

KIC 006042214

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})
006042214-01	OBS	0450.01	27.046221	144.910244	896.5	2.734	49.3	46.1	0.92	6332	3.50	38.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006042214-01	OBS	FP	0.00	0	0	1	0	CENT_UNRESOLVED_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 006042214-01

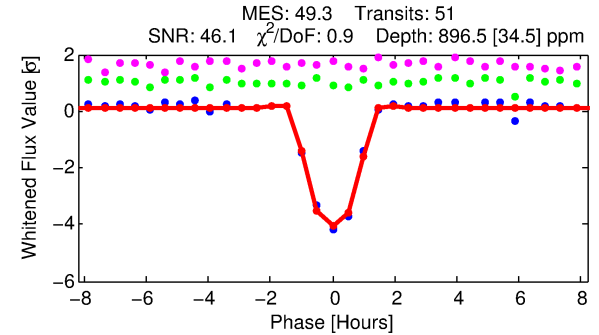
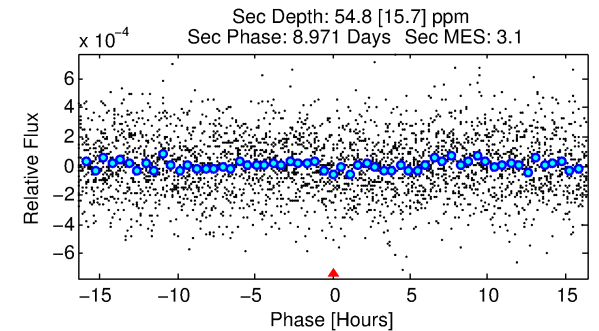
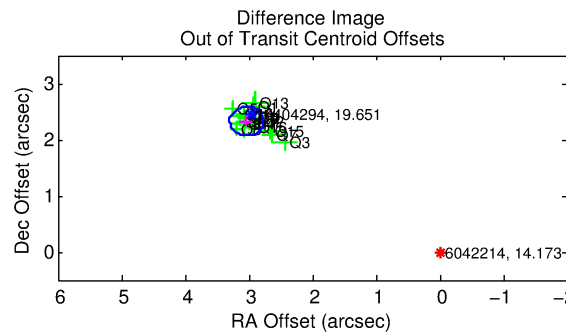
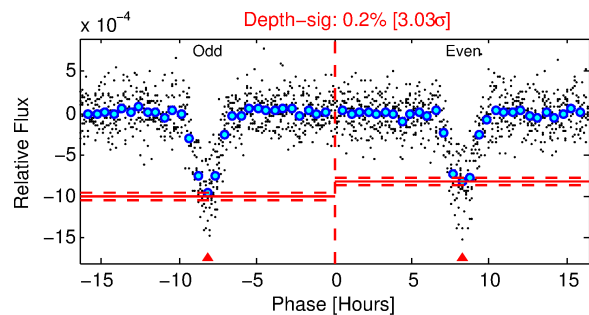
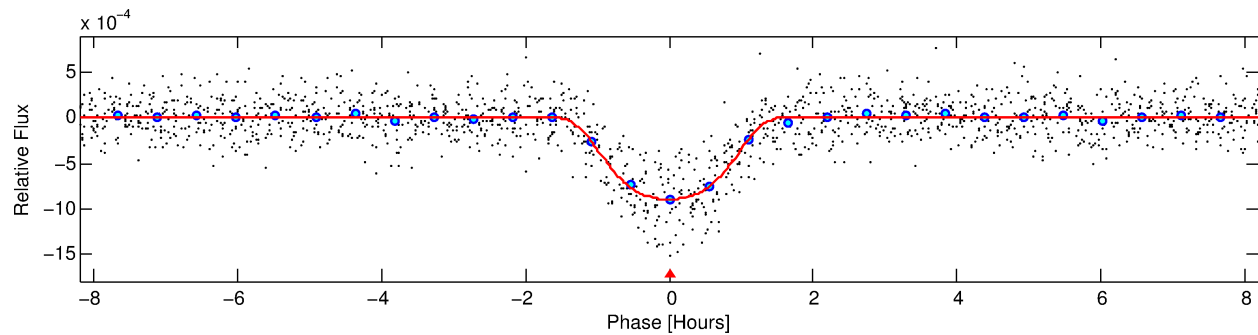
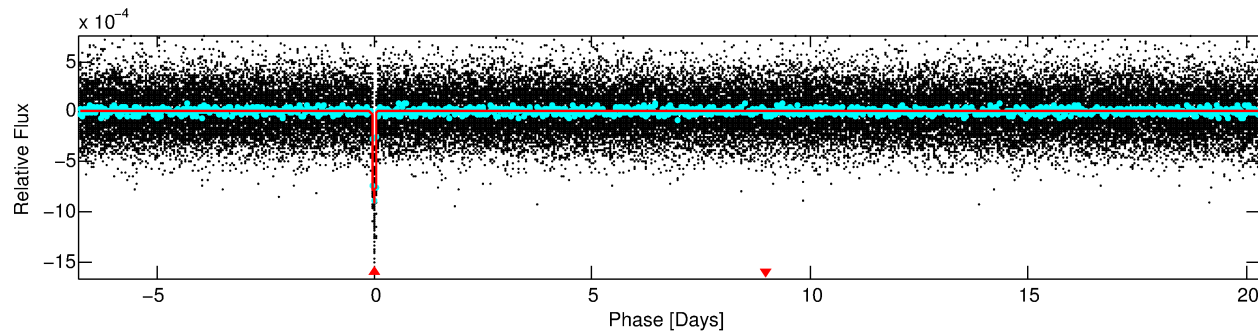
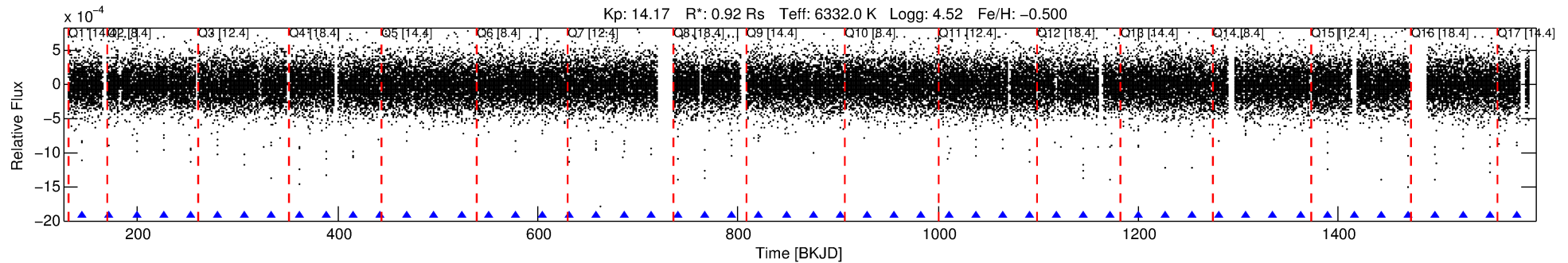
No Significant Match Found

DV One-Page Summary

KIC: 6042214 Candidate: 1 of 1 Period: 27.046 d

KOI: K00450.01 Corr: 0.991

Kp: 14.17 R*: 0.92 Rs Teff: 6332.0 K Logg: 4.52 Fe/H: -0.500



DV Fit Results:

Period = 27.04622 [0.00005] d
Epoch = 144.9102 [0.0014] BKJD
Rp/R* = 0.0351 [0.0011]
a/R* = 28.63 [1.52]
b = 0.96 [0.01]
Seff = 38.71 [16.17]
Teq = 636 [66] K
Rp = 3.50 [1.09] Re
a = 0.1765 [0.0471] AU
Ag = 76.54 [37.78] [2.00σ]
Teffp = 2909 [233] K [9.37σ]

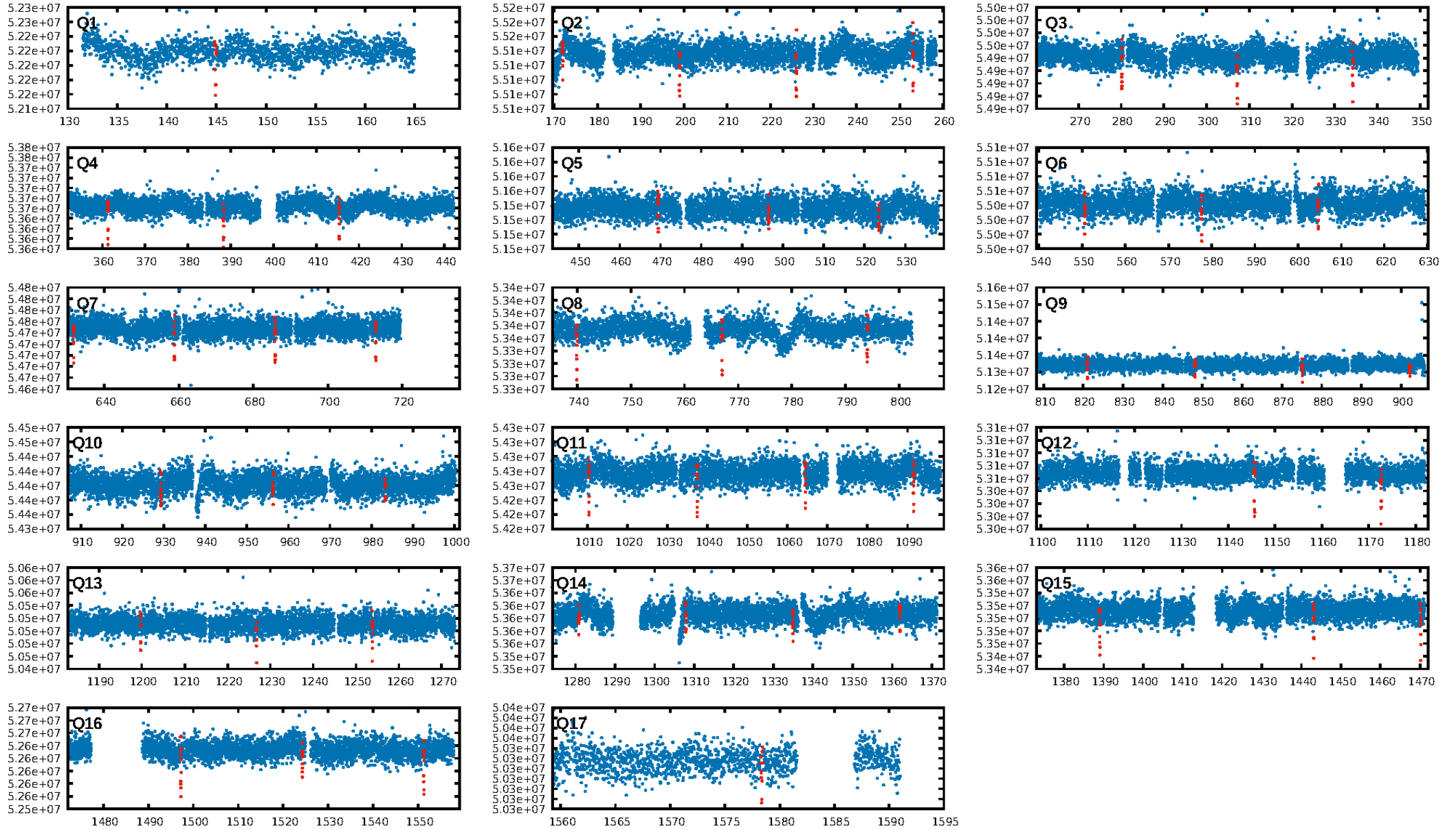
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [49/49]
GhostDiagnostic-chr: 0.7453
Centroid-sig: 0.0%
Centroid-so: 5.028 arcsec [19.72σ]
OotOffset-rm: 3.826 arcsec [43.94σ]
KicOffset-rm: 3.818 arcsec [42.04σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

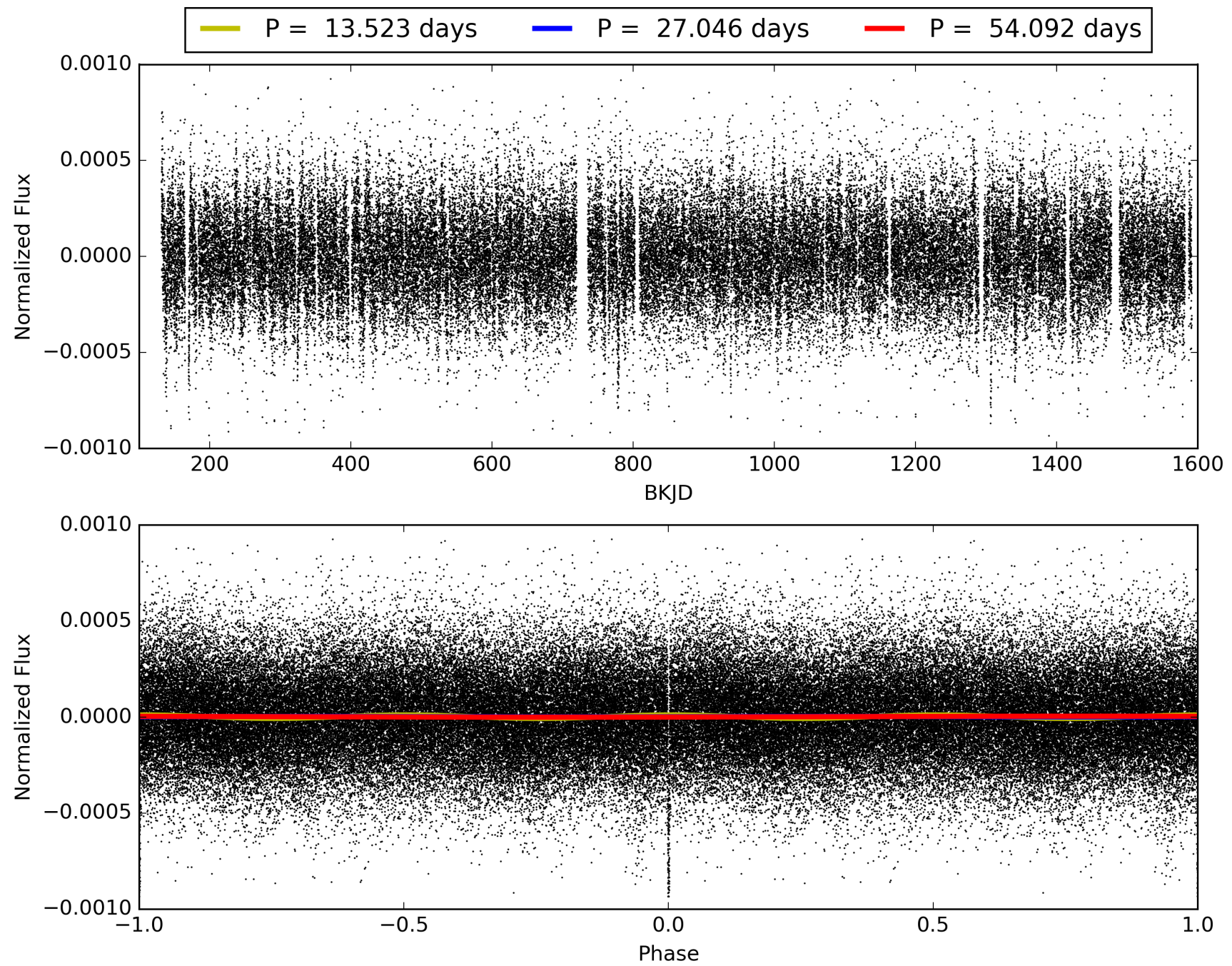
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:42:52 Z

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

TCE 006042214-01, PDC Light Curves

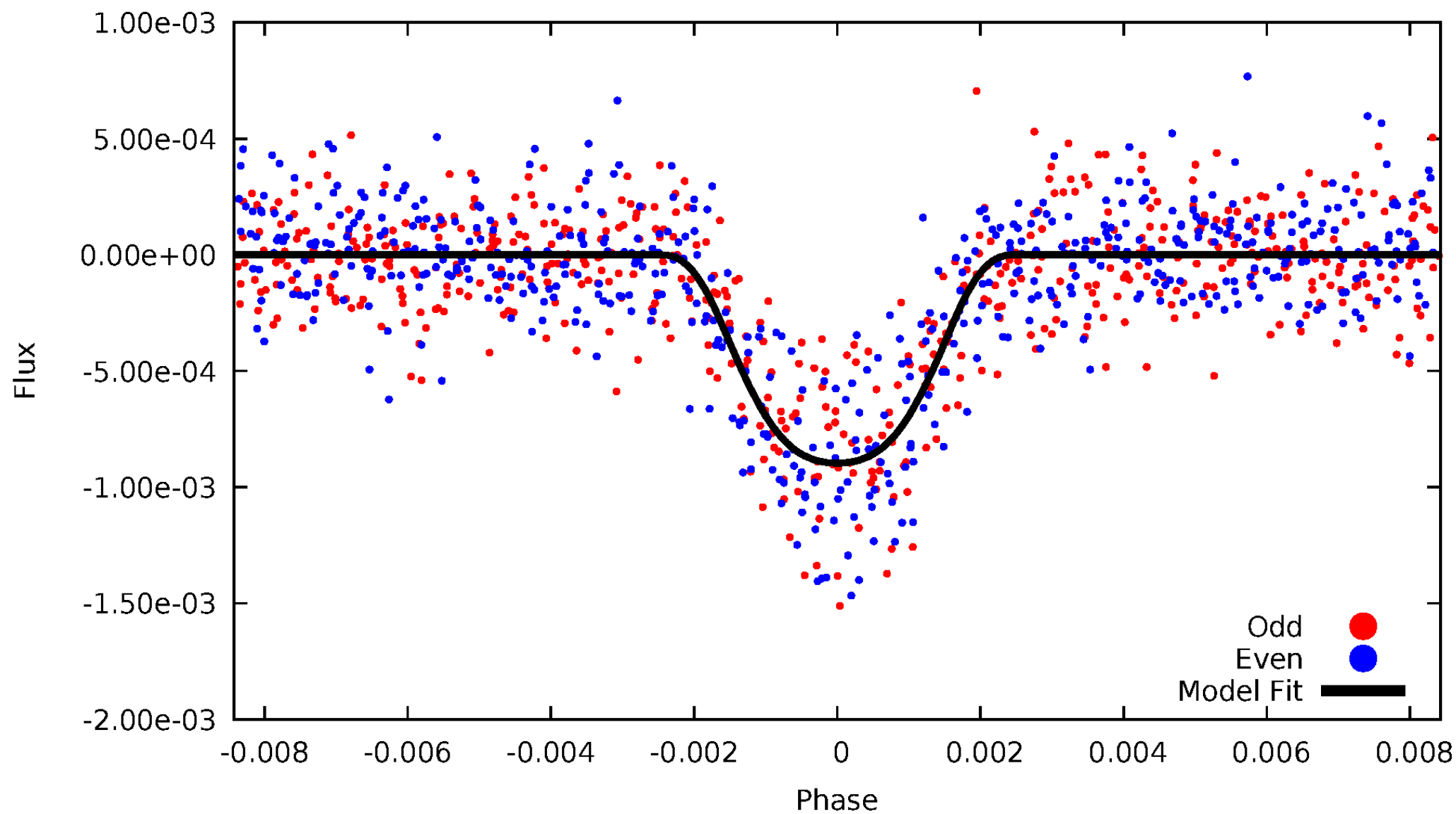


TCE 006042214-01



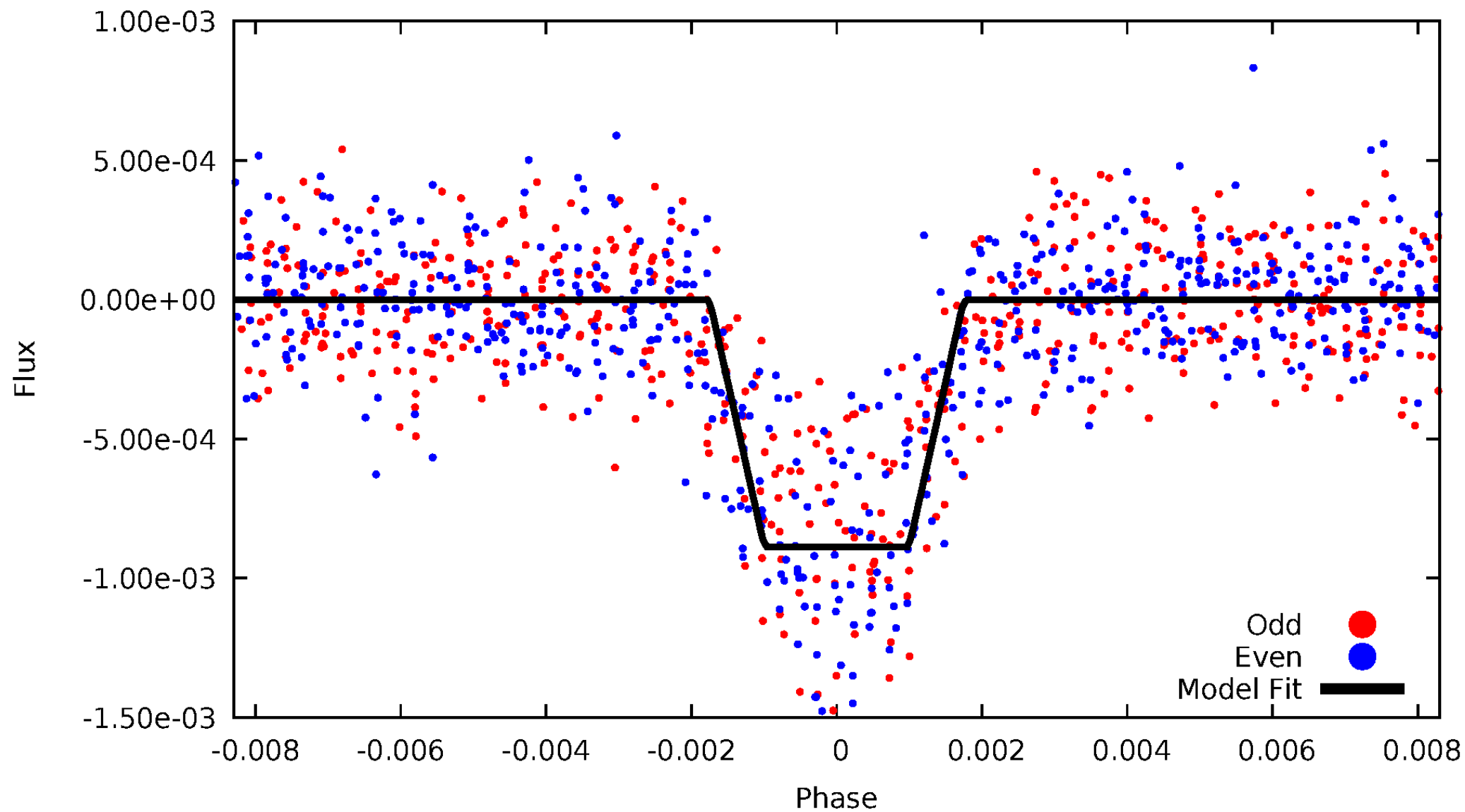
DV Odd/Even

TCE 006042214-01



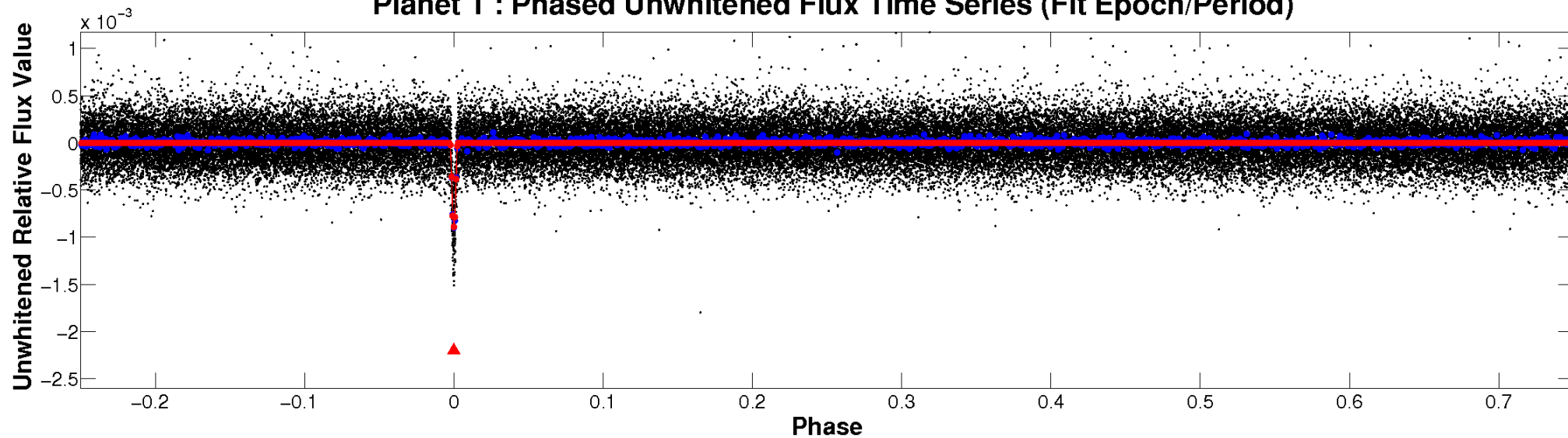
ALT Odd/Even

TCE 006042214-01

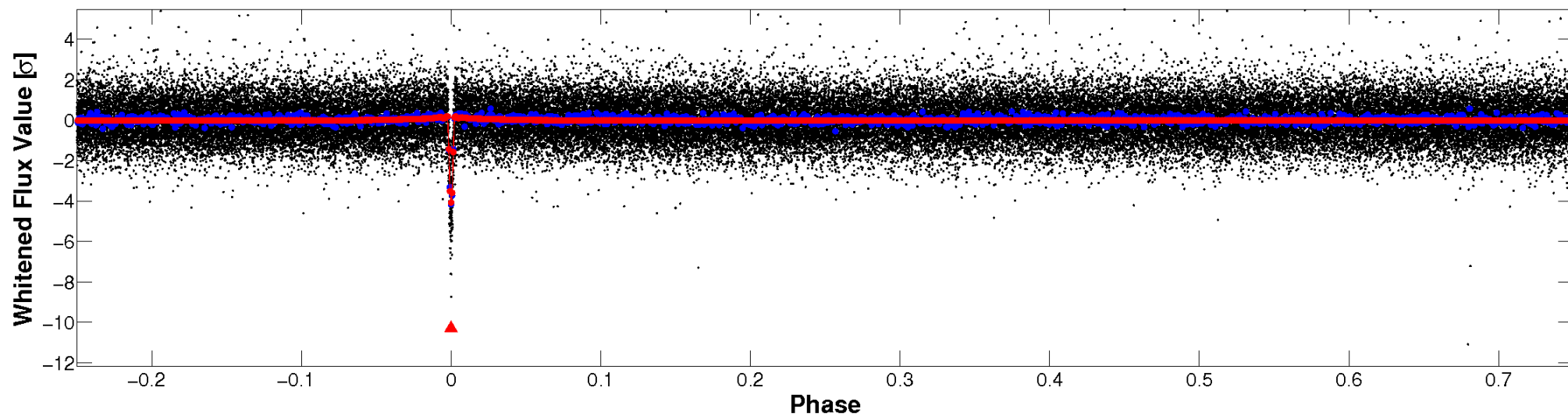


Non-Whitened Vs. Whitened Light Curve

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

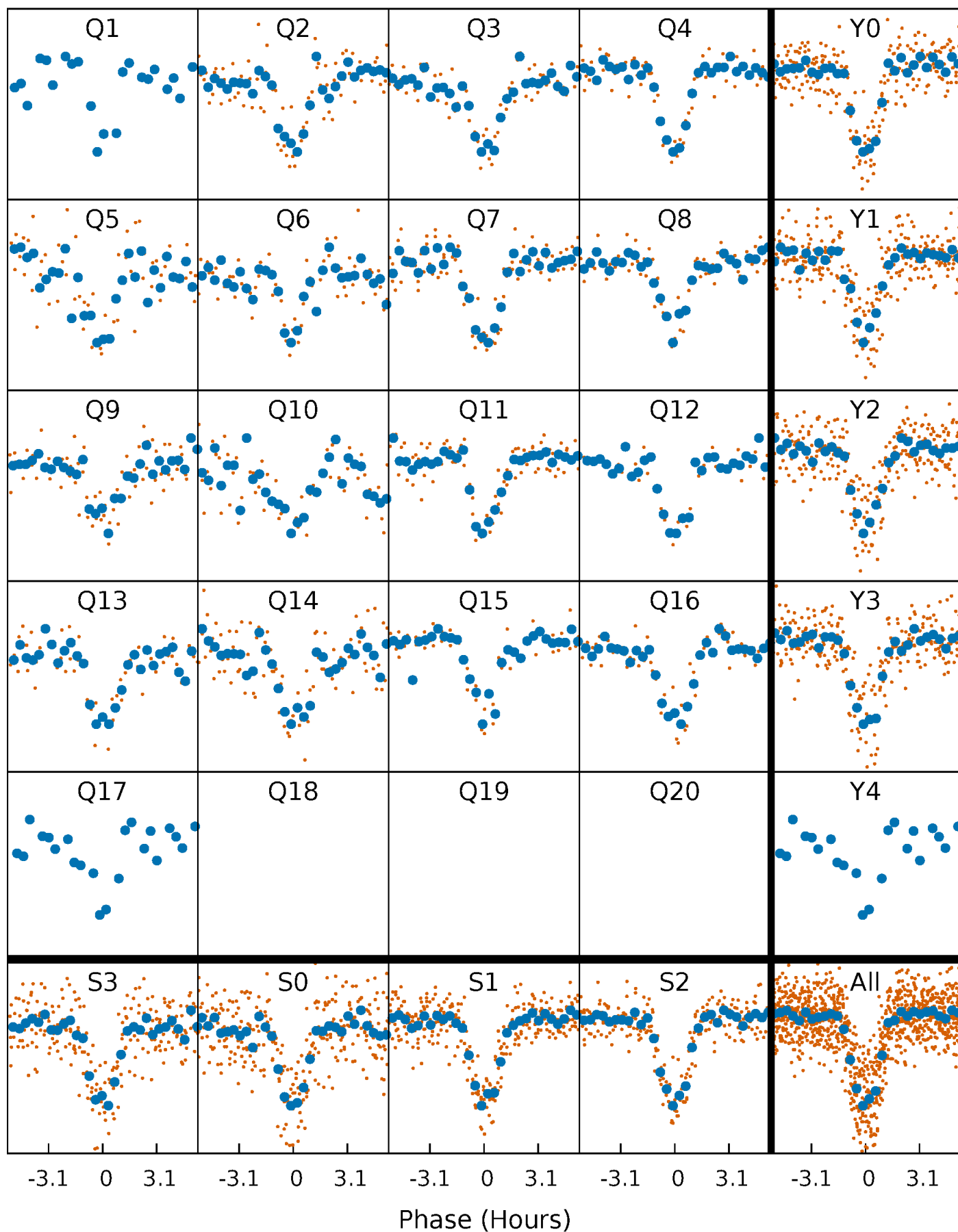


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



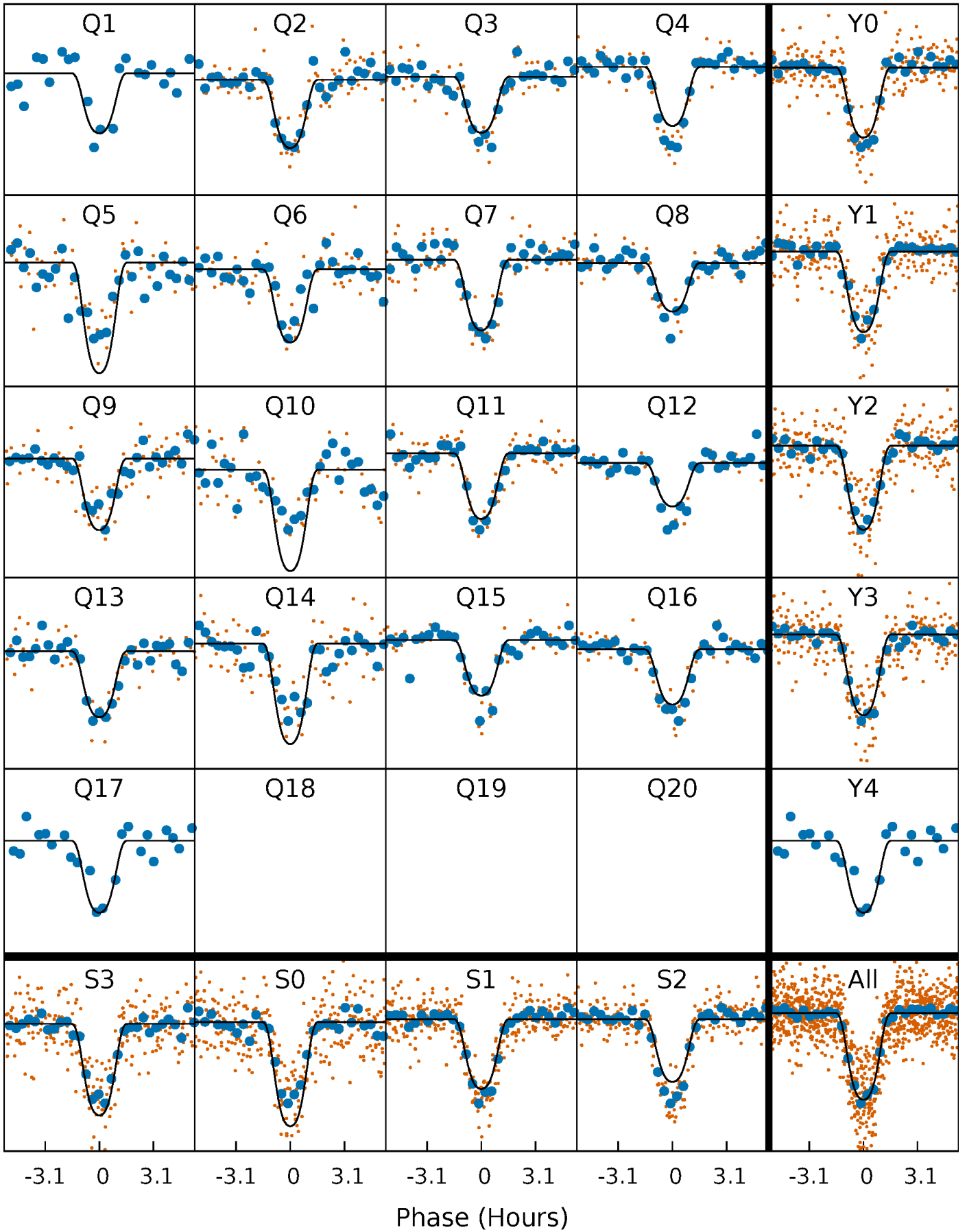
PDC Quarter-Phased Transit Curves

TCE 006042214-01 P= 27.046221 Days $T_0=144.910245$ (BKJD)



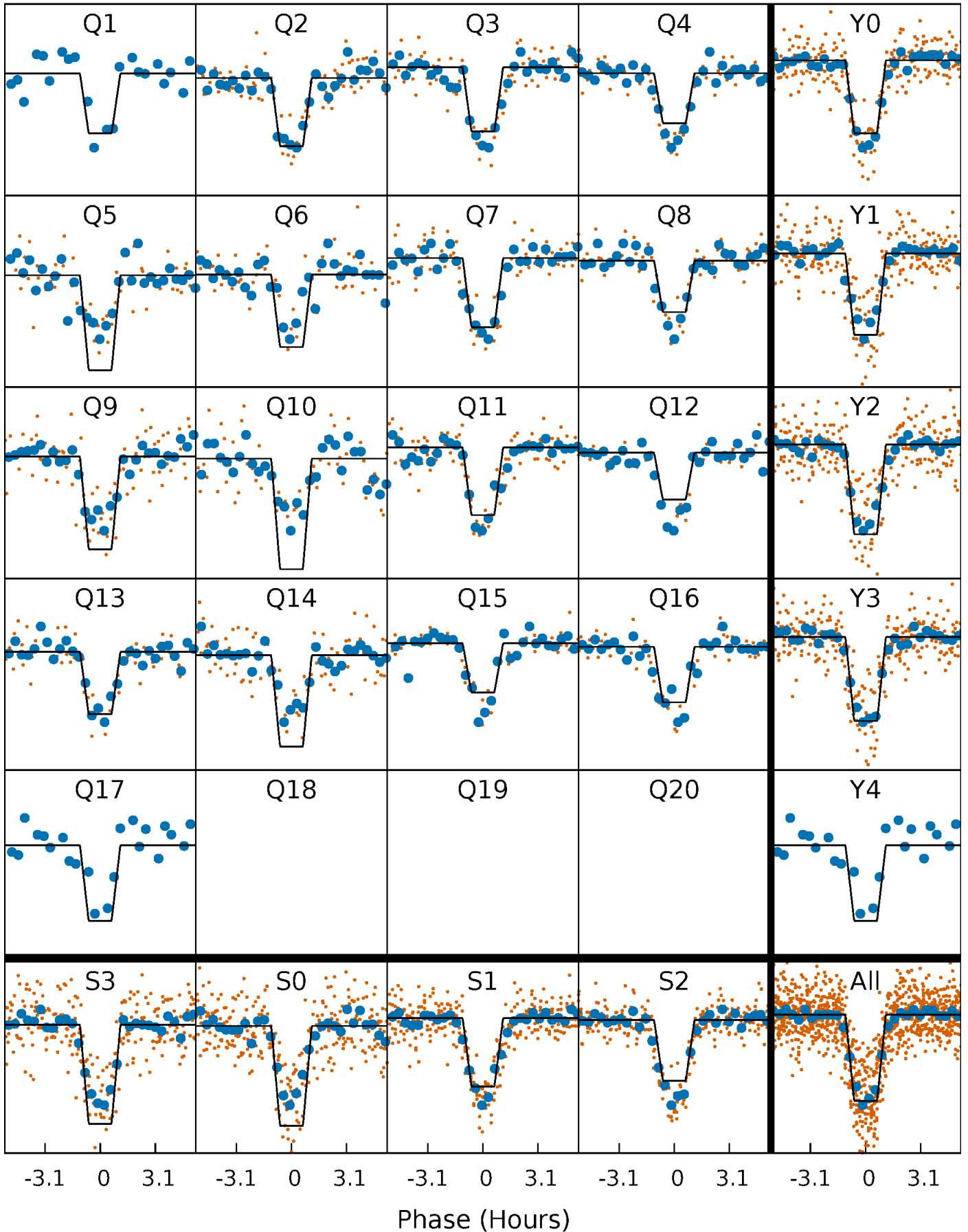
DV Quarter-Phased Transit Curves

TCE 006042214-01 P= 27.046221 Days $T_0=144.910245$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

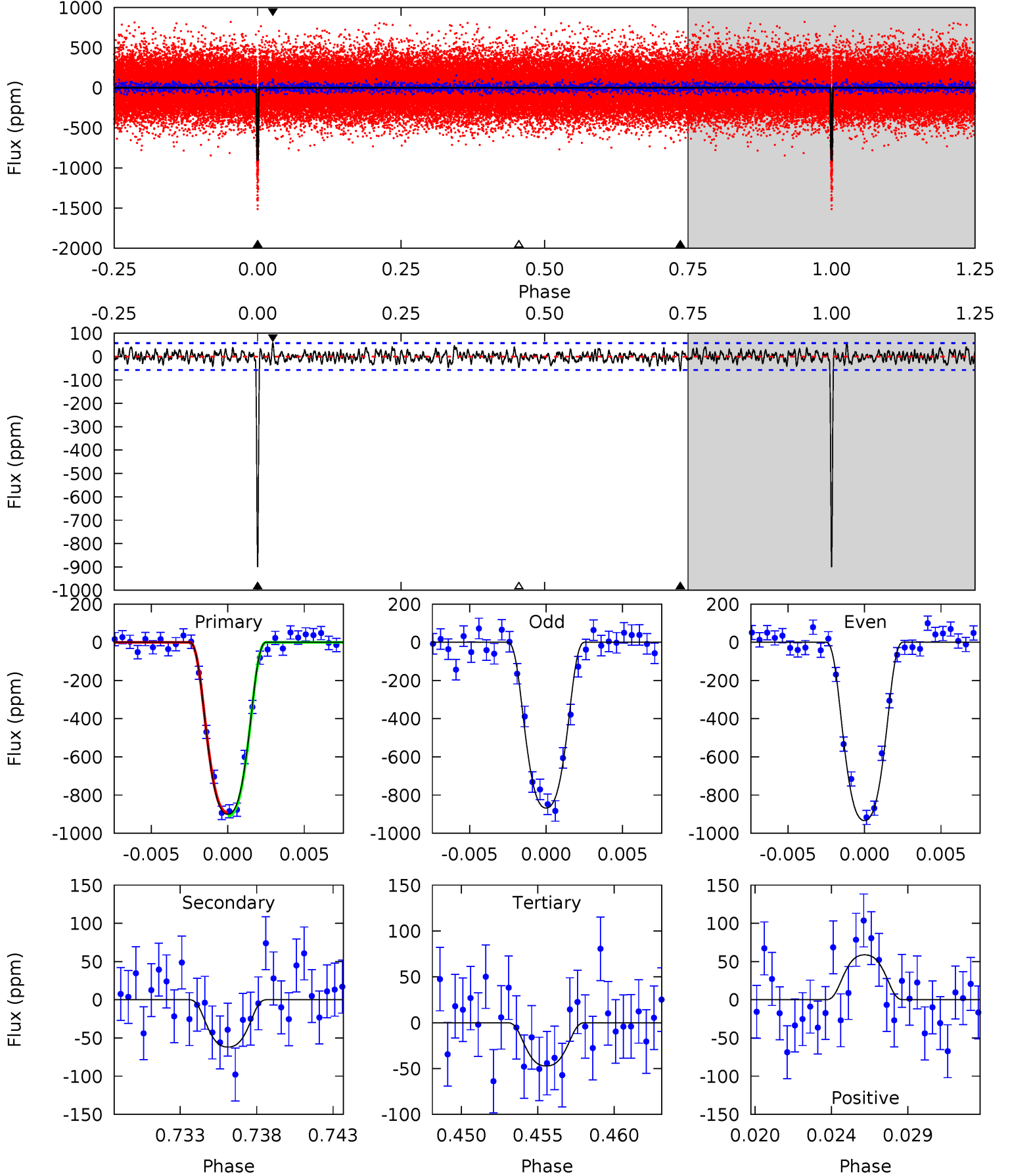
TCE 006042214-01 P= 27.046293 Days $T_0=144.908952$ (BKJD)



DV Model-Shift Uniqueness Test

006042214-01, P = 27.046221 Days, E = 117.864024 Days

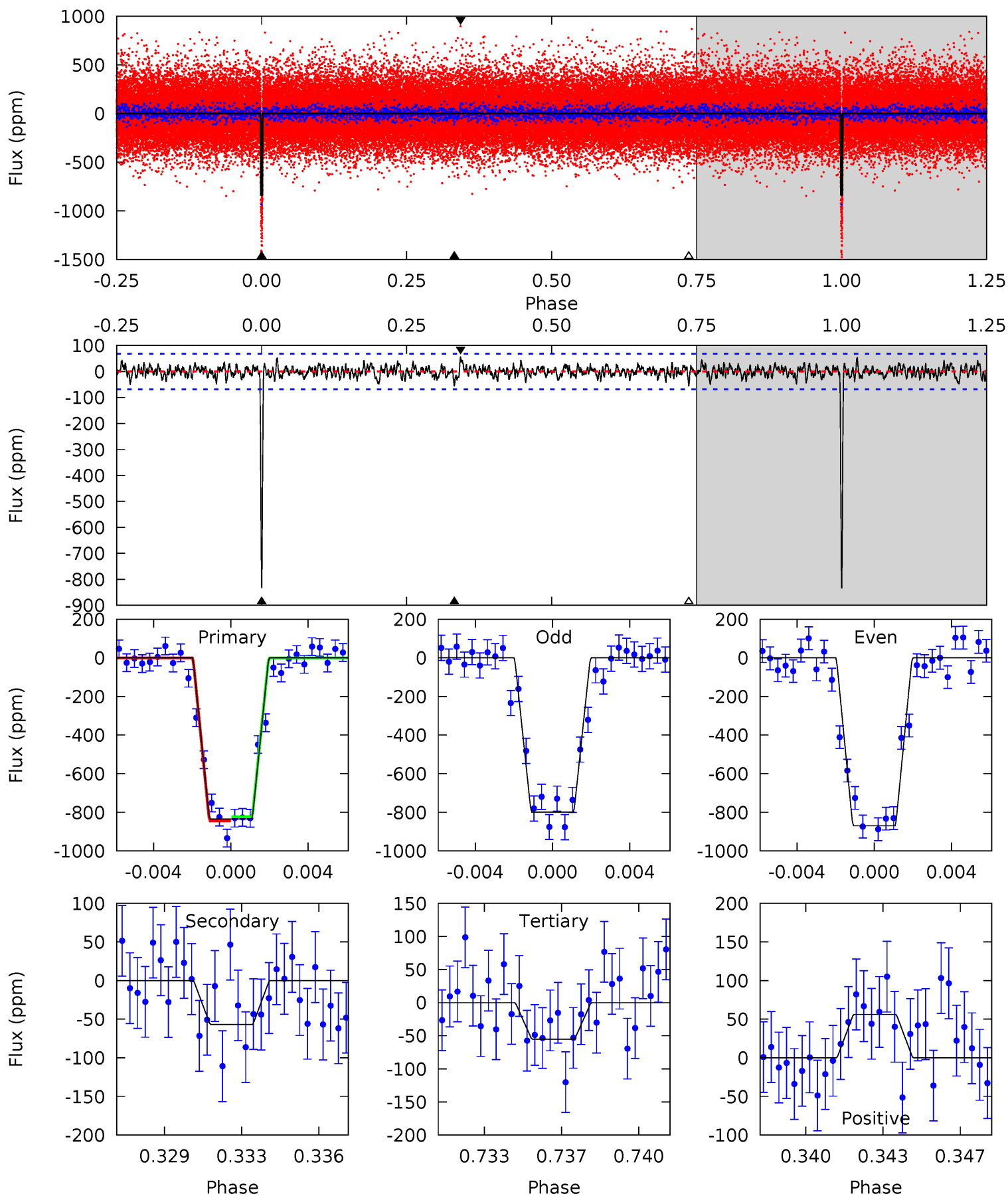
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
80.9	5.56	4.24	5.28	5.16	2.81	1.45	76.7	75.7	1.32	0.28	2.96	0.96	0.06	0.84



Alt Model-Shift Uniqueness Test

006042214-01, $P = 27.046293$ Days, $E = 117.862659$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
63.8	4.34	4.23	4.30	5.22	2.91	1.23	59.6	59.5	0.11	0.04	2.74	0.97	0.06	0.79



Stellar Parameters For KIC 006042214

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6332^{+174}_{-206}	$4.516^{+0.039}_{-0.221}$	$-0.500^{+0.300}_{-0.350}$	$0.915^{+0.283}_{-0.088}$	$1.001^{+0.115}_{-0.128}$	$1.841^{+0.376}_{-0.958}$
	+3%/-3%	+1%/-5%	+60%/-70%	+31%/-10%	+11%/-13%	+20%/-52%
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 006042214-01 / KOI 0450.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-62 ± 11	$3.67^{+0.64}_{-0.33}$	916^{+68}_{-45}	3479^{+127}_{-129}	75^{+22}_{-21}
Alt.	-57 ± 13	$3.09^{+0.49}_{-0.28}$	914^{+64}_{-46}	3610^{+167}_{-180}	94^{+34}_{-29}

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

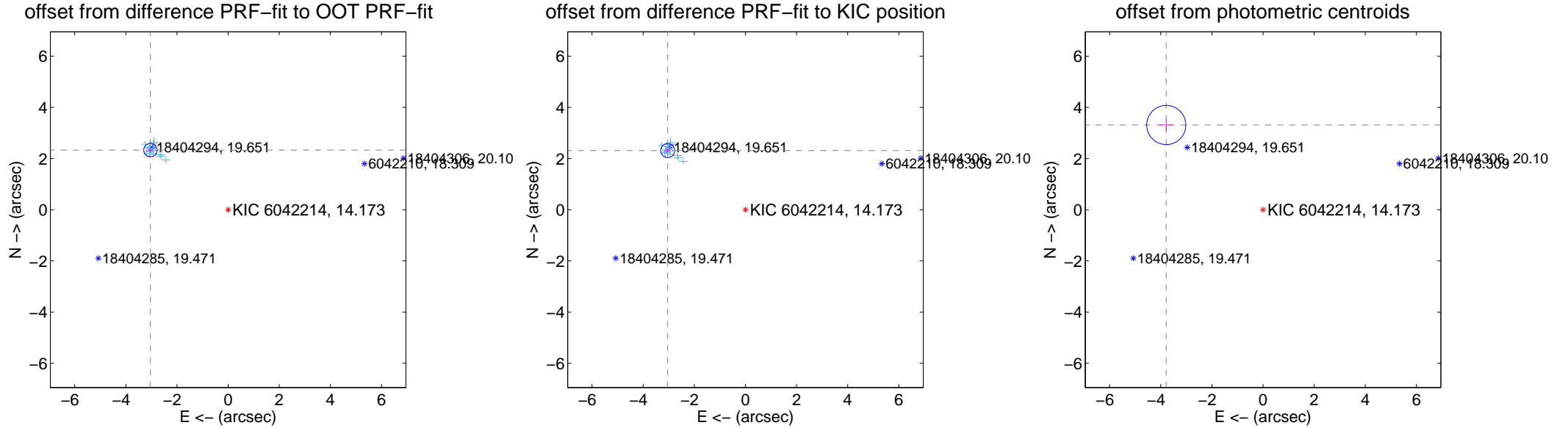
DV Centroid Data

Supplemental centroid analysis for 006042214-01. Kepler magnitude: 14.17. Transit SNR 46.14

There are 17 quarters with good PRF difference image offsets

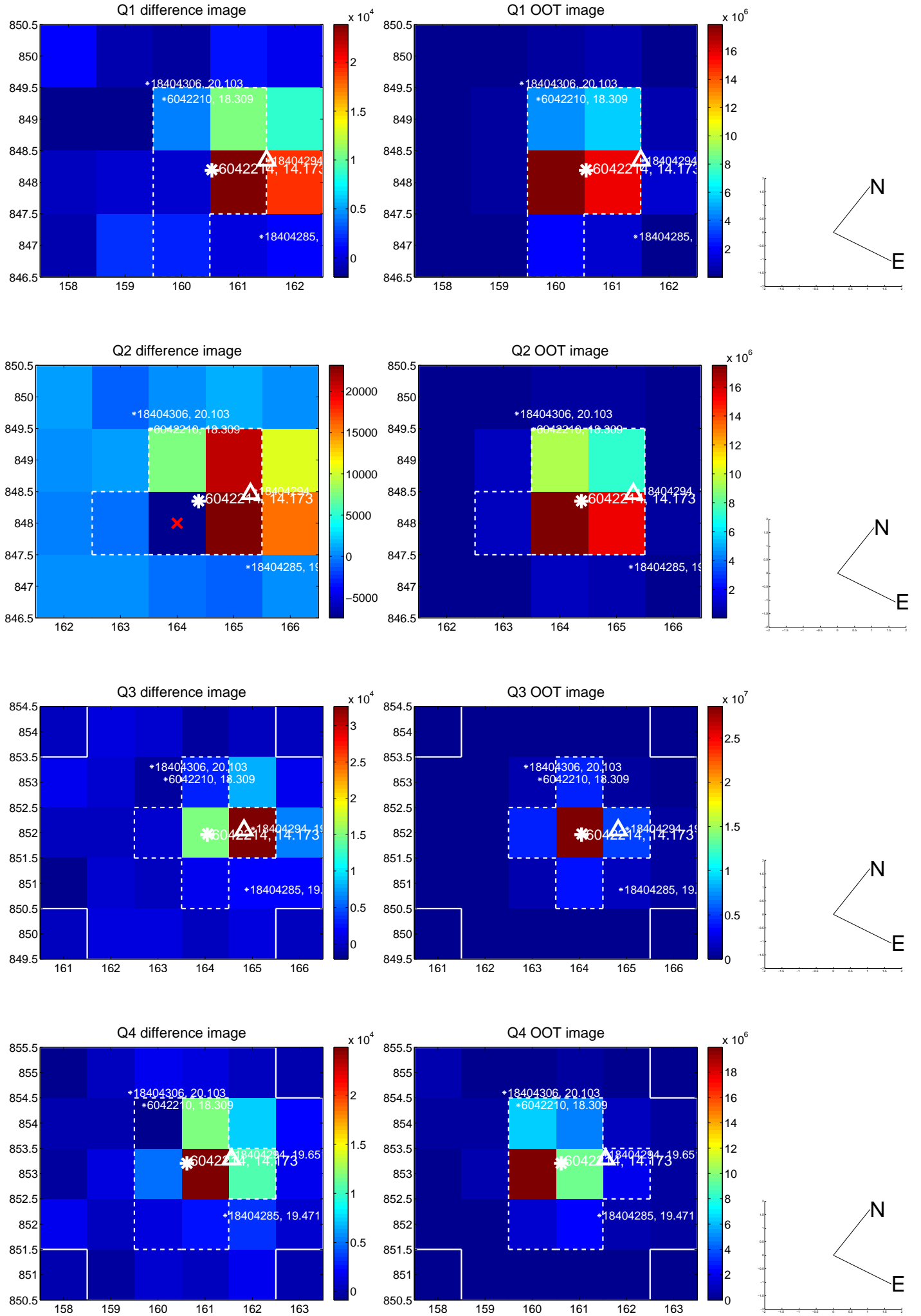
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.826 ± 0.087	43.94	3.036 ± 0.082	2.328 ± 0.078
PRF-fit source offset from KIC position	3.818 ± 0.091	42.04	3.040 ± 0.085	2.310 ± 0.079
photometric centroid source offset	5.03 ± 0.25	19.72	3.78 ± 0.27	3.31 ± 0.24

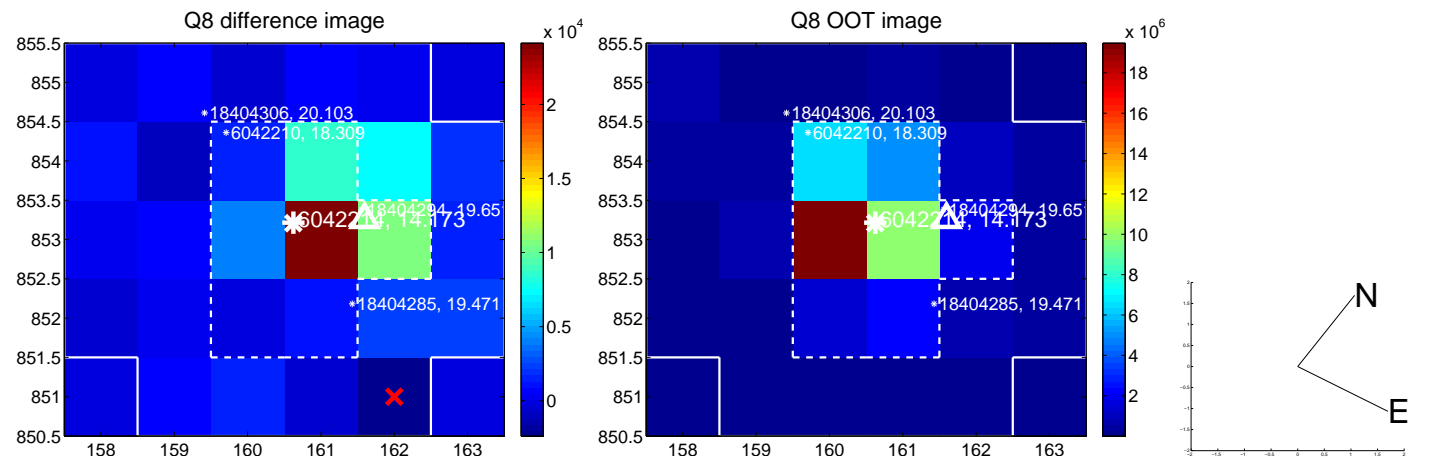
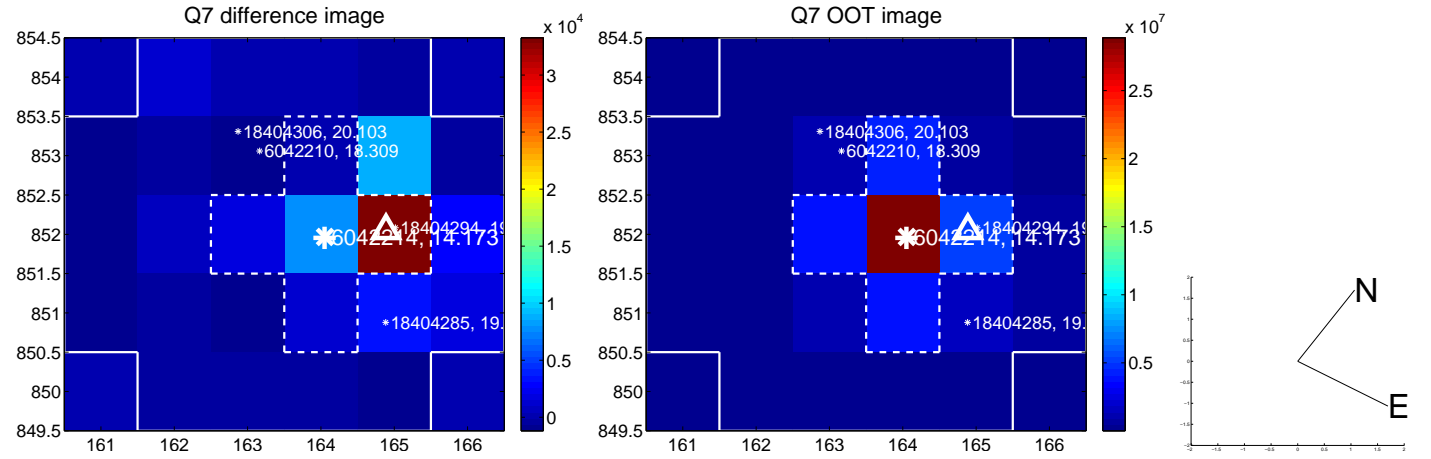
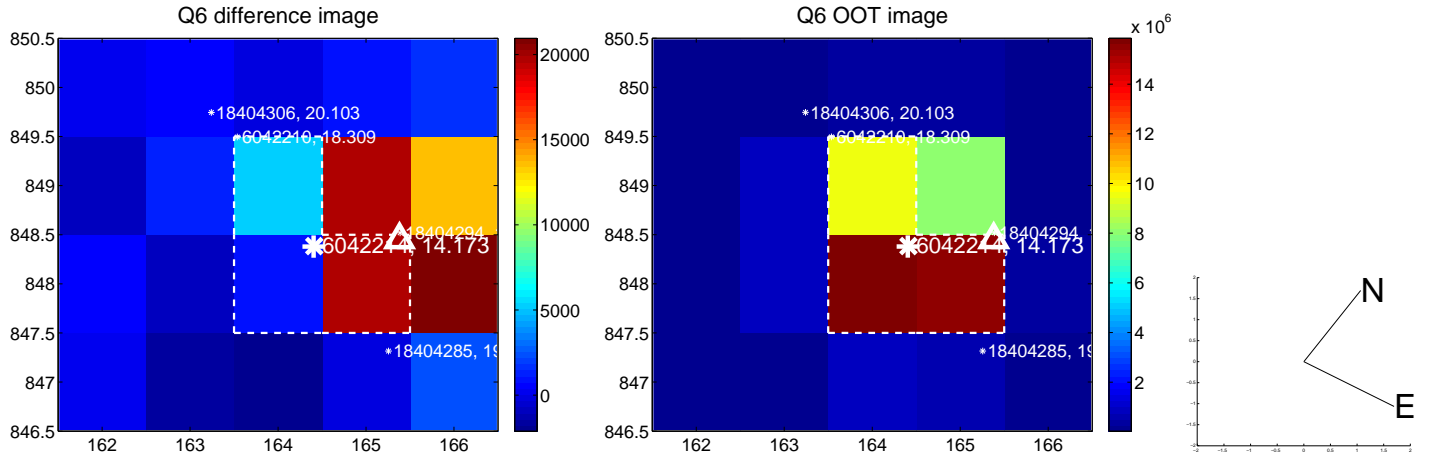
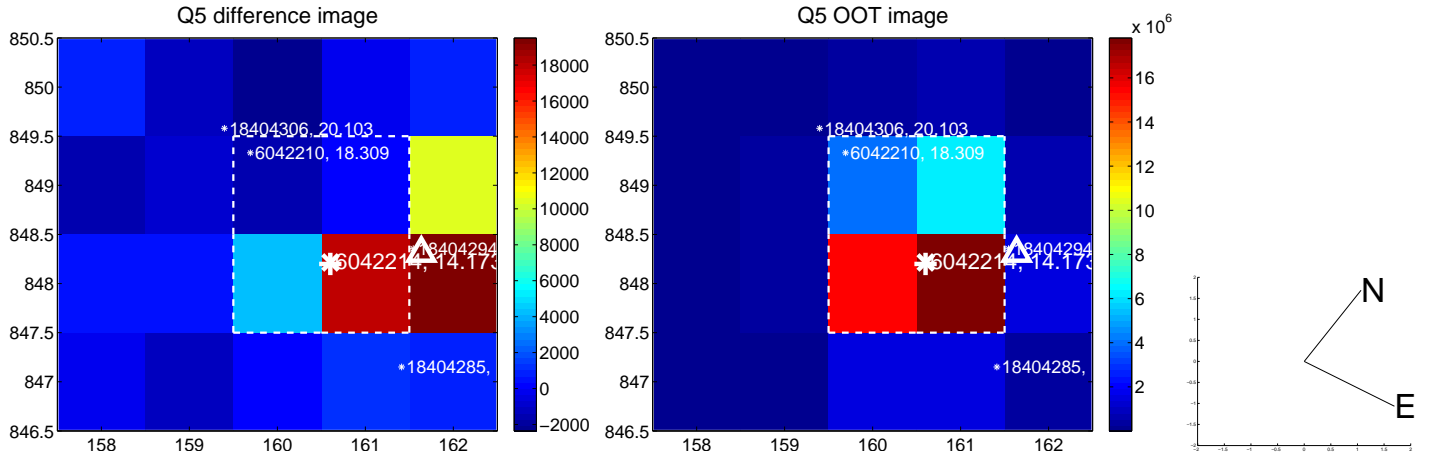


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

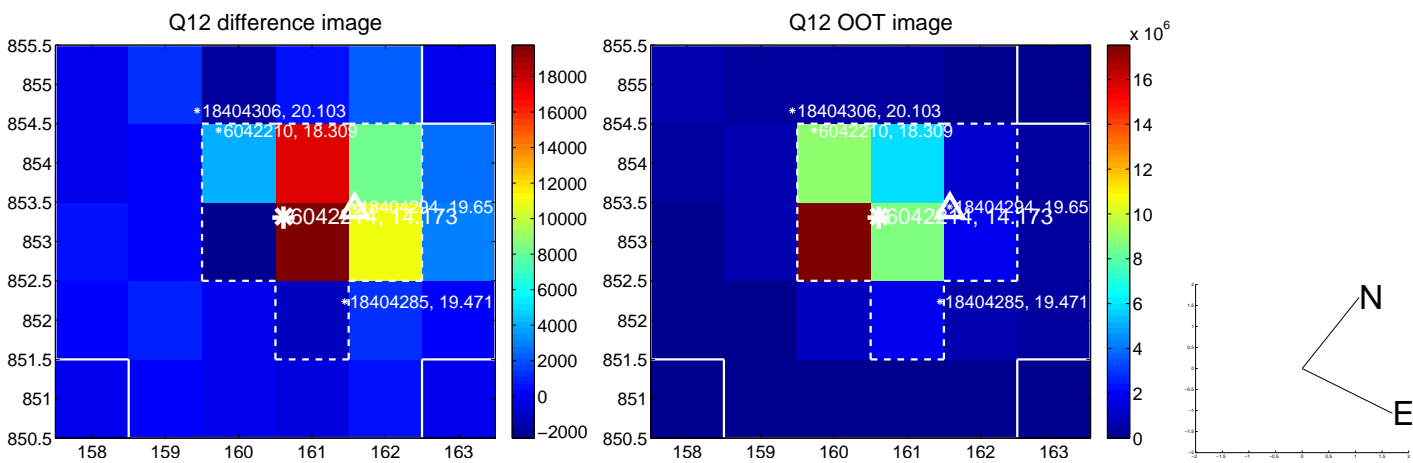
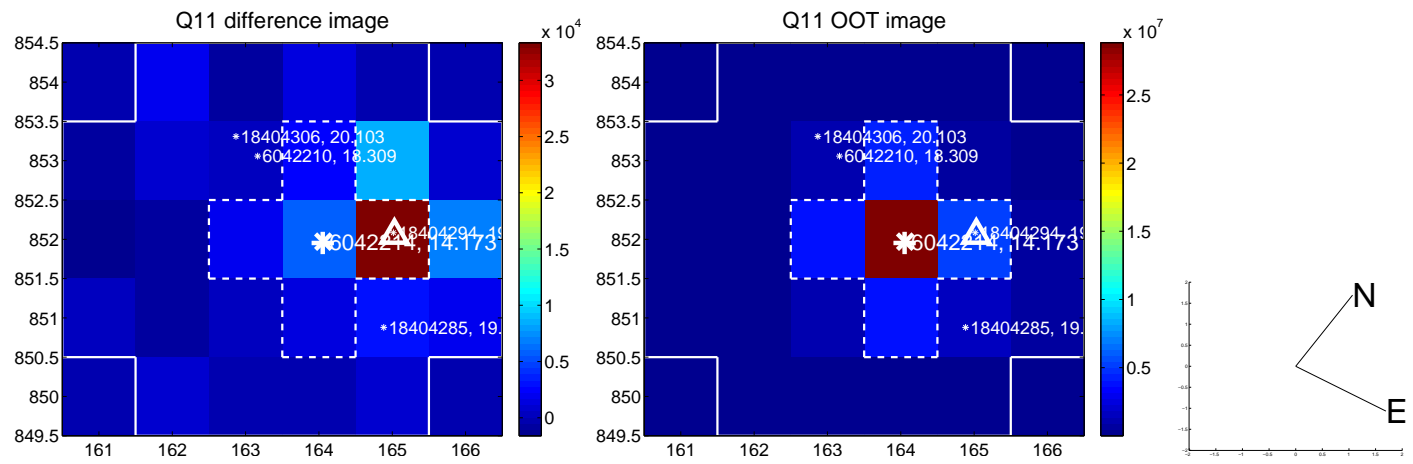
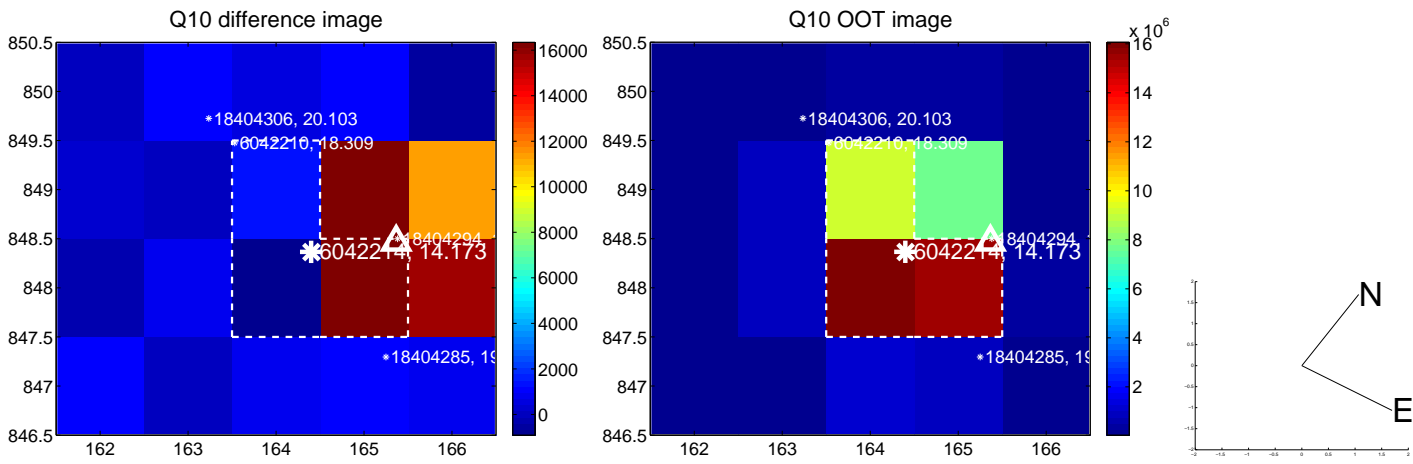
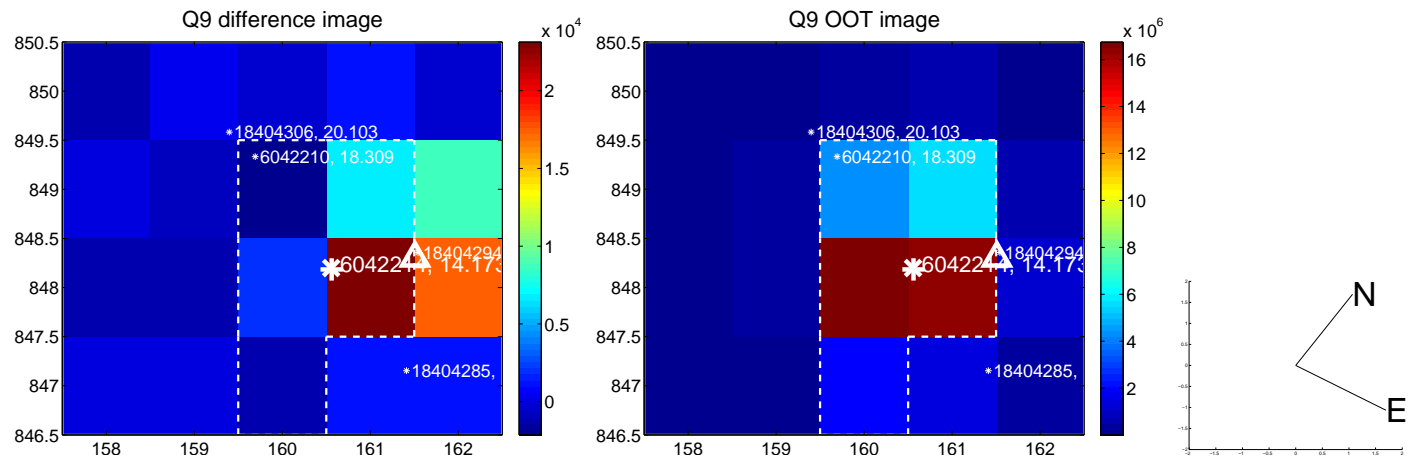
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



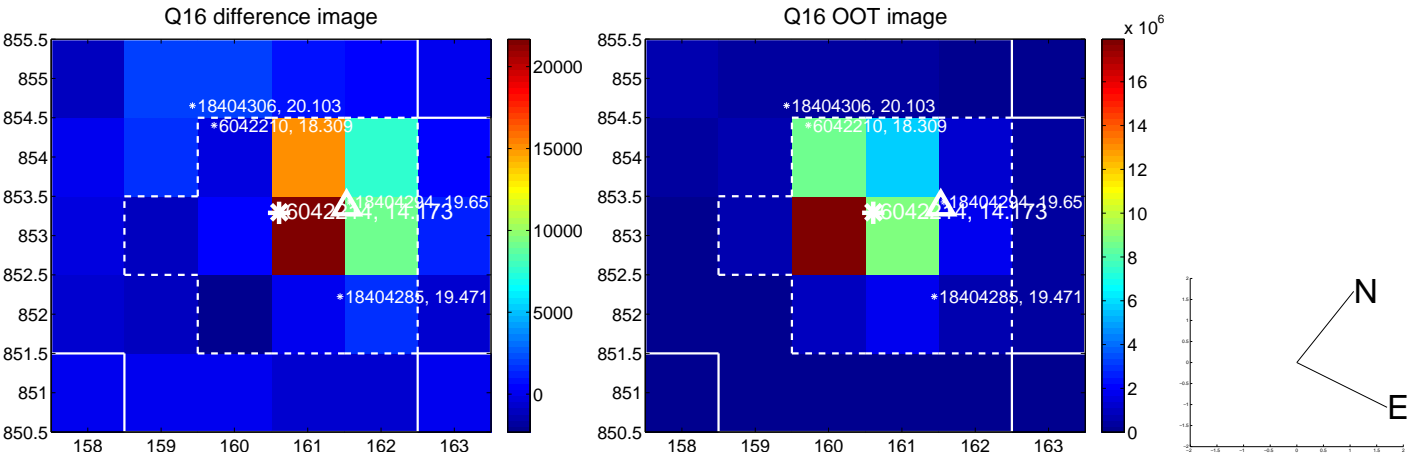
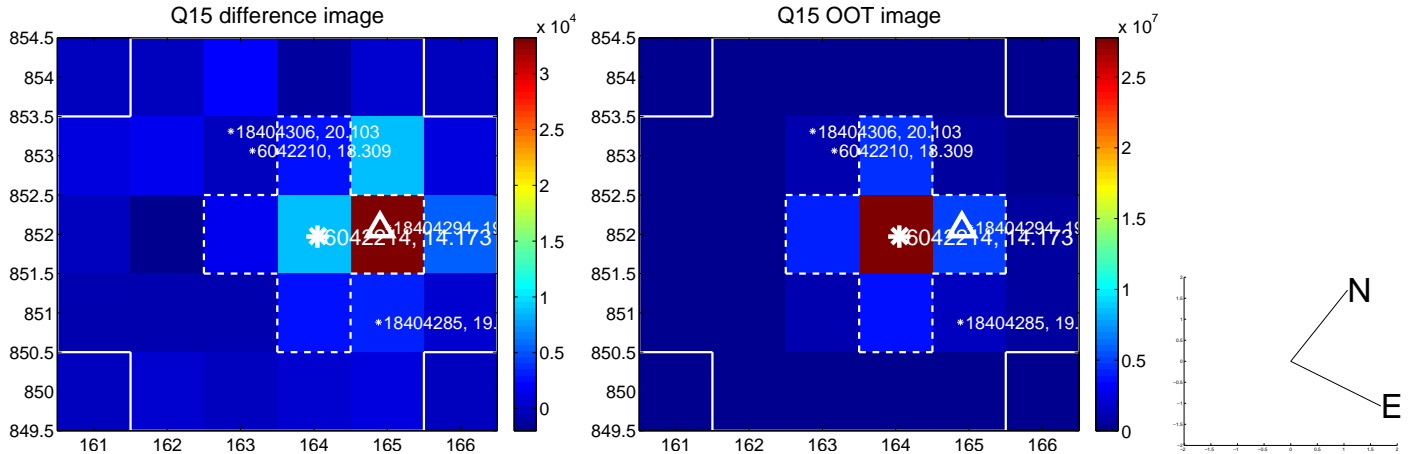
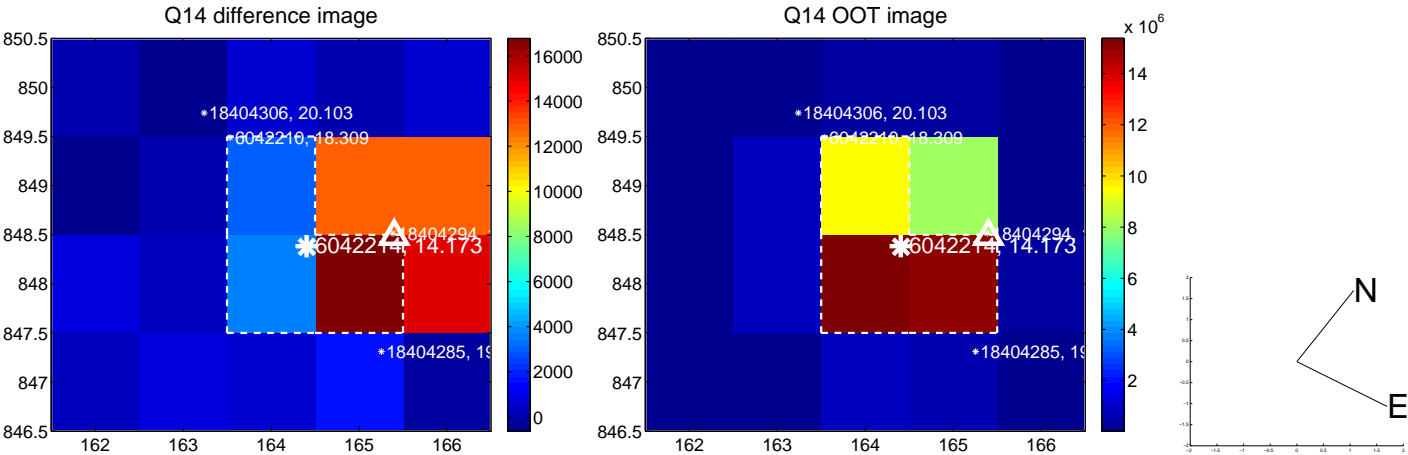
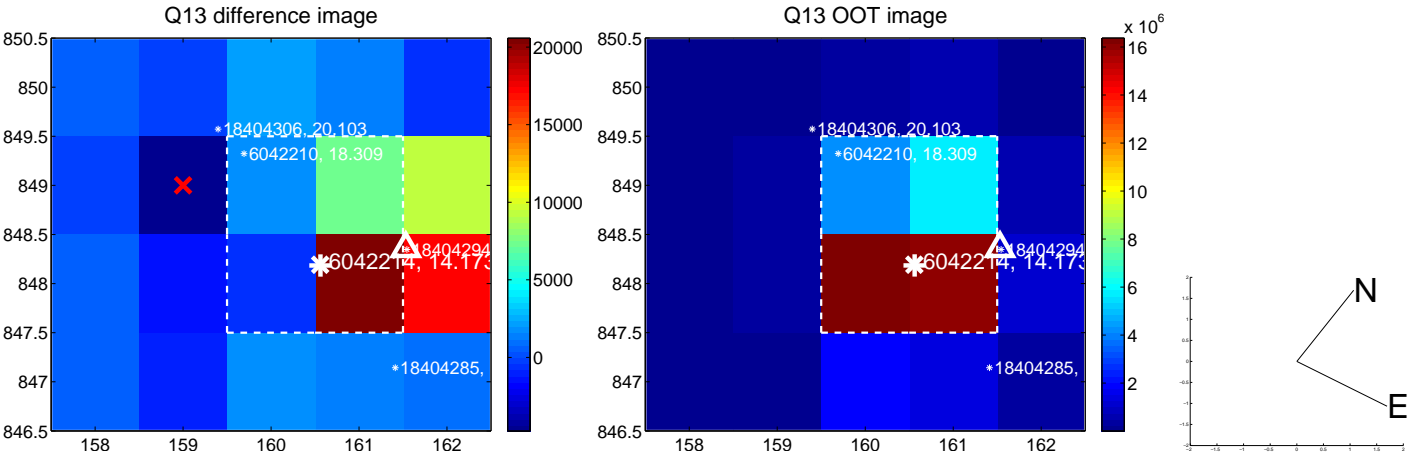
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



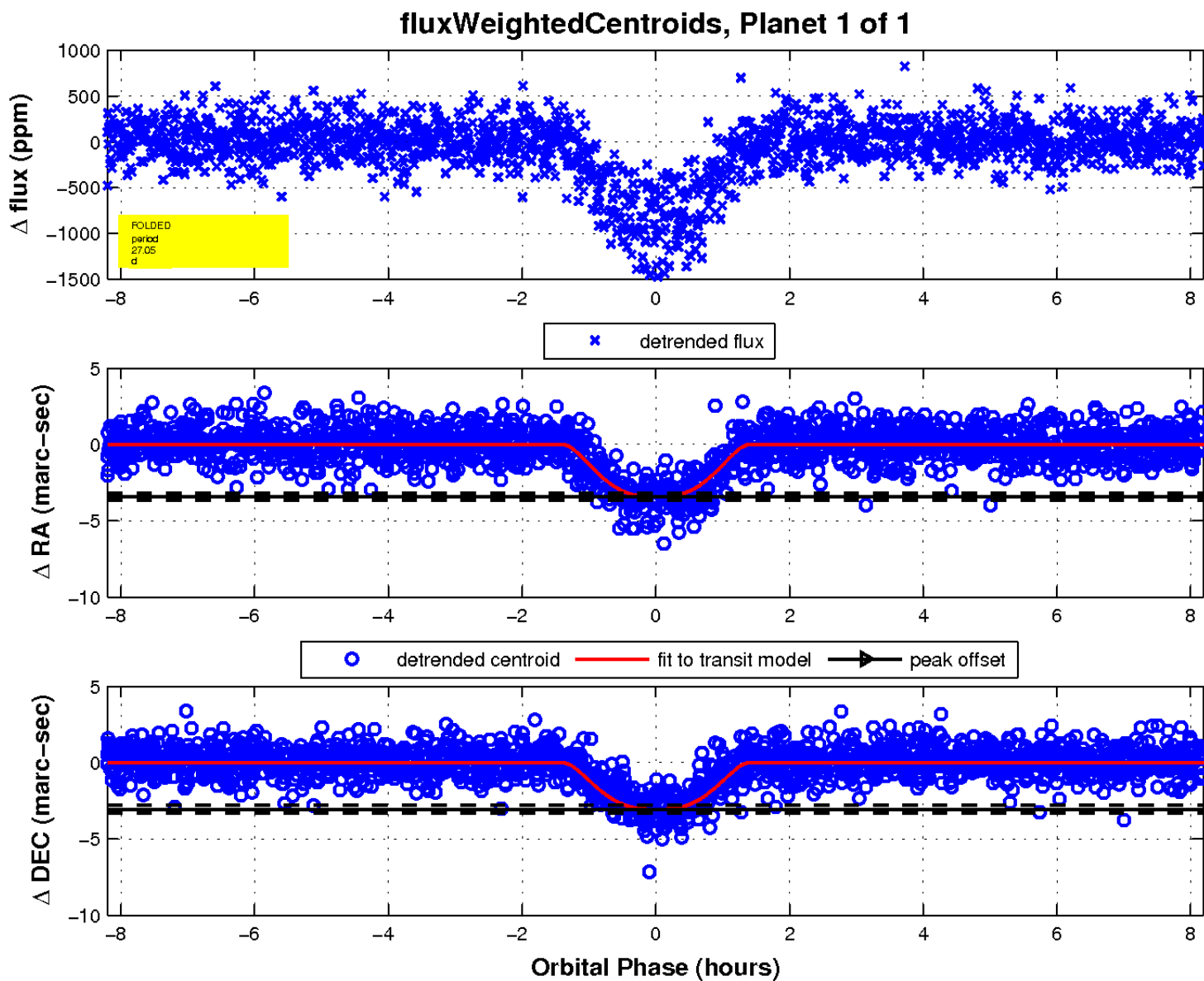
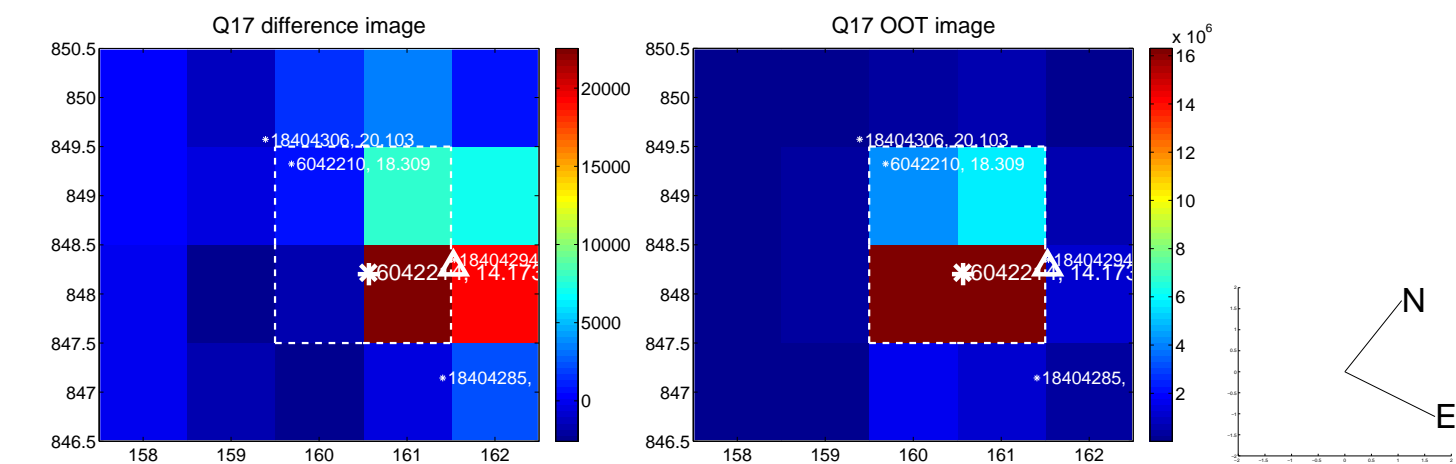
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

