

KIC 009735426

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})
009735426-01	OBS	1849.01	8.088030	138.734172	971.1	1.904	39.4	46.5	0.87	5269	3.09	93.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009735426-01	OBS	PC	1.00	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.

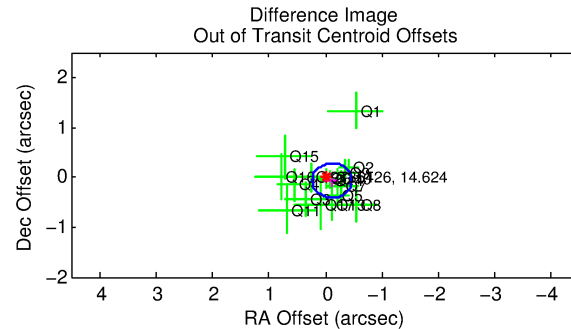
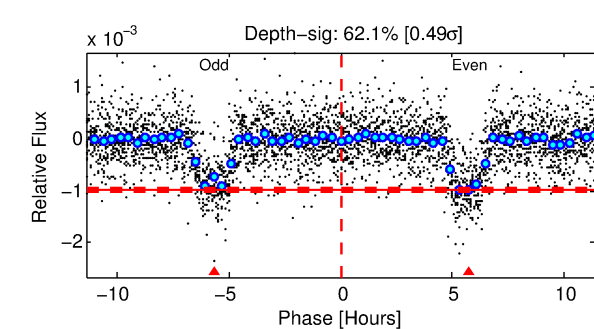
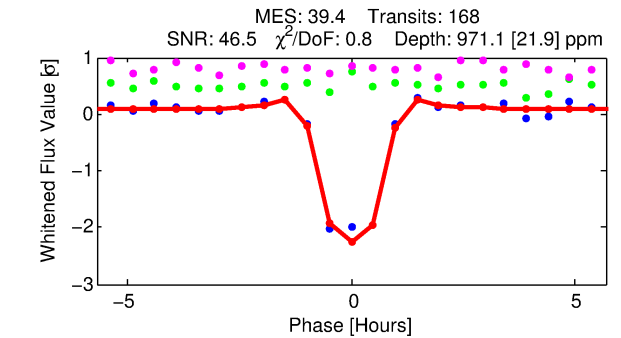
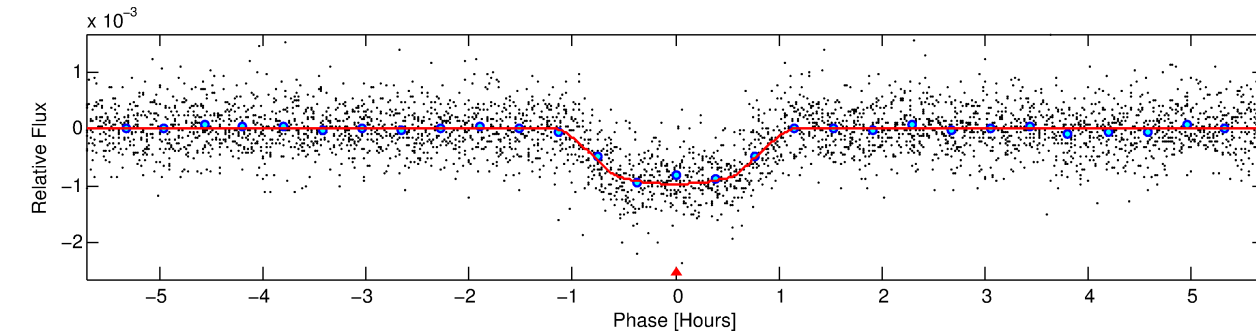
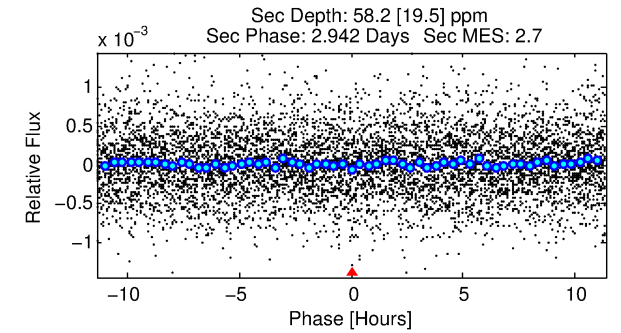
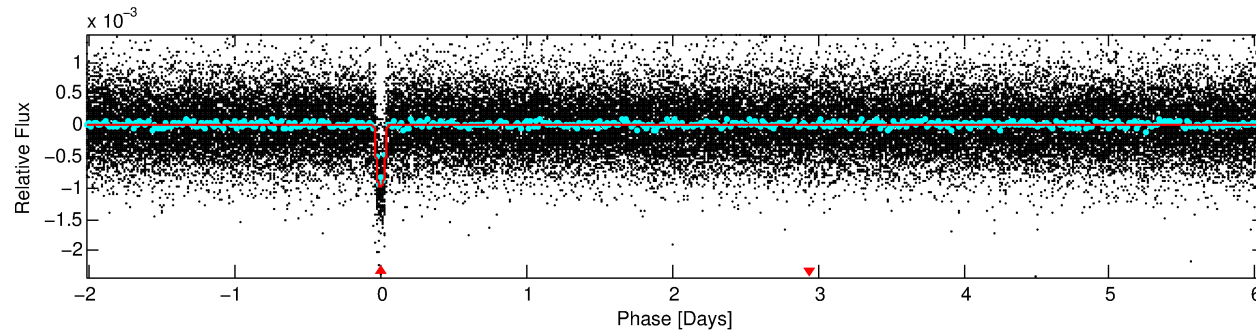
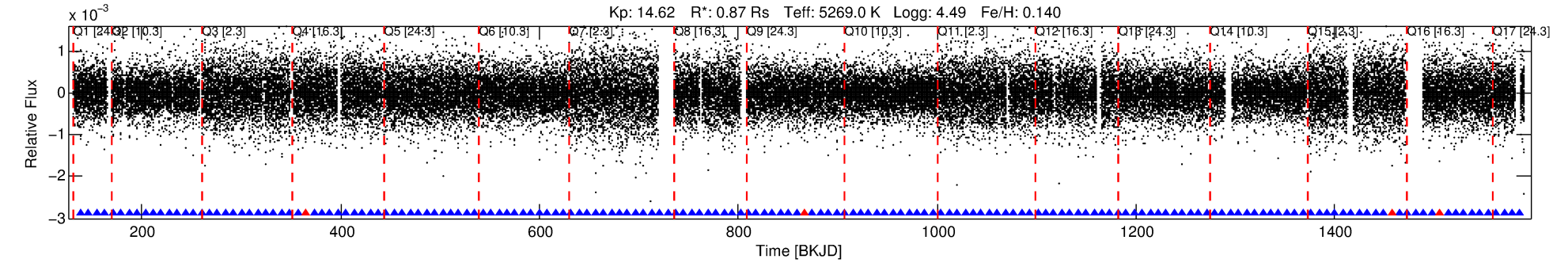
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009735426-01

No Significant Match Found

DV One-Page Summary

KIC: 9735426 Candidate: 1 of 1 Period: 8.088 d
KOI: K01849.01 Corr: 0.966



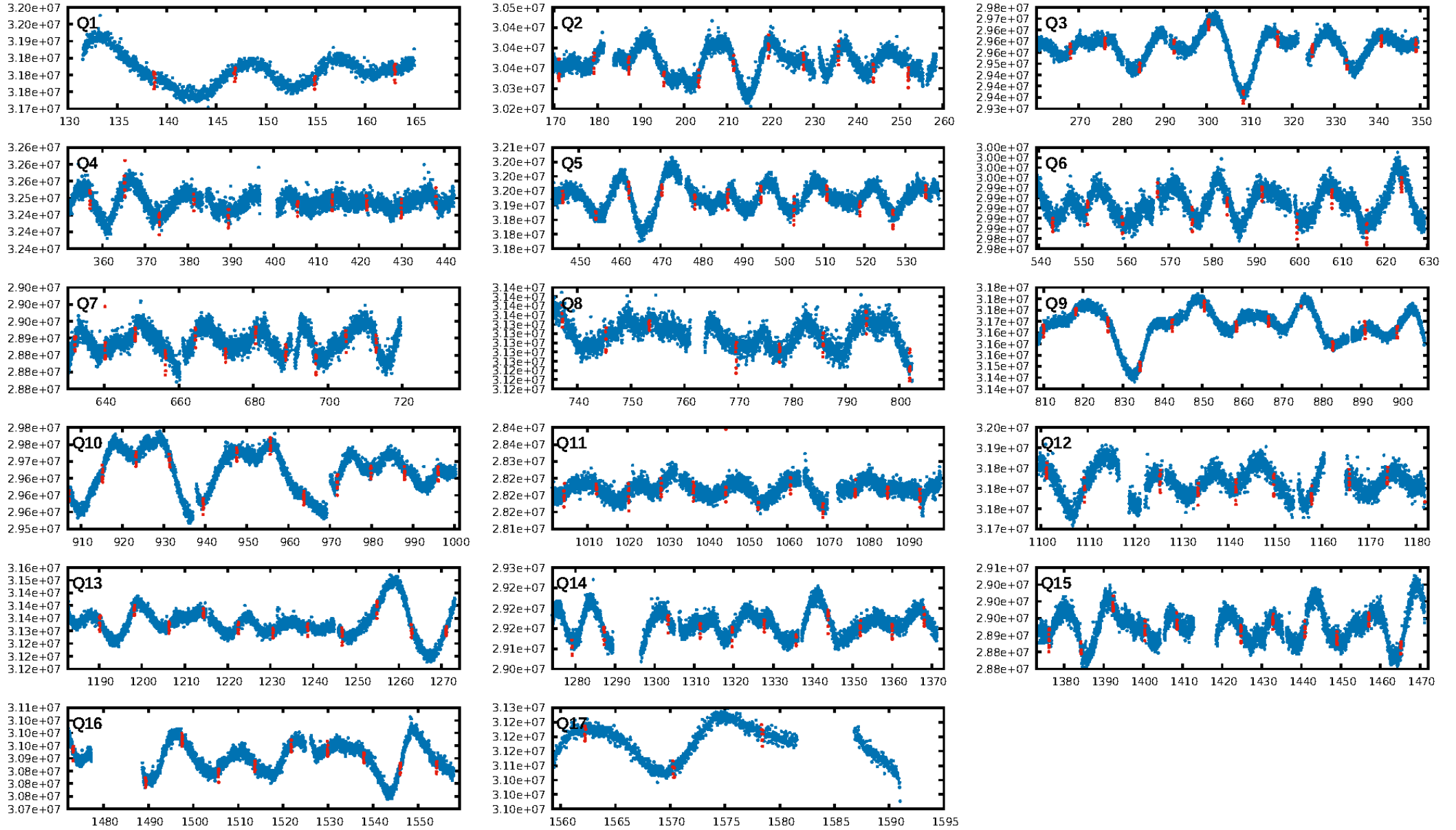
DV Fit Results:

Period = 8.08803 [0.00001] d
Epoch = 138.7342 [0.0009] BKJD
Rp/R* = 0.0324 [0.0063]
a/R* = 20.29 [14.72]
b = 0.82 [0.30]
Seff = 93.12 [12.26]
Teff = 792 [26] K
Rp = 3.09 [0.65] Re
a = 0.0753 [0.0056] AU
Ag = 18.95 [9.91] [1.81 σ]
Teffp = 2555 [329] K [5.35 σ]

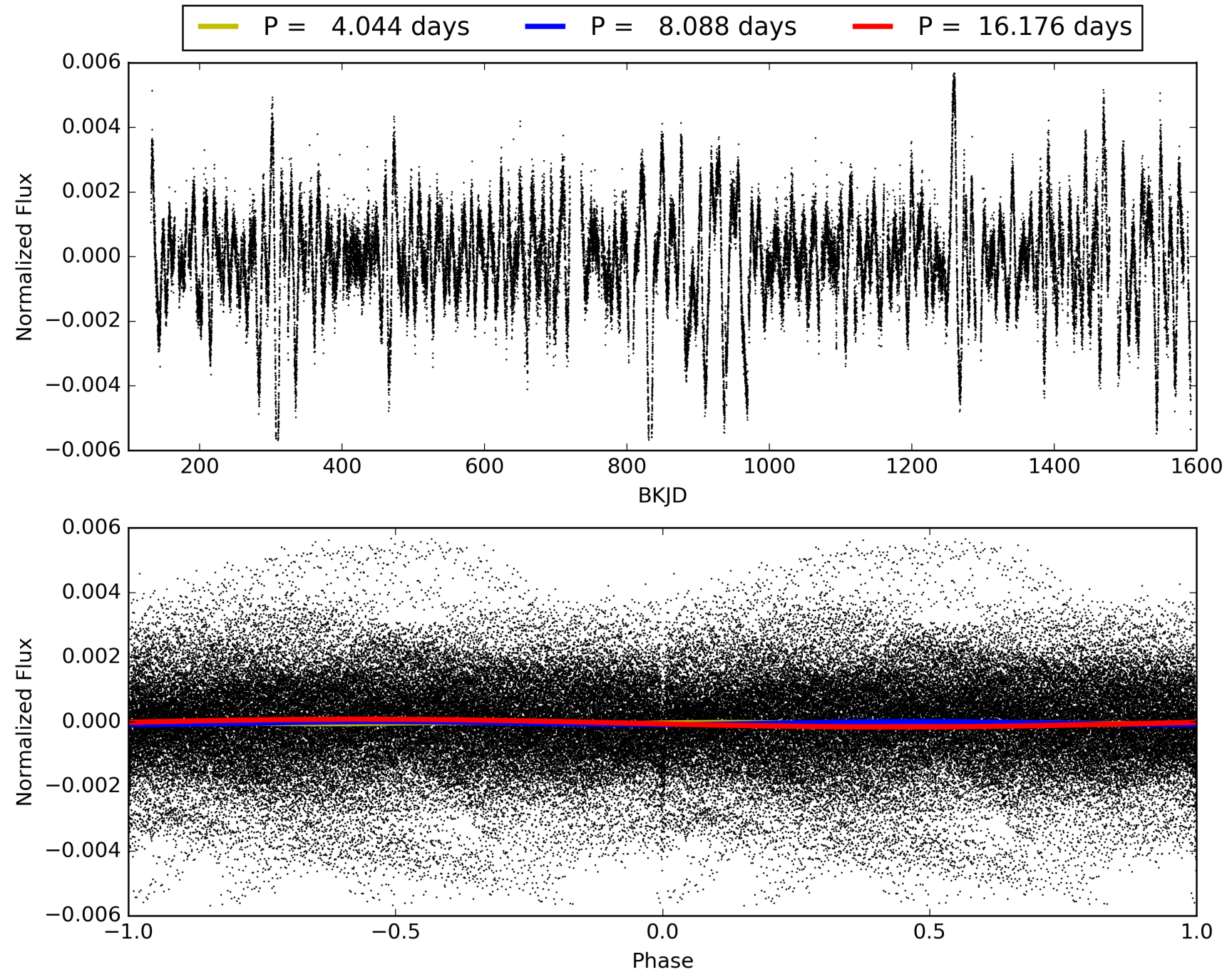
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.98 [157/161]
GhostDiagnostic-chr: 3.662
Centroid-sig: 1.5%
Centroid-so: 0.964 arcsec [3.78 σ]
OotOffset-rm: 0.131 arcsec [1.14 σ]
KicOffset-rm: 0.390 arcsec [3.05 σ]
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 009735426-01, PDC Light Curves

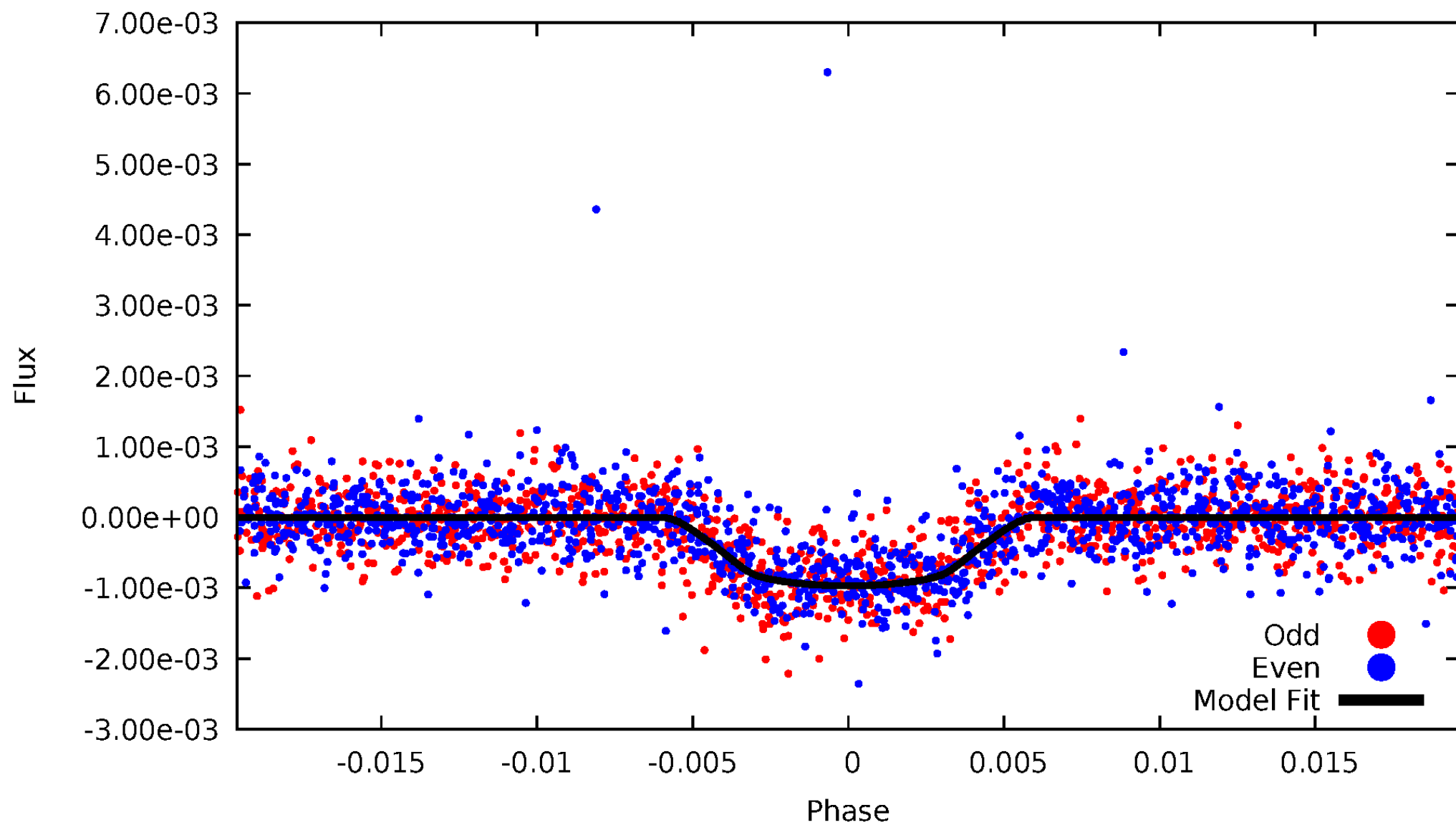


TCE 009735426-01



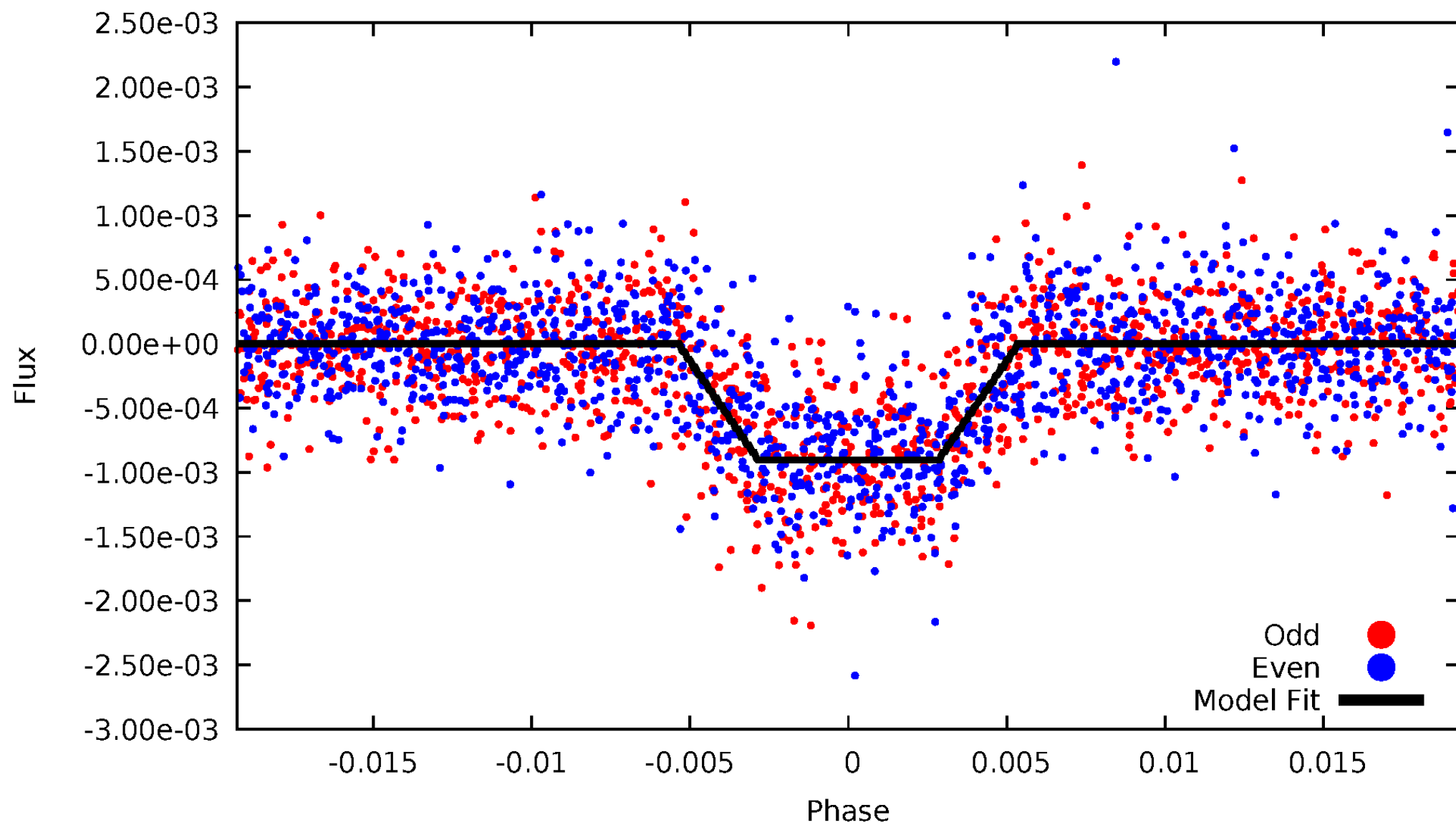
DV Odd/Even

TCE 009735426-01



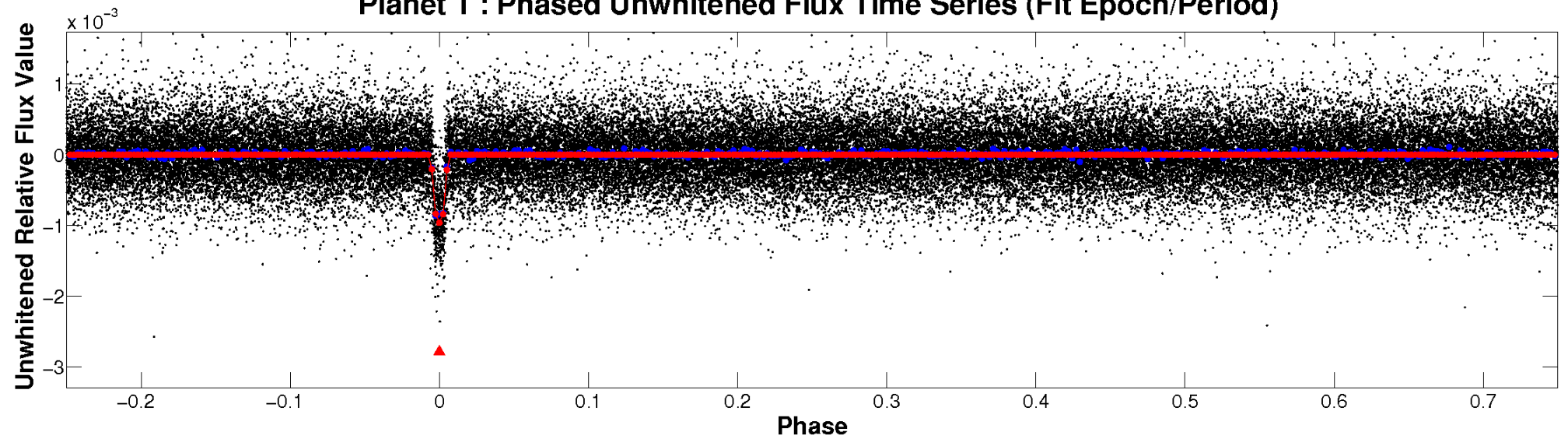
ALT Odd/Even

TCE 009735426-01

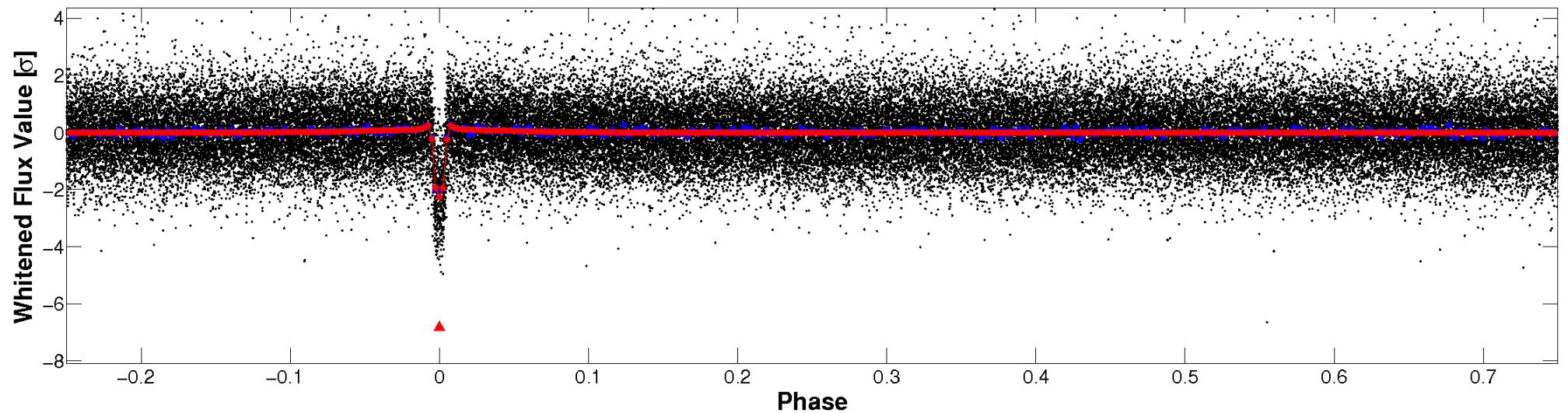


Non-Whitened Vs. Whitened Light Curve

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

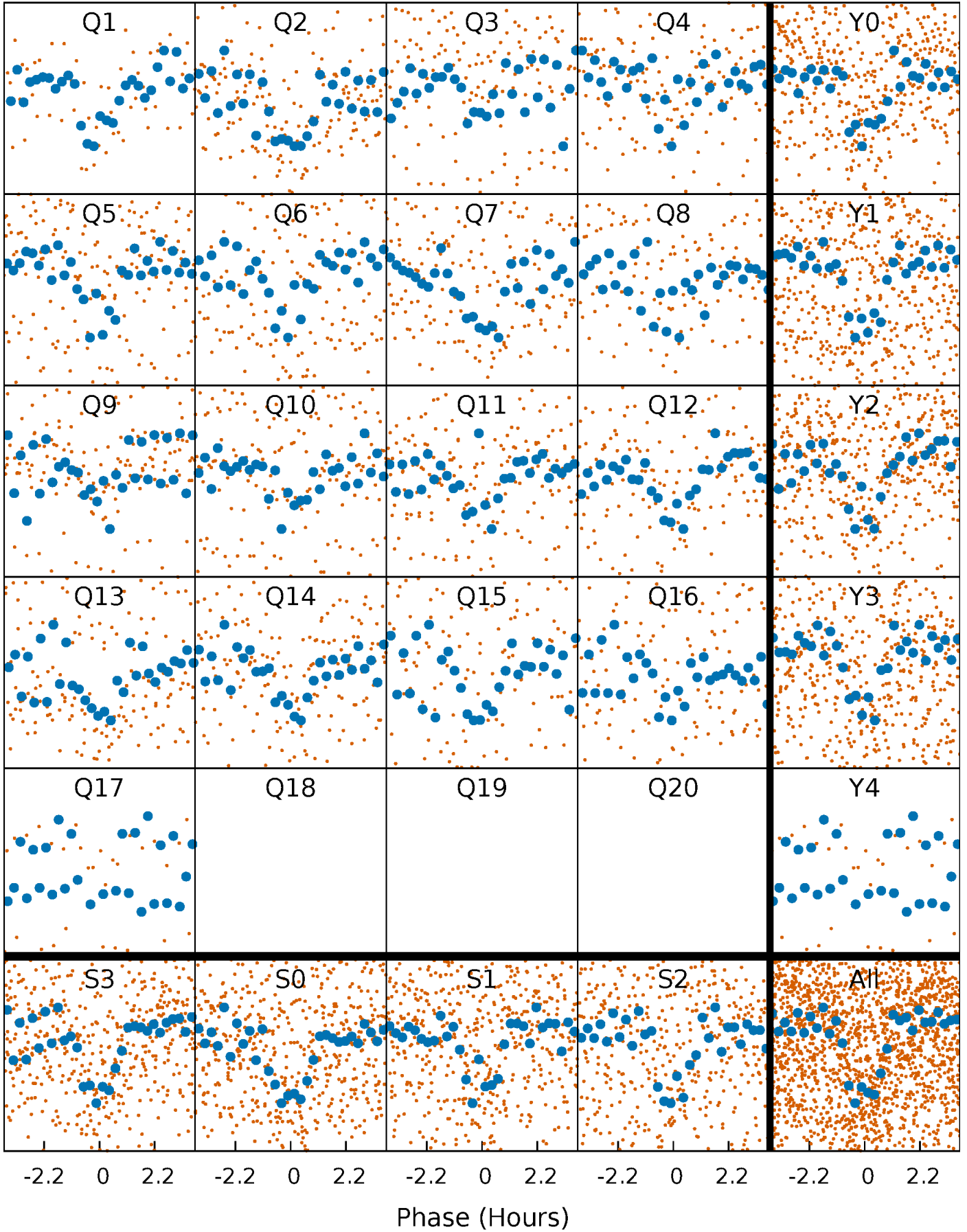


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



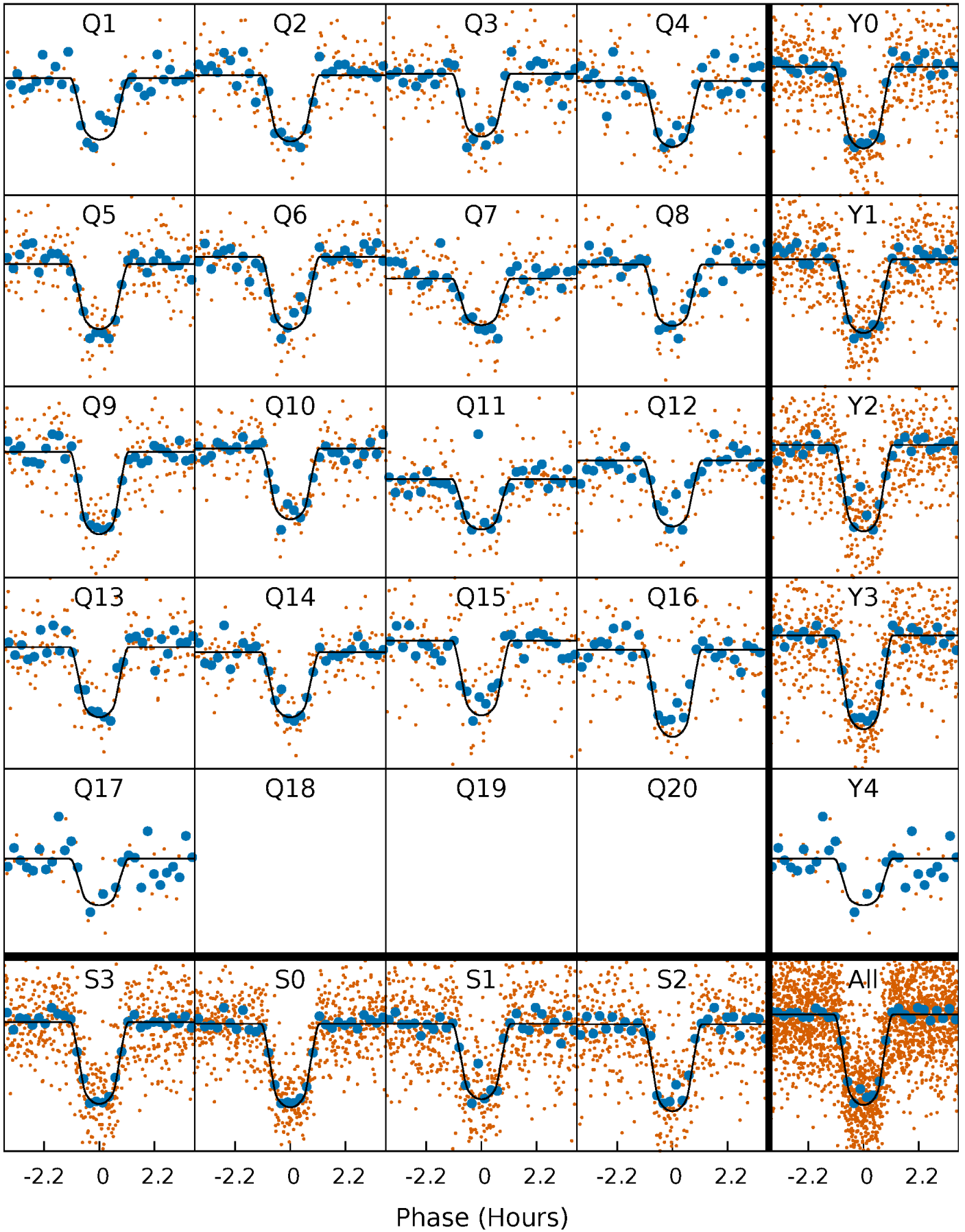
PDC Quarter-Phased Transit Curves

TCE 009735426-01 P= 8.088030 Days $T_0=138.734172$ (BKJD)



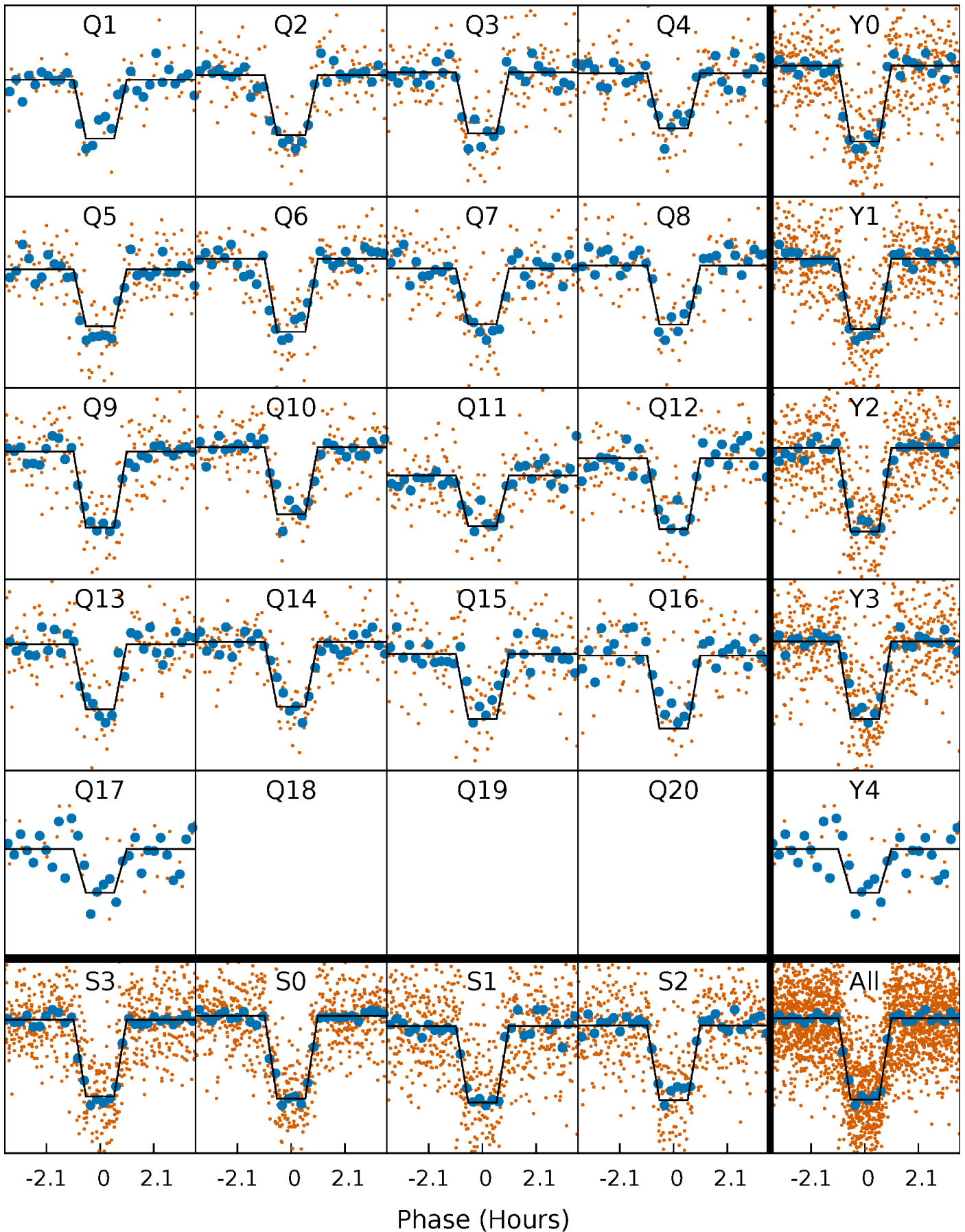
DV Quarter-Phased Transit Curves

TCE 009735426-01 P= 8.088030 Days $T_0=138.734172$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

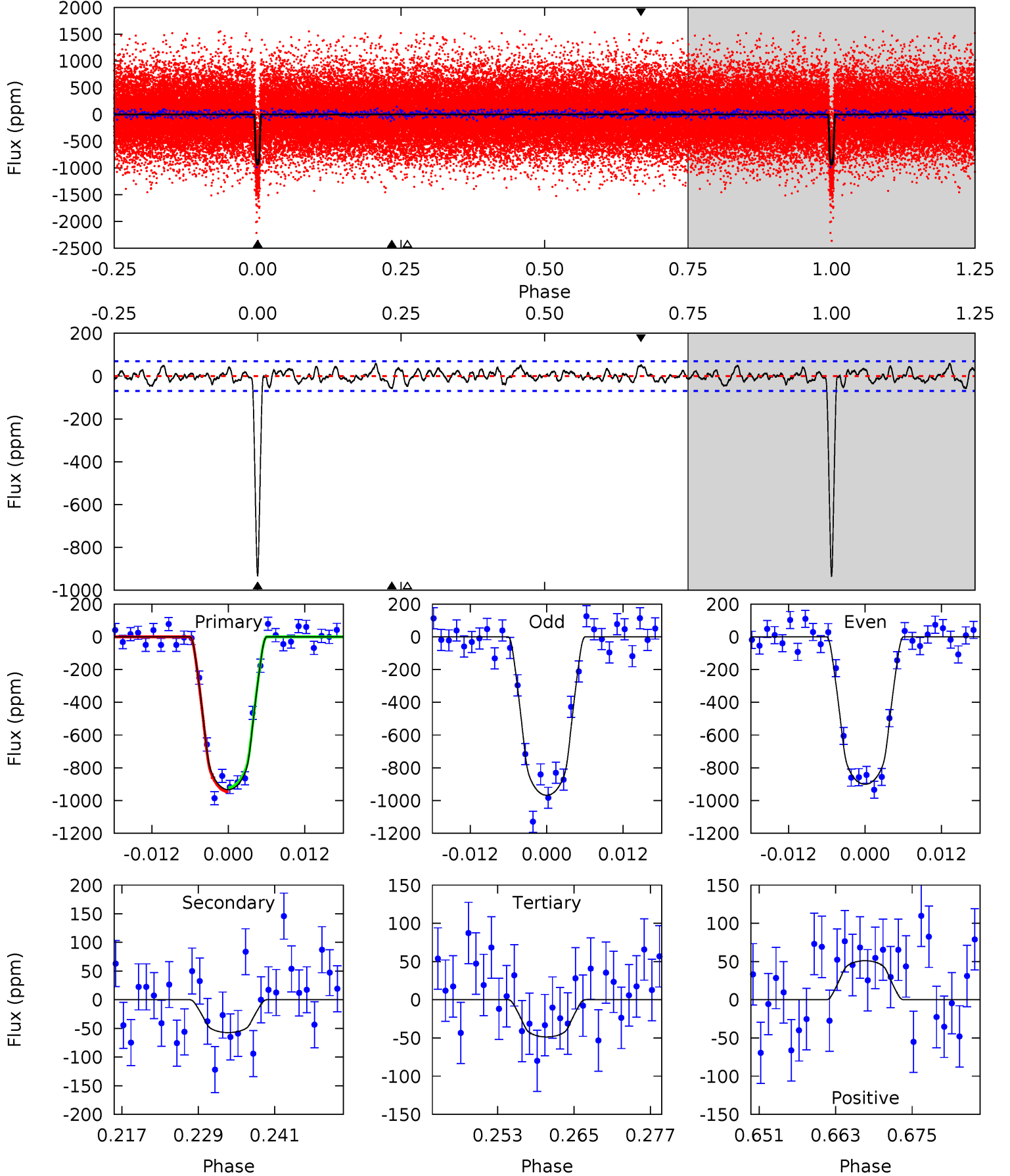
TCE 009735426-01 P= 8.087971 Days $T_0=138.738871$ (BKJD)



DV Model-Shift Uniqueness Test

009735426-01, P = 8.088030 Days, E = 130.646142 Days

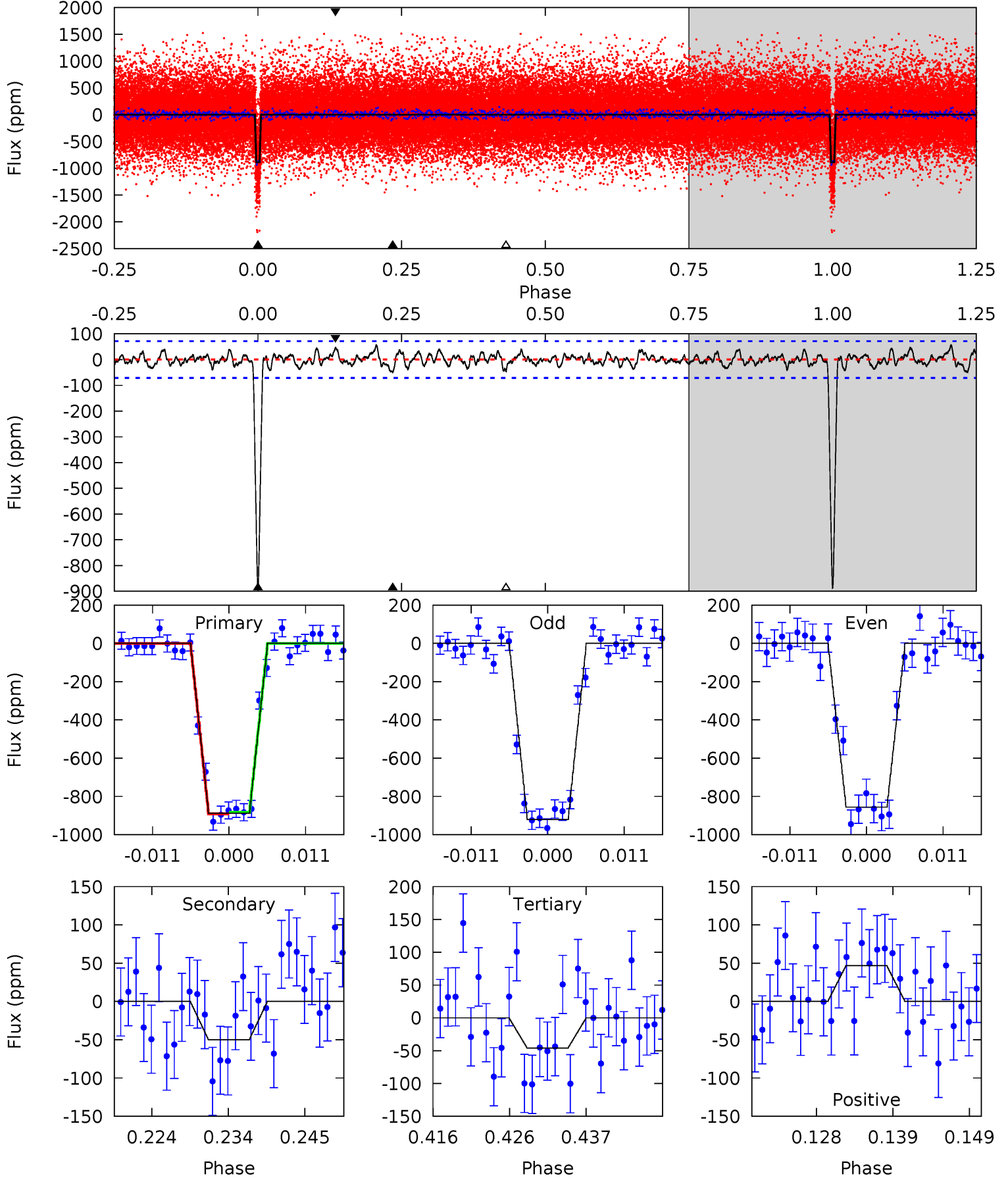
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
67.1	4.12	3.50	3.68	4.99	2.51	1.41	63.6	63.5	0.62	0.45	2.42	0.98	0.06	0.90



Alt Model-Shift Uniqueness Test

009735426-01, P = 8.087971 Days, E = 130.650900 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
62.1	3.50	3.22	3.27	5.01	2.55	1.20	58.9	58.9	0.27	0.23	2.24	0.98	0.06	0.28



Stellar Parameters For KIC 009735426

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5269^{+84}_{-73}	$4.494^{+0.060}_{-0.066}$	$0.140^{+0.150}_{-0.150}$	$0.874^{+0.072}_{-0.059}$	$0.870^{+0.050}_{-0.041}$	$1.833^{+0.378}_{-0.376}$
	+2%/-1%	+1%/-1%	+107%/-107%	+8%/-7%	+6%/-5%	+21%/-21%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 009735426-01 / KOI 1849.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-57 ± 14	$3.08^{+0.60}_{-0.62}$	1109^{+29}_{-30}	3140^{+242}_{-204}	19^{+12}_{-7}
Alt.	-50 ± 14	$2.86^{+0.64}_{-0.59}$	1108^{+31}_{-28}	3141^{+266}_{-237}	19^{+14}_{-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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

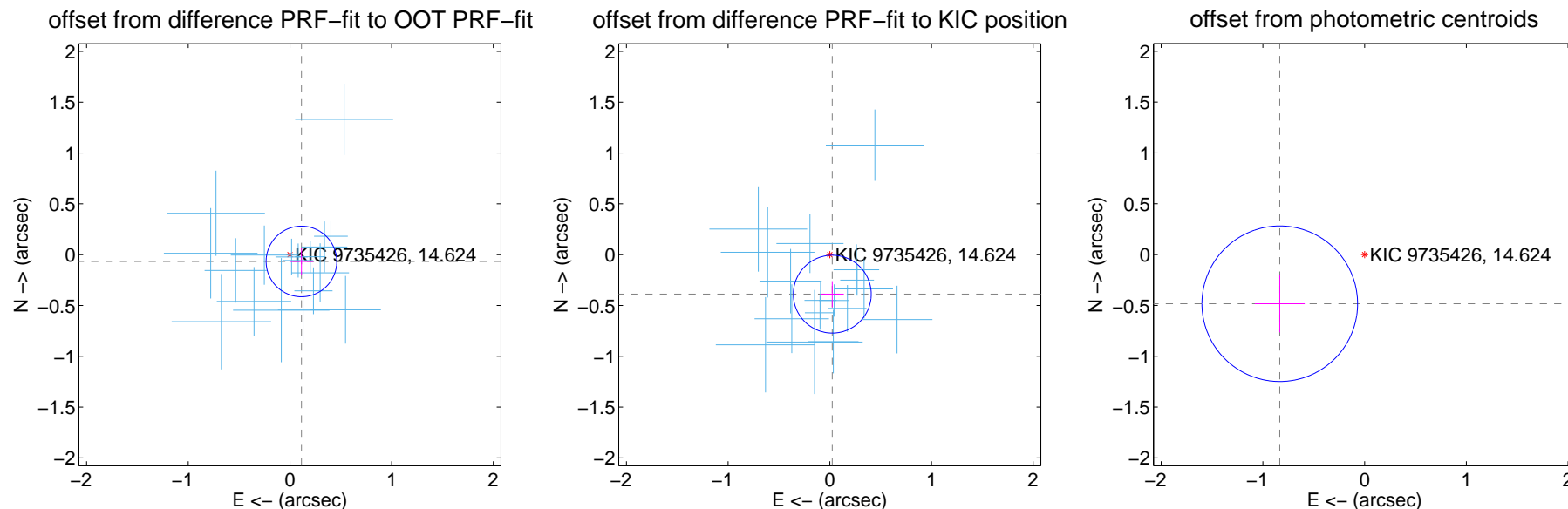
DV Centroid Data

Supplemental centroid analysis for 009735426-01. Kepler magnitude: 14.62. Transit SNR 46.48

There are 17 quarters with good PRF difference image offsets

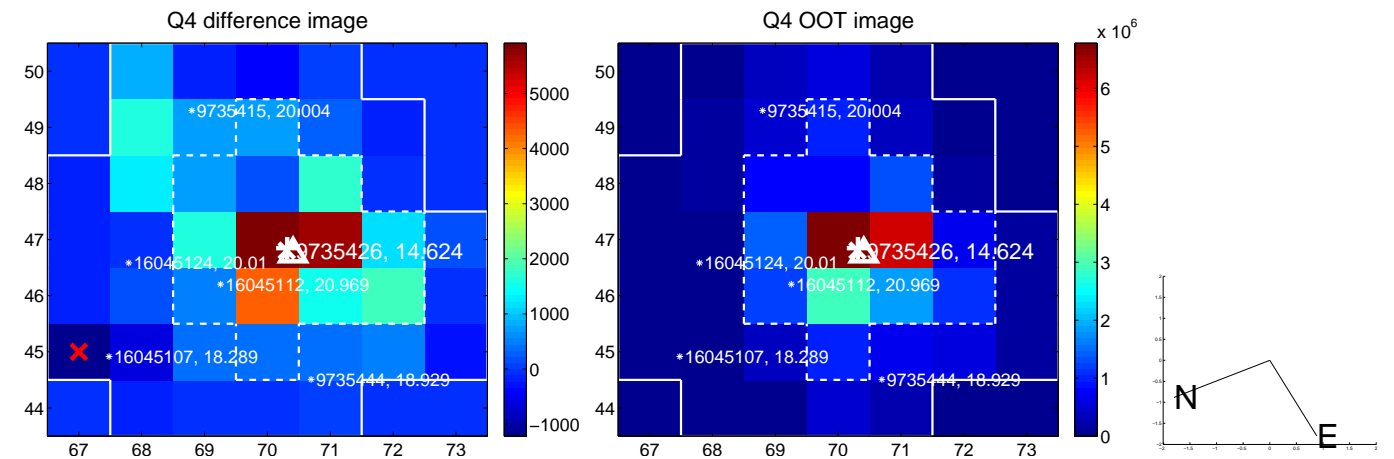
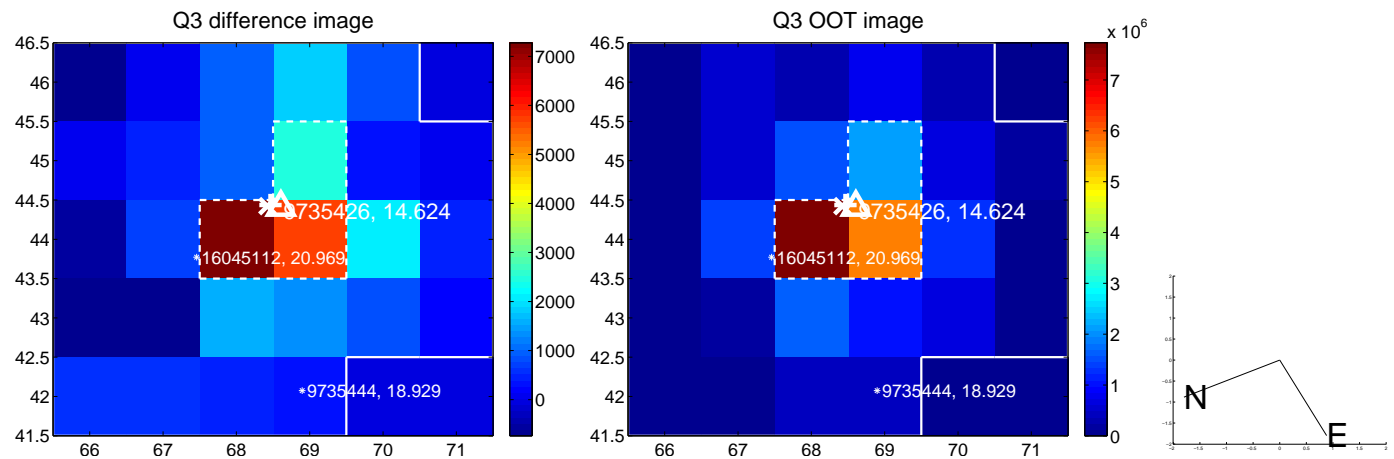
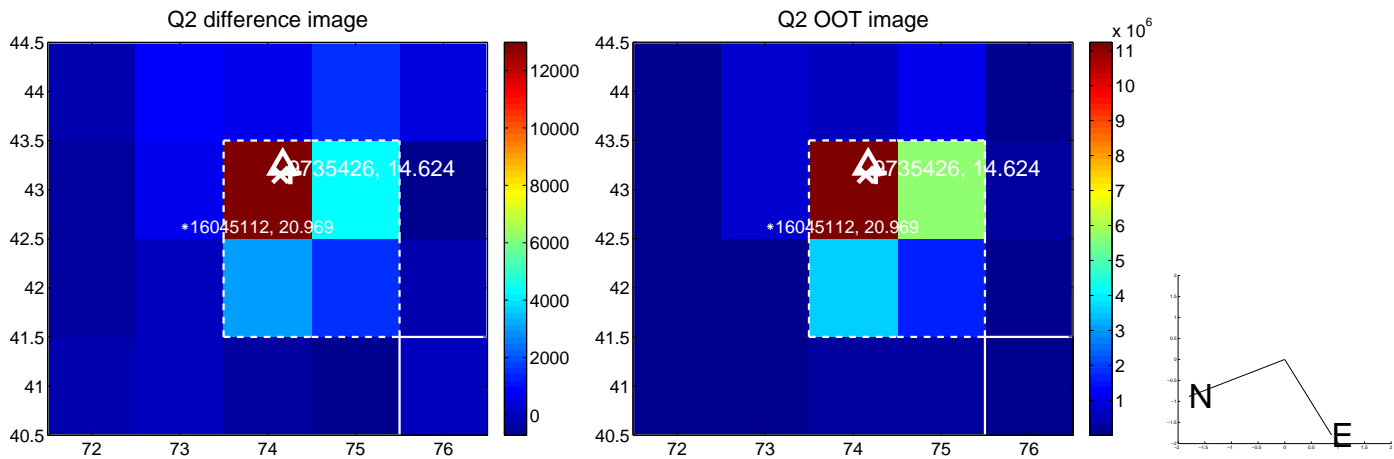
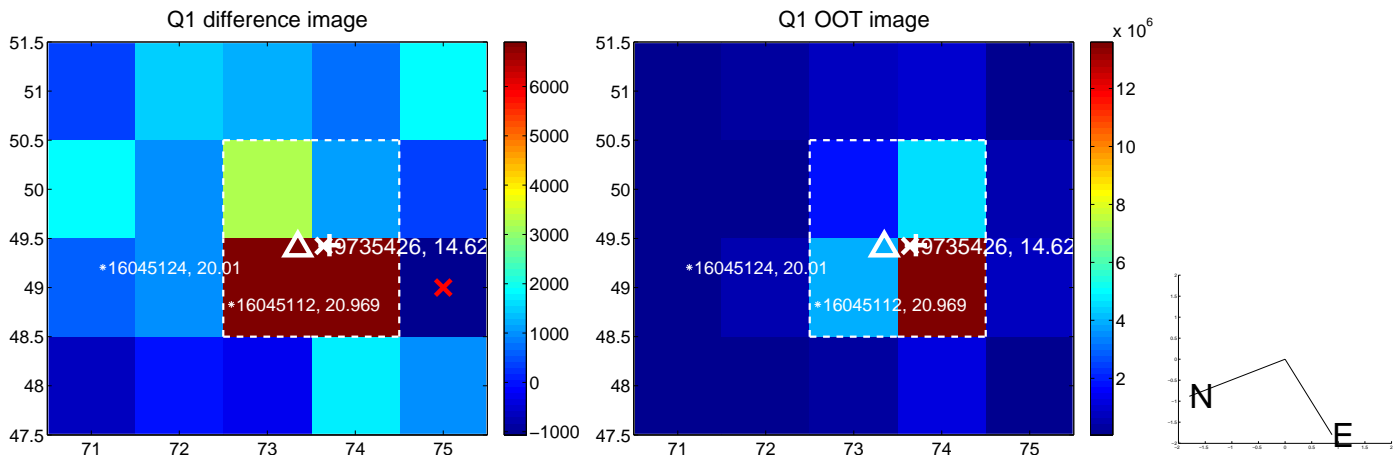
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.131 ± 0.116	1.14	-0.113 ± 0.118	-0.067 ± 0.131
PRF-fit source offset from KIC position	0.390 ± 0.128	3.05	-0.024 ± 0.113	-0.389 ± 0.128
photometric centroid source offset	0.96 ± 0.26	3.78	0.83 ± 0.25	-0.48 ± 0.28

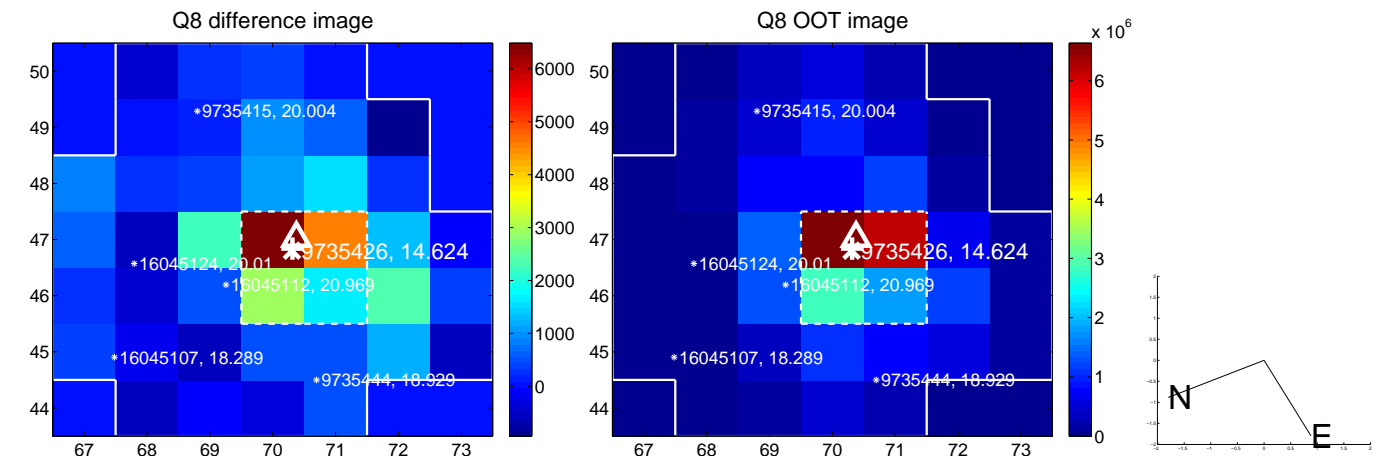
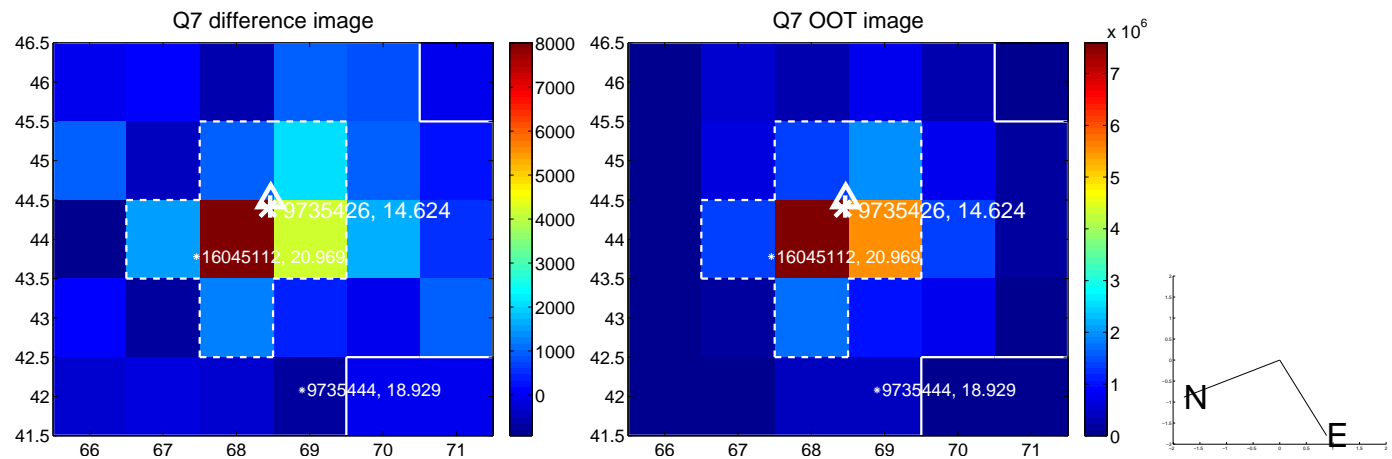
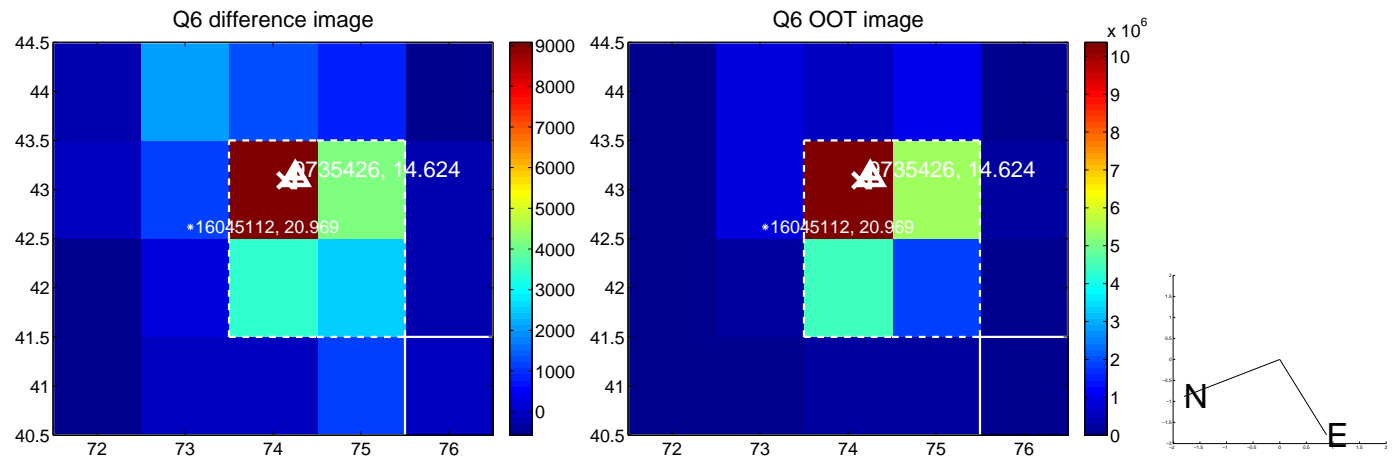
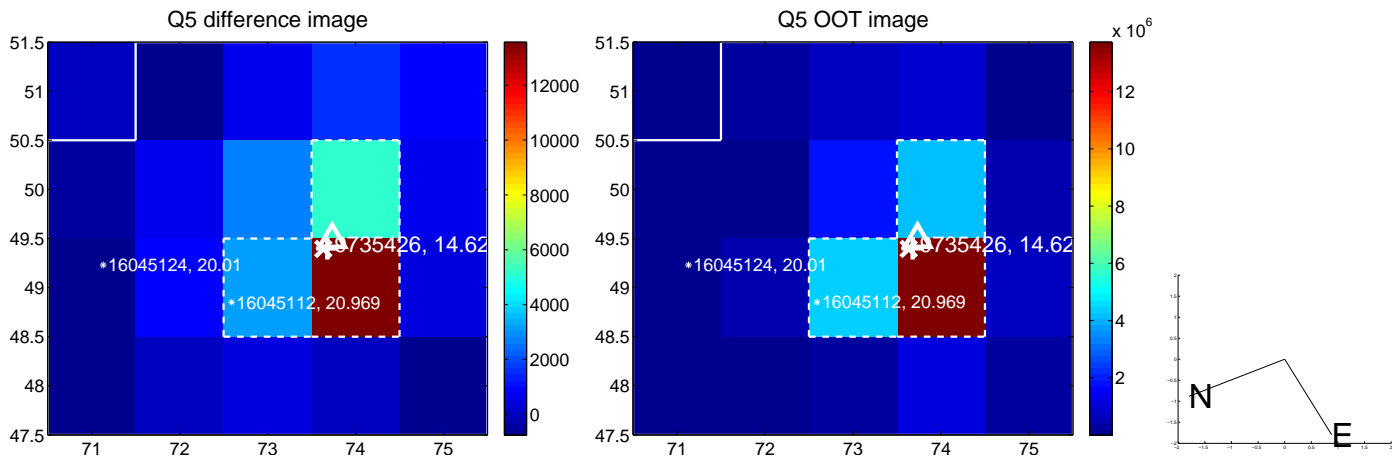


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

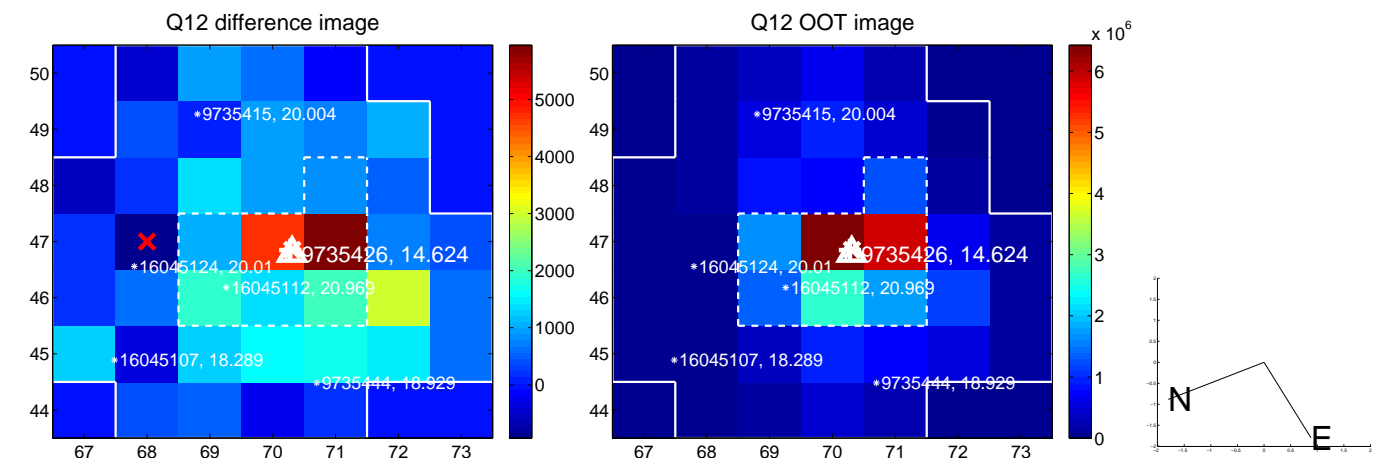
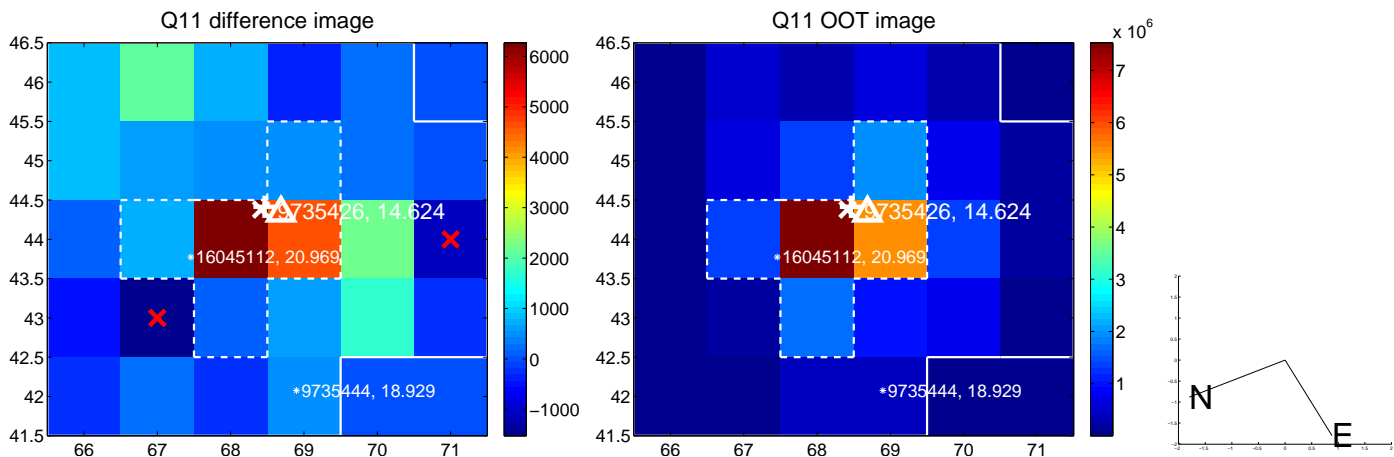
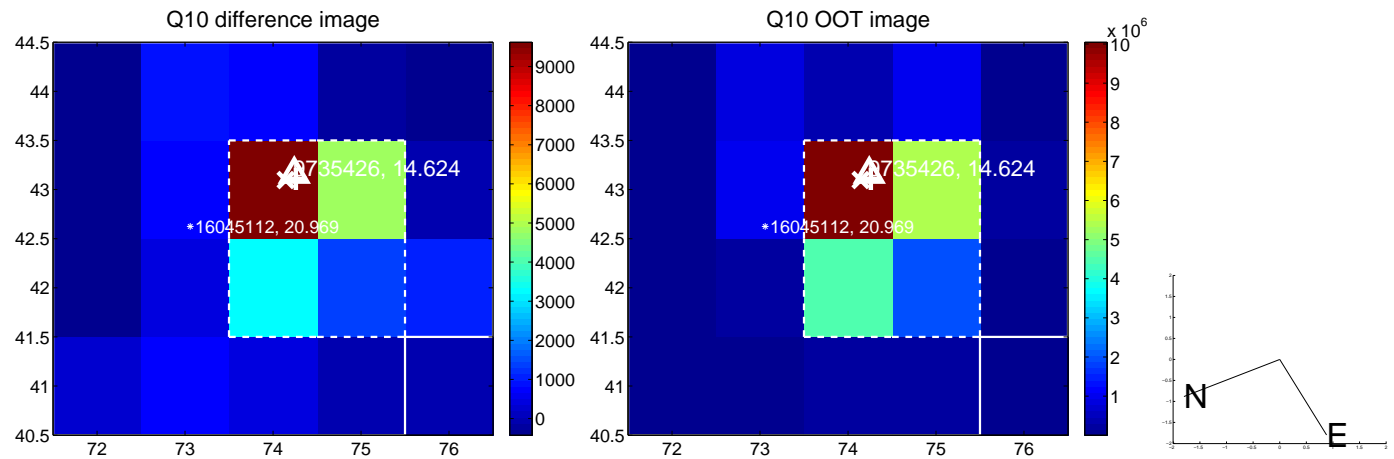
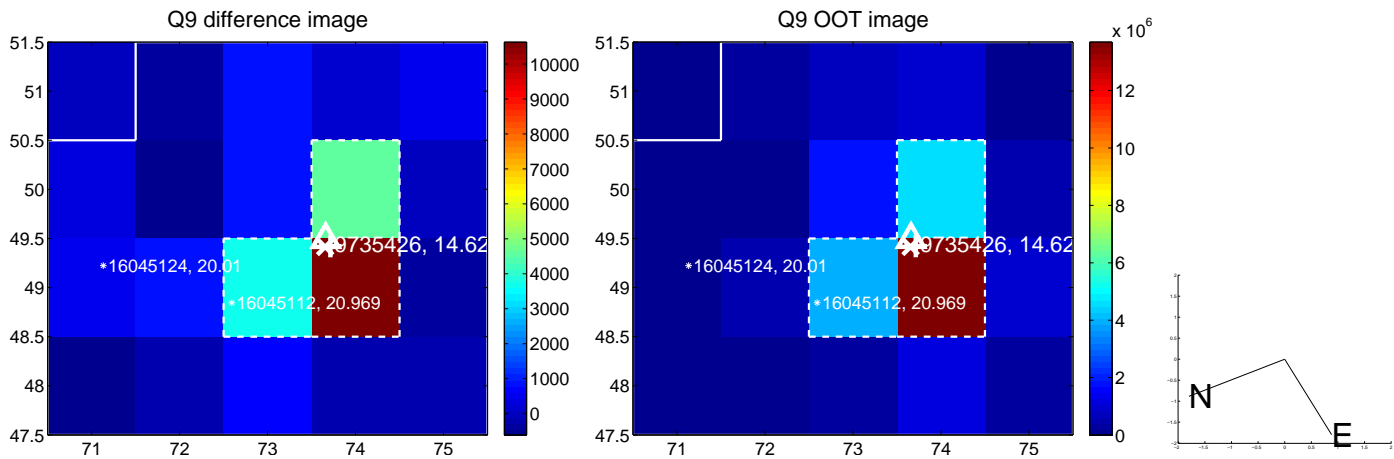
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



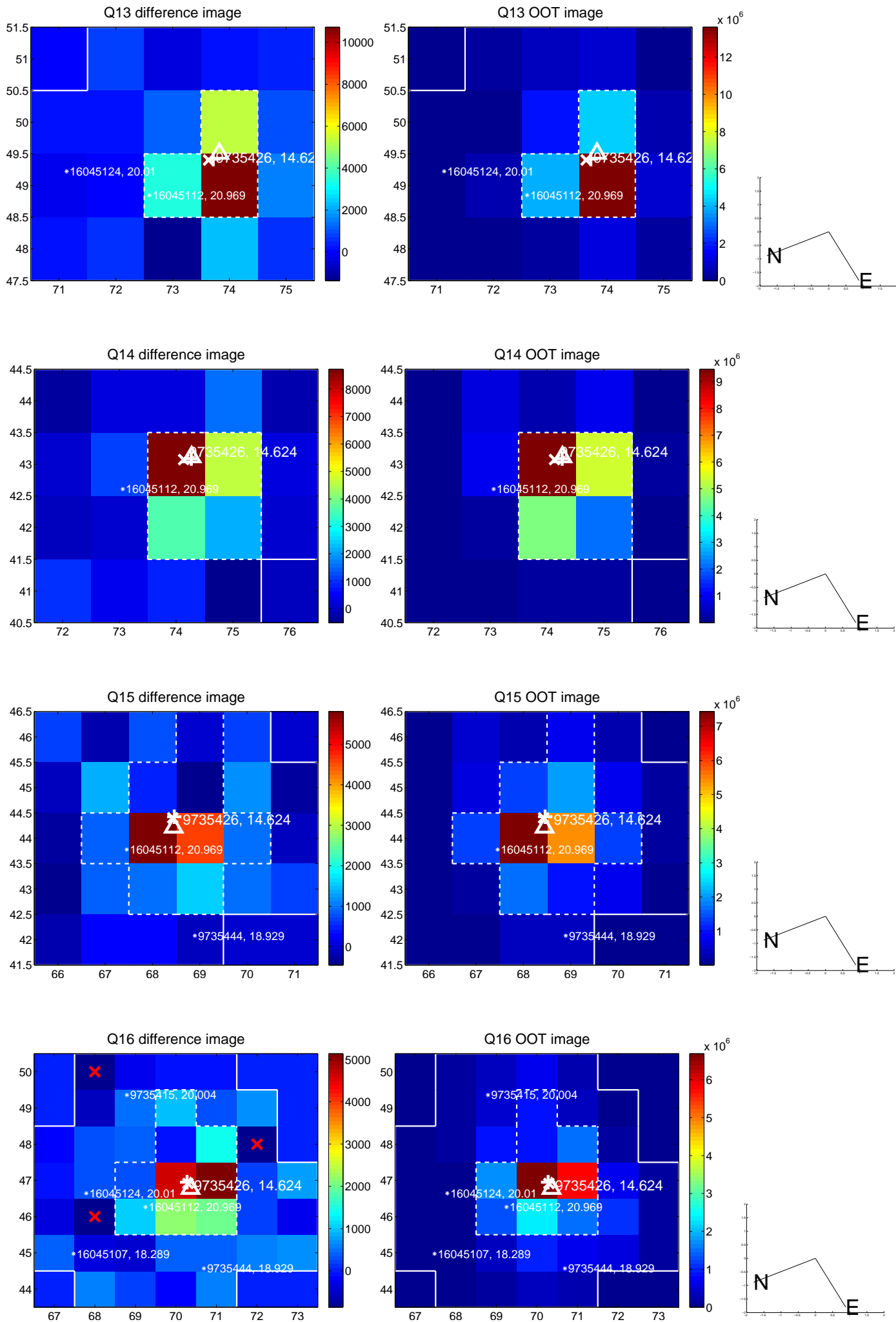
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

