

KIC 009304101

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})
009304101-01	OBS	2067.01	13.245038	142.005833	153.2	4.508	27.8	29.7	1.39	5636	2.04	146.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009304101-01	OBS	PC	0.97	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 009304101-01

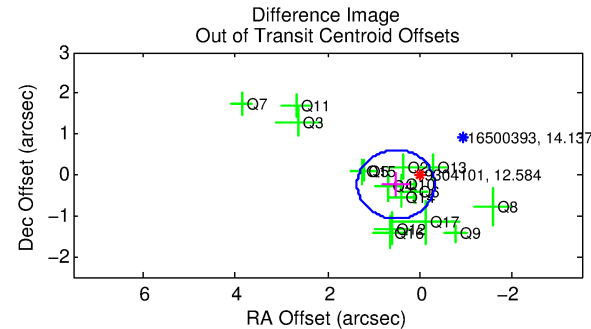
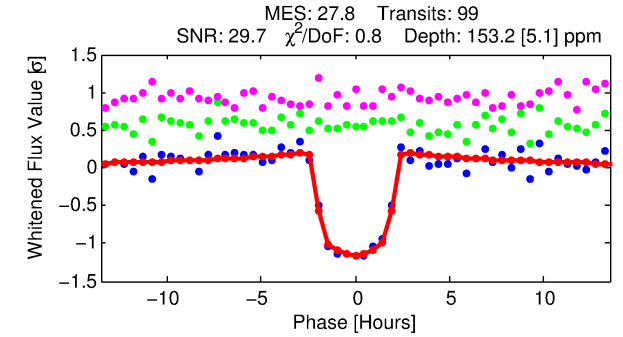
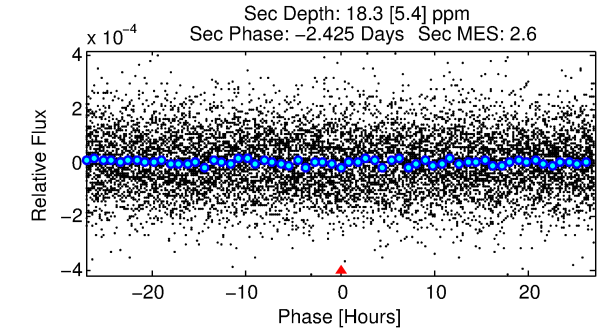
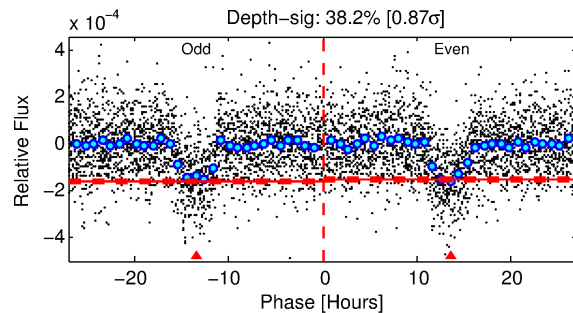
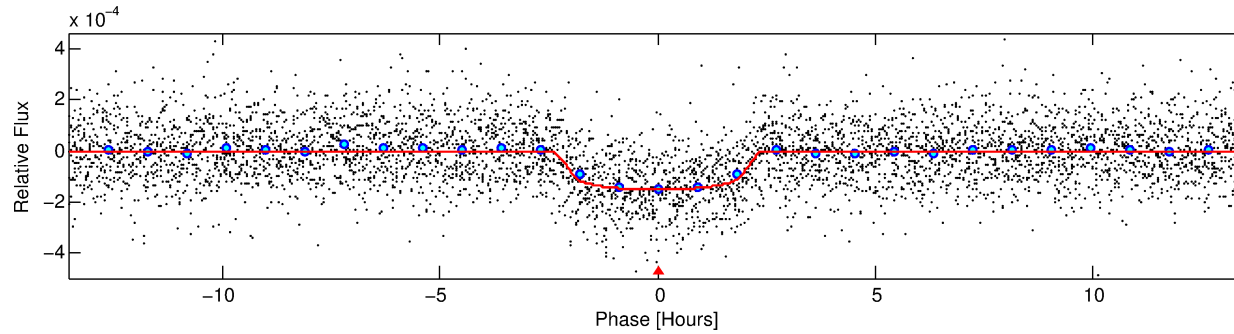
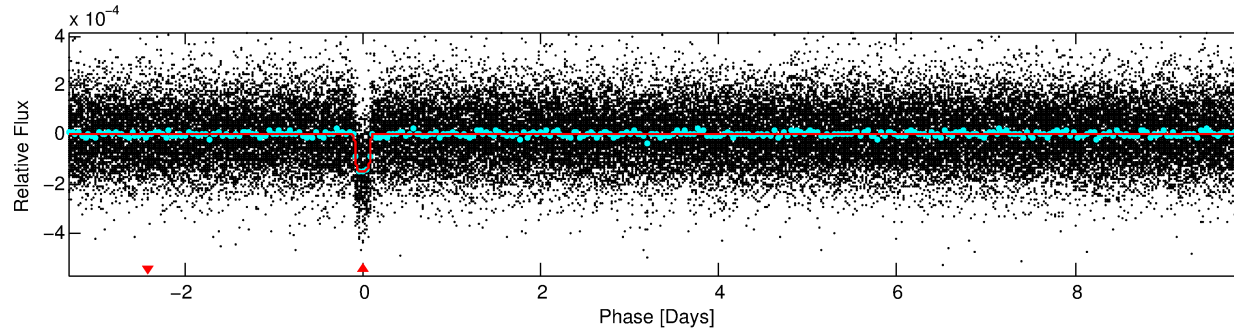
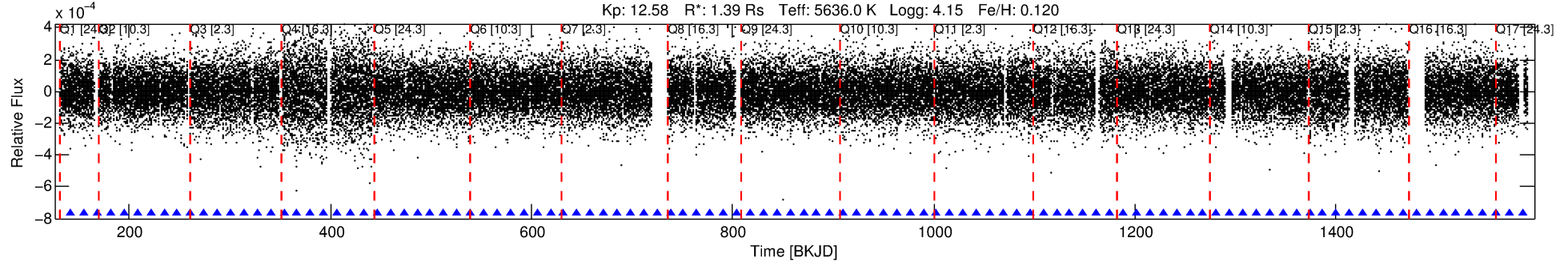
No Significant Match Found

DV One-Page Summary

KIC: 9304101 Candidate: 1 of 1 Period: 13.245 d

KOI: K02067.01 Corr: 0.984

Kp: 12.58 R*: 1.39 Rs Teff: 5636.0 K Logg: 4.15 Fe/H: 0.120



DV Fit Results:

Period = 13.24504 [0.00005] d
Epoch = 142.0058 [0.0028] BKJD
Rp/R* = 0.0134 [0.0021]
a/R* = 10.94 [7.83]
b = 0.89 [0.17]
Seff = 146.57 [48.67]
Teq = 887 [74] K
Rp = 2.03 [0.54] Re
a = 0.1092 [0.0222] AU
Ag = 28.90 [15.60] [1.79σ]
Teffp = 3180 [350] K [6.40σ]

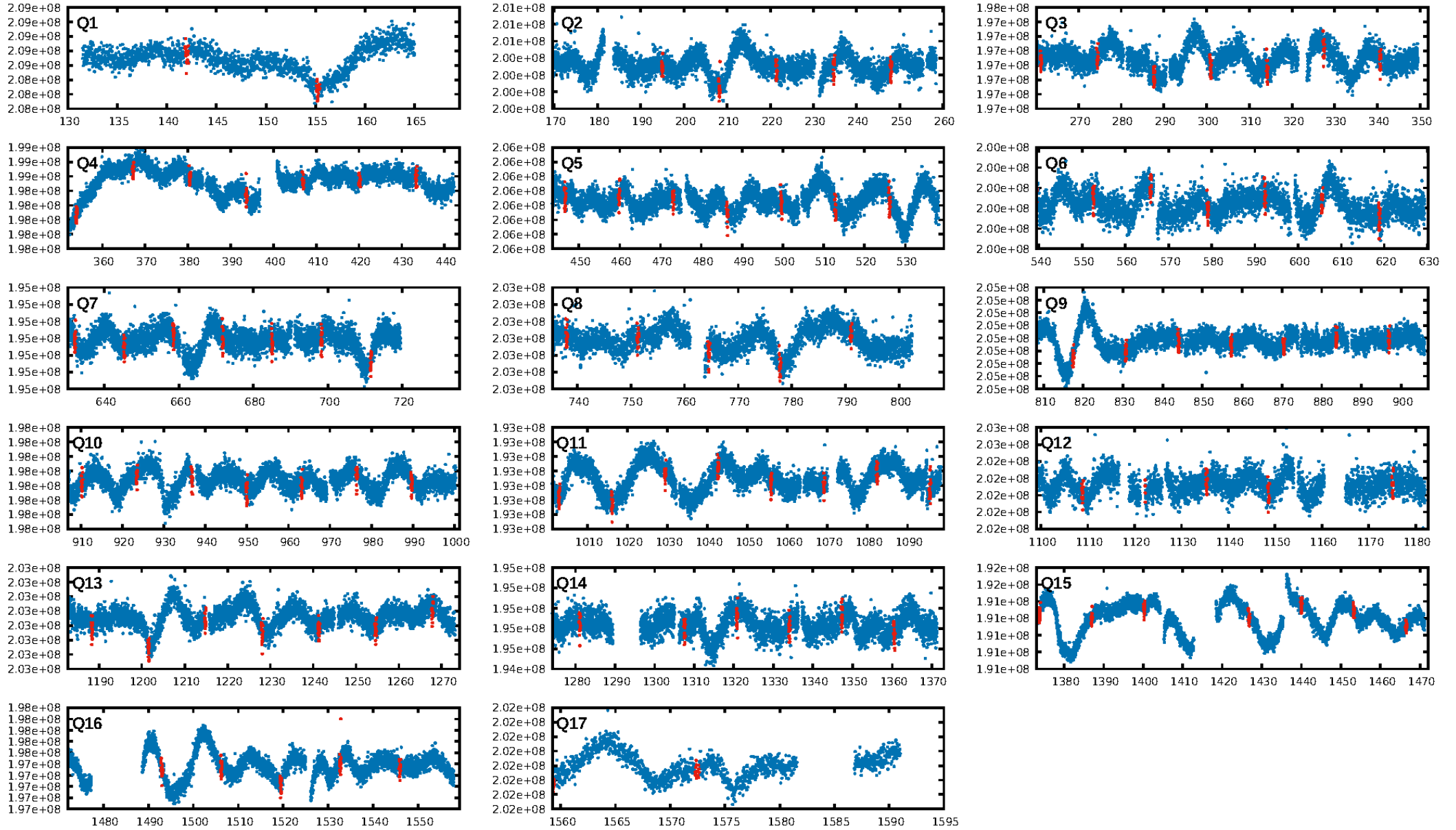
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.16e-159
RollingBand-fgt: 1.00 [95/95]
GhostDiagnostic-chr: 13.65
Centroid-sig: 0.0%
Centroid-so: 1.023 arcsec [2.29σ]
OotOffset-rm: 0.575 arcsec [2.05σ]
KicOffset-rm: 0.417 arcsec [1.46σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.88 [14/16]
DiffImageOverlap-fno: 1.00 [17/17]

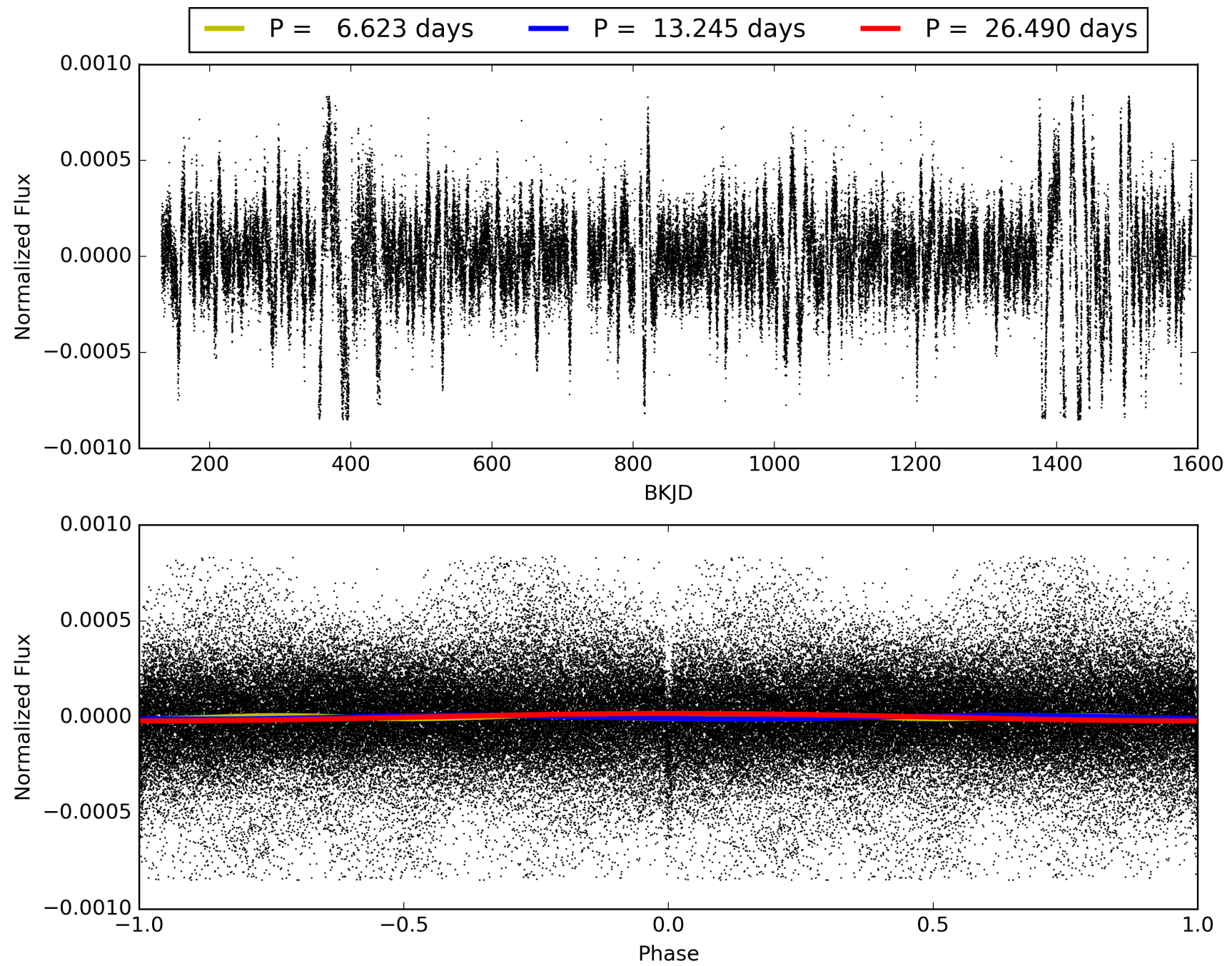
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:51:40 Z

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

TCE 009304101-01, PDC Light Curves

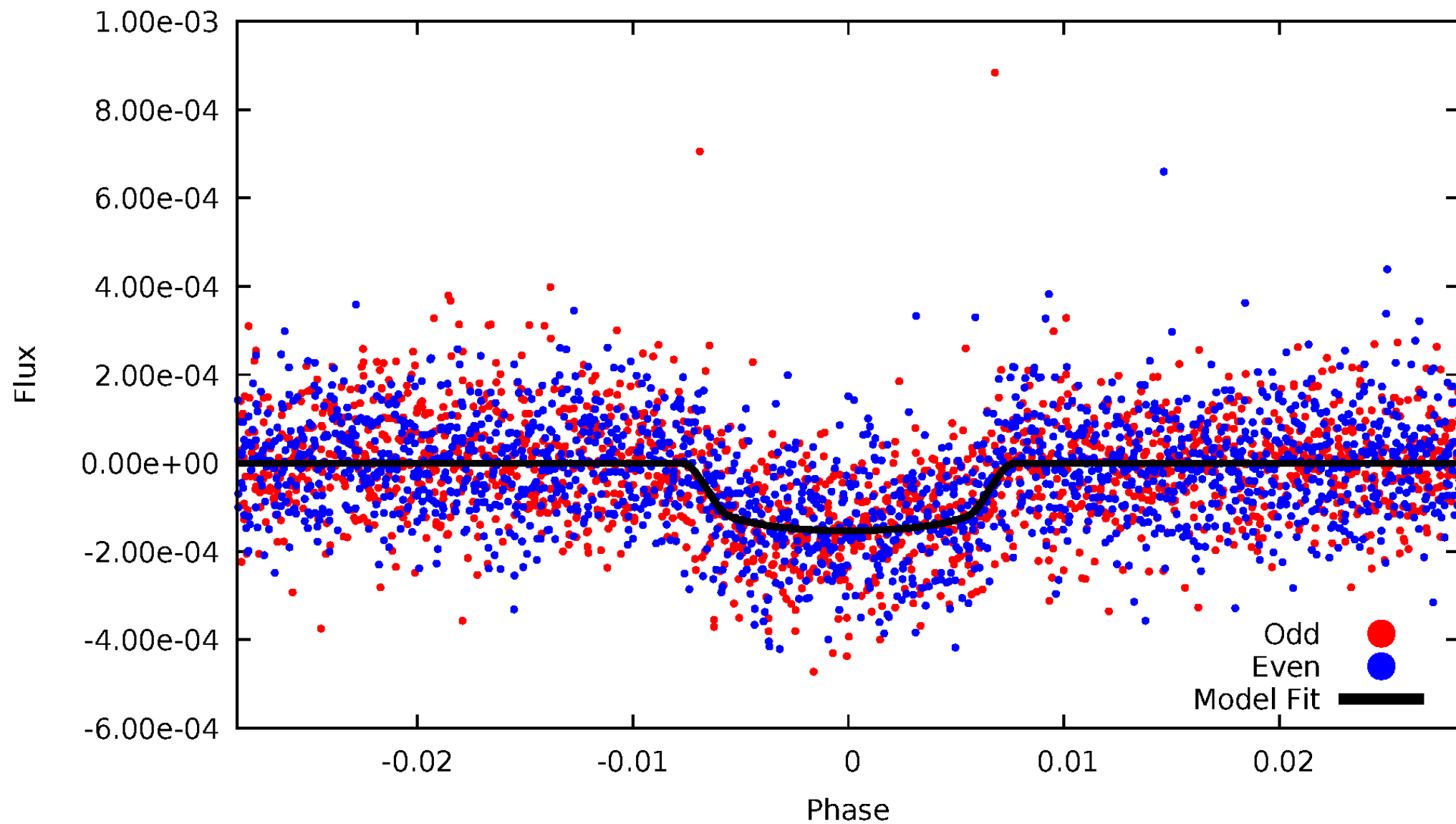


TCE 009304101-01



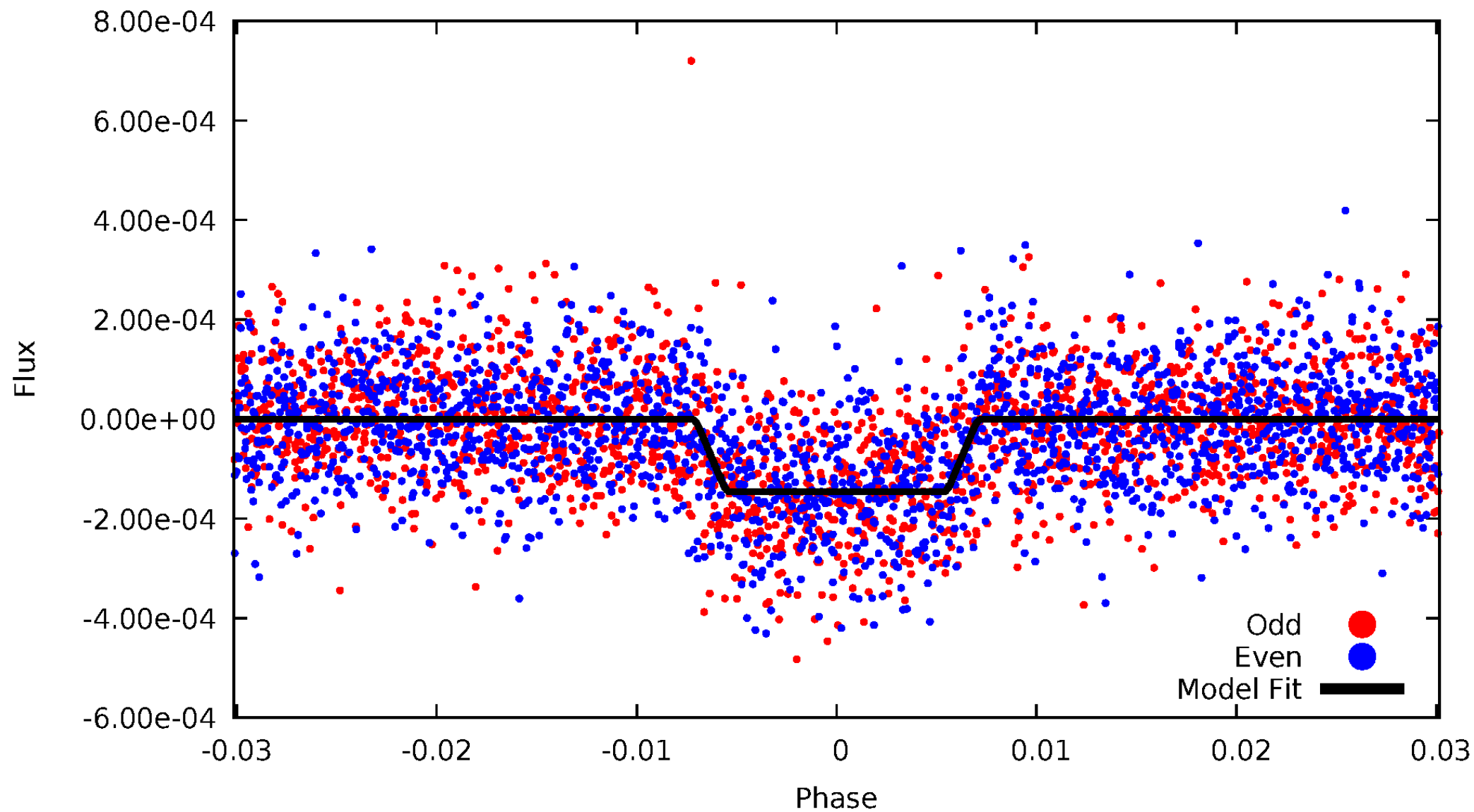
DV Odd/Even

TCE 009304101-01



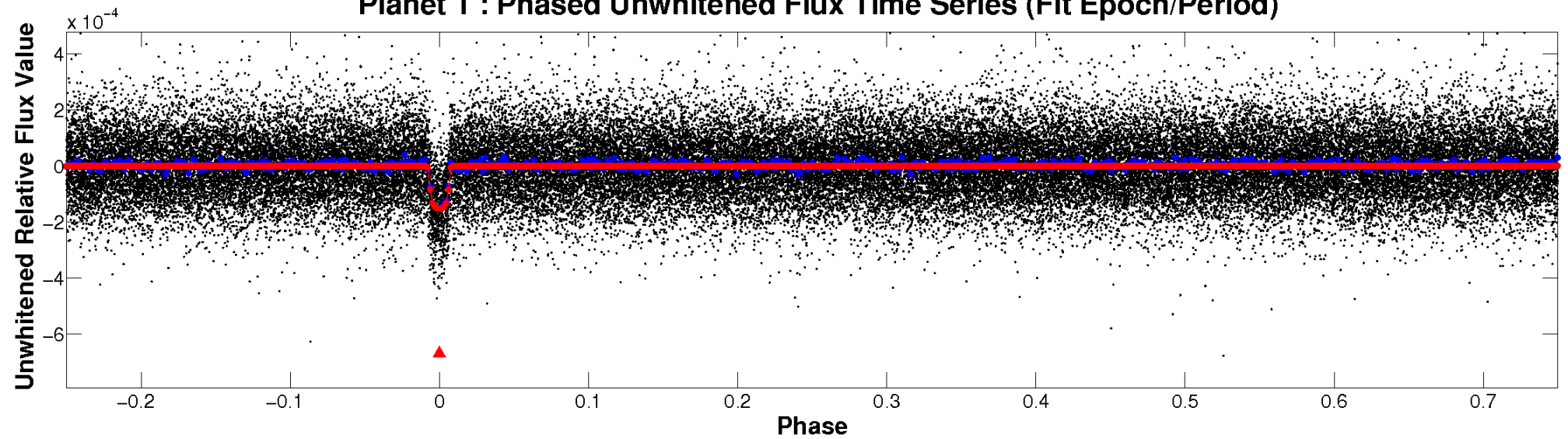
ALT Odd/Even

TCE 009304101-01

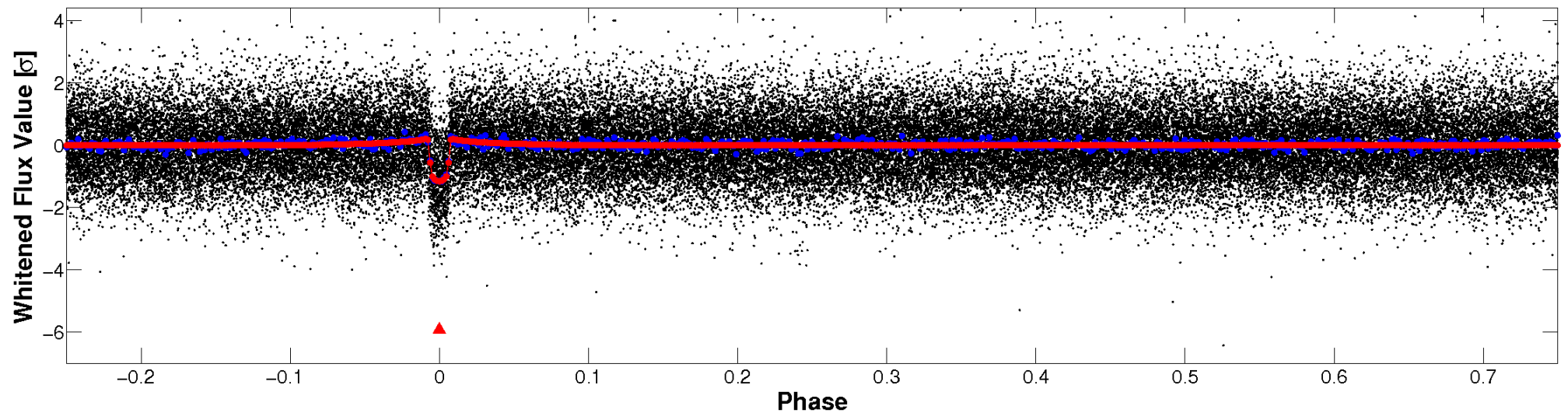


Non-Whitened Vs. Whitened Light Curve

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

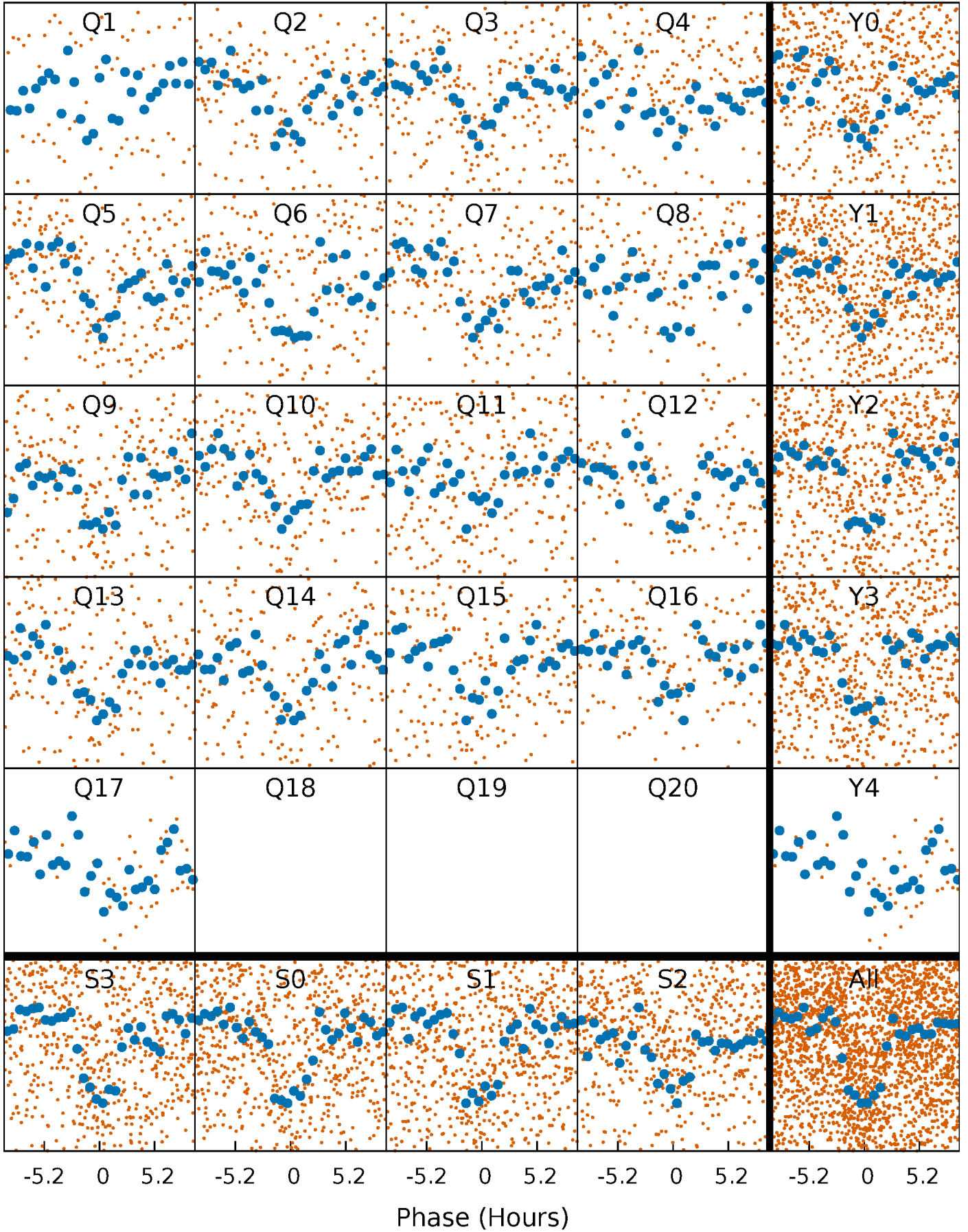


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



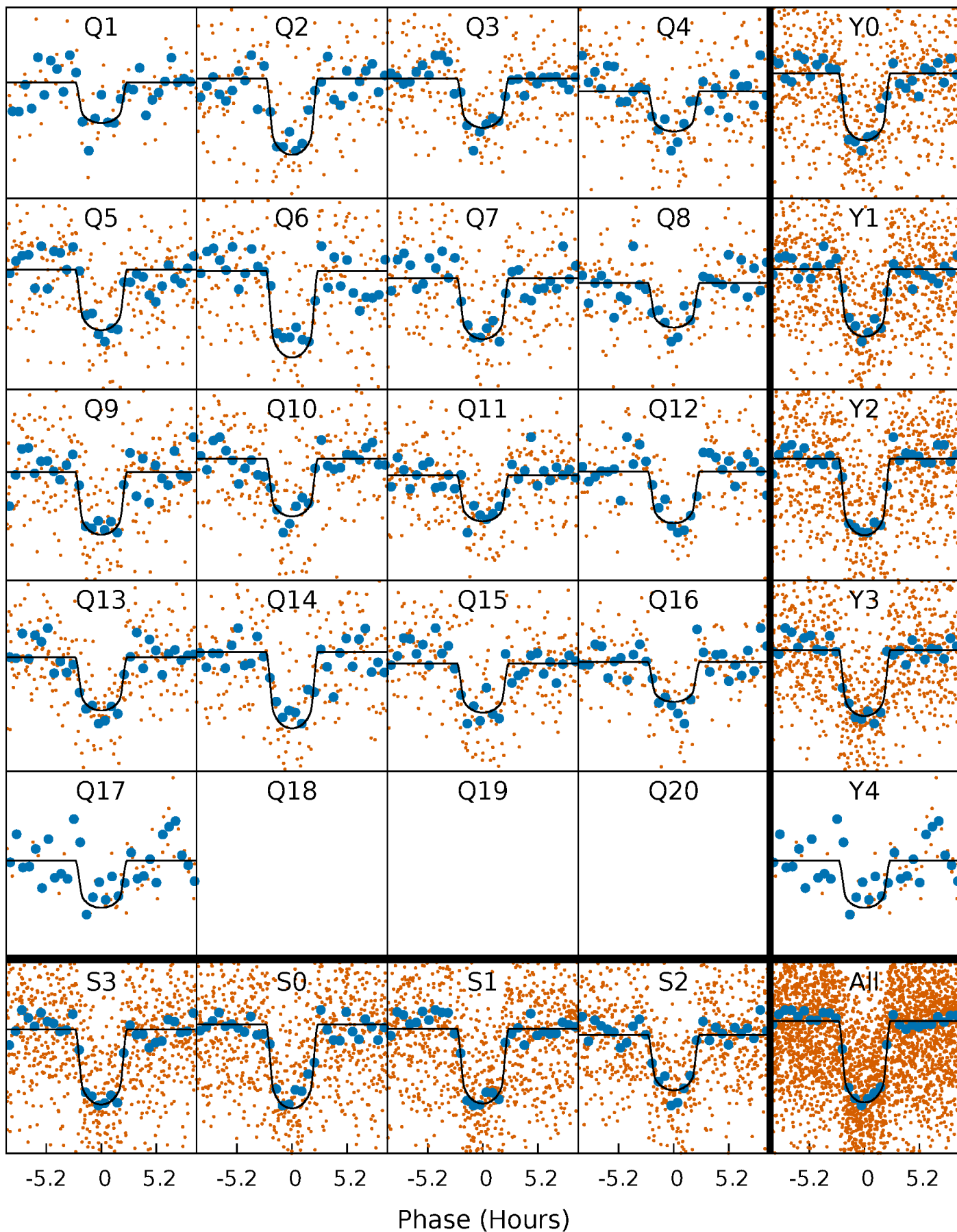
PDC Quarter-Phased Transit Curves

TCE 009304101-01 P= 13.245038 Days $T_0=142.005833$ (BKJD)



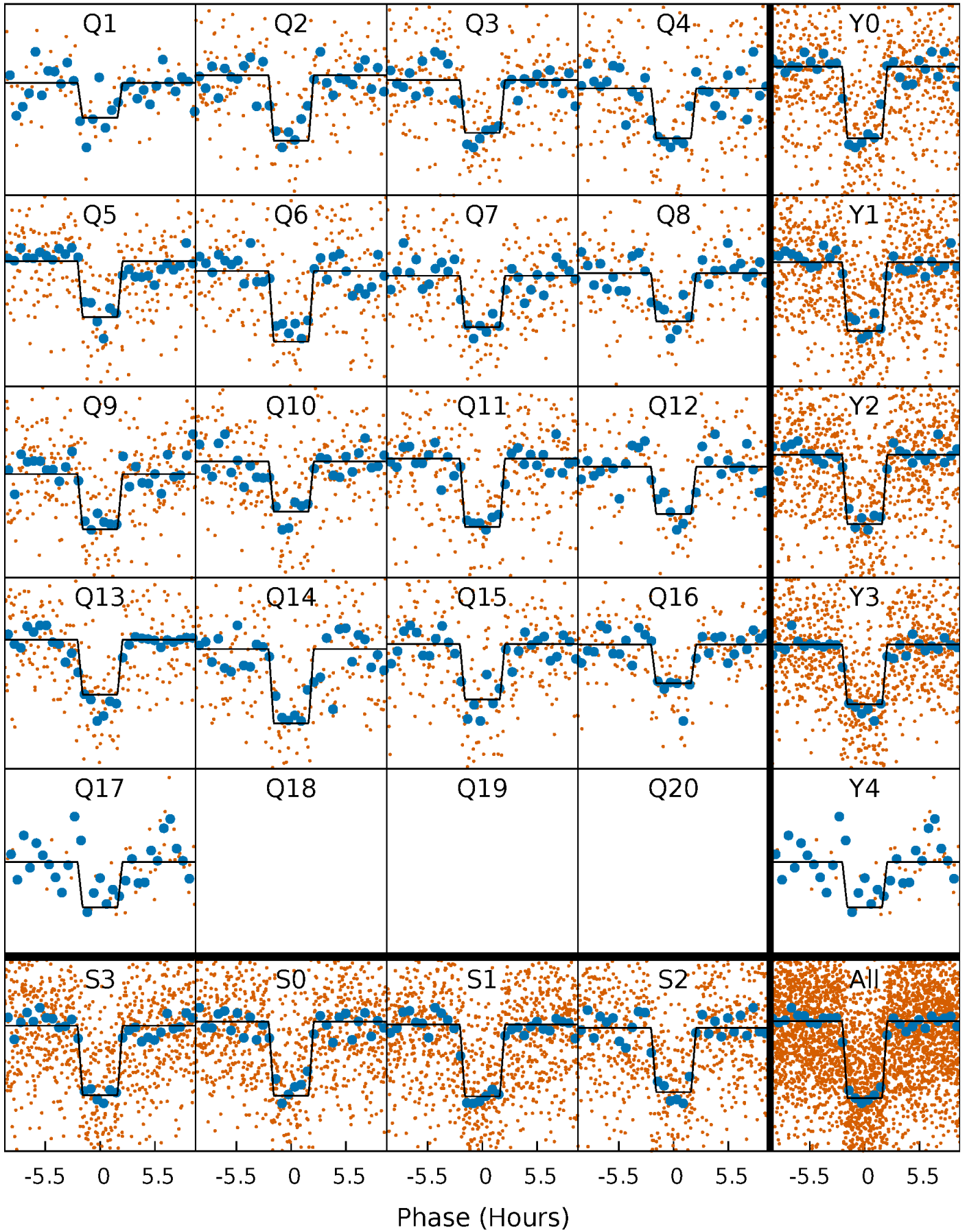
DV Quarter-Phased Transit Curves

TCE 009304101-01 P= 13.245038 Days $T_0=142.005833$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

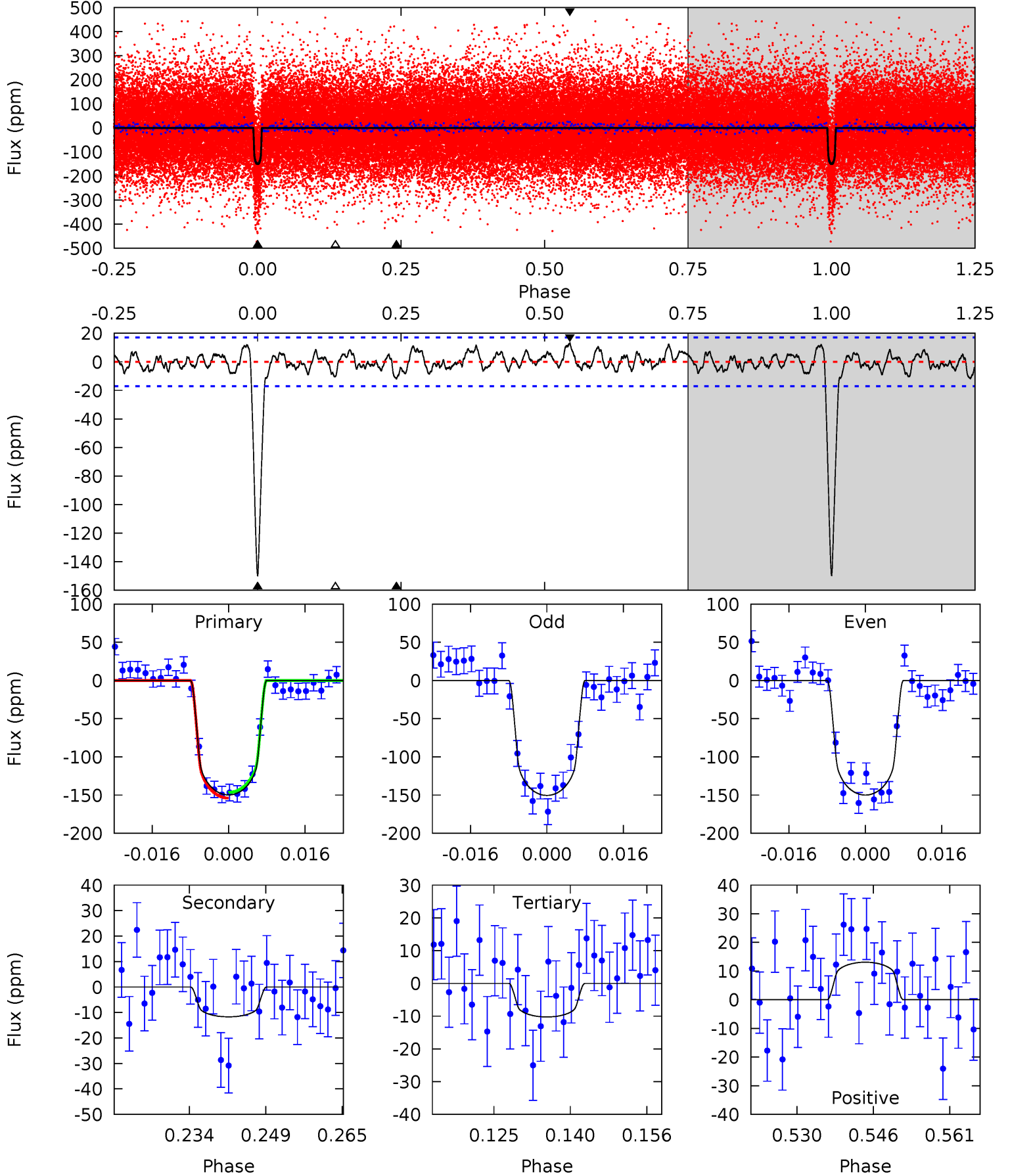
TCE 009304101-01 P= 13.244917 Days $T_0=142.013004$ (BKJD)



DV Model-Shift Uniqueness Test

009304101-01, $P = 13.245038$ Days, $E = 128.760795$ Days

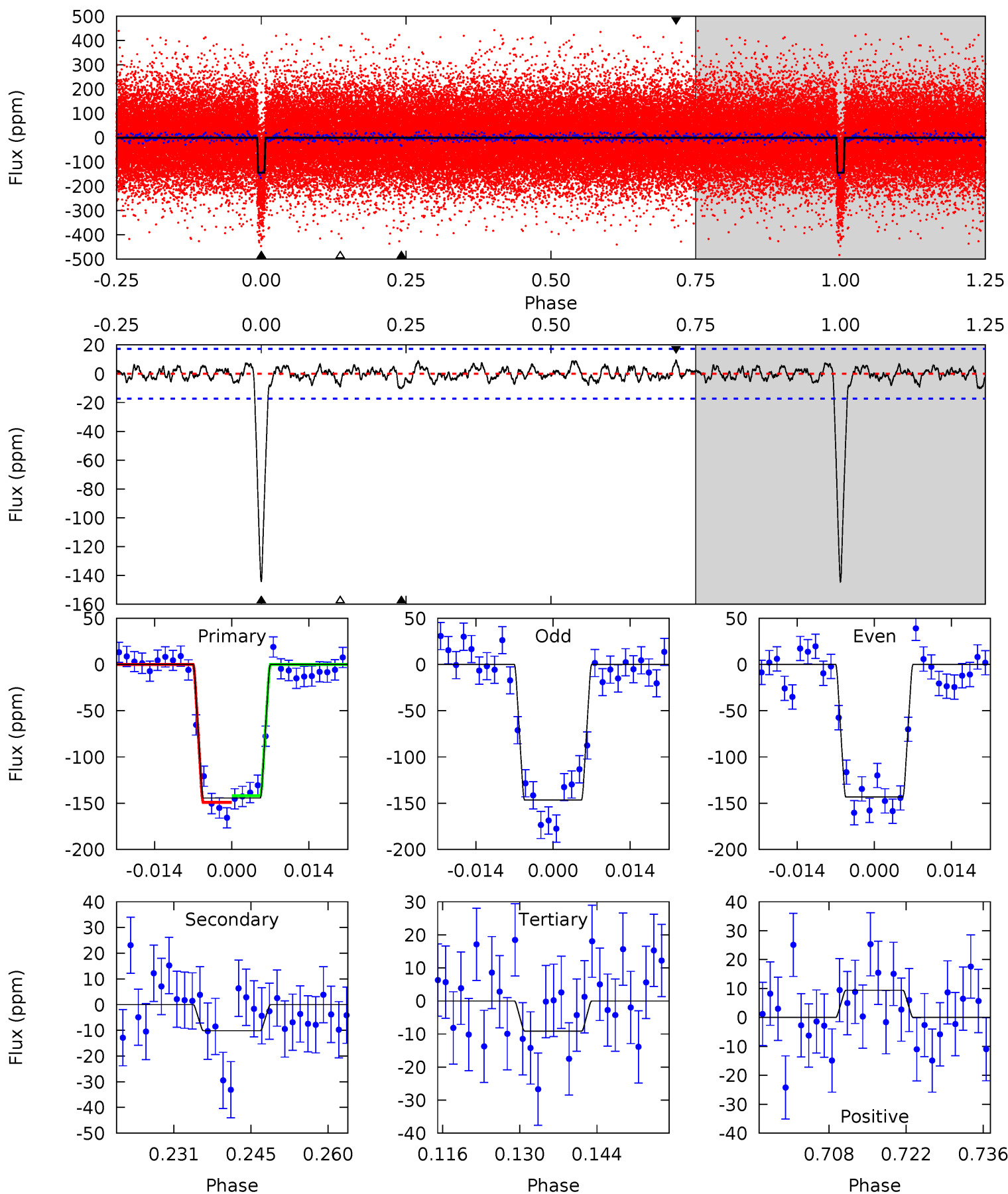
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.5	3.40	2.98	3.80	4.94	2.42	1.37	40.5	39.7	0.42	-0.40	0.07	0.98	0.08	1.09



Alt Model-Shift Uniqueness Test

009304101-01, $P = 13.244917$ Days, $E = 128.768087$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.3	2.90	2.61	2.69	4.96	2.45	0.99	38.7	38.6	0.29	0.21	0.43	0.97	0.06	1.01



Stellar Parameters For KIC 009304101

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5636^{+114}_{-103}	$4.147^{+0.188}_{-0.101}$	$0.120^{+0.150}_{-0.150}$	$1.390^{+0.223}_{-0.298}$	$0.988^{+0.093}_{-0.067}$	$0.518^{+0.512}_{-0.160}$
	+2%/-2%	+5%/-2%	+125%/-125%	+16%/-21%	+9%/-7%	+99%/-31%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 009304101-01 / KOI 2067.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-12 ± 3	$2.01^{+0.40}_{-0.38}$	1229^{+65}_{-68}	3345^{+250}_{-216}	19^{+13}_{-7}
Alt.	-10 ± 3	$1.79^{+0.41}_{-0.36}$	1235^{+60}_{-68}	3380^{+323}_{-268}	20^{+15}_{-9}

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 $A_{obs} \gg 1.0$

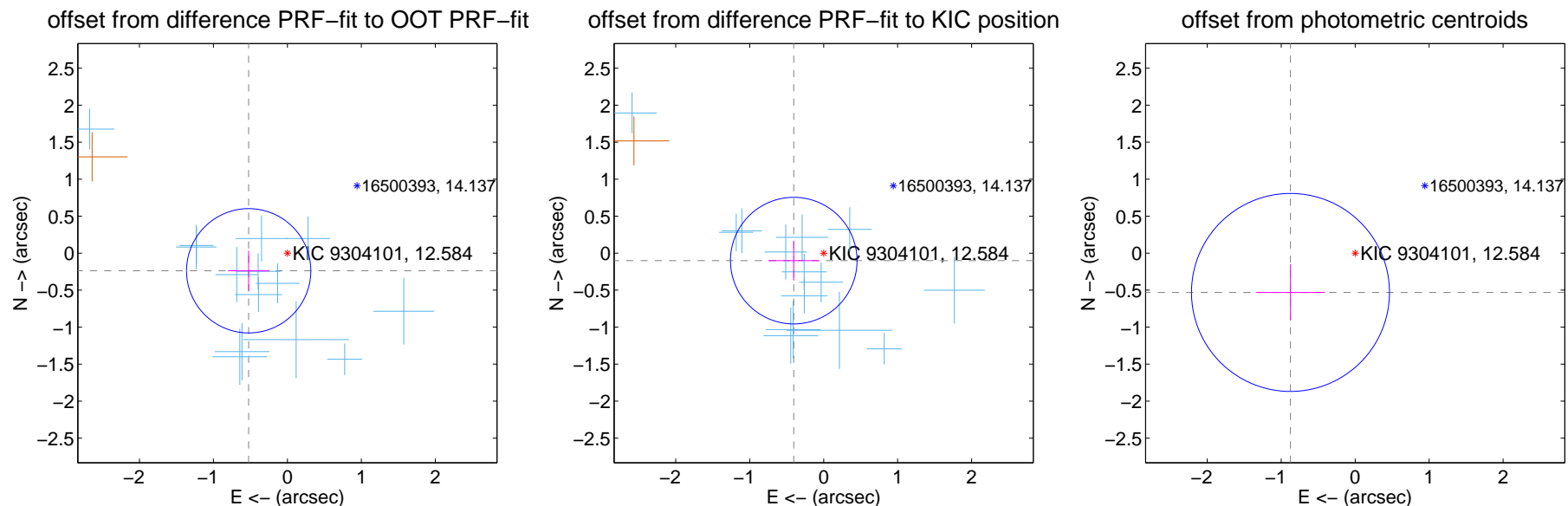
DV Centroid Data

Supplemental centroid analysis for 009304101-01. Kepler magnitude: 12.58. Transit SNR 29.71

There are 14 quarters with good PRF difference image offsets

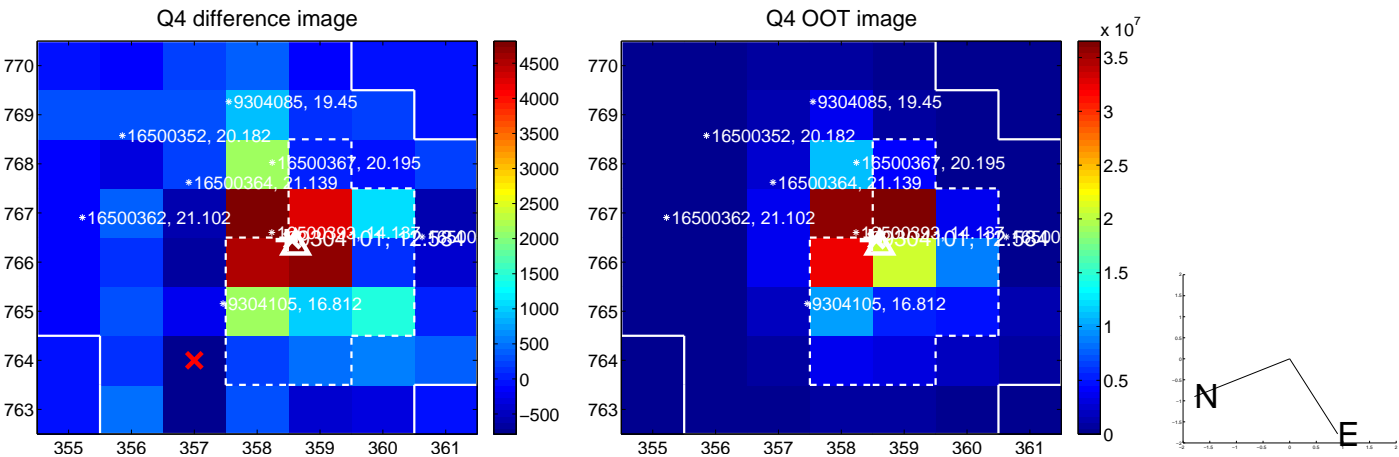
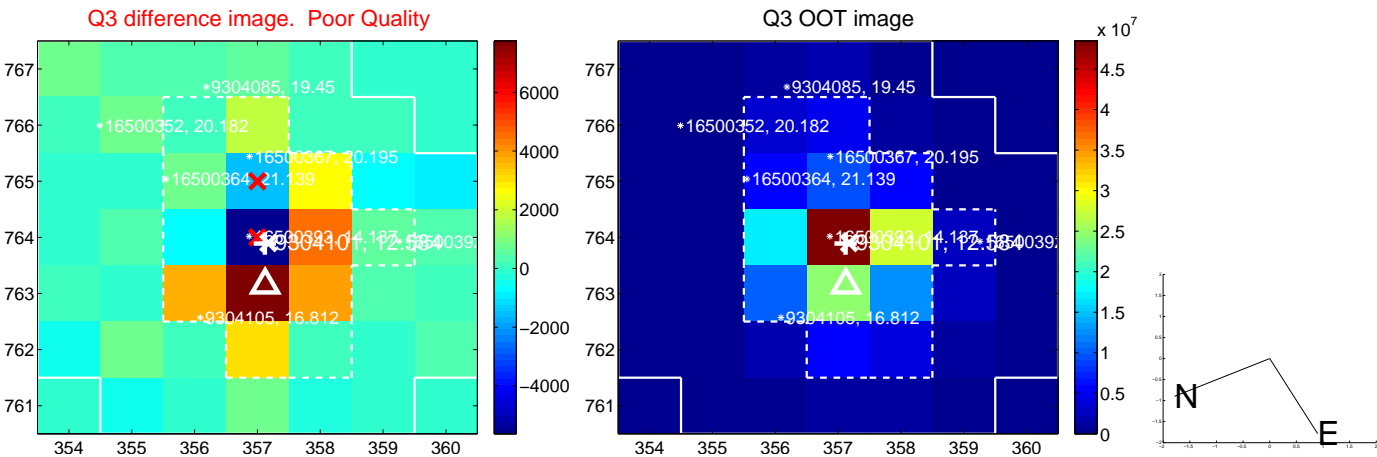
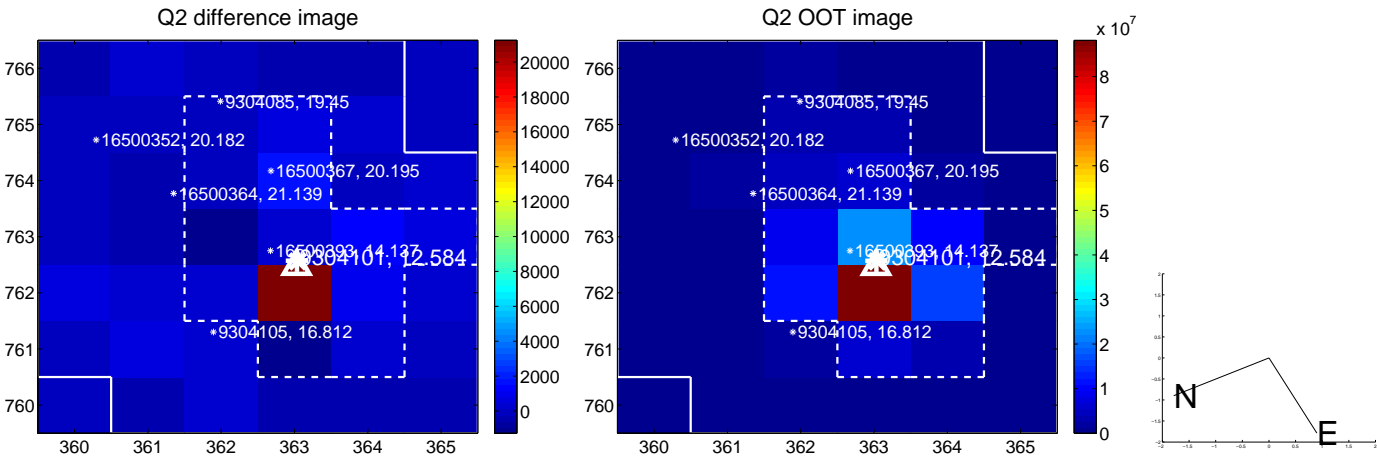
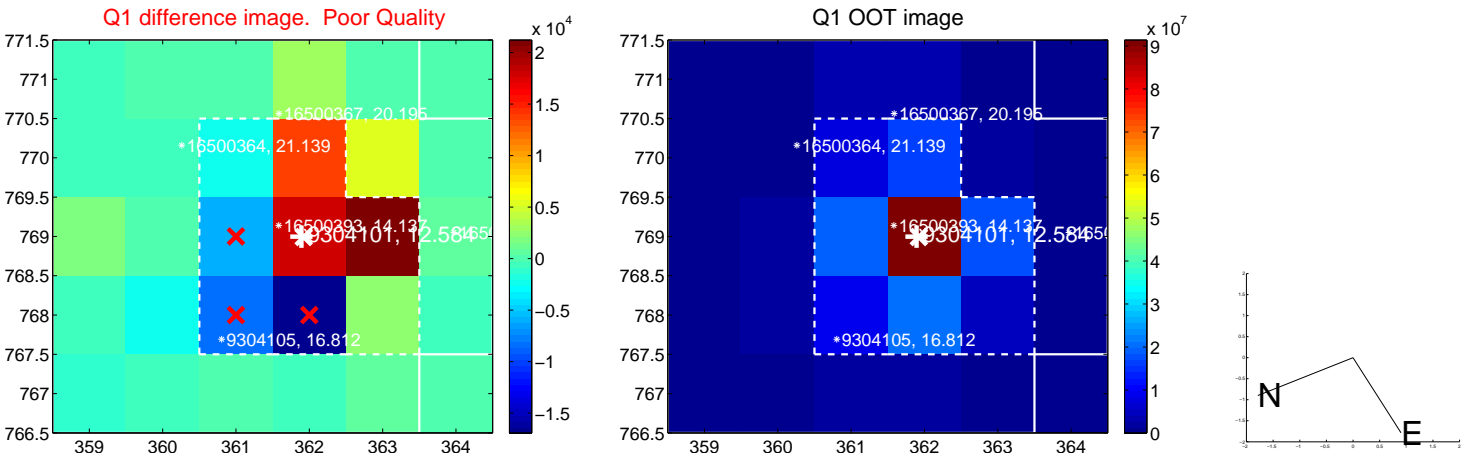
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.575 ± 0.280	2.05	0.523 ± 0.282	-0.238 ± 0.272
PRF-fit source offset from KIC position	0.417 ± 0.285	1.46	0.404 ± 0.345	-0.101 ± 0.270
photometric centroid source offset	1.02 ± 0.45	2.29	0.87 ± 0.47	-0.53 ± 0.38

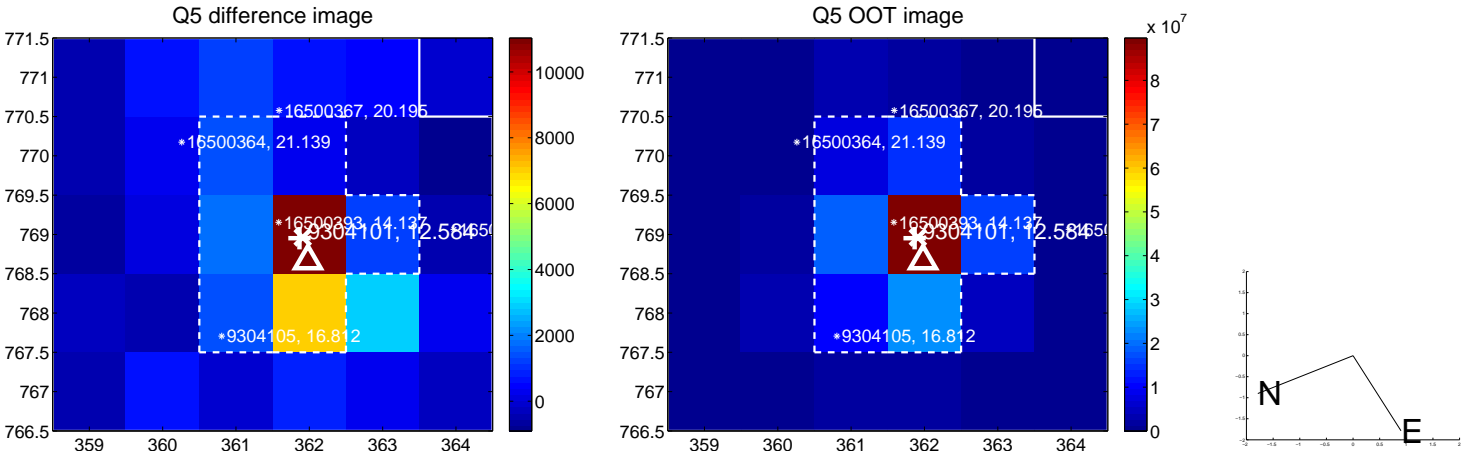


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

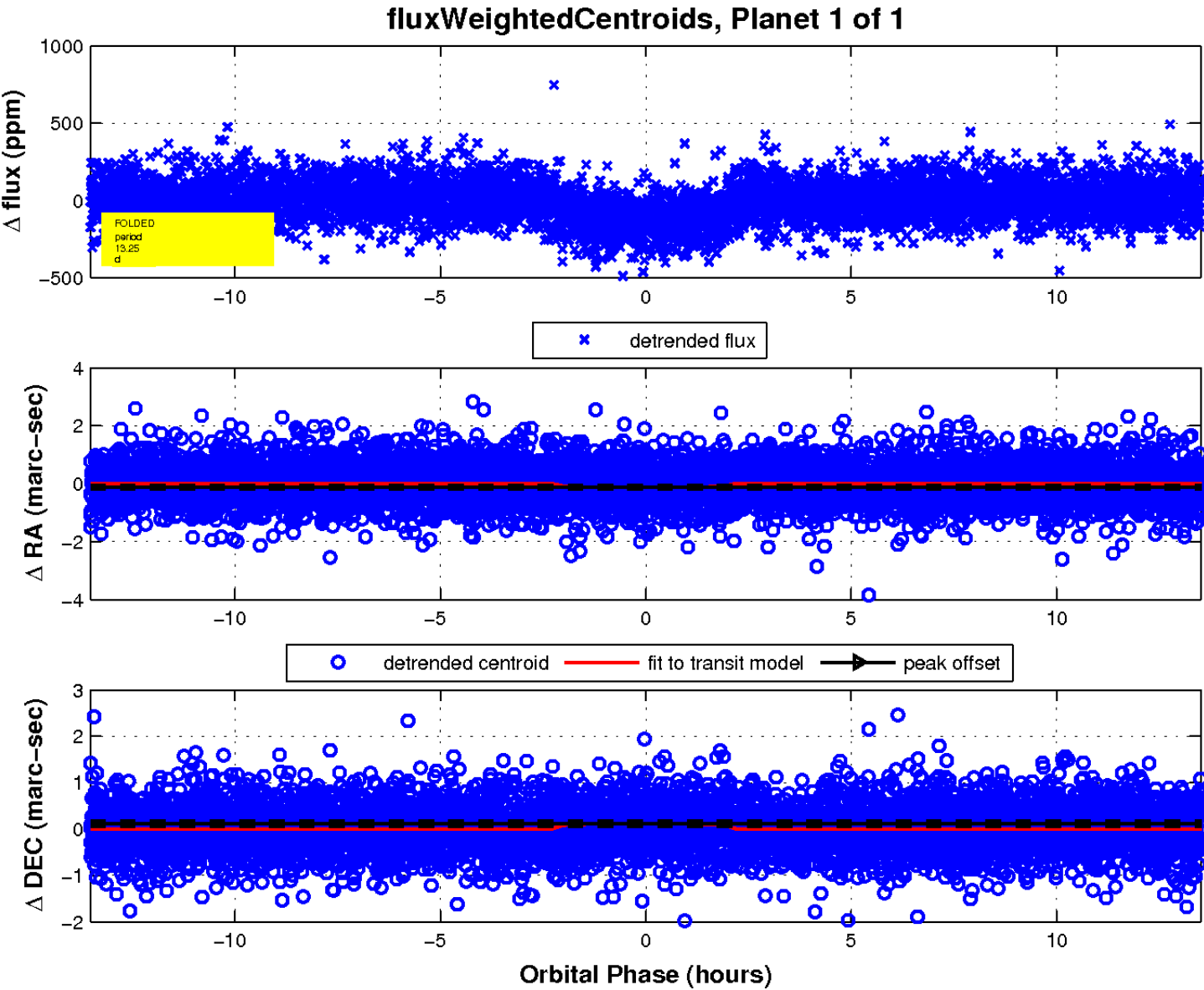
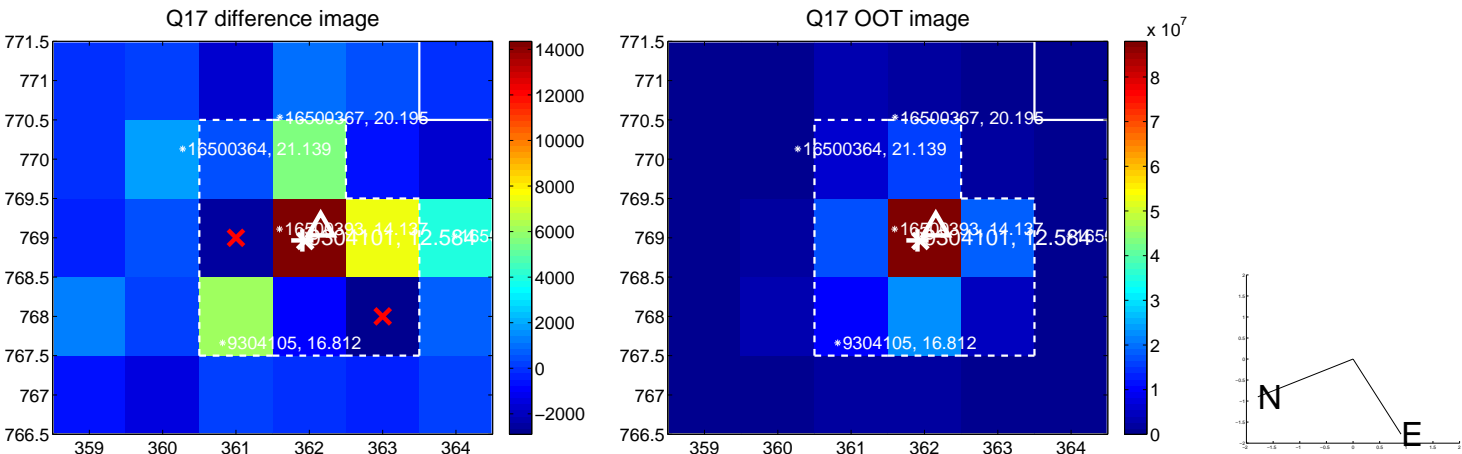
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

