

KIC 006058875

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})
006058875-01	OBS	3616.01	0.564933	131.788594	239143.0	2.589	10405.2	5835.6	0.53	4748	32.70	1071.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006058875-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED

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.

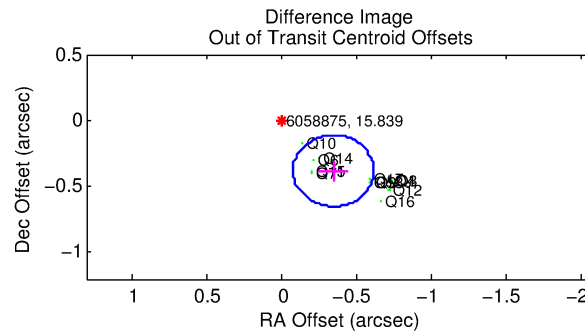
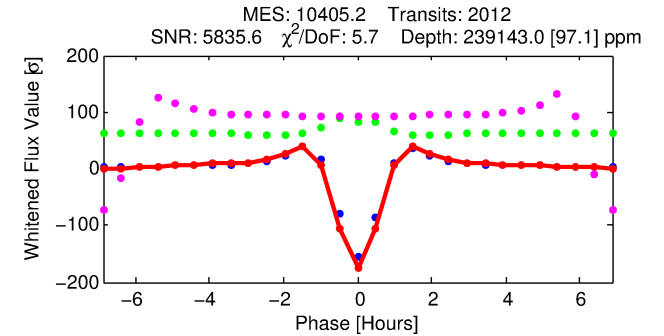
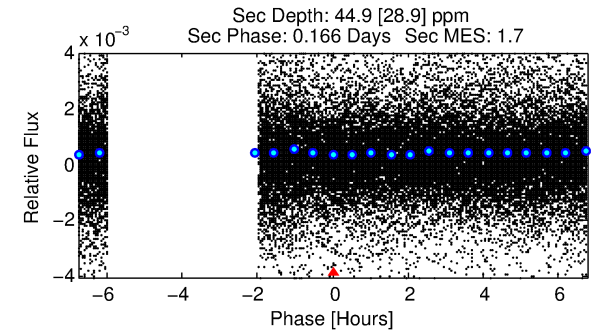
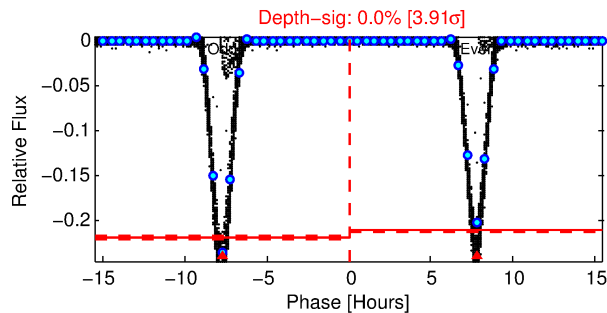
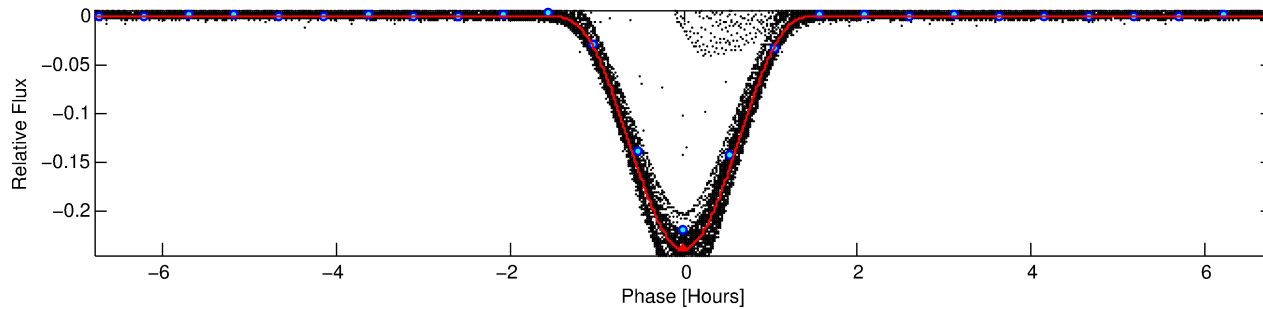
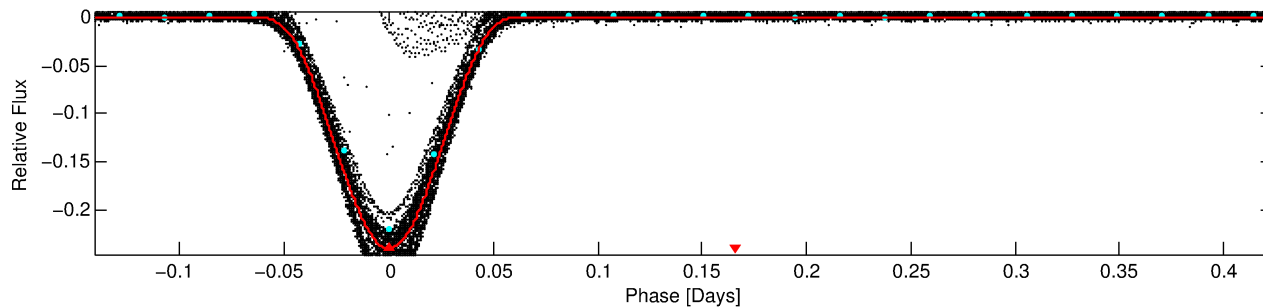
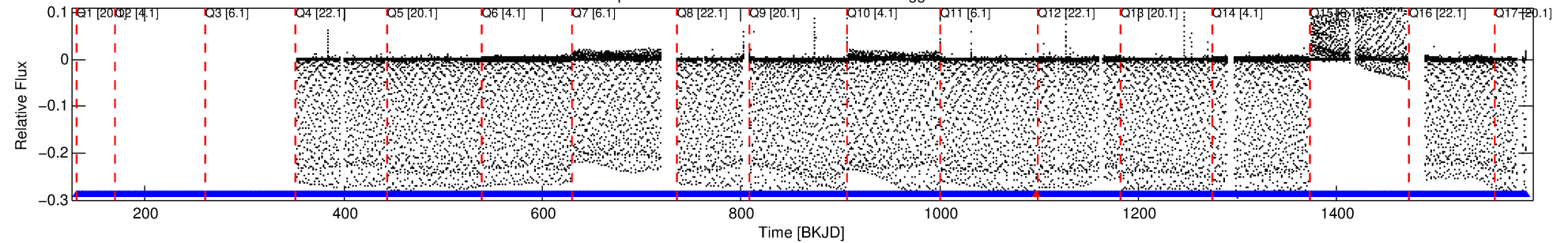
Ephemeris Match Information For 006058875-01

No Significant Match Found

DV One-Page Summary

KIC: 6058875 Candidate: 1 of 1 Period: 0.565 d
KOI: K03616.01 Corr: 0.994

Kp: 15.84 R*: 0.53 Rs Teff: 4748.0 K Logg: 4.73 Fe/H: -1.260



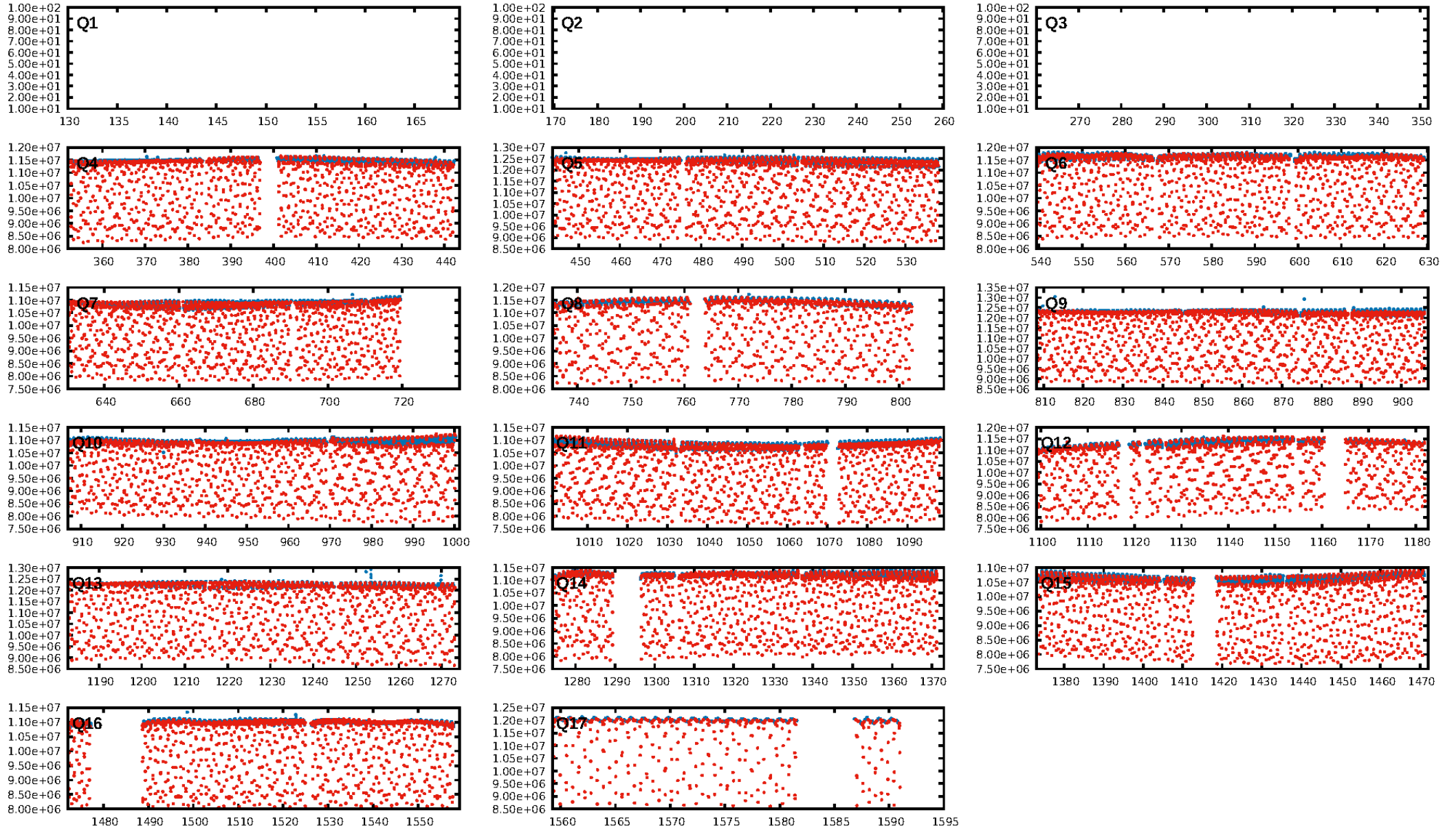
DV Fit Results:

Period = 0.56493 [0.00000] d
Epoch = 131.7886 [0.0000] BKJD
Rp/R* = 0.5612 [0.0385]
a/R* = 2.57 [0.04]
b = 0.71 [0.06]
Seff = 1071.44 [184.58]
Teq = 1459 [63] K
Rp = 32.70 [3.06] Re
a = 0.0110 [0.0006] AU
Ag = 0.00 [0.00] [-537.65σ]
Teffp = 519 [88] K [-8.71σ]

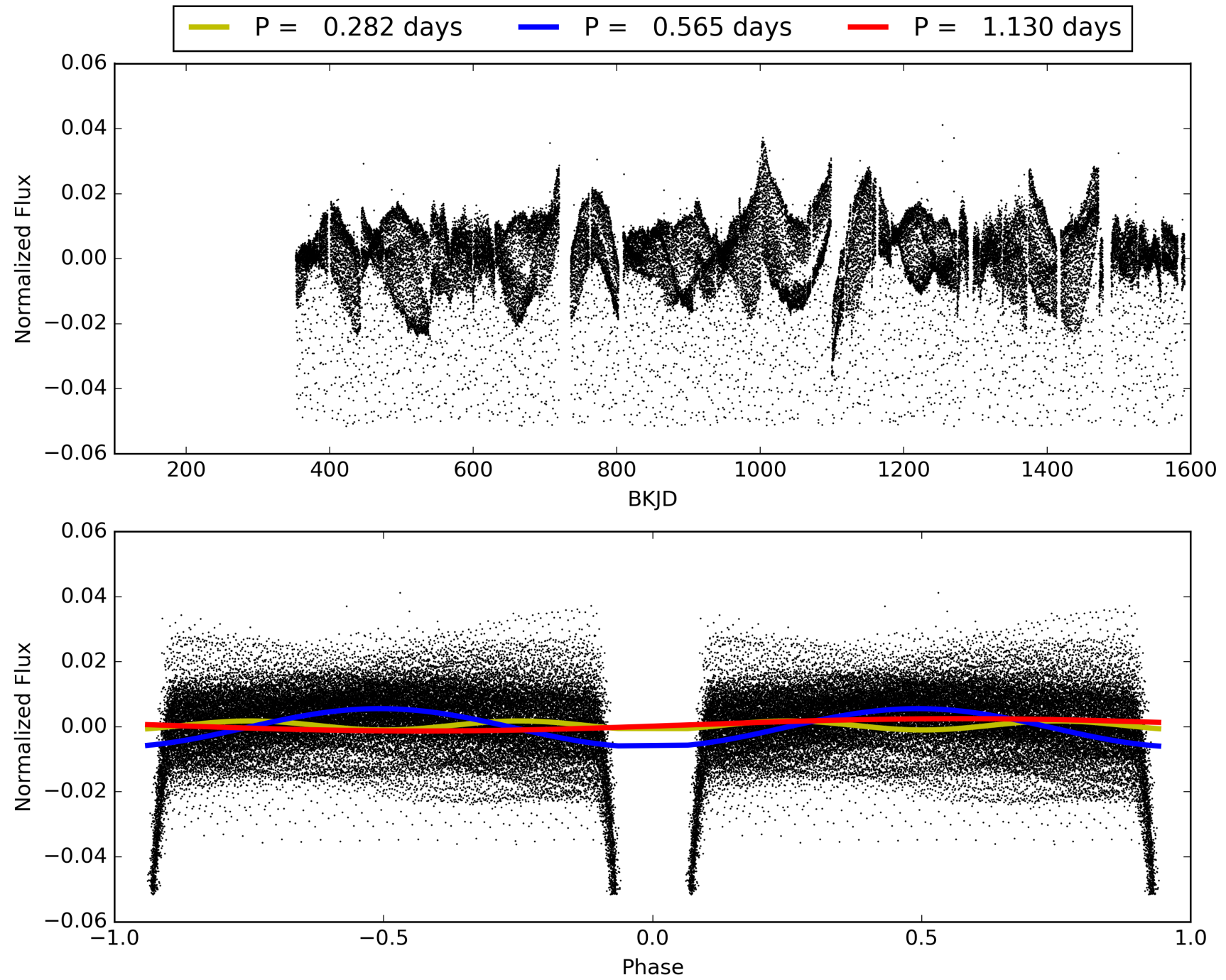
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1963/1964]
GhostDiagnostic-chr: 1.732
Centroid-sig: N/A
Centroid-so: 1.079 arcsec [1325.30σ]
OotOffset-rm: 0.518 arcsec [5.76σ]
KicOffset-rm: 0.524 arcsec [7.70σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 006058875-01, PDC Light Curves

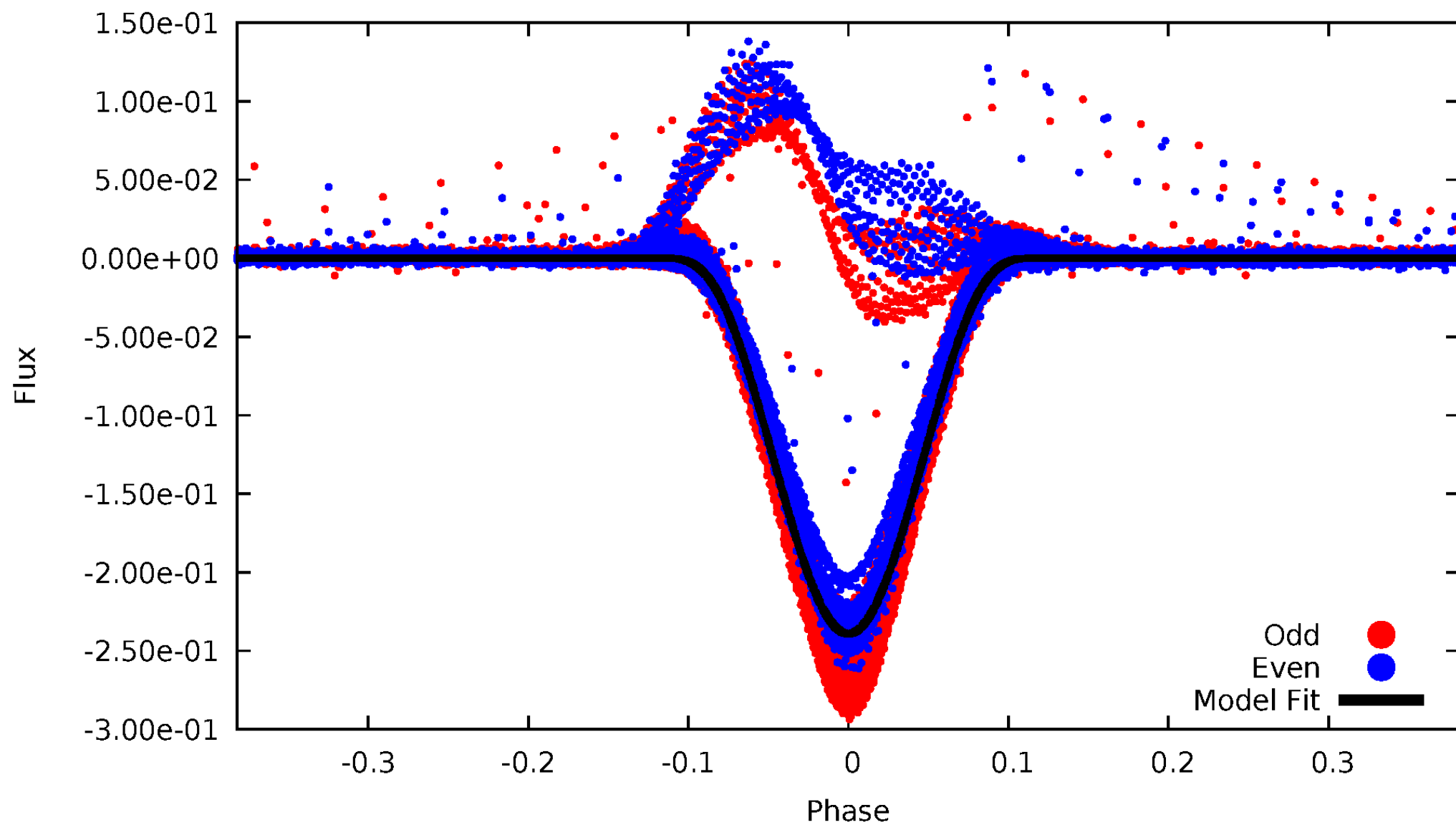


TCE 006058875-01



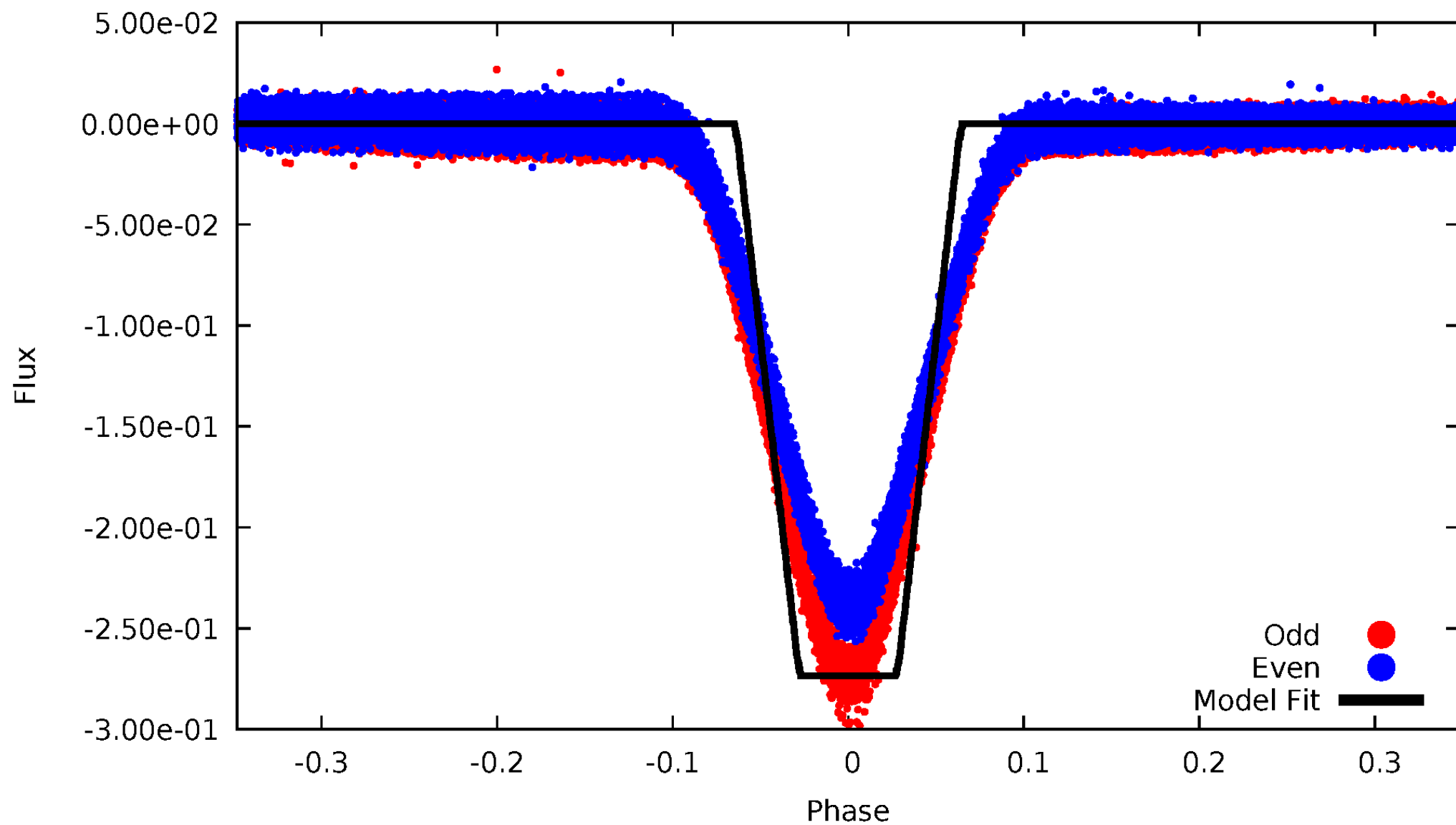
DV Odd/Even

TCE 006058875-01



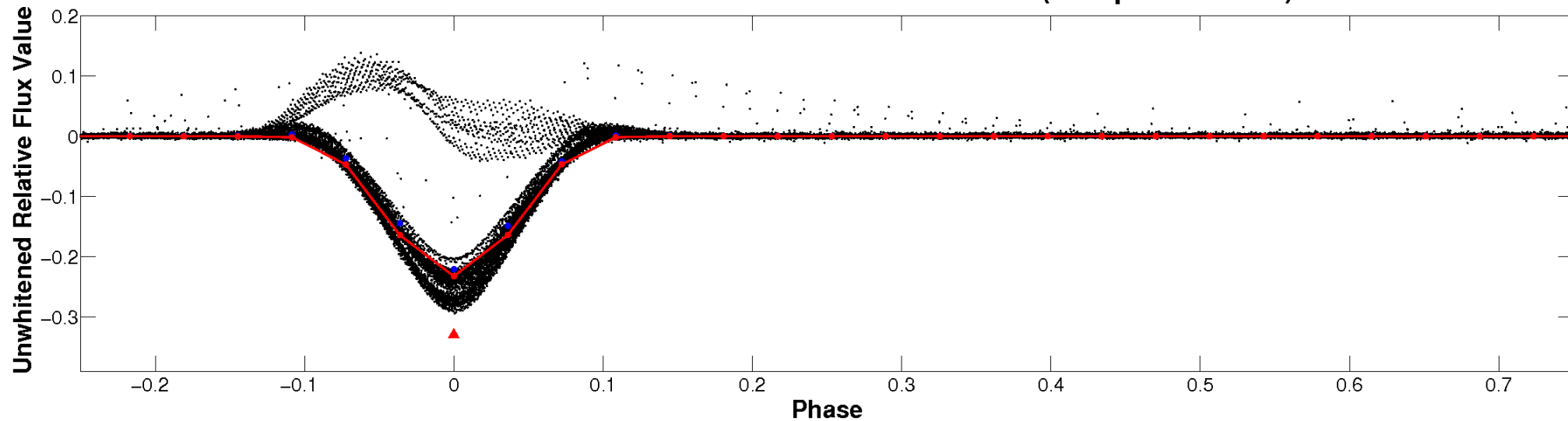
ALT Odd/Even

TCE 006058875-01

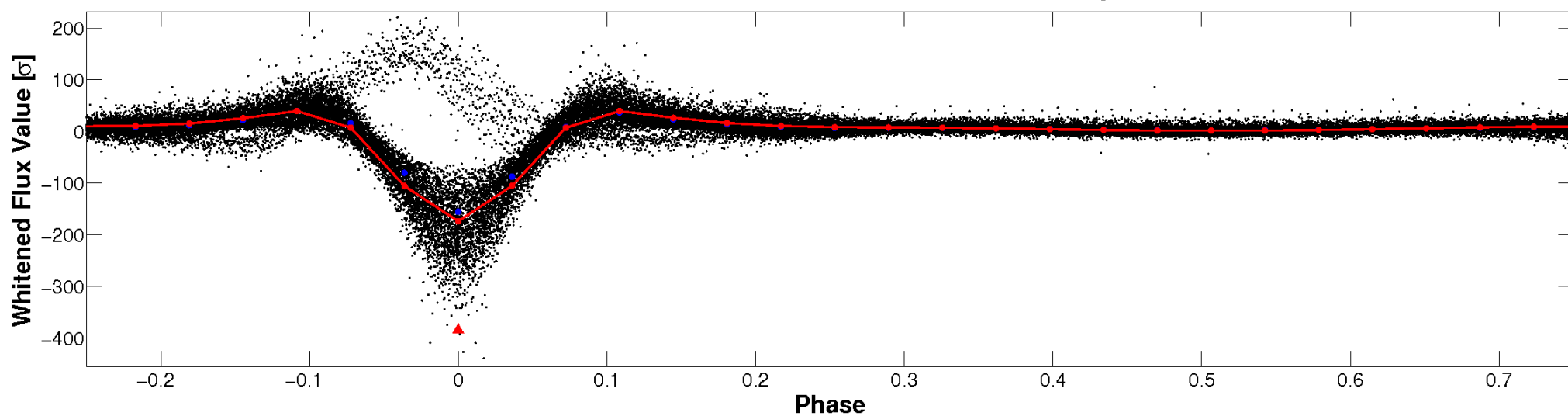


Non-Whitened Vs. Whitened Light Curve

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

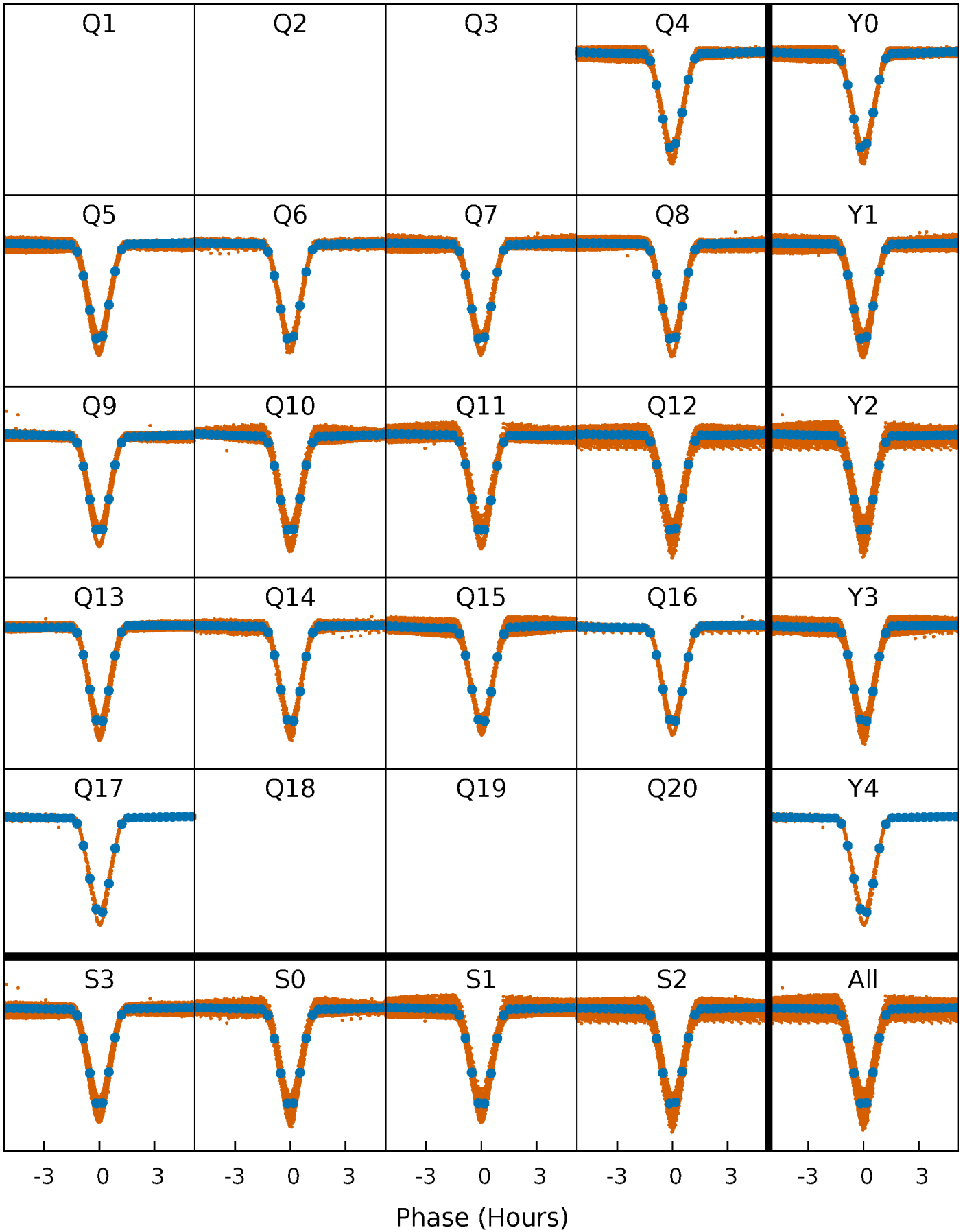


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



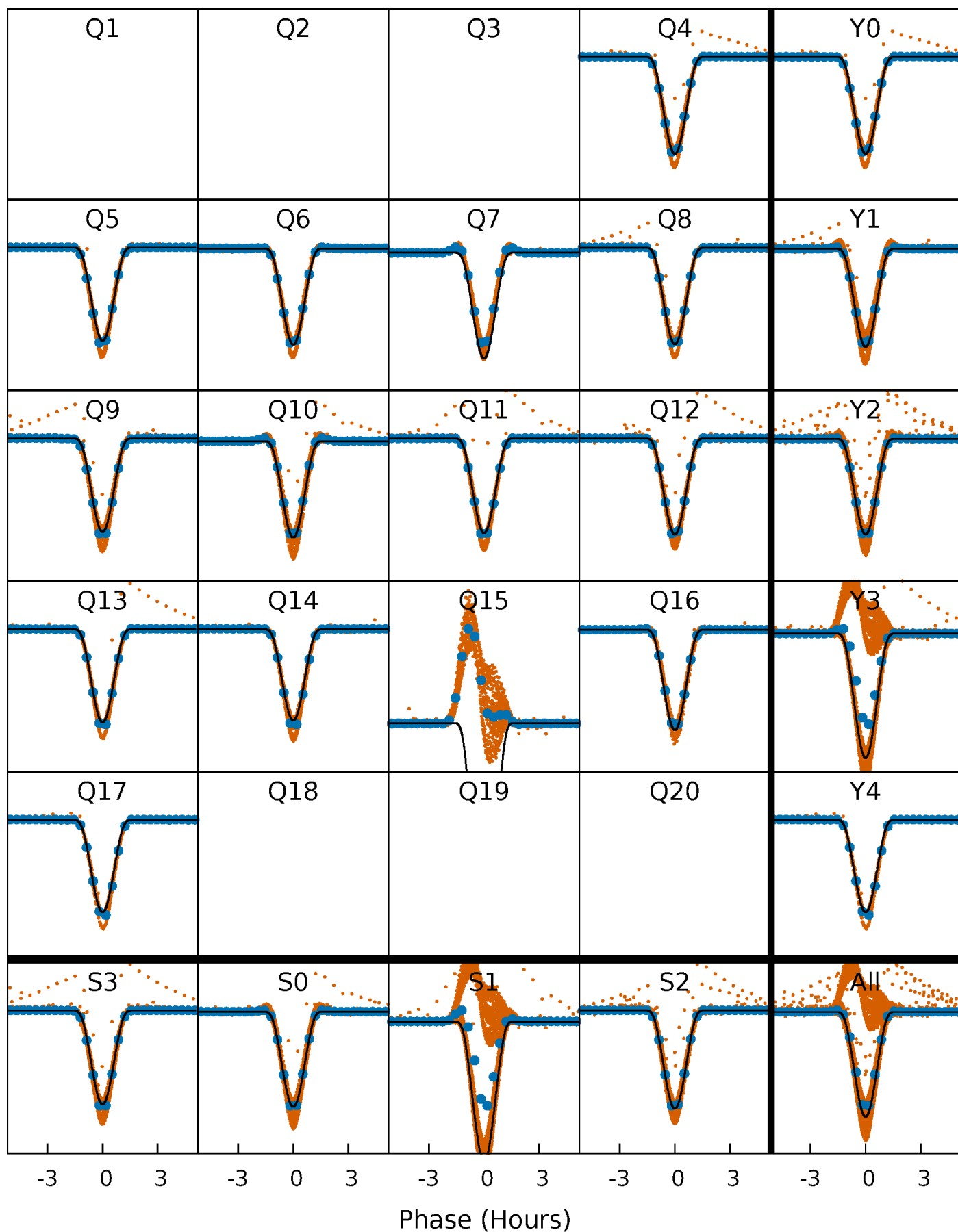
PDC Quarter-Phased Transit Curves

TCE 006058875-01 P= 0.564933 Days $T_0=131.788594$ (BKJD)



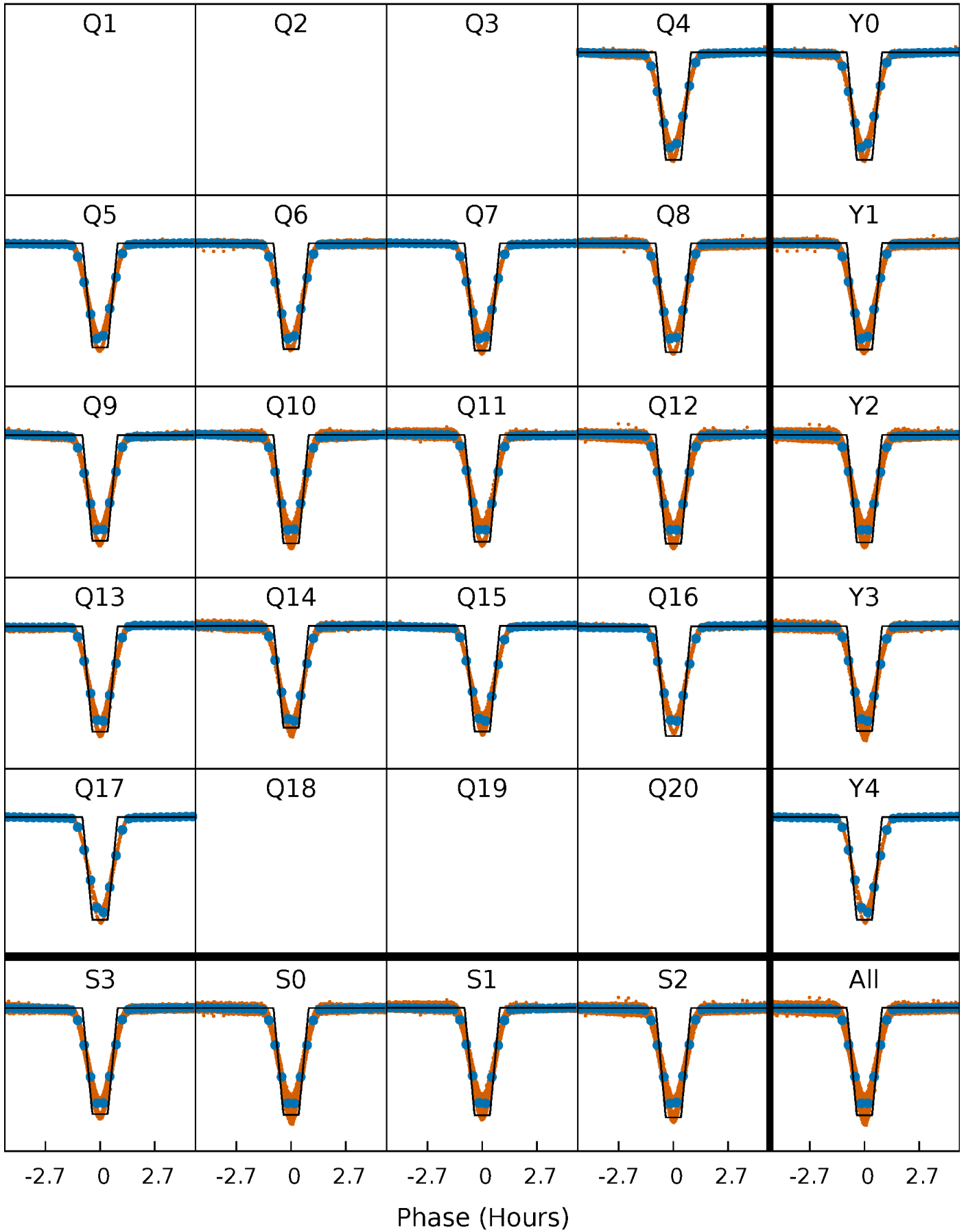
DV Quarter-Phased Transit Curves

TCE 006058875-01 P= 0.564933 Days $T_0=131.788594$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

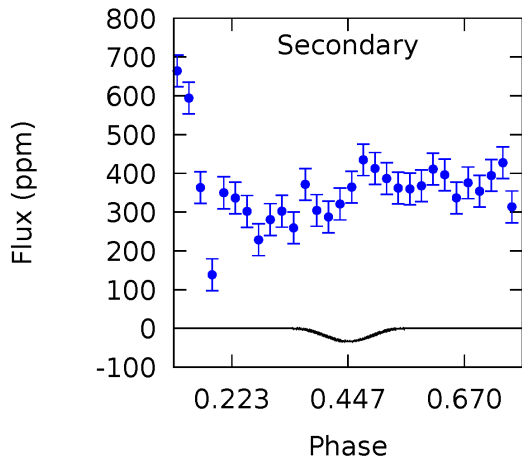
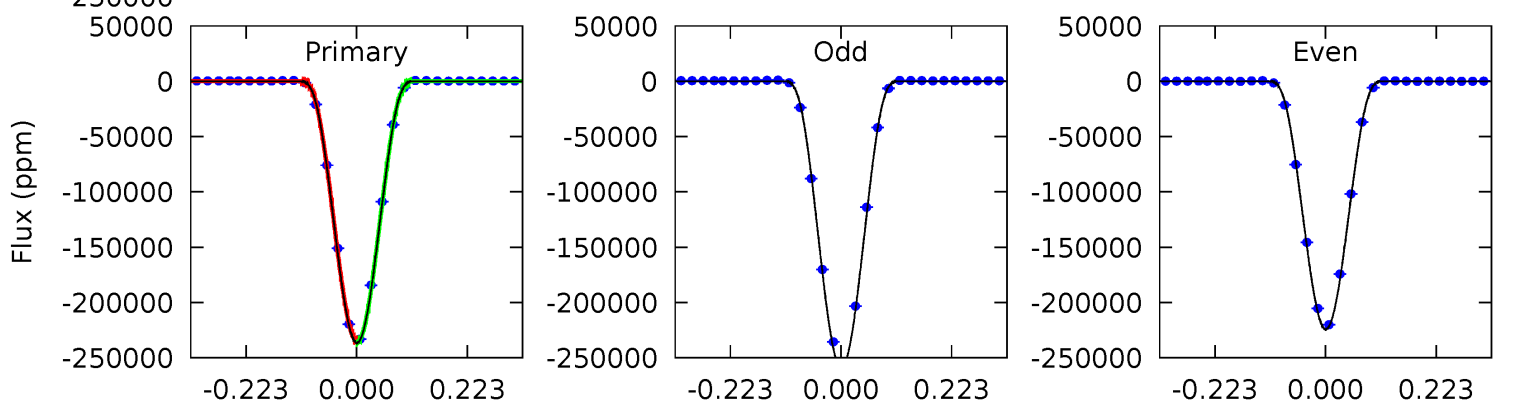
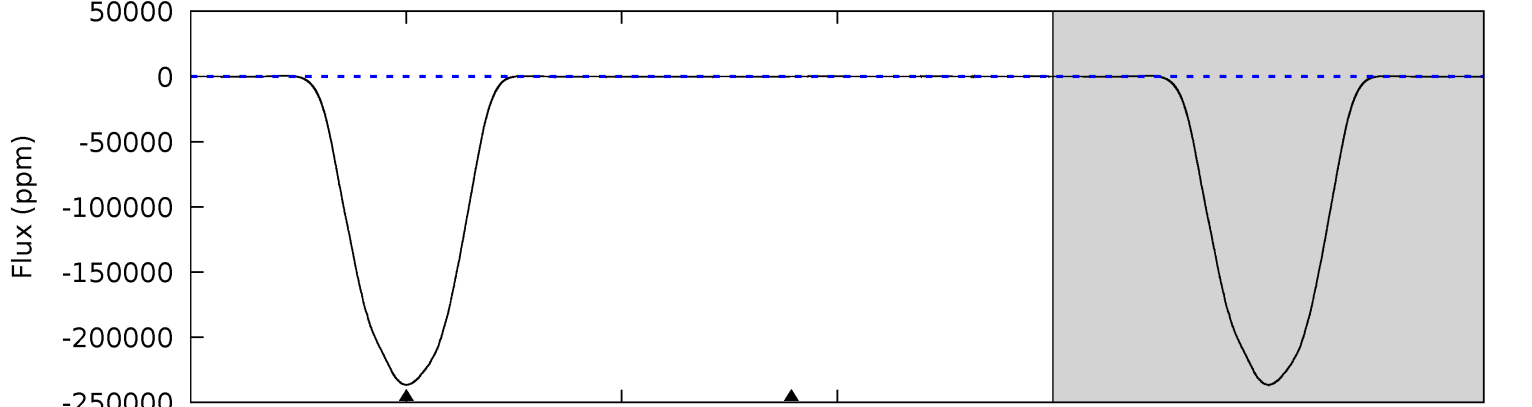
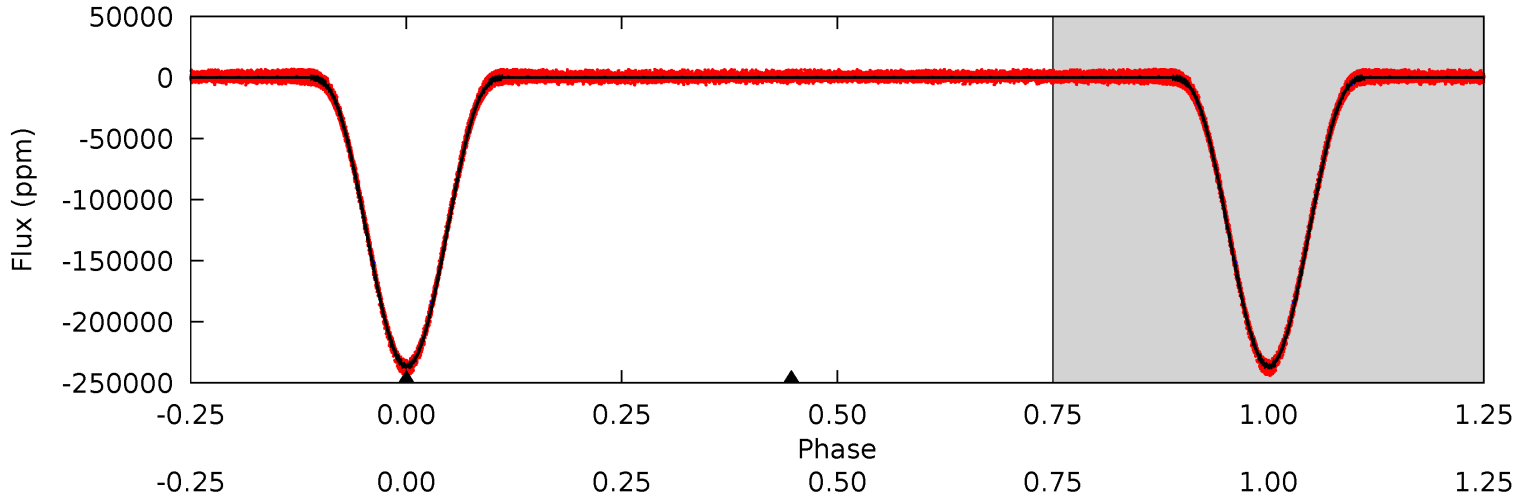
TCE 006058875-01 P= 0.564933 Days $T_0=131.788860$ (BKJD)



DV Model-Shift Uniqueness Test

006058875-01, P = 0.564933 Days, E = 131.788594 Days

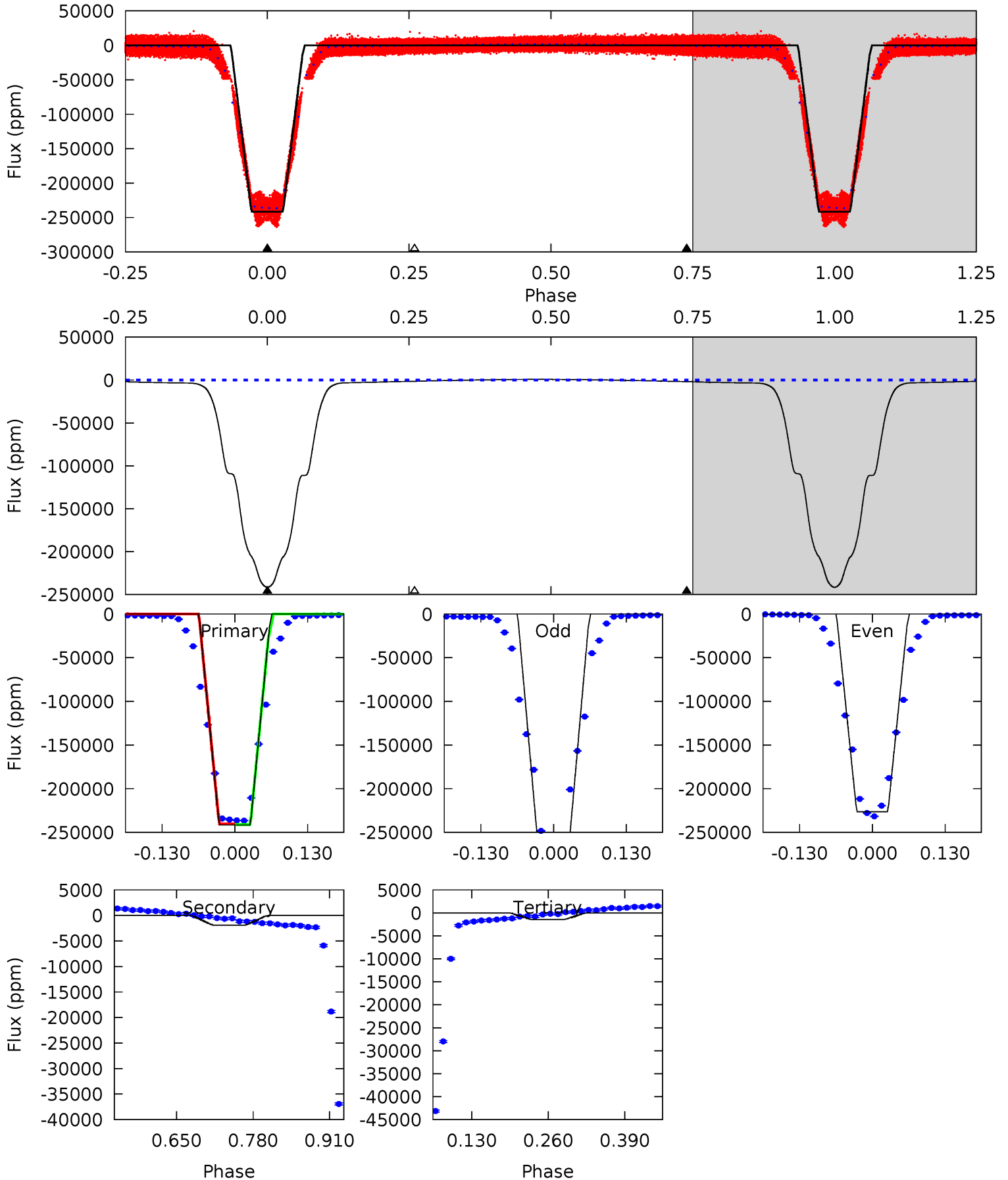
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12010	1.70	0	0	4.39	1.22	1.56	12010	12010	1.70	1.70	1011	0.92	0.00	0



Alt Model-Shift Uniqueness Test

006058875-01, P = 0.564933 Days, E = 131.788860 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3434	27.1	20.6	0	4.51	1.51	18.2	3413	3434	6.50	27.1	253.4	1.00	0.00	4.71



Stellar Parameters For KIC 006058875

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4748^{+167}_{-185}	$4.729^{+0.039}_{-0.032}$	$-1.260^{+0.300}_{-0.300}$	$0.534^{+0.034}_{-0.034}$	$0.556^{+0.033}_{-0.030}$	$5.152^{+0.836}_{-0.652}$
	+4%/-4%	+1%/-1%	+24%/-24%	+6%/-6%	+6%/-5%	+16%/-13%
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 006058875-01 / KOI 3616.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-33 ± 20	$32.64^{+2.72}_{-2.54}$	2031^{+80}_{-80}	-2479^{+58}_{-55}	$0.002^{+0.001}_{-0.001}$
Alt.	-1908 ± 70	$30.22^{+2.73}_{-2.30}$	2036^{+74}_{-76}	-2303^{+64}_{-61}	$0.139^{+0.026}_{-0.020}$

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 $A_{\text{obs}} \gg 1.0$

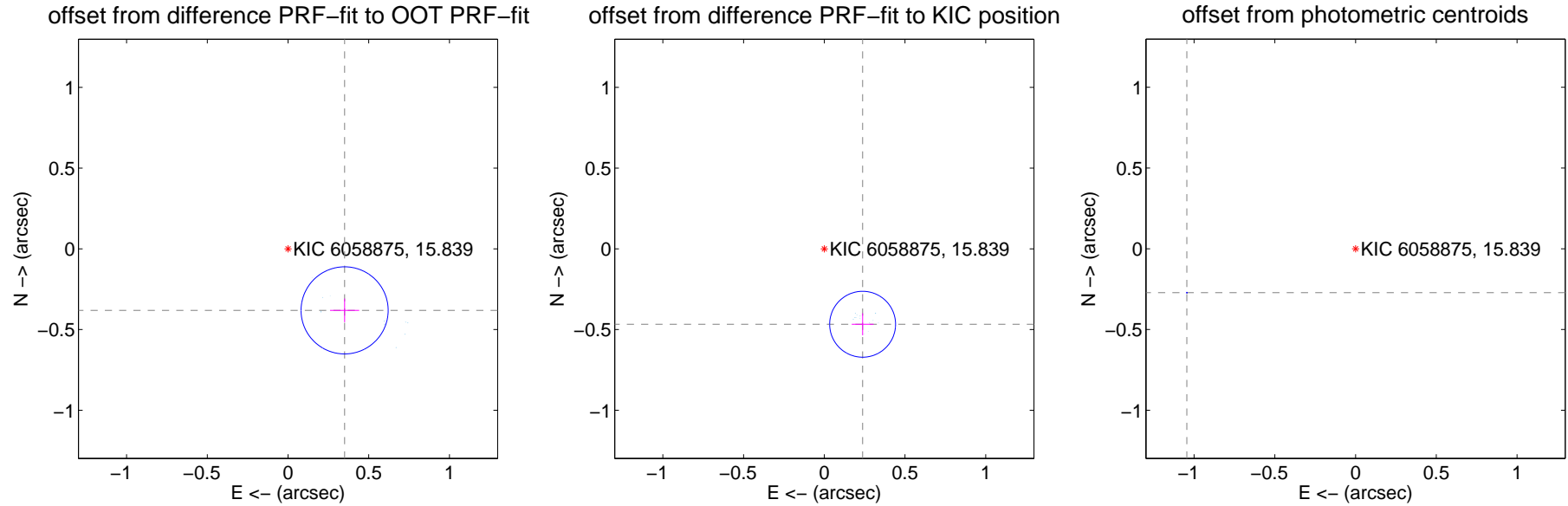
DV Centroid Data

Supplemental centroid analysis for 006058875-01. Kepler magnitude: 15.84. Transit SNR 5835.57

There are 14 quarters with good PRF difference image offsets

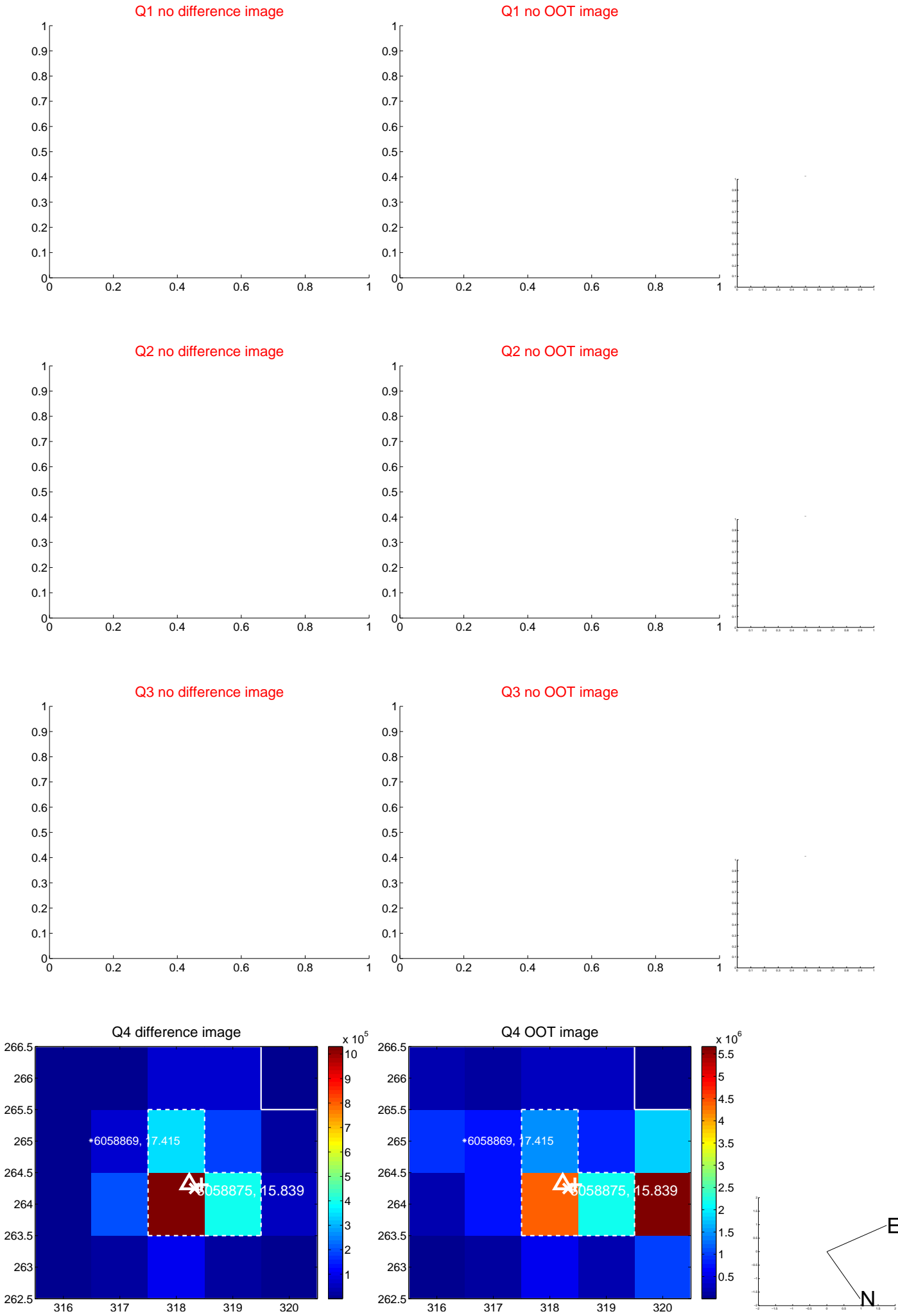
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.518 ± 0.090	5.76	-0.350 ± 0.090	-0.381 ± 0.073
PRF-fit source offset from KIC position	0.524 ± 0.068	7.70	-0.237 ± 0.068	-0.467 ± 0.068
photometric centroid source offset	1.08 ± 0.00	1325.30	1.04 ± 0.00	-0.27 ± 0.00

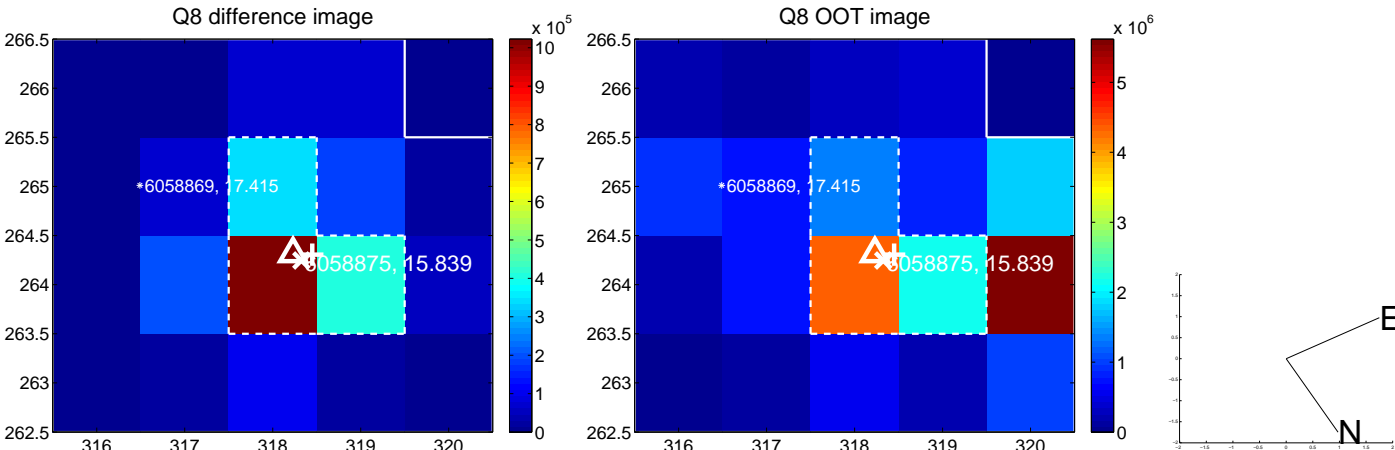
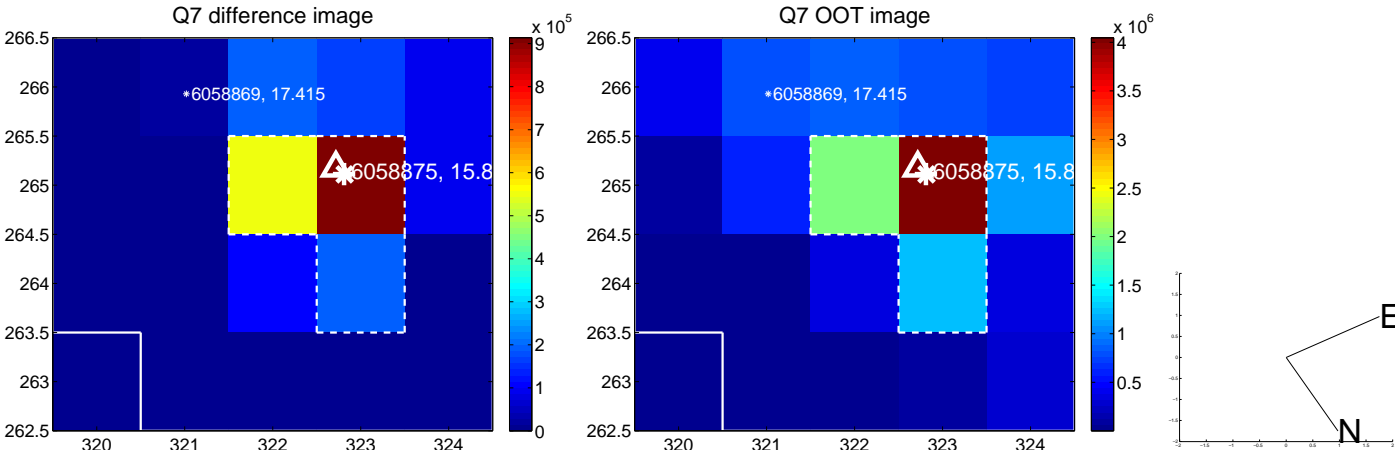
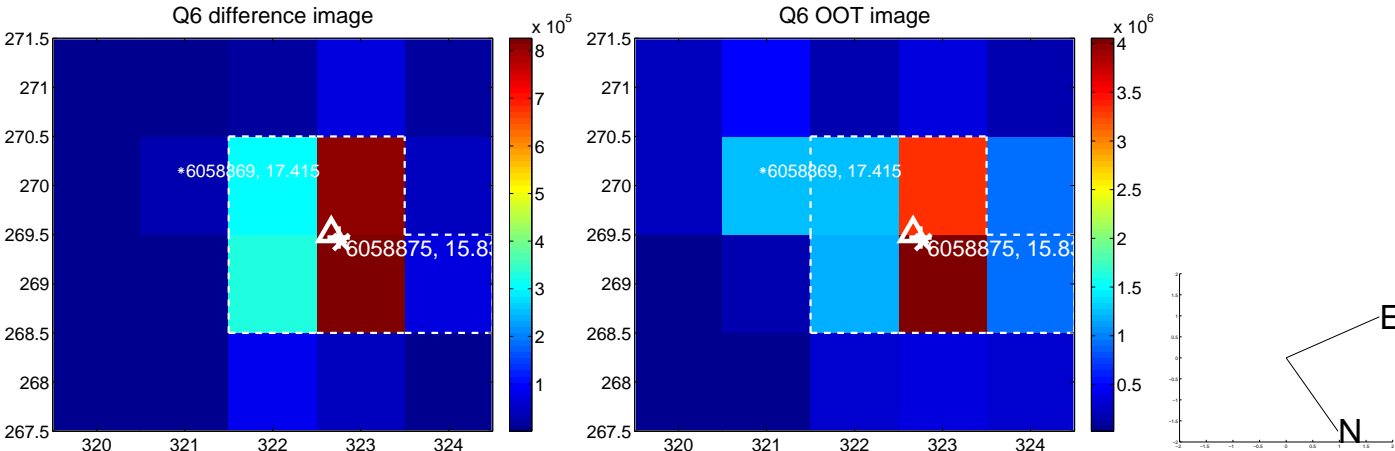
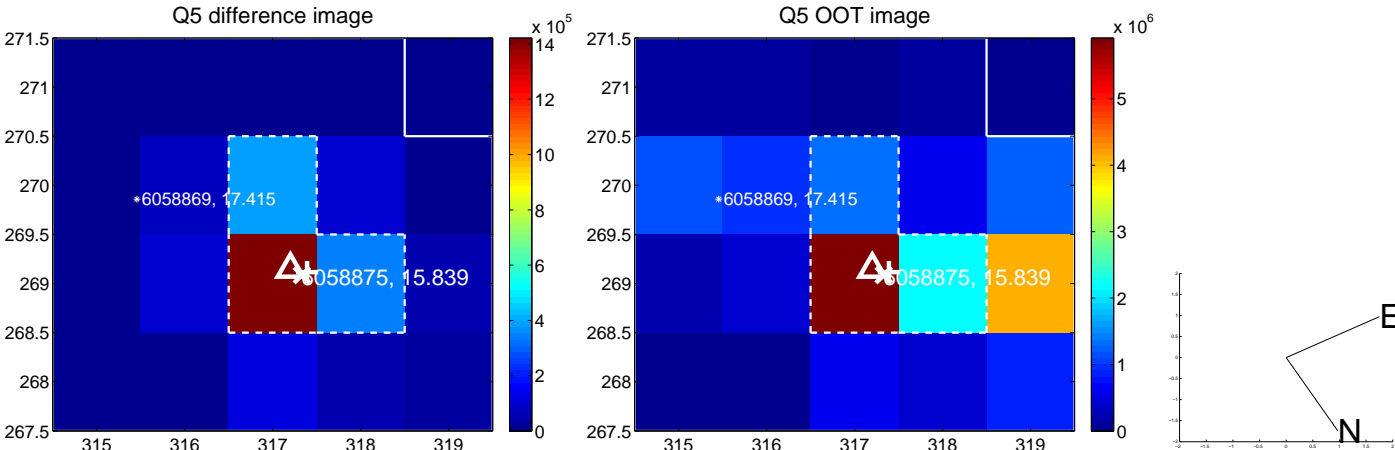


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

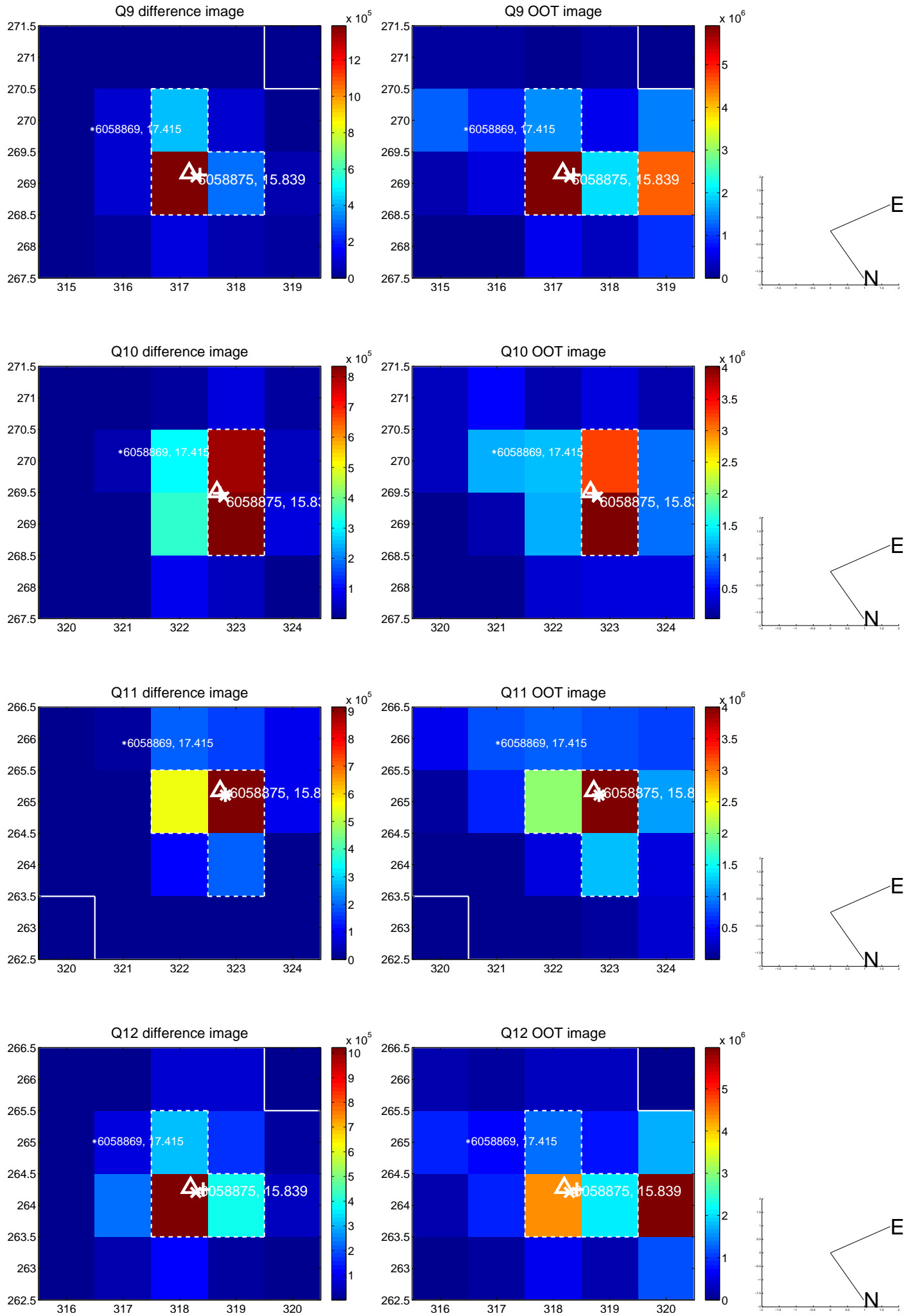
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



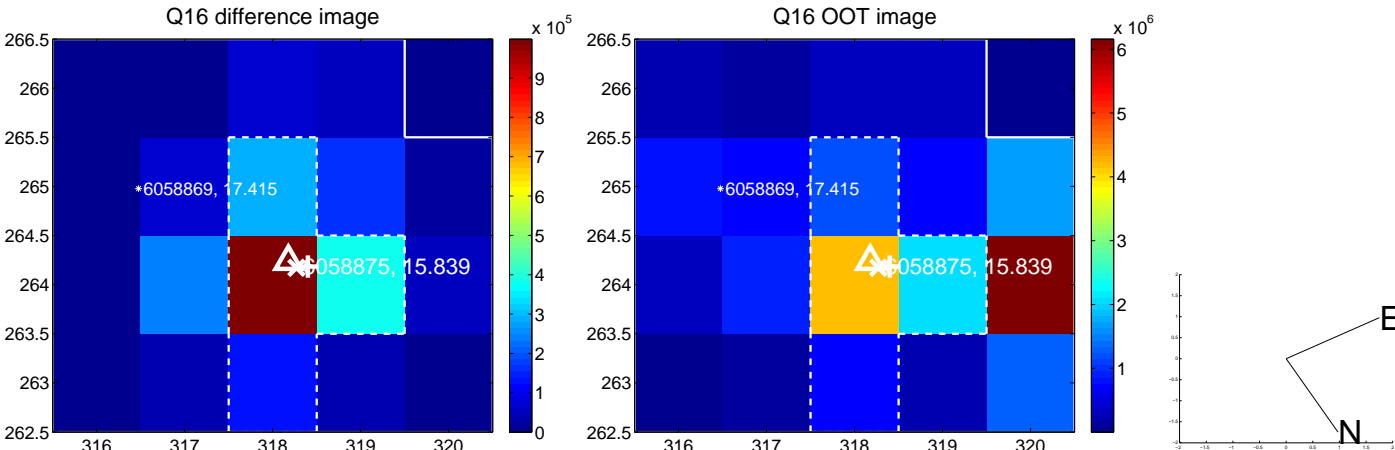
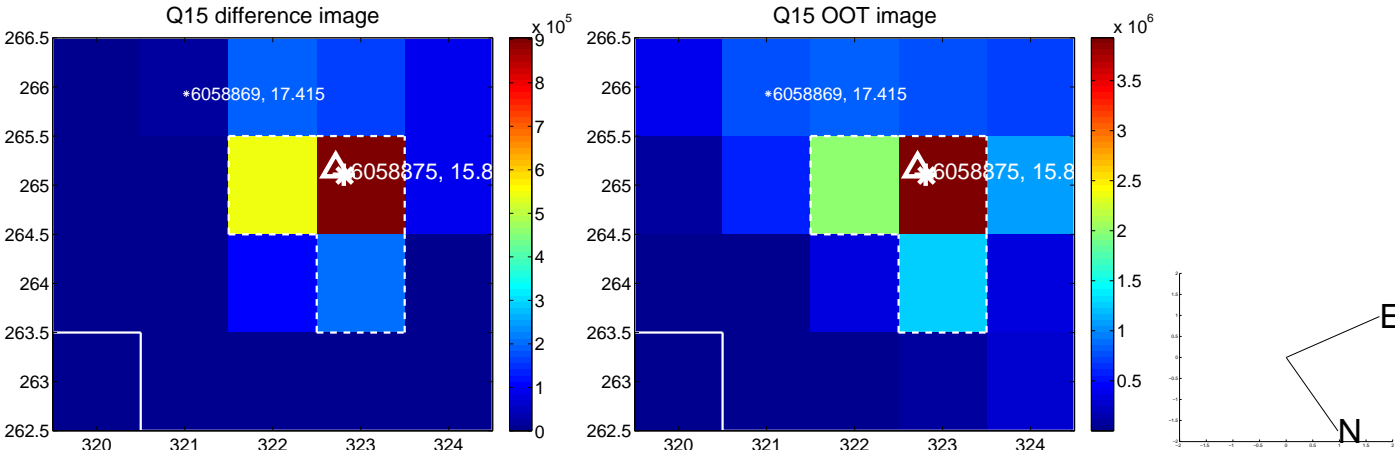
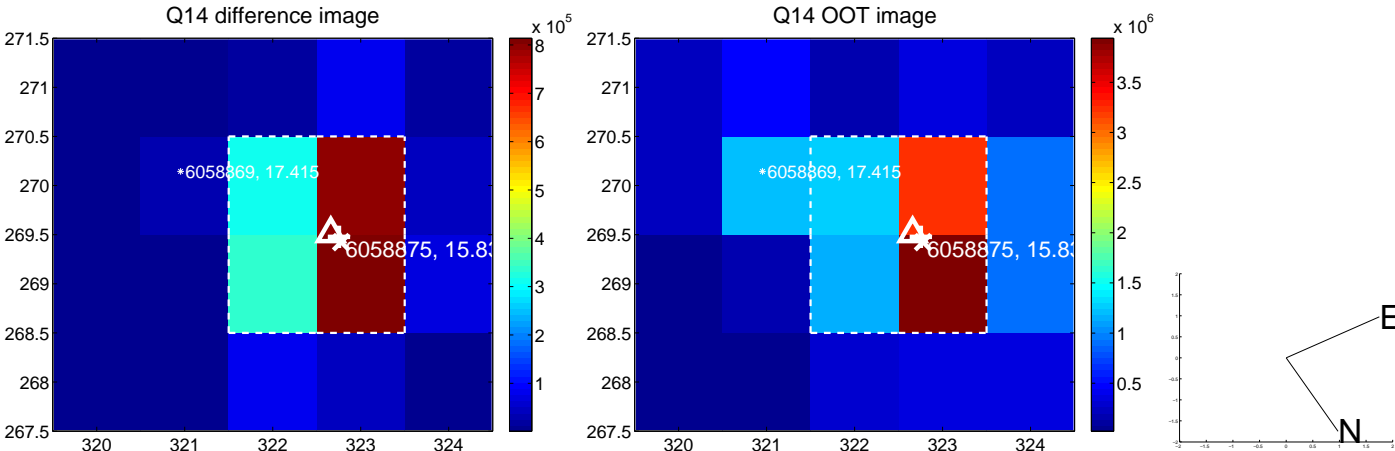
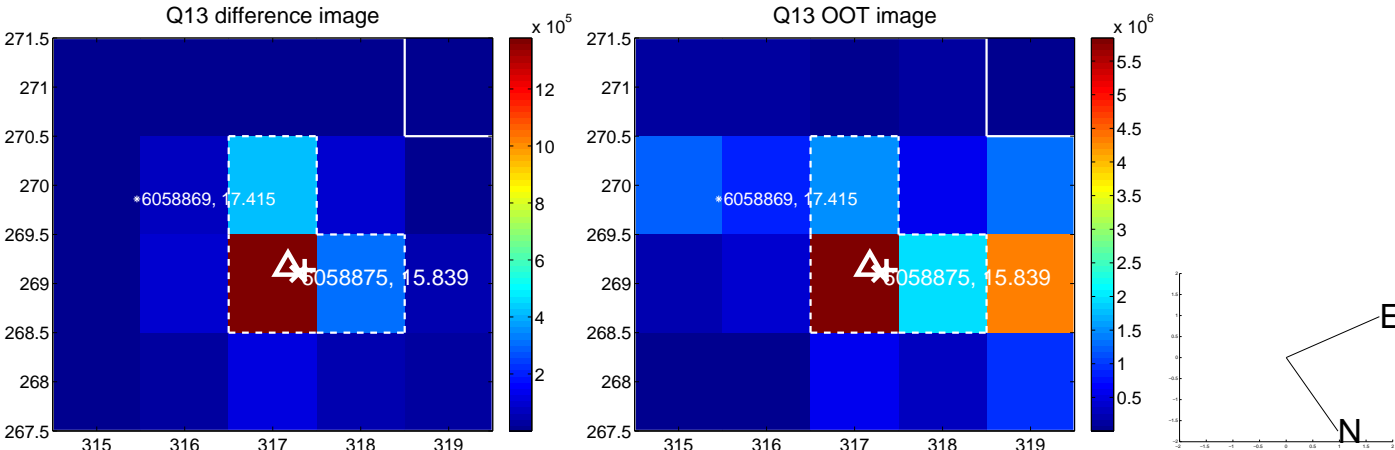
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



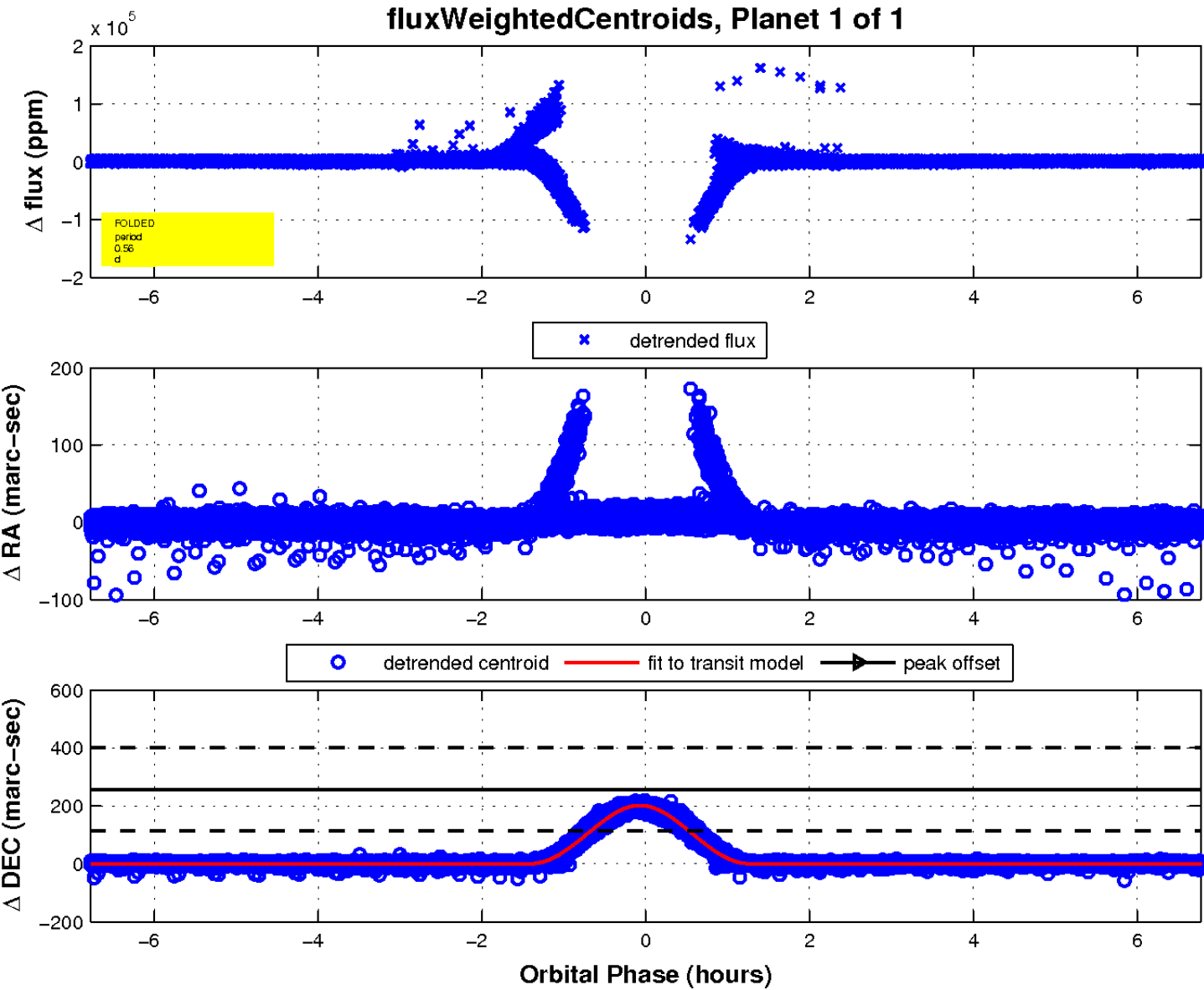
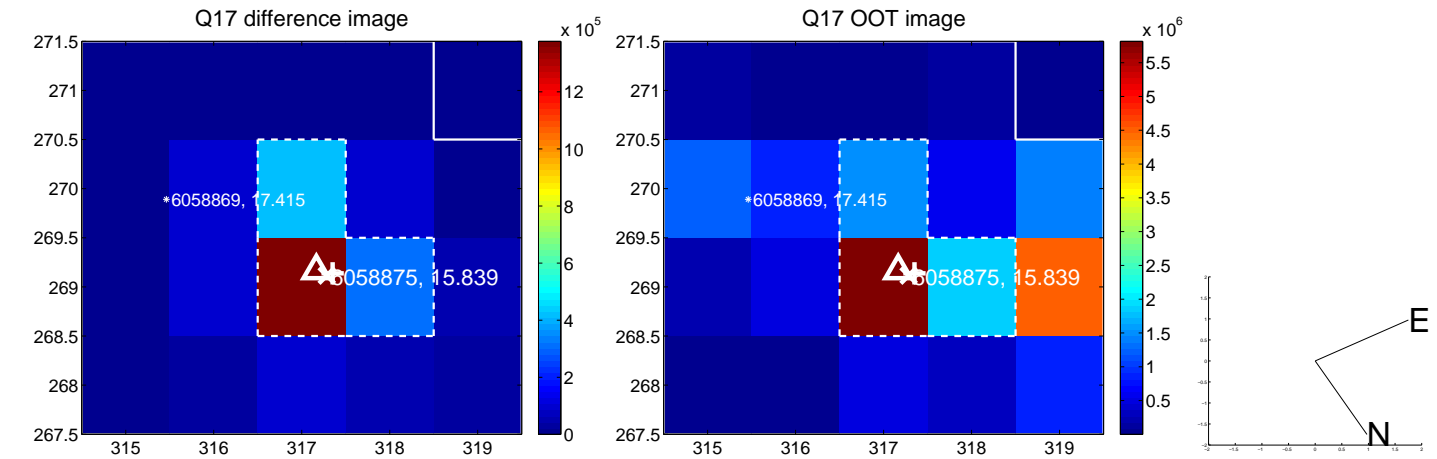
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

