

KIC 008396405

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})
008396405-01	OBS	1733.01	19.181050	141.373365	844.4	2.453	15.0	16.8	0.59	5214	1.86	16.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008396405-01	OBS	PC	0.94	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 008396405-01

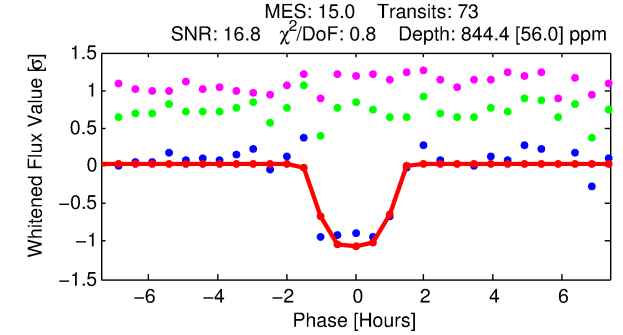
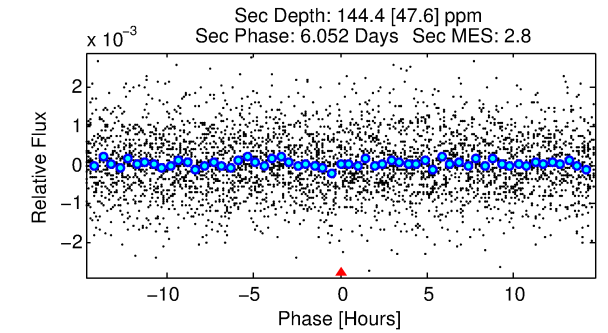
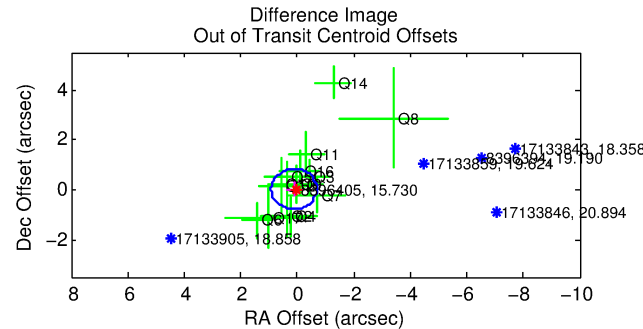
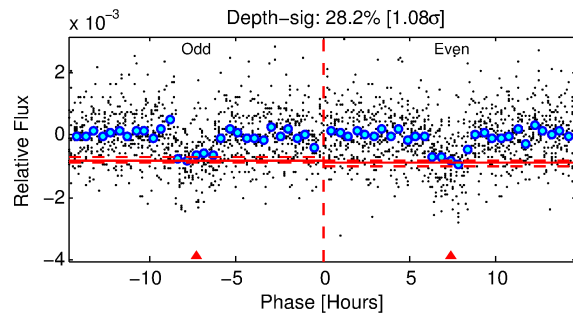
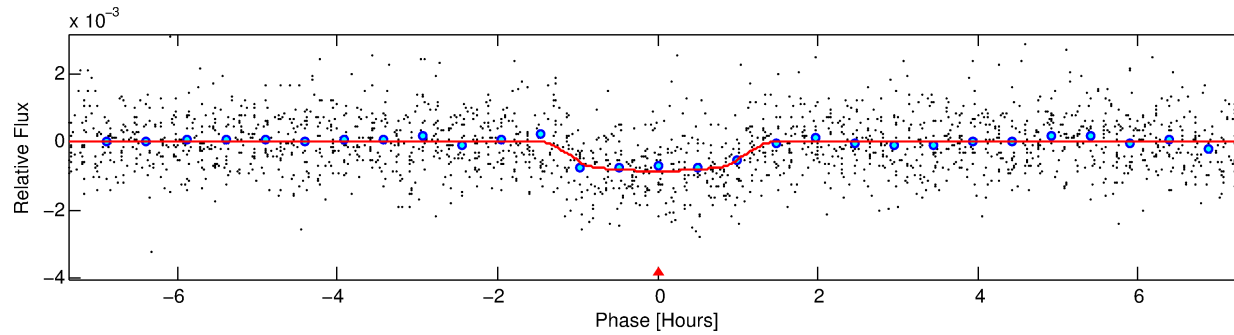
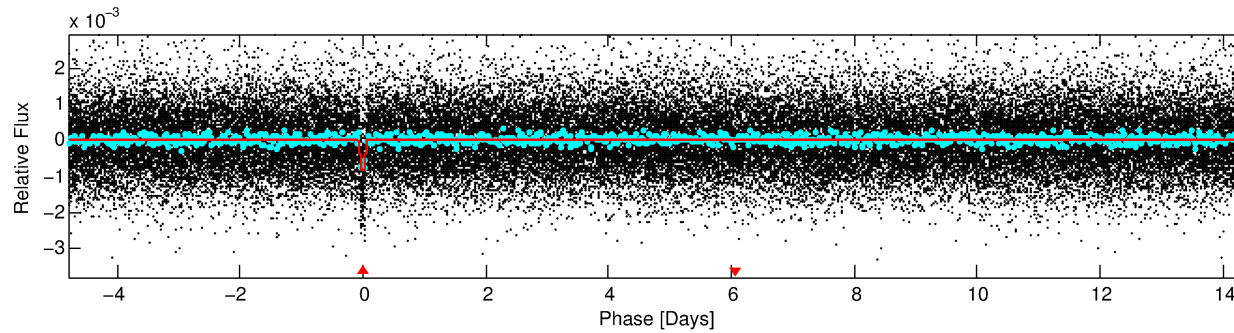
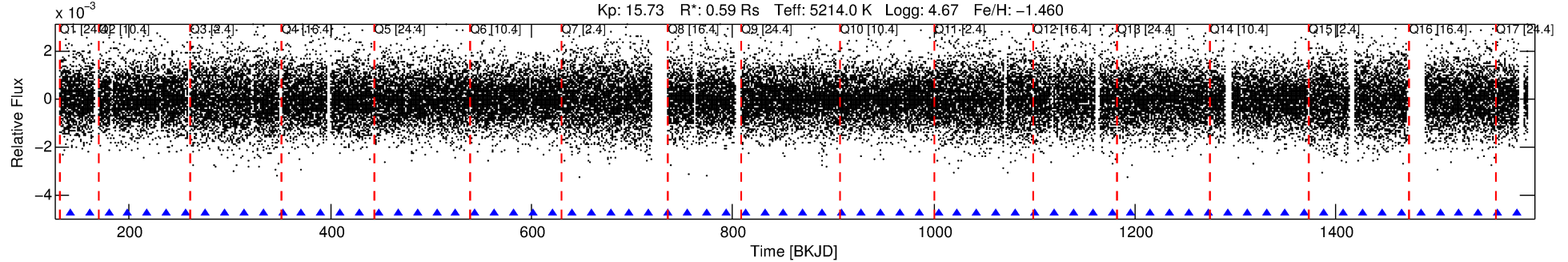
No Significant Match Found

DV One-Page Summary

KIC: 8396405 Candidate: 1 of 1 Period: 19.181 d

KOI: K01733.01 Corr: 0.977

Kp: 15.73 R*: 0.59 Rs Teff: 5214.0 K Logg: 4.67 Fe/H: -1.460



DV Fit Results:

Period = 19.18105 [0.00009] d
Epoch = 141.3734 [0.0037] BKJD
Rp/R* = 0.0291 [0.0190]
a/R* = 41.27 [131.45]
b = 0.76 [1.77]
Seff = 16.45 [2.71]
Teq = 514 [21] K
Rp = 1.86 [1.22] Re
a = 0.1178 [0.0070] AU
Ag = 318.20 [429.90] [0.74σ]
Teff = 3353 [1135] K [2.50σ]

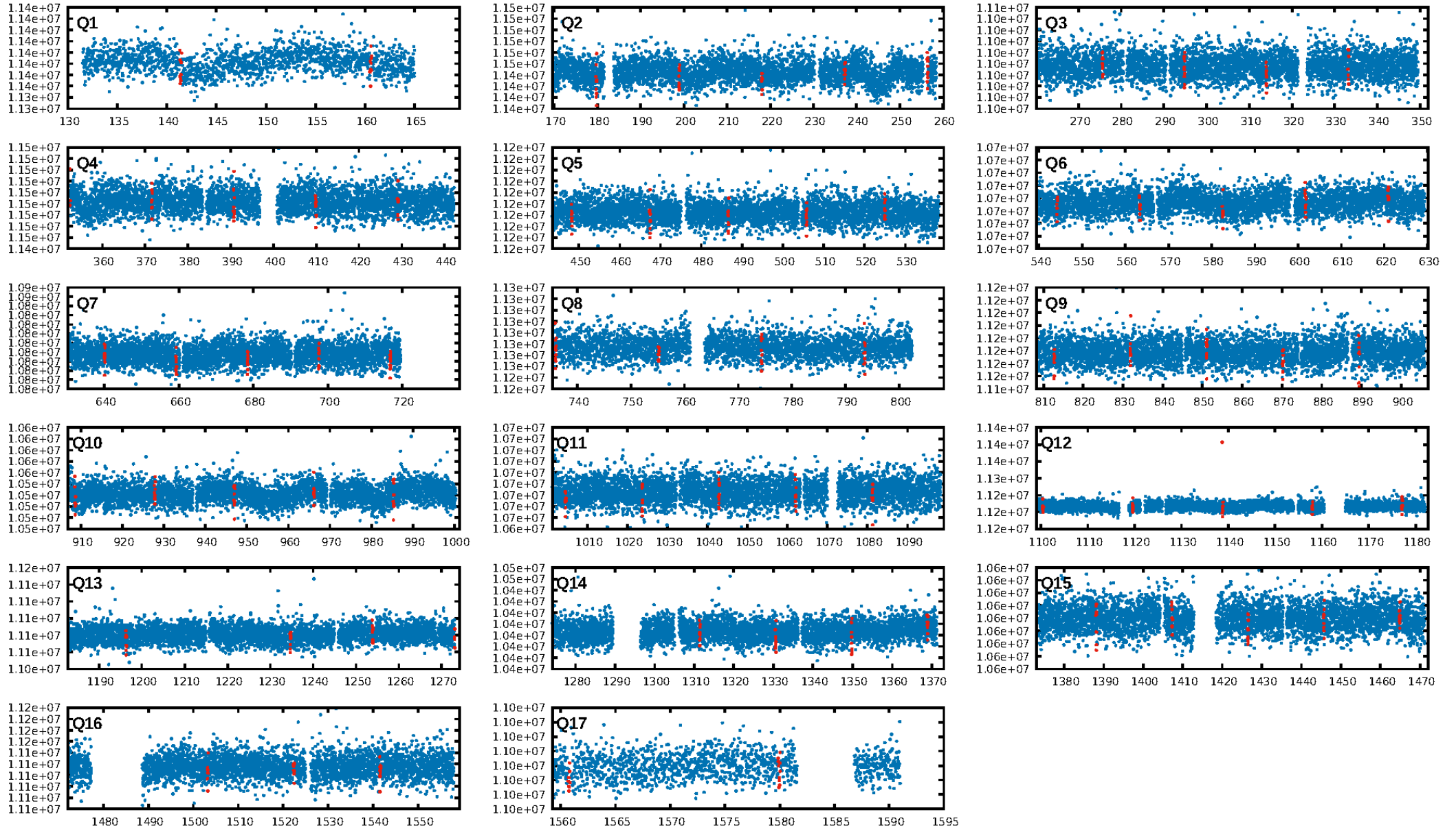
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.82e-51
RollingBand-fgt: 1.00 [69/69]
GhostDiagnostic-chr: 2.674
Centroid-sig: N/A
Centroid-so: 1.593 arcsec [2.21σ]
OotOffset-rm: 0.120 arcsec [0.45σ]
KicOffset-rm: 0.311 arcsec [1.17σ]
OotOffset-st: 4/3/4/3 [14]
KicOffset-st: 4/3/4/3 [14]
DiffImageQuality-fgm: 0.57 [8/14]
DiffImageOverlap-fno: 1.00 [17/17]

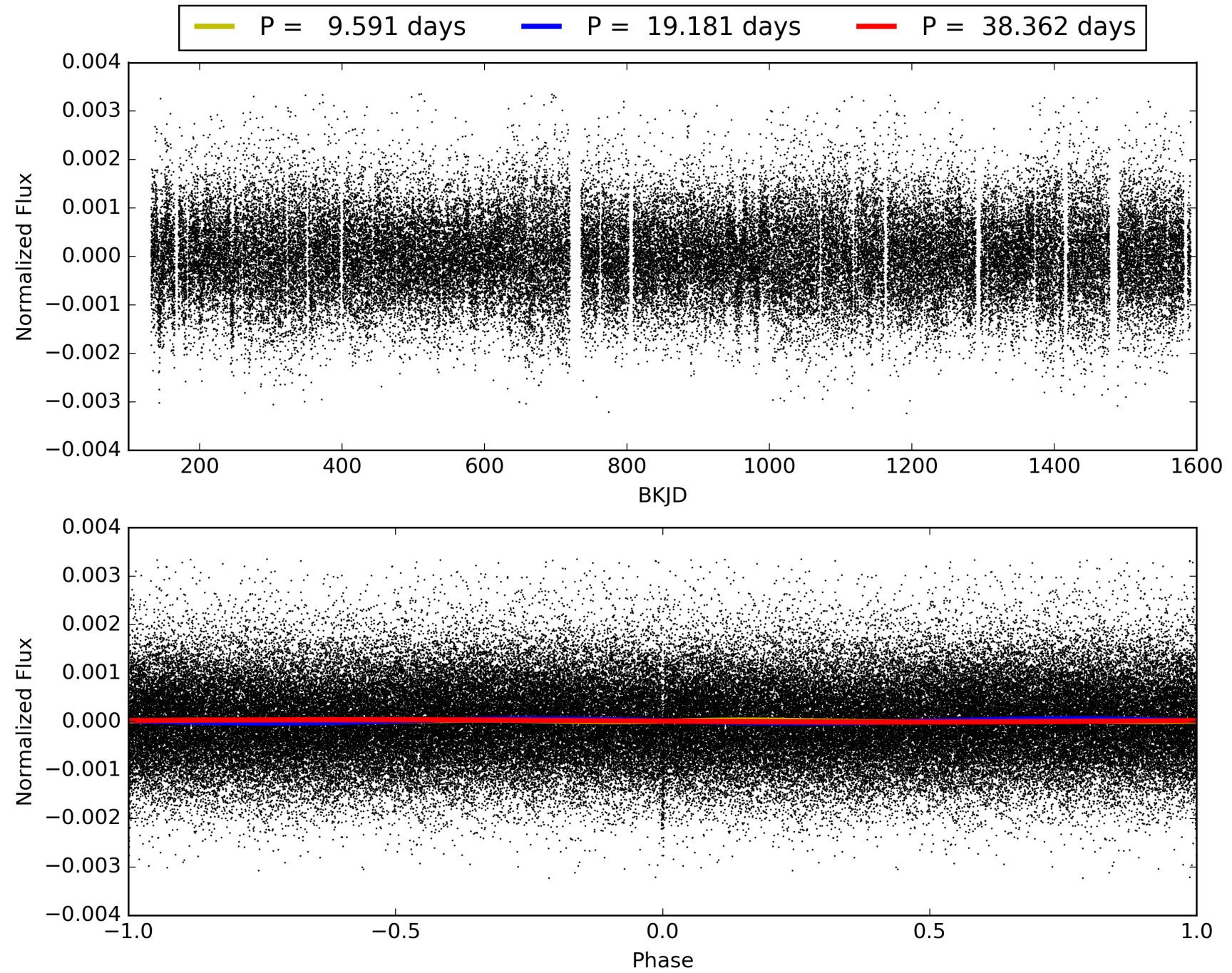
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:30:30 Z

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

TCE 008396405-01, PDC Light Curves

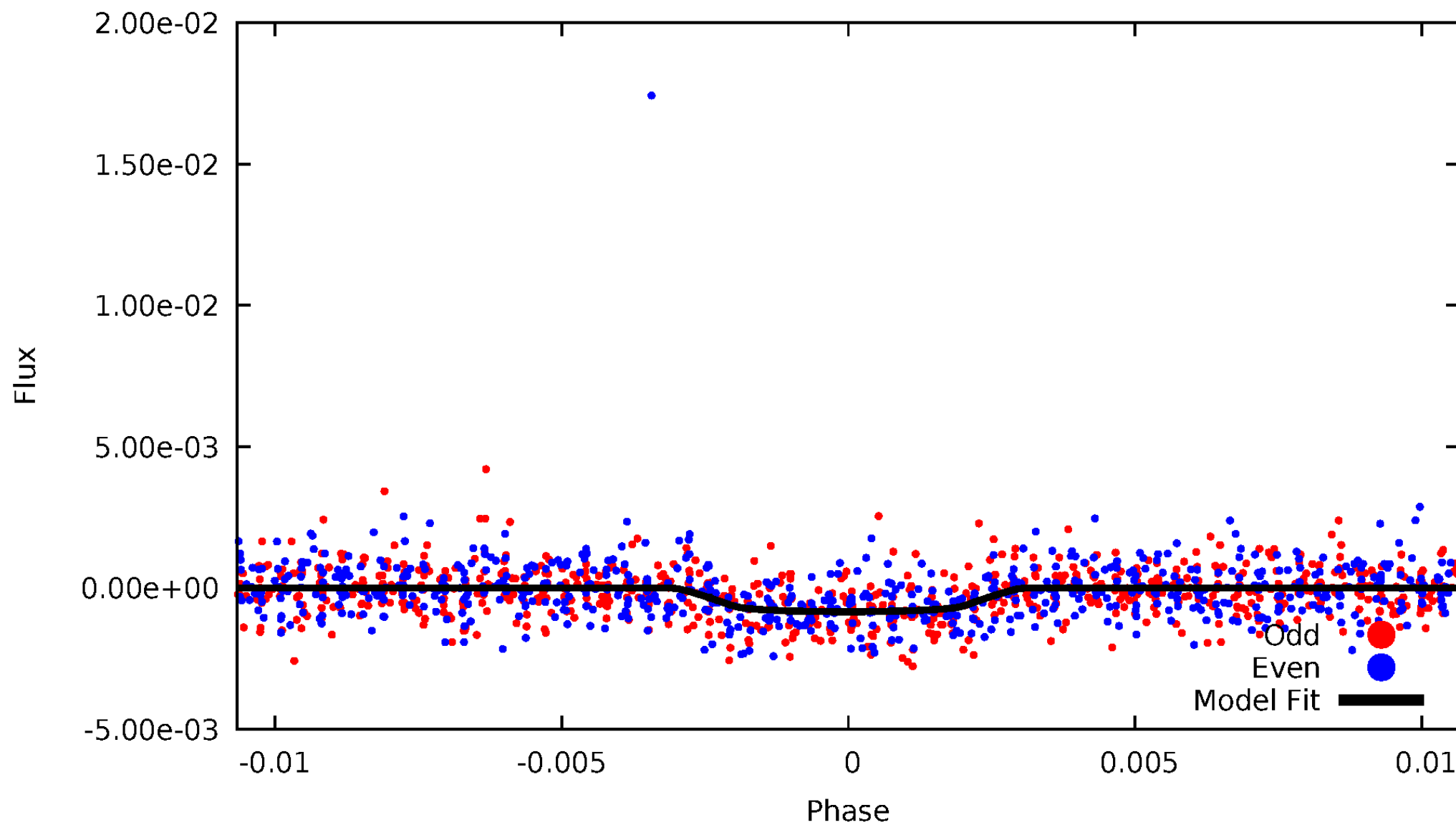


TCE 008396405-01



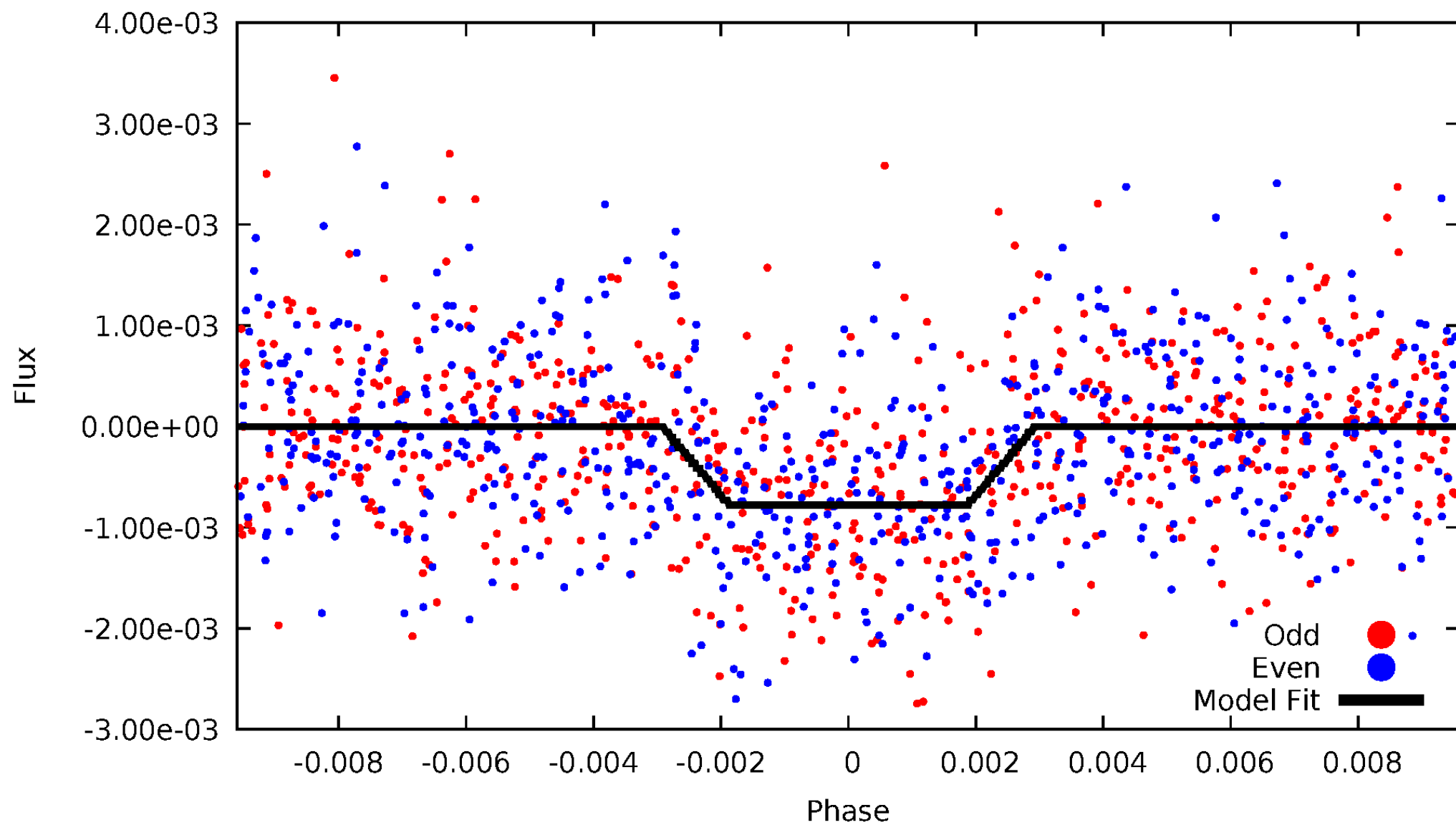
DV Odd/Even

TCE 008396405-01



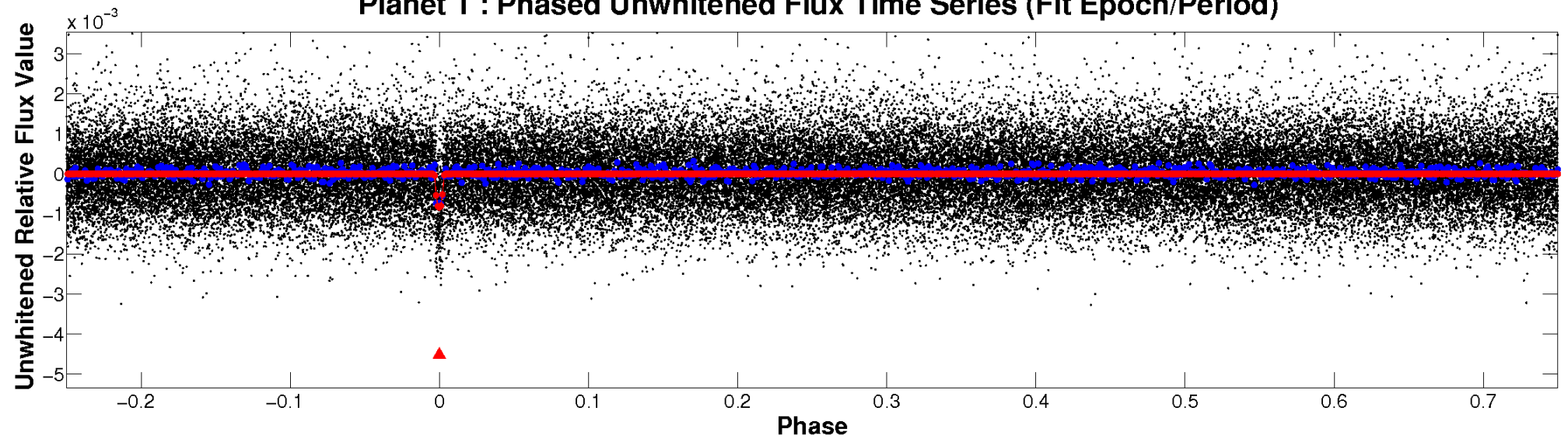
ALT Odd/Even

TCE 008396405-01

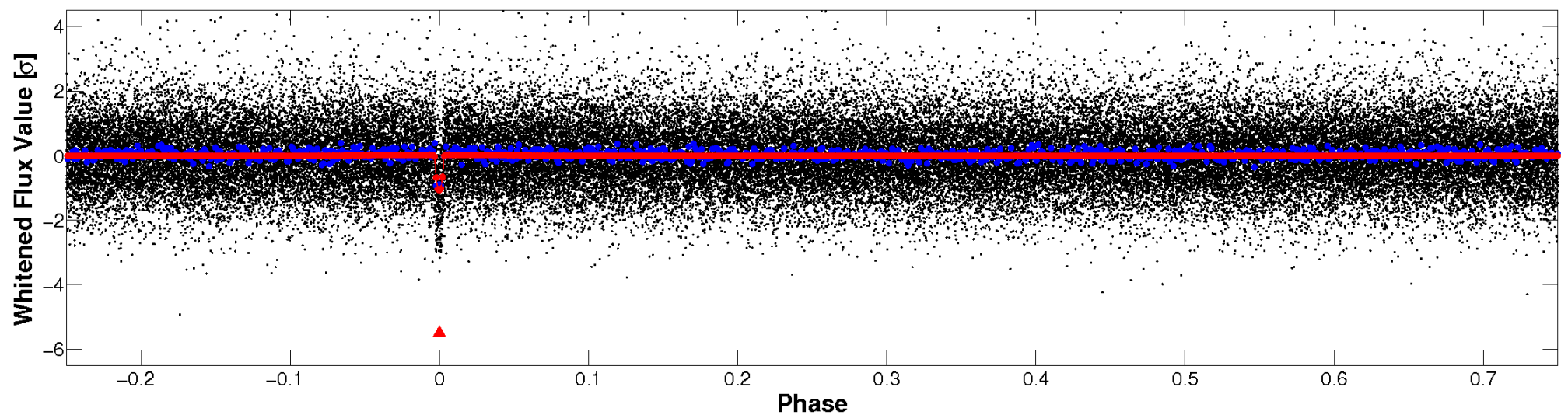


Non-Whitened Vs. Whitened Light Curve

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

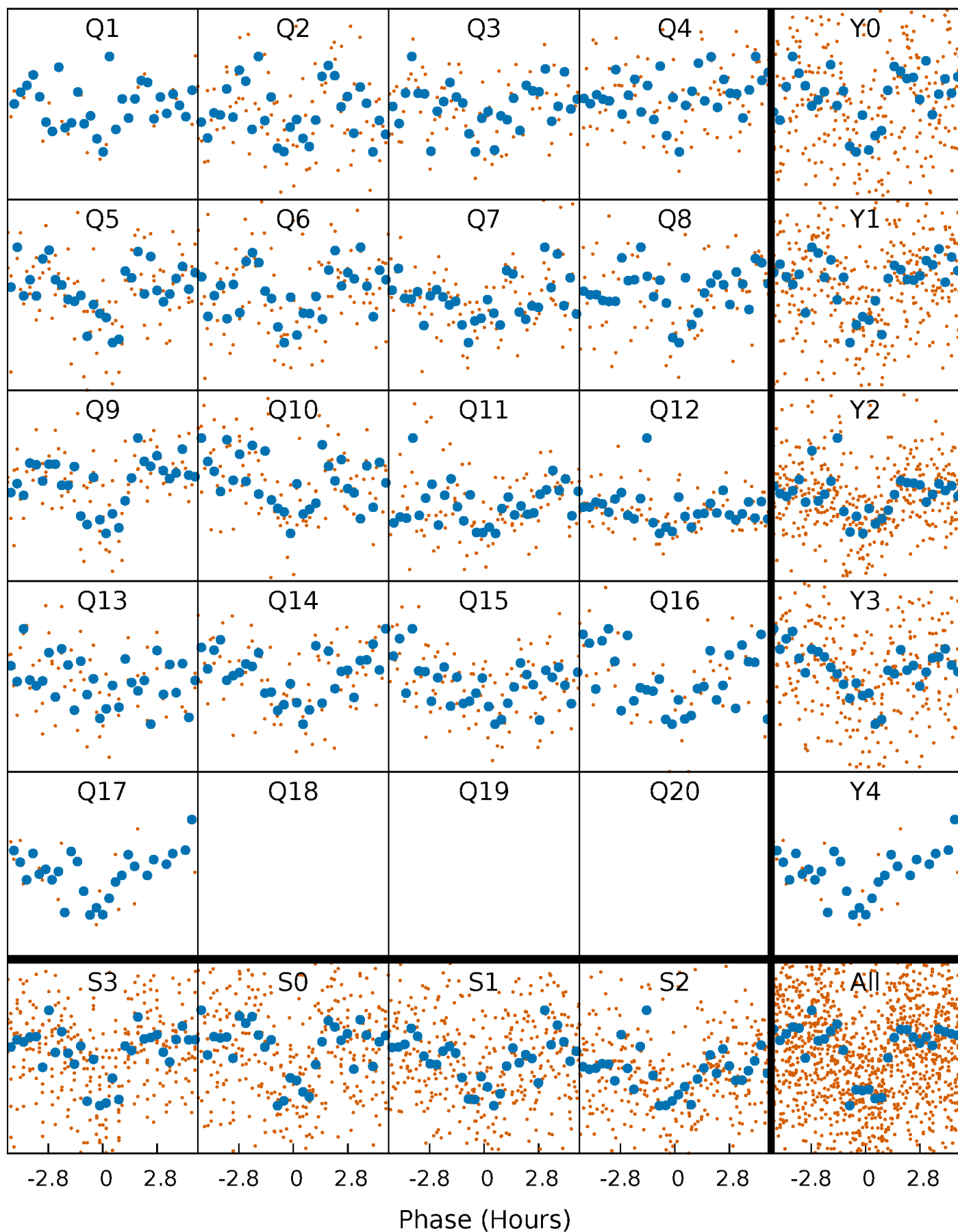


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



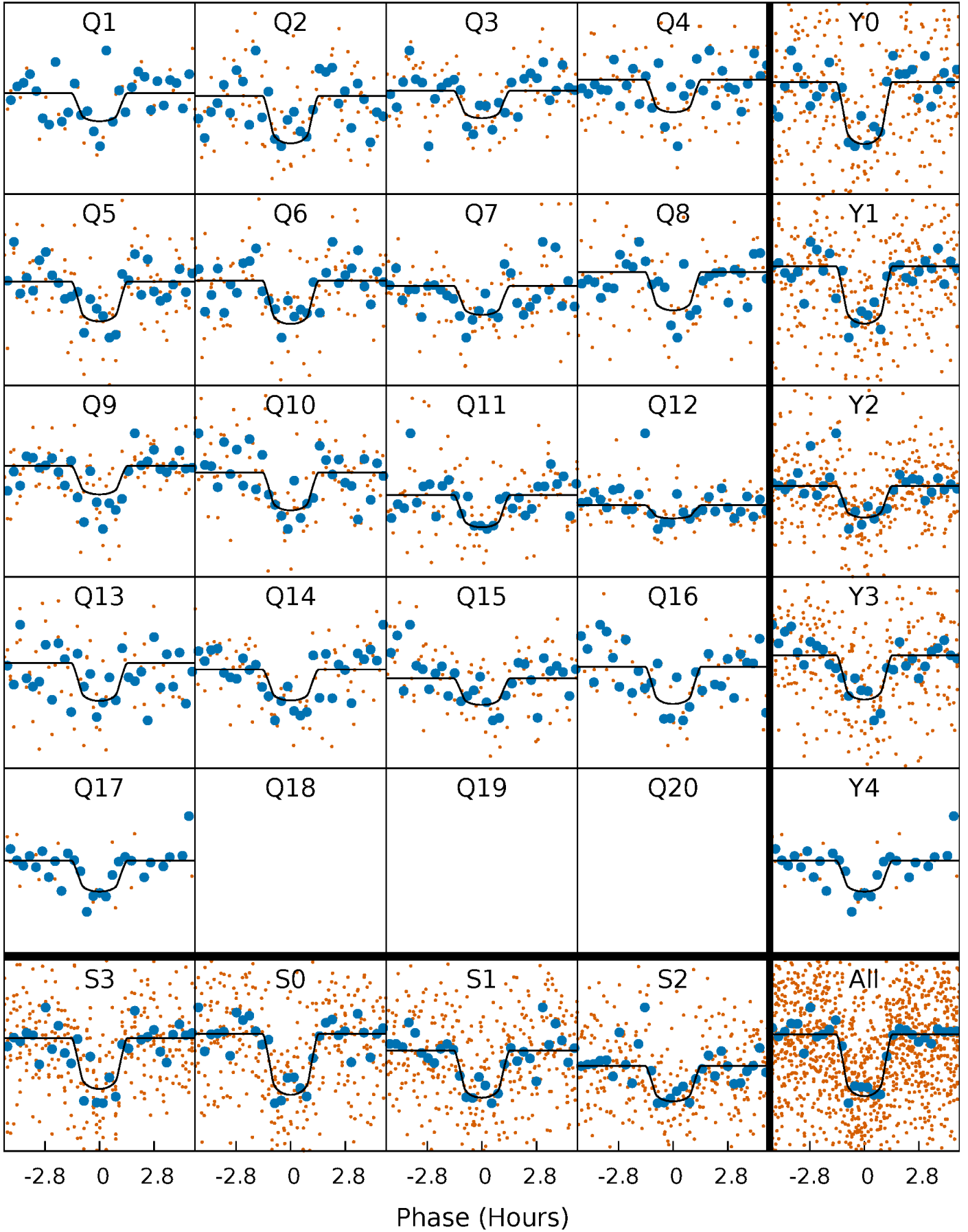
PDC Quarter-Phased Transit Curves

TCE 008396405-01 P= 19.181050 Days $T_0=141.373365$ (BKJD)



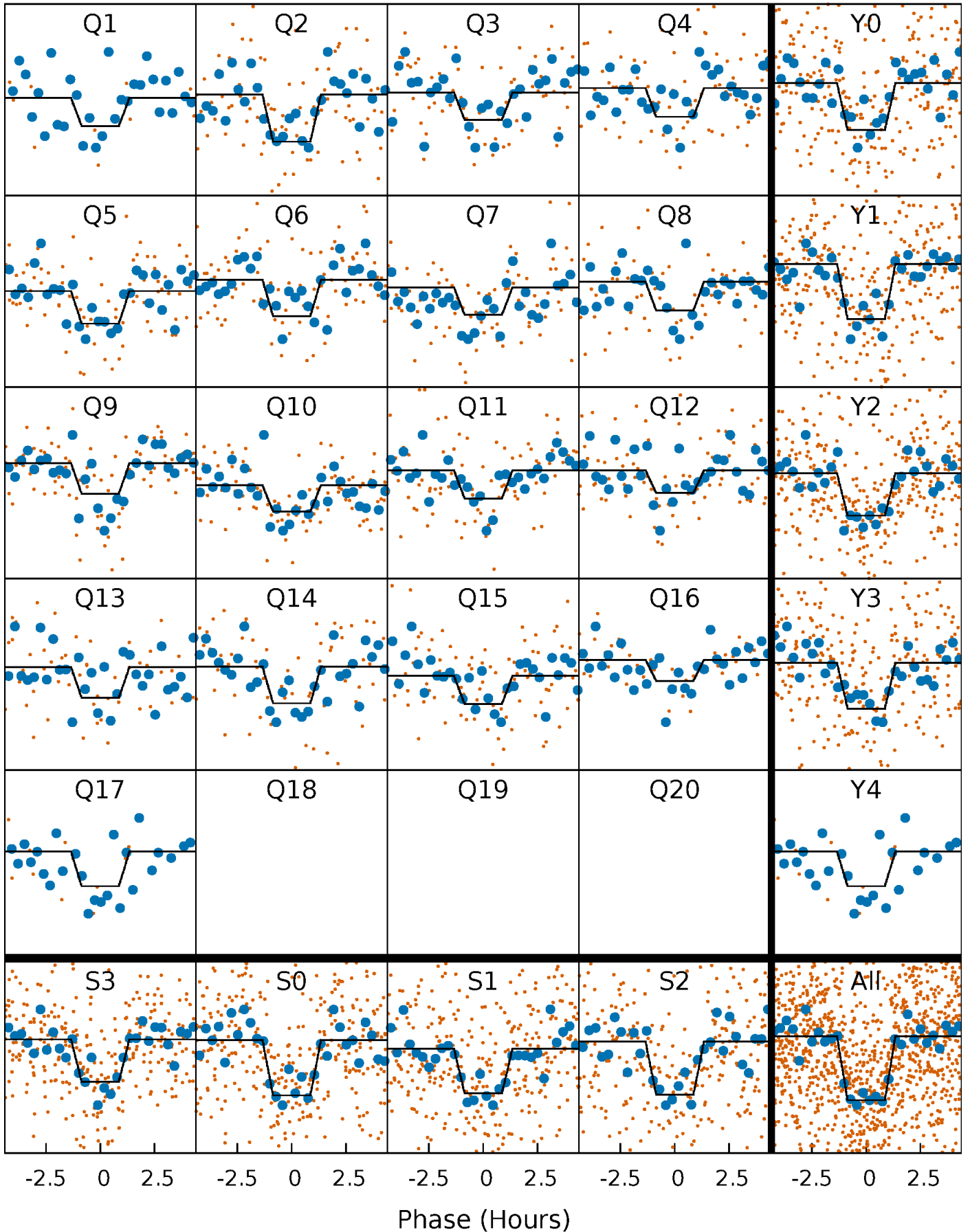
DV Quarter-Phased Transit Curves

TCE 008396405-01 P= 19.181050 Days $T_0=141.373365$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

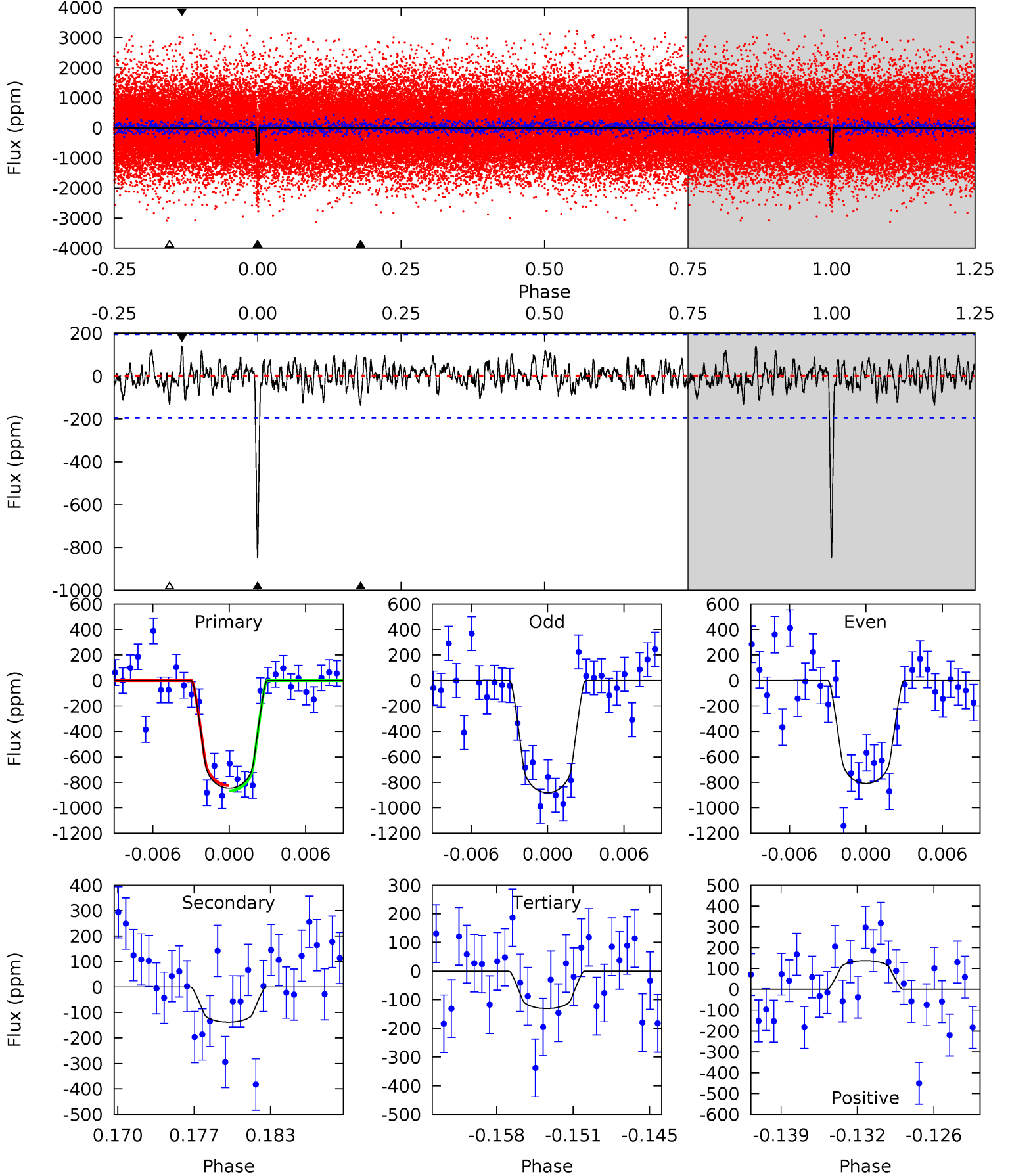
TCE 008396405-01 P= 19.181070 Days $T_0=141.371553$ (BKJD)



DV Model-Shift Uniqueness Test

008396405-01, $P = 19.181050$ Days, $E = 122.192315$ Days

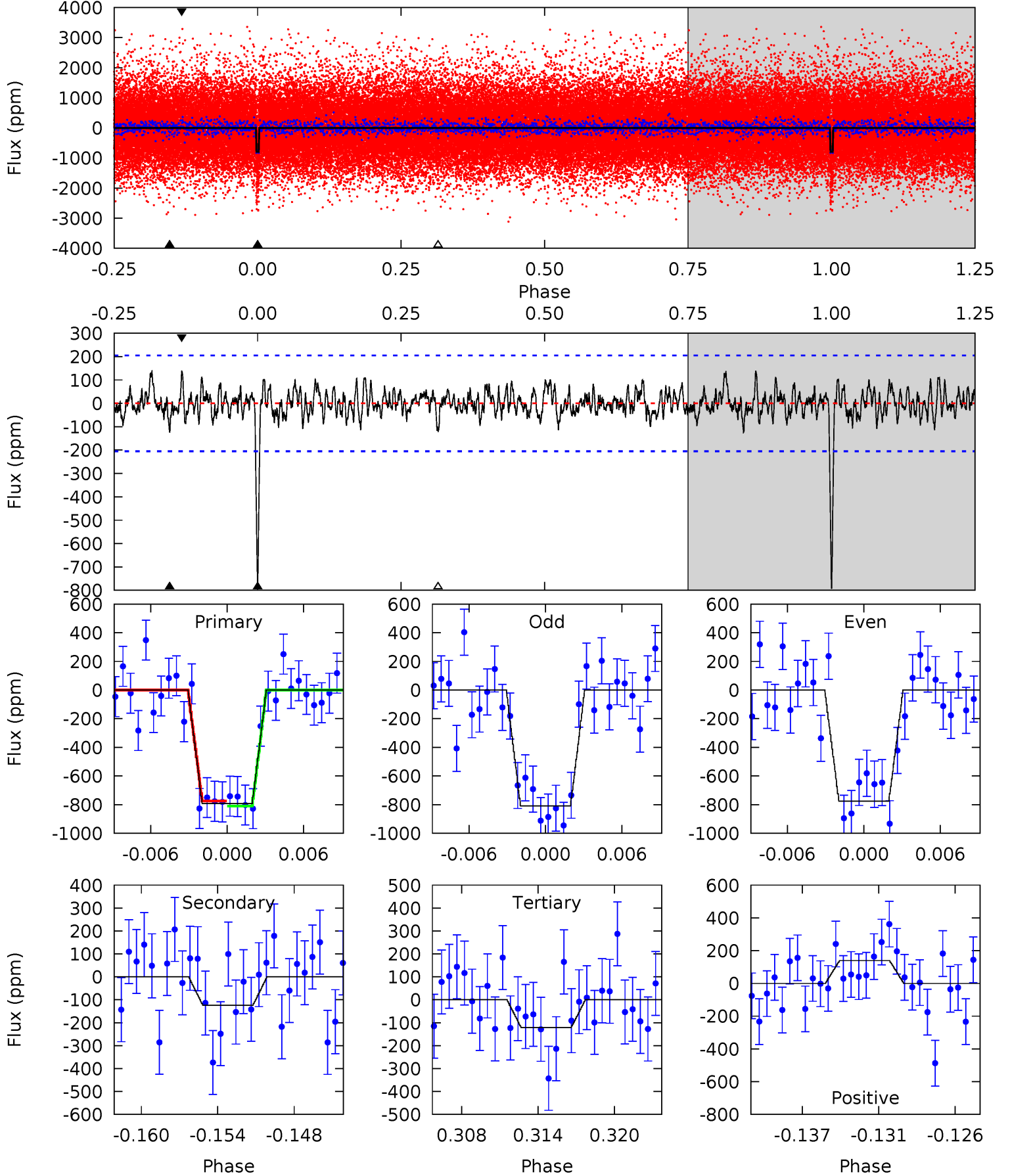
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.2	3.61	3.42	3.60	5.11	2.73	1.13	18.7	18.6	0.19	0.00	0.95	0.98	0.14	0.56



Alt Model-Shift Uniqueness Test

008396405-01, P = 19.181070 Days, E = 122.190483 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.8	3.11	3.04	3.48	5.13	2.76	1.08	16.8	16.3	0.07	-0.37	0.42	1.00	0.15	0.44



Stellar Parameters For KIC 008396405

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5214^{+172}_{-156}	$4.673^{+0.059}_{-0.027}$	$-1.460^{+0.300}_{-0.250}$	$0.587^{+0.031}_{-0.034}$	$0.591^{+0.046}_{-0.018}$	$4.121^{+0.816}_{-0.468}$
	+3%/-3%	+1%/-1%	+21%/-17%	+5%/-6%	+8%/-3%	+20%/-11%
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 008396405-01 / KOI 1733.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-138 ± 38	$1.98^{+1.11}_{-1.07}$	715^{+26}_{-24}	3635^{+1176}_{-522}	280^{+1054}_{-176}
Alt.	-124 ± 40	$1.92^{+1.18}_{-1.00}$	715^{+26}_{-25}	3563^{+1165}_{-499}	246^{+925}_{-157}

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 $A_{obs} \gg 1.0$

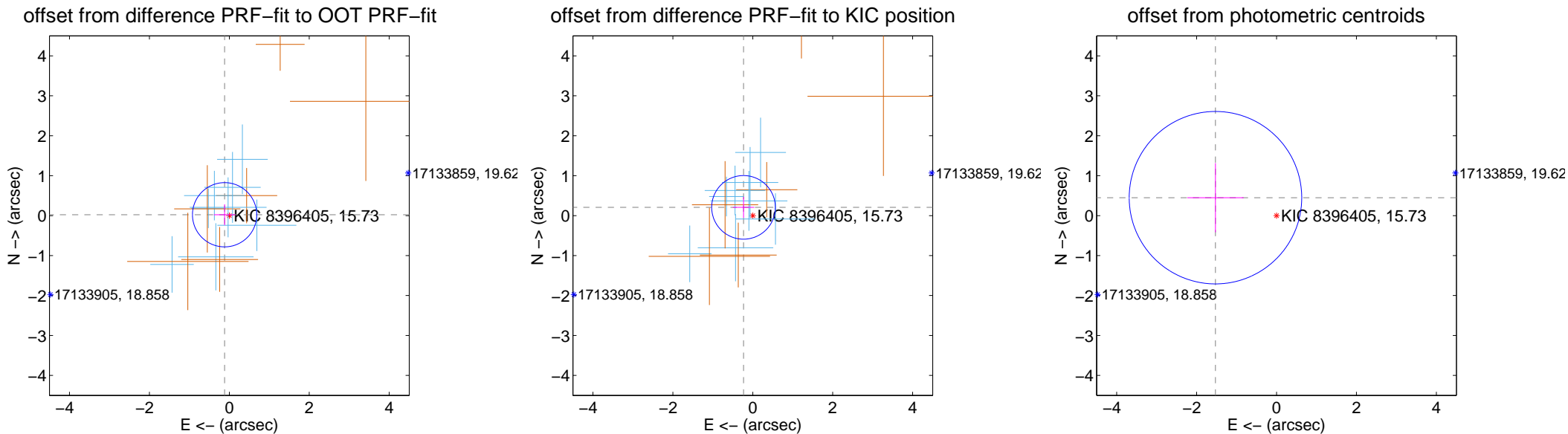
DV Centroid Data

Supplemental centroid analysis for 008396405-01. Kepler magnitude: 15.73. Transit SNR 16.84

There are 8 quarters with good PRF difference image offsets

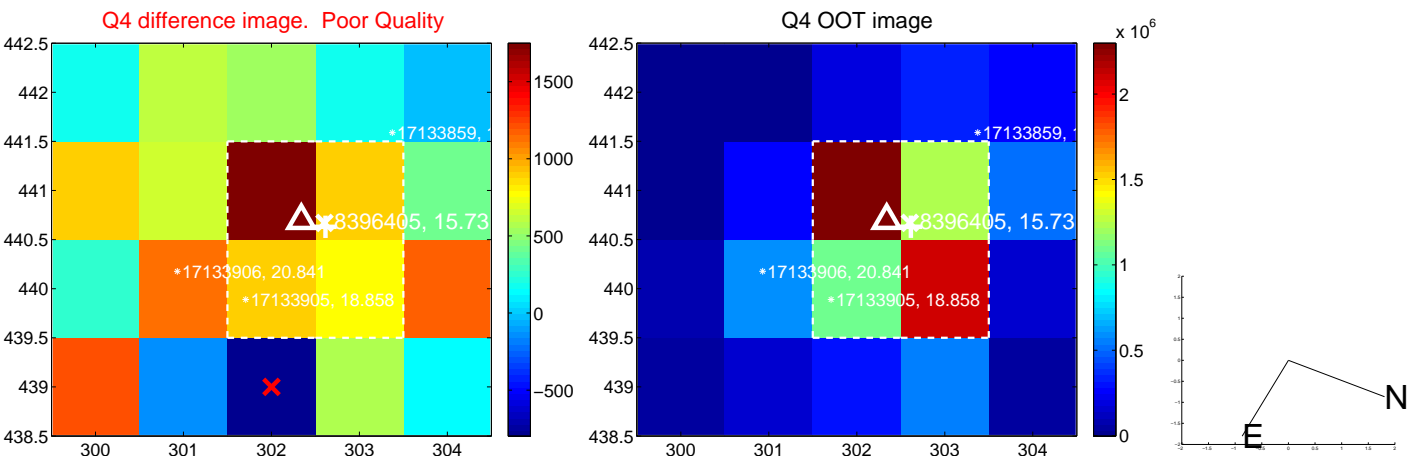
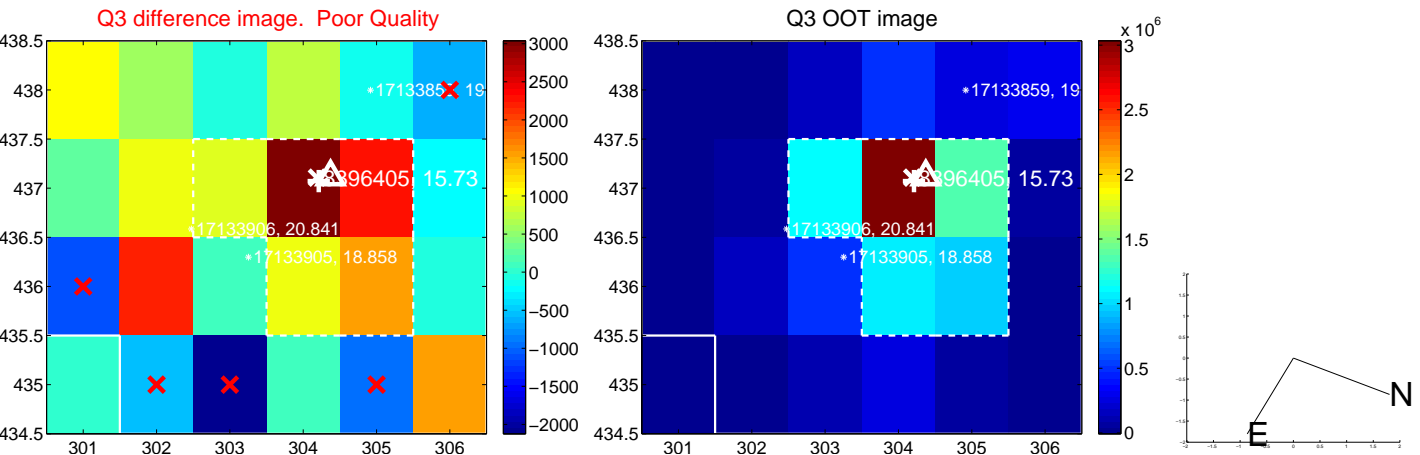
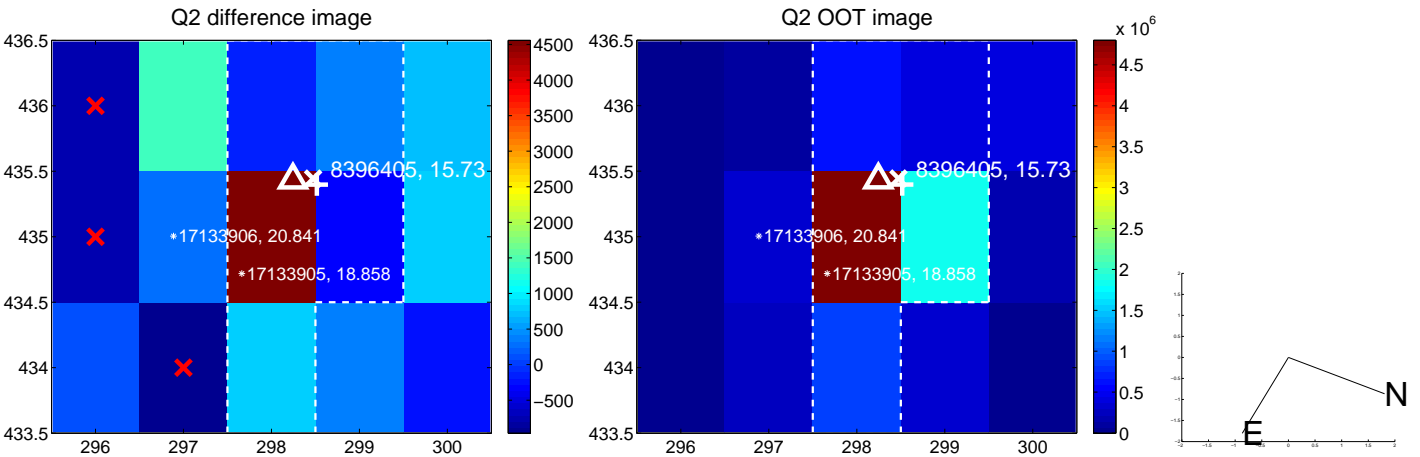
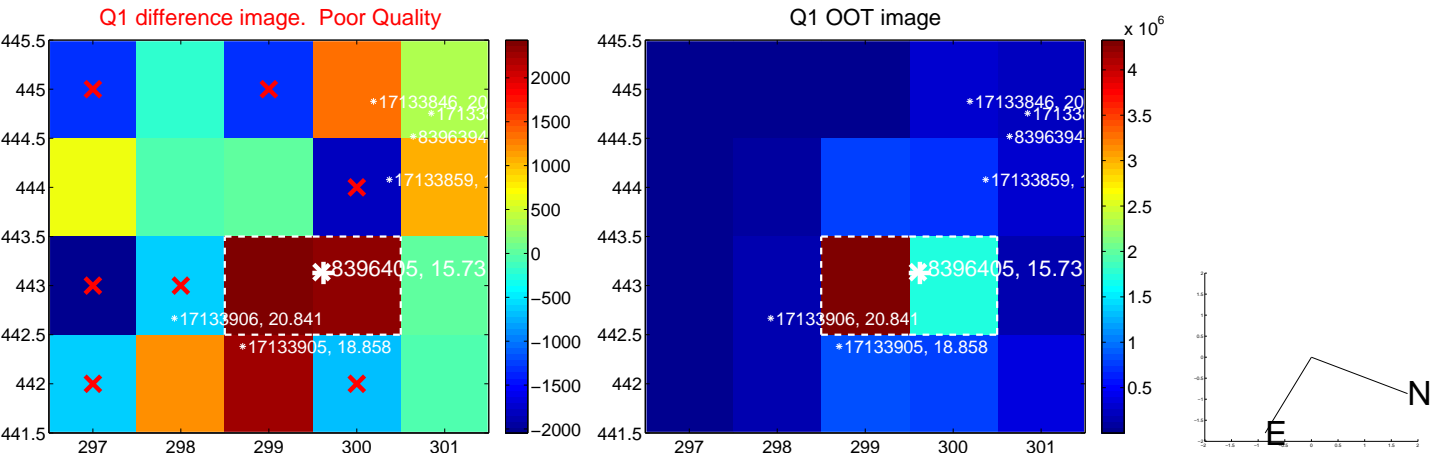
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.120 ± 0.268	0.45	0.118 ± 0.268	0.022 ± 0.262
PRF-fit source offset from KIC position	0.311 ± 0.266	1.17	0.232 ± 0.268	0.207 ± 0.262
photometric centroid source offset	1.59 ± 0.72	2.21	1.53 ± 0.71	0.45 ± 0.87

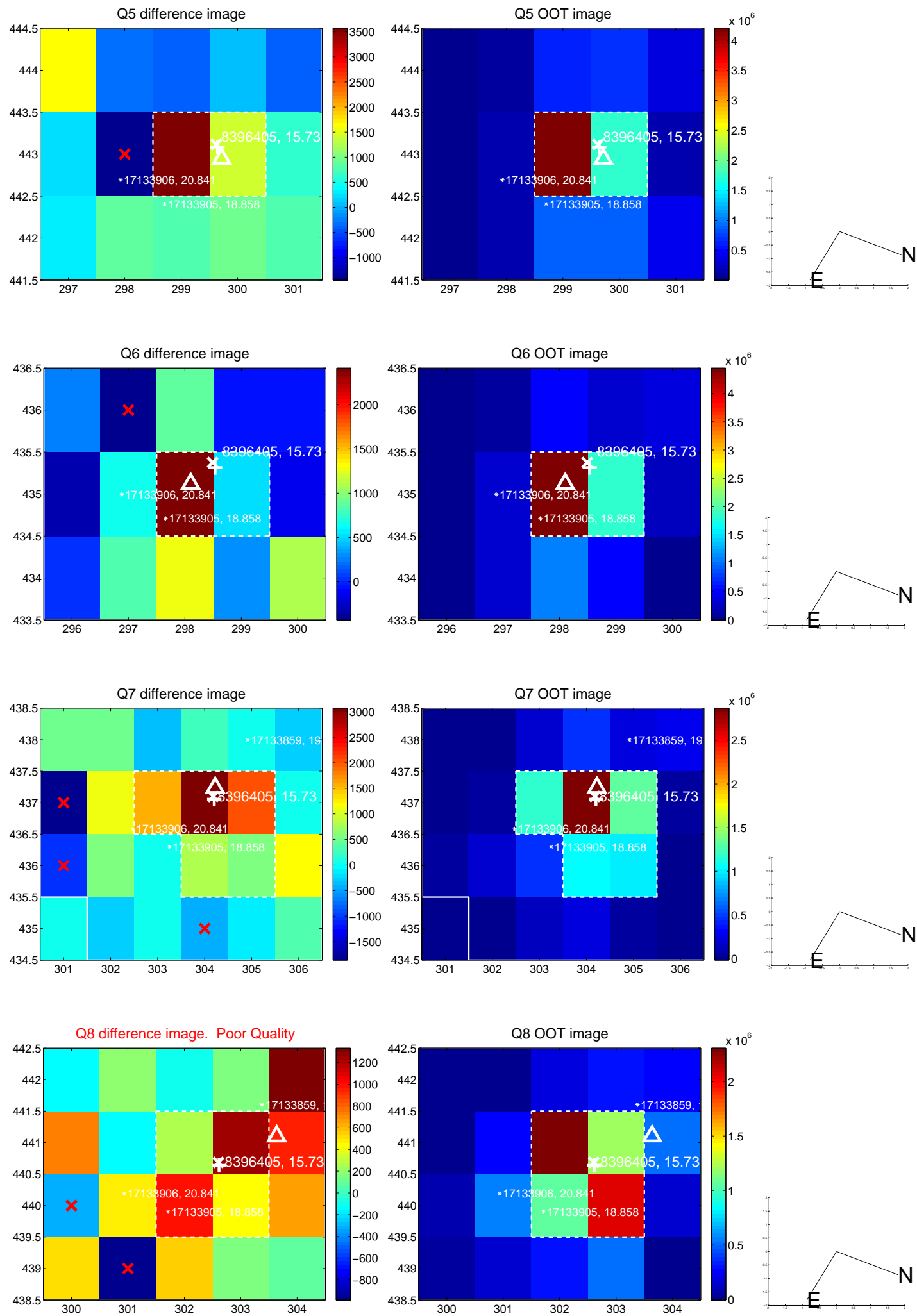


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

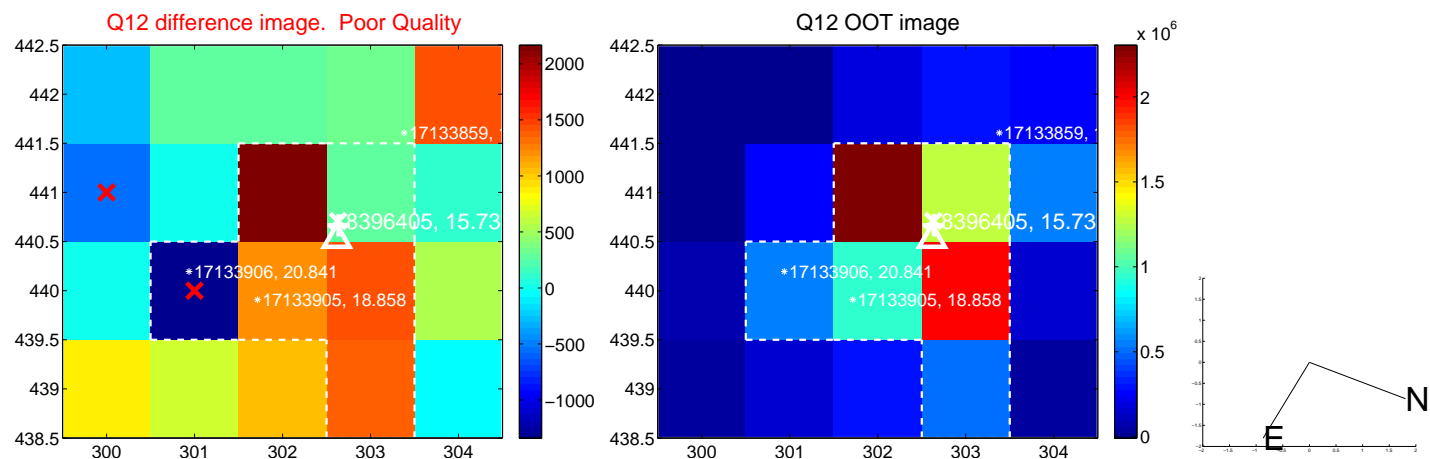
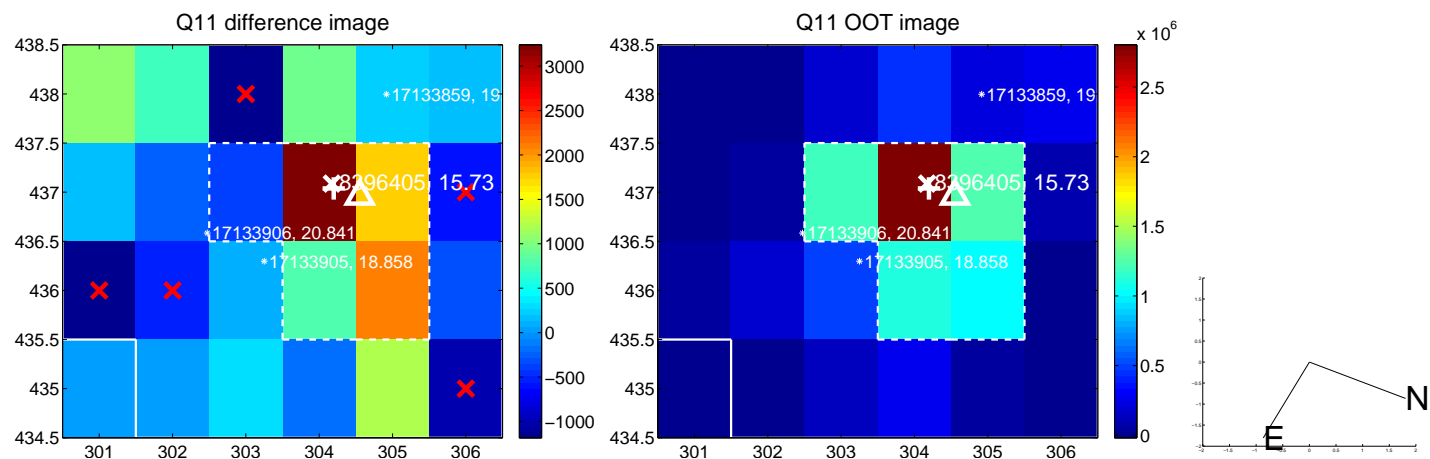
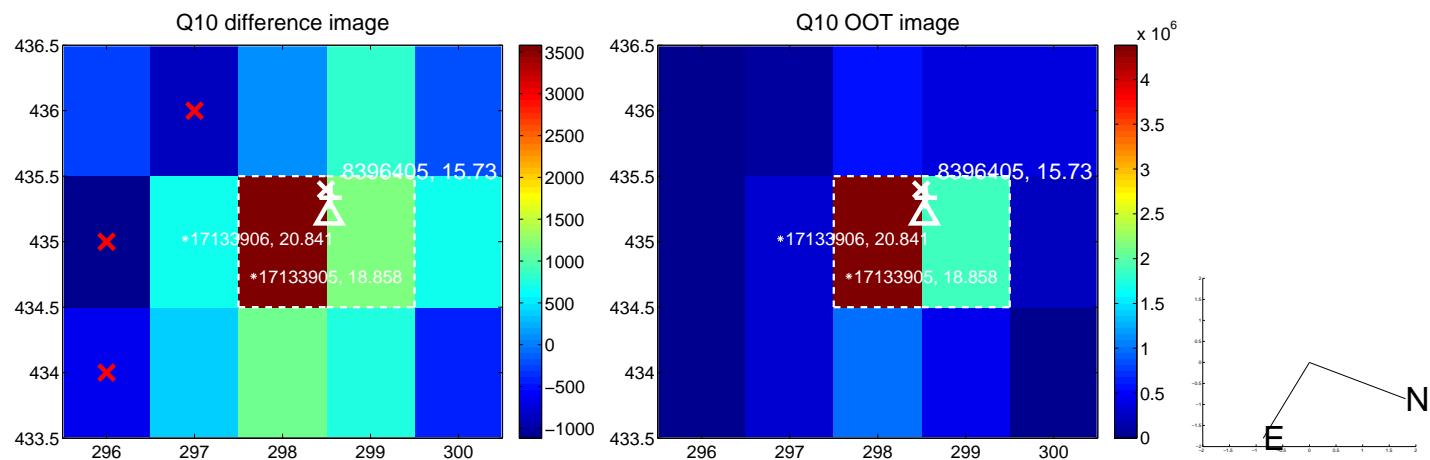
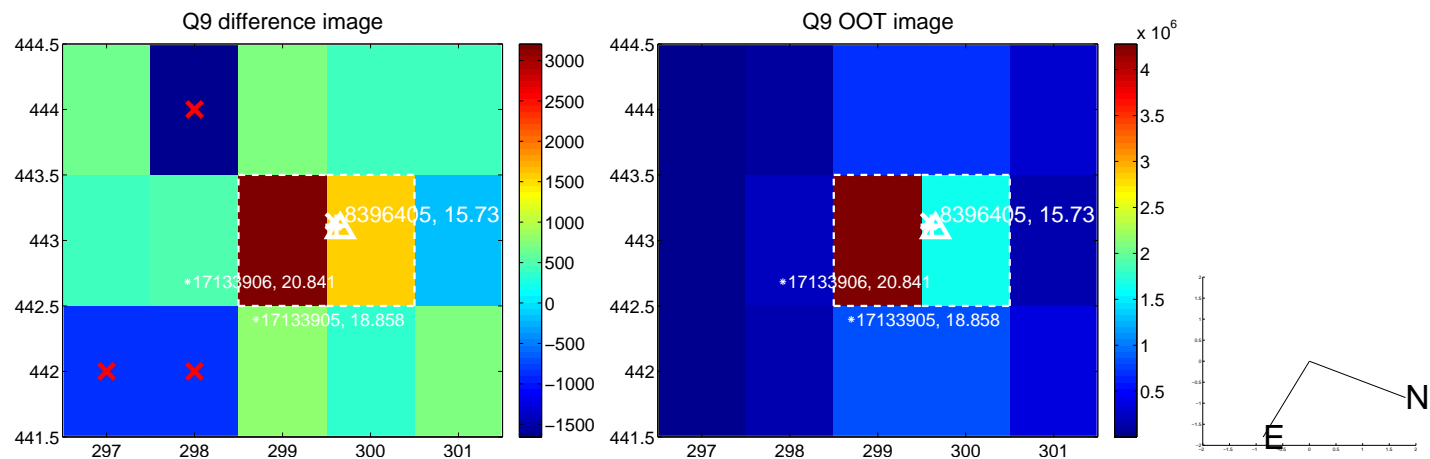
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



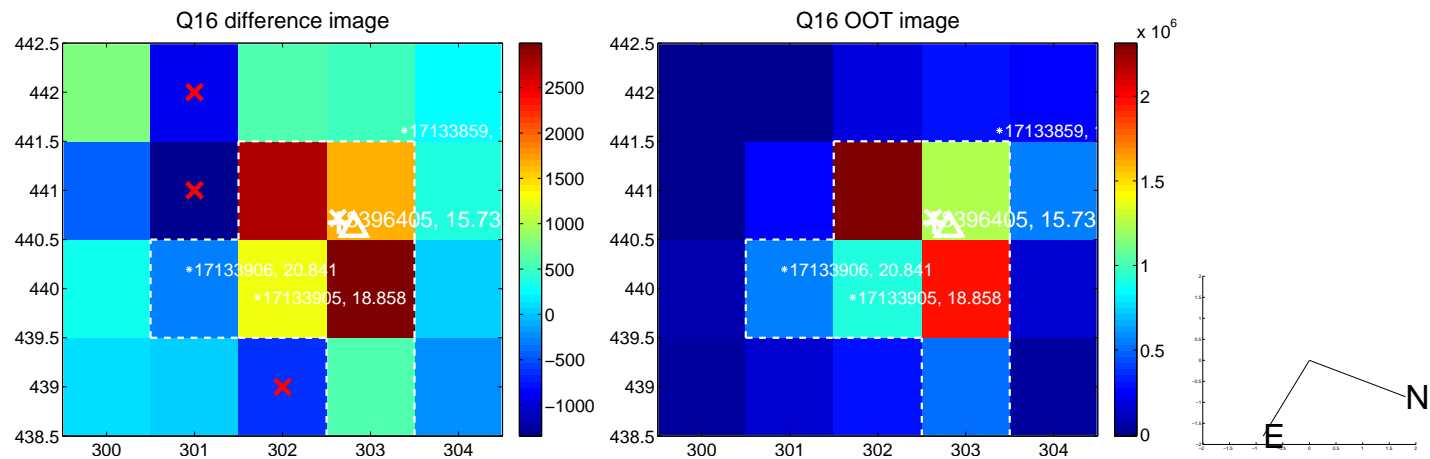
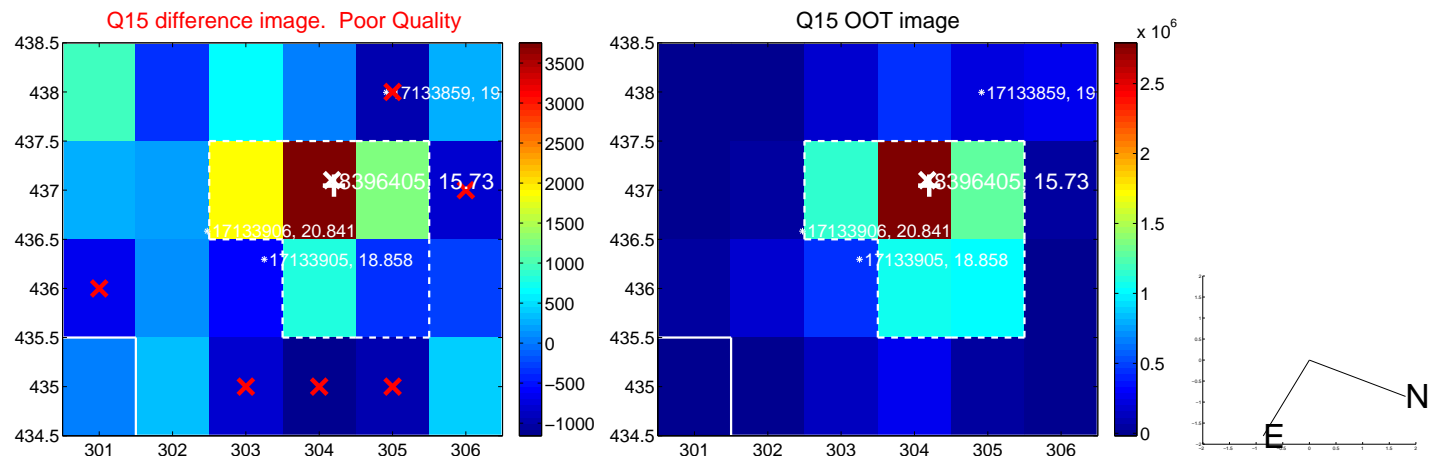
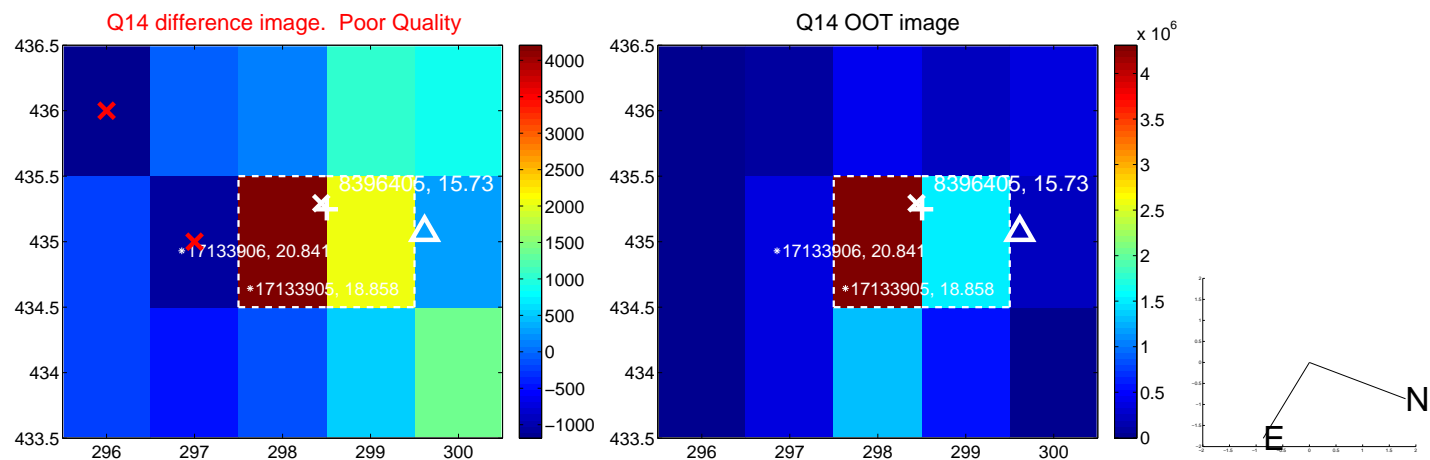
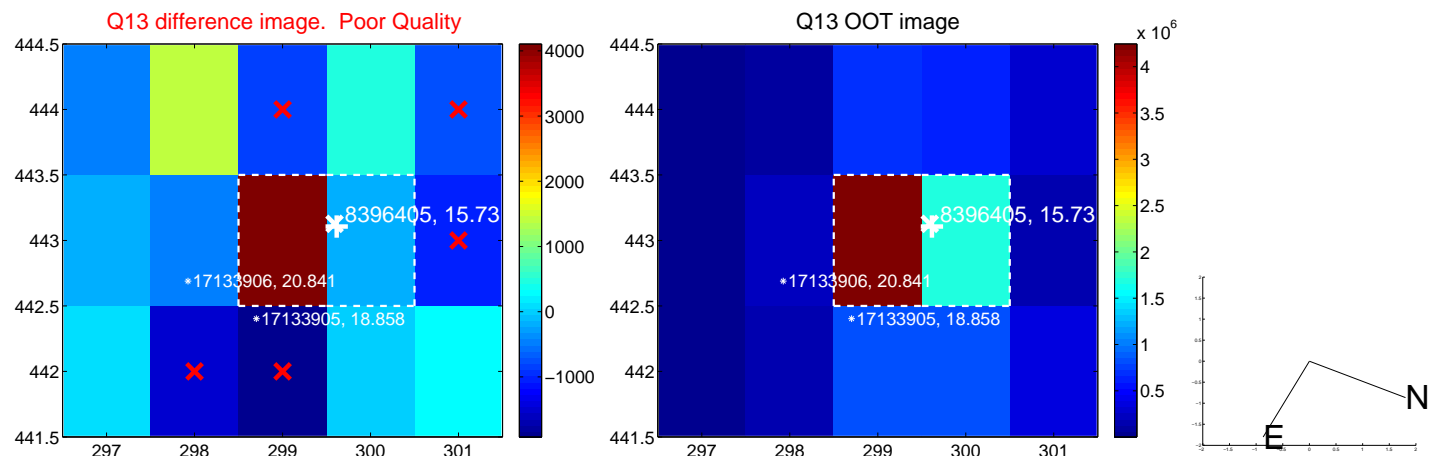
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



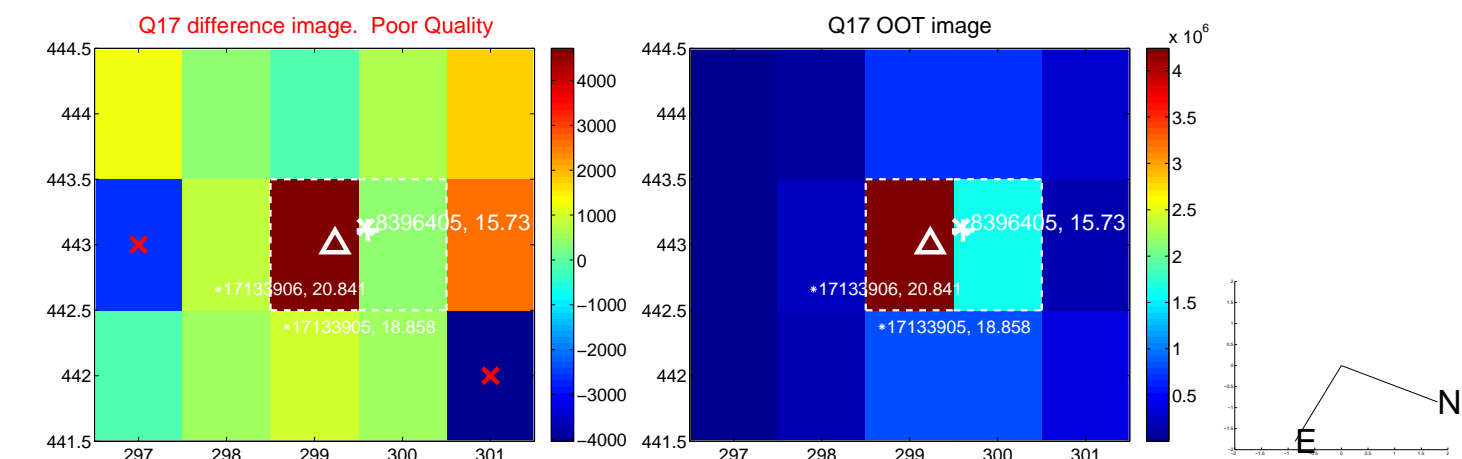
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



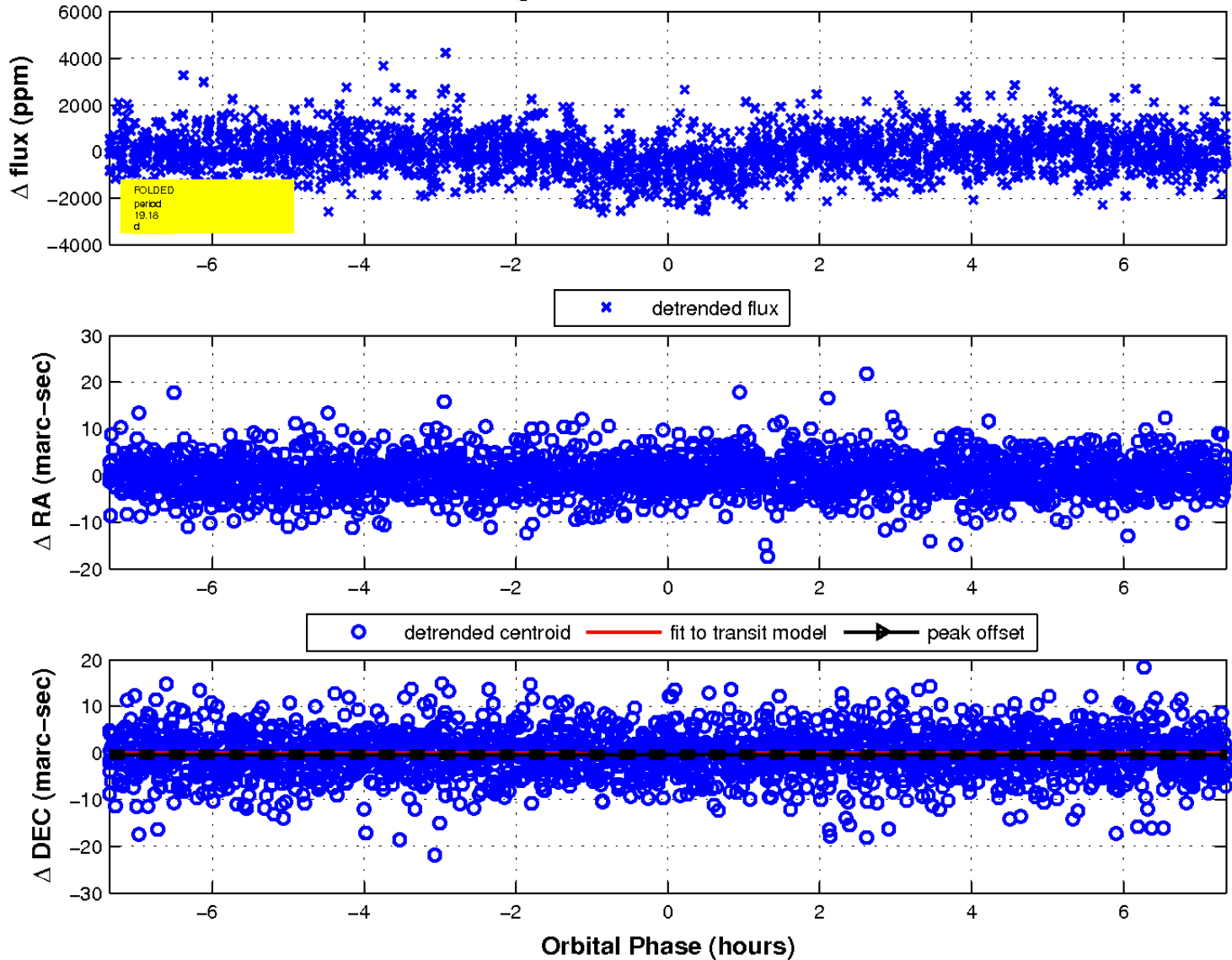
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

