

KIC 009328864

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})
009328864-01	OBS	7160.01	0.645838	131.898883	47.4	1.413	14.3	15.1	0.91	5381	0.76	3361.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009328864-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—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.

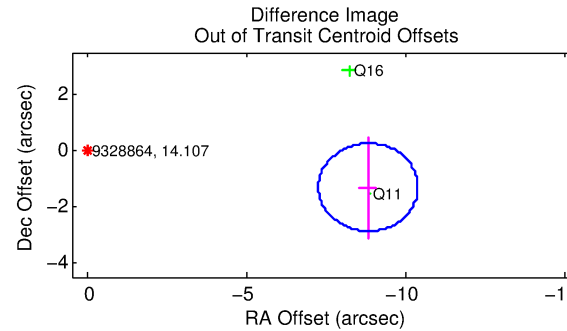
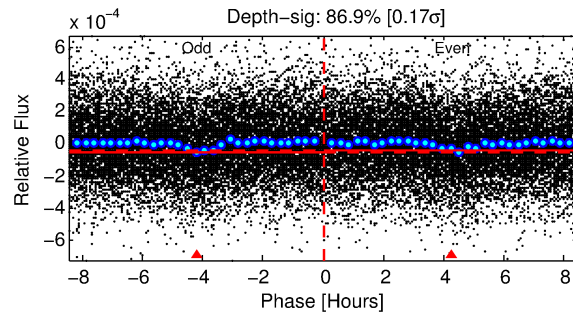
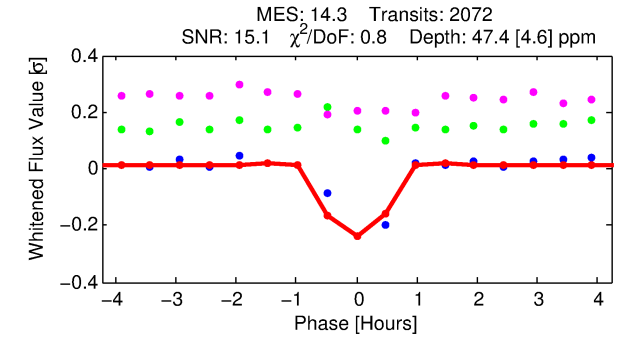
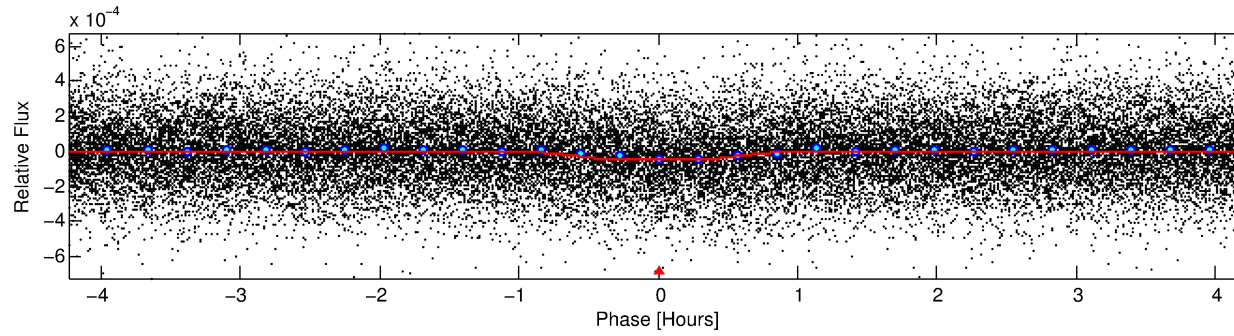
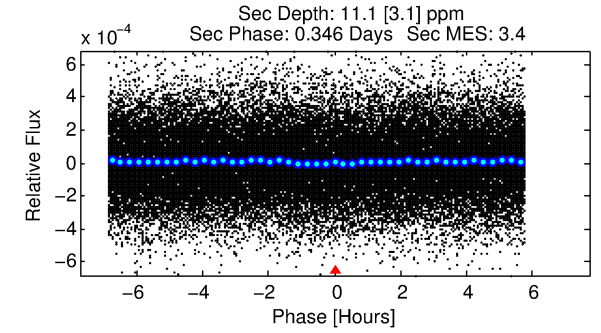
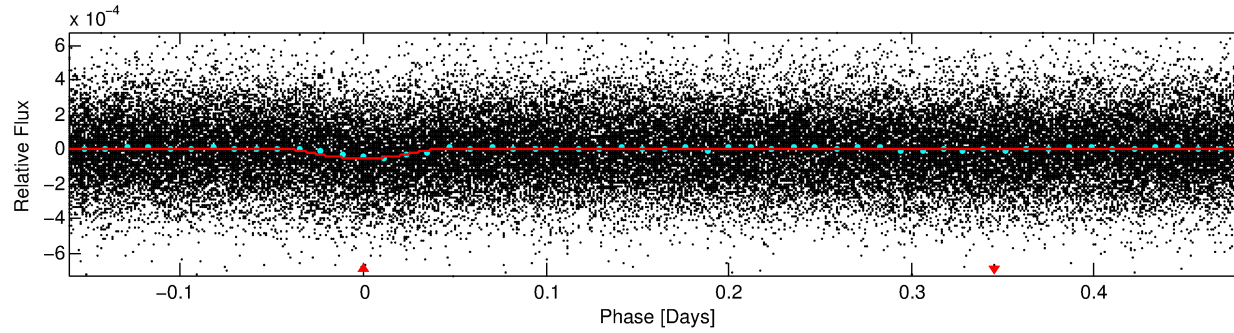
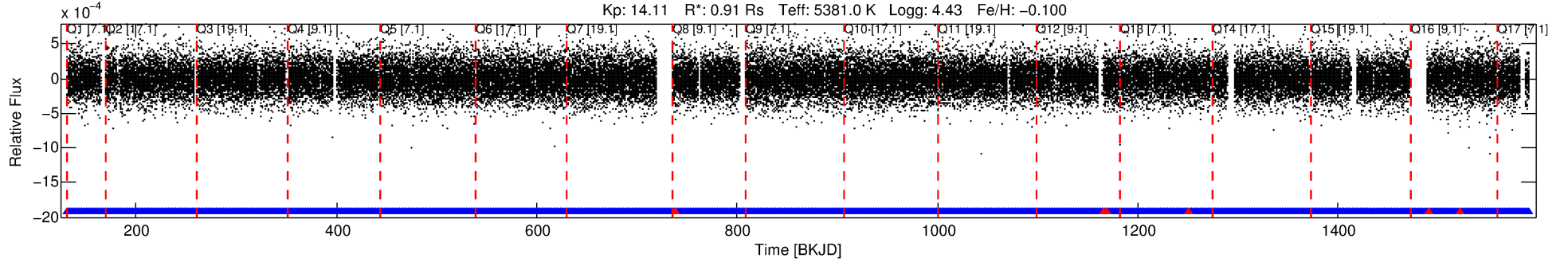
Ephemeris Match Information For 009328864-01

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
009328864-01	9328864	7159.01	9328852	1:1	16.6	-4	1	15.33	14.11	6553.80	Direct-PRF	0	2.26	0.83

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: 9328864 Candidate: 1 of 1 Period: 0.646 d
KOI: K07160.01 Corr: 0.856



DV Fit Results:

Period = 0.64584 [0.00001] d
Epoch = 131.8989 [0.0013] BKJD
Rp/R* = 0.0076 [0.0032]
a/R* = 1.84 [2.42]
b = 0.90 [0.41]
Seff = 3361.45 [1182.65]
Teq = 1942 [171] K
Rp = 0.76 [0.36] Re
a = 0.0136 [0.0029] AU
Ag = 1.99 [1.89] [0.52σ]
Teffp = 3564 [801] K [1.98σ]

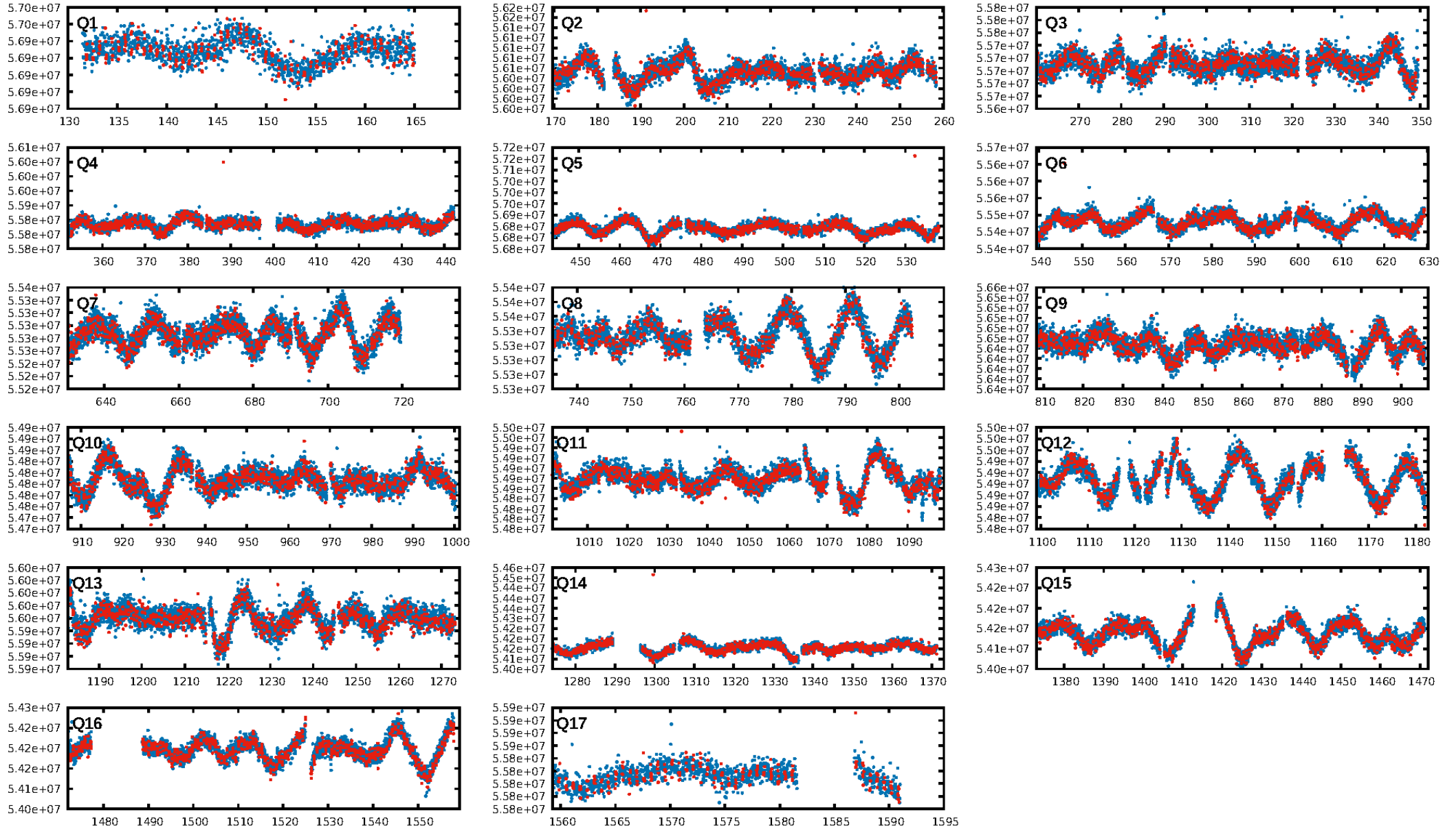
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.25e-43
RollingBand-fgt: 1.00 [1973/1979]
GhostDiagnostic-chr: -0.7846
Centroid-sig: 0.0%
Centroid-so: 11.684 arcsec [14.82σ]
OotOffset-rm: 8.909 arcsec [17.10σ]
KicOffset-rm: 8.867 arcsec [28.42σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [17/17]

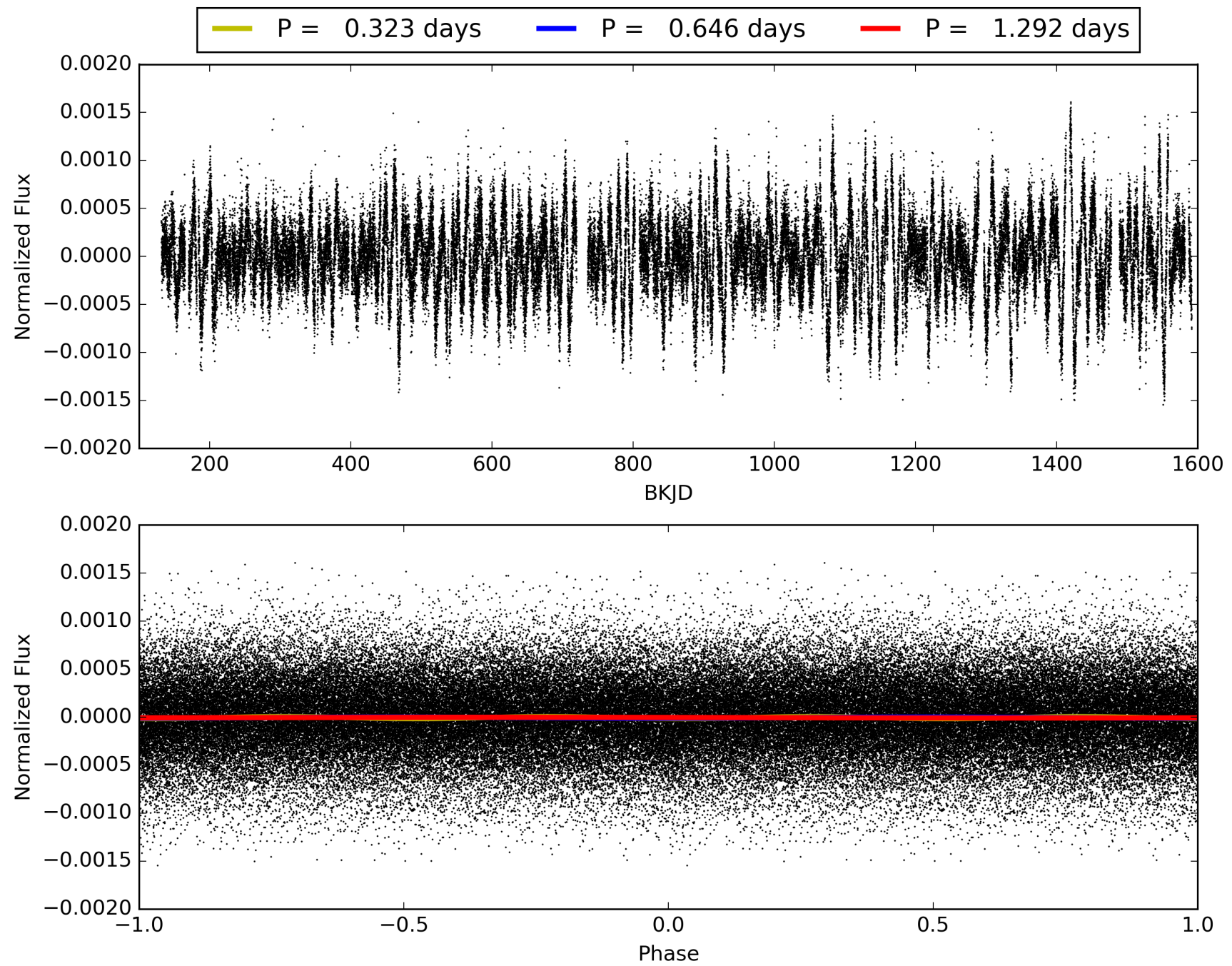
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:43:56 Z

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

TCE 009328864-01, PDC Light Curves

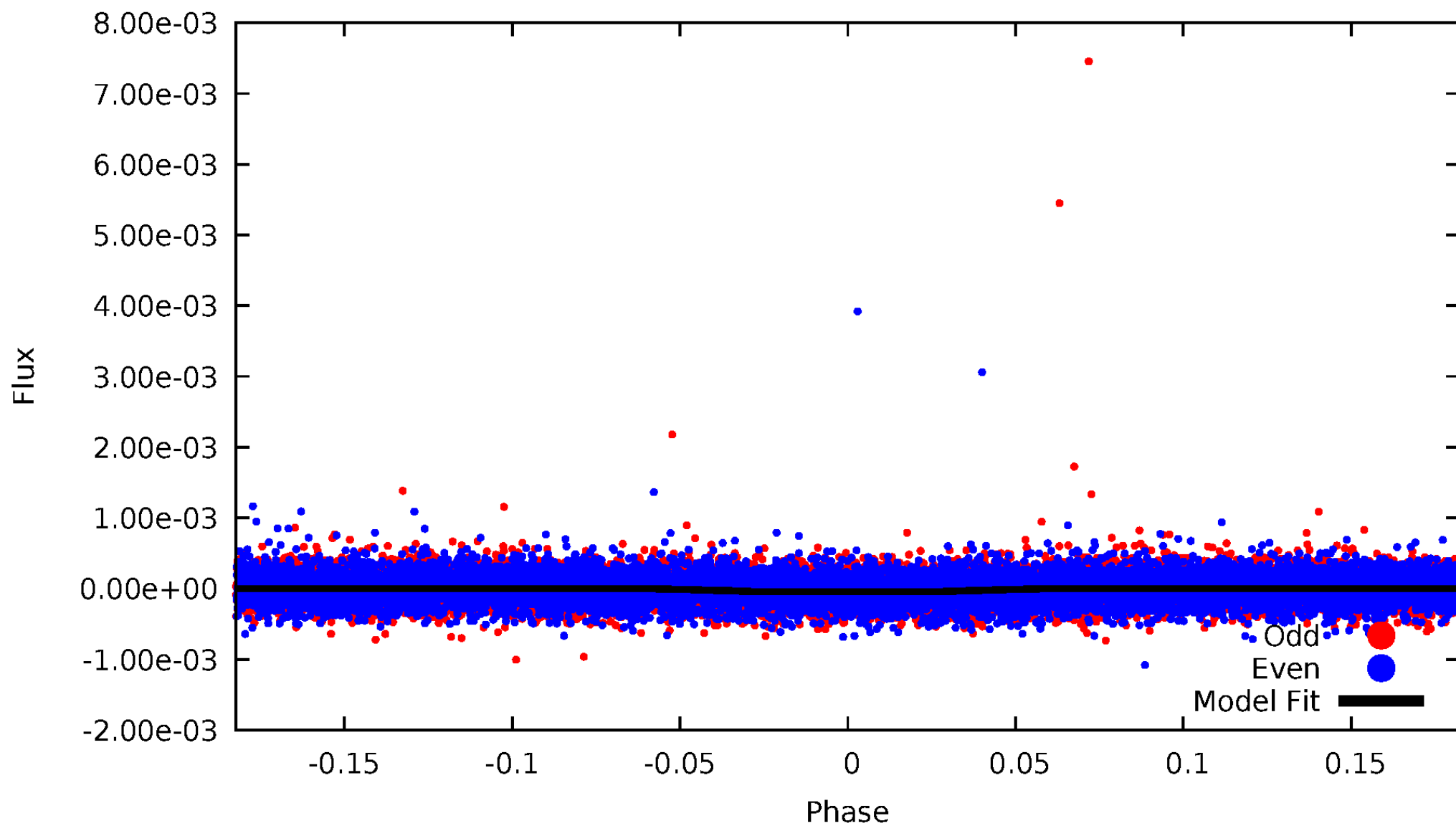


TCE 009328864-01



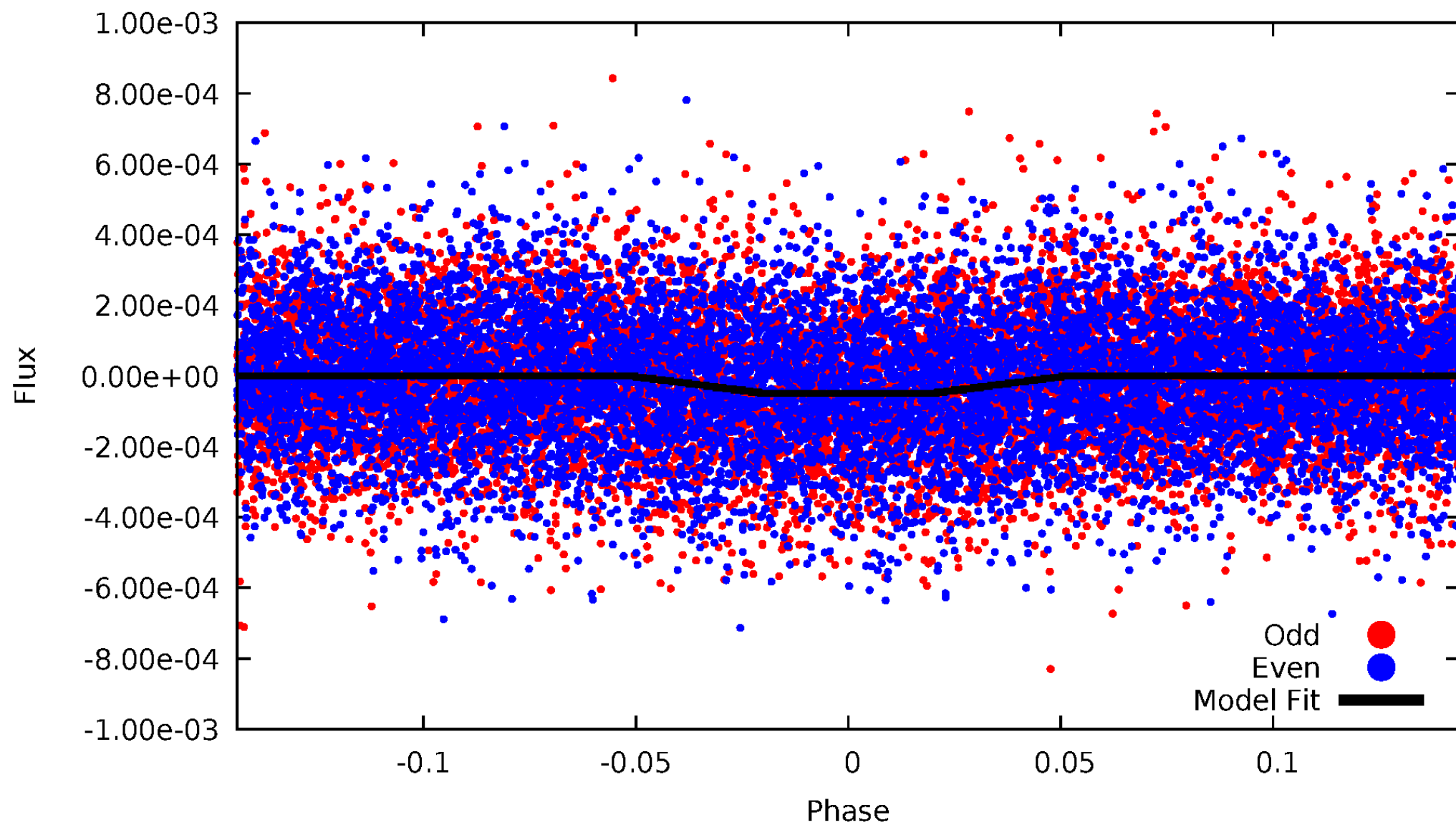
DV Odd/Even

TCE 009328864-01



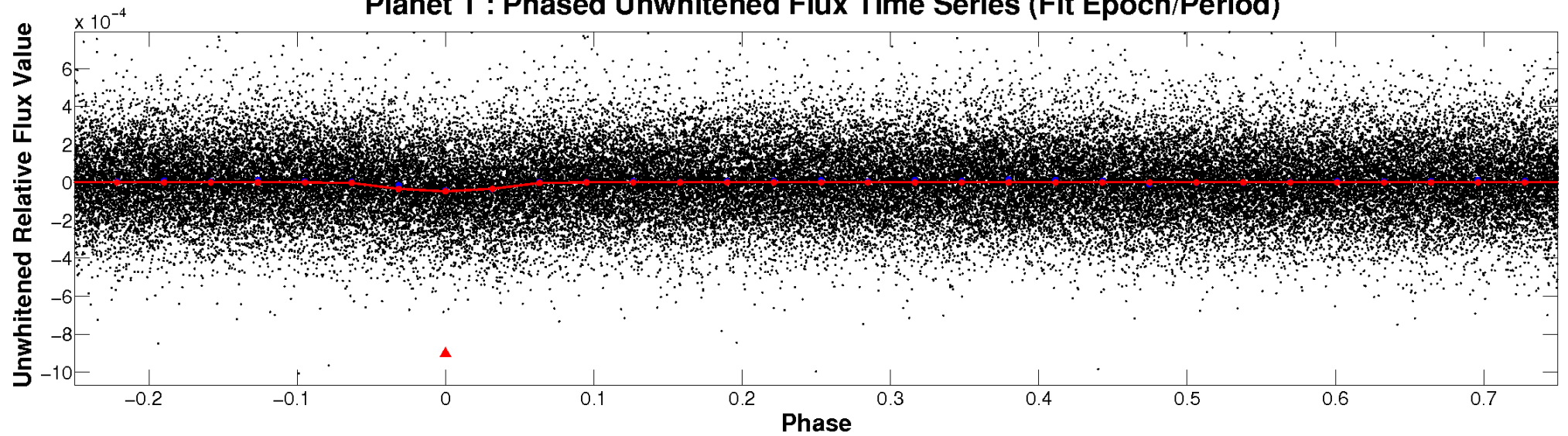
ALT Odd/Even

TCE 009328864-01

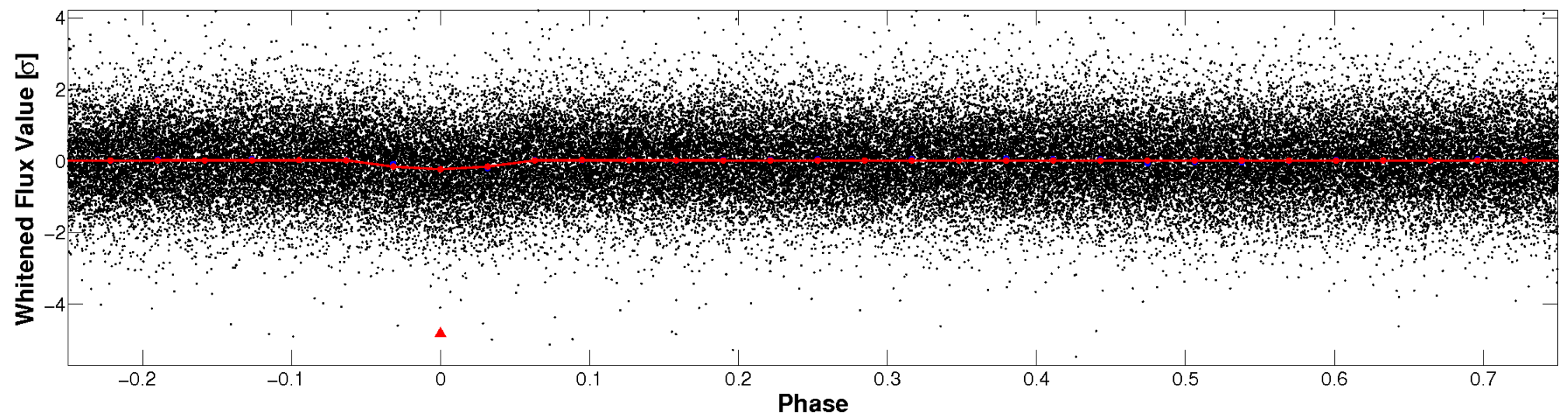


Non-Whitened Vs. Whitened Light Curve

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

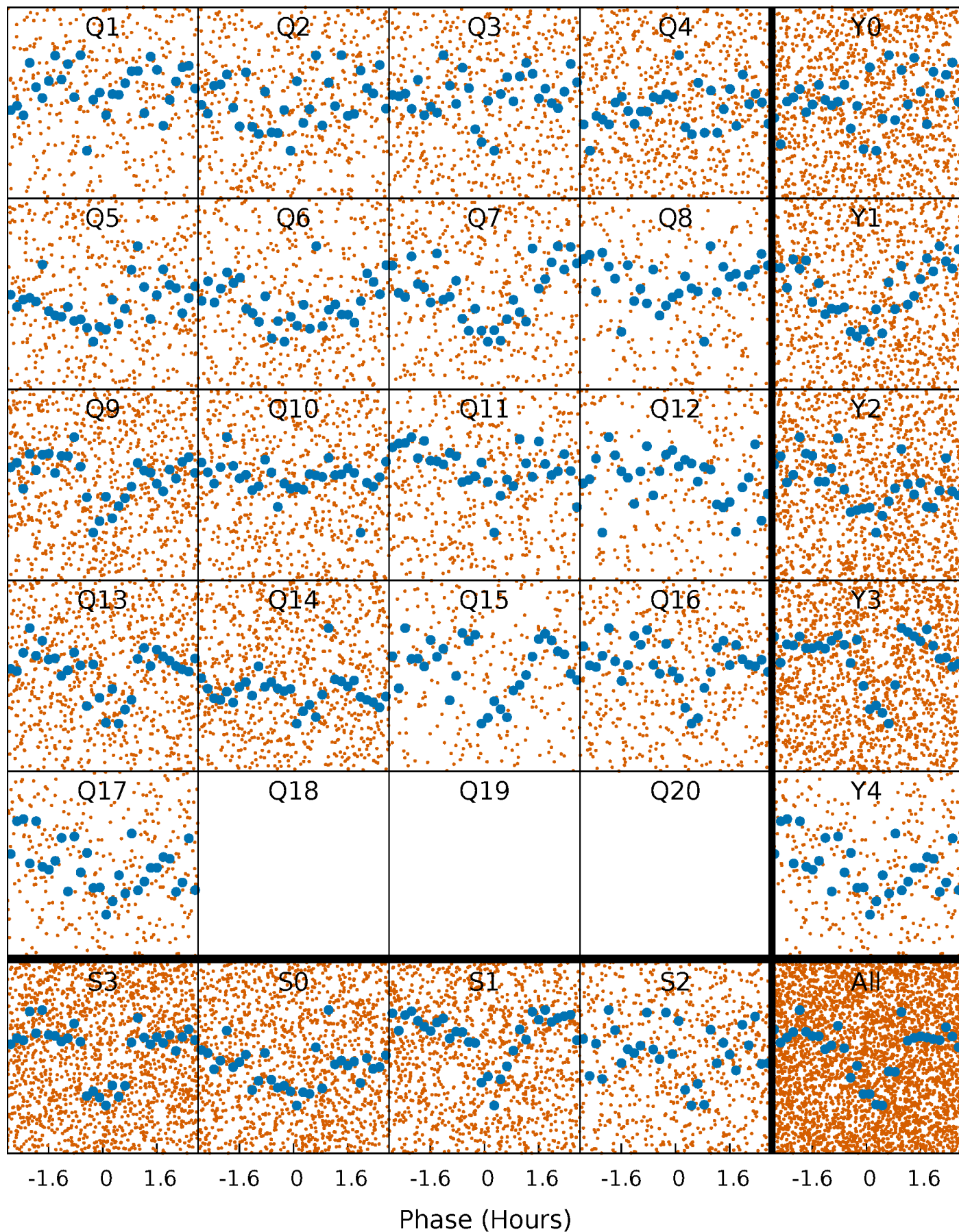


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



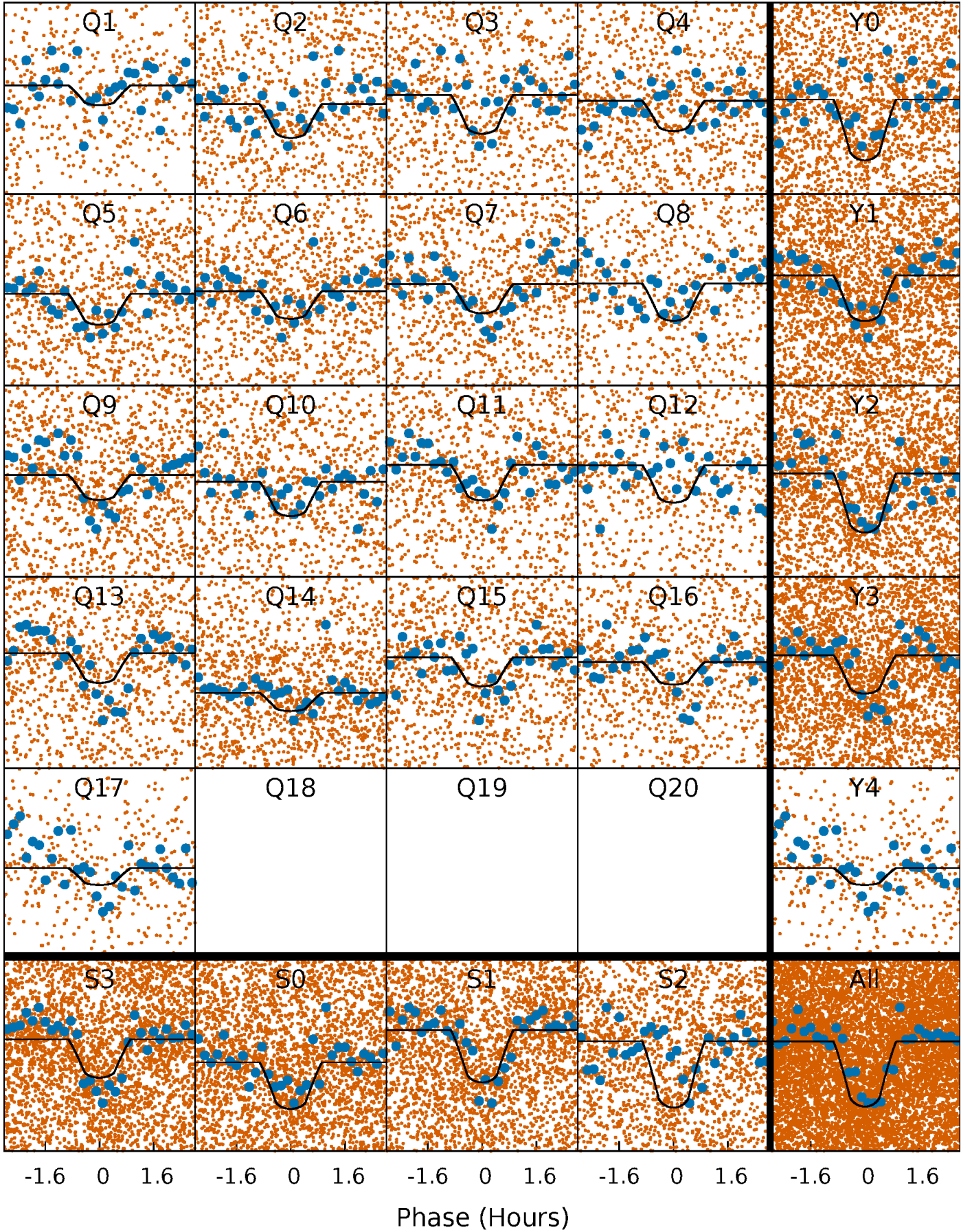
PDC Quarter-Phased Transit Curves

TCE 009328864-01 P= 0.645838 Days $T_0=131.898883$ (BKJD)



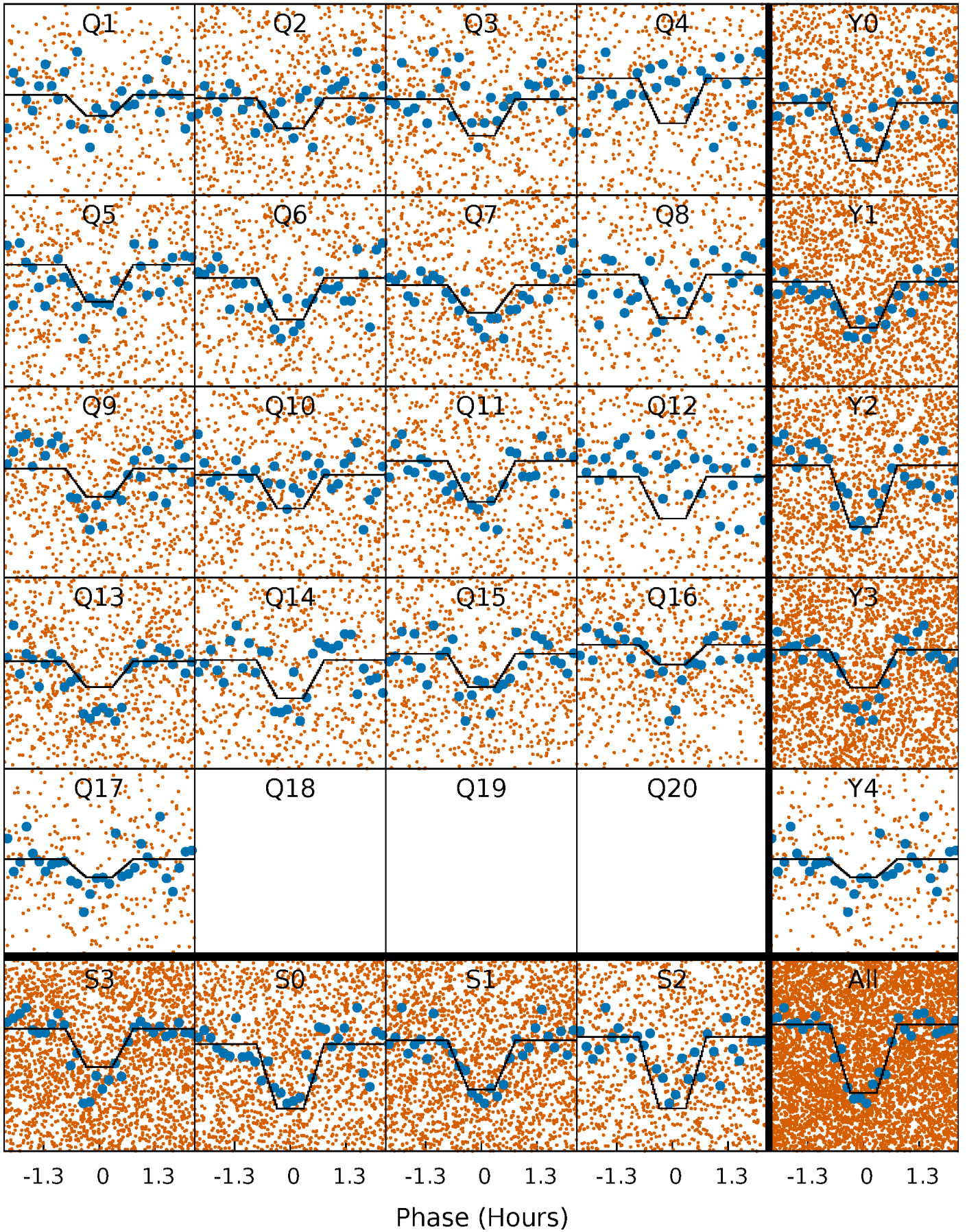
DV Quarter-Phased Transit Curves

TCE 009328864-01 P= 0.645838 Days $T_0=131.898883$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

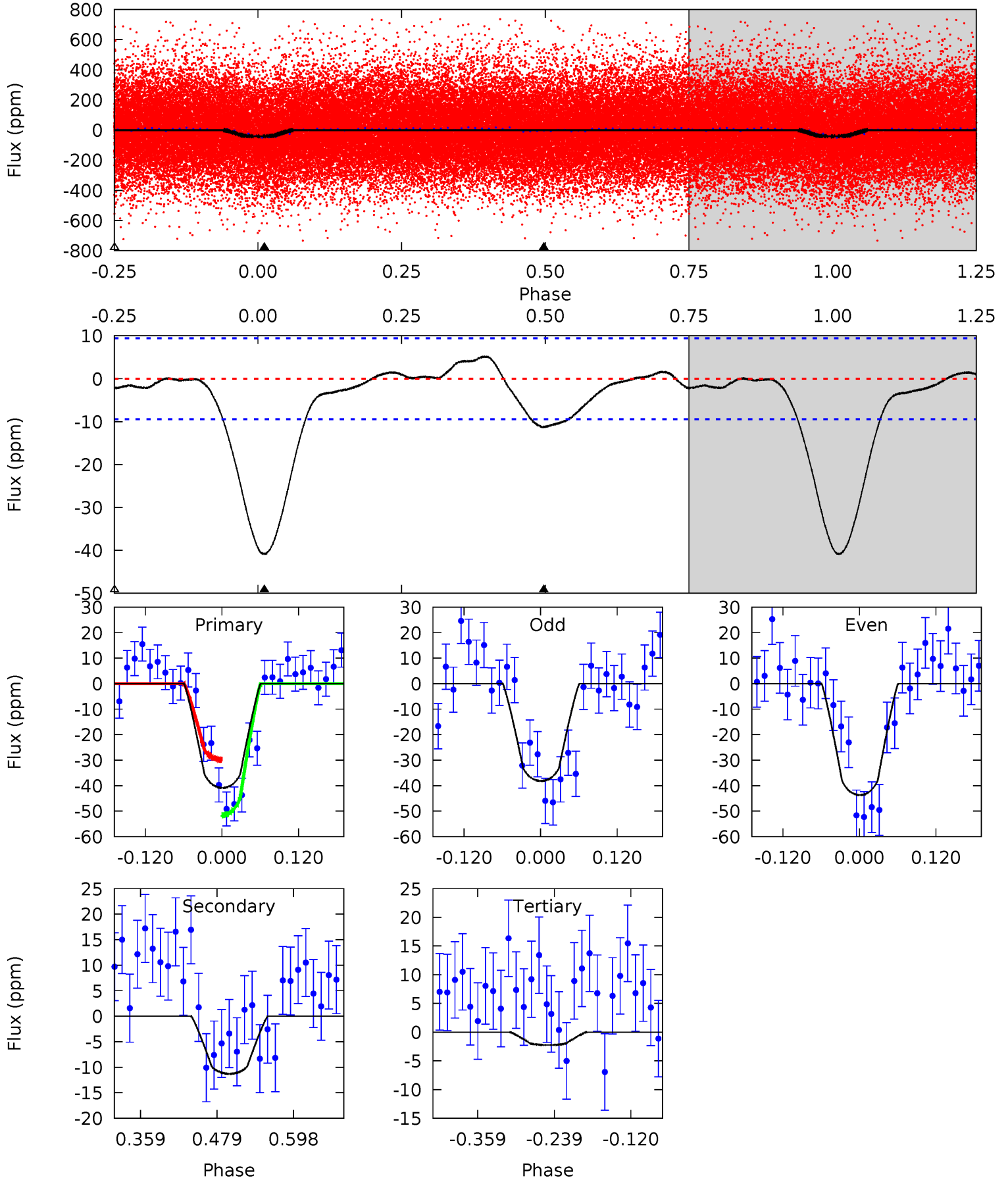
TCE 009328864-01 P= 0.645851 Days $T_0=131.890849$ (BKJD)



DV Model-Shift Uniqueness Test

009328864-01, P = 0.645838 Days, E = 131.253045 Days

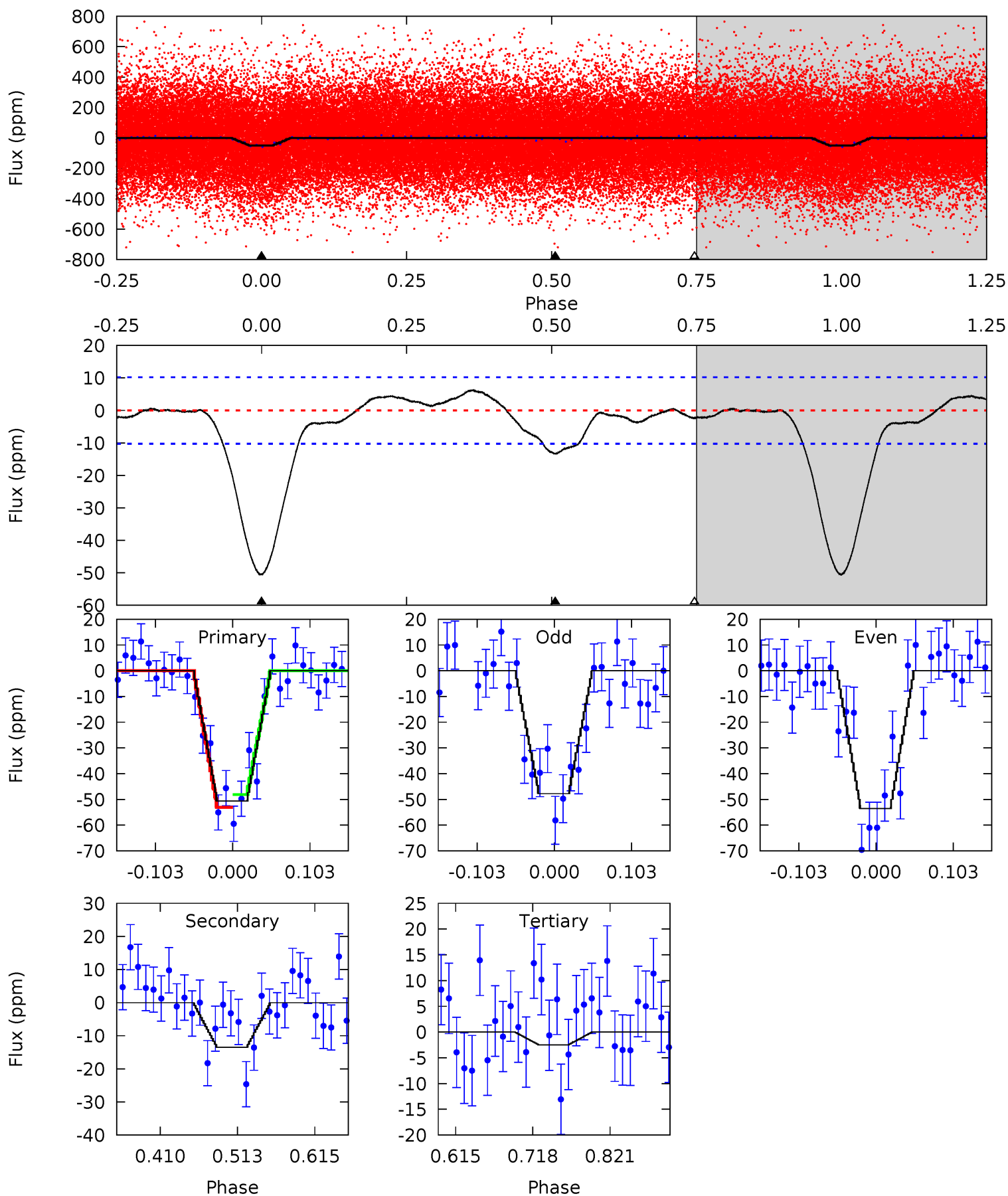
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.6	5.40	1.08	0	4.53	1.56	0.79	18.5	19.6	4.32	5.40	1.33	0.94	0.11	5.21



Alt Model-Shift Uniqueness Test

009328864-01, P = 0.645851 Days, E = 131.244998 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.5	6.02	1.11	0	4.56	1.63	1.23	21.4	22.5	4.91	6.02	1.29	1.06	0.11	1.11



Stellar Parameters For KIC 009328864

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5381^{+159}_{-143}	$4.426^{+0.144}_{-0.192}$	$-0.100^{+0.300}_{-0.300}$	$0.911^{+0.207}_{-0.138}$	$0.806^{+0.115}_{-0.057}$	$1.503^{+0.867}_{-0.703}$
	+3%/-3%	+3%/-4%	+300%/-300%	+23%/-15%	+14%/-7%	+58%/-47%
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 009328864-01 / KOI 7160.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-11 ± 2	$0.80^{+0.35}_{-0.34}$	2729^{+180}_{-155}	3740^{+959}_{-537}	$1.834^{+4.074}_{-0.953}$
Alt.	-14 ± 2	$0.72^{+0.34}_{-0.32}$	2733^{+189}_{-157}	4083^{+1102}_{-629}	$2.815^{+6.307}_{-1.617}$

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 $A_{obs} \gg 1.0$

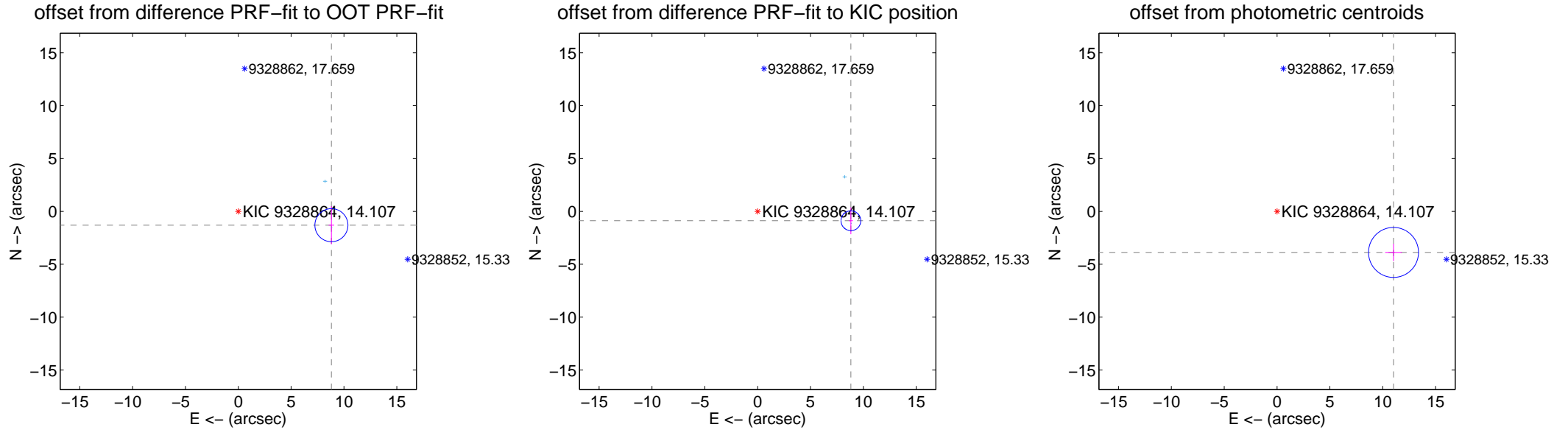
DV Centroid Data

Supplemental centroid analysis for 009328864-01. Kepler magnitude: 14.11. Transit SNR 15.08

There are 2 quarters with good PRF difference image offsets

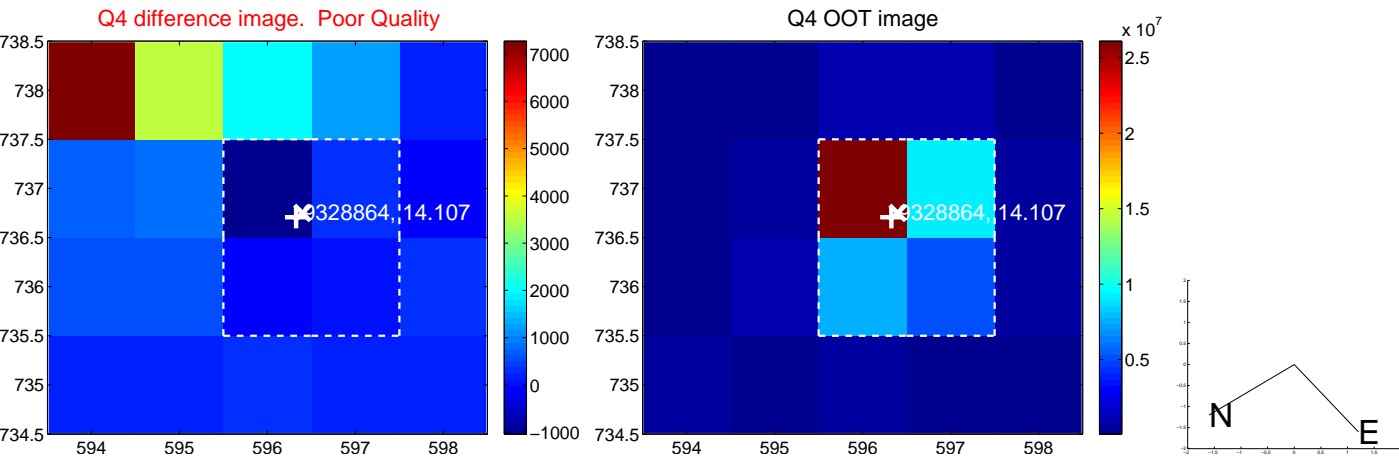
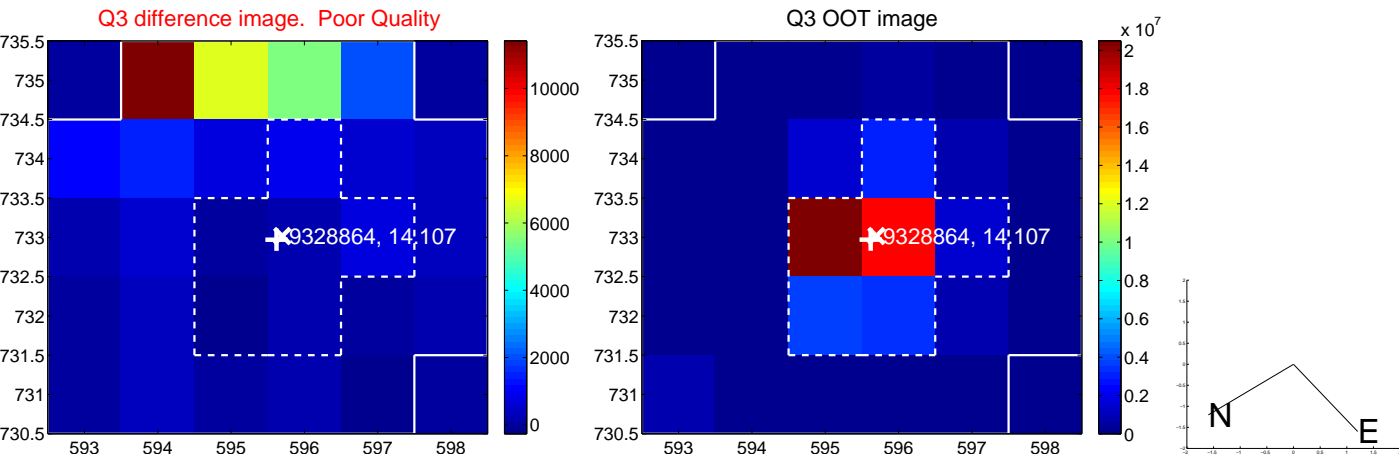
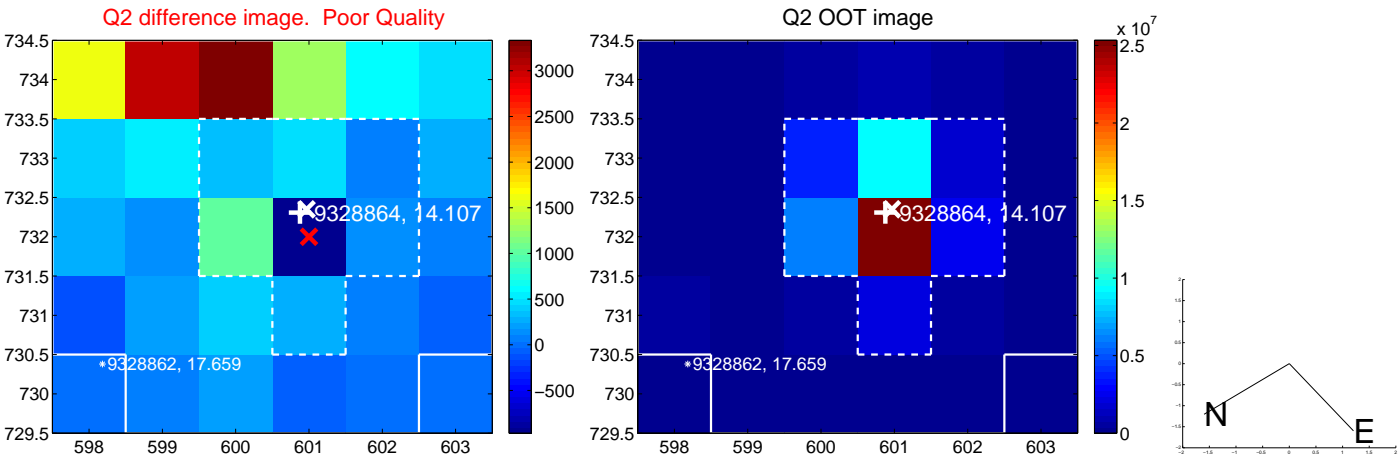
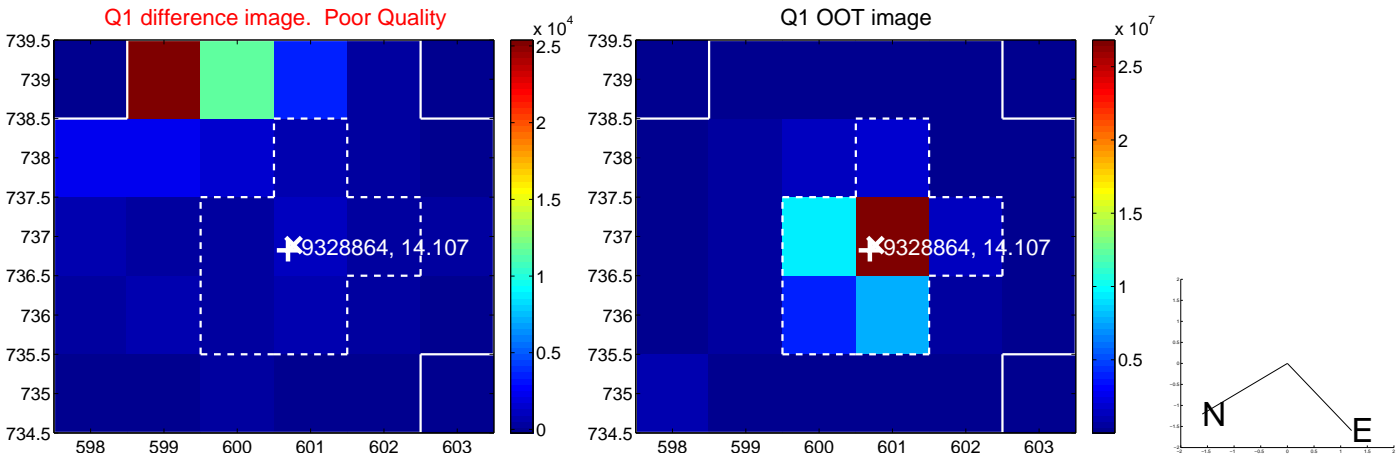
The direct PRF centroid is offset from the target star catalog position by about 0.42 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.909 ± 0.521	17.10	-8.813 ± 0.265	-1.305 ± 1.796
PRF-fit source offset from KIC position	8.867 ± 0.312	28.42	-8.822 ± 0.191	-0.885 ± 1.271
photometric centroid source offset	11.68 ± 0.79	14.82	-11.02 ± 0.78	-3.88 ± 0.82

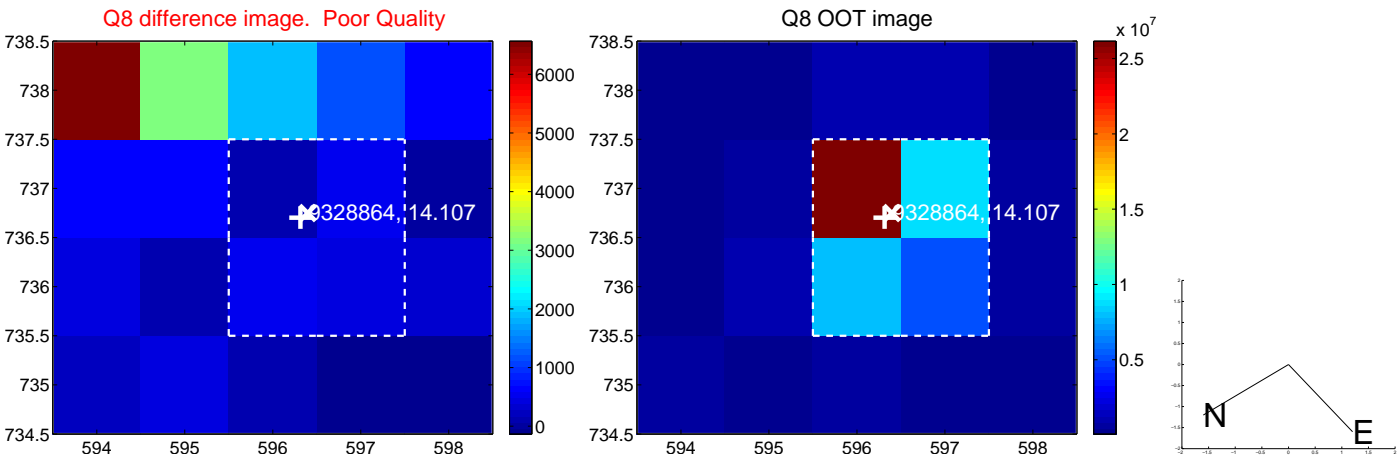
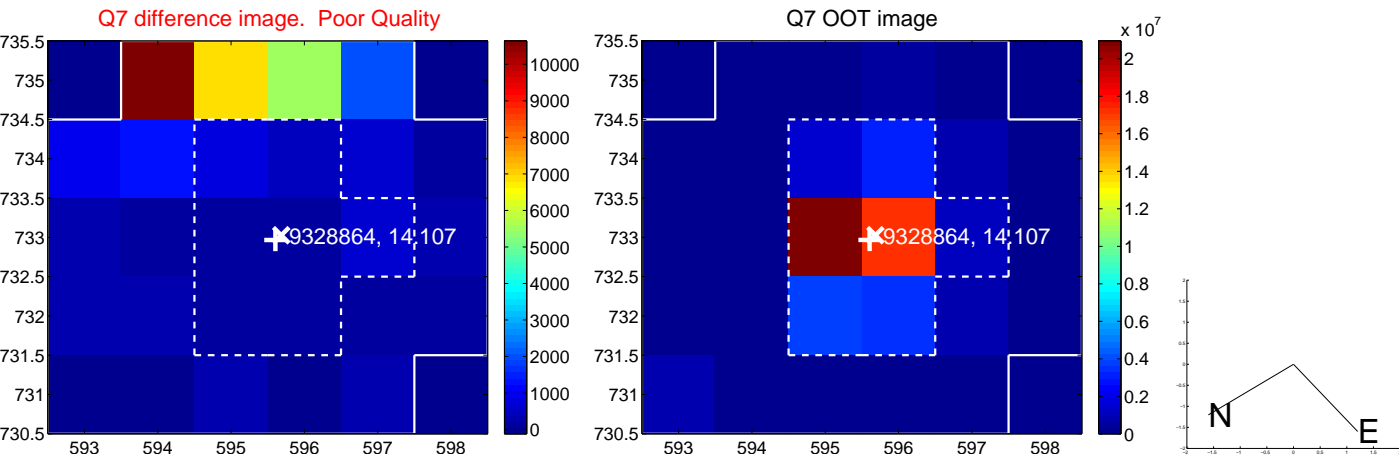
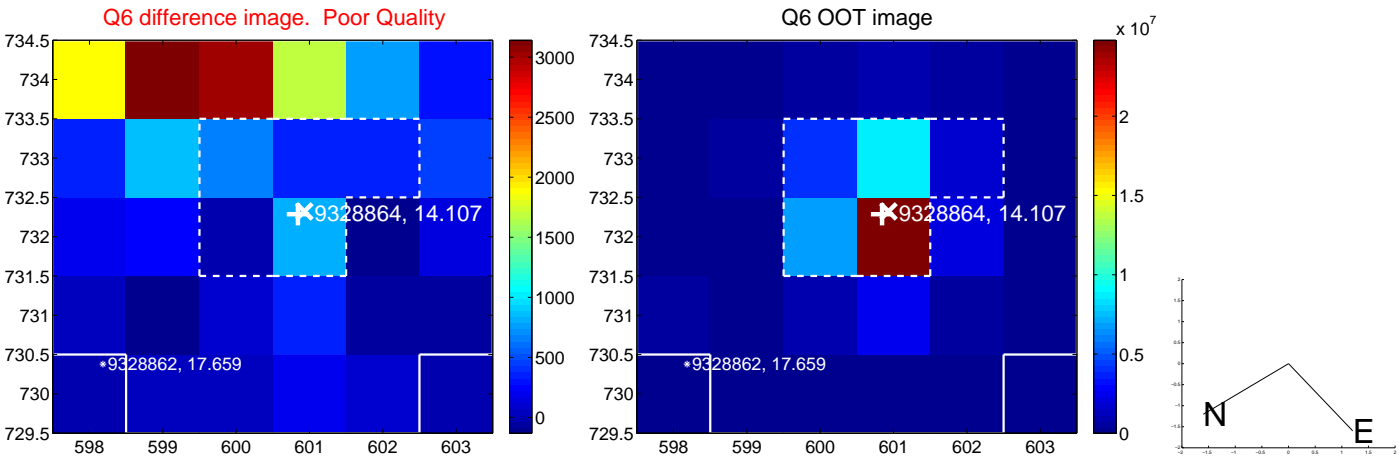
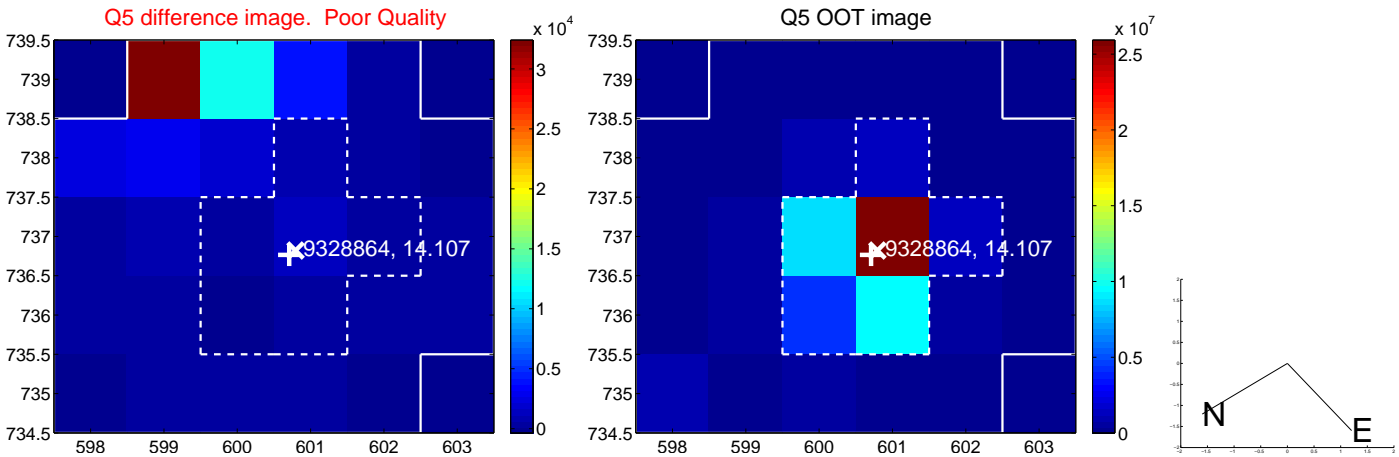


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

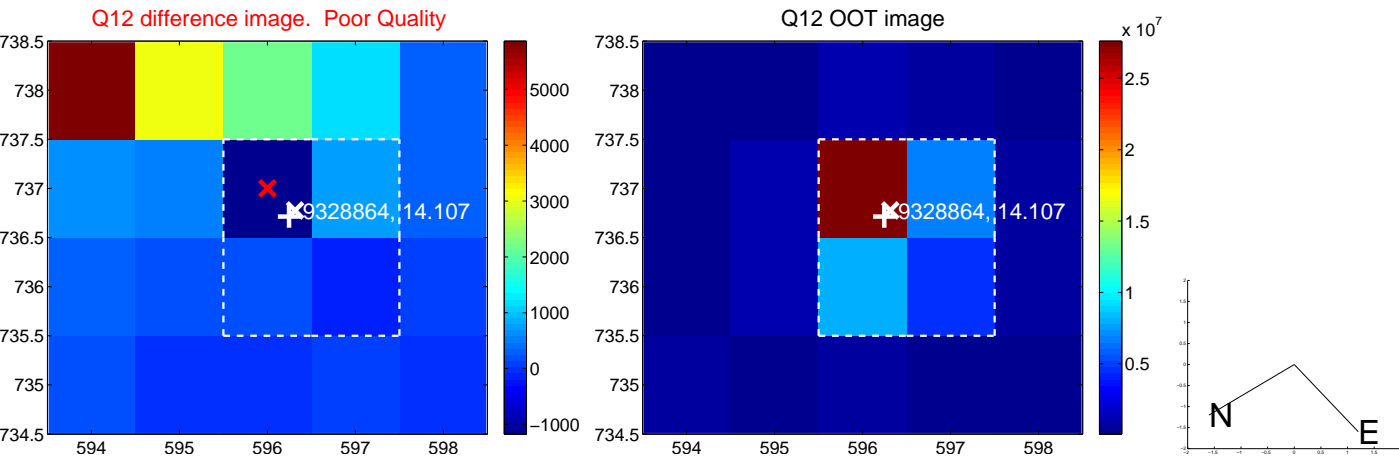
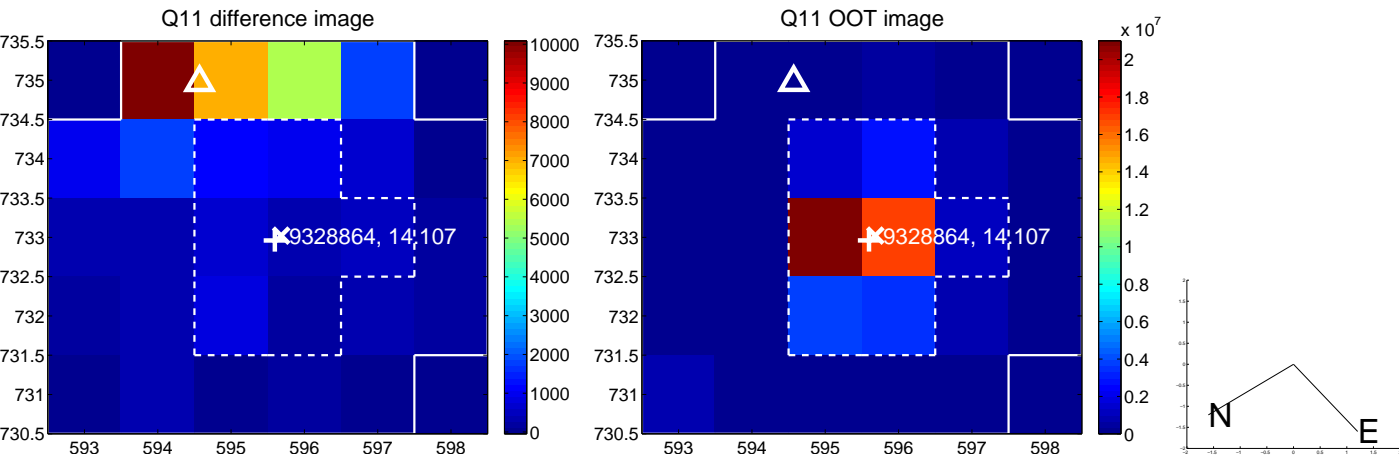
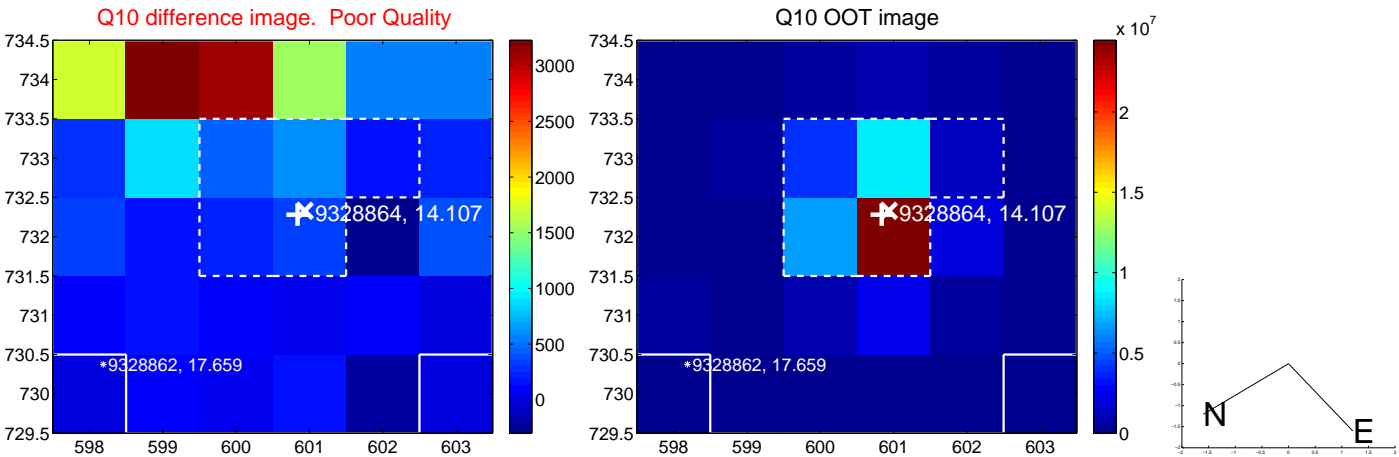
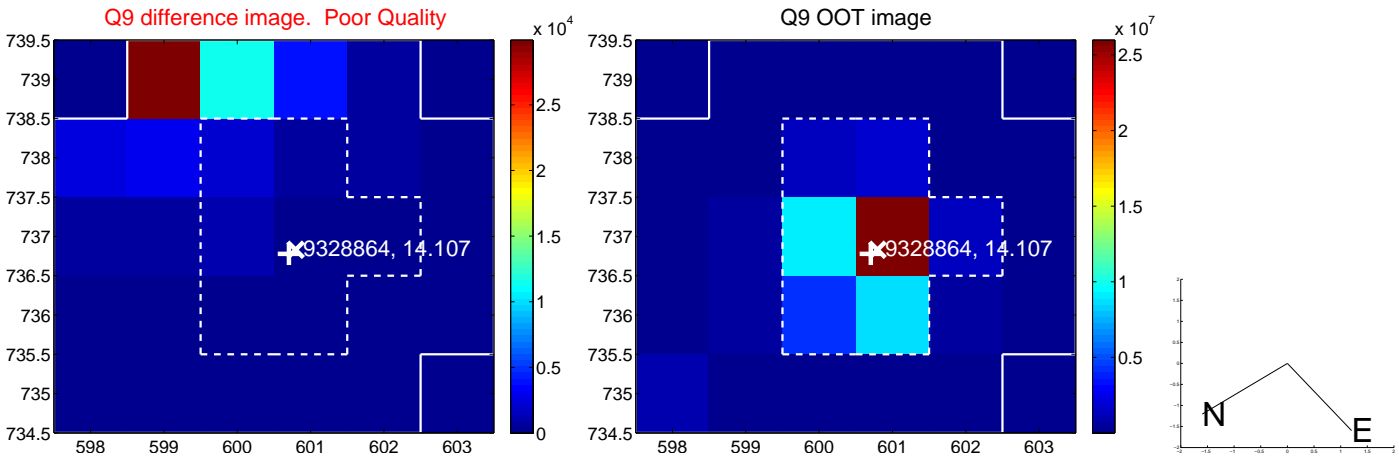
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



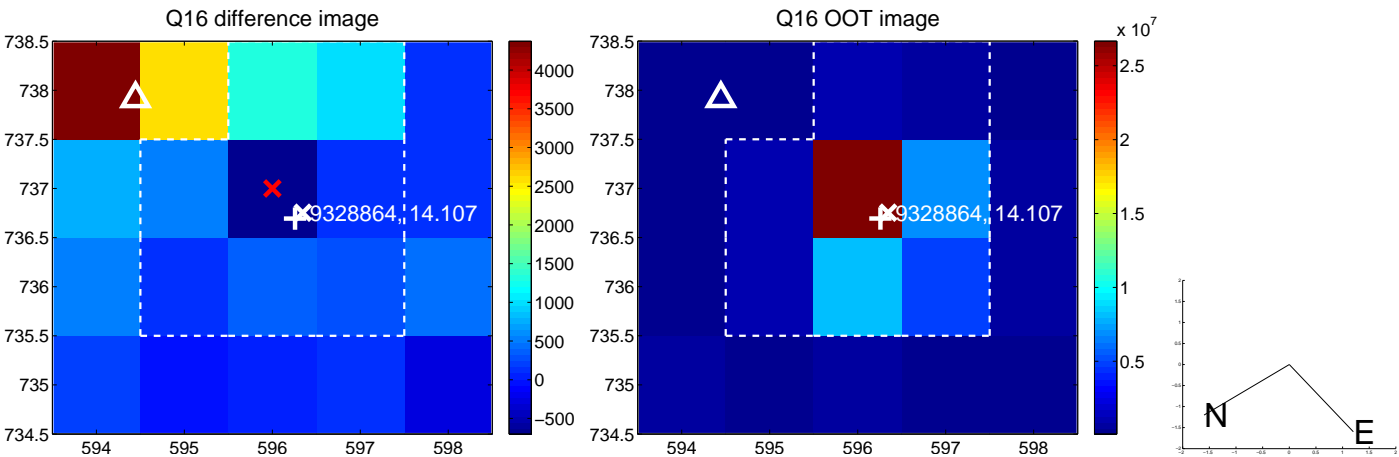
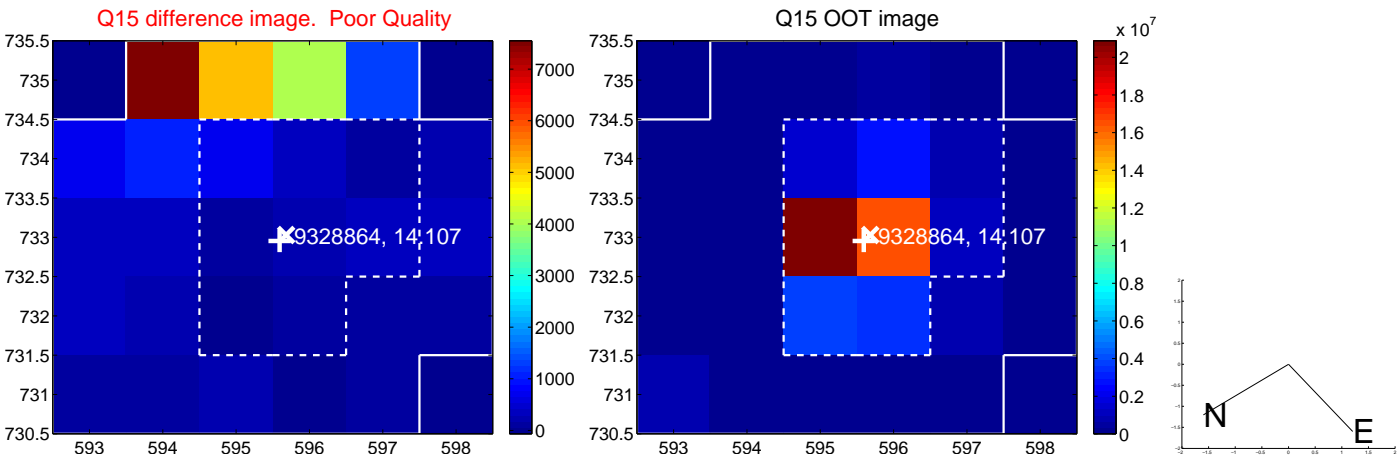
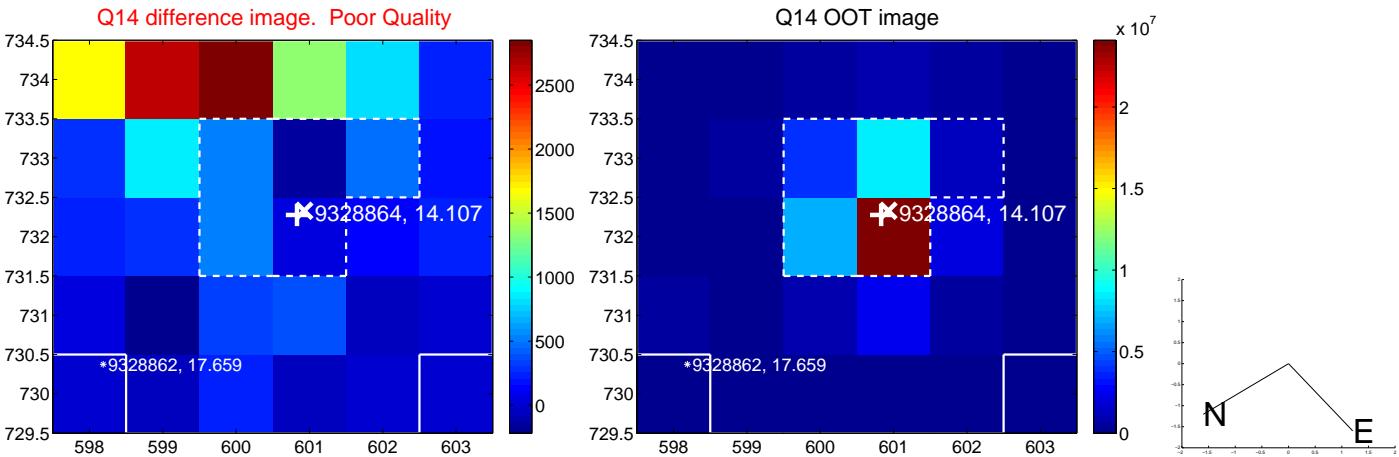
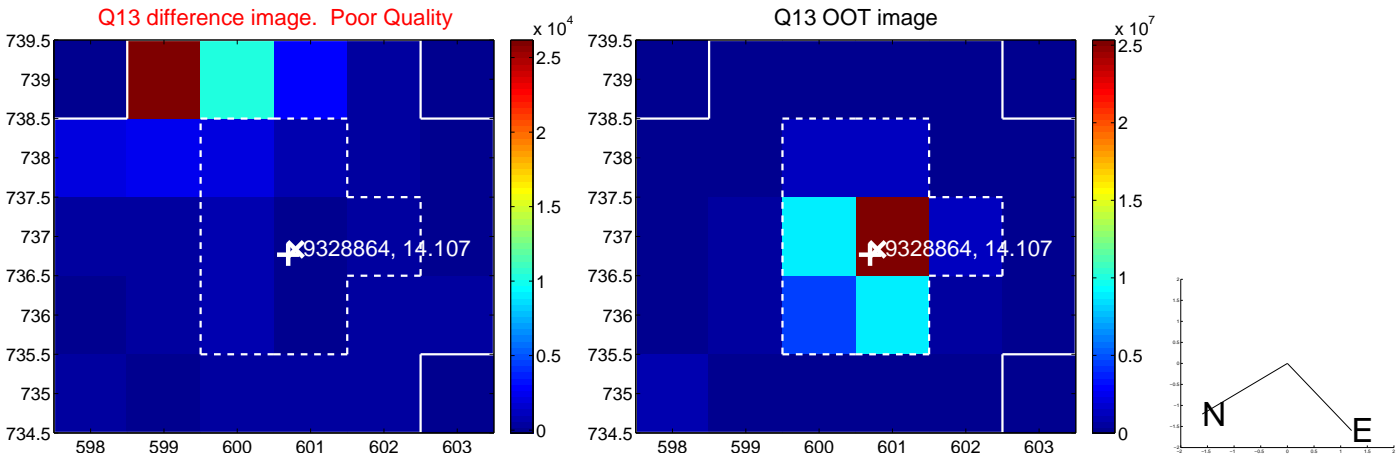
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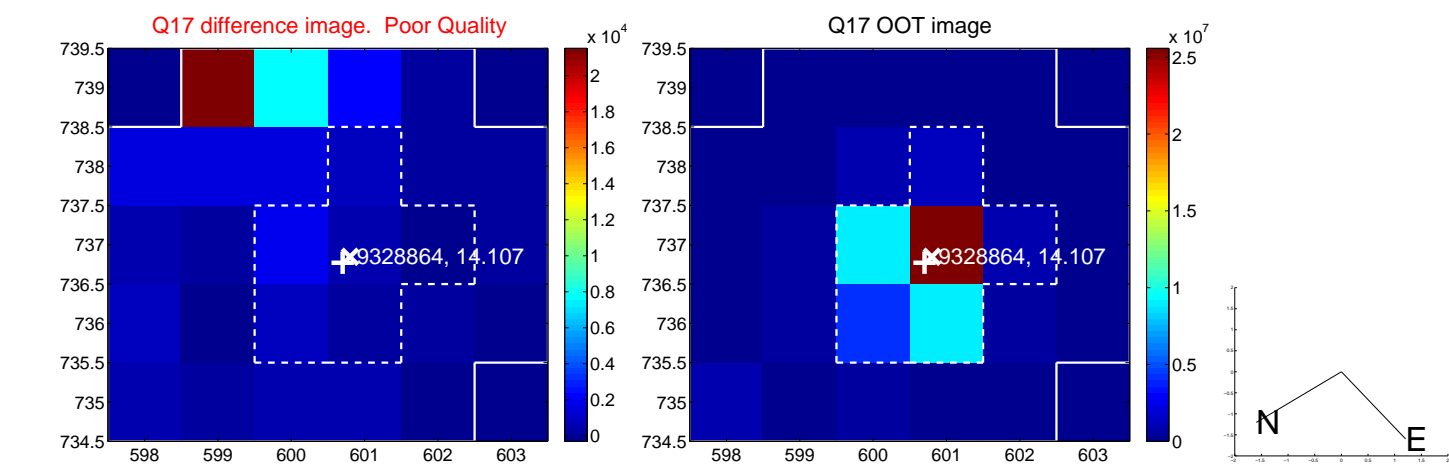
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



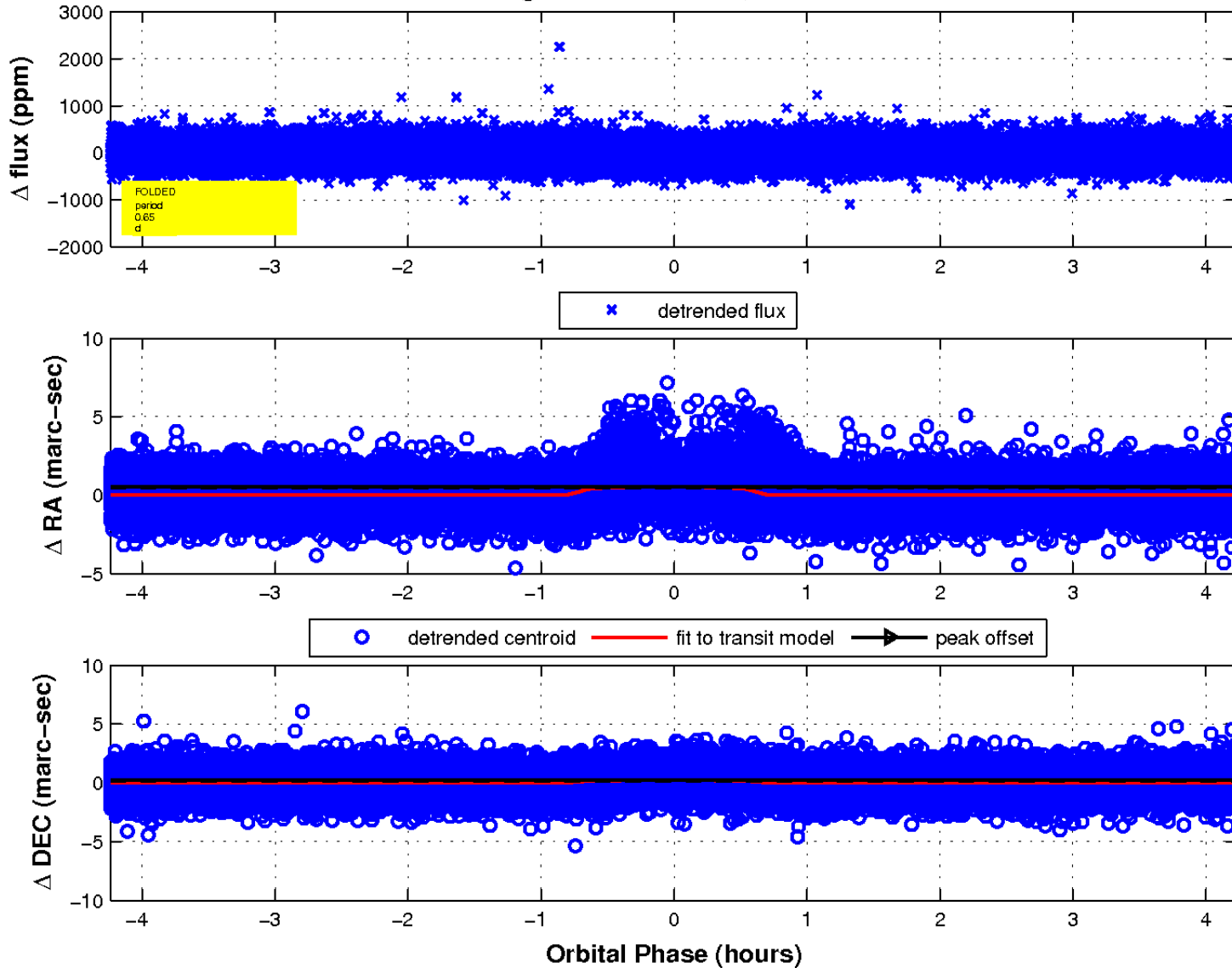
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

