

KIC 002449245

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})
002449245-01	OBS	6274.01	18.177806	145.810710	224.0	6.336	7.4	9.0	1.03	6158	1.68	69.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002449245-01	OBS	PC	1.00	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 002449245-01

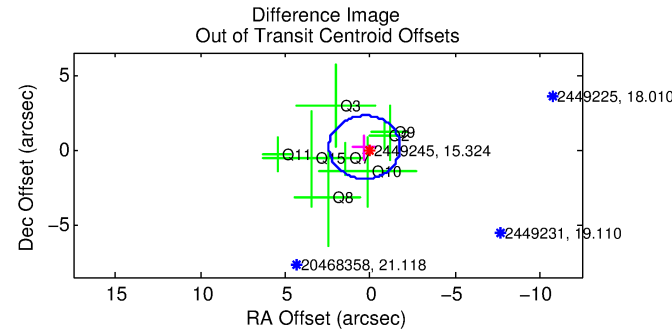
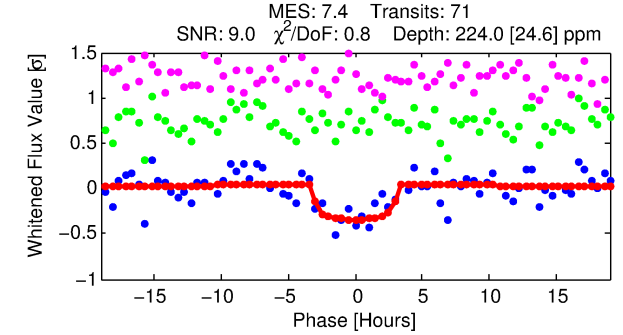
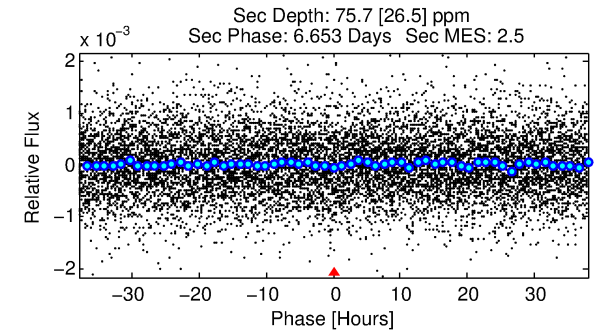
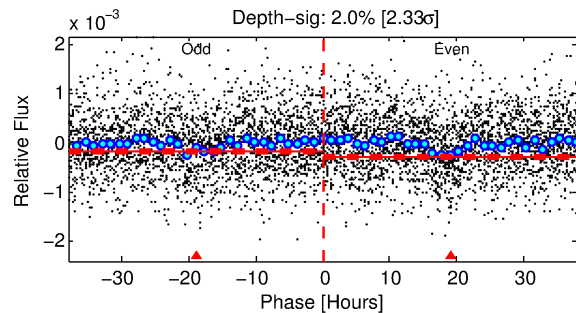
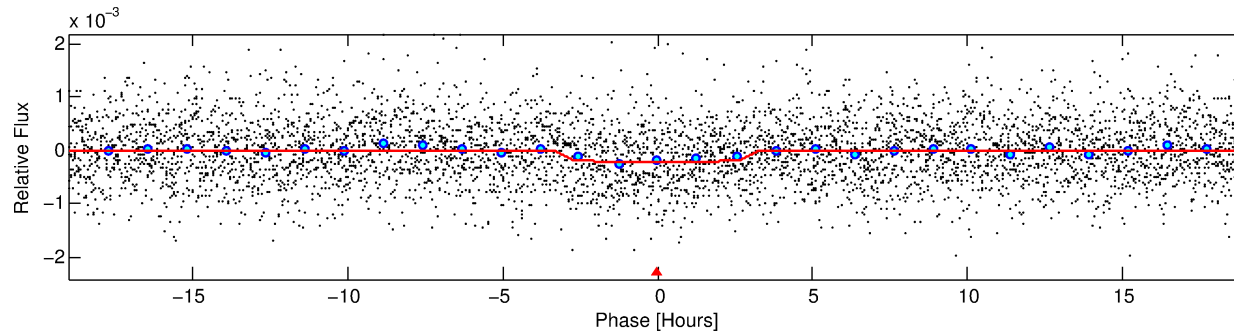
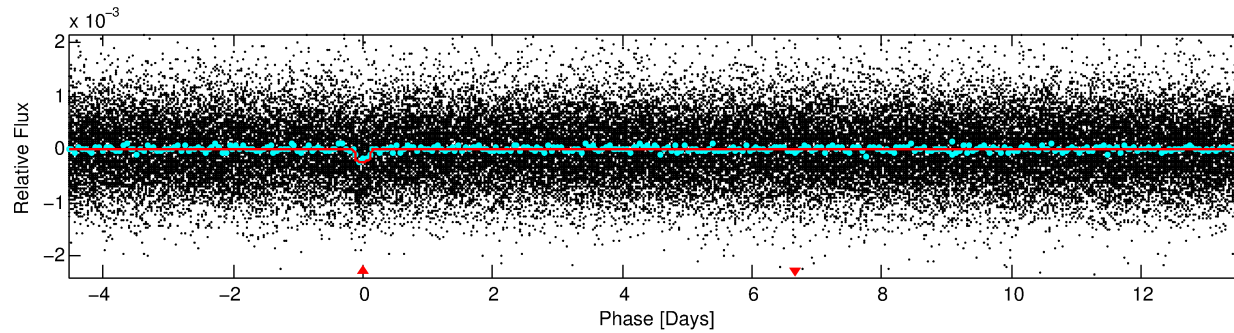
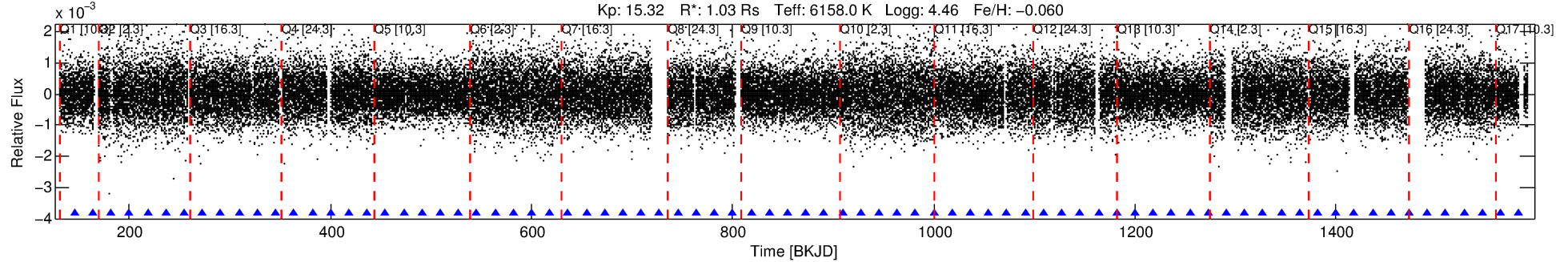
No Significant Match Found

DV One-Page Summary

KIC: 2449245 Candidate: 1 of 1 Period: 18.178 d

KOI: K06274.01 Corr: 0.777

Kp: 15.32 R*: 1.03 Rs Teff: 6158.0 K Logg: 4.46 Fe/H: -0.060



DV Fit Results:

Period = 18.17781 [0.00029] d
Epoch = 145.8107 [0.0128] BKJD
Rp/R* = 0.0150 [0.0093]
a/R* = 14.40 [44.44]
b = 0.77 [1.62]
Seff = 69.72 [28.73]
Teq = 737 [76] K
Rp = 1.68 [1.17] Re
a = 0.1395 [0.0369] AU
Ag = 286.36 [383.68] [0.74σ]
Teff = 4686 [1515] K [2.60σ]

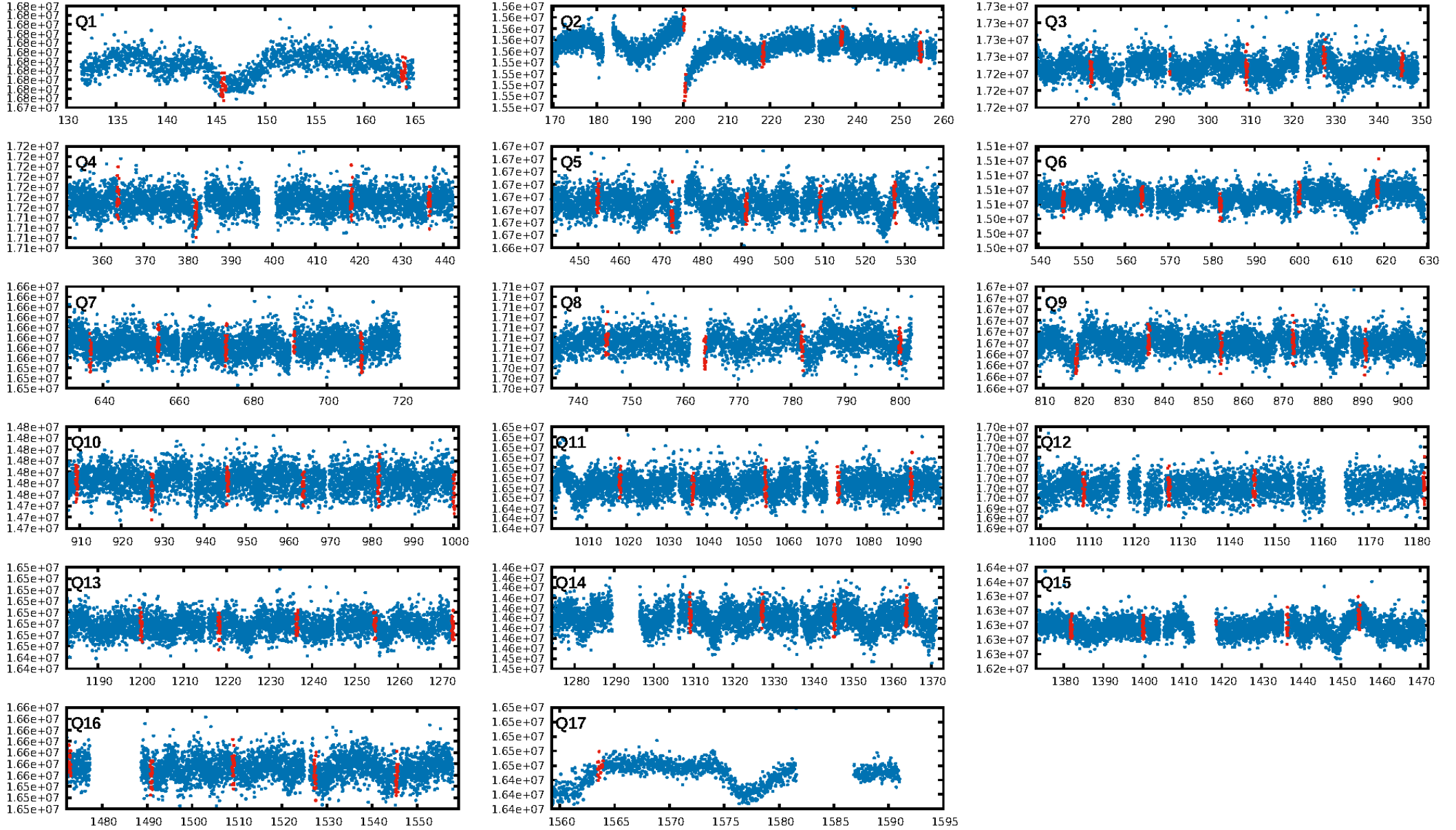
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 93.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.27e-14
RollingBand-fgt: 1.00 [68/68]
GhostDiagnostic-chr: 1.821
Centroid-sig: 7.4%
Centroid-so: 2.137 arcsec [1.51σ]
OotOffset-rm: 0.359 arcsec [0.51σ]
KicOffset-rm: 0.433 arcsec [0.62σ]
OotOffset-st: 2/4/1/1 [8]
KicOffset-st: 2/4/1/1 [8]
DiffImageQuality-fgm: 0.25 [2/8]
DiffImageOverlap-fno: 1.00 [17/17]

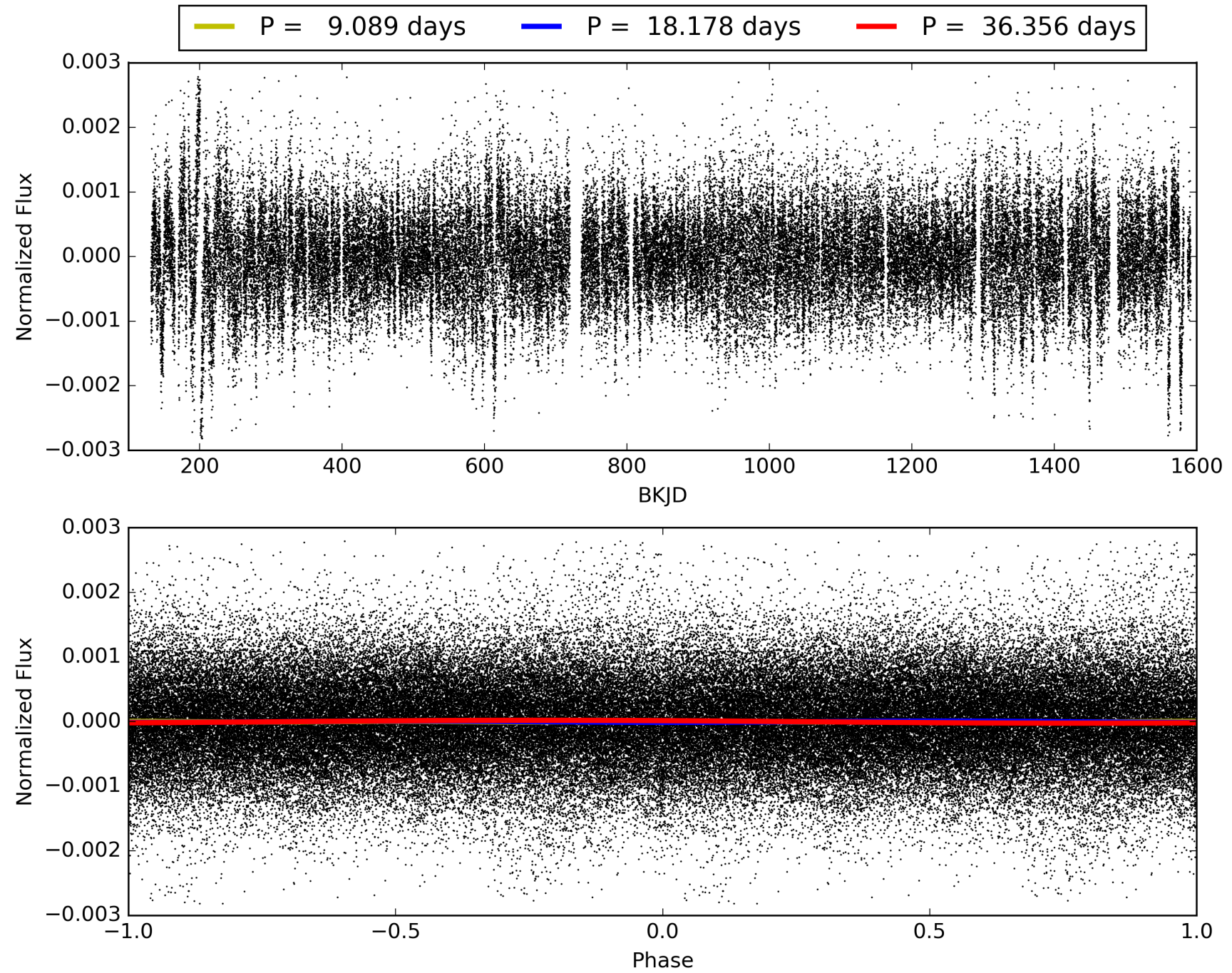
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:23:32 Z

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

TCE 002449245-01, PDC Light Curves

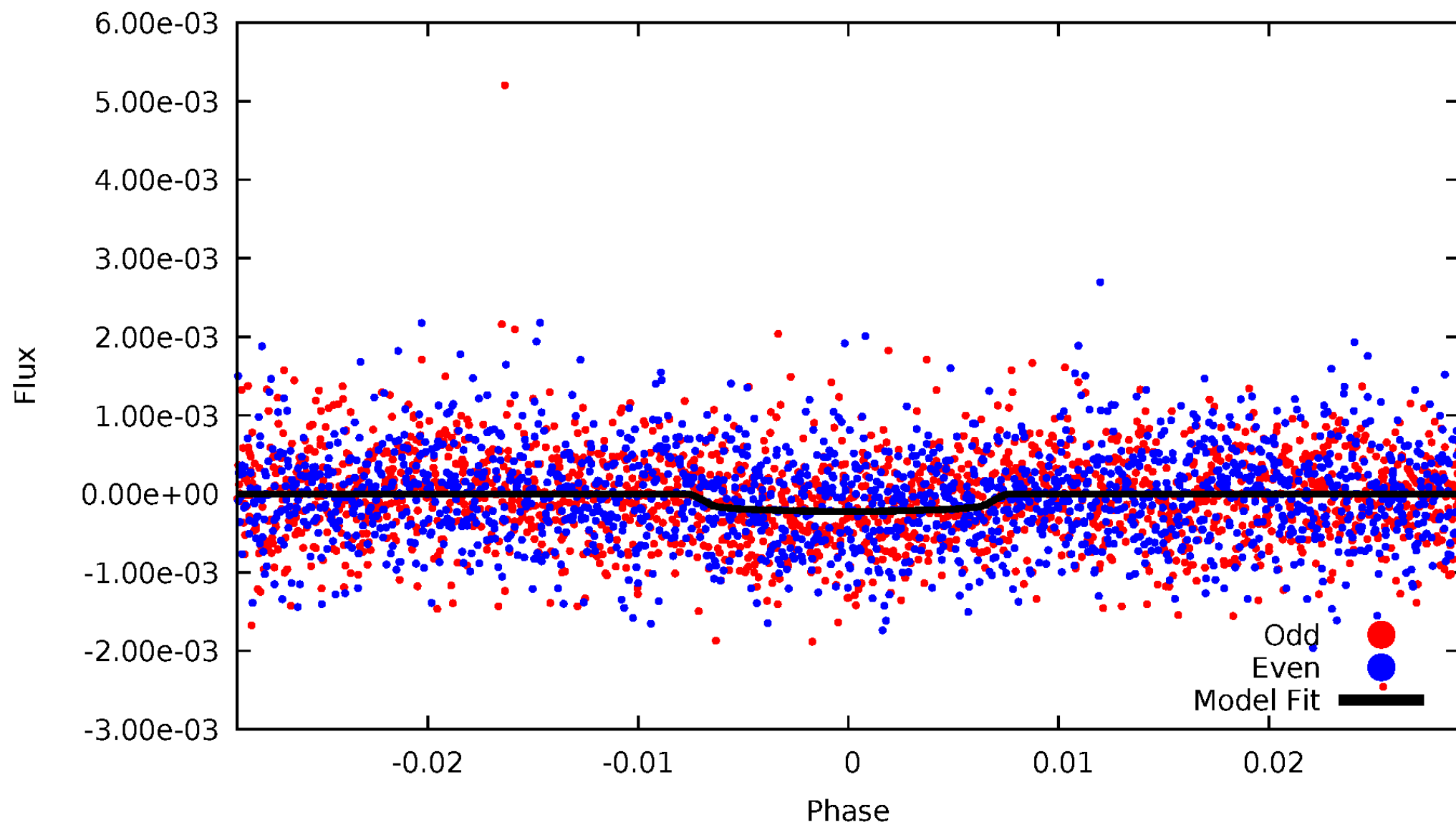


TCE 002449245-01



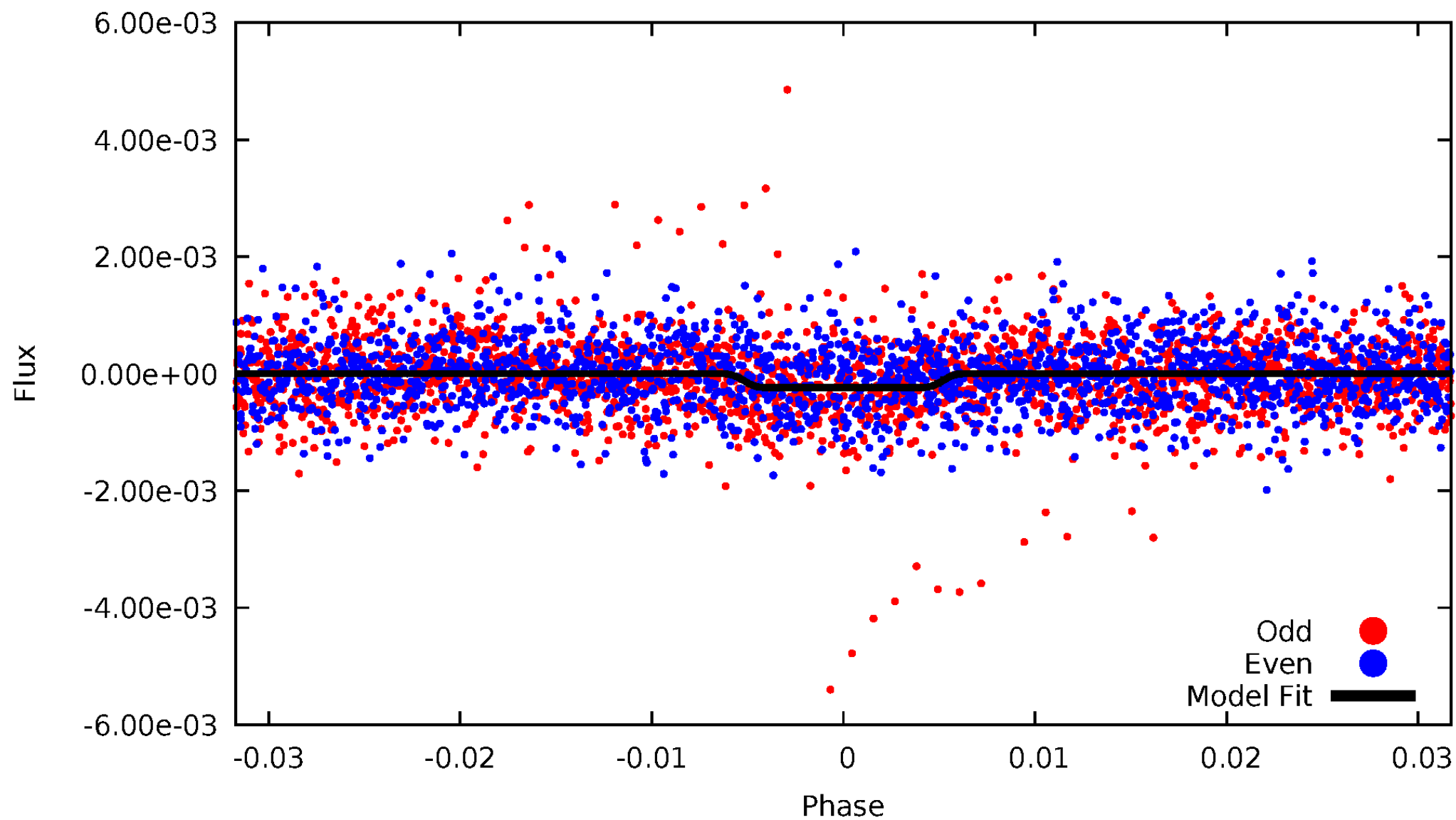
DV Odd/Even

TCE 002449245-01



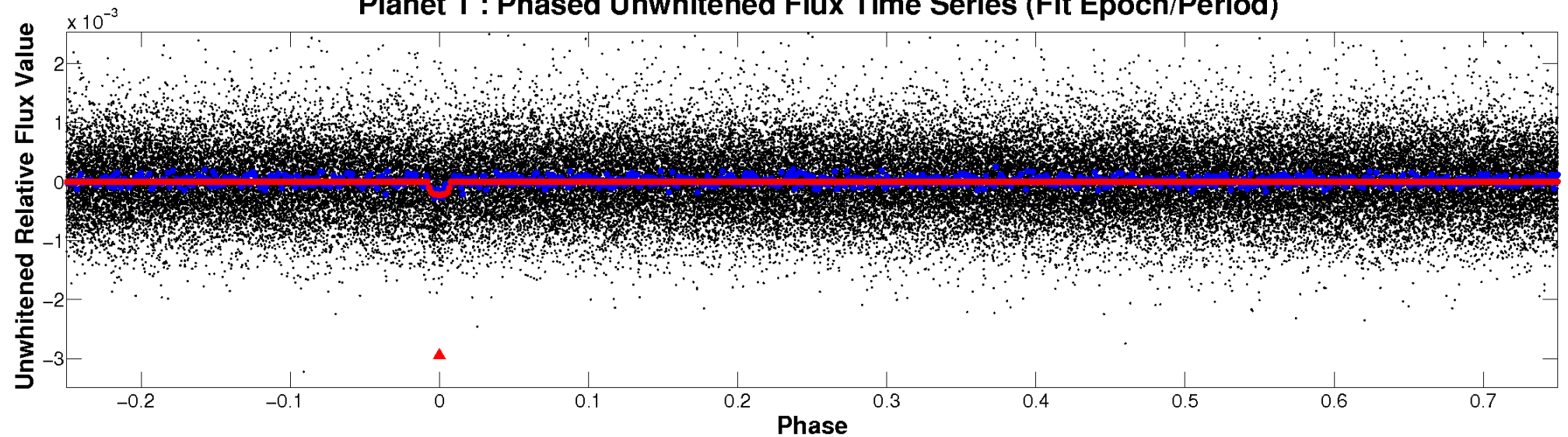
ALT Odd/Even

TCE 002449245-01

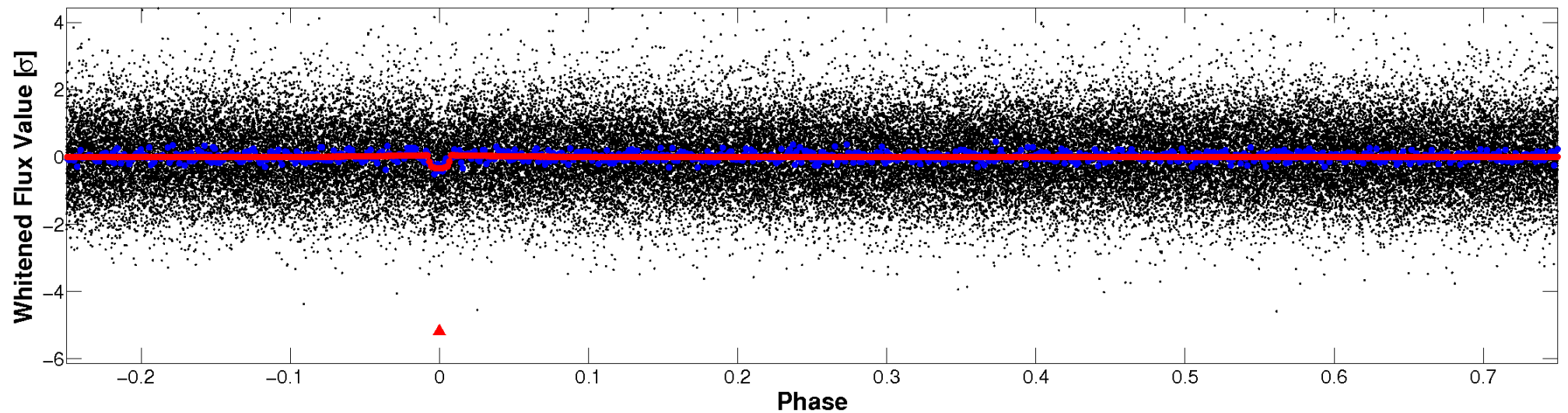


Non-Whitened Vs. Whitened Light Curve

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

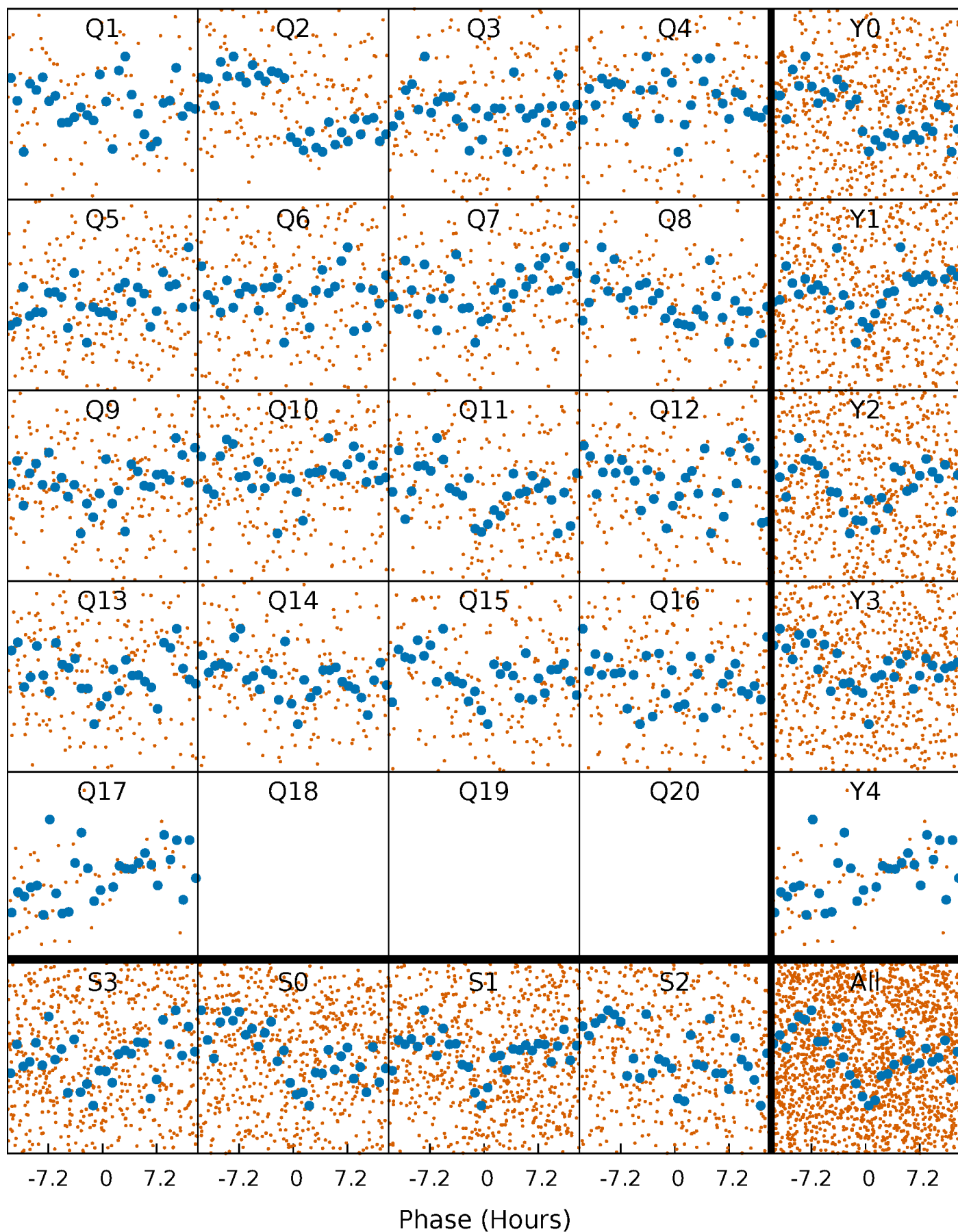


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



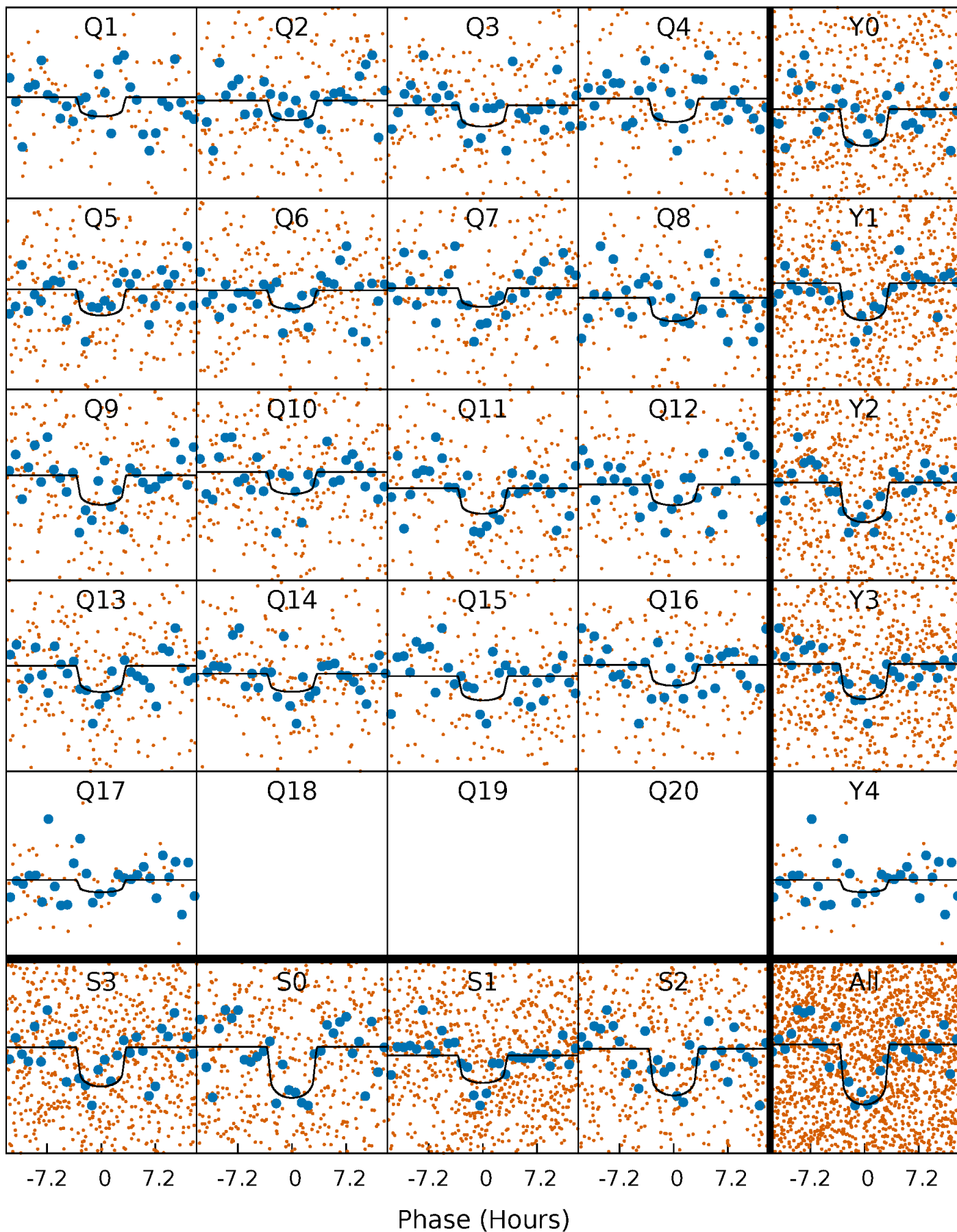
PDC Quarter-Phased Transit Curves

TCE 002449245-01 P= 18.177806 Days $T_0=145.810710$ (BKJD)



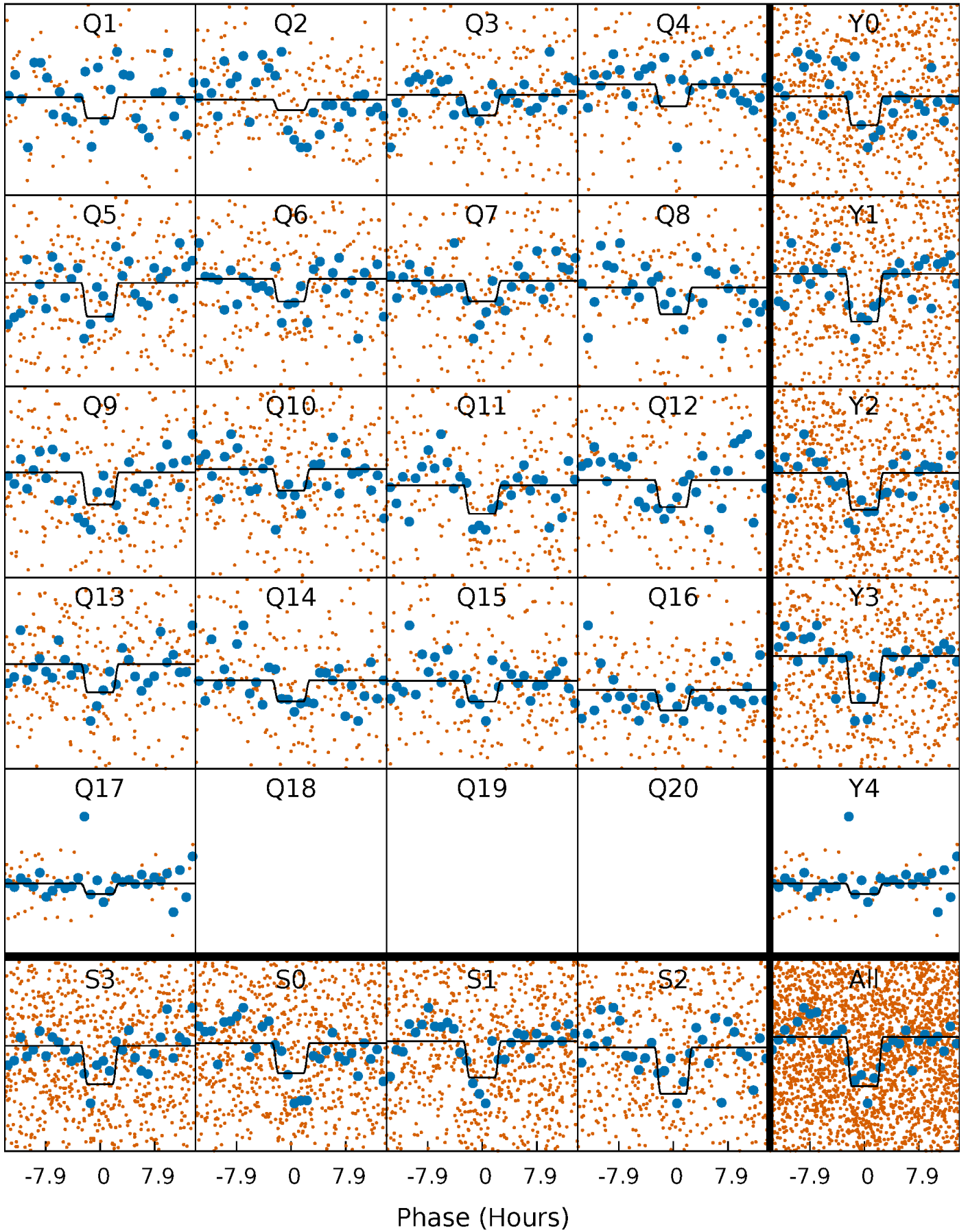
DV Quarter-Phased Transit Curves

TCE 002449245-01 P= 18.177806 Days $T_0=145.810710$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

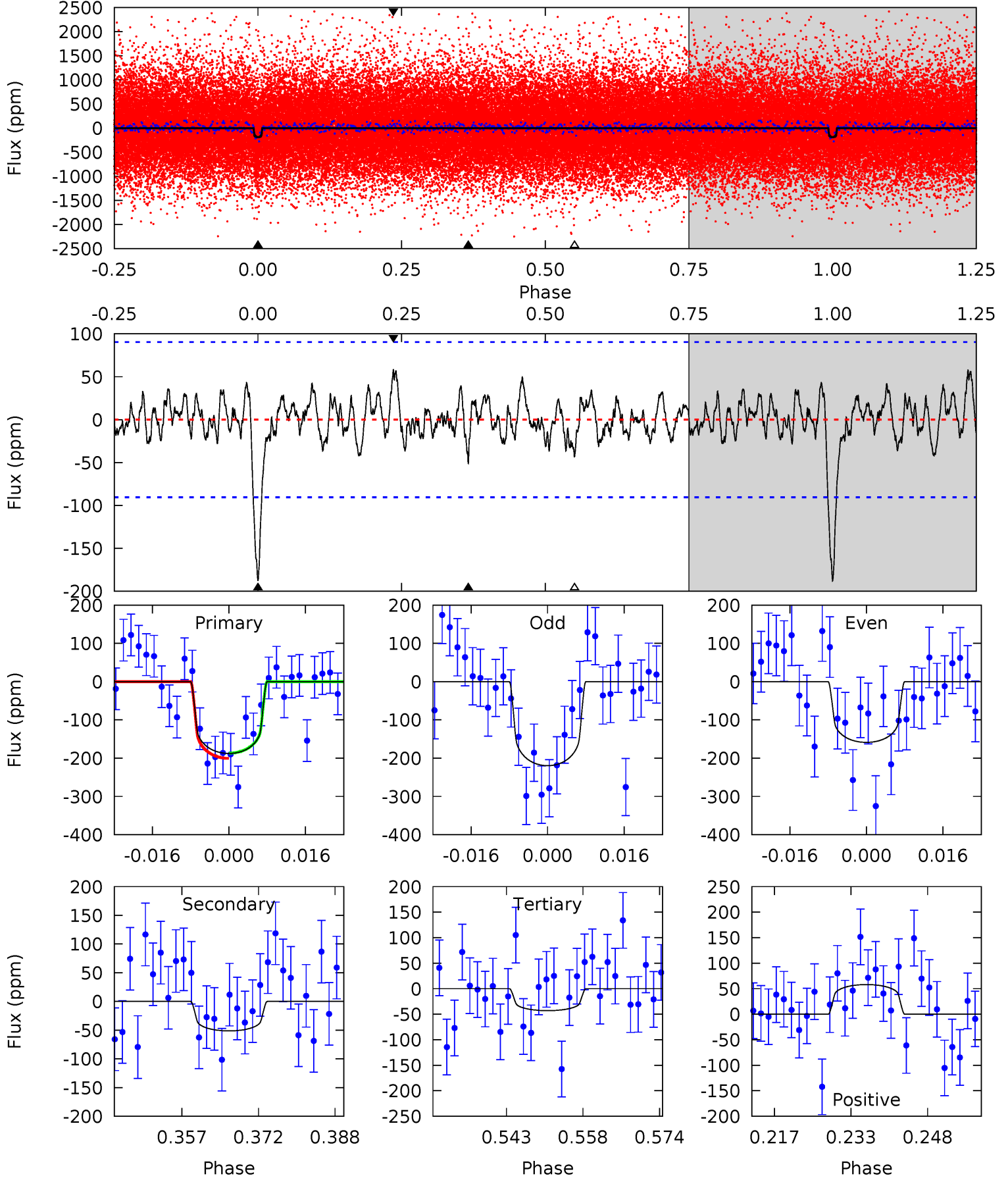
TCE 002449245-01 P= 18.177656 Days $T_0=145.814485$ (BKJD)



DV Model-Shift Uniqueness Test

002449245-01, P = 18.177806 Days, E = 127.632904 Days

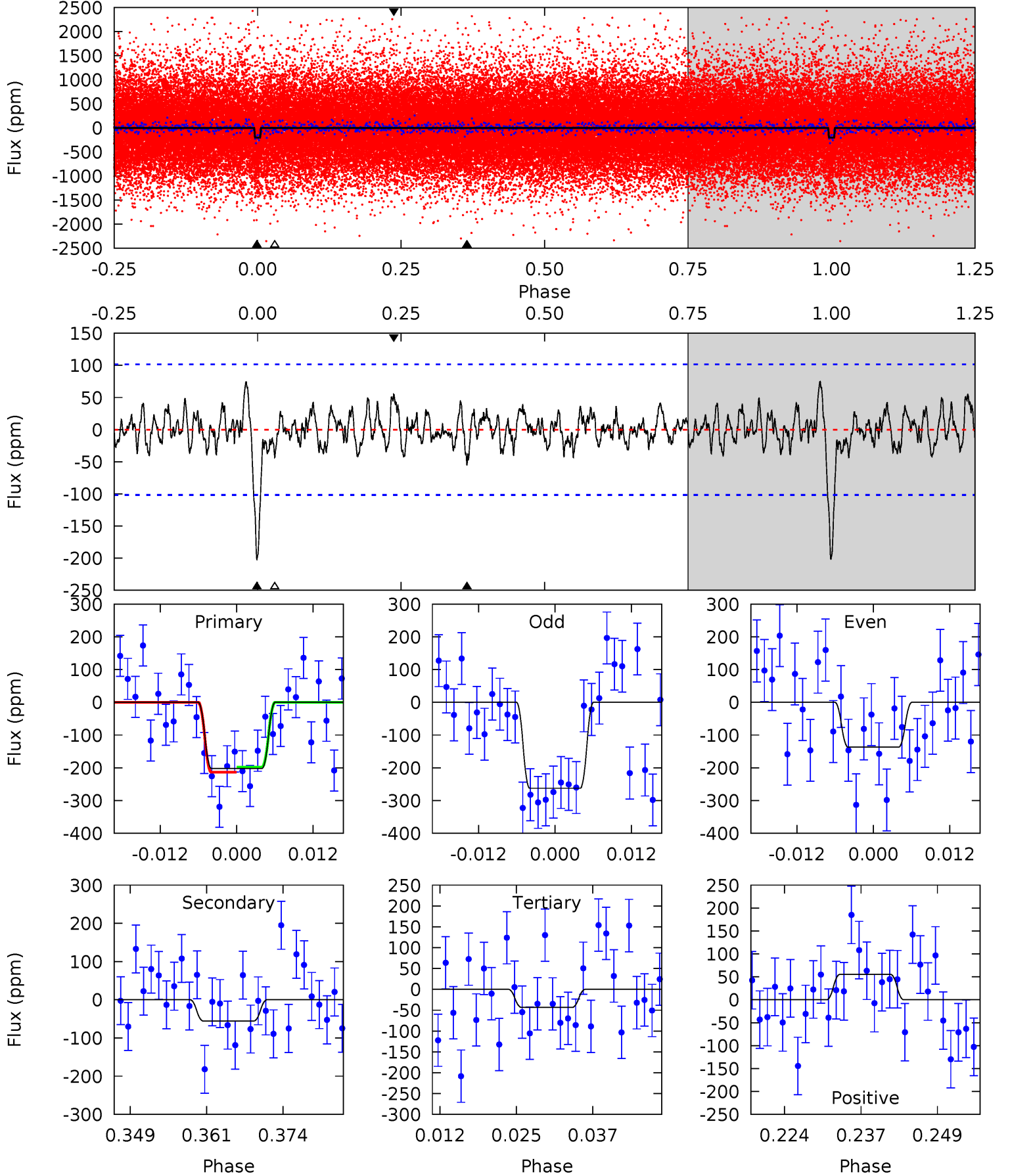
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	2.80	2.35	3.17	4.94	2.42	0.99	7.91	7.08	0.45	-0.37	1.66	1.02	0.24	0.38



Alt Model-Shift Uniqueness Test

002449245-01, $P = 18.177656$ Days, $E = 127.636829$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.91	2.72	2.13	2.71	4.98	2.50	0.98	7.78	7.19	0.59	0.01	3.08	1.03	0.27	0.39



Stellar Parameters For KIC 002449245

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6158^{+171}_{-236}	$4.455^{+0.052}_{-0.208}$	$-0.060^{+0.250}_{-0.350}$	$1.026^{+0.324}_{-0.108}$	$1.092^{+0.139}_{-0.153}$	$1.423^{+0.392}_{-0.732}$
	+3%/-4%	+1%/-5%	+417%/-583%	+32%/-11%	+13%/-14%	+28%/-51%
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 002449245-01 / KOI 6274.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-51 ± 18	$1.83^{+1.08}_{-0.96}$	1047^{+82}_{-52}	4353^{+1681}_{-718}	155^{+554}_{-96}
Alt.	-56 ± 20	$1.86^{+1.03}_{-0.98}$	1051^{+71}_{-56}	4347^{+1756}_{-693}	159^{+548}_{-102}

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 $A_{obs} \gg 1.0$

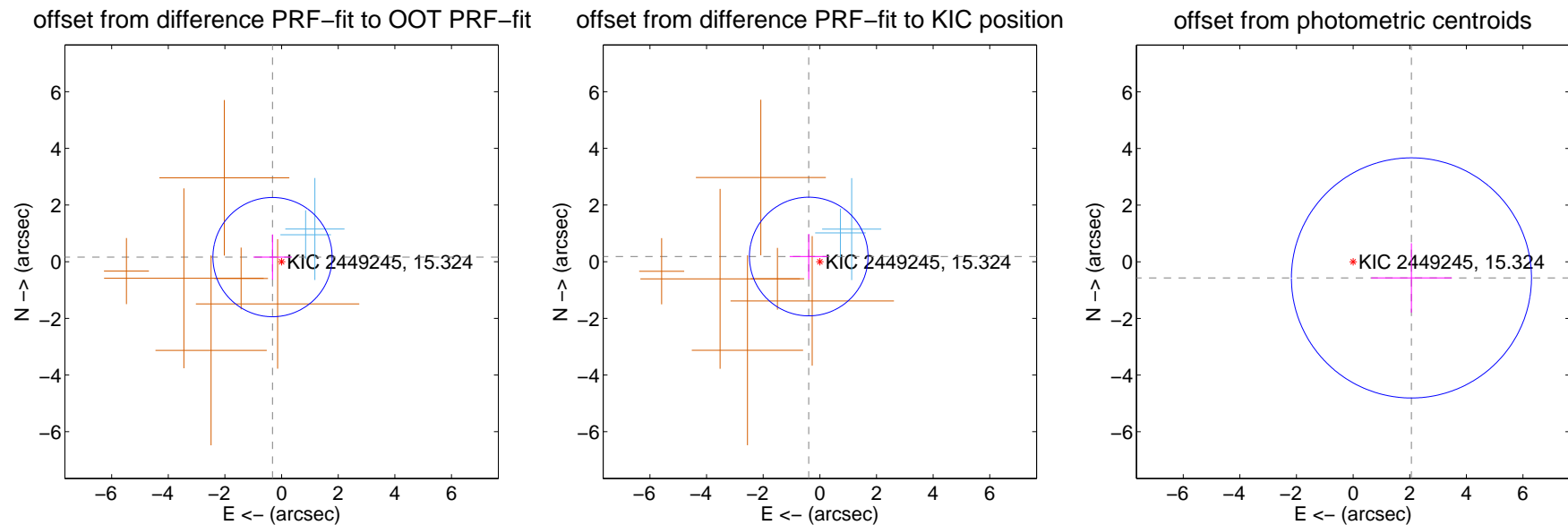
DV Centroid Data

Supplemental centroid analysis for 002449245-01. Kepler magnitude: 15.32. Transit SNR 8.96

There are 2 quarters with good PRF difference image offsets

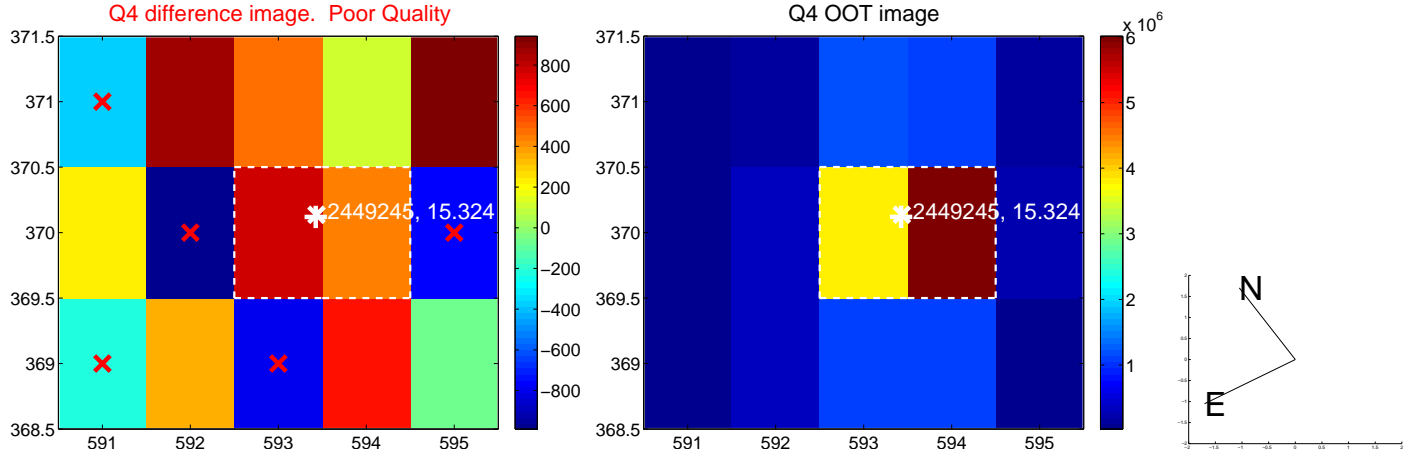
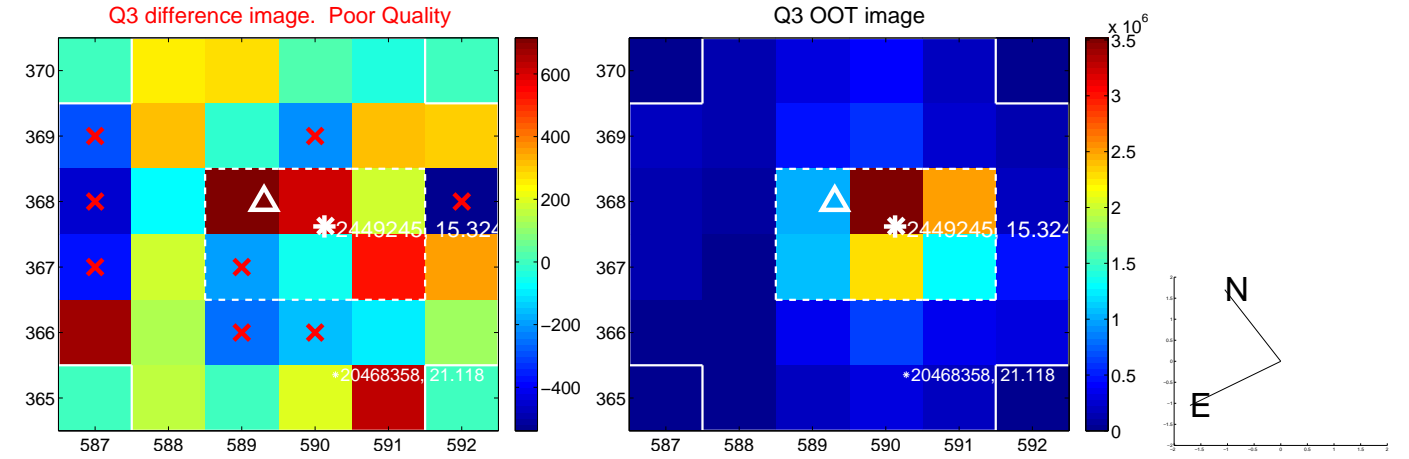
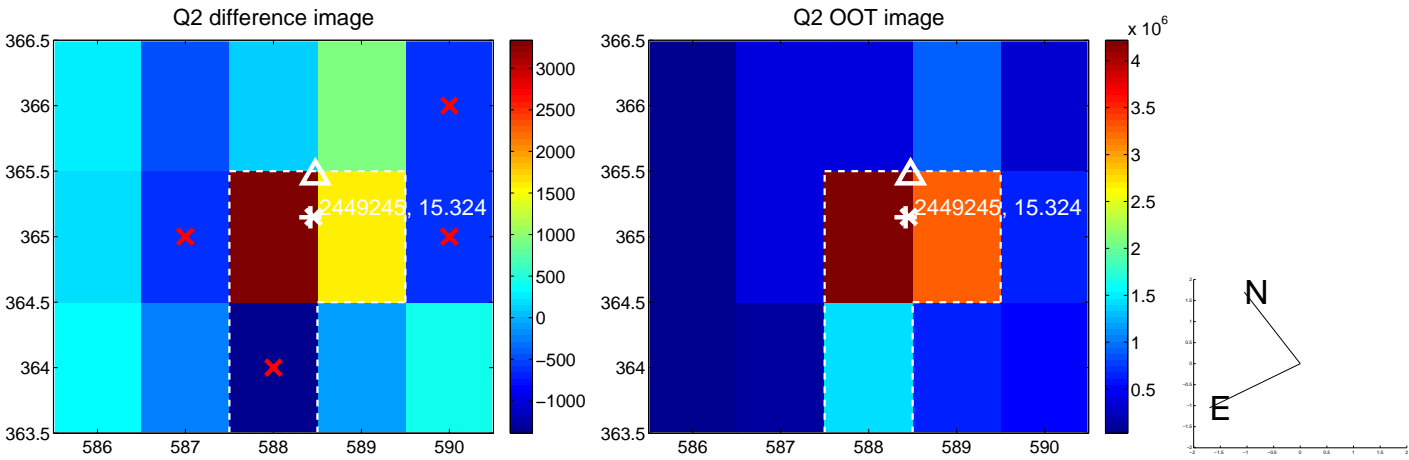
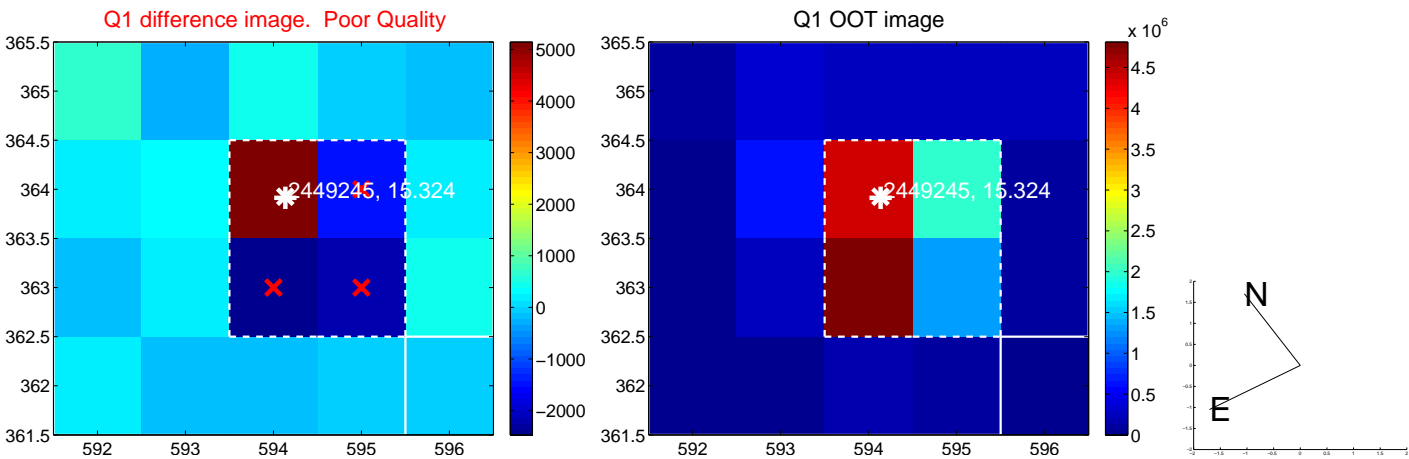
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.359 ± 0.701	0.51	0.320 ± 0.674	0.162 ± 0.799
PRF-fit source offset from KIC position	0.433 ± 0.698	0.62	0.392 ± 0.674	0.182 ± 0.799
photometric centroid source offset	2.14 ± 1.41	1.51	-2.06 ± 1.43	-0.57 ± 1.23

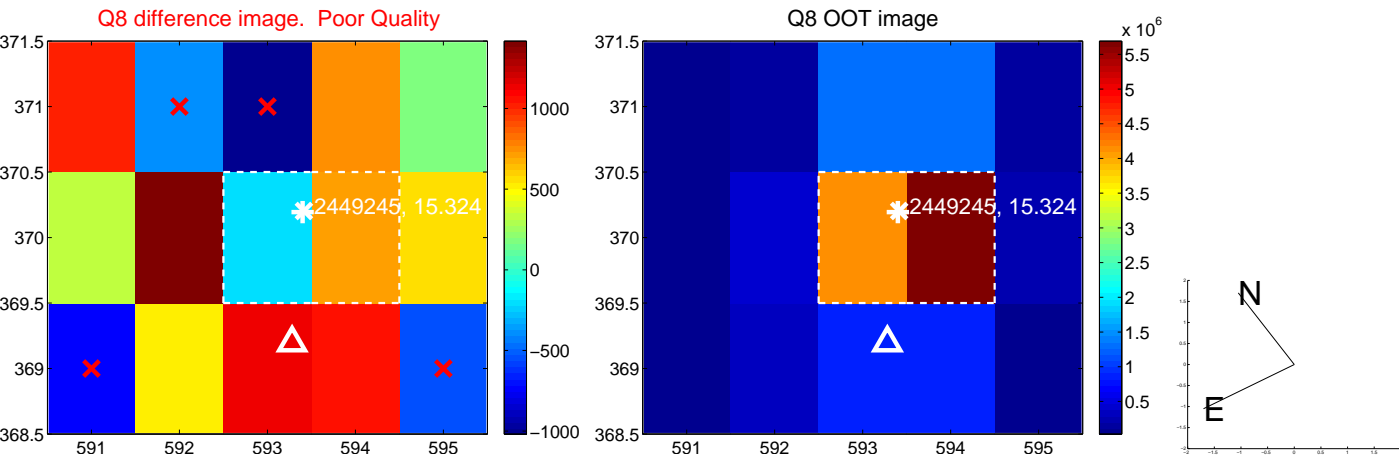
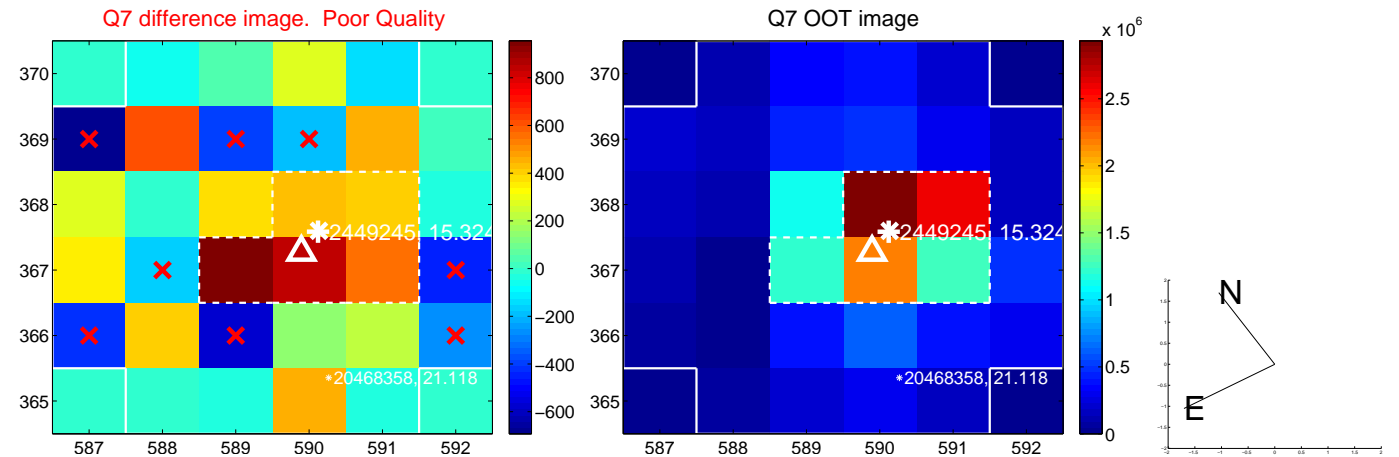
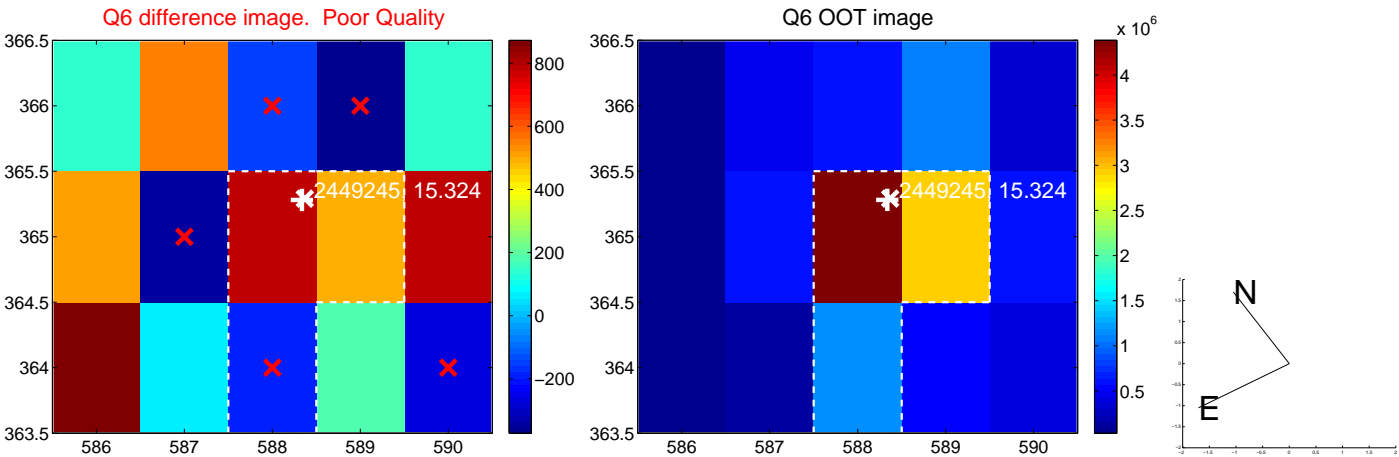
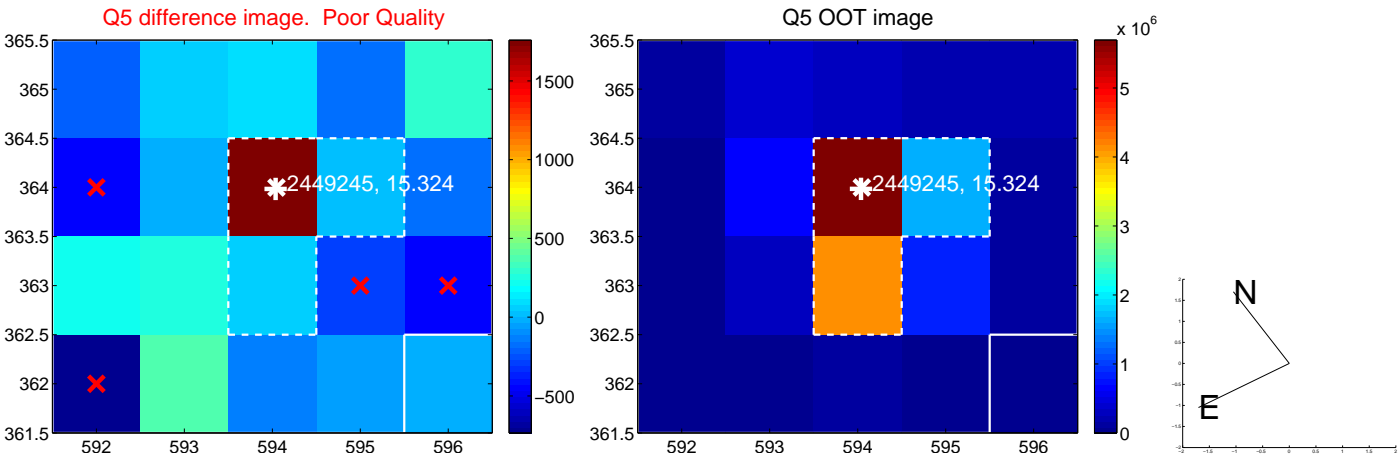


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

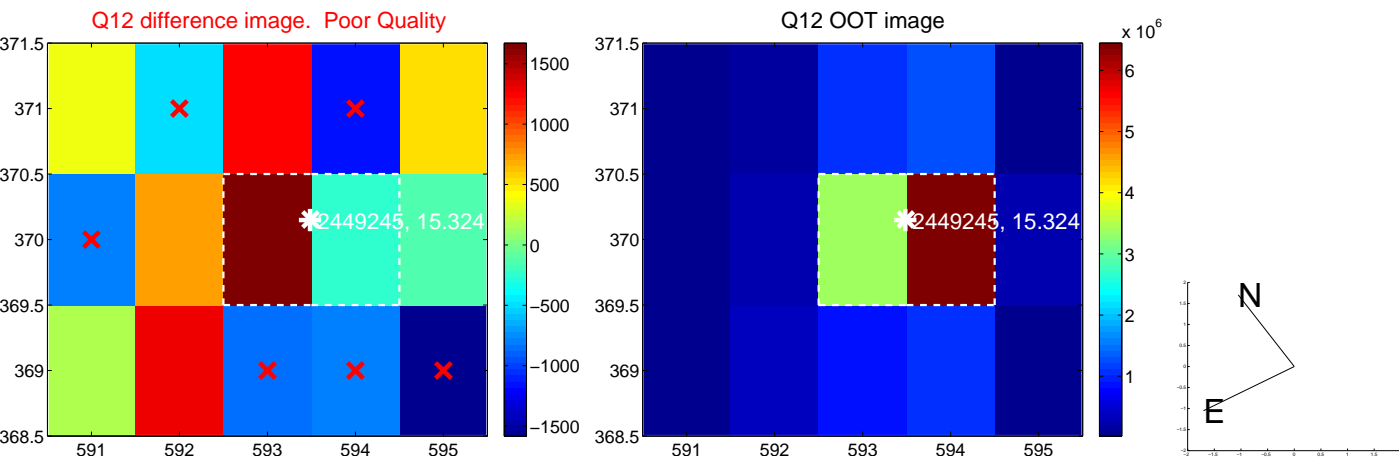
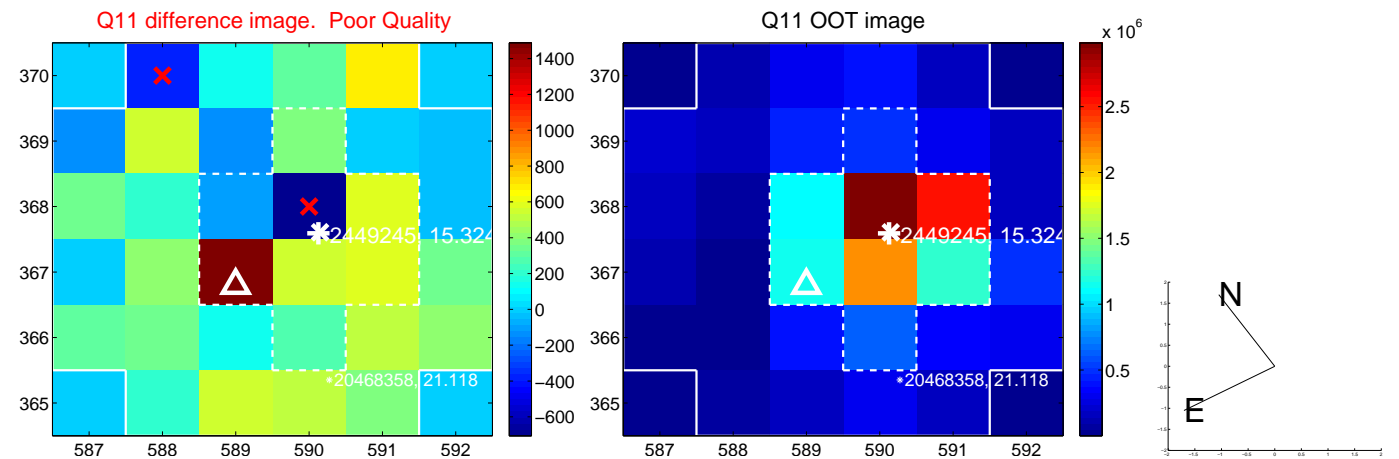
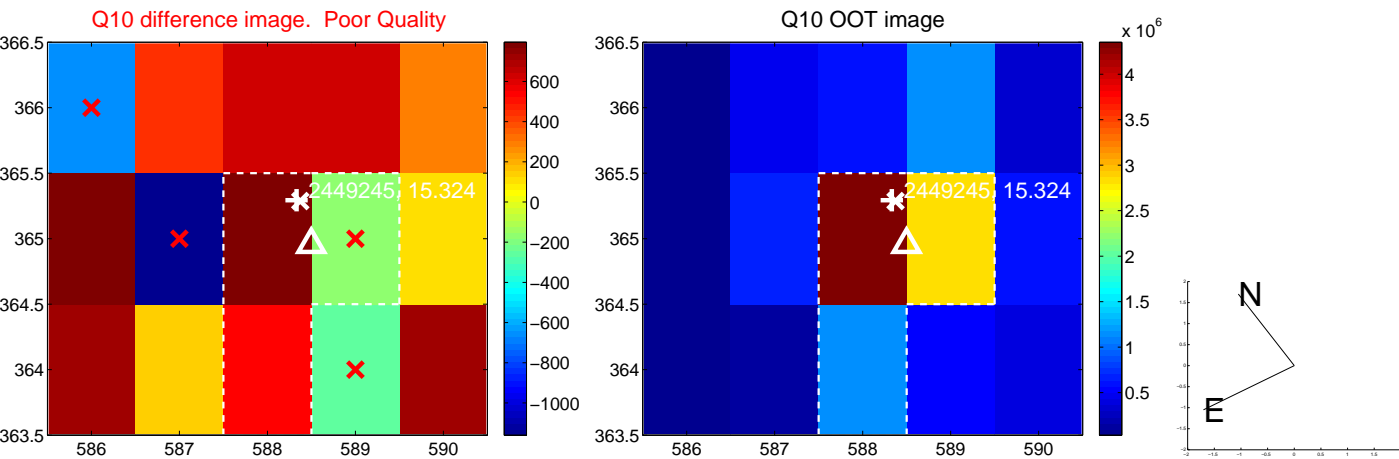
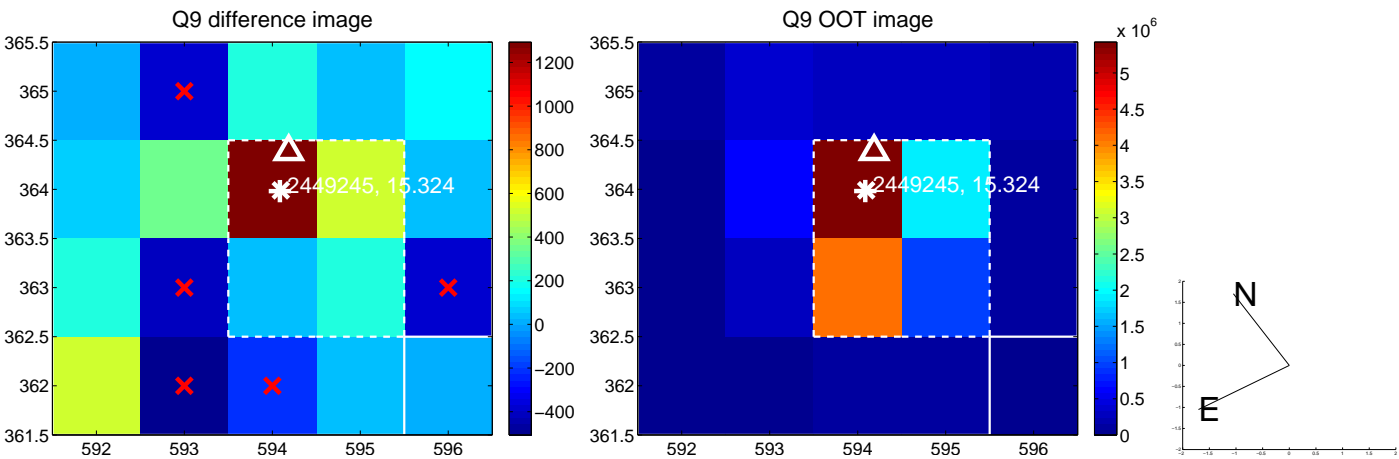
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



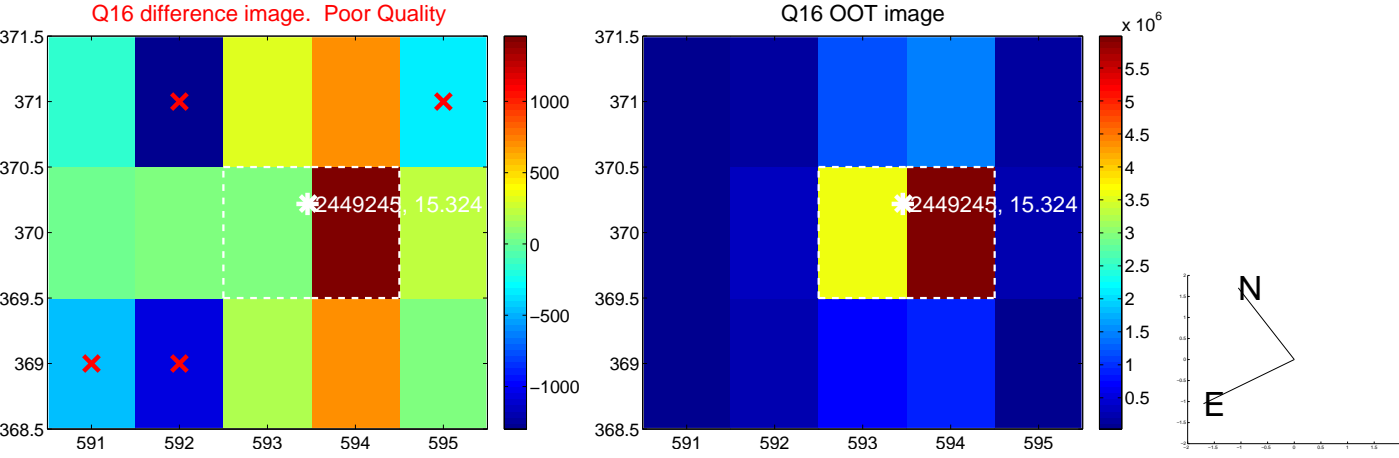
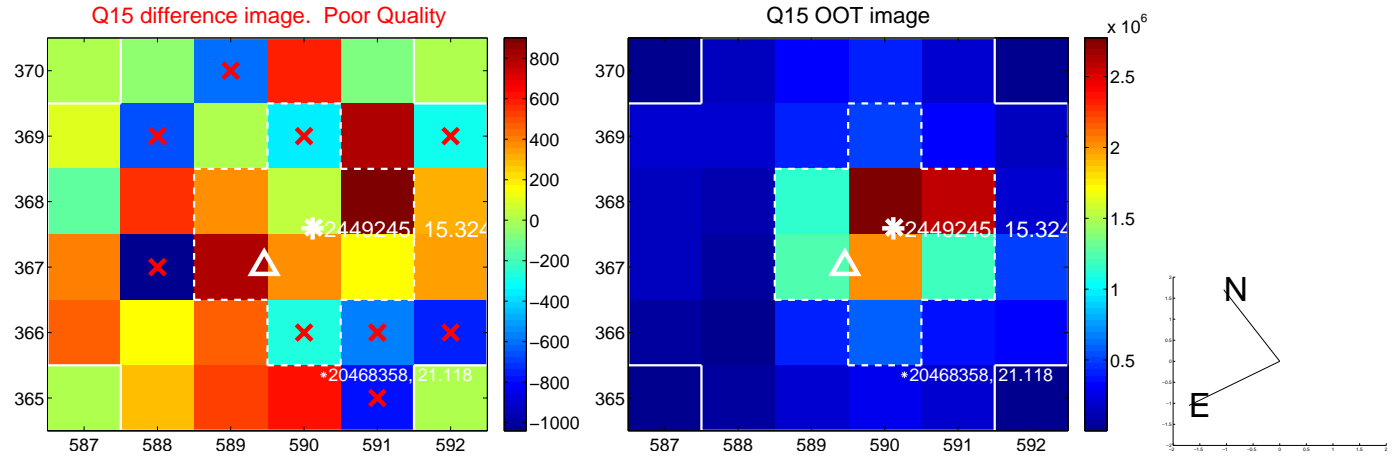
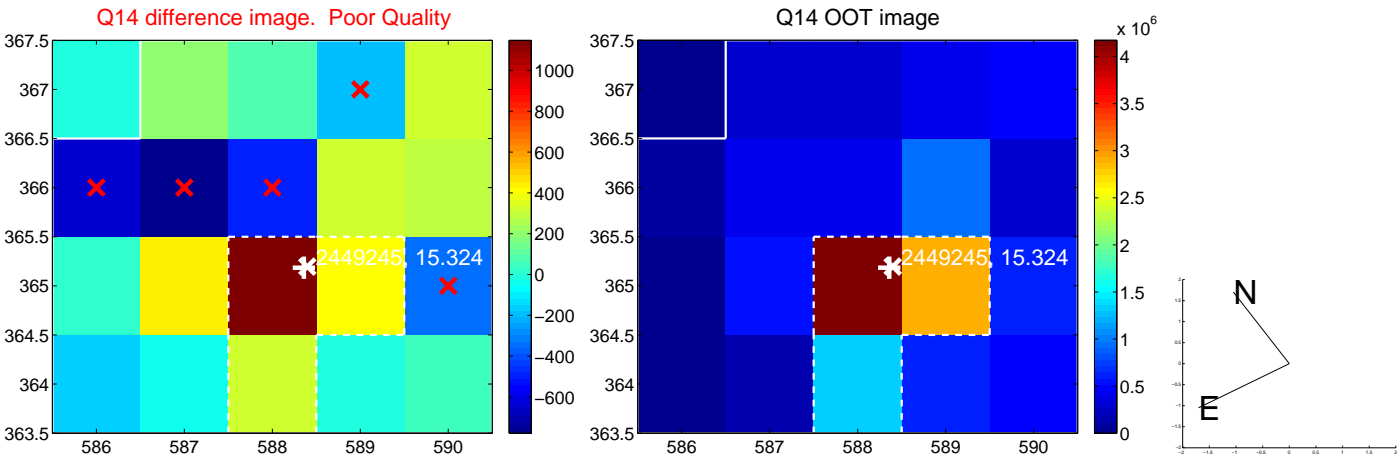
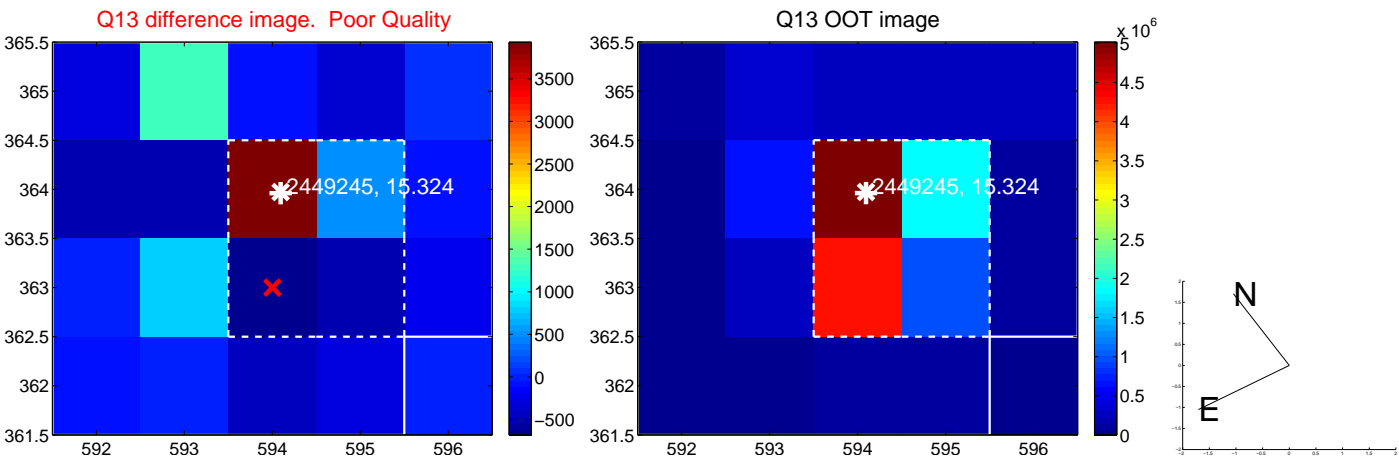
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



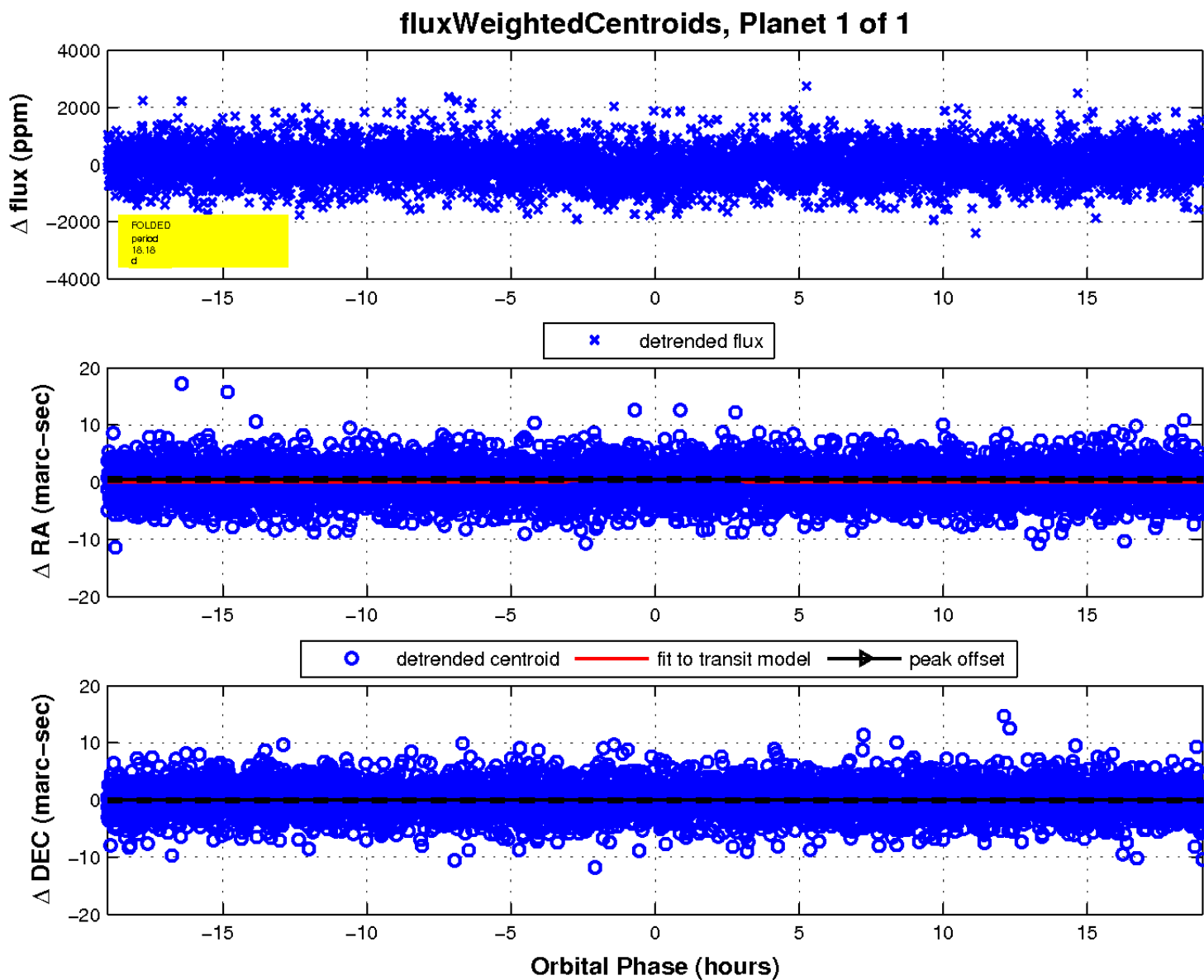
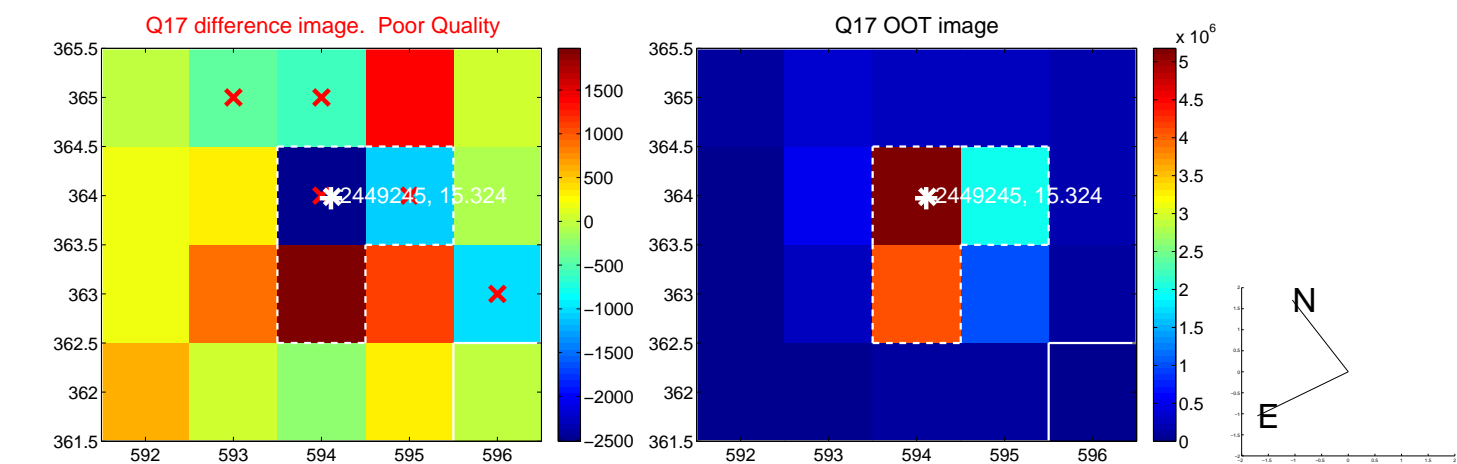
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



UKIRT Image

Declination

