

KIC 008953475

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
008953475-01	OBS	7114.01	2.665790	131.632849	34.1	5.693	9.1	9.5	1.35	6276	0.92	1811.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008953475-01	OBS	FP	0.00	0	0	0	1	EPHEM_MATCH

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.

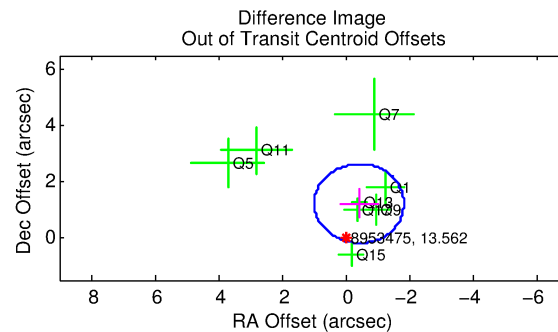
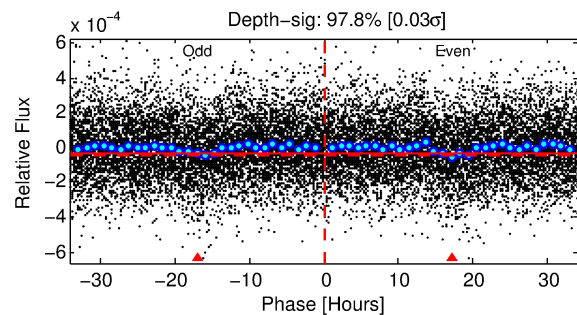
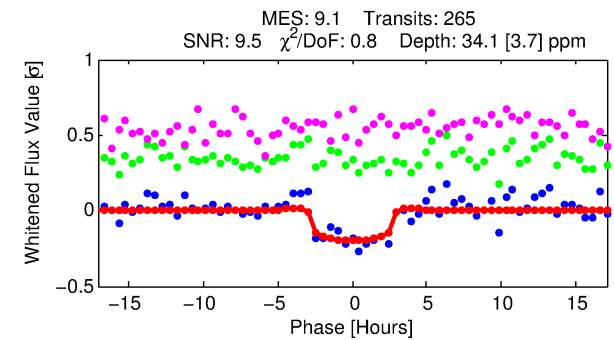
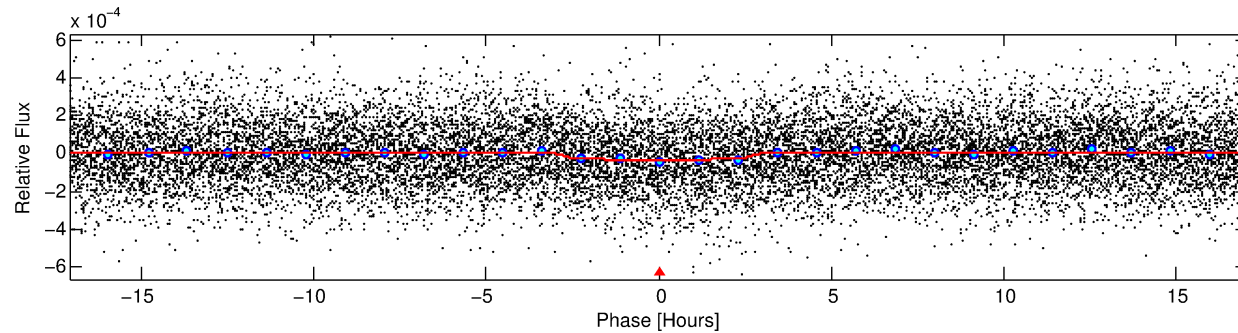
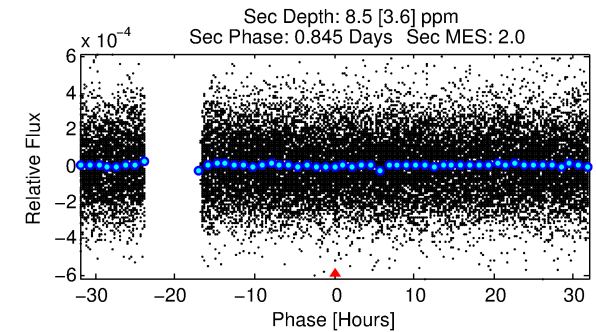
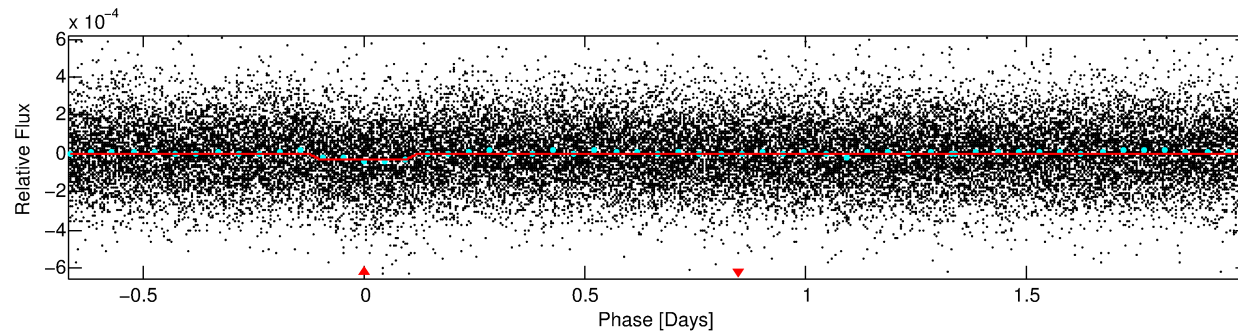
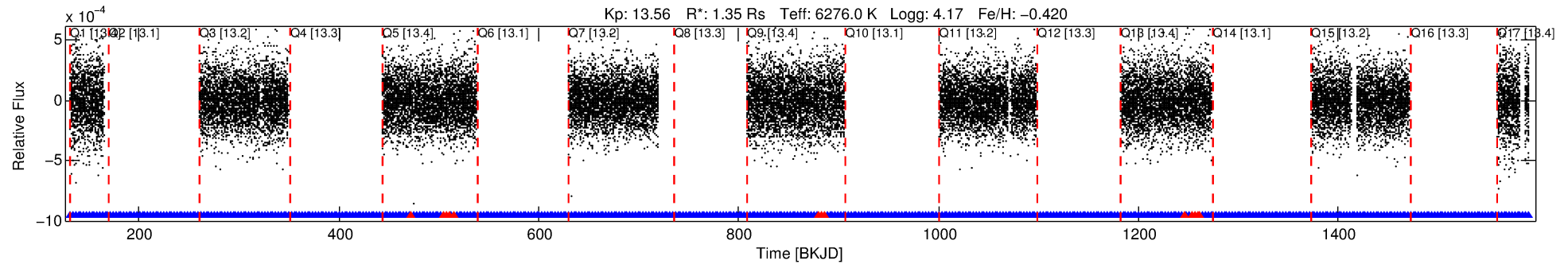
Ephemeris Match Information For 008953475-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
008953475-01	8953475	7113.01	8953426	1:1	118.5	0	30	12.16	13.57	4866.50	Direct-PRF	0	2.05	0.72

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant σ_P < 5.0 and σ_T < 5.0. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 8953475 Candidate: 1 of 1 Period: 2.666 d
KOI: K07114.01 Corr: 0.970



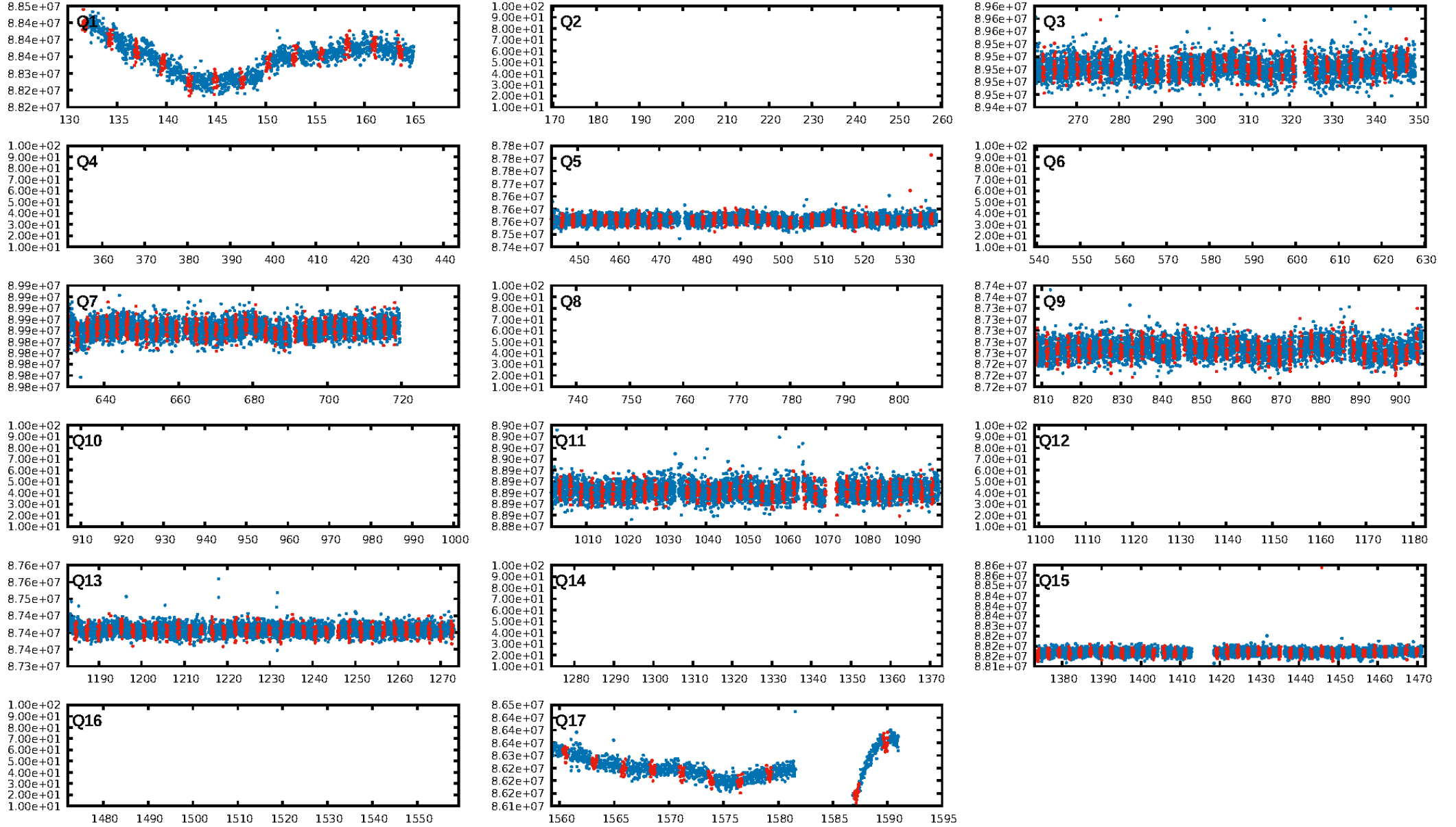
DV Fit Results:

Period = 2.66579 [0.00003] d
Epoch = 131.6328 [0.0073] BKJD
Rp/R* = 0.0062 [0.0024]
a/R* = 1.88 [2.91]
b = 0.90 [0.47]
Seff = 1811.58 [836.75]
Teq = 1664 [192] K
Rp = 0.92 [0.43] Re
a = 0.0375 [0.0101] AU
Ag = 7.73 [7.52] [0.90σ]
Teffp = 4289 [947] K [2.72σ]

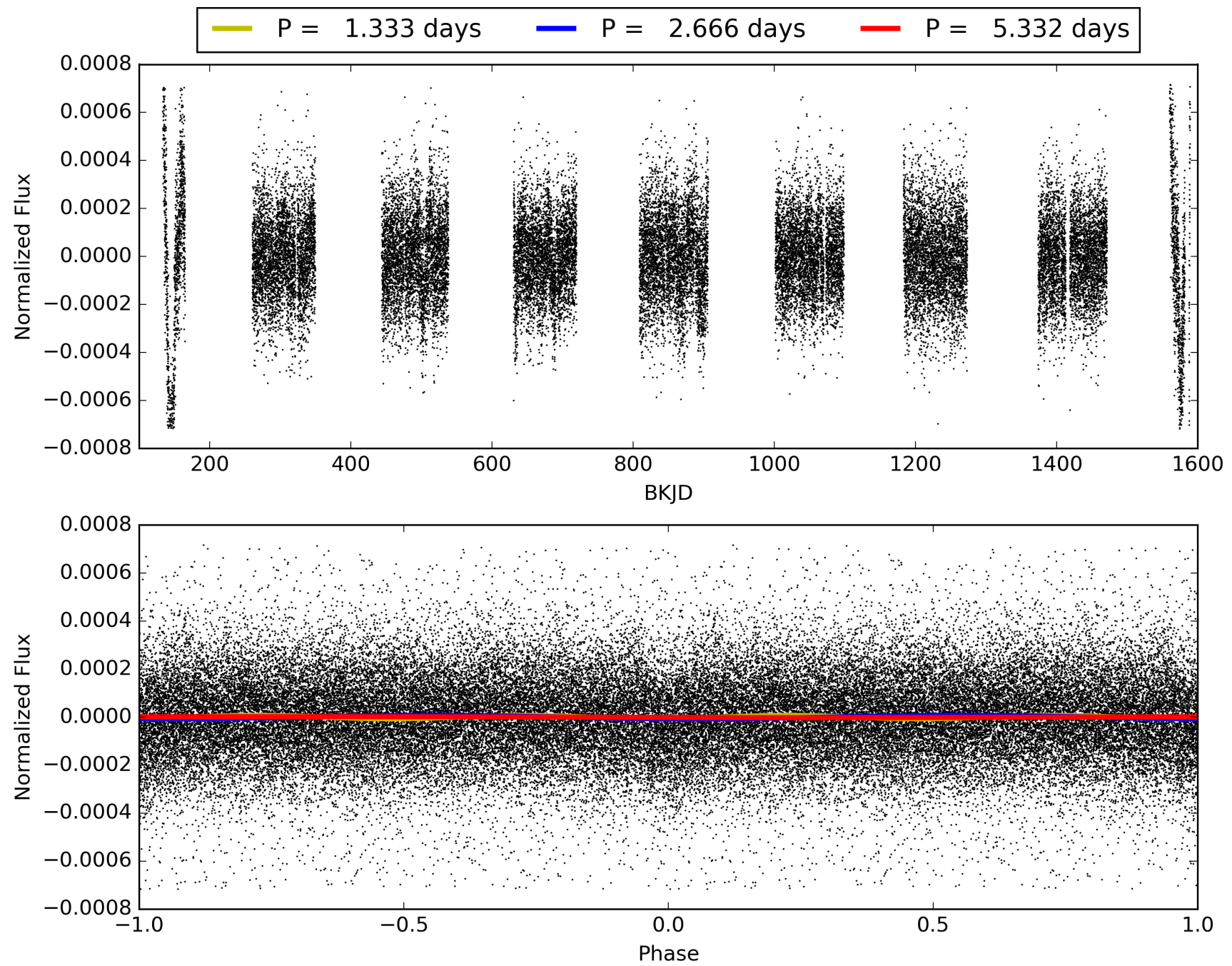
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 7.09e-20
RollingBand-fgt: 0.95 [229/242]
GhostDiagnostic-chr: 1.814
Centroid-sig: 0.0%
Centroid-so: 3.349 arcsec [2.64σ]
OotOffset-rm: 1.295 arcsec [2.76σ]
KicOffset-rm: 1.359 arcsec [2.92σ]
OotOffset-st: 0/3/0/5 [8]
KicOffset-st: 0/3/0/5 [8]
DiffImageQuality-fgm: 0.62 [5/8]
DiffImageOverlap-fno: 1.00 [9/9]

TCE 008953475-01, PDC Light Curves

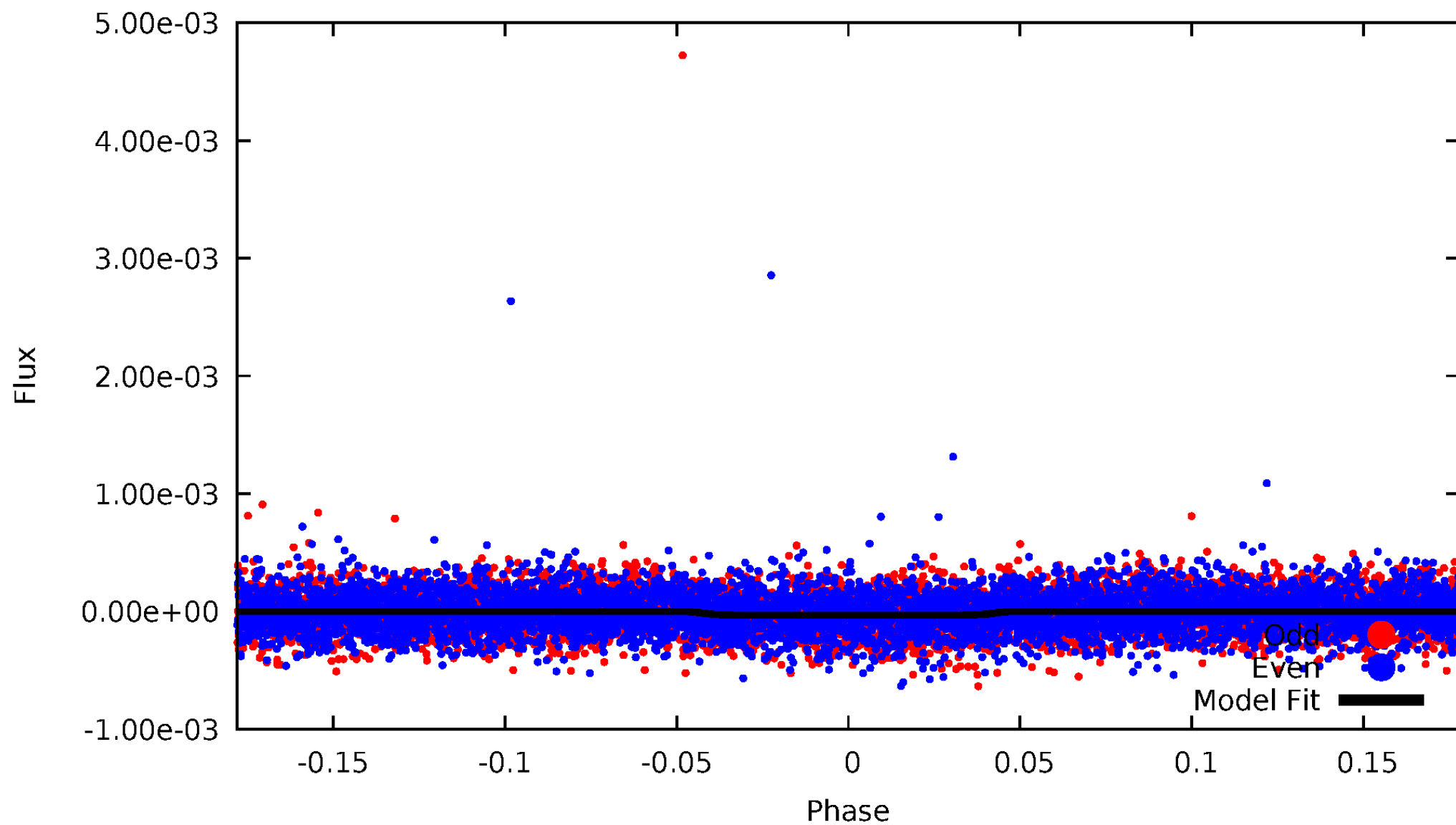


TCE 008953475-01



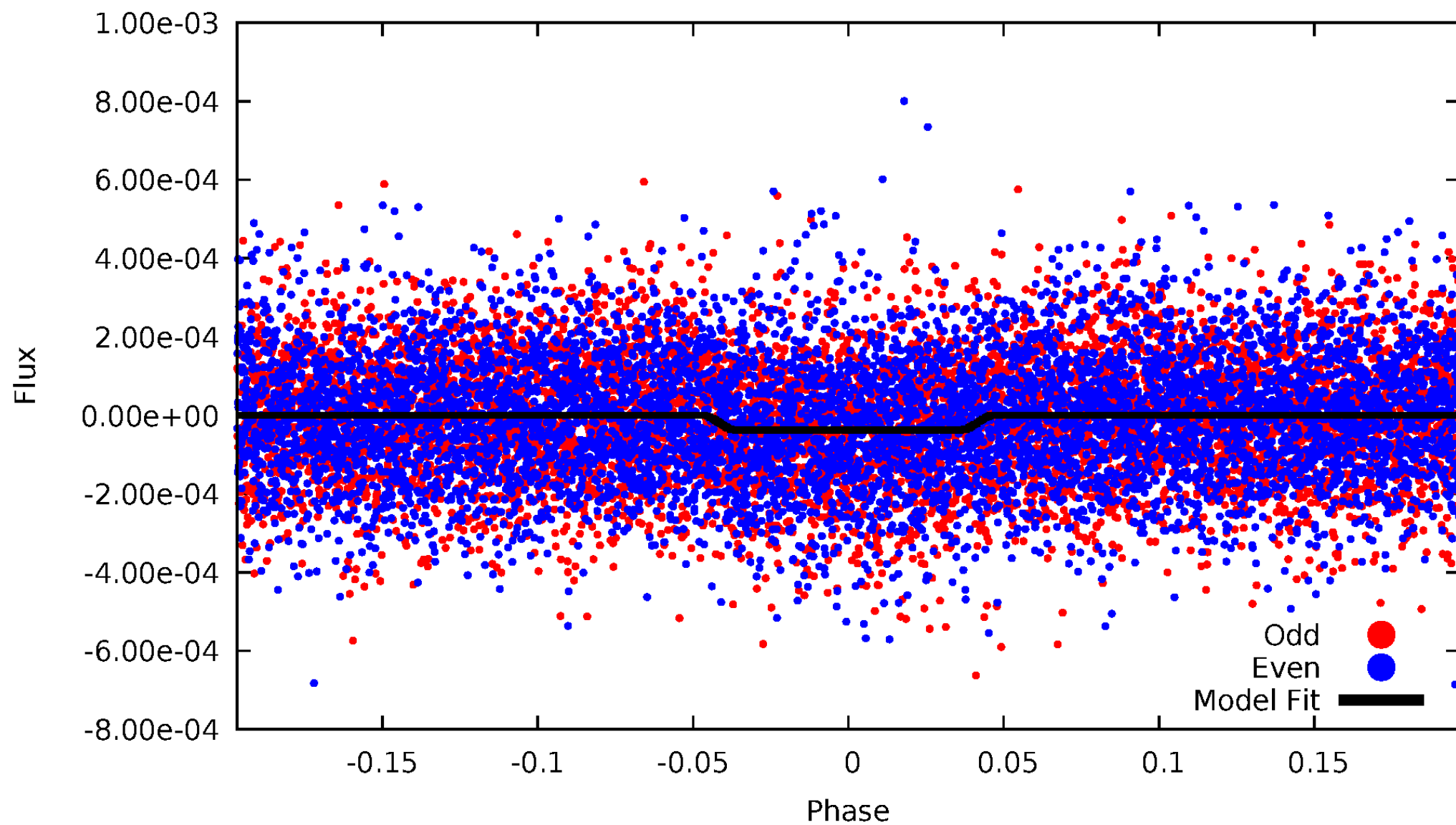
DV Odd/Even

TCE 008953475-01



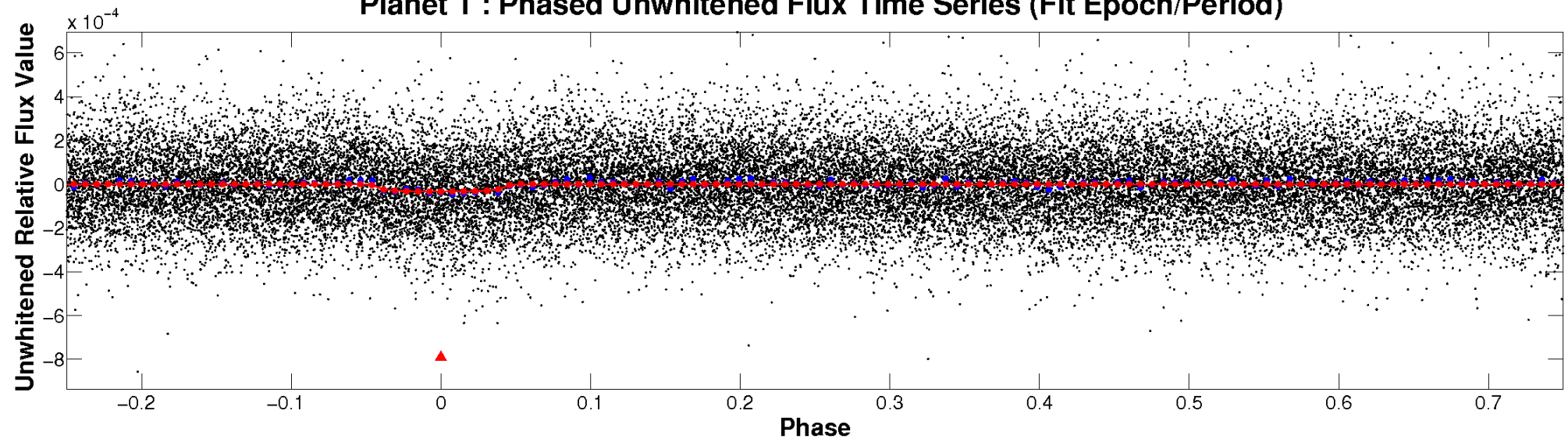
ALT Odd/Even

TCE 008953475-01

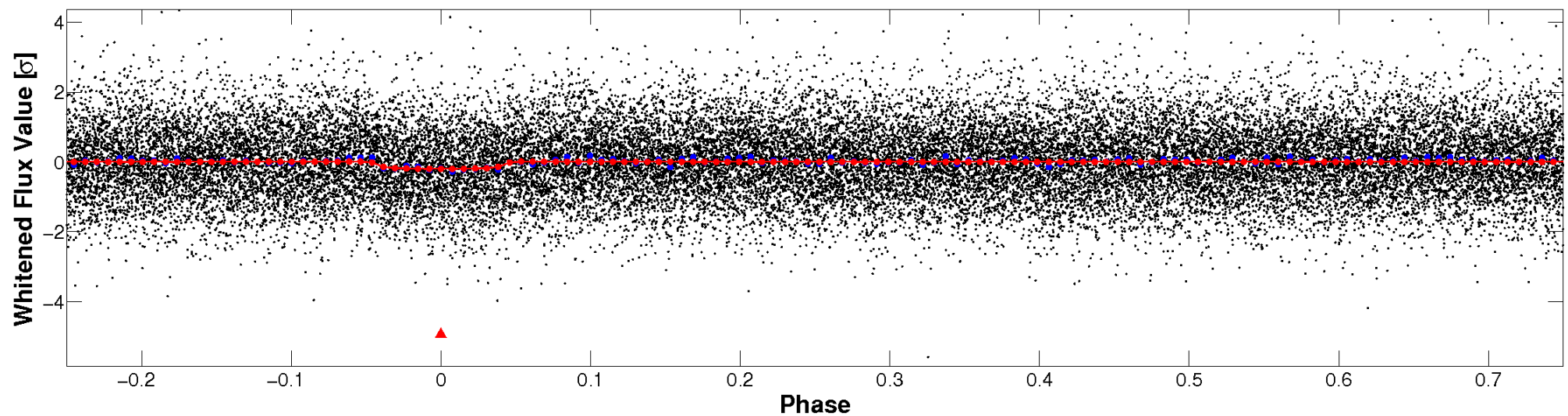


Non-Whitened Vs. Whitened Light Curve

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

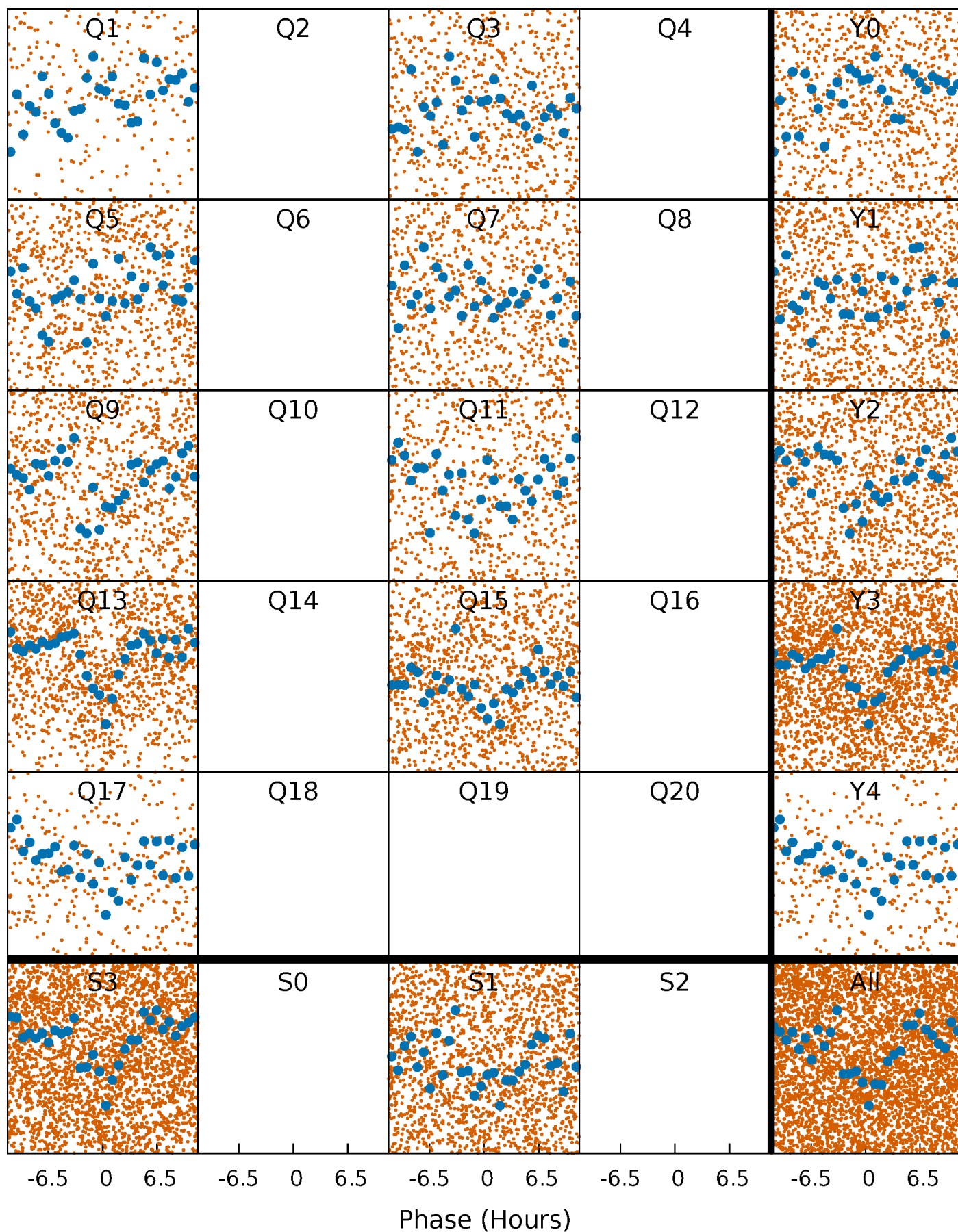


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



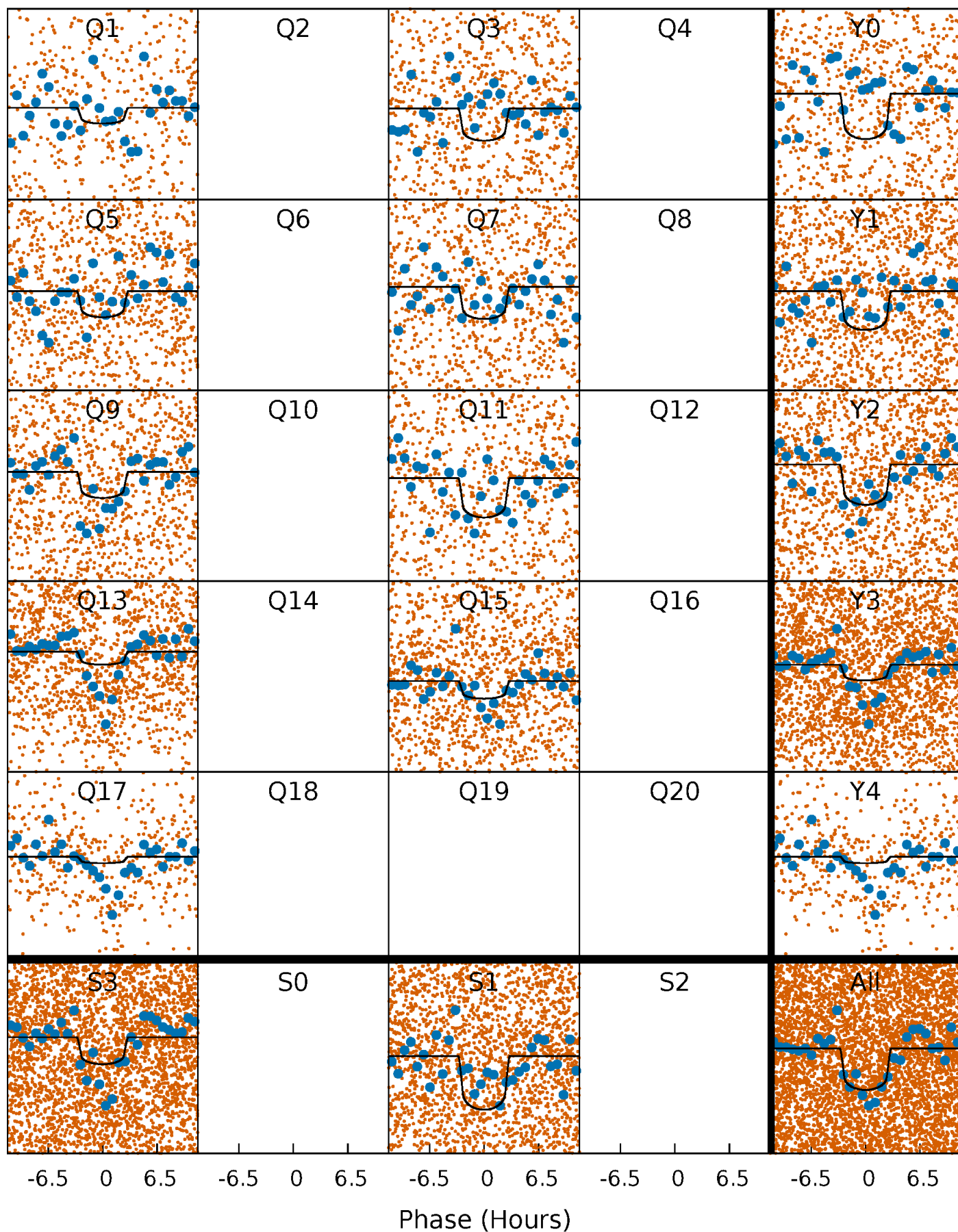
PDC Quarter-Phased Transit Curves

TCE 008953475-01 P= 2.665790 Days $T_0=131.632849$ (BKJD)



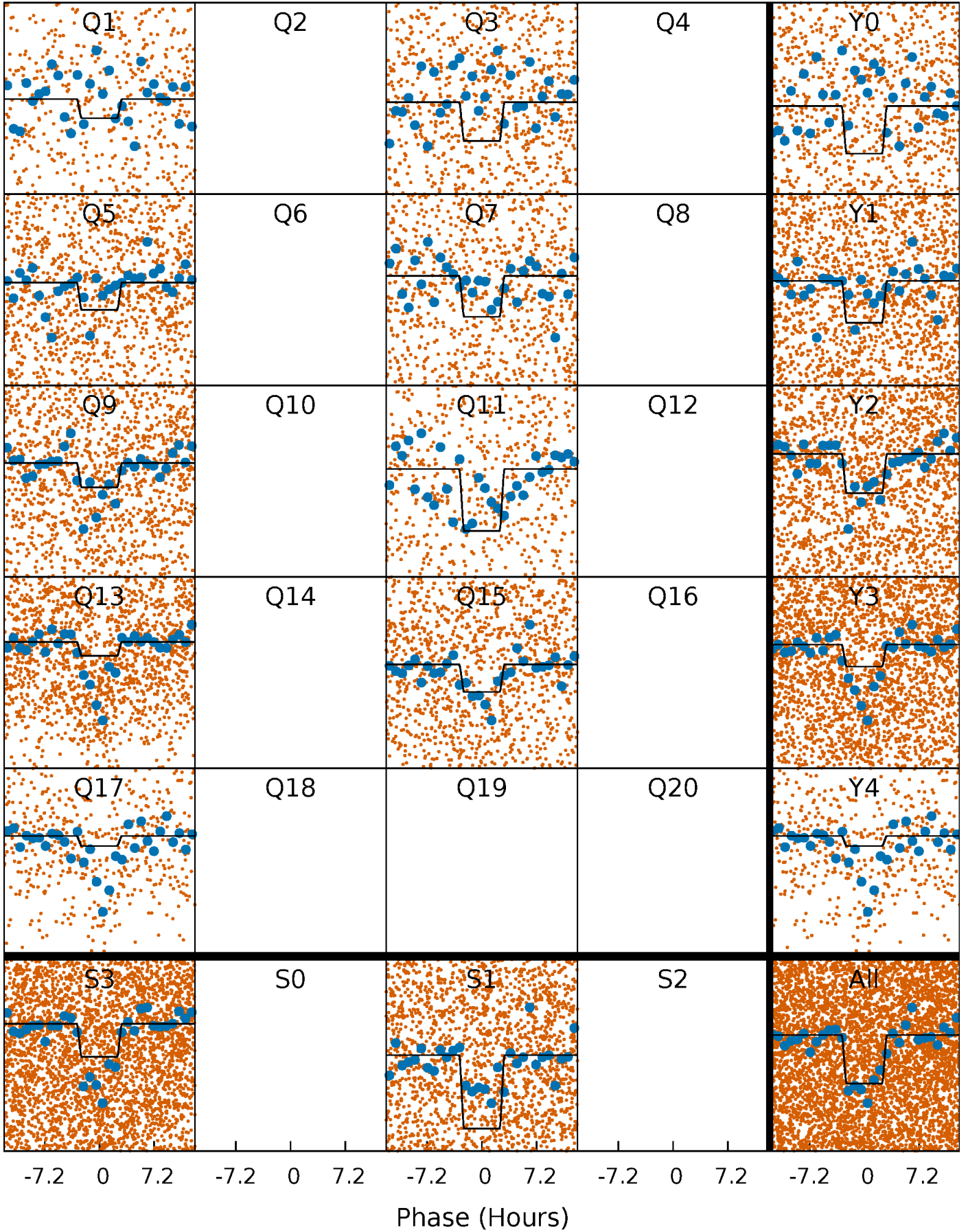
DV Quarter-Phased Transit Curves

TCE 008953475-01 P= 2.665790 Days $T_0=131.632849$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

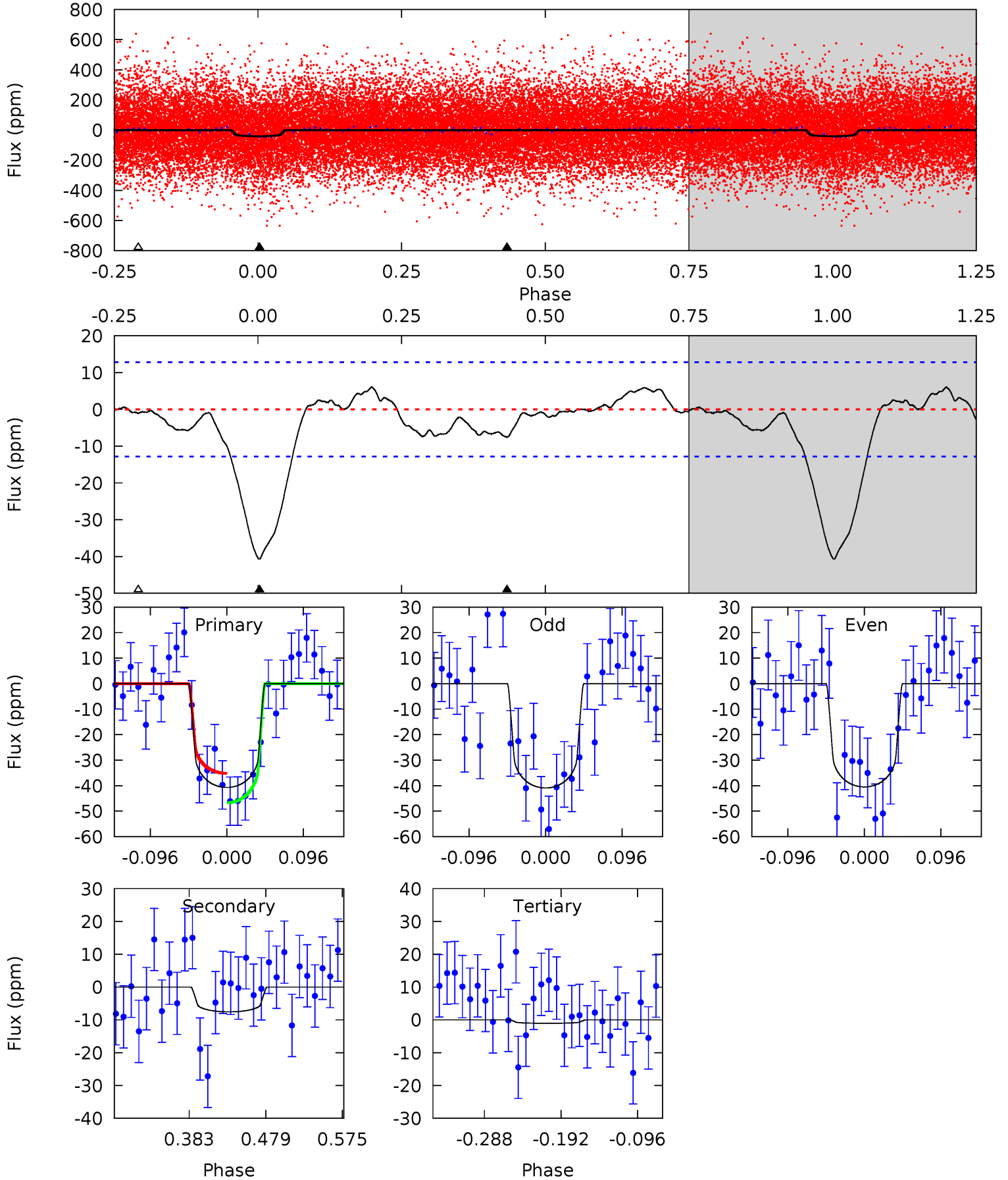
TCE 008953475-01 P= 2.665893 Days $T_0=131.604831$ (BKJD)



DV Model-Shift Uniqueness Test

008953475-01, P = 2.665790 Days, E = 128.967059 Days

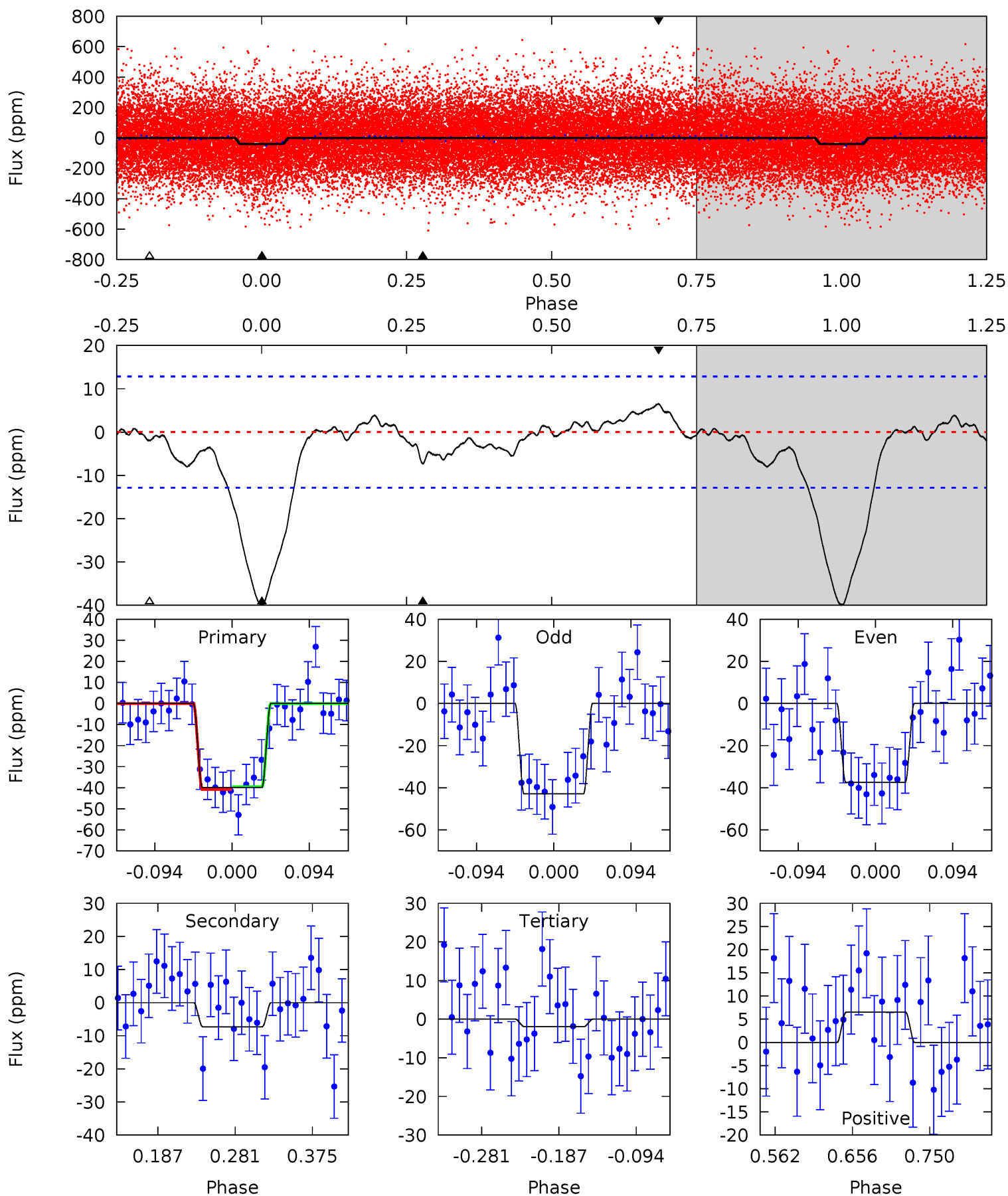
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	2.69	0.37	0	4.57	1.67	1.31	14.1	14.5	2.32	2.69	0.07	1.14	0.13	2.06



Alt Model-Shift Uniqueness Test

008953475-01, P = 2.665893 Days, E = 128.938938 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	2.59	0.69	2.32	4.58	1.68	1.12	13.5	11.9	1.90	0.28	0.97	1.05	0.14	0.22



Stellar Parameters For KIC 008953475

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6276^{+198}_{-242}	$4.170^{+0.258}_{-0.172}$	$-0.420^{+0.300}_{-0.300}$	$1.353^{+0.367}_{-0.367}$	$0.988^{+0.157}_{-0.129}$	$0.562^{+0.837}_{-0.253}$
	+3%/-4%	+6%/-4%	+71%/-71%	+27%/-27%	+16%/-13%	+149%/-45%
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 008953475-01 / KOI 7114.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-8 ± 3	$0.91^{+0.38}_{-0.36}$	2292^{+193}_{-192}	4285^{+983}_{-569}	$6.703^{+12.045}_{-3.729}$
Alt.	-7 ± 3	$0.88^{+0.36}_{-0.34}$	2307^{+186}_{-195}	4340^{+1035}_{-633}	$7.257^{+12.830}_{-4.111}$

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 $A_{obs} \gg 1.0$

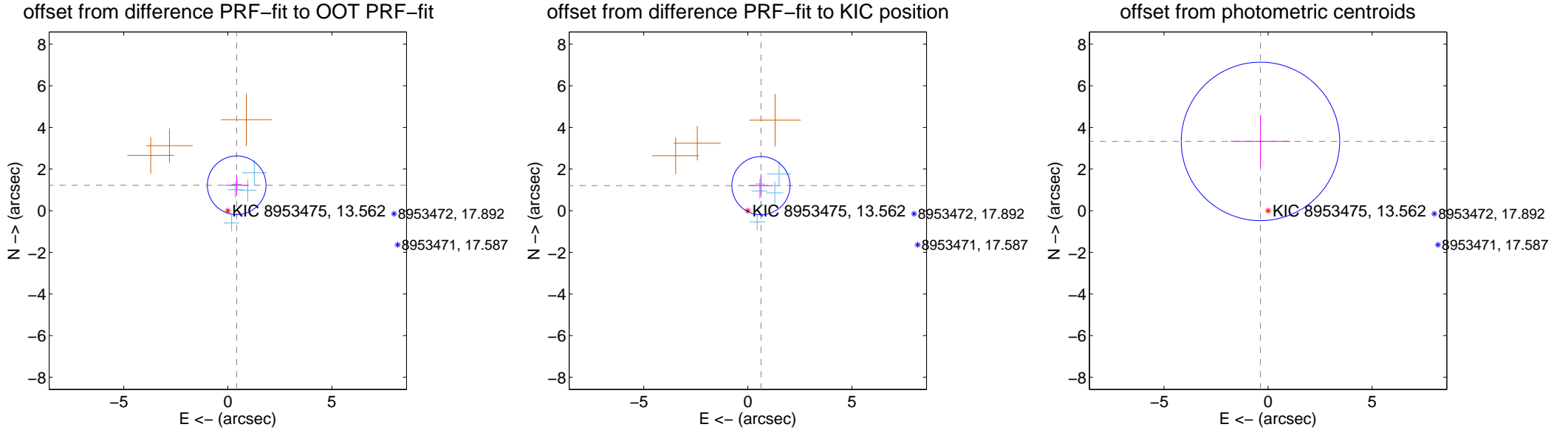
DV Centroid Data

Supplemental centroid analysis for 008953475-01. Kepler magnitude: 13.56. Transit SNR 9.51

There are 5 quarters with good PRF difference image offsets

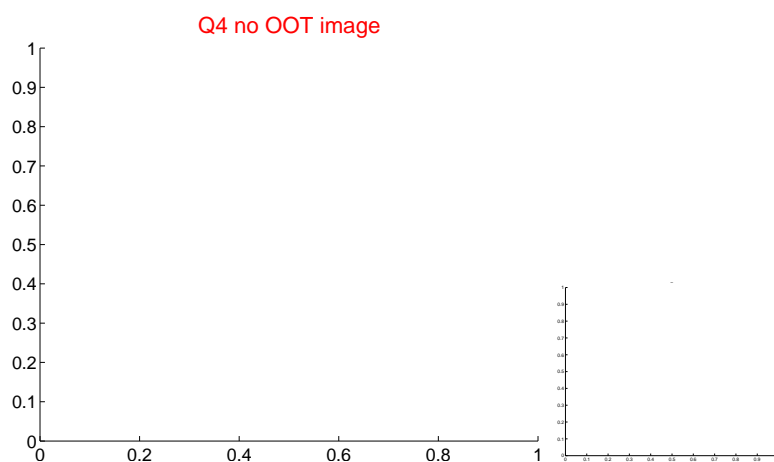
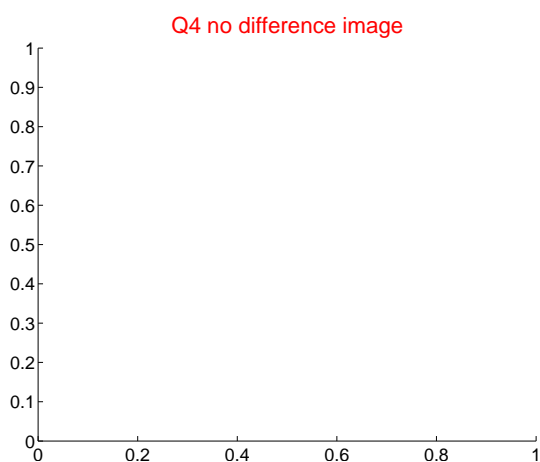
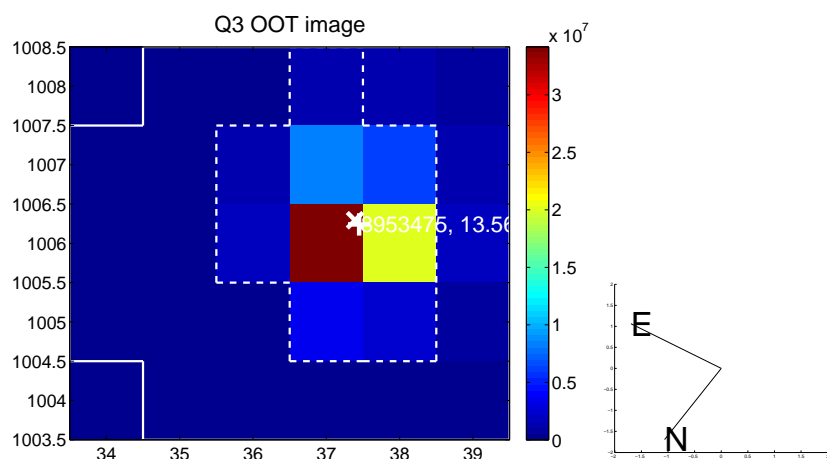
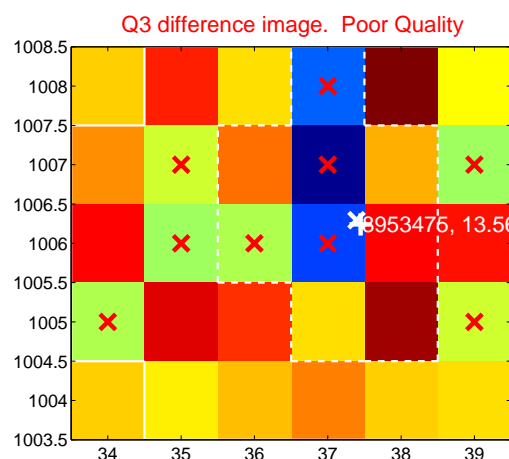
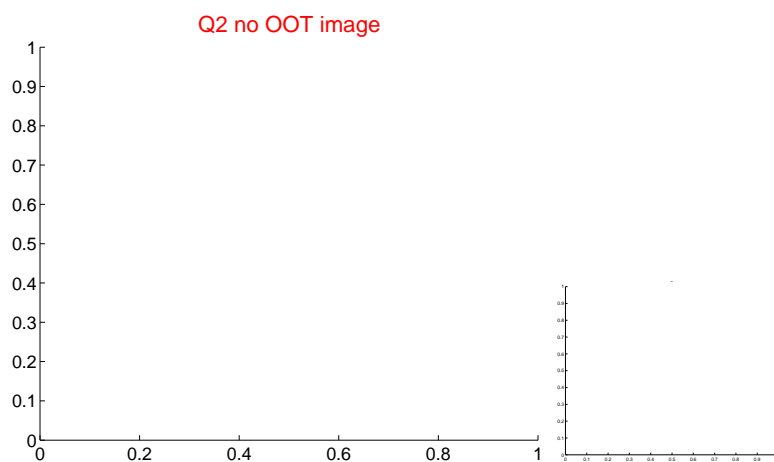
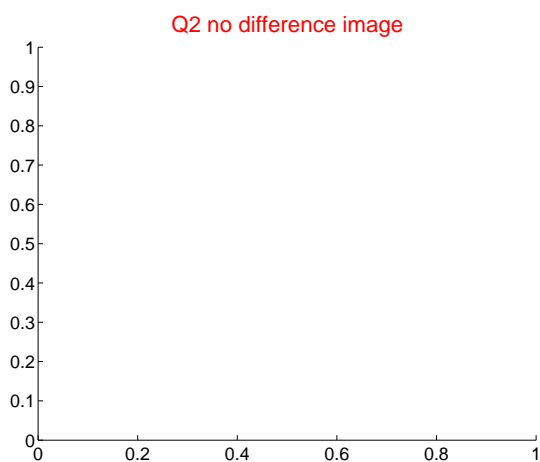
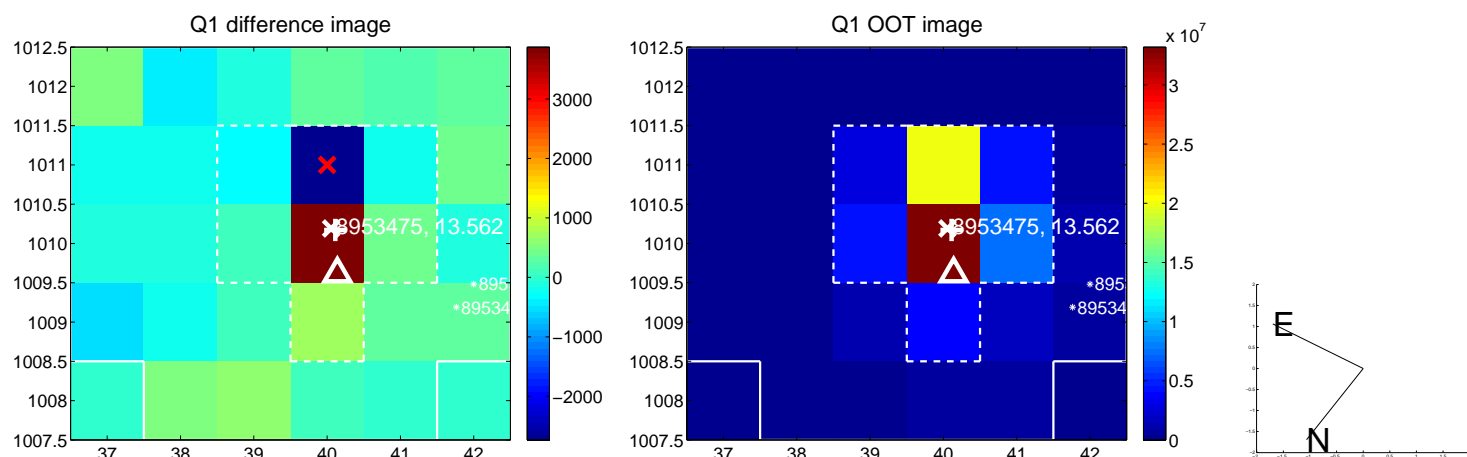
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.295 ± 0.470	2.76	-0.426 ± 0.579	1.223 ± 0.511
PRF-fit source offset from KIC position	1.359 ± 0.466	2.92	-0.630 ± 0.600	1.204 ± 0.562
photometric centroid source offset	3.35 ± 1.27	2.64	0.37 ± 1.43	3.33 ± 1.27

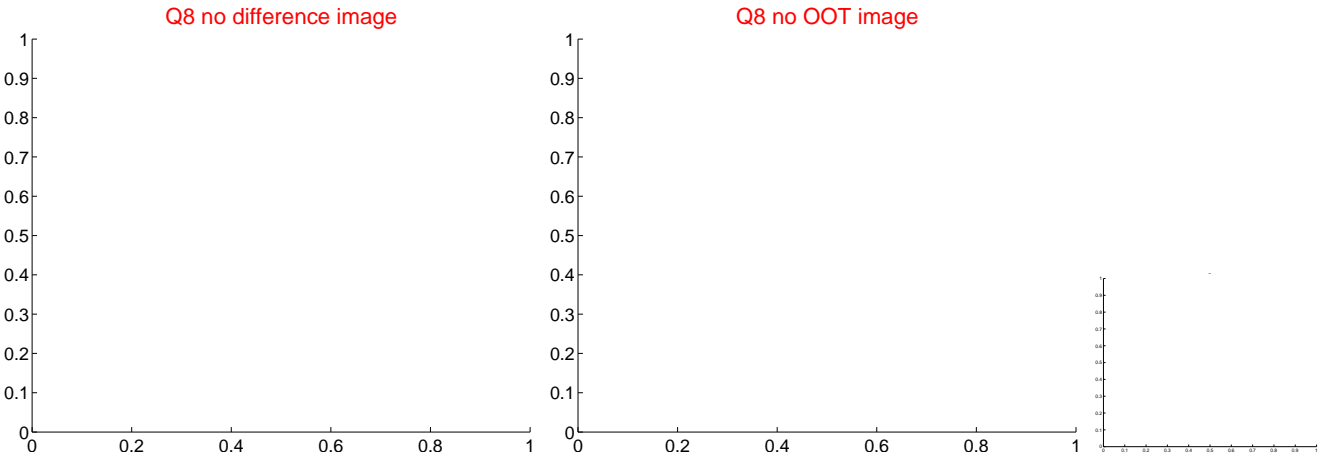
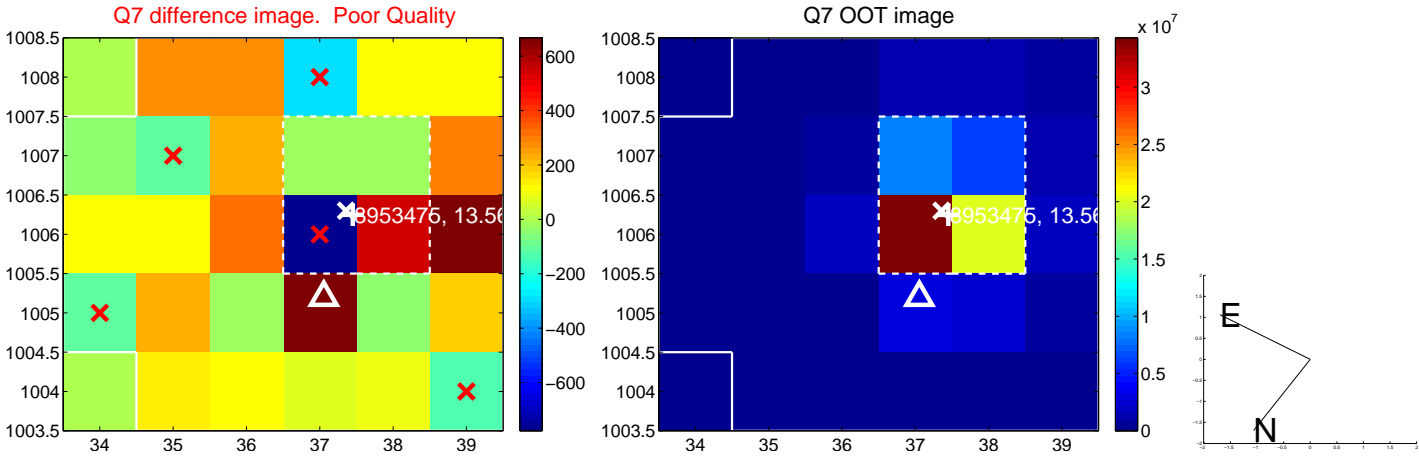
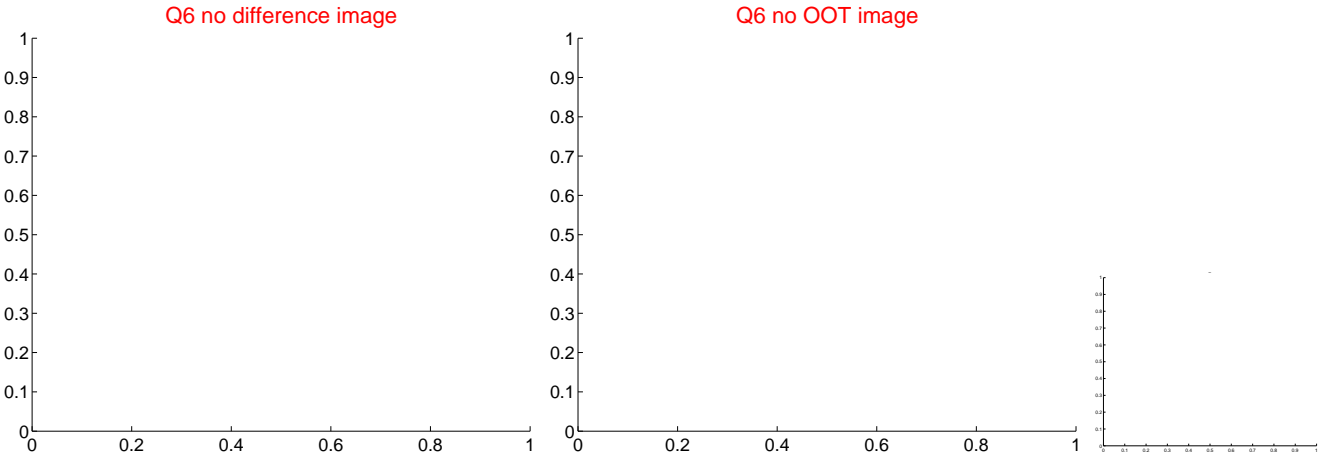
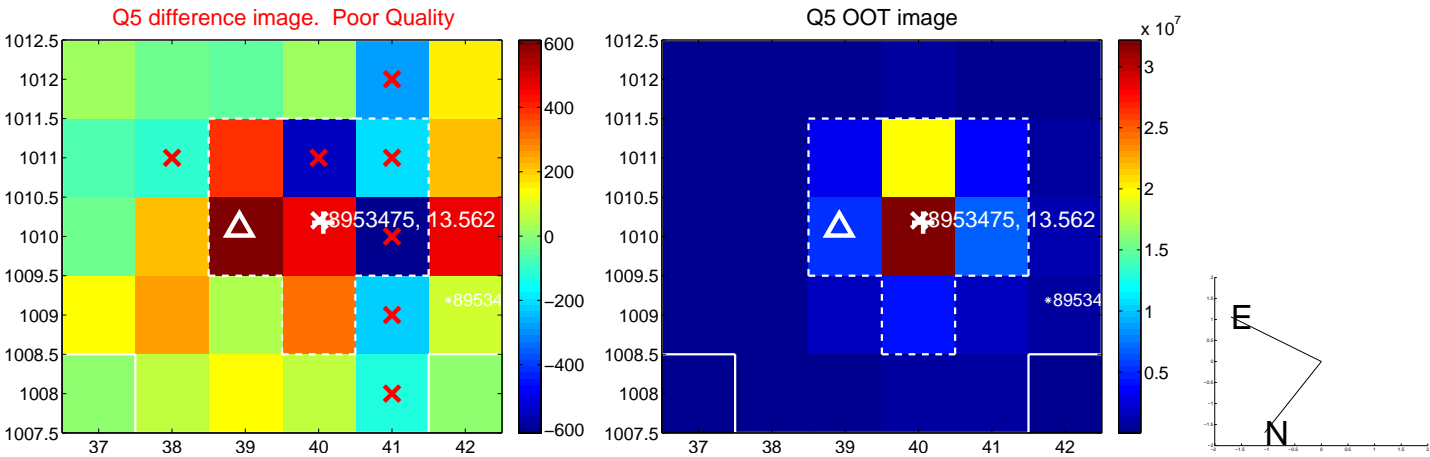


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

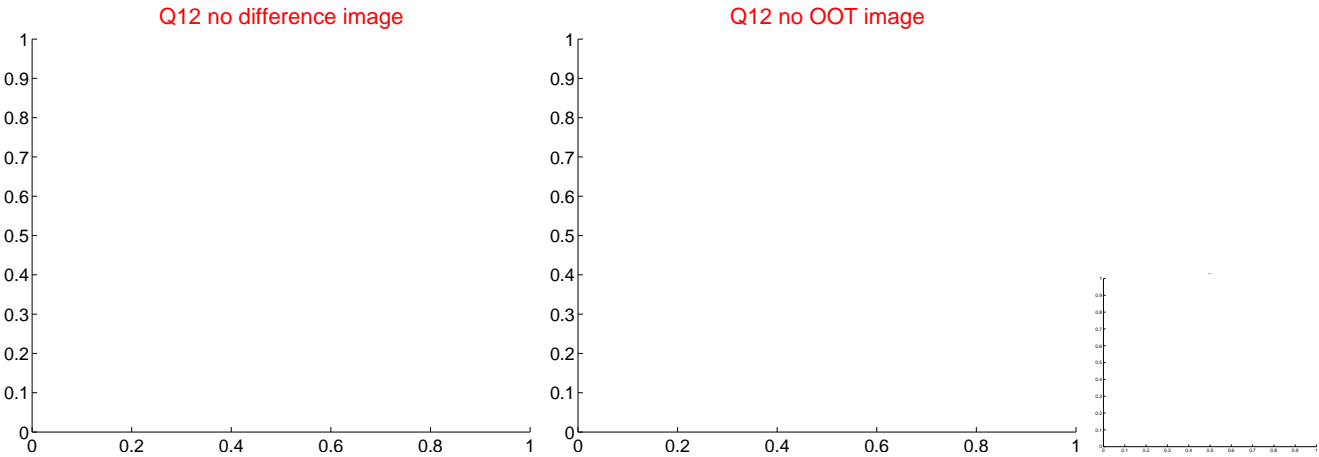
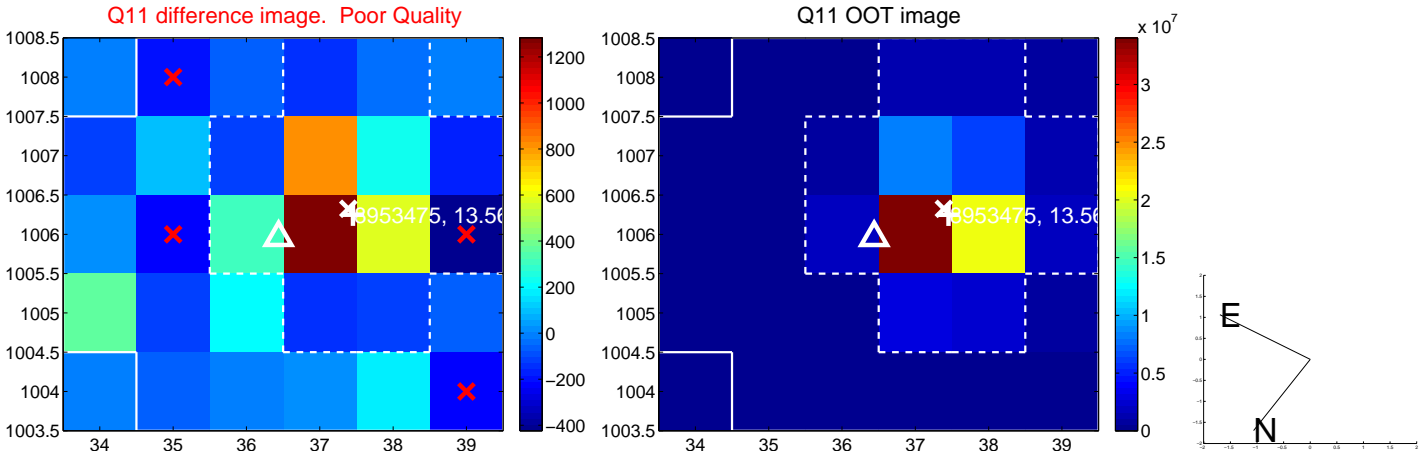
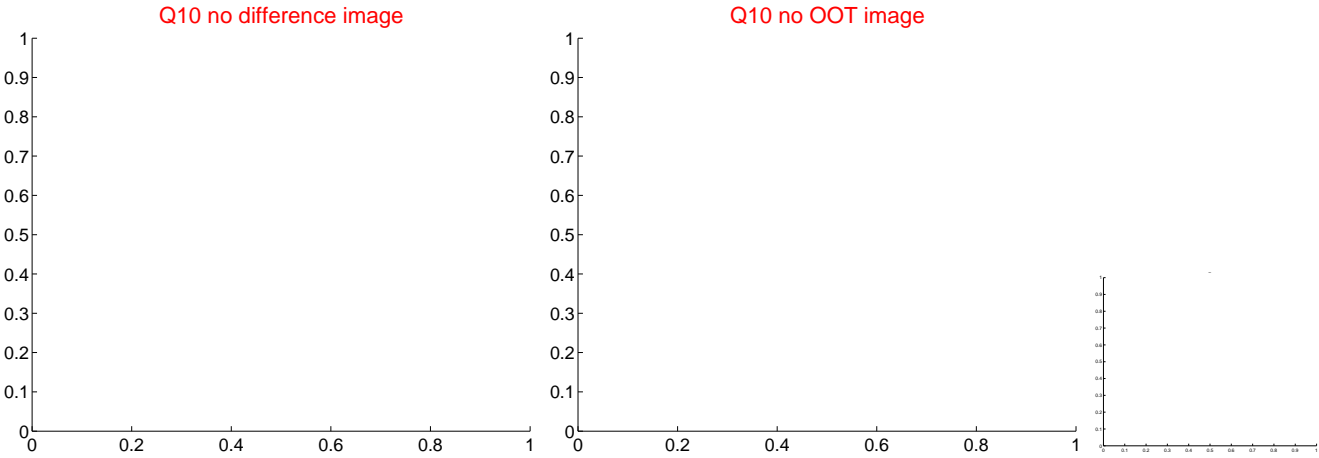
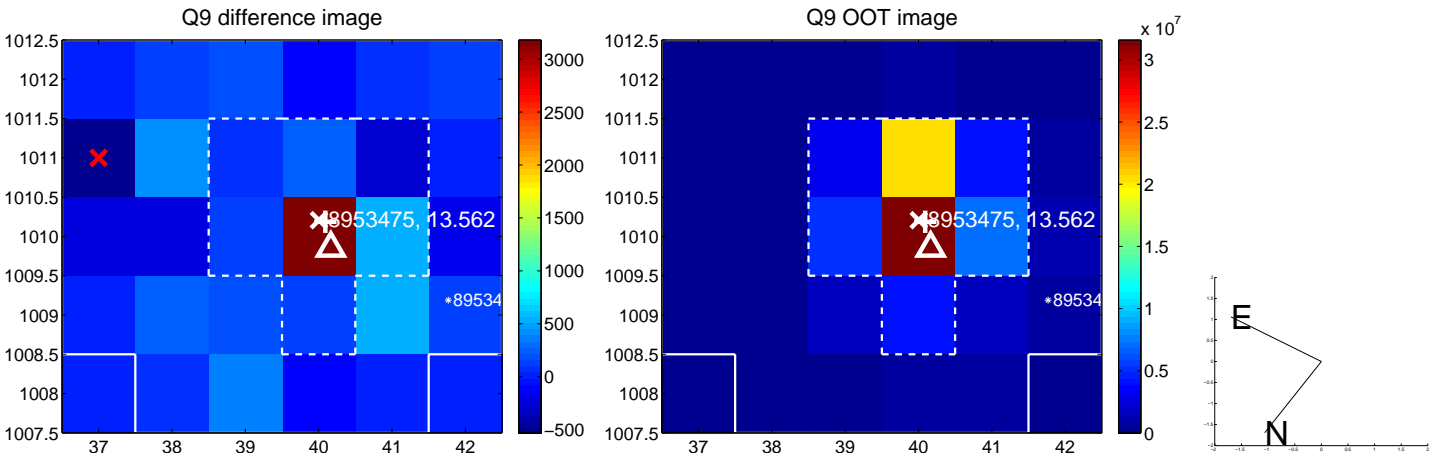
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



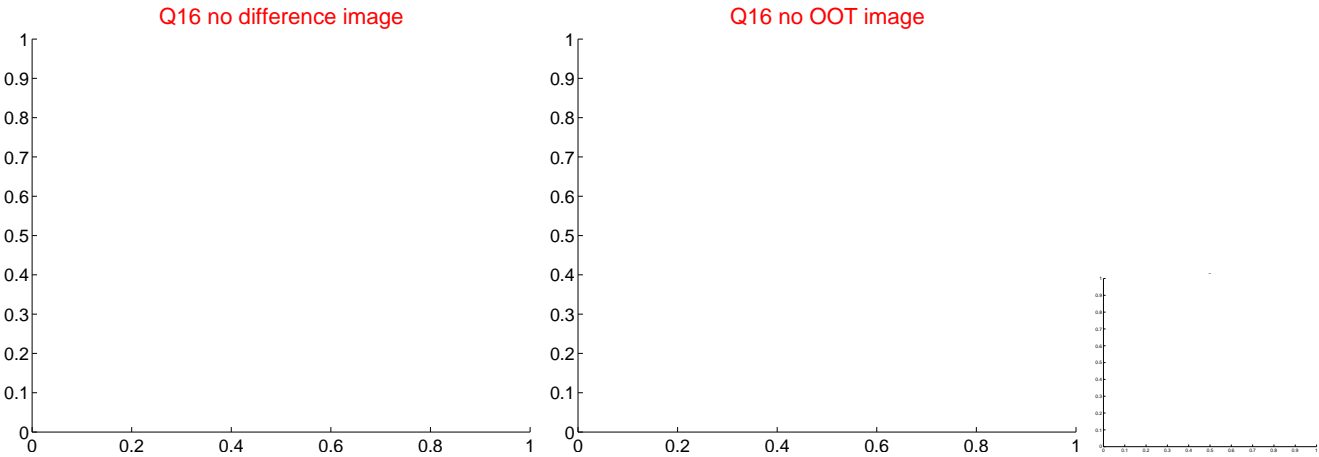
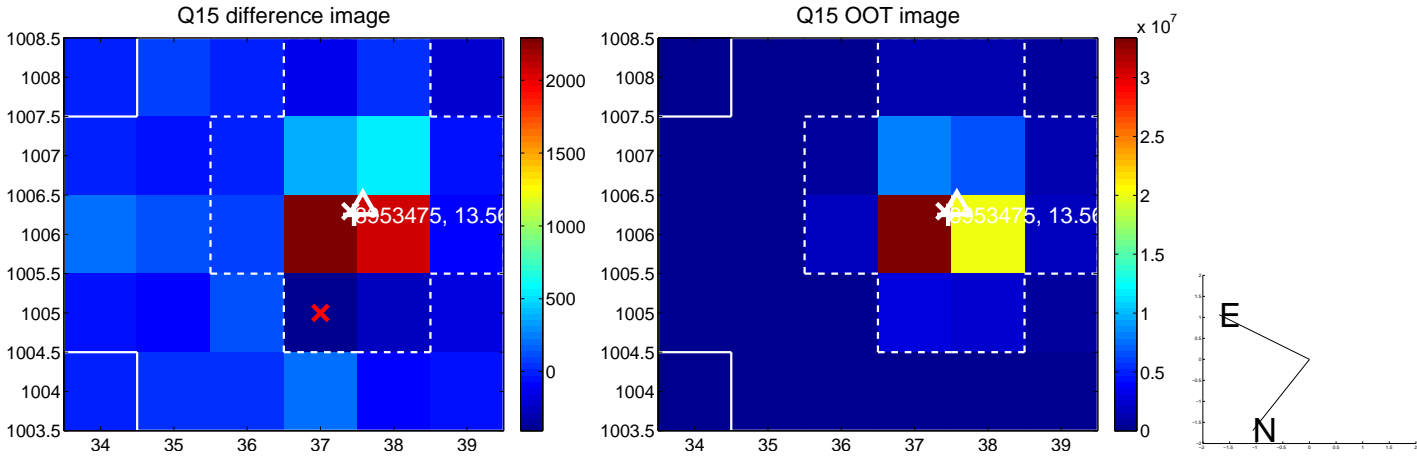
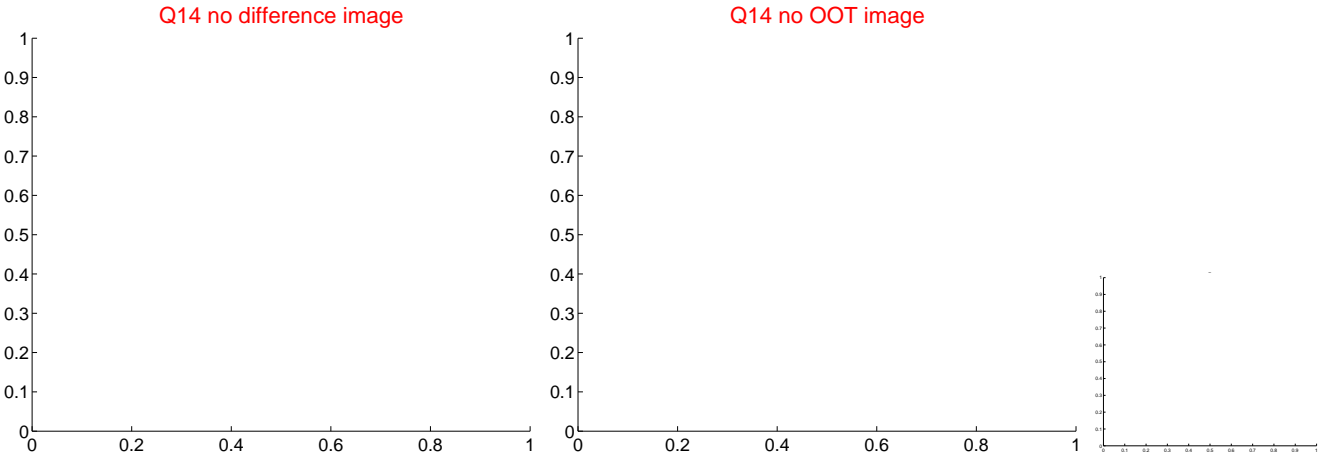
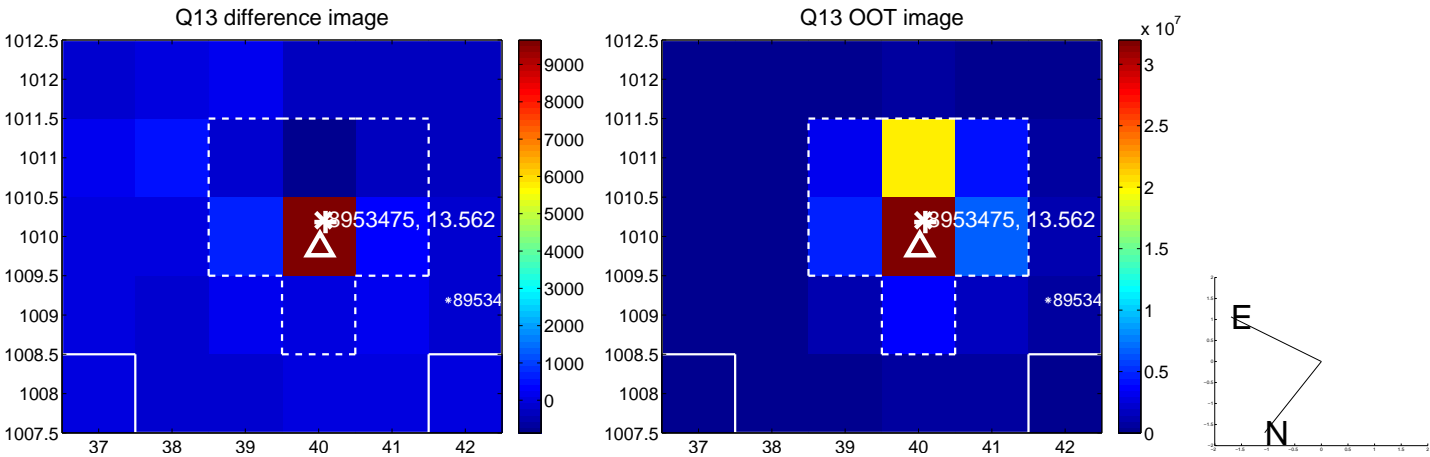
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white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

