

KIC 009591070

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})
009591070-01	OBS	2825.01	0.764103	131.738580	12.3	3.090	16.3	4.9	1.12	6321	0.43	5969.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009591070-01	OBS	FP	0.00	1	0	1	0	LPP_DV—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 009591070-01

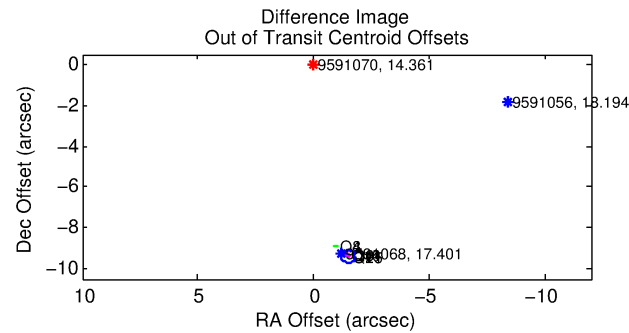
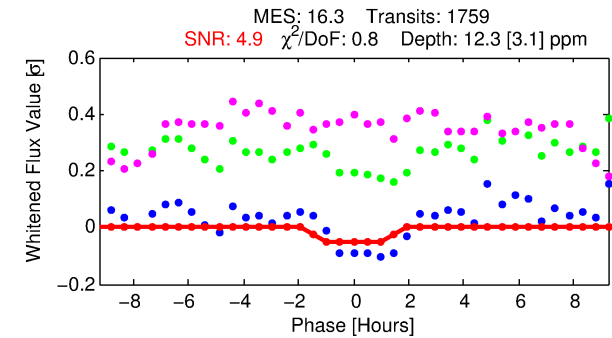
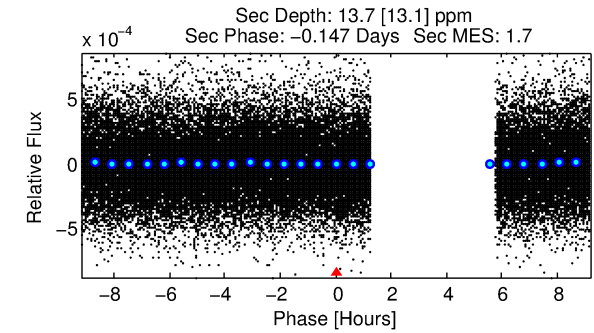
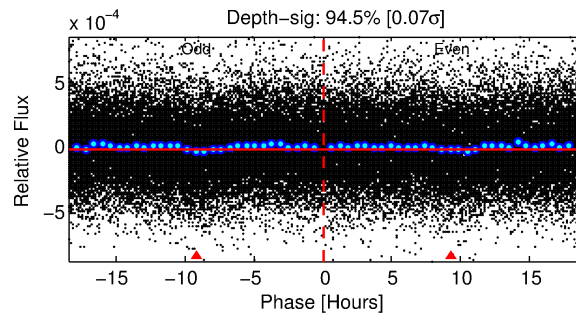
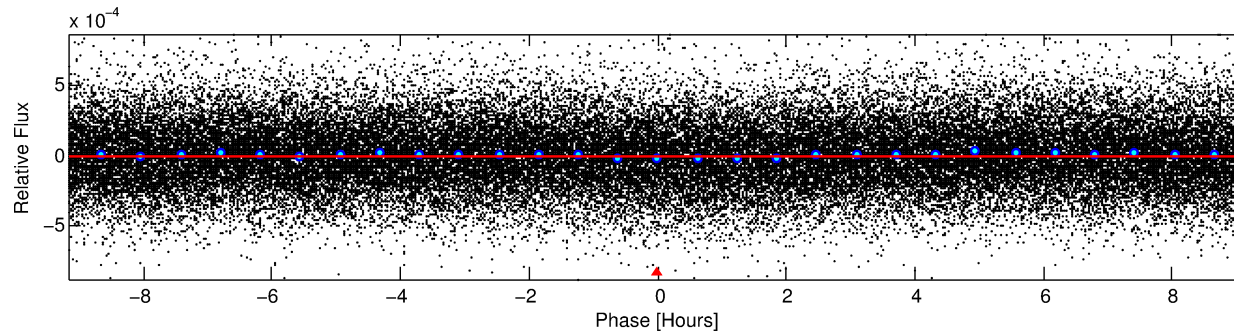
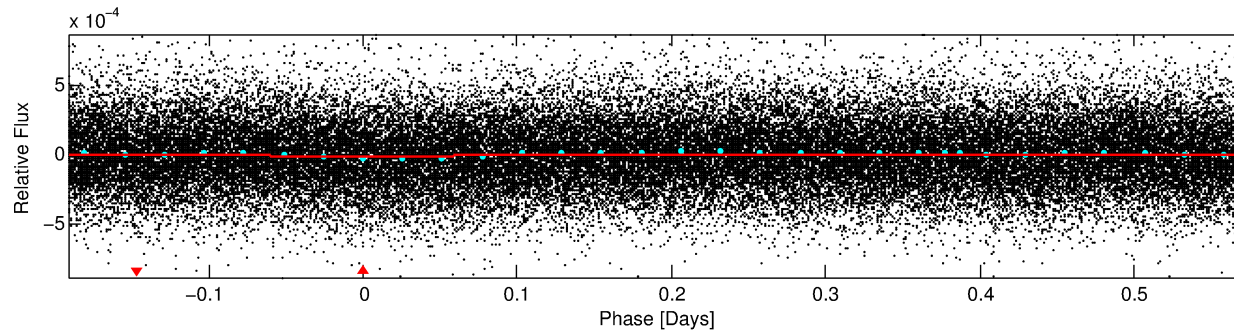
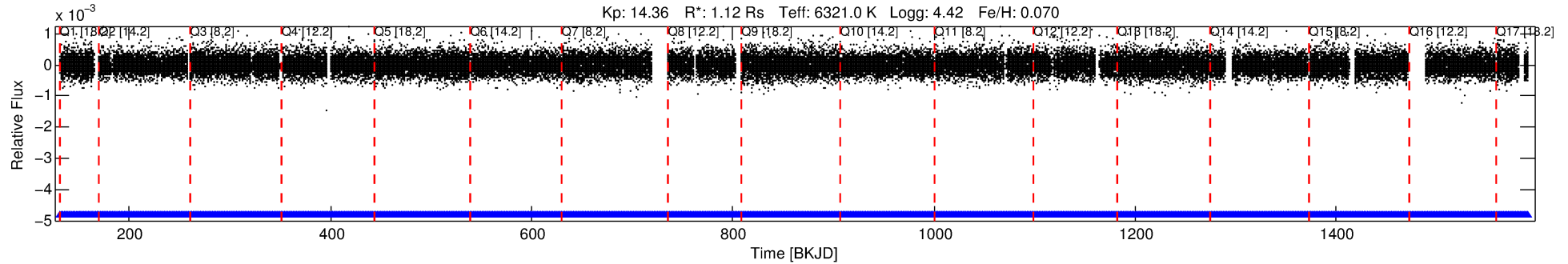
No Significant Match Found

DV One-Page Summary

KIC: 9591070 Candidate: 1 of 1 Period: 0.764 d

KOI: K02825 Corr: No Ephemeris Match

Kp: 14.36 R*: 1.12 Rs Teff: 6321.0 K Logg: 4.42 Fe/H: 0.070



DV Fit Results:

Period = 0.76410 [0.00002] d
Epoch = 131.7386 [0.0079] BKJD
Rp/R* = 0.0035 [0.0016]
a/R* = 1.48 [1.88]
b = 0.77 [1.22]
Seff = 5969.48 [2587.82]
Teq = 2241 [243] K
Rp = 0.43 [0.25] Re
a = 0.0174 [0.0050] AU
Ag = 12.26 [17.12] [0.66σ]
Teff = 6485 [2173] K [1.94σ]

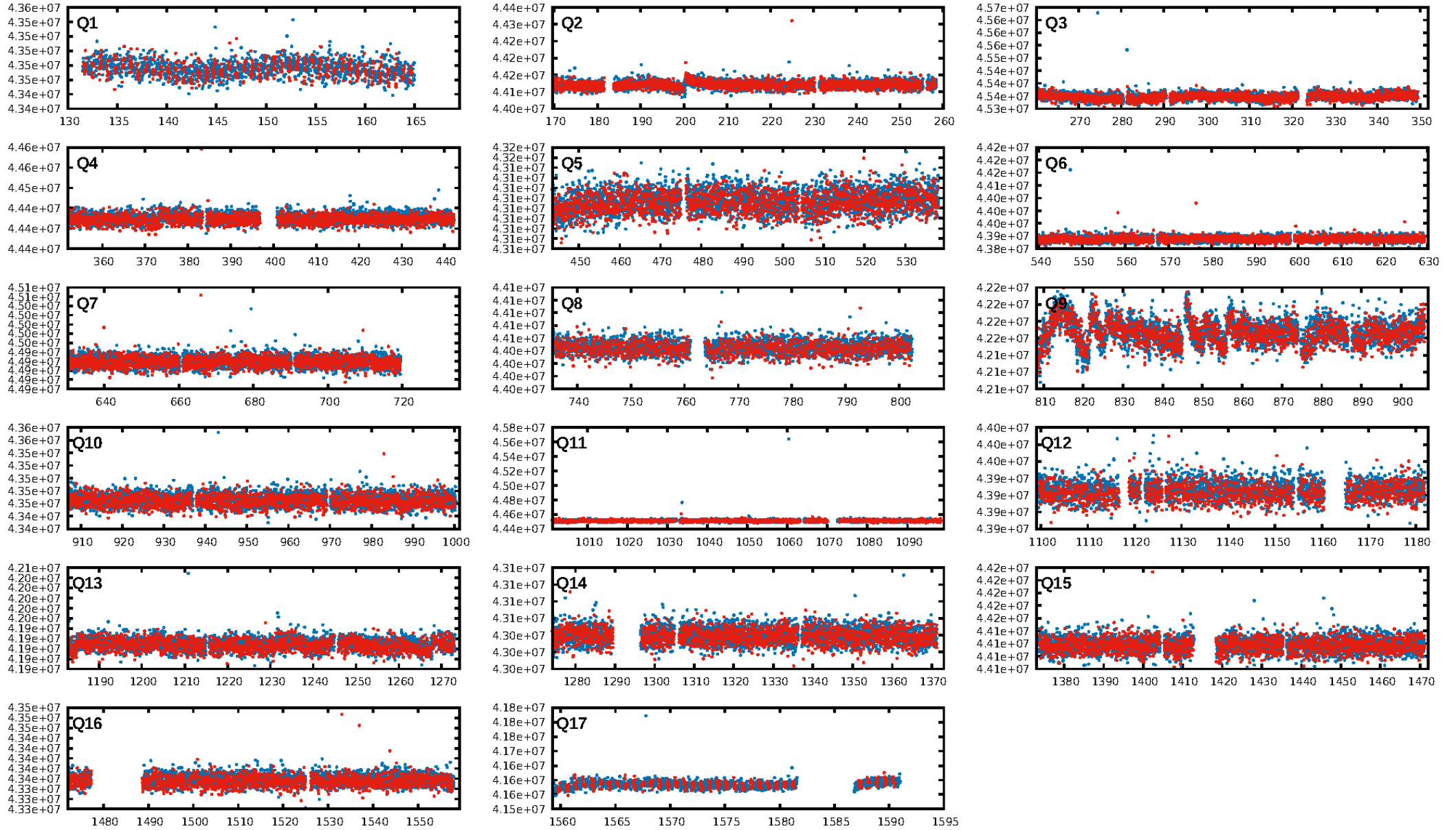
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.34e-53
RollingBand-fgt: 1.00 [1681/1681]
GhostDiagnostic-chr: -0.3335
Centroid-sig: N/A
Centroid-so: 156.641 arcsec [42.82σ]
OotOffset-rm: 9.512 arcsec [91.42σ]
KicOffset-rm: 9.527 arcsec [95.82σ]
OotOffset-st: 4/3/2/0 [9]
KicOffset-st: 4/3/2/0 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [17/17]

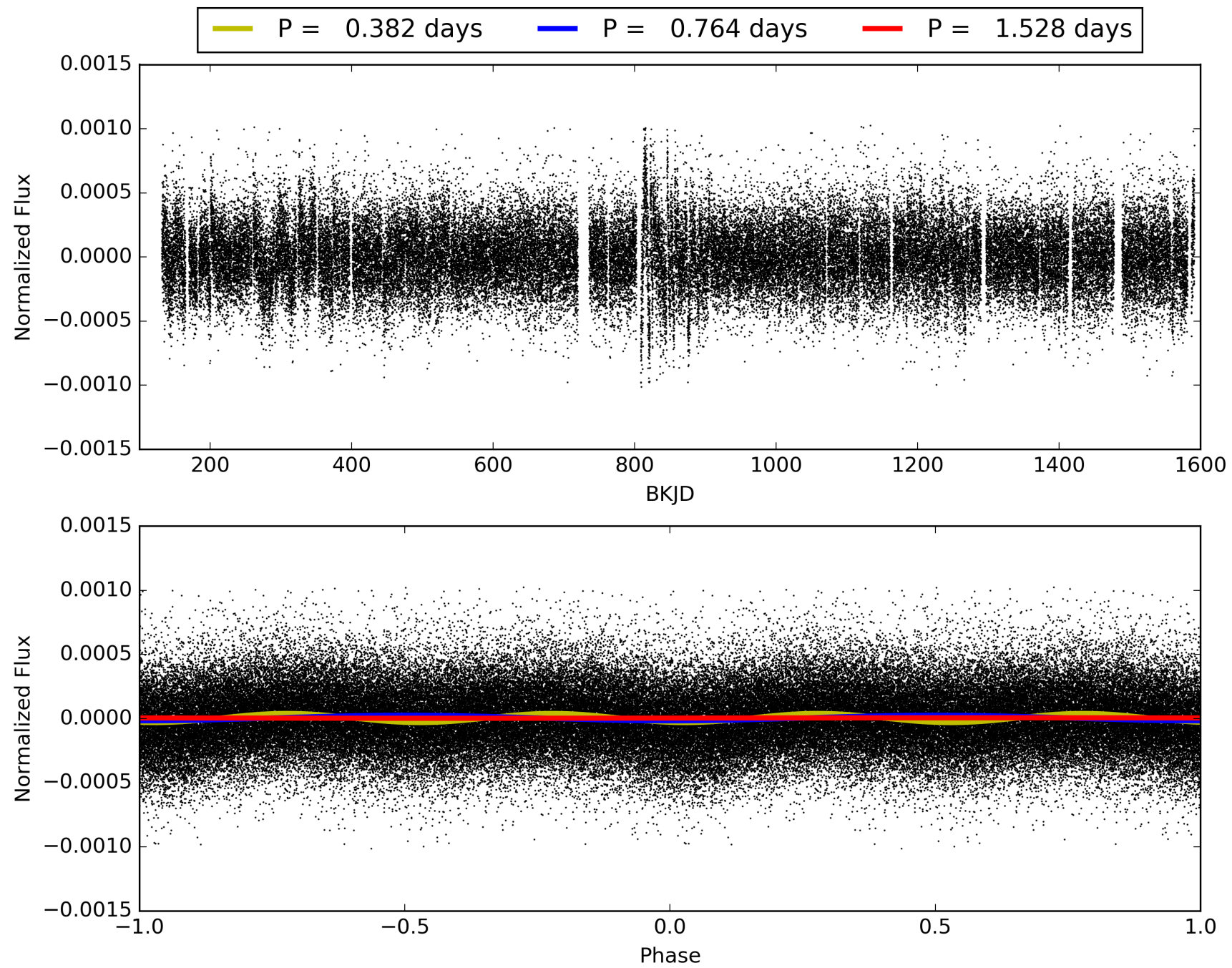
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:09:18 Z

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

TCE 009591070-01, PDC Light Curves

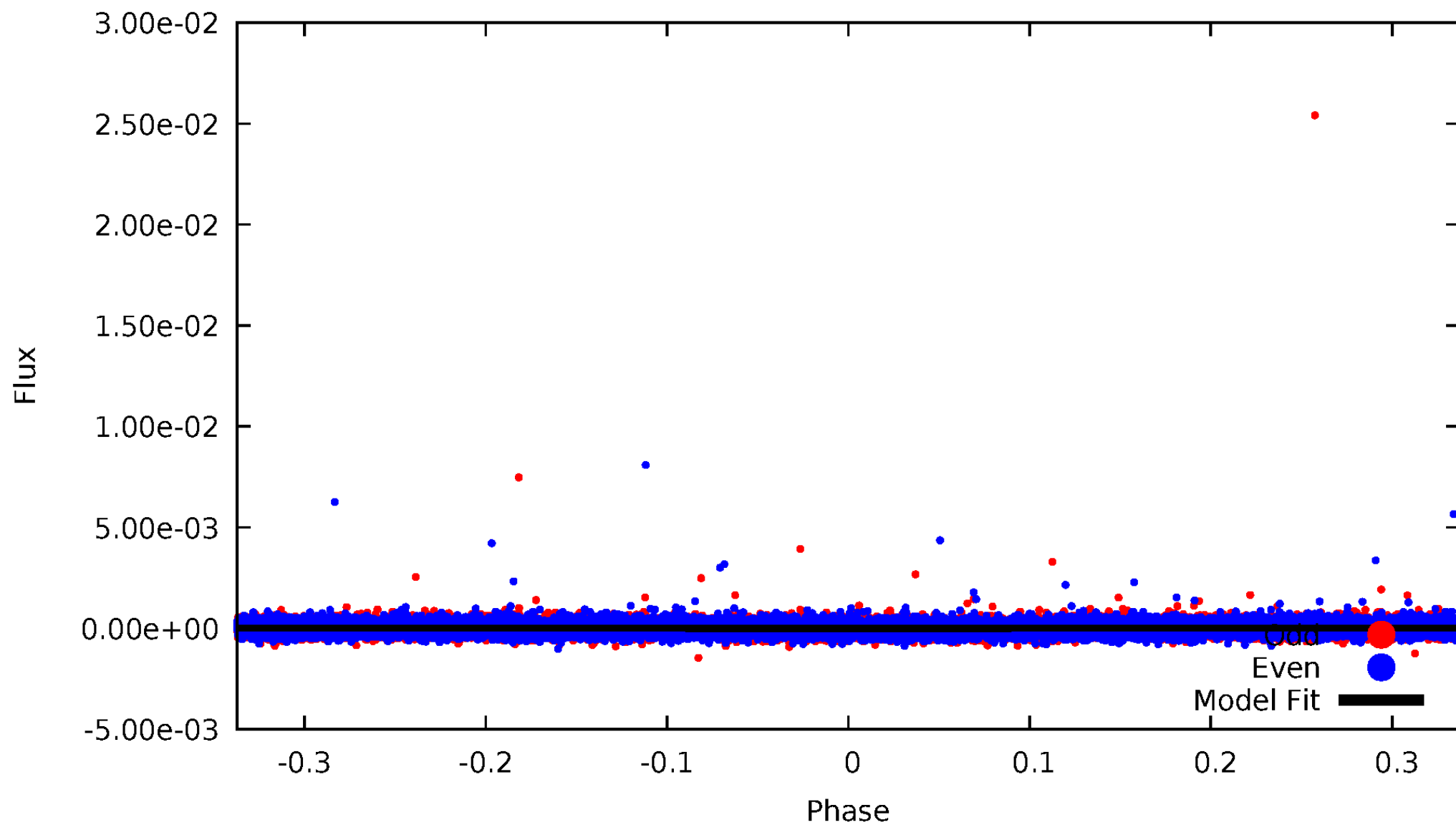


TCE 009591070-01



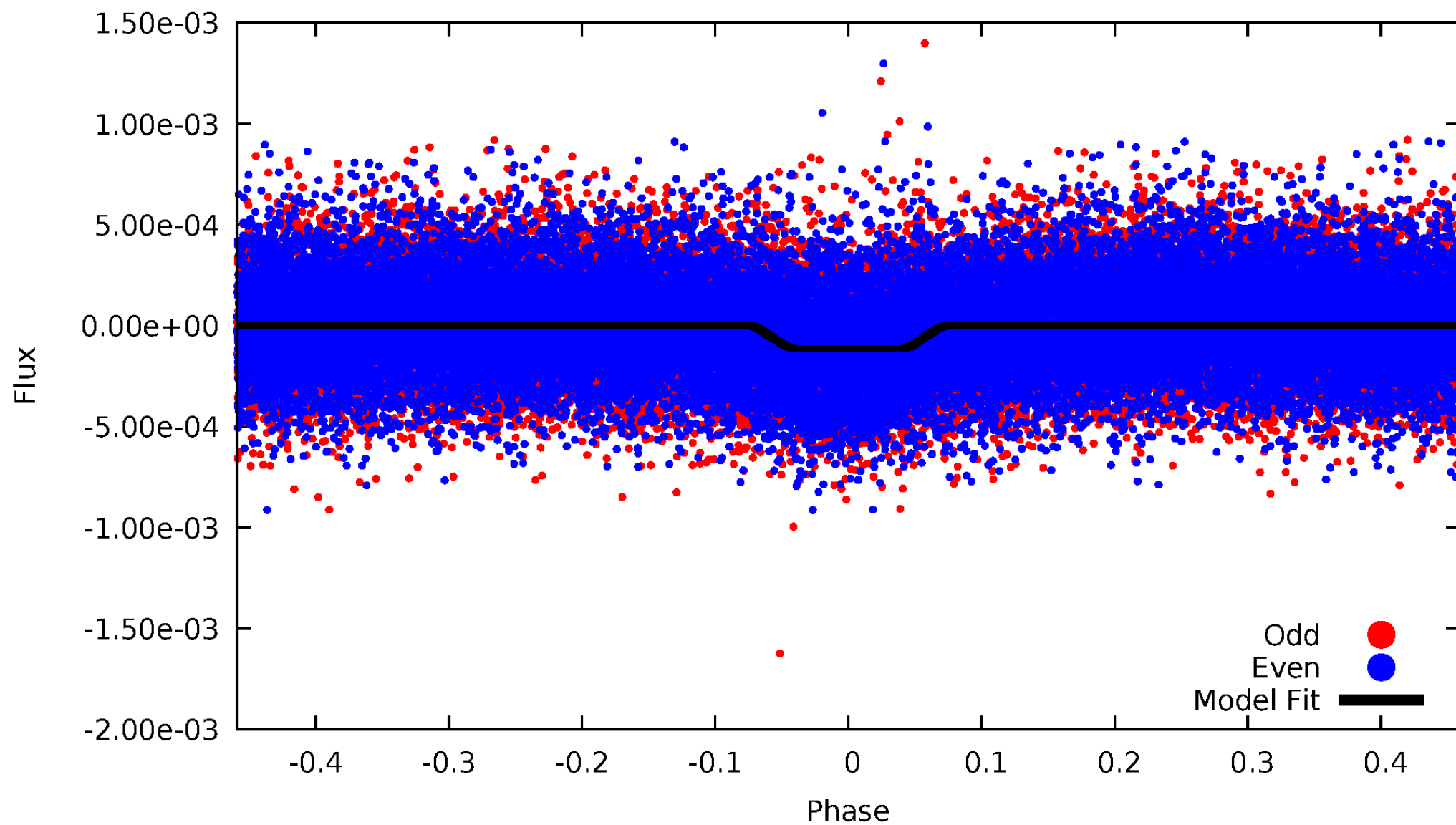
DV Odd/Even

TCE 009591070-01

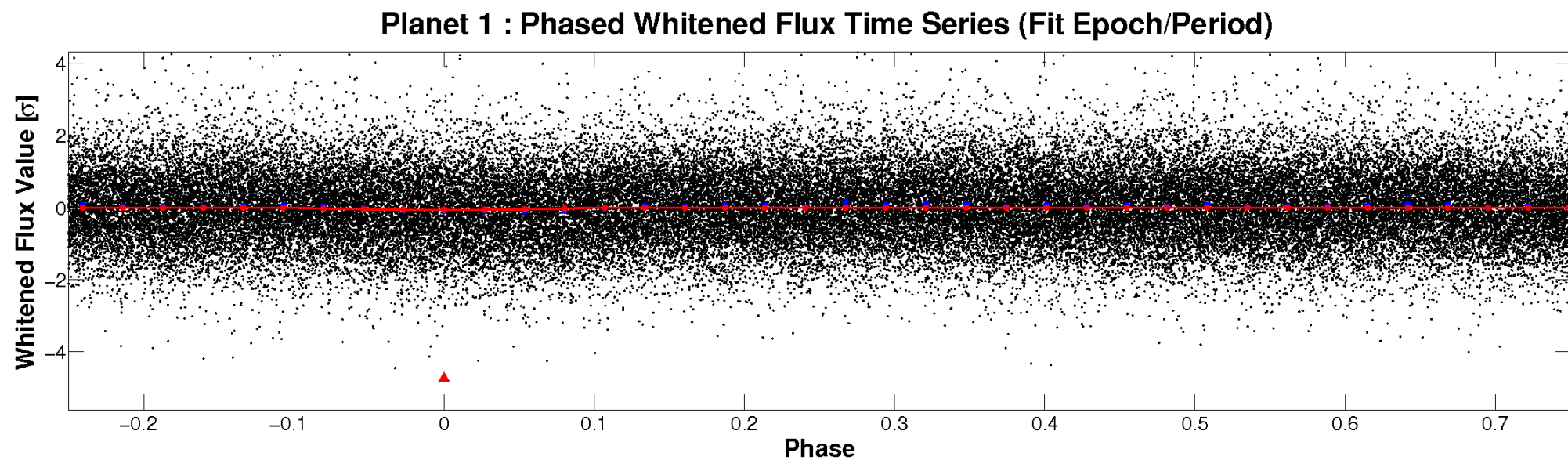
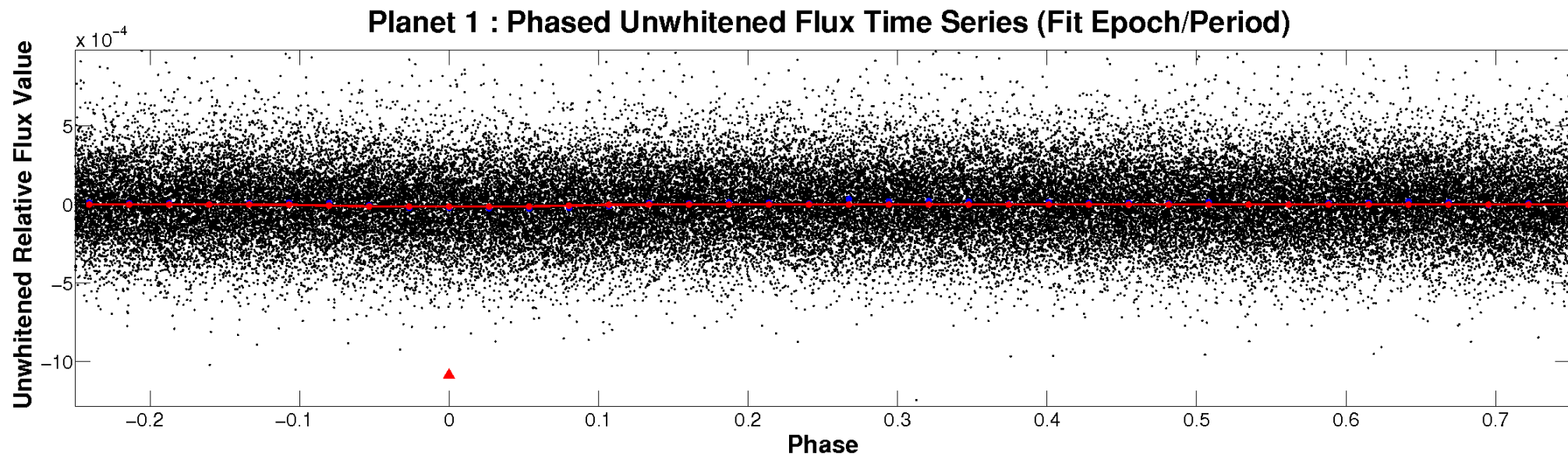


ALT Odd/Even

TCE 009591070-01

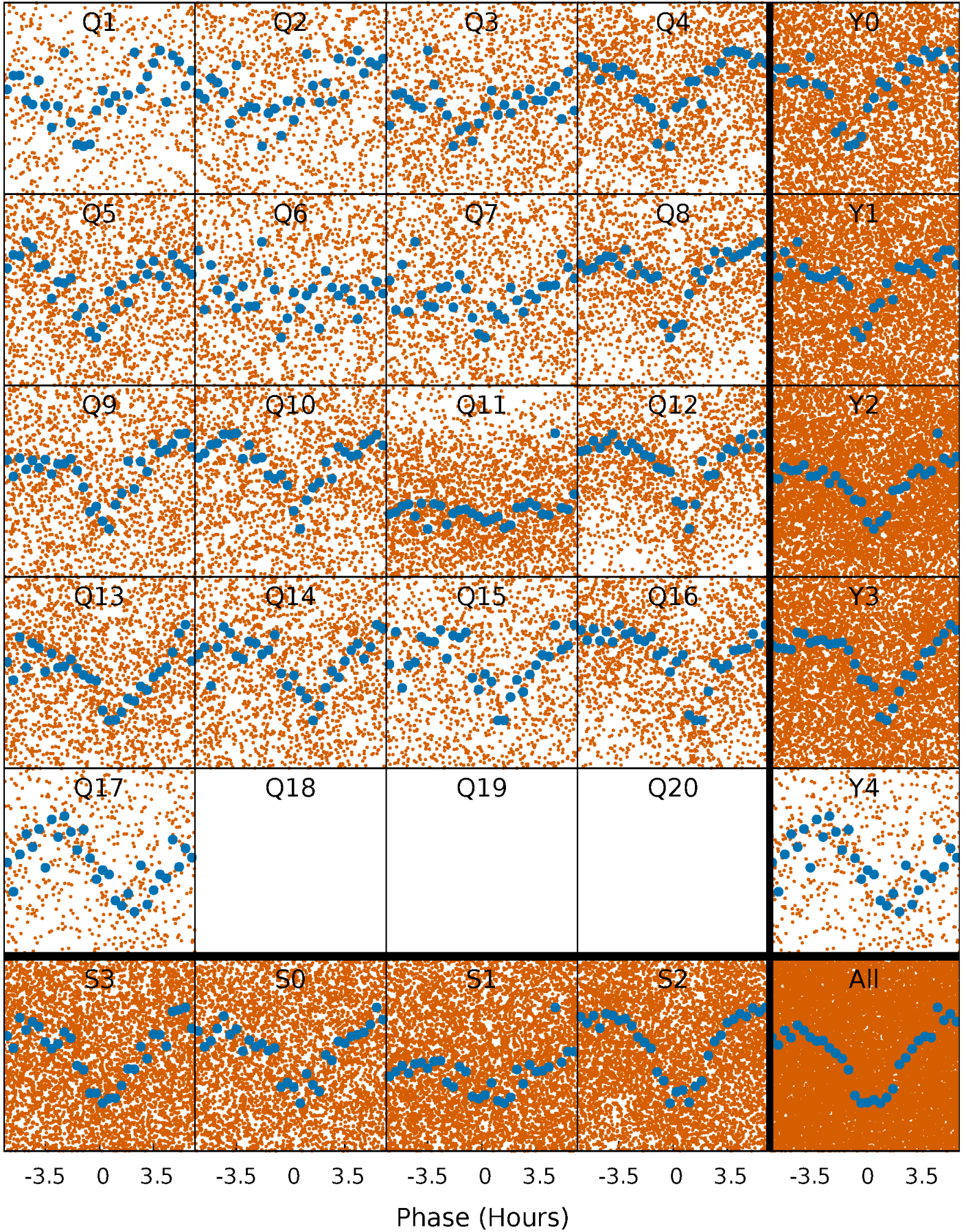


Non-Whitened Vs. Whitened Light Curve



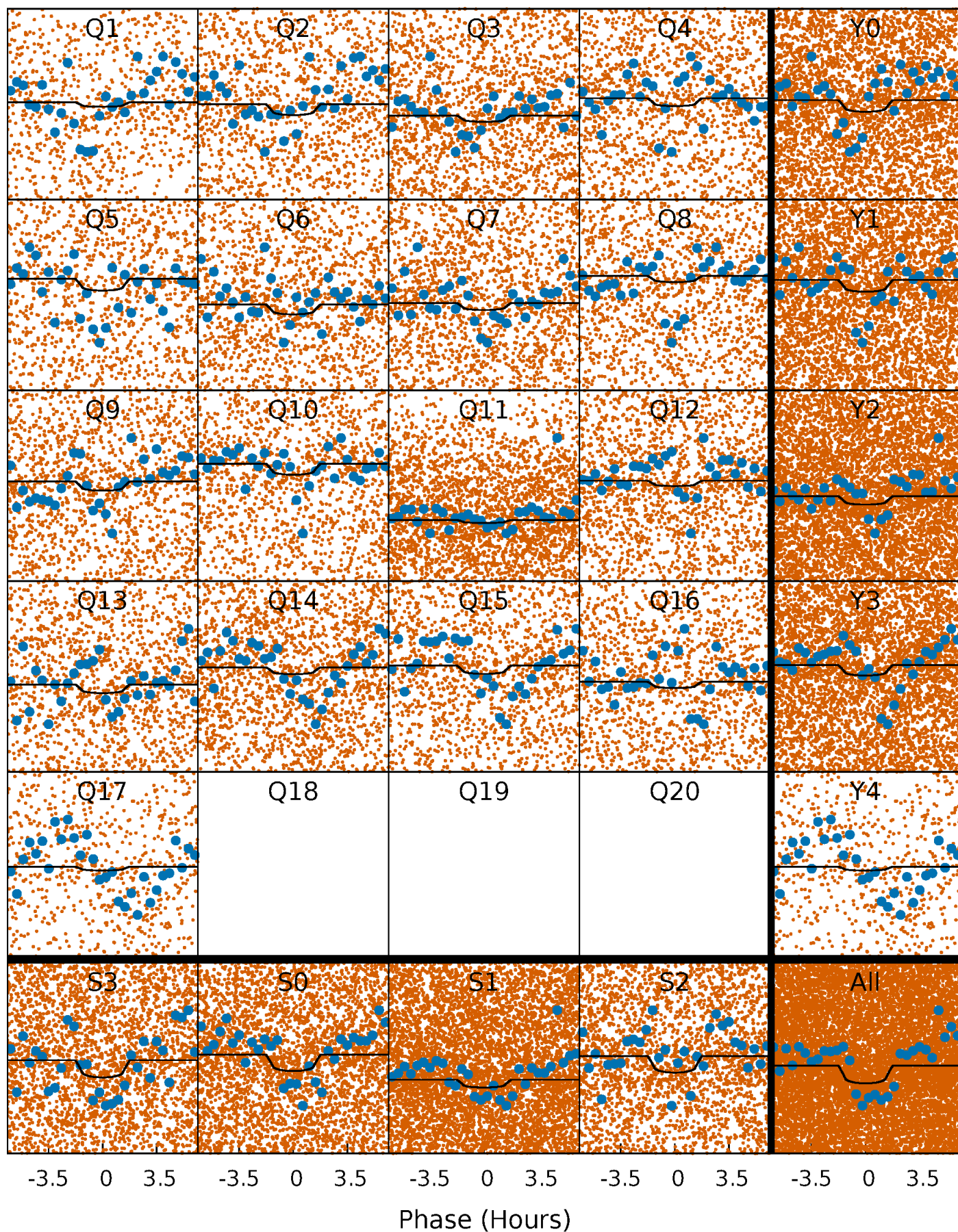
PDC Quarter-Phased Transit Curves

TCE 009591070-01 P= 0.764103 Days $T_0=131.738580$ (BKJD)



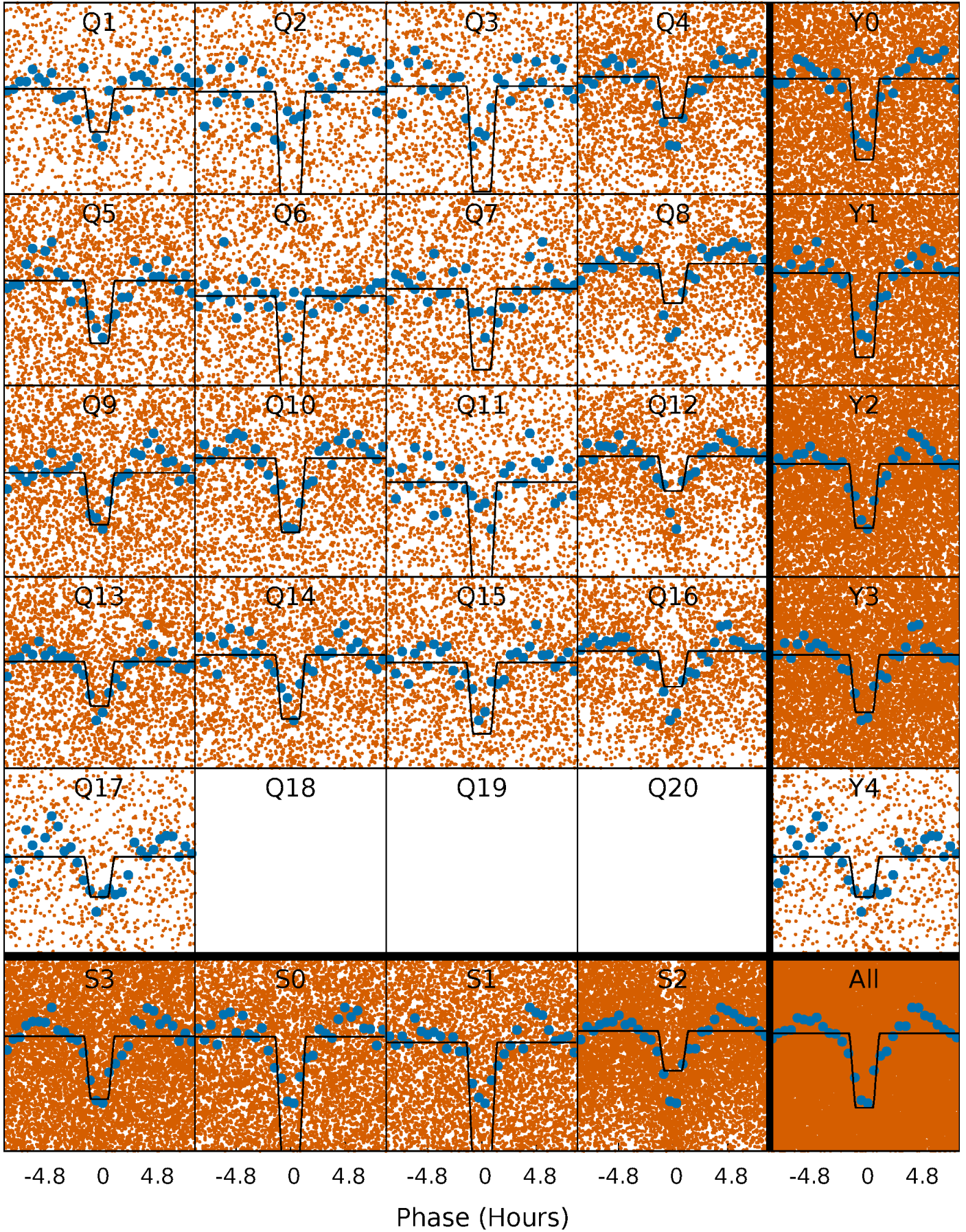
DV Quarter-Phased Transit Curves

TCE 009591070-01 P= 0.764103 Days $T_0=131.738580$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

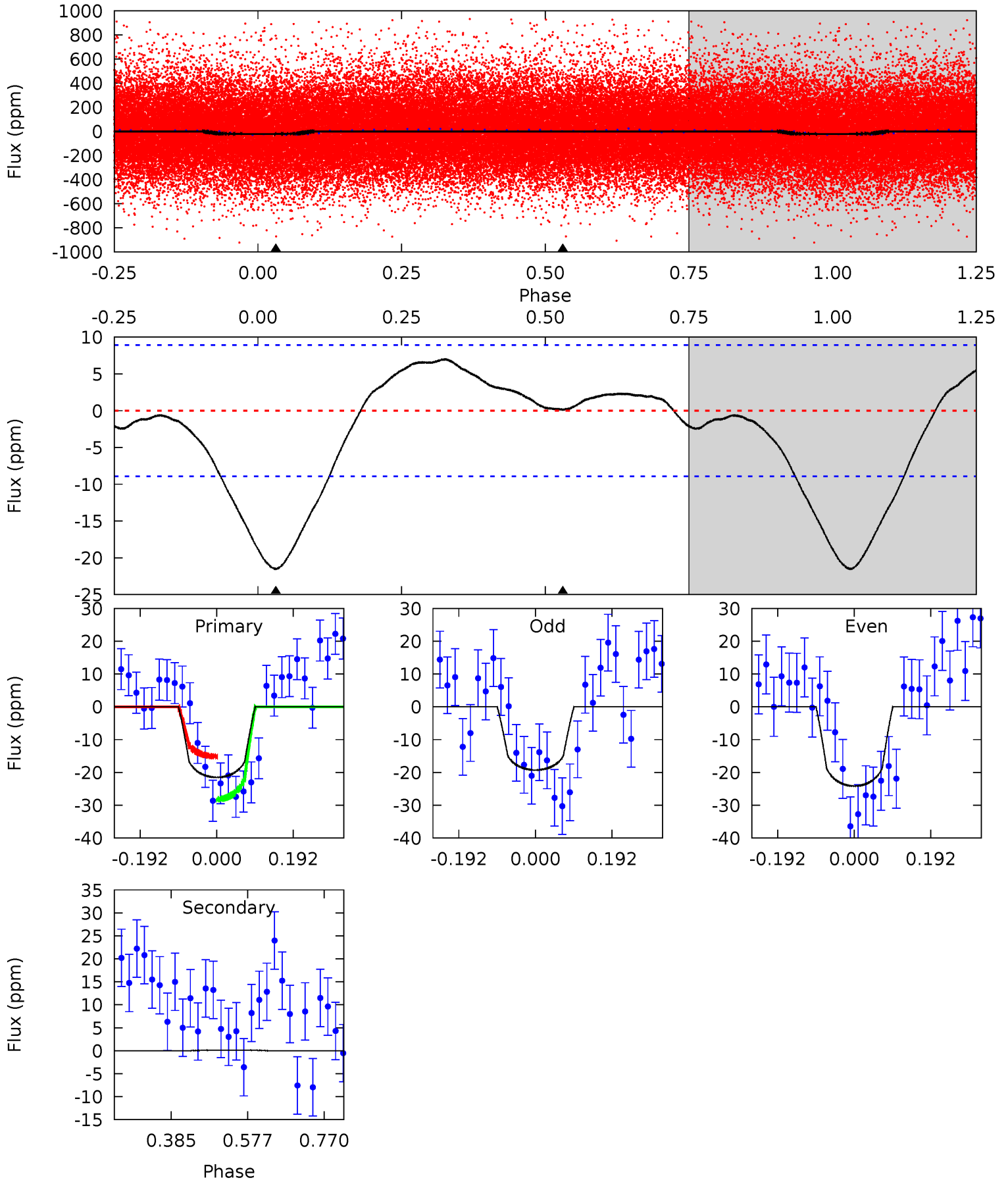
TCE 009591070-01 P= 0.764166 Days $T_0=131.692840$ (BKJD)



DV Model-Shift Uniqueness Test

009591070-01, P = 0.764103 Days, E = 130.974477 Days

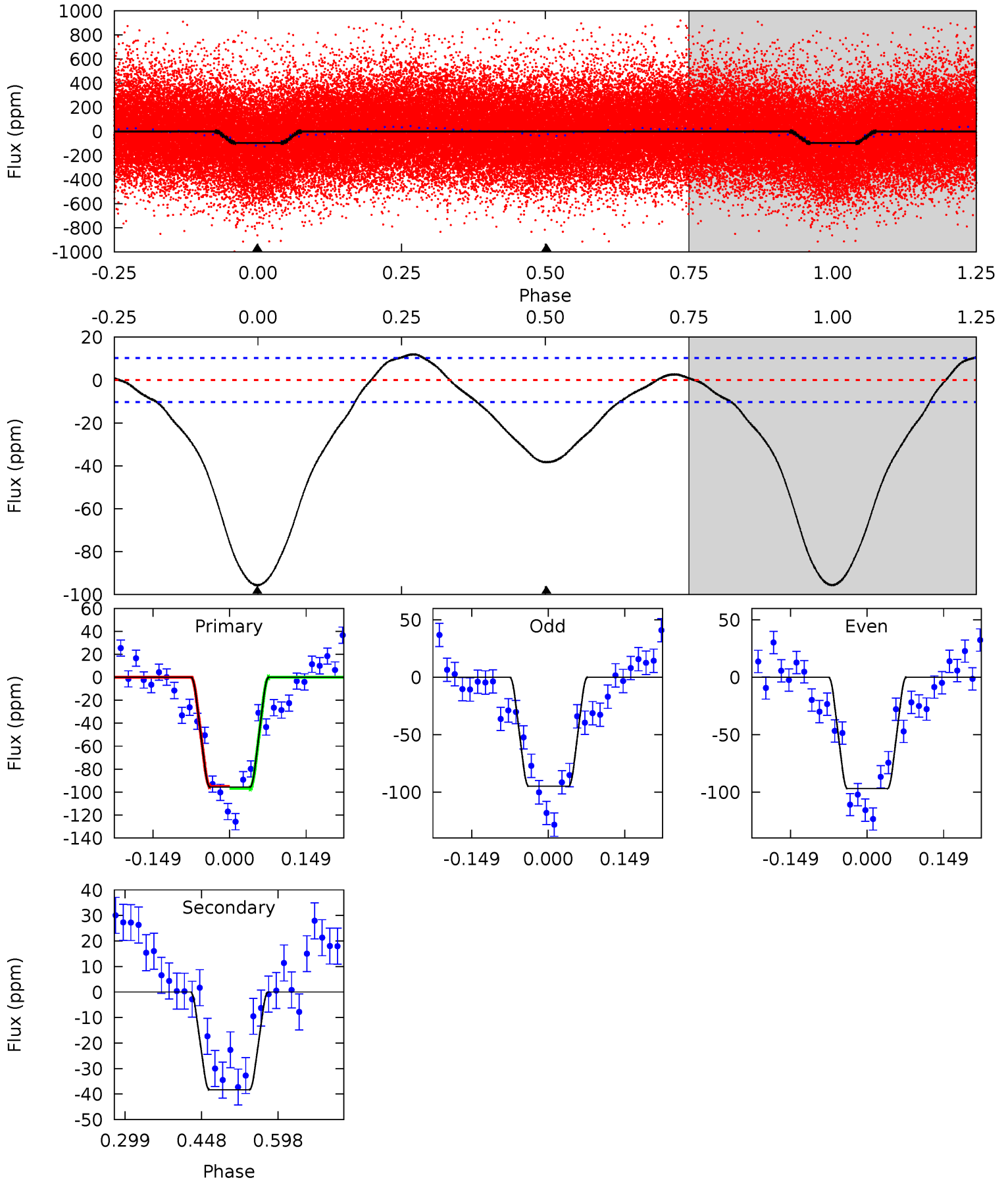
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	-0.06	0	0	4.43	1.30	1.89	10.7	10.7	-0.06	-0.06	1.21	0.84	0.25	3.26



Alt Model-Shift Uniqueness Test

009591070-01, P = 0.764166 Days, E = 130.928674 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.8	16.7	0	0	4.48	1.44	3.35	41.8	41.8	16.7	16.7	0.45	1.03	0.11	0.39



Stellar Parameters For KIC 009591070

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6321^{+168}_{-205}	$4.417^{+0.056}_{-0.224}$	$0.070^{+0.200}_{-0.350}$	$1.125^{+0.388}_{-0.129}$	$1.207^{+0.152}_{-0.186}$	$1.195^{+0.357}_{-0.646}$
	+3%/-3%	+1%/-5%	+286%/-500%	+34%/-11%	+13%/-15%	+30%/-54%
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 009591070-01 / KOI 2825.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 2	$0.46^{+0.21}_{-0.19}$	3195^{+239}_{-150}	-3471^{+7418}_{-1200}	$-0.154^{+1.590}_{-2.227}$
Alt.	-38 ± 2	$1.39^{+0.31}_{-0.24}$	3214^{+241}_{-158}	4794^{+406}_{-308}	$3.228^{+1.392}_{-1.012}$

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 $A_{obs} \gg 1.0$

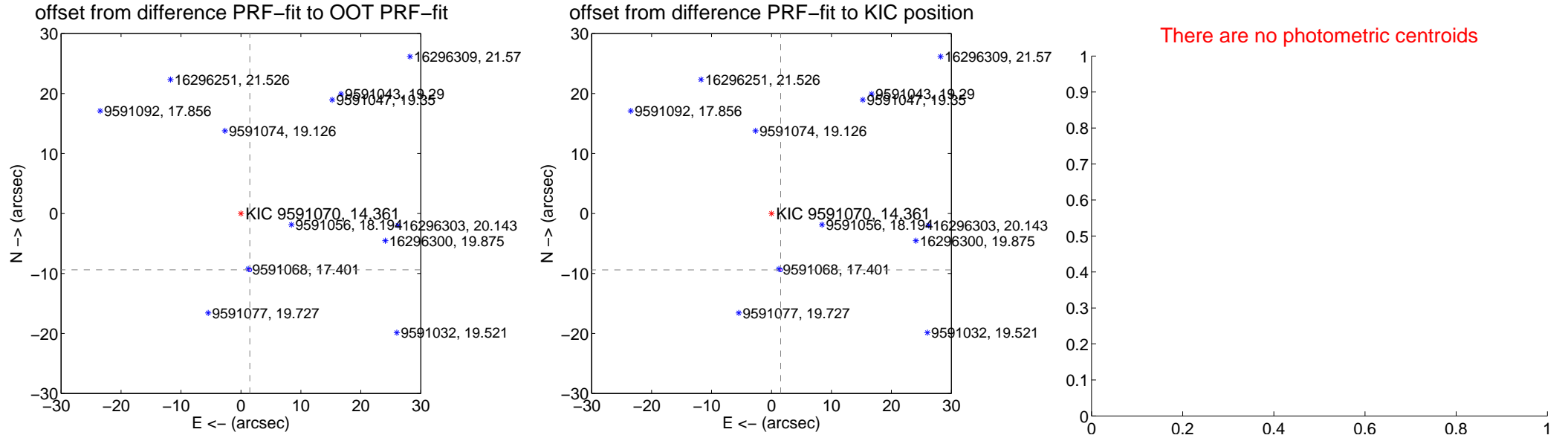
DV Centroid Data

Supplemental centroid analysis for 009591070-01. Kepler magnitude: 14.36. Transit SNR 4.87

There are 9 quarters with good PRF difference image offsets

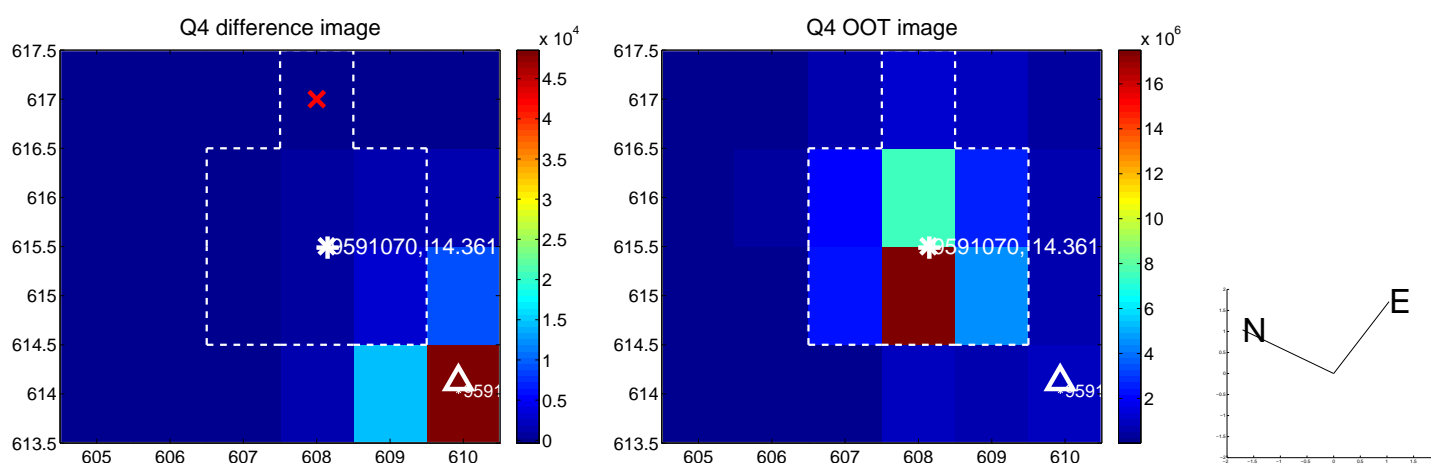
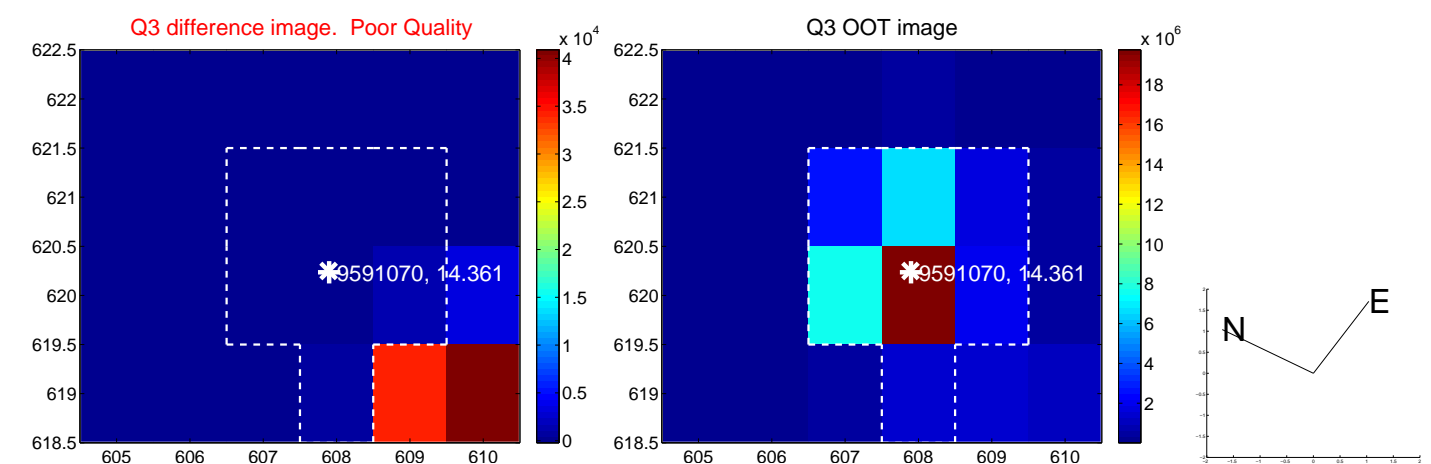
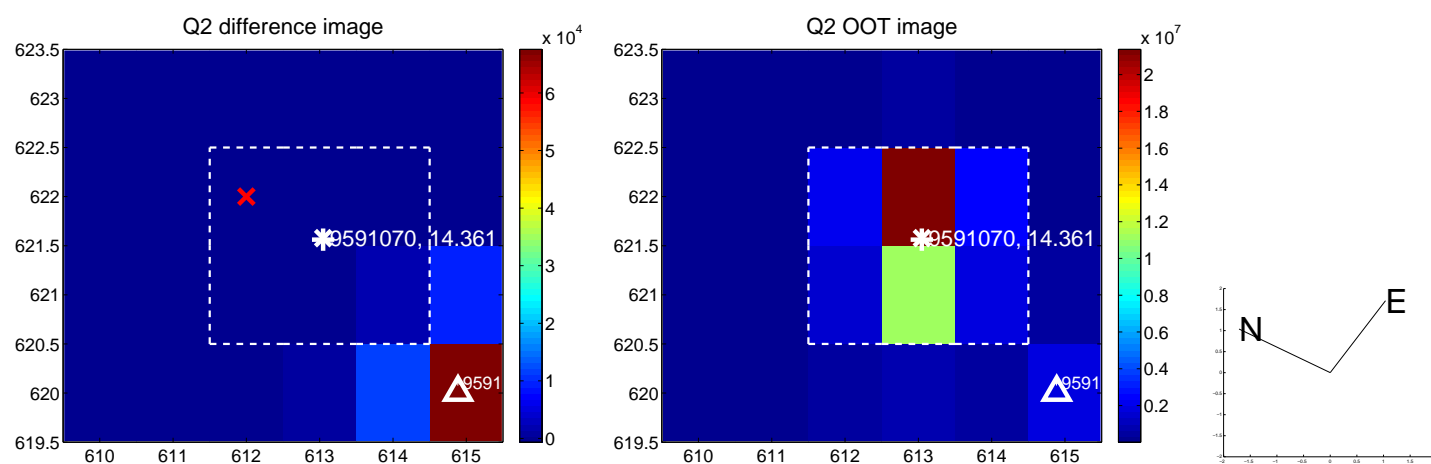
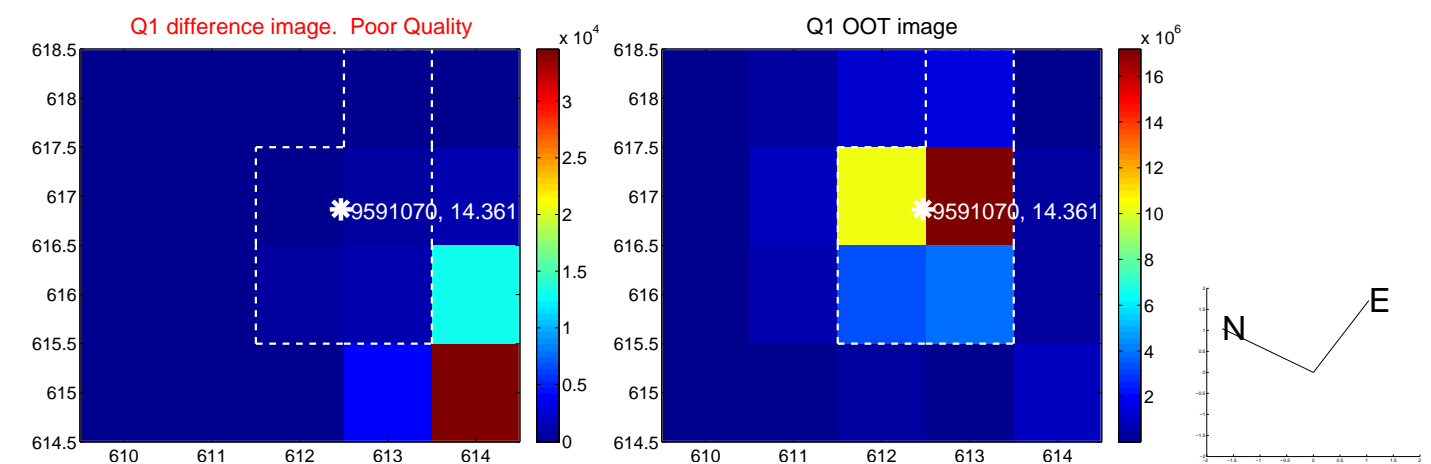
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.512 ± 0.104	91.42	-1.489 ± 0.098	-9.394 ± 0.096
PRF-fit source offset from KIC position	9.527 ± 0.099	95.82	-1.531 ± 0.097	-9.403 ± 0.092
photometric centroid source offset	—	—	—	—

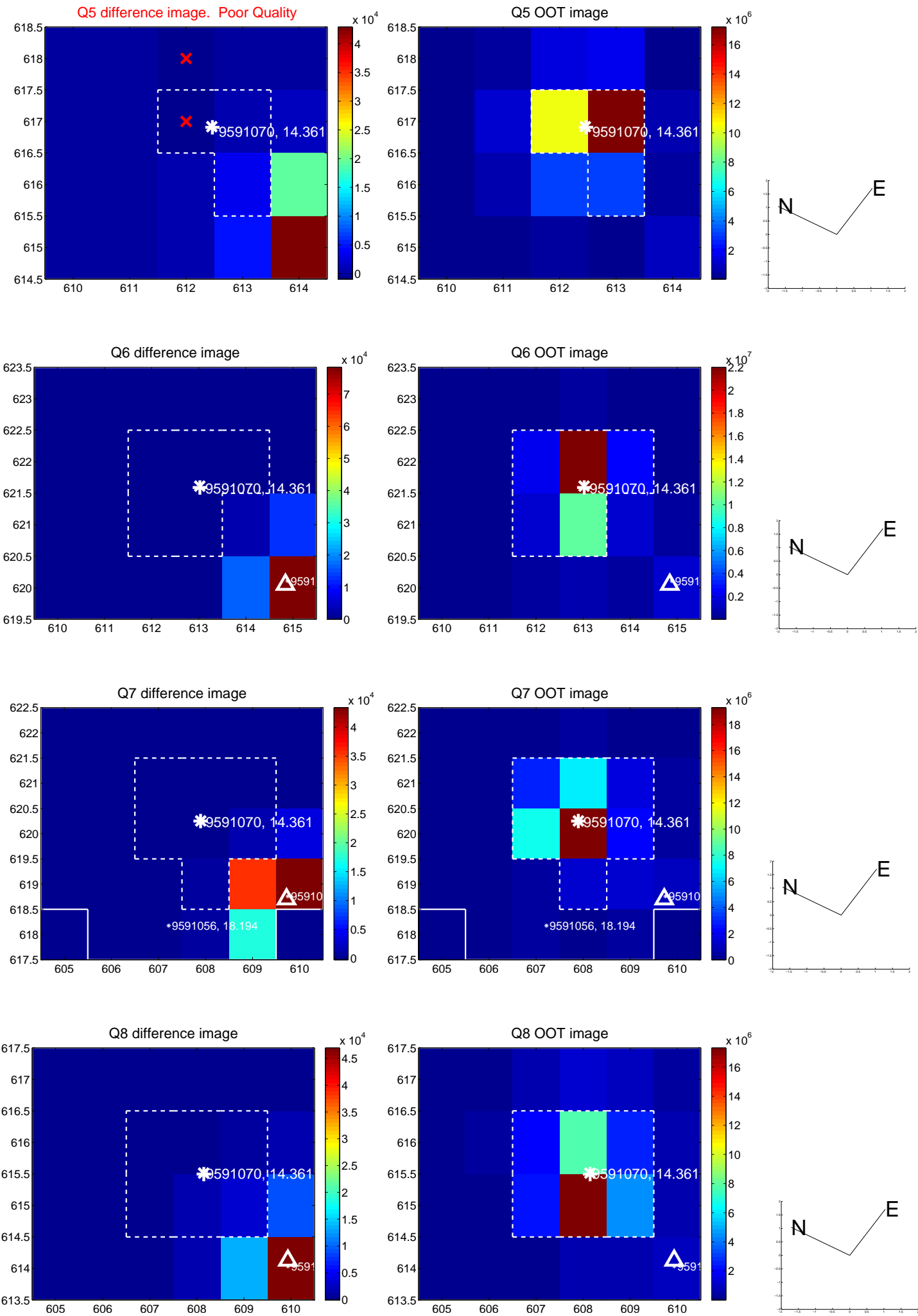


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

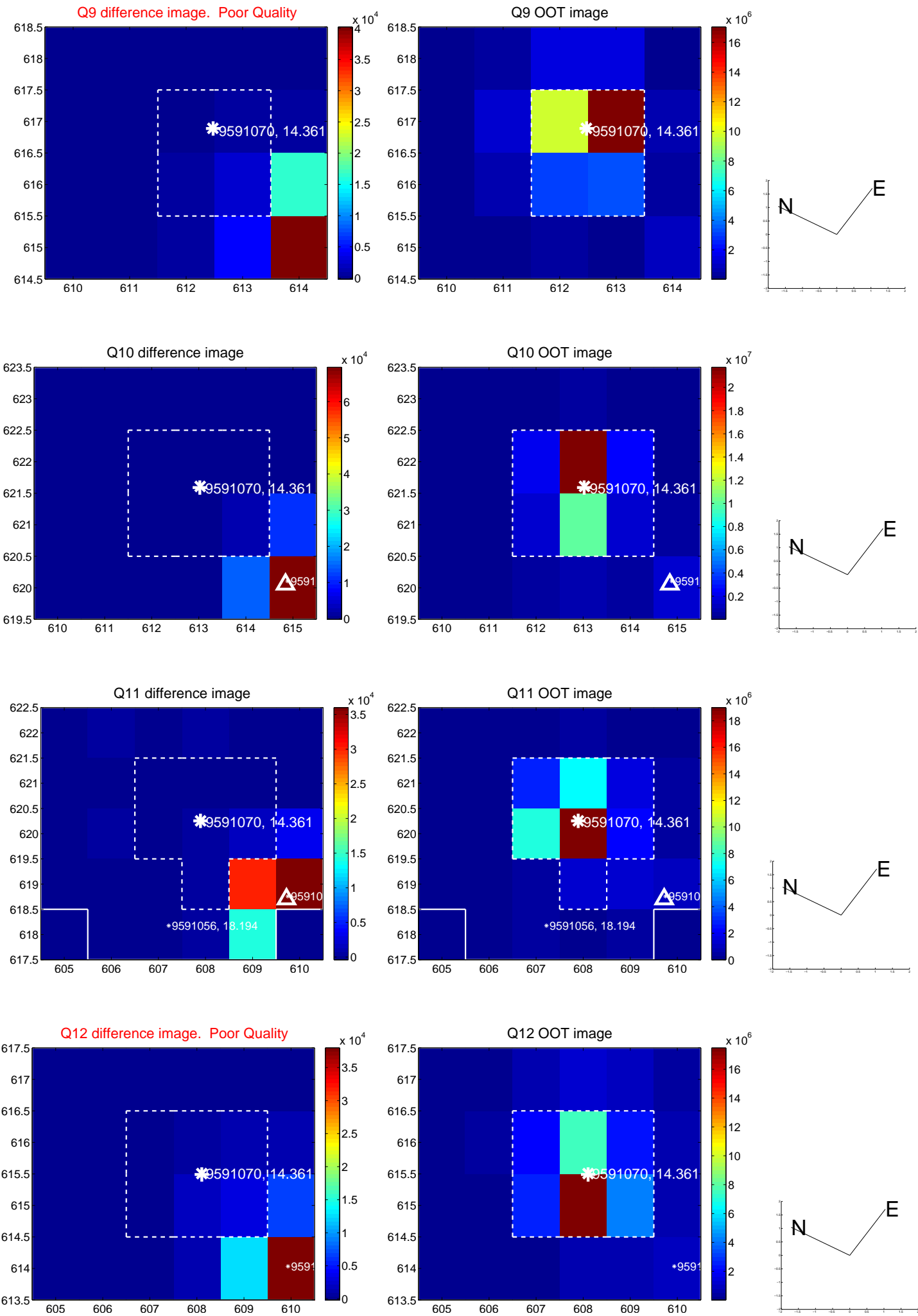
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



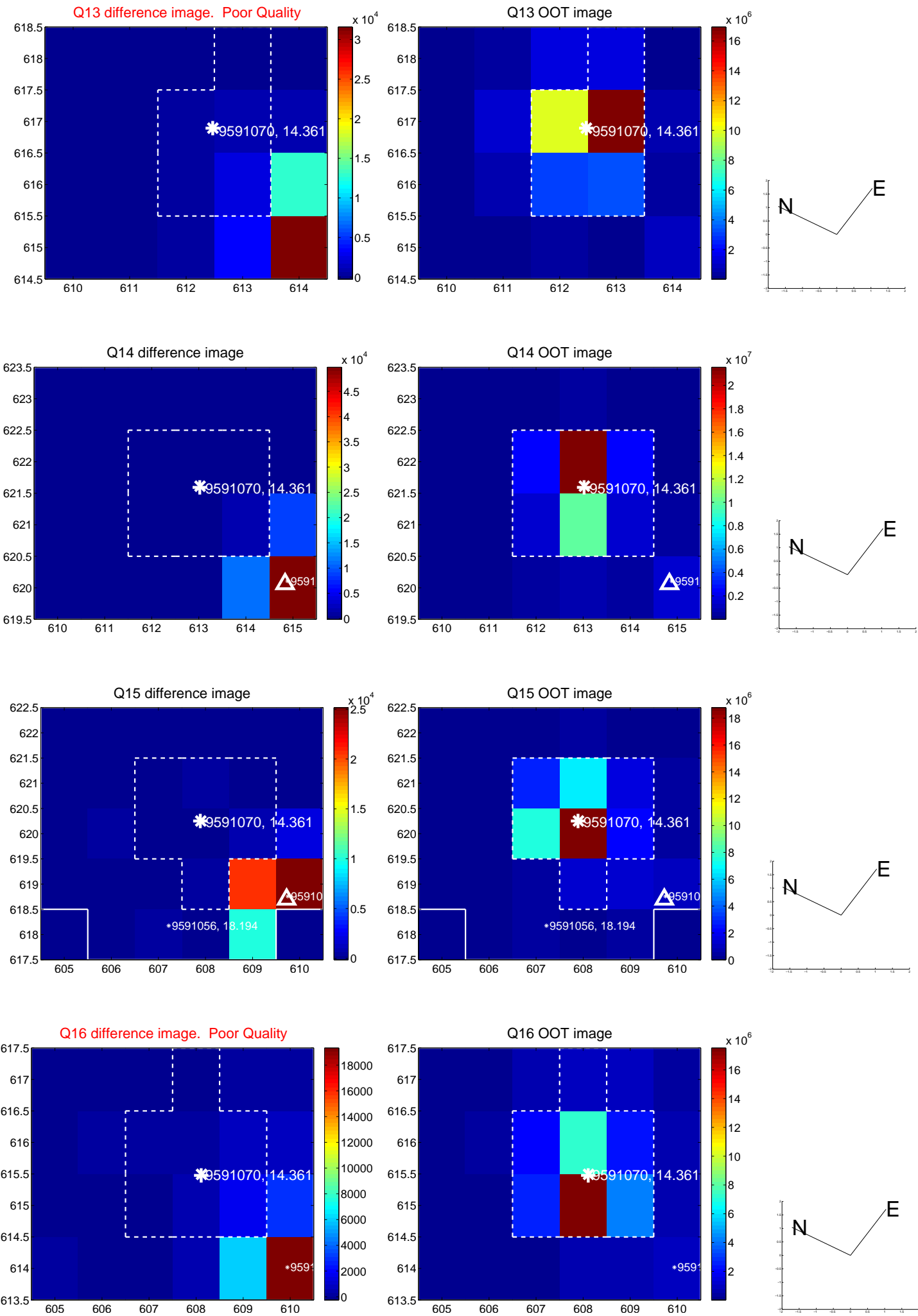
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



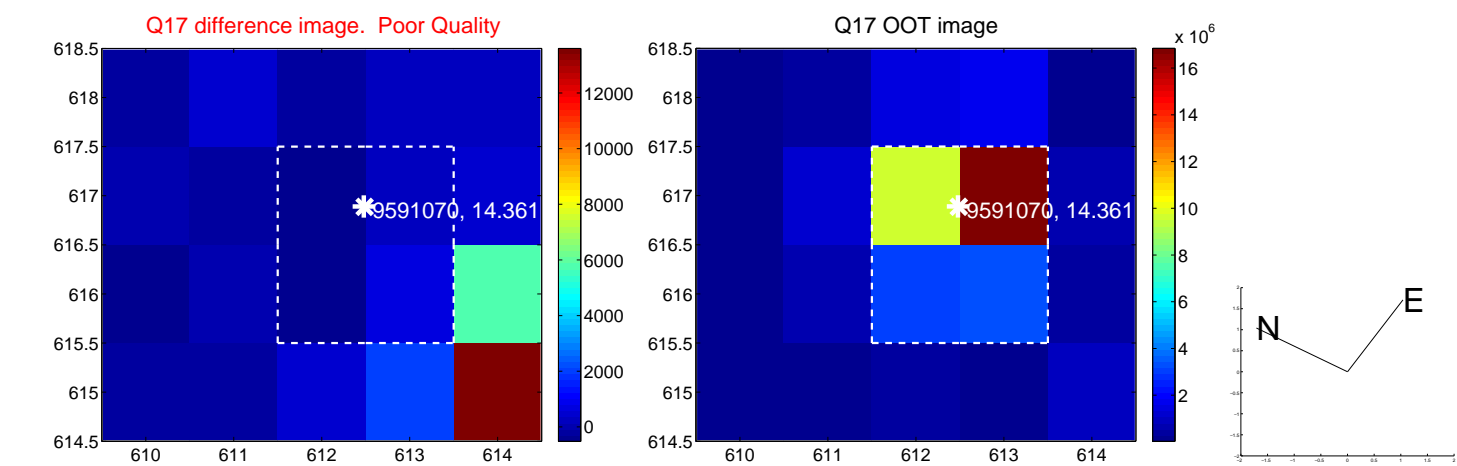
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



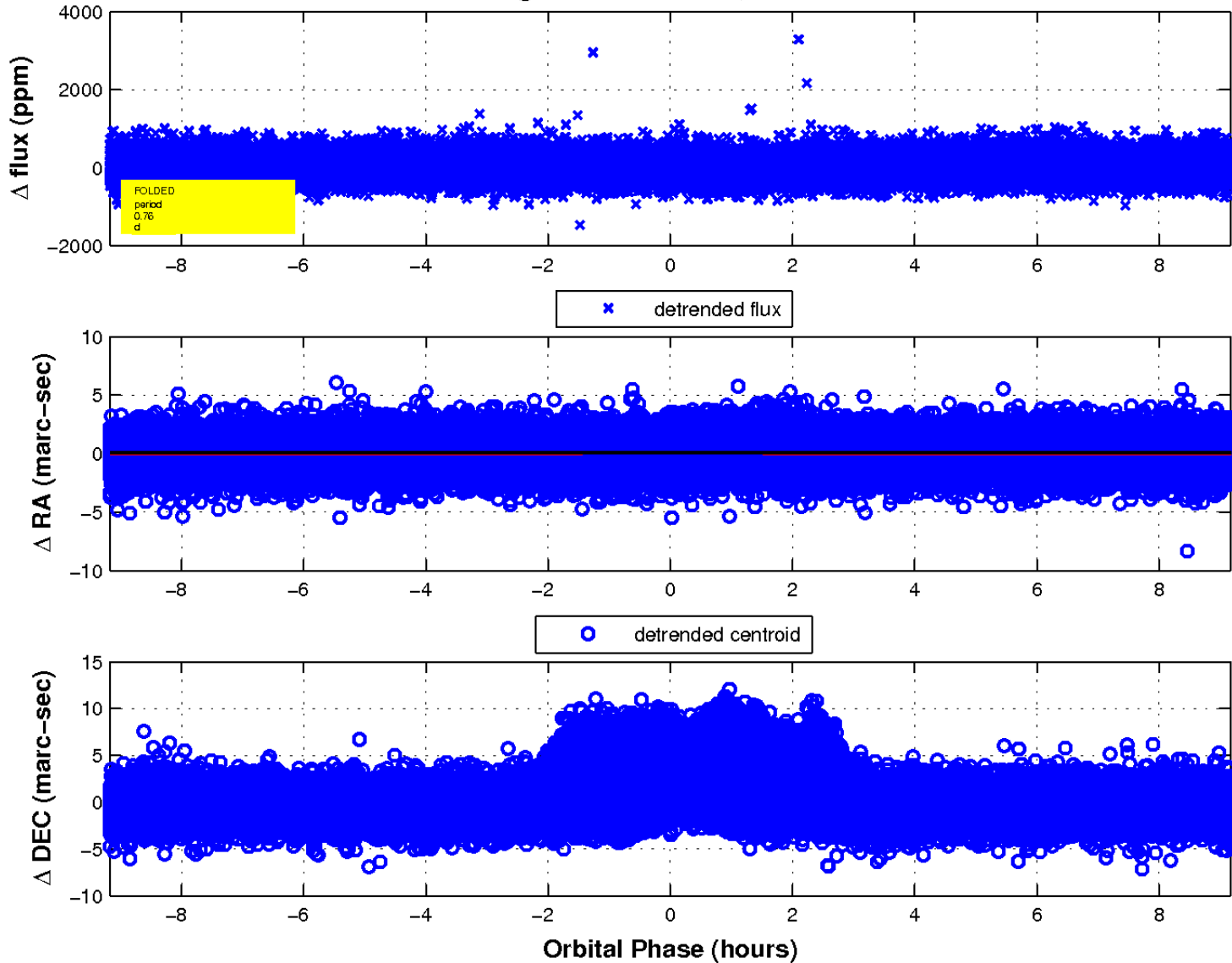
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

