

KIC 004252671

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})
004252671-01	OBS	7687.01	23.266646	132.437002	50.1	8.477	8.1	8.9	3.77	5758	3.07	423.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004252671-01	OBS	PC	0.95	0	0	0	0	CENT_FEW_DIFFS

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

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

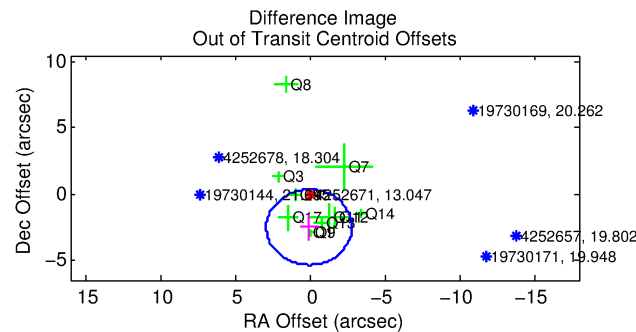
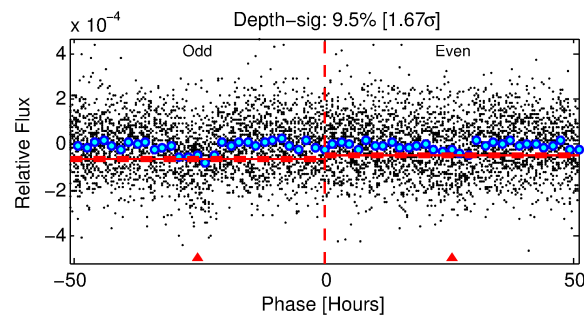
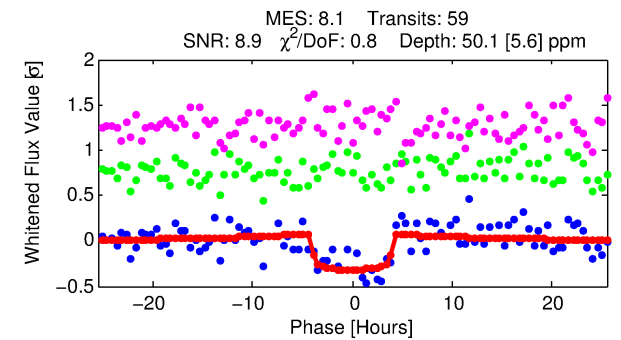
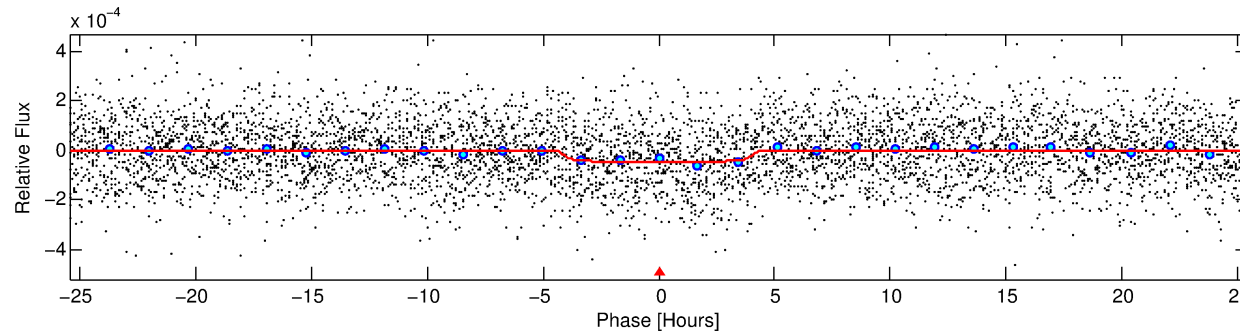
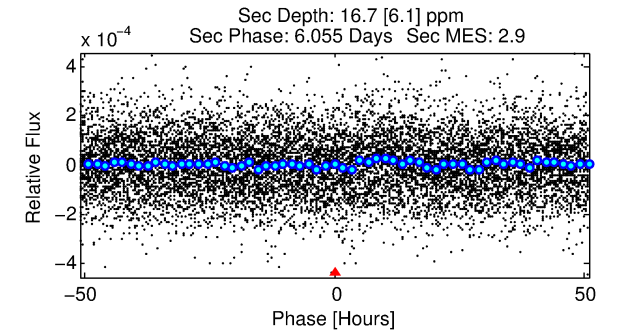
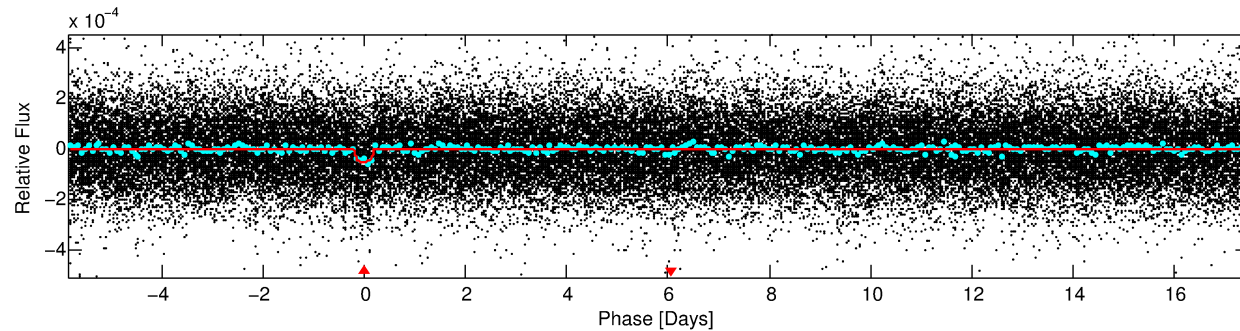
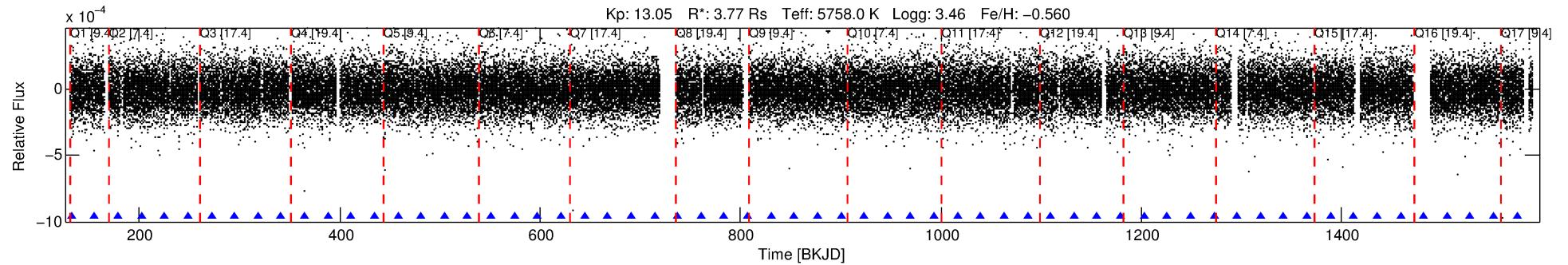
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004252671-01

No Significant Match Found

DV One-Page Summary

KIC: 4252671 Candidate: 1 of 1 Period: 23.267 d



DV Fit Results:

Period = 23.26665 [0.00037] d
Epoch = 132.4370 [0.0132] BKJD
Rp/R* = 0.0074 [0.0025]
a/R* = 10.80 [18.19]
b = 0.87 [0.49]
Seff = 423.59 [174.25]
Teq = 1157 [119] K
Rp = 3.07 [1.43] Re
a = 0.1820 [0.0503] AU
Ag = 32.36 [27.94] [1.12σ]
Teffp = 4266 [816] K [3.77σ]

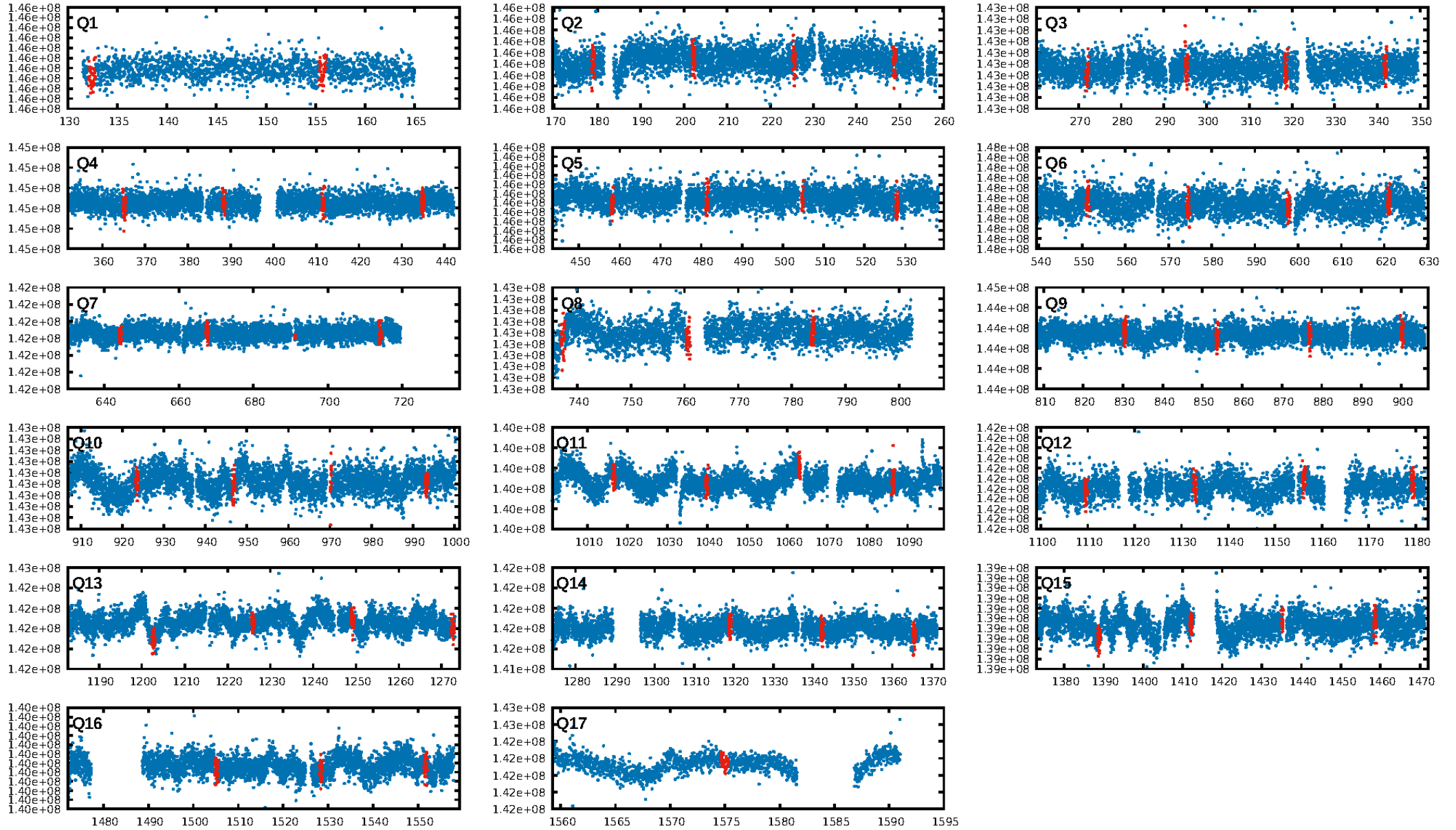
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 48.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.96e-15
RollingBand-fgt: 1.00 [56/56]
GhostDiagnostic-chr: 2.938
Centroid-sig: 16.8%
Centroid-so: 1.365 arcsec [1.27σ]
OotOffset-rm: 2.511 arcsec [2.64σ]
KicOffset-rm: 2.578 arcsec [3.02σ]
OotOffset-st: 1/3/3/4 [11]
KicOffset-st: 1/3/3/4 [11]
DiffImageQuality-fgm: 0.45 [5/11]
DiffImageOverlap-fno: 1.00 [17/17]

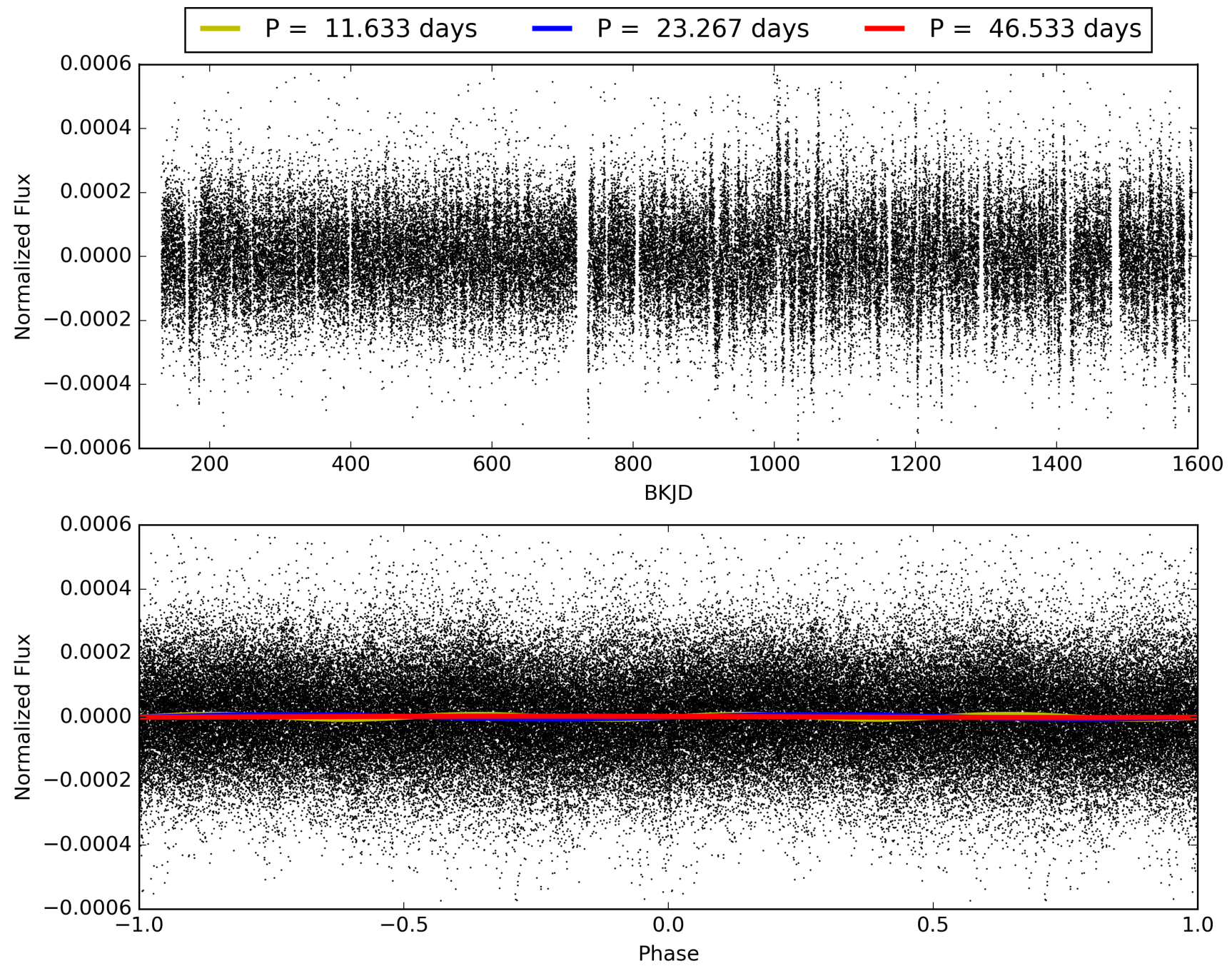
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:09:08 Z

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

TCE 004252671-01, PDC Light Curves

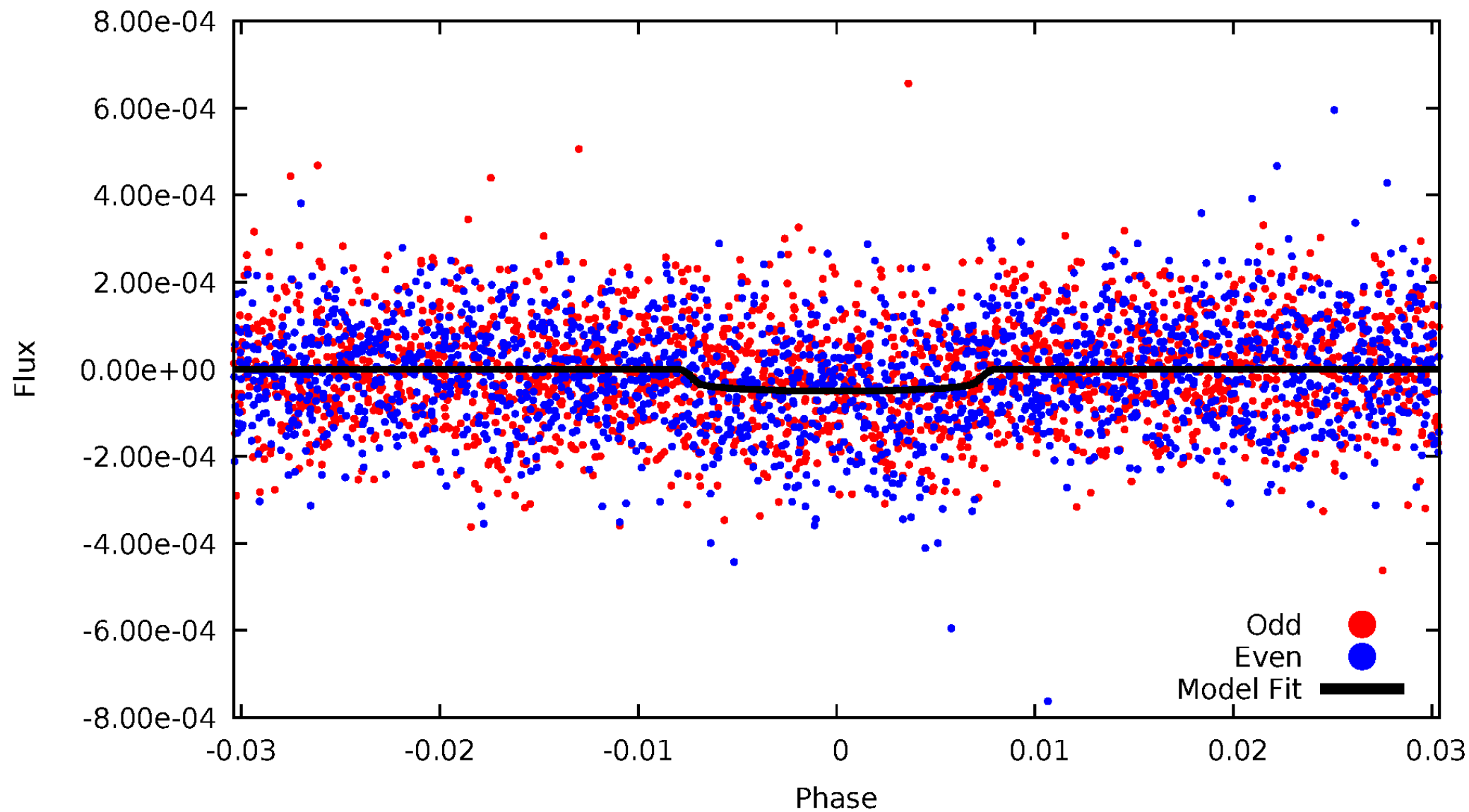


TCE 004252671-01



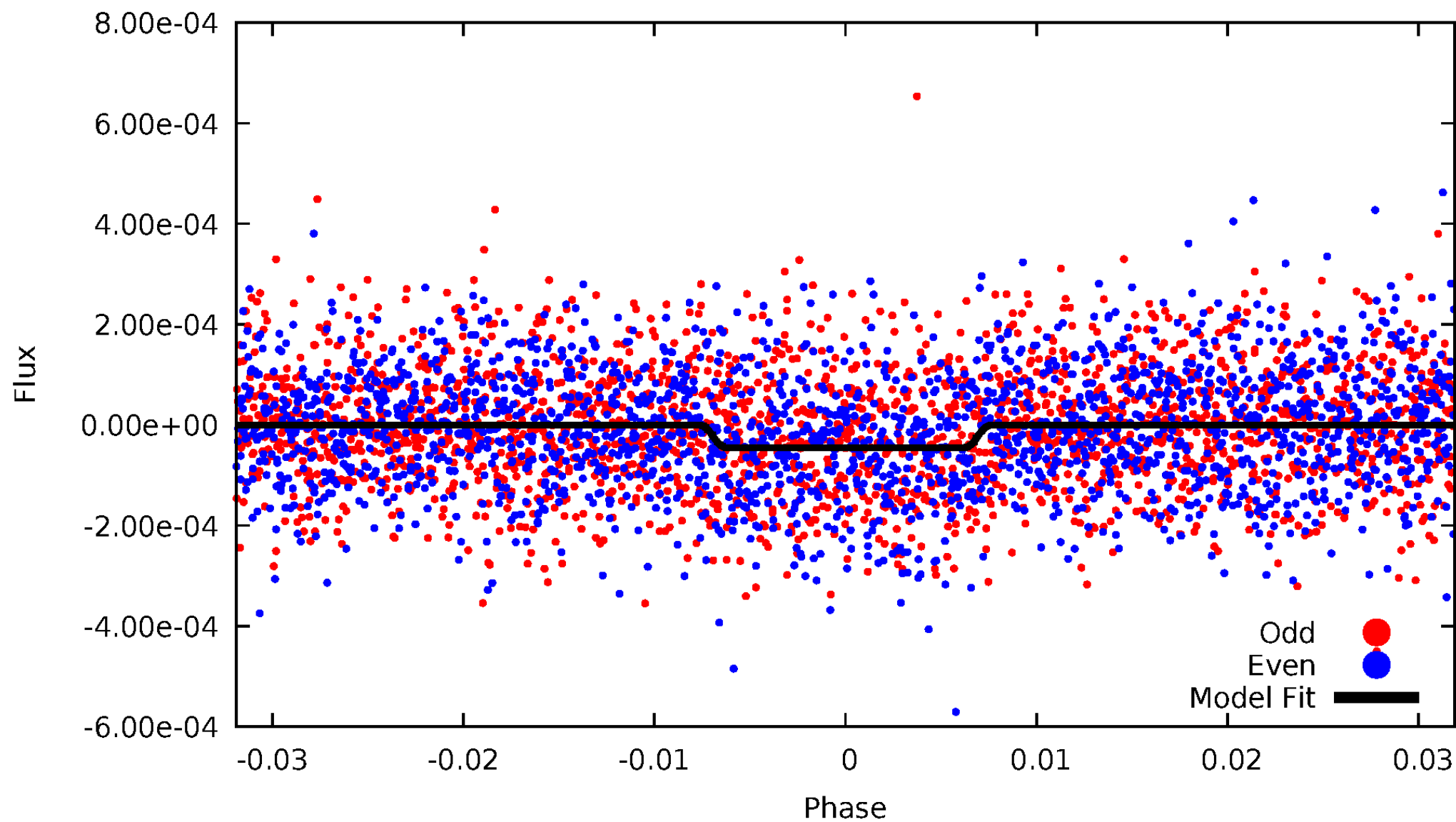
DV Odd/Even

TCE 004252671-01



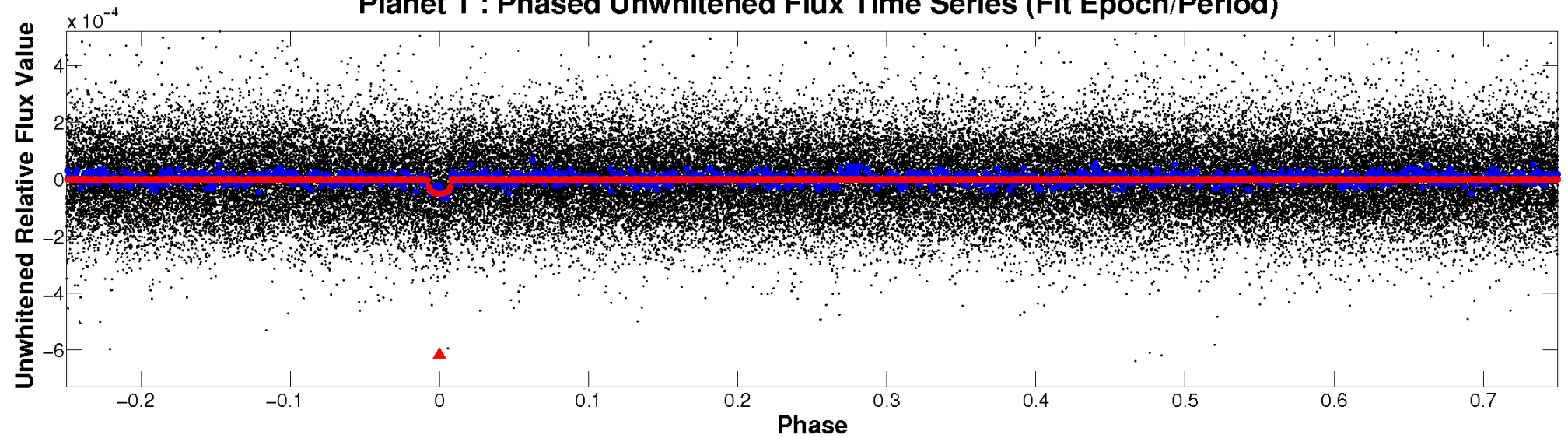
ALT Odd/Even

TCE 004252671-01

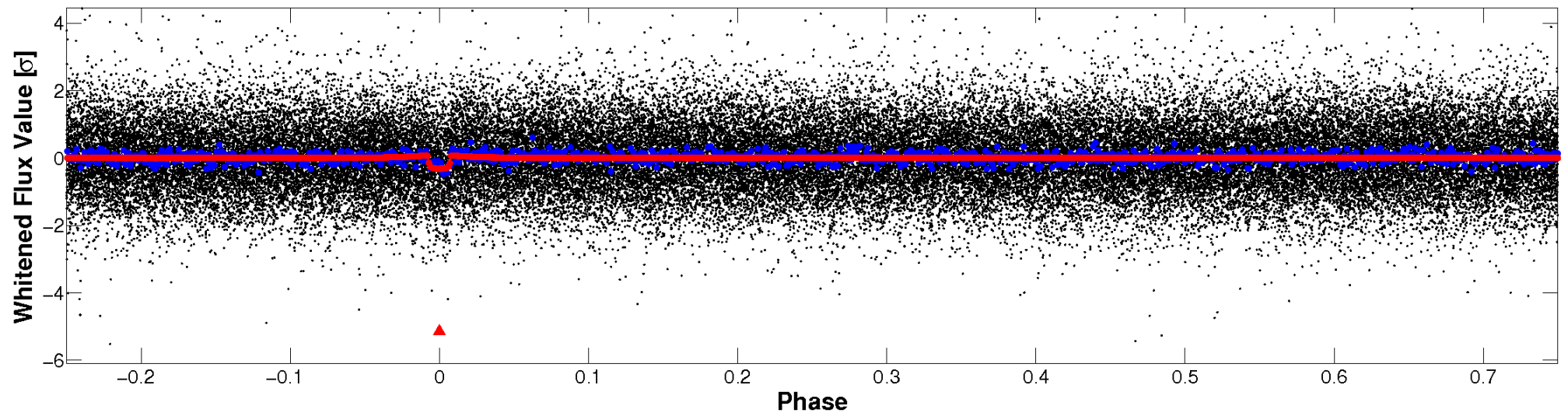


Non-Whitened Vs. Whitened Light Curve

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

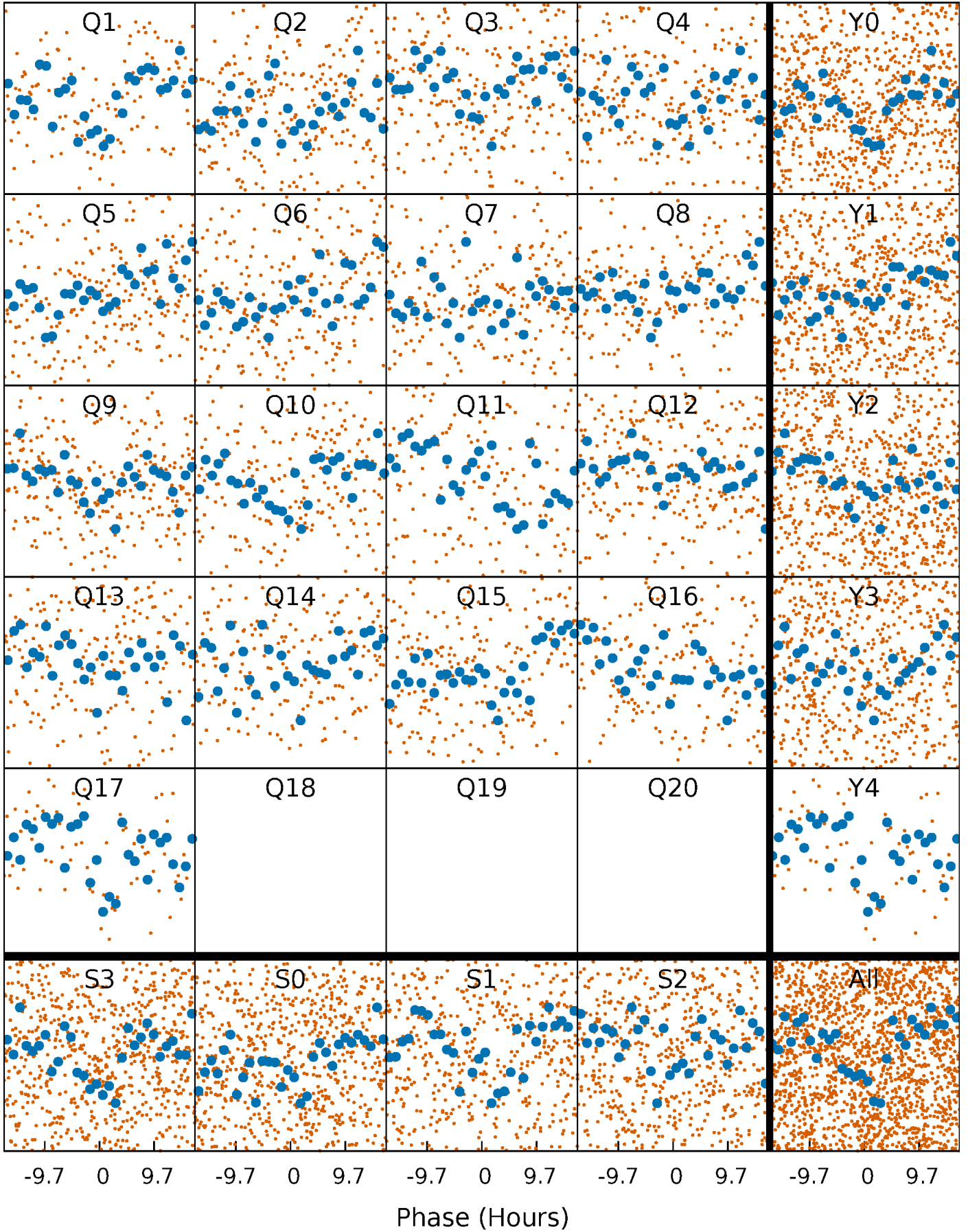


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



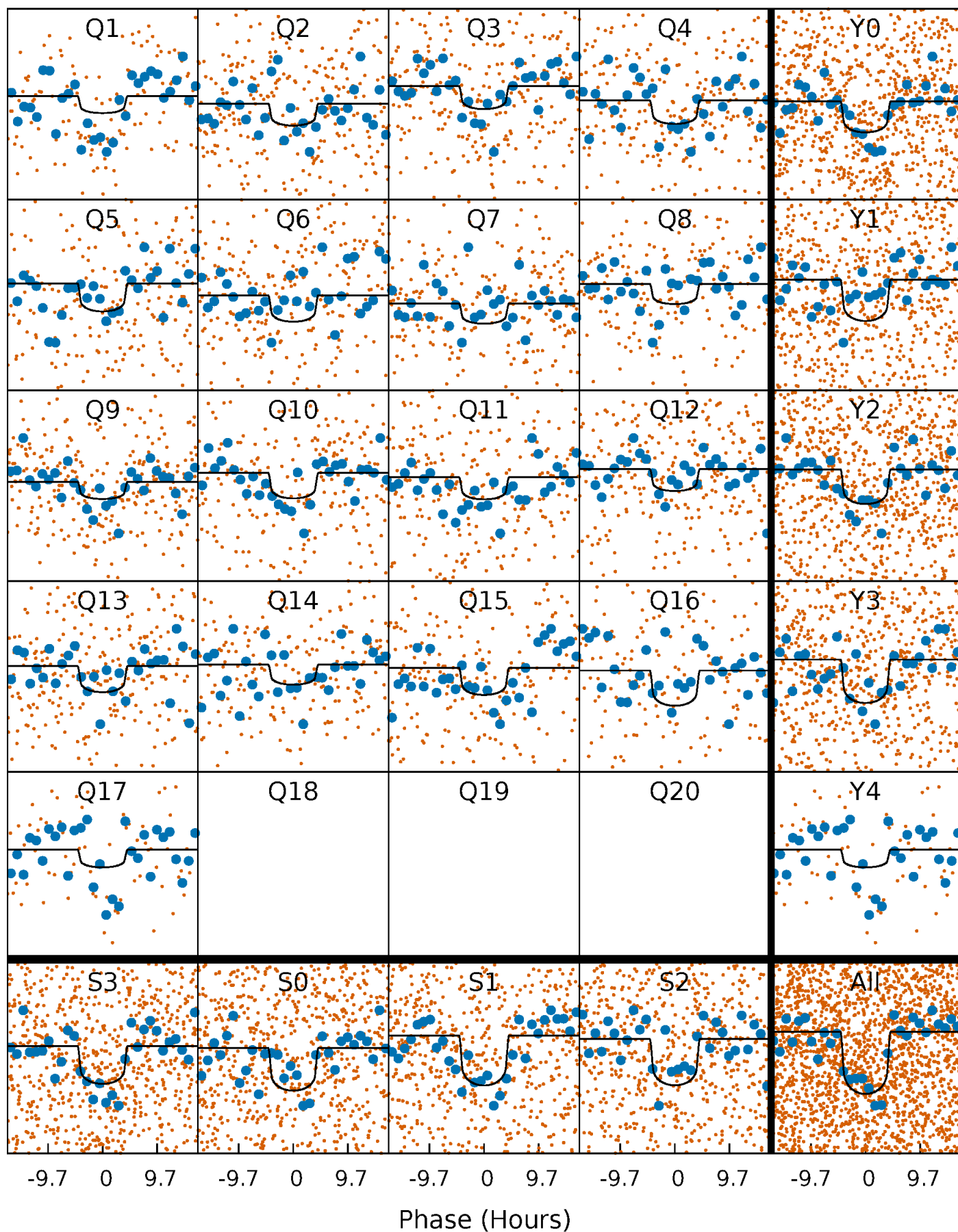
PDC Quarter-Phased Transit Curves

TCE 004252671-01 P= 23.266646 Days $T_0=132.437002$ (BKJD)



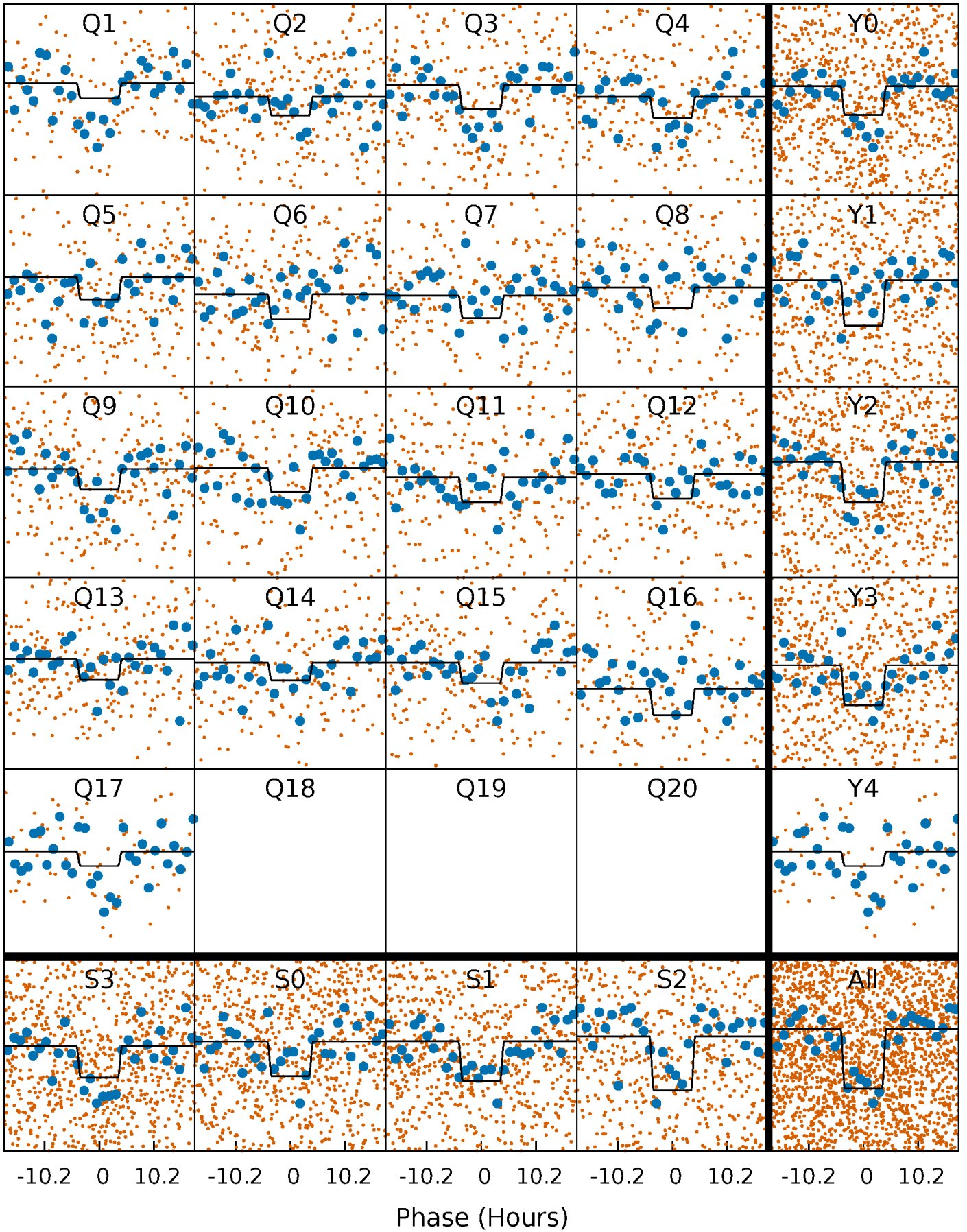
DV Quarter-Phased Transit Curves

TCE 004252671-01 P= 23.266646 Days $T_0=132.437002$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

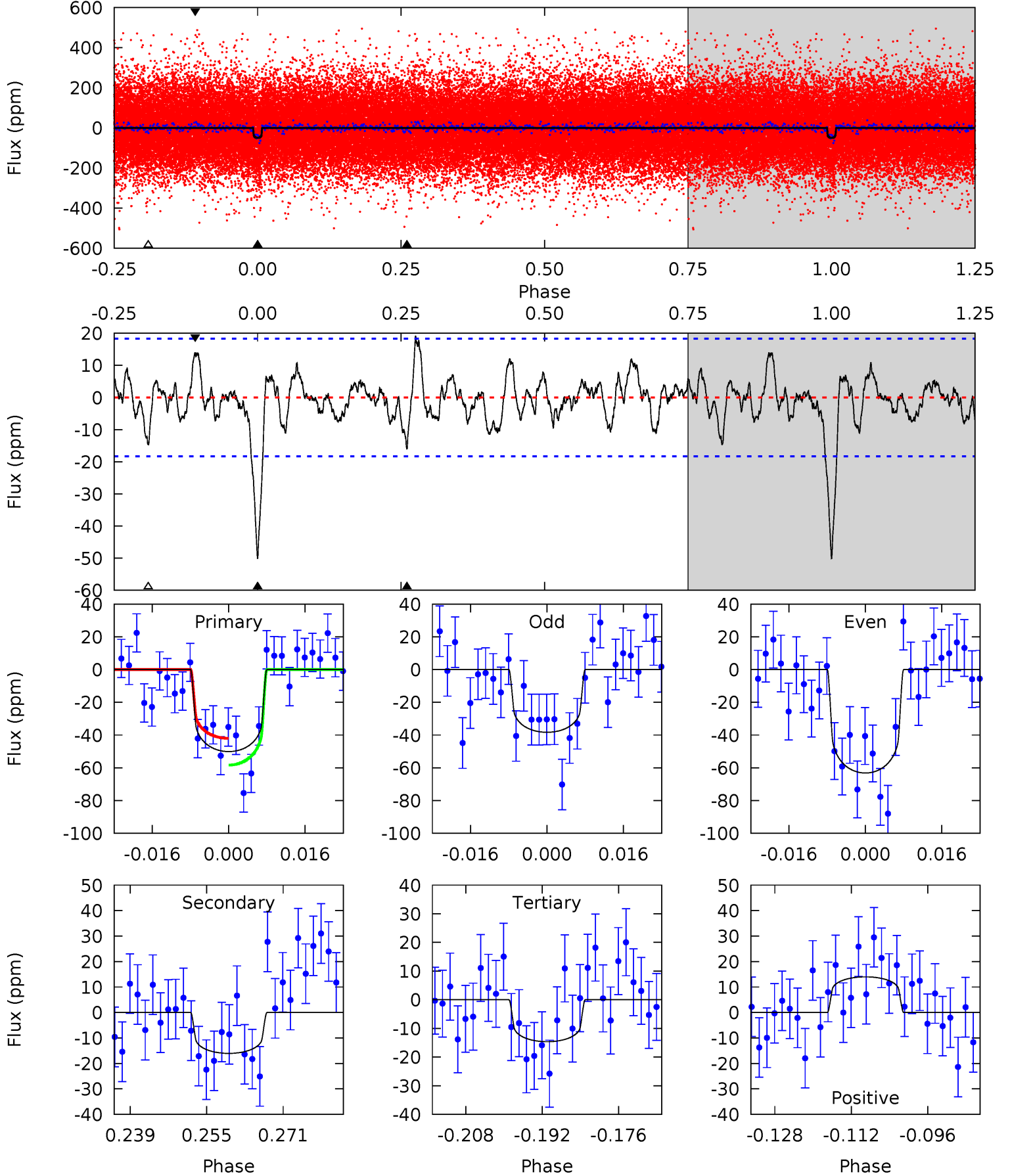
TCE 004252671-01 P= 23.266038 Days $T_0=132.459005$ (BKJD)



DV Model-Shift Uniqueness Test

004252671-01, $P = 23.266646$ Days, $E = 109.170356$ Days

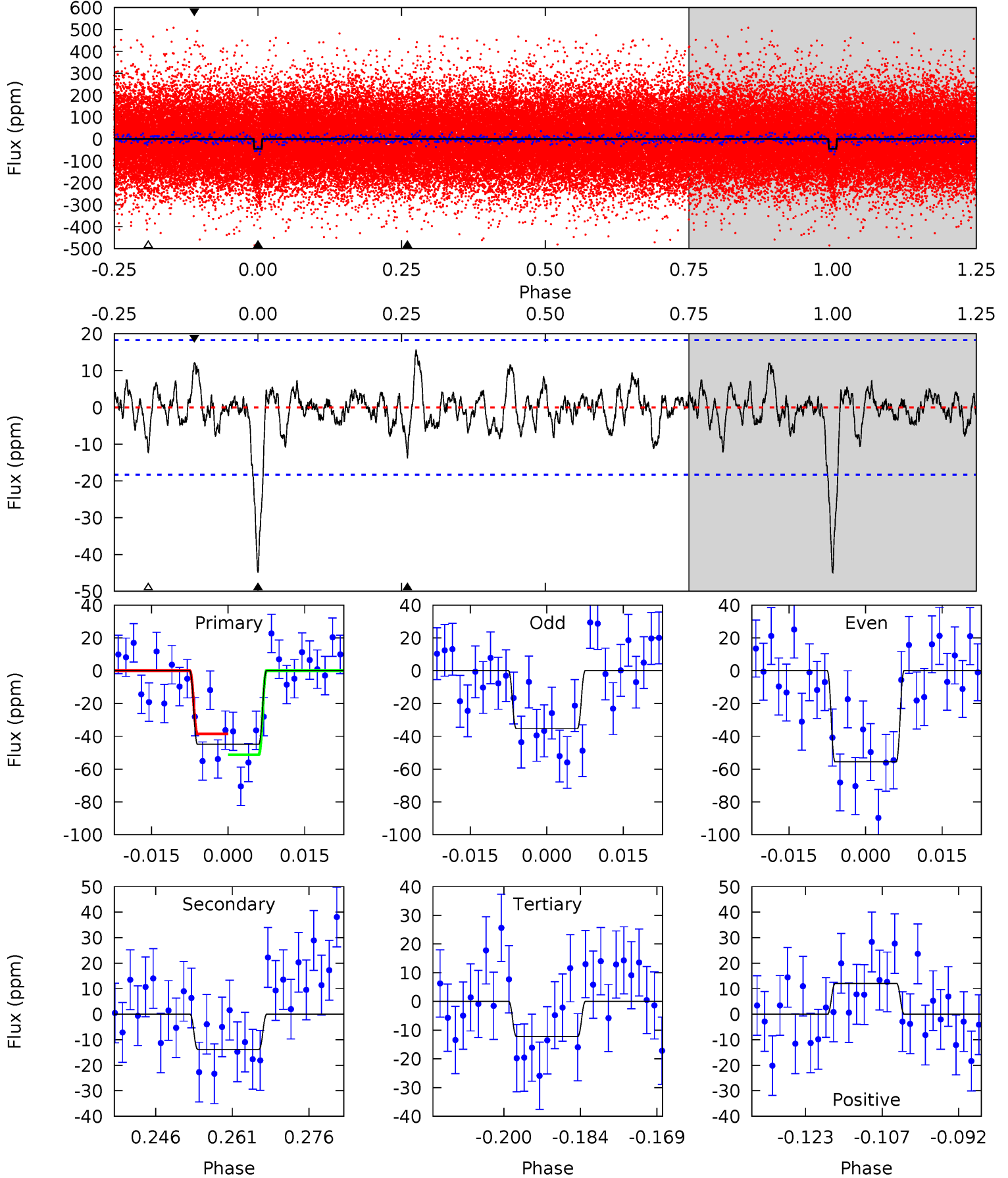
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	4.33	3.94	3.77	4.94	2.41	1.43	9.56	9.74	0.38	0.55	3.35	1.18	0.28	2.20



Alt Model-Shift Uniqueness Test

004252671-01, P = 23.266038 Days, E = 109.192967 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	3.72	3.29	3.26	4.94	2.42	1.12	8.81	8.85	0.42	0.46	2.73	1.14	0.26	1.70



Stellar Parameters For KIC 004252671

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5758^{+68}_{-94}	$3.456^{+0.224}_{-0.096}$	$-0.560^{+0.150}_{-0.150}$	$3.775^{+0.659}_{-1.224}$	$1.487^{+0.151}_{-0.376}$	$0.039^{+0.059}_{-0.013}$
	+1%/-2%	+6%/-3%	+27%/-27%	+17%/-32%	+10%/-25%	+153%/-33%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004252671-01 / KOI 7687.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-16 ± 4	$2.92^{+1.16}_{-1.08}$	1599^{+79}_{-121}	4417^{+920}_{-494}	33^{+52}_{-16}
Alt.	-14 ± 4	$2.68^{+0.99}_{-1.06}$	1590^{+86}_{-111}	4401^{+1045}_{-512}	34^{+63}_{-17}

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 $A_{obs} \gg 1.0$

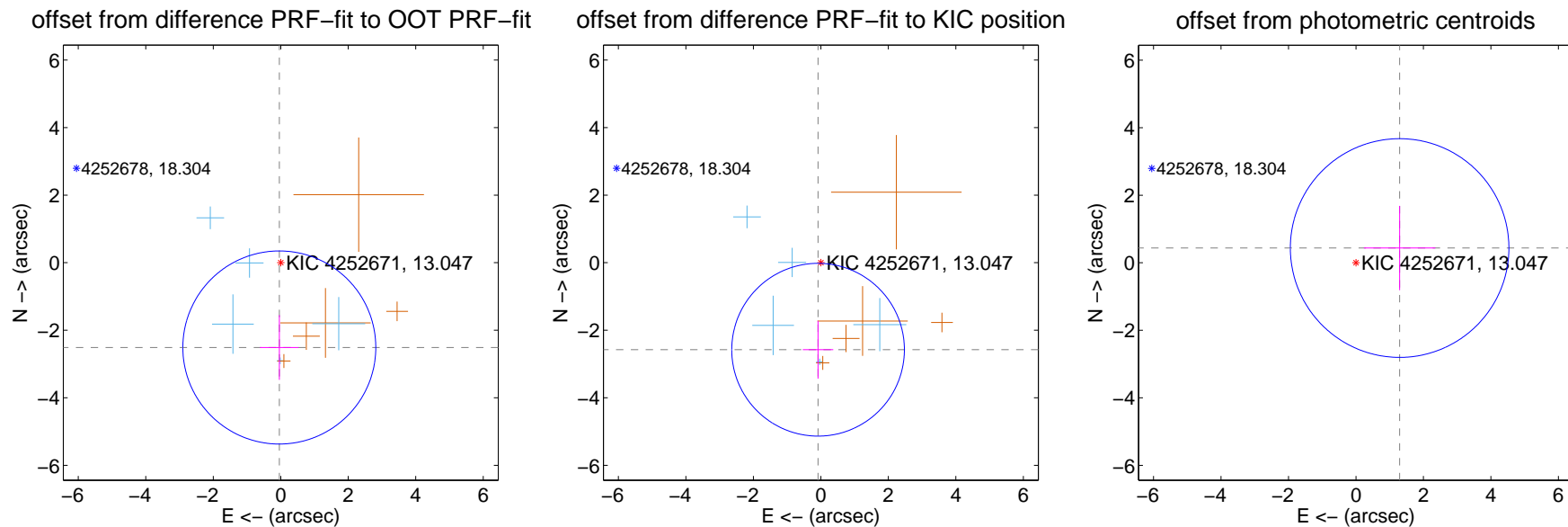
DV Centroid Data

Supplemental centroid analysis for 004252671-01. Kepler magnitude: 13.05. Transit SNR 8.88

There are 5 quarters with good PRF difference image offsets

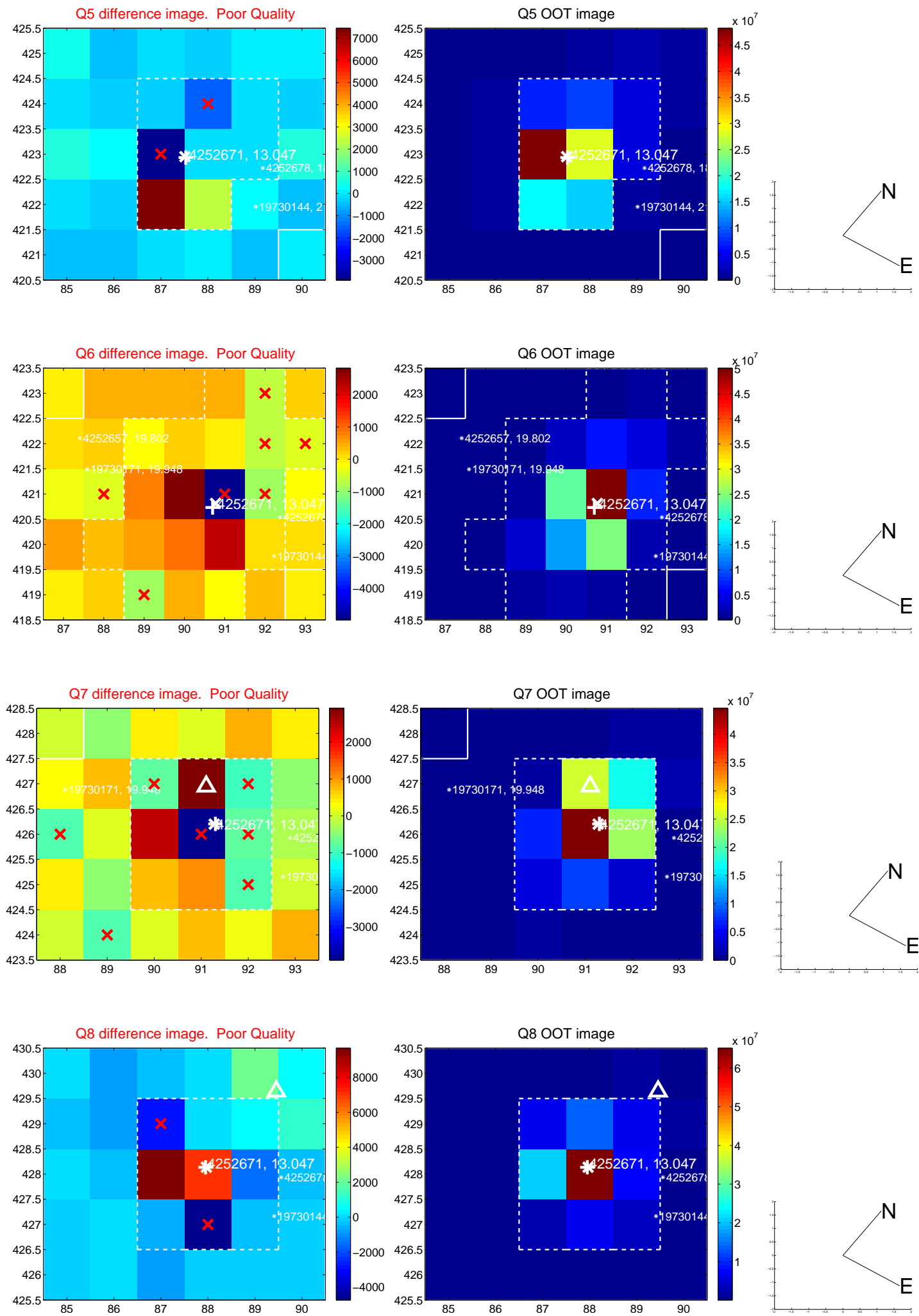
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.511 ± 0.953	2.64	0.042 ± 0.572	-2.510 ± 0.957
PRF-fit source offset from KIC position	2.578 ± 0.852	3.02	0.083 ± 0.451	-2.576 ± 0.855
photometric centroid source offset	1.37 ± 1.08	1.27	-1.29 ± 1.06	0.44 ± 1.25

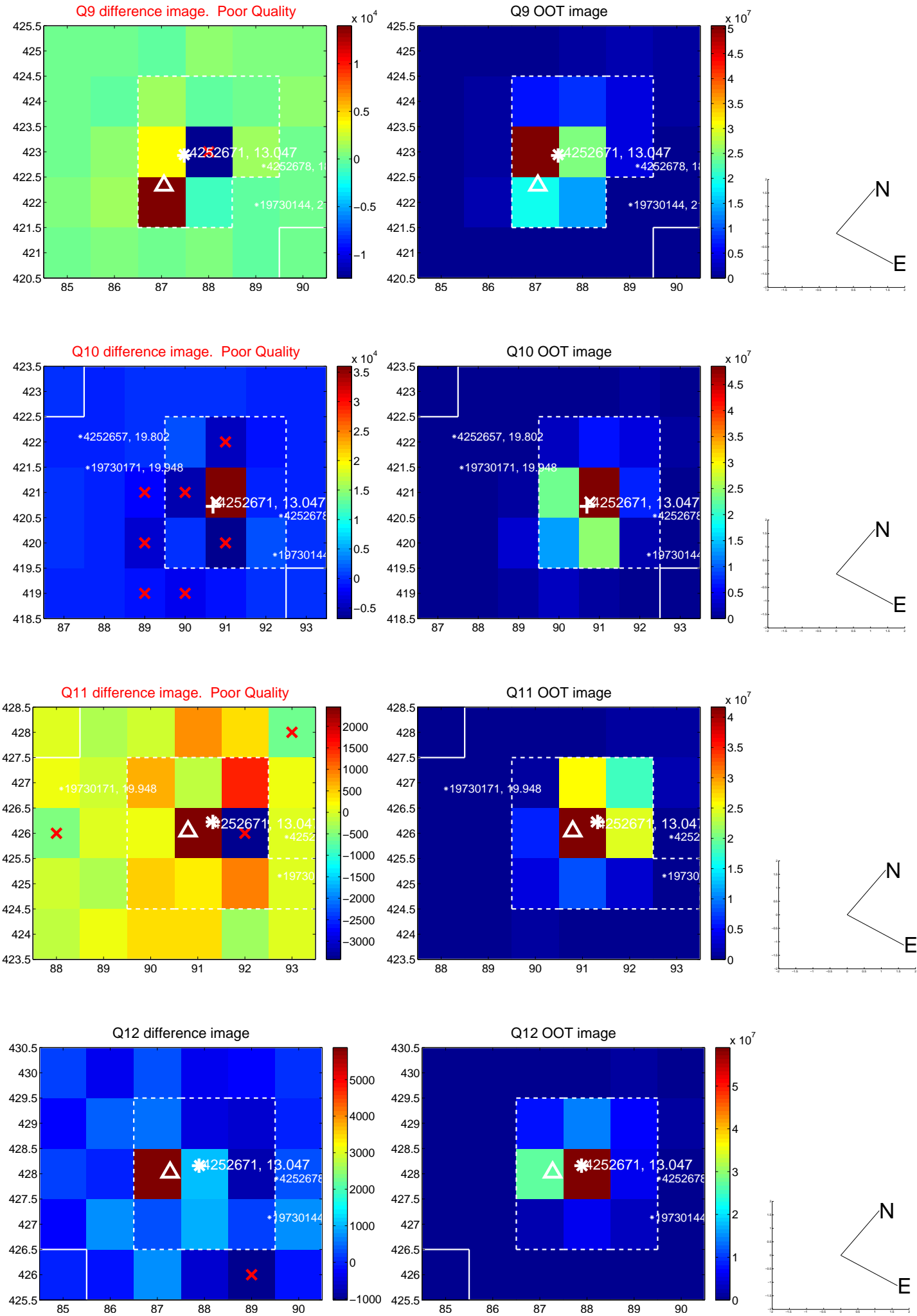


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

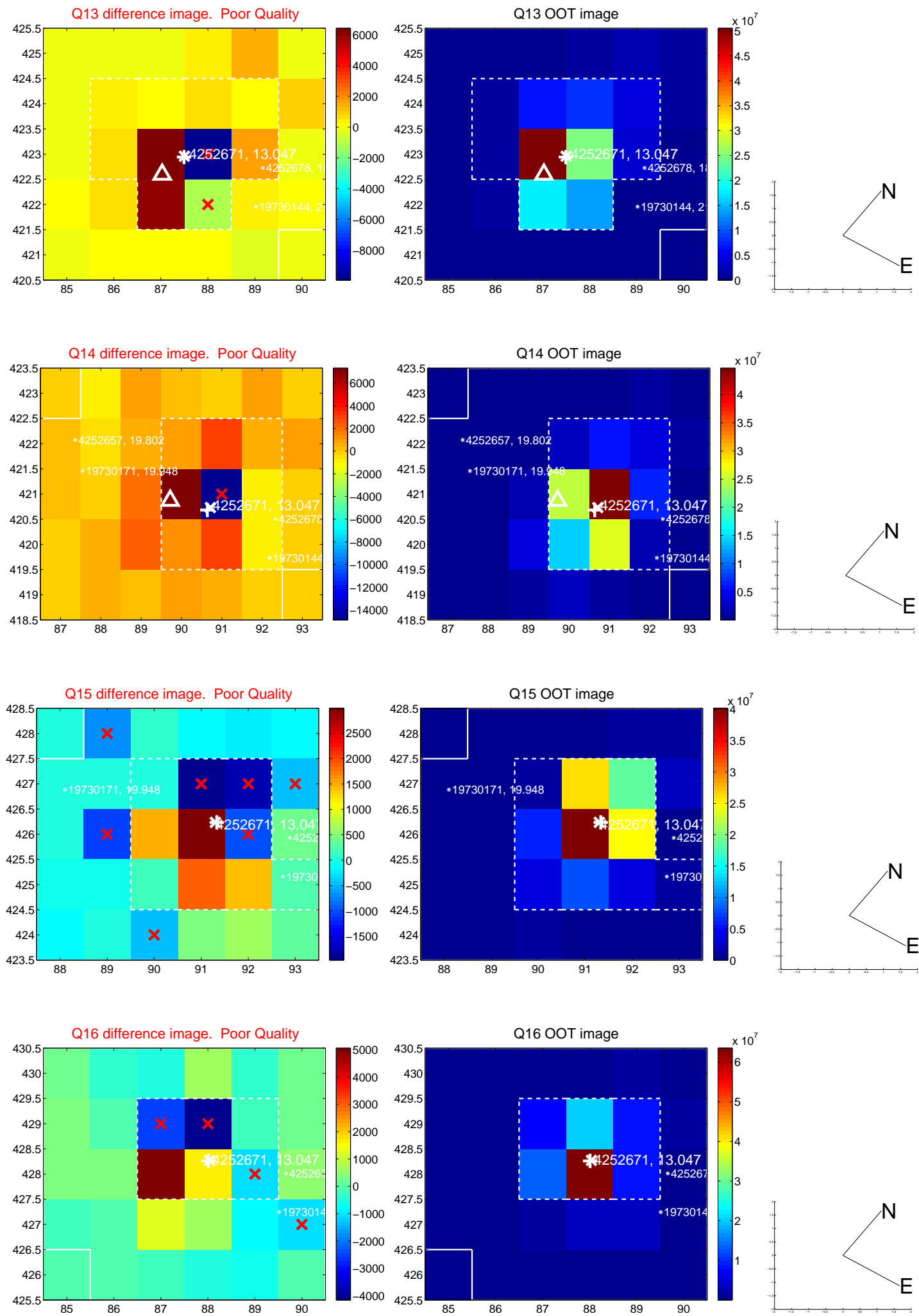
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



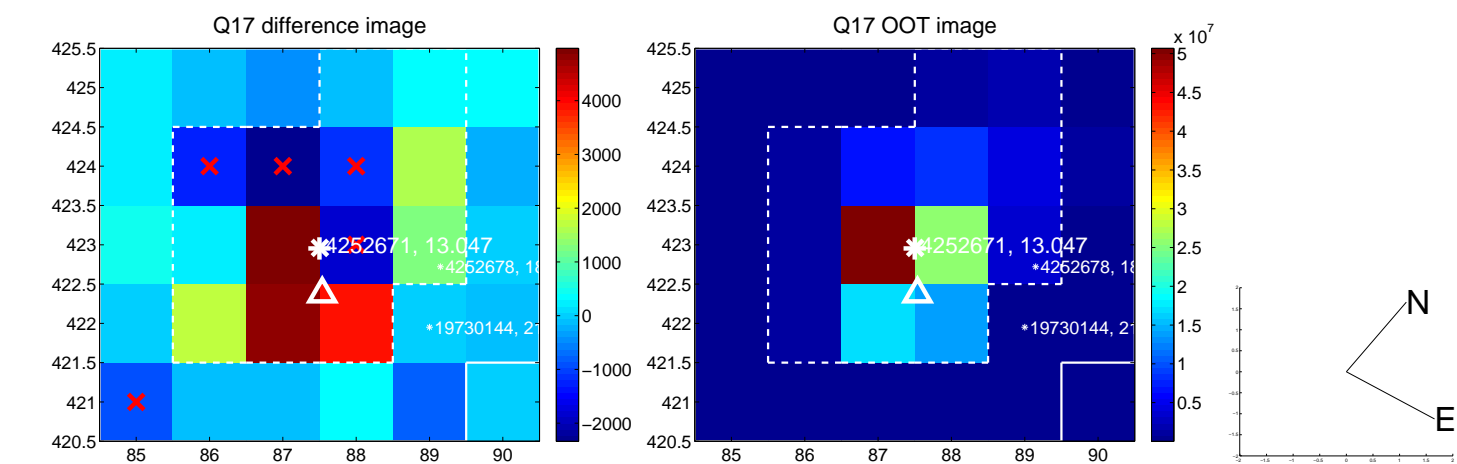
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



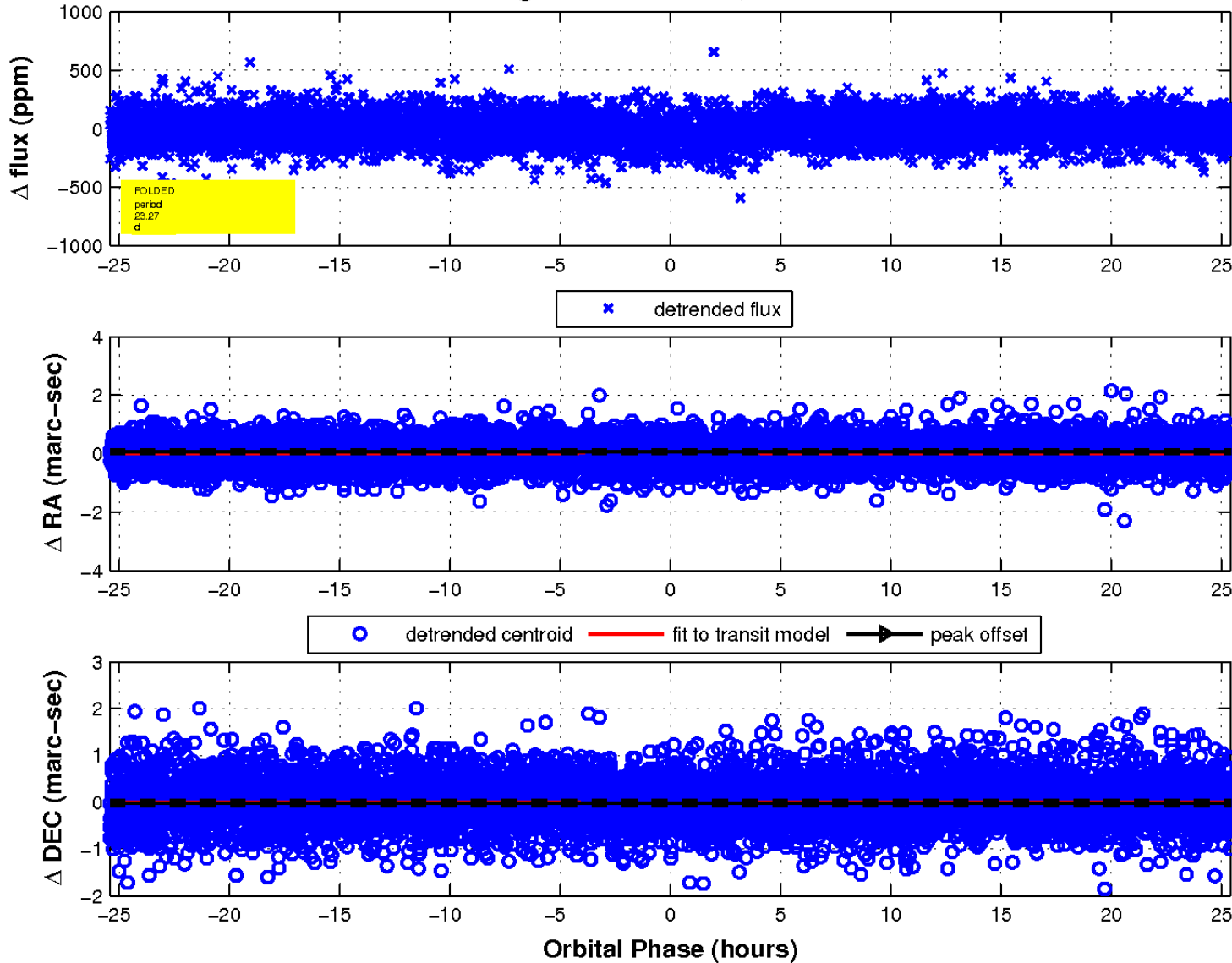
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

