

KIC 009777200

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})
009777200-01	OBS	4455.01	1.332504	132.082500	30.2	3.122	12.8	11.0	3.10	6858	1.97	22181.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009777200-01	OBS	FP	0.00	0	0	0	1	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.

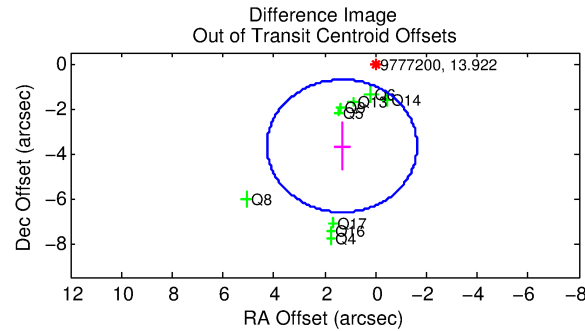
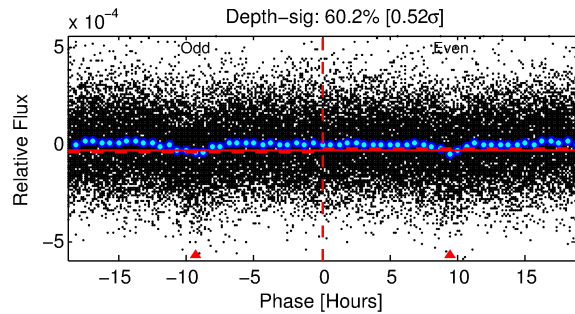
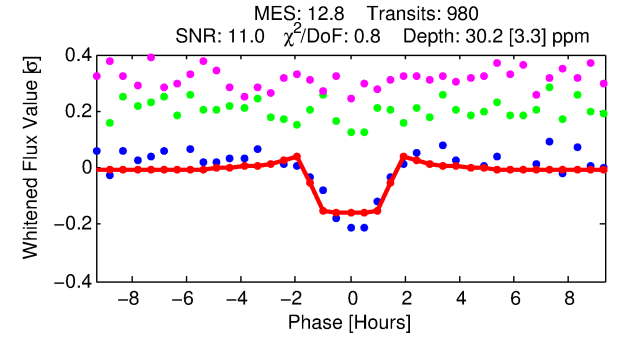
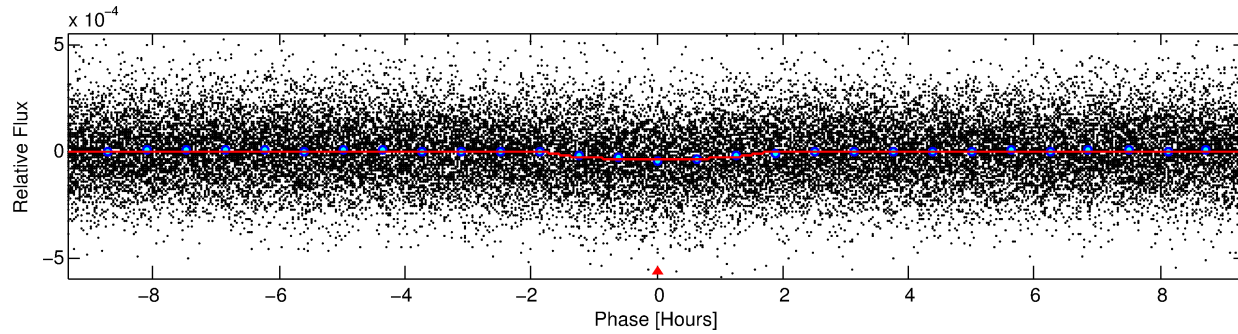
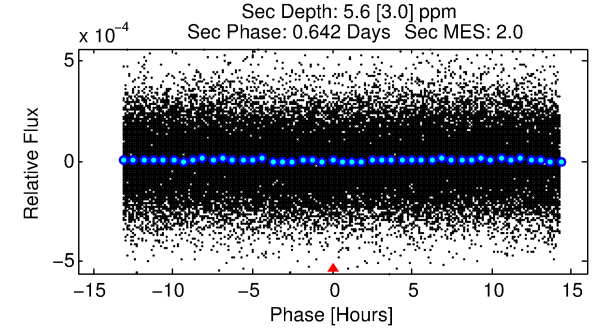
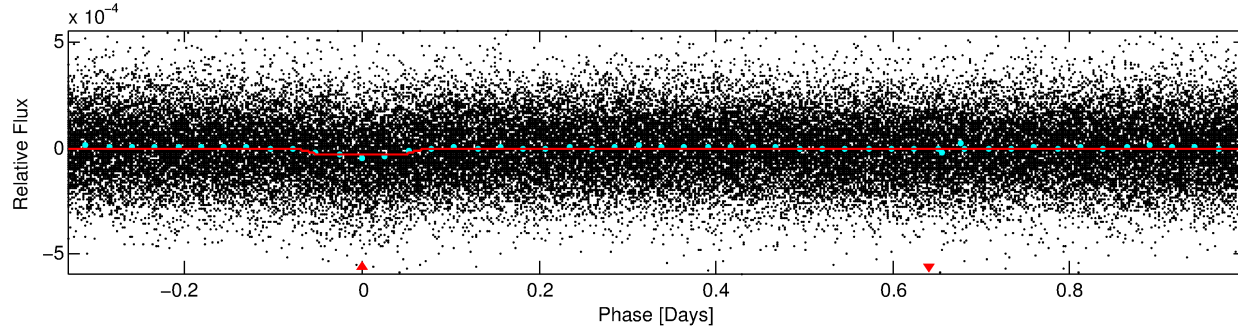
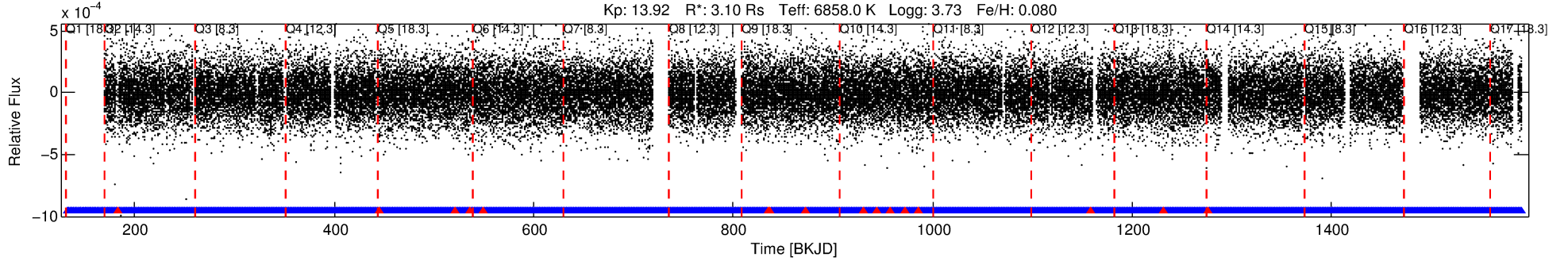
Ephemeris Match Information For 009777200-01

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
009777200-01	9777200	BR-Cyg-pri	9899416	1:1	2041.8	513	1	10.03	13.92	22296.00	Col-Anomaly	0	3.75	2.34

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: 9777200 Candidate: 1 of 1 Period: 1.333 d
KOI: K04455.01 Corr: 0.787



DV Fit Results:

Period = 1.33250 [0.00001] d
Epoch = 132.0825 [0.0029] BKJD
Rp/R* = 0.0058 [0.0015]
a/R* = 1.77 [1.85]
b = 0.89 [0.35]
Seff = 22181.64 [17862.64]
Teff = 3112 [626] K
Rp = 1.97 [1.09] Re
a = 0.0293 [0.0142] AU
Ag = 0.68 [0.73] [-0.44σ]
Teffp = 4365 [829] K [1.21σ]

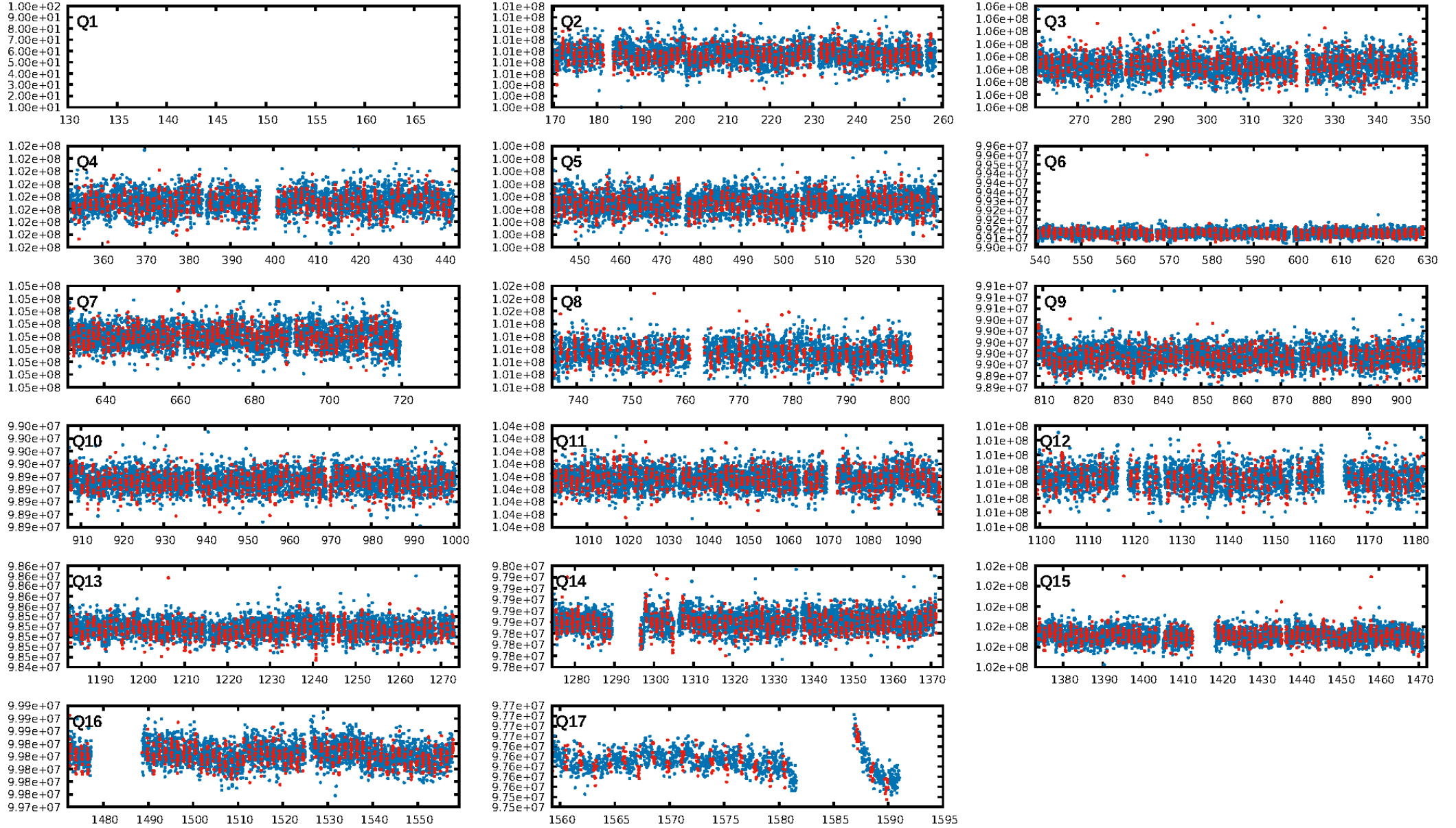
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.03e-34
RollingBand-fgt: 0.98 [944/960]
GhostDiagnostic-chr: 0.2766
Centroid-sig: 0.0%
Centroid-so: 6.289 arcsec [7.33σ]
OotOffset-rm: 3.898 arcsec [3.96σ]
KicOffset-rm: 3.904 arcsec [3.96σ]
OotOffset-st: 2/0/3/4 [9]
KicOffset-st: 2/0/3/4 [9]
DiffImageQuality-fgm: 0.56 [5/9]
DiffImageOverlap-fno: 1.00 [16/16]

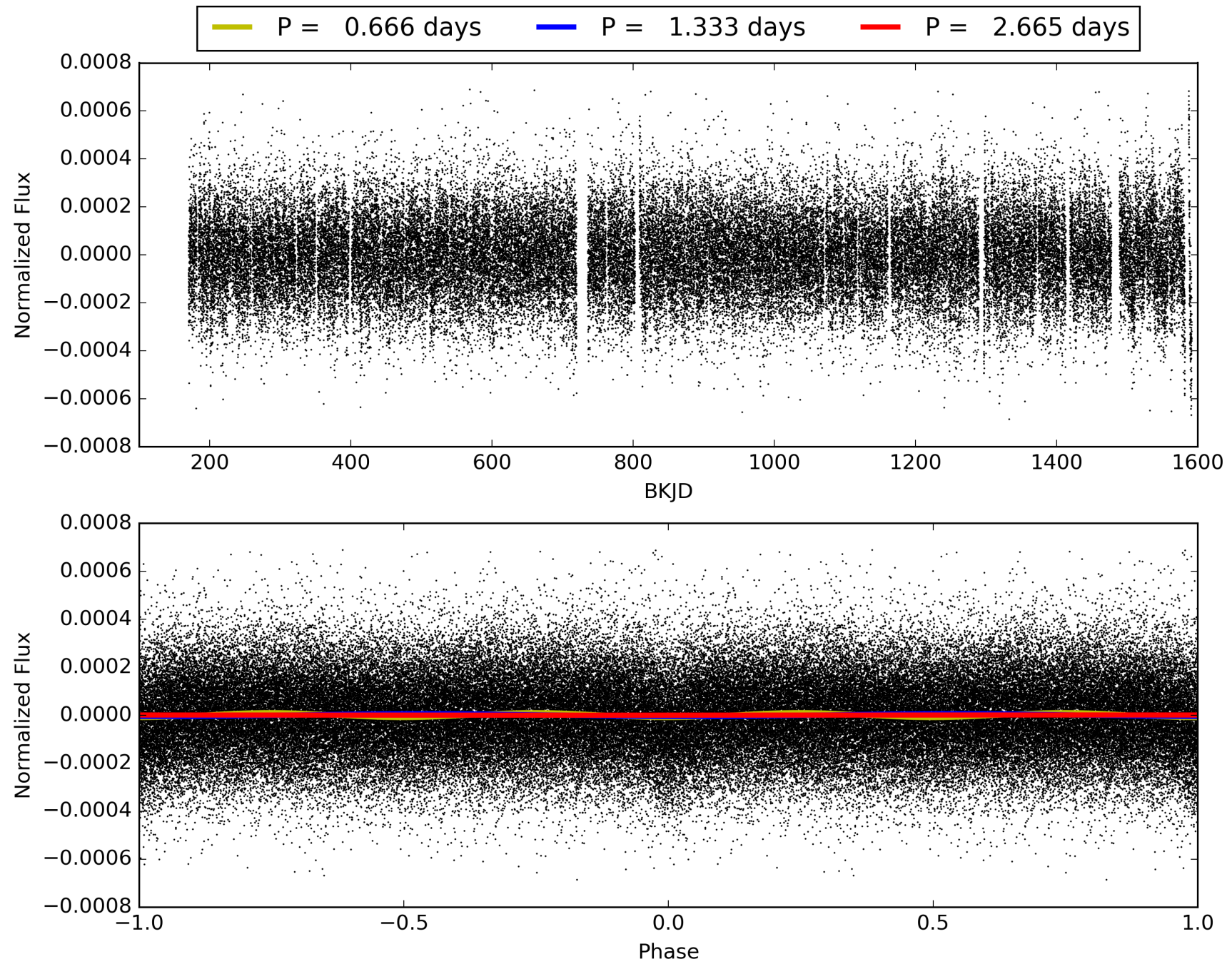
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:11:40 Z

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

TCE 009777200-01, PDC Light Curves

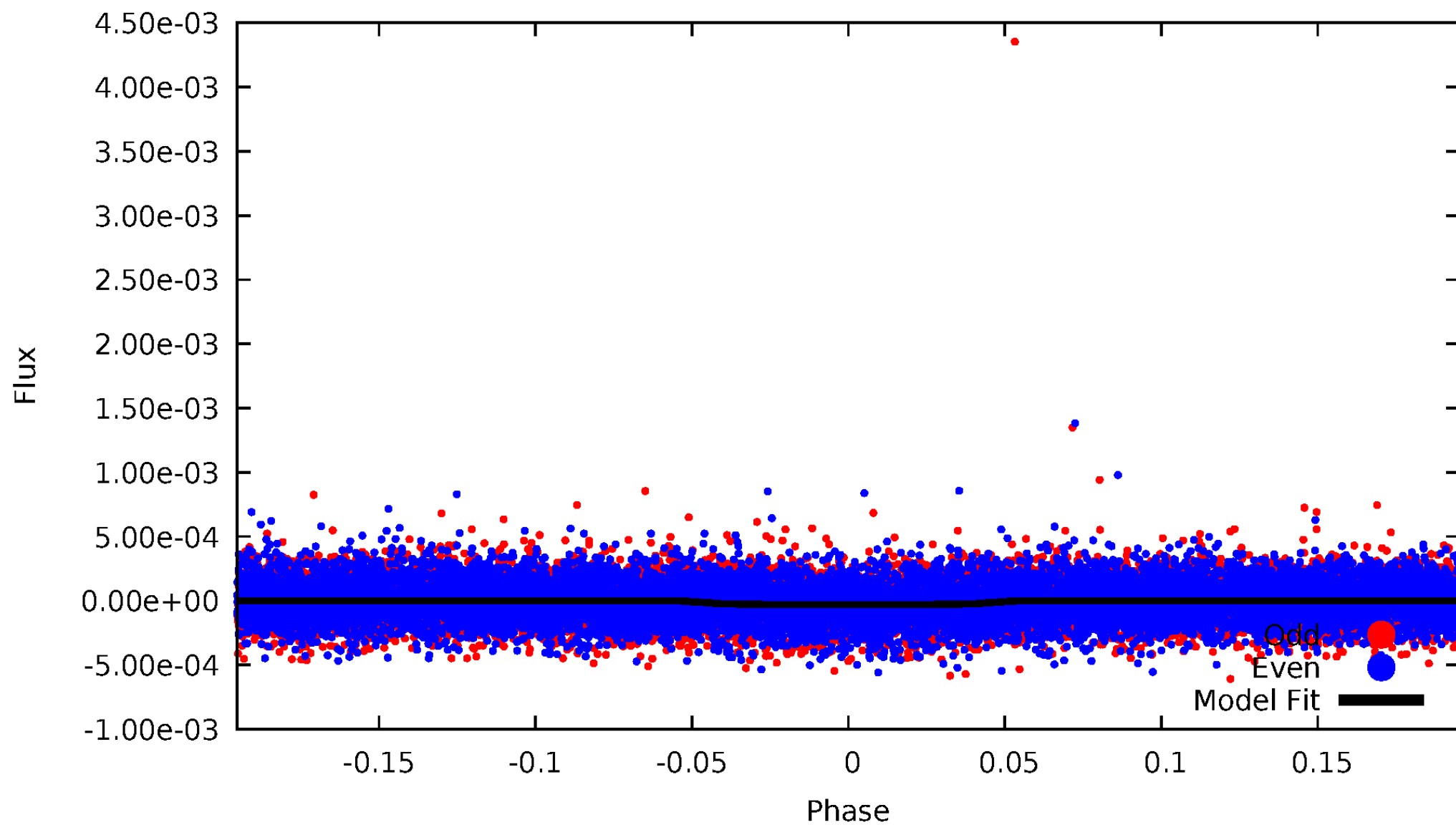


TCE 009777200-01



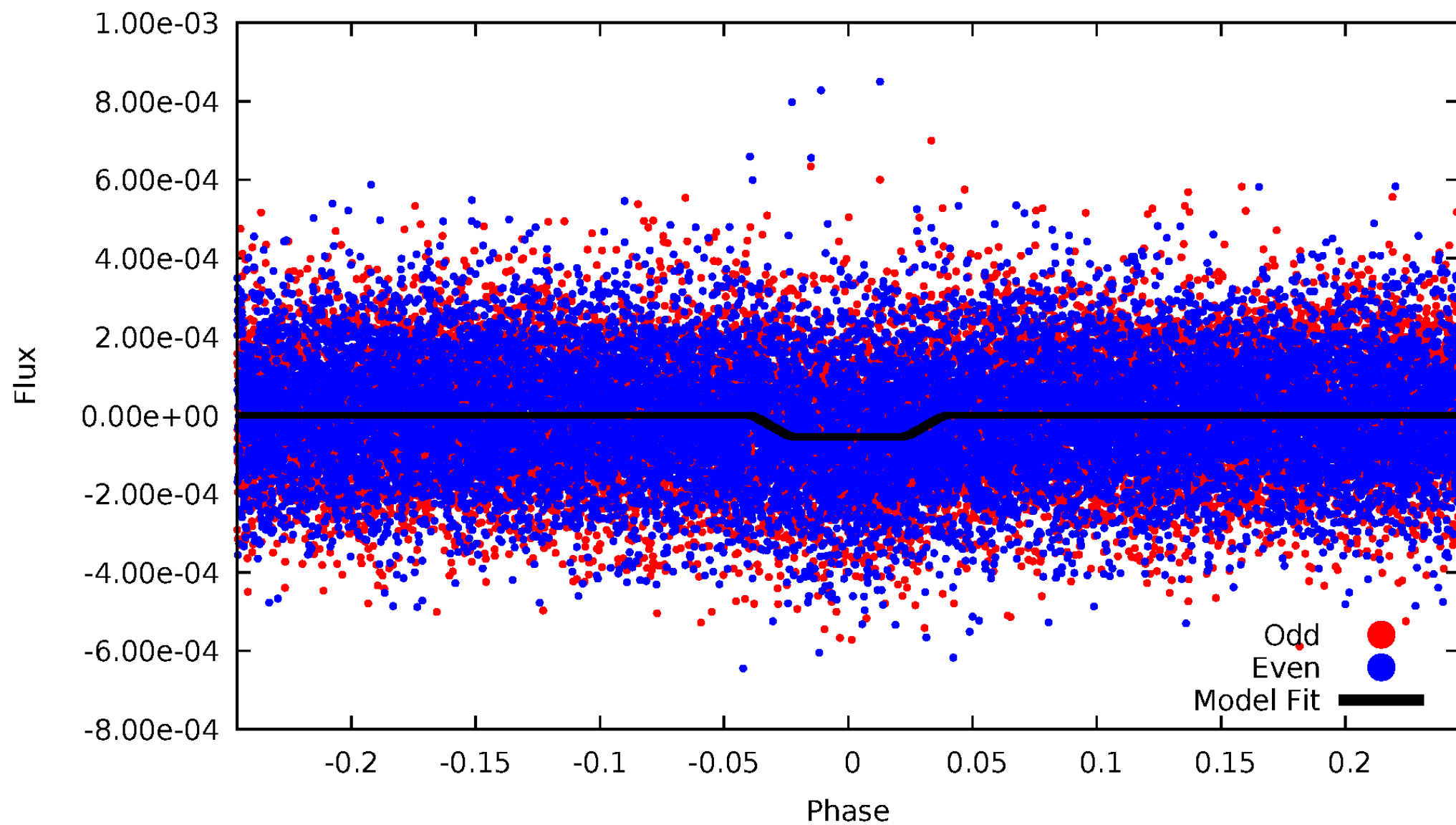
DV Odd/Even

TCE 009777200-01



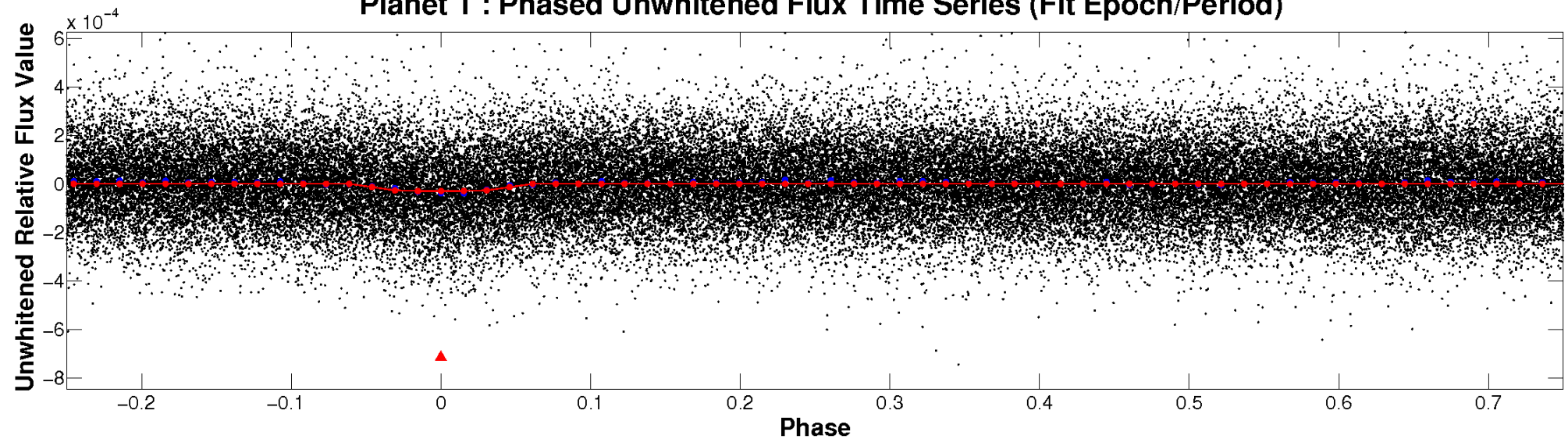
ALT Odd/Even

TCE 009777200-01

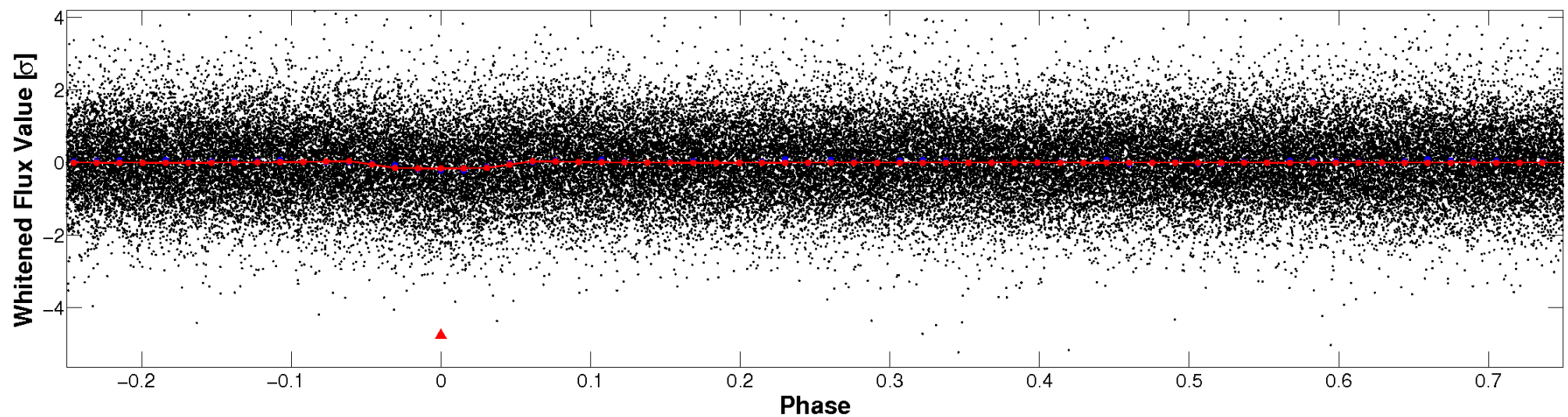


Non-Whitened Vs. Whitened Light Curve

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

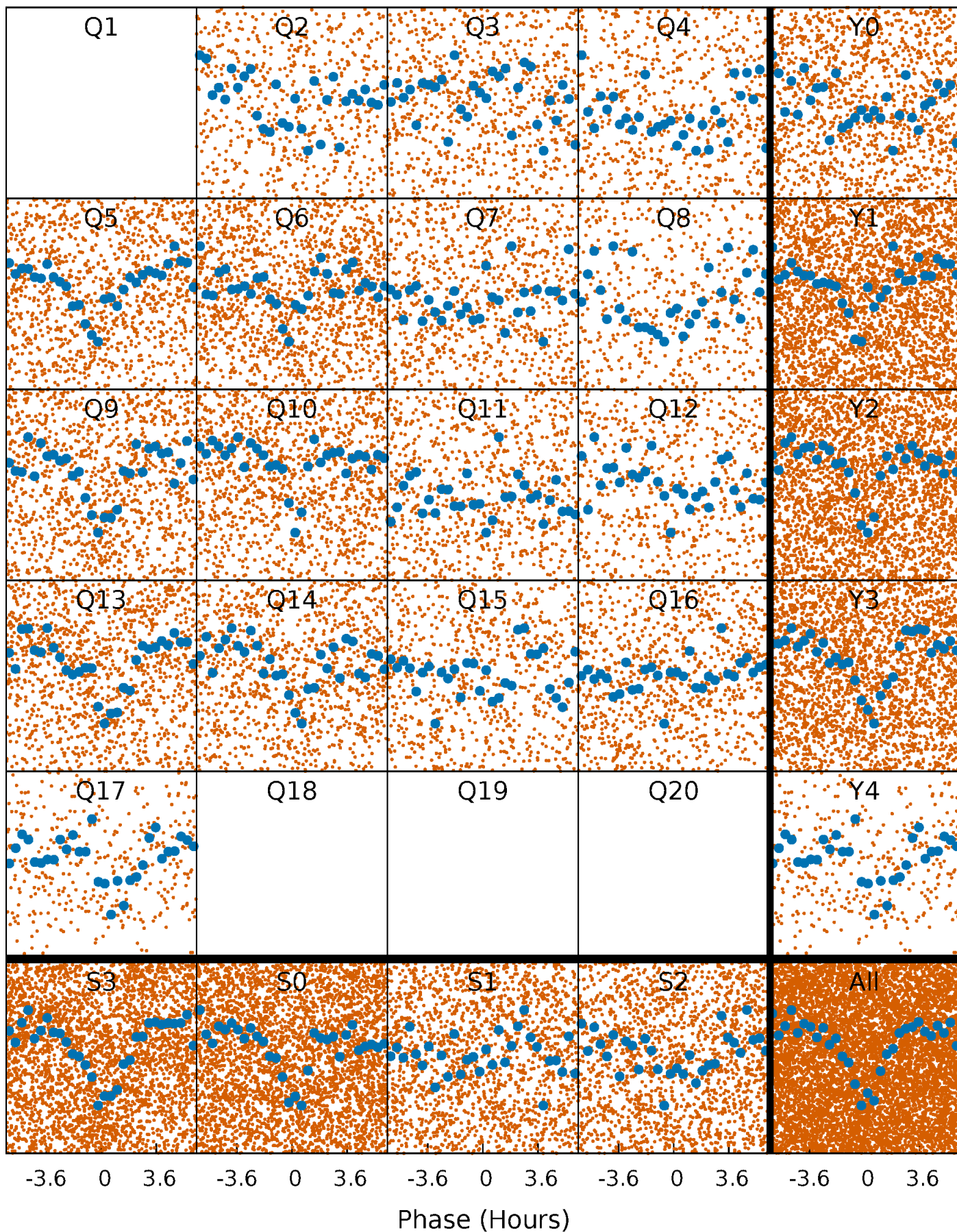


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



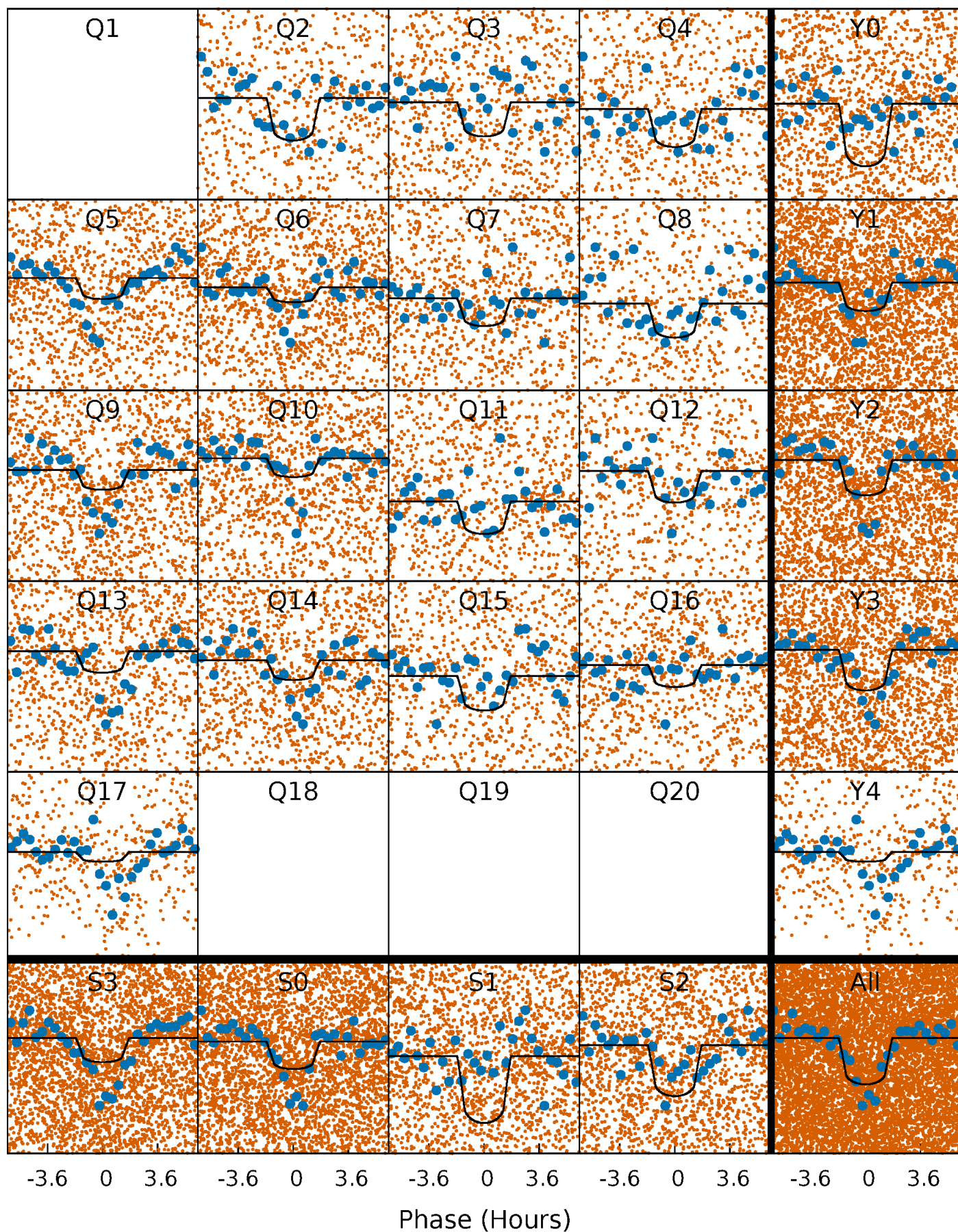
PDC Quarter-Phased Transit Curves

TCE 009777200-01 P= 1.332504 Days $T_0=132.082500$ (BKJD)



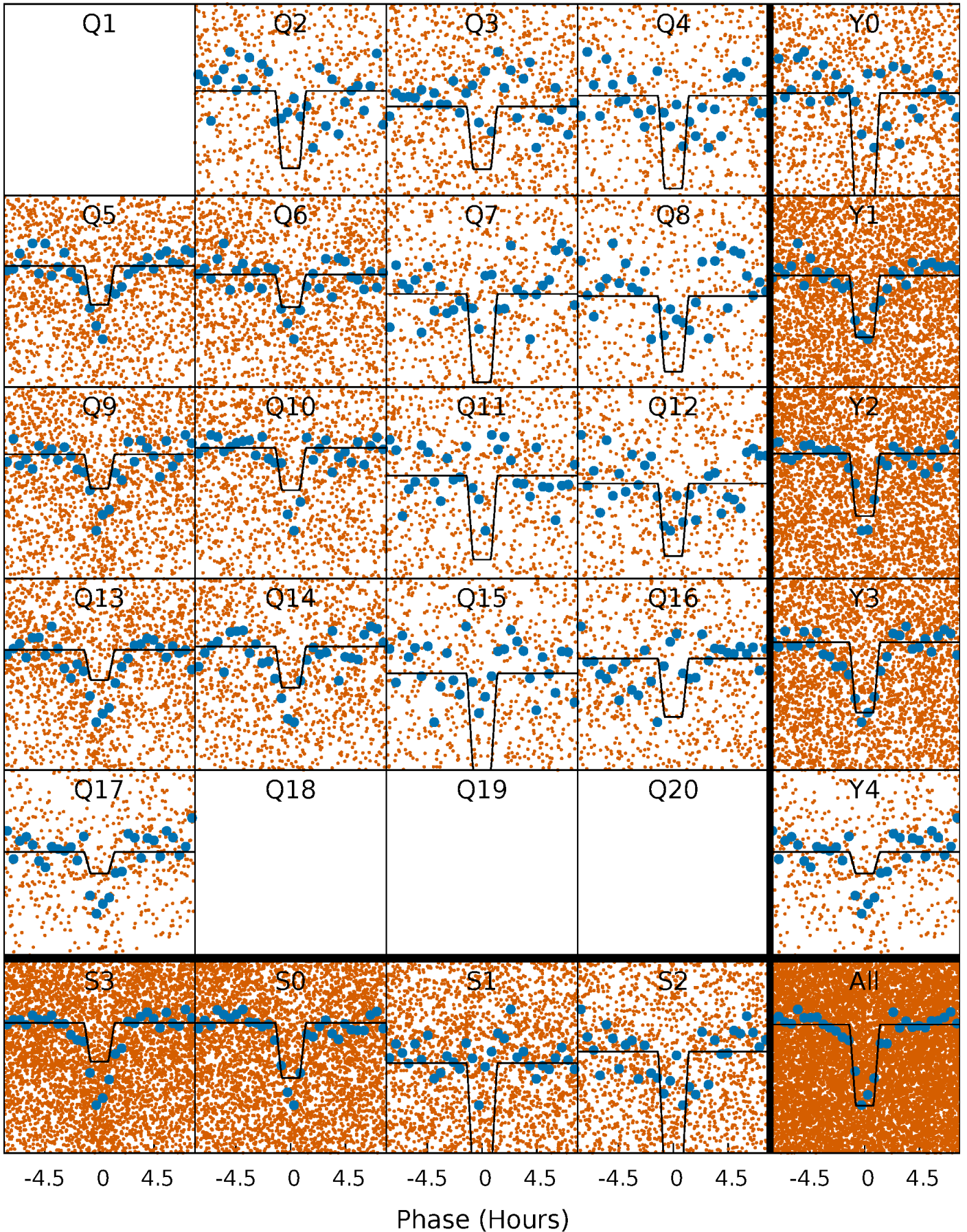
DV Quarter-Phased Transit Curves

TCE 009777200-01 P= 1.332504 Days $T_0=132.082500$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

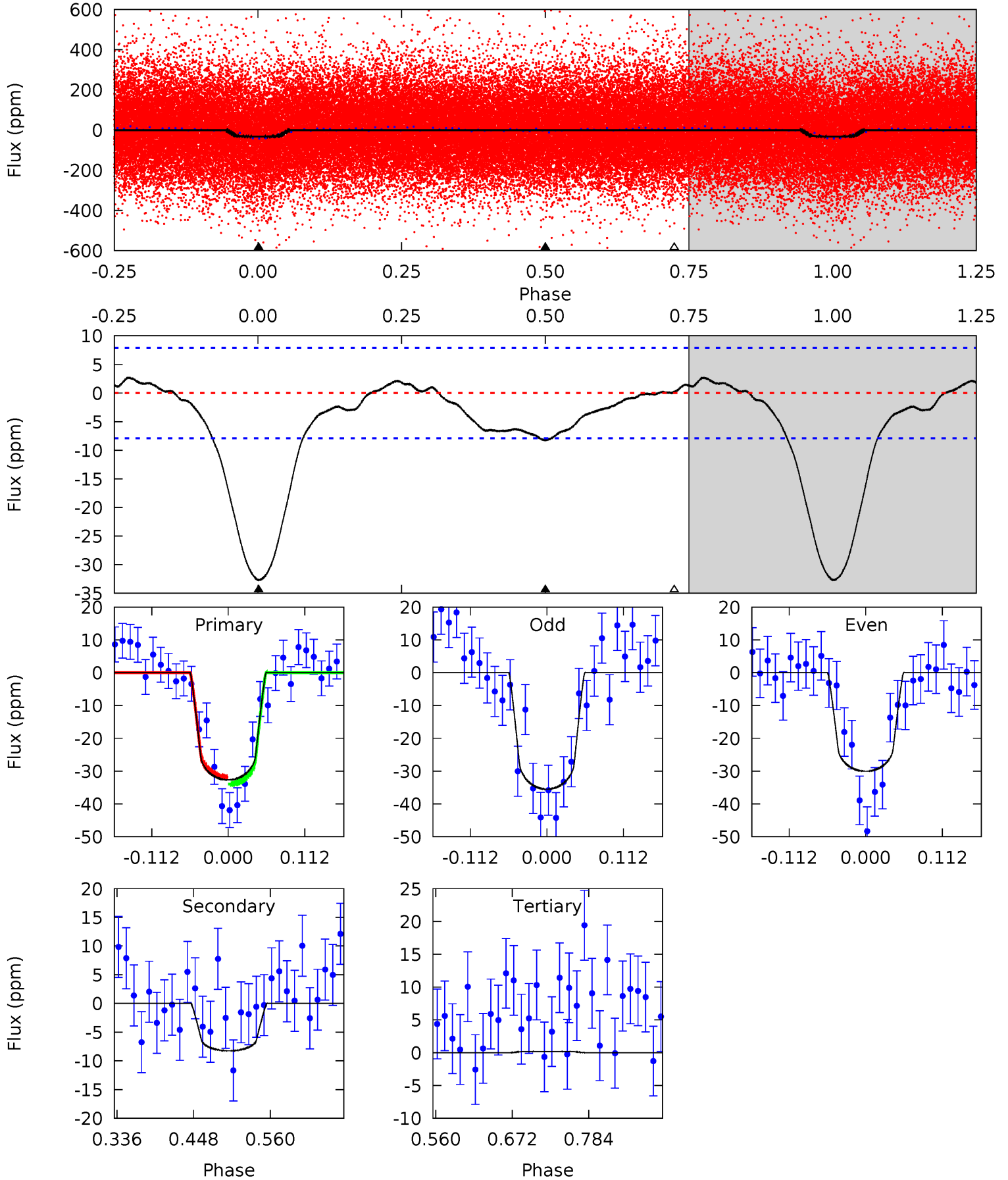
TCE 009777200-01 P= 1.332577 Days $T_0=132.040712$ (BKJD)



DV Model-Shift Uniqueness Test

009777200-01, P = 1.332504 Days, E = 132.082500 Days

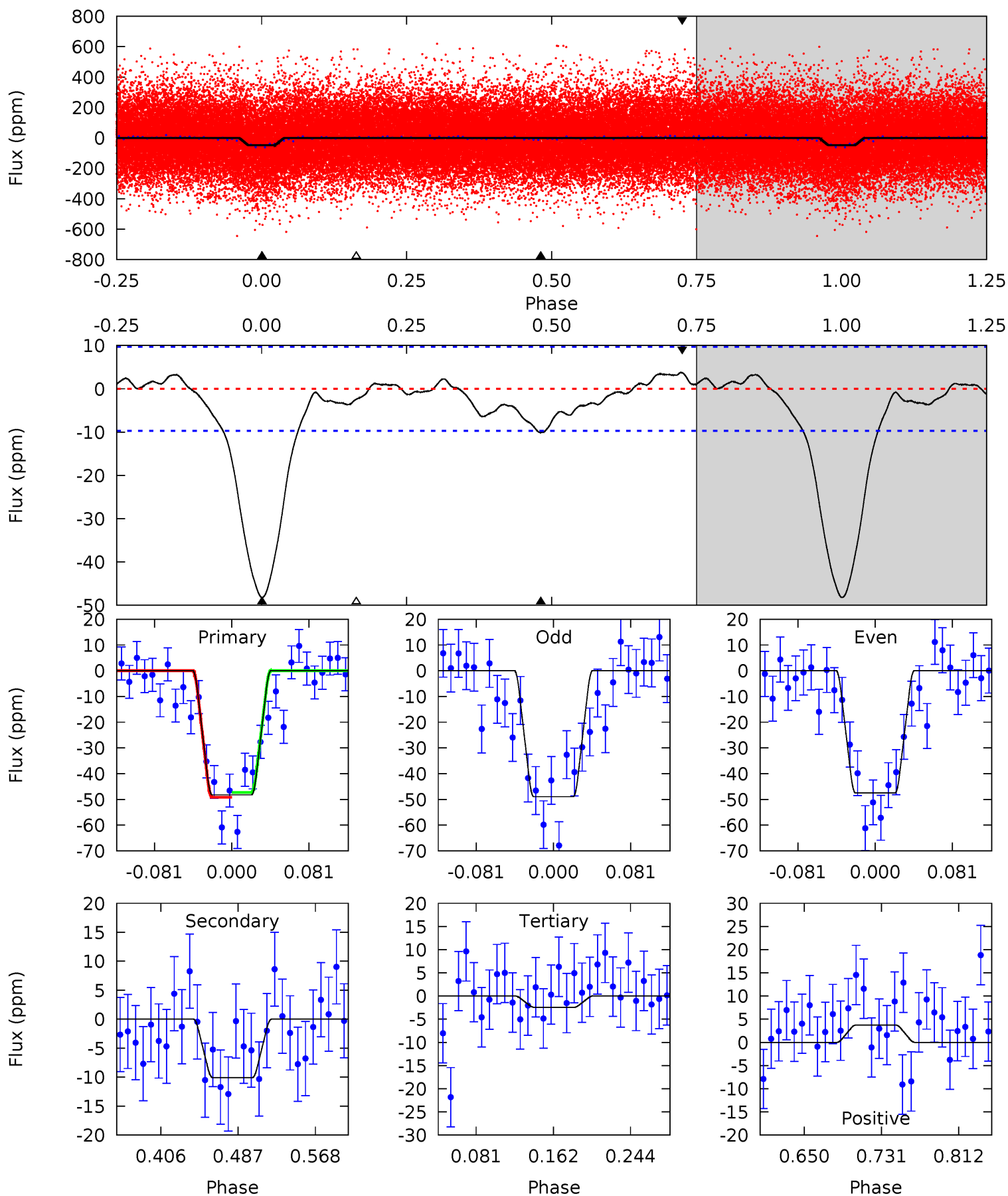
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.7	4.73	-0.10	0	4.54	1.59	1.06	18.8	18.7	4.83	4.73	1.57	0.97	0.08	0.61



Alt Model-Shift Uniqueness Test

009777200-01, P = 1.332577 Days, E = 132.040712 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.9	4.79	1.15	1.78	4.61	1.74	1.16	21.7	21.1	3.64	3.01	0.34	0.89	0.07	0.44



Stellar Parameters For KIC 009777200

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6858^{+191}_{-287}	$3.731^{+0.467}_{-0.082}$	$0.080^{+0.250}_{-0.300}$	$3.096^{+0.505}_{-1.516}$	$1.880^{+0.185}_{-0.555}$	$0.089^{+0.422}_{-0.023}$
	+3%/-4%	+13%/-2%	+312%/-375%	+16%/-49%	+10%/-30%	+473%/-26%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 009777200-01 / KOI 4455.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-8 ± 2	$1.76^{+0.60}_{-0.60}$	4152^{+331}_{-493}	4554^{+894}_{-620}	$1.237^{+1.536}_{-0.584}$
Alt.	-10 ± 2	$2.21^{+0.67}_{-0.67}$	4150^{+328}_{-479}	4285^{+633}_{-579}	$0.945^{+0.943}_{-0.395}$

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

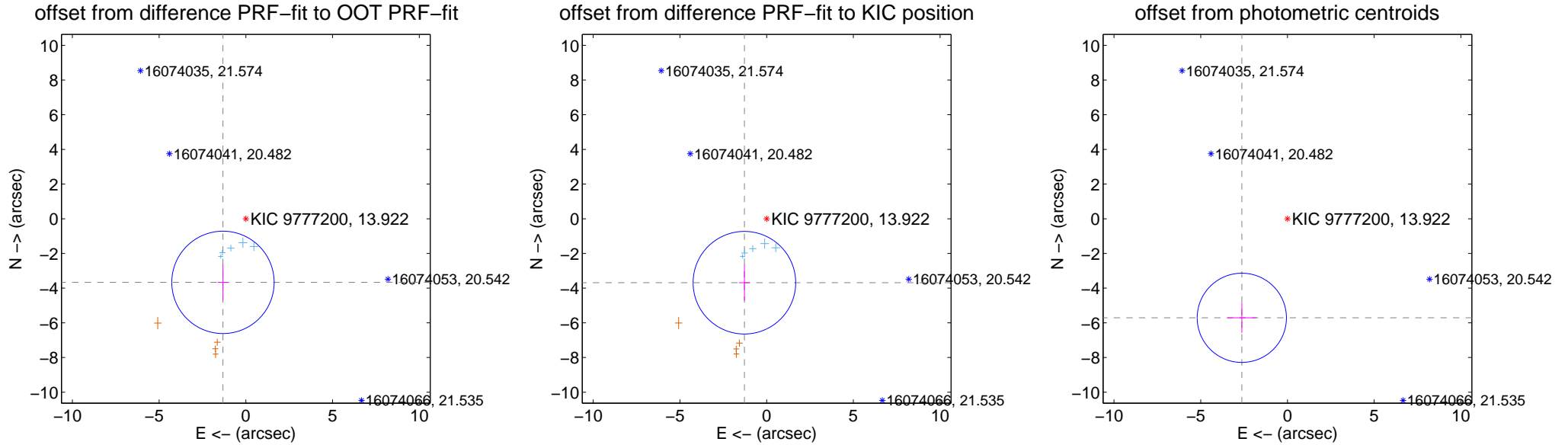
DV Centroid Data

Supplemental centroid analysis for 009777200-01. Kepler magnitude: 13.92. Transit SNR 11.00

There are 5 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.898 ± 0.984	3.96	1.319 ± 0.303	-3.668 ± 1.040
PRF-fit source offset from KIC position	3.904 ± 0.986	3.96	1.283 ± 0.320	-3.687 ± 1.038
photometric centroid source offset	6.29 ± 0.86	7.33	2.63 ± 0.84	-5.71 ± 0.86



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.

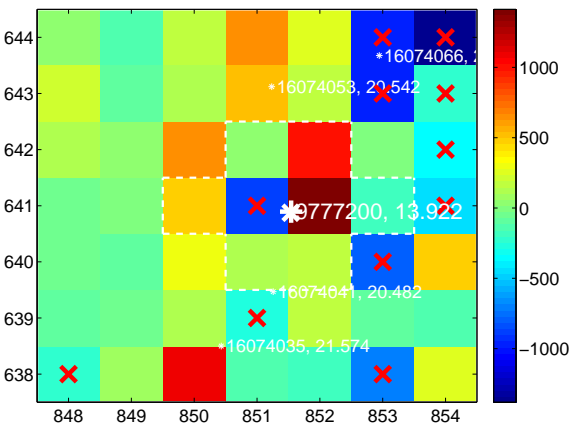
Q1 no difference image



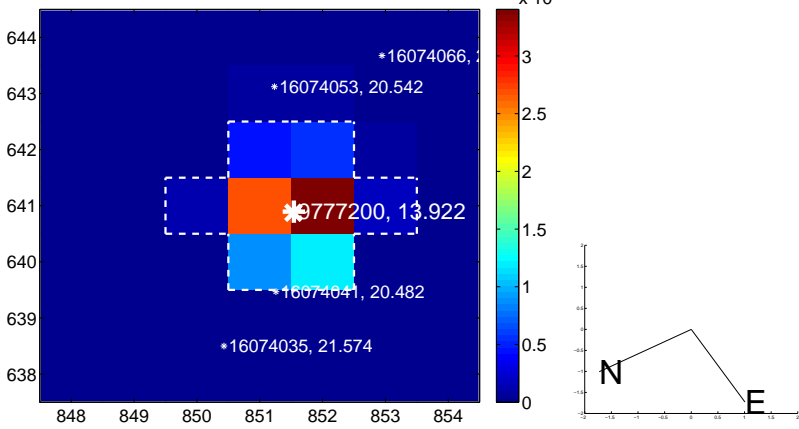
Q1 no OOT image



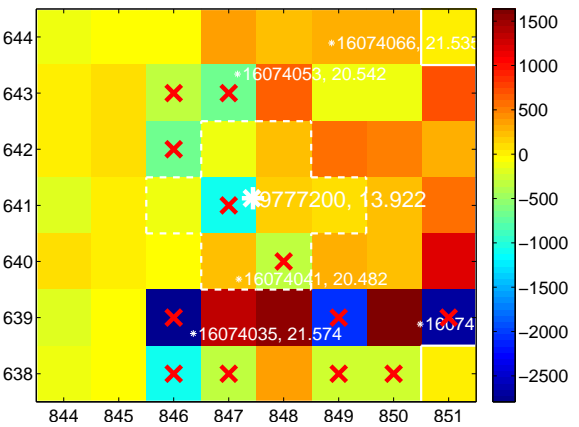
Q2 difference image. Poor Quality



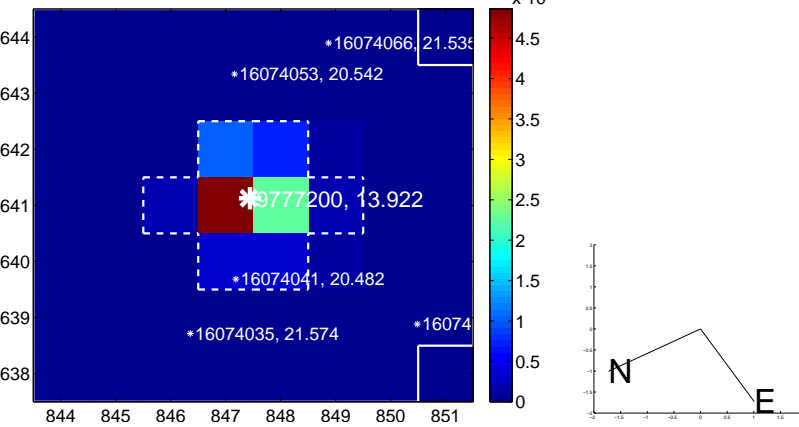
Q2 OOT image



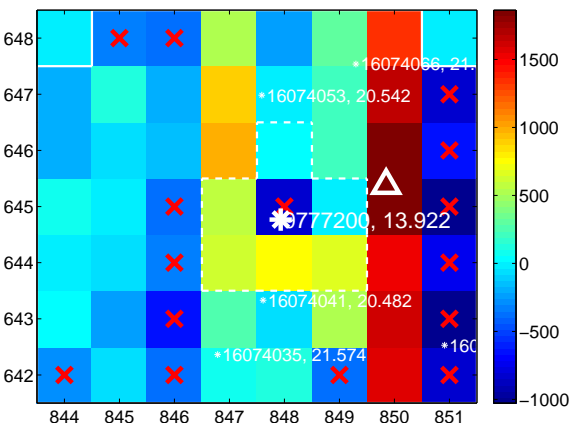
Q3 difference image. Poor Quality



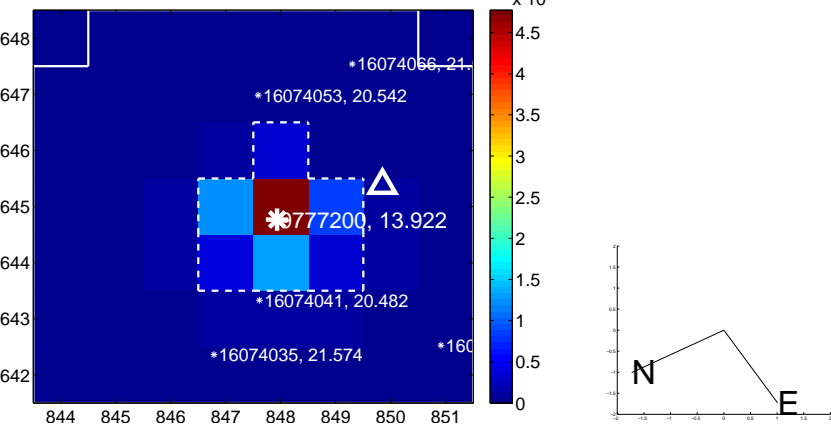
Q3 OOT image



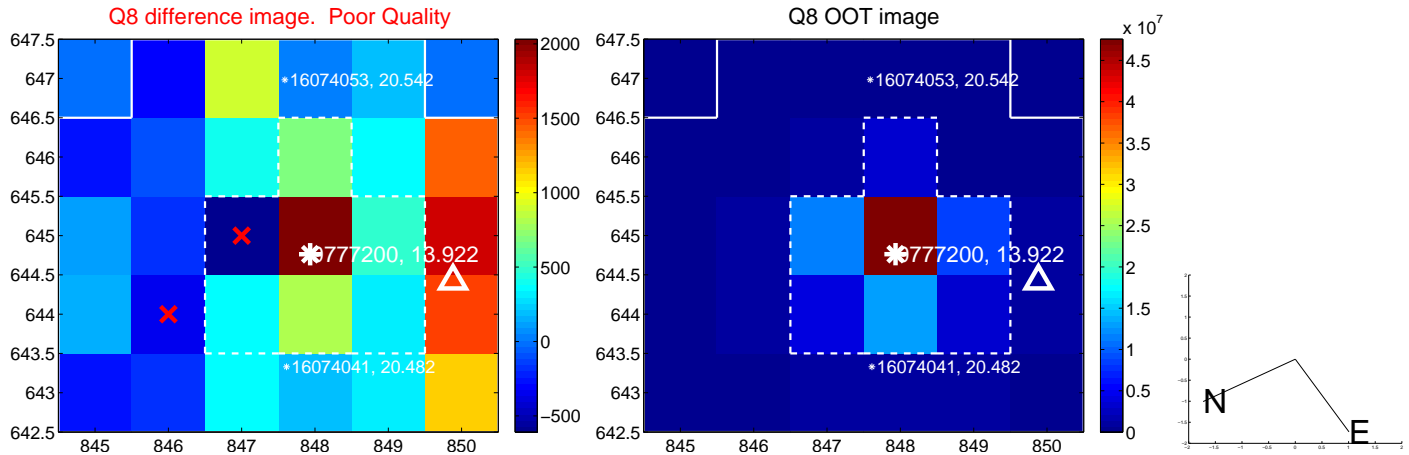
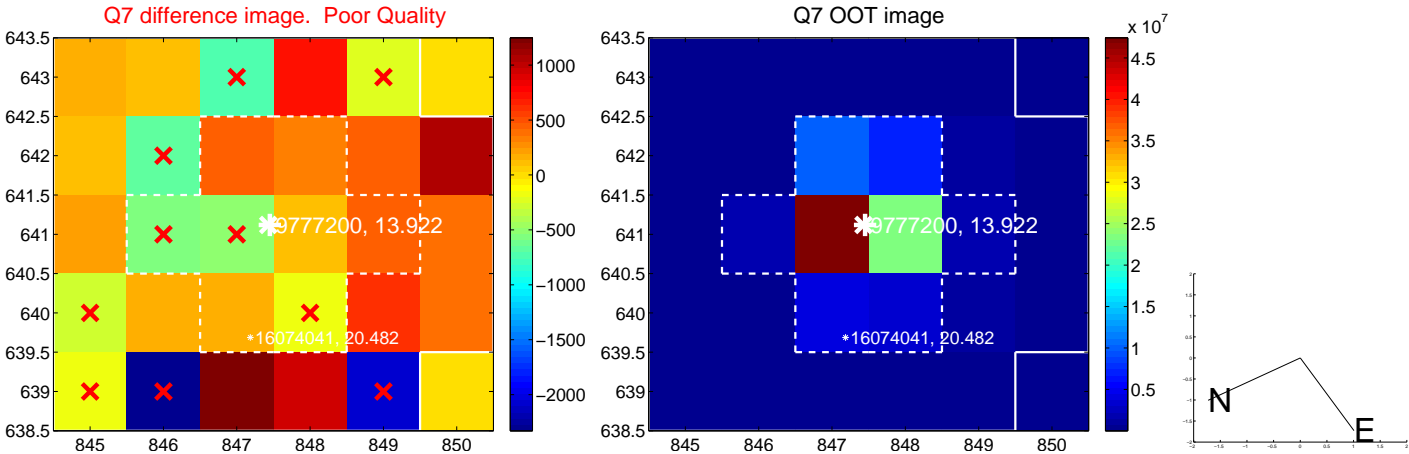
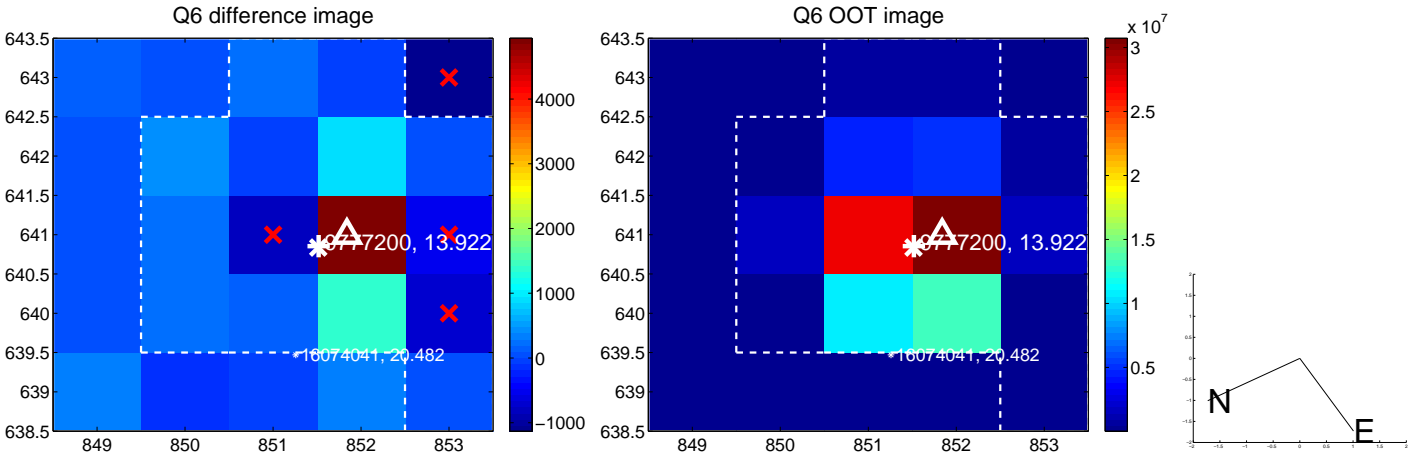
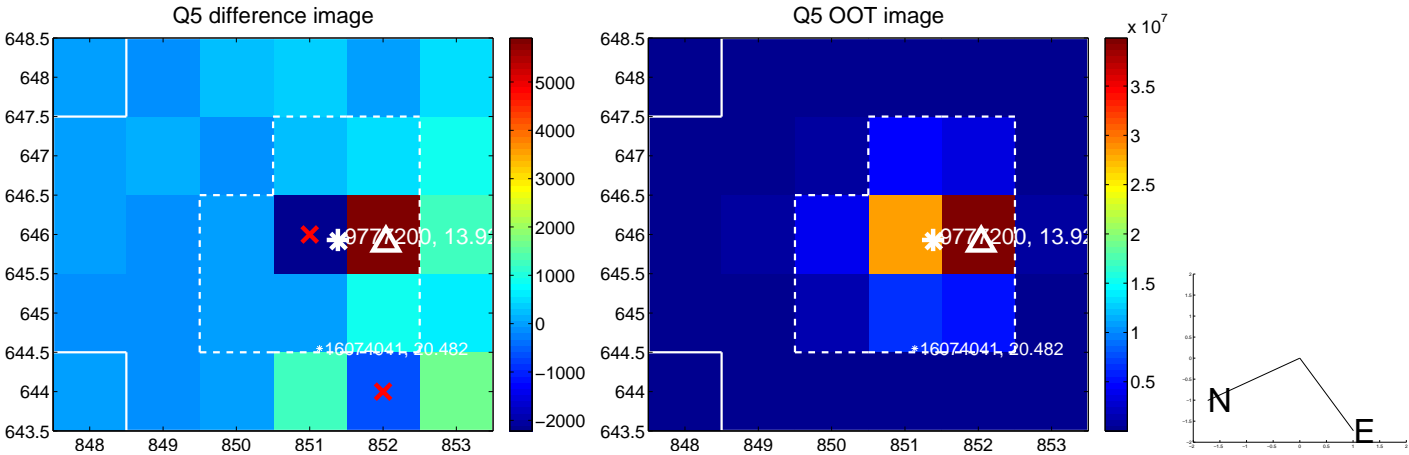
Q4 difference image. Poor Quality



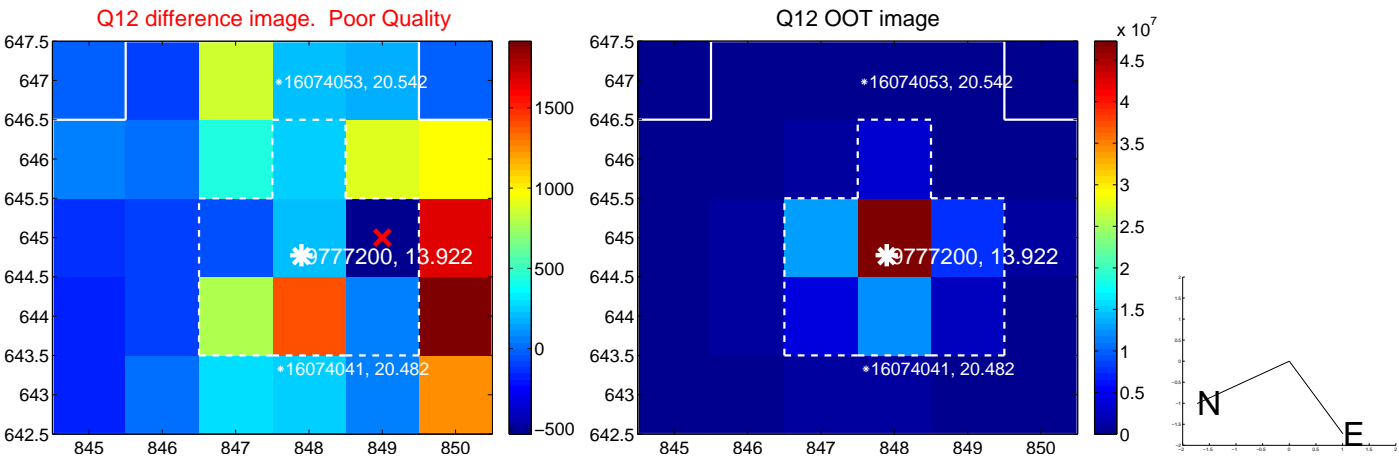
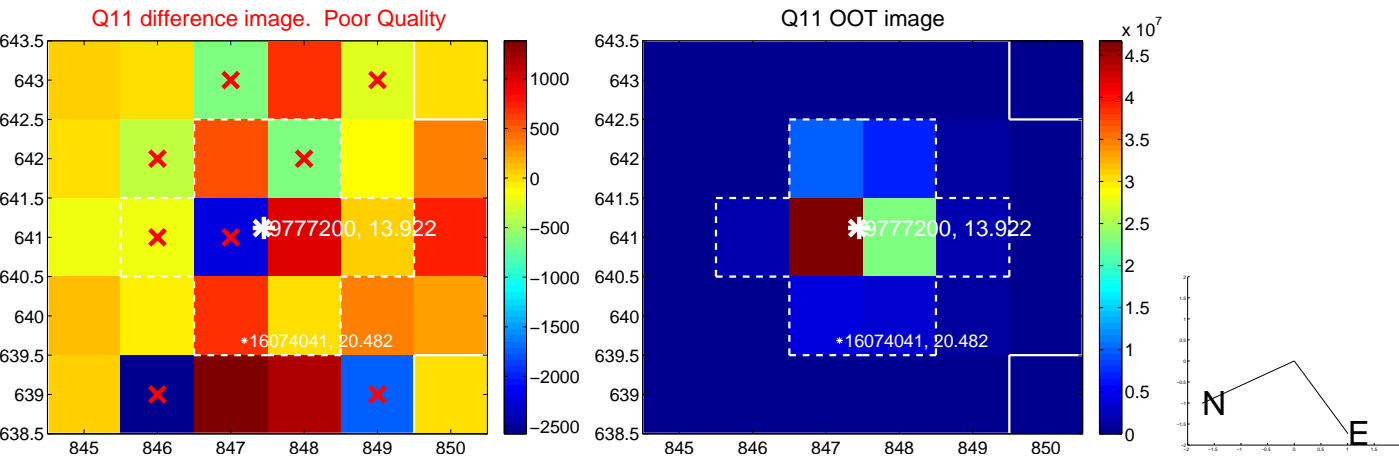
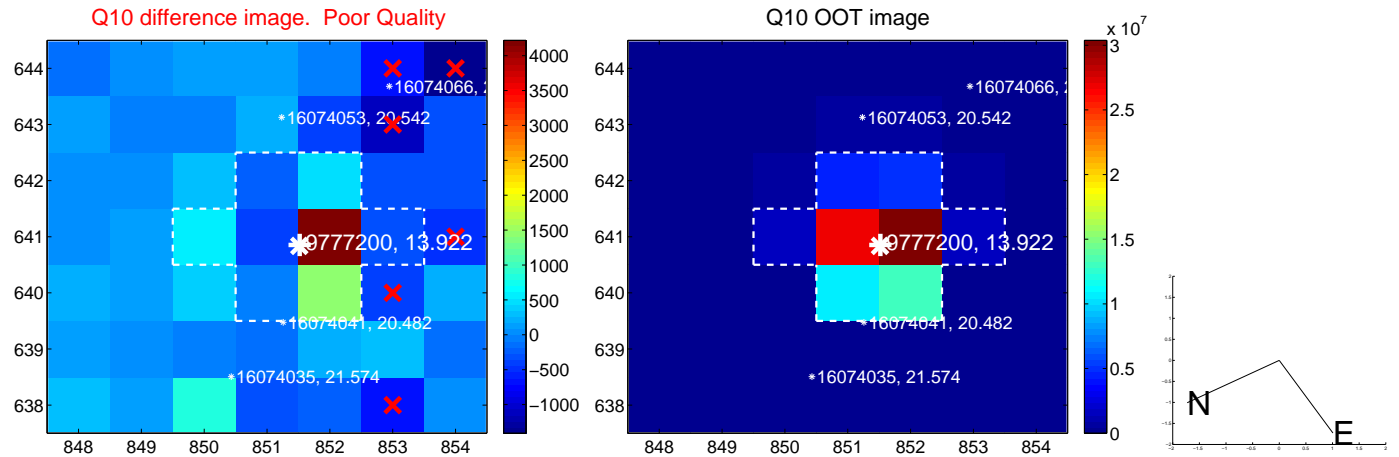
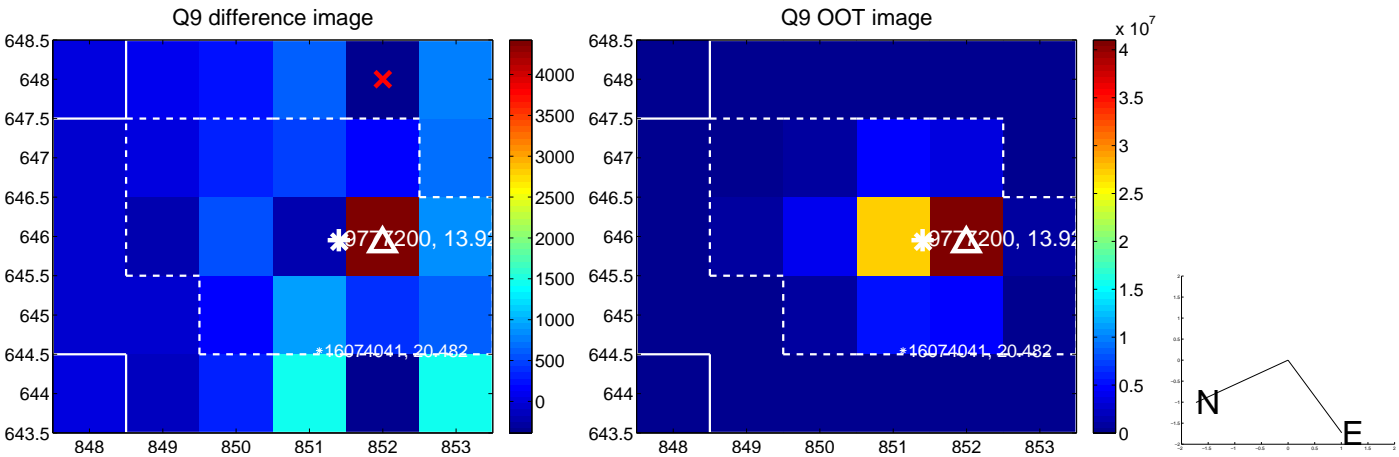
Q4 OOT image



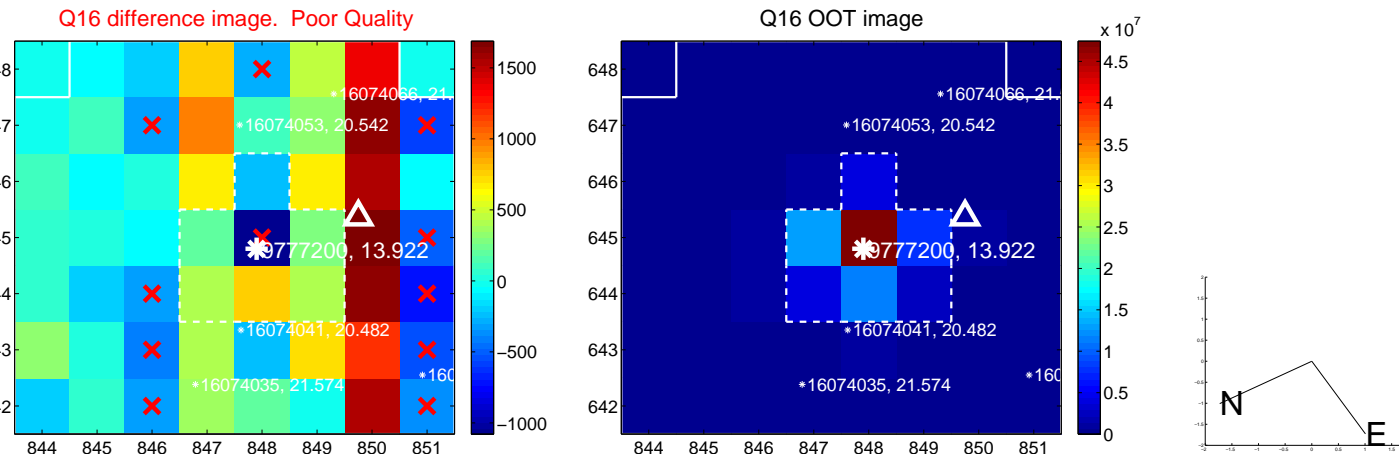
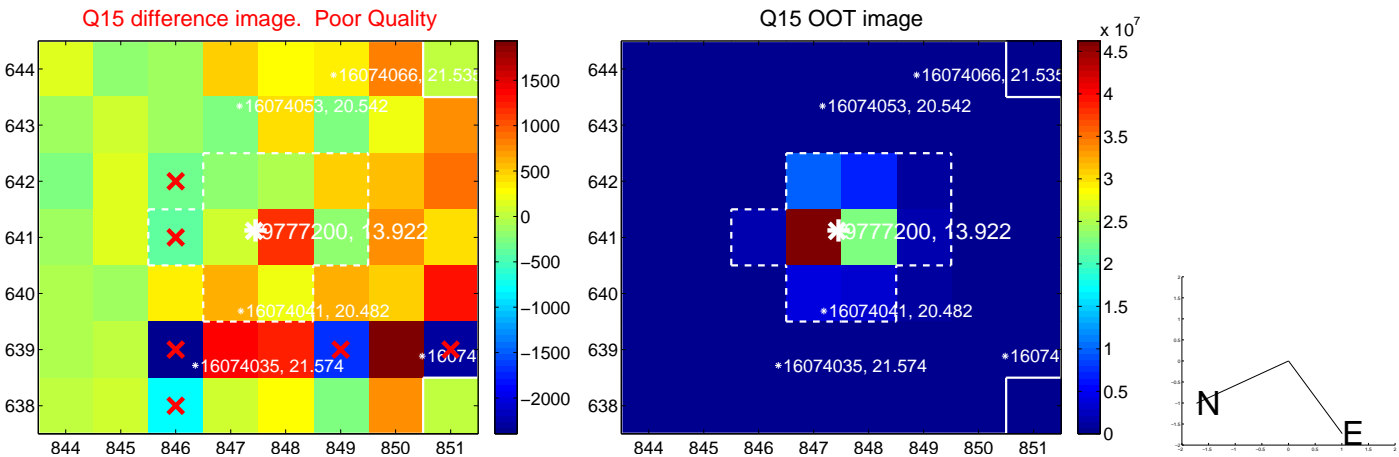
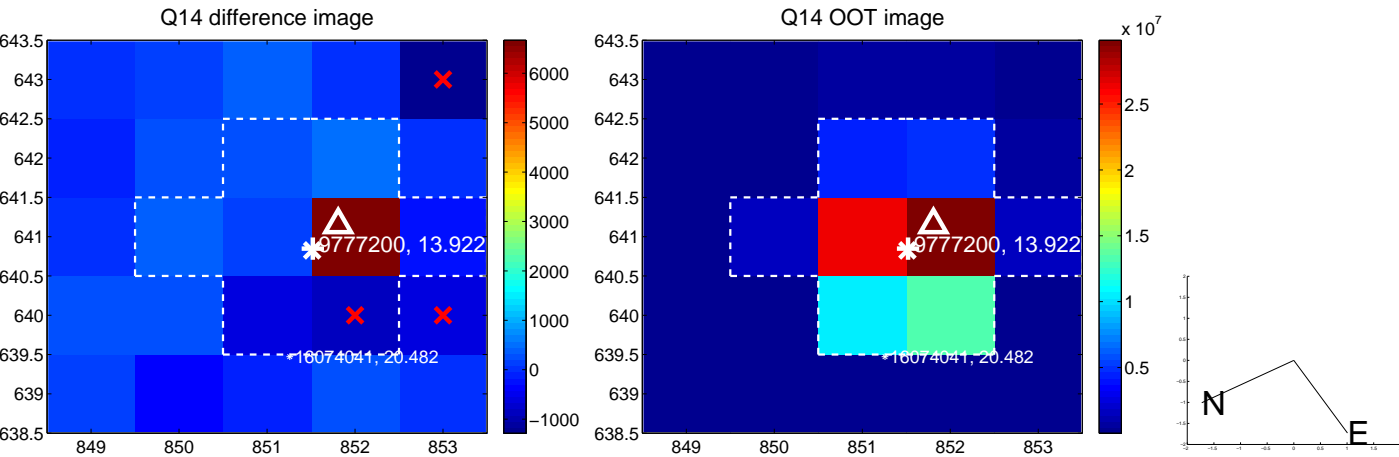
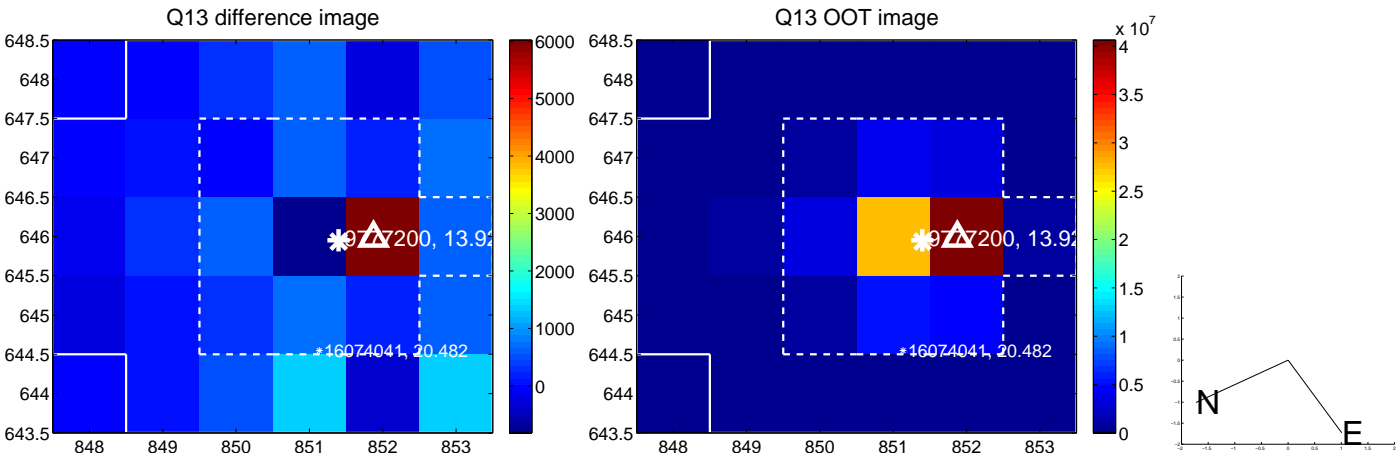
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



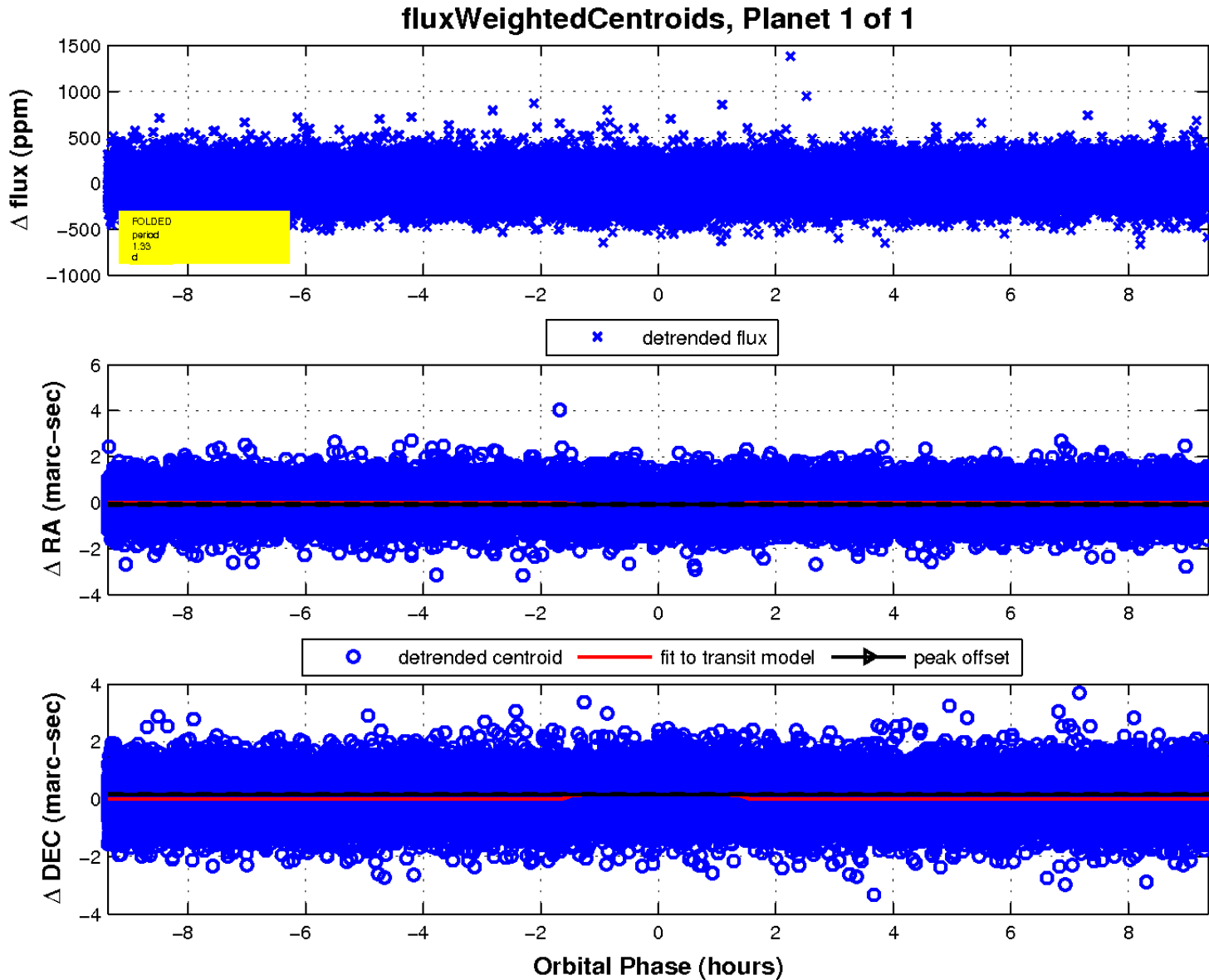
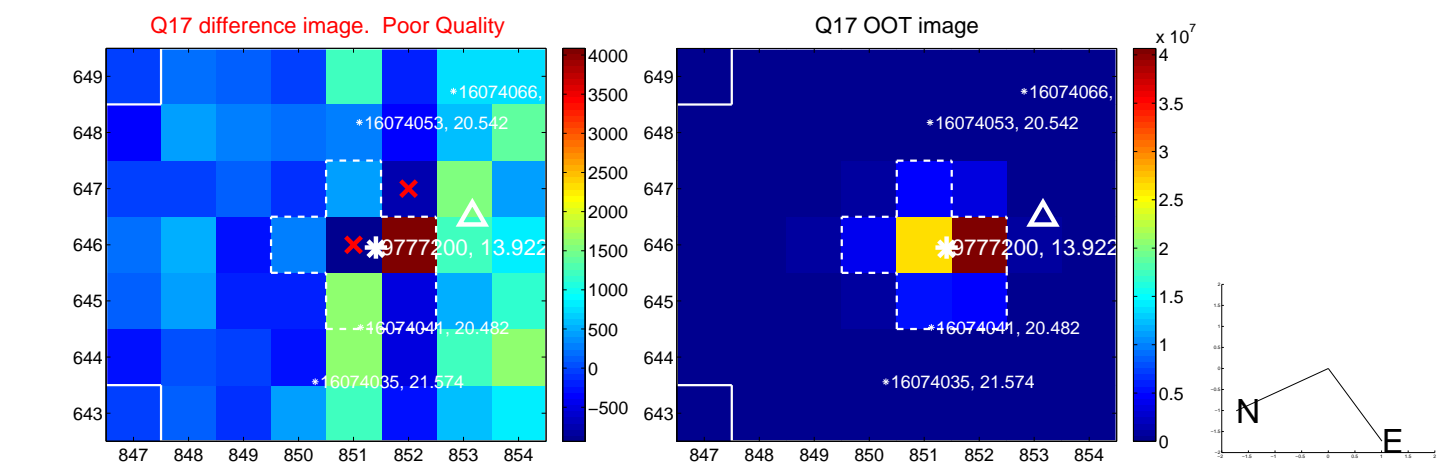
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

