

KIC 008938628

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})
008938628-01	OBS	7109.01	3.431151	133.593237	39164.5	2.646	5044.0	2648.7	0.97	5815	20.90	579.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008938628-01	OBS	FP	0.00	0	1	0	0	MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT

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.

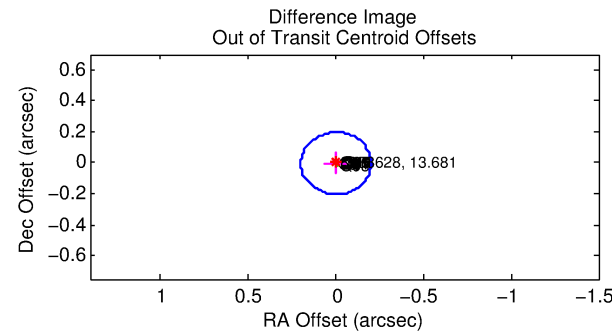
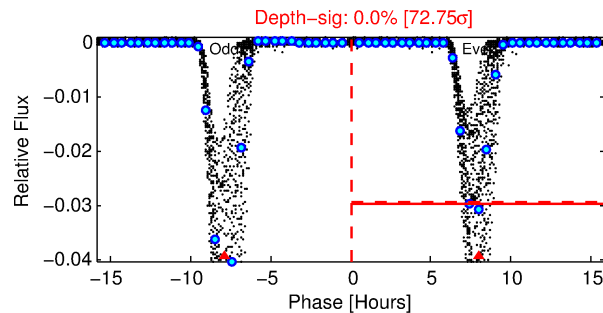
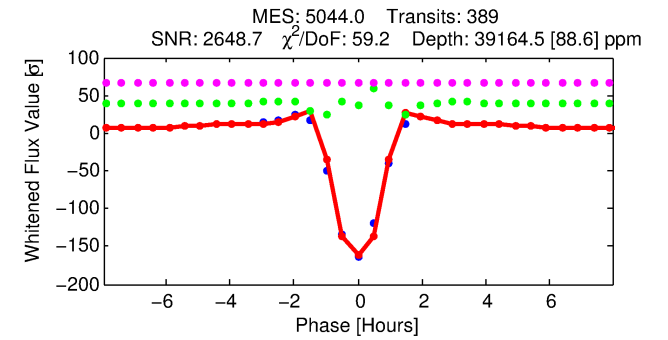
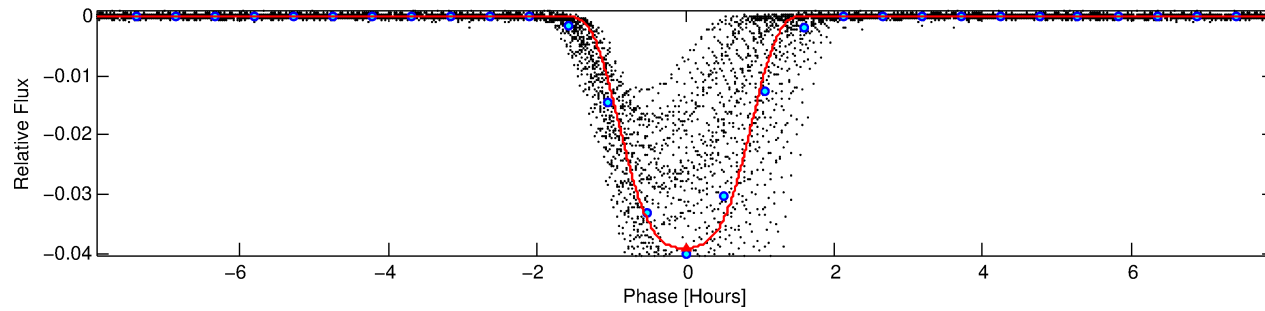
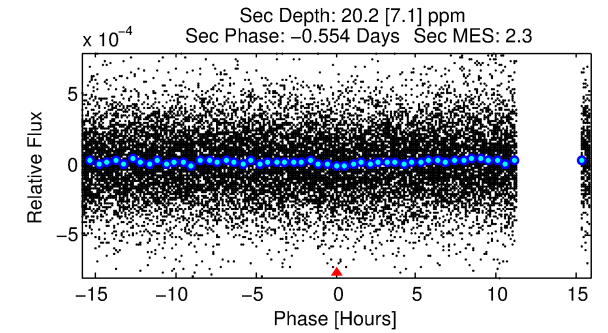
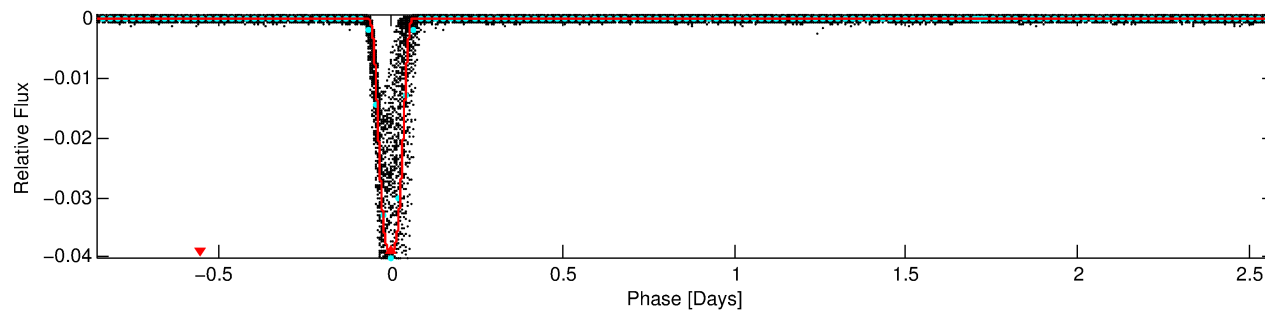
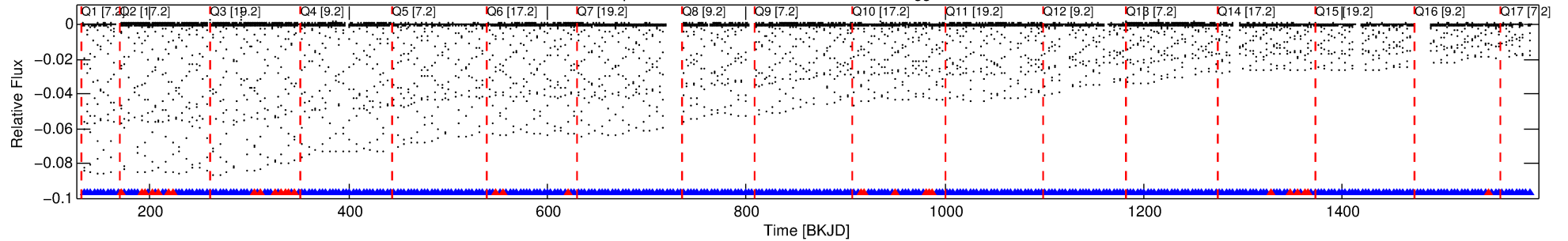
Ephemeris Match Information For 008938628-01

No Significant Match Found

DV One-Page Summary

KIC: 8938628 Candidate: 1 of 1 Period: 3.431 d
KOI: K07109.01 Corr: 0.939

Kp: 13.68 R*: 0.97 Rs Teff: 5815.0 K Logg: 4.35 Fe/H: -0.620



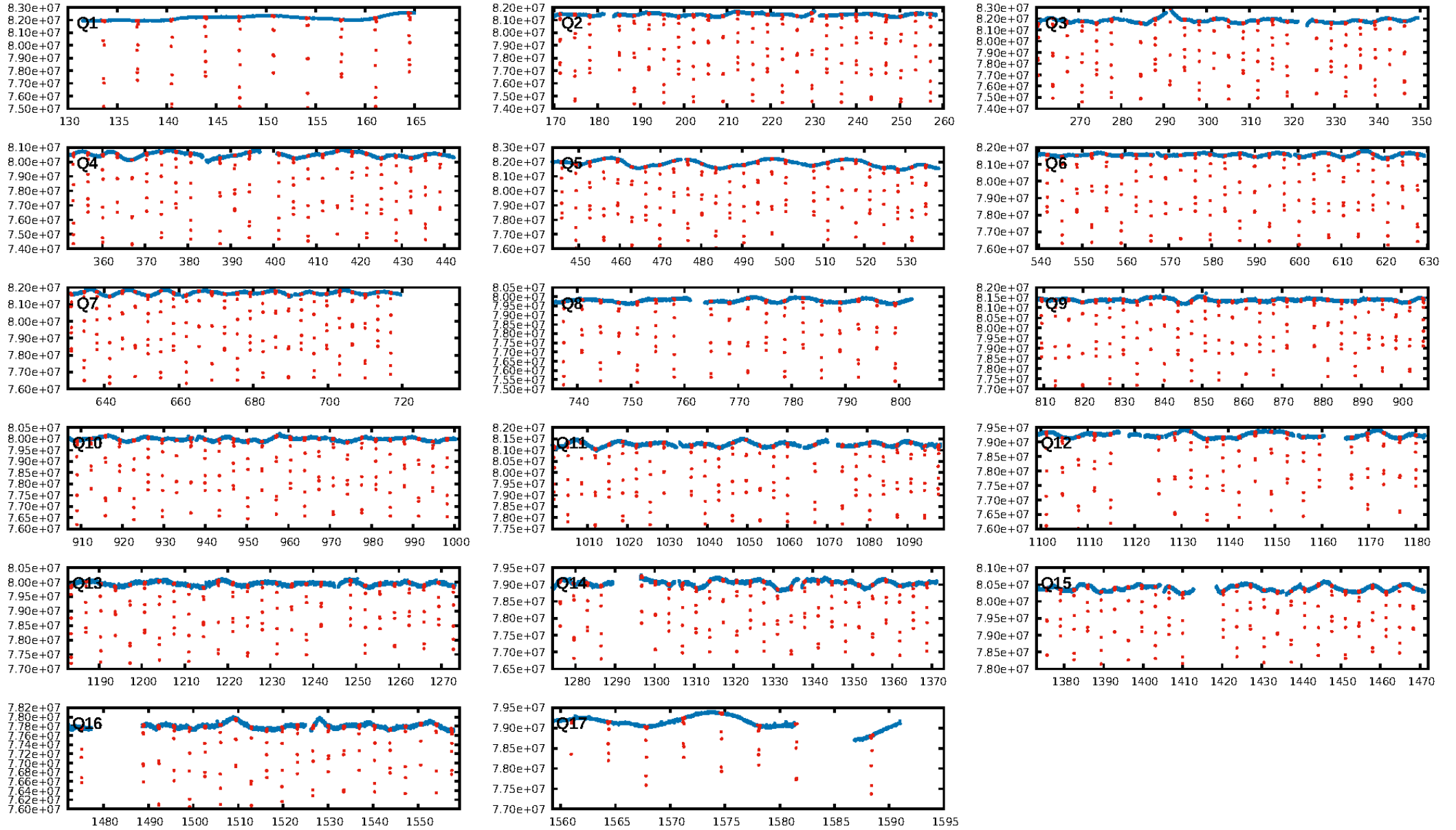
DV Fit Results:

Period = 3.43115 [0.00000] d
Epoch = 133.5932 [0.0001] BKJD
Rp/R* = 0.1977 [0.0004]
a/R* = 9.46 [0.05]
b = 0.73 [0.00]
Seff = 579.95 [240.00]
Teq = 1251 [129] K
Rp = 20.90 [6.49] Re
a = 0.0407 [0.0109] AU
Ag = 0.04 [0.02] [-42.83σ]
Teffp = 877 [81] K [-2.45σ]

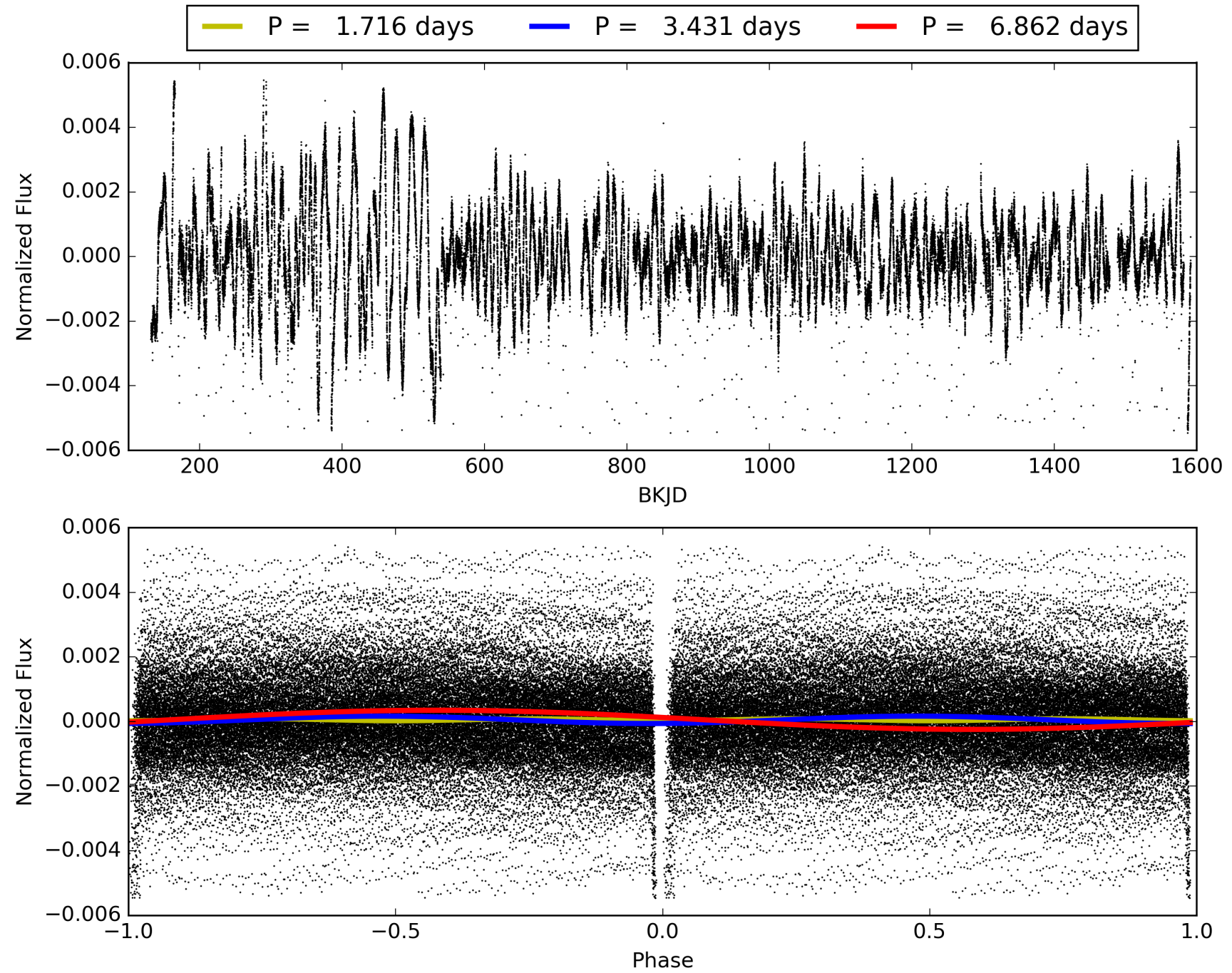
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.92 [342/371]
GhostDiagnostic-chr: 2.63
Centroid-sig: 0.0%
Centroid-so: 0.236 arcsec [127.83σ]
OotOffset-rm: 0.004 arcsec [0.06σ]
KicOffset-rm: 0.189 arcsec [2.82σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008938628-01, PDC Light Curves

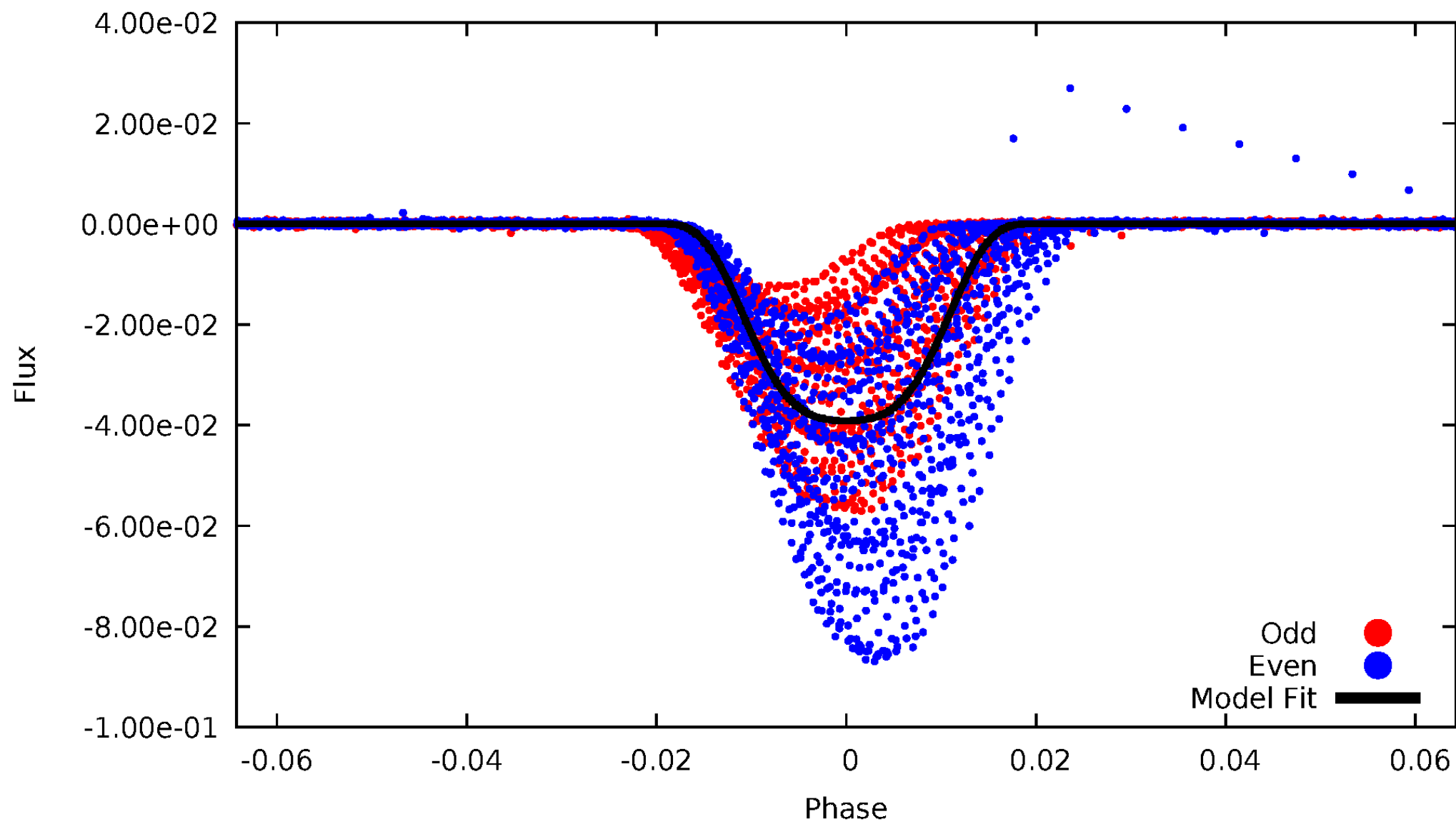


TCE 008938628-01



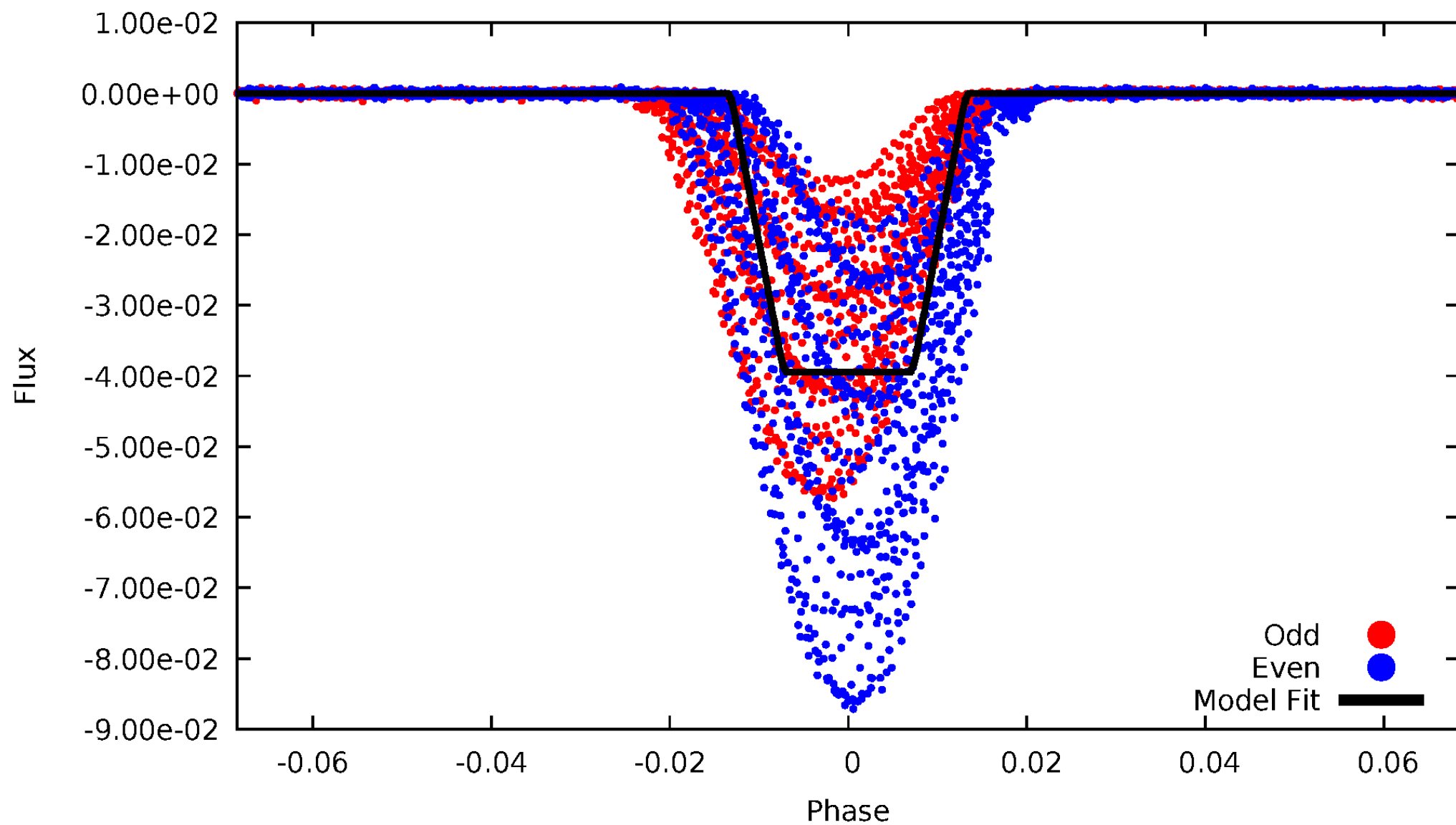
DV Odd/Even

TCE 008938628-01



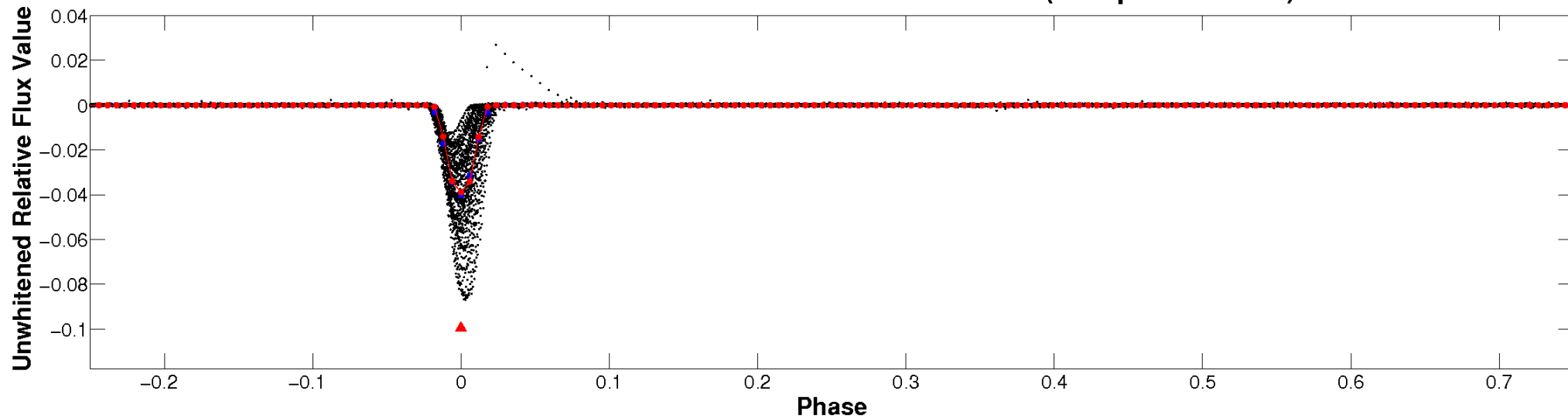
ALT Odd/Even

TCE 008938628-01

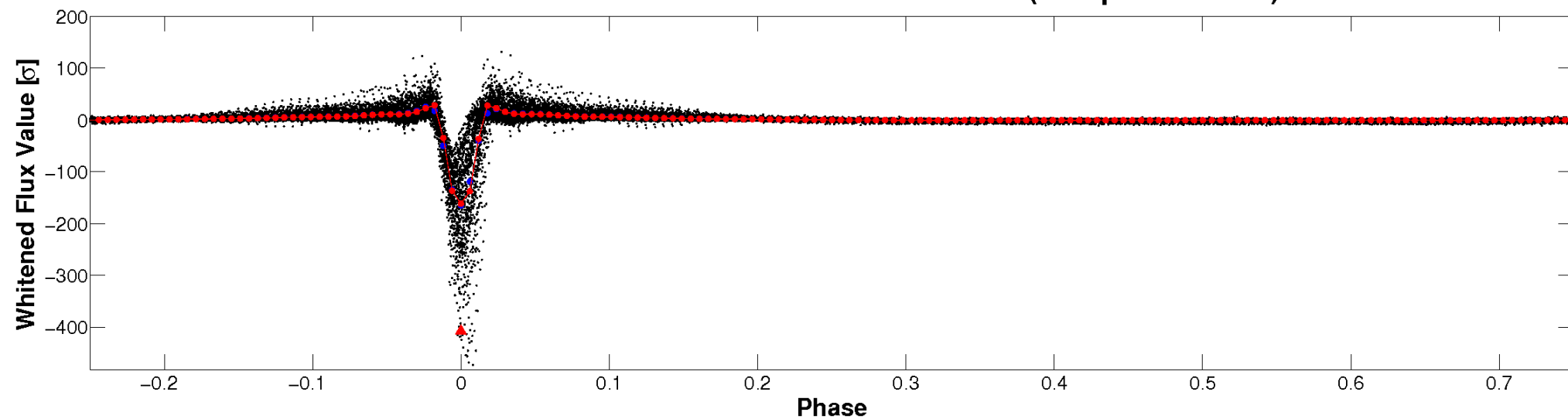


Non-Whitened Vs. Whitened Light Curve

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

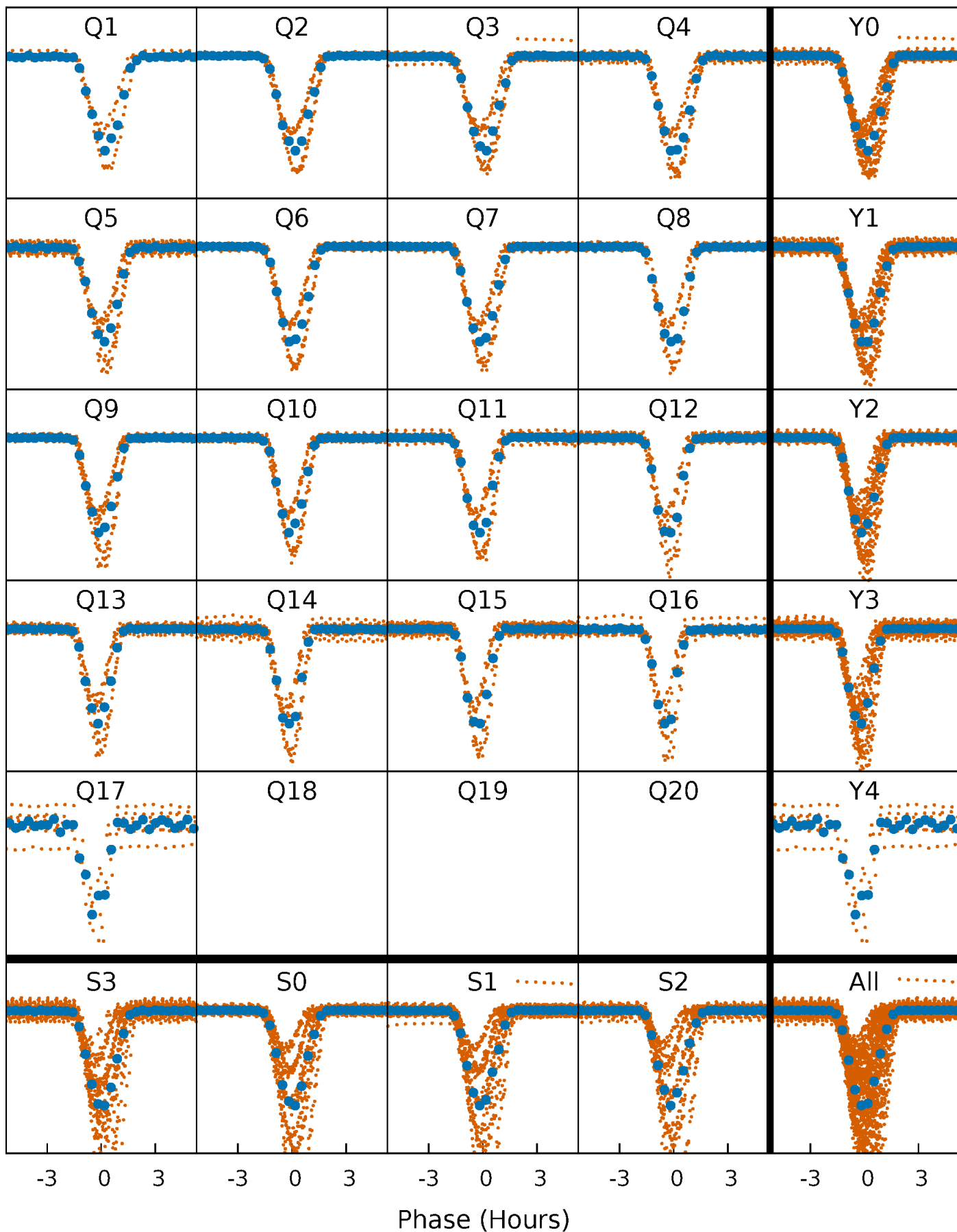


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



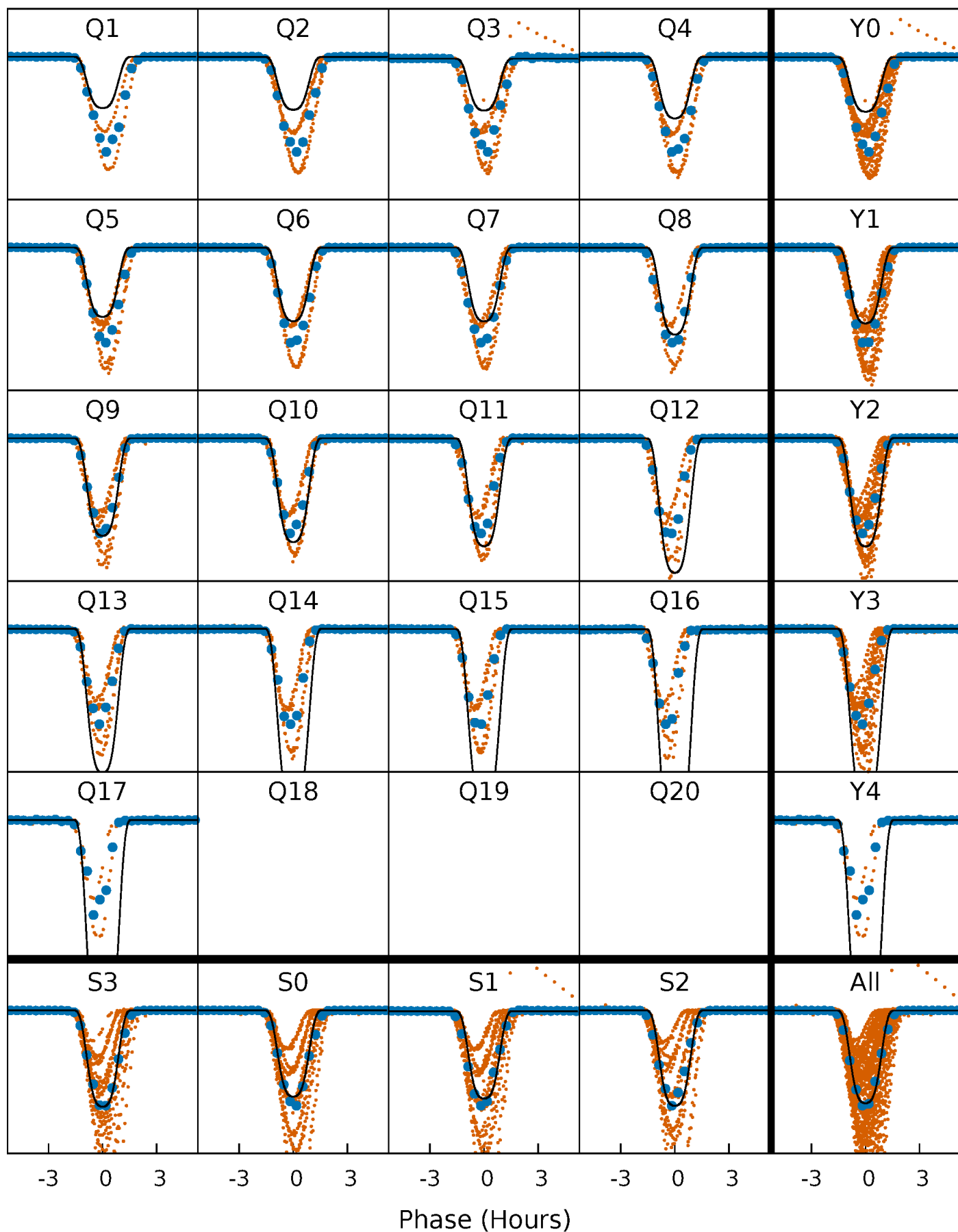
PDC Quarter-Phased Transit Curves

TCE 008938628-01 P= 3.431151 Days $T_0=133.593237$ (BKJD)



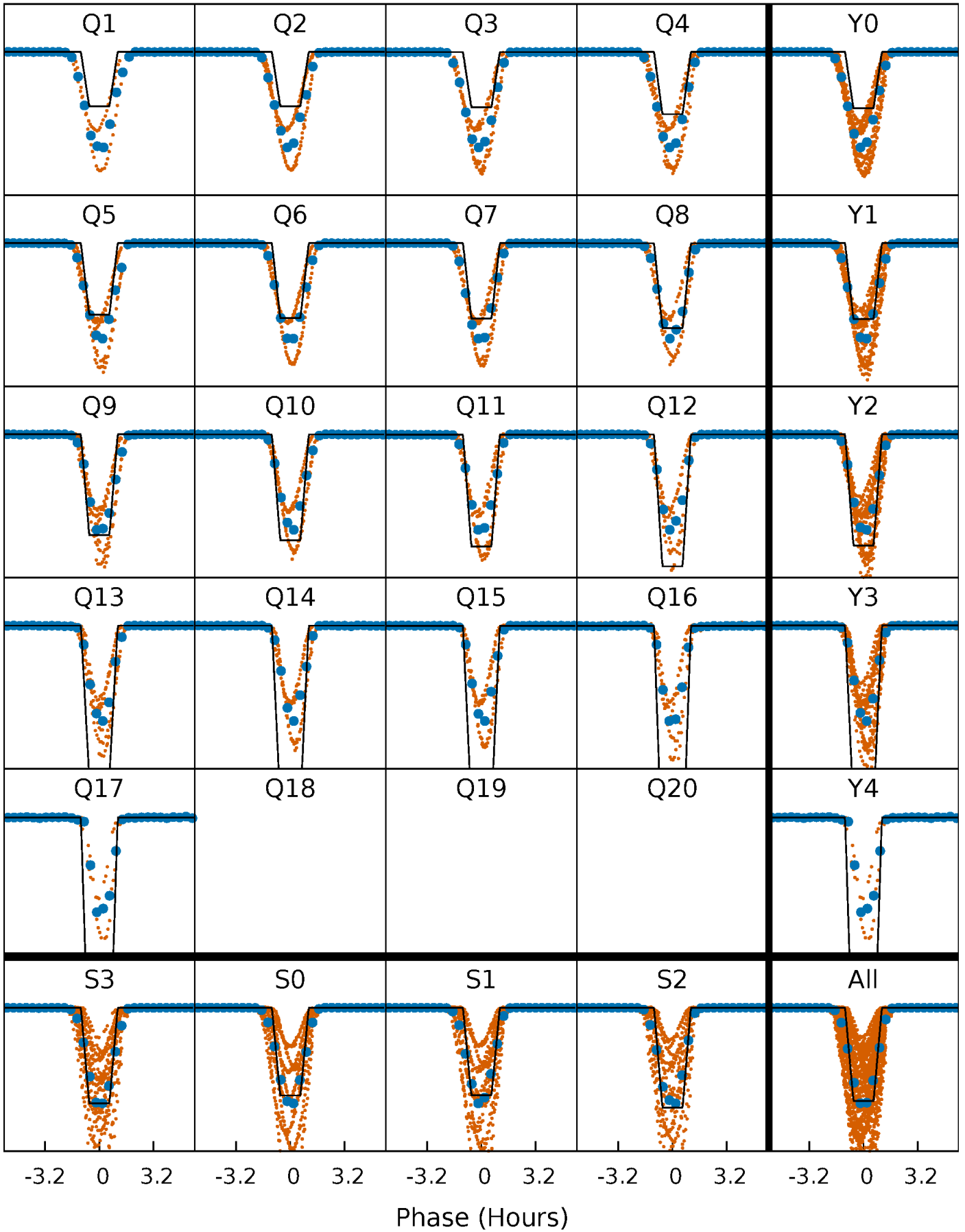
DV Quarter-Phased Transit Curves

TCE 008938628-01 P= 3.431151 Days $T_0=133.593237$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

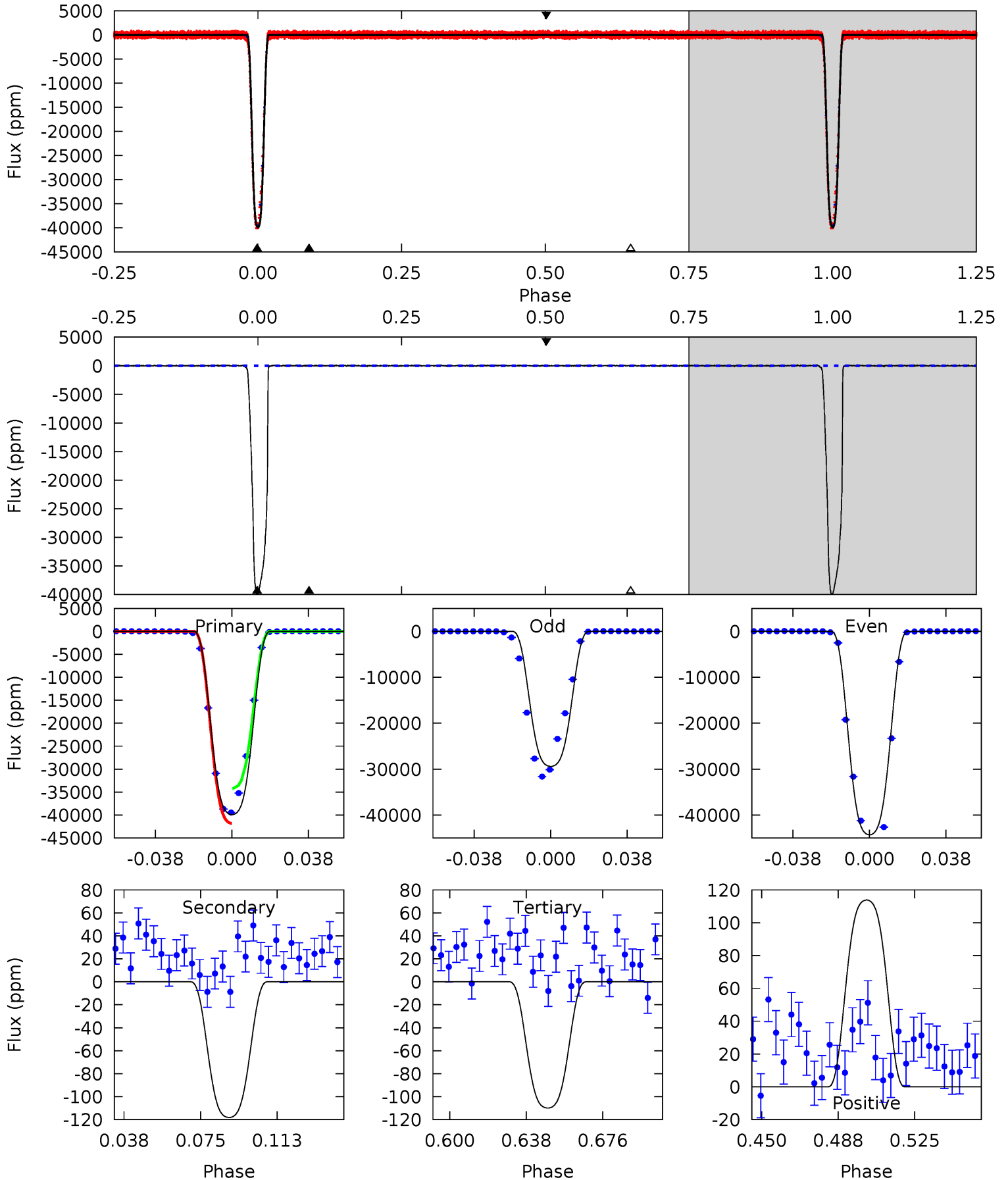
TCE 008938628-01 P= 3.431078 Days $T_0=133.604435$ (BKJD)



DV Model-Shift Uniqueness Test

008938628-01, P = 3.431151 Days, E = 130.162086 Days

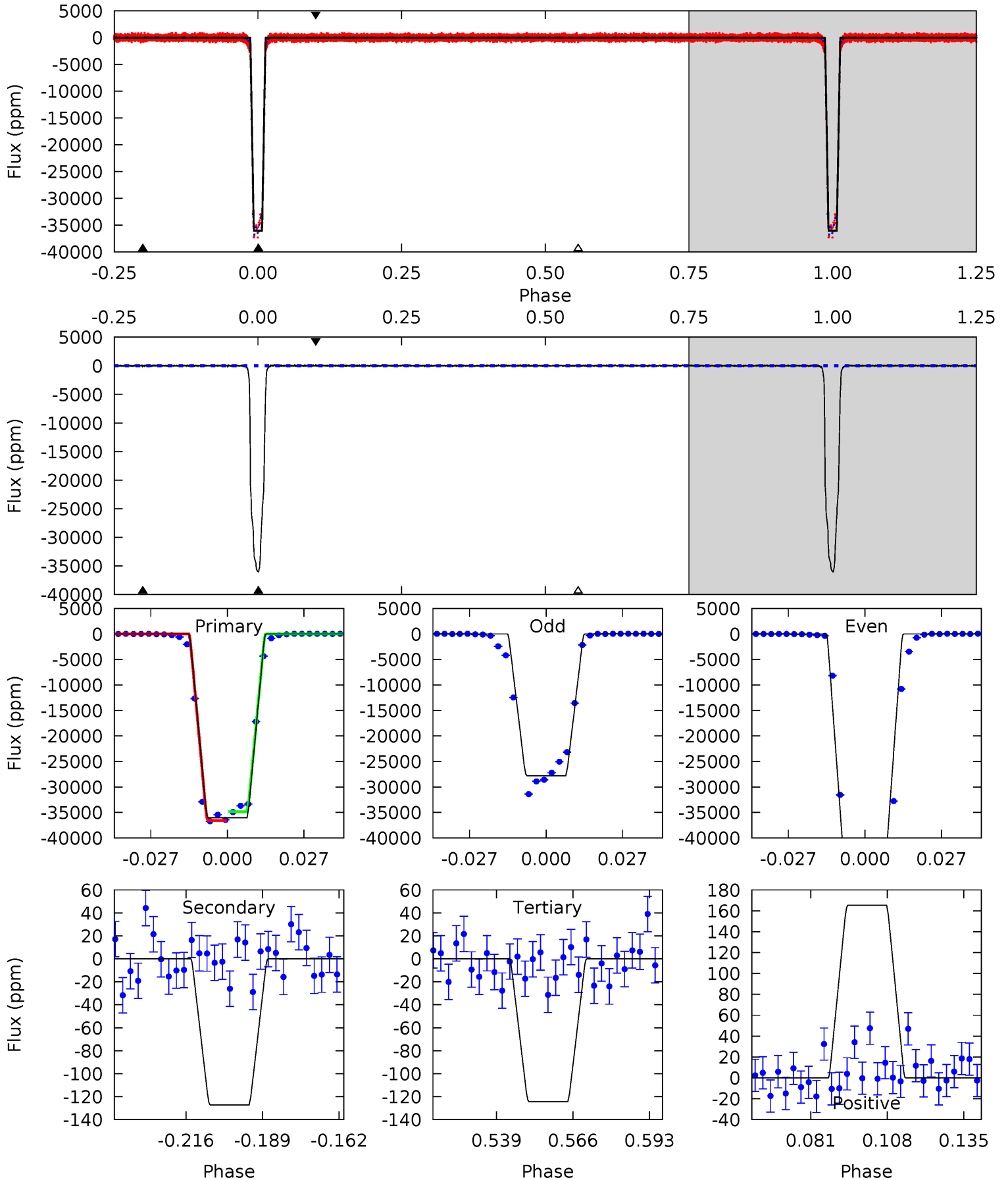
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3007	8.90	8.28	8.58	4.77	2.08	2.40	2999	2998	0.62	0.33	579.3	1.00	0.00	0



Alt Model-Shift Uniqueness Test

008938628-01, P = 3.431078 Days, E = 130.173357 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1387	4.89	4.79	6.36	4.83	2.21	1.42	1382	1380	0.11	-1.47	383.2	1.03	0.00	0



Stellar Parameters For KIC 008938628

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5815^{+157}_{-174}	$4.349^{+0.220}_{-0.220}$	$-0.620^{+0.300}_{-0.300}$	$0.969^{+0.301}_{-0.226}$	$0.764^{+0.108}_{-0.046}$	$1.183^{+1.176}_{-0.637}$
	+3%/-3%	+5%/-5%	+48%/-48%	+31%/-23%	+14%/-6%	+99%/-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 008938628-01 / KOI 7109.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-118 ± 13	$21.06^{+3.62}_{-2.81}$	1744^{+158}_{-128}	-1949^{+3760}_{-246}	$0.245^{+0.091}_{-0.069}$
Alt.	-127 ± 26	$21.35^{+3.45}_{-3.09}$	1754^{+139}_{-141}	-1893^{+3842}_{-292}	$0.257^{+0.115}_{-0.084}$

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 $A_{obs} \gg 1.0$

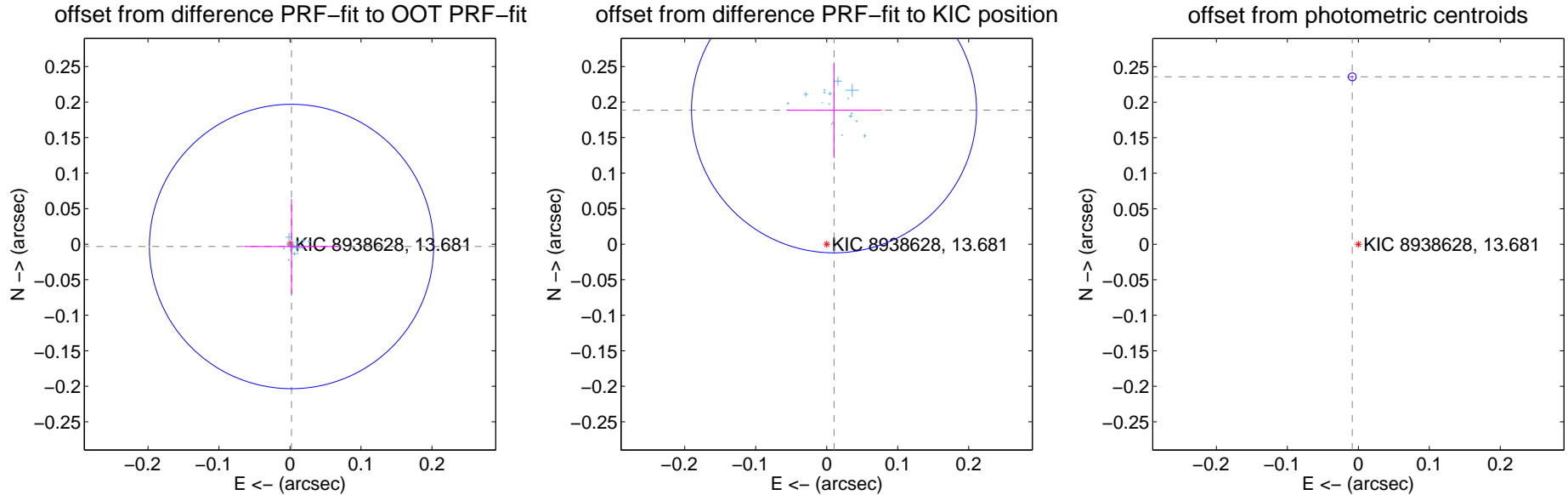
DV Centroid Data

Supplemental centroid analysis for 008938628-01. Kepler magnitude: 13.68. Transit SNR 2648.73

There are 17 quarters with good PRF difference image offsets

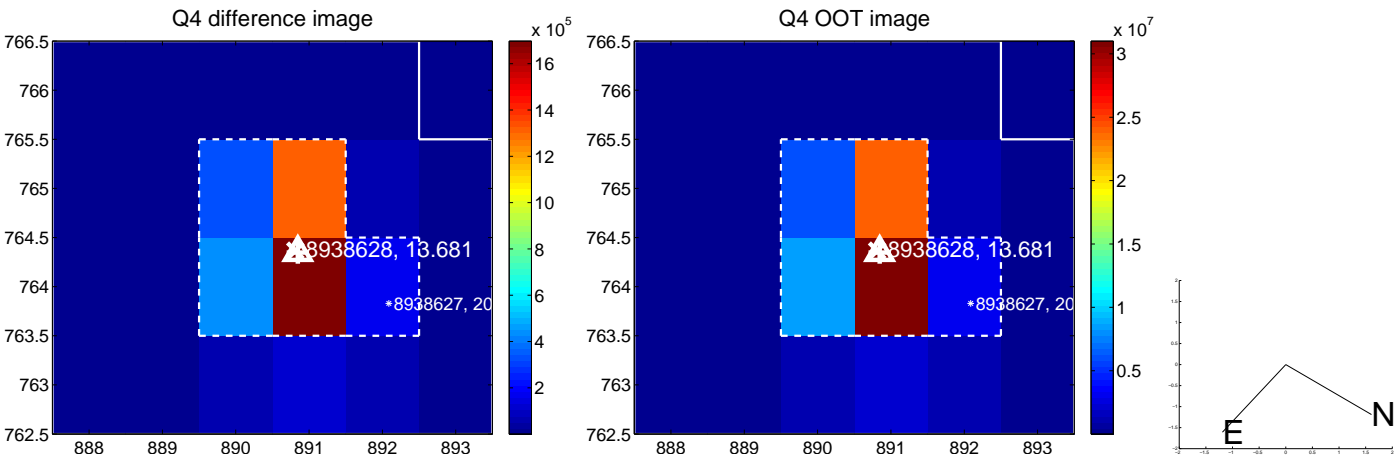
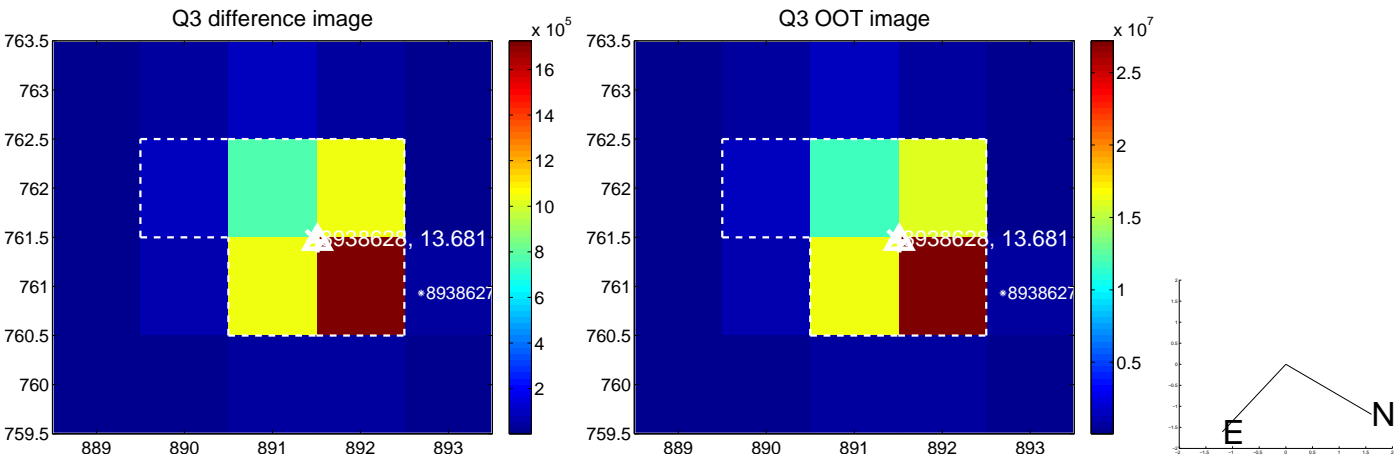
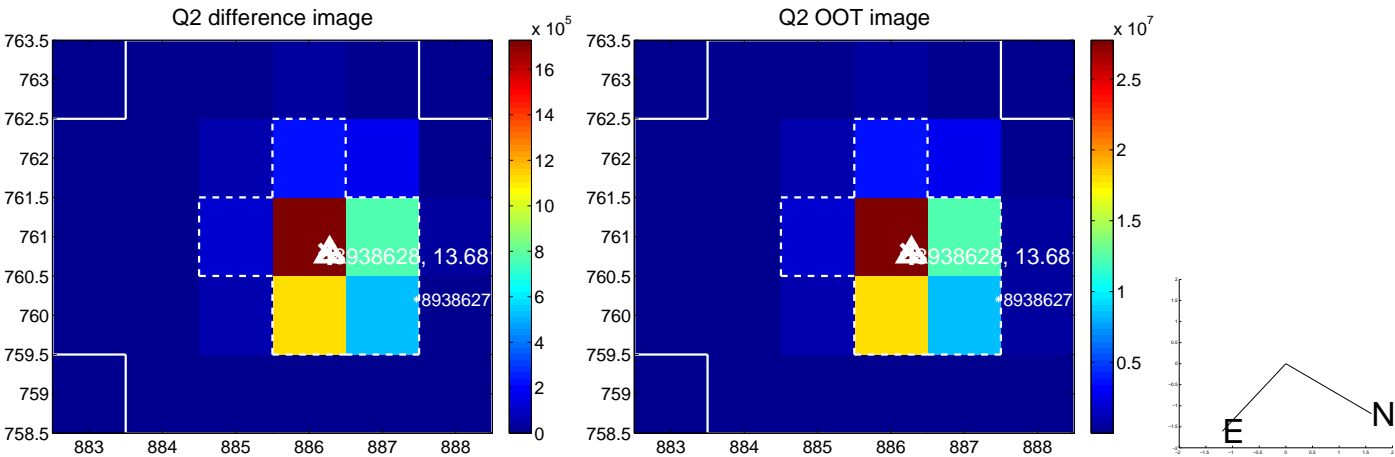
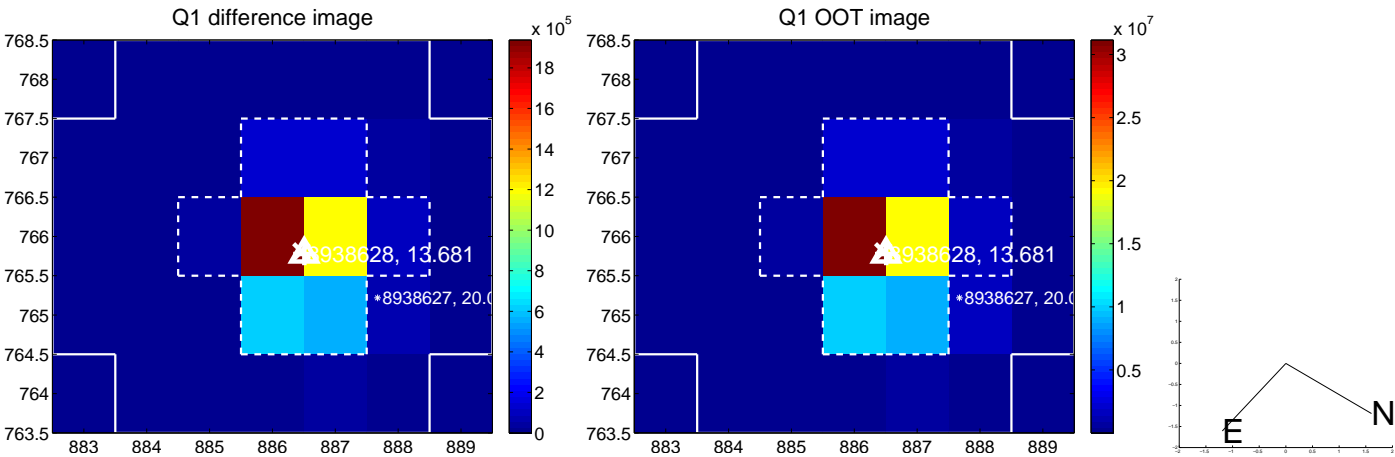
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.004 ± 0.067	0.06	-0.002 ± 0.067	-0.003 ± 0.067
PRF-fit source offset from KIC position	0.189 ± 0.067	2.82	-0.010 ± 0.067	0.189 ± 0.067
photometric centroid source offset	0.24 ± 0.00	127.83	0.01 ± 0.00	0.24 ± 0.00

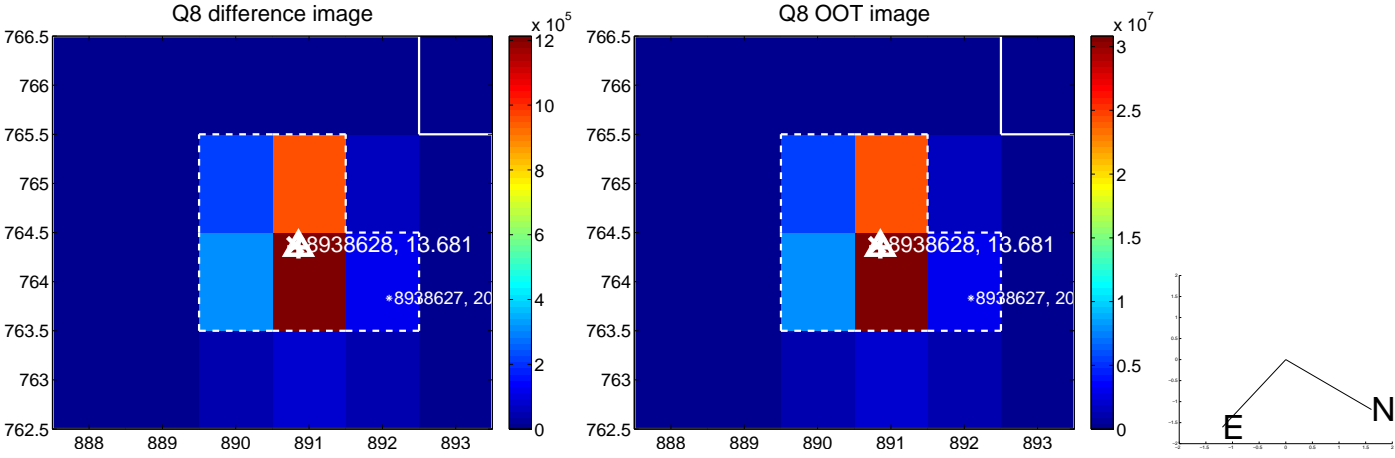
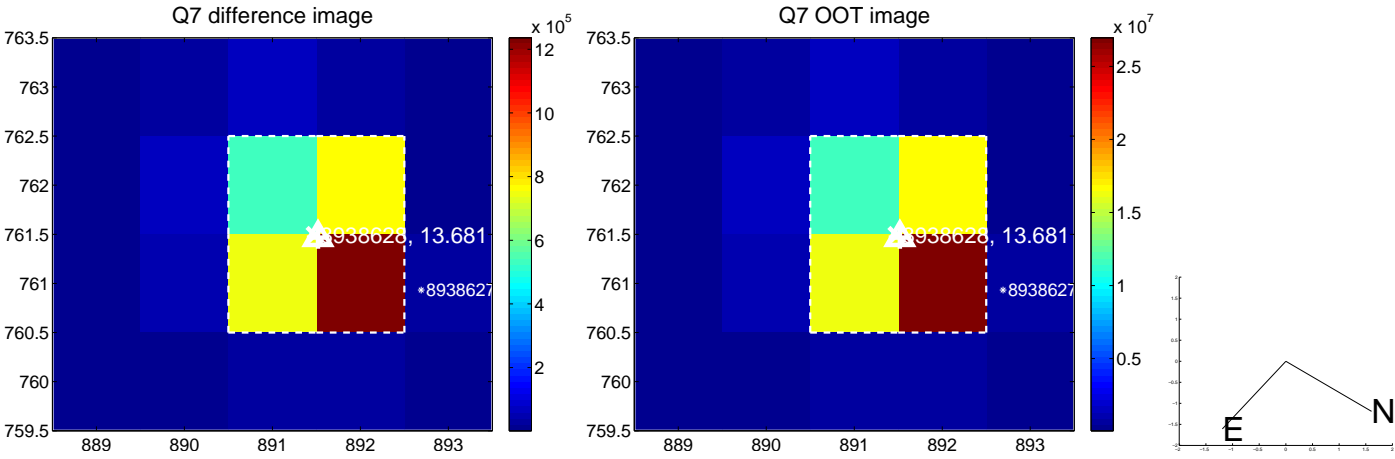
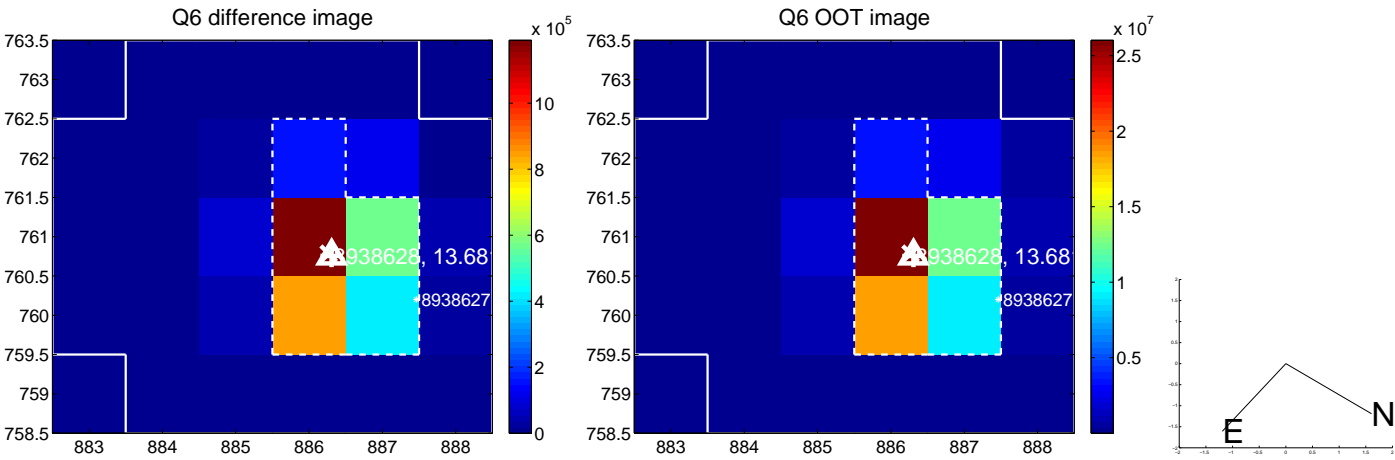
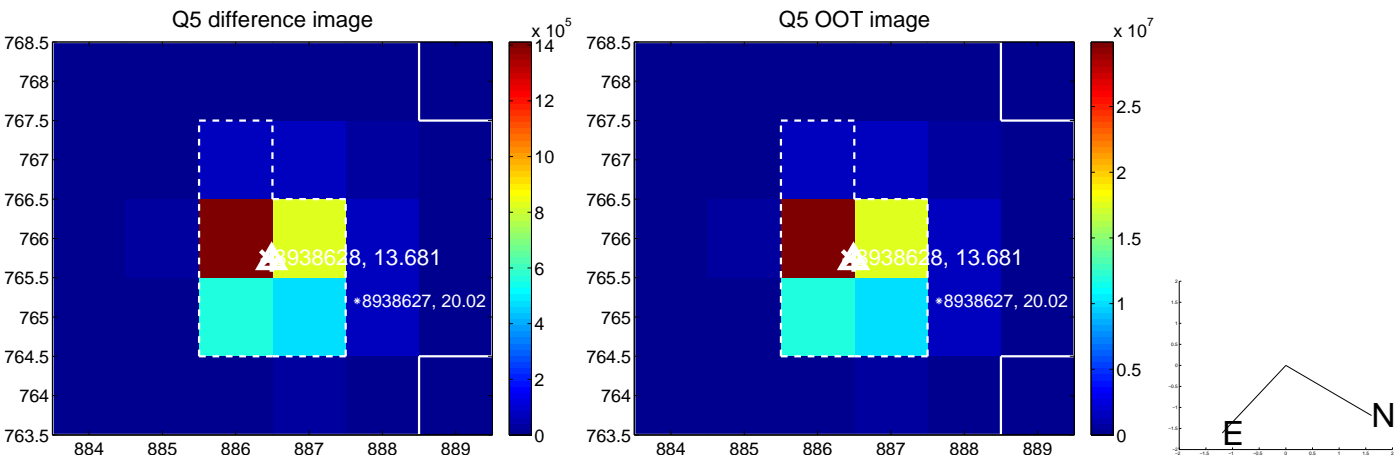


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

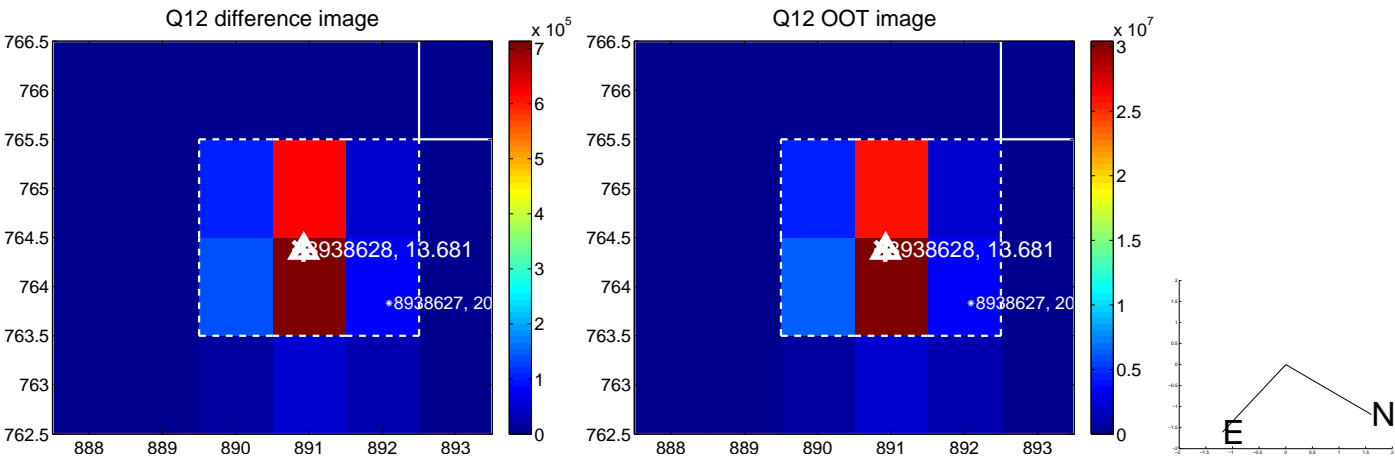
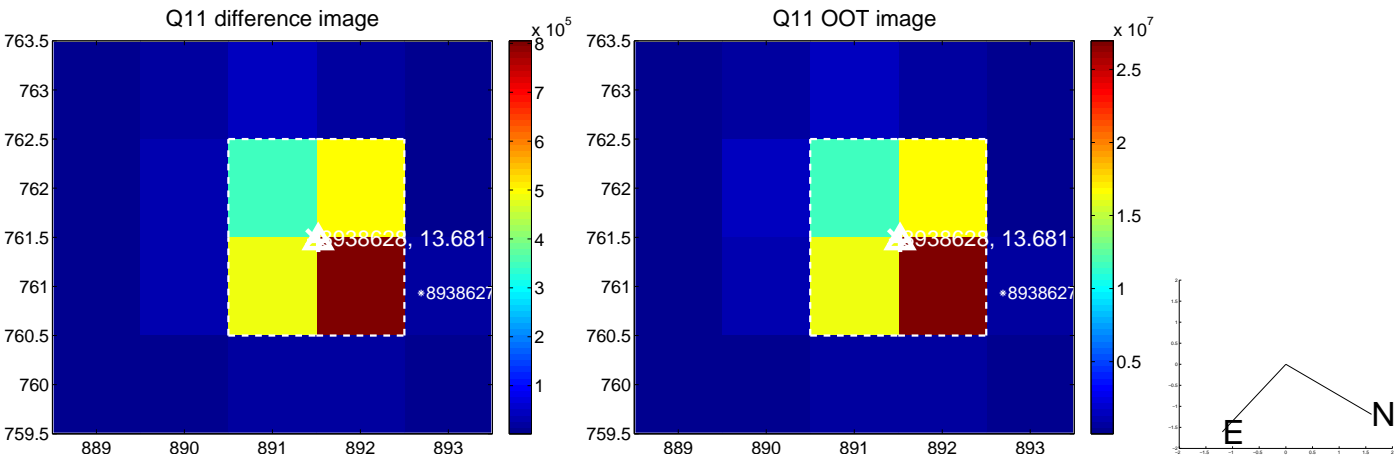
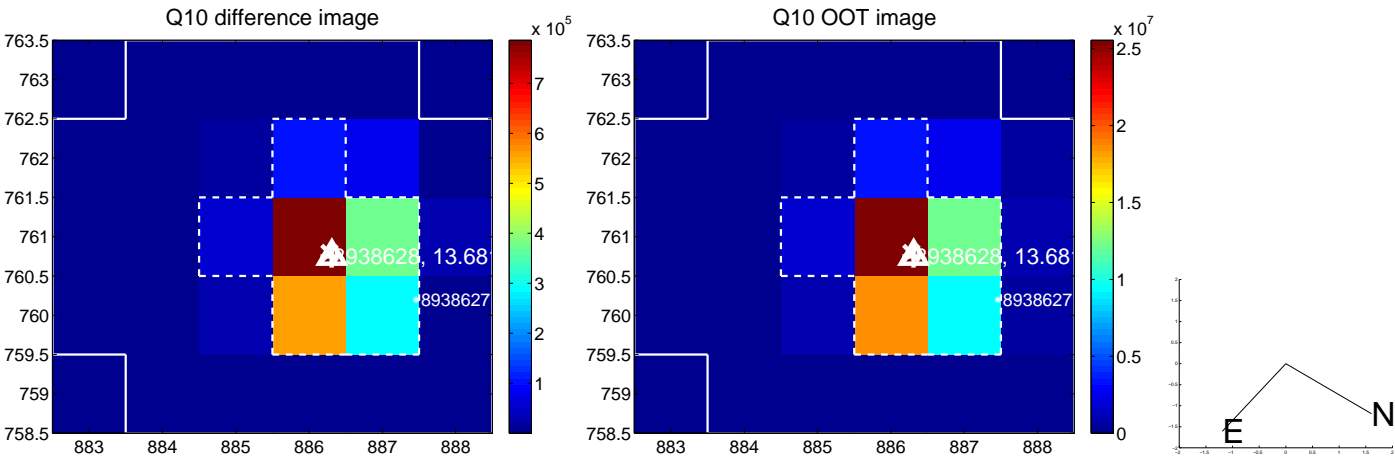
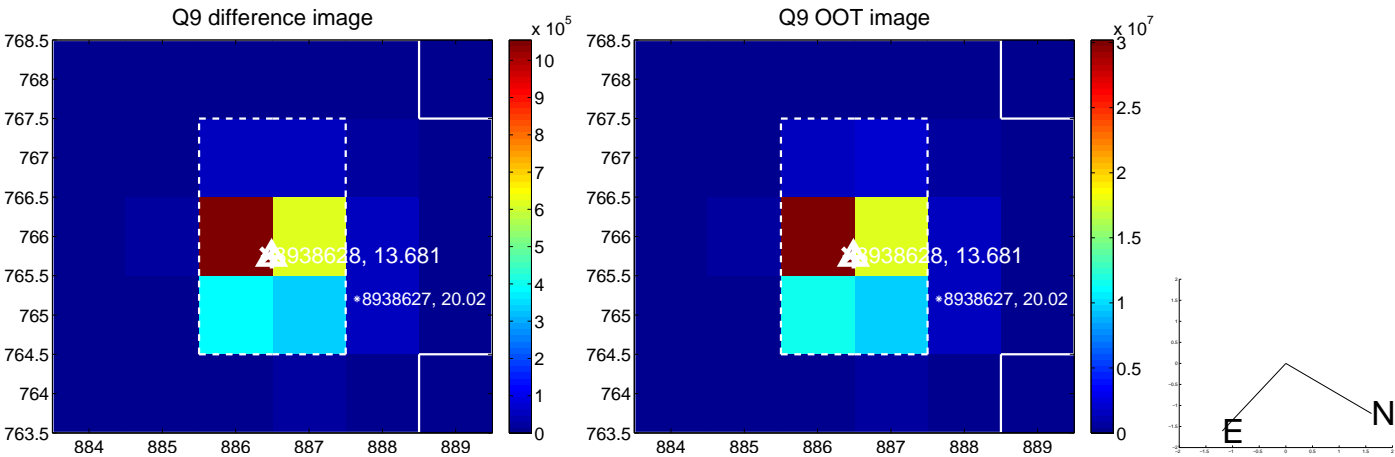
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



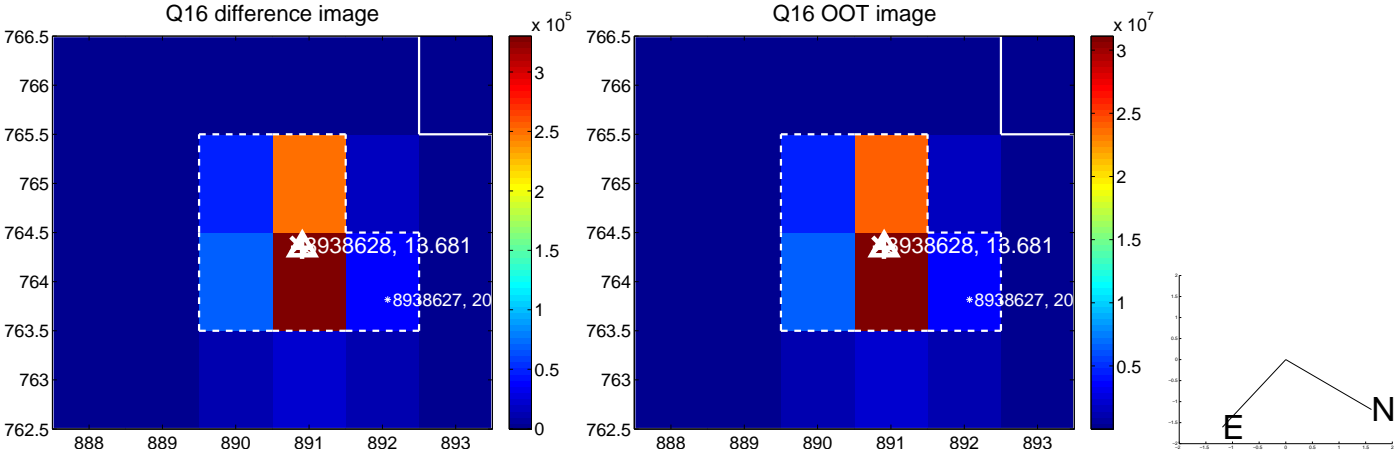
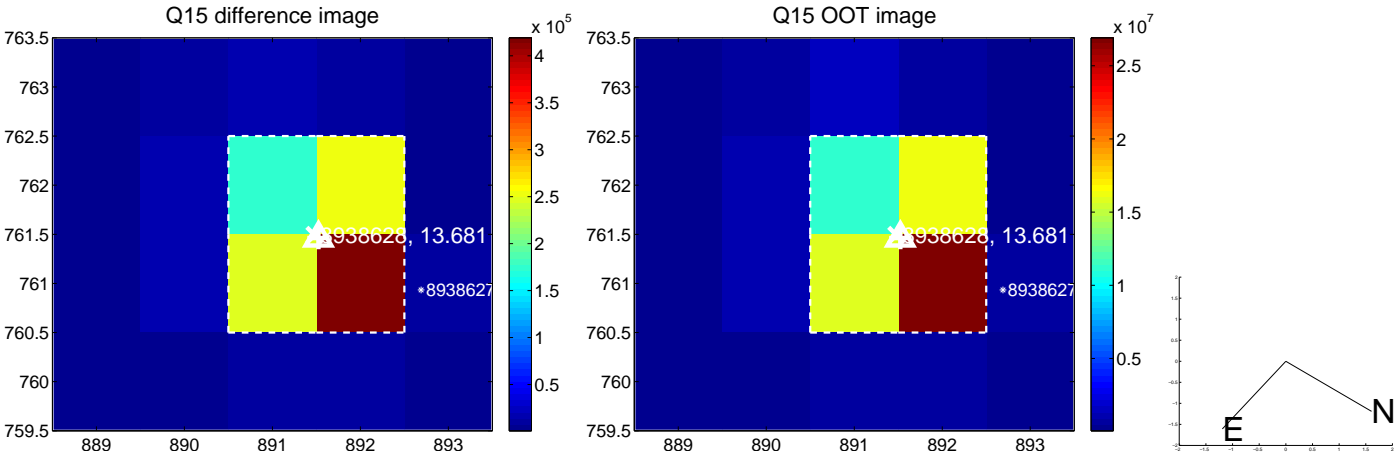
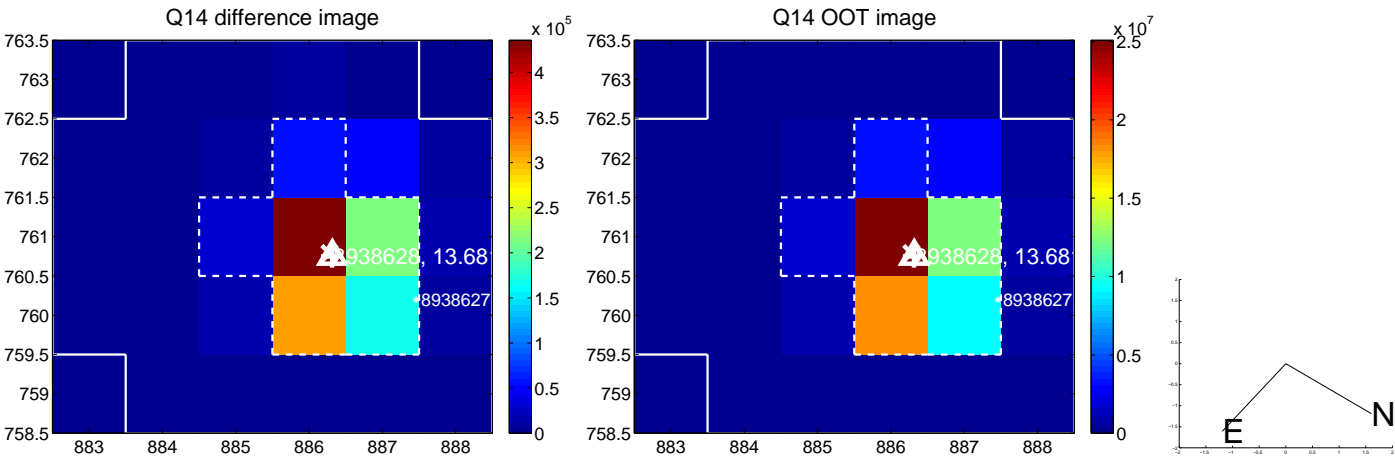
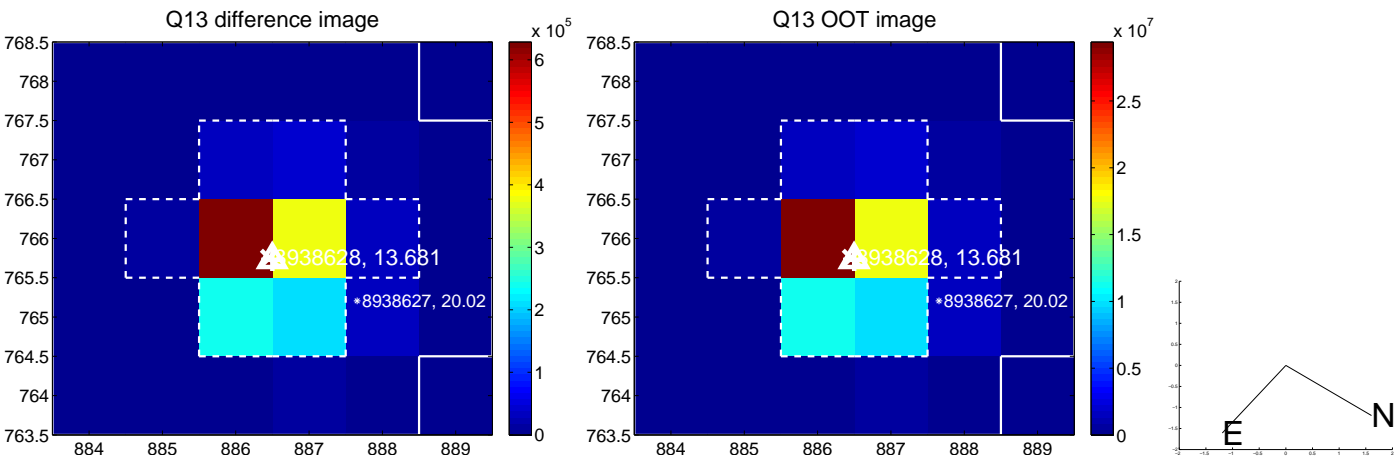
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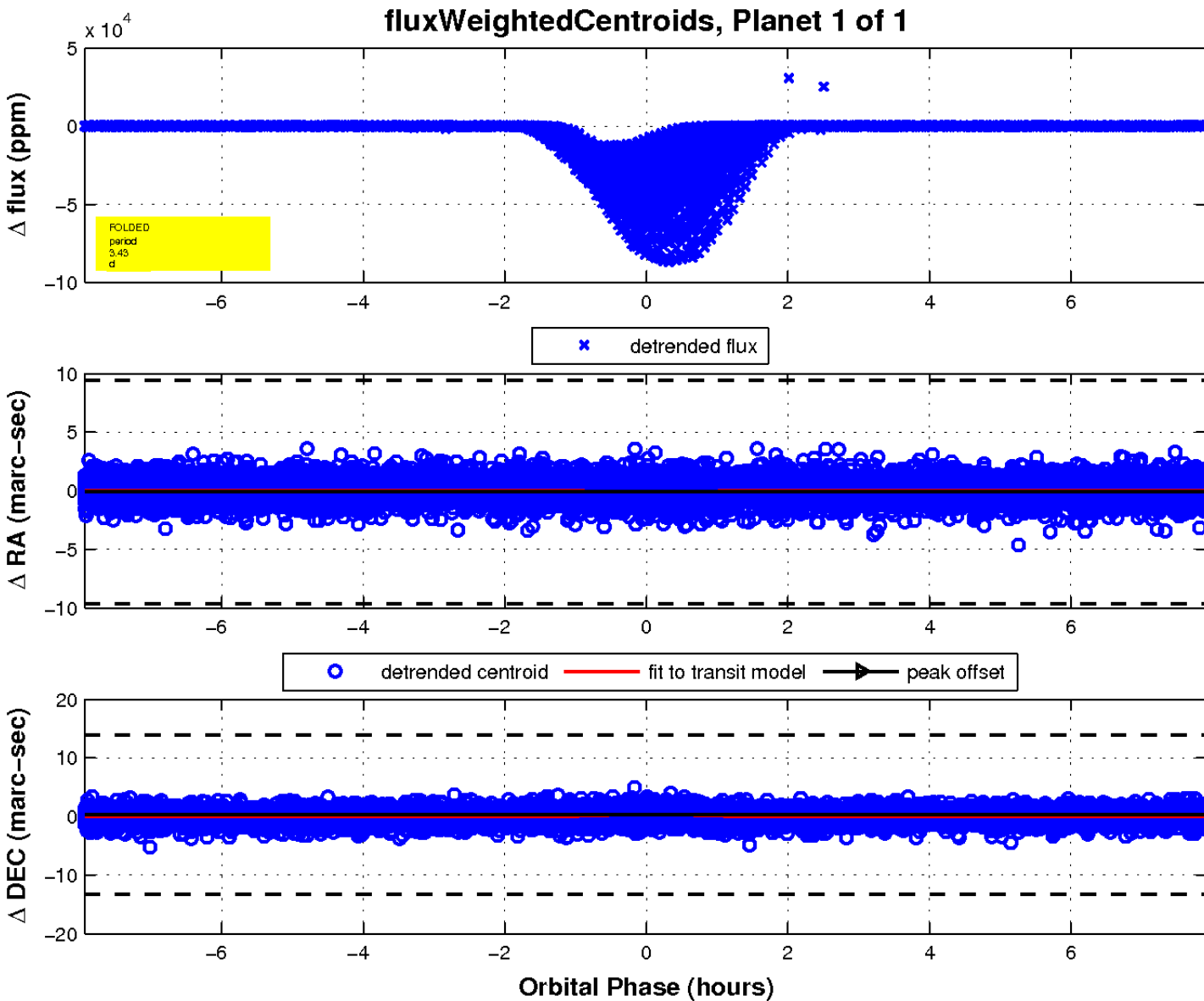
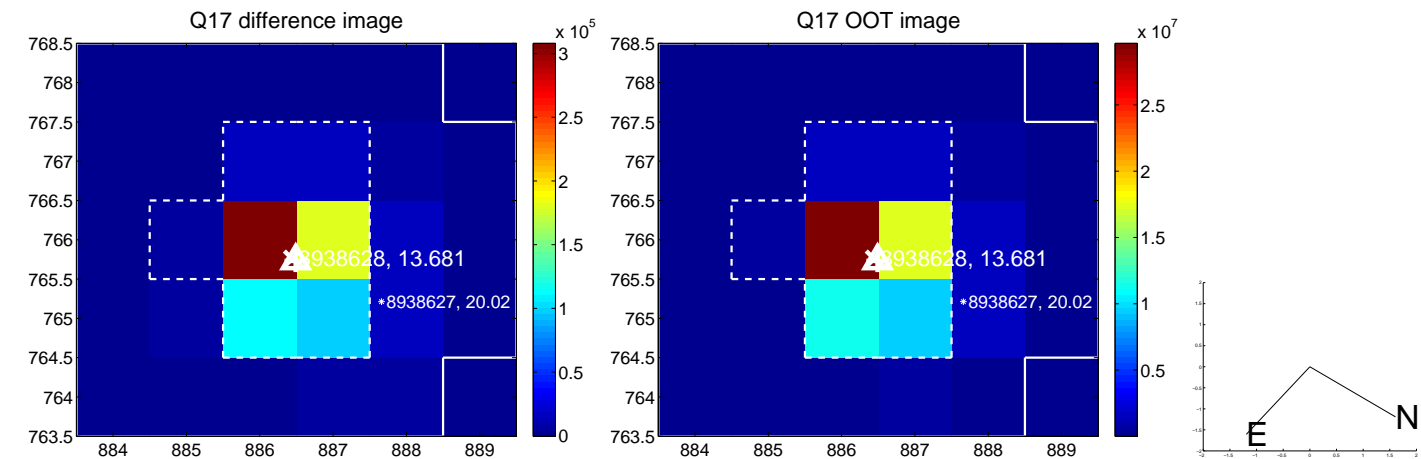
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

