

KIC 004571004

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})
004571004-01	OBS	No	3.426172	133.097992	53.9	20.786	10.2	7.3	1.00	5780	0.75	505.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004571004-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS

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 004571004-01

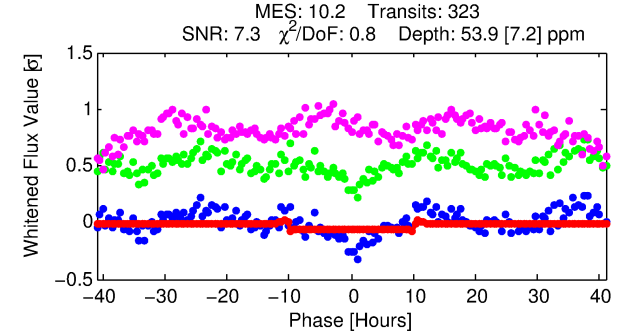
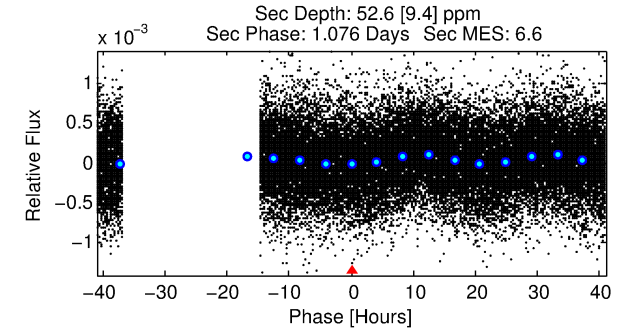
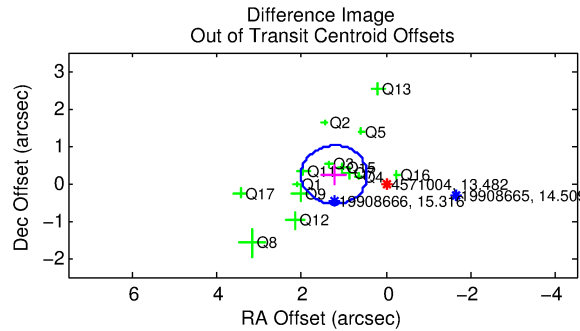
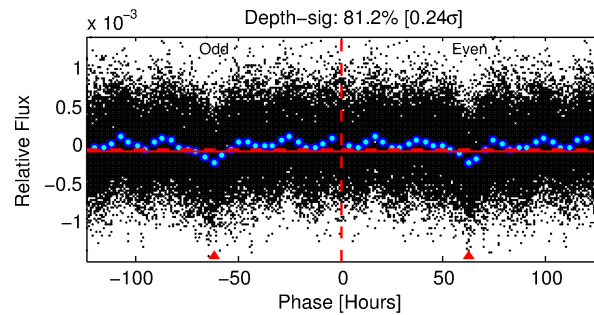
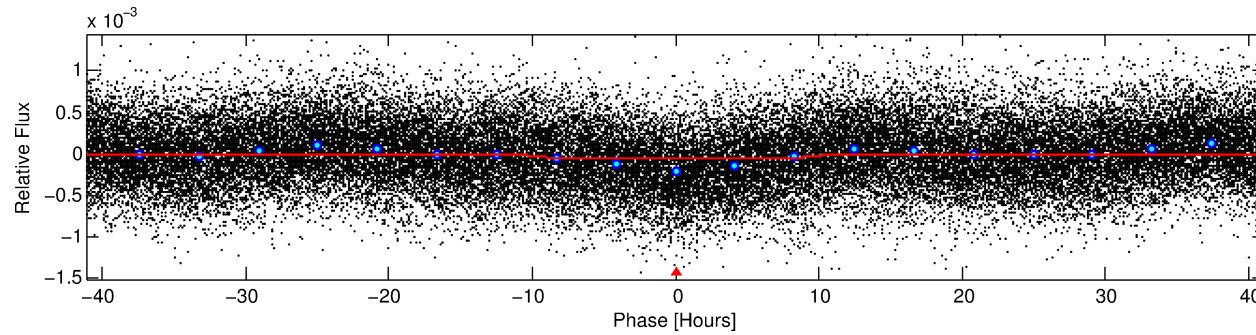
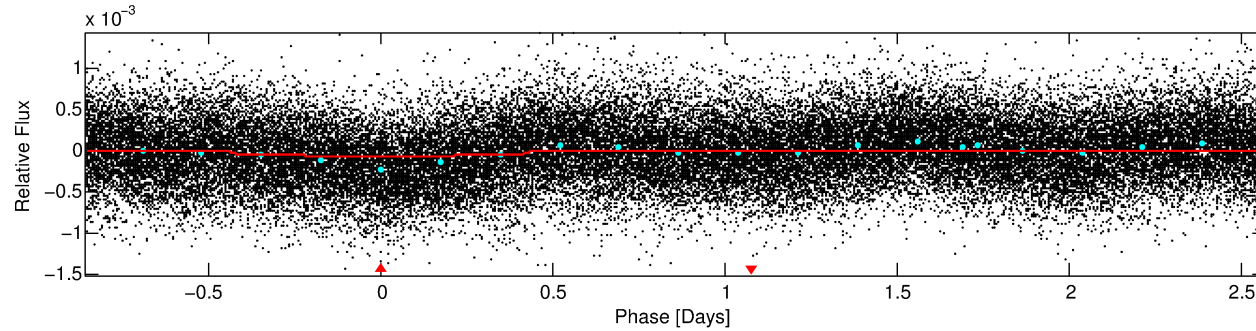
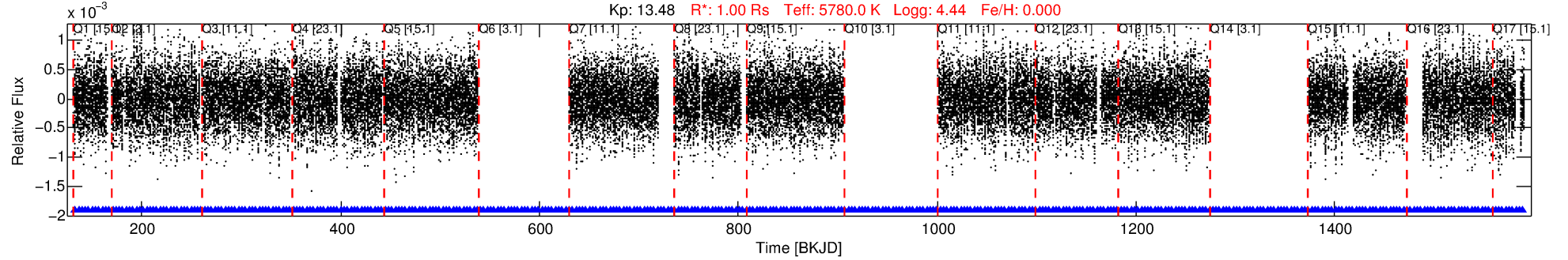
No Significant Match Found

DV One-Page Summary

KIC: 4571004 Candidate: 1 of 1 Period: 3.426 d

KOI: K04355 Corr: No Ephemeris Match

Kp: 13.48 R*: 1.00 Rs Teff: 5780.0 K Logg: 4.44 Fe/H: 0.000



DV Fit Results:

Period = 3.42617 [0.00005] d
Epoch = 133.0980 [0.0091] BKJD
Rp/R* = 0.0069 [0.0038]
a/R* = 1.31 [1.36]
b = 0.53 [3.36]
Seff = 505.27 [0.01]
Teff = 1209 [0] K
Rp = 0.75 [0.42] Re
a = 0.0445 [0.0000] AU
Ag = 100.74 [113.37] [0.88σ]
Teffp = 5922 [1666] K [2.83σ]

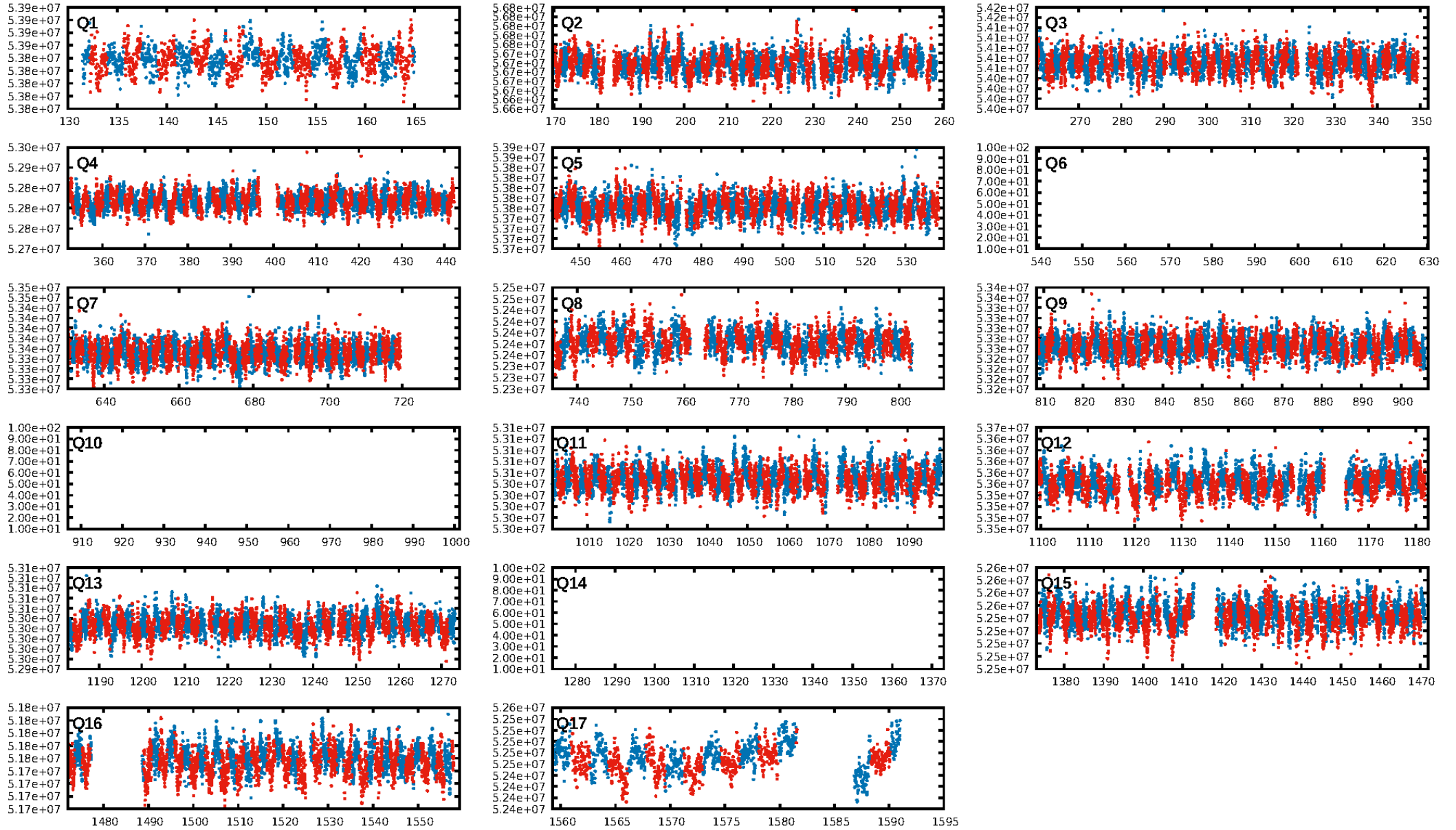
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [306/306]
GhostDiagnostic-chr: 1.13
Centroid-sig: 0.0%
Centroid-so: 2.547 arcsec [3.73σ]
OotOffset-rm: 1.247 arcsec [4.78σ]
KicOffset-rm: 0.822 arcsec [3.10σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 1.00 [14/14]

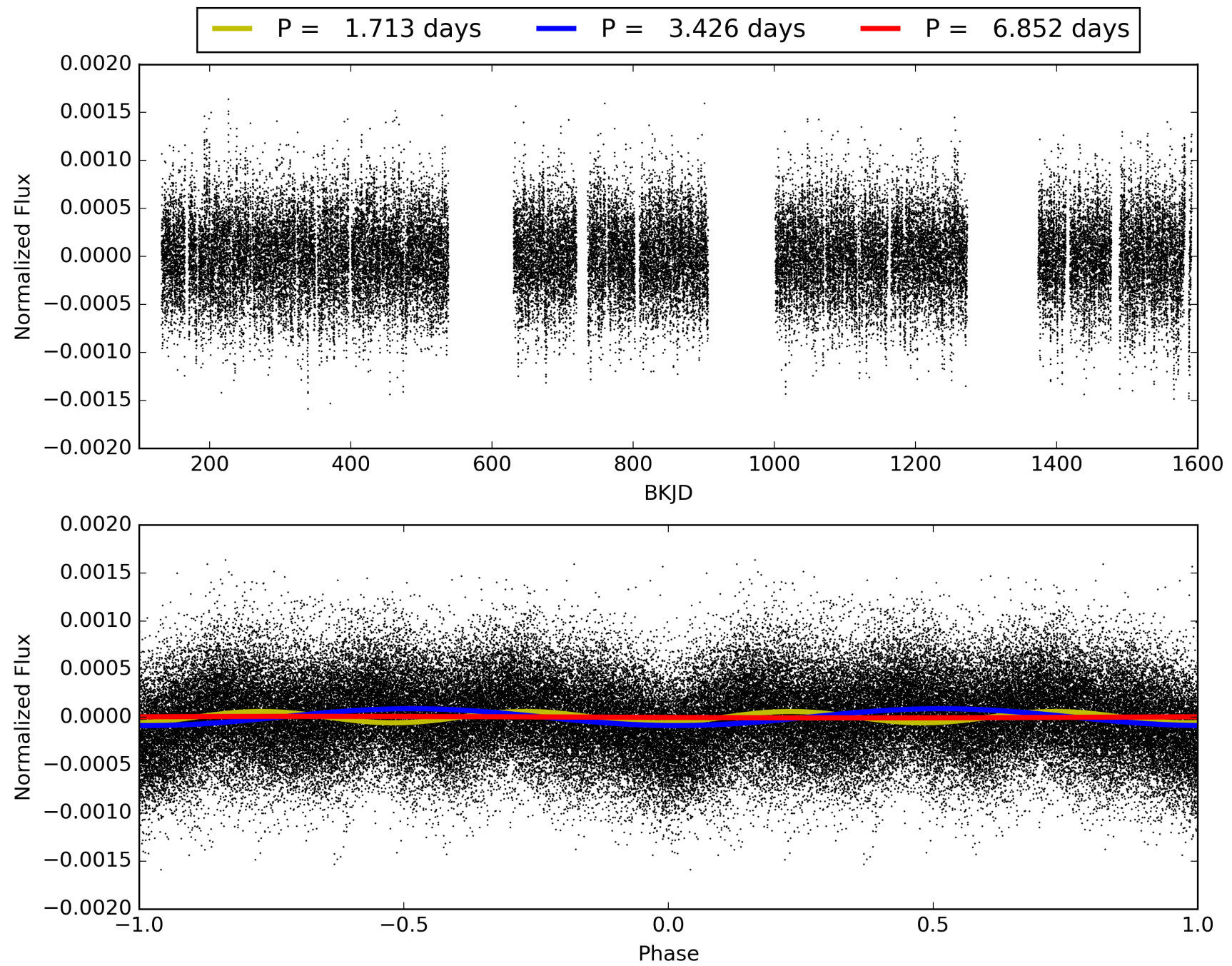
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:49:45 Z

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

TCE 004571004-01, PDC Light Curves

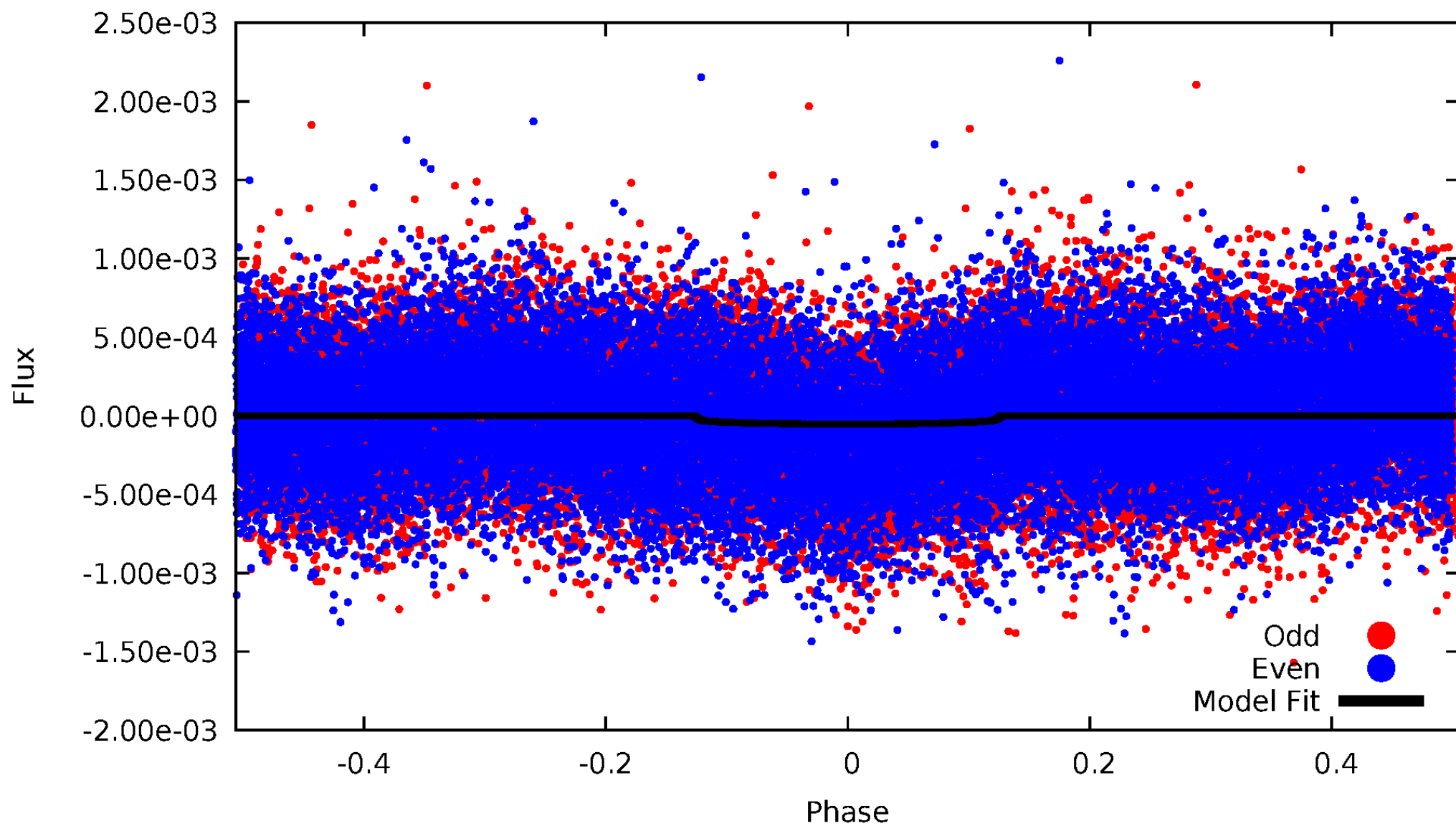


TCE 004571004-01



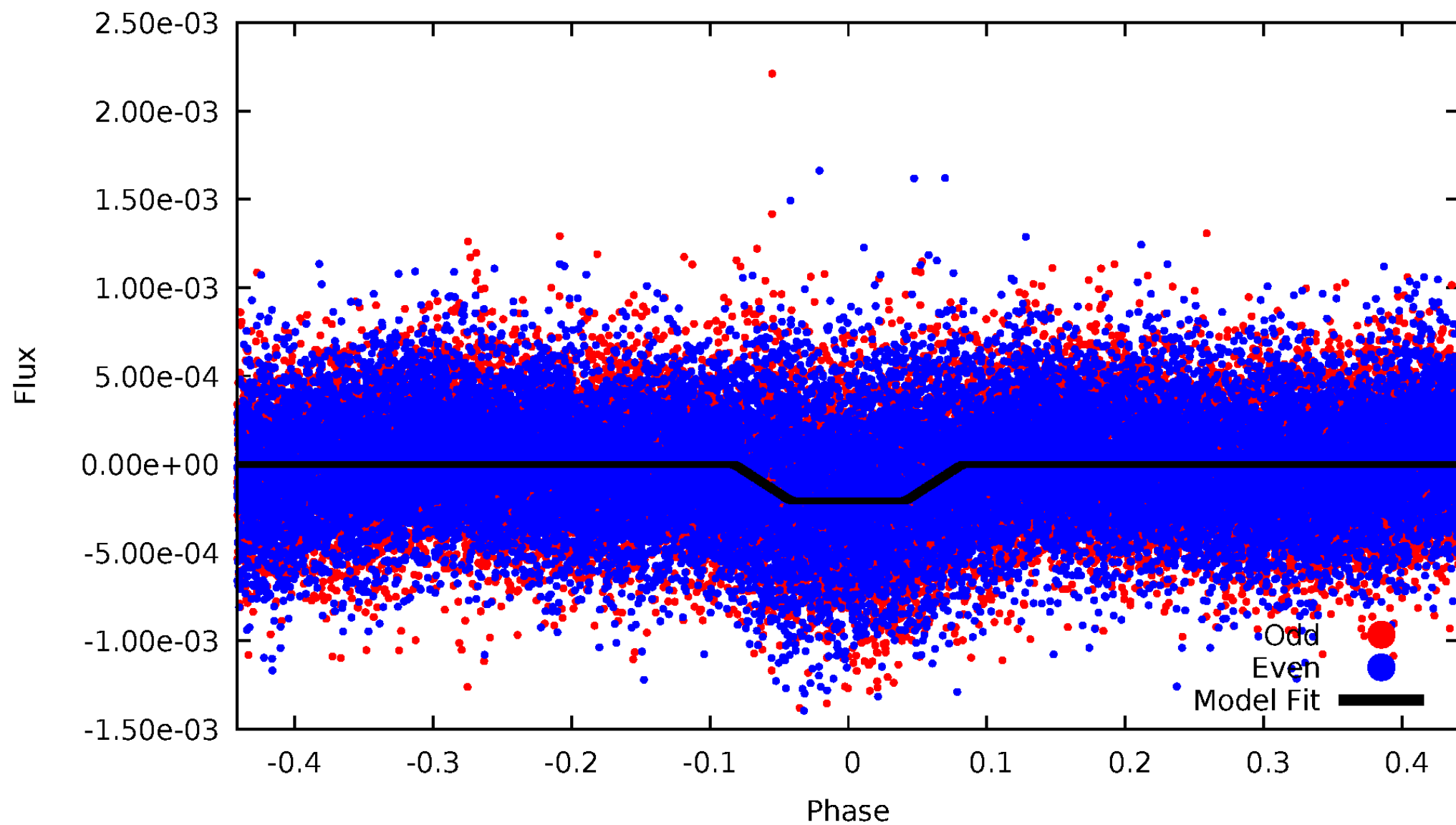
DV Odd/Even

TCE 004571004-01



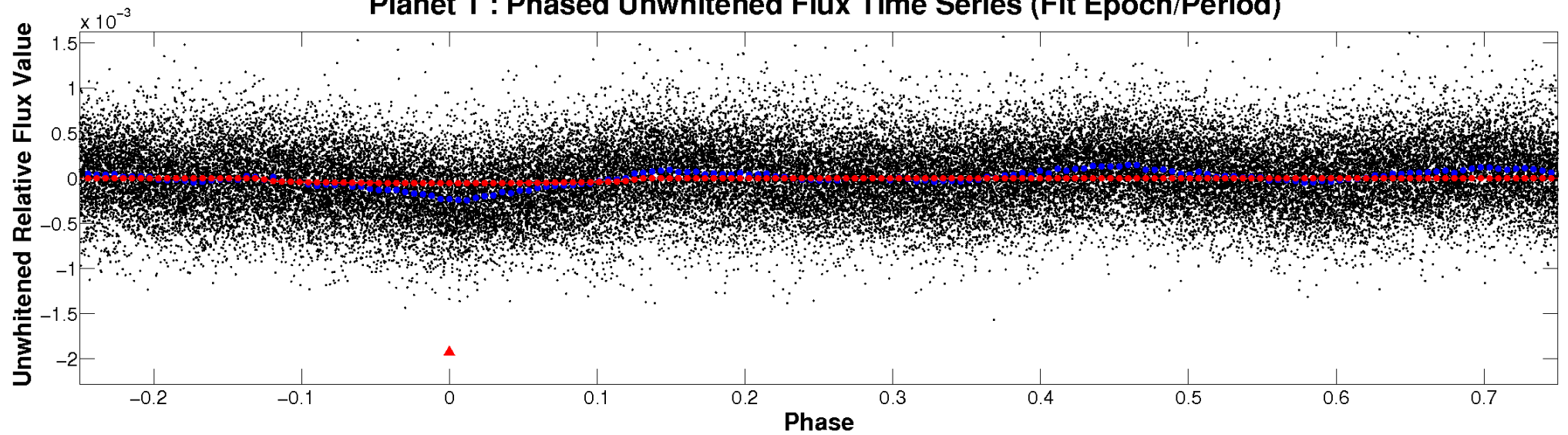
ALT Odd/Even

TCE 004571004-01

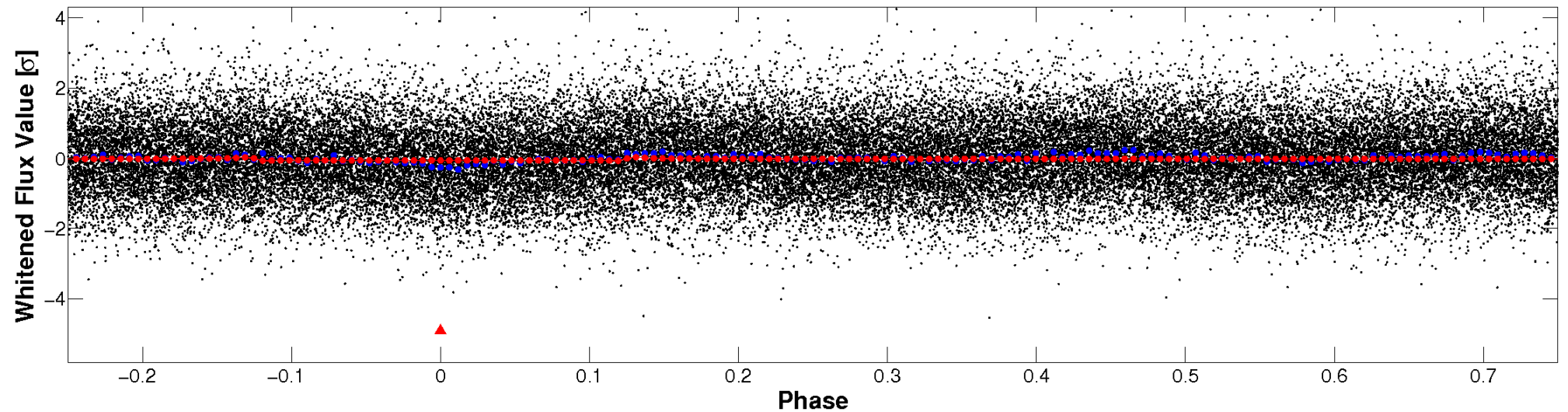


Non-Whitened Vs. Whitened Light Curve

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

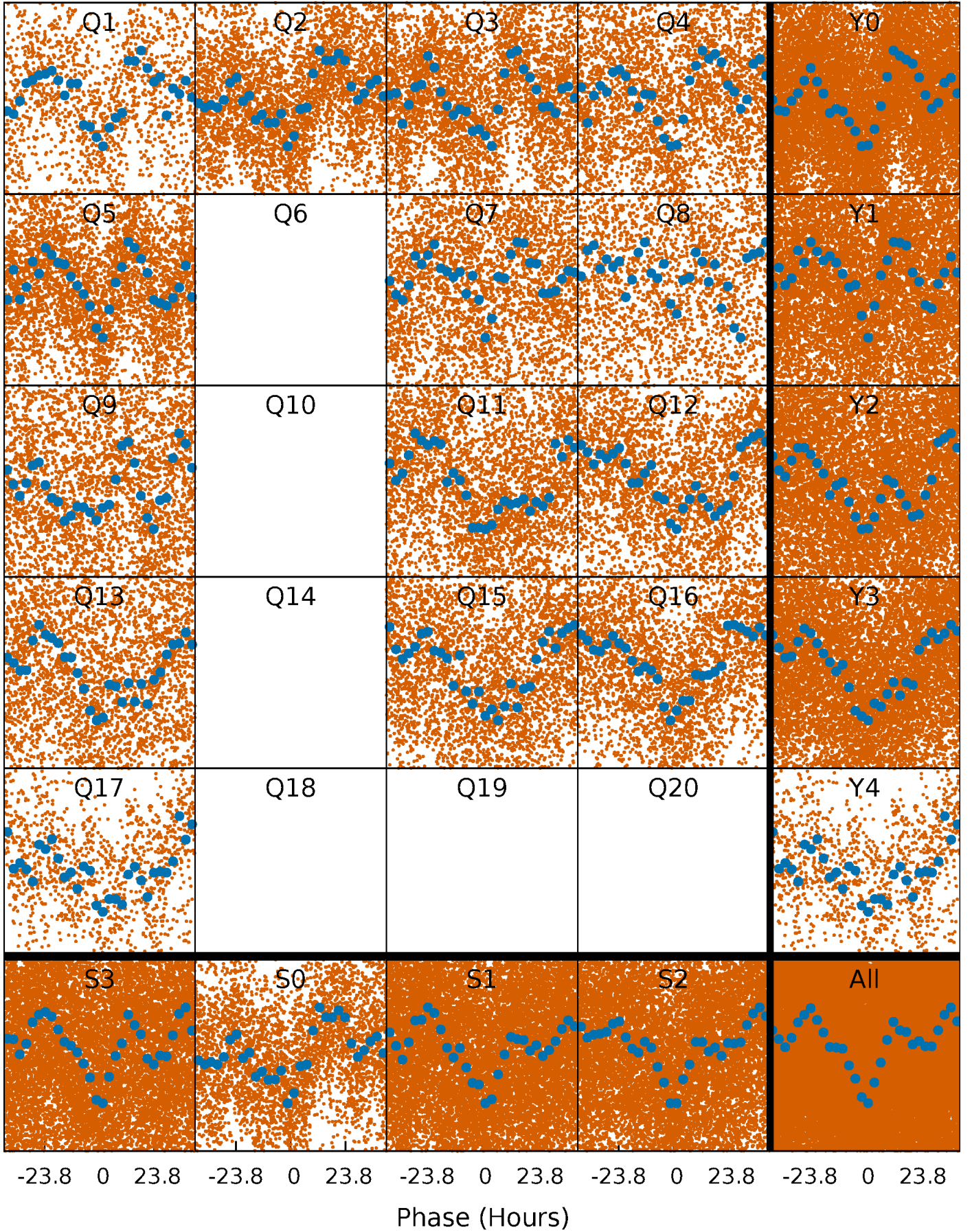


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



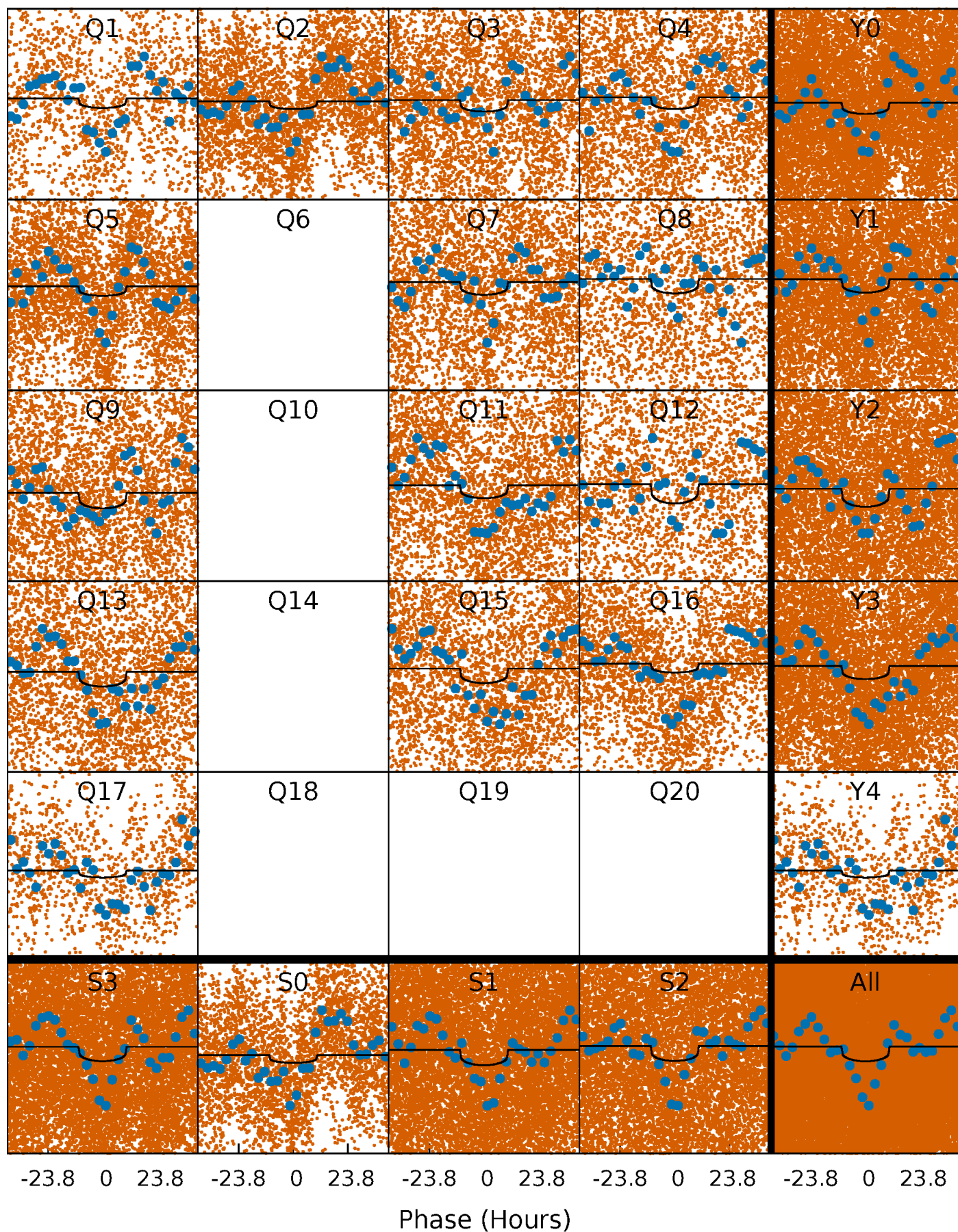
PDC Quarter-Phased Transit Curves

TCE 004571004-01 P= 3.426172 Days $T_0=133.097992$ (BKJD)



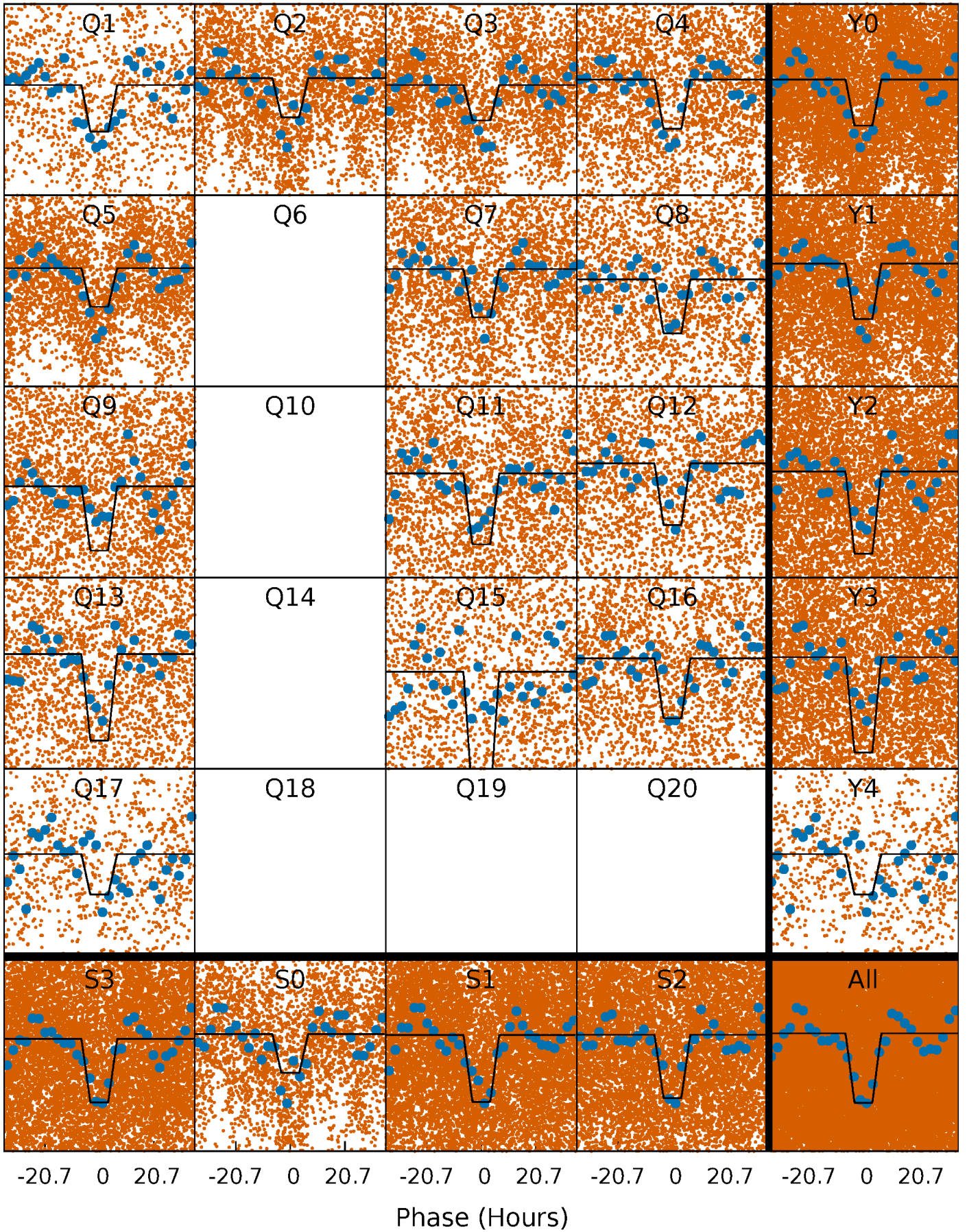
DV Quarter-Phased Transit Curves

TCE 004571004-01 P= 3.426172 Days $T_0=133.097992$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

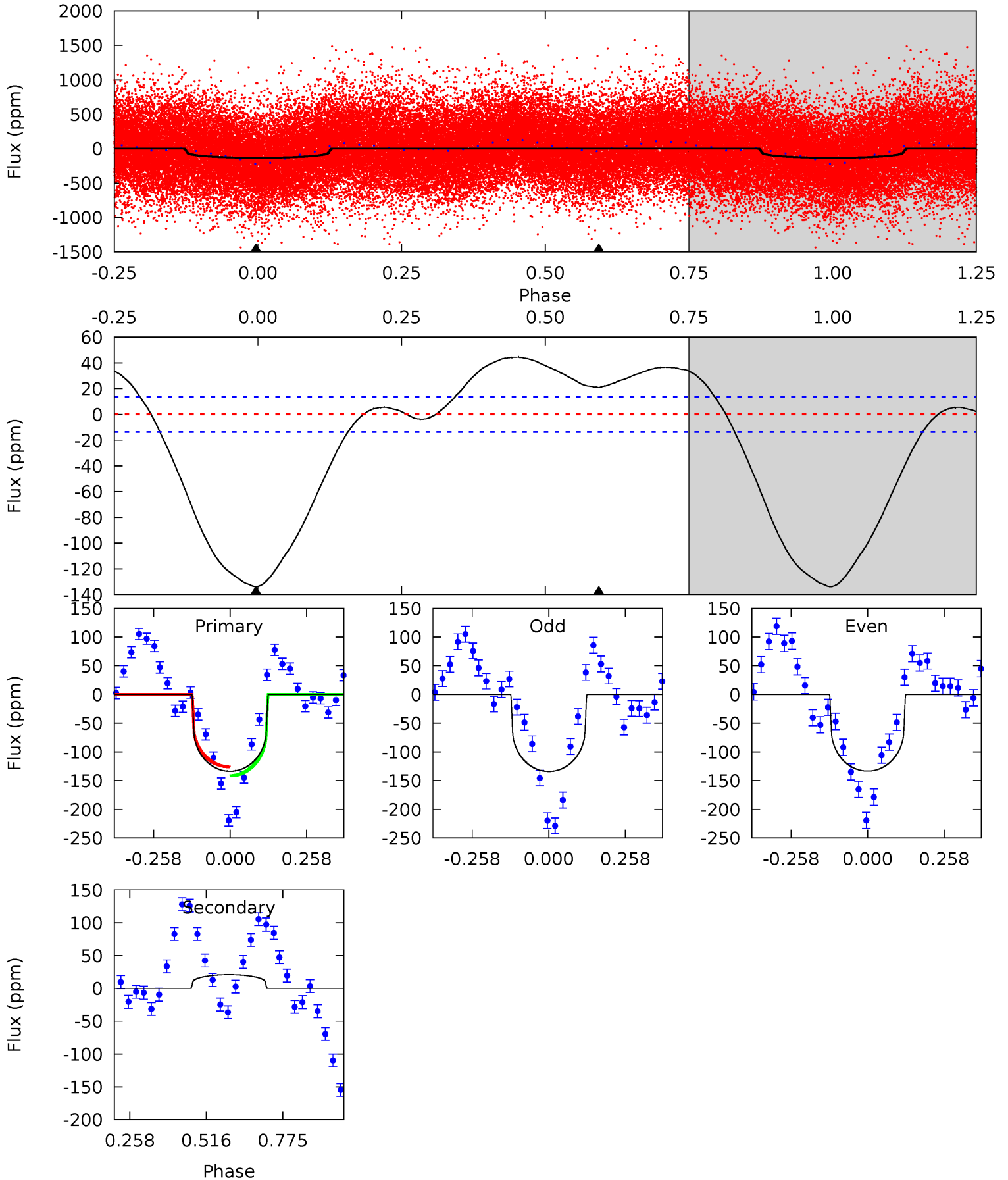
TCE 004571004-01 P= 3.425776 Days $T_0=133.189071$ (BKJD)



DV Model-Shift Uniqueness Test

004571004-01, P = 3.426172 Days, E = 129.671820 Days

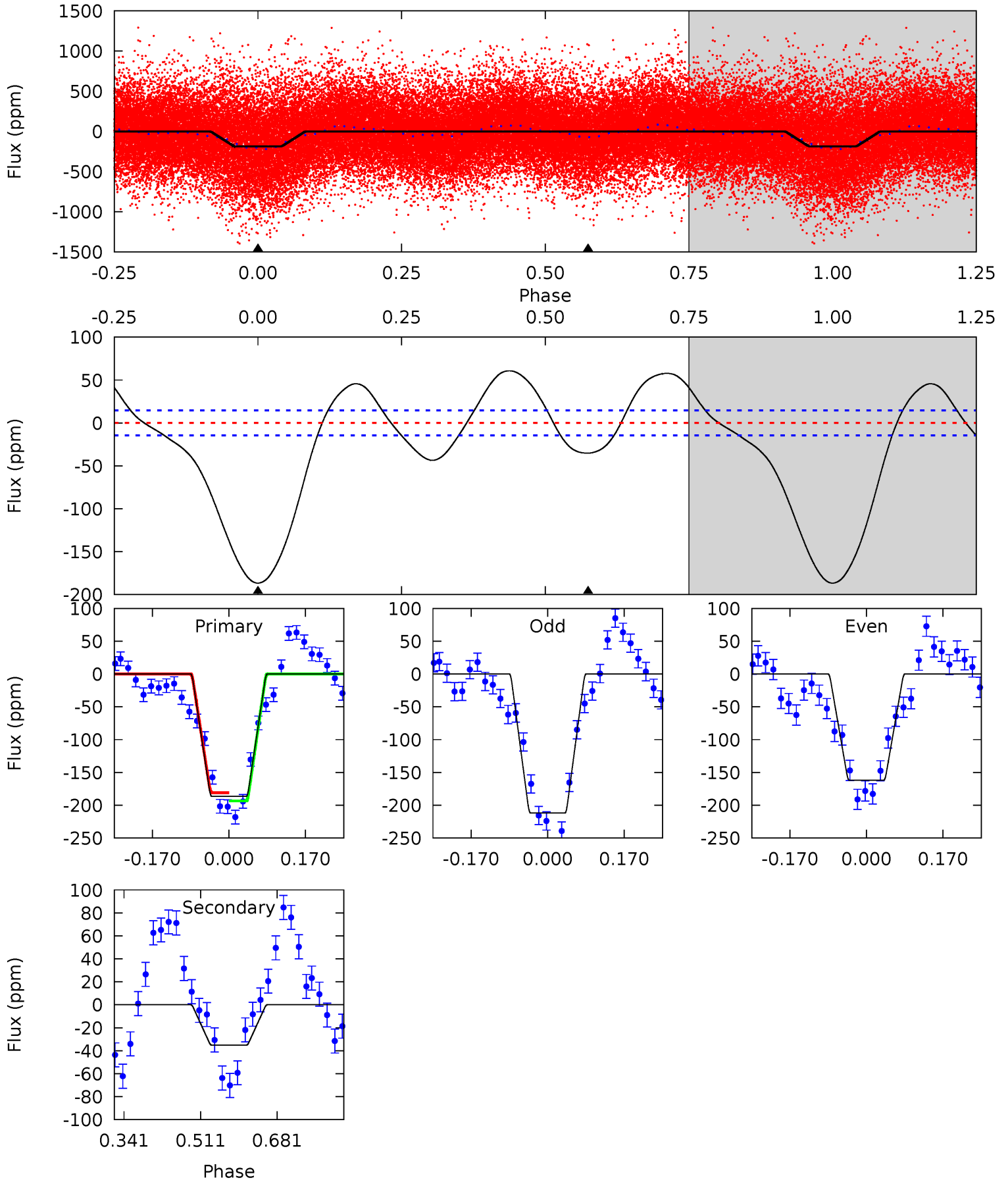
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.6	-6.65	0	0	4.36	1.13	1.60	42.6	42.6	-6.65	-6.65	0.10	1.06	0.25	2.39



Alt Model-Shift Uniqueness Test

004571004-01, P = 3.425776 Days, E = 129.763295 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
57.1	10.8	0	0	4.45	1.37	8.38	57.1	57.1	10.8	10.8	7.64	1.07	0.25	1.91



Stellar Parameters For KIC 004571004

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 004571004-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	21 ± 3	$0.79^{+0.43}_{-0.42}$	1697^{+78}_{-83}	-4702^{+690}_{-1963}	$-35.012^{+20.347}_{-124.864}$
Alt.	-35 ± 3	$1.57^{+0.43}_{-0.43}$	1691^{+79}_{-80}	4010^{+519}_{-345}	16^{+13}_{-6}

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 $A_{obs} \gg 1.0$

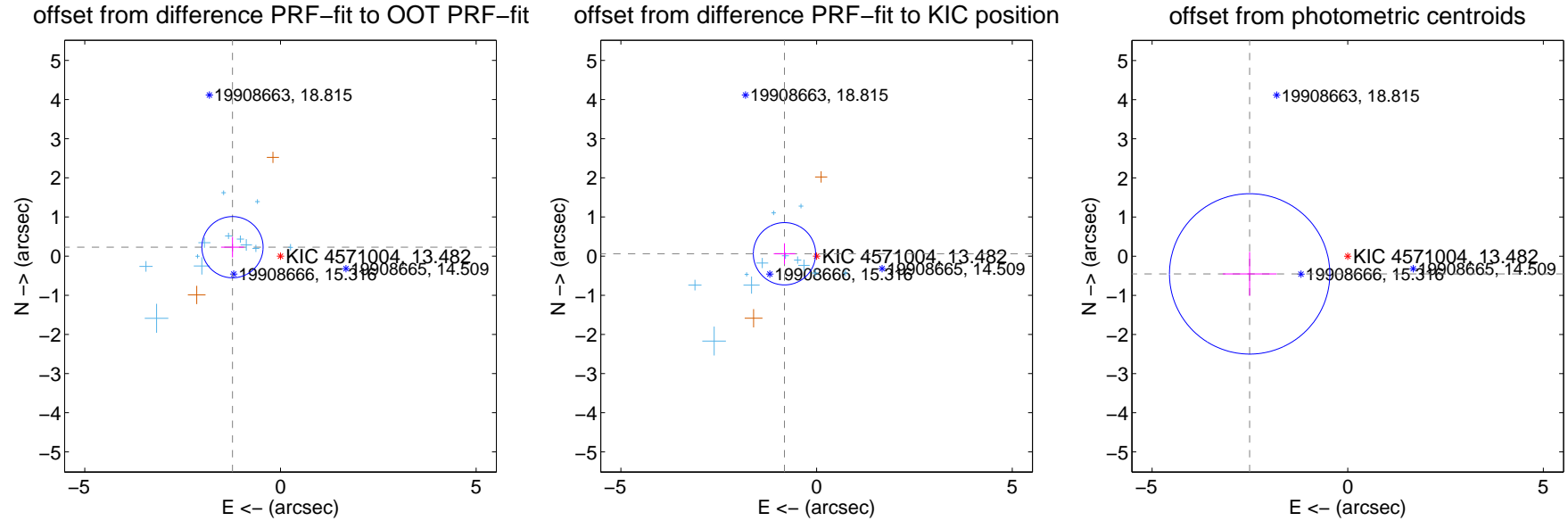
DV Centroid Data

Supplemental centroid analysis for 004571004-01. Kepler magnitude: 13.48. Transit SNR 7.26

There are 12 quarters with good PRF difference image offsets

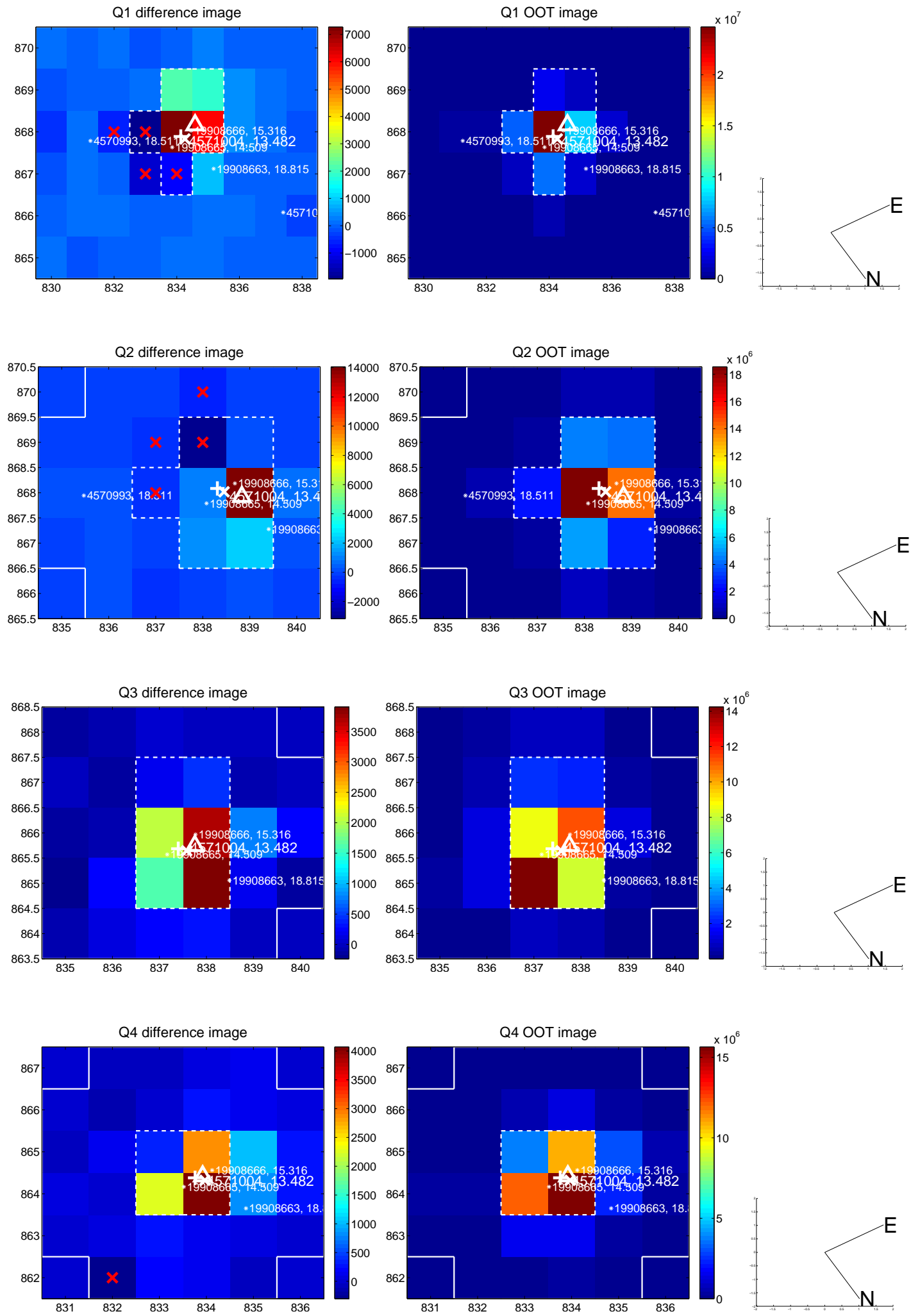
The direct PRF centroid is offset from the target star catalog position by about 0.58 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.247 ± 0.261	4.78	1.225 ± 0.293	0.228 ± 0.261
PRF-fit source offset from KIC position	0.822 ± 0.265	3.10	0.820 ± 0.275	0.060 ± 0.267
photometric centroid source offset	2.55 ± 0.68	3.73	2.51 ± 0.69	-0.45 ± 0.56

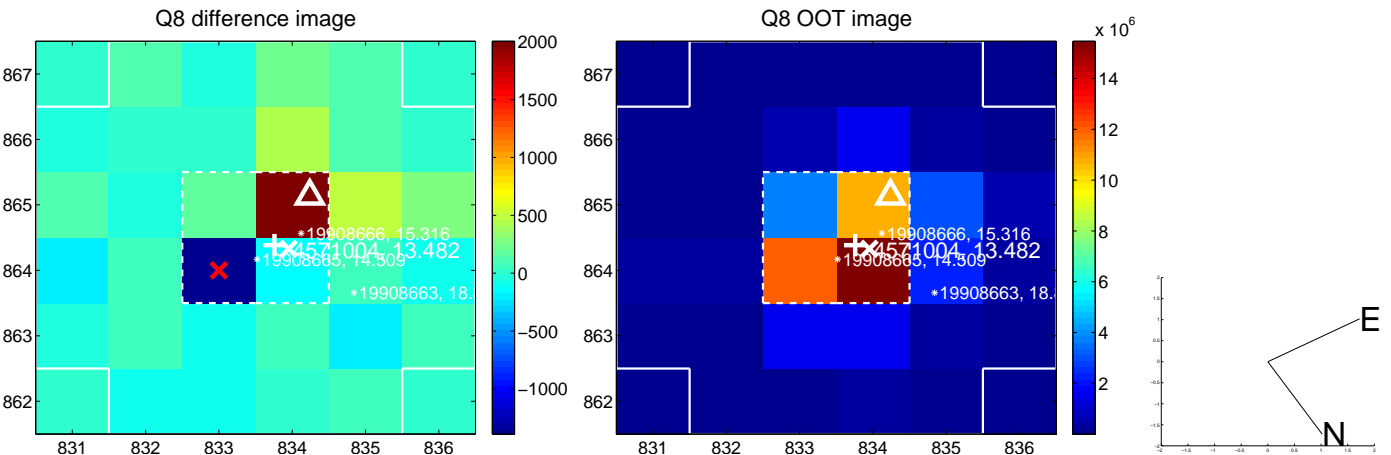
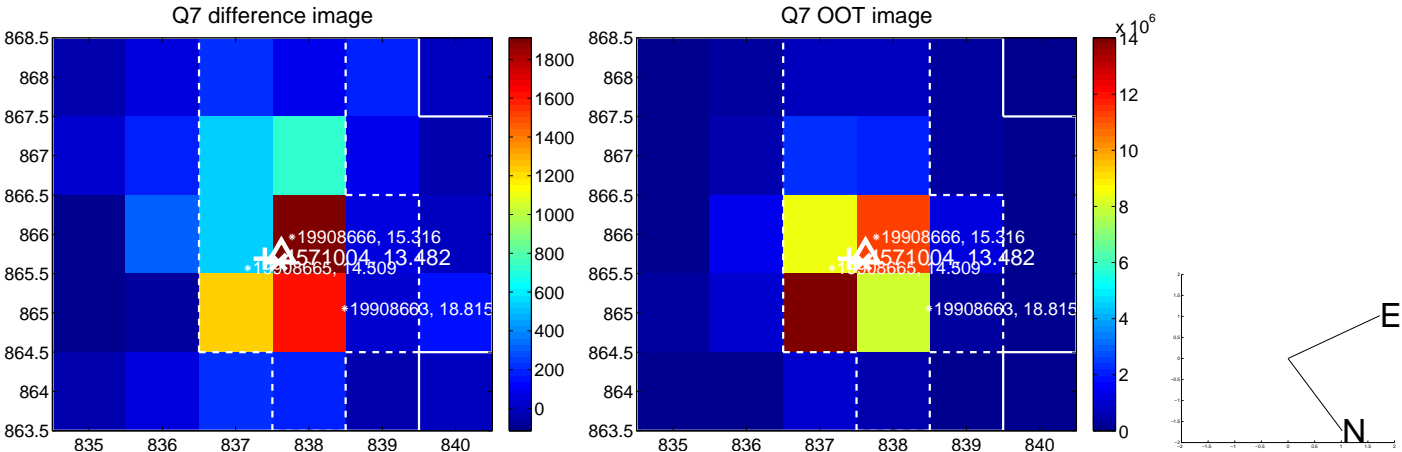
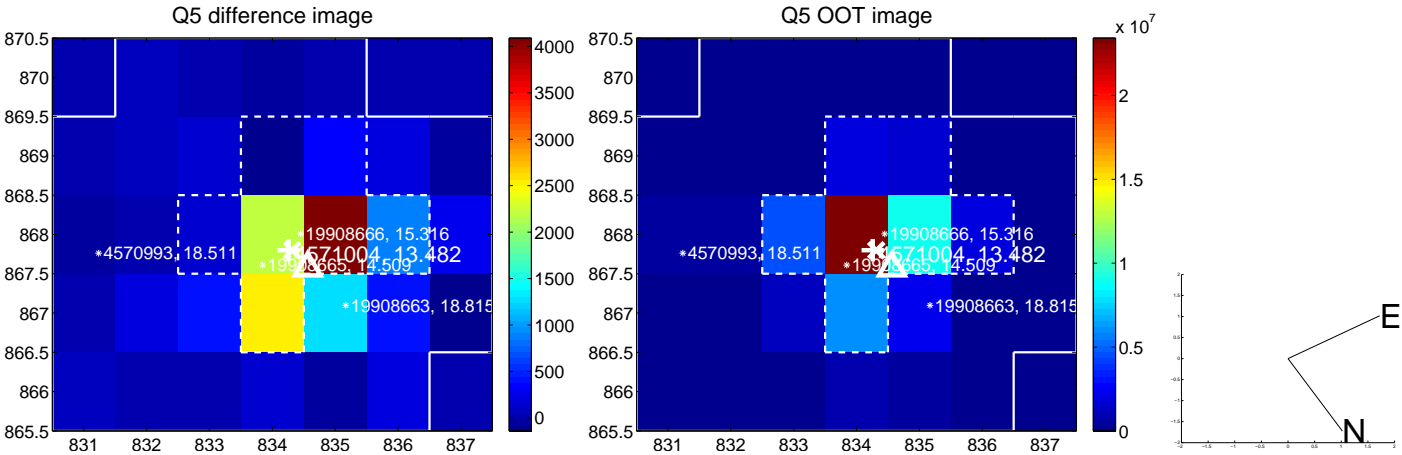


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

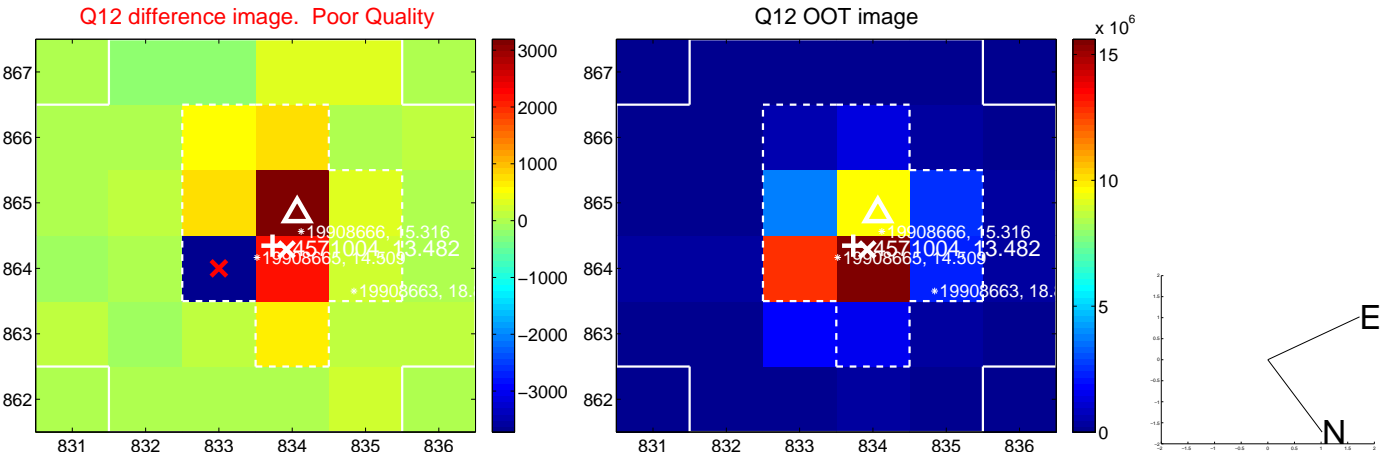
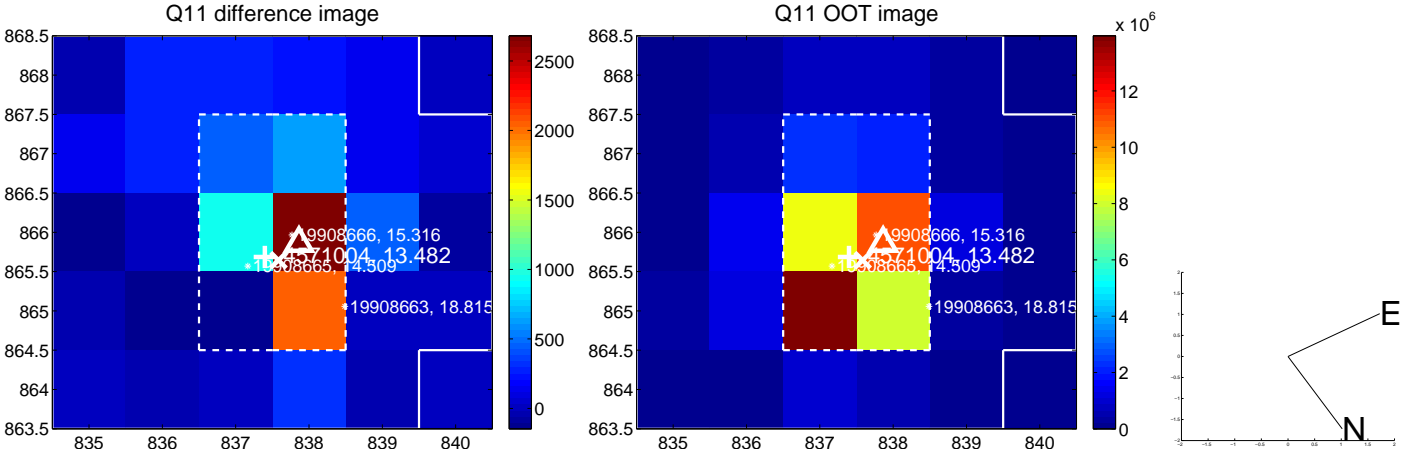
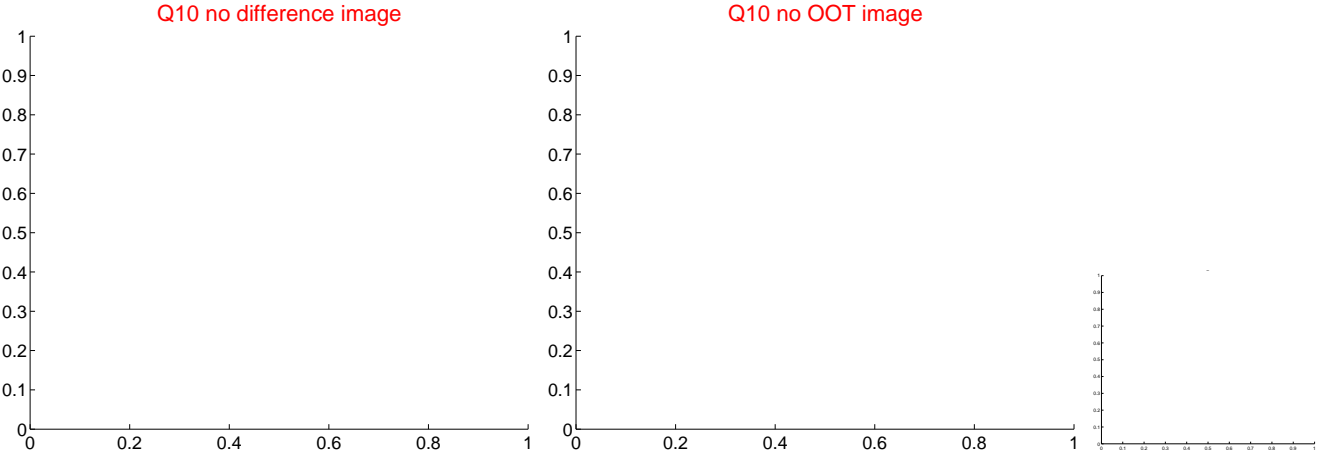
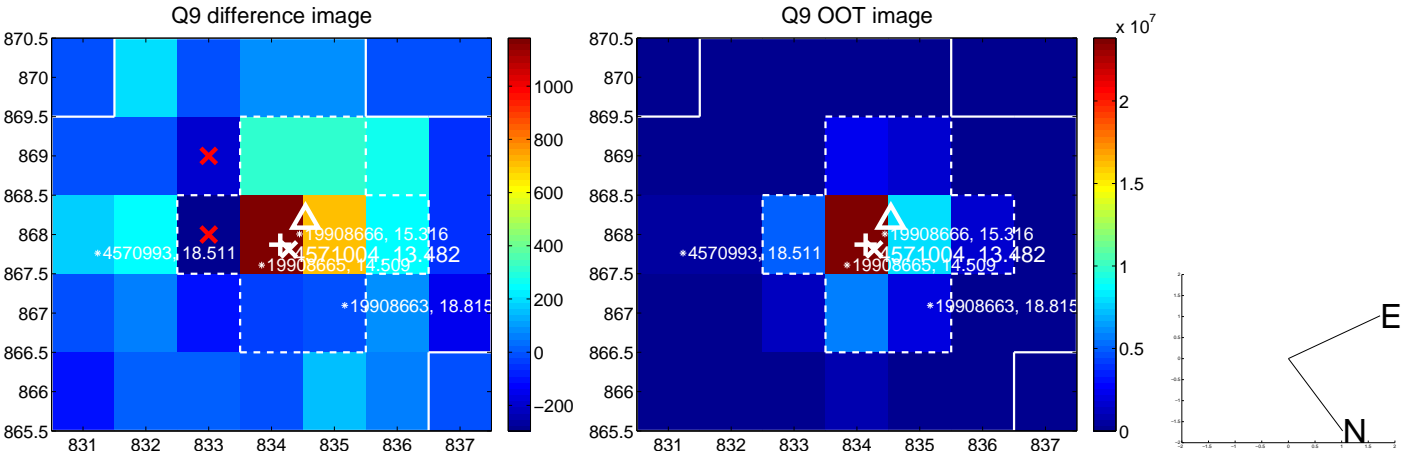
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



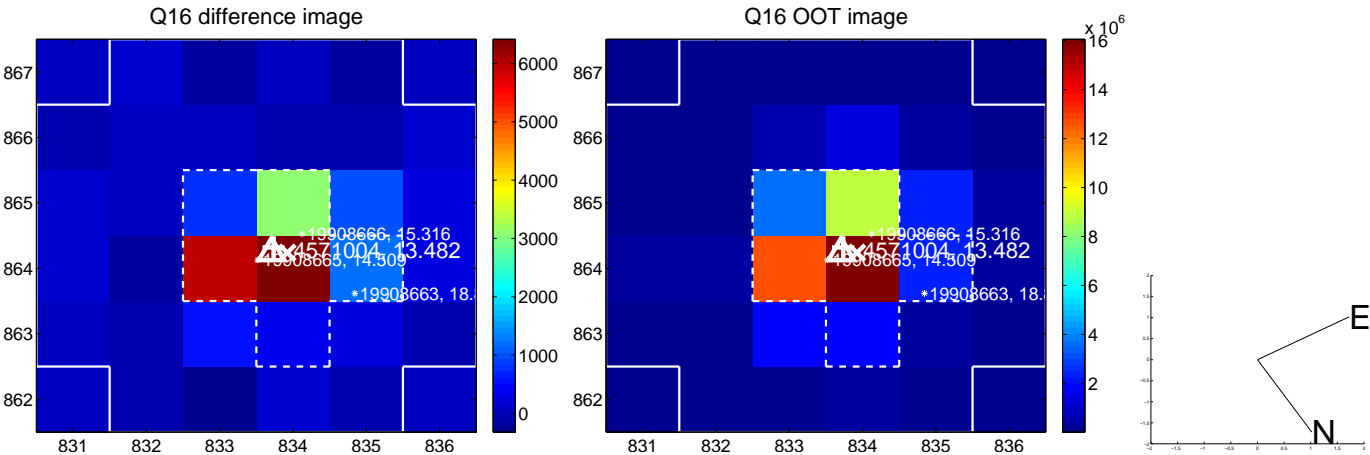
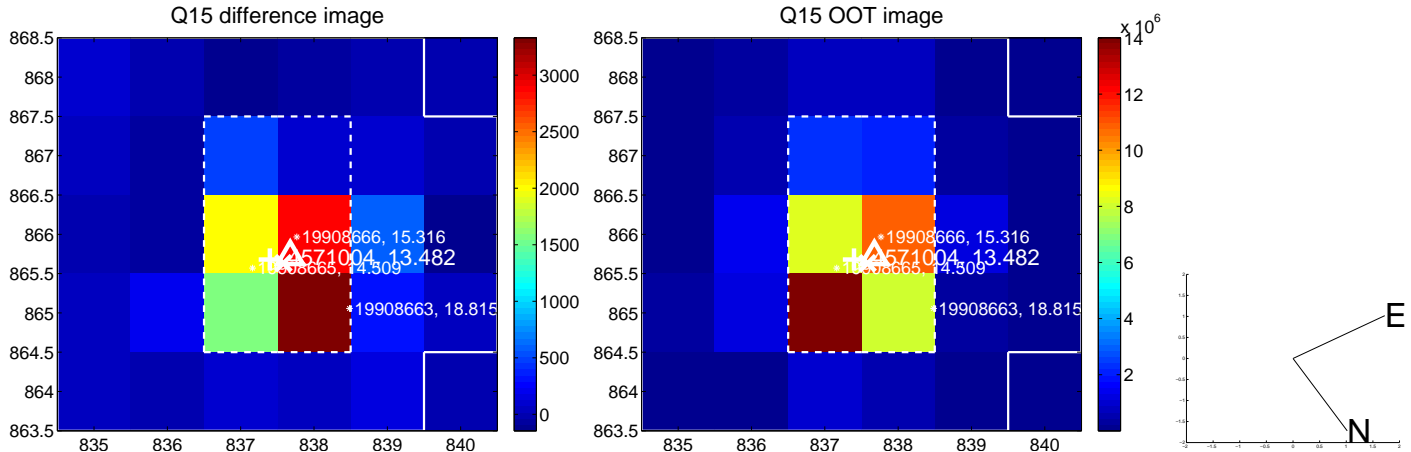
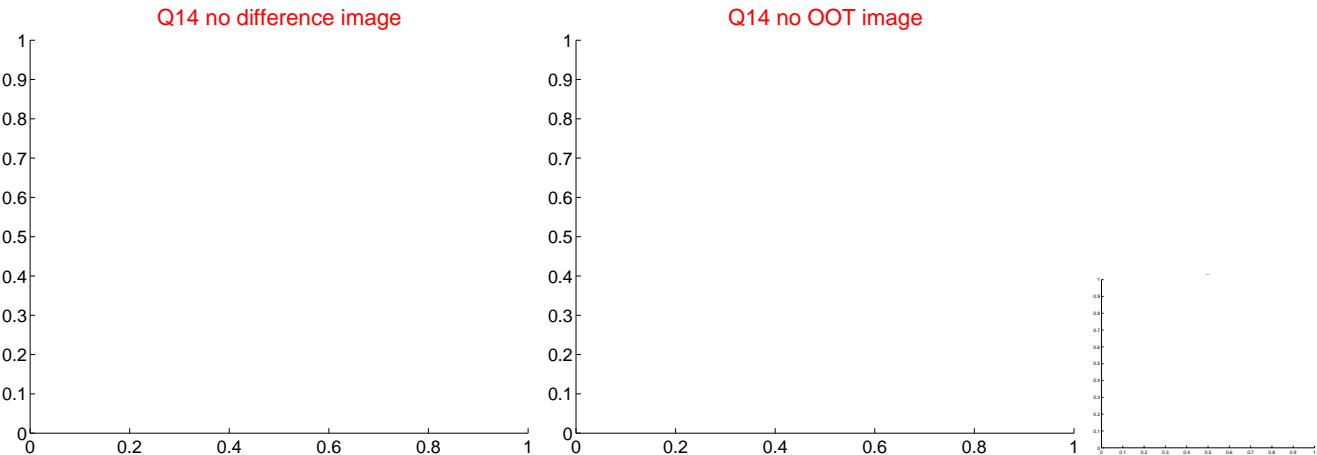
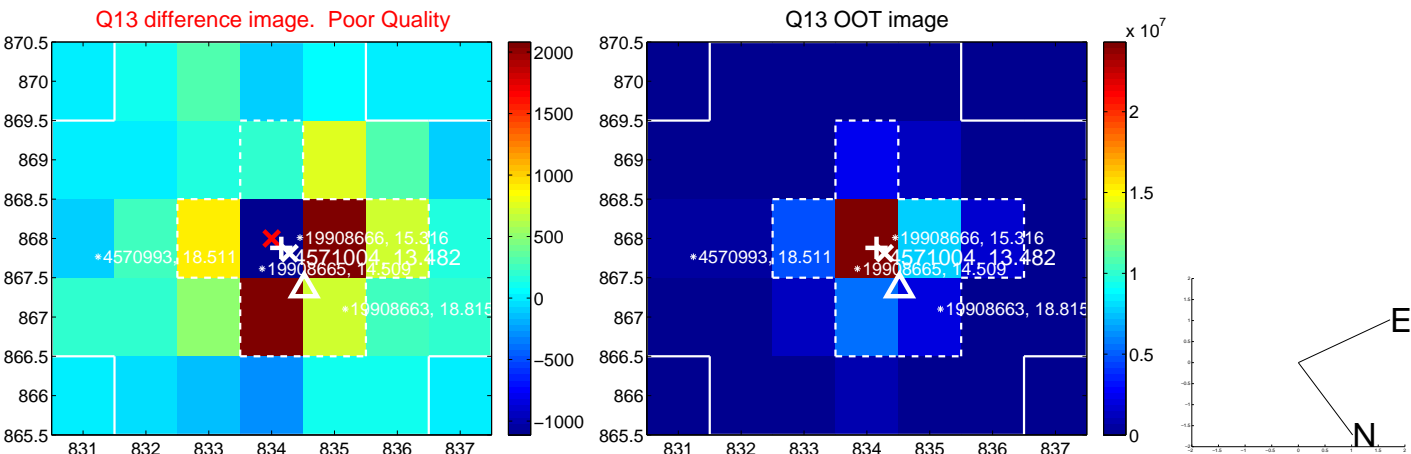
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



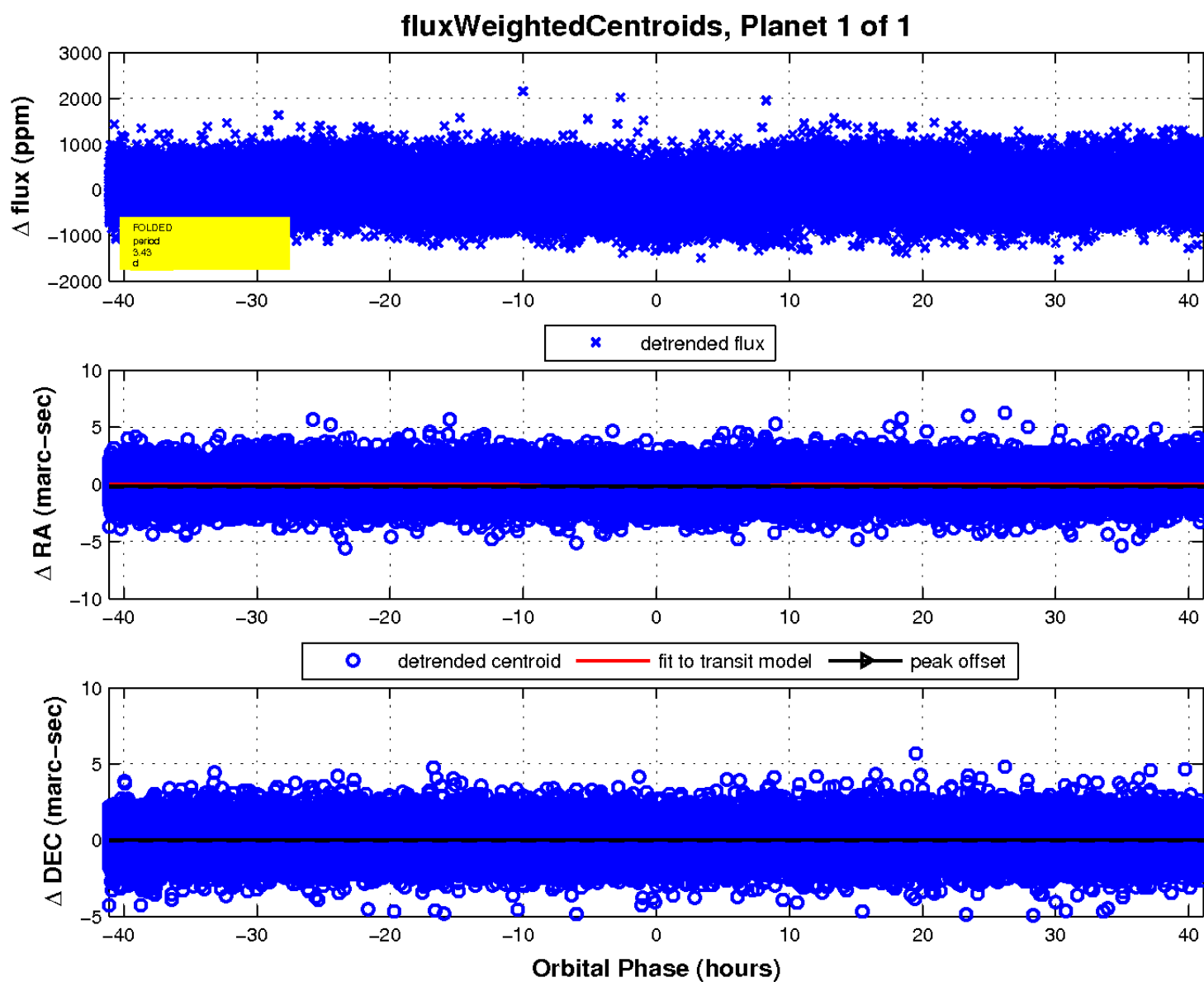
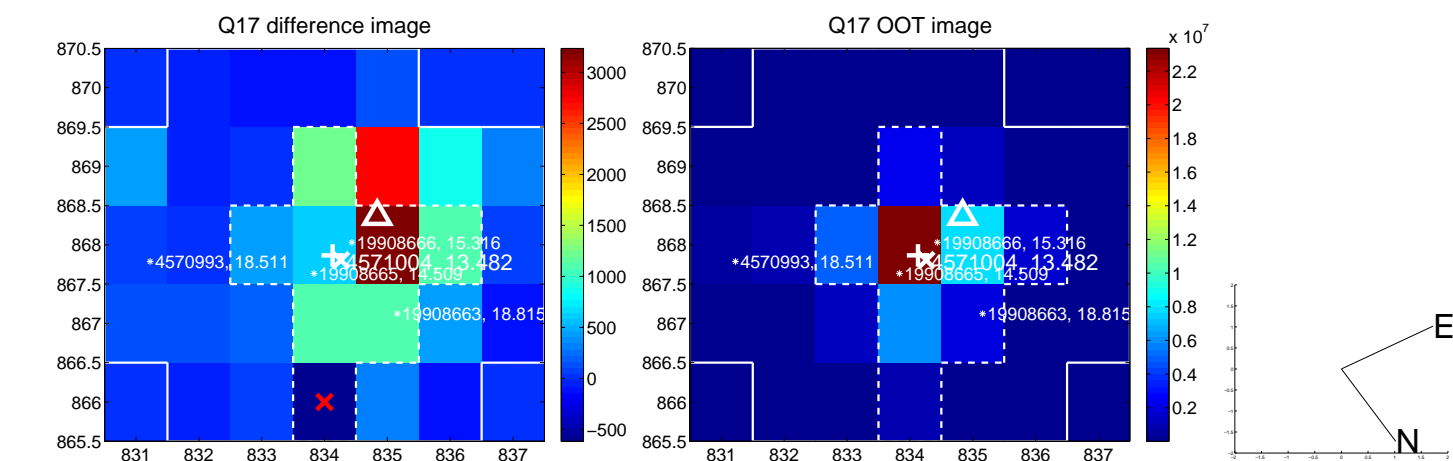
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

