

KIC 007097534

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})
007097534-01	OBS	3126.01	2.213985	132.566216	72.9	4.432	15.9	16.0	0.93	5986	0.96	956.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007097534-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—CENT_KIC_POS—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 007097534-01

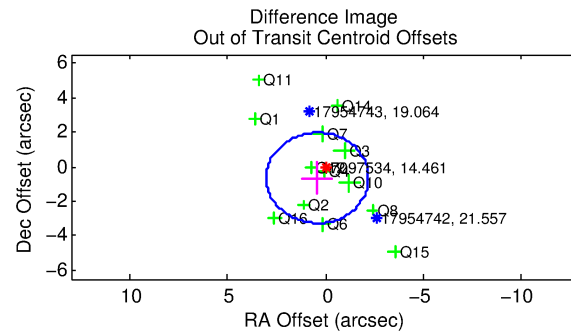
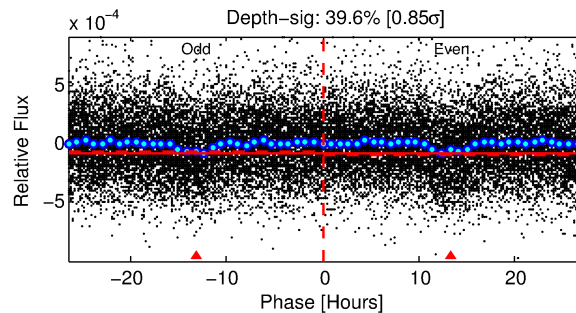
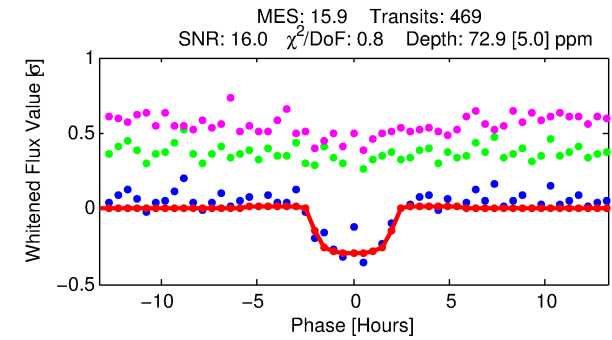
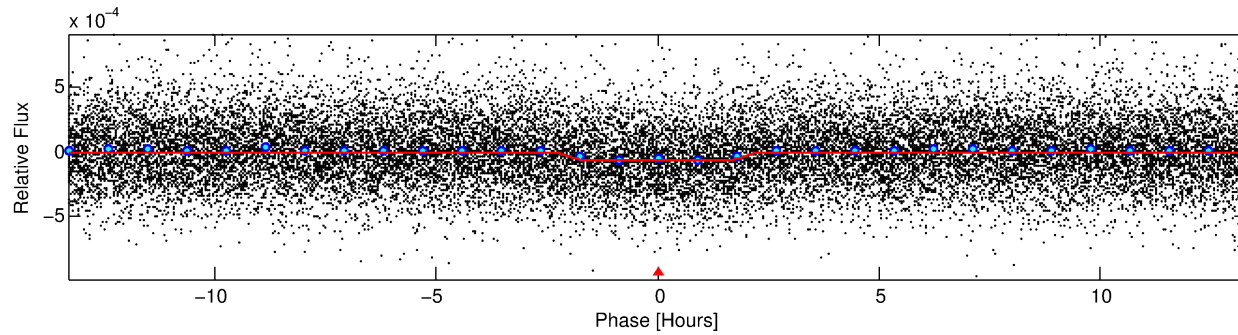
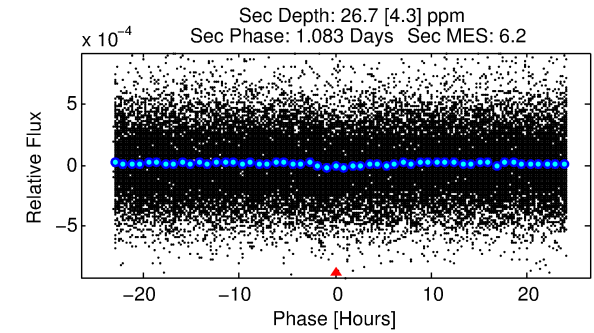
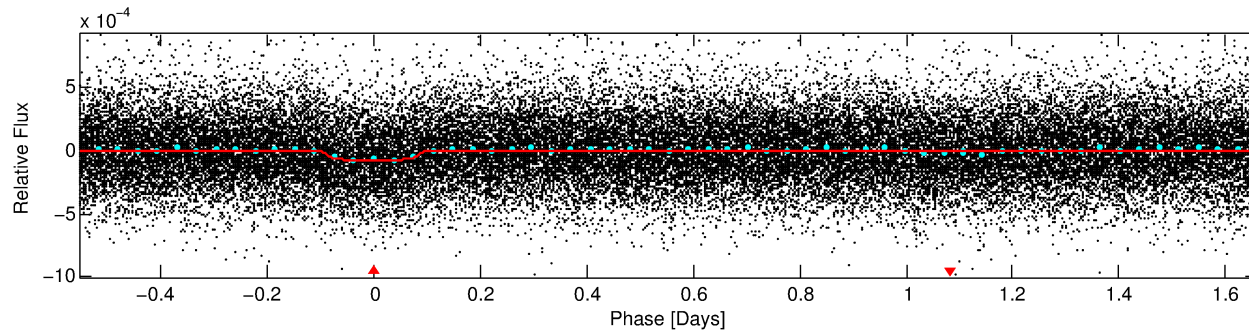
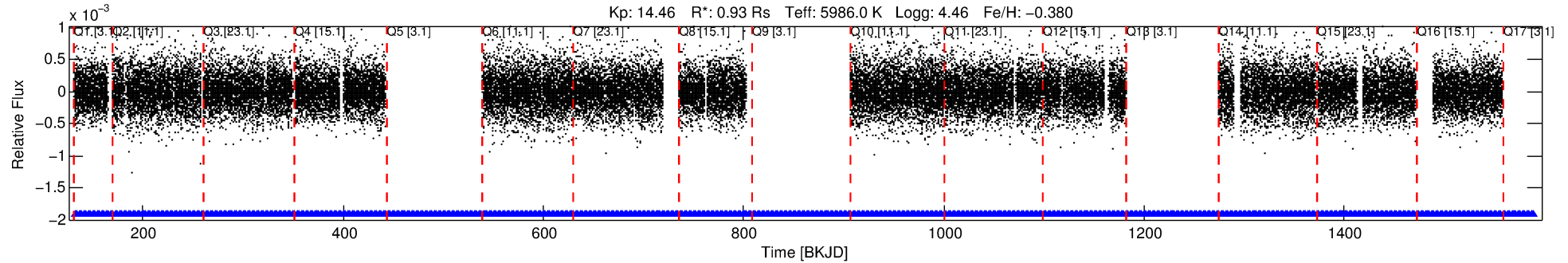
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007097534-01	7097534	007097571-pri	7097571	1:1	39.6	5	-8	11.27	14.46	1808.20	Direct-PRF	0	0.64	0.04

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: 7097534 Candidate: 1 of 1 Period: 2.214 d
KOI: K03126.01 Corr: 0.943

Kp: 14.46 R*: 0.93 Rs Teff: 5986.0 K Logg: 4.46 Fe/H: -0.380



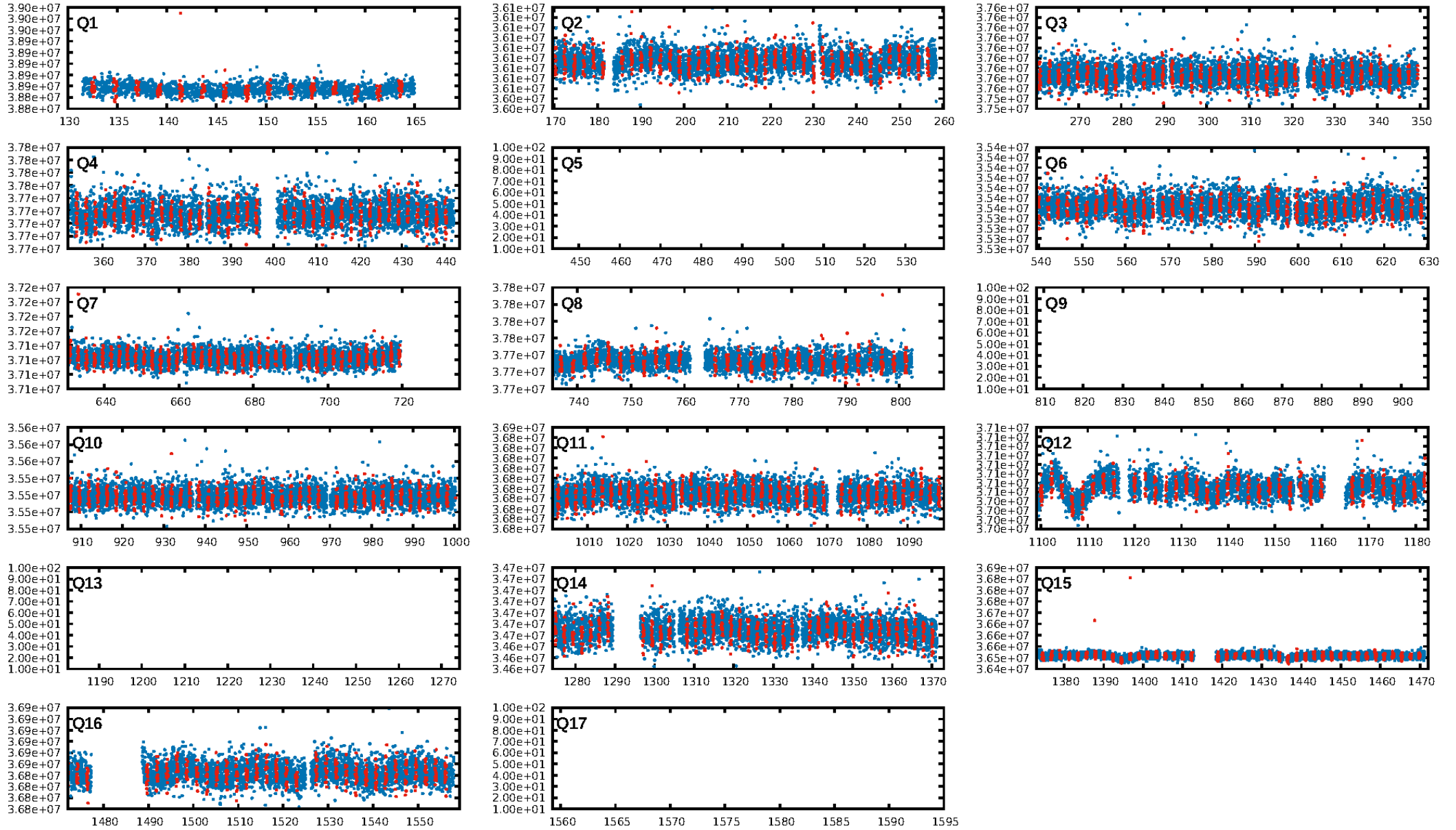
DV Fit Results:

Period = 2.21398 [0.00001] d
Epoch = 132.5662 [0.0036] BKJD
Rp/R* = 0.0094 [0.0023]
a/R* = 1.82 [1.66]
b = 0.92 [0.21]
Seff = 956.89 [351.38]
Teq = 1418 [130] K
Rp = 0.96 [0.36] Re
a = 0.0322 [0.0077] AU
Ag = 16.65 [10.26] [1.53 σ]
Teffp = 4430 [579] K [5.08 σ]

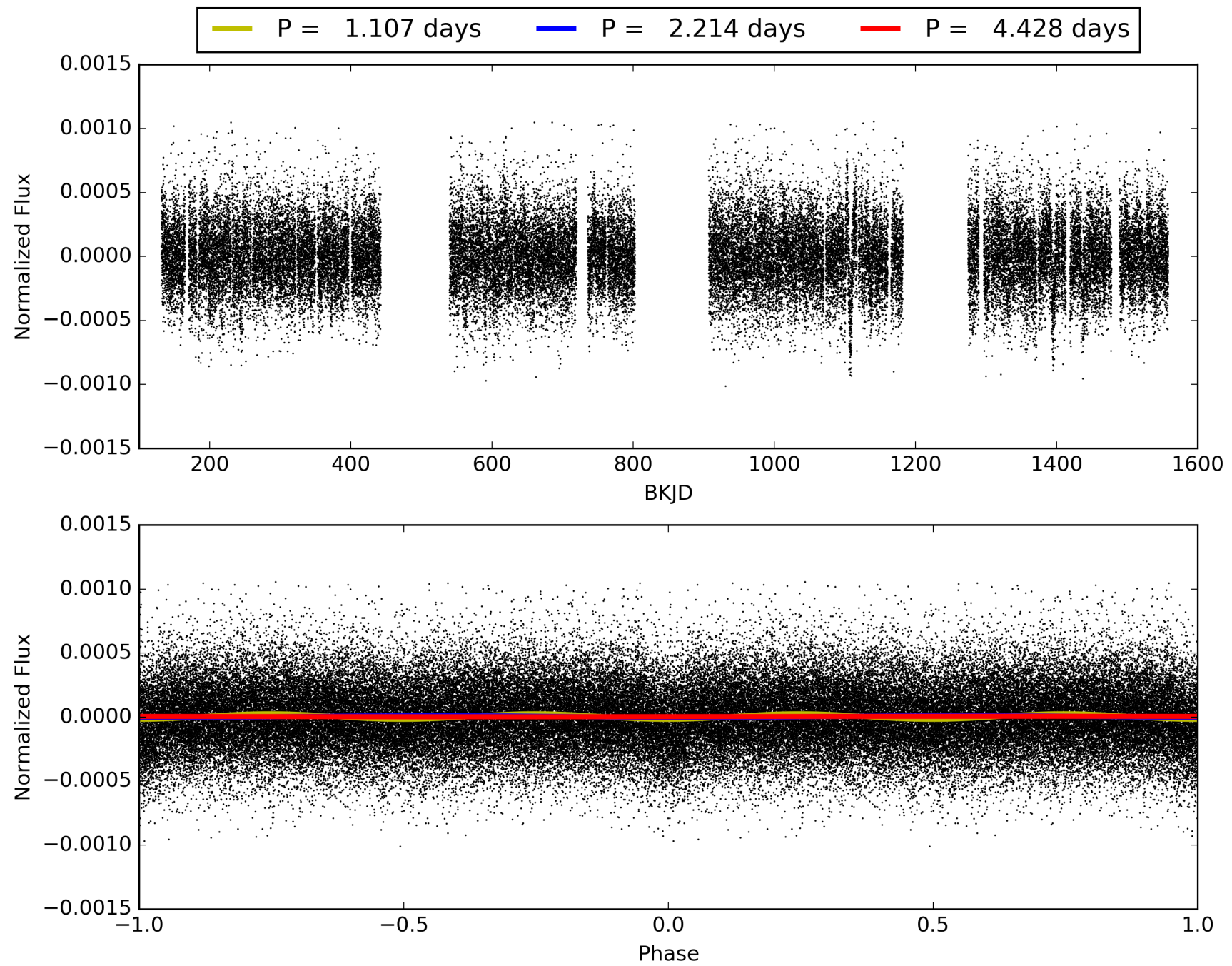
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.31e-53
RollingBand-fgt: 1.00 [454/454]
GhostDiagnostic-chr: 0.1418
Centroid-sig: 0.0%
Centroid-so: 2.876 arcsec [3.25 σ]
OotOffset-rm: 0.776 arcsec [0.89 σ]
KicOffset-rm: 1.023 arcsec [1.12 σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 0.15 [2/13]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 007097534-01, PDC Light Curves

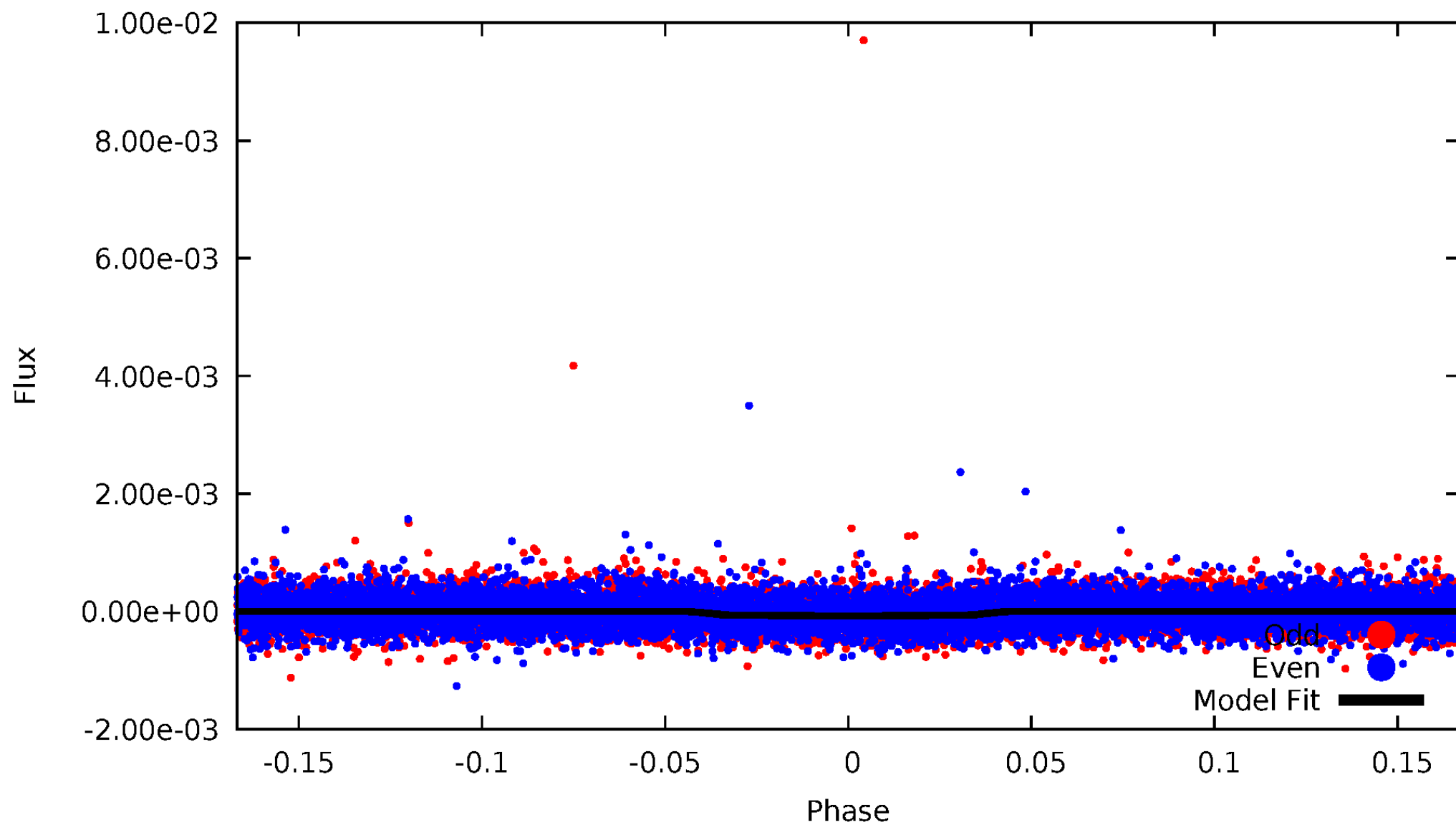


TCE 007097534-01



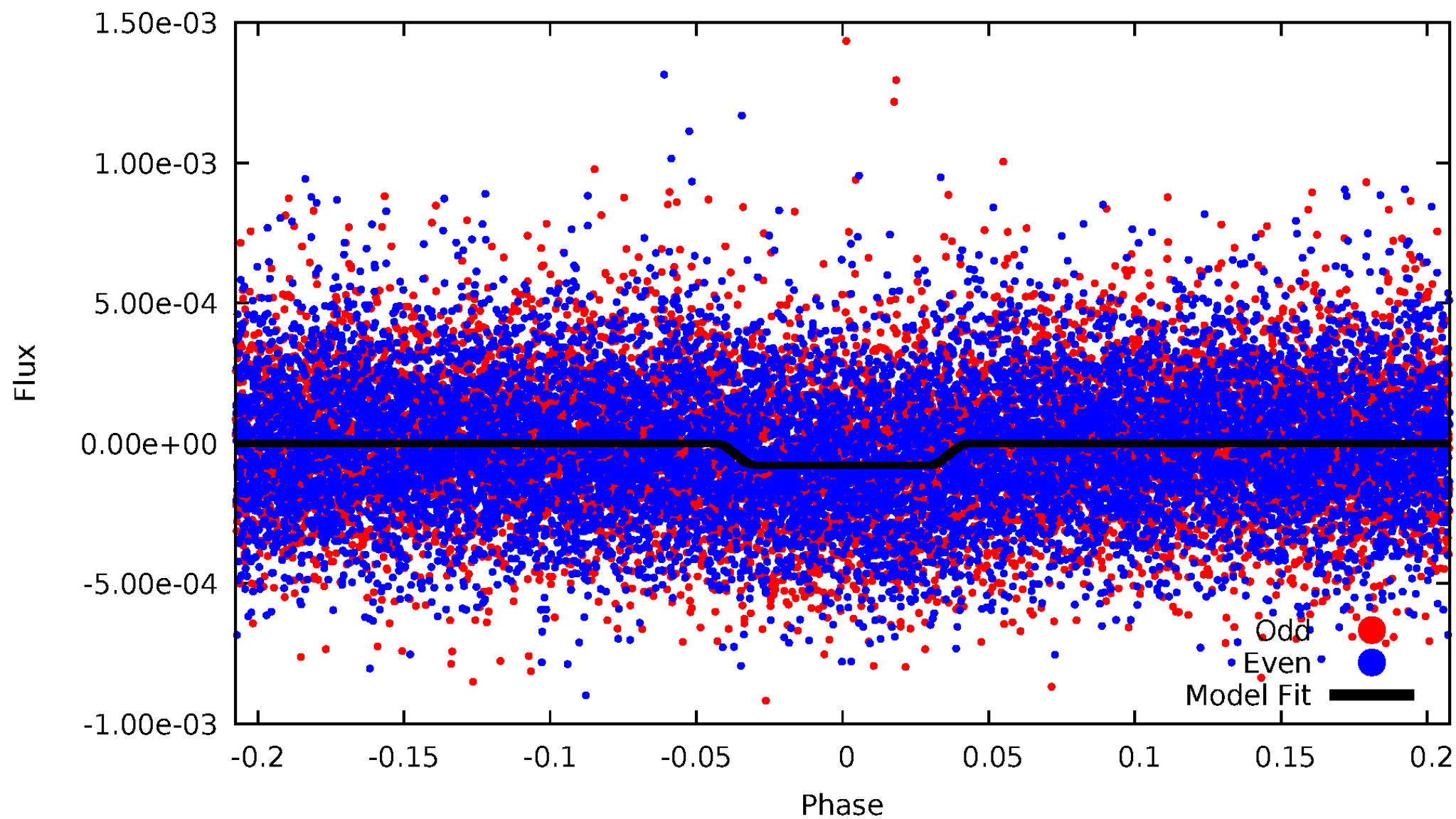
DV Odd/Even

TCE 007097534-01



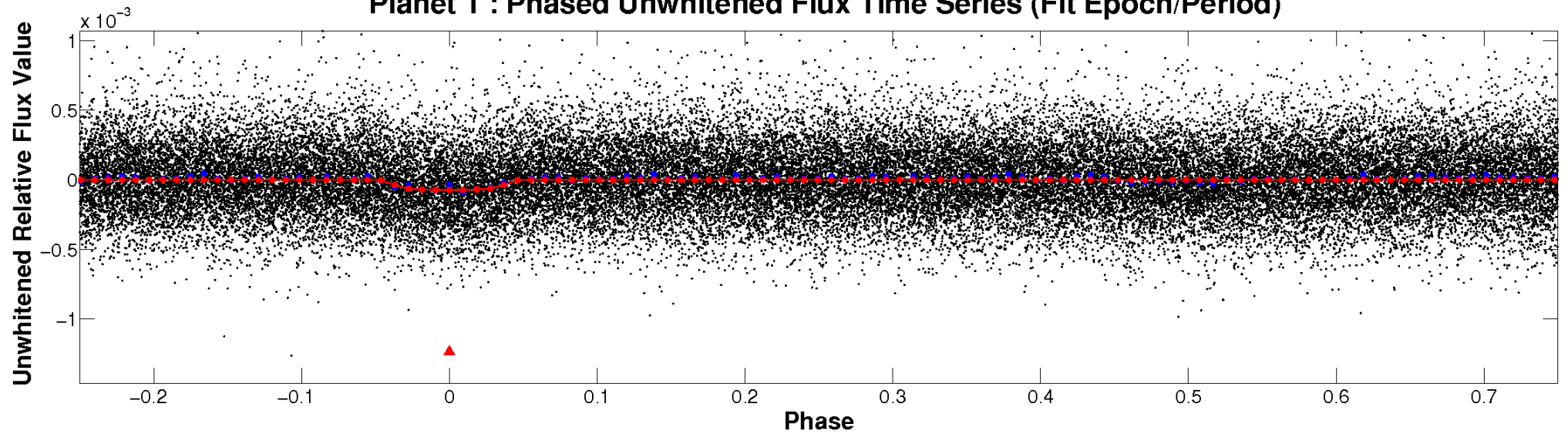
ALT Odd/Even

TCE 007097534-01

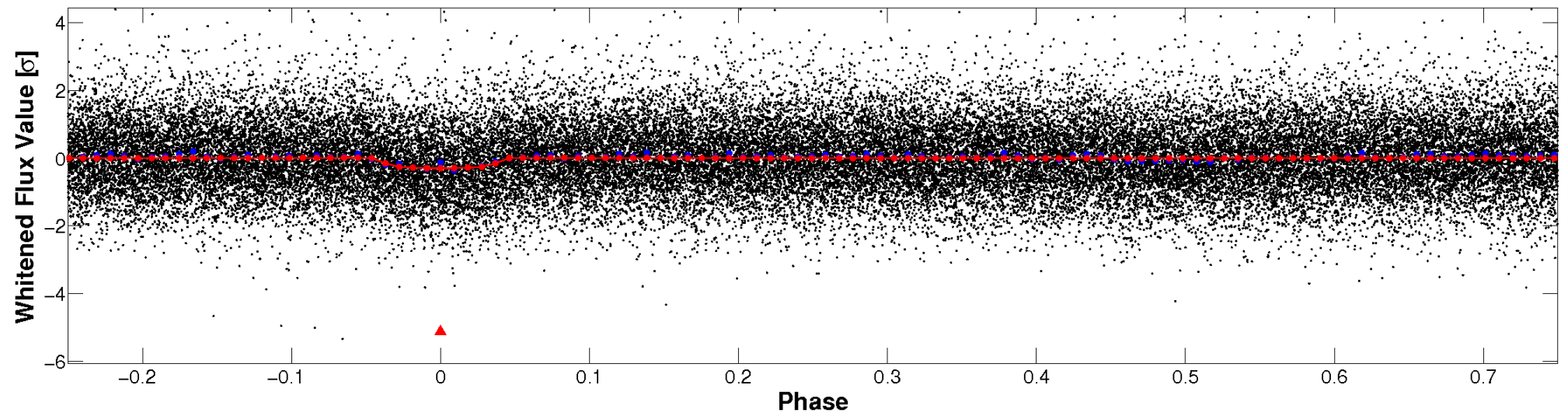


Non-Whitened Vs. Whitened Light Curve

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

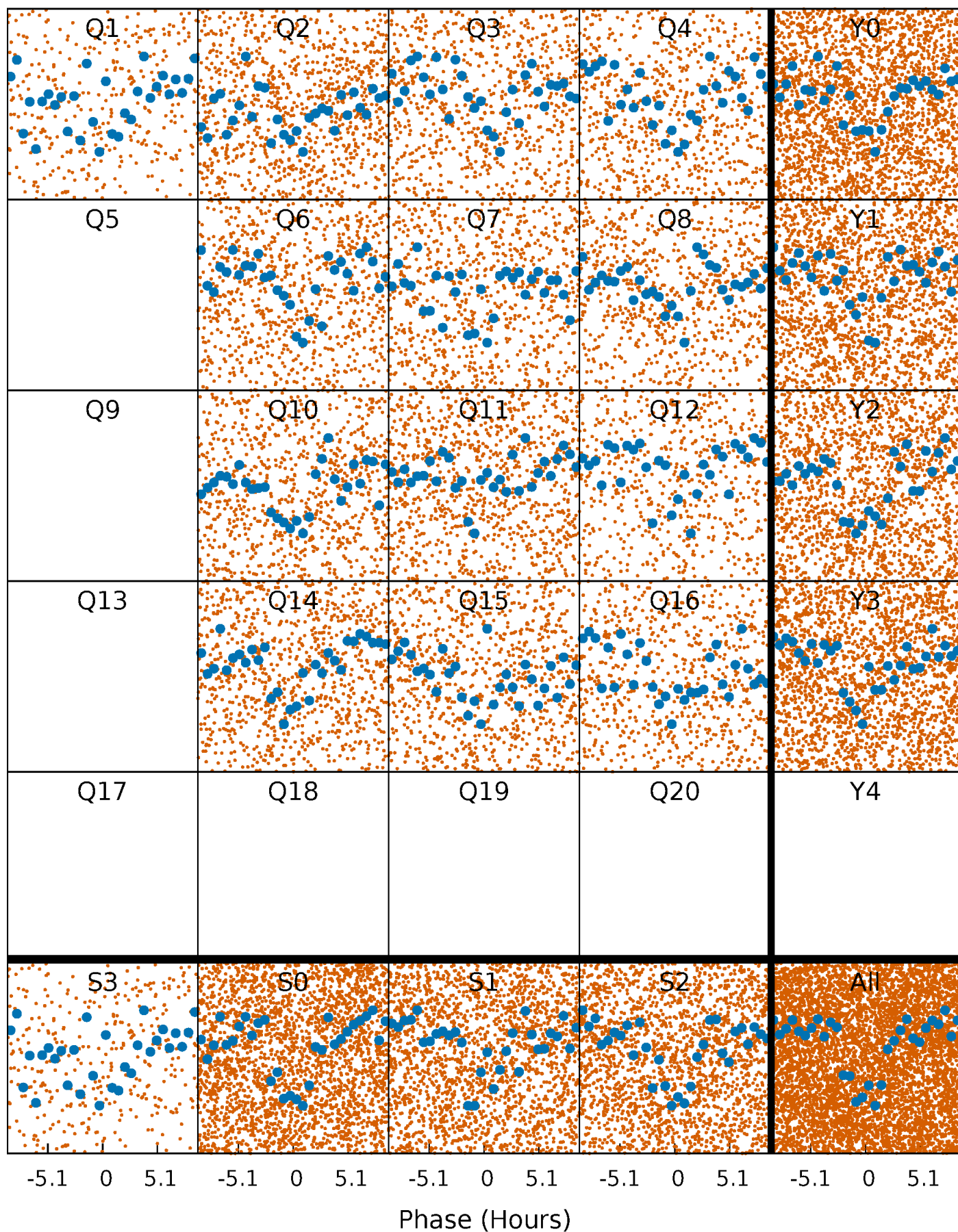


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



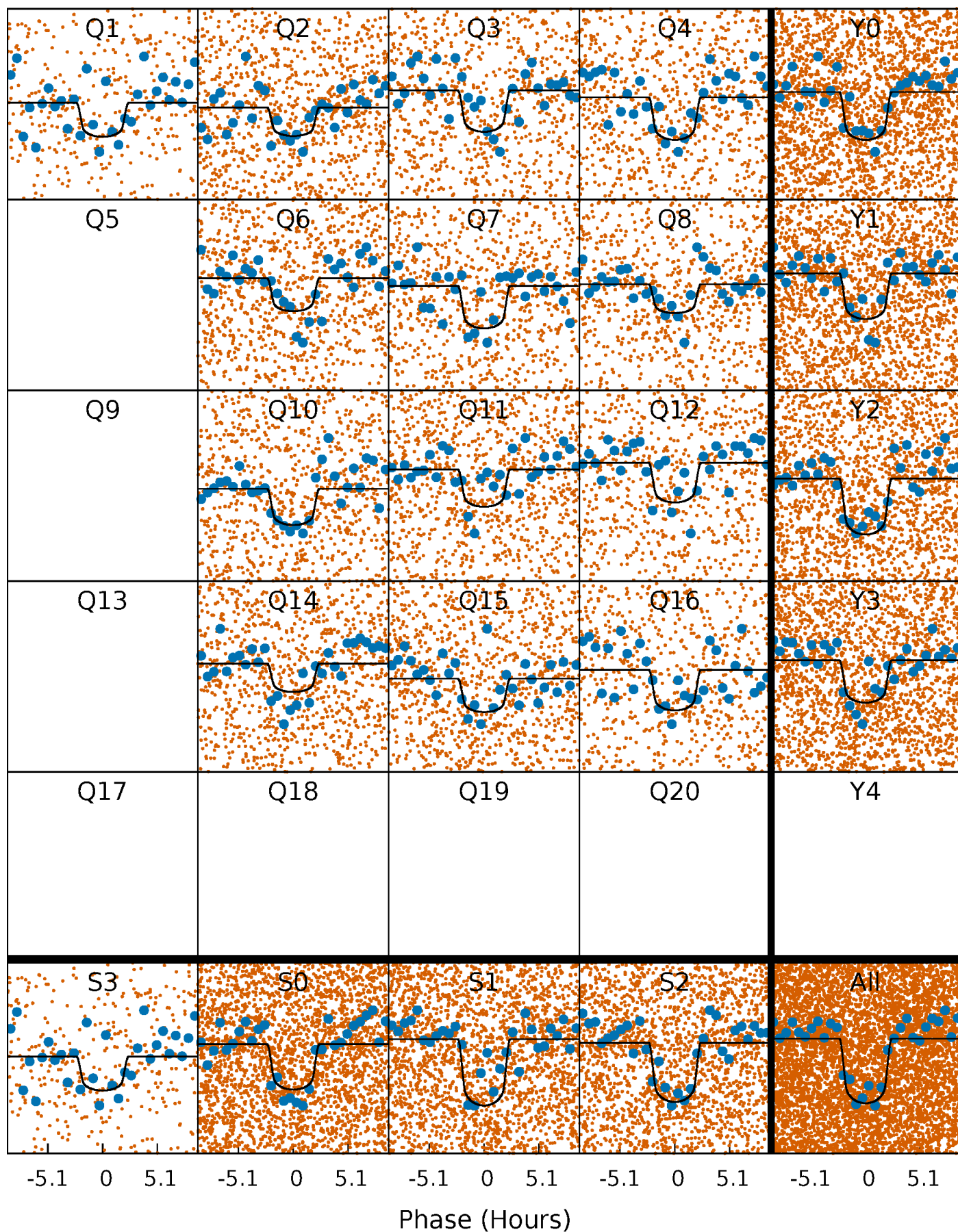
PDC Quarter-Phased Transit Curves

TCE 007097534-01 P= 2.213985 Days $T_0=132.566216$ (BKJD)



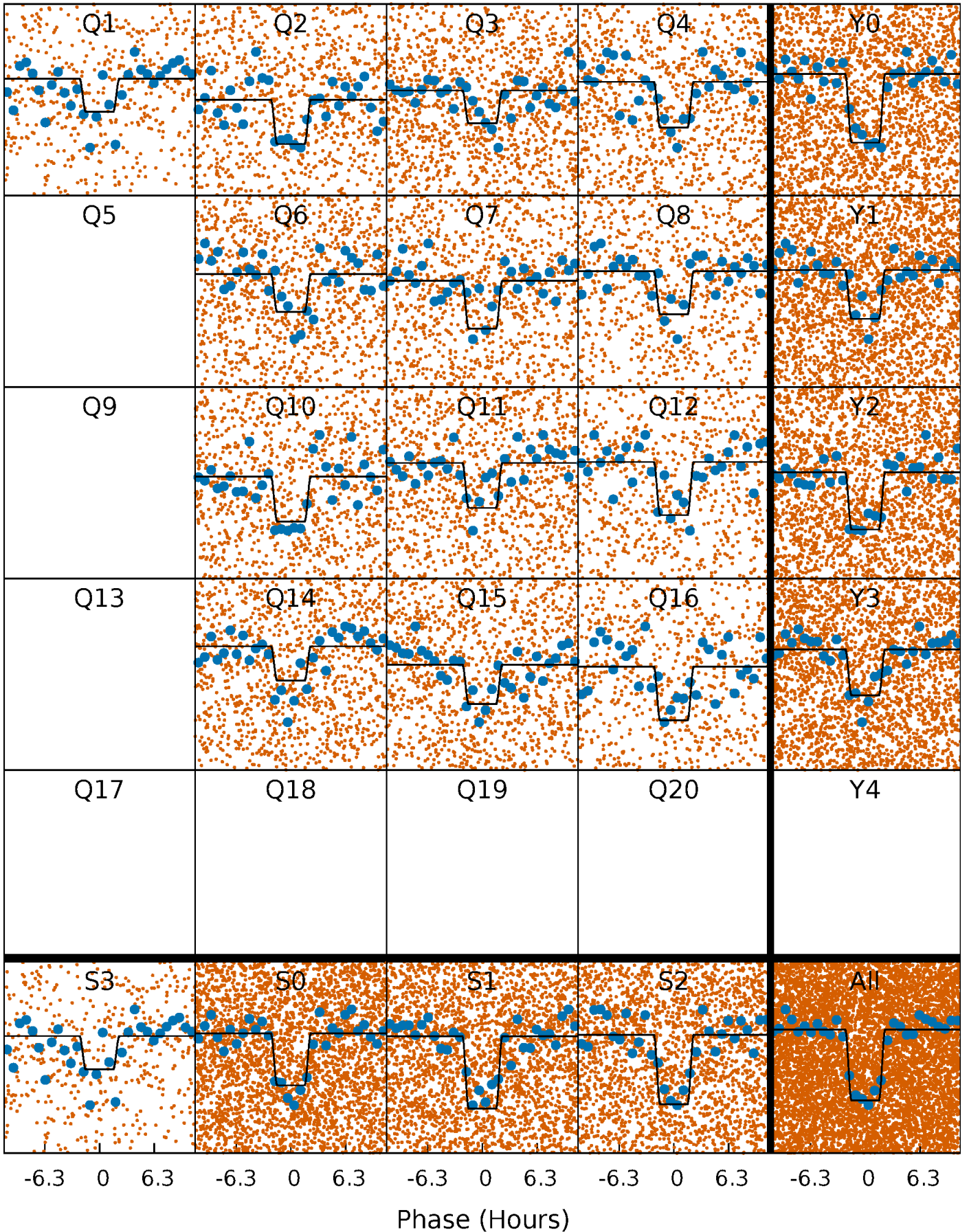
DV Quarter-Phased Transit Curves

TCE 007097534-01 P= 2.213985 Days $T_0=132.566216$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

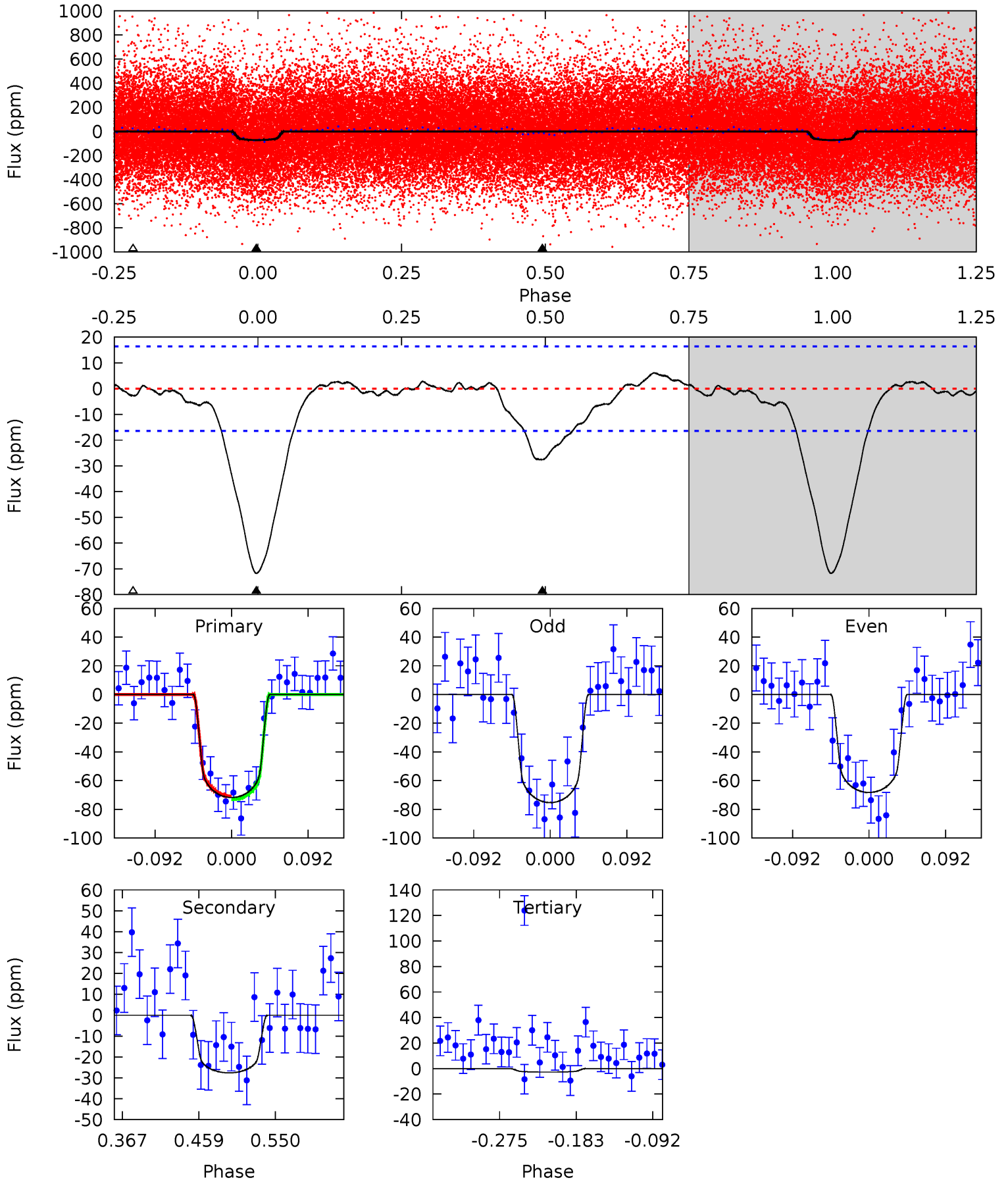
TCE 007097534-01 P= 2.213996 Days $T_0=132.561258$ (BKJD)



DV Model-Shift Uniqueness Test

007097534-01, P = 2.213985 Days, E = 130.352231 Days

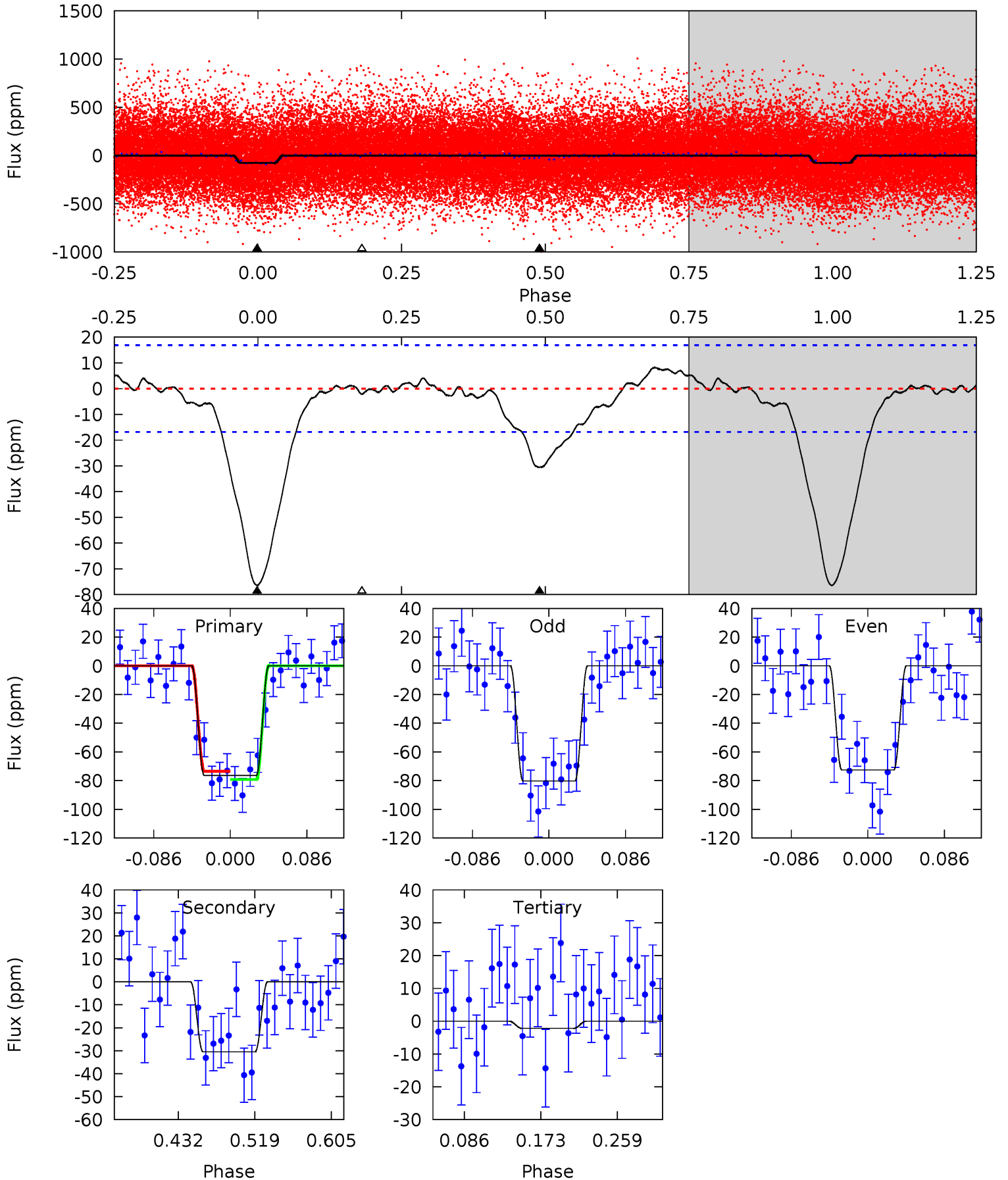
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.0	7.71	0.77	0	4.58	1.69	0.77	19.3	20.0	6.94	7.71	0.99	0.98	0.08	0.35



Alt Model-Shift Uniqueness Test

007097534-01, P = 2.213996 Days, E = 130.347262 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.8	8.31	0.59	0	4.60	1.71	1.02	20.3	20.8	7.72	8.31	1.05	1.01	0.10	0.79



Stellar Parameters For KIC 007097534

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5986^{+161}_{-179}	$4.461^{+0.081}_{-0.189}$	$-0.380^{+0.300}_{-0.300}$	$0.930^{+0.266}_{-0.114}$	$0.912^{+0.110}_{-0.100}$	$1.598^{+0.651}_{-0.786}$
	+3%/-3%	+2%/-4%	+79%/-79%	+29%/-12%	+12%/-11%	+41%/-49%
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 007097534-01 / KOI 3126.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-28 ± 4	$0.99^{+0.26}_{-0.26}$	2006^{+136}_{-95}	4597^{+591}_{-401}	16^{+13}_{-6}
Alt.	-30 ± 4	$0.91^{+0.25}_{-0.24}$	1995^{+141}_{-92}	4836^{+704}_{-465}	21^{+17}_{-8}

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

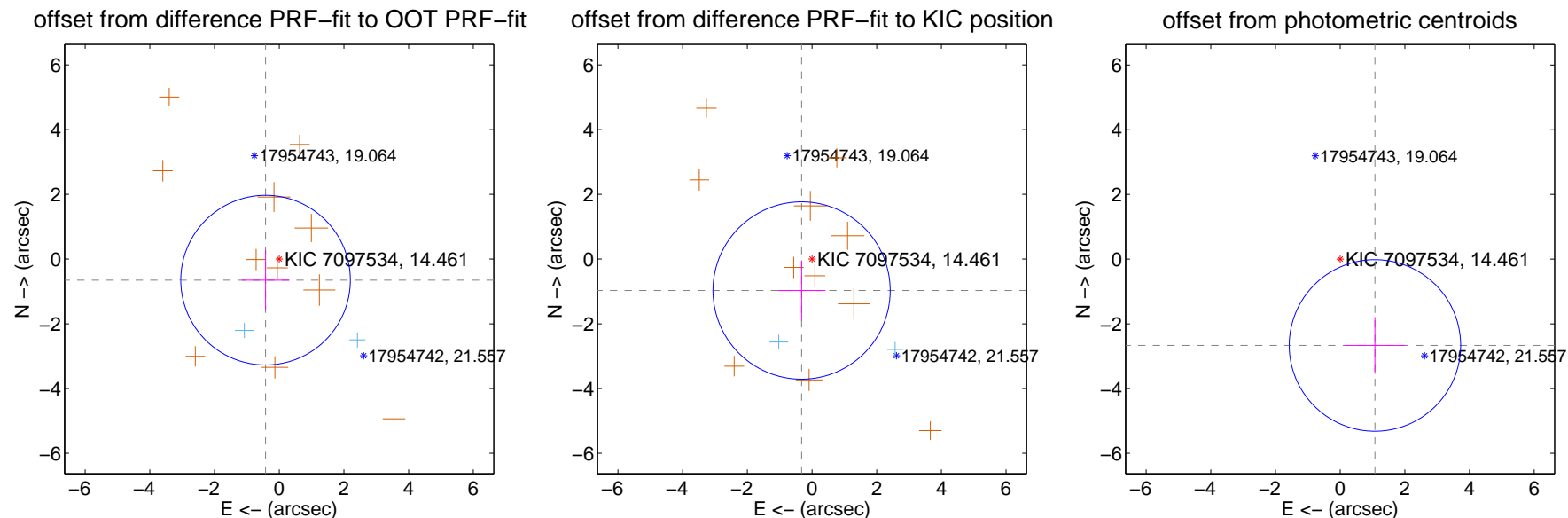
DV Centroid Data

Supplemental centroid analysis for 007097534-01. Kepler magnitude: 14.46. Transit SNR 15.97

There are 2 quarters with good PRF difference image offsets

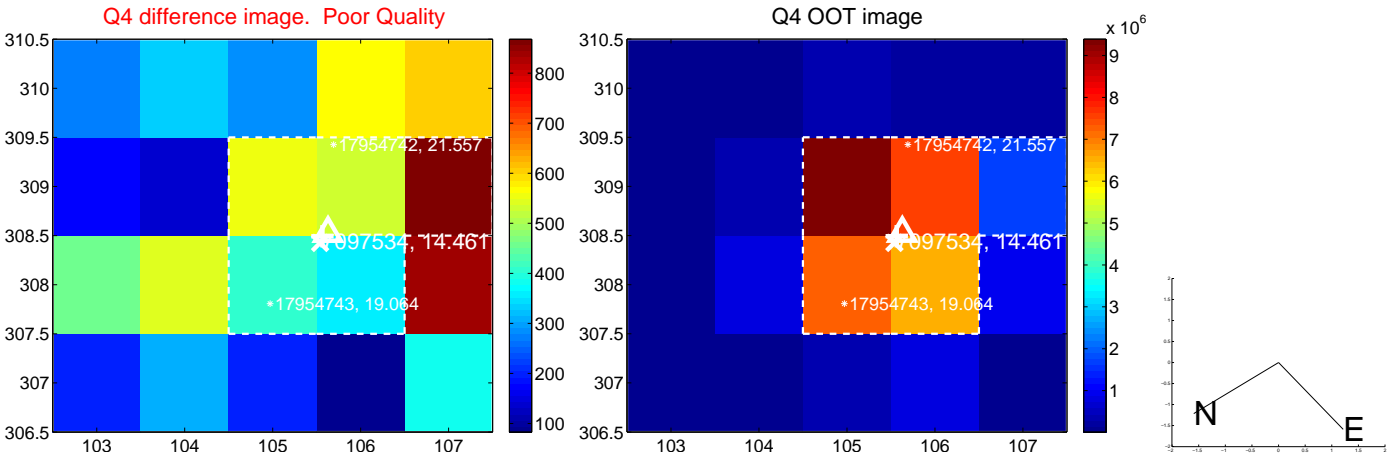
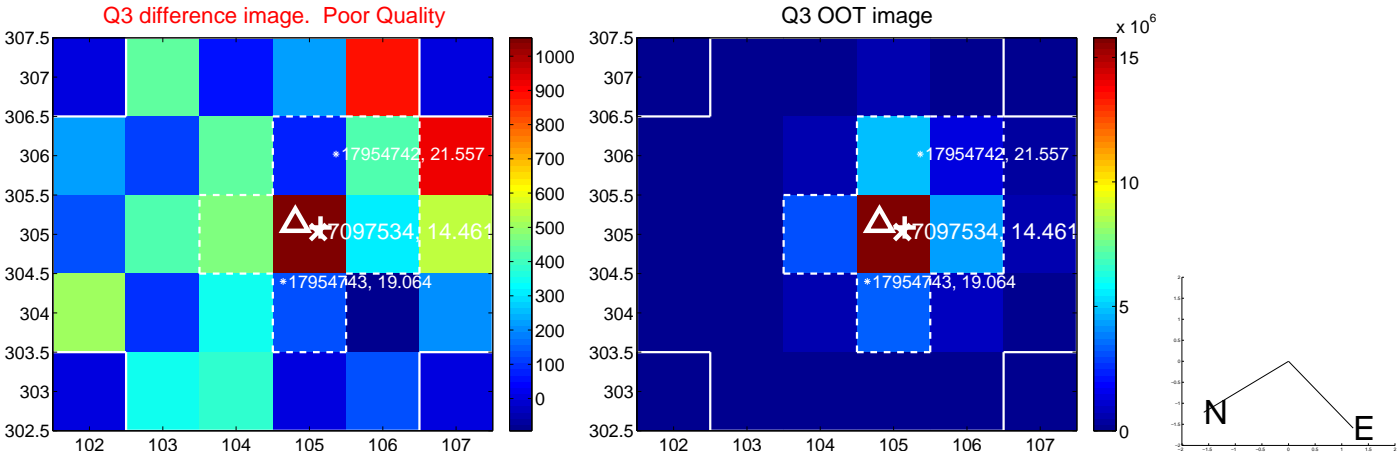
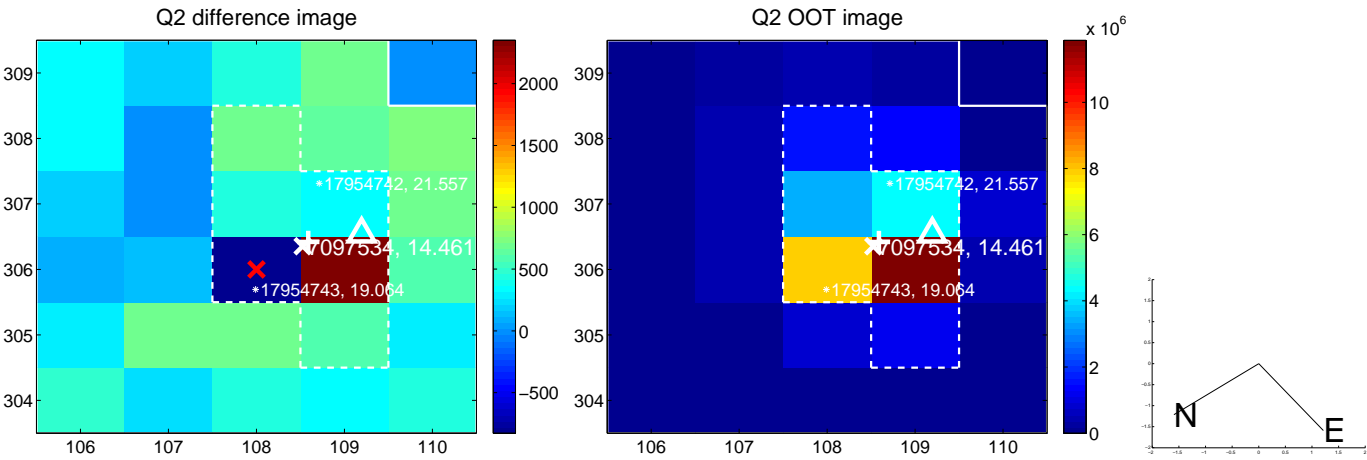
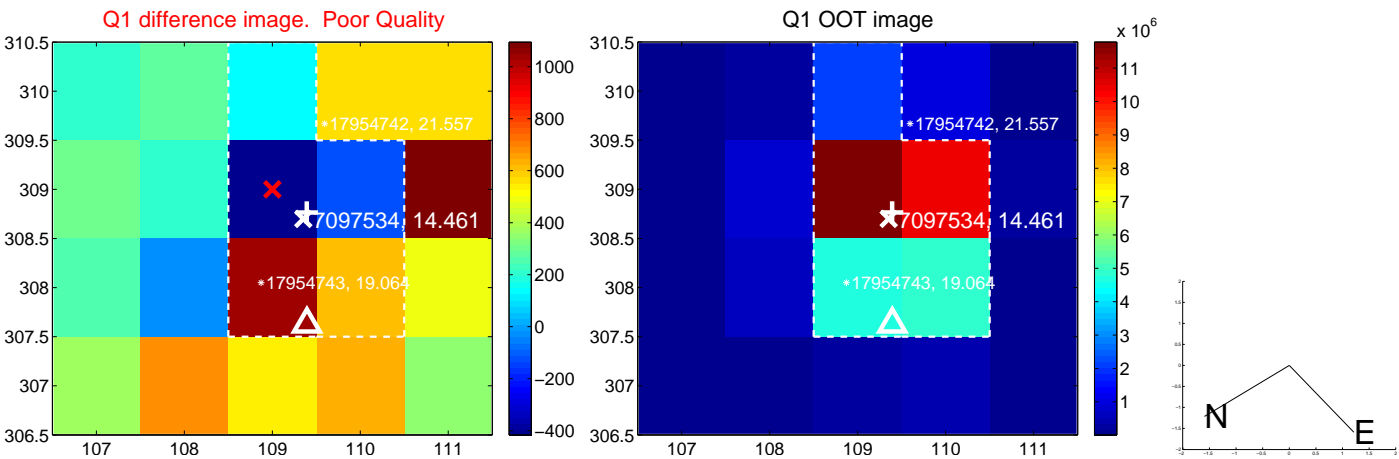
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.776 ± 0.874	0.89	0.422 ± 0.734	-0.651 ± 0.926
PRF-fit source offset from KIC position	1.023 ± 0.913	1.12	0.322 ± 0.737	-0.971 ± 0.931
photometric centroid source offset	2.88 ± 0.88	3.25	-1.08 ± 0.93	-2.67 ± 0.88

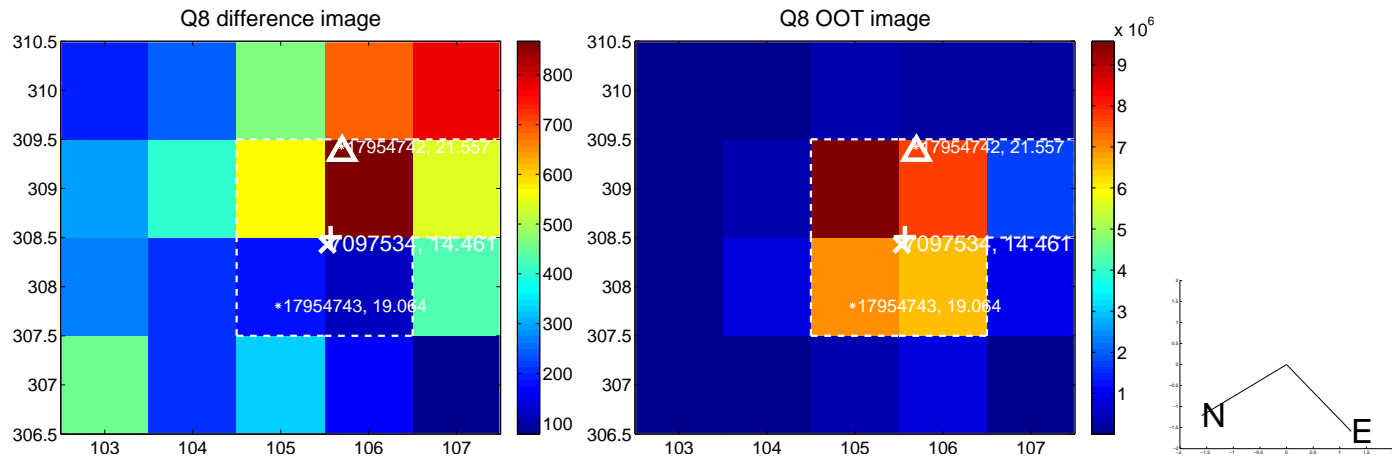
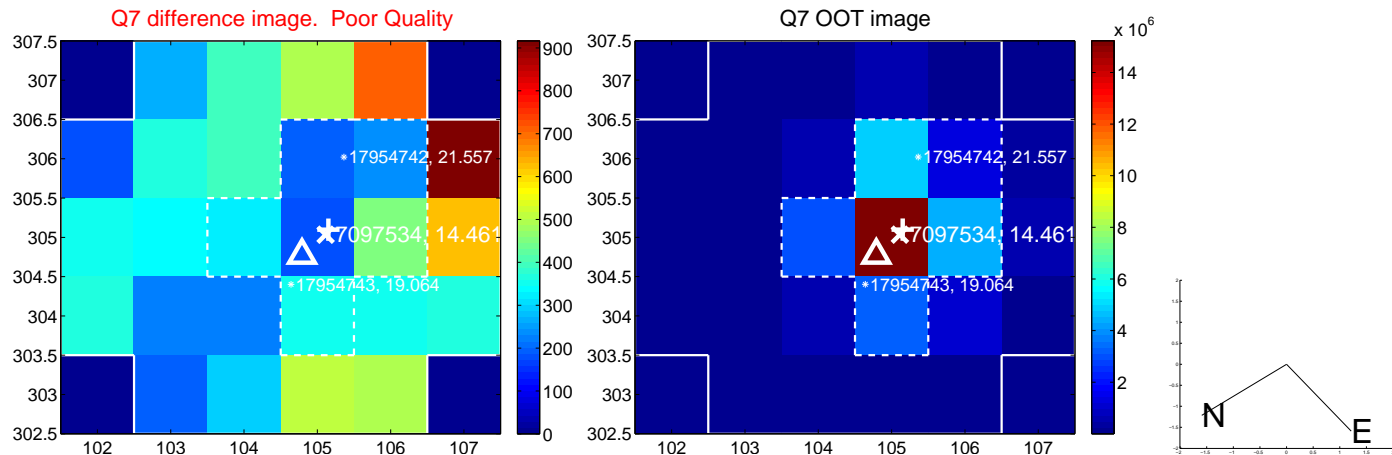
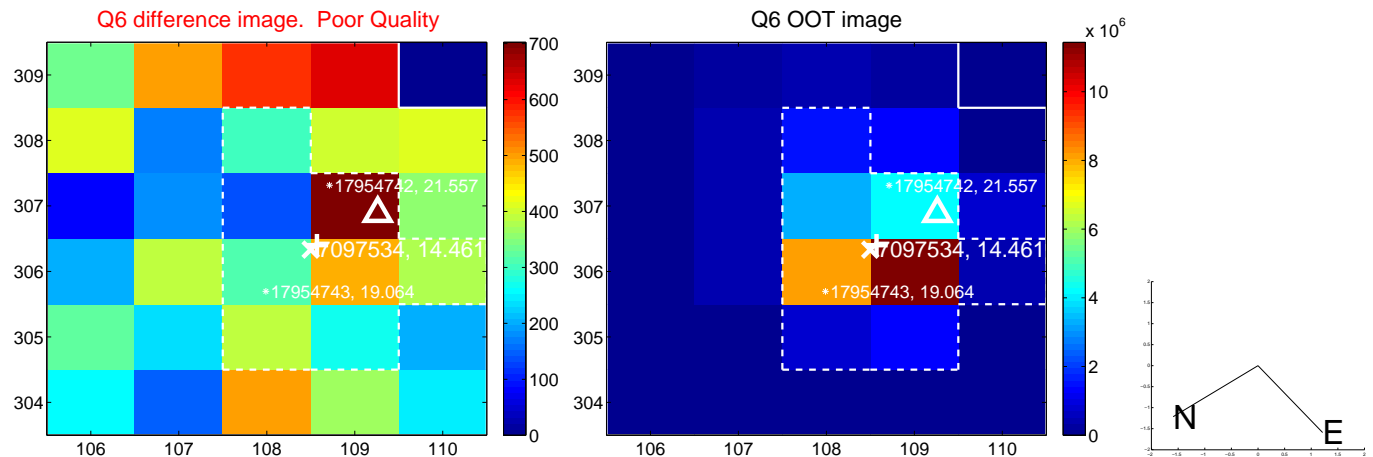
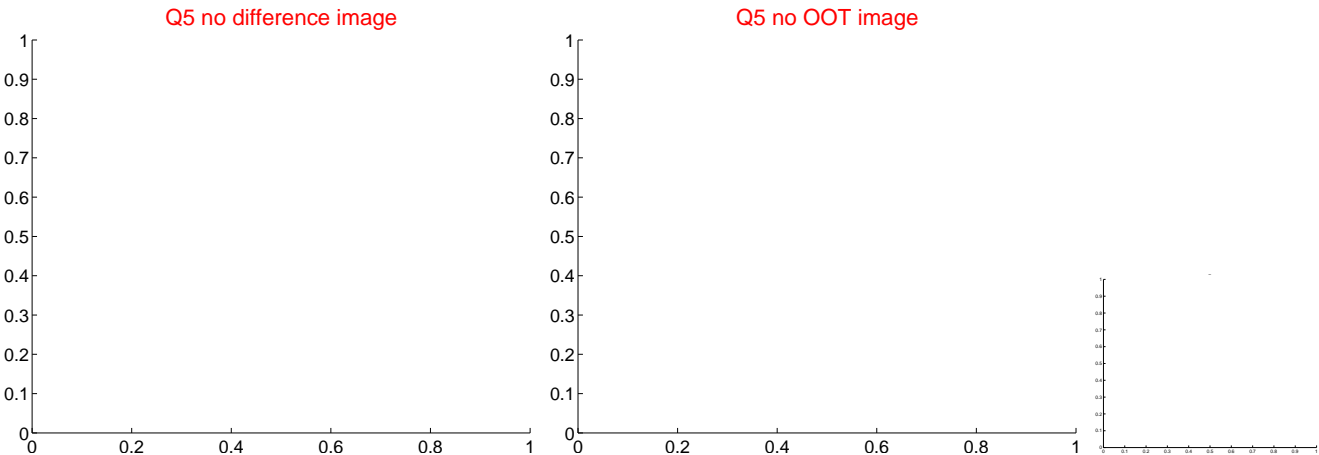


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

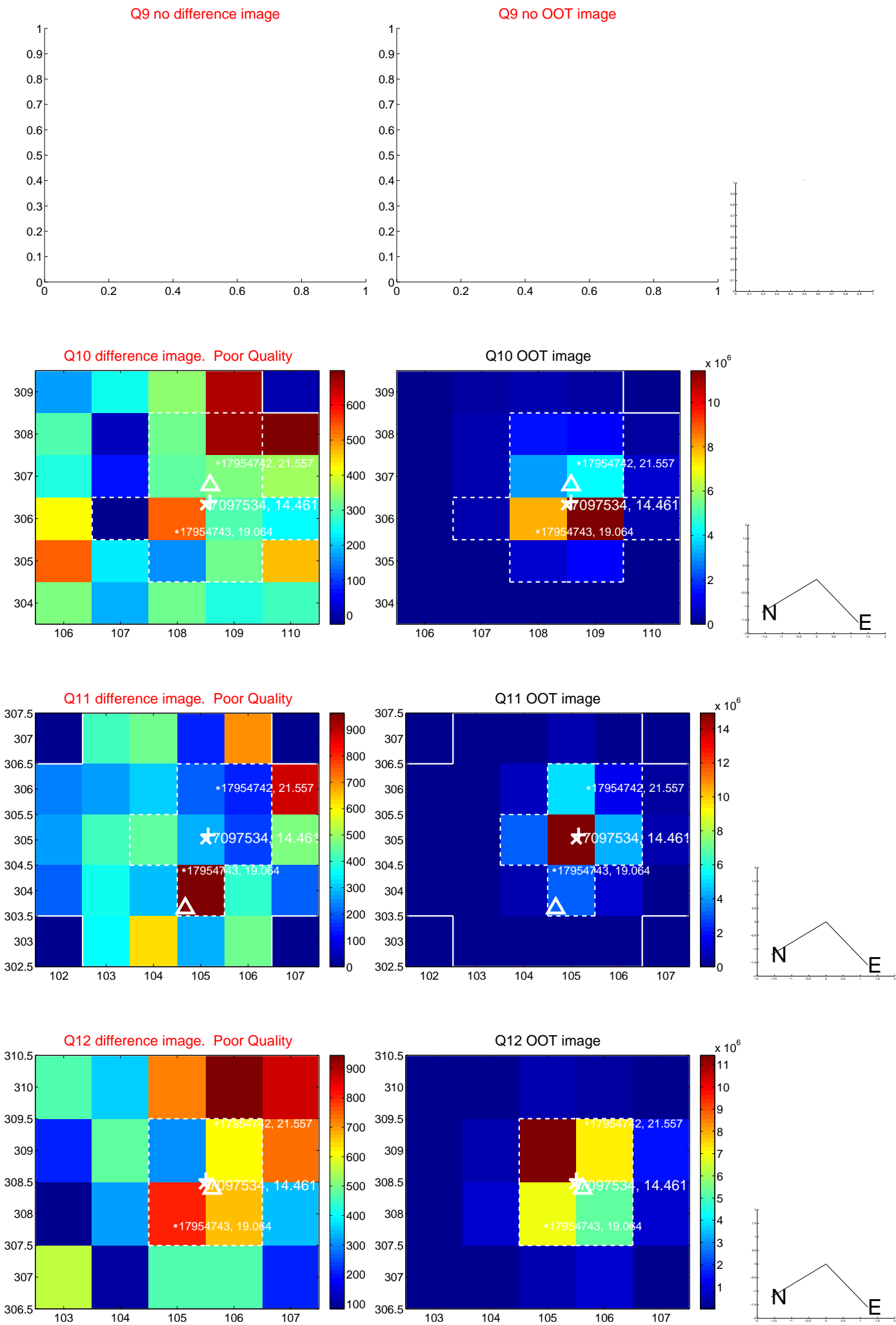
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



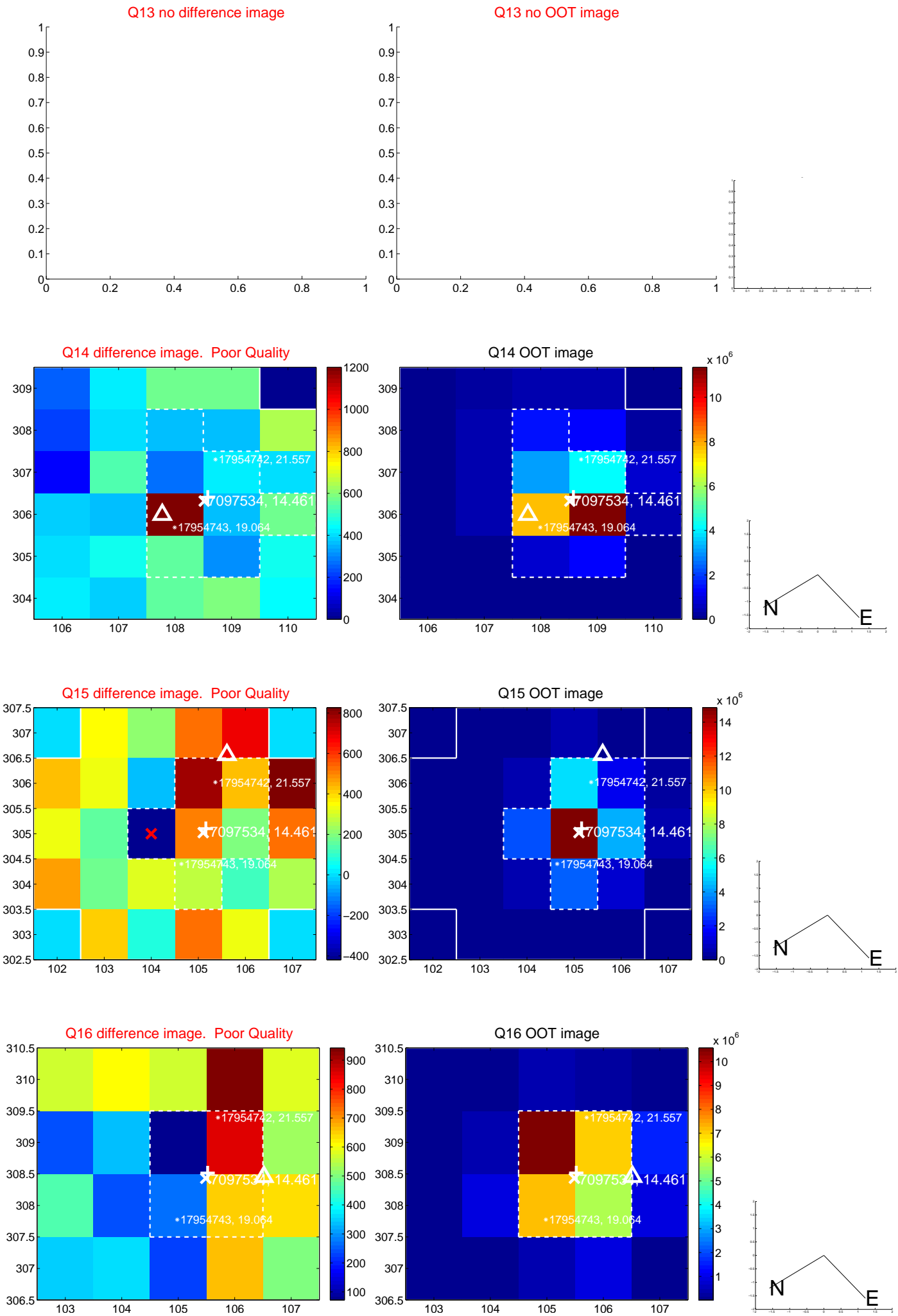
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



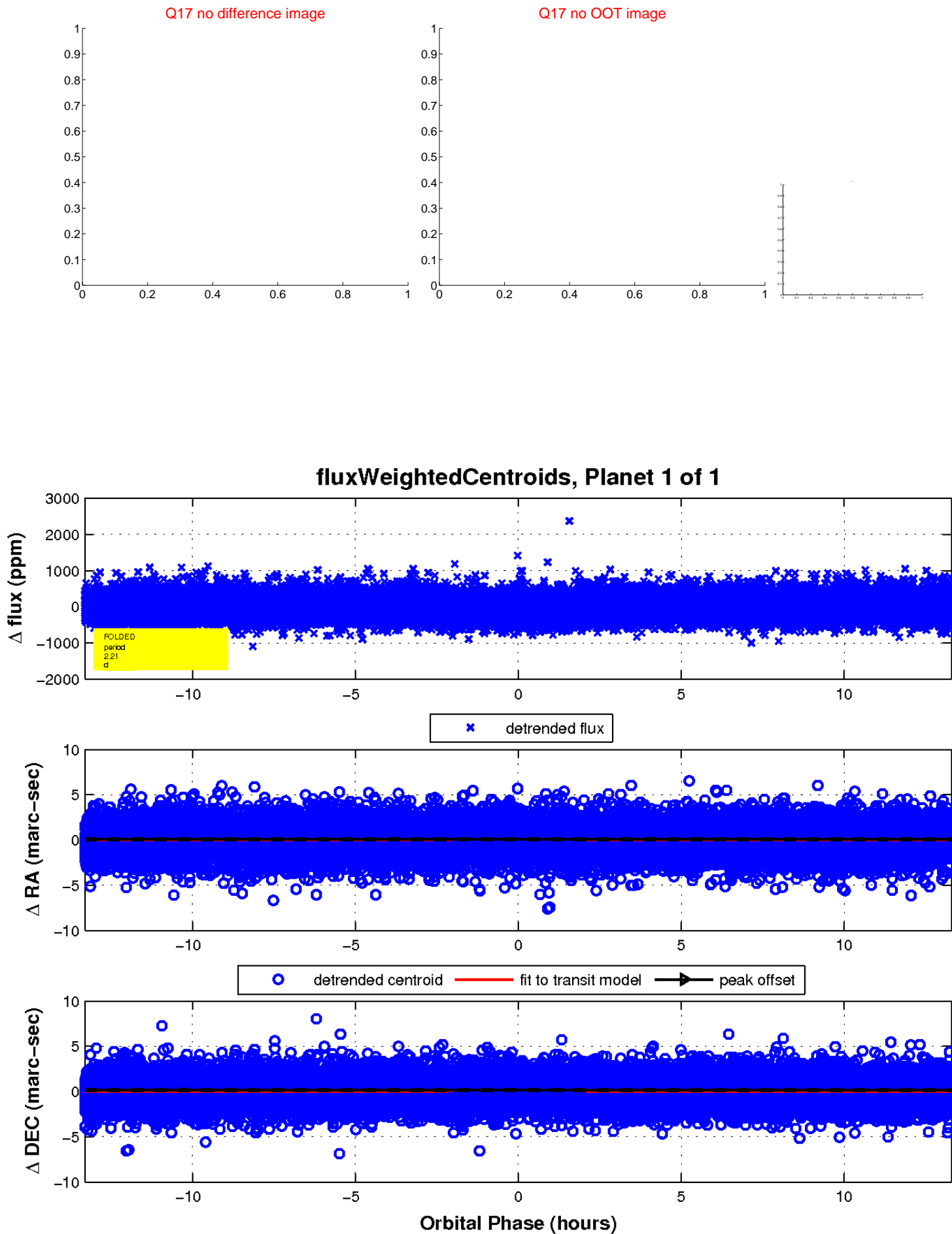
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

