

KIC 010383687

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})
010383687-01	OBS	0334.01	8.487894	134.490735	128.6	4.119	25.0	18.2	1.04	6134	1.71	209.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010383687-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—CENT_RESOLVED_OFFSET—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 010383687-01

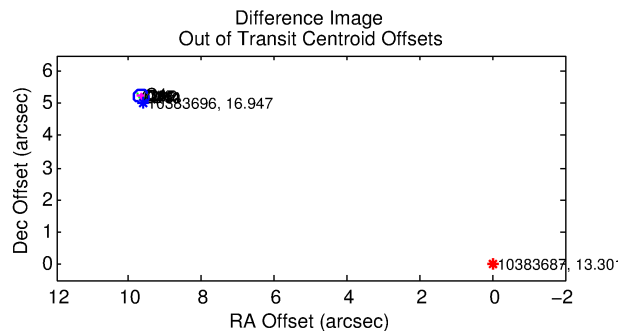
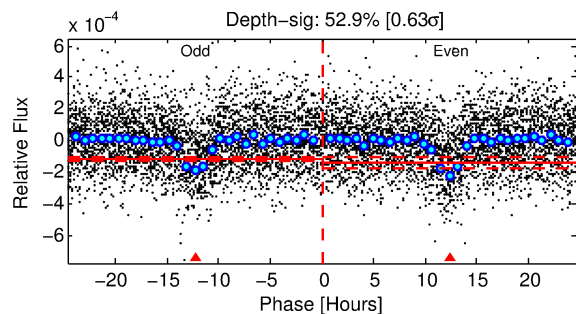
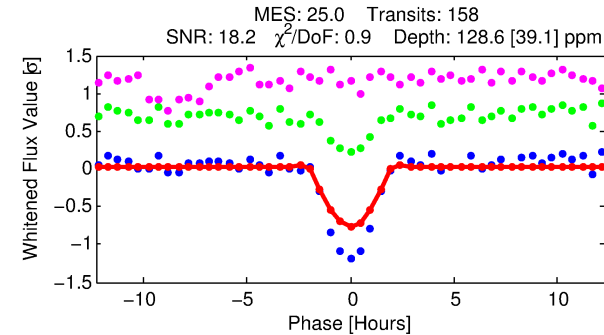
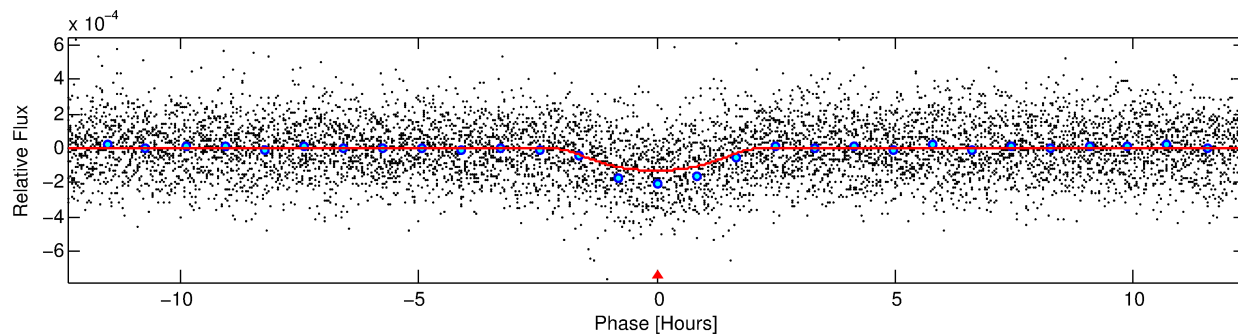
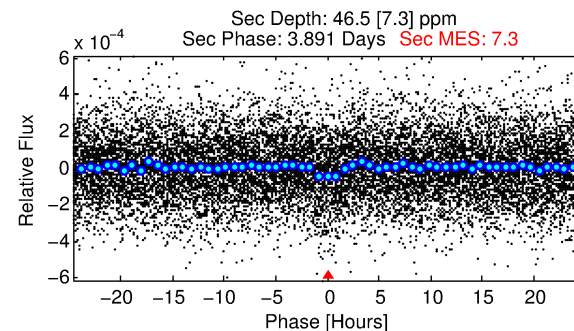
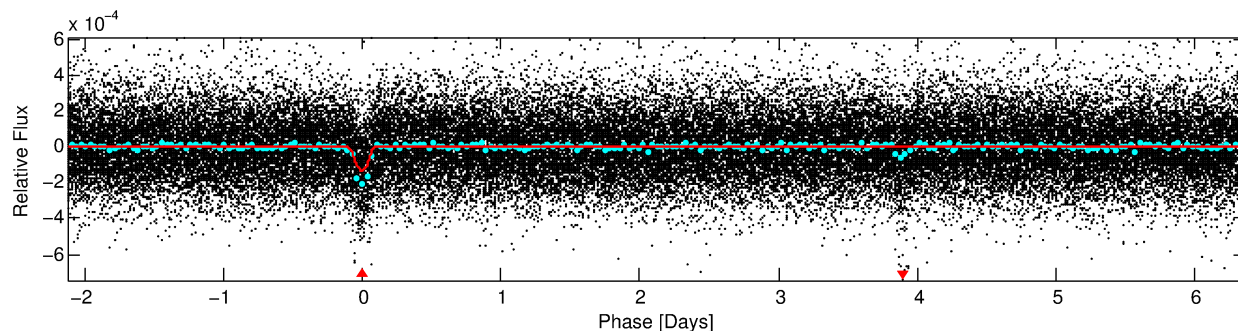
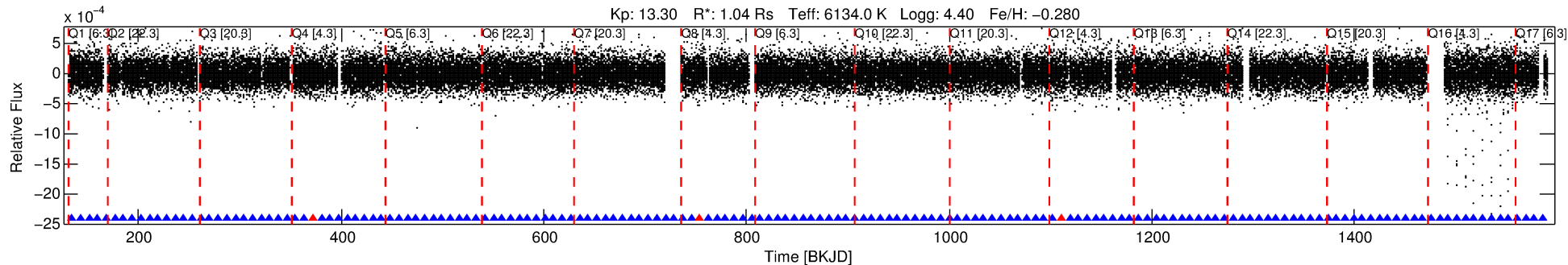
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
010383687-01	10383687	3671.01	10383696	1:1	10.9	-1	-3	16.95	13.30	1165.50	Direct-PRF	0	0.09	0.13

Notes: $P_1:P_2$ 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. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 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: 10383687 Candidate: 1 of 1 Period: 8.488 d
KOI: K00334.01 Corr: 0.997

Kp: 13.30 R*: 1.04 Rs Teff: 6134.0 K Logg: 4.40 Fe/H: -0.280



DV Fit Results:

Period = 8.48789 [0.00006] d
Epoch = 134.4907 [0.0053] BKJD
Rp/R* = 0.0150 [0.0047]
a/R* = 3.76 [0.76]
b = 0.99 [0.01]
Seff = 209.19 [82.30]
Teq = 970 [95] K
Rp = 1.71 [0.74] Re
a = 0.0809 [0.0205] AU
Ag = 57.46 [42.19] [1.34σ]
Teff = 4128 [677] K [4.62σ]

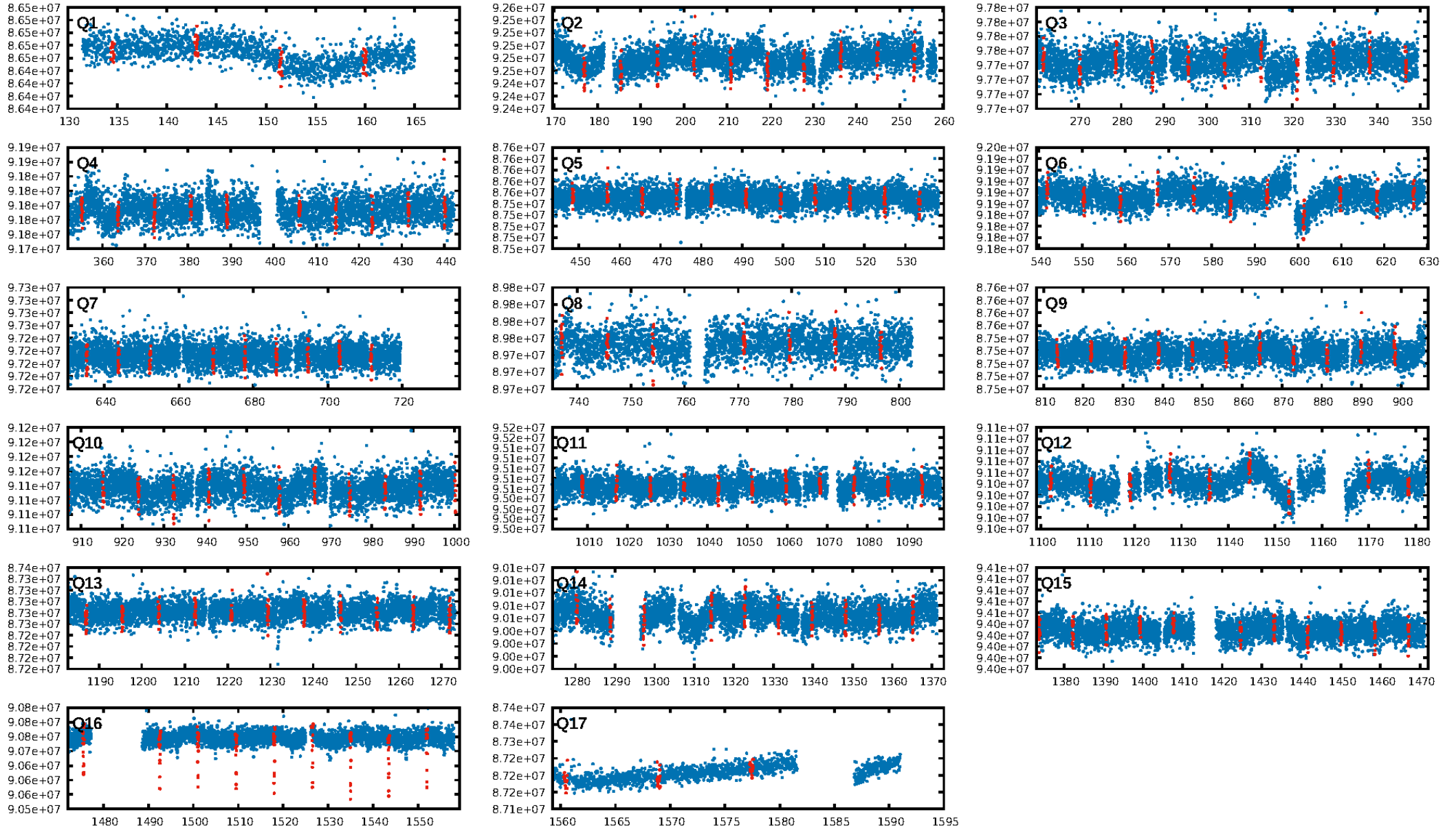
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 3.77e-133
RollingBand-fgt: 0.98 [148/151]
GhostDiagnostic-chr: -0.3138
Centroid-sig: 0.0%
Centroid-so: 90.680 arcsec [112.43σ]
OotOffset-rm: 10.995 arcsec [157.89σ]
KicOffset-rm: 10.804 arcsec [156.77σ]
OotOffset-st: 2/2/4/4 [12]
KicOffset-st: 2/2/4/4 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [17/17]

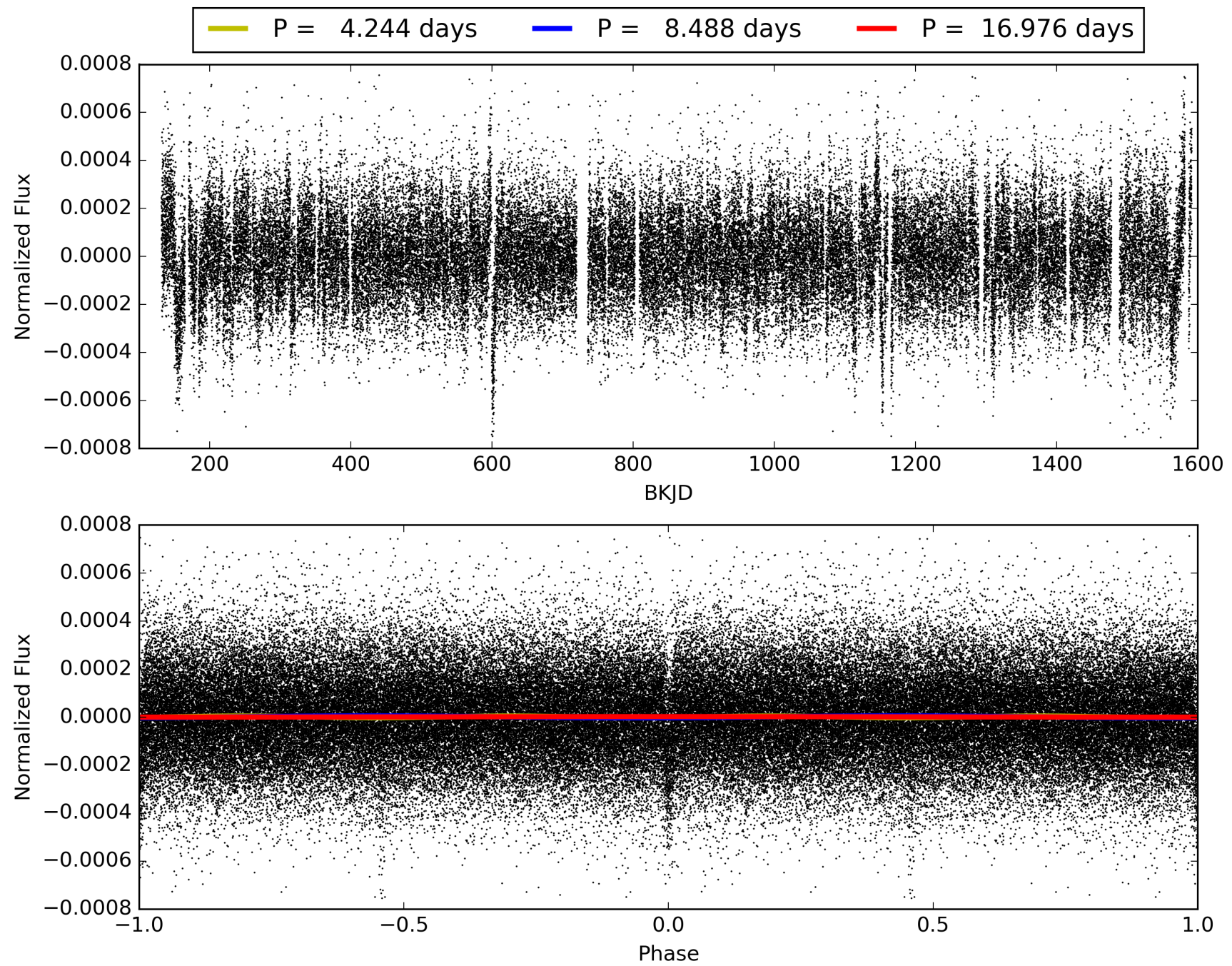
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:10:05 Z

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

TCE 010383687-01, PDC Light Curves

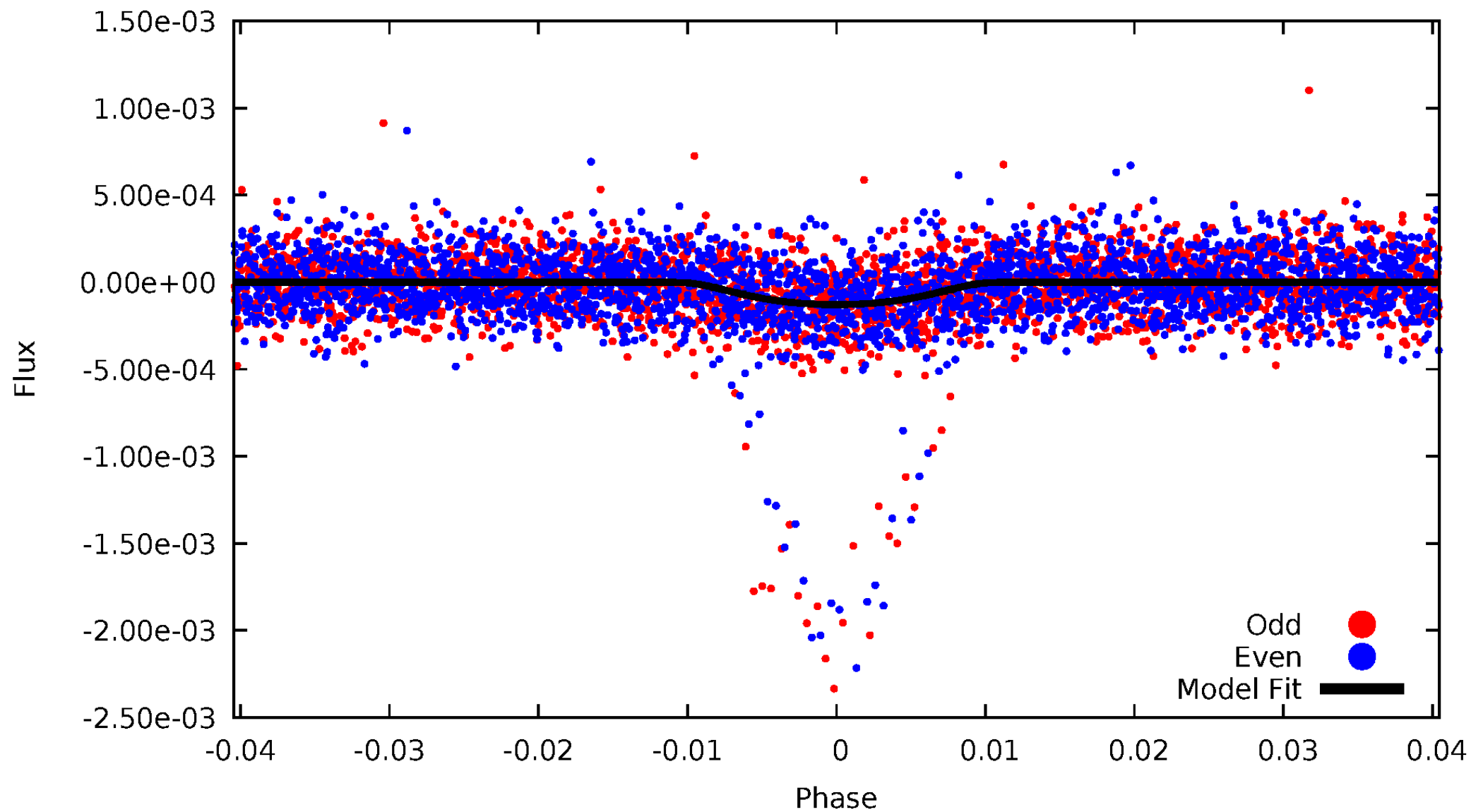


TCE 010383687-01



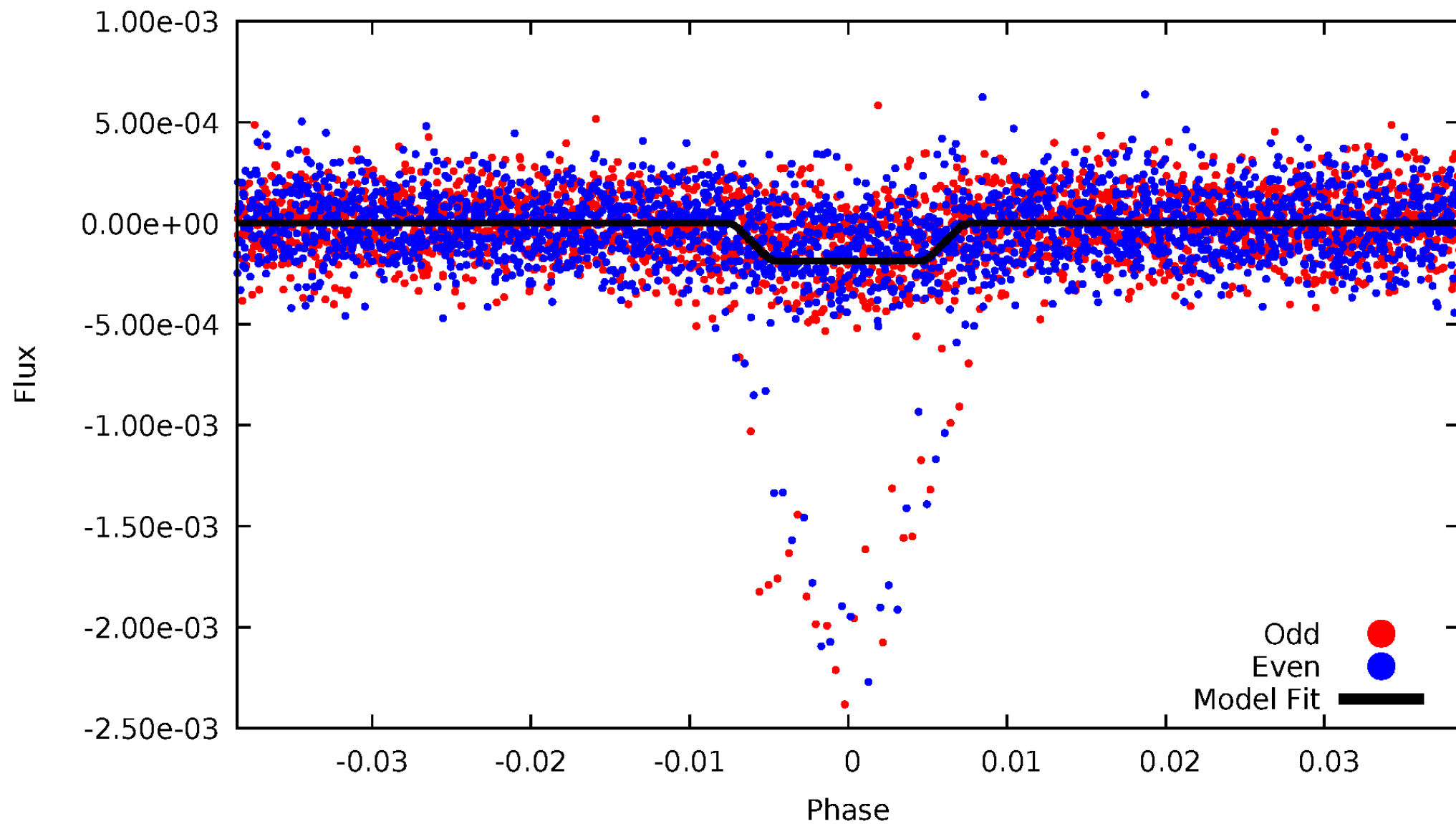
DV Odd/Even

TCE 010383687-01



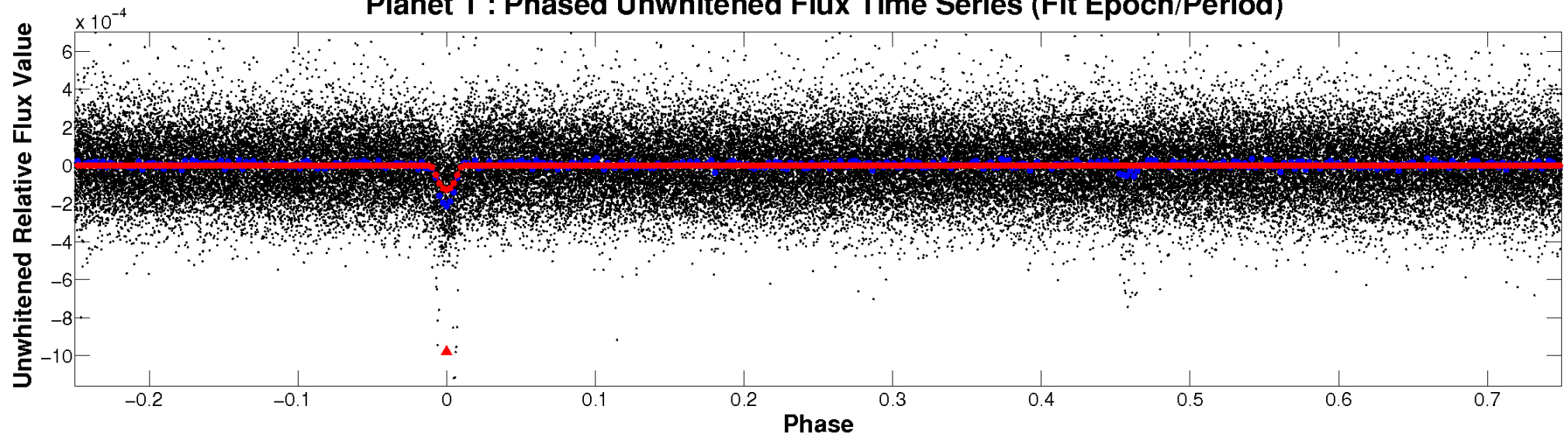
ALT Odd/Even

TCE 010383687-01

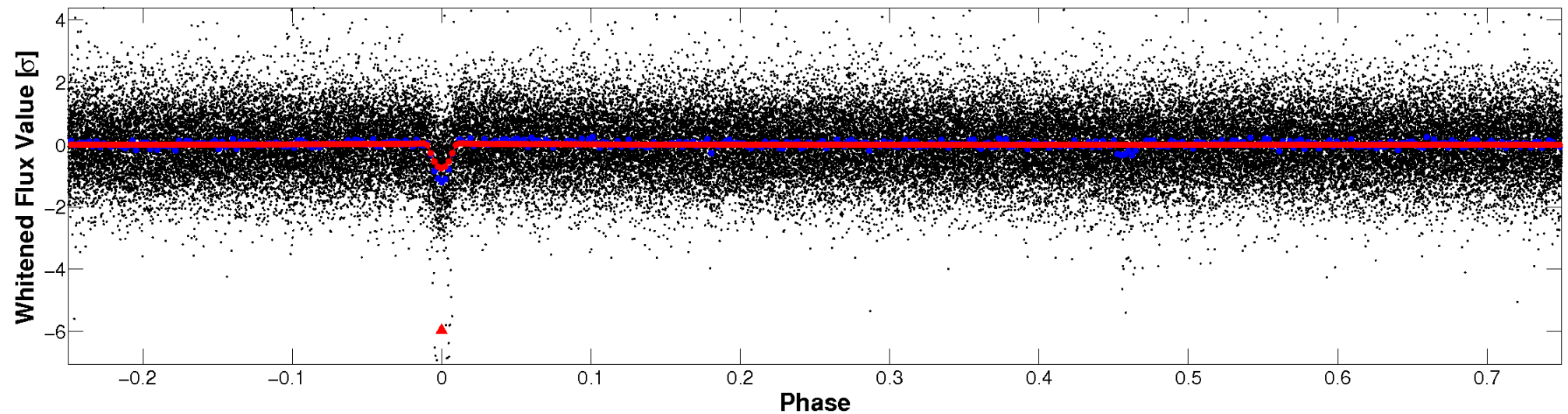


Non-Whitened Vs. Whitened Light Curve

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

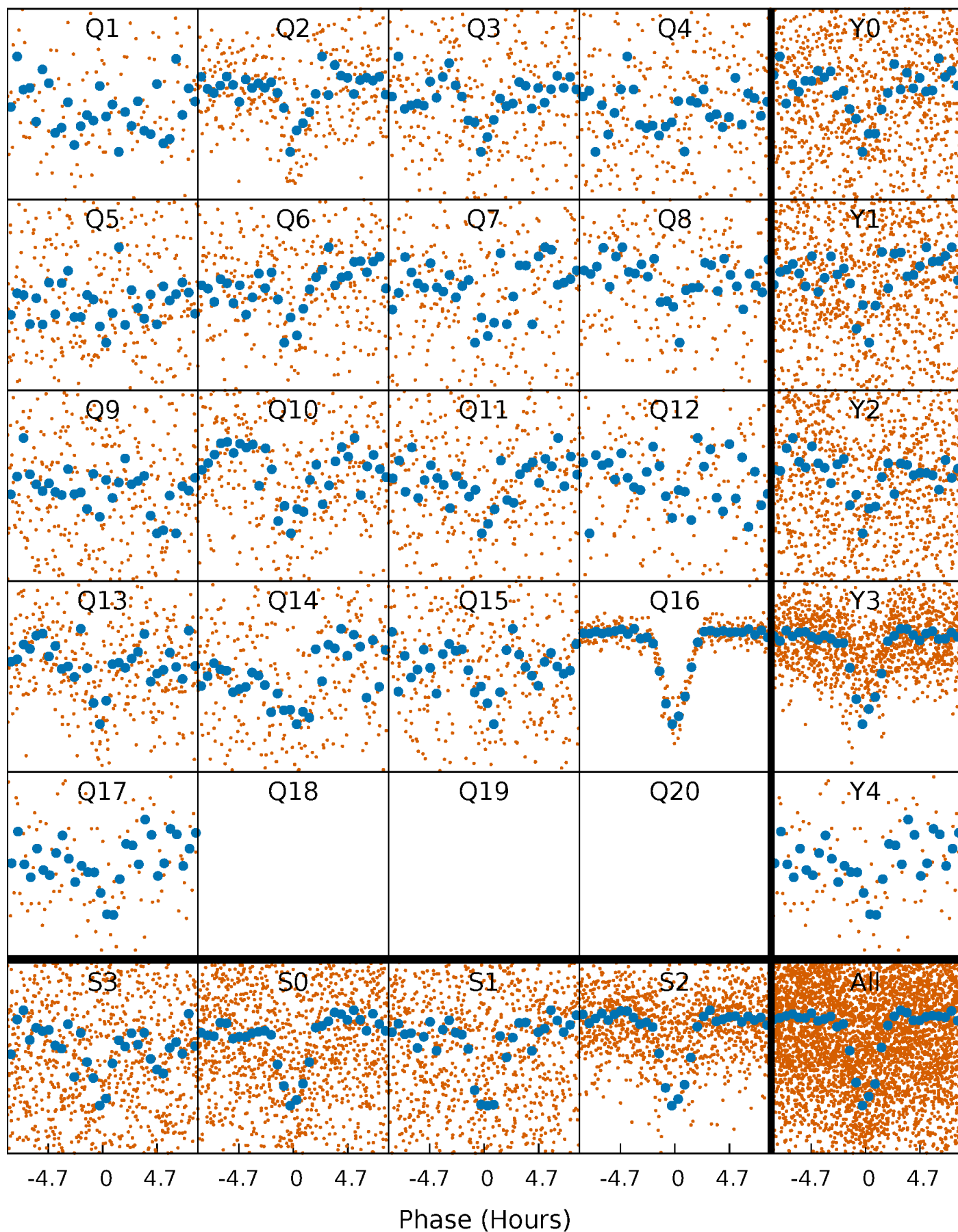


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



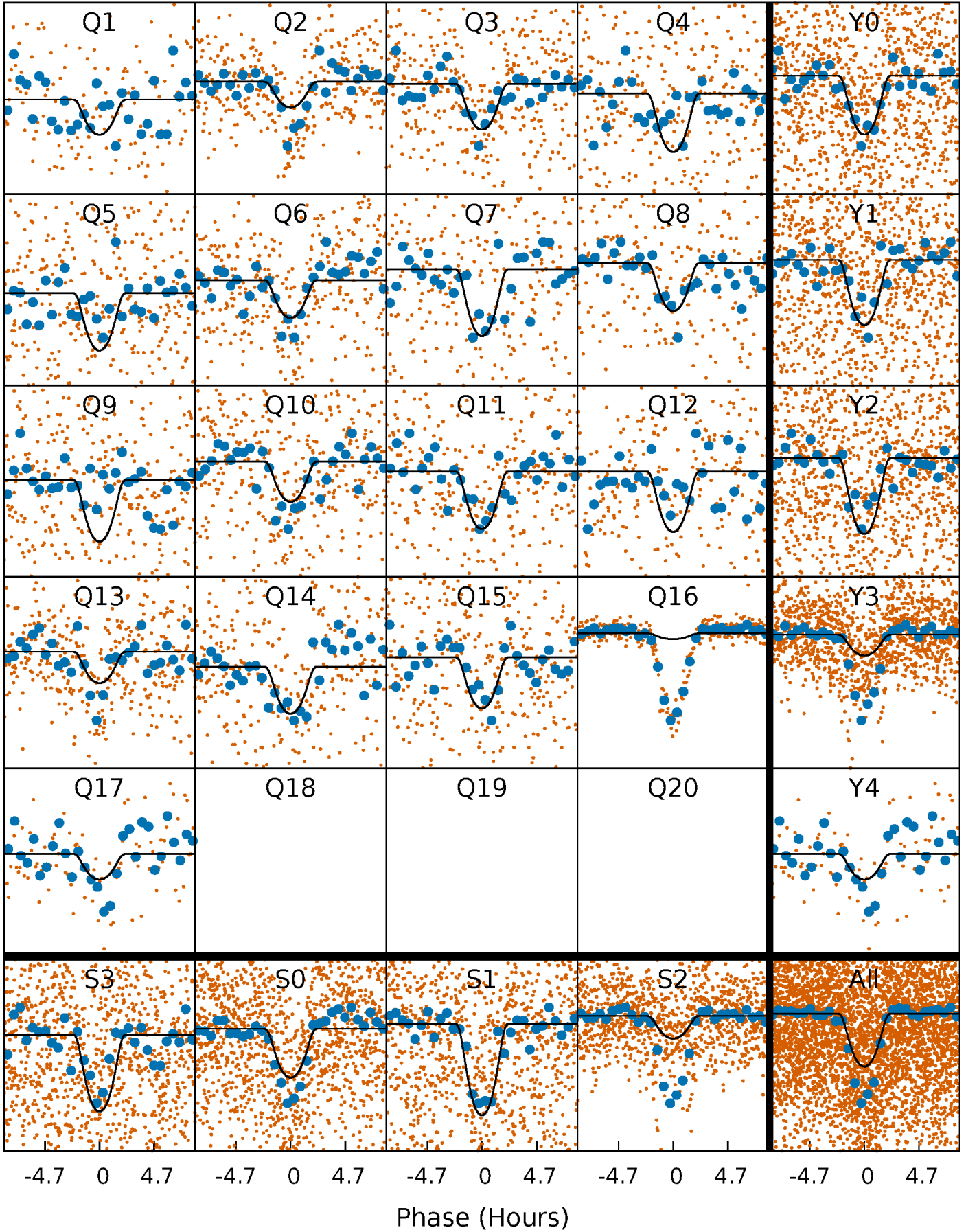
PDC Quarter-Phased Transit Curves

TCE 010383687-01 P= 8.487894 Days $T_0=134.490735$ (BKJD)



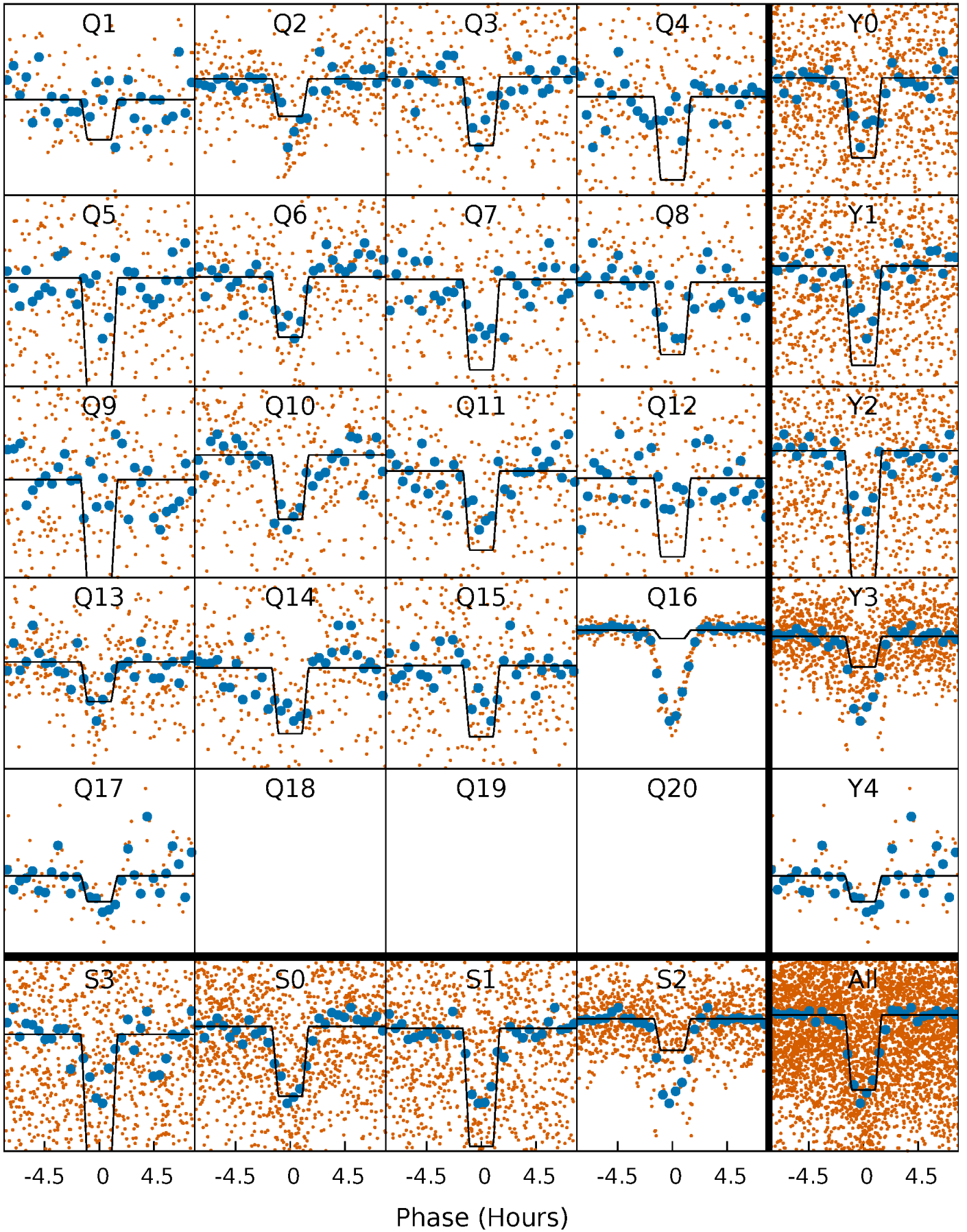
DV Quarter-Phased Transit Curves

TCE 010383687-01 $P = 8.487894$ Days $T_0 = 134.490735$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

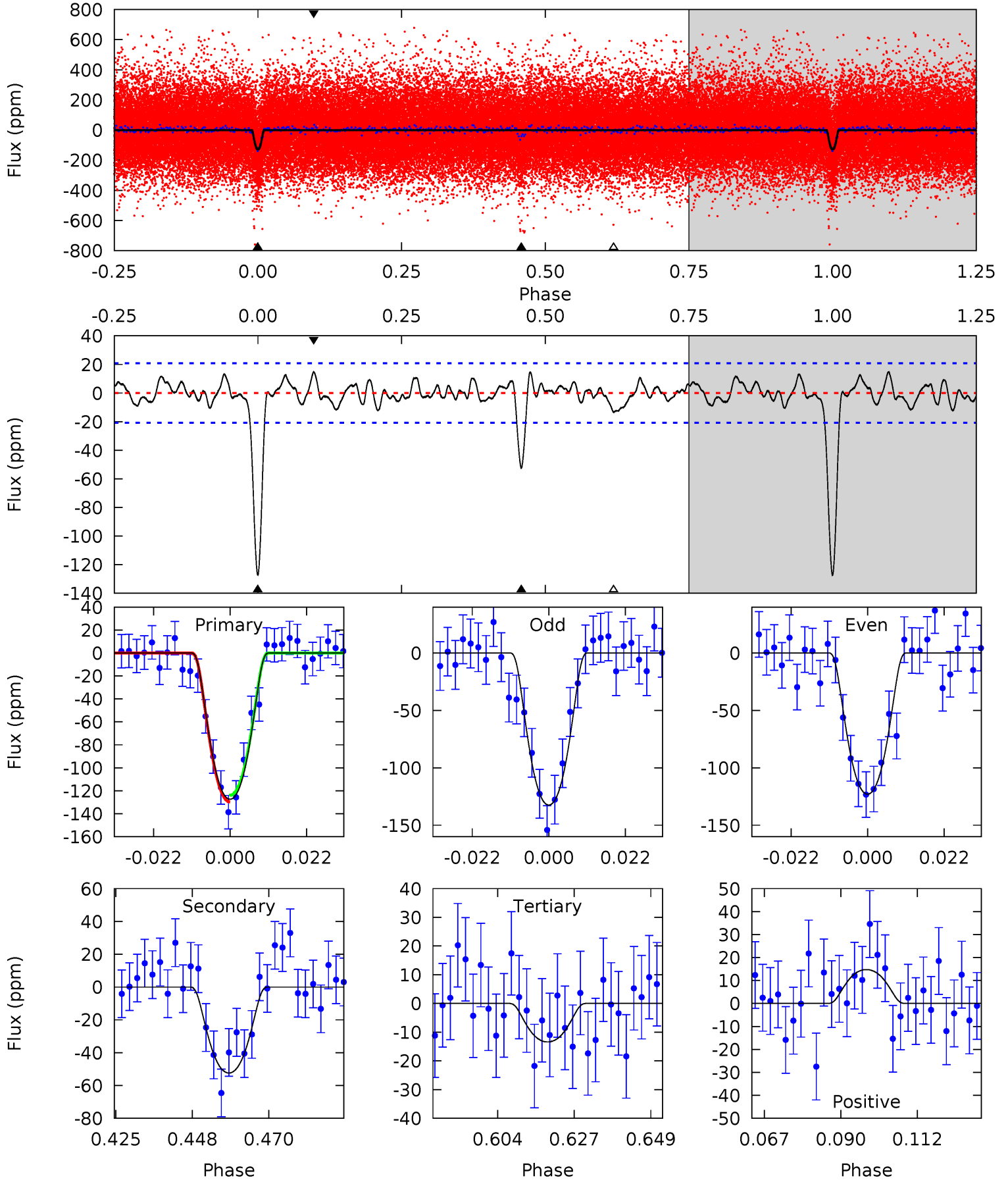
TCE 010383687-01 P= 8.487916 Days $T_0=134.487609$ (BKJD)



DV Model-Shift Uniqueness Test

010383687-01, P = 8.487894 Days, E = 126.002841 Days

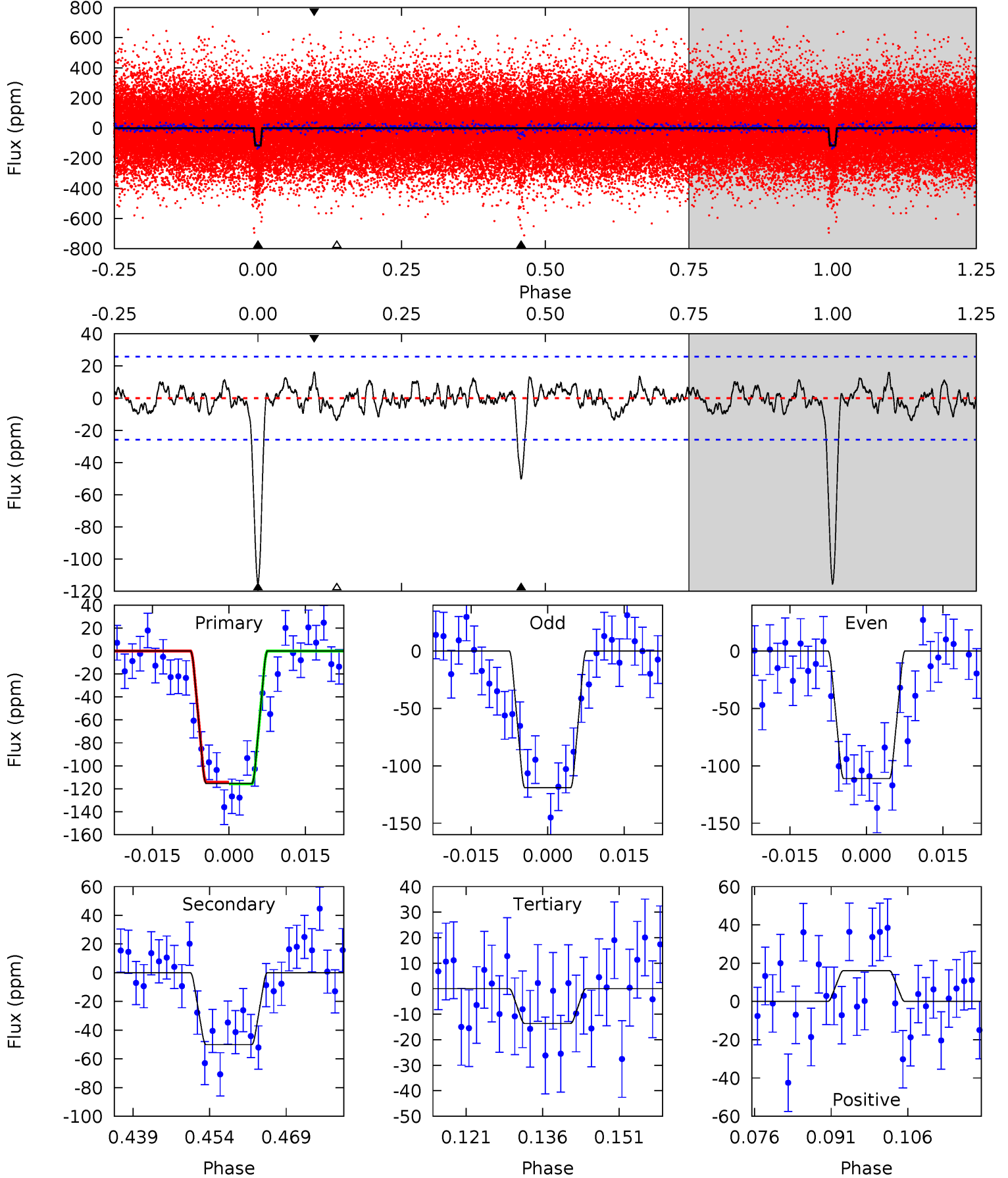
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.8	12.3	3.14	3.45	4.87	2.28	1.27	26.7	26.4	9.13	8.82	1.11	1.61	0.10	0.68



Alt Model-Shift Uniqueness Test

010383687-01, P = 8.487916 Days, E = 125.999693 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.1	9.58	2.61	3.09	4.95	2.43	1.02	19.5	19.0	6.97	6.50	0.77	1.59	0.12	0.14



Stellar Parameters For KIC 010383687

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6134^{+192}_{-234}	$4.396^{+0.105}_{-0.195}$	$-0.280^{+0.300}_{-0.300}$	$1.039^{+0.319}_{-0.159}$	$0.980^{+0.152}_{-0.124}$	$1.231^{+0.583}_{-0.632}$
	+3%/-4%	+2%/-4%	+107%/-107%	+31%/-15%	+16%/-13%	+47%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 010383687-01 / KOI 0334.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-52 ± 4	$1.72^{+0.63}_{-0.52}$	1368^{+107}_{-80}	4443^{+741}_{-407}	63^{+66}_{-29}
Alt.	-50 ± 5	$1.59^{+0.58}_{-0.55}$	1364^{+97}_{-75}	4548^{+953}_{-480}	70^{+95}_{-32}

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 $A_{obs} \gg 1.0$

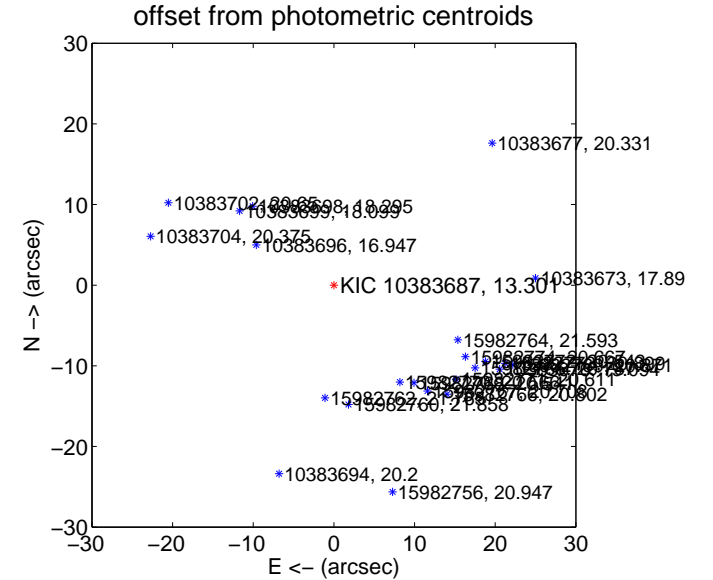
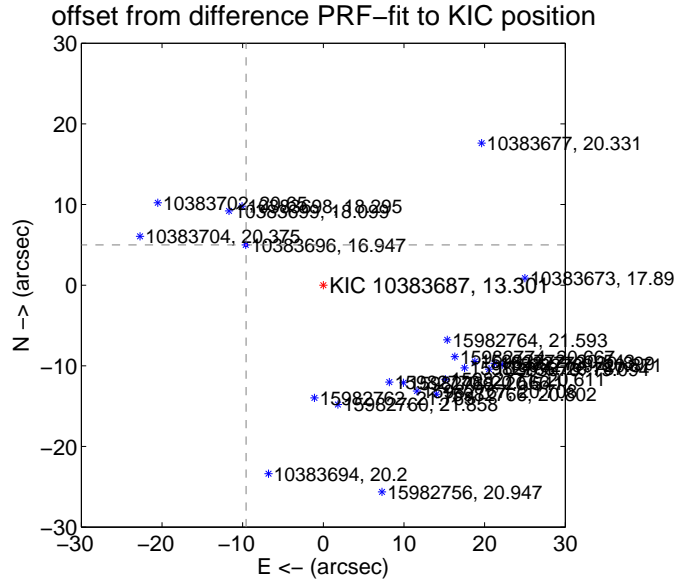
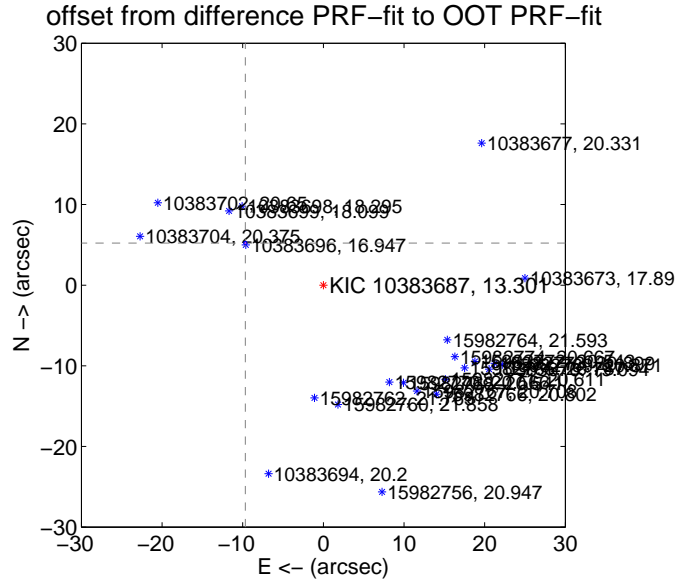
DV Centroid Data

Supplemental centroid analysis for 010383687-01. Kepler magnitude: 13.30. Transit SNR 18.16

There are 12 quarters with good PRF difference image offsets

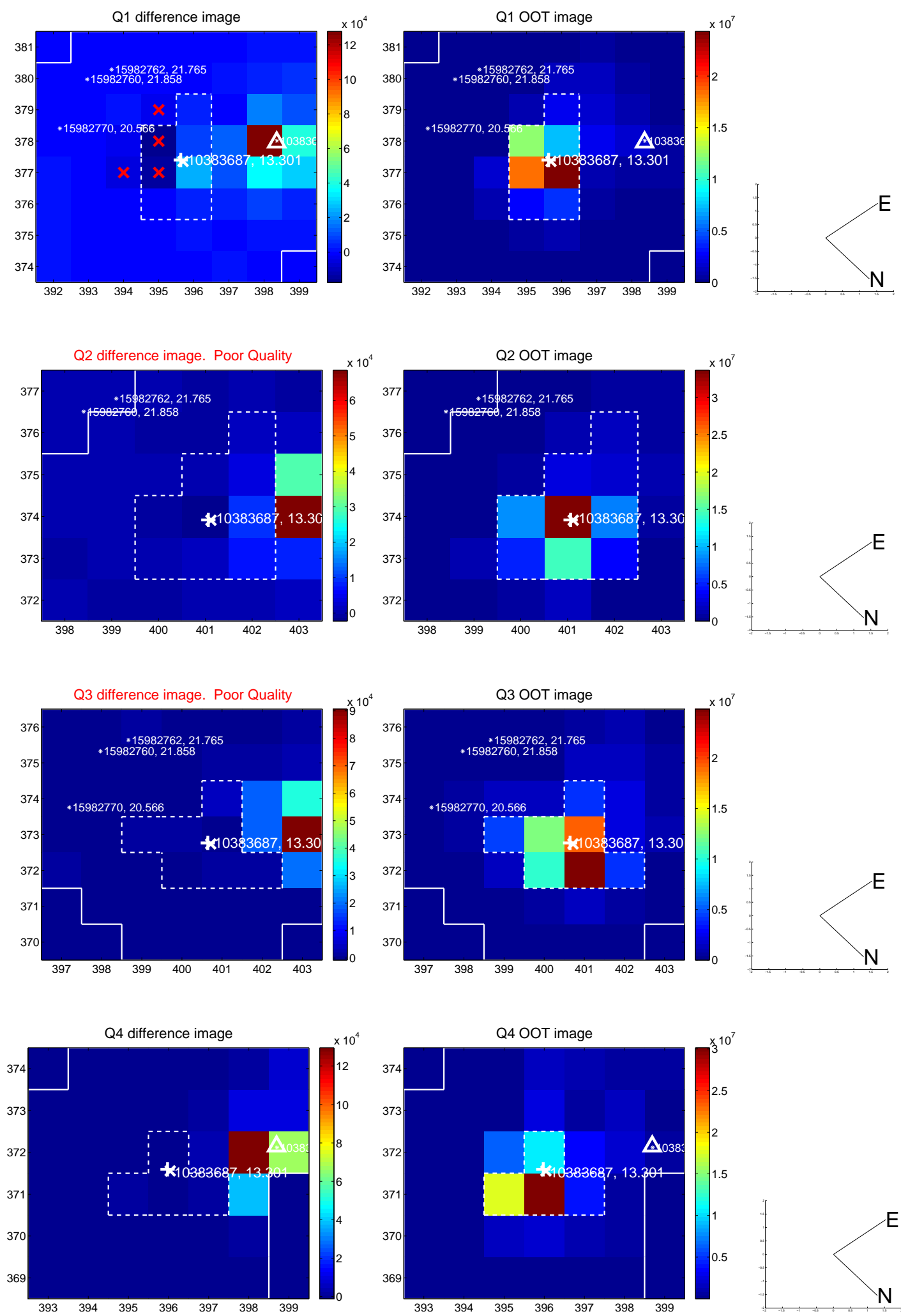
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.995 \pm 0.070	157.89	9.675 \pm 0.070	5.224 \pm 0.067
PRF-fit source offset from KIC position	10.804 \pm 0.069	156.77	9.583 \pm 0.071	4.990 \pm 0.068
photometric centroid source offset	90.66 \pm 0.81	112.43	76.54 \pm 0.81	48.59 \pm 0.79

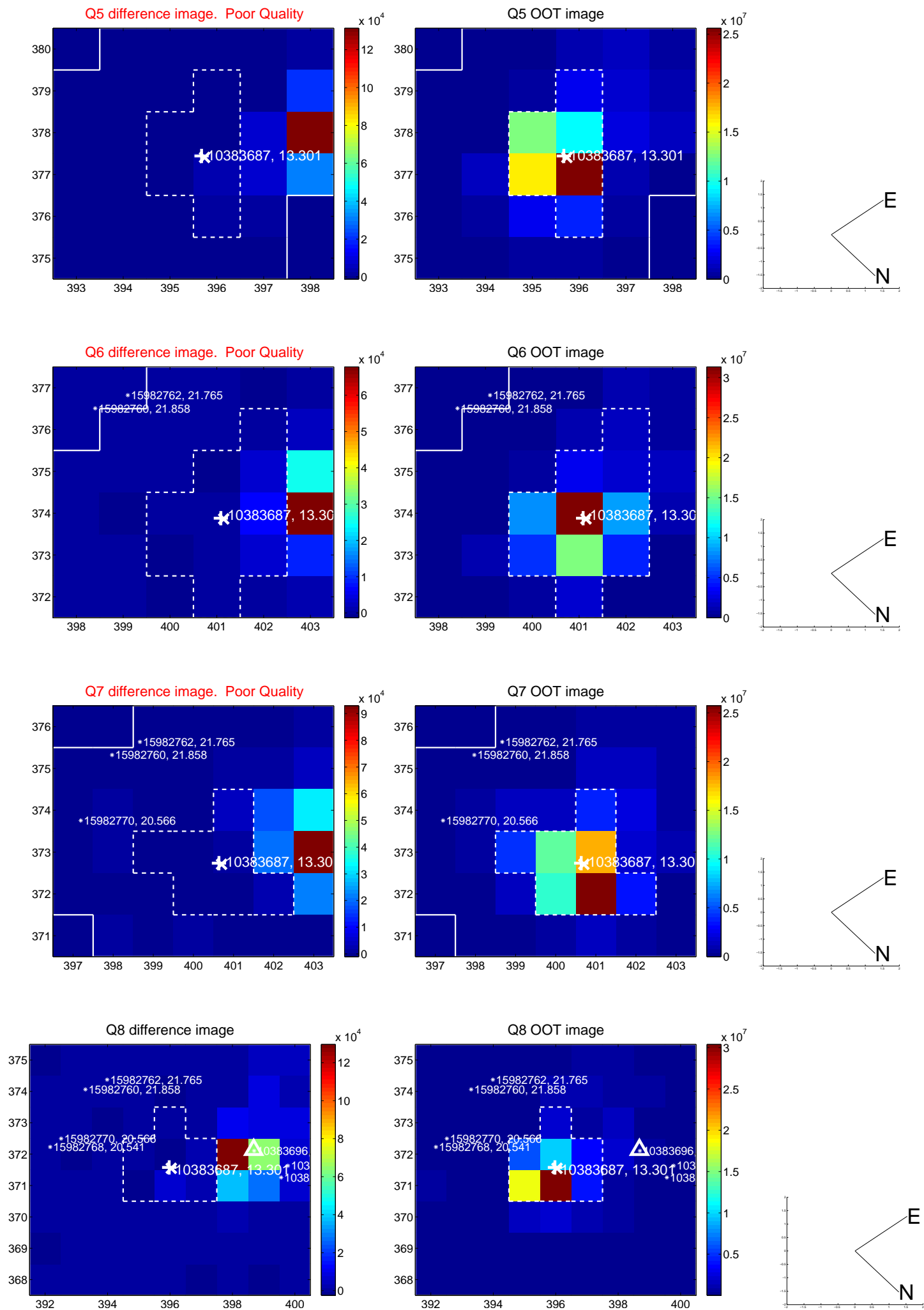


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

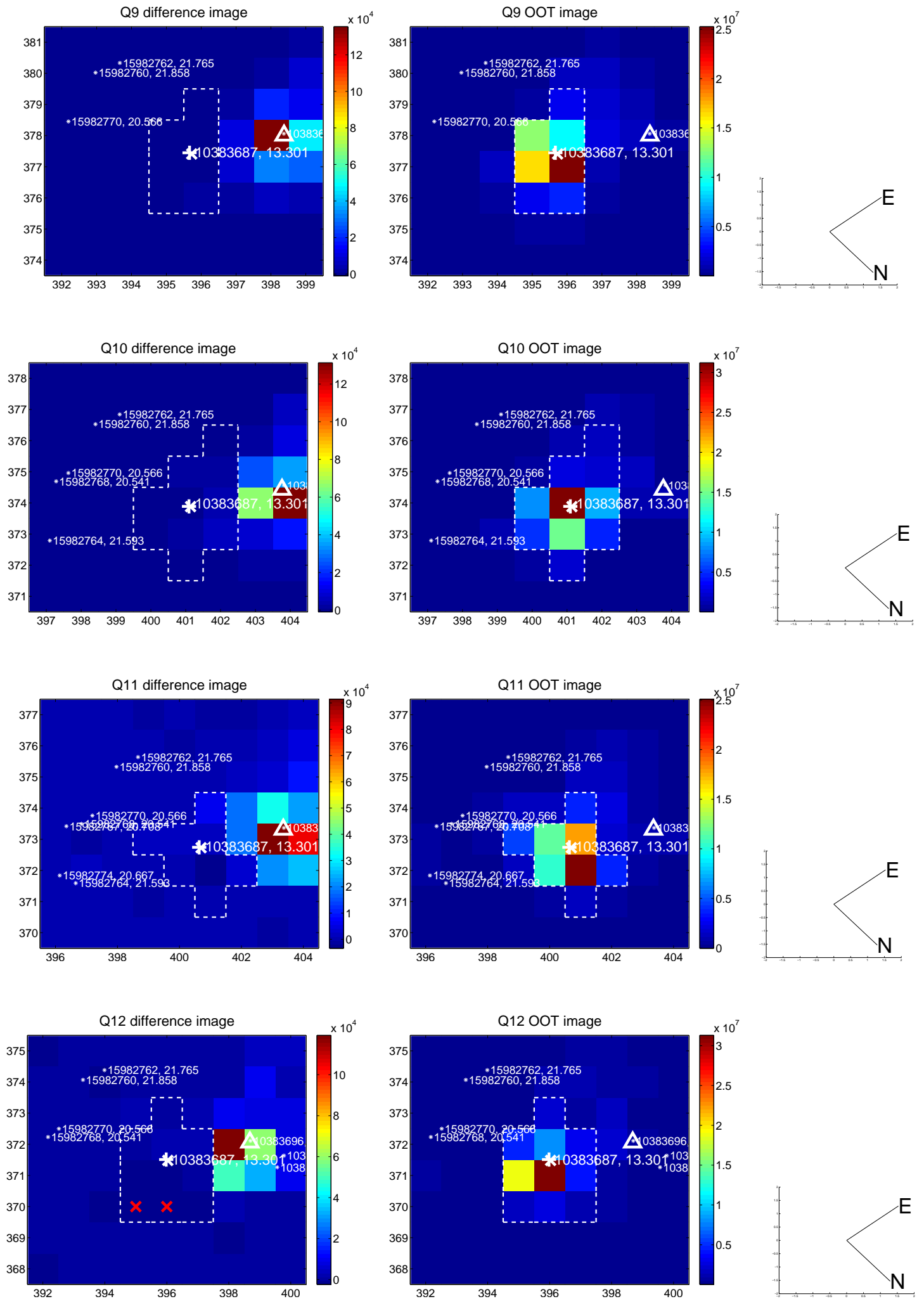
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



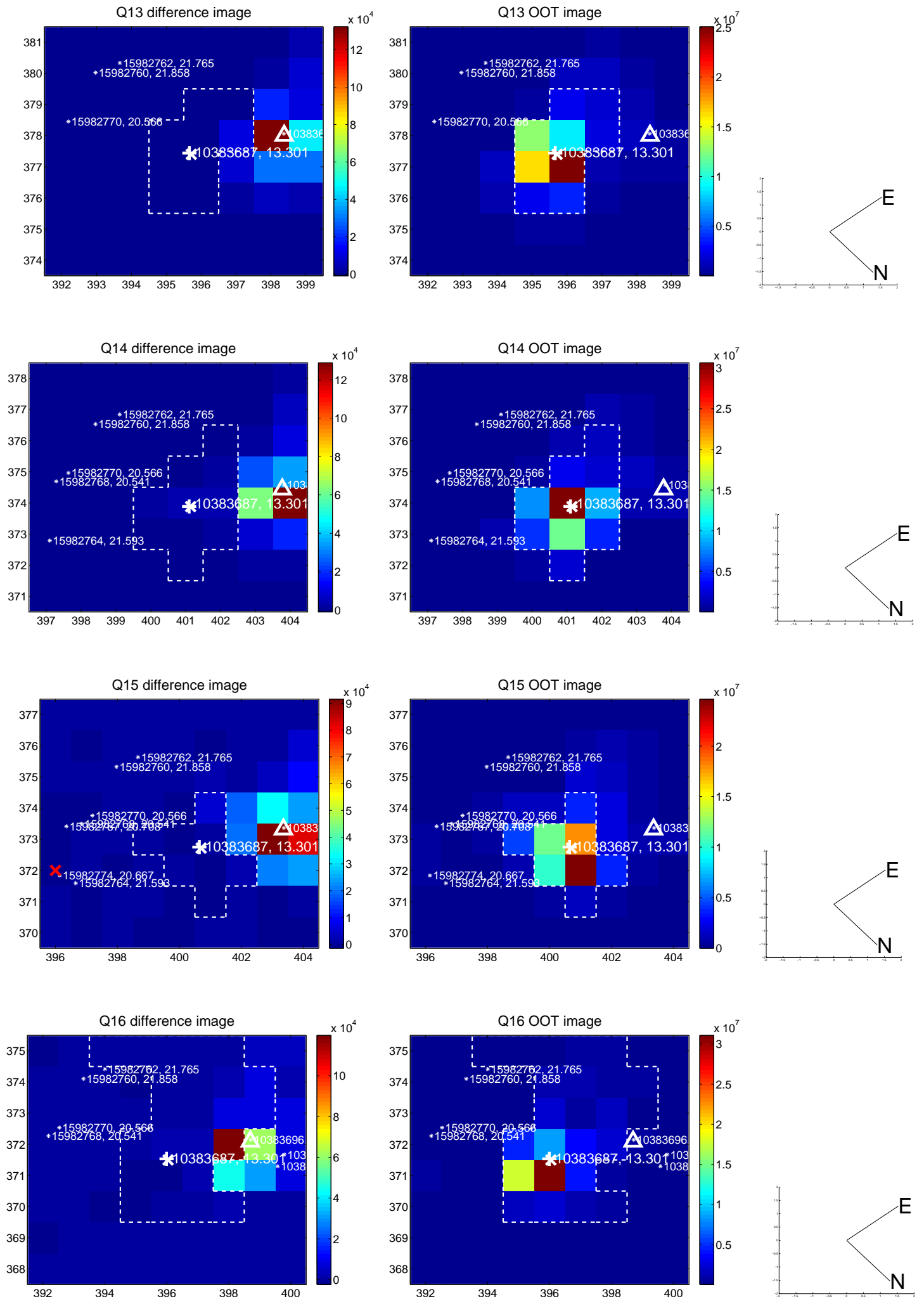
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



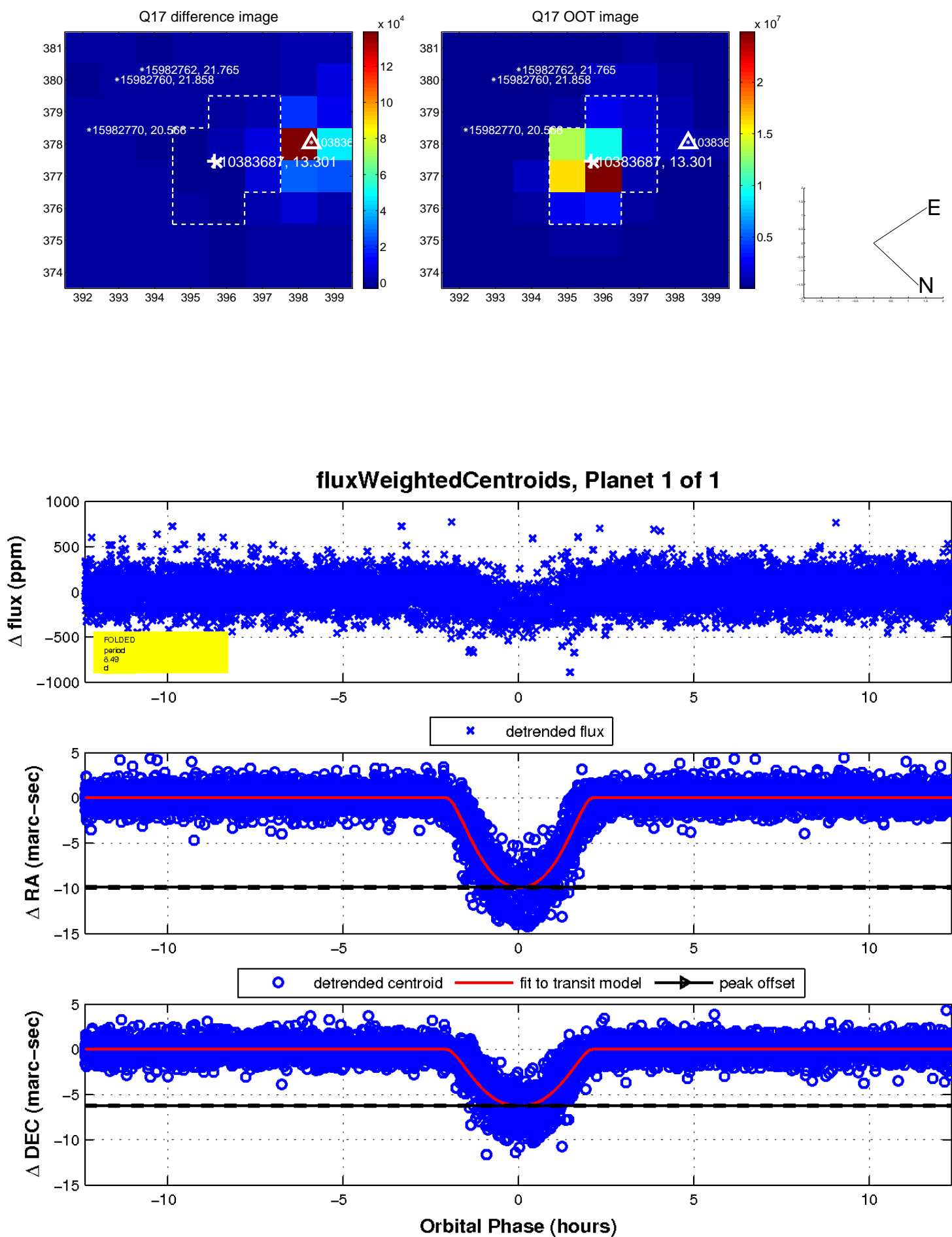
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

