

KIC 006386784

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})
006386784-01	OBS	6700.01	1.995654	132.875749	17.0	3.484	10.4	11.1	1.69	6773	0.86	4941.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006386784-01	OBS	FP	0.00	0	0	0	1	EPHEM_MATCH

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 006386784-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist ($''$)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
006386784-01	6386784	6729.01	6545018	1:1	692.6	175	1	13.75	11.95	14949.00	Col-Anomaly	0	2.66	2.04

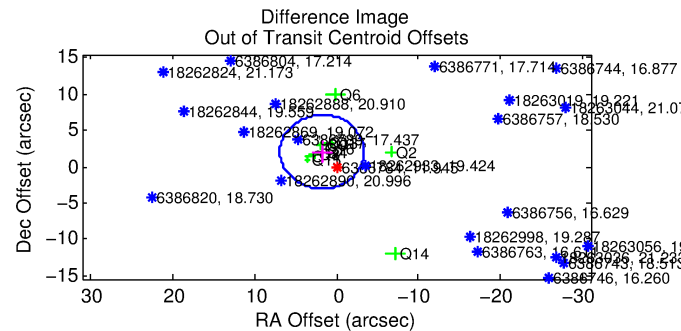
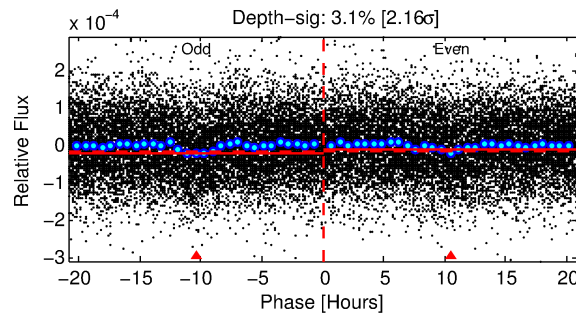
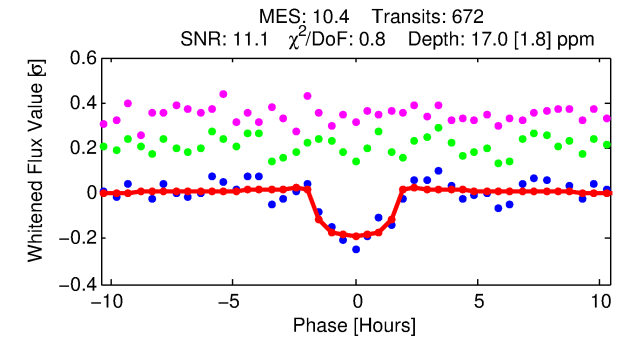
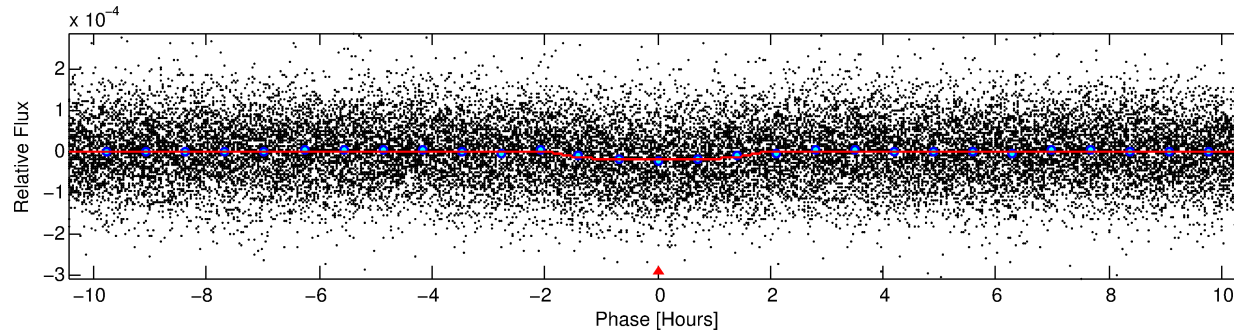
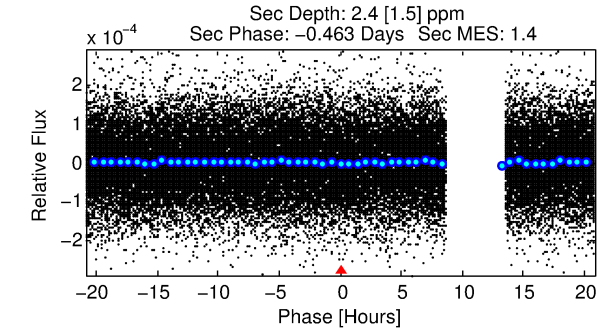
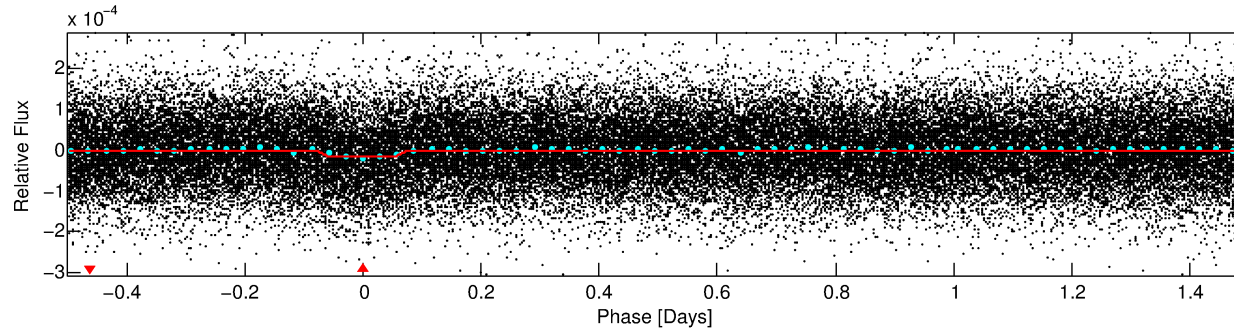
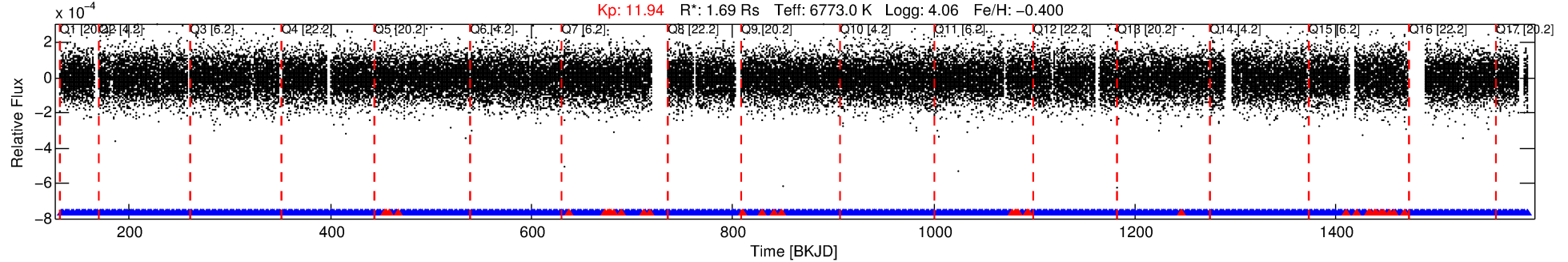
Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 6386784 Candidate: 1 of 1 Period: 1.996 d

KOI: K06700.01 Corr: 0.974

Kp: 11.94 R*: 1.69 Rs Teff: 6773.0 K Logg: 4.06 Fe/H: -0.400



DV Fit Results:

Period = 1.99565 [0.00001] d
Epoch = 132.8757 [0.0036] BKJD
Rp/R* = 0.0047 [0.0011]
a/R* = 1.68 [1.60]
b = 0.95 [0.14]
Seff = 4941.17 [1894.91]
Teq = 2138 [205] K
Rp = 0.86 [0.29] Re
a = 0.0330 [0.0075] AU
Ag = 1.92 [1.64] [0.56σ]
Teffp = 3891 [765] K [2.21σ]

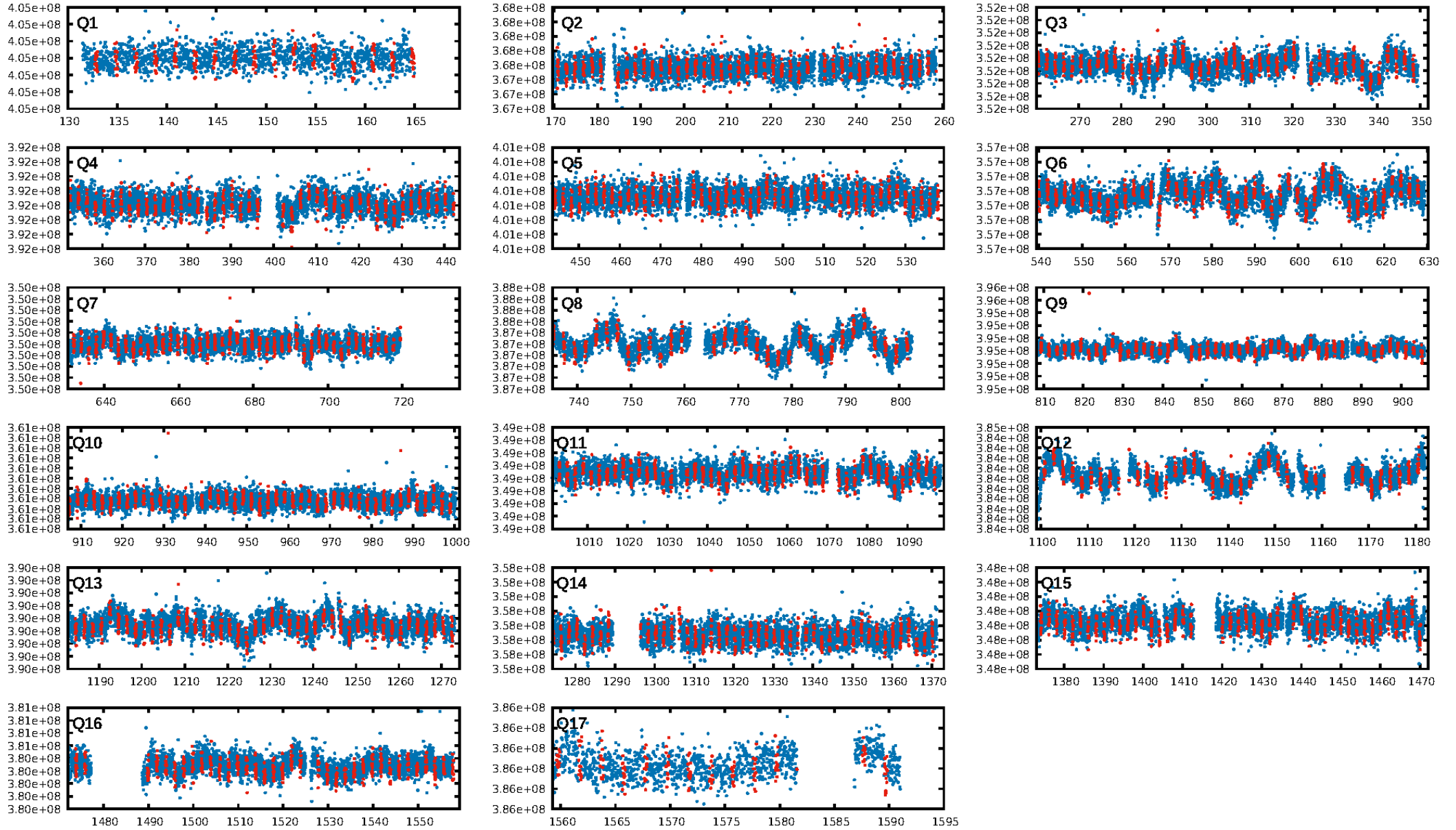
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.42e-24
RollingBand-fgt: 0.95 [607/642]
GhostDiagnostic-chr: -70.4
Centroid-sig: 0.0%
Centroid-so: 3.545 arcsec [4.04σ]
OotOffset-rm: 2.716 arcsec [1.59σ]
KicOffset-rm: 2.865 arcsec [1.81σ]
OotOffset-st: 3/2/3/3 [11]
KicOffset-st: 3/2/3/3 [11]
DiffImageQuality-fgm: 0.64 [7/11]
DiffImageOverlap-fno: 1.00 [17/17]

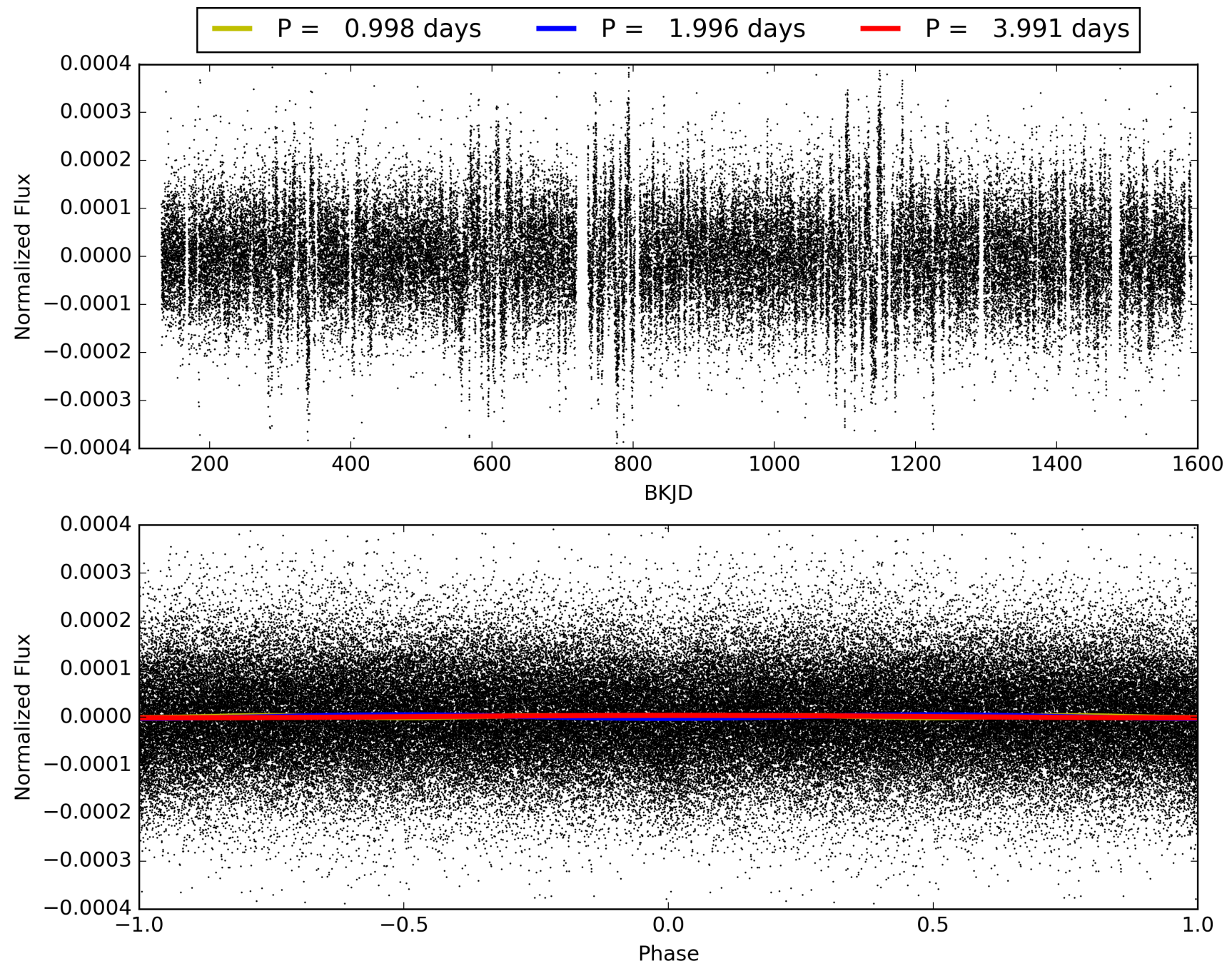
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 21:32:34 Z

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

TCE 006386784-01, PDC Light Curves

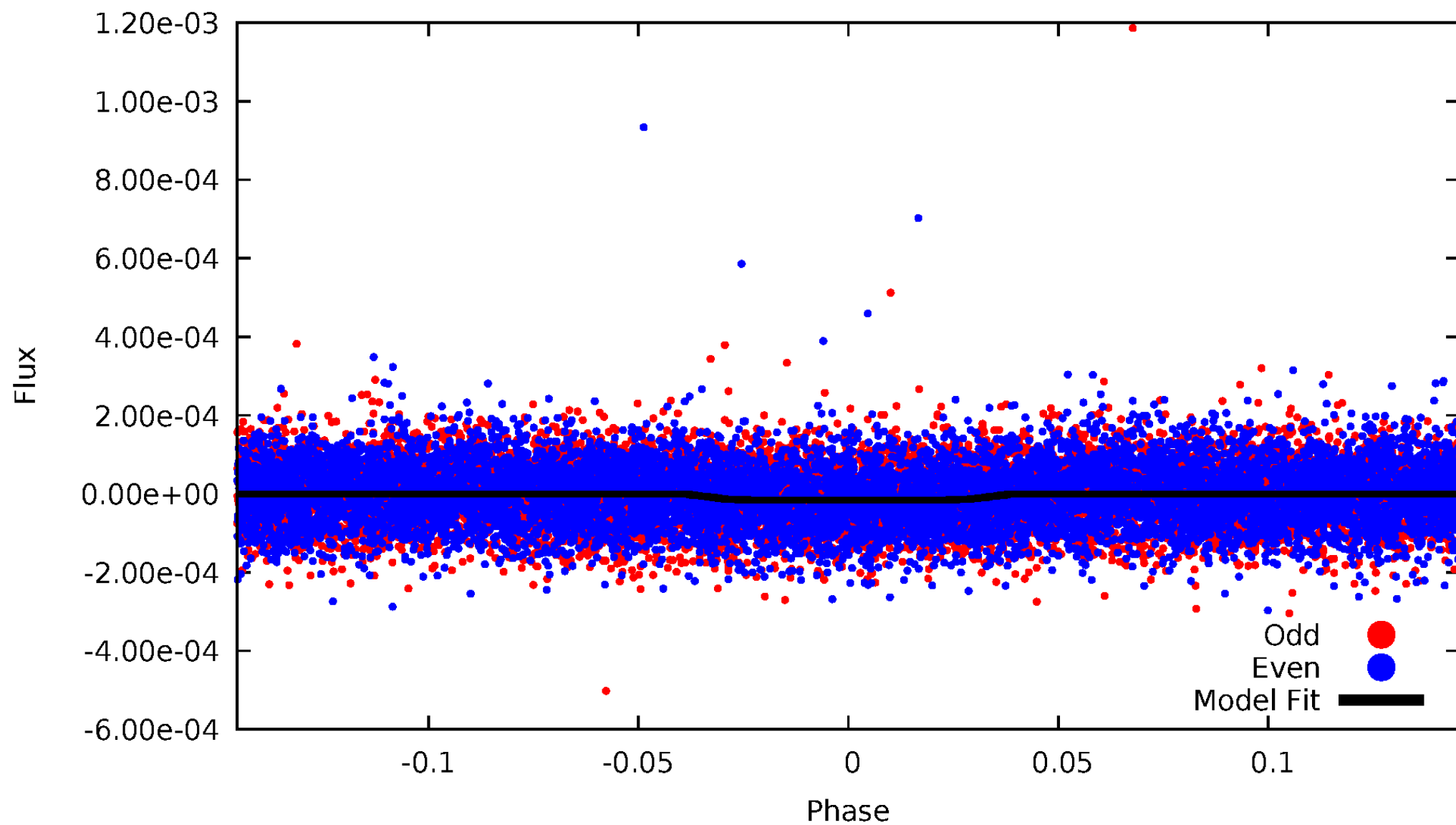


TCE 006386784-01



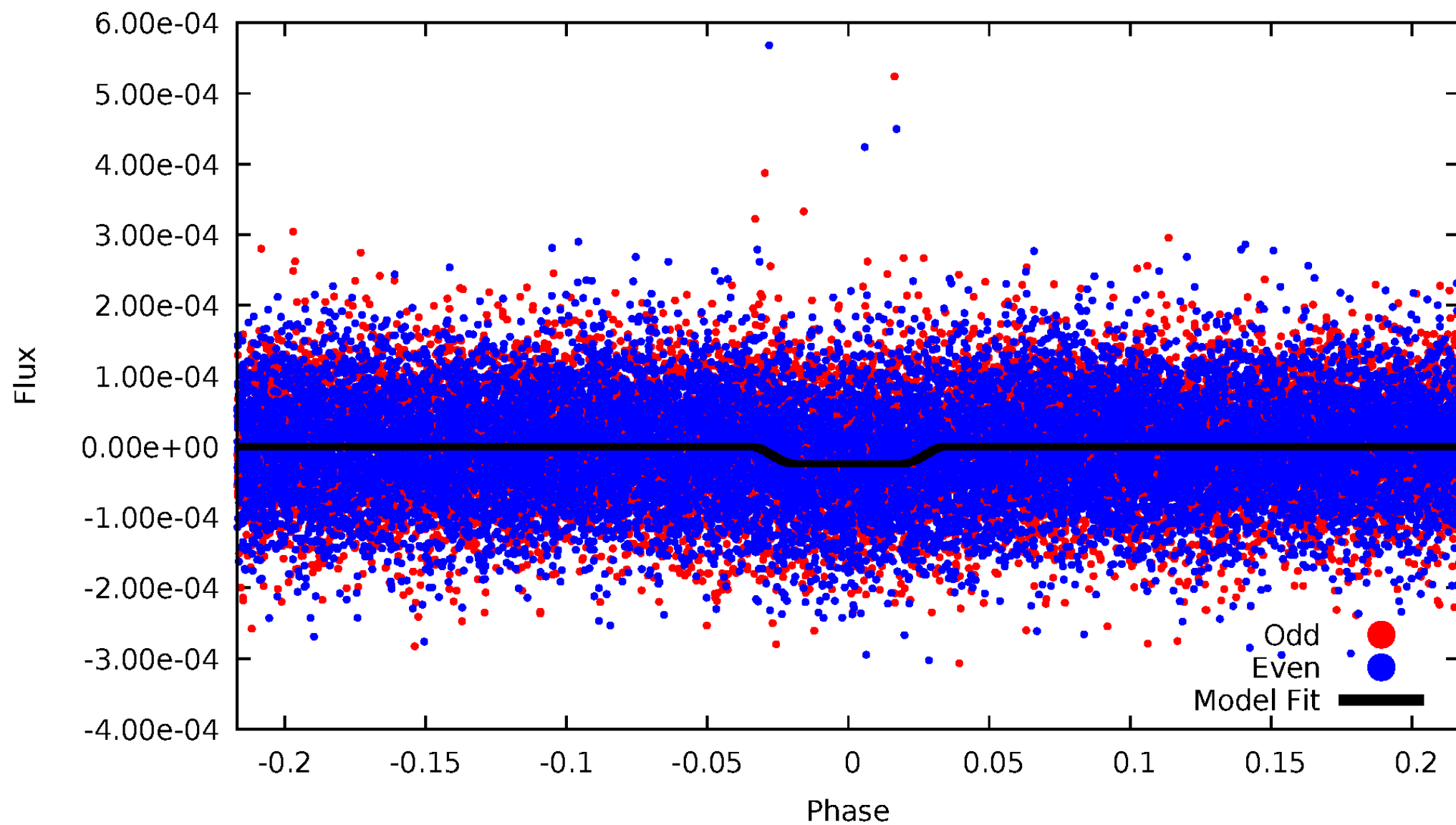
DV Odd/Even

TCE 006386784-01



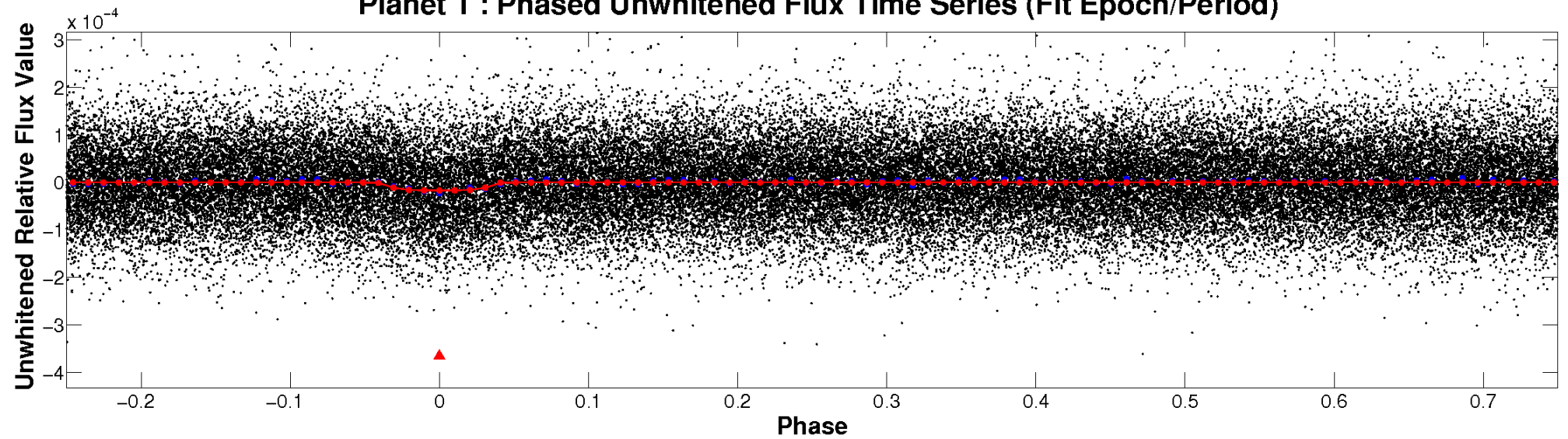
ALT Odd/Even

TCE 006386784-01

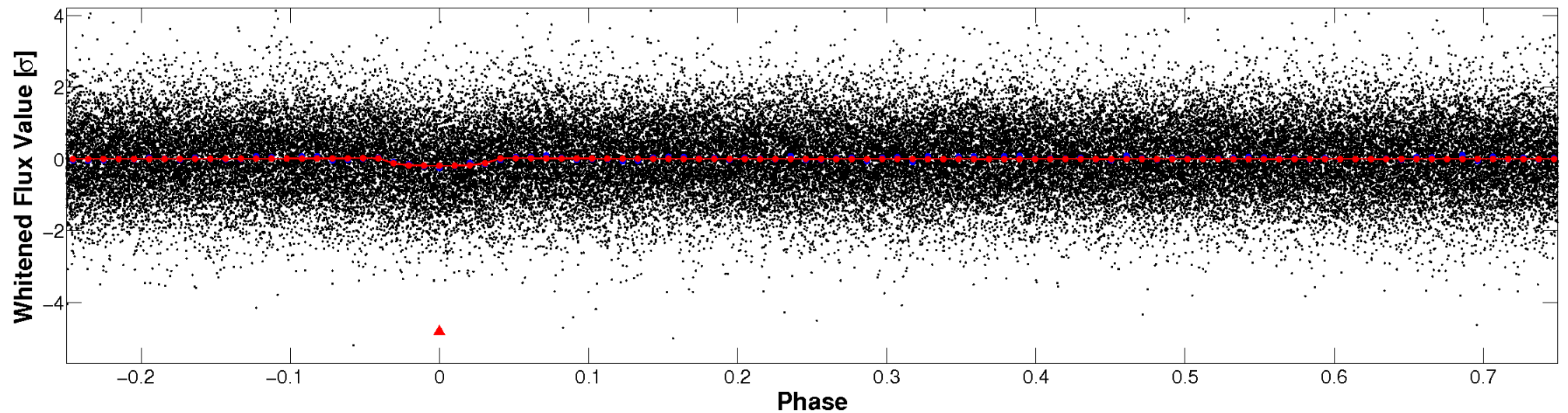


Non-Whitened Vs. Whitened Light Curve

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

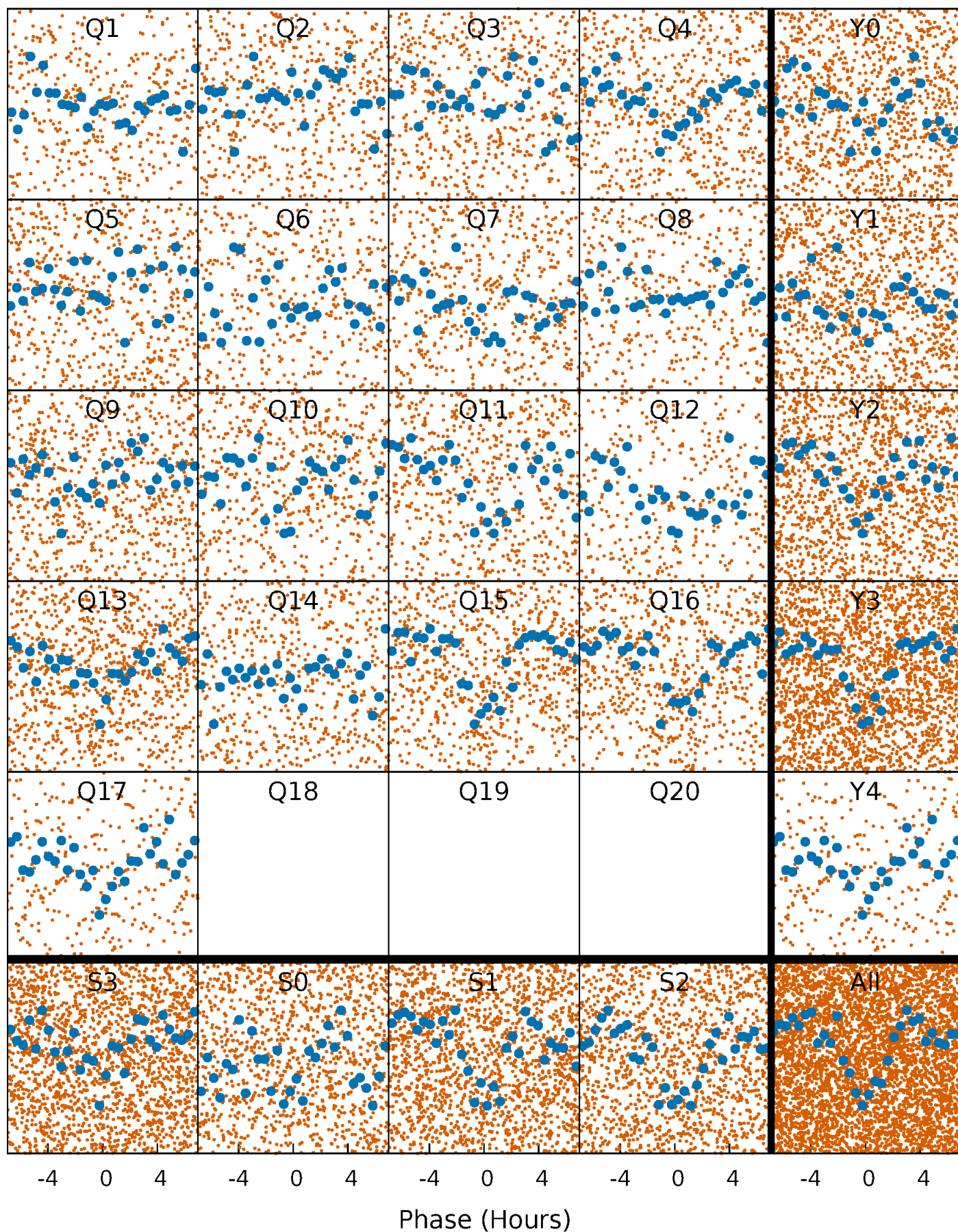


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



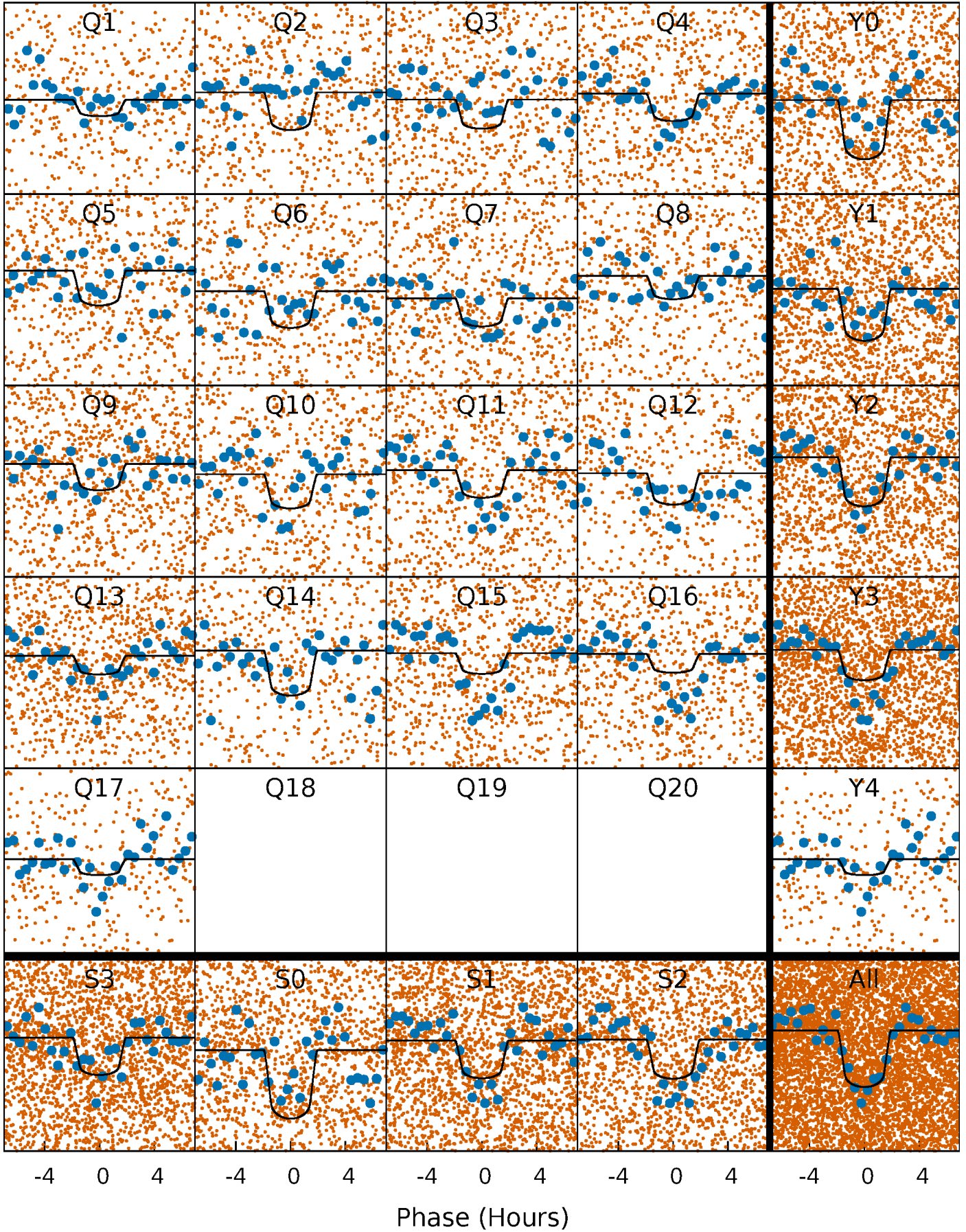
PDC Quarter-Phased Transit Curves

TCE 006386784-01 P= 1.995654 Days $T_0=132.875749$ (BKJD)



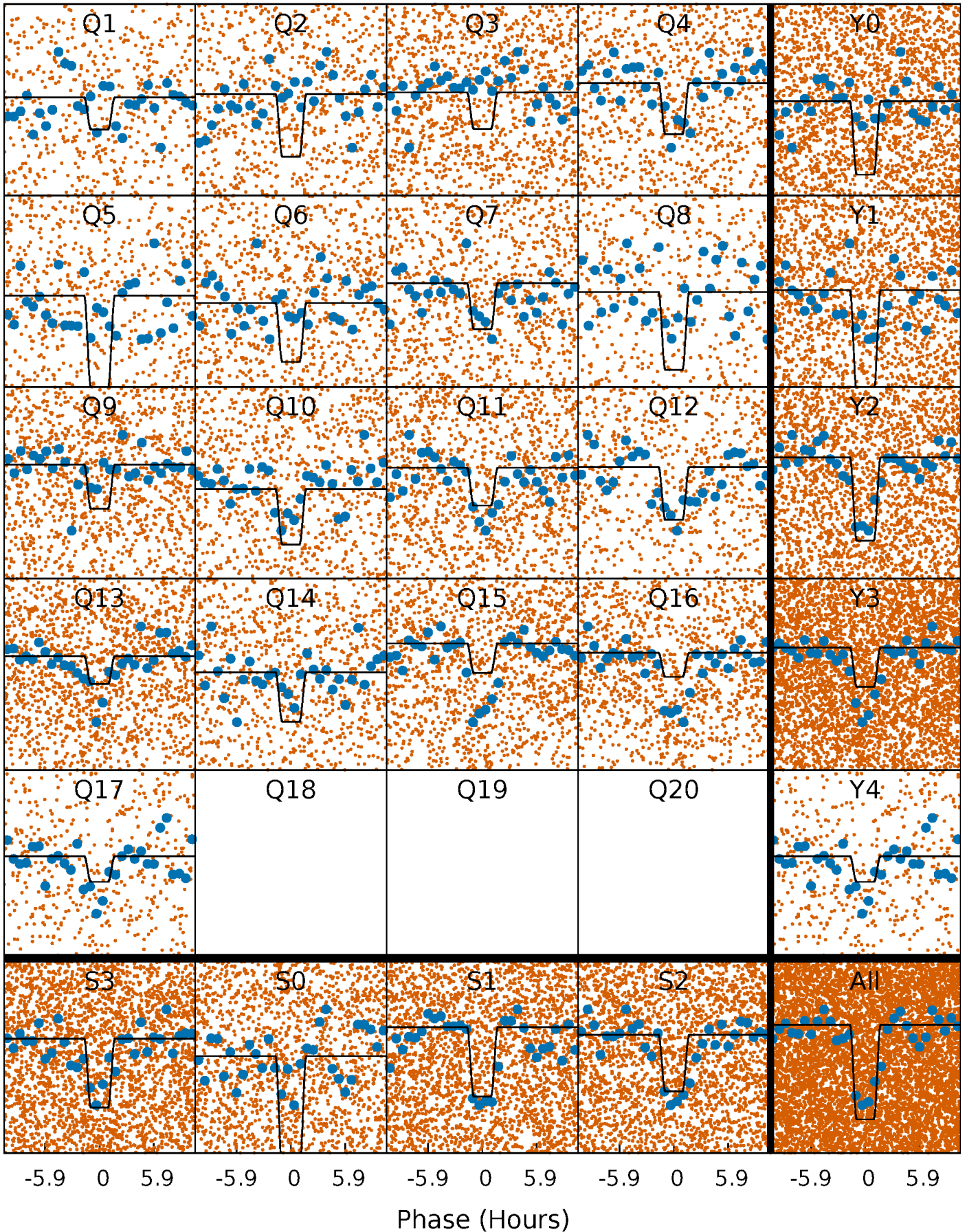
DV Quarter-Phased Transit Curves

TCE 006386784-01 P= 1.995654 Days $T_0=132.875749$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

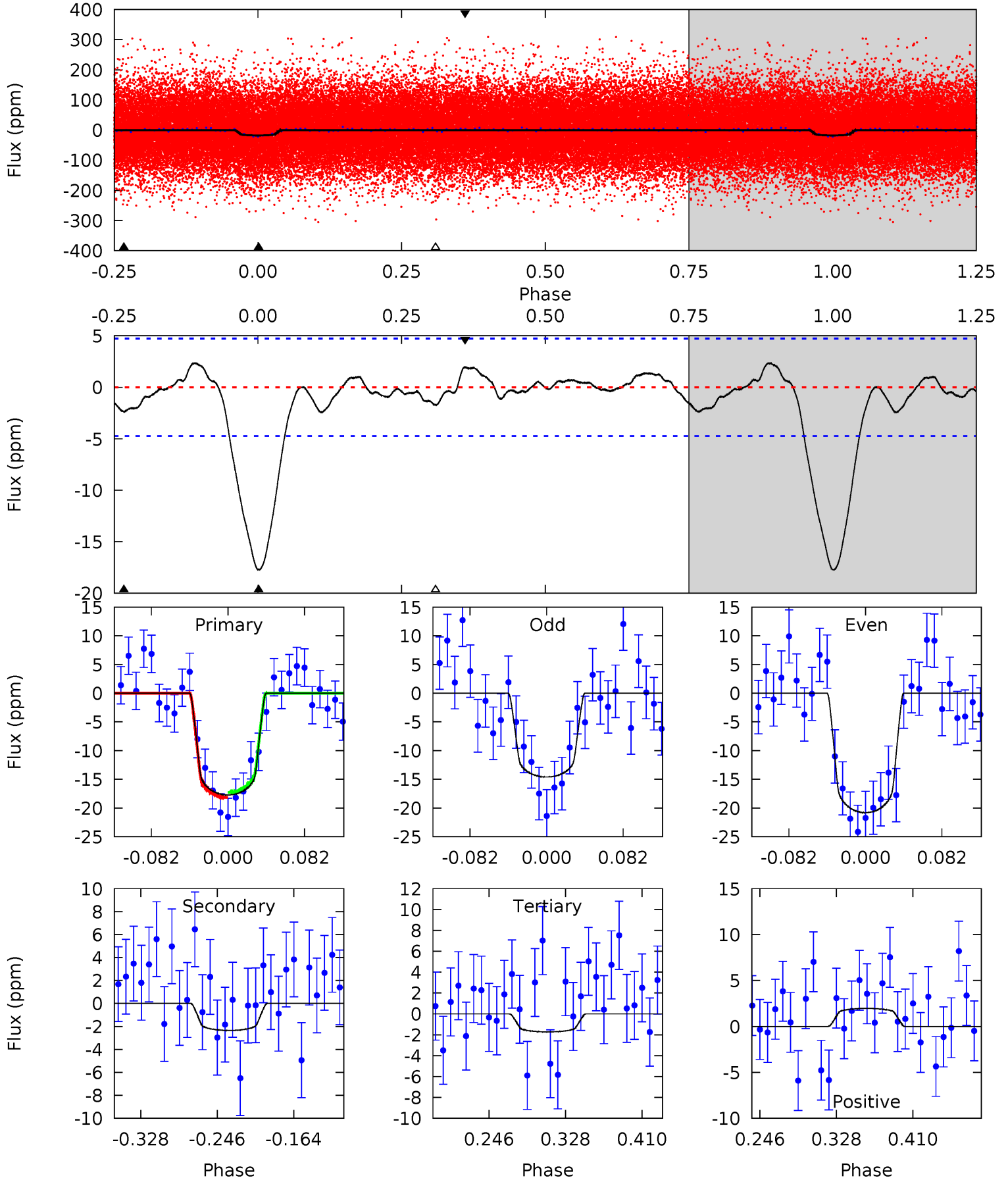
TCE 006386784-01 P= 1.995710 Days $T_0=132.847859$ (BKJD)



DV Model-Shift Uniqueness Test

006386784-01, P = 1.995654 Days, E = 130.880095 Days

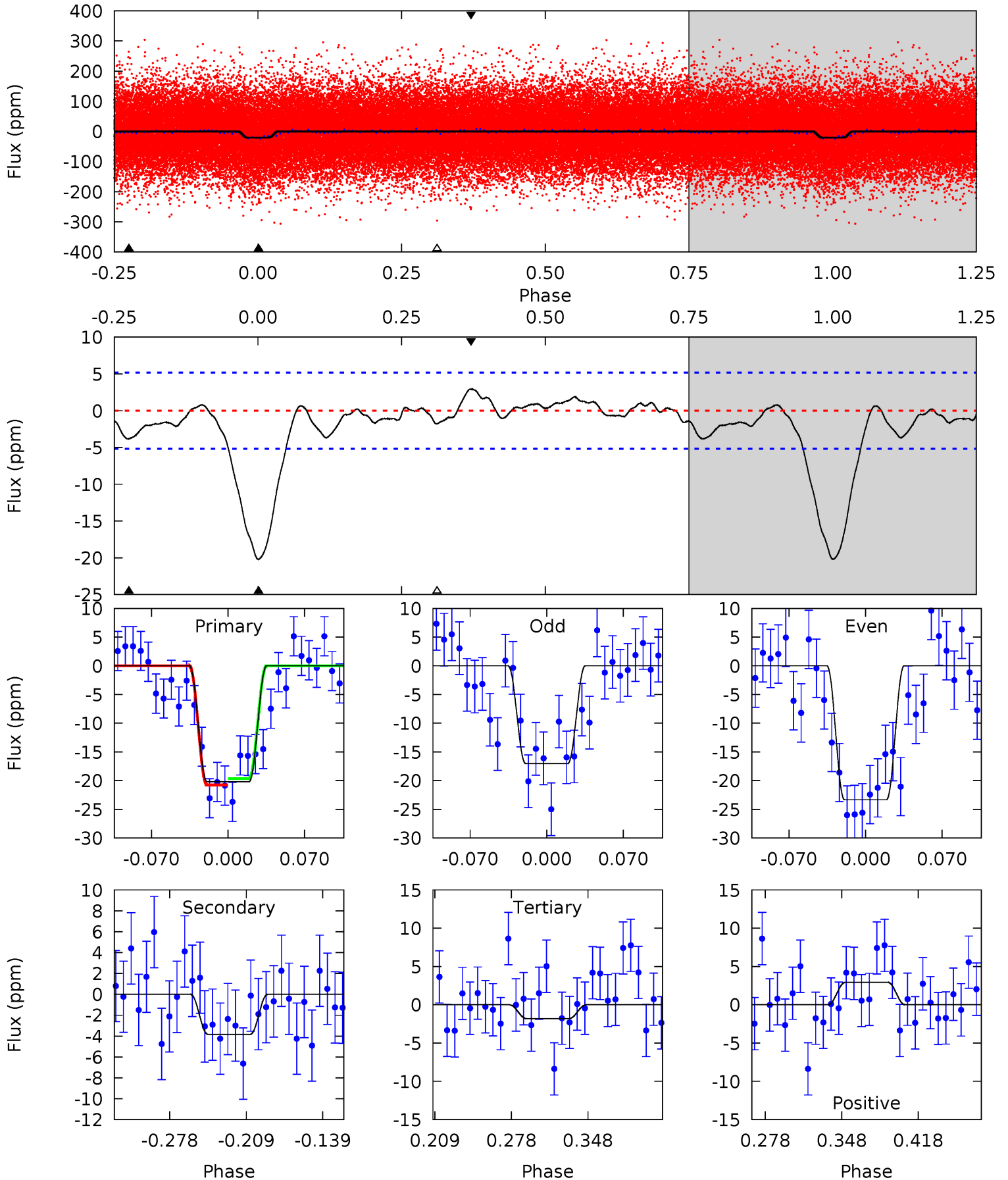
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	2.29	1.68	1.91	4.61	1.74	0.96	15.6	15.4	0.61	0.38	3.03	1.05	0.12	0.42



Alt Model-Shift Uniqueness Test

006386784-01, P = 1.995710 Days, E = 130.852149 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.1	3.44	1.62	2.64	4.64	1.81	1.11	16.5	15.5	1.82	0.80	2.82	1.06	0.13	0.50



Stellar Parameters For KIC 006386784

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6773^{+183}_{-224}	$4.063^{+0.210}_{-0.123}$	$-0.400^{+0.300}_{-0.300}$	$1.690^{+0.365}_{-0.406}$	$1.207^{+0.189}_{-0.170}$	$0.352^{+0.450}_{-0.124}$
	+3%/-3%	+5%/-3%	+75%/-75%	+22%/-24%	+16%/-14%	+128%/-35%
Source	PHO1	FLK73	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 006386784-01 / KOI 6700.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2 ± 1	$0.84^{+0.26}_{-0.21}$	2961^{+190}_{-218}	3980^{+599}_{-596}	$1.949^{+1.945}_{-1.077}$
Alt.	-4 ± 1	$0.88^{+0.24}_{-0.21}$	2949^{+186}_{-200}	4348^{+587}_{-449}	$2.957^{+2.540}_{-1.303}$

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 $A_{obs} \gg 1.0$

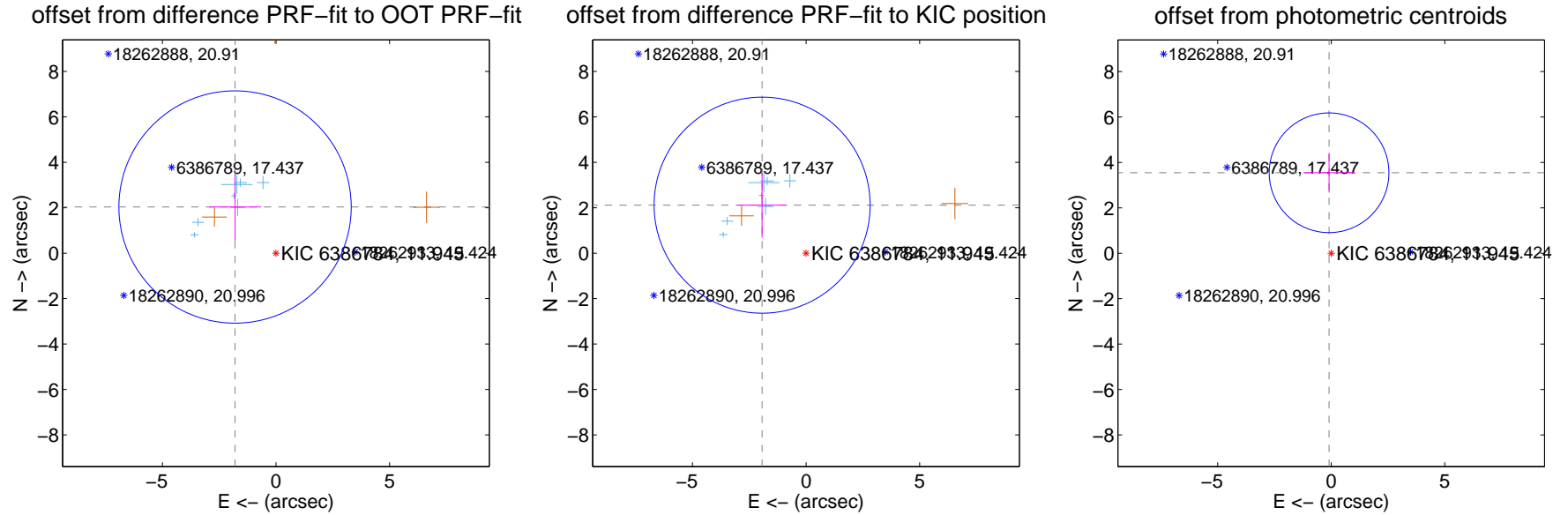
DV Centroid Data

Supplemental centroid analysis for 006386784-01. **Kepler magnitude: 11.95**. Transit SNR 11.10

There are 7 quarters with good PRF difference image offsets

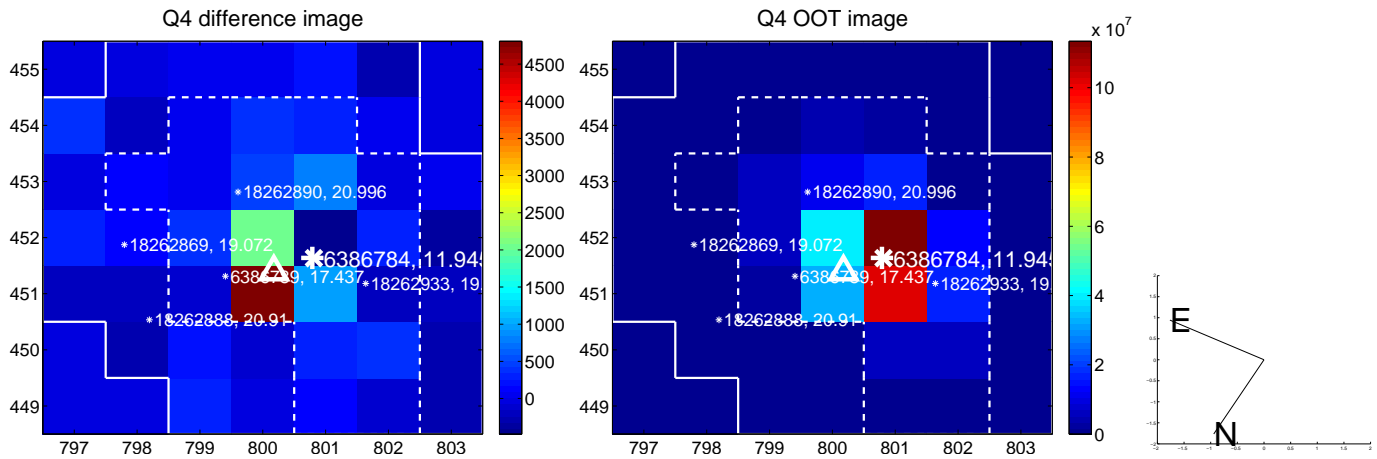
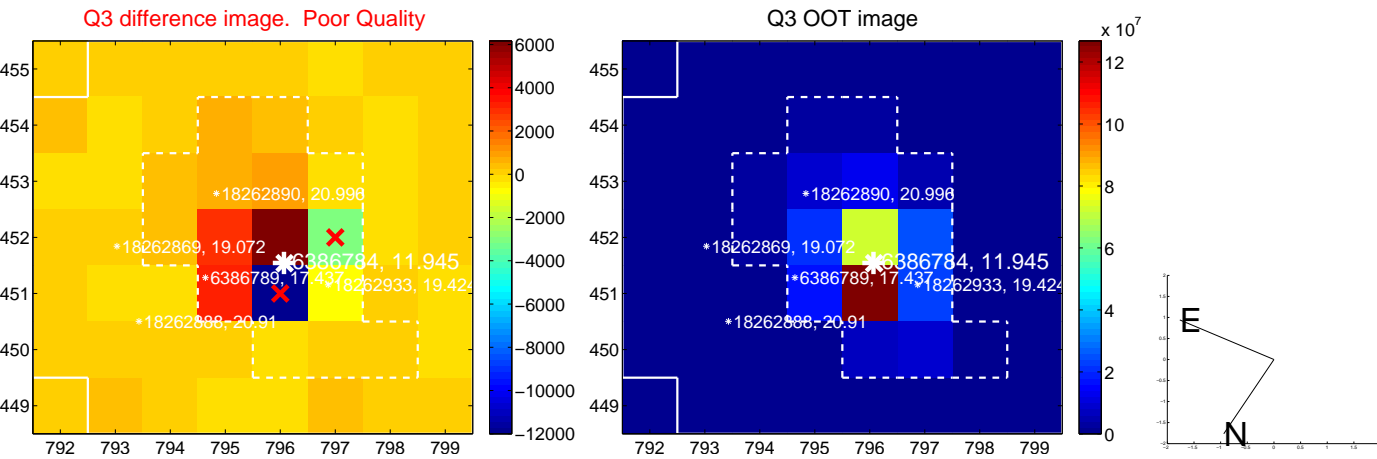
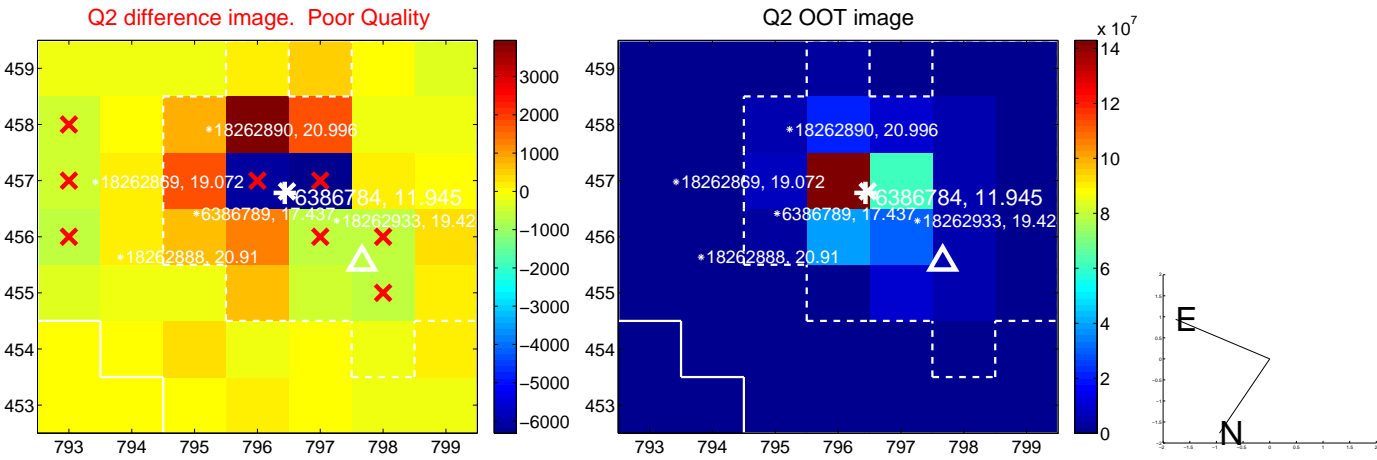
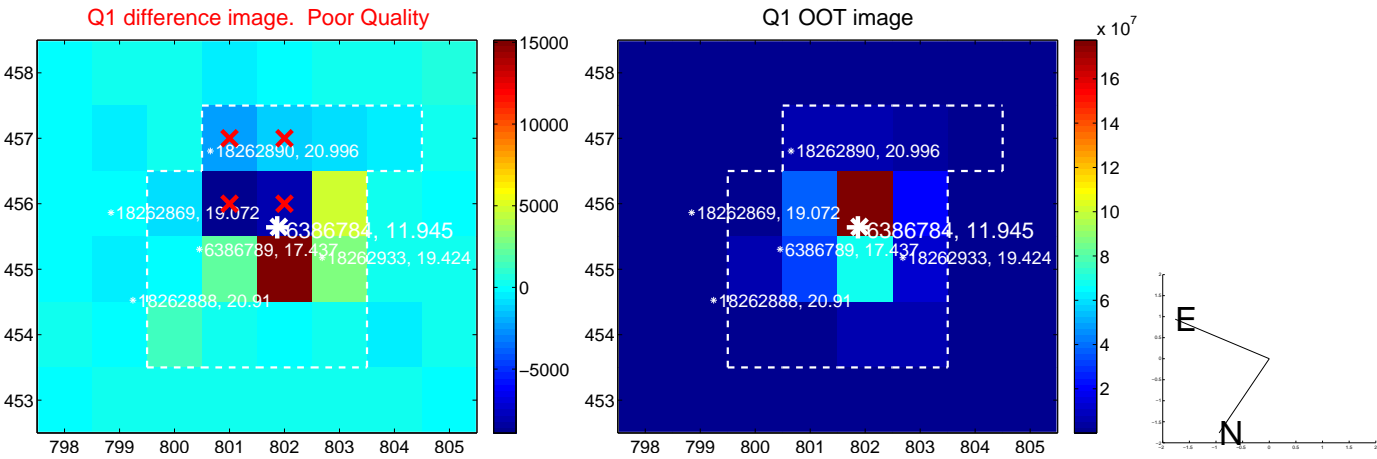
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.716 ± 1.704	1.59	1.801 ± 1.151	2.033 ± 1.492
PRF-fit source offset from KIC position	2.865 ± 1.585	1.81	1.934 ± 1.087	2.113 ± 1.433
photometric centroid source offset	3.54 ± 0.88	4.04	0.10 ± 1.13	3.54 ± 0.88

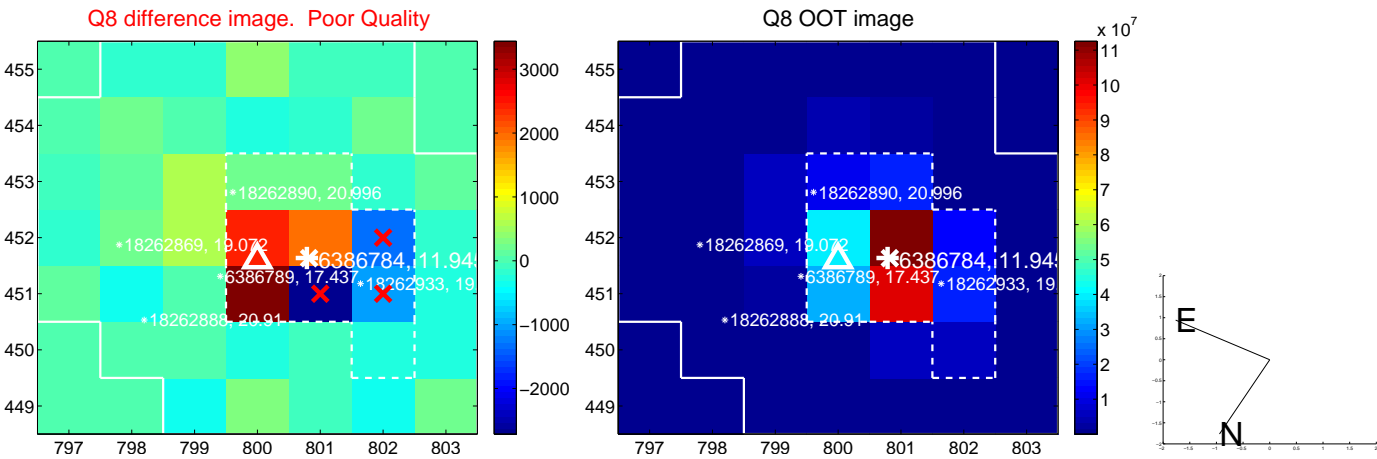
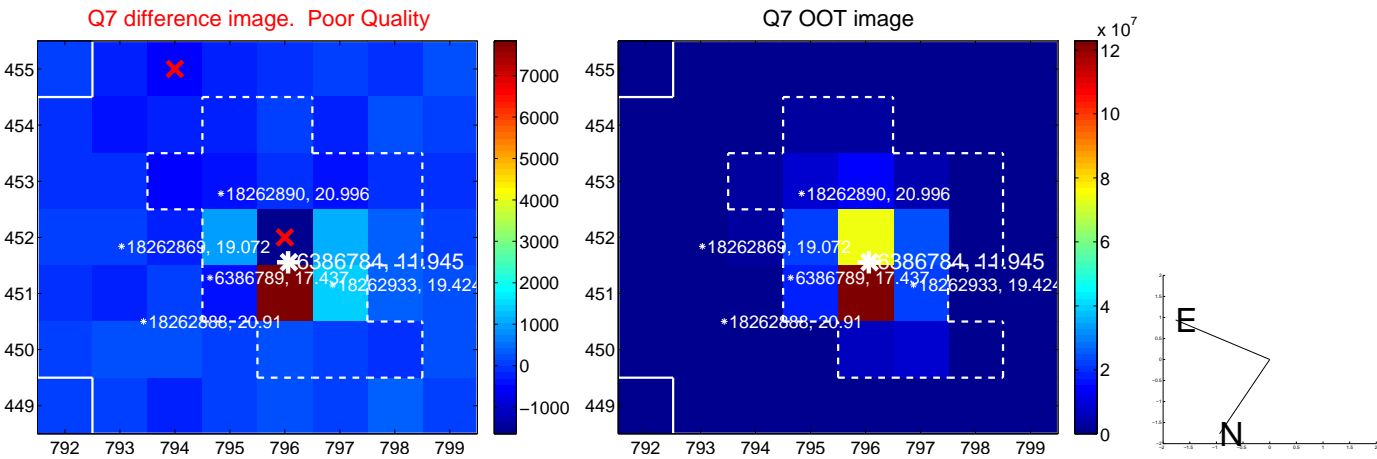
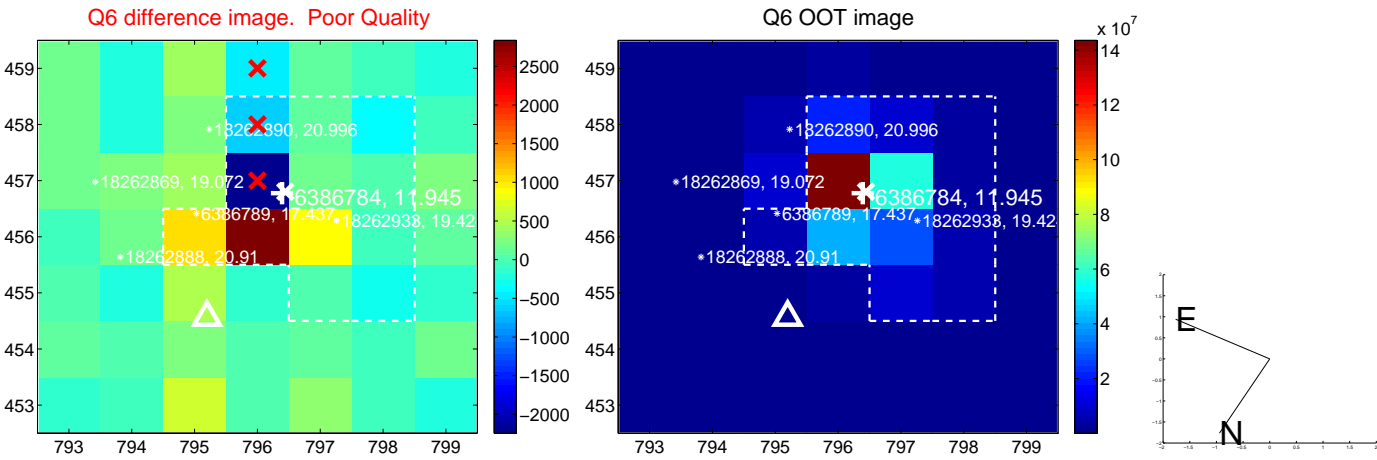
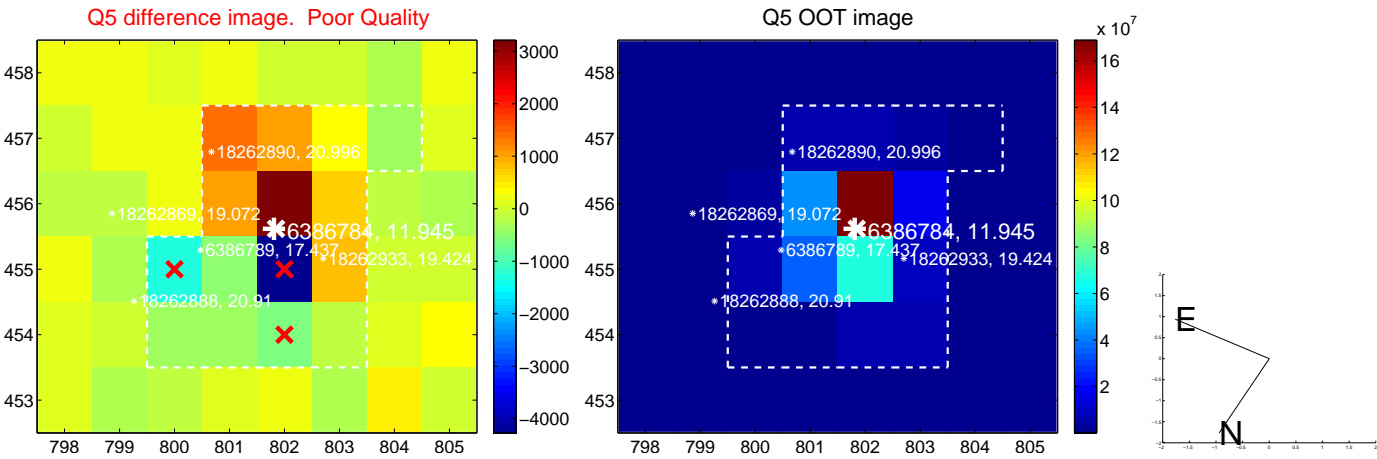


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

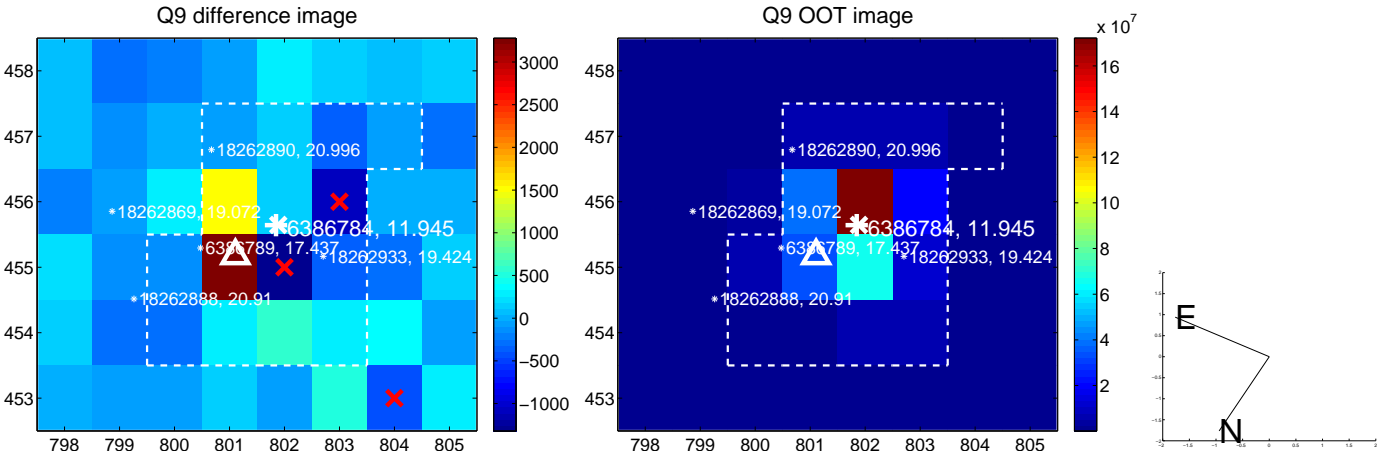
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



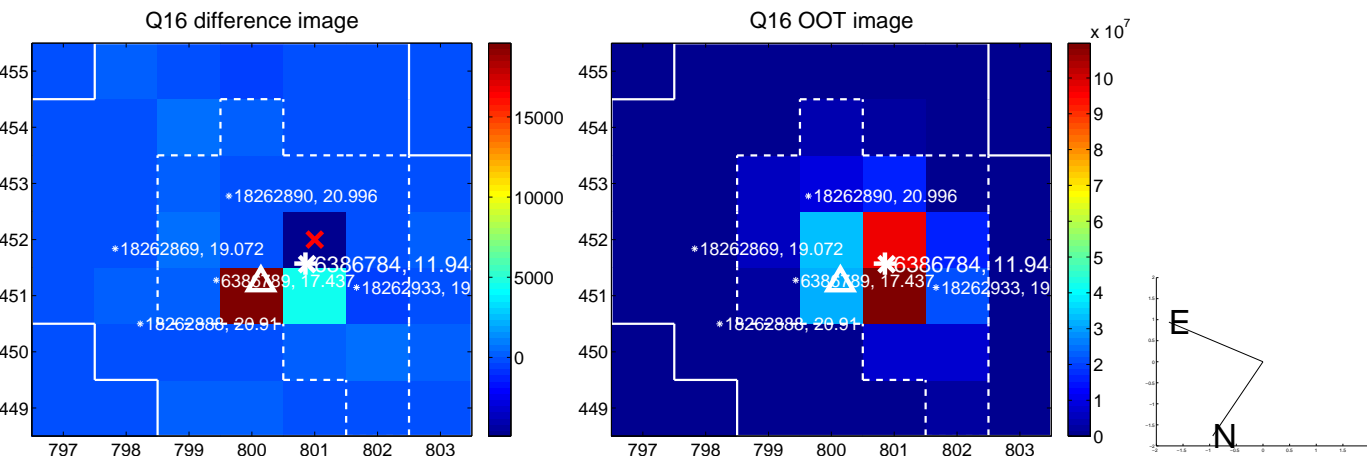
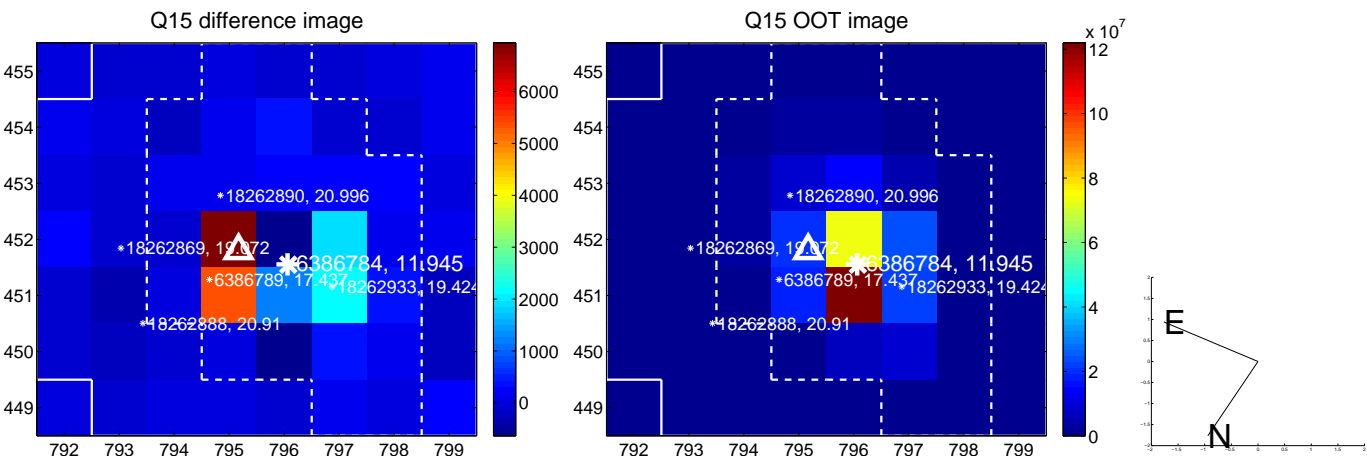
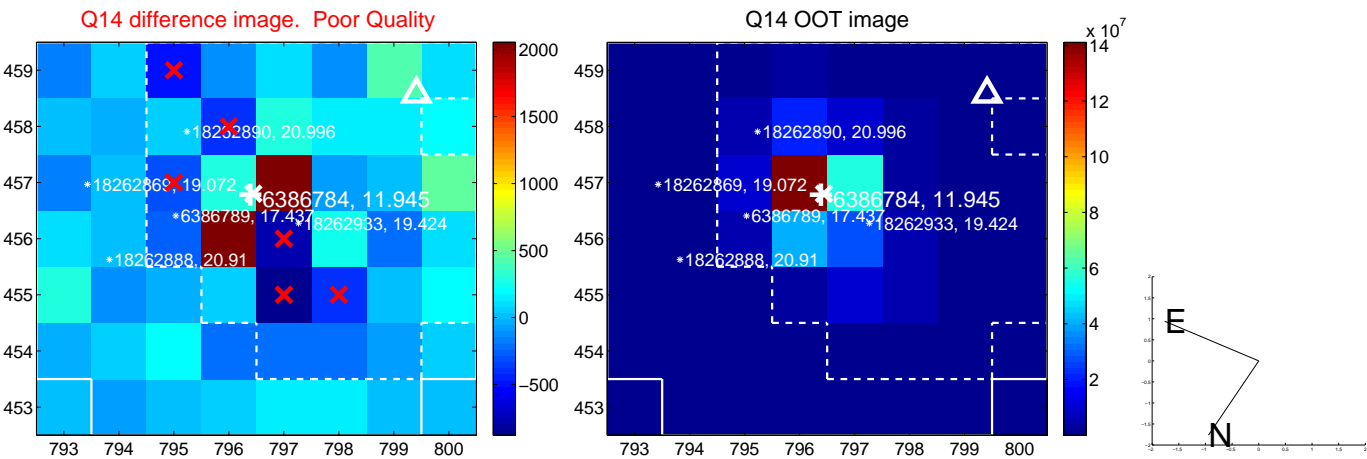
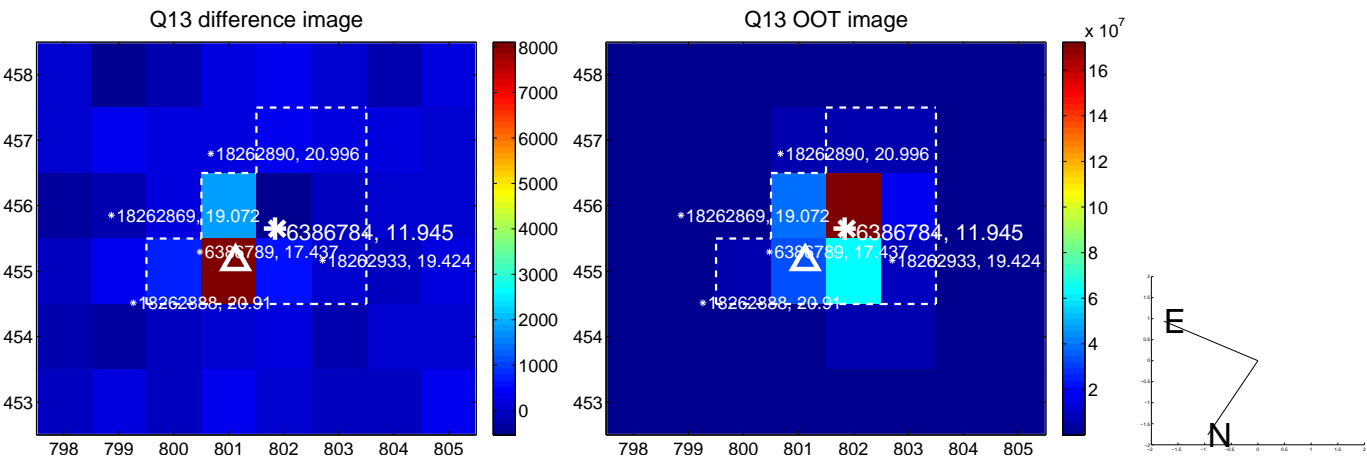
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



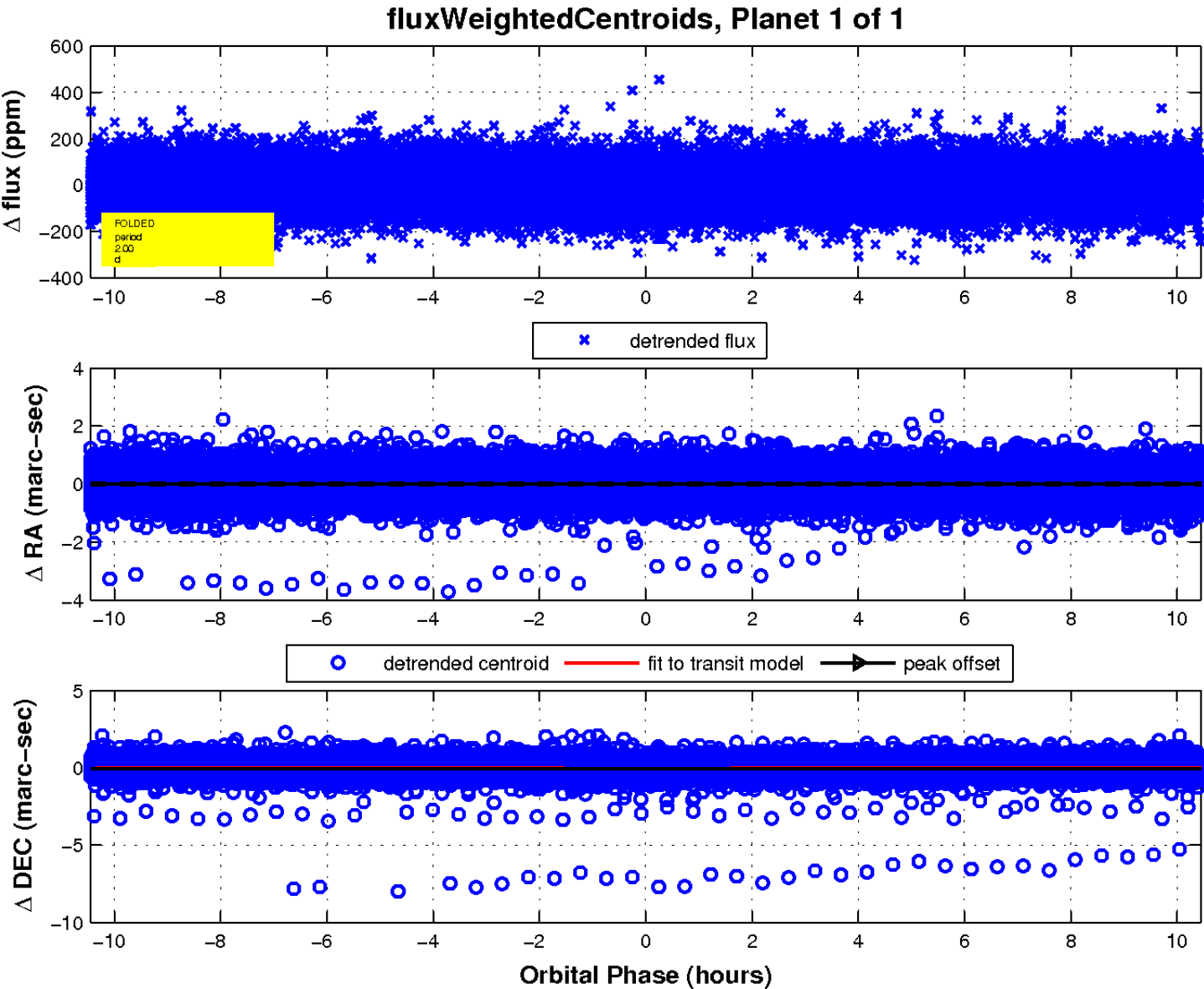
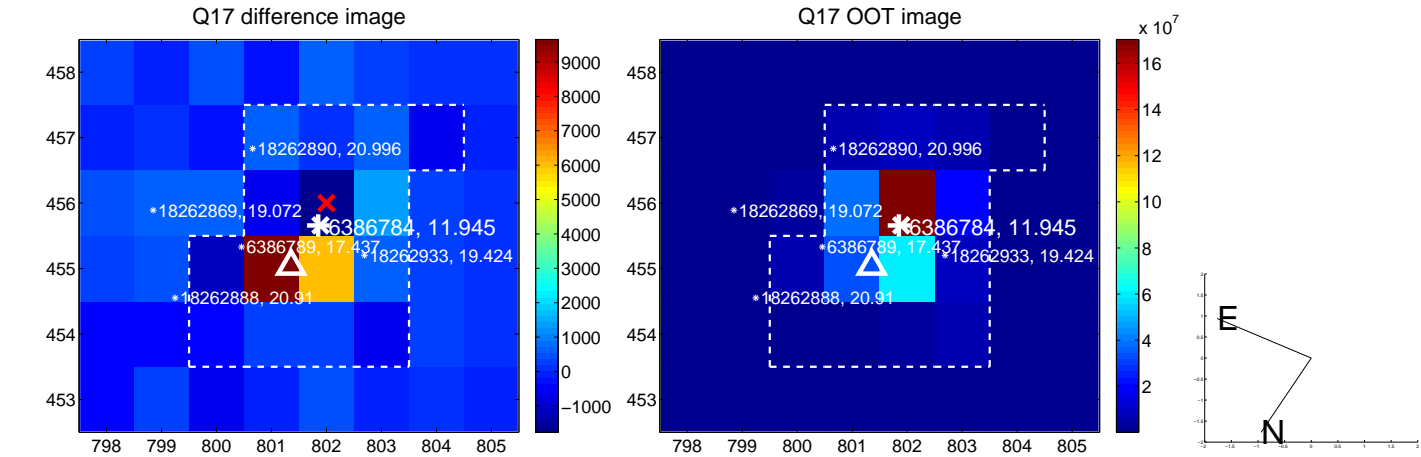
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

