

KIC 006839010

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})
006839010-01	OBS	4674.01	4.843453	134.821412	46.2	2.919	8.0	9.1	1.06	5762	0.84	374.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006839010-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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

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

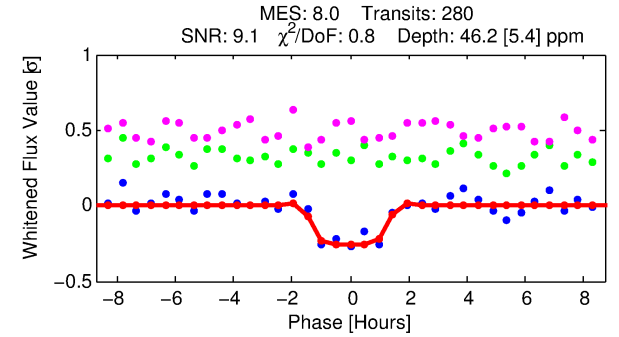
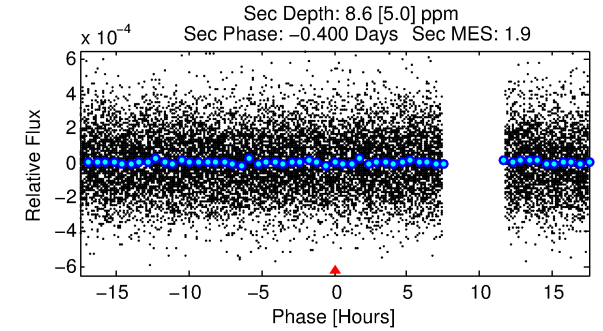
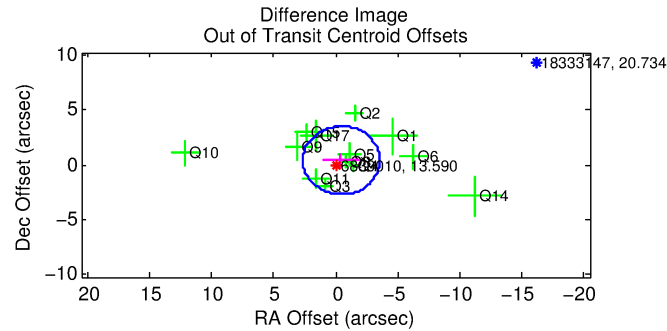
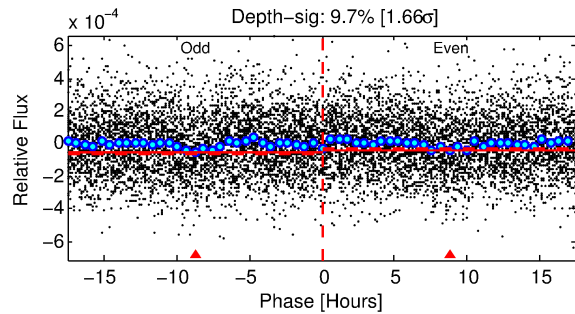
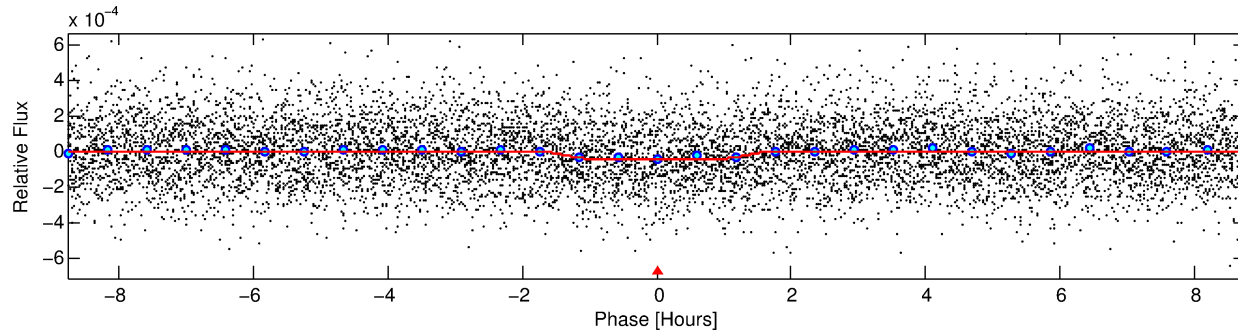
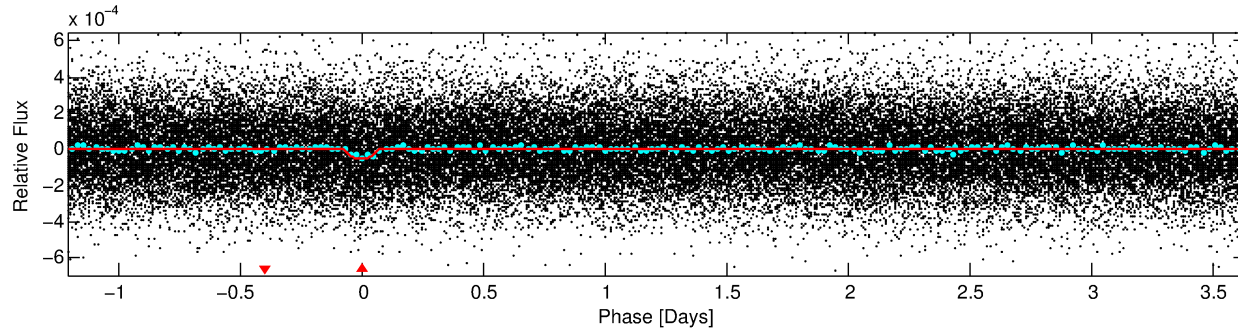
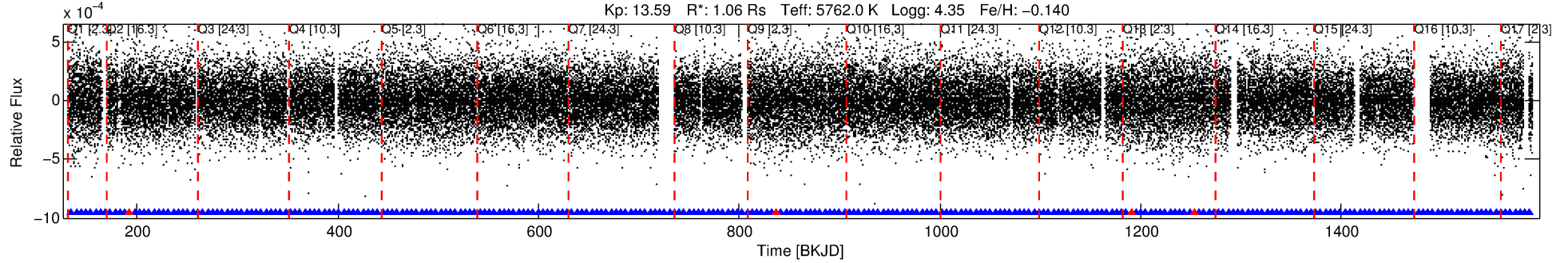
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006839010-01

No Significant Match Found

DV One-Page Summary

KIC: 6839010 Candidate: 1 of 1 Period: 4.843 d
KOI: K04674.01 Corr: 0.990



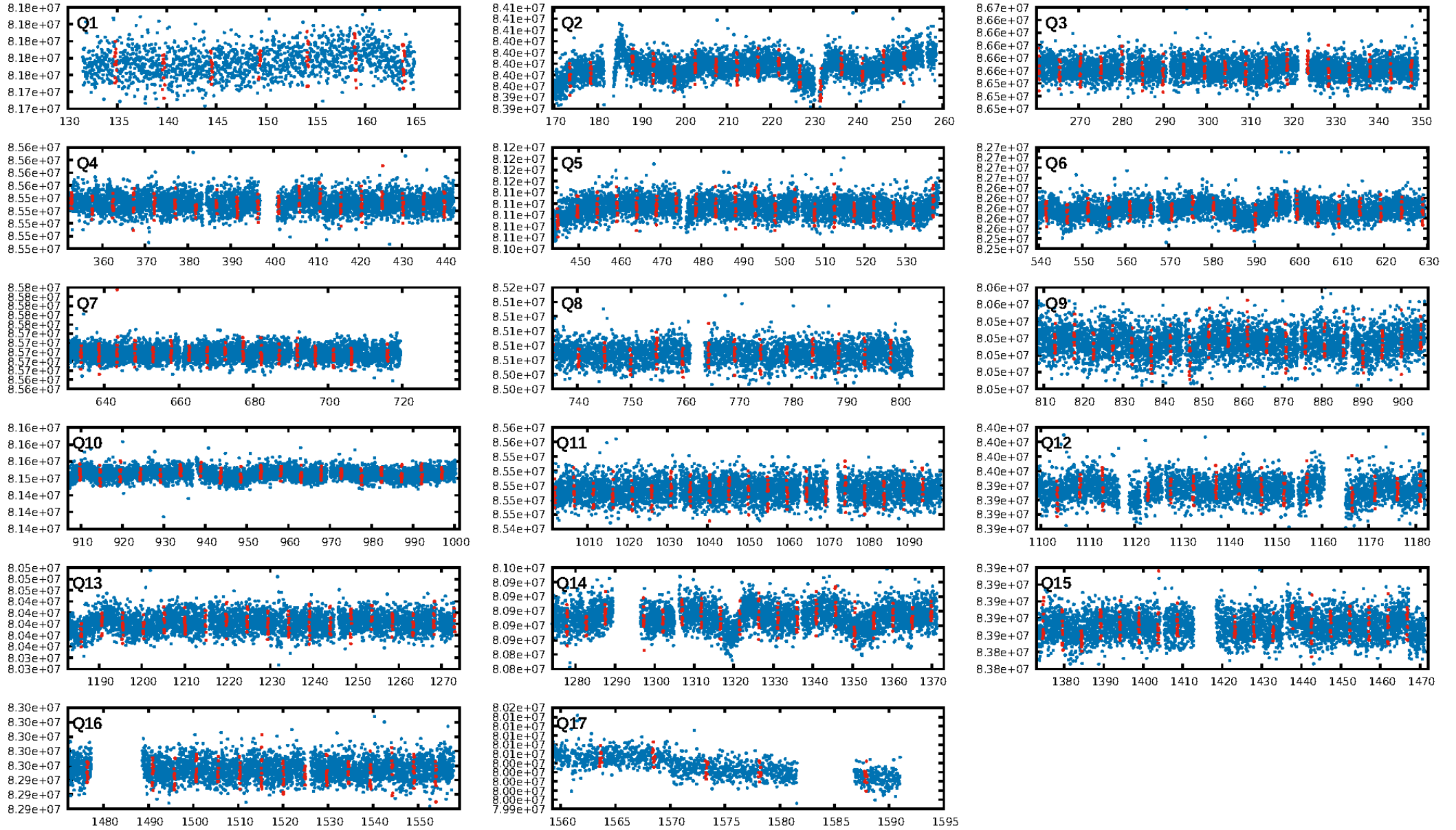
DV Fit Results:

Period = 4.84345 [0.00004] d
Epoch = 134.8214 [0.0059] BKJD
Rp/R* = 0.0073 [0.0049]
a/R* = 6.12 [19.52]
b = 0.89 [0.80]
Seff = 374.48 [135.91]
Teff = 1122 [102] K
Rp = 0.84 [0.61] Re
a = 0.0542 [0.0126] AU
Ag = 19.66 [29.65] [0.63 σ]
Teffp = 3652 [1343] K [1.88 σ]

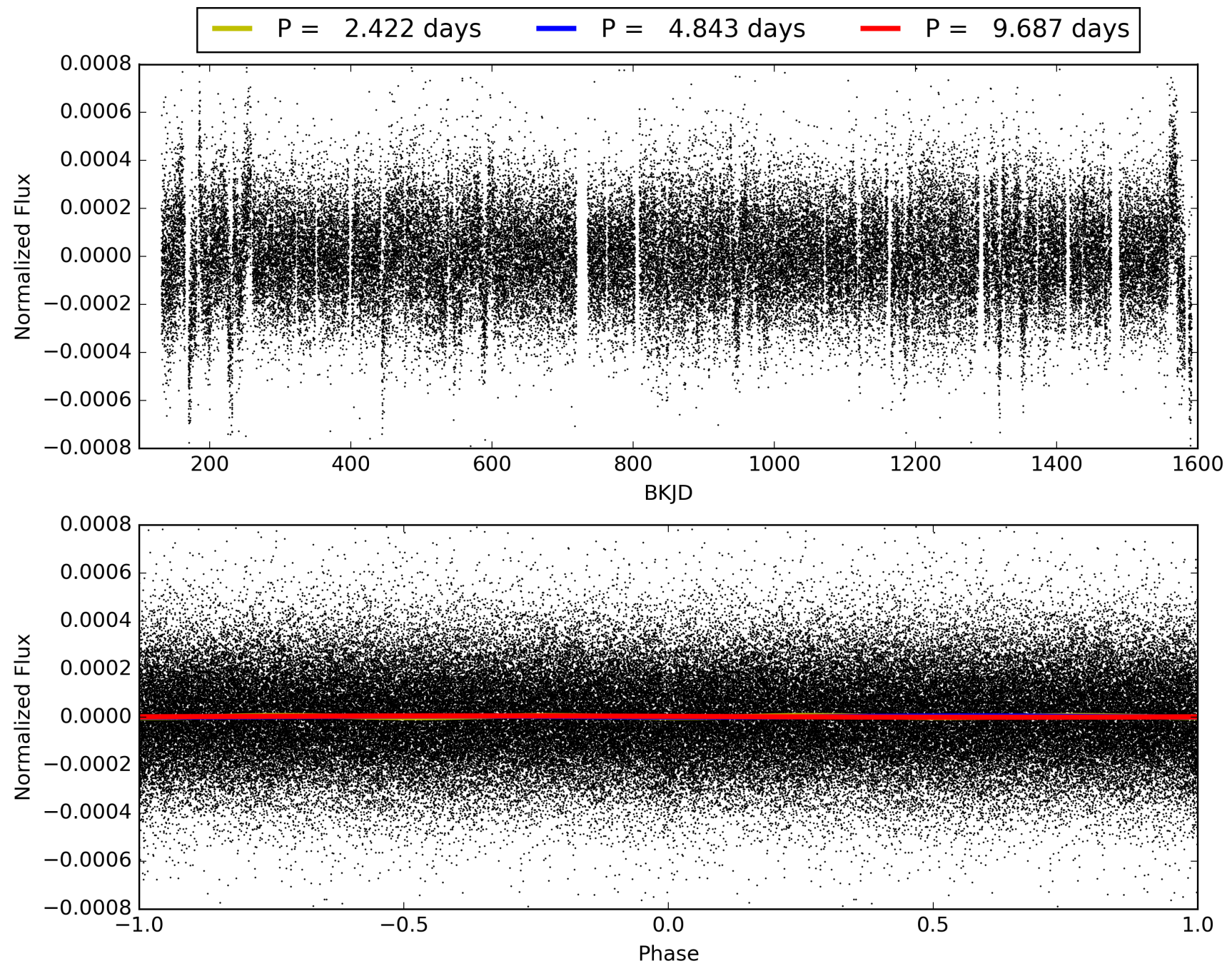
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.36e-15
RollingBand-fgt: 0.99 [264/268]
GhostDiagnostic-chr: 1.427
Centroid-sig: 67.1%
Centroid-so: 0.987 arcsec [0.57 σ]
OotOffset-rm: 0.596 arcsec [0.58 σ]
KicOffset-rm: 0.589 arcsec [0.73 σ]
OotOffset-st: 4/3/2/4 [13]
KicOffset-st: 4/3/2/4 [13]
DiffImageQuality-fgm: 0.38 [5/13]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006839010-01, PDC Light Curves

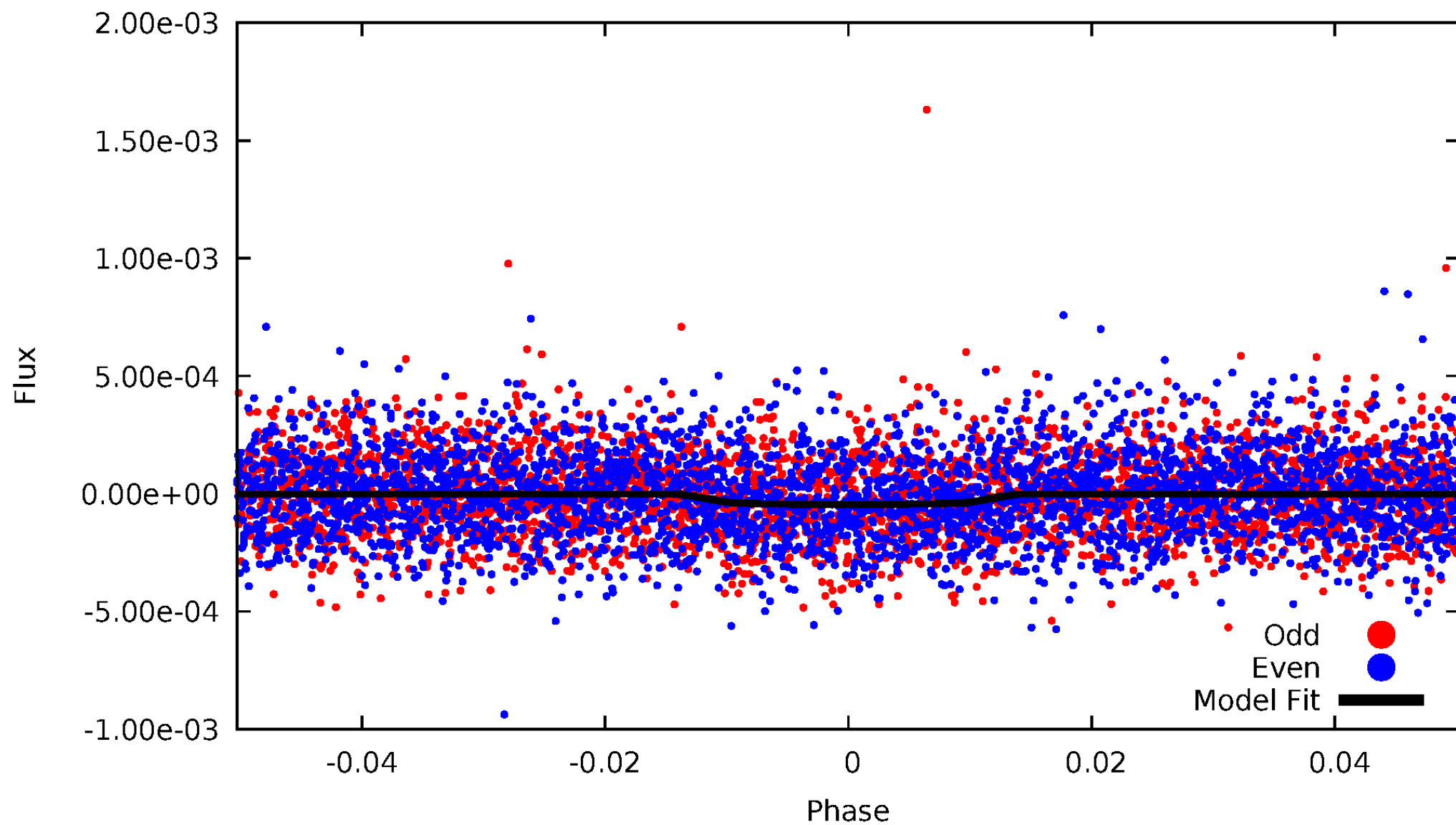


TCE 006839010-01



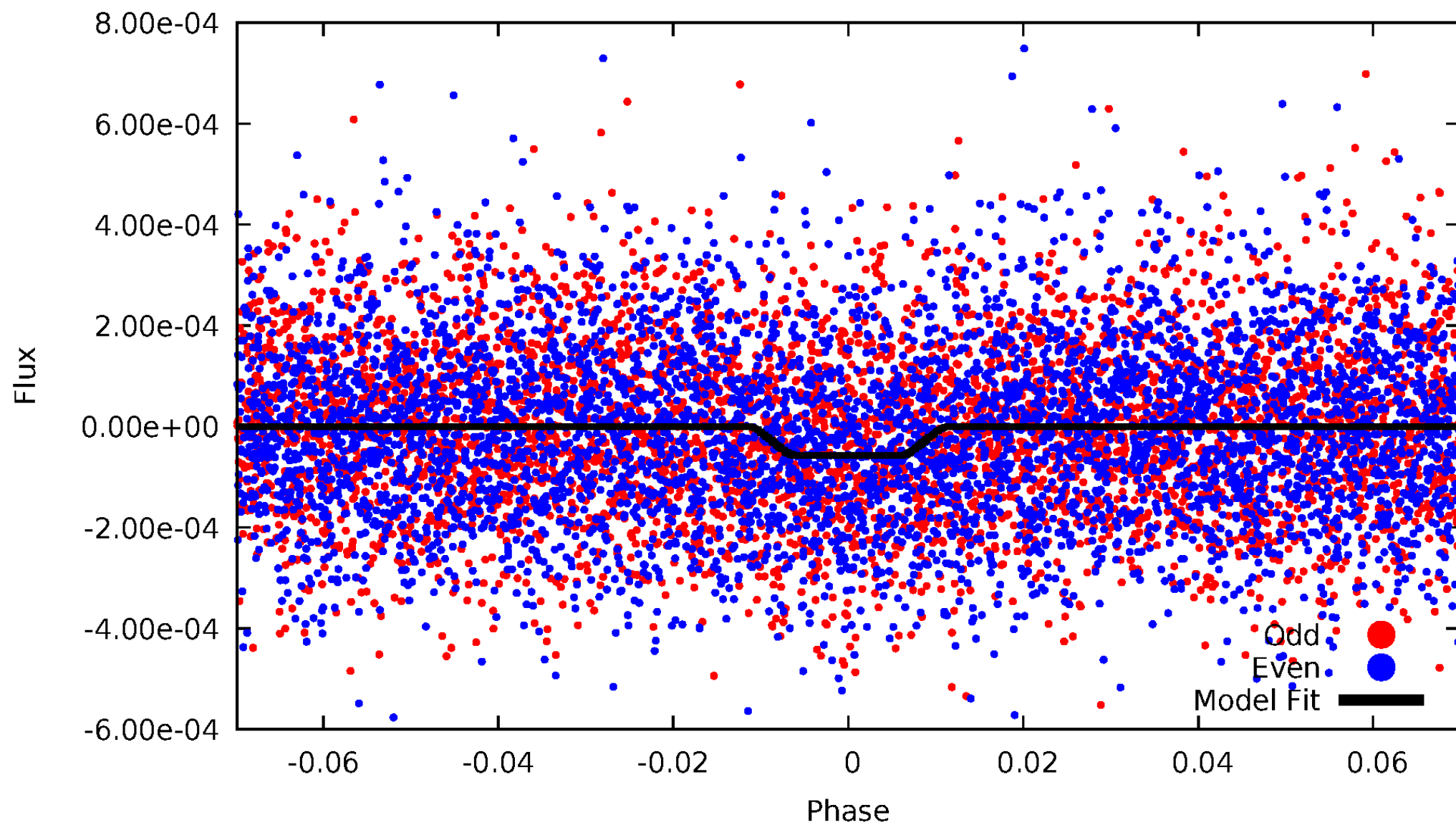
DV Odd/Even

TCE 006839010-01



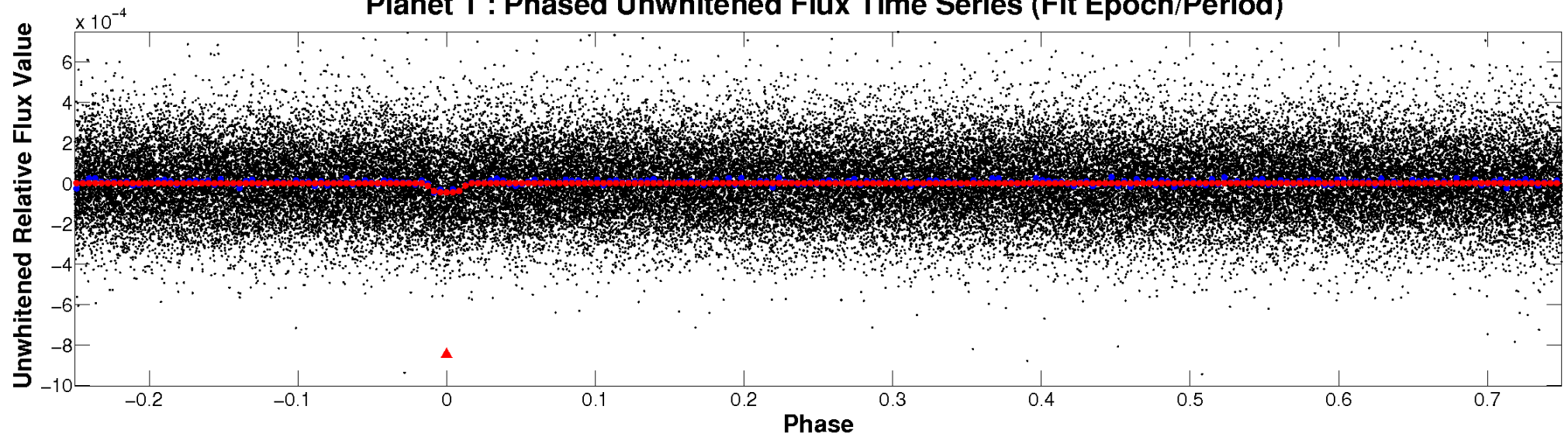
ALT Odd/Even

TCE 006839010-01

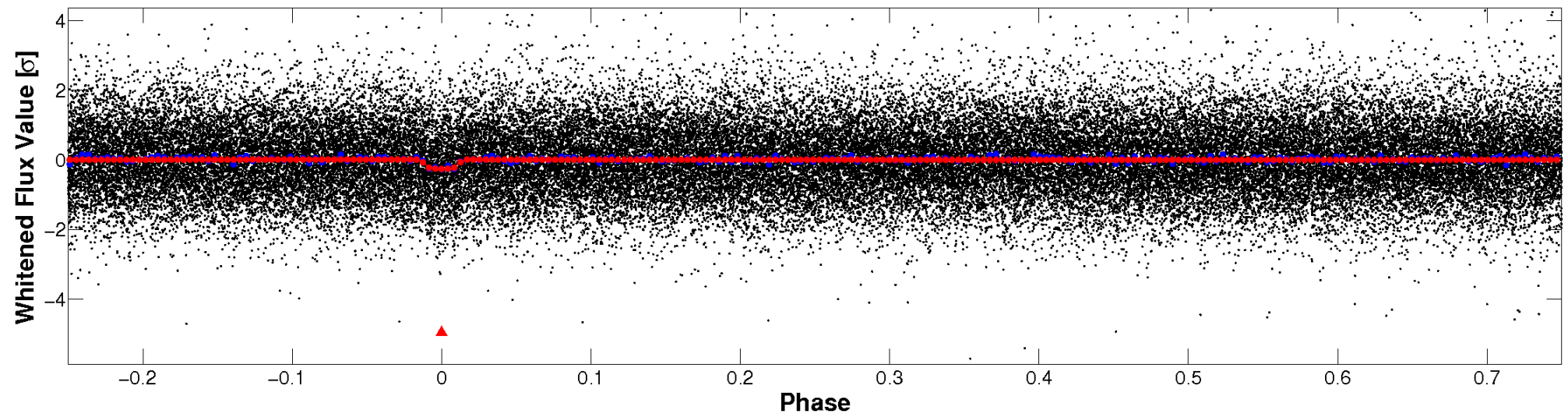


Non-Whitened Vs. Whitened Light Curve

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

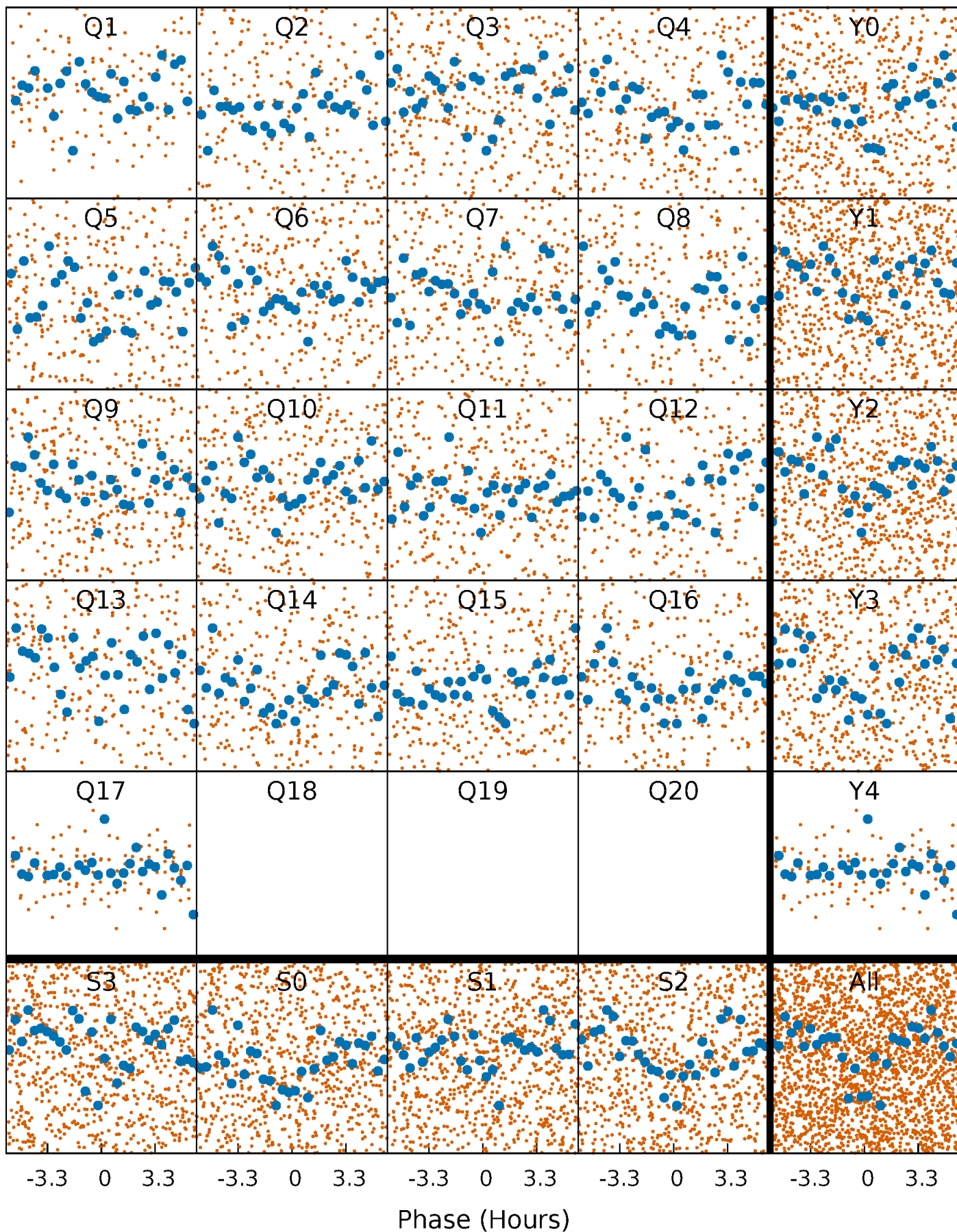


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



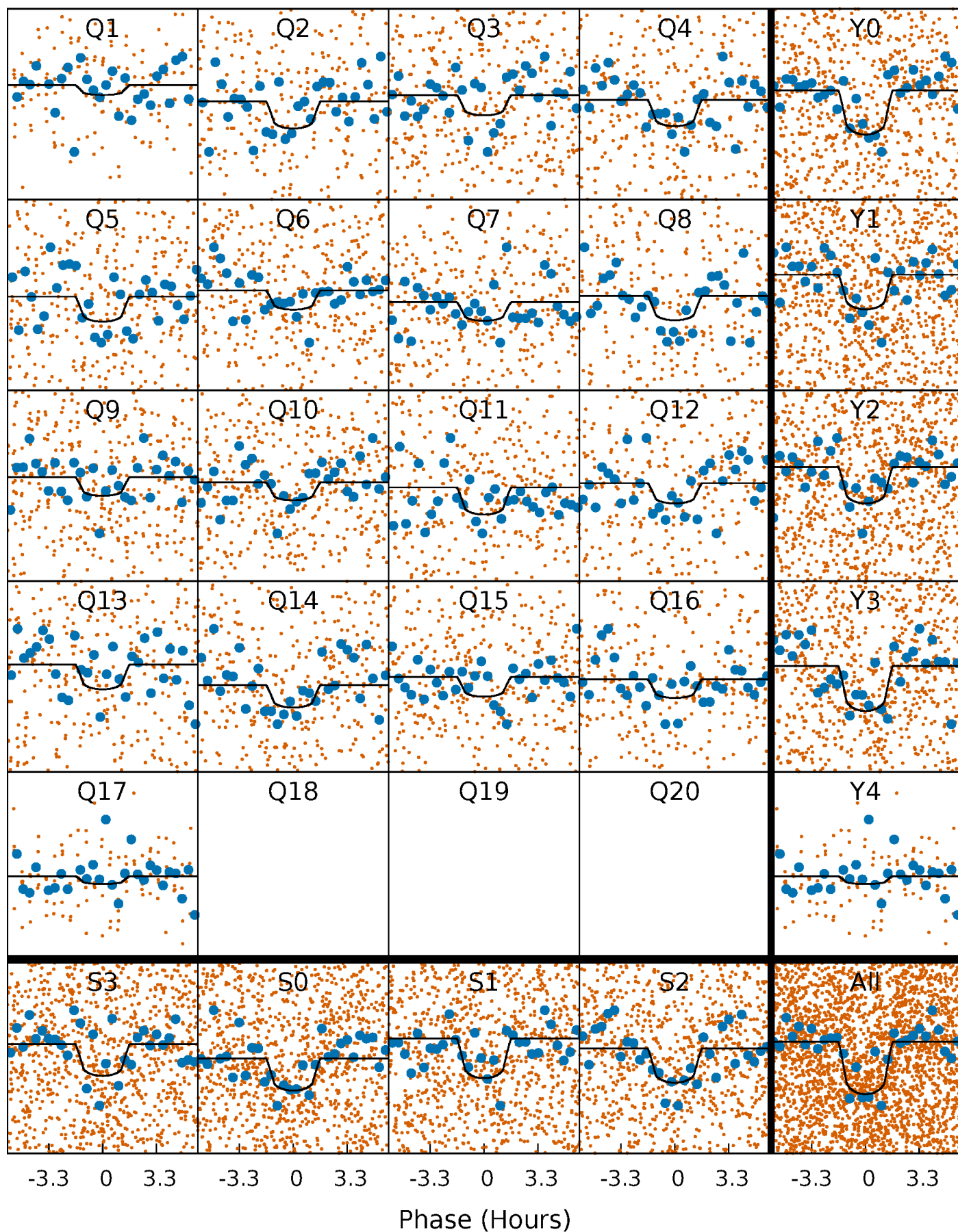
PDC Quarter-Phased Transit Curves

TCE 006839010-01 P= 4.843453 Days $T_0=134.821412$ (BKJD)



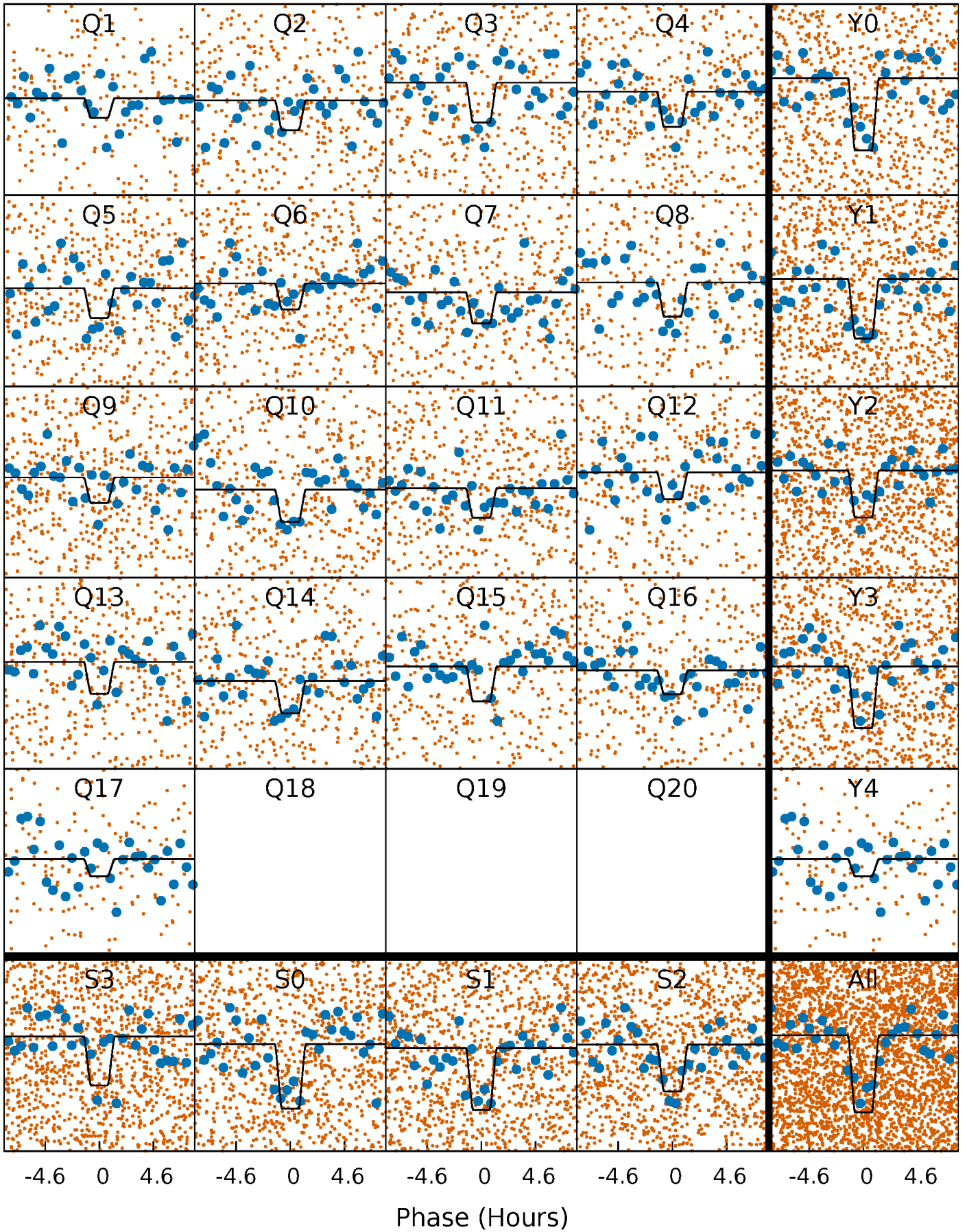
DV Quarter-Phased Transit Curves

TCE 006839010-01 P= 4.843453 Days $T_0=134.821412$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

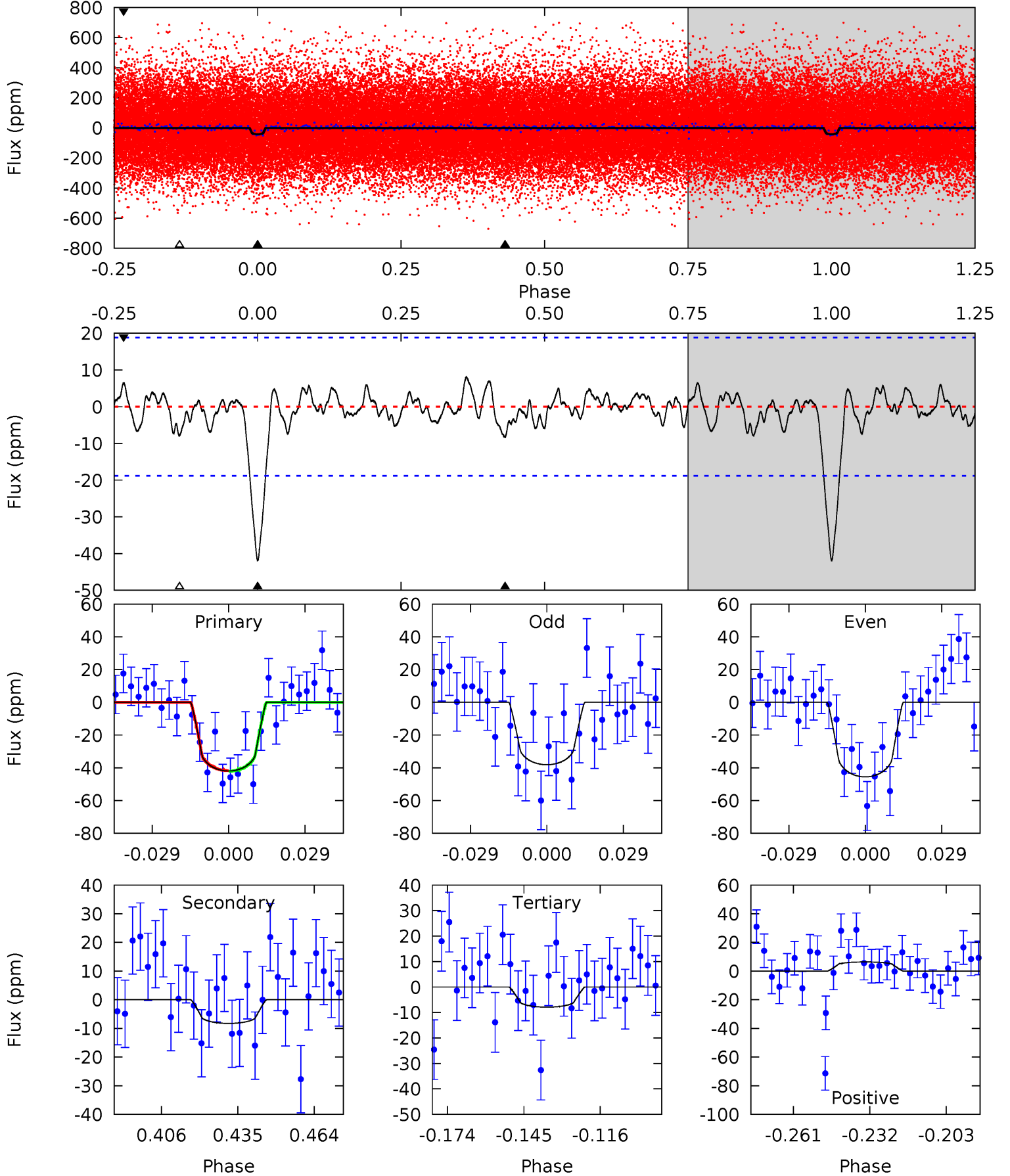
TCE 006839010-01 P= 4.843346 Days $T_0=134.837575$ (BKJD)



DV Model-Shift Uniqueness Test

006839010-01, P = 4.843453 Days, E = 129.977959 Days

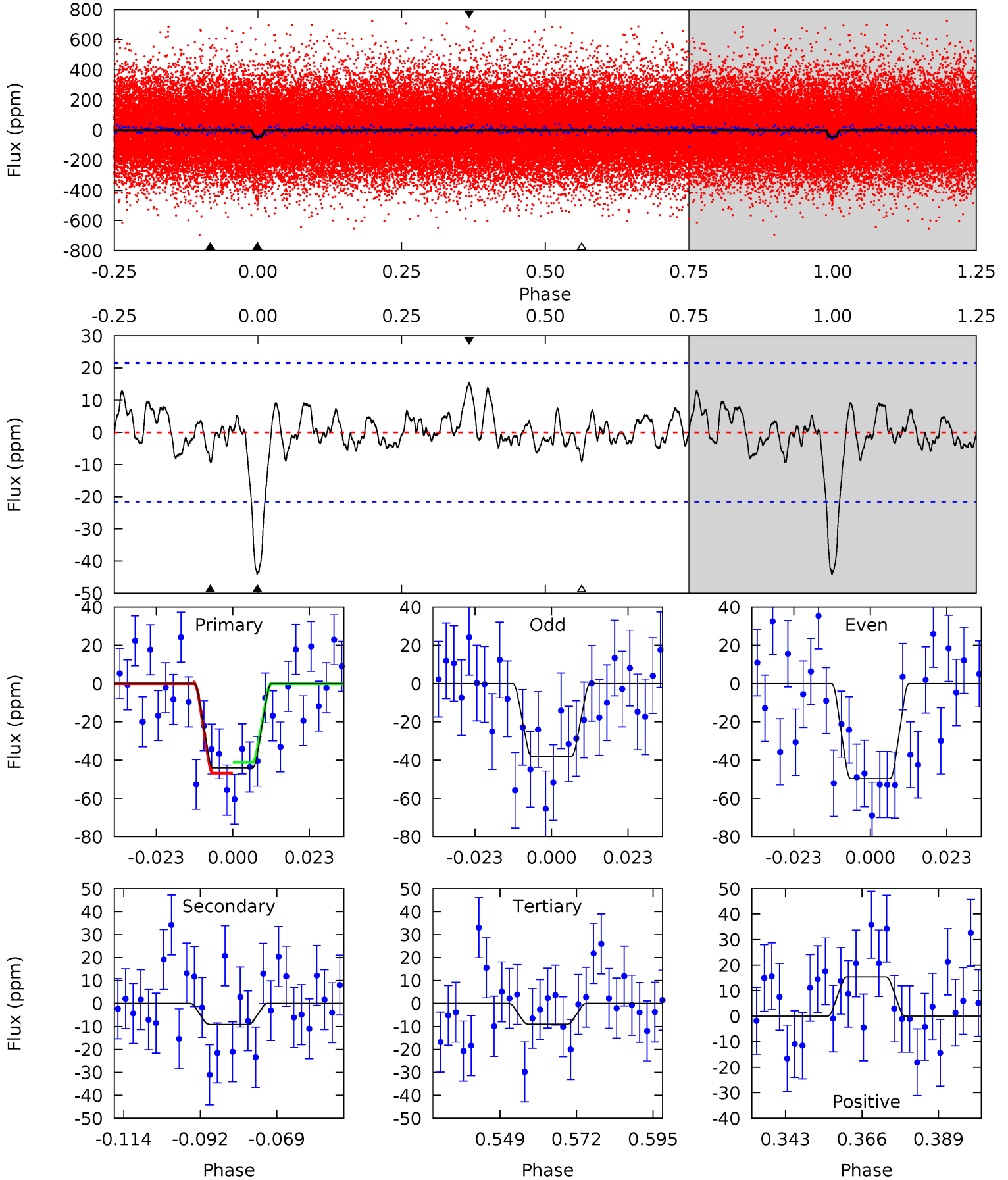
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	2.12	2.02	1.64	4.82	2.18	0.78	8.72	9.10	0.09	0.48	0.95	0.90	0.16	0.04



Alt Model-Shift Uniqueness Test

006839010-01, P = 4.843346 Days, E = 129.994229 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.92	2.05	2.03	3.47	4.87	2.28	1.03	7.89	6.45	0.02	-1.42	1.30	0.93	0.26	0.63



Stellar Parameters For KIC 006839010

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5762^{+155}_{-155}	$4.348^{+0.158}_{-0.193}$	$-0.140^{+0.300}_{-0.300}$	$1.056^{+0.285}_{-0.190}$	$0.906^{+0.133}_{-0.082}$	$1.084^{+0.801}_{-0.535}$
	+3%/-3%	+4%/-4%	+214%/-214%	+27%/-18%	+15%/-9%	+74%/-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 006839010-01 / KOI 4674.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-8 ± 4	$0.90^{+0.58}_{-0.49}$	1569^{+117}_{-99}	3788^{+1285}_{-662}	15^{+59}_{-11}
Alt.	-9 ± 4	$0.95^{+0.56}_{-0.55}$	1572^{+113}_{-95}	3830^{+1527}_{-658}	16^{+75}_{-11}

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 $A_{obs} \gg 1.0$

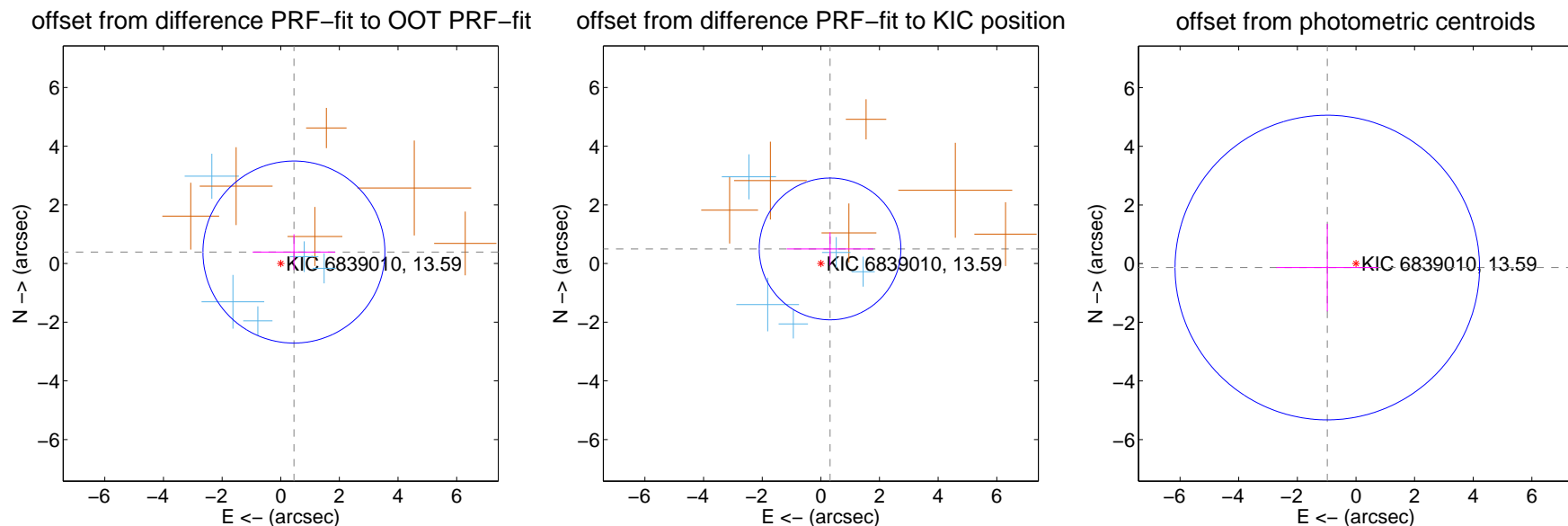
DV Centroid Data

Supplemental centroid analysis for 006839010-01. Kepler magnitude: 13.59. Transit SNR 9.07

There are 5 quarters with good PRF difference image offsets

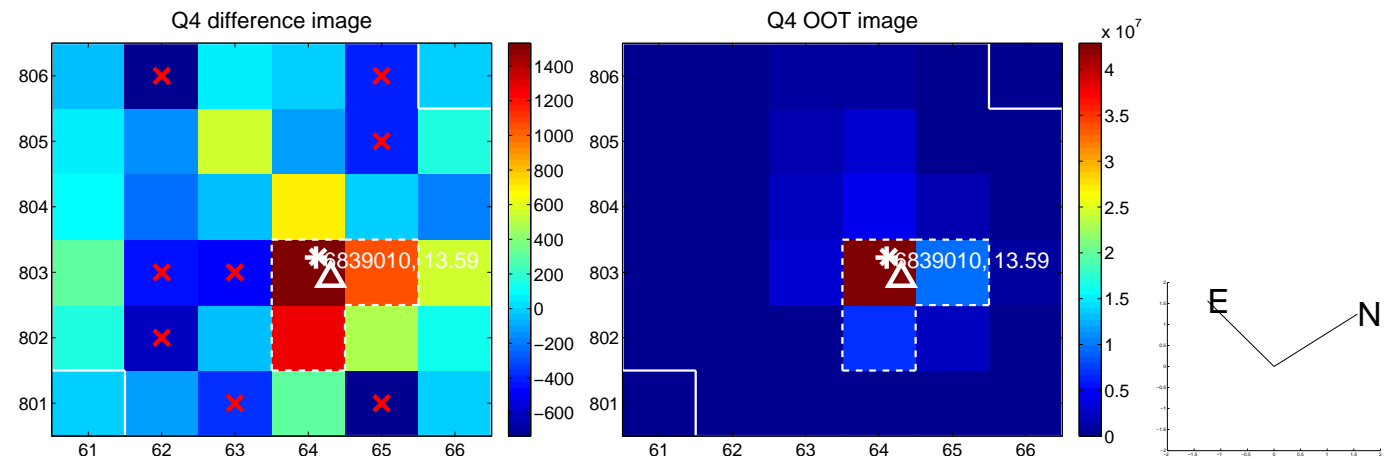
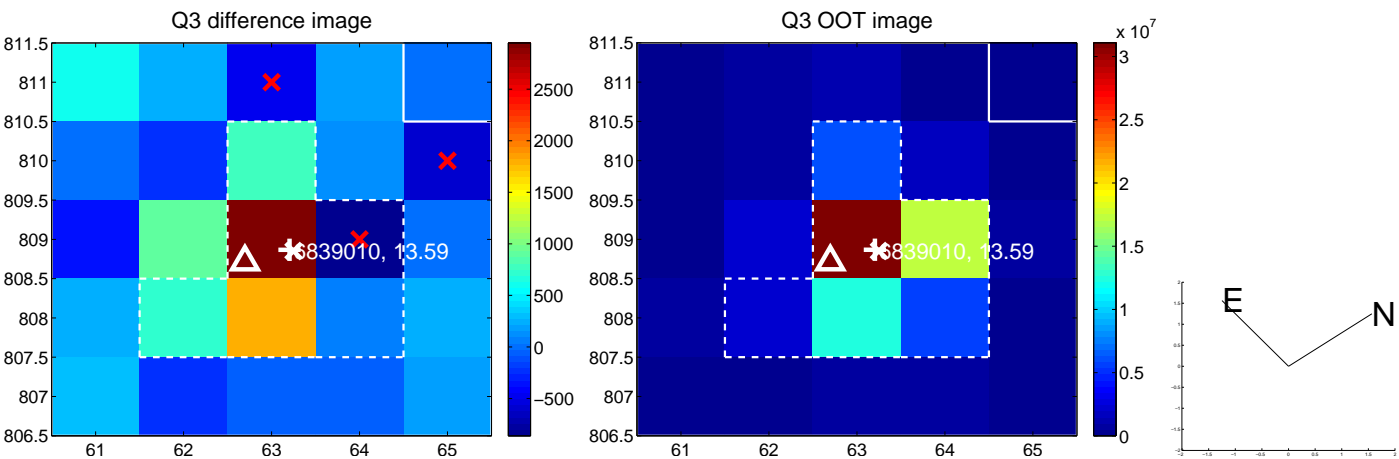
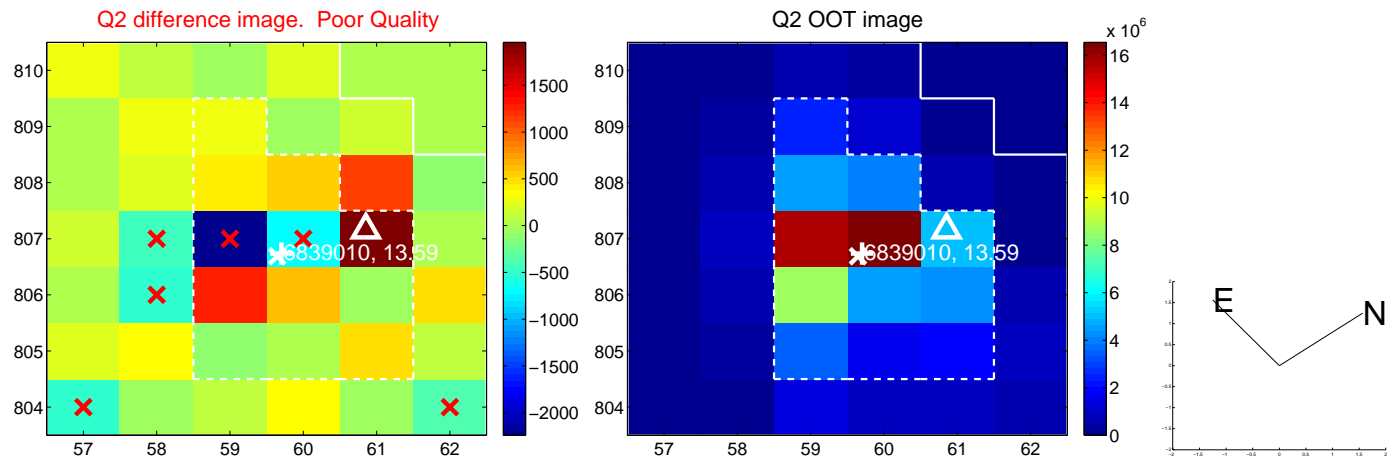
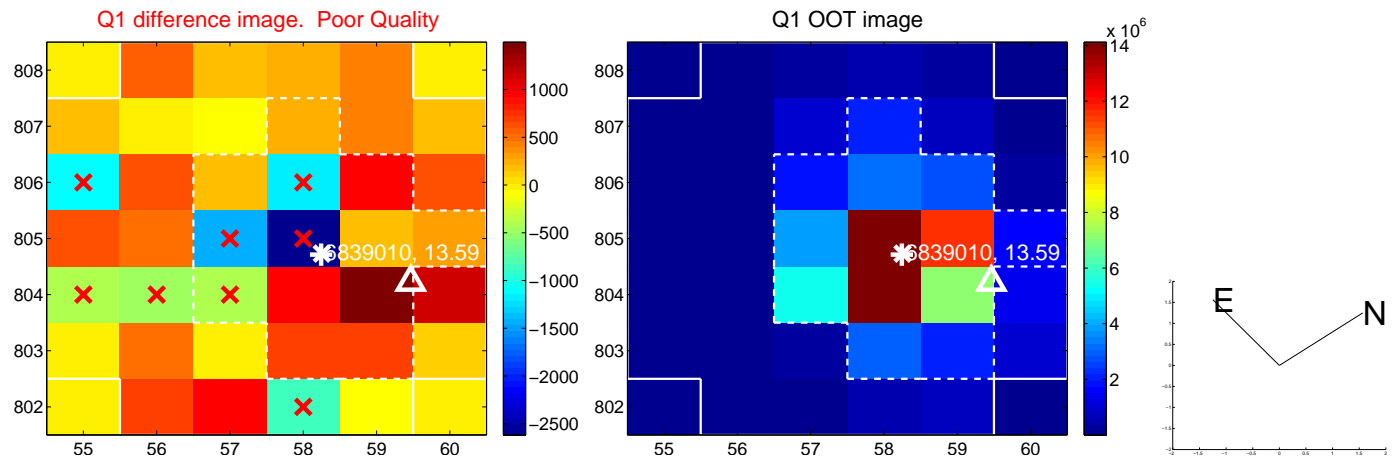
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.596 ± 1.034	0.58	-0.449 ± 1.410	0.392 ± 0.606
PRF-fit source offset from KIC position	0.589 ± 0.805	0.73	-0.313 ± 1.478	0.498 ± 0.563
photometric centroid source offset	0.99 ± 1.73	0.57	0.98 ± 1.74	-0.13 ± 1.49

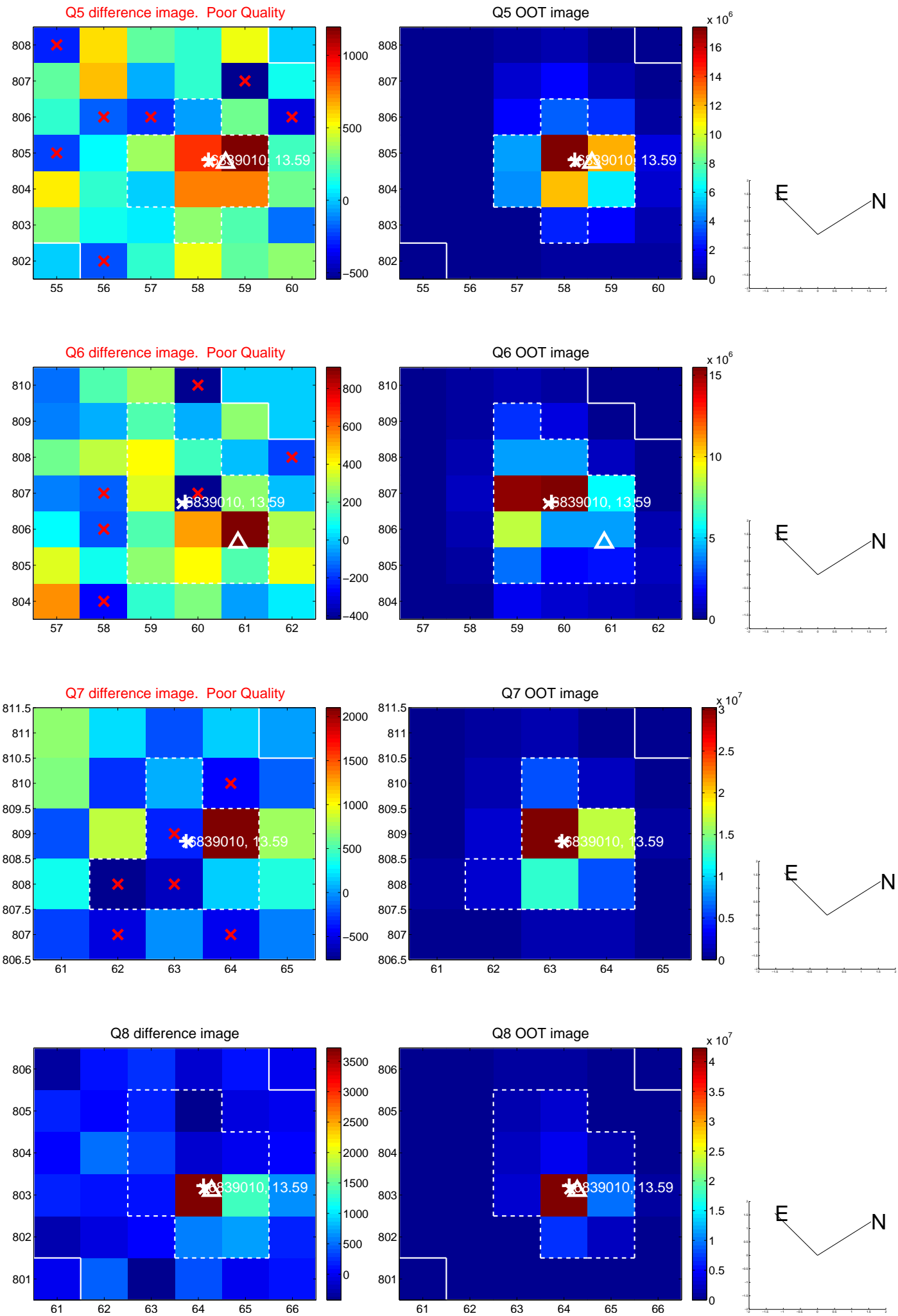


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

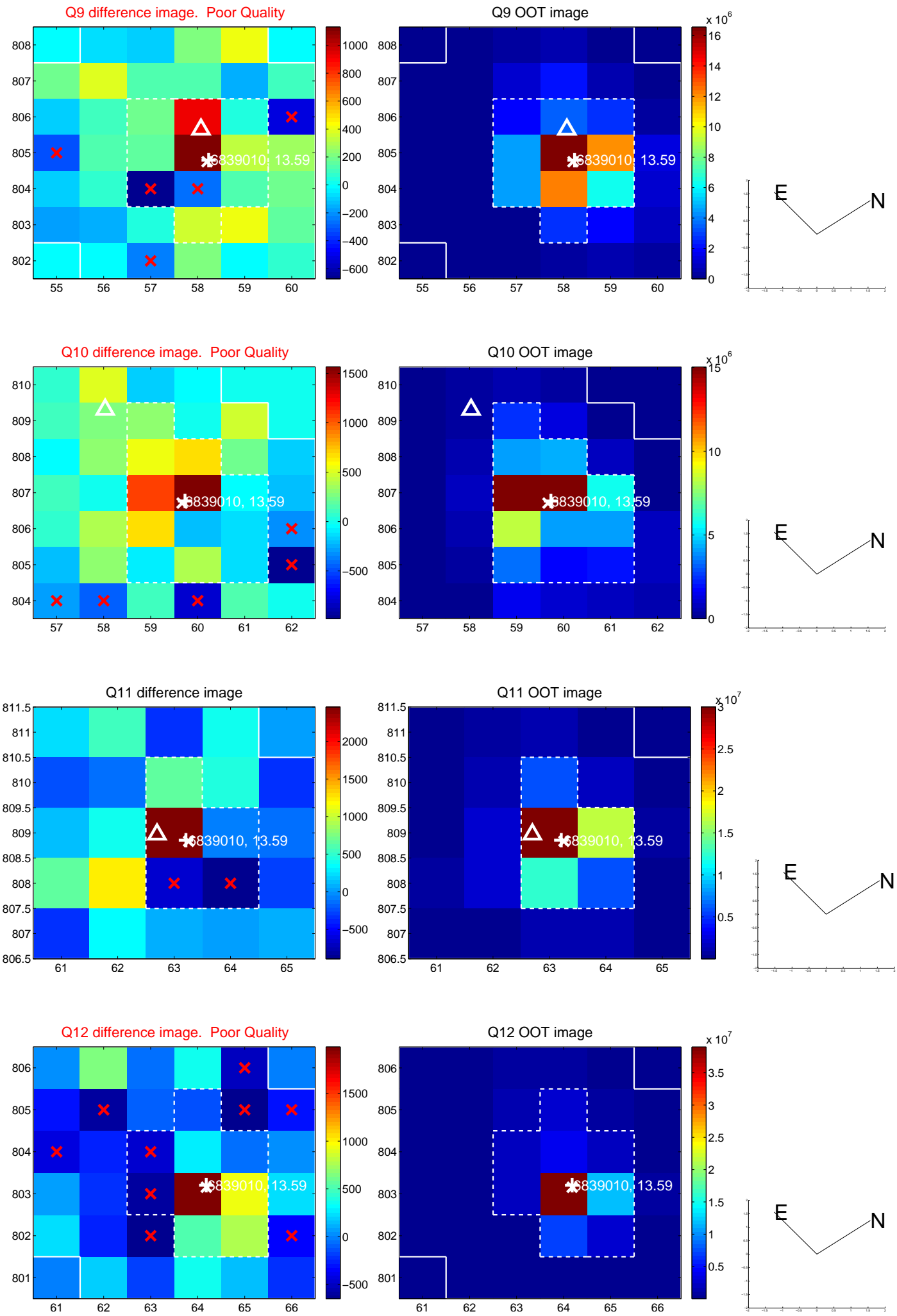
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



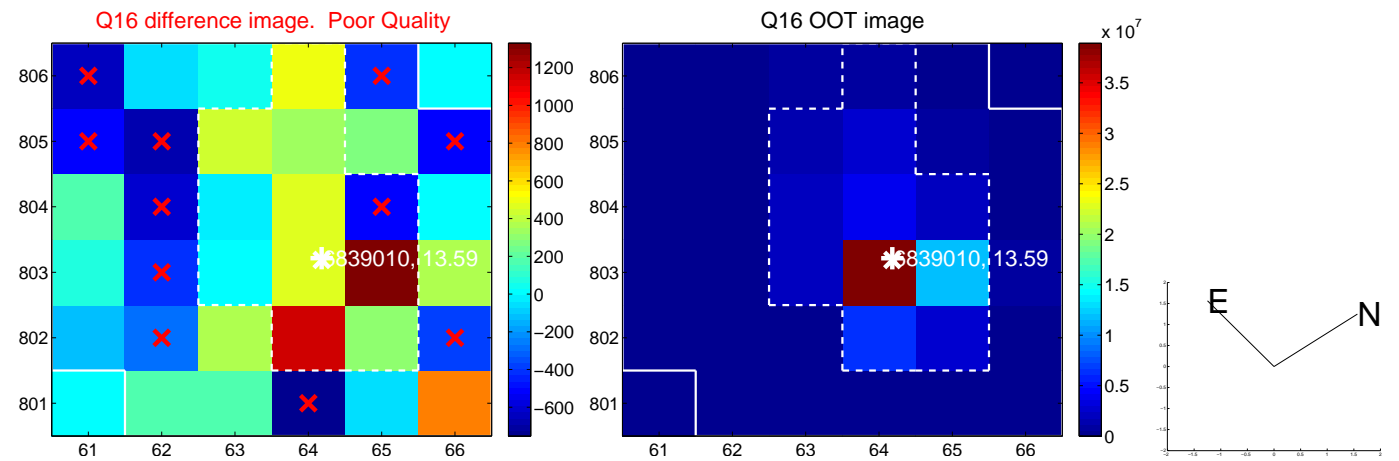
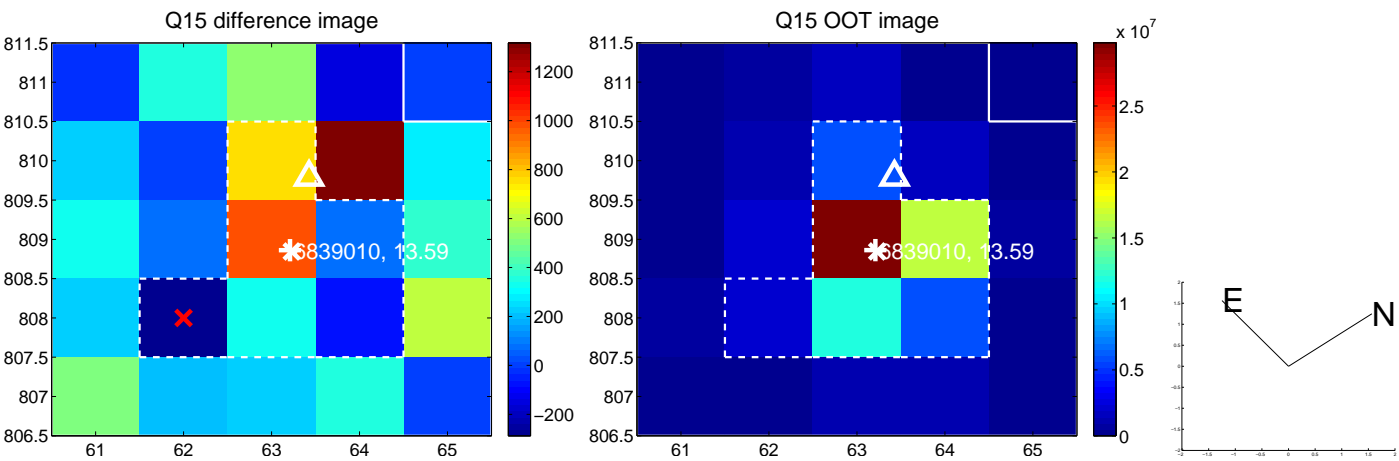
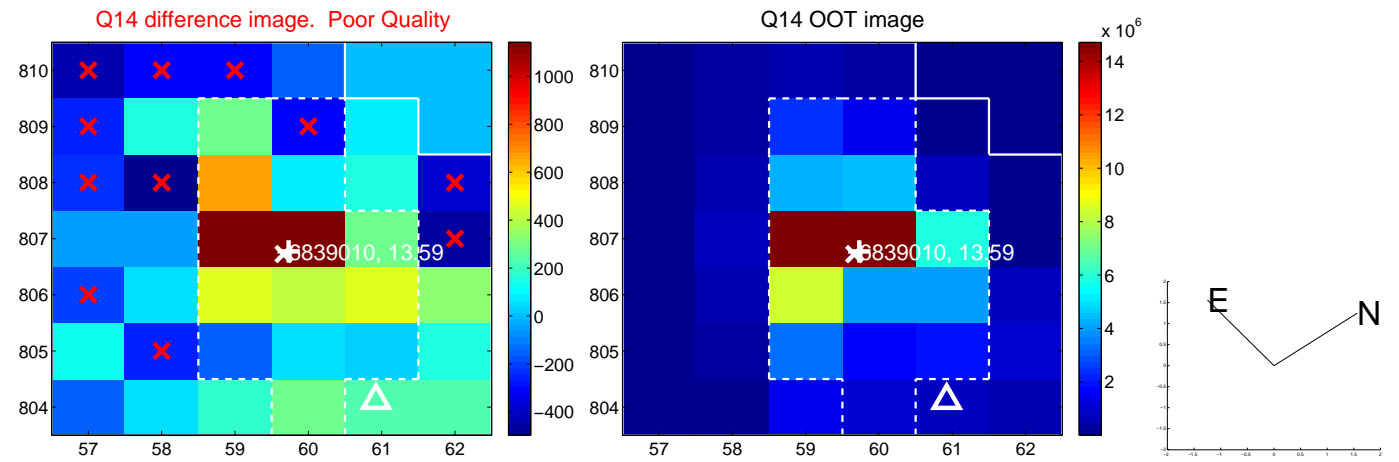
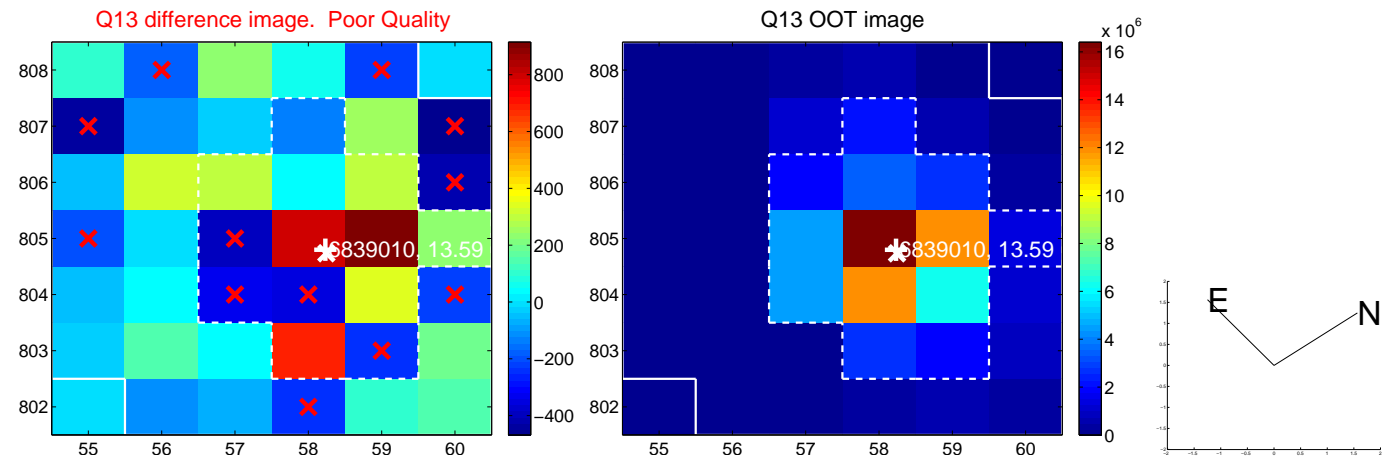
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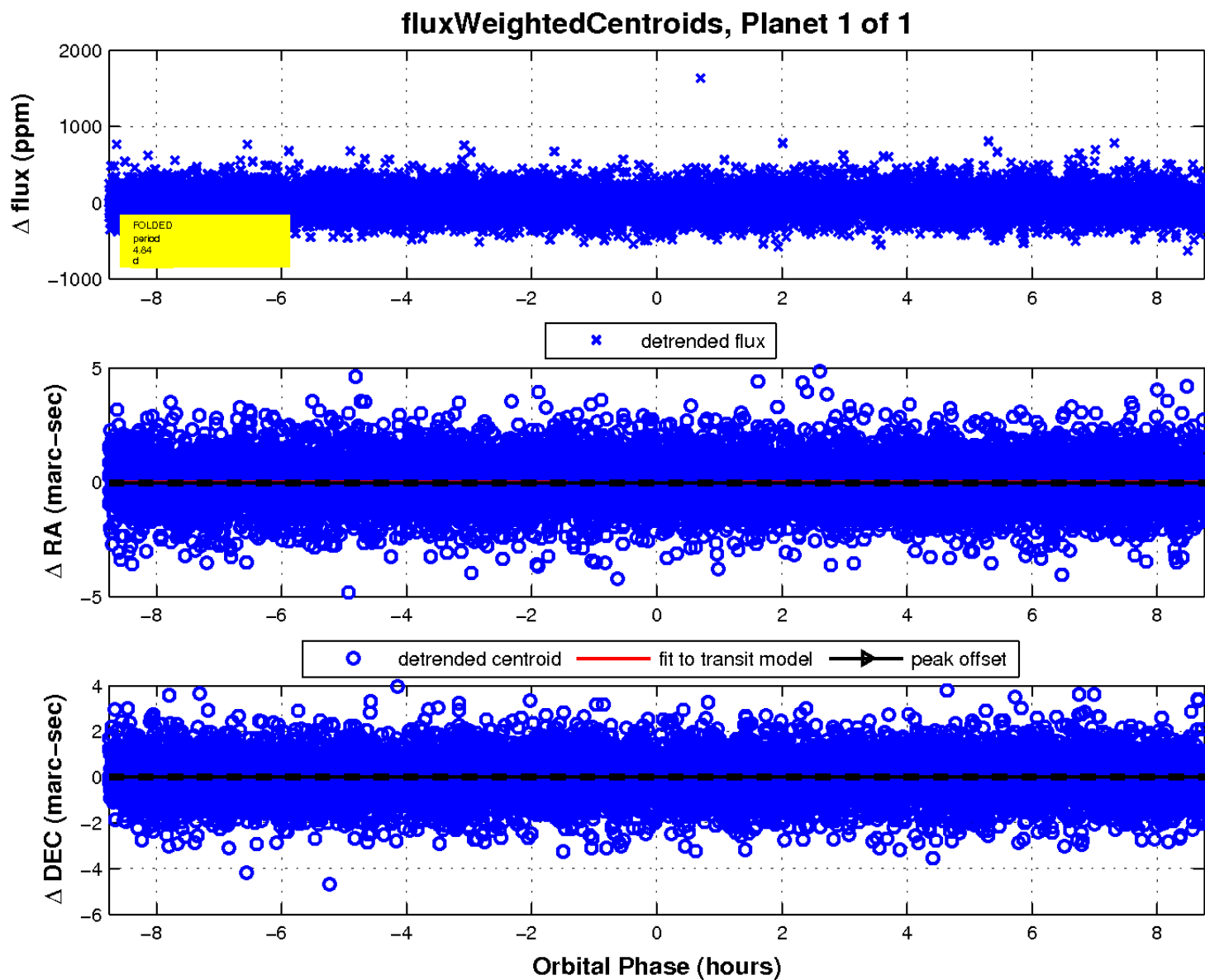
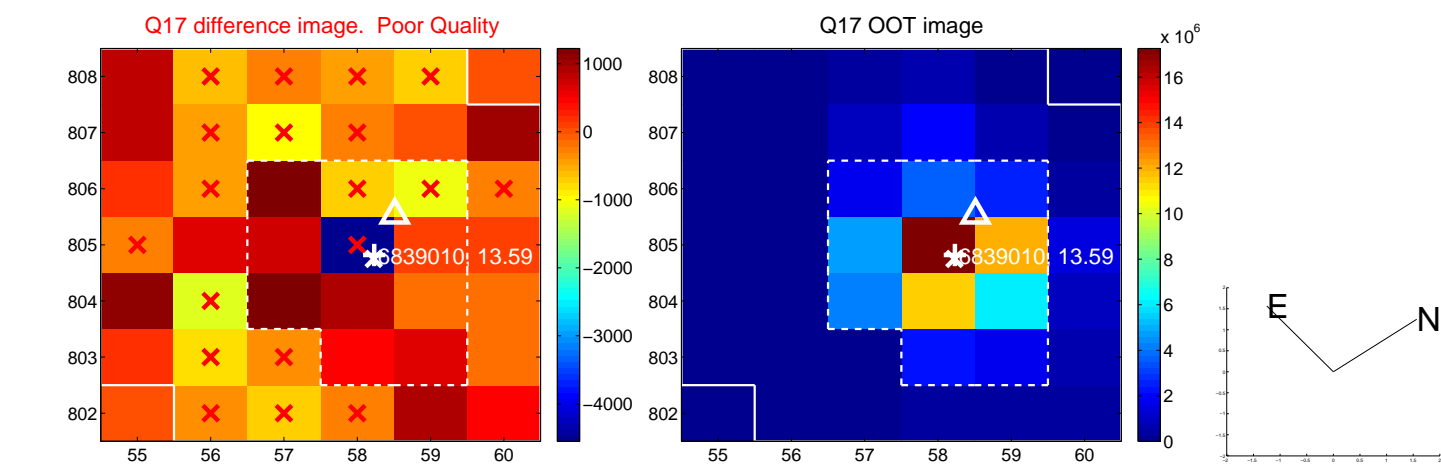
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UKIRT Image

Declination

