

KIC 010362031

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})
010362031-01	OBS	2118.01	3.213708	132.977543	53.2	2.262	16.9	18.0	1.58	6184	1.36	1518.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010362031-01	OBS	FP	0.01	0	0	1	0	CENT_RESOLVED_OFFSET

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 010362031-01

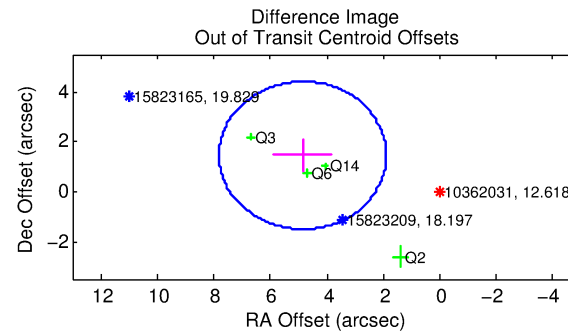
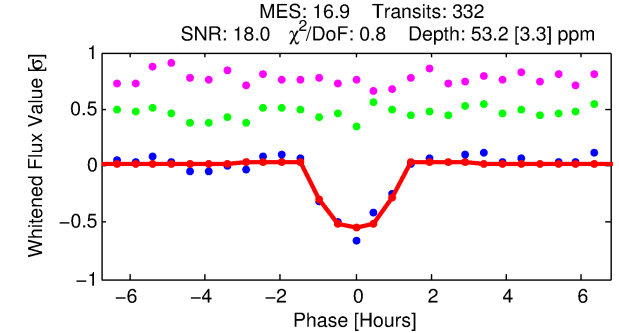
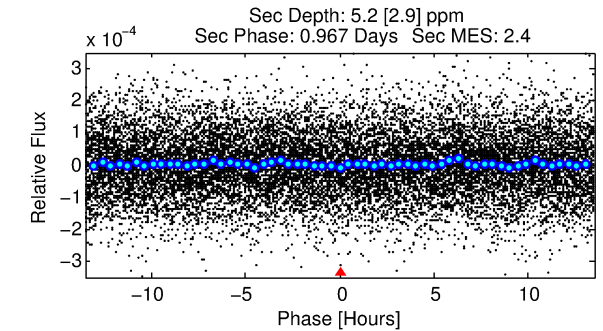
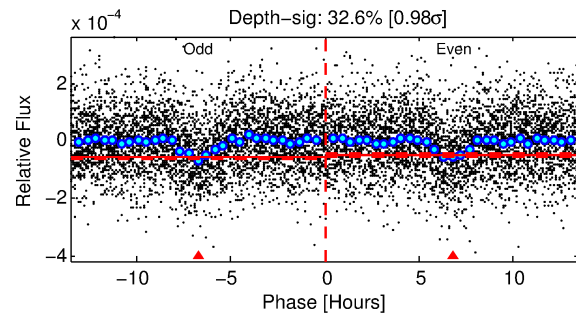
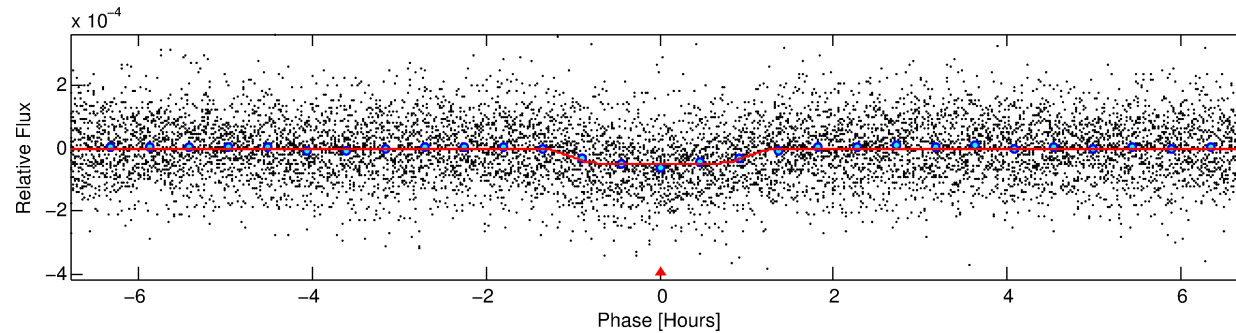
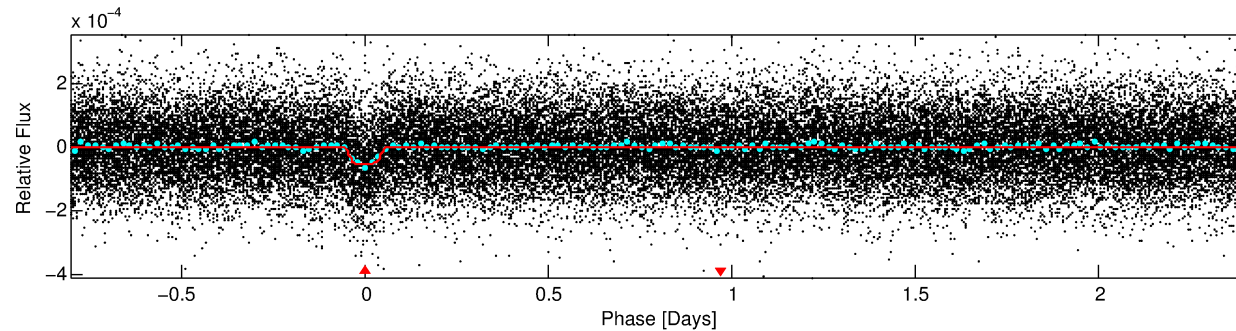
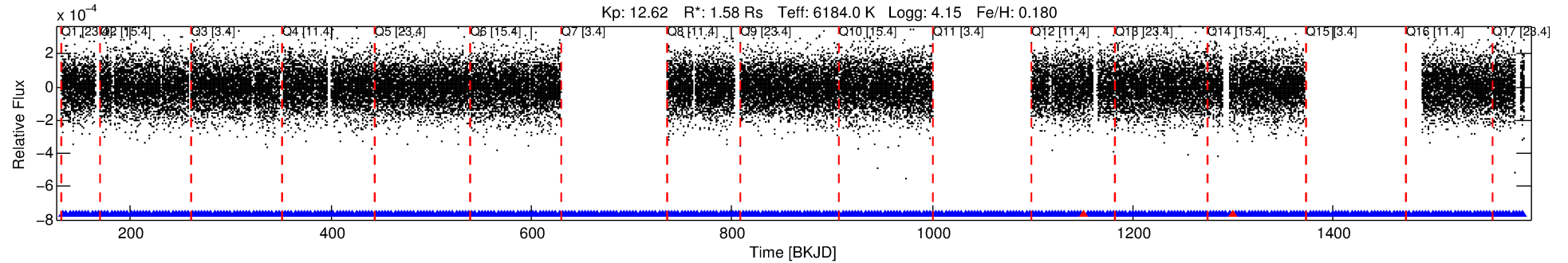
No Significant Match Found

DV One-Page Summary

KIC: 10362031 Candidate: 1 of 1 Period: 3.214 d

KOI: K02118.01 Corr: 0.985

Kp: 12.62 R*: 1.58 Rs Teff: 6184.0 K Logg: 4.15 Fe/H: 0.180



DV Fit Results:

Period = 3.21371 [0.00001] d
Epoch = 132.9775 [0.0021] BKJD
Rp/R* = 0.0079 [0.0023]
a/R* = 4.98 [7.42]
b = 0.90 [0.33]
Seff = 1518.98 [641.55]
Teq = 1592 [168] K
Rp = 1.36 [0.56] Re
a = 0.0464 [0.0119] AU
Ag = 3.34 [3.02] [0.77σ]
Teff = 3327 [693] K [2.43σ]

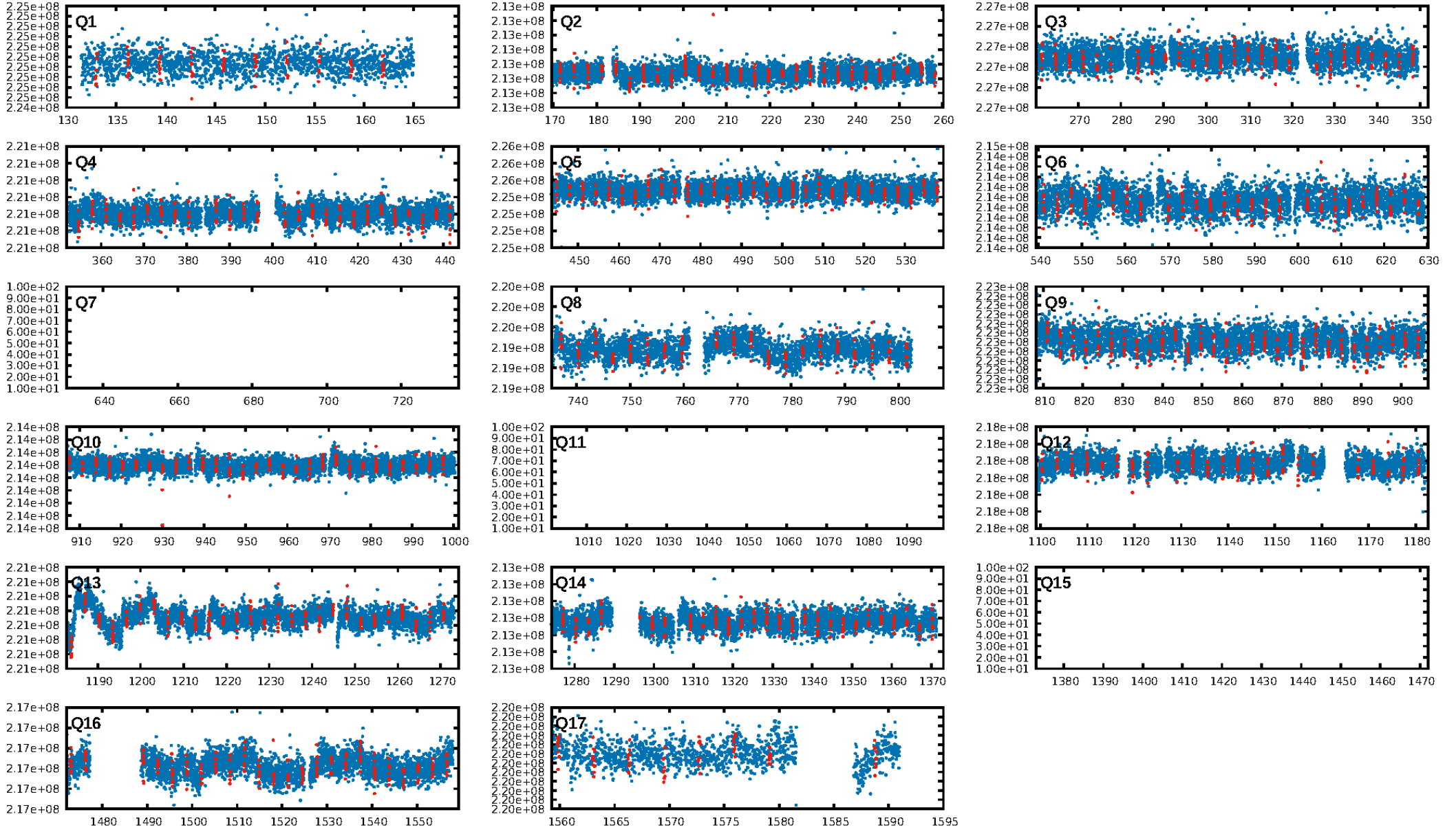
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.42e-62
RollingBand-fgt: 0.99 [312/314]
GhostDiagnostic-chr: -0.4559
Centroid-sig: 0.0%
Centroid-so: 36.078 arcsec [40.87σ]
OotOffset-rm: 5.065 arcsec [5.14σ]
KicOffset-rm: 5.013 arcsec [4.89σ]
OotOffset-st: 3/1/0/0 [4]
KicOffset-st: 3/1/0/0 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 1.00 [14/14]

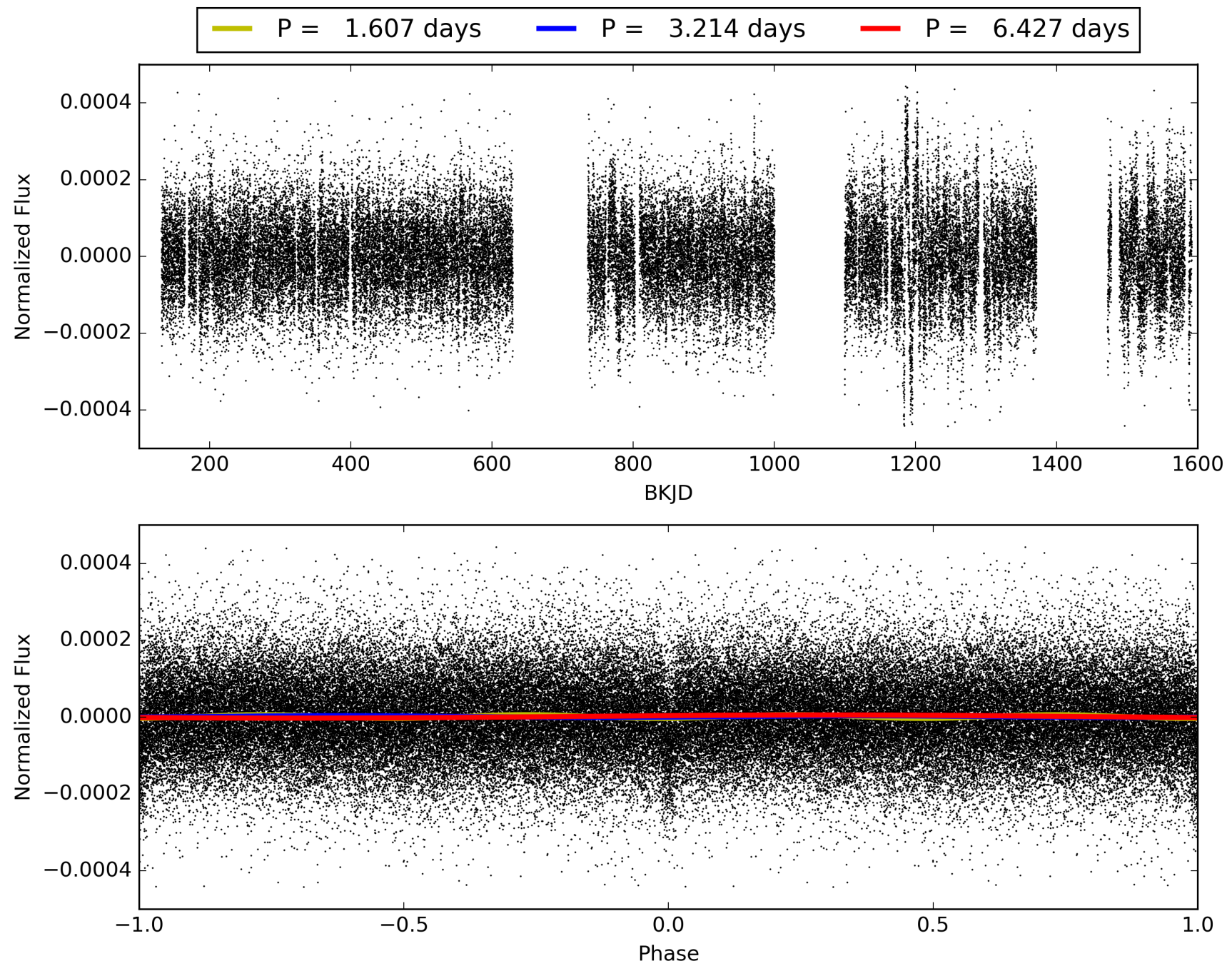
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:19:19 Z

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

TCE 010362031-01, PDC Light Curves

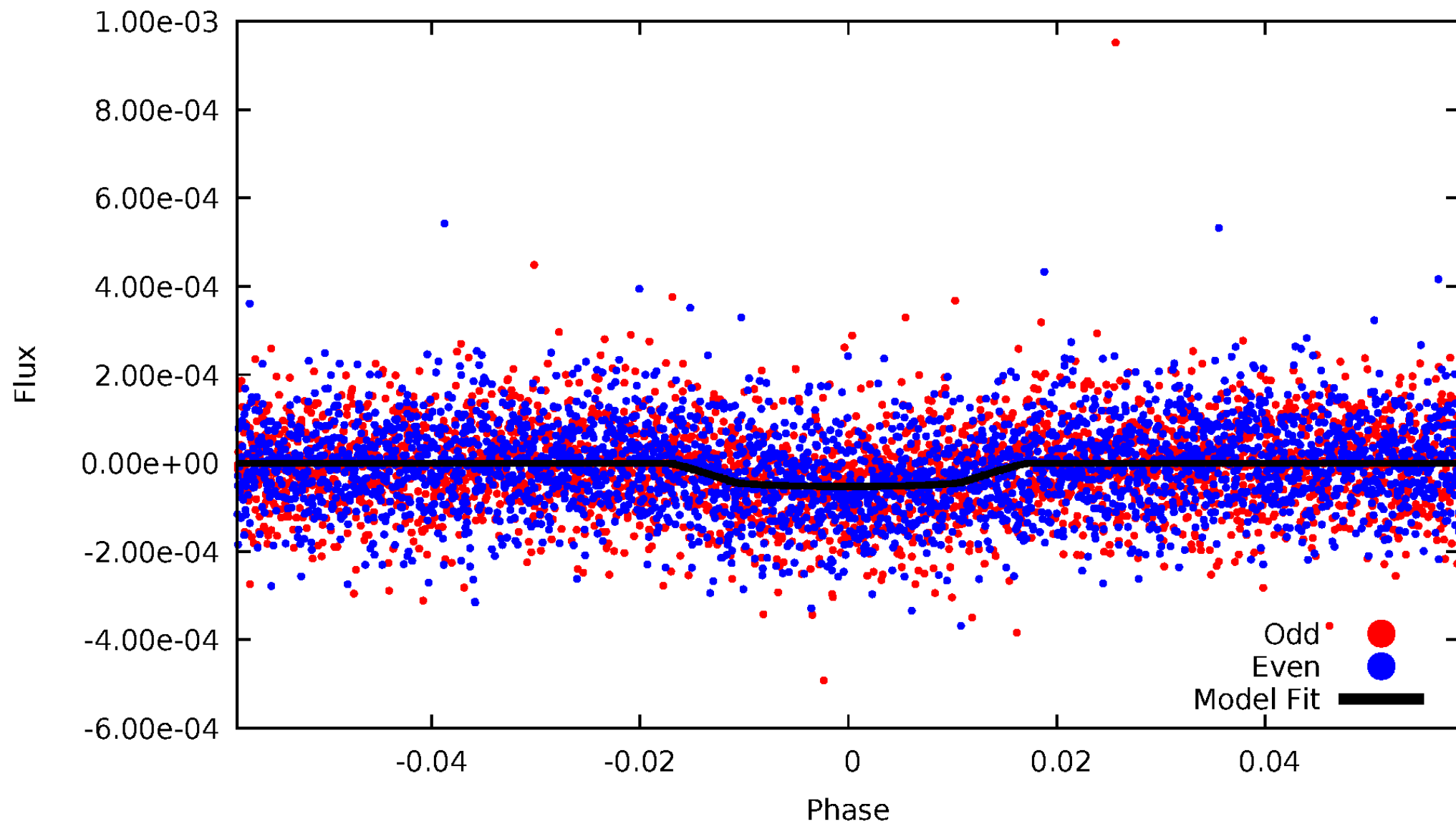


TCE 010362031-01



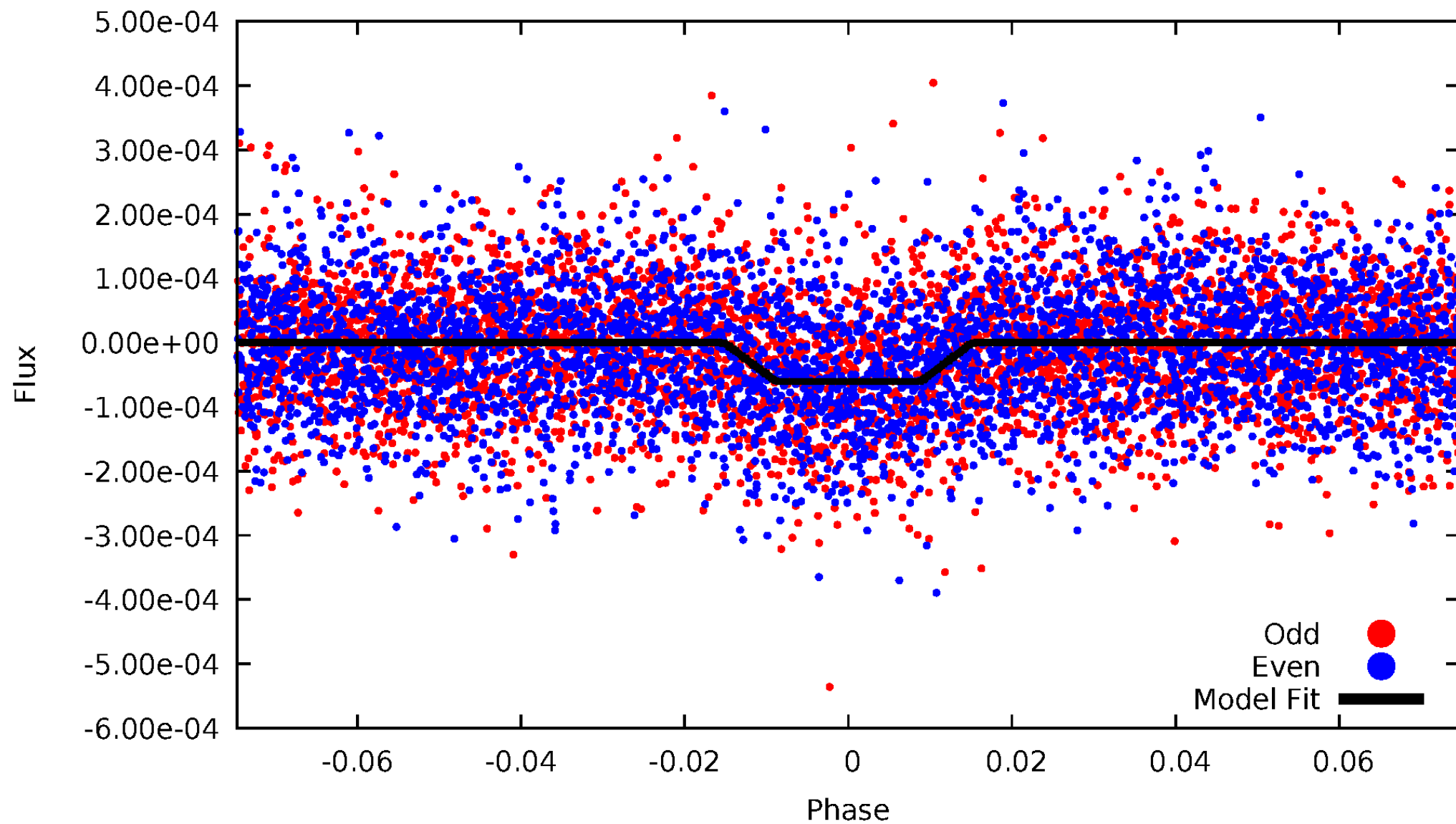
DV Odd/Even

TCE 010362031-01



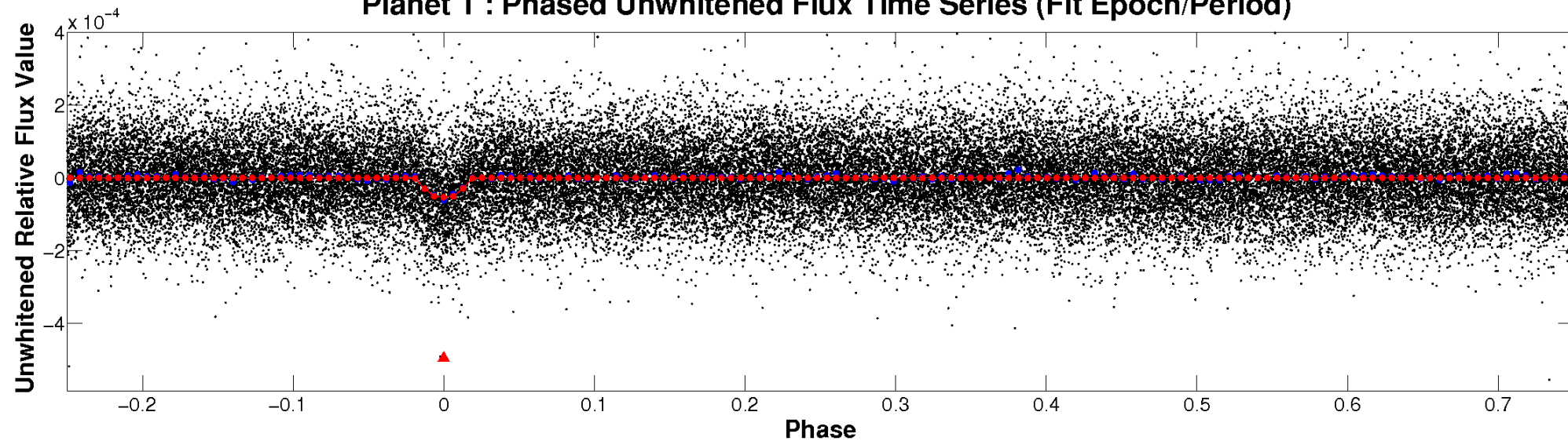
ALT Odd/Even

TCE 010362031-01

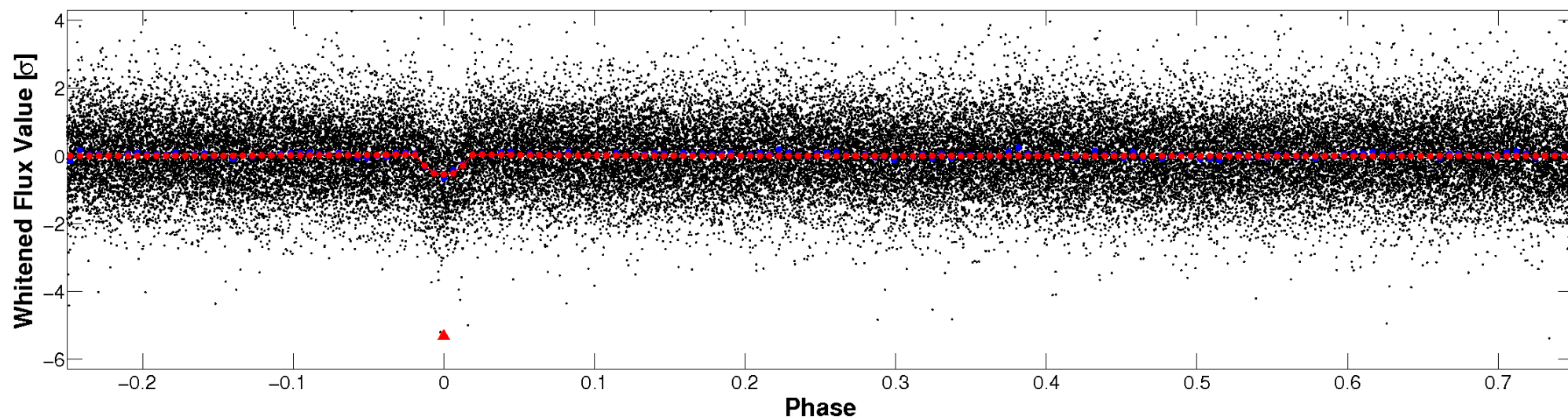


Non-Whitened Vs. Whitened Light Curve

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

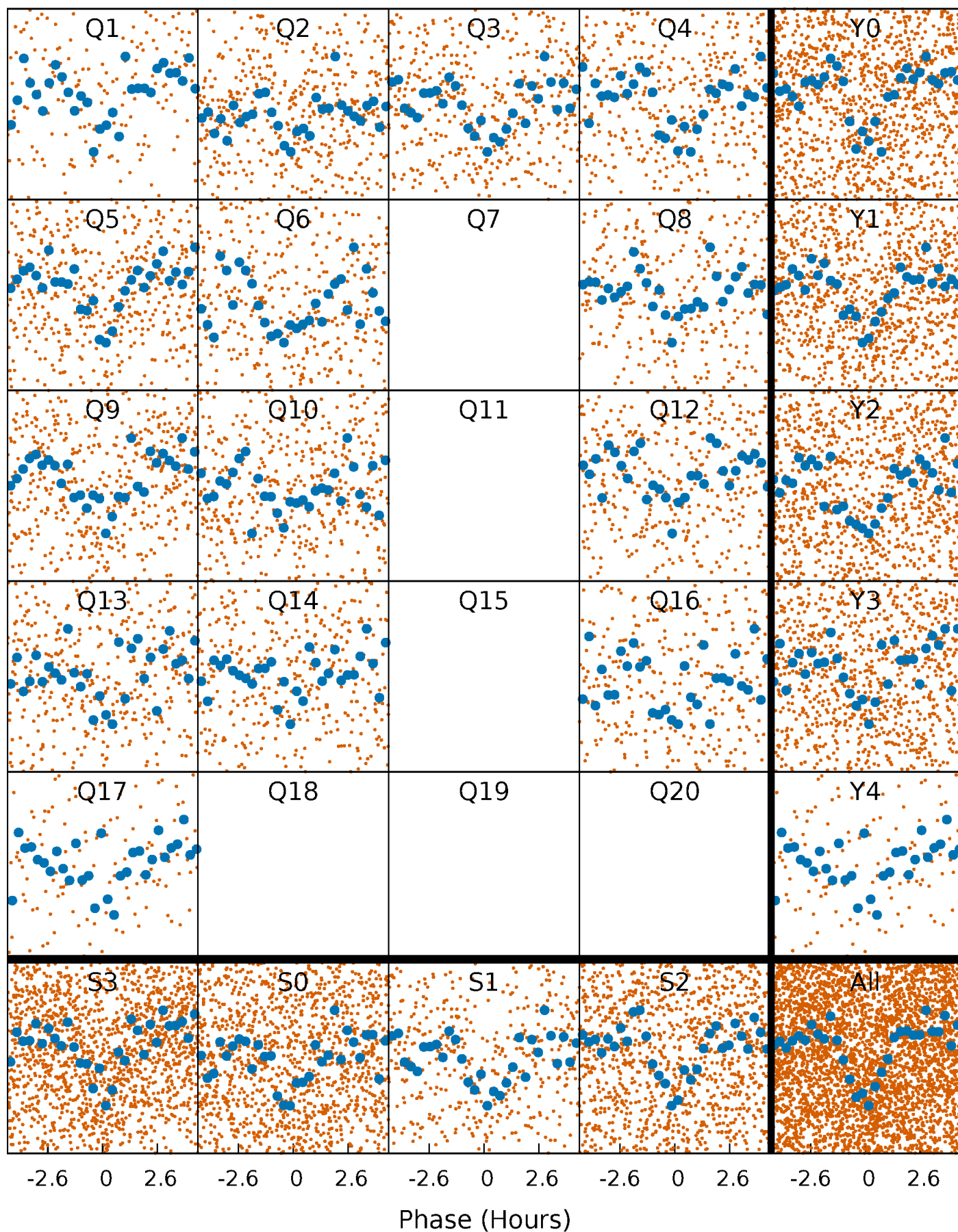


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



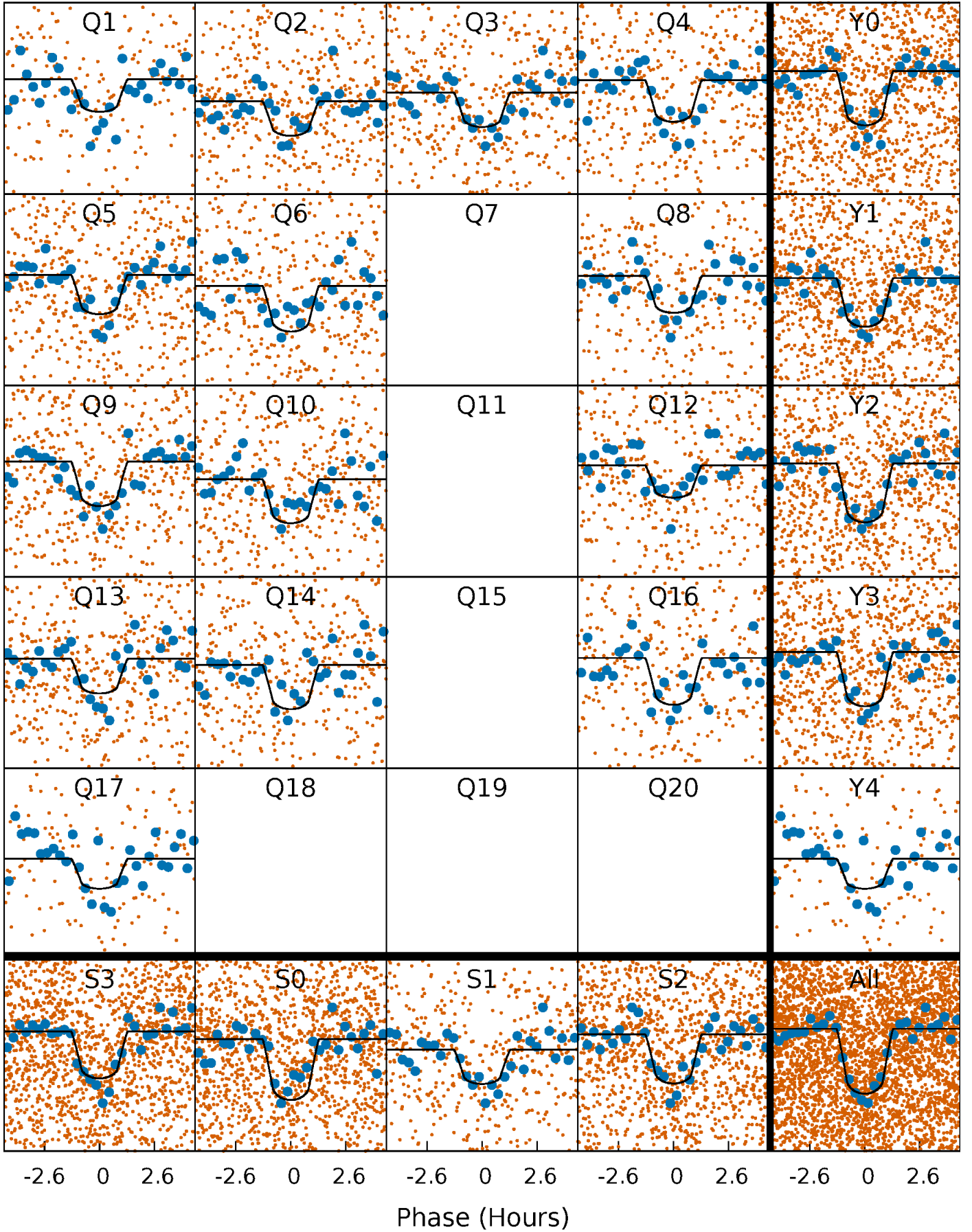
PDC Quarter-Phased Transit Curves

TCE 010362031-01 P= 3.213708 Days $T_0=132.977543$ (BKJD)



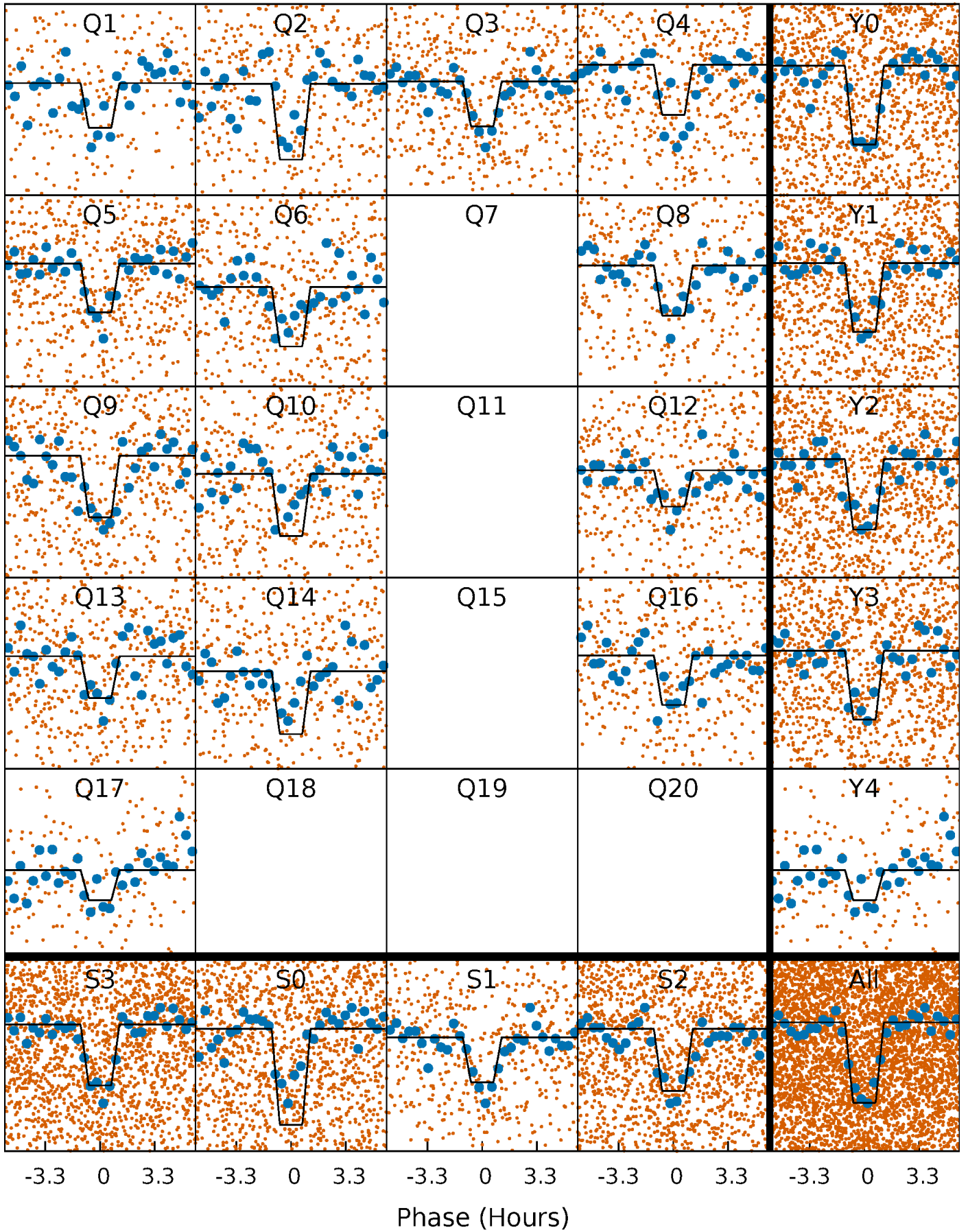
DV Quarter-Phased Transit Curves

TCE 010362031-01 P= 3.213708 Days $T_0=132.977543$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

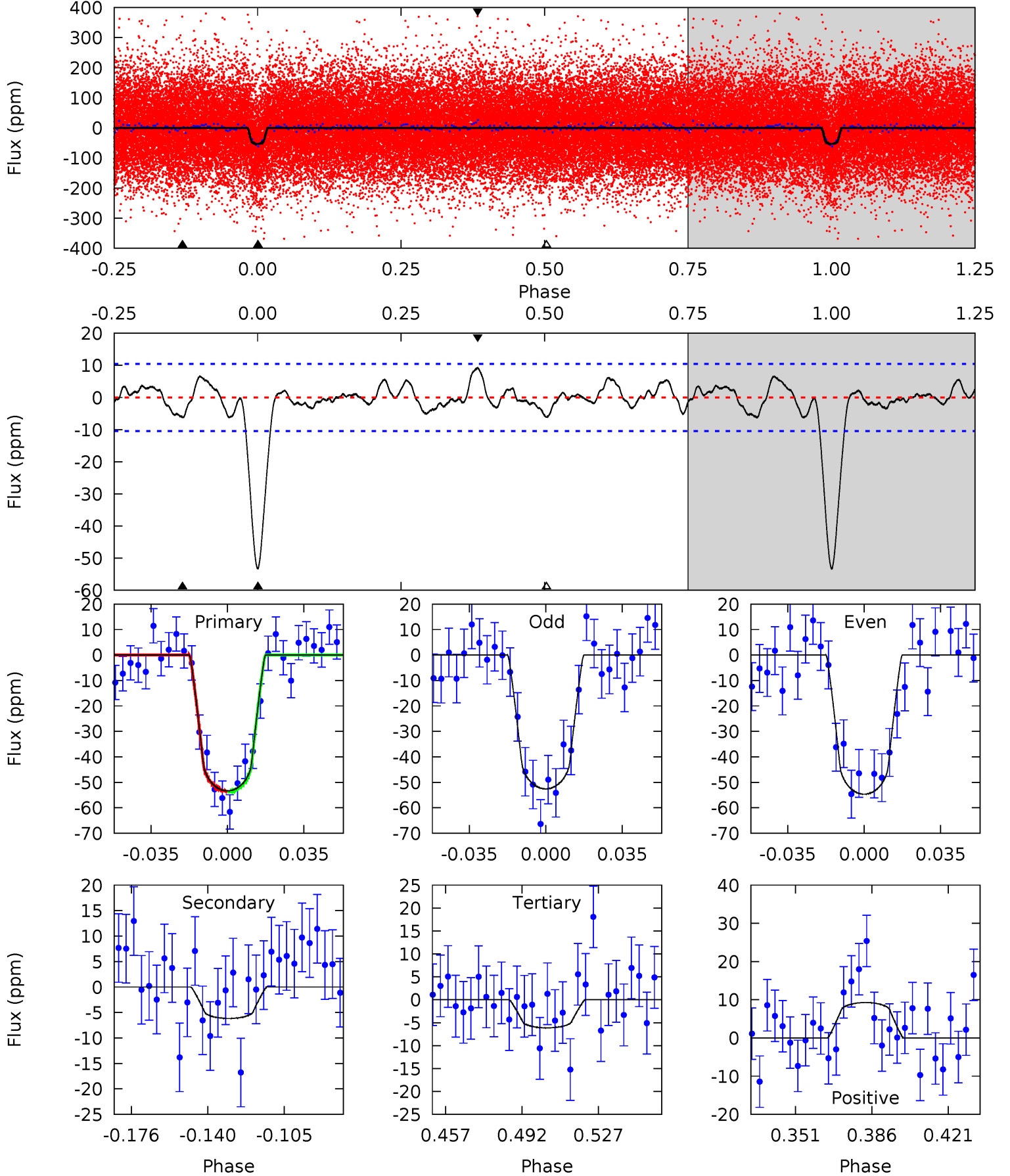
TCE 010362031-01 P= 3.213705 Days $T_0=132.977937$ (BKJD)



DV Model-Shift Uniqueness Test

010362031-01, P = 3.213708 Days, E = 129.763835 Days

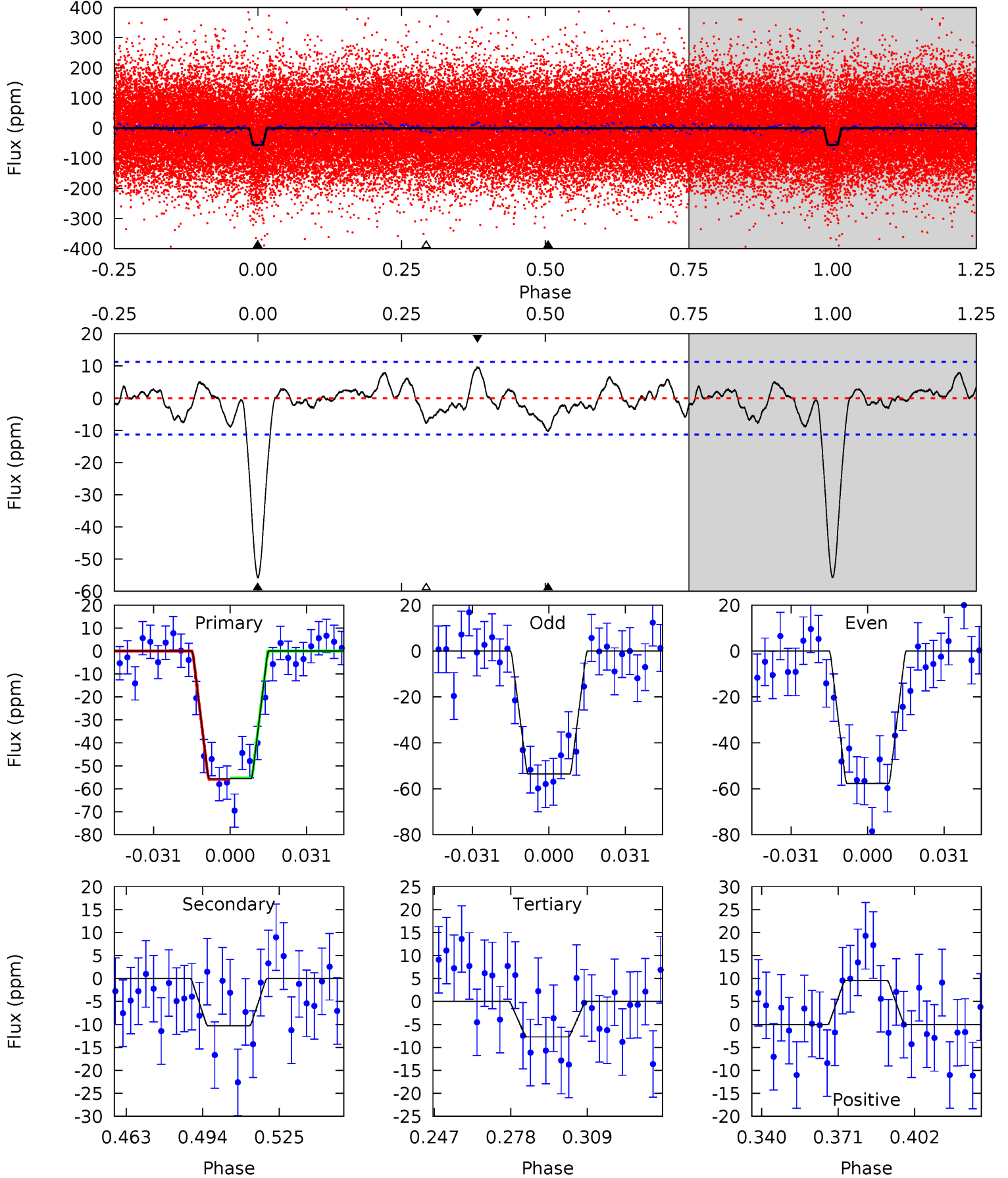
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.4	2.83	2.81	4.25	4.78	2.11	1.36	21.6	20.2	0.02	-1.42	0.48	0.96	0.15	0.07



Alt Model-Shift Uniqueness Test

010362031-01, P = 3.213705 Days, E = 129.764232 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.7	4.38	3.30	4.09	4.81	2.16	1.49	20.4	19.7	1.09	0.30	0.88	0.94	0.15	0.15



Stellar Parameters For KIC 010362031

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6184^{+190}_{-253}	$4.151^{+0.220}_{-0.180}$	$0.180^{+0.200}_{-0.300}$	$1.579^{+0.459}_{-0.413}$	$1.289^{+0.181}_{-0.222}$	$0.461^{+0.579}_{-0.222}$
	+3%/-4%	+5%/-4%	+111%/-167%	+29%/-26%	+14%/-17%	+126%/-48%
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 010362031-01 / KOI 2118.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6 ± 2	$1.31^{+0.51}_{-0.39}$	2215^{+189}_{-187}	3799^{+560}_{-485}	$4.099^{+4.759}_{-2.279}$
Alt.	-10 ± 2	$1.35^{+0.49}_{-0.42}$	2224^{+181}_{-184}	4140^{+696}_{-426}	$6.540^{+7.741}_{-3.251}$

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

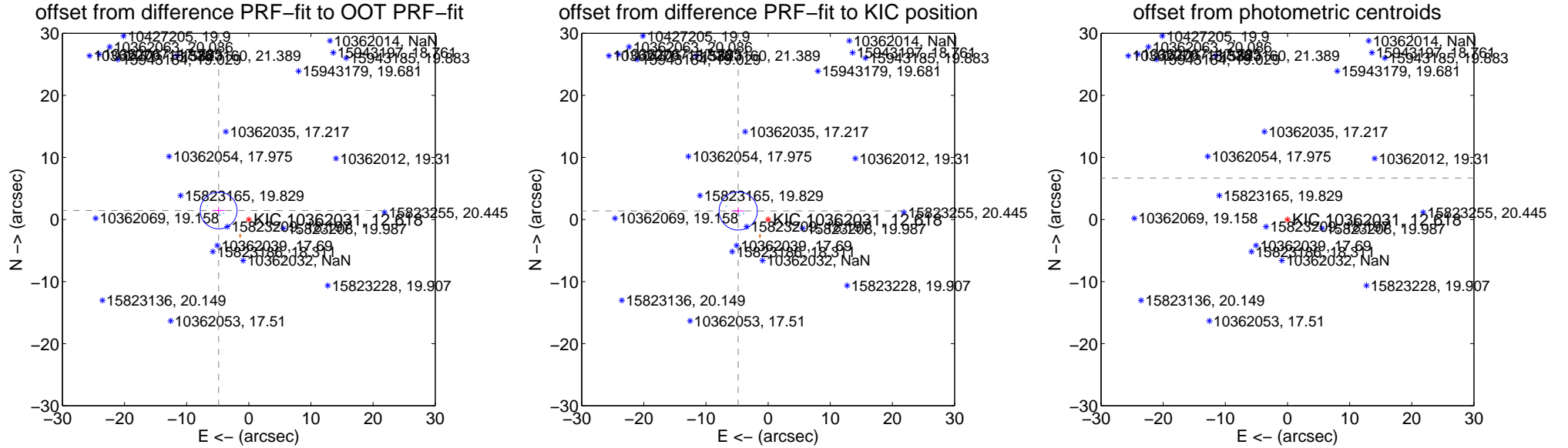
DV Centroid Data

Supplemental centroid analysis for 010362031-01. Kepler magnitude: 12.62. Transit SNR 17.98

There are 3 quarters with good PRF difference image offsets

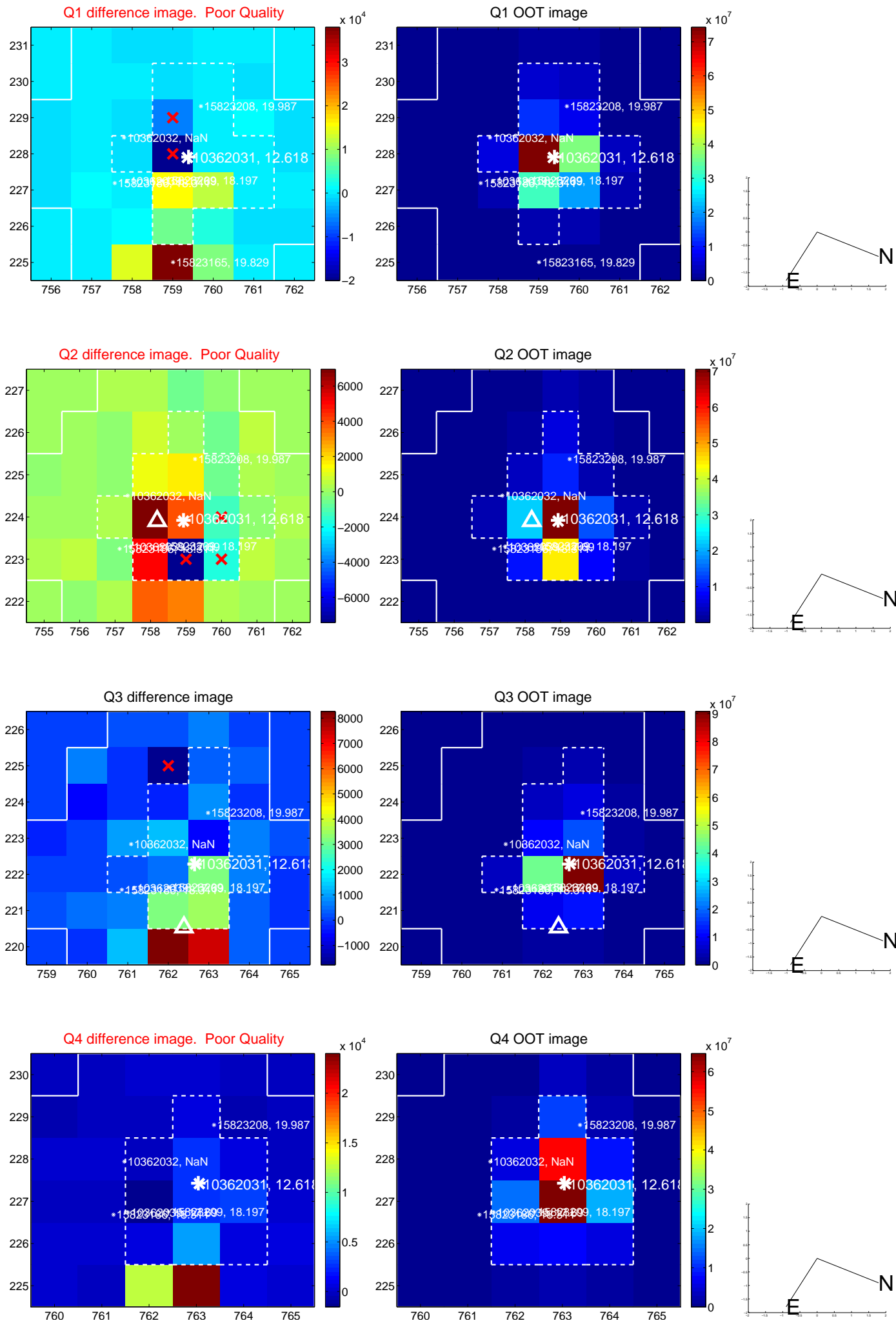
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.065 ± 0.986	5.14	4.853 ± 1.013	1.450 ± 0.603
PRF-fit source offset from KIC position	5.013 ± 1.026	4.89	4.820 ± 1.054	1.378 ± 0.596
photometric centroid source offset	36.08 ± 0.88	40.87	35.45 ± 0.89	6.68 ± 0.79

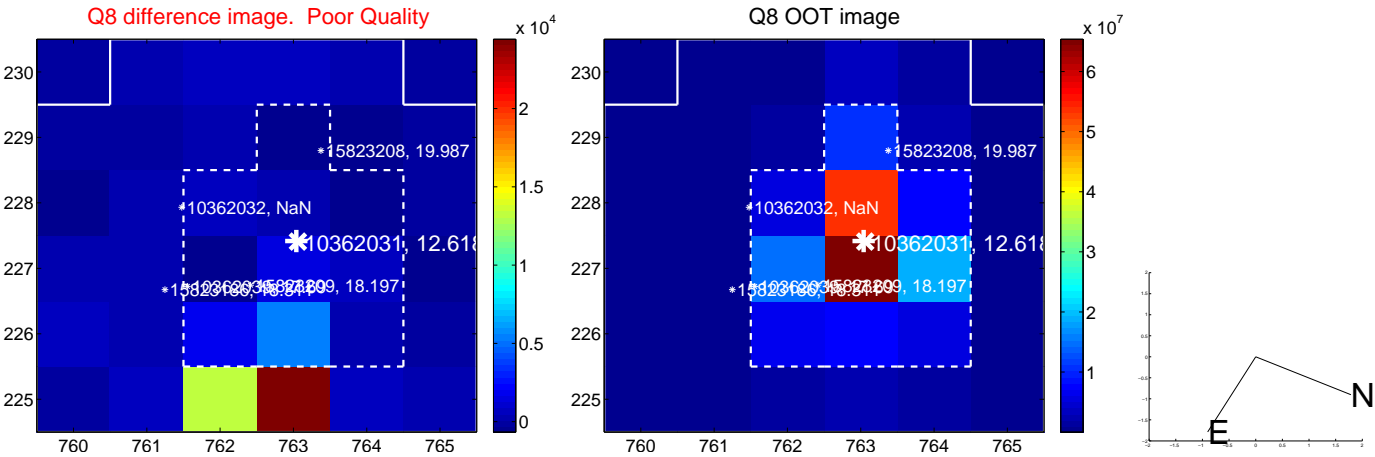
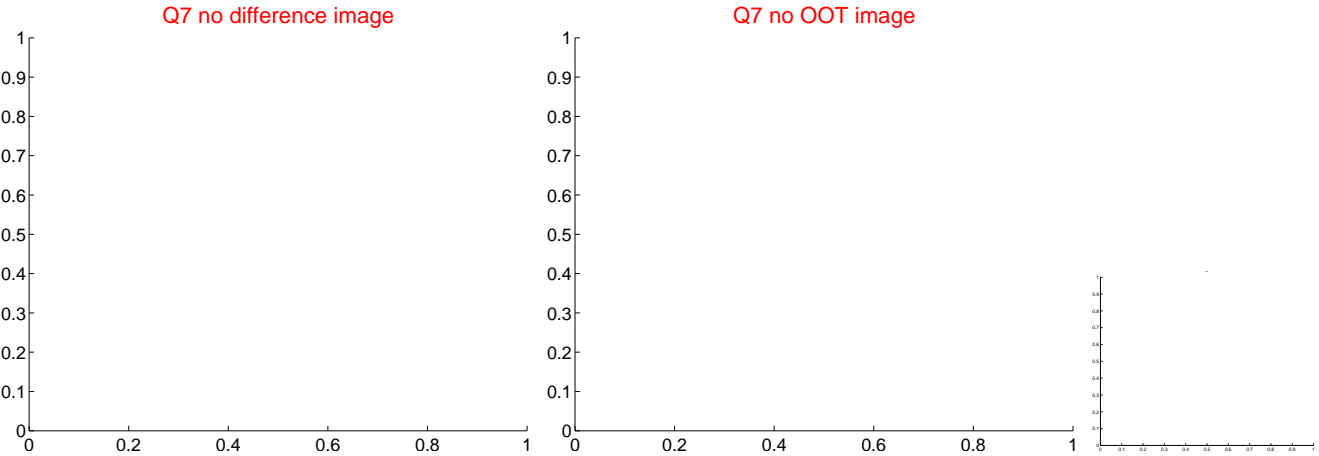
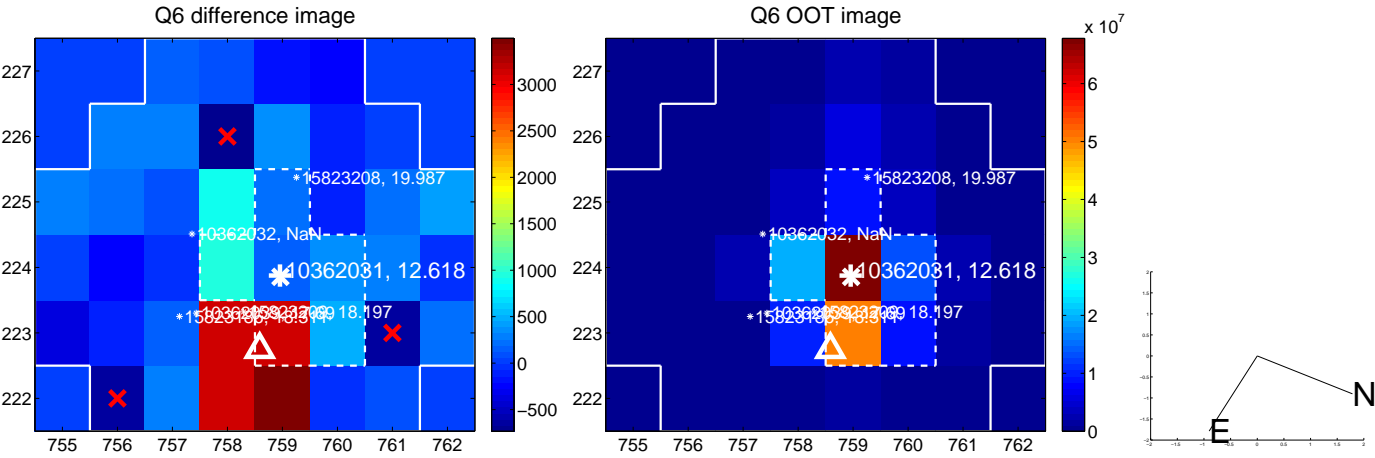
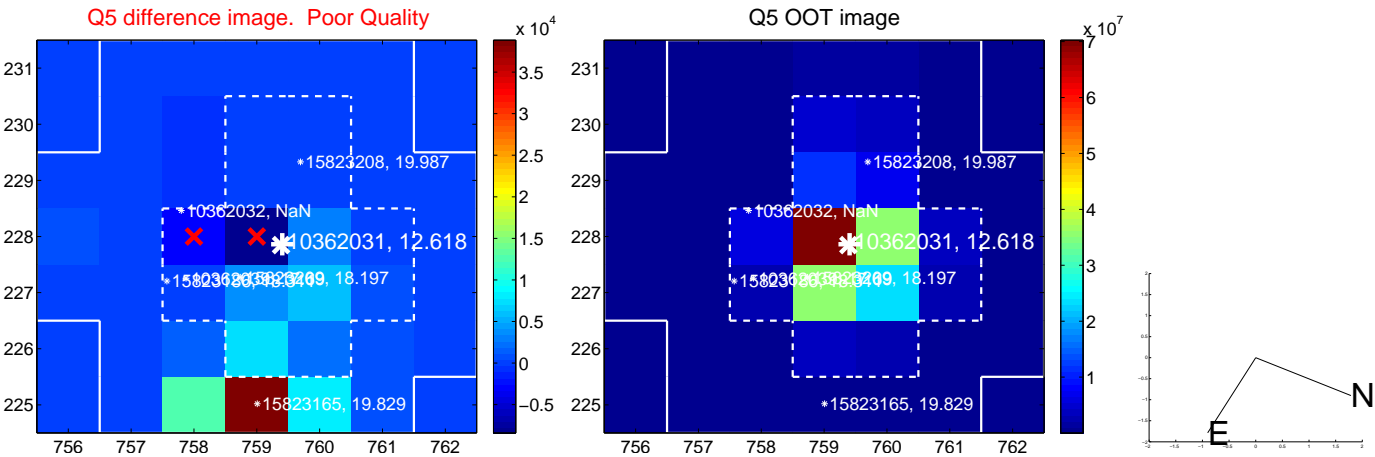


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

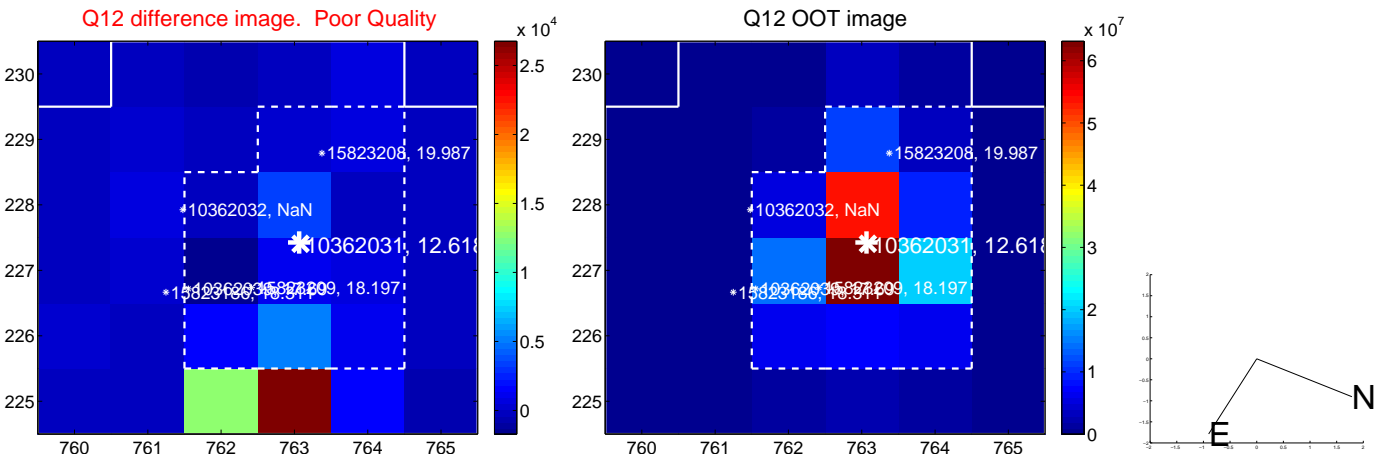
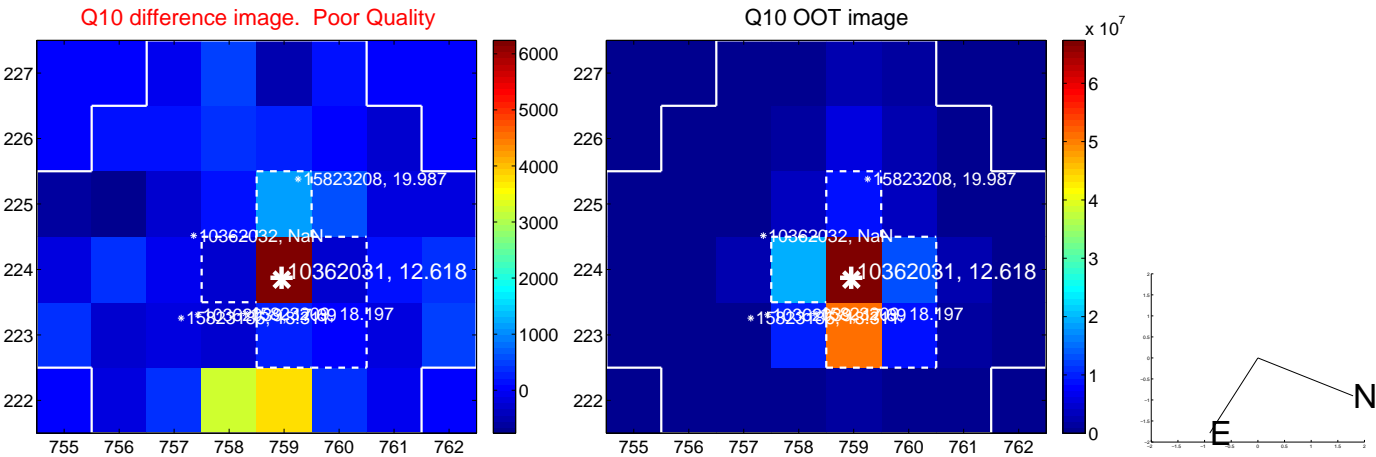
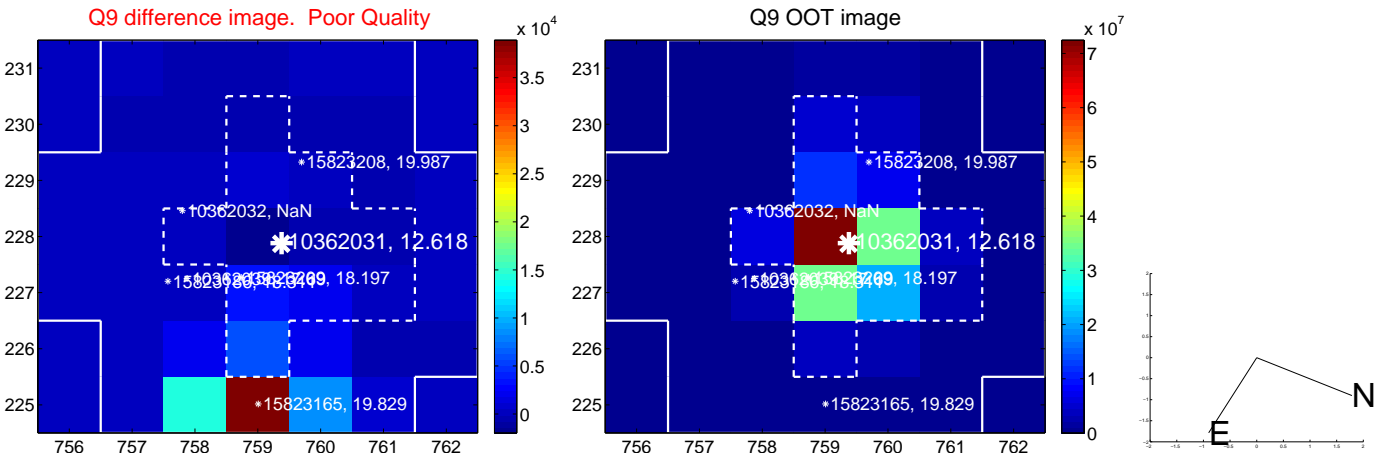
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



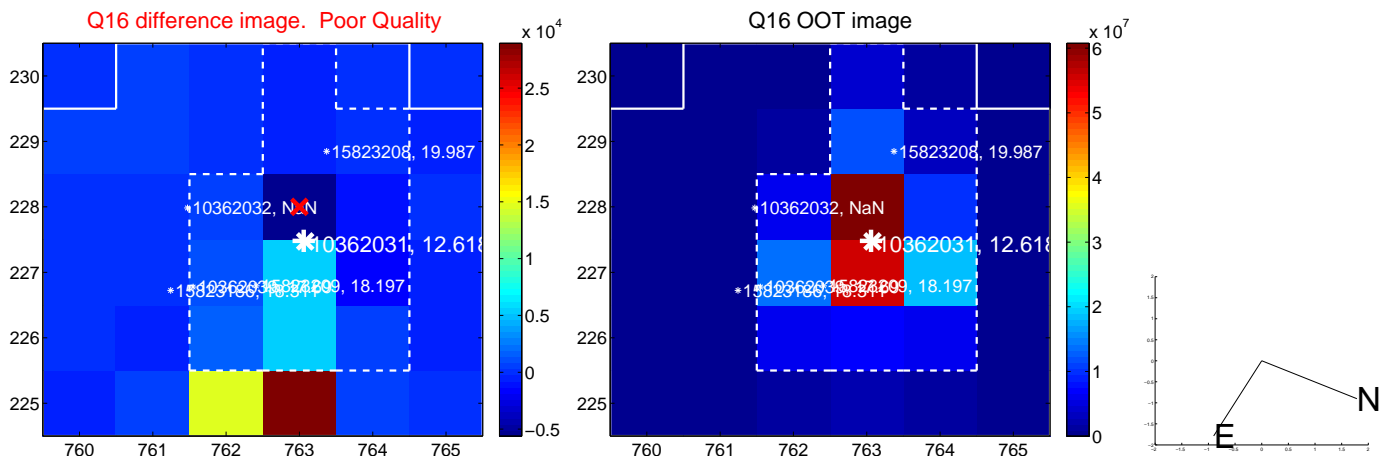
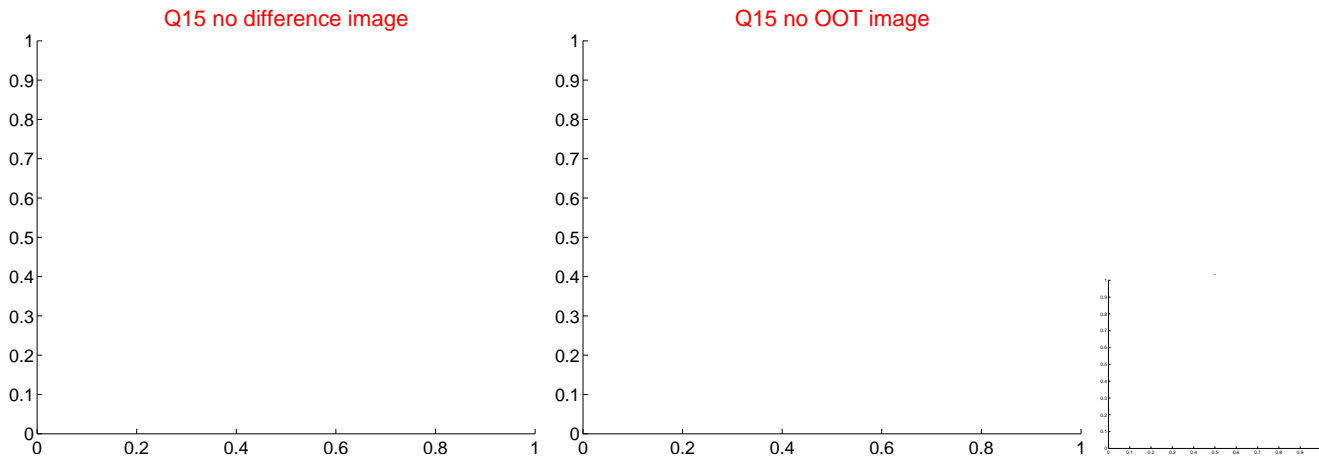
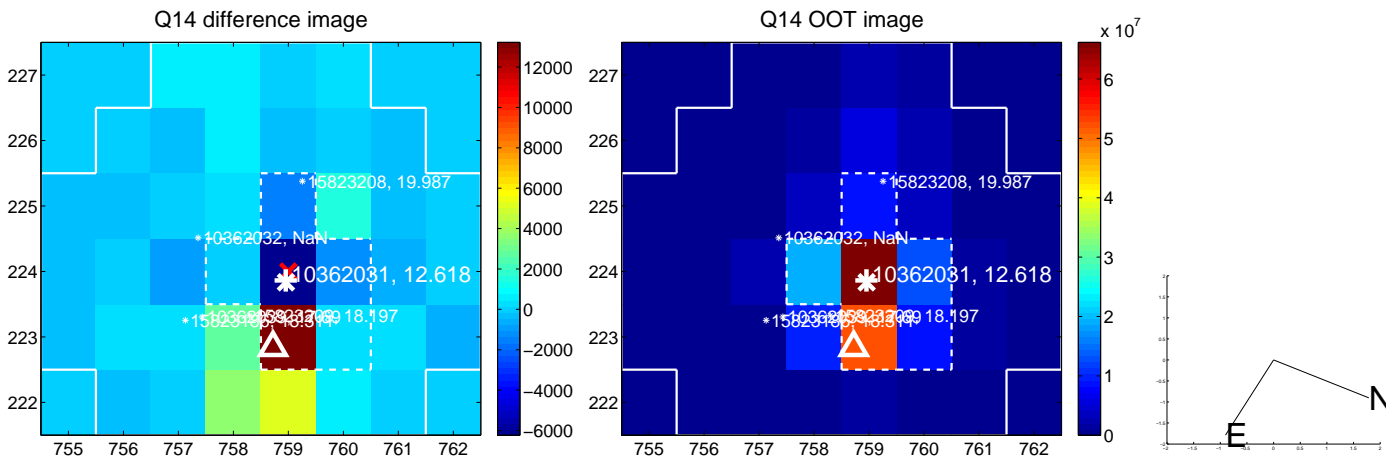
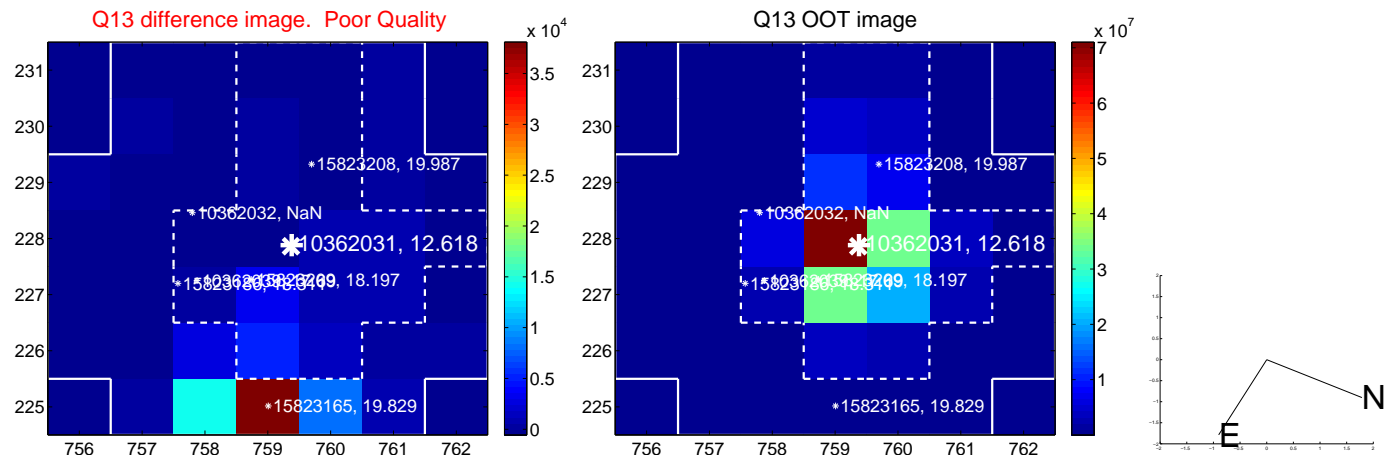
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



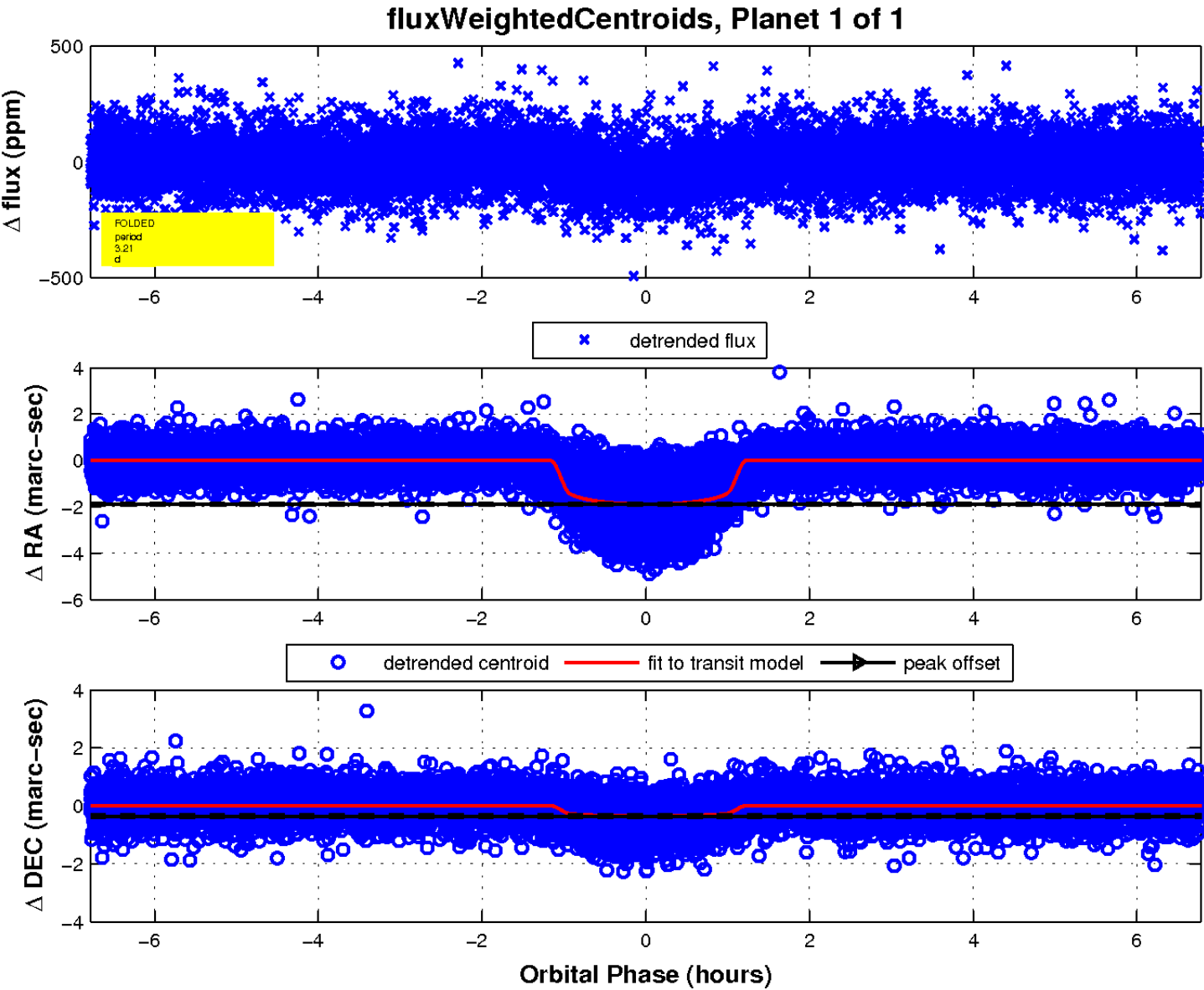
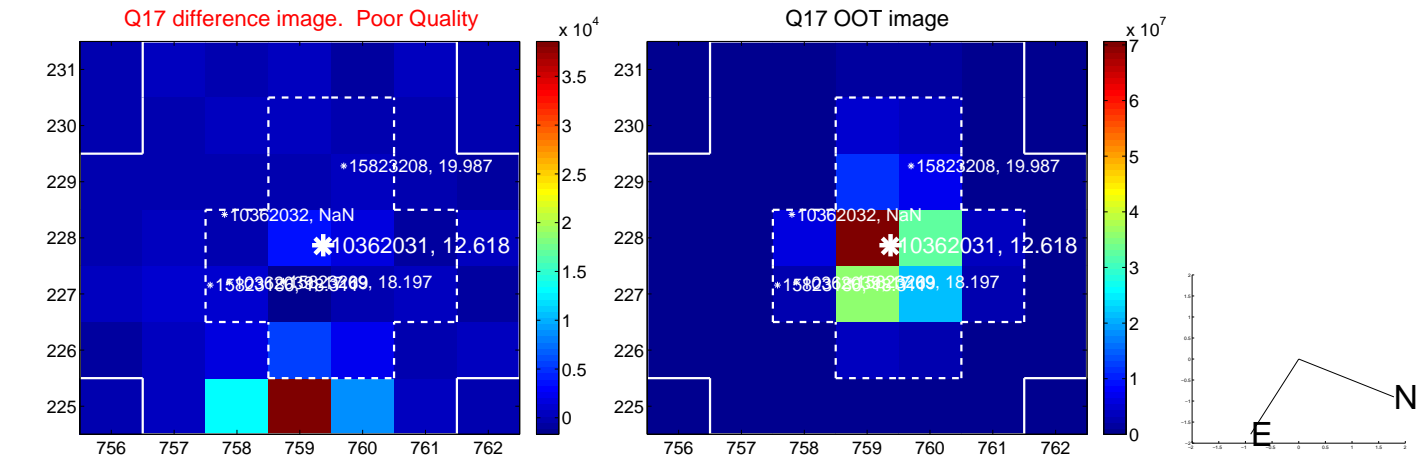
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

