

KIC 007838675

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})
007838675-01	OBS	4169.01	1.005216	132.450399	98.4	1.592	13.8	16.6	0.86	5718	1.02	1897.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007838675-01	OBS	FP	0.00	0	0	1	0	HALO_GHOST

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 007838675-01

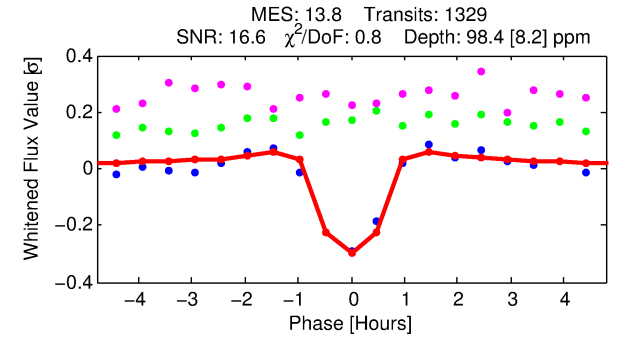
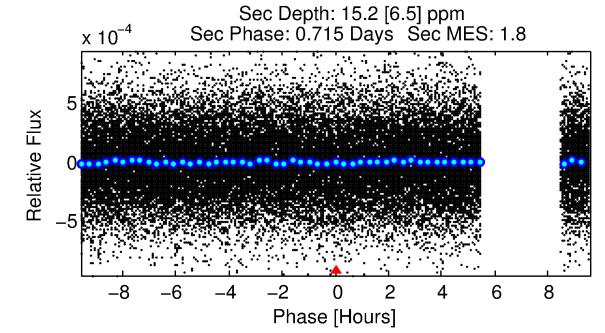
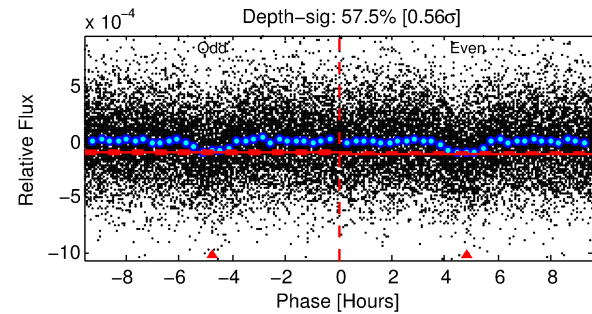
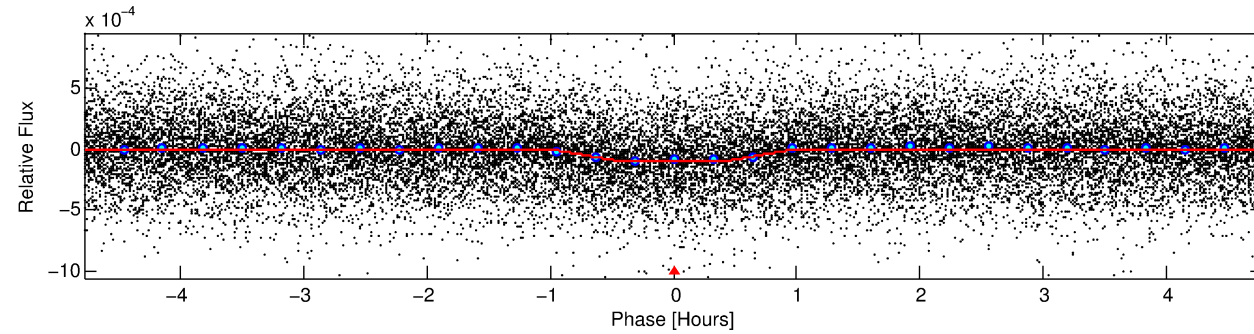
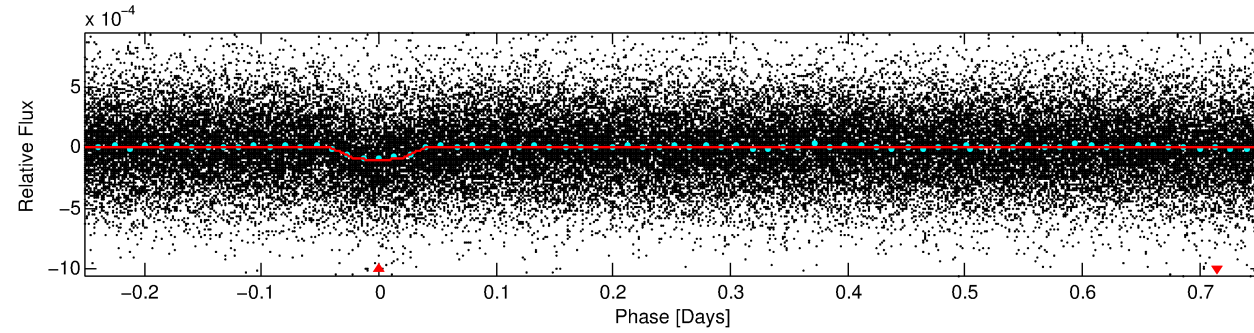
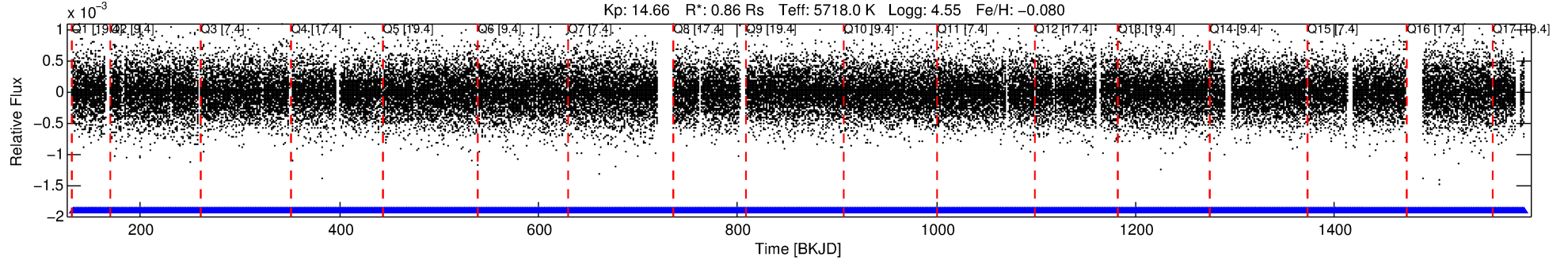
No Significant Match Found

DV One-Page Summary

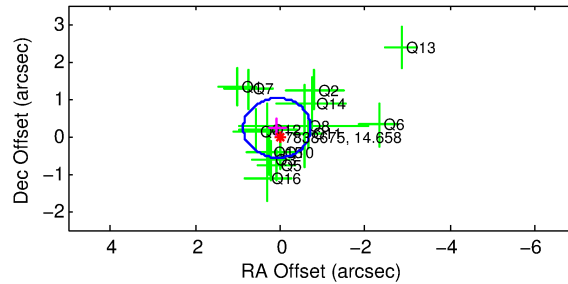
KIC: 7838675 Candidate: 1 of 1 Period: 1.005 d

KOI: K04169.01 Corr: 0.949

Kp: 14.66 R*: 0.86 Rs Teff: 5718.0 K Logg: 4.55 Fe/H: -0.080



Difference Image
Out of Transit Centroid Offsets



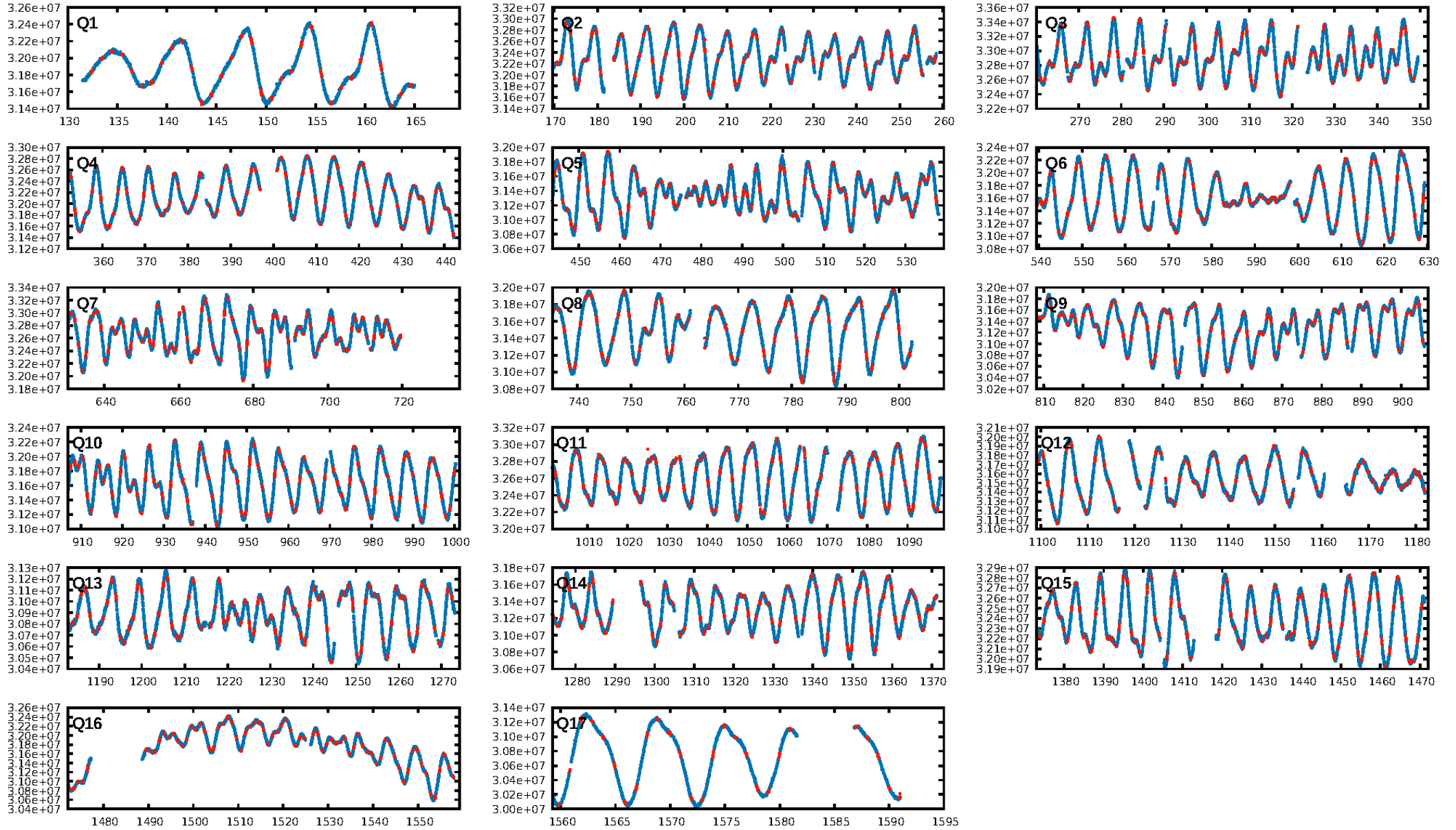
DV Fit Results:

Period = 1.00522 [0.00001] d
Epoch = 132.4504 [0.0012] BKJD
Rp/R* = 0.0108 [0.0039]
a/R* = 2.46 [3.48]
b = 0.89 [0.39]
Seff = 1897.58 [675.17]
Teff = 1683 [150] K
Rp = 1.02 [0.46] Re
a = 0.0194 [0.0044] AU
Ag = 3.05 [2.74] [0.75σ]
Teffp = 3438 [723] K [2.38σ]

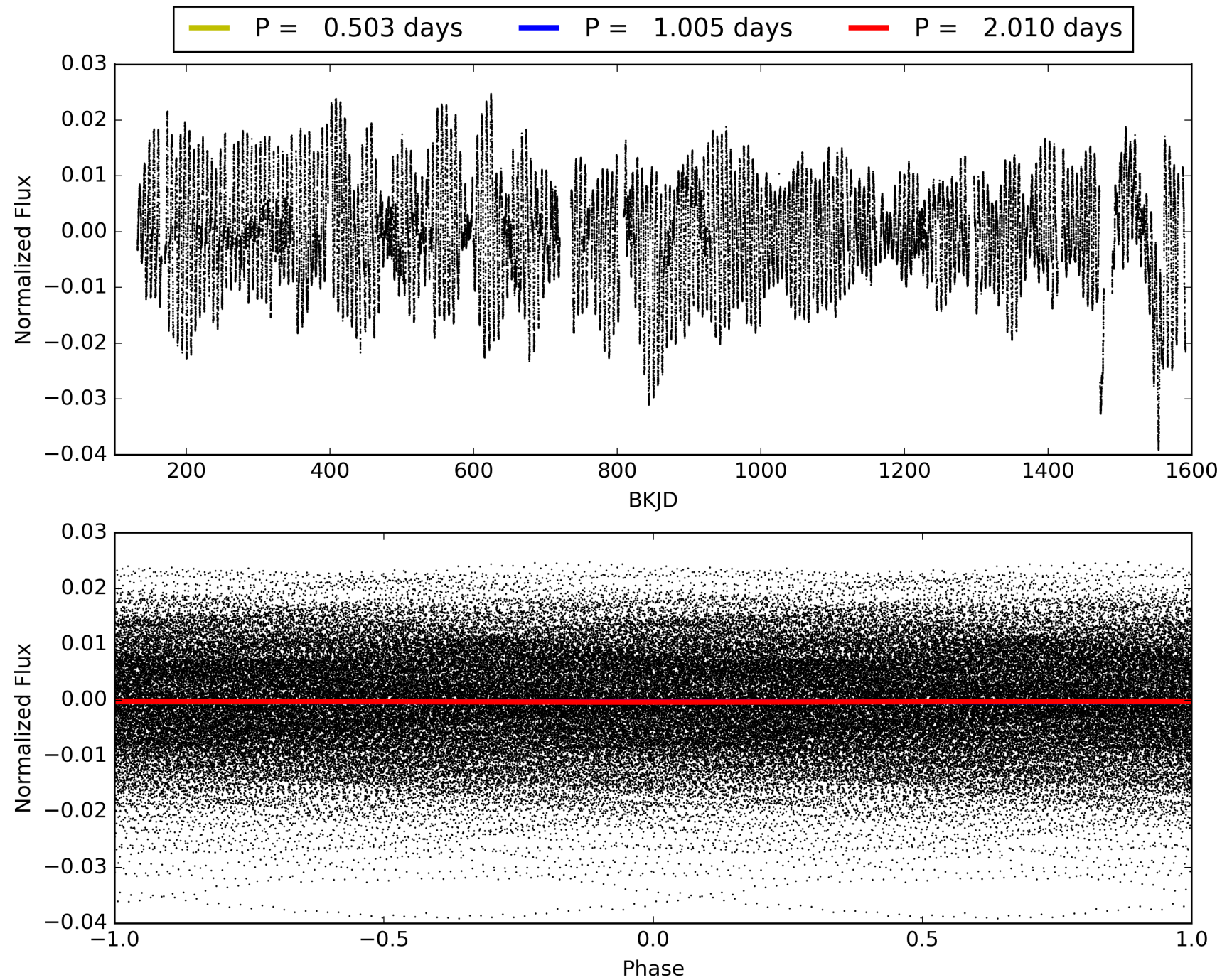
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.11e-40
RollingBand-fgt: 1.00 [1269/1269]
GhostDiagnostic-chr: 0.02018
Centroid-sig: 13.1%
Centroid-so: 0.953 arcsec [1.59σ]
OotOffset-rm: 0.236 arcsec [0.89σ]
KicOffset-rm: 0.236 arcsec [0.85σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 0.93 [14/15]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007838675-01, PDC Light Curves

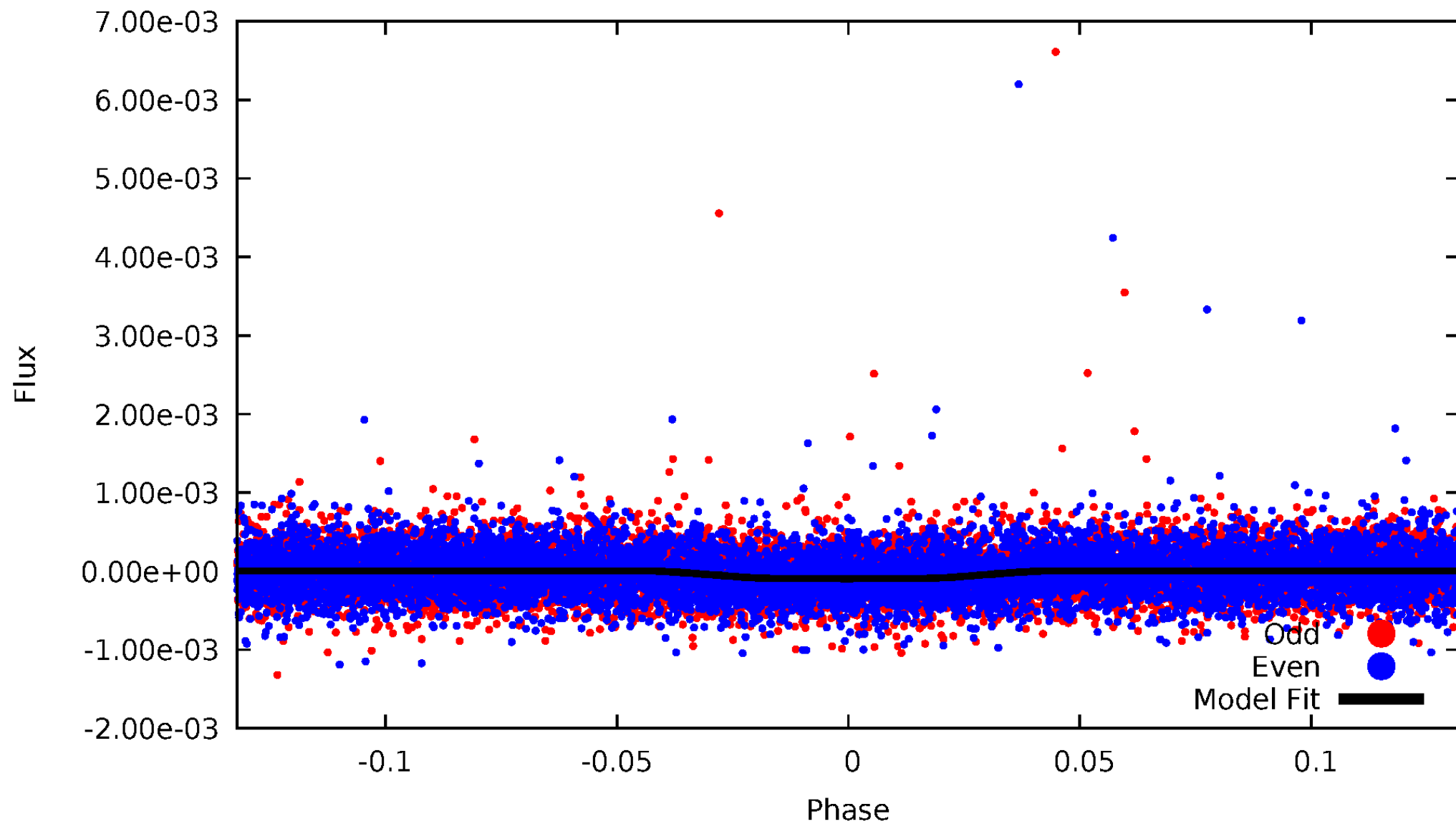


TCE 007838675-01



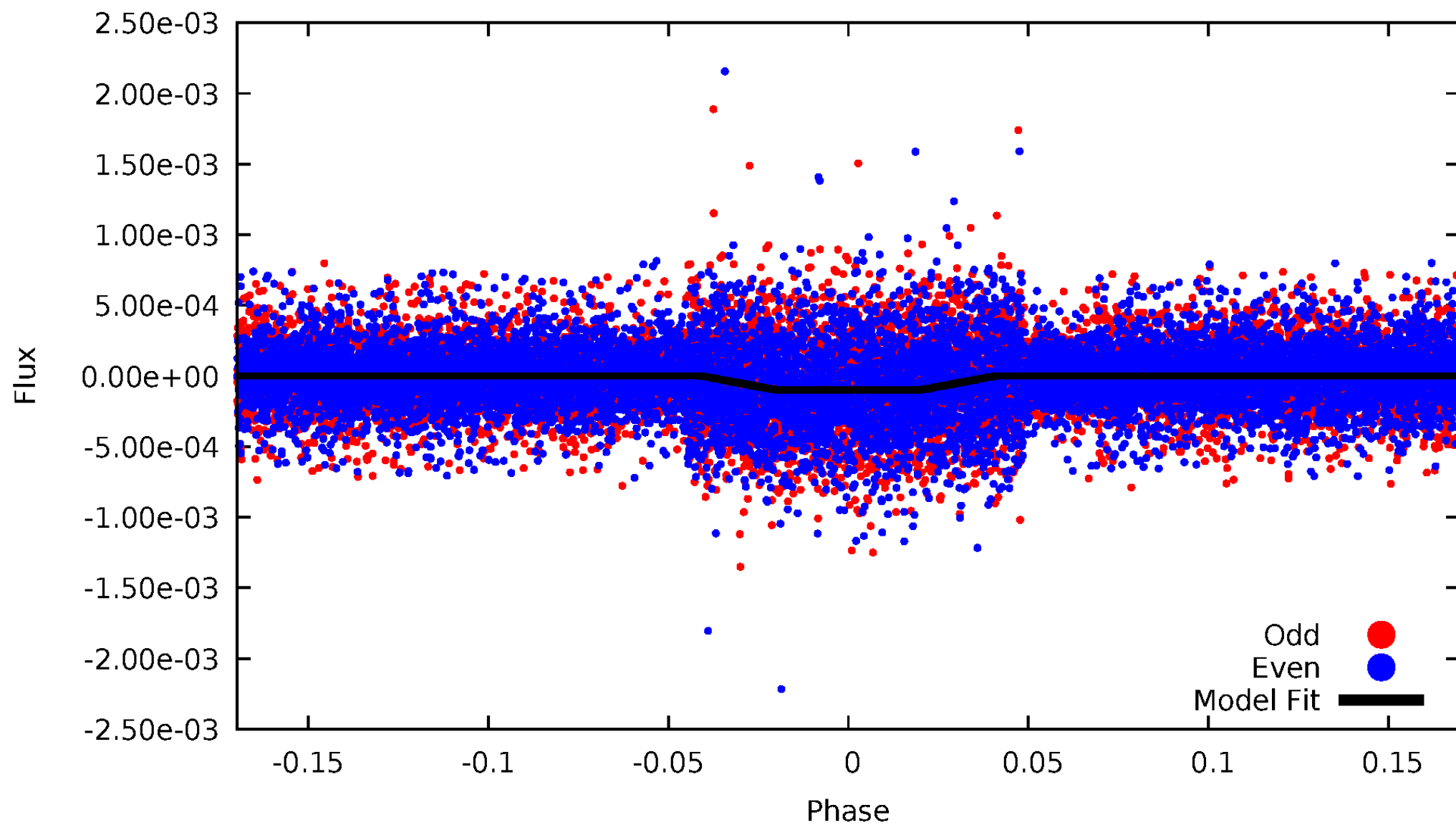
DV Odd/Even

TCE 007838675-01

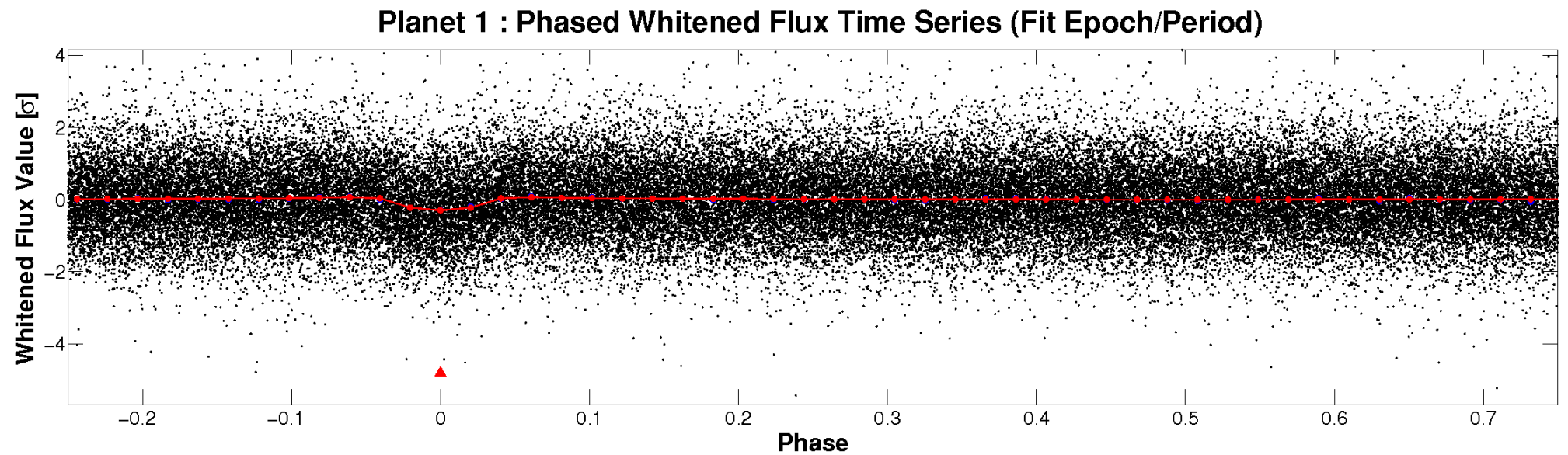
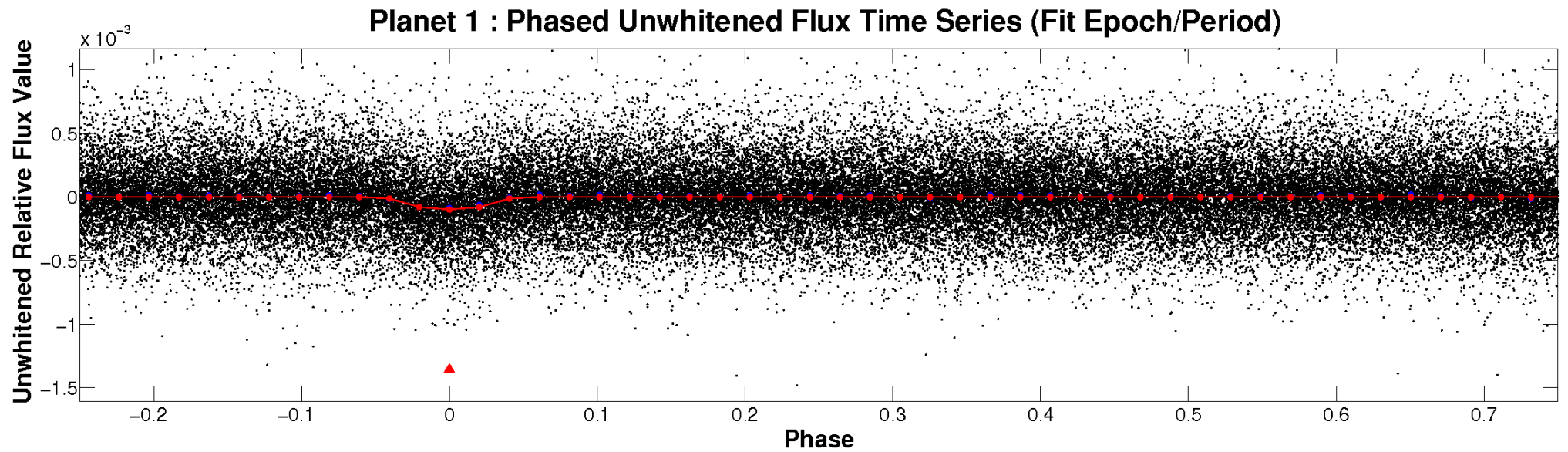


ALT Odd/Even

TCE 007838675-01

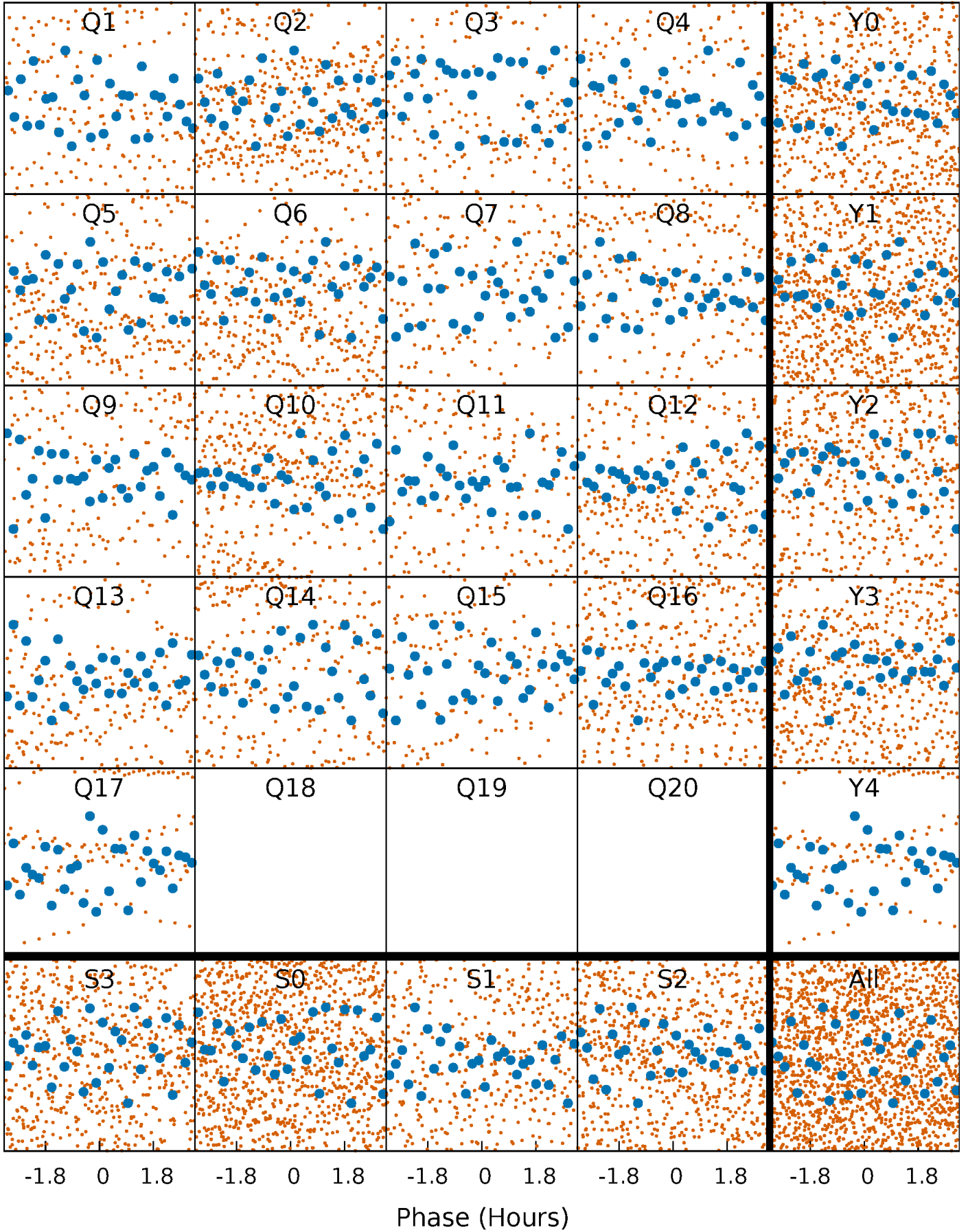


Non-Whitened Vs. Whitened Light Curve



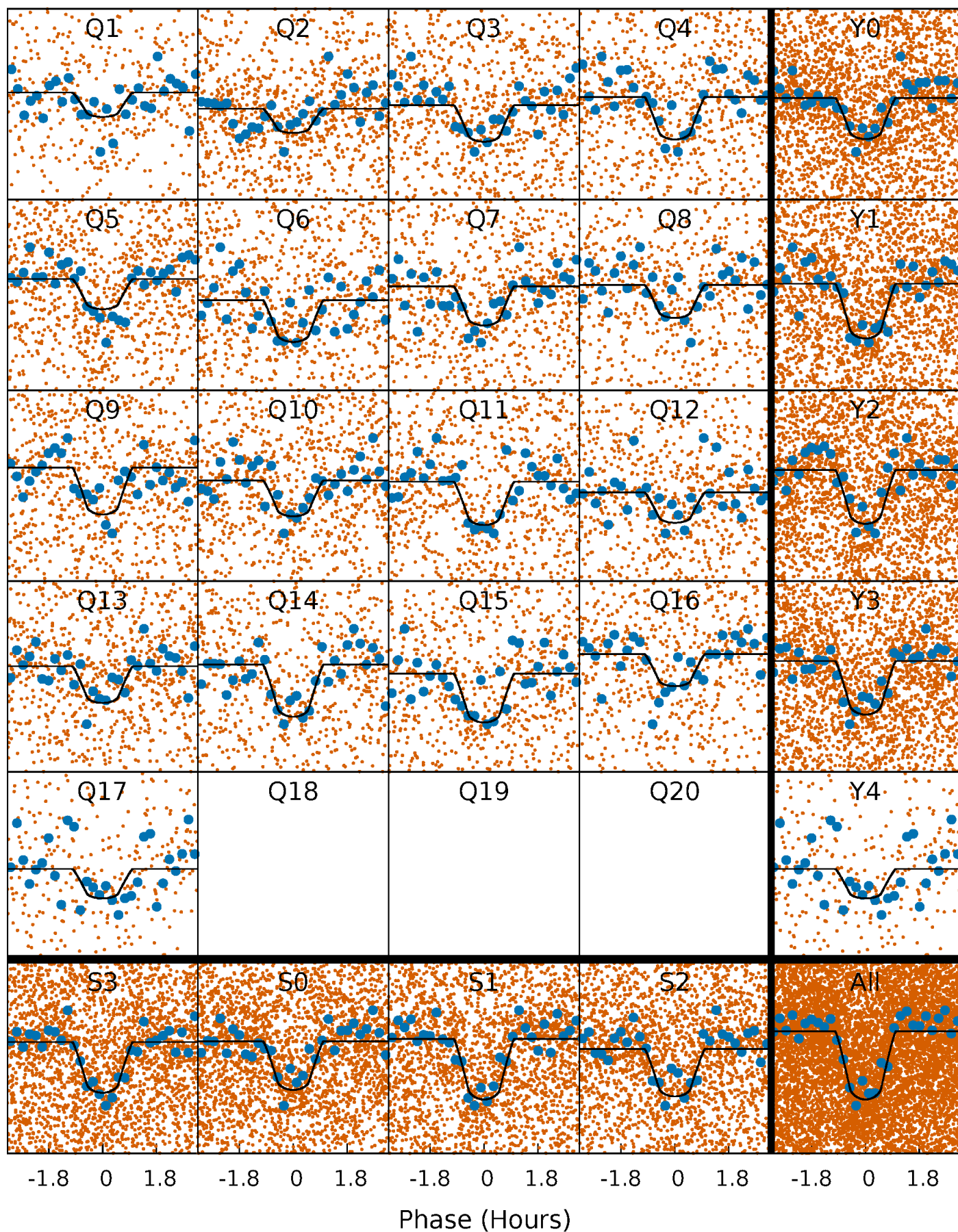
PDC Quarter-Phased Transit Curves

TCE 007838675-01 P= 1.005216 Days $T_0=132.450399$ (BKJD)



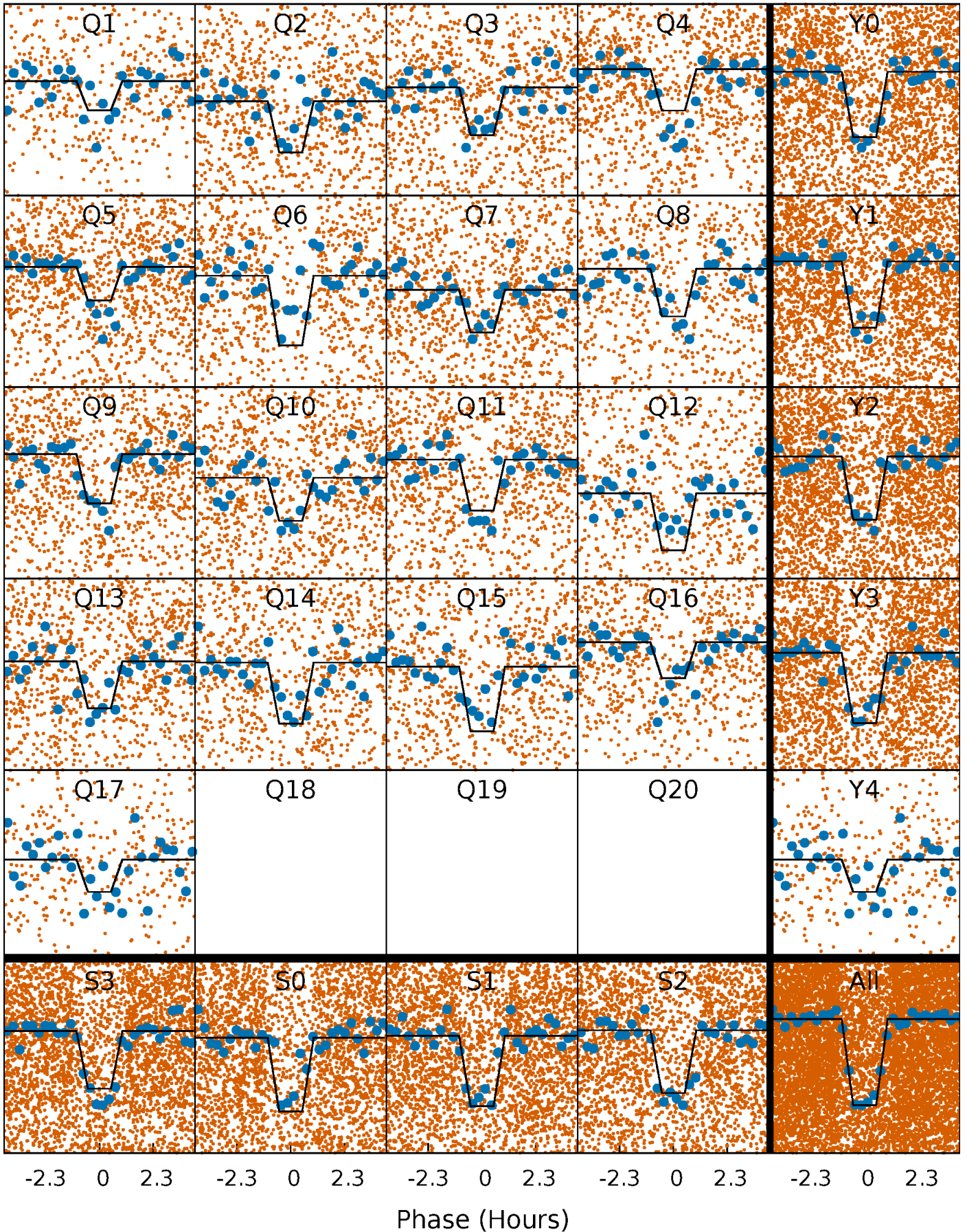
DV Quarter-Phased Transit Curves

TCE 007838675-01 P= 1.005216 Days $T_0=132.450399$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

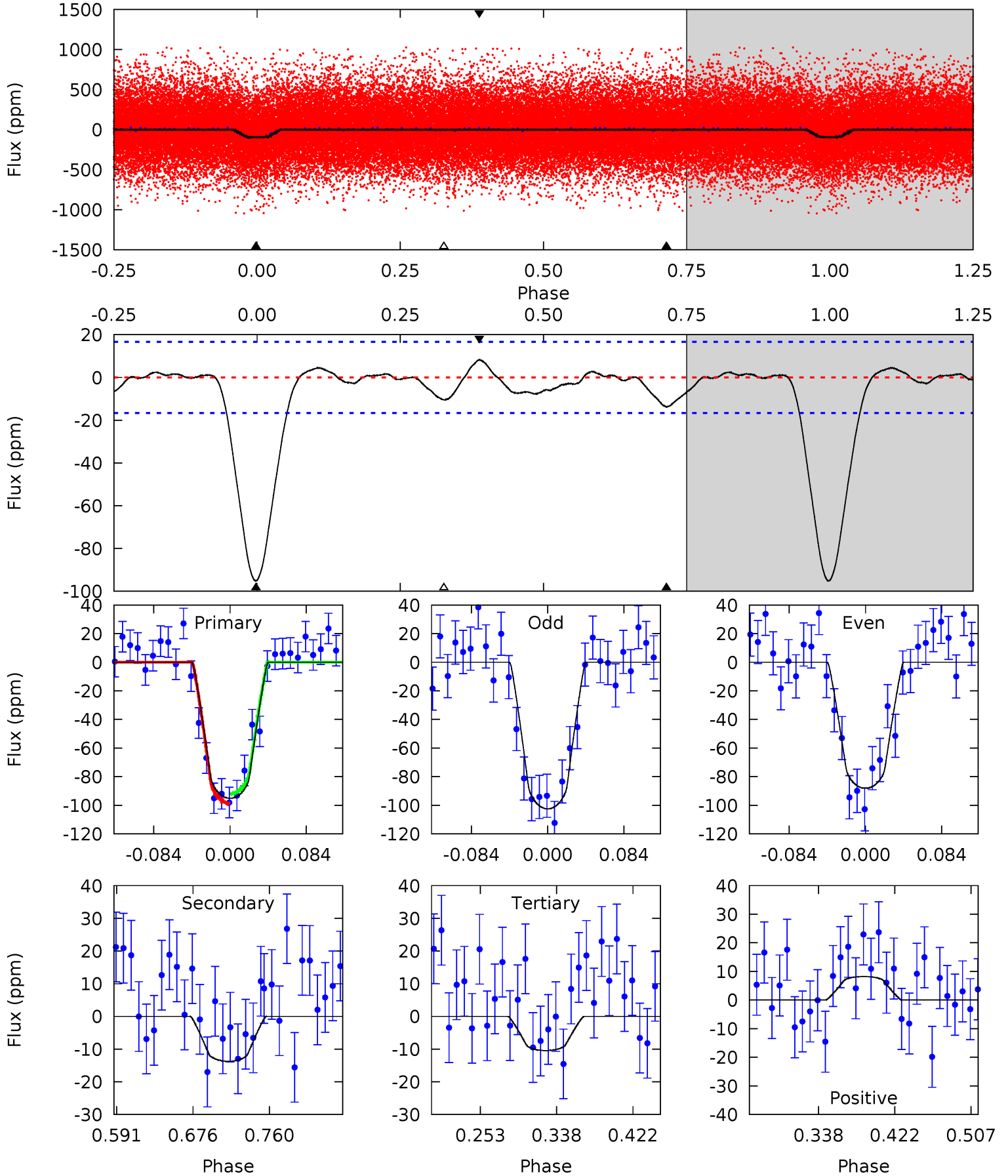
TCE 007838675-01 P= 1.005214 Days $T_0=132.450168$ (BKJD)



DV Model-Shift Uniqueness Test

007838675-01, P = 1.005216 Days, E = 131.445183 Days

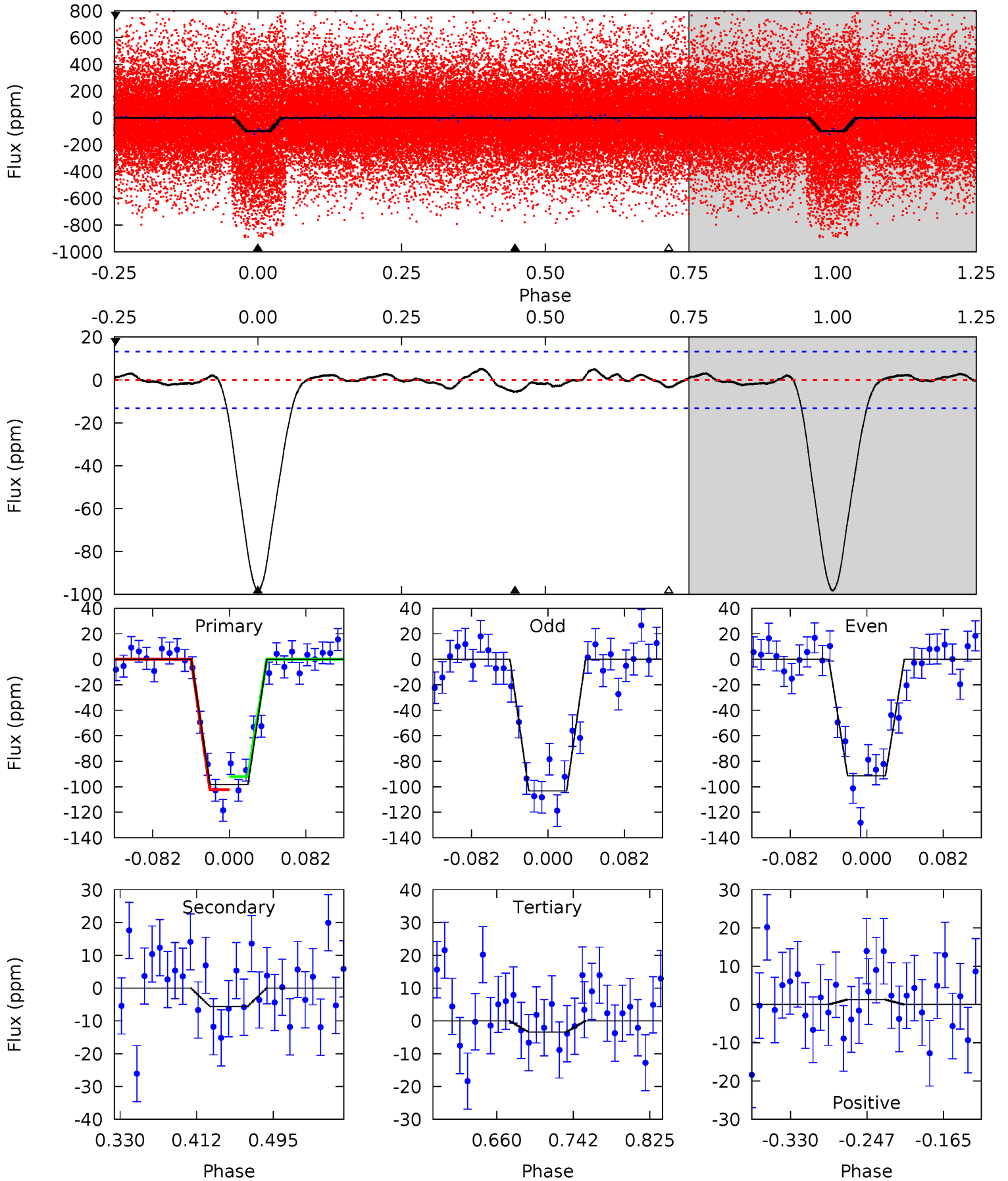
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.3	3.80	2.89	2.27	4.60	1.73	1.11	23.4	24.0	0.91	1.52	1.98	0.92	0.08	0.93



Alt Model-Shift Uniqueness Test

007838675-01, P = 1.005214 Days, E = 131.444954 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.3	1.94	1.19	0.45	4.61	1.74	0.62	33.1	33.8	0.76	1.49	2.07	1.02	0.05	1.78



Stellar Parameters For KIC 007838675

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5718^{+153}_{-170}	$4.549^{+0.035}_{-0.184}$	$-0.080^{+0.300}_{-0.300}$	$0.863^{+0.234}_{-0.078}$	$0.960^{+0.095}_{-0.116}$	$2.107^{+0.384}_{-1.033}$
	+3%/-3%	+1%/-4%	+375%/-375%	+27%/-9%	+10%/-12%	+18%/-49%
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 007838675-01 / KOI 4169.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-14 ± 4	$1.08^{+0.43}_{-0.42}$	2403^{+159}_{-103}	3621^{+702}_{-450}	$2.331^{+3.657}_{-1.204}$
Alt.	-6 ± 3	$0.98^{+0.43}_{-0.37}$	2400^{+151}_{-99}	3164^{+712}_{-714}	$1.157^{+2.406}_{-0.741}$

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 $A_{obs} \gg 1.0$

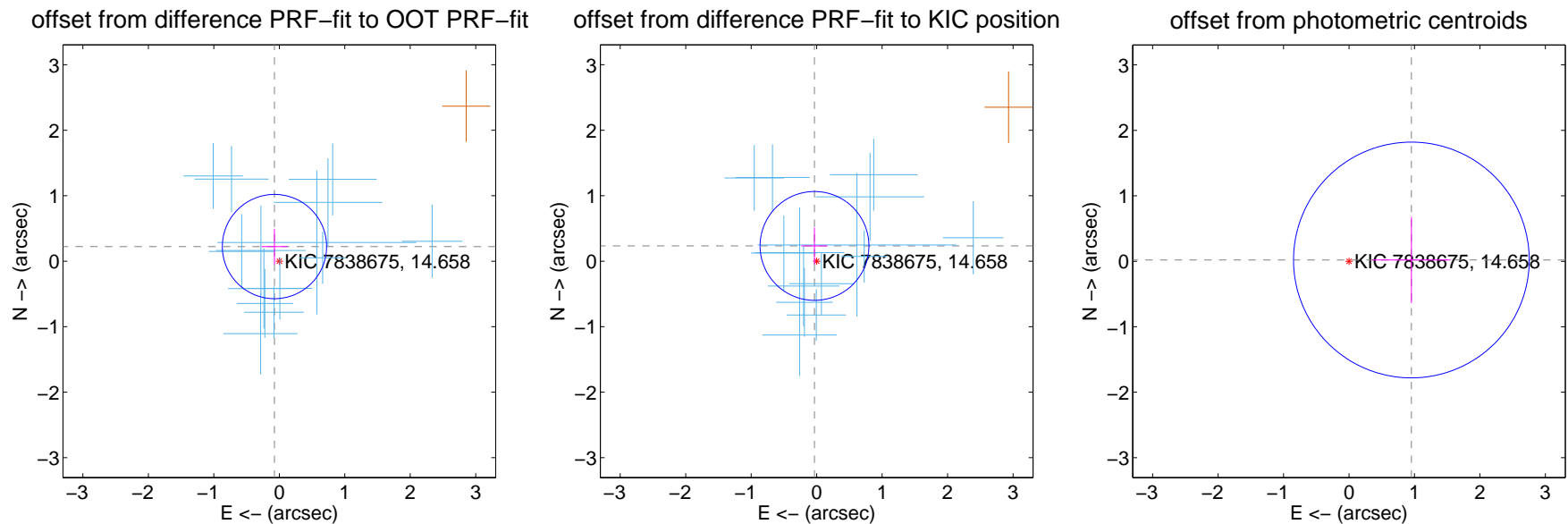
DV Centroid Data

Supplemental centroid analysis for 007838675-01. Kepler magnitude: 14.66. Transit SNR 16.59

There are 14 quarters with good PRF difference image offsets

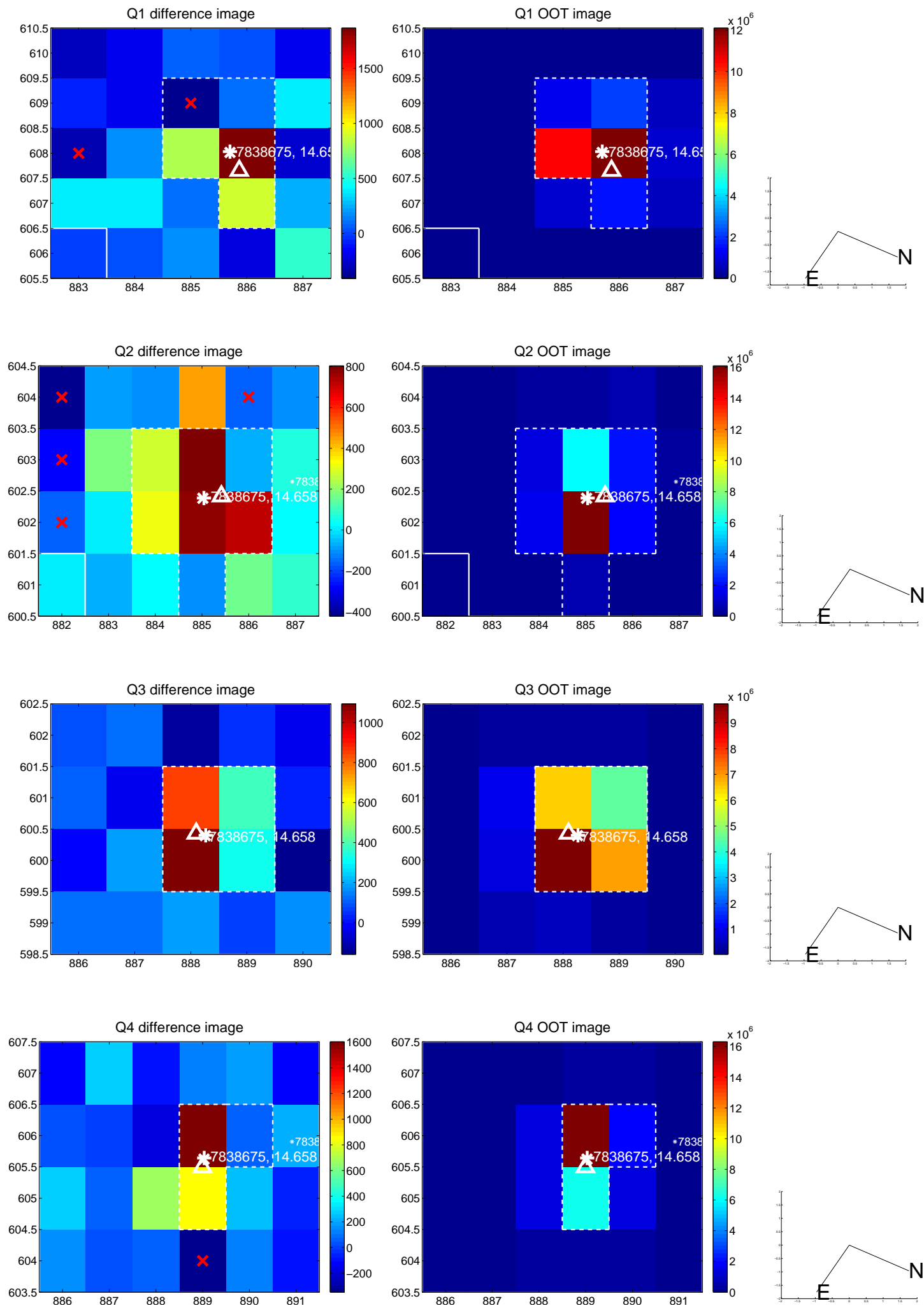
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.236 ± 0.265	0.89	0.074 ± 0.199	0.224 ± 0.272
PRF-fit source offset from KIC position	0.236 ± 0.277	0.85	0.033 ± 0.199	0.233 ± 0.278
photometric centroid source offset	0.95 ± 0.60	1.59	-0.95 ± 0.60	0.02 ± 0.66

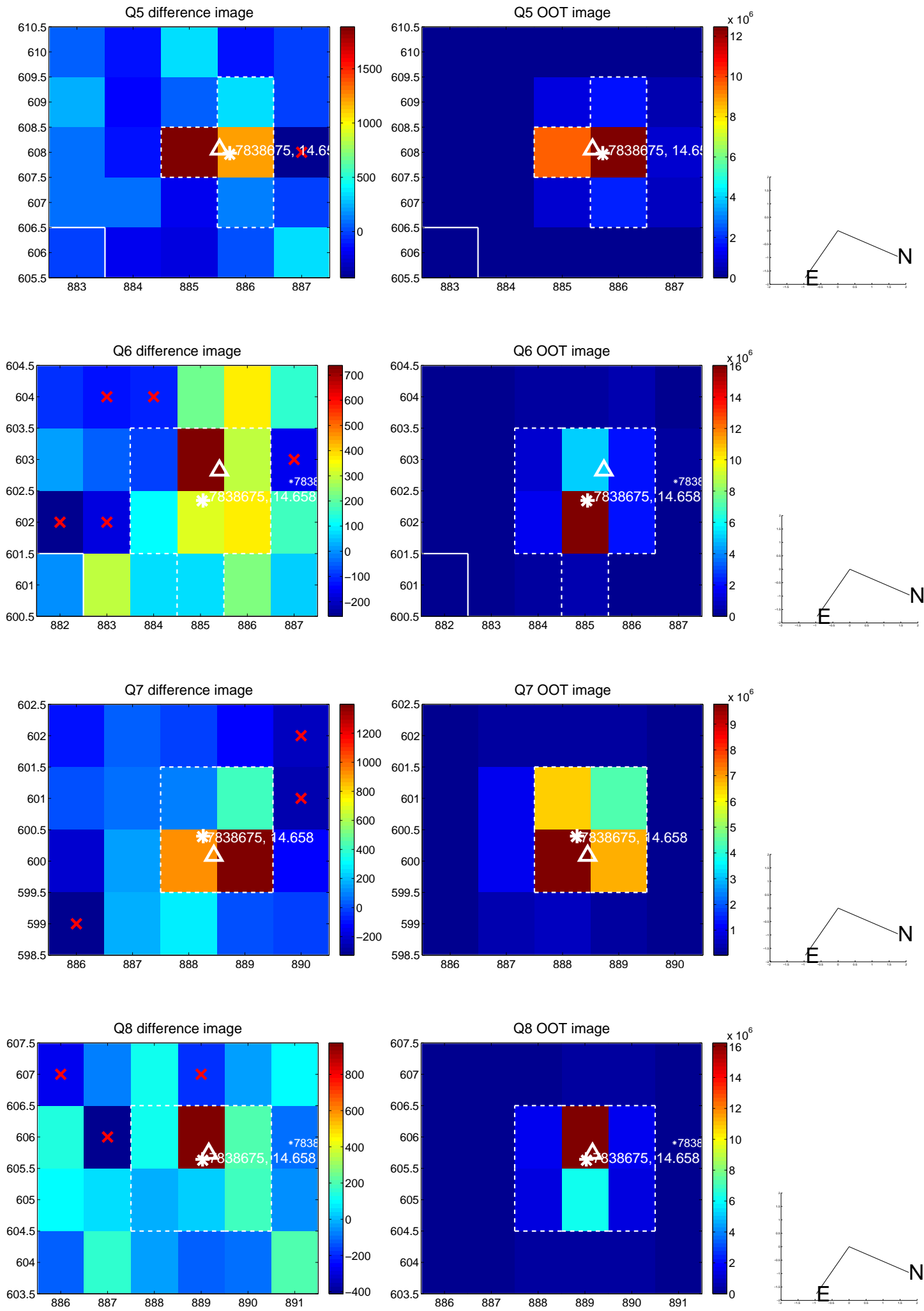


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

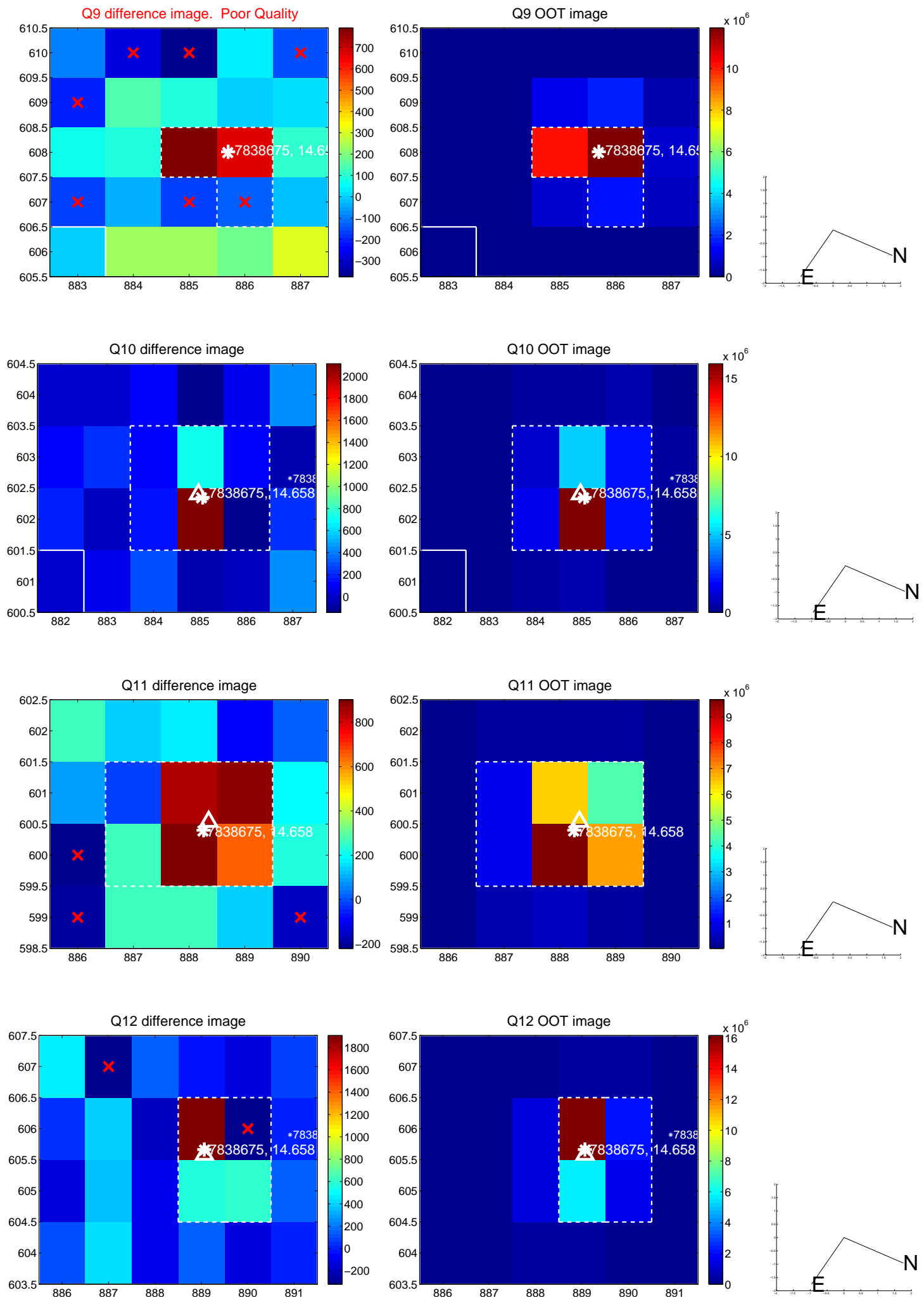
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



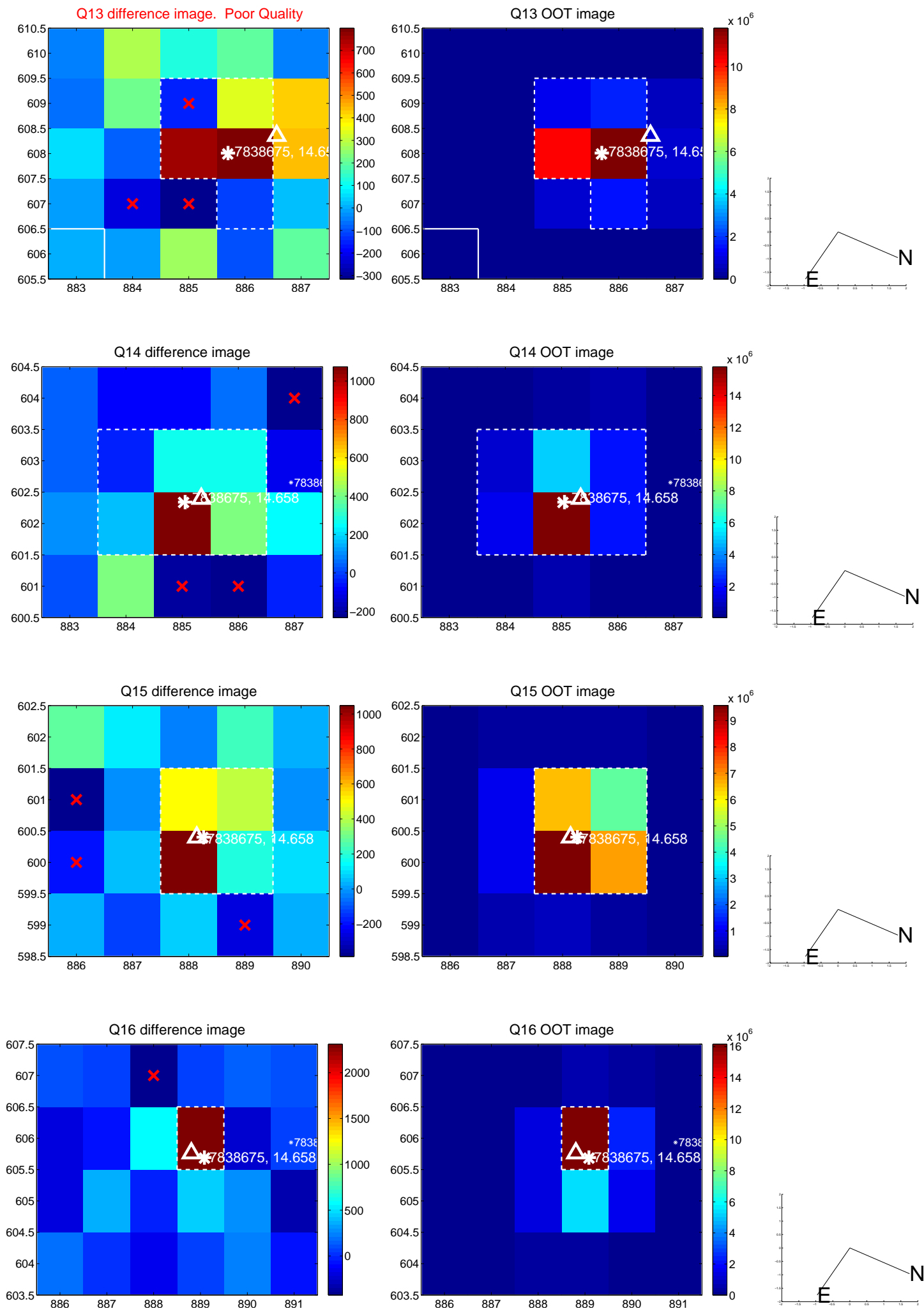
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



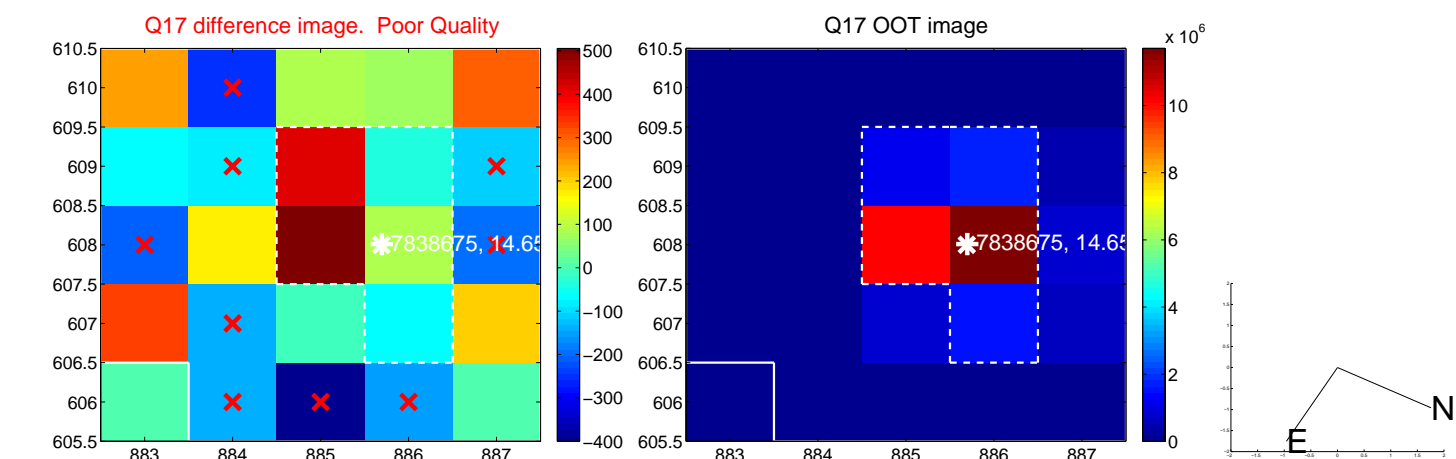
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



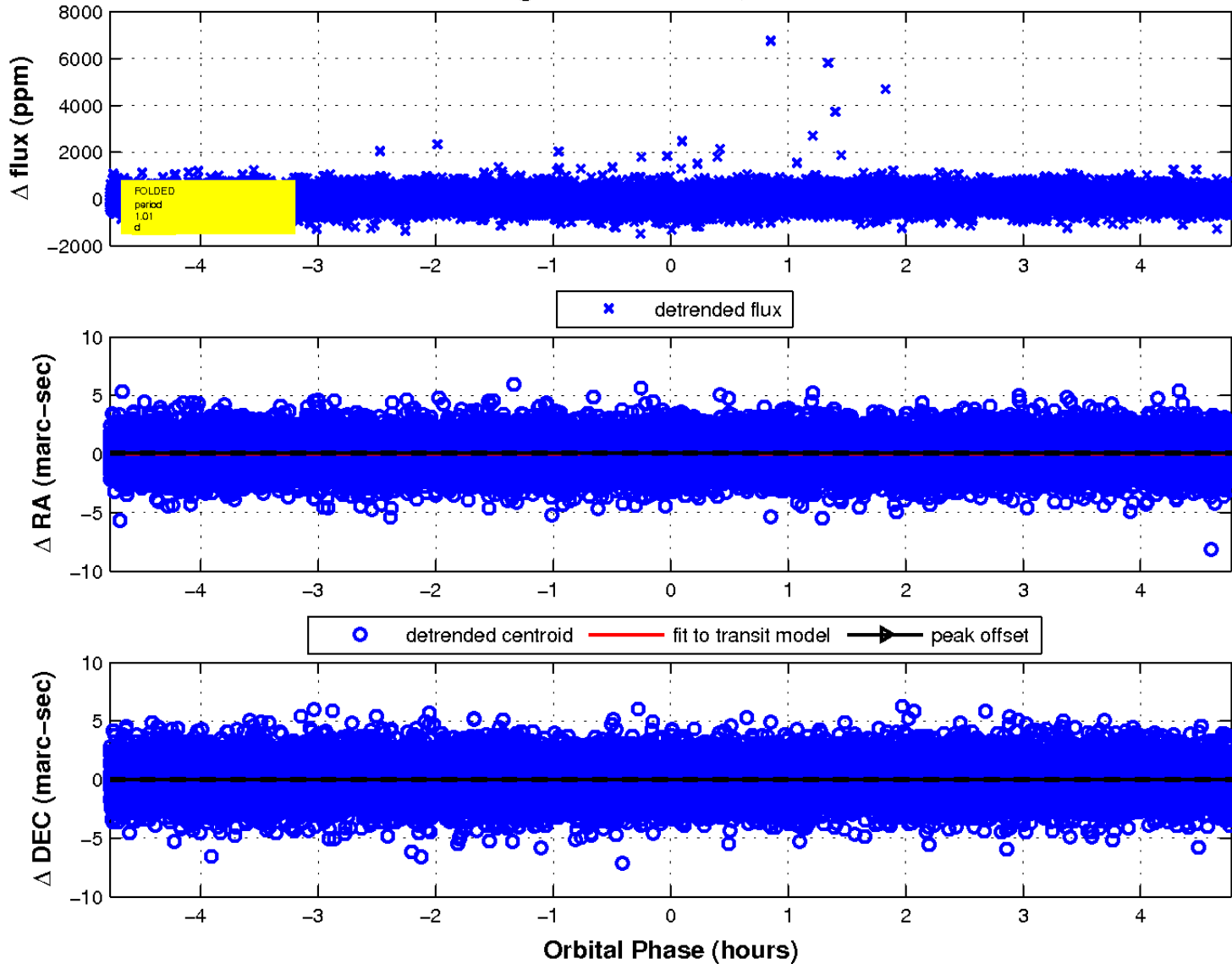
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

