

KIC 006678614

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})
006678614-01	OBS	No	0.629757	132.093704	11.4	2.652	8.7	9.6	2.94	7652	1.15	82052.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006678614-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

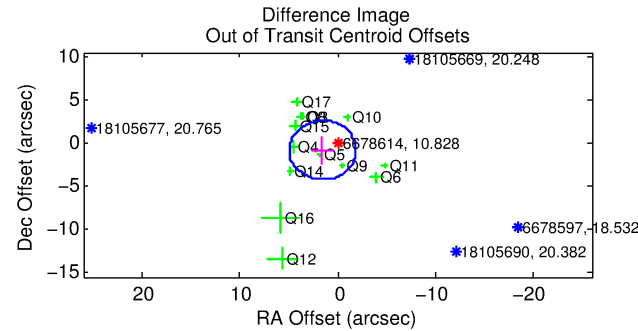
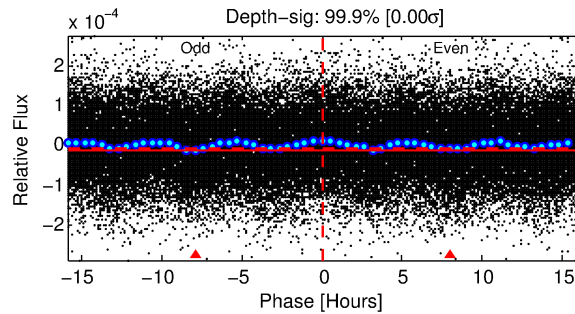
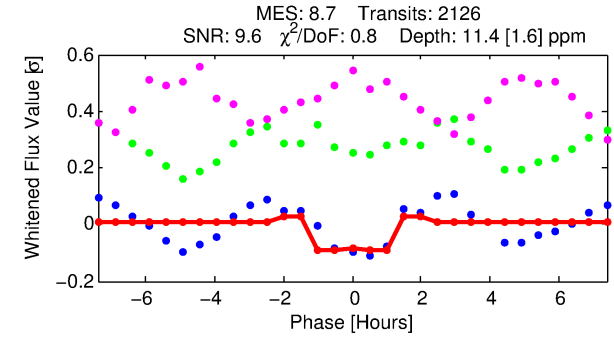
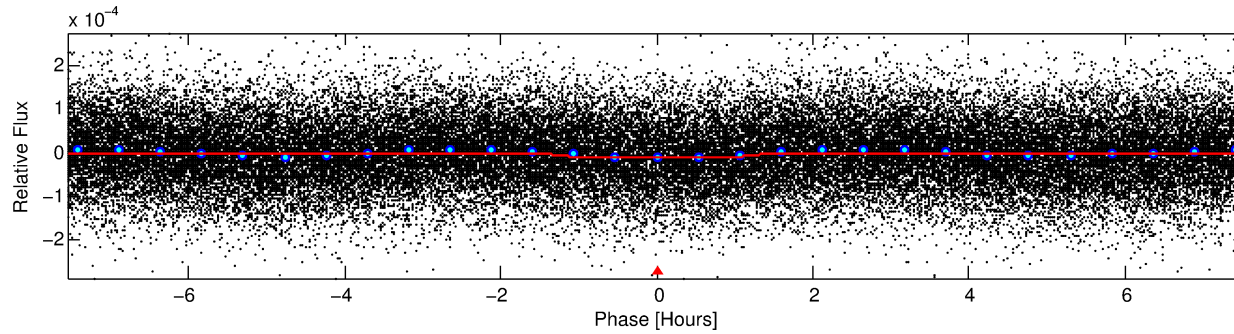
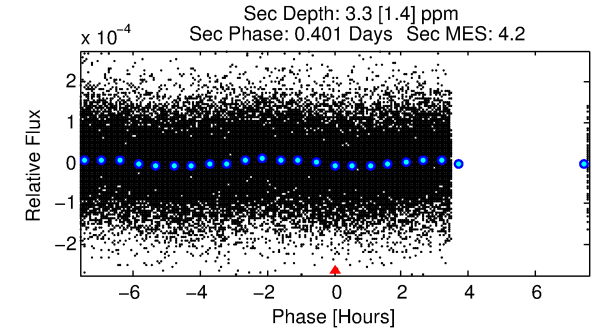
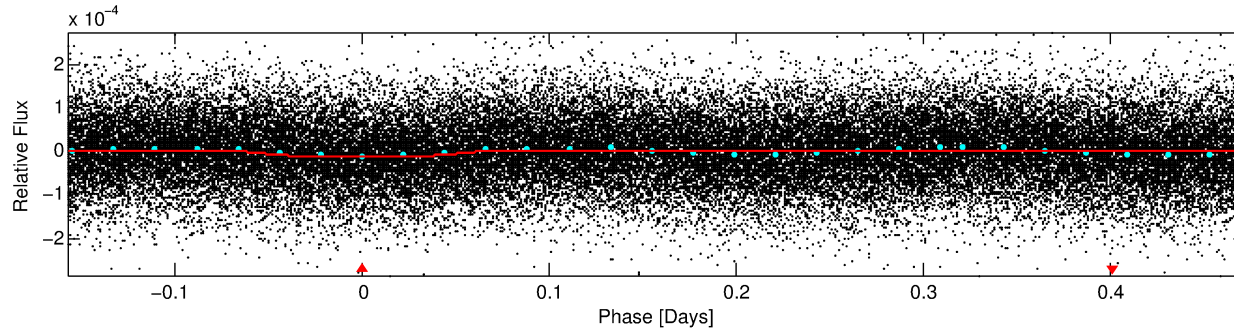
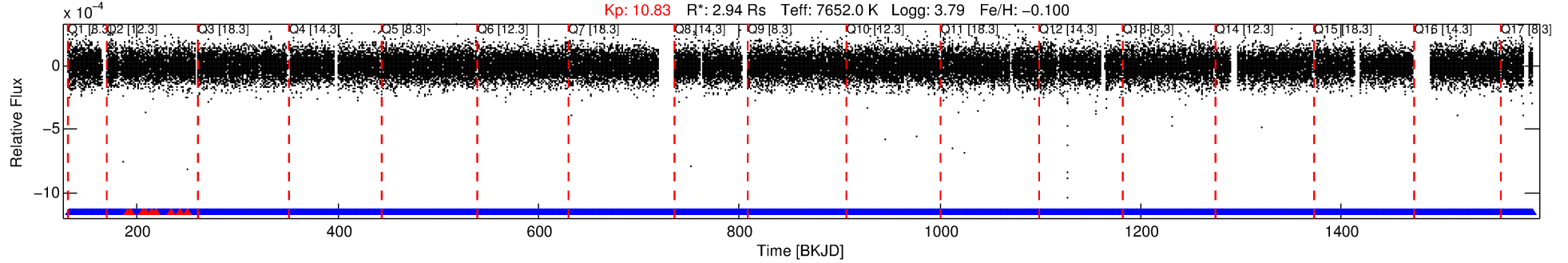
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006678614-01

No Significant Match Found

DV One-Page Summary

KIC: 6678614 Candidate: 1 of 1 Period: 0.630 d



DV Fit Results:

Period = 0.62976 [0.00001] d
Epoch = 132.0937 [0.0019] BKJD
 R_p/R^* = 0.0036 [0.0007]
 a/R^* = 1.24 [0.48]
 b = 0.90 [0.24]
 Seff = 82052.85 [55198.57]
 T_{eq} = 4316 [726] K
 R_p = 1.15 [0.57] R_e
 a = 0.0180 [0.0075] AU
 A_g = 0.44 [0.38] [-1.47σ]
 T_{eff} = 5442 [784] K [1.05σ]

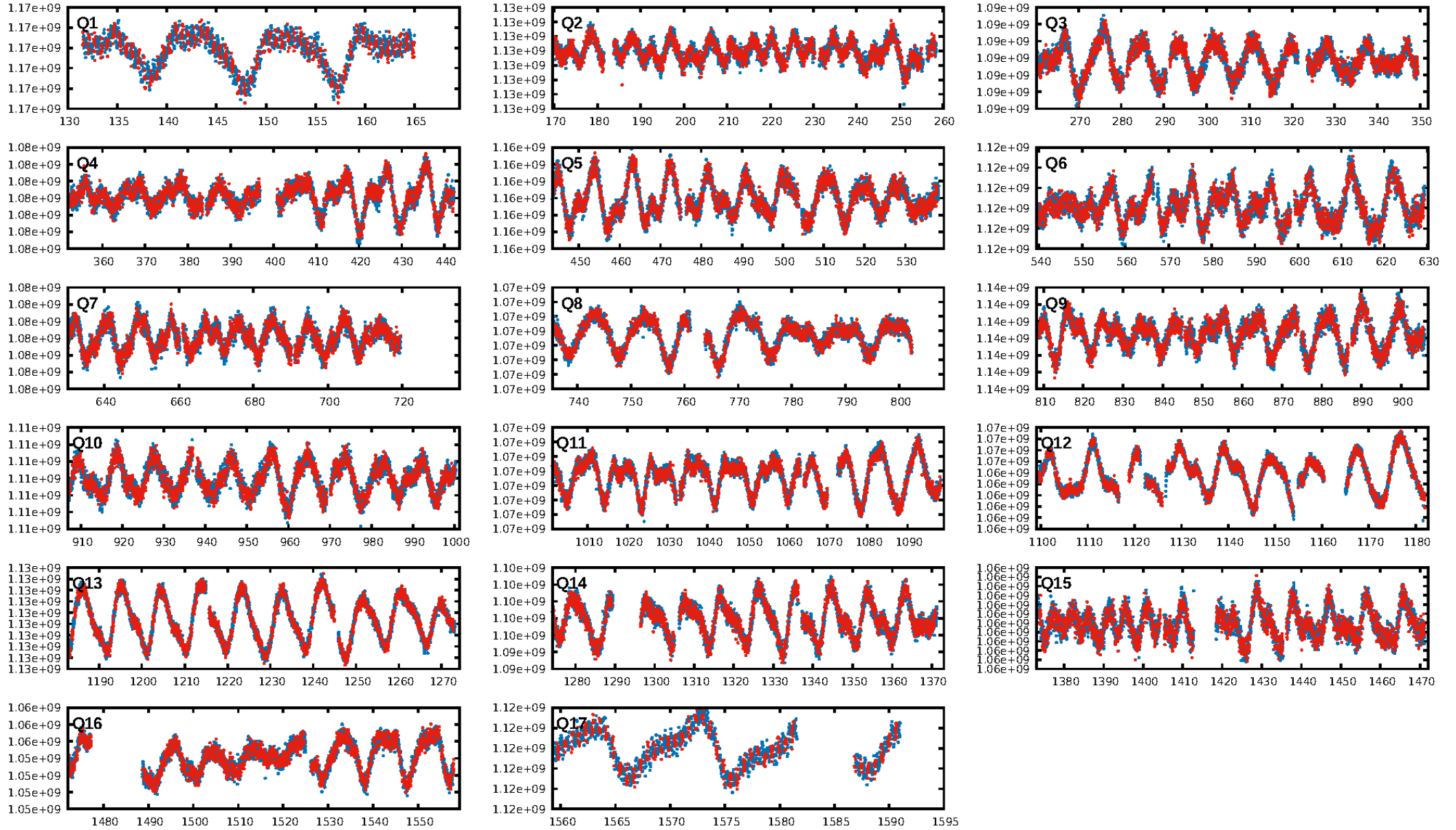
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.27e-13
RollingBand-fgt: 1.00 [2020/2030]
GhostDiagnostic-chr: 5.5
Centroid-sig: 4.9%
Centroid-so: 1.021 arcsec [1.66σ]
OotOffset-rm: 1.748 arcsec [1.54σ]
OotOffset-st: 3/3/4/3 [13]
KicOffset-rm: 2.025 arcsec [1.79σ]
KicOffset-st: 3/3/4/3 [13]
DiffImageQuality-fgm: 0.23 [3/13]
DiffImageOverlap-fno: 1.00 [17/17]

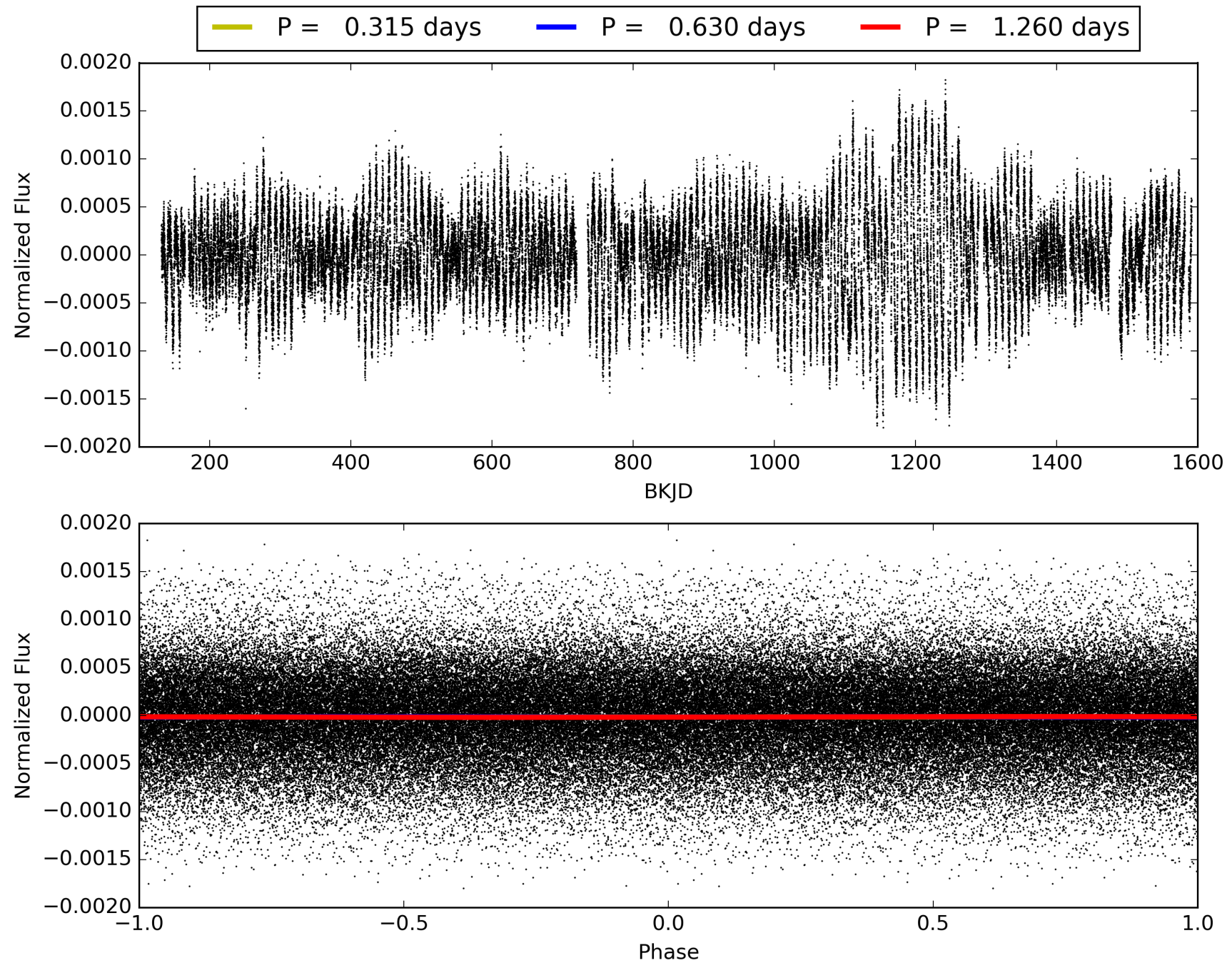
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:36:27 Z

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

TCE 006678614-01, PDC Light Curves

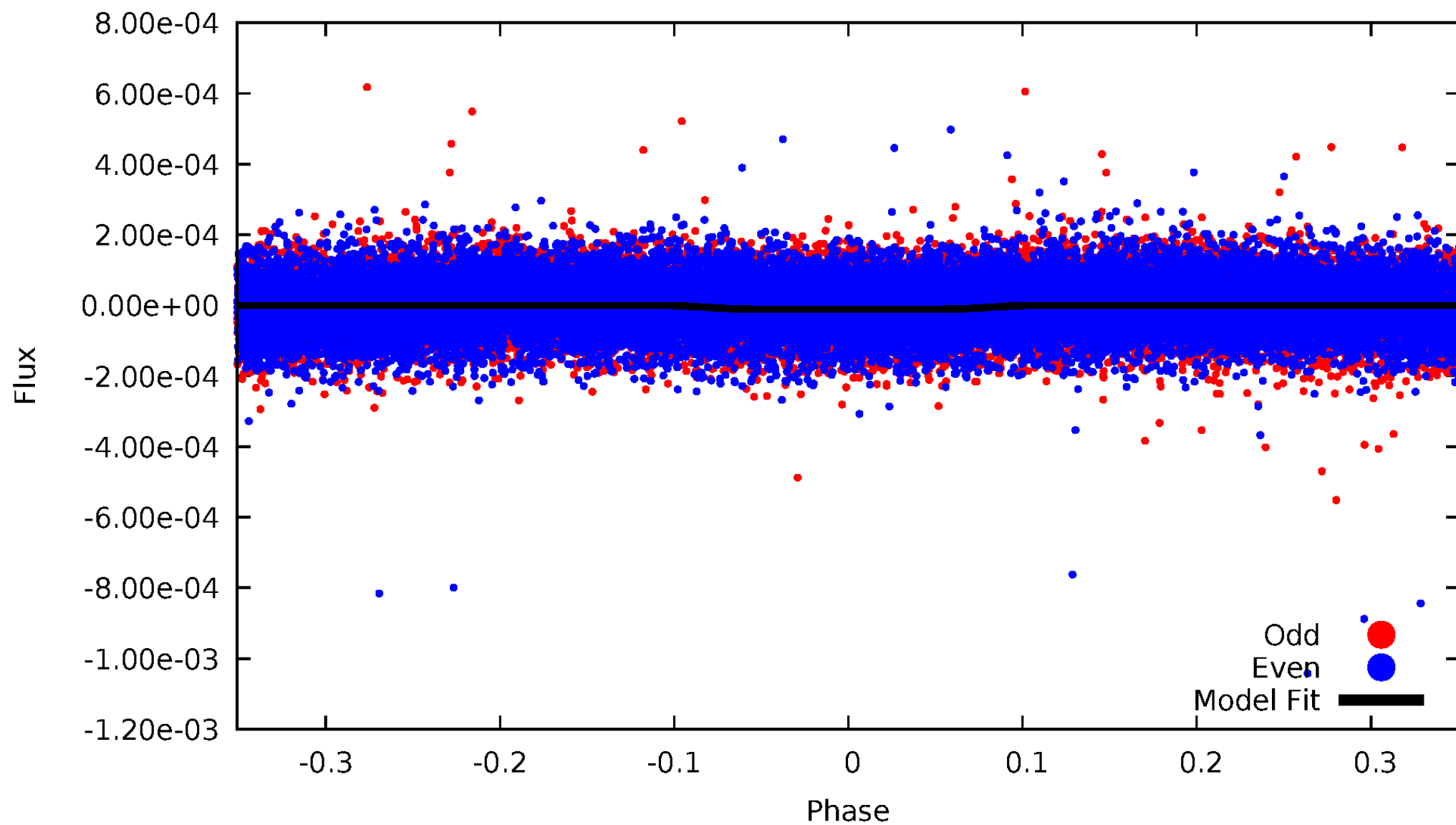


TCE 006678614-01



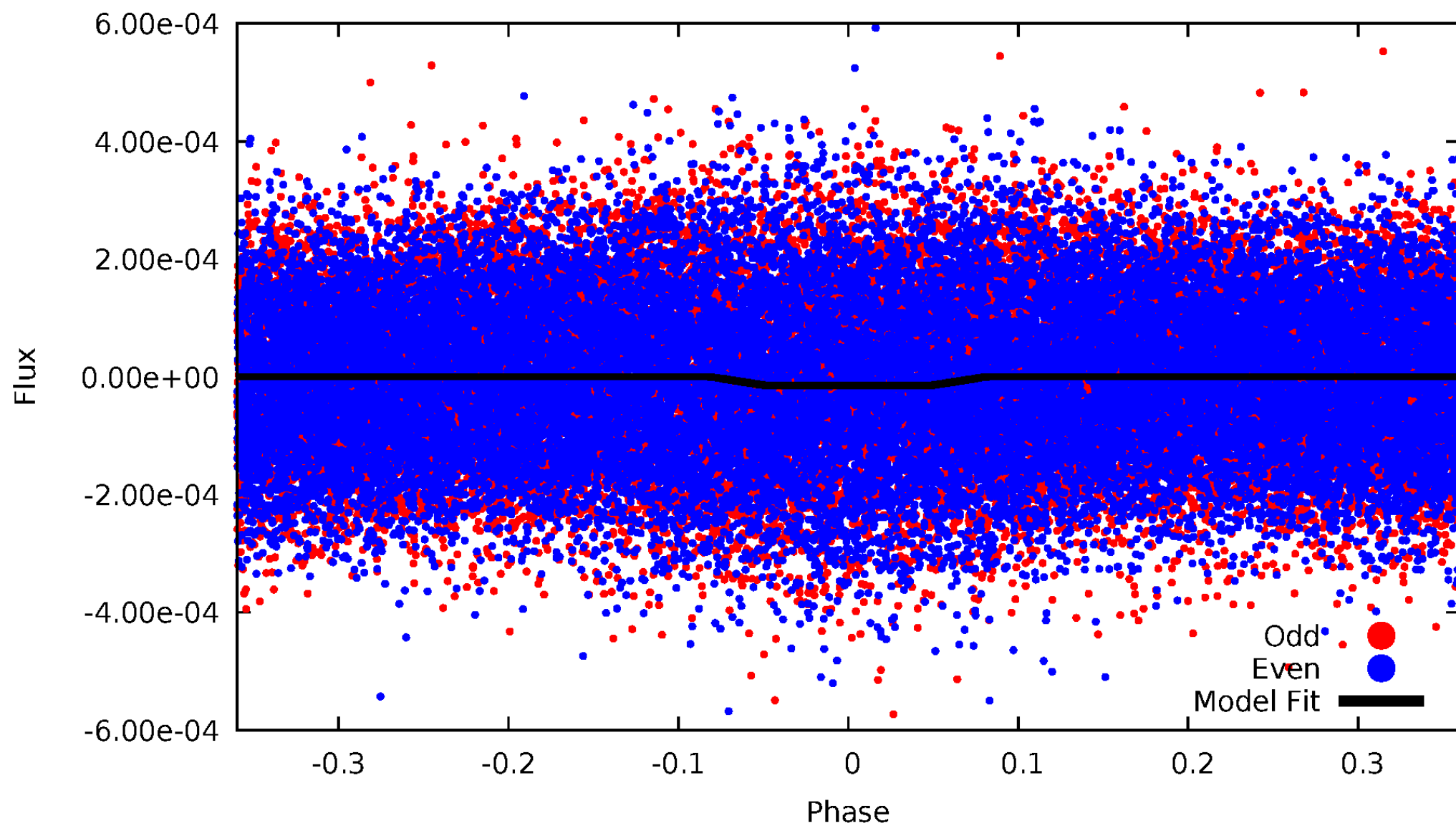
DV Odd/Even

TCE 006678614-01



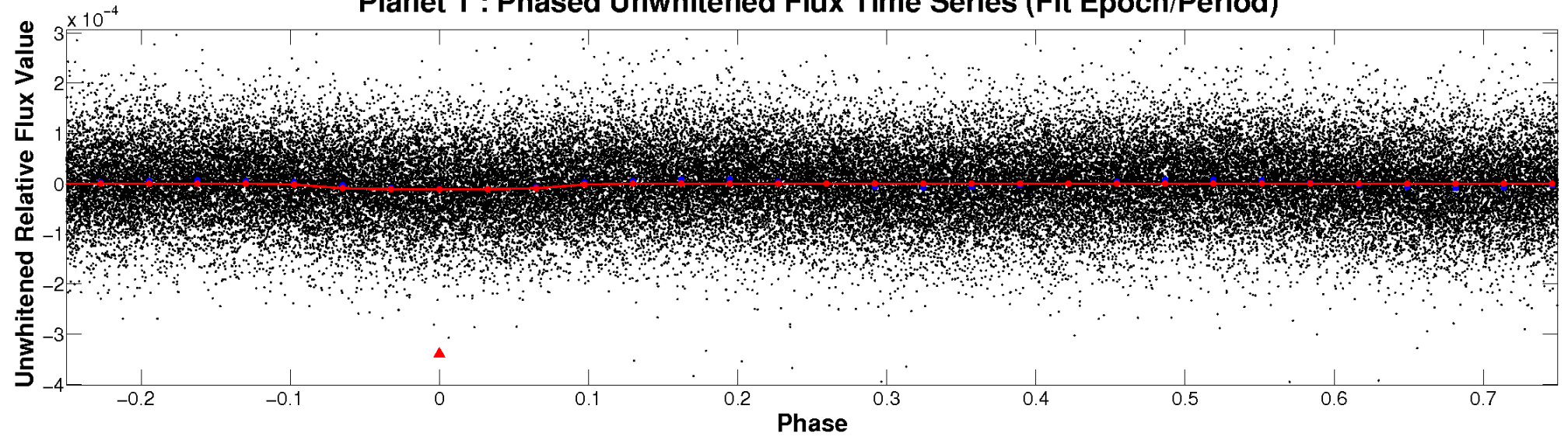
ALT Odd/Even

TCE 006678614-01

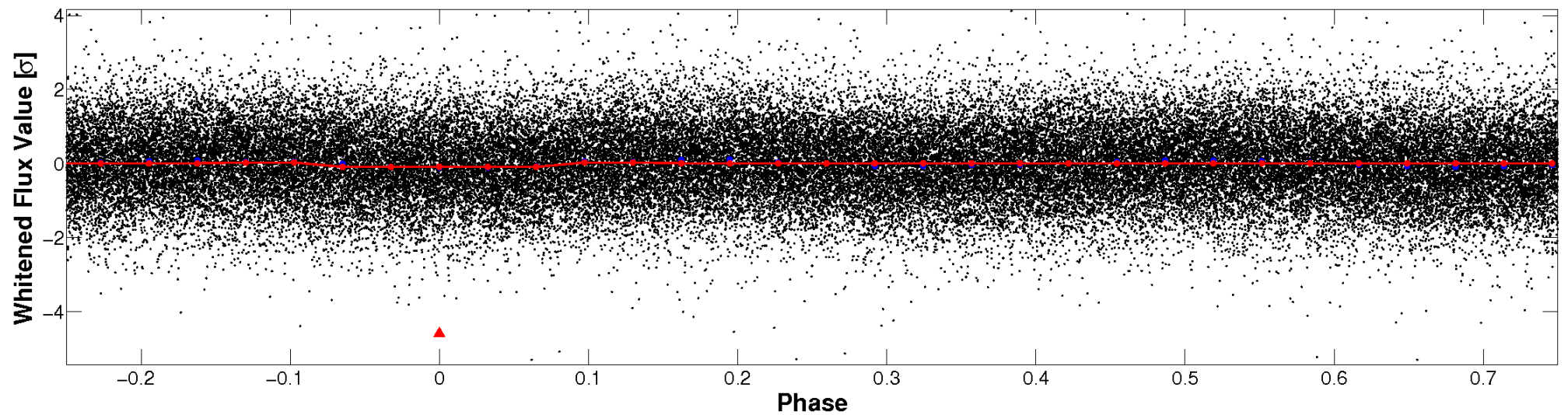


Non-Whitened Vs. Whitened Light Curve

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

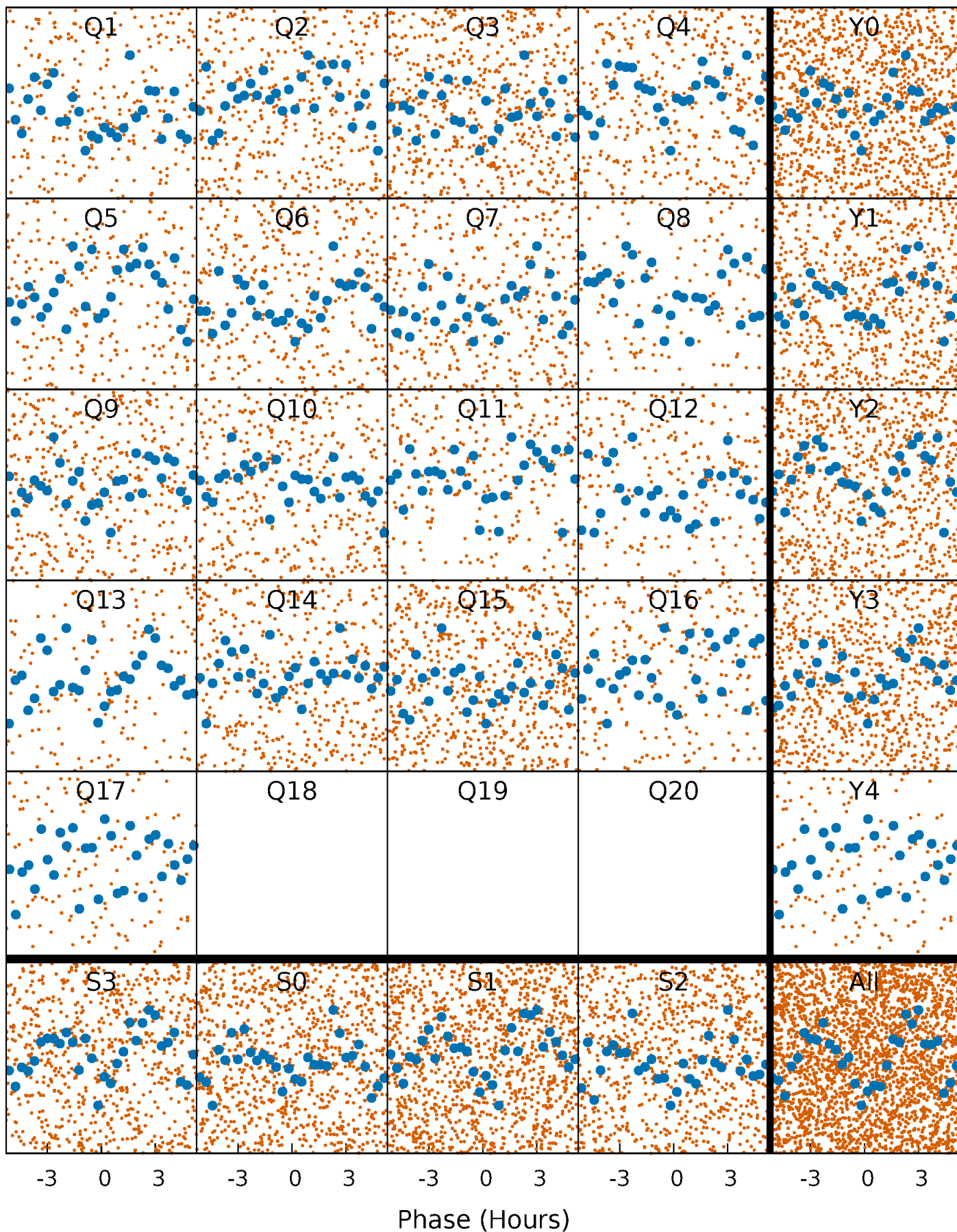


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



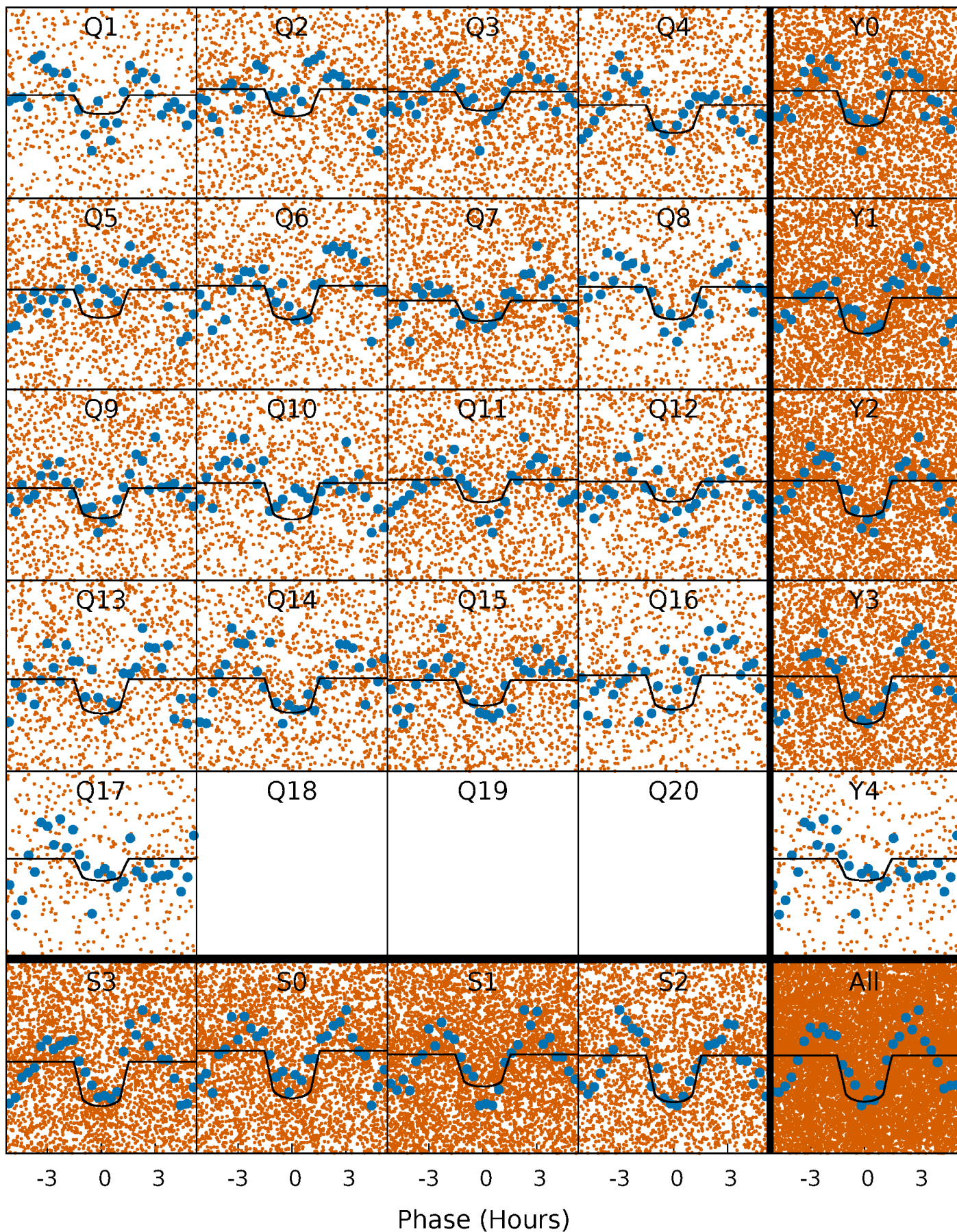
PDC Quarter-Phased Transit Curves

TCE 006678614-01 P= 0.629757 Days $T_0=132.093704$ (BKJD)



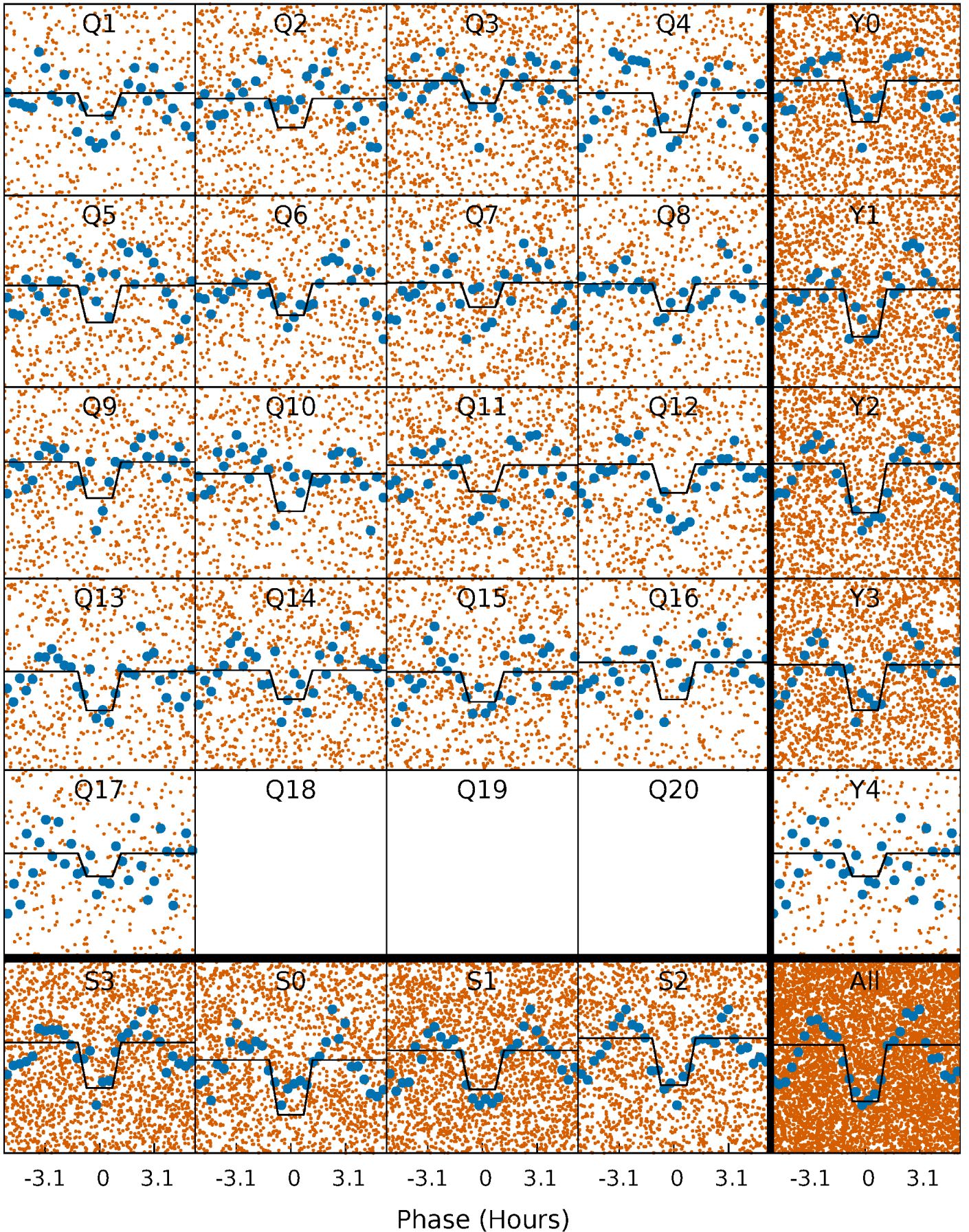
DV Quarter-Phased Transit Curves

TCE 006678614-01 P= 0.629757 Days $T_0=132.093704$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

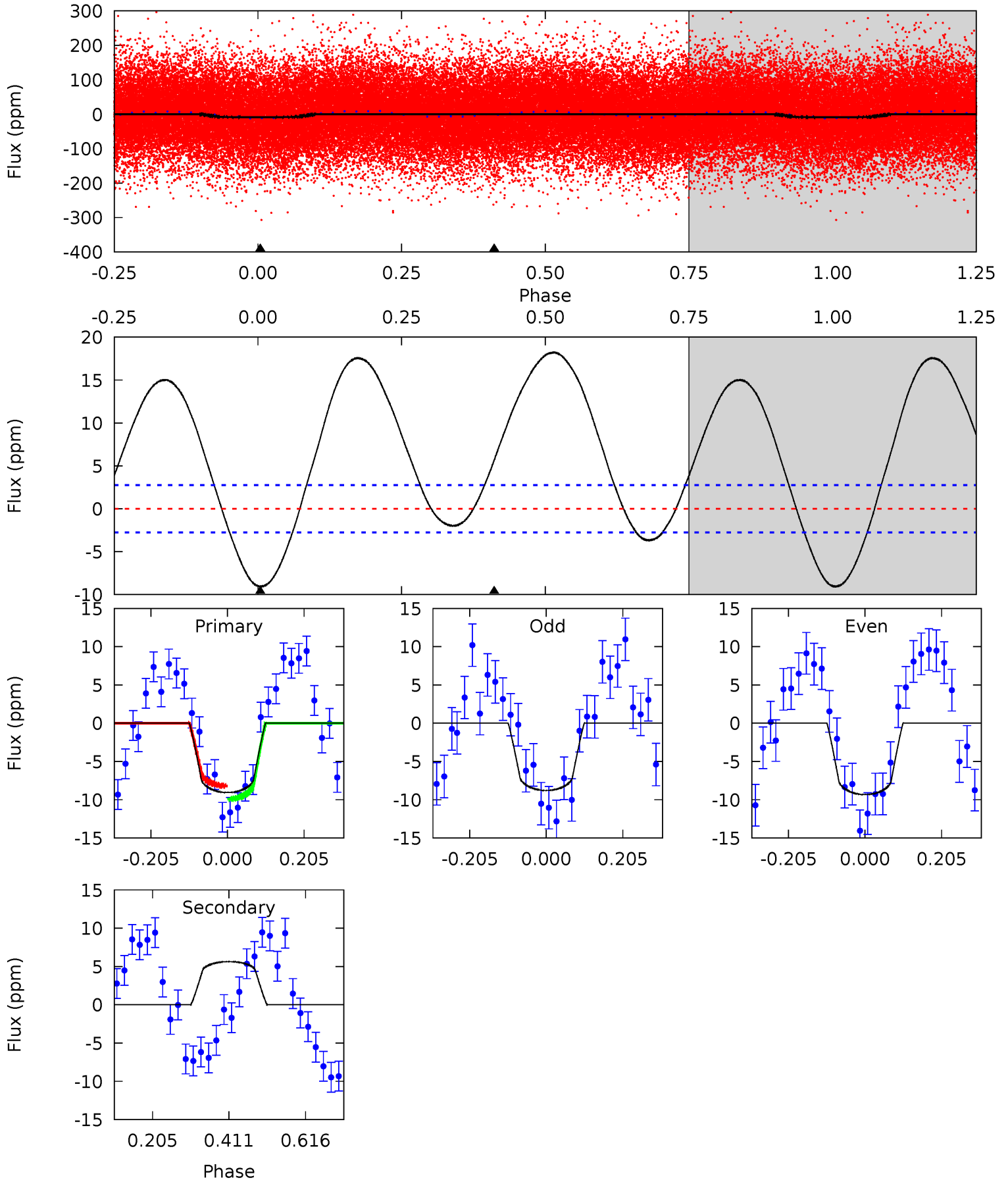
TCE 006678614-01 P= 0.629762 Days $T_0=132.093258$ (BKJD)



DV Model-Shift Uniqueness Test

006678614-01, P = 0.629757 Days, E = 131.463947 Days

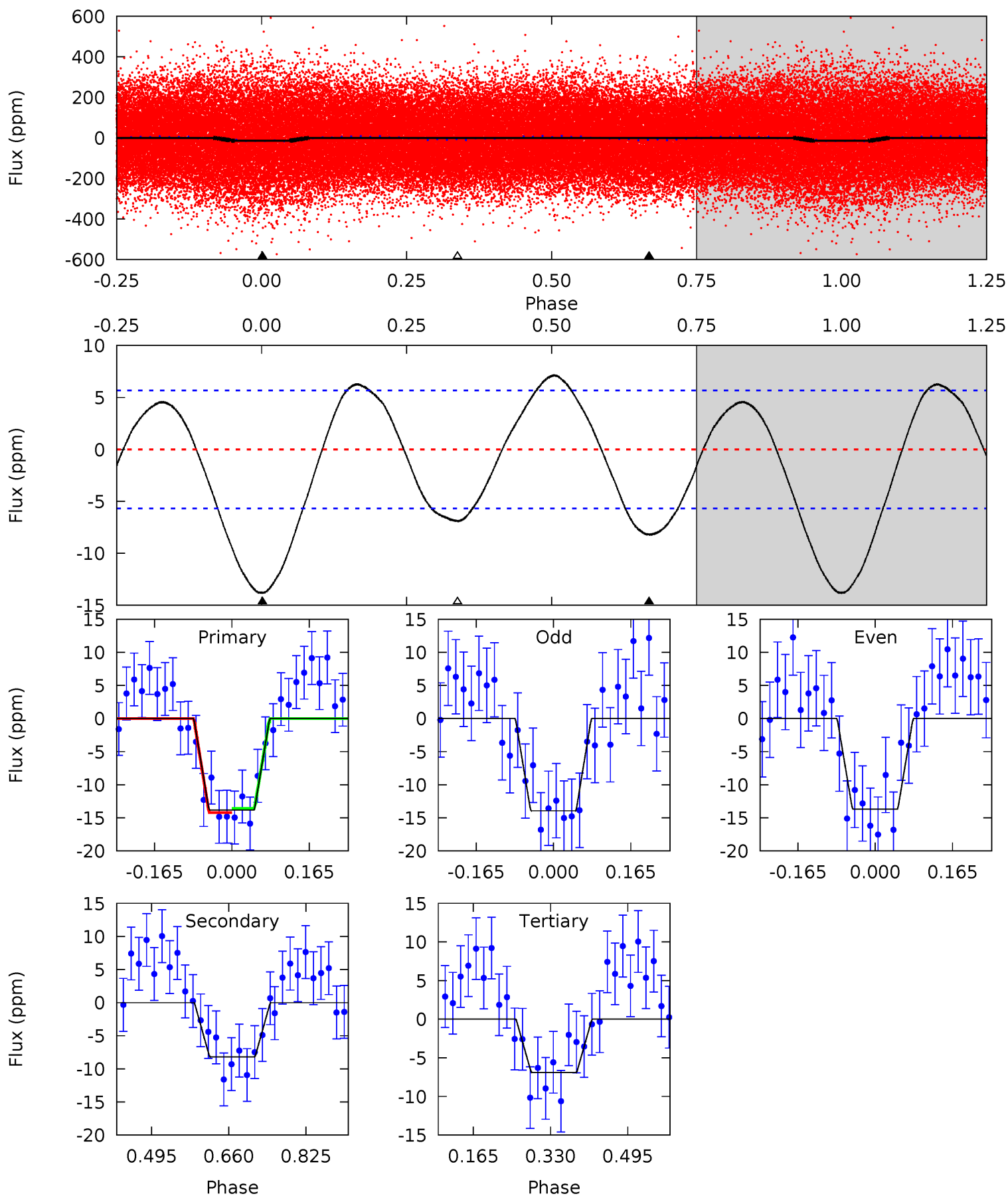
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	-8.98	0	0	4.41	1.27	7.55	14.4	14.4	-8.98	-8.98	0.43	0.98	0.67	1.38



Alt Model-Shift Uniqueness Test

006678614-01, P = 0.629762 Days, E = 131.463496 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	6.44	5.42	0	4.46	1.39	3.75	5.42	10.8	1.02	6.44	0.10	0.86	0.34	0.25



Stellar Parameters For KIC 006678614

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7652^{+211}_{-316}	$3.793^{+0.376}_{-0.094}$	$-0.100^{+0.200}_{-0.350}$	$2.941^{+0.335}_{-1.339}$	$1.962^{+0.088}_{-0.496}$	$0.109^{+0.372}_{-0.032}$
	+3%/-4%	+10%/-2%	+200%/-350%	+11%/-46%	+4%/-25%	+343%/-29%
Source	KIC0	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 006678614-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	6 ± 1	$1.06^{+0.29}_{-0.27}$	5886^{+388}_{-698}	-6576^{+508}_{-689}	$-0.847^{+0.312}_{-0.690}$
Alt.	-8 ± 1	$1.15^{+0.28}_{-0.29}$	5899^{+369}_{-603}	5956^{+824}_{-760}	$1.085^{+0.834}_{-0.401}$

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 $A_{obs} \gg 1.0$

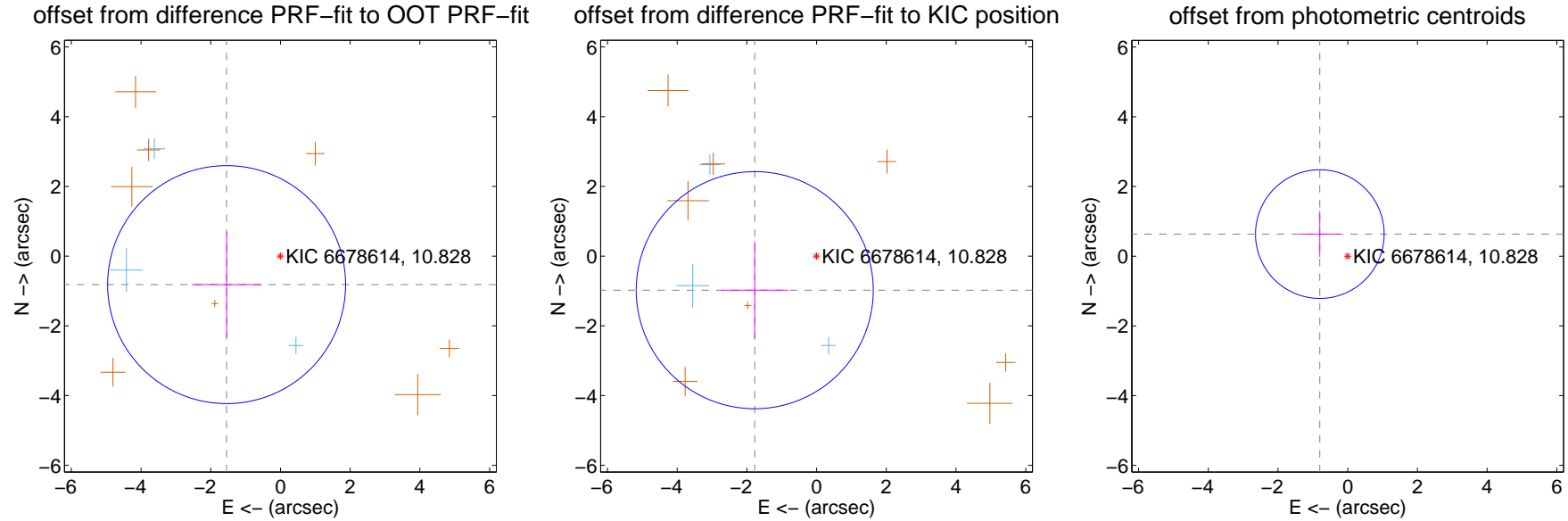
DV Centroid Data

Supplemental centroid analysis for 006678614-01. **Kepler magnitude: 10.83.** Transit SNR 9.57

There are 3 quarters with good PRF difference image offsets

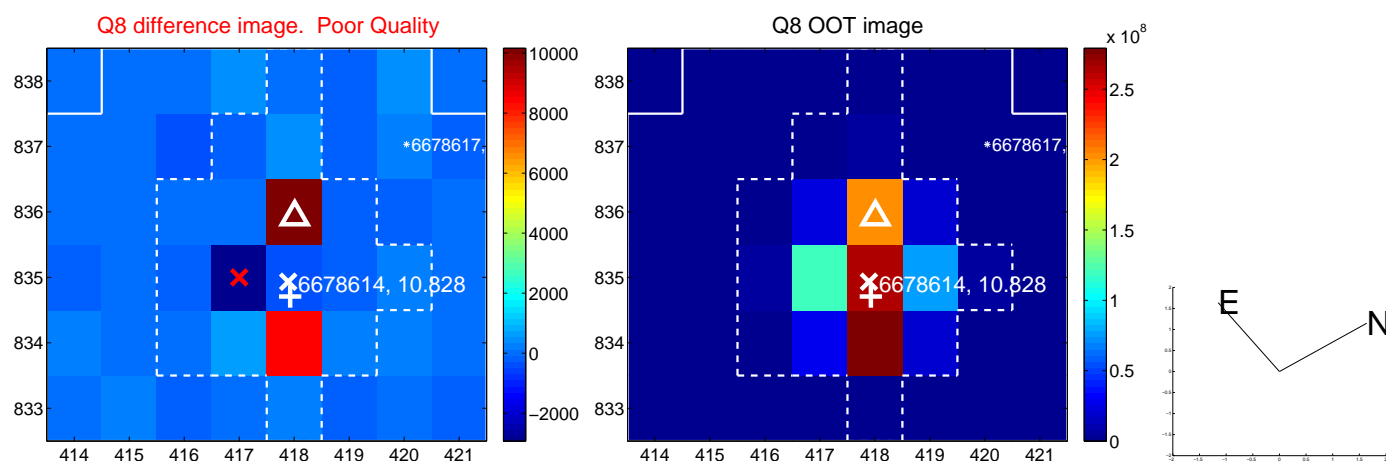
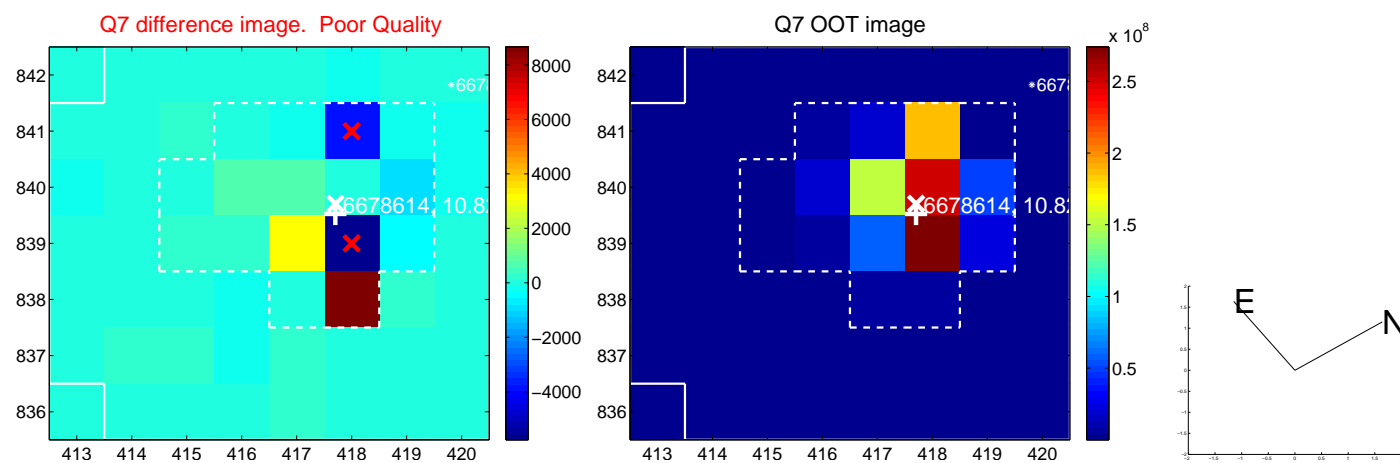
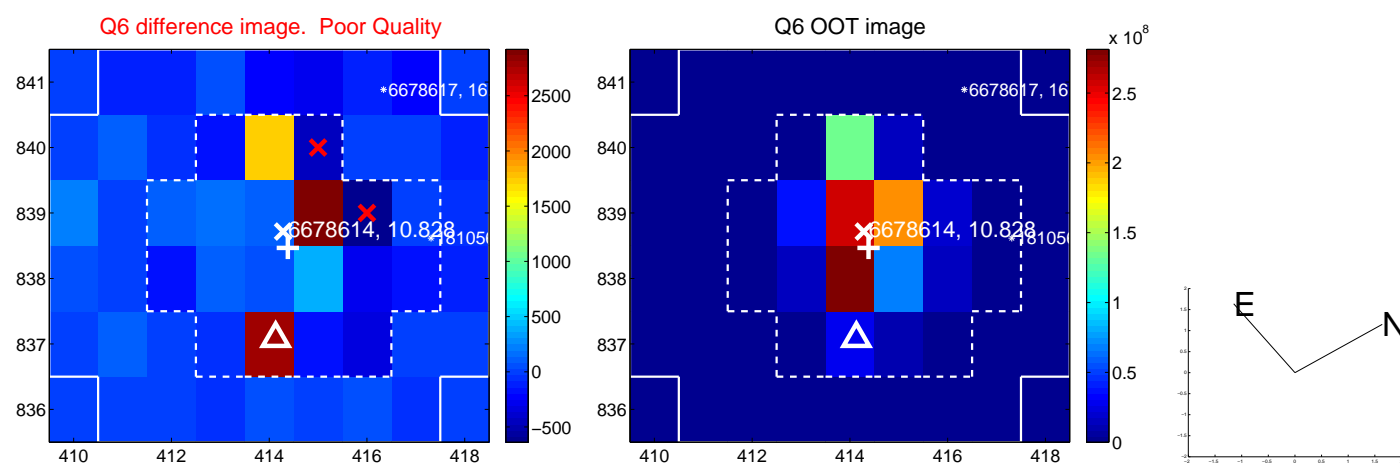
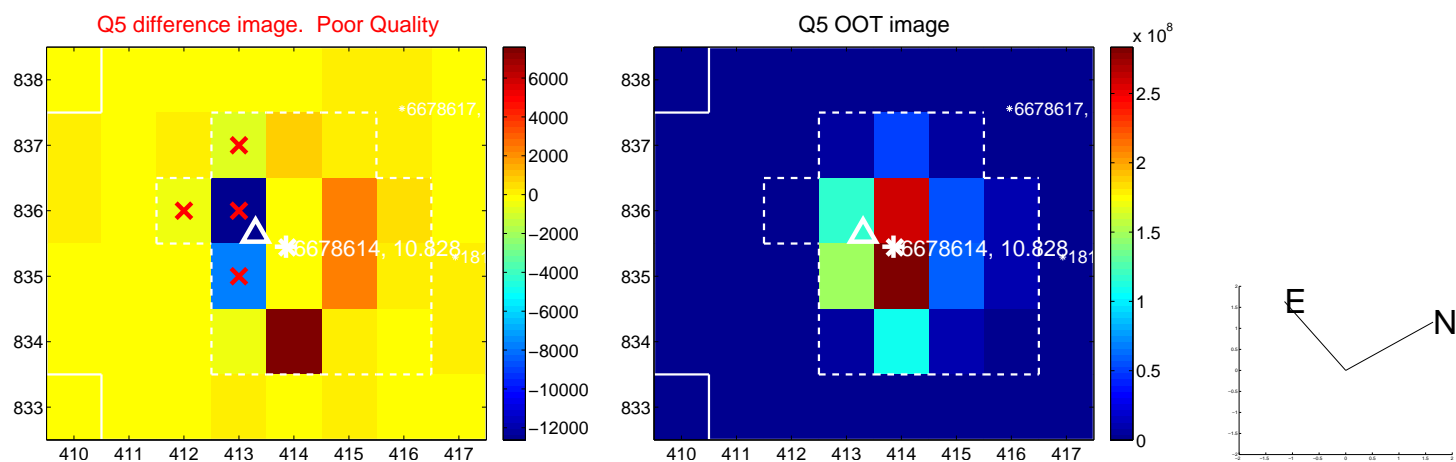
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.748 ± 1.138	1.54	1.545 ± 1.002	-0.817 ± 1.520
PRF-fit source offset from KIC position	2.025 ± 1.133	1.79	1.774 ± 0.961	-0.977 ± 1.390
photometric centroid source offset	1.02 ± 0.62	1.66	0.80 ± 0.59	0.63 ± 0.66

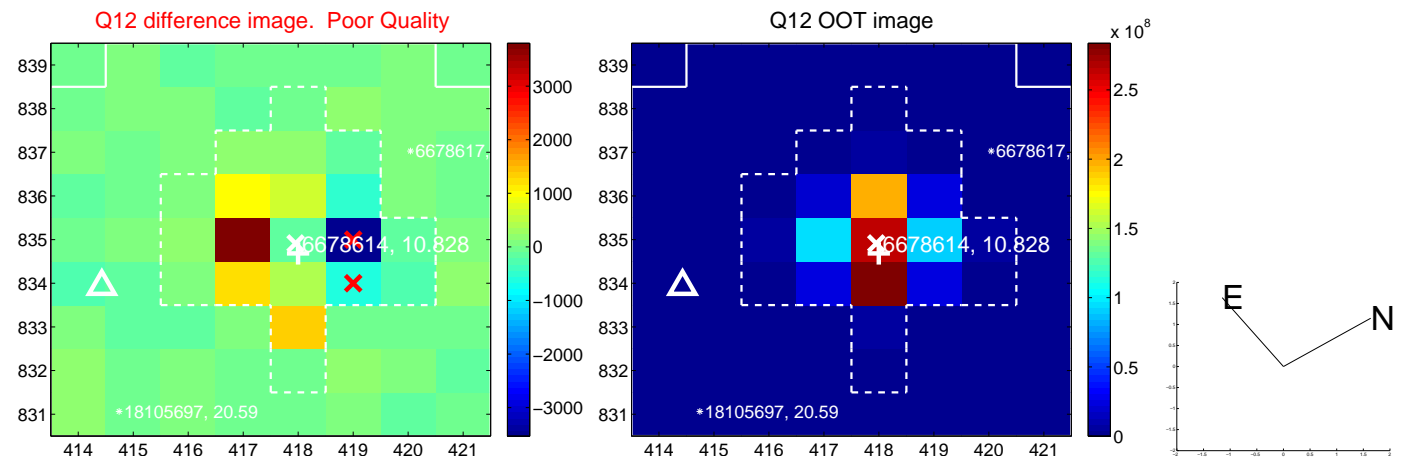
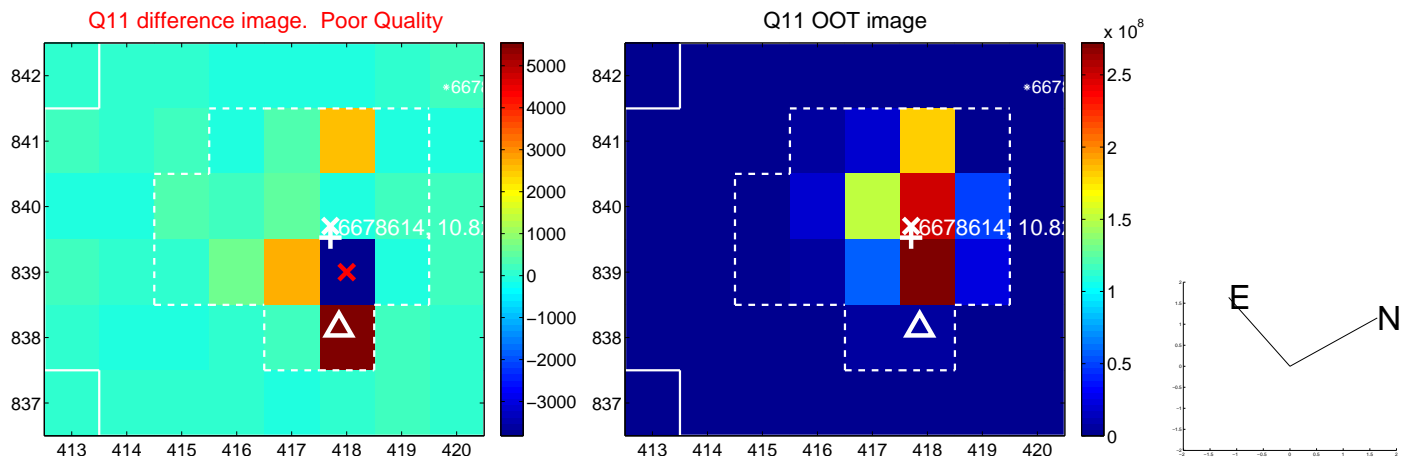
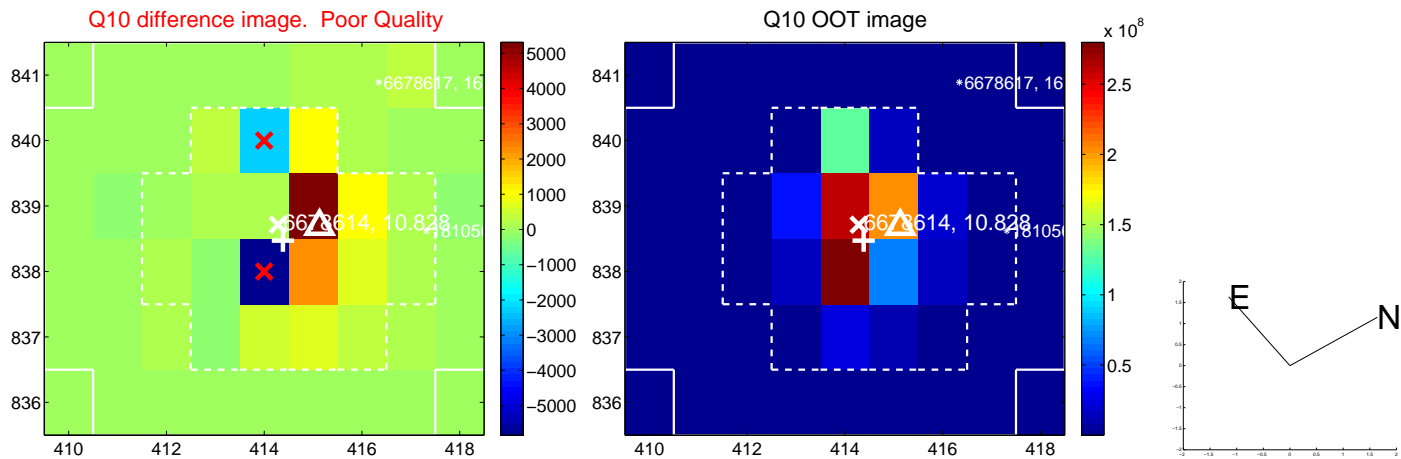
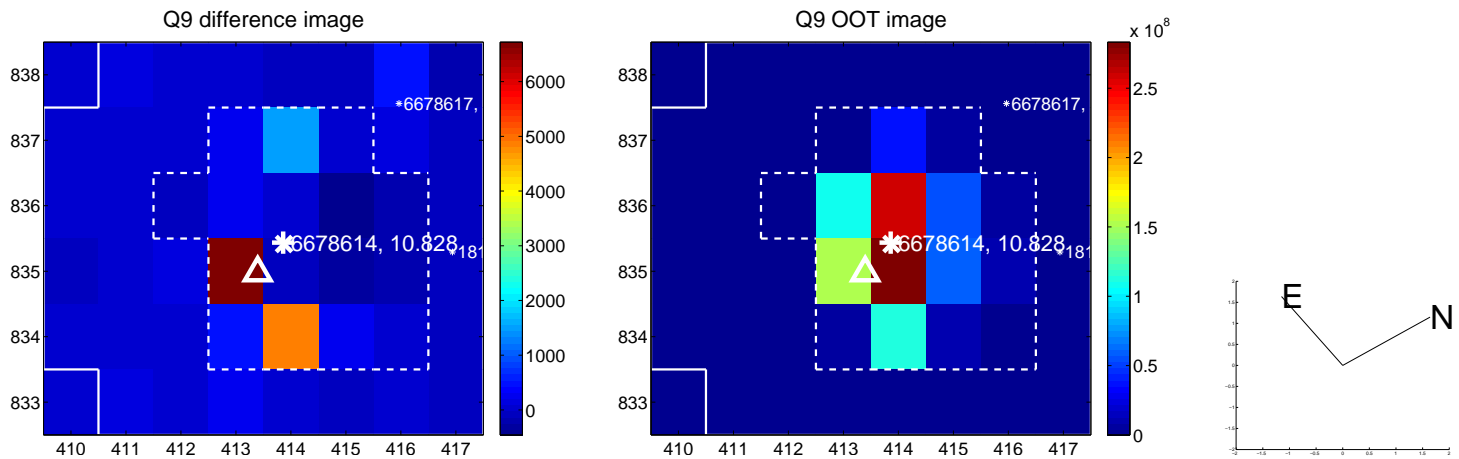


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

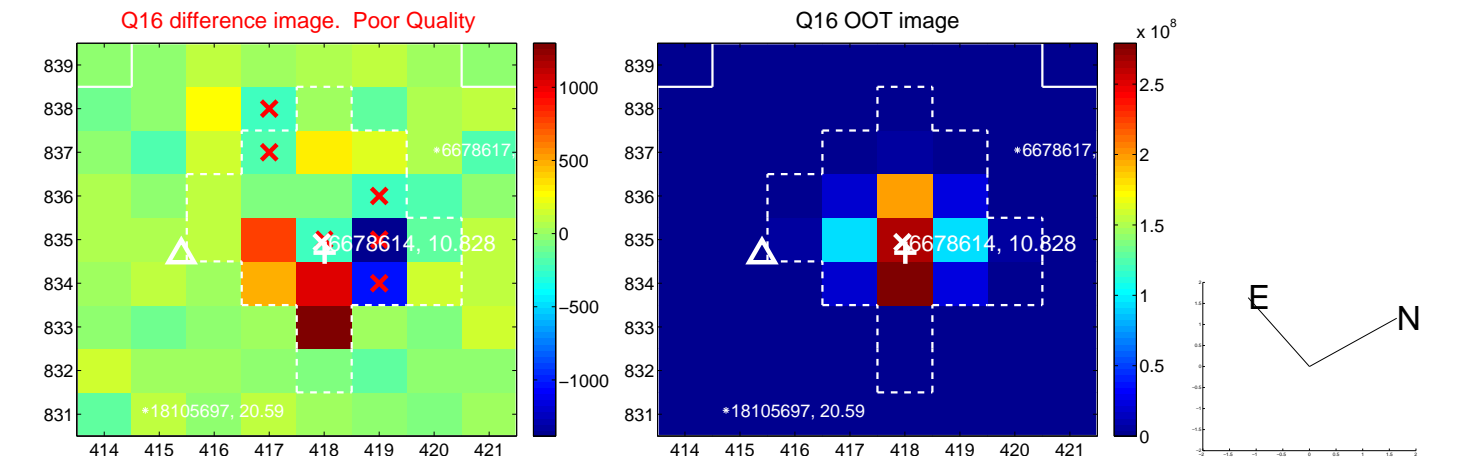
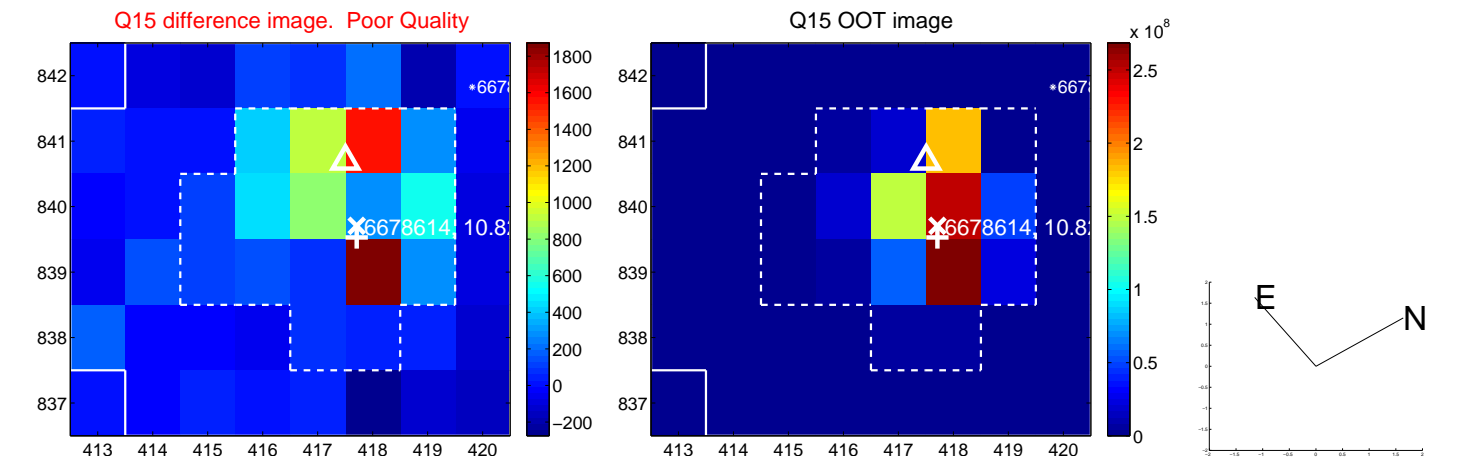
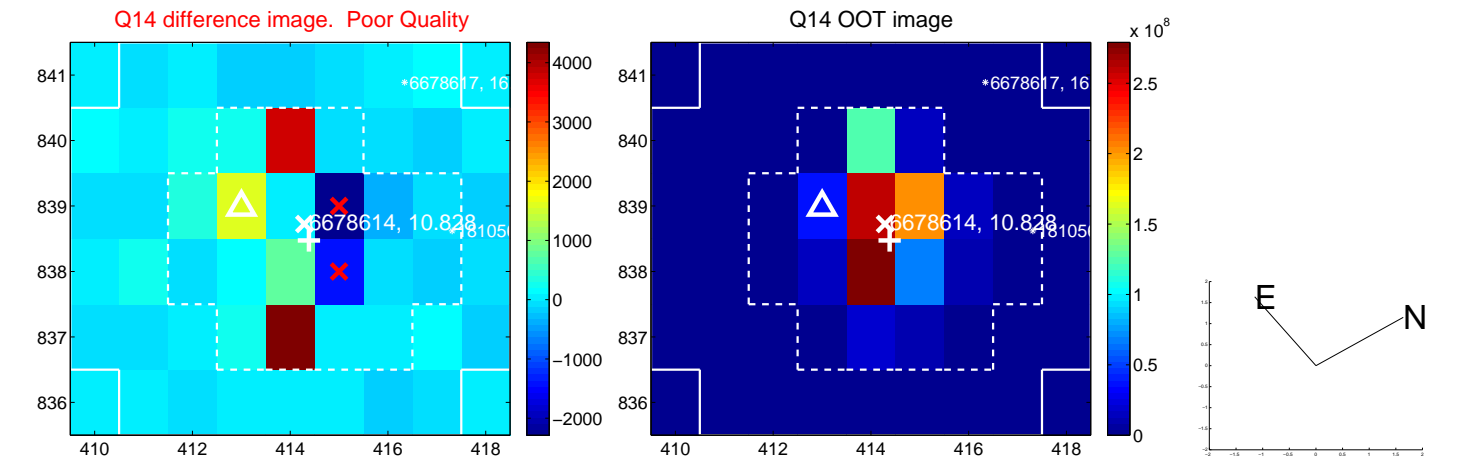
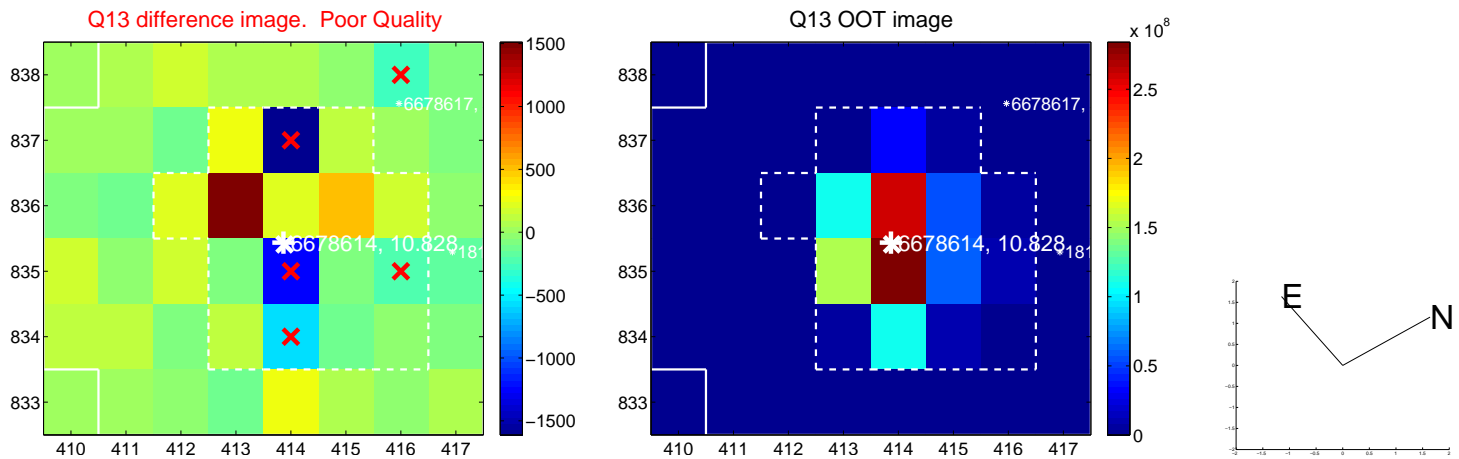
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



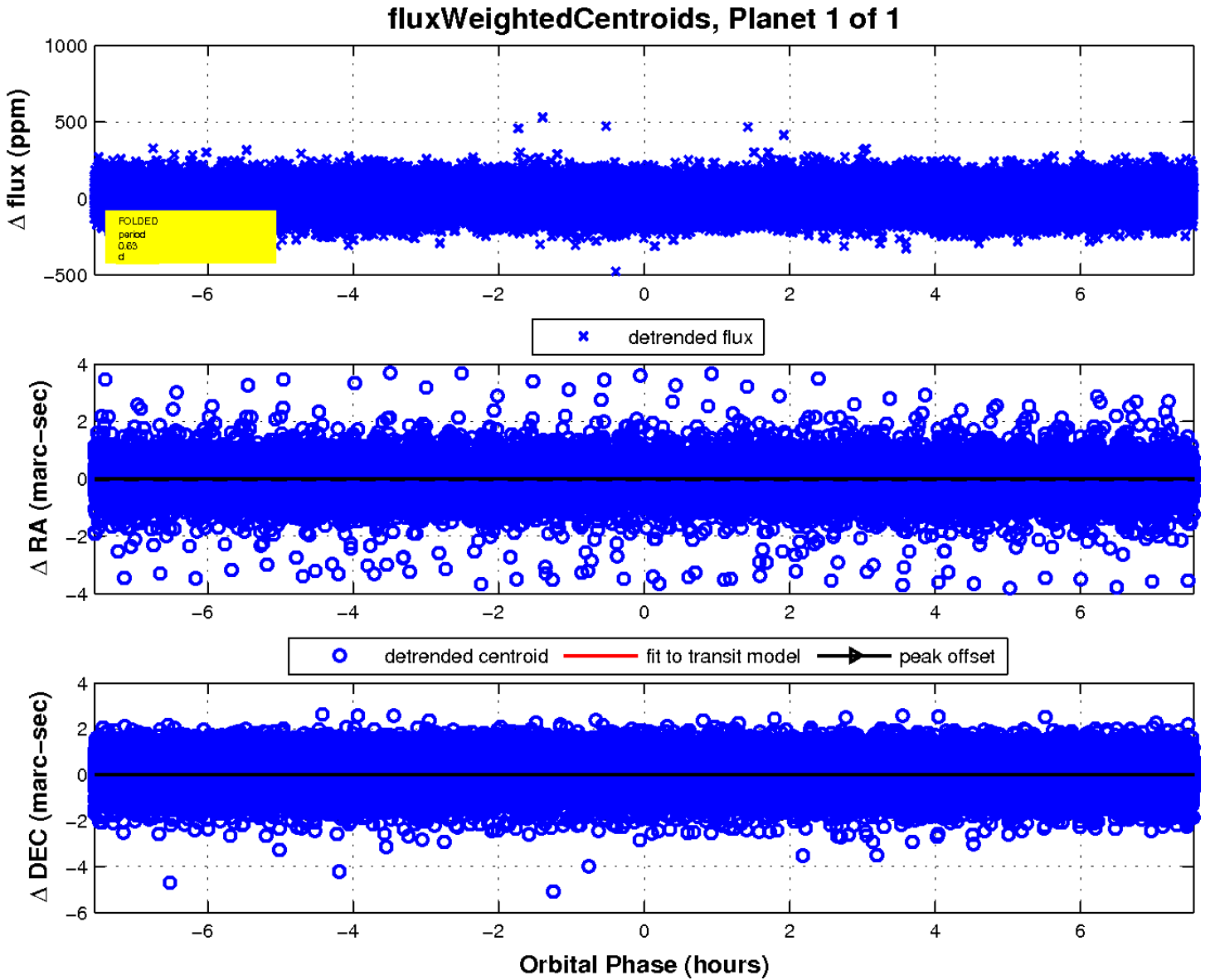
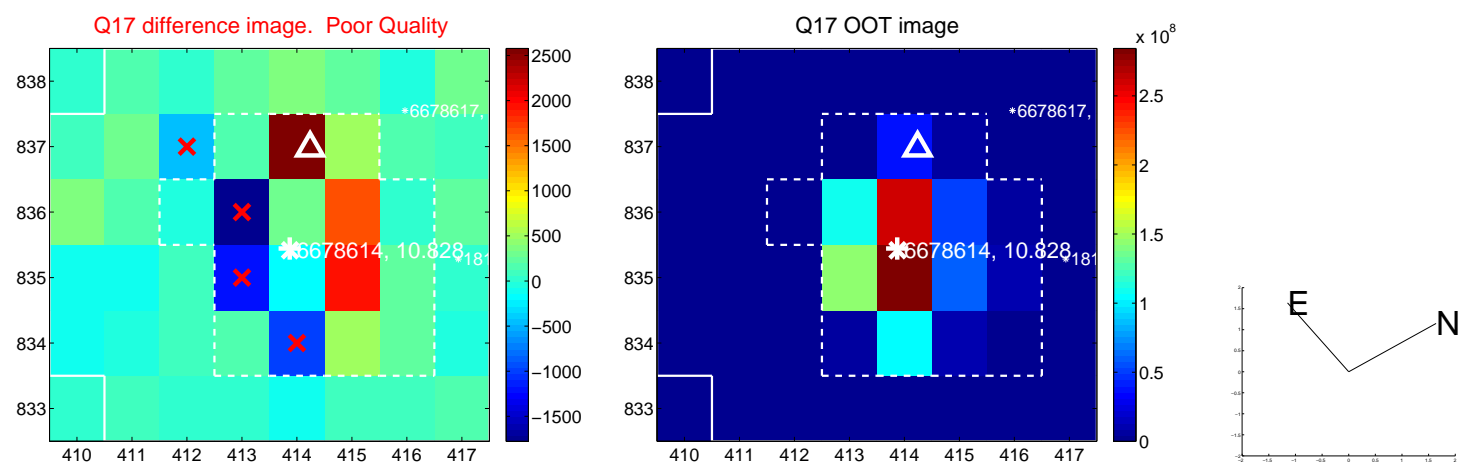
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UKIRT Image

