

KIC 010616124

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})
010616124-01	OBS	No	59.080511	159.377732	19.2	7.430	11.9	3.1	2.31	7816	1.13	141.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010616124-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

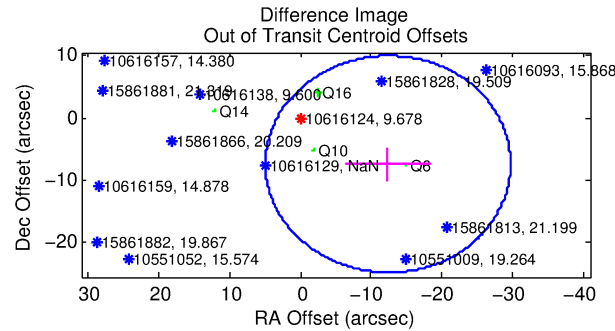
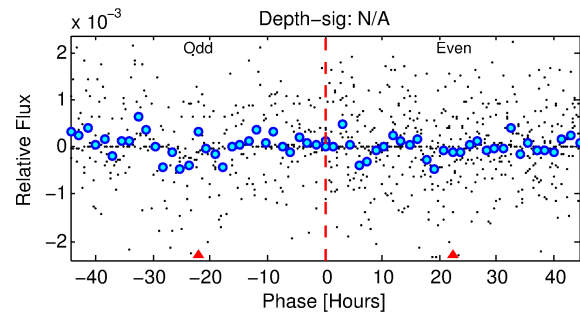
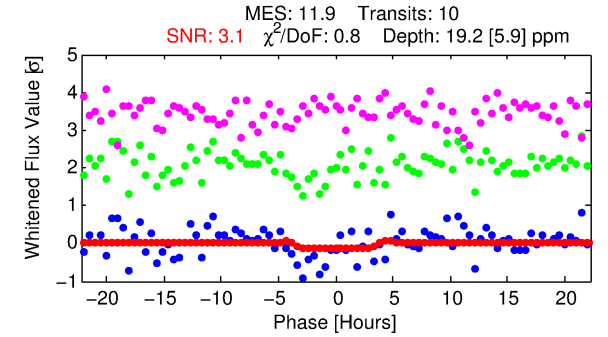
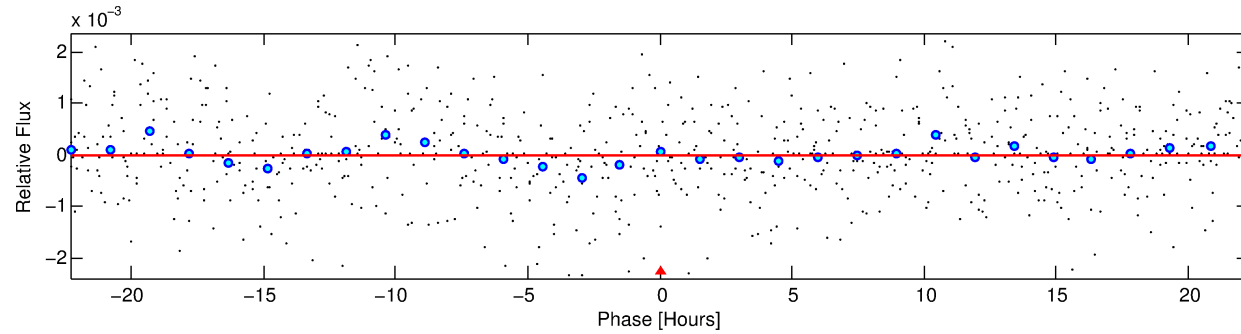
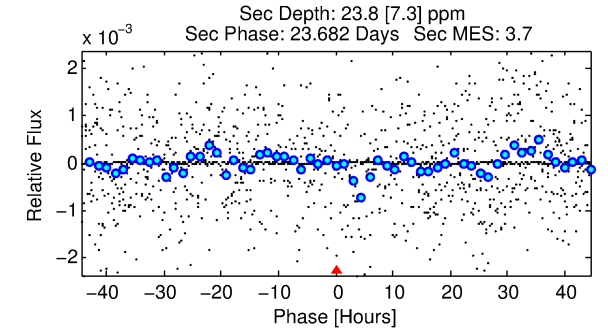
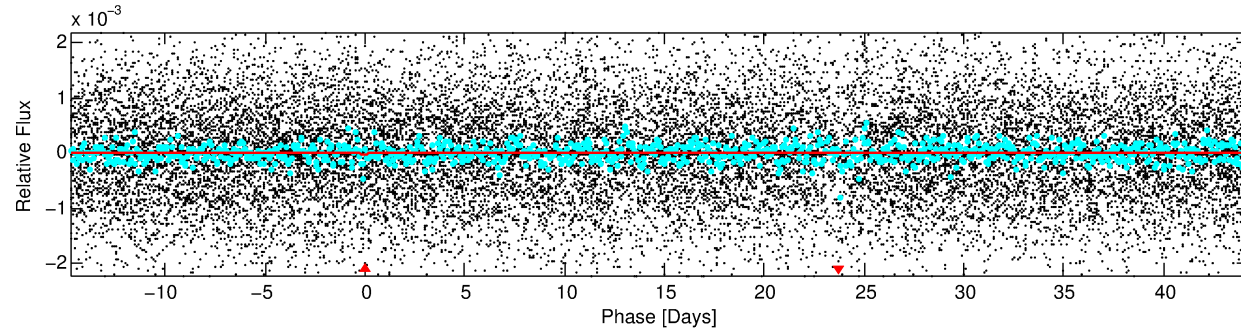
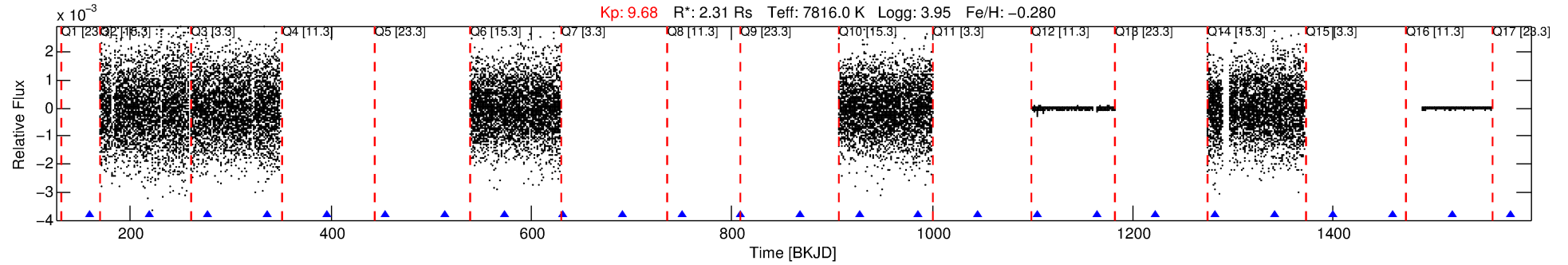
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010616124-01

No Significant Match Found

DV One-Page Summary

KIC: 10616124 Candidate: 1 of 1 Period: 59.081 d



DV Fit Results:

Period = 59.08051 [0.00736] d
Epoch = 159.3777 [0.1421] BKJD
Rp/R* = 0.0045 [0.0077]
a/R* = 35.12 [328.83]
b = 0.82 [3.83]
Seff = 141.03 [73.27]
Teq = 879 [114] K
Rp = 1.13 [1.98] Re
a = 0.3557 [0.1145] AU
Ag = 1297.26 [4519.07] [0.29σ]
Teff = 8154 [7038] K [1.03σ]

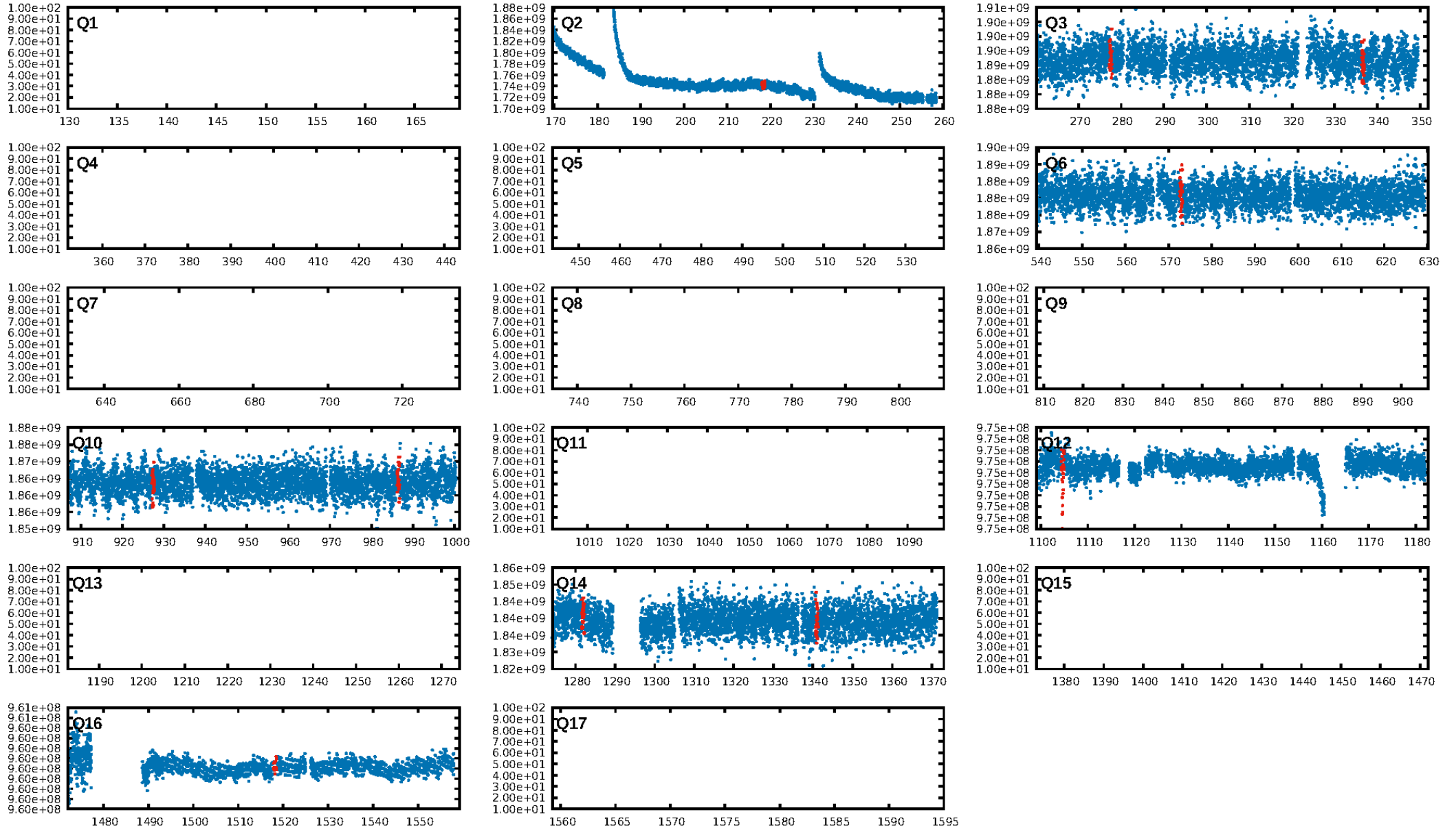
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 85.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.52e-28
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 142.736 arcsec [8.41σ]
OotOffset-rm: 14.447 arcsec [2.50σ]
KicOffset-rm: 9.041 arcsec [2.26σ]
OotOffset-st: 3/0/1/0 [4]
KicOffset-st: 3/0/1/0 [4]
DiffImageQuality-fgm: 0.00 [0/4]
DiffImageOverlap-fno: 1.00 [6/6]

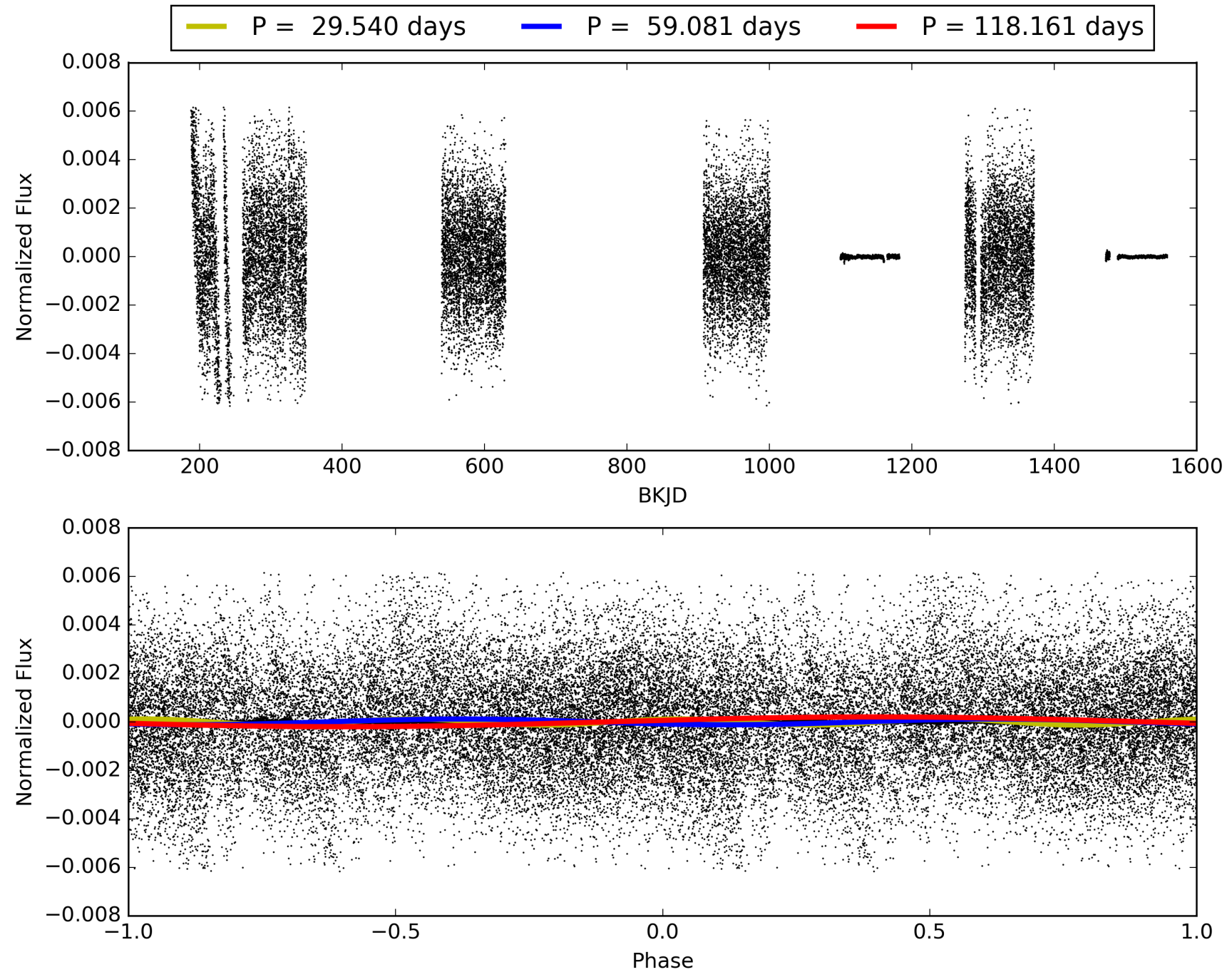
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:57:06 Z

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

TCE 010616124-01, PDC Light Curves

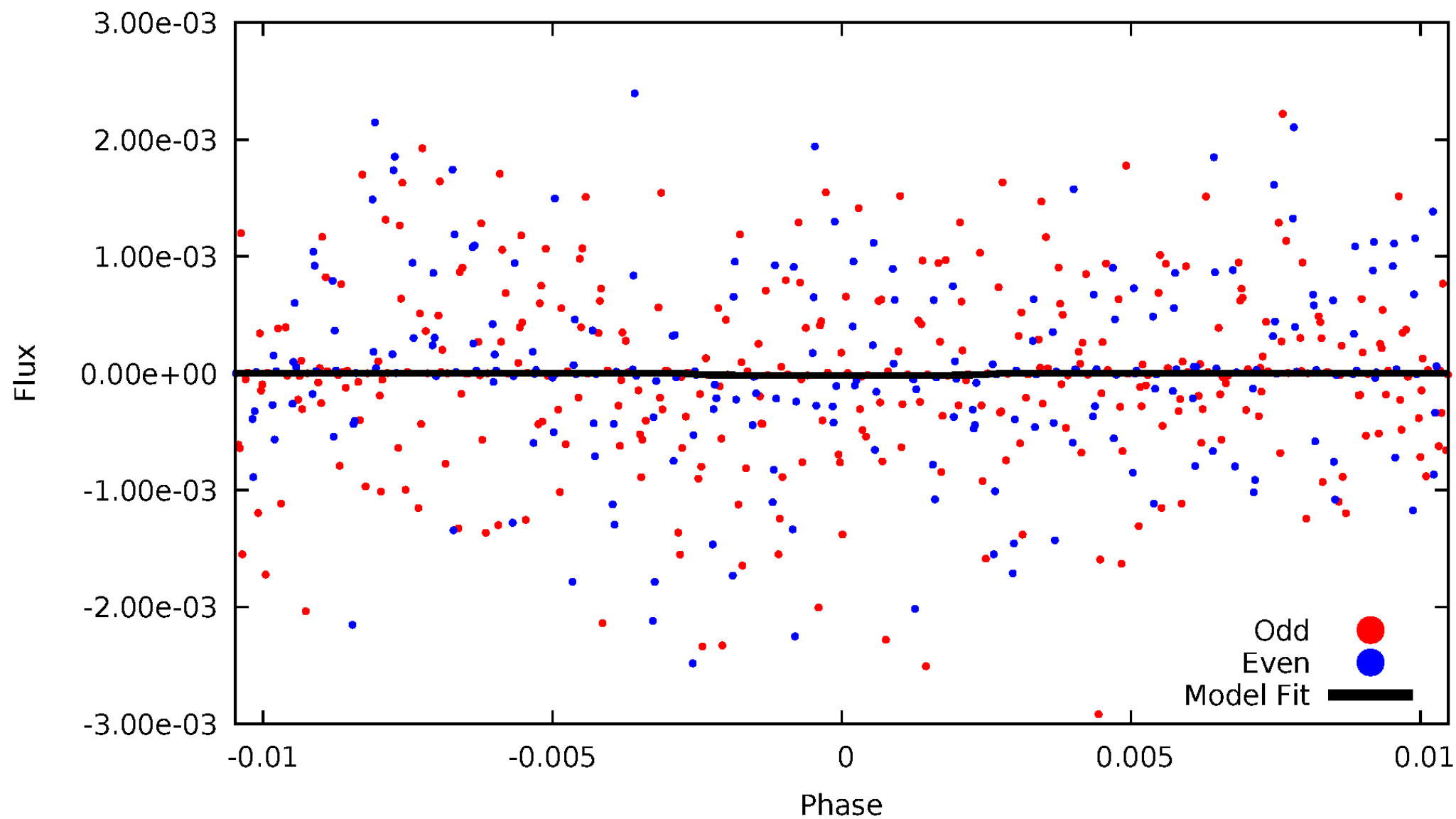


TCE 010616124-01



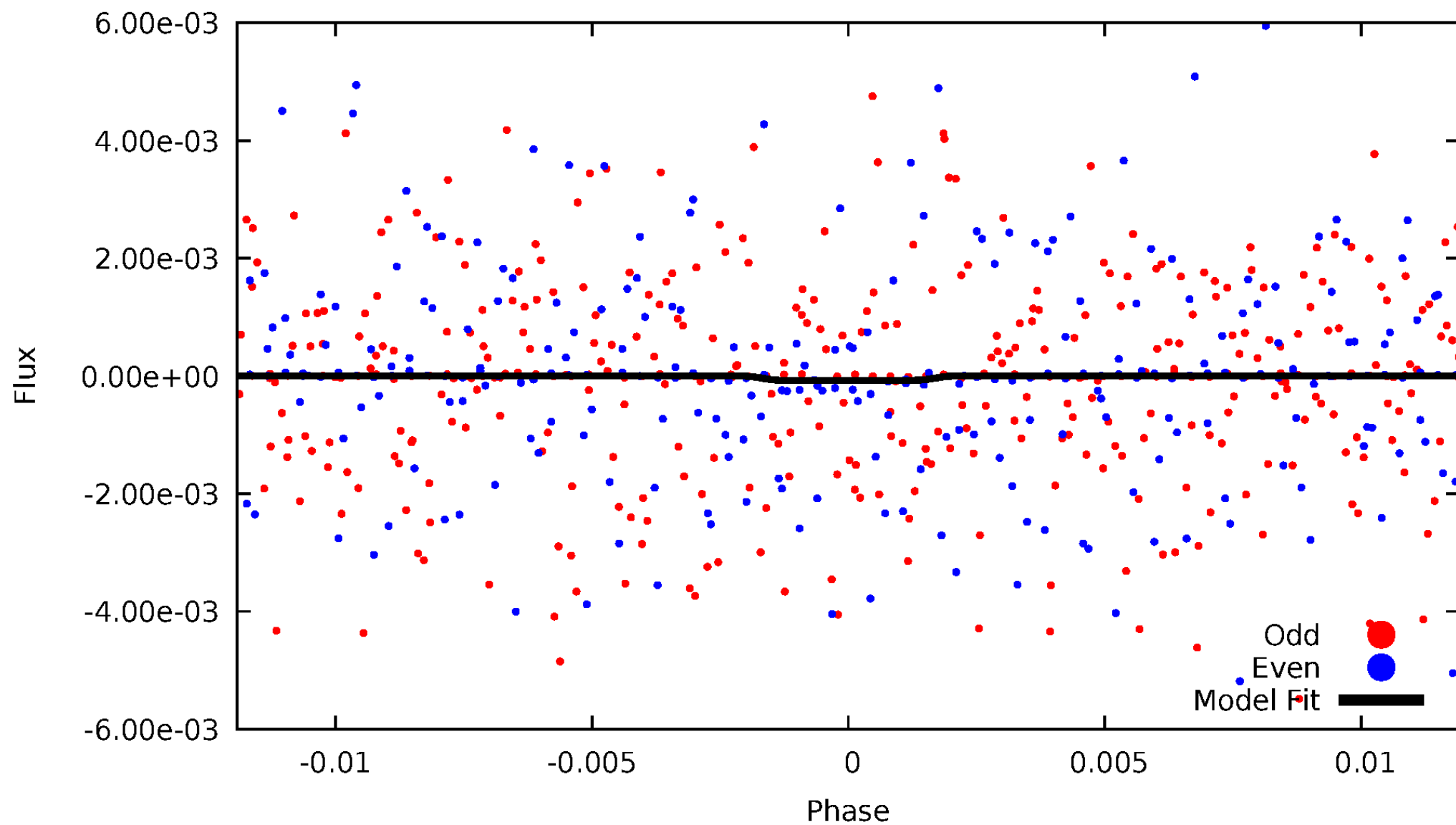
DV Odd/Even

TCE 010616124-01



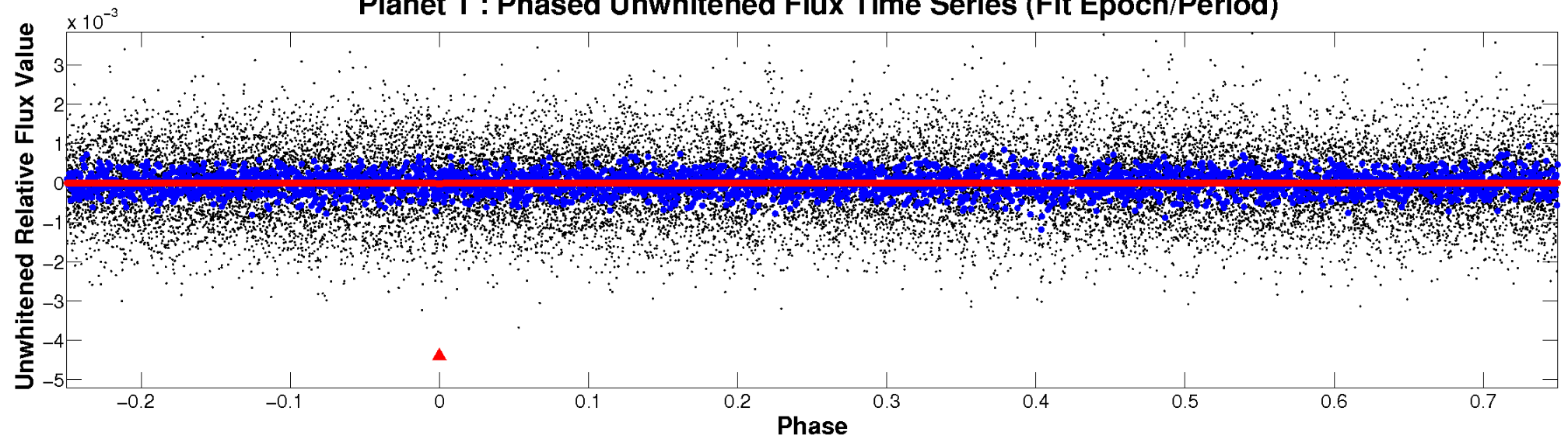
ALT Odd/Even

TCE 010616124-01

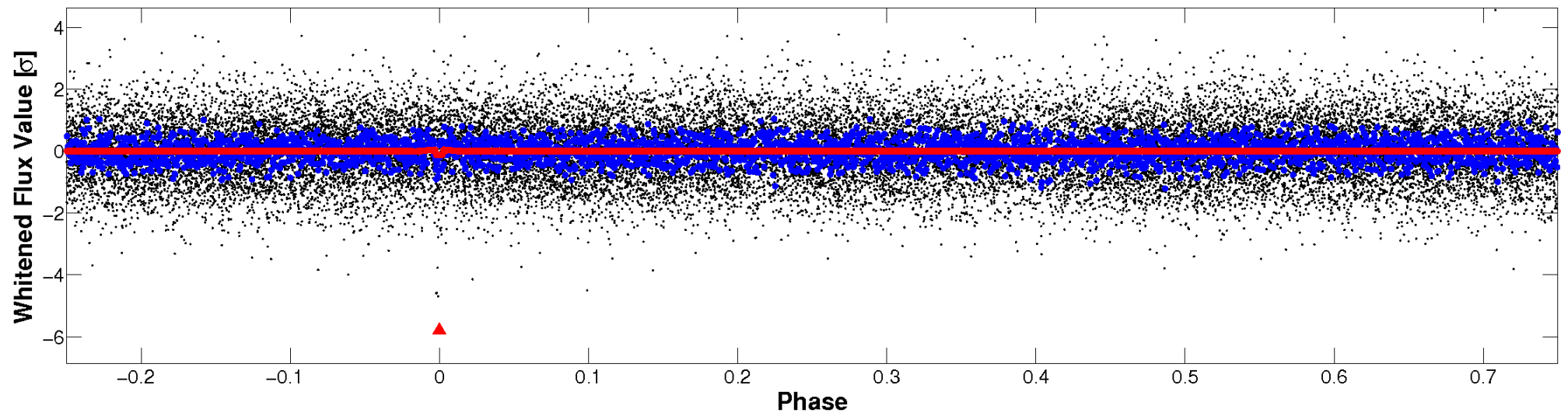


Non-Whitened Vs. Whitened Light Curve

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

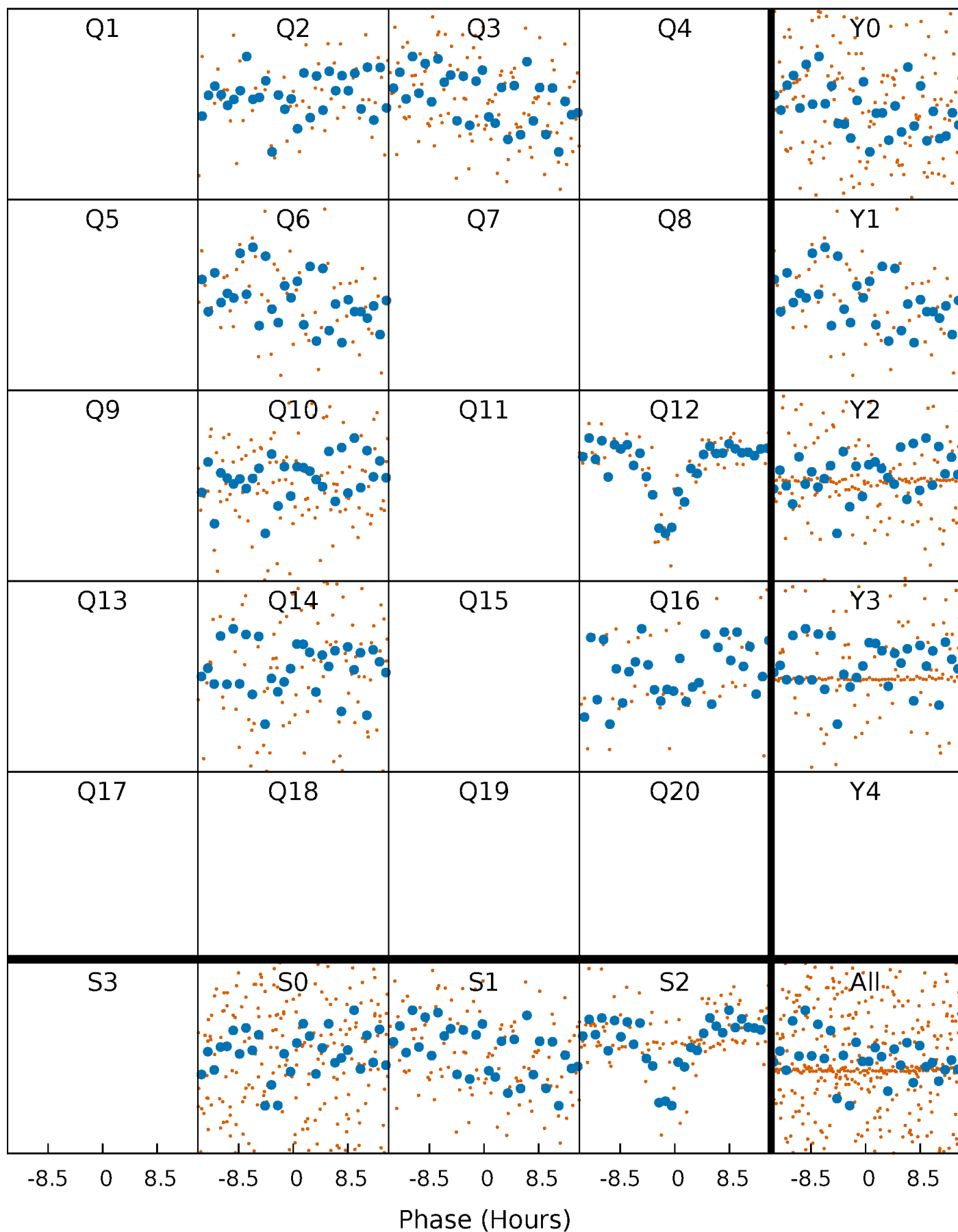


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



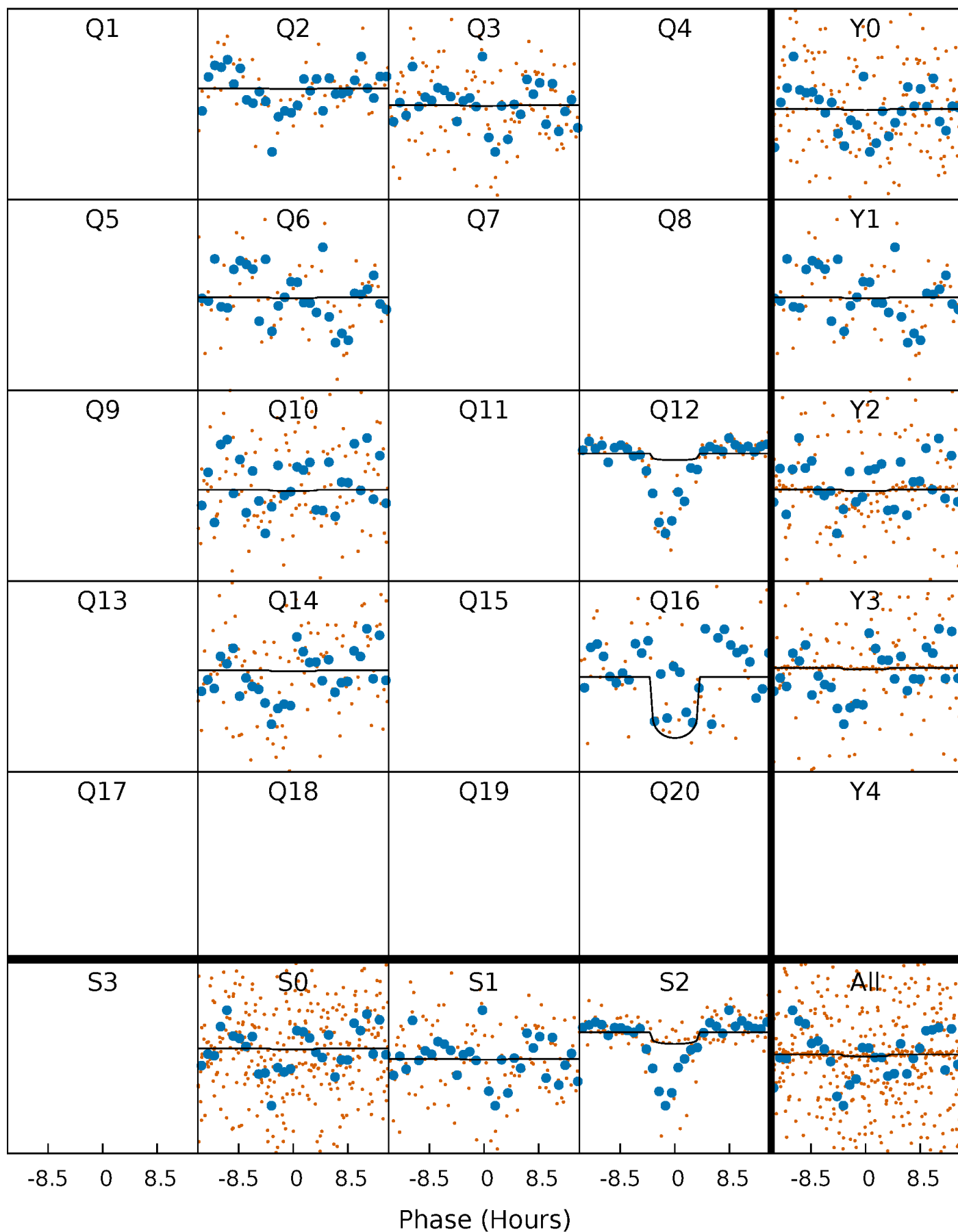
PDC Quarter-Phased Transit Curves

TCE 010616124-01 P= 59.080511 Days $T_0=159.377732$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 010616124-01 P= 59.080511 Days $T_0=159.377732$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

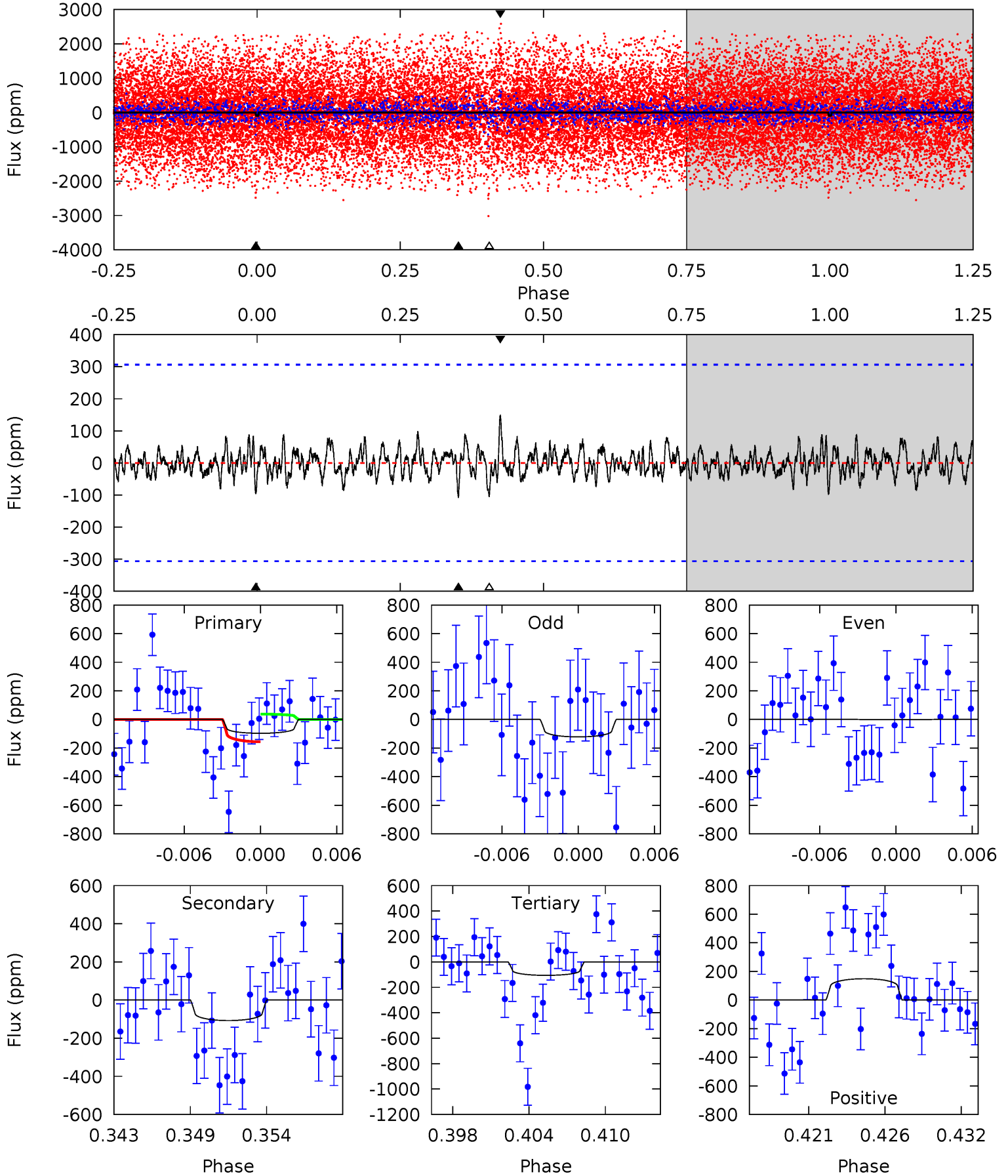
TCE 010616124-01 P= 59.064305 Days $T_0=159.585456$ (BKJD)



DV Model-Shift Uniqueness Test

010616124-01, P = 59.080511 Days, E = 159.377732 Days

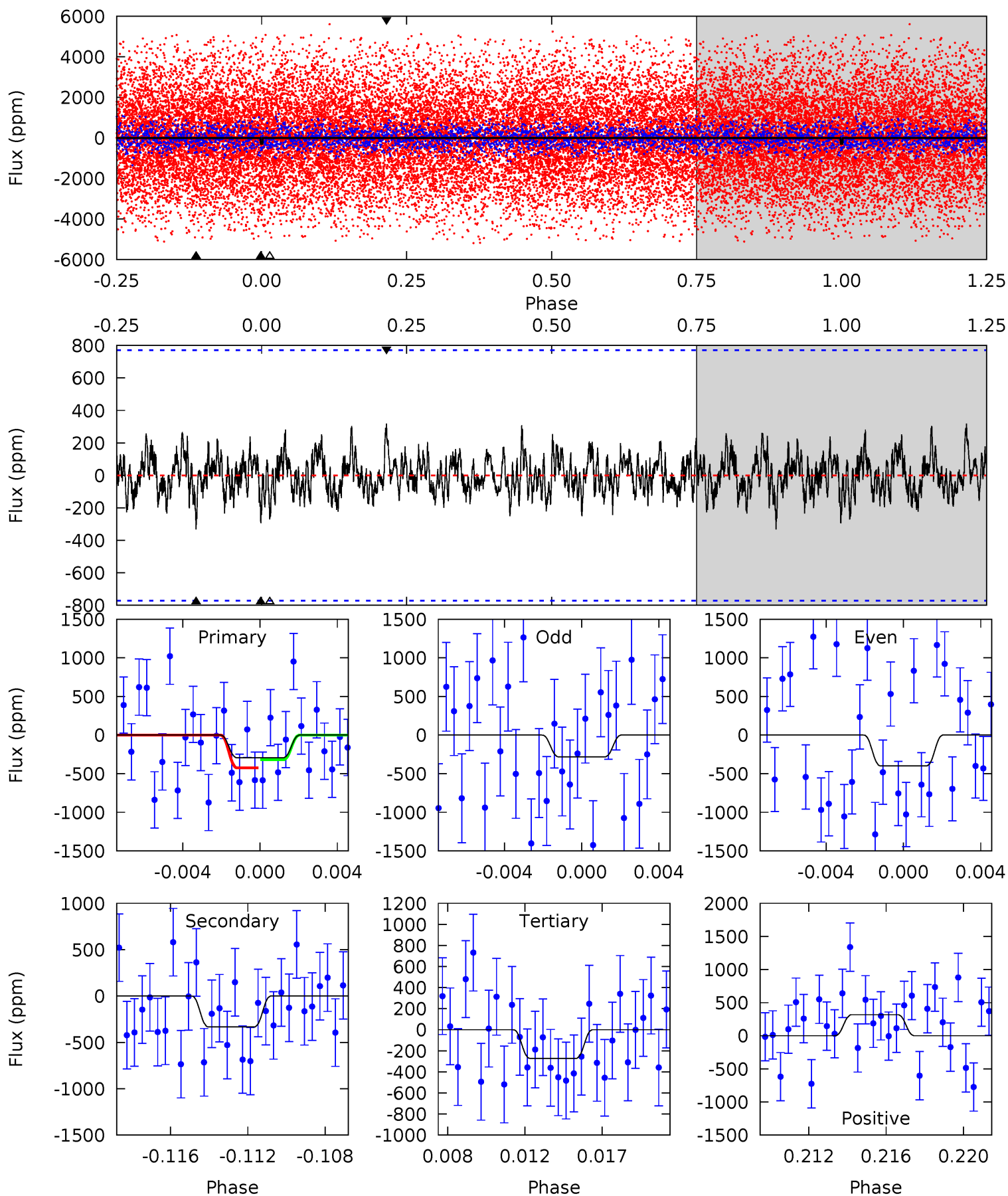
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.63	1.80	1.78	2.50	5.14	2.77	0.57	-0.15	-0.87	0.03	-0.70	0.98	2.04	0.58	1.01



Alt Model-Shift Uniqueness Test

010616124-01, $P = 59.064305$ Days, $E = 159.585456$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.98	2.24	1.83	2.14	5.19	2.87	0.66	0.15	-0.16	0.41	0.10	0.38	0.72	0.49	0.35



Stellar Parameters For KIC 010616124

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7816^{+216}_{-325}	$3.946^{+0.280}_{-0.120}$	$-0.280^{+0.200}_{-0.350}$	$2.310^{+0.447}_{-0.831}$	$1.720^{+0.165}_{-0.357}$	$0.196^{+0.379}_{-0.071}$
	+3%/-4%	+7%/-3%	+71%/-125%	+19%/-36%	+10%/-21%	+193%/-36%
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 010616124-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-108 ± 60	$1.65^{+1.65}_{-1.12}$	1205^{+80}_{-108}	9543^{+18138}_{-3603}	2294^{+19462}_{-1856}
Alt.	-333 ± 149	$2.31^{+1.84}_{-1.32}$	1204^{+91}_{-105}	11841^{+16722}_{-4209}	3931^{+20552}_{-2860}

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

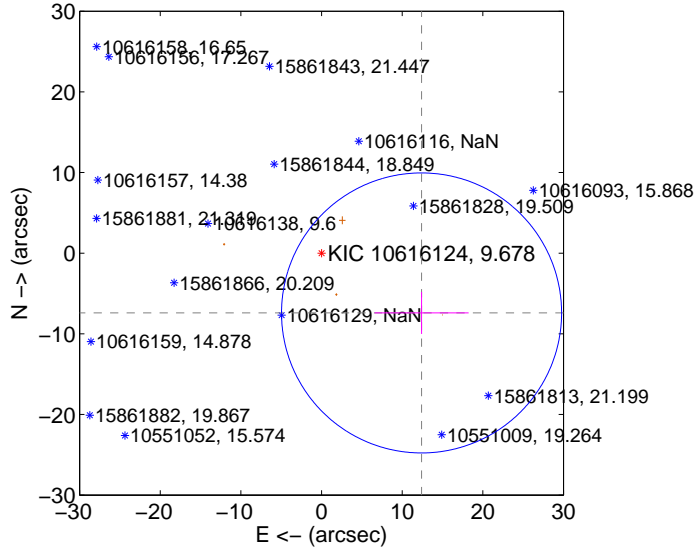
Supplemental centroid analysis for 010616124-01. **Kepler magnitude: 9.68.** Transit SNR 3.15

There are 0 quarters with good PRF difference image offsets

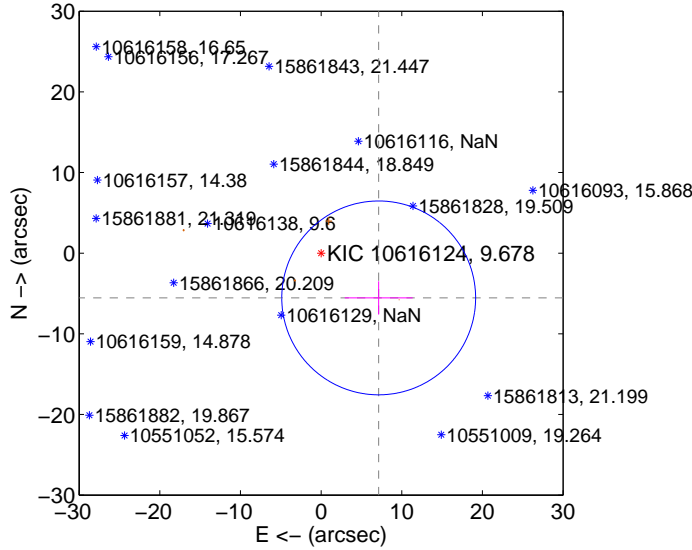
The direct PRF centroid is offset from the target star catalog position by about 1.63 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	14.447 ± 5.787	2.50	-12.401 ± 5.835	-7.411 ± 2.603
PRF-fit source offset from KIC position	9.041 ± 4.006	2.26	-7.139 ± 4.208	-5.548 ± 2.063
photometric centroid source offset	—	—	—	—

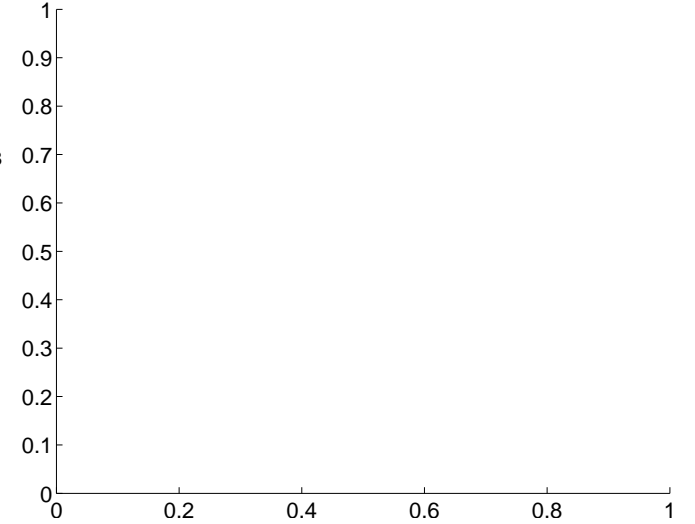
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

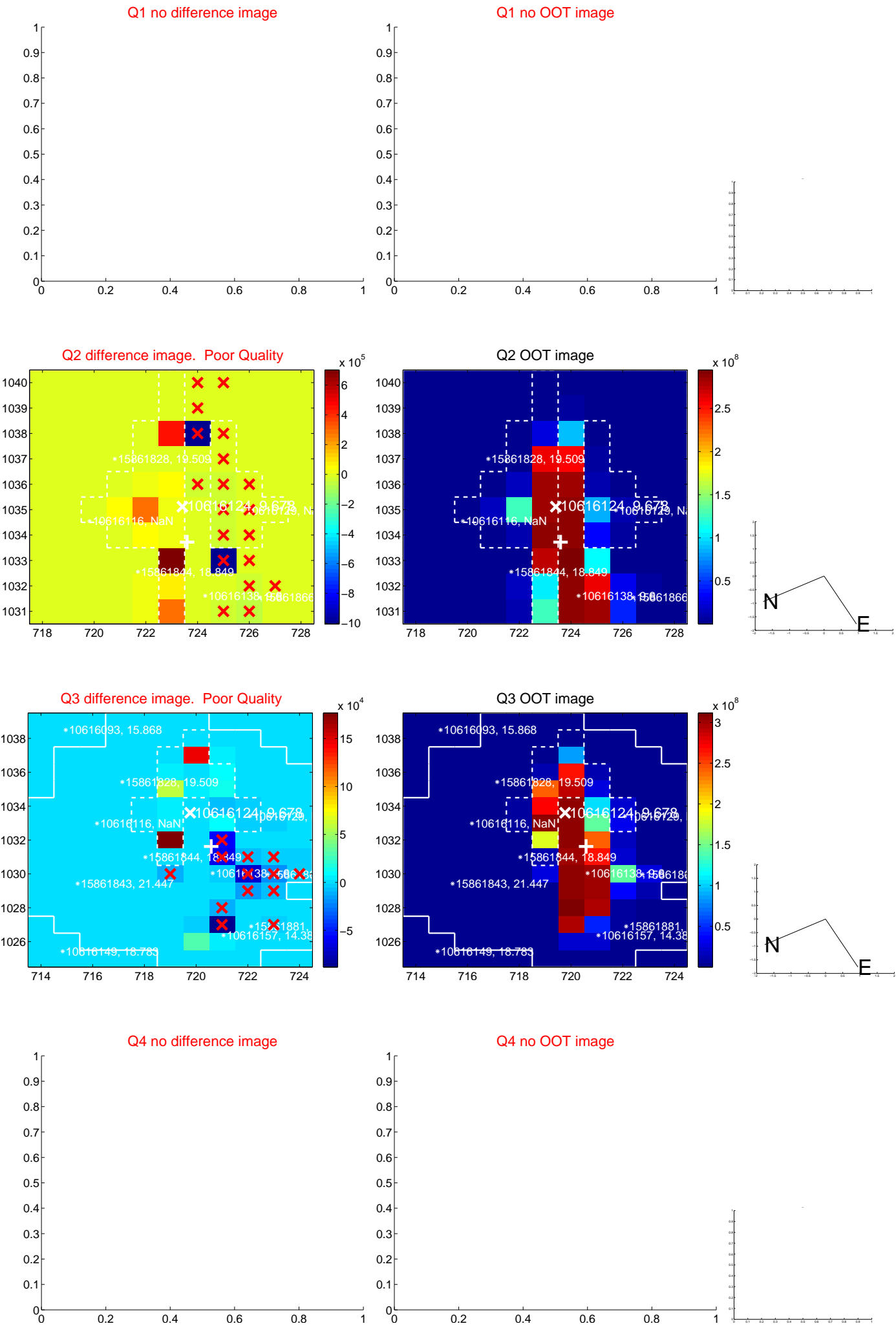


There are no photometric centroids

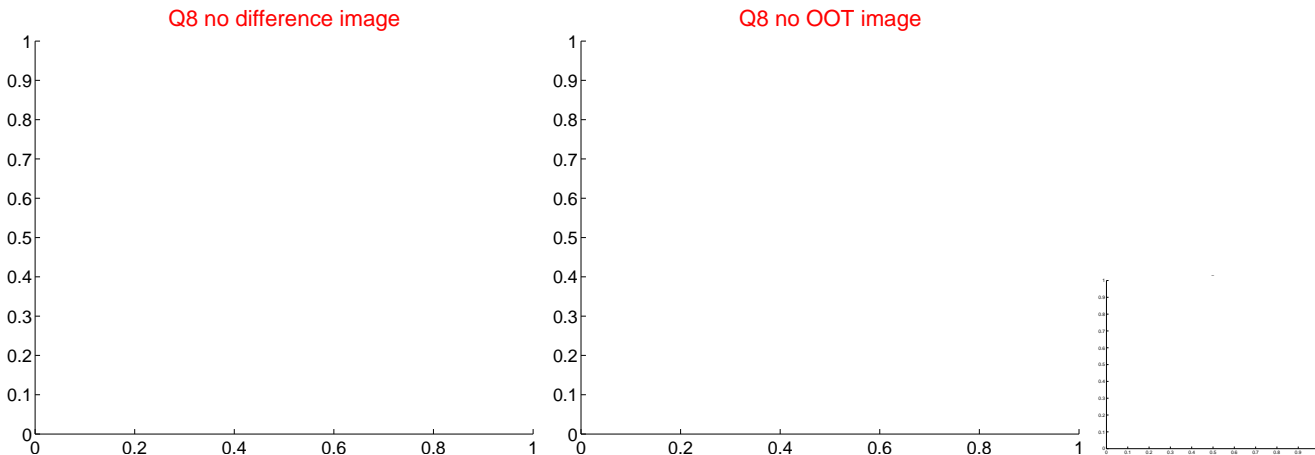
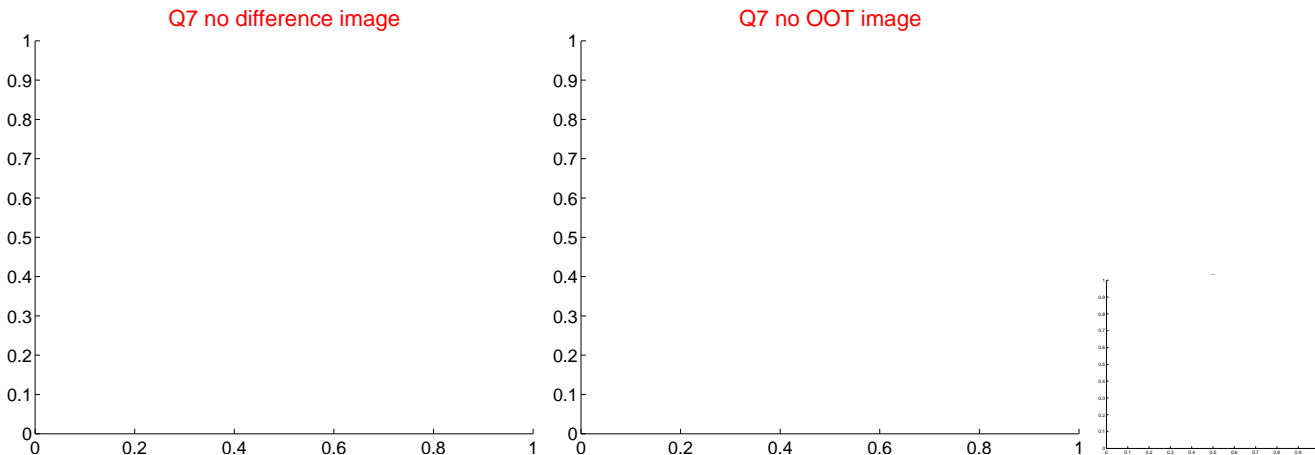
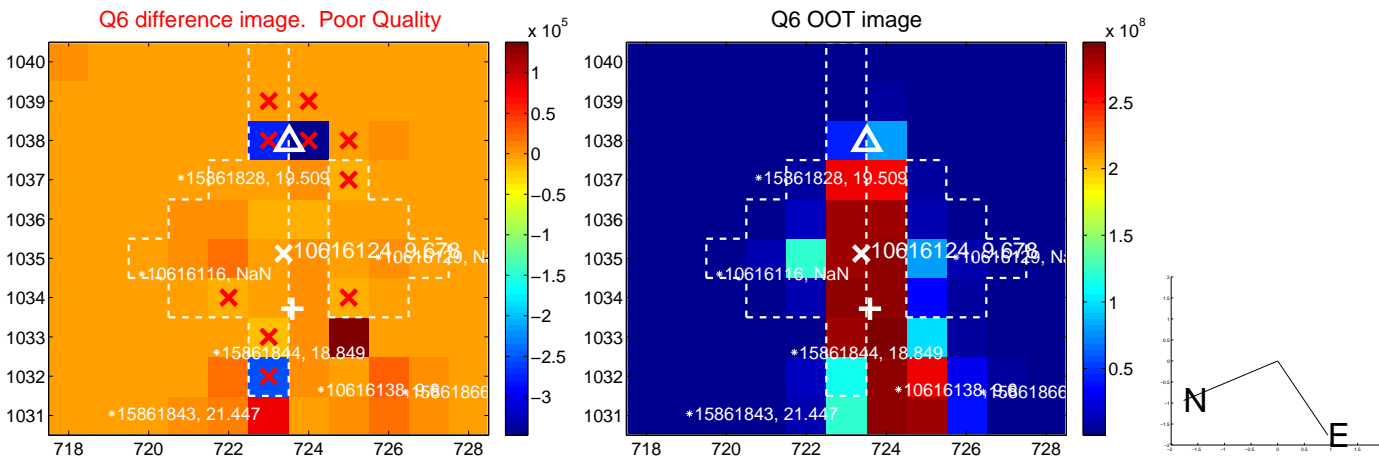
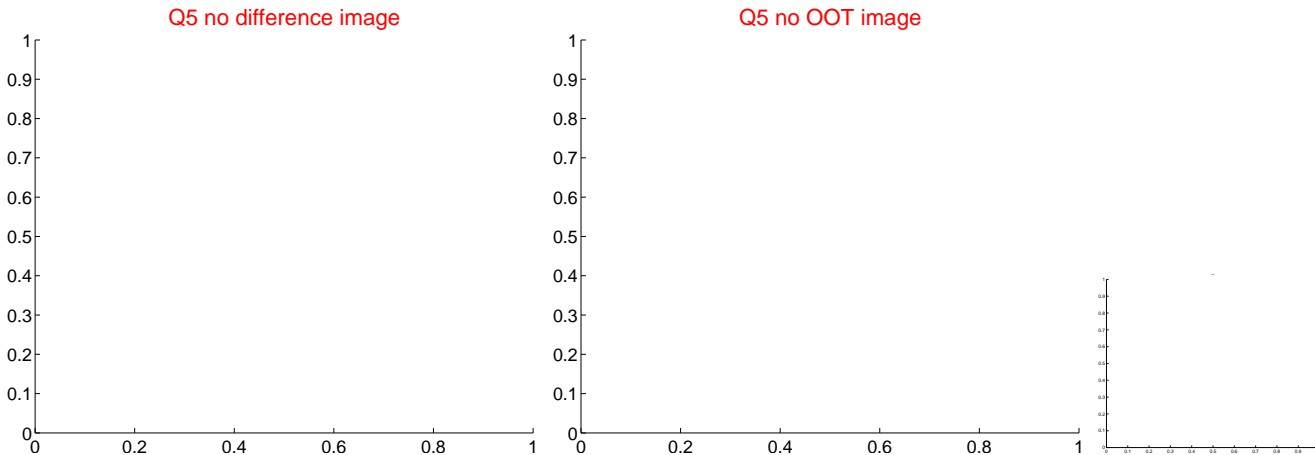


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

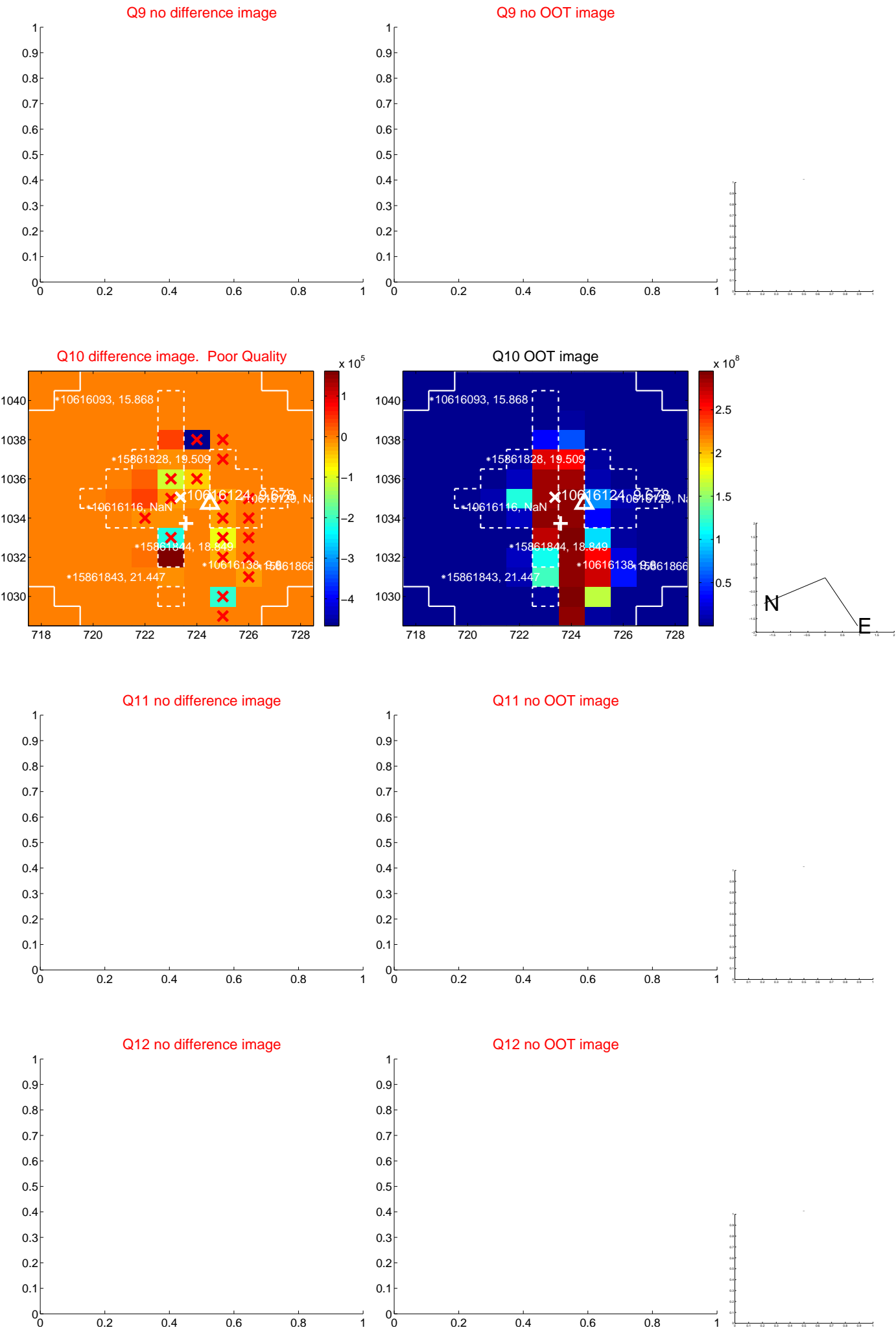
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



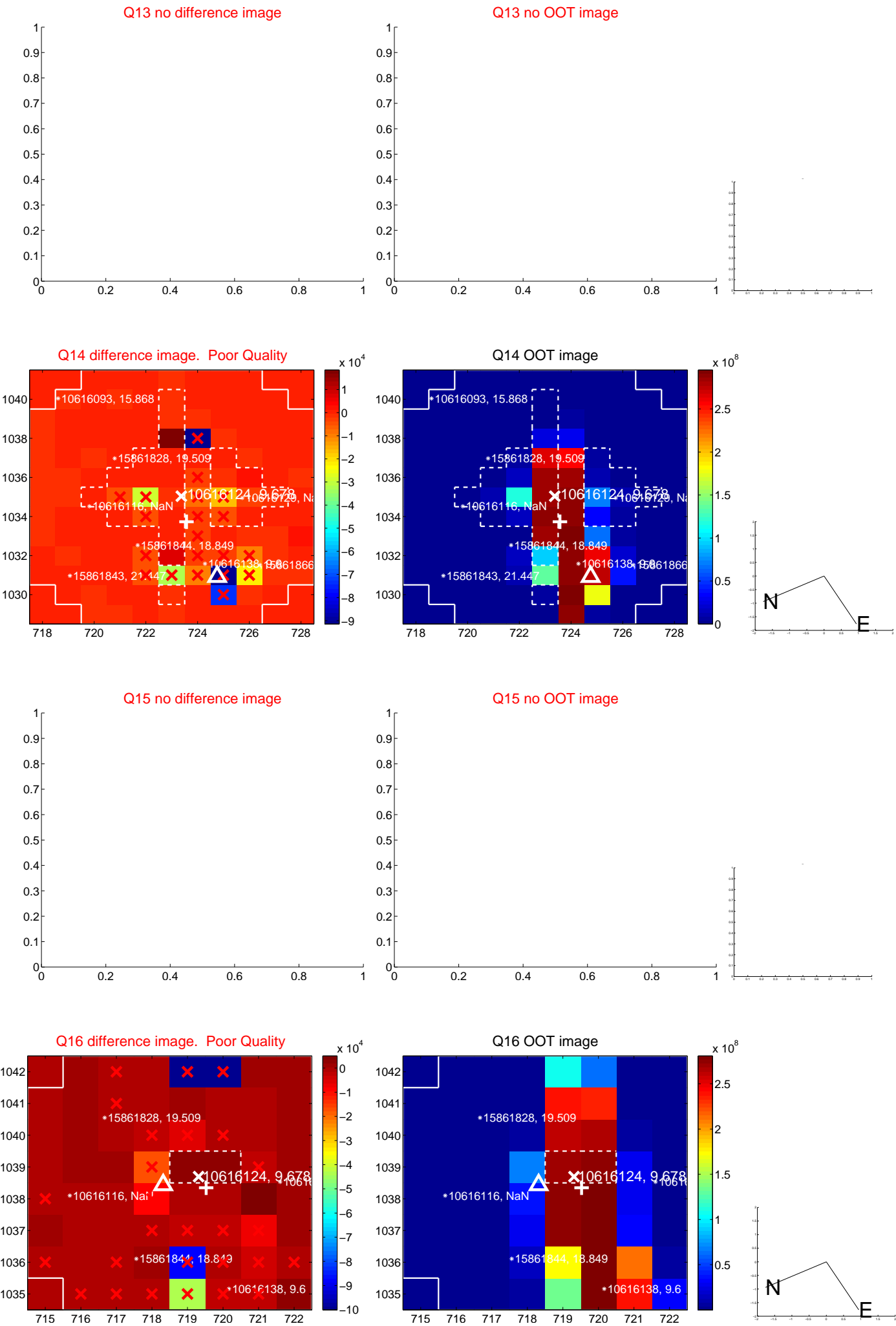
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



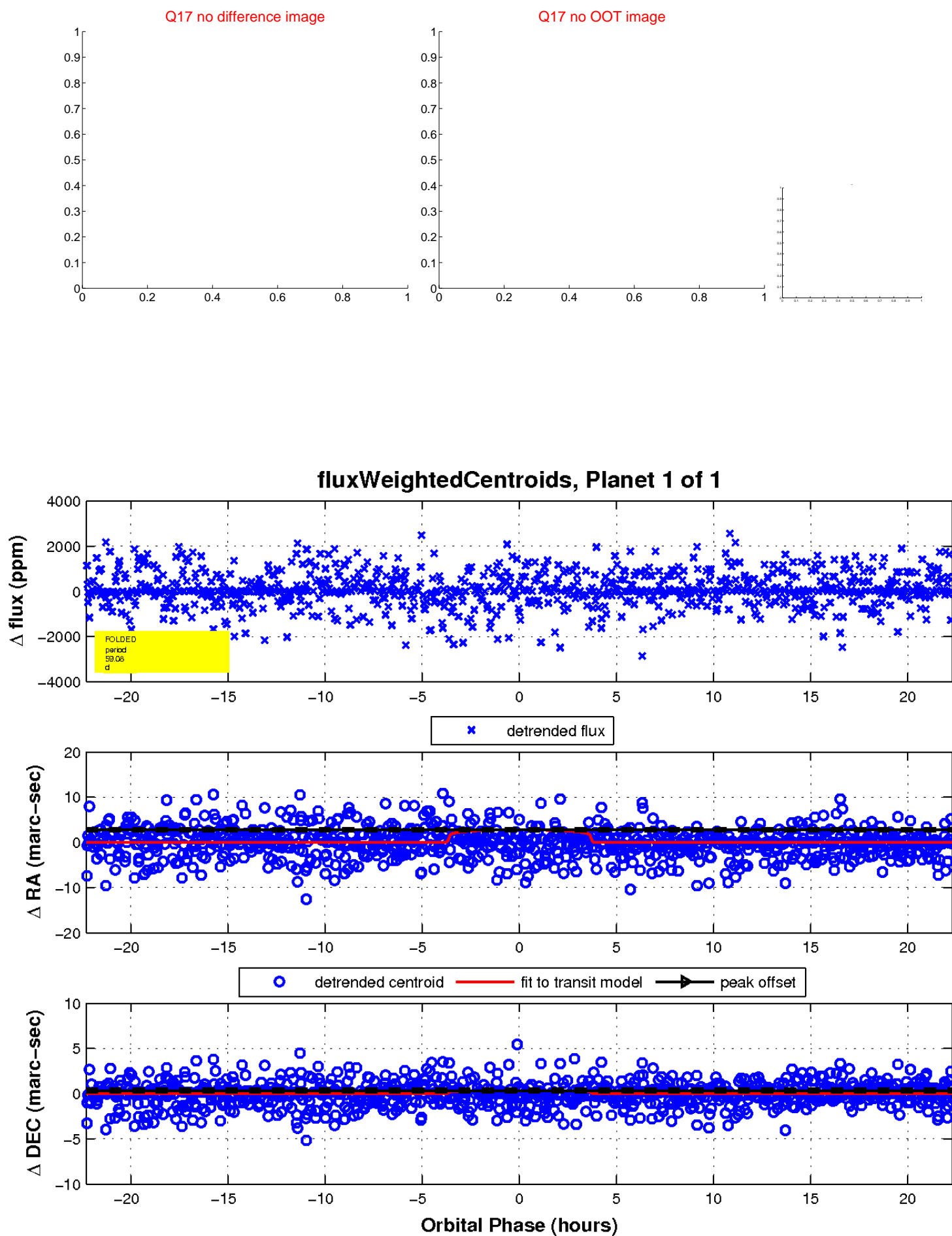
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

