

KIC 009414417

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})
009414417-01	OBS	0974.01	53.505789	172.983101	192.6	10.610	40.1	40.1	1.76	6247	2.59	49.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009414417-01	OBS	PC	1.00	0	0	0	0	CENT_SATURATED

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.

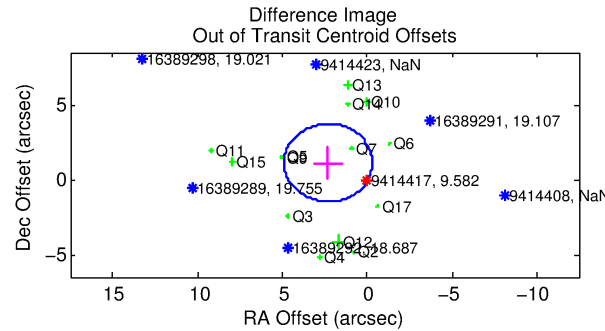
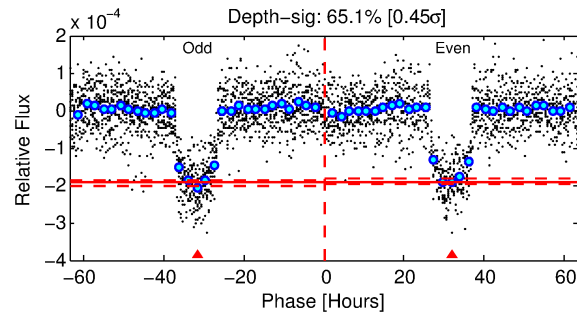
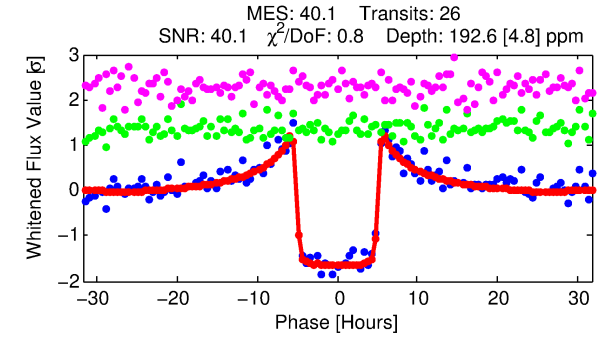
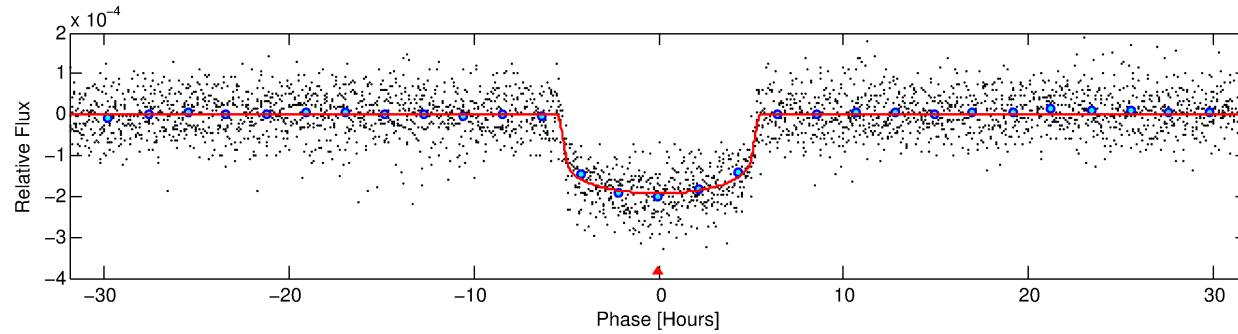
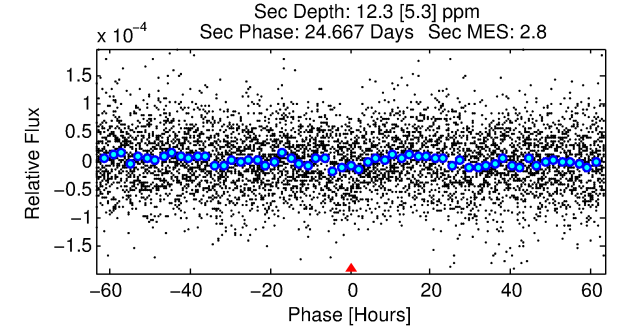
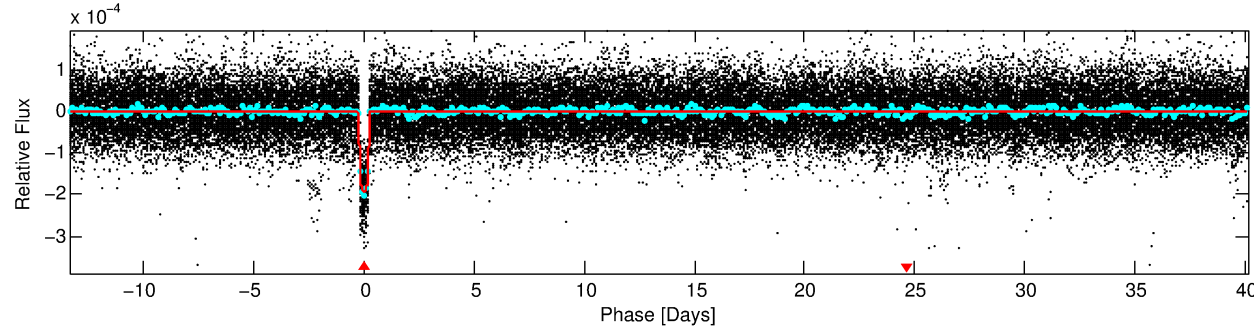
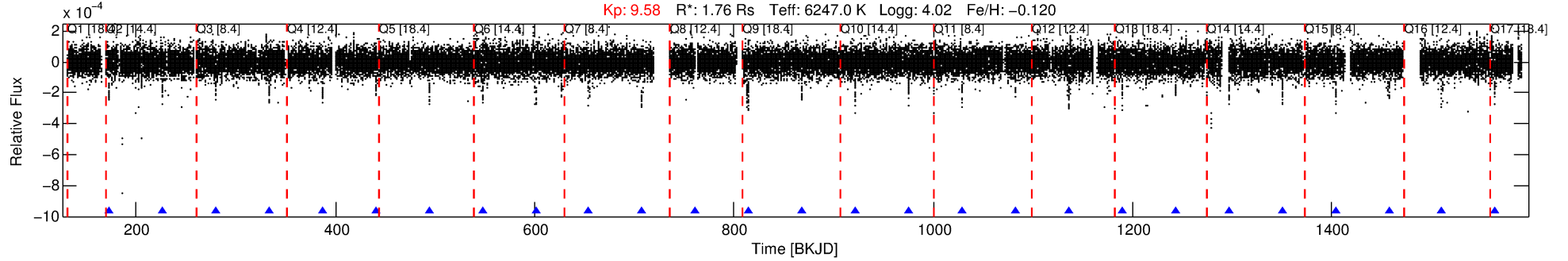
Ephemeris Match Information For 009414417-01

No Significant Match Found

DV One-Page Summary

KIC: 9414417 Candidate: 1 of 1 Period: 53.506 d

KOI: K00974.01 Corr: 0.995



DV Fit Results:

Period = 53.50579 [0.00014] d
Epoch = 172.9831 [0.0021] BKJD
Rp/R* = 0.0135 [0.0009]
a/R* = 29.38 [10.38]
b = 0.67 [0.29]
Seff = 49.25 [3.88]
Teq = 675 [13] K
Rp = 2.59 [0.25] Re
a = 0.2933 [0.0141] AU
Ag = 86.68 [39.44] [2.17σ]
Teffp = 3187 [361] K [6.95σ]

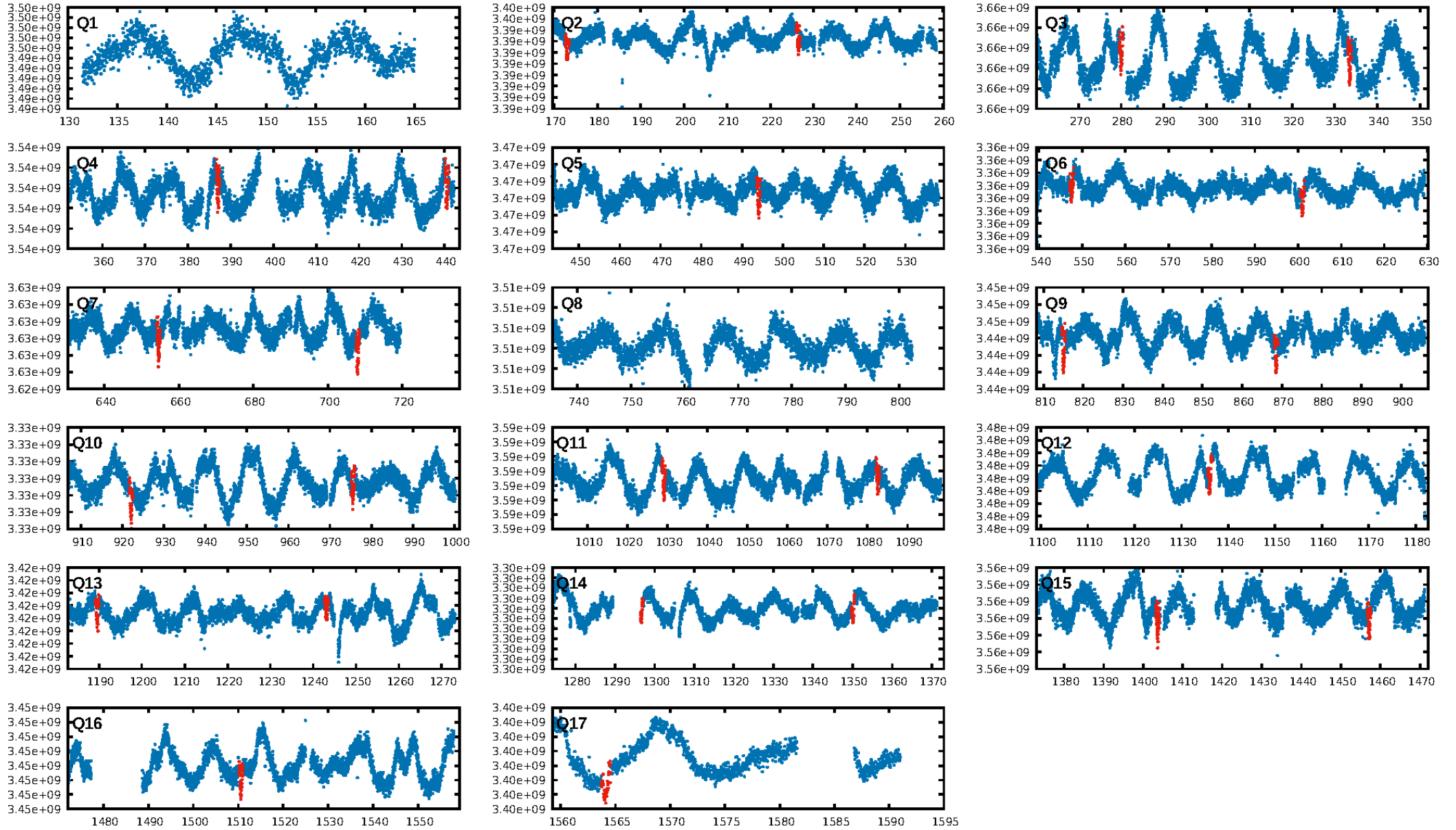
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.73e-280
RollingBand-fgt: 1.00 [25/25]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 2.316 arcsec [6.73σ]
OotOffset-rm: 2.566 arcsec [2.96σ]
KicOffset-rm: 1.661 arcsec [1.63σ]
OotOffset-st: 4/4/2/4 [14]
KicOffset-st: 4/4/2/4 [14]
DiffImageQuality-fgm: 0.00 [0/14]
DiffImageOverlap-fno: 1.00 [14/14]

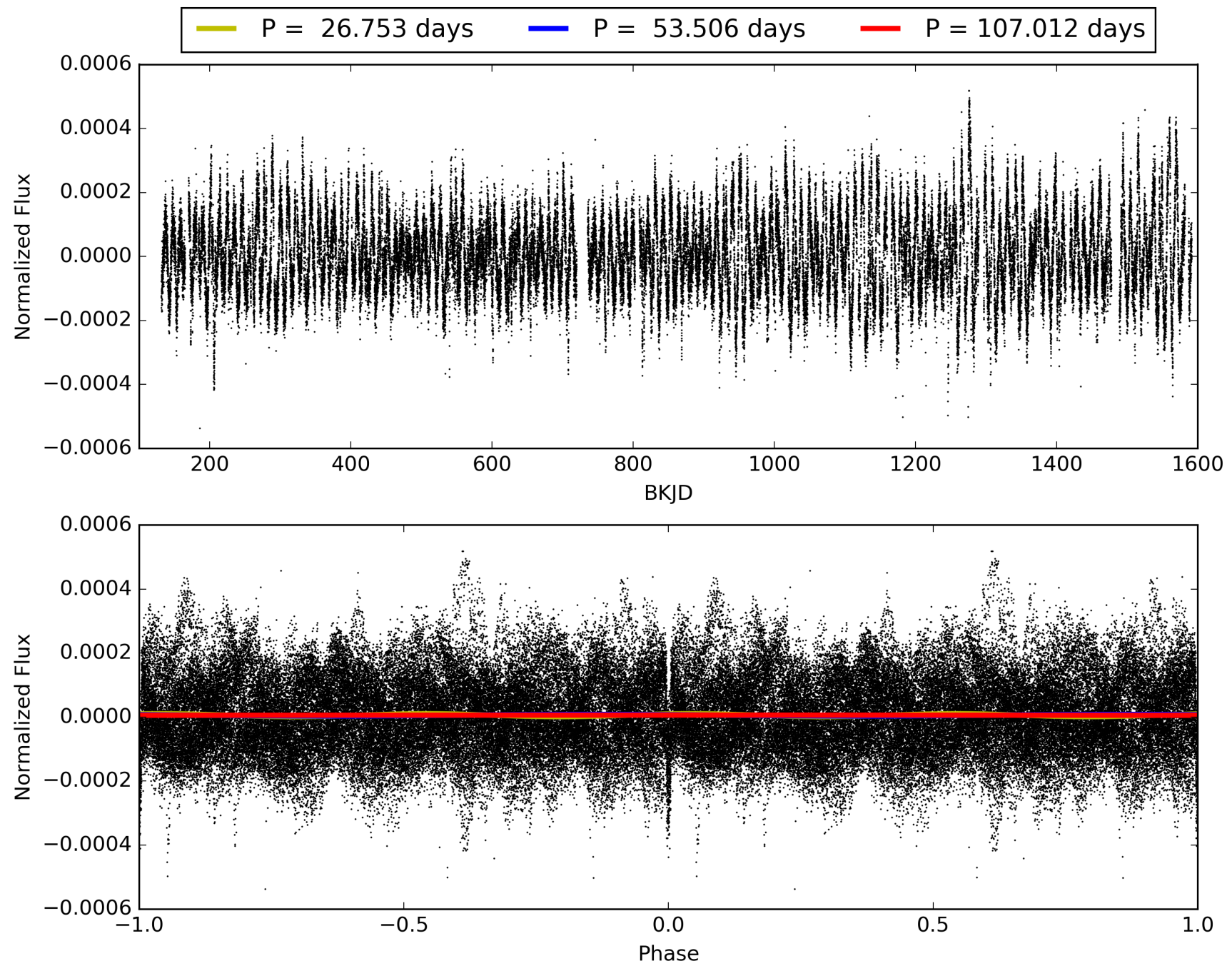
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:16:46 Z

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

TCE 009414417-01, PDC Light Curves

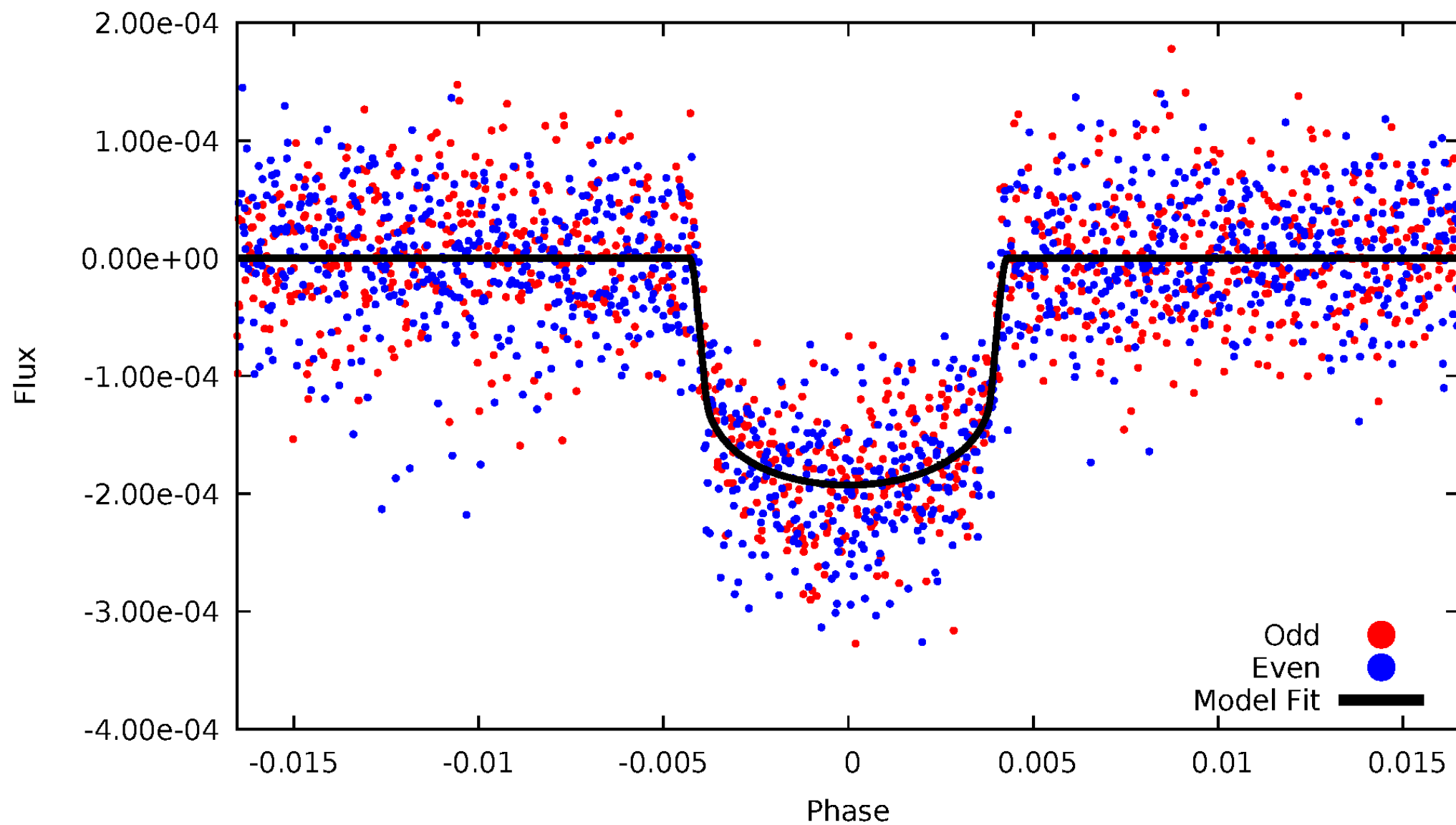


TCE 009414417-01



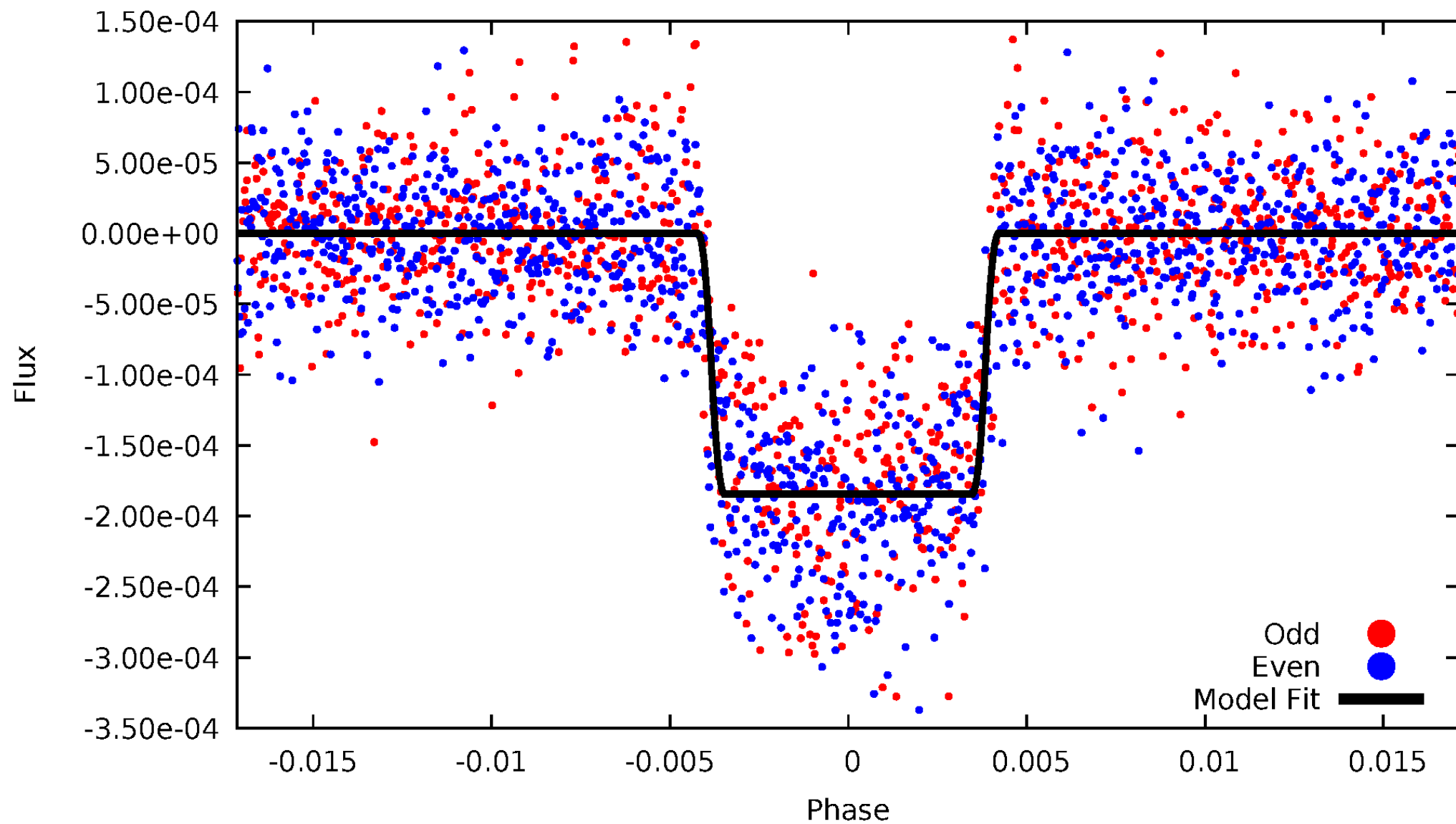
DV Odd/Even

TCE 009414417-01



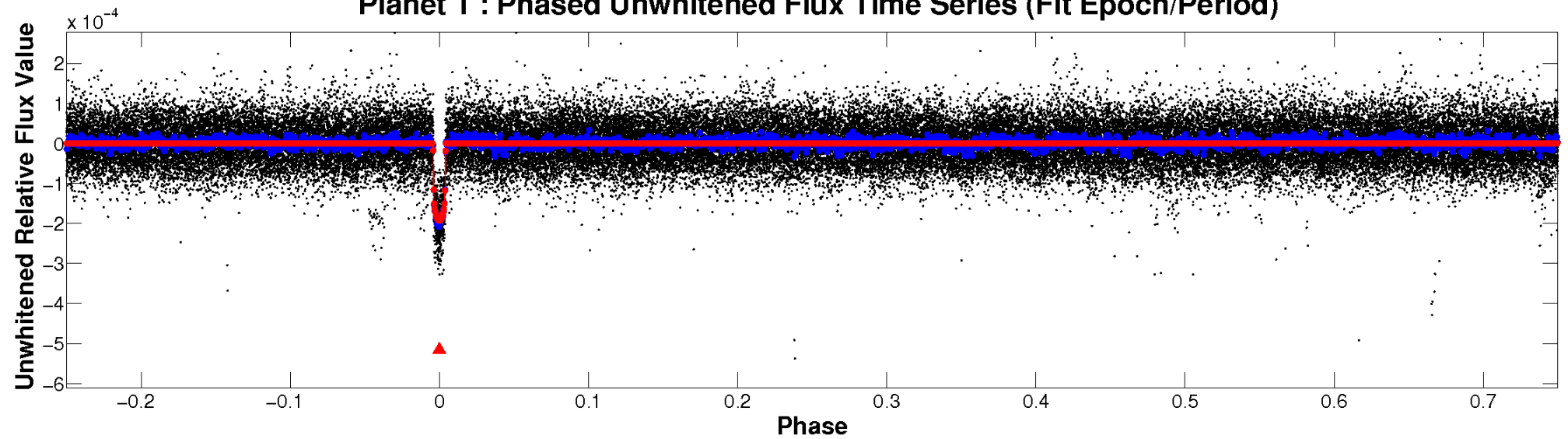
ALT Odd/Even

TCE 009414417-01

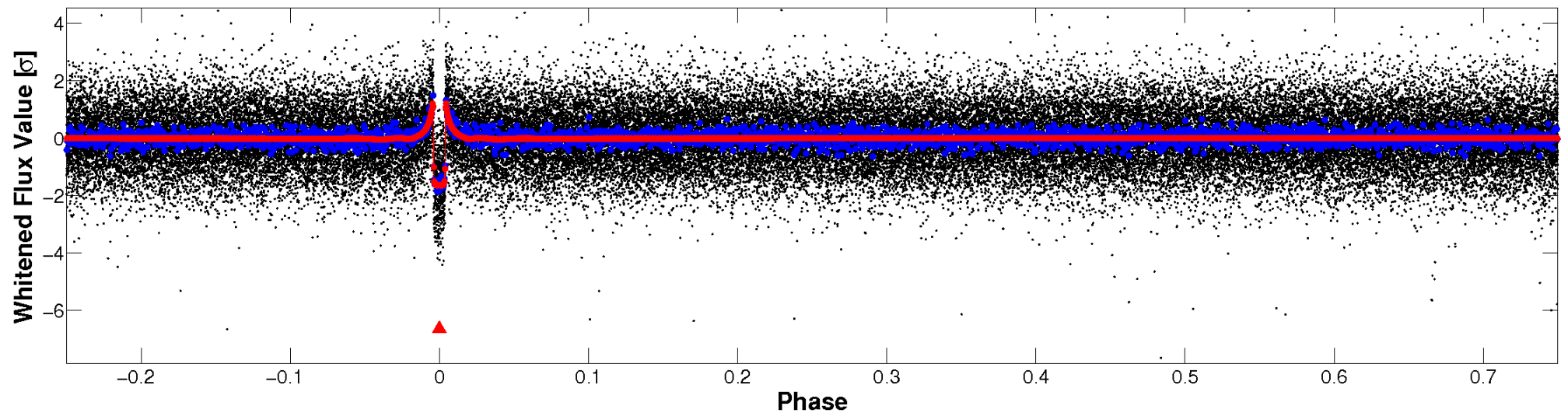


Non-Whitened Vs. Whitened Light Curve

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

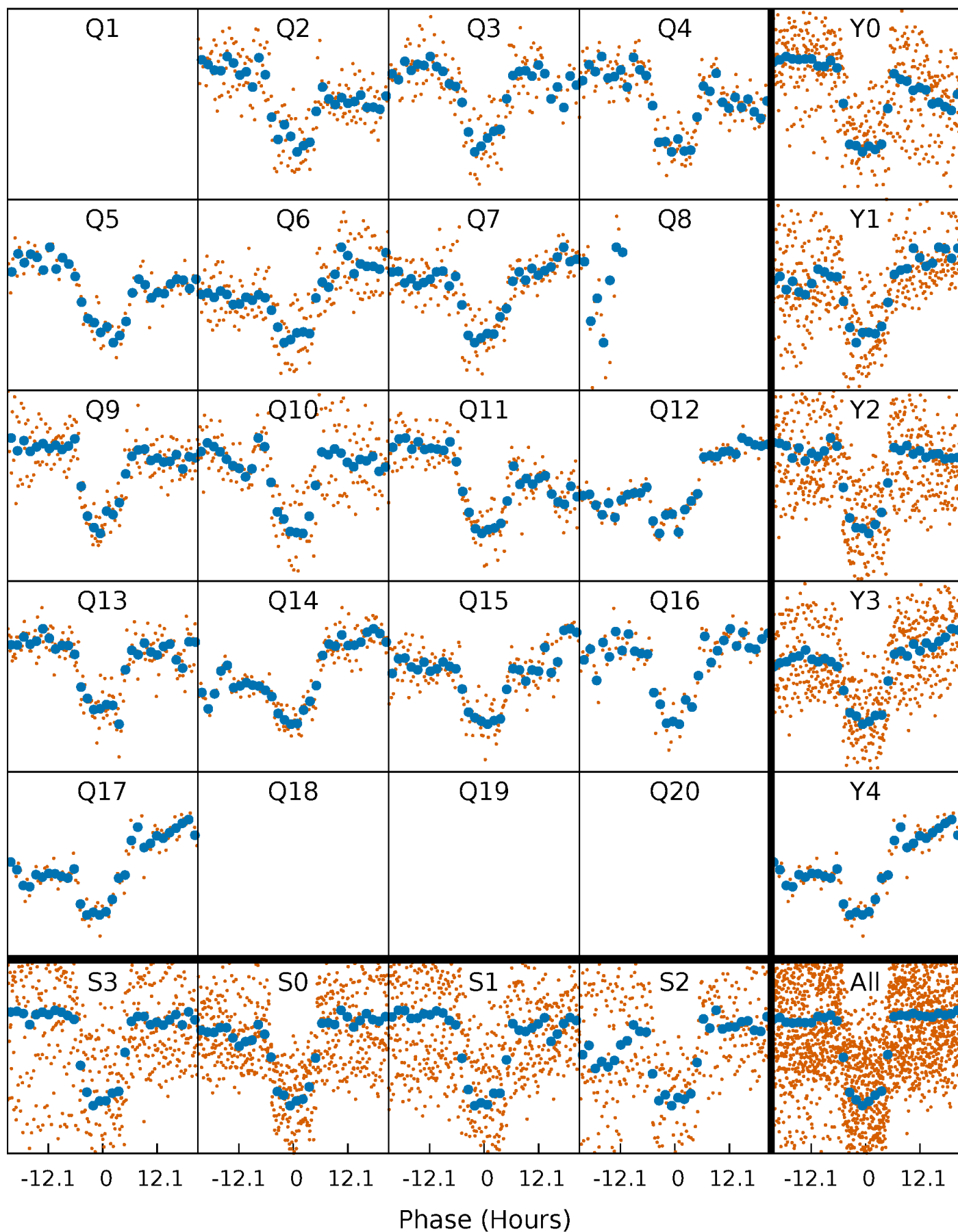


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



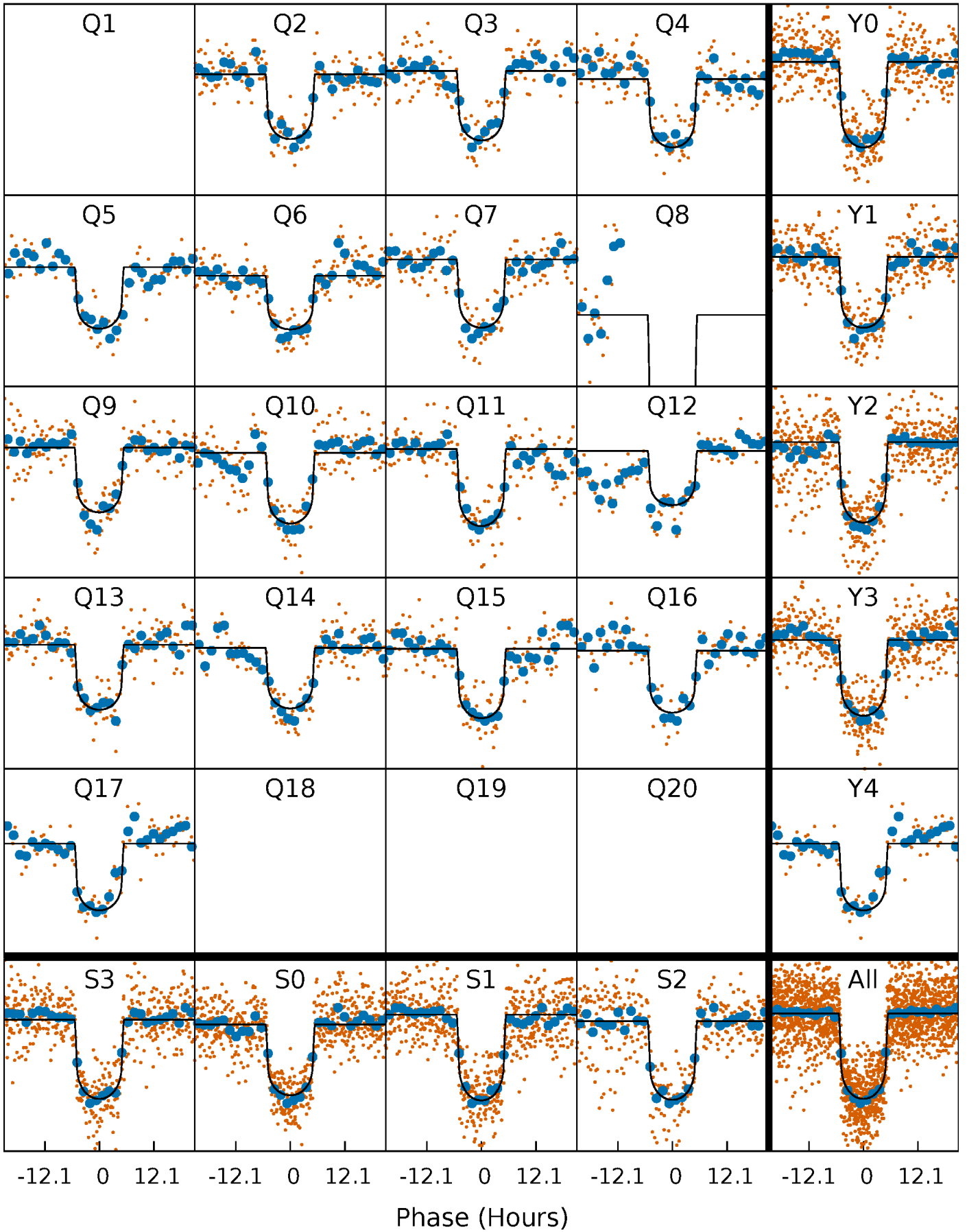
PDC Quarter-Phased Transit Curves

TCE 009414417-01 P= 53.505789 Days $T_0=172.983101$ (BKJD)



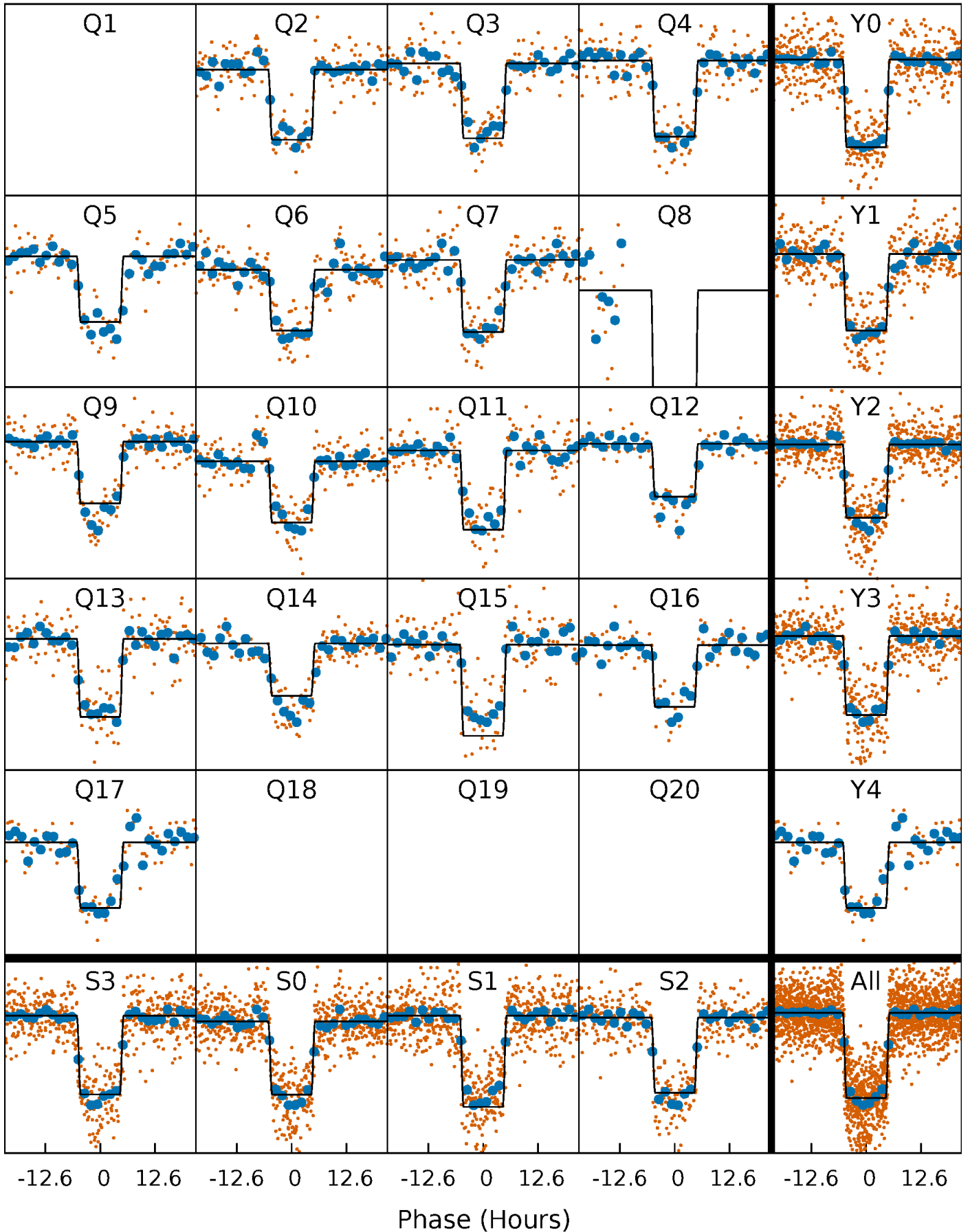
DV Quarter-Phased Transit Curves

TCE 009414417-01 P= 53.505789 Days $T_0=172.983101$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

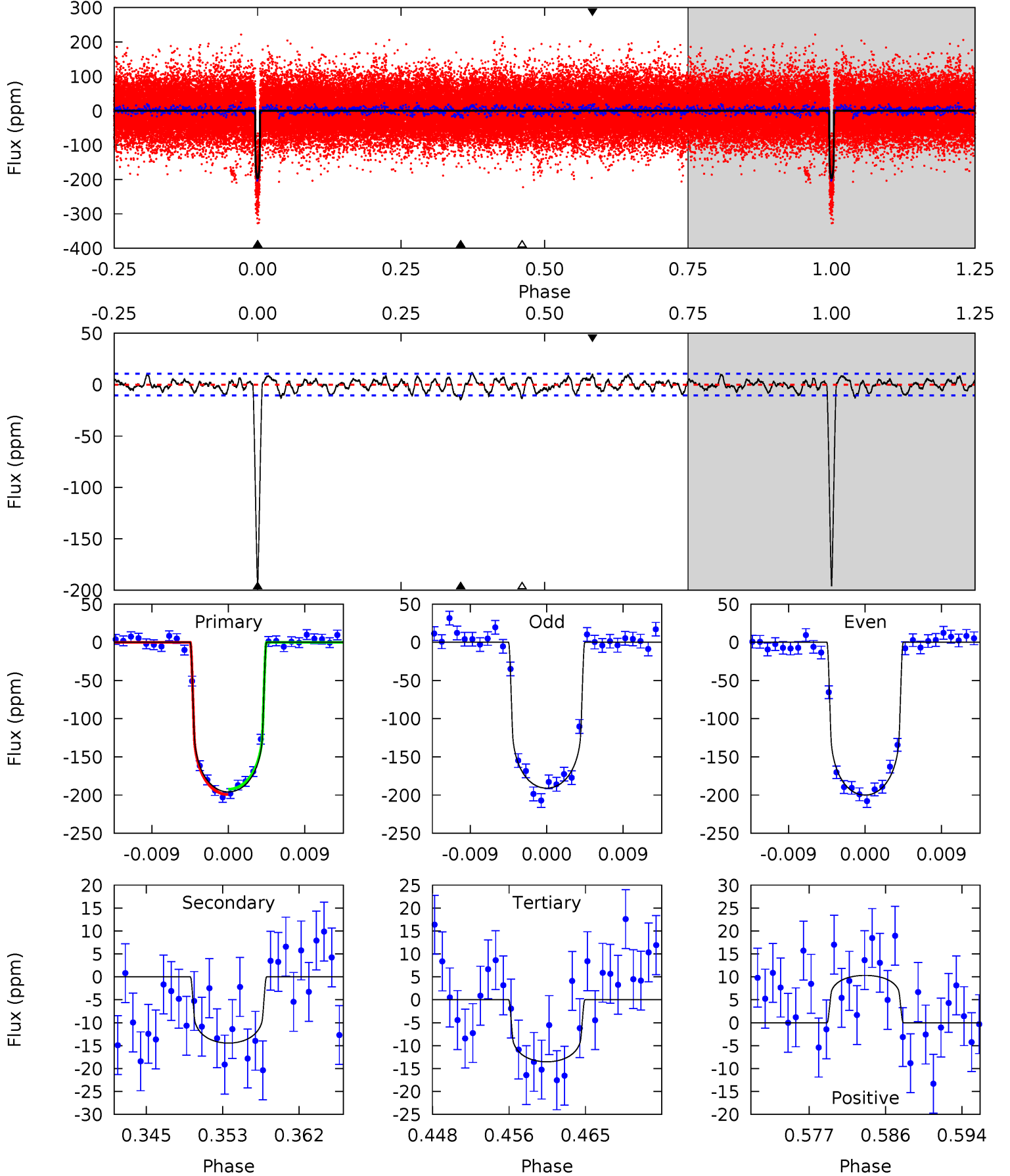
TCE 009414417-01 P= 53.505920 Days $T_0=172.982225$ (BKJD)



DV Model-Shift Uniqueness Test

009414417-01, $P = 53.505789$ Days, $E = 119.477312$ Days

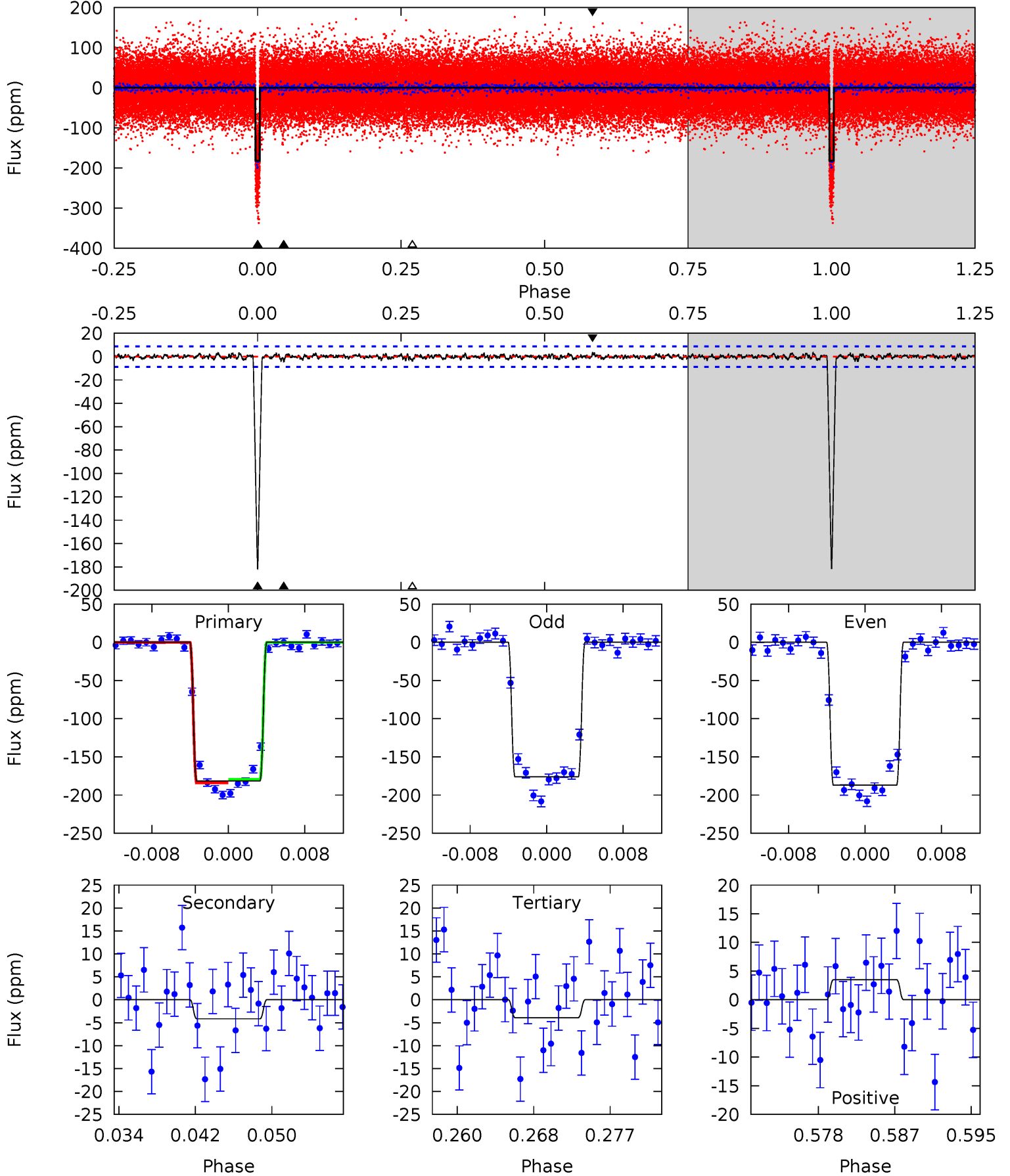
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
93.8	6.92	6.48	4.94	5.05	2.63	2.17	87.3	88.9	0.44	1.98	2.17	1.00	0.06	1.68



Alt Model-Shift Uniqueness Test

009414417-01, P = 53.505920 Days, E = 119.476305 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
105.0	2.40	2.25	2.02	5.06	2.64	0.64	102.7	103.0	0.15	0.38	3.09	1.02	0.02	1.35



Stellar Parameters For KIC 009414417

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6247^{+75}_{-69}	$4.016^{+0.030}_{-0.027}$	$-0.120^{+0.100}_{-0.100}$	$1.762^{+0.112}_{-0.084}$	$1.174^{+0.140}_{-0.056}$	$0.302^{+0.037}_{-0.033}$
	+1%/-1%	+1%/-1%	+83%/-83%	+6%/-5%	+12%/-5%	+12%/-11%
Source	SPE8	AST69	SPE69	DSEP		

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

Secondary Eclipse Parameters for KIC 009414417-01 / KOI 0974.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-14 ± 2	$2.60^{+0.20}_{-0.22}$	944^{+15}_{-16}	3724^{+133}_{-127}	101^{+24}_{-20}
Alt.	-4 ± 2	$2.63^{+0.21}_{-0.21}$	944^{+16}_{-16}	3059^{+185}_{-224}	29^{+14}_{-12}

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

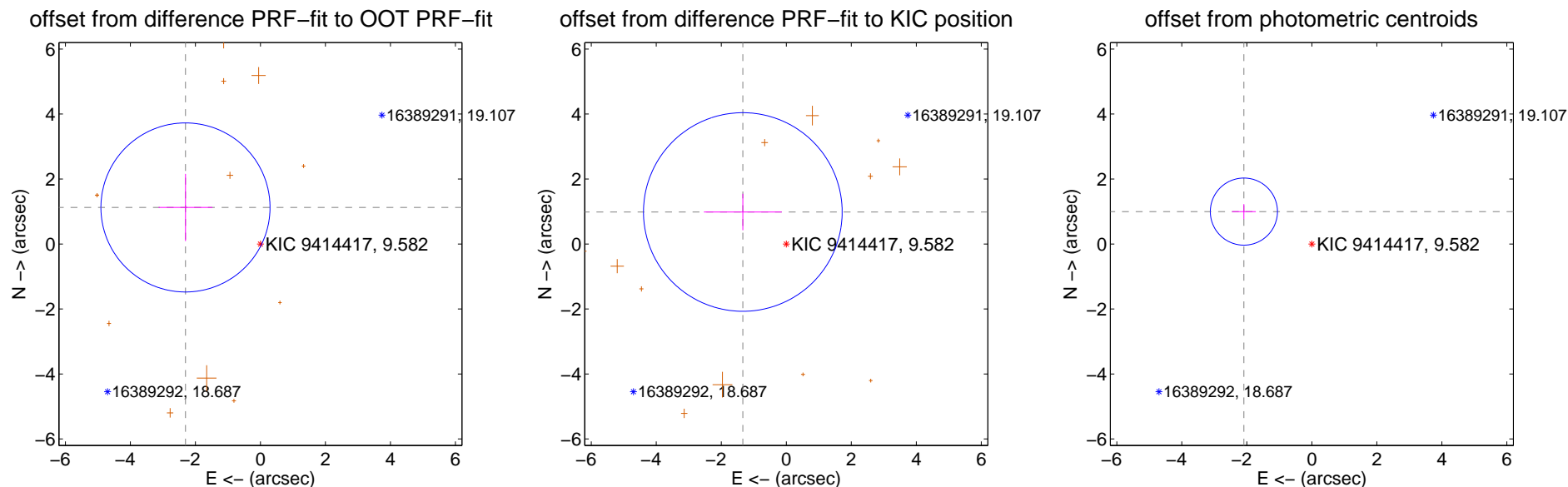
DV Centroid Data

Supplemental centroid analysis for 009414417-01. **Kepler magnitude: 9.58.** Transit SNR 40.10

There are 0 quarters with good PRF difference image offsets

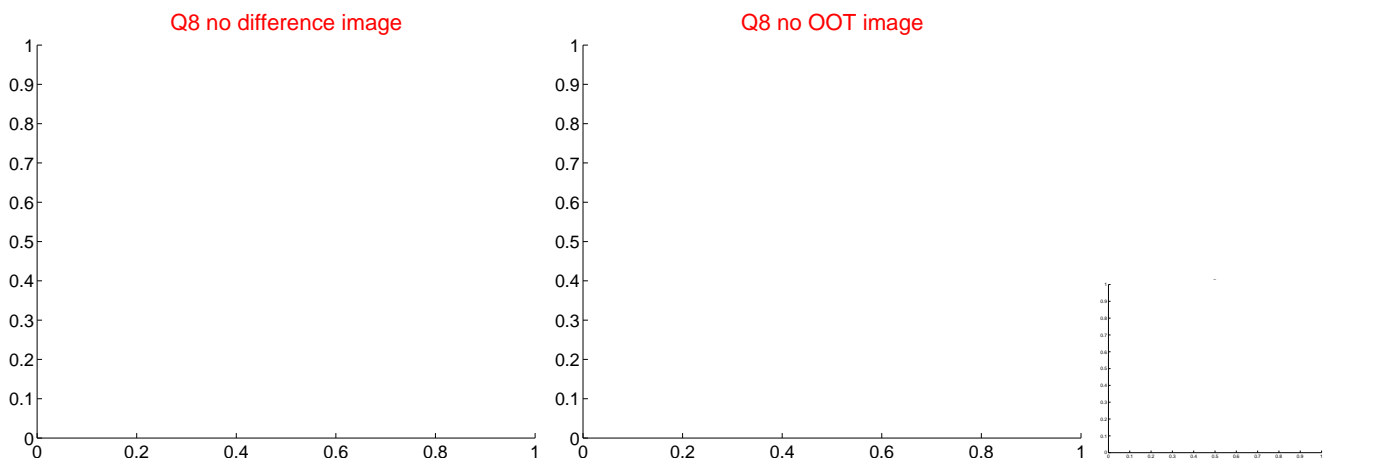
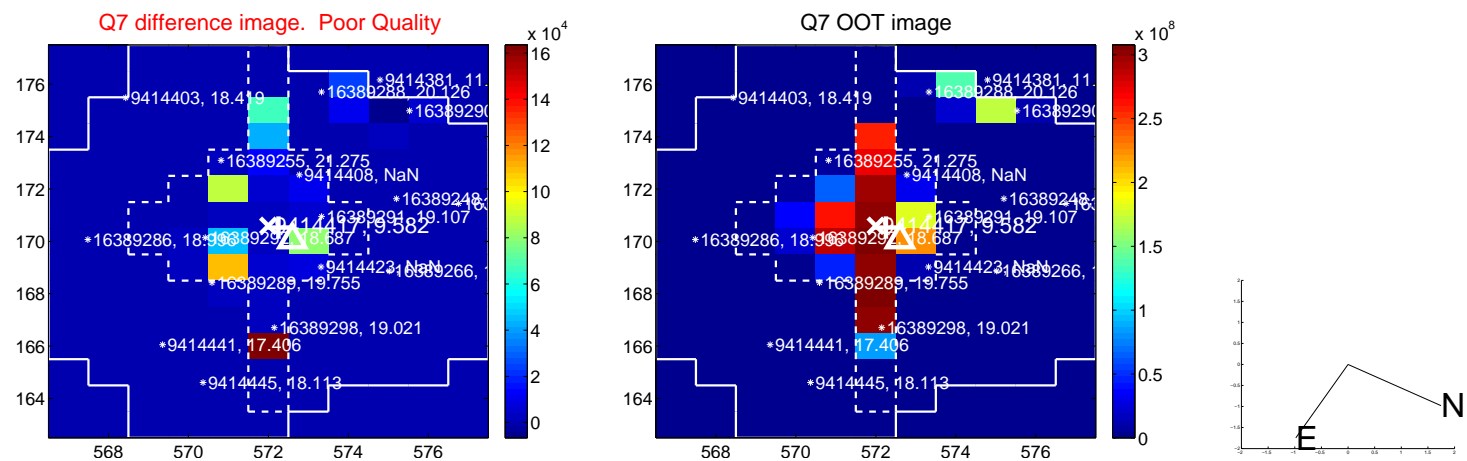
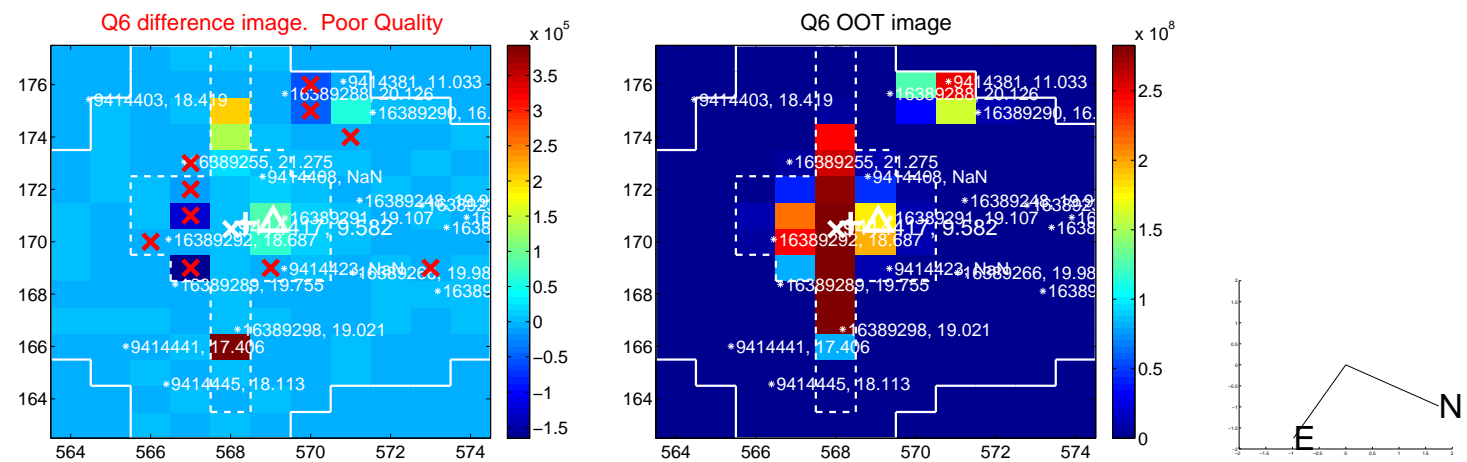
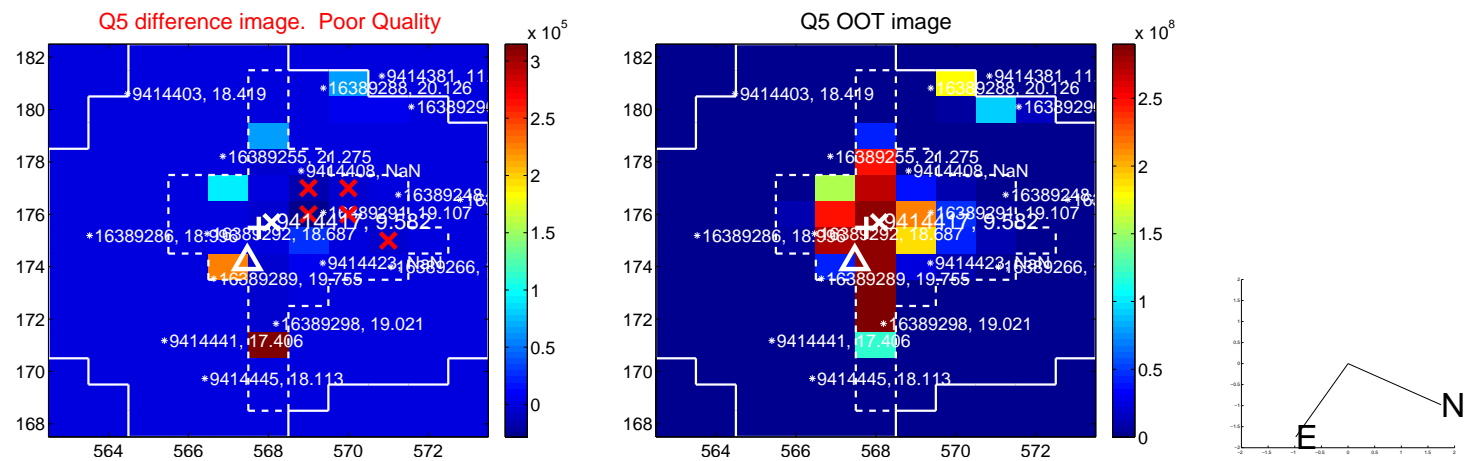
The OOT PRF centroid is offset from the target star catalog position by about 3.13 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.566 ± 0.867	2.96	2.306 ± 0.830	1.125 ± 1.034
PRF-fit source offset from KIC position	1.661 ± 1.019	1.63	1.337 ± 1.196	0.985 ± 0.561
photometric centroid source offset	2.32 ± 0.34	6.73	2.09 ± 0.37	1.00 ± 0.23

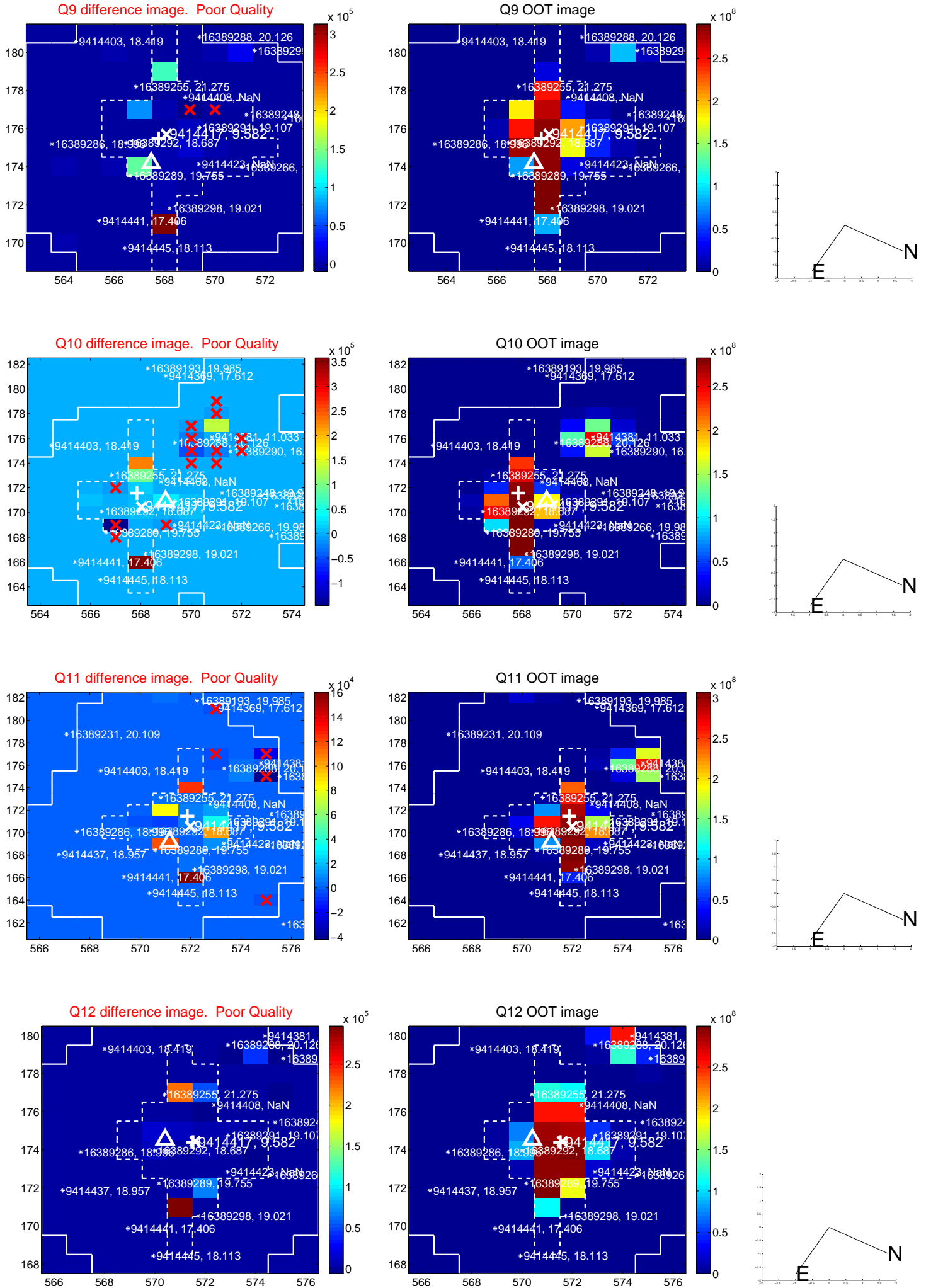


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

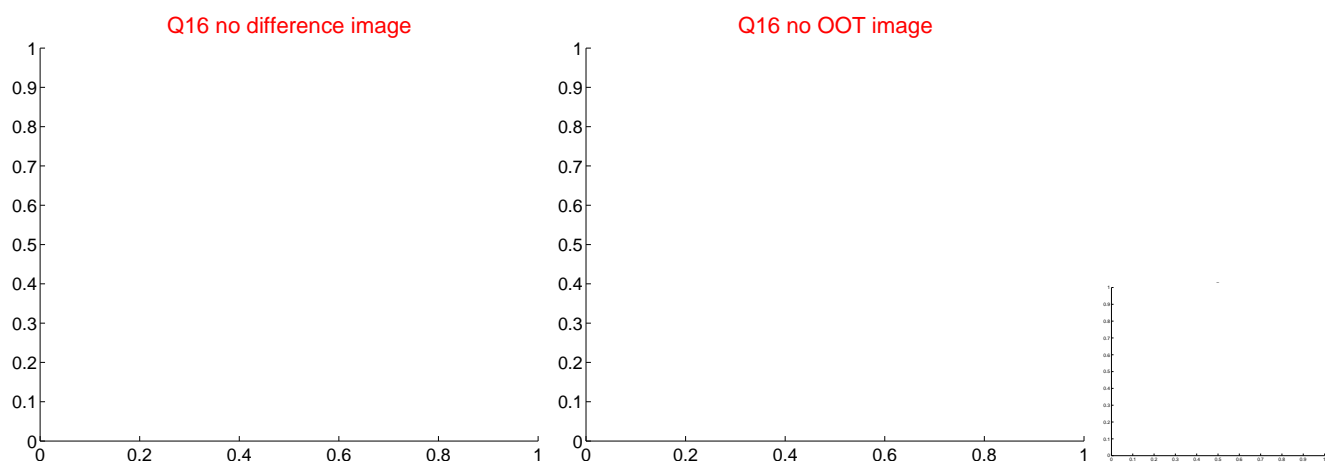
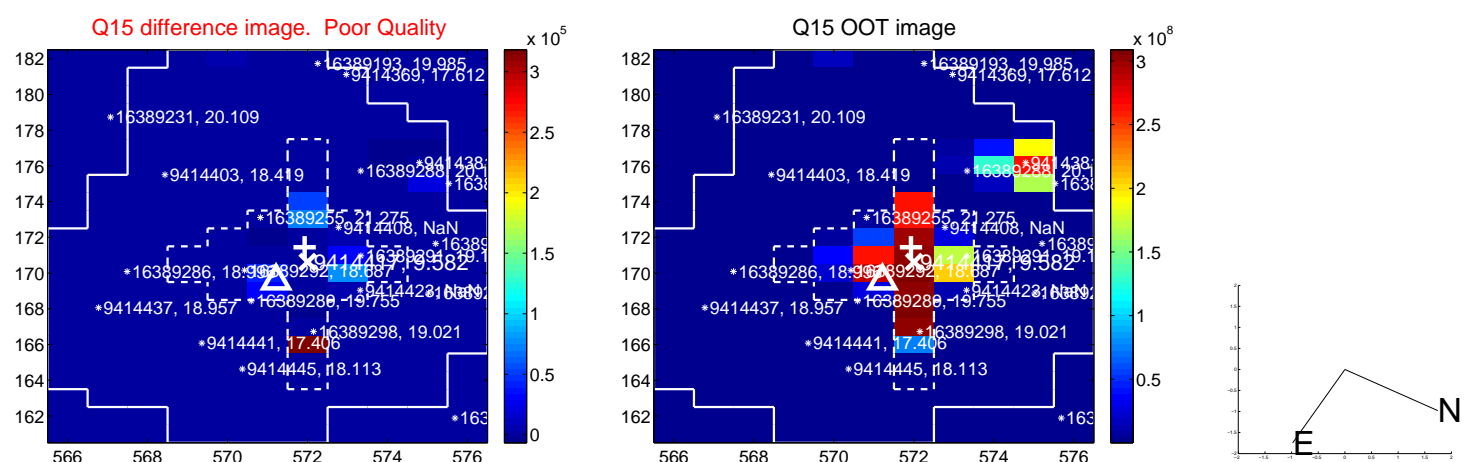
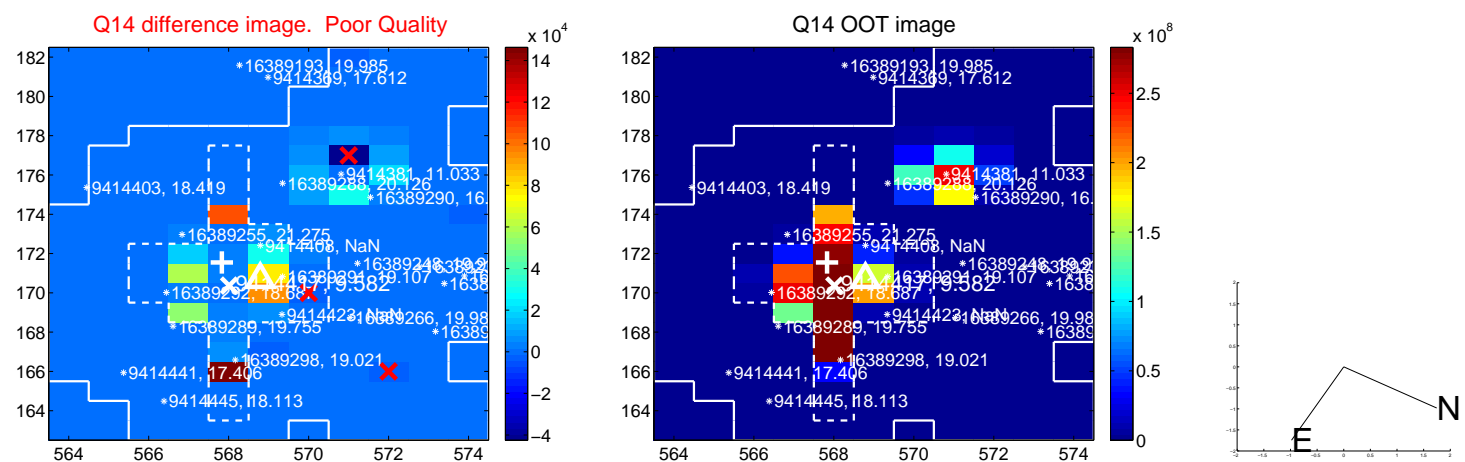
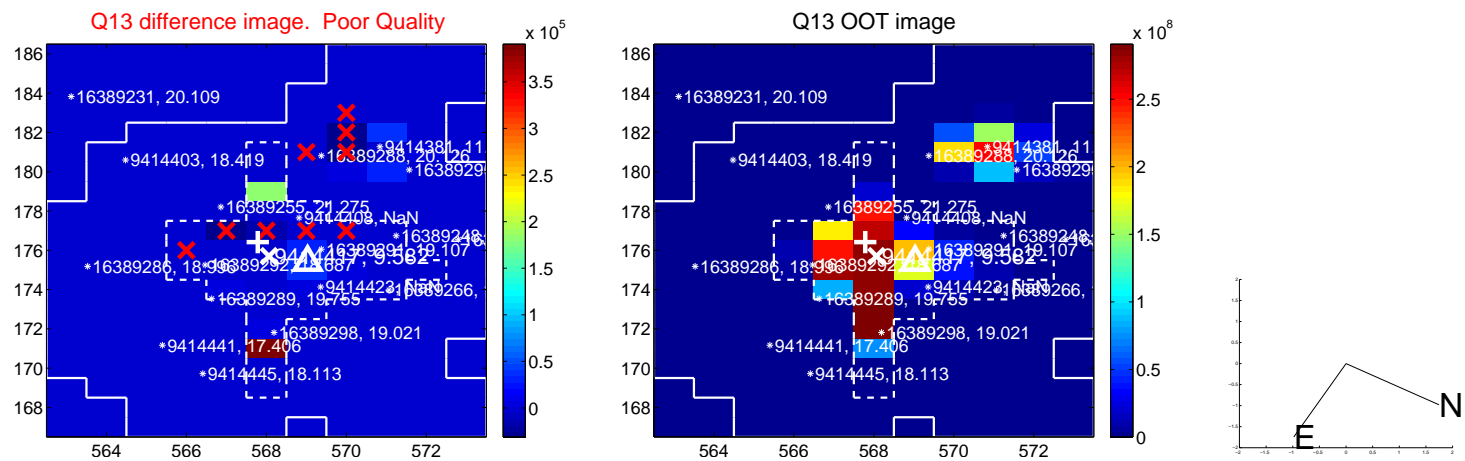
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



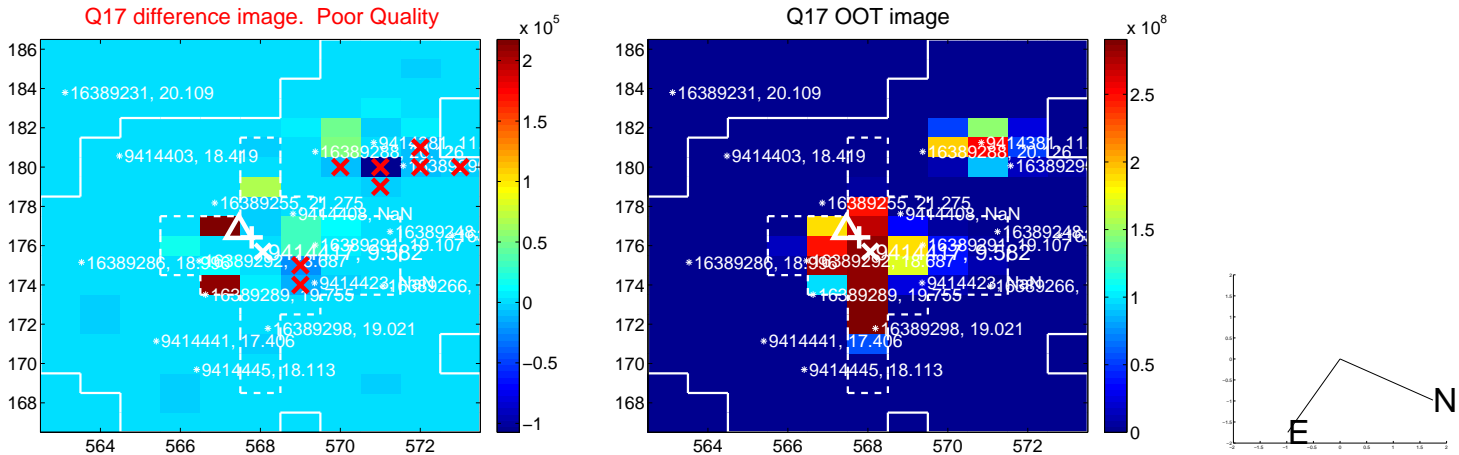
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



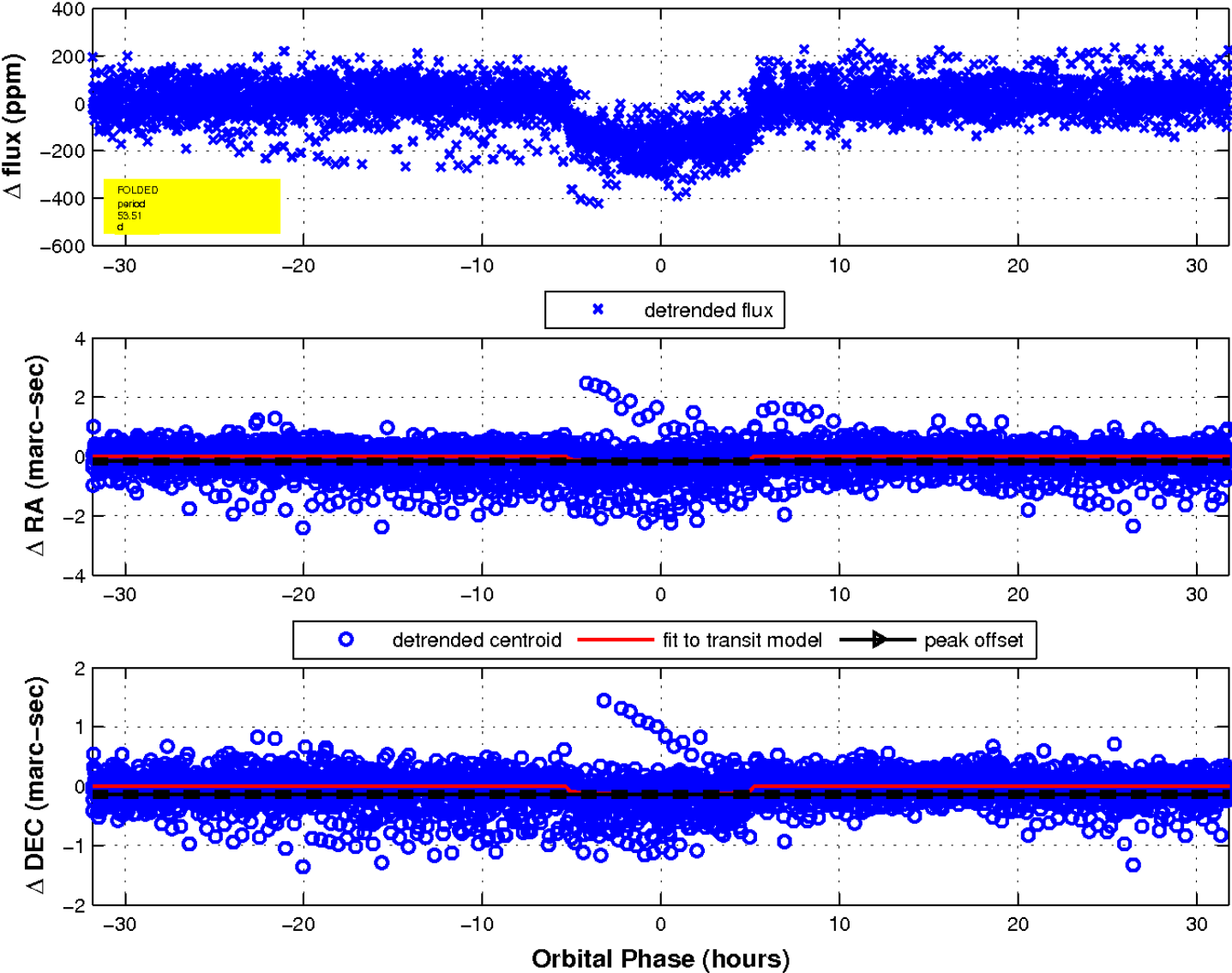
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

