

KIC 005823170

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})
005823170-01	OBS	No	0.656959	132.163213	24.9	1.728	10.1	7.0	1.71	6286	0.98	16917.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005823170-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

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

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

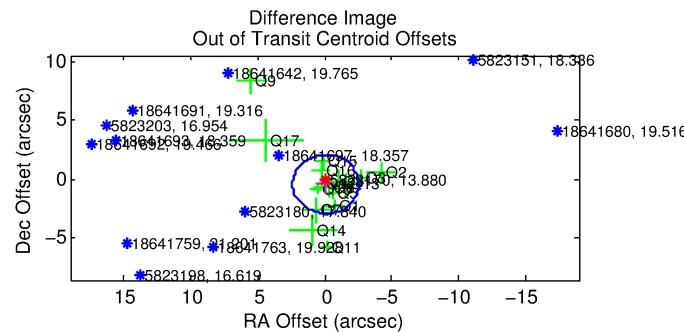
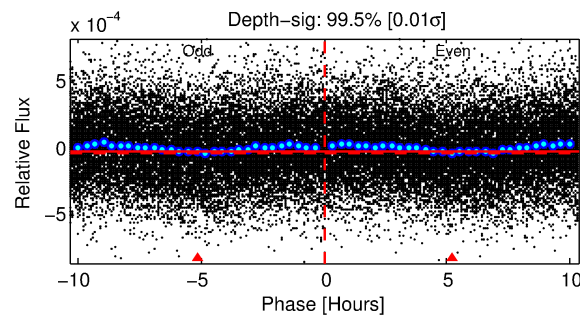
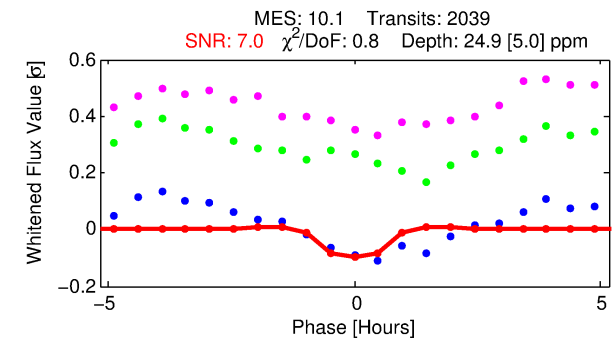
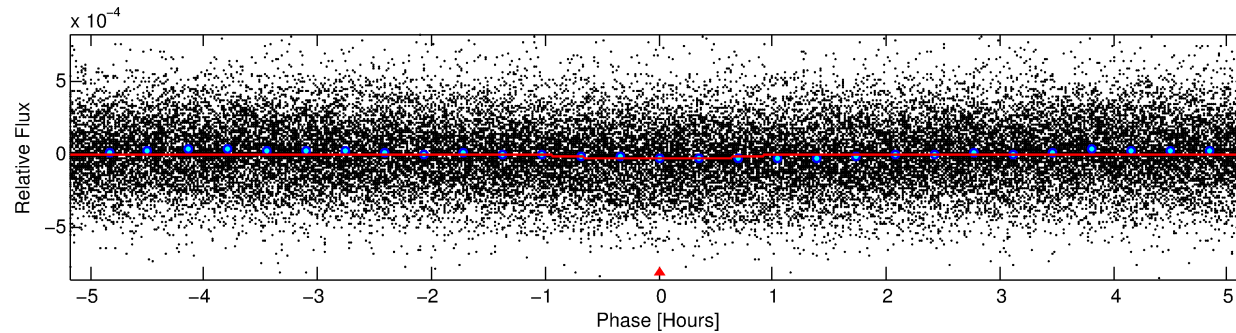
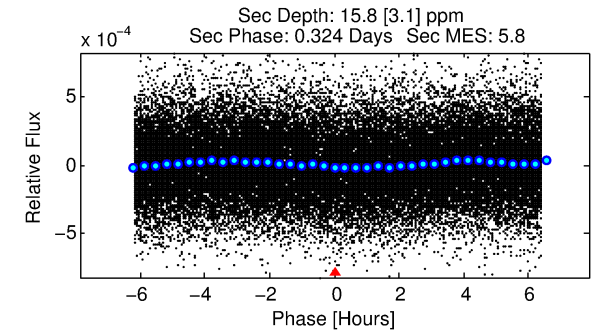
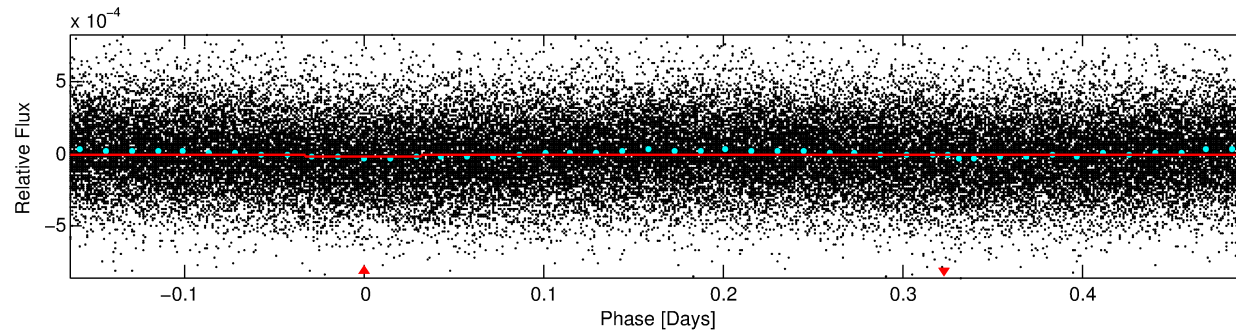
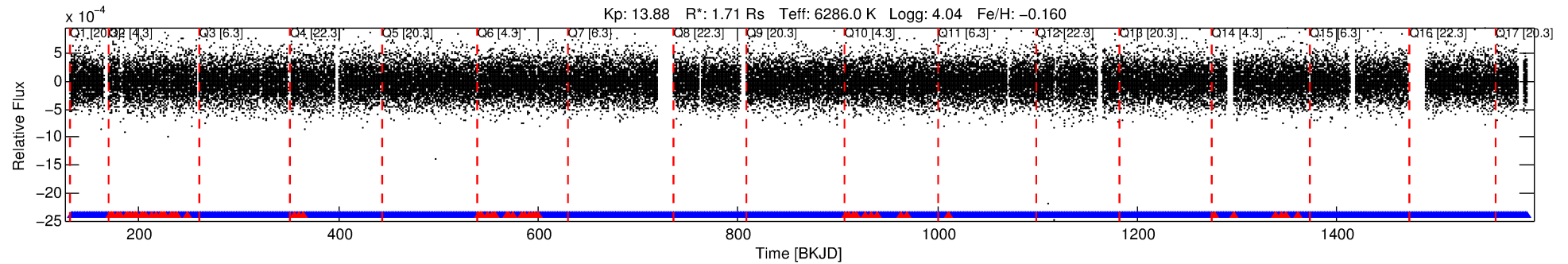
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005823170-01

No Significant Match Found

DV One-Page Summary

KIC: 5823170 Candidate: 1 of 1 Period: 0.657 d



DV Fit Results:

Period = 0.65696 [0.00002] d
Epoch = 132.1632 [0.0033] BKJD
Rp/R* = 0.0053 [0.0018]
a/R* = 1.71 [2.04]
b = 0.88 [0.49]
Seff = 16917.58 [9325.76]
Teq = 2908 [401] K
Rp = 0.98 [0.48] Re
a = 0.0155 [0.0052] AU
Ag = 2.18 [1.94] [0.61σ]
Teffp = 5461 [995] K [2.38σ]

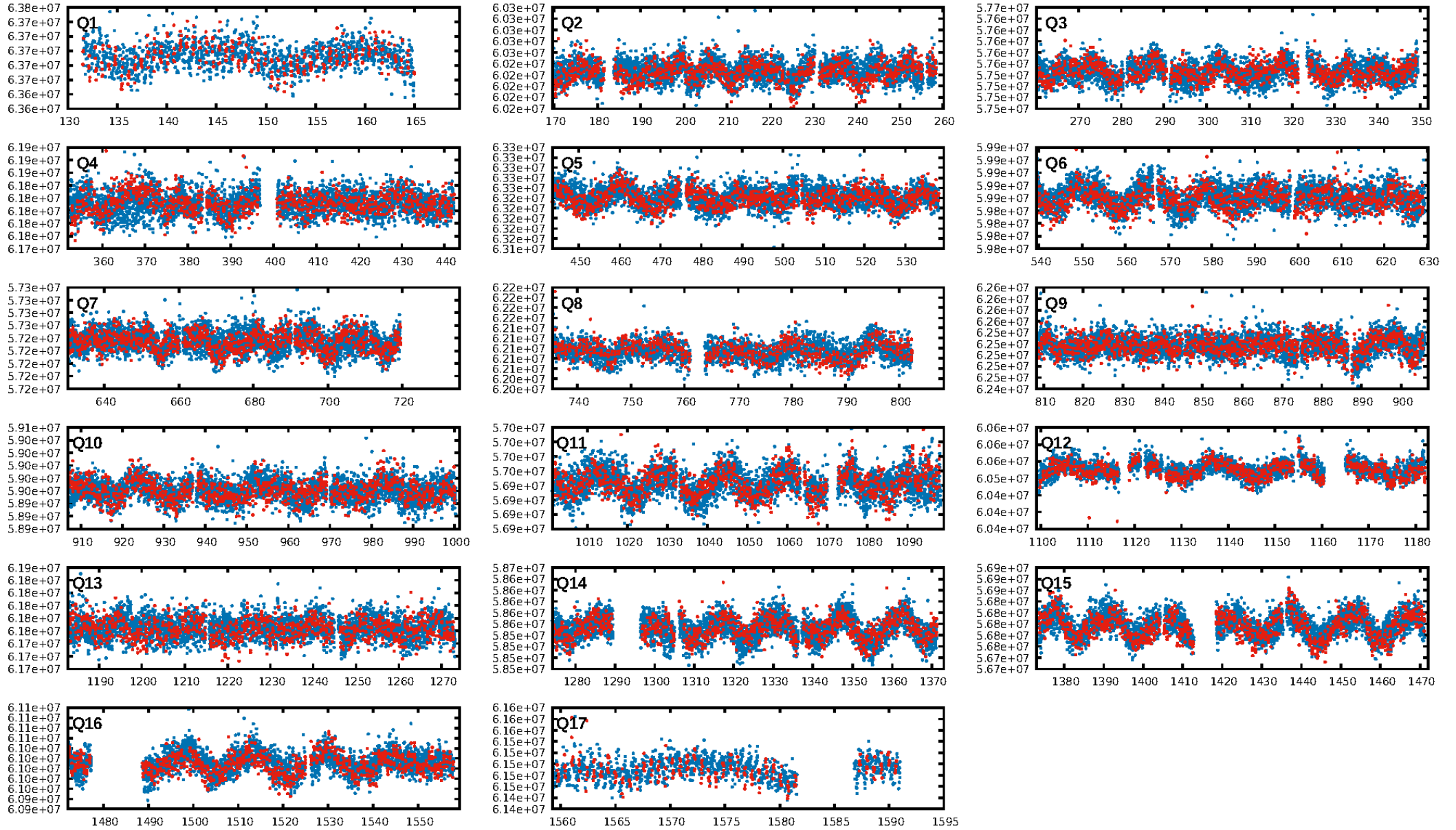
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.85e-23
RollingBand-fgt: 0.97 [1879/1947]
GhostDiagnostic-chr: 15.34
Centroid-sig: 6.9%
Centroid-so: 1.435 arcsec [0.94σ]
OotOffset-rm: 0.408 arcsec [0.50σ]
KicOffset-rm: 0.391 arcsec [0.50σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.56 [9/16]
DiffImageOverlap-fno: 1.00 [17/17]

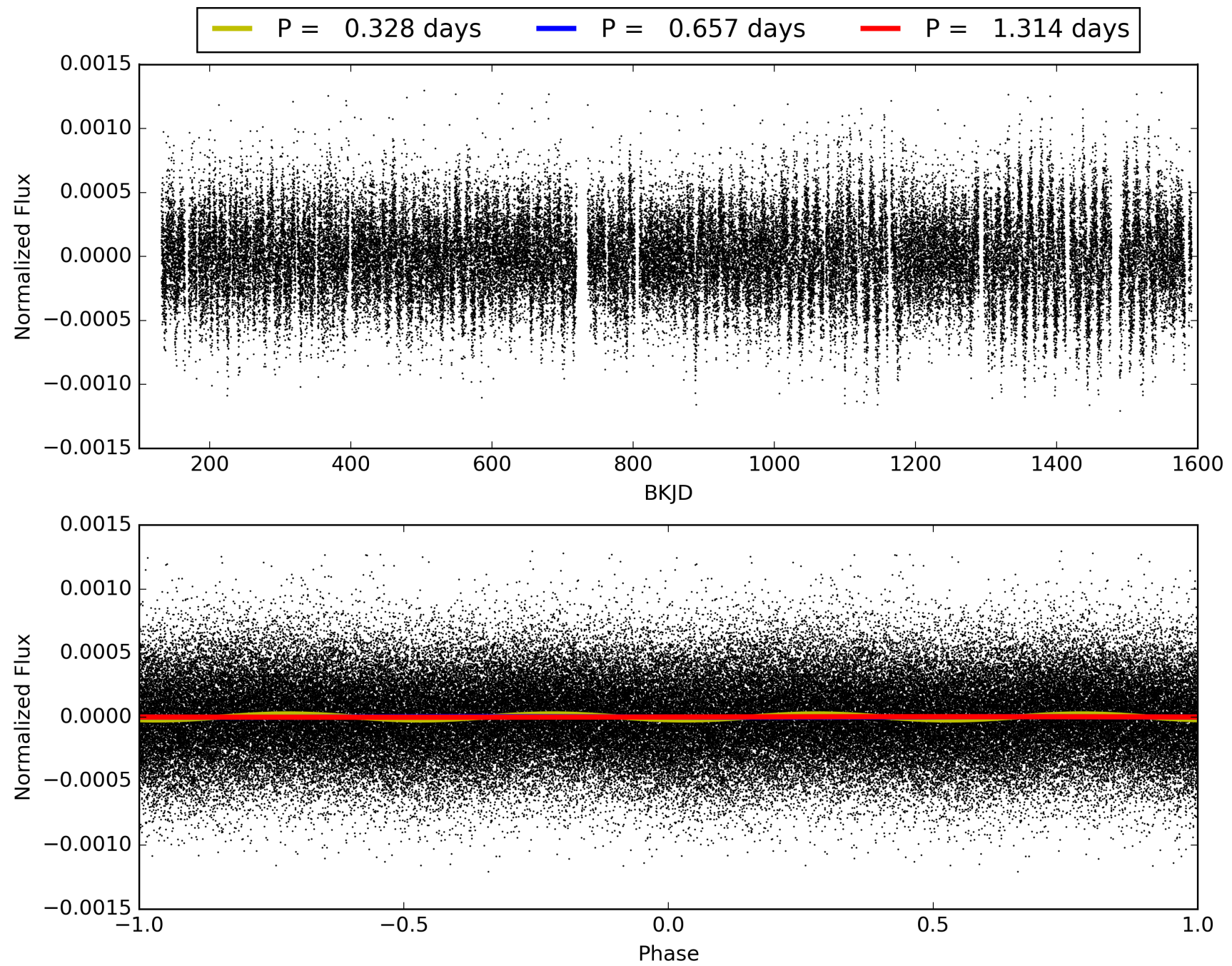
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:45:56 Z

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

TCE 005823170-01, PDC Light Curves

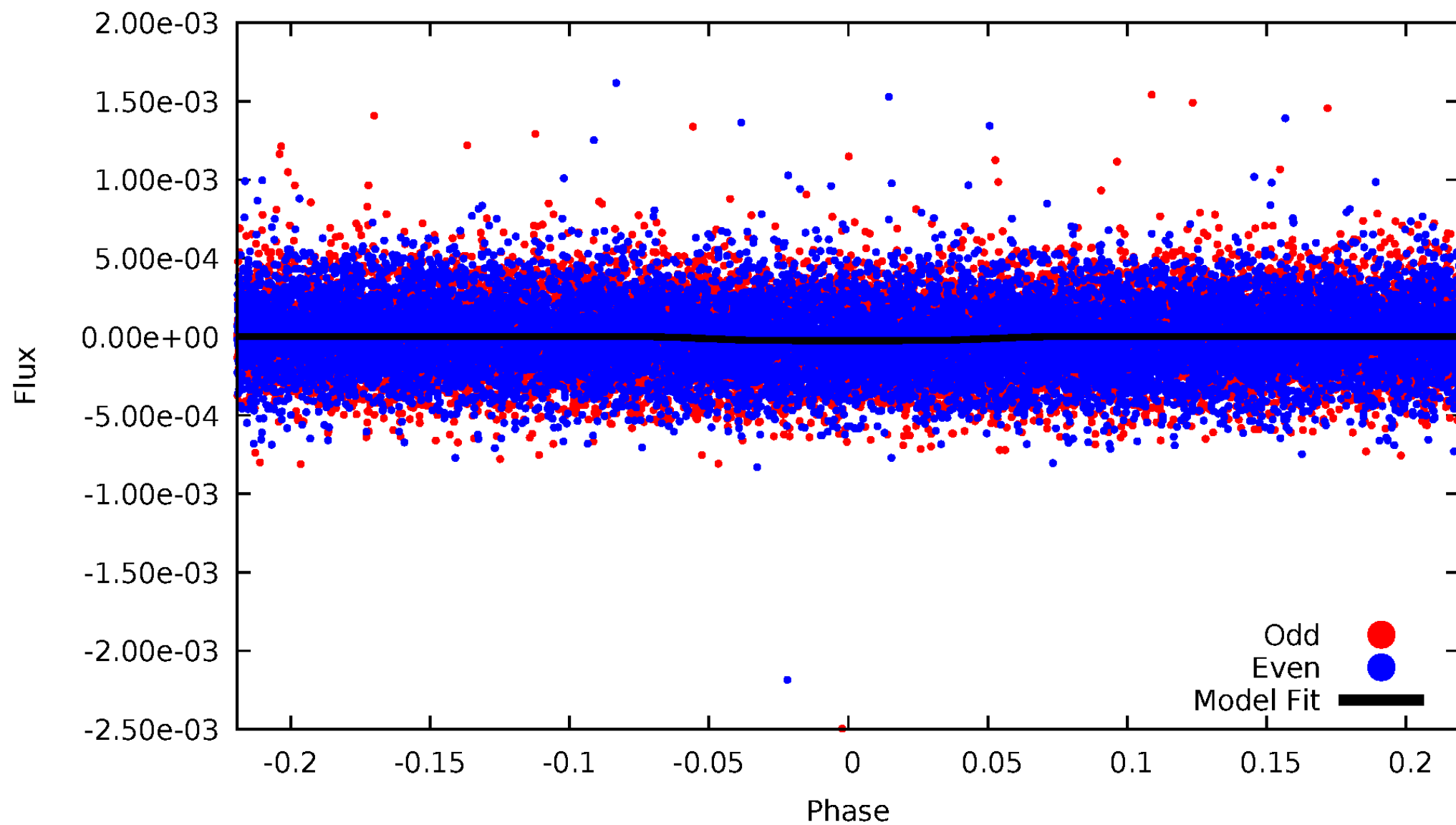


TCE 005823170-01



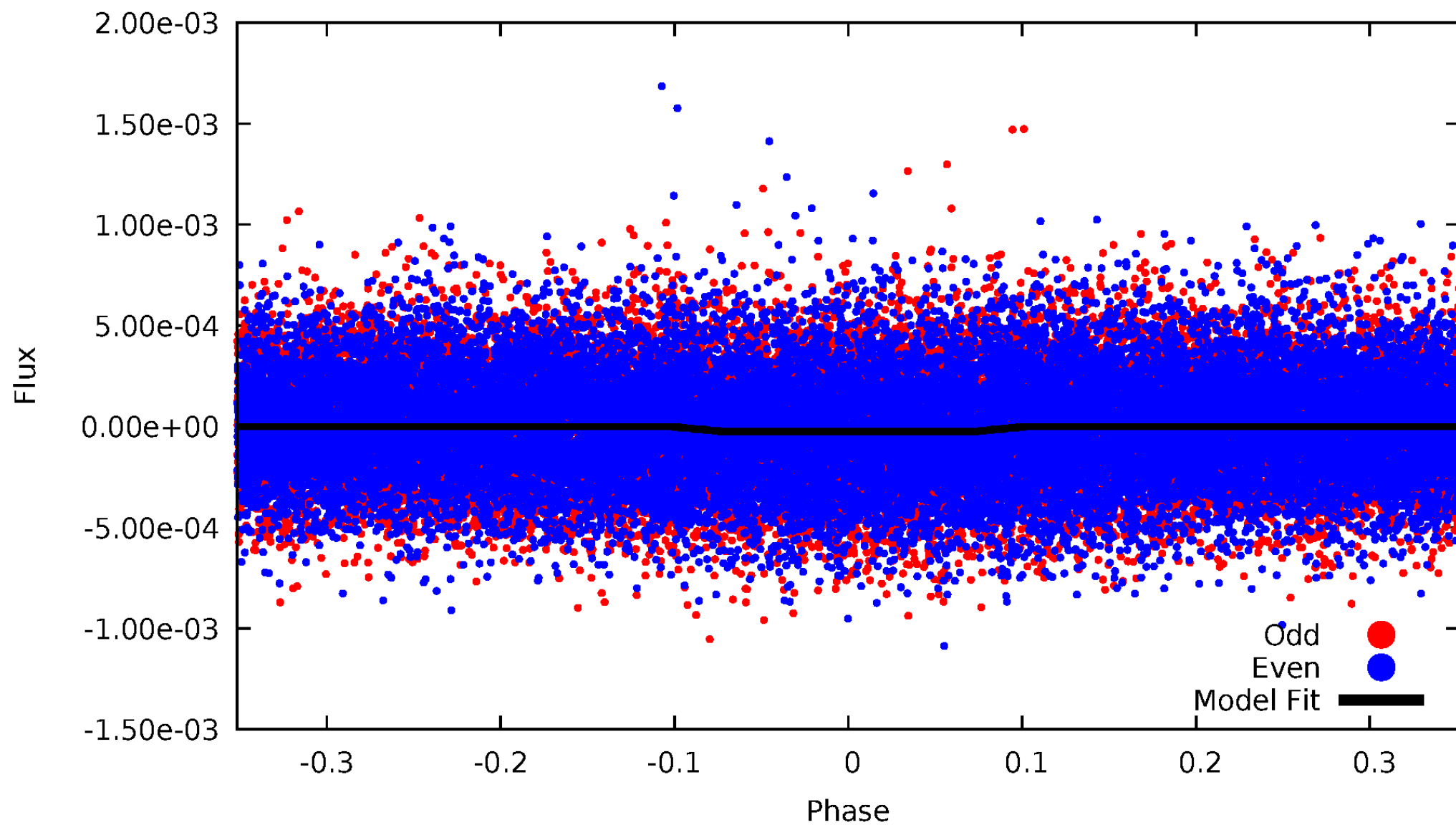
DV Odd/Even

TCE 005823170-01

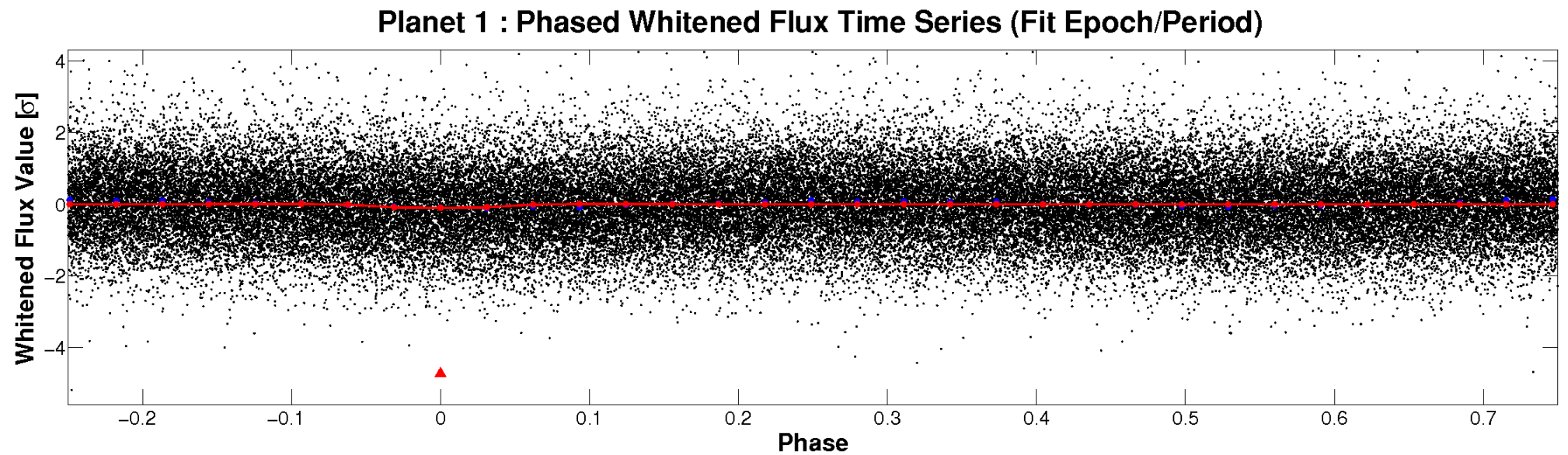
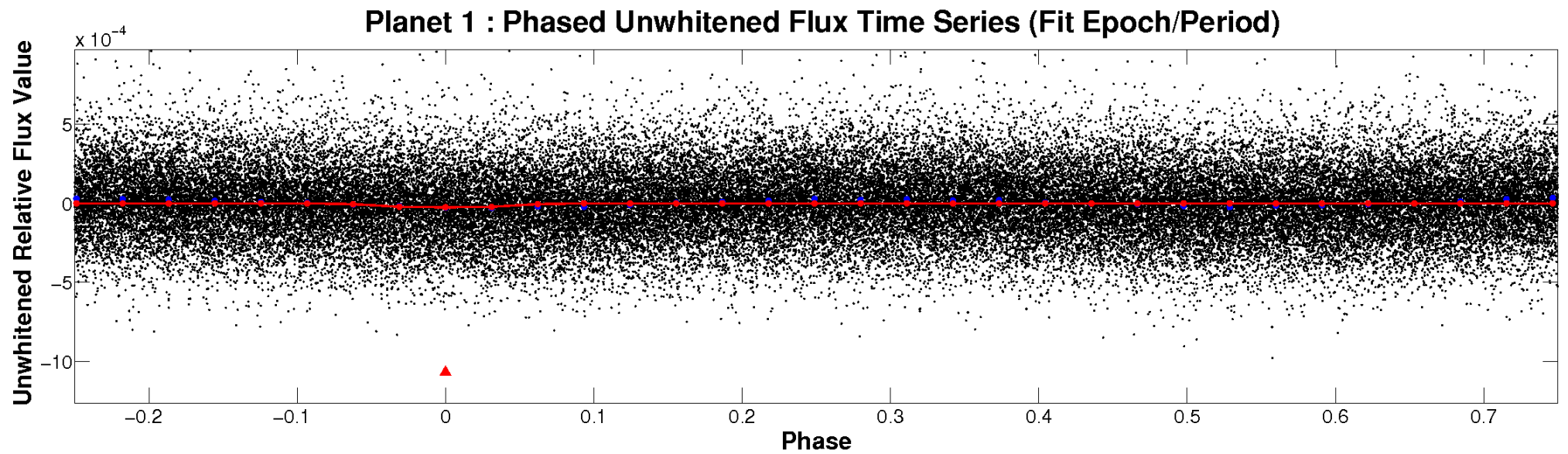


ALT Odd/Even

TCE 005823170-01

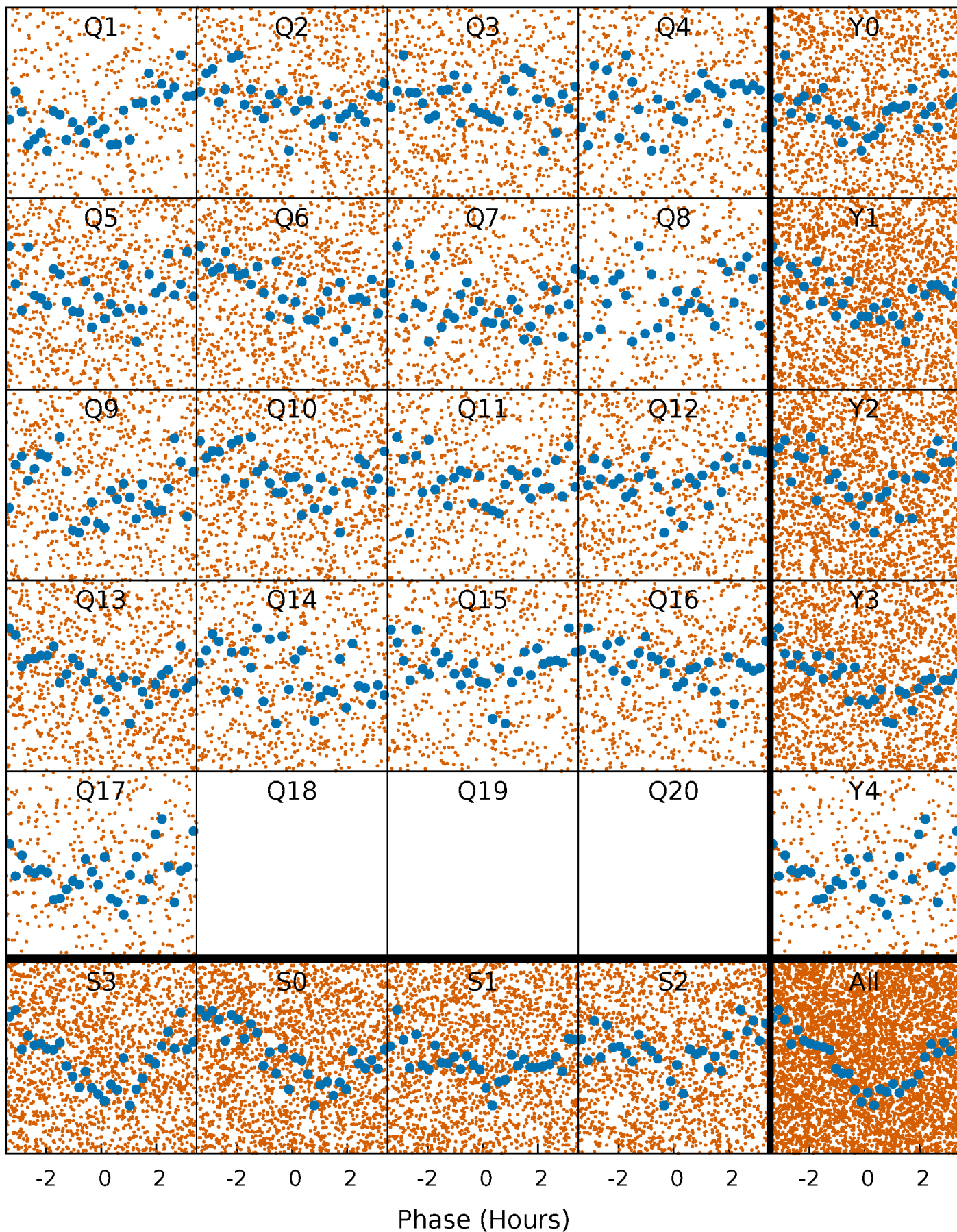


Non-Whitened Vs. Whitened Light Curve



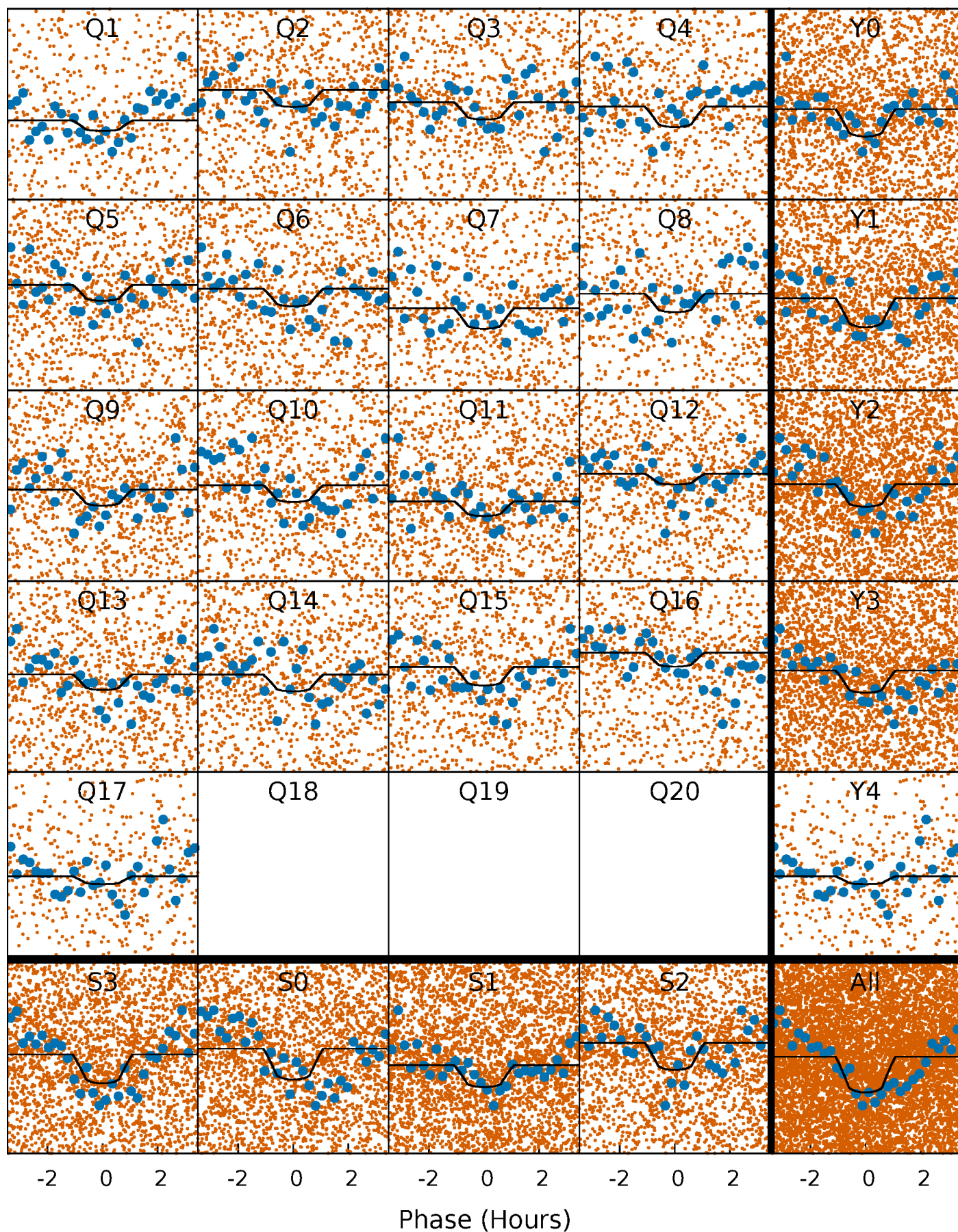
PDC Quarter-Phased Transit Curves

TCE 005823170-01 P= 0.656959 Days $T_0=132.163213$ (BKJD)



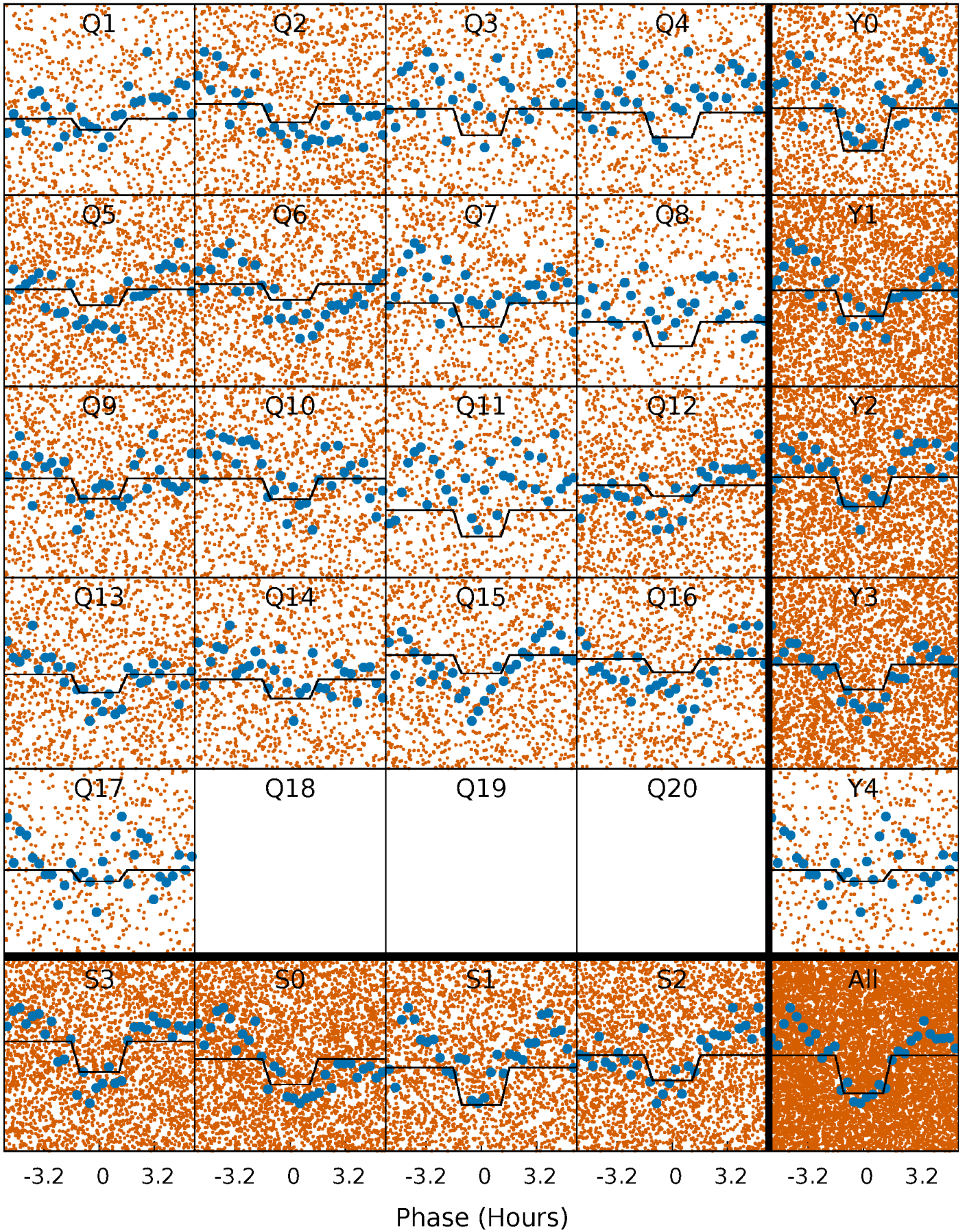
DV Quarter-Phased Transit Curves

TCE 005823170-01 P= 0.656959 Days $T_0=132.163213$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

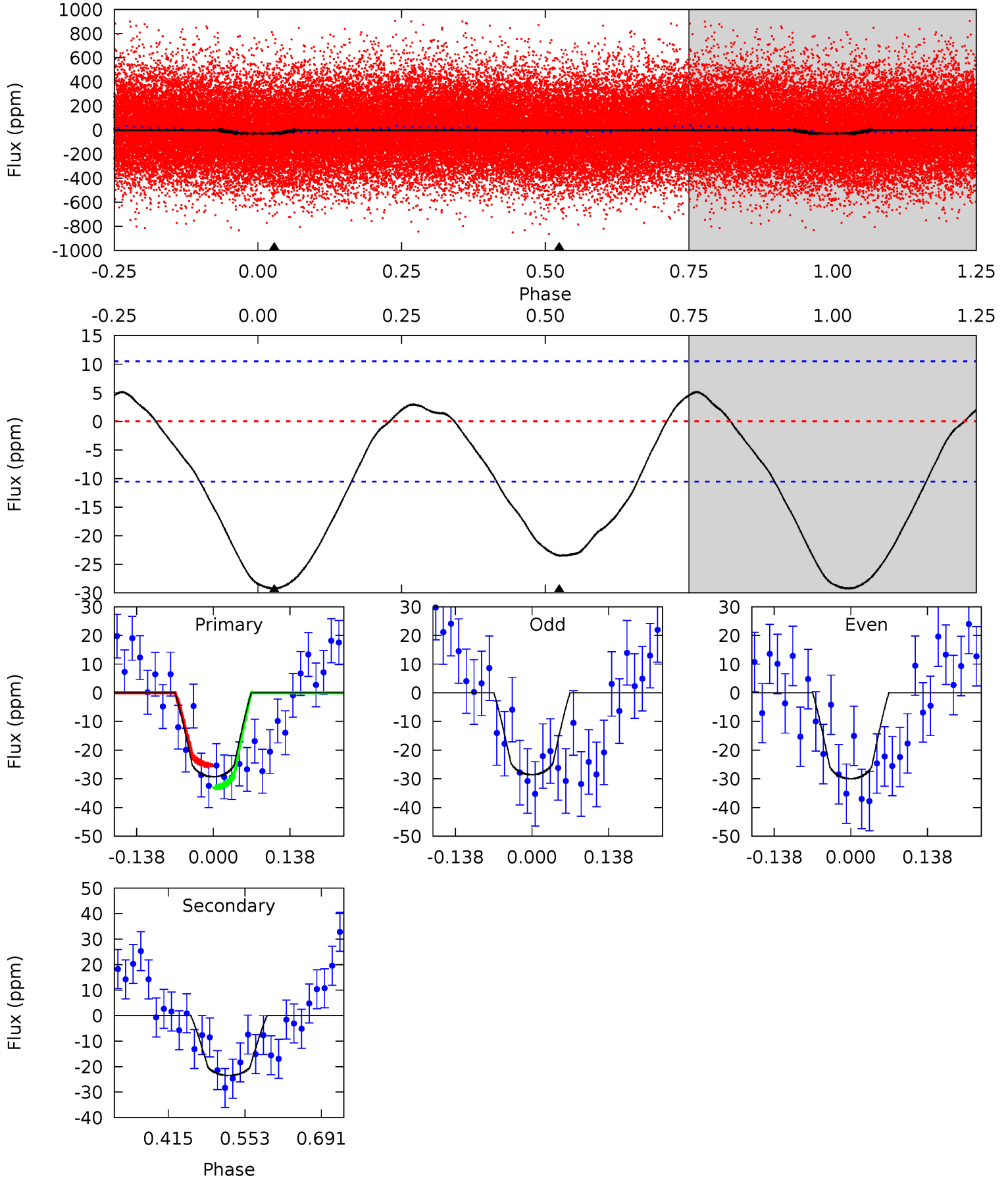
TCE 005823170-01 P= 0.656978 Days $T_0=132.161794$ (BKJD)



DV Model-Shift Uniqueness Test

005823170-01, P = 0.656959 Days, E = 131.506254 Days

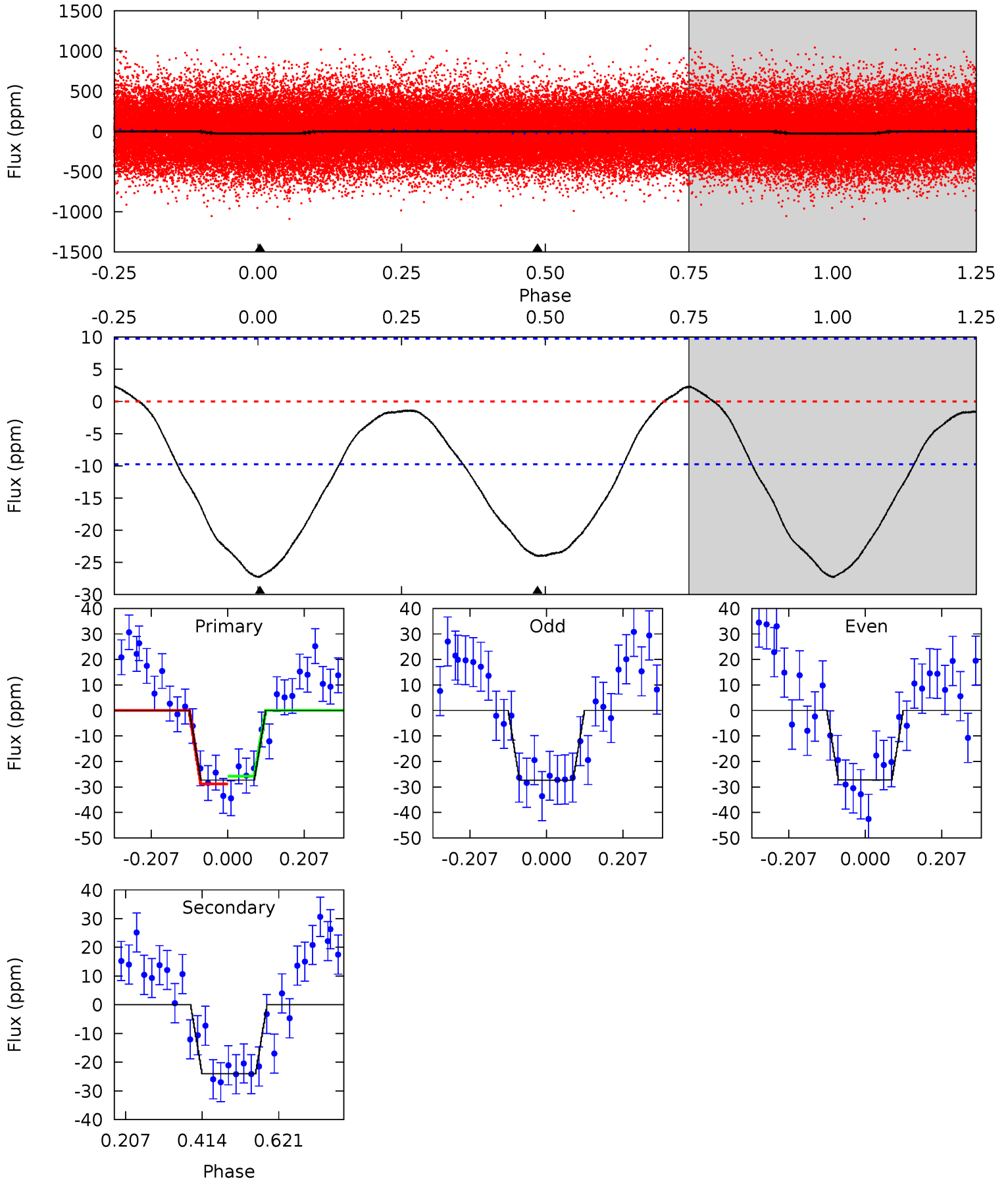
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	10.0	0	0	4.50	1.48	1.68	12.5	12.5	10.0	10.0	0.31	1.04	0.15	1.64



Alt Model-Shift Uniqueness Test

005823170-01, P = 0.656978 Days, E = 131.504816 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	10.9	0	0	4.41	1.26	0.68	12.3	12.3	10.9	10.9	0.03	0.96	0.08	0.68



Stellar Parameters For KIC 005823170

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6286^{+181}_{-226}	$4.037^{+0.312}_{-0.144}$	$-0.160^{+0.250}_{-0.300}$	$1.710^{+0.486}_{-0.595}$	$1.160^{+0.189}_{-0.189}$	$0.327^{+0.714}_{-0.152}$
	+3%/-4%	+8%/-4%	+156%/-188%	+28%/-35%	+16%/-16%	+219%/-47%
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 005823170-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-23 ± 2	$0.93^{+0.38}_{-0.33}$	3978^{+321}_{-385}	5820^{+1513}_{-788}	$3.510^{+5.281}_{-1.727}$
Alt.	-24 ± 2	$0.89^{+0.41}_{-0.34}$	4001^{+308}_{-408}	6000^{+1816}_{-880}	$3.999^{+6.547}_{-2.103}$

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

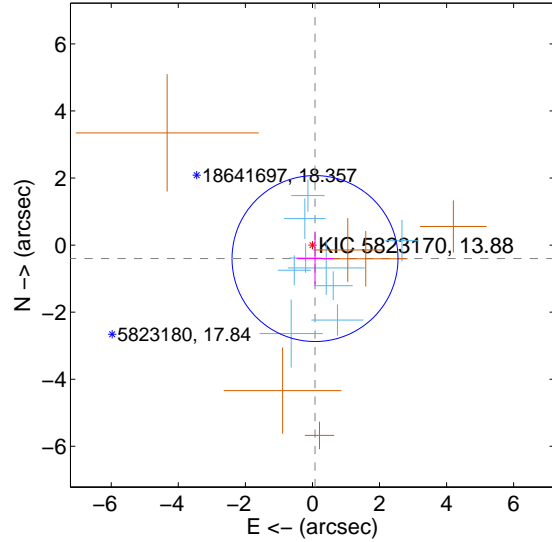
Supplemental centroid analysis for 005823170-01. Kepler magnitude: 13.88. Transit SNR 6.96

There are 9 quarters with good PRF difference image offsets

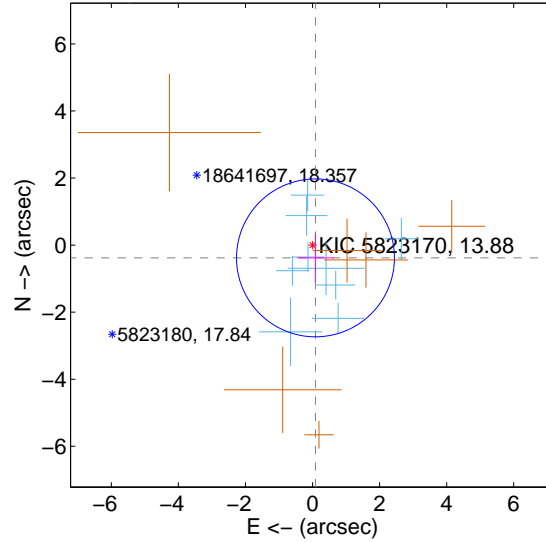
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.408 ± 0.825	0.50	-0.077 ± 0.550	-0.401 ± 0.783
PRF-fit source offset from KIC position	0.391 ± 0.785	0.50	-0.088 ± 0.547	-0.381 ± 0.731
photometric centroid source offset	1.44 ± 1.53	0.94	0.82 ± 1.56	1.18 ± 1.51

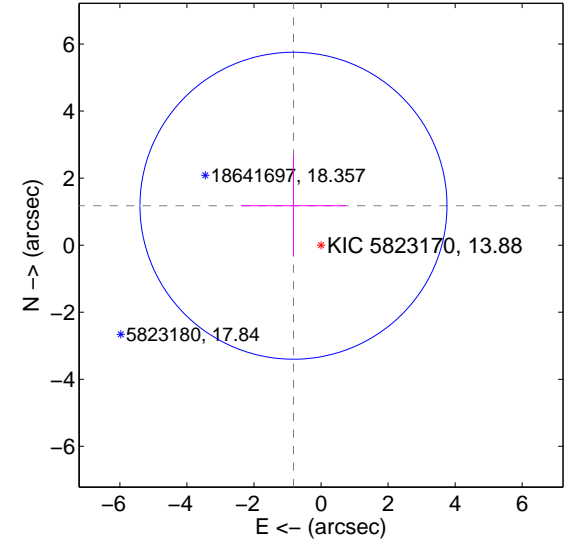
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

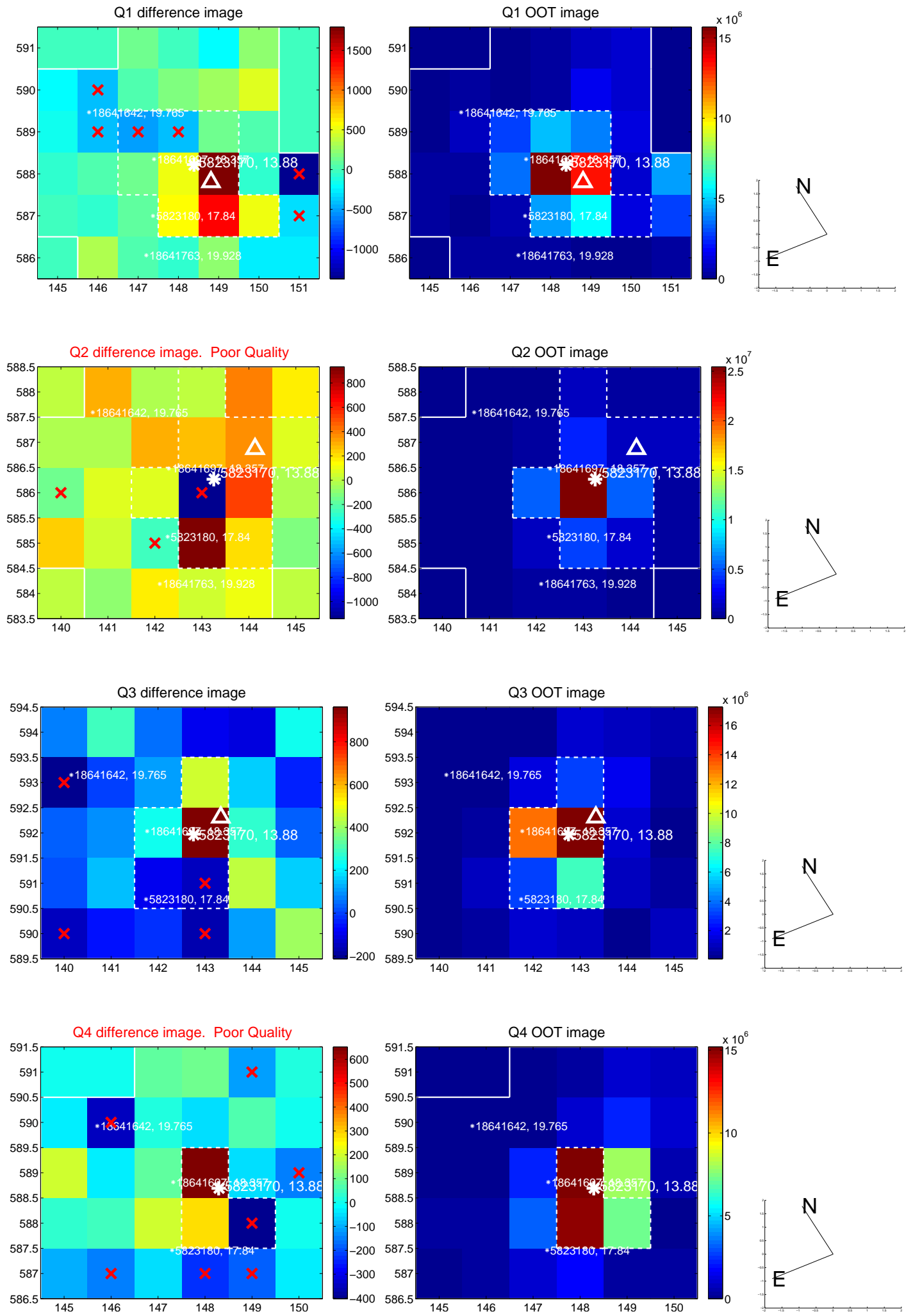


offset from photometric centroids

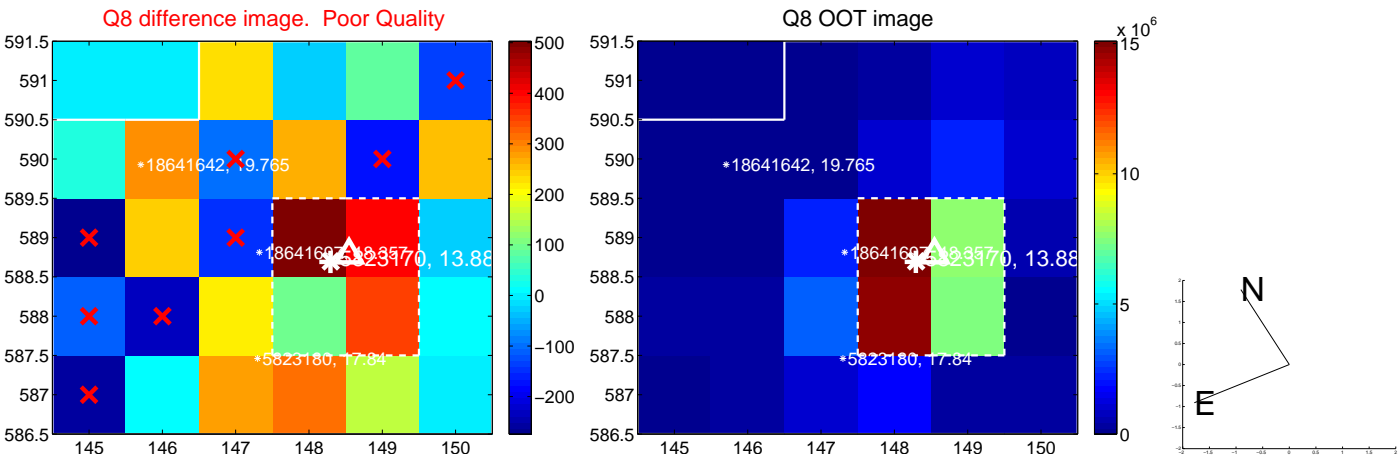
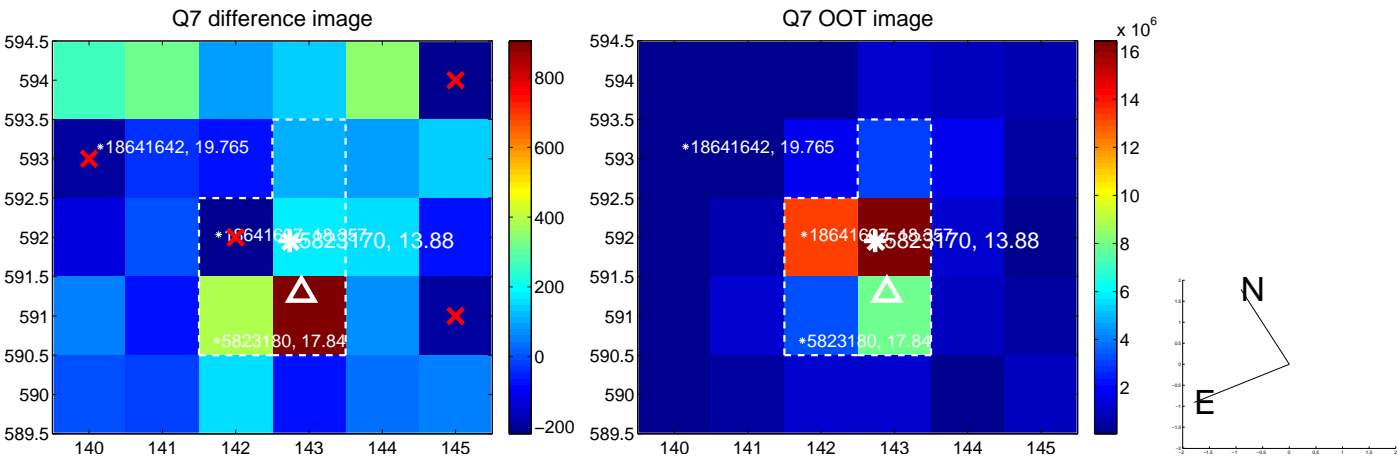
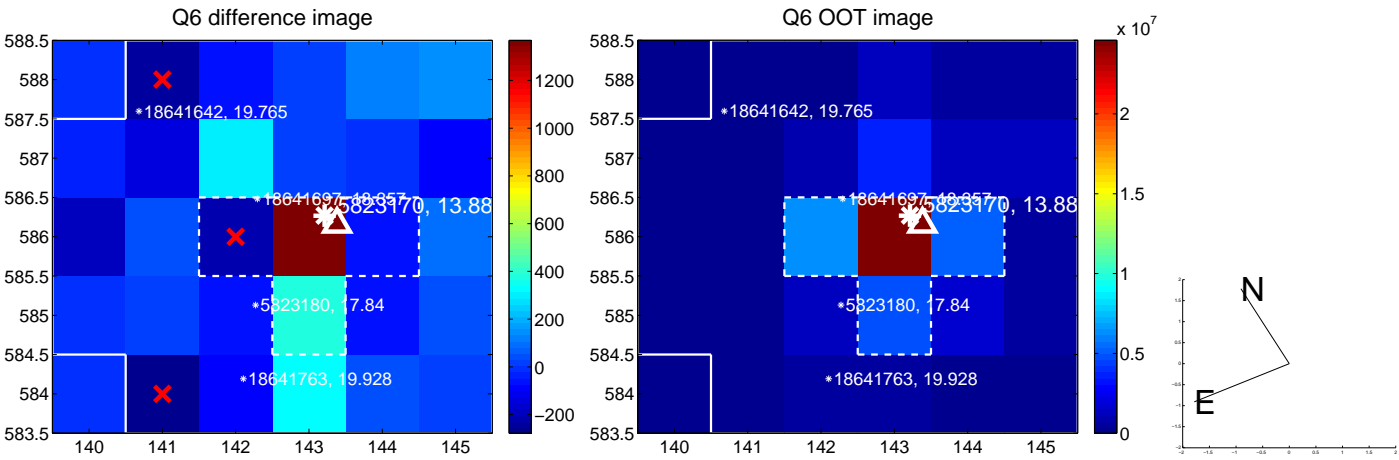
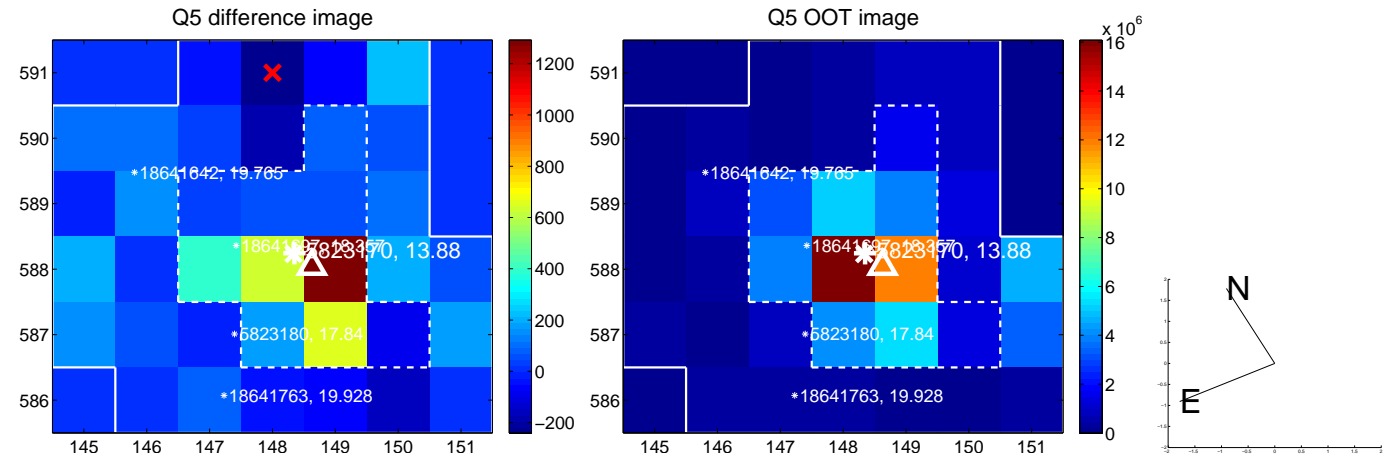


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

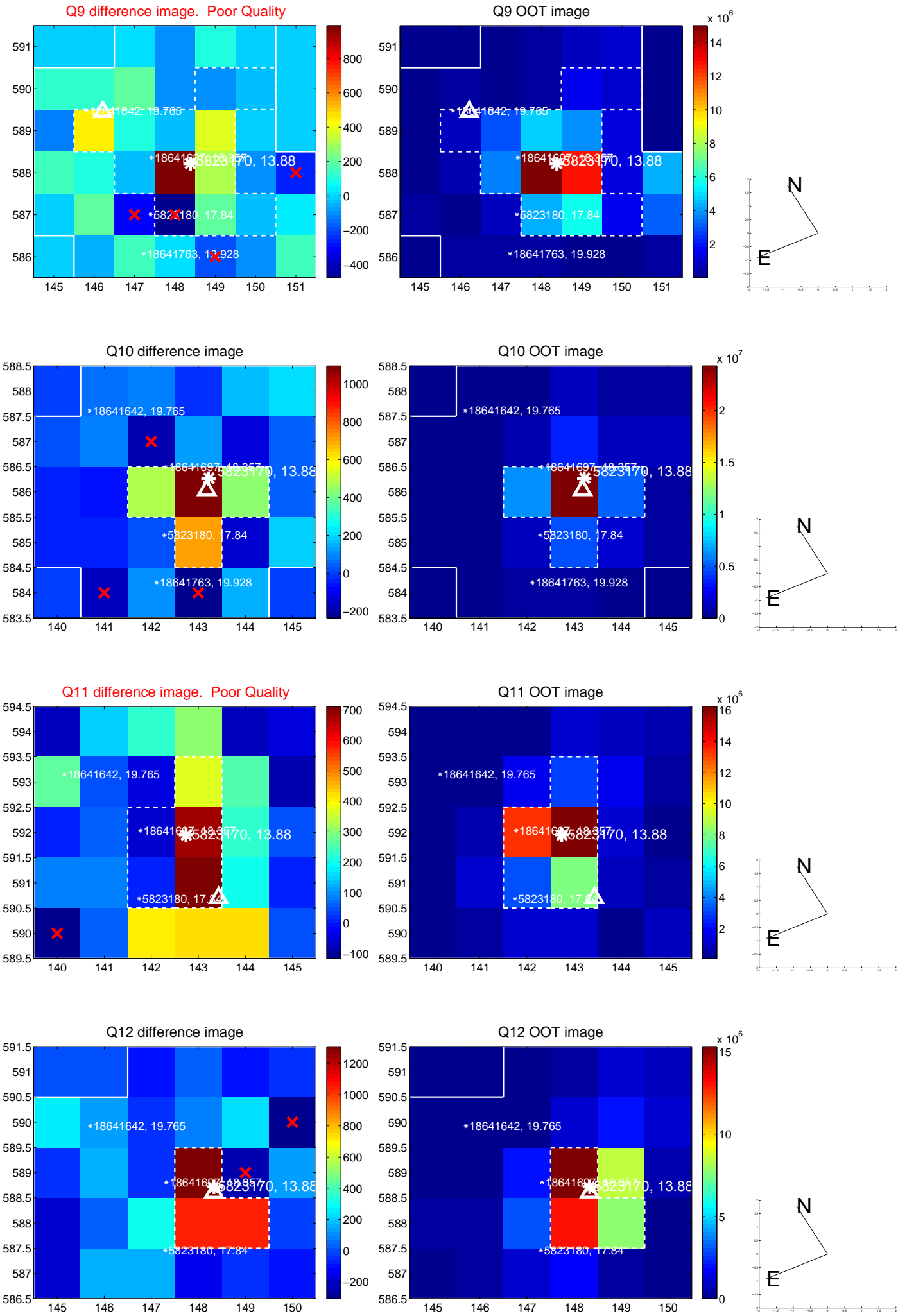
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



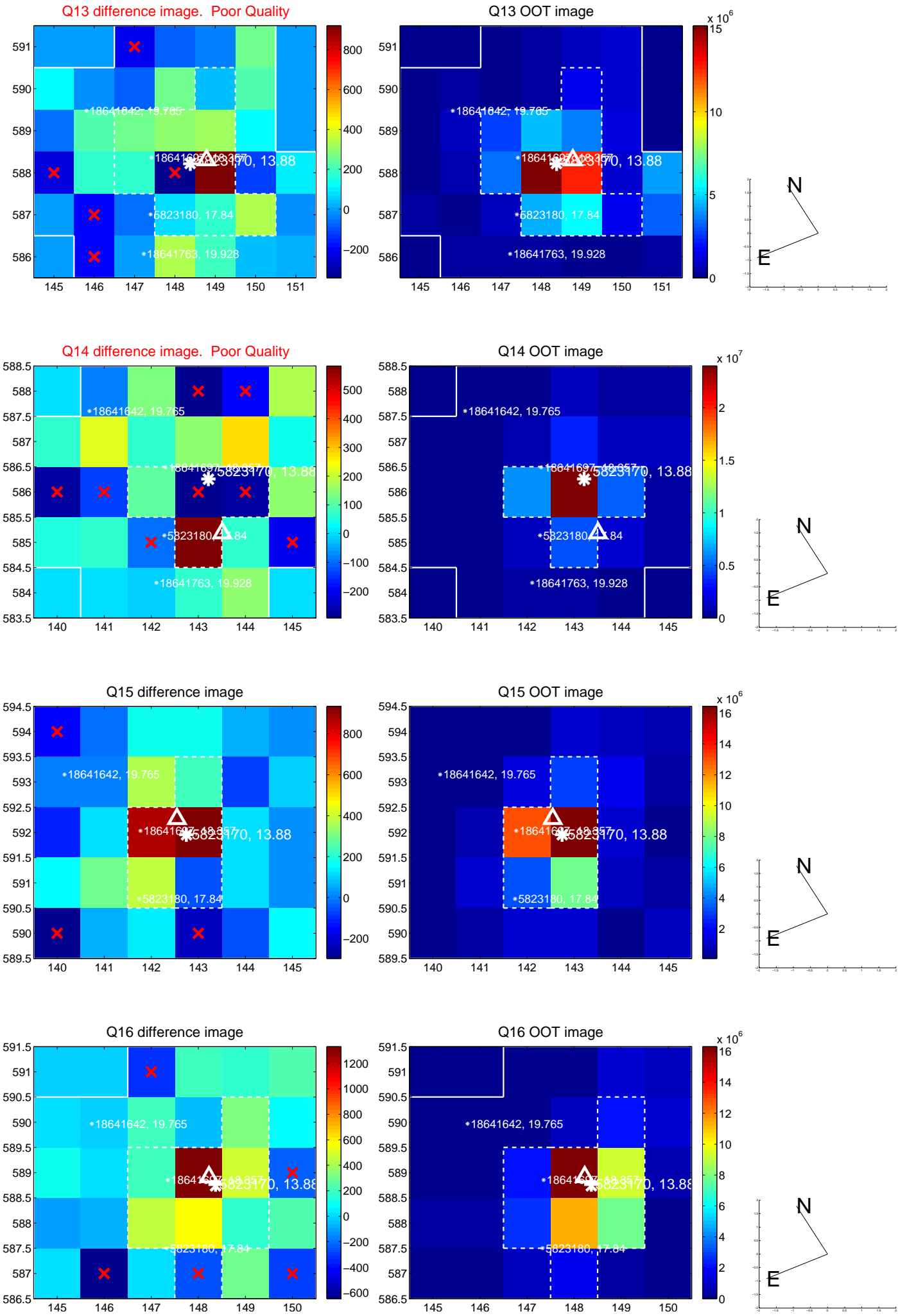
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



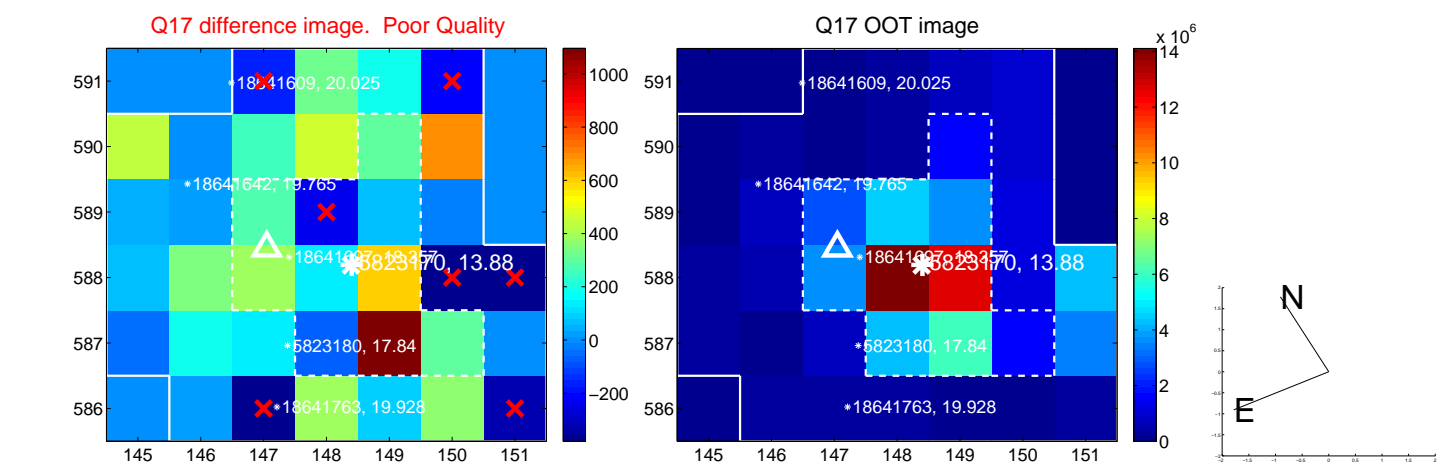
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



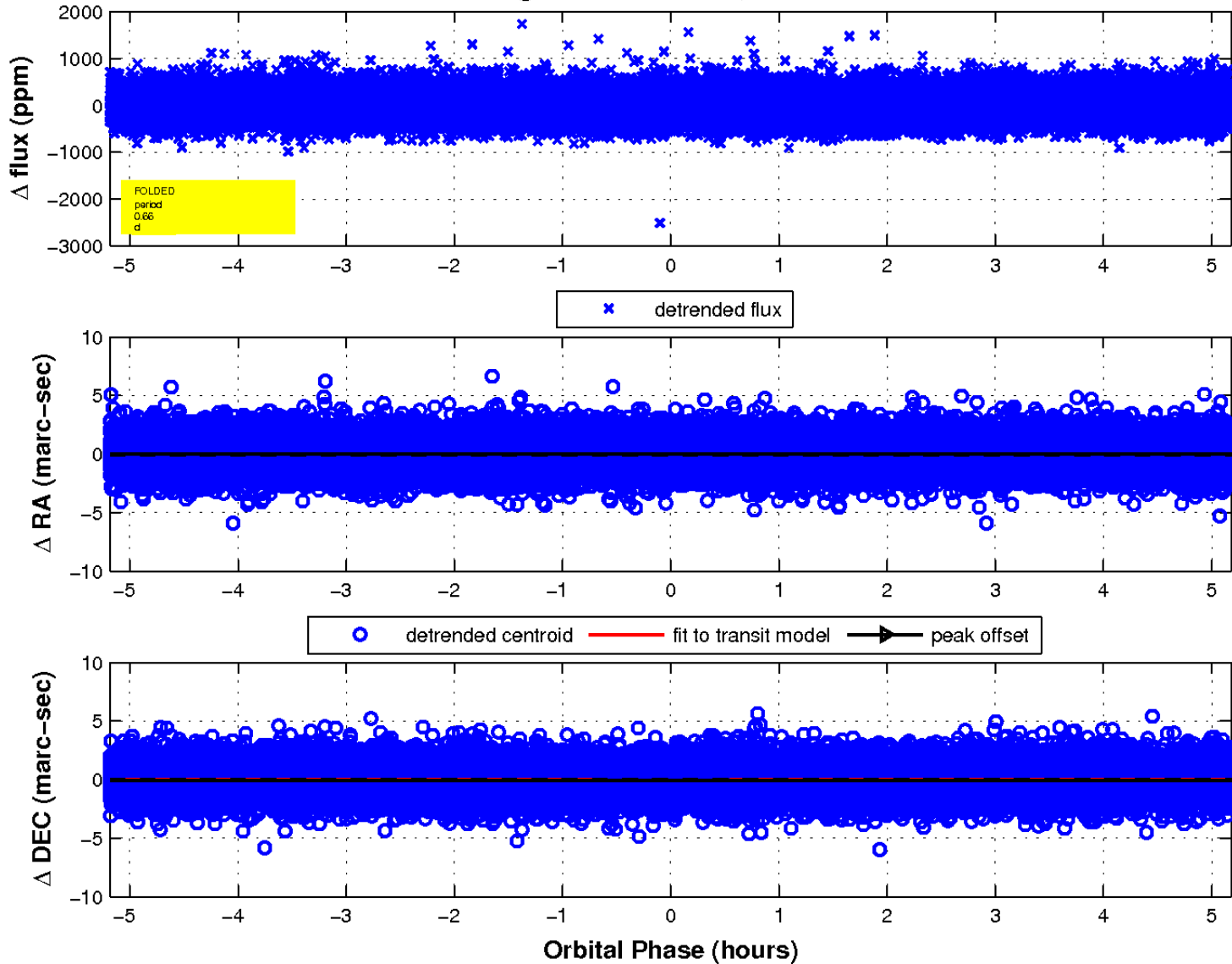
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

