

KIC 003245420

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})
003245420-01	OBS	No	0.799542	131.636708	87.0	3.497	11.9	9.9	3.28	8079	3.55	89887.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003245420-01	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.

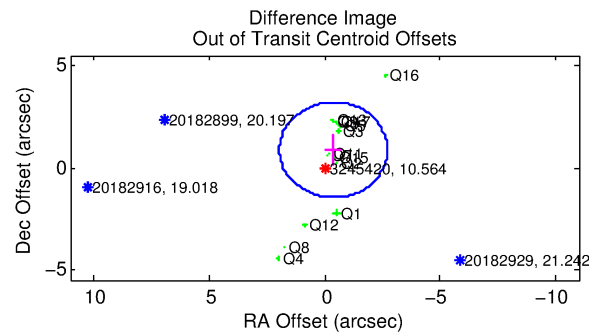
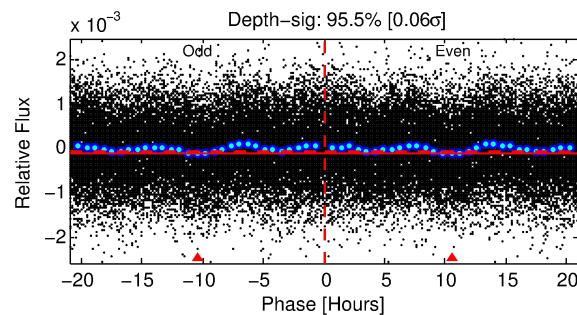
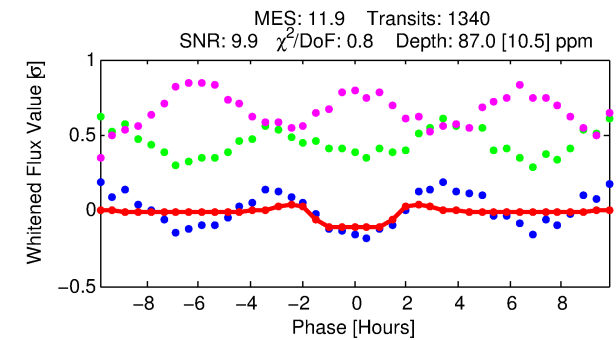
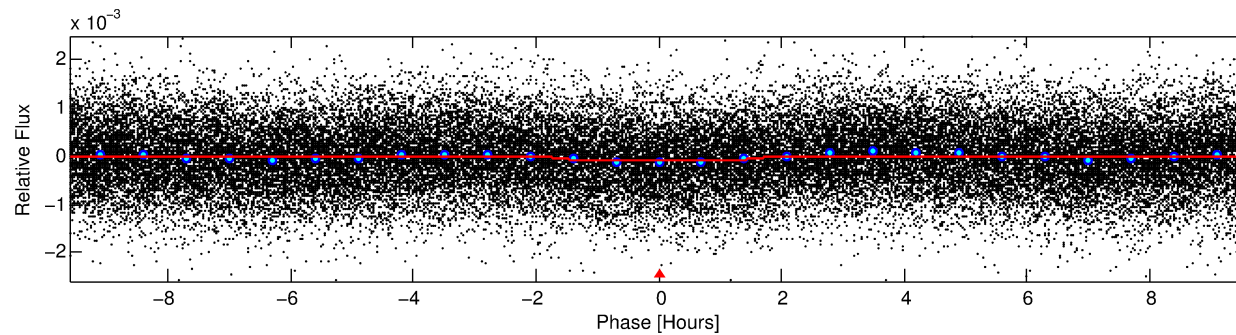
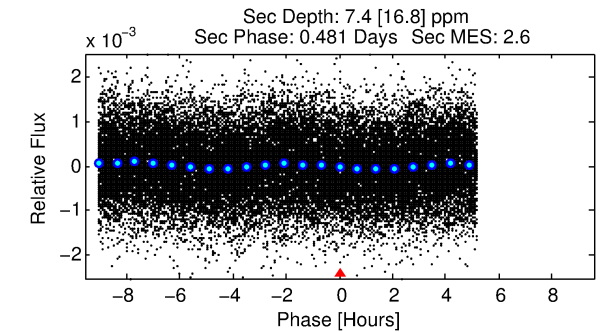
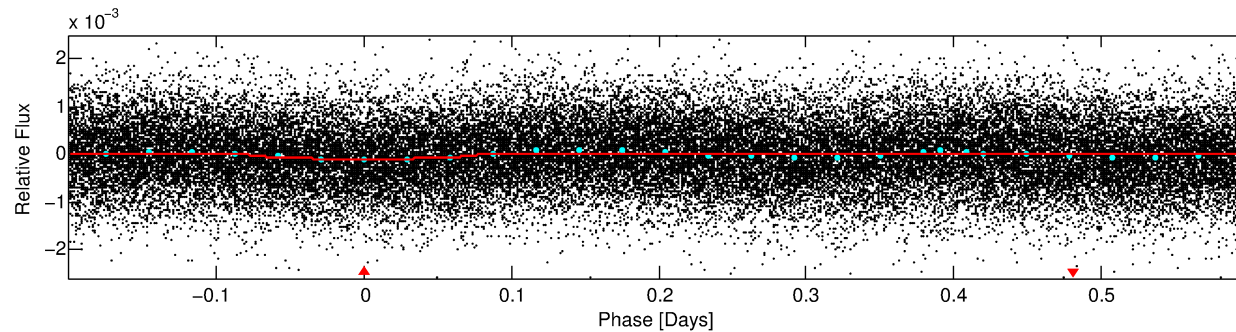
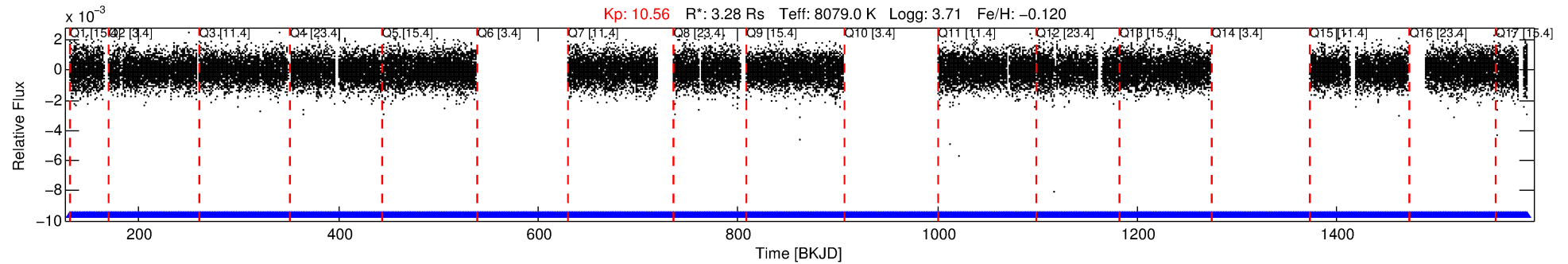
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003245420-01

No Significant Match Found

DV One-Page Summary

KIC: 3245420 Candidate: 1 of 1 Period: 0.800 d



DV Fit Results:

Period = 0.79954 [0.00001] d
Epoch = 131.6367 [0.0032] BKJD
 $R_p/R^* = 0.0099$ [0.0043]
 $a/R^* = 1.24$ [1.16]
 $b = 0.90$ [0.59]
 $\text{Seff} = 89887.03$ [67559.57]
 $T_{\text{eq}} = 4415$ [830] K
 $R_p = 3.55$ [2.27] R_e
 $a = 0.0214$ [0.0097] AU
 $A_g = 0.15$ [0.37] [-2.28σ]
 $T_{\text{eff}} = 4222$ [2594] K [-0.07σ]

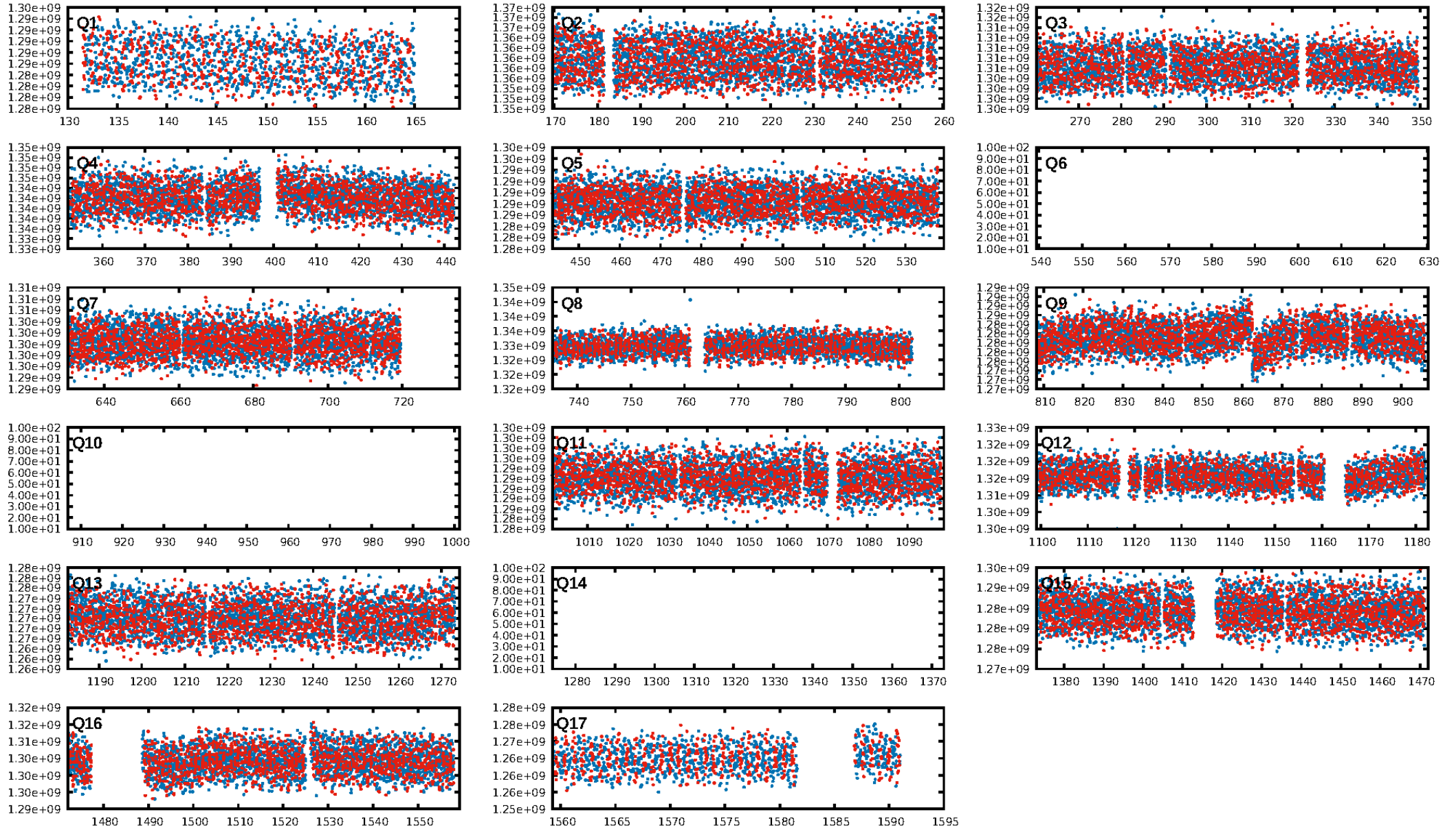
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.09e-26
RollingBand-fgt: 1.00 [1264/1264]
GhostDiagnostic-chr: 1.031
Centroid-sig: N/A
Centroid-so: 0.223 arcsec [1.13σ]
OotOffset-rm: 0.947 arcsec [1.22σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-rm: 1.328 arcsec [1.70σ]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 1.00 [14/14]

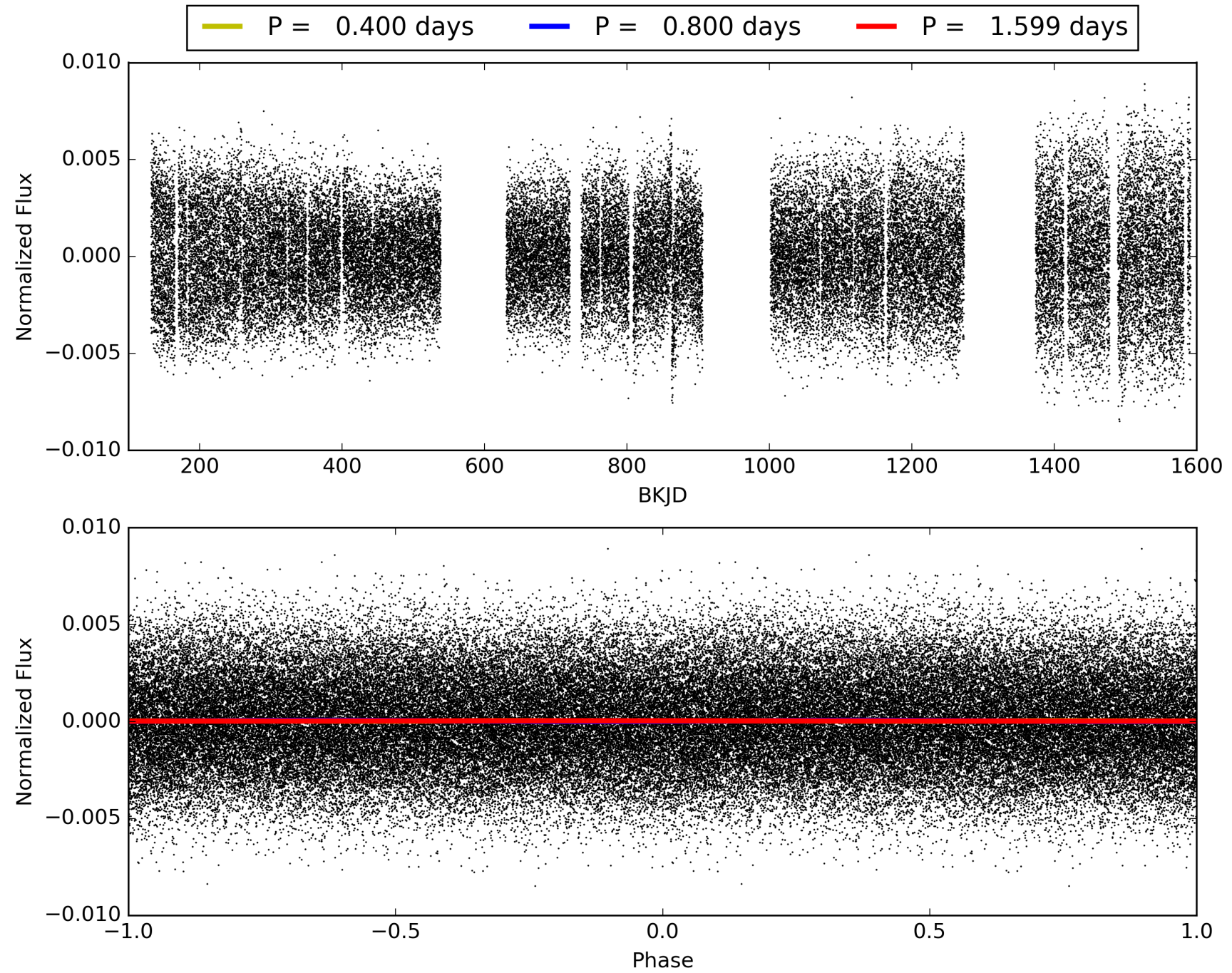
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:07:54 Z

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

TCE 003245420-01, PDC Light Curves

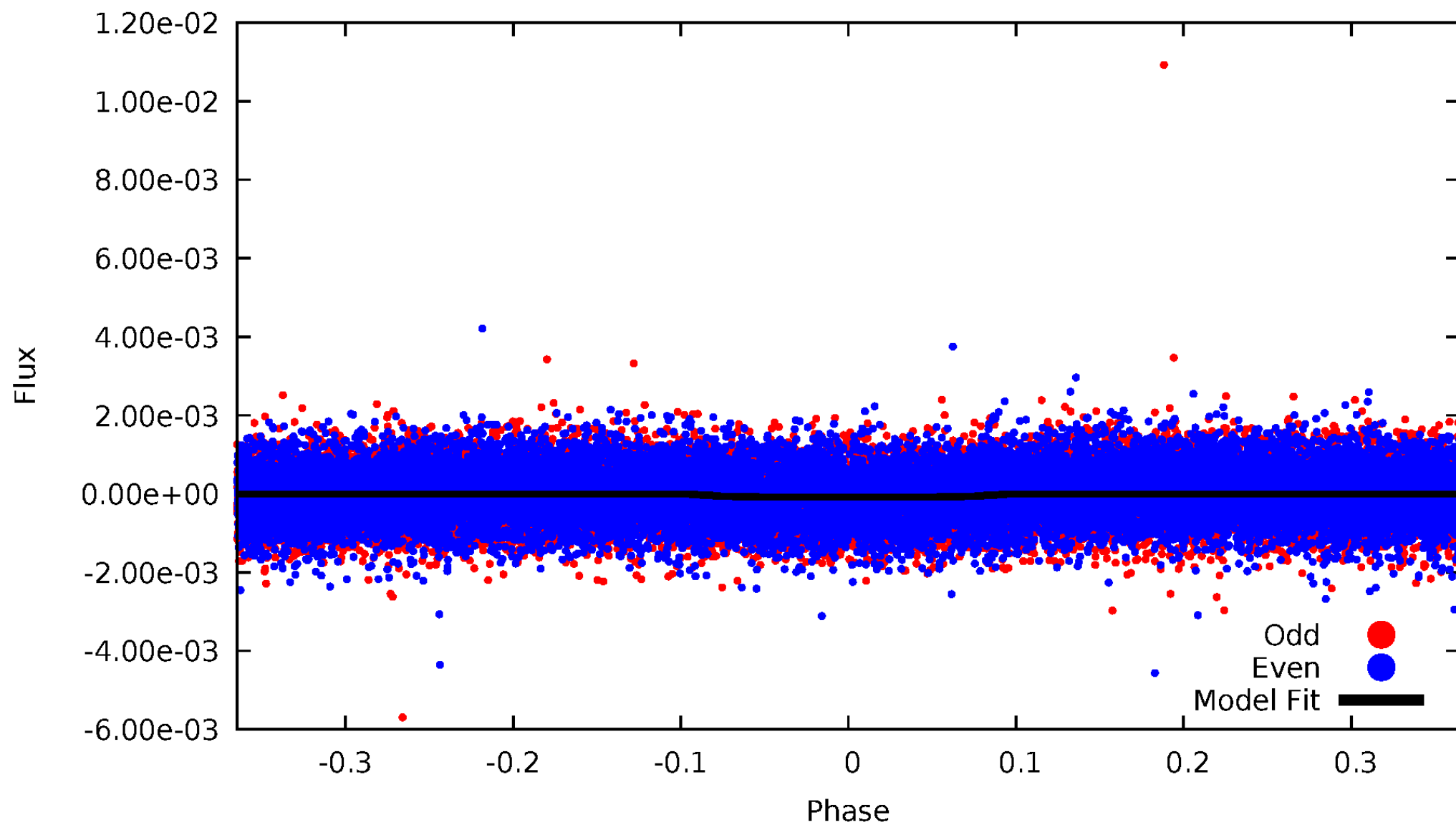


TCE 003245420-01



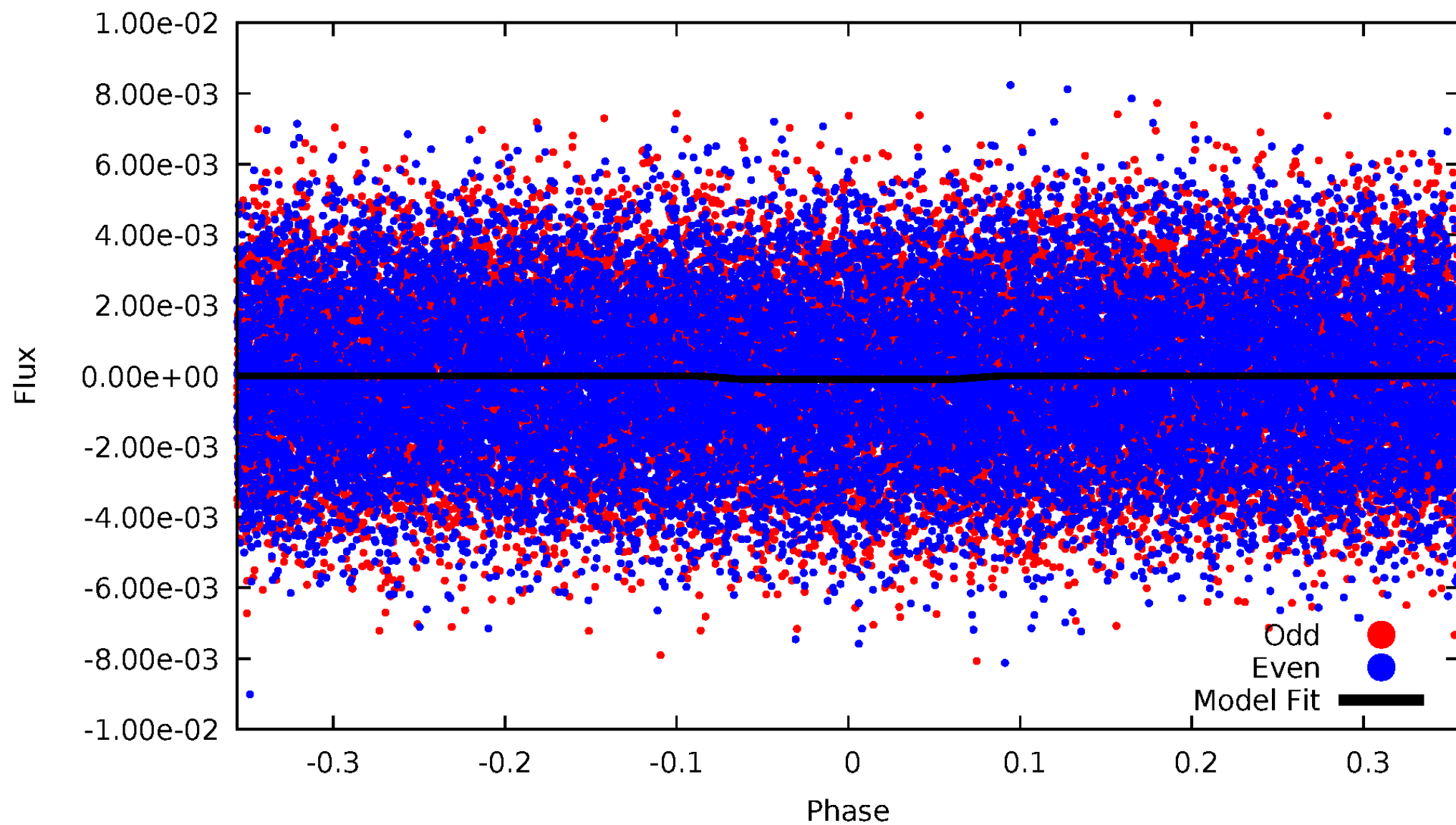
DV Odd/Even

TCE 003245420-01



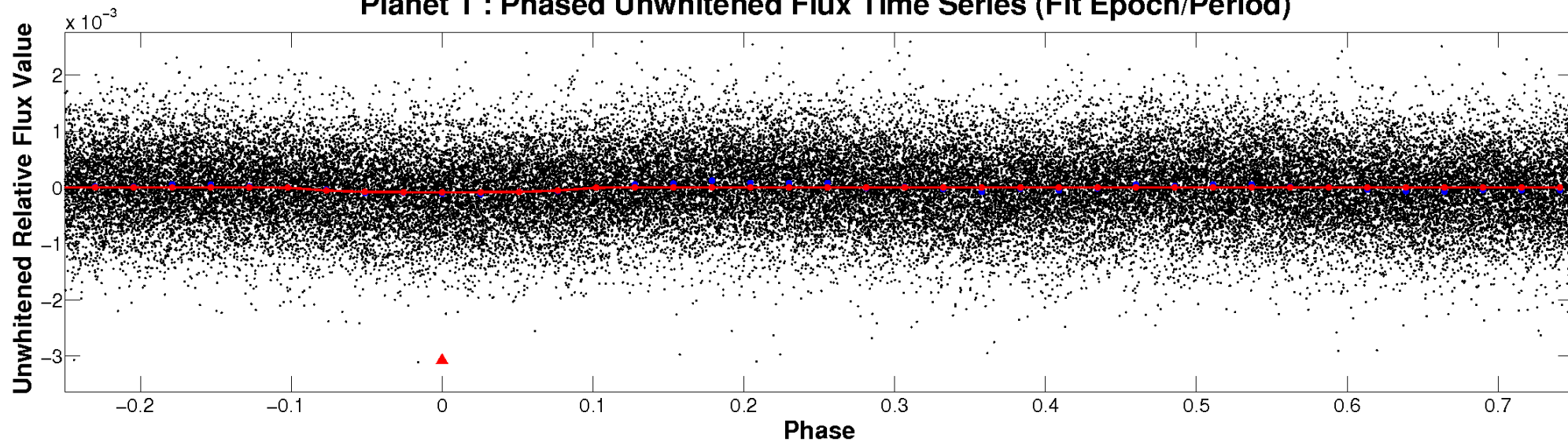
ALT Odd/Even

TCE 003245420-01

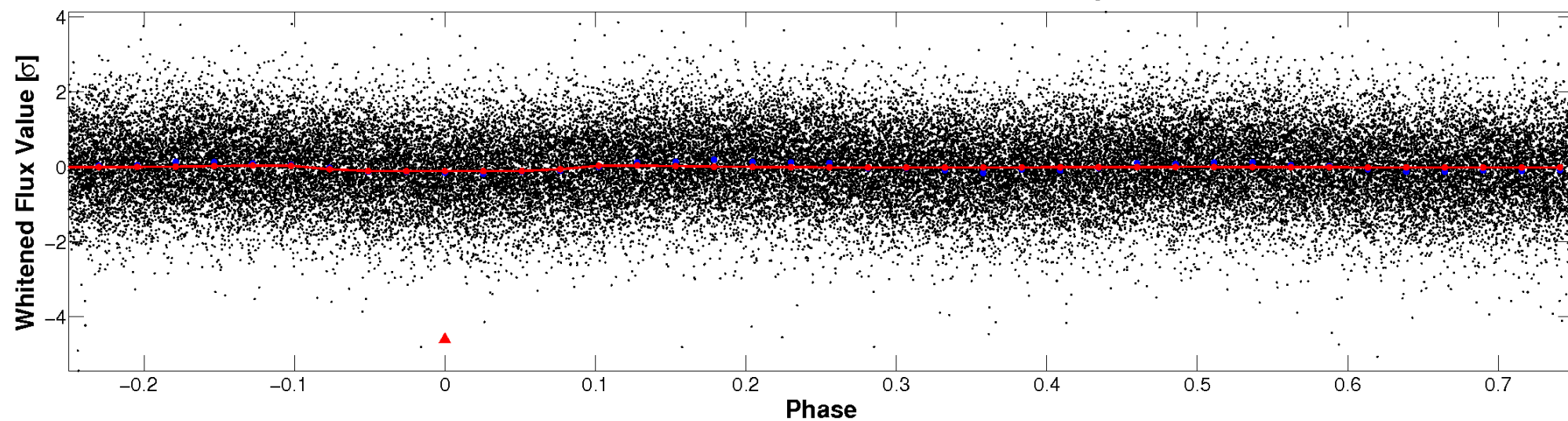


Non-Whitened Vs. Whitened Light Curve

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

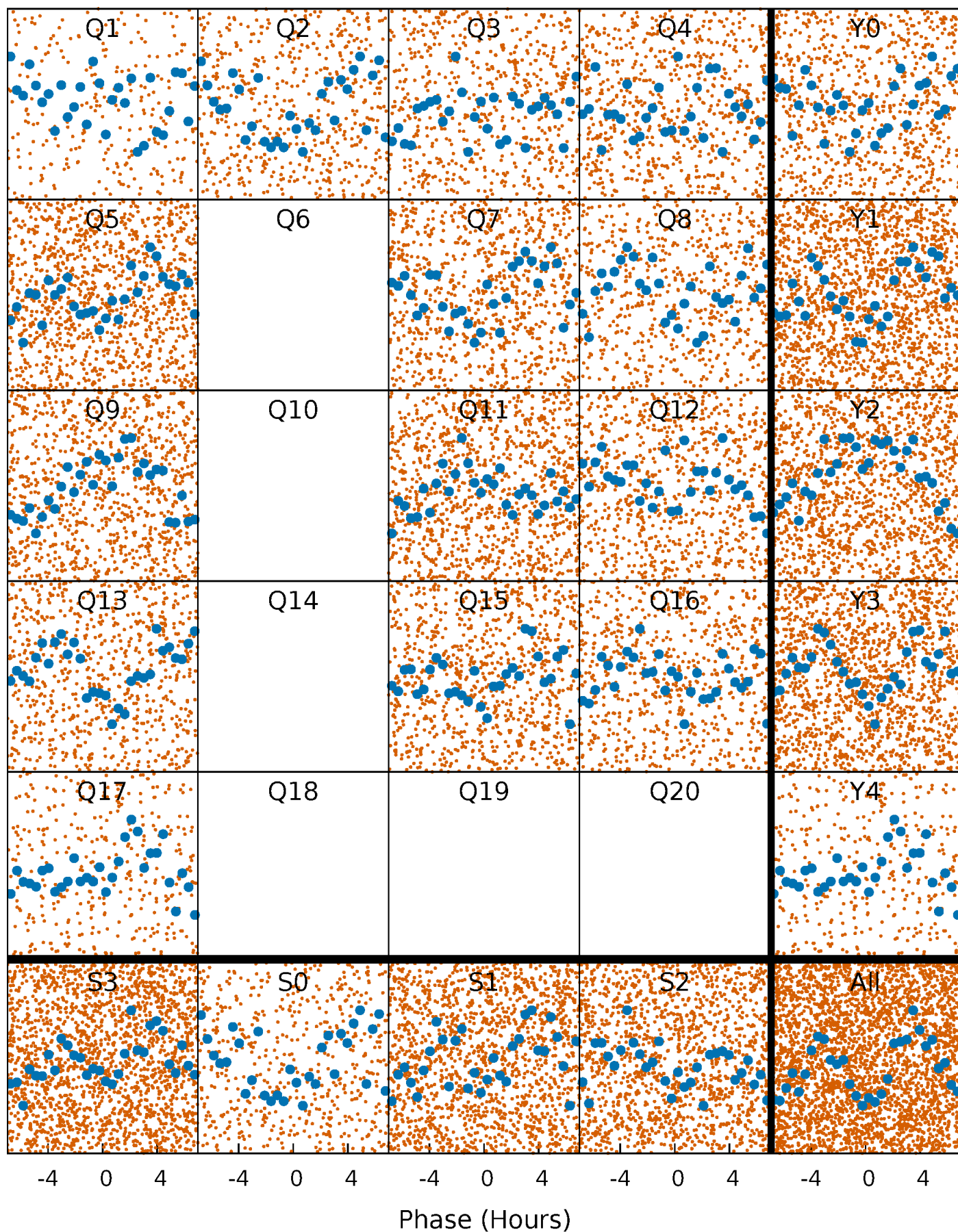


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



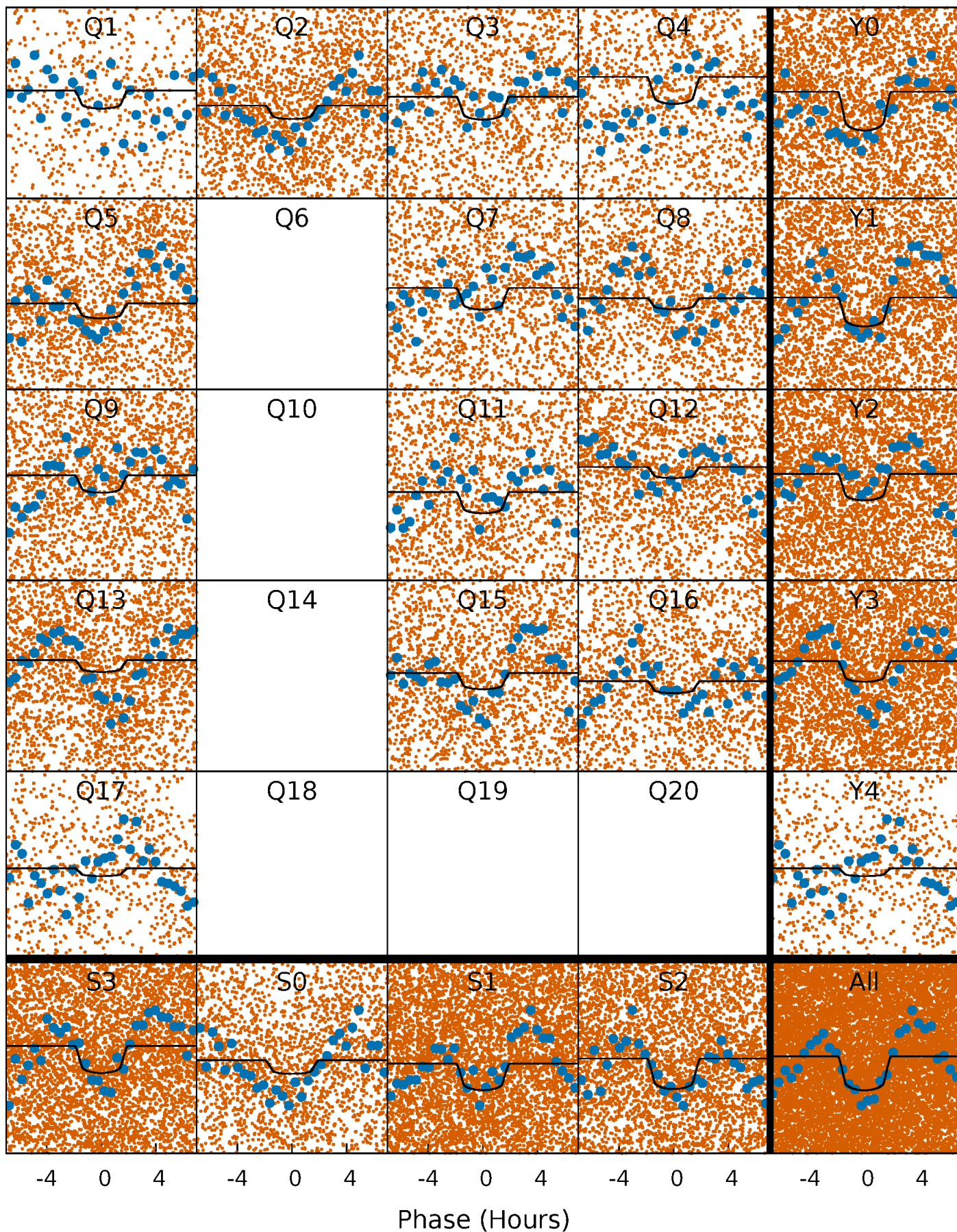
PDC Quarter-Phased Transit Curves

TCE 003245420-01 P= 0.799542 Days $T_0=131.636708$ (BKJD)



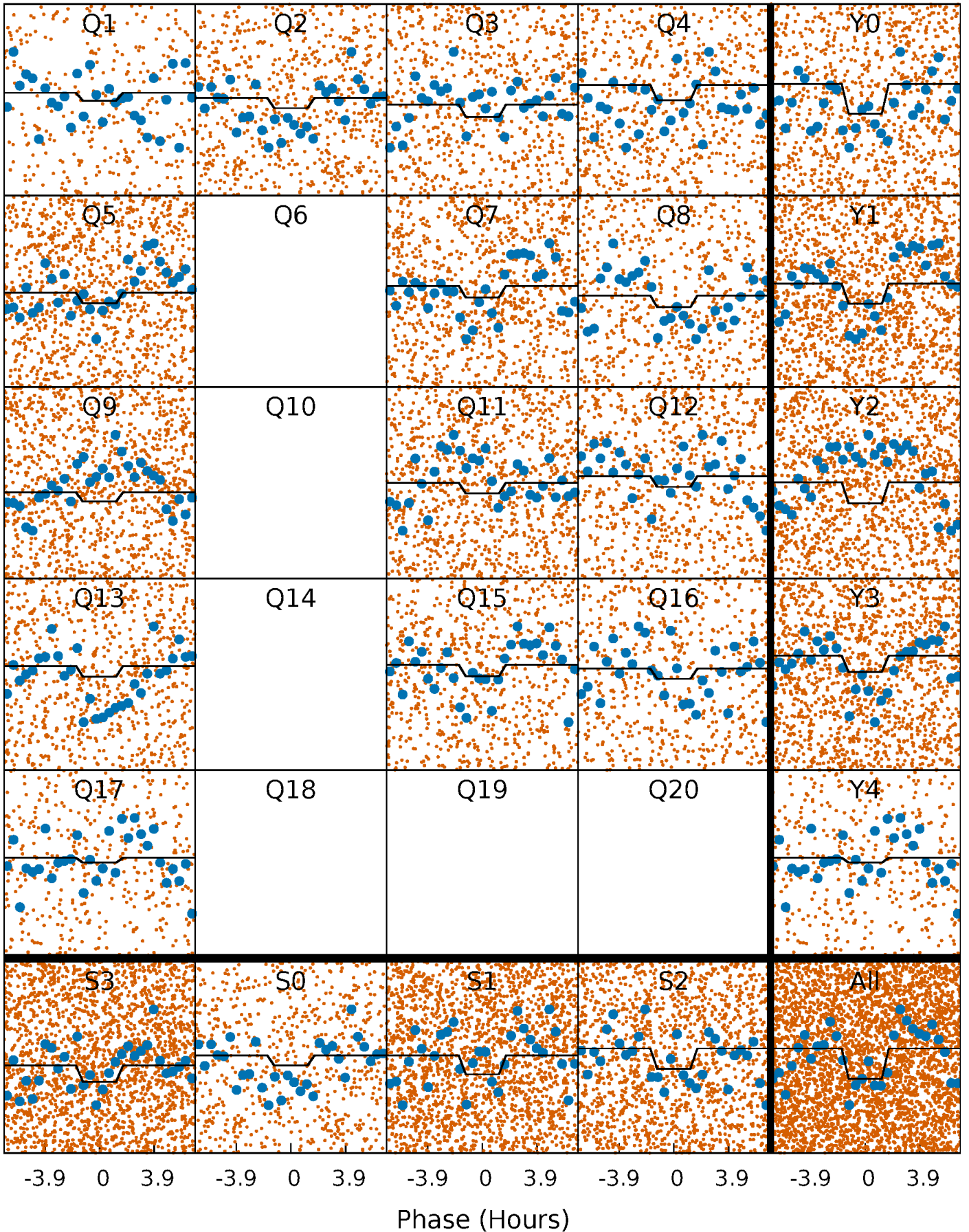
DV Quarter-Phased Transit Curves

TCE 003245420-01 P= 0.799542 Days $T_0=131.636708$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

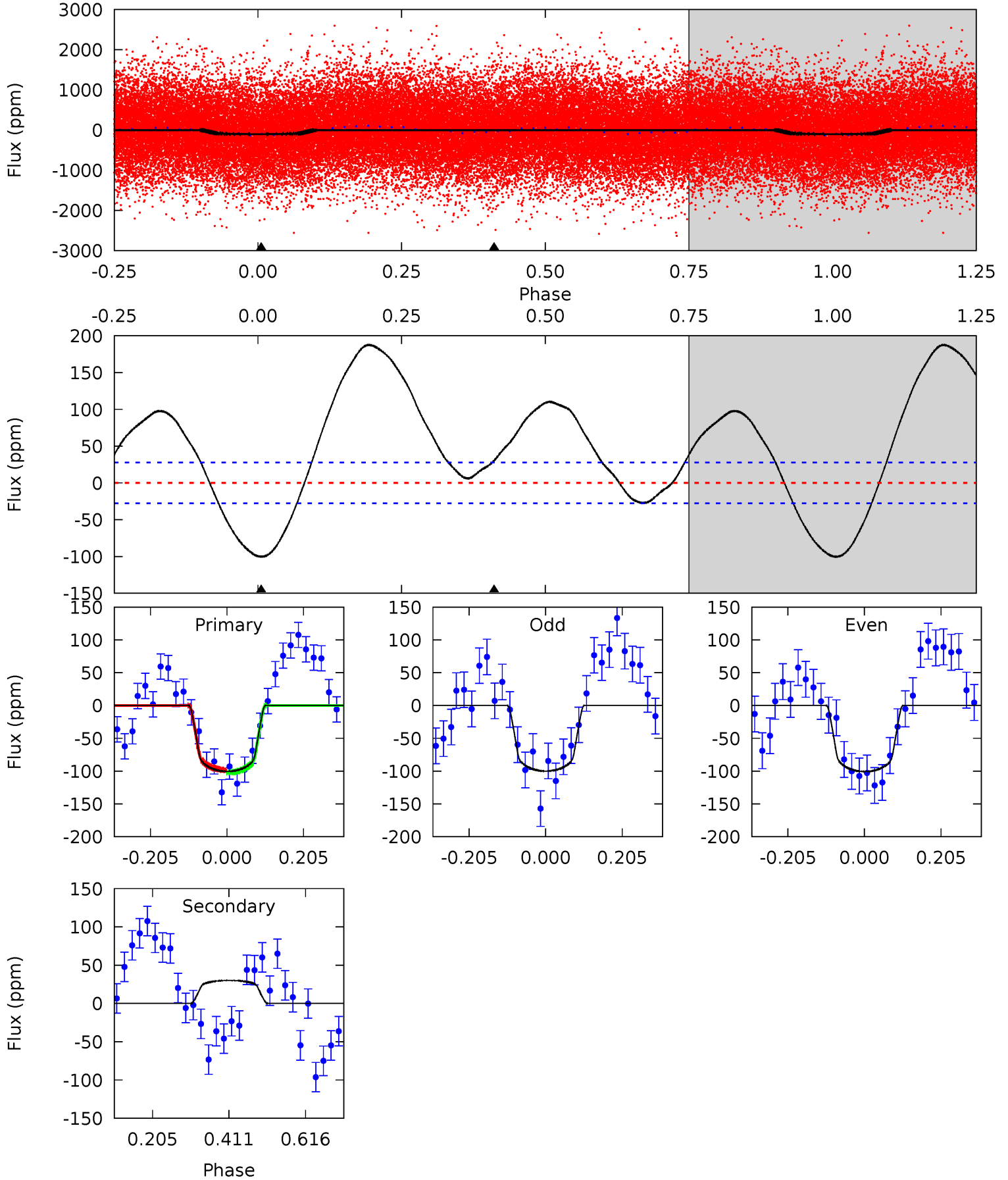
TCE 003245420-01 P= 0.799549 Days $T_0=131.635698$ (BKJD)



DV Model-Shift Uniqueness Test

003245420-01, P = 0.799542 Days, E = 130.837166 Days

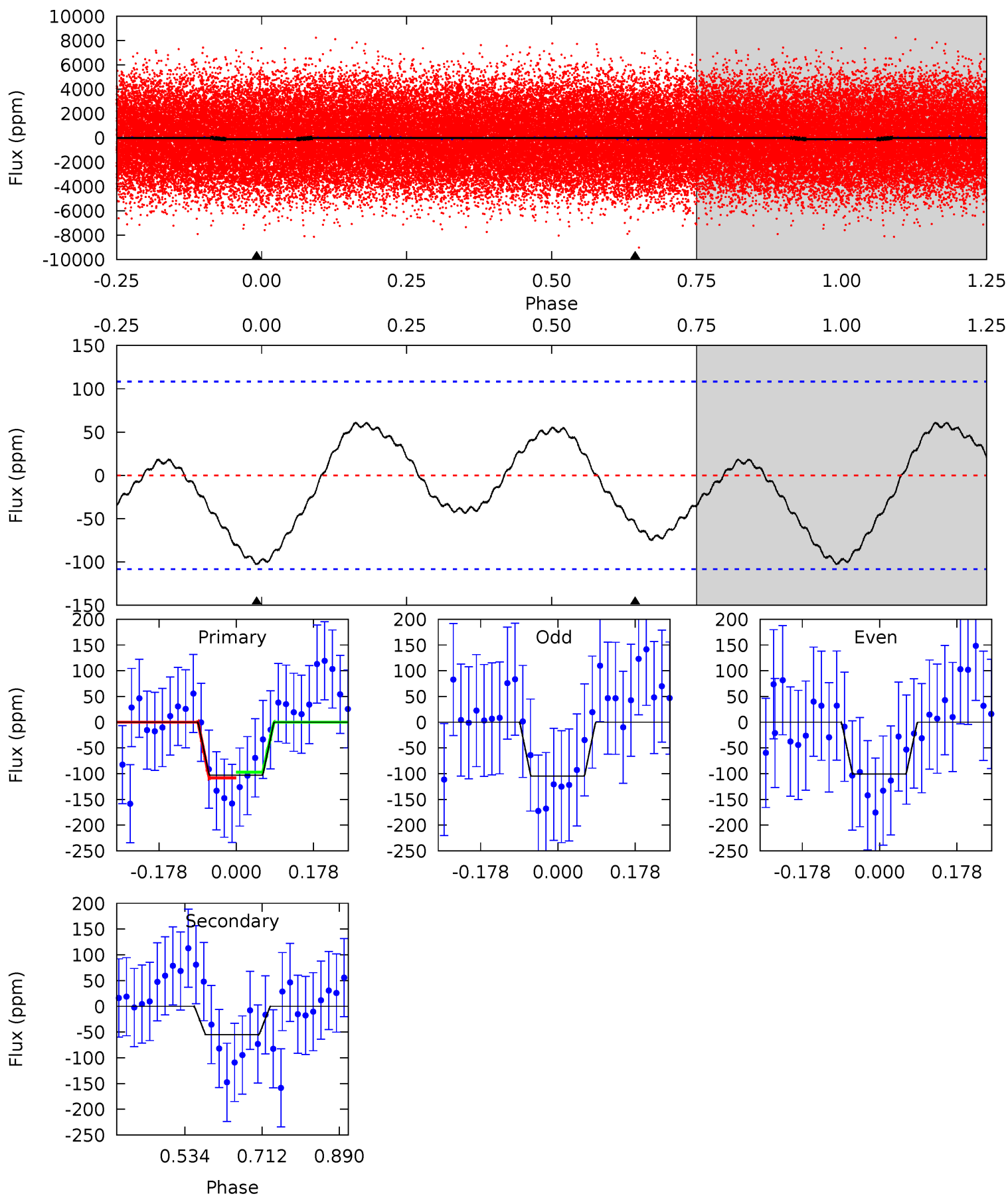
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	-4.79	0	0	4.41	1.27	5.72	16.0	16.0	-4.79	-4.79	0.05	1.05	0.65	0.29



Alt Model-Shift Uniqueness Test

003245420-01, P = 0.799549 Days, E = 130.836149 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.22	2.26	0	0	4.44	1.35	1.41	4.22	4.22	2.26	2.26	0.09	1.05	0.37	0.23



Stellar Parameters For KIC 003245420

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8079^{+225}_{-338}	$3.715^{+0.432}_{-0.108}$	$-0.120^{+0.200}_{-0.350}$	$3.279^{+0.826}_{-1.533}$	$2.038^{+0.344}_{-0.472}$	$0.081^{+0.350}_{-0.028}$
	+3%/-4%	+12%/-3%	+167%/-292%	+25%/-47%	+17%/-23%	+430%/-34%
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 003245420-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	30 ± 6	$3.21^{+1.65}_{-1.40}$	5903^{+473}_{-645}	-6341^{+714}_{-1638}	$-0.727^{+0.412}_{-1.524}$
Alt.	-55 ± 24	$3.05^{+1.85}_{-1.49}$	5922^{+487}_{-722}	6347^{+3322}_{-1846}	$1.378^{+4.508}_{-0.894}$

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

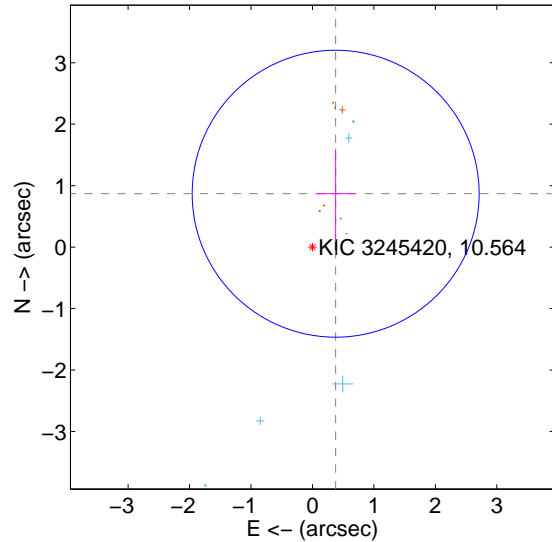
Supplemental centroid analysis for 003245420-01. **Kepler magnitude: 10.56.** Transit SNR 9.91

There are 7 quarters with good PRF difference image offsets

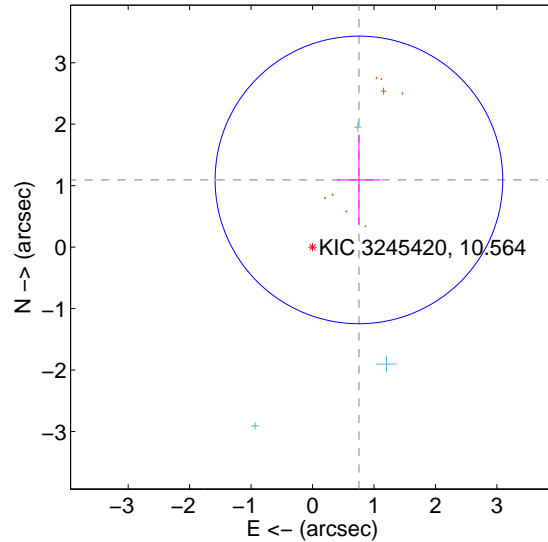
The direct PRF centroid is offset from the target star catalog position by about 0.74 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.947 ± 0.778	1.22	-0.378 ± 0.310	0.869 ± 0.729
PRF-fit source offset from KIC position	1.328 ± 0.780	1.70	-0.755 ± 0.351	1.093 ± 0.727
photometric centroid source offset	0.22 ± 0.20	1.13	-0.01 ± 0.16	0.22 ± 0.20

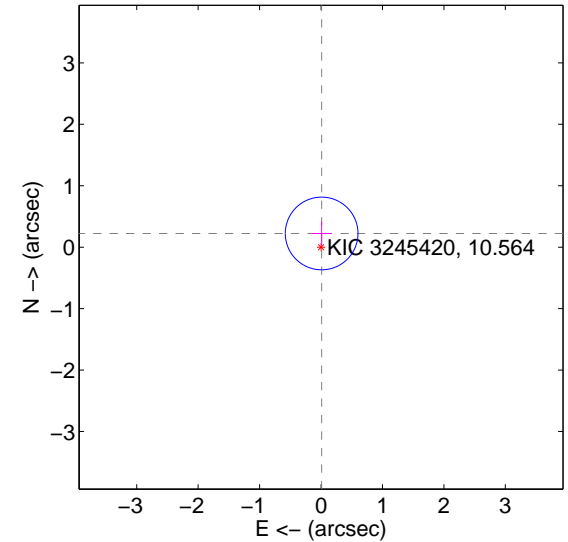
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

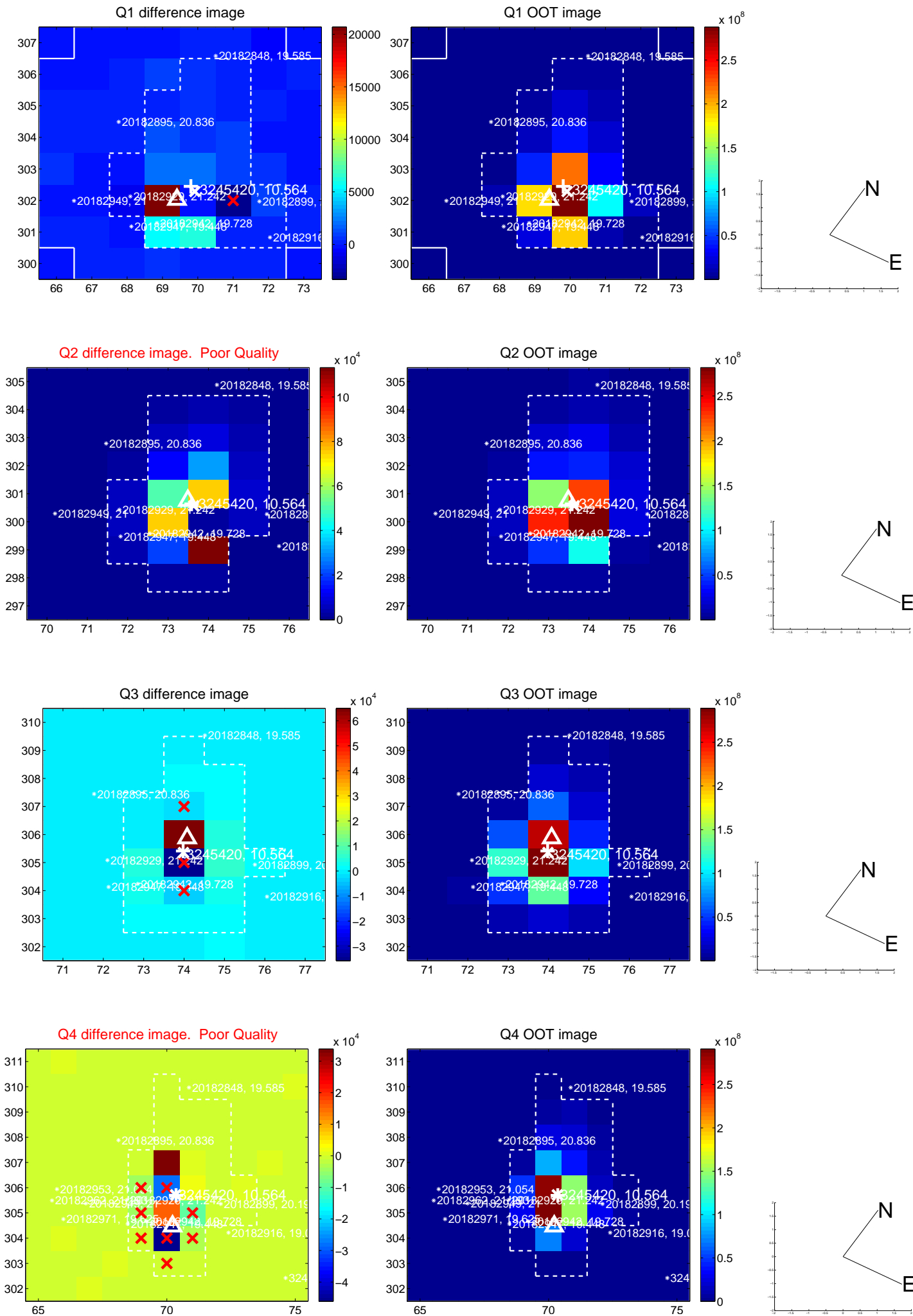


offset from photometric centroids

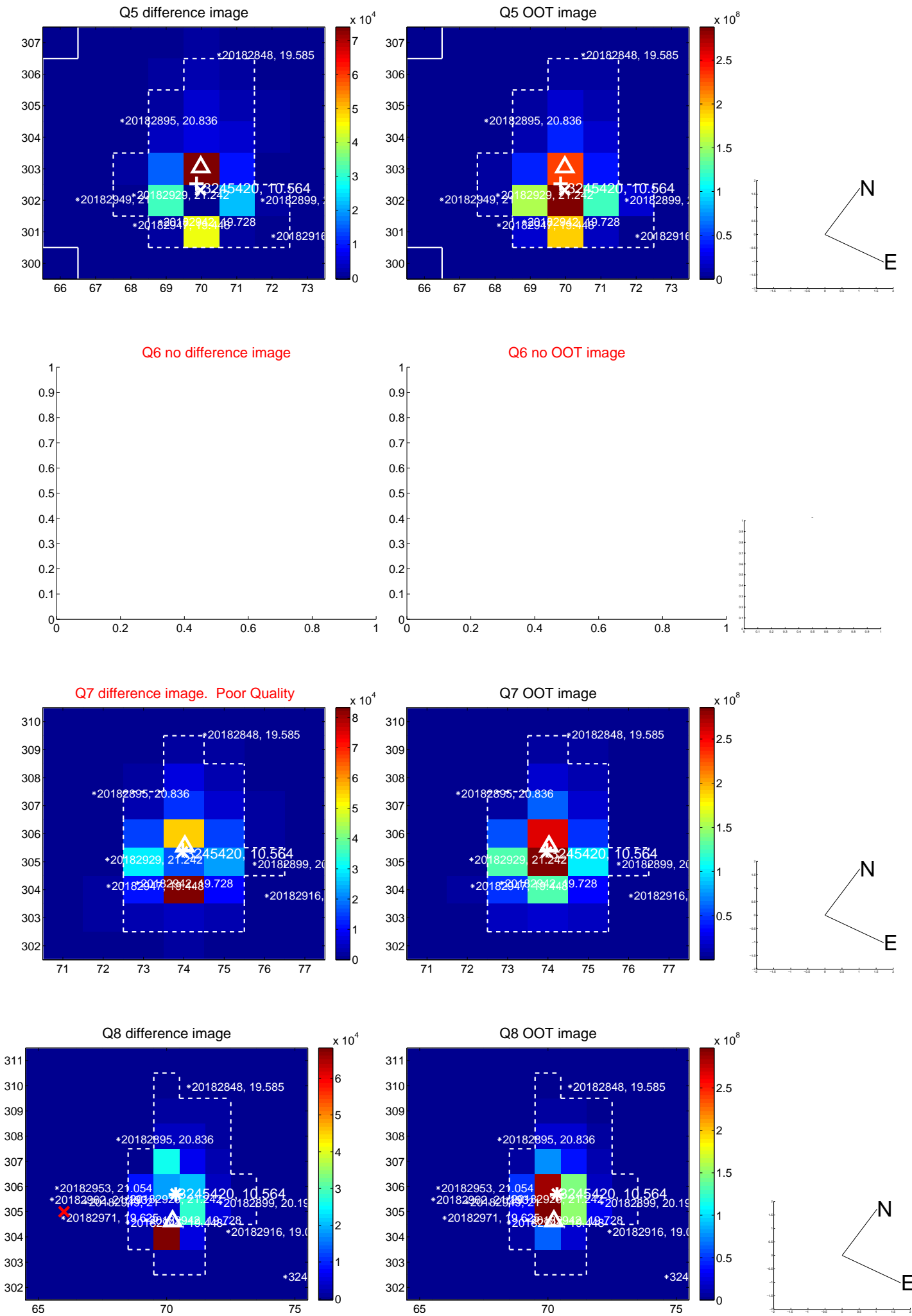


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

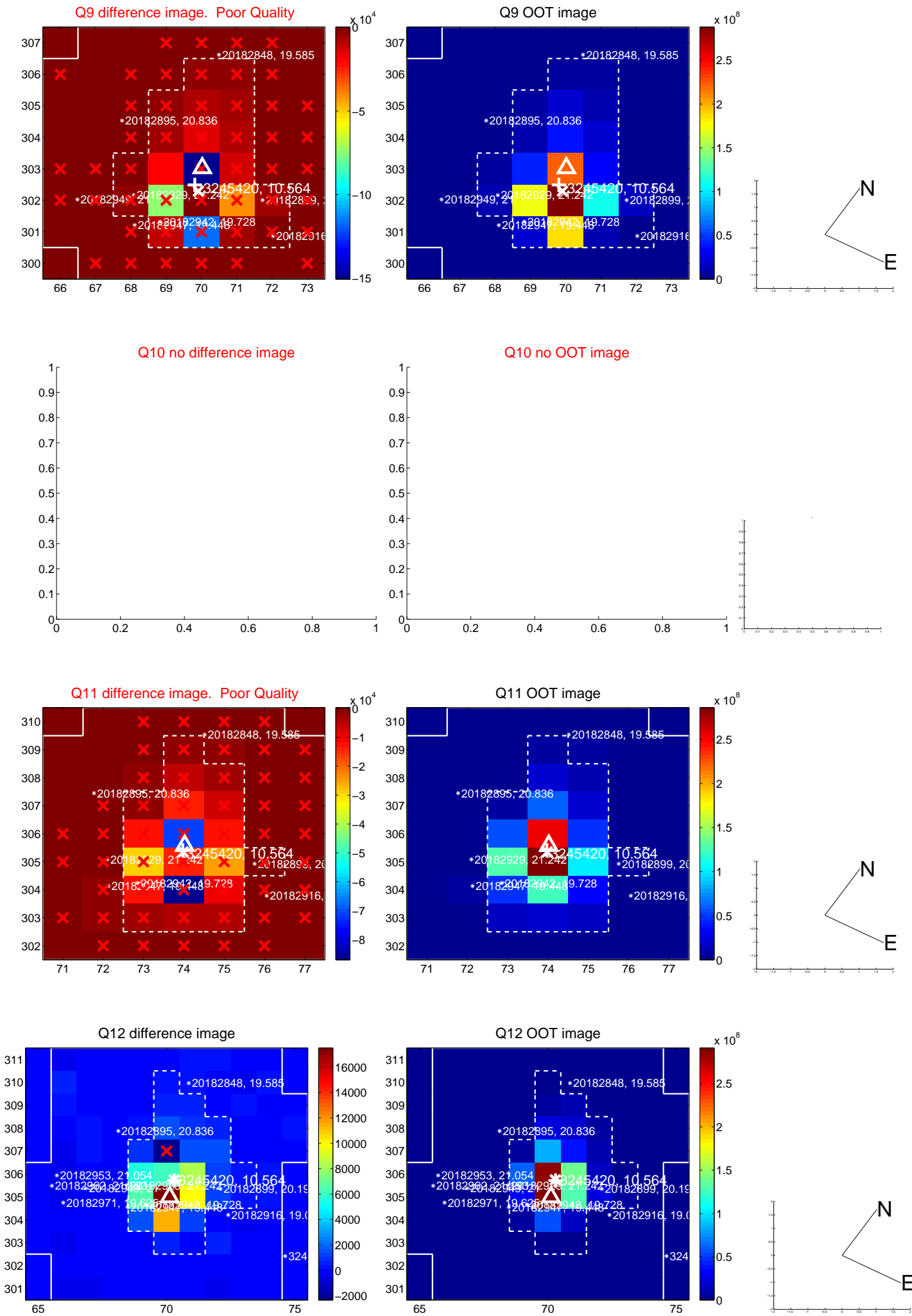
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



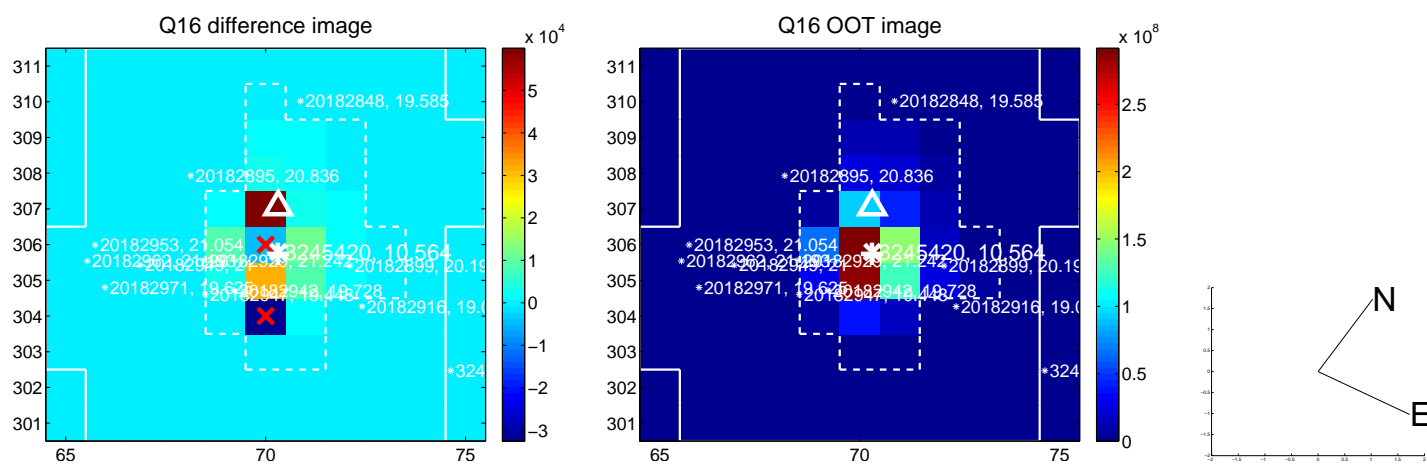
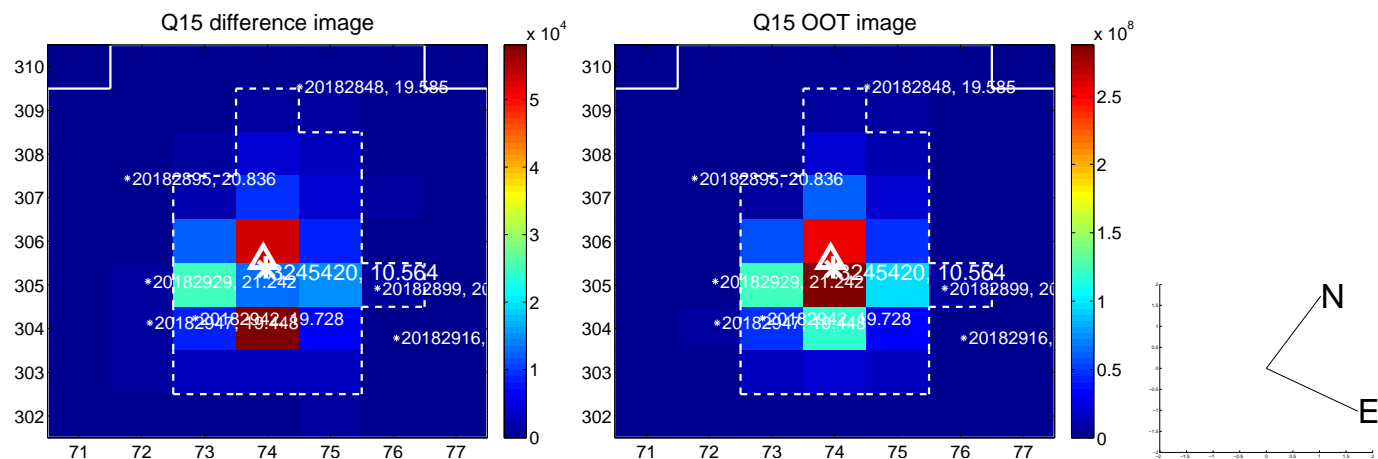
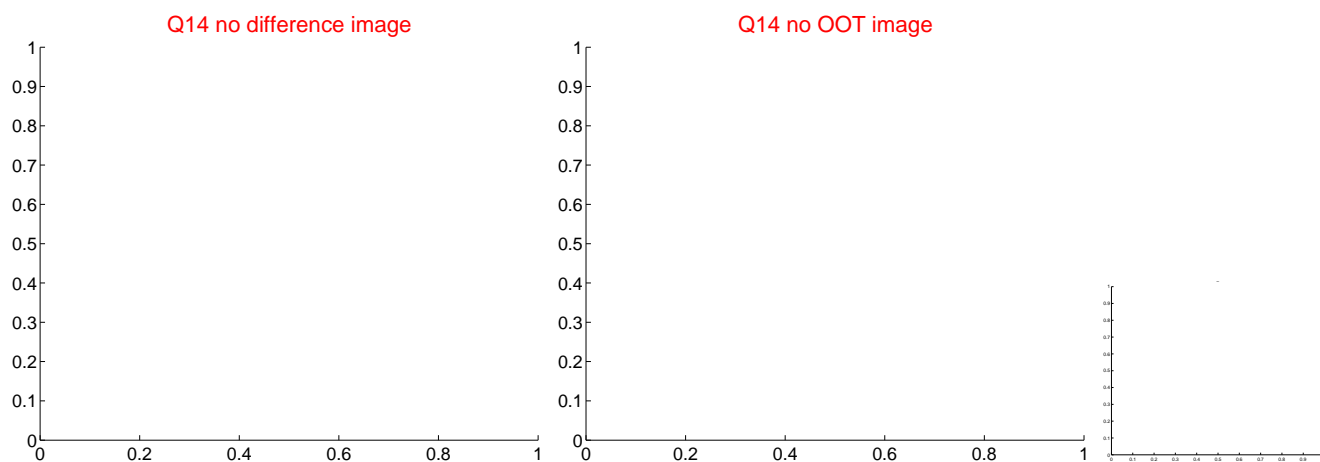
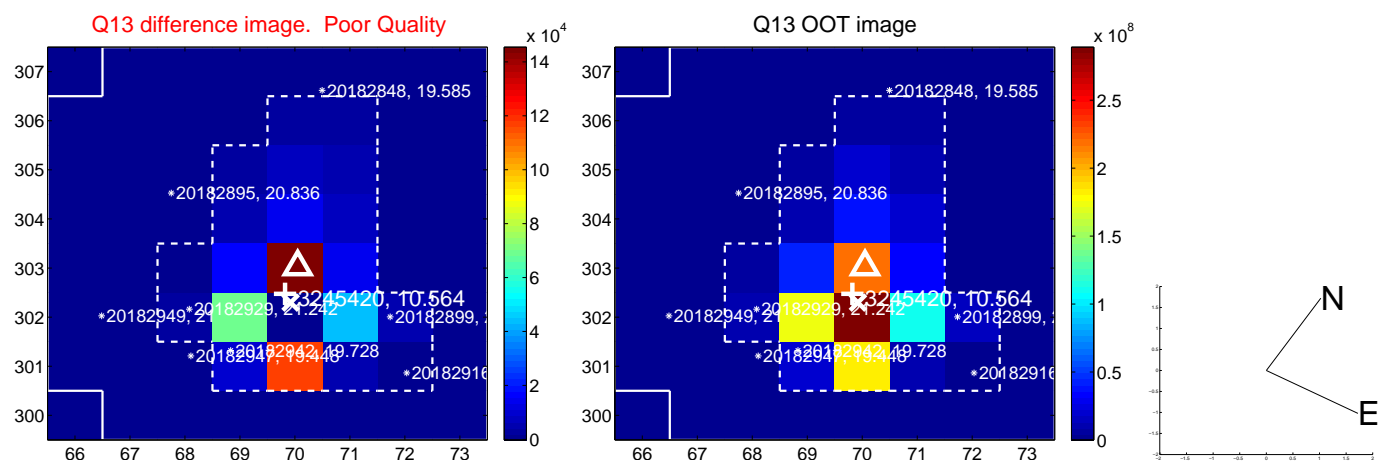
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



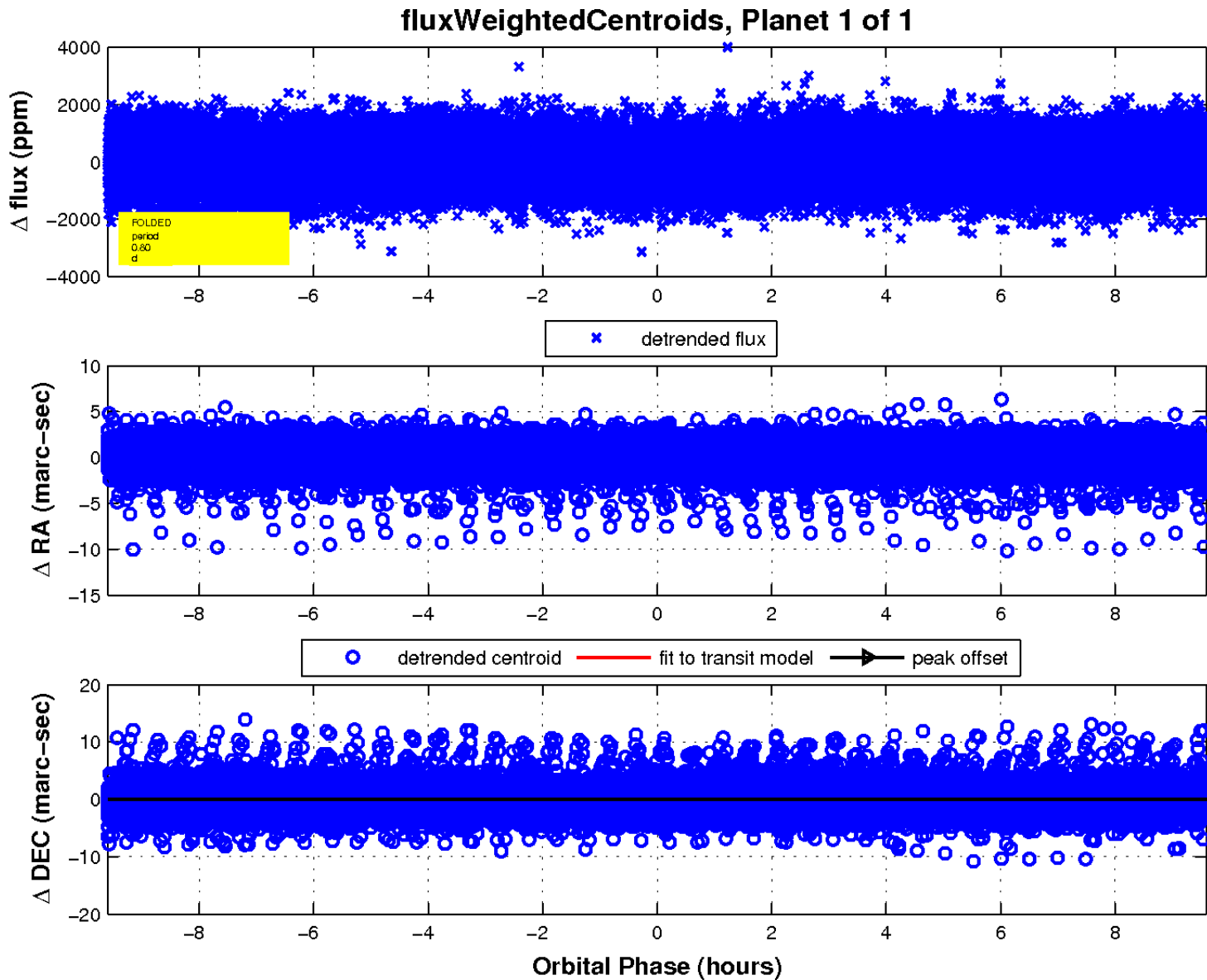
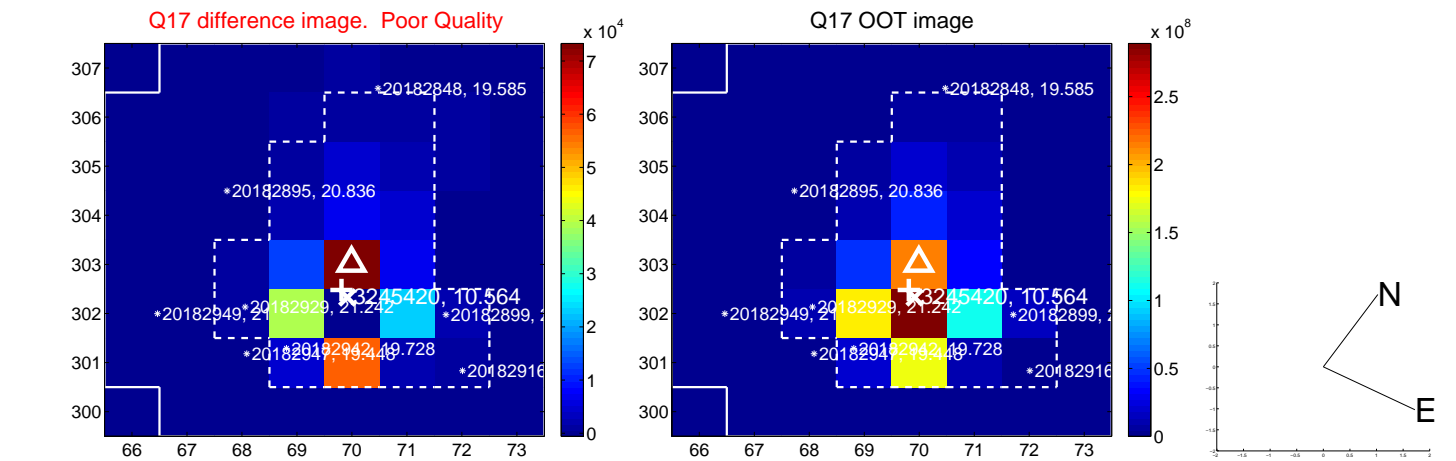
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UKIRT Image

Declination

