

KIC 008624860

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})
008624860-01	OBS	7072.01	15.390585	140.857305	72.4	3.724	7.6	8.1	4.99	5649	5.18	1071.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008624860-01	OBS	PC	0.87	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.

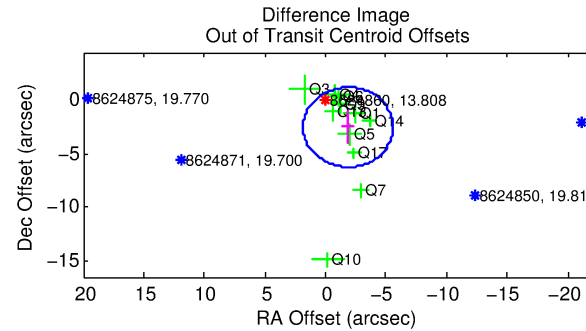
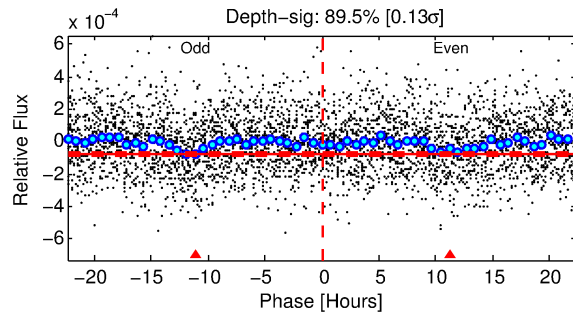
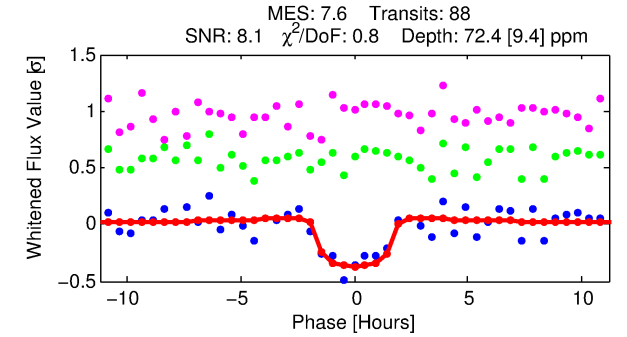
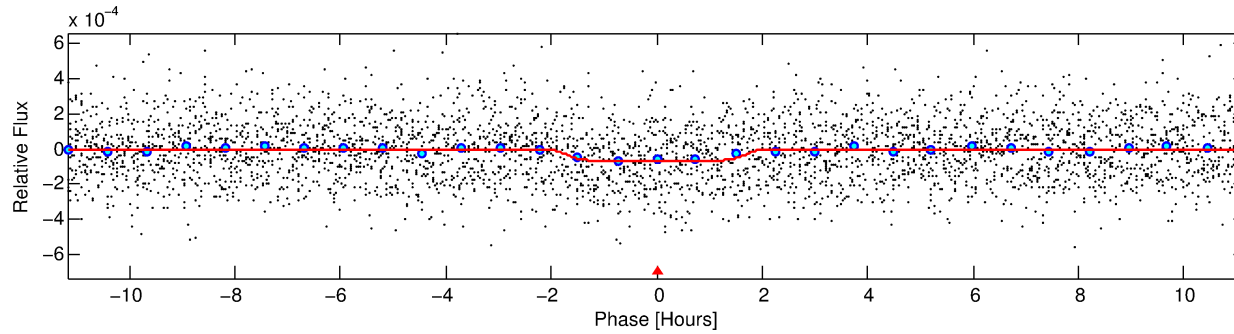
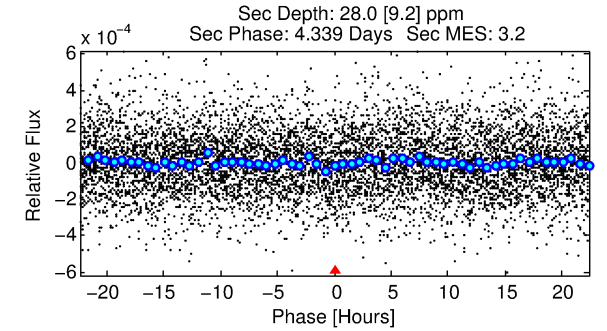
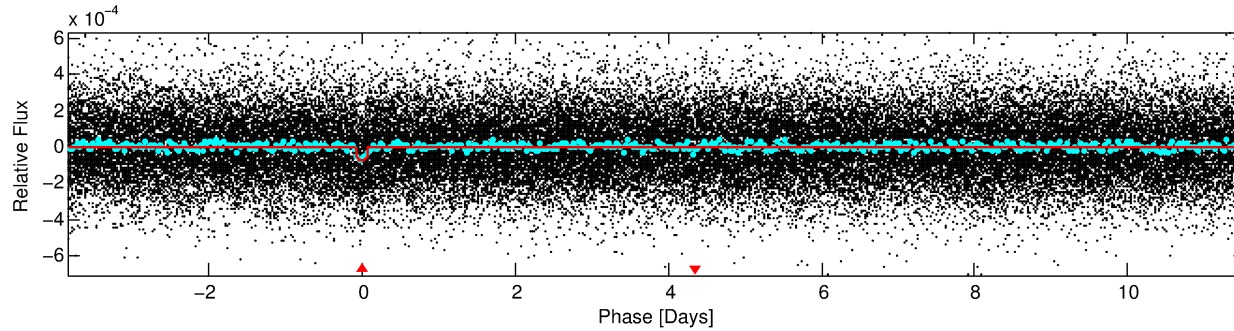
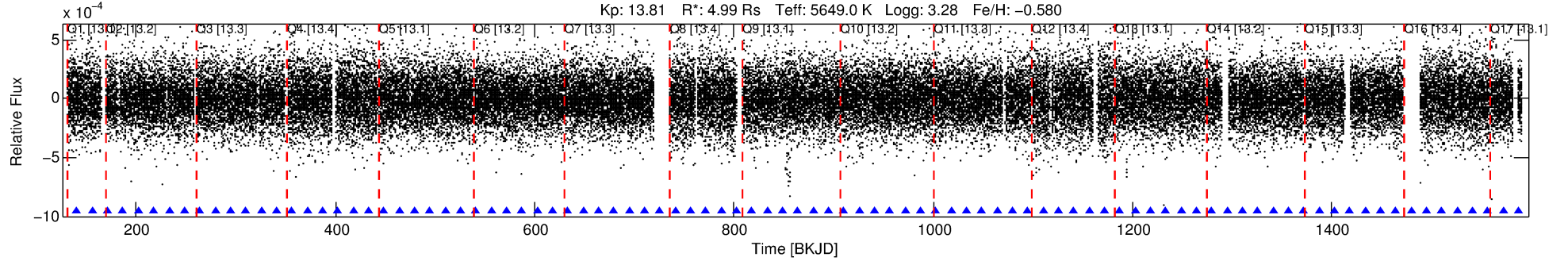
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008624860-01

No Significant Match Found

DV One-Page Summary

KIC: 8624860 Candidate: 1 of 1 Period: 15.391 d
KOI: K07072.01 Corr: 0.899



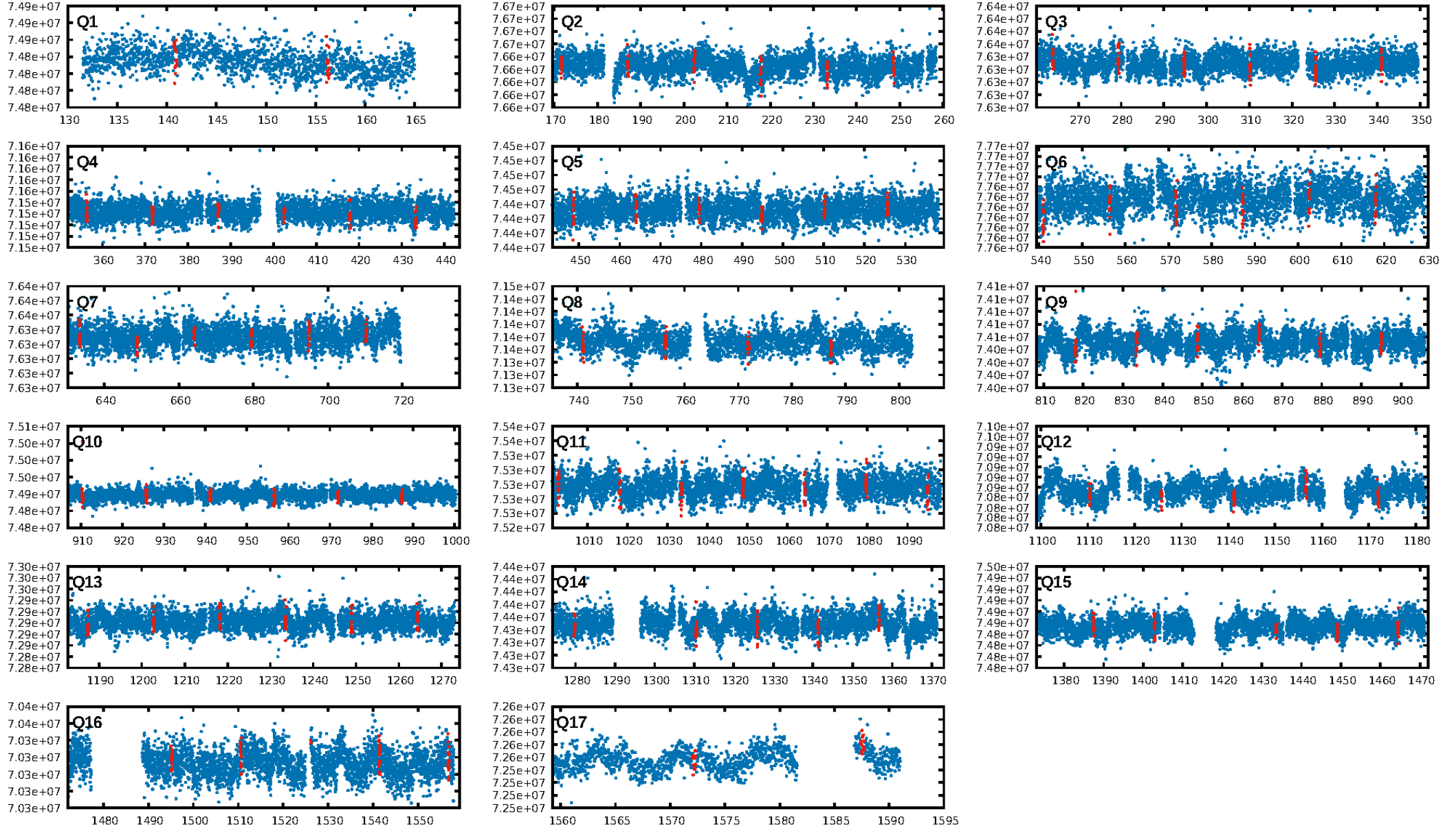
DV Fit Results:

Period = 15.39059 [0.00018] d
Epoch = 140.8573 [0.0088] BKJD
Rp/R* = 0.0095 [0.0046]
a/R* = 12.51 [31.49]
b = 0.93 [0.38]
Seff = 1071.70 [506.06]
Teq = 1459 [172] K
Rp = 5.18 [3.20] Re
a = 0.1457 [0.0466] AU
Ag = 12.21 [13.80] [0.81σ]
Teffp = 4216 [1089] K [2.50σ]

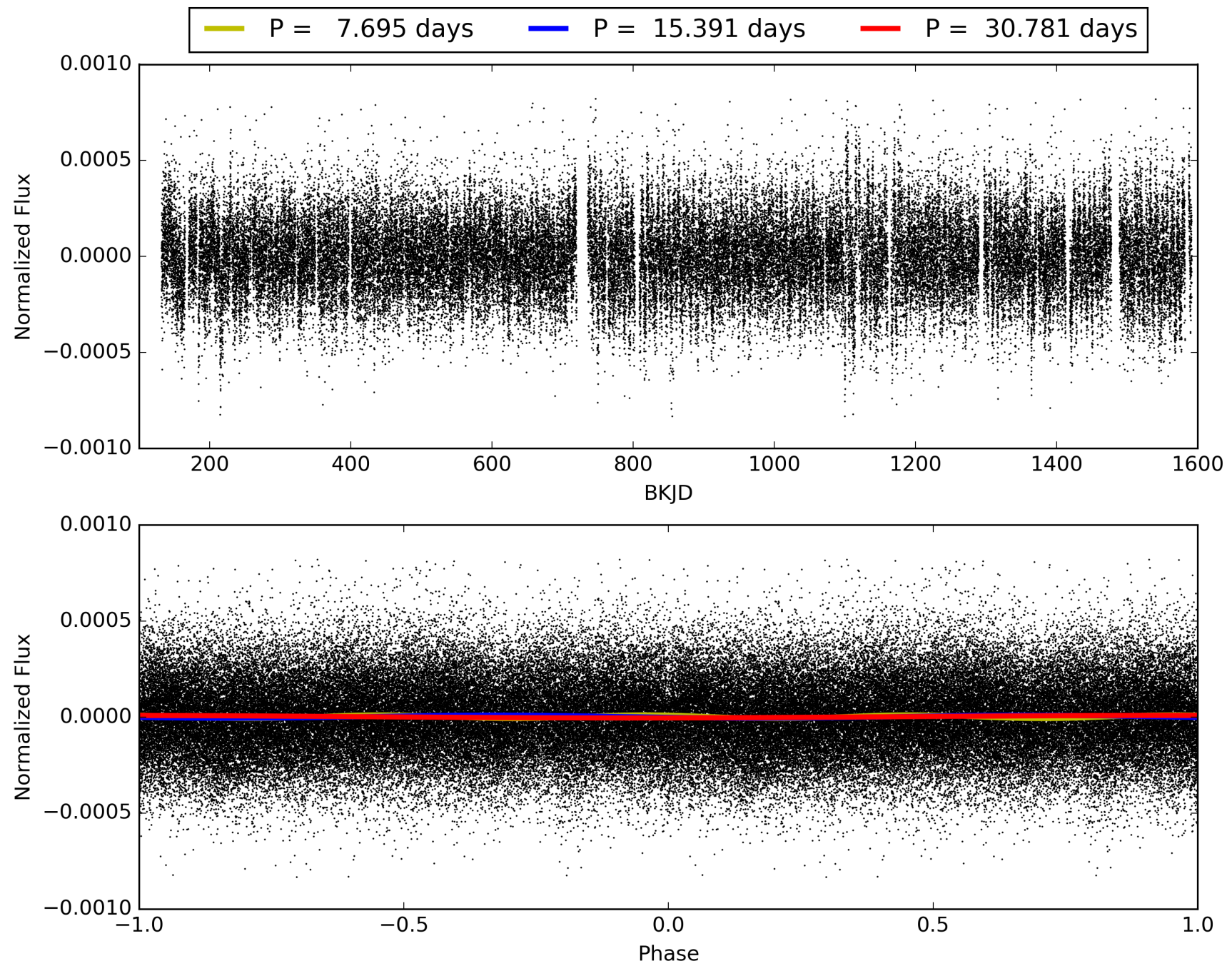
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.04e-14
RollingBand-fgt: 1.00 [84/84]
GhostDiagnostic-chr: -5.375
Centroid-sig: 26.0%
Centroid-so: 1.592 arcsec [1.03σ]
OotOffset-rm: 3.107 arcsec [2.50σ]
KicOffset-rm: 3.046 arcsec [2.97σ]
OotOffset-st: 3/2/1/5 [11]
KicOffset-st: 3/2/1/5 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008624860-01, PDC Light Curves

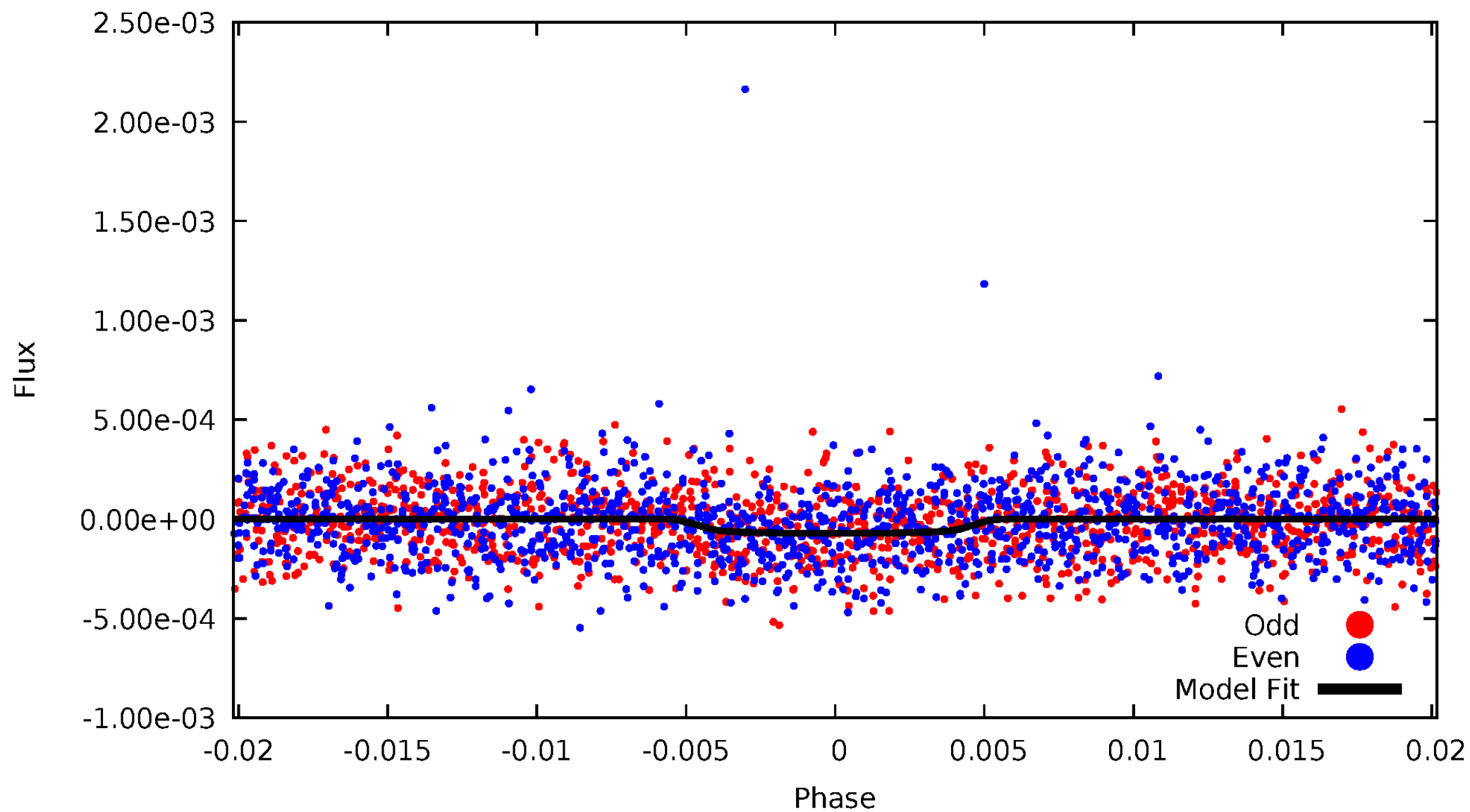


TCE 008624860-01



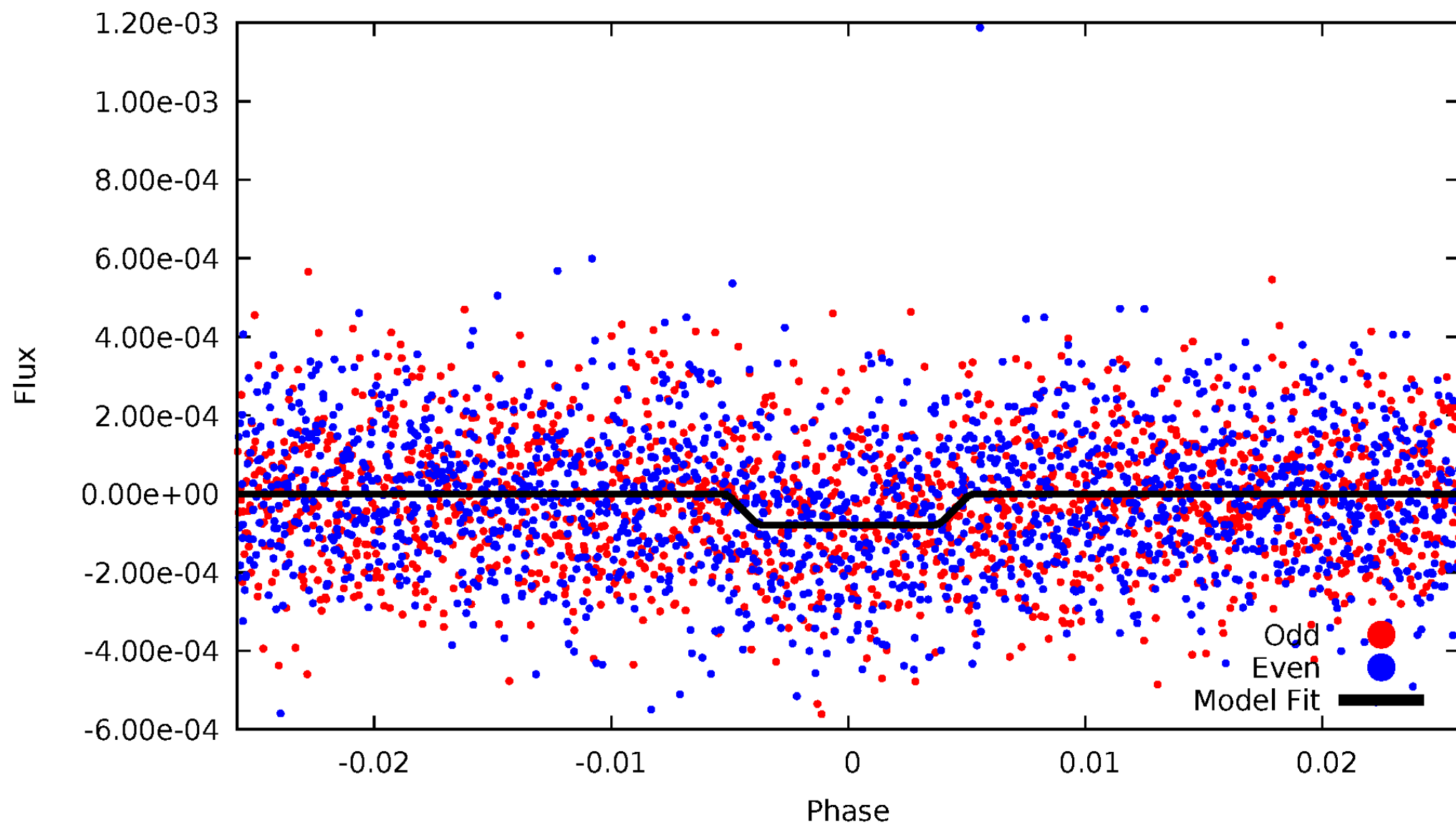
DV Odd/Even

TCE 008624860-01



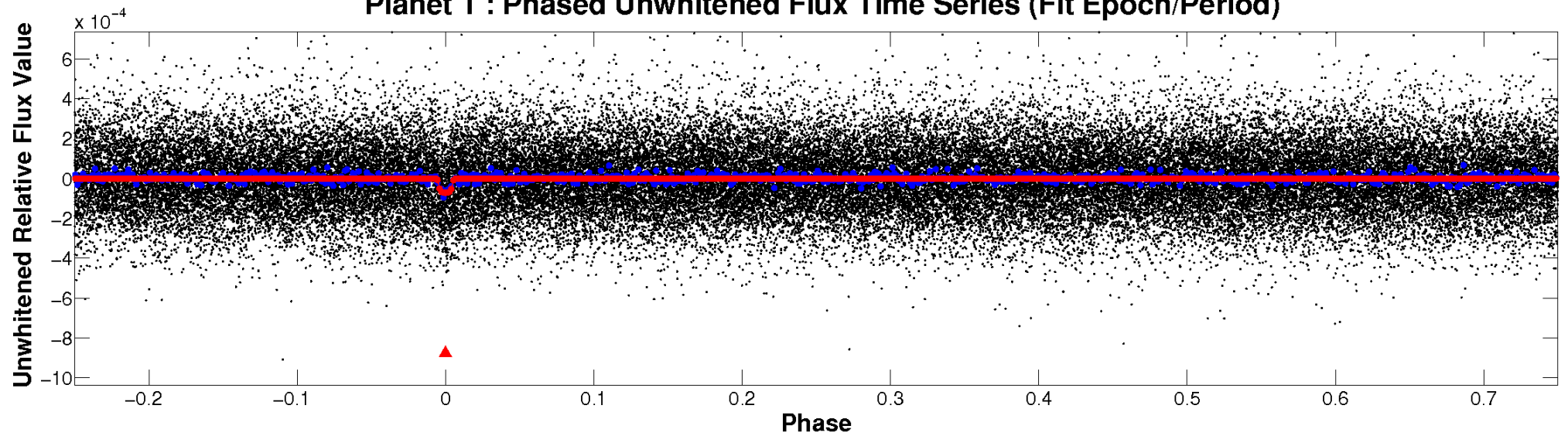
ALT Odd/Even

TCE 008624860-01

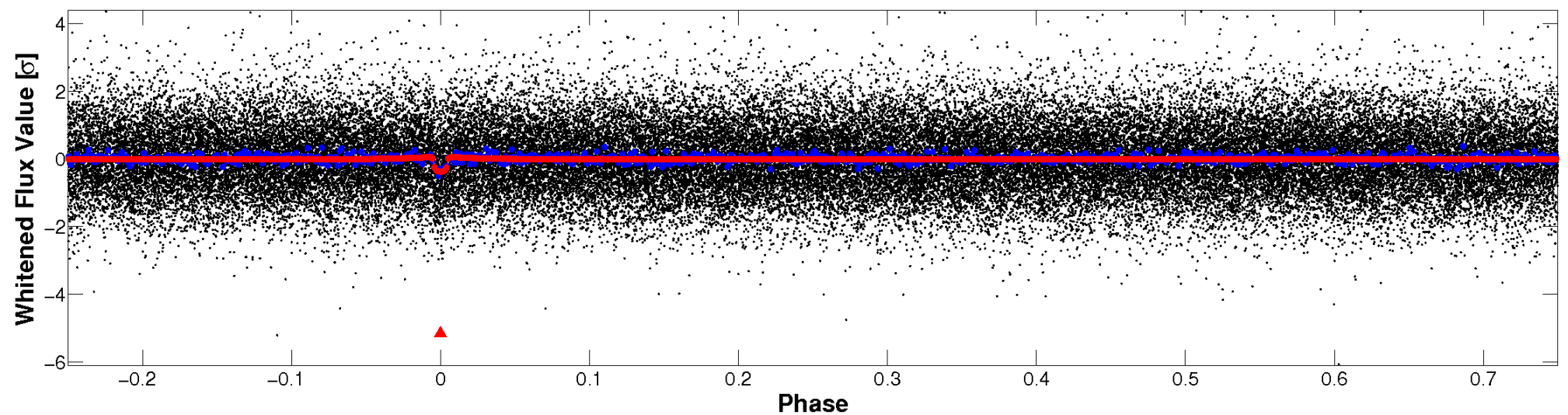


Non-Whitened Vs. Whitened Light Curve

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

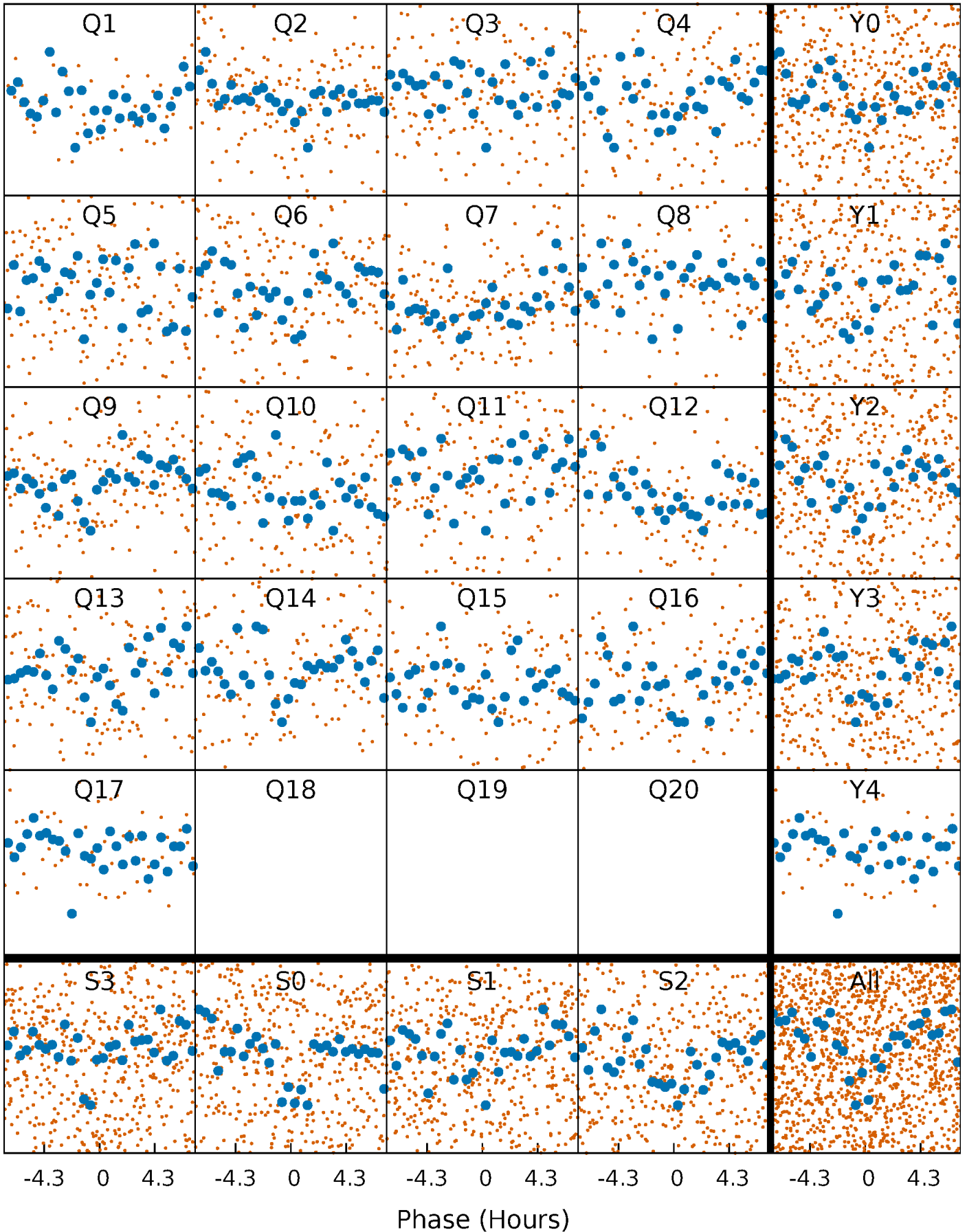


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



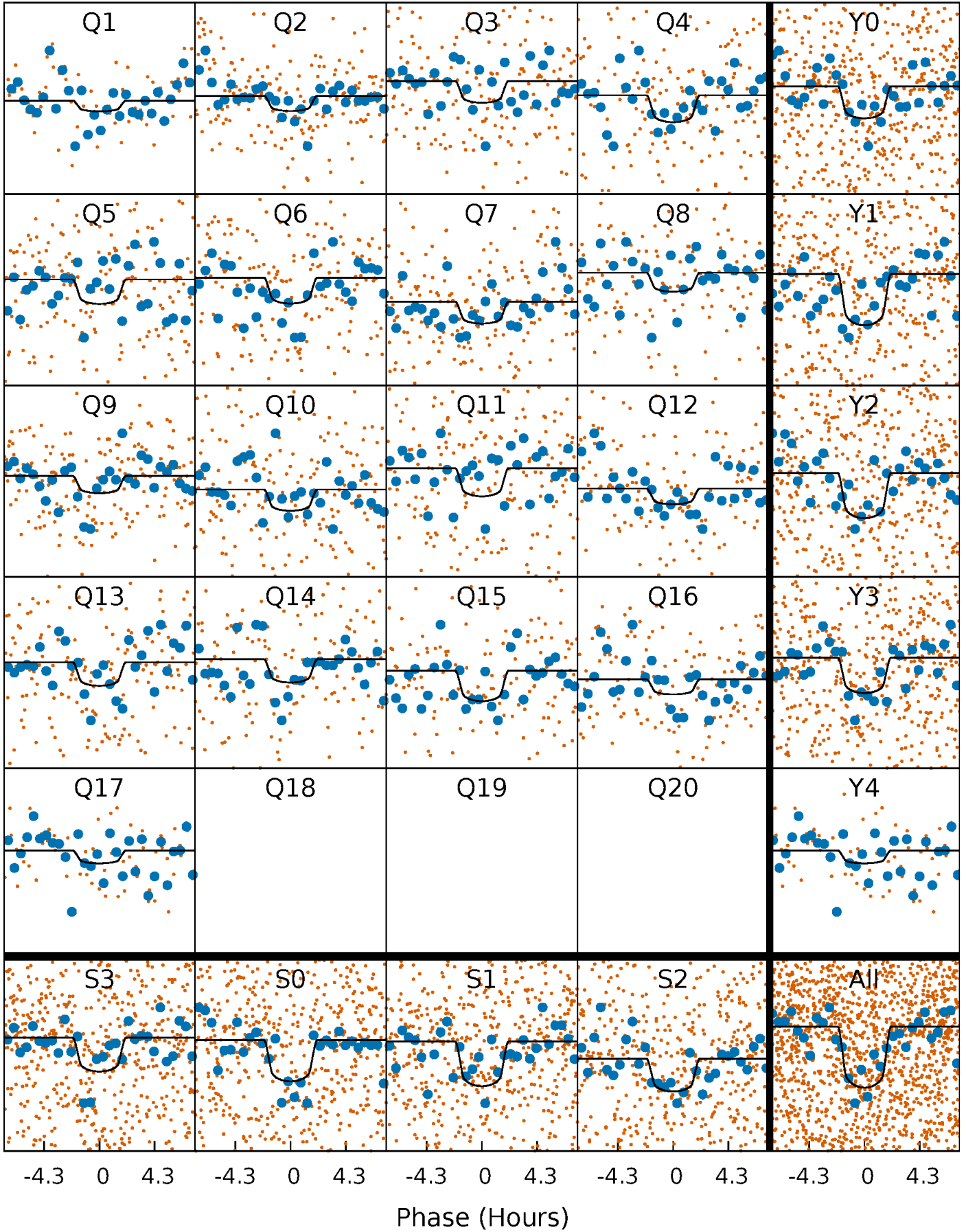
PDC Quarter-Phased Transit Curves

TCE 008624860-01 P= 15.390585 Days $T_0=140.857305$ (BKJD)



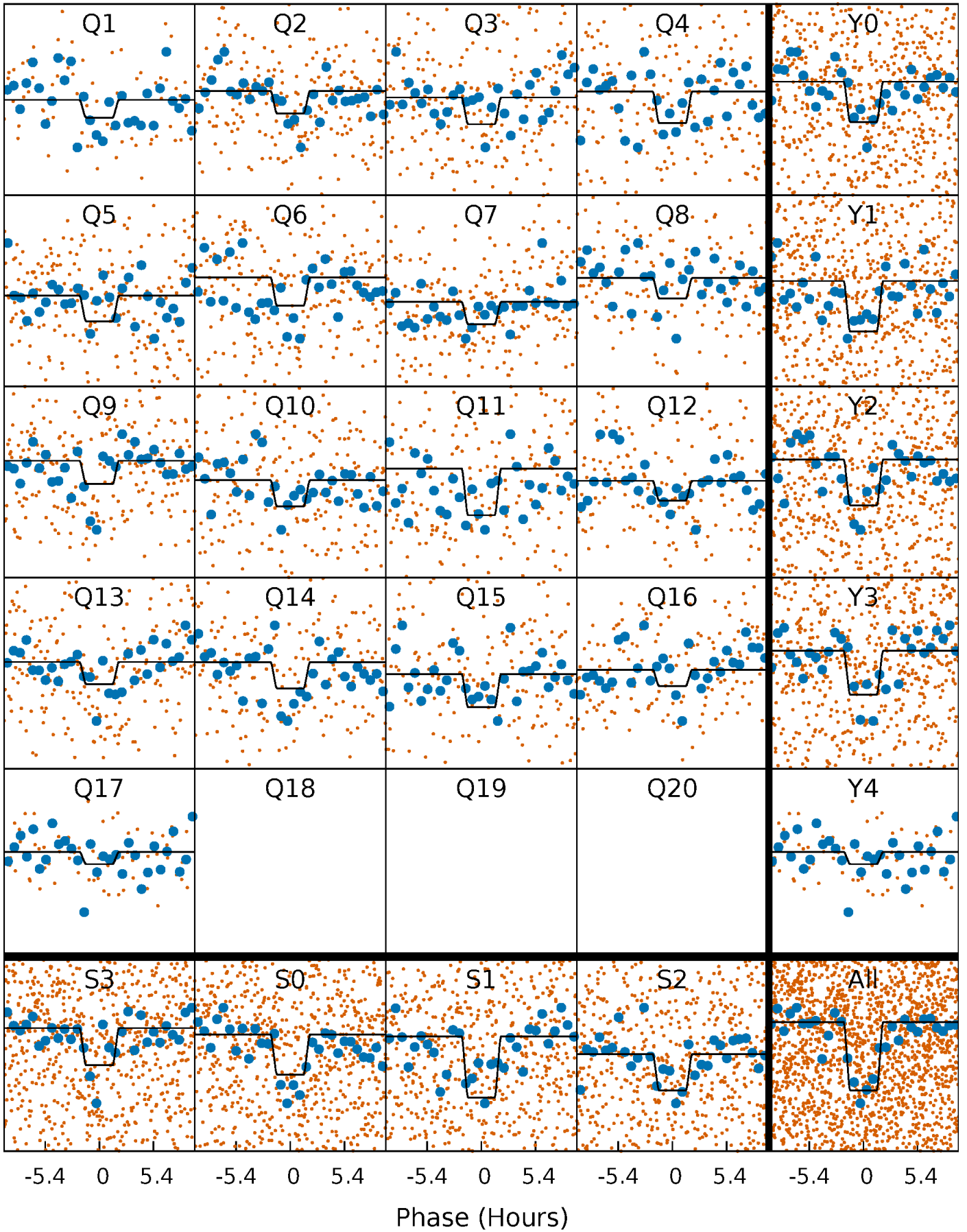
DV Quarter-Phased Transit Curves

TCE 008624860-01 P= 15.390585 Days $T_0=140.857305$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

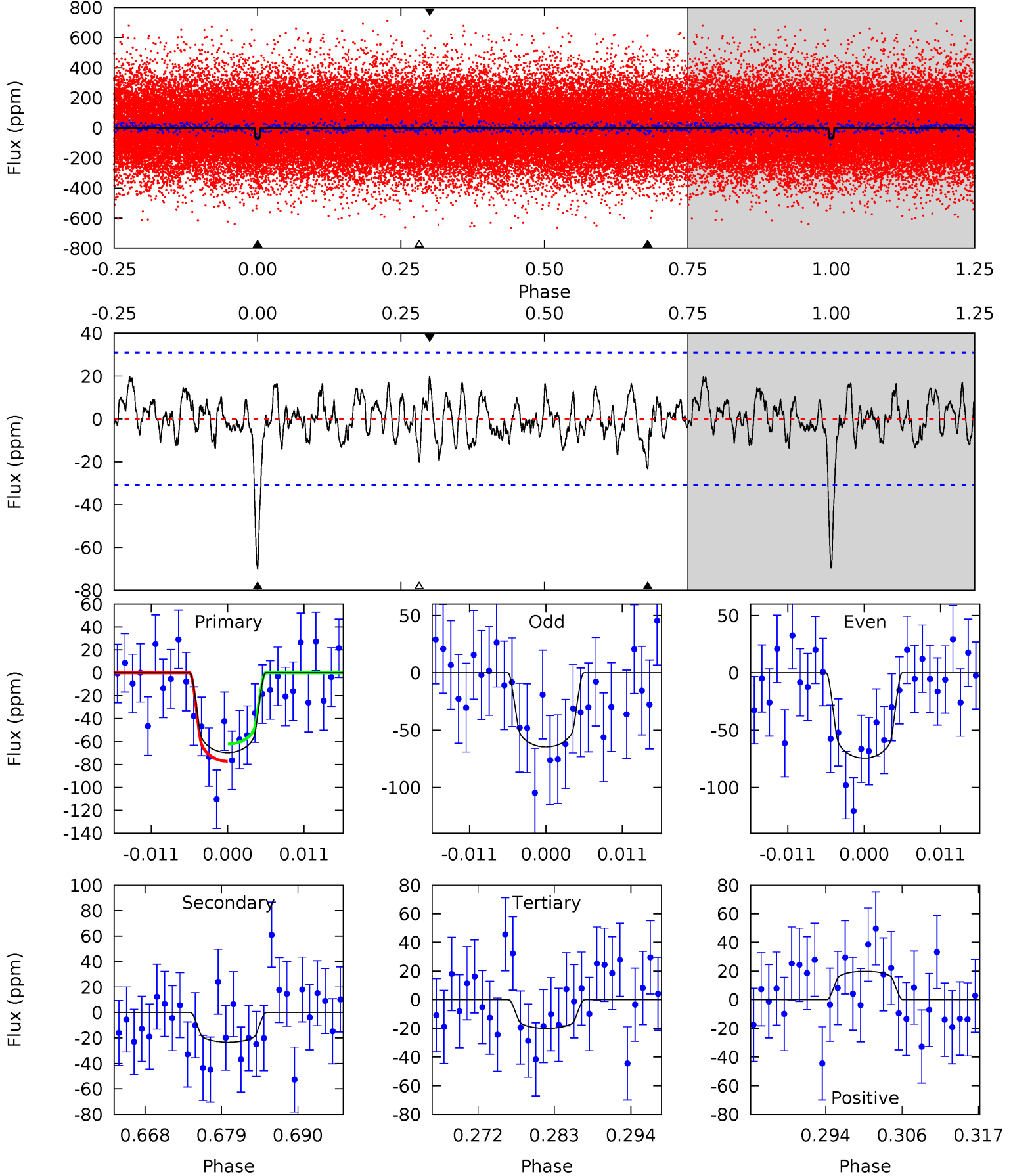
TCE 008624860-01 P= 15.390369 Days $T_0=140.858201$ (BKJD)



DV Model-Shift Uniqueness Test

008624860-01, P = 15.390585 Days, E = 125.466720 Days

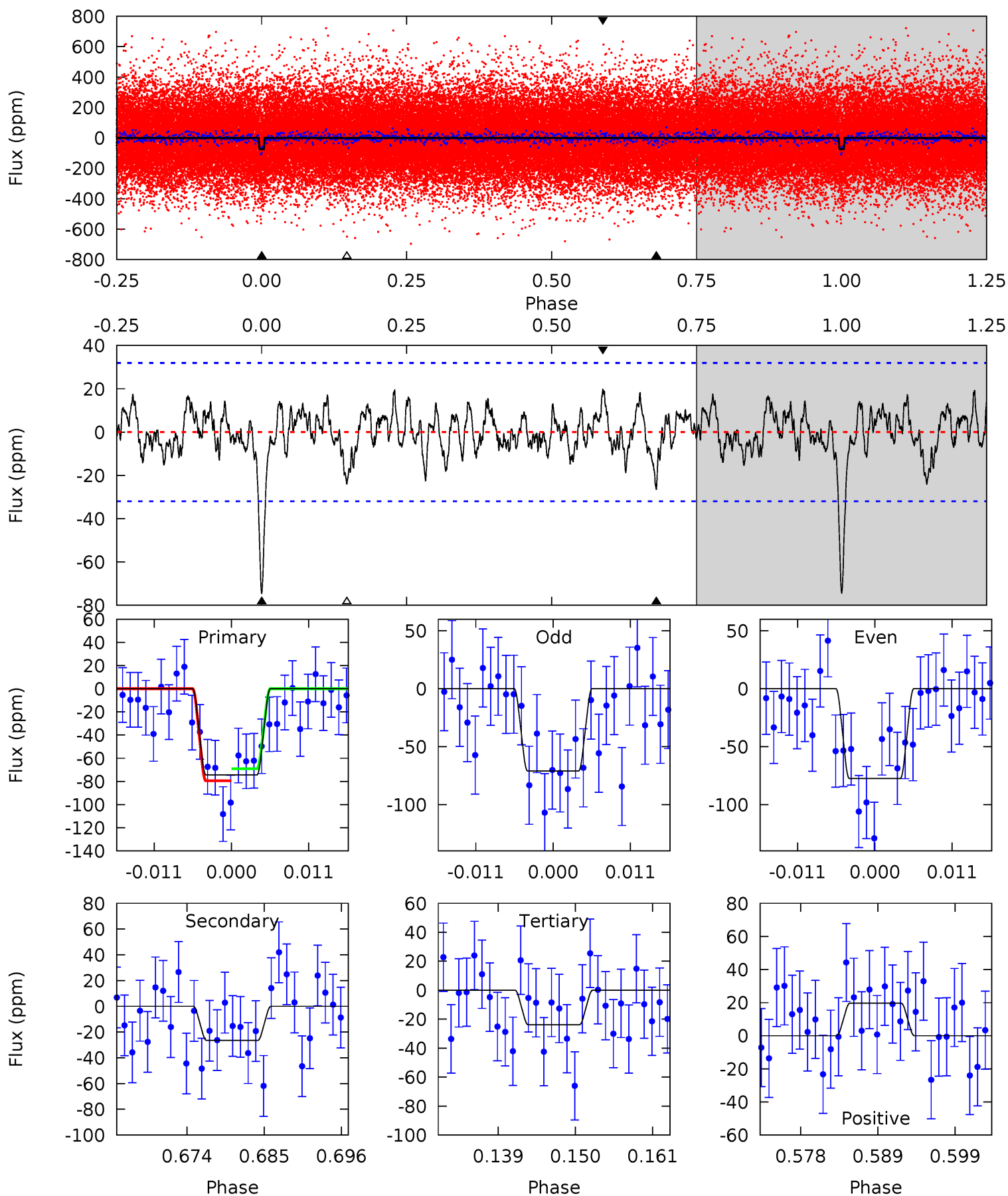
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	3.79	3.24	3.23	5.00	2.53	1.22	8.06	8.08	0.55	0.56	0.80	0.85	0.22	1.23



Alt Model-Shift Uniqueness Test

008624860-01, $P = 15.390369$ Days, $E = 125.467832$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	4.16	3.75	3.09	5.01	2.55	1.23	7.91	8.57	0.41	1.07	0.51	0.96	0.21	0.82



Stellar Parameters For KIC 008624860

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5649^{+67}_{-109}	$3.282^{+0.255}_{-0.085}$	$-0.580^{+0.150}_{-0.200}$	$4.994^{+0.631}_{-1.892}$	$1.740^{+0.122}_{-0.489}$	$0.020^{+0.037}_{-0.006}$
	+1%/-2%	+8%/-3%	+26%/-34%	+13%/-38%	+7%/-28%	+186%/-30%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008624860-01 / KOI 7072.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-23 ± 6	$4.96^{+2.29}_{-2.35}$	2010^{+93}_{-153}	4203^{+1273}_{-583}	11^{+28}_{-6}
Alt.	-26 ± 6	$4.66^{+2.41}_{-2.24}$	2013^{+88}_{-168}	4406^{+1425}_{-639}	14^{+37}_{-8}

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

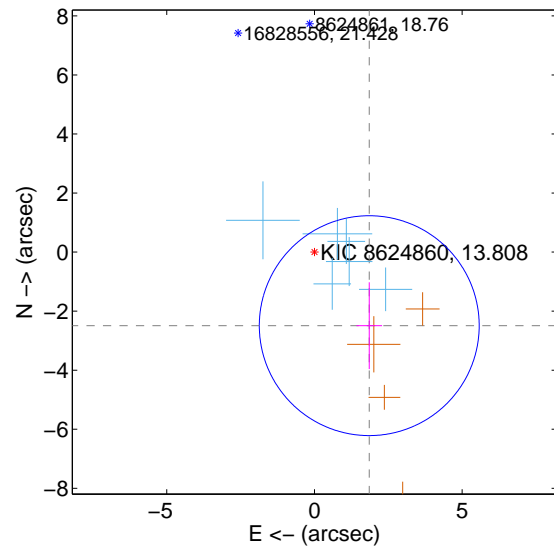
Supplemental centroid analysis for 008624860-01. Kepler magnitude: 13.81. Transit SNR 8.15

There are 6 quarters with good PRF difference image offsets

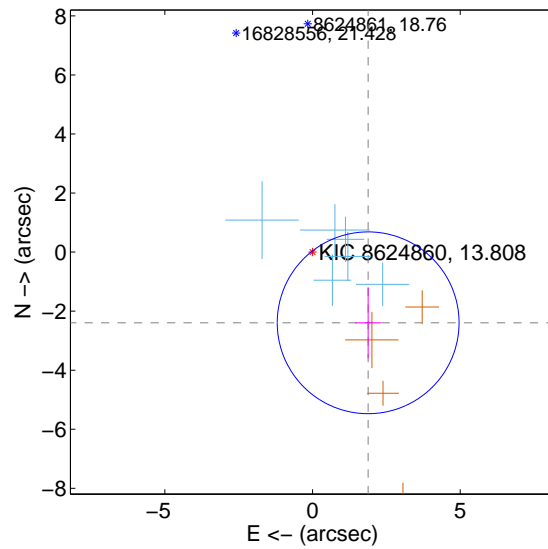
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.107 ± 1.241	2.50	-1.856 ± 0.433	-2.491 ± 1.471
PRF-fit source offset from KIC position	3.046 ± 1.026	2.97	-1.883 ± 0.441	-2.394 ± 1.207
photometric centroid source offset	1.59 ± 1.55	1.03	1.28 ± 1.59	-0.95 ± 1.47

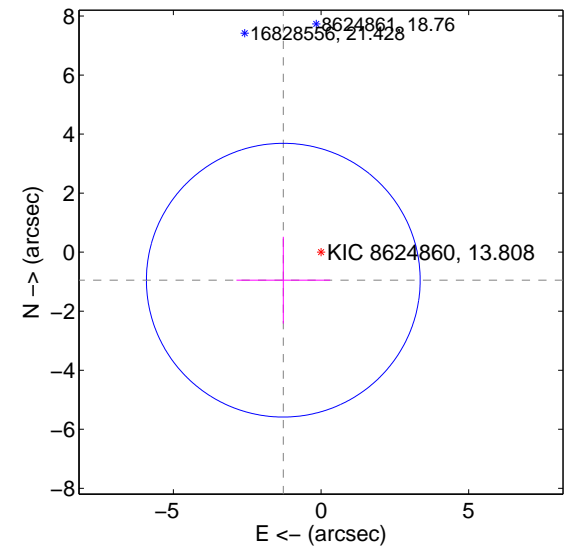
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

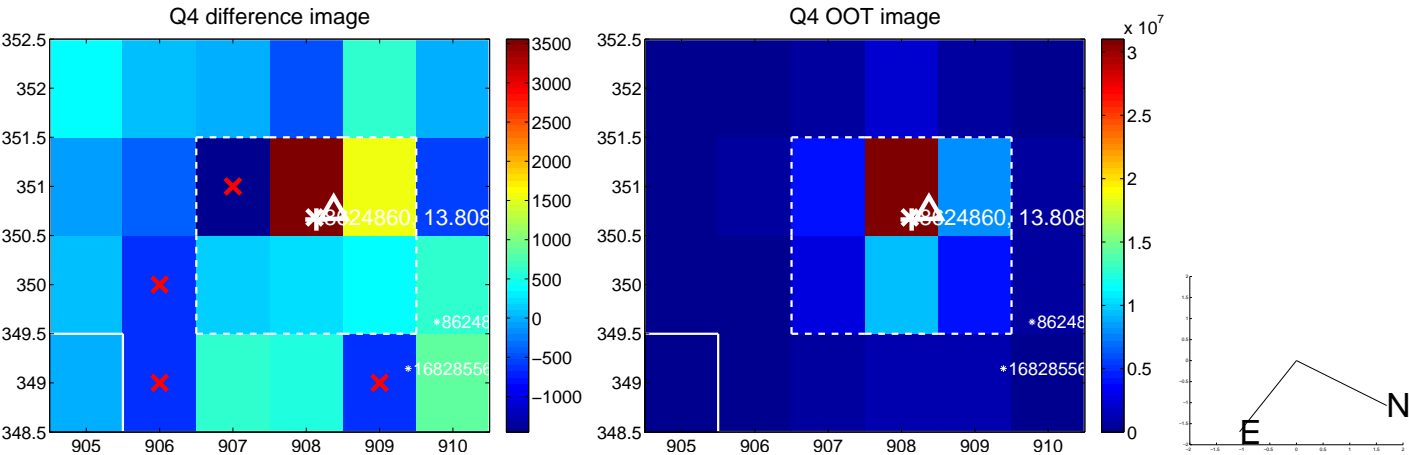
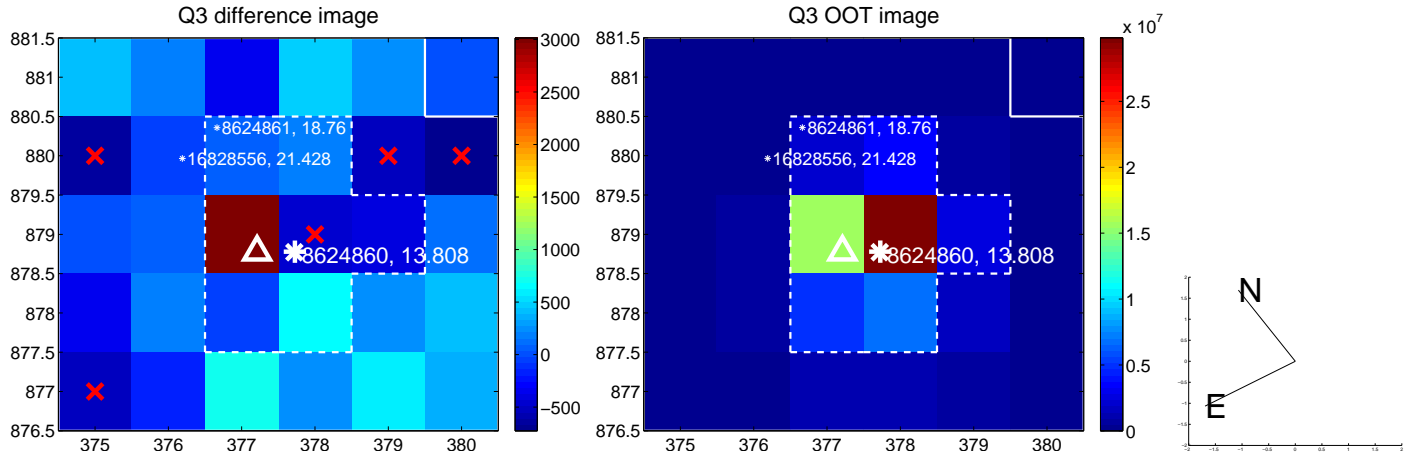
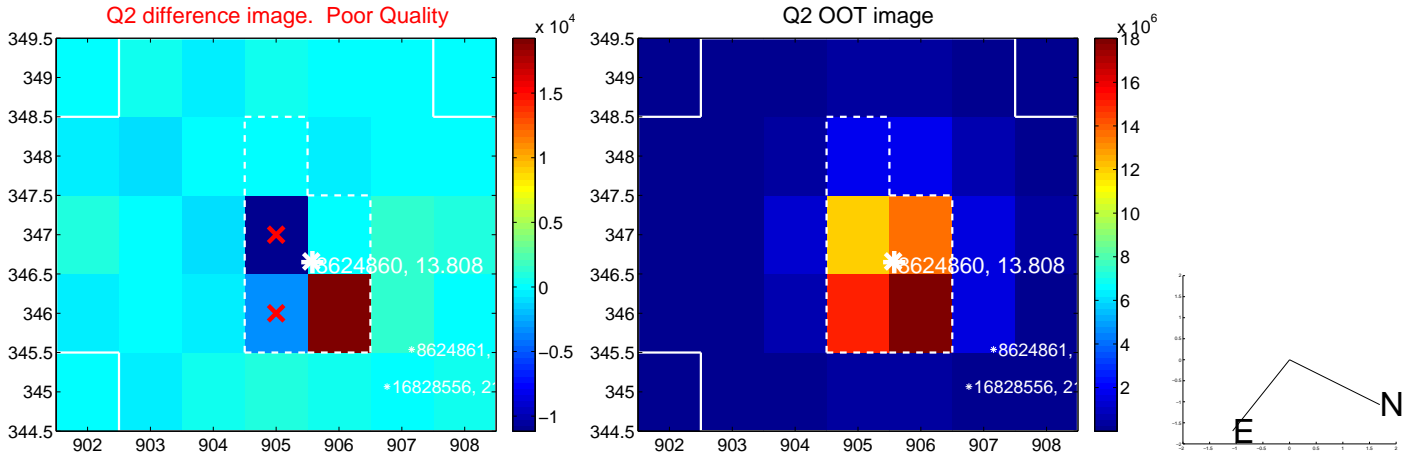
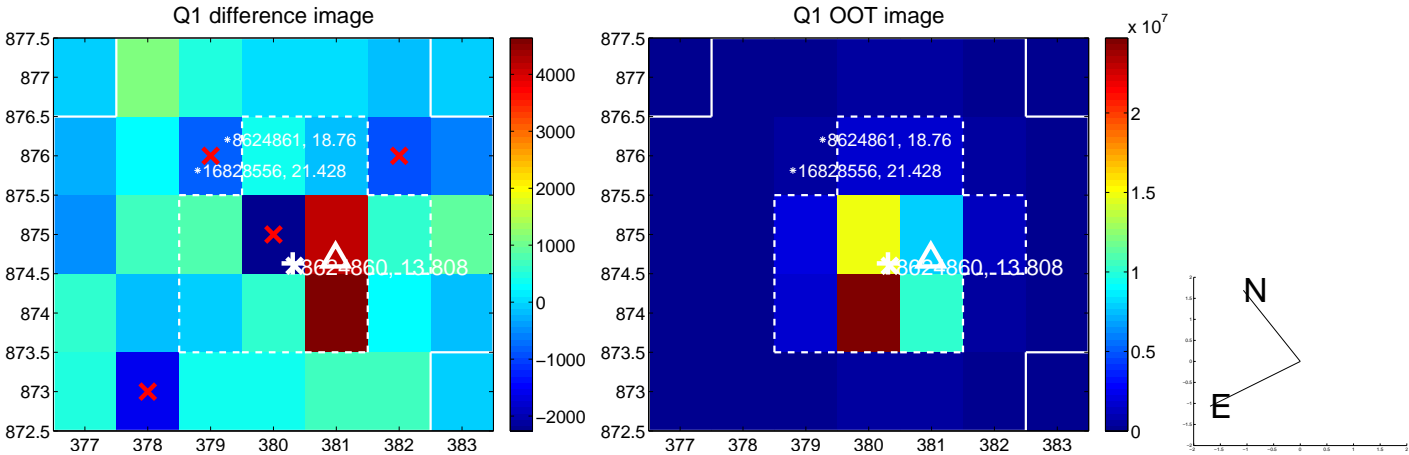


offset from photometric centroids

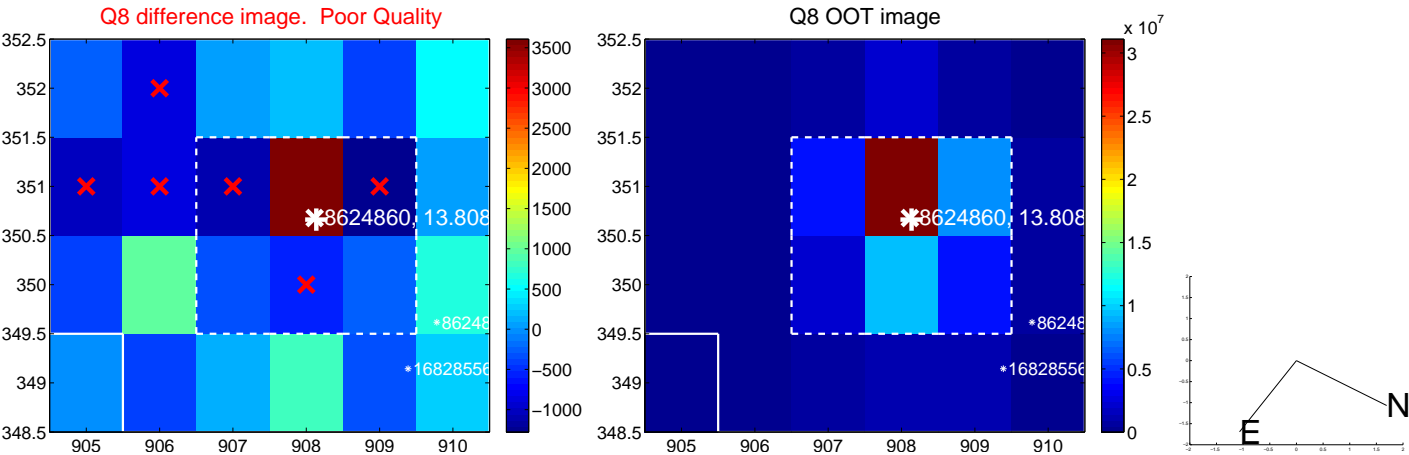
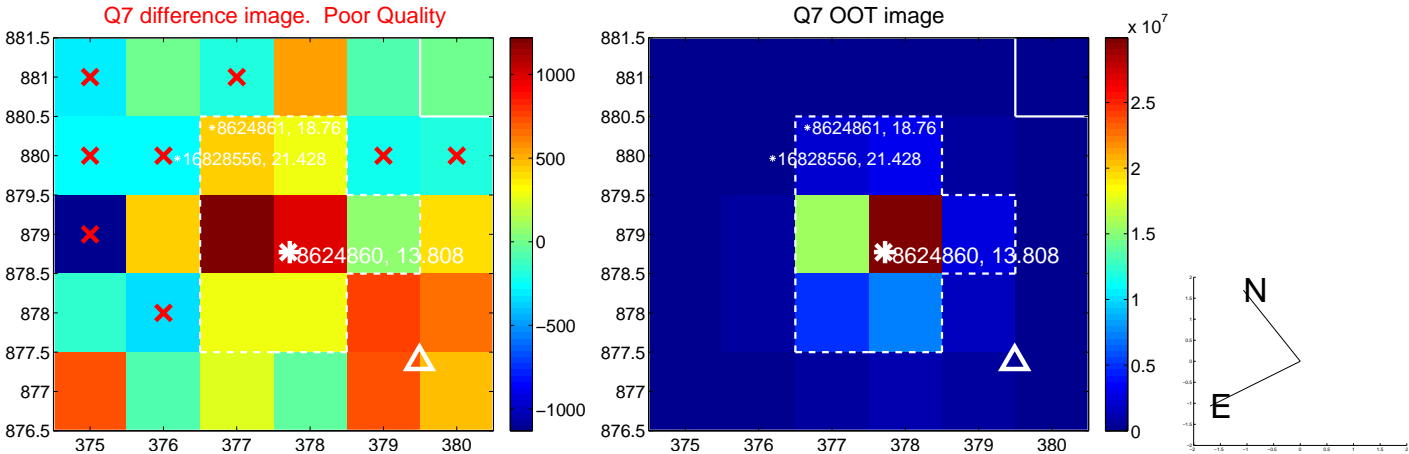
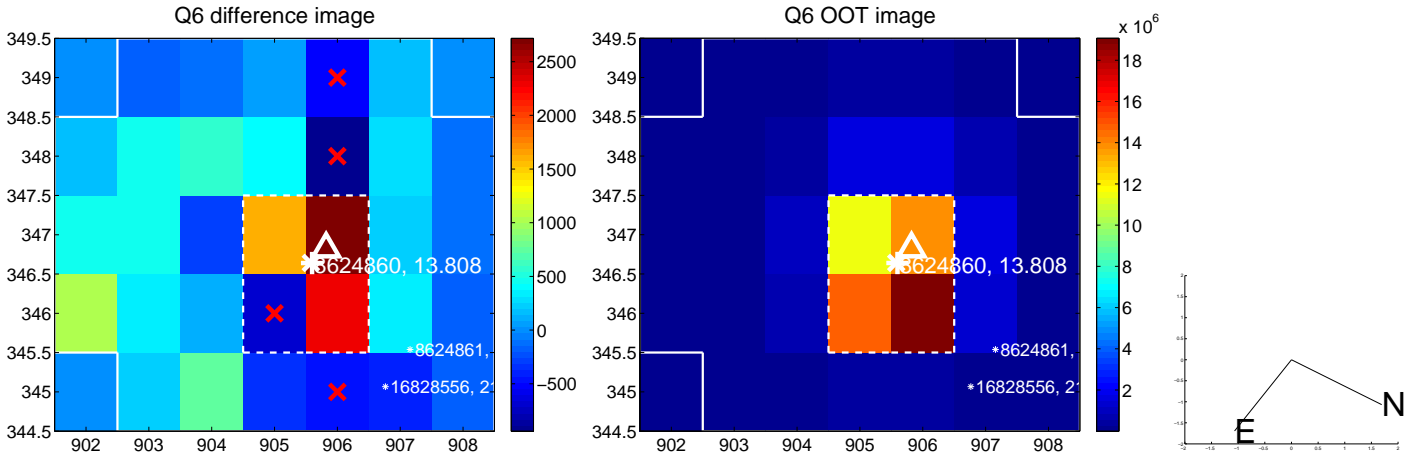
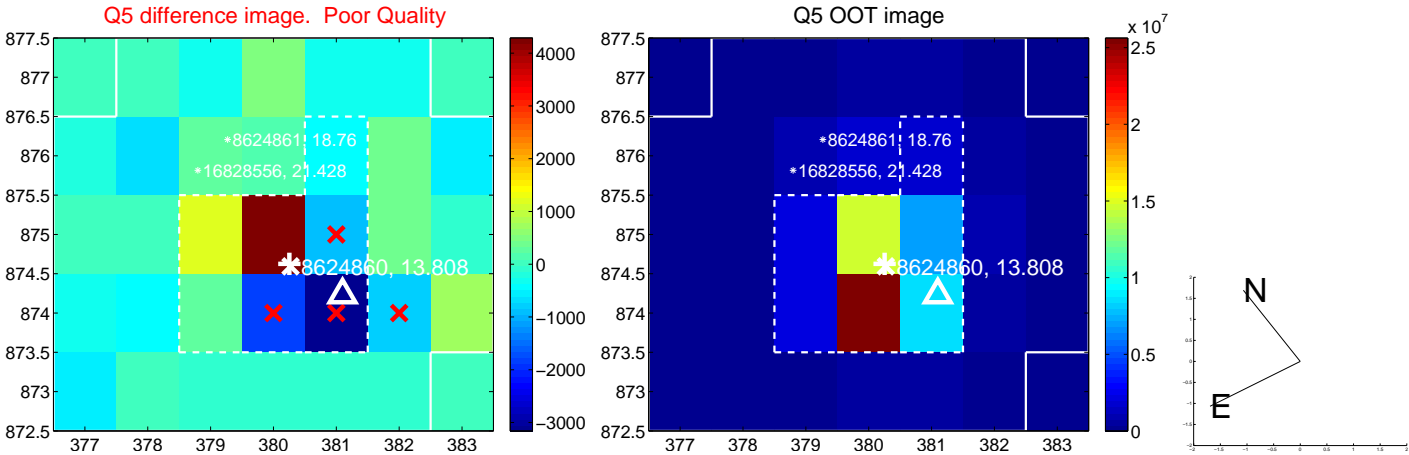


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

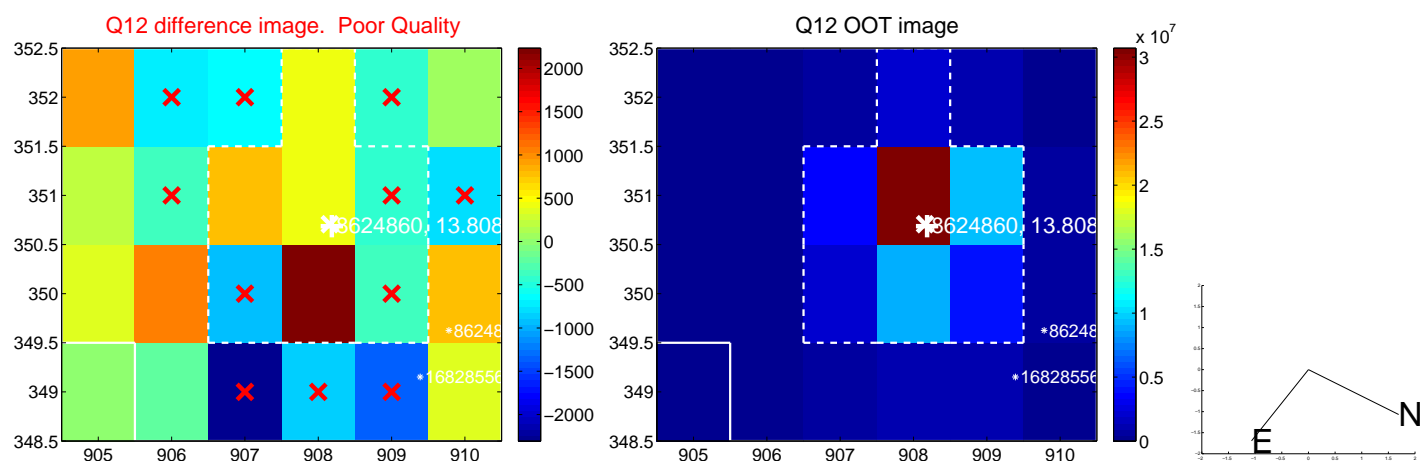
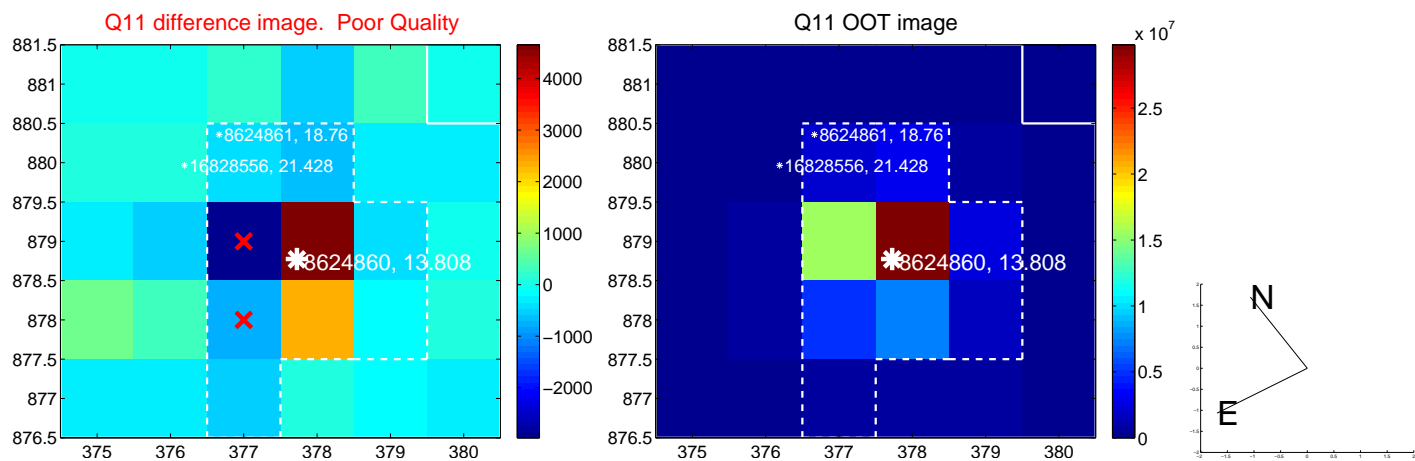
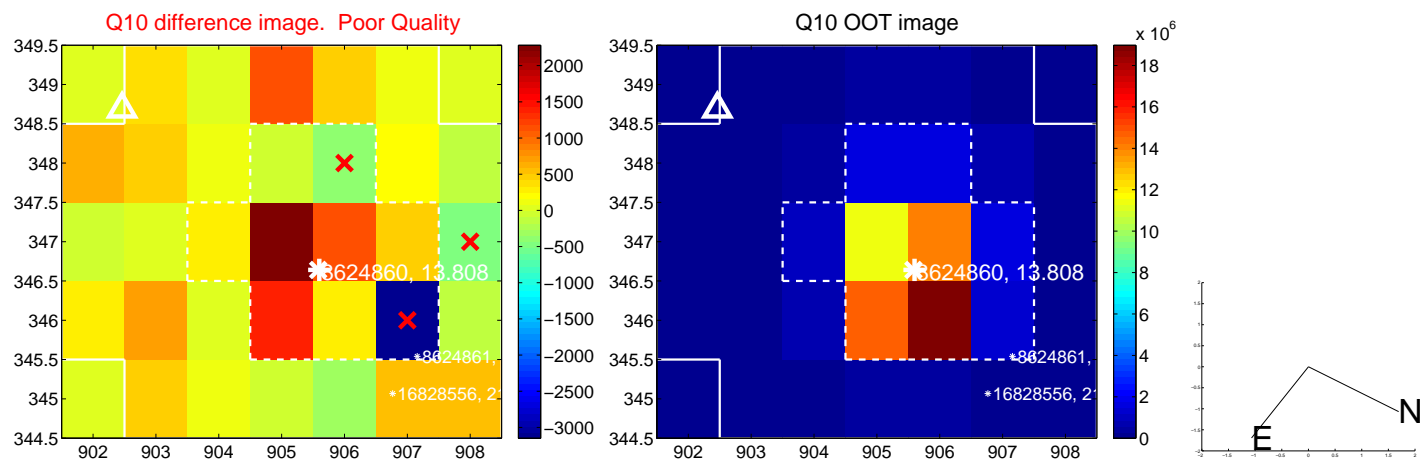
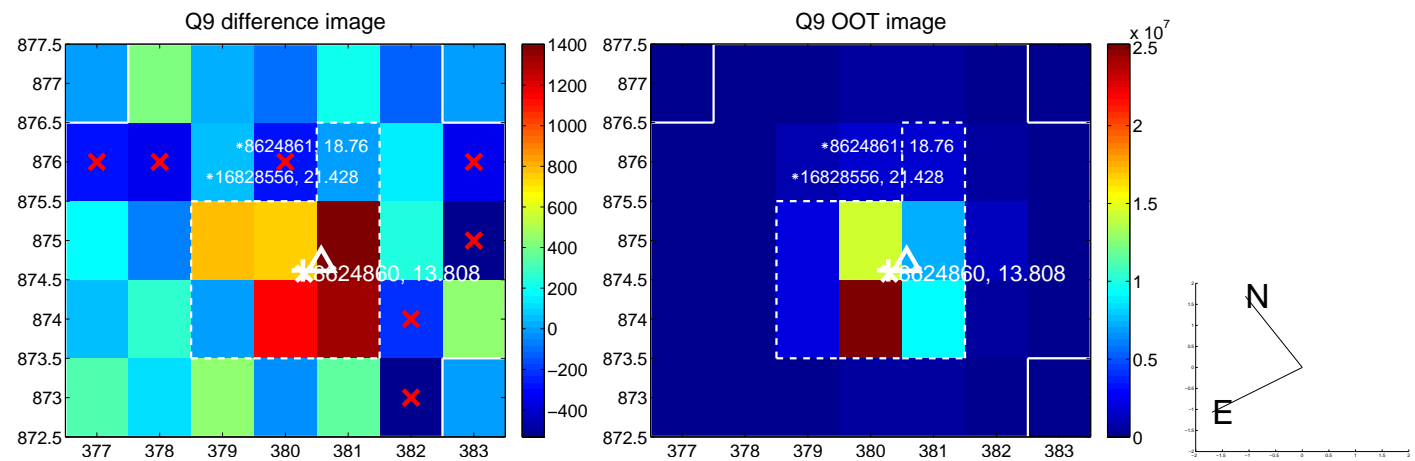
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



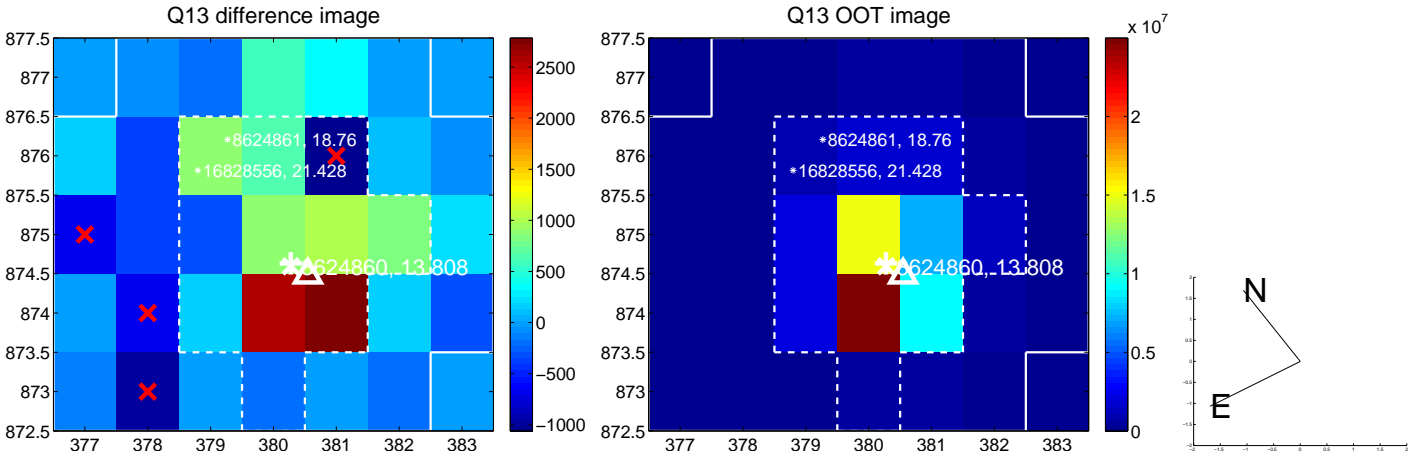
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



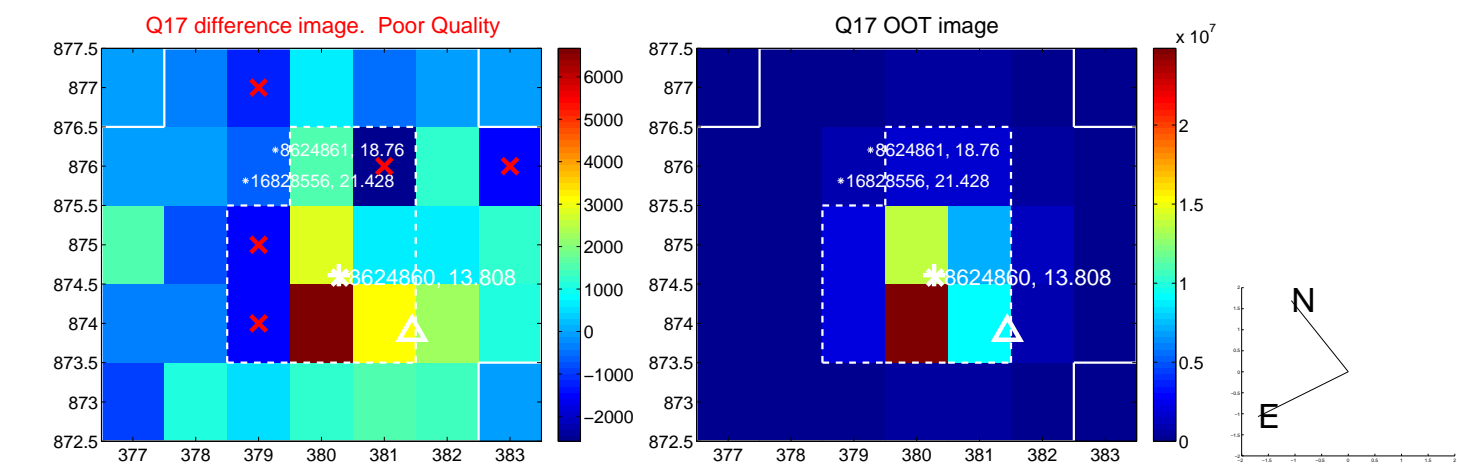
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



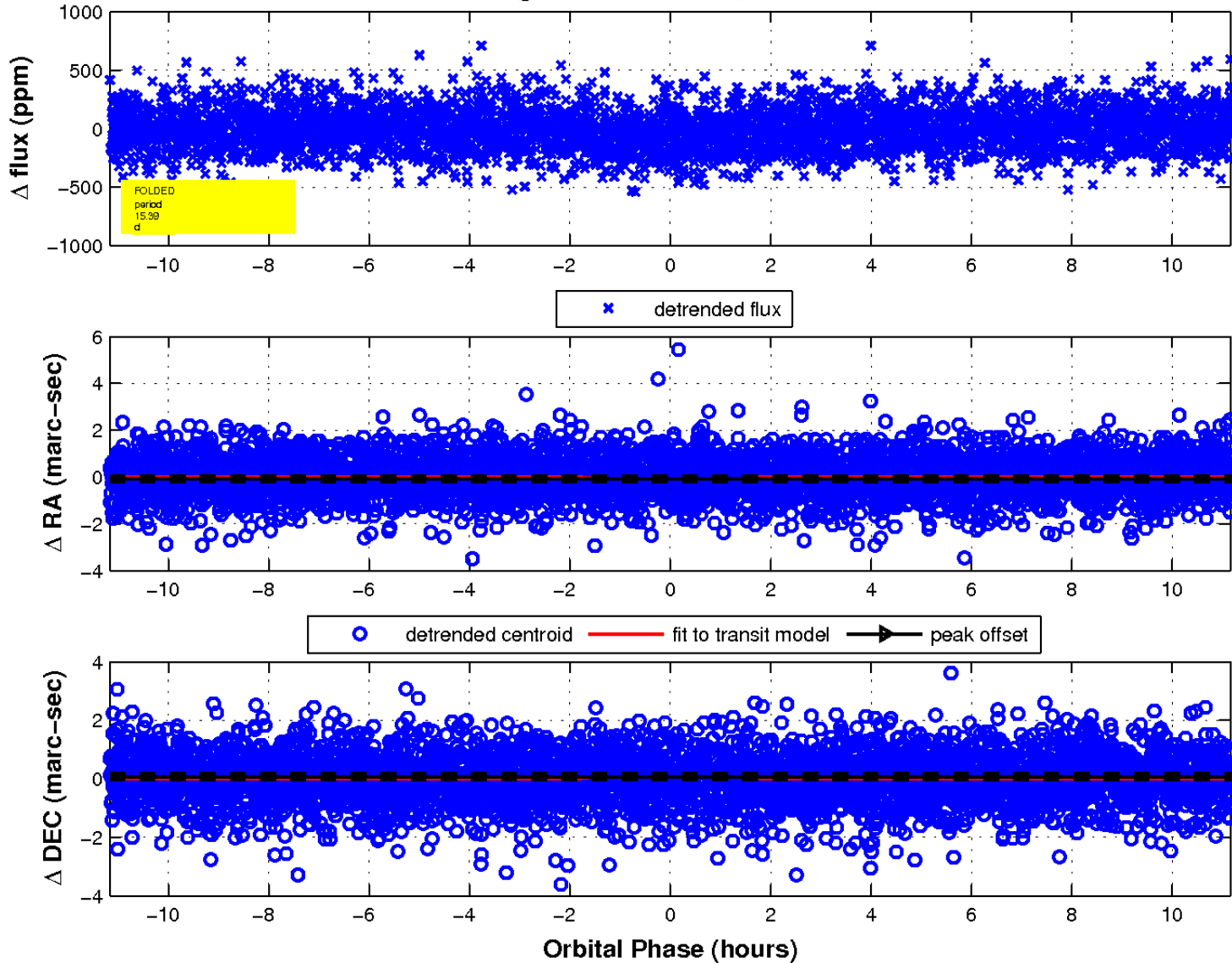
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

