

KIC 008832512

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})
008832512-01	OBS	1821.01	9.976821	131.767824	924.0	3.709	50.7	54.8	0.93	5500	3.33	98.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008832512-01	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.

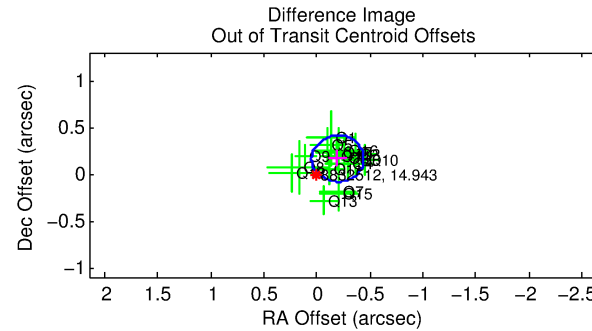
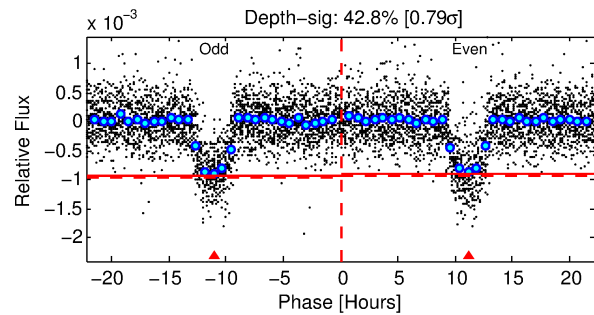
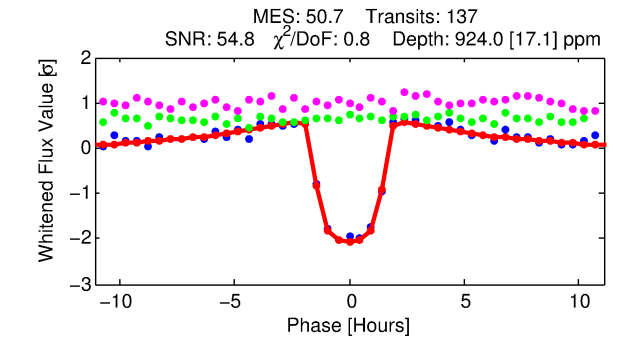
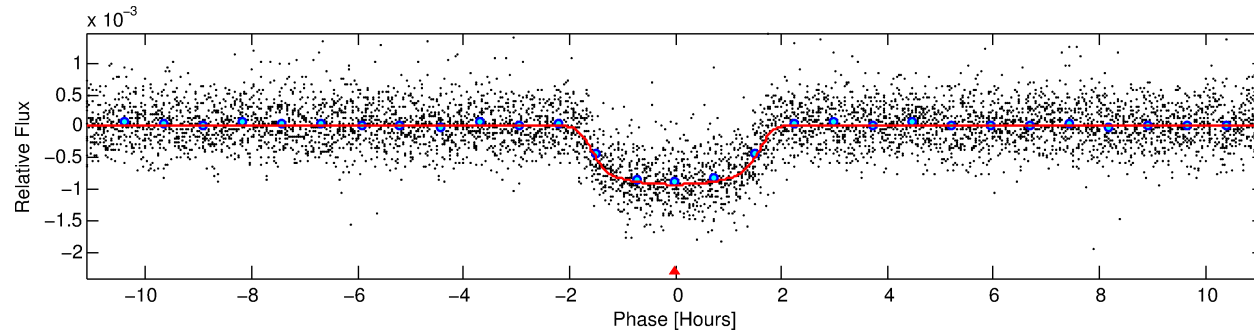
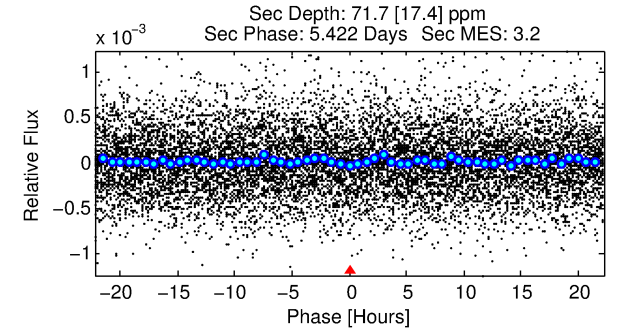
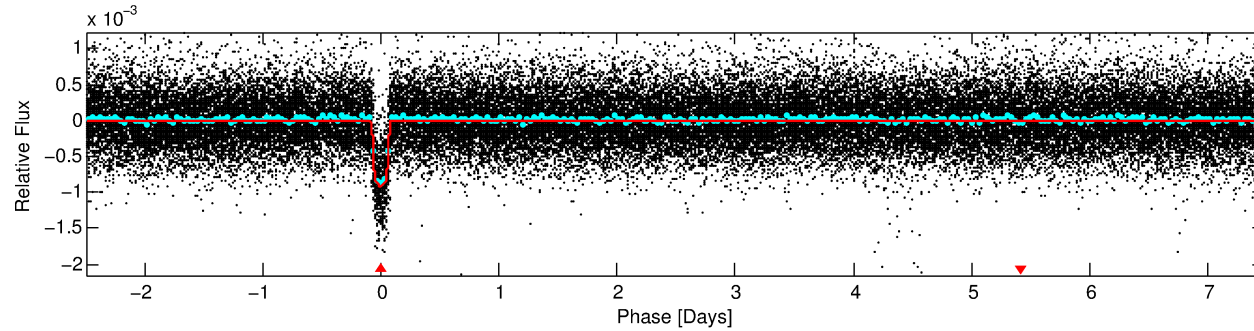
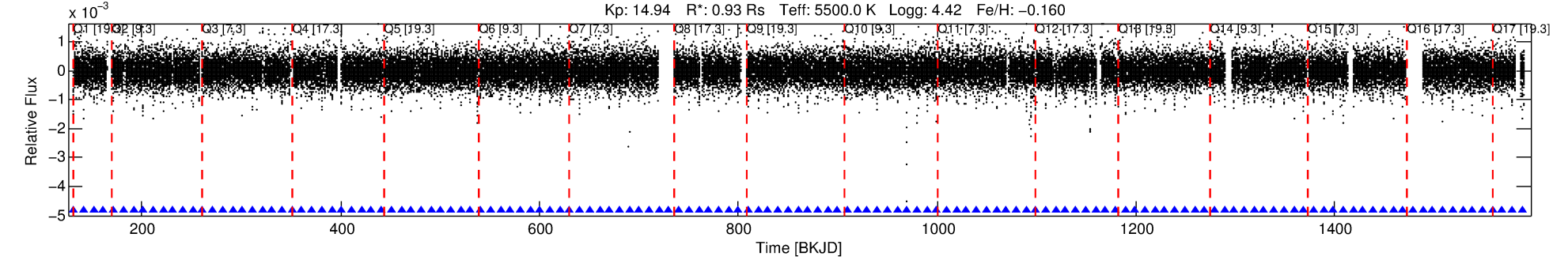
Ephemeris Match Information For 008832512-01

No Significant Match Found

DV One-Page Summary

KIC: 8832512 Candidate: 1 of 1 Period: 9.977 d
KOI: K01821.01 Corr: 0.960

Kp: 14.94 R*: 0.93 Rs Teff: 5500.0 K Logg: 4.42 Fe/H: -0.160



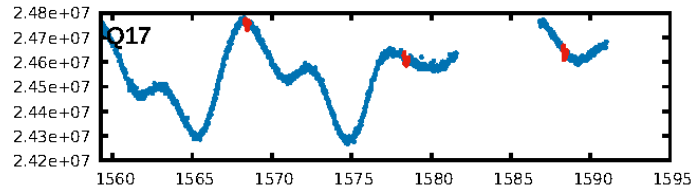
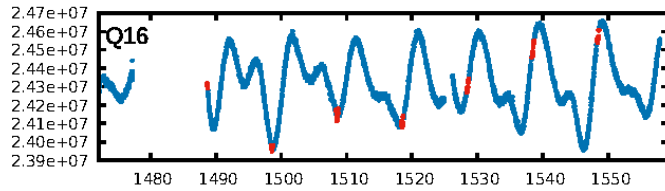
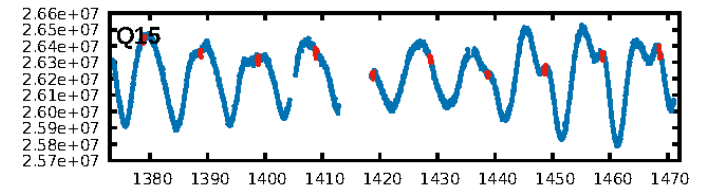
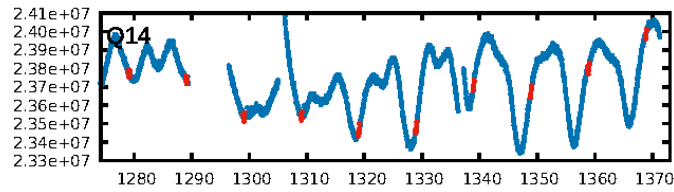
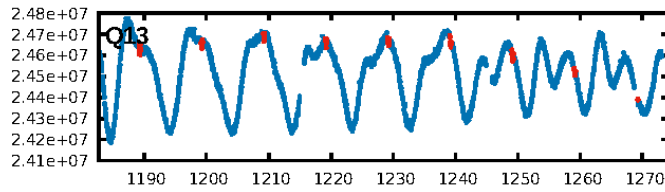
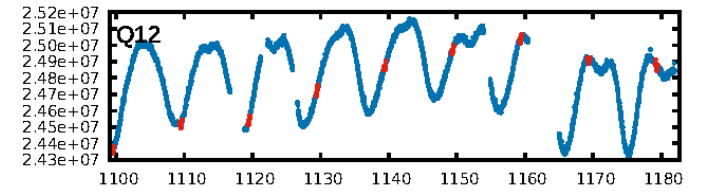
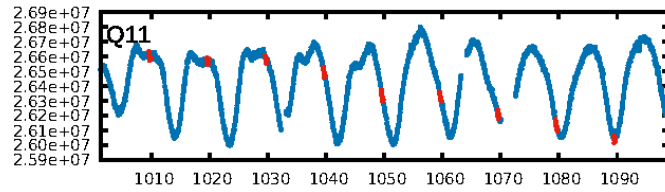
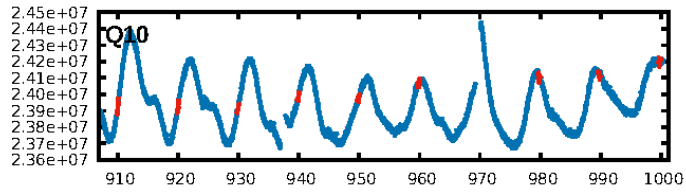
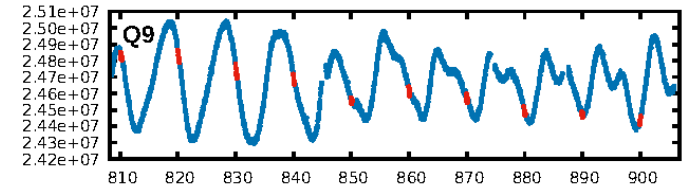
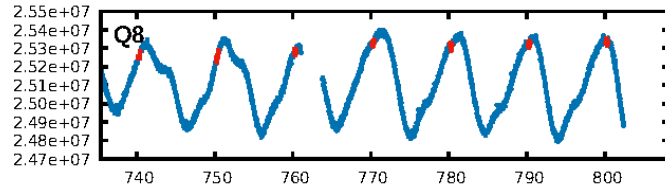
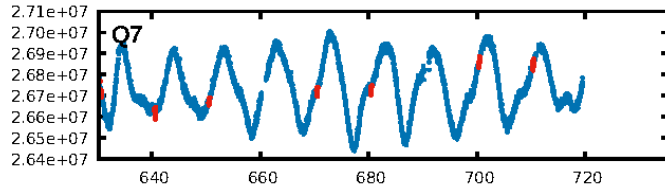
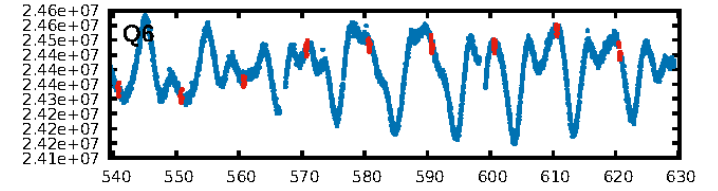
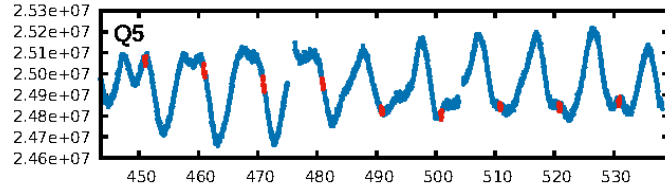
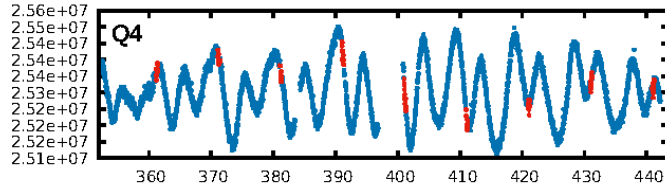
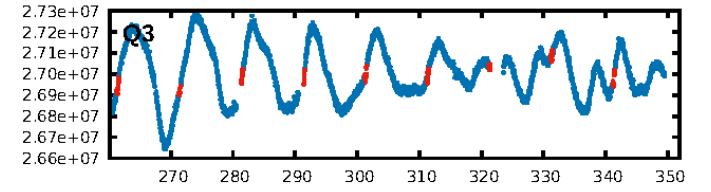
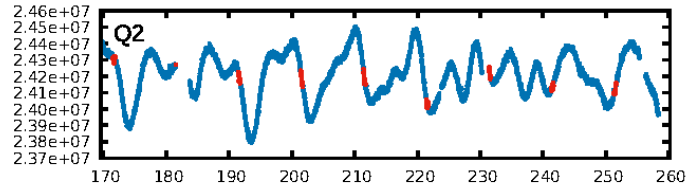
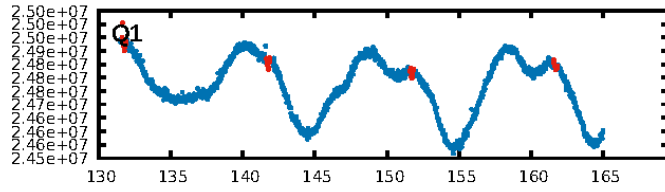
DV Fit Results:

Period = 9.97682 [0.00002] d
Epoch = 131.7678 [0.0012] BKJD
Rp/R* = 0.0329 [0.0012]
a/R* = 10.97 [1.58]
b = 0.89 [0.04]
Seff = 98.04 [32.95]
Teff = 802 [67] K
Rp = 3.33 [0.87] Re
a = 0.0849 [0.0183] AU
Ag = 25.62 [10.33] [2.38σ]
Teffp = 2791 [196] K [9.60σ]

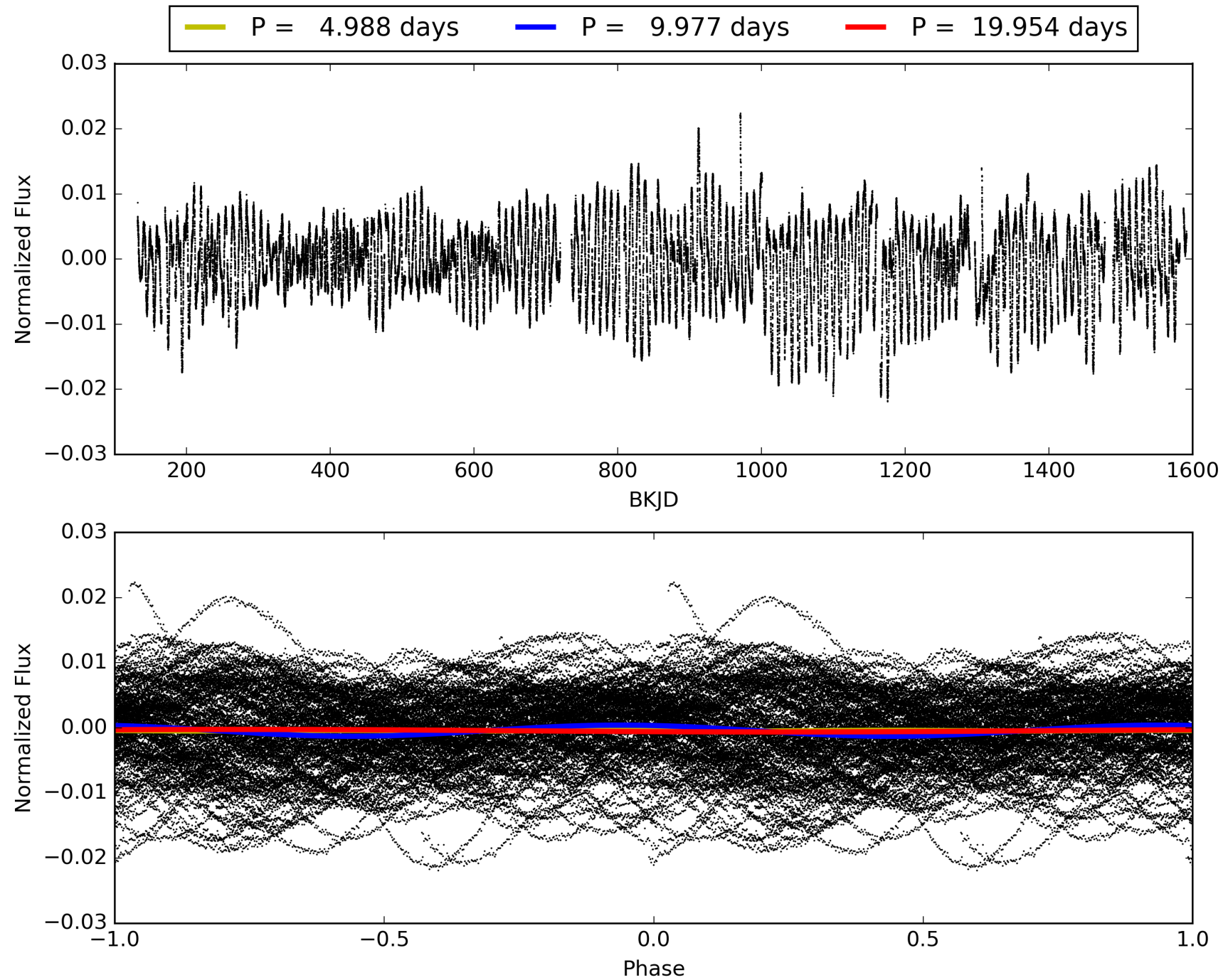
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 86.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [130/130]
GhostDiagnostic-chr: 4.712
Centroid-sig: 0.3%
Centroid-so: 0.369 arcsec [1.98σ]
OotOffset-rm: 0.256 arcsec [3.10σ]
KicOffset-rm: 0.308 arcsec [3.29σ]
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 008832512-01, PDC Light Curves

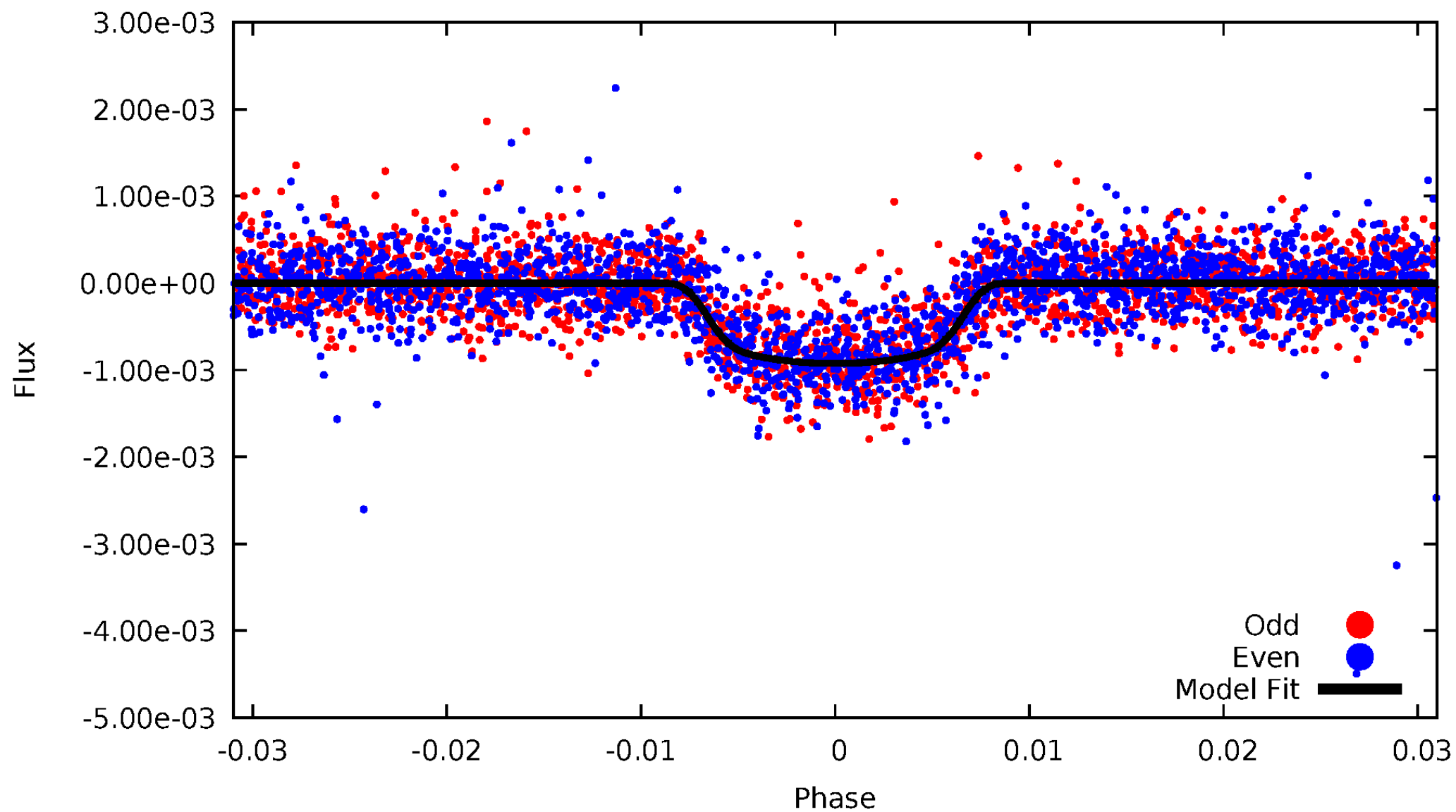


TCE 008832512-01



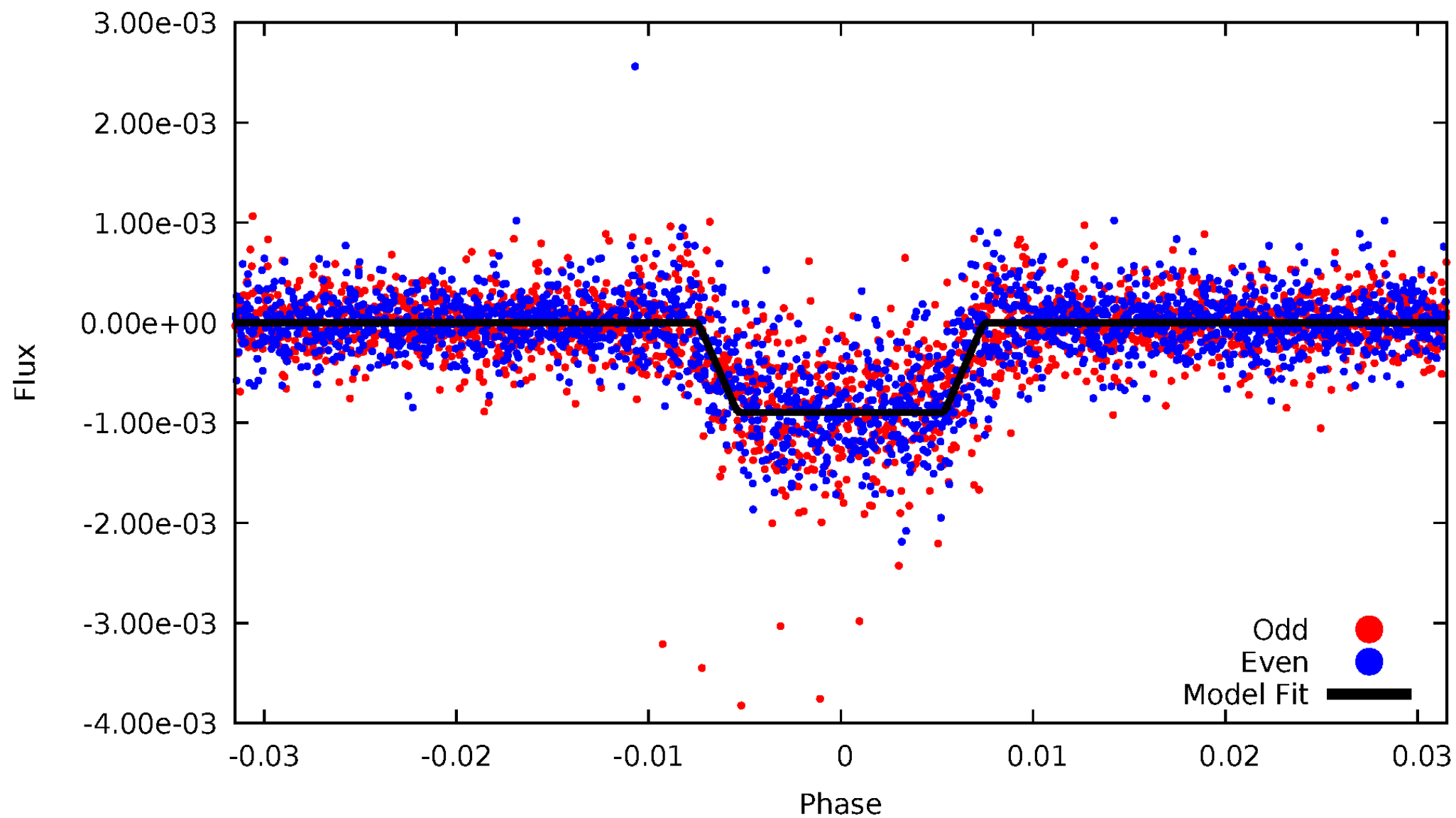
DV Odd/Even

TCE 008832512-01

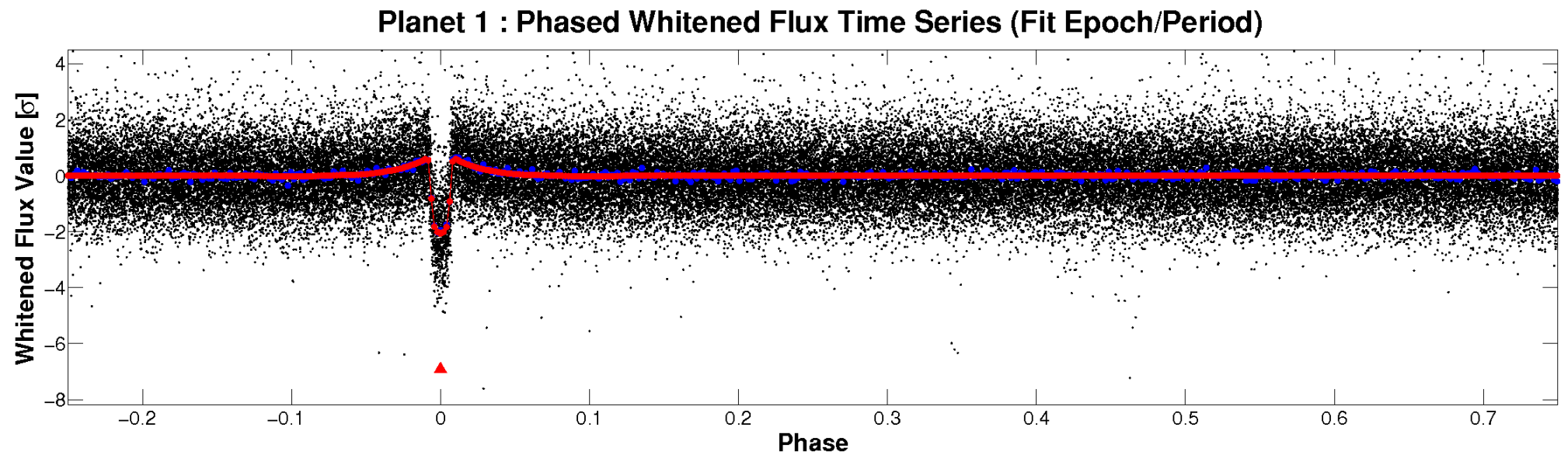
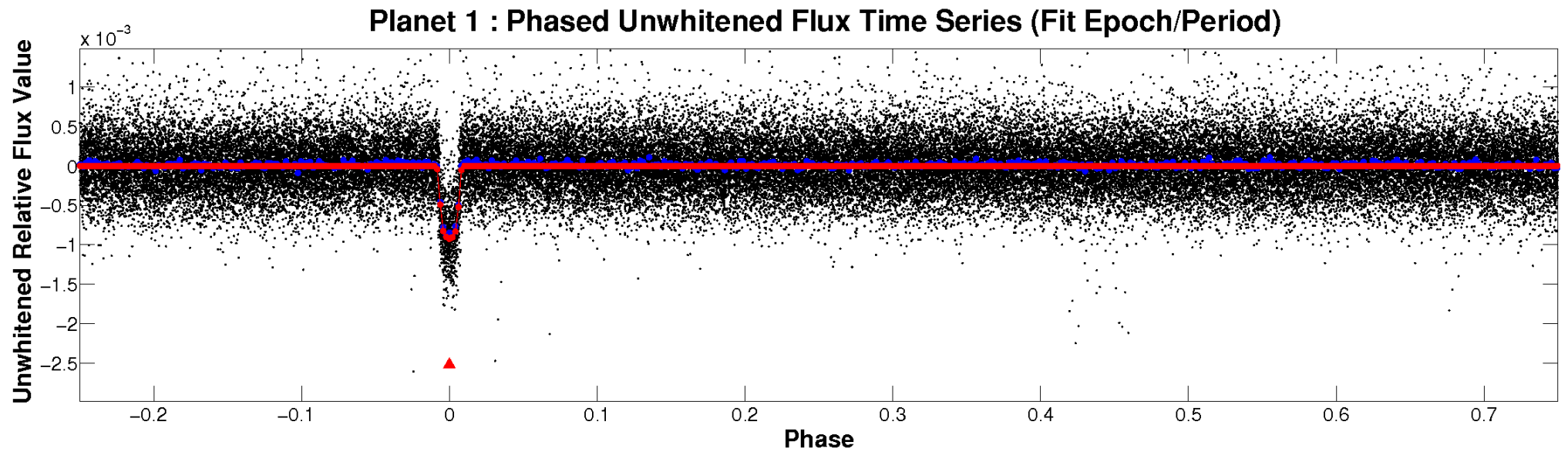


ALT Odd/Even

TCE 008832512-01

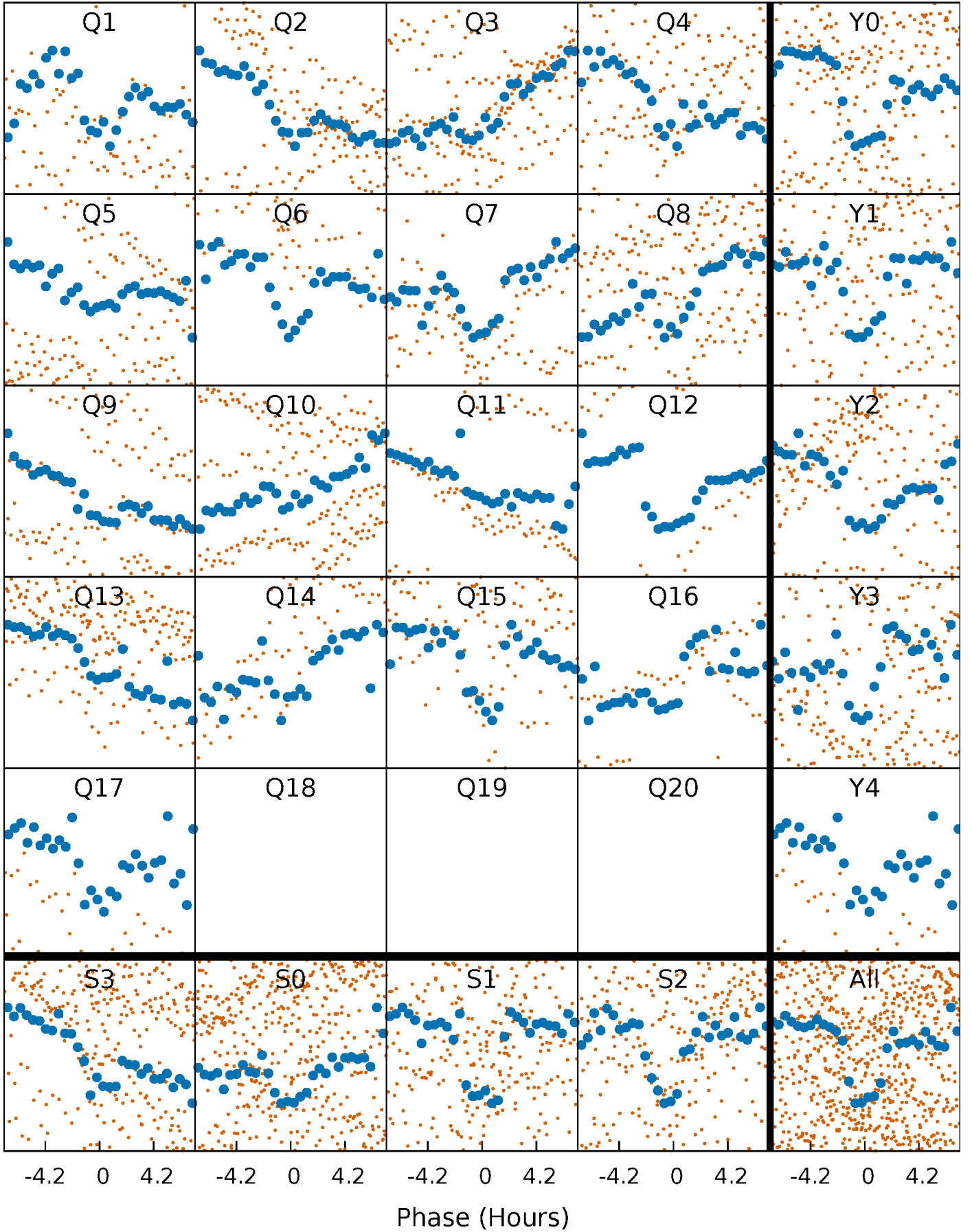


Non-Whitened Vs. Whitened Light Curve



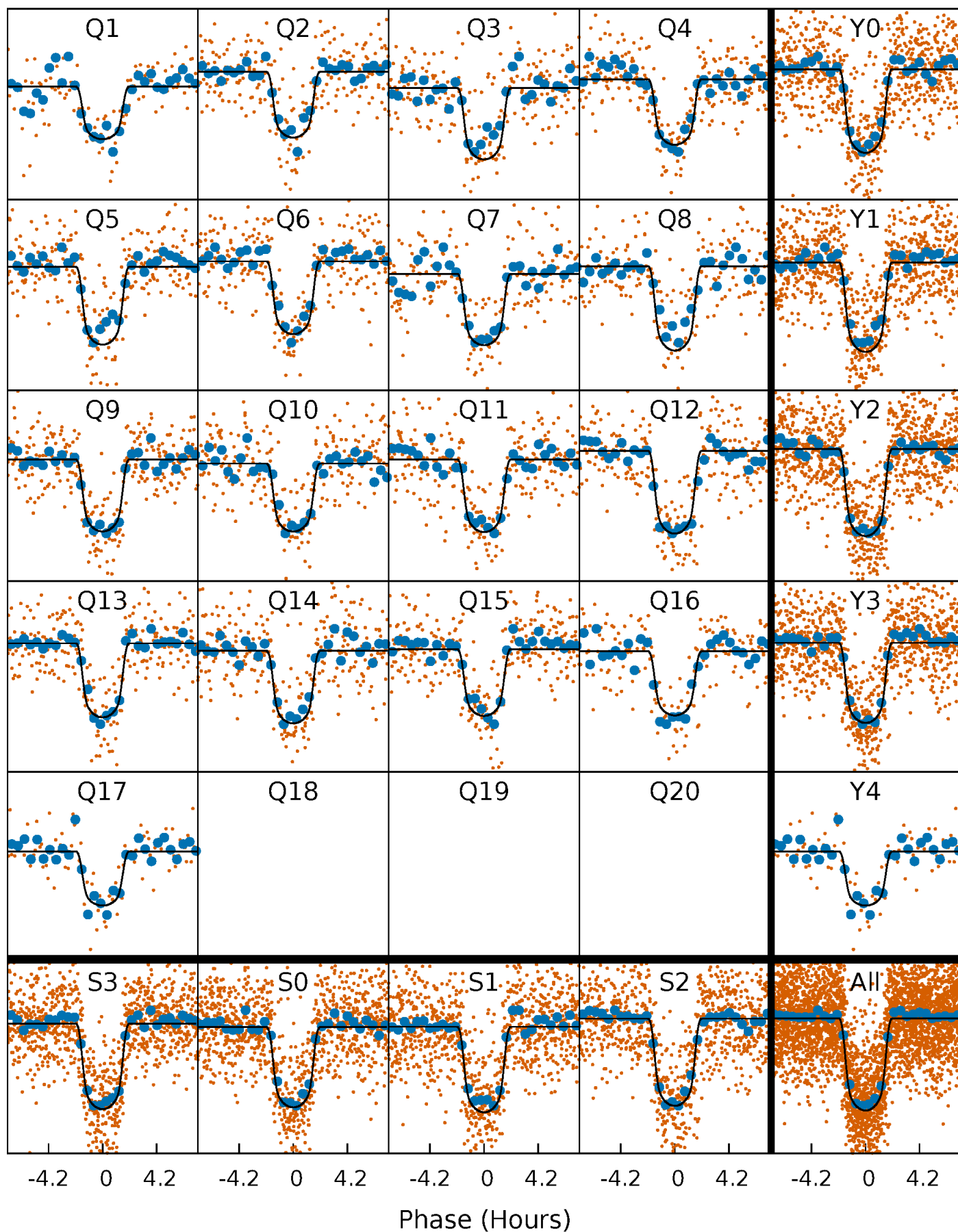
PDC Quarter-Phased Transit Curves

TCE 008832512-01 P= 9.976821 Days $T_0=131.767824$ (BKJD)



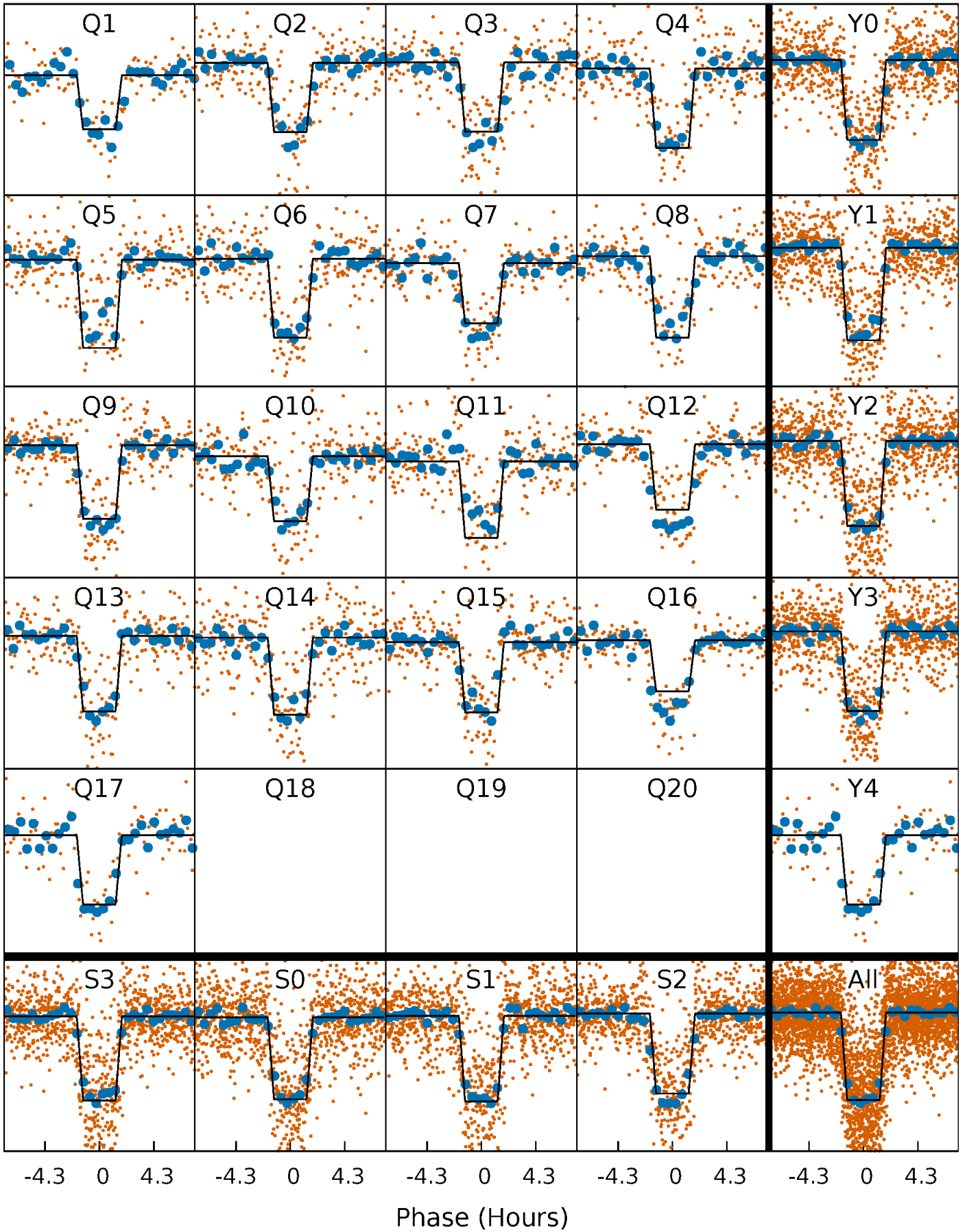
DV Quarter-Phased Transit Curves

TCE 008832512-01 P= 9.976821 Days $T_0=131.767824$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

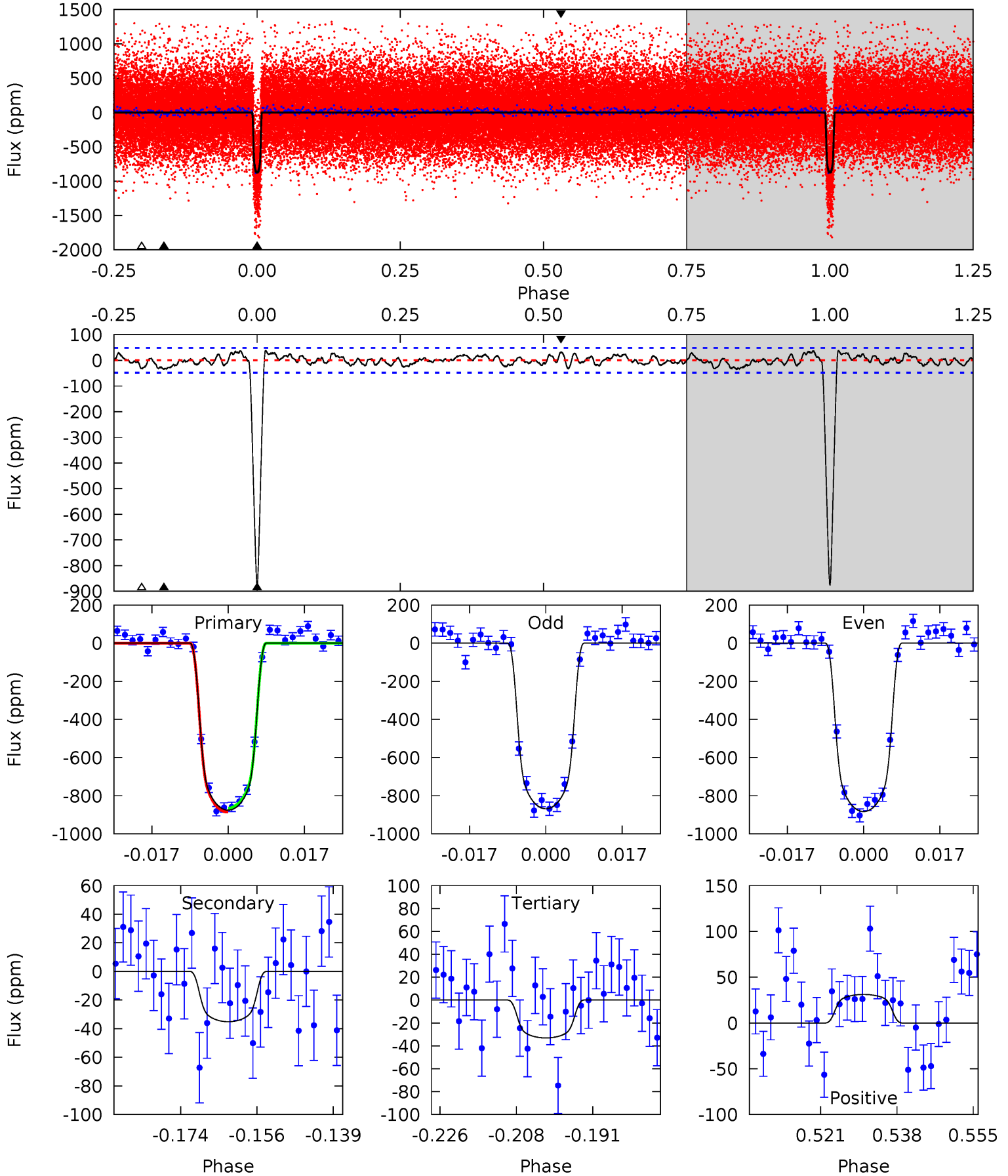
TCE 008832512-01 P= 9.976907 Days $T_0=131.761771$ (BKJD)



DV Model-Shift Uniqueness Test

008832512-01, P = 9.976821 Days, E = 121.791003 Days

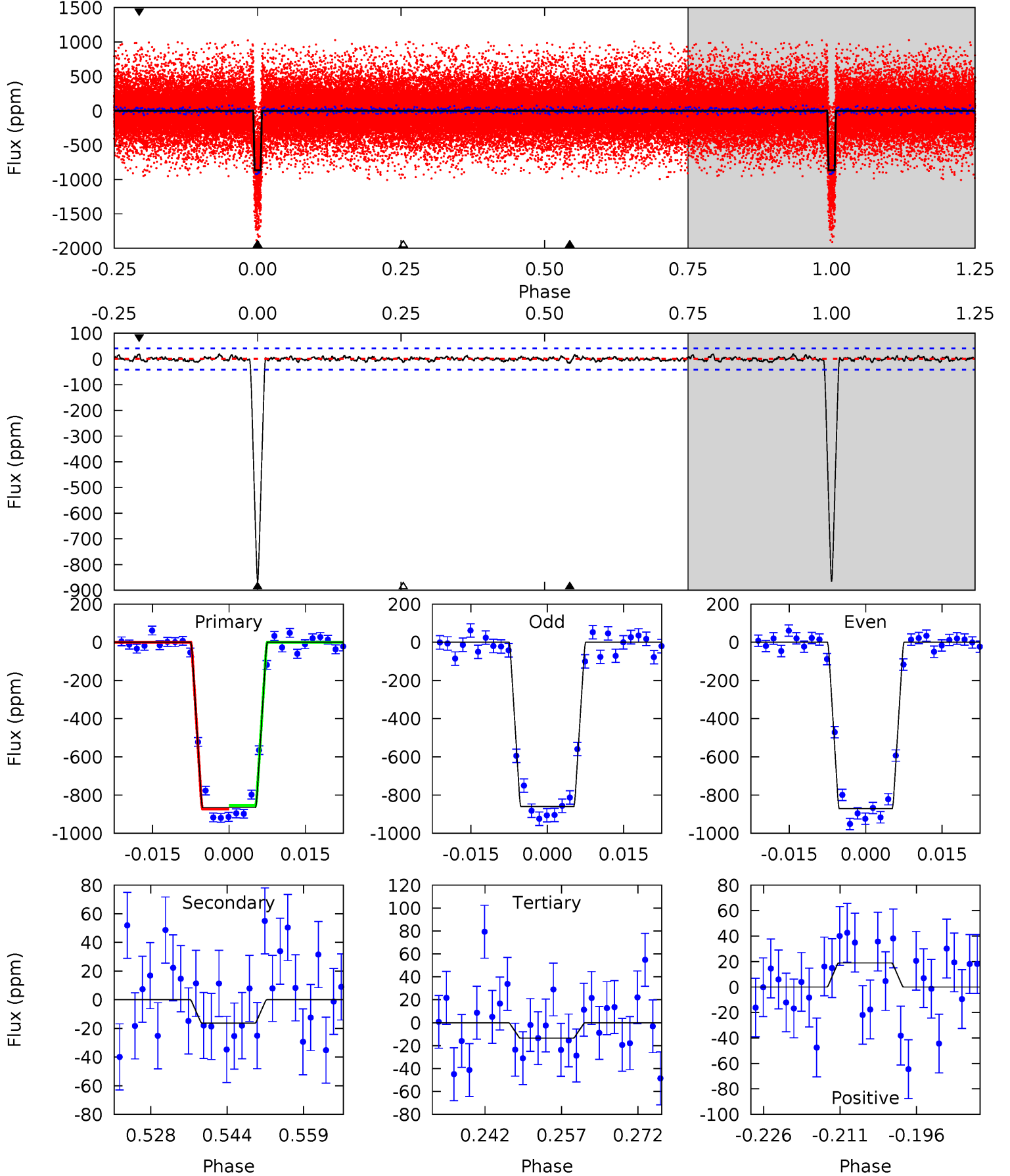
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
89.3	3.59	3.38	3.17	4.92	2.38	1.42	86.0	86.2	0.21	0.41	0.76	0.97	0.04	1.05



Alt Model-Shift Uniqueness Test

008832512-01, P = 9.976907 Days, E = 121.784864 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
102.7	1.94	1.60	2.24	4.95	2.43	0.62	101.1	100.5	0.35	-0.30	0.67	0.99	0.02	1.11



Stellar Parameters For KIC 008832512

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5500^{+166}_{-166}	$4.416^{+0.124}_{-0.171}$	$-0.160^{+0.300}_{-0.300}$	$0.928^{+0.239}_{-0.147}$	$0.821^{+0.120}_{-0.065}$	$1.445^{+0.844}_{-0.684}$
	+3%/-3%	+3%/-4%	+188%/-188%	+26%/-16%	+15%/-8%	+58%/-47%
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 008832512-01 / KOI 1821.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-35 ± 10	$3.38^{+0.47}_{-0.34}$	1131^{+75}_{-66}	2985^{+124}_{-154}	12^{+5}_{-4}
Alt.	-16 ± 8	$3.09^{+0.47}_{-0.32}$	1129^{+78}_{-62}	2747^{+168}_{-249}	$6.671^{+3.949}_{-3.382}$

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 $A_{obs} \gg 1.0$

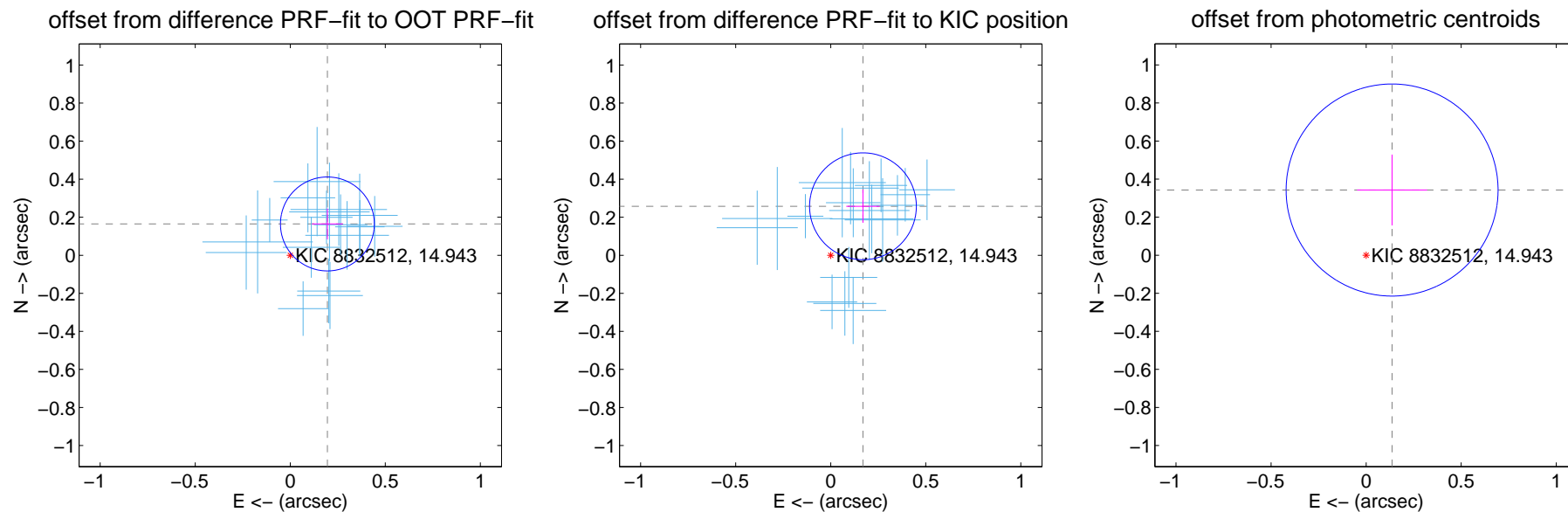
DV Centroid Data

Supplemental centroid analysis for 008832512-01. Kepler magnitude: 14.94. Transit SNR 54.78

There are 17 quarters with good PRF difference image offsets

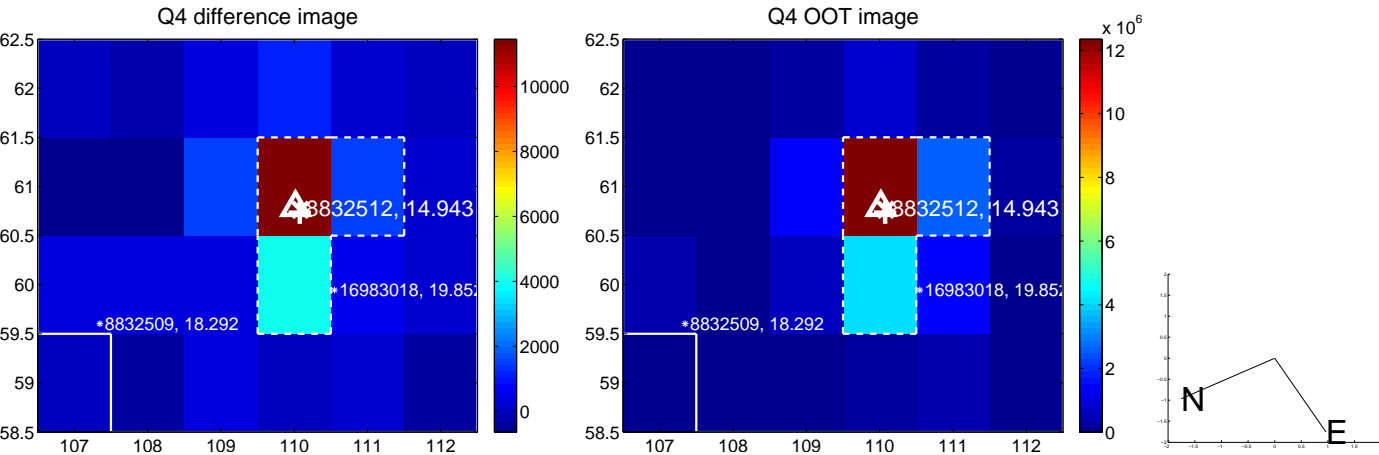
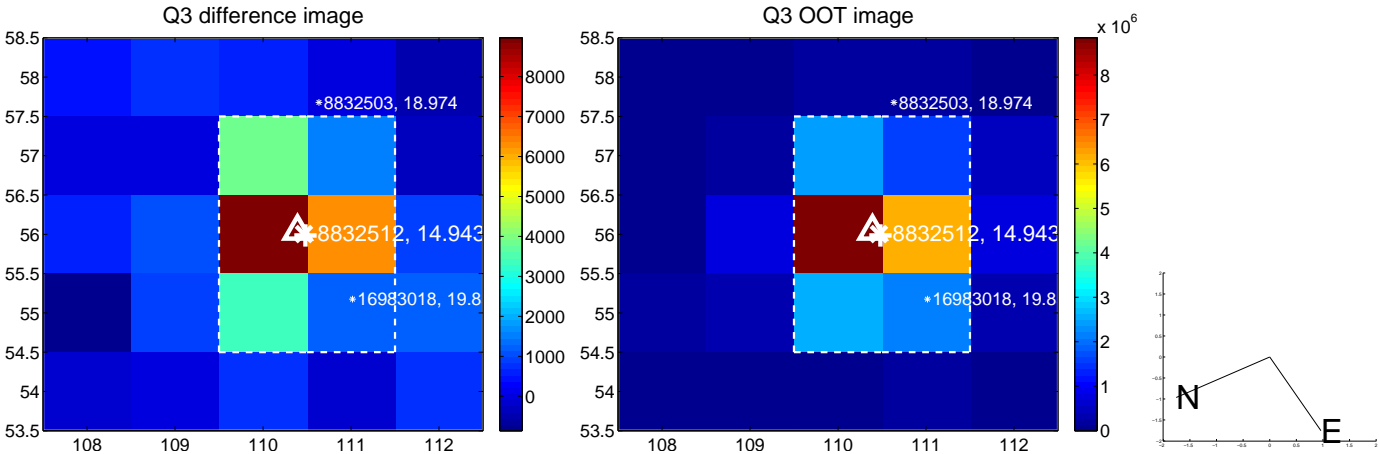
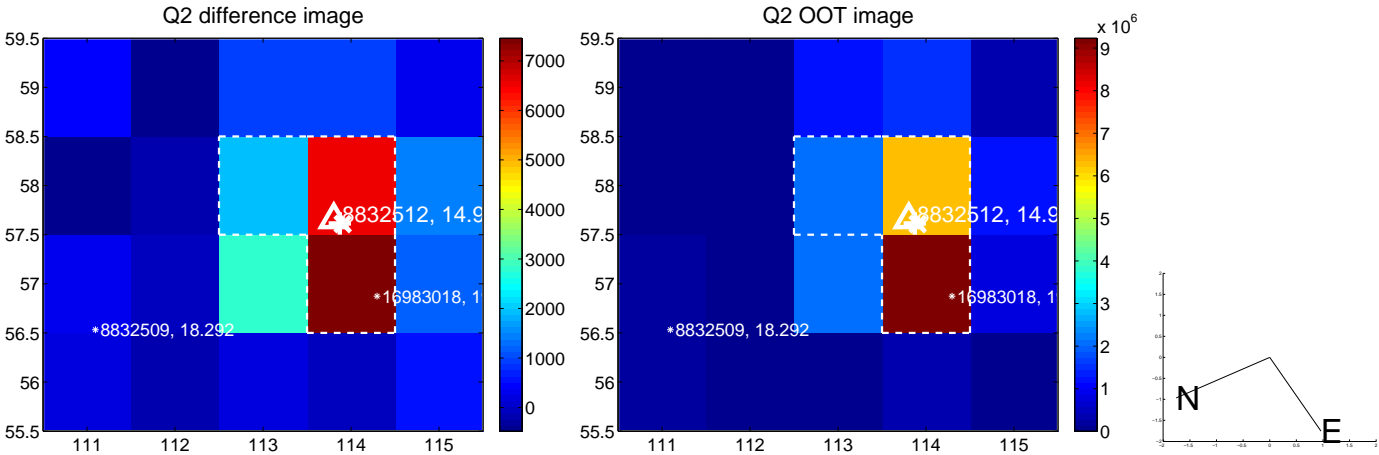
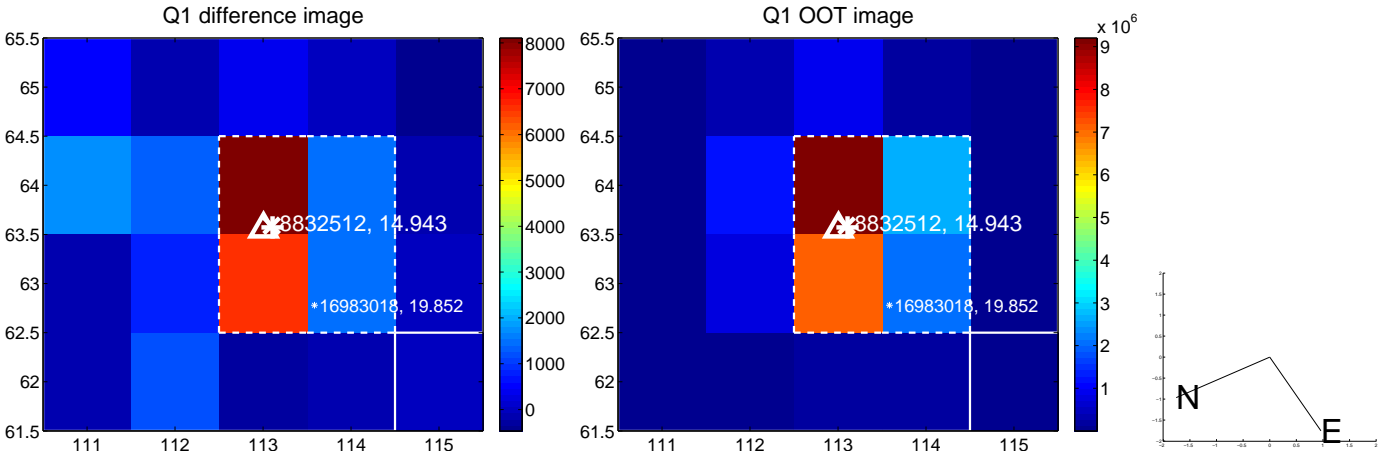
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.256 ± 0.082	3.10	-0.195 ± 0.081	0.165 ± 0.081
PRF-fit source offset from KIC position	0.308 ± 0.094	3.29	-0.170 ± 0.088	0.258 ± 0.087
photometric centroid source offset	0.37 ± 0.19	1.98	-0.14 ± 0.18	0.34 ± 0.19

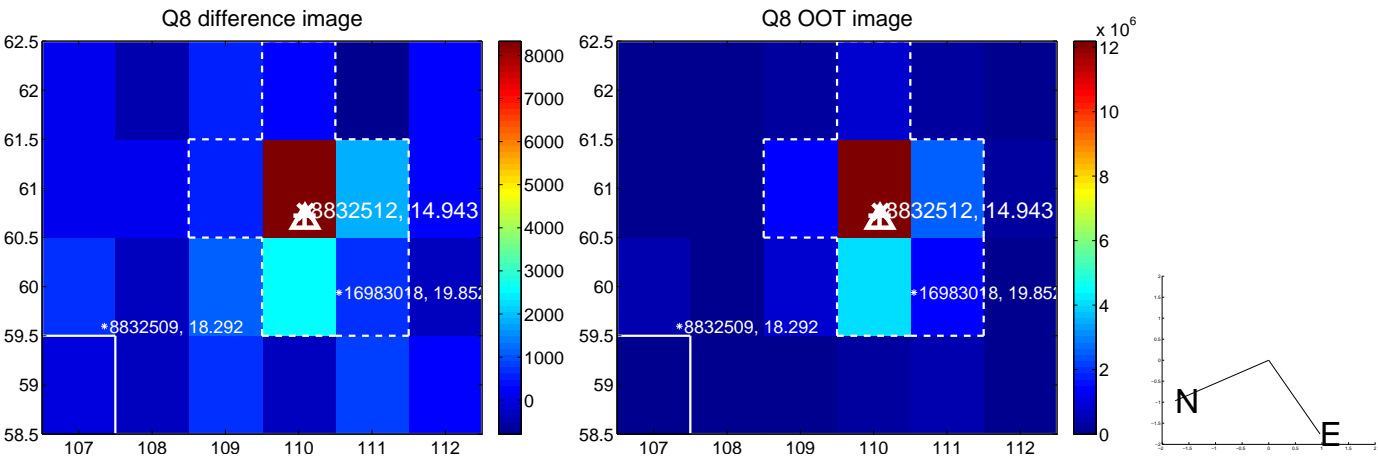
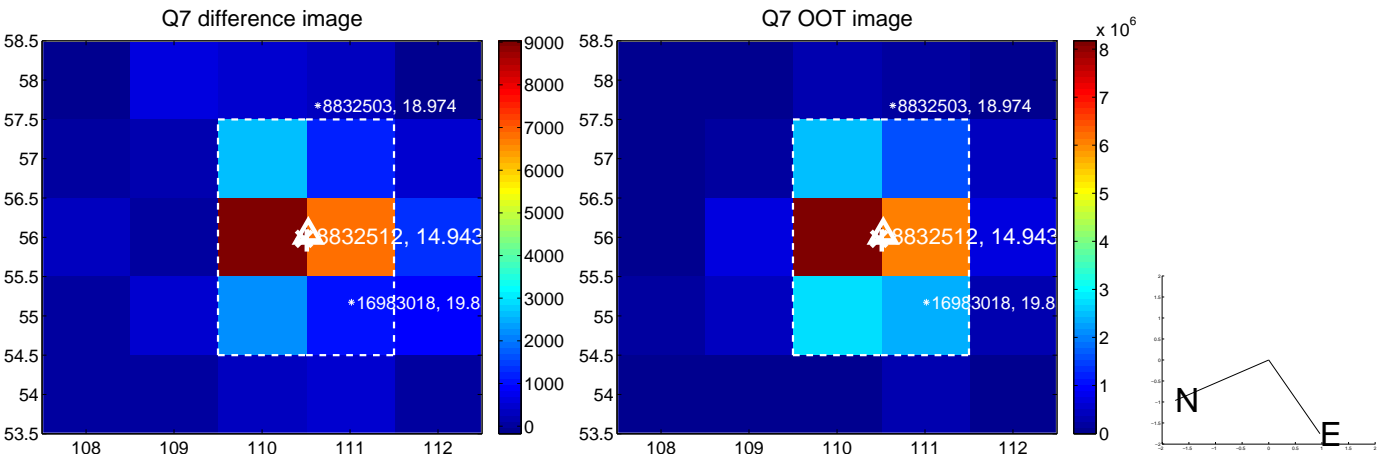
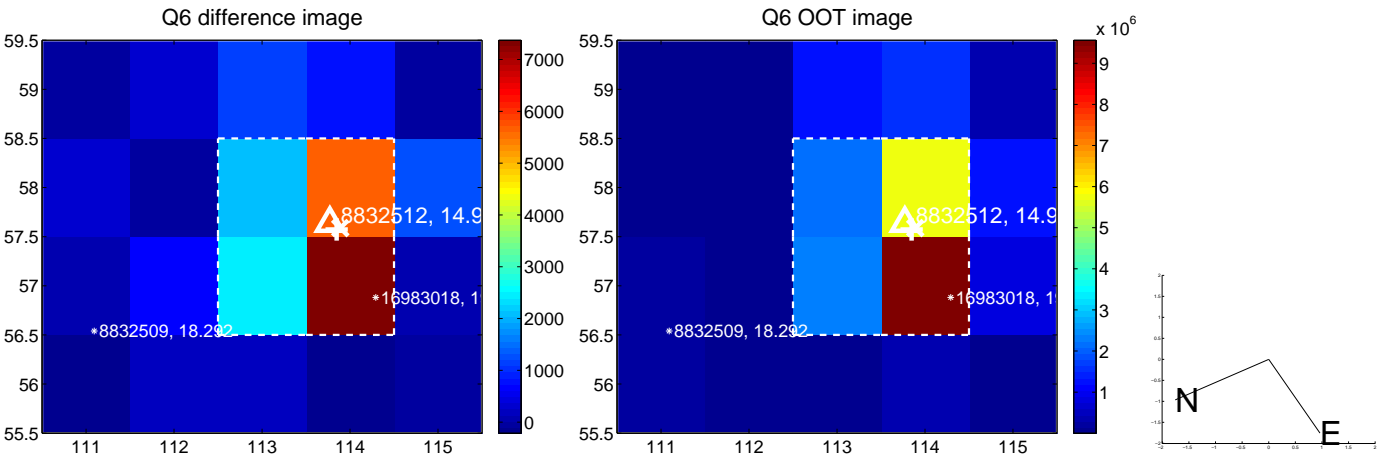
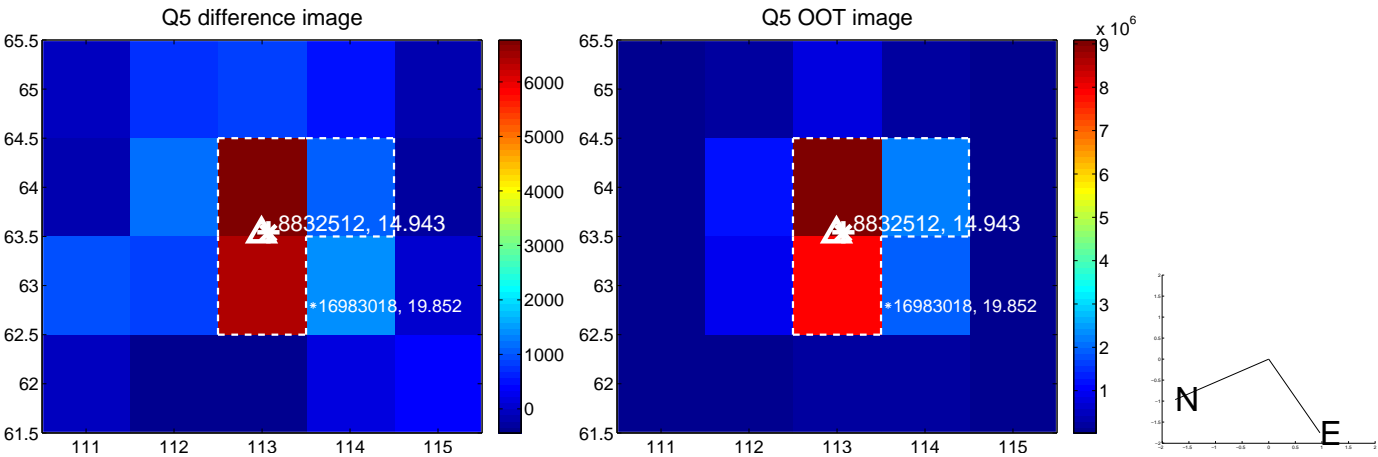


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

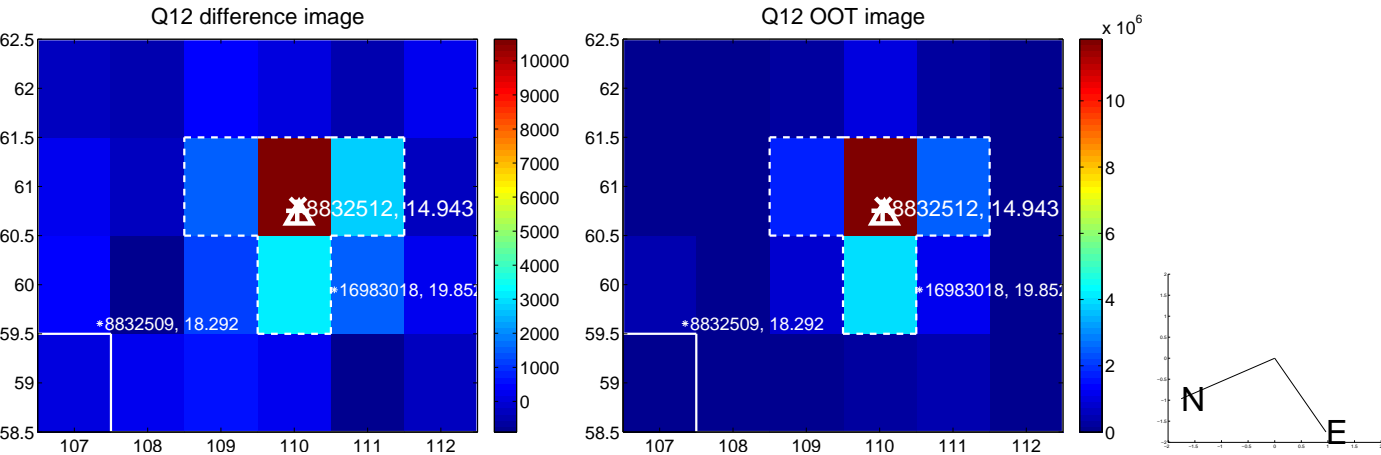
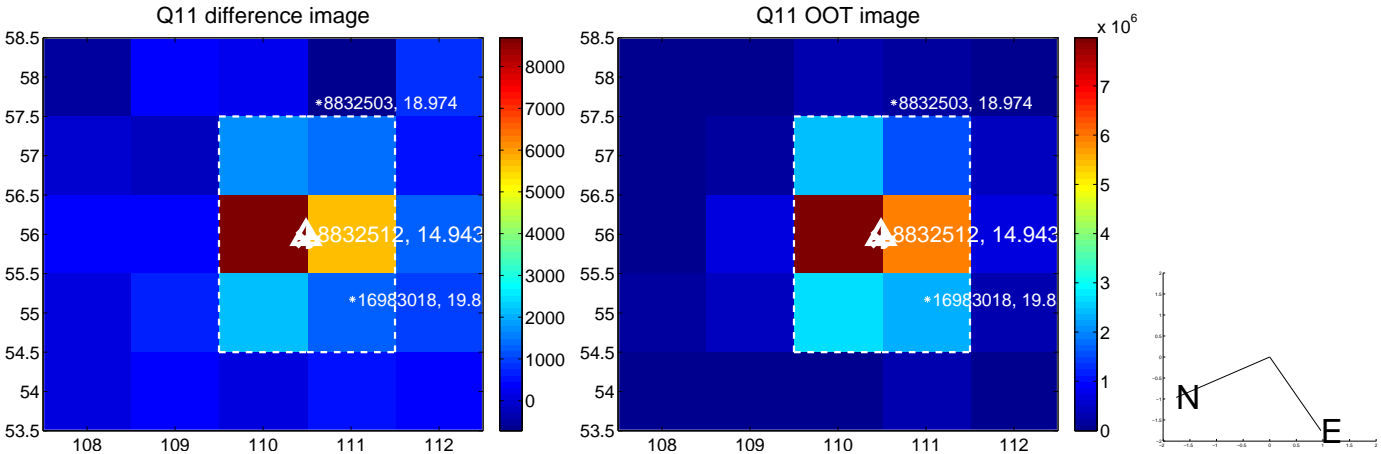
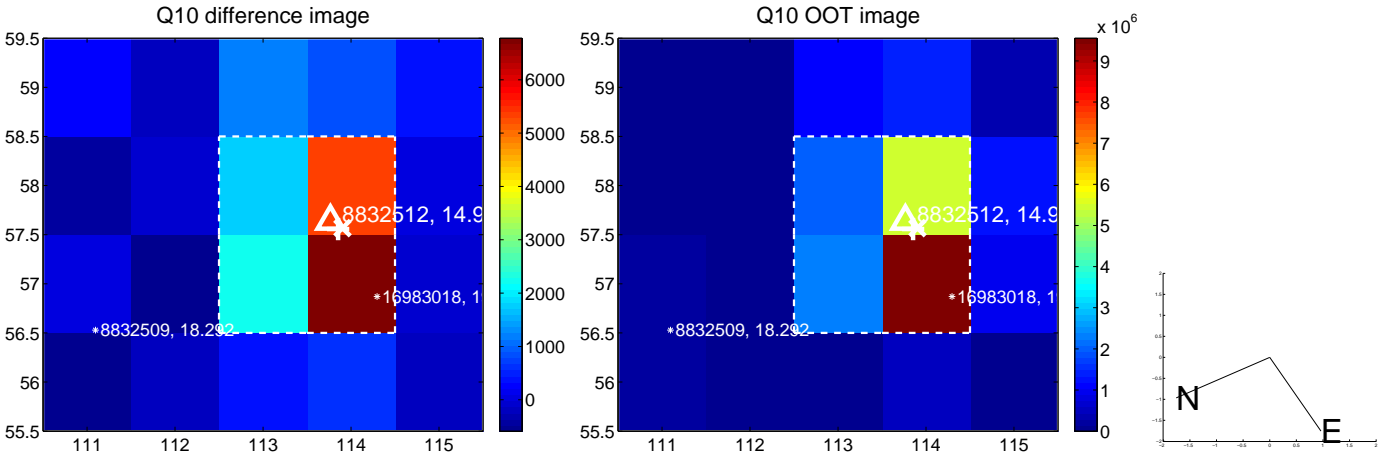
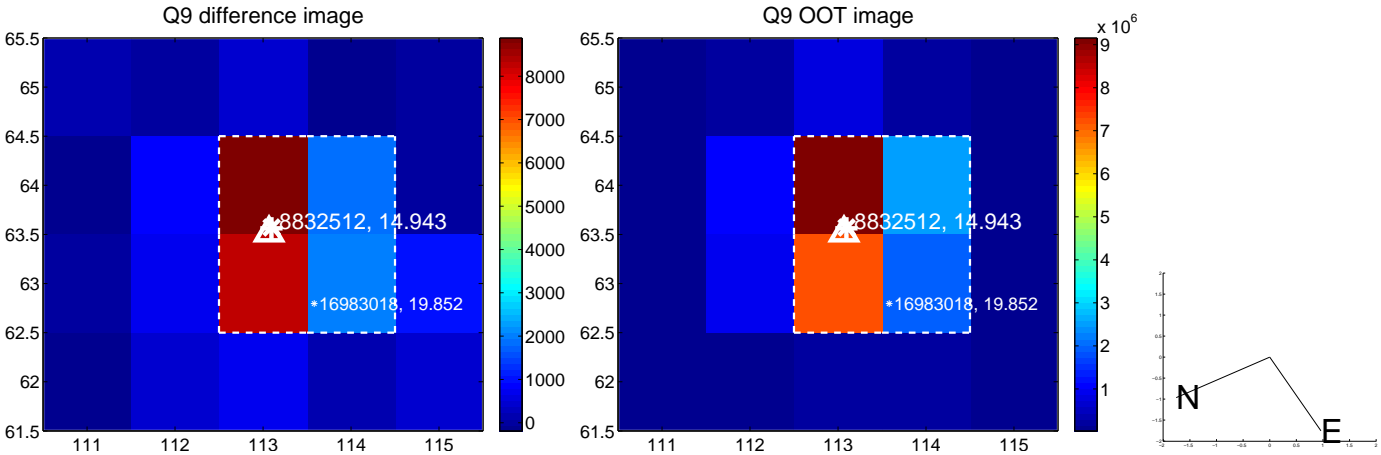
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



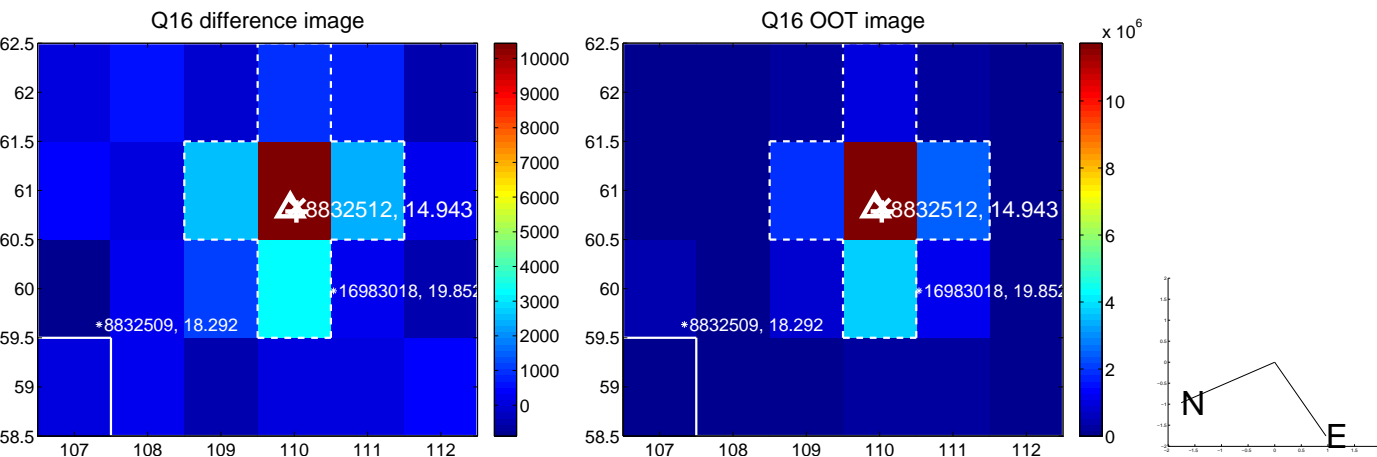
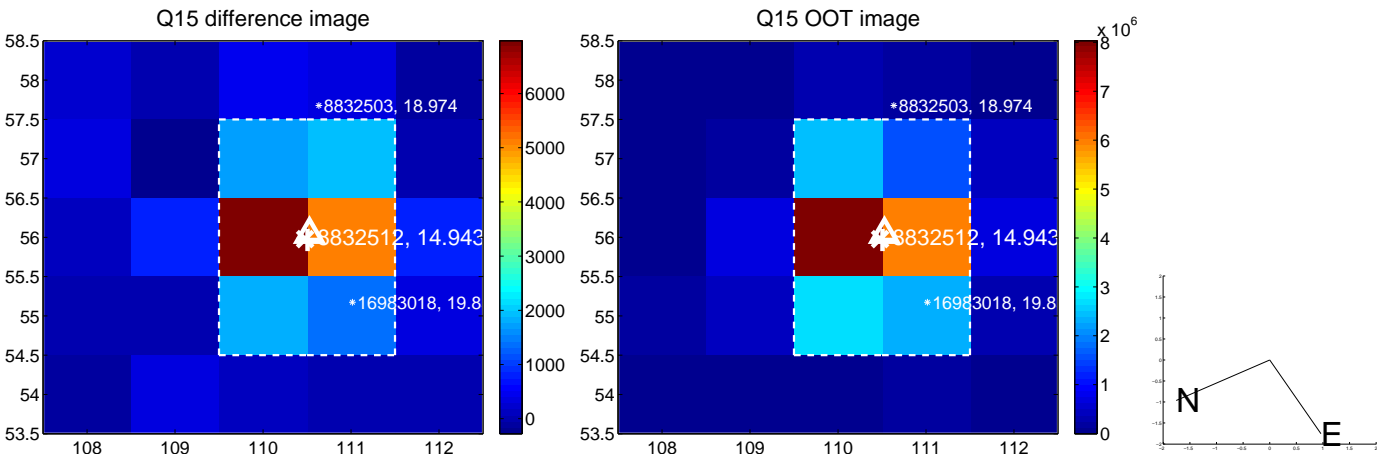
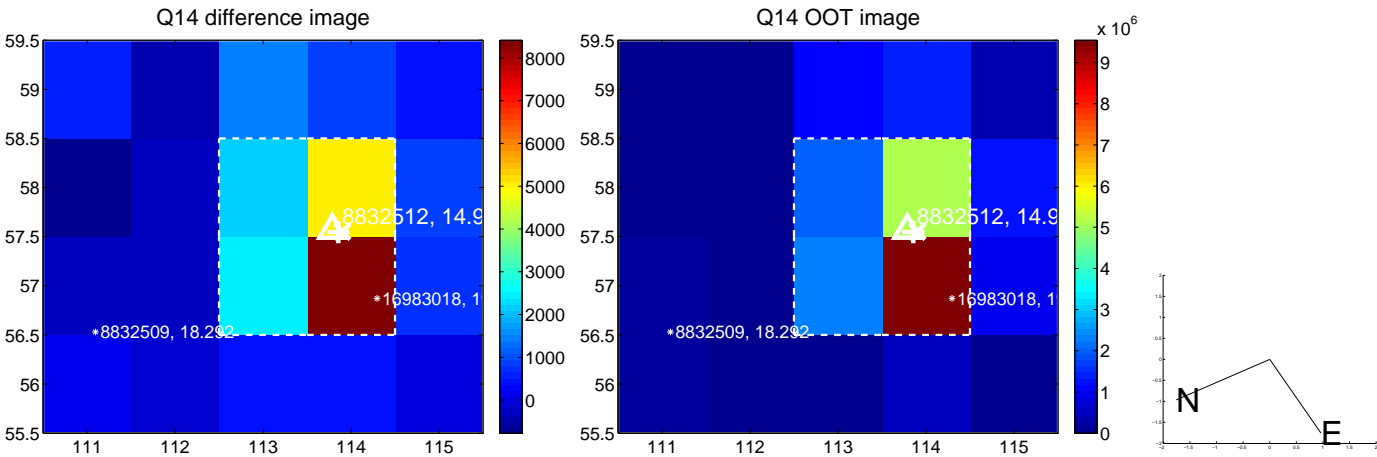
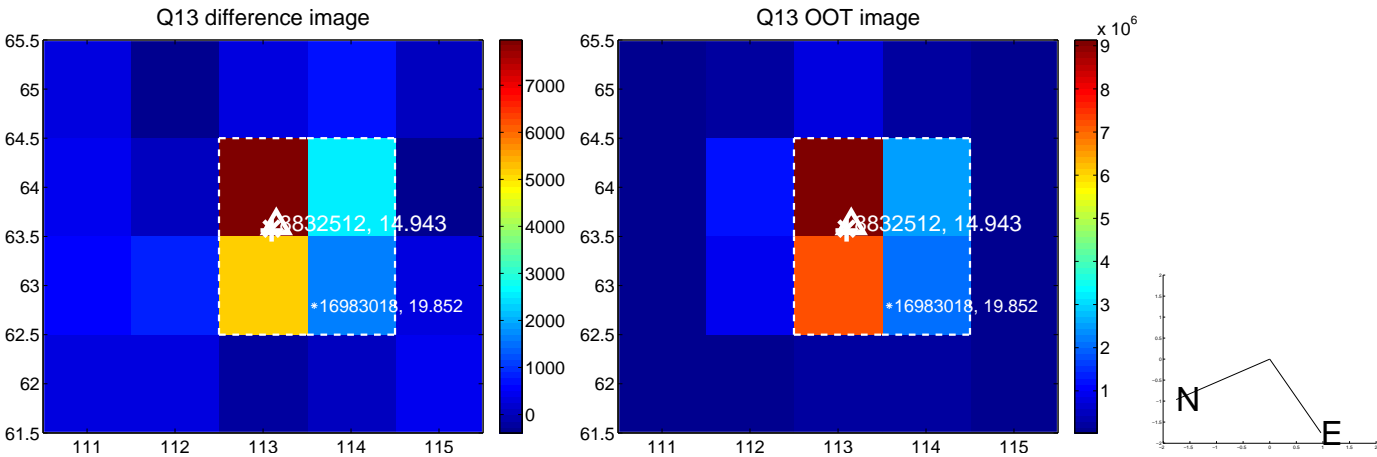
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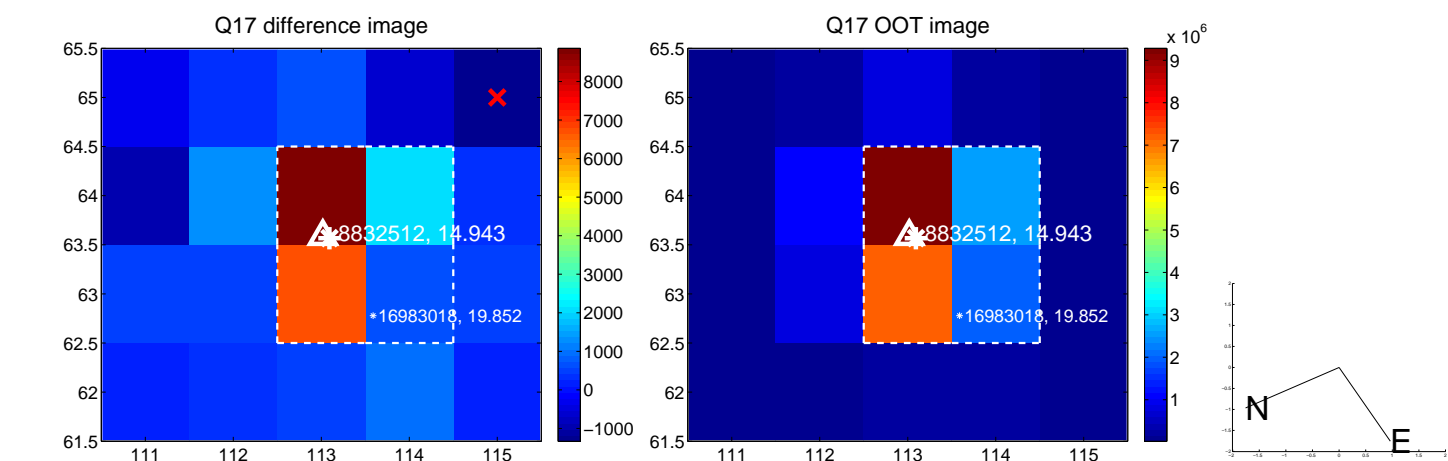
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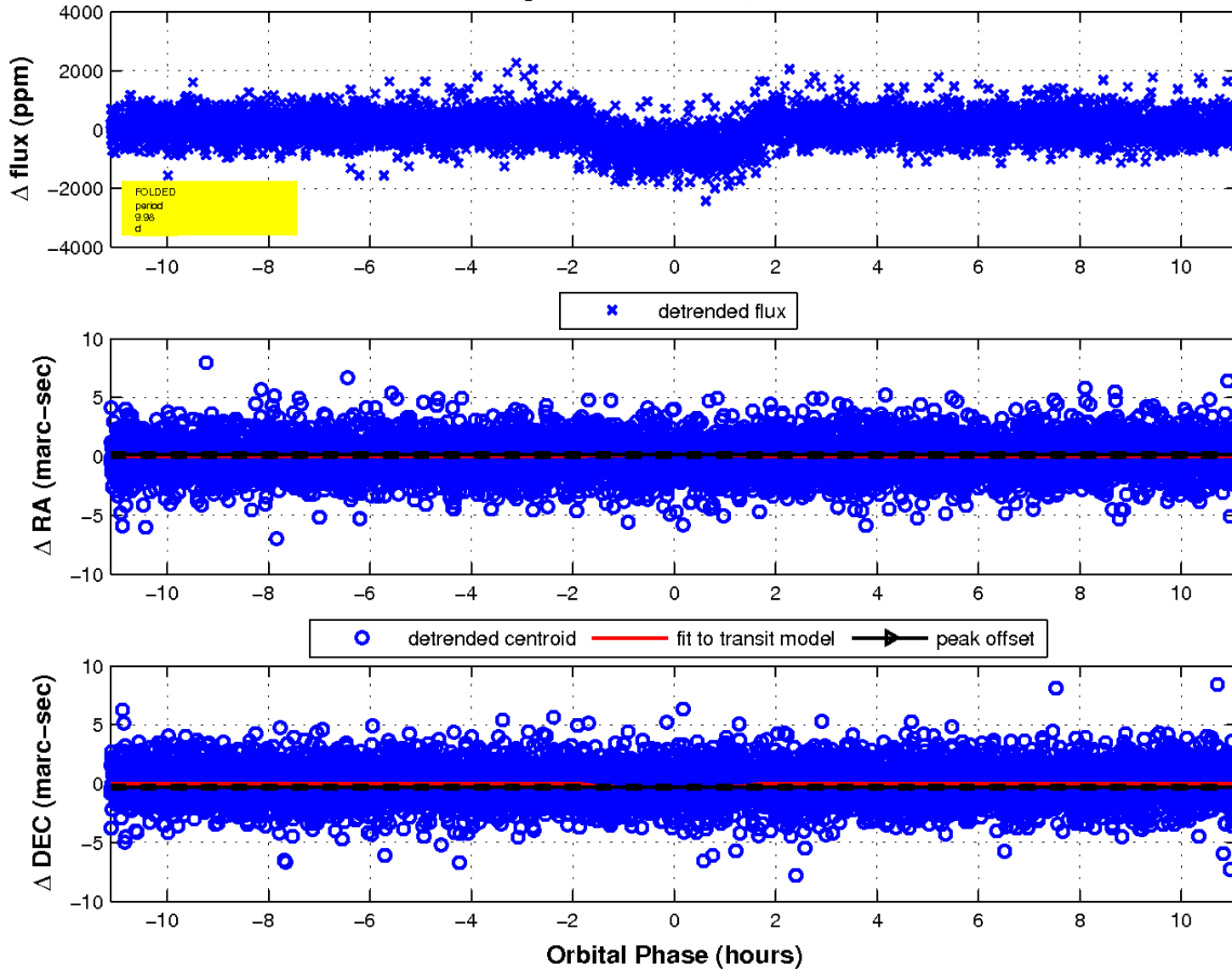
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

