

KIC 010090257

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})
010090257-01	OBS	2476.01	2.286207	133.514573	175.1	6.184	17.5	18.6	0.65	4583	0.86	186.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010090257-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—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 010090257-01

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
010090257-01	10090257	010090246-pri	10090246	1:1	15.3	2	-4	13.57	15.55	729.14	Direct-PRF	0	2.99	1.31

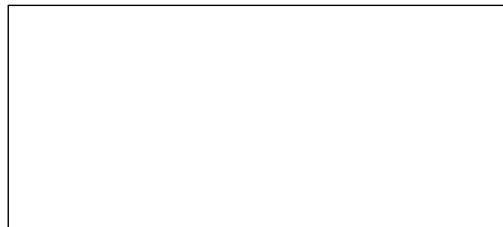
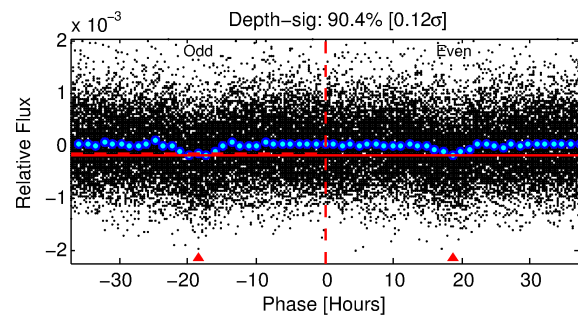
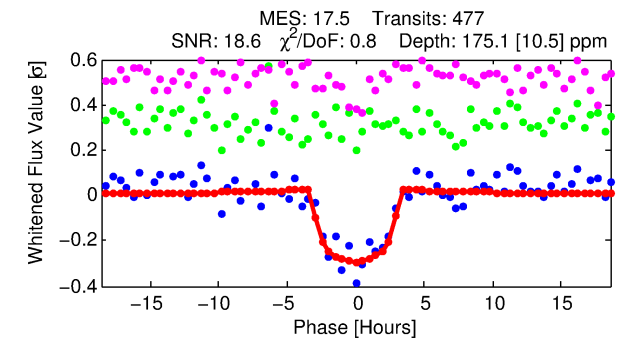
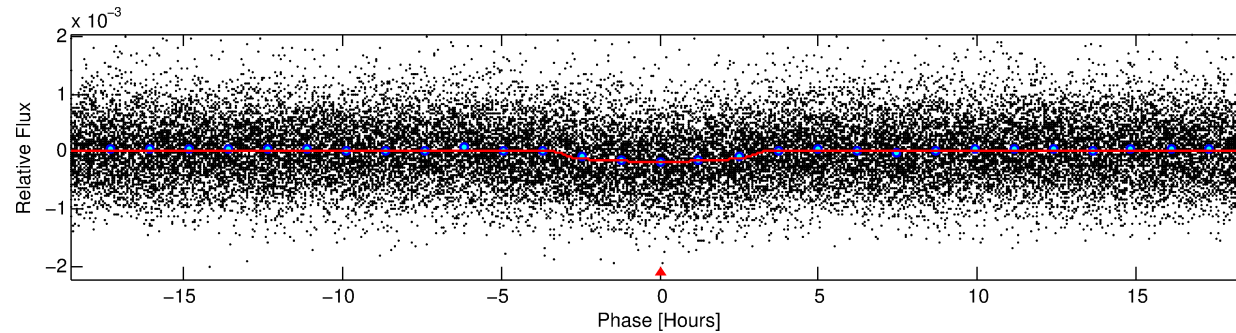
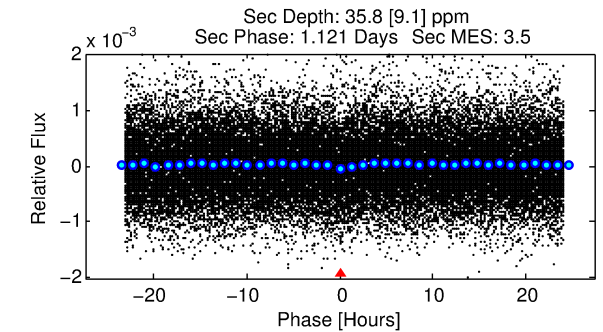
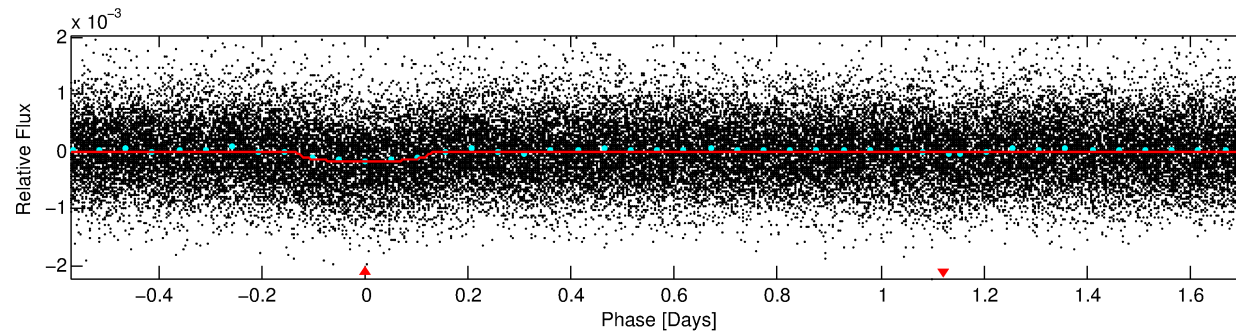
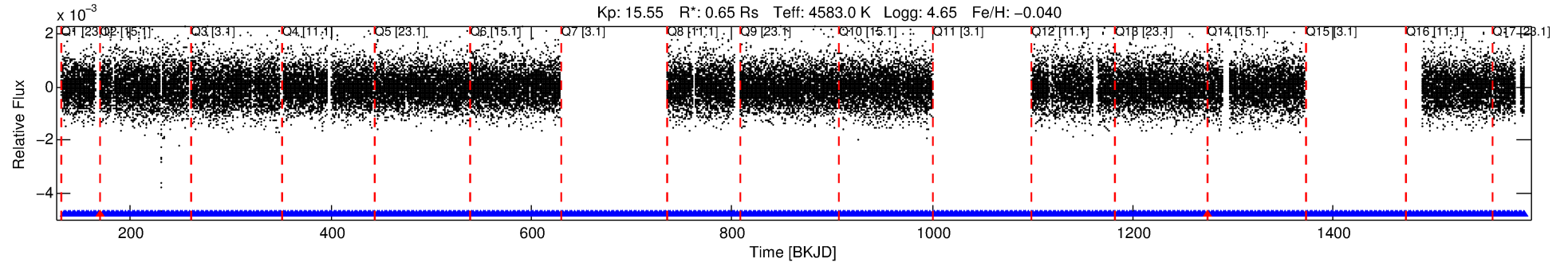
Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match 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: 10090257 Candidate: 1 of 1 Period: 2.286 d

KOI: K02476.01 Corr: 0.918

Kp: 15.55 R*: 0.65 Rs Teff: 4583.0 K Logg: 4.65 Fe/H: -0.040



DV Fit Results:

Period = 2.28621 [0.00002] d
Epoch = 133.5146 [0.0042] BKJD
Rp/R* = 0.0120 [0.0068]
a/R* = 2.66 [3.92]
b = 0.44 [3.19]
Seff = 186.38 [28.20]
Teq = 942 [36] K
Rp = 0.86 [0.49] Re
a = 0.0301 [0.0024] AU
Ag = 24.27 [28.18] [0.83σ]
Teffp = 3233 [939] K [2.44σ]

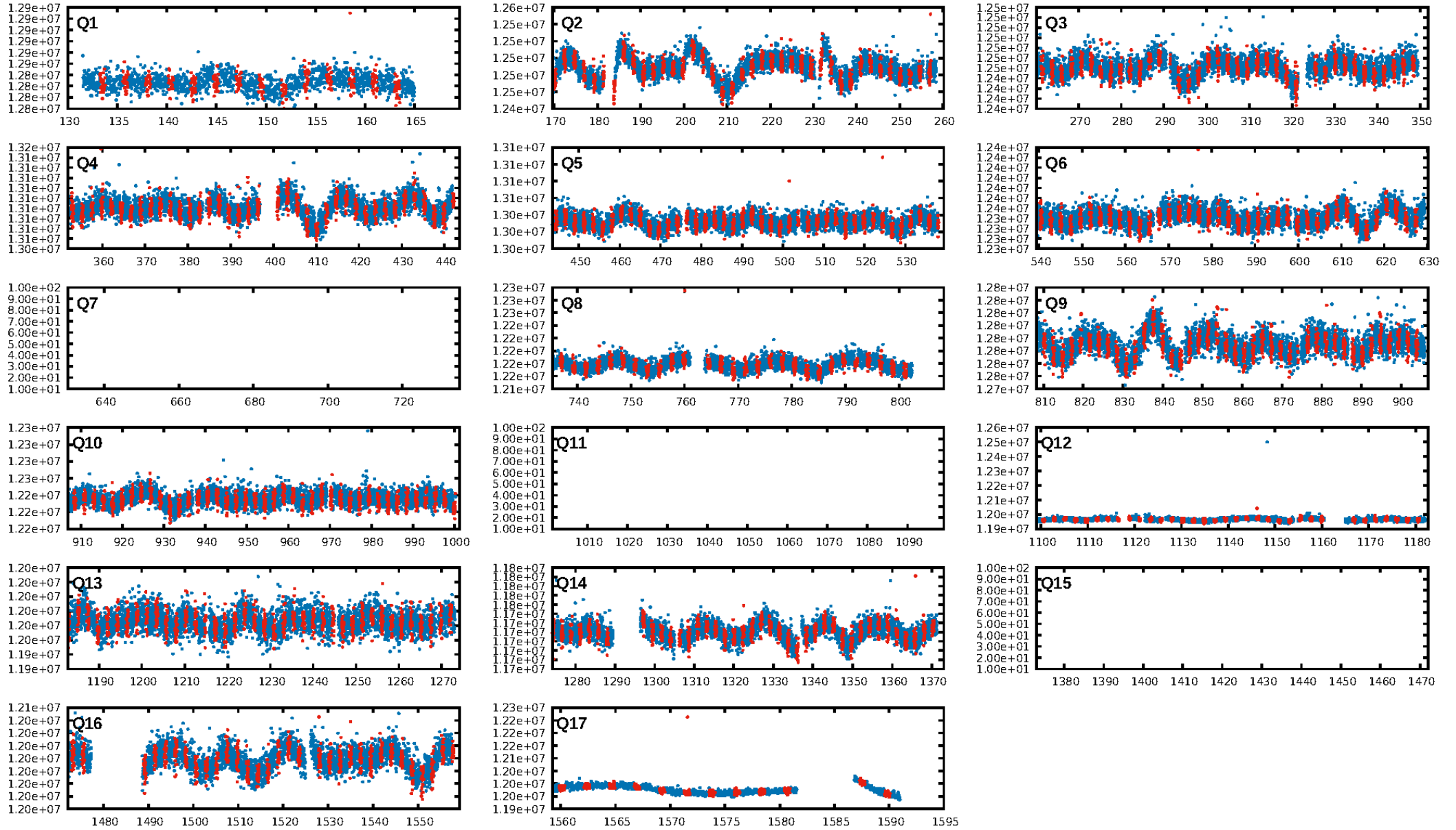
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 5.33e-66
RollingBand-fgt: 1.00 [449/451]
GhostDiagnostic-chr: -0.7174
Centroid-sig: 0.0%
Centroid-so: 55.353 arcsec [47.00σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [14/14]

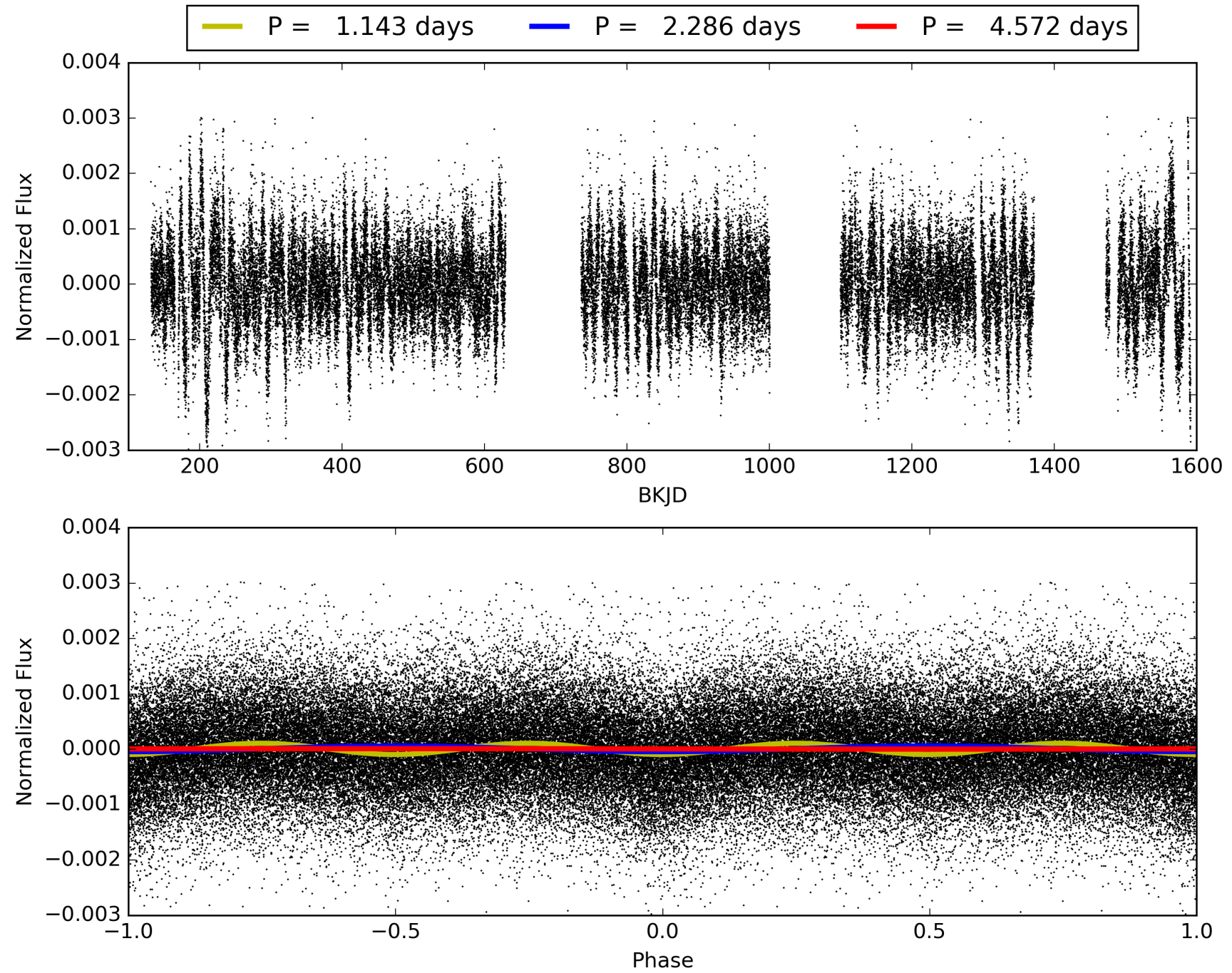
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:00:10 Z

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

TCE 010090257-01, PDC Light Curves

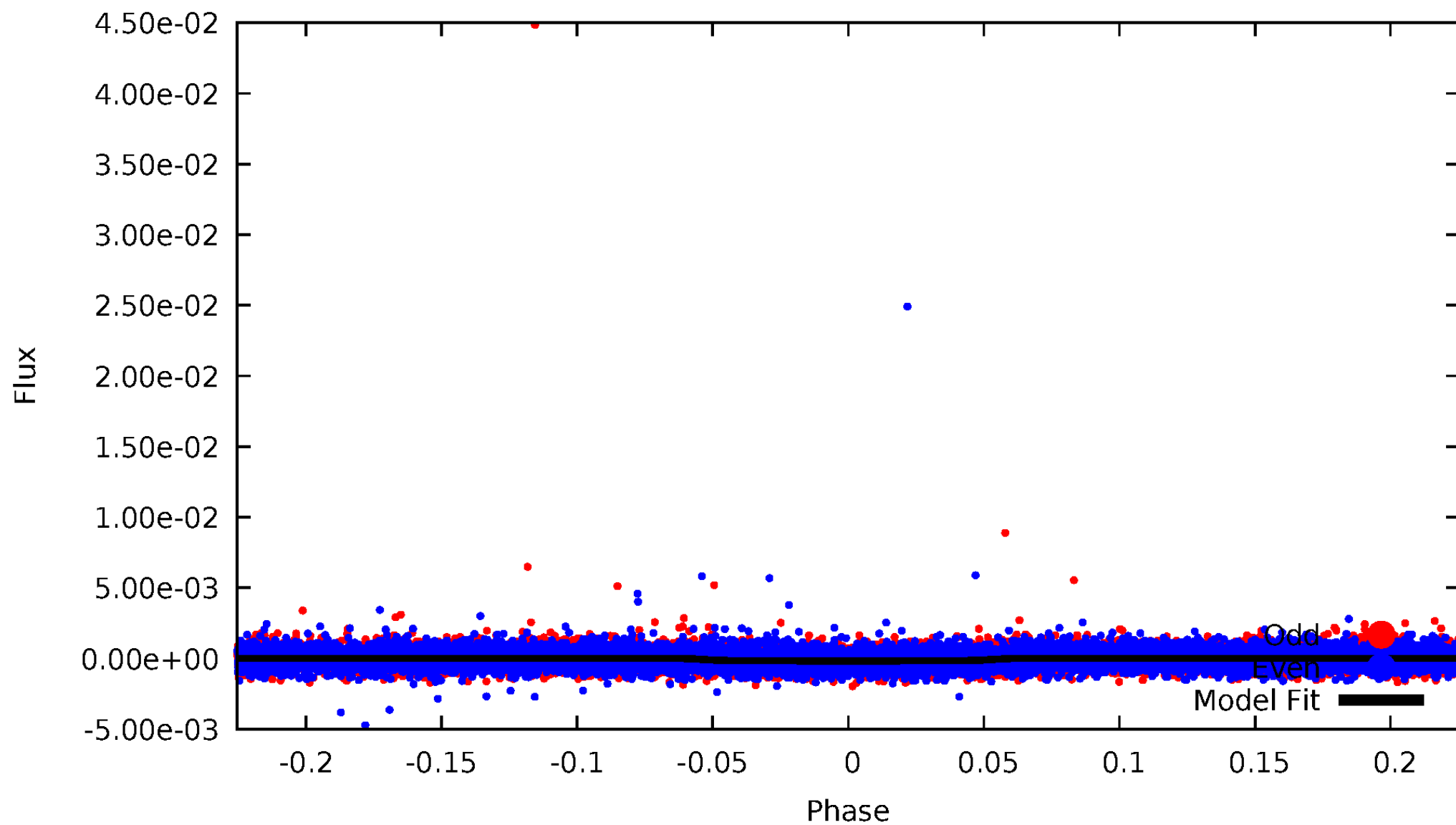


TCE 010090257-01



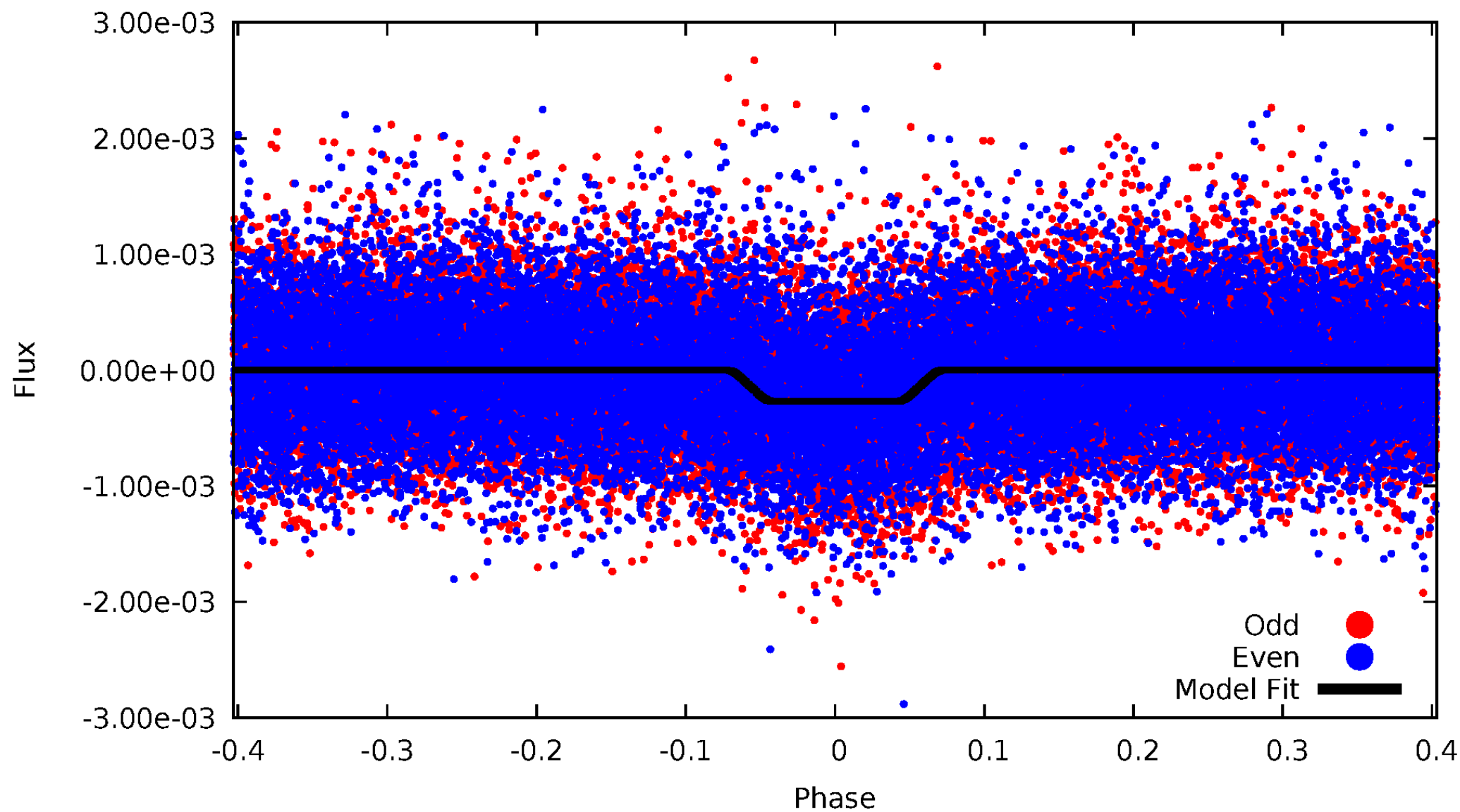
DV Odd/Even

TCE 010090257-01



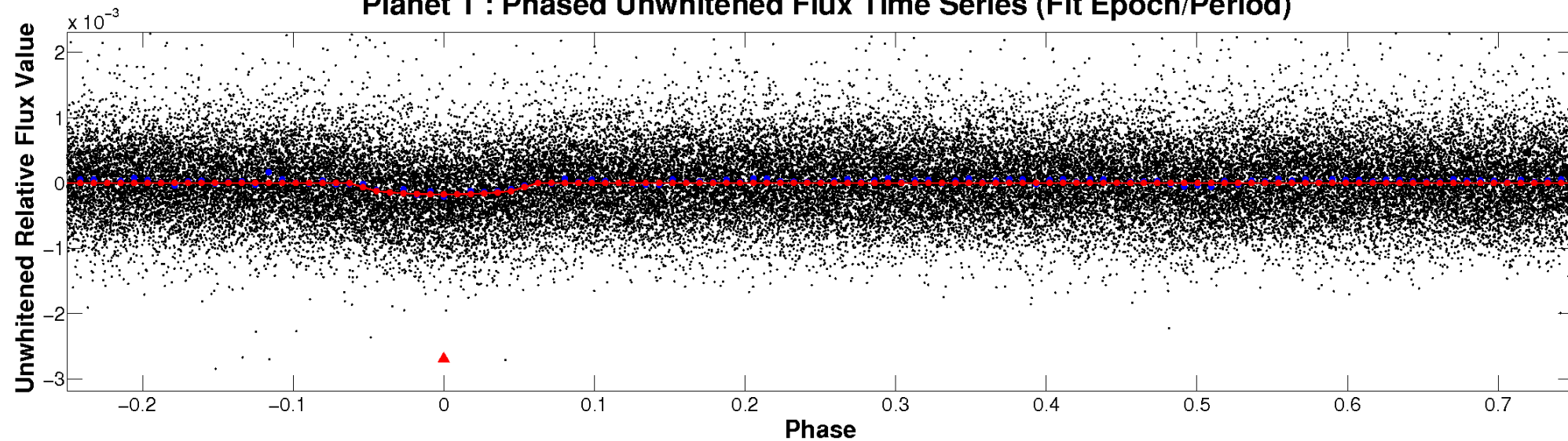
ALT Odd/Even

TCE 010090257-01

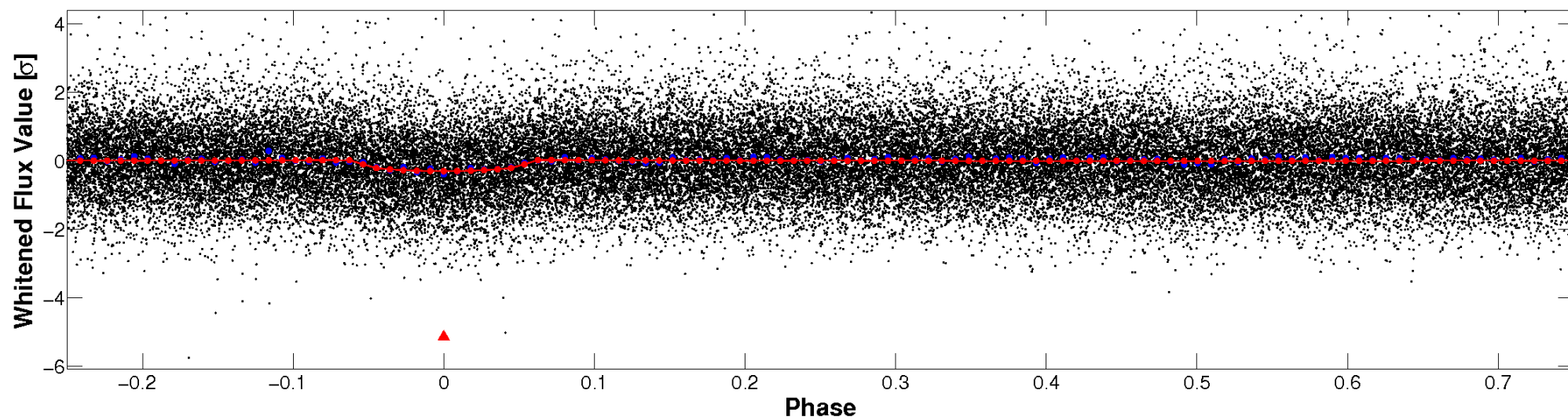


Non-Whitened Vs. Whitened Light Curve

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

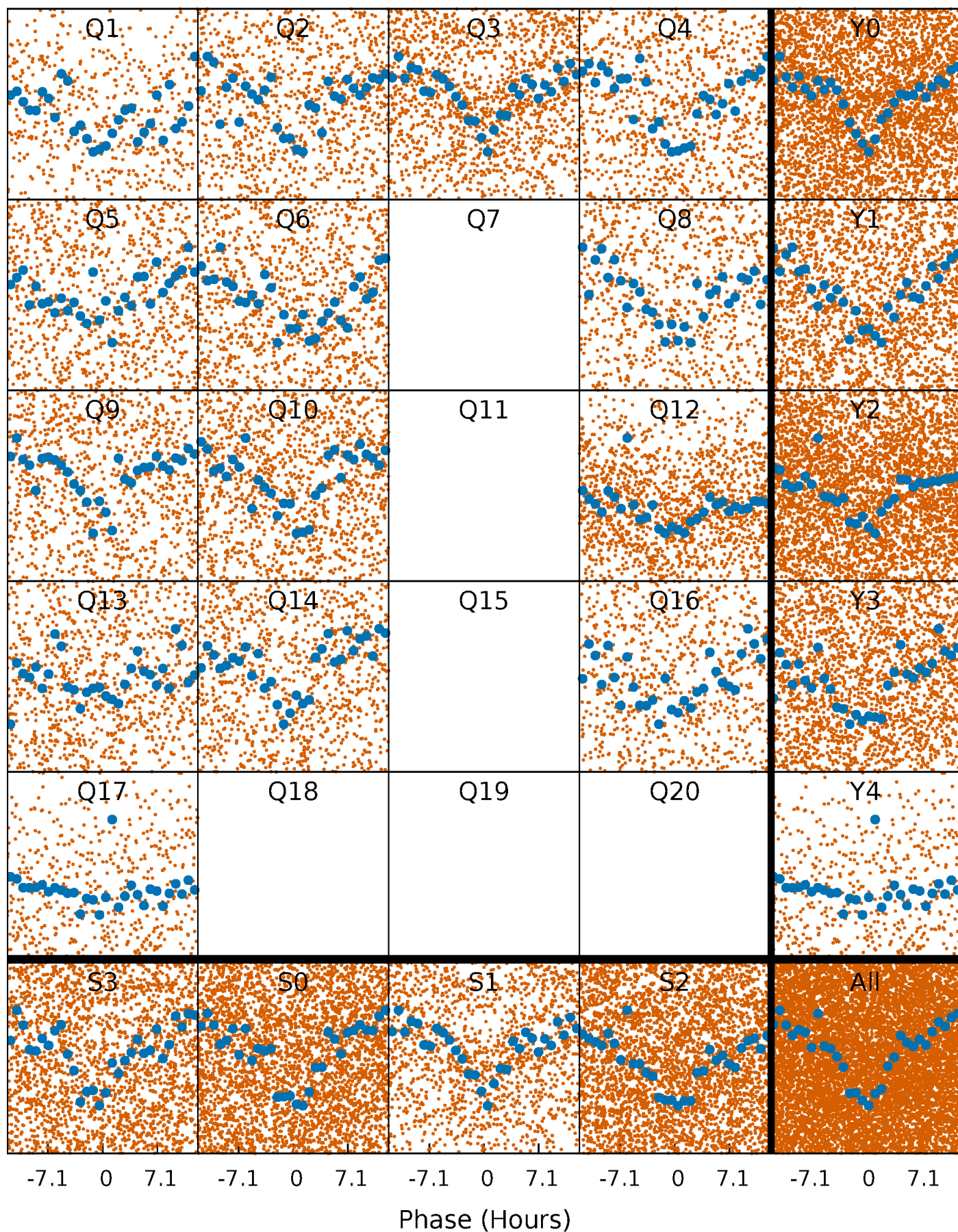


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



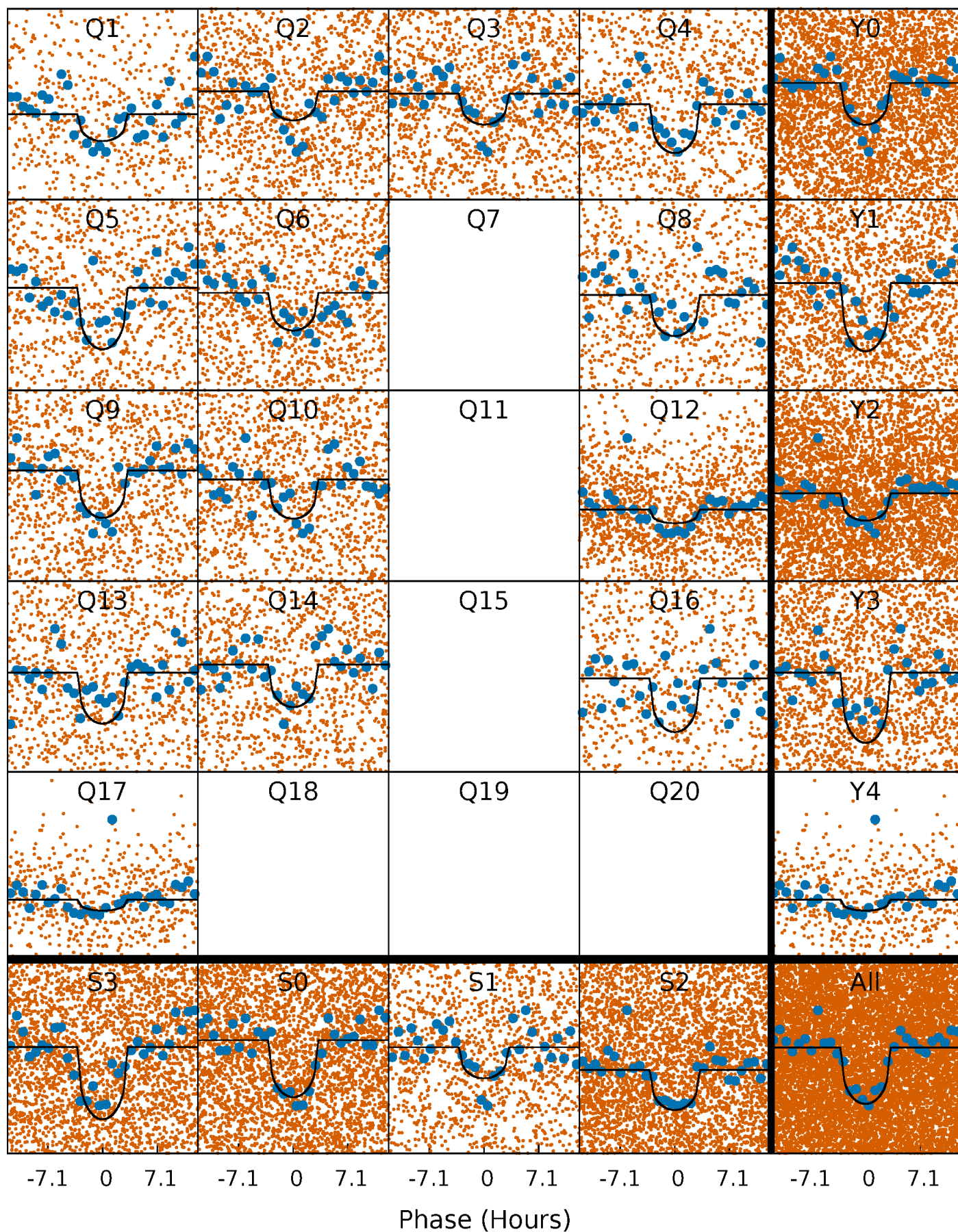
PDC Quarter-Phased Transit Curves

TCE 010090257-01 P= 2.286207 Days $T_0=133.514573$ (BKJD)



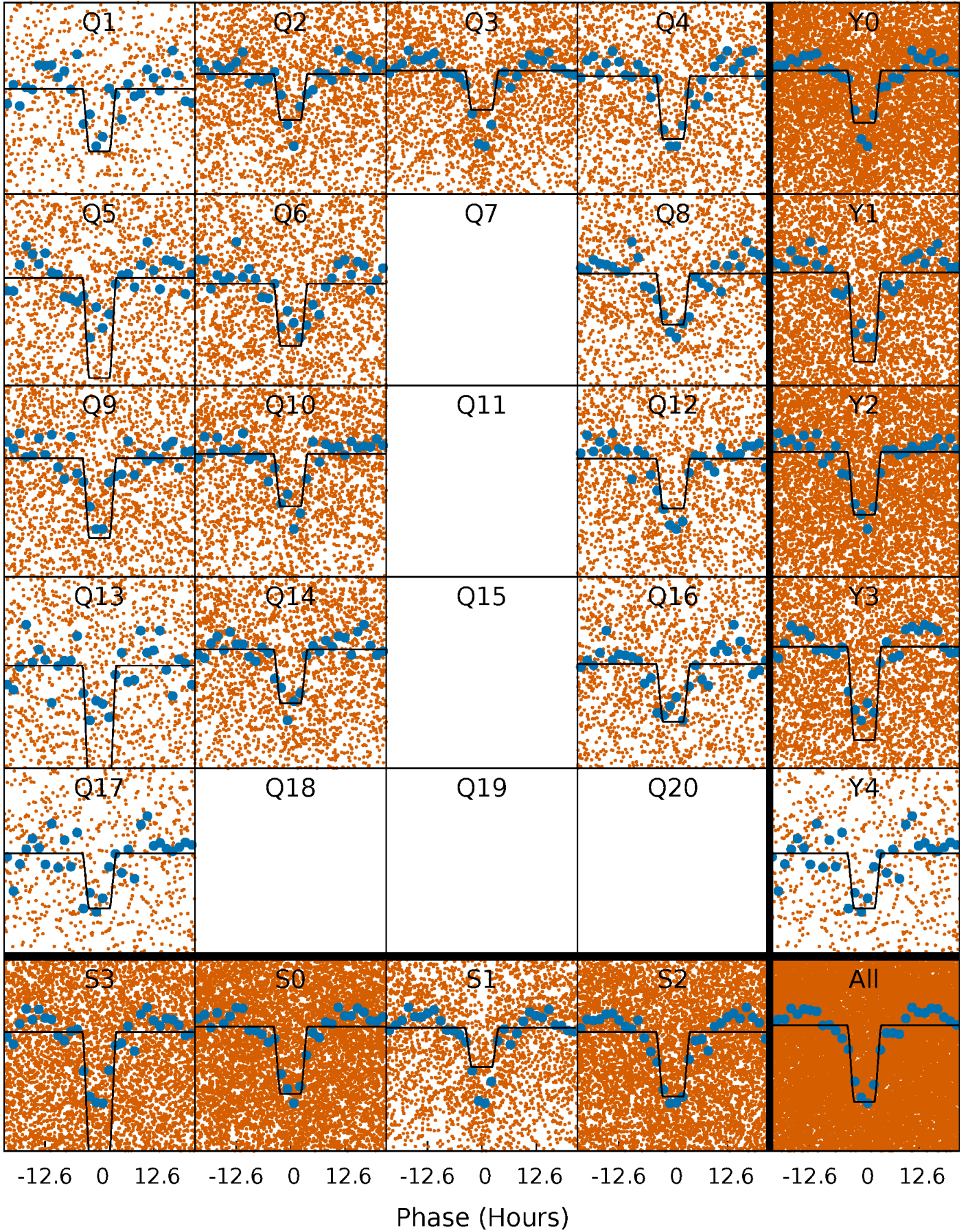
DV Quarter-Phased Transit Curves

TCE 010090257-01 $P = 2.286207$ Days $T_0 = 133.514573$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

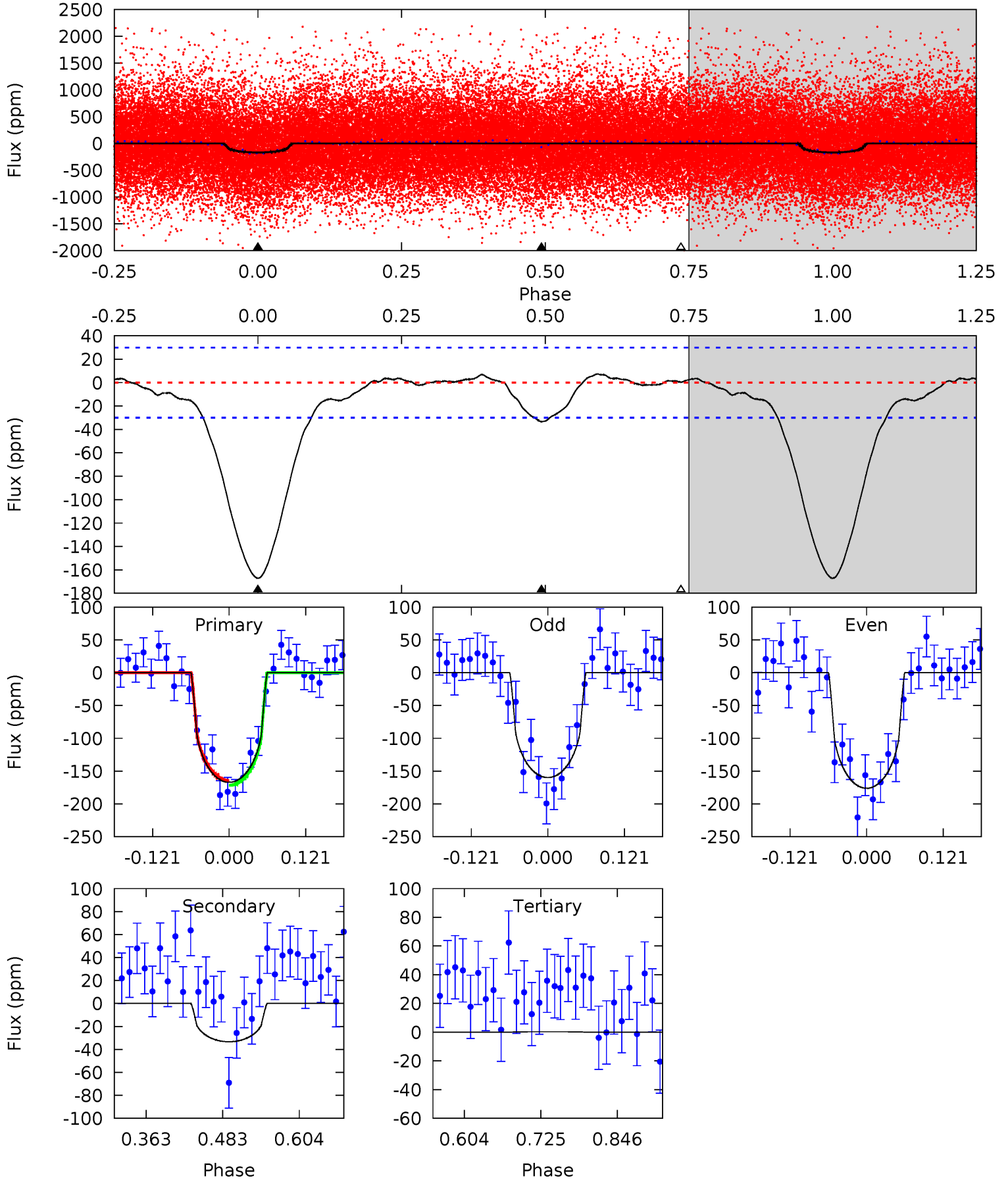
TCE 010090257-01 P= 2.286176 Days $T_0=133.518544$ (BKJD)



DV Model-Shift Uniqueness Test

010090257-01, P = 2.286207 Days, E = 131.228366 Days

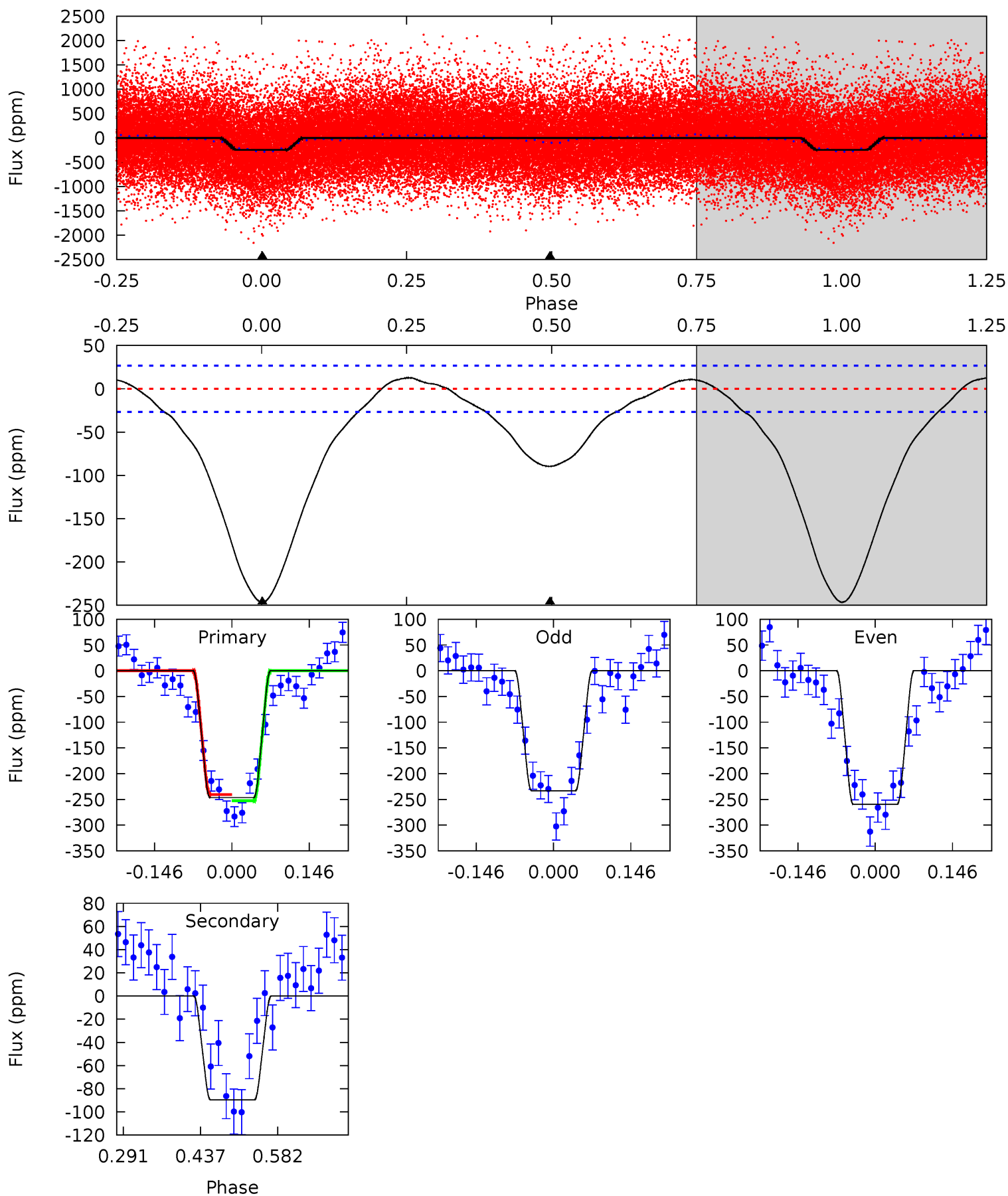
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.2	5.04	-0.05	0	4.52	1.55	0.86	25.3	25.2	5.08	5.04	1.23	1.08	0.04	0.55



Alt Model-Shift Uniqueness Test

010090257-01, P = 2.286176 Days, E = 131.232368 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.4	15.0	0	0	4.49	1.46	2.35	41.4	41.4	15.0	15.0	2.23	1.04	0.05	0.99



Stellar Parameters For KIC 010090257

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4583^{+124}_{-124}	$4.650^{+0.021}_{-0.052}$	$-0.040^{+0.300}_{-0.300}$	$0.654^{+0.068}_{-0.040}$	$0.724^{+0.050}_{-0.068}$	$3.651^{+0.402}_{-0.840}$
	+3%/-3%	+0%/-1%	+750%/-750%	+10%/-6%	+7%/-9%	+11%/-23%
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 010090257-01 / KOI 2476.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-33 ± 7	$0.96^{+0.43}_{-0.47}$	1329^{+41}_{-43}	3445^{+934}_{-426}	19^{+52}_{-11}
Alt.	-90 ± 6	$1.18^{+0.52}_{-0.47}$	1328^{+42}_{-40}	3768^{+800}_{-426}	32^{+56}_{-17}

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 $A_{obs} \gg 1.0$

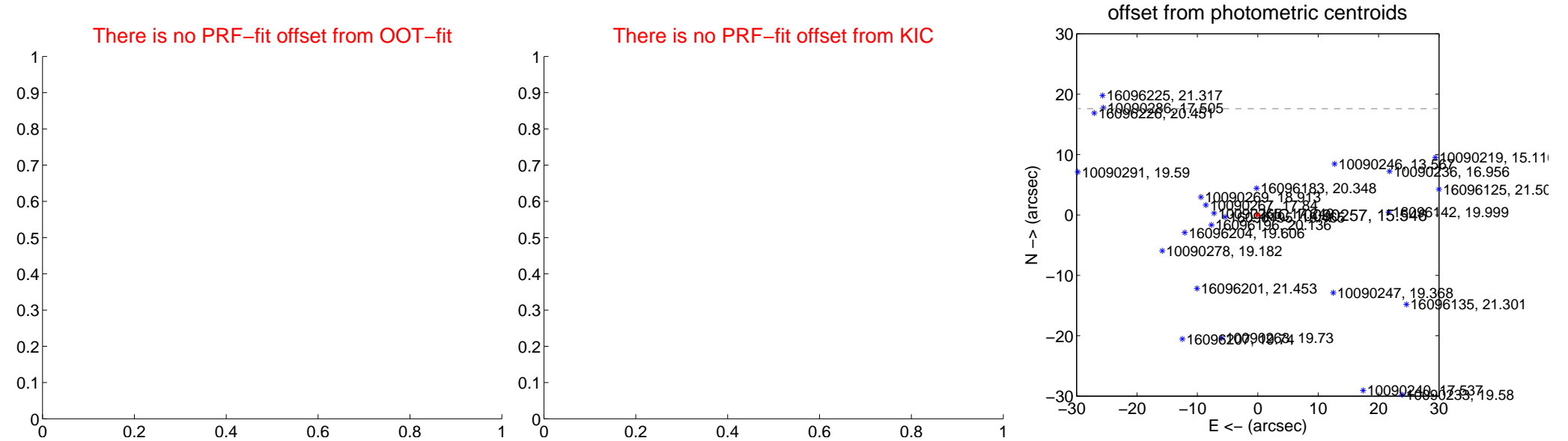
DV Centroid Data

Supplemental centroid analysis for 010090257-01. Kepler magnitude: 15.55. Transit SNR 18.62

There are 0 quarters with good PRF difference image offsets

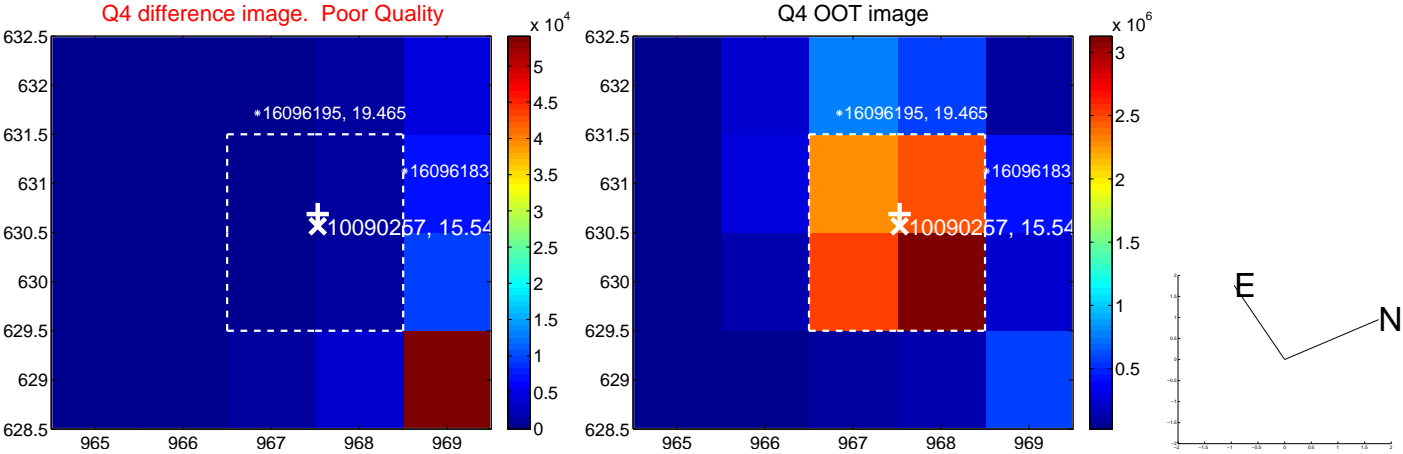
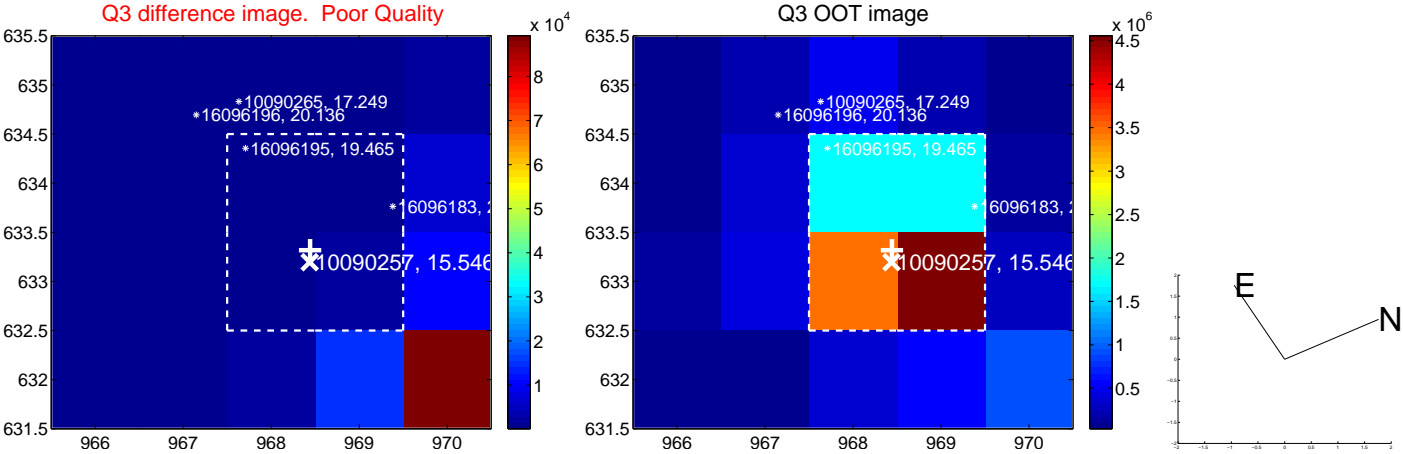
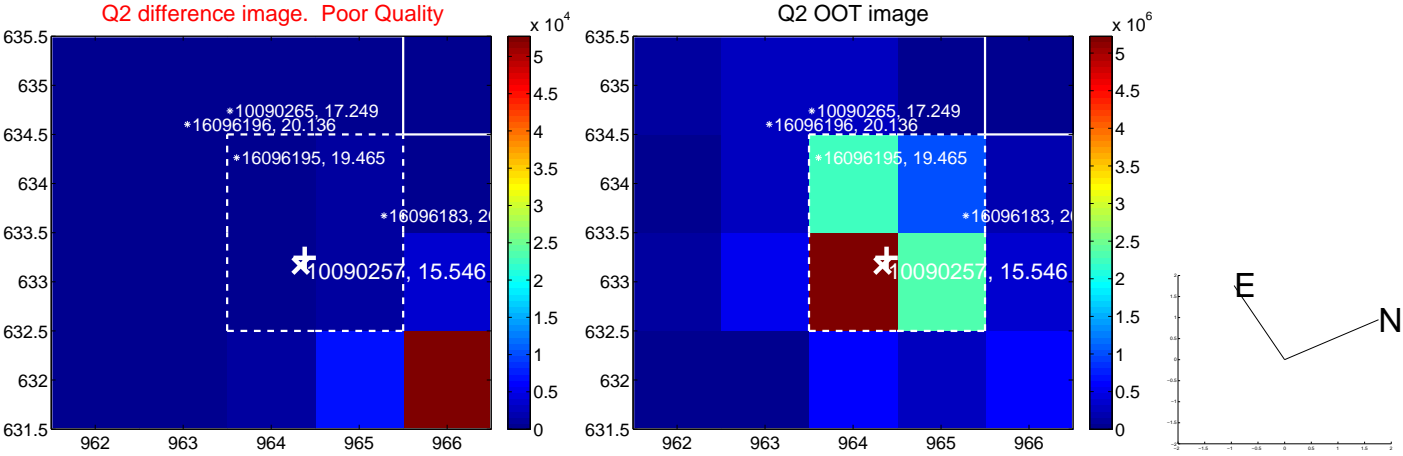
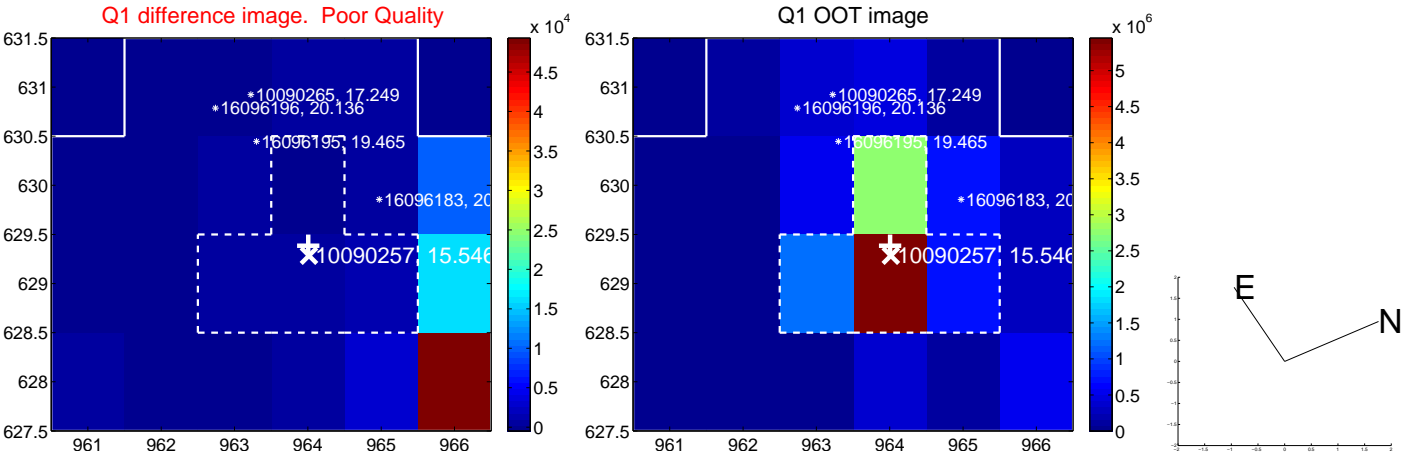
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	55.35 ± 1.18	47.00	-52.48 ± 1.21	17.60 ± 0.82

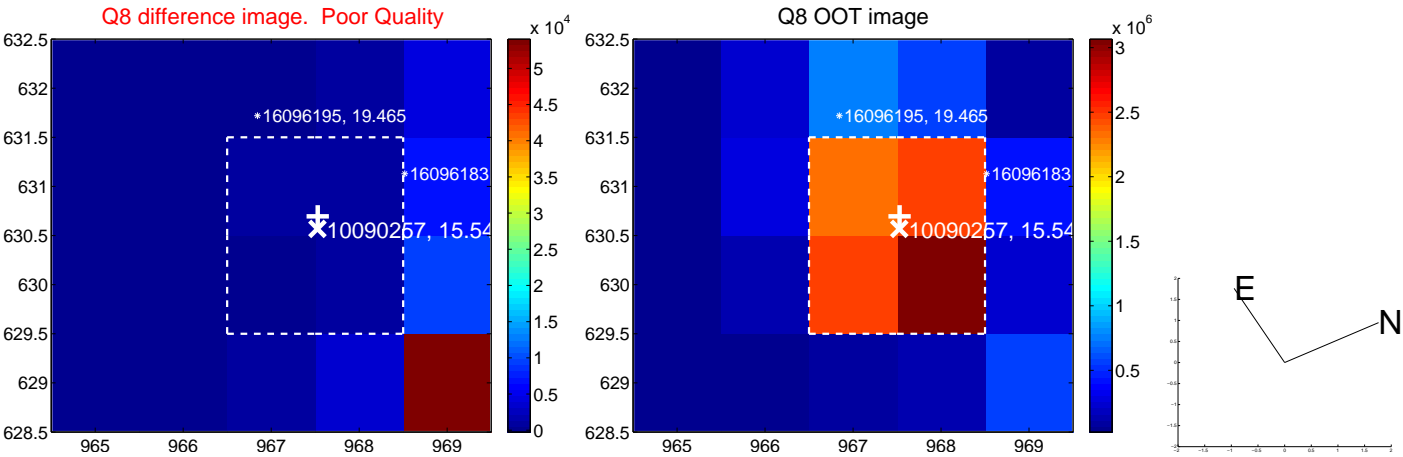
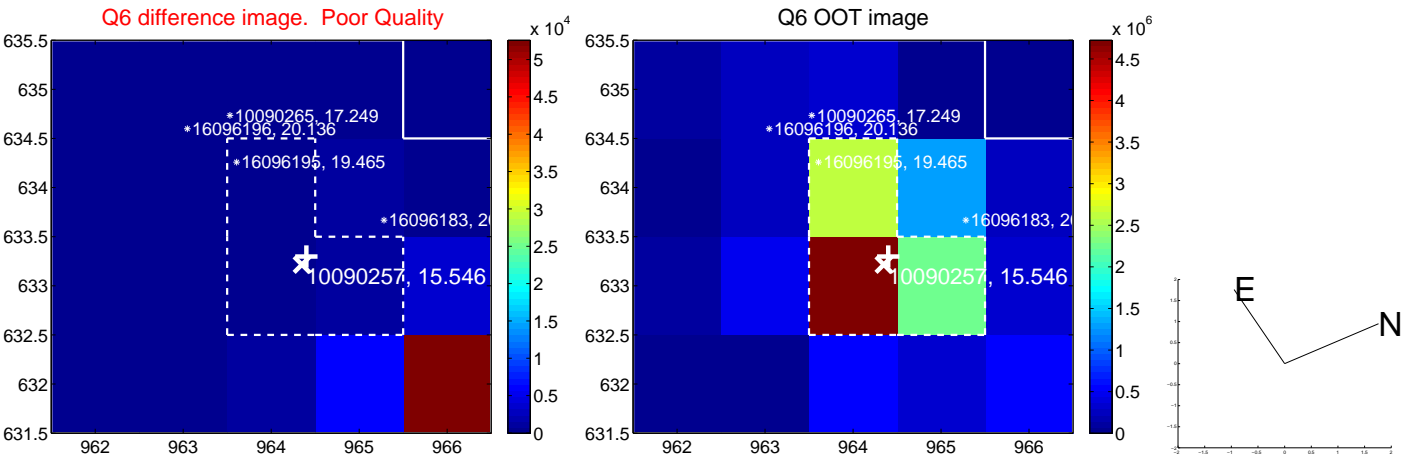
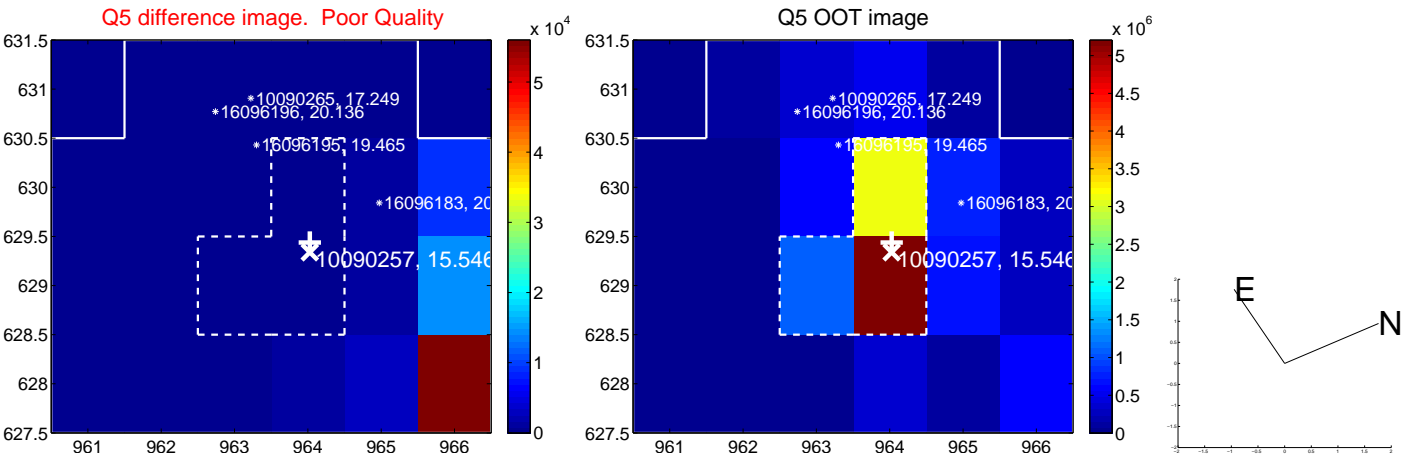


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

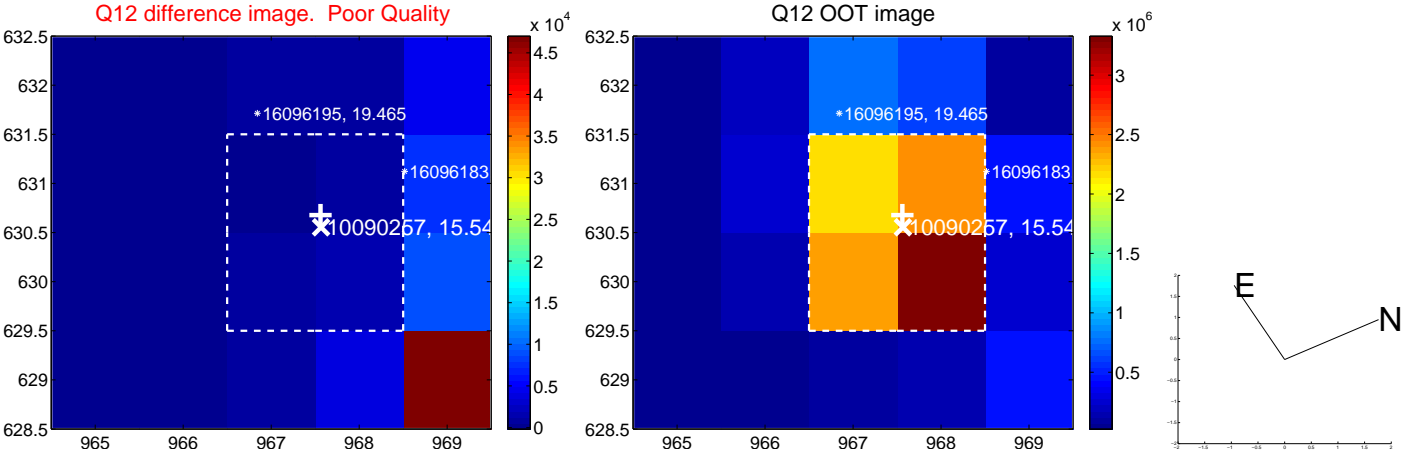
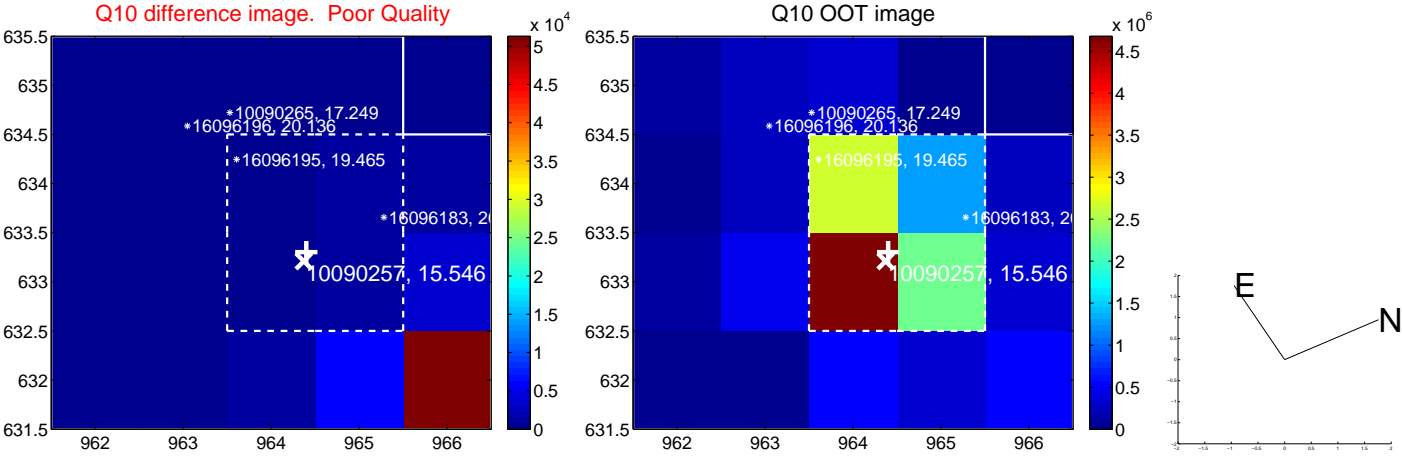
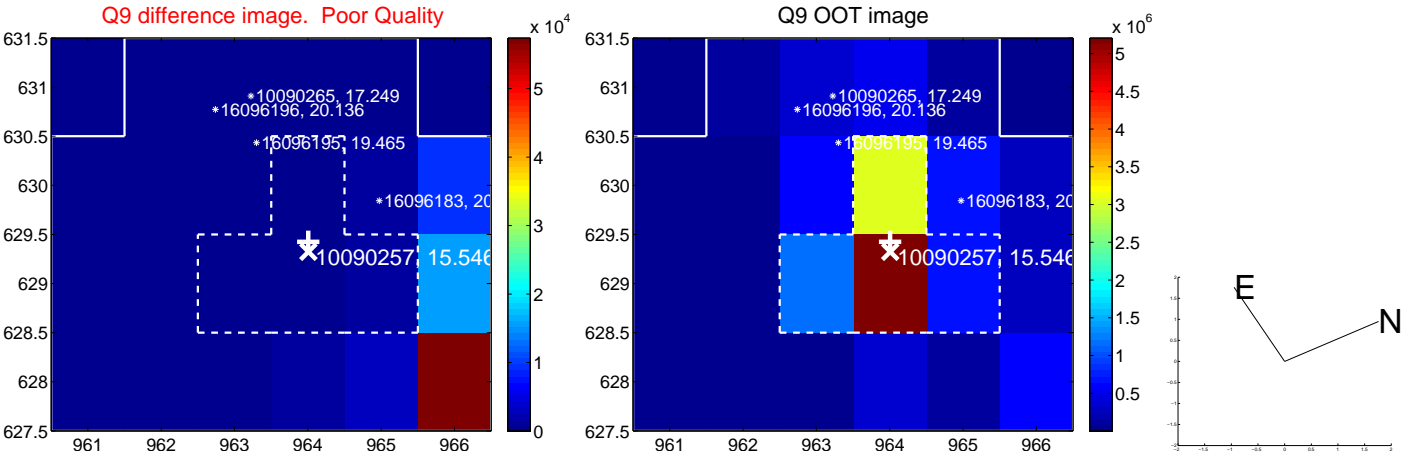
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



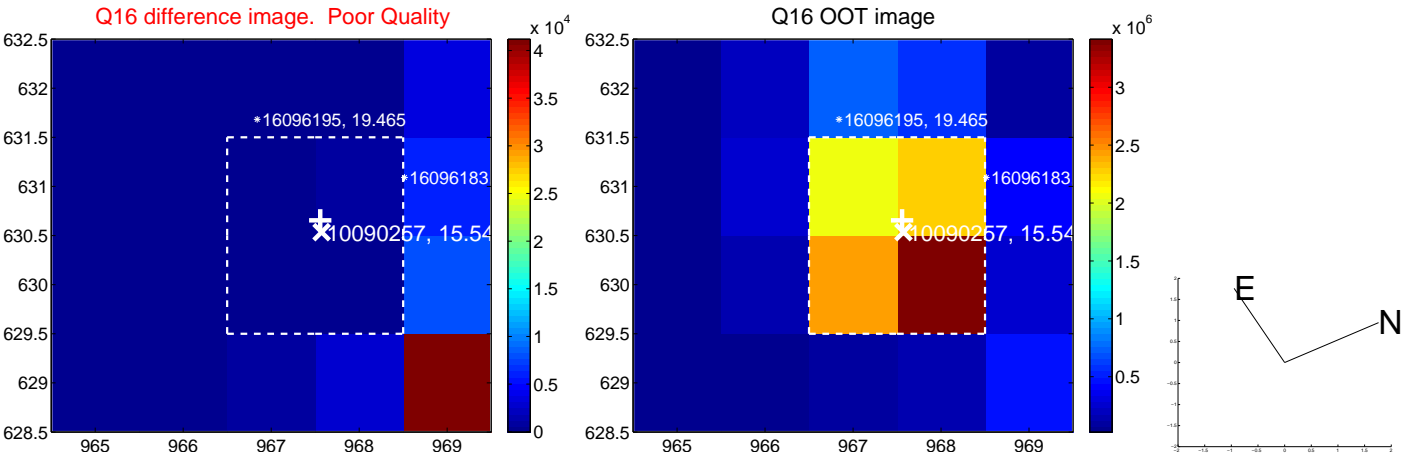
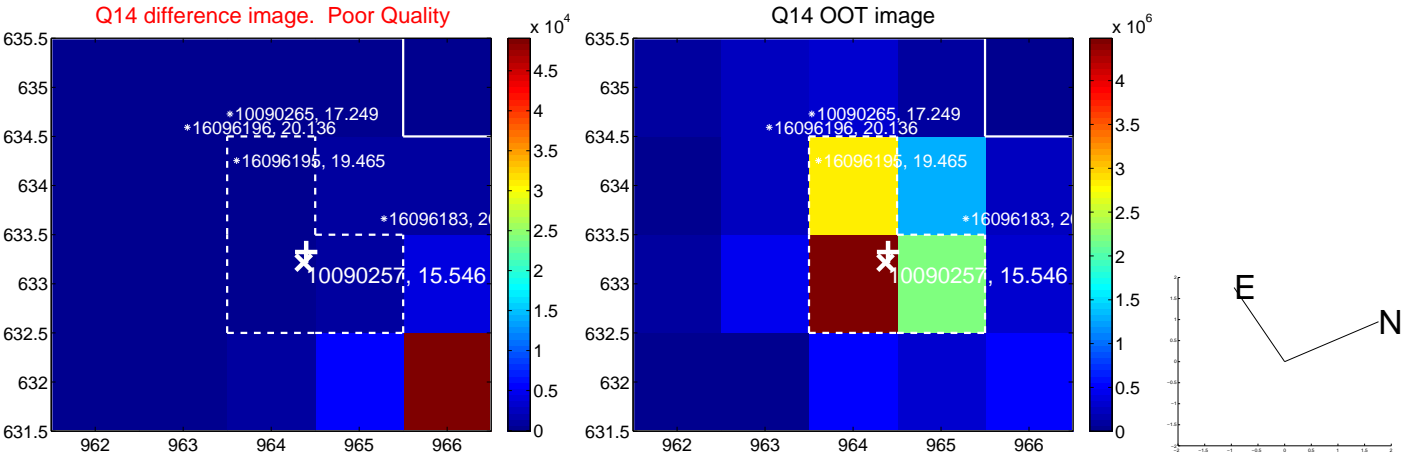
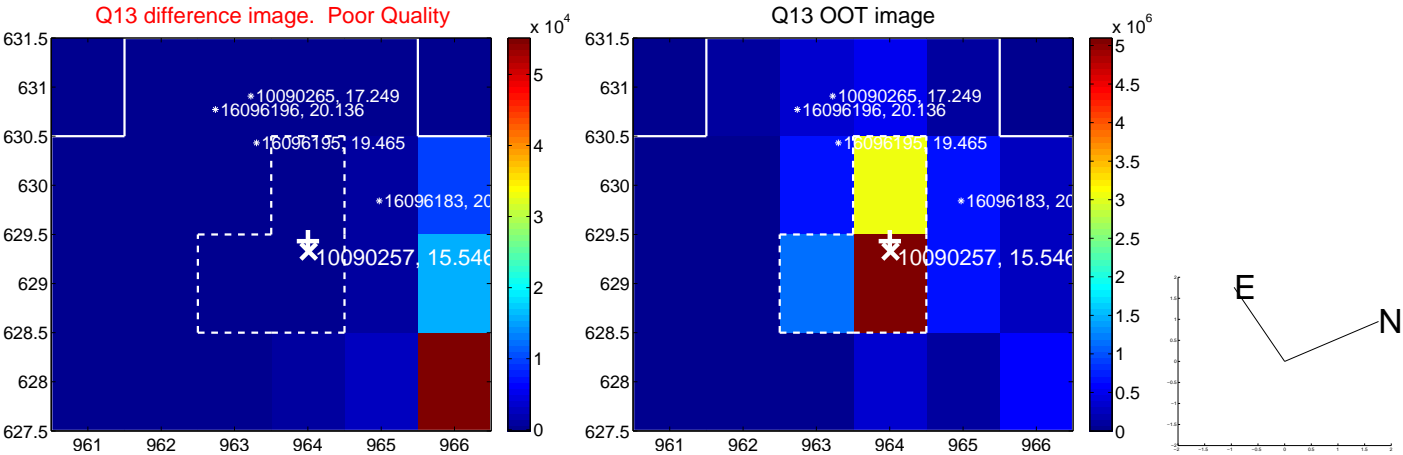
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



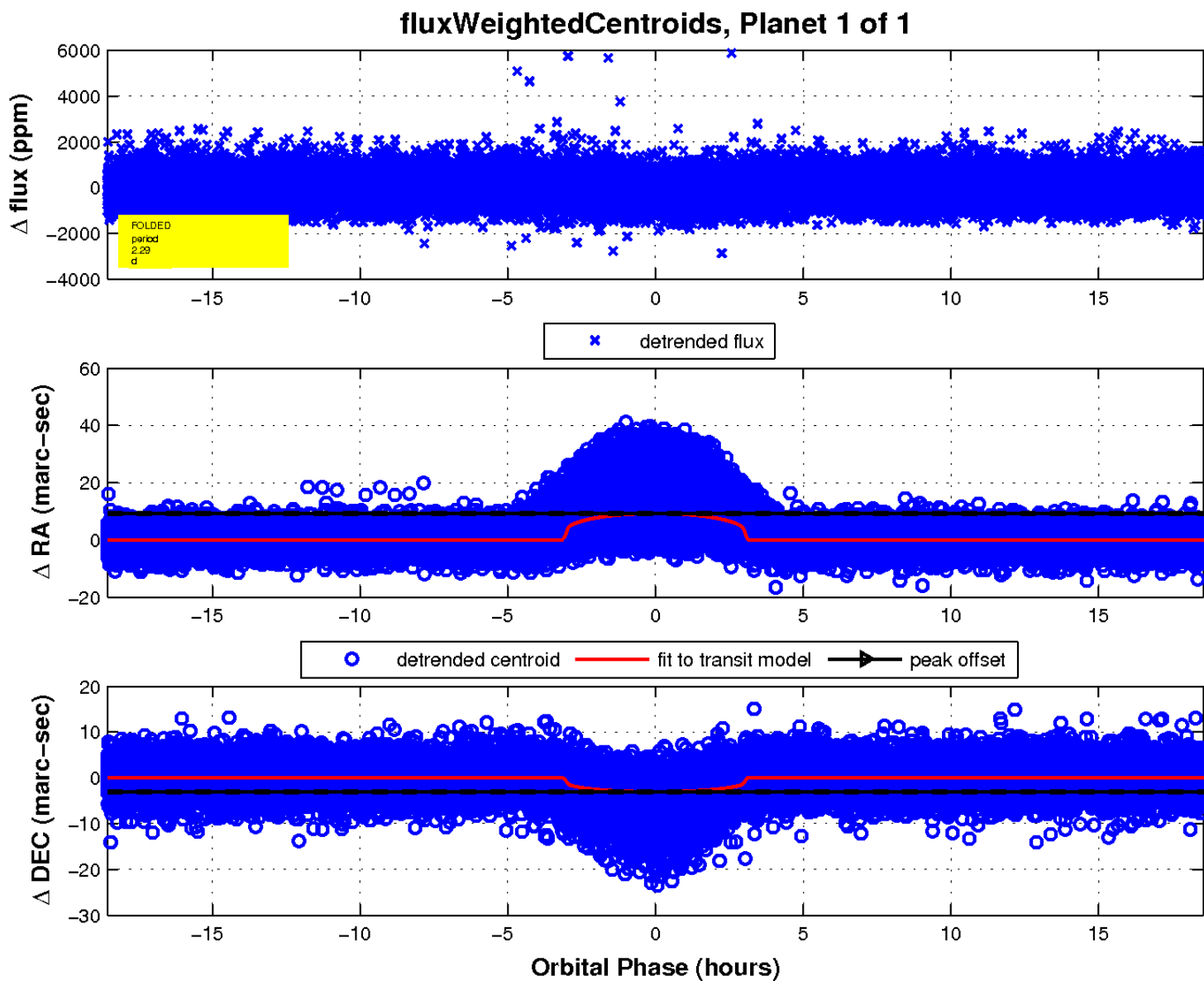
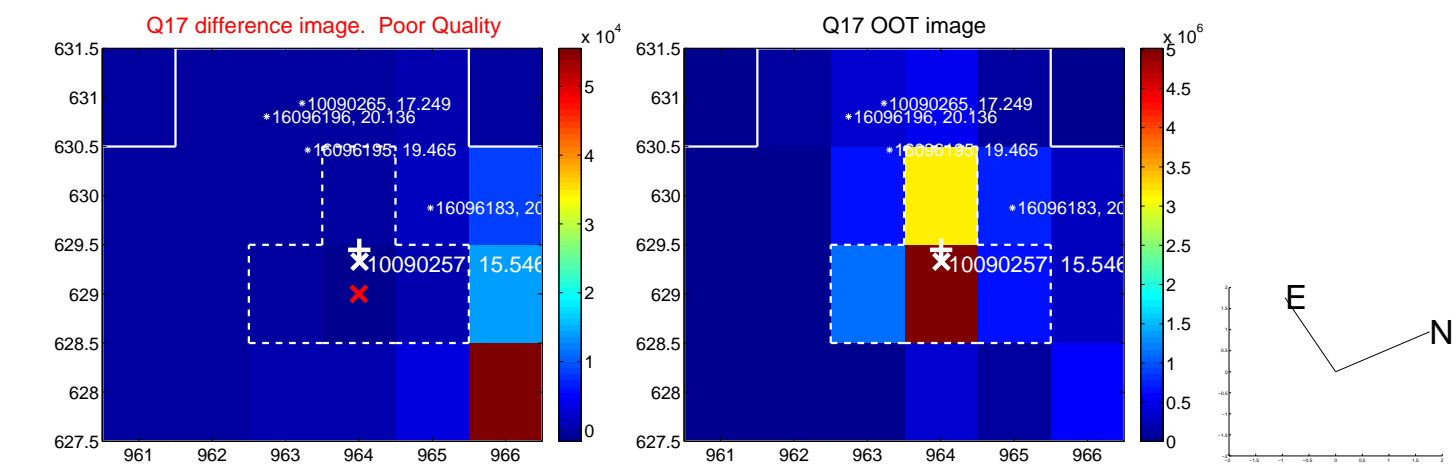
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



UKIRT Image

Declination

