

KIC 010813172

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})
010813172-01	OBS	No	2.935373	133.908042	12.6	22.059	8.4	6.1	1.56	7166	0.57	2792.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010813172-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_UNRESOLVED_OFFSET

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

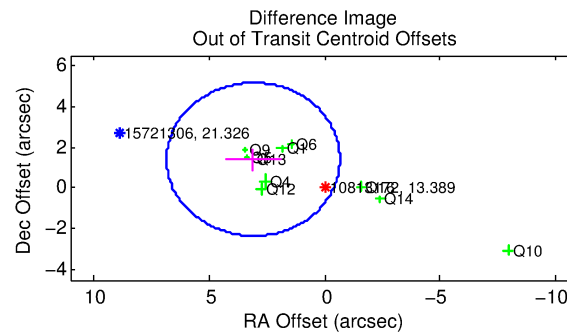
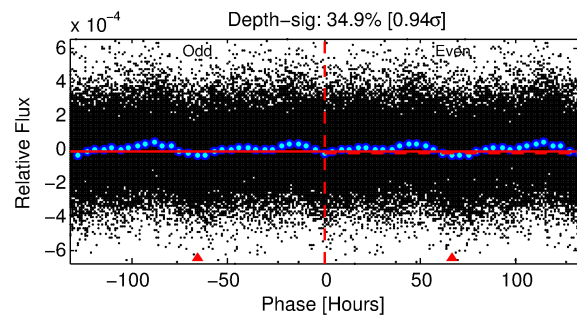
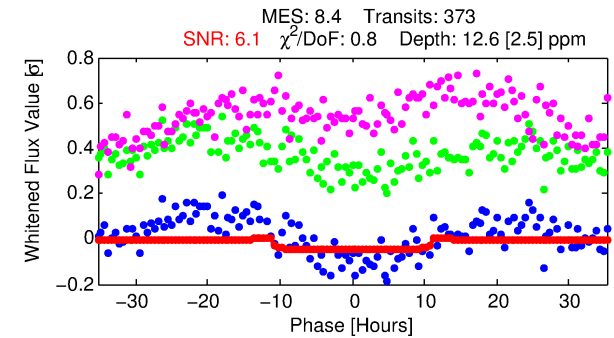
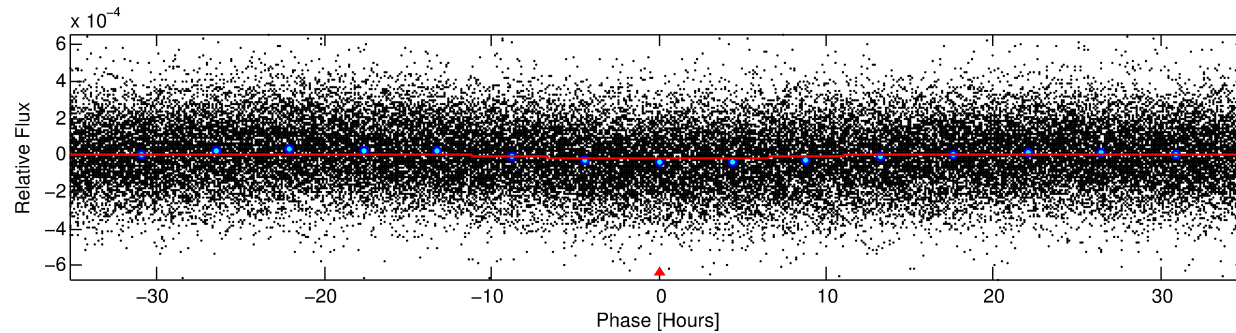
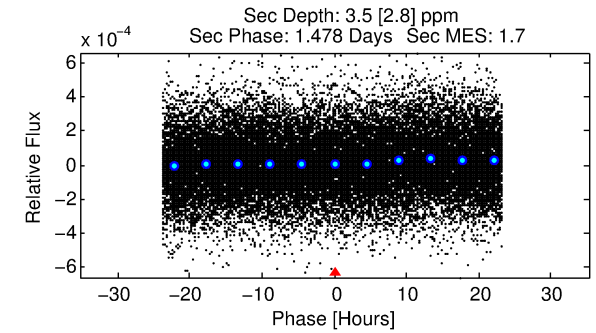
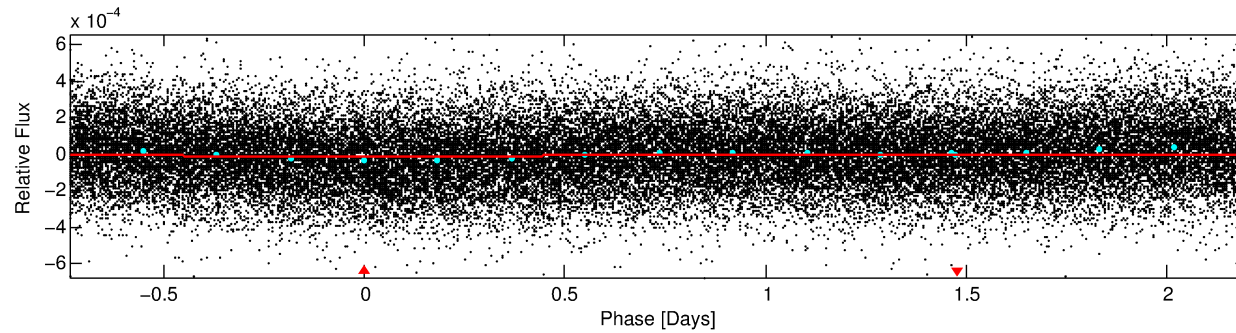
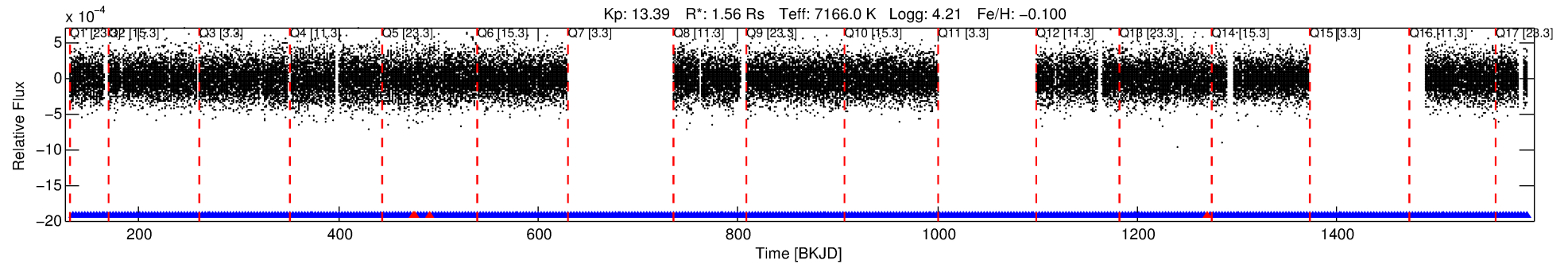
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010813172-01

No Significant Match Found

DV One-Page Summary

KIC: 10813172 Candidate: 1 of 1 Period: 2.935 d



DV Fit Results:

Period = 2.93537 [0.00011] d
Epoch = 133.9080 [0.0218] BKJD
Rp/R* = 0.0033 [0.0049]
a/R* = 1.18 [2.91]
b = 0.38 [20.21]
Seff = 2792.39 [1144.48]
Teq = 1854 [190] K
Rp = 0.57 [0.86] Re
a = 0.0453 [0.0122] AU
Ag = 12.28 [37.83] [0.30σ]
Teffp = 5365 [4108] K [0.85σ]

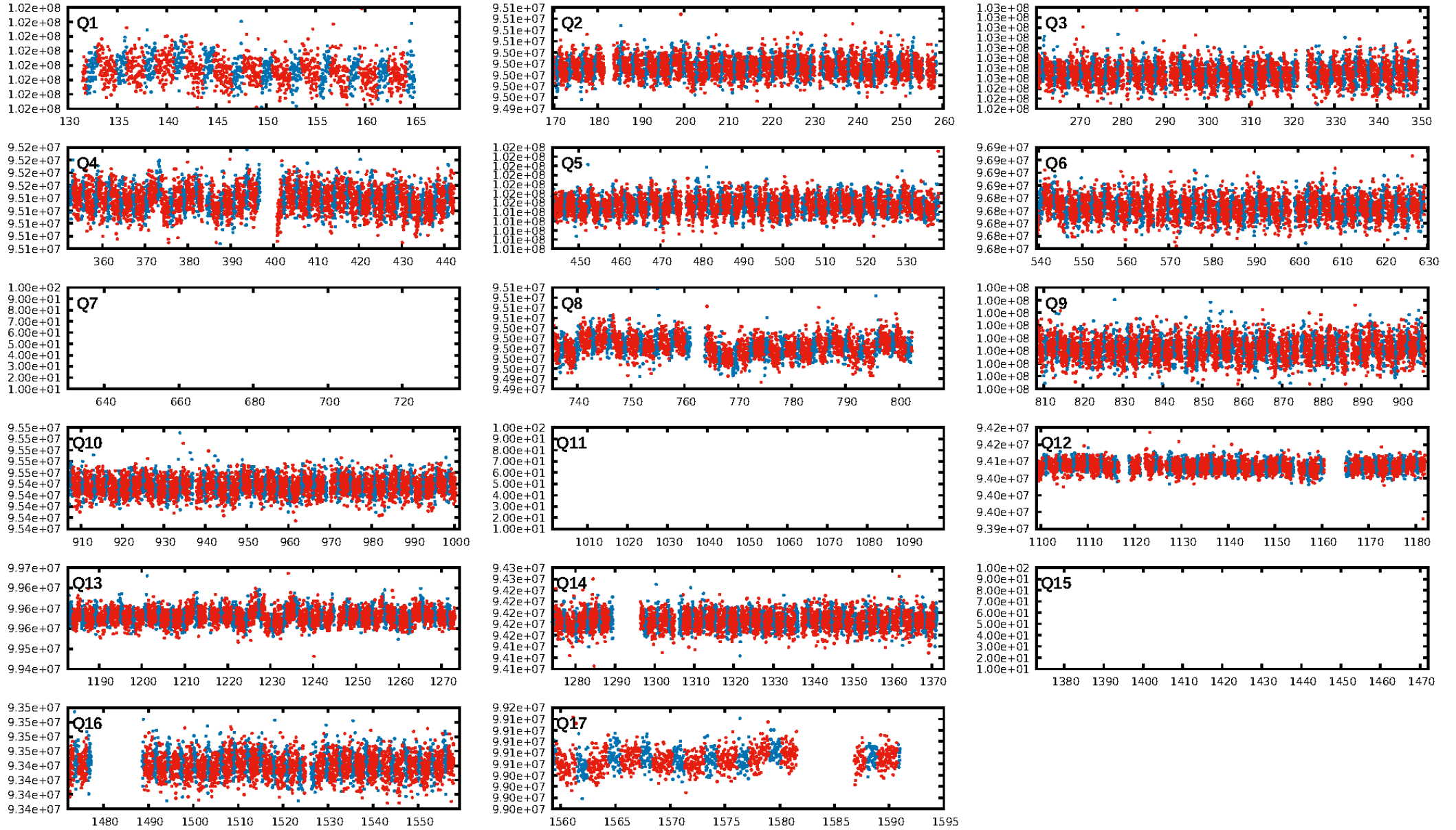
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [348/352]
GhostDiagnostic-chr: 2.517
Centroid-sig: 15.7%
Centroid-so: 2.584 arcsec [1.41σ]
OotOffset-rm: 3.391 arcsec [2.71σ]
KicOffset-rm: 3.401 arcsec [3.04σ]
OotOffset-st: 3/0/3/4 [10]
KicOffset-st: 3/0/3/4 [10]
DiffImageQuality-fgm: 0.50 [5/10]
DiffImageOverlap-fno: 1.00 [14/14]

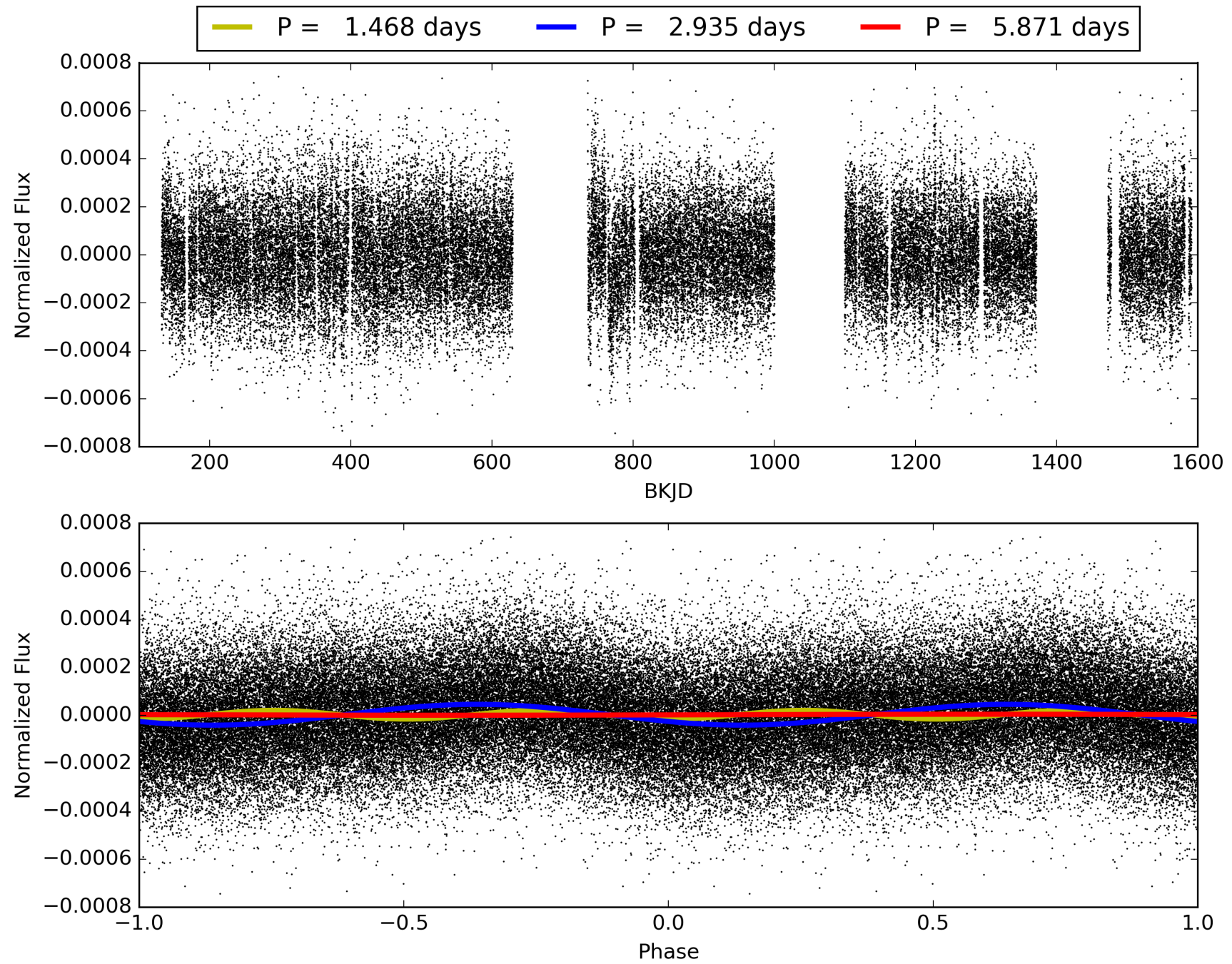
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:53:18 Z

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

TCE 010813172-01, PDC Light Curves

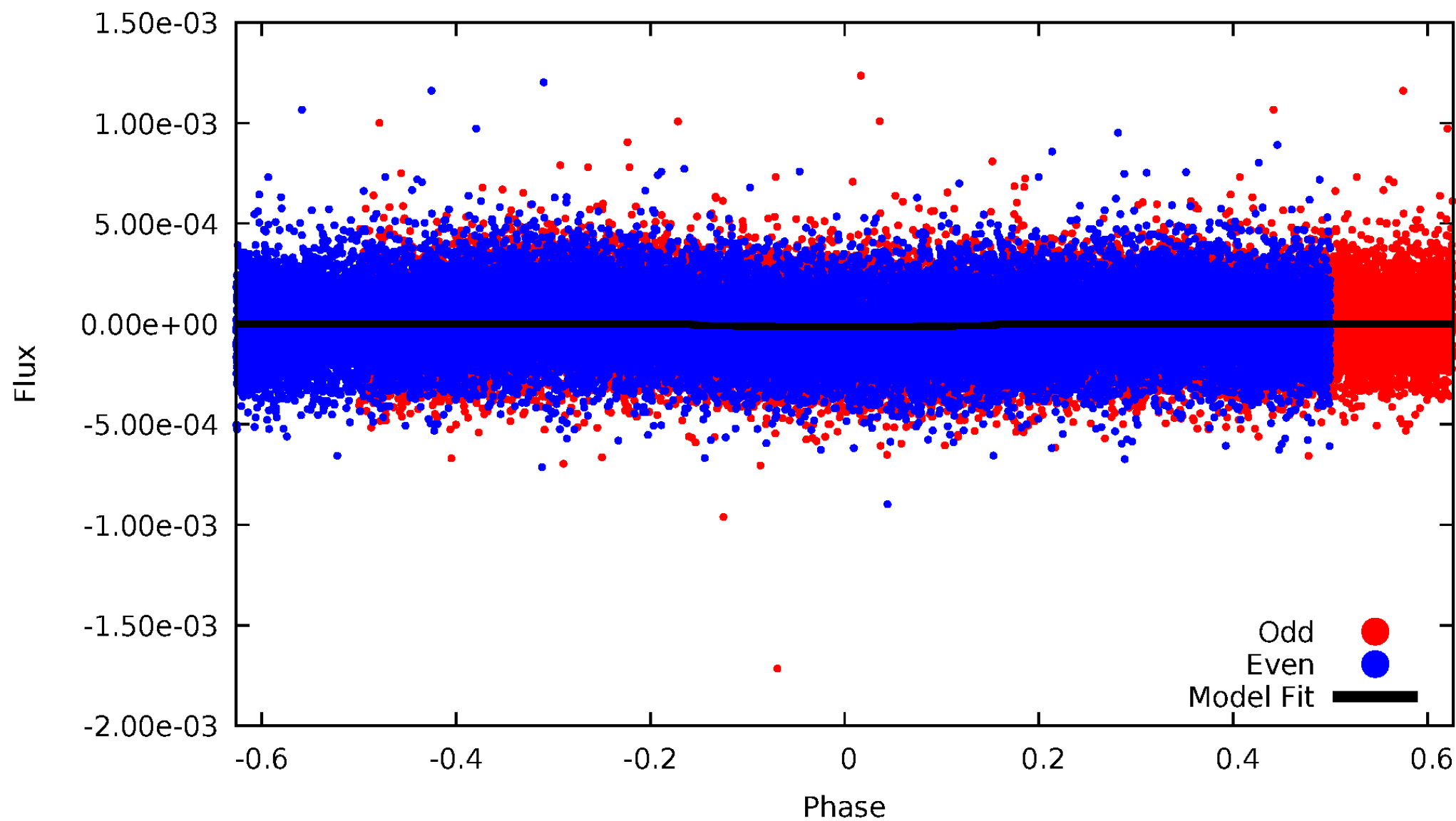


TCE 010813172-01



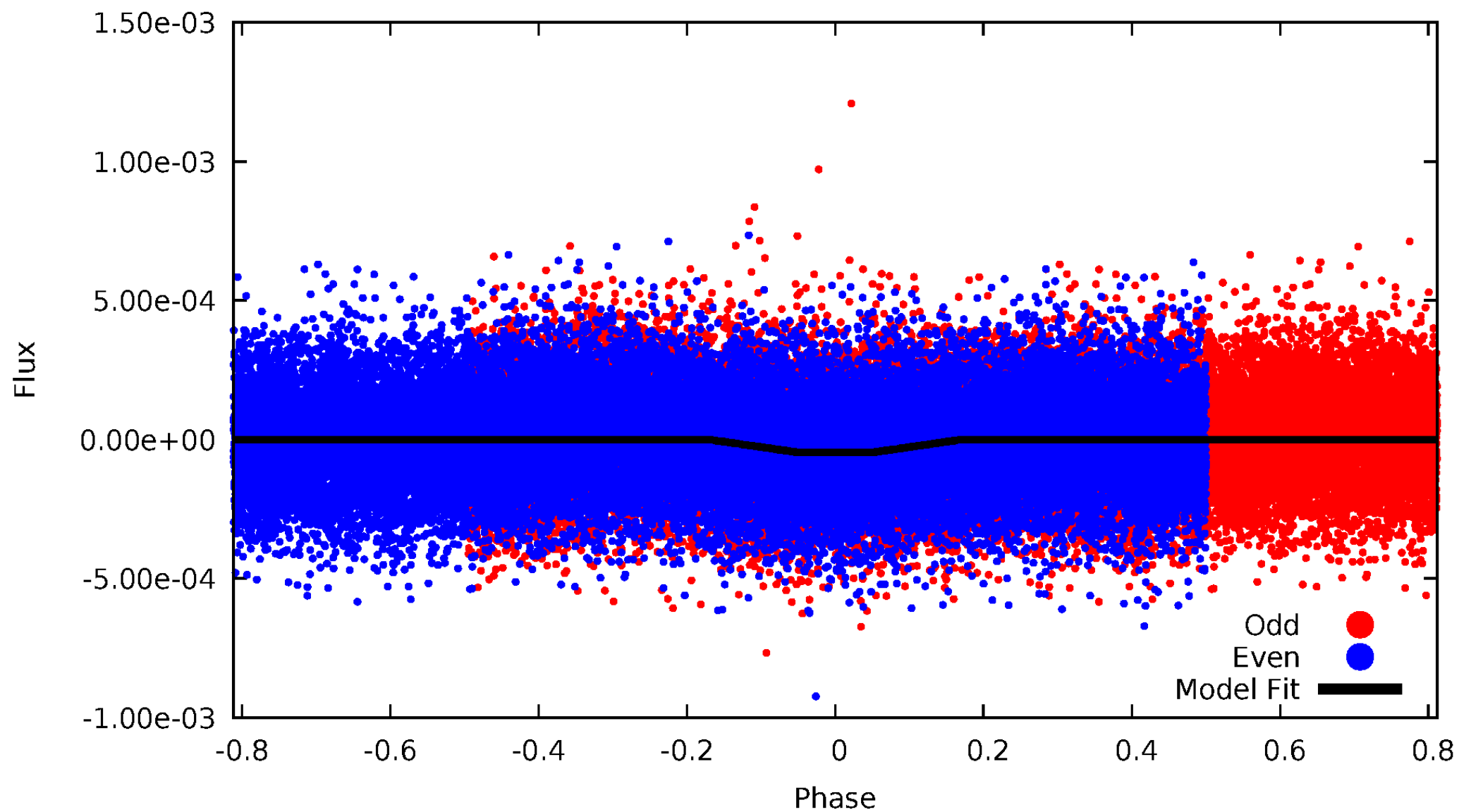
DV Odd/Even

TCE 010813172-01



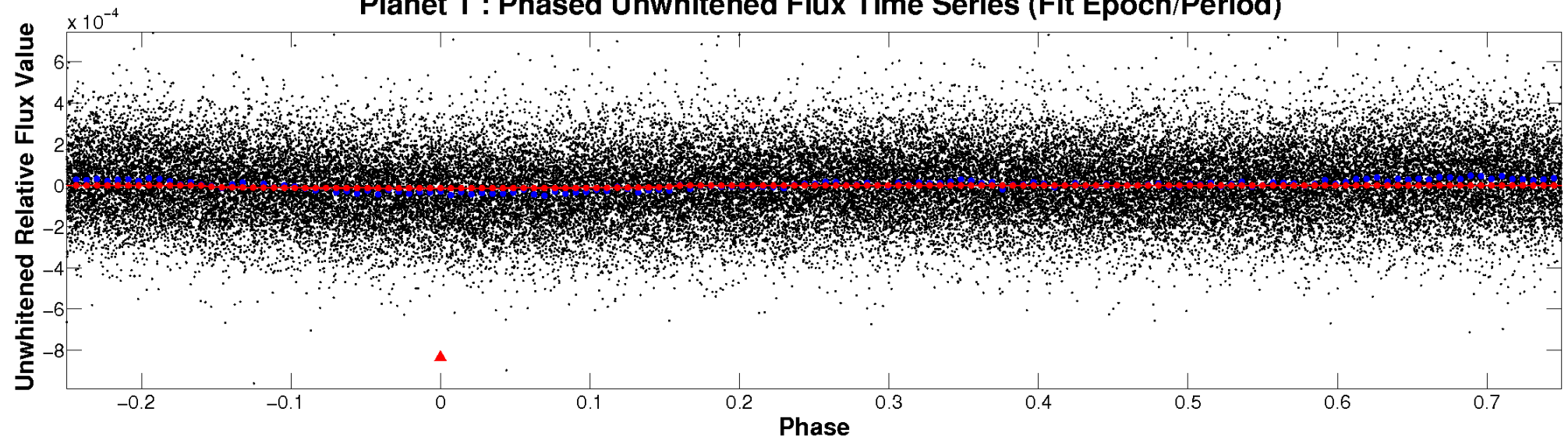
ALT Odd/Even

TCE 010813172-01

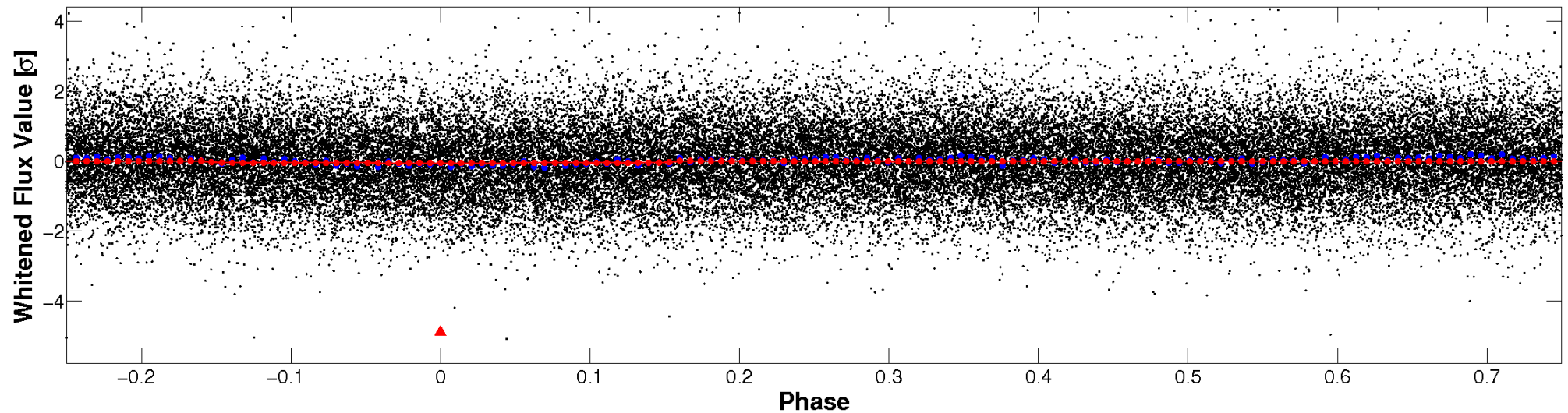


Non-Whitened Vs. Whitened Light Curve

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

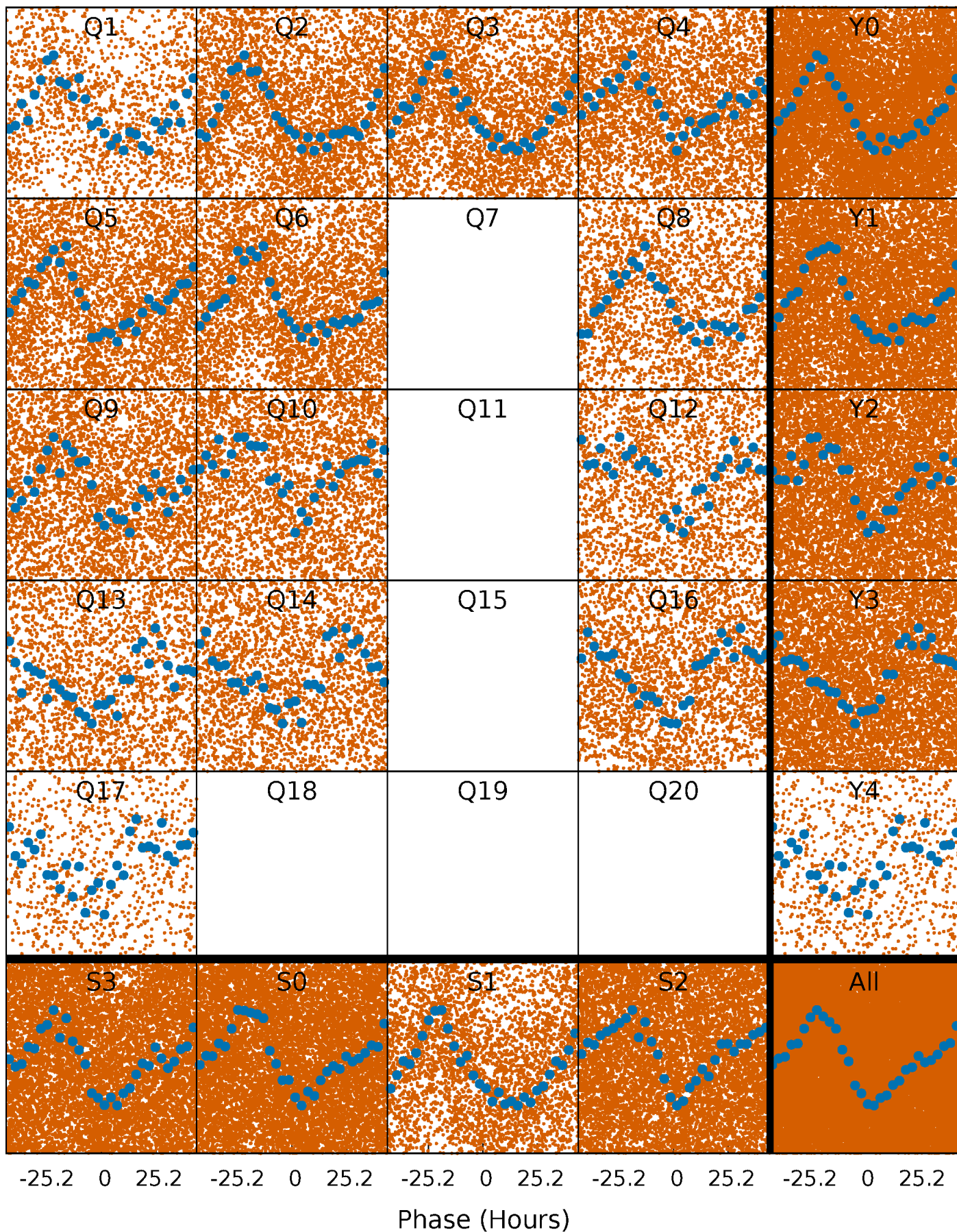


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



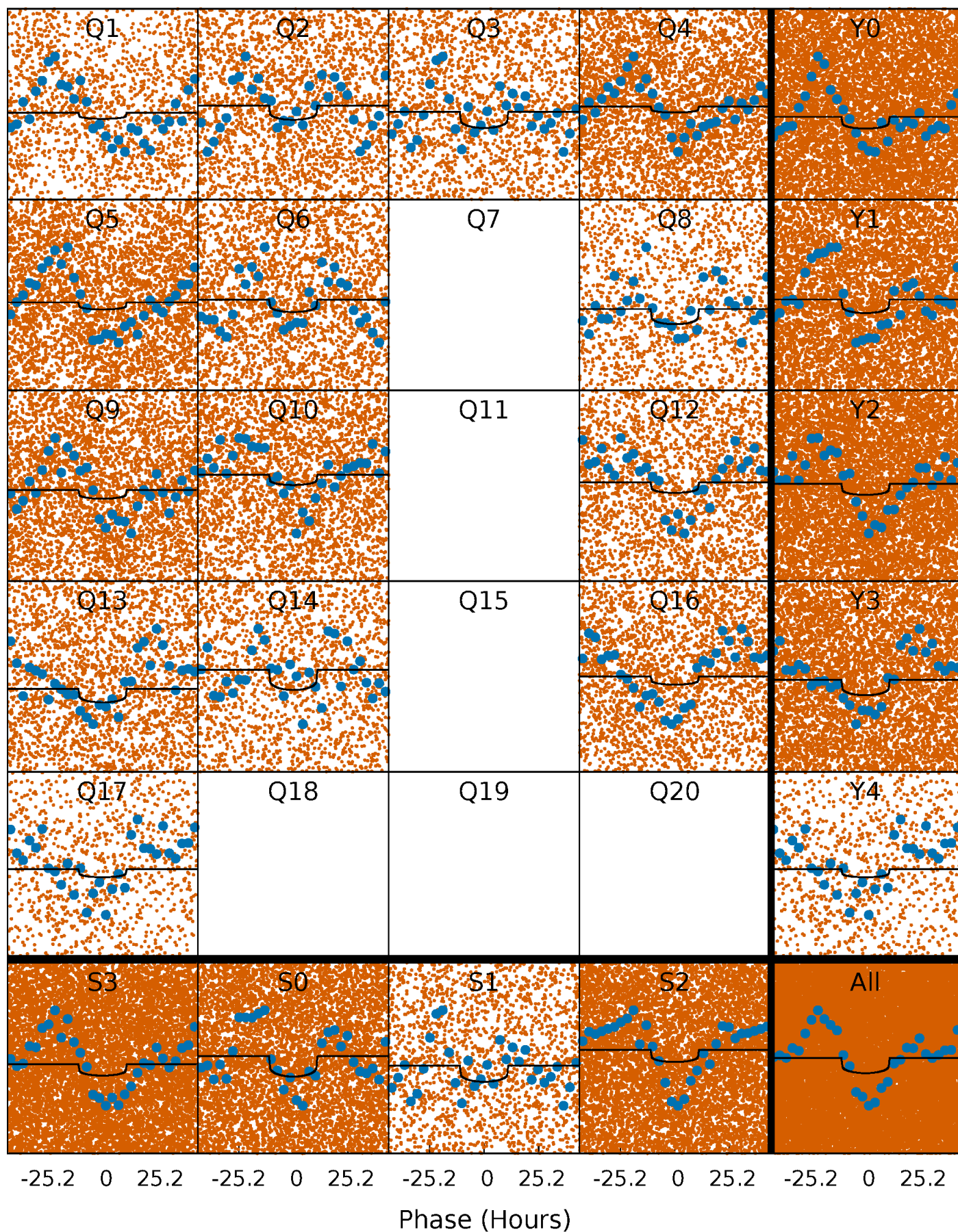
PDC Quarter-Phased Transit Curves

TCE 010813172-01 P= 2.935373 Days $T_0=133.908042$ (BKJD)



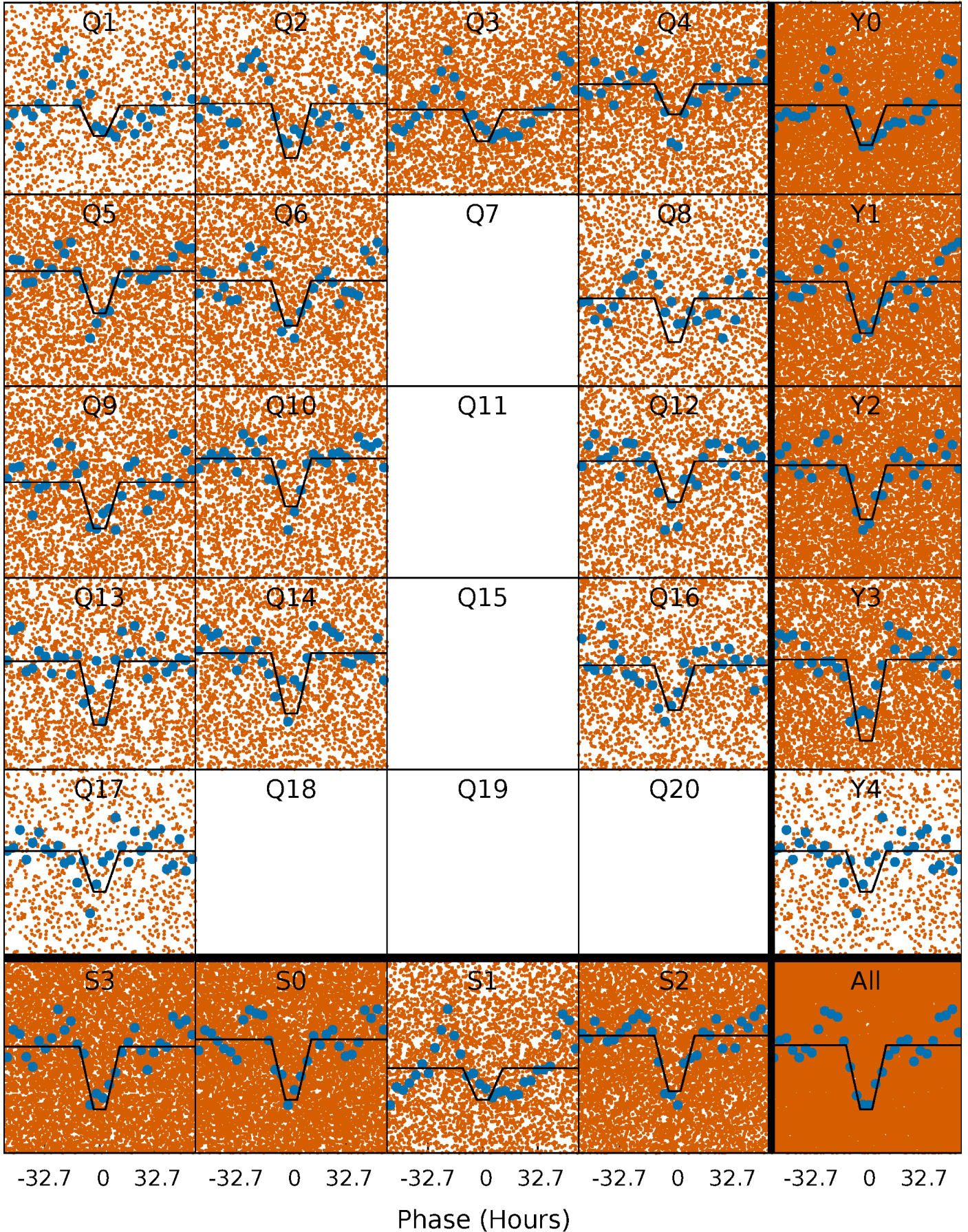
DV Quarter-Phased Transit Curves

TCE 010813172-01 P= 2.935373 Days $T_0=133.908042$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

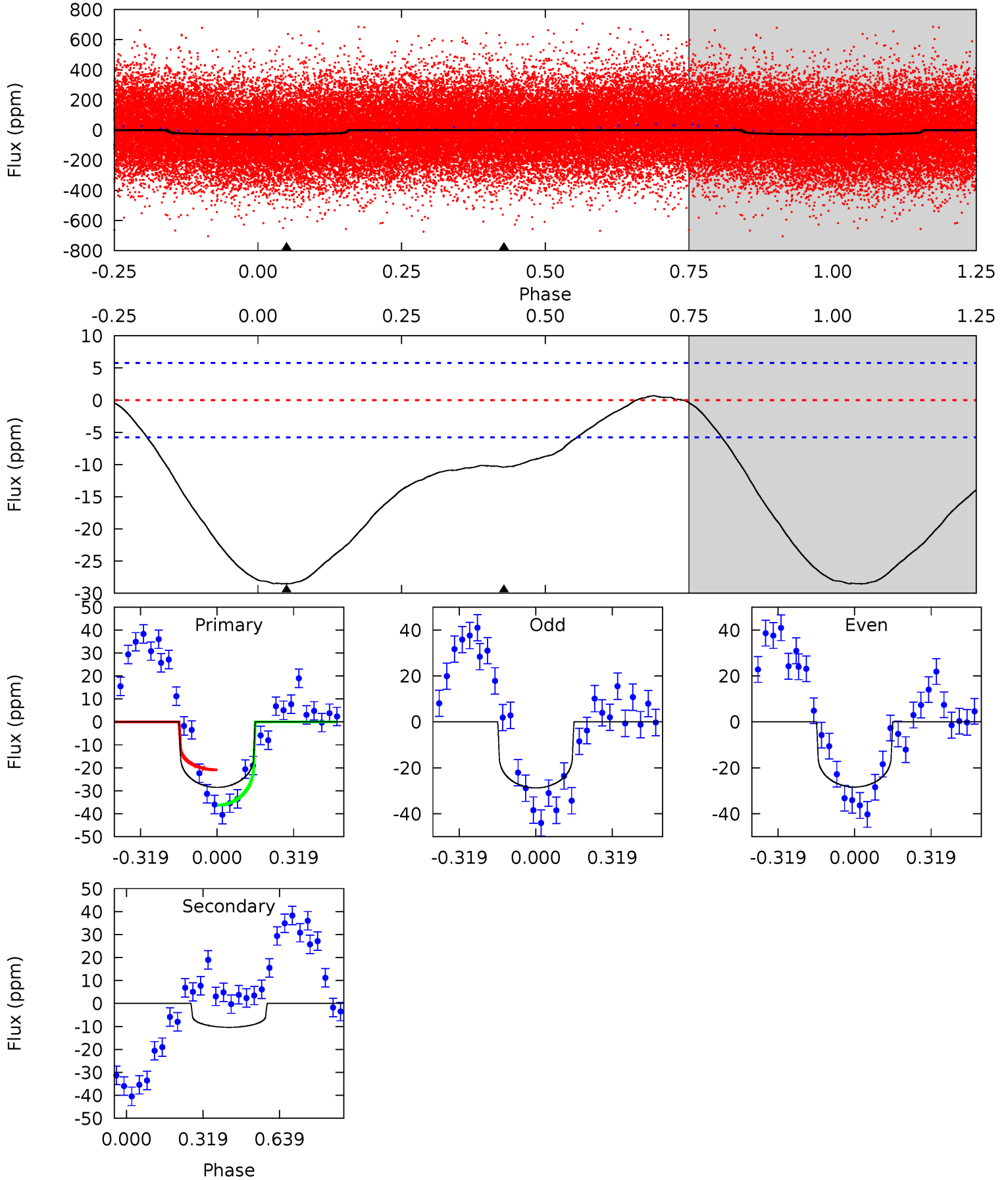
TCE 010813172-01 P= 2.936018 Days $T_0=133.861472$ (BKJD)



DV Model-Shift Uniqueness Test

010813172-01, P = 2.935373 Days, E = 130.972669 Days

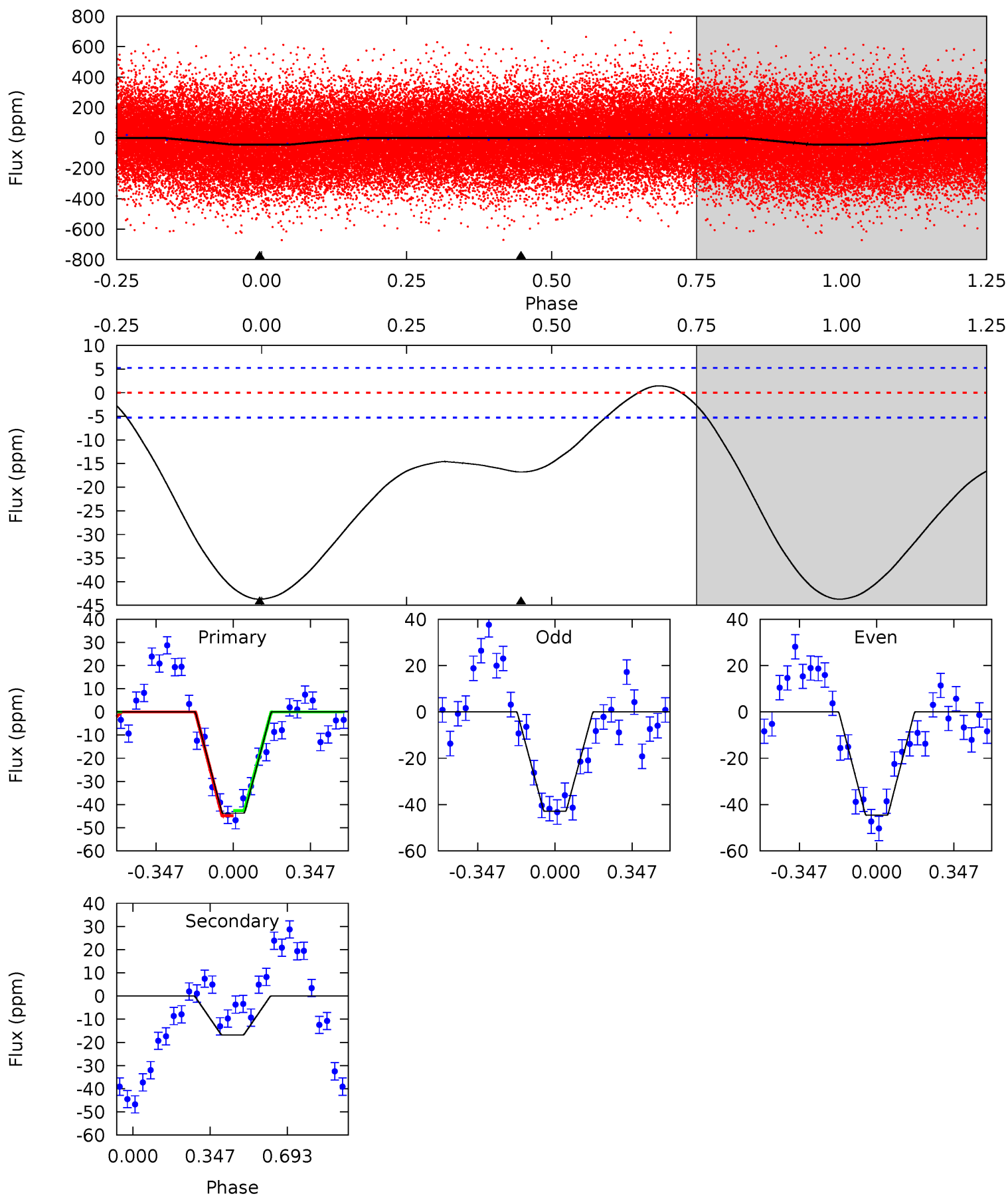
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.3	7.75	0	0	4.31	1.00	0.91	21.3	21.3	7.75	7.75	0.15	1.07	0.02	5.88



Alt Model-Shift Uniqueness Test

010813172-01, P = 2.936018 Days, E = 130.925454 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.7	13.7	0	0	4.30	0.94	3.19	35.7	35.7	13.7	13.7	0.67	1.09	0.03	0.90



Stellar Parameters For KIC 010813172

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7166^{+200}_{-300}	$4.211^{+0.105}_{-0.195}$	$-0.100^{+0.250}_{-0.400}$	$1.557^{+0.524}_{-0.242}$	$1.438^{+0.218}_{-0.218}$	$0.537^{+0.272}_{-0.285}$
	+3%/-4%	+2%/-5%	+250%/-400%	+34%/-16%	+15%/-15%	+51%/-53%
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 010813172-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-10 ± 1	$0.84^{+0.76}_{-0.56}$	2617^{+192}_{-164}	5757^{+5529}_{-1397}	16^{+139}_{-12}
Alt.	-17 ± 1	$1.33^{+0.87}_{-0.73}$	2625^{+204}_{-154}	5222^{+2702}_{-954}	11^{+44}_{-7}

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

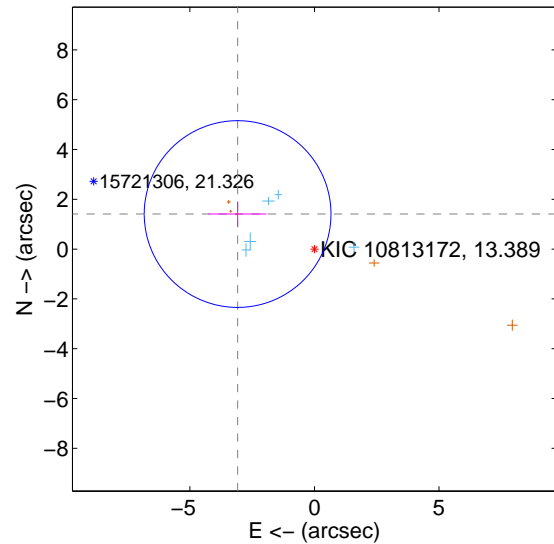
Supplemental centroid analysis for 010813172-01. Kepler magnitude: 13.39. Transit SNR 6.13

There are 5 quarters with good PRF difference image offsets

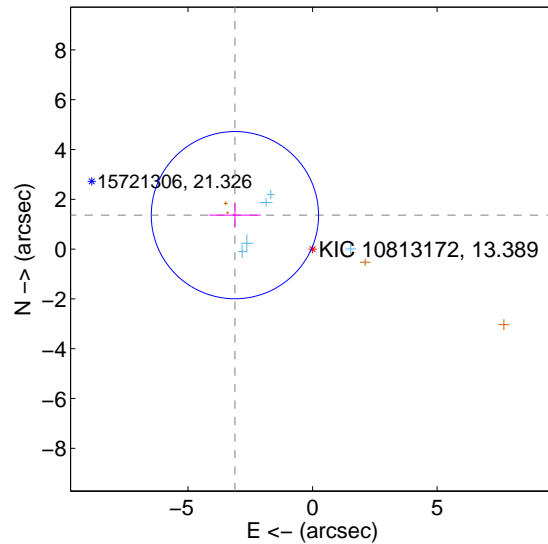
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.391 ± 1.250	2.71	3.085 ± 1.166	1.407 ± 0.501
PRF-fit source offset from KIC position	3.401 ± 1.119	3.04	3.116 ± 1.036	1.363 ± 0.482
photometric centroid source offset	2.58 ± 1.84	1.41	-2.55 ± 1.84	-0.42 ± 1.69

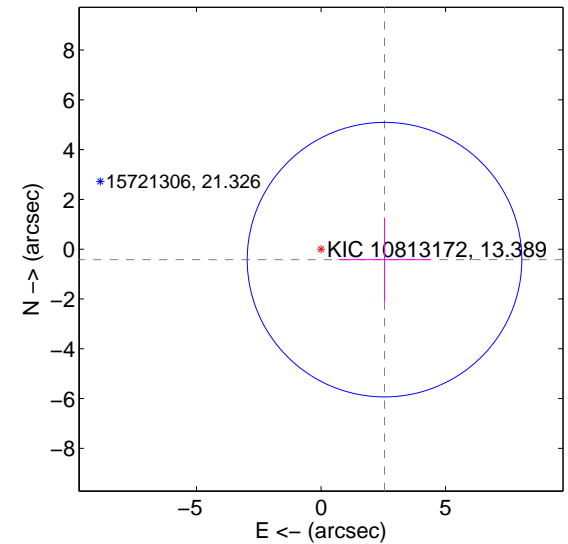
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

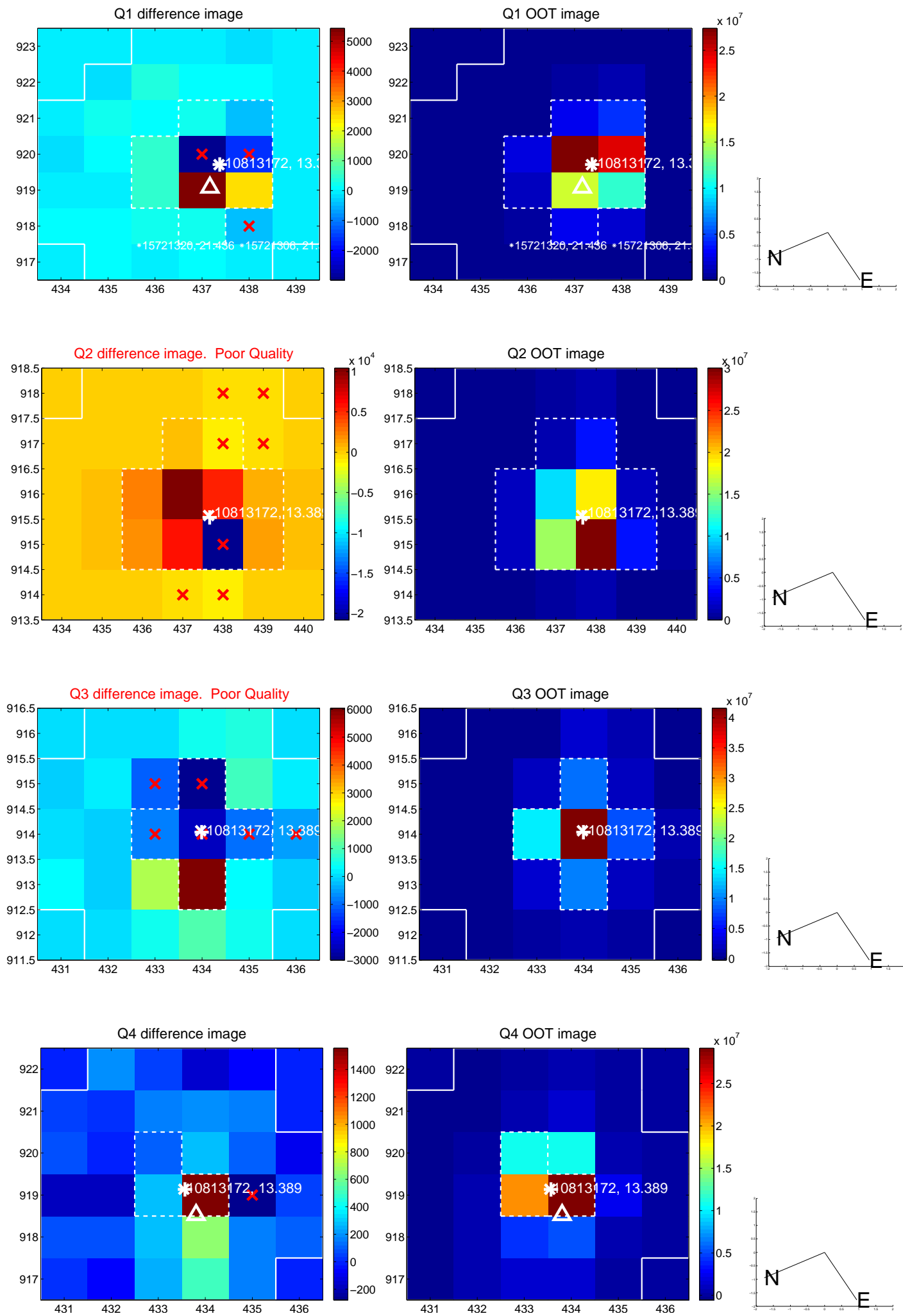


offset from photometric centroids

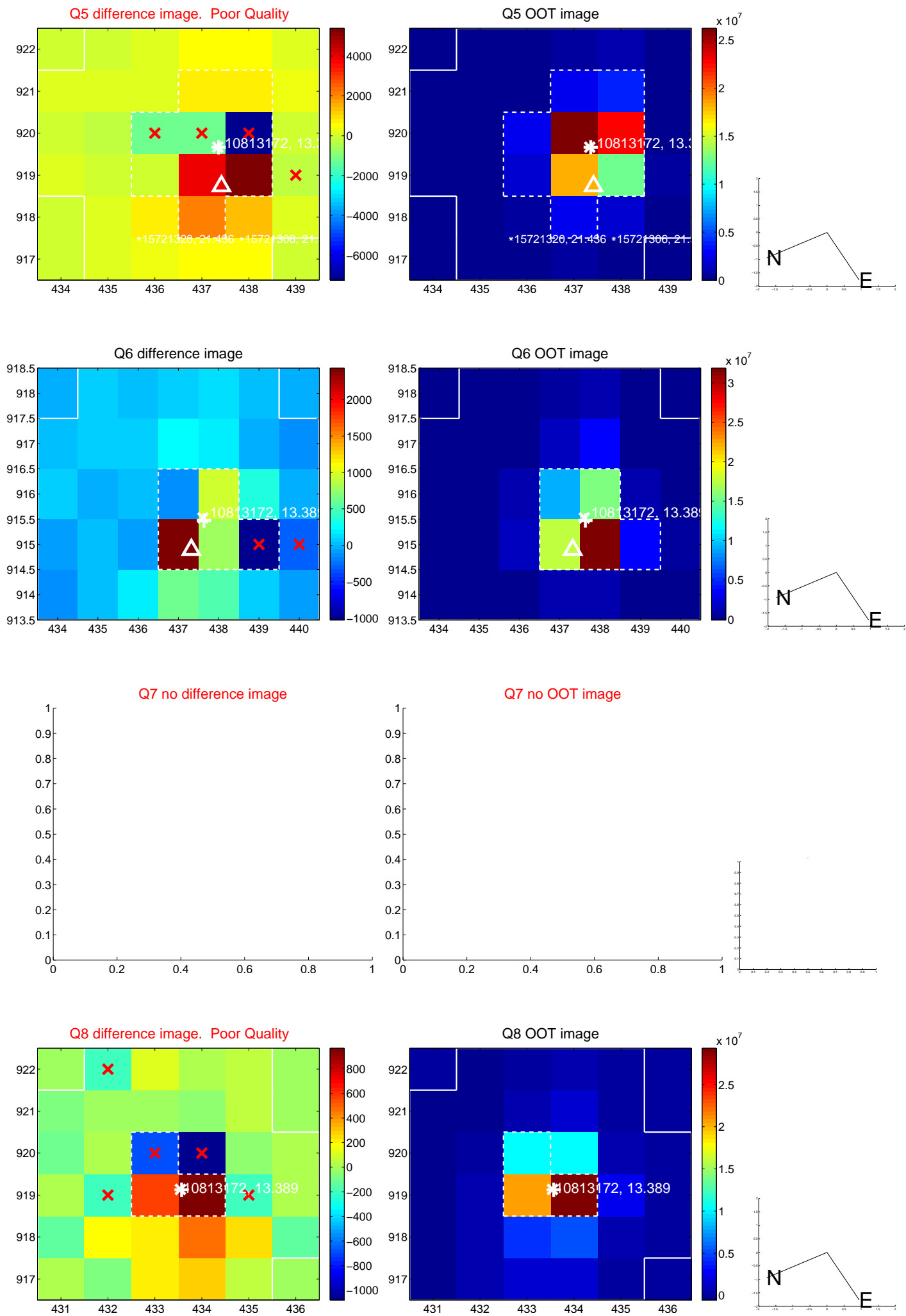


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

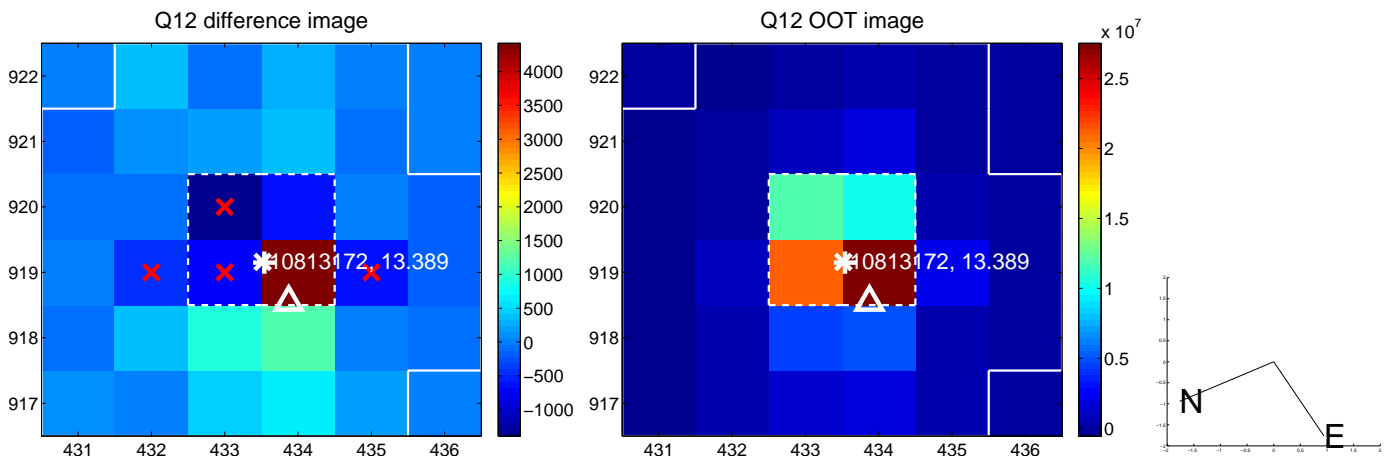
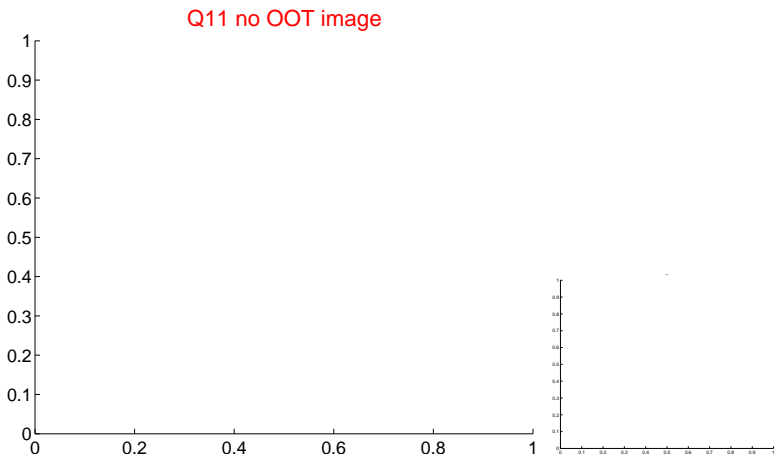
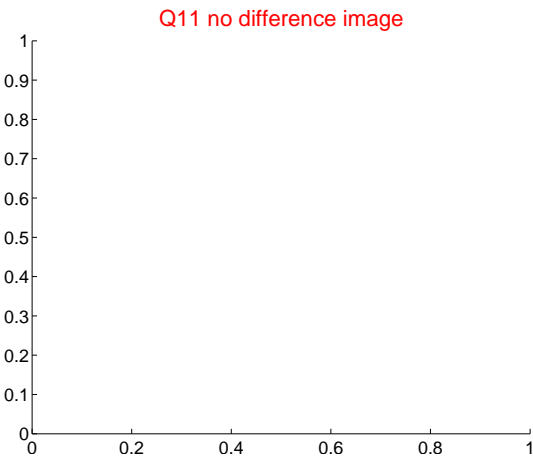
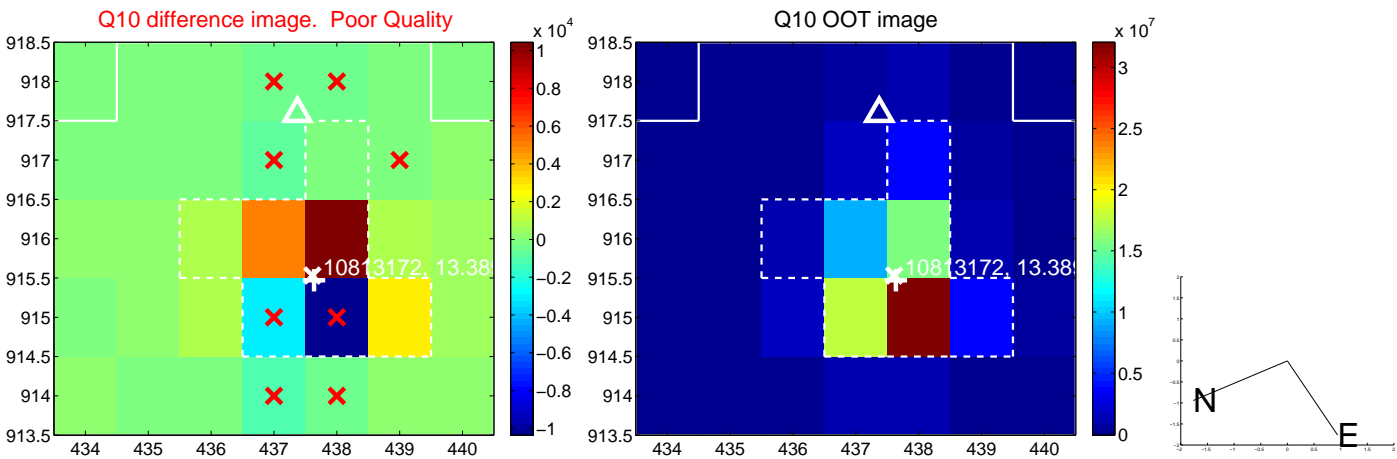
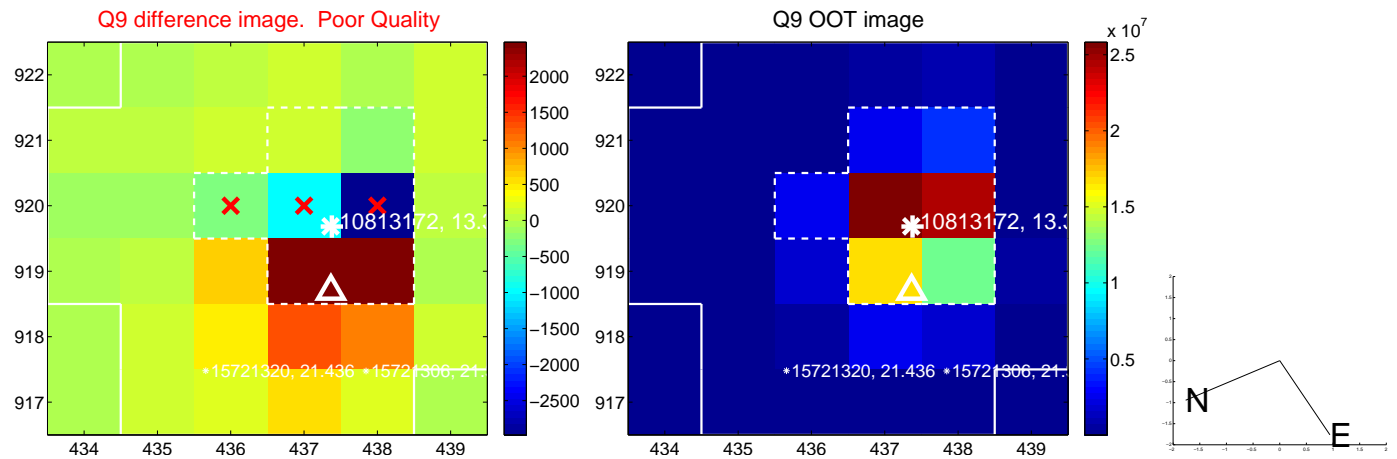
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



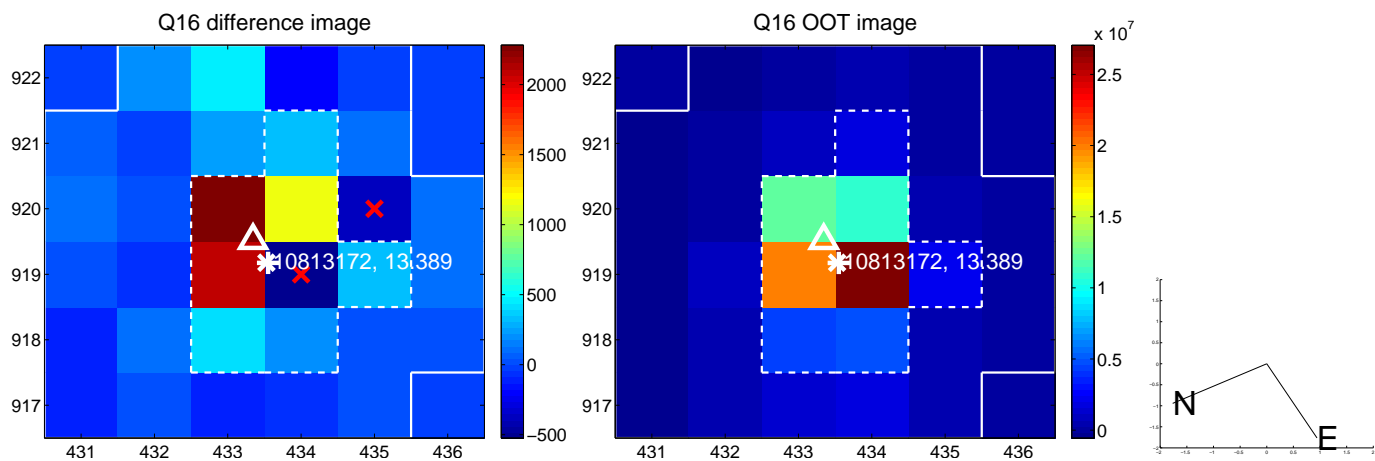
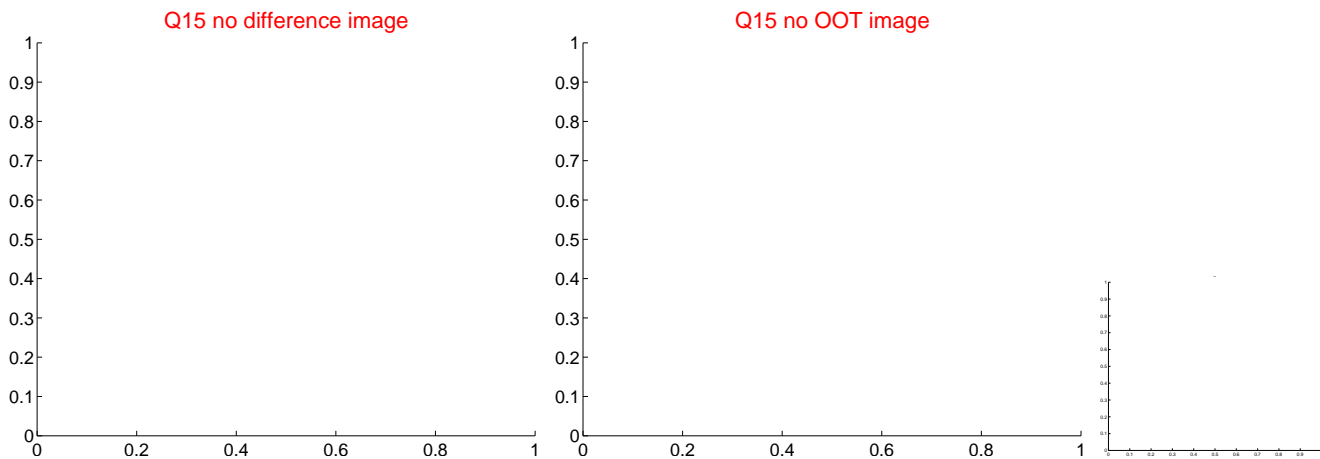
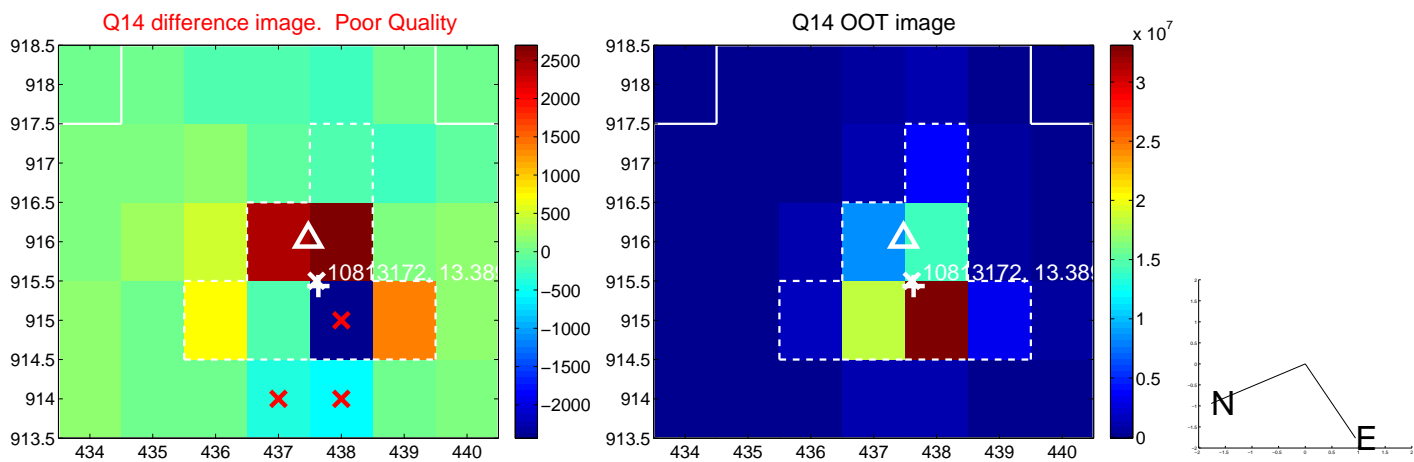
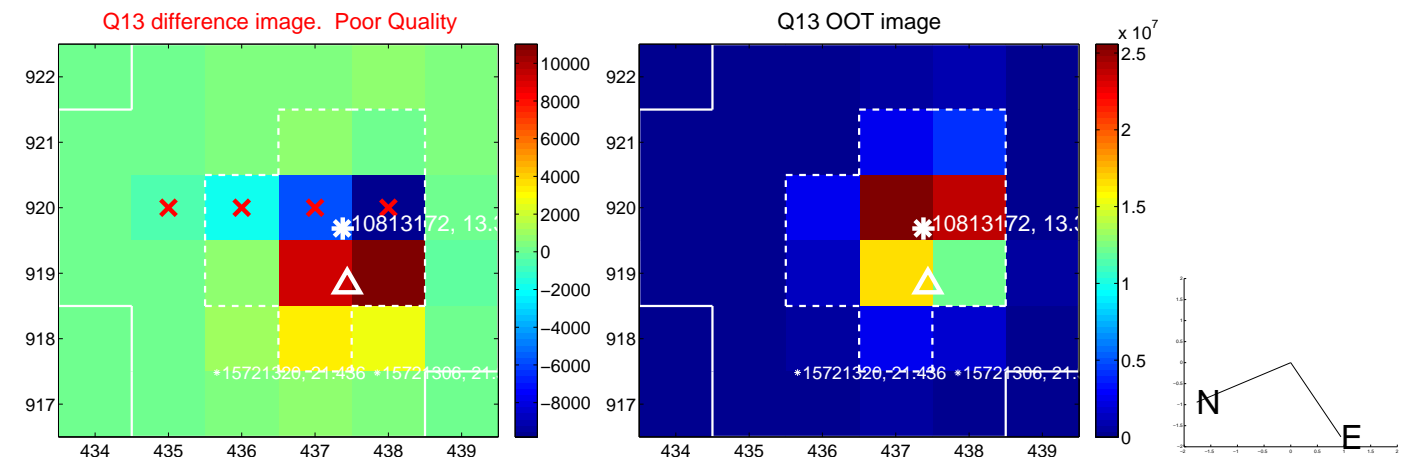
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



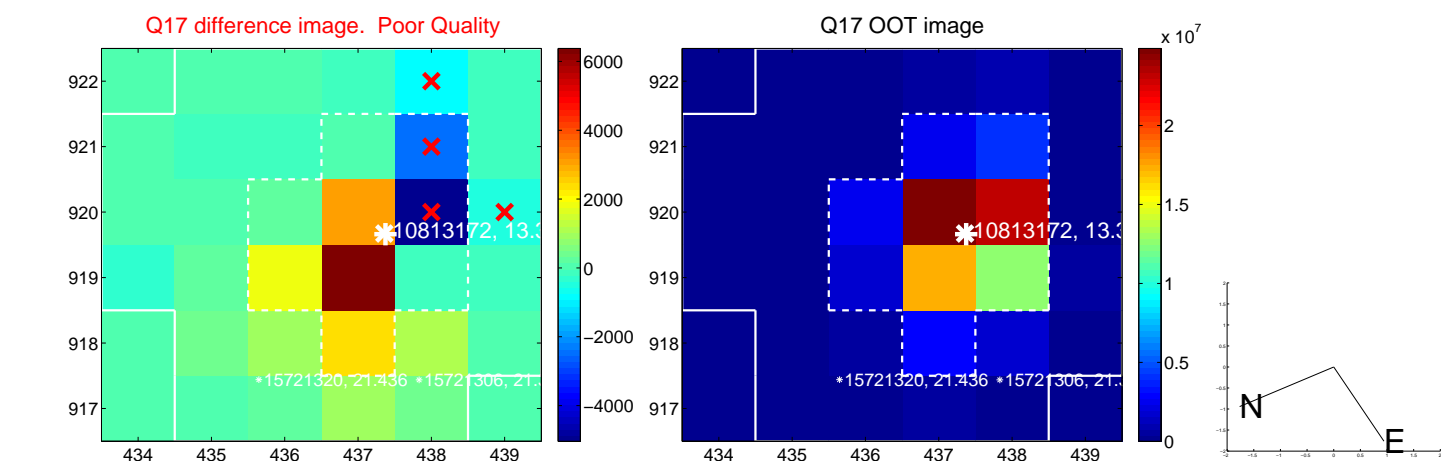
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



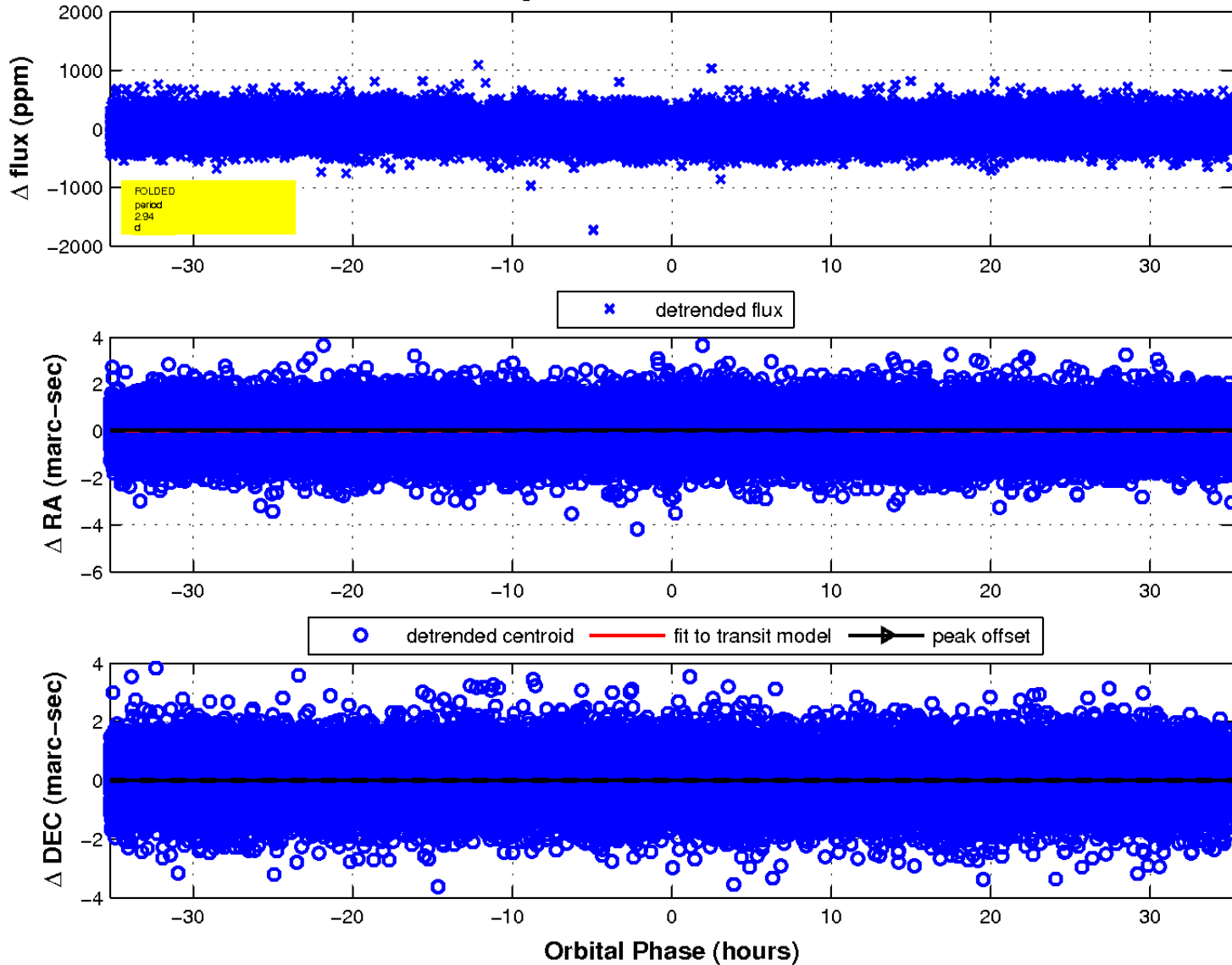
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

