

KIC 004346178

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})
004346178-01	OBS	2652.01	16.128690	143.759099	395.2	5.292	16.9	17.6	1.09	5392	2.84	62.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004346178-01	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.

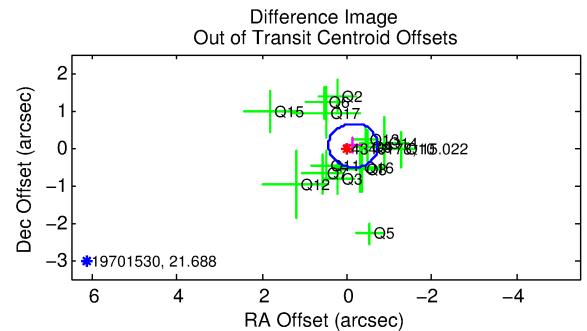
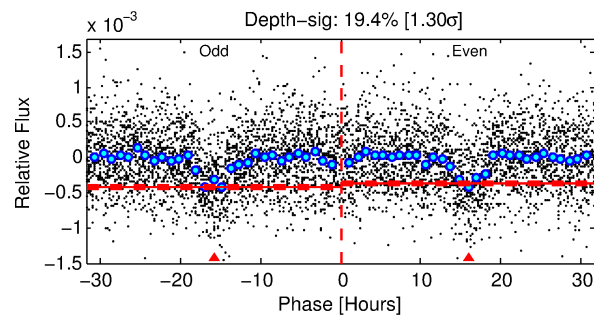
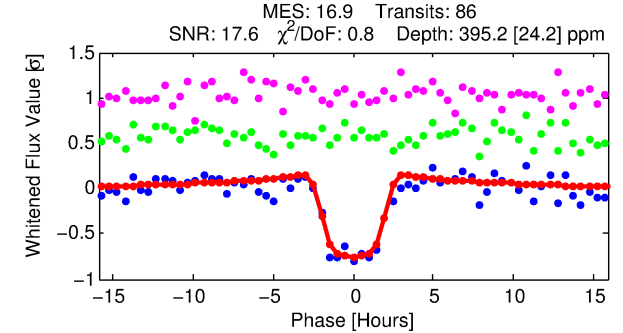
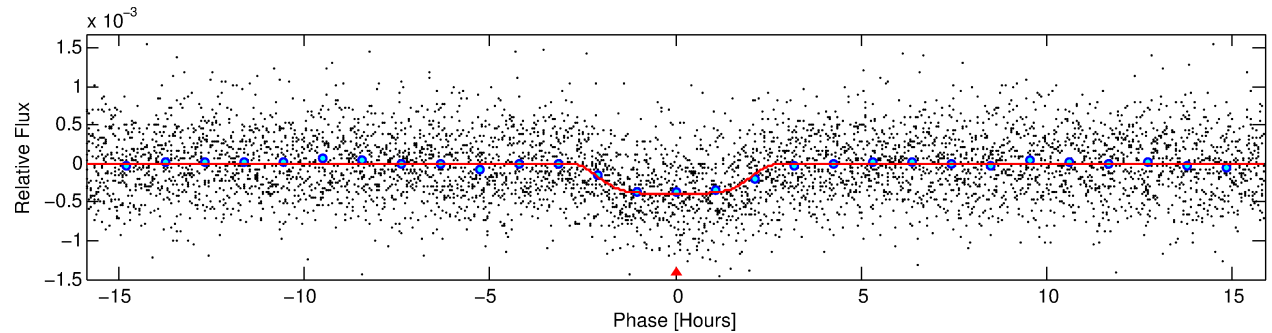
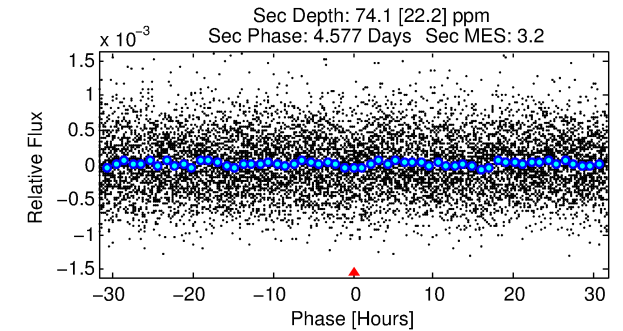
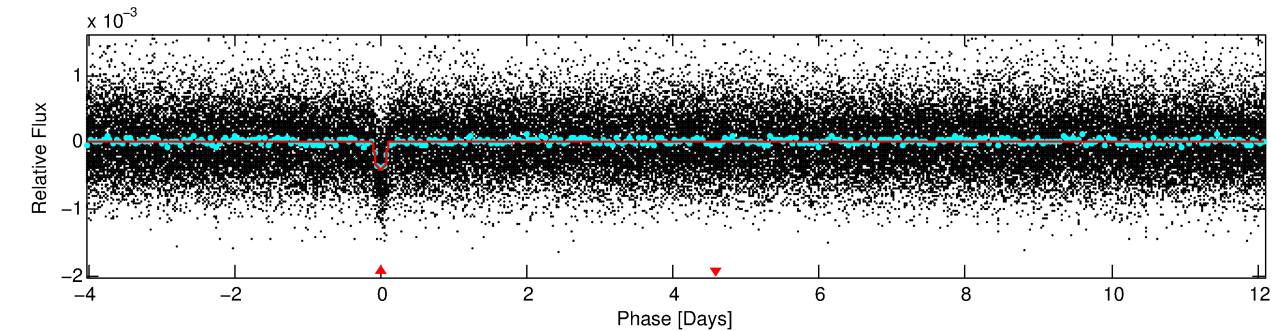
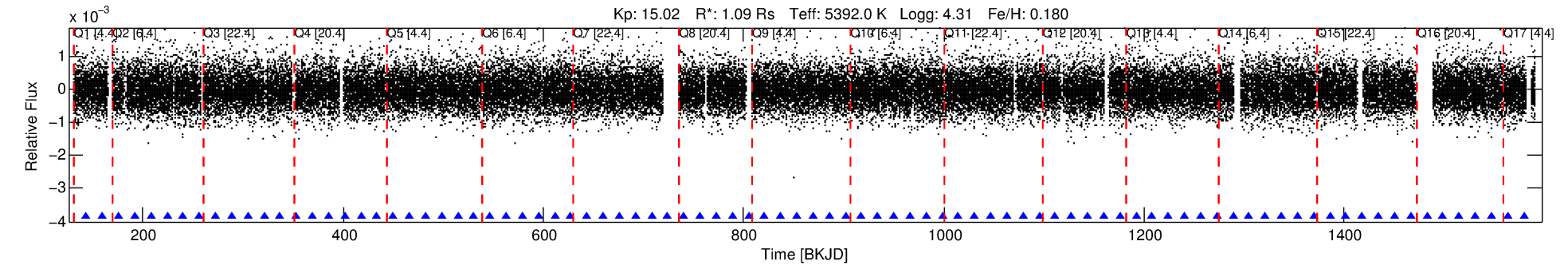
Ephemeris Match Information For 004346178-01

No Significant Match Found

DV One-Page Summary

KIC: 4346178 Candidate: 1 of 1 Period: 16.129 d

KOI: K02652.01 Corr: 0.944



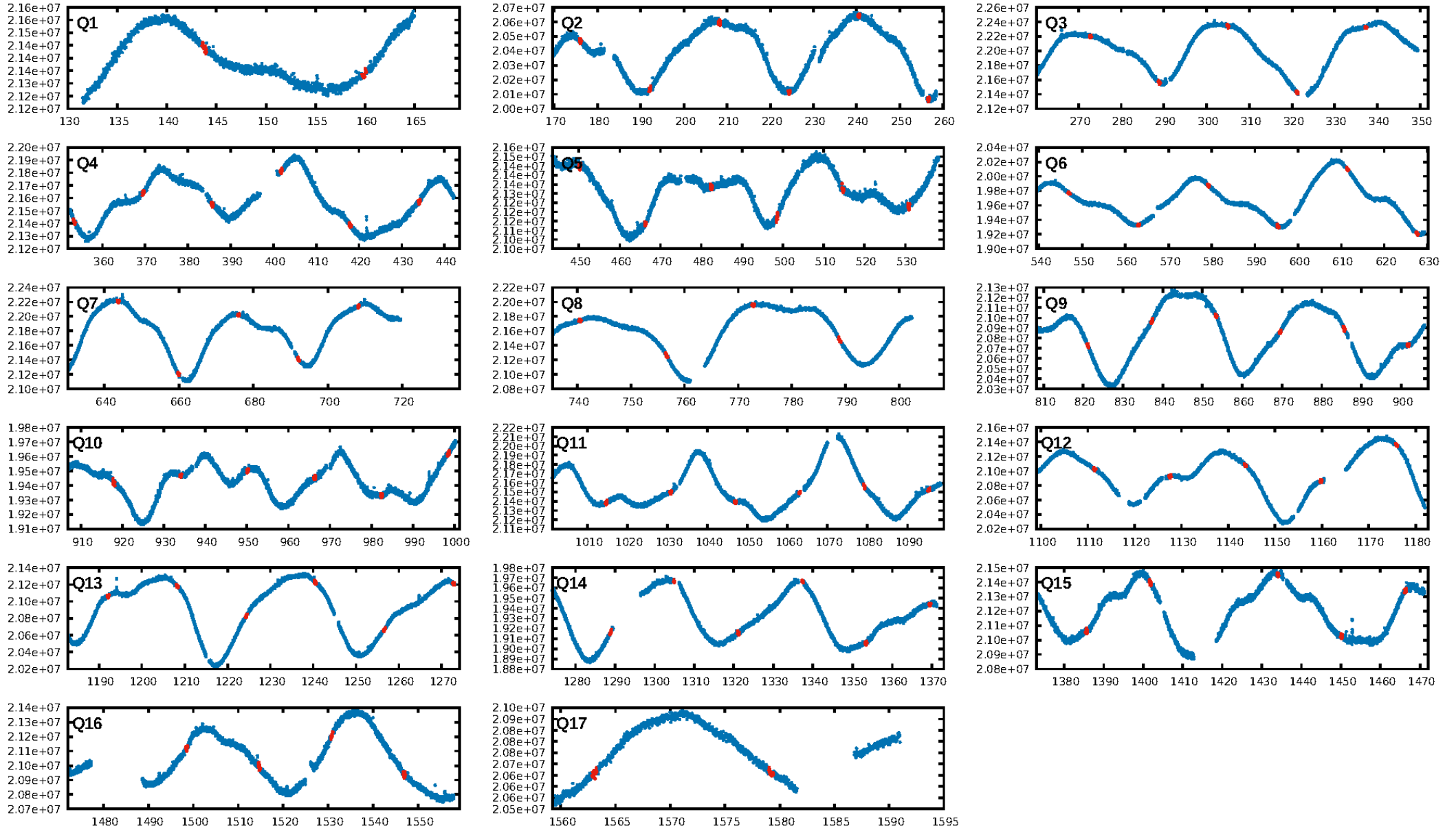
DV Fit Results:

Period = 16.12869 [0.00012] d
Epoch = 143.7591 [0.0059] BKJD
Rp/R* = 0.0239 [0.0013]
a/R* = 8.61 [1.44]
b = 0.96 [0.02]
Seff = 62.03 [18.30]
Teff = 716 [53] K
Rp = 2.84 [0.61] Re
a = 0.1201 [0.0226] AU
Ag = 73.04 [31.43] [2.29 σ]
Teffp = 3234 [262] K [9.42 σ]

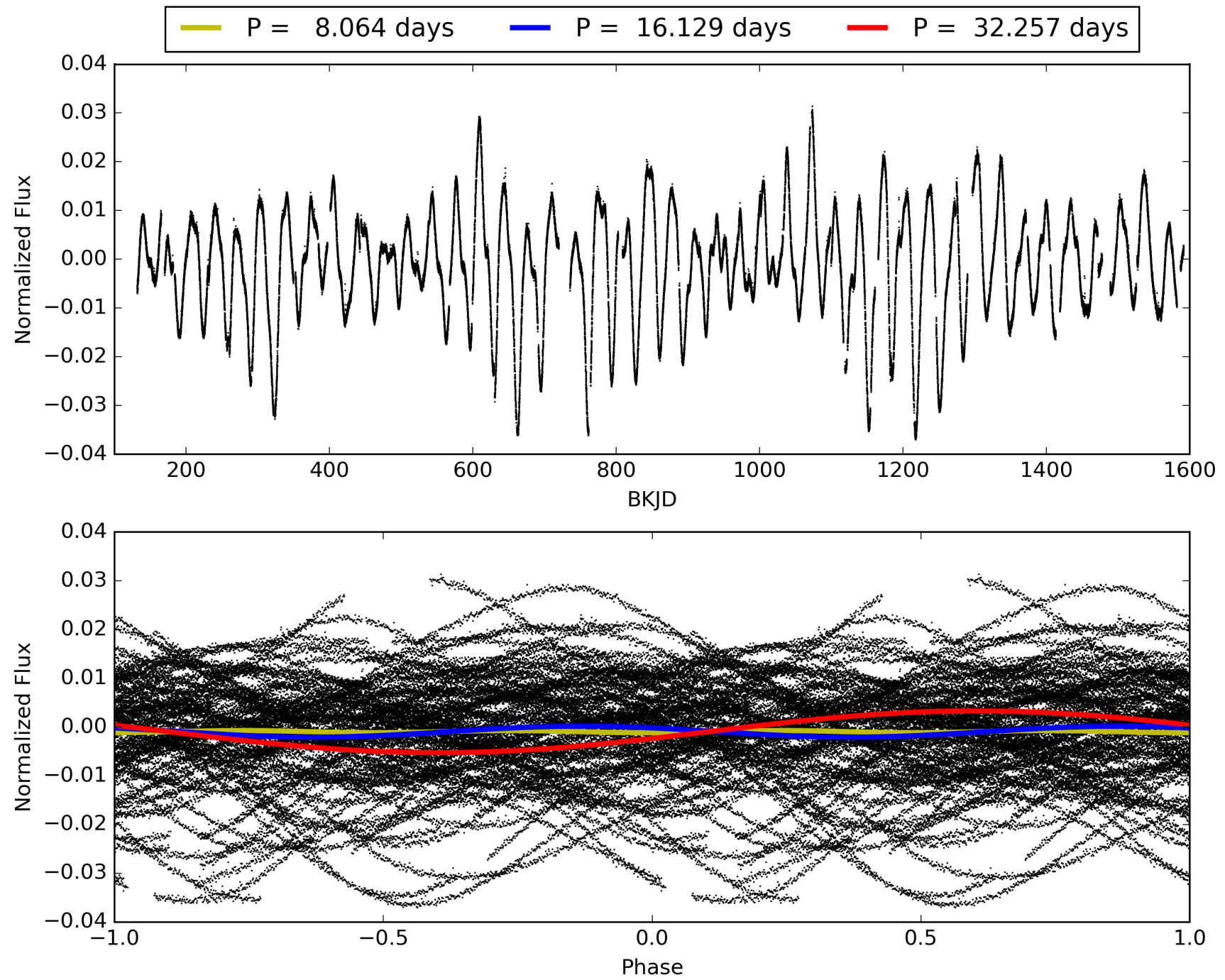
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.42e-59
RollingBand-fgt: 1.00 [82/82]
GhostDiagnostic-chr: 0.8002
Centroid-sig: 3.6%
Centroid-so: 1.863 arcsec [2.44 σ]
OotOffset-rm: 0.165 arcsec [0.85 σ]
KicOffset-rm: 0.394 arcsec [1.64 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 004346178-01, PDC Light Curves

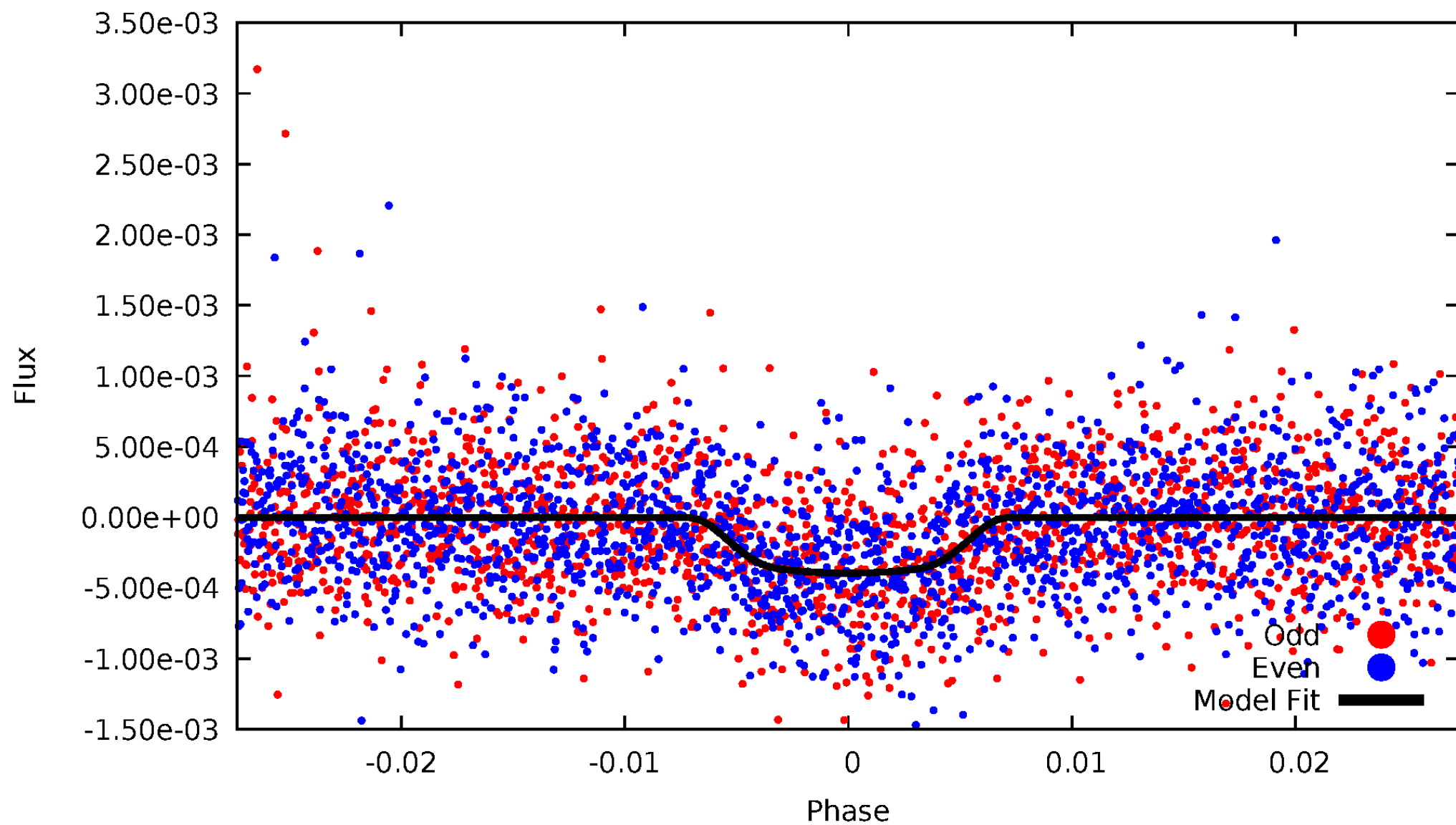


TCE 004346178-01



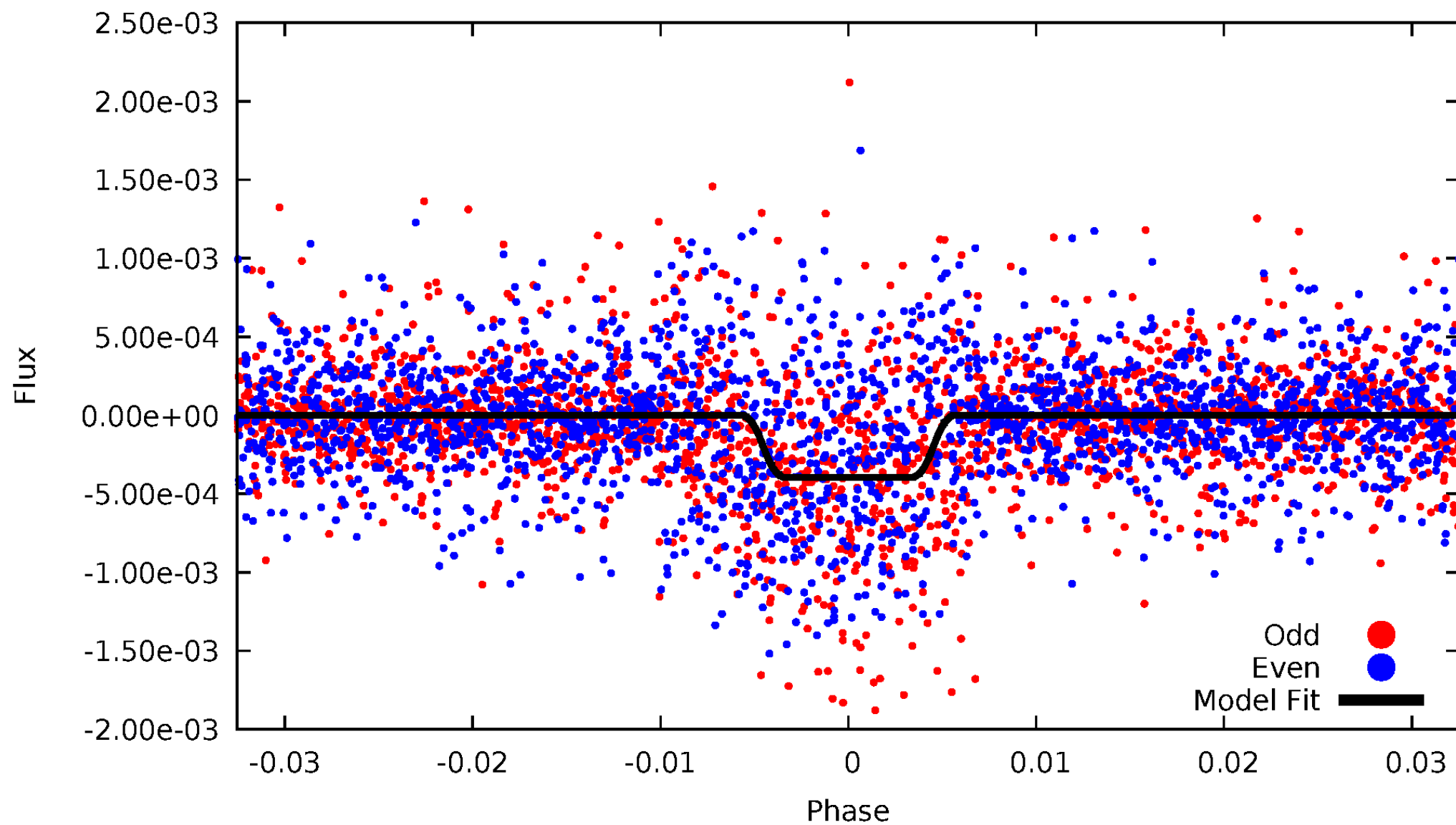
DV Odd/Even

TCE 004346178-01



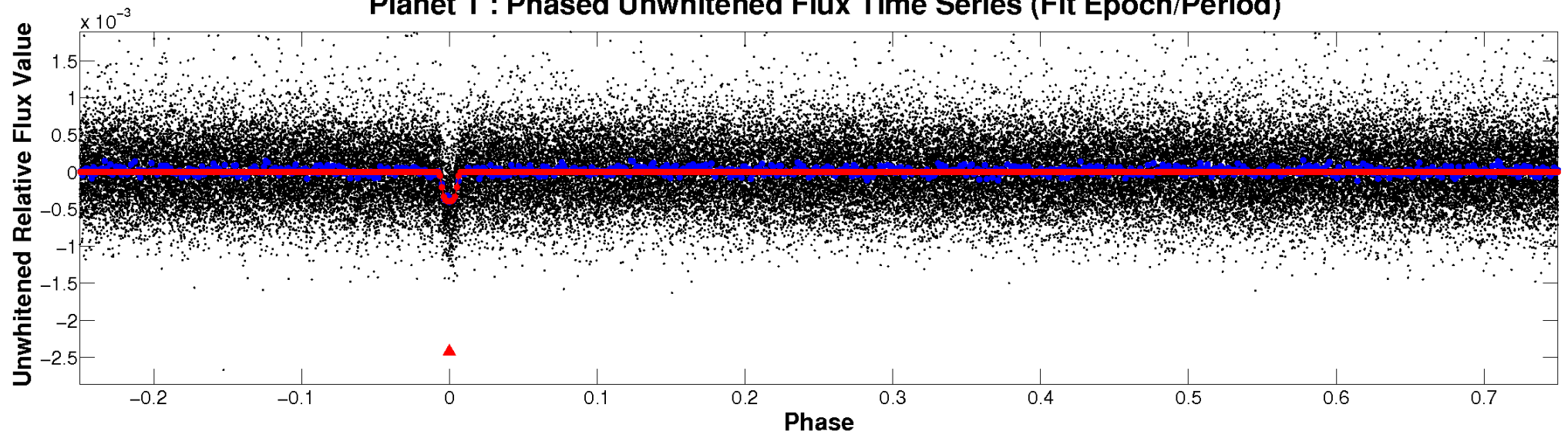
ALT Odd/Even

TCE 004346178-01

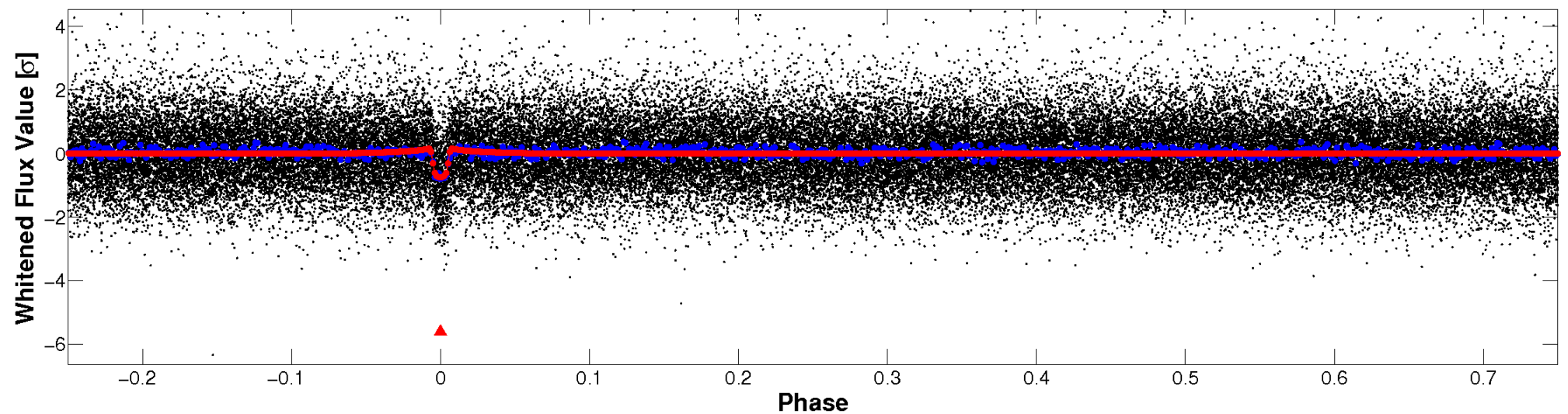


Non-Whitened Vs. Whitened Light Curve

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

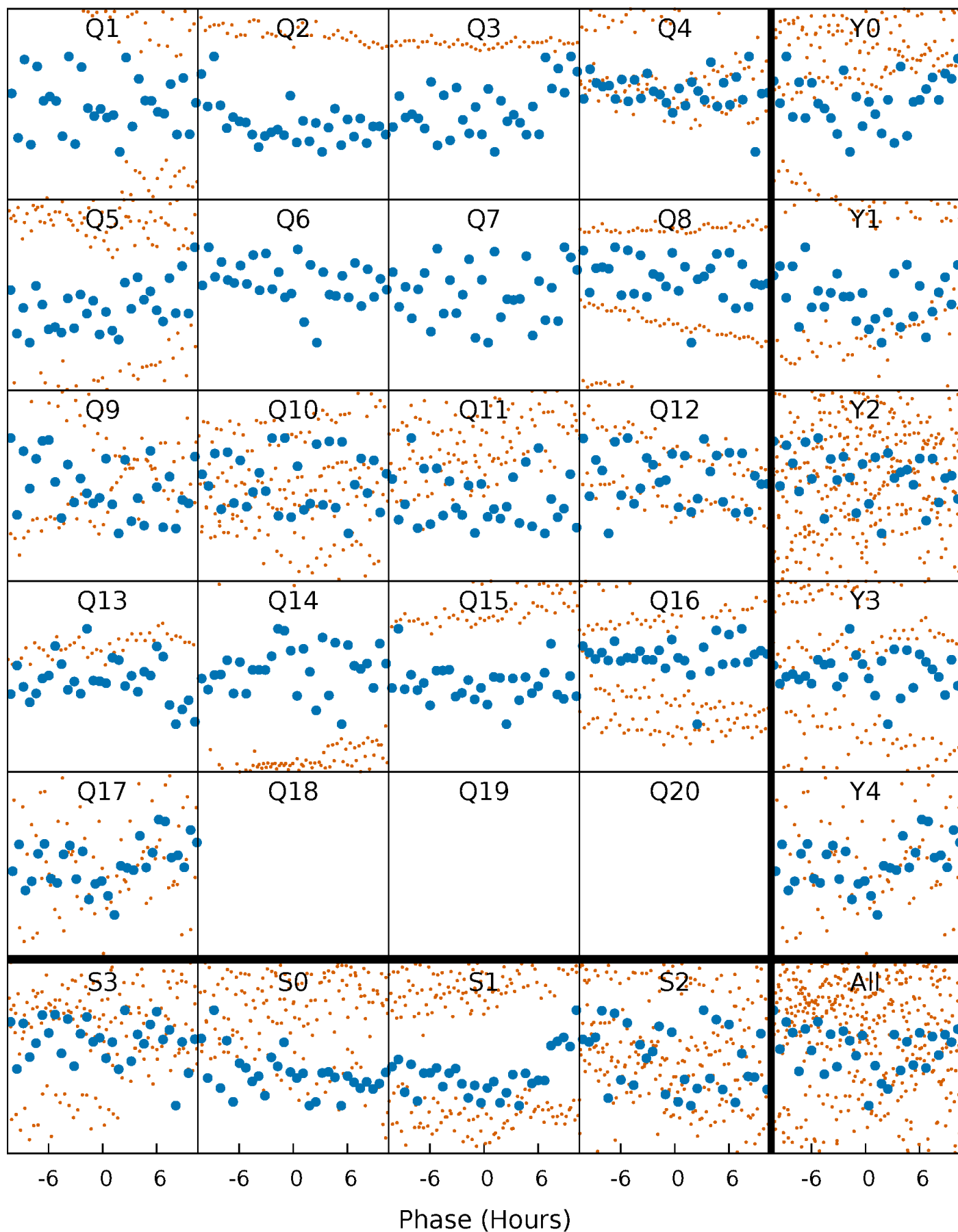


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



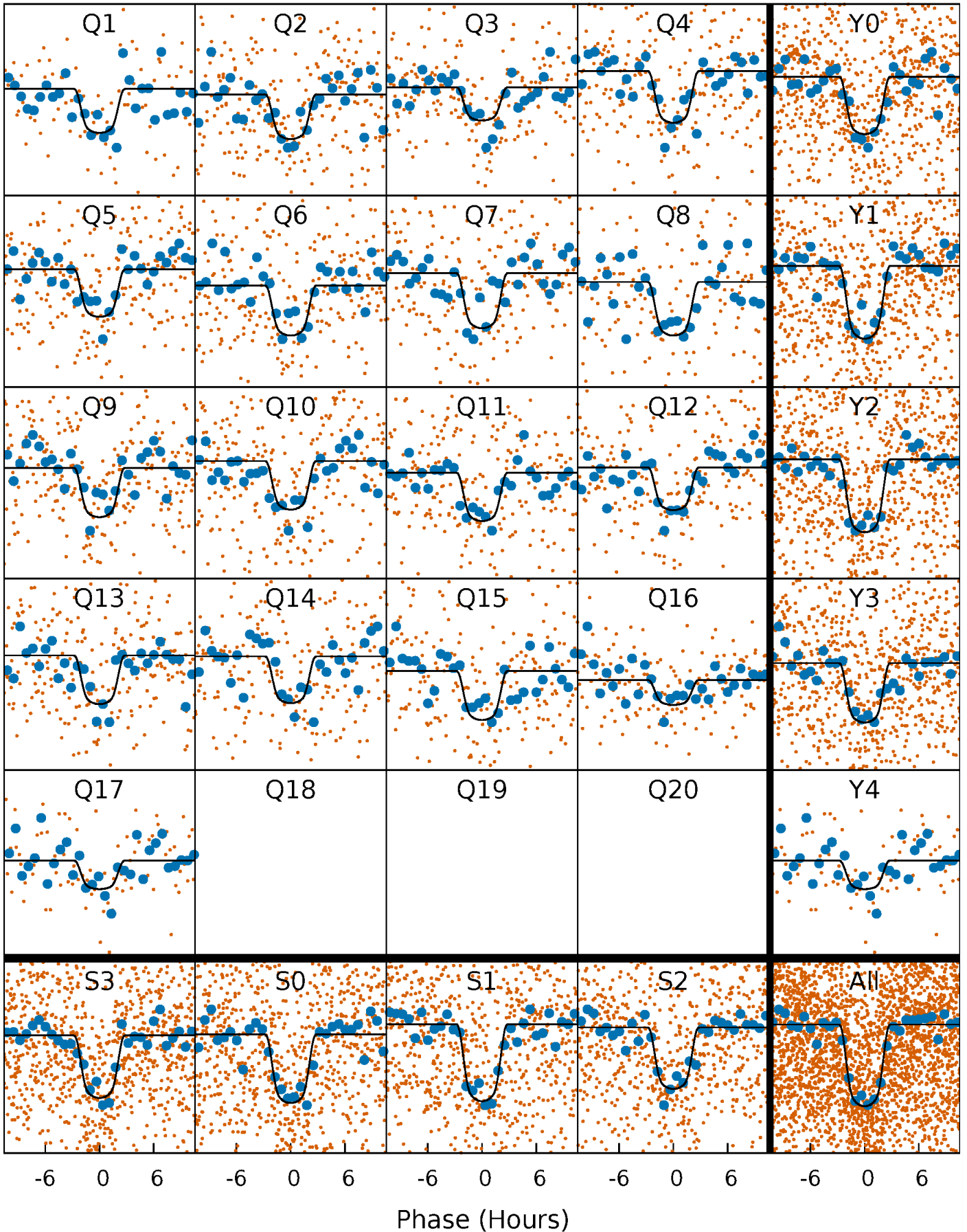
PDC Quarter-Phased Transit Curves

TCE 004346178-01 P= 16.128690 Days $T_0=143.759099$ (BKJD)



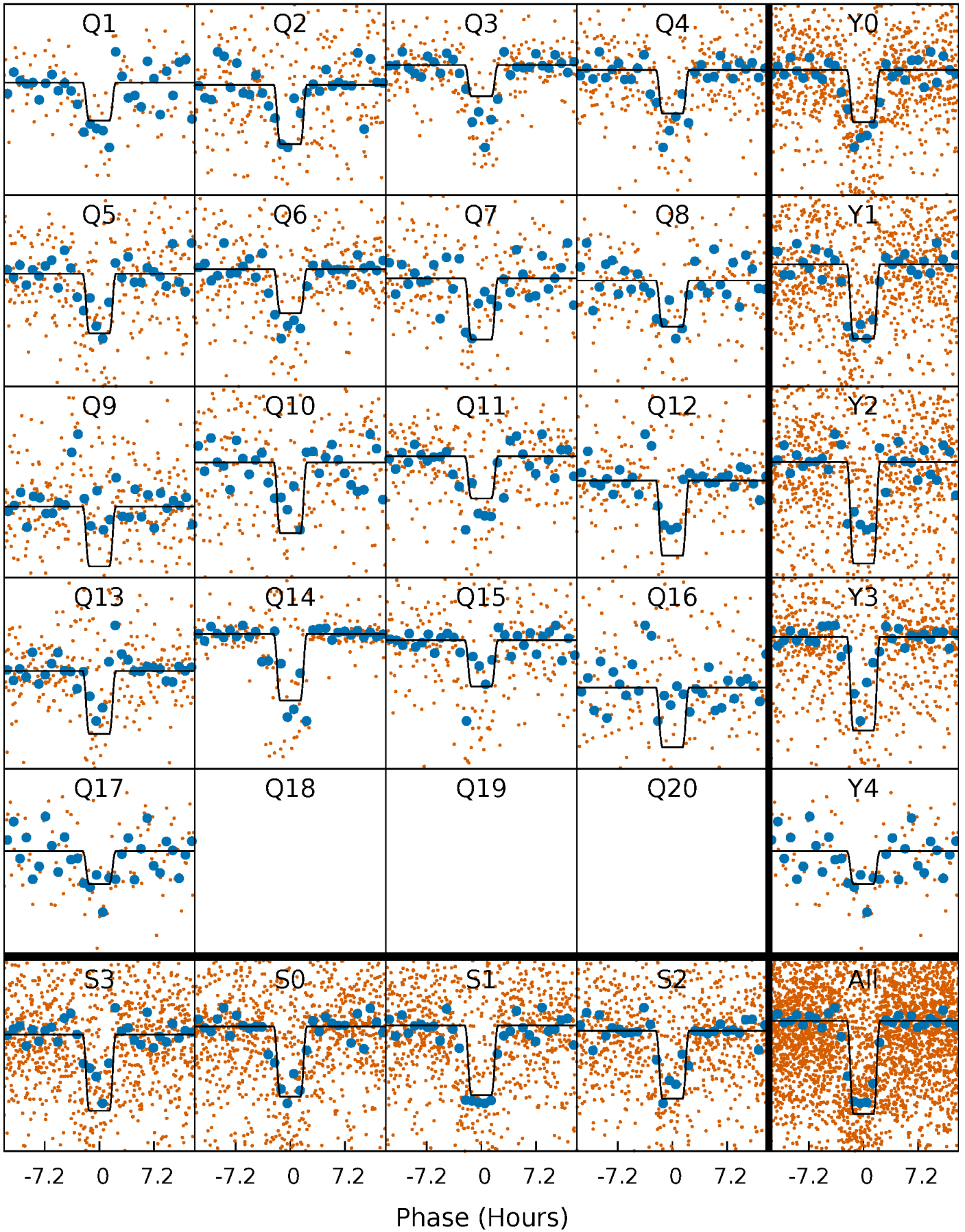
DV Quarter-Phased Transit Curves

TCE 004346178-01 P= 16.128690 Days $T_0=143.759099$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

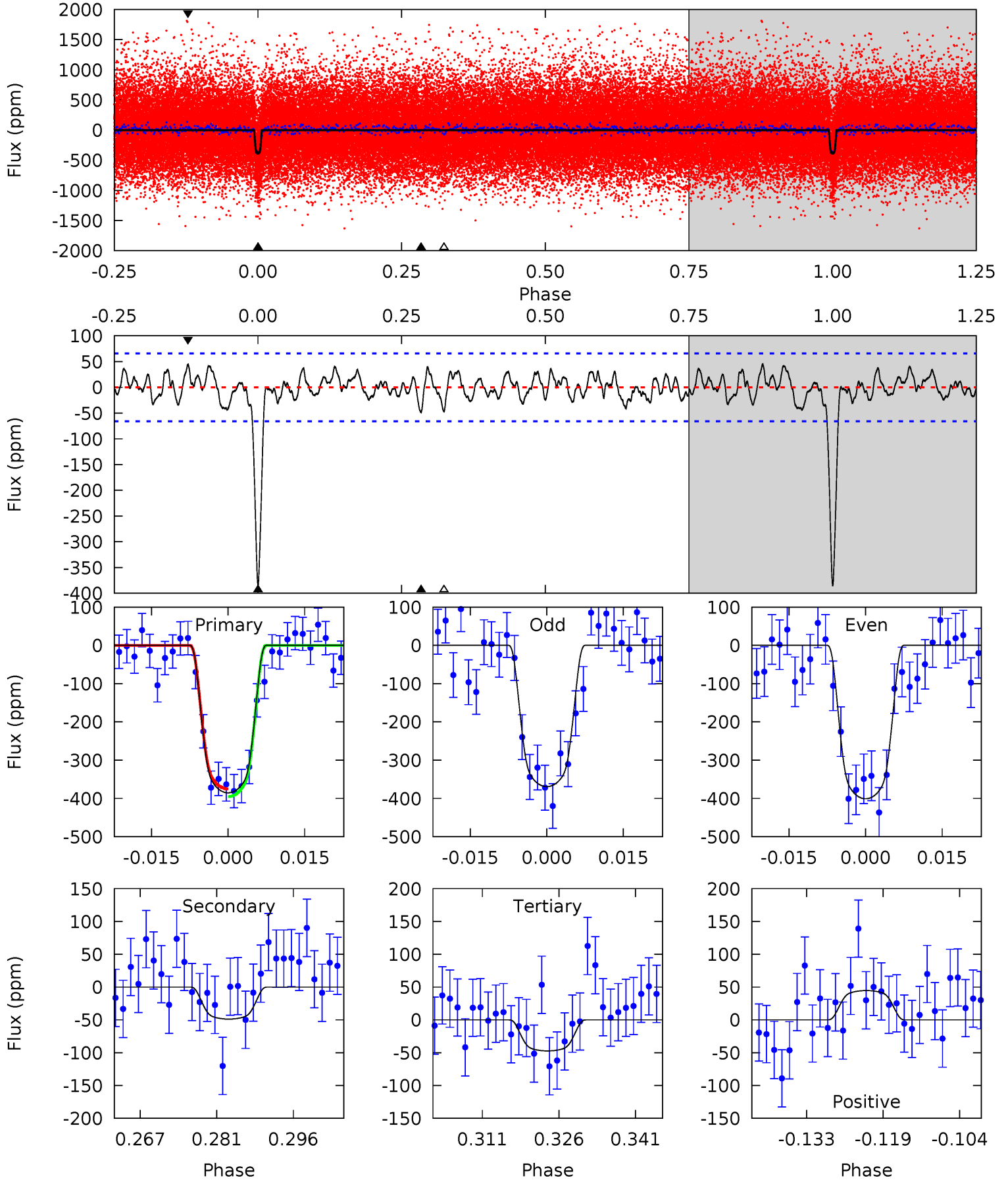
TCE 004346178-01 P= 16.128655 Days $T_0=143.779038$ (BKJD)



DV Model-Shift Uniqueness Test

004346178-01, P = 16.128690 Days, E = 127.630409 Days

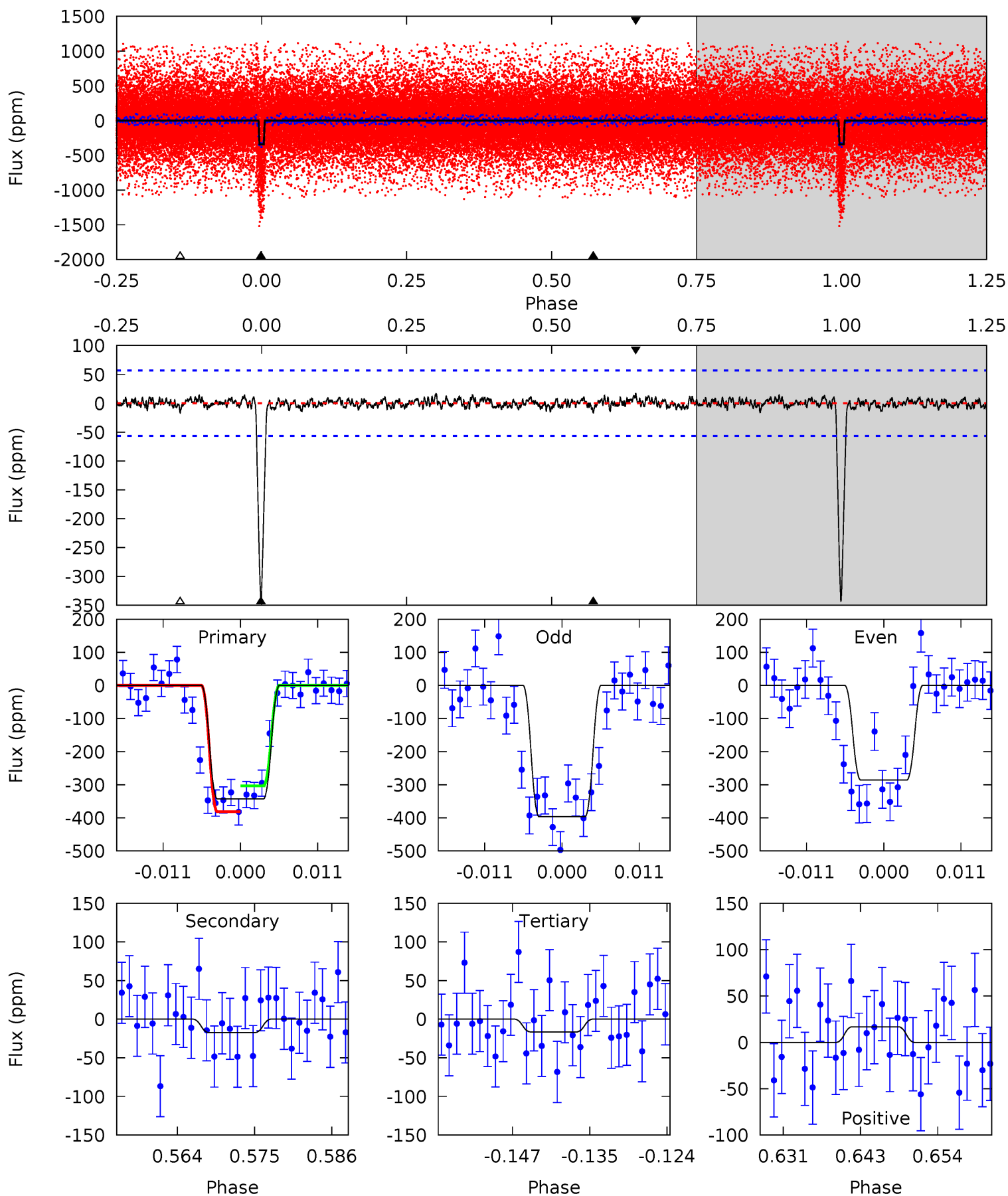
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.9	3.67	3.56	3.35	4.95	2.44	1.39	25.4	25.6	0.11	0.32	1.19	0.97	0.10	0.75



Alt Model-Shift Uniqueness Test

004346178-01, P = 16.128655 Days, E = 127.650383 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.2	1.52	1.45	1.48	5.00	2.53	0.49	28.7	28.7	0.08	0.04	4.89	1.06	0.05	3.47



Stellar Parameters For KIC 004346178

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5392^{+80}_{-80}	$4.314^{+0.165}_{-0.150}$	$0.180^{+0.150}_{-0.100}$	$1.087^{+0.227}_{-0.185}$	$0.888^{+0.061}_{-0.035}$	$0.973^{+0.764}_{-0.398}$
	+1%/-1%	+4%/-3%	+83%/-56%	+21%/-17%	+7%/-4%	+79%/-41%
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 004346178-01 / KOI 2652.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-49 ± 13	$2.84^{+0.35}_{-0.32}$	998^{+56}_{-51}	3406^{+147}_{-171}	48^{+19}_{-15}
Alt.	-17 ± 11	$2.35^{+0.33}_{-0.28}$	997^{+56}_{-54}	3080^{+263}_{-406}	24^{+21}_{-16}

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 $A_{obs} \gg 1.0$

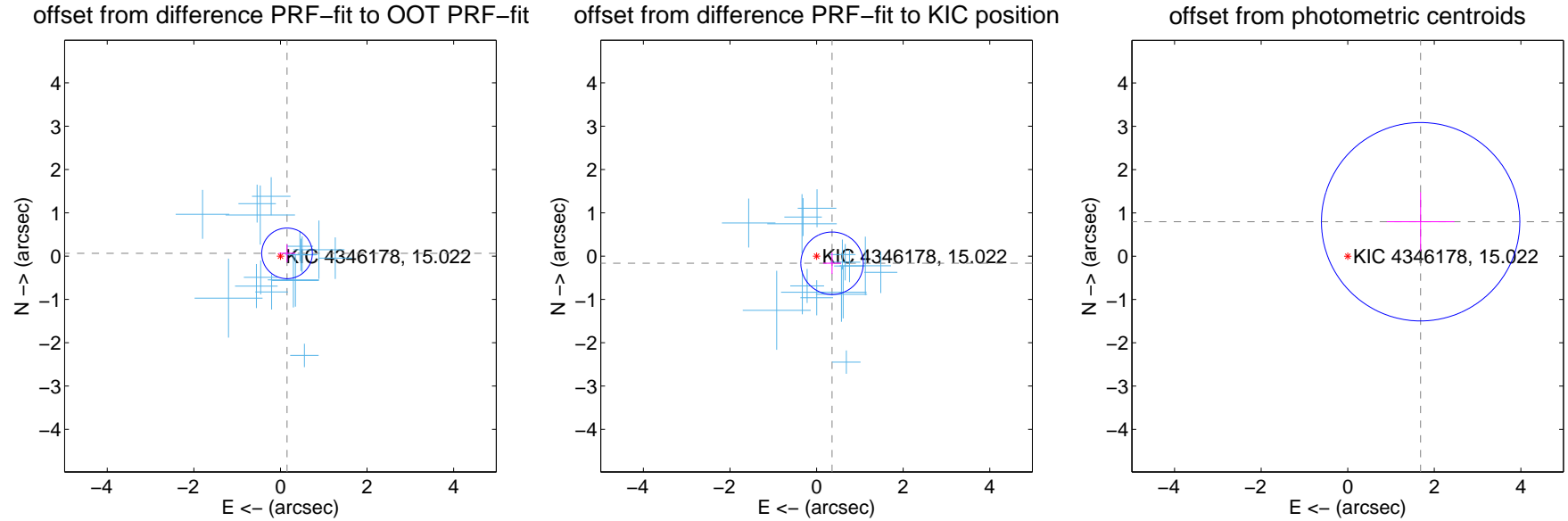
DV Centroid Data

Supplemental centroid analysis for 004346178-01. Kepler magnitude: 15.02. Transit SNR 17.63

There are 16 quarters with good PRF difference image offsets

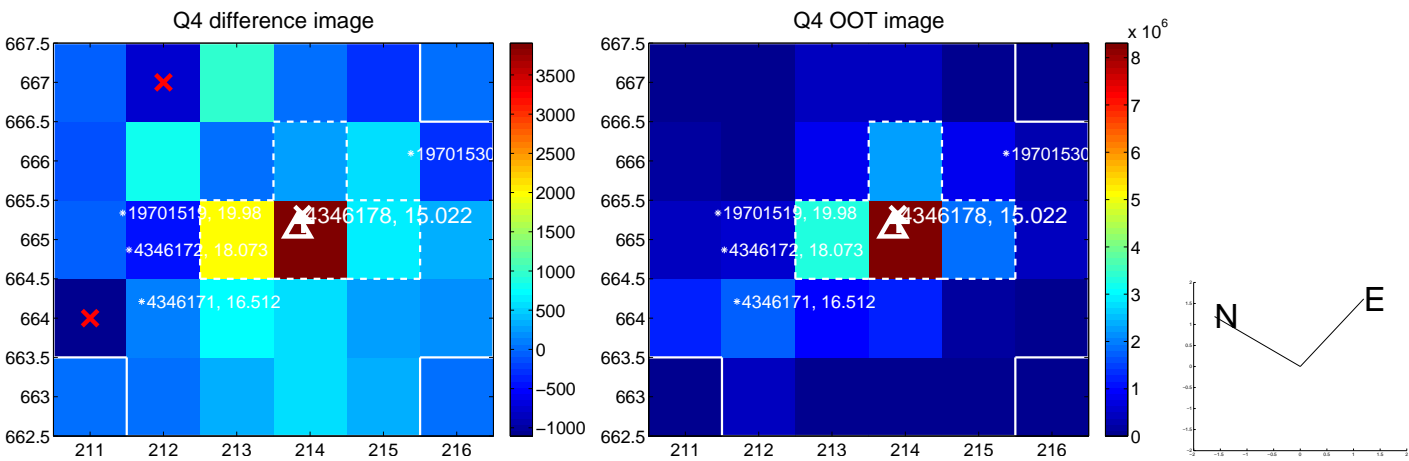
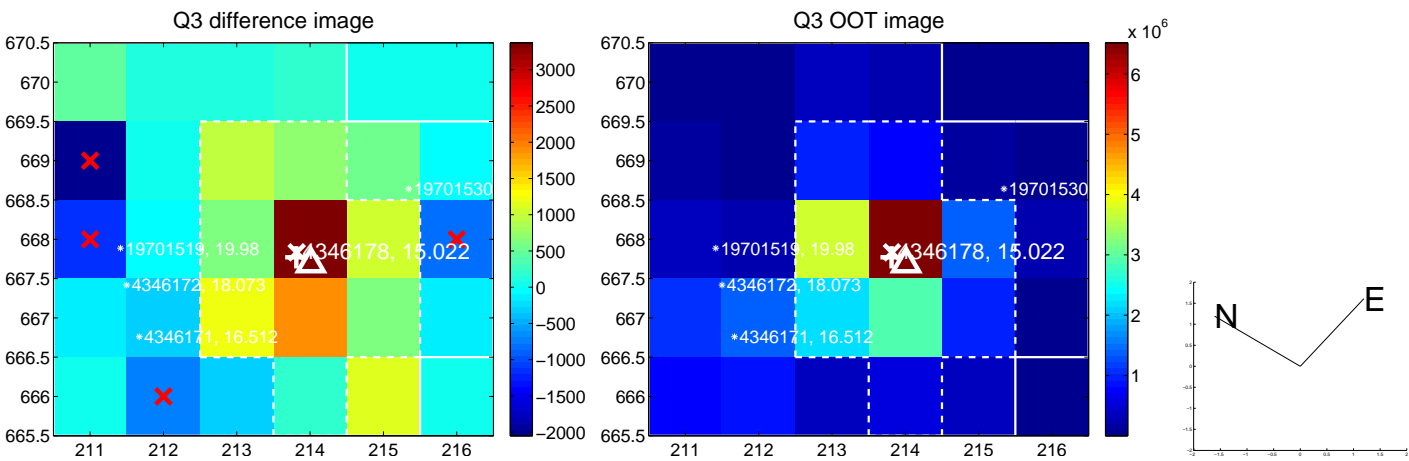
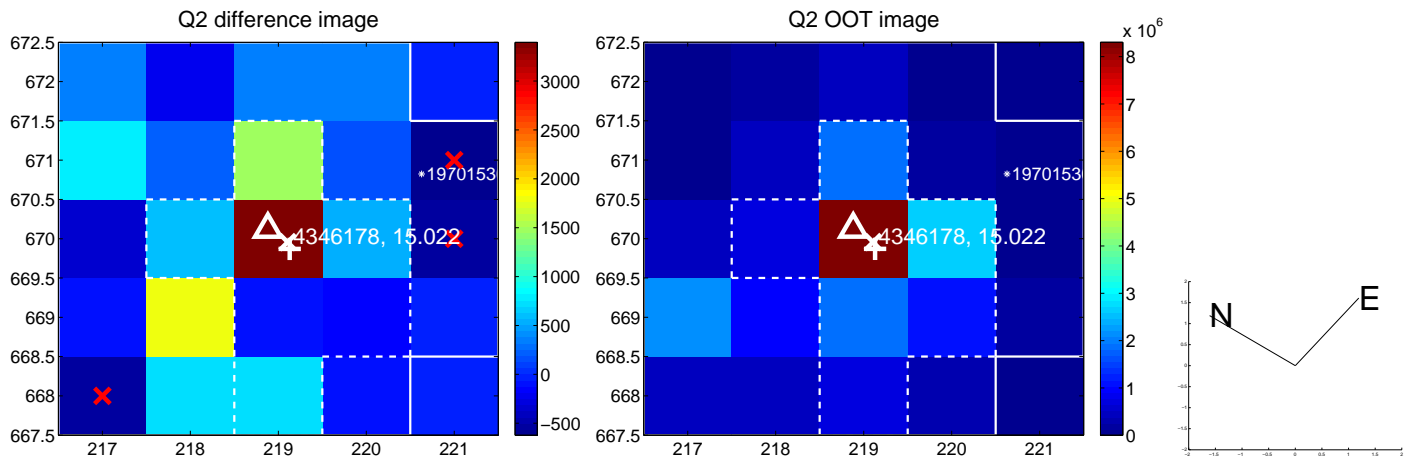
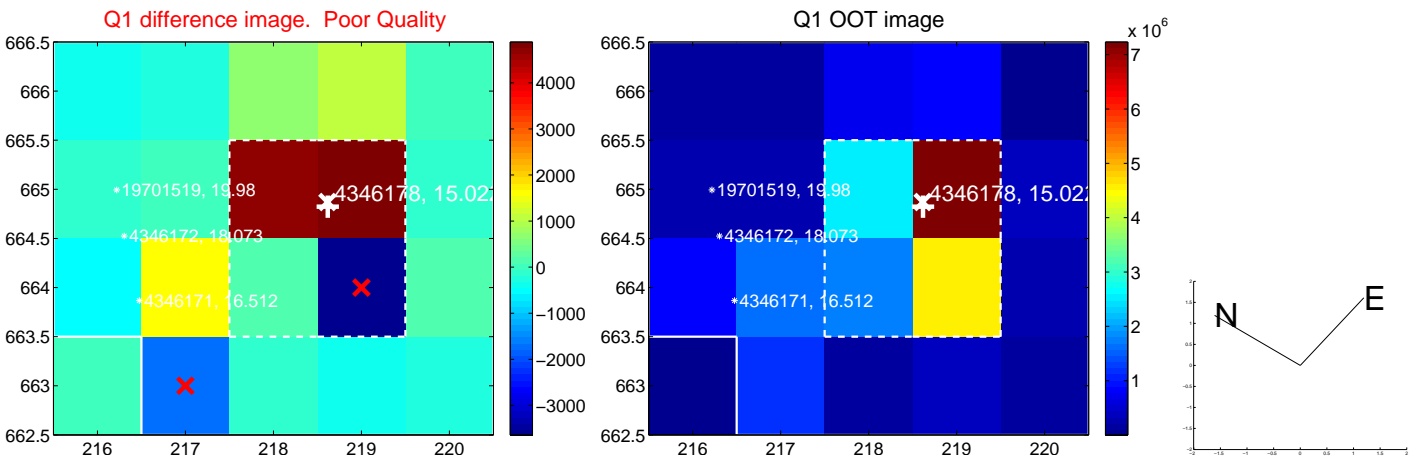
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.165 ± 0.195	0.85	-0.152 ± 0.193	0.064 ± 0.205
PRF-fit source offset from KIC position	0.394 ± 0.240	1.64	-0.358 ± 0.205	-0.164 ± 0.245
photometric centroid source offset	1.86 ± 0.76	2.44	-1.68 ± 0.78	0.80 ± 0.68

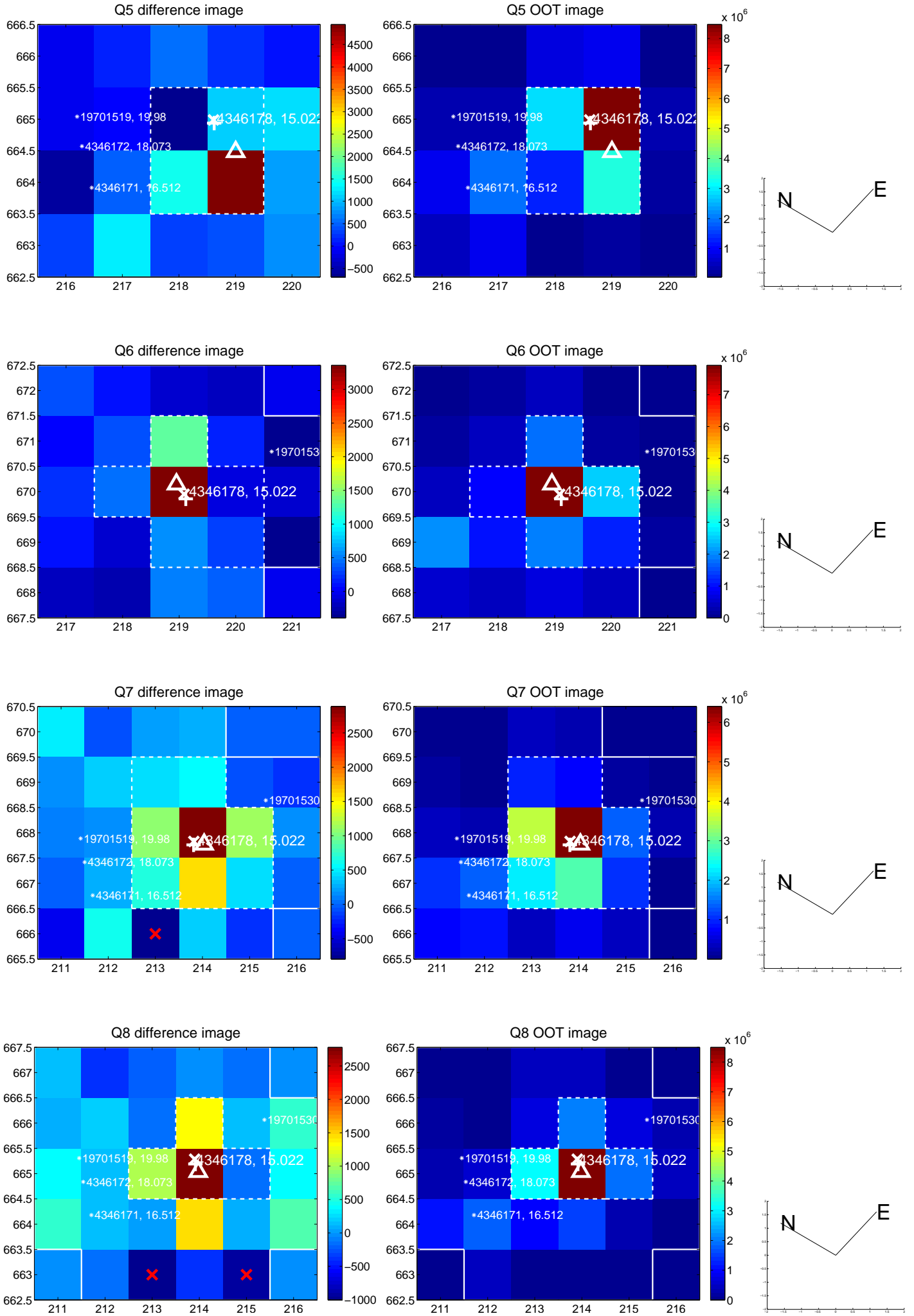


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

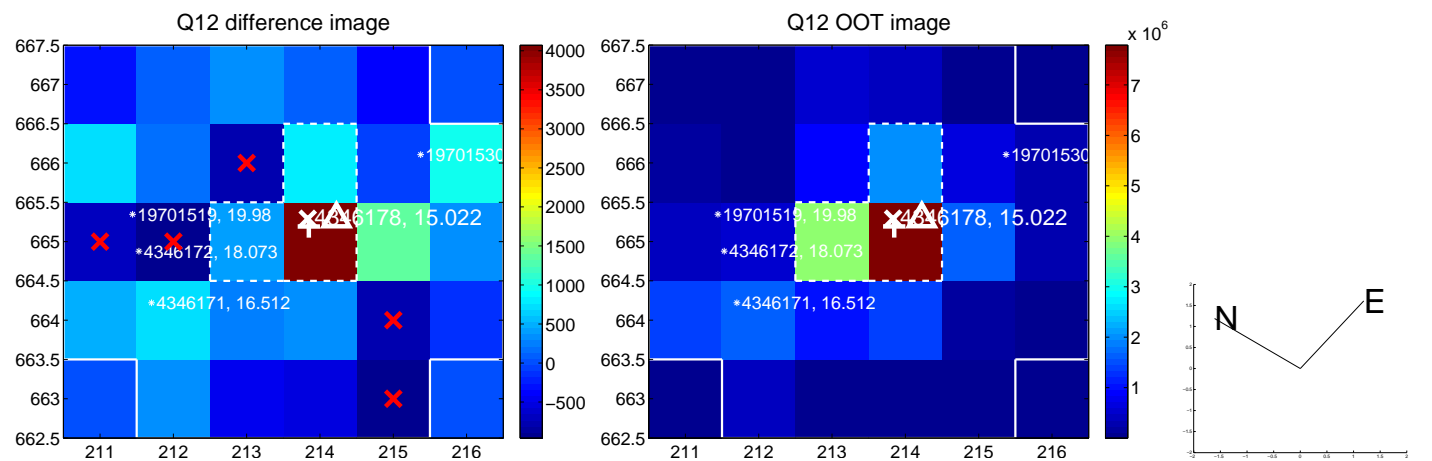
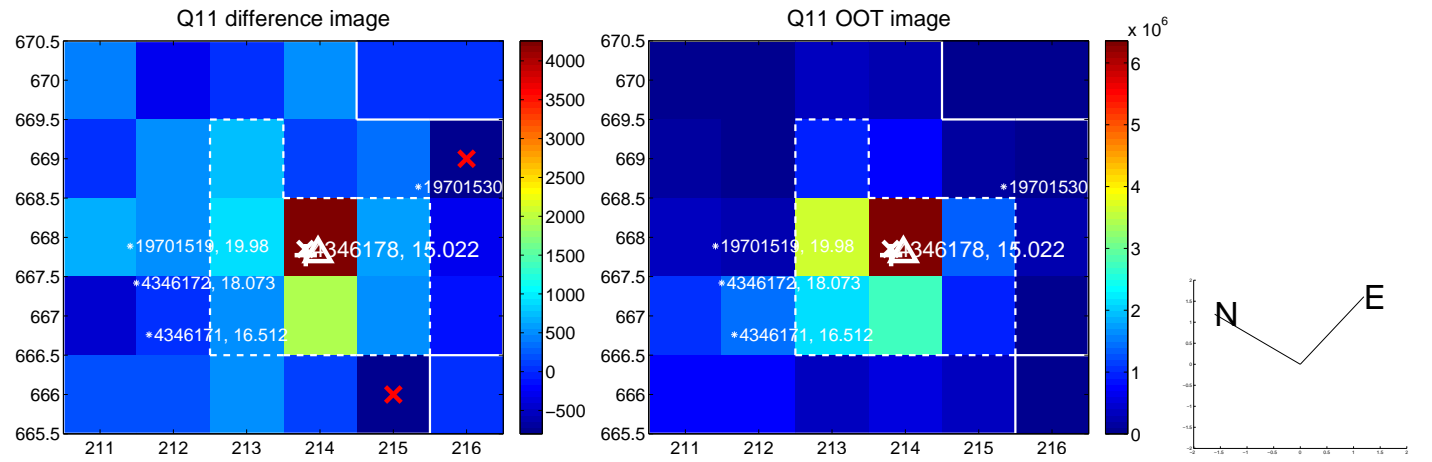
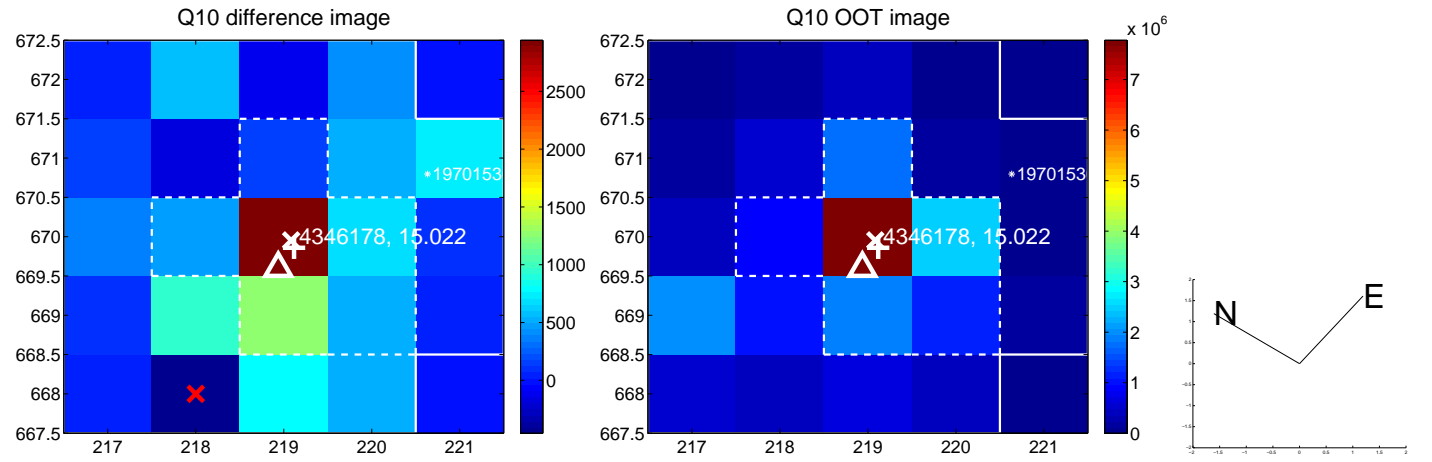
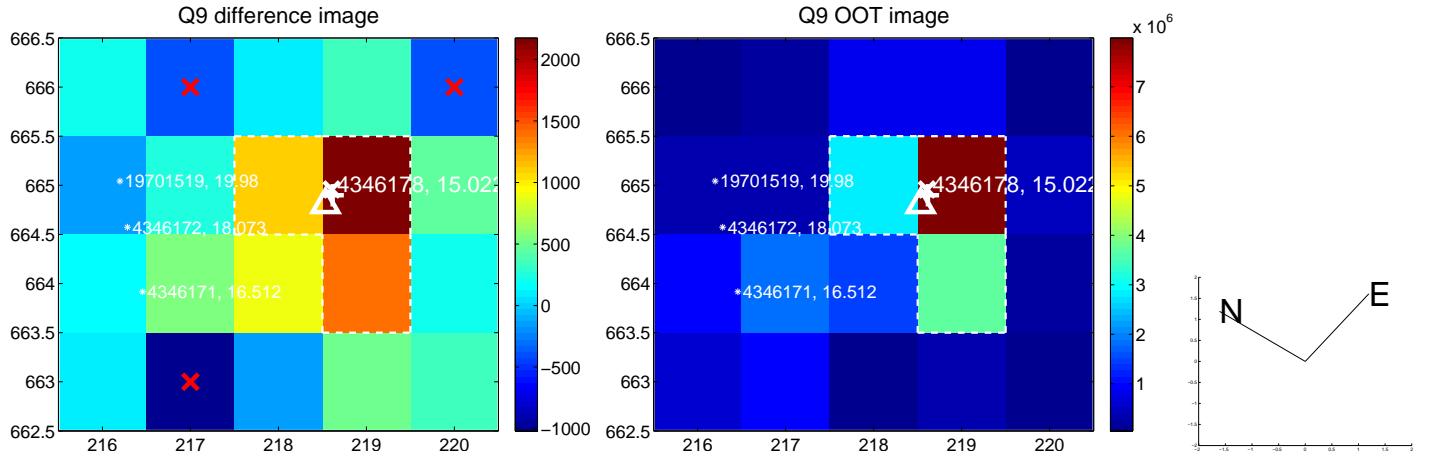
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



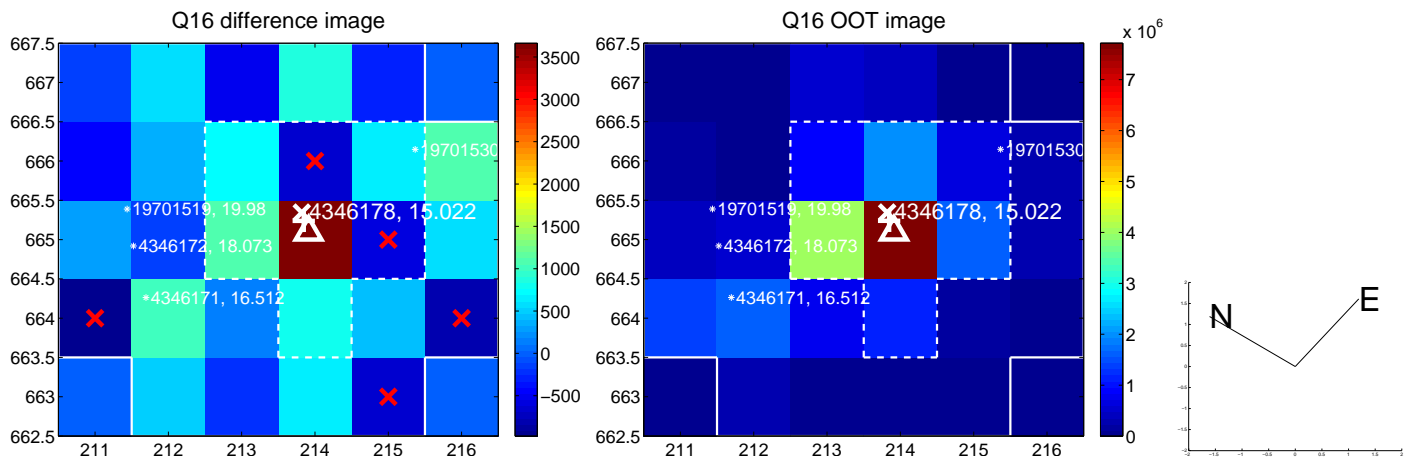
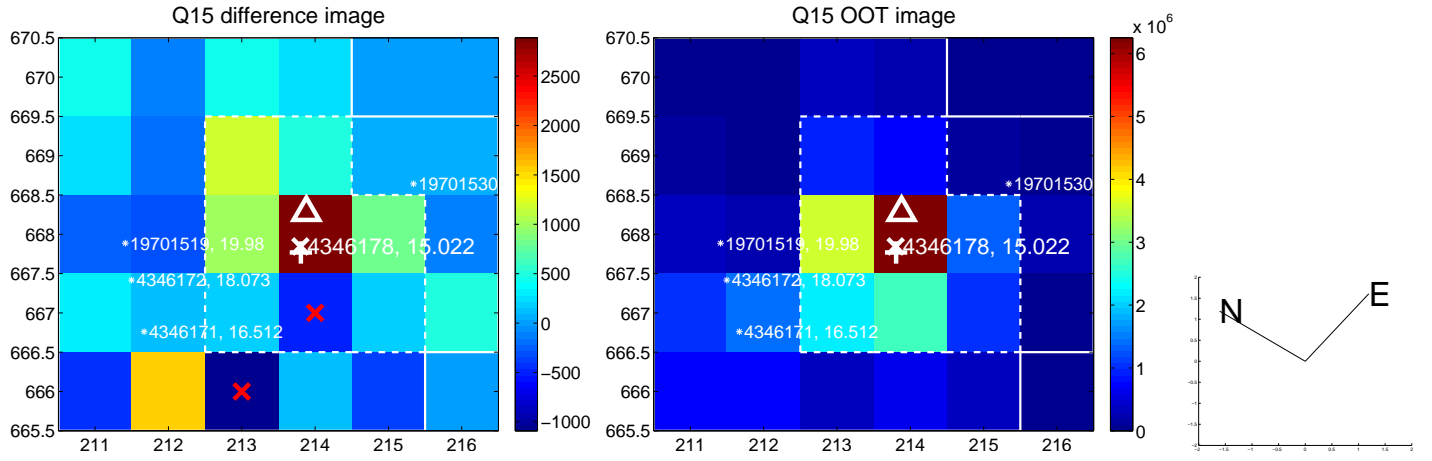
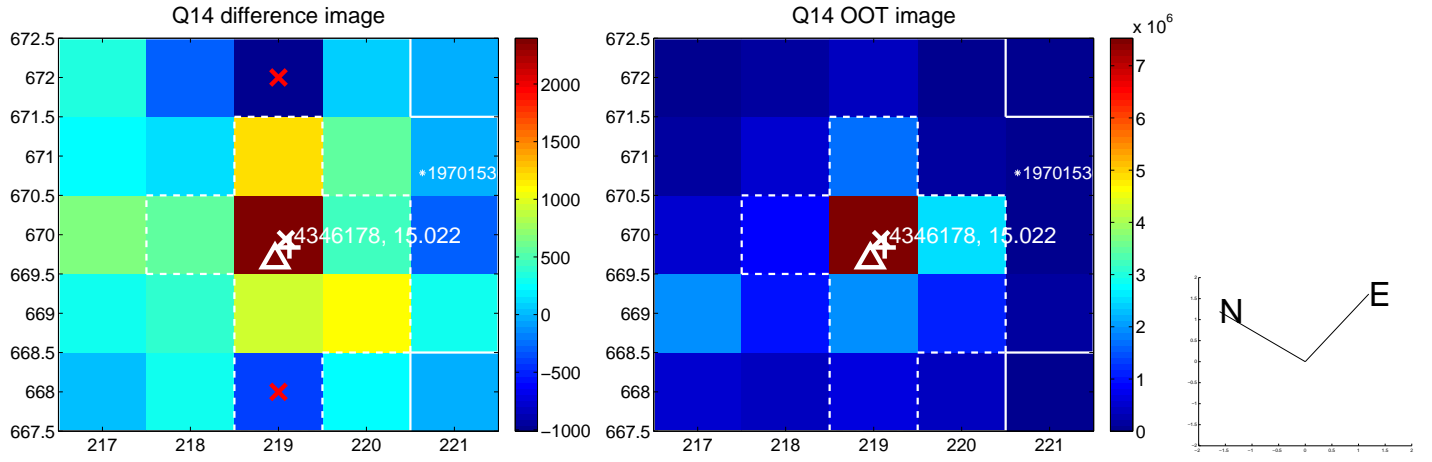
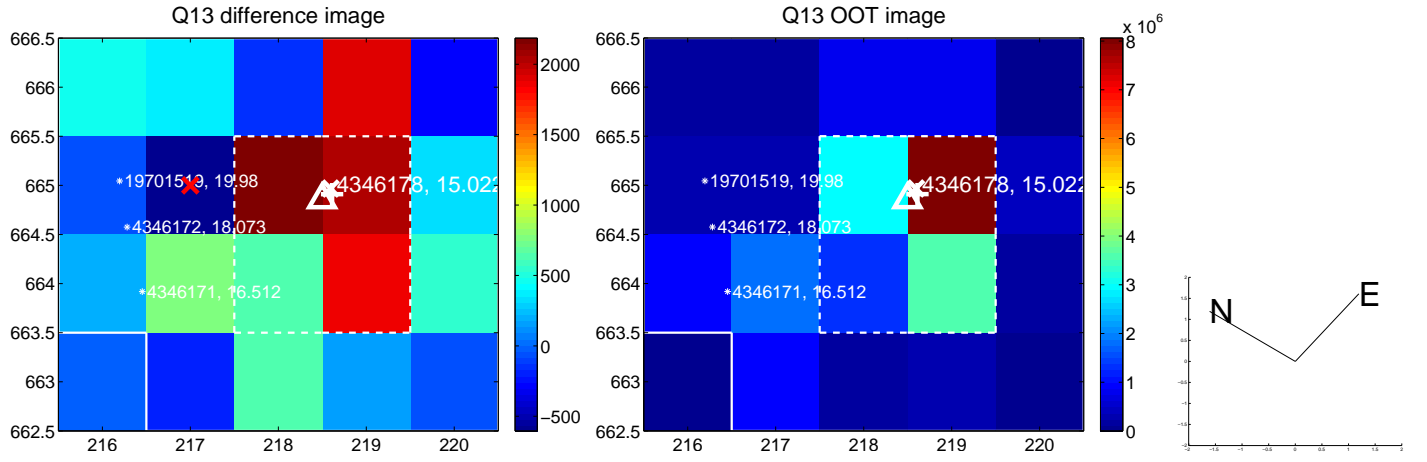
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



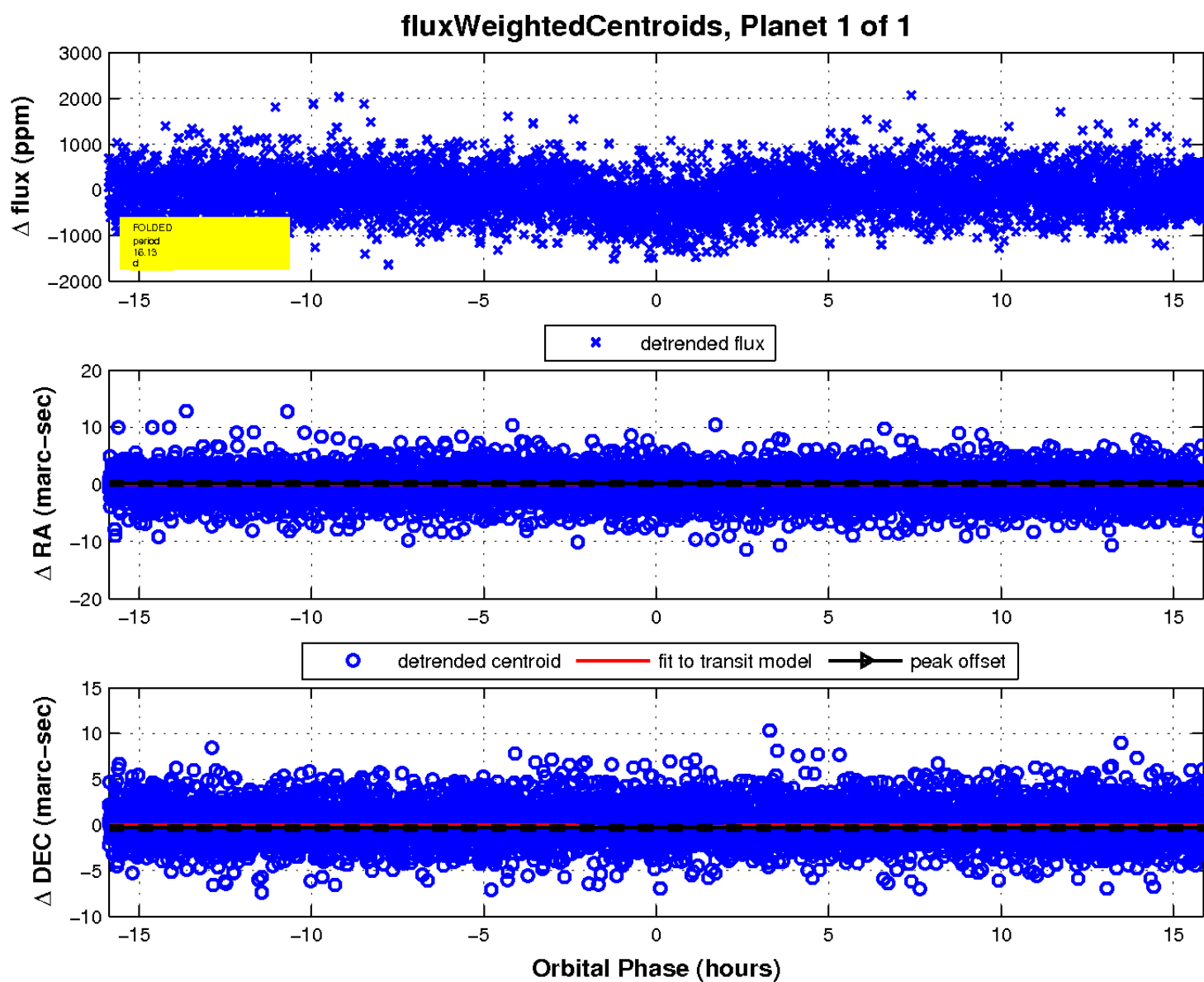
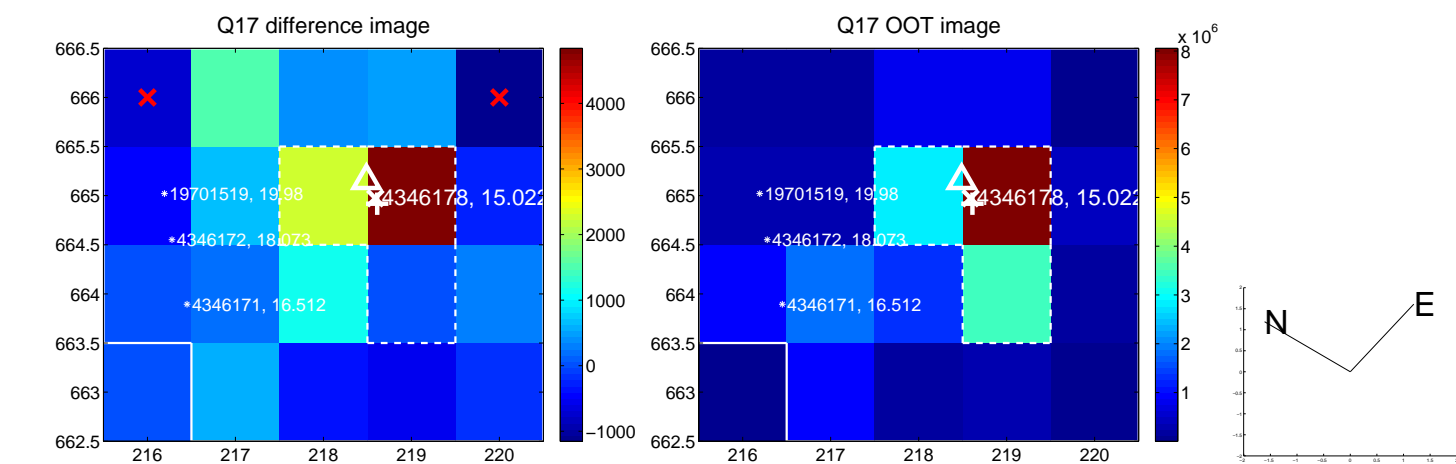
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

