

KIC 008892721

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 _⊕)
008892721-01	OBS	1844.01	61.491185	163.633868	3627.4	9.633	61.1	57.2	0.60	4796	4.53	2.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008892721-01	OBS	FP	0.00	0	0	1	1	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 008892721-01

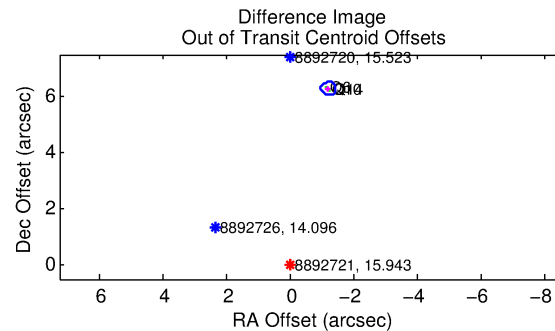
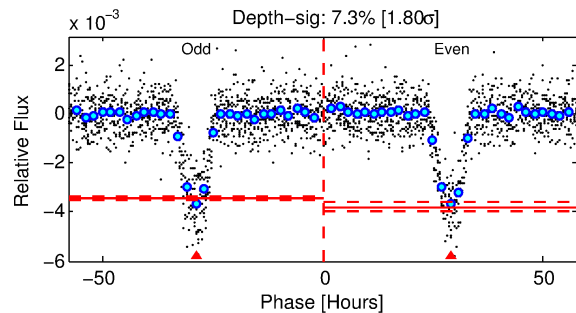
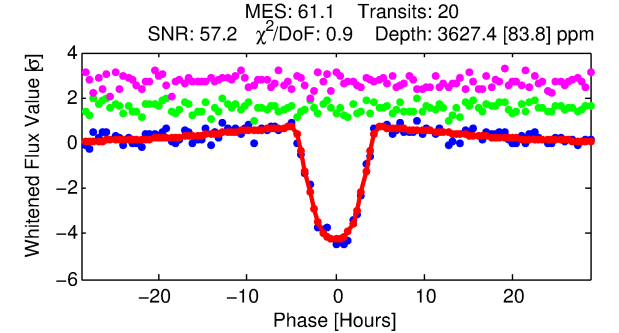
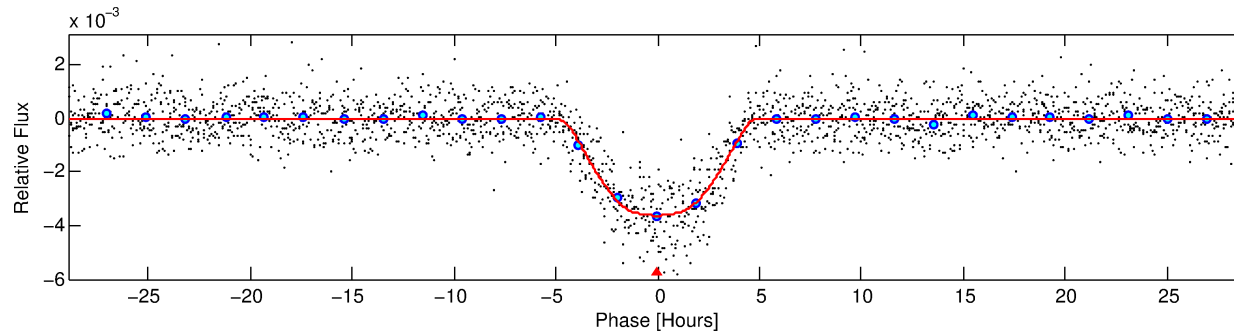
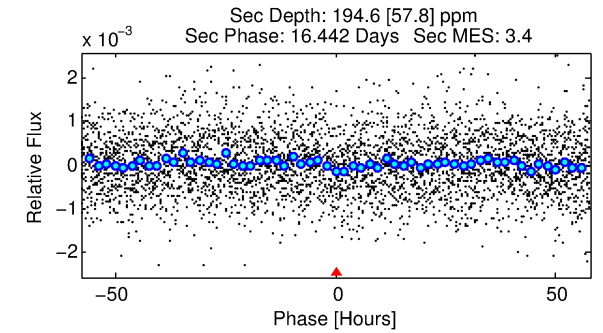
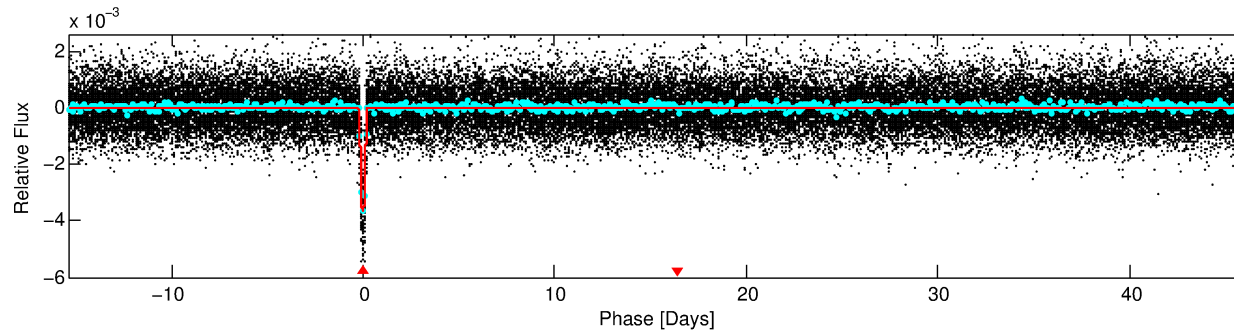
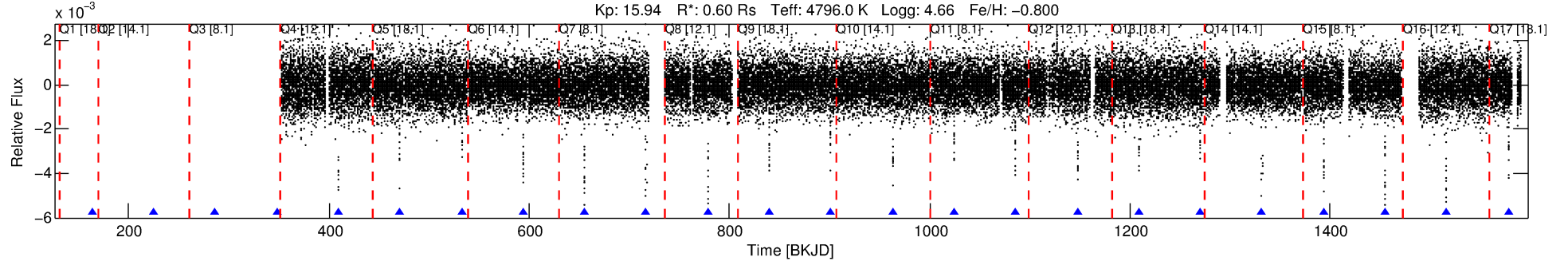
TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
008892721-01	8892721	3336.01	8892720	1:1	7.4	-1	-2	15.52	15.94	17.19	Direct-PRF	0	0.02	0.00

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: 8892721 Candidate: 1 of 1 Period: 61.491 d
KOI: K01844.01 Corr: 0.994

Kp: 15.94 R*: 0.60 Rs Teff: 4796.0 K Logg: 4.66 Fe/H: -0.800



DV Fit Results:

Period = 61.49118 [0.00033] d
Epoch = 163.6339 [0.0048] BKJD
Rp/R* = 0.0694 [0.0014]
a/R* = 26.48 [0.89]
b = 0.92 [0.01]
Seff = 2.59 [0.45]
Teq = 323 [14] K
Rp = 4.53 [0.40] Re
a = 0.2559 [0.0182] AU
Ag = 341.50 [108.14] [3.15σ]
Teff = 2150 [179] K [10.18σ]

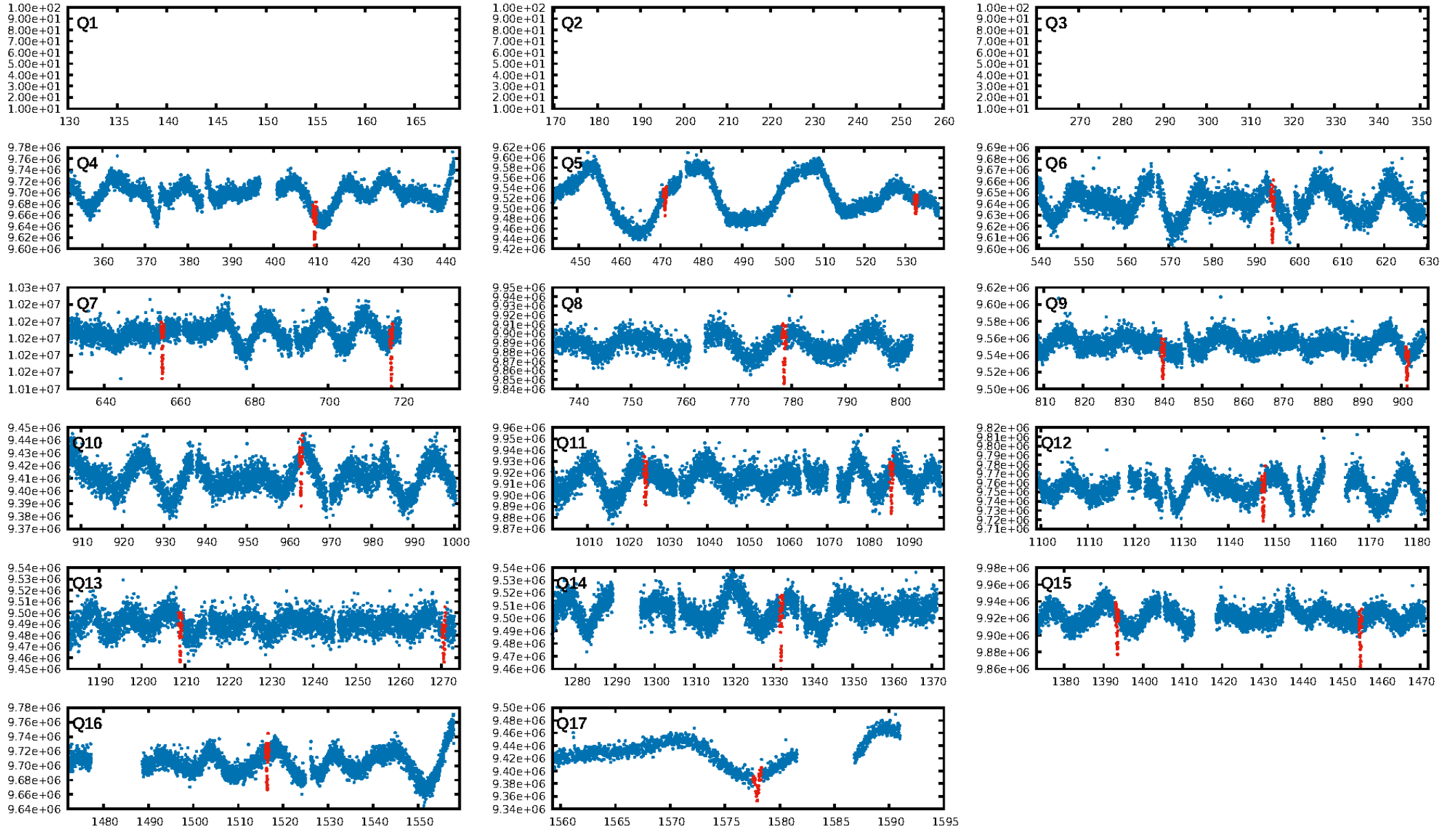
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGo-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [19/19]
GhostDiagnostic-chr: -0.2548
Centroid-sig: 0.0%
Centroid-so: 25.648 arcsec [274.97σ]
OotOffset-rm: 6.397 arcsec [82.85σ]
KicOffset-rm: 7.233 arcsec [92.69σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [13/13]

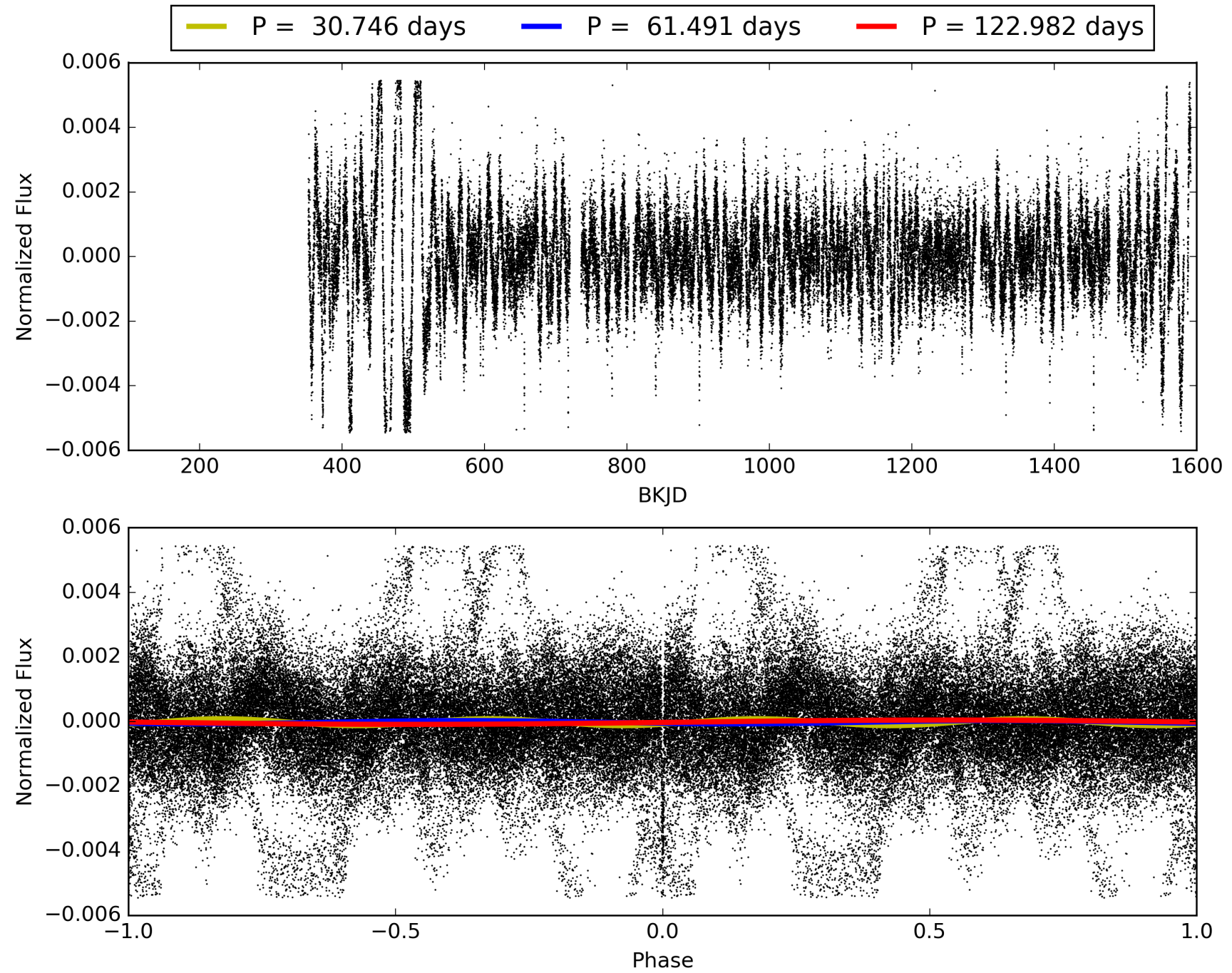
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:50:40 Z

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

TCE 008892721-01, PDC Light Curves

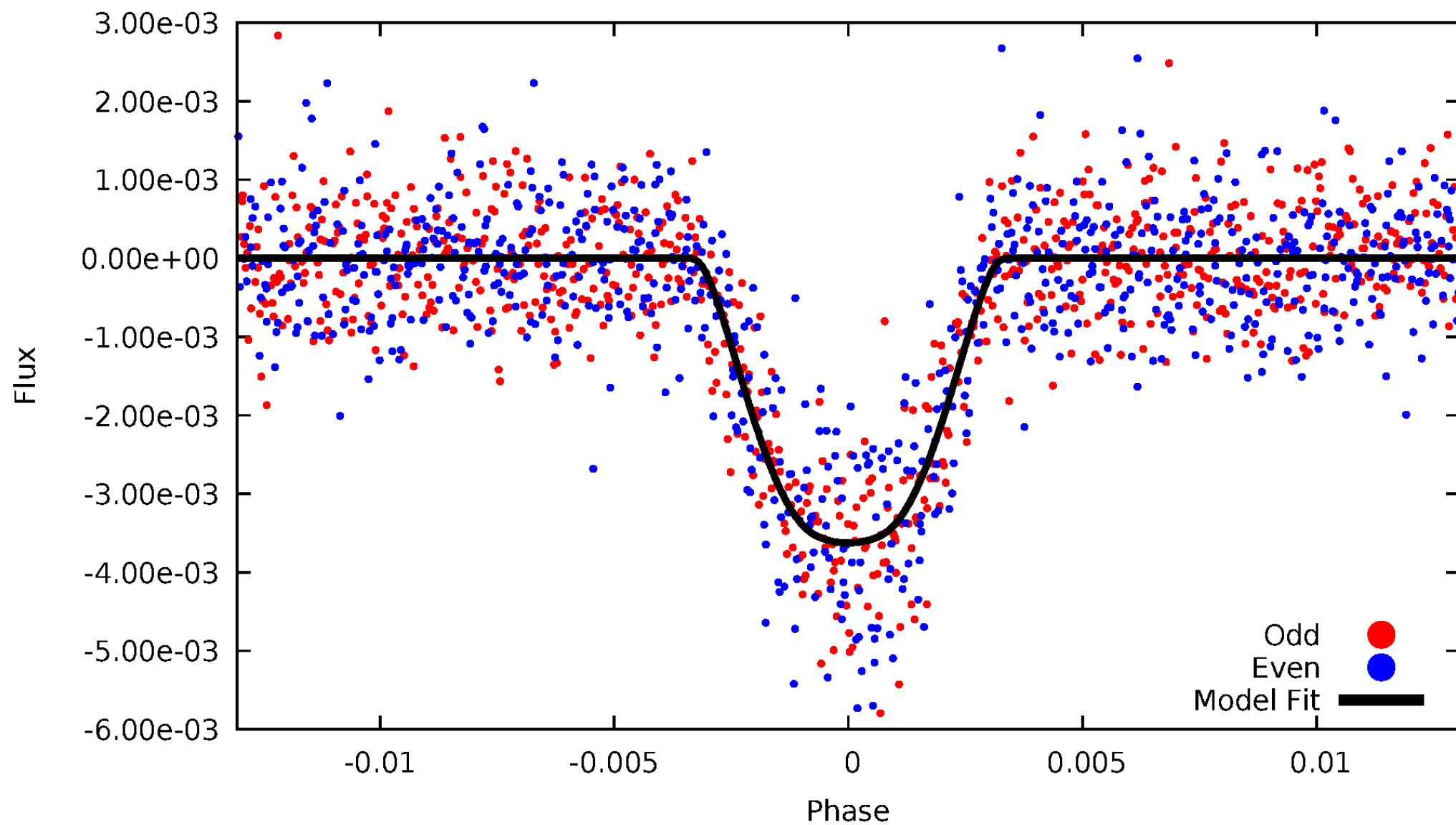


TCE 008892721-01



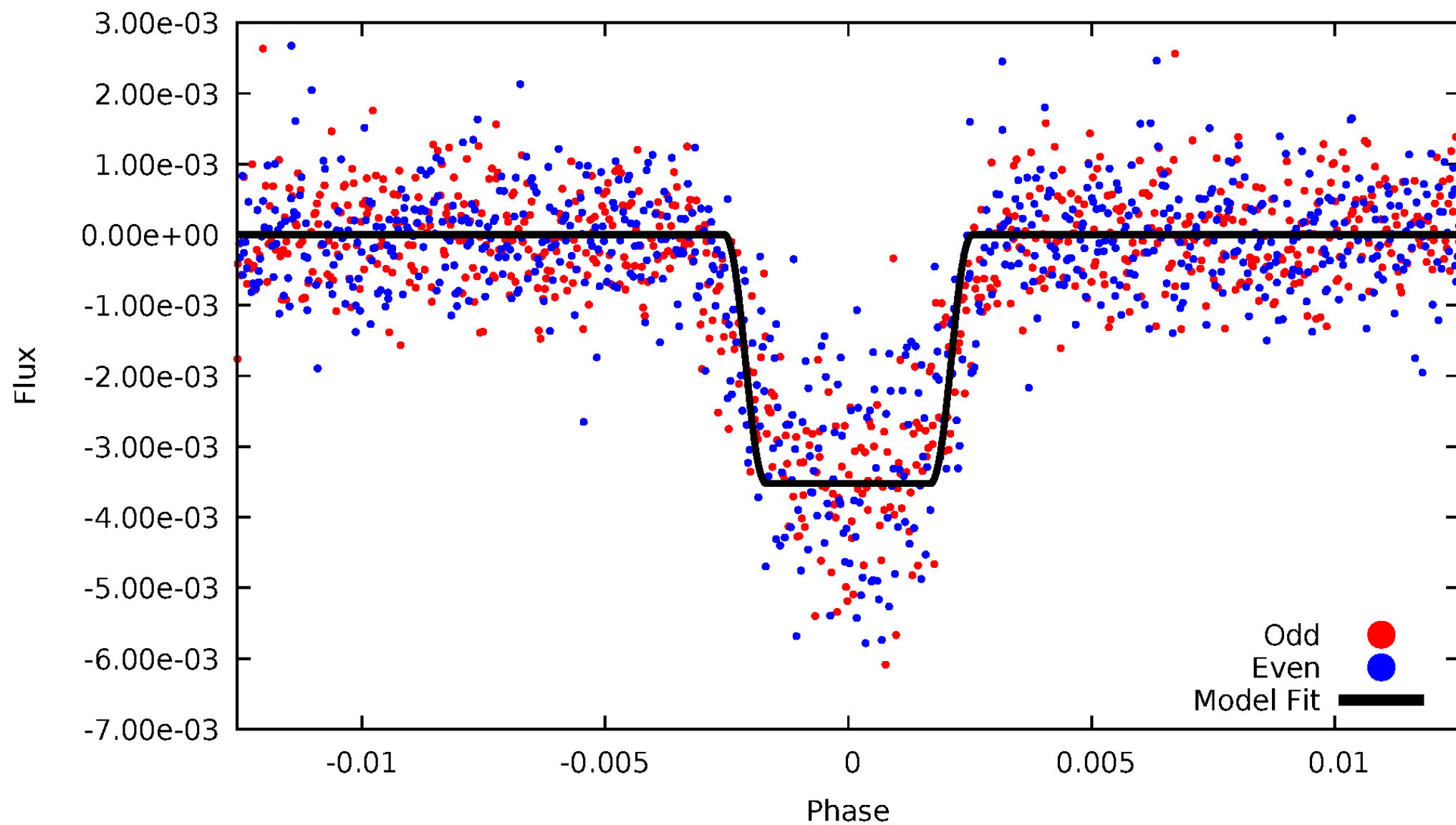
DV Odd/Even

TCE 008892721-01



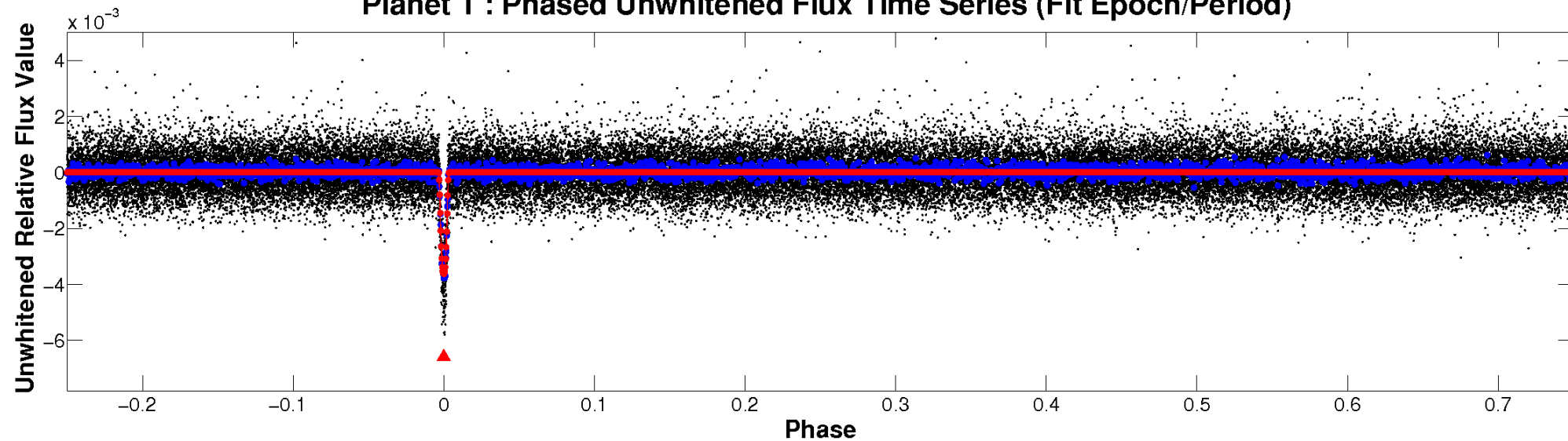
ALT Odd/Even

TCE 008892721-01

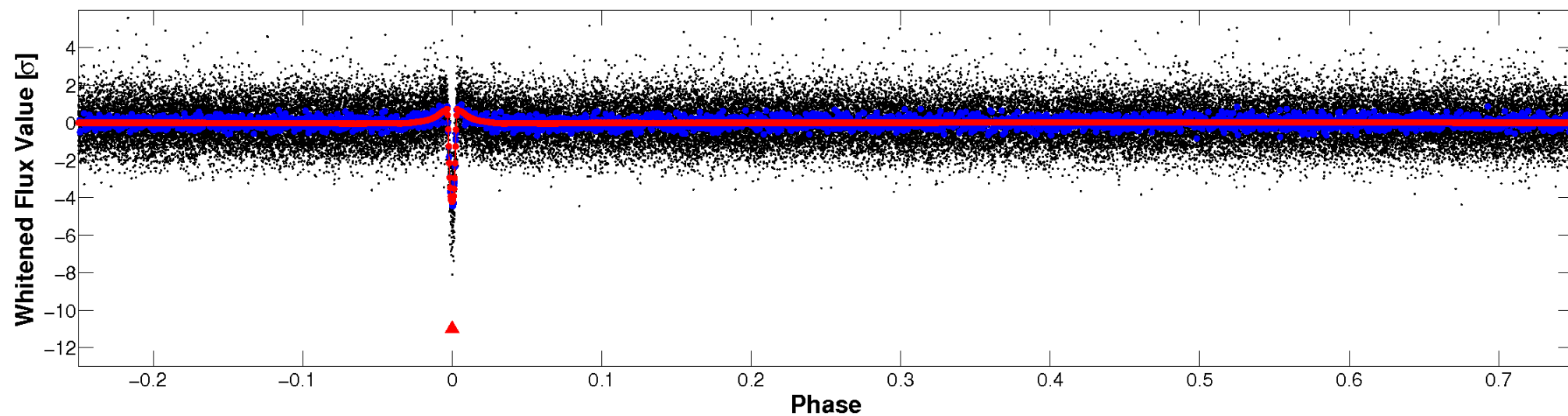


Non-Whitened Vs. Whitened Light Curve

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

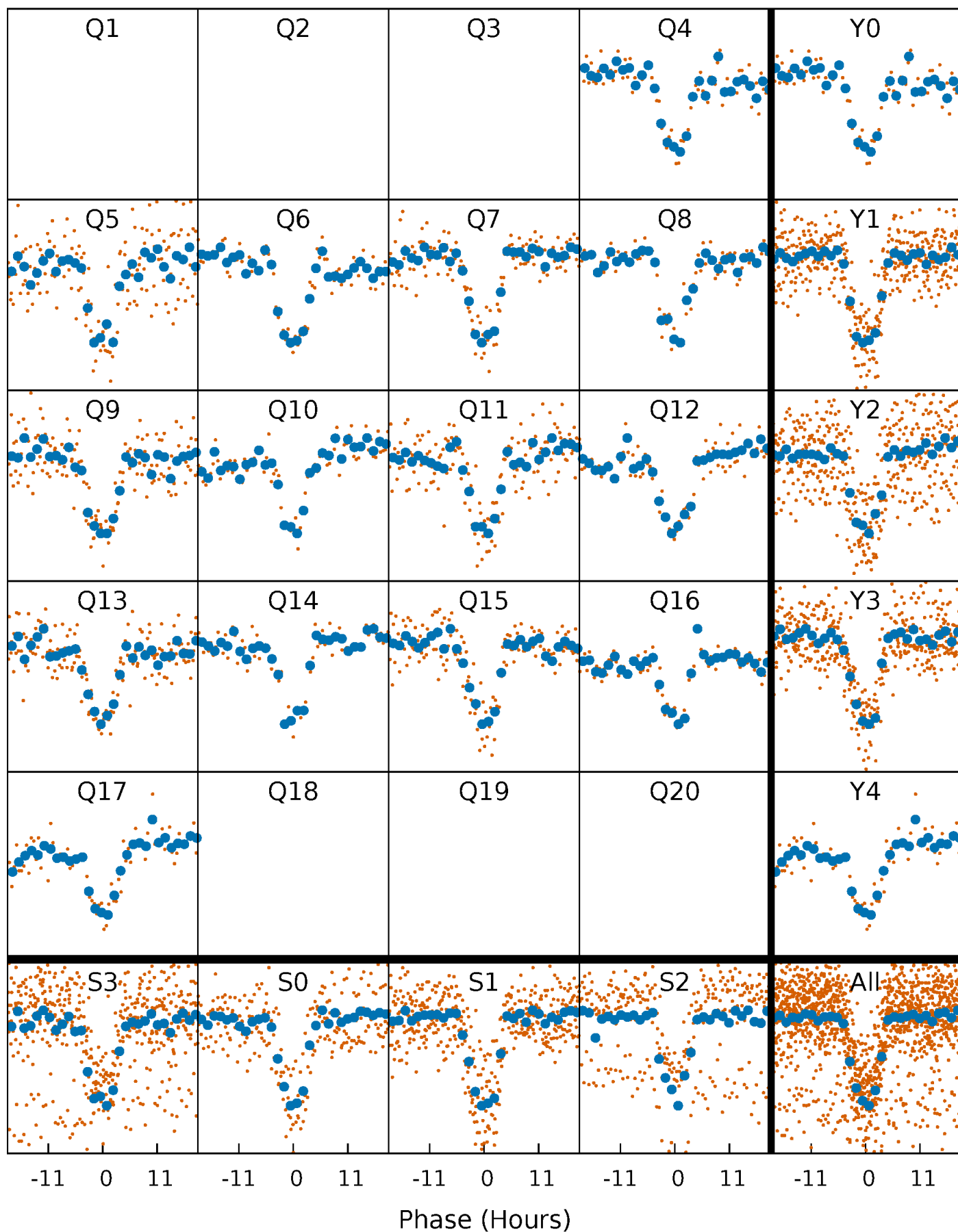


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



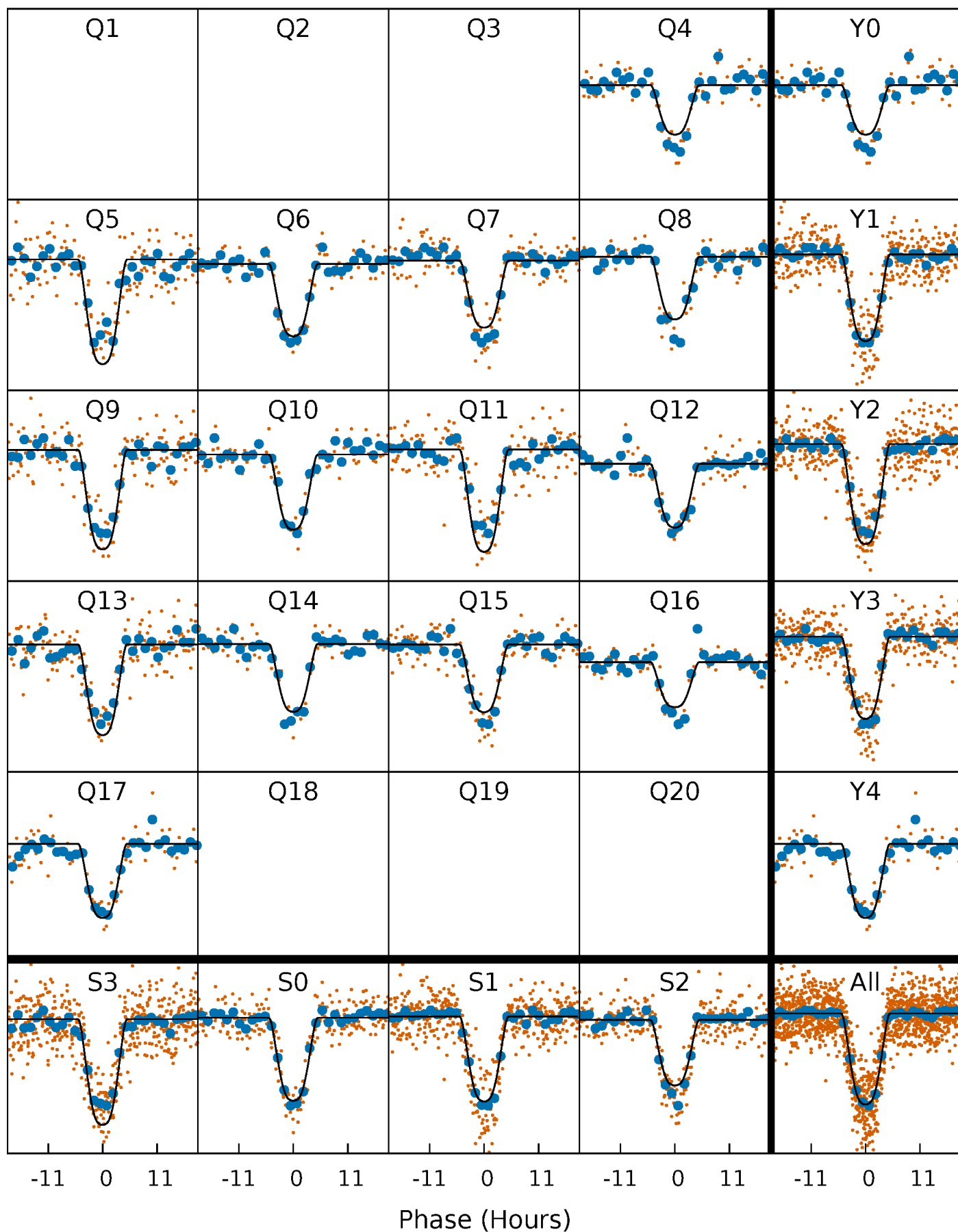
PDC Quarter-Phased Transit Curves

TCE 008892721-01 P= 61.491185 Days $T_0=163.633868$ (BKJD)



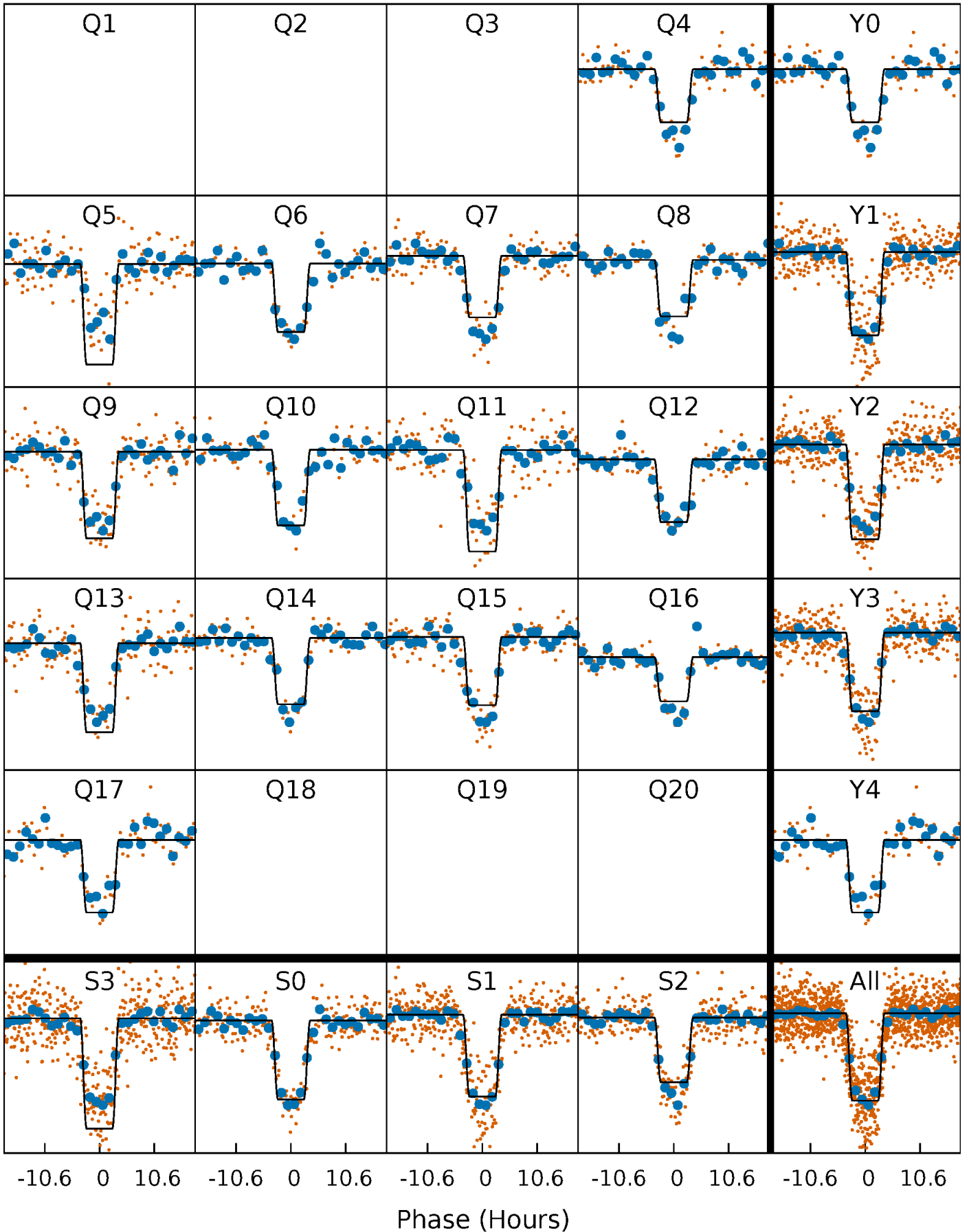
DV Quarter-Phased Transit Curves

TCE 008892721-01 P= 61.491185 Days $T_0=163.633868$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

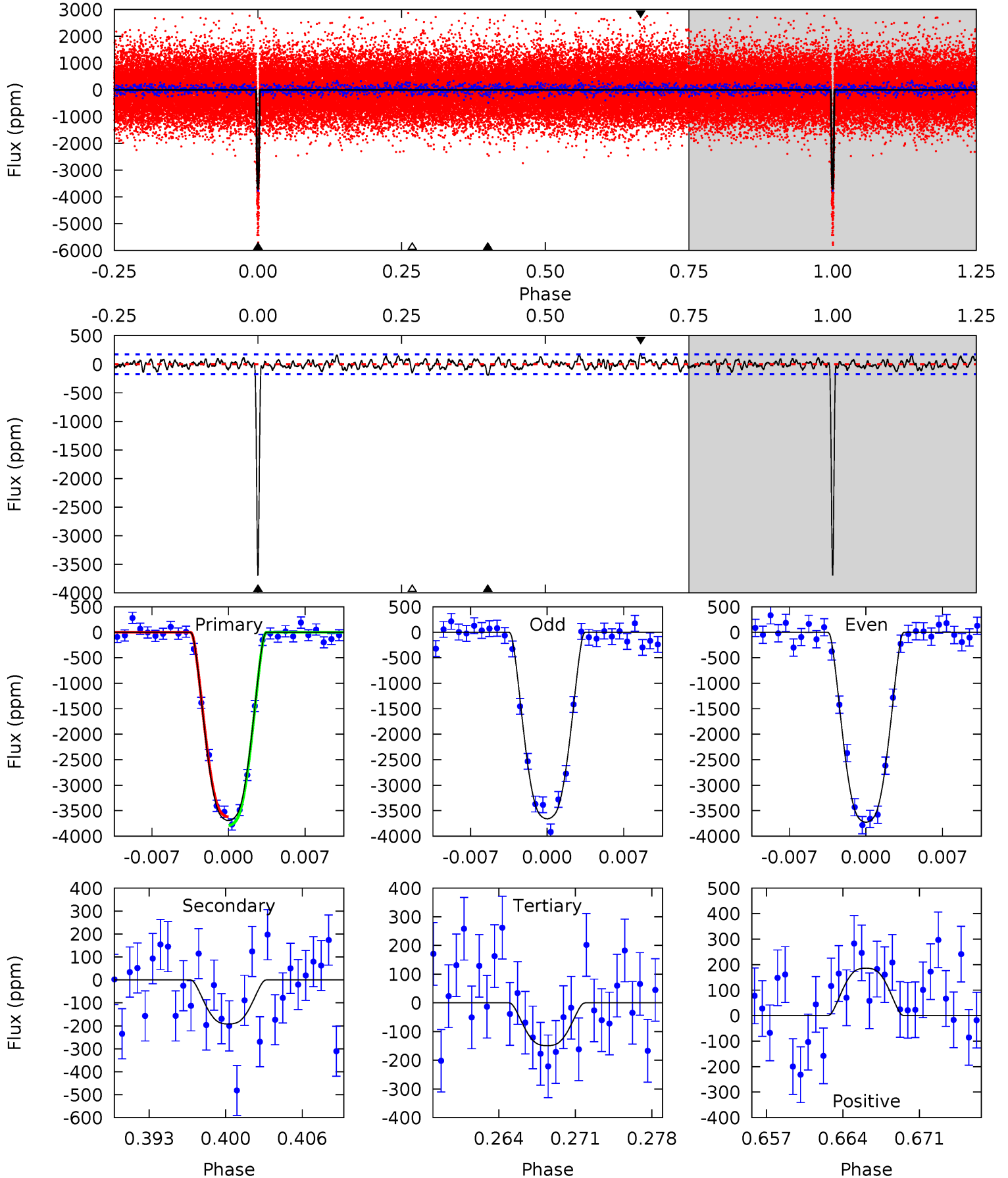
TCE 008892721-01 P= 61.492132 Days $T_0=163.620217$ (BKJD)



DV Model-Shift Uniqueness Test

008892721-01, $P = 61.491185$ Days, $E = 163.633868$ Days

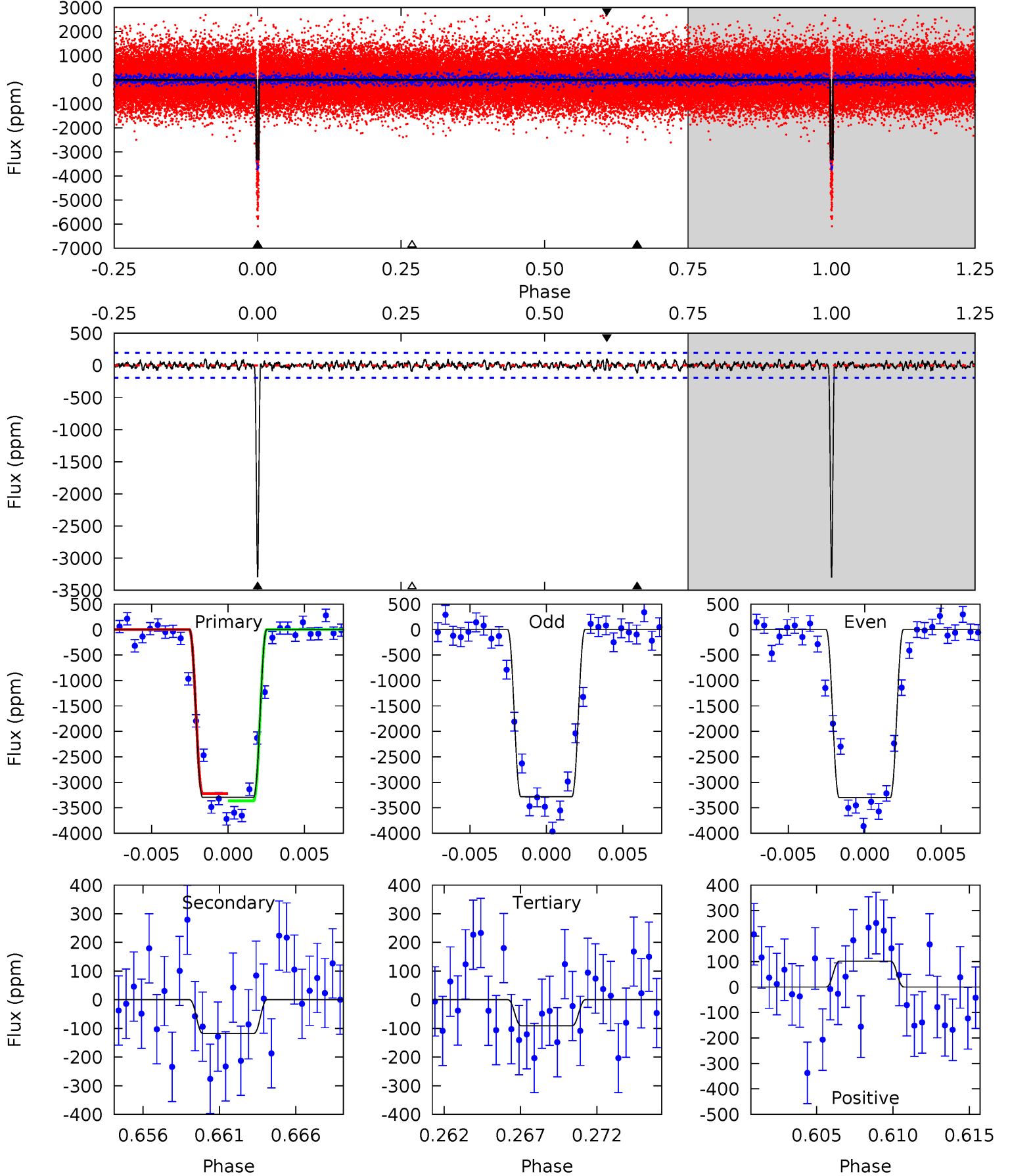
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
109.4	5.70	4.43	5.52	5.10	2.71	1.66	105.0	103.9	1.27	0.18	0.98	0.98	0.05	2.49



Alt Model-Shift Uniqueness Test

008892721-01, $P = 61.492132$ Days, $E = 163.620217$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
87.5	3.12	2.41	2.70	5.16	2.80	0.89	85.0	84.8	0.71	0.42	0.25	0.99	0.03	1.92



Stellar Parameters For KIC 008892721

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4796^{+172}_{-172}	$4.656^{+0.054}_{-0.036}$	$-0.800^{+0.300}_{-0.300}$	$0.598^{+0.052}_{-0.047}$	$0.590^{+0.063}_{-0.029}$	$3.895^{+0.882}_{-0.600}$
	+4%/-4%	+1%/-1%	+37%/-37%	+9%/-8%	+11%/-5%	+23%/-15%
Source	KIC0	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 008892721-01 / KOI 1844.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-192 ± 34	$4.52^{+0.24}_{-0.22}$	452^{+16}_{-18}	2824^{+92}_{-96}	344^{+65}_{-70}
Alt.	-118 ± 38	$3.87^{+0.21}_{-0.19}$	452^{+18}_{-19}	2759^{+136}_{-138}	285^{+99}_{-79}

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

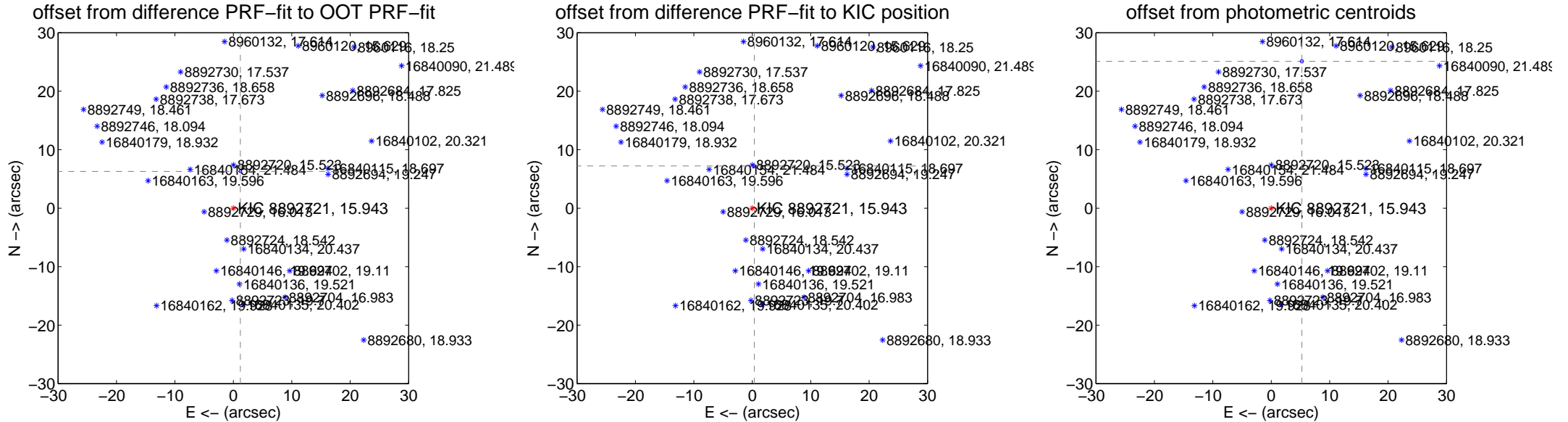
DV Centroid Data

Supplemental centroid analysis for 008892721-01. Kepler magnitude: 15.94. Transit SNR 57.17

There are 3 quarters with good PRF difference image offsets

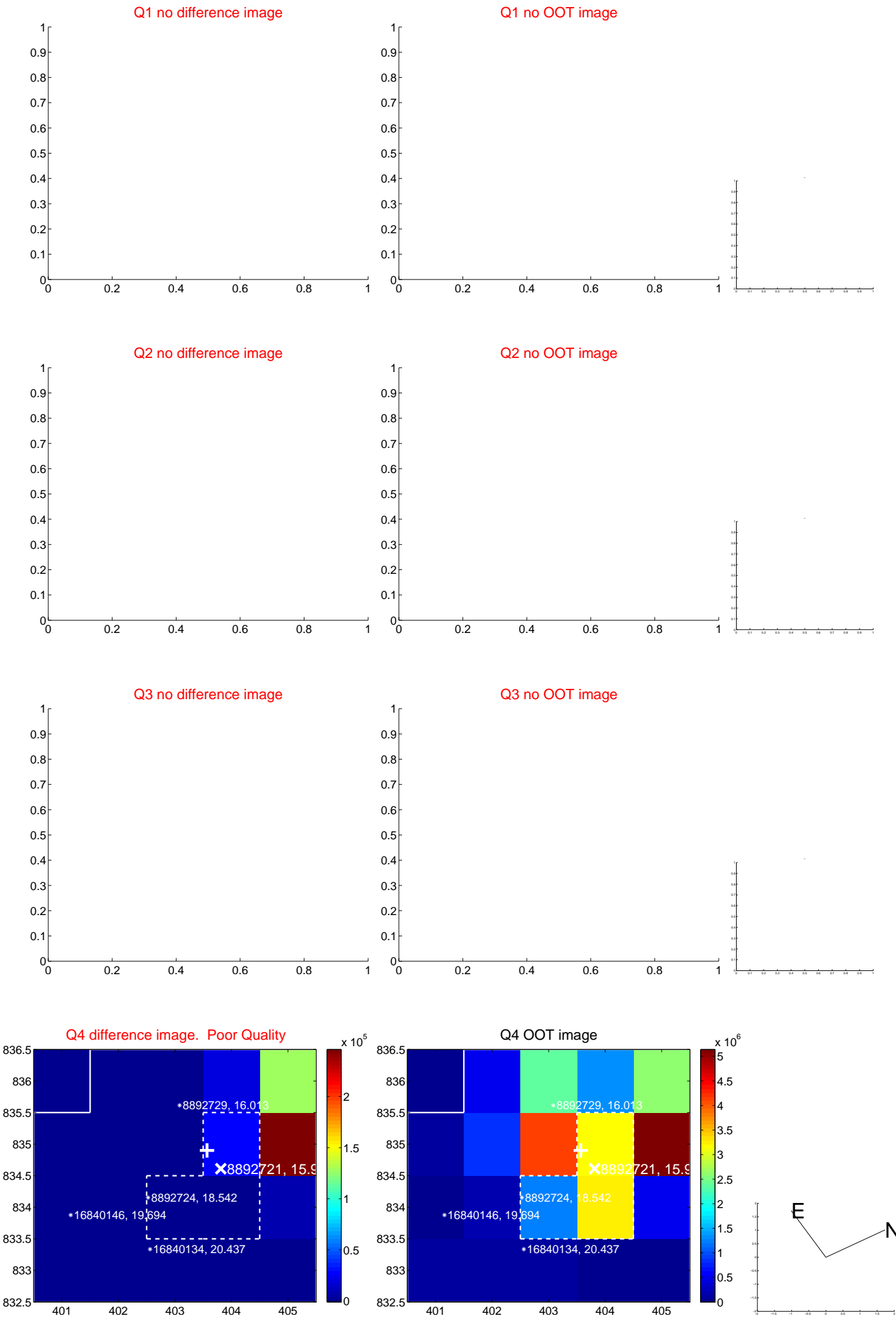
The direct PRF centroid is offset from the target star catalog position by about 1.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.397 ± 0.077	82.85	-1.205 ± 0.071	6.282 ± 0.077
PRF-fit source offset from KIC position	7.233 ± 0.078	92.69	-0.346 ± 0.072	7.225 ± 0.078
photometric centroid source offset	25.65 ± 0.09	274.97	-5.25 ± 0.08	25.11 ± 0.09

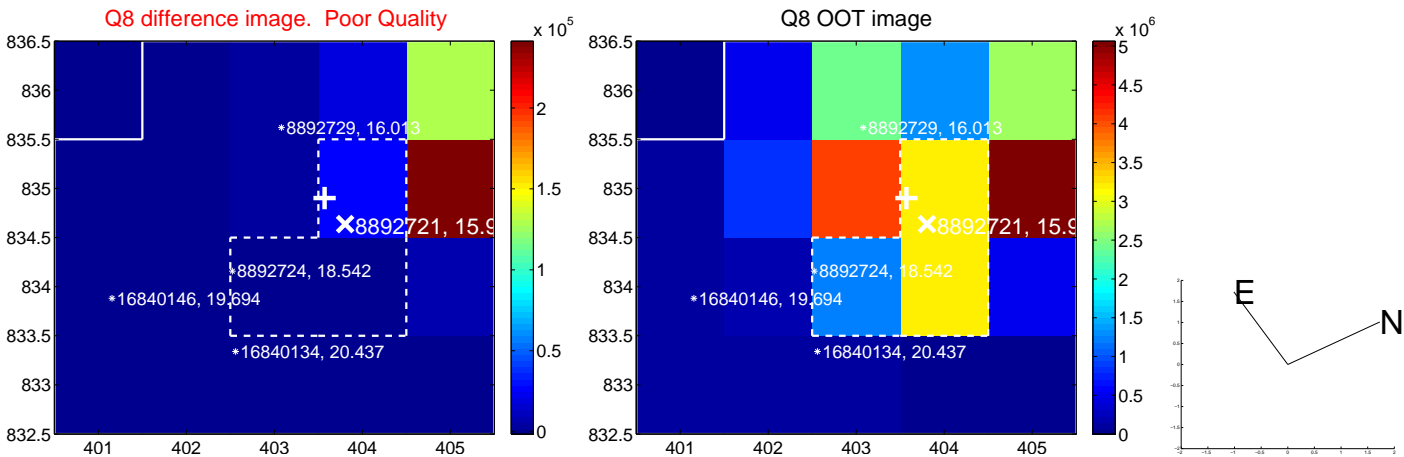
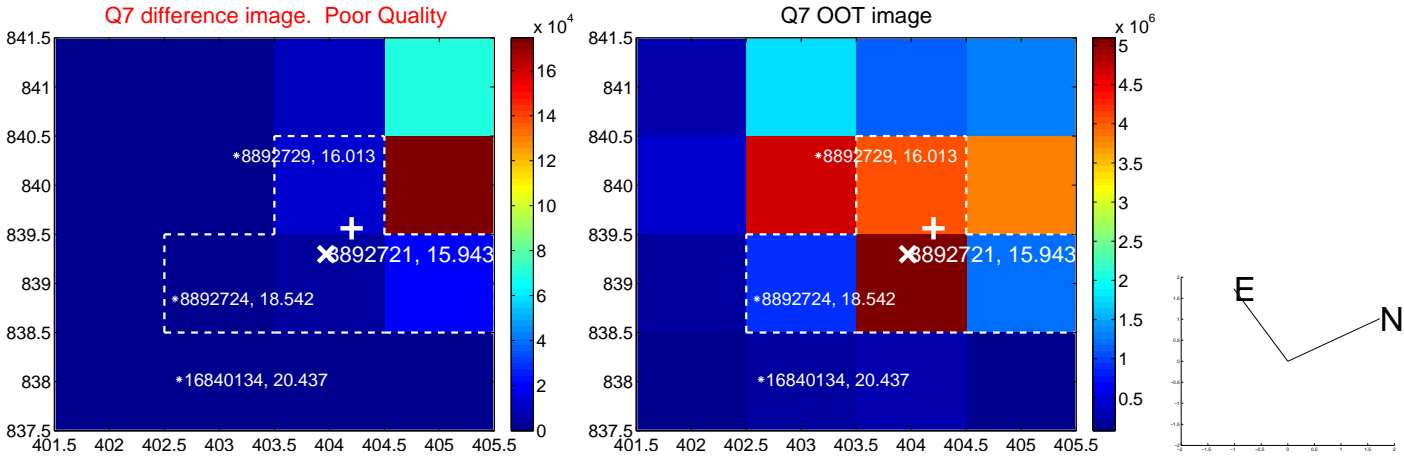
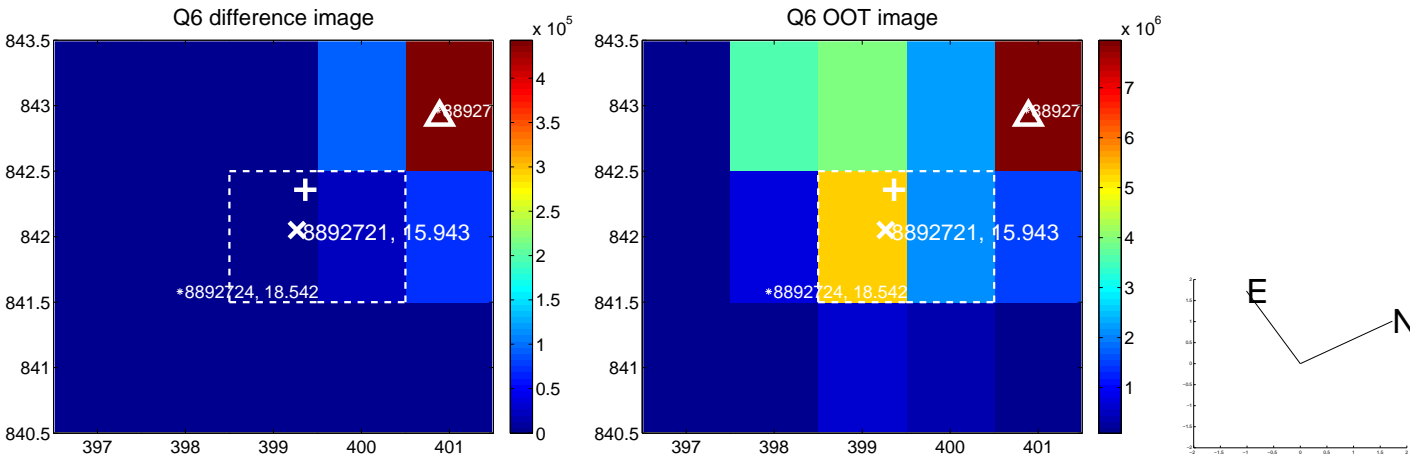
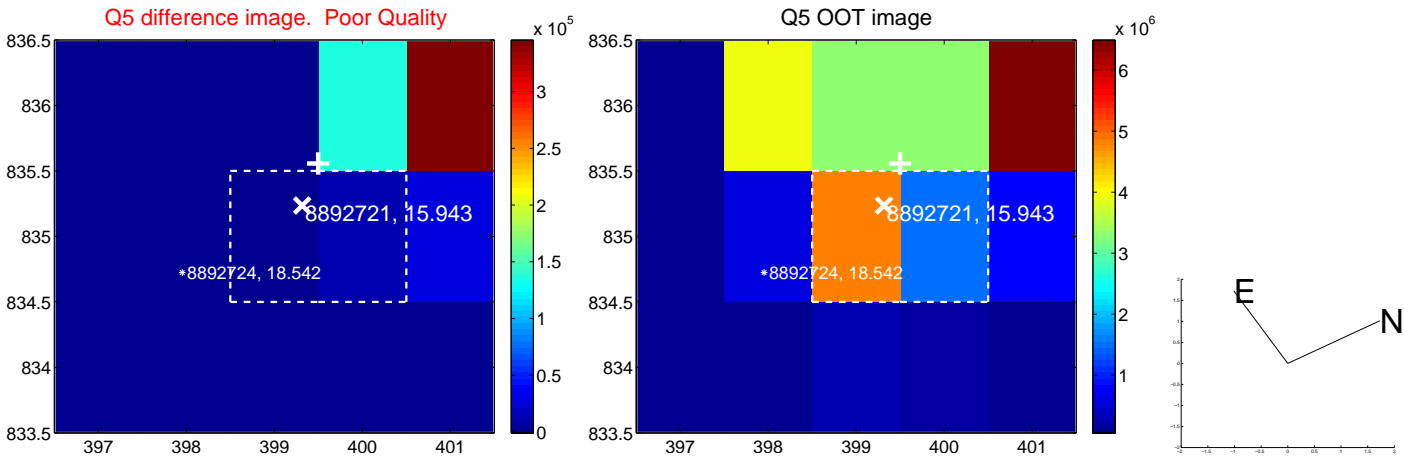


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

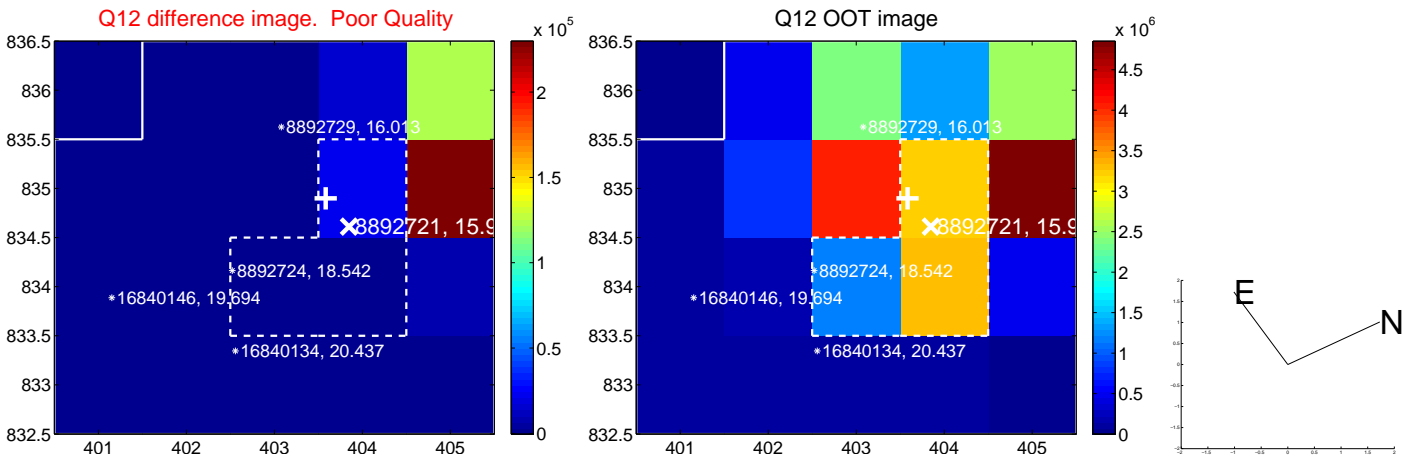
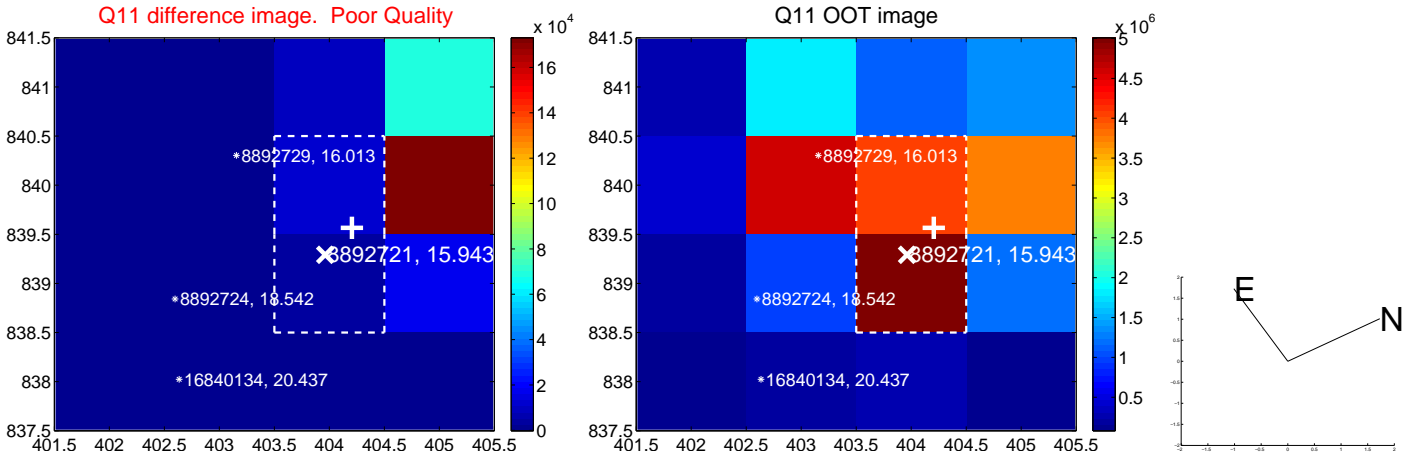
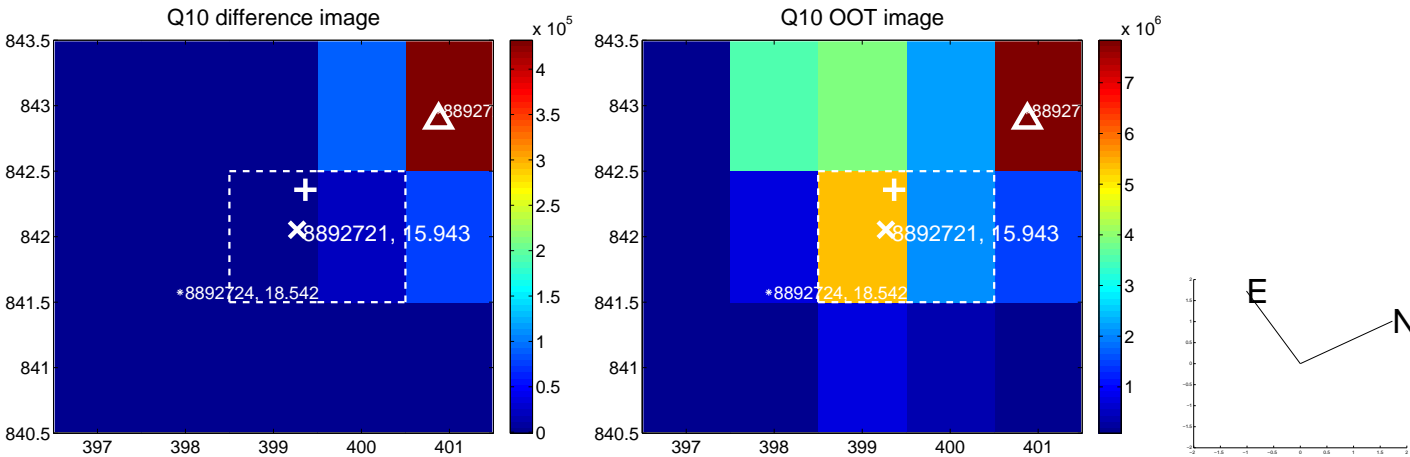
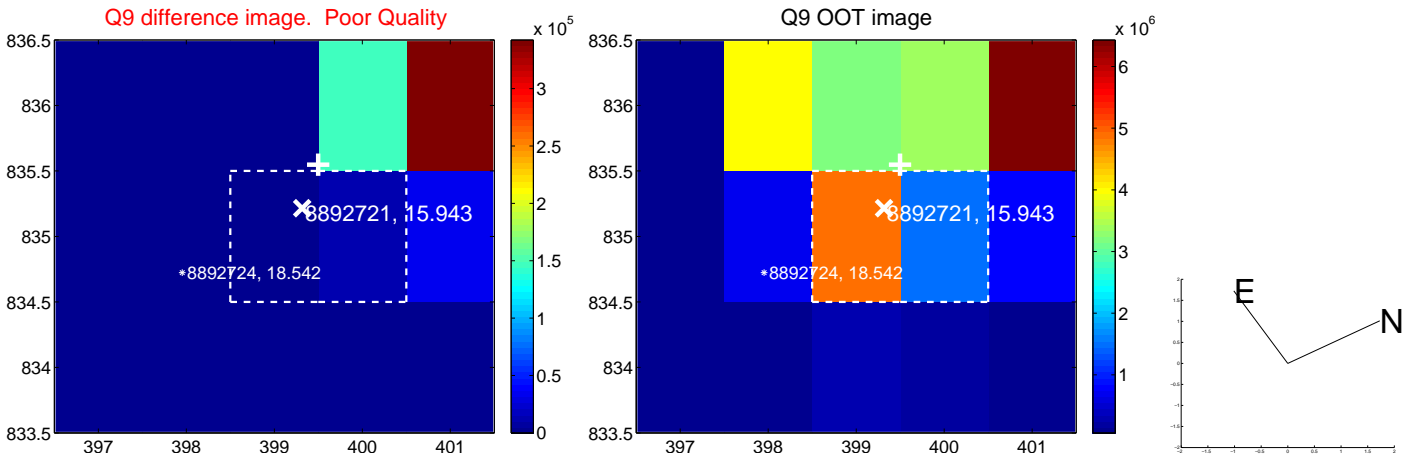
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



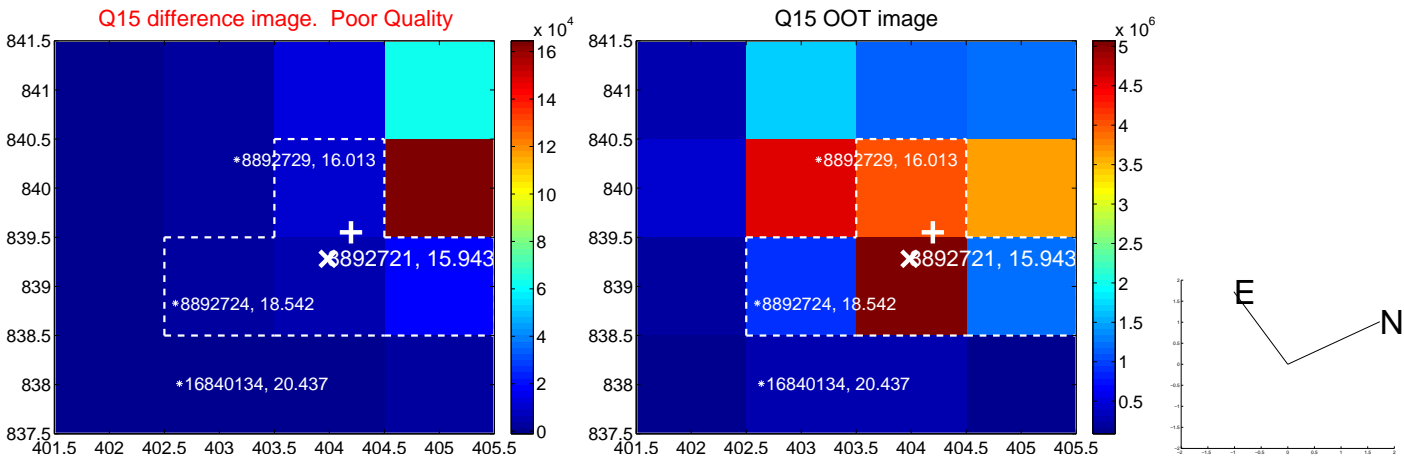
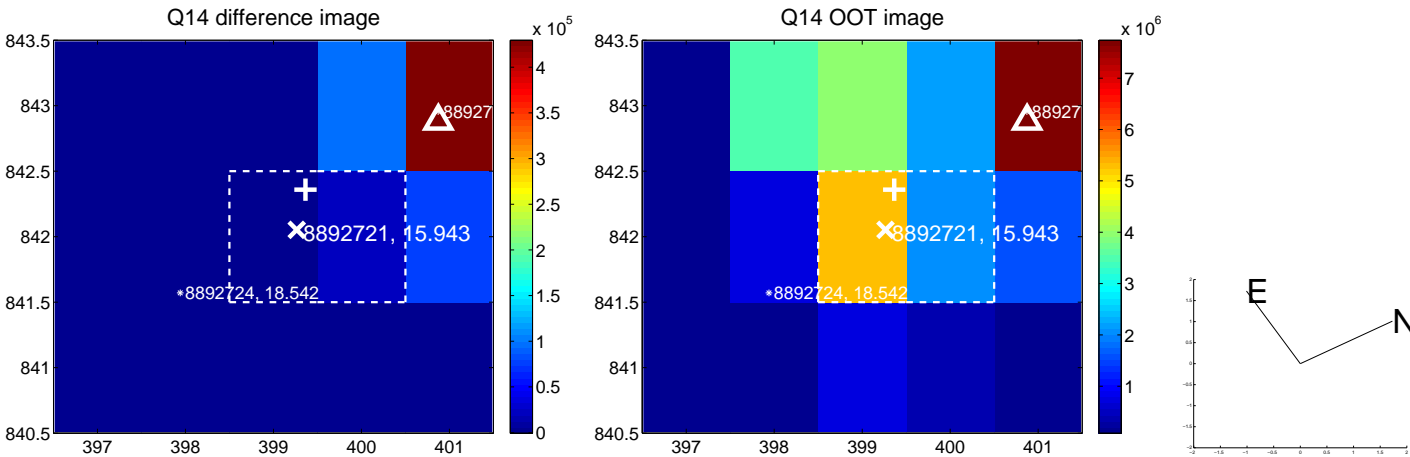
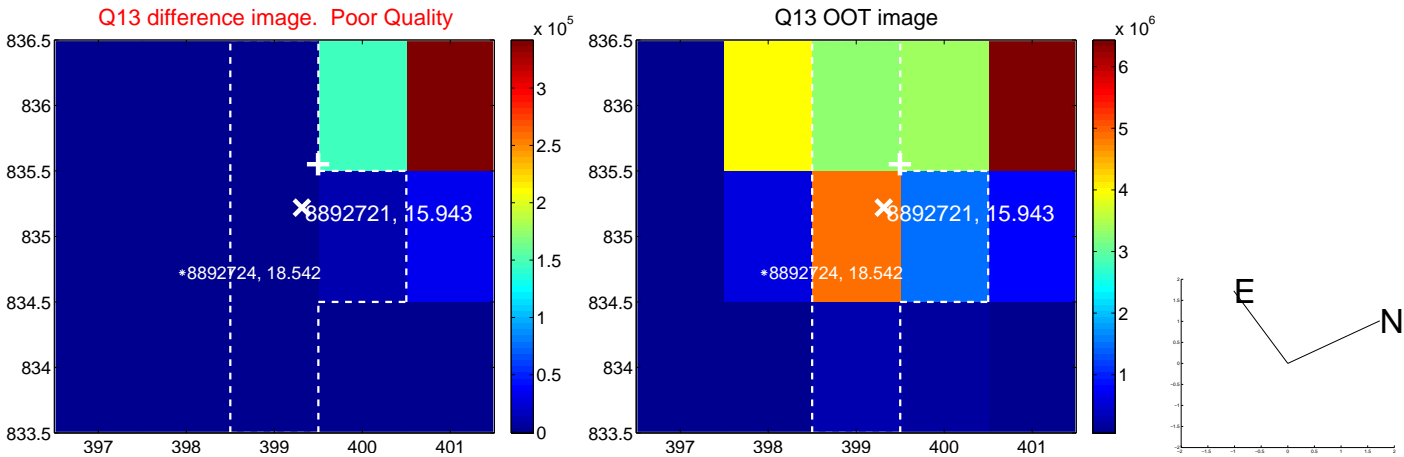
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



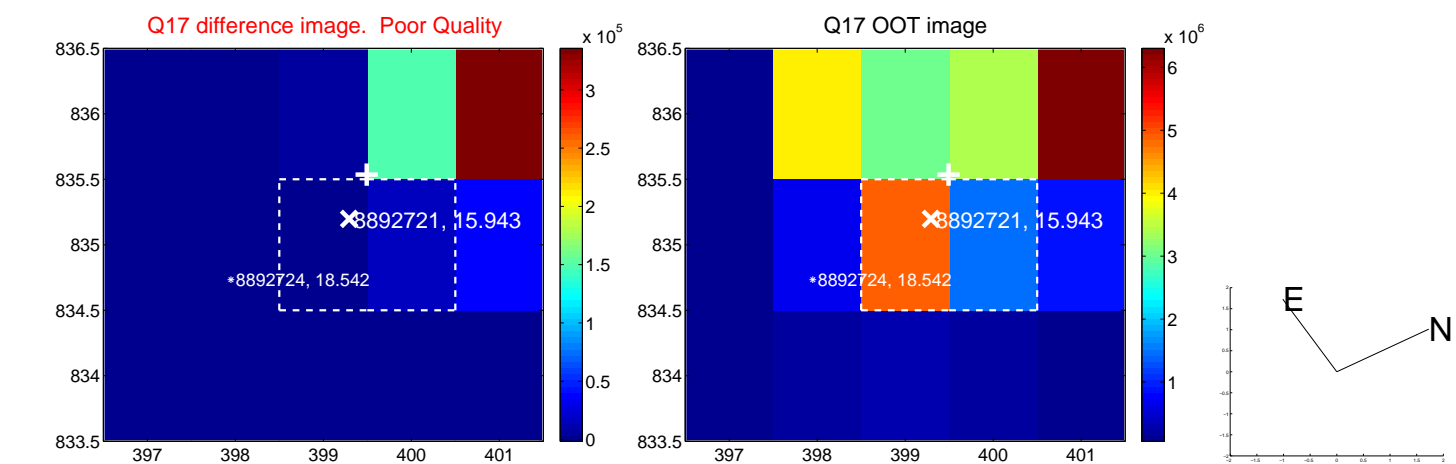
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



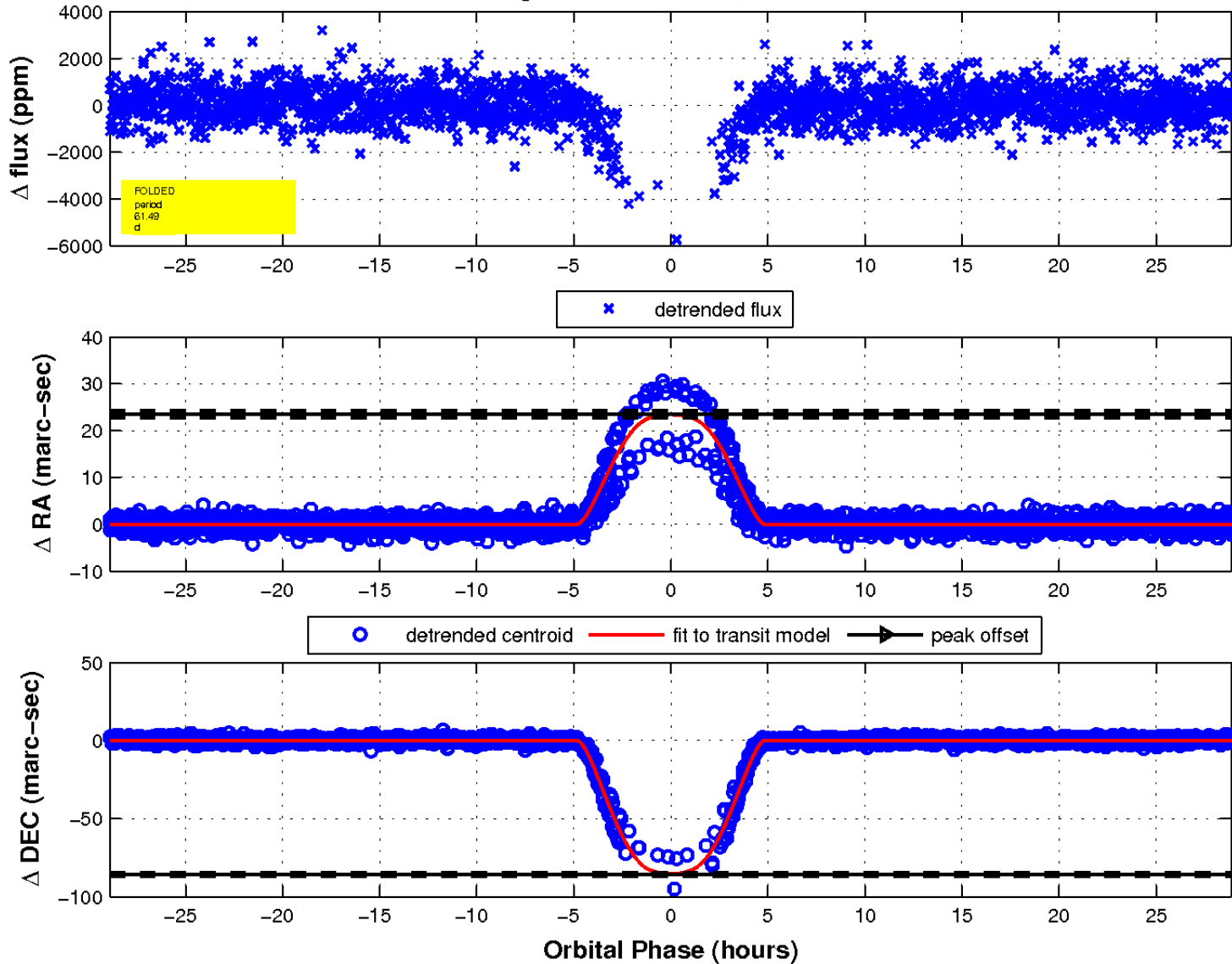
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

