

KIC 008560940

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})
008560940-01	OBS	3450.01	31.973006	133.869181	169.3	11.663	12.3	12.8	0.81	5811	2.10	18.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008560940-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—HALO_GHOST—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 008560940-01

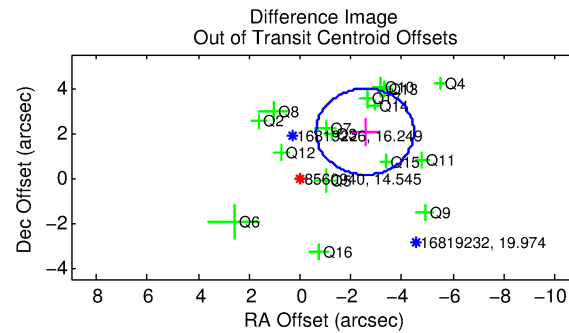
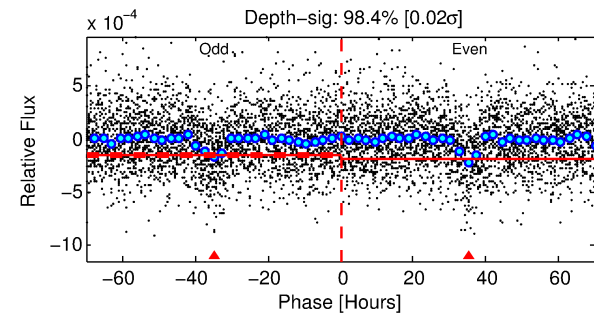
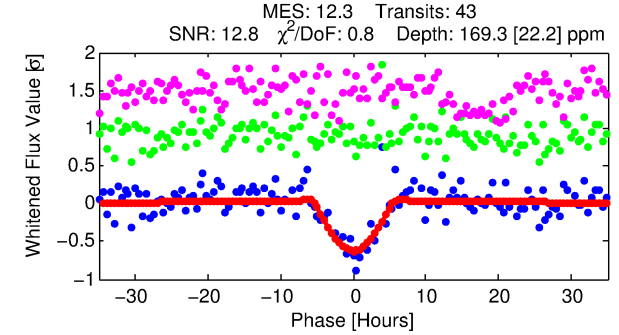
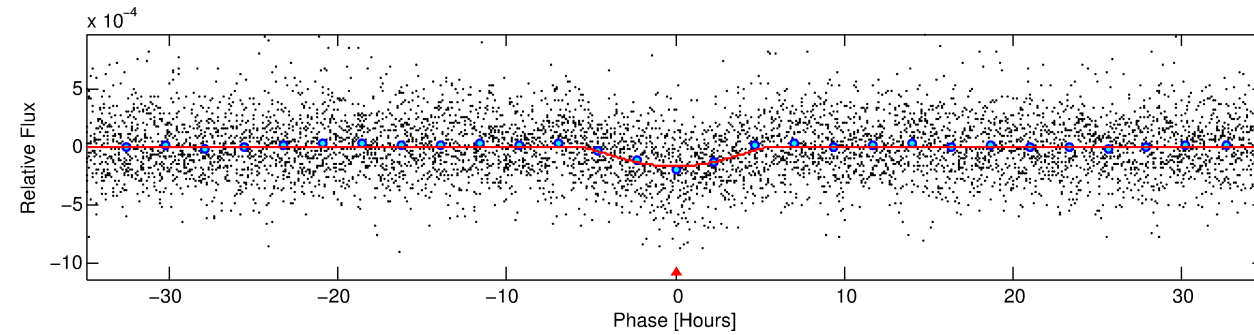
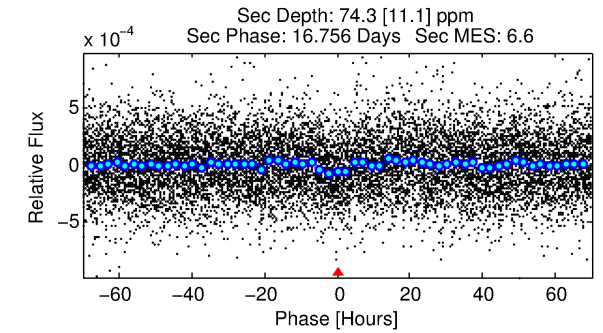
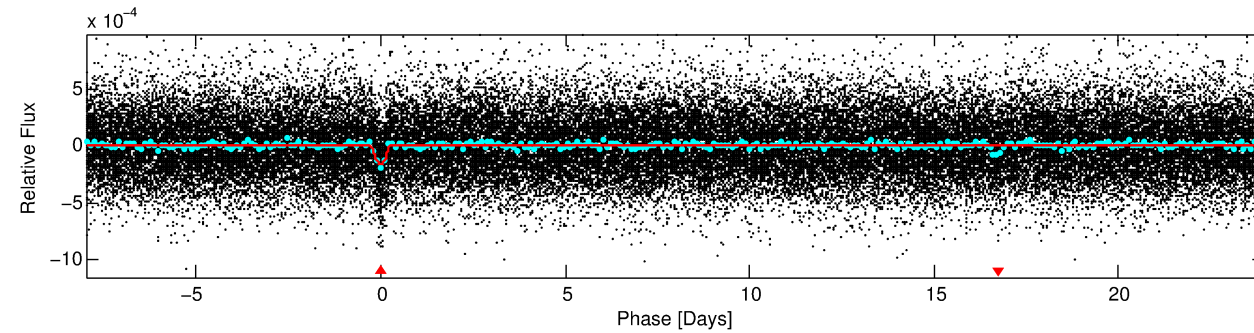
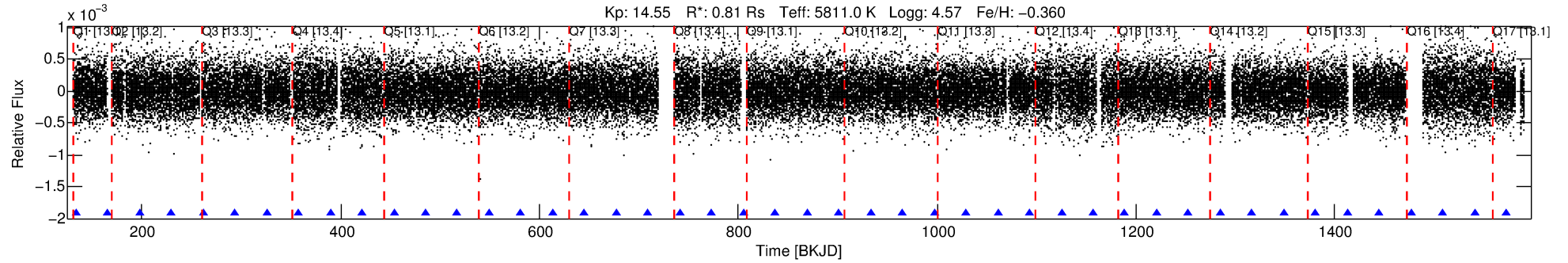
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist (\prime)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
008560940-01	8560940	008560861-01	8560861	1:1	94.7	-14	-20	8.50	14.54	447.08	Direct-PRF	0	0.22	0.03

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: 8560940 Candidate: 1 of 1 Period: 31.973 d

KOI: K03450.01 Corr: 0.874



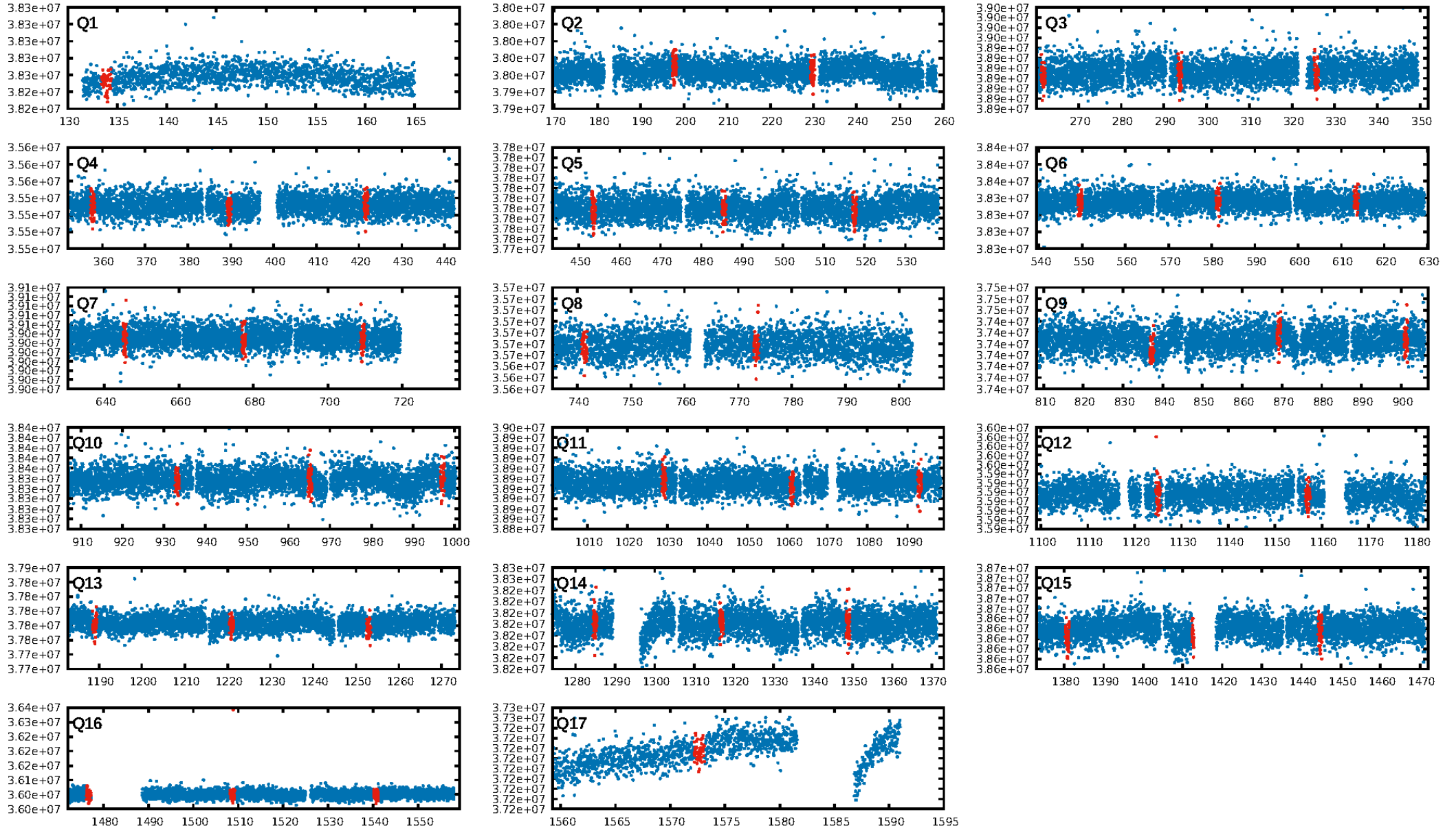
DV Fit Results:

Period = 31.97301 [0.00082] d
Epoch = 133.8692 [0.0213] BKJD
Rp/R* = 0.0237 [0.0583]
a/R* = 4.78 [3.10]
b = 1.00 [0.09]
Seff = 18.63 [6.31]
Teff = 530 [45] K
Rp = 2.10 [5.19] Re
a = 0.1899 [0.0418] AU
Ag = 335.63 [1656.81] [0.20σ]
Teffp = 3506 [4318] K [0.69σ]

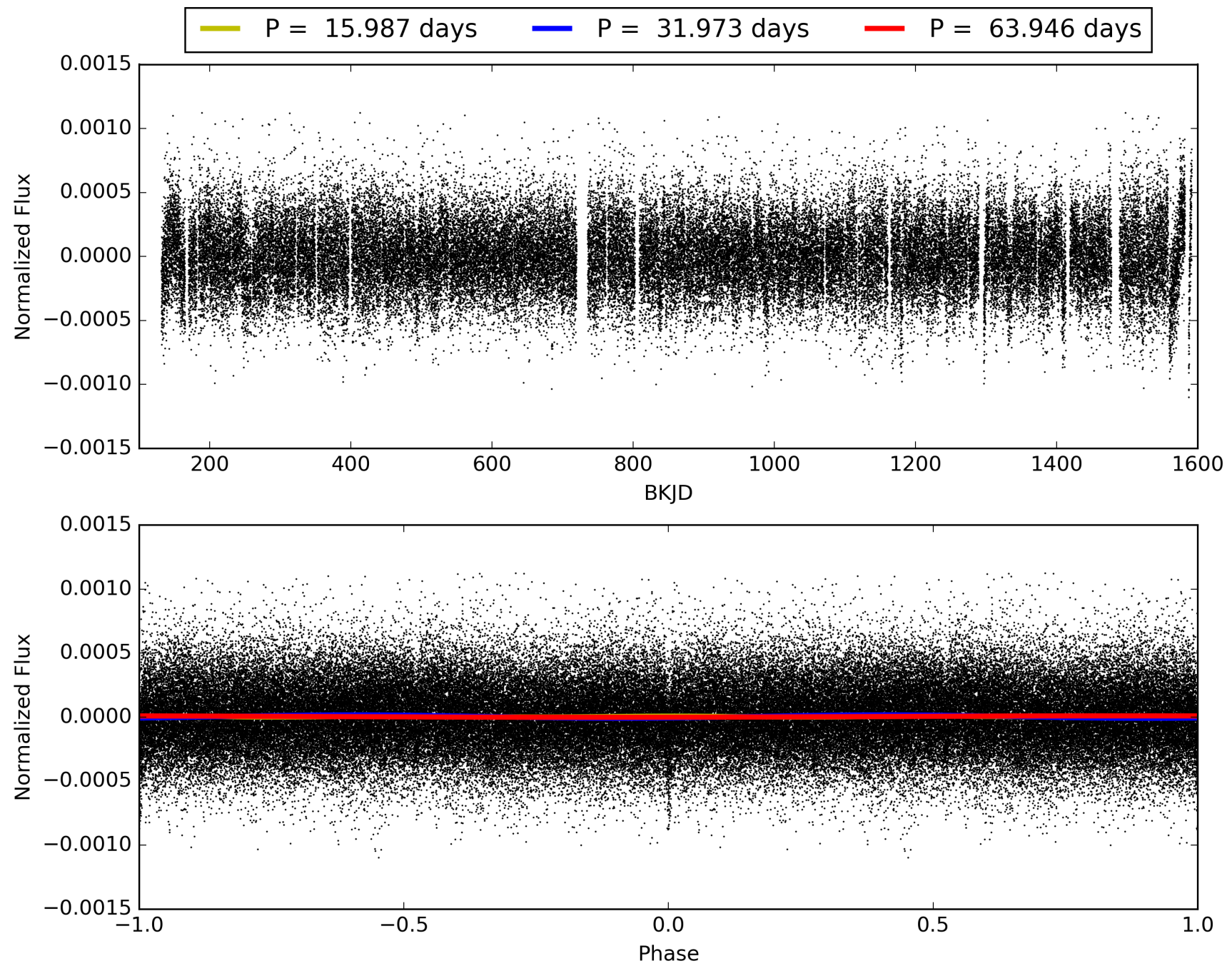
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 37.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.84e-32
RollingBand-fgt: 1.00 [41/41]
GhostDiagnostic-chr: -0.09844
Centroid-sig: 0.0%
Centroid-so: 7.431 arcsec [7.27σ]
OotOffset-rm: 3.276 arcsec [5.12σ]
KicOffset-rm: 3.136 arcsec [4.87σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.19 [3/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008560940-01, PDC Light Curves

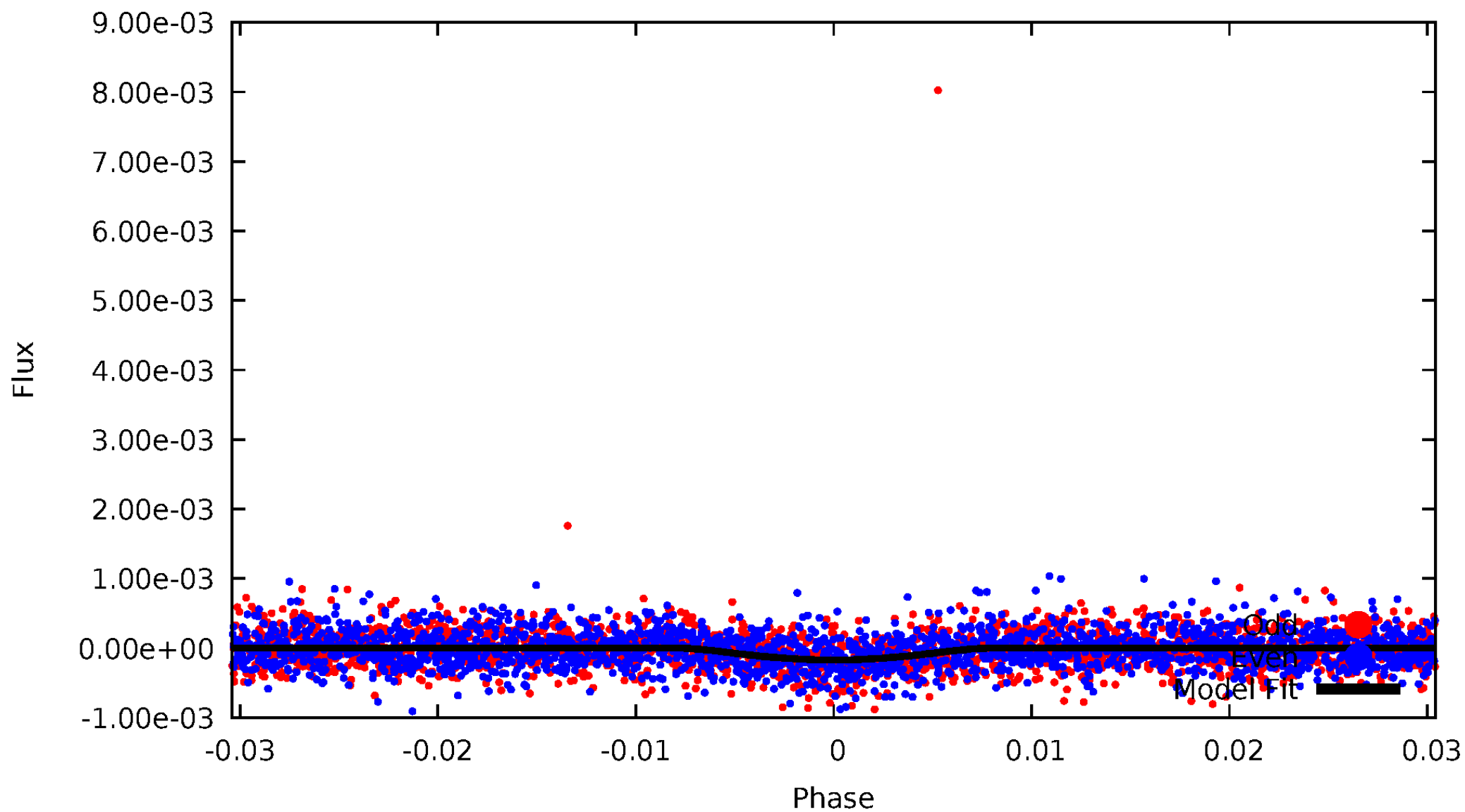


TCE 008560940-01



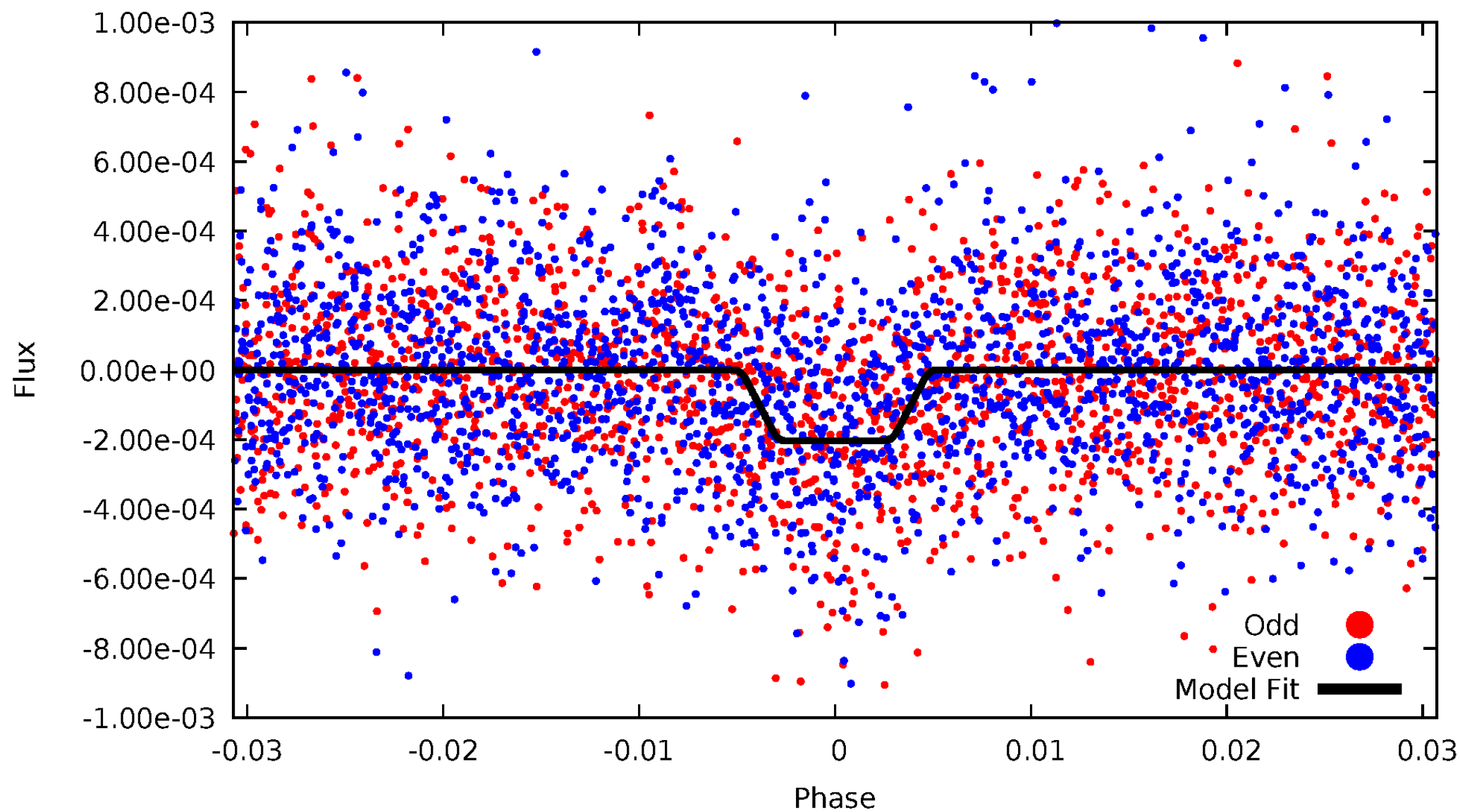
DV Odd/Even

TCE 008560940-01

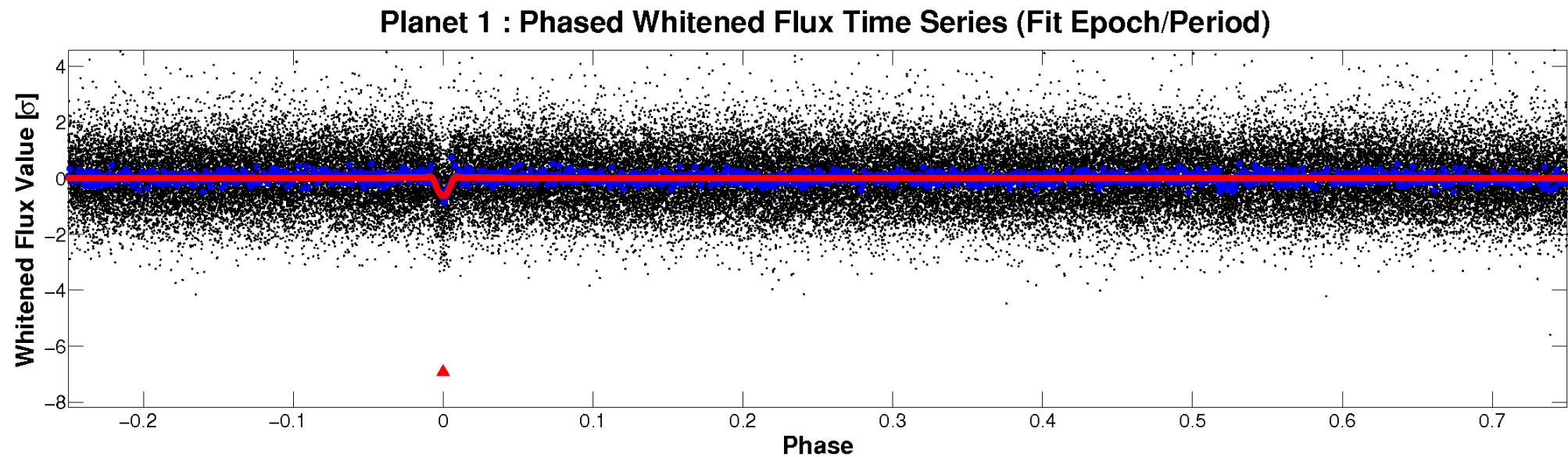
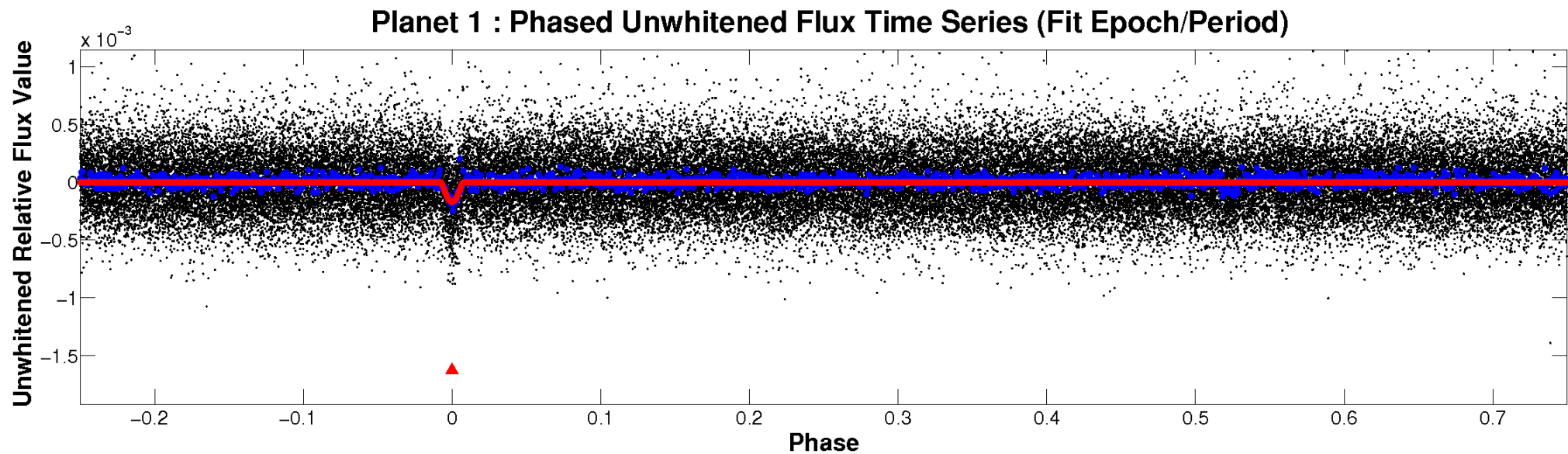


ALT Odd/Even

TCE 008560940-01

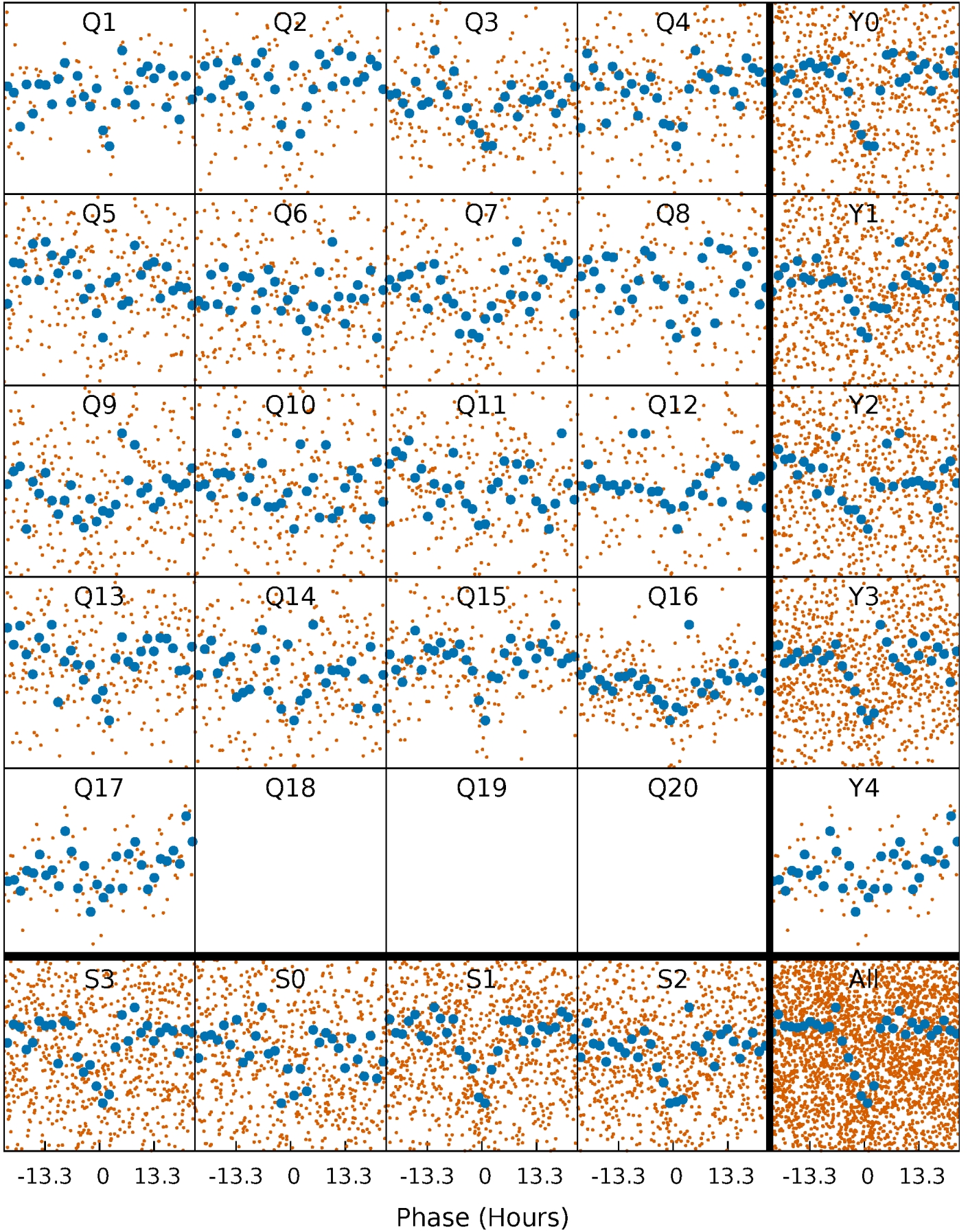


Non-Whitened Vs. Whitened Light Curve



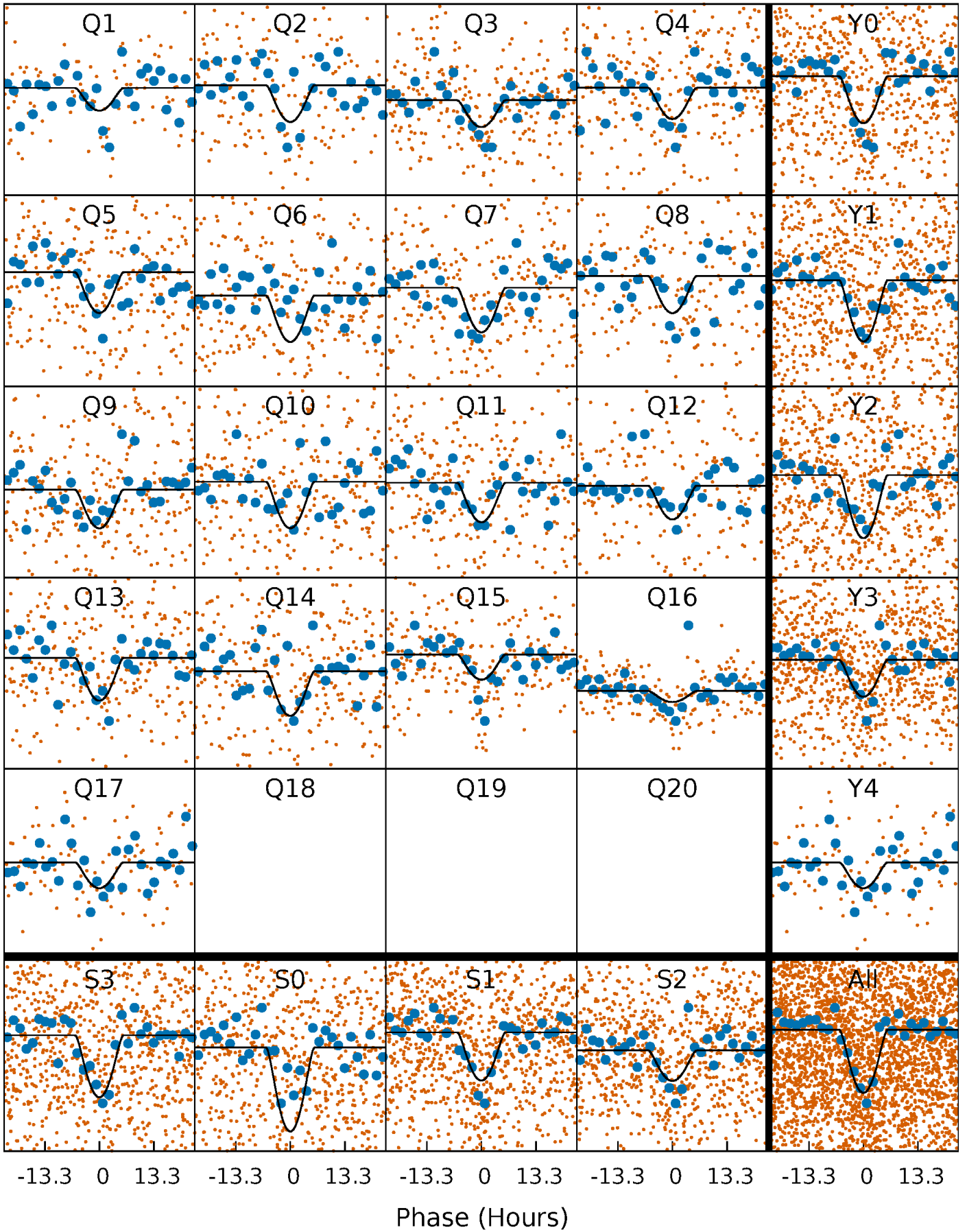
PDC Quarter-Phased Transit Curves

TCE 008560940-01 P= 31.973006 Days $T_0=133.869181$ (BKJD)



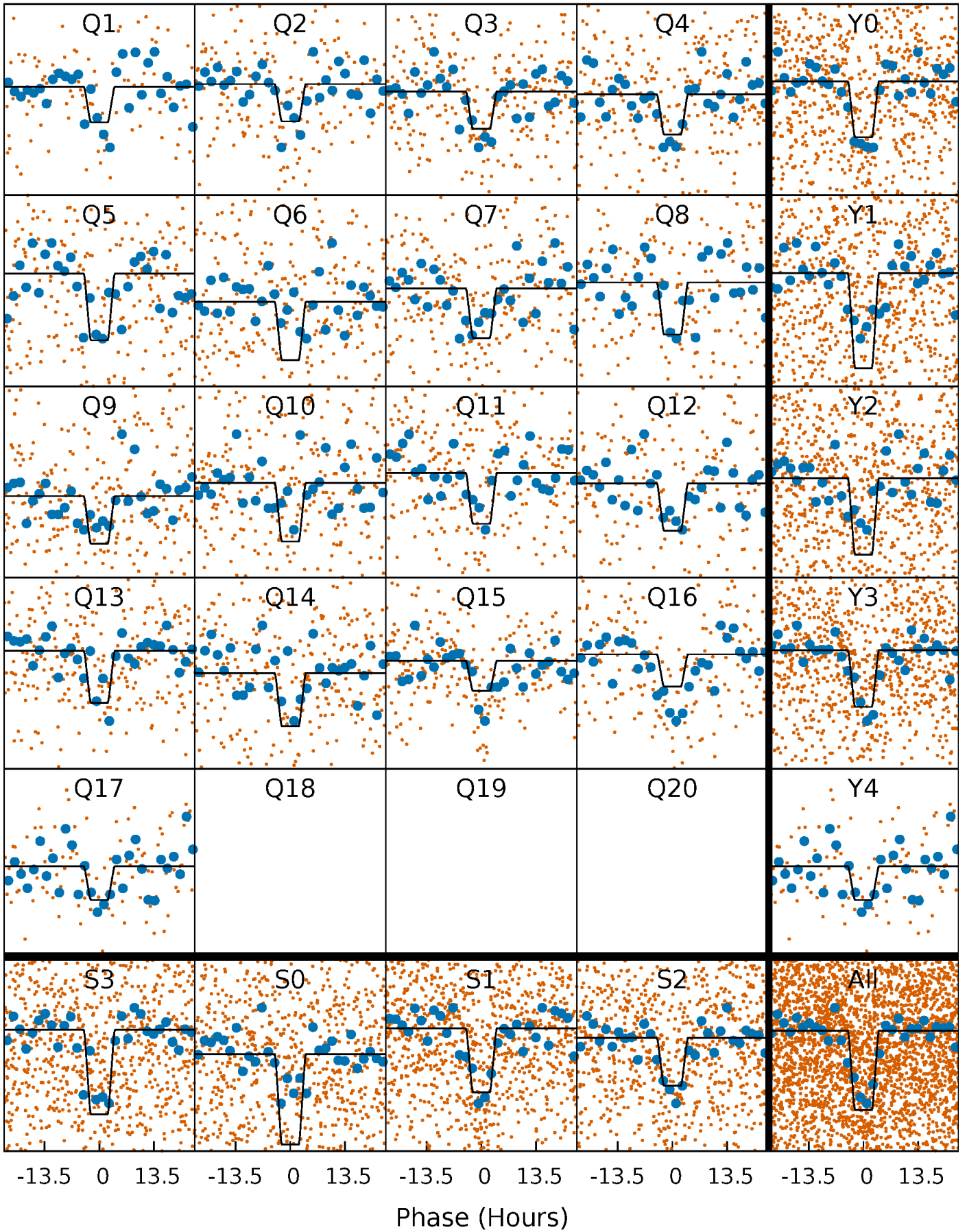
DV Quarter-Phased Transit Curves

TCE 008560940-01 P= 31.973006 Days $T_0=133.869181$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

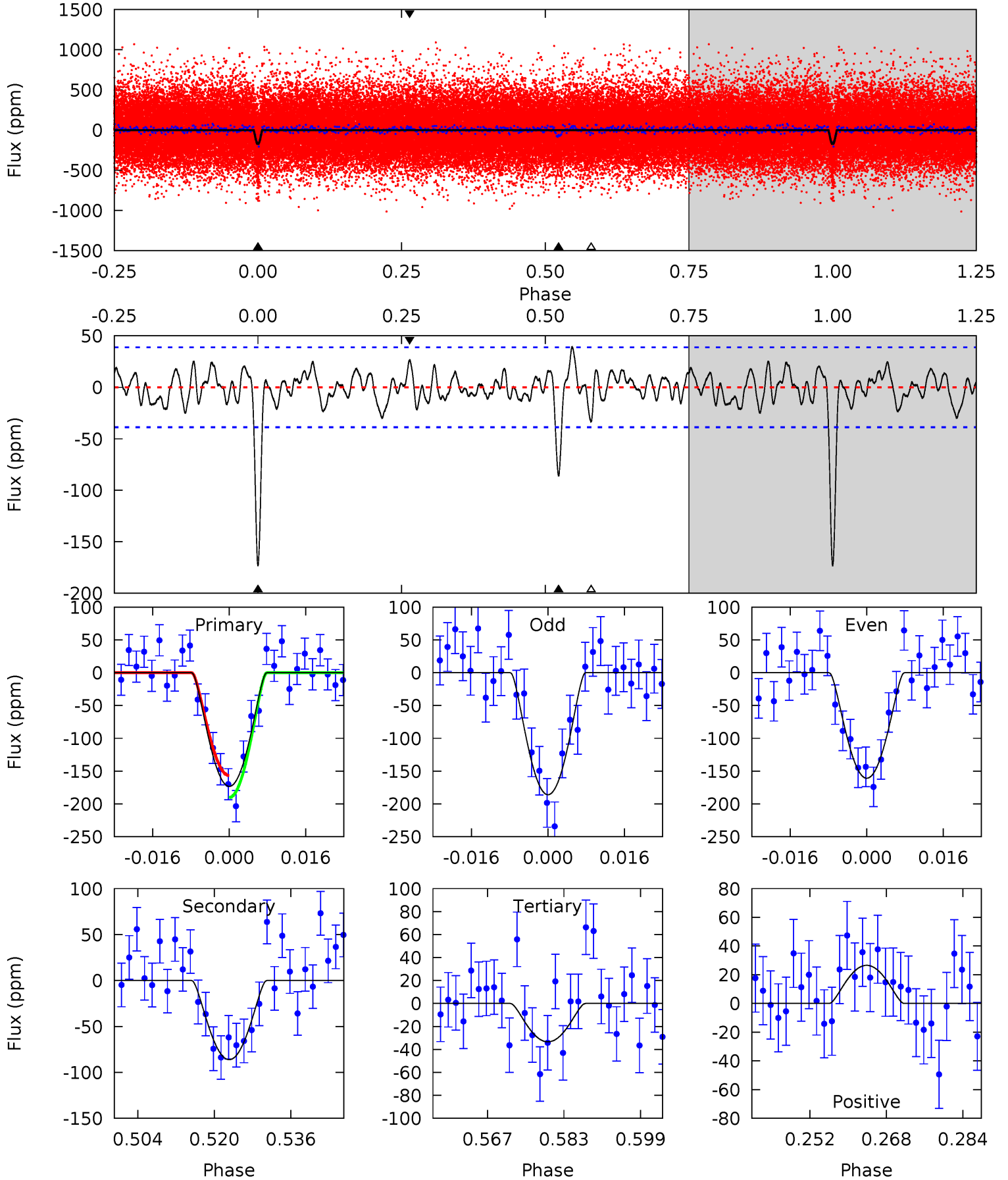
TCE 008560940-01 P= 31.972148 Days $T_0=133.891583$ (BKJD)



DV Model-Shift Uniqueness Test

008560940-01, P = 31.973006 Days, E = 101.896175 Days

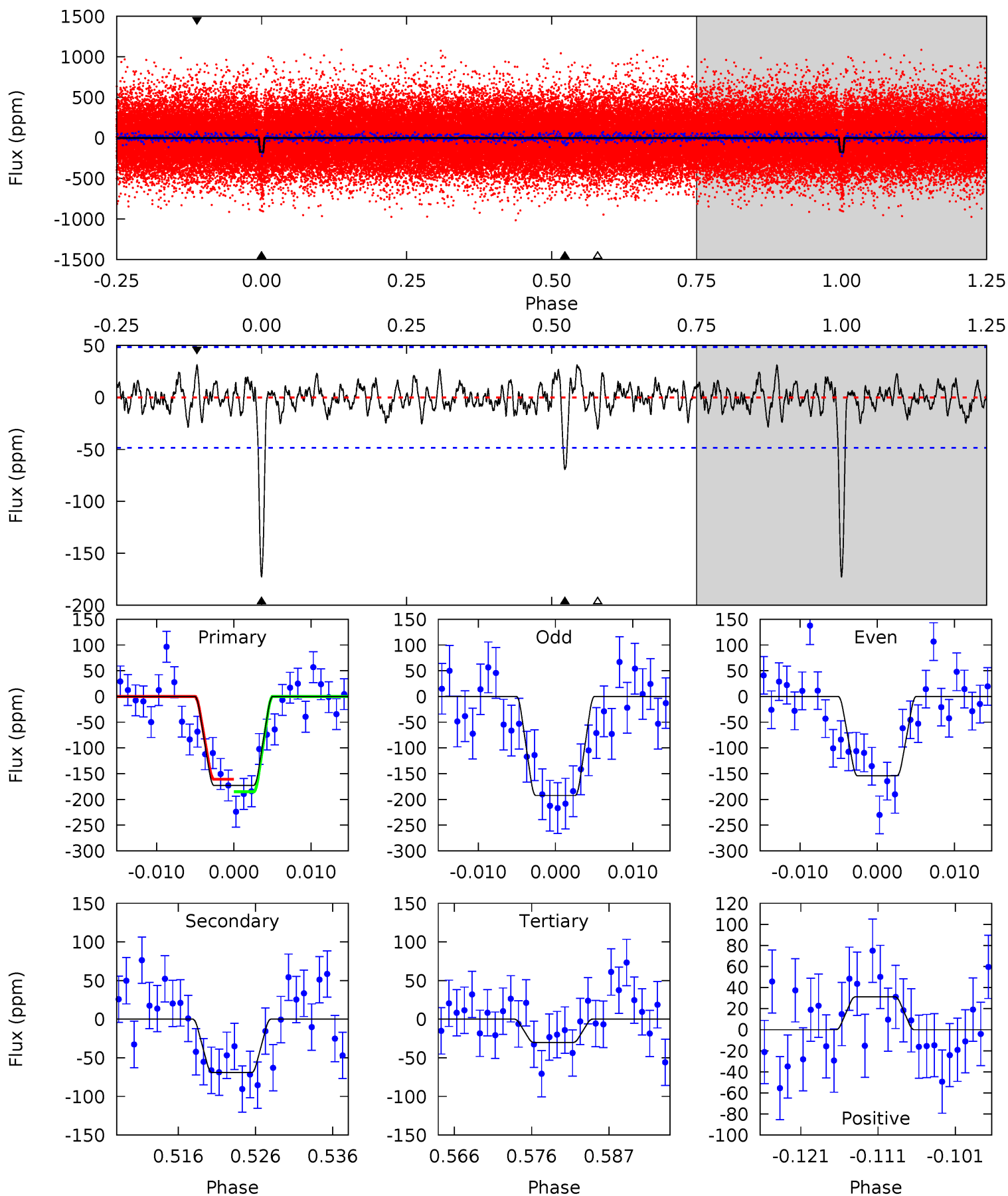
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.1	11.0	4.25	3.38	4.94	2.41	1.49	17.8	18.7	6.71	7.59	1.61	1.02	0.18	2.13



Alt Model-Shift Uniqueness Test

008560940-01, P = 31.972148 Days, E = 101.919435 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.9	7.17	3.12	3.23	5.02	2.57	1.08	14.8	14.7	4.05	3.93	1.98	1.08	0.15	1.27



Stellar Parameters For KIC 008560940

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5811^{+158}_{-158}	$4.571^{+0.044}_{-0.176}$	$-0.360^{+0.300}_{-0.300}$	$0.811^{+0.211}_{-0.070}$	$0.898^{+0.089}_{-0.099}$	$2.374^{+0.417}_{-1.133}$
	+3%/-3%	+1%/-4%	+83%/-83%	+26%/-9%	+10%/-11%	+18%/-48%
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 008560940-01 / KOI 3450.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-86 ± 8	$4.61^{+4.44}_{-3.19}$	754^{+47}_{-32}	3161^{+1541}_{-569}	80^{+795}_{-60}
Alt.	-69 ± 10	$4.25^{+4.18}_{-3.01}$	753^{+49}_{-31}	3098^{+1513}_{-530}	76^{+745}_{-57}

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 $A_{obs} \gg 1.0$

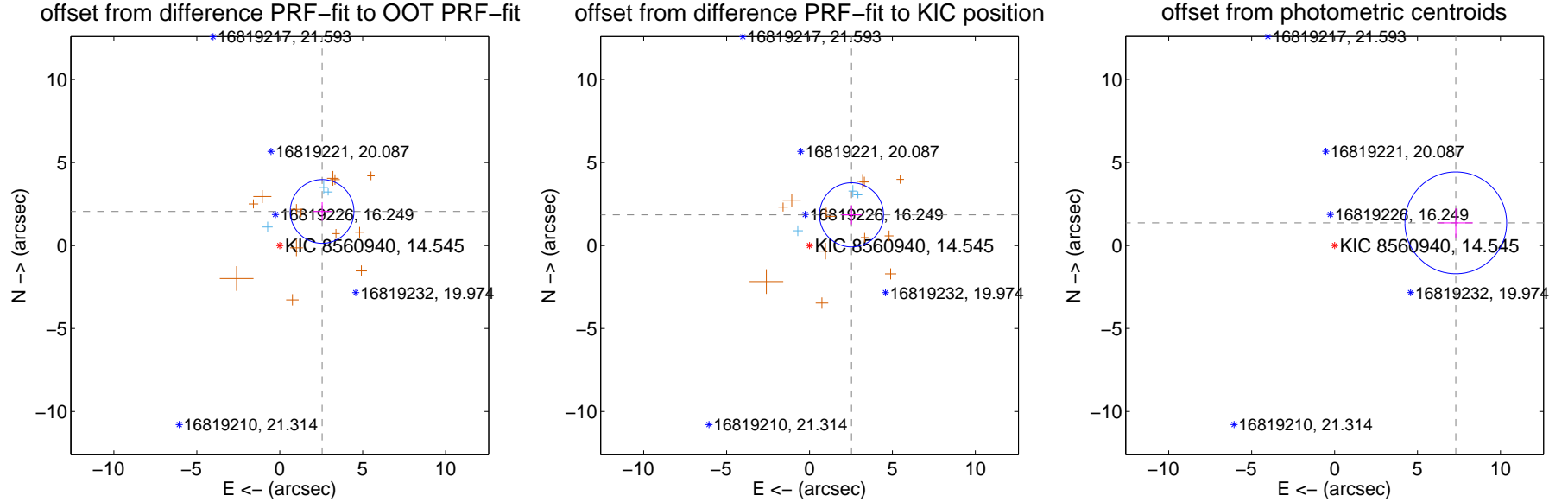
DV Centroid Data

Supplemental centroid analysis for 008560940-01. Kepler magnitude: 14.54. Transit SNR 12.84

There are 3 quarters with good PRF difference image offsets

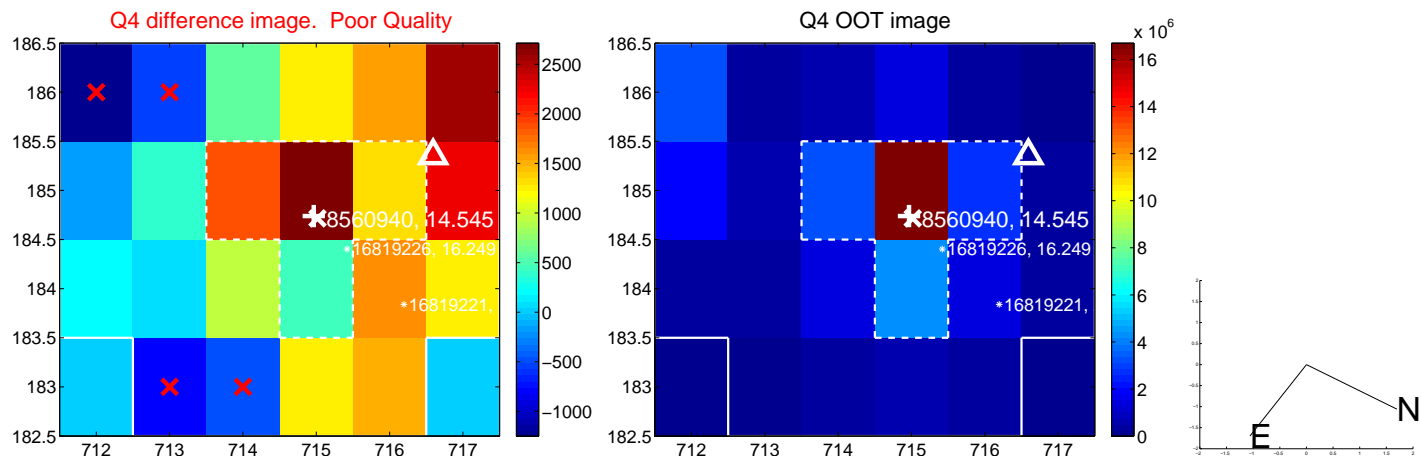
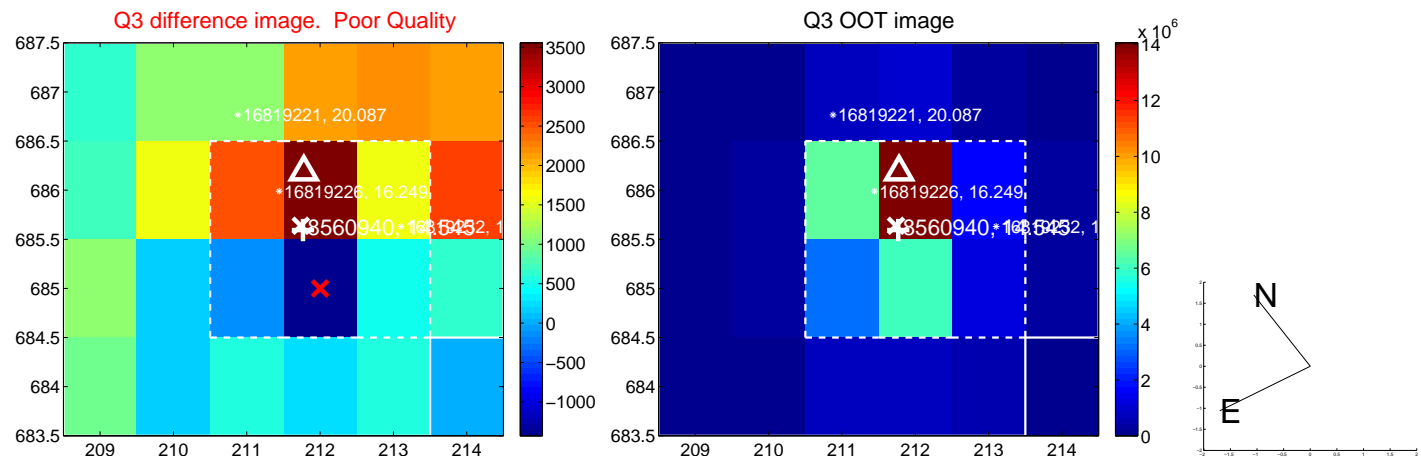
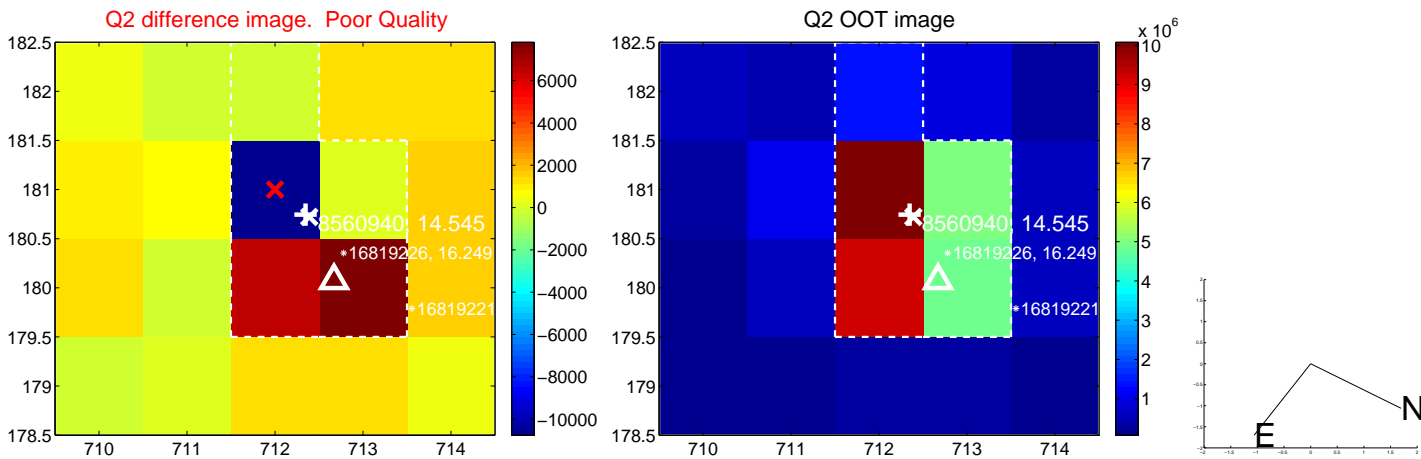
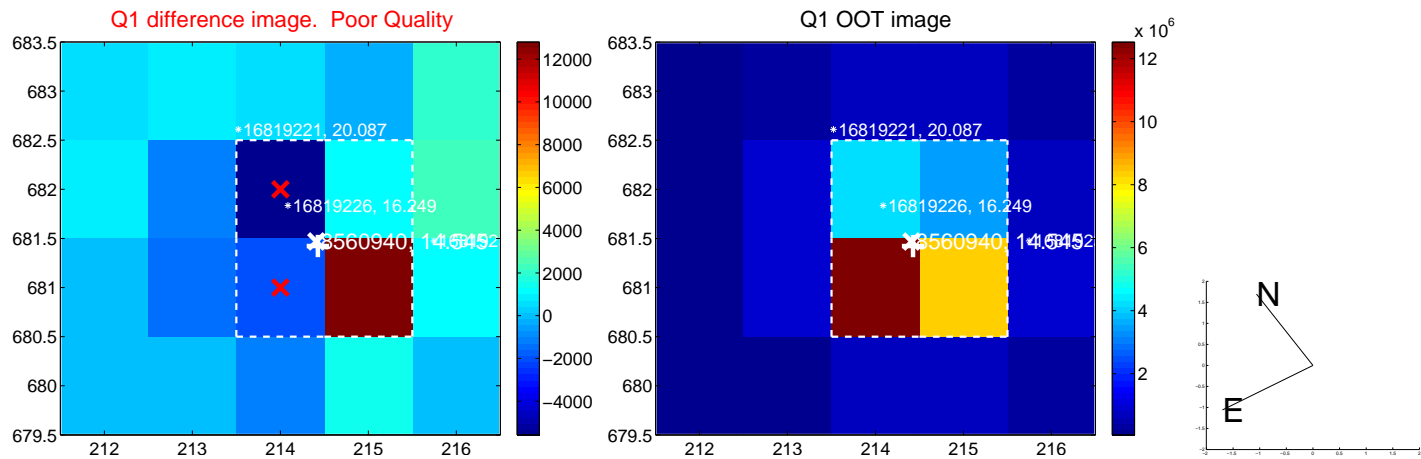
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.276 ± 0.640	5.12	-2.552 ± 0.572	2.054 ± 0.561
PRF-fit source offset from KIC position	3.136 ± 0.644	4.87	-2.531 ± 0.600	1.851 ± 0.570
photometric centroid source offset	7.43 ± 1.02	7.27	-7.30 ± 1.03	1.36 ± 0.88

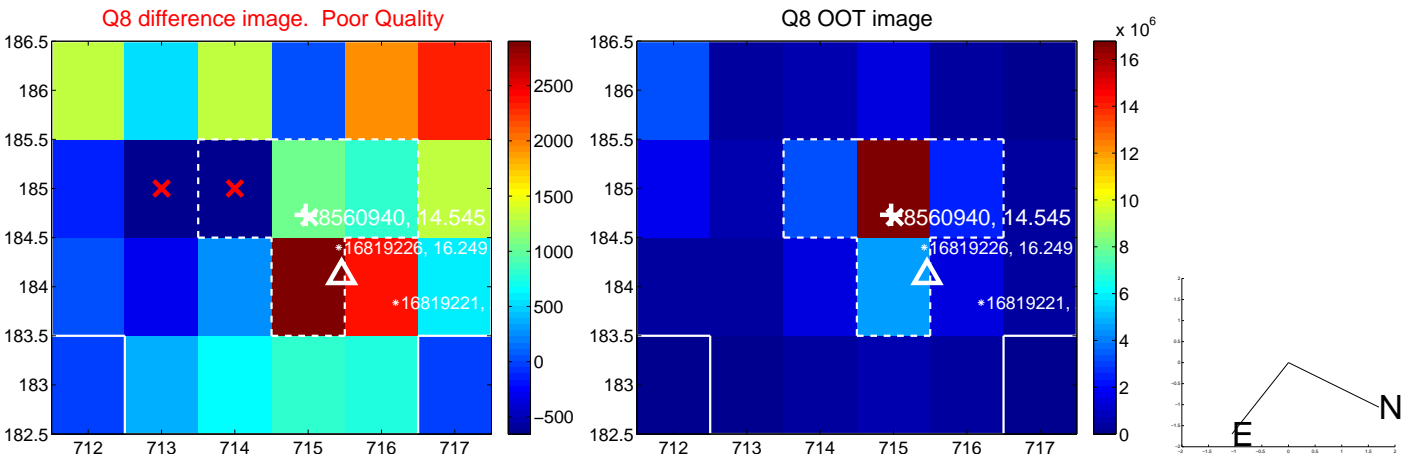
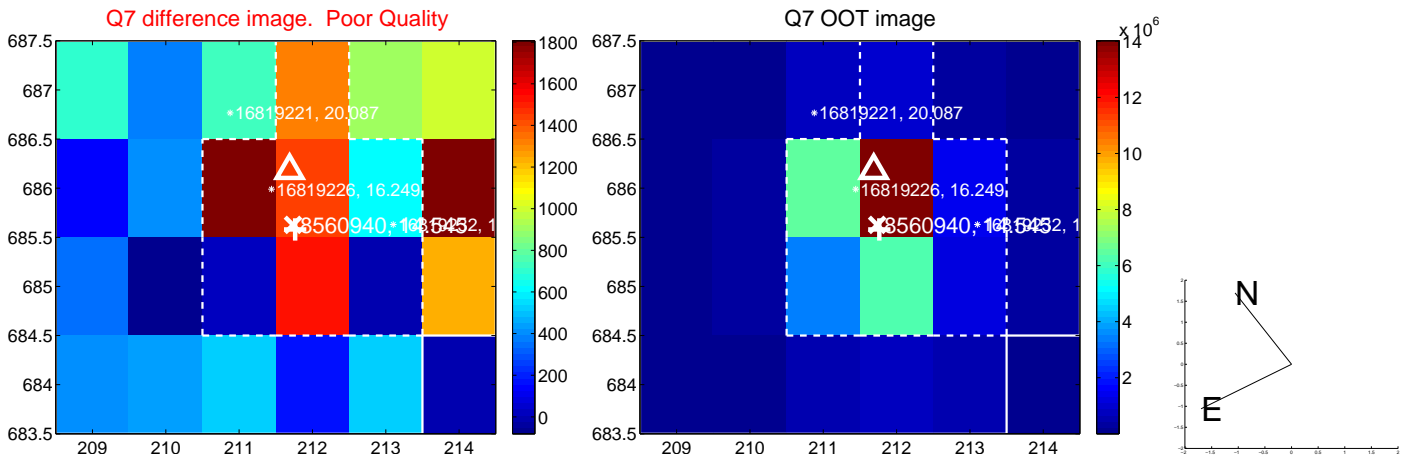
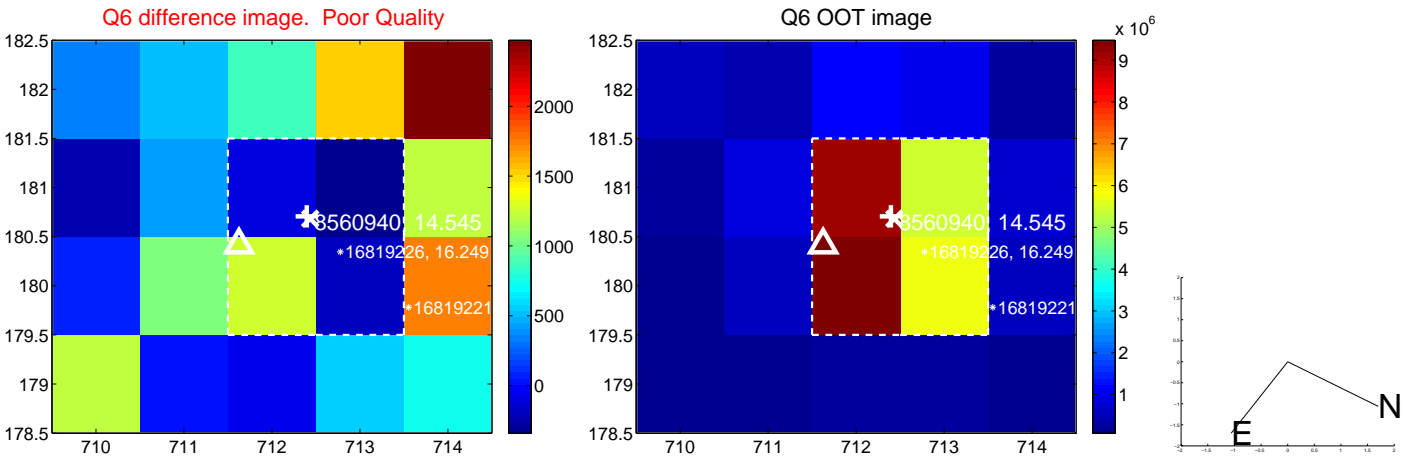
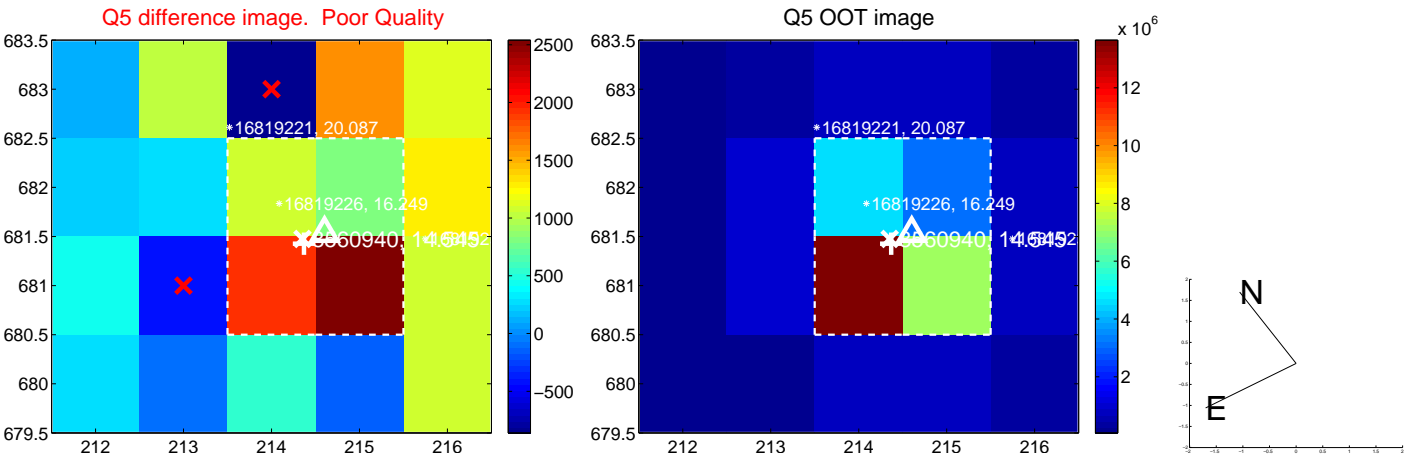


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

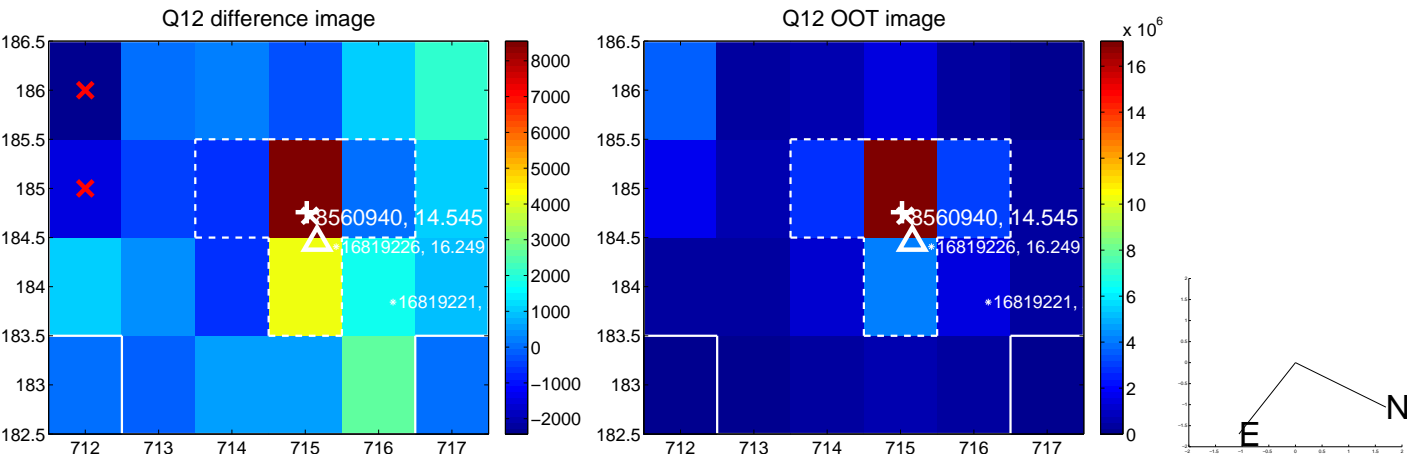
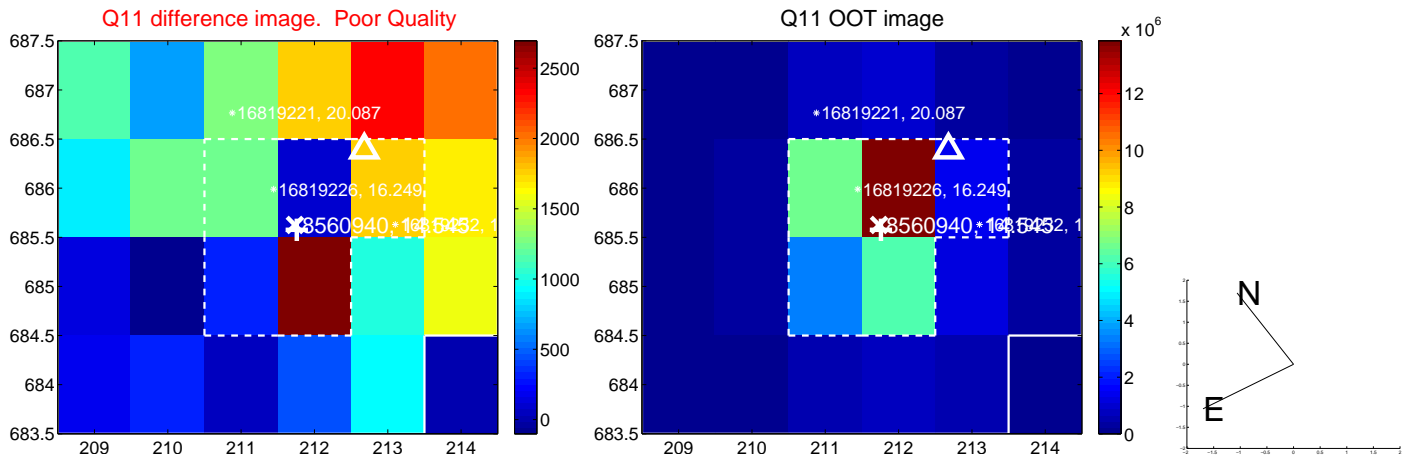
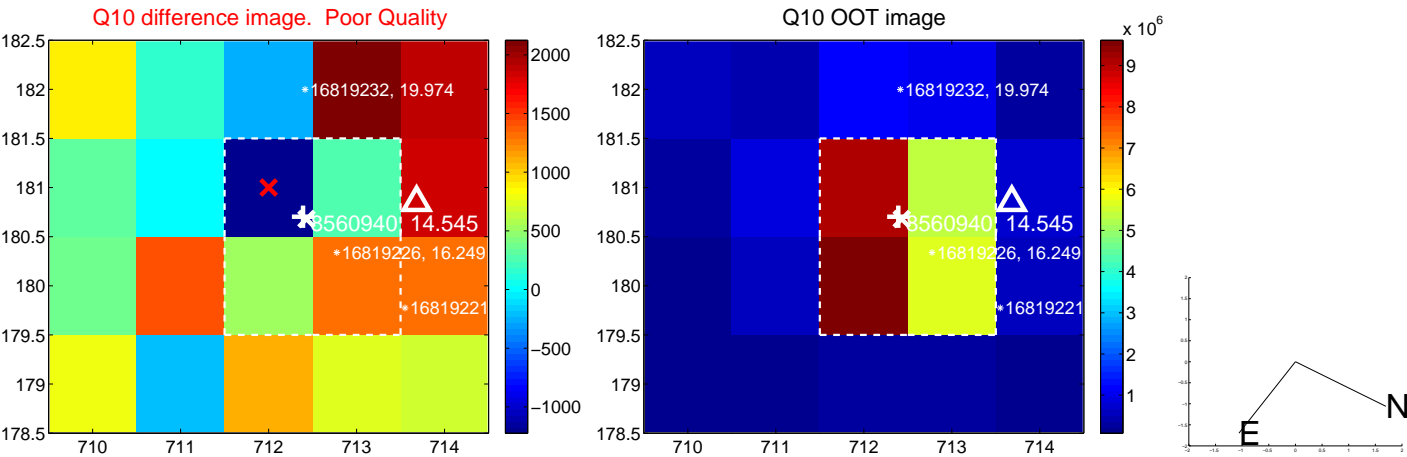
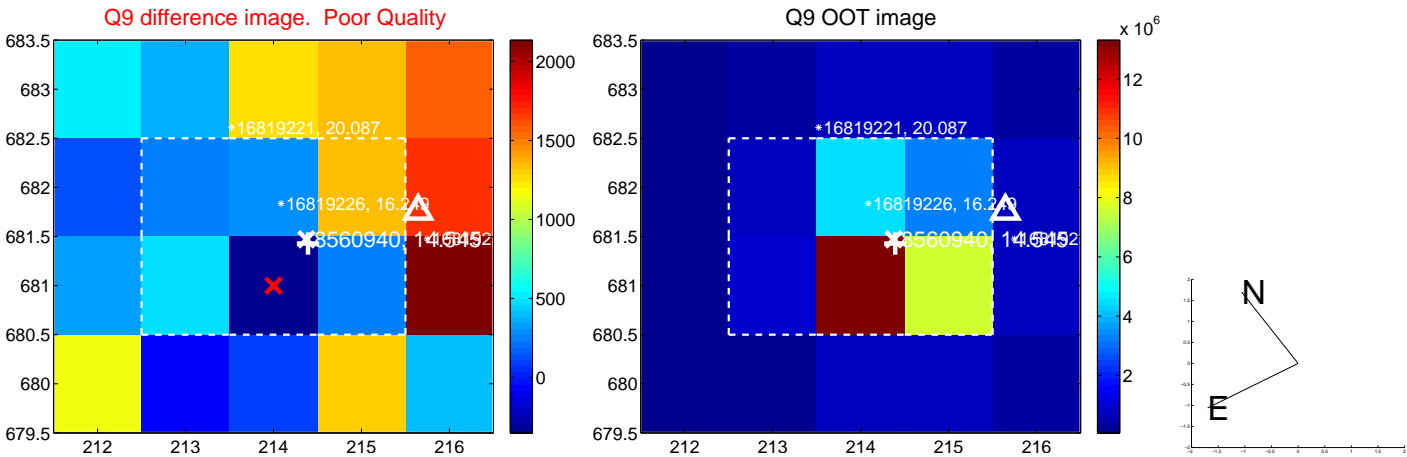
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



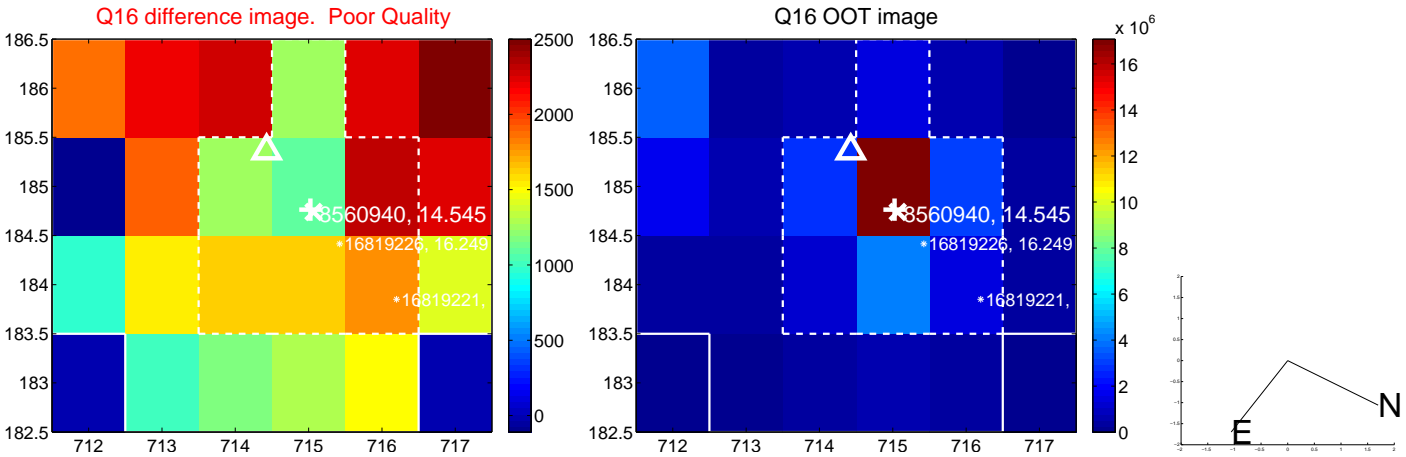
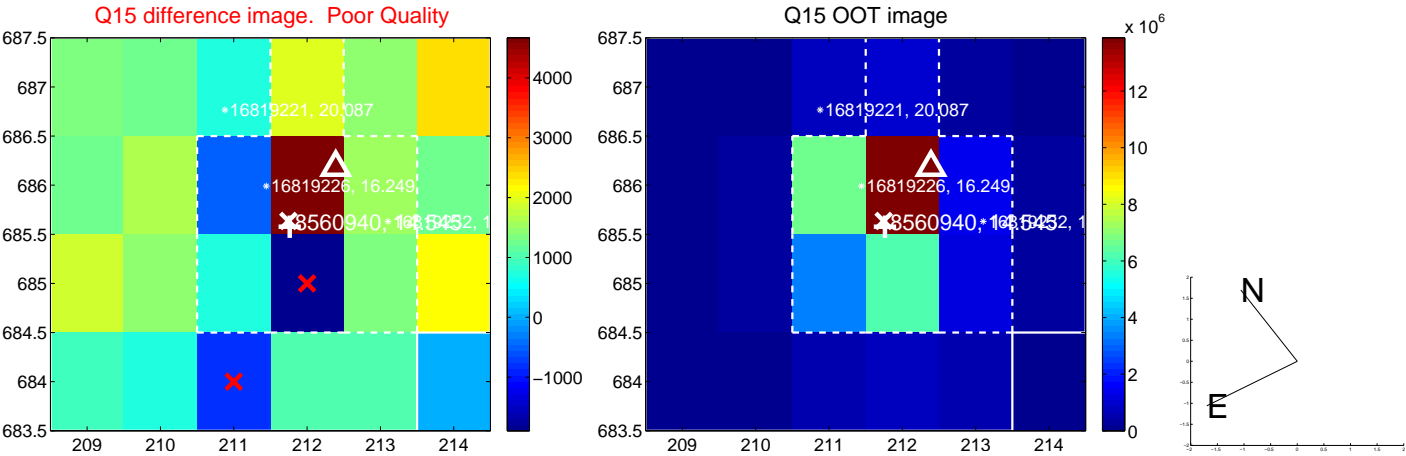
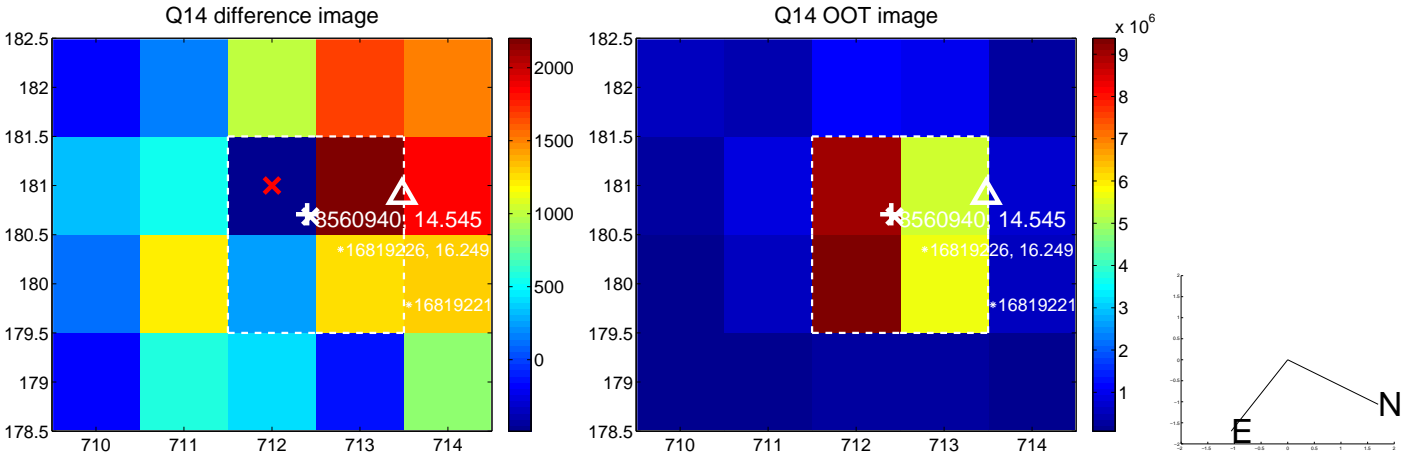
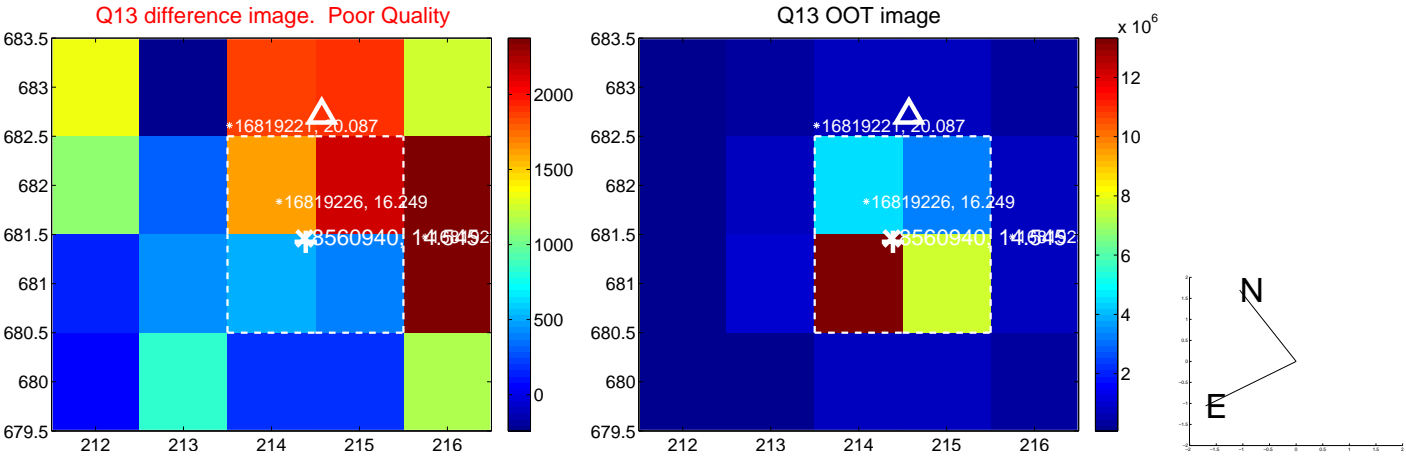
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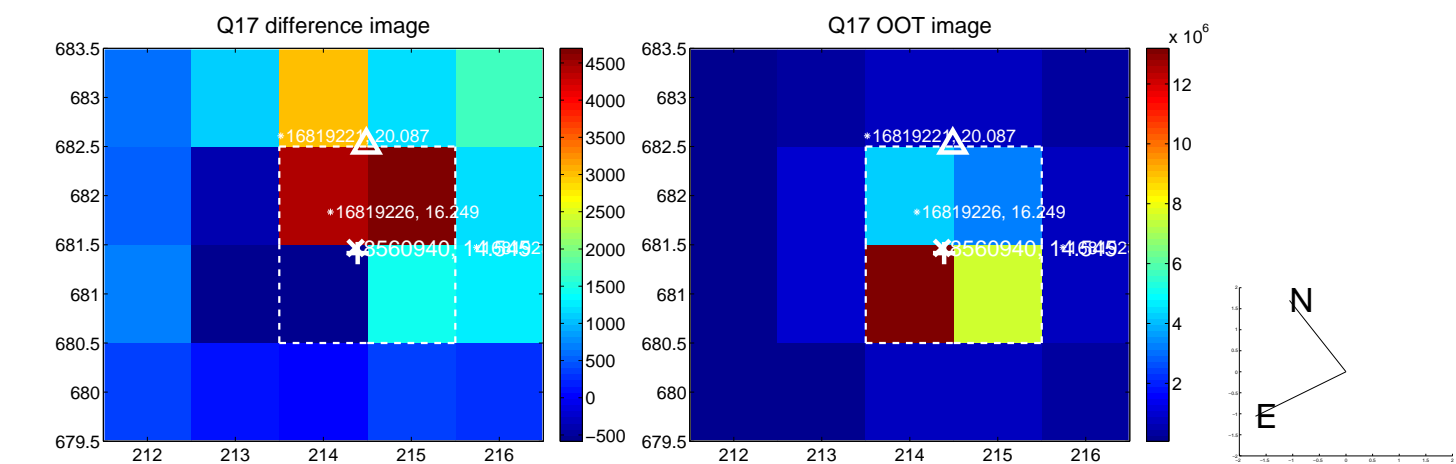
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



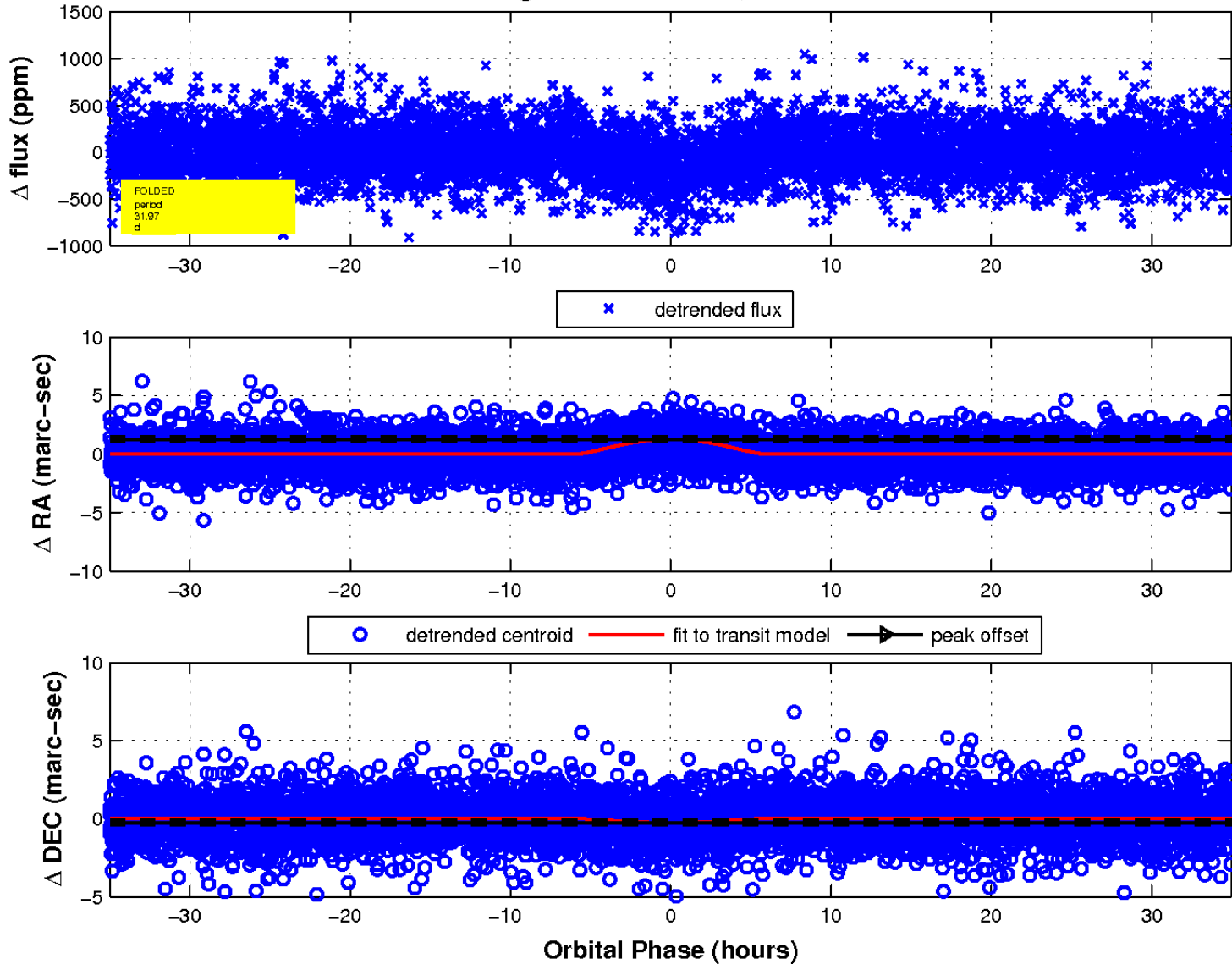
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

