

KIC 005780930

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})
005780930-01	OBS	3412.01	16.752510	131.596656	341.2	3.336	17.2	19.9	1.80	4807	4.04	97.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005780930-01	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.

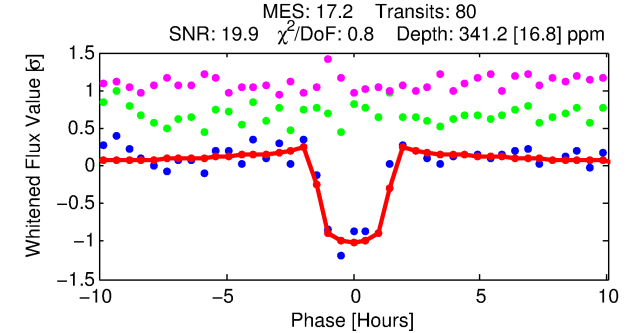
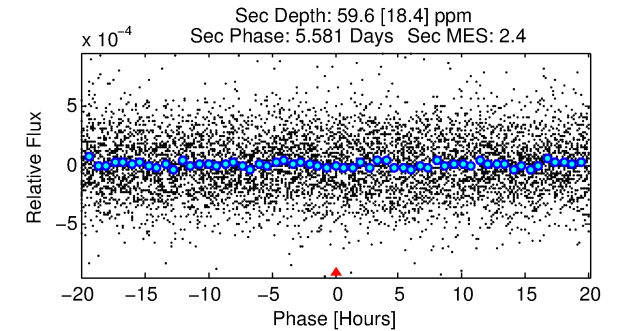
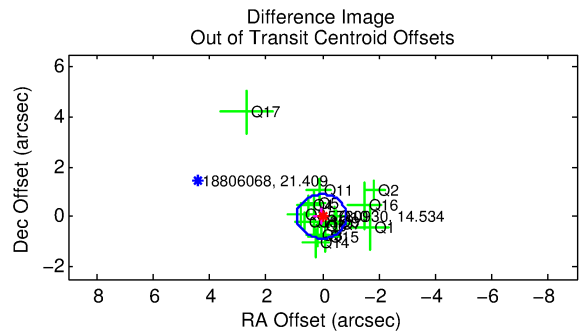
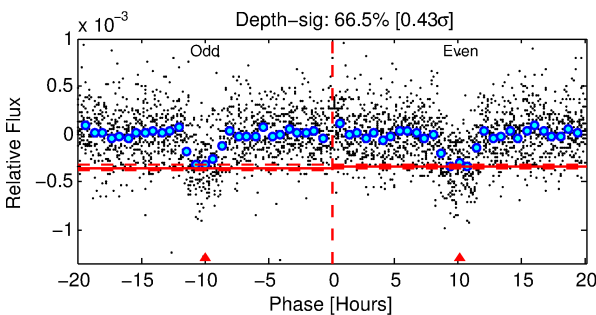
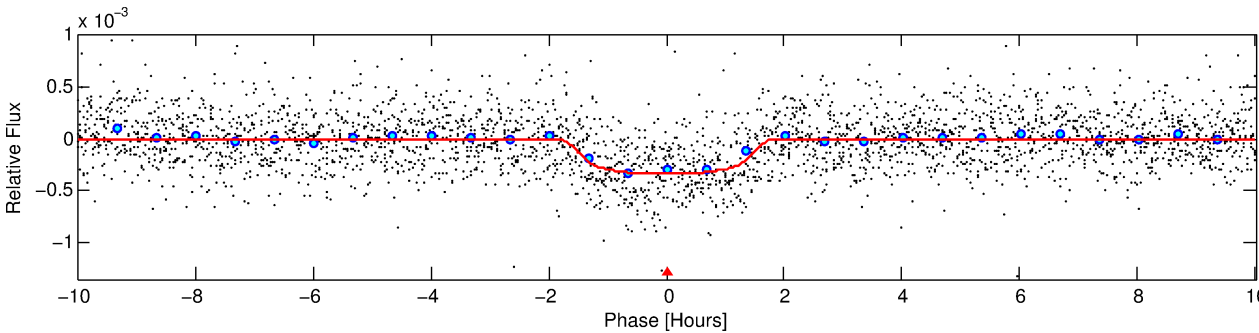
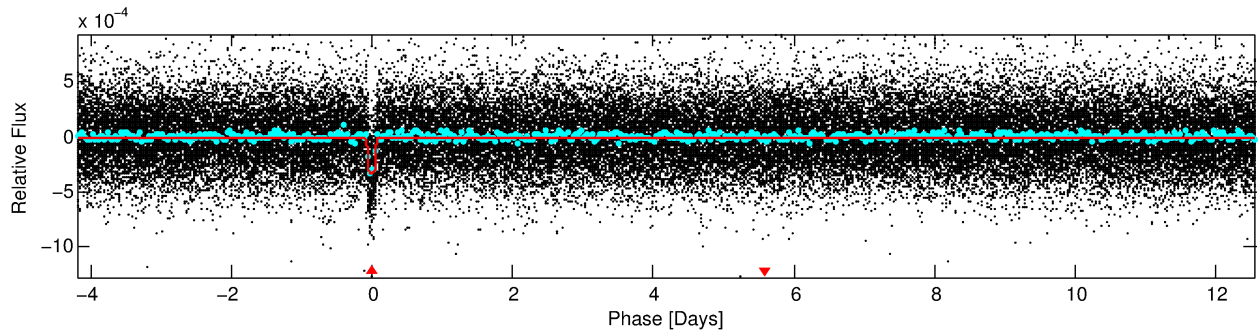
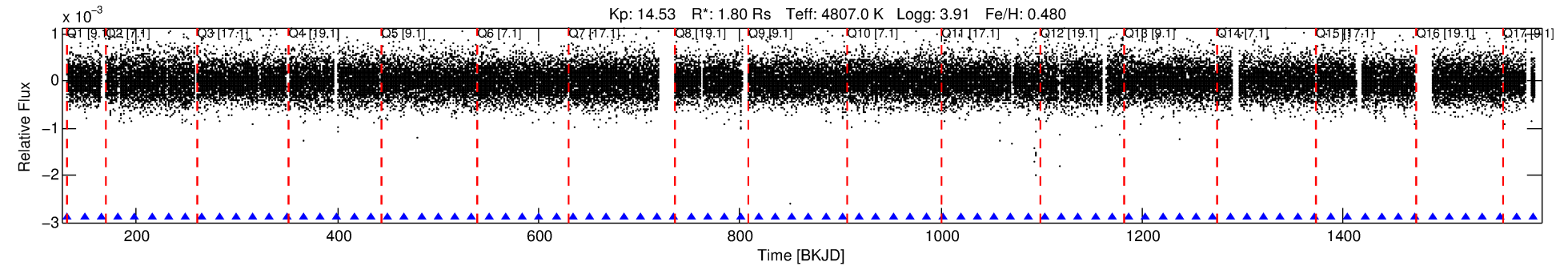
Ephemeris Match Information For 005780930-01

No Significant Match Found

DV One-Page Summary

KIC: 5780930 Candidate: 1 of 1 Period: 16.753 d

KOI: K03412.01 Corr: 0.977



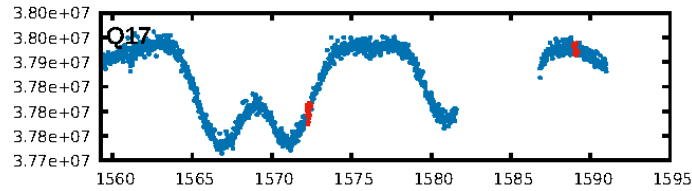
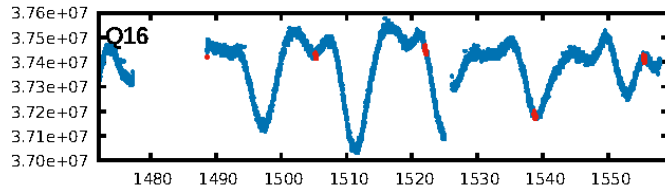
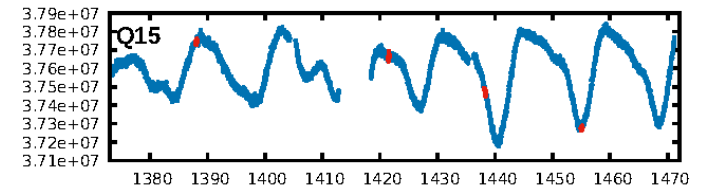
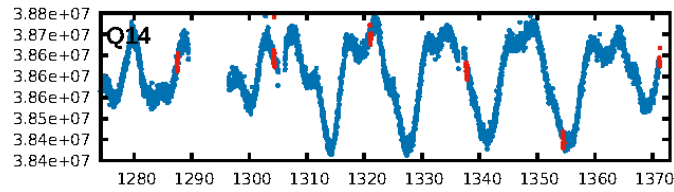
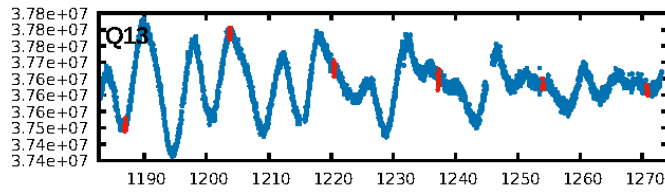
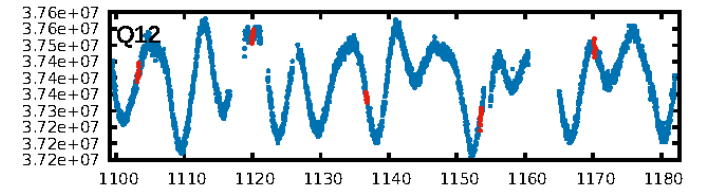
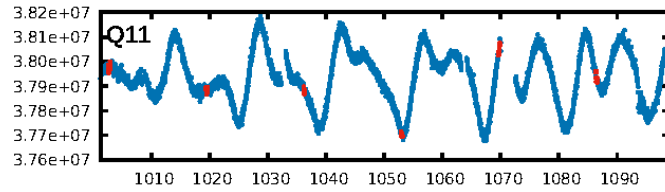
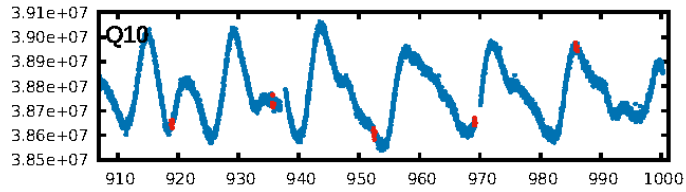
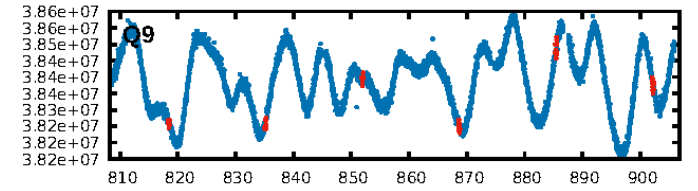
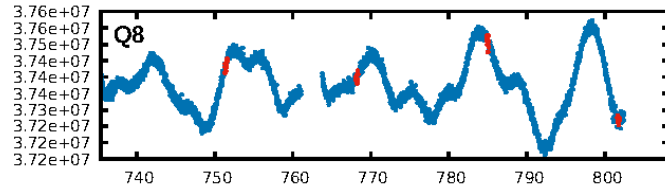
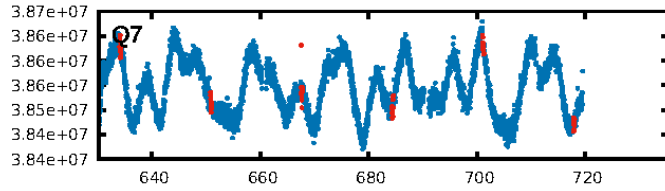
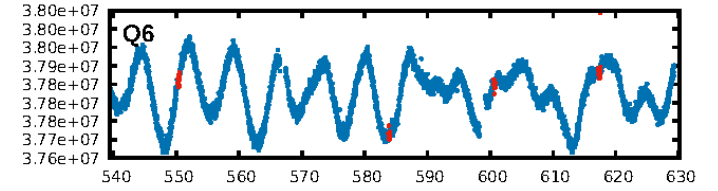
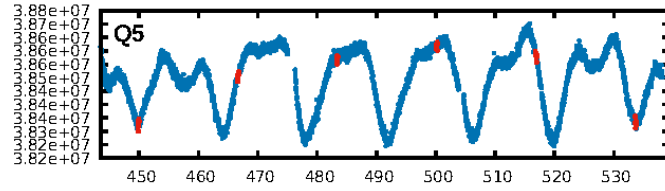
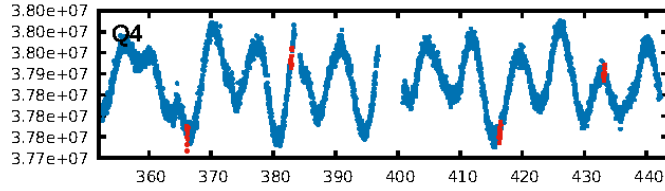
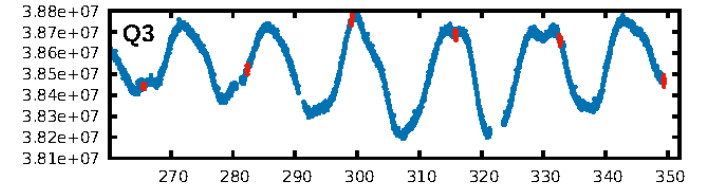
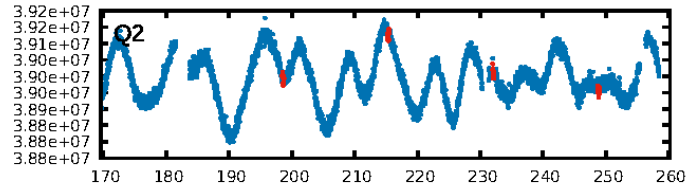
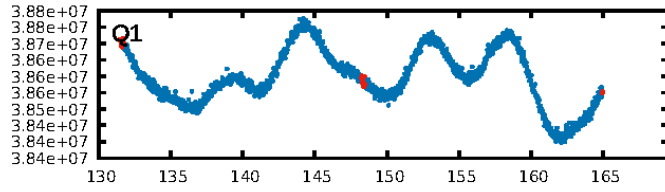
DV Fit Results:

Period = 16.75251 [0.00007] d
Epoch = 131.5967 [0.0033] BKJD
Rp/R* = 0.0206 [0.0050]
a/R* = 19.28 [16.97]
b = 0.89 [0.22]
Seff = 97.60 [113.03]
Teff = 801 [232] K
Rp = 4.04 [2.72] Re
a = 0.1262 [0.0859] AU
Ag = 31.89 [41.12] [0.75 σ]
Teffp = 2945 [432] K [4.37 σ]

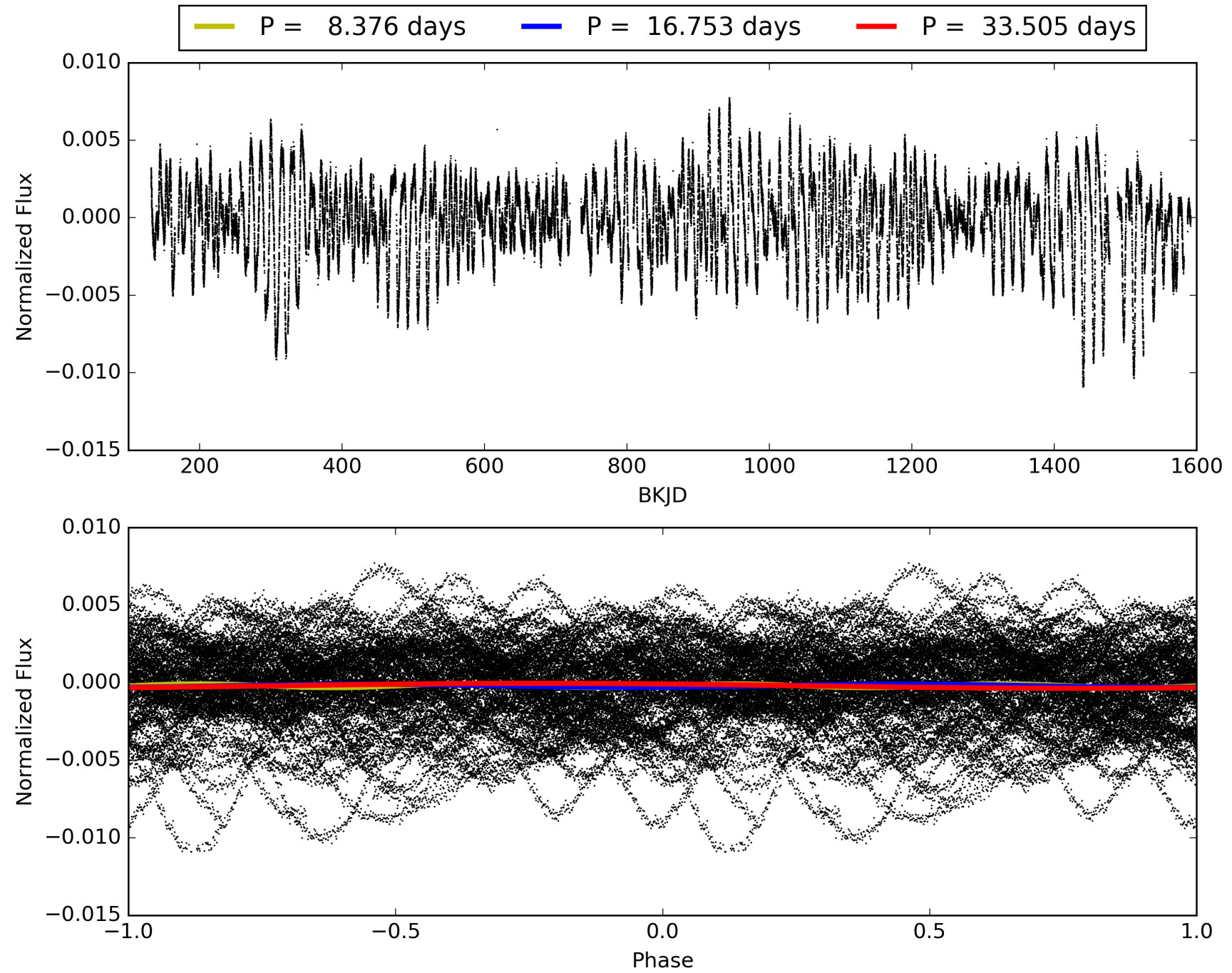
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.75e-59
RollingBand-fgt: 1.00 [76/76]
GhostDiagnostic-chr: 8.249
Centroid-sig: 6.2%
Centroid-so: 0.961 arcsec [1.90 σ]
OotOffset-rm: 0.029 arcsec [0.10 σ]
KicOffset-rm: 0.234 arcsec [0.77 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005780930-01, PDC Light Curves

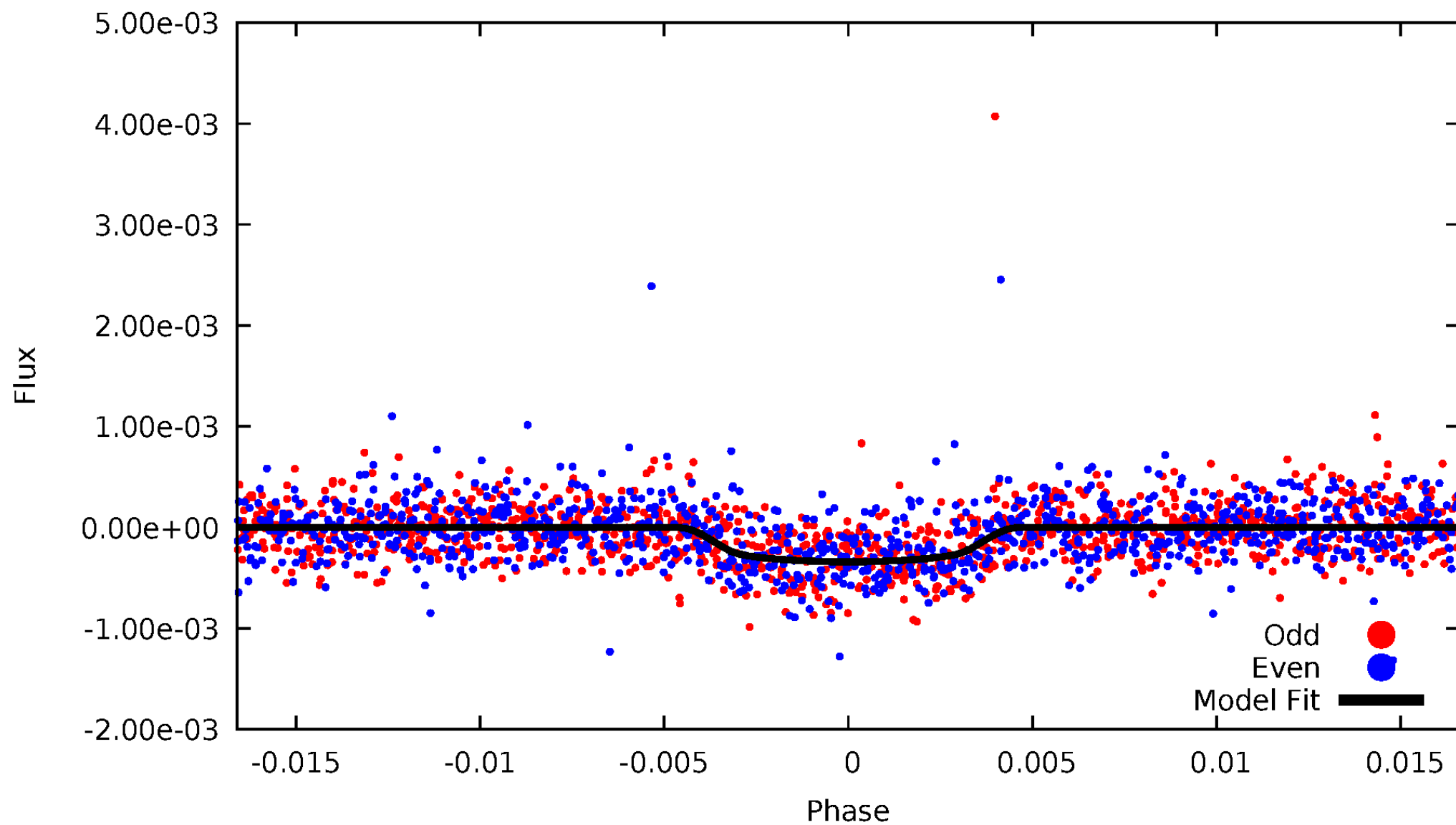


TCE 005780930-01



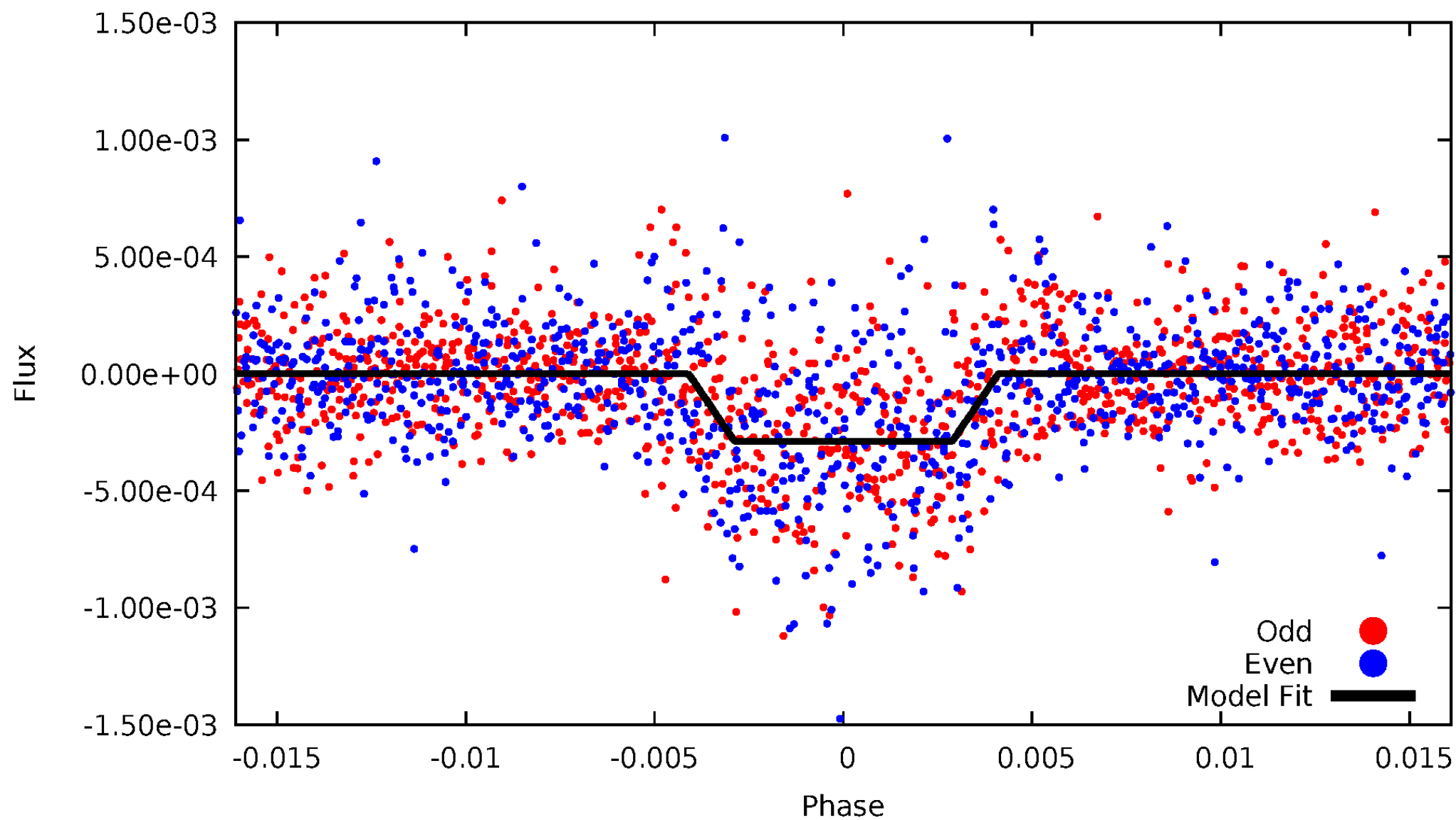
DV Odd/Even

TCE 005780930-01

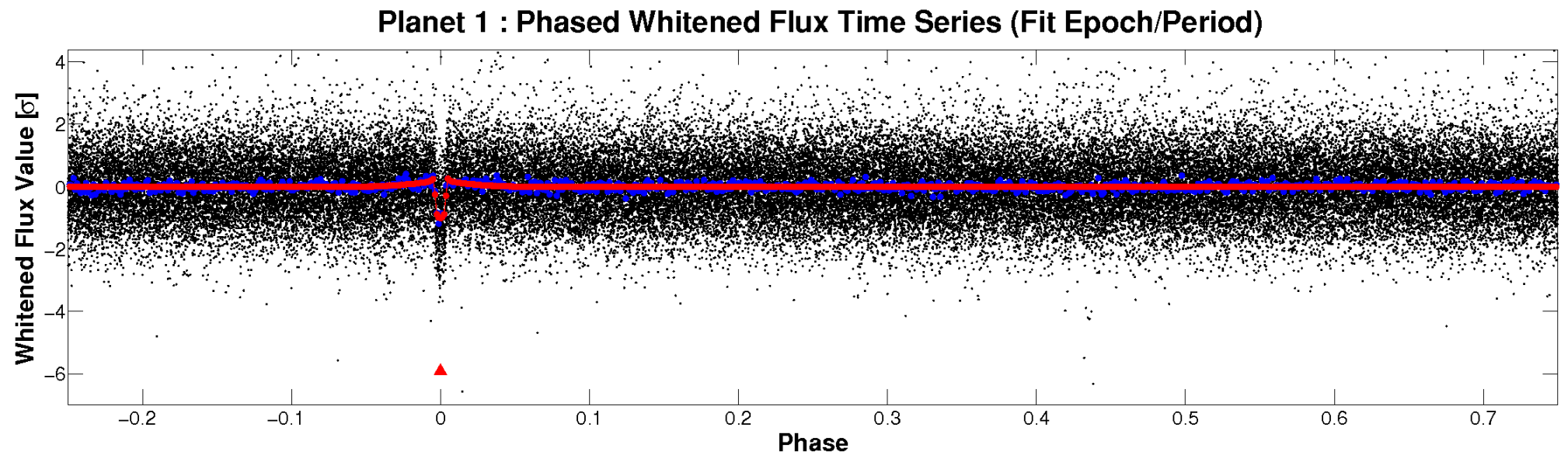
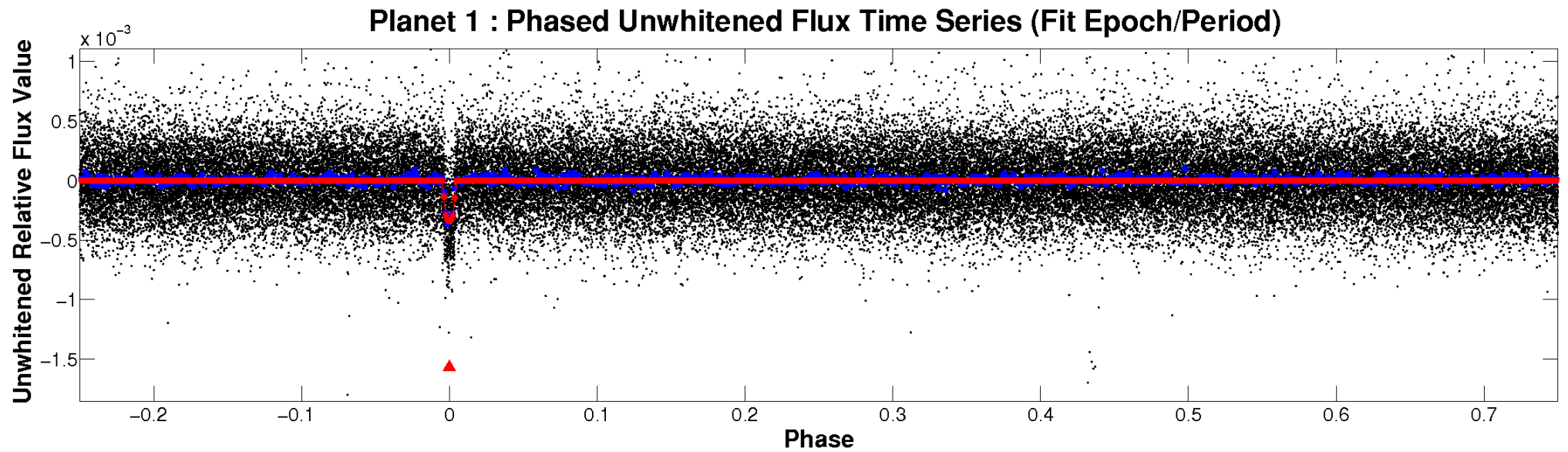


ALT Odd/Even

TCE 005780930-01

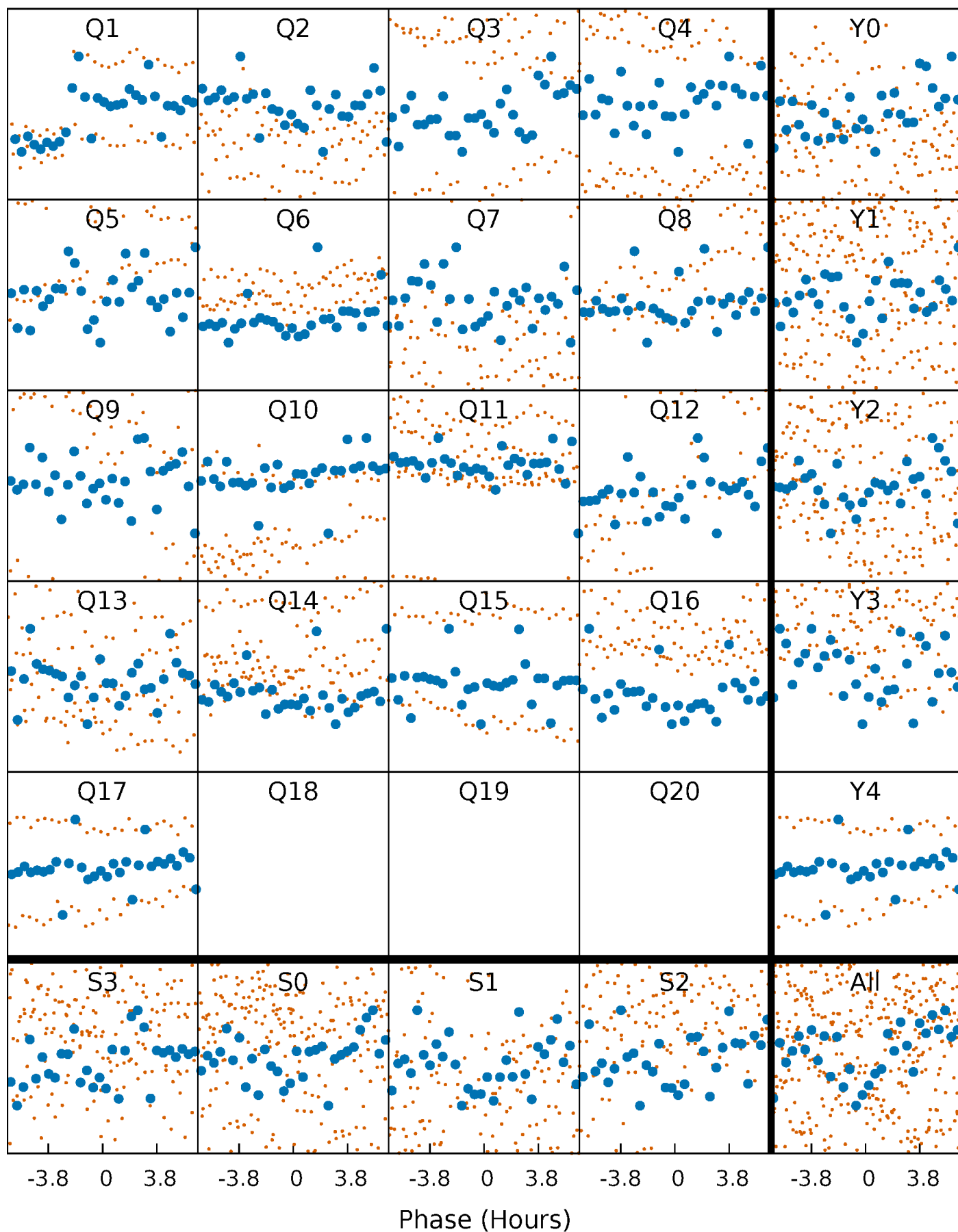


Non-Whitened Vs. Whitened Light Curve



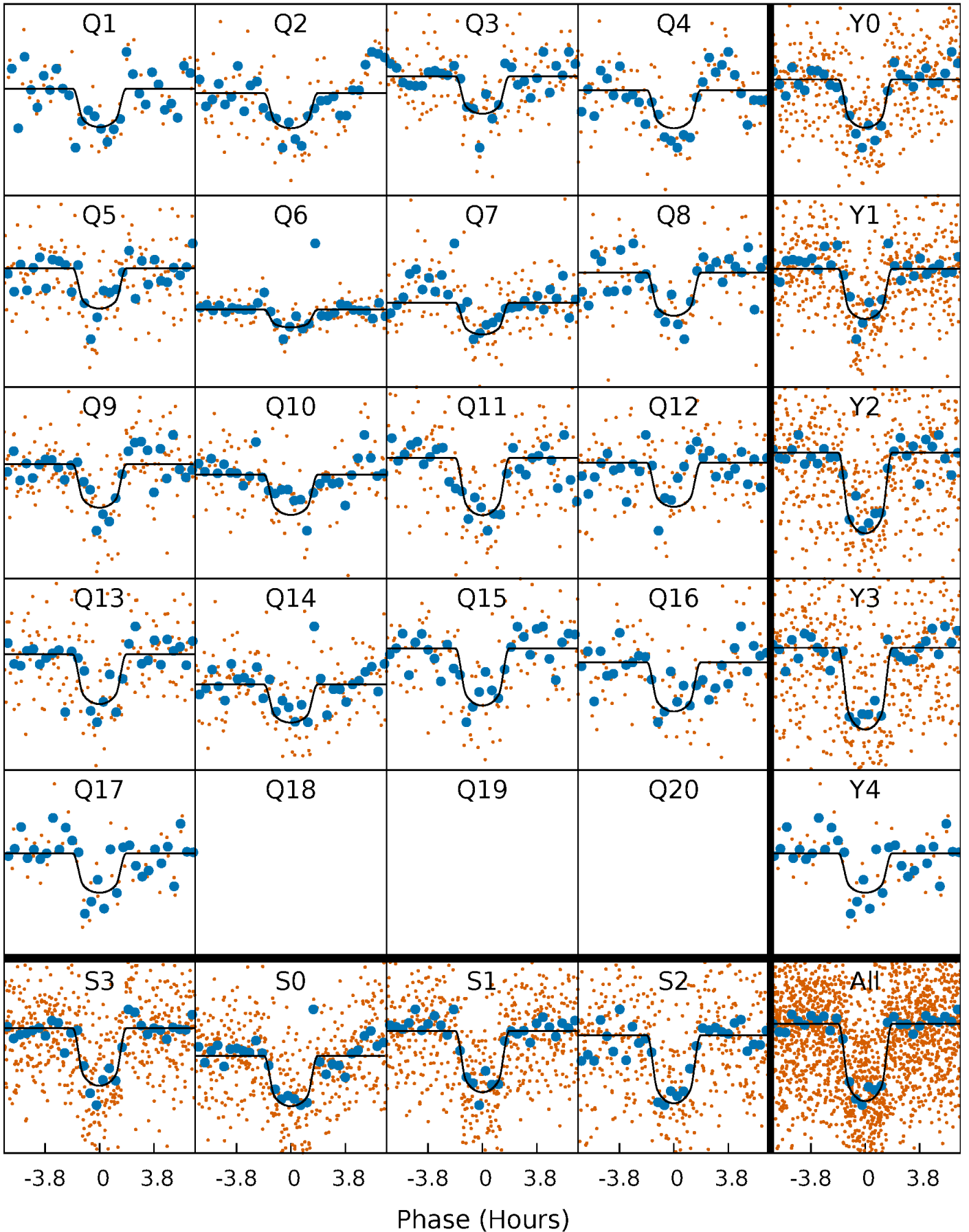
PDC Quarter-Phased Transit Curves

TCE 005780930-01 P= 16.752510 Days $T_0=131.596656$ (BKJD)



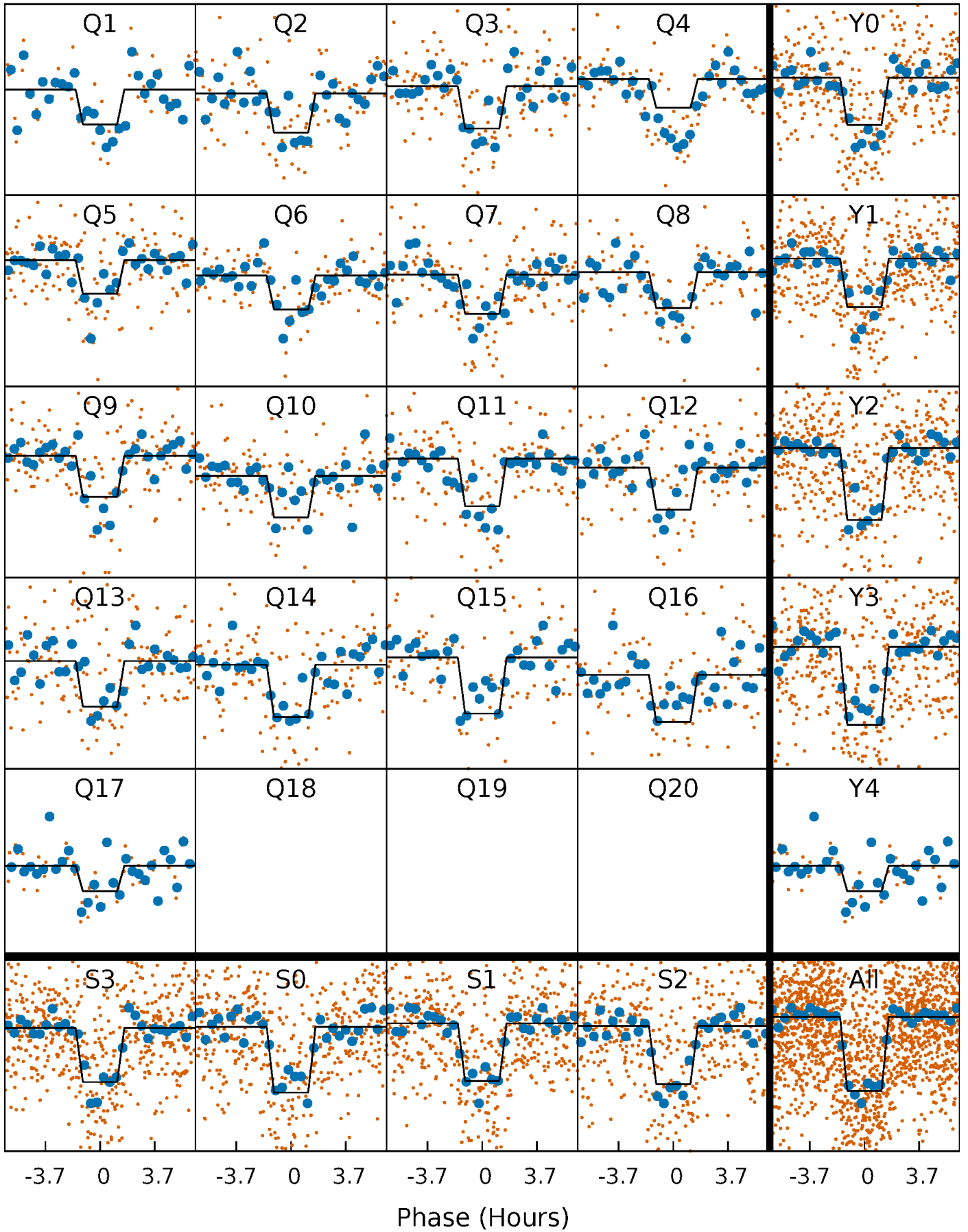
DV Quarter-Phased Transit Curves

TCE 005780930-01 P= 16.752510 Days $T_0=131.596656$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

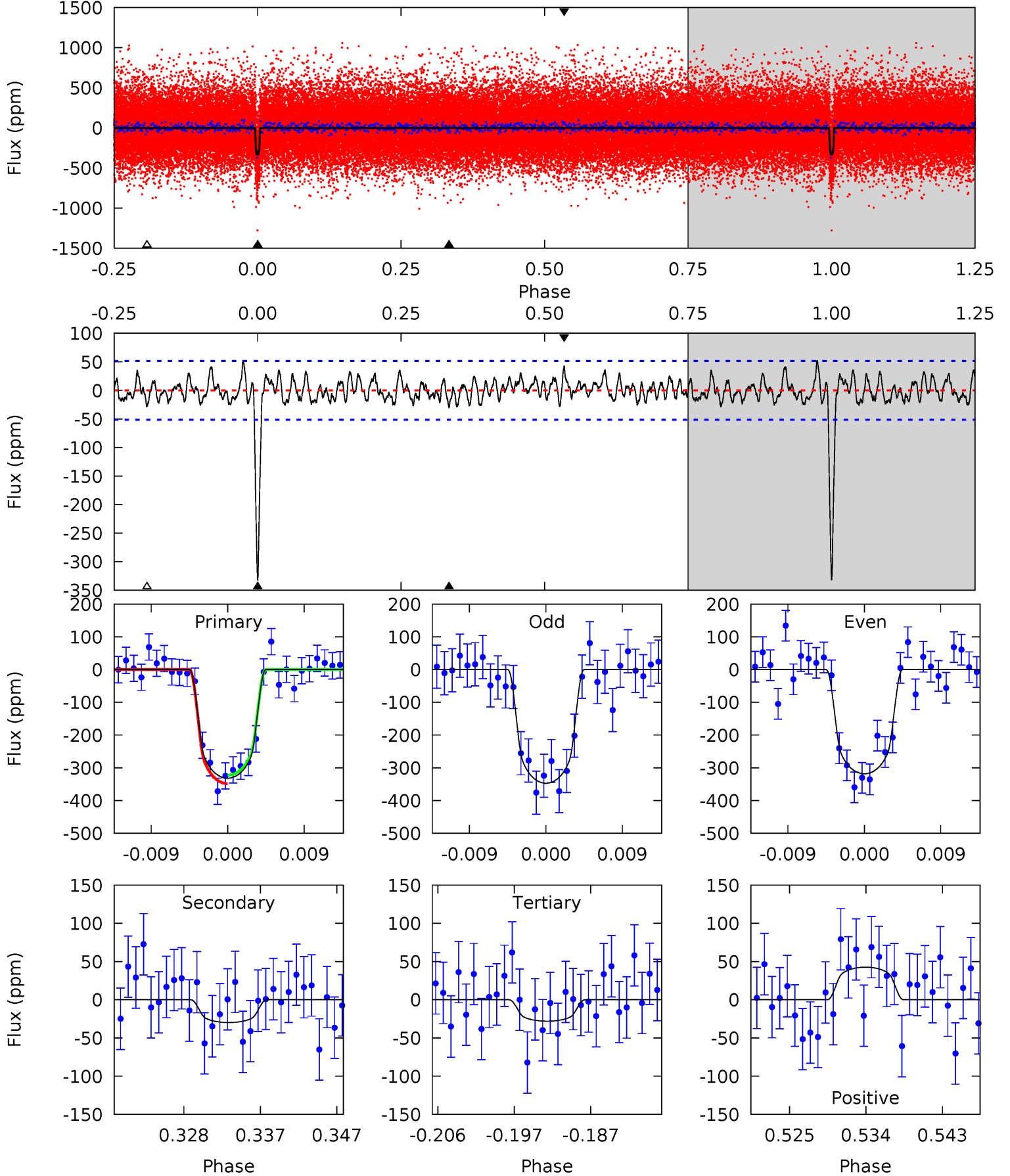
TCE 005780930-01 P= 16.752616 Days $T_0=131.592735$ (BKJD)



DV Model-Shift Uniqueness Test

005780930-01, $P = 16.752510$ Days, $E = 114.844146$ Days

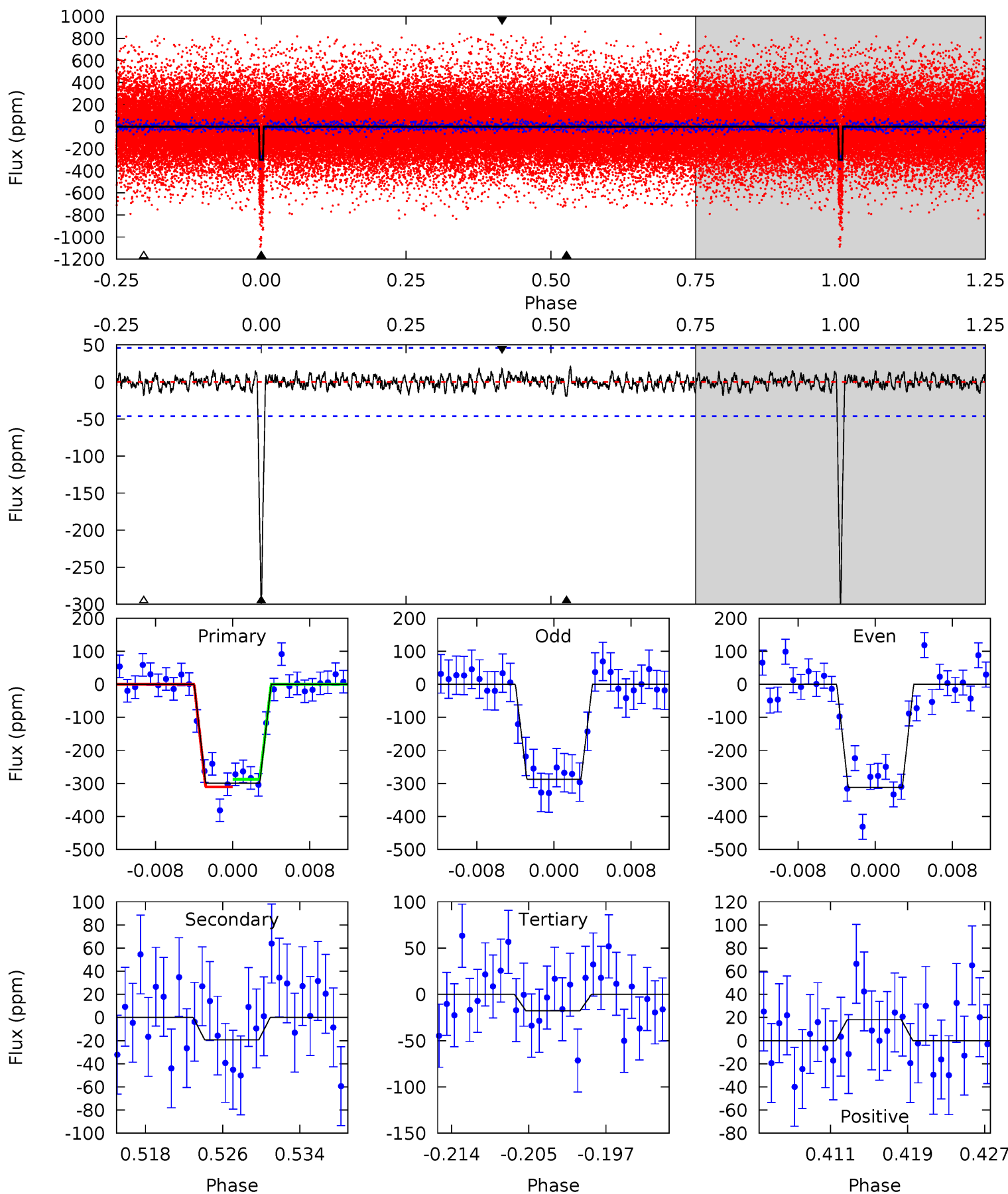
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.4	2.92	2.74	4.17	5.04	2.60	1.42	29.7	28.3	0.18	-1.25	1.42	0.92	0.14	1.27



Alt Model-Shift Uniqueness Test

005780930-01, $P = 16.752616$ Days, $E = 114.840119$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.8	2.13	1.95	1.99	5.06	2.64	0.71	30.9	30.9	0.18	0.14	1.33	1.03	0.07	1.26



Stellar Parameters For KIC 005780930

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4807^{+129}_{-129}	$3.906^{+0.700}_{-0.300}$	$0.480^{+0.050}_{-0.250}$	$1.802^{+1.029}_{-1.131}$	$0.955^{+0.196}_{-0.160}$	$0.230^{+2.420}_{-0.139}$
	+3%/-3%	+18%/-8%	+10%/-52%	+57%/-63%	+21%/-17%	+1053%/-60%
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 005780930-01 / KOI 3412.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-30 ± 10	$3.86^{+1.56}_{-1.45}$	1099^{+155}_{-171}	3031^{+319}_{-219}	17^{+28}_{-9}
Alt.	-19 ± 9	$3.21^{+1.53}_{-1.25}$	1102^{+159}_{-185}	2986^{+395}_{-292}	15^{+31}_{-9}

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 $A_{\text{obs}} \gg 1.0$

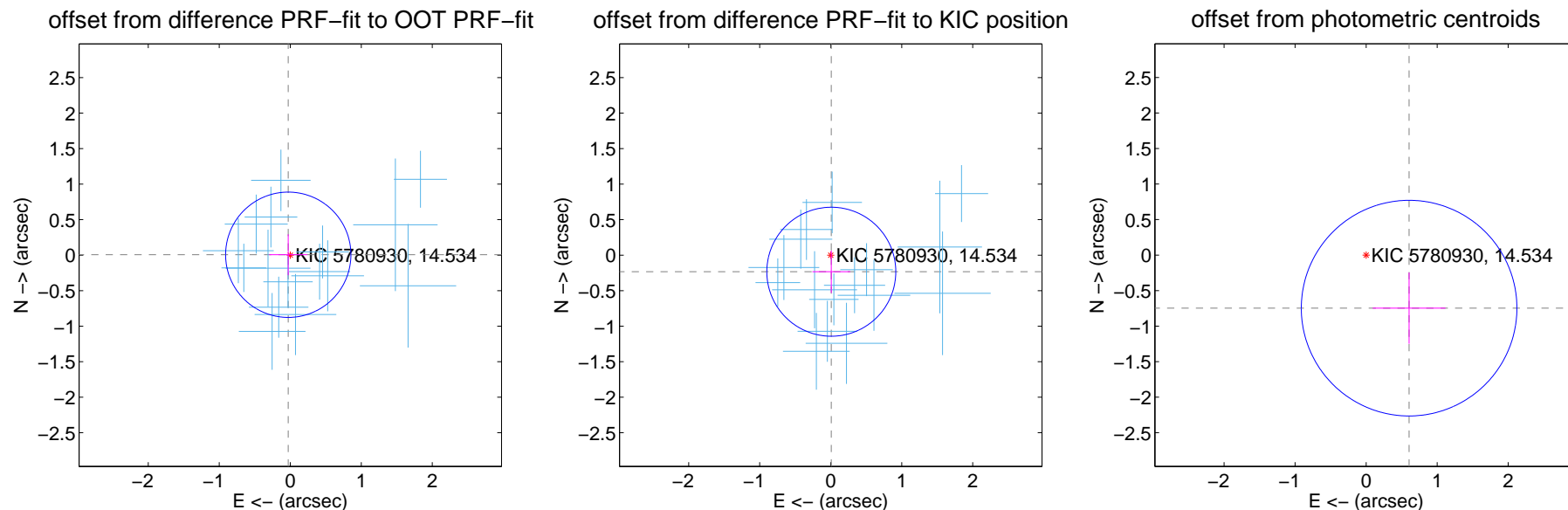
DV Centroid Data

Supplemental centroid analysis for 005780930-01. Kepler magnitude: 14.53. Transit SNR 19.85

There are 16 quarters with good PRF difference image offsets

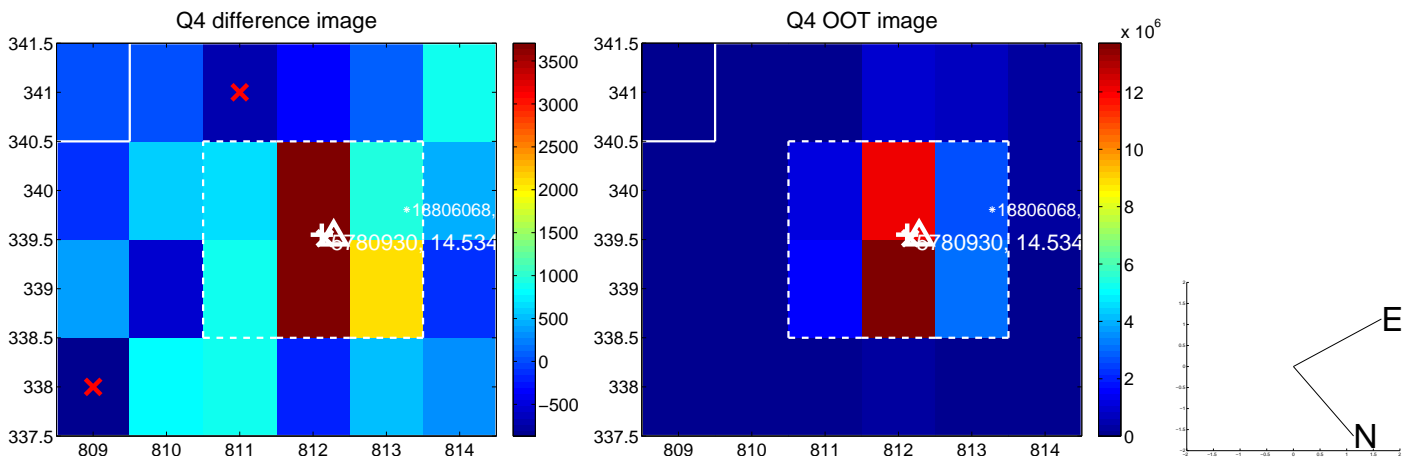
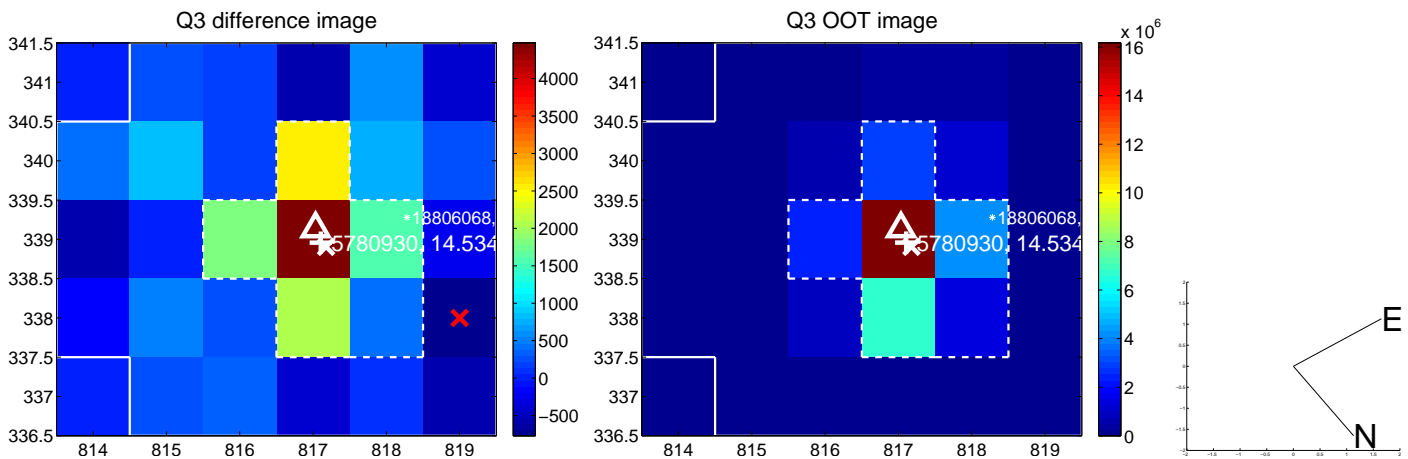
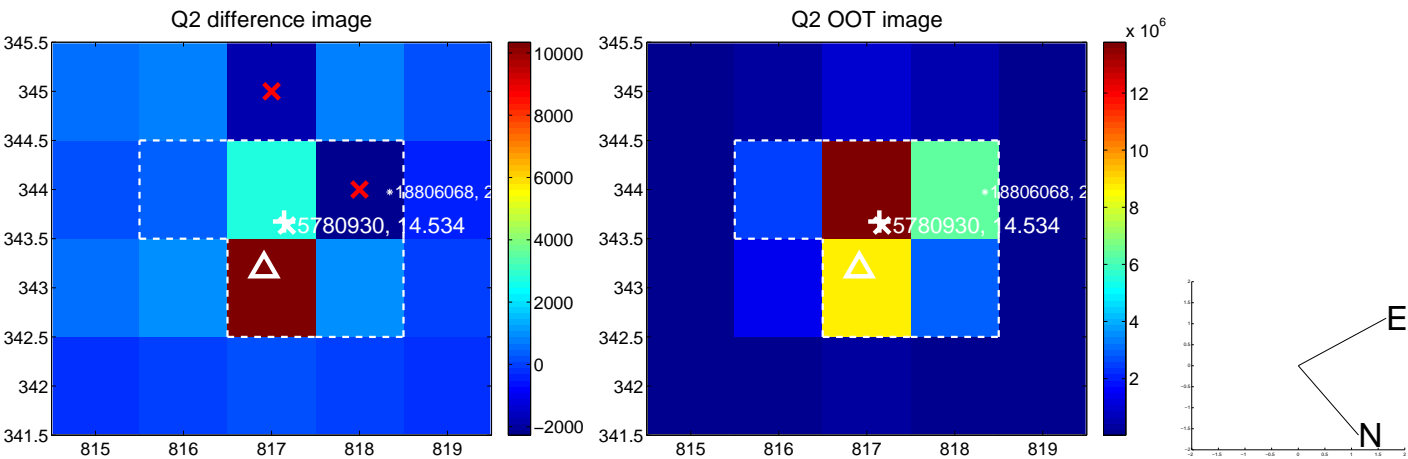
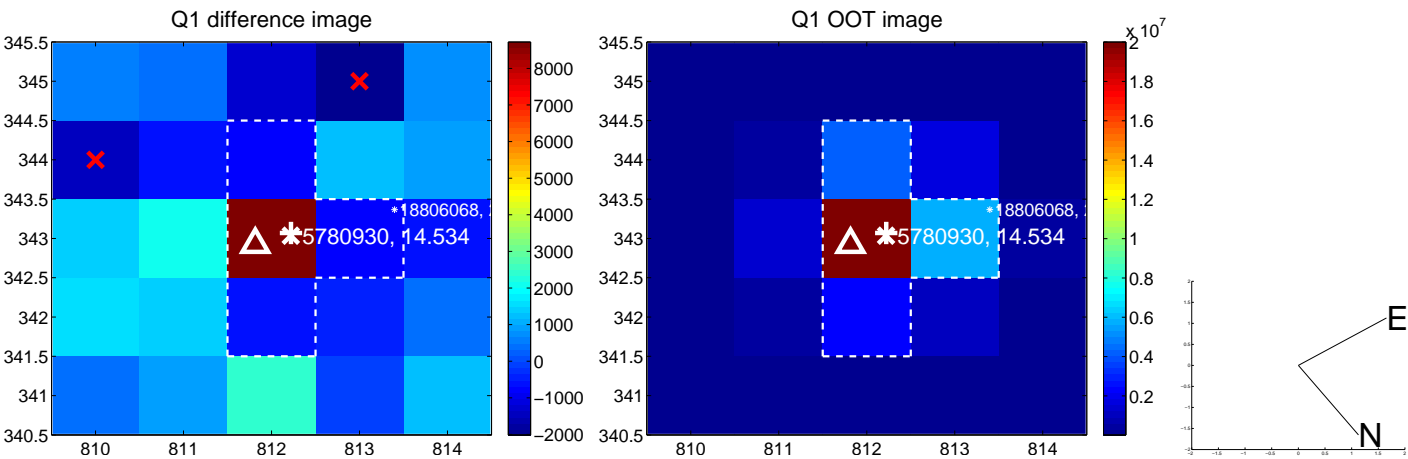
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.029 ± 0.294	0.10	0.028 ± 0.268	0.006 ± 0.289
PRF-fit source offset from KIC position	0.234 ± 0.303	0.77	-0.008 ± 0.266	-0.233 ± 0.298
photometric centroid source offset	0.96 ± 0.51	1.90	-0.61 ± 0.51	-0.75 ± 0.50

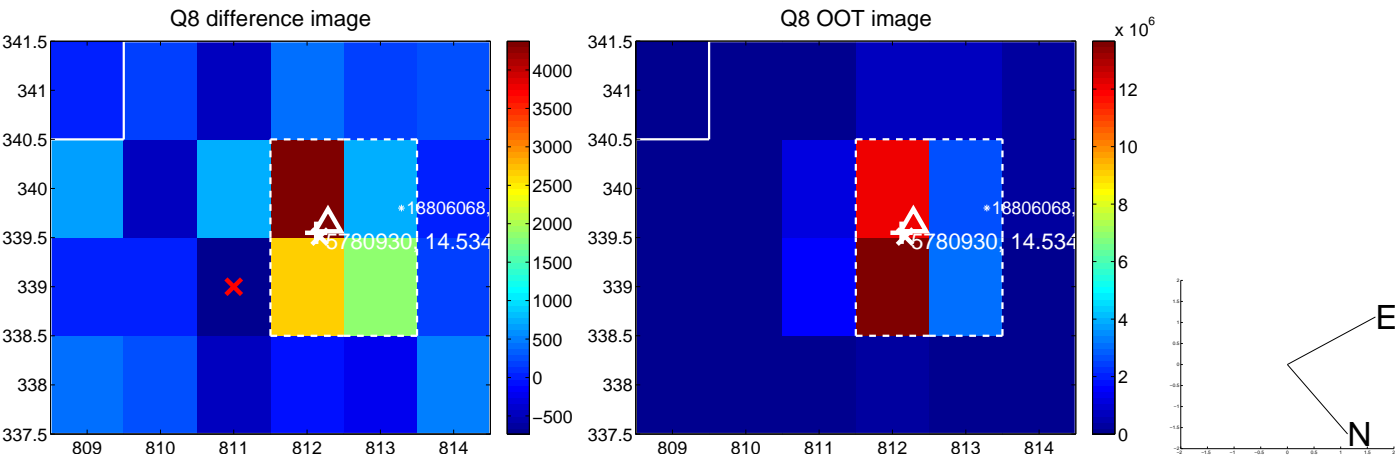
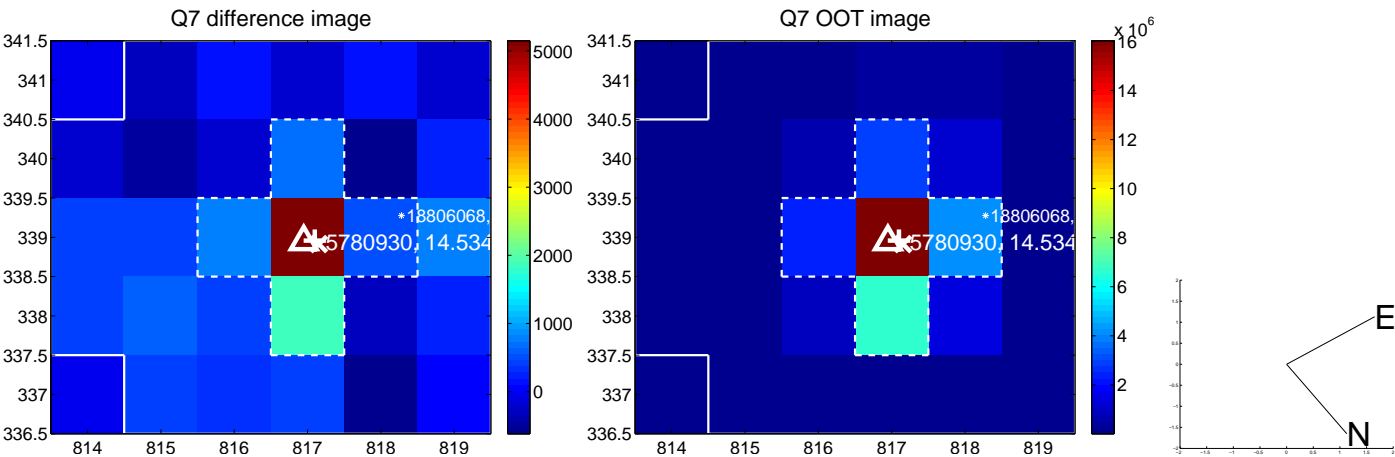
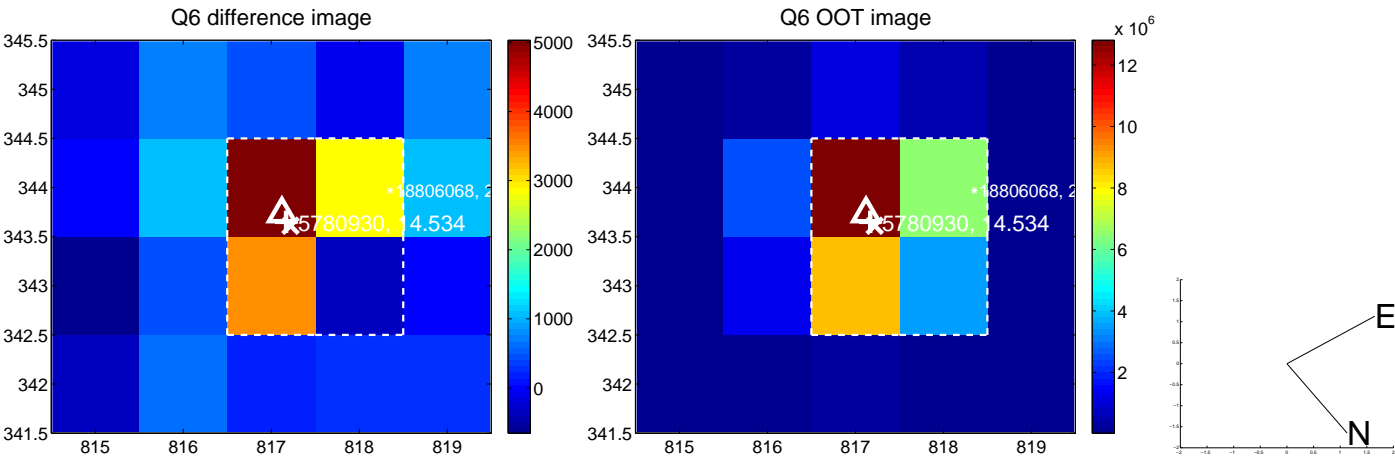
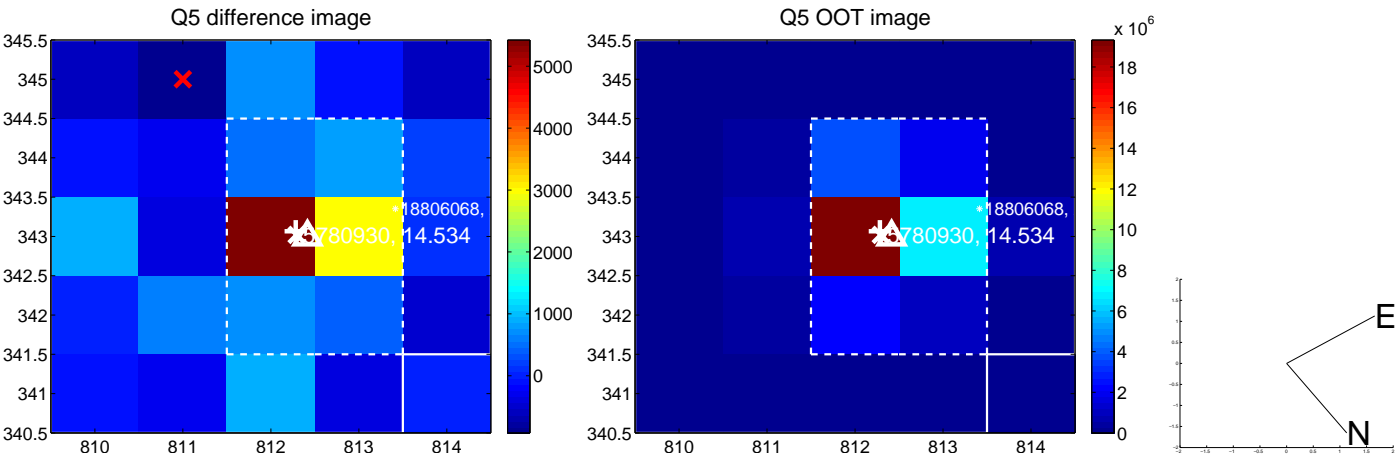


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

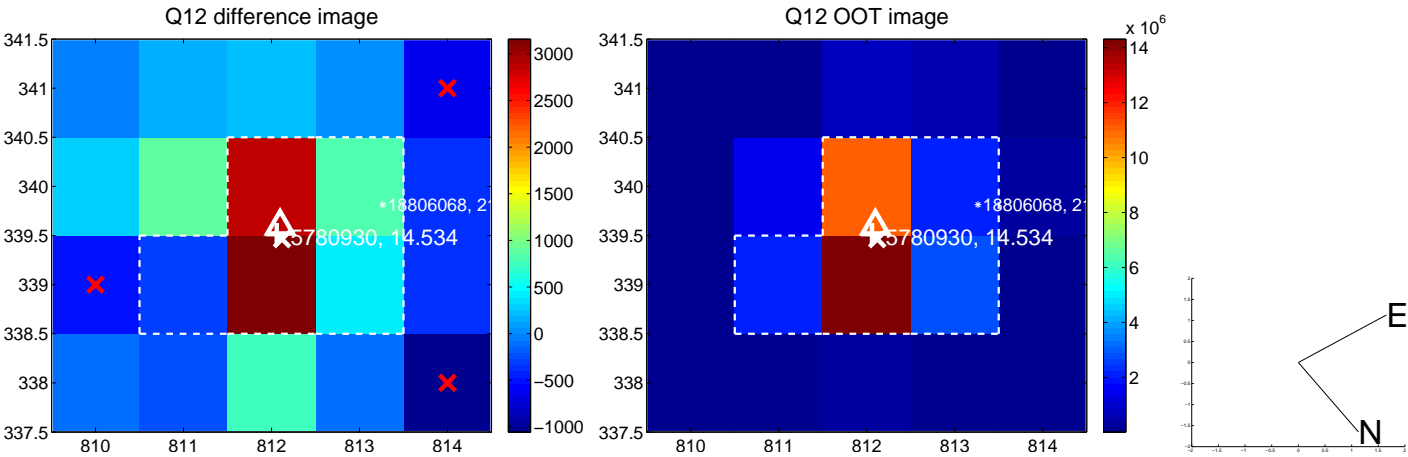
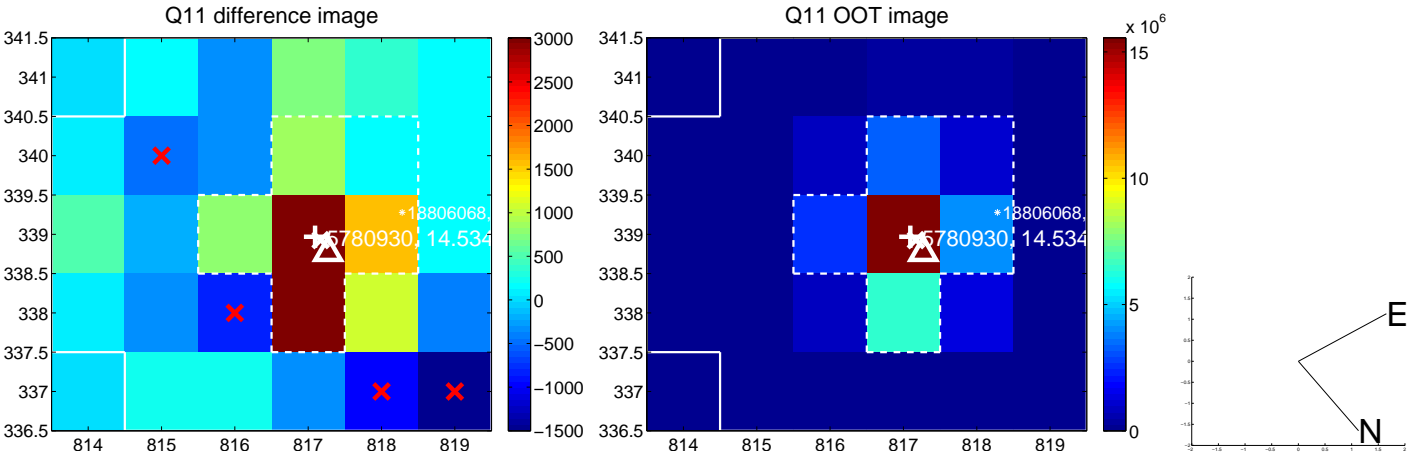
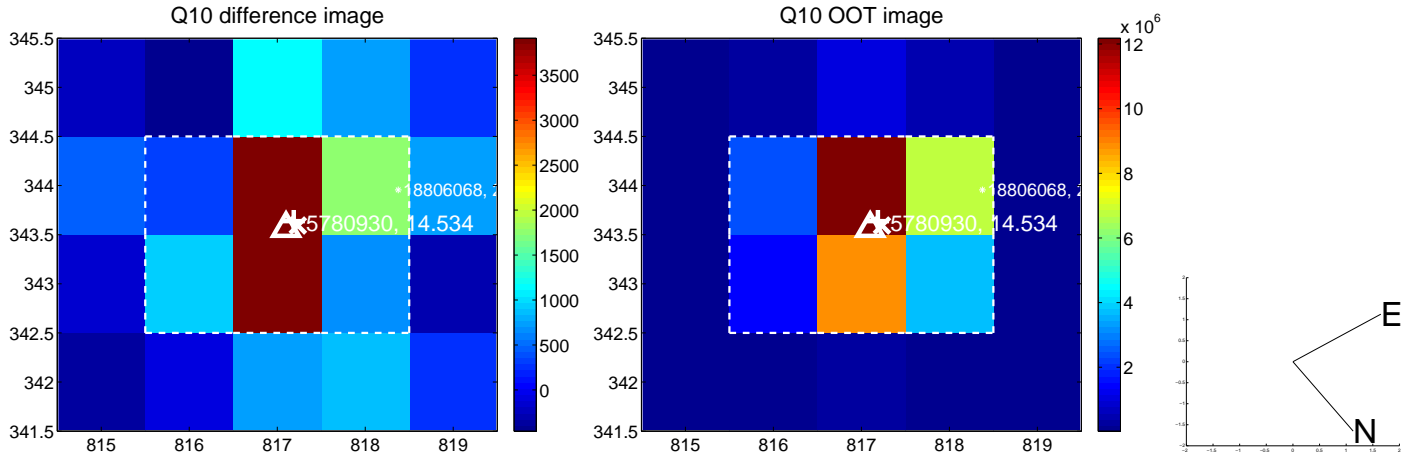
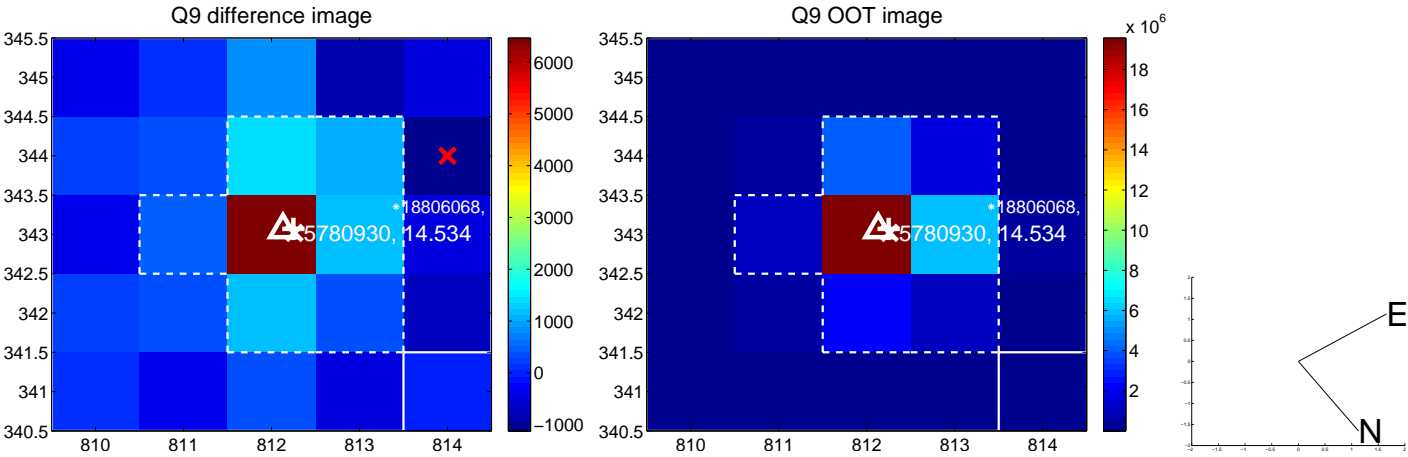
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



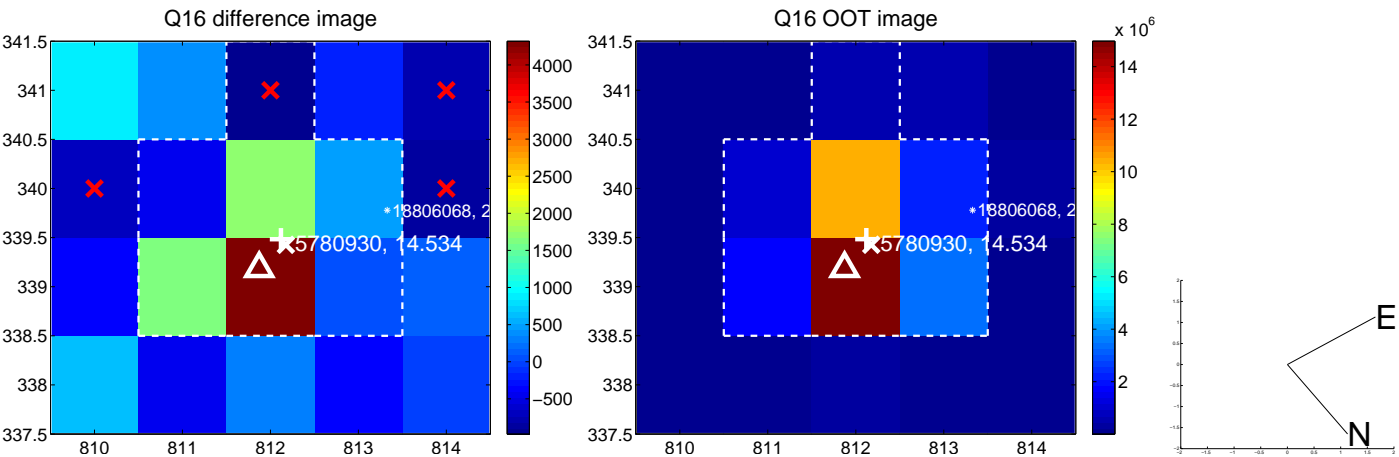
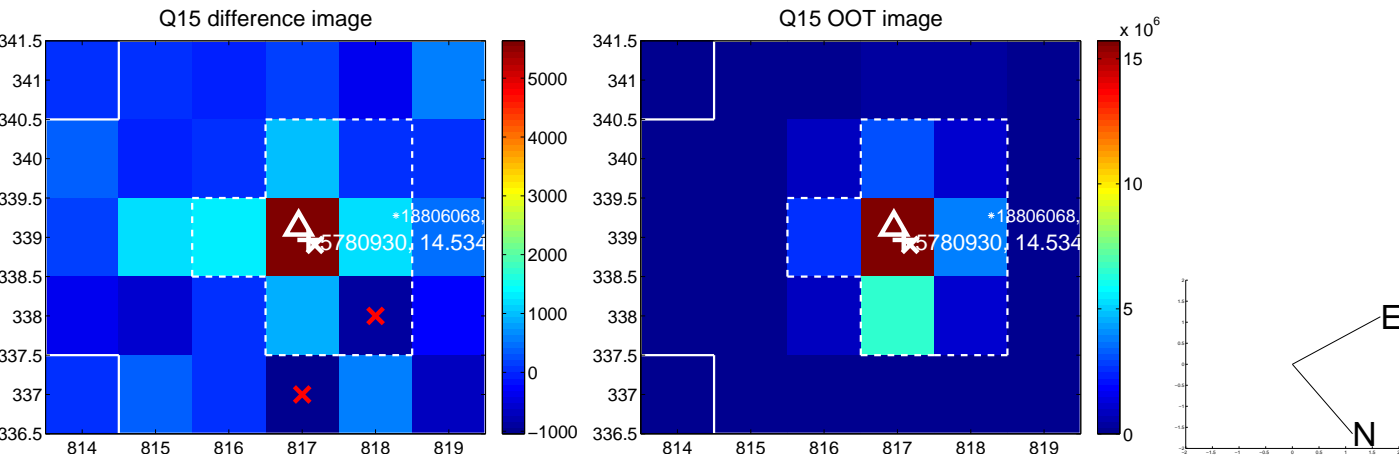
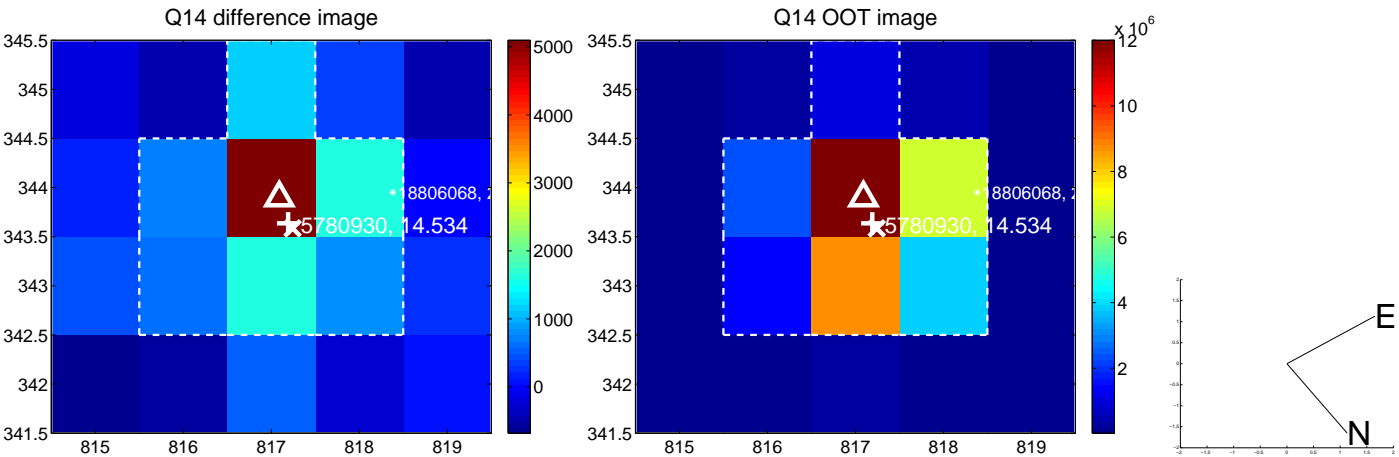
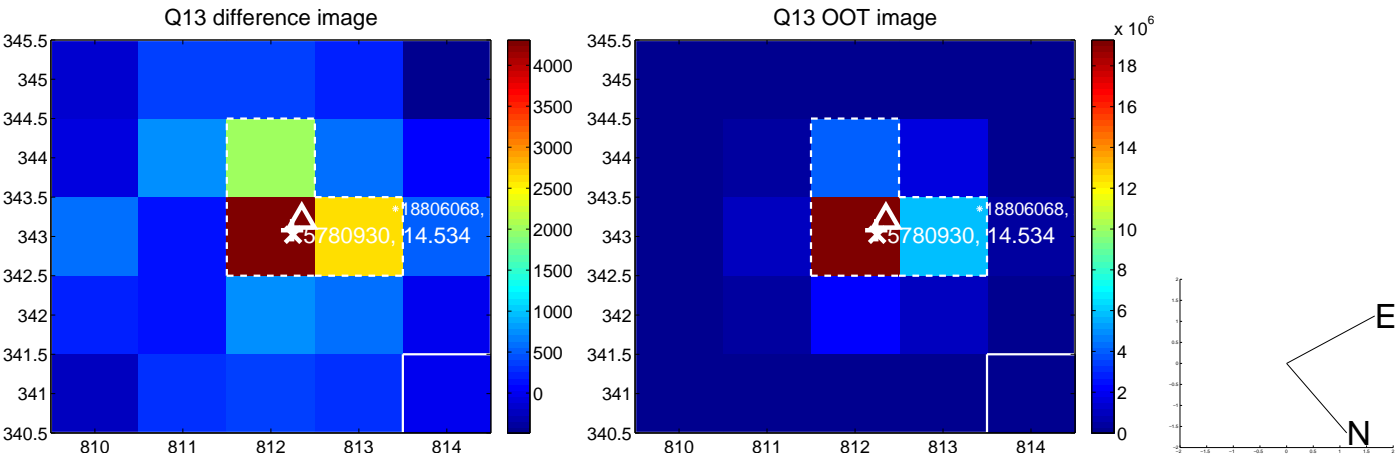
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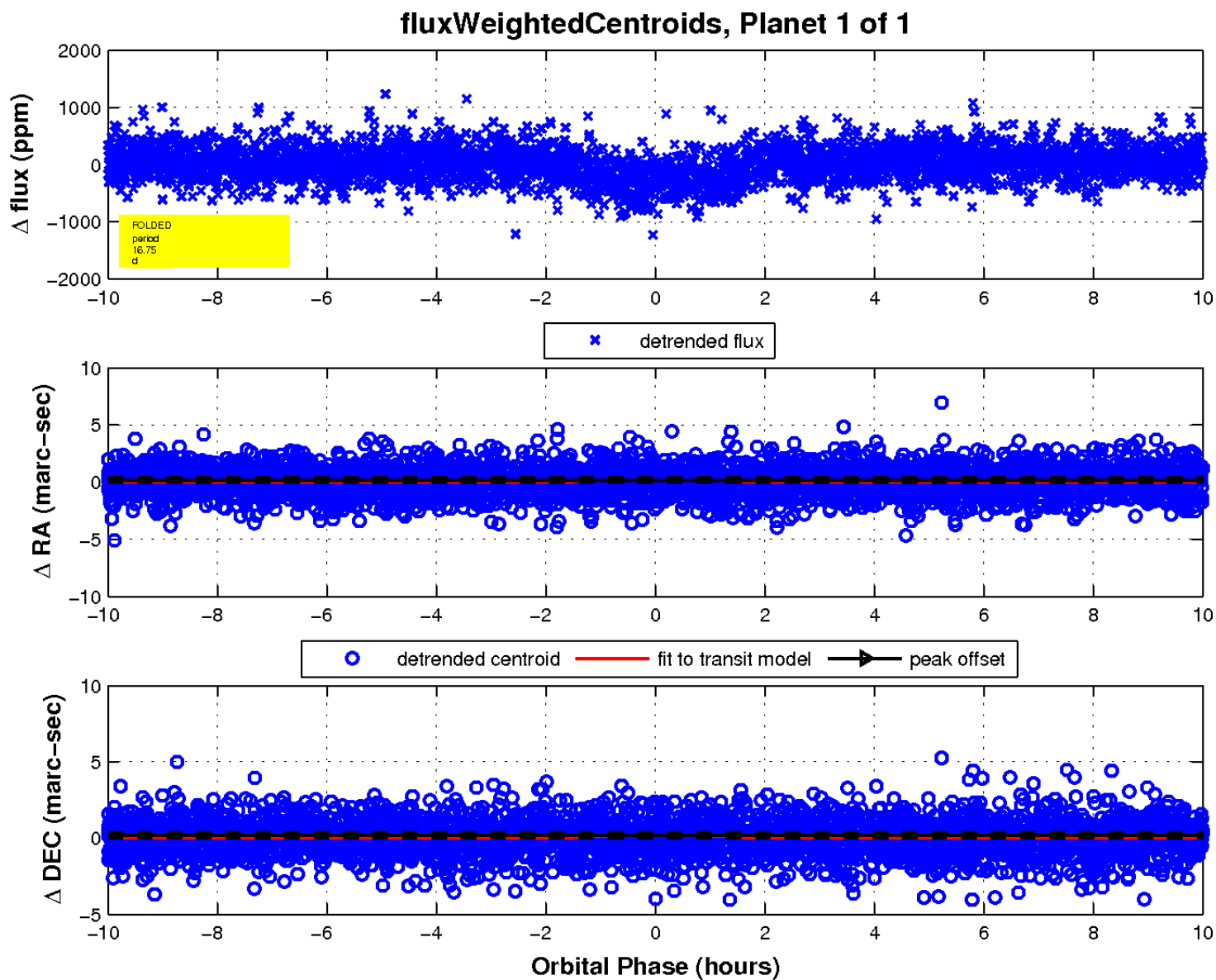
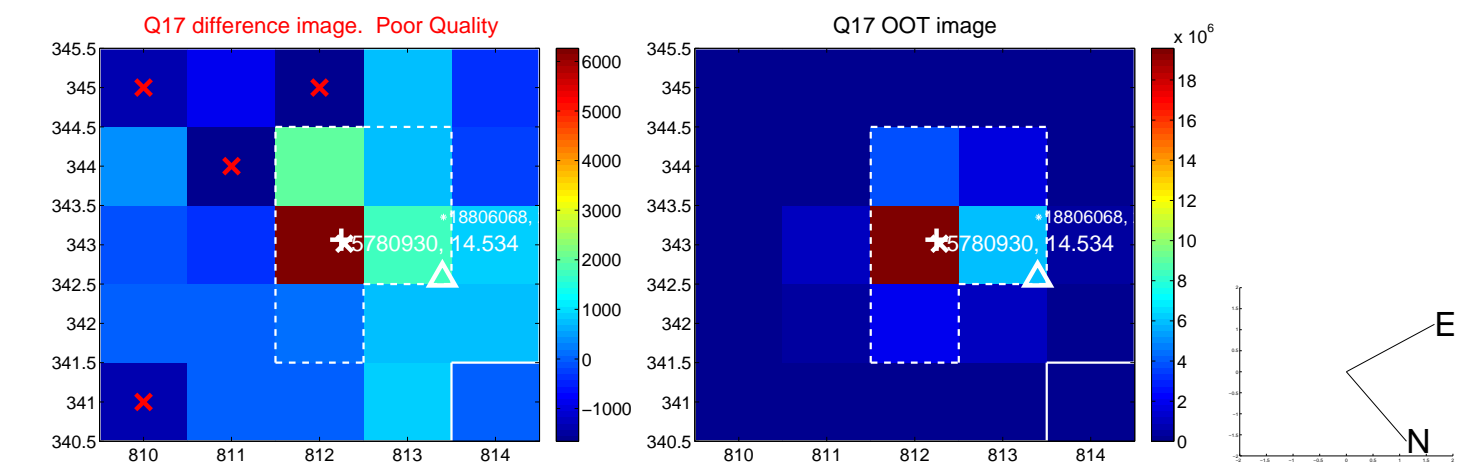
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

