

KIC 007031948

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})
007031948-01	OBS	6807.01	0.566767	131.843414	38.0	3.172	9.7	6.2	0.53	3844	0.35	459.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007031948-01	OBS	FP	0.00	1	0	1	1	LPP_DV—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 007031948-01

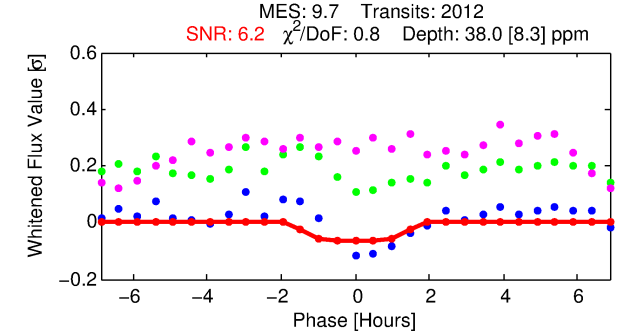
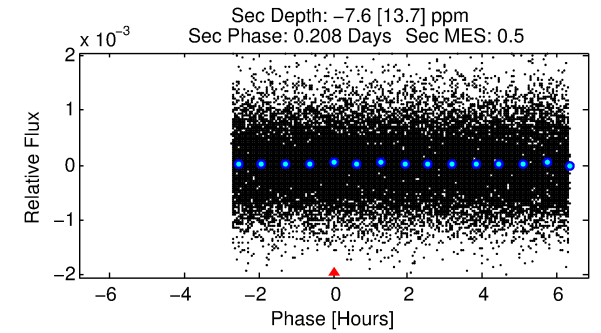
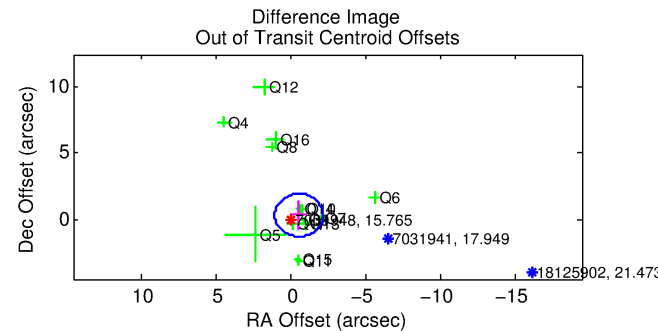
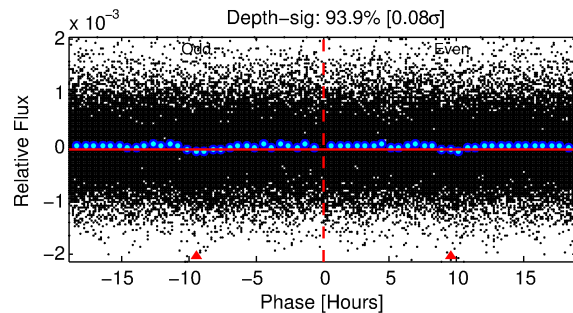
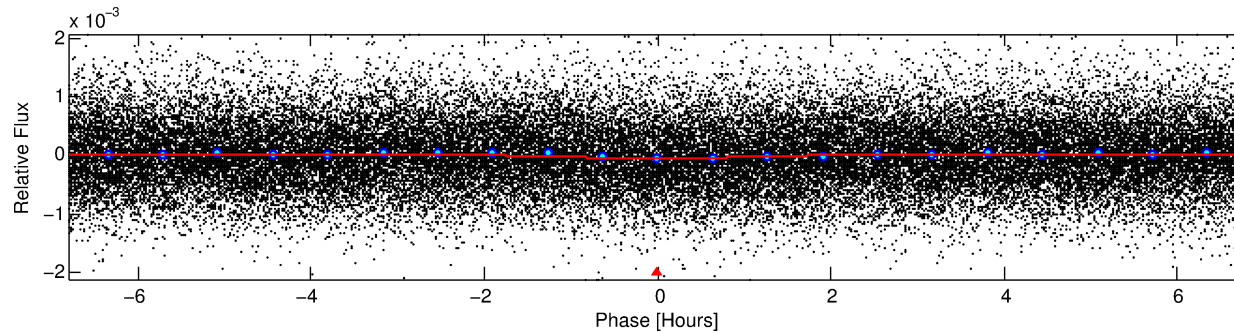
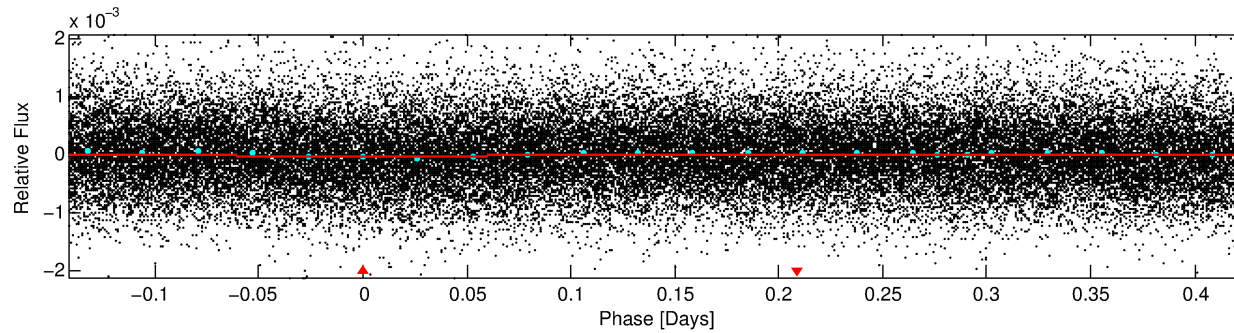
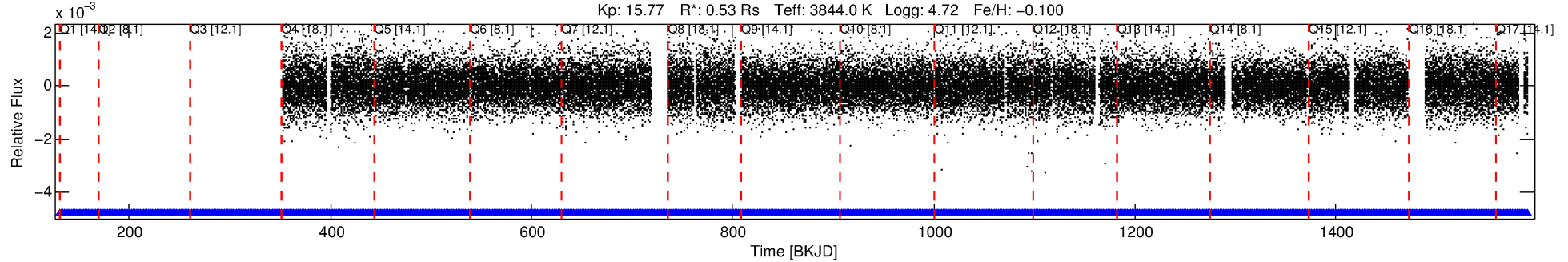
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007031948-01	7031948	RR-Lyr-pri	7198959	1:1	774.0	115	-158	7.86	15.76	16403.00	Direct-PRF	0	3.87	23.86

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: 7031948 Candidate: 1 of 1 Period: 0.567 d
KOI: K06807.01 Corr: 0.823

Kp: 15.77 R*: 0.53 Rs Teff: 3844.0 K Logg: 4.72 Fe/H: -0.100



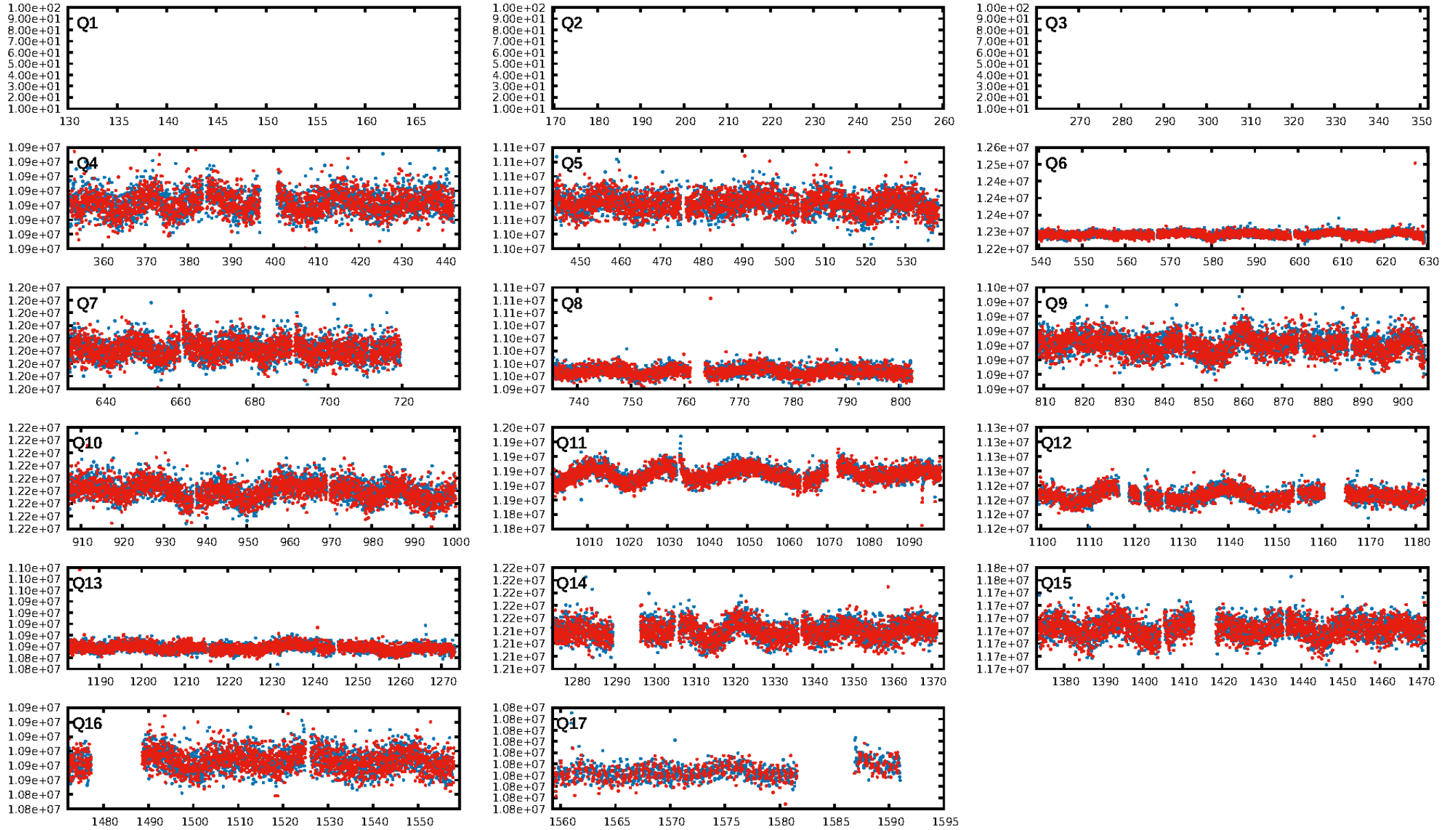
DV Fit Results:

Period = 0.56677 [0.00002] d
Epoch = 131.8434 [0.0061] BKJD
Rp/R* = 0.0061 [0.0084]
a/R* = 1.27 [3.00]
b = 0.72 [4.16]
Seff = 459.35 [51.46]
Teff = 1180 [33] K
Rp = 0.35 [0.48] Re
a = 0.0109 [0.0006] AU
Ag = N/A
Teffp = N/A

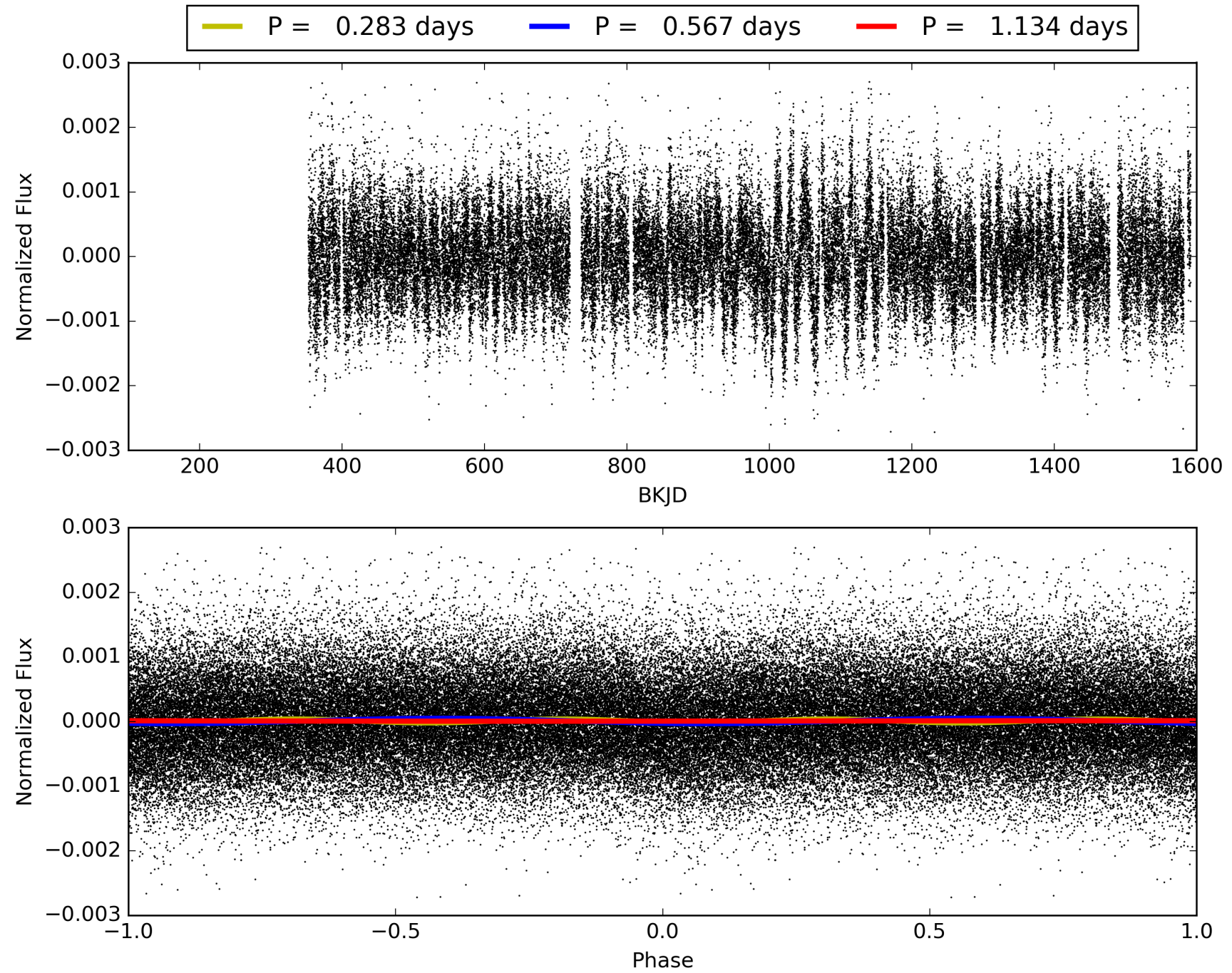
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.80e-15
RollingBand-fgt: 1.00 [1965/1965]
GhostDiagnostic-chr: -0.05165
Centroid-sig: 0.0%
Centroid-so: 9.511 arcsec [5.32σ]
OotOffset-rm: 0.650 arcsec [1.20σ]
KicOffset-rm: 1.192 arcsec [2.44σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.14 [2/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 007031948-01, PDC Light Curves

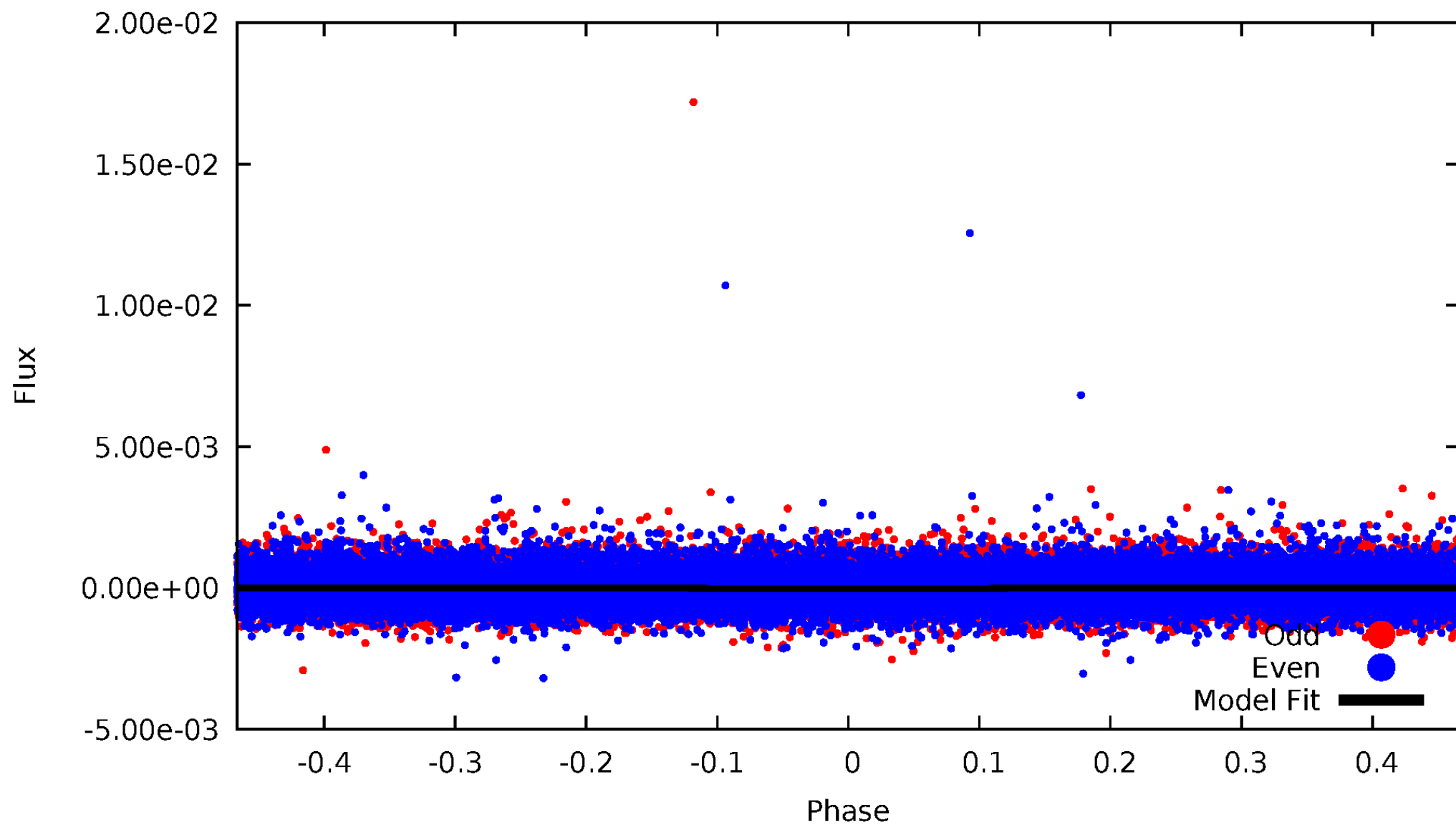


TCE 007031948-01



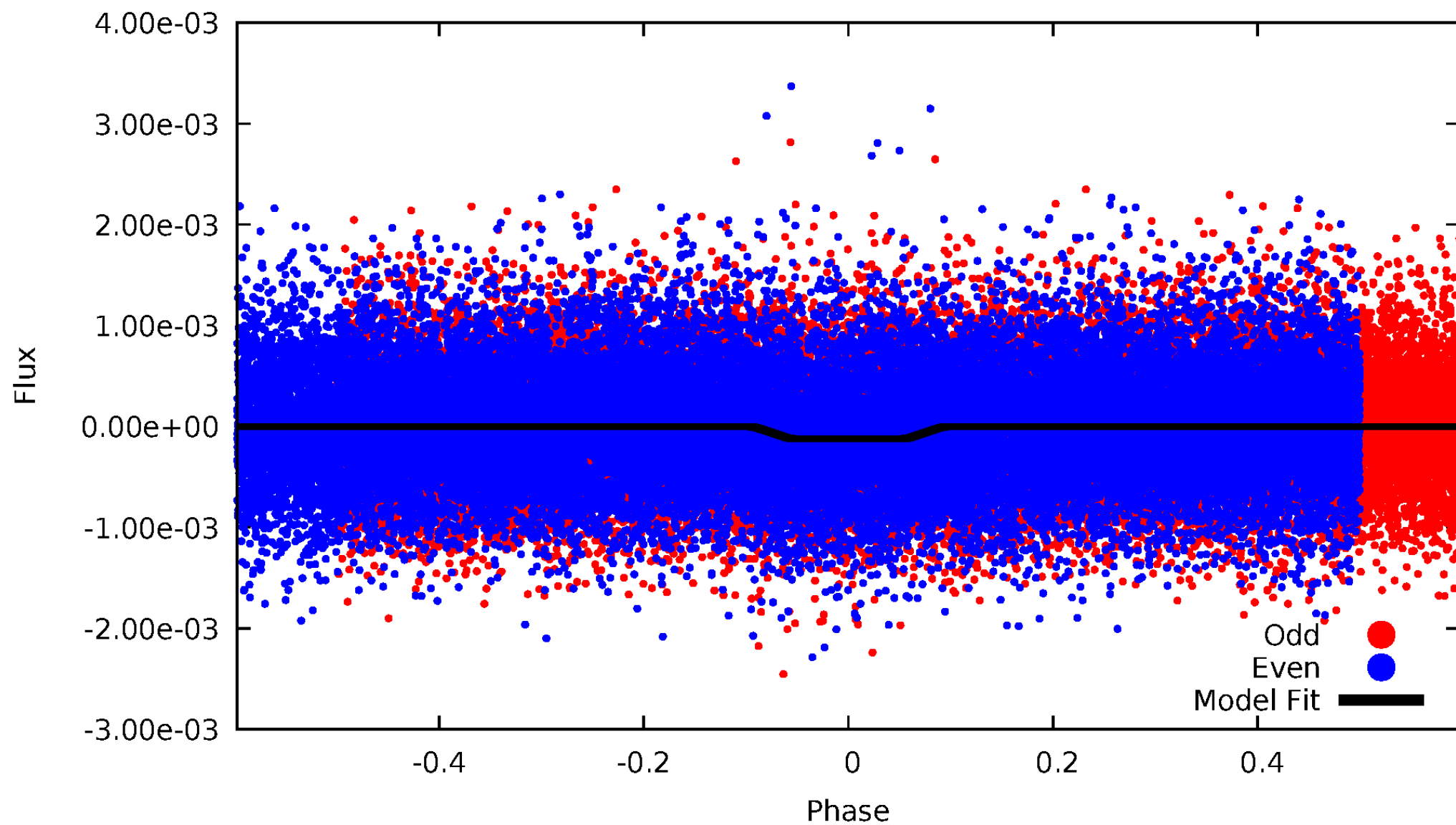
DV Odd/Even

TCE 007031948-01

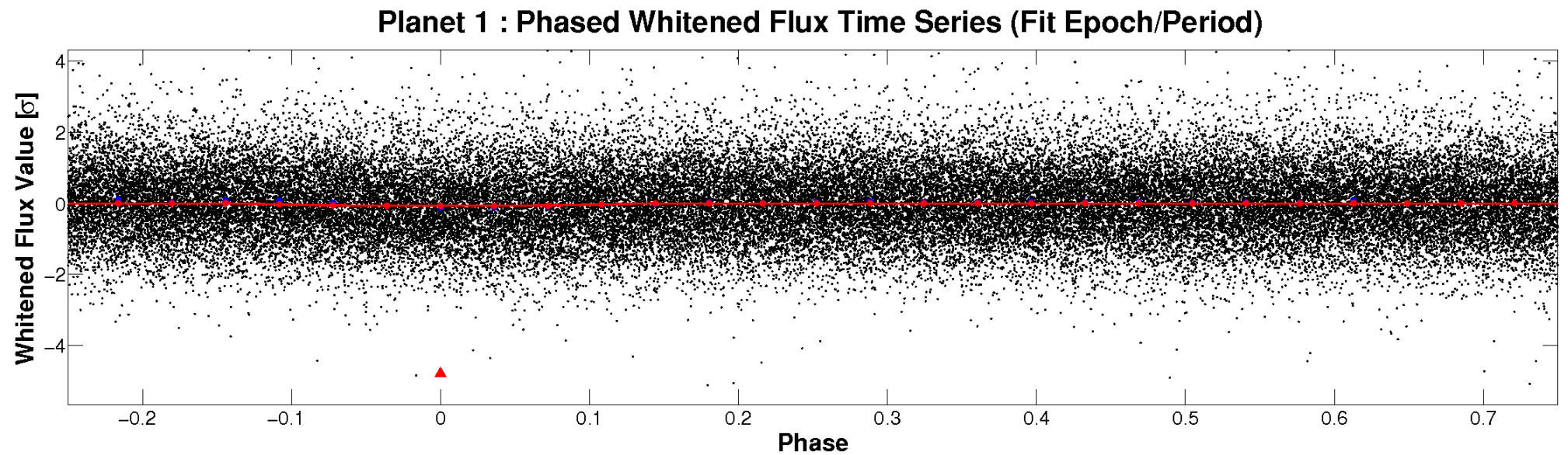
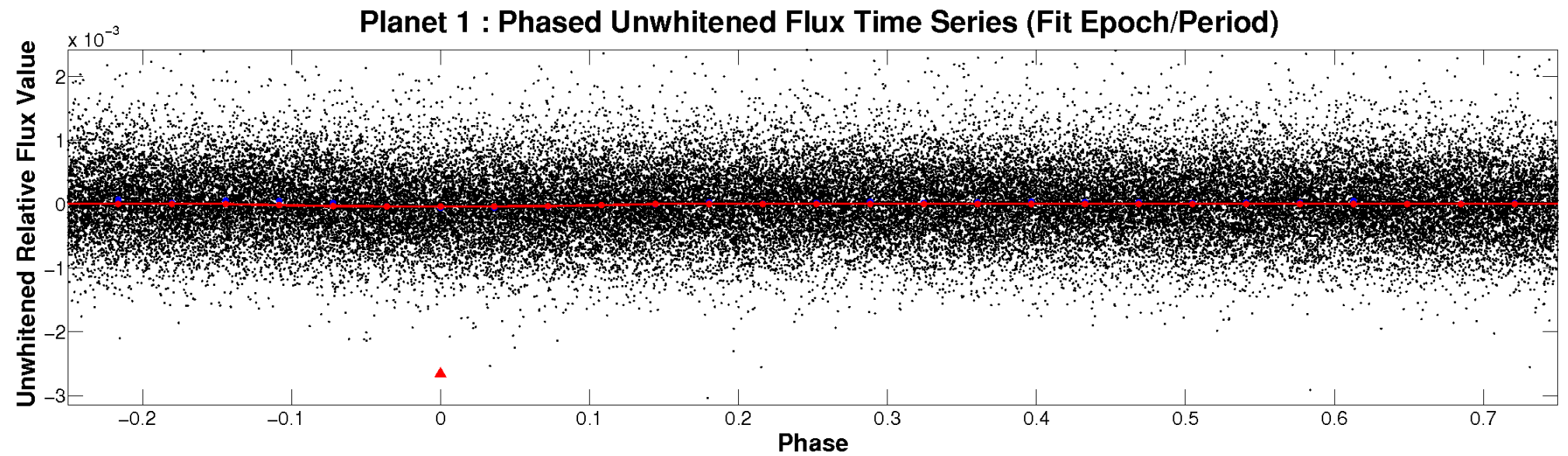


ALT Odd/Even

TCE 007031948-01

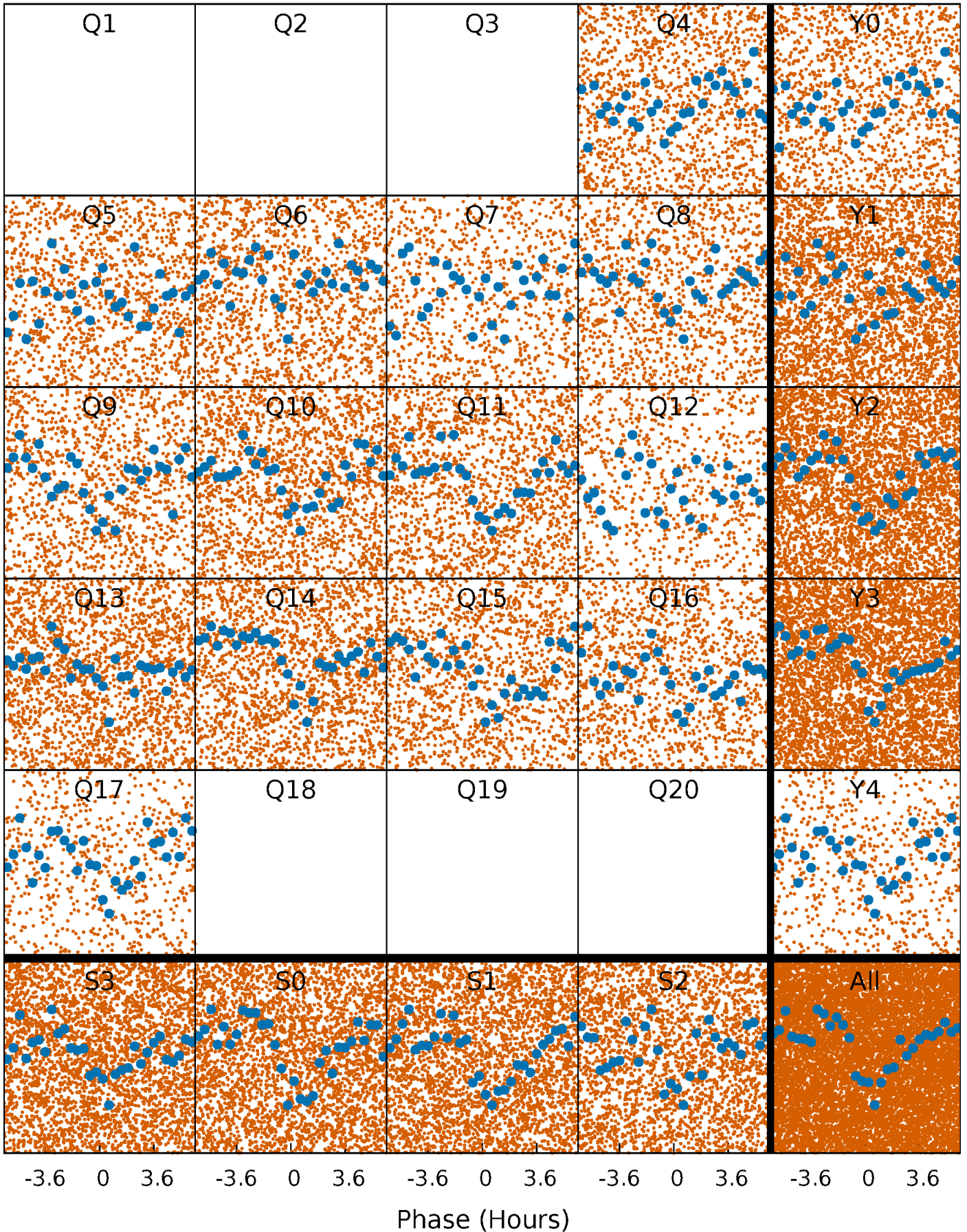


Non-Whitened Vs. Whitened Light Curve



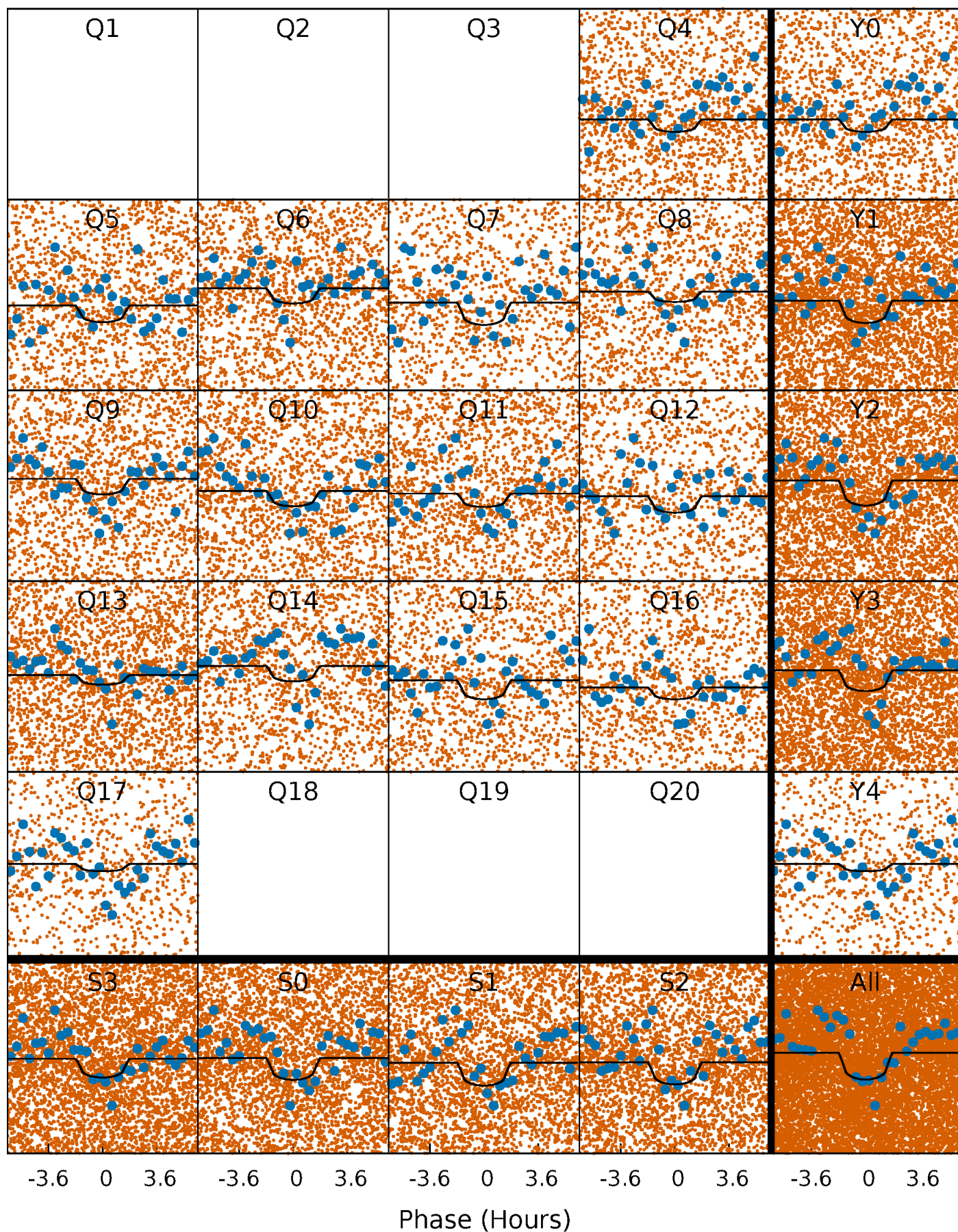
PDC Quarter-Phased Transit Curves

TCE 007031948-01 P= 0.566767 Days $T_0=131.843414$ (BKJD)



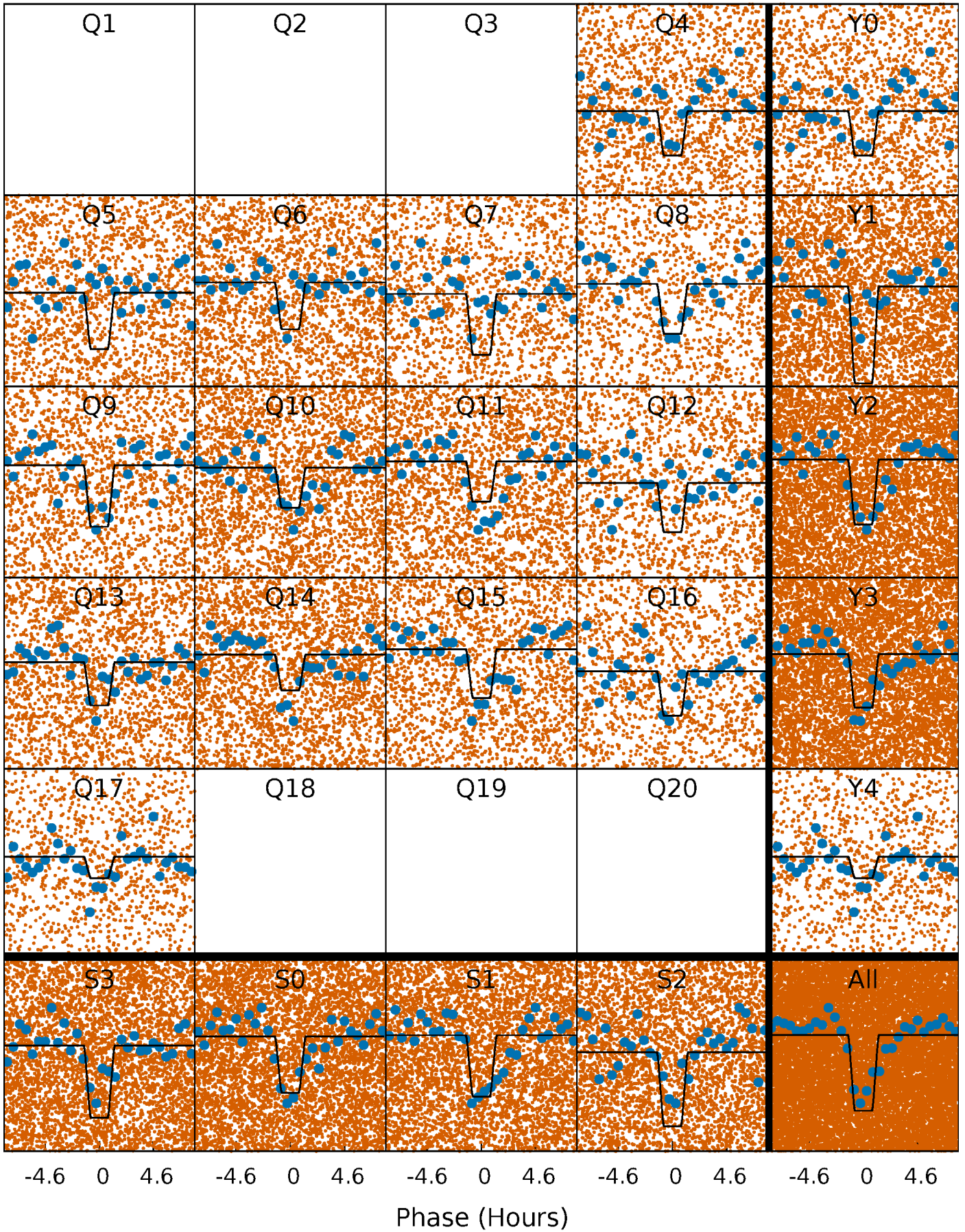
DV Quarter-Phased Transit Curves

TCE 007031948-01 P= 0.566767 Days $T_0=131.843414$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

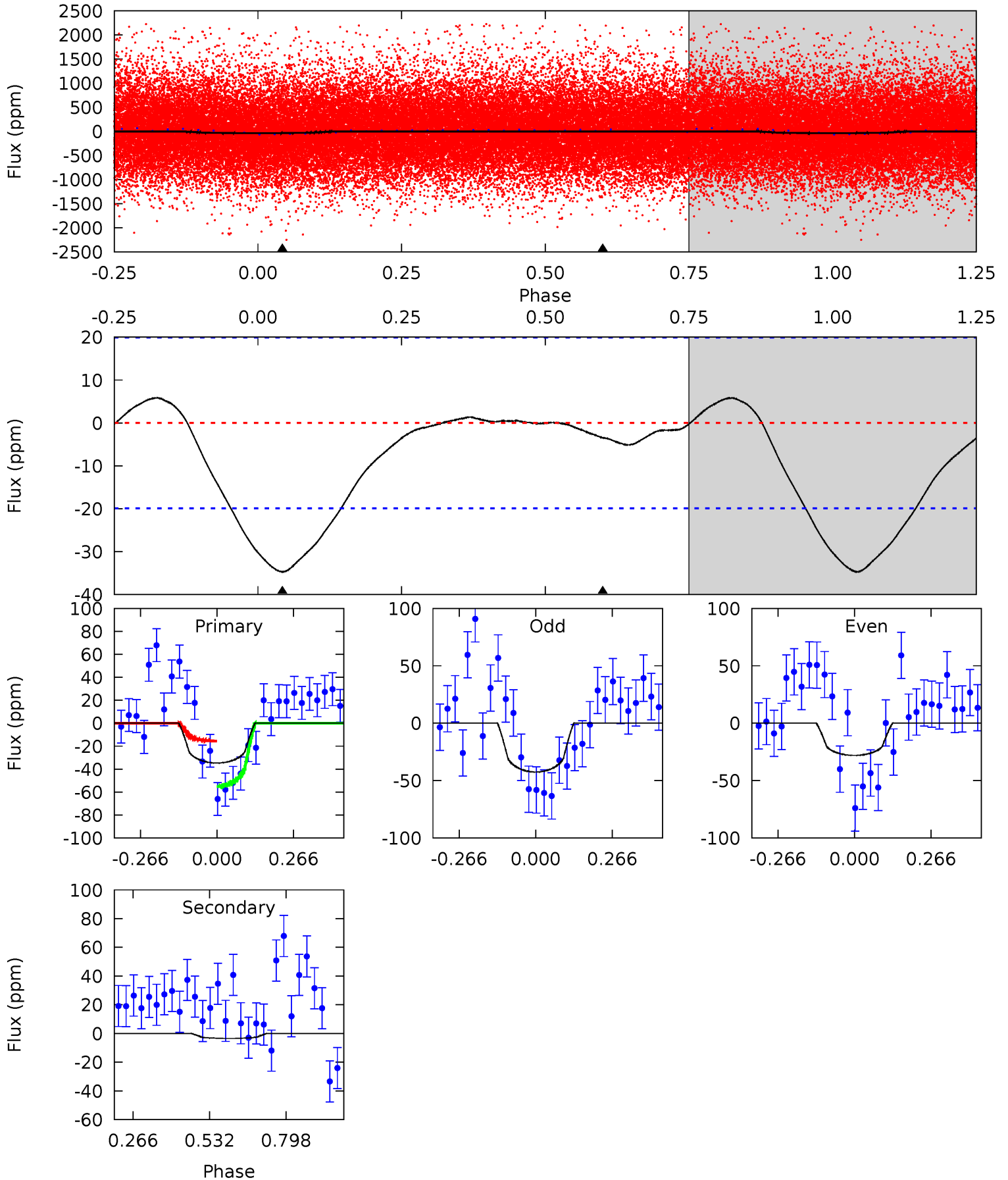
TCE 007031948-01 P= 0.566801 Days $T_0=131.810719$ (BKJD)



DV Model-Shift Uniqueness Test

007031948-01, P = 0.566767 Days, E = 131.843414 Days

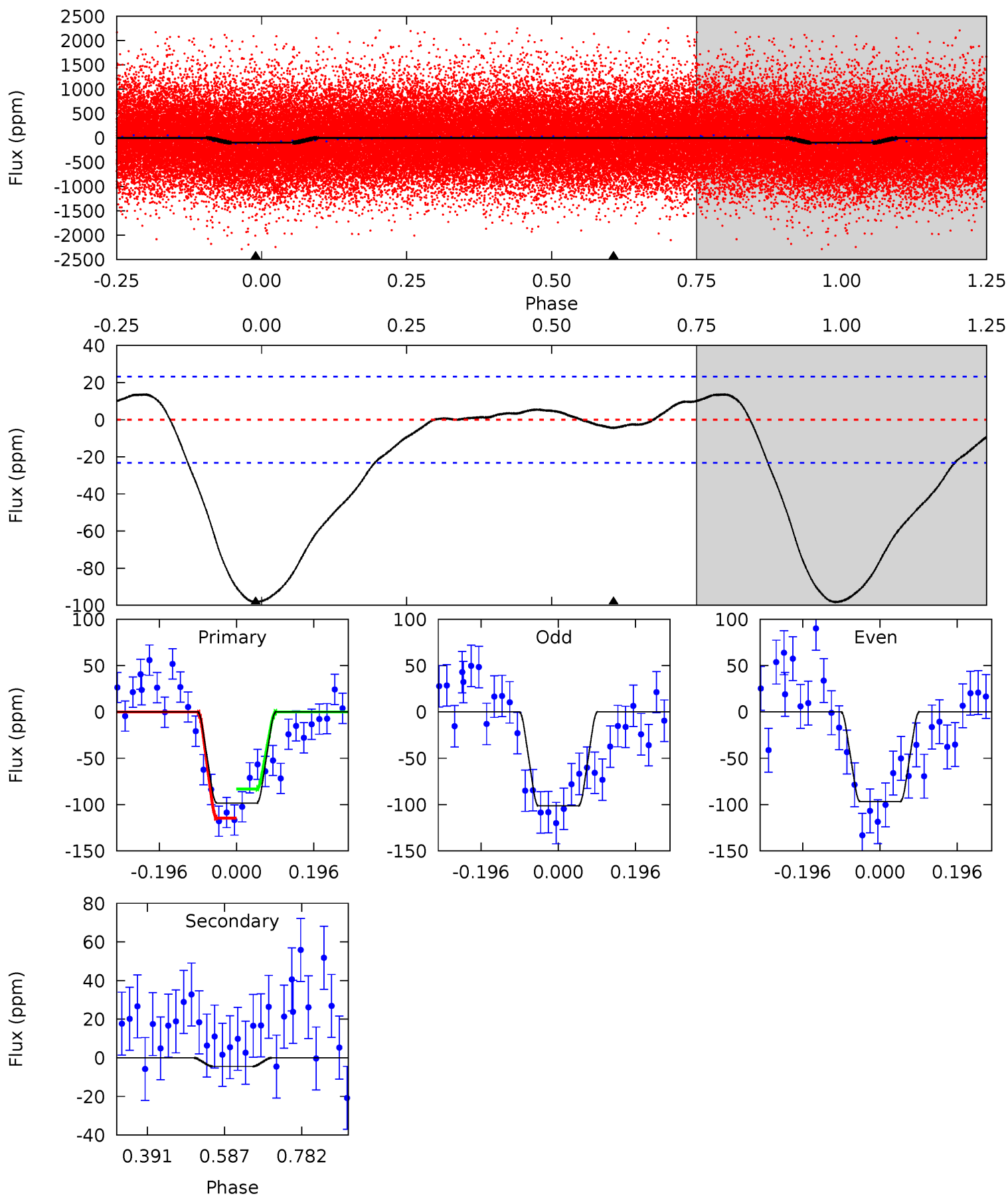
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.59	0.75	0	0	4.36	1.11	0.20	7.59	7.59	0.75	0.75	1.57	0.86	0.14	4.33



Alt Model-Shift Uniqueness Test

007031948-01, P = 0.566801 Days, E = 131.810719 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.7	0.84	0	0	4.42	1.29	1.61	18.7	18.7	0.84	0.84	0.43	1.00	0.12	2.99



Stellar Parameters For KIC 007031948

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3844^{+77}_{-84}	$4.721^{+0.036}_{-0.021}$	$-0.100^{+0.100}_{-0.100}$	$0.526^{+0.025}_{-0.034}$	$0.531^{+0.030}_{-0.030}$	$5.130^{+0.831}_{-0.453}$
	+2%/-2%	+1%/-0%	+100%/-100%	+5%/-6%	+6%/-6%	+16%/-9%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 007031948-01 / KOI 6807.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-3 ± 5	$0.48^{+0.40}_{-0.32}$	1642^{+38}_{-39}	2235^{+1026}_{-4540}	$0.679^{+7.300}_{-0.878}$
Alt.	-4 ± 5	$0.71^{+0.46}_{-0.42}$	1644^{+38}_{-39}	2086^{+794}_{-4281}	$0.492^{+2.755}_{-0.518}$

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 $A_{obs} \gg 1.0$

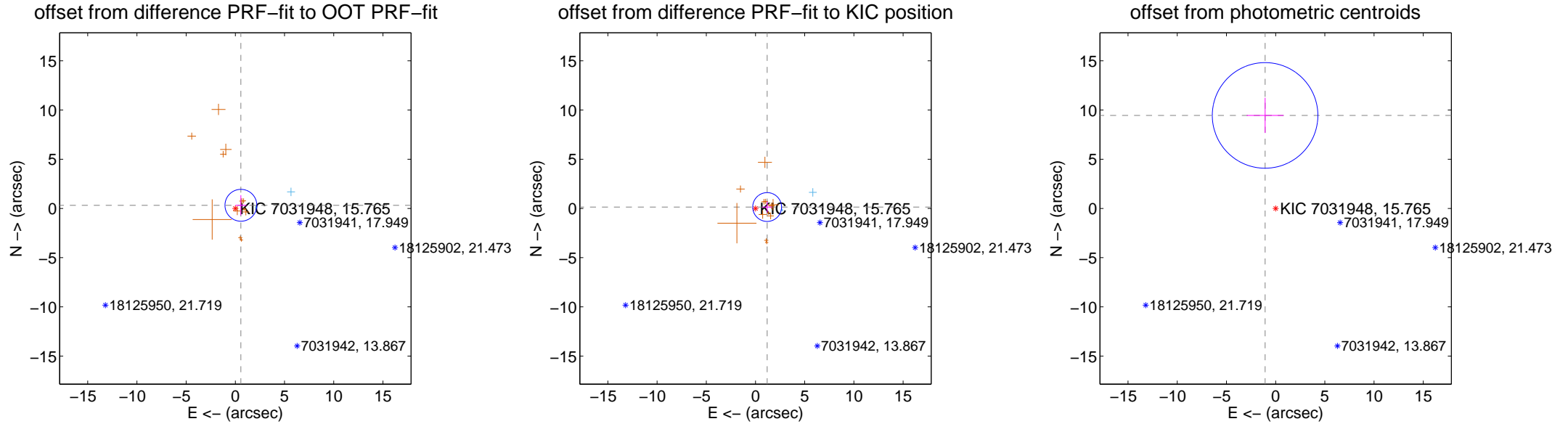
DV Centroid Data

Supplemental centroid analysis for 007031948-01. Kepler magnitude: 15.77. Transit SNR 6.25

There are 2 quarters with good PRF difference image offsets

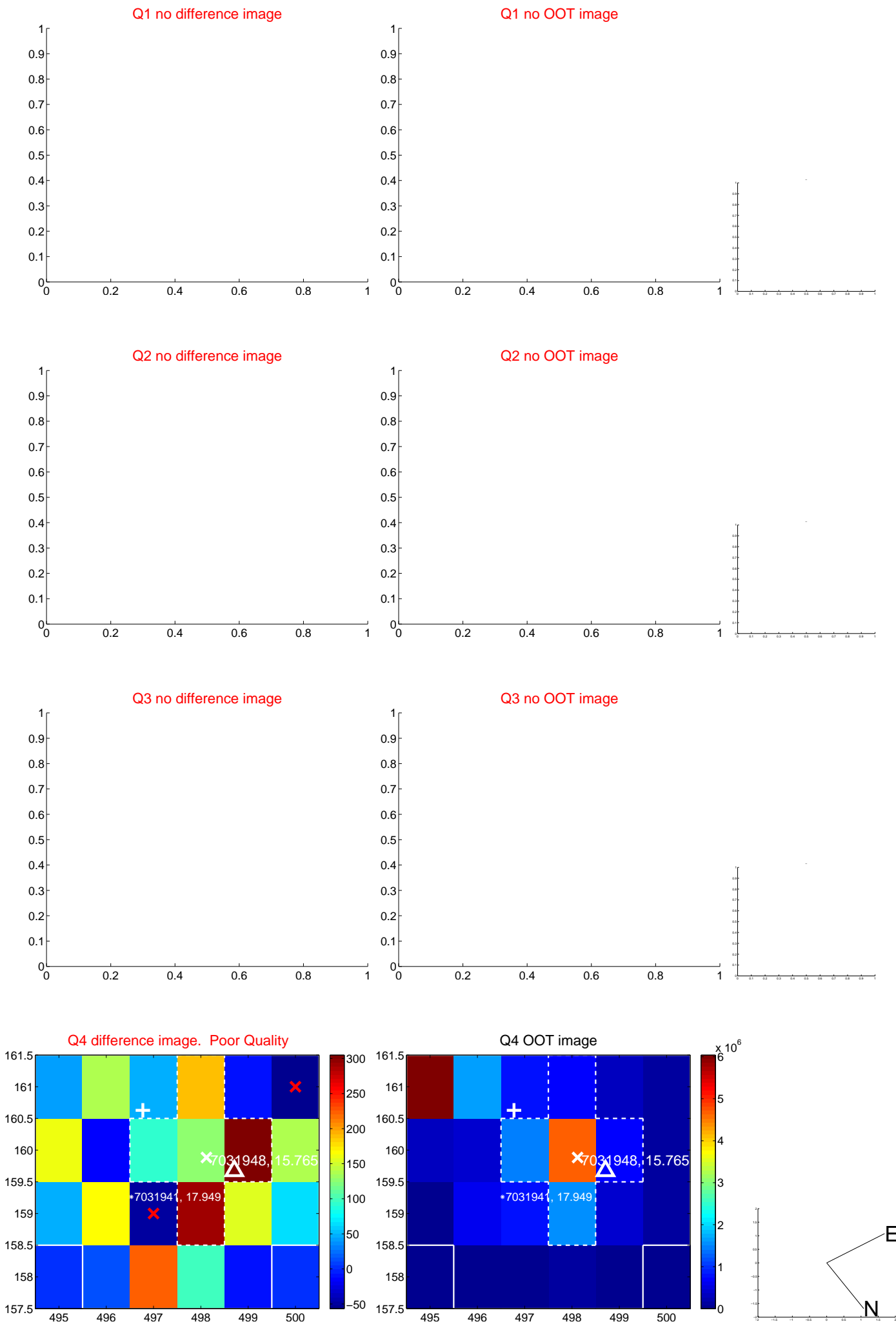
The direct PRF centroid is offset from the target star catalog position by about 0.64 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.650 ± 0.539	1.20	-0.565 ± 0.558	0.320 ± 1.029
PRF-fit source offset from KIC position	1.192 ± 0.488	2.44	-1.183 ± 0.485	0.143 ± 0.550
photometric centroid source offset	9.51 ± 1.79	5.32	1.07 ± 1.88	9.45 ± 1.79

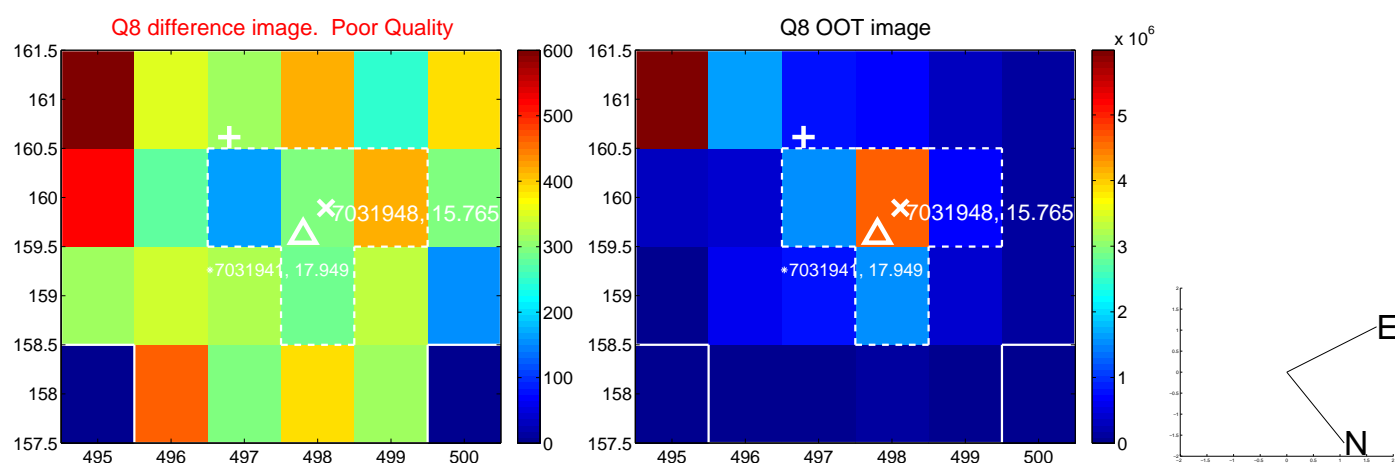
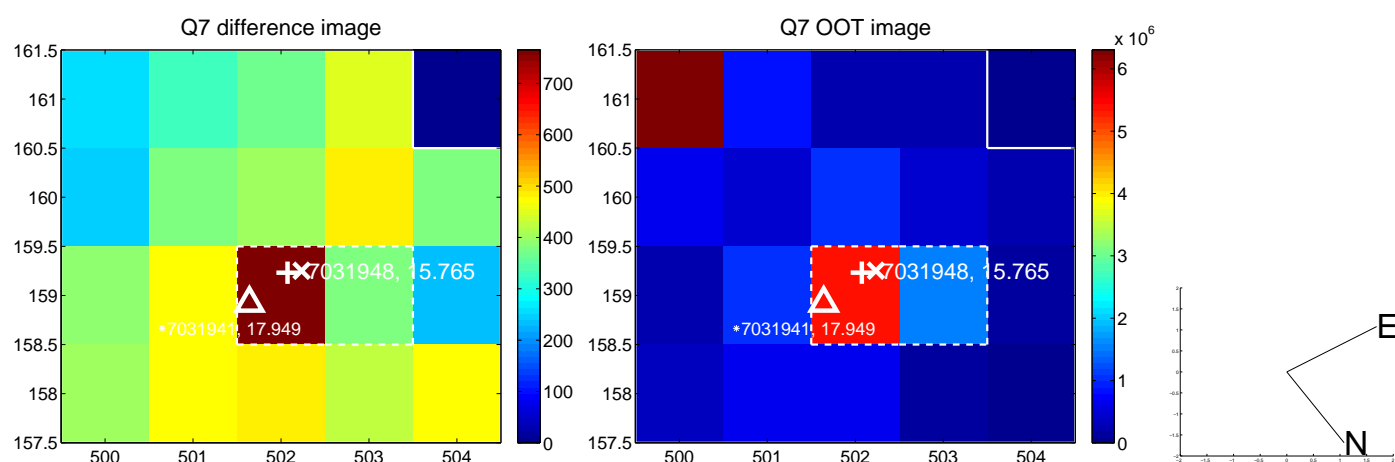
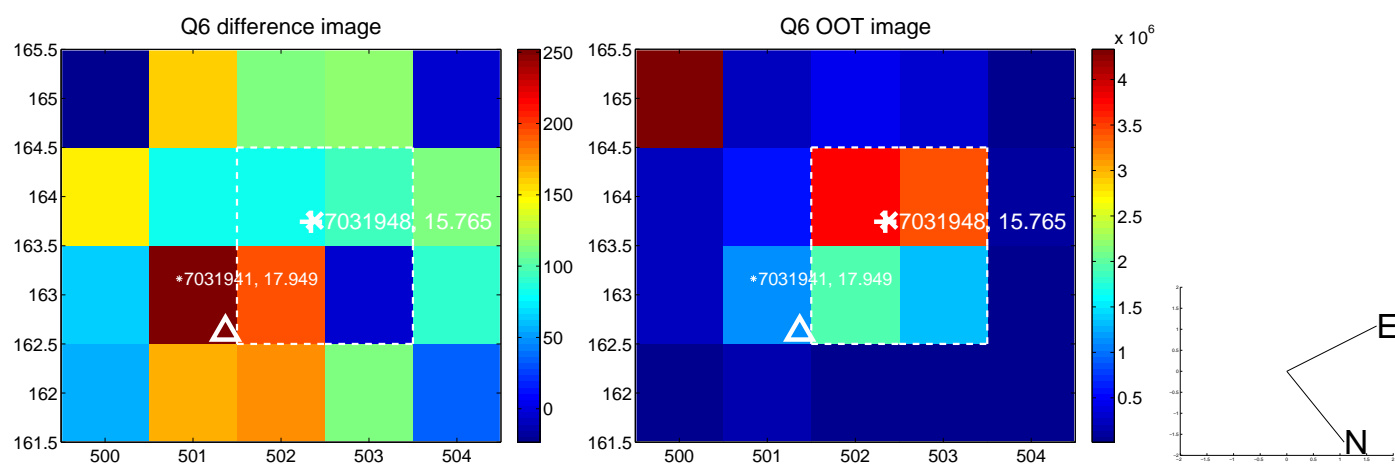
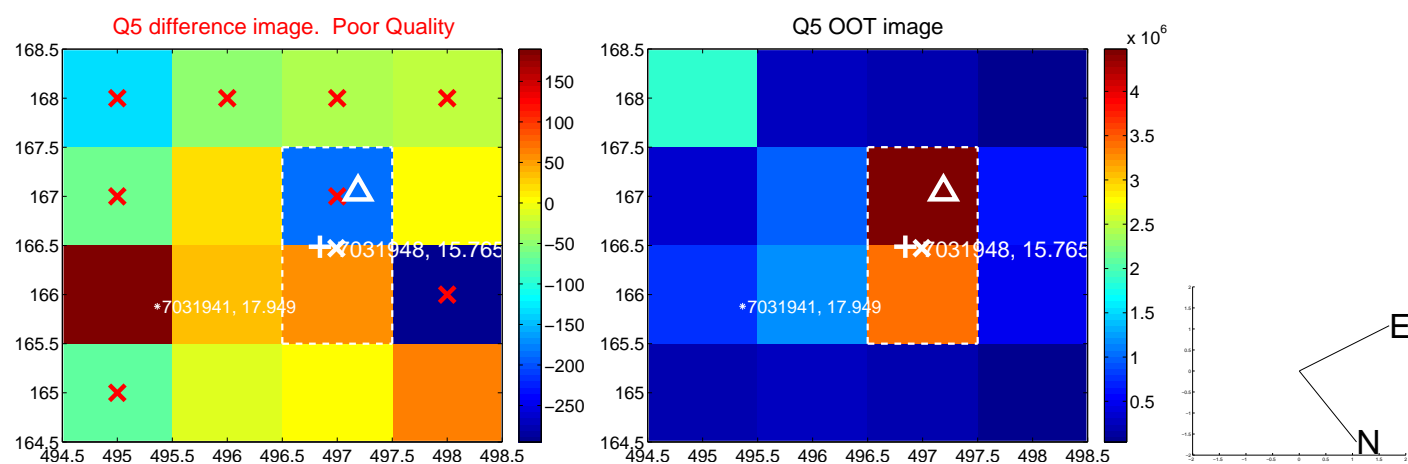


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

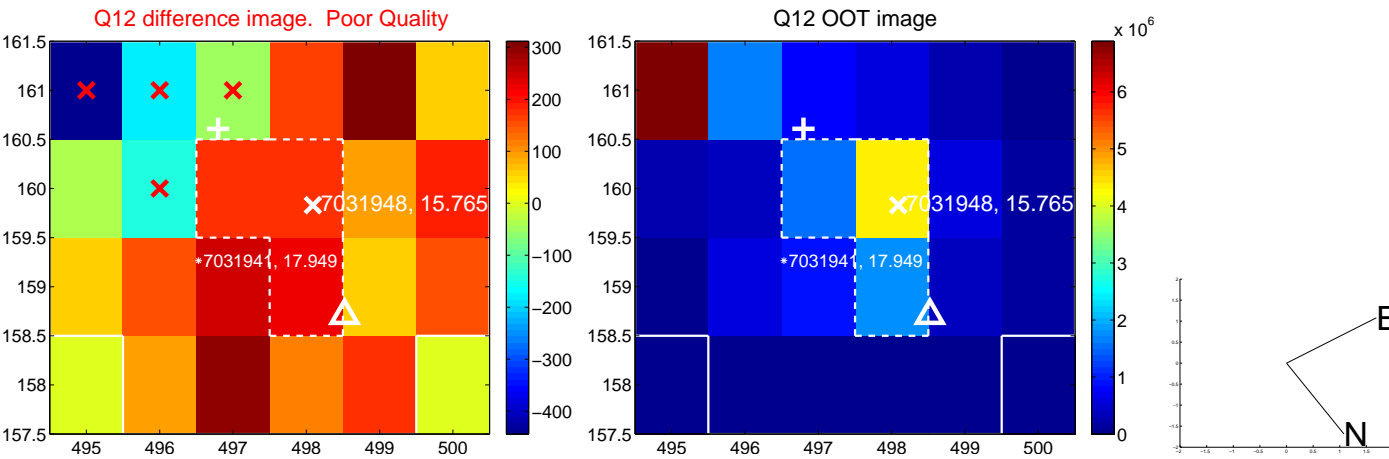
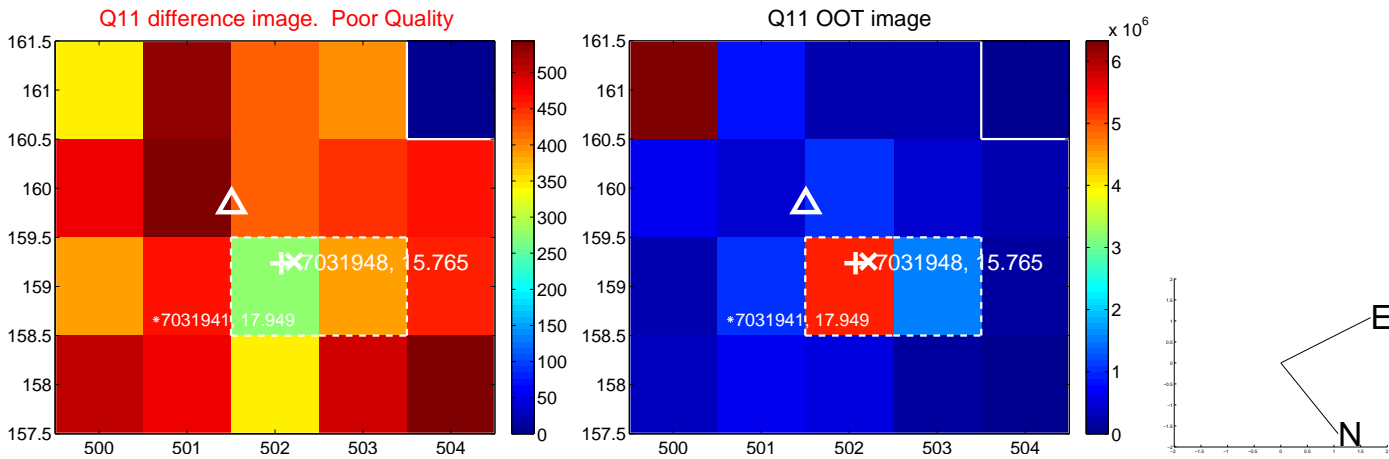
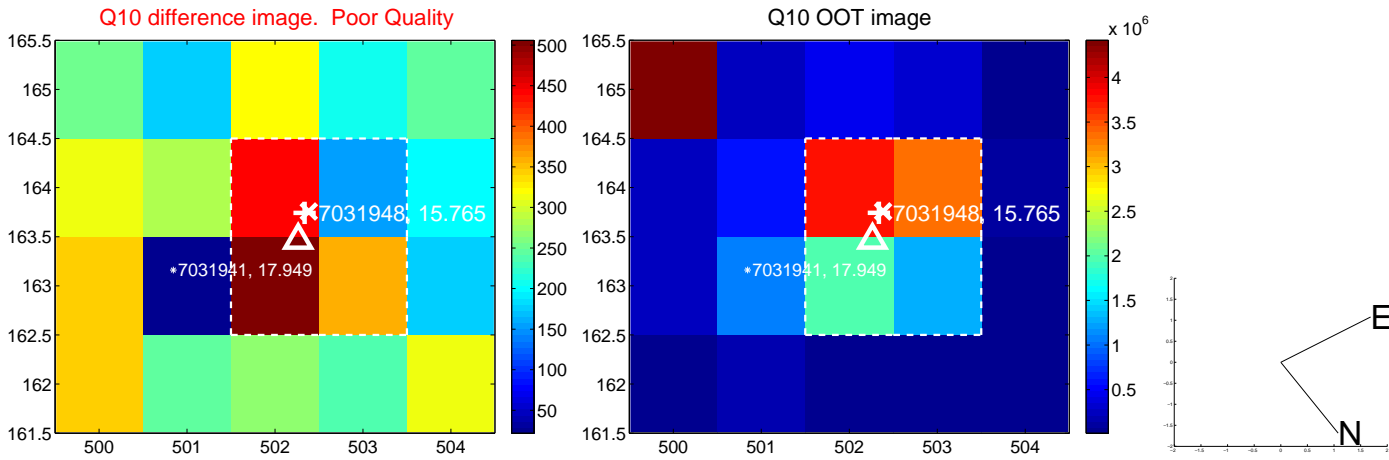
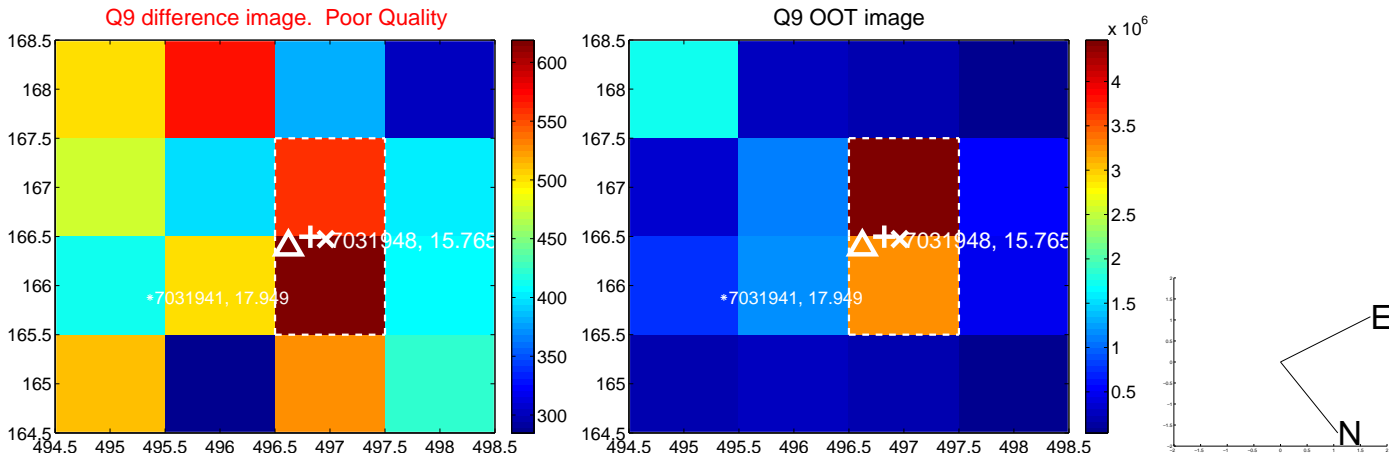
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



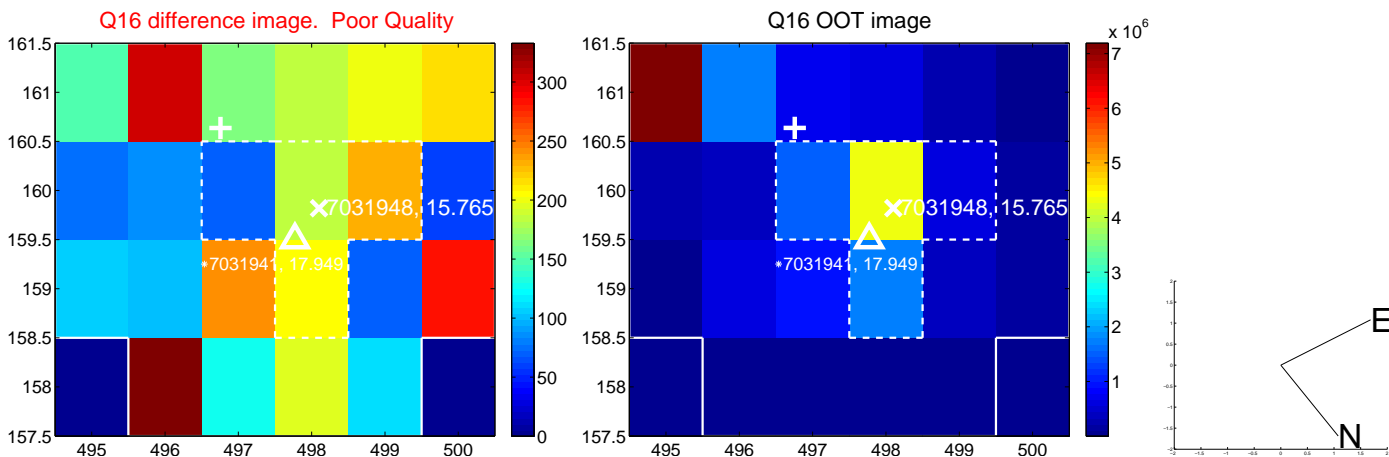
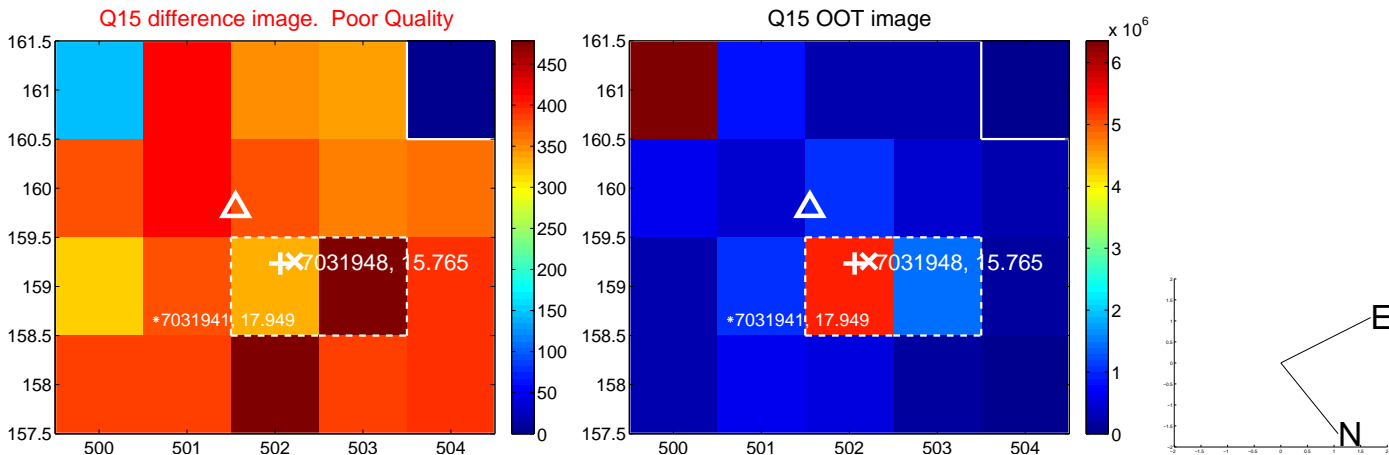
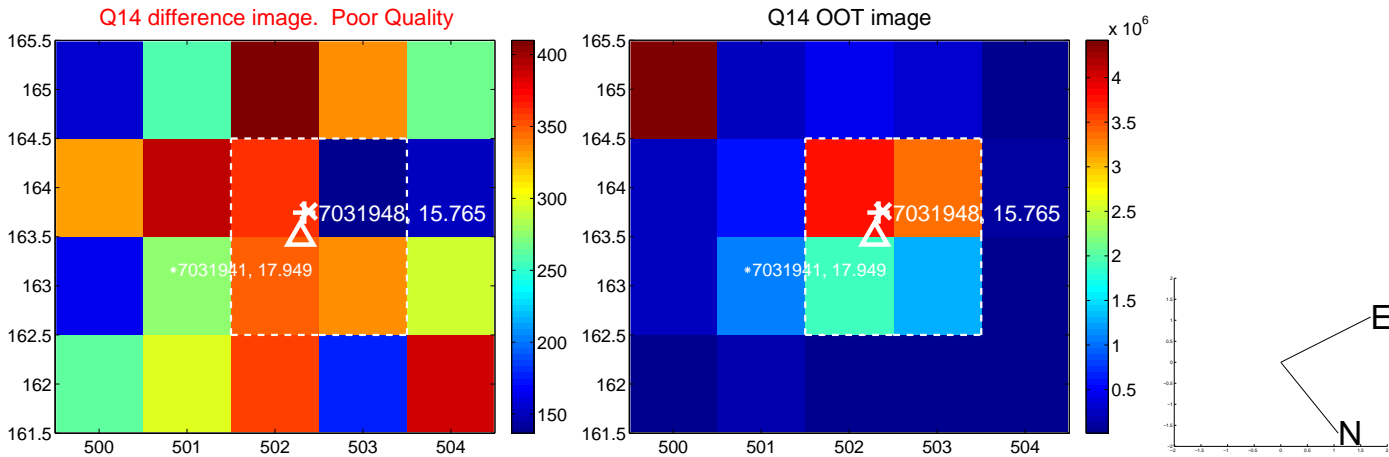
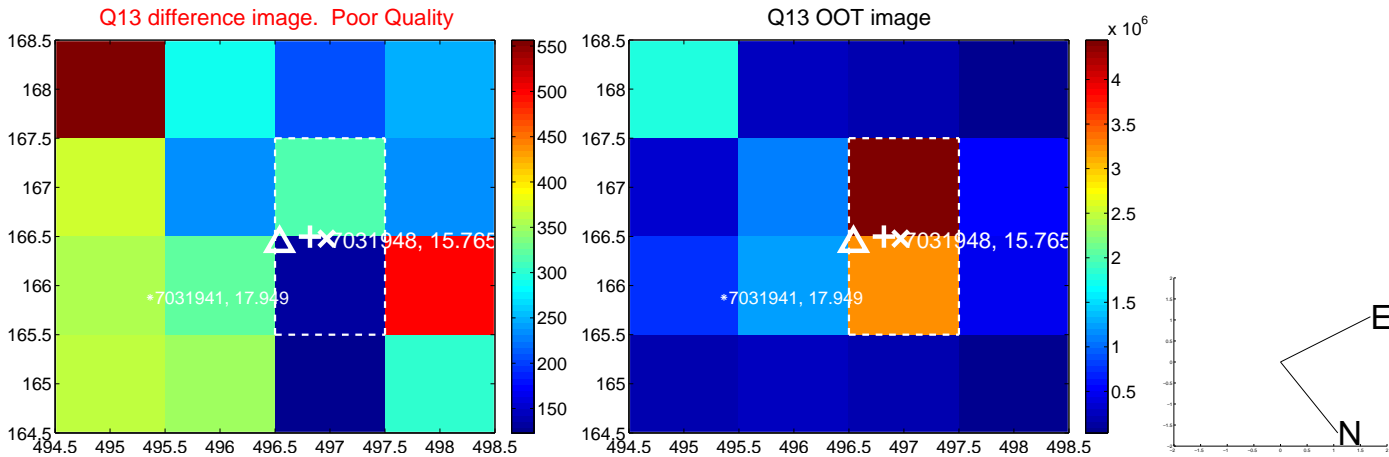
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



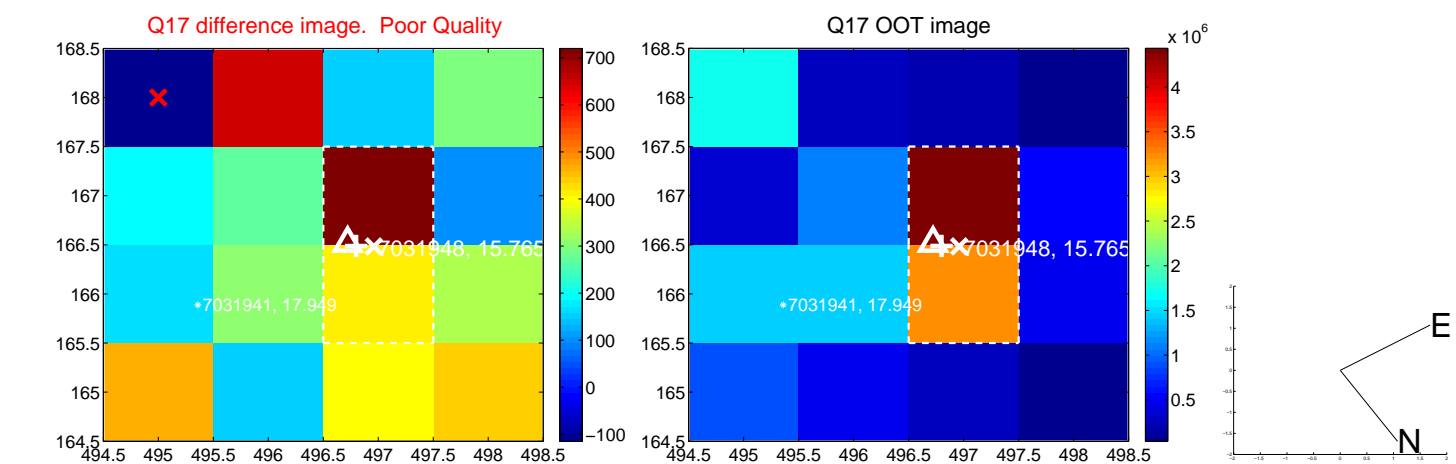
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



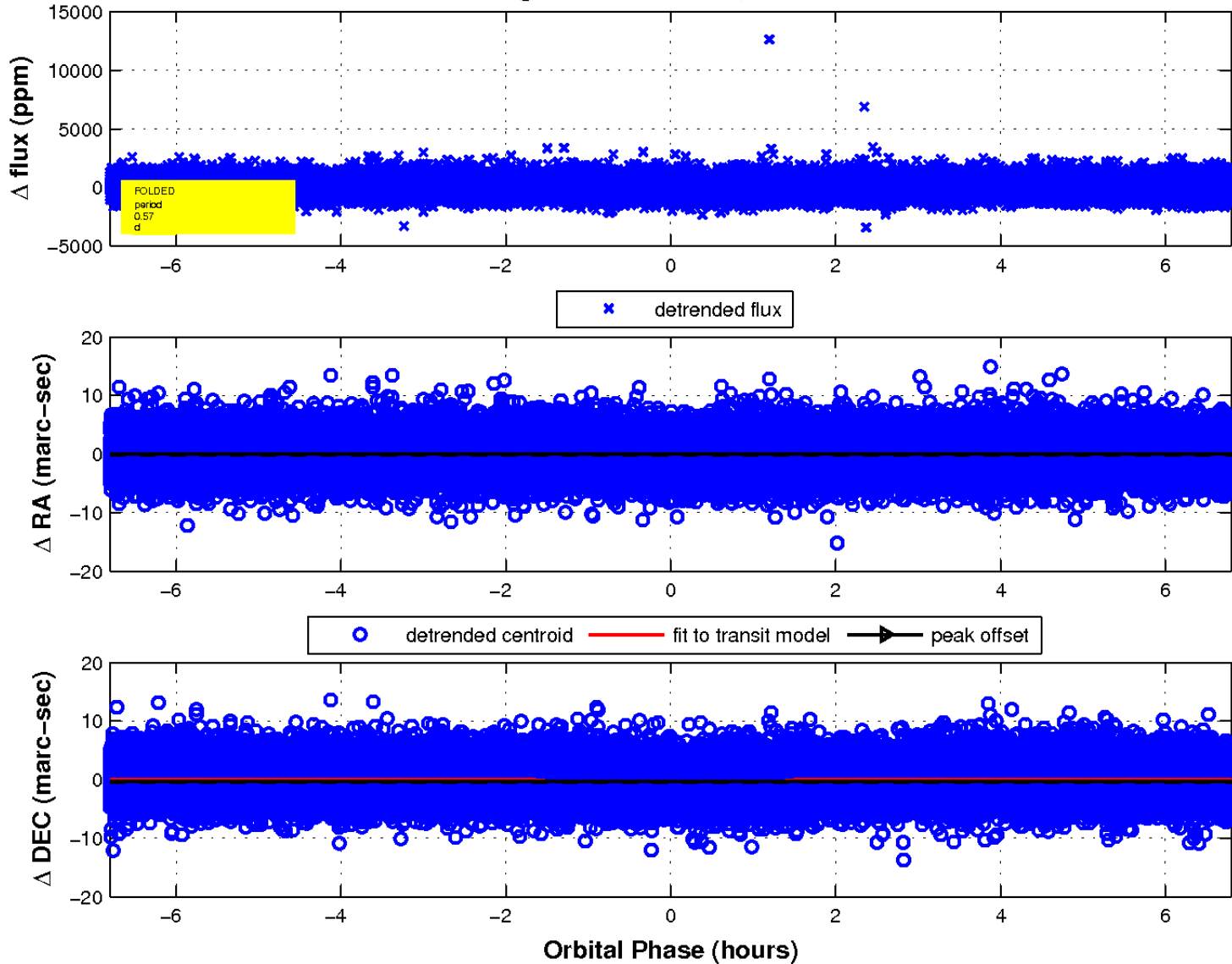
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

