

KIC 012068180

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})
012068180-01	OBS	No	0.625996	131.893380	89.3	2.366	11.2	7.9	2.76	7680	3.05	82003.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012068180-01	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.

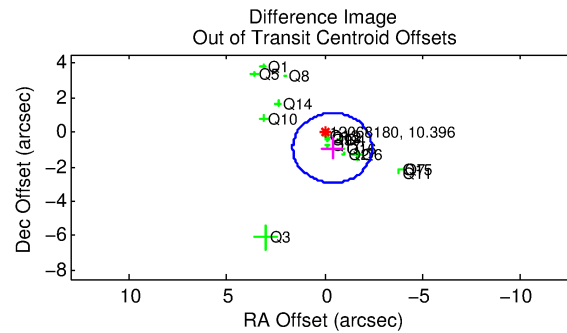
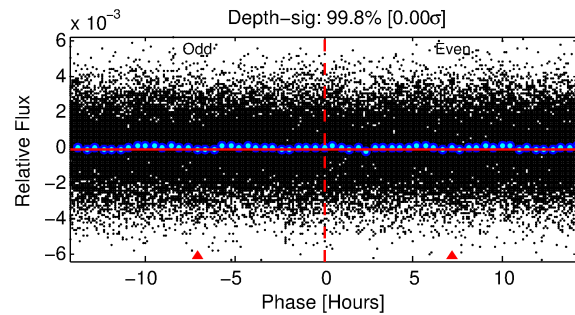
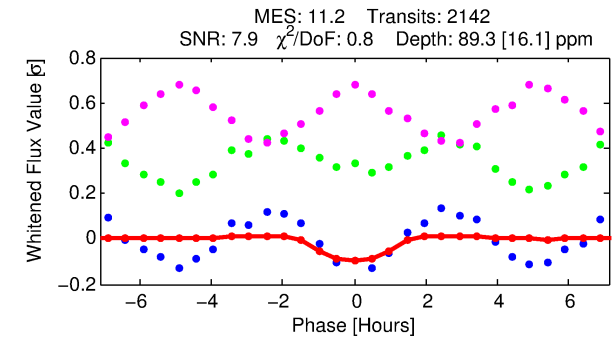
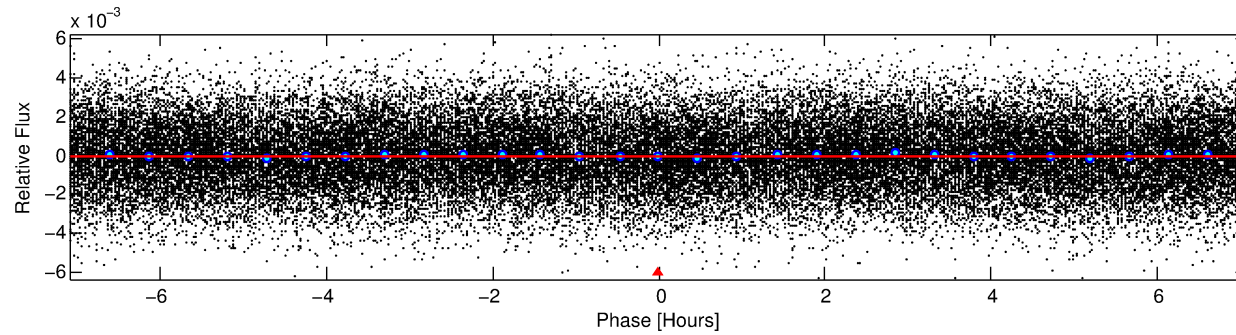
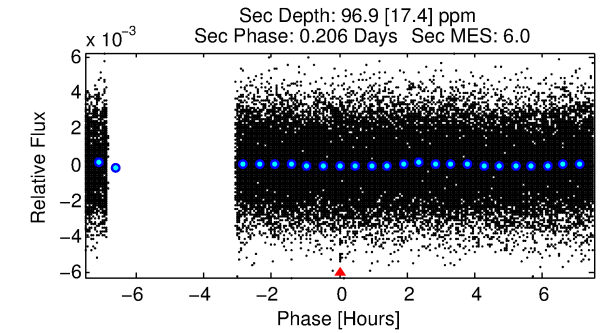
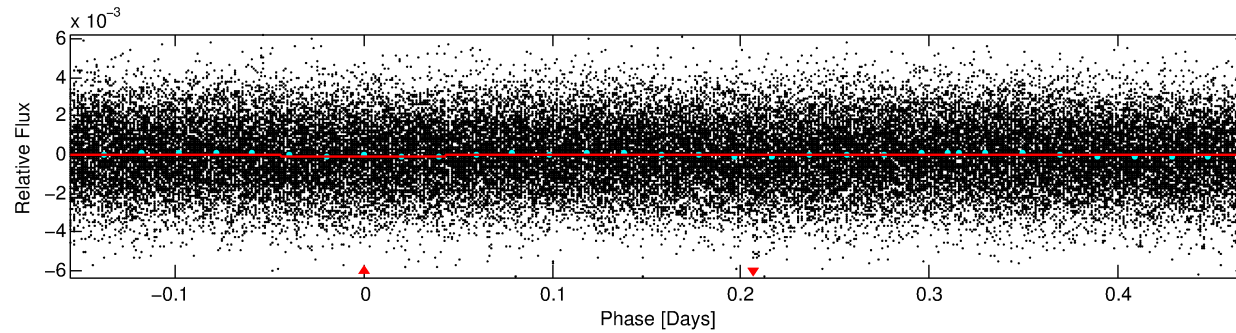
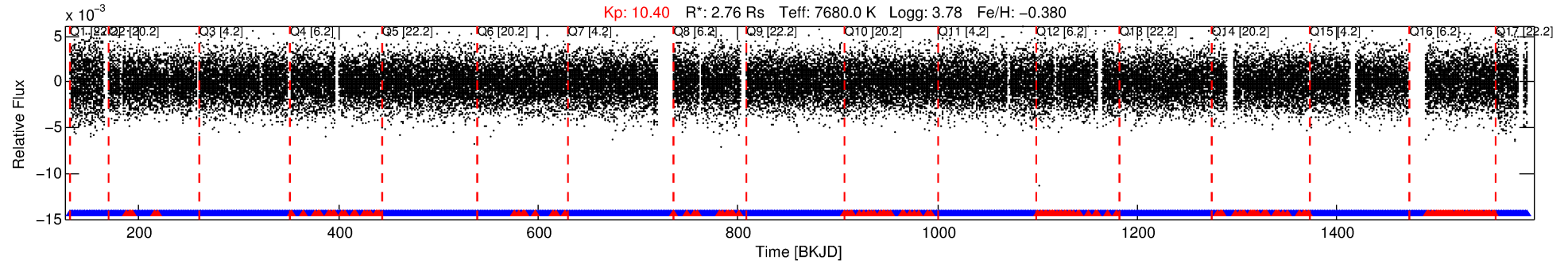
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012068180-01

No Significant Match Found

DV One-Page Summary

KIC: 12068180 Candidate: 1 of 1 Period: 0.626 d



DV Fit Results:

Period = 0.62600 [0.00001] d
Epoch = 131.8934 [0.0047] BKJD
 R_p/R^* = 0.0101 [0.0126]
 a/R^* = 1.32 [4.16]
 b = 0.90 [1.59]
 S_{eff} = 82003.33 [60954.87]
 T_{eq} = 4315 [802] K
 R_p = 3.05 [4.06] R_e
 a = 0.0170 [0.0077] AU
 A_g = 1.66 [4.31] [0.15σ]
 T_{eff} = 7573 [4734] K [0.68σ]

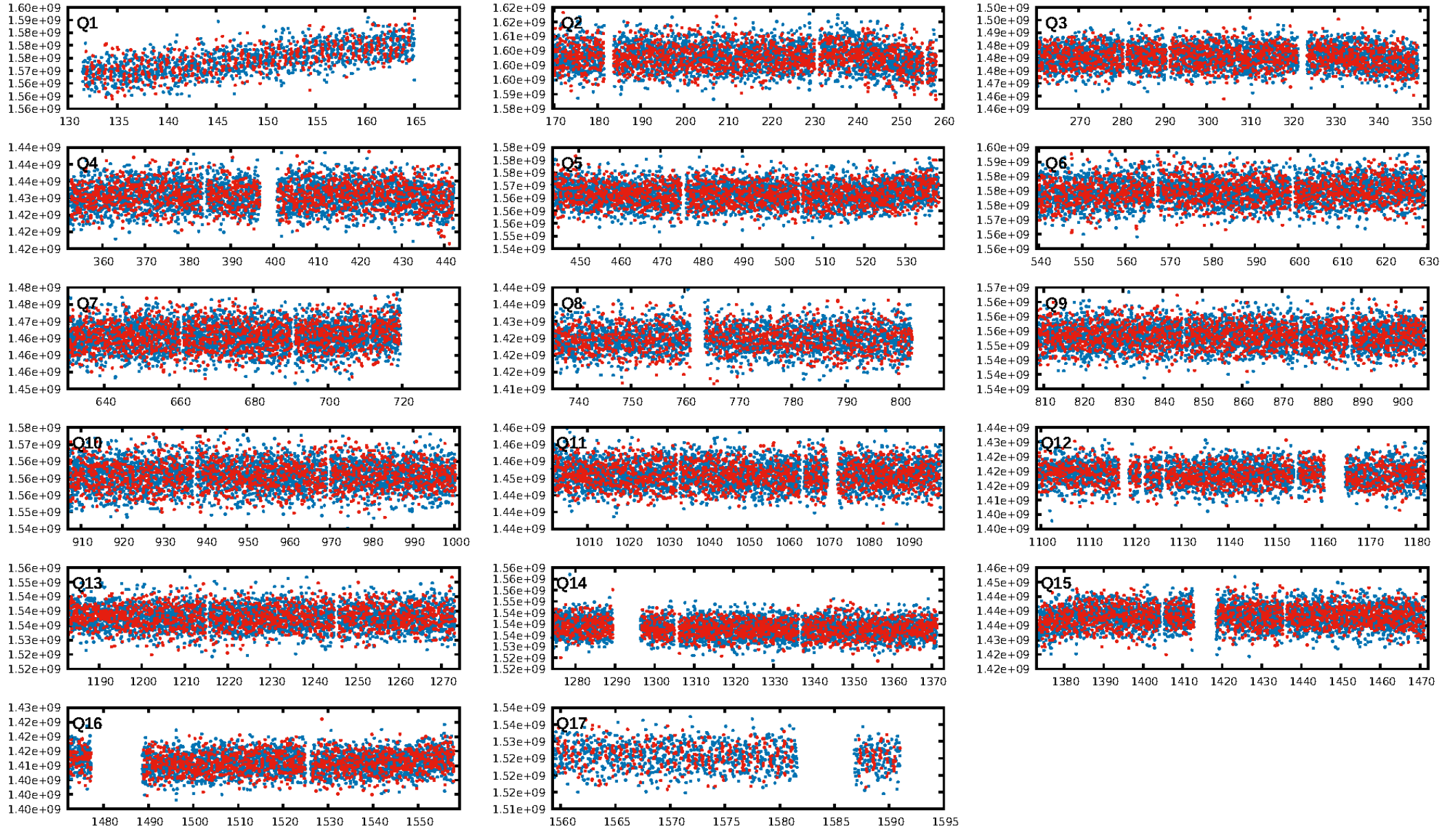
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.15e-35
RollingBand-fgt: 0.91 [1858/2048]
GhostDiagnostic-chr: 1.345
Centroid-sig: 73.3%
Centroid-so: 0.423 arcsec [2.14σ]
OotOffset-rm: 0.998 arcsec [1.48σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 2.860 arcsec [4.12σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.41 [7/17]
DiffImageOverlap-fno: 1.00 [17/17]

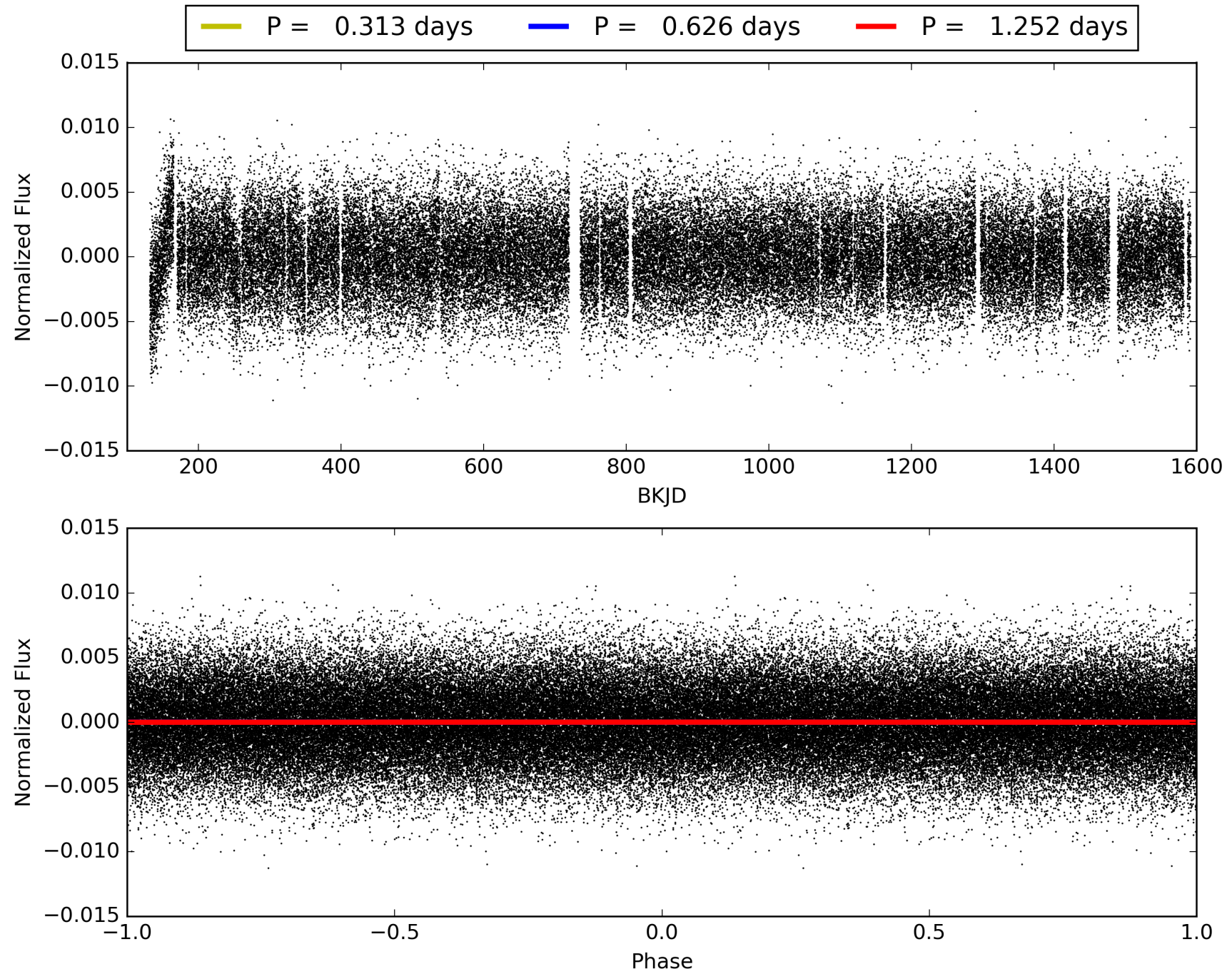
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:46:19 Z

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

TCE 012068180-01, PDC Light Curves

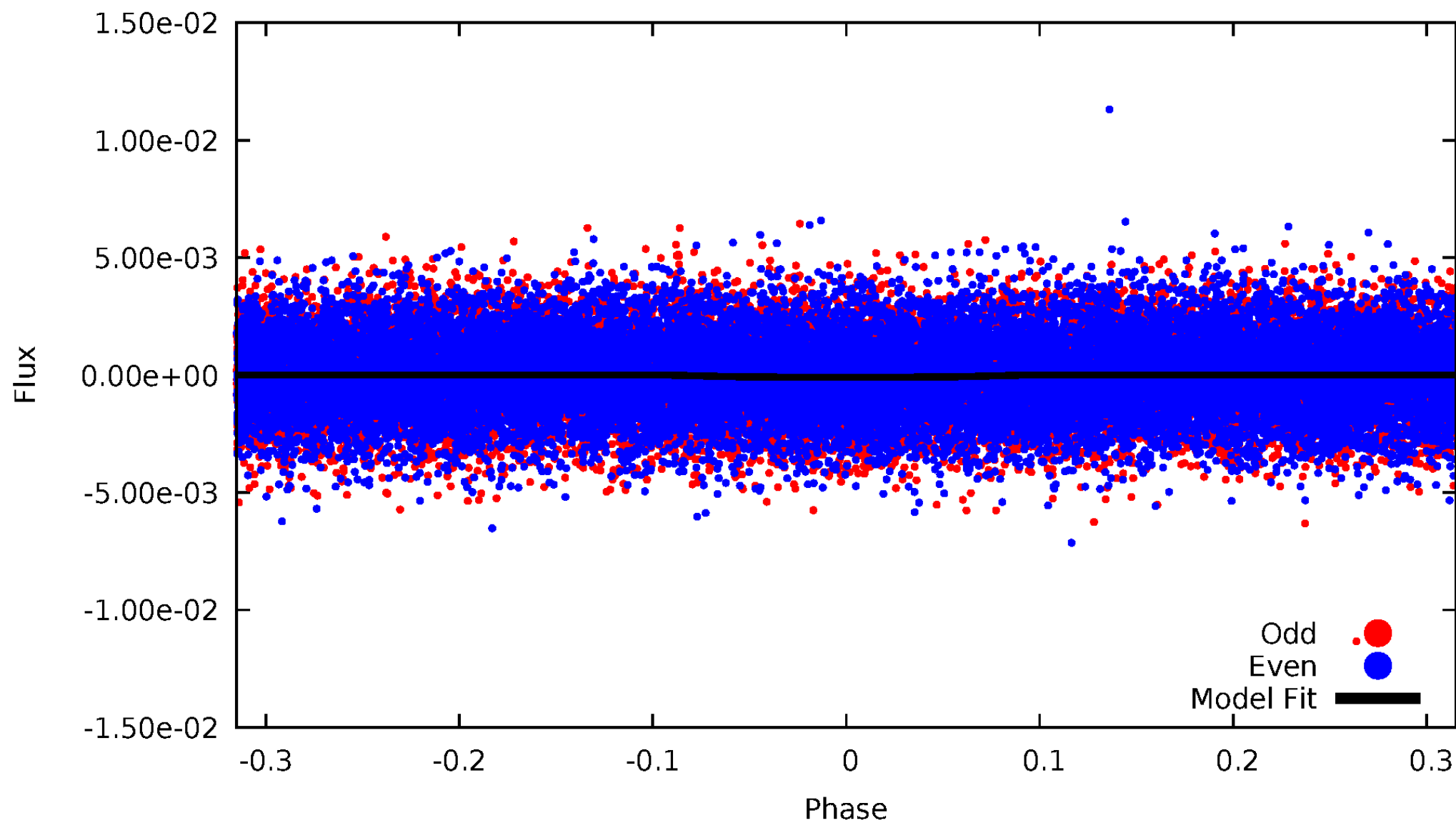


TCE 012068180-01



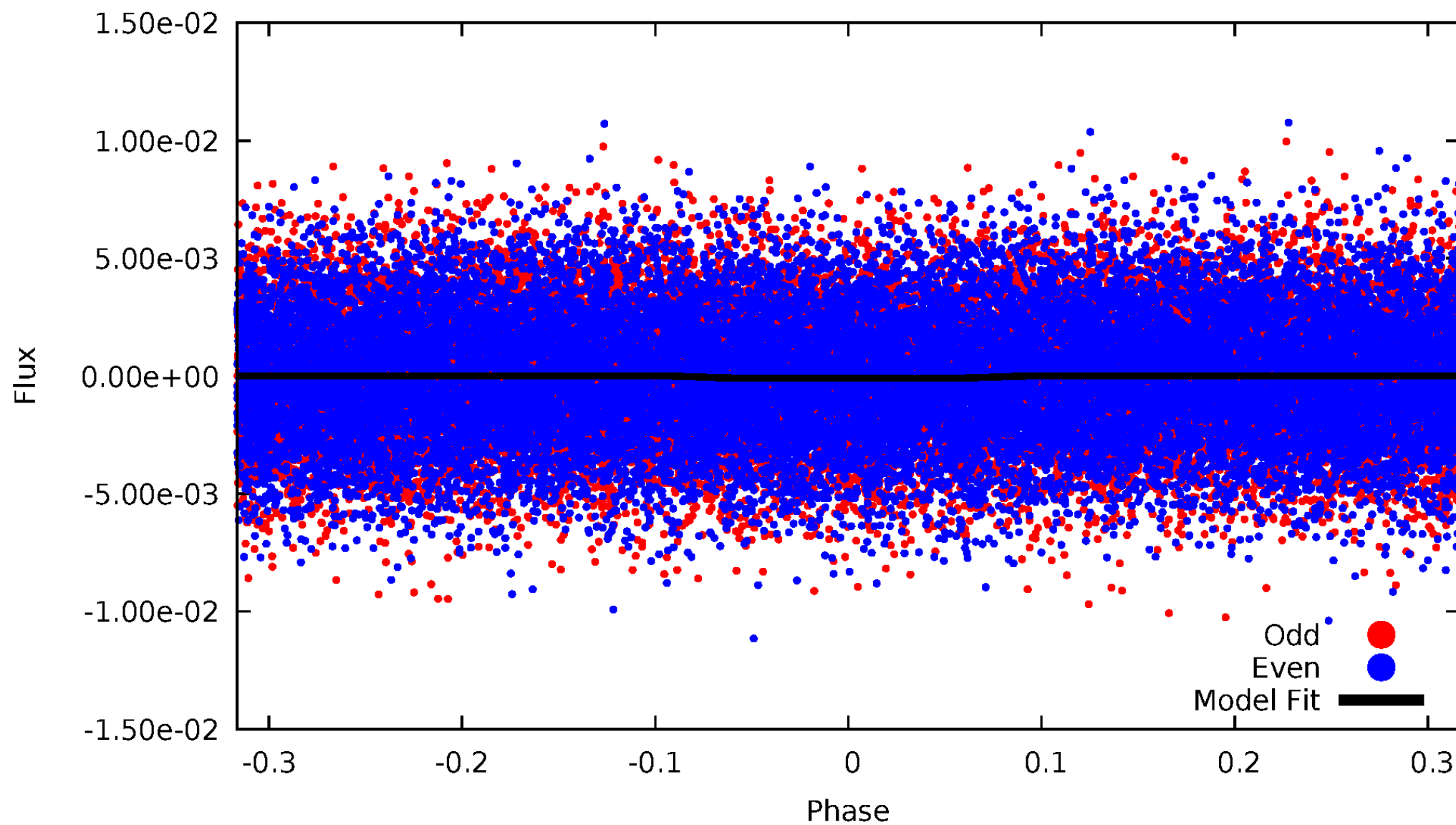
DV Odd/Even

TCE 012068180-01



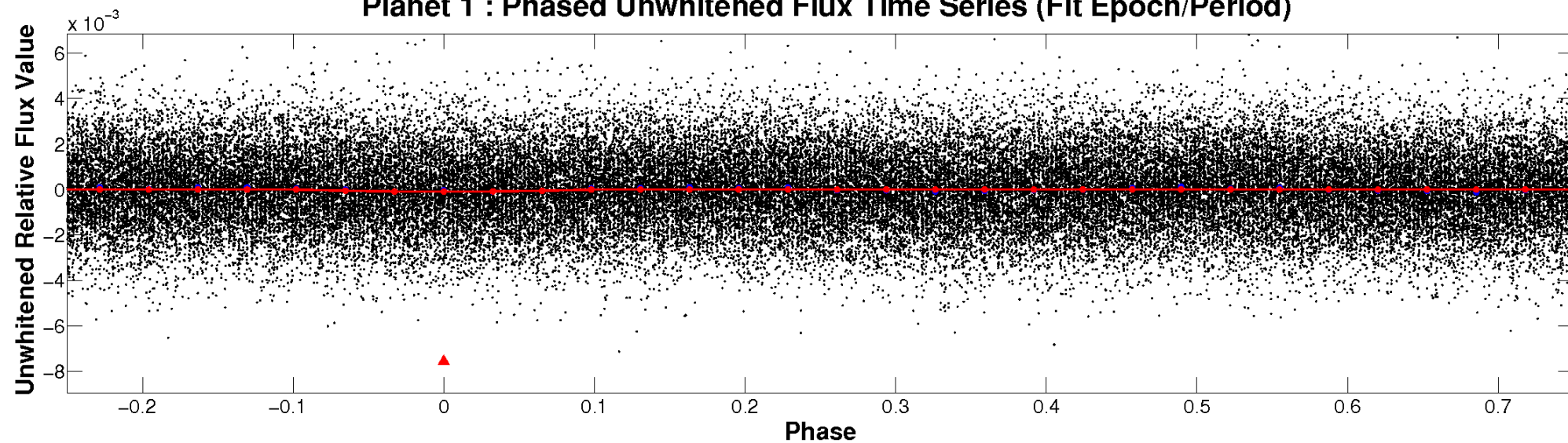
ALT Odd/Even

TCE 012068180-01

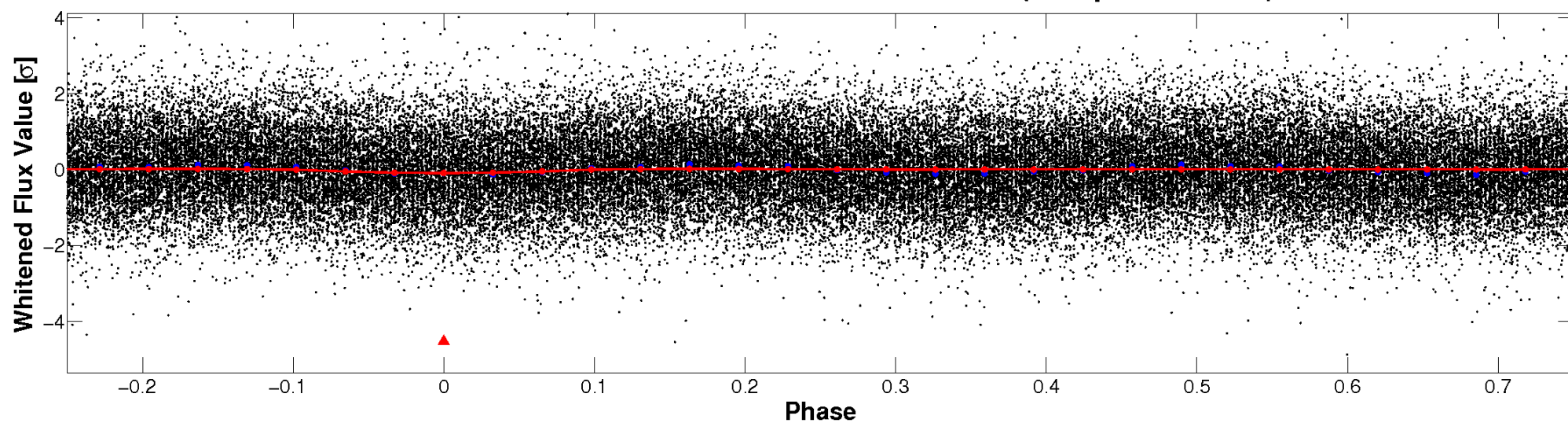


Non-Whitened Vs. Whitened Light Curve

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

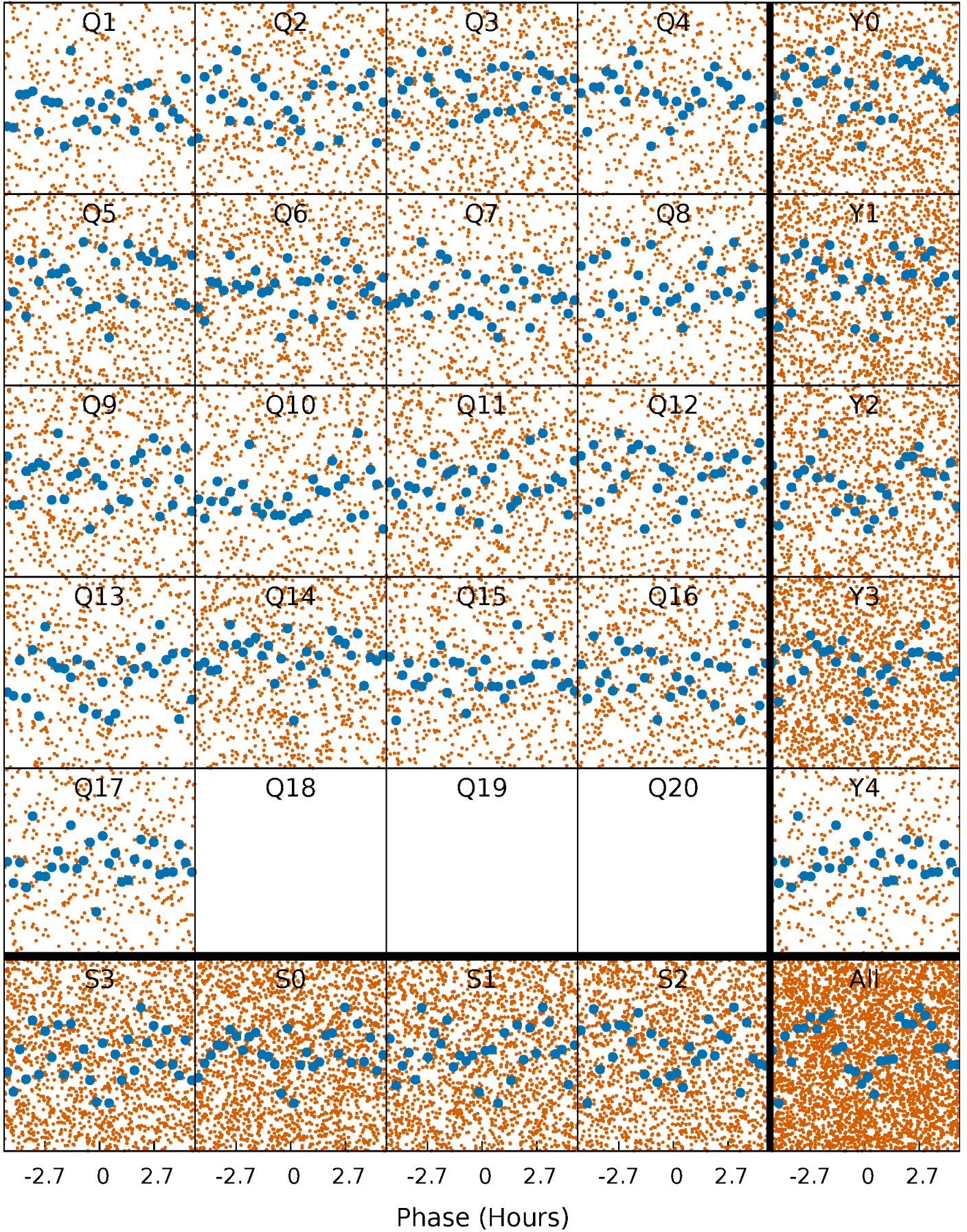


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



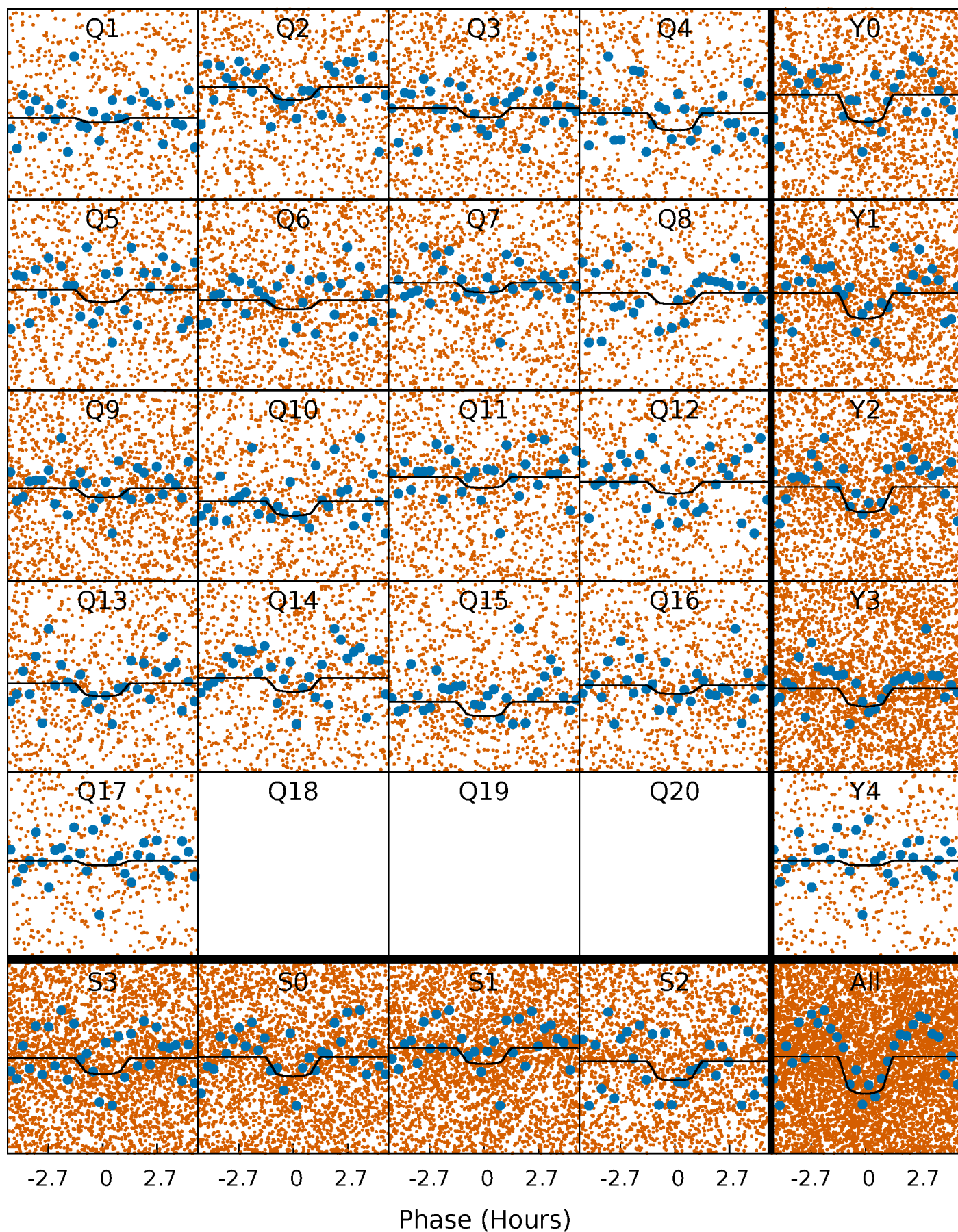
PDC Quarter-Phased Transit Curves

TCE 012068180-01 P= 0.625996 Days $T_0=131.893381$ (BKJD)



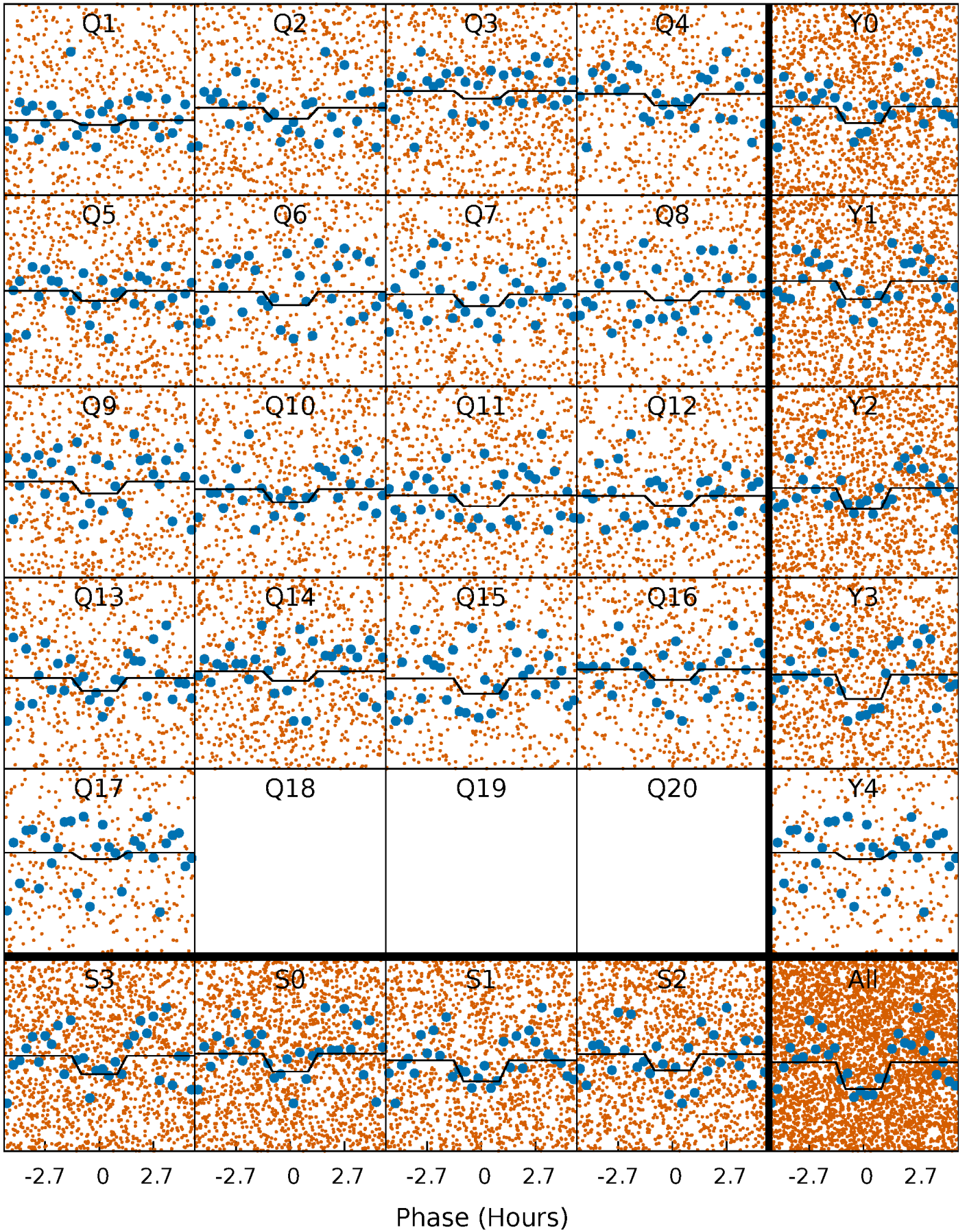
DV Quarter-Phased Transit Curves

TCE 012068180-01 P= 0.625996 Days $T_0=131.893381$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

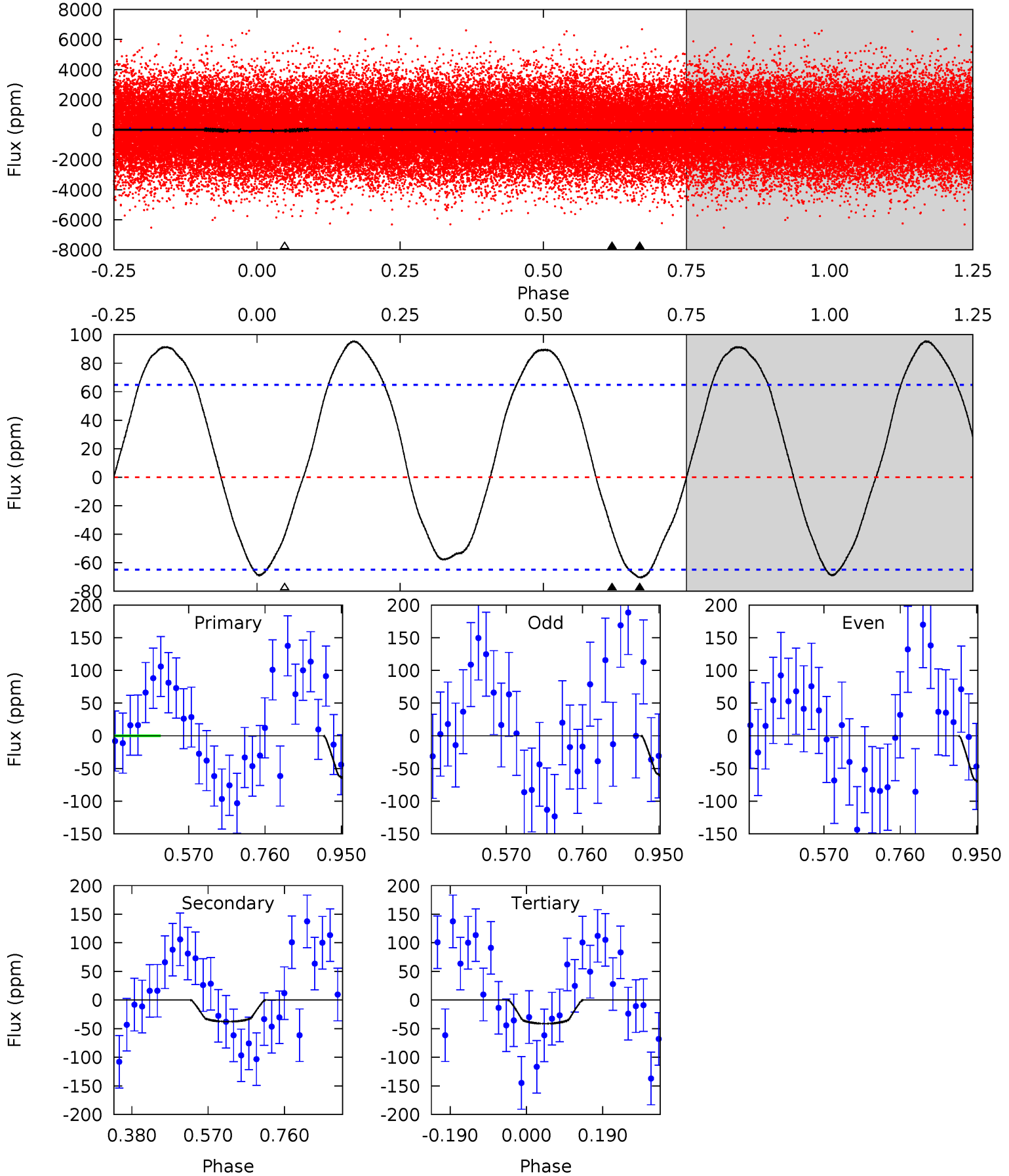
TCE 012068180-01 P= 0.625999 Days $T_0=131.893688$ (BKJD)



DV Model-Shift Uniqueness Test

012068180-01, P = 0.625996 Days, E = 131.267385 Days

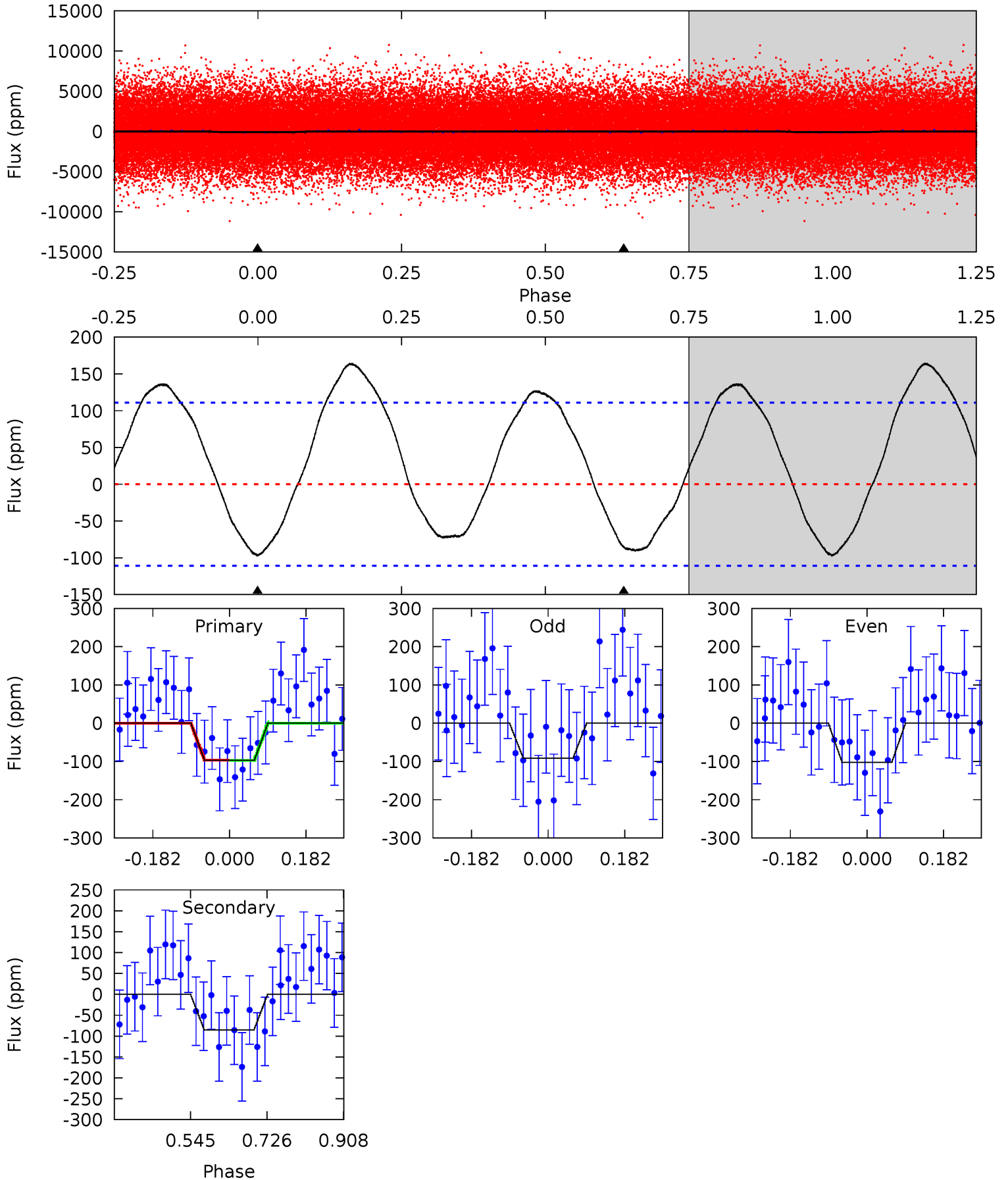
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.83	2.57	2.81	0	4.43	1.31	3.67	2.02	4.83	-0.24	2.57	0.36	0.96	0.58	0.02



Alt Model-Shift Uniqueness Test

012068180-01, P = 0.625999 Days, E = 131.267689 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.89	3.42	0	0	4.44	1.34	2.88	3.89	3.89	3.42	3.42	0.21	1.05	0.63	0.02



Stellar Parameters For KIC 012068180

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7680^{+239}_{-319}	$3.781^{+0.425}_{-0.075}$	$-0.380^{+0.250}_{-0.300}$	$2.763^{+0.326}_{-1.306}$	$1.682^{+0.188}_{-0.377}$	$0.112^{+0.453}_{-0.028}$
	+3%/-4%	+11%/-2%	+66%/-79%	+12%/-47%	+11%/-22%	+403%/-25%
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 012068180-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-38 ± 15	$3.64^{+3.40}_{-2.25}$	5858^{+386}_{-633}	3947^{+4391}_{-8416}	$0.419^{+2.852}_{-0.316}$
Alt.	-85 ± 25	$3.69^{+3.13}_{-2.51}$	5831^{+395}_{-652}	5520^{+6855}_{-8886}	$0.938^{+8.171}_{-0.685}$

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 $A_{obs} \gg 1.0$

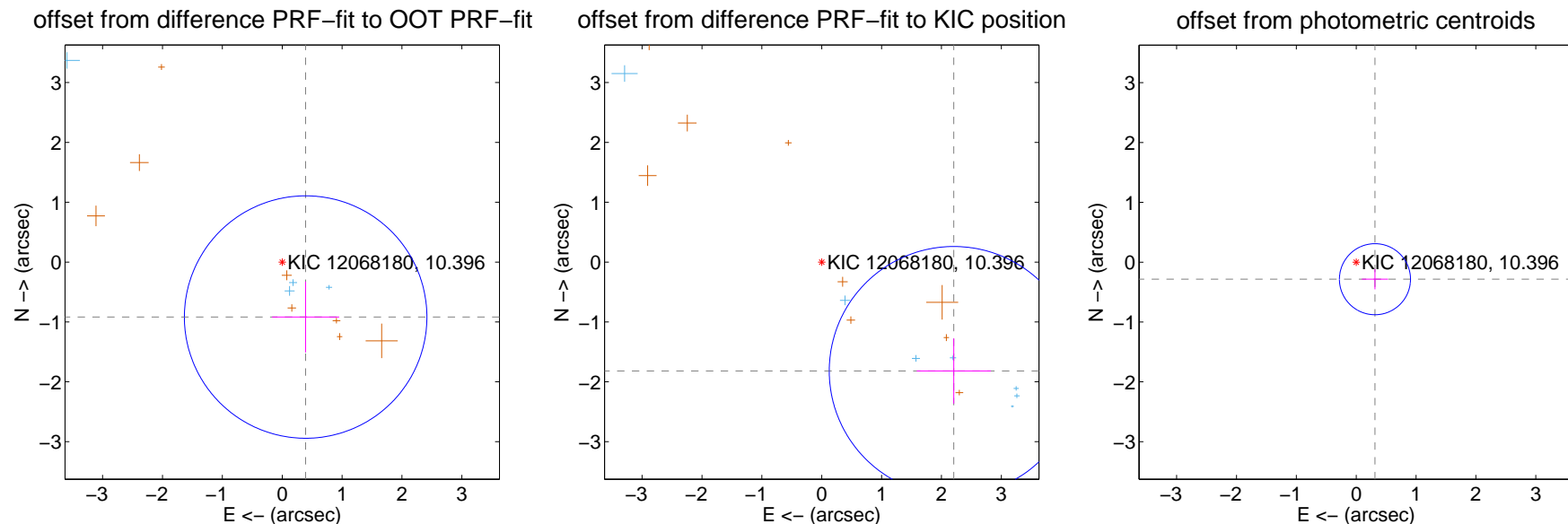
DV Centroid Data

Supplemental centroid analysis for 012068180-01. **Kepler magnitude: 10.40.** Transit SNR 7.88

There are 7 quarters with good PRF difference image offsets

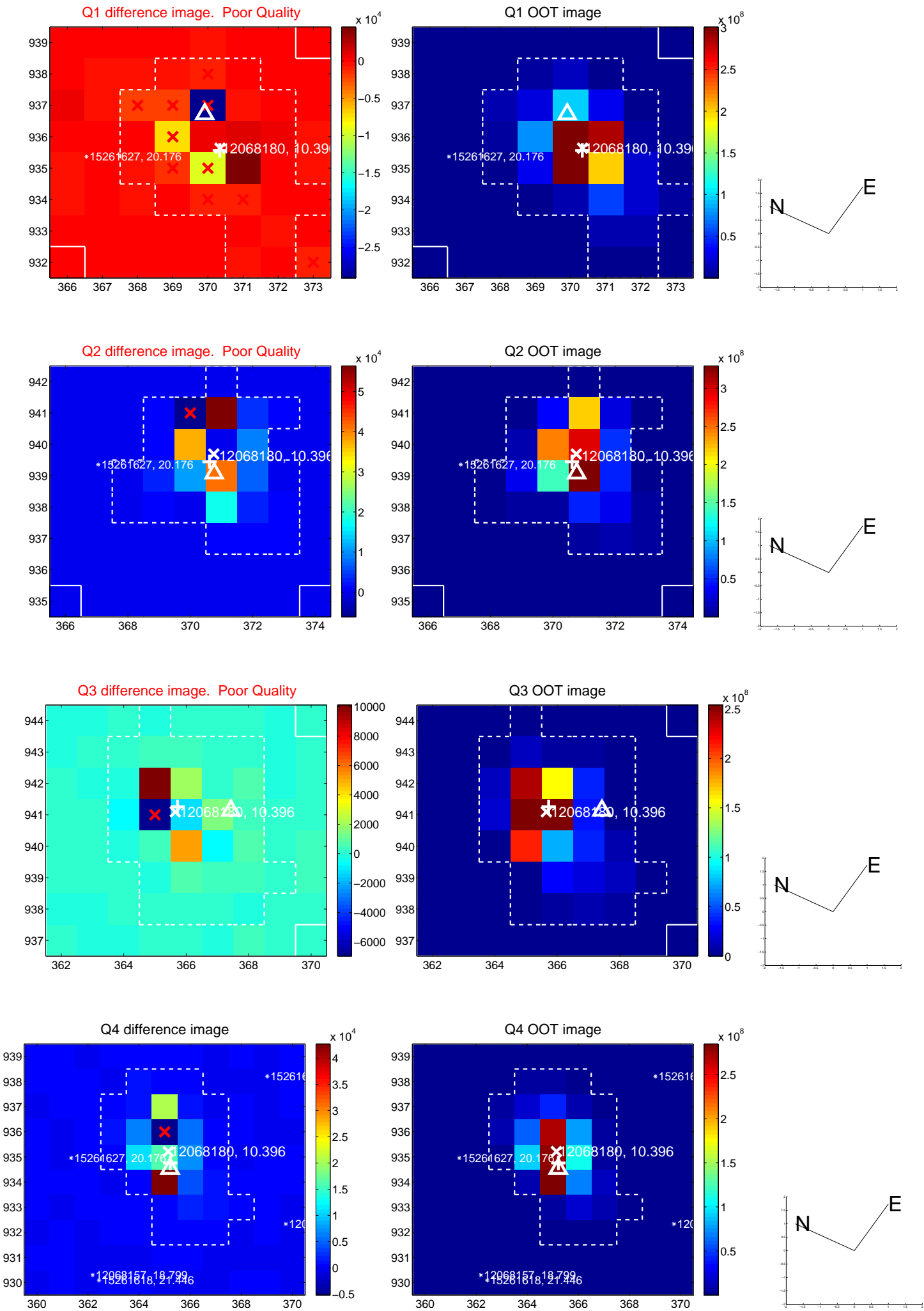
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.998 ± 0.675	1.48	-0.391 ± 0.561	-0.918 ± 0.593
PRF-fit source offset from KIC position	2.860 ± 0.693	4.12	-2.206 ± 0.619	-1.820 ± 0.545
photometric centroid source offset	0.42 ± 0.20	2.14	-0.31 ± 0.22	-0.28 ± 0.17

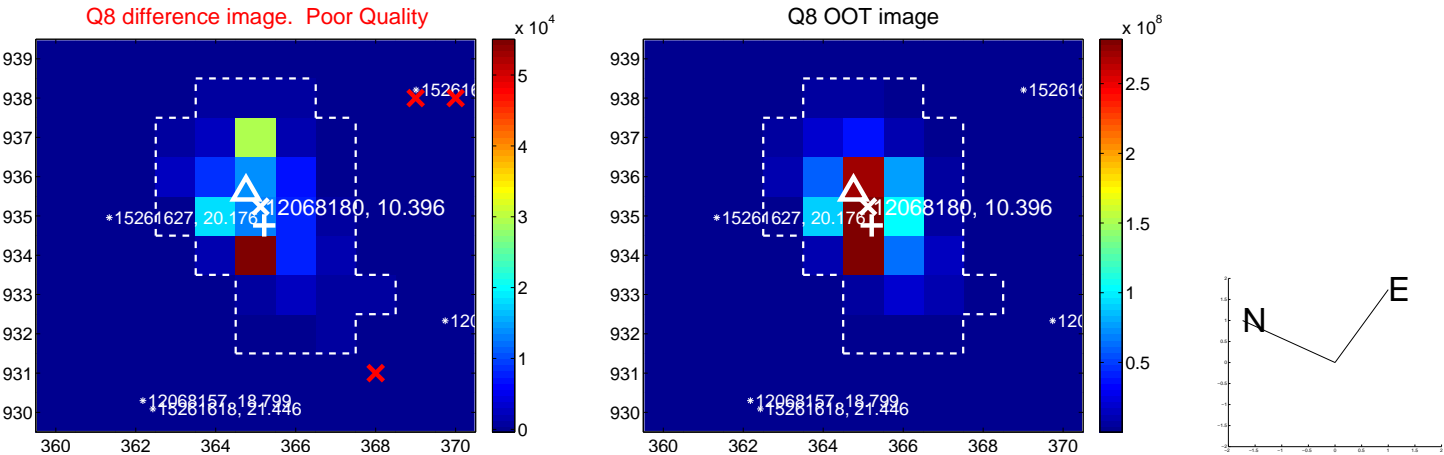
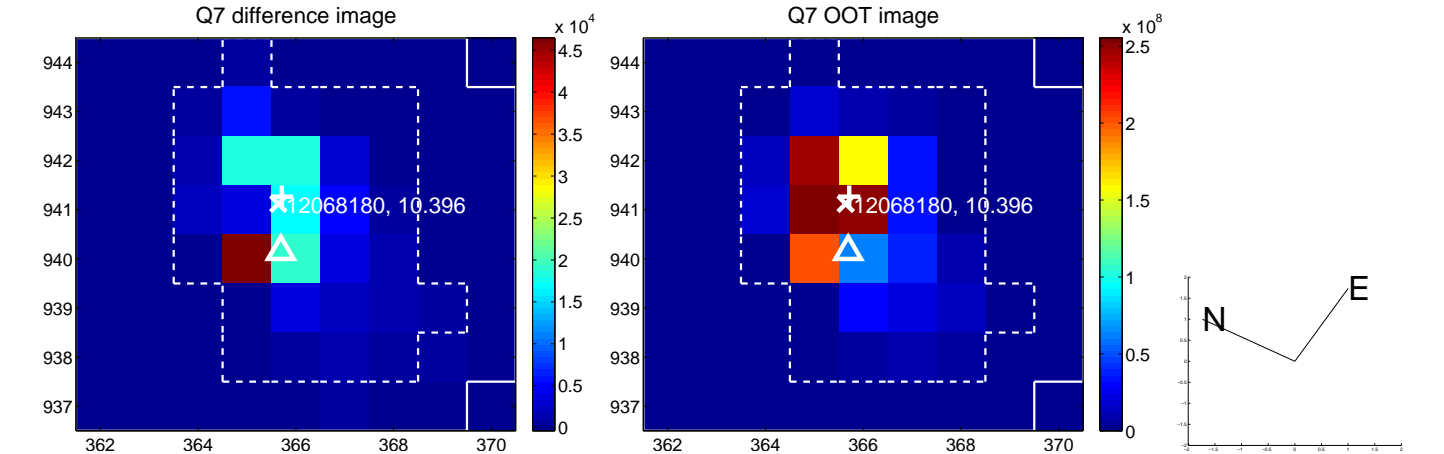
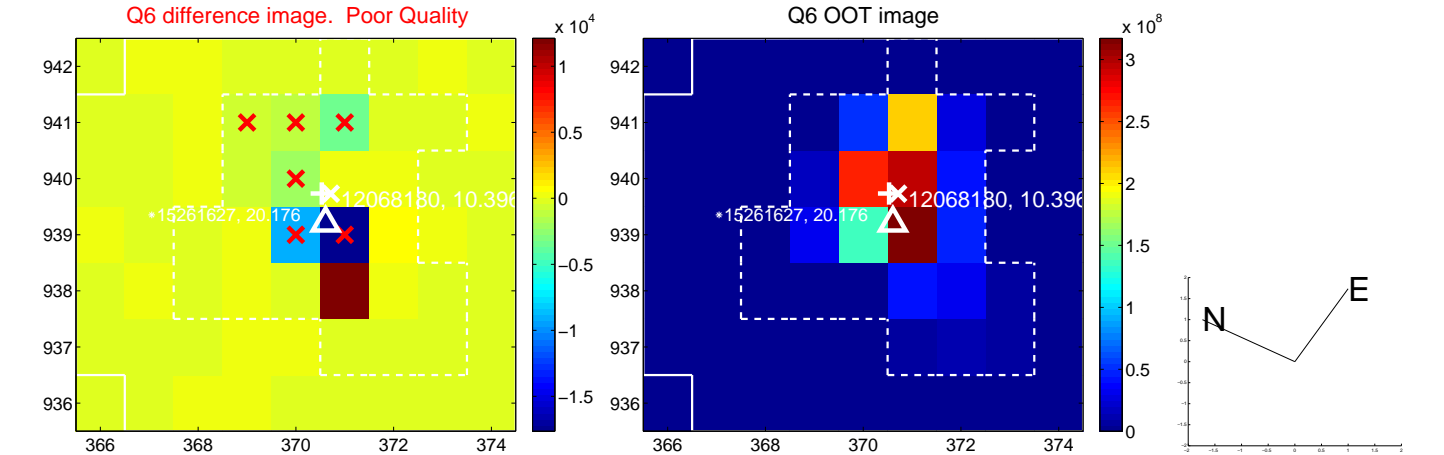
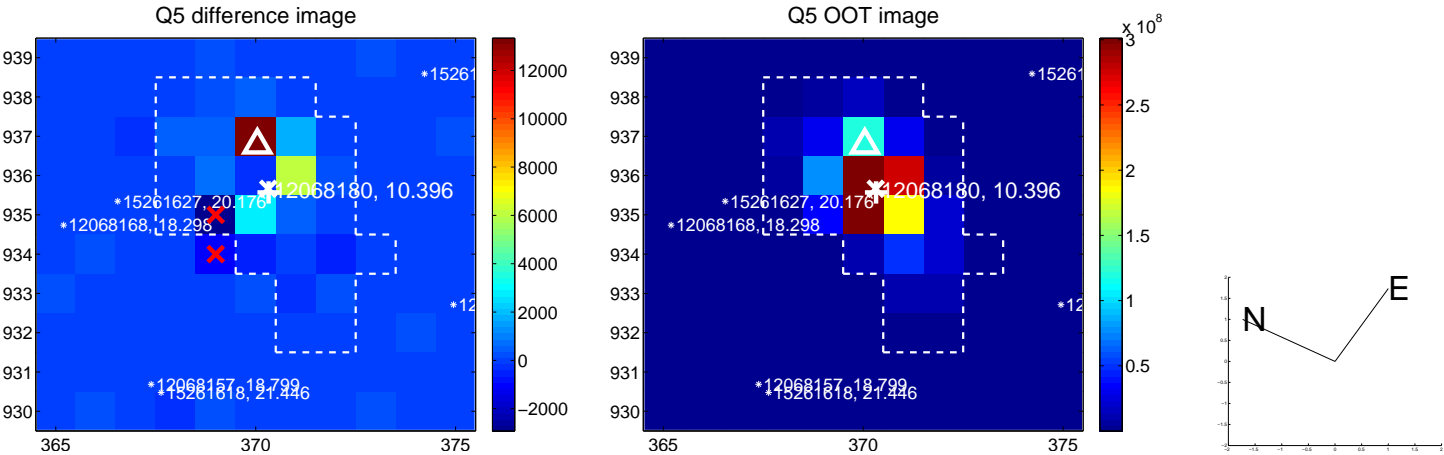


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

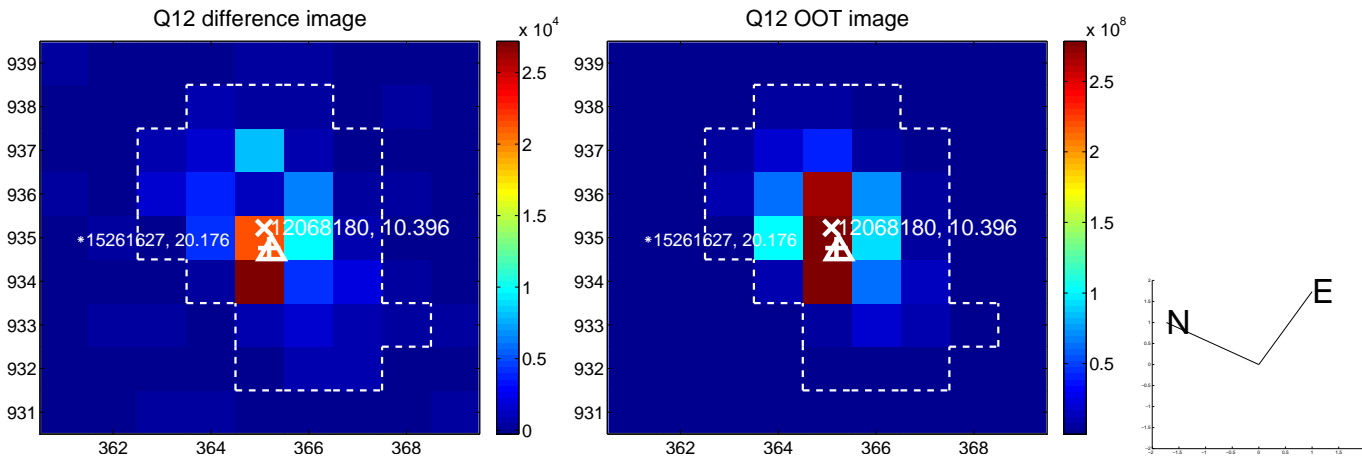
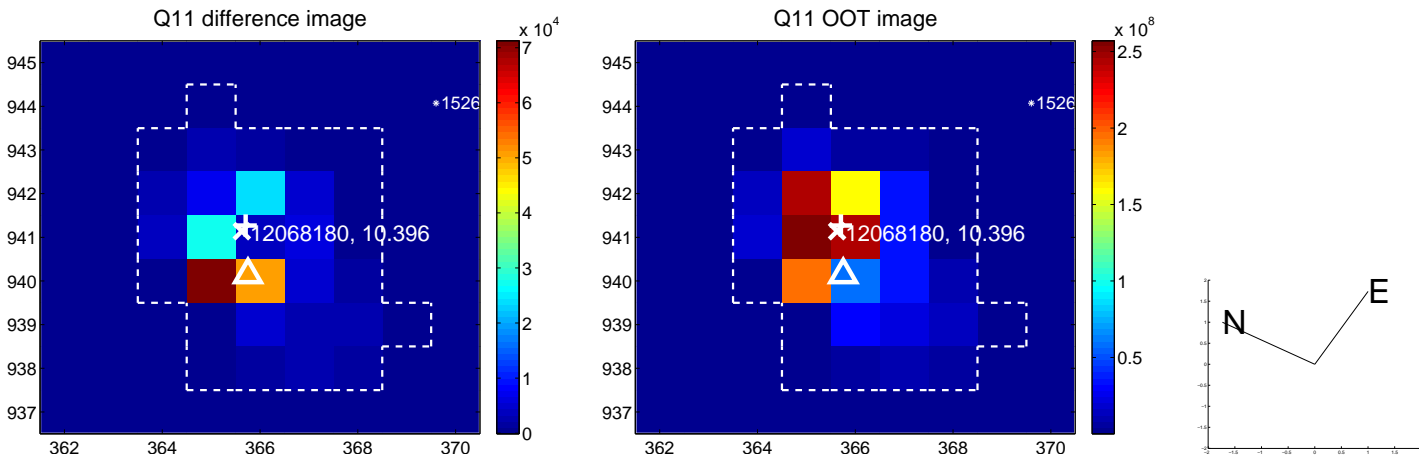
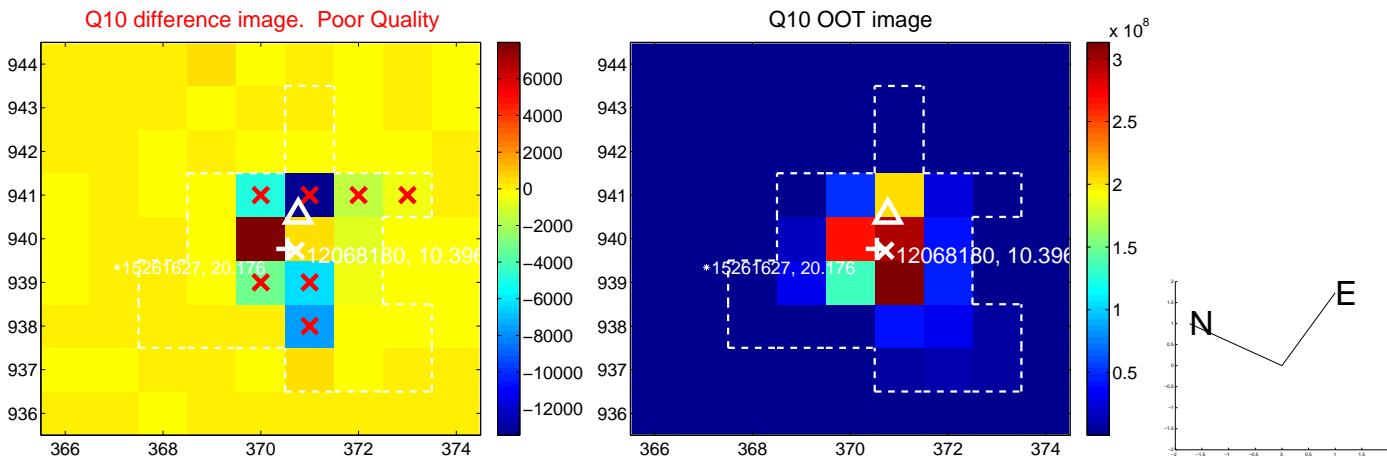
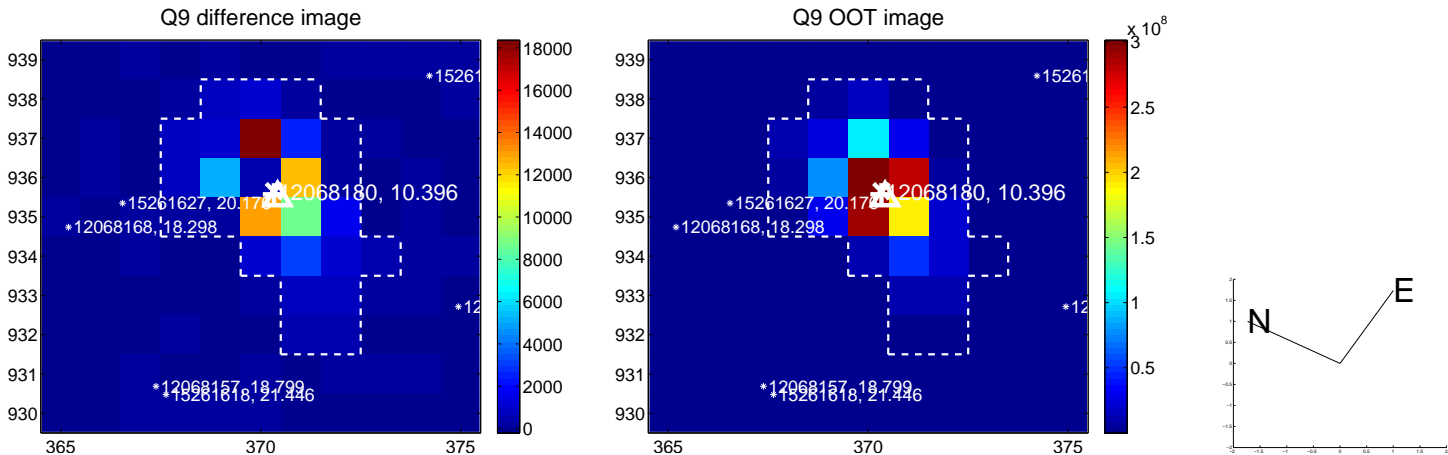
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



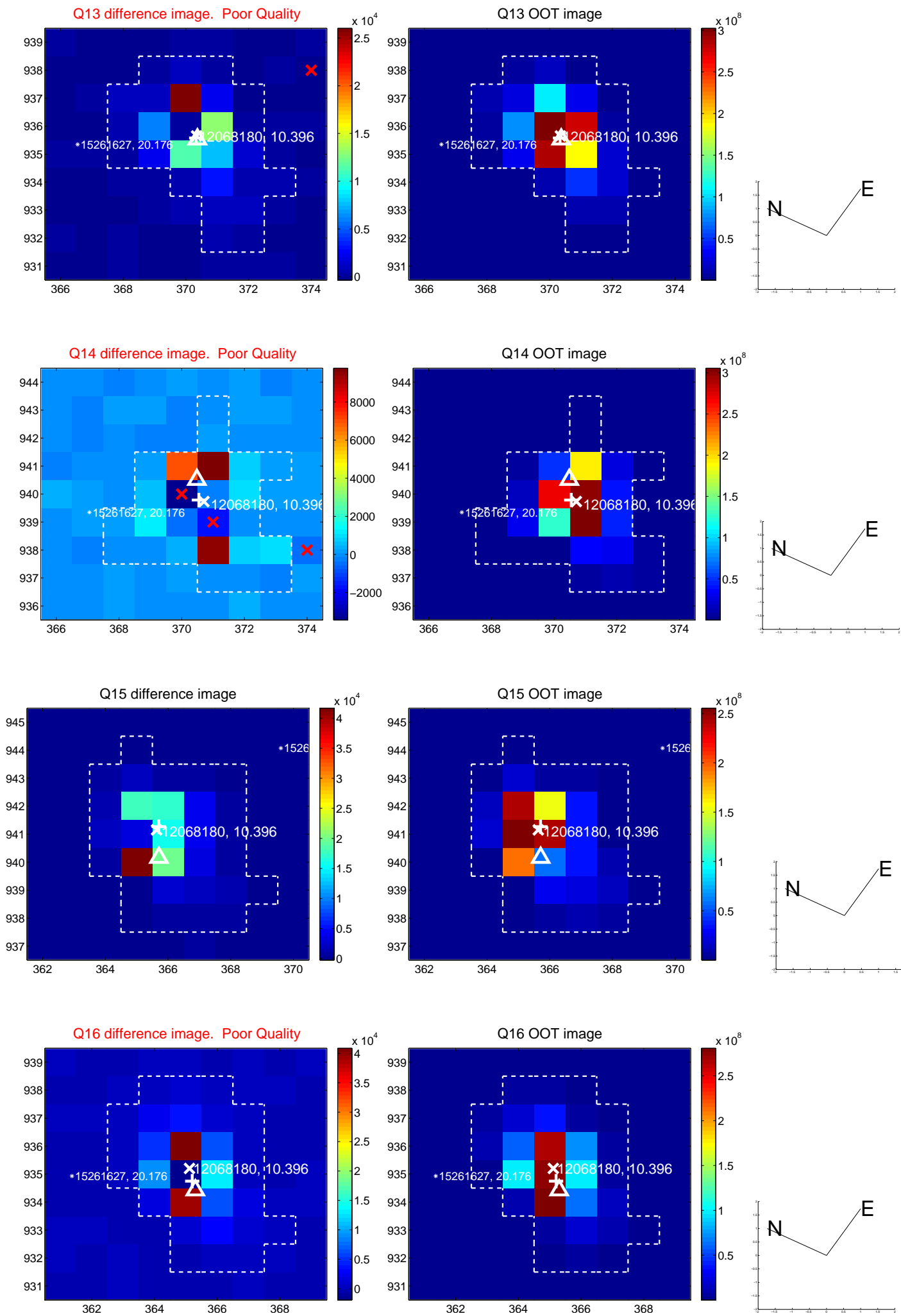
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



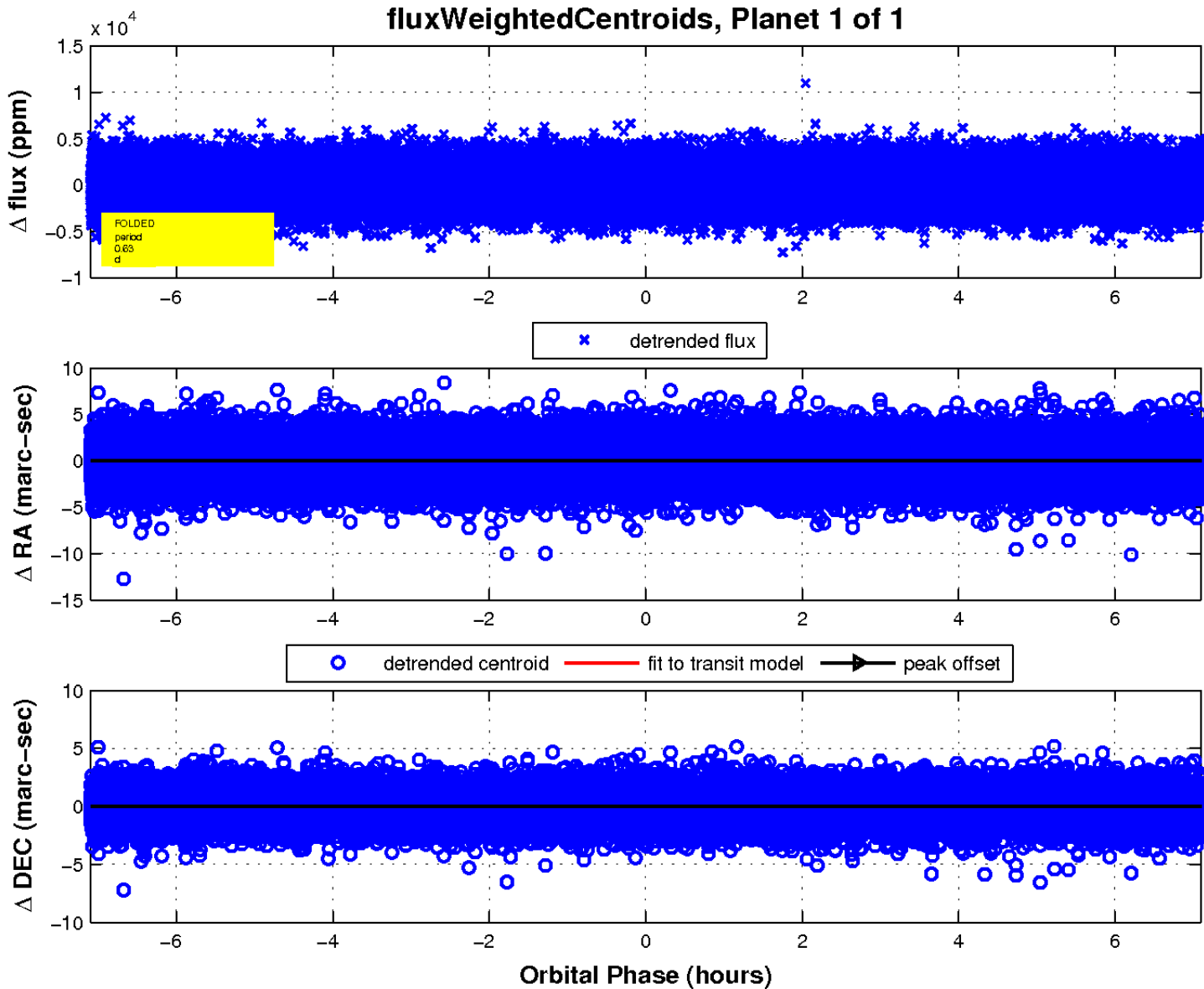
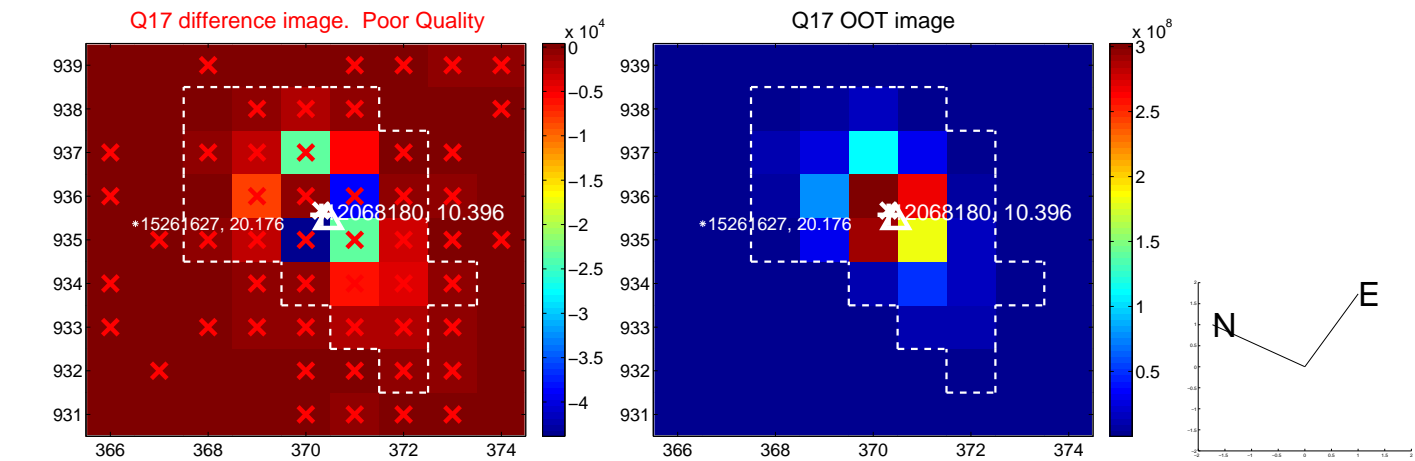
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

