

KIC 009405595

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})
009405595-01	OBS	2125.01	23.359351	144.018935	547.6	5.294	19.4	21.5	1.01	6244	2.87	51.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009405595-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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 009405595-01

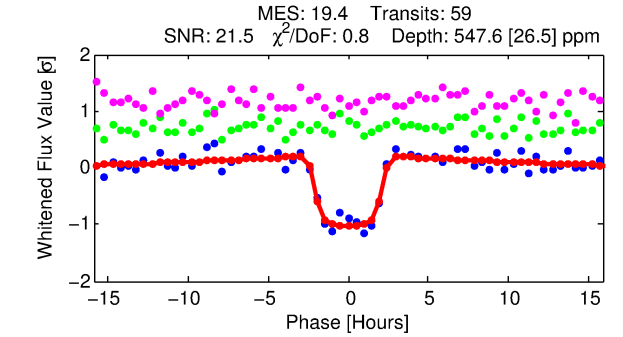
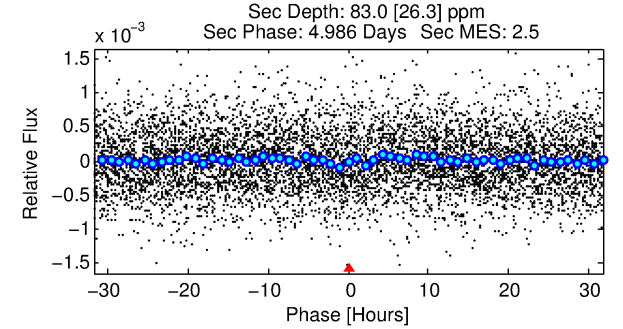
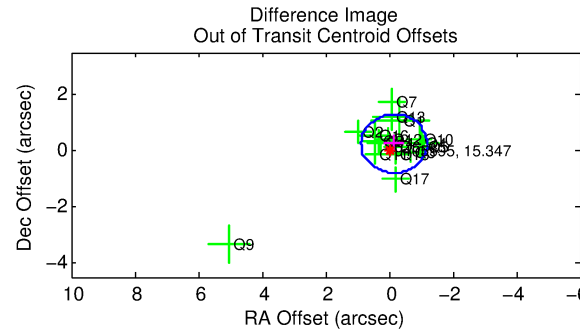
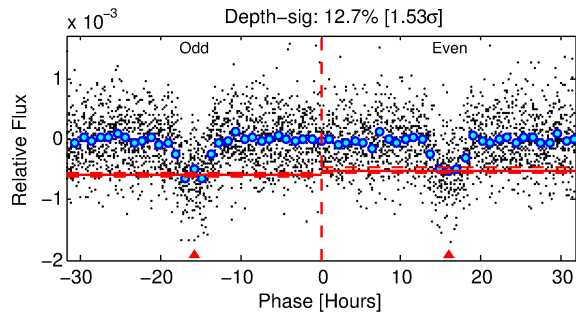
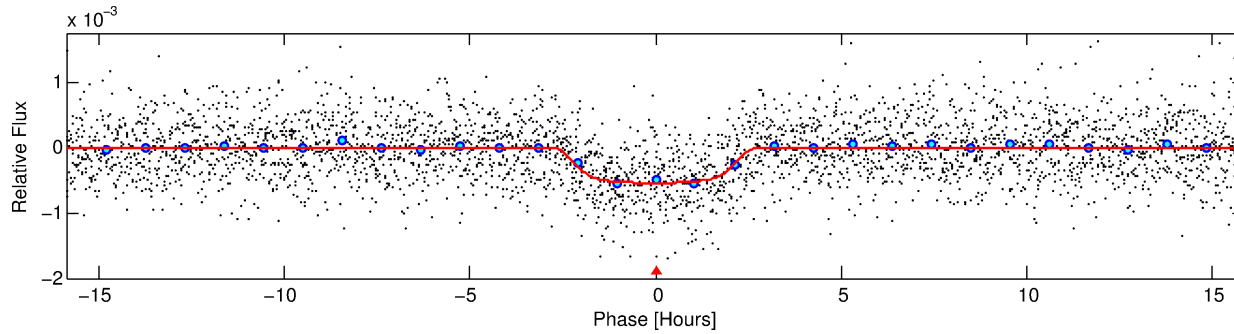
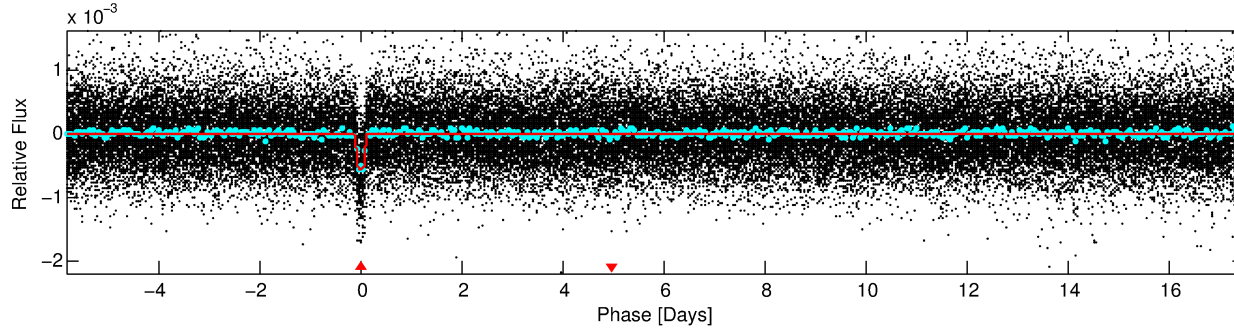
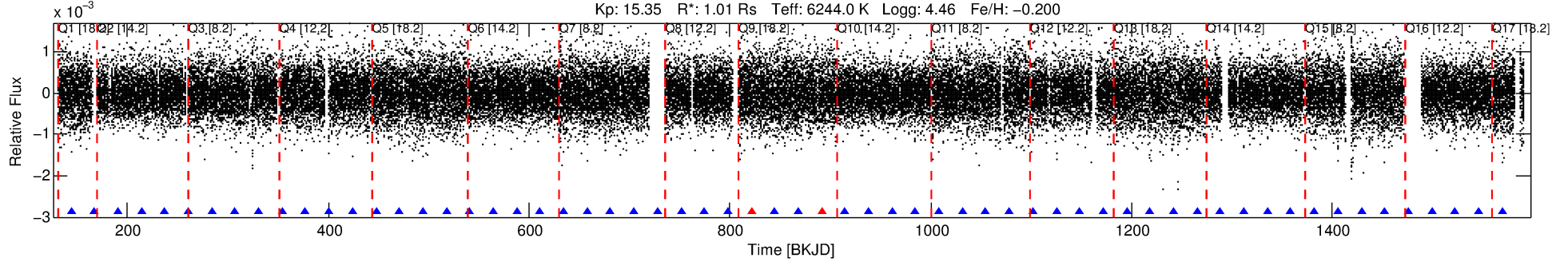
No Significant Match Found

DV One-Page Summary

KIC: 9405595 Candidate: 1 of 1 Period: 23.359 d

KOI: K02125.01 Corr: 0.983

Kp: 15.35 R*: 1.01 Rs Teff: 6244.0 K Logg: 4.46 Fe/H: -0.200



DV Fit Results:

Period = 23.35935 [0.00013] d
Epoch = 144.0189 [0.0046] BKJD
Rp/R* = 0.0261 [0.0012]
a/R* = 14.30 [2.63]
b = 0.93 [0.03]
Seff = 51.77 [21.95]
Teq = 684 [72] K
Rp = 2.87 [0.96] Re
a = 0.1637 [0.0453] AU
Ag = 148.00 [76.64] [1.92σ]
Teffp = 3688 [332] K [8.83σ]

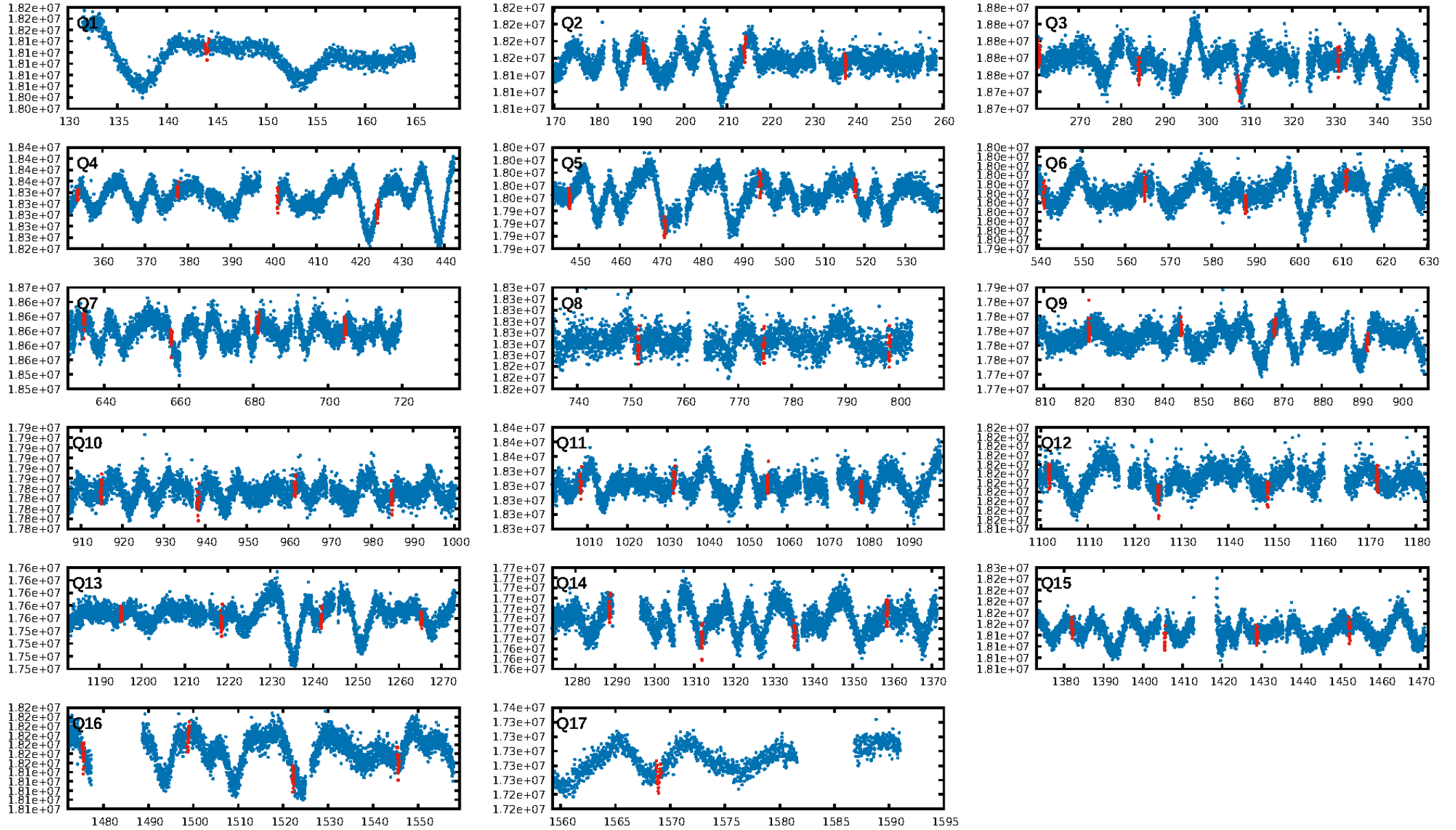
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 66.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.46e-79
RollingBand-fgt: 0.96 [55/57]
GhostDiagnostic-chr: 3.218
Centroid-sig: 61.9%
Centroid-so: 0.604 arcsec [1.07σ]
OotOffset-rm: 0.293 arcsec [0.85σ]
KicOffset-rm: 0.400 arcsec [1.03σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

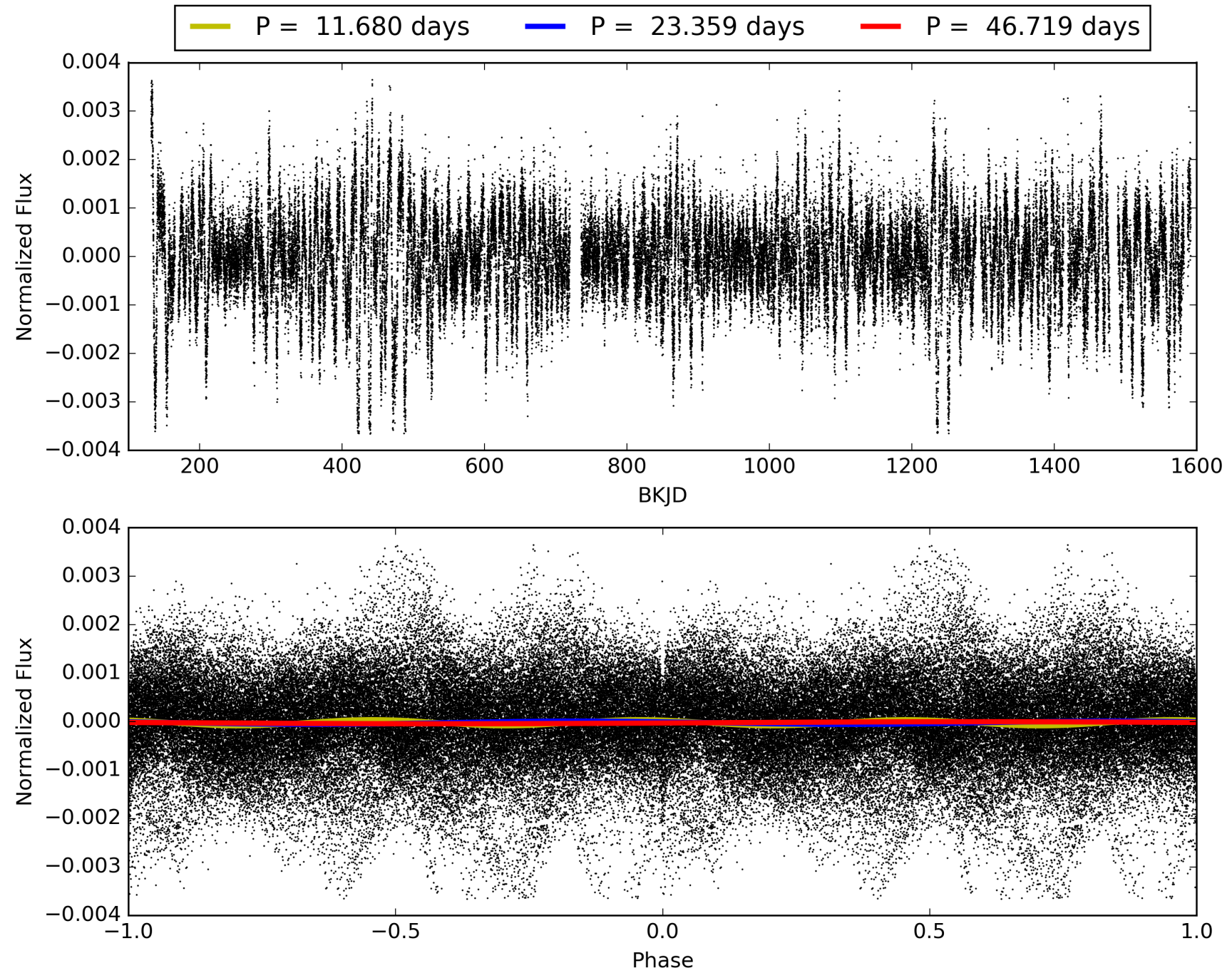
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:55:37 Z

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

TCE 009405595-01, PDC Light Curves

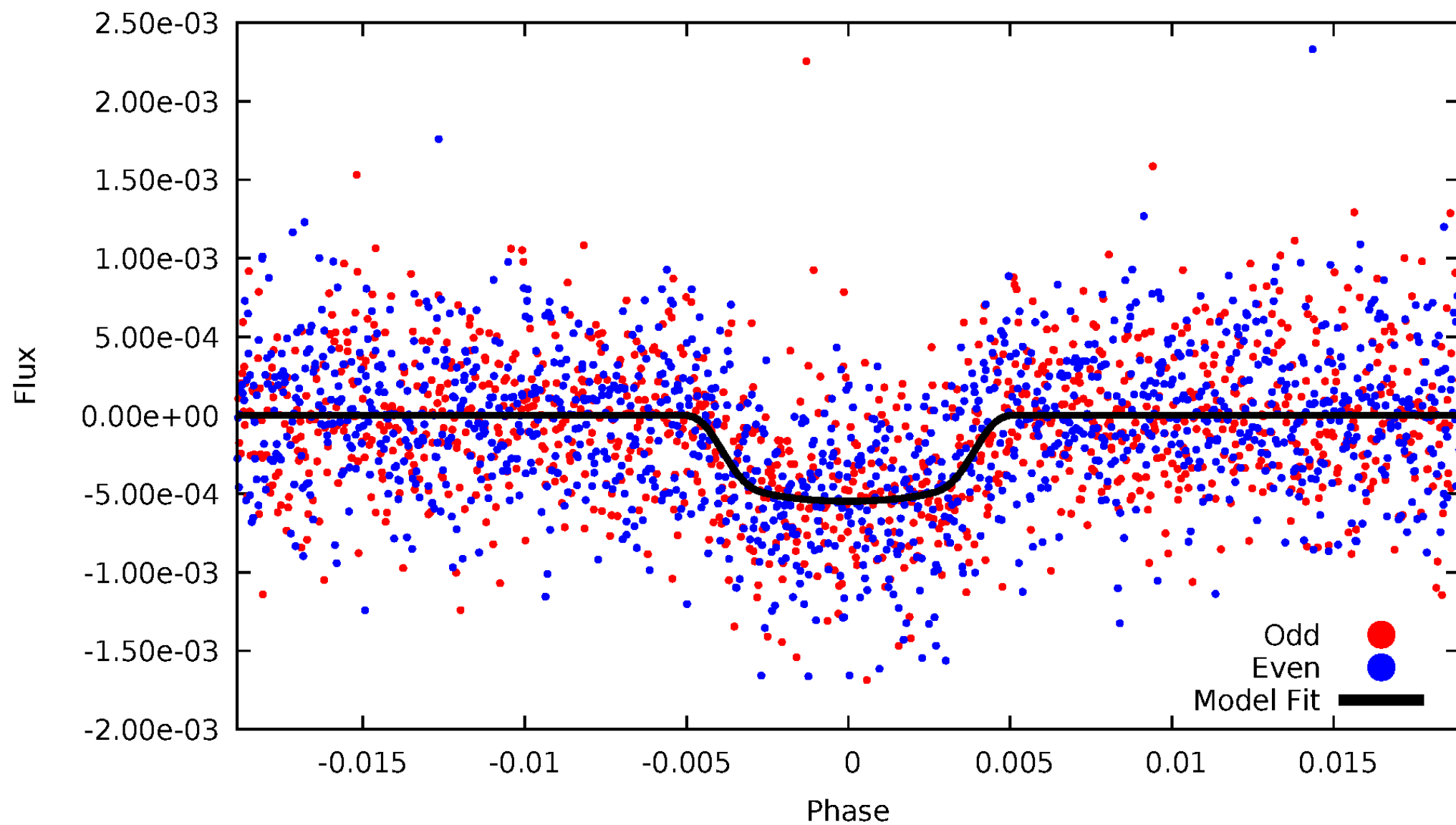


TCE 009405595-01



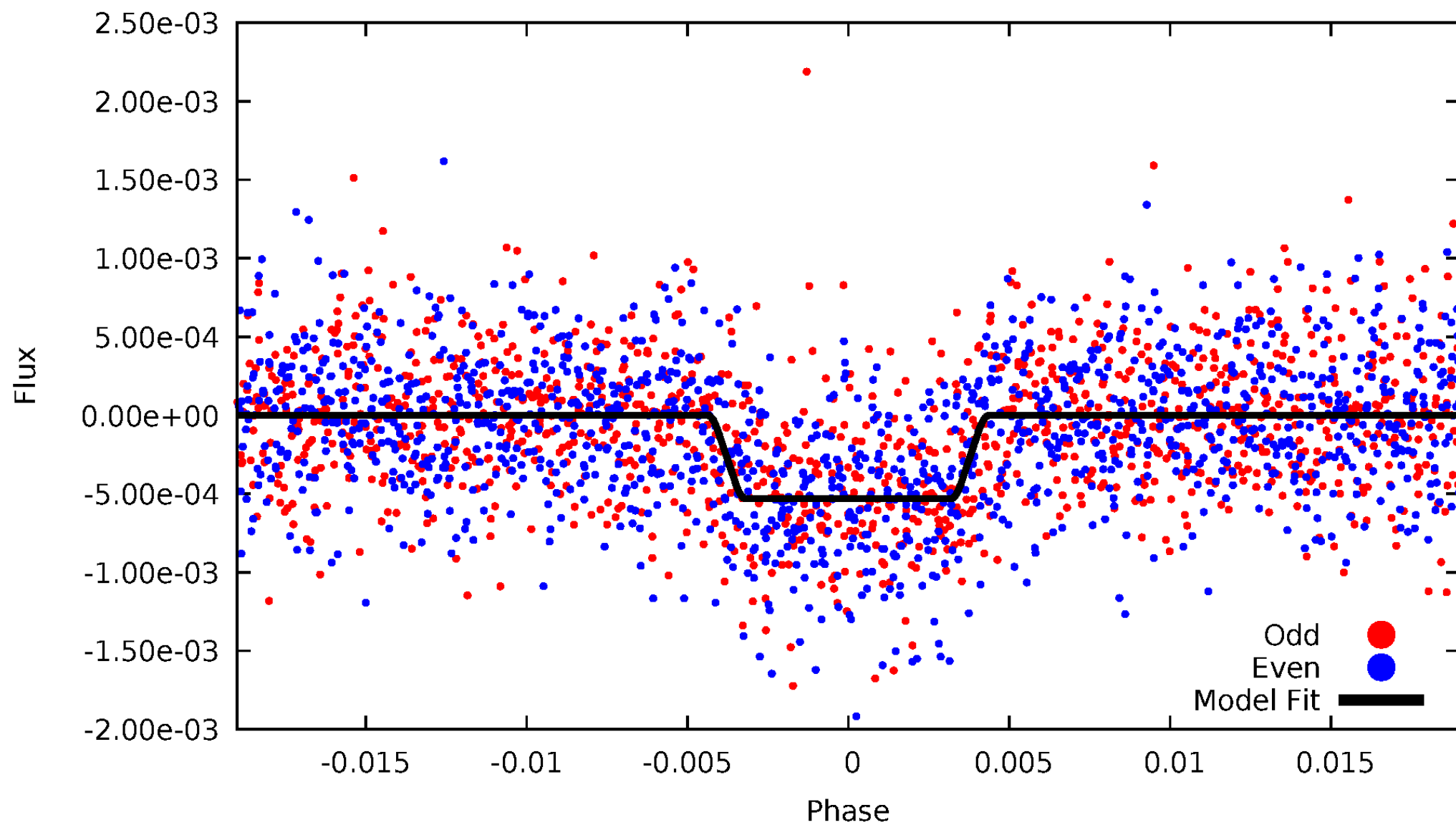
DV Odd/Even

TCE 009405595-01

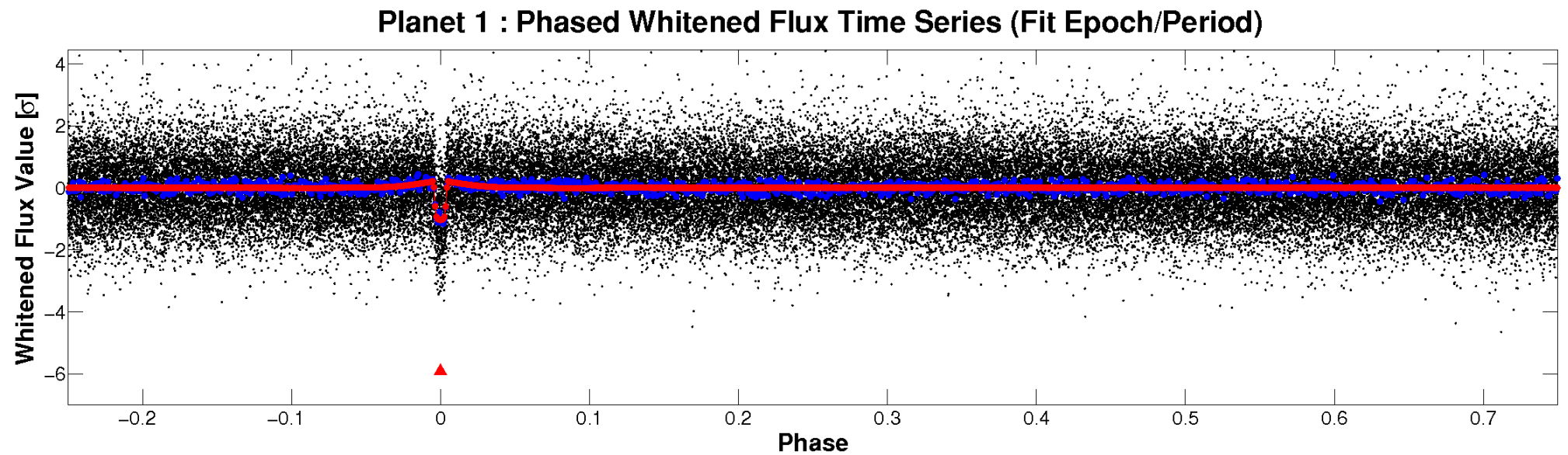
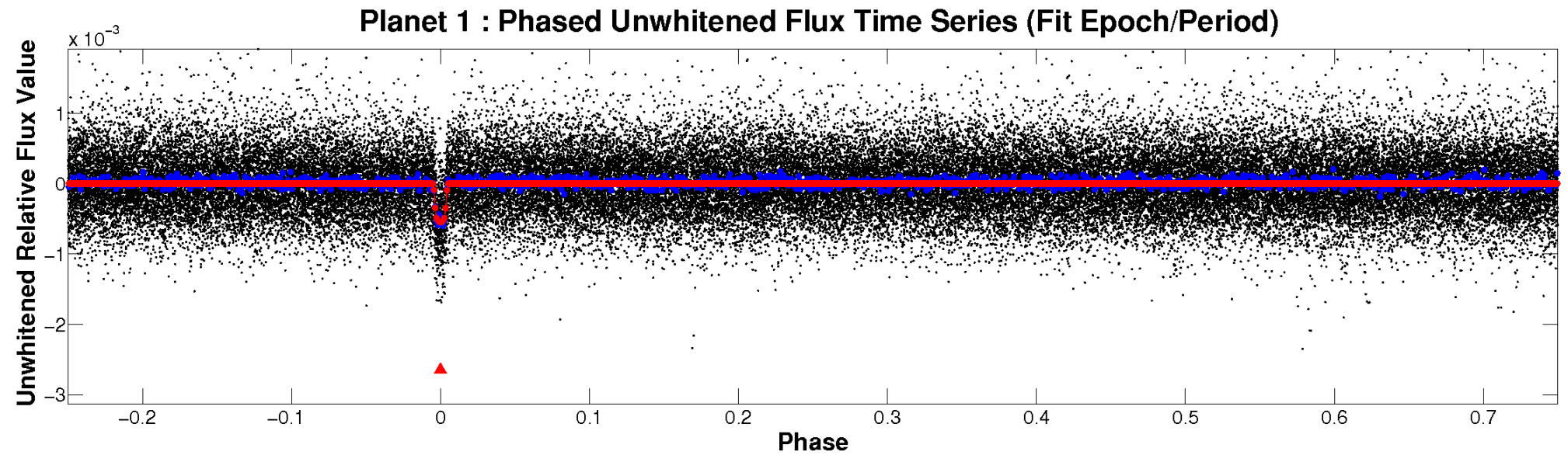


ALT Odd/Even

TCE 009405595-01

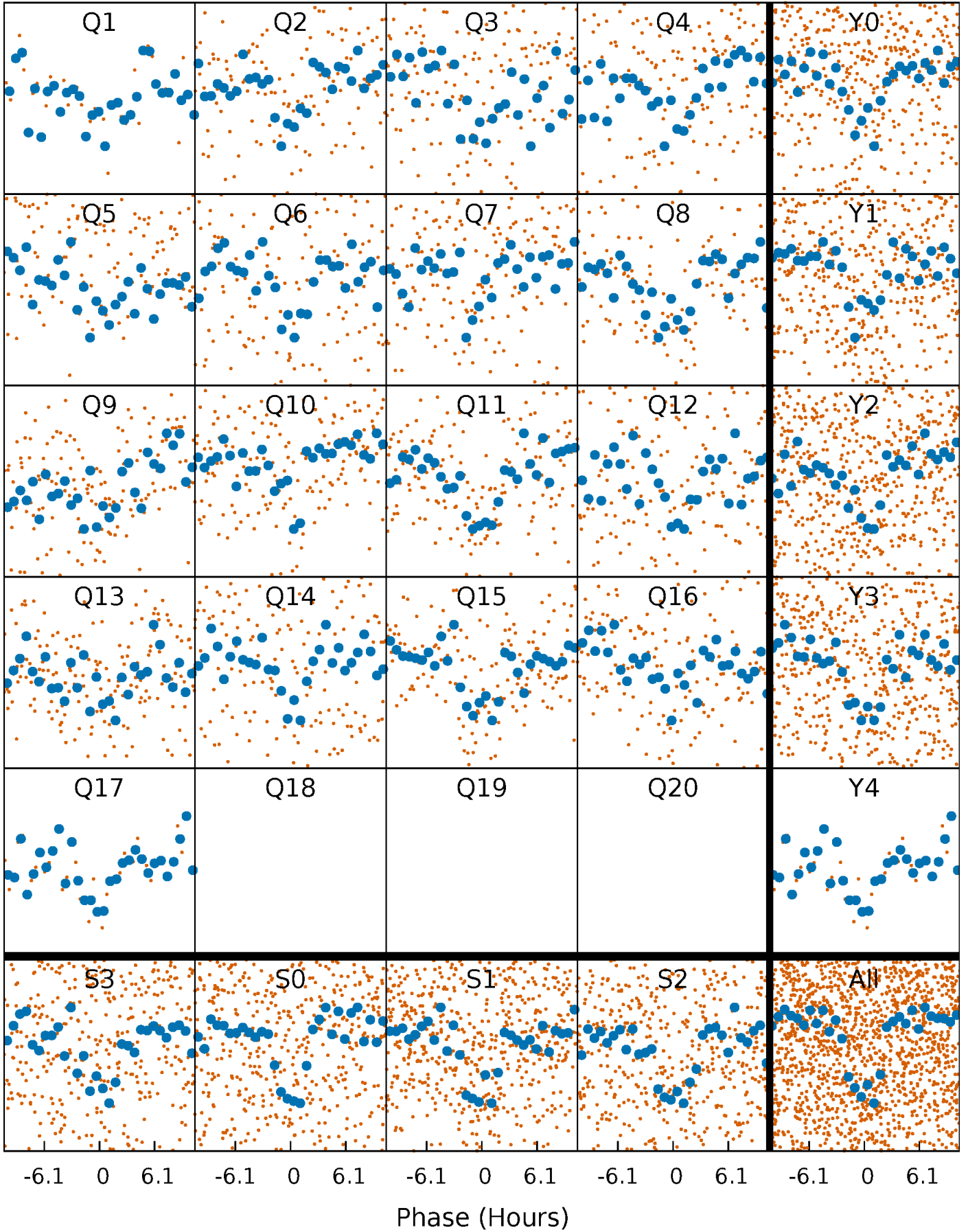


Non-Whitened Vs. Whitened Light Curve



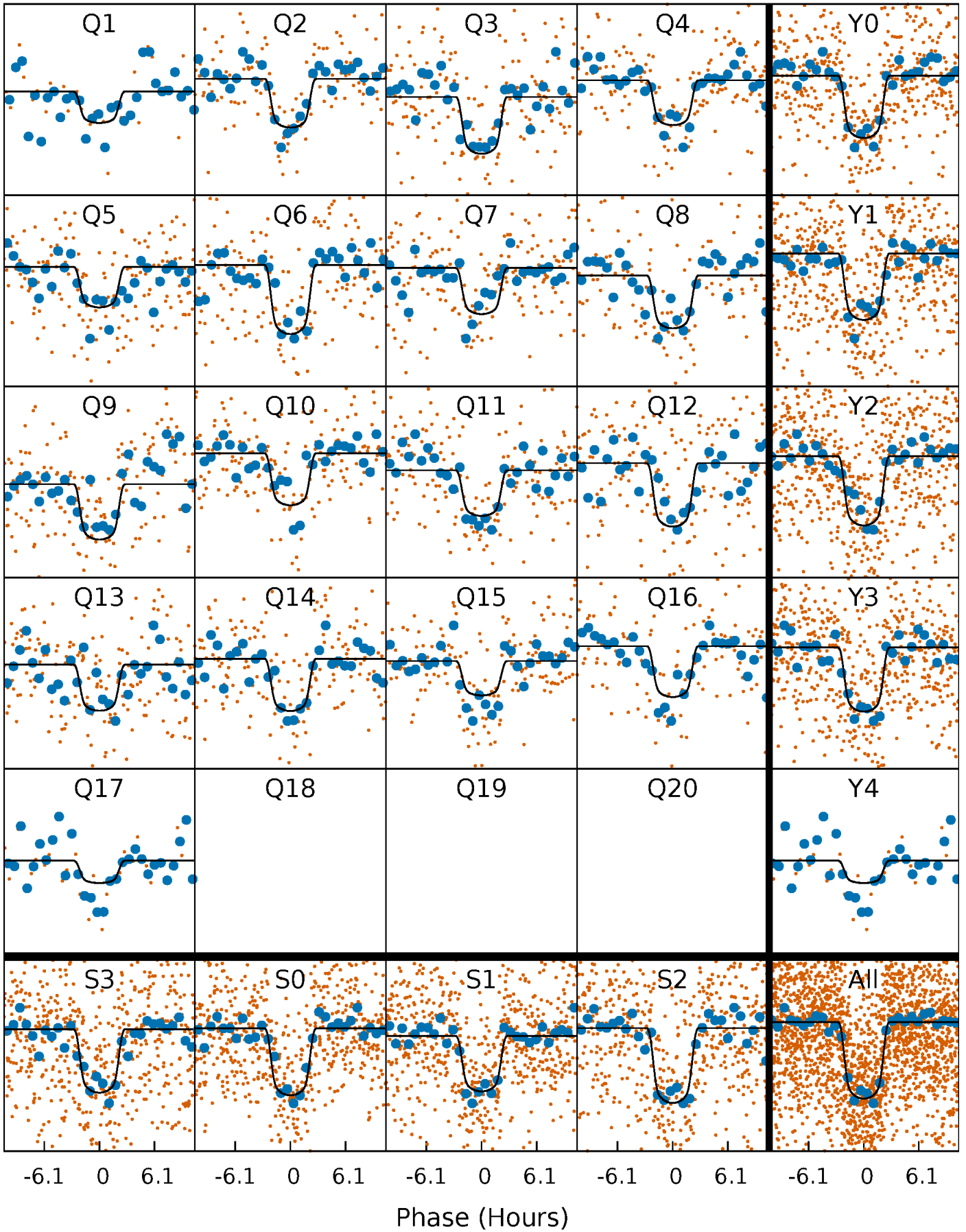
PDC Quarter-Phased Transit Curves

TCE 009405595-01 P= 23.359351 Days $T_0=144.018935$ (BKJD)



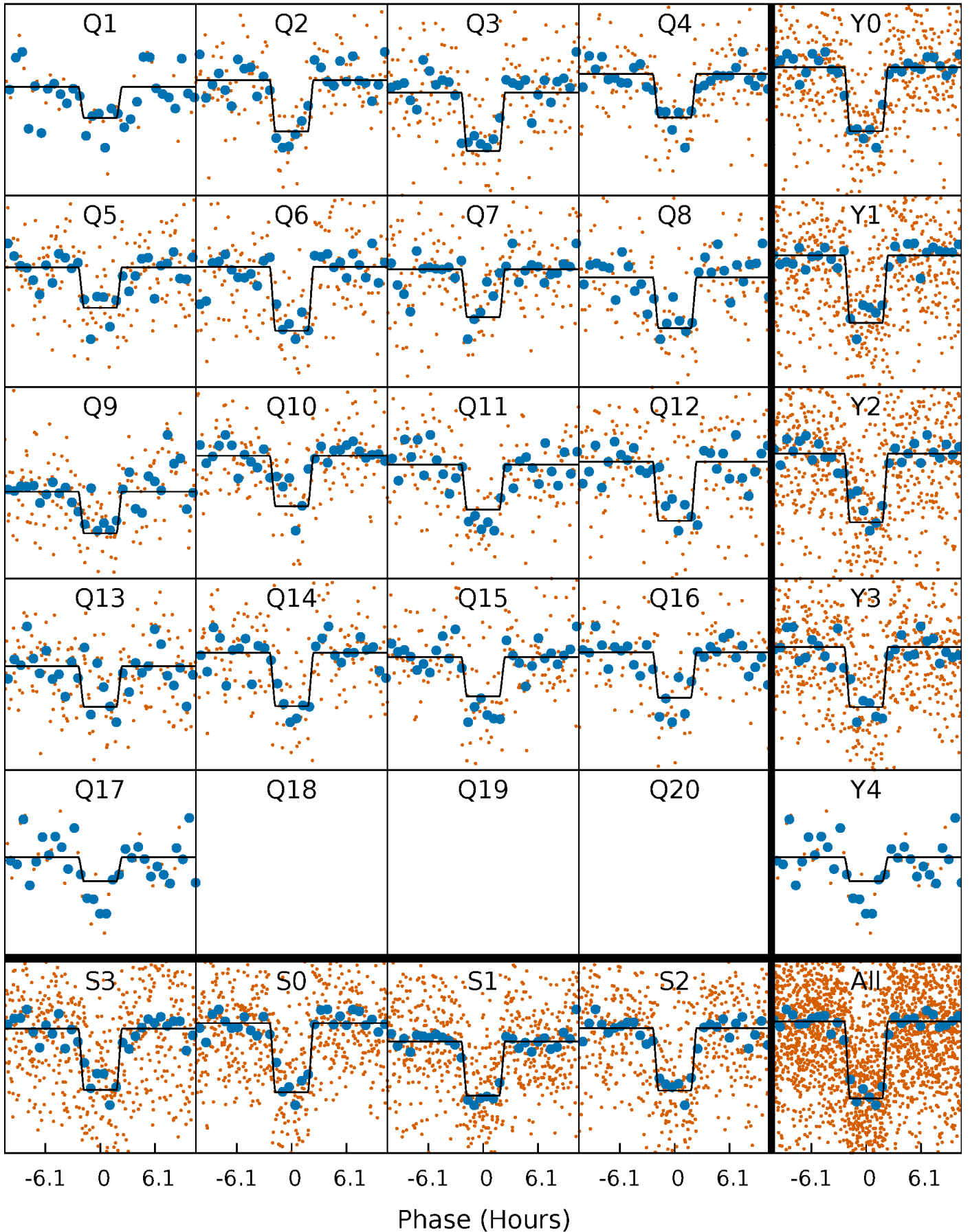
DV Quarter-Phased Transit Curves

TCE 009405595-01 P= 23.359351 Days $T_0=144.018935$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

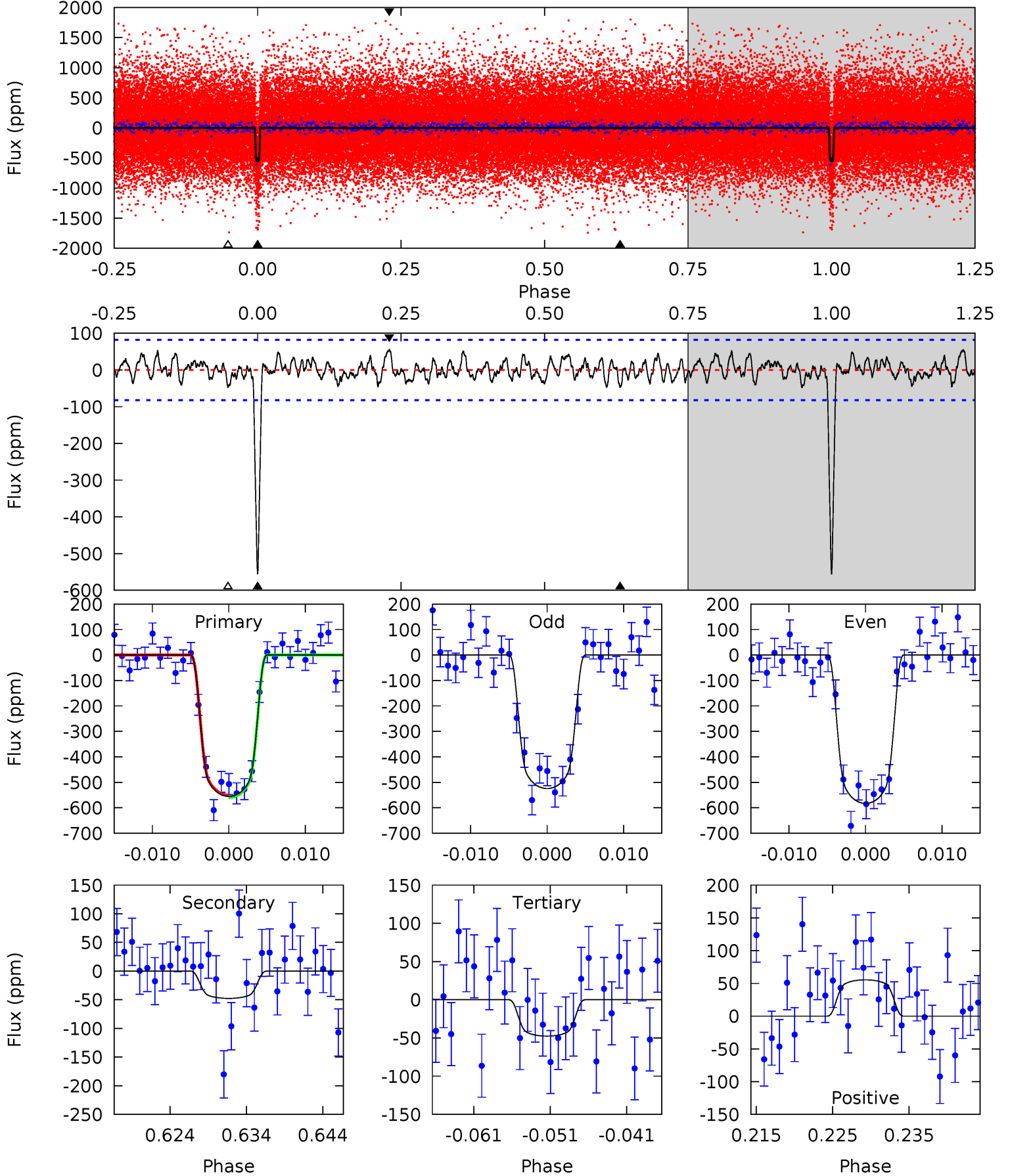
TCE 009405595-01 P= 23.359161 Days $T_0=144.024454$ (BKJD)



DV Model-Shift Uniqueness Test

009405595-01, P = 23.359351 Days, E = 120.659584 Days

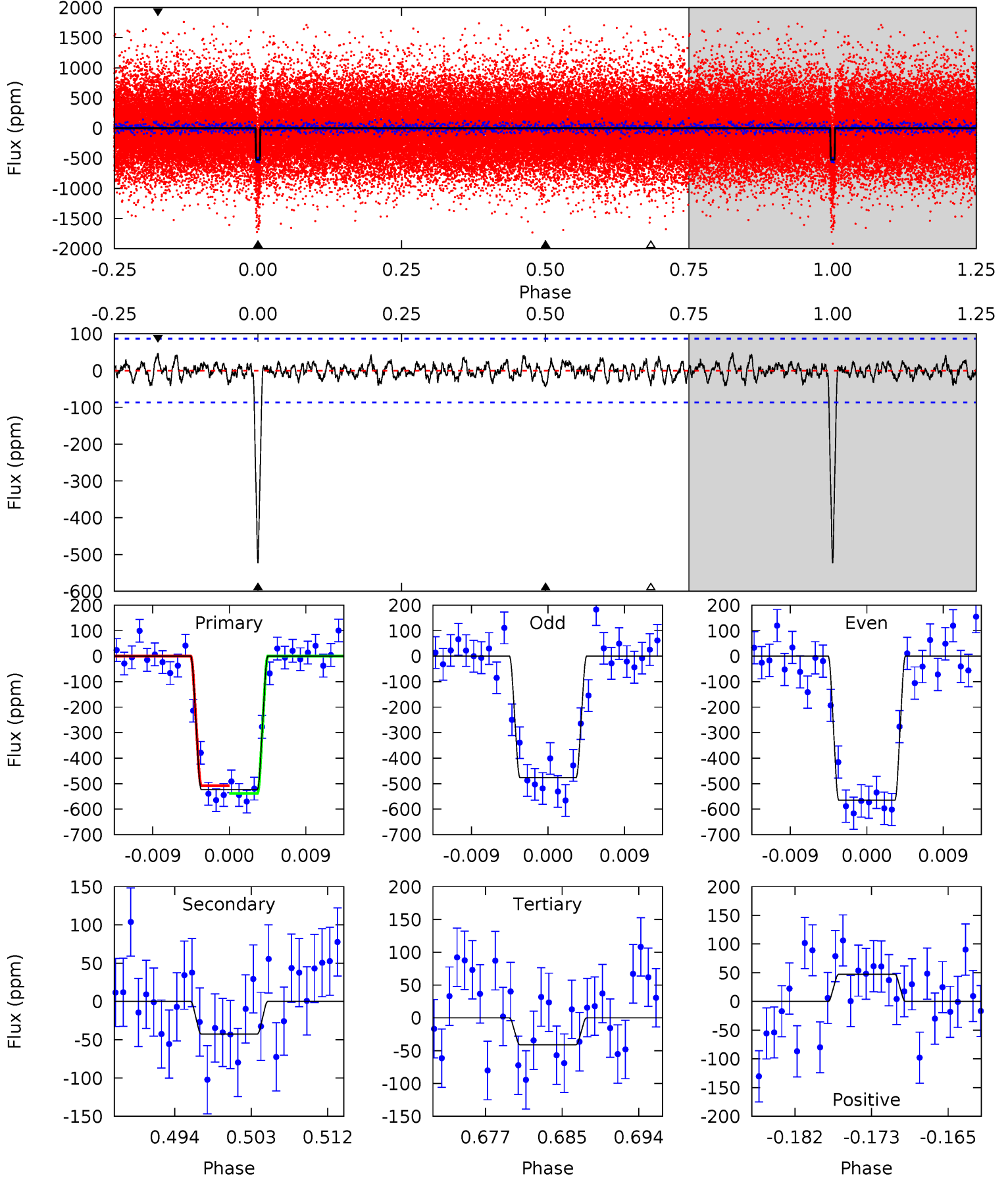
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.9	2.91	2.91	3.38	5.02	2.57	1.25	31.0	30.5	0.00	-0.48	1.79	1.01	0.09	0.28



Alt Model-Shift Uniqueness Test

009405595-01, P = 23.359161 Days, E = 120.665293 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.4	2.48	2.38	2.75	5.05	2.62	0.93	28.0	27.7	0.09	-0.28	2.56	0.98	0.08	0.87



Stellar Parameters For KIC 009405595

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6244^{+169}_{-225}	$4.460^{+0.054}_{-0.216}$	$-0.200^{+0.250}_{-0.350}$	$1.009^{+0.335}_{-0.112}$	$1.069^{+0.144}_{-0.144}$	$1.466^{+0.414}_{-0.765}$
	+3%/-4%	+1%/-5%	+125%/-175%	+33%/-11%	+13%/-13%	+28%/-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 009405595-01 / KOI 2125.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-48 ± 16	$2.96^{+0.54}_{-0.29}$	975^{+68}_{-52}	3623^{+216}_{-245}	74^{+35}_{-29}
Alt.	-43 ± 17	$2.62^{+0.49}_{-0.27}$	976^{+76}_{-49}	3716^{+259}_{-282}	86^{+47}_{-38}

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 $A_{obs} \gg 1.0$

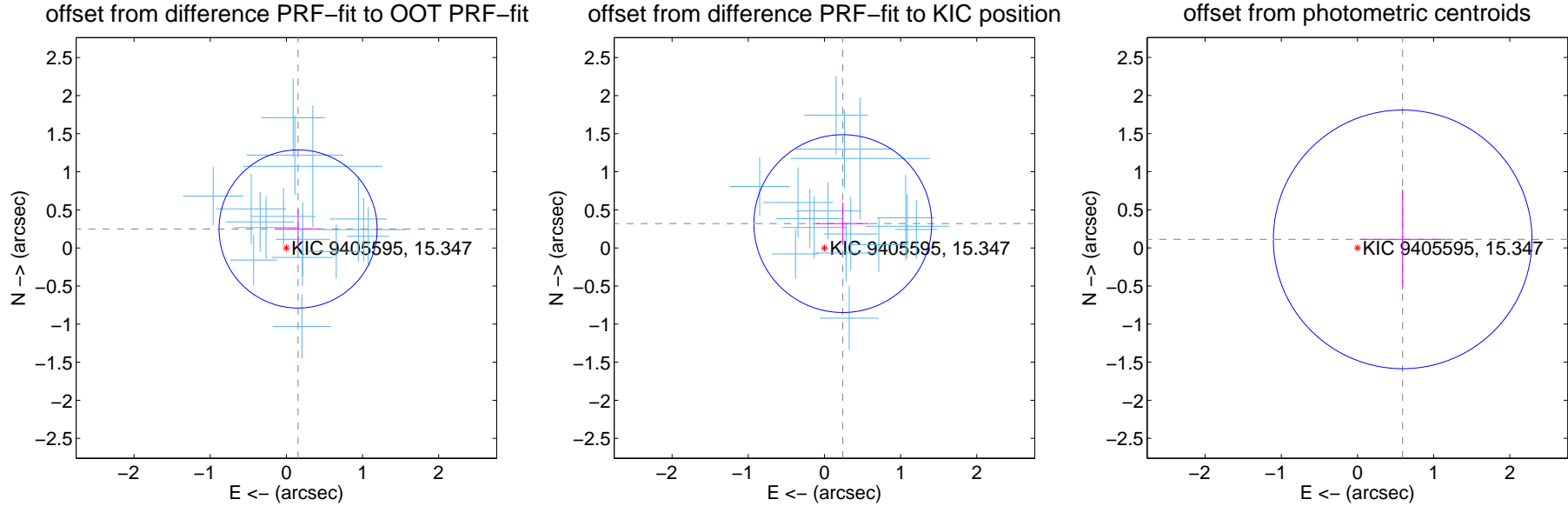
DV Centroid Data

Supplemental centroid analysis for 009405595-01. Kepler magnitude: 15.35. Transit SNR 21.47

There are 16 quarters with good PRF difference image offsets

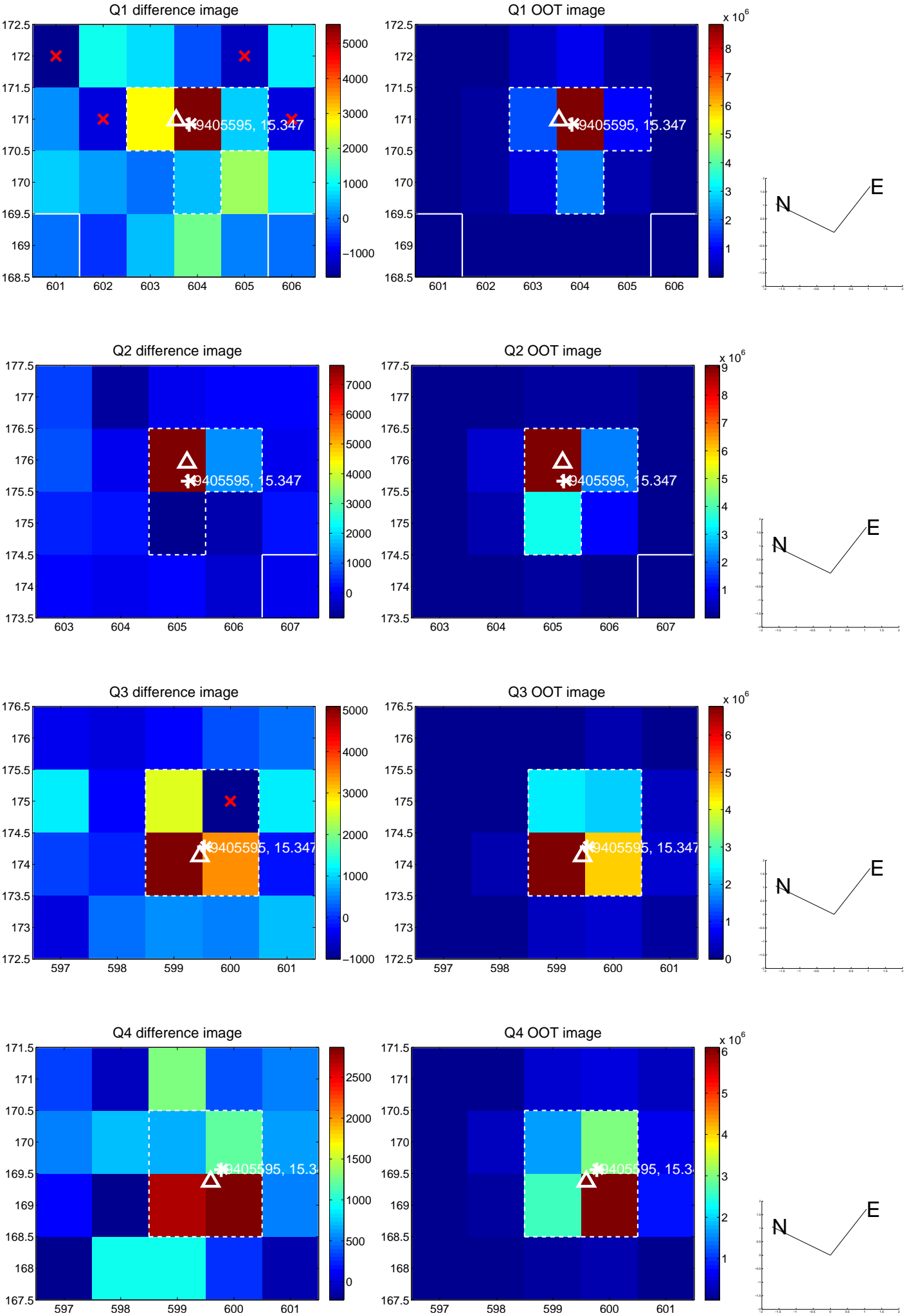
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.293 ± 0.346	0.85	-0.154 ± 0.306	0.249 ± 0.256
PRF-fit source offset from KIC position	0.400 ± 0.389	1.03	-0.241 ± 0.346	0.319 ± 0.276
photometric centroid source offset	0.60 ± 0.57	1.07	-0.59 ± 0.56	0.11 ± 0.66

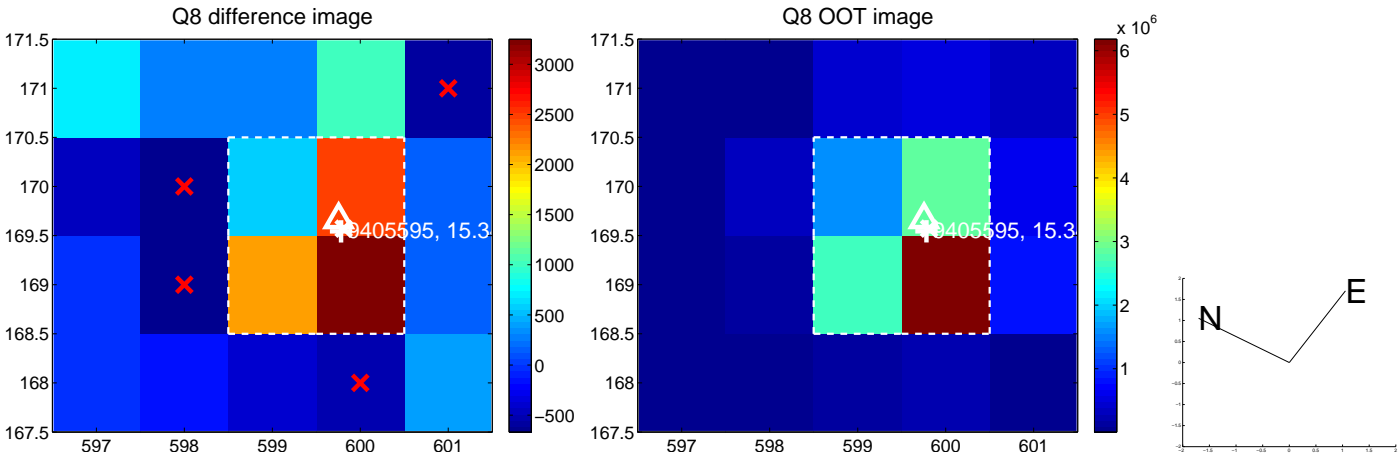
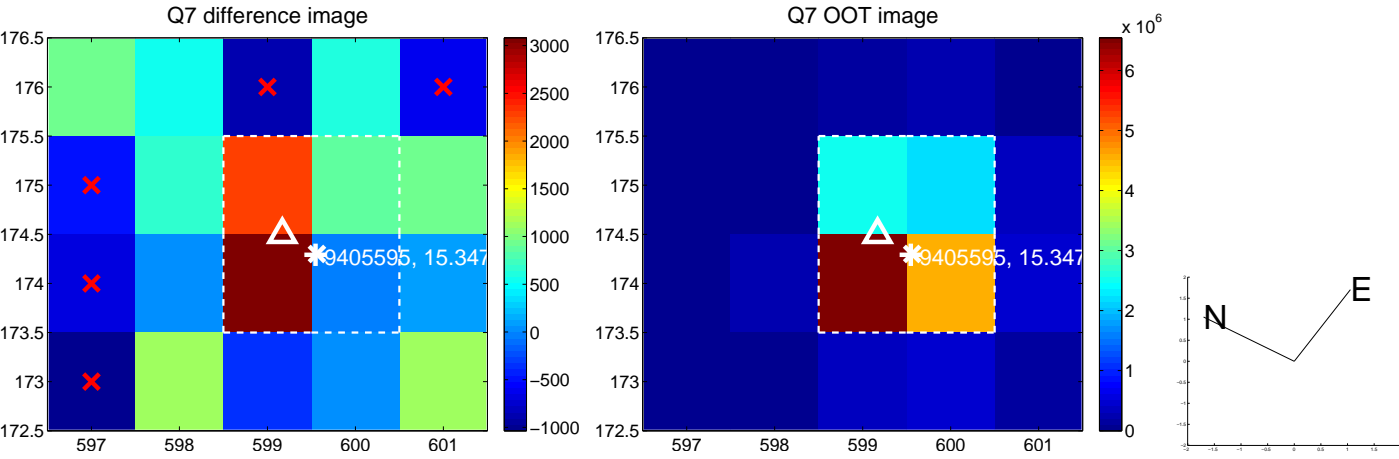
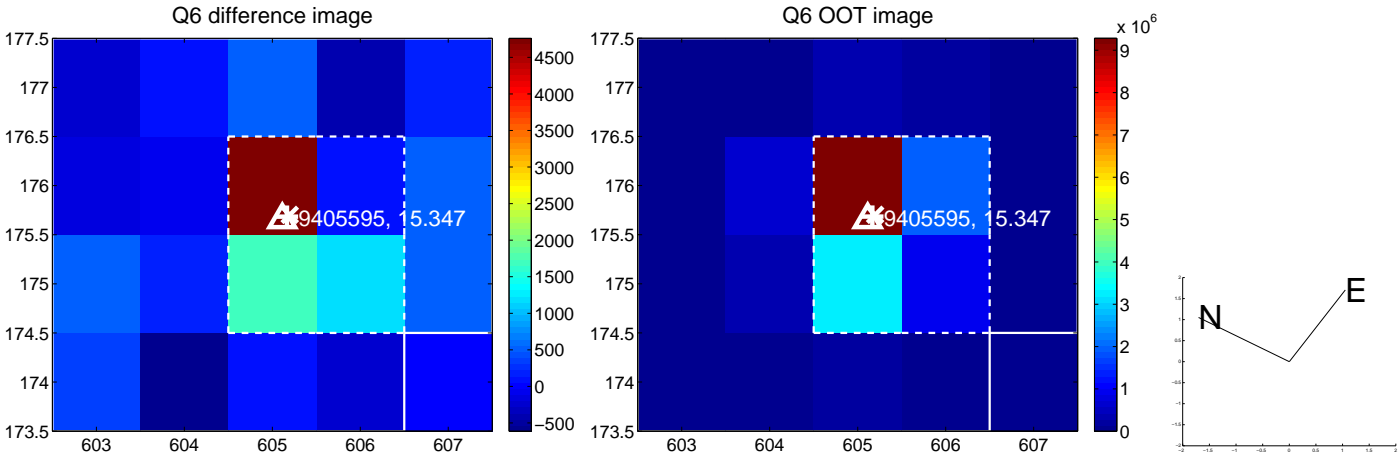
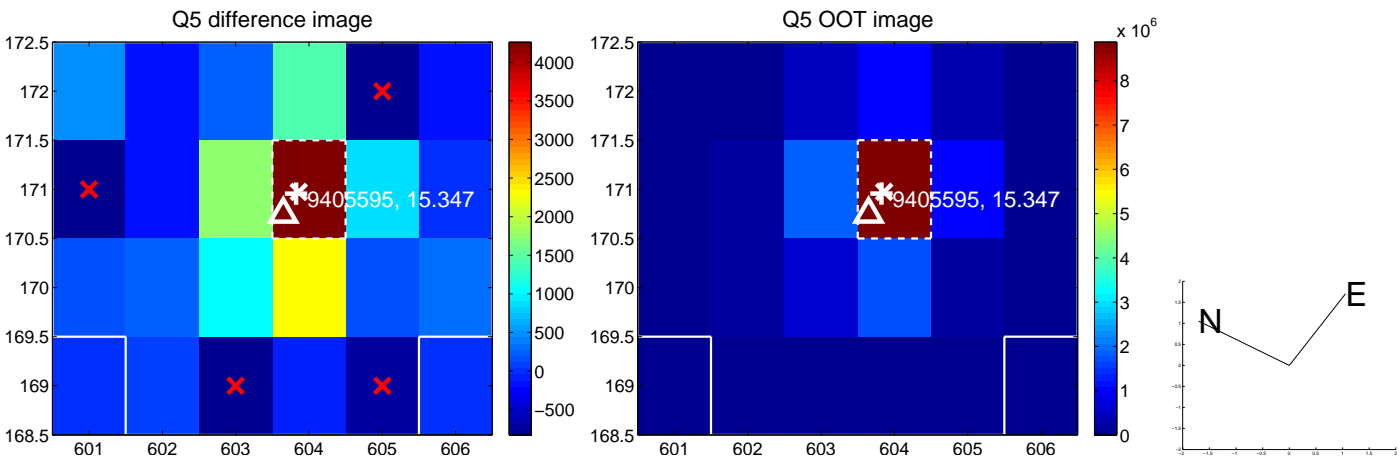


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

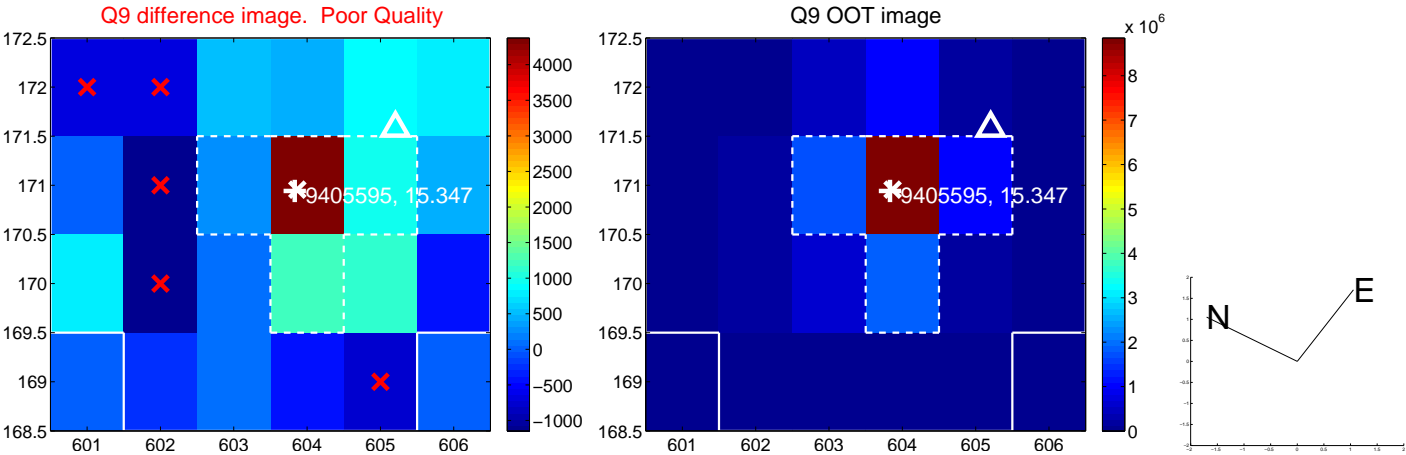
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



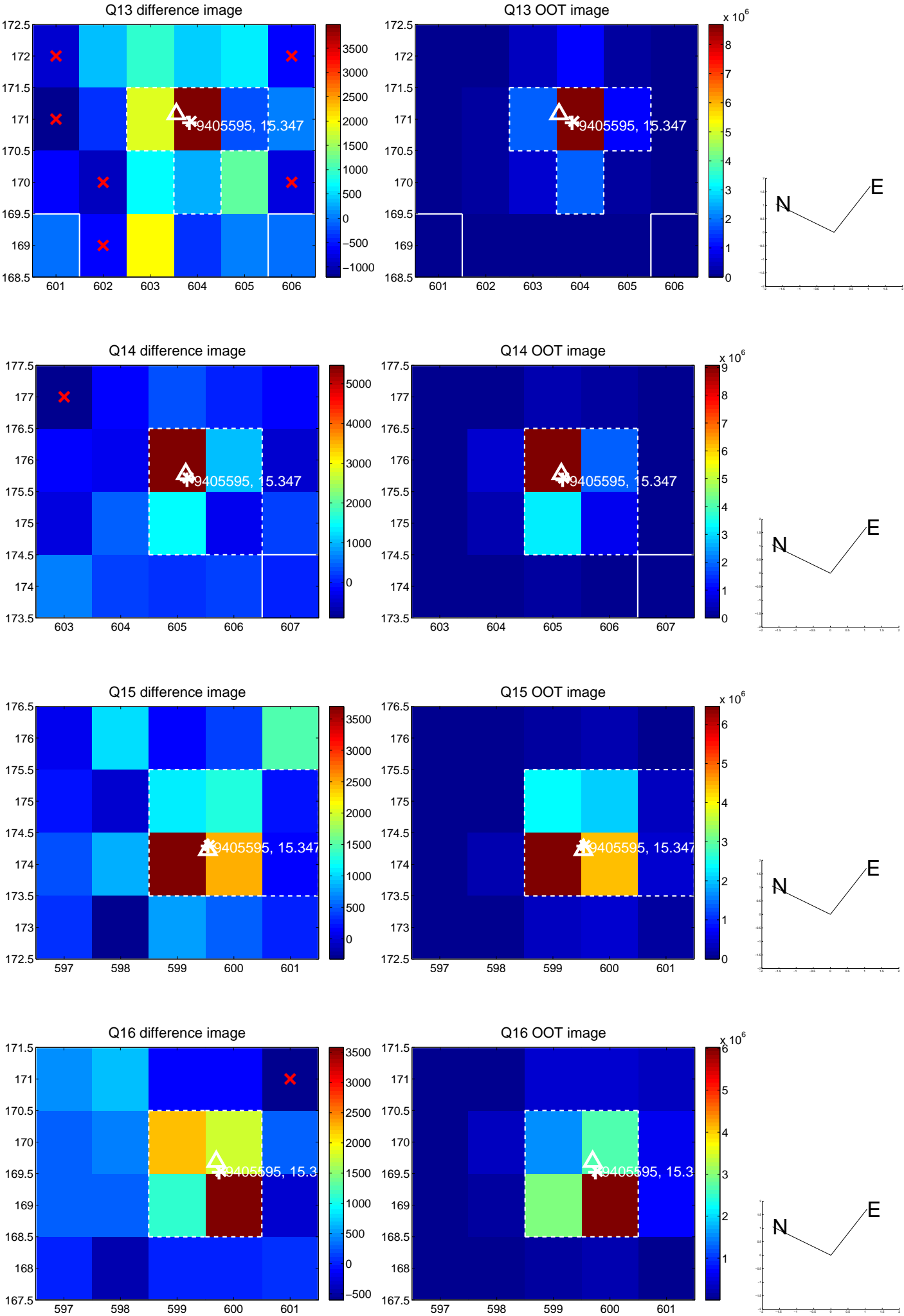
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



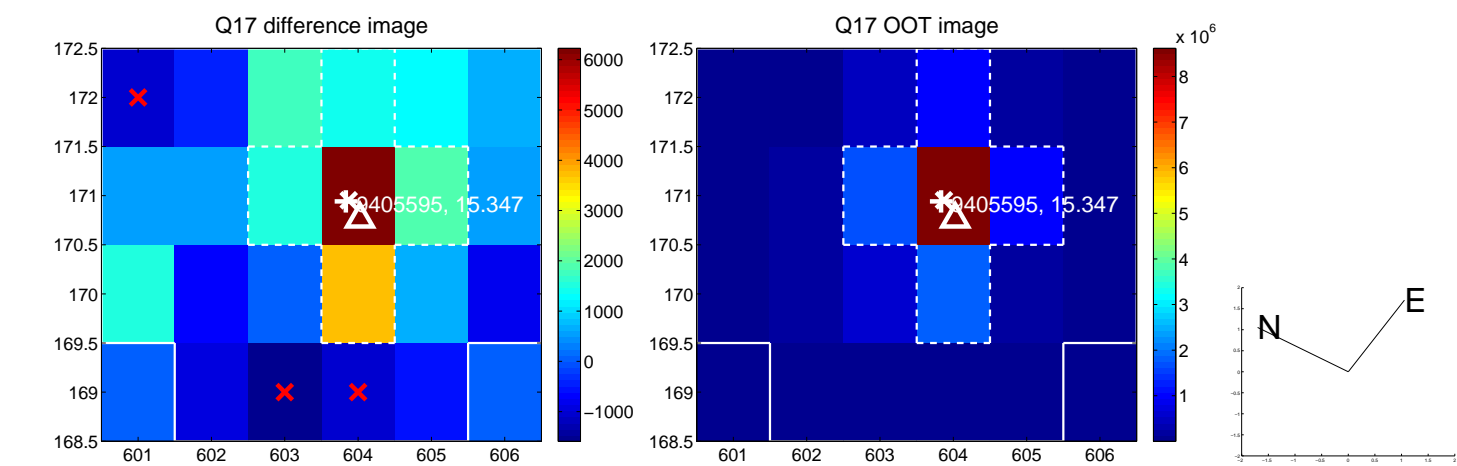
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



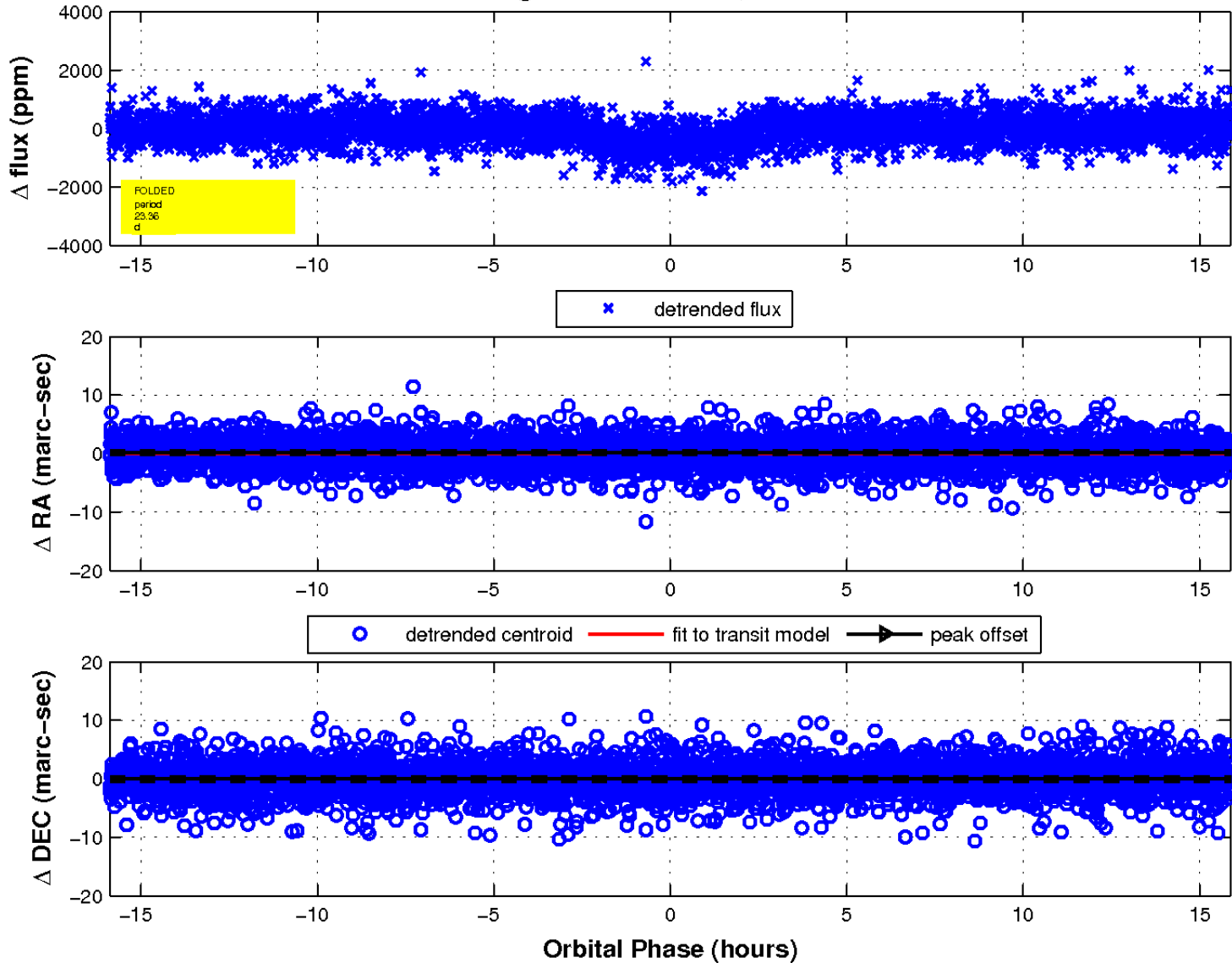
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

