

KIC 005470960

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})
005470960-01	OBS	6007.01	12.424323	141.662446	173.0	25.011	9.4	10.9	0.72	5279	0.97	38.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005470960-01	OBS	FP	0.00	1	0	1	1	LPP_DV—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 005470960-01

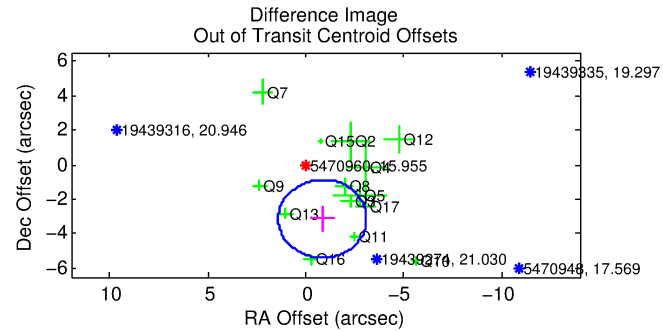
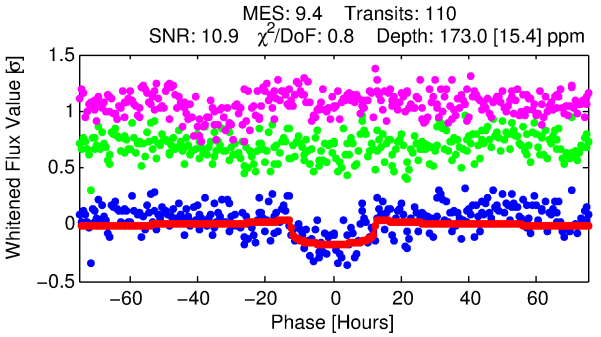
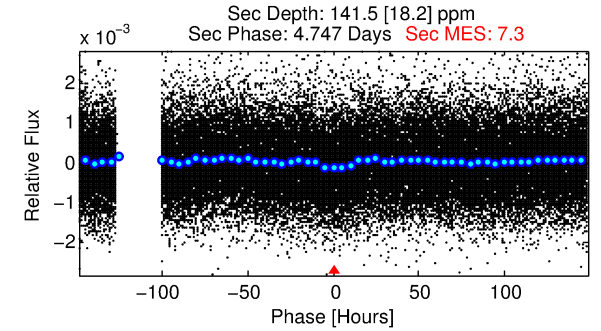
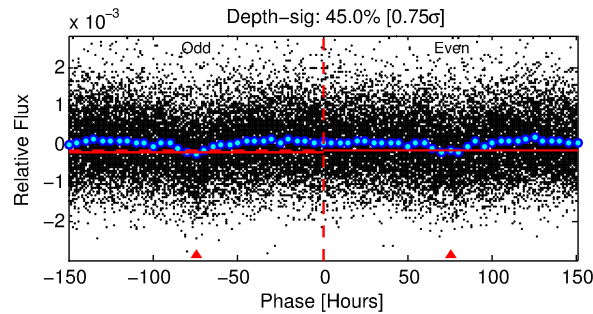
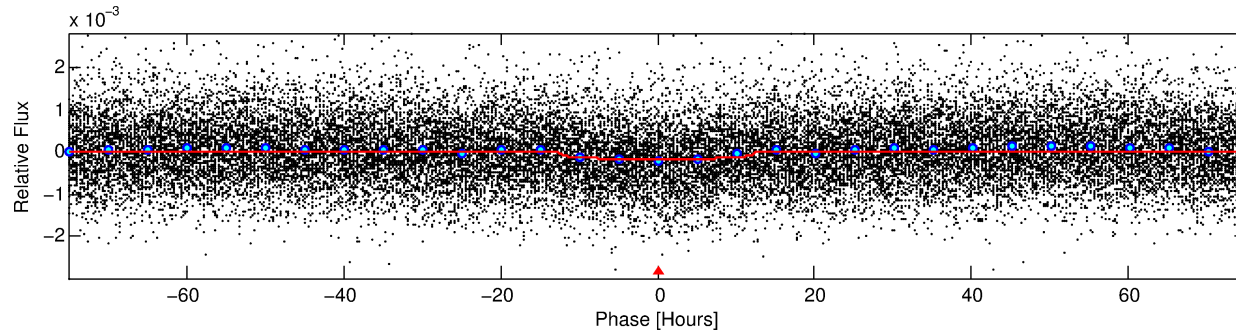
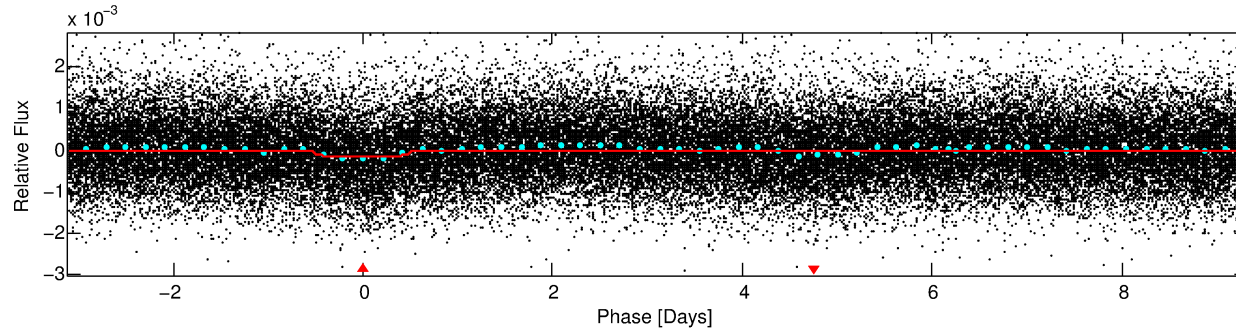
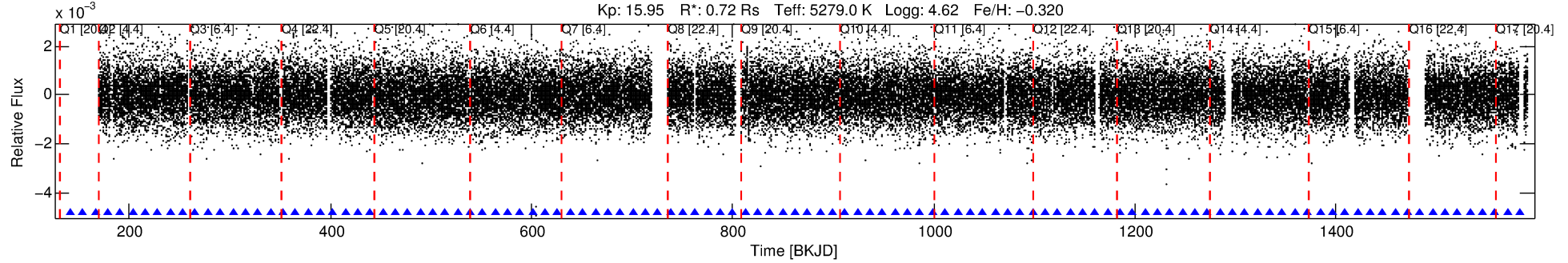
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
005470960-01	5470960	V380-Cyg-pri	5385723	1:1	383.4	82	-50	5.77	15.95	837.76	Direct-PRF	0	4.00	3.69

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: 5470960 Candidate: 1 of 1 Period: 12.424 d
KOI: K06007.01 Corr: 0.864

Kp: 15.95 R*: 0.72 Rs Teff: 5279.0 K Logg: 4.62 Fe/H: -0.320



DV Fit Results:

Period = 12.42432 [0.00038] d
Epoch = 141.6624 [0.0251] BKJD
Rp/R* = 0.0123 [0.0063]
a/R* = 3.32 [6.11]
b = 0.54 [2.64]
Seff = 38.34 [8.06]
Teq = 635 [33] K
Rp = 0.97 [0.52] Re
a = 0.0970 [0.0121] AU
Ag = 779.55 [816.60] [0.95σ]
Teff = 5184 [1348] K [3.37σ]

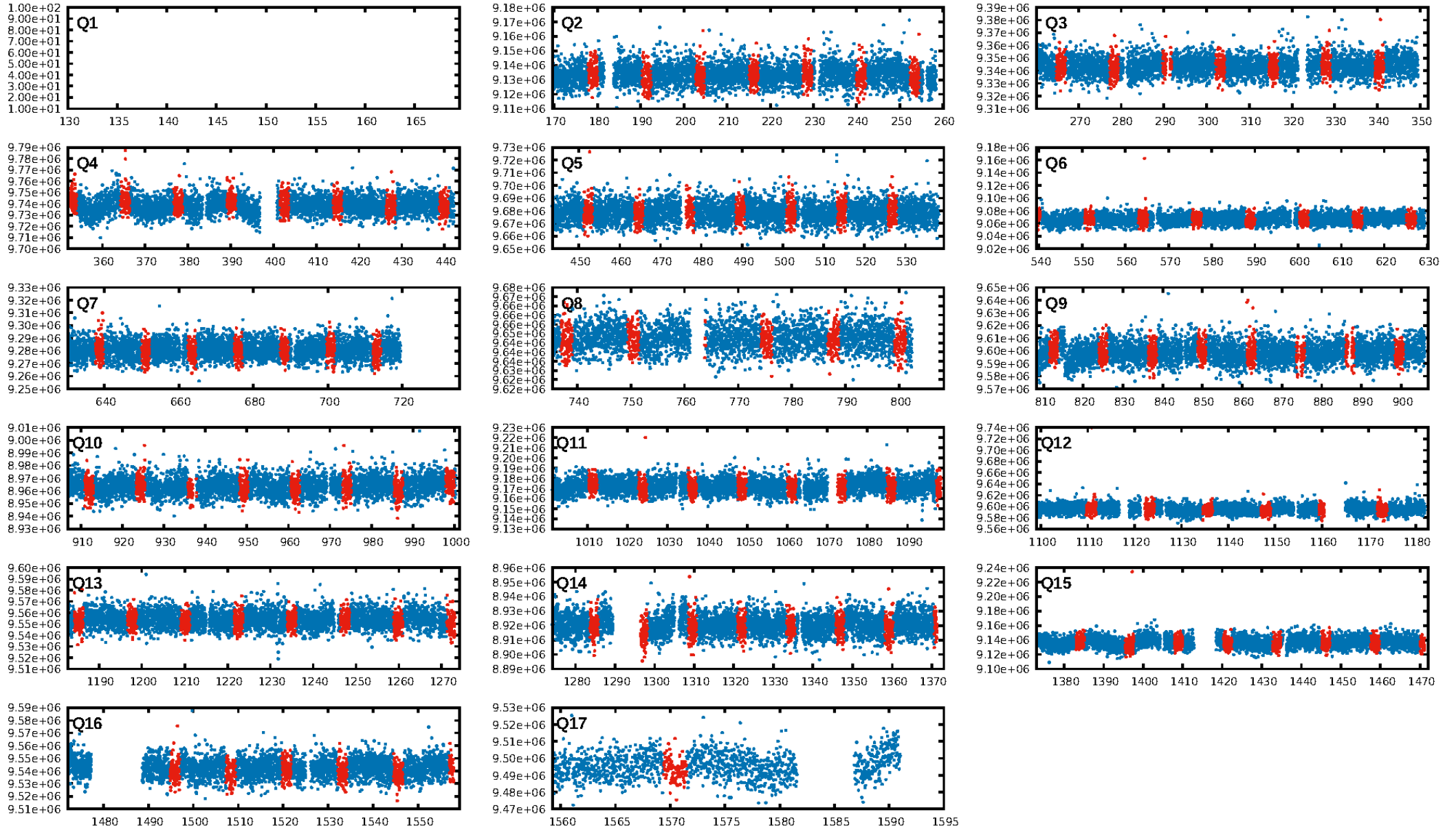
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 93.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.02e-21
RollingBand-fgt: 1.00 [109/109]
GhostDiagnostic-chr: -0.0004591
Centroid-sig: 0.2%
Centroid-so: 3.579 arcsec [2.89σ]
OotOffset-rm: 3.245 arcsec [4.31σ]
KicOffset-rm: 3.261 arcsec [4.42σ]
OotOffset-st: 2/4/4/4 [14]
KicOffset-st: 2/4/4/4 [14]
DiffImageQuality-fgm: 0.21 [3/14]
DiffImageOverlap-fno: 1.00 [16/16]

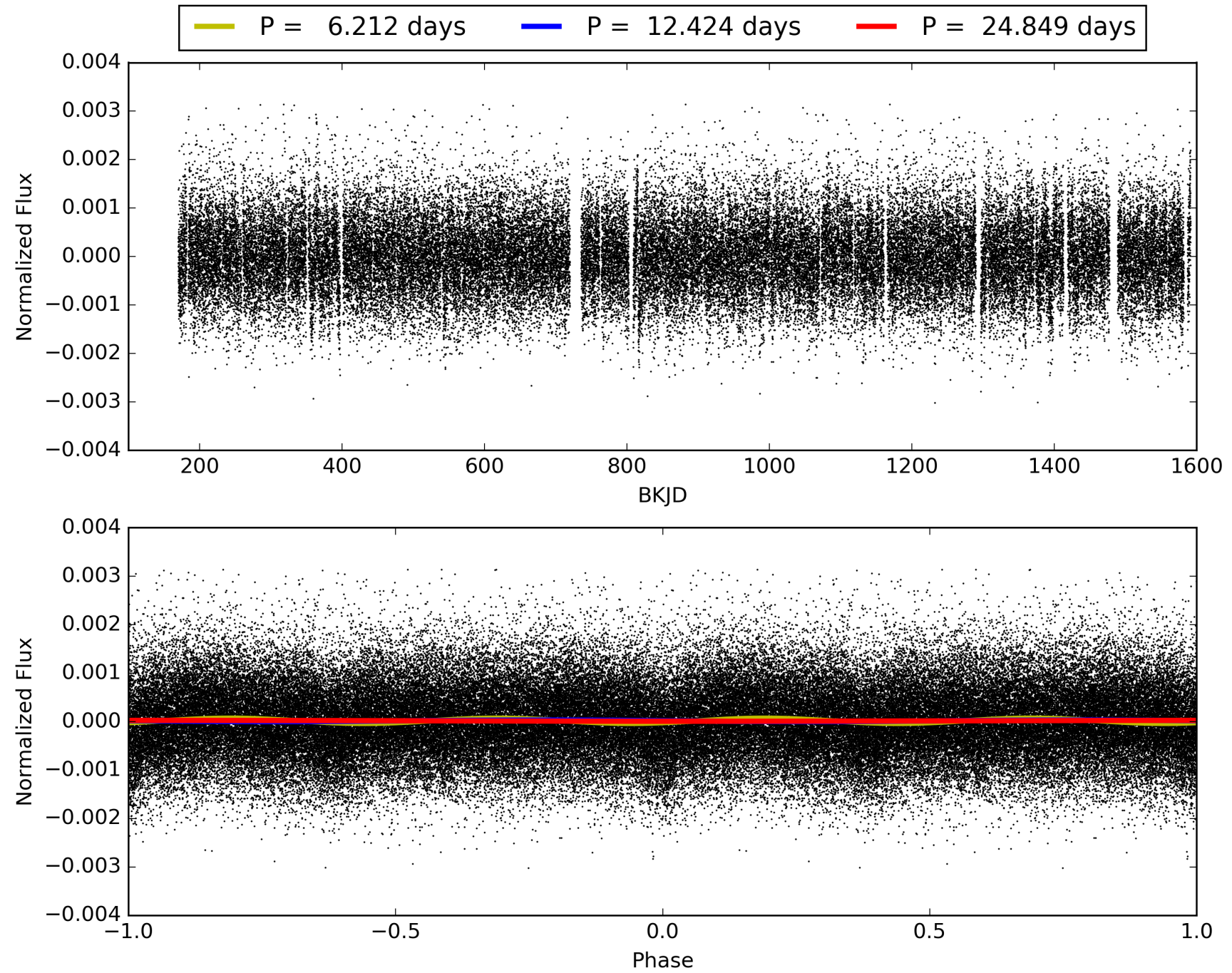
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:10:17 Z

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

TCE 005470960-01, PDC Light Curves

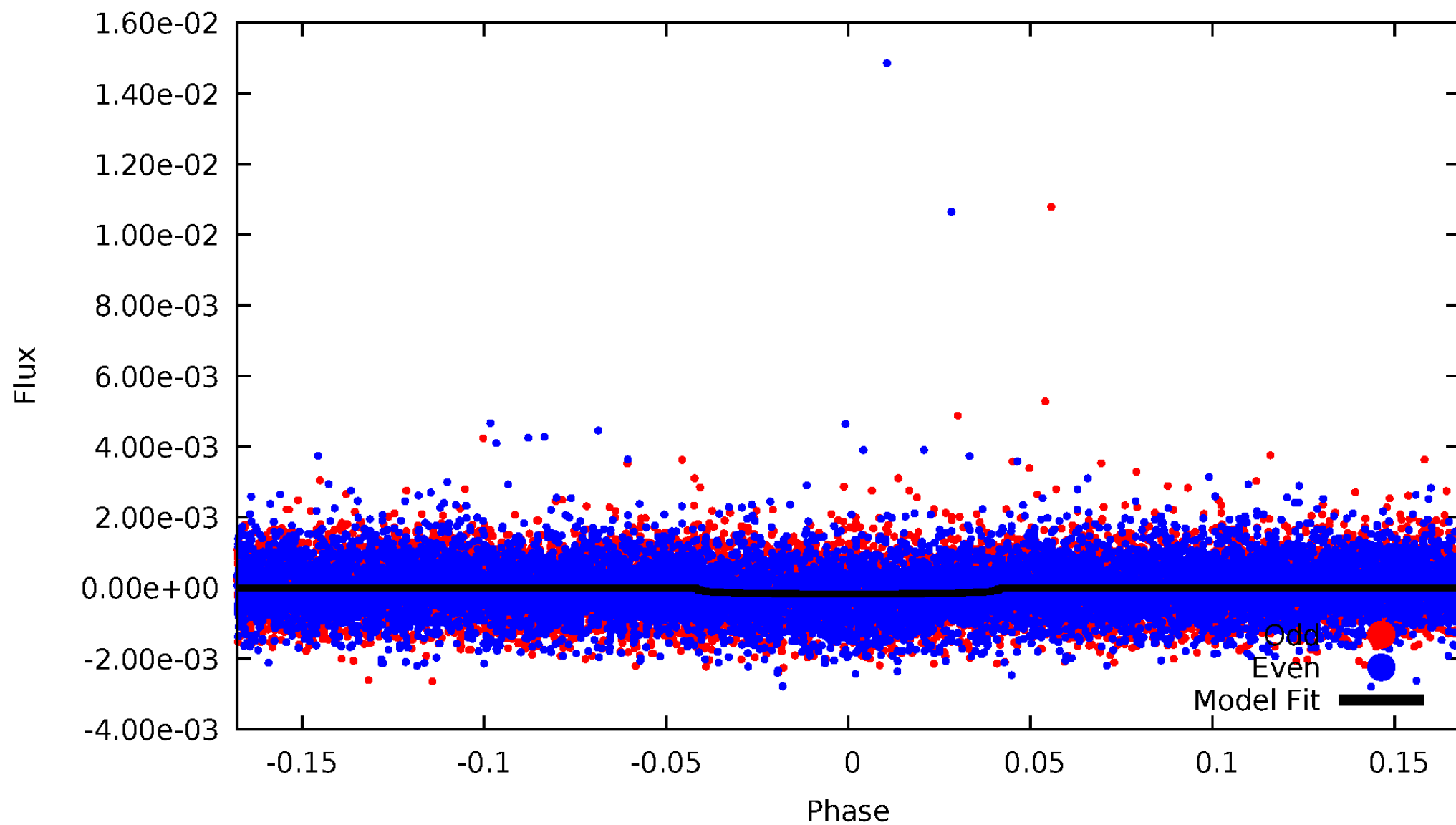


TCE 005470960-01



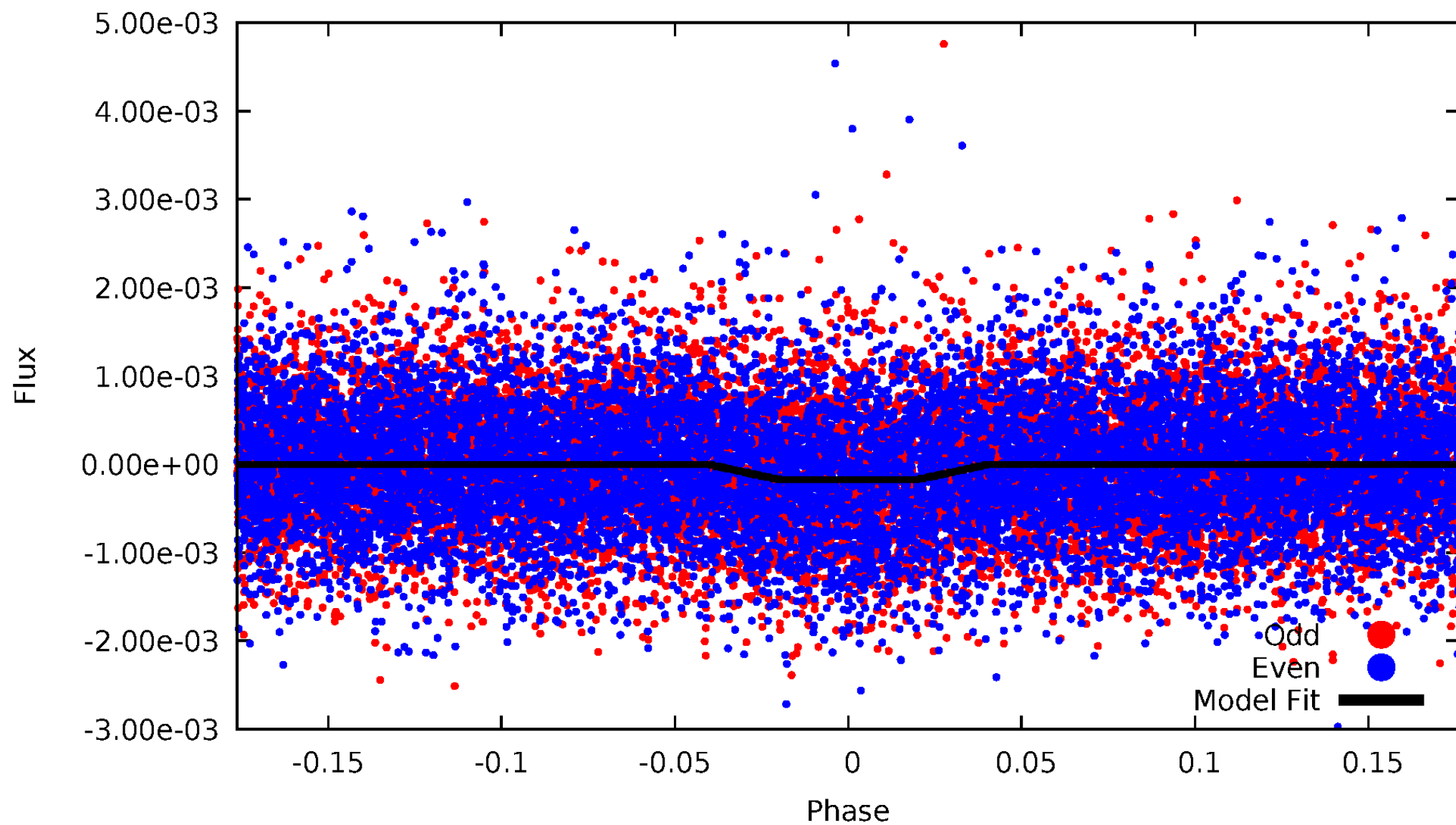
DV Odd/Even

TCE 005470960-01



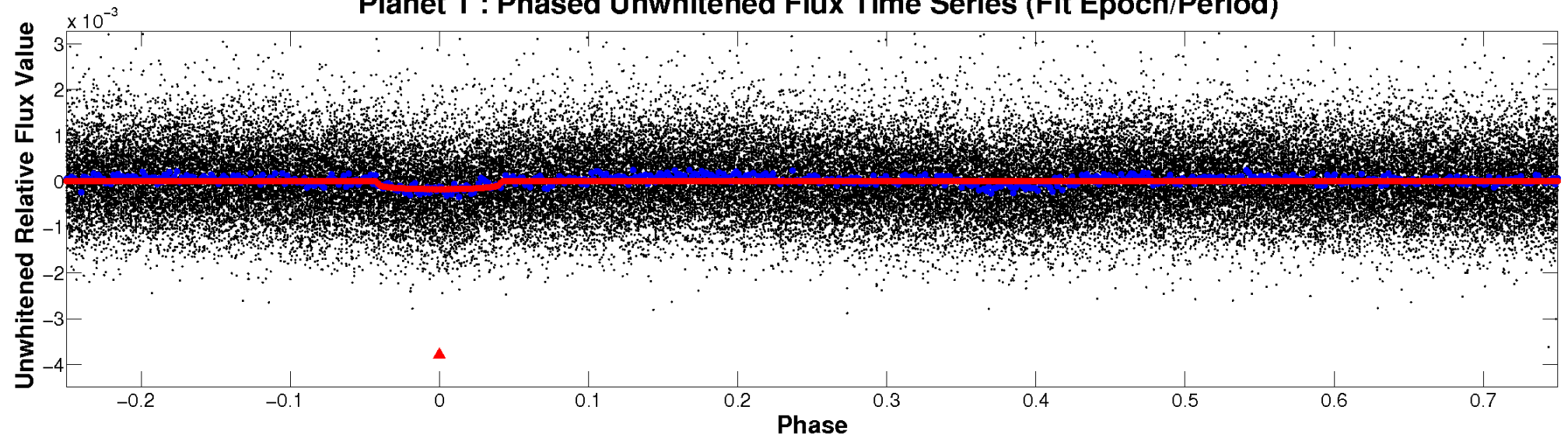
ALT Odd/Even

TCE 005470960-01

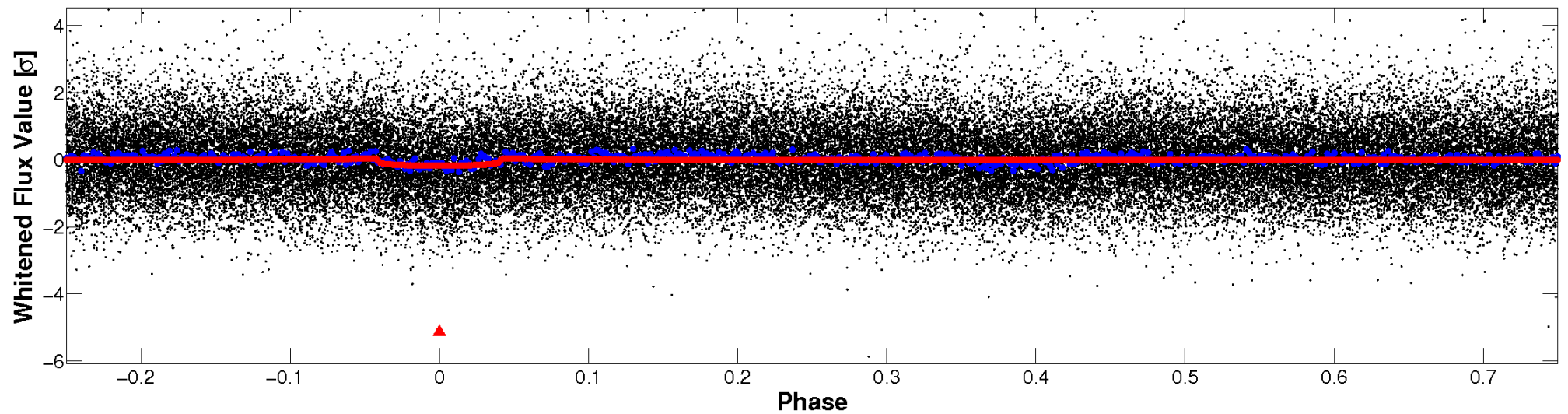


Non-Whitened Vs. Whitened Light Curve

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

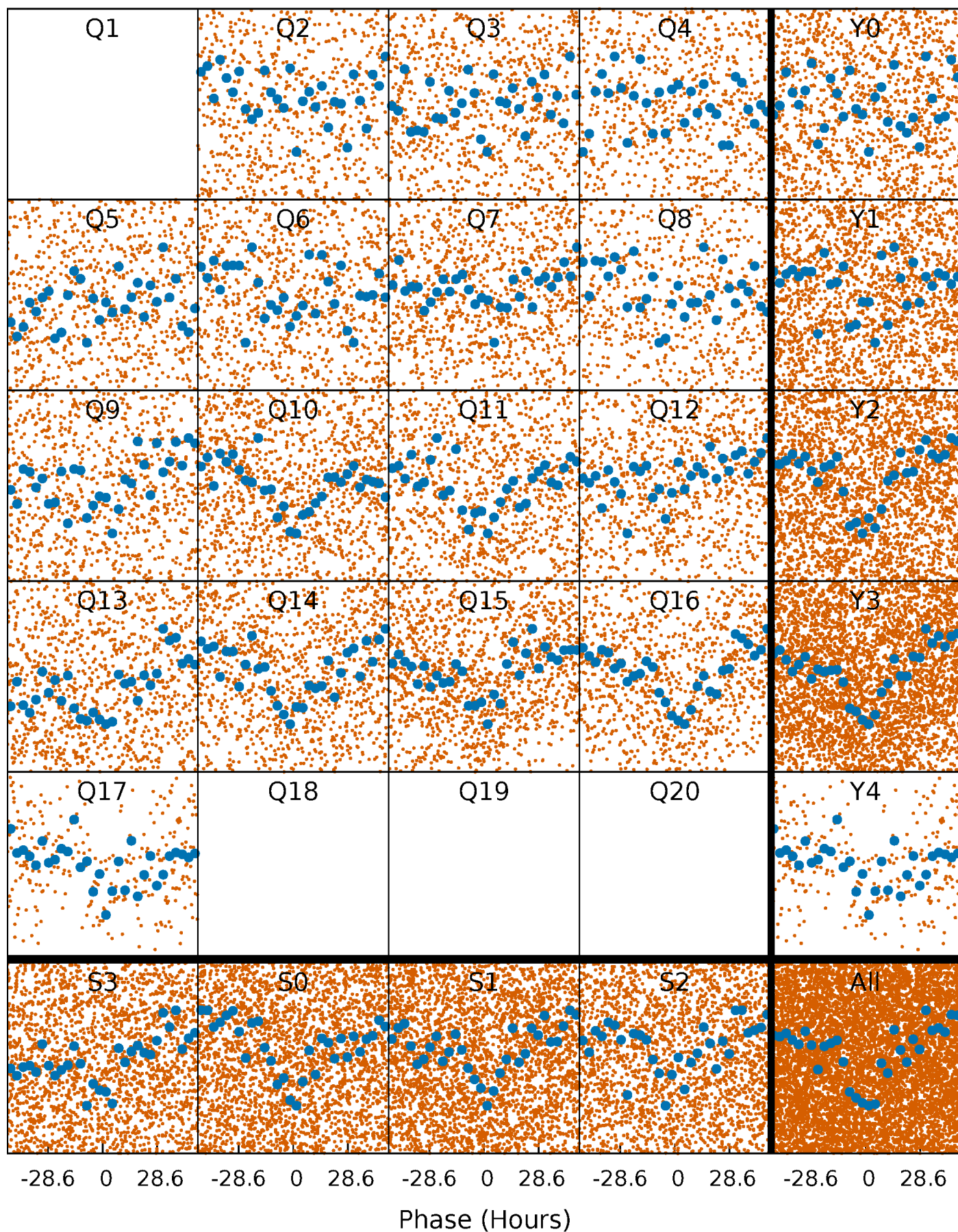


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



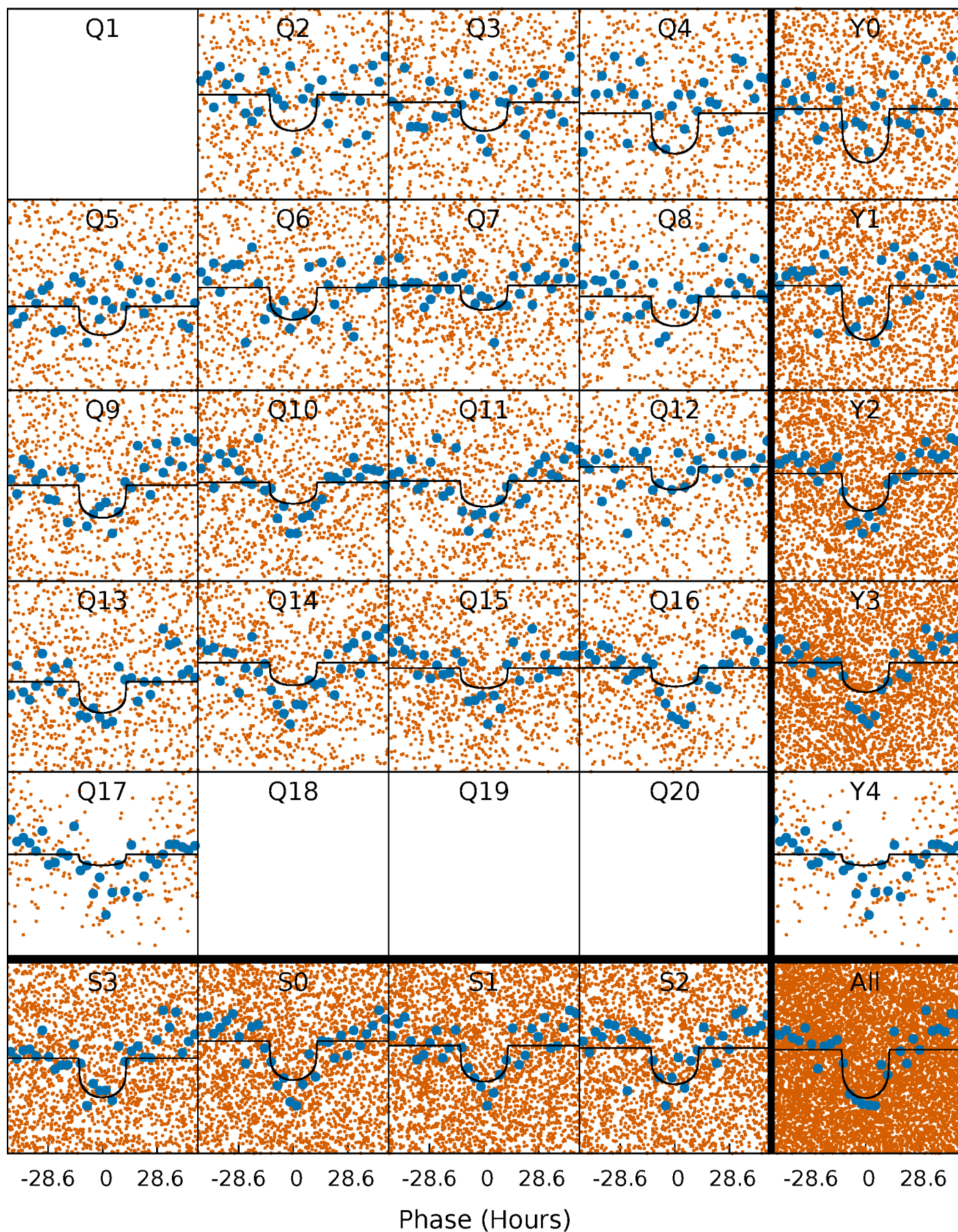
PDC Quarter-Phased Transit Curves

TCE 005470960-01 P= 12.424323 Days $T_0=141.662446$ (BKJD)



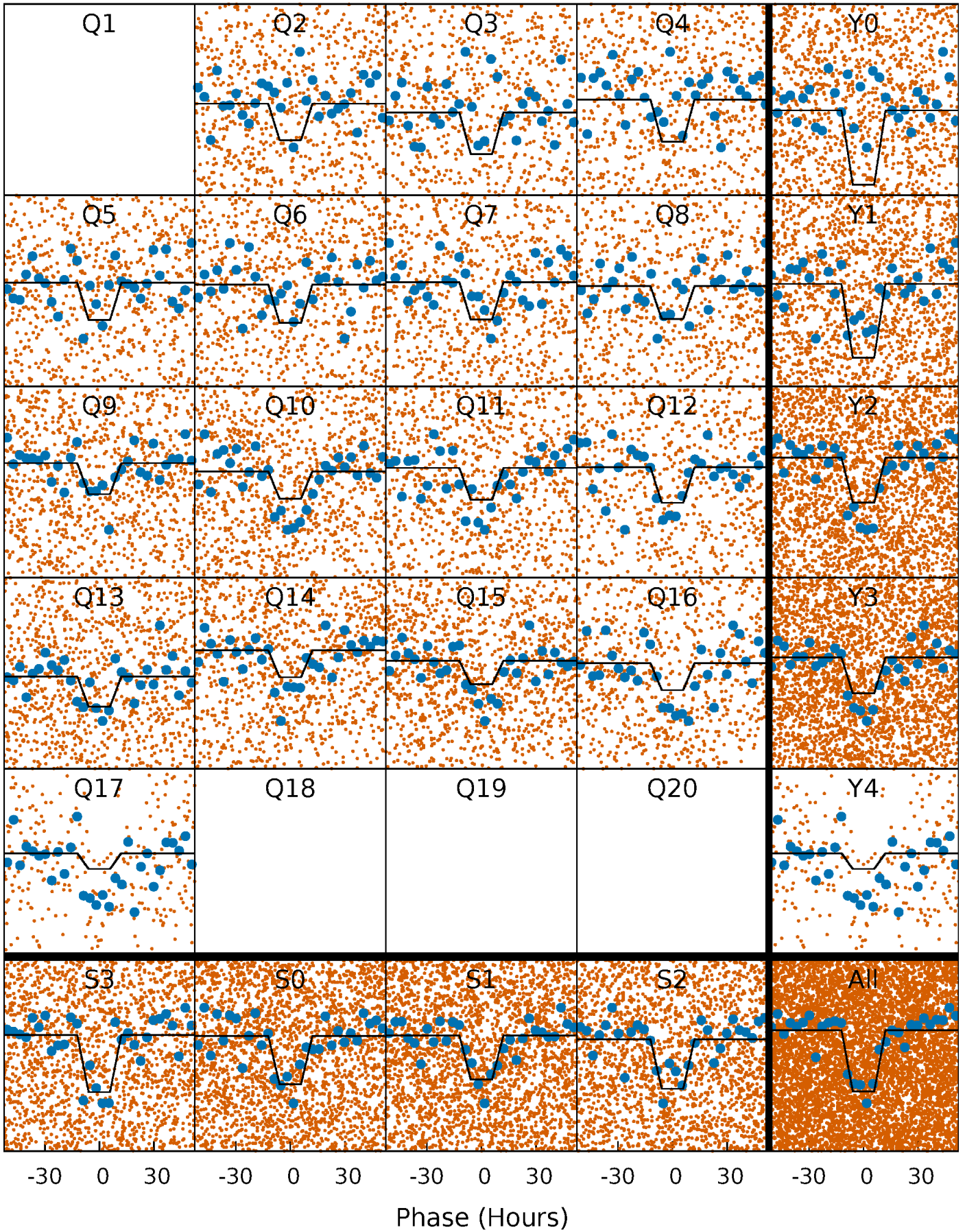
DV Quarter-Phased Transit Curves

TCE 005470960-01 P= 12.424323 Days $T_0=141.662446$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

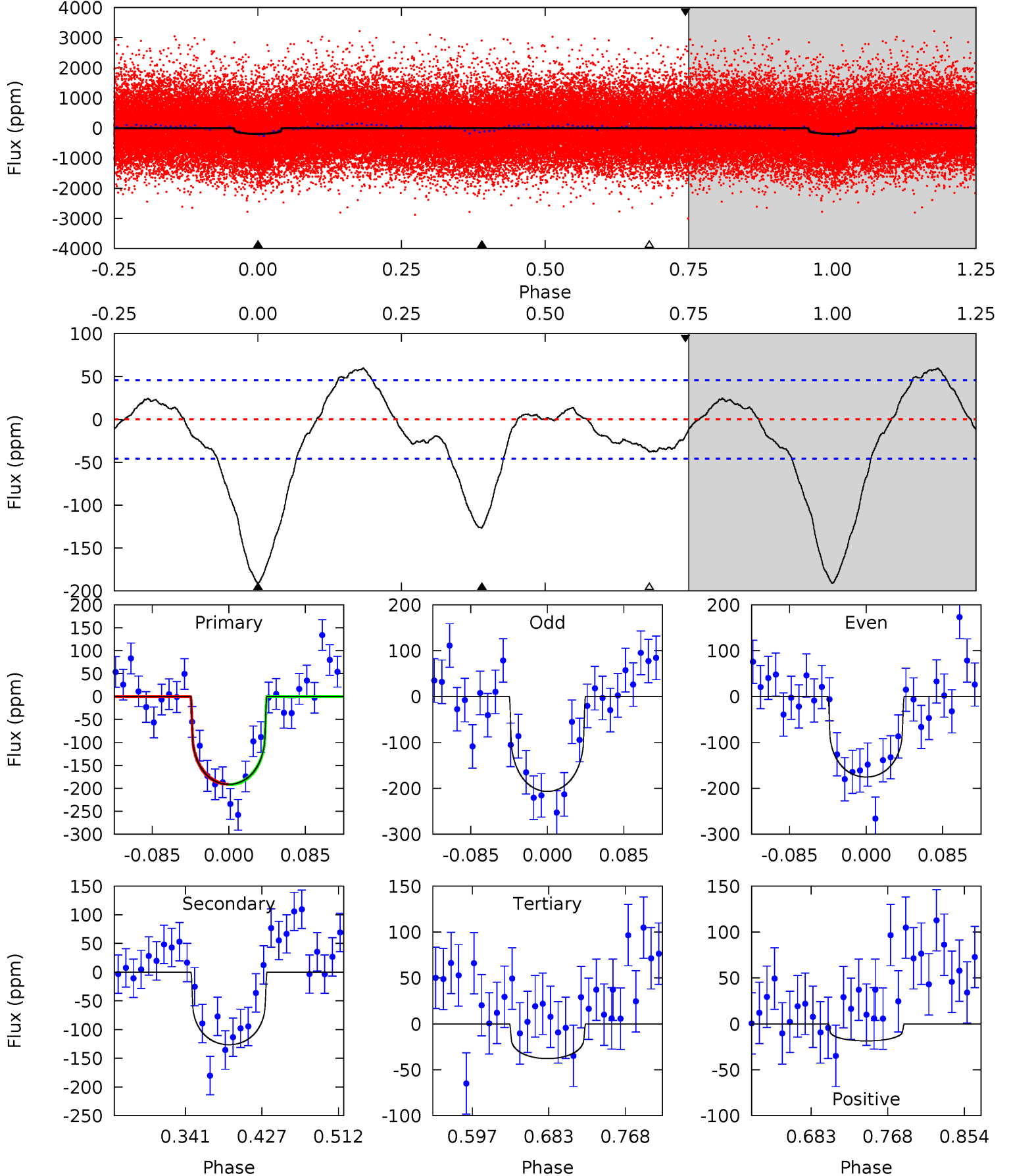
TCE 005470960-01 P= 12.423554 Days $T_0=141.713204$ (BKJD)



DV Model-Shift Uniqueness Test

005470960-01, P = 12.424323 Days, E = 141.662446 Days

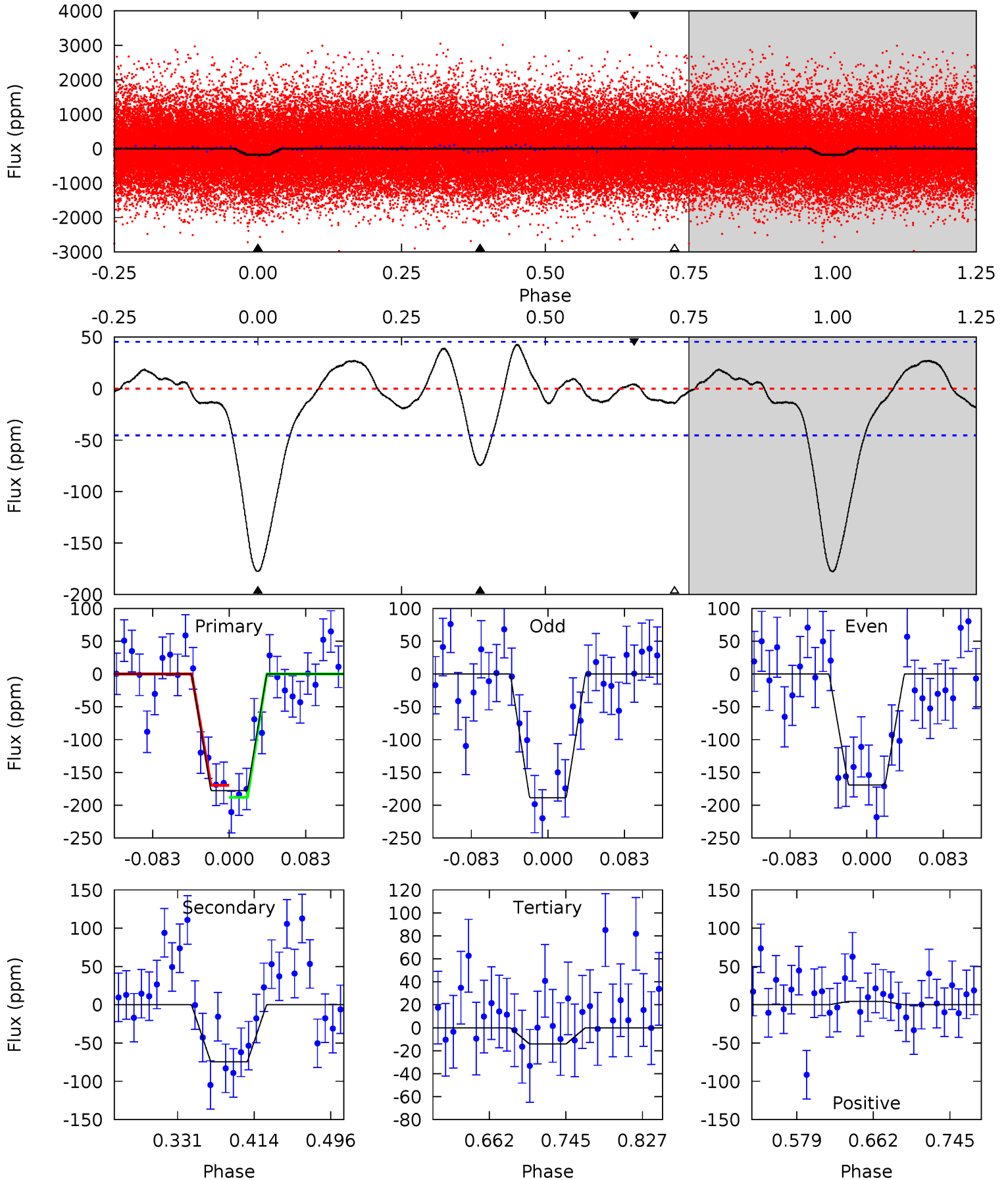
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.2	12.7	3.80	-1.87	4.60	1.72	2.61	15.4	21.1	8.90	14.6	1.58	1.30	0.24	0.05



Alt Model-Shift Uniqueness Test

005470960-01, $P = 12.423554$ Days, $E = 141.713204$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.0	7.54	1.44	0.44	4.60	1.74	1.23	16.6	17.6	6.11	7.11	0.98	1.31	0.19	0.94



Stellar Parameters For KIC 005470960

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5279^{+158}_{-158}	$4.620^{+0.036}_{-0.090}$	$-0.320^{+0.350}_{-0.300}$	$0.720^{+0.112}_{-0.060}$	$0.796^{+0.078}_{-0.085}$	$2.999^{+0.510}_{-0.862}$
	+3%/-3%	+1%/-2%	+109%/-94%	+16%/-8%	+10%/-11%	+17%/-29%
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 005470960-01 / KOI 6007.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-126 ± 10	$1.07^{+0.47}_{-0.52}$	897^{+36}_{-35}	4892^{+1836}_{-670}	564^{+1618}_{-296}
Alt.	-74 ± 10	$1.09^{+0.53}_{-0.48}$	899^{+38}_{-35}	4402^{+1248}_{-592}	320^{+715}_{-176}

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

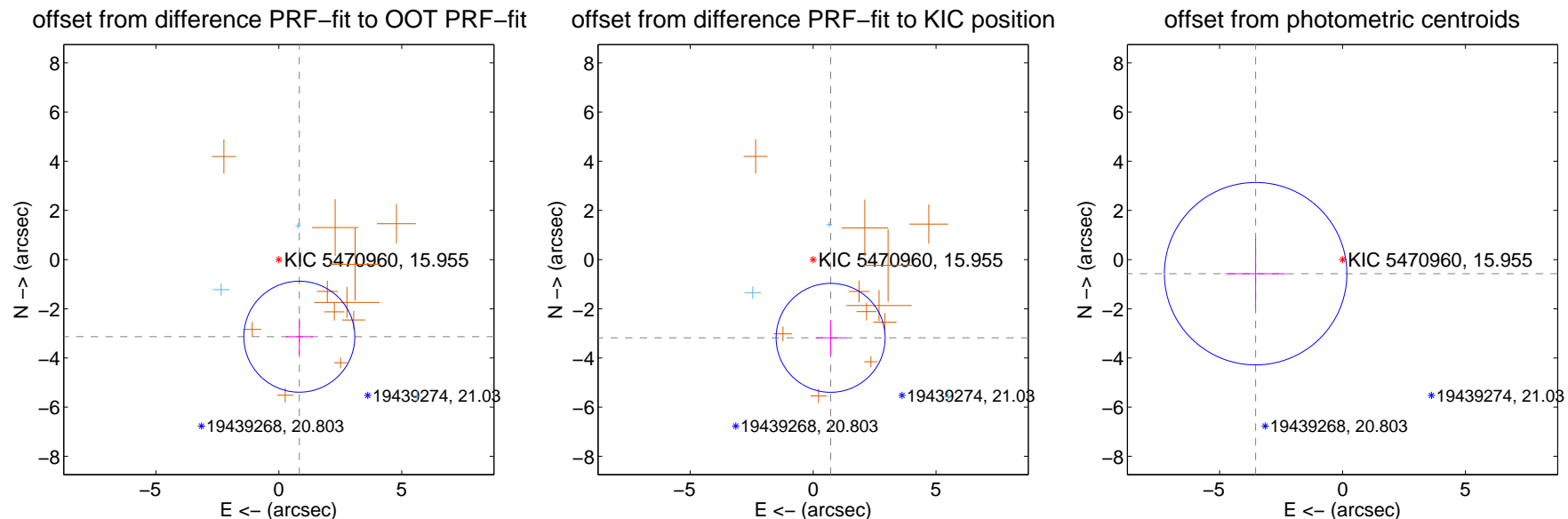
DV Centroid Data

Supplemental centroid analysis for 005470960-01. Kepler magnitude: 15.96. Transit SNR 10.94

There are 3 quarters with good PRF difference image offsets

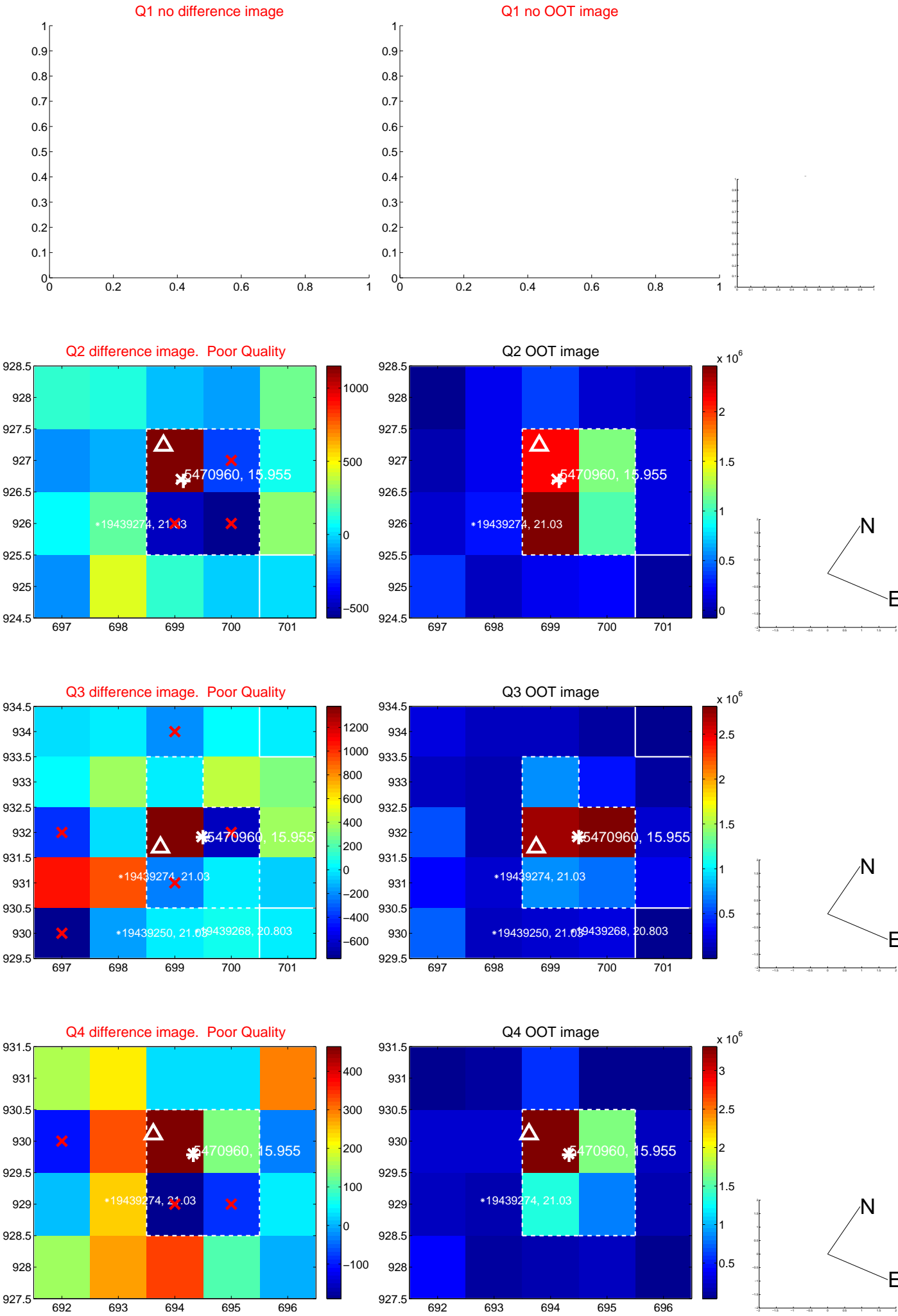
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.245 ± 0.752	4.31	-0.833 ± 0.553	-3.136 ± 0.741
PRF-fit source offset from KIC position	3.261 ± 0.738	4.42	-0.712 ± 0.606	-3.182 ± 0.716
photometric centroid source offset	3.58 ± 1.24	2.89	3.53 ± 1.23	-0.57 ± 1.42

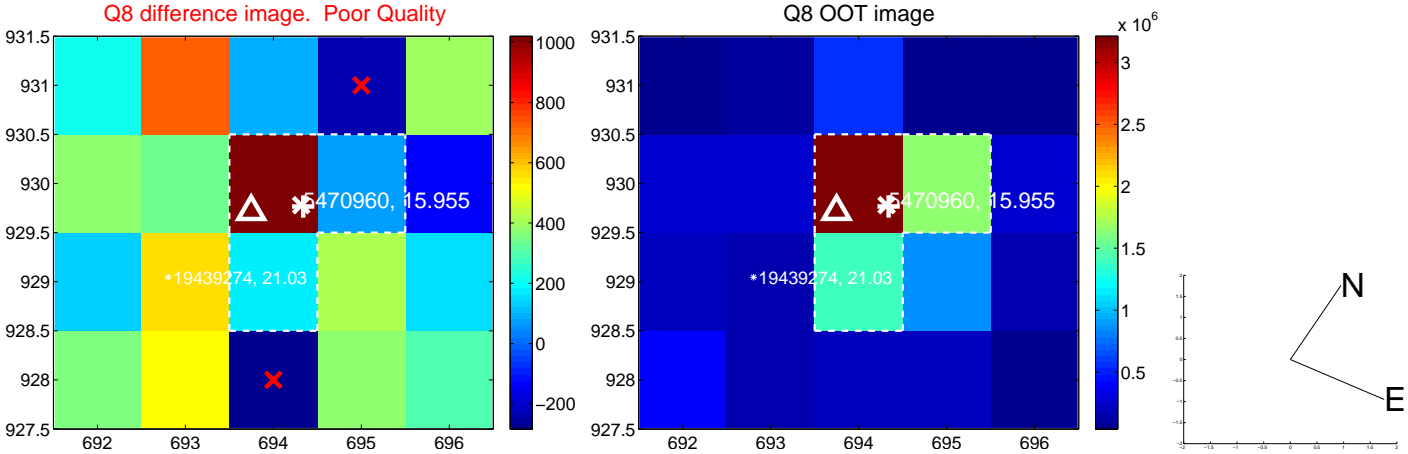
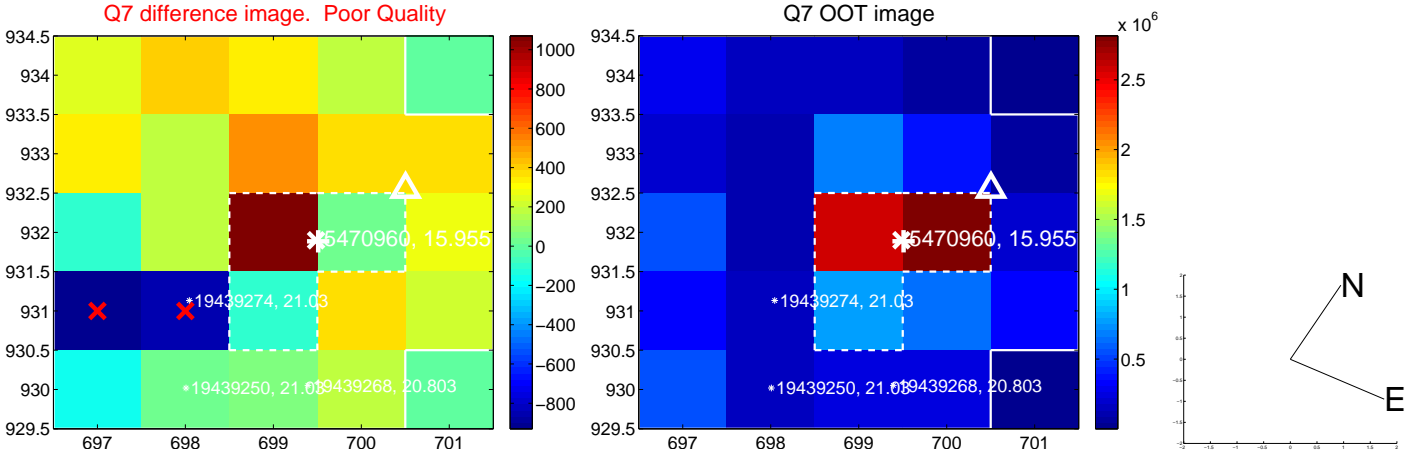
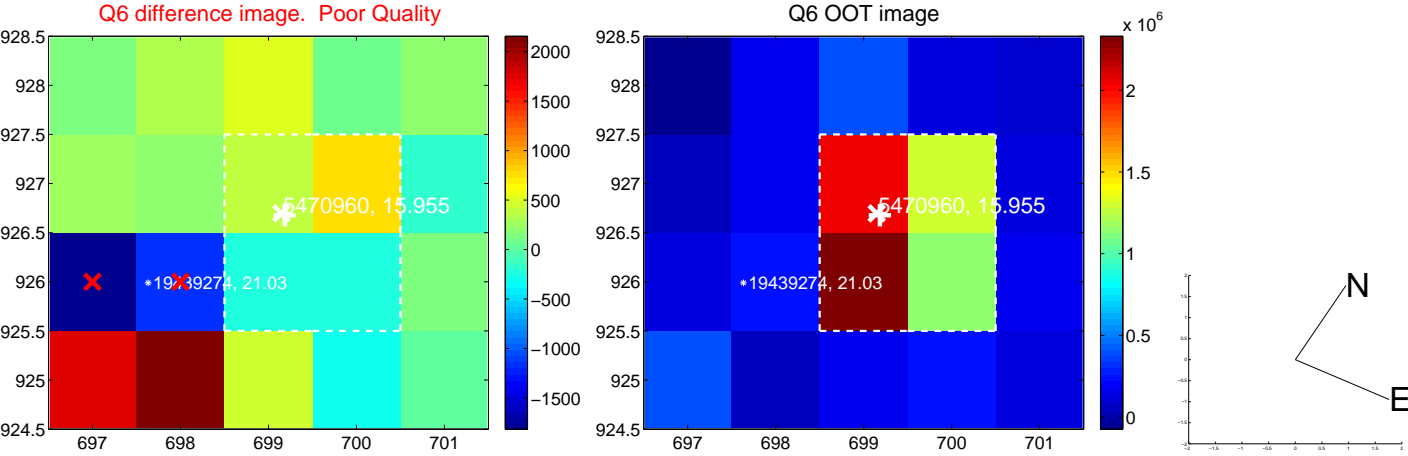
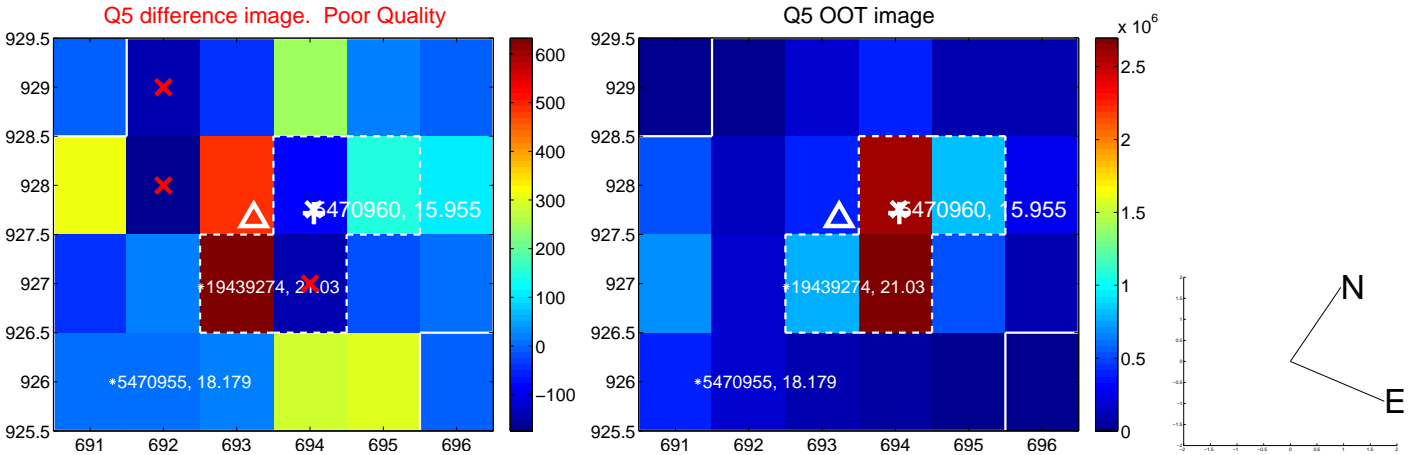


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

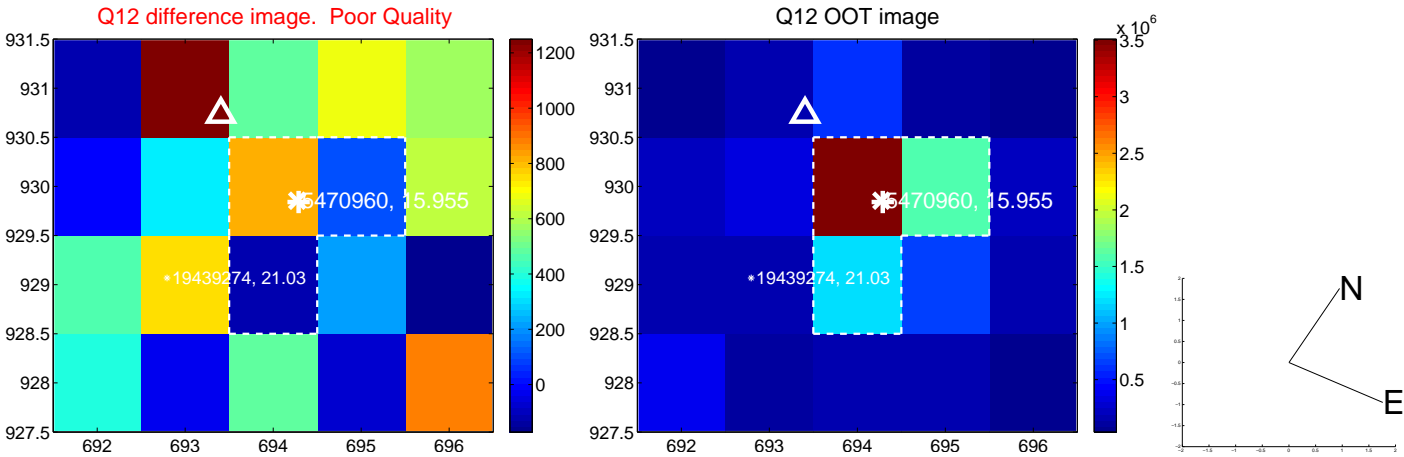
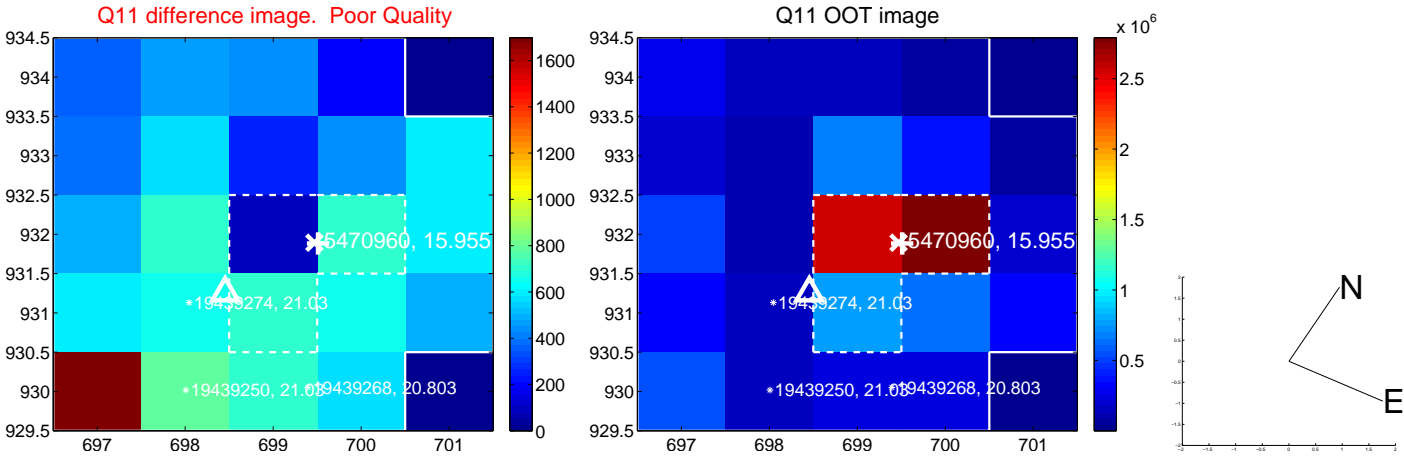
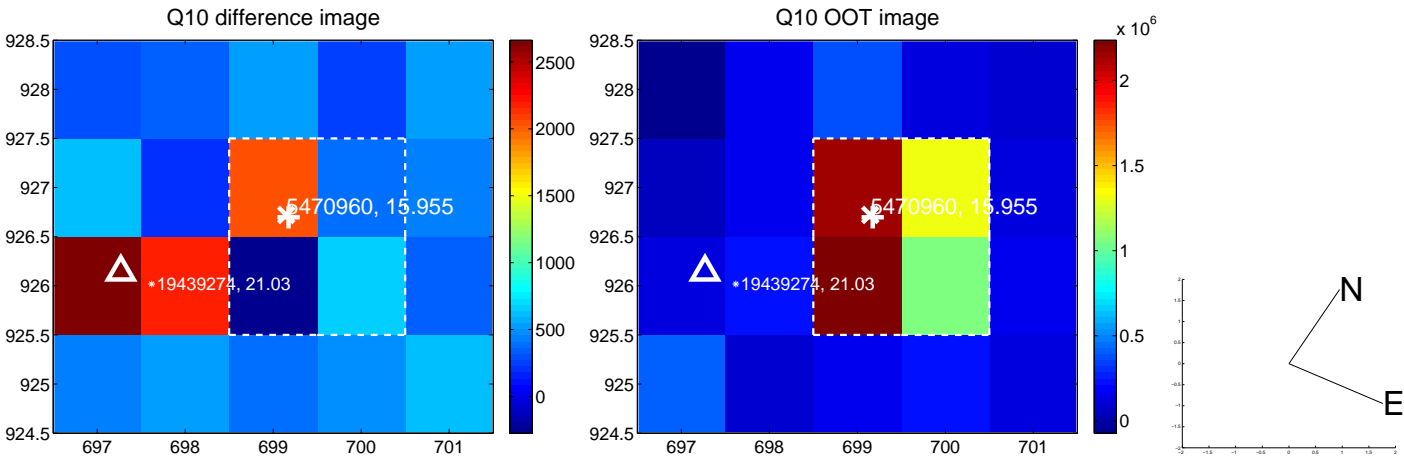
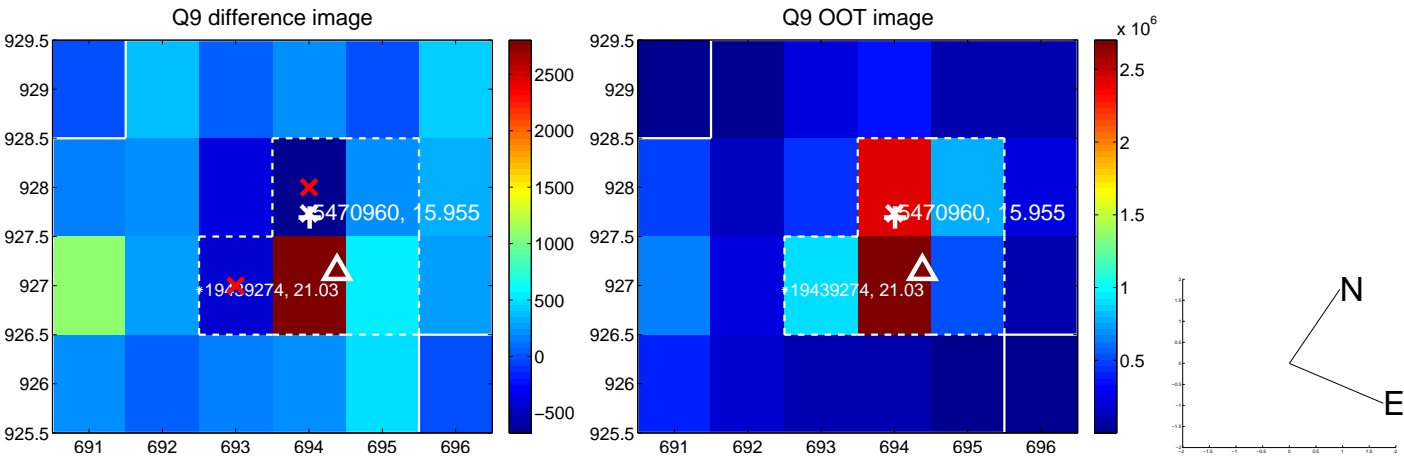
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



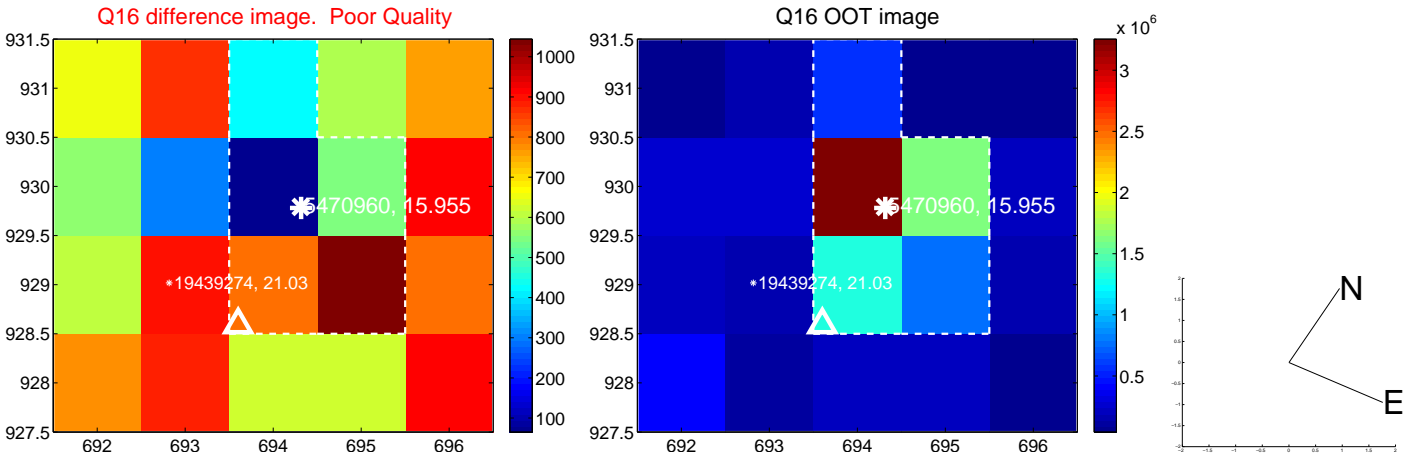
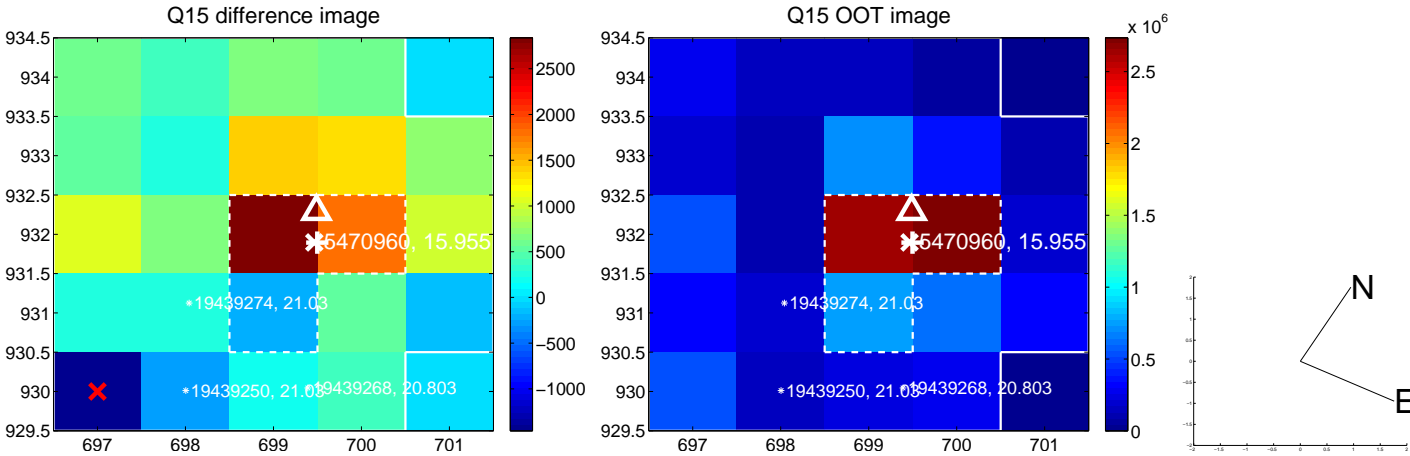
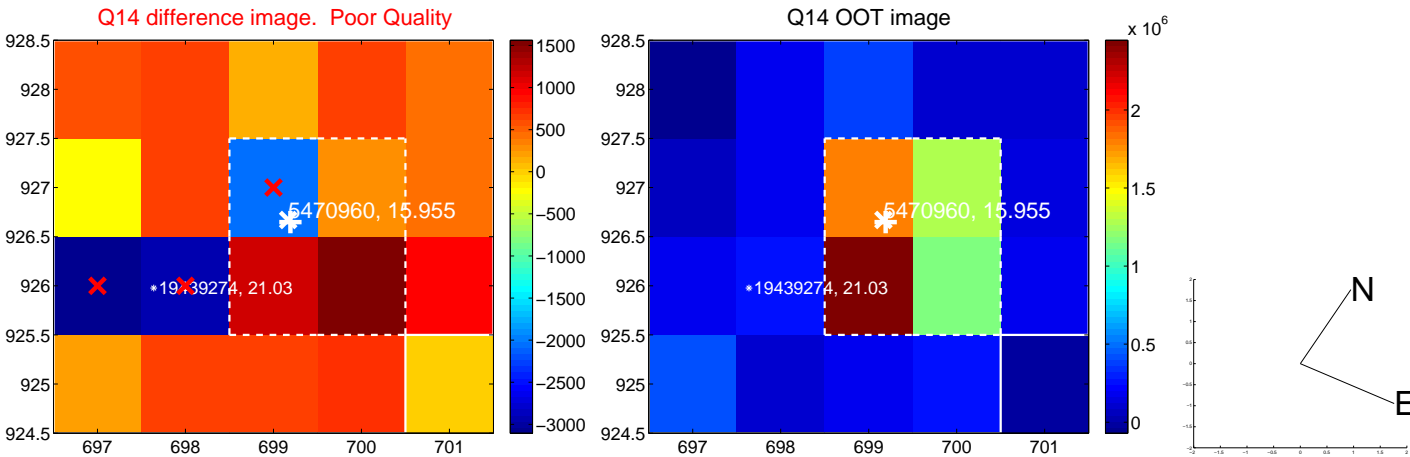
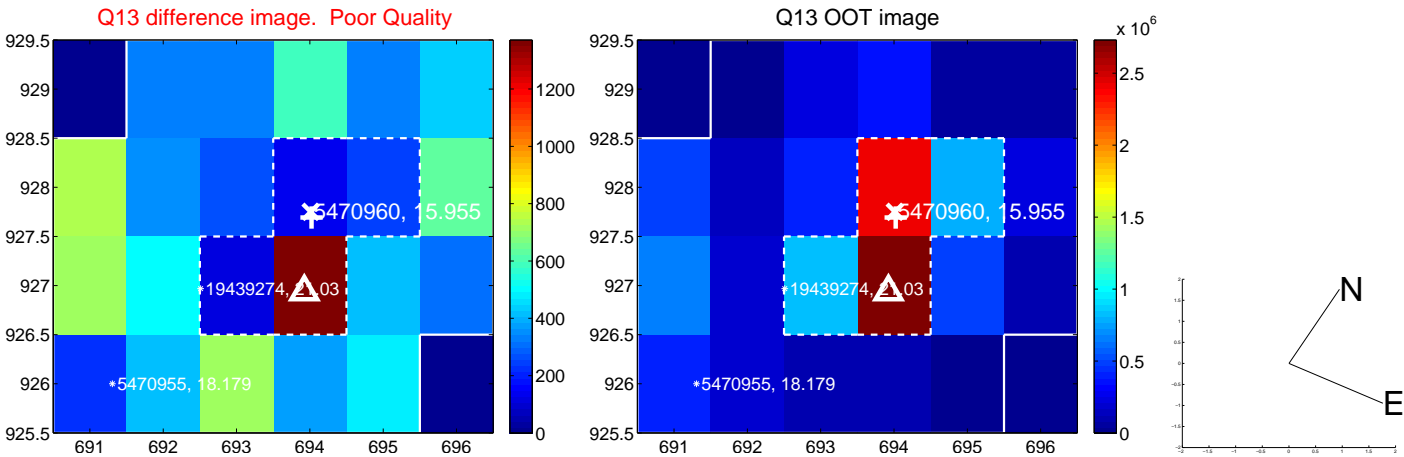
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

