

KIC 003230805

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})
003230805-01	OBS	3068.01	3.916828	133.596423	142.9	2.067	10.2	11.2	0.69	4889	1.00	124.00
003230805-02	OBS	3068.02	6.651722	137.681402	139.8	2.439	8.3	8.8	0.69	4889	0.97	61.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003230805-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT
003230805-02	OBS	PC	1.00	0	0	0	0	CENT_FEW_MEAS

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.

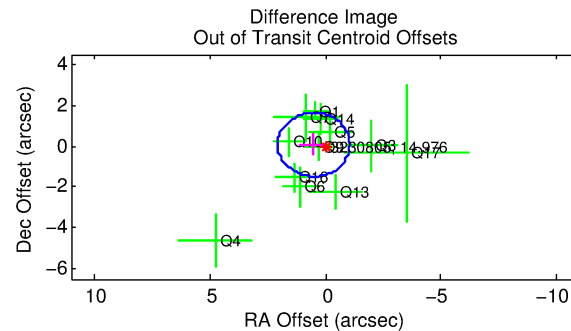
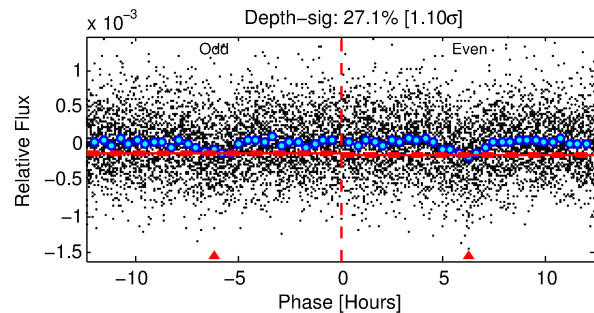
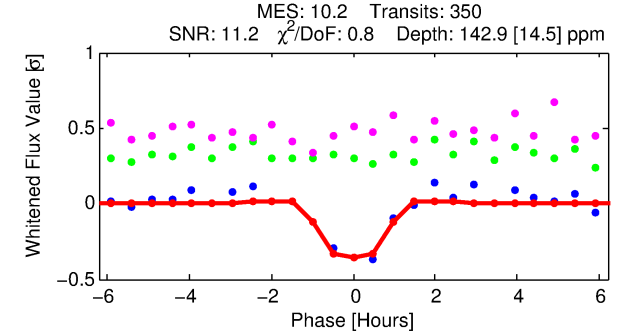
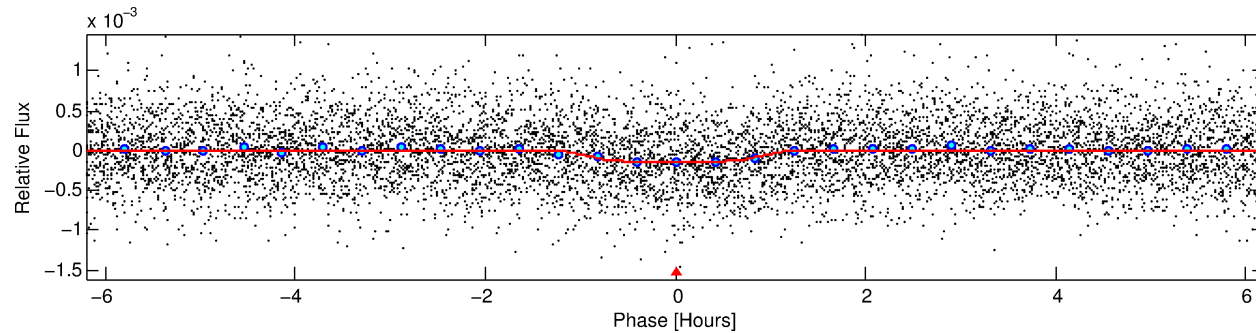
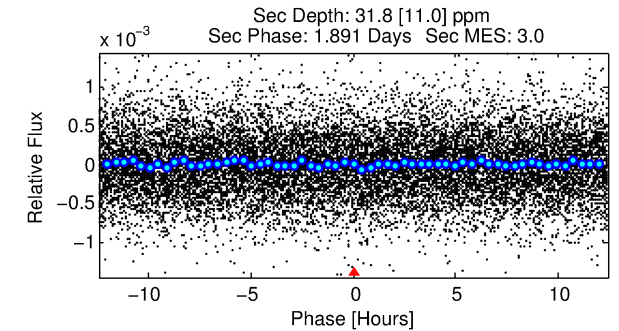
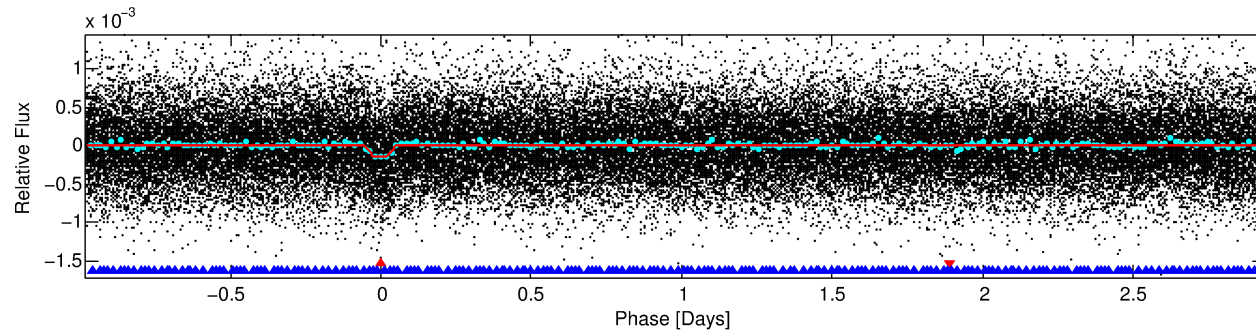
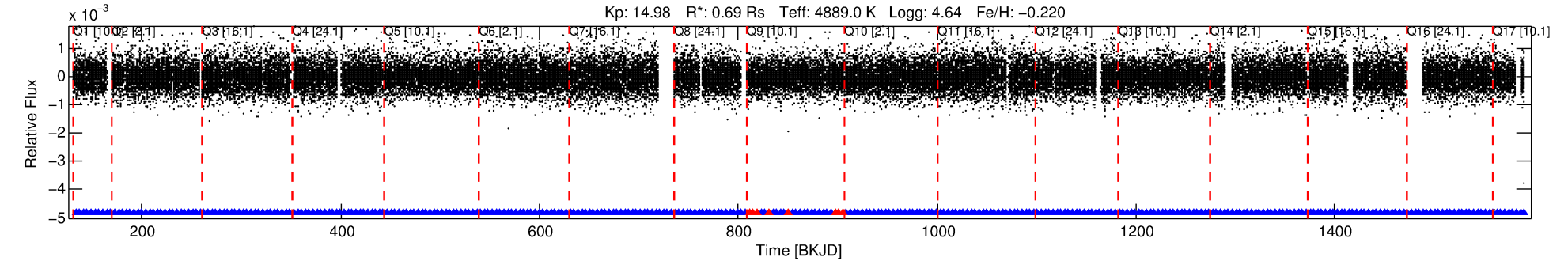
Ephemeris Match Information For 003230805-01

No Significant Match Found

DV One-Page Summary

KIC: 3230805 Candidate: 1 of 2 Period: 3.917 d

KOI: K03068.01 Corr: 0.959



DV Fit Results:

Period = 3.91683 [0.00002] d
Epoch = 133.5964 [0.0035] BKJD
Rp/R* = 0.0134 [0.0111]
a/R* = 6.82 [22.07]
b = 0.90 [0.72]
Seff = 124.00 [20.62]
Teff = 851 [35] K
Rp = 1.00 [0.84] Re
a = 0.0441 [0.0037] AU
Ag = 33.92 [57.88] [0.57σ]
Teffp = 3175 [1355] K [1.72σ]

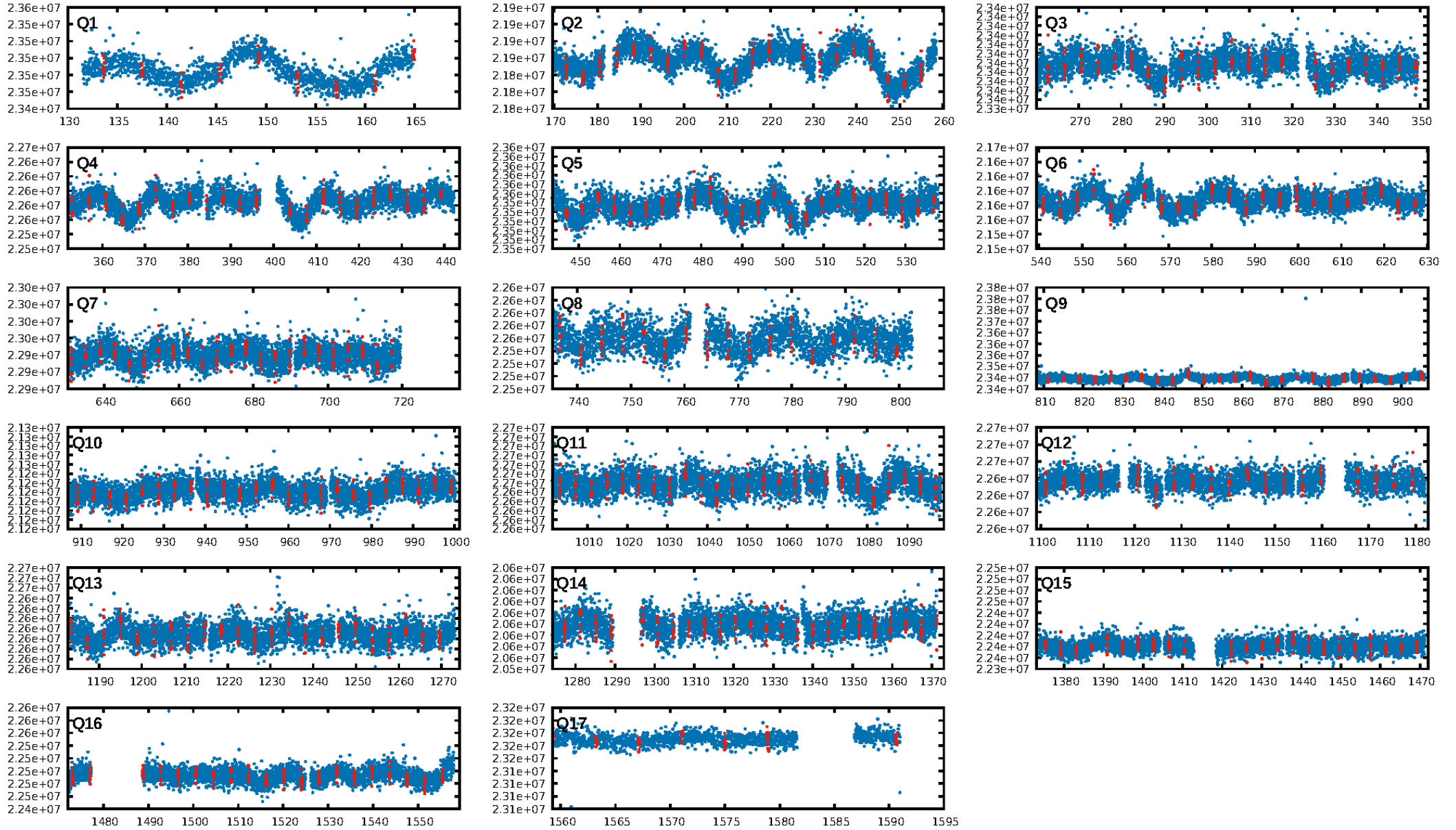
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [20.53σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.39e-24
RollingBand-fgt: 0.98 [326/334]
GhostDiagnostic-chr: 2.517
Centroid-sig: 1.4%
Centroid-so: 2.495 arcsec [2.05σ]
OotOffset-rm: 0.513 arcsec [0.99σ]
KicOffset-rm: 0.420 arcsec [0.79σ]
OotOffset-st: 3/2/2/5 [12]
KicOffset-st: 3/2/2/5 [12]
DiffImageQuality-fgm: 0.58 [7/12]
DiffImageOverlap-fno: 1.00 [17/17]

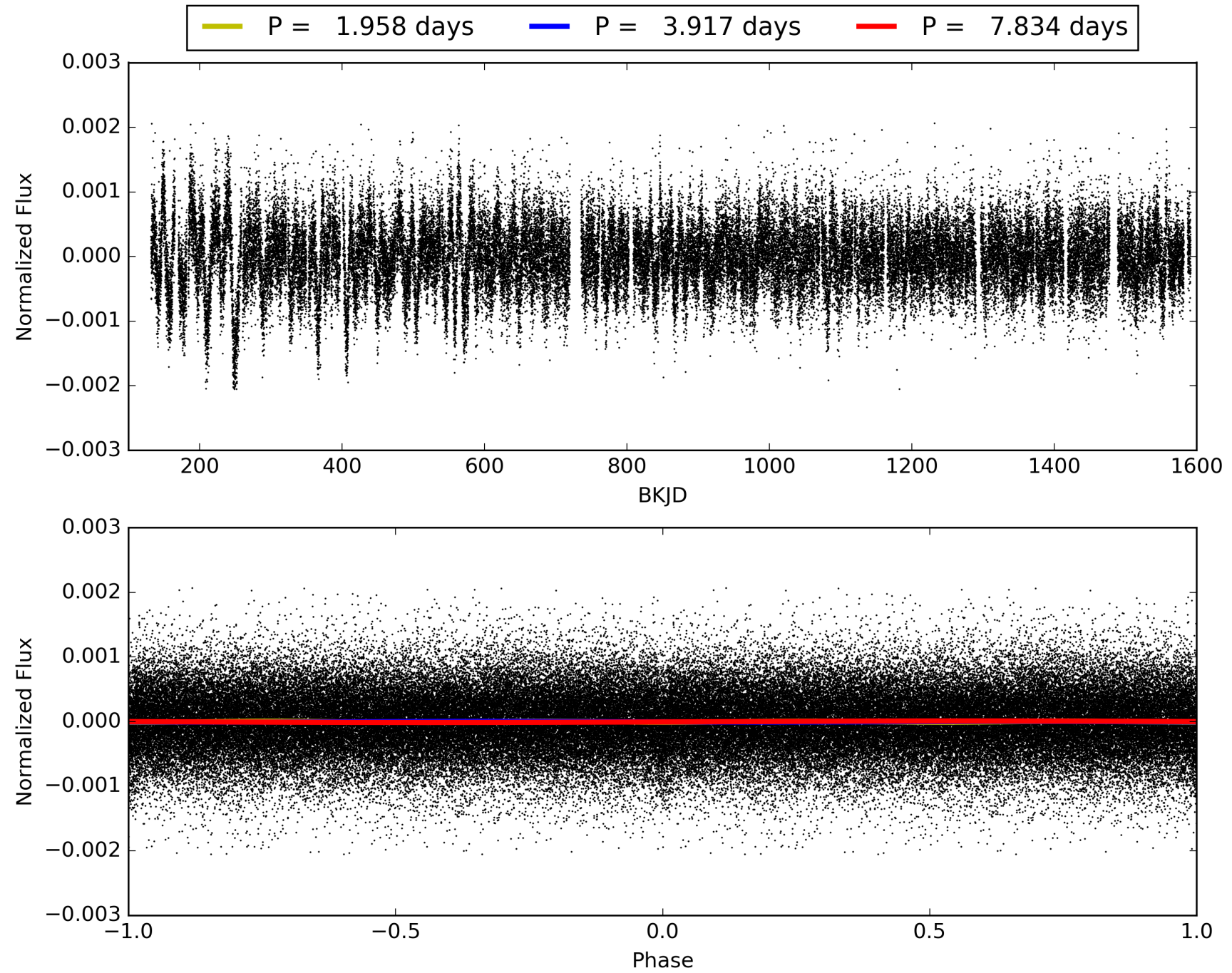
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:57:38 Z

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

TCE 003230805-01, PDC Light Curves

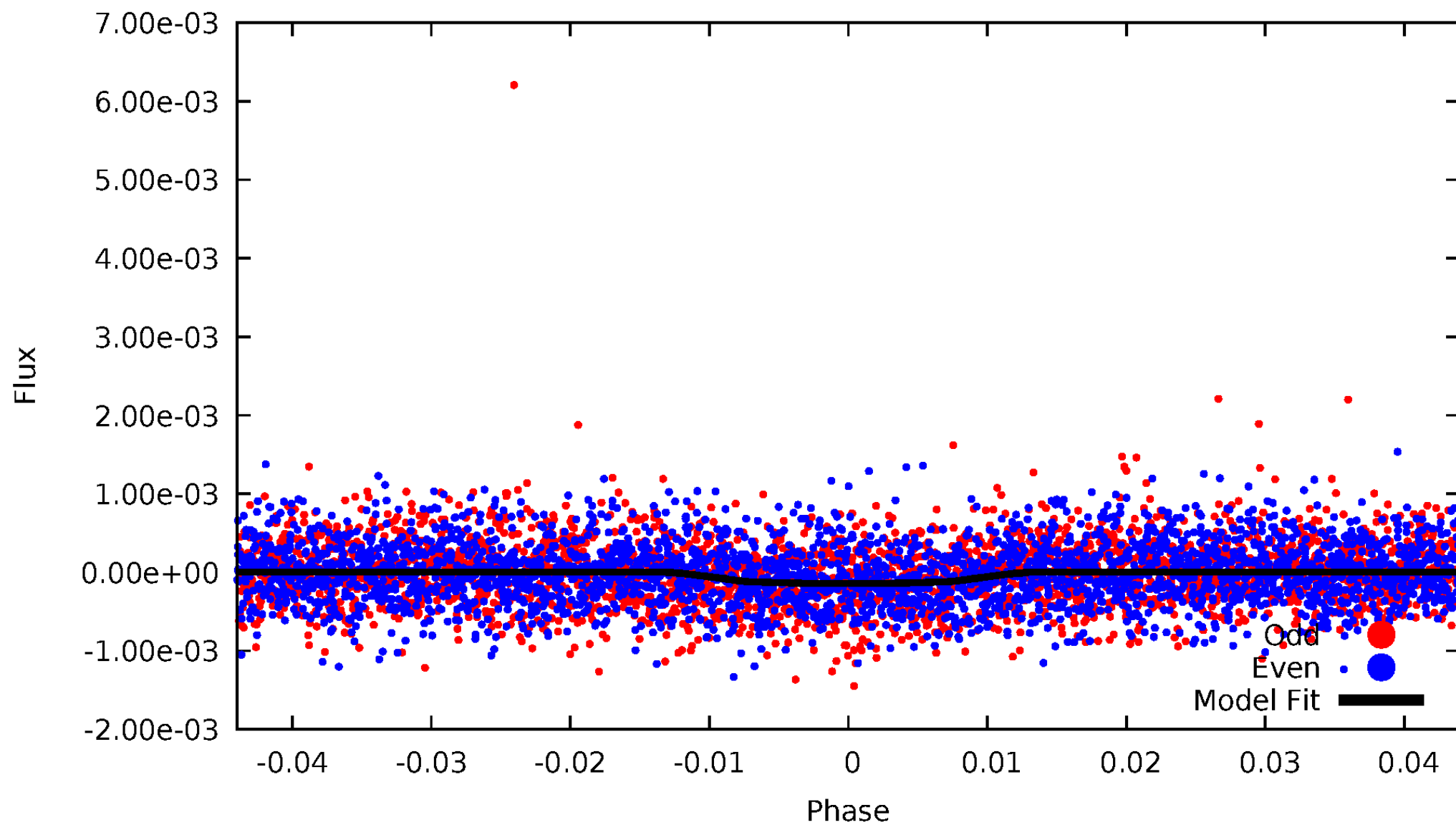


TCE 003230805-01



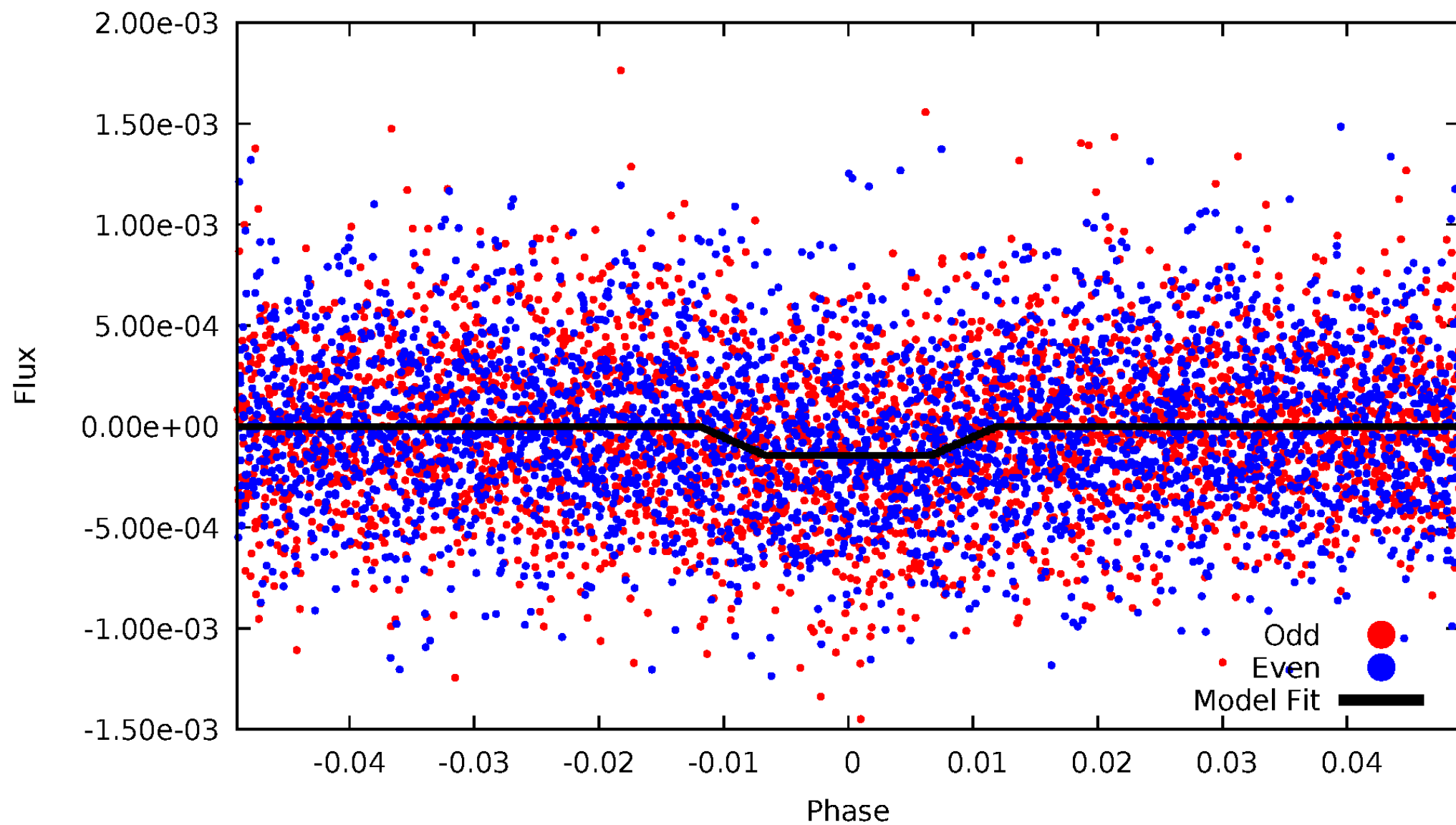
DV Odd/Even

TCE 003230805-01



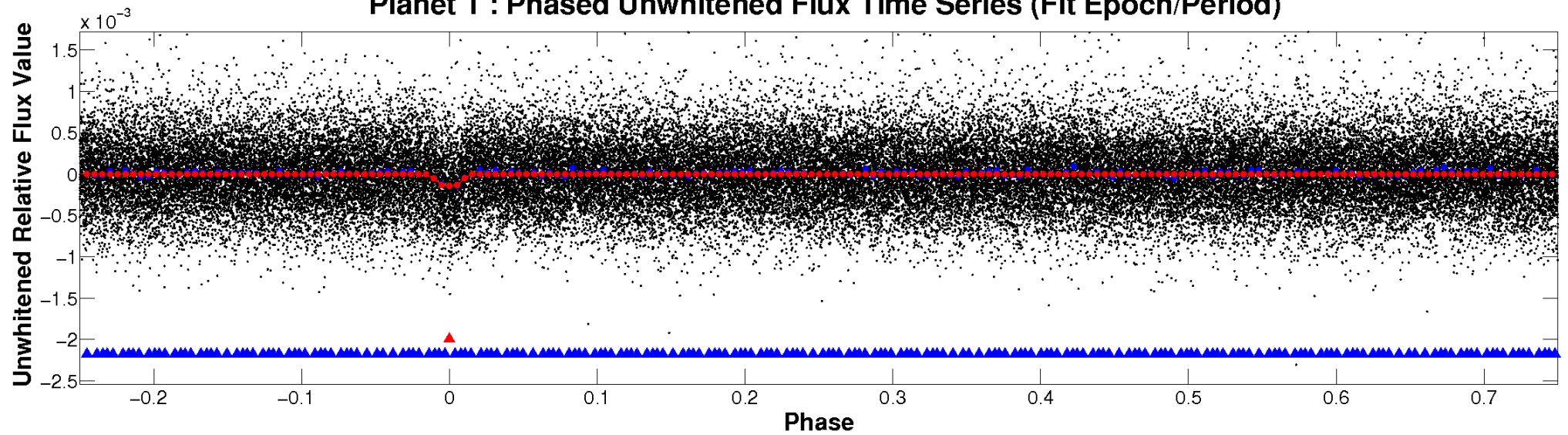
ALT Odd/Even

TCE 003230805-01

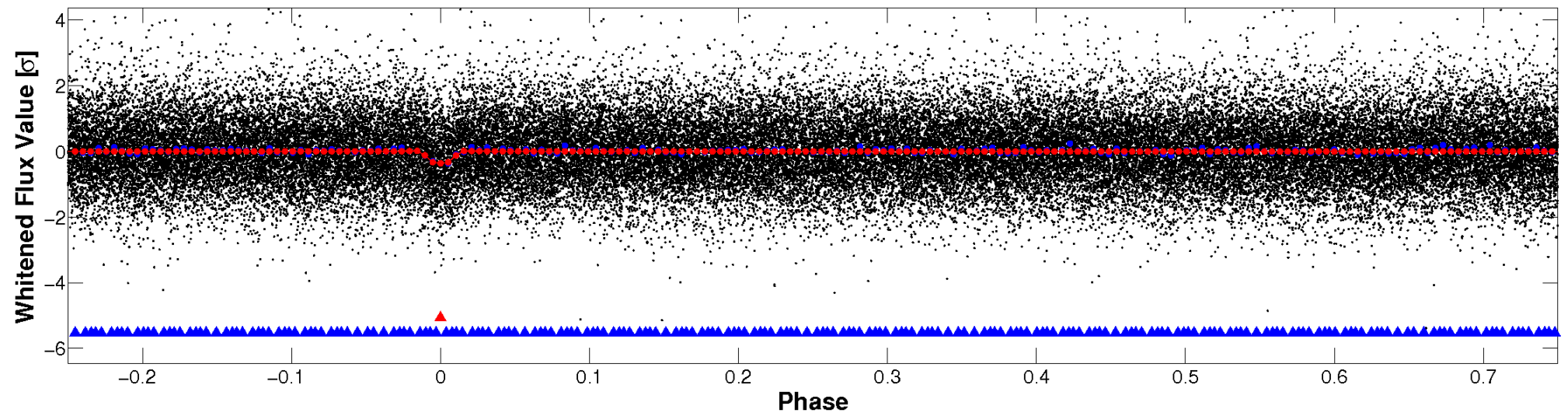


Non-Whitened Vs. Whitened Light Curve

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

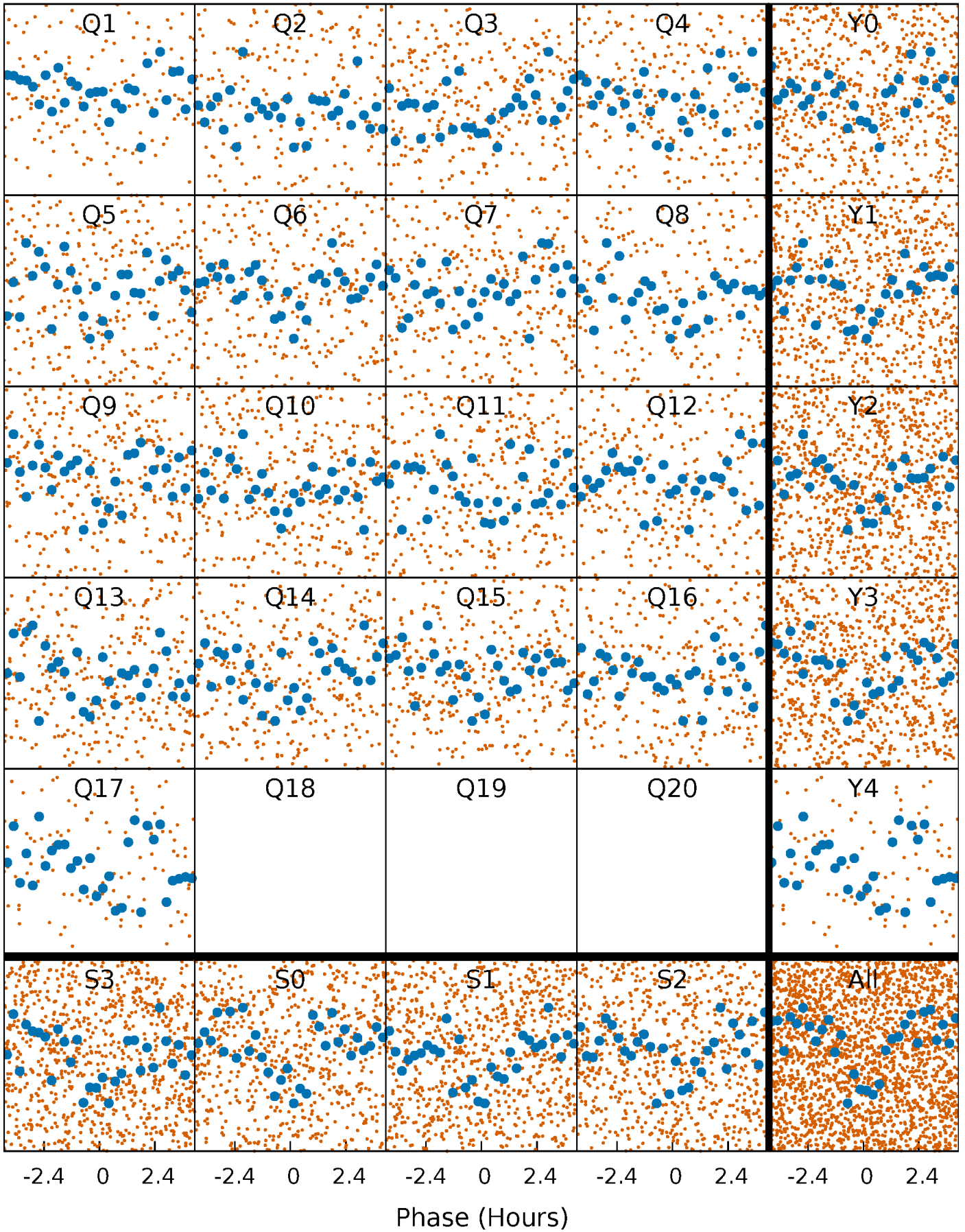


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



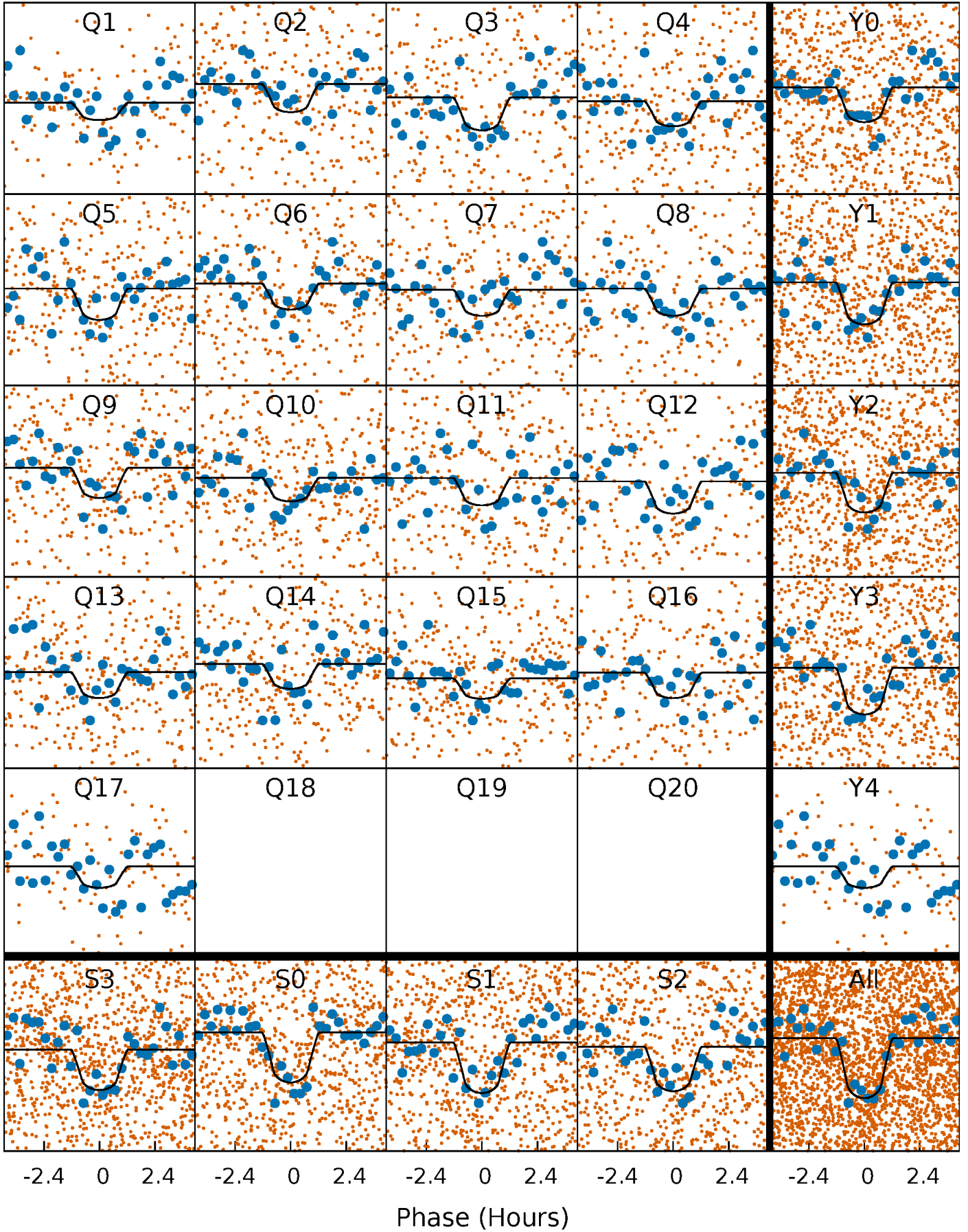
PDC Quarter-Phased Transit Curves

TCE 003230805-01 P= 3.916828 Days $T_0=133.596423$ (BKJD)



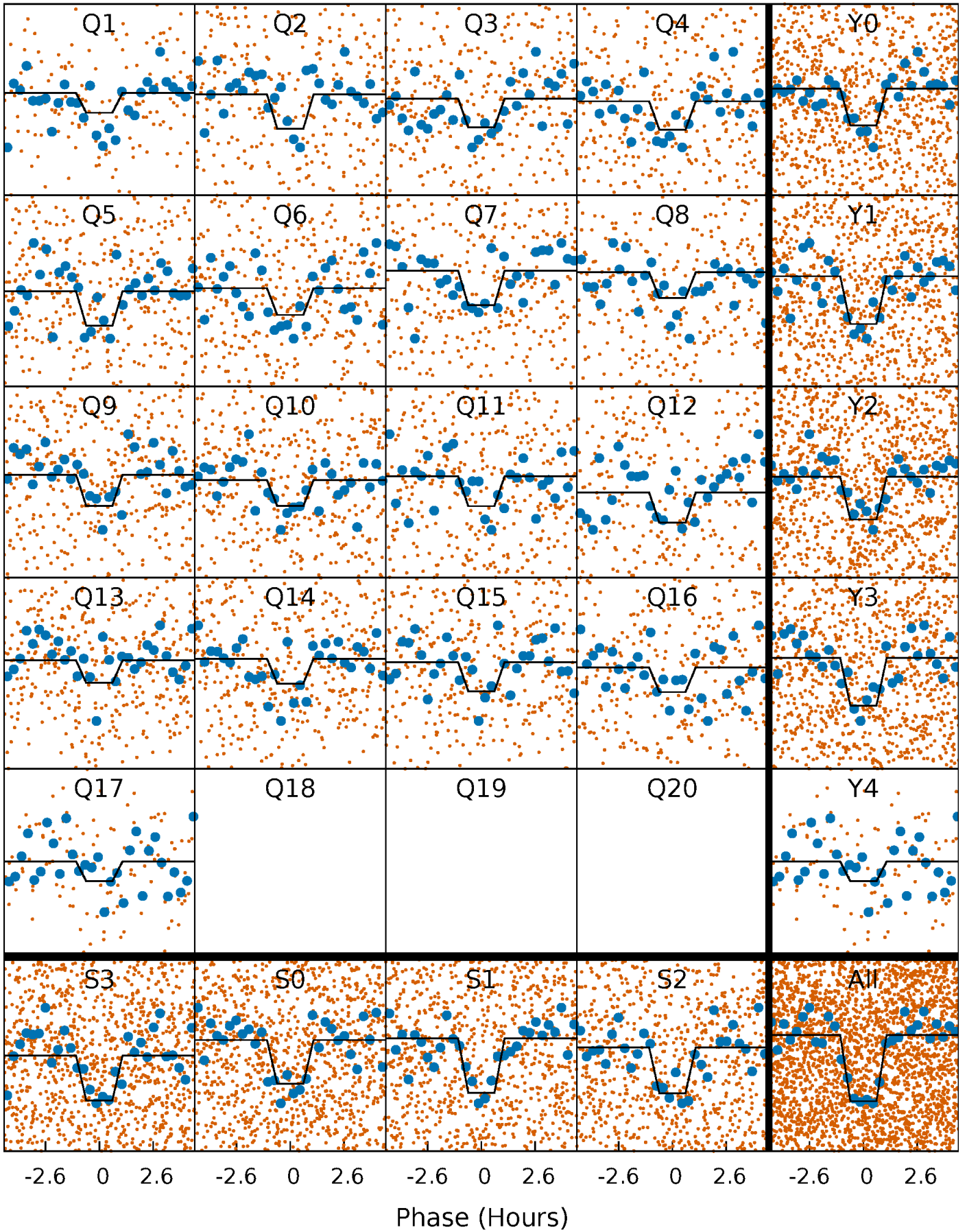
DV Quarter-Phased Transit Curves

TCE 003230805-01 P= 3.916828 Days $T_0=133.596423$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

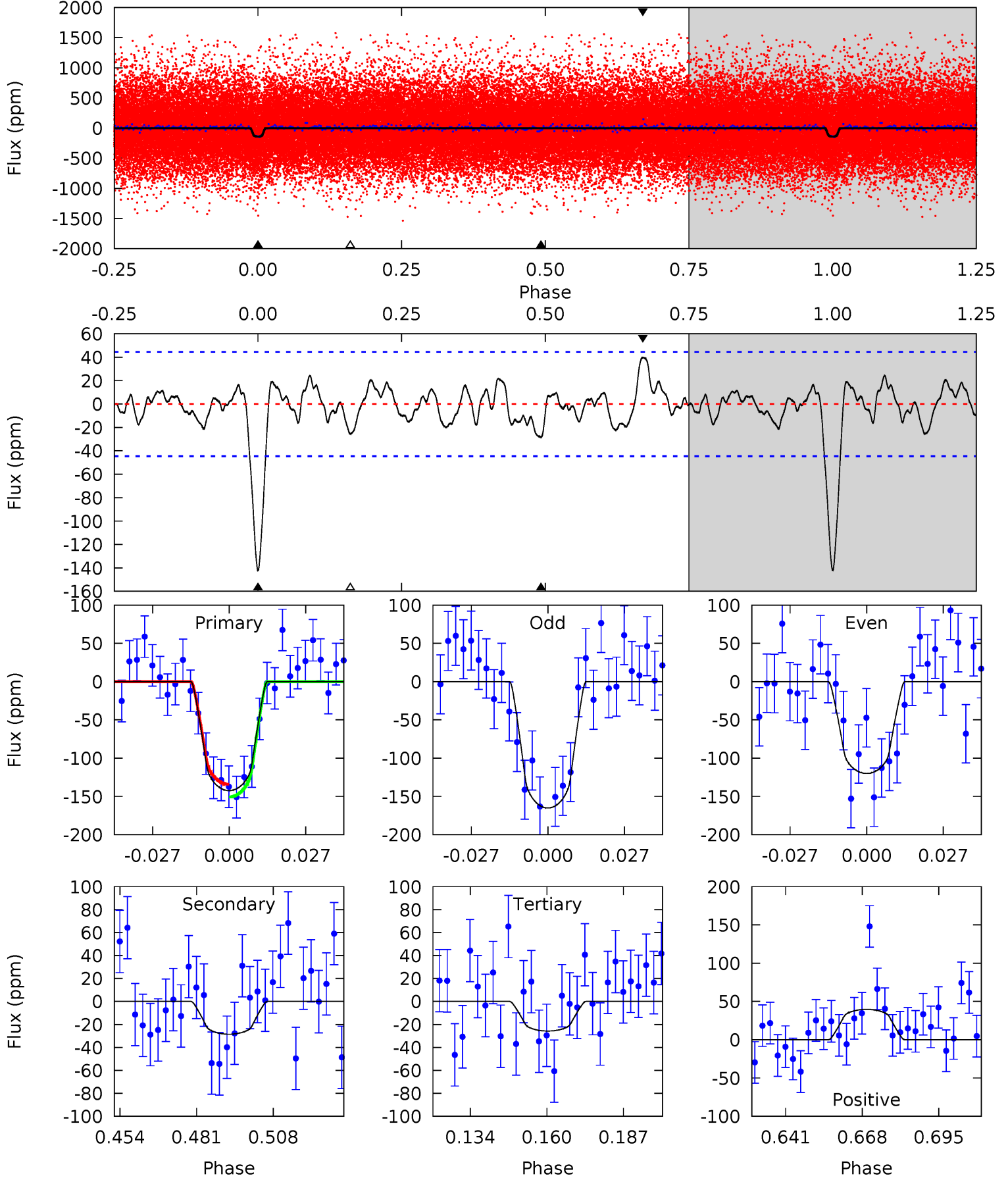
TCE 003230805-01 P= 3.916780 Days $T_0=133.603251$ (BKJD)



DV Model-Shift Uniqueness Test

003230805-01, P = 3.916828 Days, E = 129.679595 Days

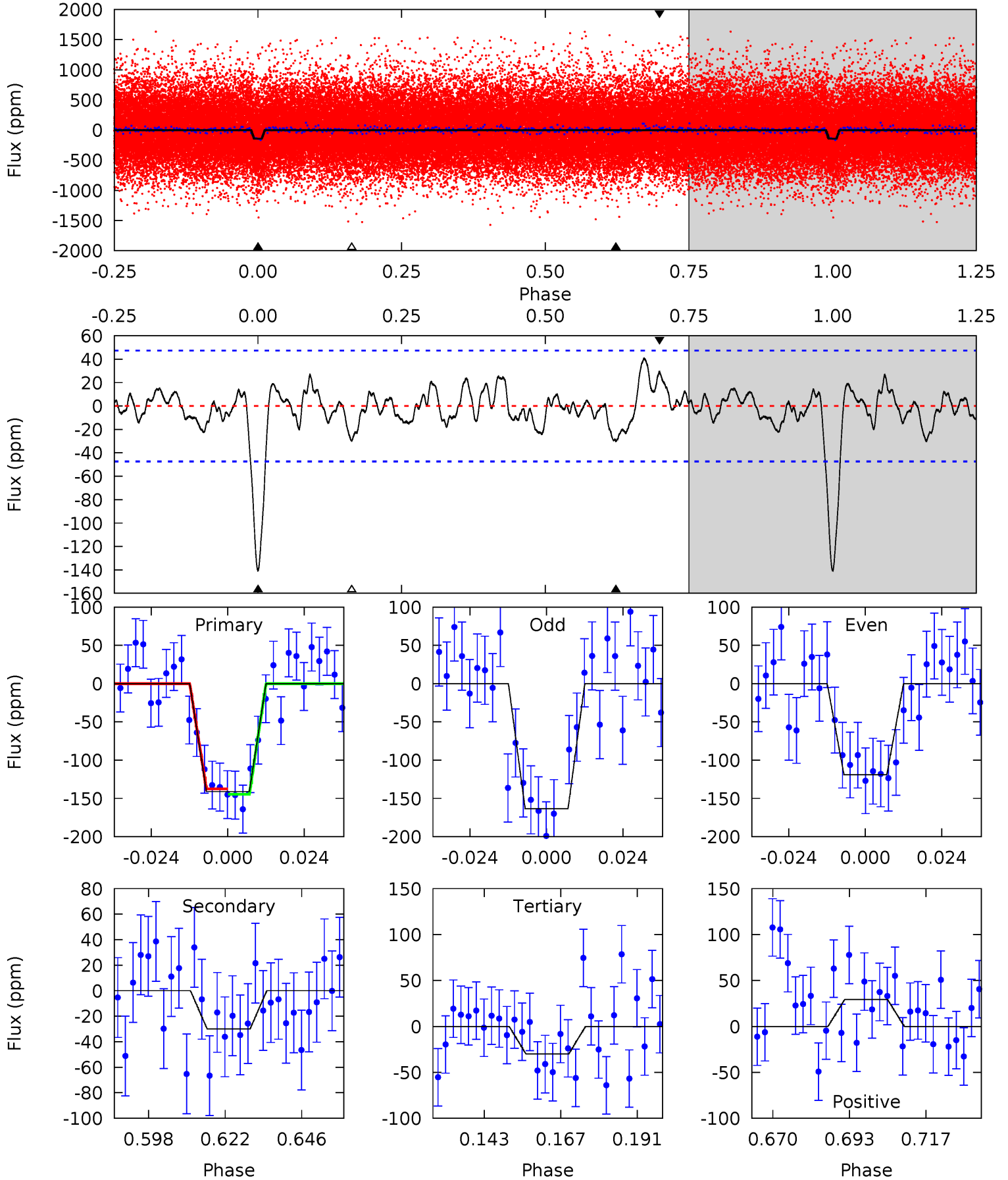
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	3.09	2.79	4.30	4.83	2.22	1.31	12.6	11.1	0.30	-1.21	2.45	1.00	0.22	0.90



Alt Model-Shift Uniqueness Test

003230805-01, P = 3.916780 Days, E = 129.686471 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	3.08	3.06	3.00	4.86	2.26	1.26	11.4	11.5	0.01	0.07	2.28	1.00	0.22	0.36



Stellar Parameters For KIC 003230805

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4889^{+146}_{-131}	$4.637^{+0.032}_{-0.059}$	$-0.220^{+0.300}_{-0.300}$	$0.686^{+0.074}_{-0.049}$	$0.759^{+0.054}_{-0.088}$	$3.310^{+0.488}_{-0.747}$
	+3%/-3%	+1%/-1%	+136%/-136%	+11%/-7%	+7%/-12%	+15%/-23%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003230805-01 / KOI 3068.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-29 ± 9	$1.15^{+0.74}_{-0.66}$	1198^{+43}_{-43}	3360^{+1149}_{-521}	23^{+101}_{-15}
Alt.	-30 ± 10	$1.04^{+0.86}_{-0.63}$	1199^{+46}_{-39}	3462^{+1448}_{-574}	27^{+158}_{-19}

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

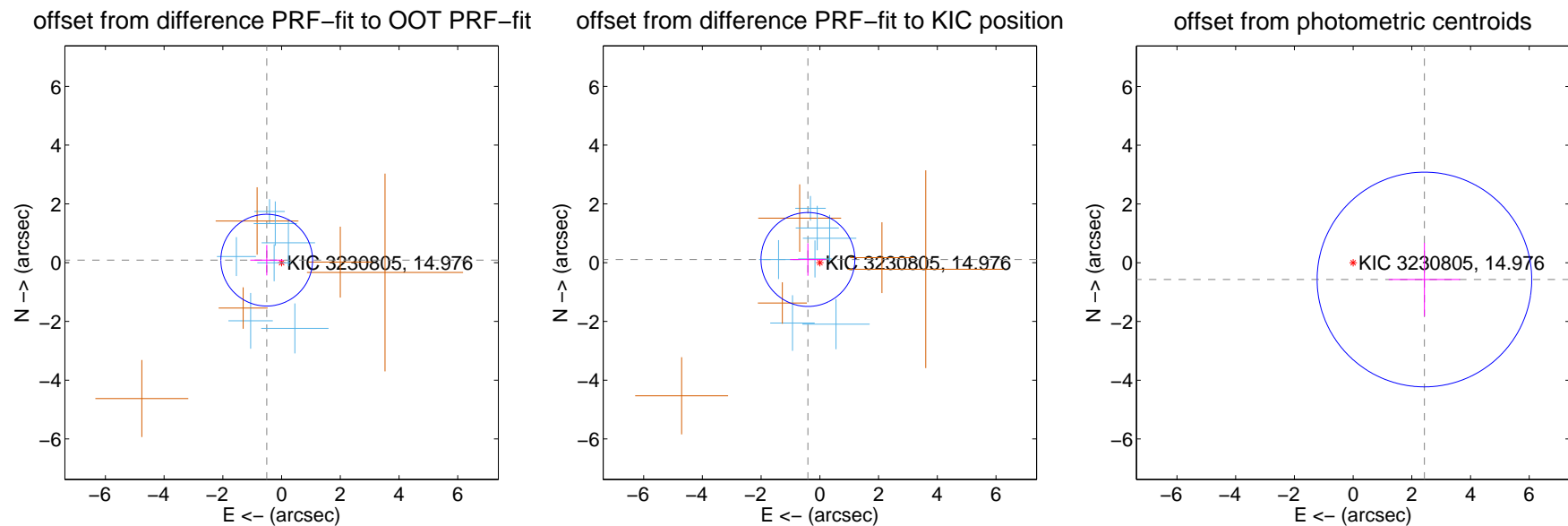
DV Centroid Data

Supplemental centroid analysis for 003230805-01. Kepler magnitude: 14.98. Transit SNR 11.23

There are 7 quarters with good PRF difference image offsets

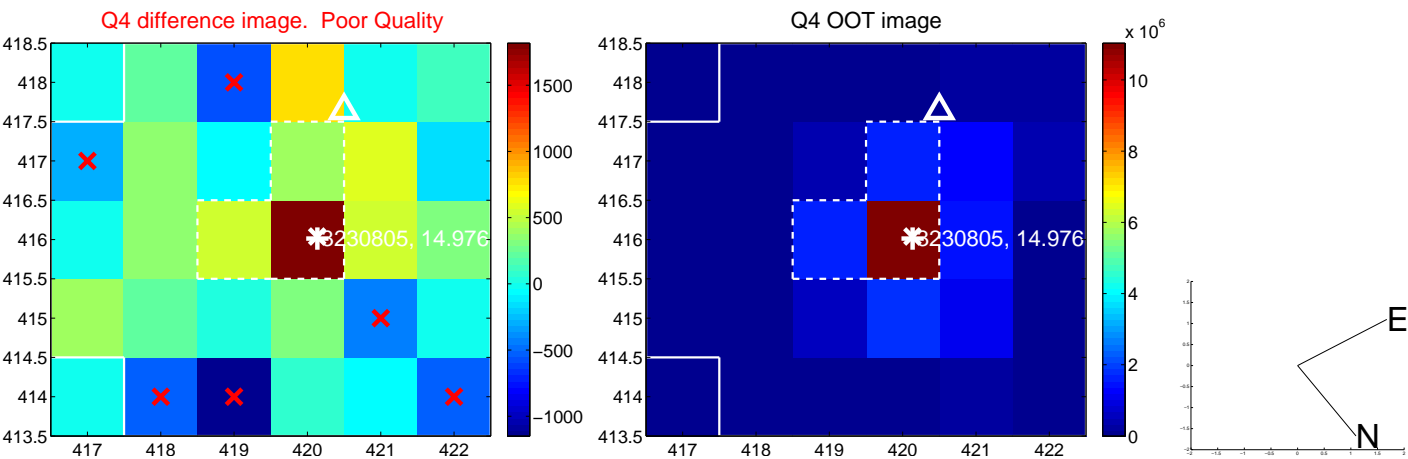
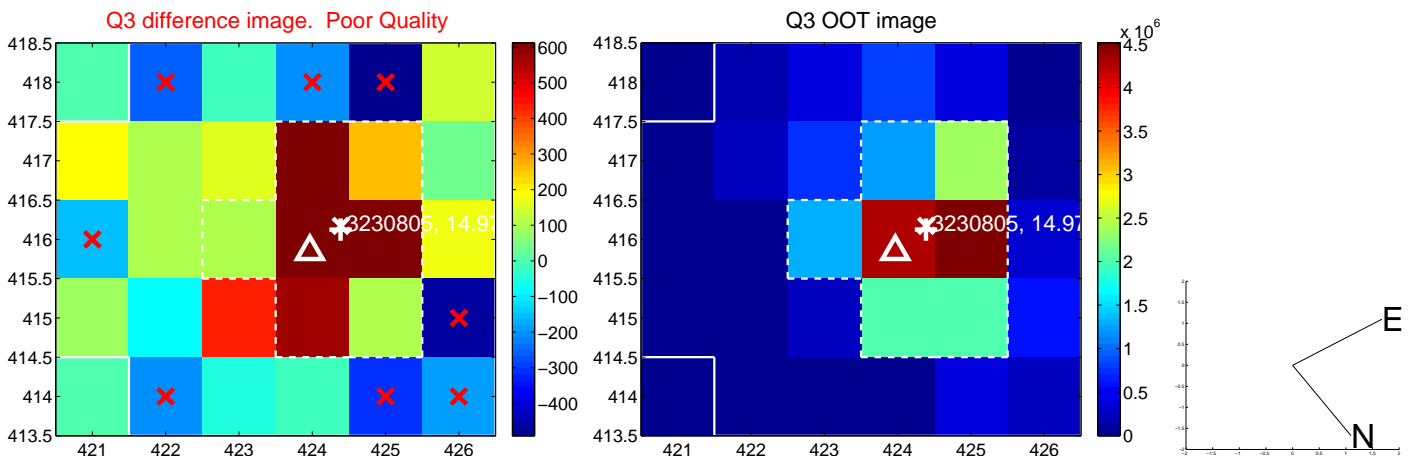
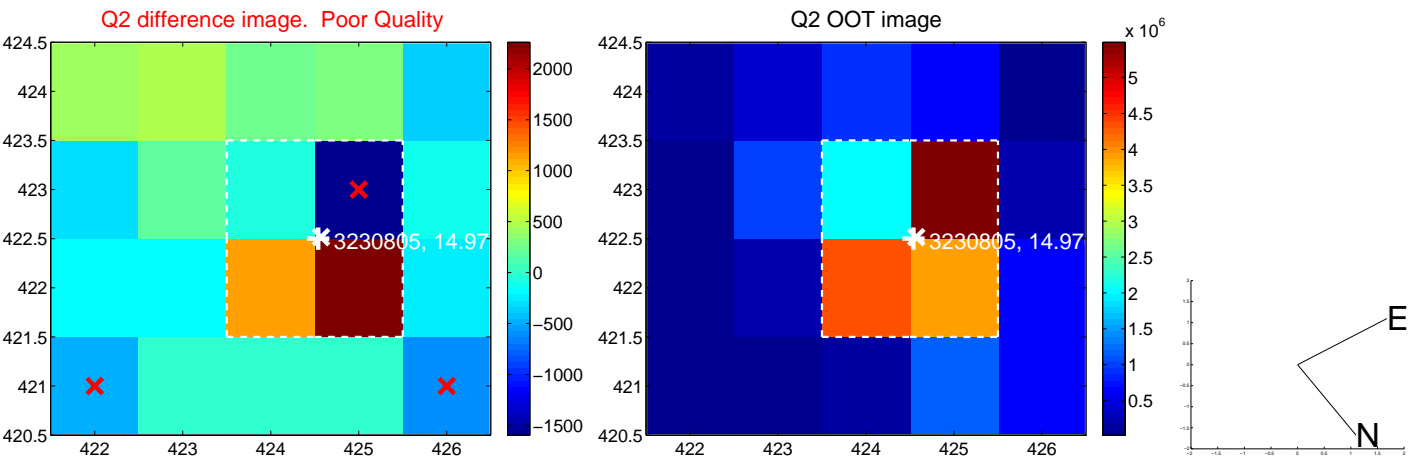
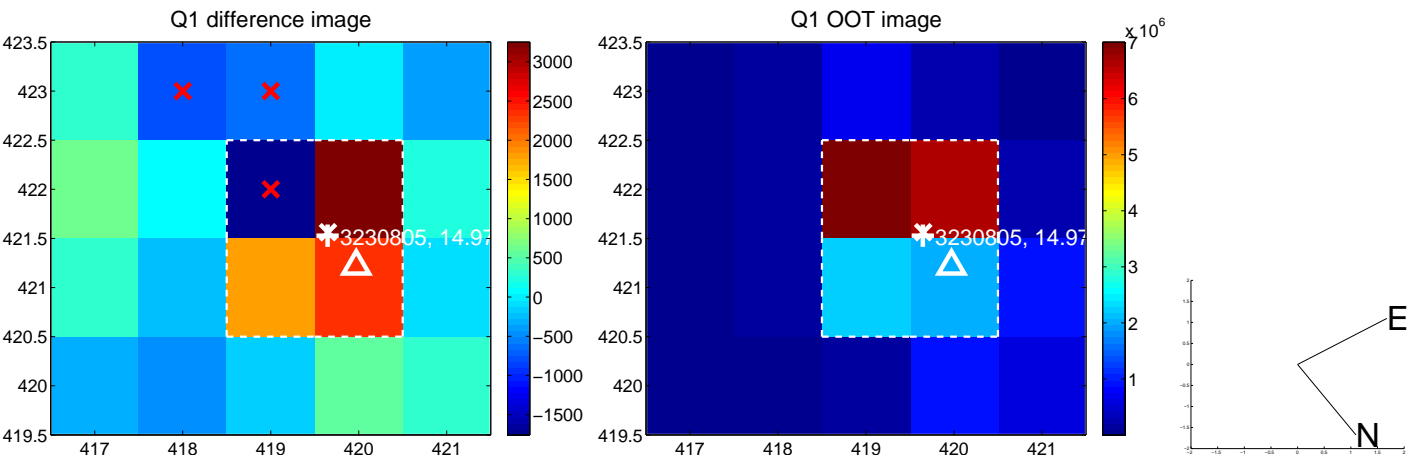
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.513 ± 0.521	0.99	0.506 ± 0.562	0.084 ± 0.520
PRF-fit source offset from KIC position	0.420 ± 0.533	0.79	0.406 ± 0.605	0.107 ± 0.552
photometric centroid source offset	2.50 ± 1.22	2.05	-2.43 ± 1.22	-0.57 ± 1.25

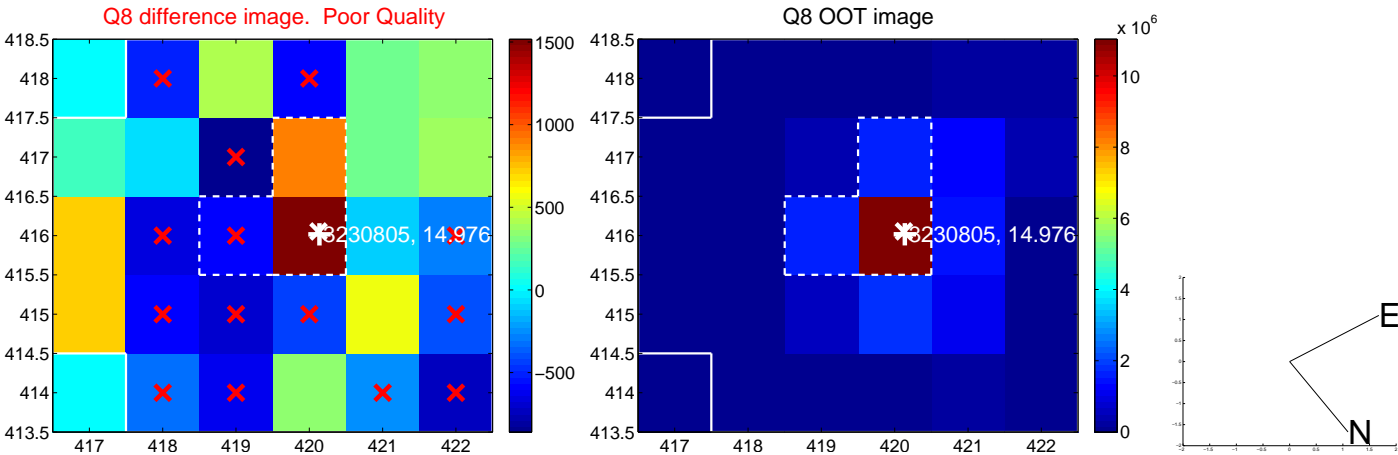
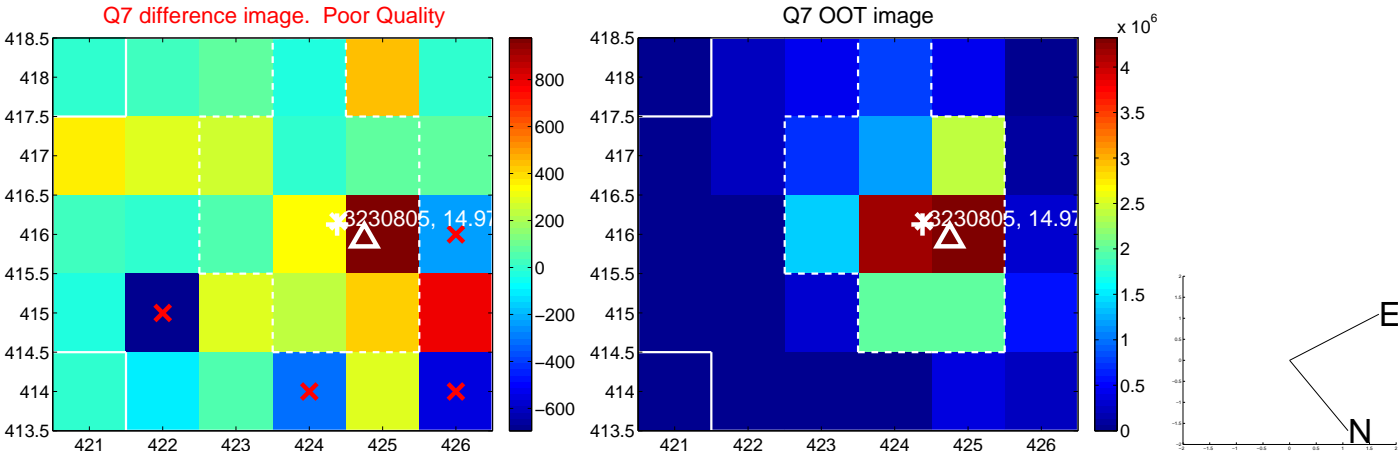
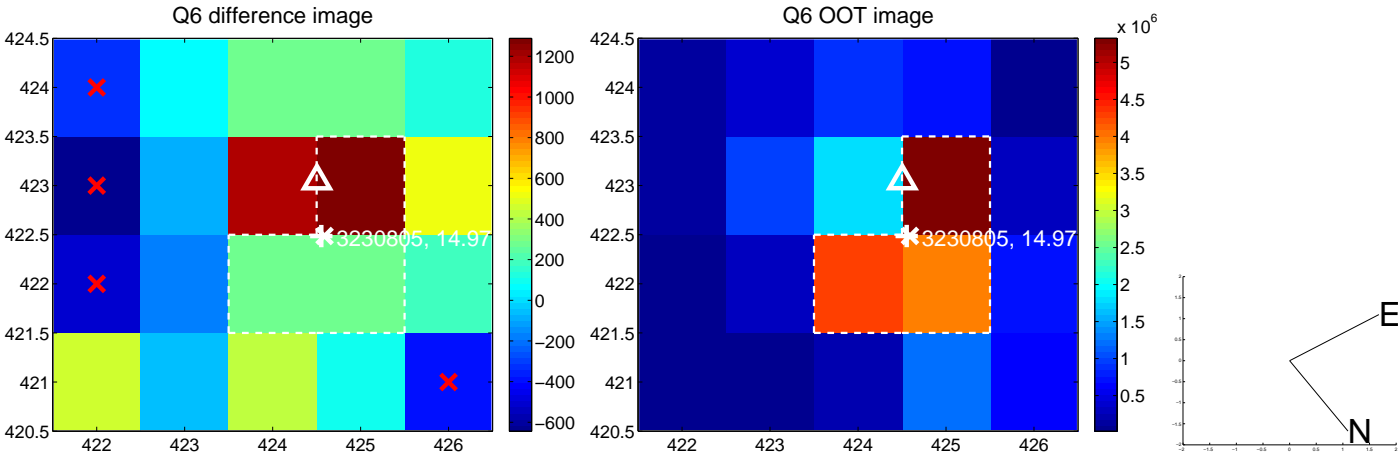
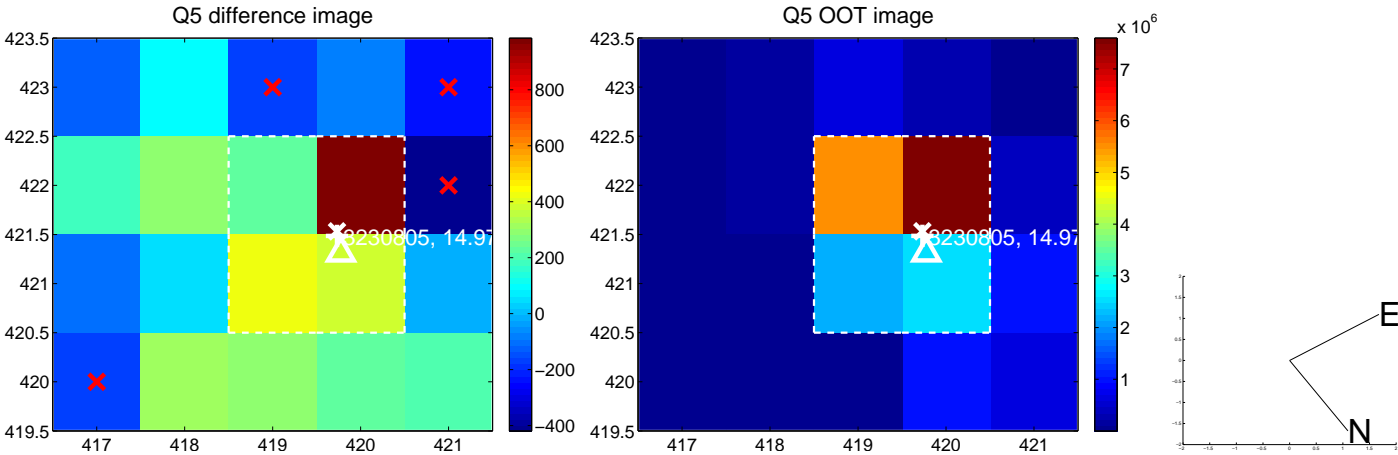


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

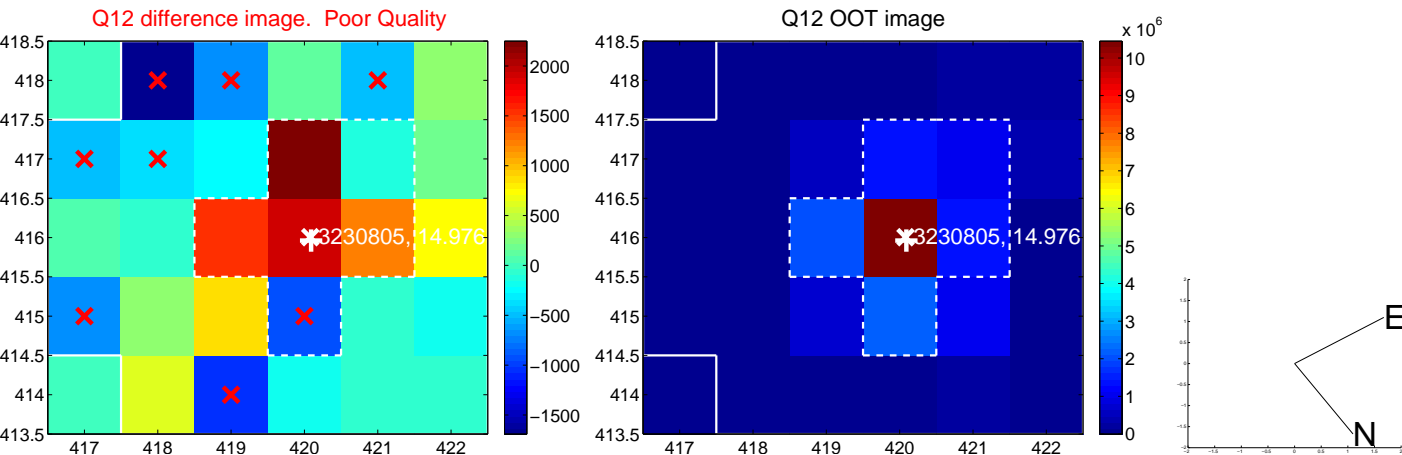
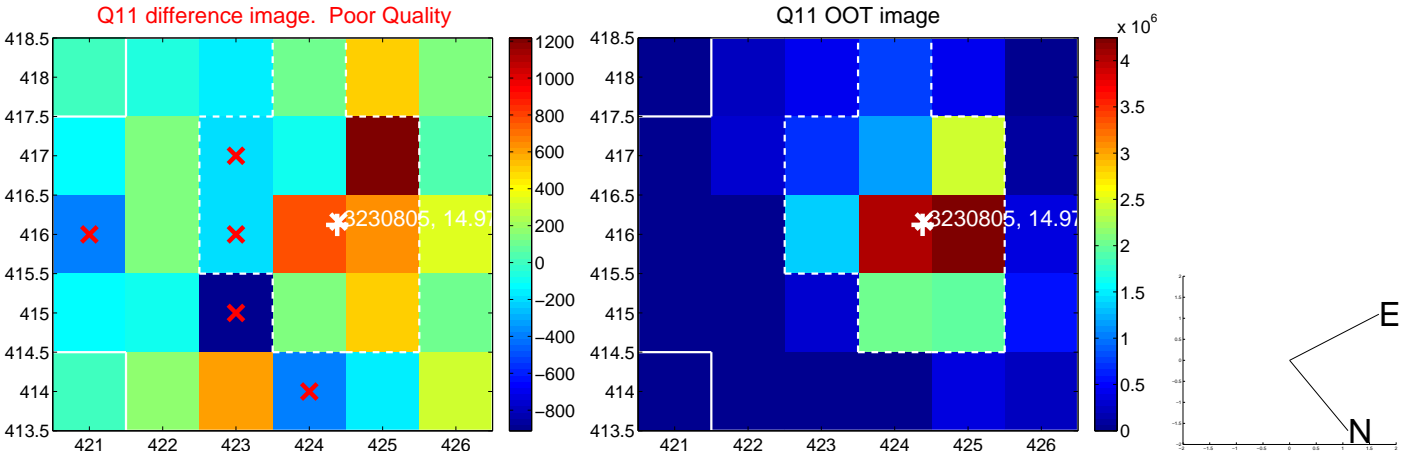
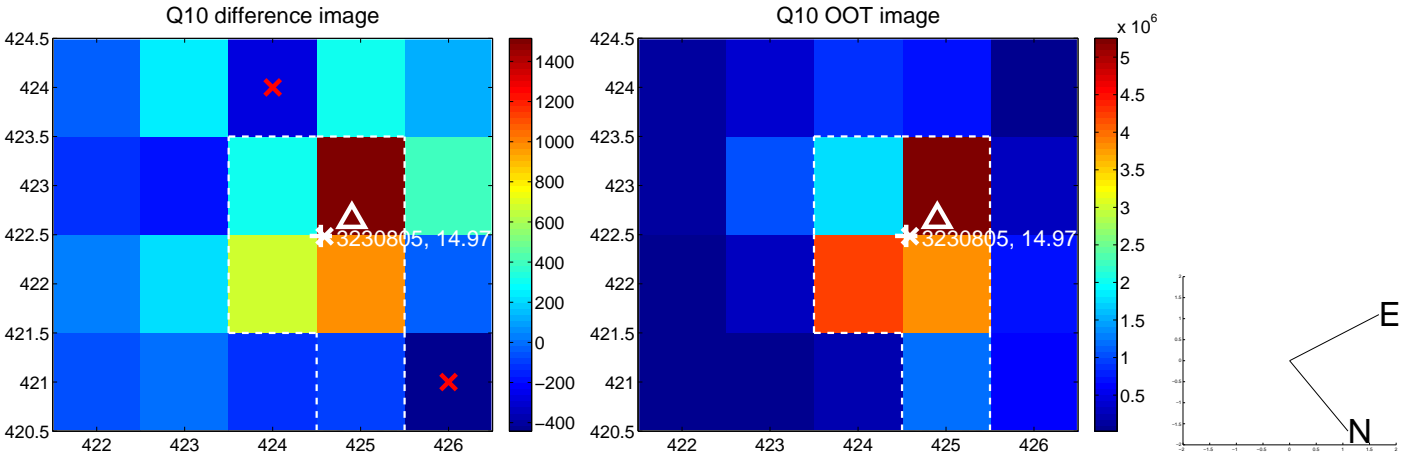
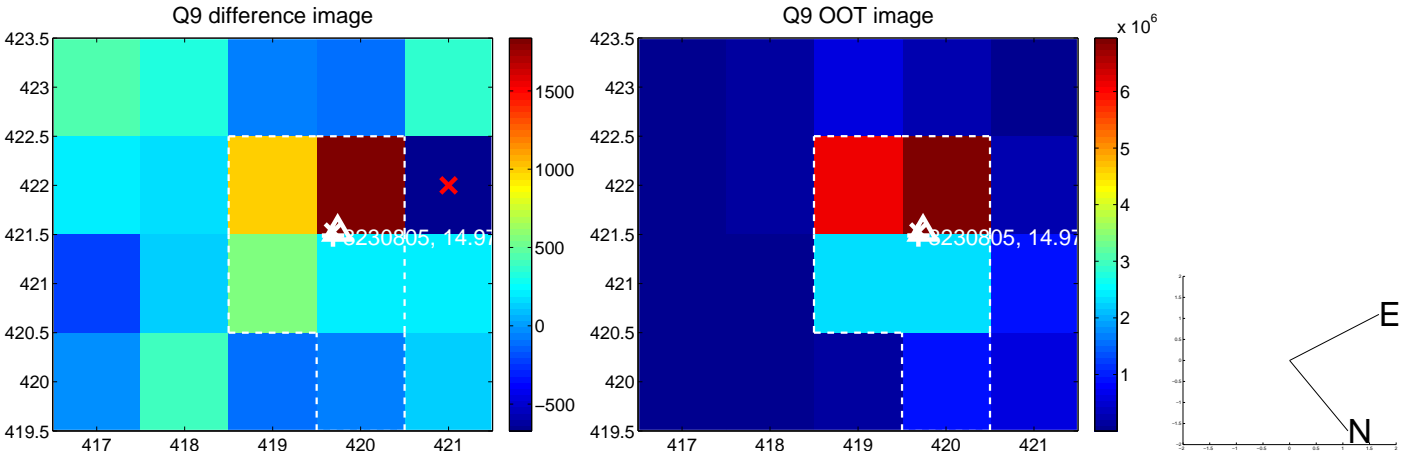
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



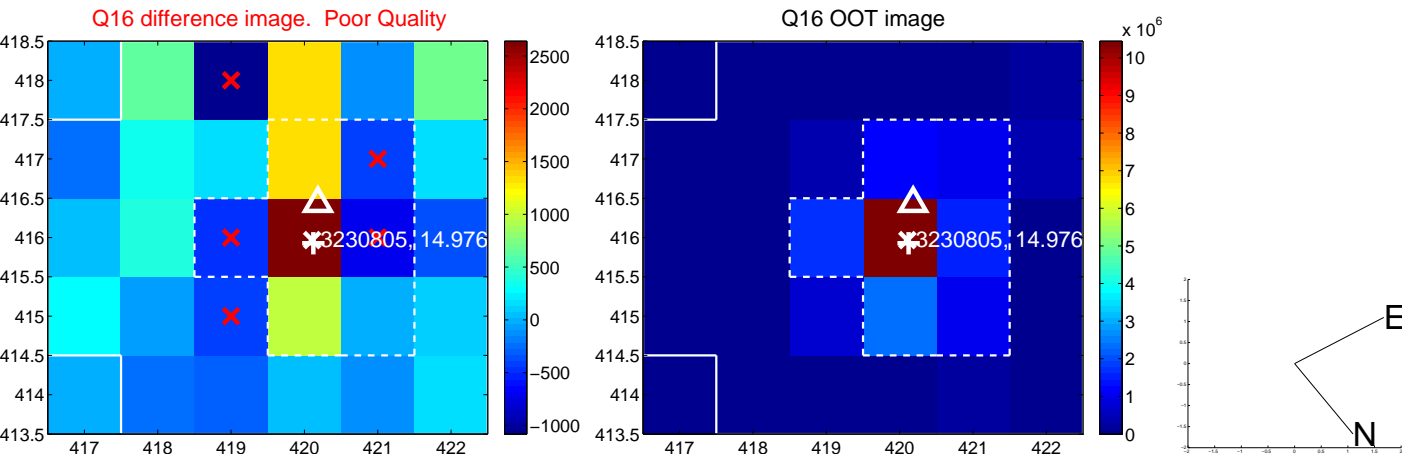
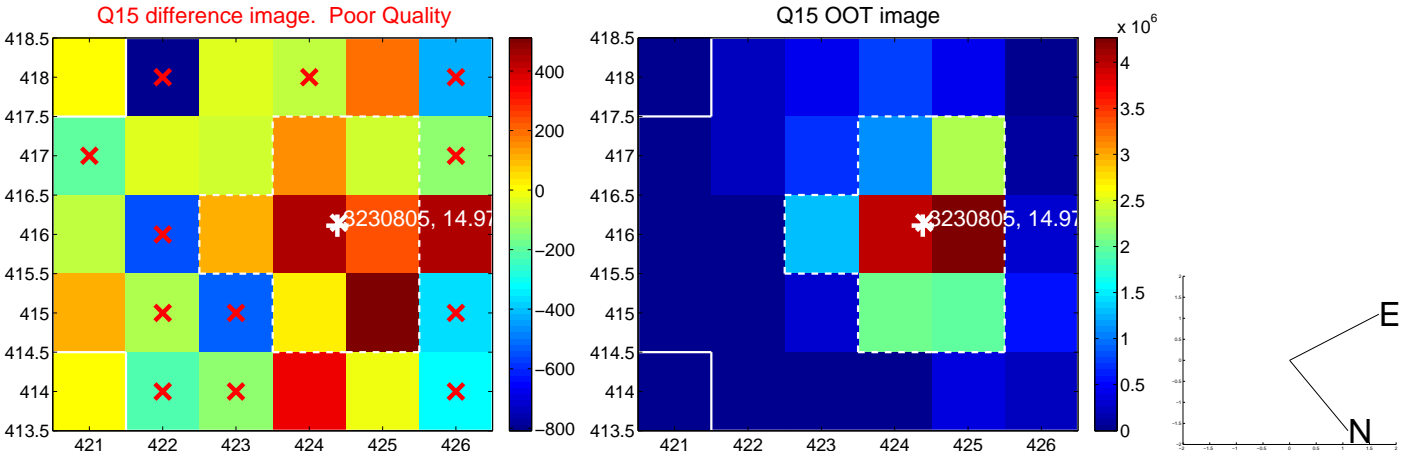
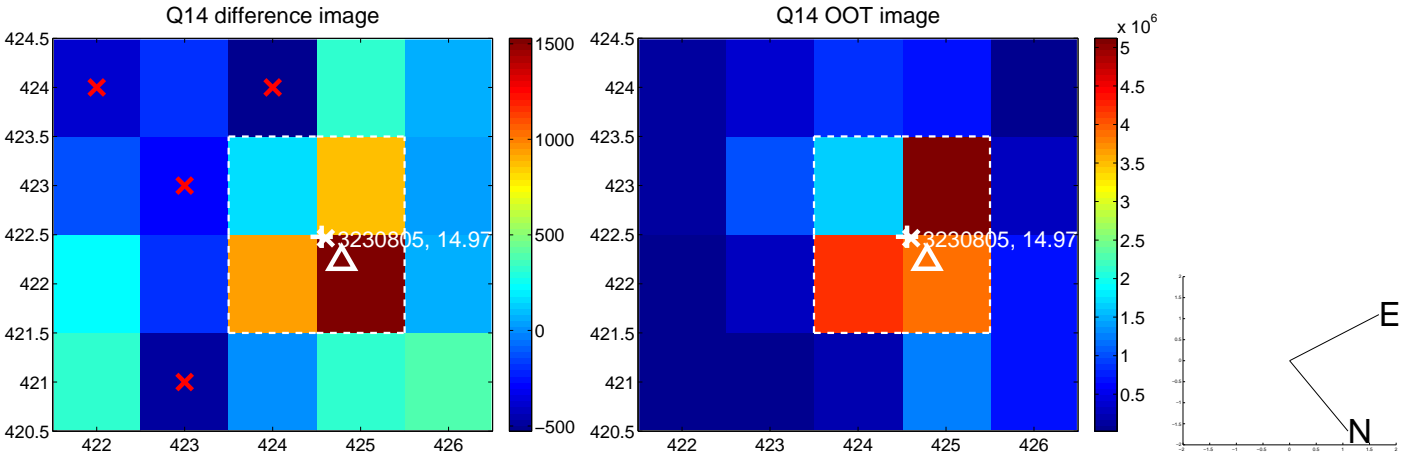
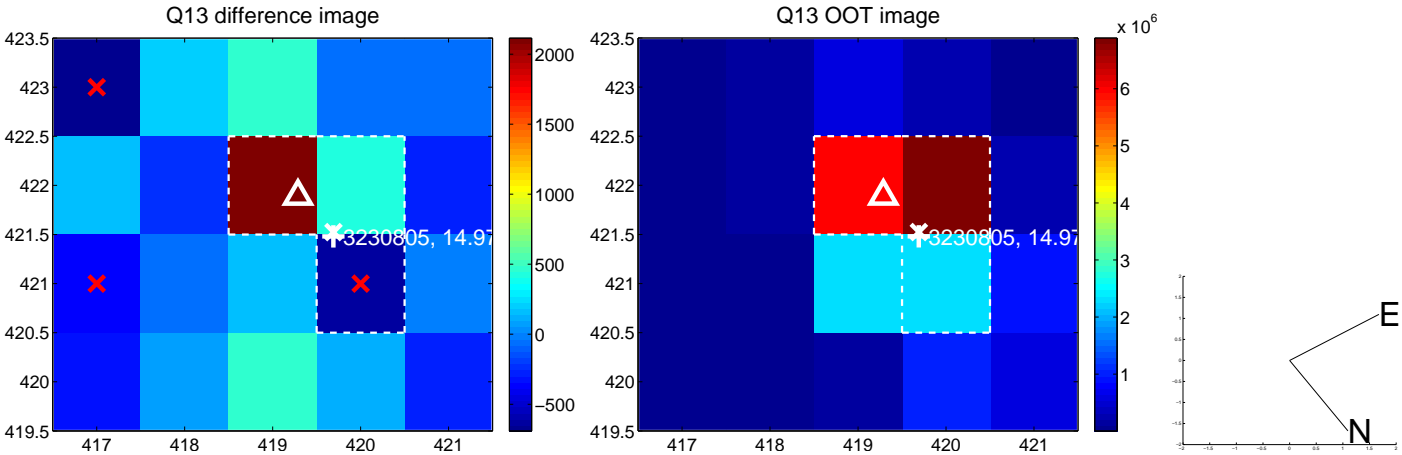
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



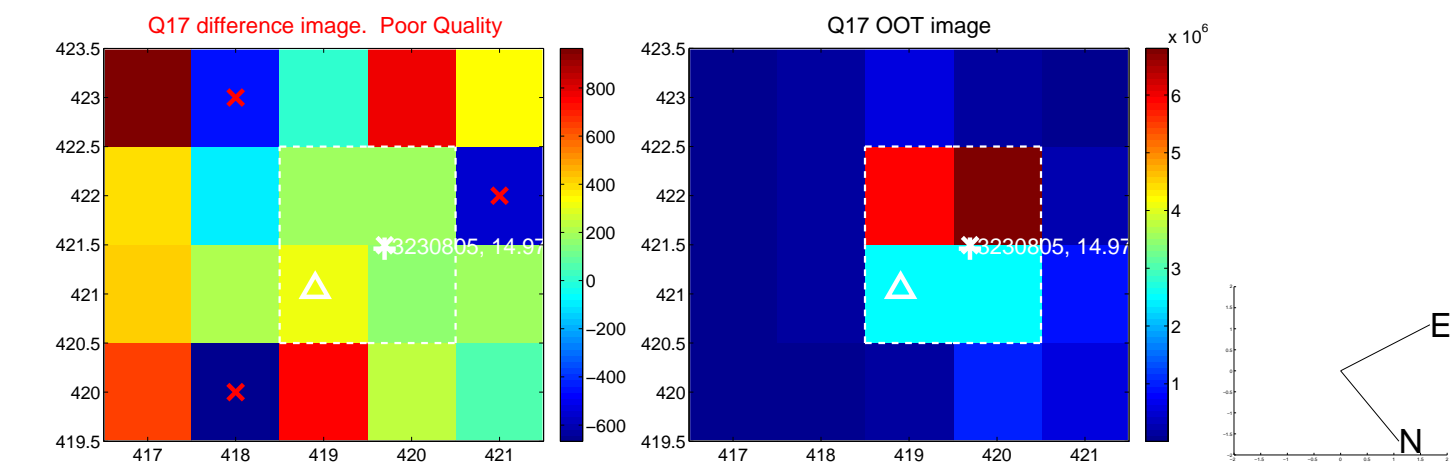
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



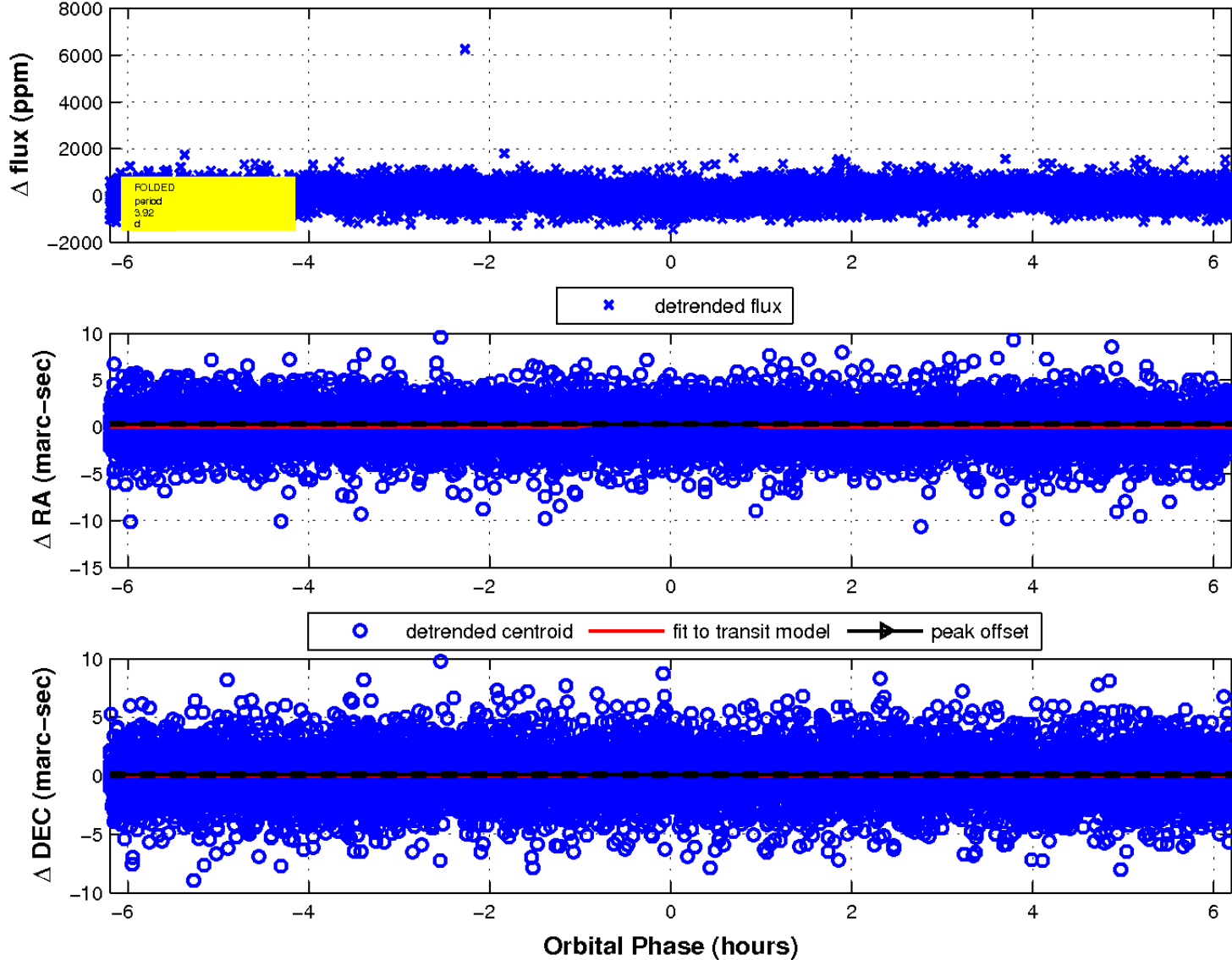
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



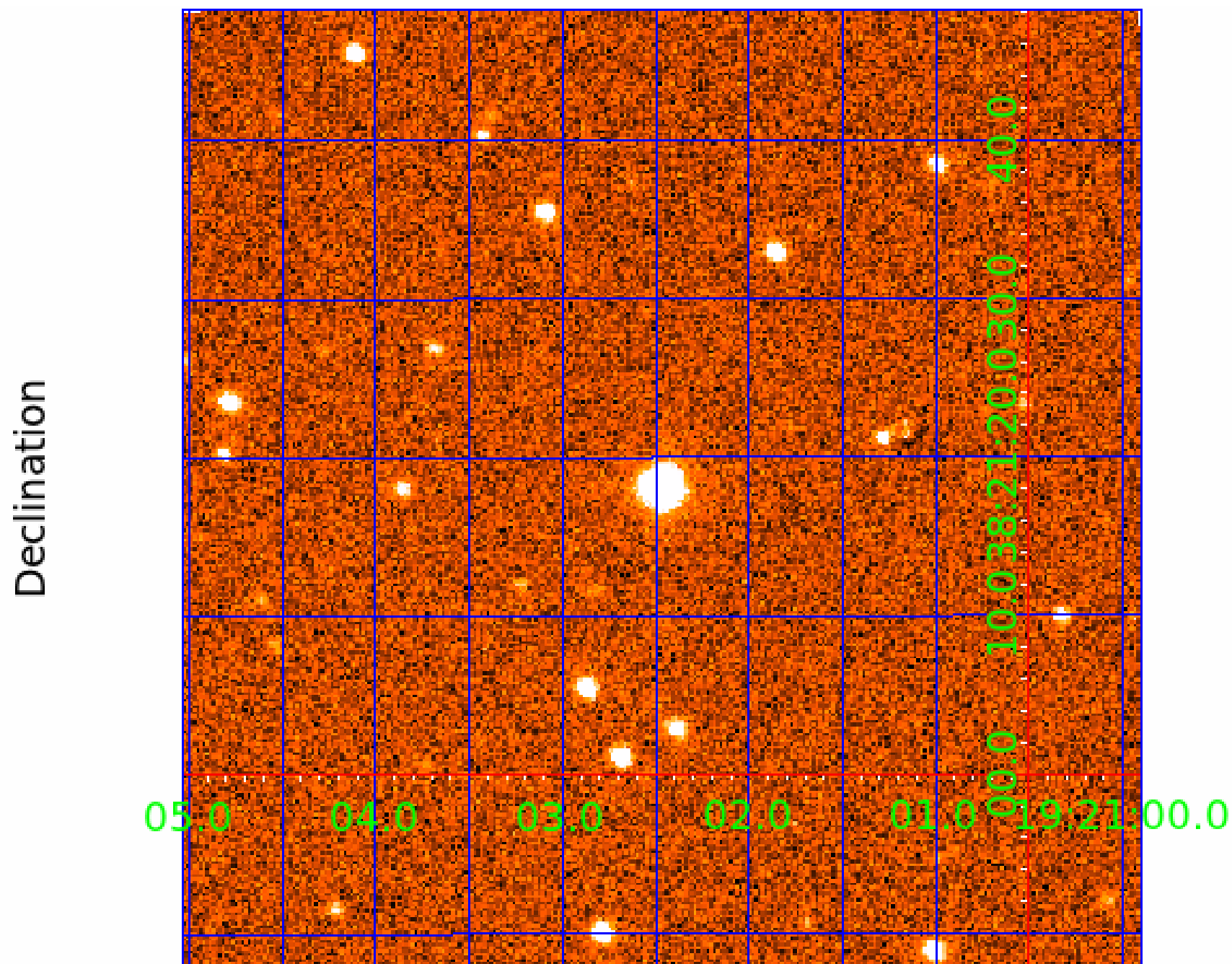
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image



KIC 003230805

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})
003230805-01	OBS	3068.01	3.916828	133.596423	142.9	2.067	10.2	11.2	0.69	4889	1.00	124.00
003230805-02	OBS	3068.02	6.651722	137.681402	139.8	2.439	8.3	8.8	0.69	4889	0.97	61.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003230805-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT
003230805-02	OBS	PC	1.00	0	0	0	0	CENT_FEW_MEAS

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

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

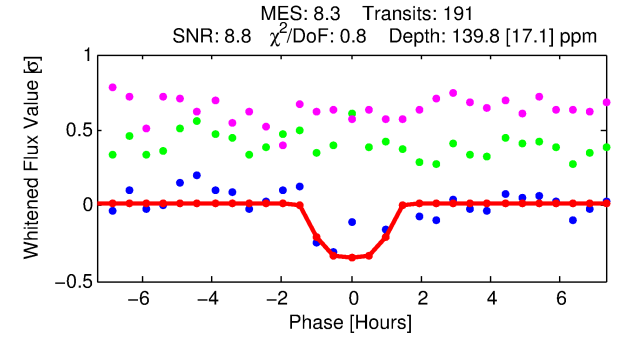
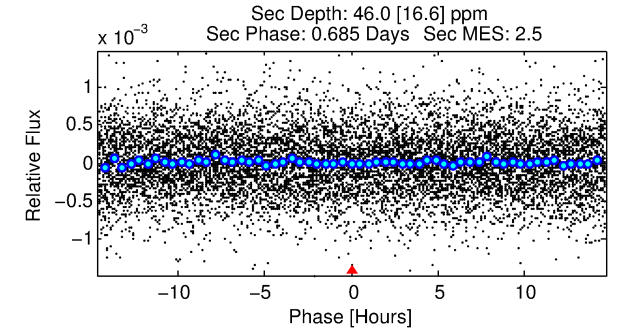
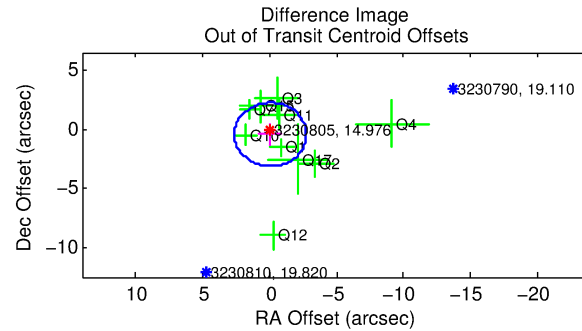
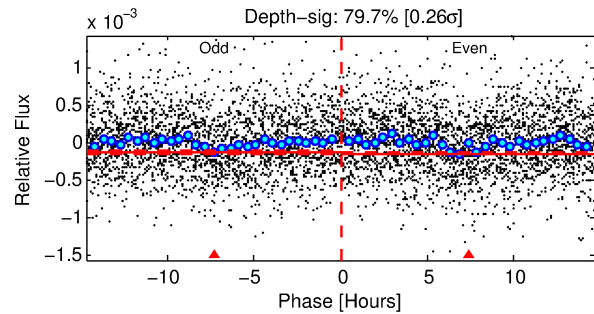
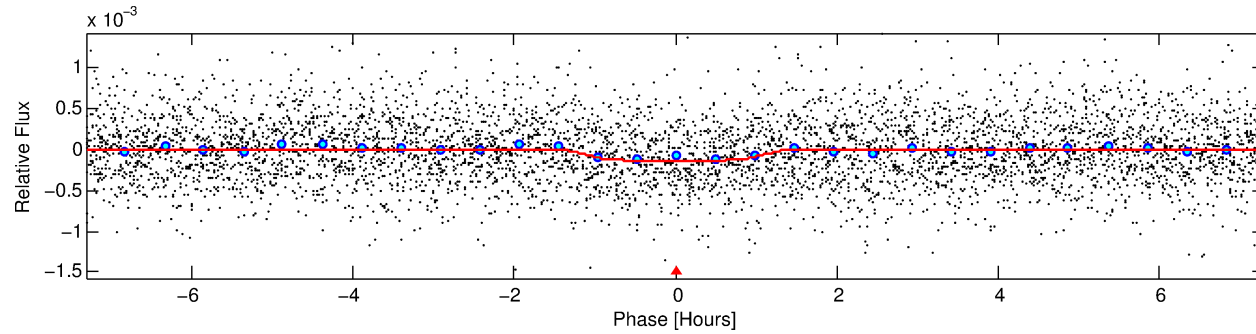
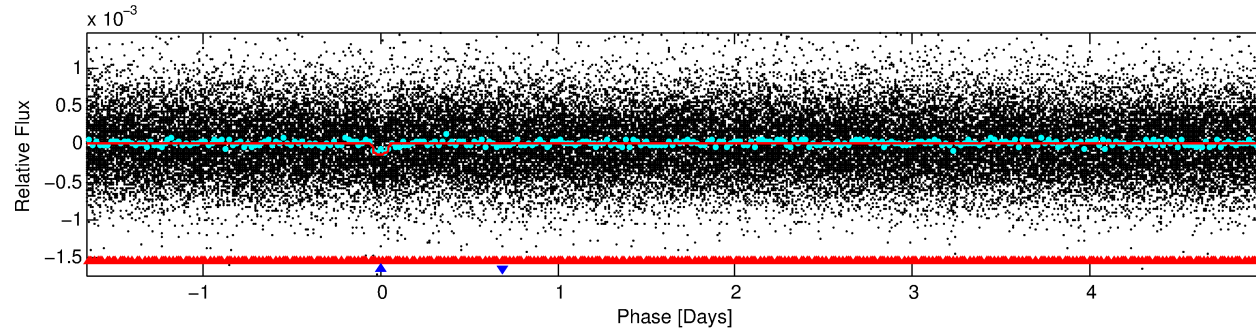
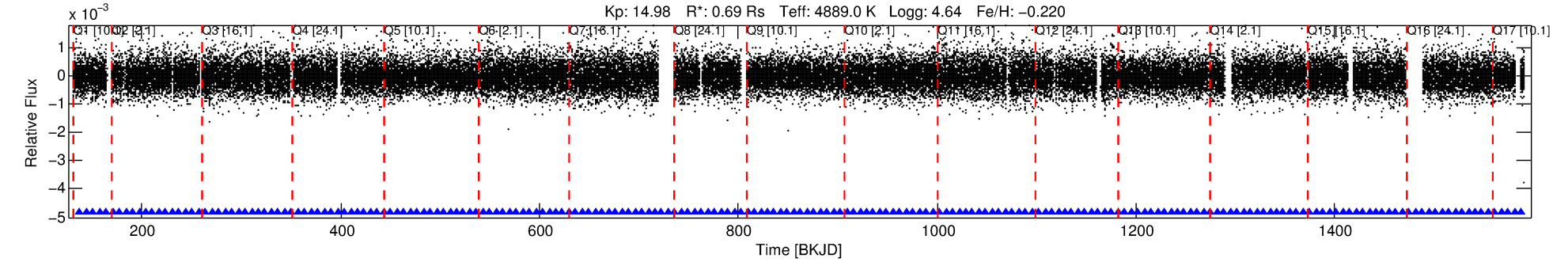
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003230805-02

No Significant Match Found

DV One-Page Summary

KIC: 3230805 Candidate: 2 of 2 Period: 6.652 d
KOI: K03068.02 Corr: 0.958



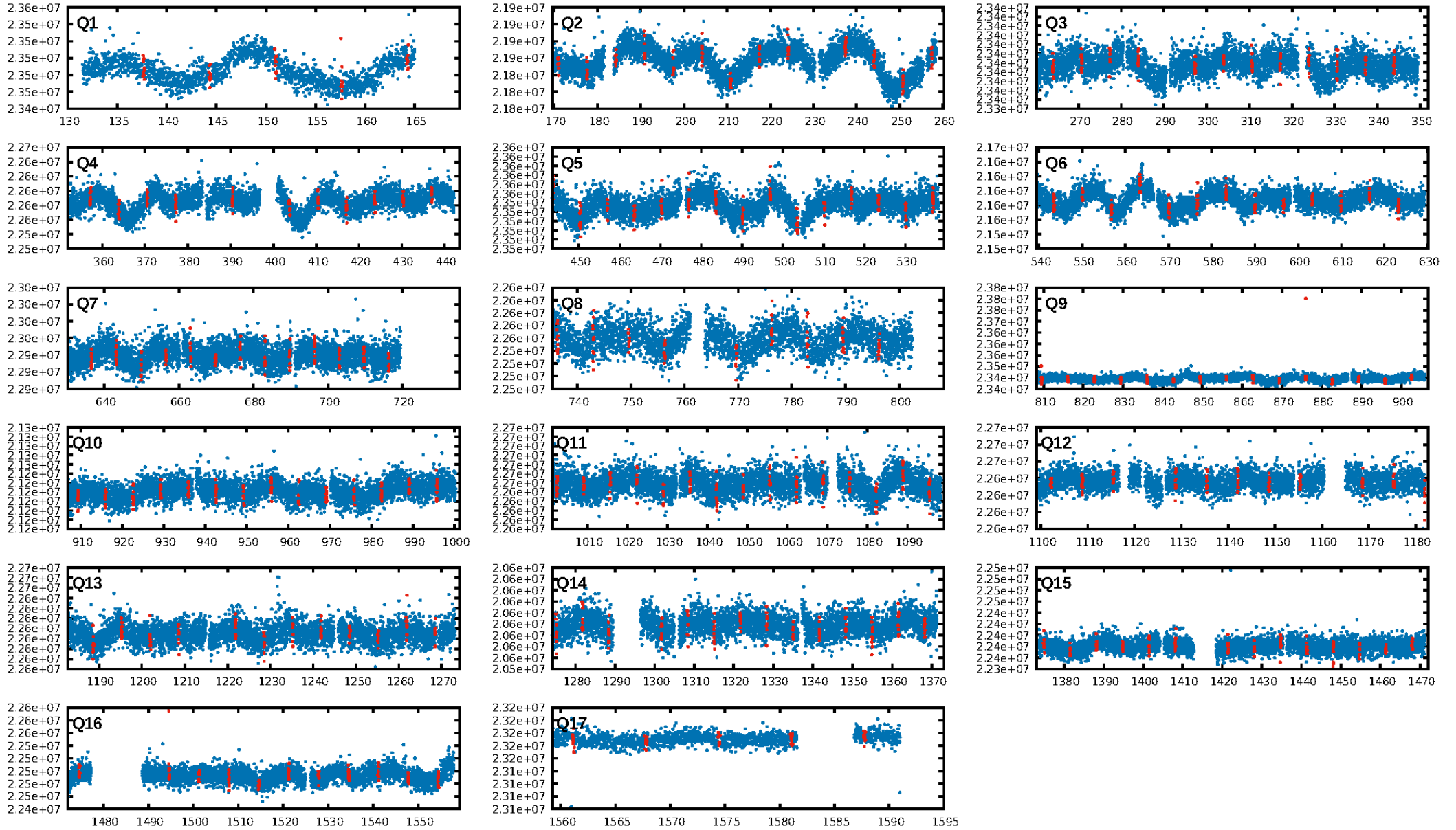
DV Fit Results:

Period = 6.65172 [0.00005] d
Epoch = 137.6814 [0.0059] BKJD
Rp/R* = 0.0130 [0.0133]
a/R* = 10.42 [41.13]
b = 0.88 [1.03]
Seff = 61.20 [10.18]
Teq = 713 [30] K
Rp = 0.97 [1.00] Re
a = 0.0627 [0.0053] AU
Ag = 105.64 [220.39] [0.47 σ]
Teffp = 3535 [1844] K [1.53 σ]

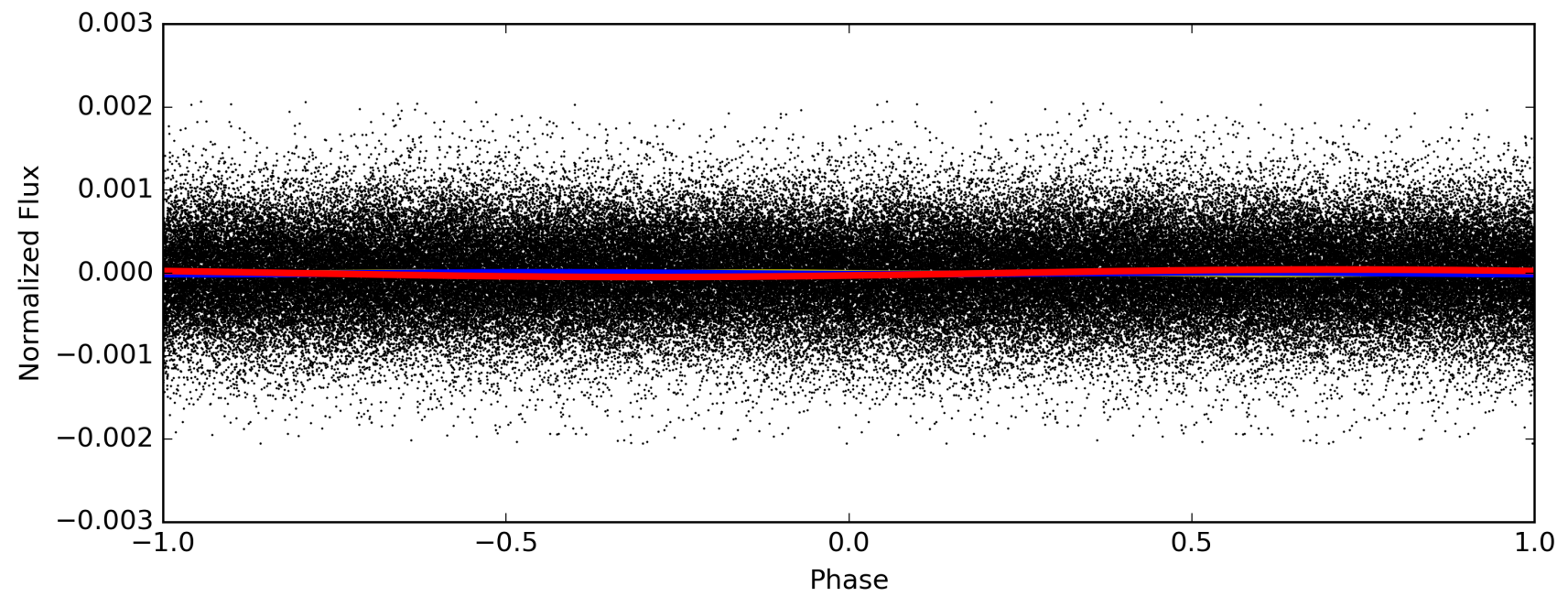
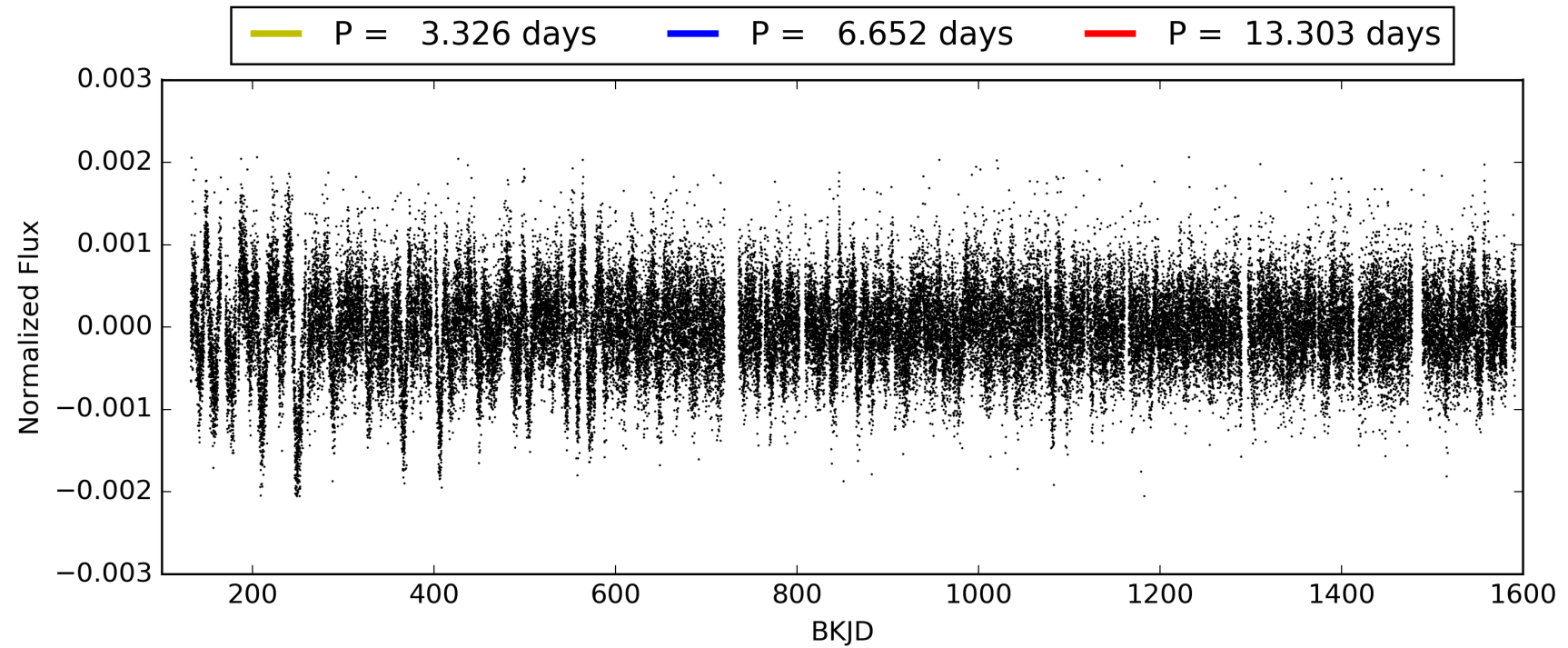
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [20.53 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.51e-16
RollingBand-fgt: 1.00 [181/181]
GhostDiagnostic-chr: -47.07
Centroid-sig: 12.1%
Centroid-so: 1.771 arcsec [1.17 σ]
OotOffset-rm: 0.452 arcsec [0.50 σ]
KicOffset-rm: 0.440 arcsec [0.41 σ]
OotOffset-st: 2/4/2/2 [10]
KicOffset-st: 2/4/2/2 [10]
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DiffImageOverlap-fno: 1.00 [17/17]

TCE 003230805-02, PDC Light Curves

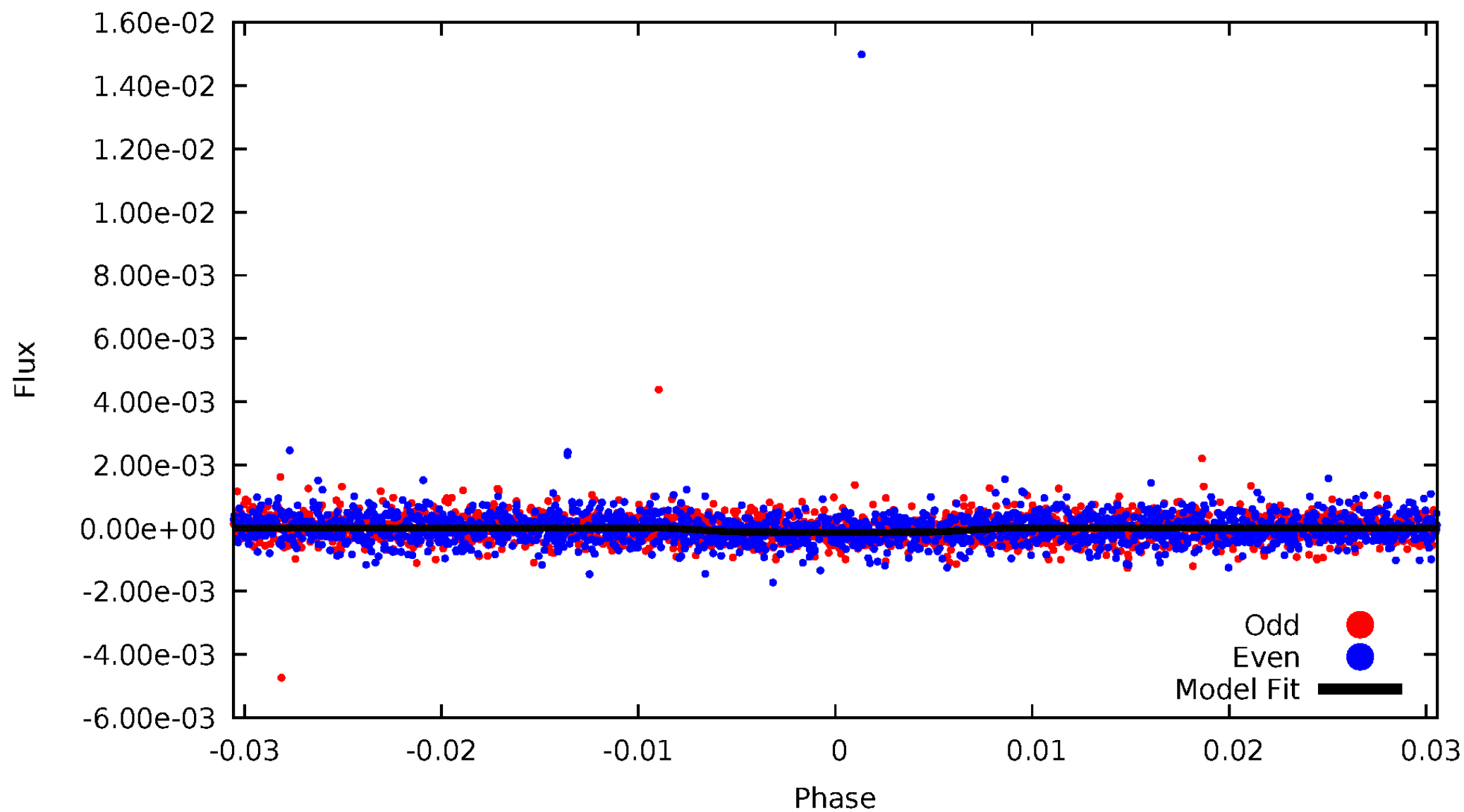


TCE 003230805-02



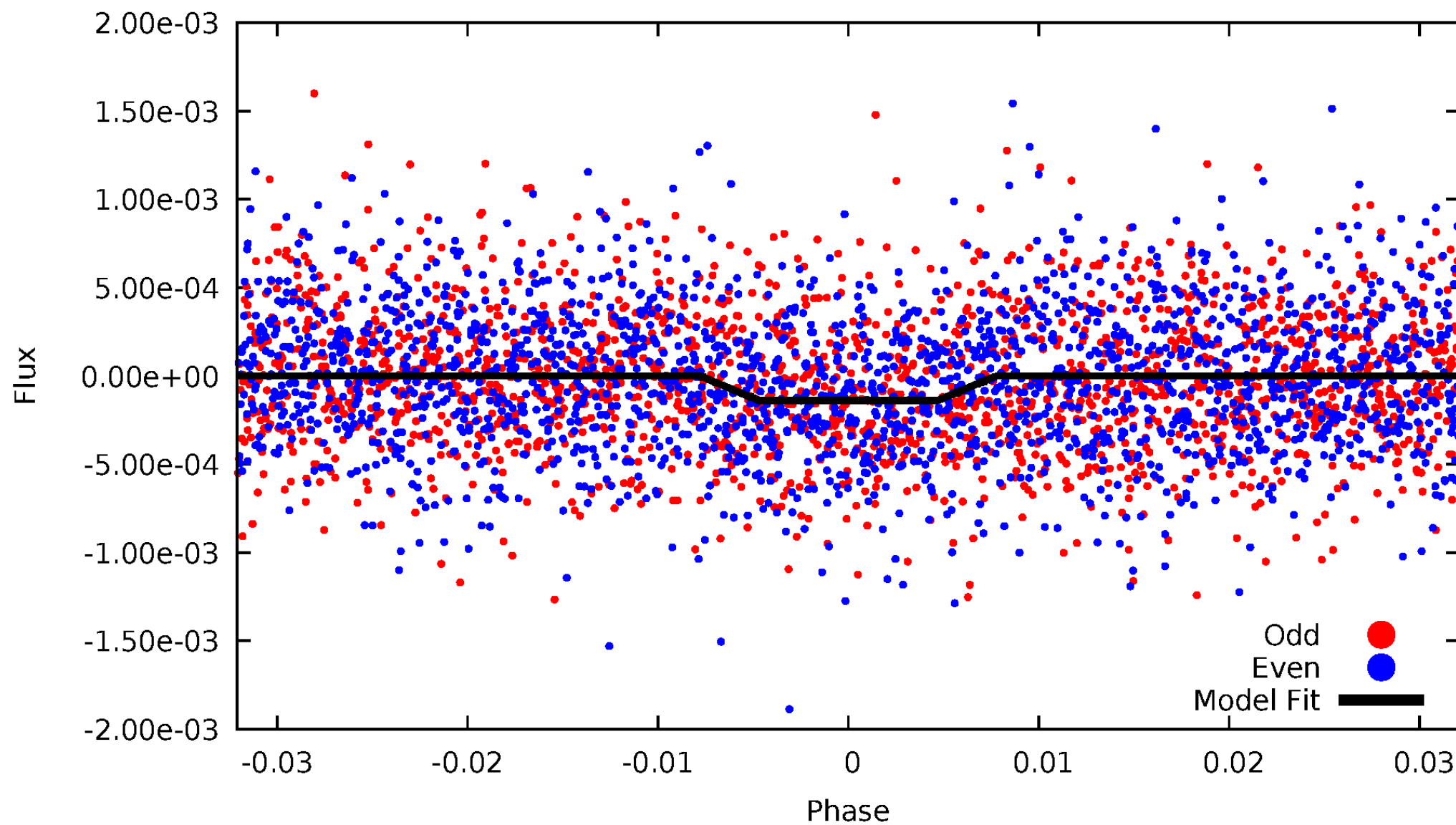
DV Odd/Even

TCE 003230805-02



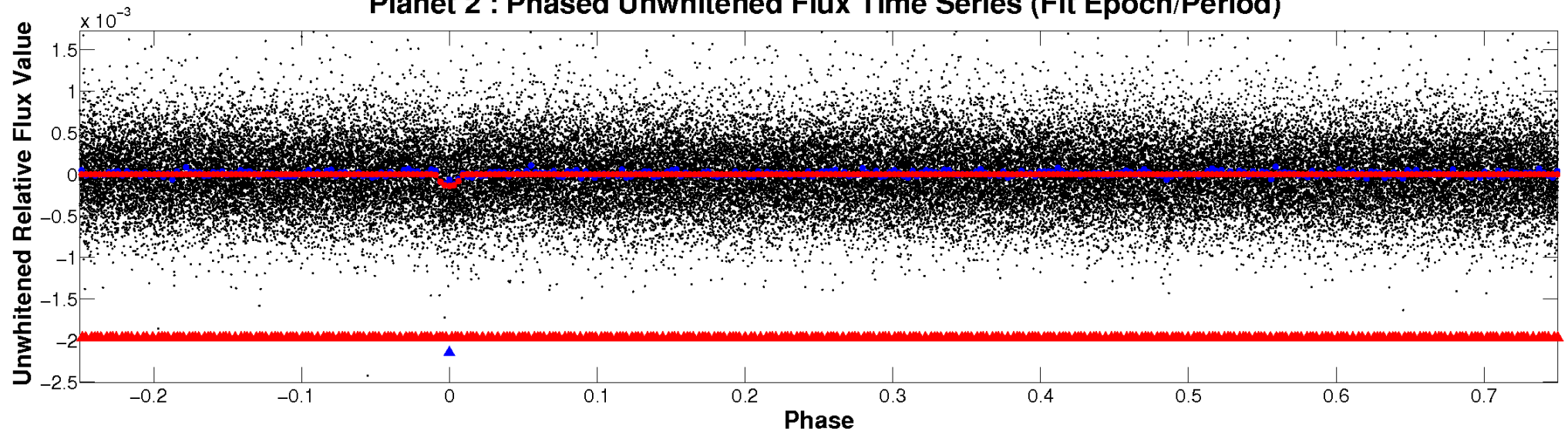
ALT Odd/Even

TCE 003230805-02

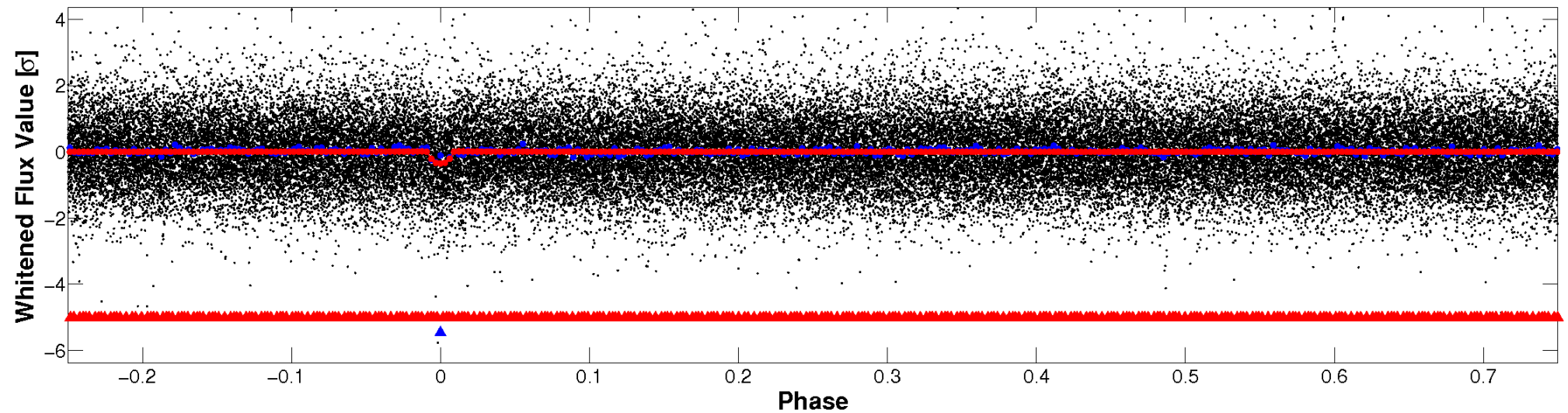


Non-Whitened Vs. Whitened Light Curve

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

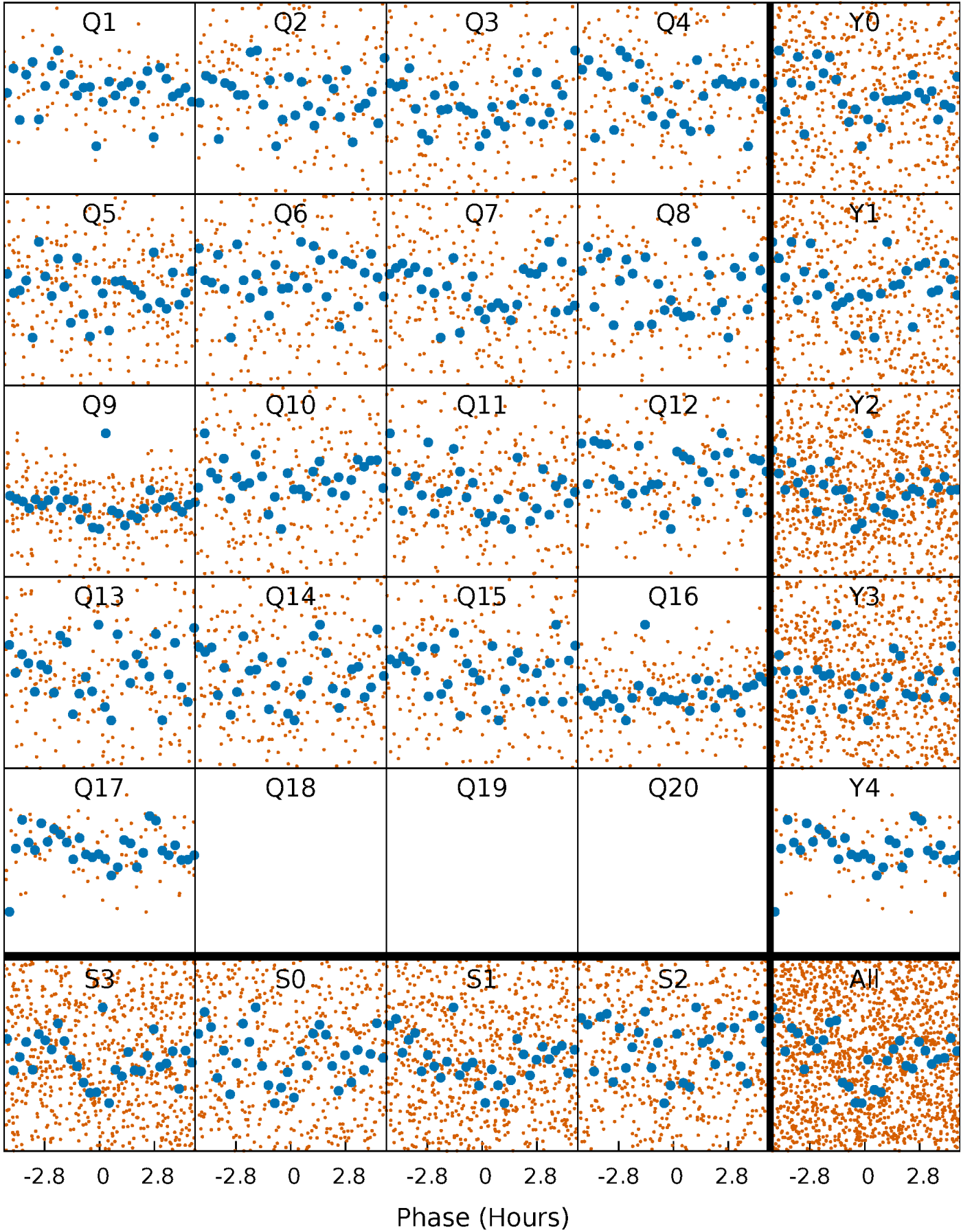


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



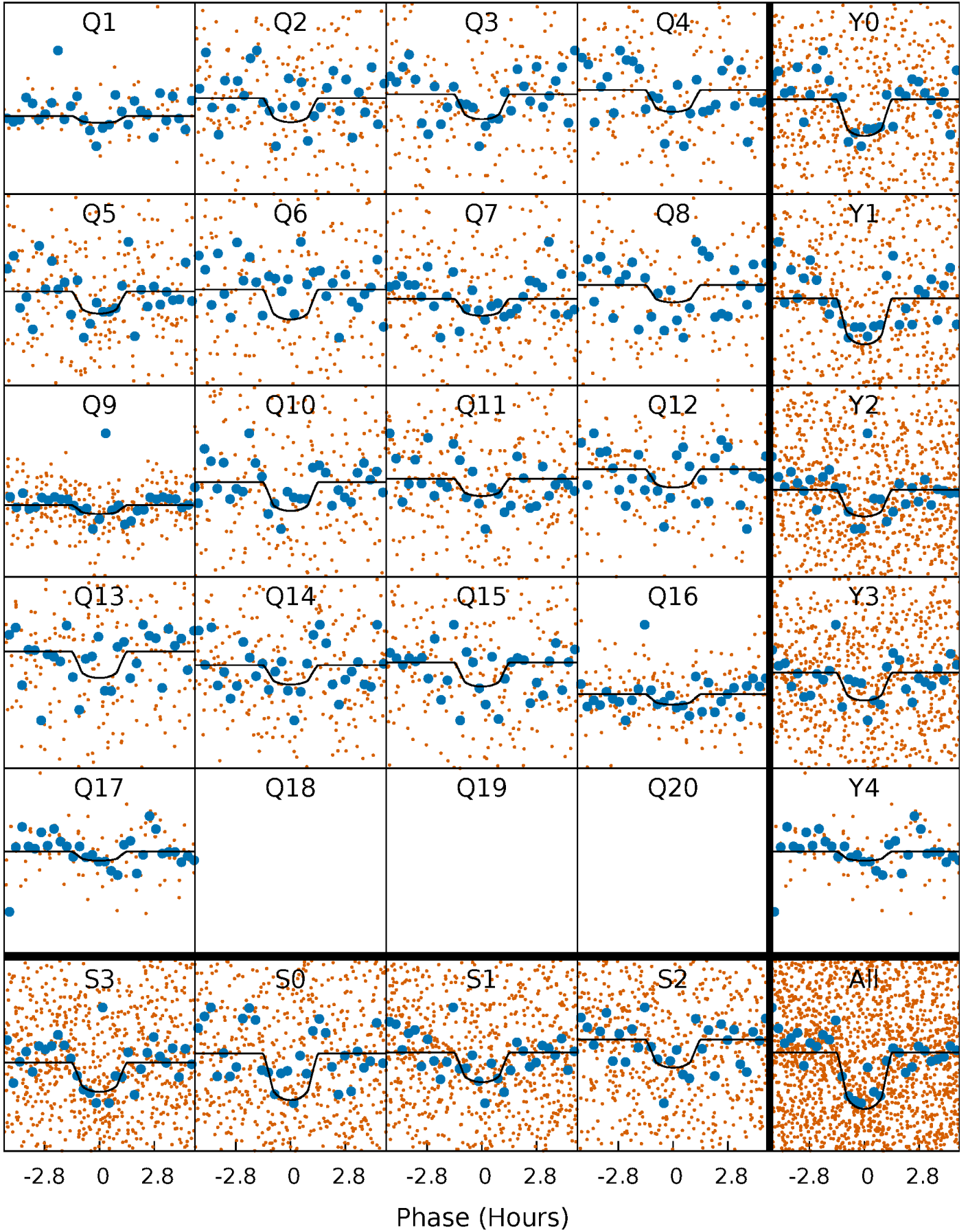
PDC Quarter-Phased Transit Curves

TCE 003230805-02 P= 6.651722 Days $T_0=137.681402$ (BKJD)



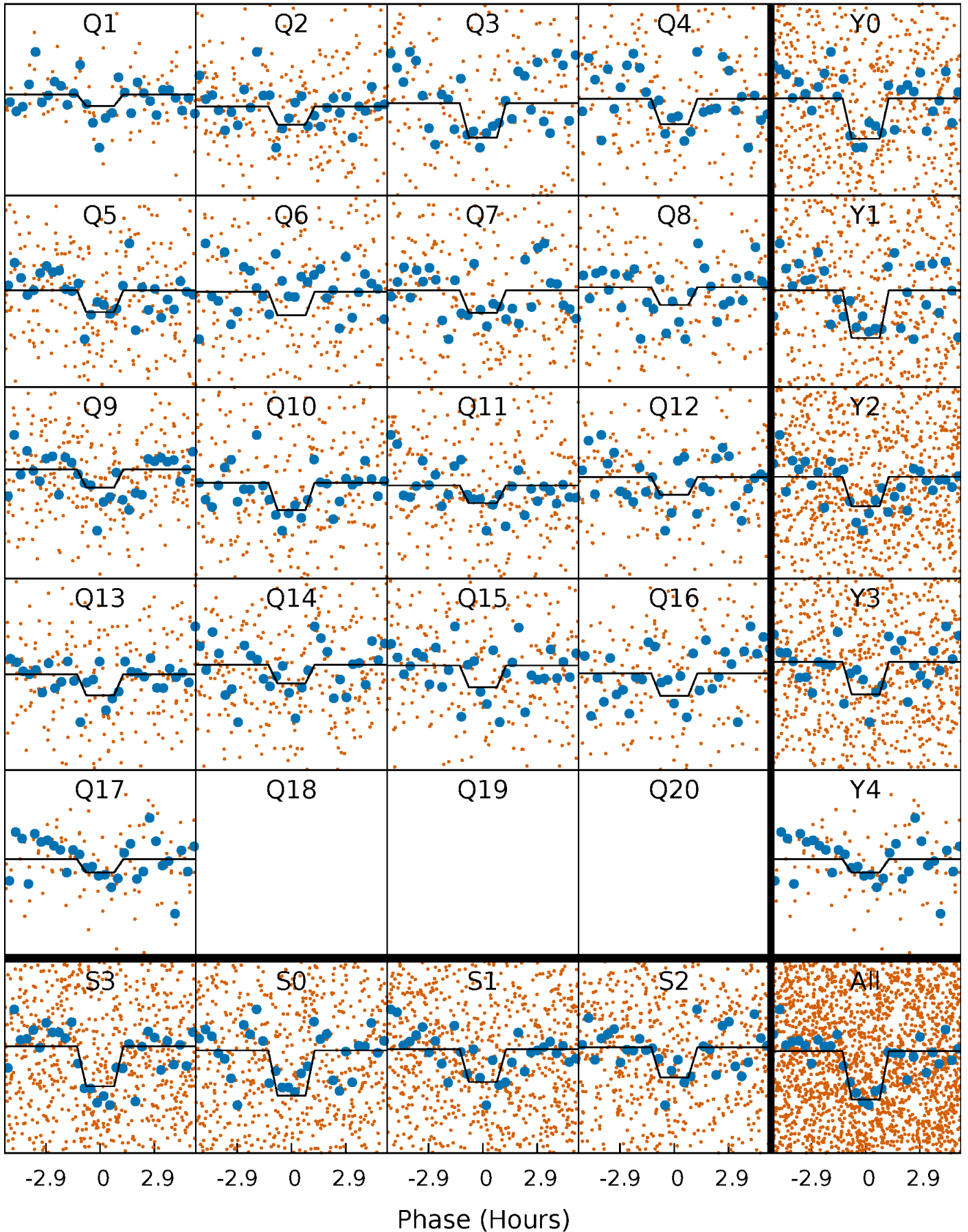
DV Quarter-Phased Transit Curves

TCE 003230805-02 P= 6.651722 Days $T_0=137.681402$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

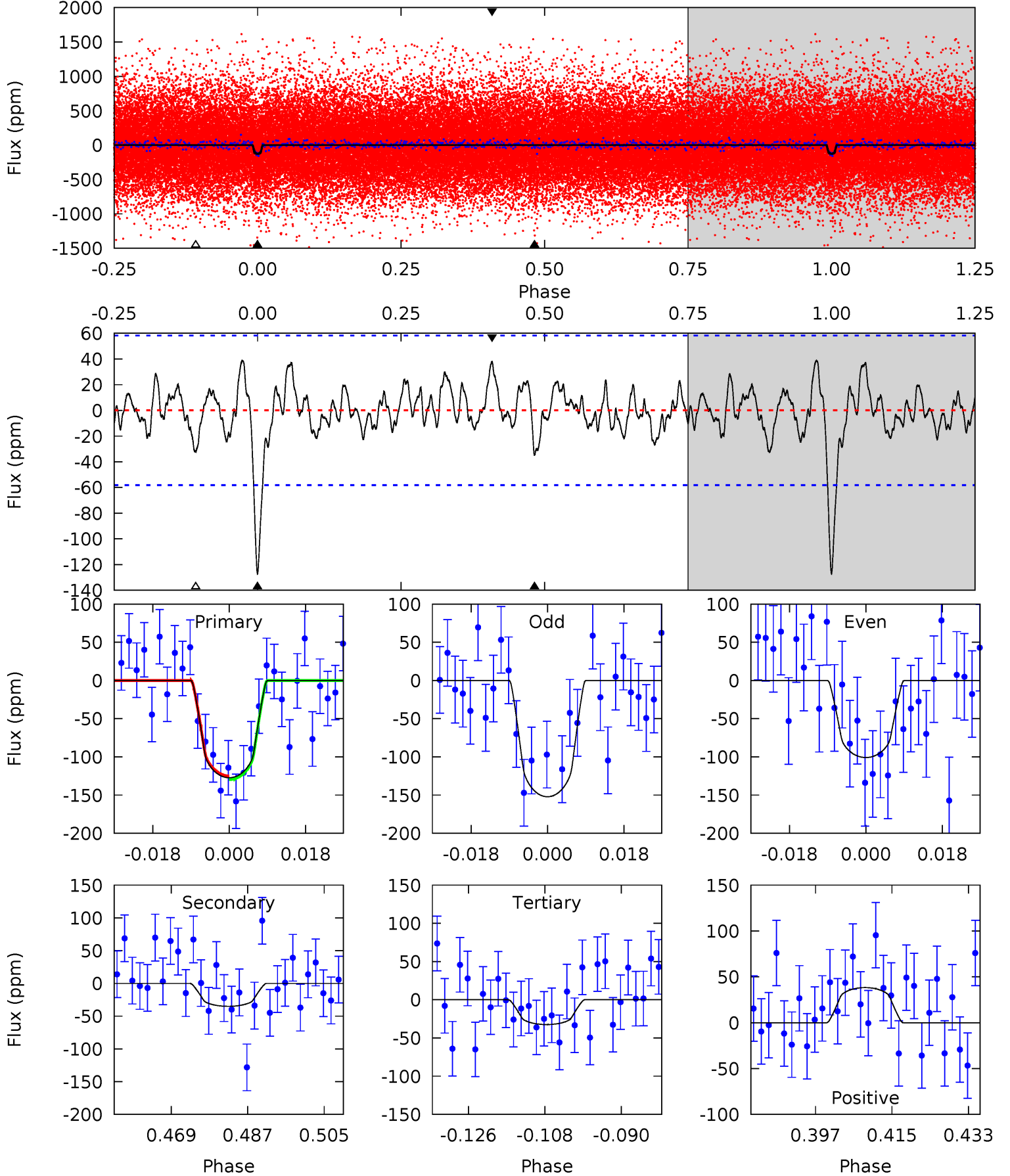
TCE 003230805-02 P= 6.651749 Days $T_0=137.676669$ (BKJD)



DV Model-Shift Uniqueness Test

003230805-02, P = 6.651722 Days, E = 131.029680 Days

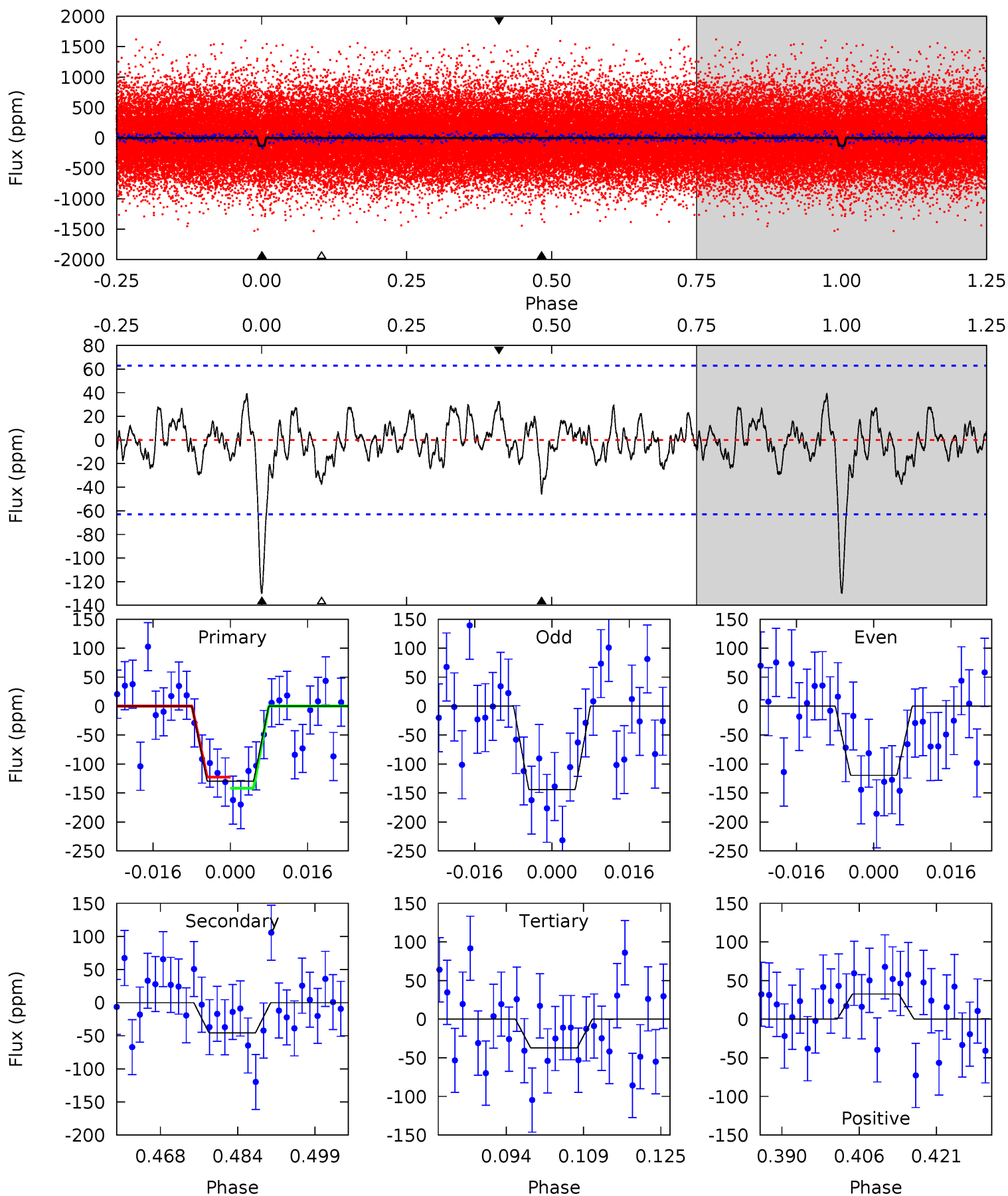
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	2.96	2.74	3.23	4.91	2.36	1.15	8.00	7.51	0.22	-0.27	2.17	0.87	0.23	0.20



Alt Model-Shift Uniqueness Test

003230805-02, P = 6.651749 Days, E = 131.024920 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	3.59	2.92	2.56	4.94	2.42	1.07	7.27	7.63	0.66	1.02	0.96	1.17	0.23	0.75



Stellar Parameters For KIC 003230805

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4889^{+146}_{-131}	$4.637^{+0.032}_{-0.059}$	$-0.220^{+0.300}_{-0.300}$	$0.686^{+0.074}_{-0.049}$	$0.759^{+0.054}_{-0.088}$	$3.310^{+0.488}_{-0.747}$
	+3%/-3%	+1%/-1%	+136%/-136%	+11%/-7%	+7%/-12%	+15%/-23%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003230805-02 / KOI 3068.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-35 ± 12	$1.19^{+0.95}_{-0.77}$	1006^{+35}_{-33}	3421^{+1561}_{-570}	51^{+357}_{-36}
Alt.	-46 ± 13	$1.12^{+0.93}_{-0.70}$	1003^{+37}_{-32}	3658^{+1775}_{-644}	78^{+512}_{-56}

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

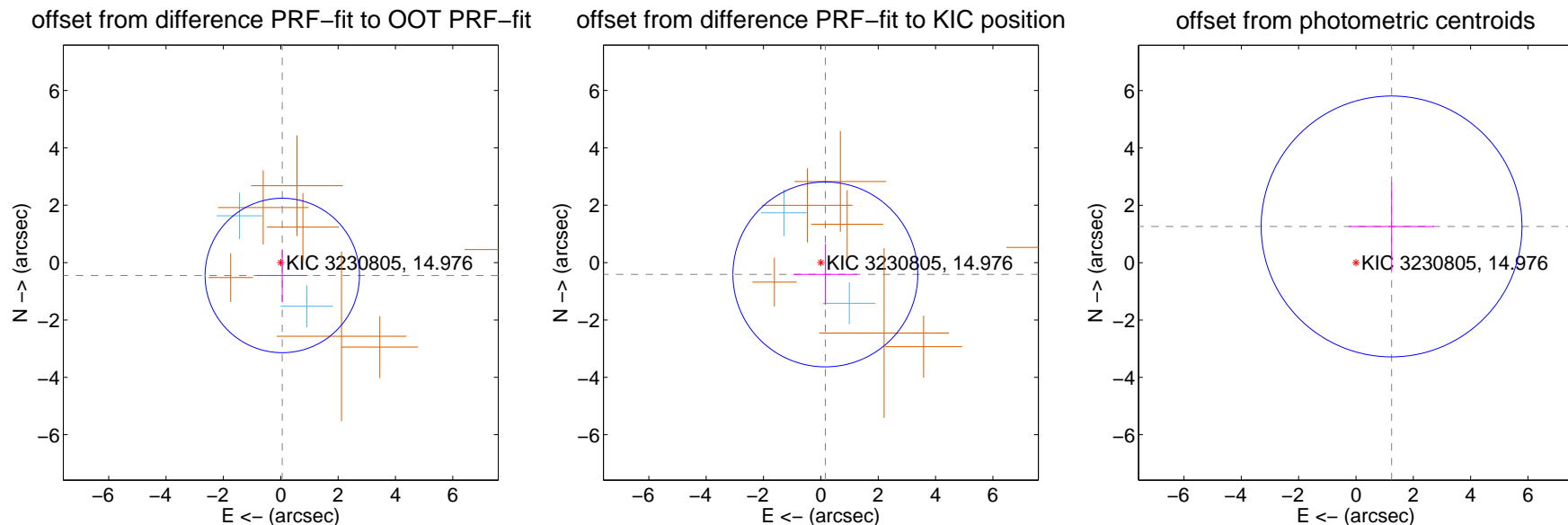
DV Centroid Data

Supplemental centroid analysis for 003230805-02. Kepler magnitude: 14.98. Transit SNR 8.77

There are 2 quarters with good PRF difference image offsets

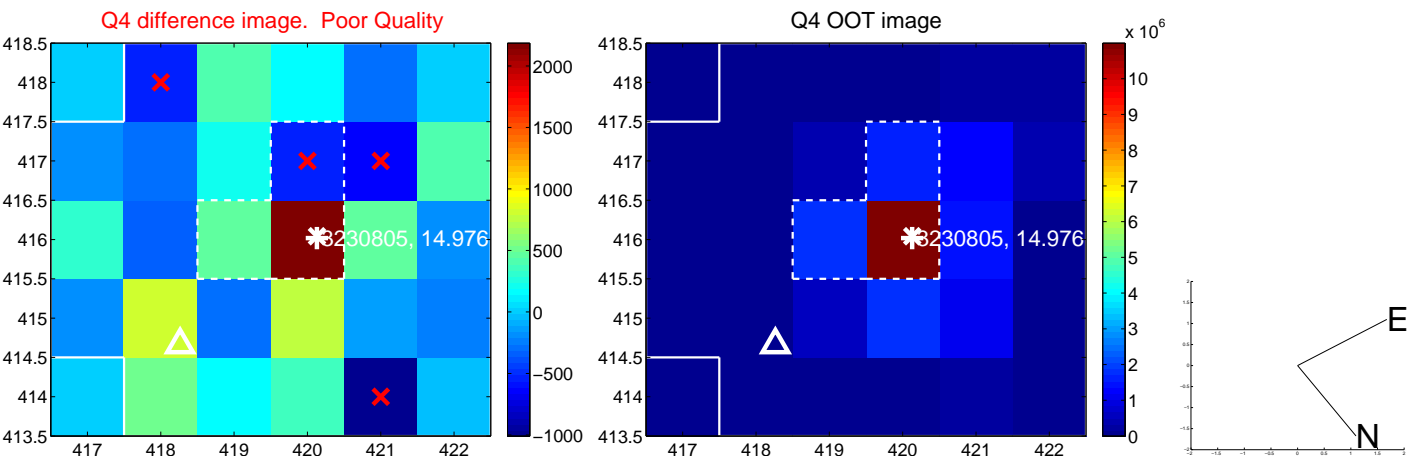
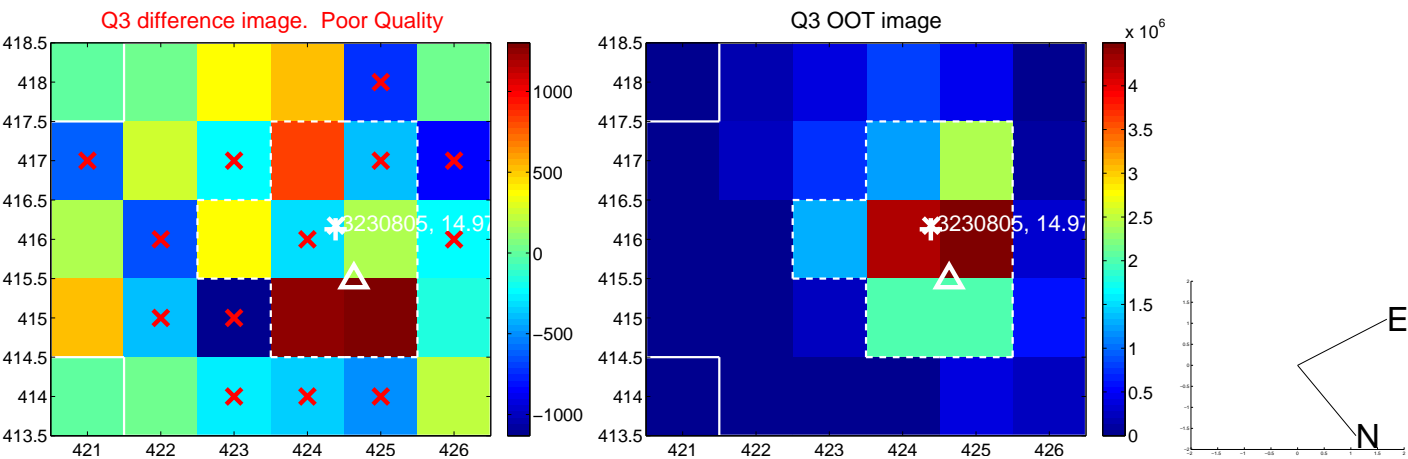
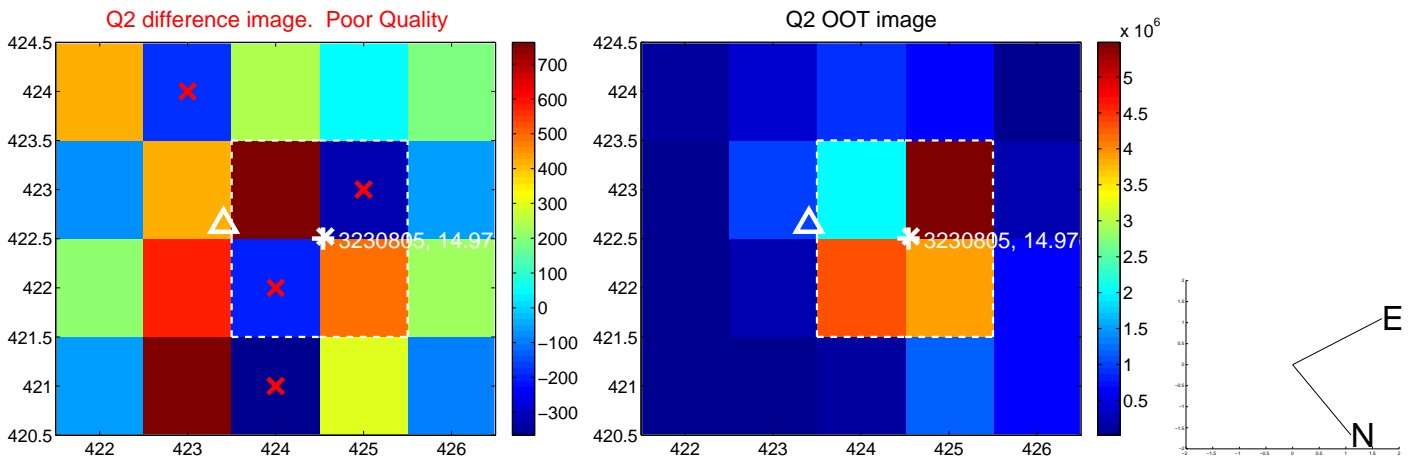
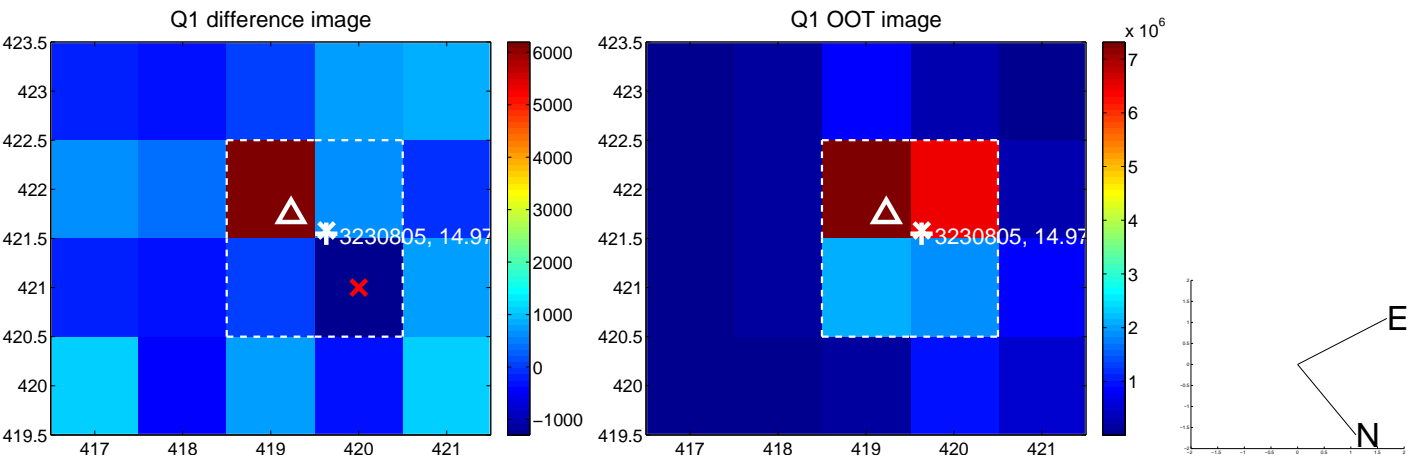
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.452 ± 0.897	0.50	-0.053 ± 0.878	-0.449 ± 0.911
PRF-fit source offset from KIC position	0.440 ± 1.074	0.41	-0.157 ± 1.107	-0.412 ± 1.063
photometric centroid source offset	1.77 ± 1.52	1.17	-1.24 ± 1.49	1.26 ± 1.54

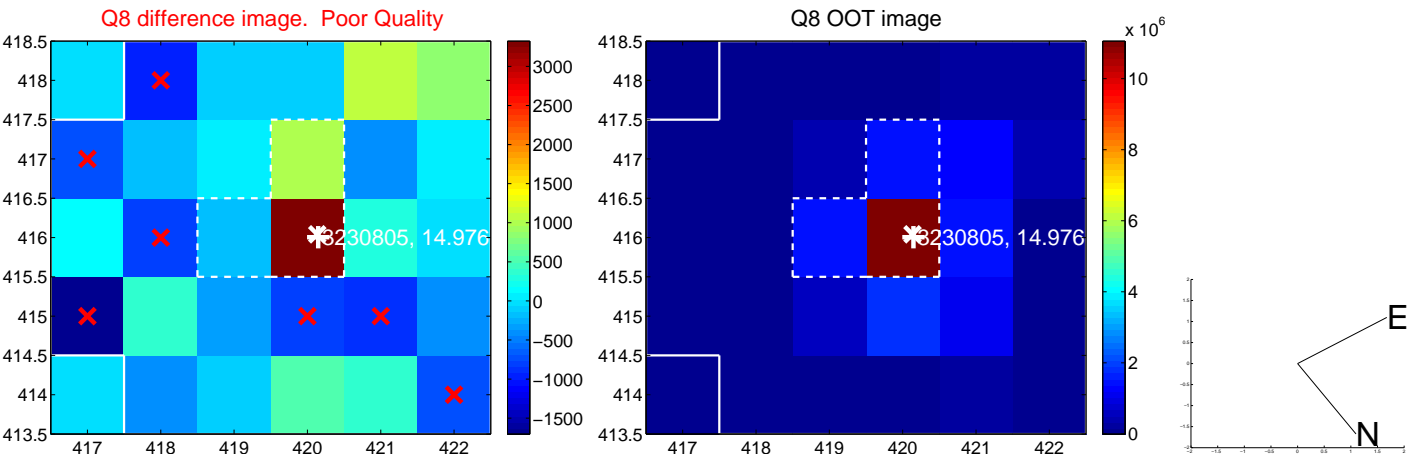
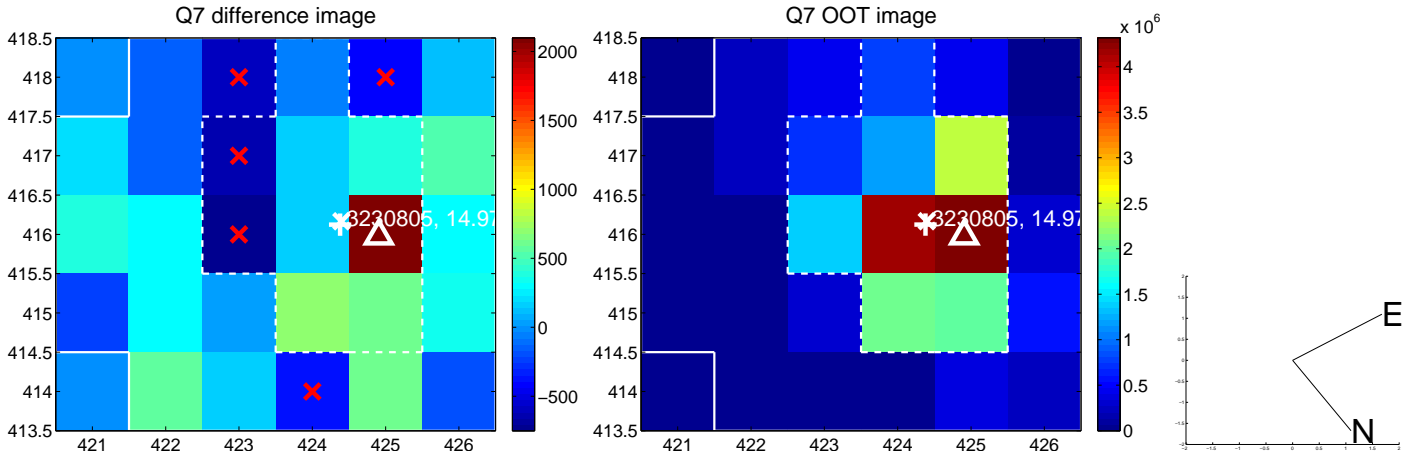
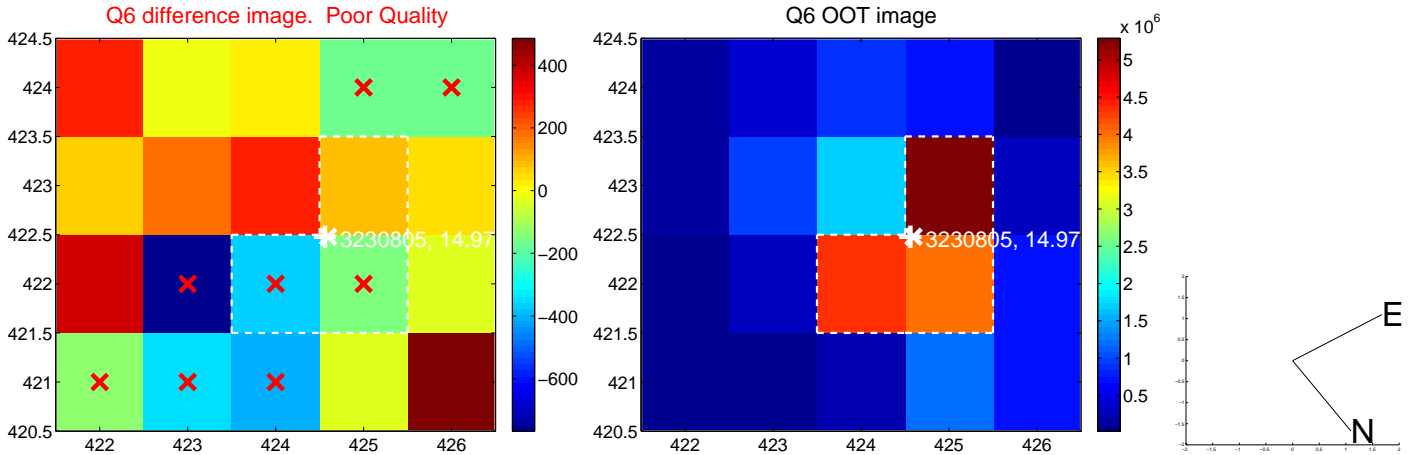
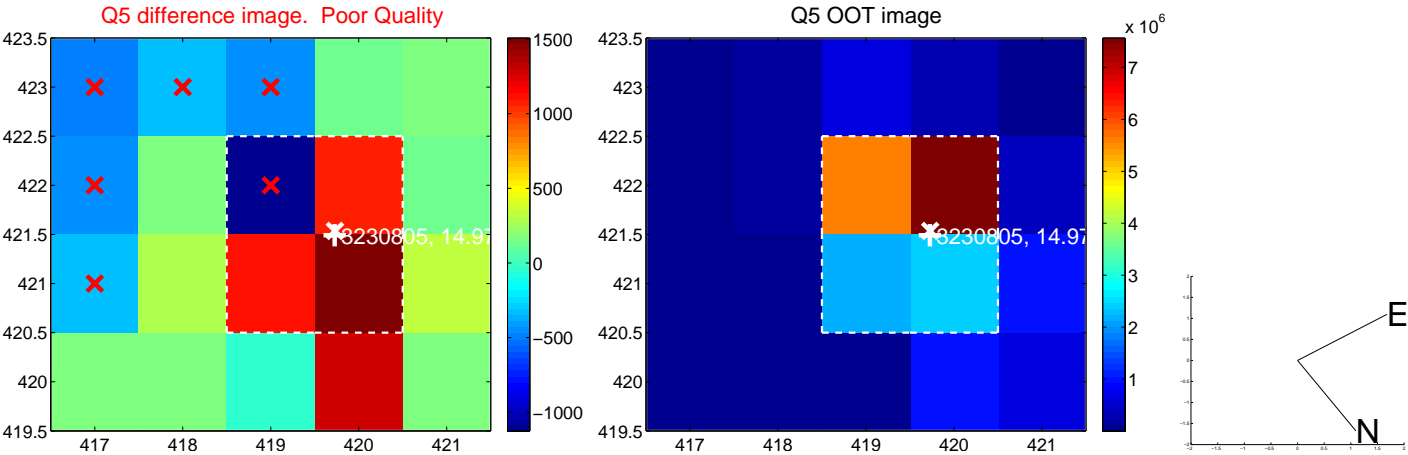


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

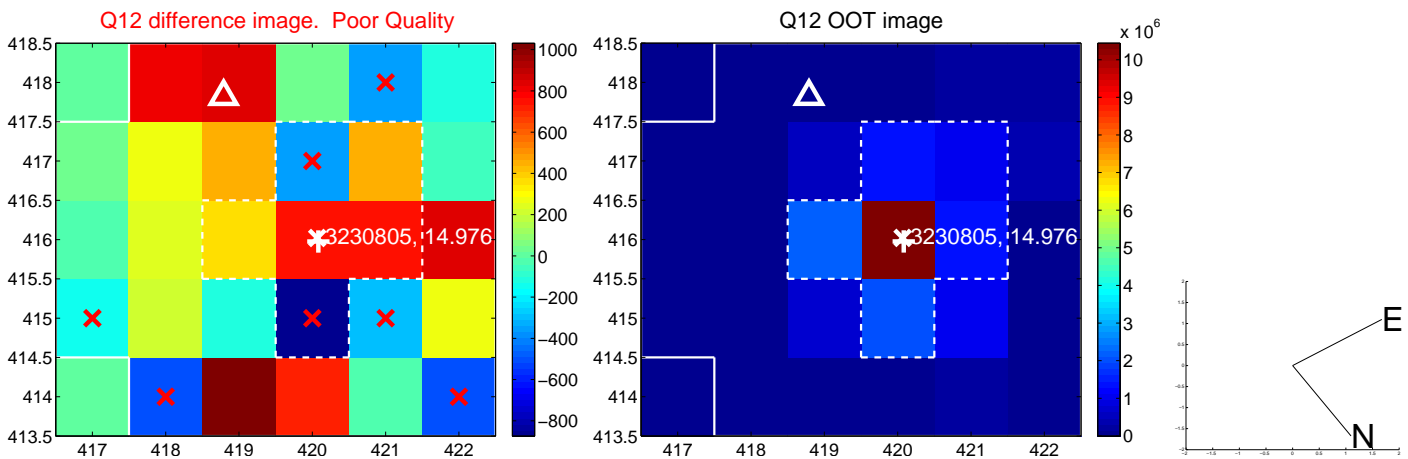
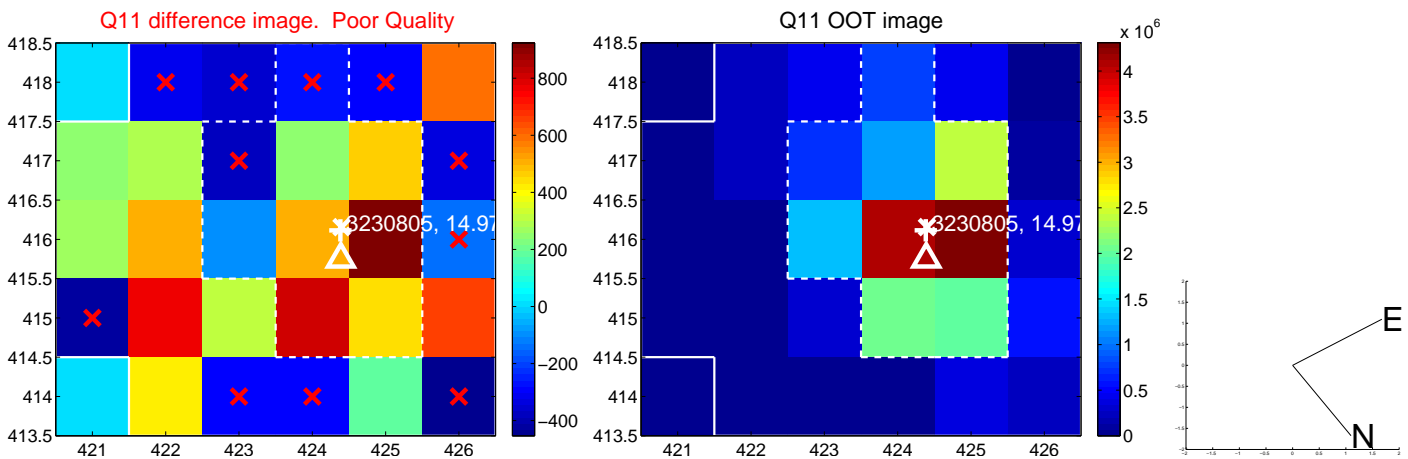
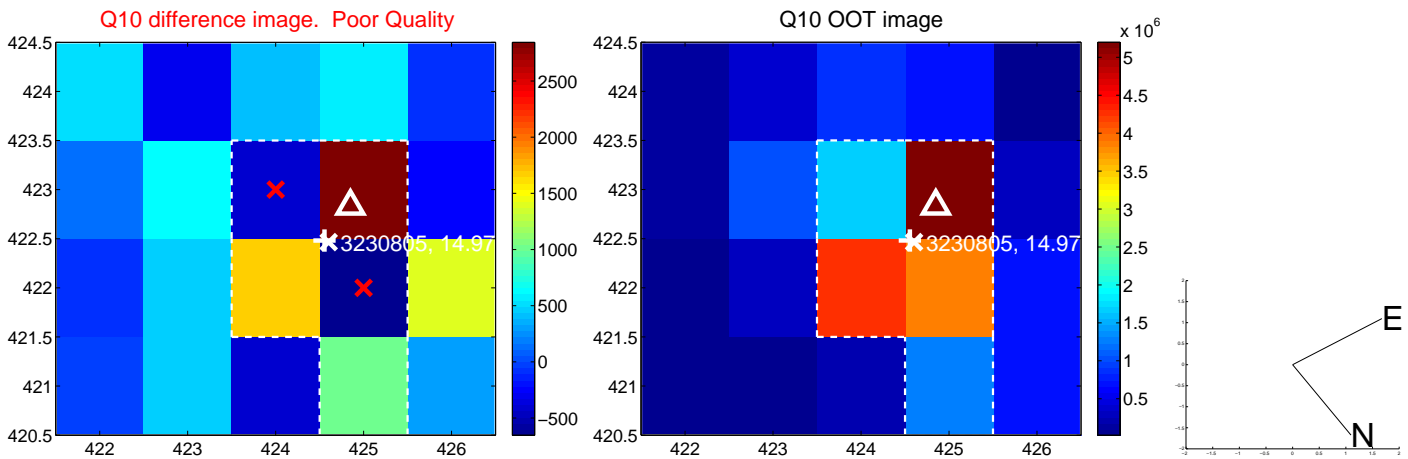
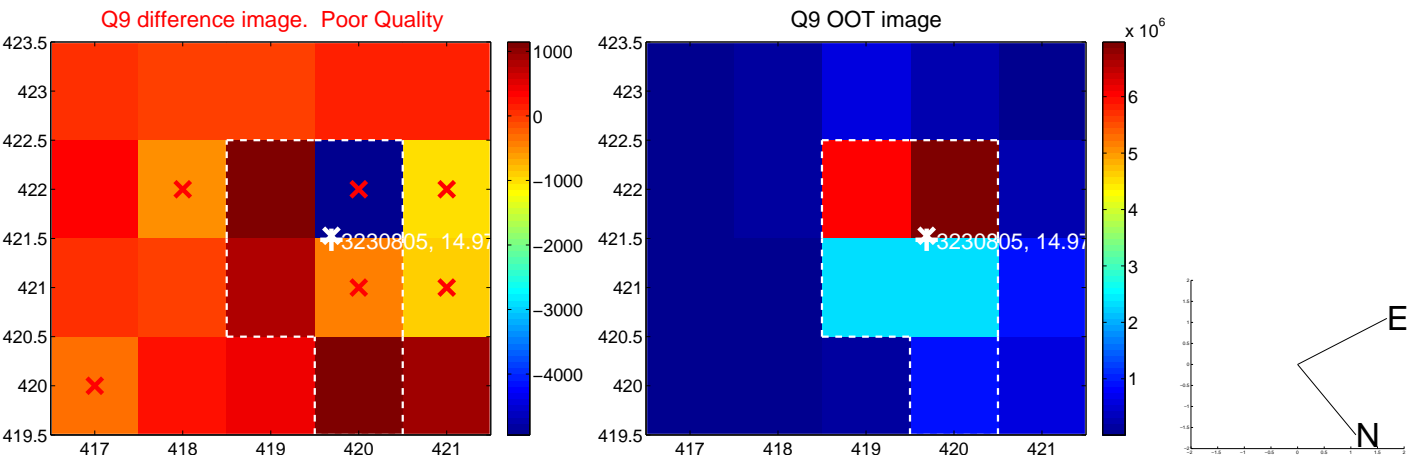
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



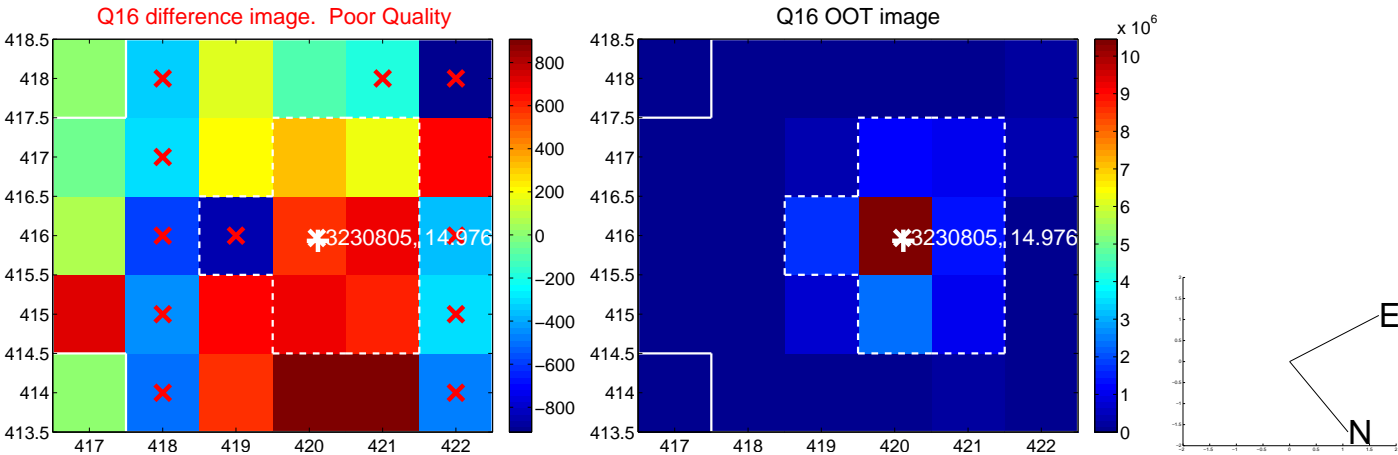
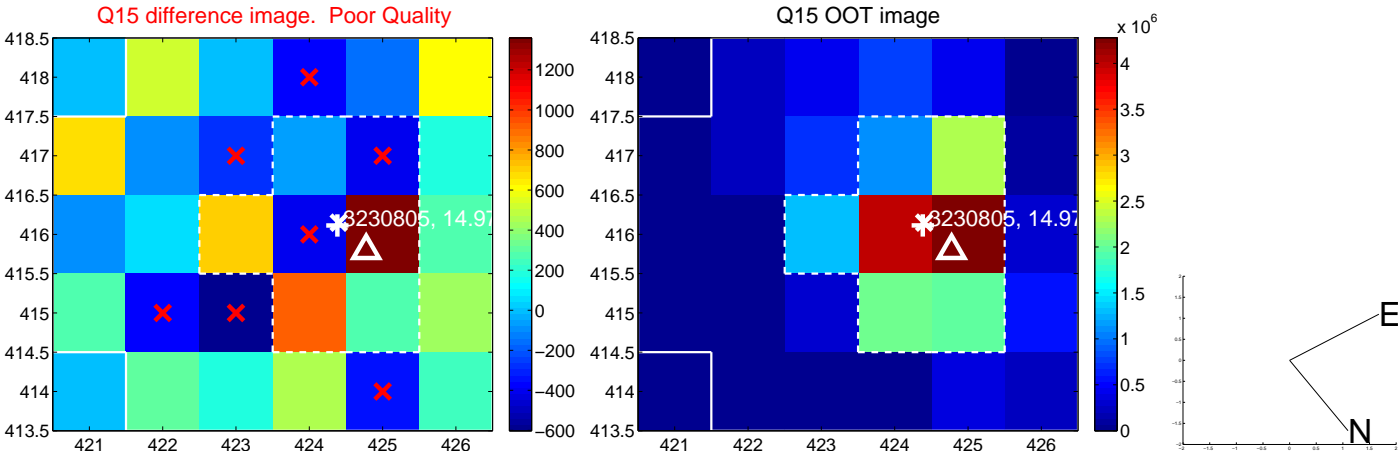
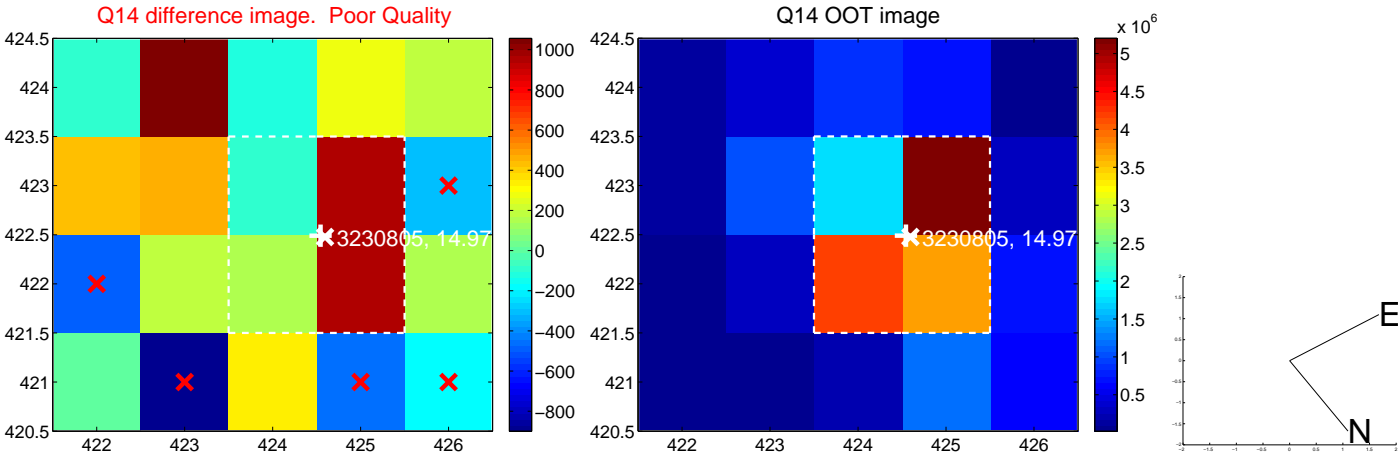
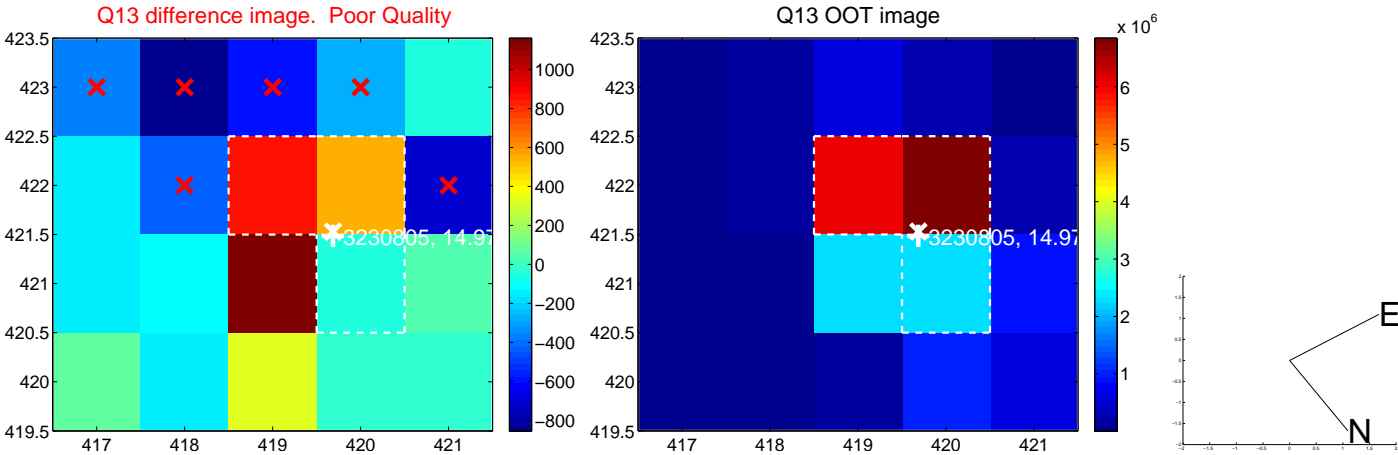
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



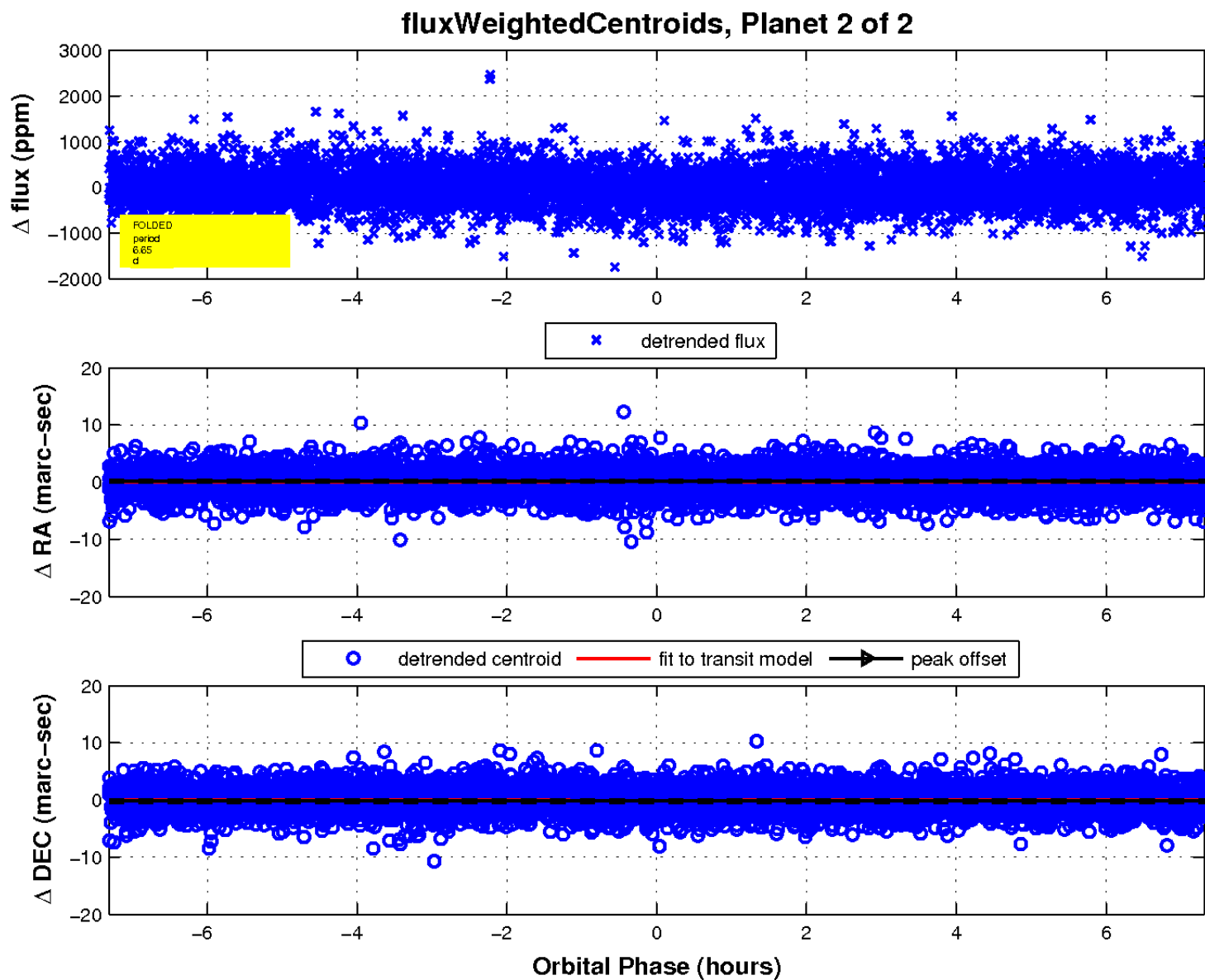
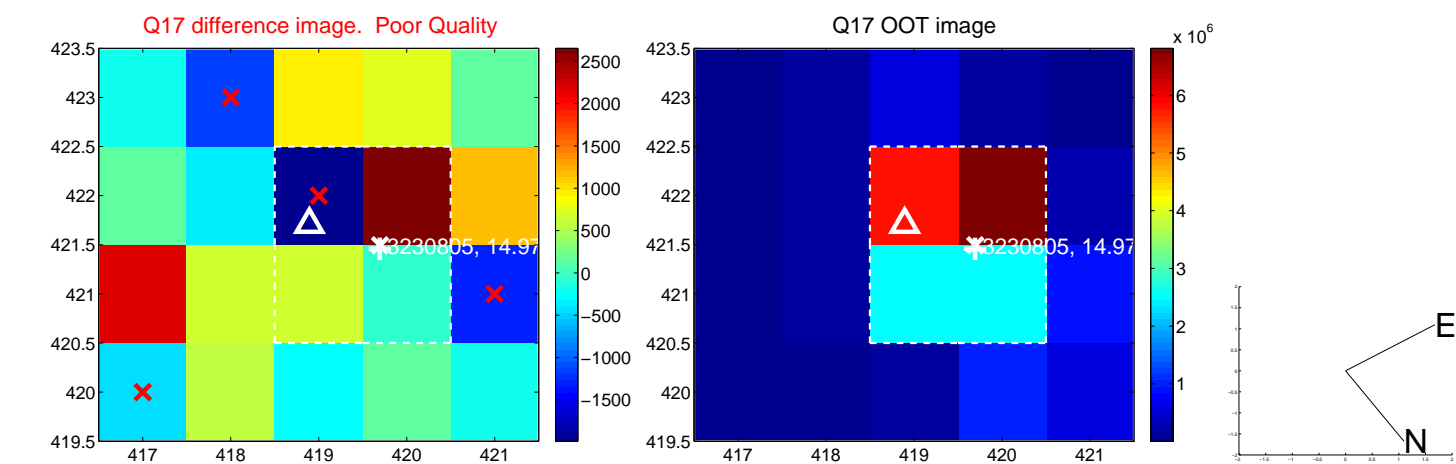
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

