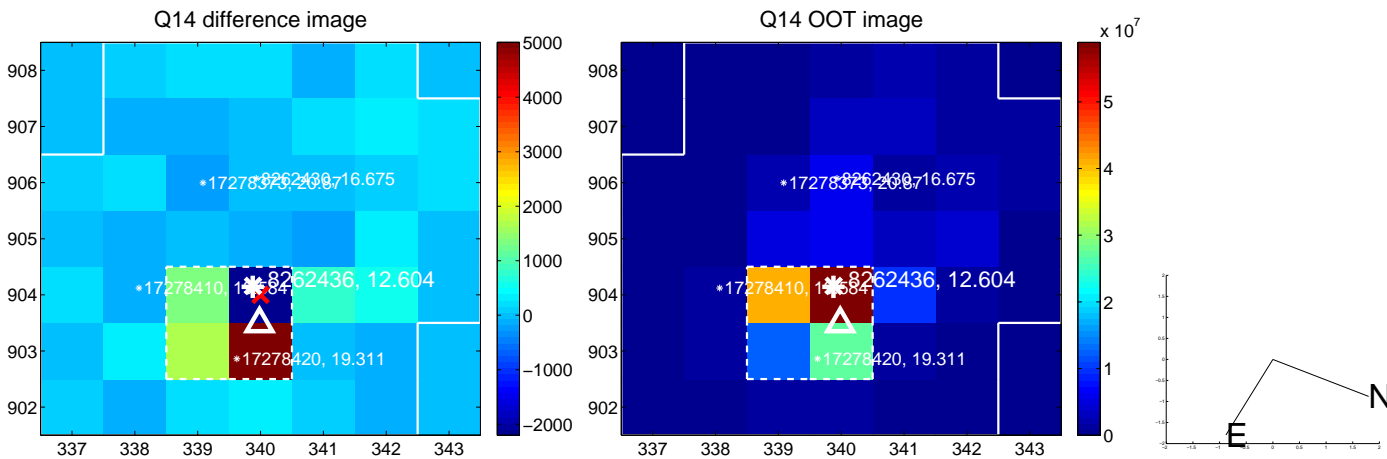
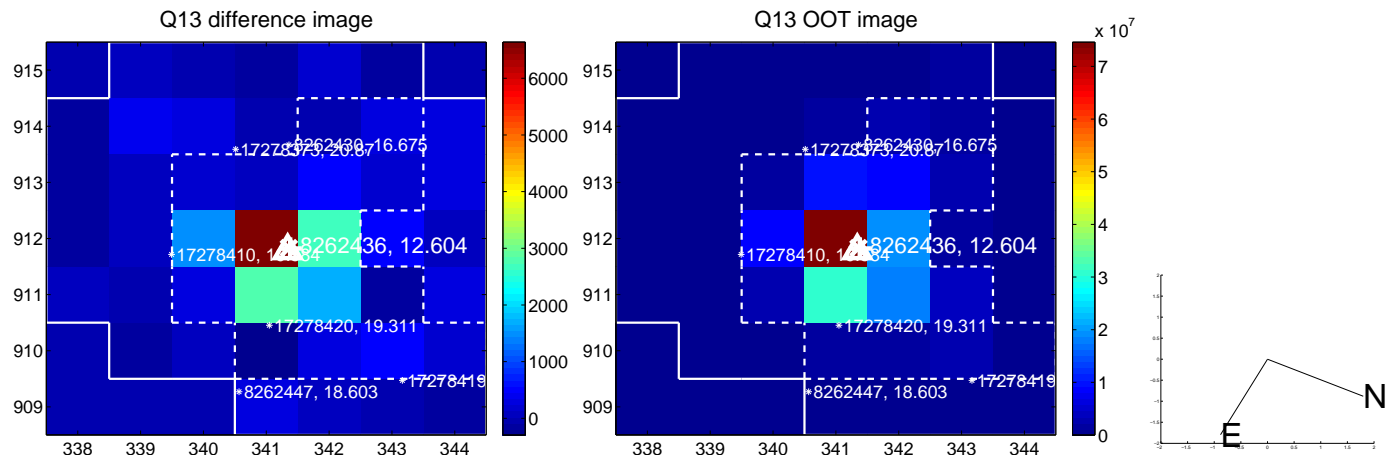


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

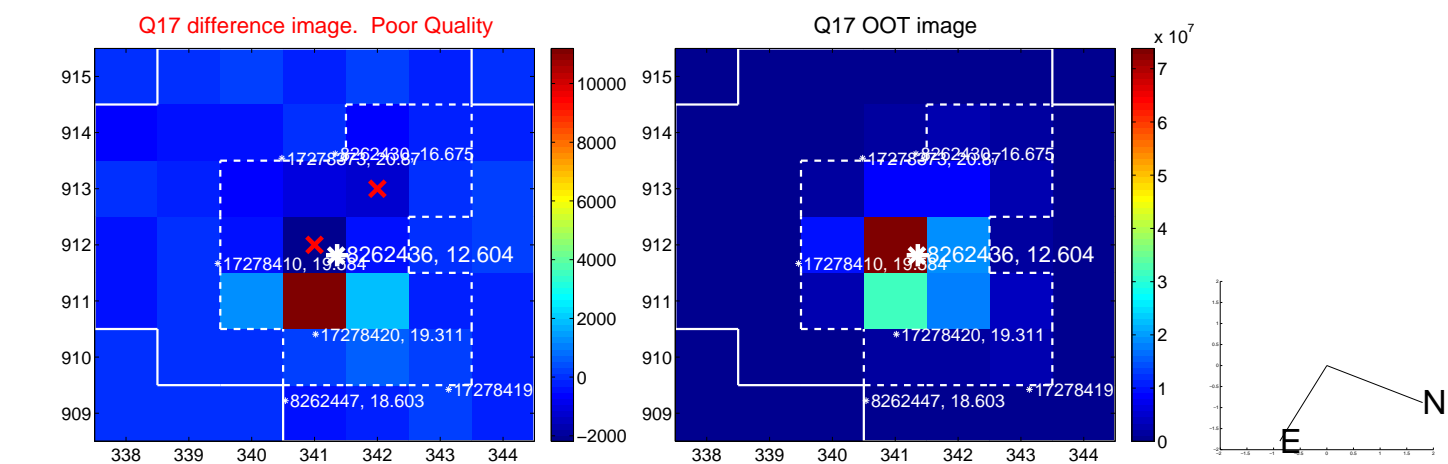
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



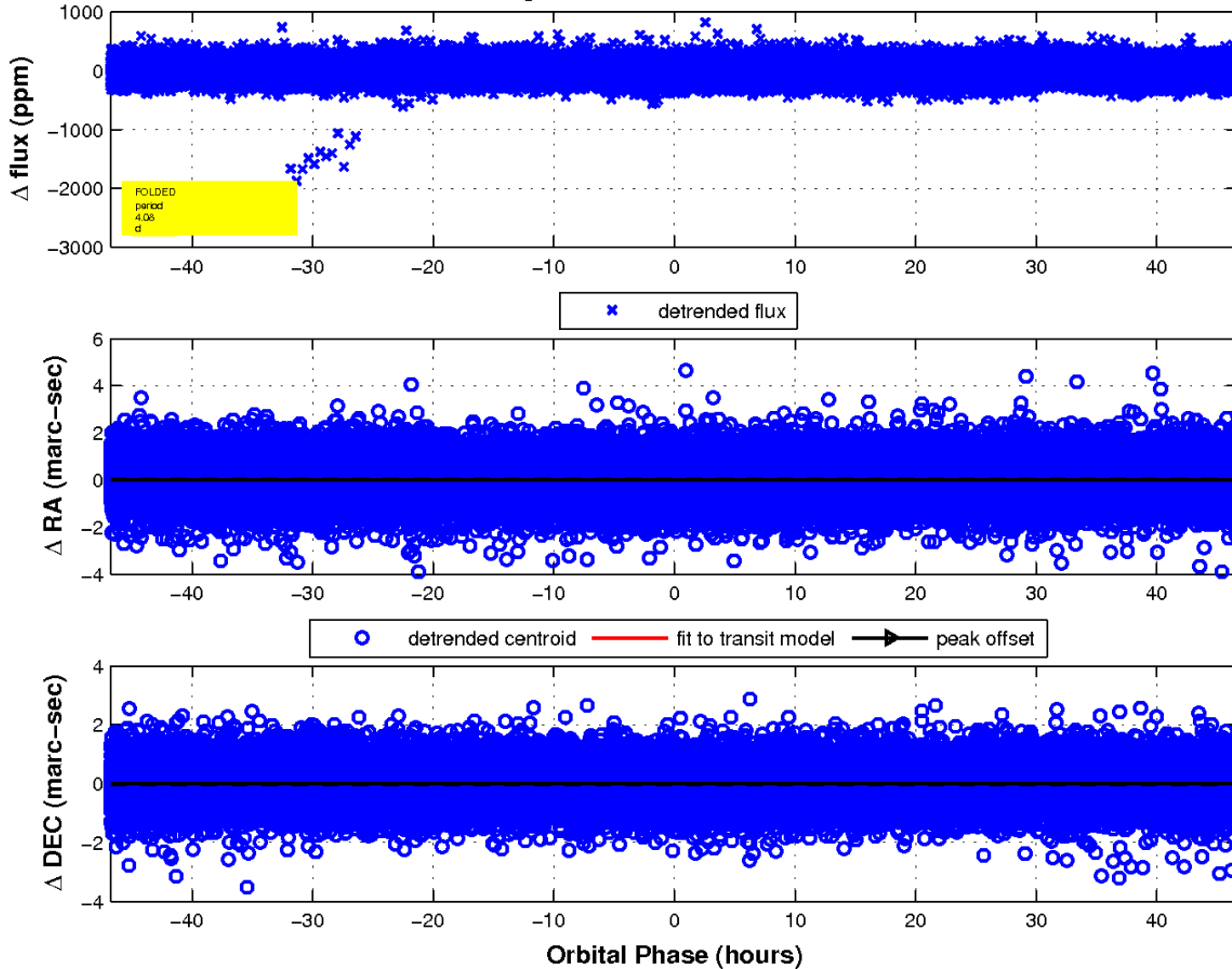
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

