

KIC 008890996

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
008890996-01	OBS	7107.01	1.506453	133.016204	17.5	3.204	9.5	8.6	2.02	6839	0.99	9229.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008890996-01	OBS	FP	0.00	0	1	0	1	MOD_SEC_ALT—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.

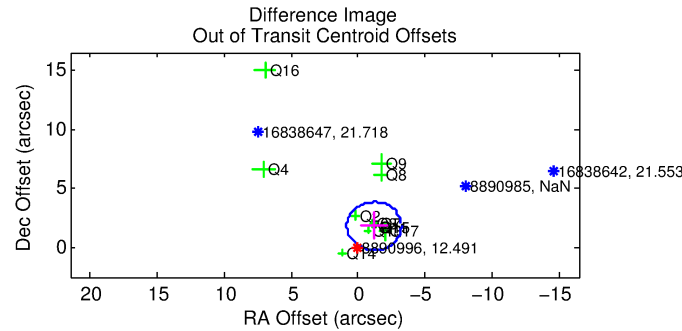
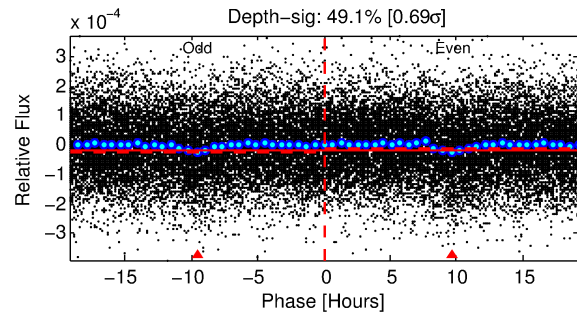
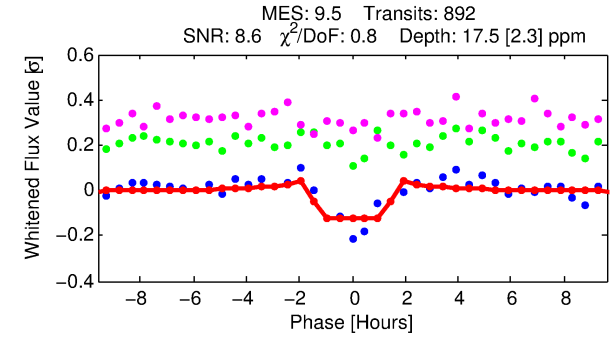
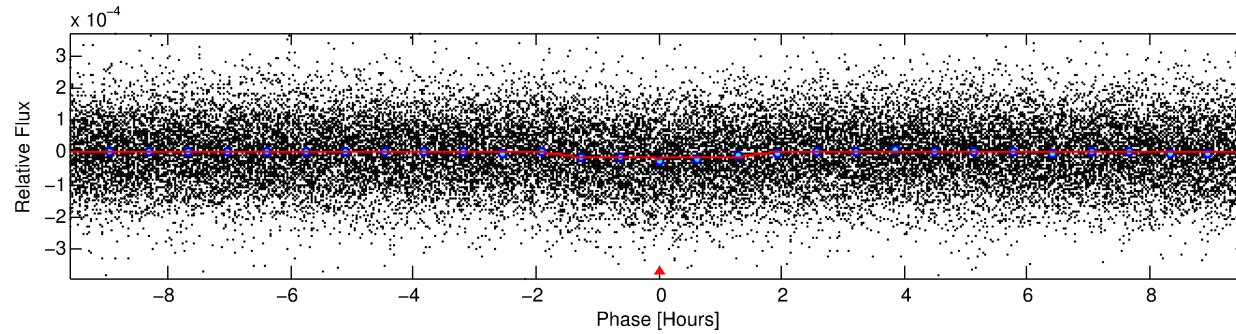
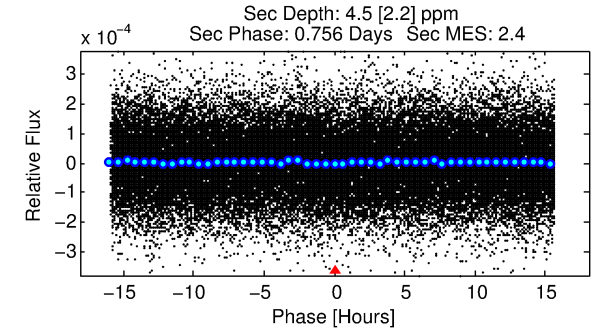
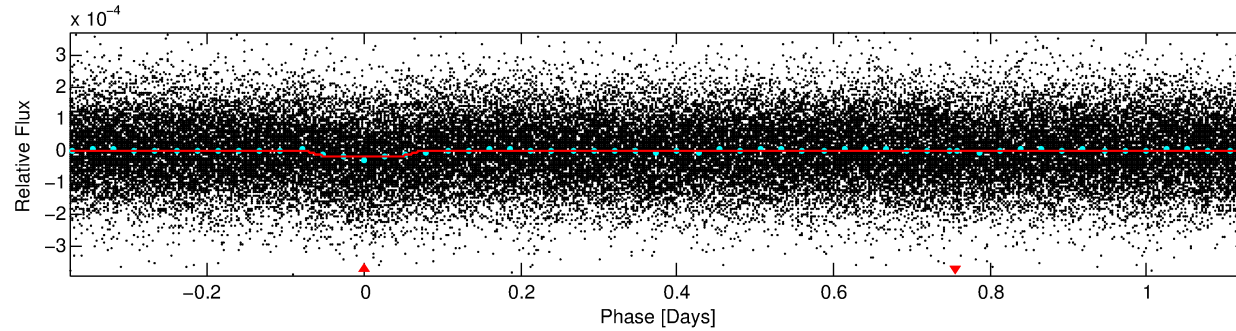
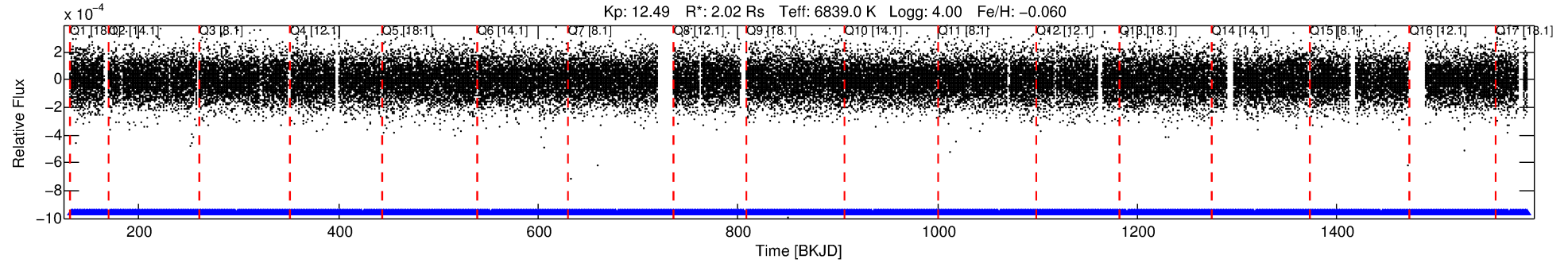
Ephemeris Match Information For 008890996-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
008890996-01	8890996	7096.01	8823397	1:1	627.1	158	0	13.25	12.49	28365.00	Col-Anomaly	0	2.67	1.56

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol 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 σ_P < 5.0 and σ_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: 8890996 Candidate: 1 of 1 Period: 1.506 d
KOI: K07107.01 Corr: 0.877



DV Fit Results:

Period = 1.50645 [0.00001] d
Epoch = 133.0162 [0.0036] BKJD
Rp/R* = 0.0045 [0.0010]
a/R* = 1.83 [1.66]
b = 0.90 [0.26]
Seff = 9229.08 [3547.31]
Teq = 2499 [240] K
Rp = 0.99 [0.34] Re
a = 0.0294 [0.0070] AU
Ag = 2.19 [1.64] [0.73σ]
Teffp = 4702 [786] K [2.68σ]

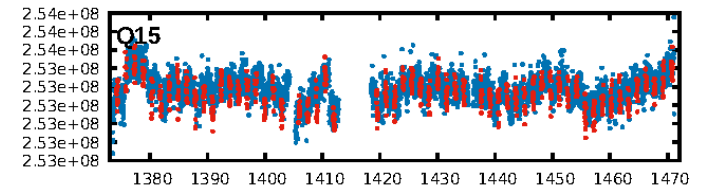
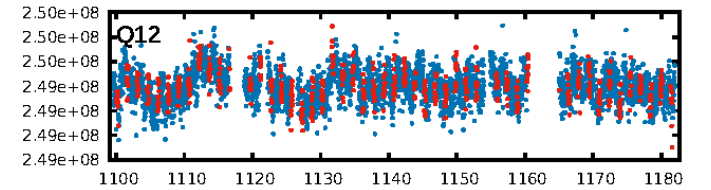
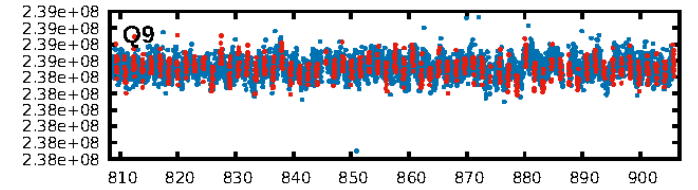
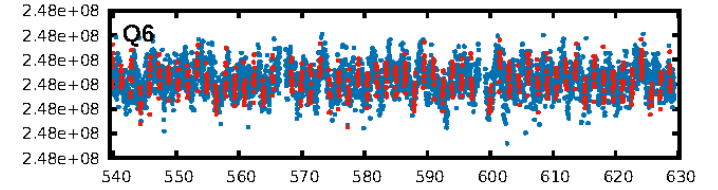
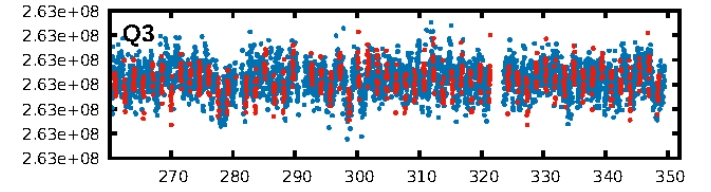
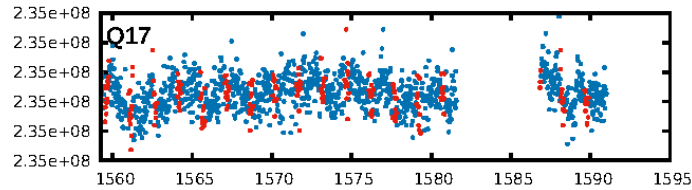
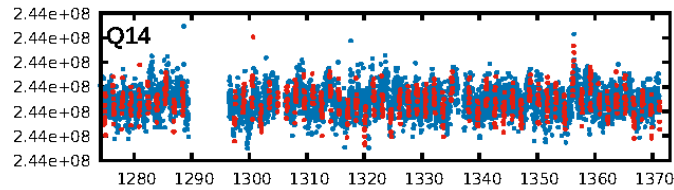
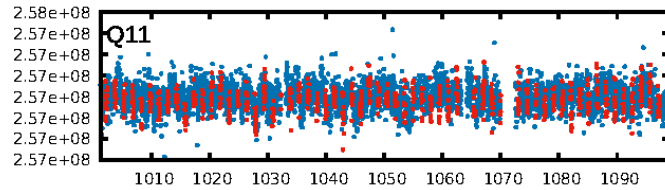
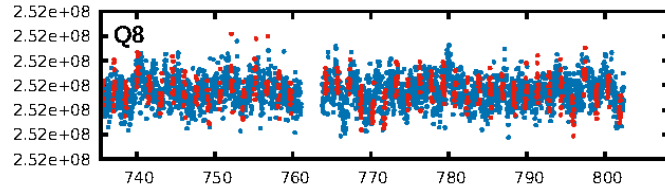
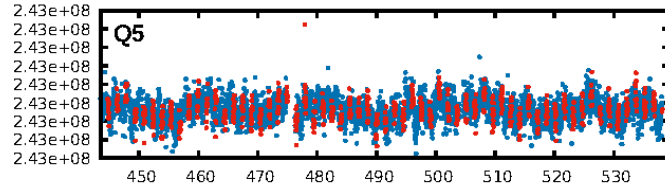
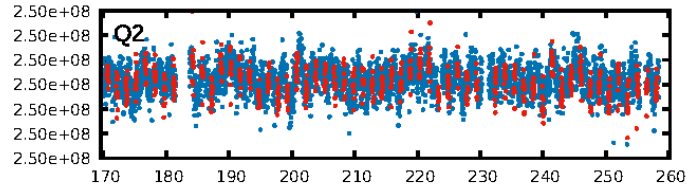
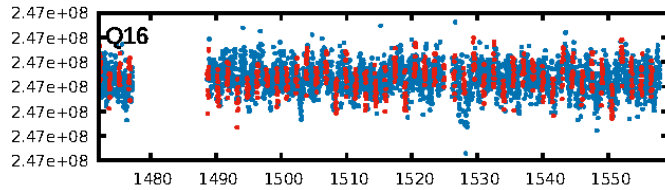
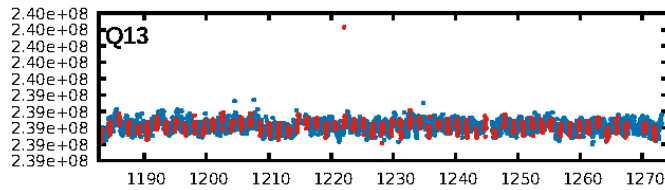
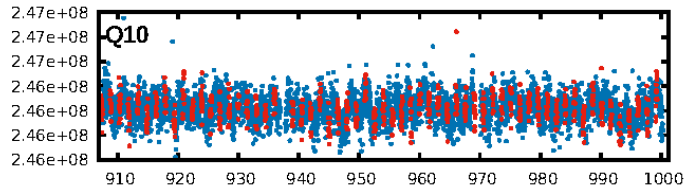
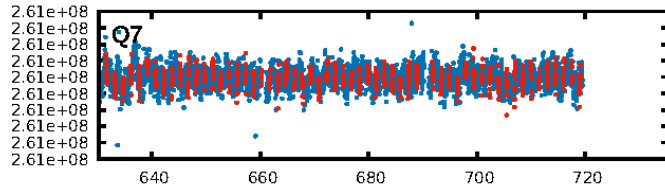
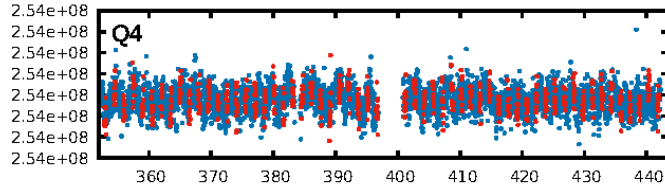
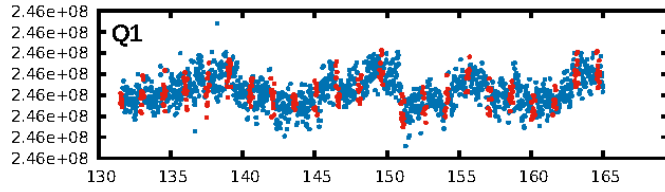
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.48e-19
RollingBand-fgt: 1.00 [852/852]
GhostDiagnostic-chr: 19.14
Centroid-sig: 0.0%
Centroid-so: 2.733 arcsec [2.99σ]
OotOffset-rm: 2.159 arcsec [3.18σ]
KicOffset-rm: 2.195 arcsec [2.71σ]
OotOffset-st: 2/4/3/3 [12]
KicOffset-st: 2/4/3/3 [12]
DiffImageQuality-fgm: 0.67 [8/12]
DiffImageOverlap-fno: 1.00 [17/17]

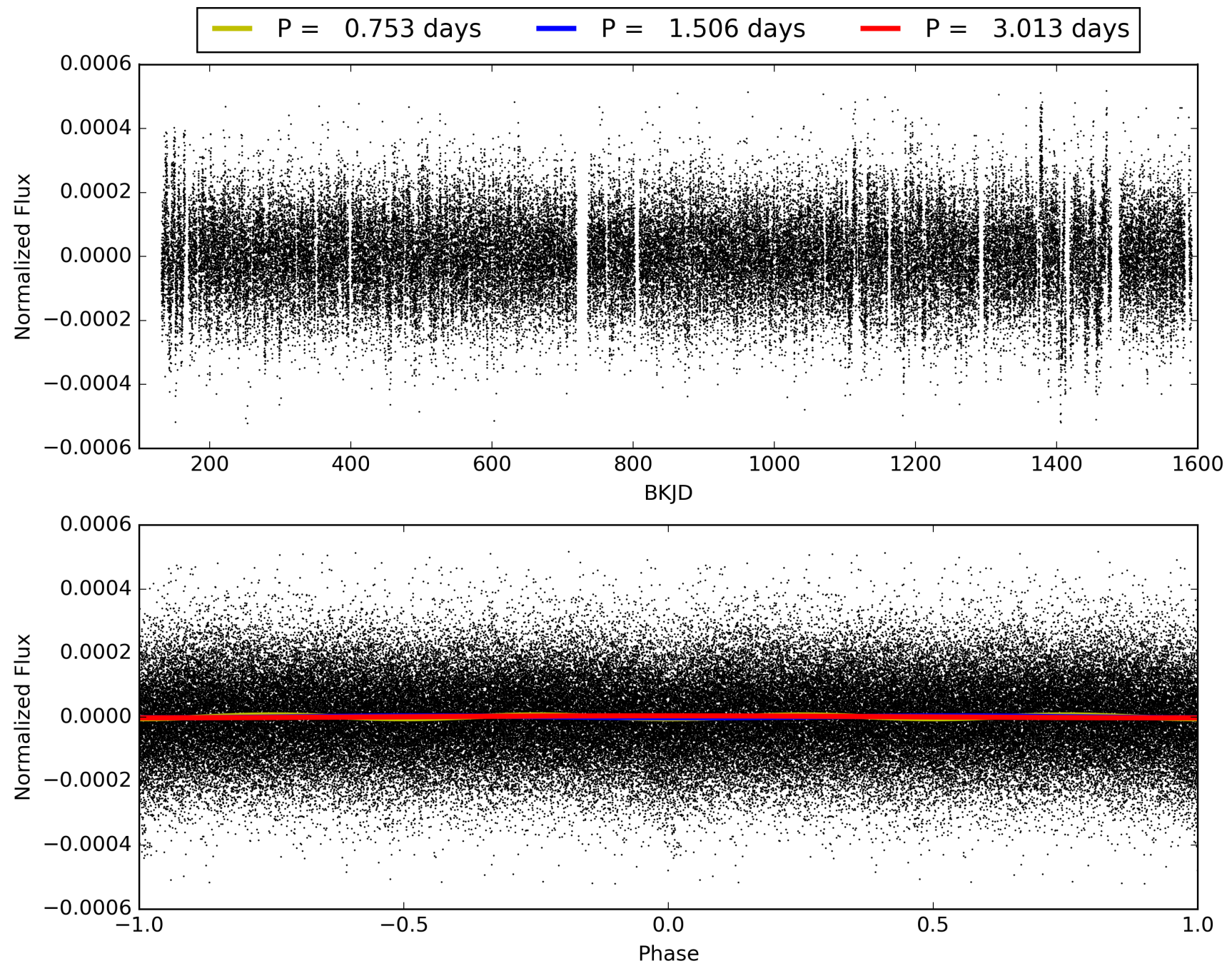
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:37:51 Z

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

TCE 008890996-01, PDC Light Curves

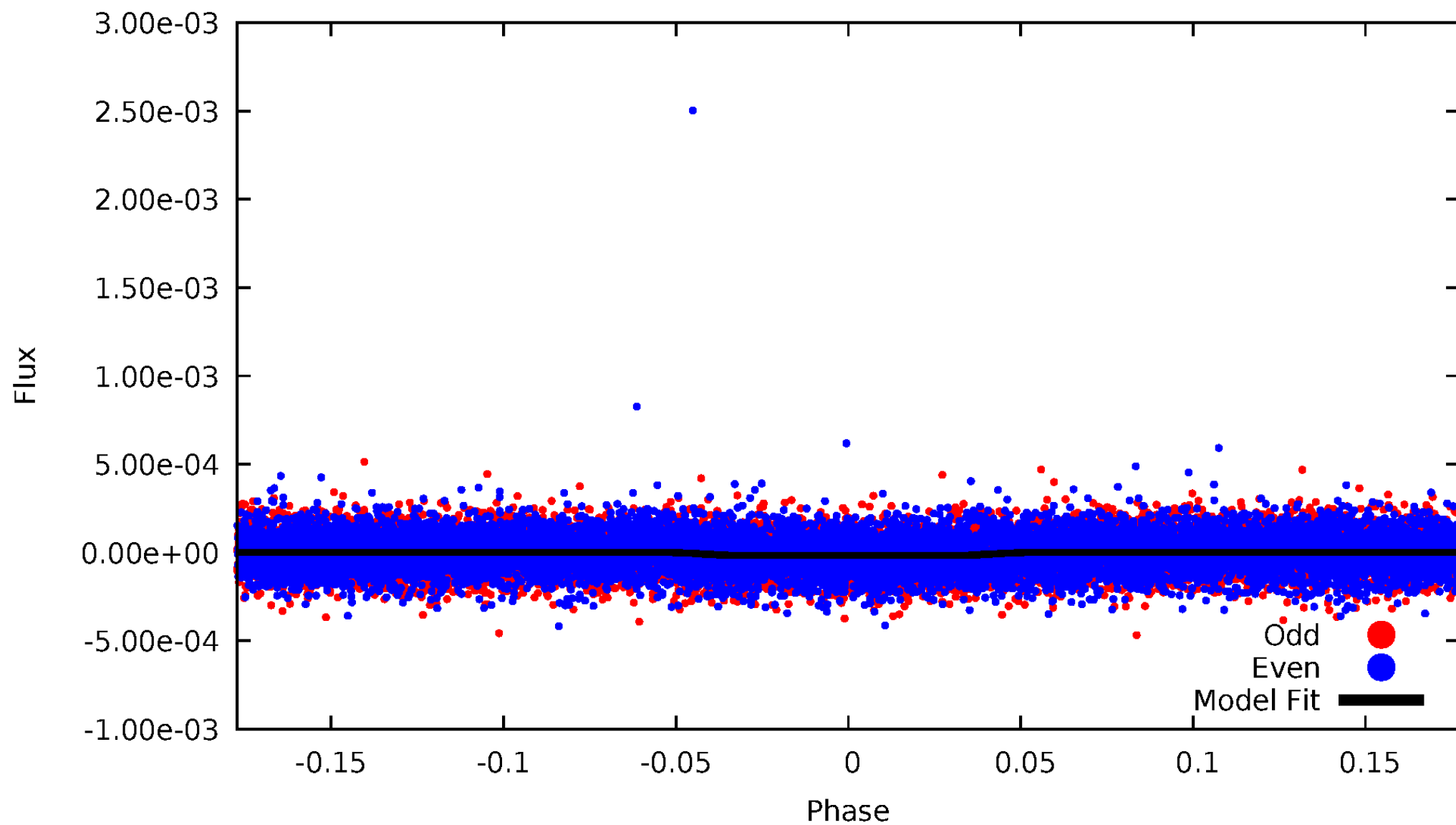


TCE 008890996-01



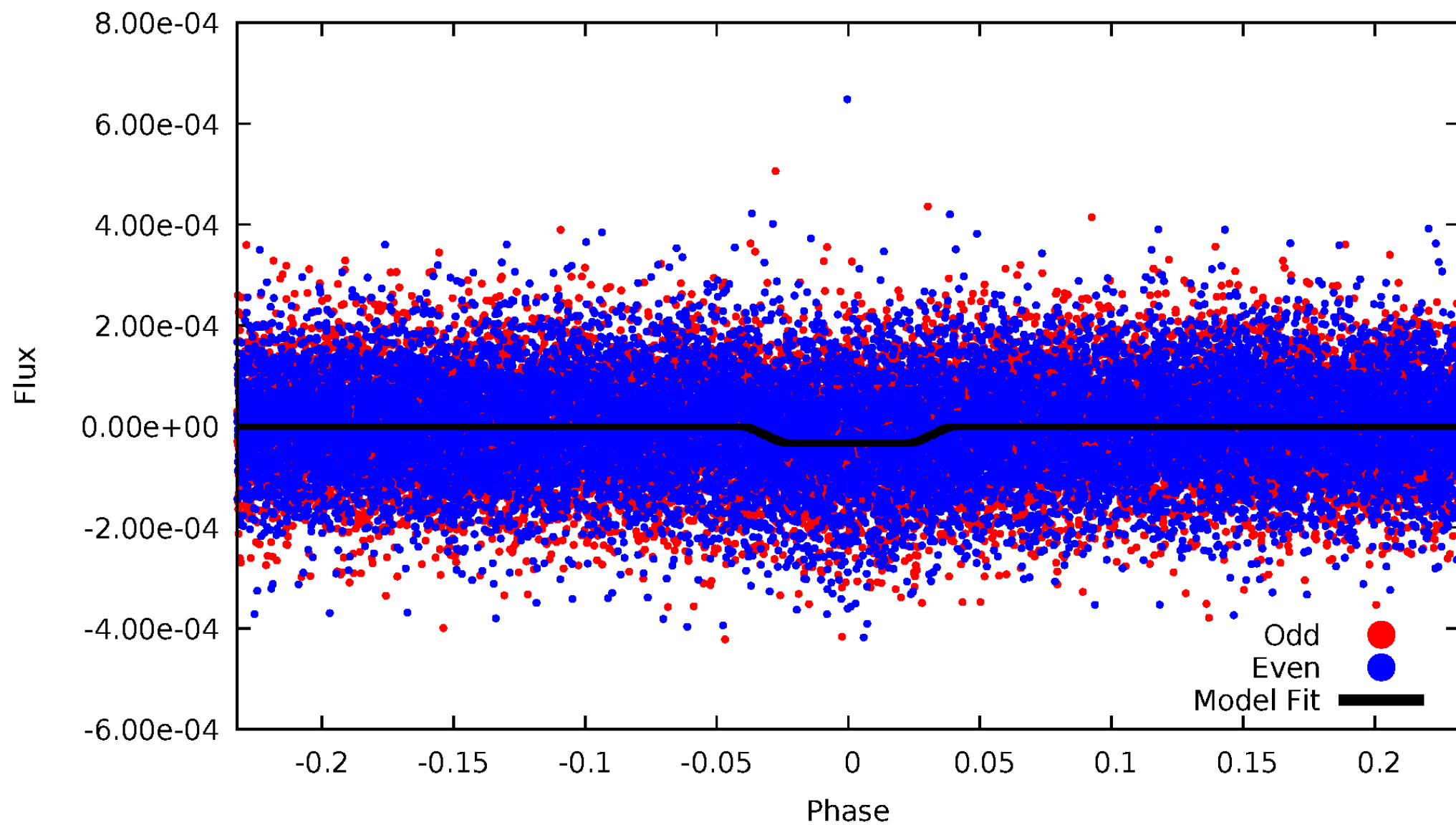
DV Odd/Even

TCE 008890996-01



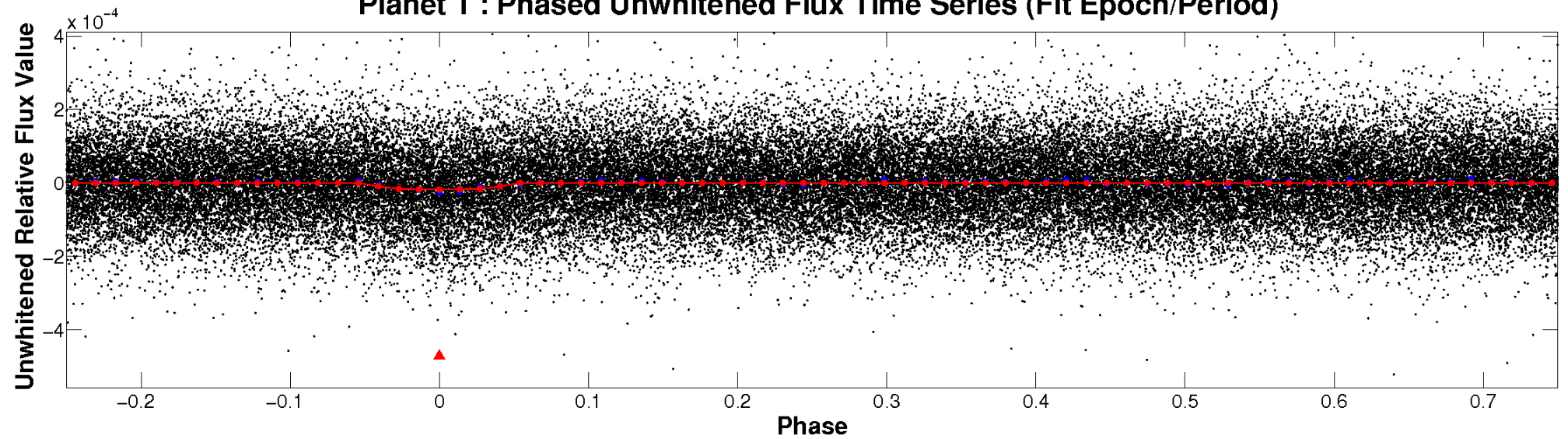
ALT Odd/Even

TCE 008890996-01

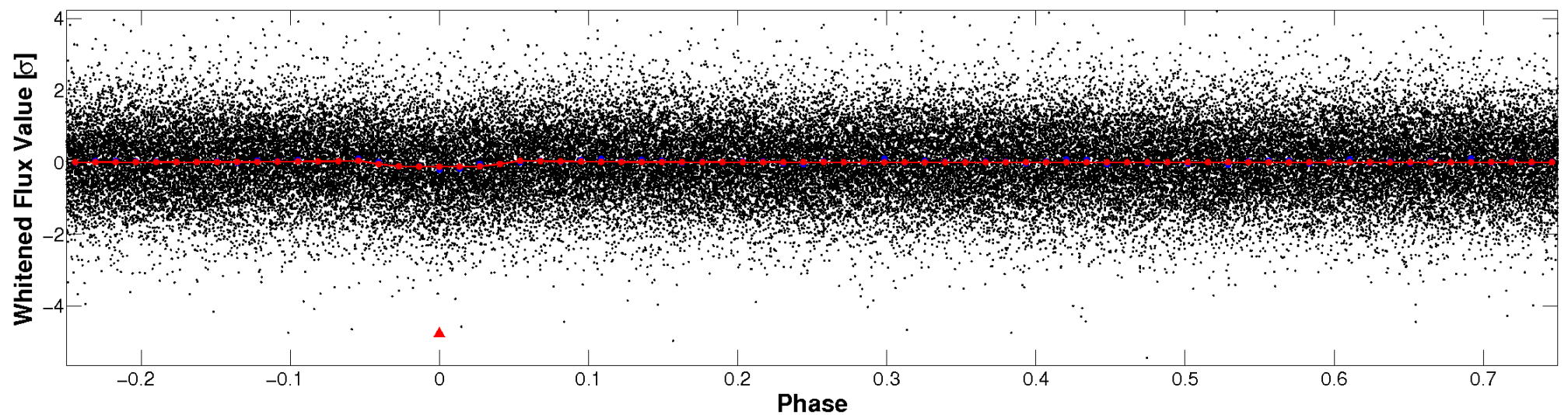


Non-Whitened Vs. Whitened Light Curve

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

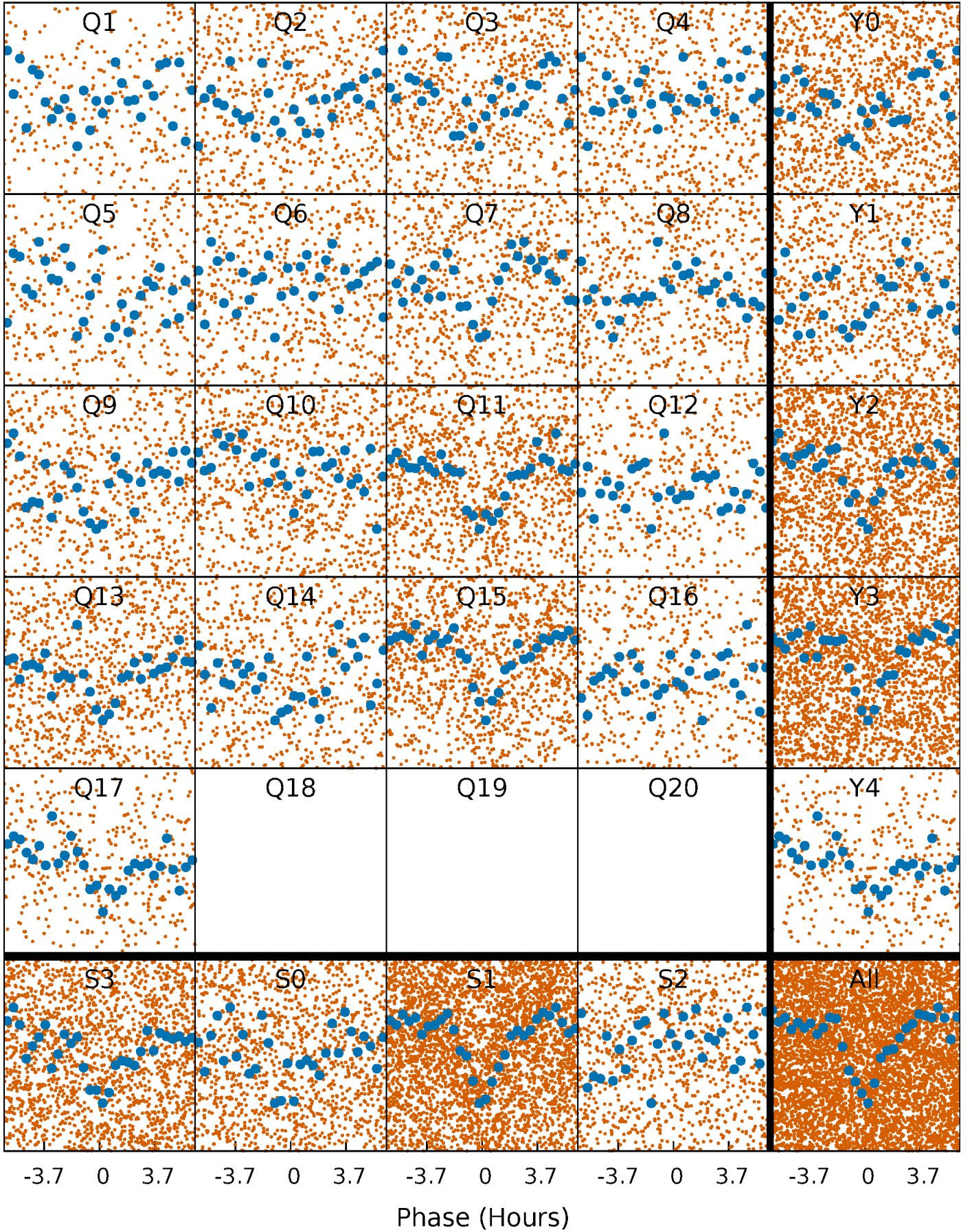


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



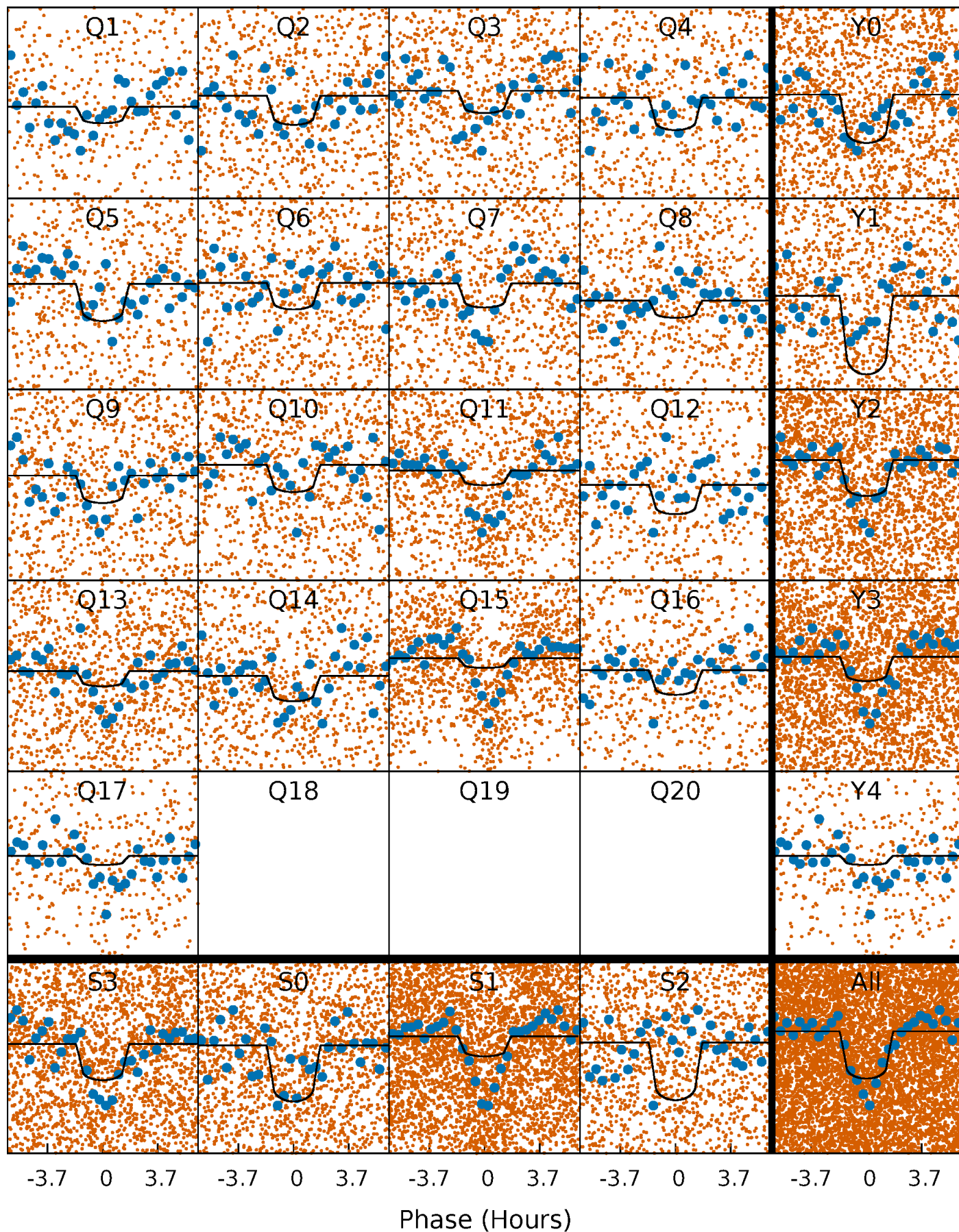
PDC Quarter-Phased Transit Curves

TCE 008890996-01 P= 1.506453 Days $T_0=133.016204$ (BKJD)



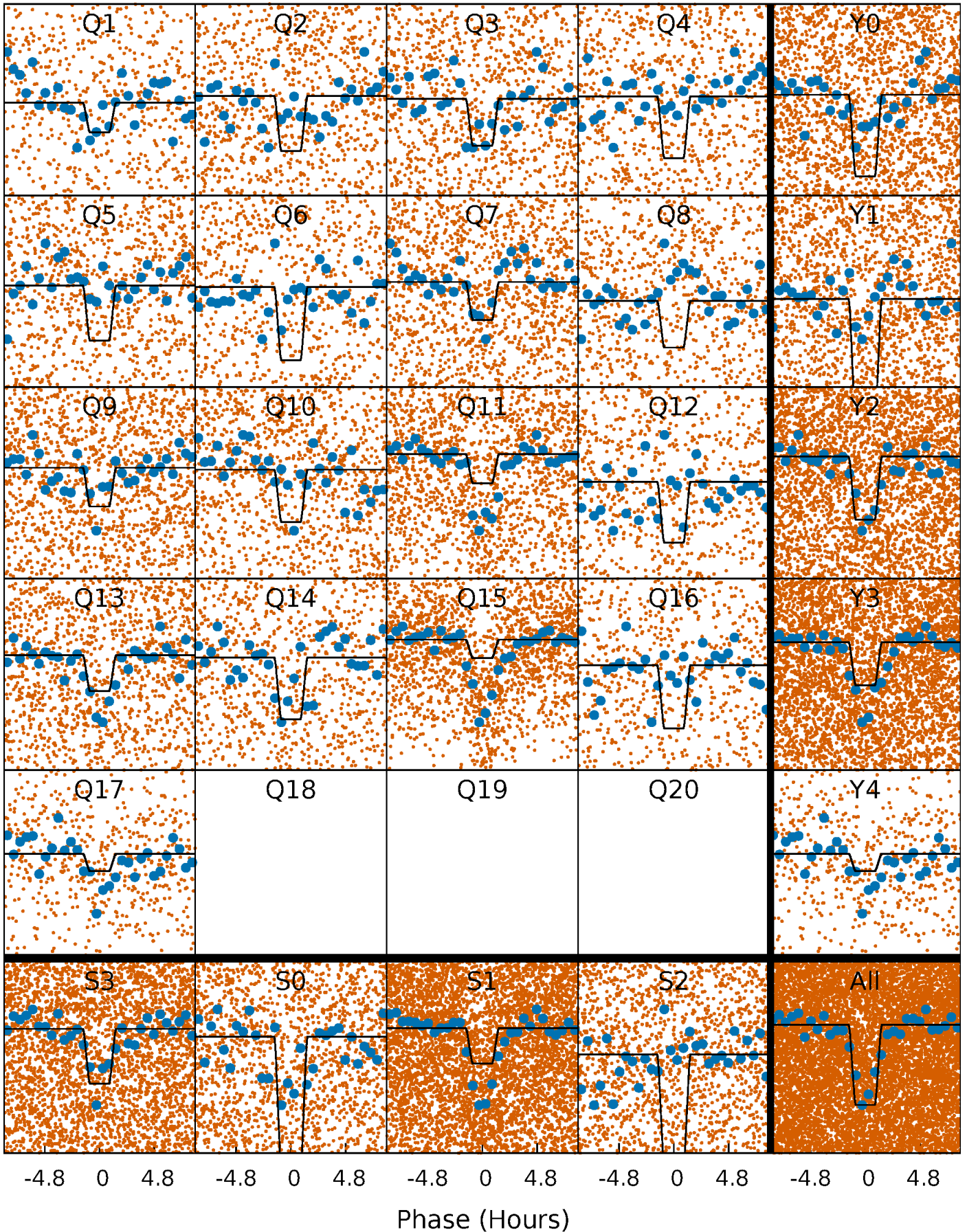
DV Quarter-Phased Transit Curves

TCE 008890996-01 P= 1.506453 Days $T_0=133.016204$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

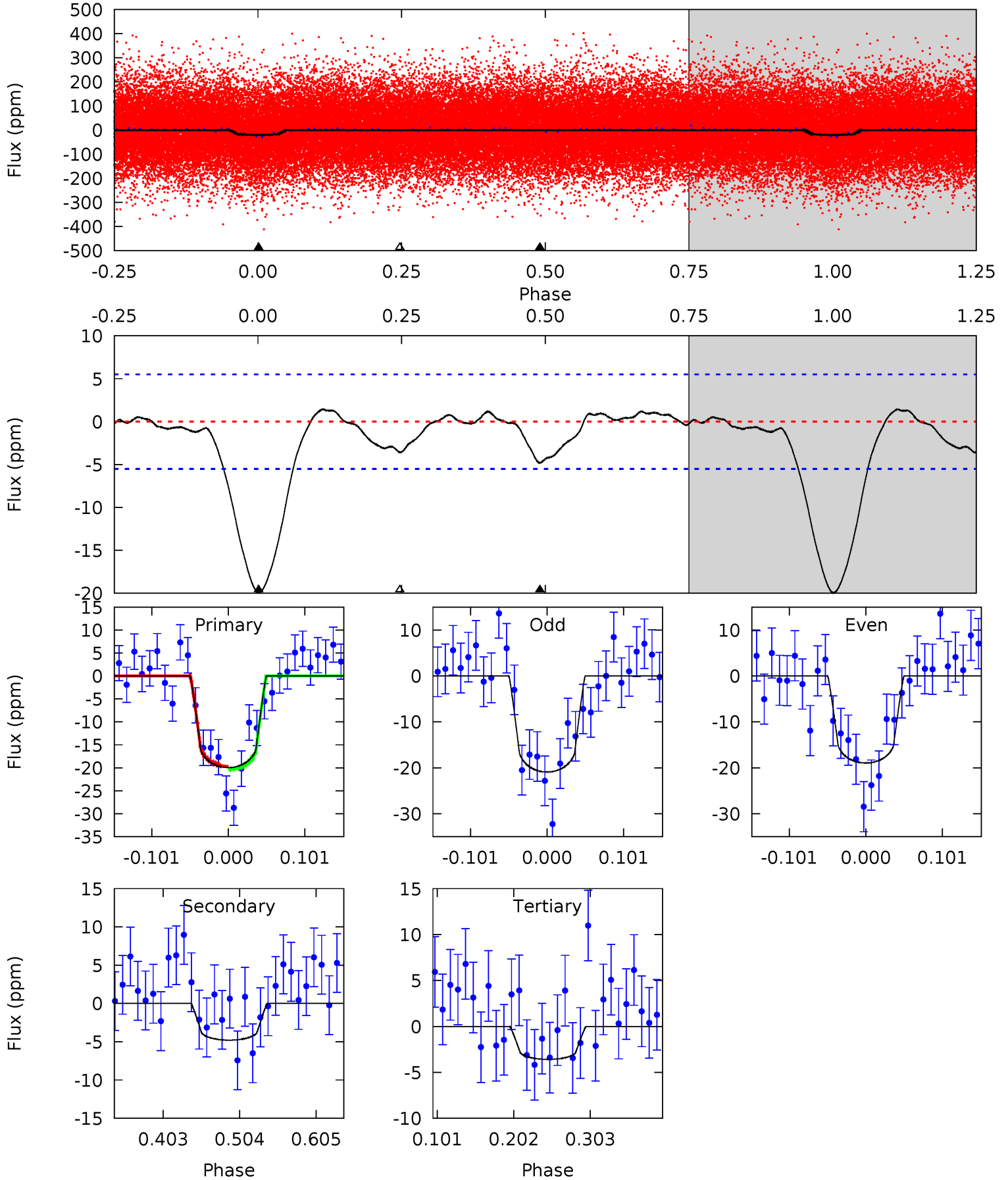
TCE 008890996-01 P= 1.506496 Days $T_0=132.992042$ (BKJD)



DV Model-Shift Uniqueness Test

008890996-01, P = 1.506453 Days, E = 131.509751 Days

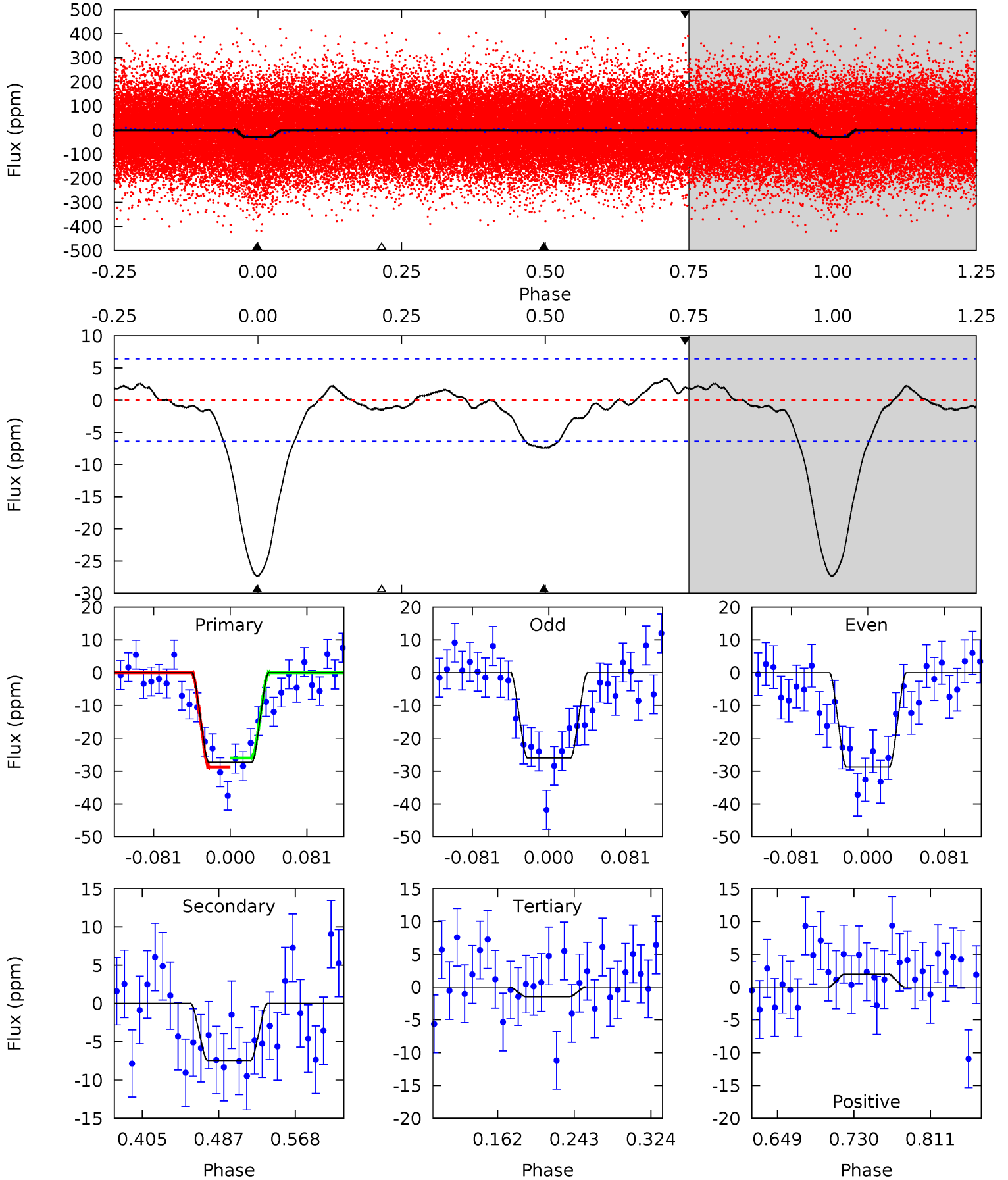
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	3.98	2.98	0	4.56	1.64	1.03	13.6	16.6	1.00	3.98	0.81	1.19	0.07	0.28



Alt Model-Shift Uniqueness Test

008890996-01, P = 1.506496 Days, E = 131.485546 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.6	5.35	1.06	1.42	4.61	1.74	0.96	18.6	18.2	4.29	3.93	0.98	1.20	0.11	1.00



Stellar Parameters For KIC 008890996

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6839^{+163}_{-225}	$4.003^{+0.204}_{-0.136}$	$-0.060^{+0.250}_{-0.300}$	$2.020^{+0.446}_{-0.545}$	$1.497^{+0.172}_{-0.257}$	$0.256^{+0.321}_{-0.100}$
	+2%/-3%	+5%/-3%	+417%/-500%	+22%/-27%	+11%/-17%	+125%/-39%
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 008890996-01 / KOI 7107.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5 ± 1	$0.94^{+0.28}_{-0.23}$	3450^{+220}_{-257}	4727^{+692}_{-540}	$2.495^{+2.198}_{-1.114}$
Alt.	-7 ± 1	$1.22^{+0.28}_{-0.25}$	3453^{+231}_{-242}	4663^{+463}_{-392}	$2.304^{+1.506}_{-0.802}$

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

DV Centroid Data

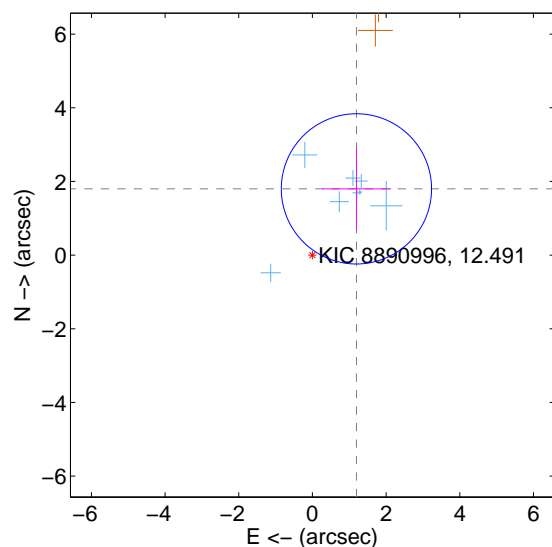
Supplemental centroid analysis for 008890996-01. Kepler magnitude: 12.49. Transit SNR 8.60

There are 8 quarters with good PRF difference image offsets

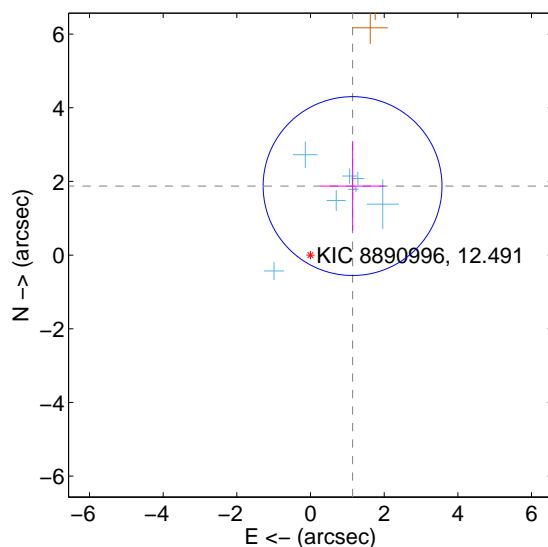
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.159 ± 0.680	3.18	-1.195 ± 0.945	1.799 ± 1.107
PRF-fit source offset from KIC position	2.195 ± 0.809	2.71	-1.142 ± 0.864	1.875 ± 1.221
photometric centroid source offset	2.73 ± 0.91	2.99	-1.51 ± 0.85	2.28 ± 0.94

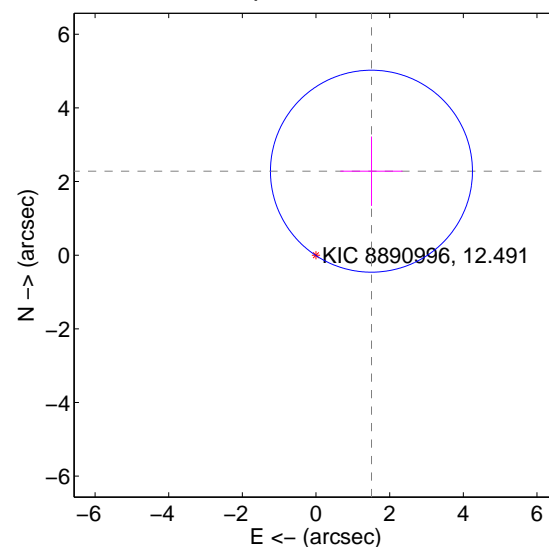
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

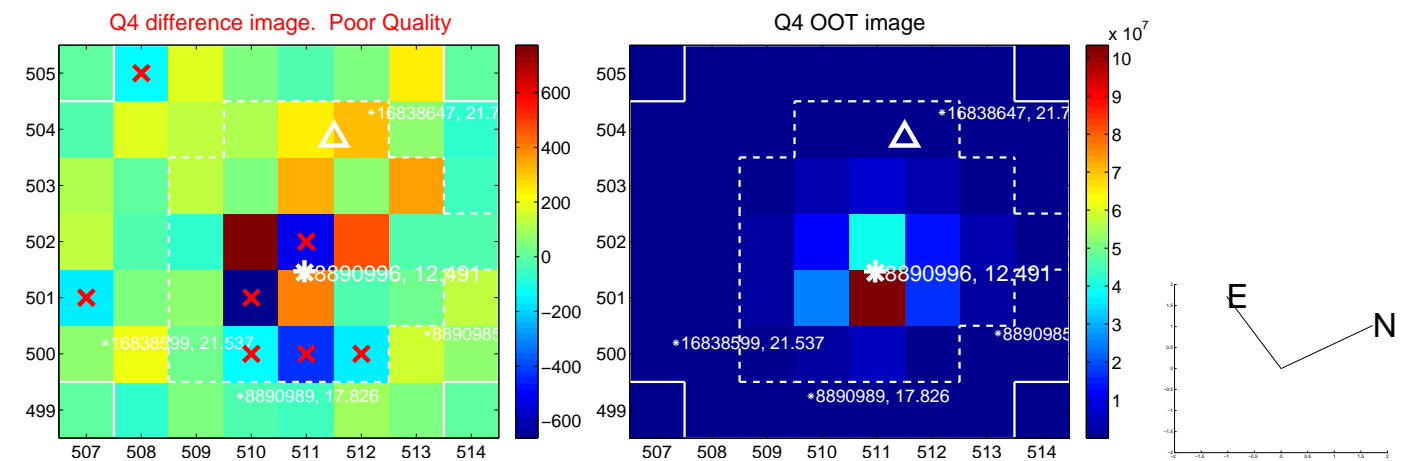
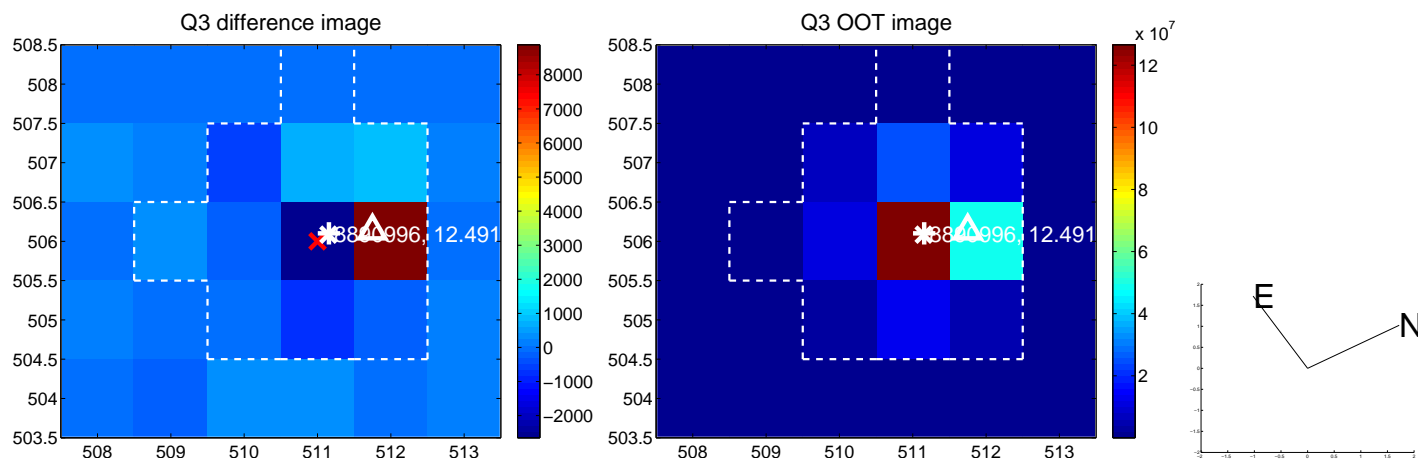
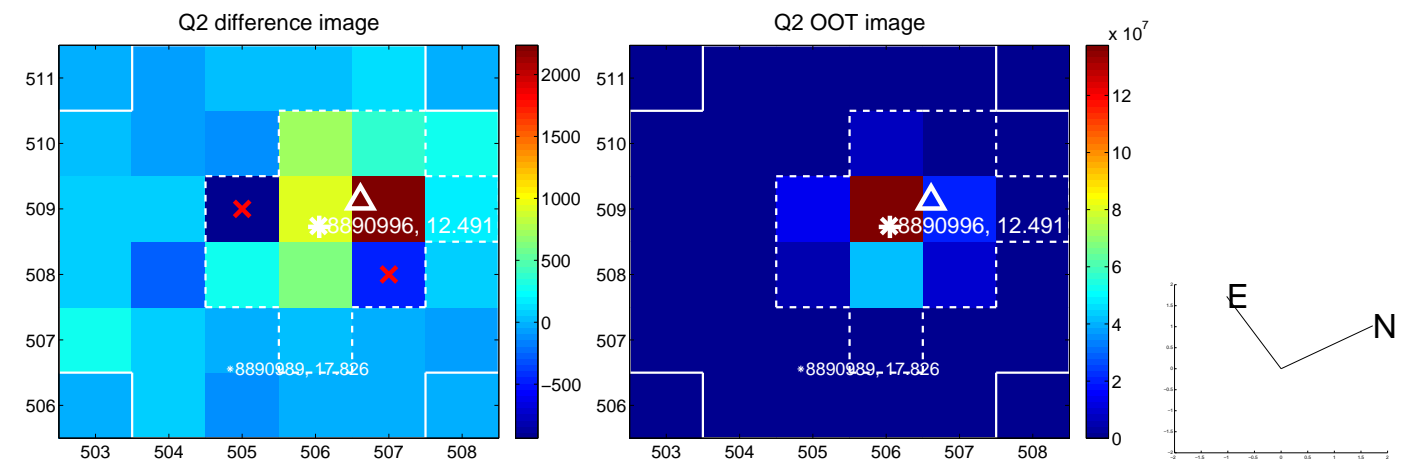
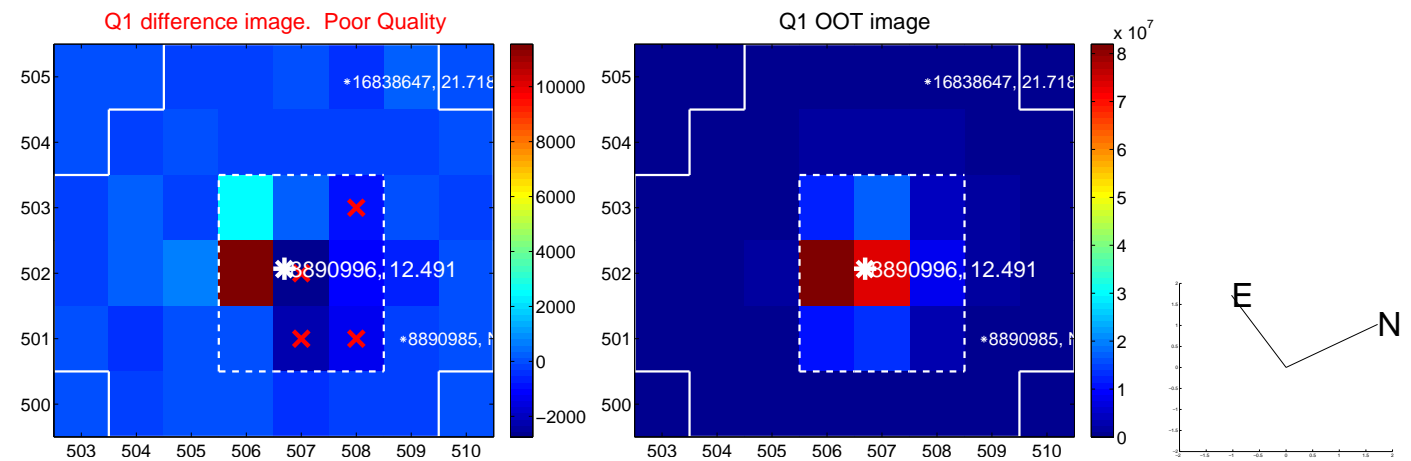


offset from photometric centroids

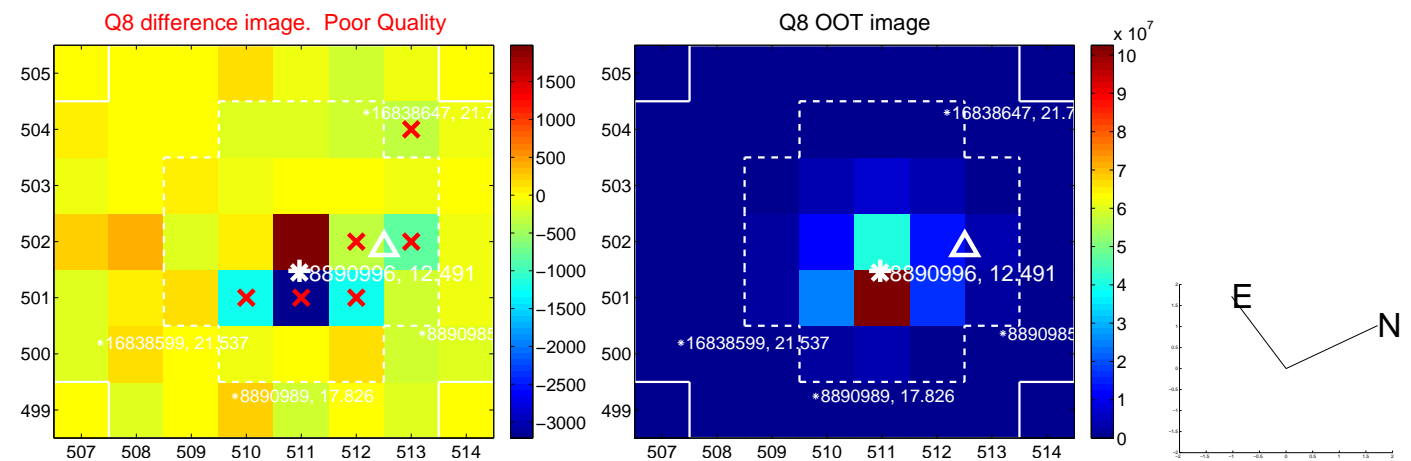
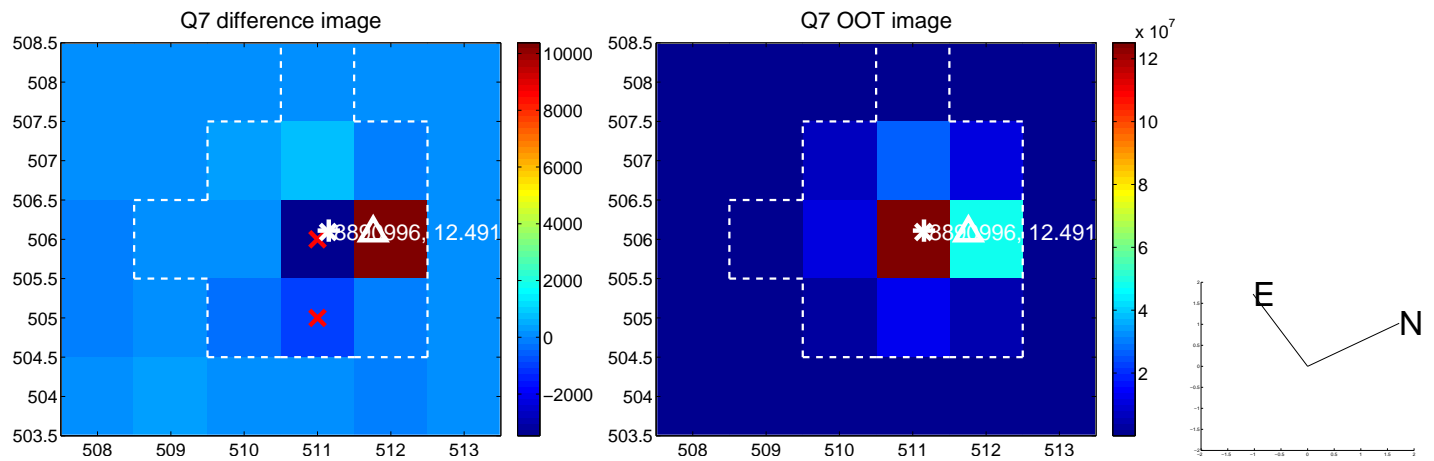
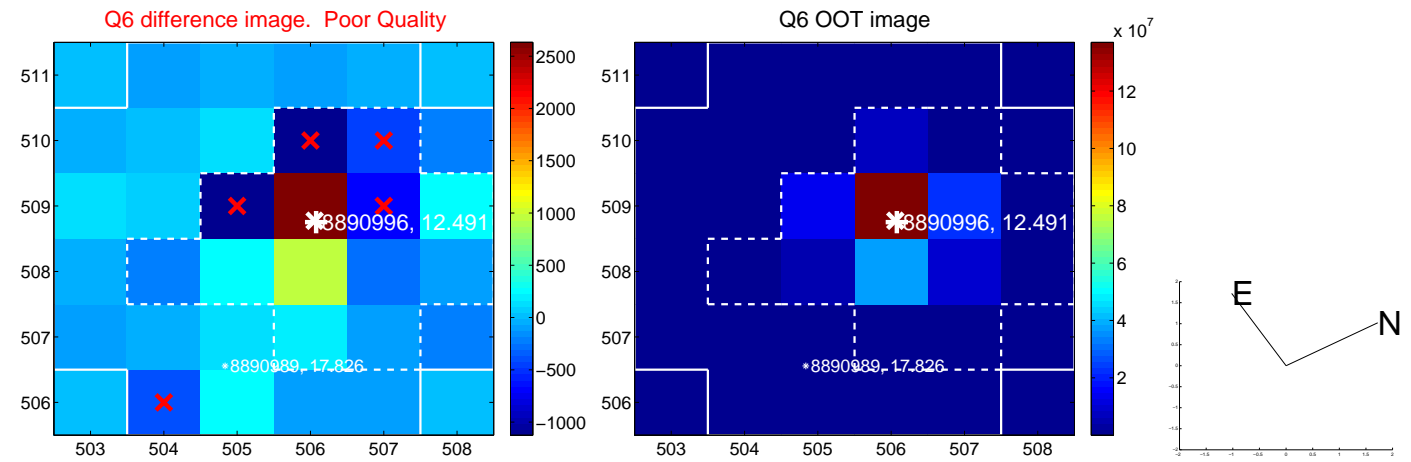
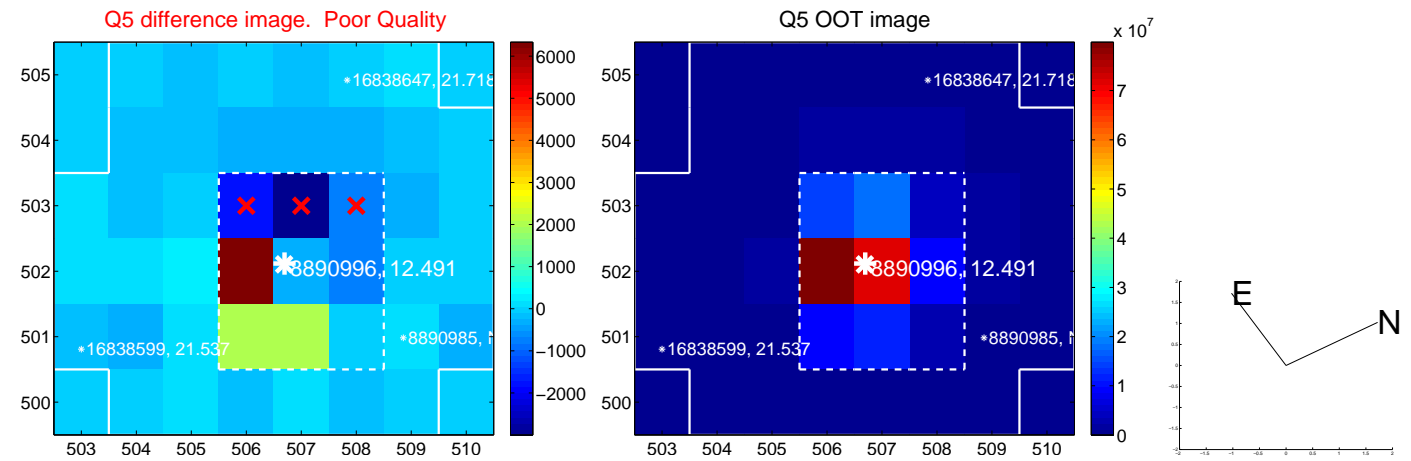


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

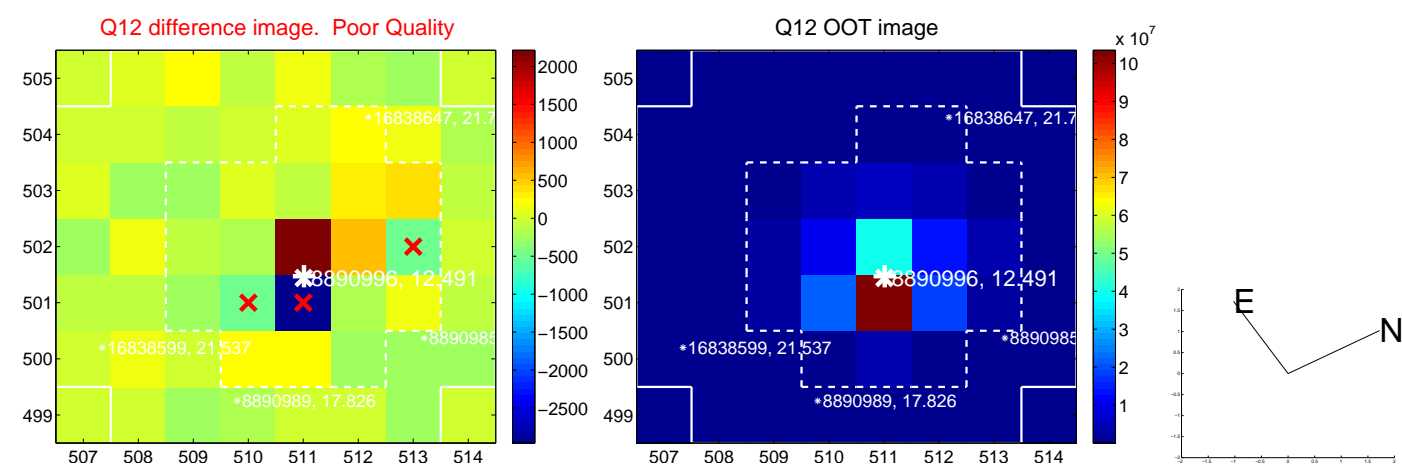
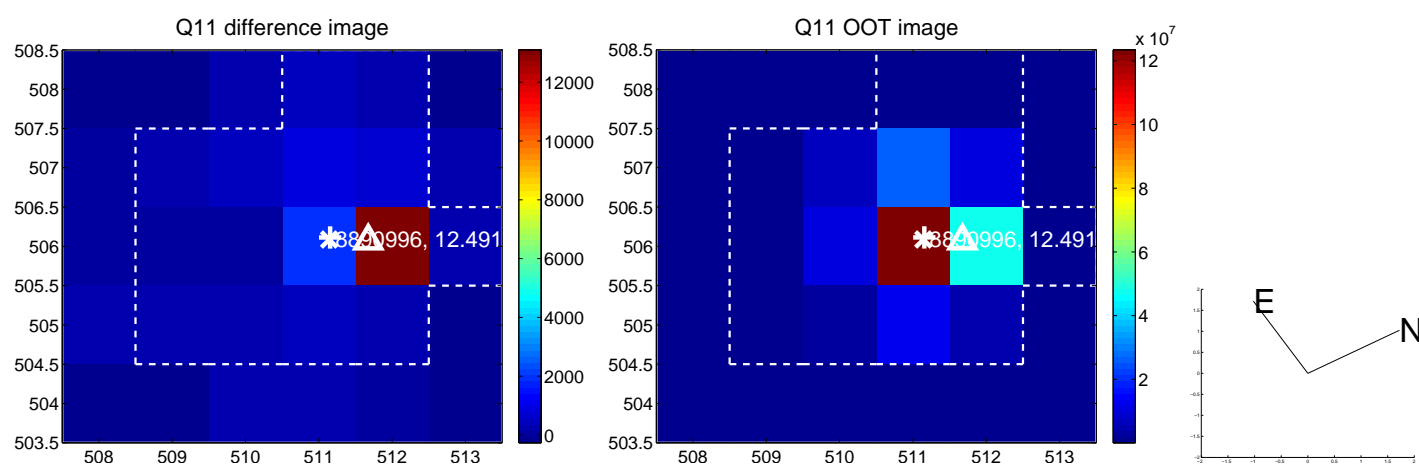
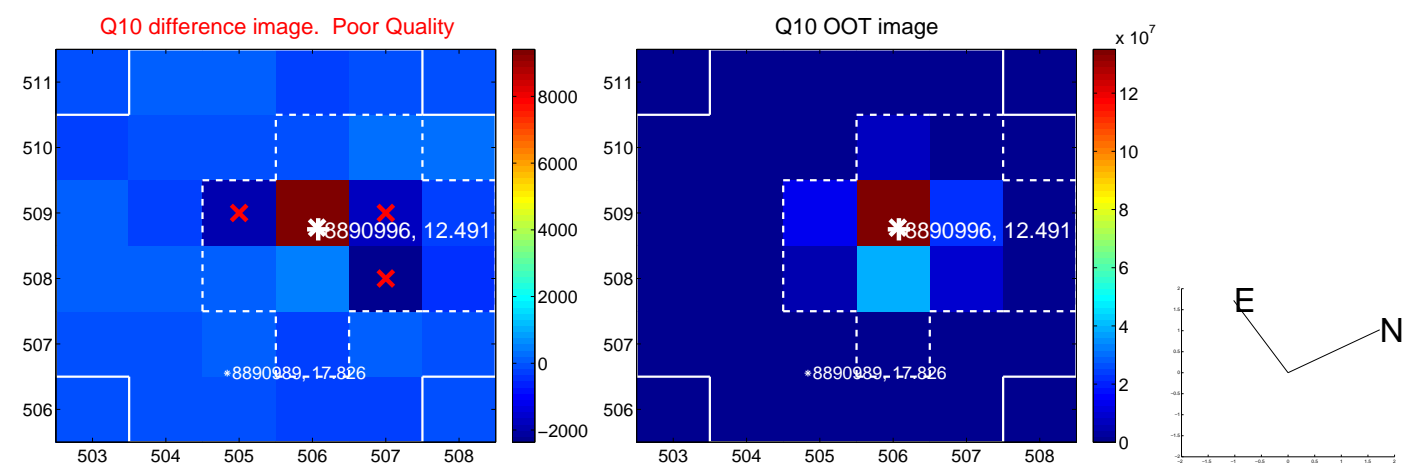
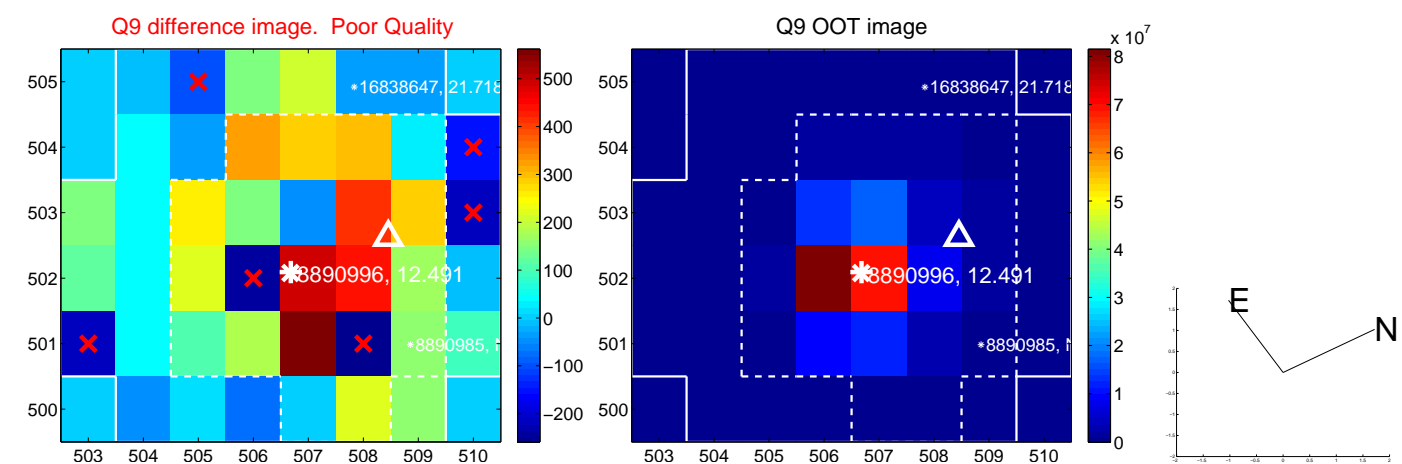
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



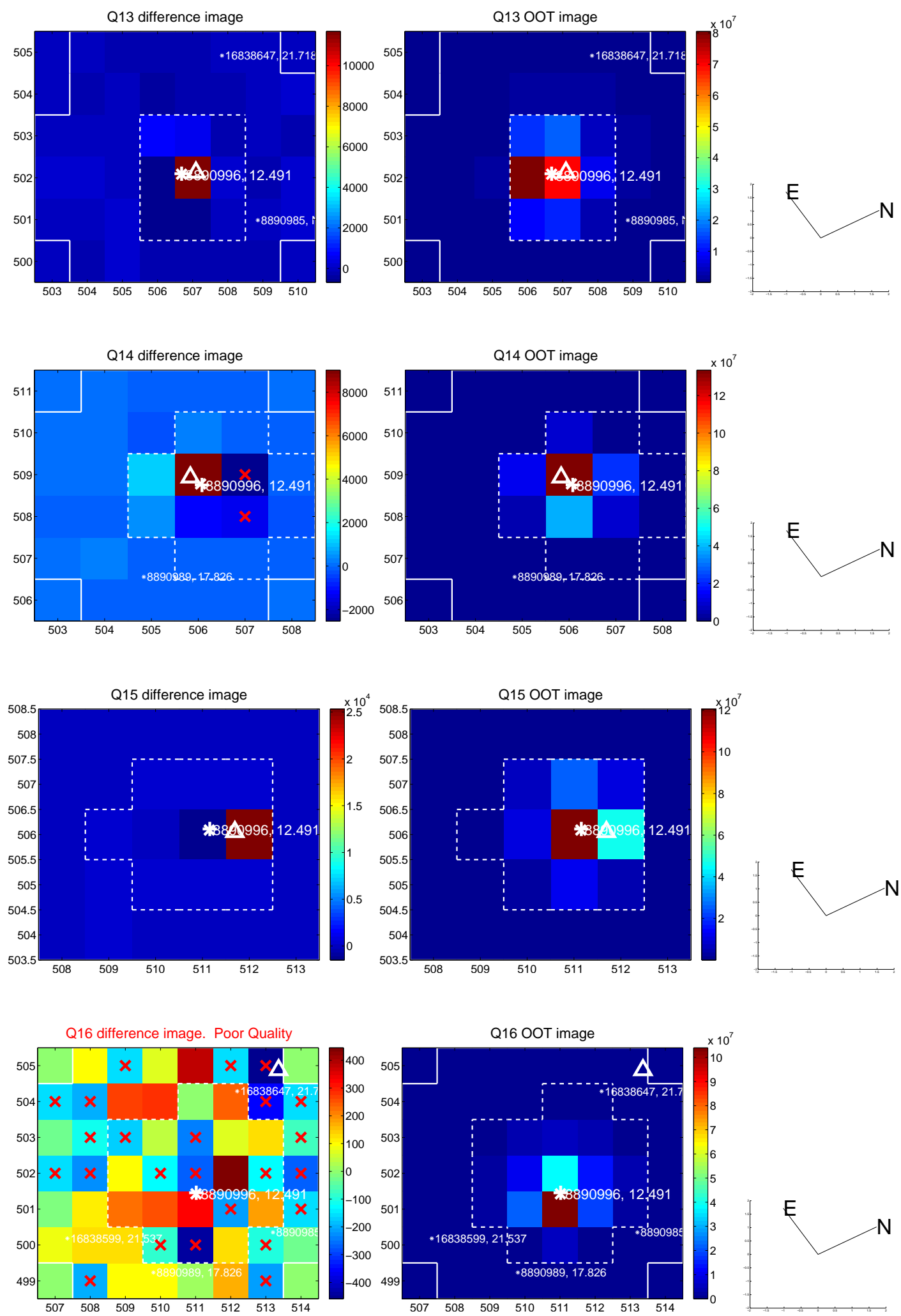
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



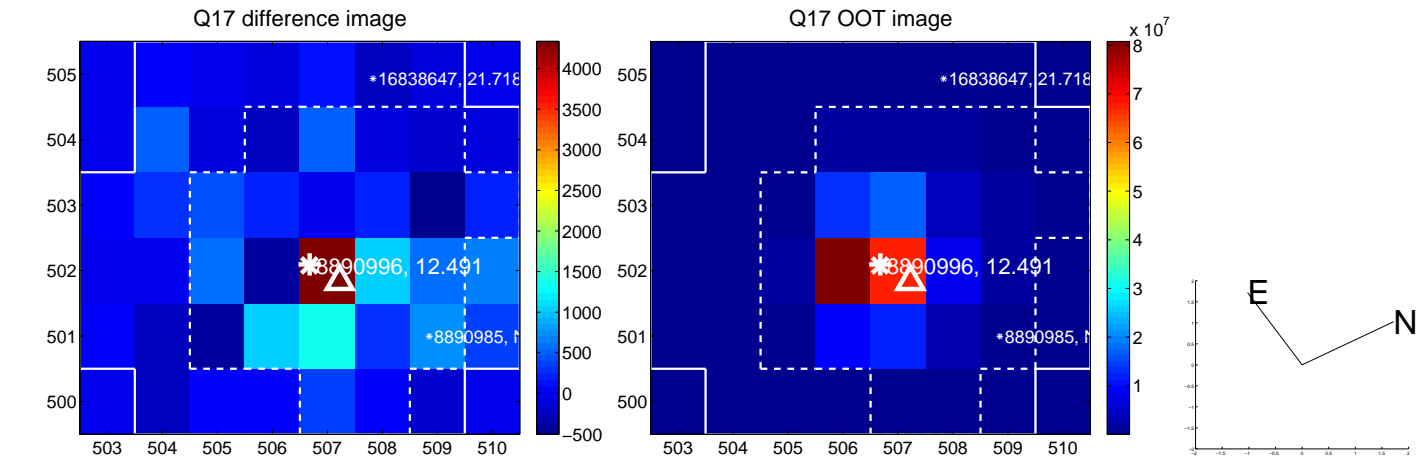
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



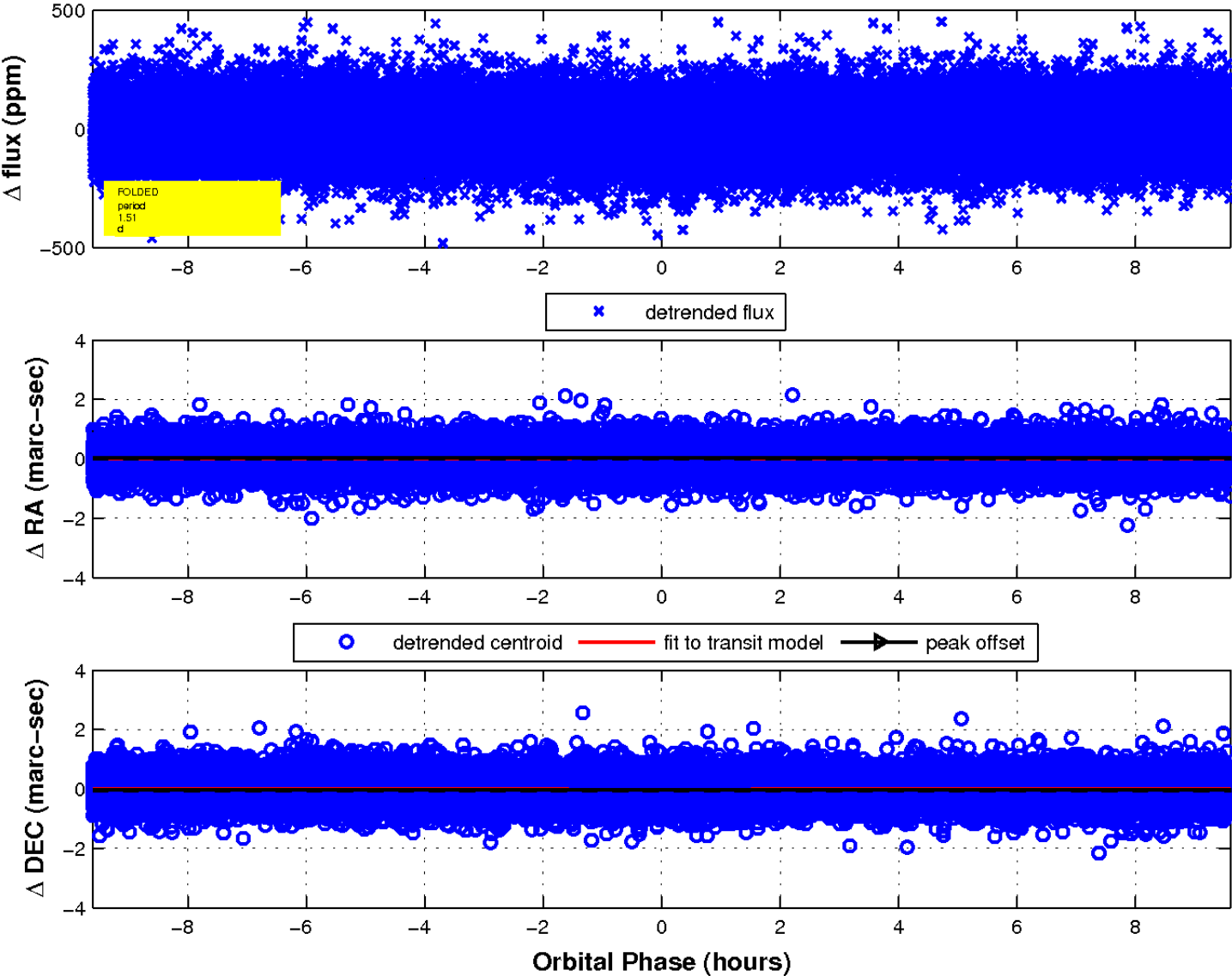
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

