

KIC 009602658

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})
009602658-01	OBS	7948.01	3.556438	133.574784	110.0	5.514	8.3	7.3	0.43	3745	0.51	26.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009602658-01	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.

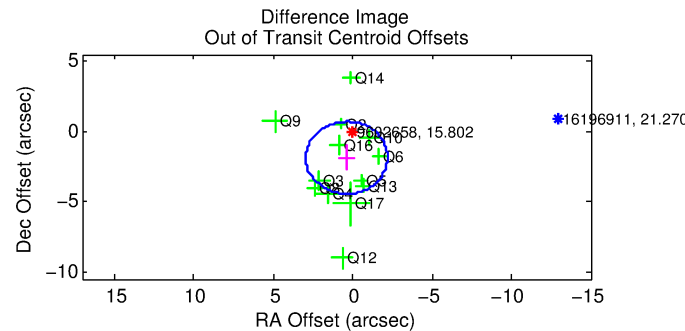
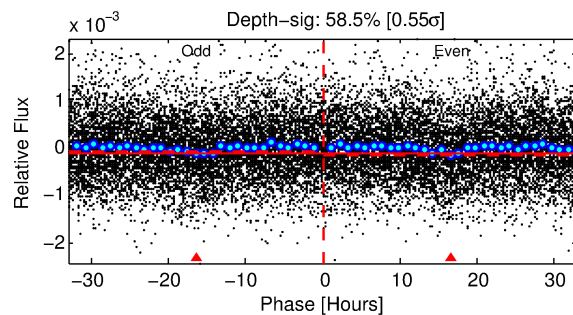
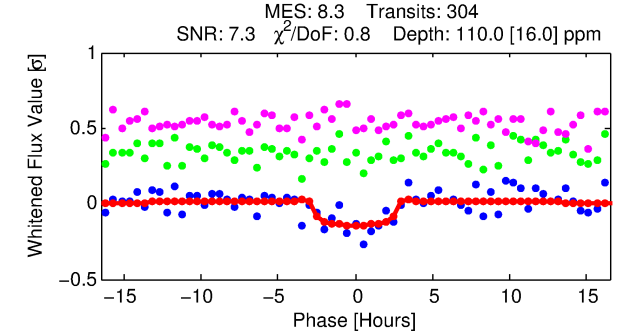
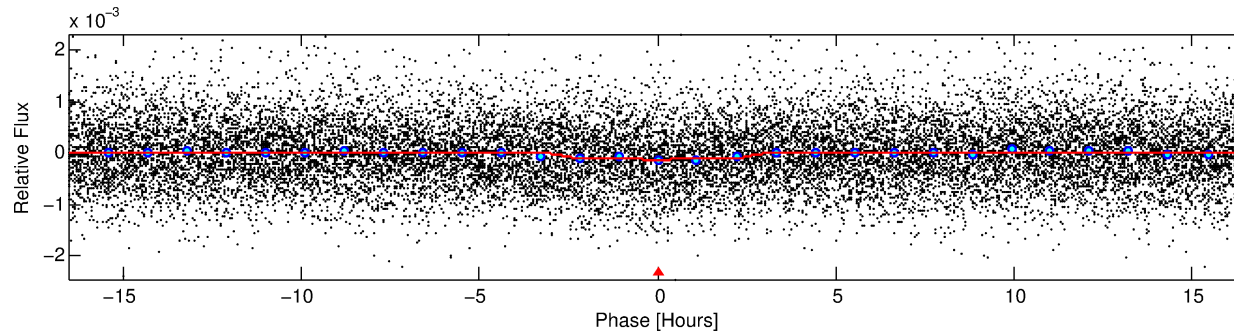
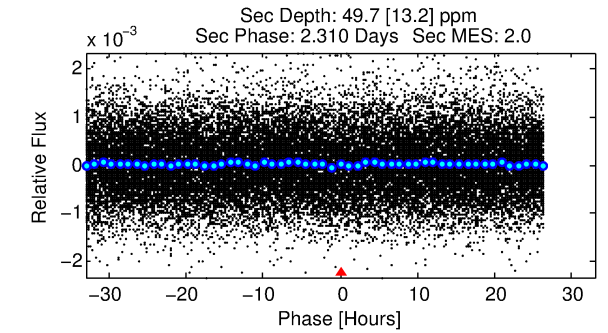
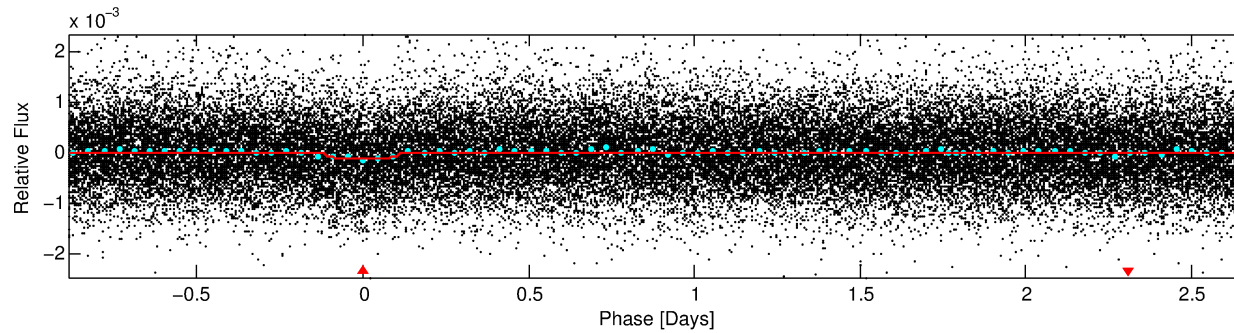
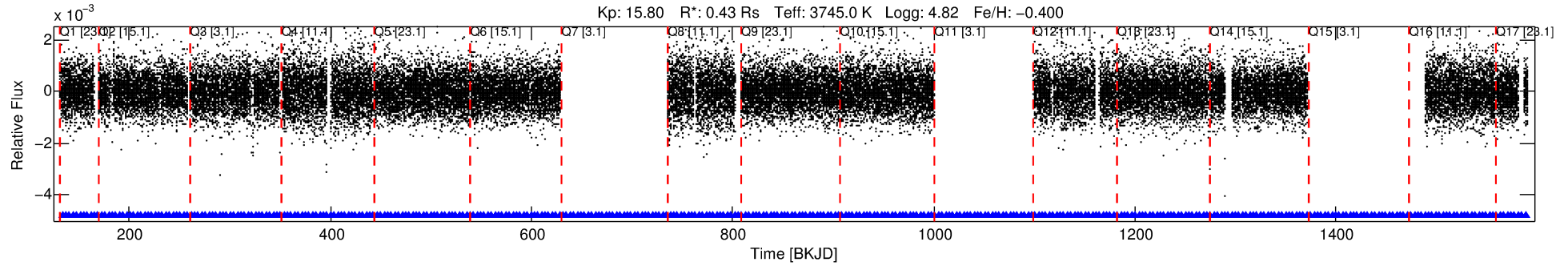
Ephemeris Match Information For 009602658-01

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
009602658-01	9602658	V995-Cyg-pri	9602595	1:1	178.9	31	33	11.88	15.80	7008.30	Direct-PRF	0	1.37	2.48

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: 9602658 Candidate: 1 of 1 Period: 3.556 d



DV Fit Results:

Period = 3.55644 [0.00005] d
Epoch = 133.5748 [0.0086] BKJD
Rp/R* = 0.0108 [0.0072]
a/R* = 2.86 [8.68]
b = 0.85 [1.15]
Seff = 26.77 [5.66]
Teq = 580 [31] K
Rp = 0.51 [0.35] Re
a = 0.0346 [0.0041] AU
Ag = 128.59 [176.24] [0.72σ]
Teffp = 3020 [1033] K [2.36σ]

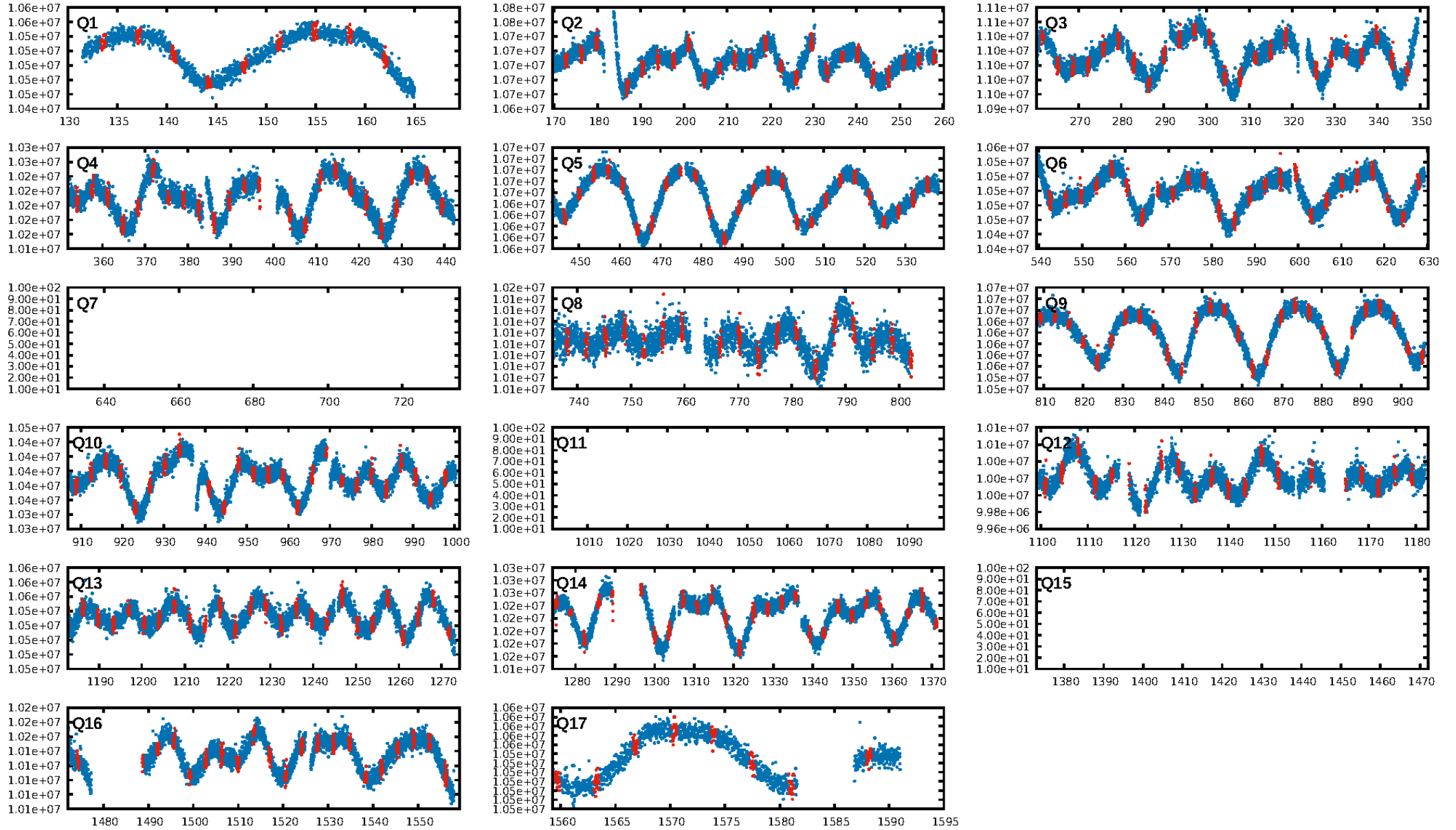
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.71e-17
RollingBand-fgt: 1.00 [287/287]
GhostDiagnostic-chr: -0.0442
Centroid-sig: 3.1%
Centroid-so: 2.361 arcsec [1.46σ]
OotOffset-rm: 1.900 arcsec [2.22σ]
KicOffset-rm: 1.753 arcsec [2.10σ]
OotOffset-st: 4/1/4/4 [13]
KicOffset-st: 4/1/4/4 [13]
DiffImageQuality-fgm: 0.15 [2/13]
DiffImageOverlap-fno: 1.00 [14/14]

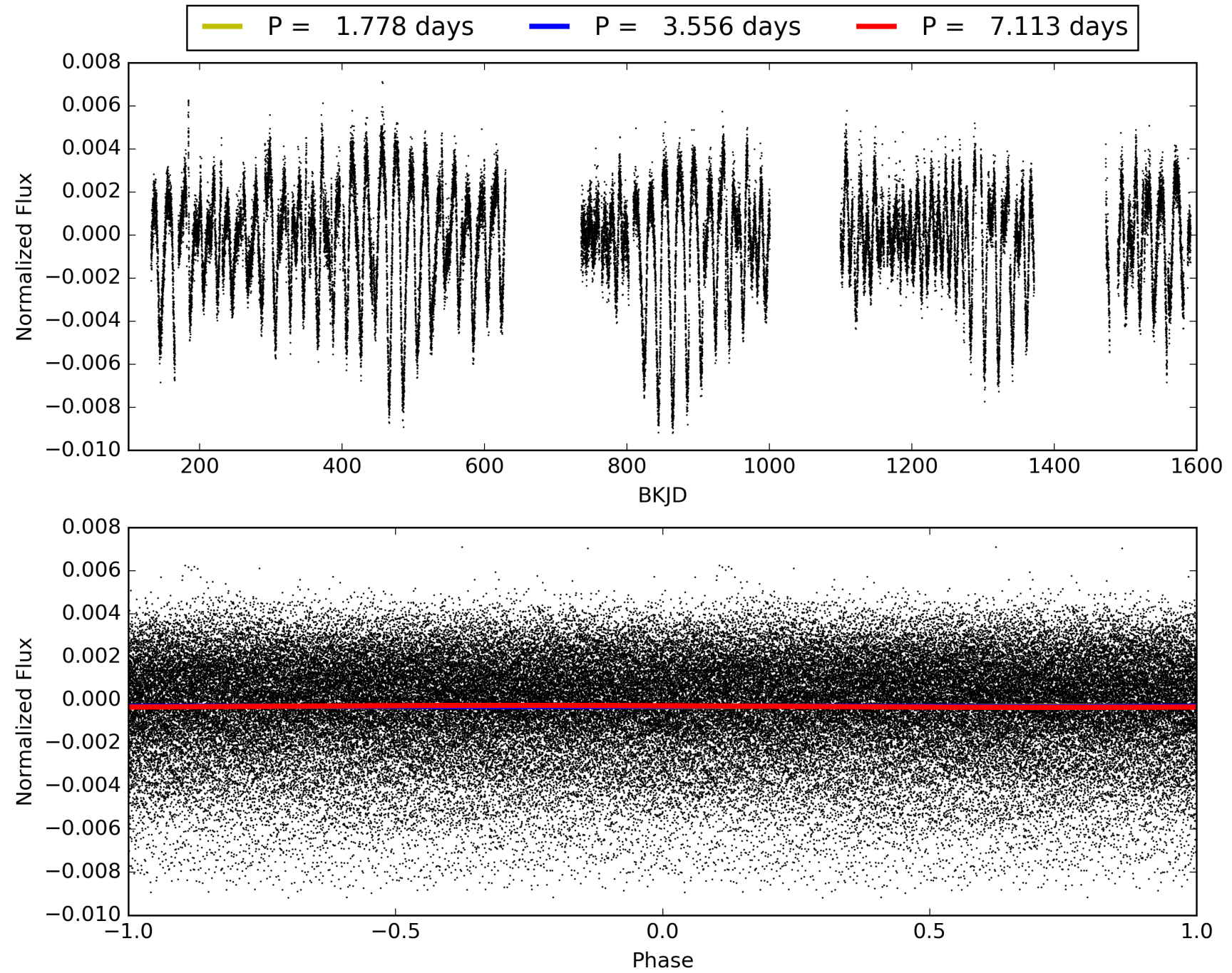
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:22:35 Z

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

TCE 009602658-01, PDC Light Curves

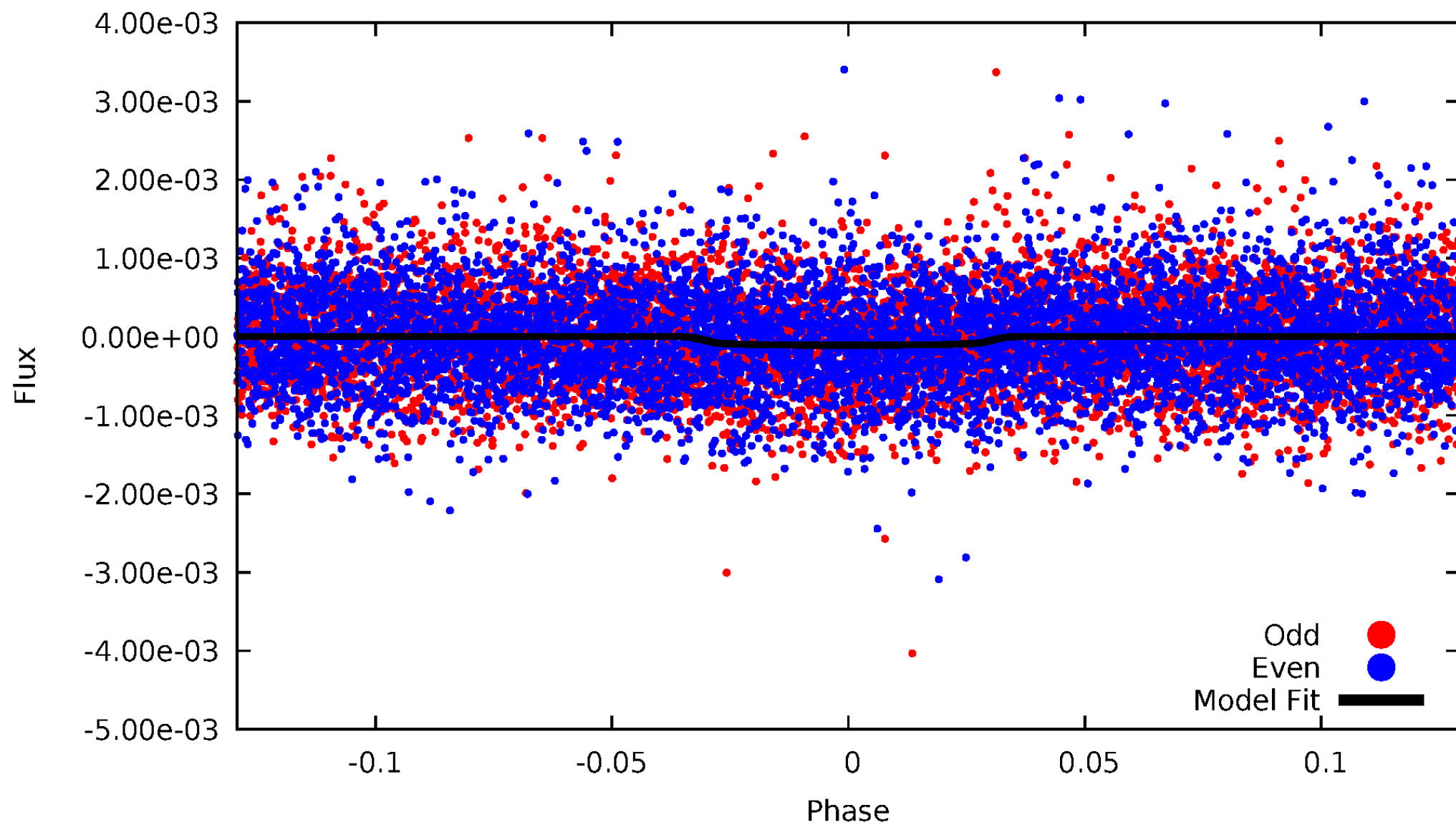


TCE 009602658-01



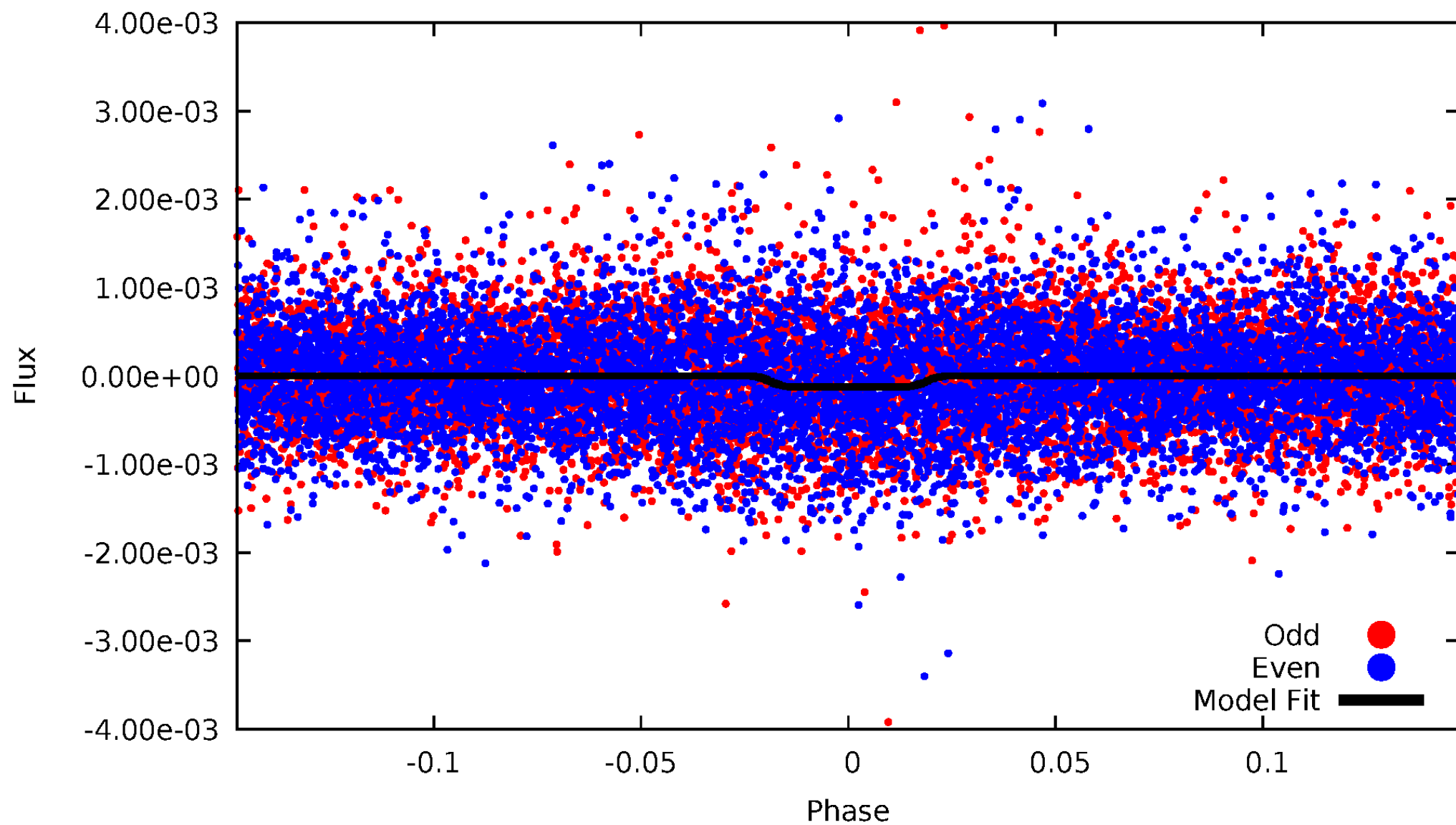
DV Odd/Even

TCE 009602658-01

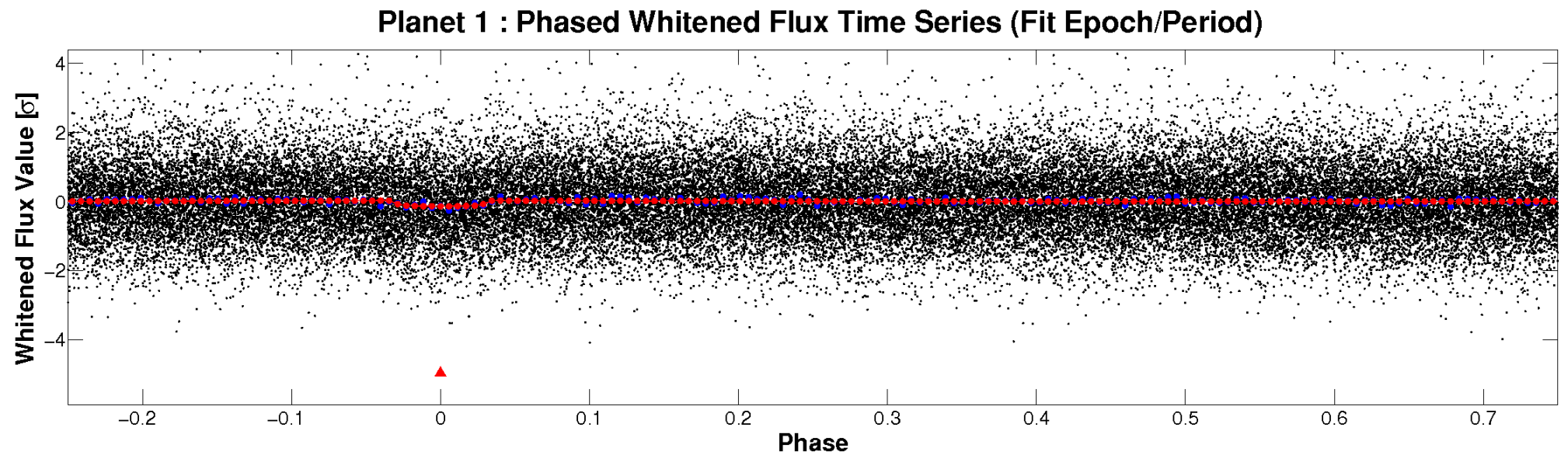
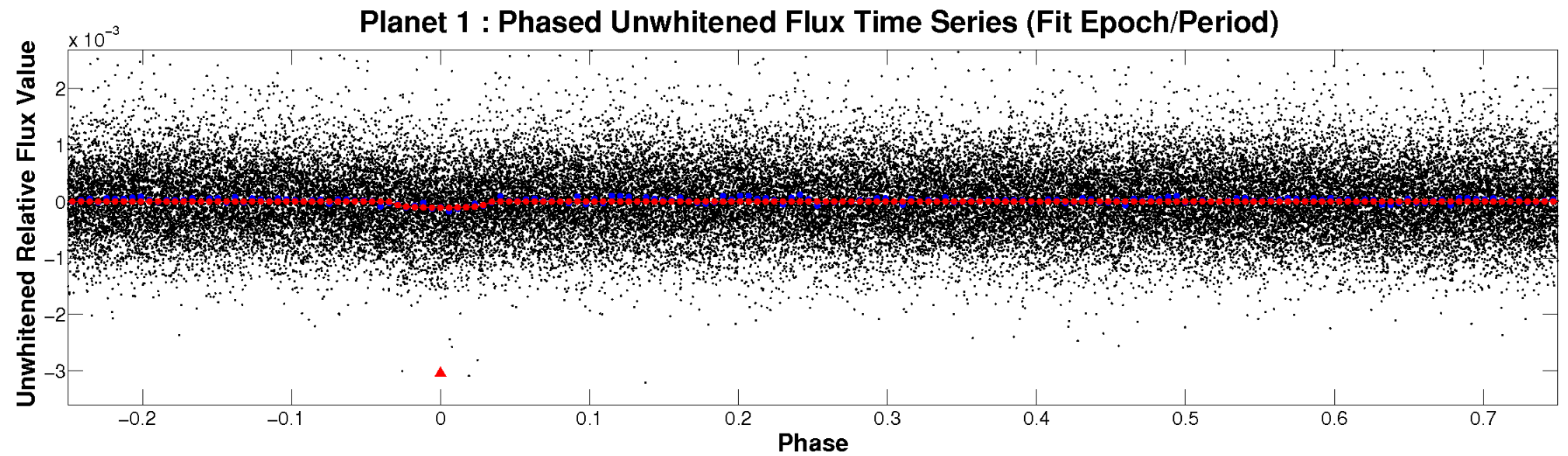


ALT Odd/Even

TCE 009602658-01

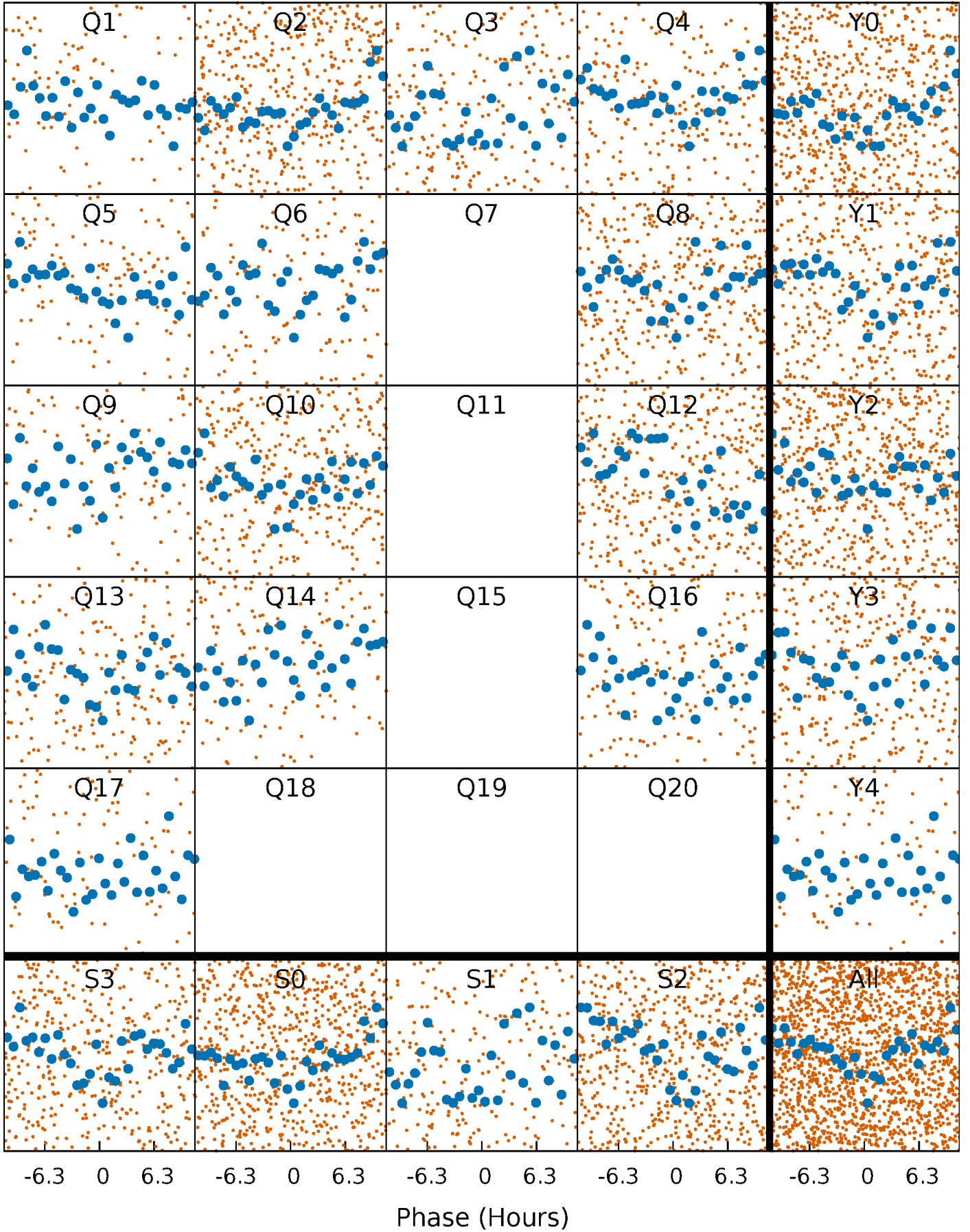


Non-Whitened Vs. Whitened Light Curve



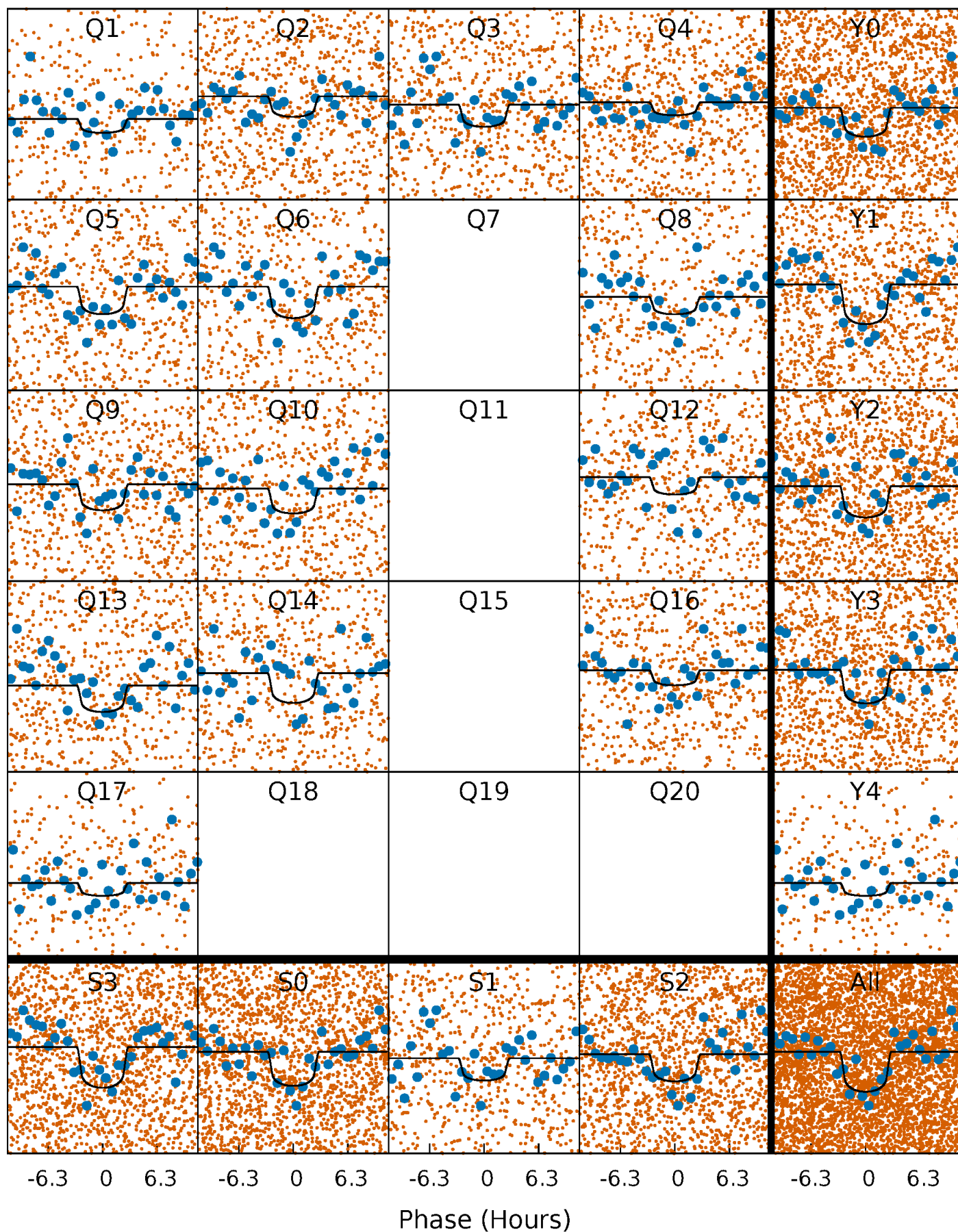
PDC Quarter-Phased Transit Curves

TCE 009602658-01 P= 3.556438 Days $T_0=133.574784$ (BKJD)



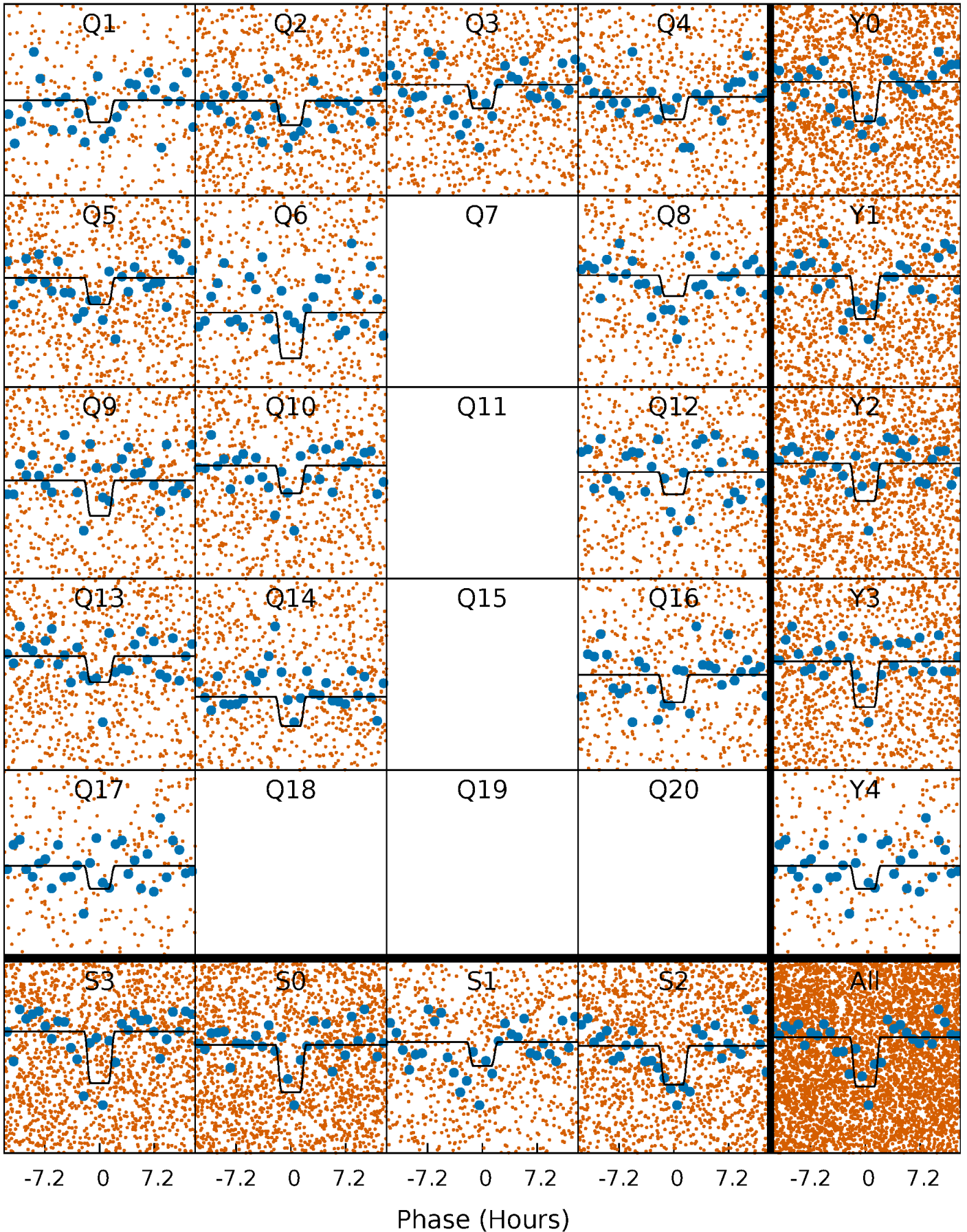
DV Quarter-Phased Transit Curves

TCE 009602658-01 P= 3.556438 Days $T_0=133.574784$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

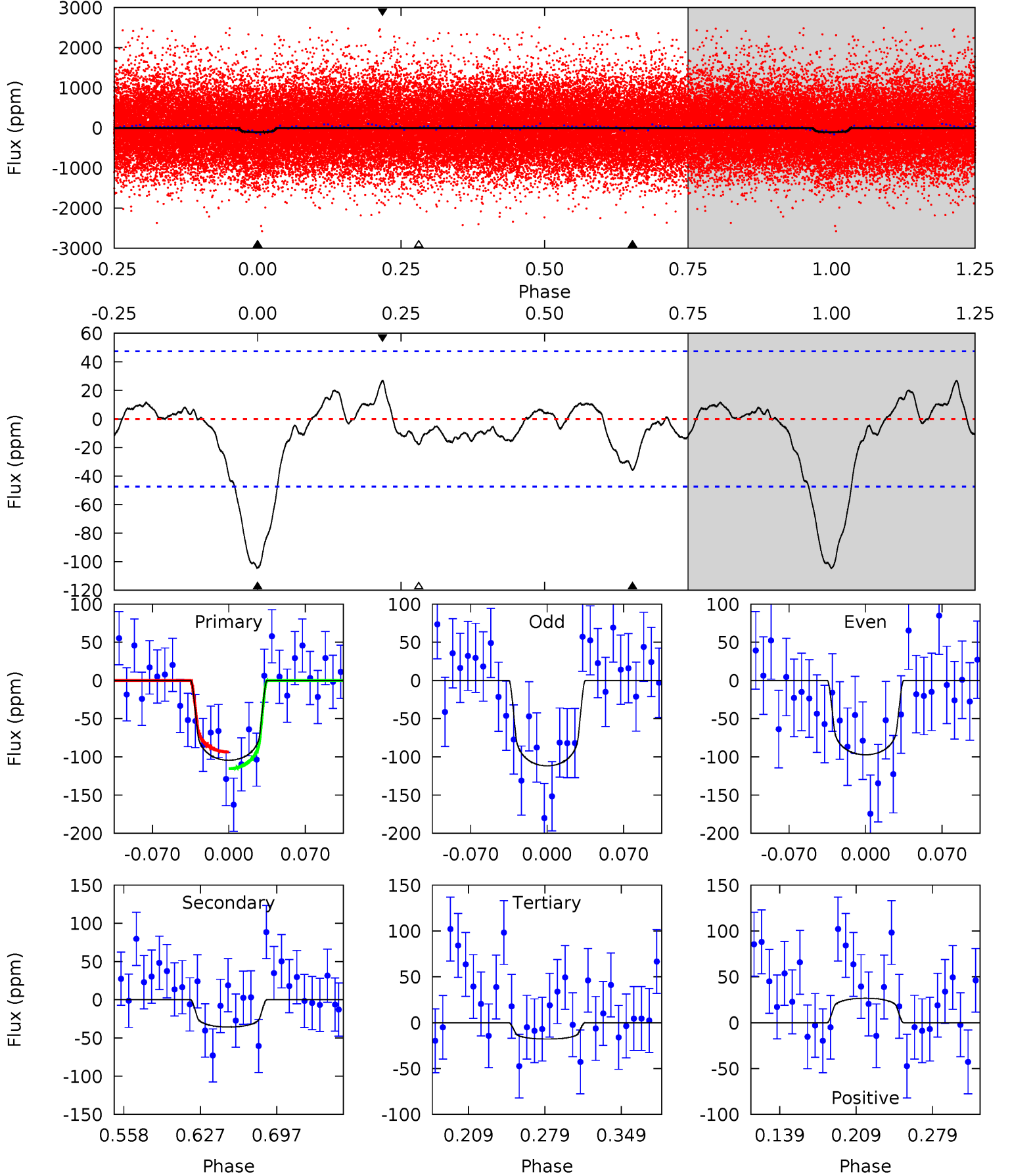
TCE 009602658-01 P= 3.556482 Days $T_0=133.574250$ (BKJD)



DV Model-Shift Uniqueness Test

009602658-01, P = 3.556438 Days, E = 130.018346 Days

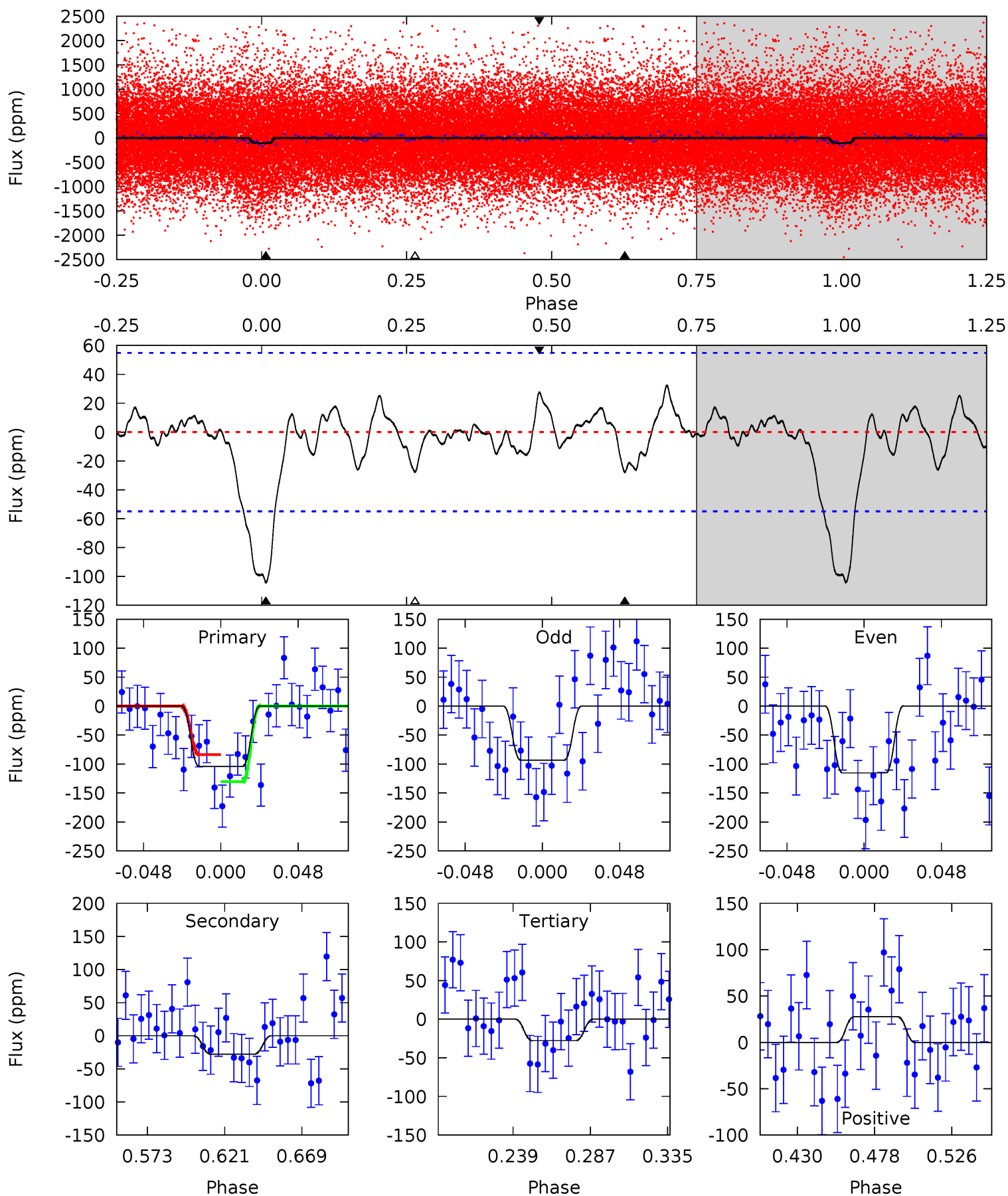
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	3.50	1.75	2.61	4.64	1.81	0.96	8.48	7.62	1.75	0.89	0.71	1.01	0.20	1.07



Alt Model-Shift Uniqueness Test

009602658-01, P = 3.556482 Days, E = 130.017768 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.94	2.39	2.38	2.37	4.72	1.98	0.97	6.57	6.57	0.01	0.01	0.95	0.74	0.24	2.00



Stellar Parameters For KIC 009602658

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3745^{+122}_{-133}	$4.819^{+0.077}_{-0.056}$	$-0.400^{+0.300}_{-0.250}$	$0.427^{+0.060}_{-0.066}$	$0.438^{+0.058}_{-0.065}$	$7.937^{+3.237}_{-1.748}$
	+3%/-4%	+2%/-1%	+75%/-62%	+14%/-15%	+13%/-15%	+41%/-22%
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 009602658-01 / KOI 7948.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-36 ± 10	$0.55^{+0.31}_{-0.31}$	807^{+36}_{-36}	3038^{+890}_{-390}	81^{+325}_{-52}
Alt.	-28 ± 12	$0.55^{+0.33}_{-0.29}$	805^{+35}_{-35}	2912^{+773}_{-409}	60^{+207}_{-40}

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

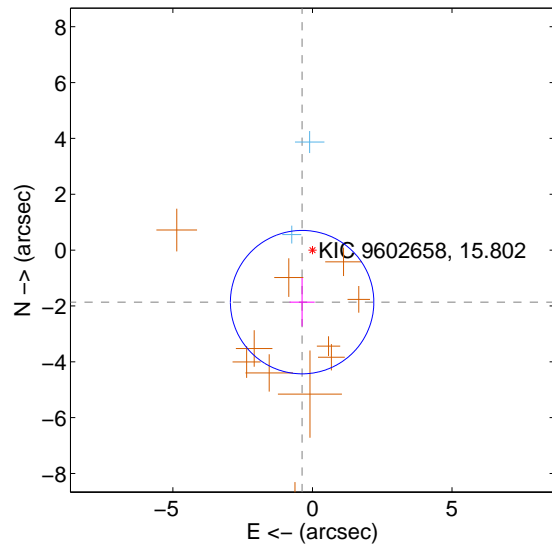
Supplemental centroid analysis for 009602658-01. Kepler magnitude: 15.80. Transit SNR 7.27

There are 2 quarters with good PRF difference image offsets

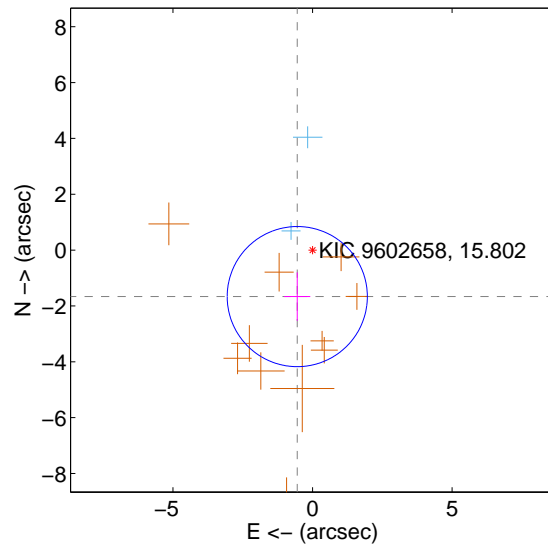
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.900 ± 0.856	2.22	0.370 ± 0.450	-1.863 ± 0.868
PRF-fit source offset from KIC position	1.753 ± 0.836	2.10	0.546 ± 0.467	-1.665 ± 0.867
photometric centroid source offset	2.36 ± 1.62	1.46	0.96 ± 1.49	-2.16 ± 1.65

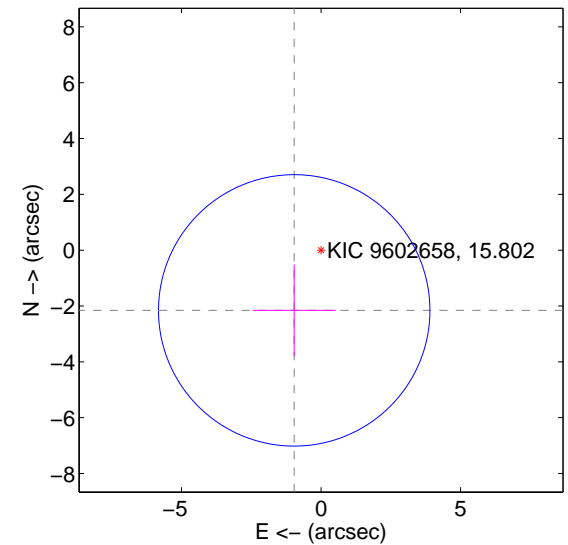
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

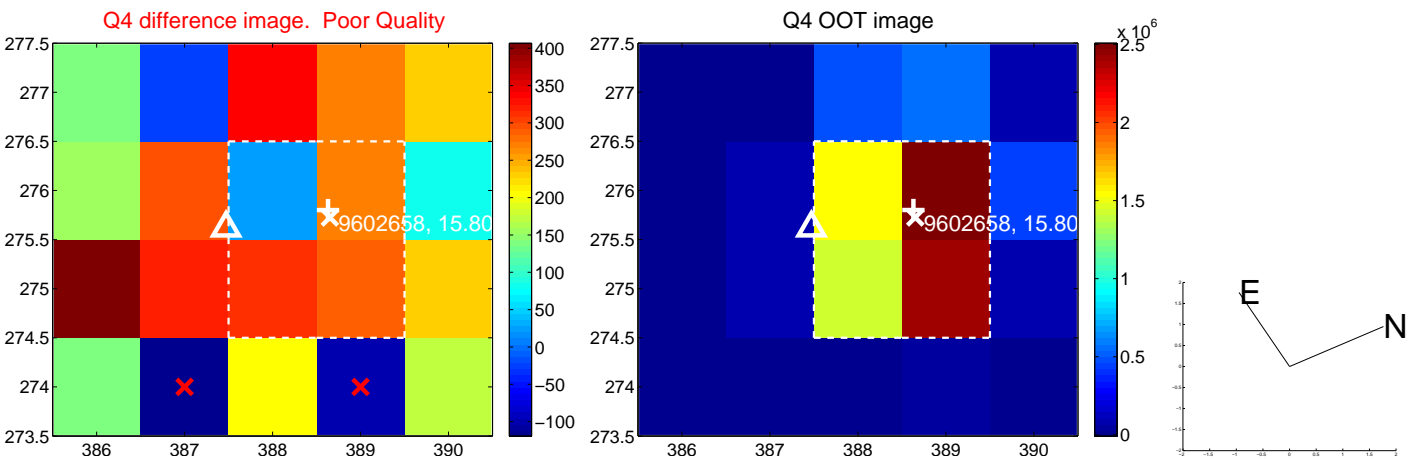
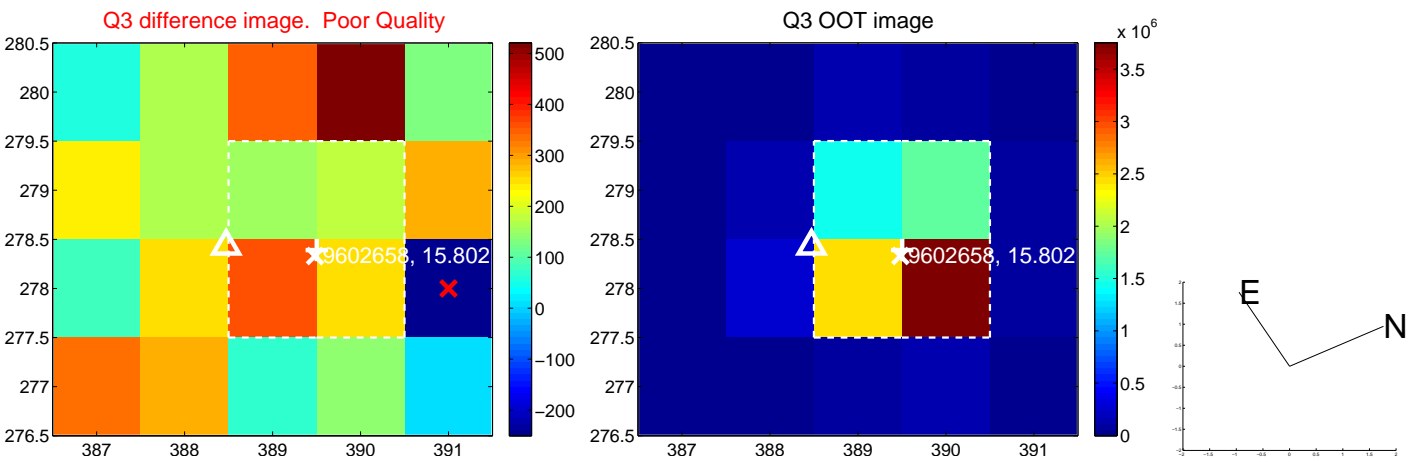
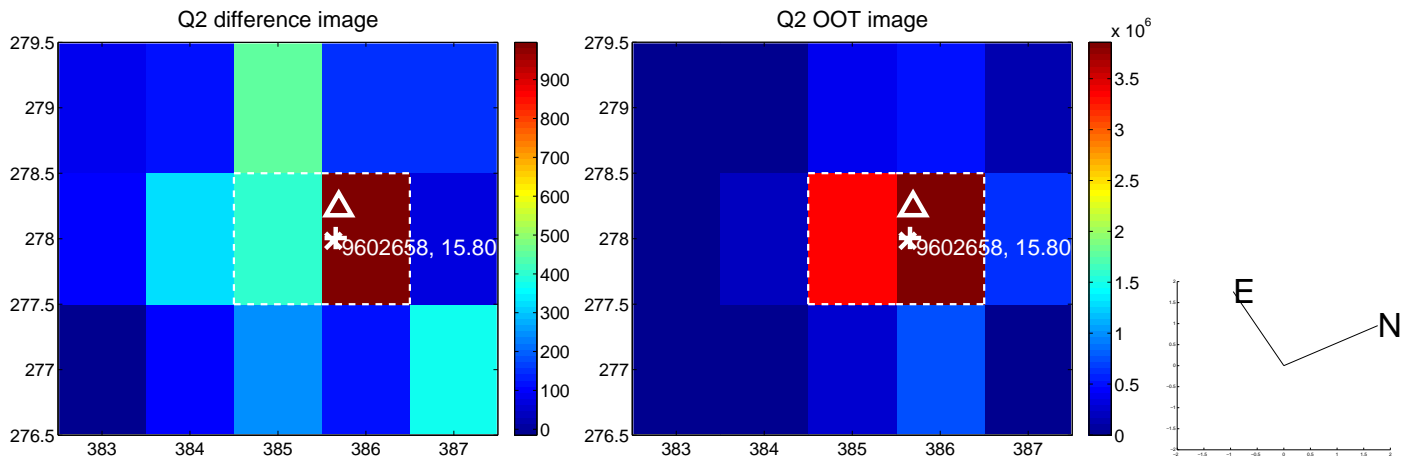
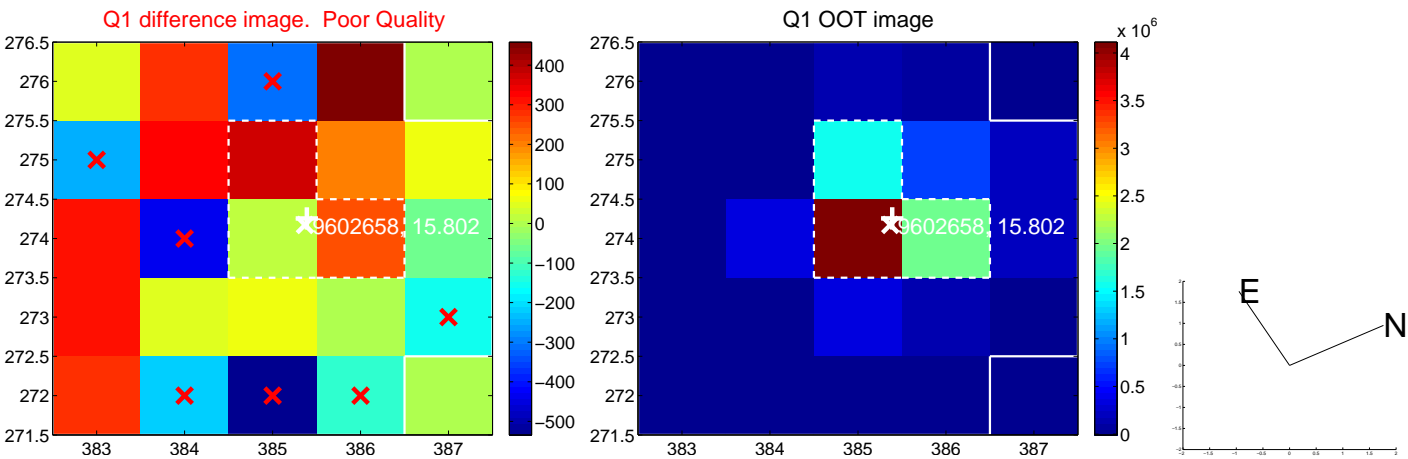


offset from photometric centroids

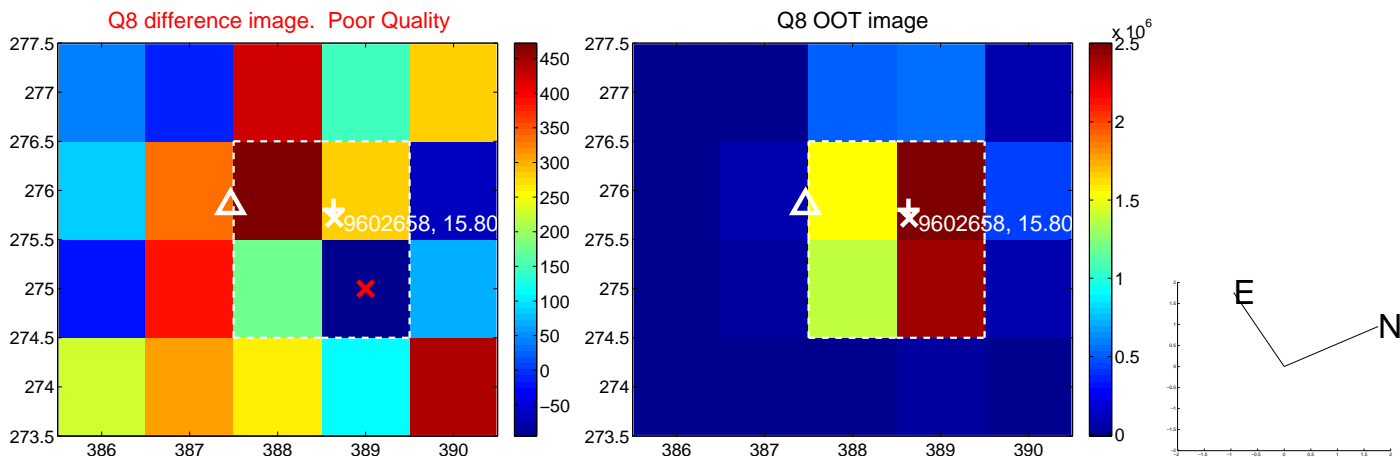
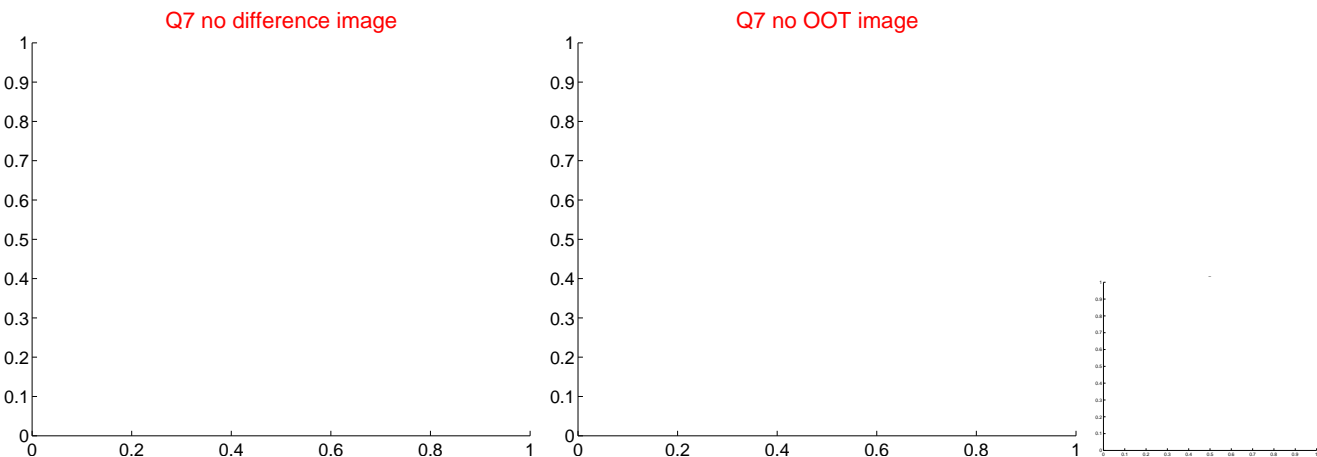
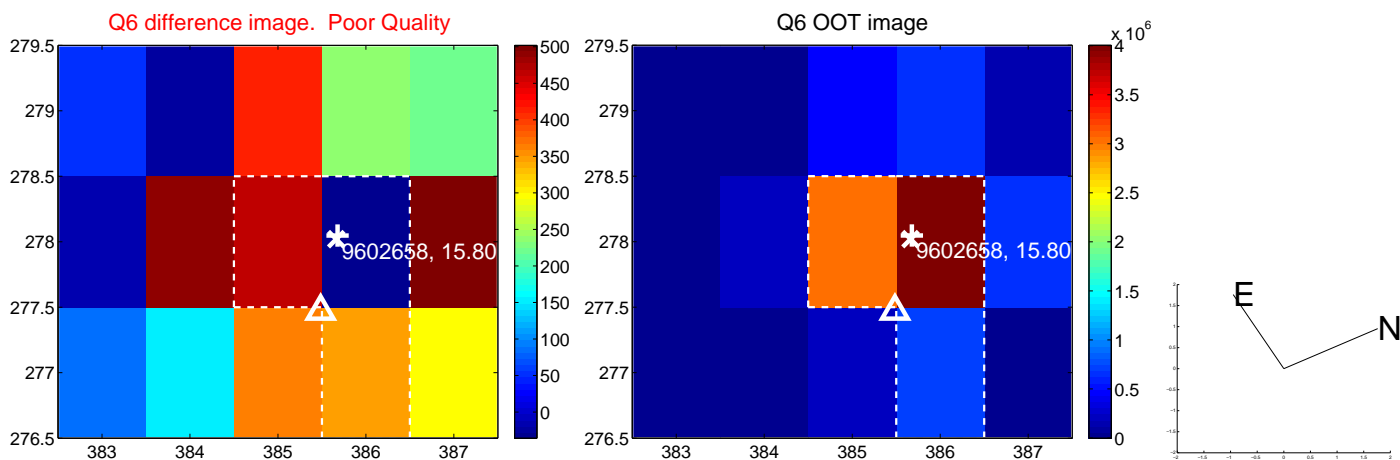
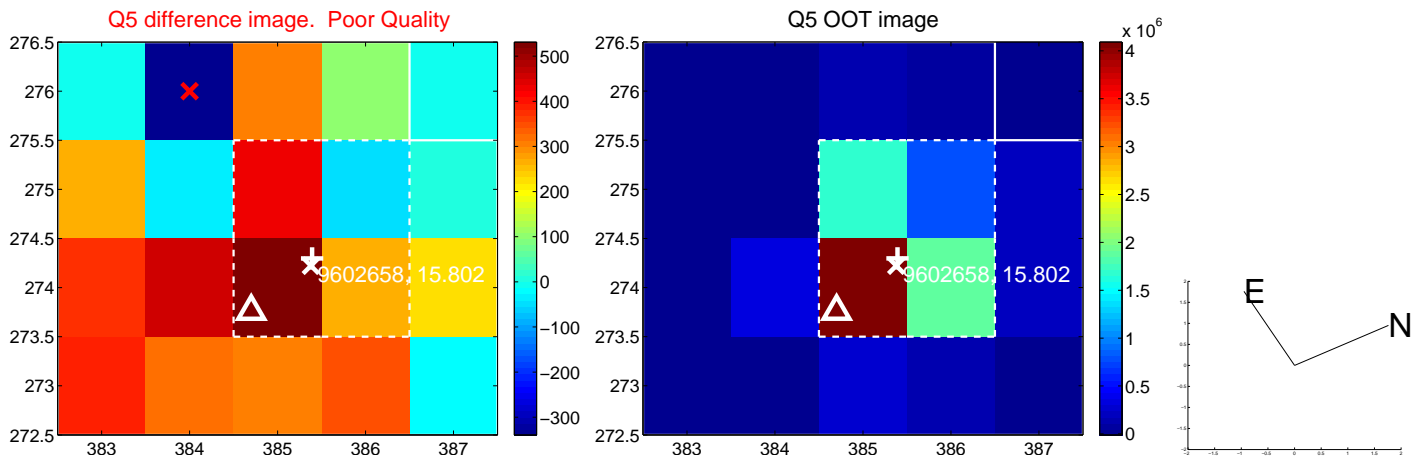


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

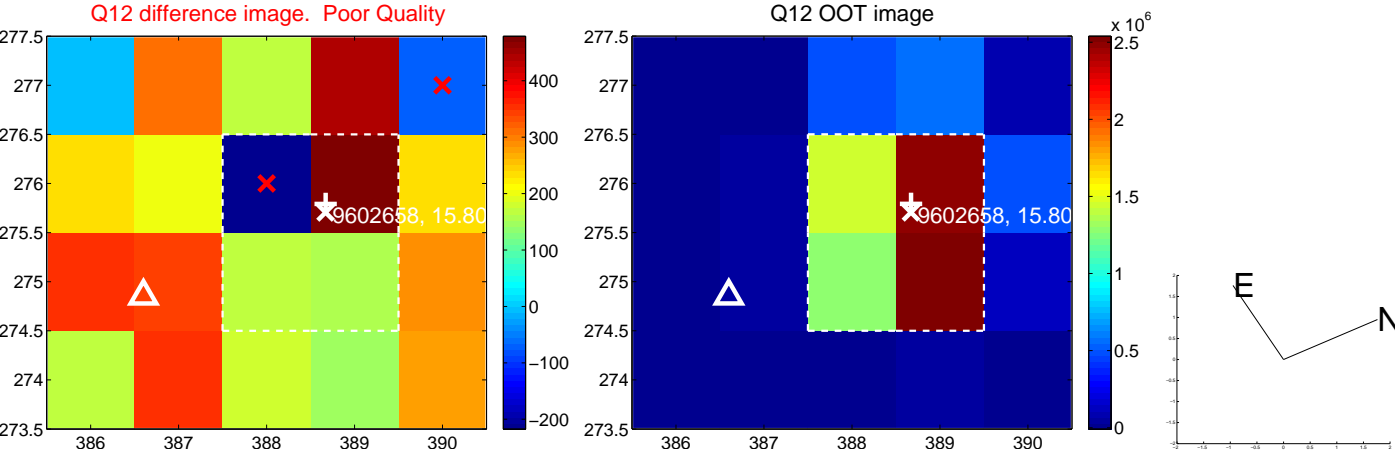
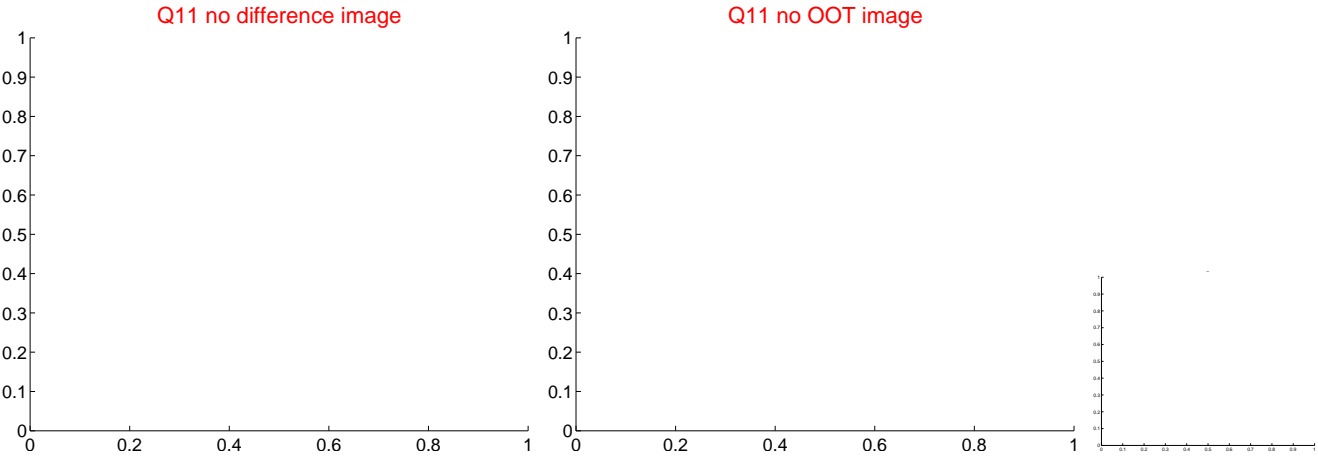
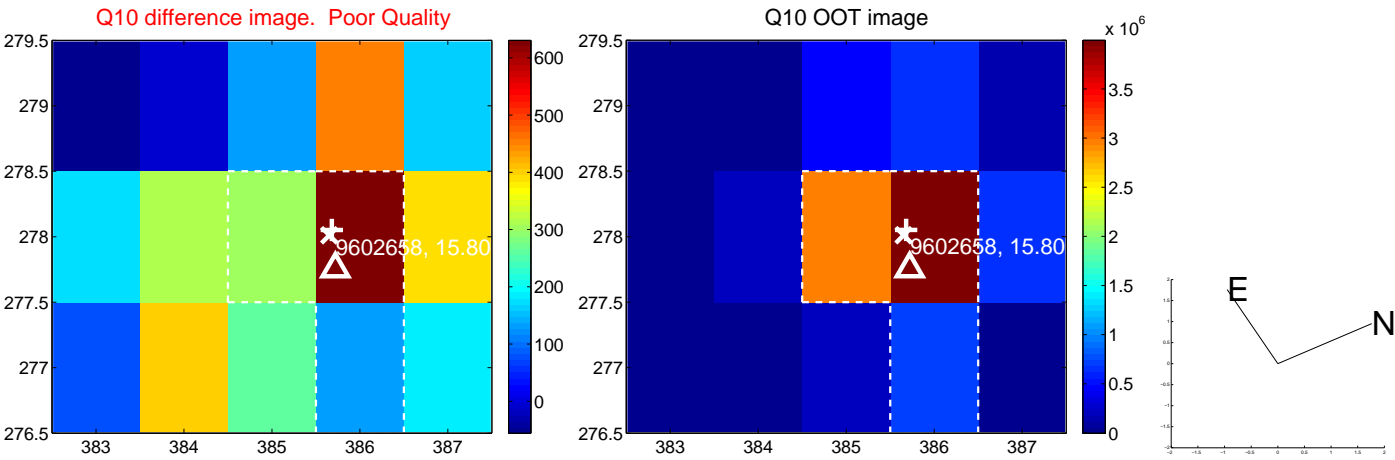
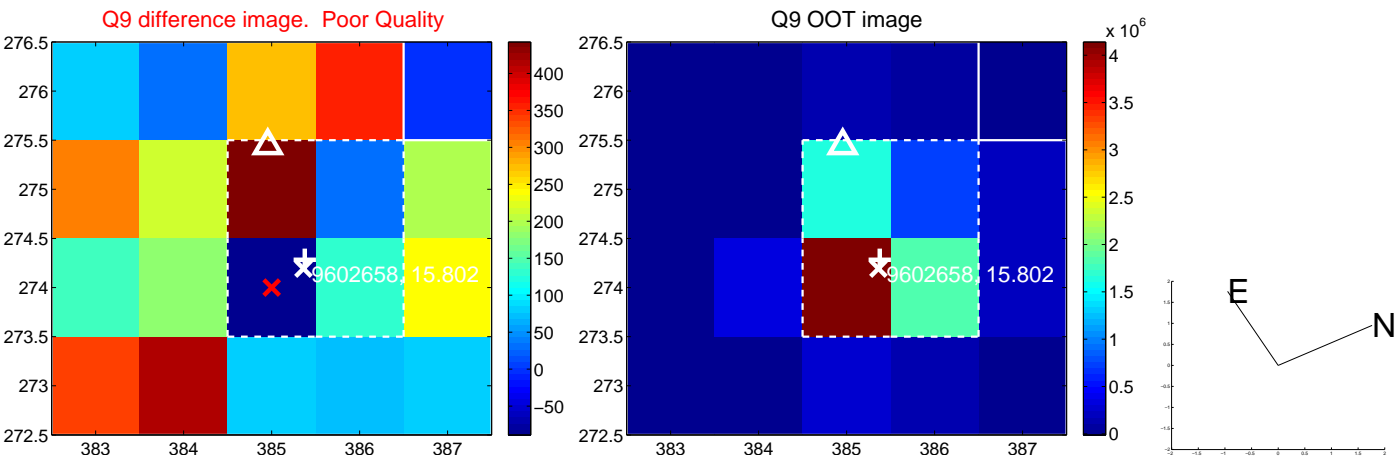
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



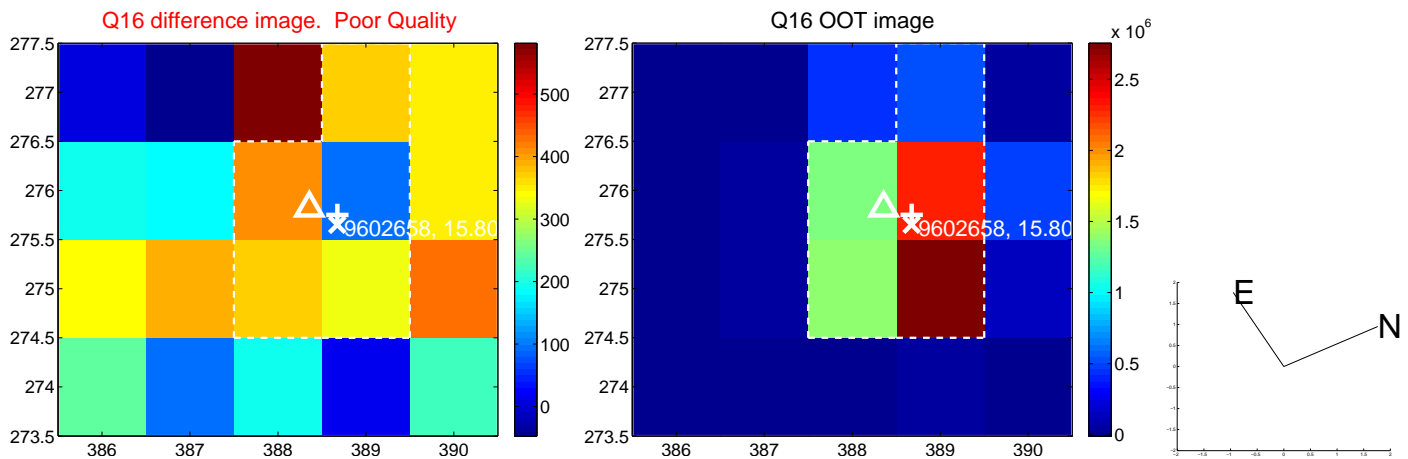
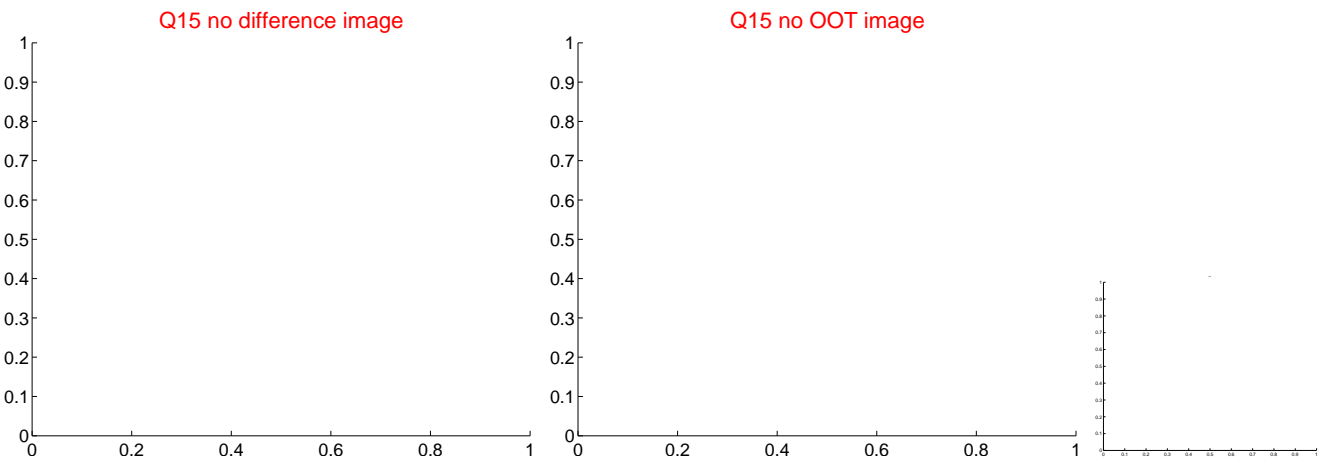
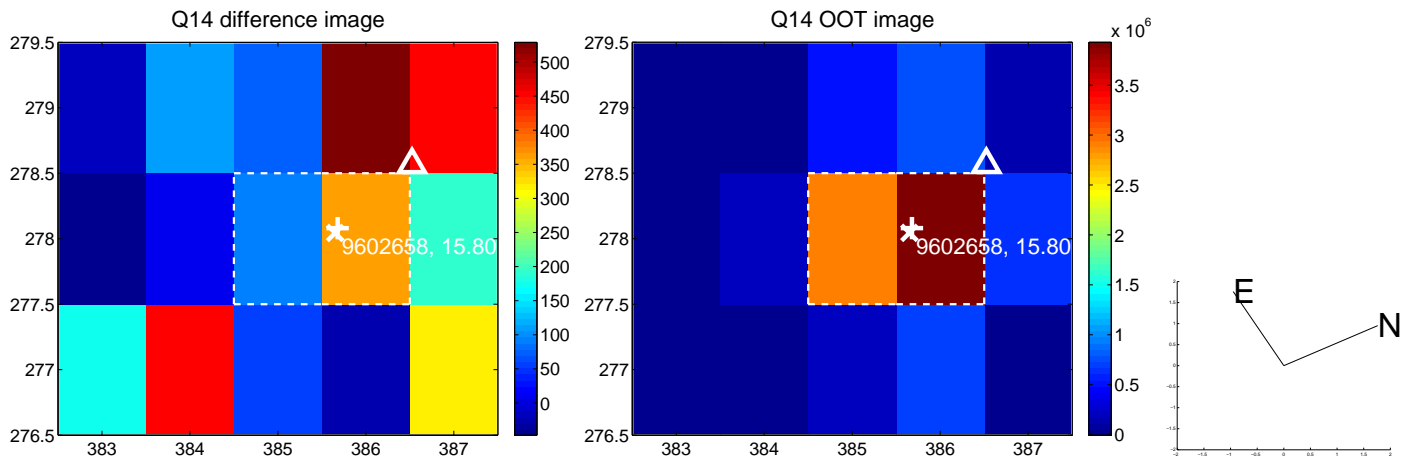
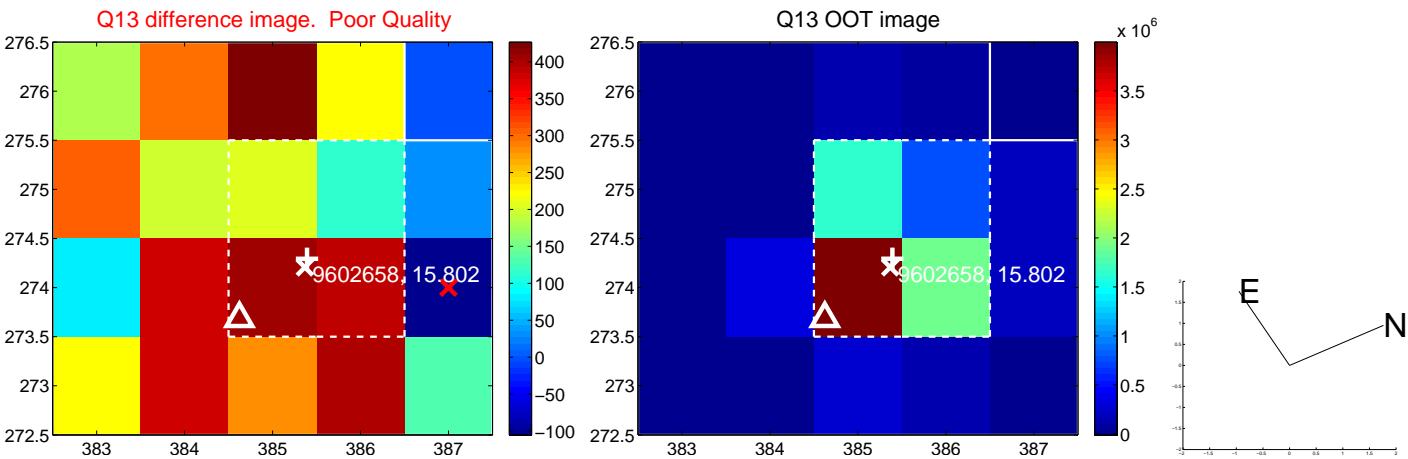
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



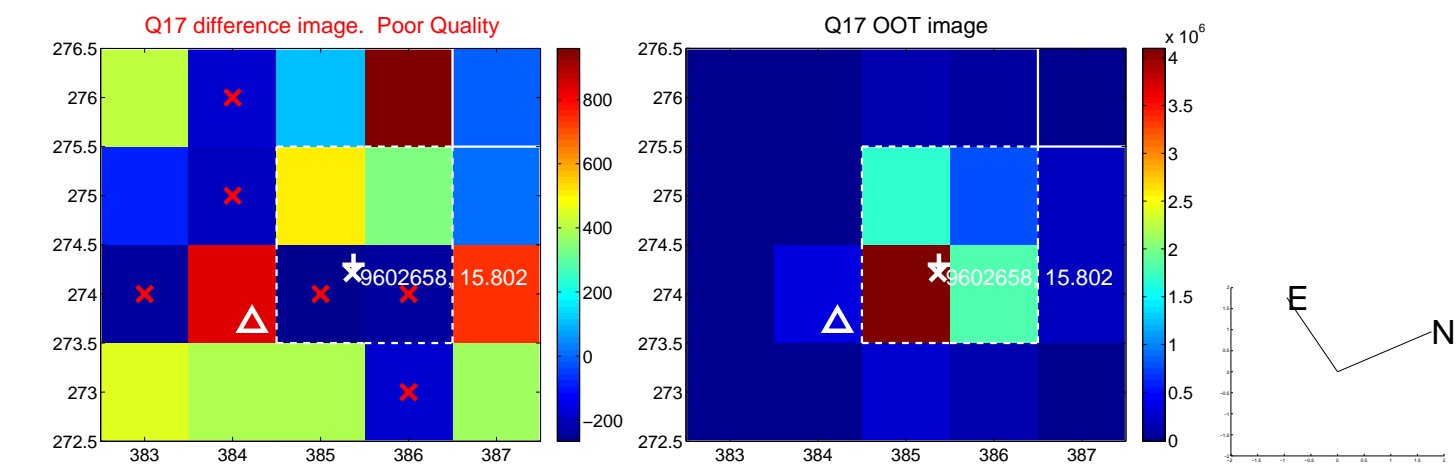
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



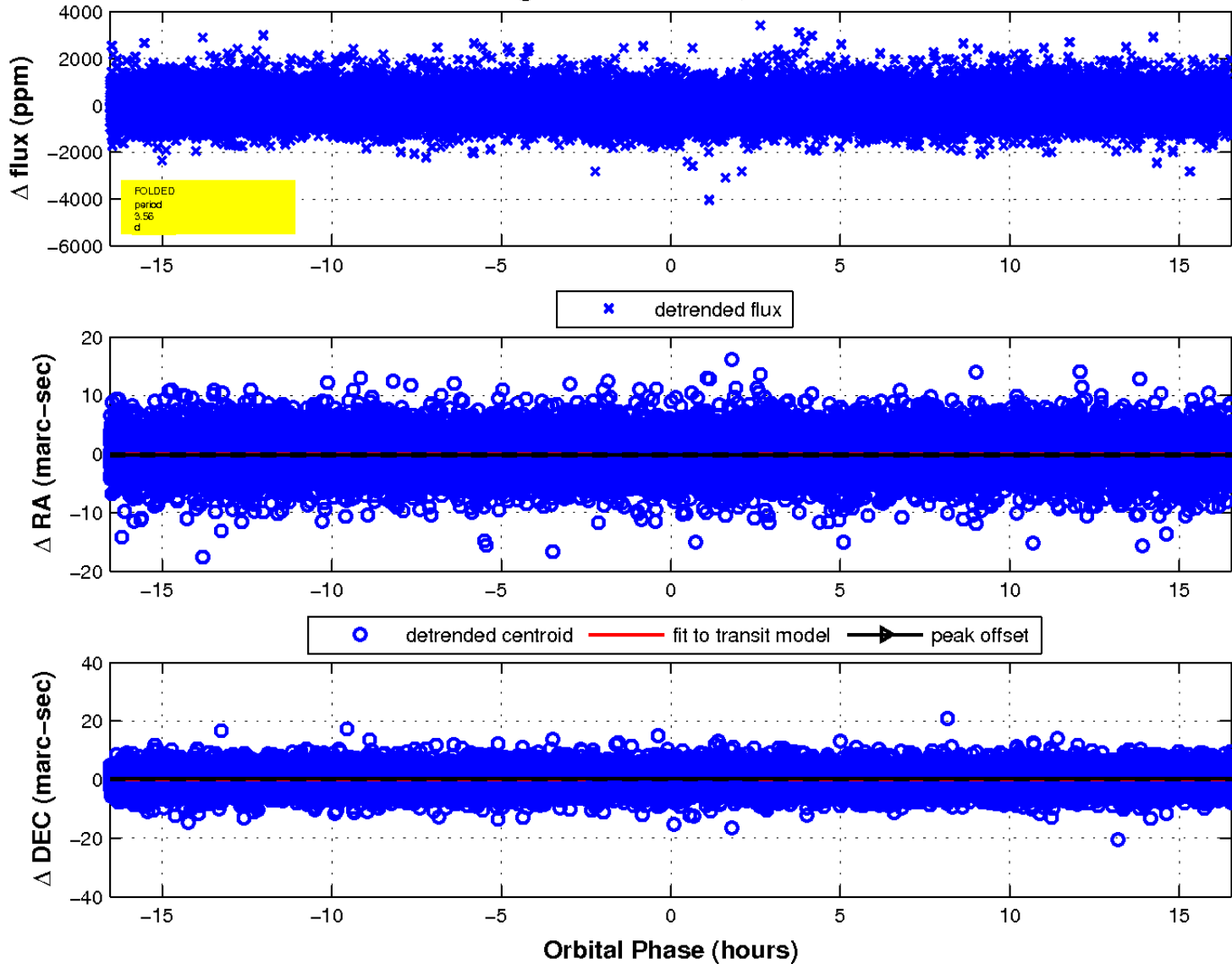
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

