

KIC 008182107

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})
008182107-01	OBS	7870.01	92.552107	221.585781	303.6	2.132	7.6	7.8	1.22	5808	2.52	8.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008182107-01	OBS	PC	0.98	0	0	0	0	CENT_FEW_MEAS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

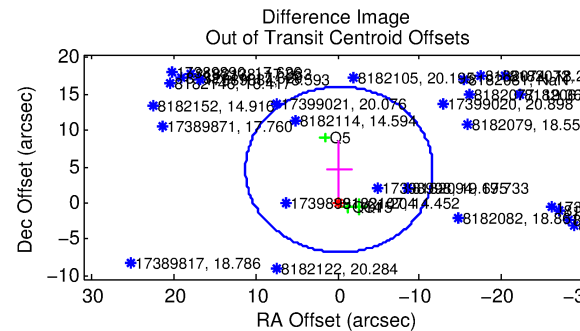
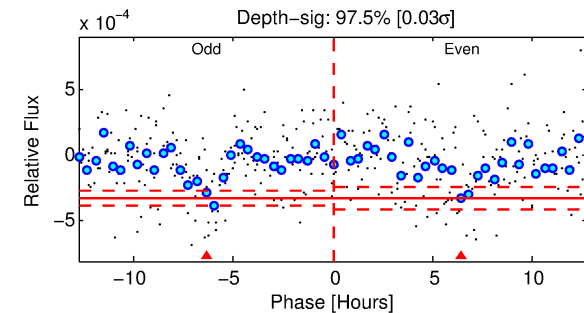
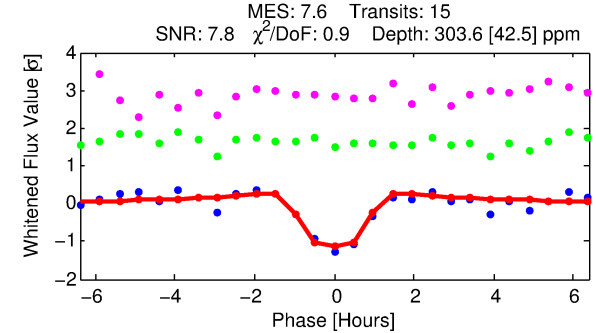
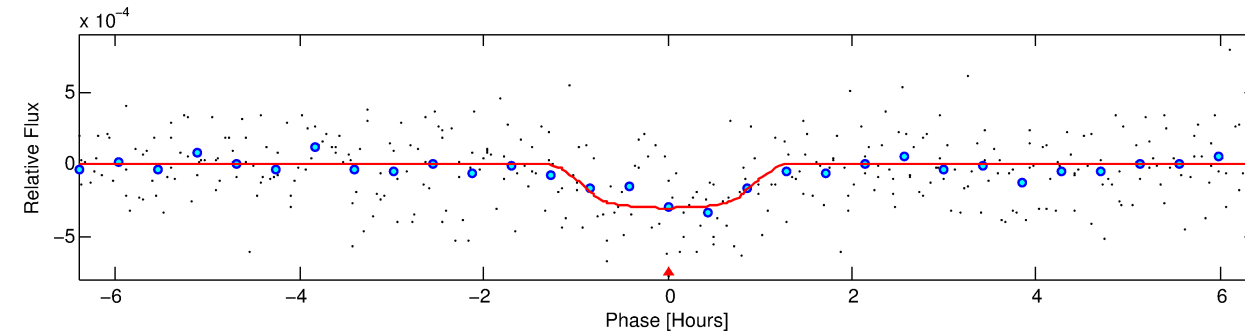
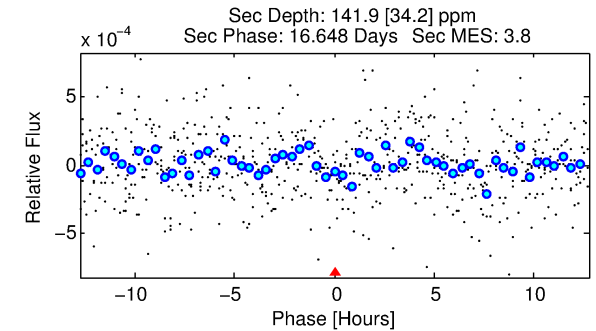
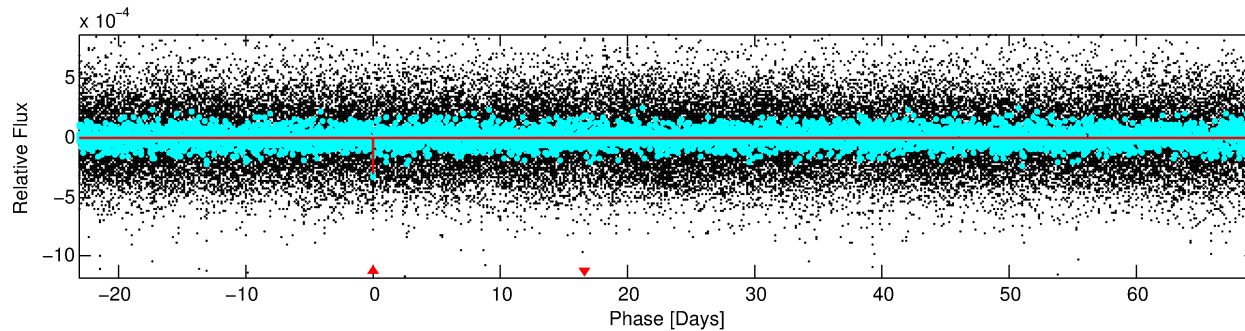
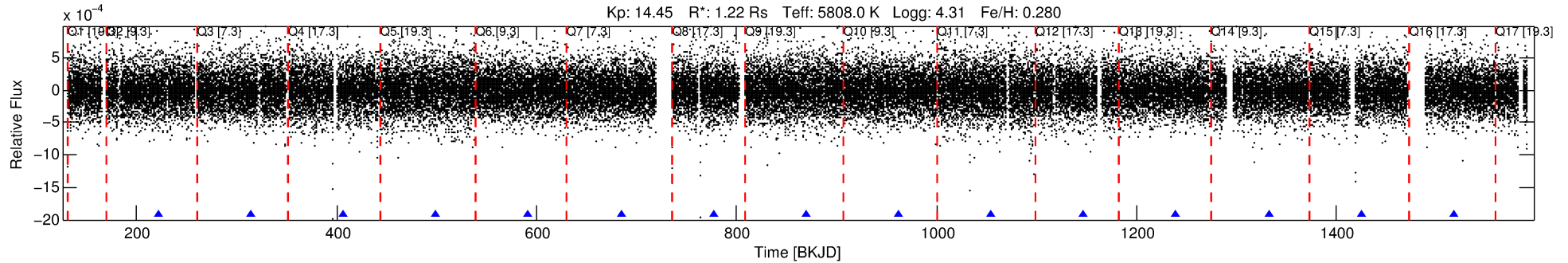
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008182107-01

No Significant Match Found

DV One-Page Summary

KIC: 8182107 Candidate: 1 of 1 Period: 92.552 d



DV Fit Results:

Period = 92.55211 [0.00073] d
Epoch = 221.5858 [0.0057] BKJD
Rp/R* = 0.0189 [0.0201]
a/R* = 164.34 [801.19]
b = 0.89 [1.16]
Seff = 8.89 [3.27]
Teq = 440 [41] K
Rp = 2.52 [2.76] Re
a = 0.4132 [0.0983] AU
Ag = 2107.99 [4561.27] [0.46σ]
Teffp = 4612 [2468] K [1.69σ]

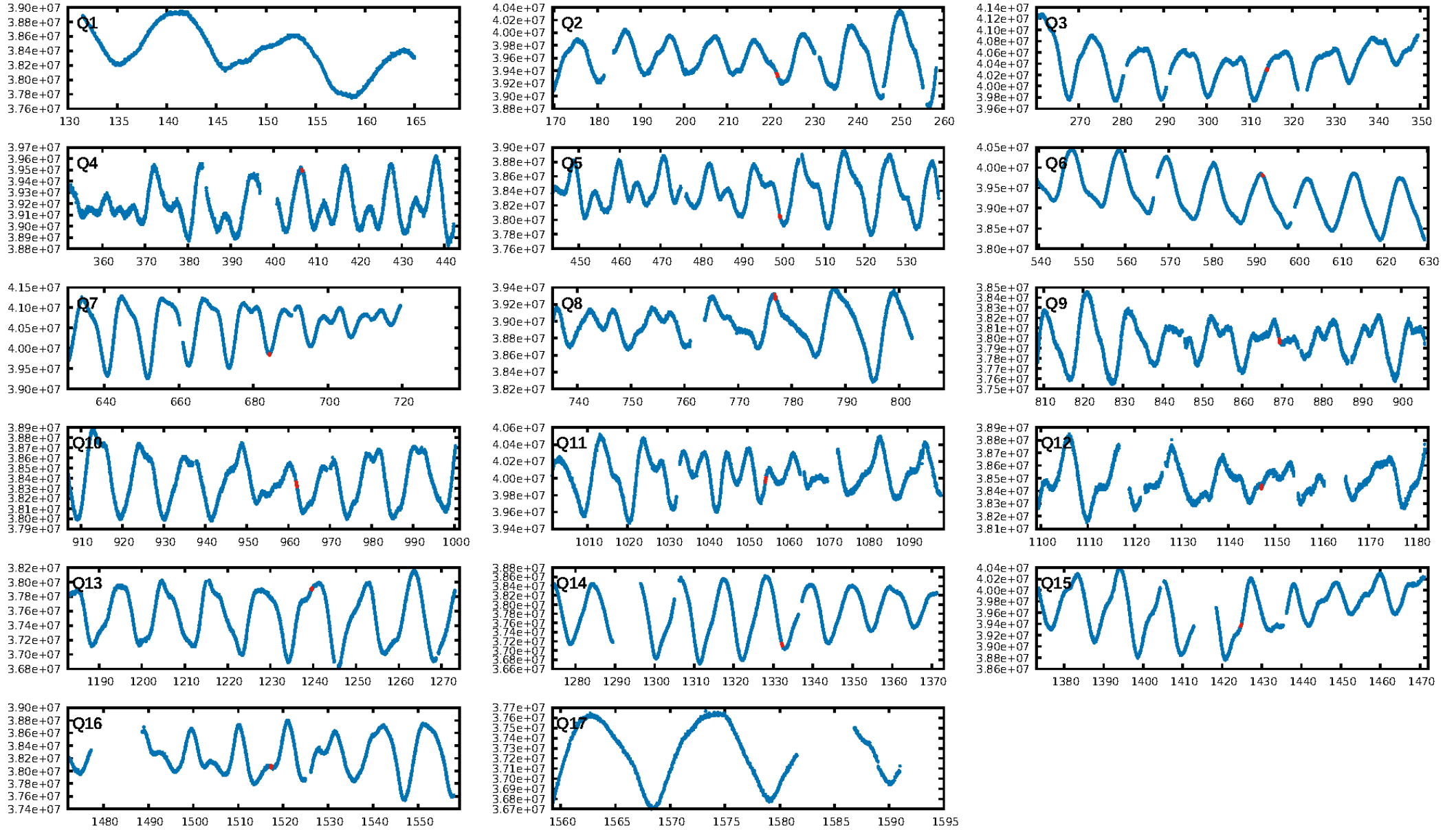
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 49.6%
ModelChiSquareGof-sig: 92.5%
Bootstrap-pfa: 4.55e-12
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: 1.419
Centroid-sig: 46.4%
Centroid-so: 2.615 arcsec [1.26σ]
OotOffset-rm: 4.592 arcsec [1.21σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-rm: 4.770 arcsec [1.26σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [15/15]

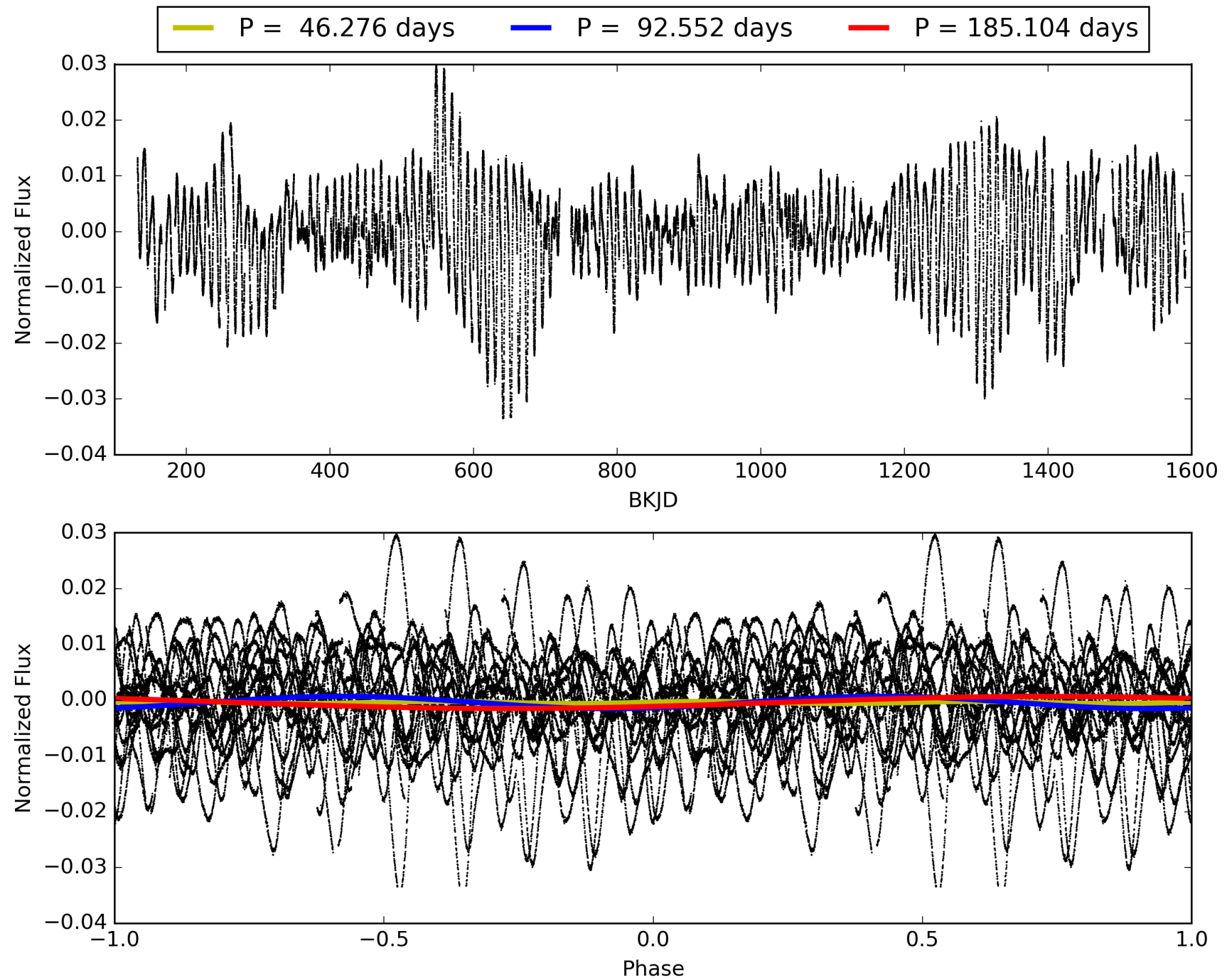
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:42:15 Z

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

TCE 008182107-01, PDC Light Curves

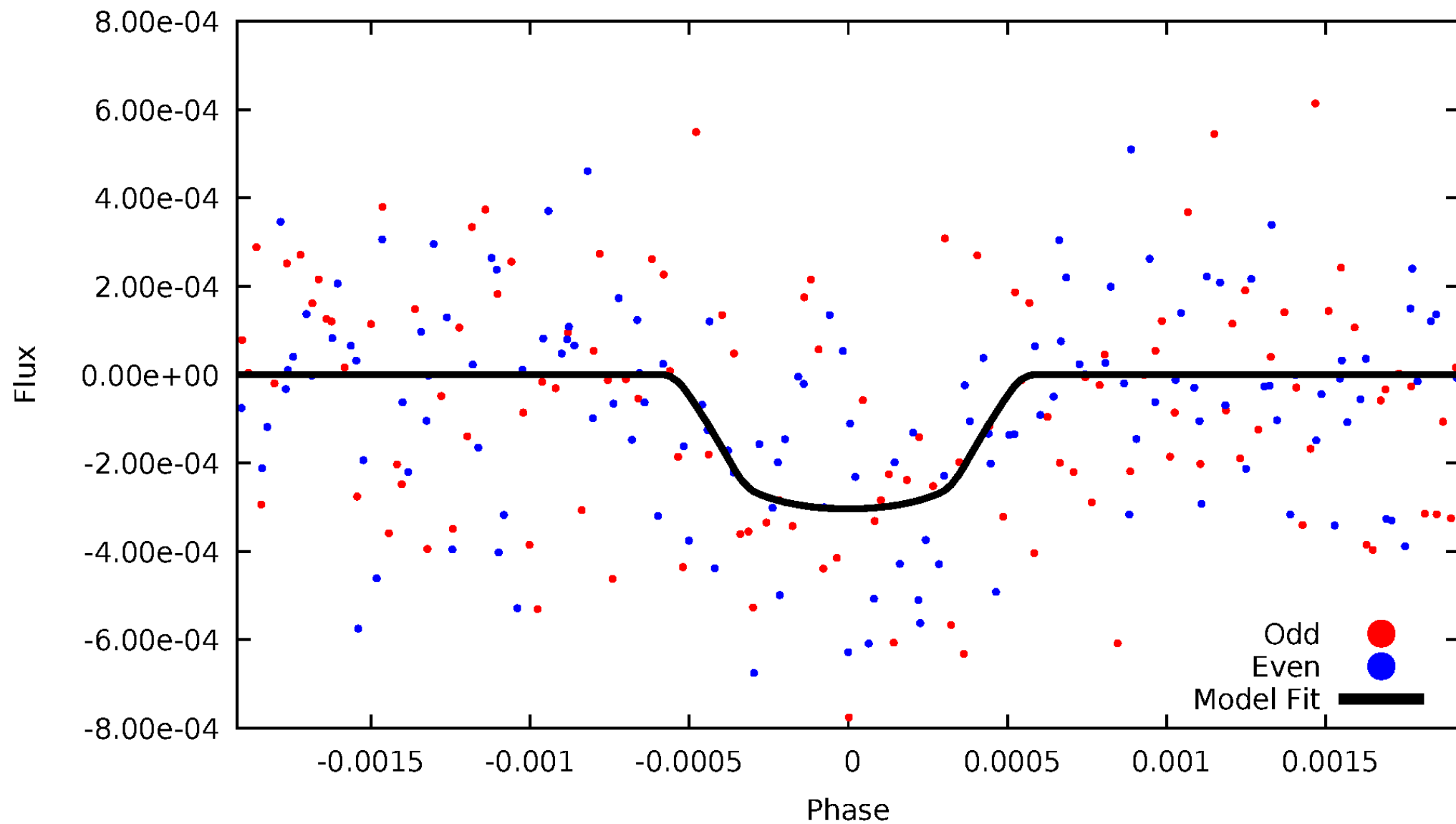


TCE 008182107-01



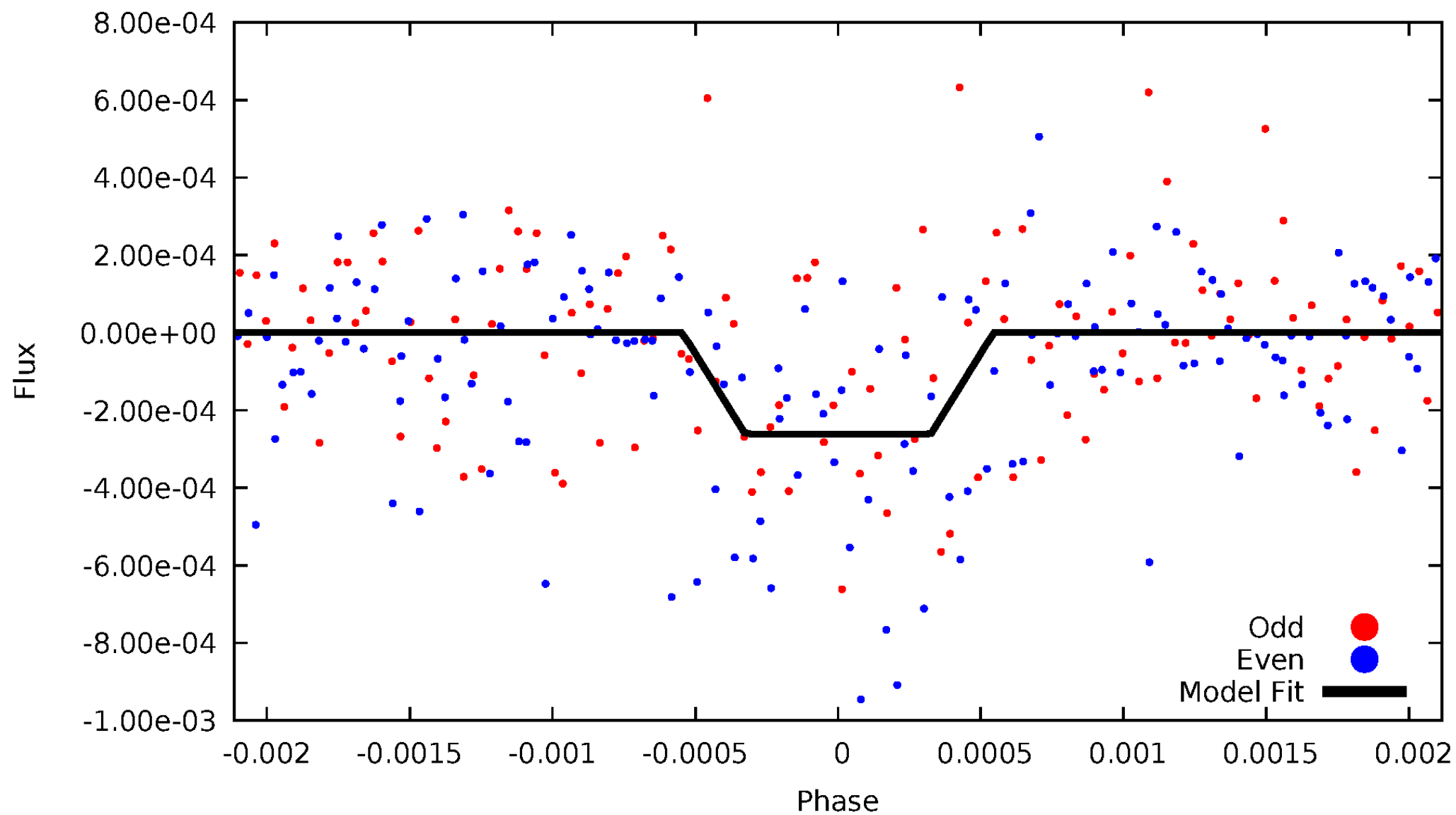
DV Odd/Even

TCE 008182107-01

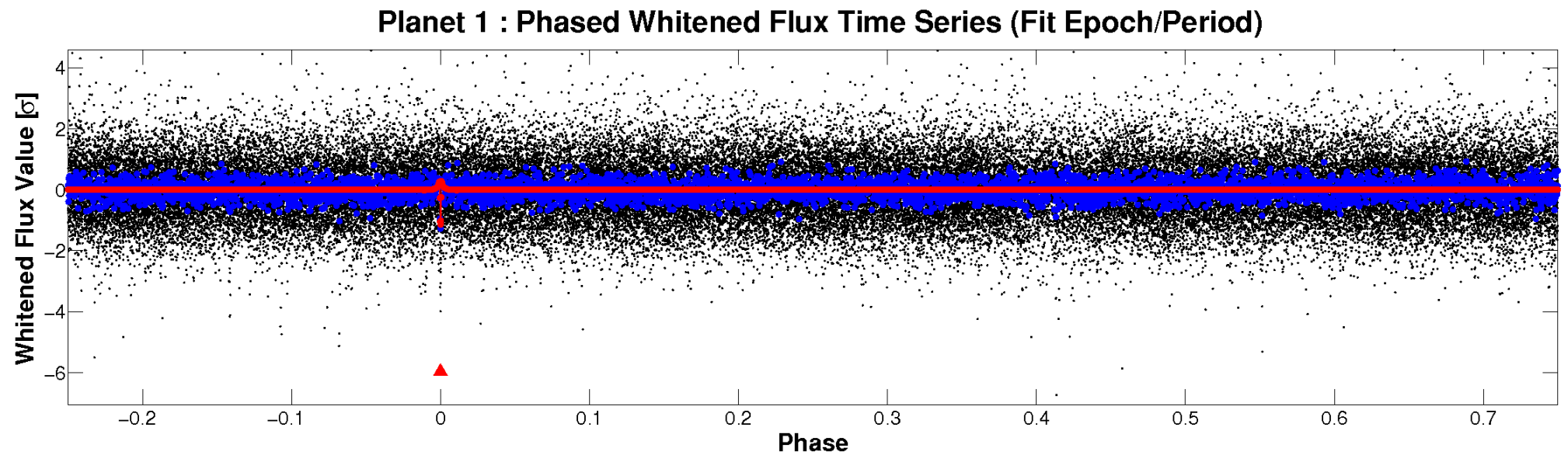
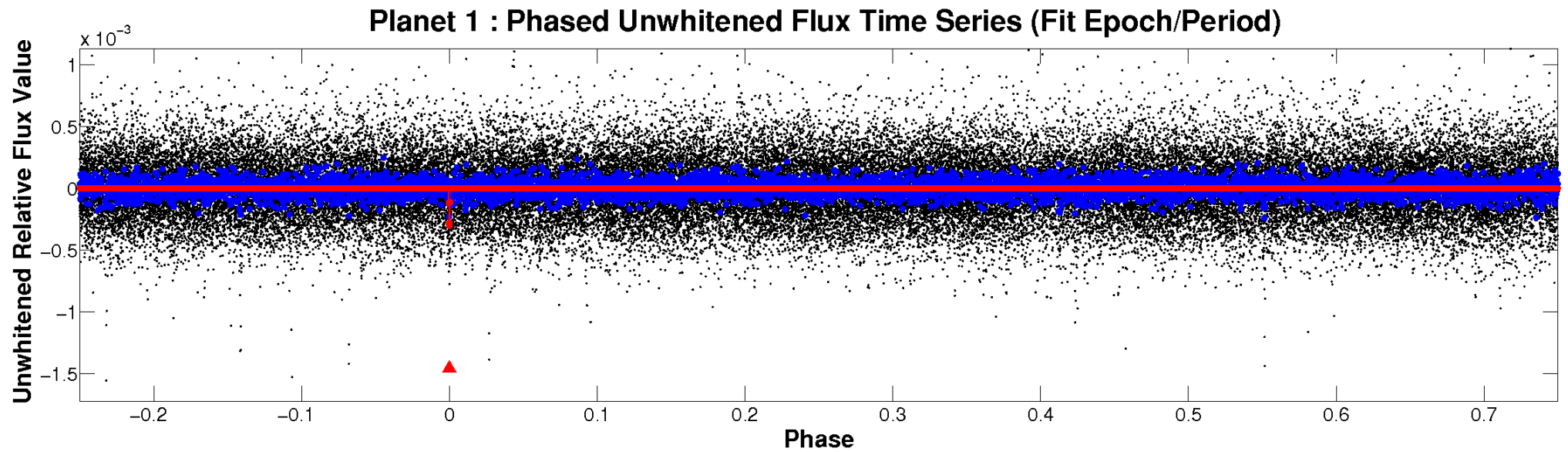


ALT Odd/Even

TCE 008182107-01

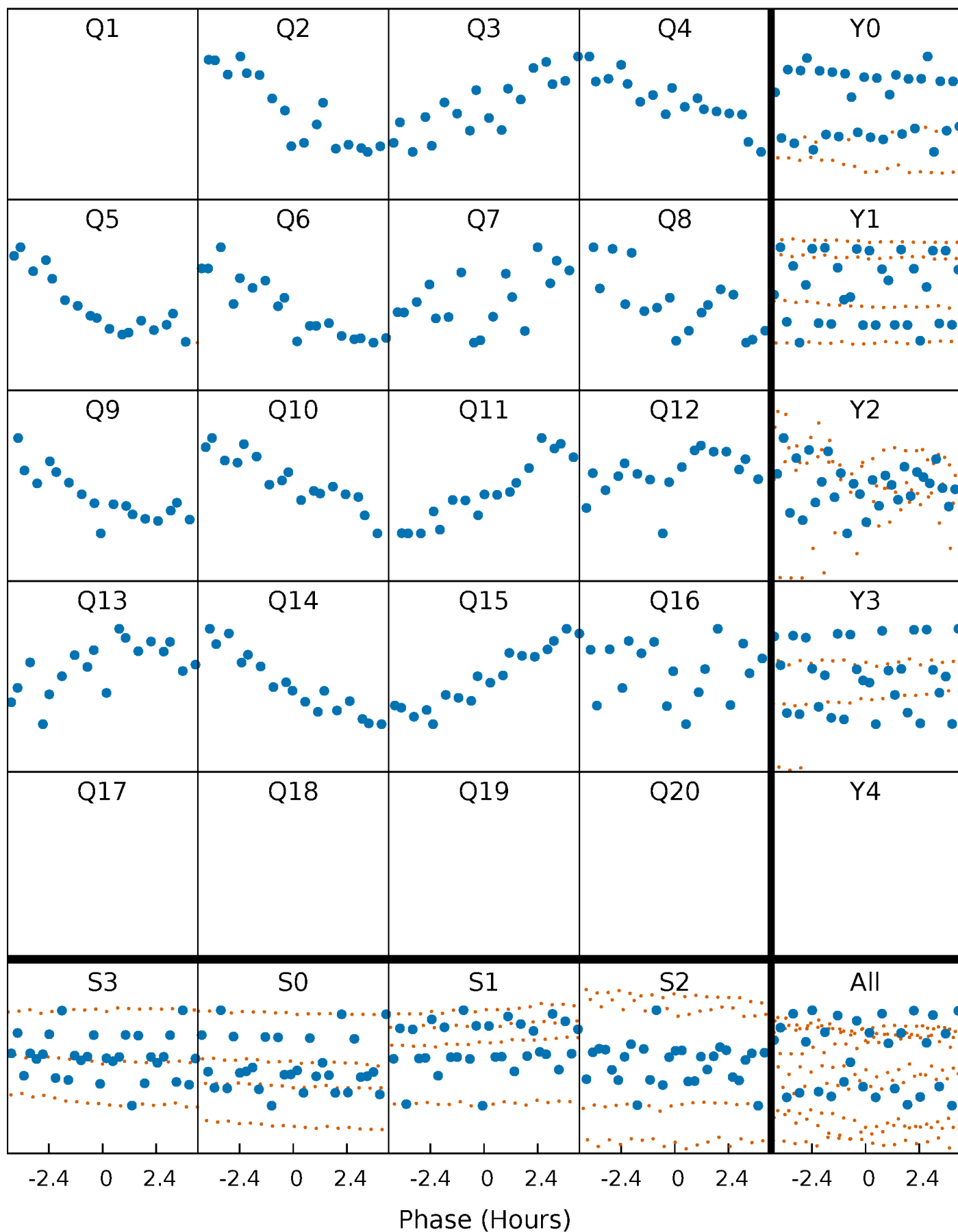


Non-Whitened Vs. Whitened Light Curve



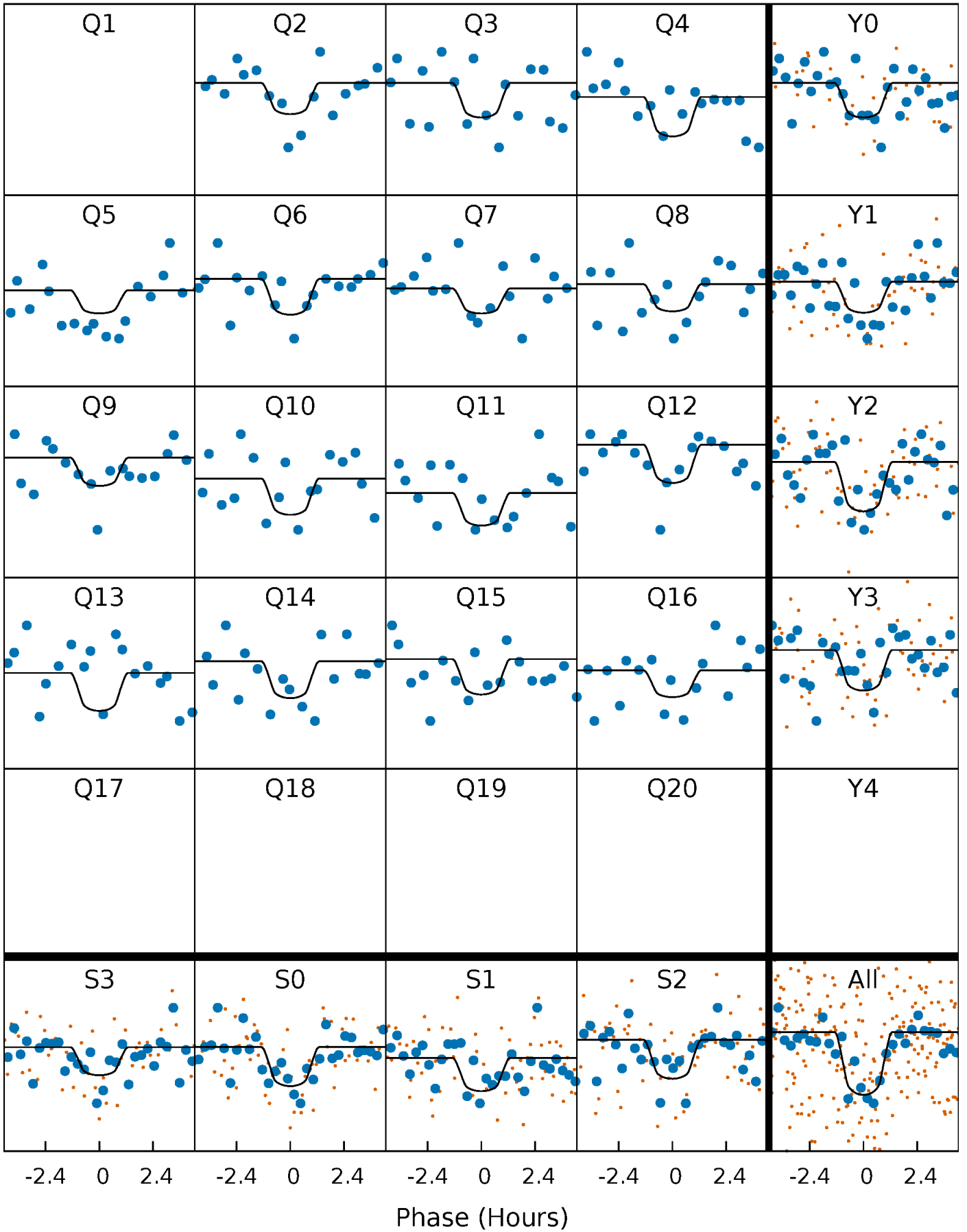
PDC Quarter-Phased Transit Curves

TCE 008182107-01 P= 92.552107 Days $T_0=221.585781$ (BKJD)



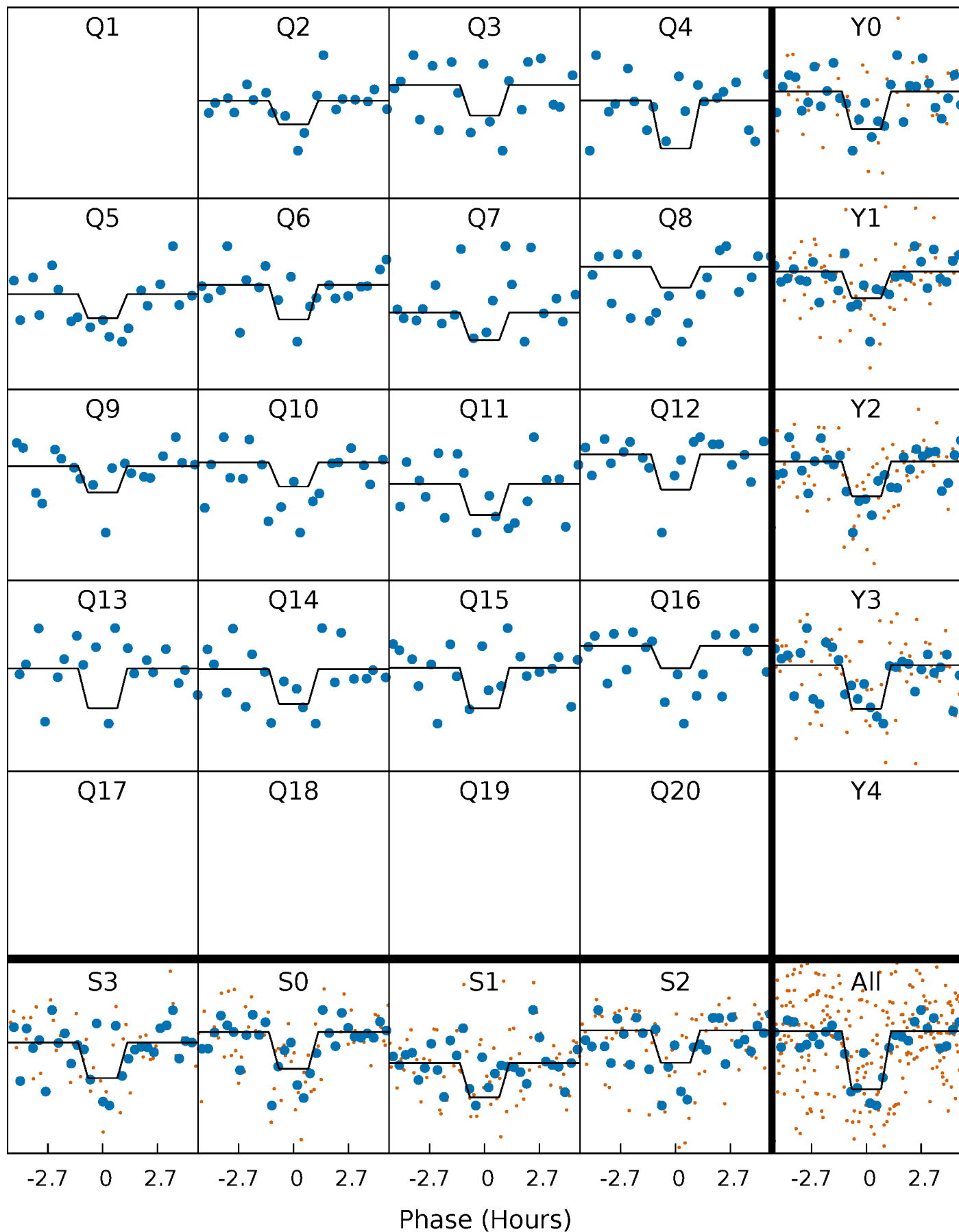
DV Quarter-Phased Transit Curves

TCE 008182107-01 P= 92.552107 Days $T_0=221.585781$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

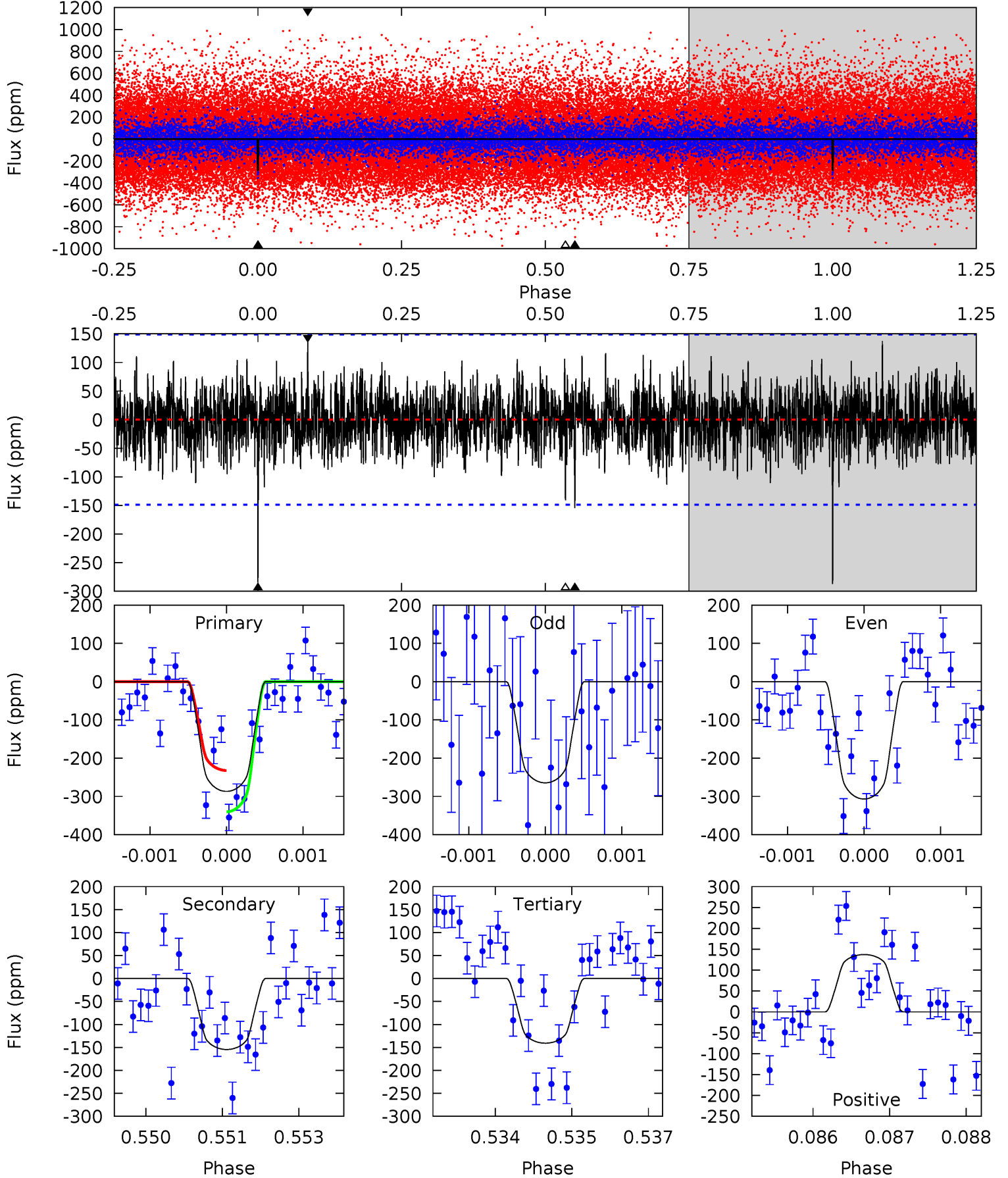
TCE 008182107-01 P= 92.552510 Days $T_0=221.581870$ (BKJD)



DV Model-Shift Uniqueness Test

008182107-01, P = 92.552107 Days, E = 129.033674 Days

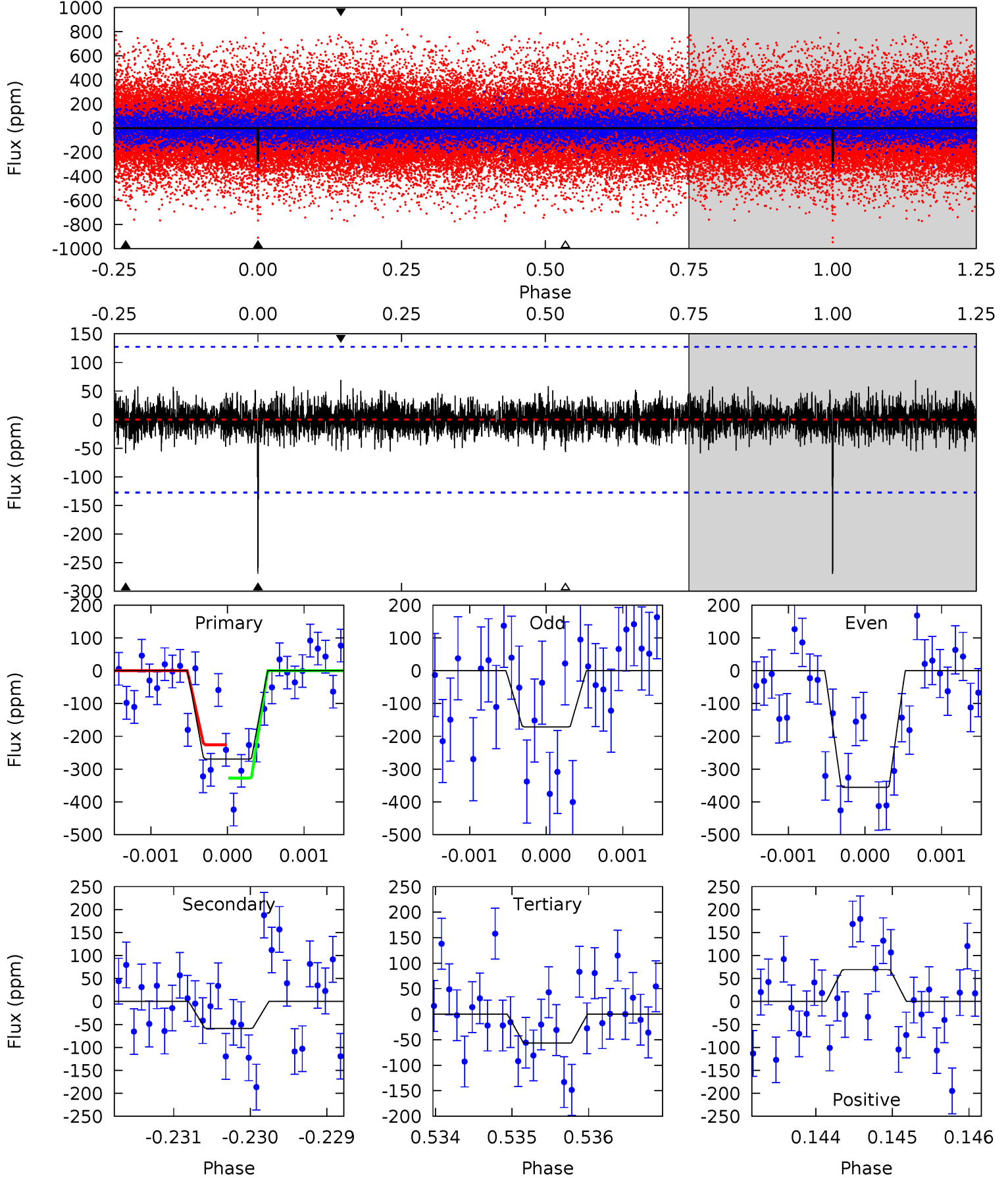
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	5.64	5.14	5.01	5.43	3.25	1.35	5.33	5.46	0.50	0.63	0.77	1.03	0.32	1.98



Alt Model-Shift Uniqueness Test

008182107-01, $P = 92.552510$ Days, $E = 129.029360$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	2.51	2.42	2.96	5.44	3.28	0.73	9.11	8.57	0.09	-0.46	3.98	1.03	0.20	2.17



Stellar Parameters For KIC 008182107

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5808^{+156}_{-191}	$4.306^{+0.136}_{-0.187}$	$0.280^{+0.150}_{-0.300}$	$1.220^{+0.347}_{-0.232}$	$1.097^{+0.122}_{-0.136}$	$0.851^{+0.635}_{-0.424}$
	+3%/-3%	+3%/-4%	+54%/-107%	+28%/-19%	+11%/-12%	+75%/-50%
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 008182107-01 / KOI 7870.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-155 ± 27	$3.14^{+2.52}_{-1.94}$	618^{+48}_{-36}	4425^{+2566}_{-830}	1456^{+9143}_{-1026}
Alt.	-59 ± 23	$2.98^{+2.39}_{-1.87}$	616^{+47}_{-37}	3729^{+1798}_{-634}	552^{+3765}_{-394}

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 $A_{obs} \gg 1.0$

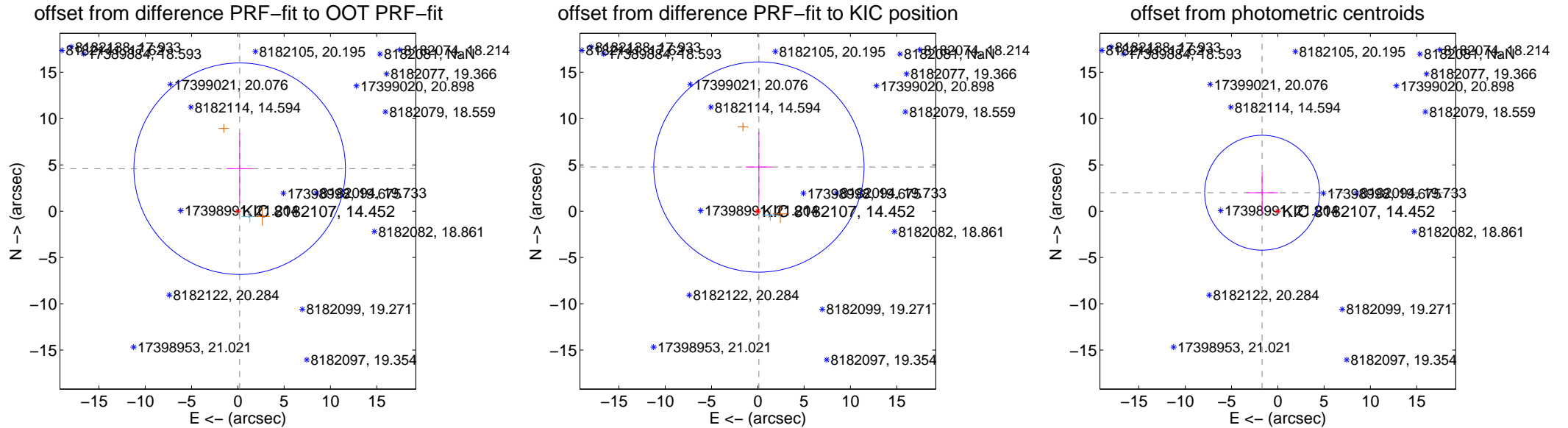
DV Centroid Data

Supplemental centroid analysis for 008182107-01. Kepler magnitude: 14.45. Transit SNR 7.80

There are 1 quarters with good PRF difference image offsets

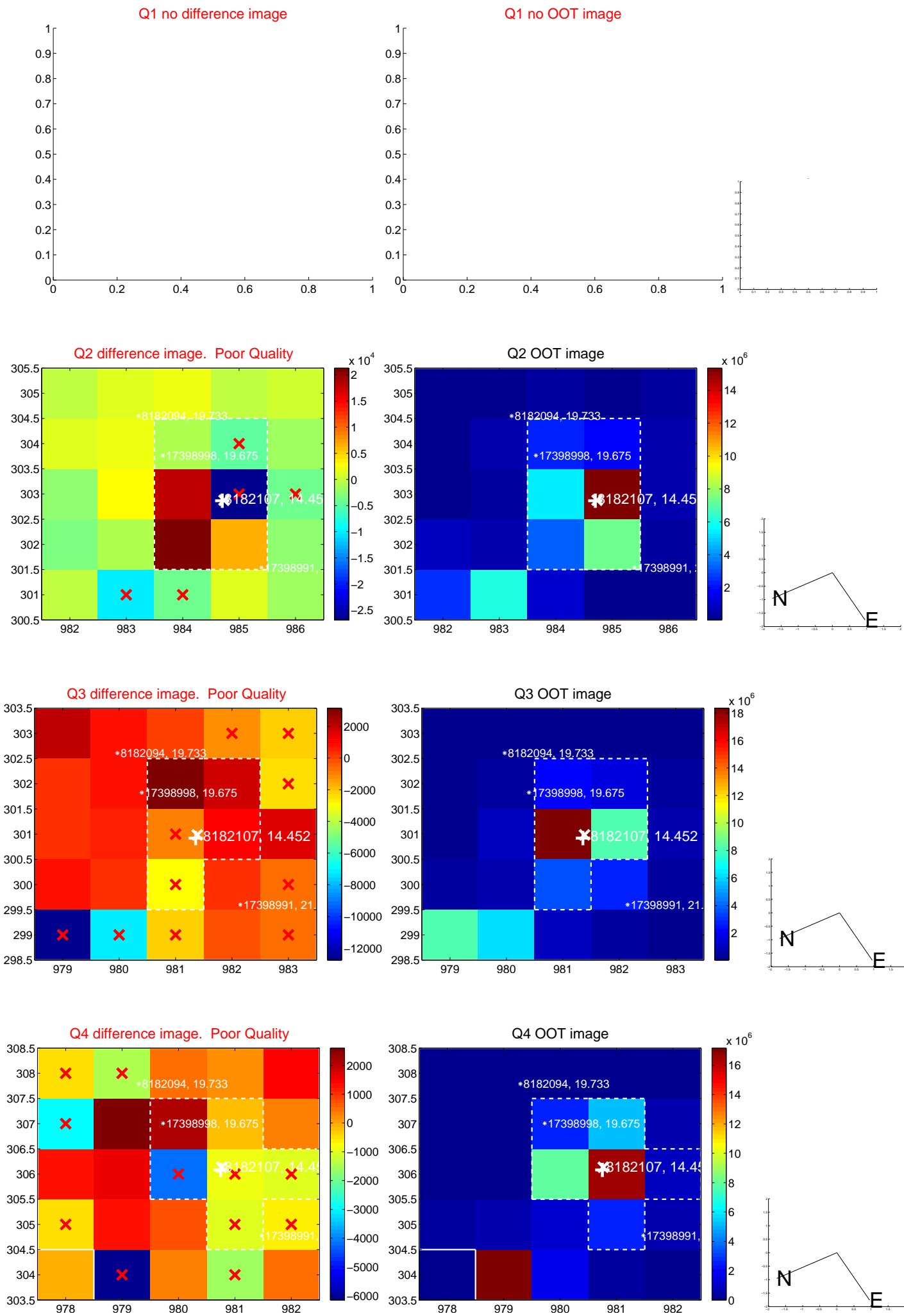
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.592 ± 3.807	1.21	-0.197 ± 1.437	4.588 ± 3.810
PRF-fit source offset from KIC position	4.770 ± 3.785	1.26	-0.116 ± 1.440	4.769 ± 3.786
photometric centroid source offset	2.61 ± 2.07	1.26	1.69 ± 1.71	1.99 ± 2.29

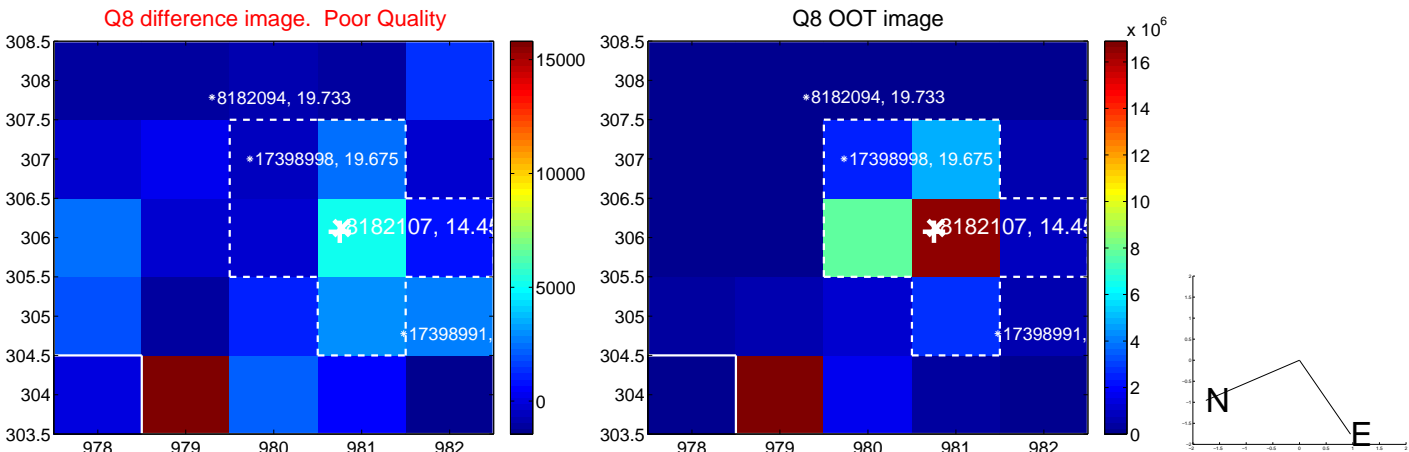
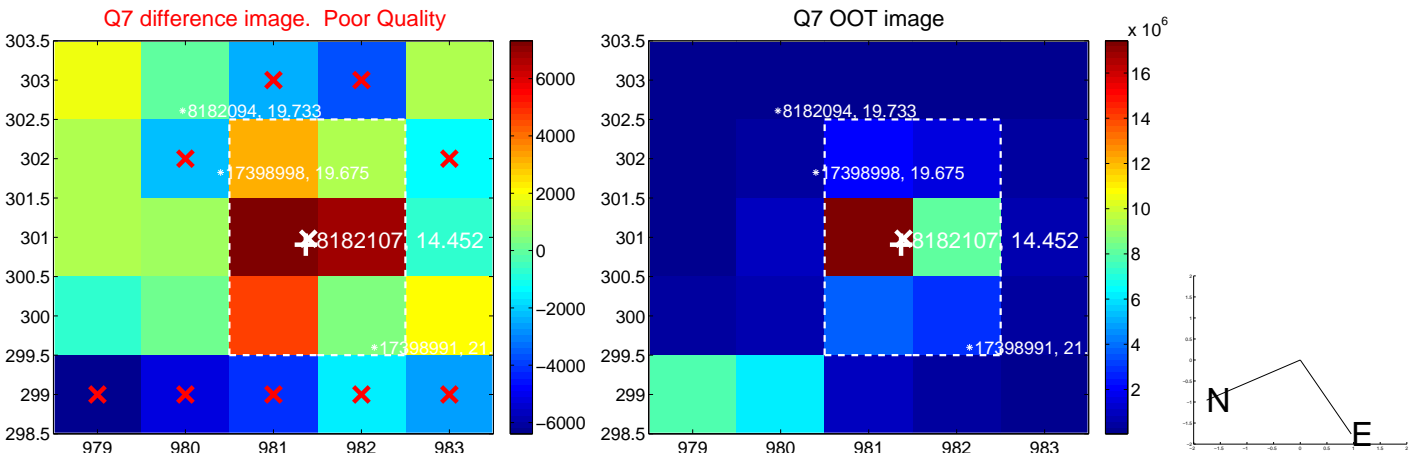
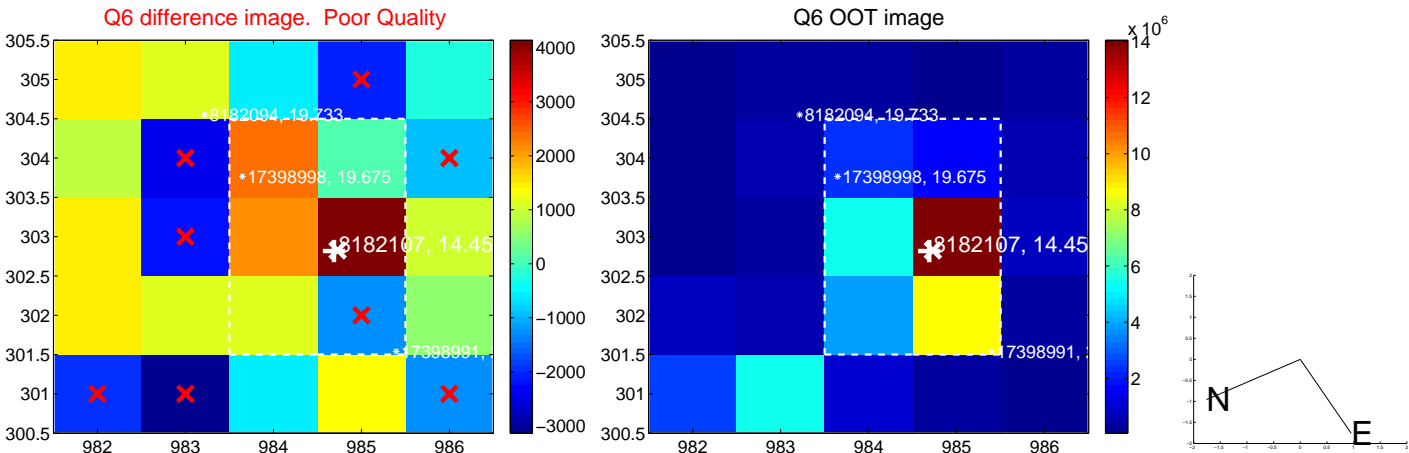
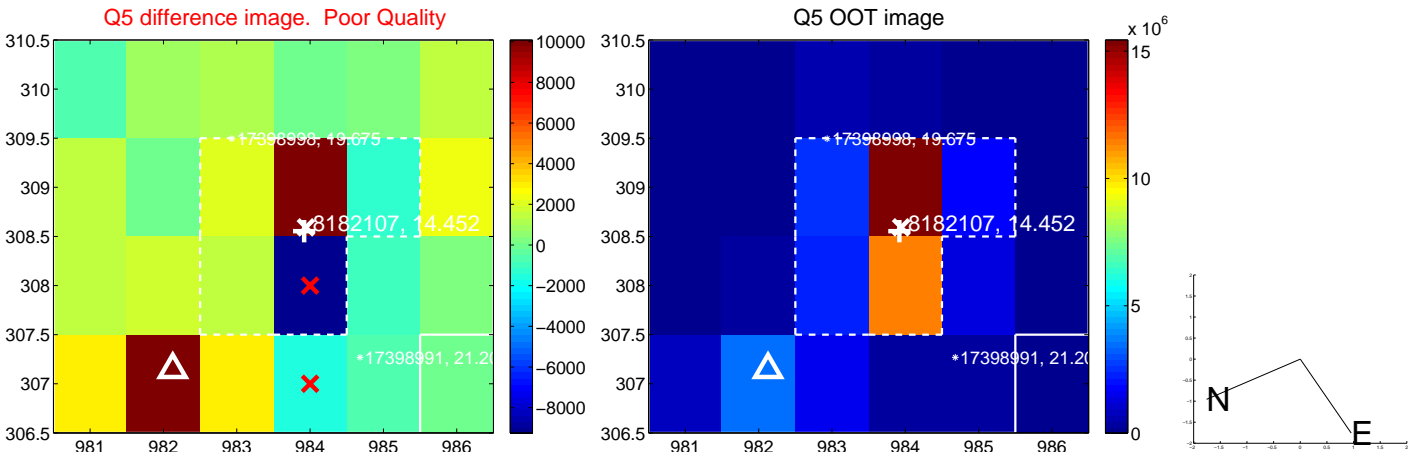


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

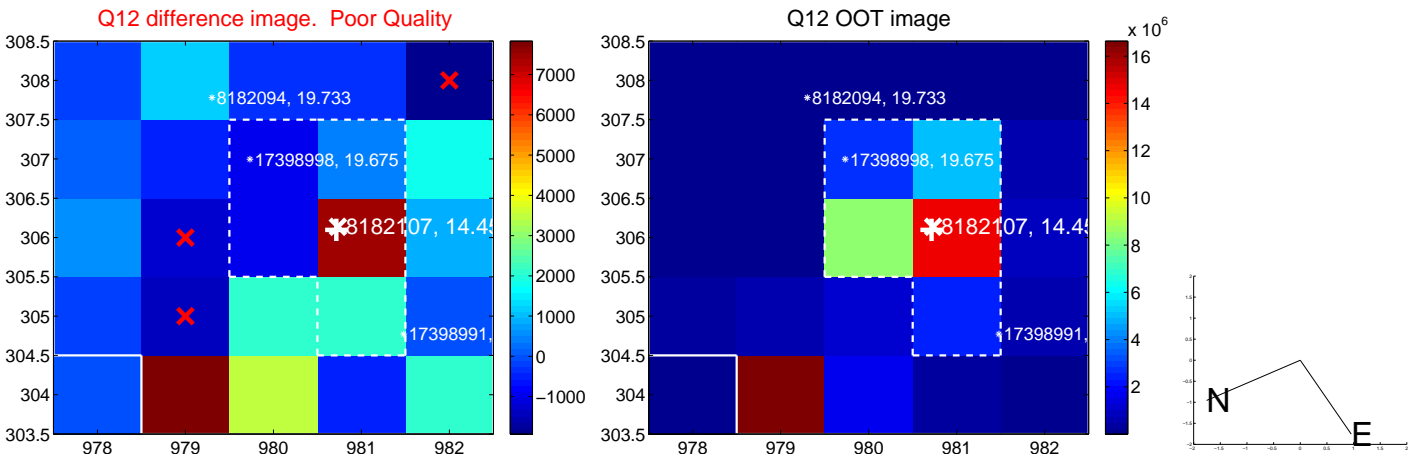
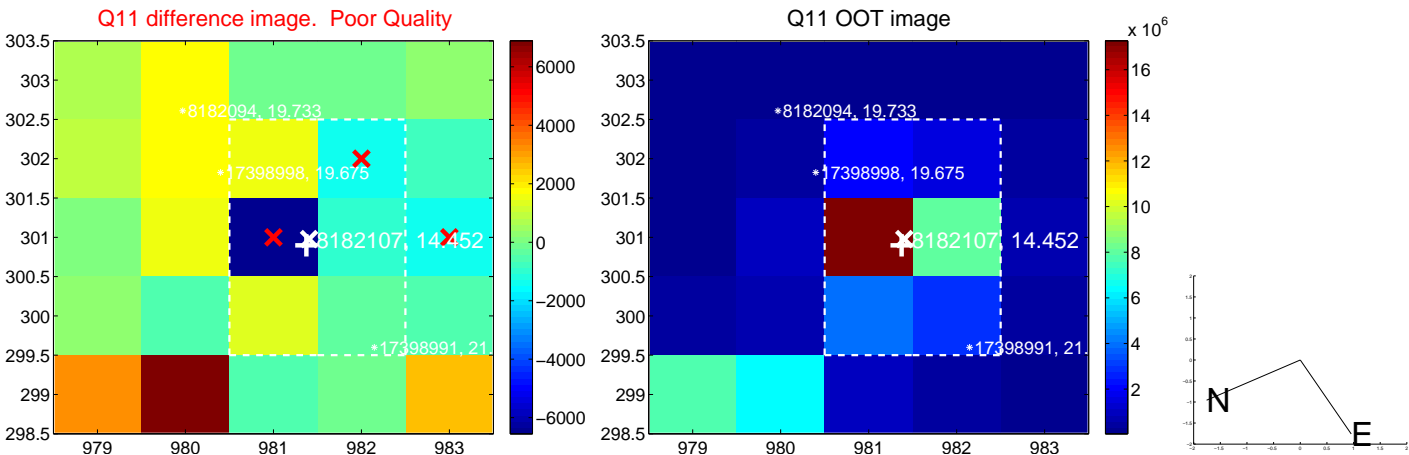
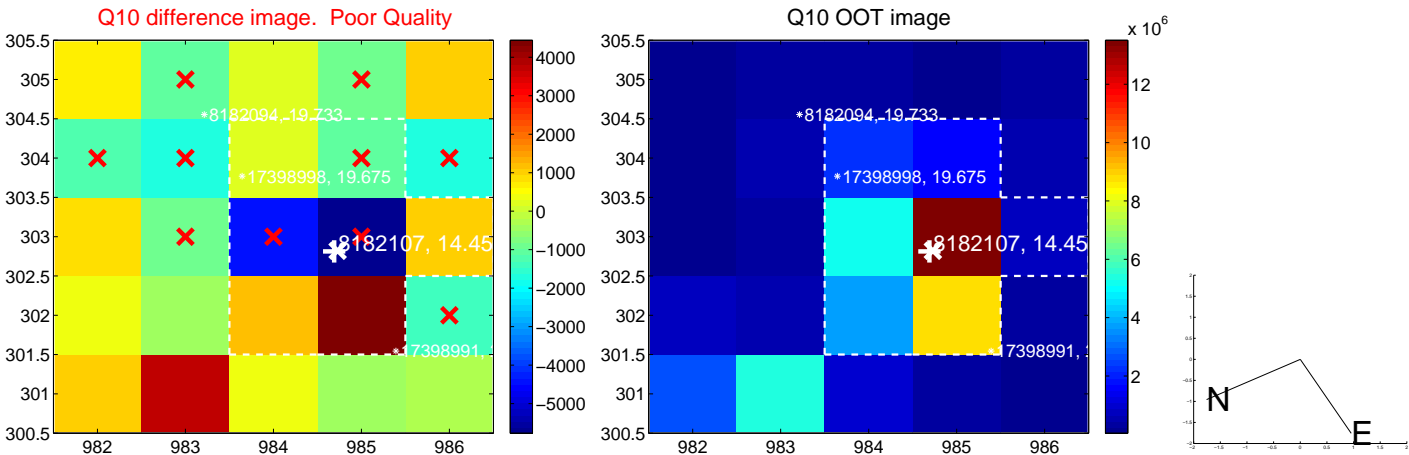
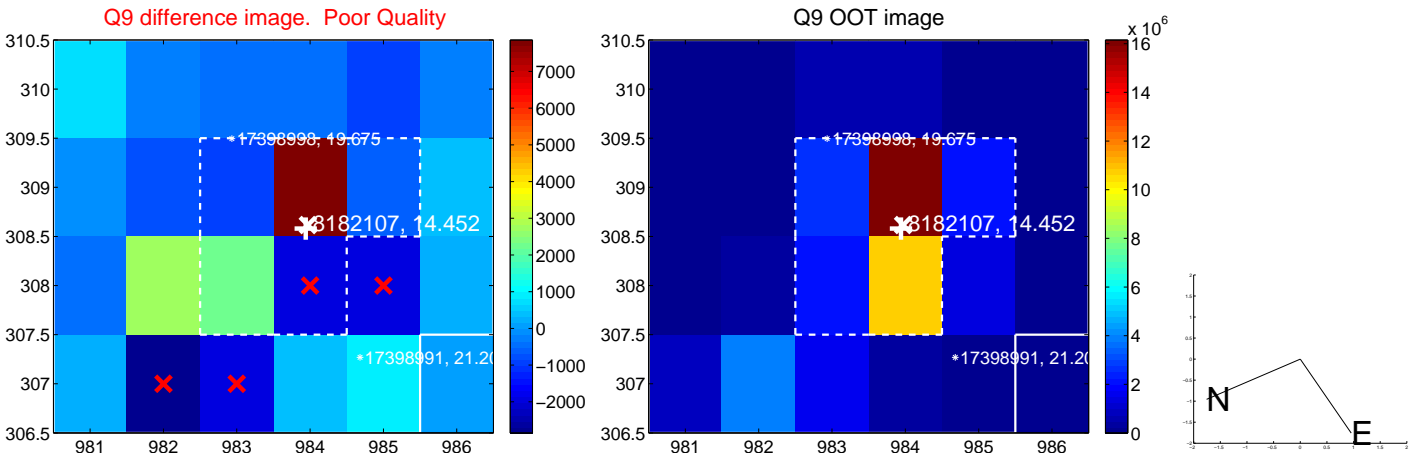
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



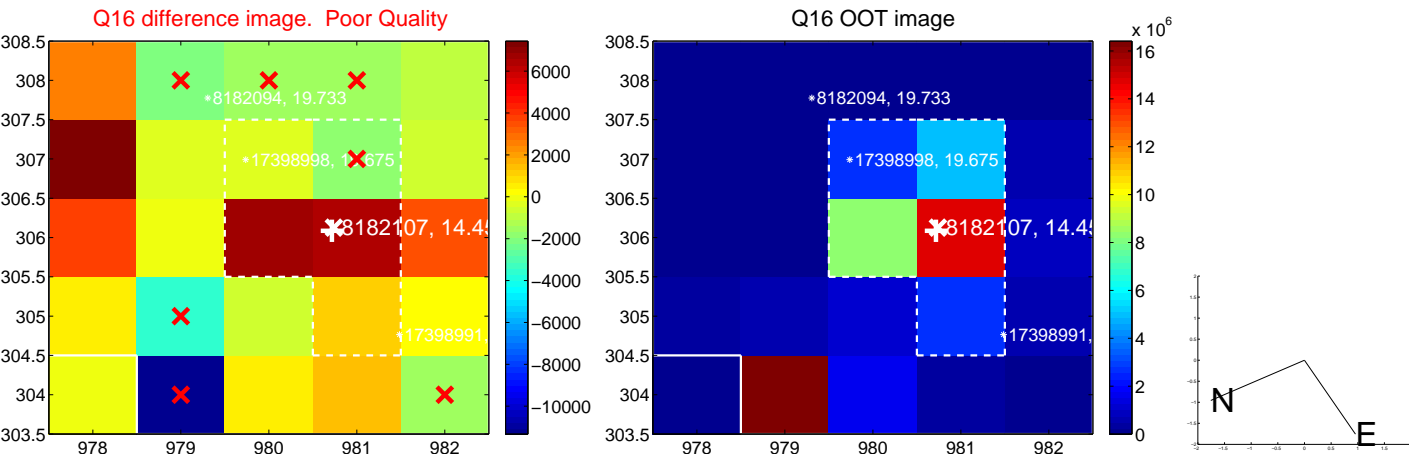
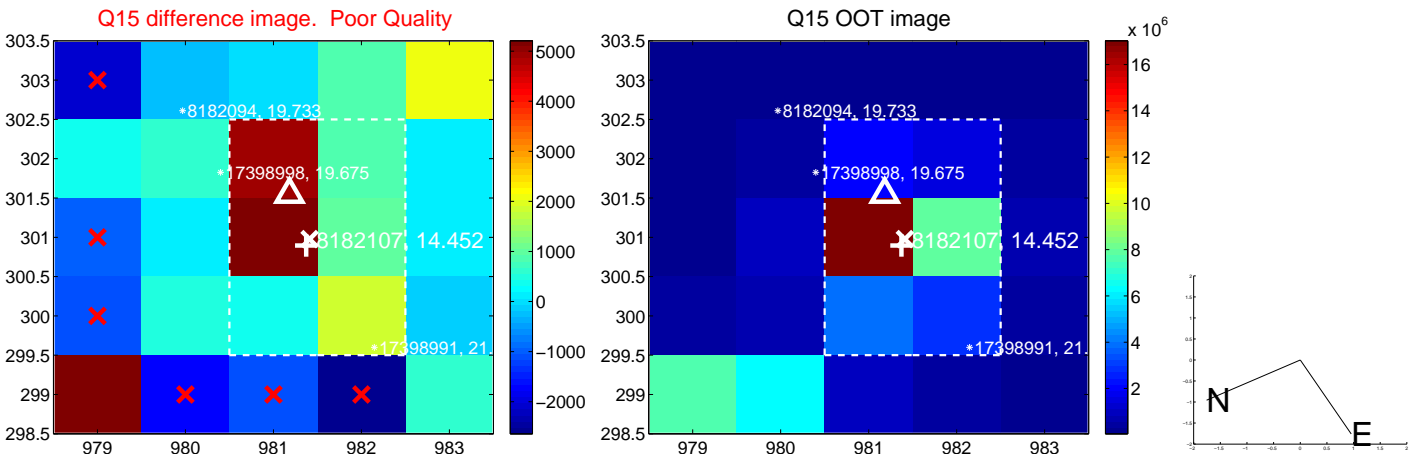
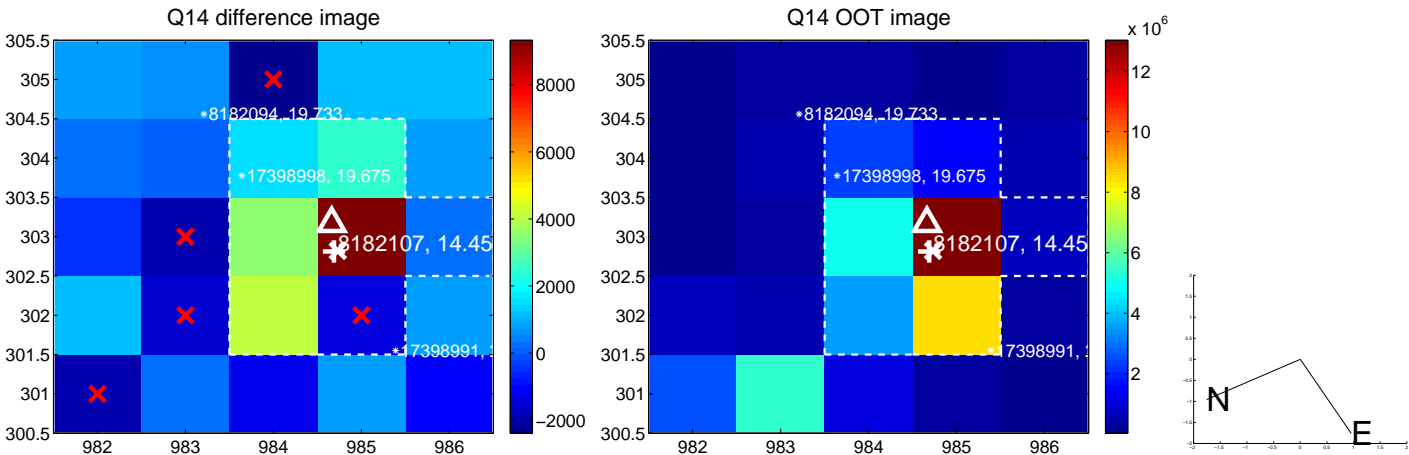
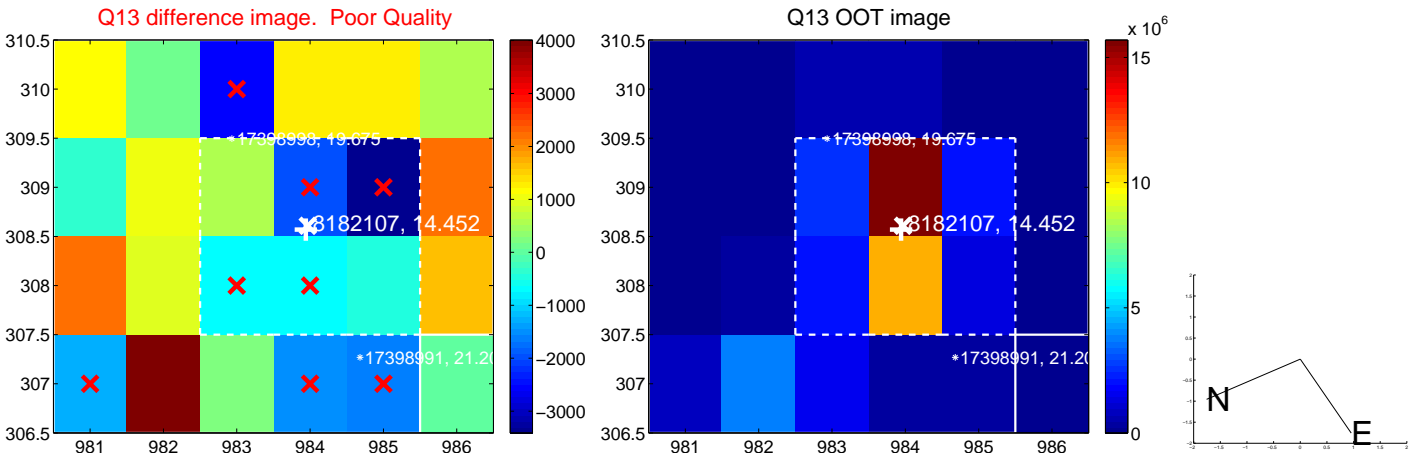
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



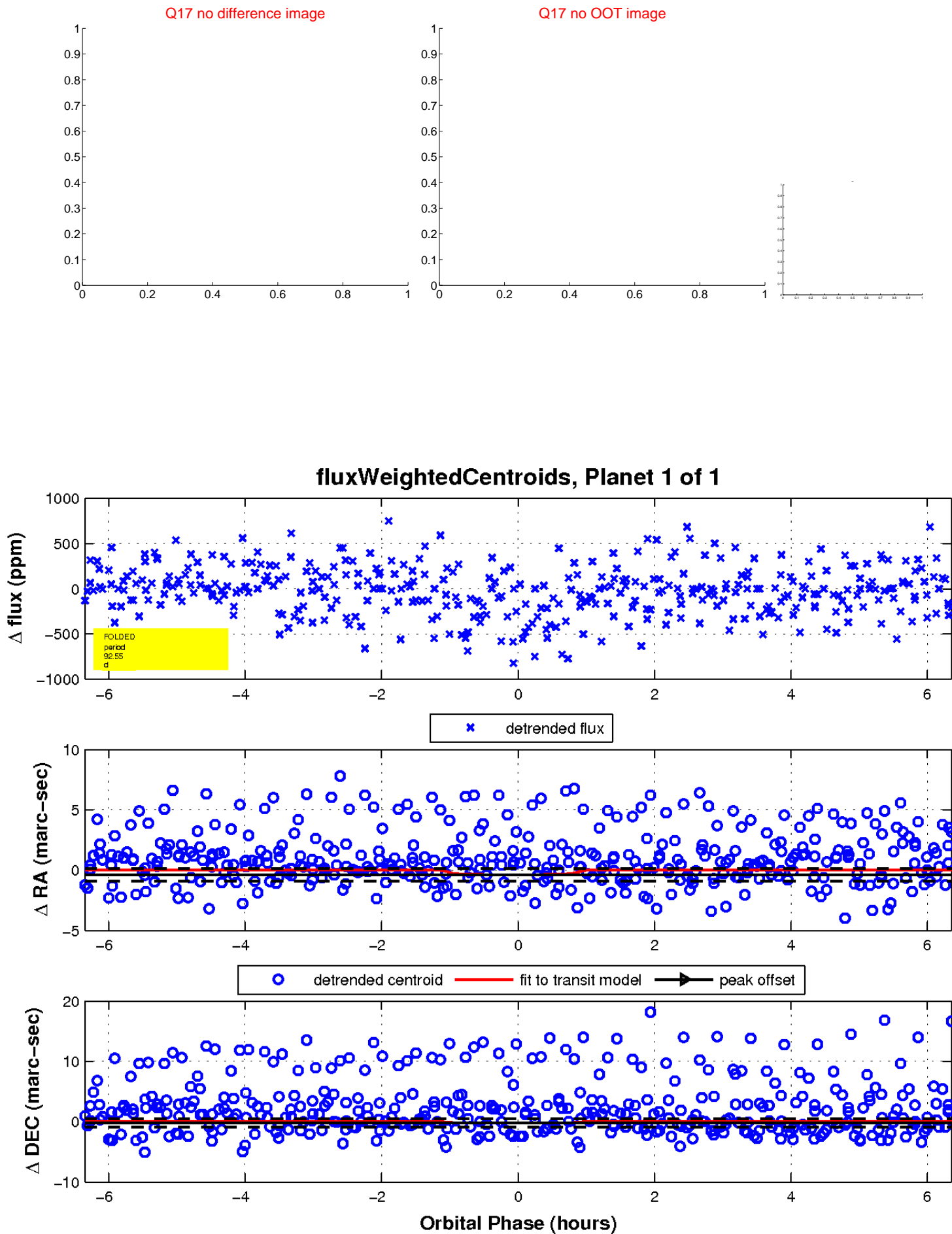
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

