

KIC 005120087

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})
005120087-01	OBS	0639.01	17.979768	146.284303	470.0	5.948	47.1	50.9	1.35	6141	3.35	111.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005120087-01	OBS	PC	1.00	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.

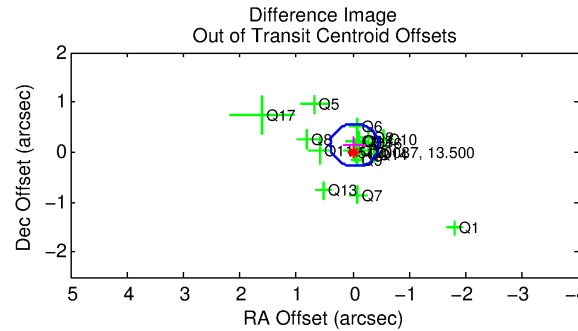
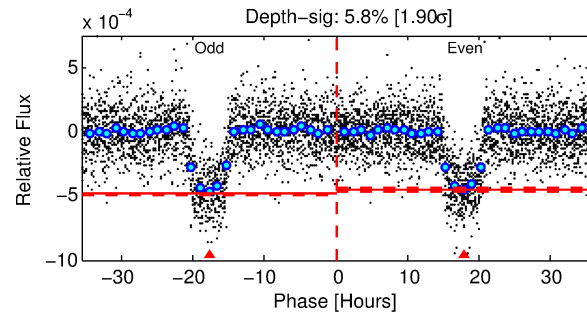
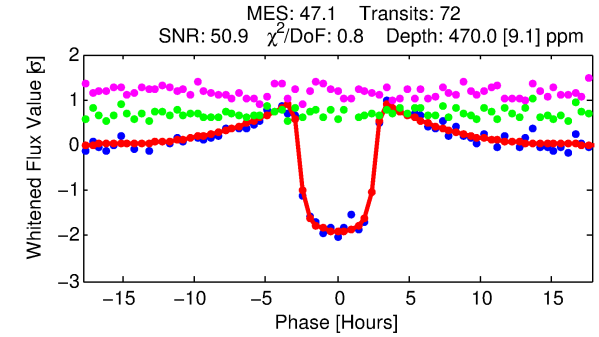
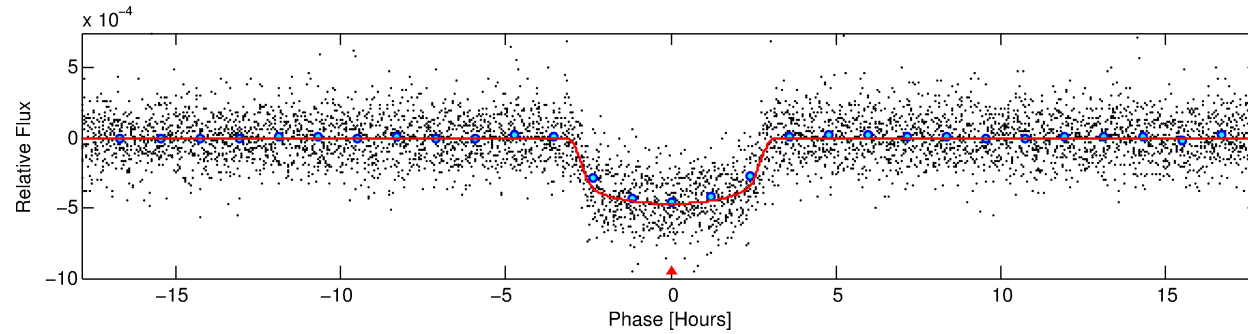
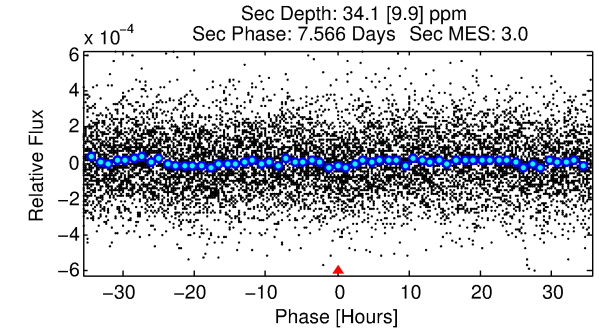
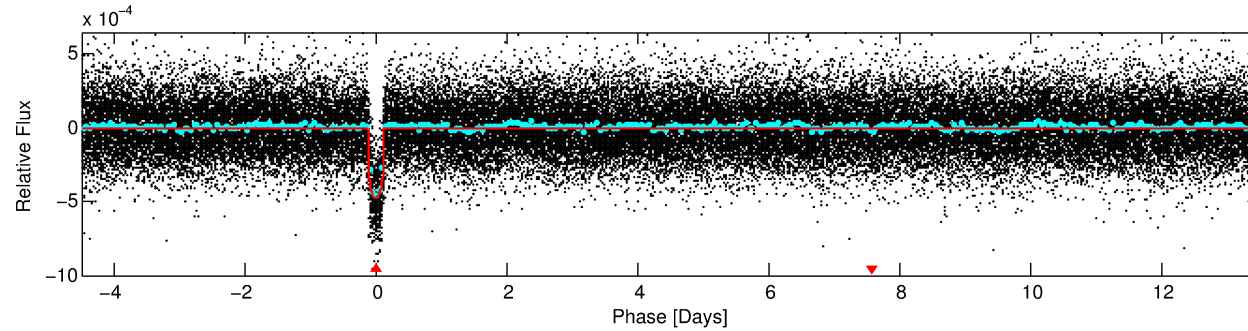
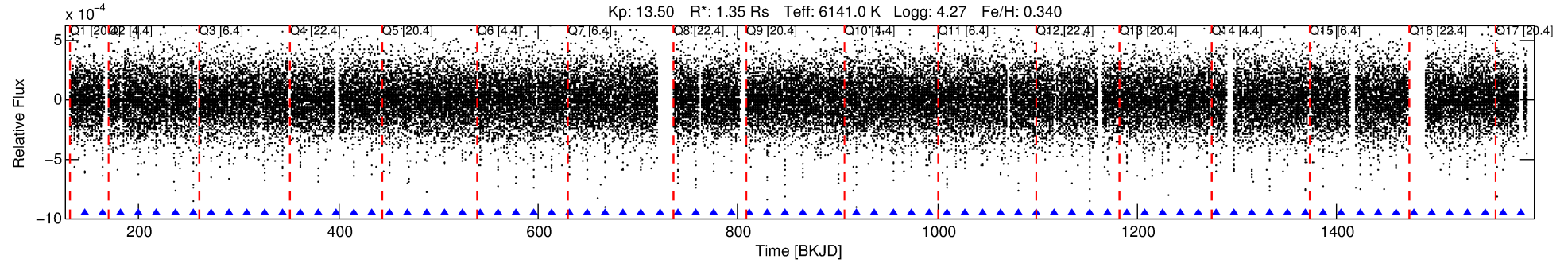
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005120087-01

No Significant Match Found

DV One-Page Summary

KIC: 5120087 Candidate: 1 of 1 Period: 17.980 d
KOI: K00639.01 Corr: 0.971



DV Fit Results:

Period = 17.97977 [0.00004] d
Epoch = 146.2843 [0.0017] BKJD
Rp/R* = 0.0227 [0.0010]
a/R* = 12.94 [2.53]
b = 0.86 [0.06]
Seff = 111.38 [26.17]
Teq = 828 [49] K
Rp = 3.35 [0.60] Re
a = 0.1446 [0.0215] AU
Ag = 34.96 [13.05] [2.60σ]
Teffp = 3114 [246] K [9.13σ]

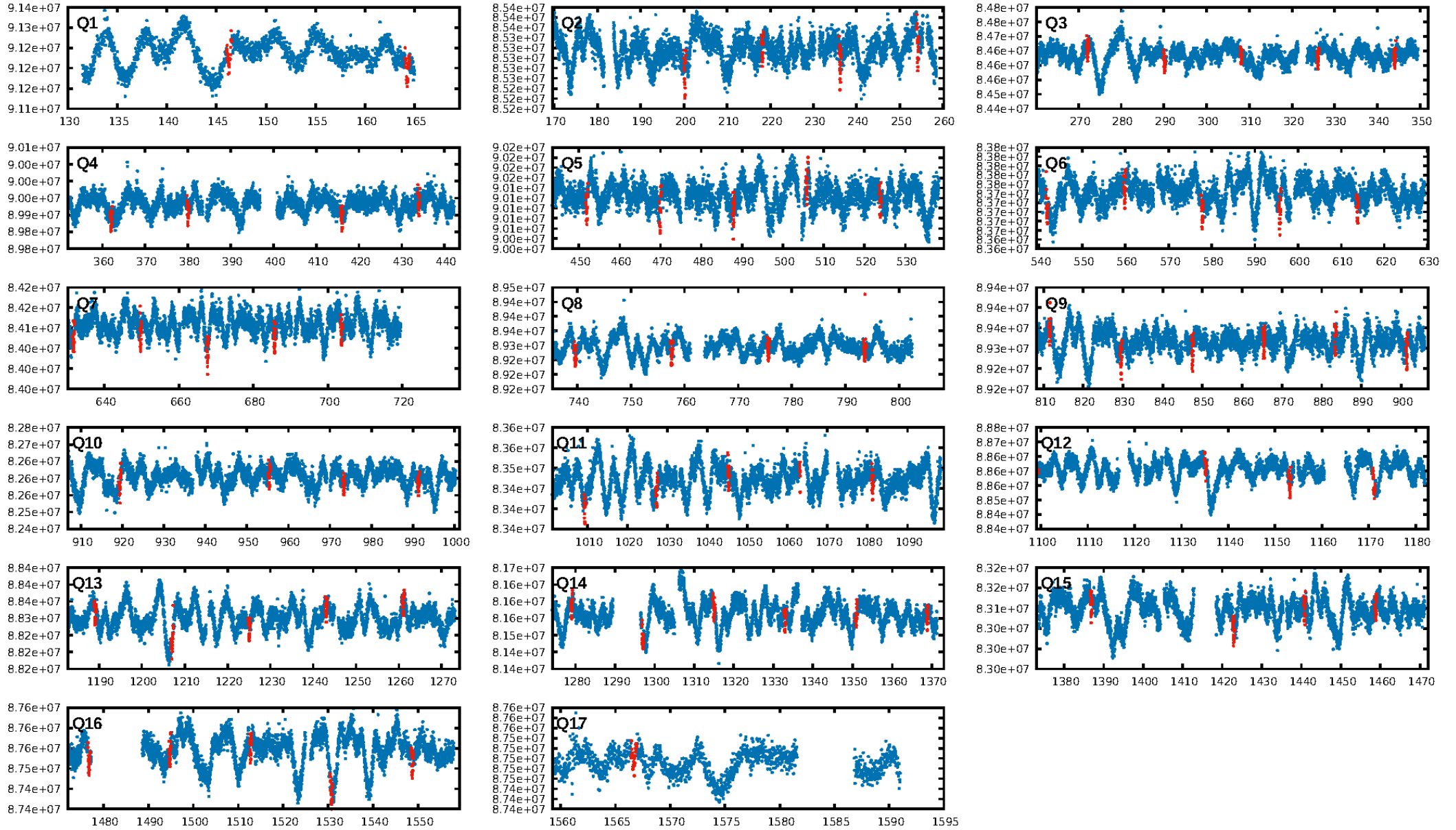
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [69/69]
GhostDiagnostic-chr: 4.168
Centroid-sig: 0.5%
Centroid-so: 0.503 arcsec [2.58σ]
OotOffset-rm: 0.144 arcsec [1.01σ]
KicOffset-rm: 0.115 arcsec [0.57σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

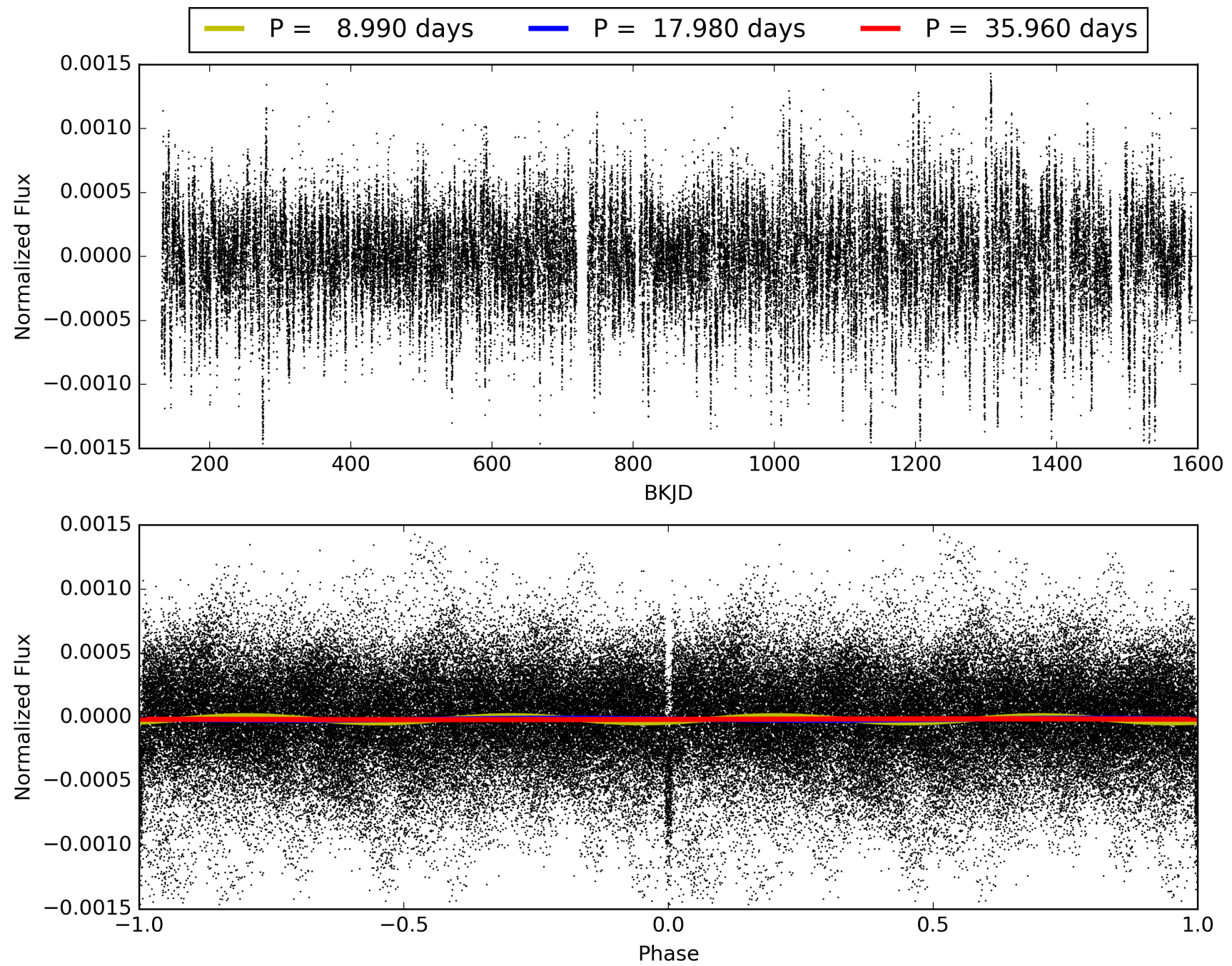
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:47:37 Z

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

TCE 005120087-01, PDC Light Curves

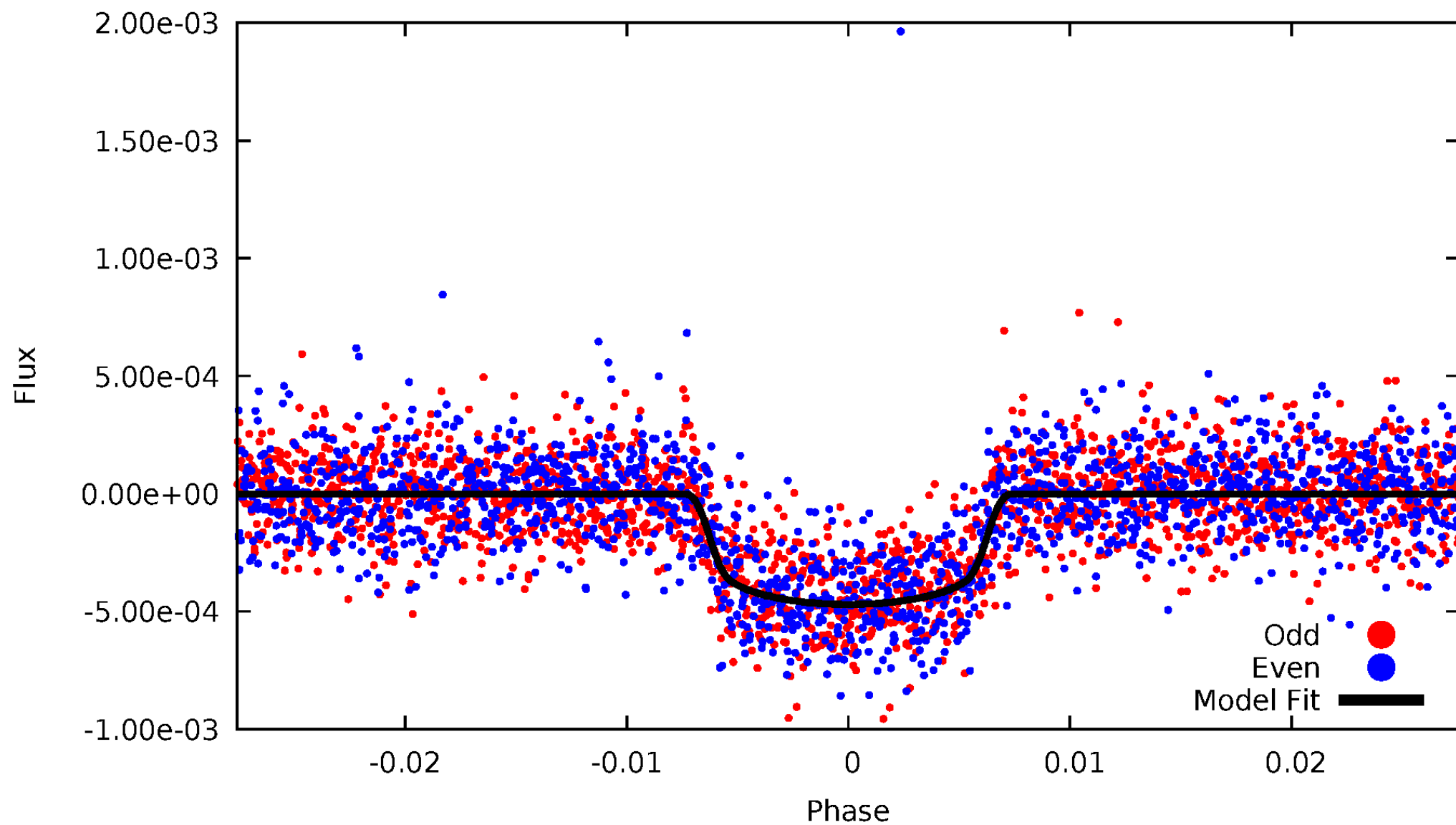


TCE 005120087-01



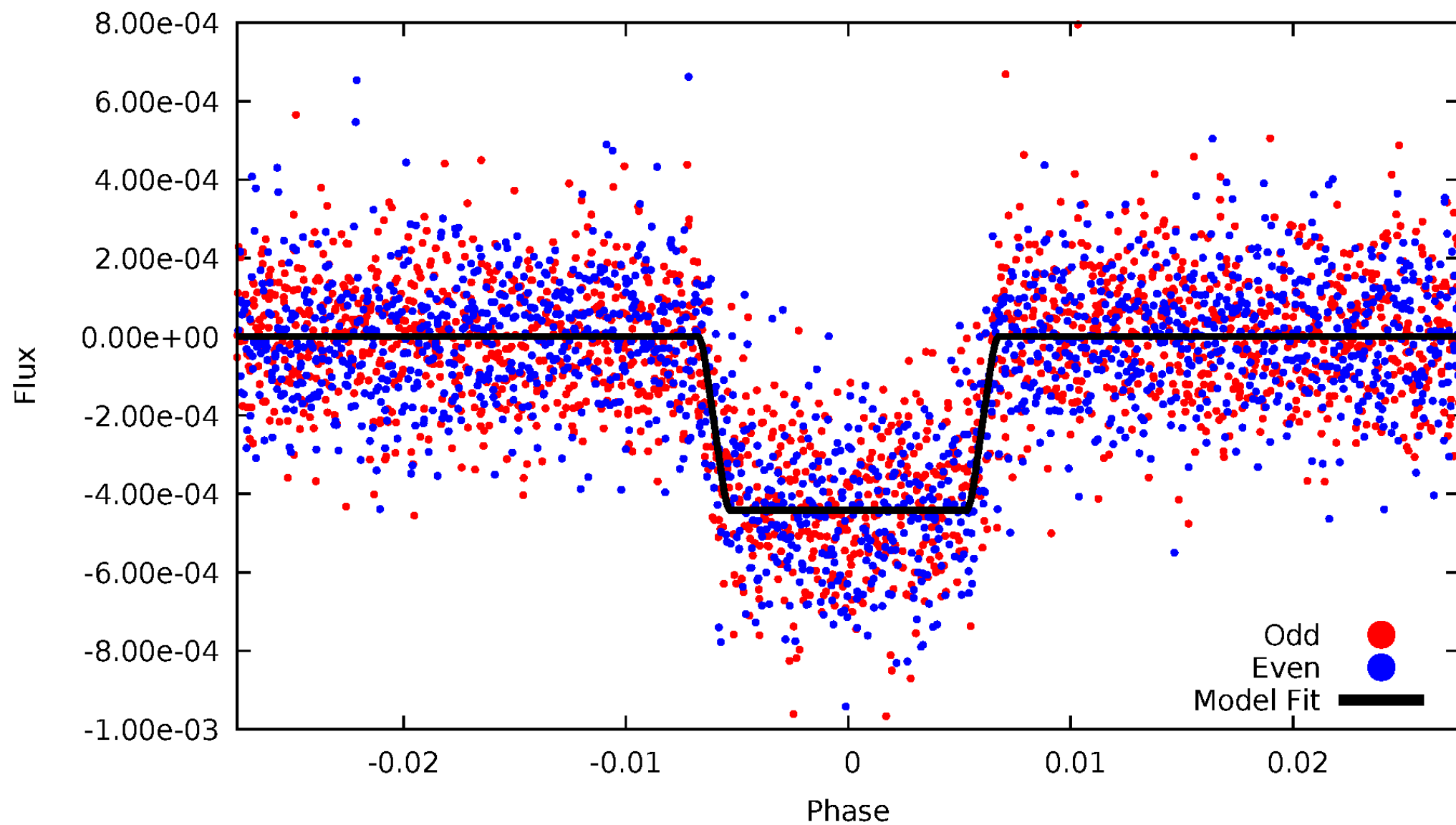
DV Odd/Even

TCE 005120087-01



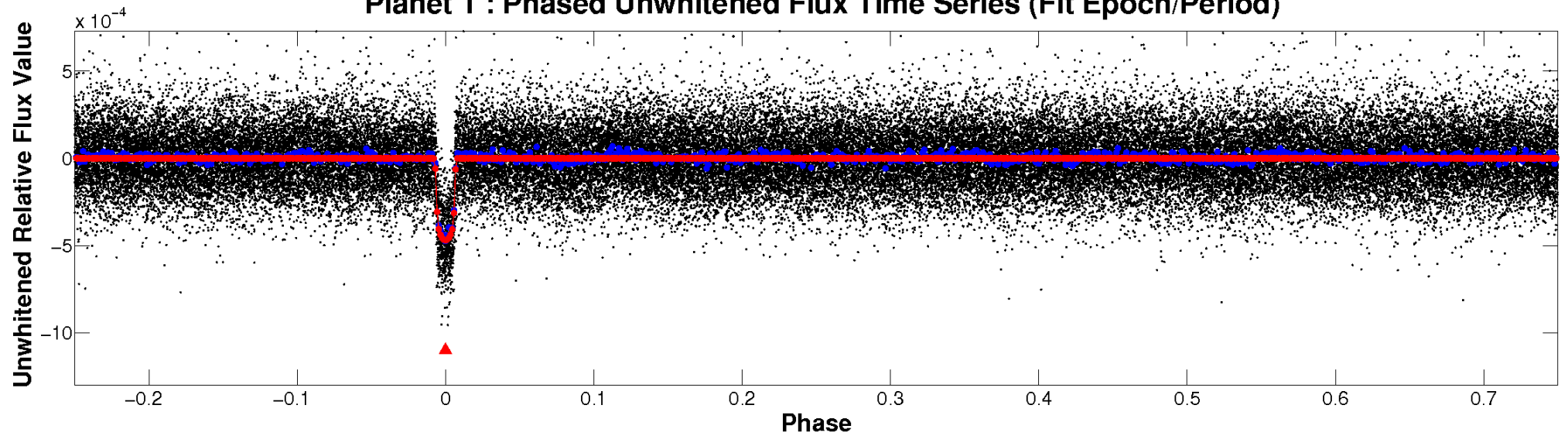
ALT Odd/Even

TCE 005120087-01

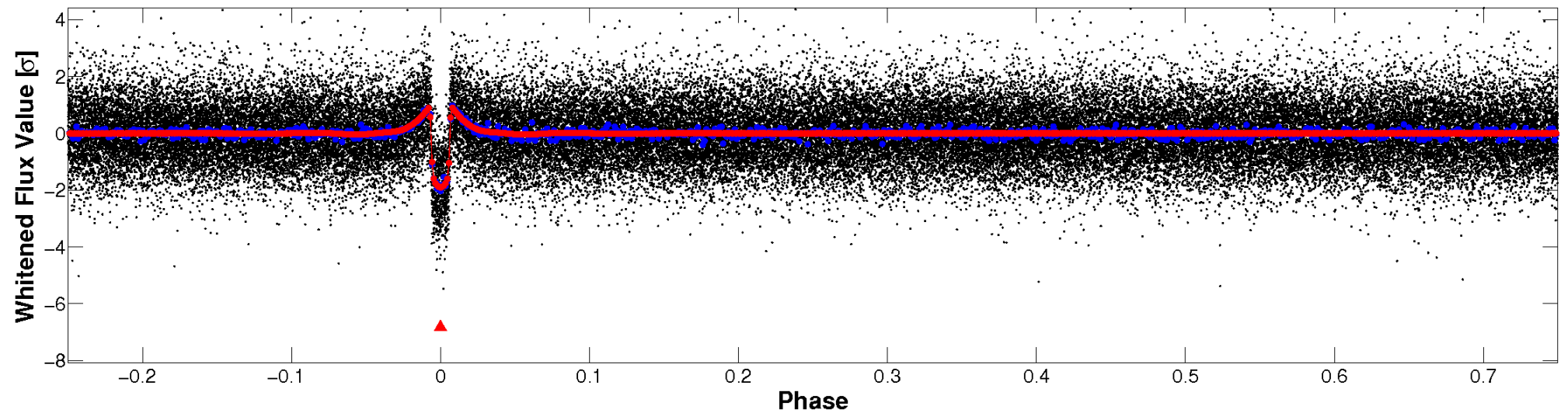


Non-Whitened Vs. Whitened Light Curve

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

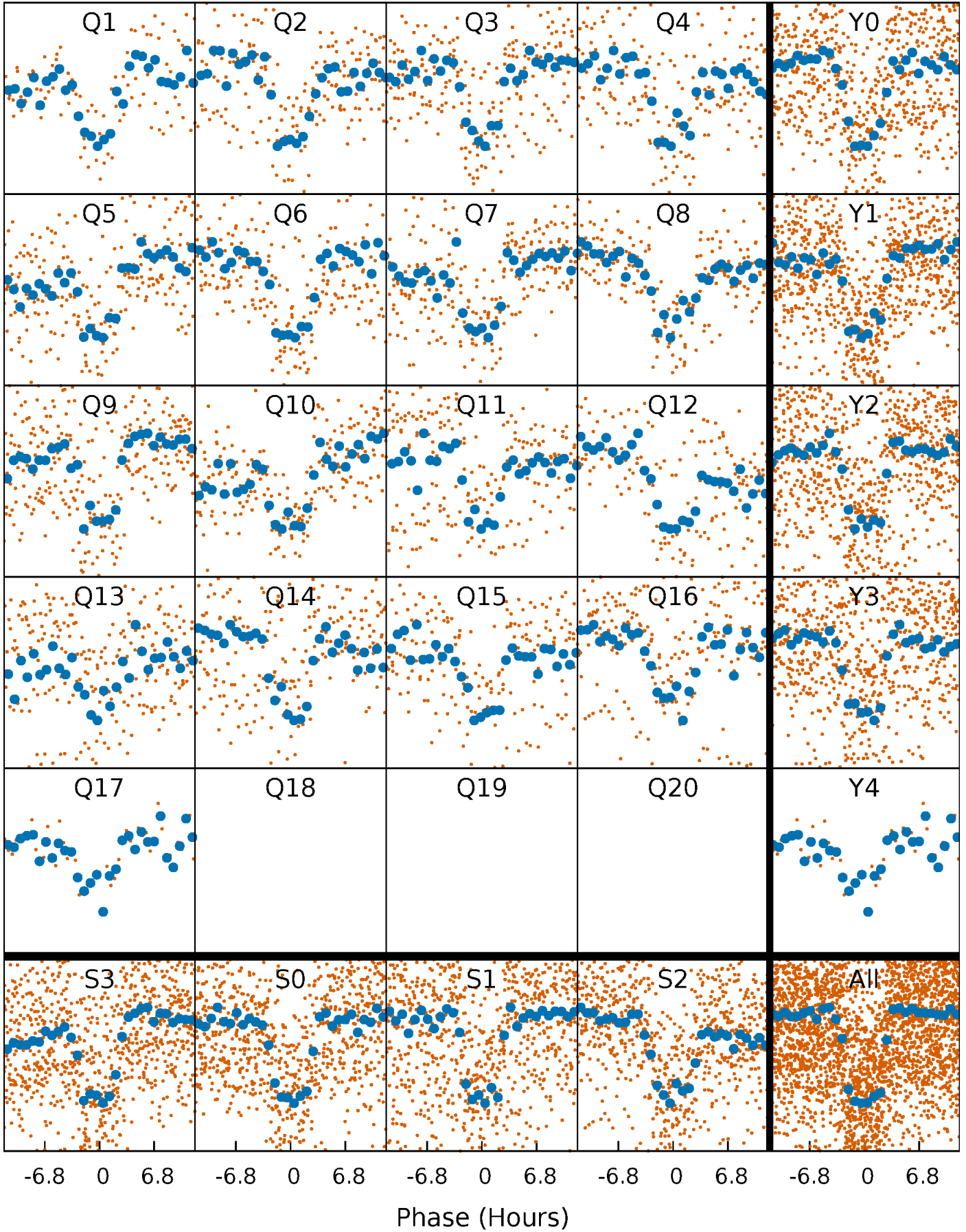


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



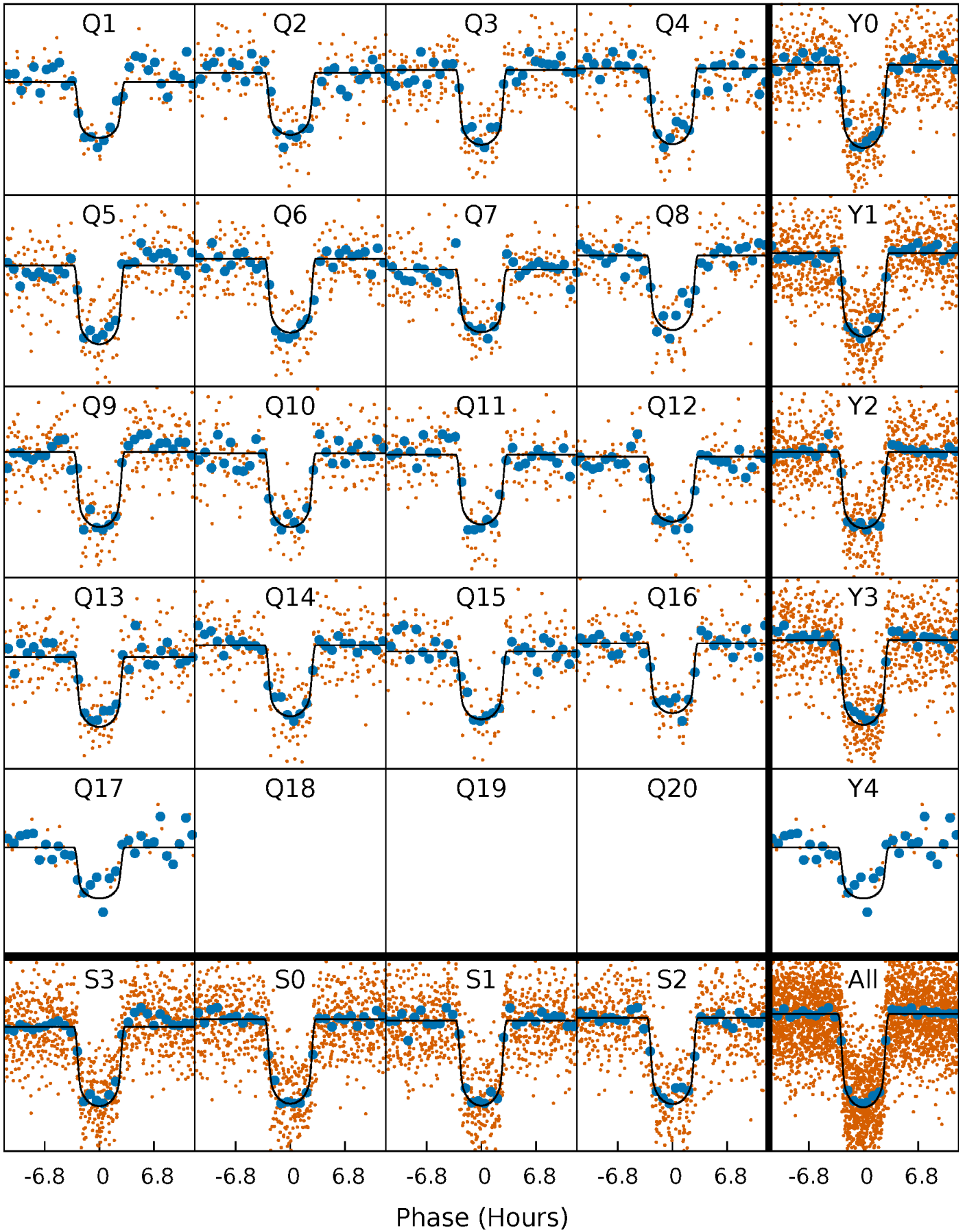
PDC Quarter-Phased Transit Curves

TCE 005120087-01 P= 17.979768 Days $T_0=146.284303$ (BKJD)



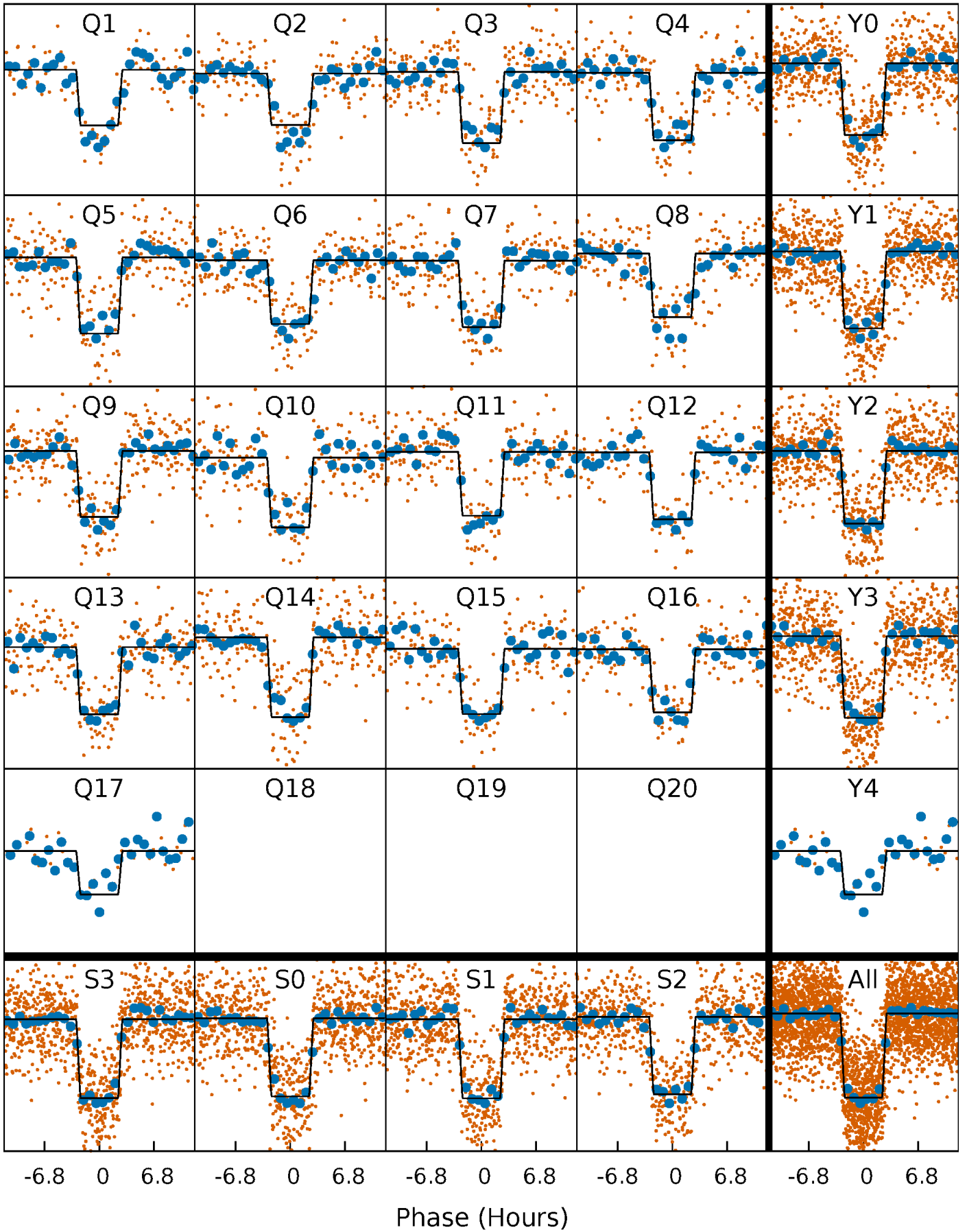
DV Quarter-Phased Transit Curves

TCE 005120087-01 P= 17.979768 Days $T_0=146.284303$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

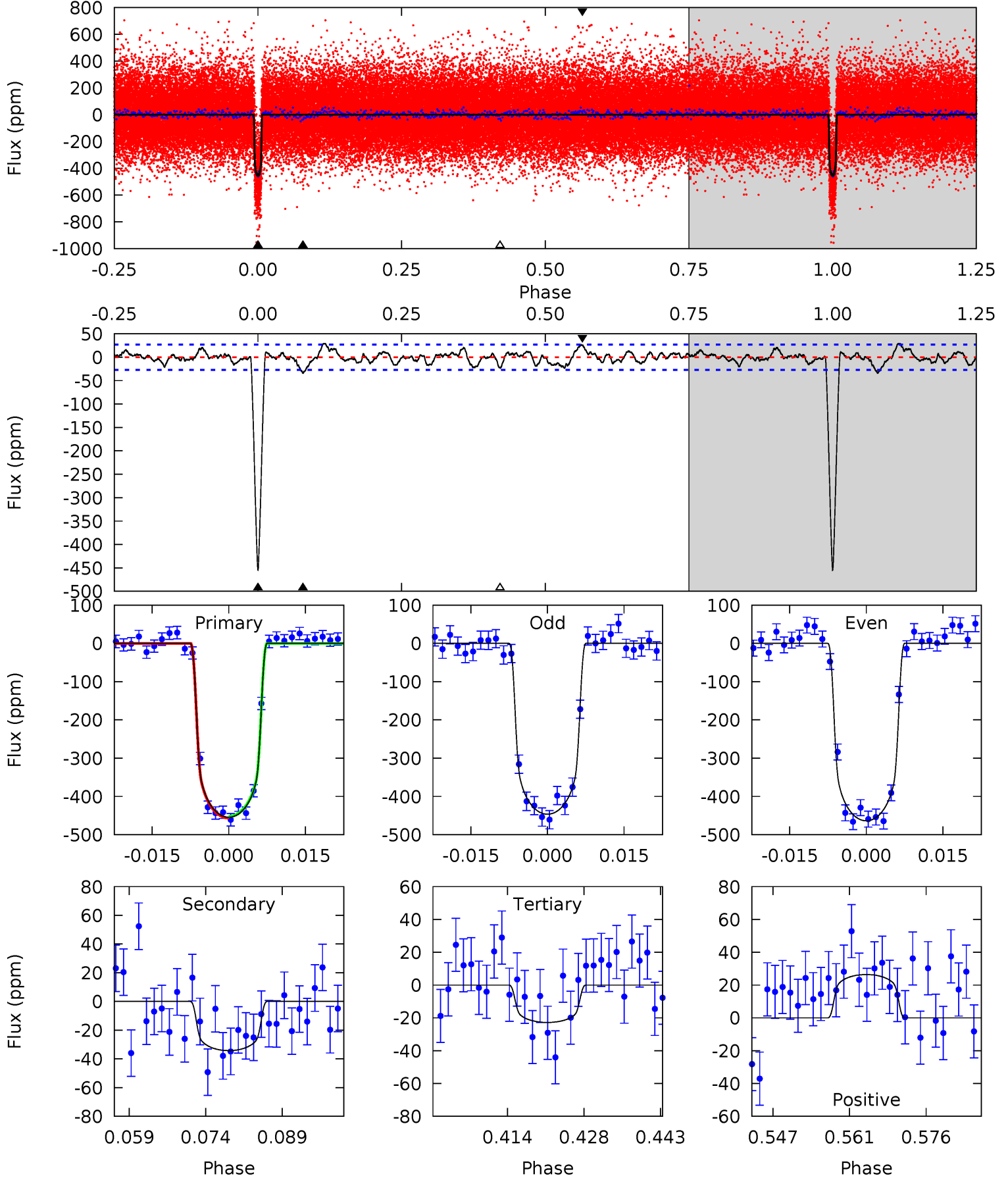
TCE 005120087-01 P= 17.979882 Days $T_0=146.279426$ (BKJD)



DV Model-Shift Uniqueness Test

005120087-01, $P = 17.979768$ Days, $E = 128.304535$ Days

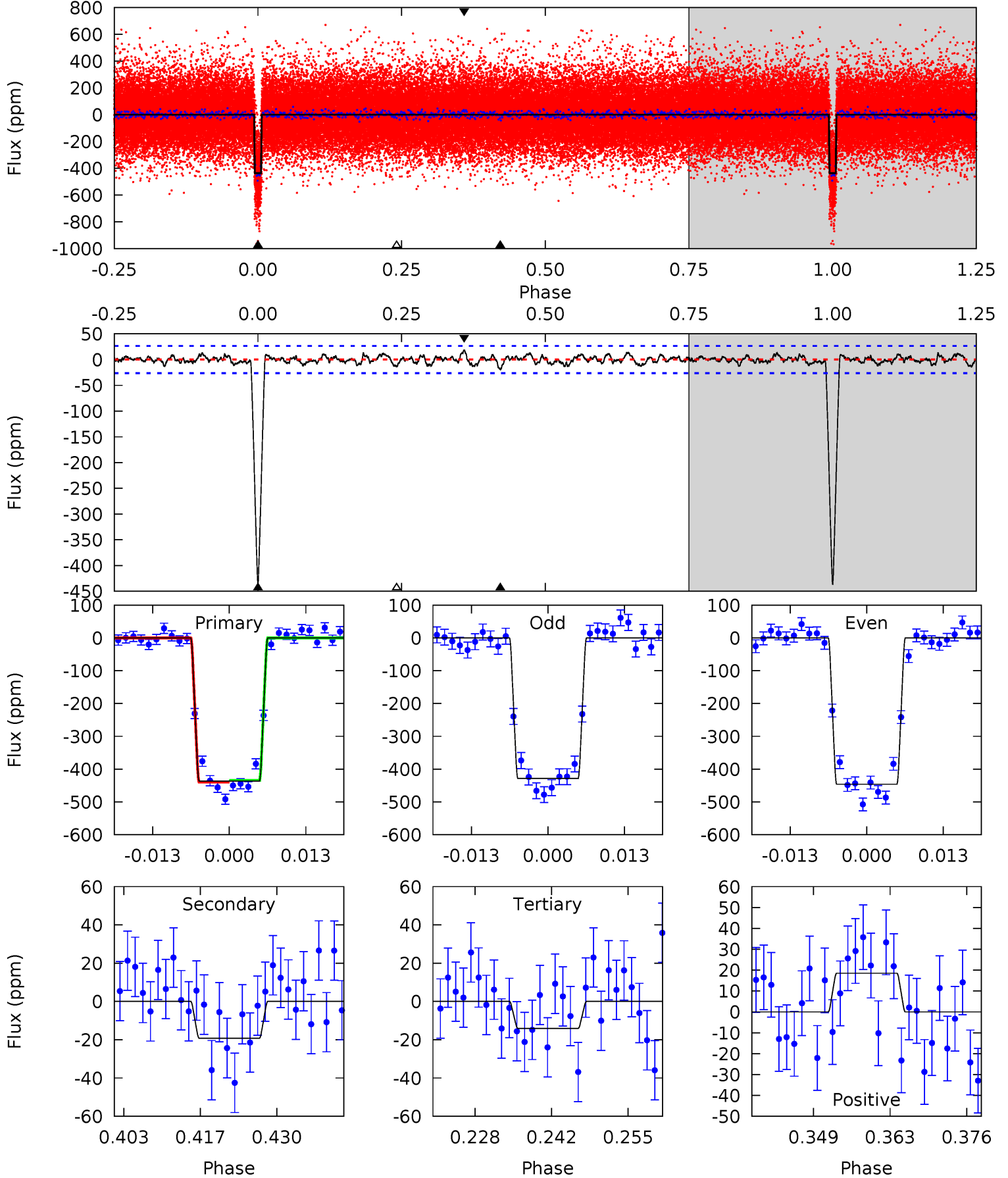
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
83.4	6.29	4.18	4.85	4.95	2.44	1.77	79.3	78.6	2.11	1.44	1.58	0.99	0.06	0.36



Alt Model-Shift Uniqueness Test

005120087-01, $P = 17.979882$ Days, $E = 128.299544$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
81.9	3.60	2.64	3.47	4.97	2.47	1.08	79.2	78.4	0.95	0.12	1.64	1.01	0.04	0.46



Stellar Parameters For KIC 005120087

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6141^{+110}_{-135}	$4.272^{+0.080}_{-0.120}$	$0.340^{+0.100}_{-0.150}$	$1.352^{+0.236}_{-0.158}$	$1.247^{+0.085}_{-0.078}$	$0.710^{+0.275}_{-0.249}$
	+2%/-2%	+2%/-3%	+29%/-44%	+17%/-12%	+7%/-6%	+39%/-35%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 005120087-01 / KOI 0639.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-34 ± 5	$3.38^{+0.31}_{-0.27}$	1164^{+46}_{-43}	3580^{+103}_{-113}	35^{+8}_{-8}
Alt.	-19 ± 5	$3.12^{+0.29}_{-0.24}$	1160^{+52}_{-46}	3328^{+141}_{-165}	22^{+7}_{-7}

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 $A_{\text{obs}} \gg 1.0$

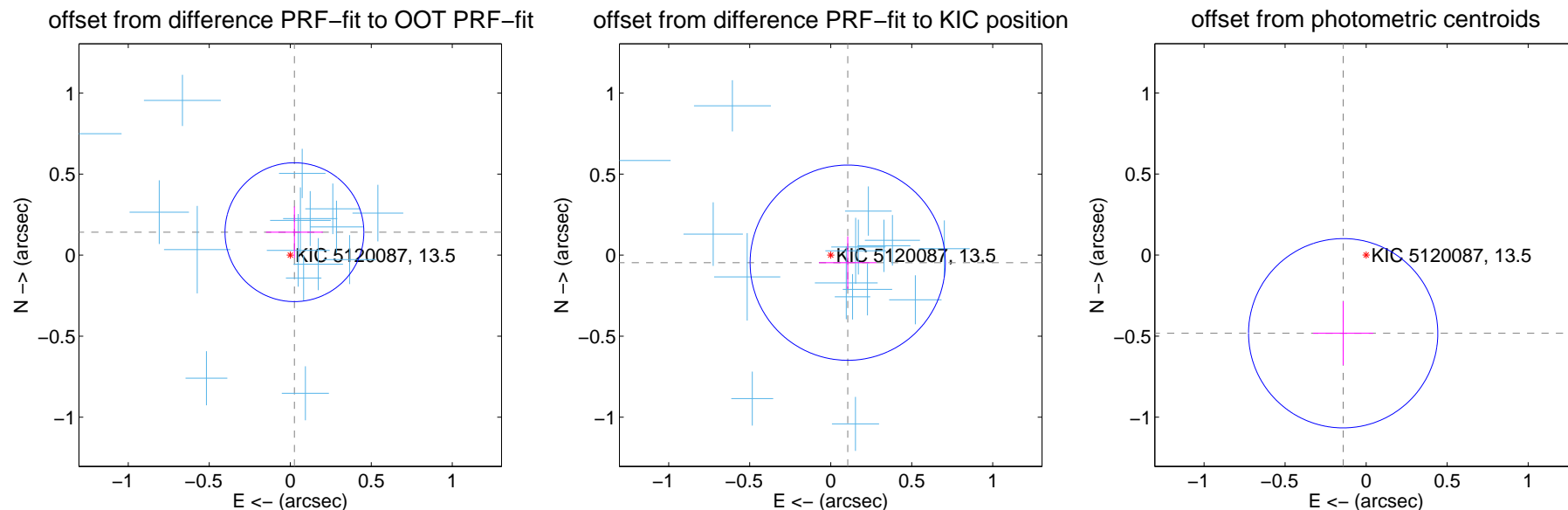
DV Centroid Data

Supplemental centroid analysis for 005120087-01. Kepler magnitude: 13.50. Transit SNR 50.90

There are 17 quarters with good PRF difference image offsets

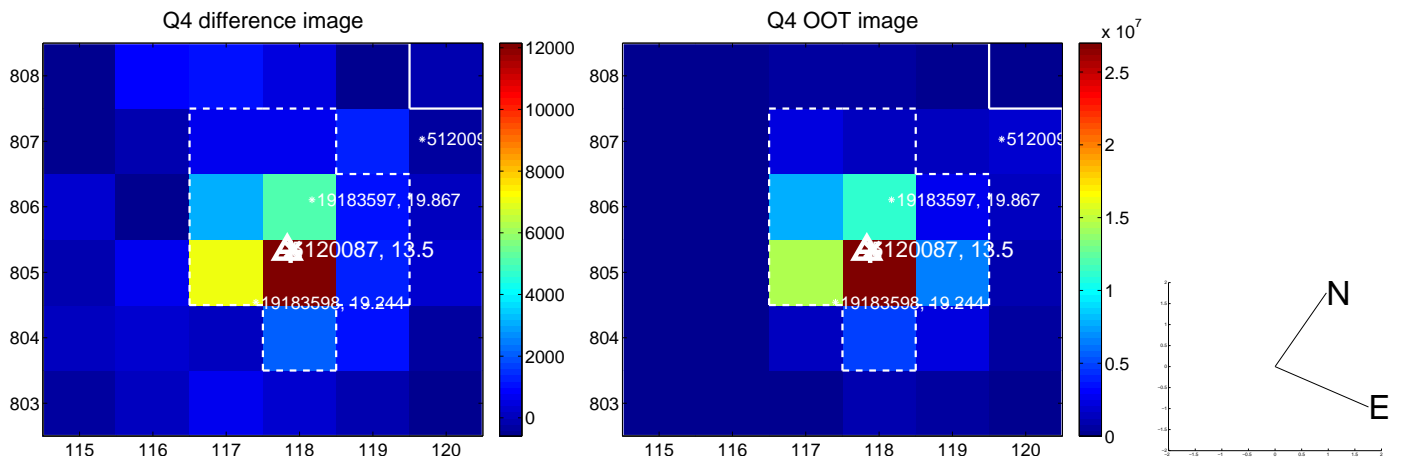
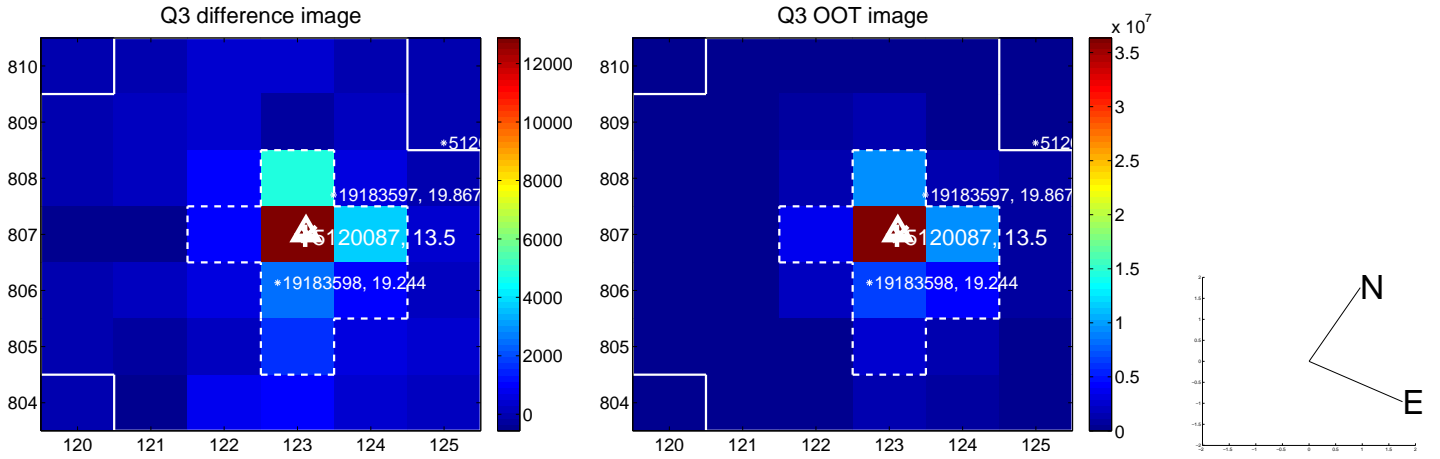
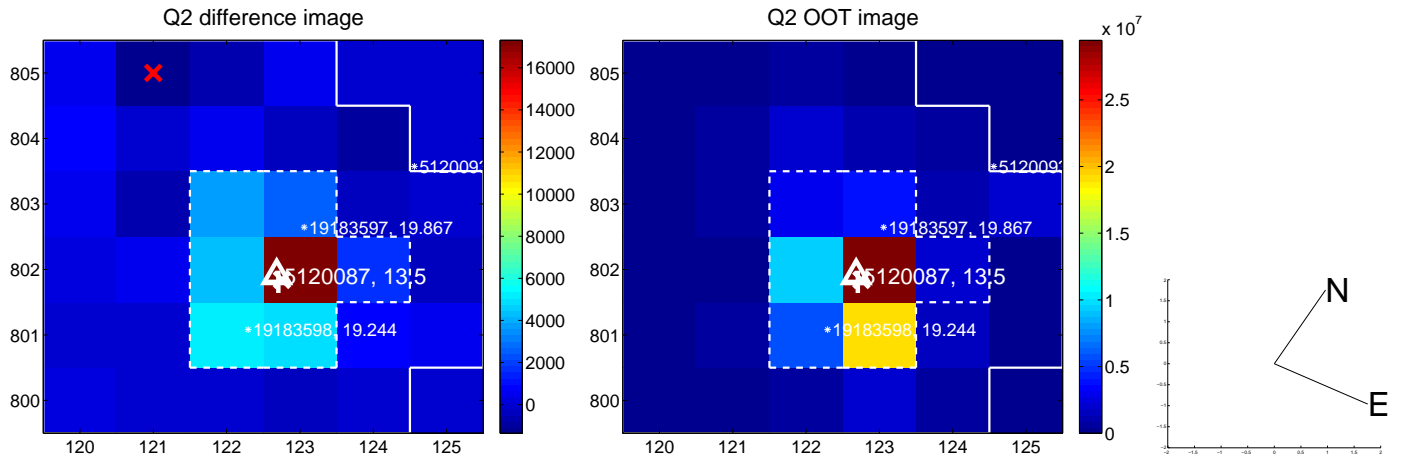
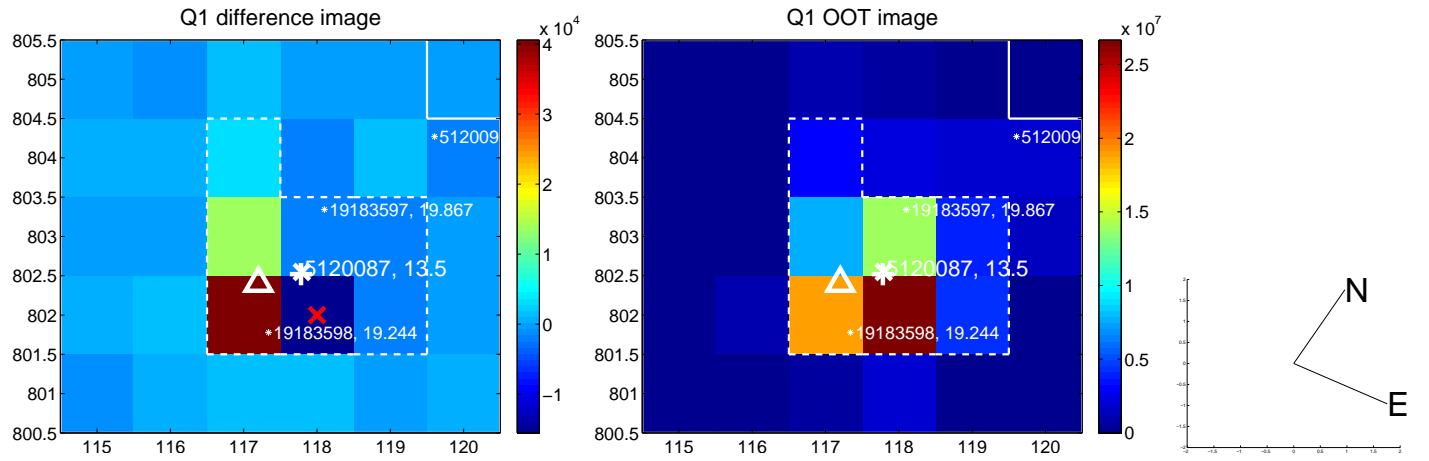
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.144 ± 0.143	1.01	-0.026 ± 0.176	0.142 ± 0.159
PRF-fit source offset from KIC position	0.115 ± 0.201	0.57	-0.105 ± 0.177	-0.047 ± 0.162
photometric centroid source offset	0.50 ± 0.19	2.58	0.14 ± 0.19	-0.48 ± 0.20

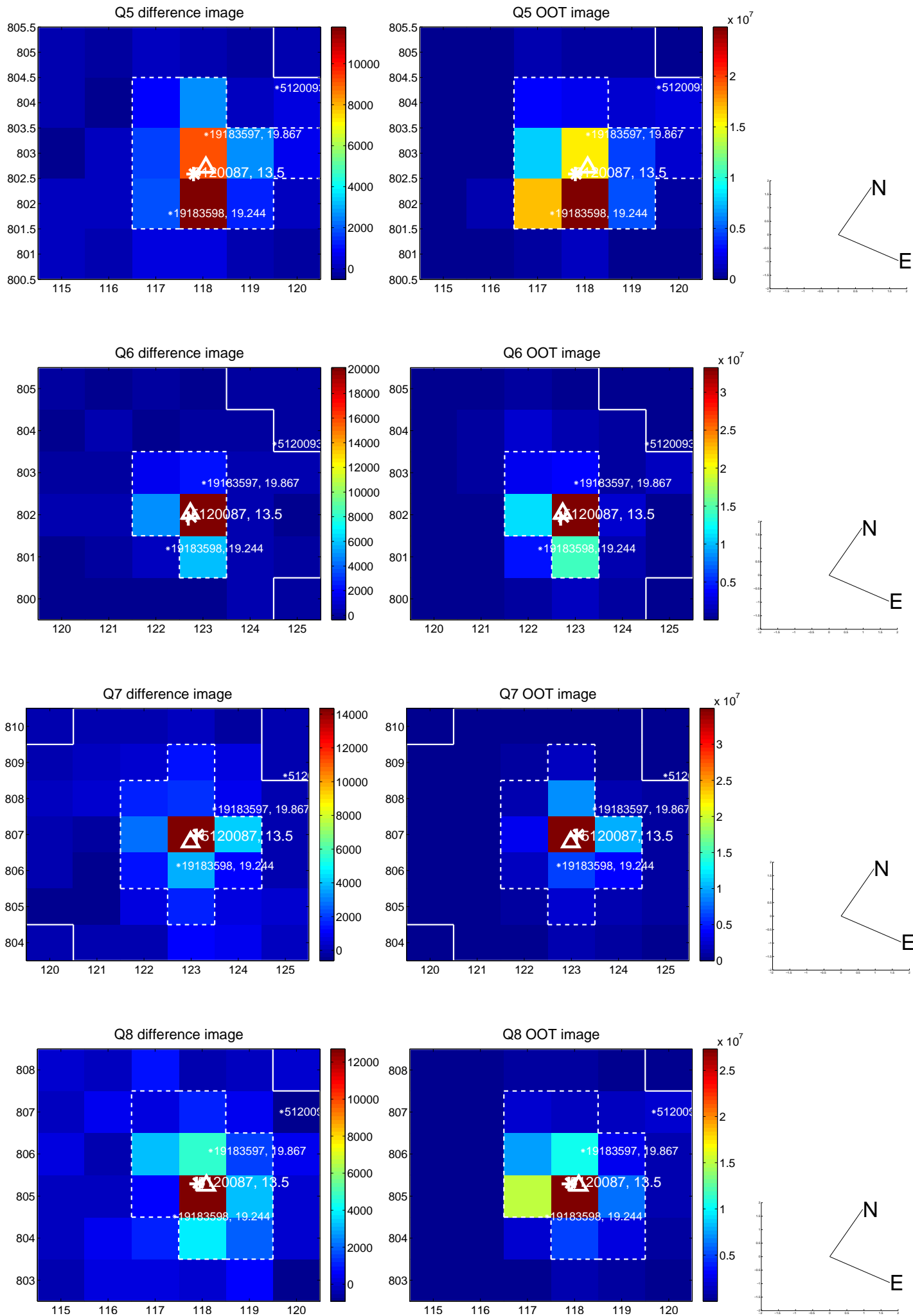


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

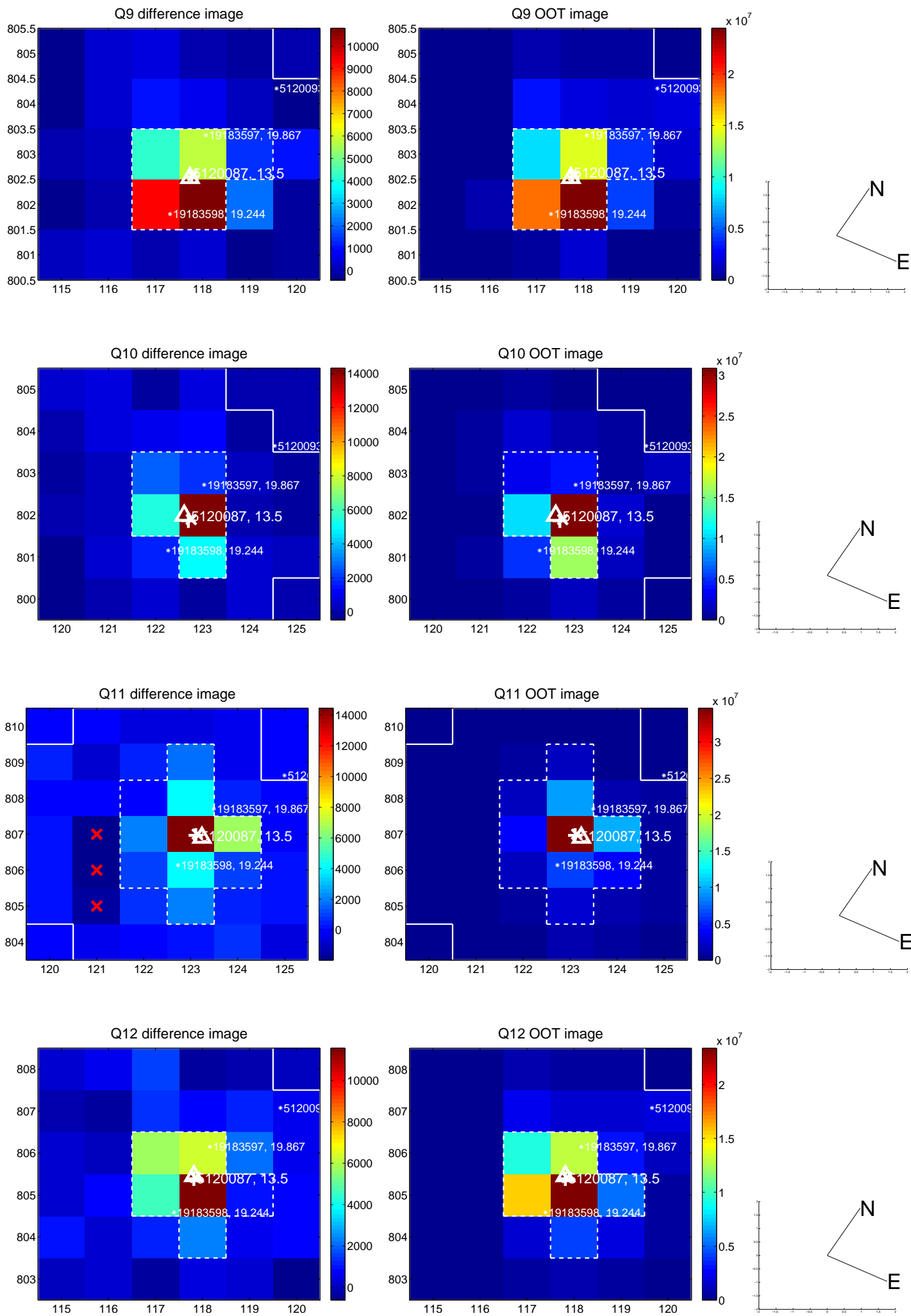
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



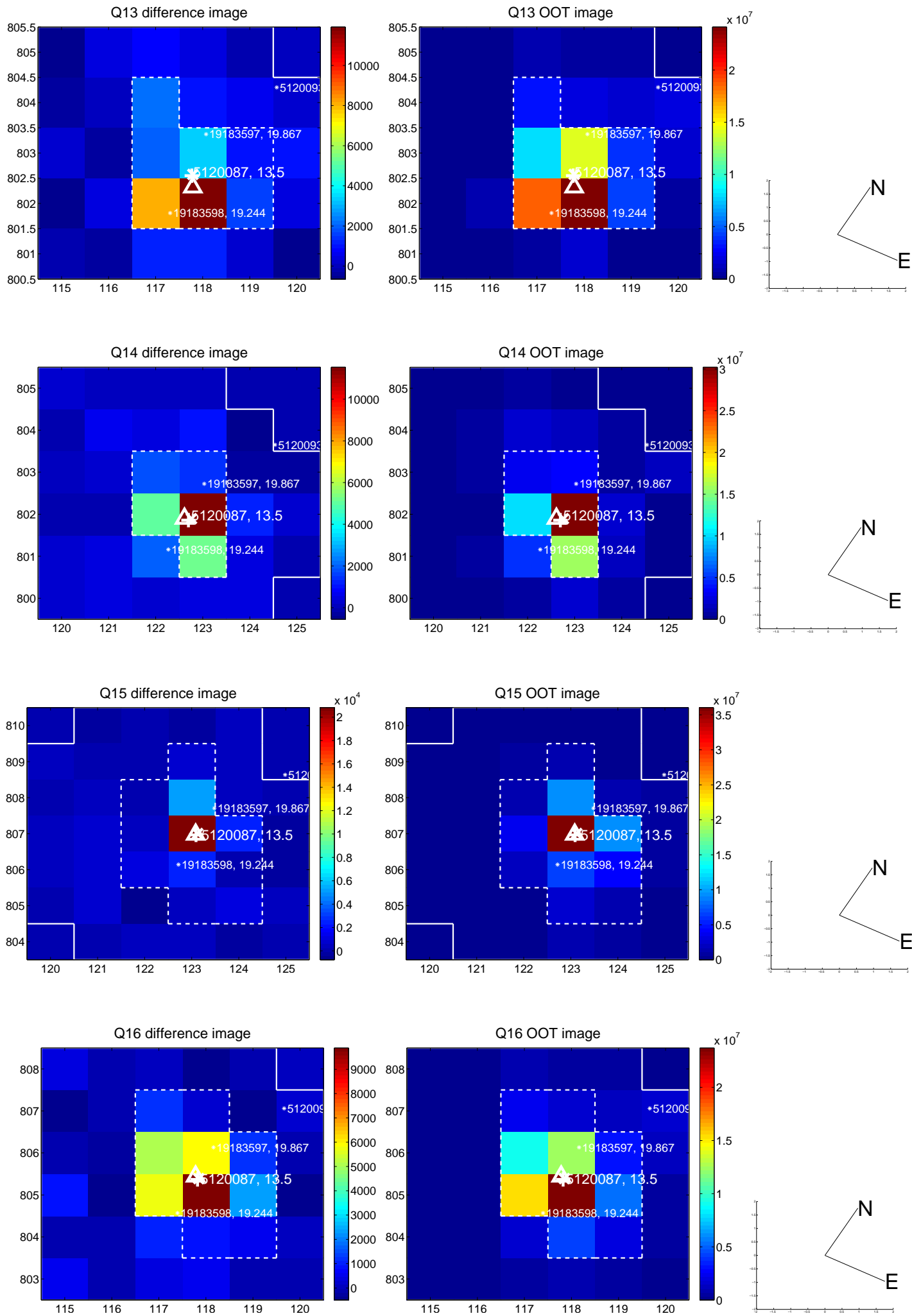
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



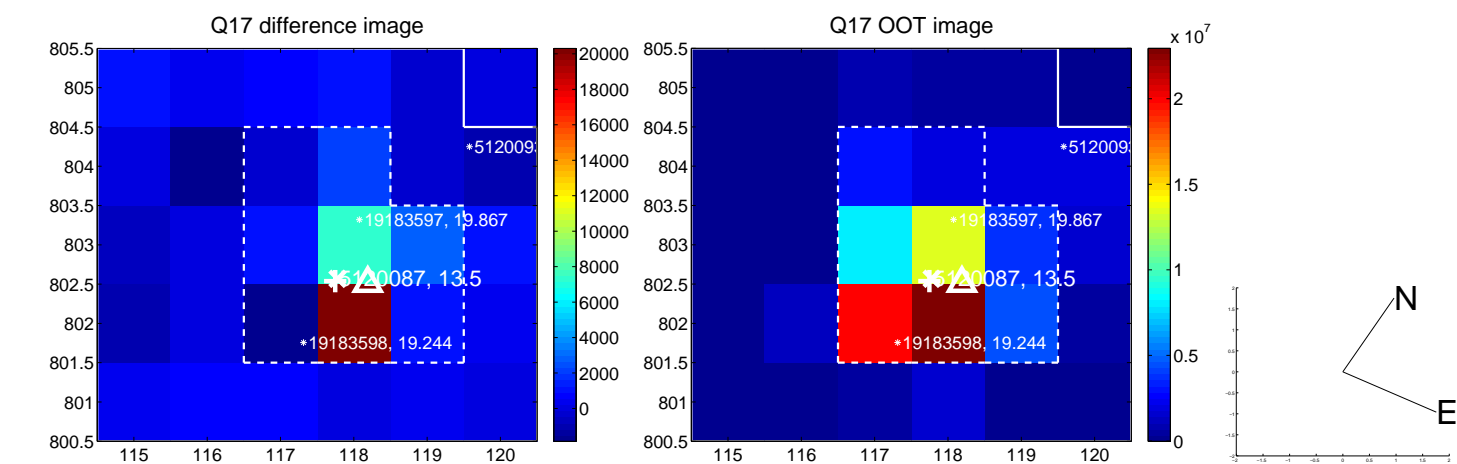
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



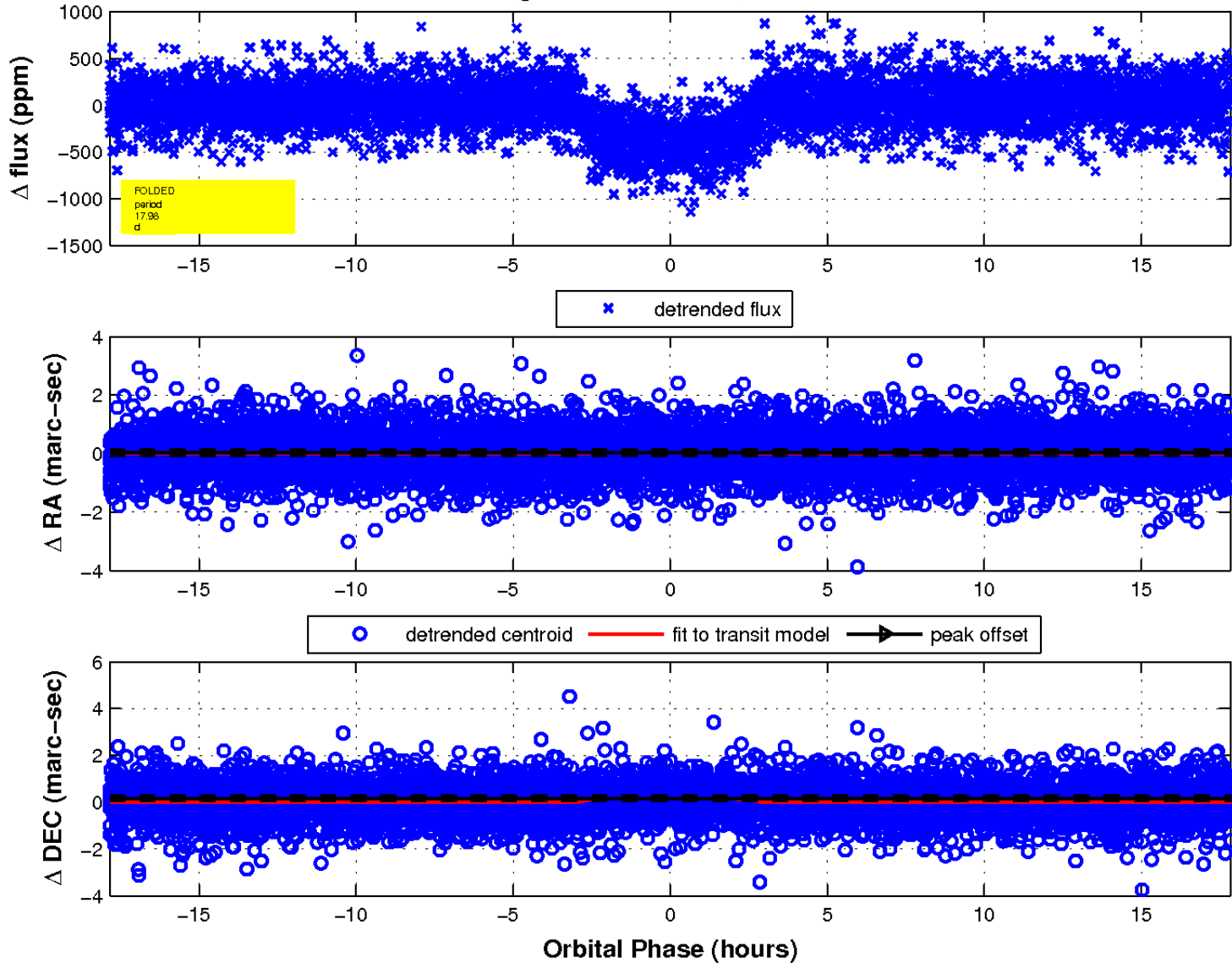
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

