

KIC 011870545

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})
011870545-01	OBS	1510.01	0.839958	132.156887	364.7	1.393	27.5	26.3	0.72	4932	1.68	1061.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011870545-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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 011870545-01

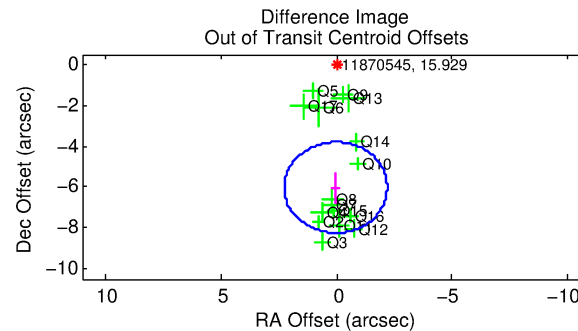
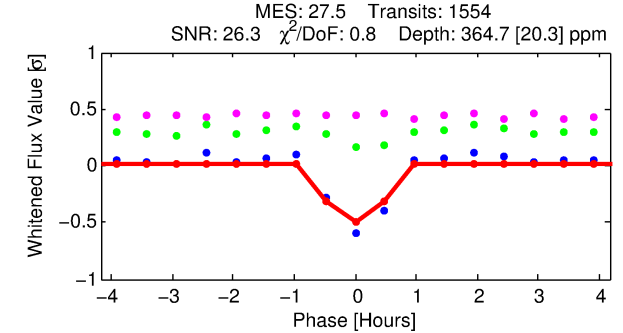
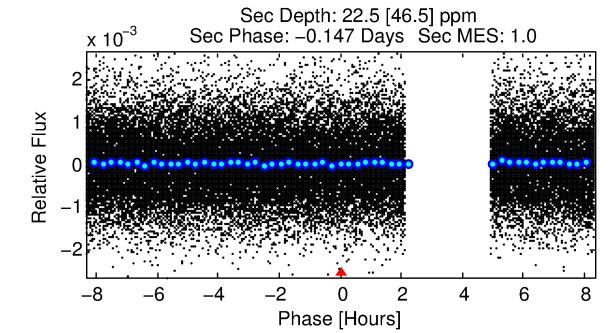
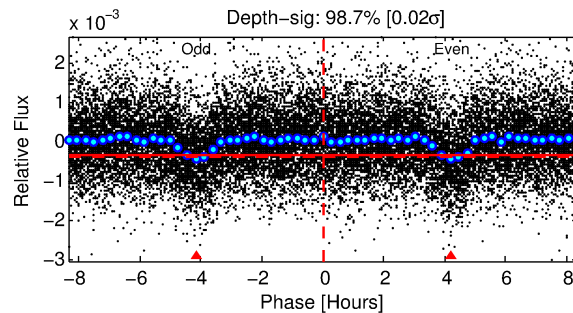
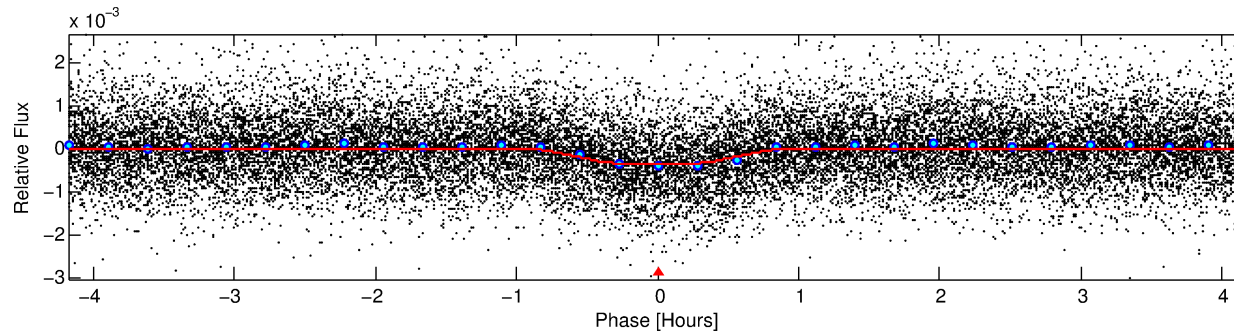
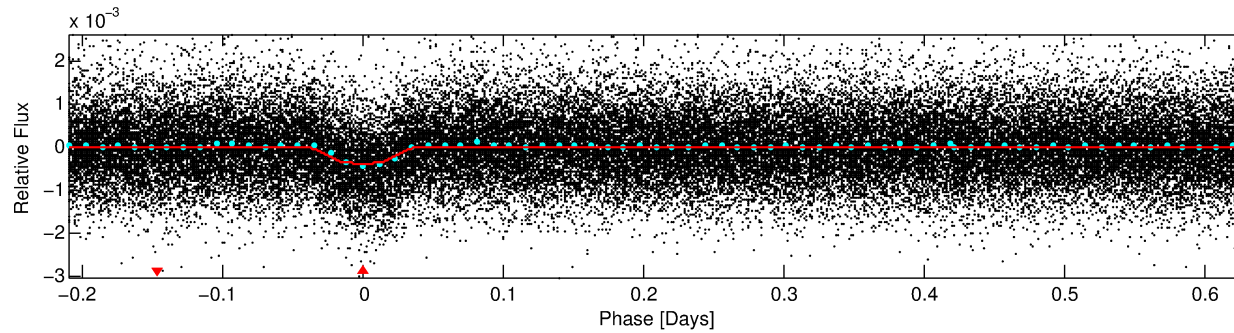
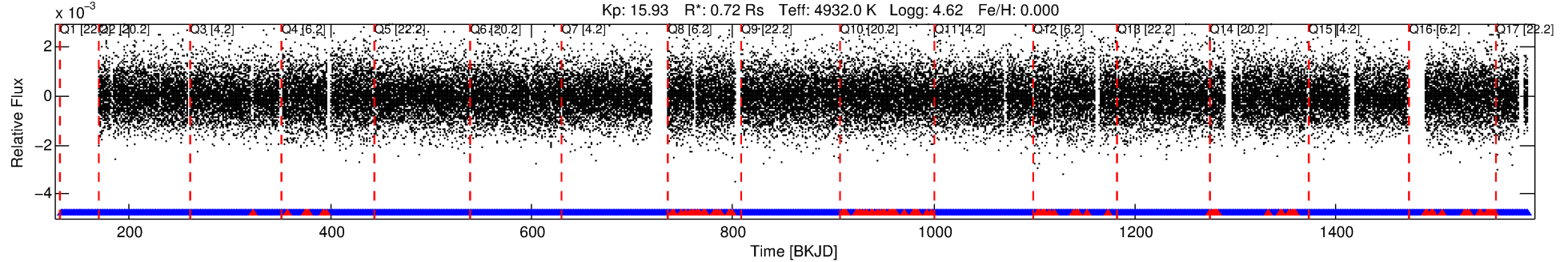
No Significant Match Found

DV One-Page Summary

KIC: 11870545 Candidate: 1 of 1 Period: 0.840 d

KOI: K01510.01 Corr: 0.953

Kp: 15.93 R*: 0.72 Rs Teff: 4932.0 K Logg: 4.62 Fe/H: 0.000



DV Fit Results:

Period = 0.83996 [0.00000] d
Epoch = 132.1569 [0.0008] BKJD
Rp/R* = 0.0215 [0.0077]
a/R* = 2.43 [2.76]
b = 0.90 [0.31]
Seff = 1061.84 [185.44]
Teq = 1456 [64] K
Rp = 1.68 [0.63] Re
a = 0.0160 [0.0015] AU
Ag = 1.13 [2.47] [0.05σ]
Teff = 2320 [1269] K [0.68σ]

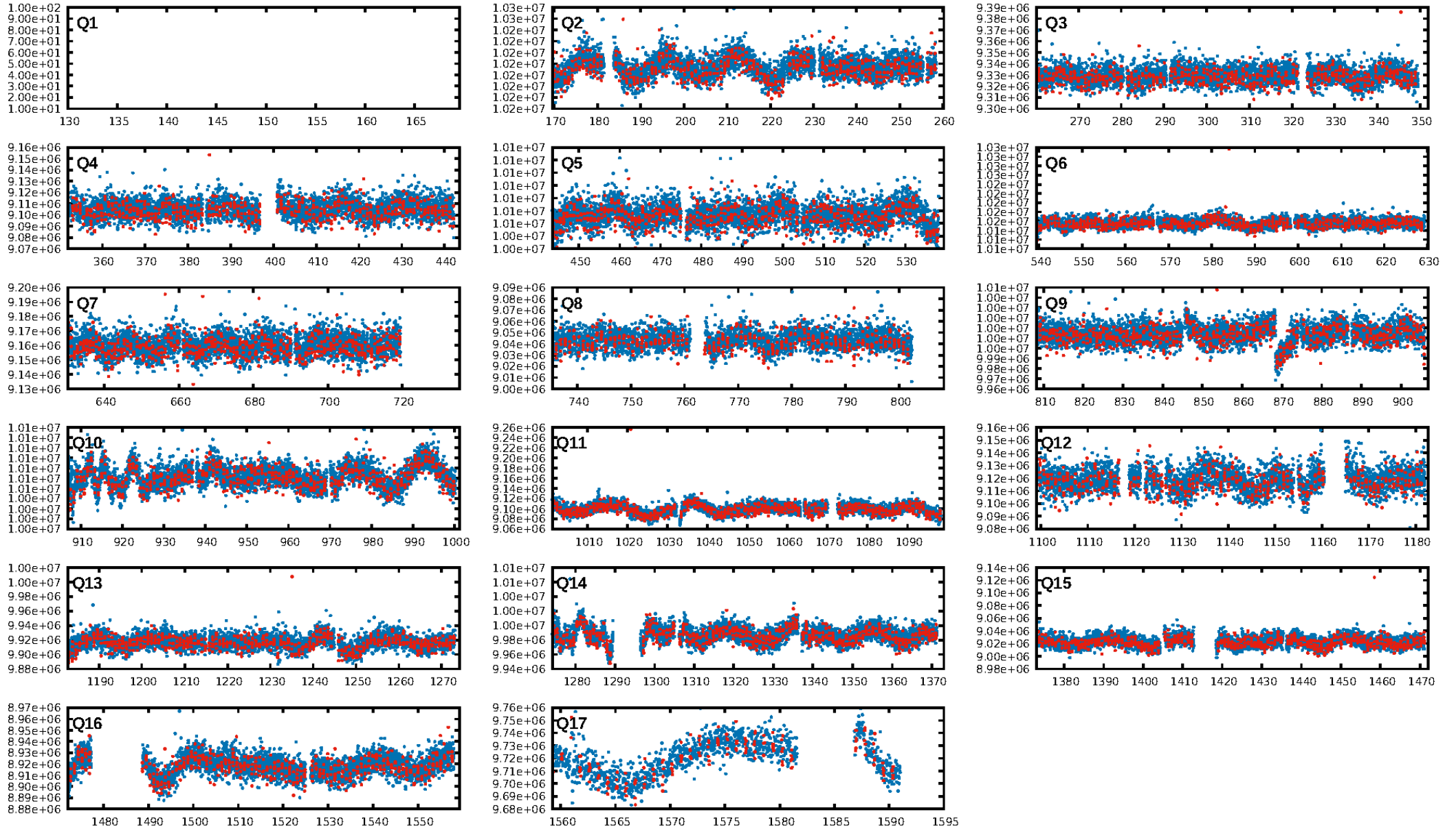
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.10e-159
RollingBand-fgt: 0.93 [1419/1522]
GhostDiagnostic-chr: 2.987
Centroid-sig: 0.0%
Centroid-so: 1.004 arcsec [2.29σ]
OotOffset-rm: 6.020 arcsec [8.11σ]
KicOffset-rm: 0.302 arcsec [1.75σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 1.00 [16/16]

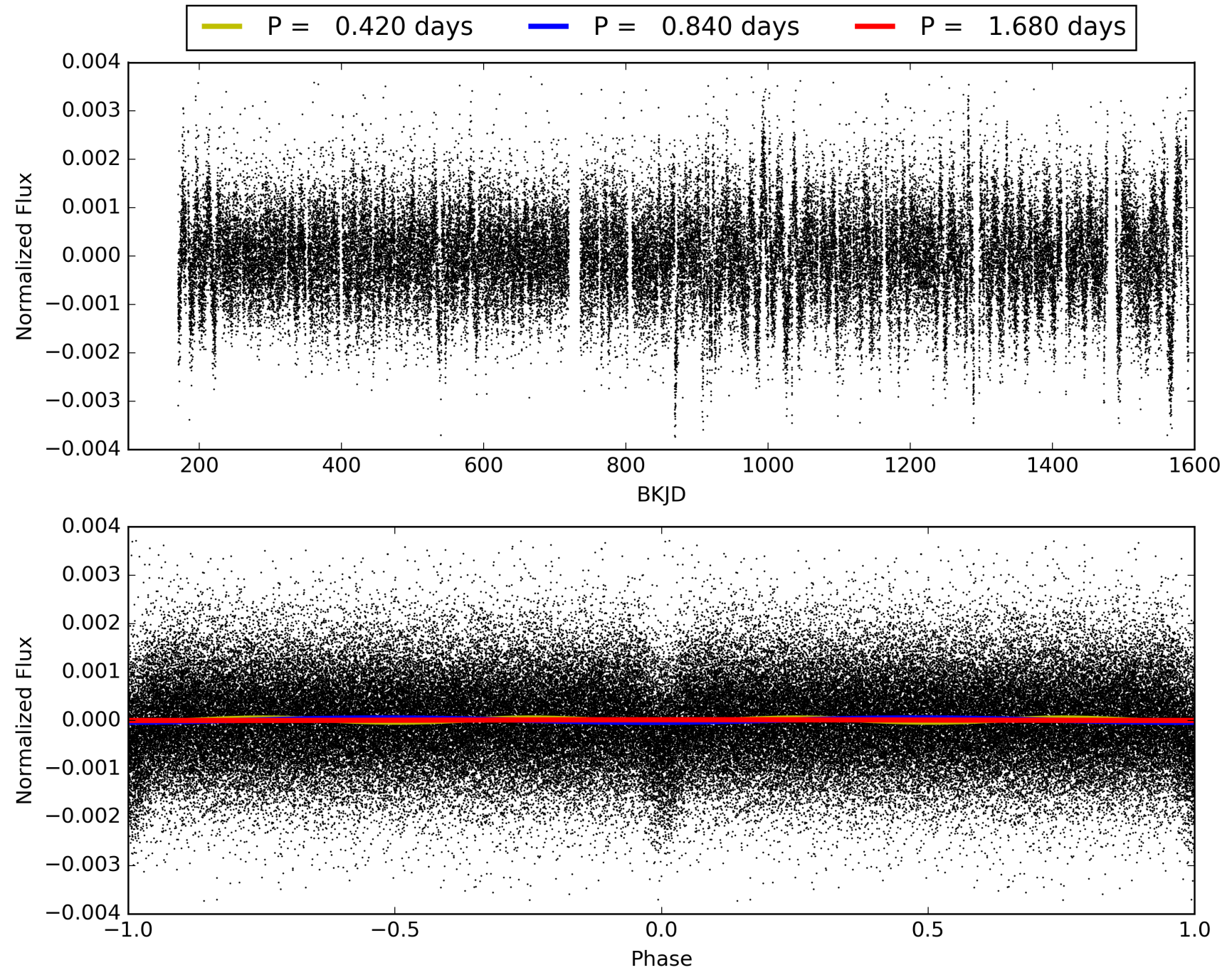
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:18:20 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 011870545-01, PDC Light Curves

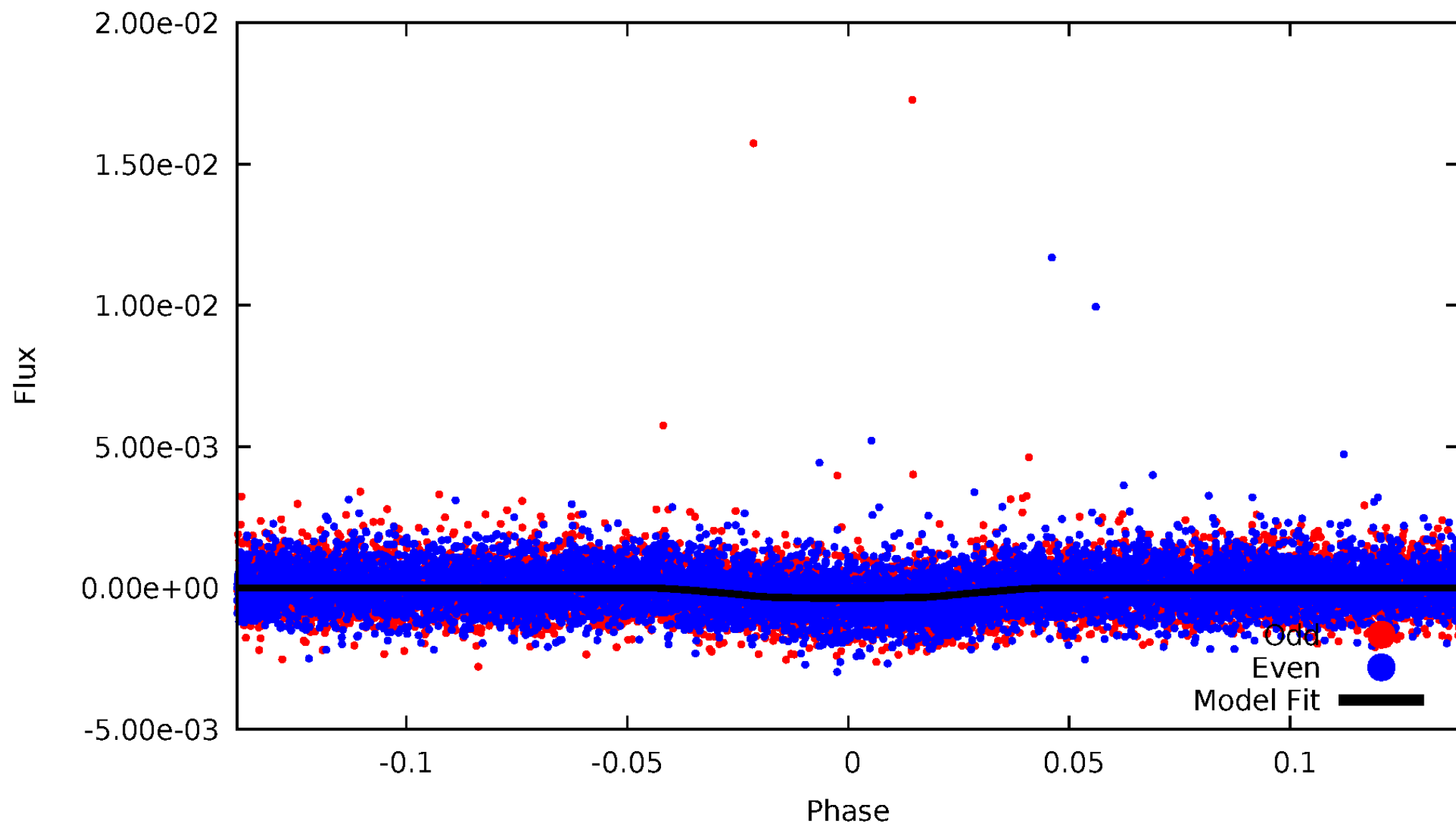


TCE 011870545-01



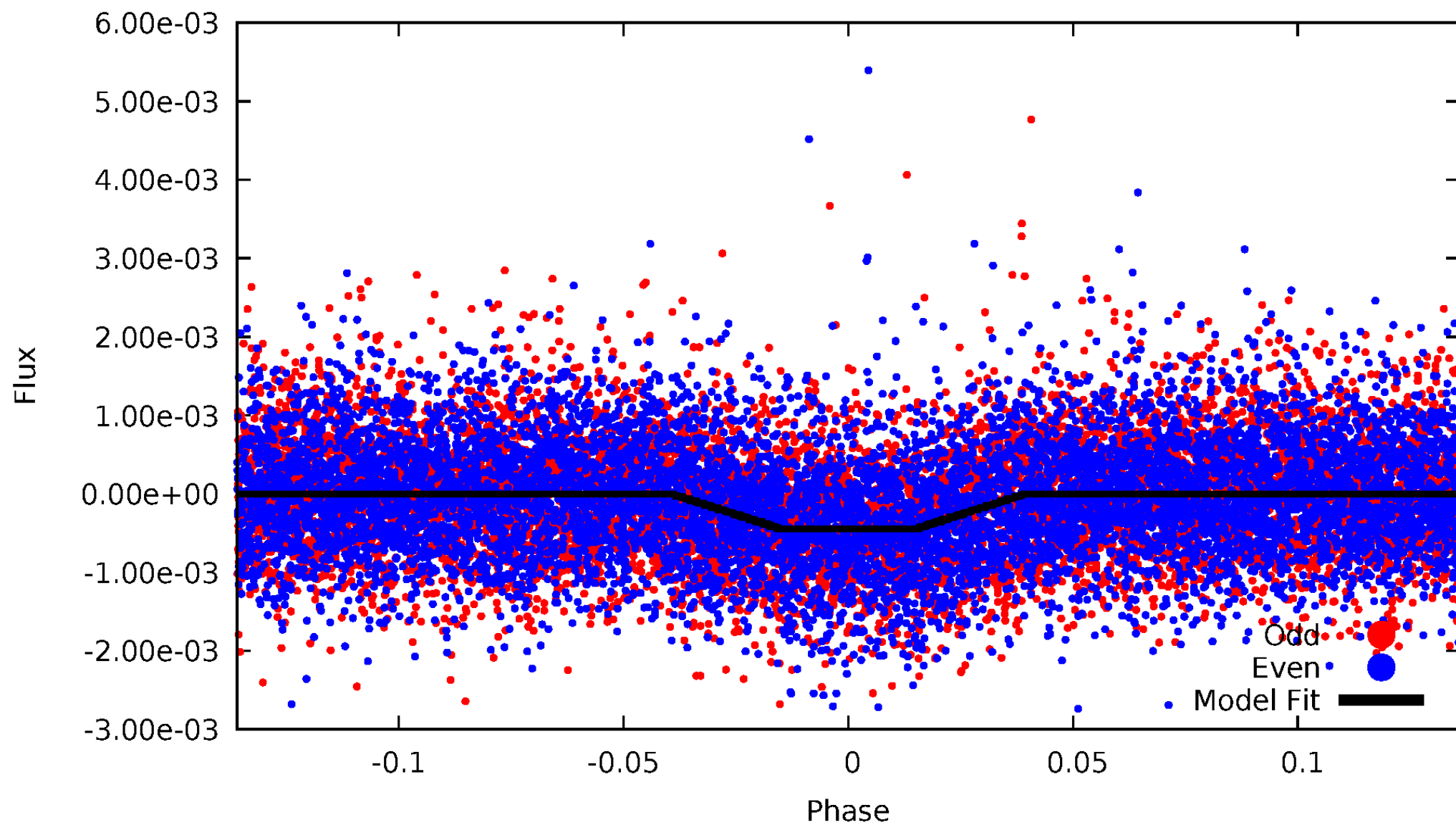
DV Odd/Even

TCE 011870545-01



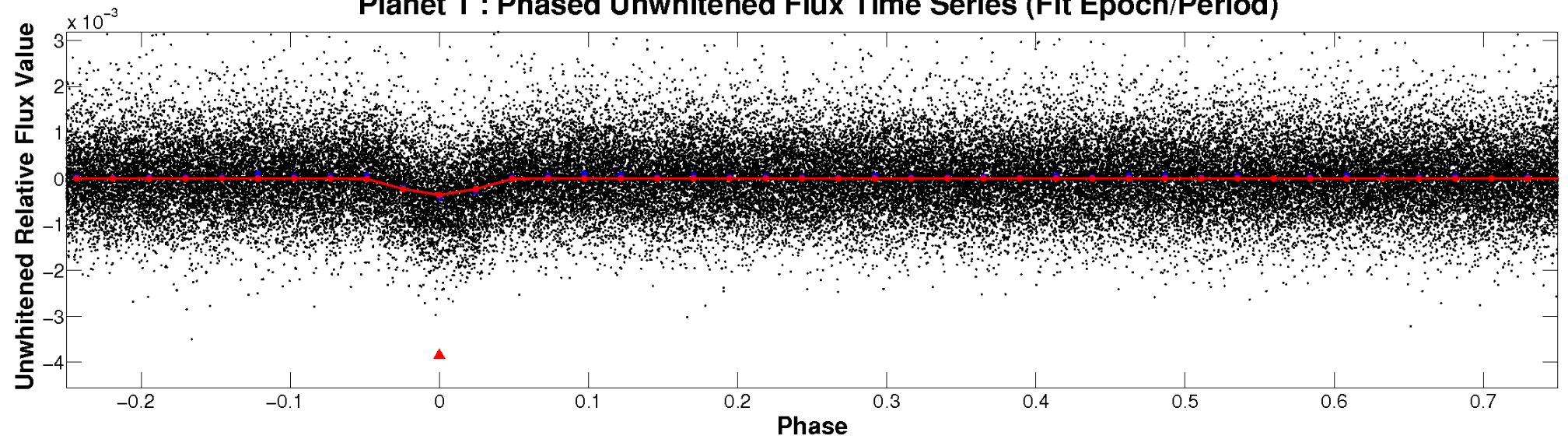
ALT Odd/Even

TCE 011870545-01

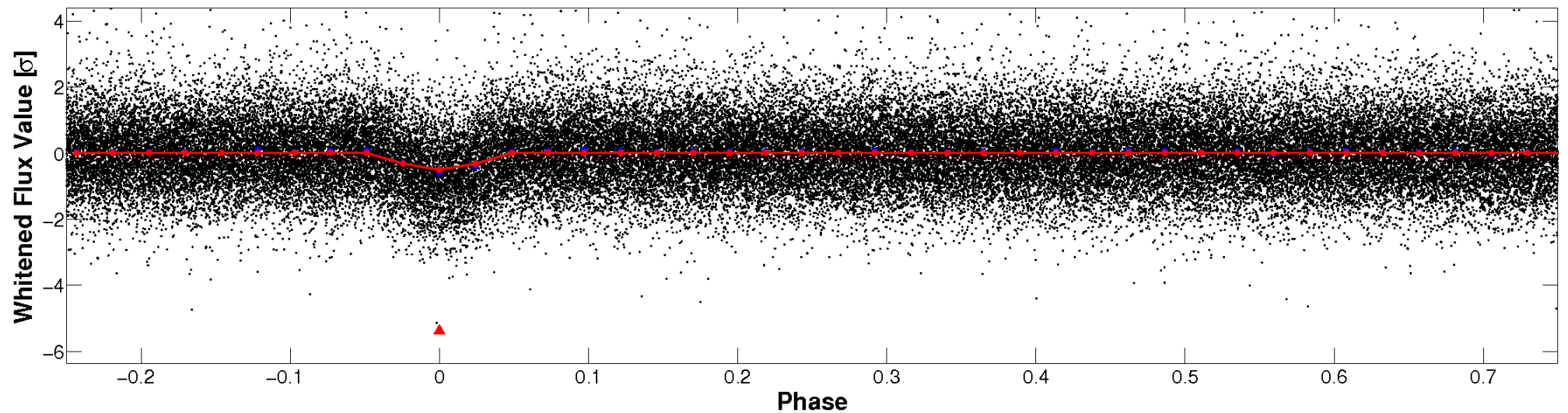


Non-Whitened Vs. Whitened Light Curve

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

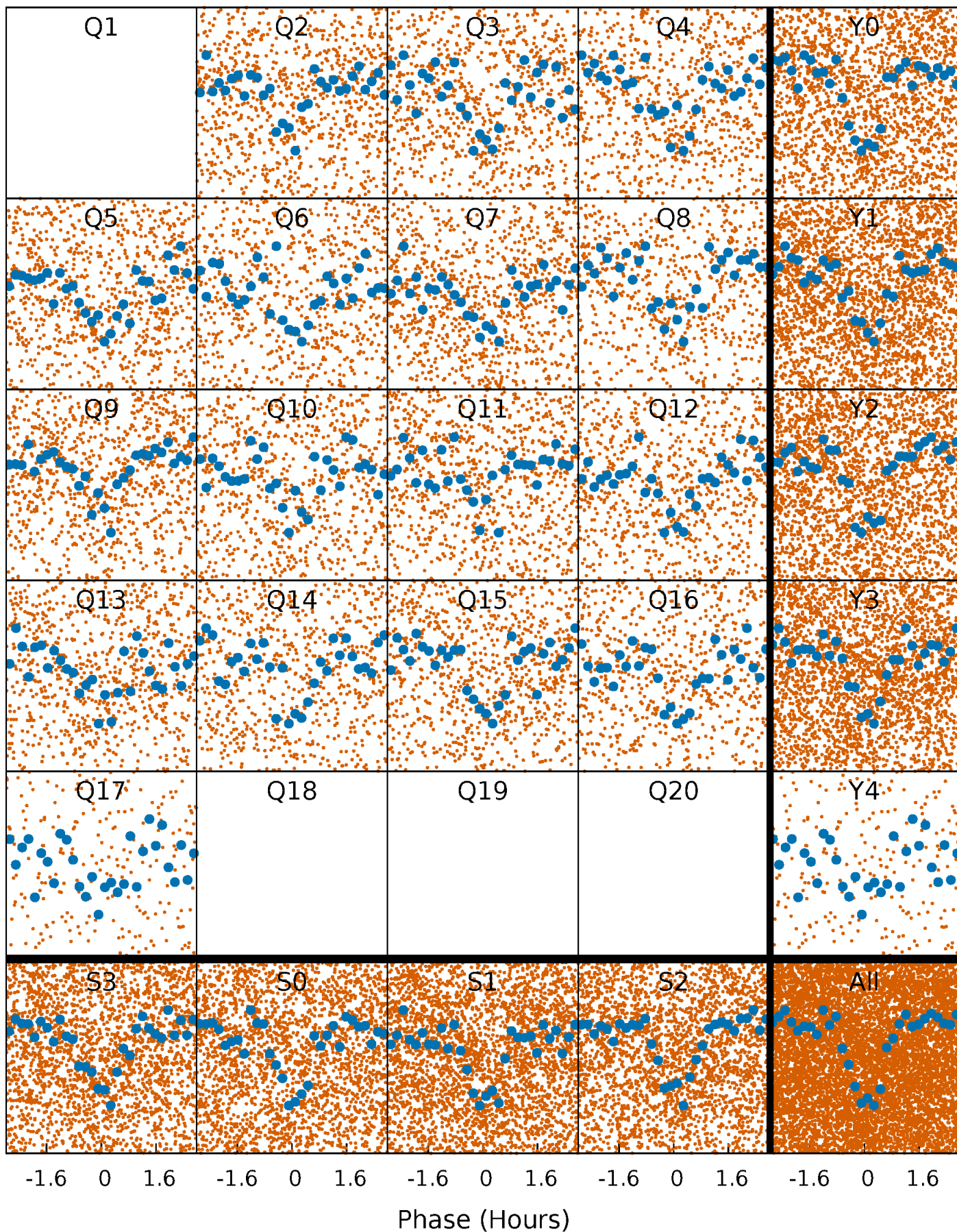


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



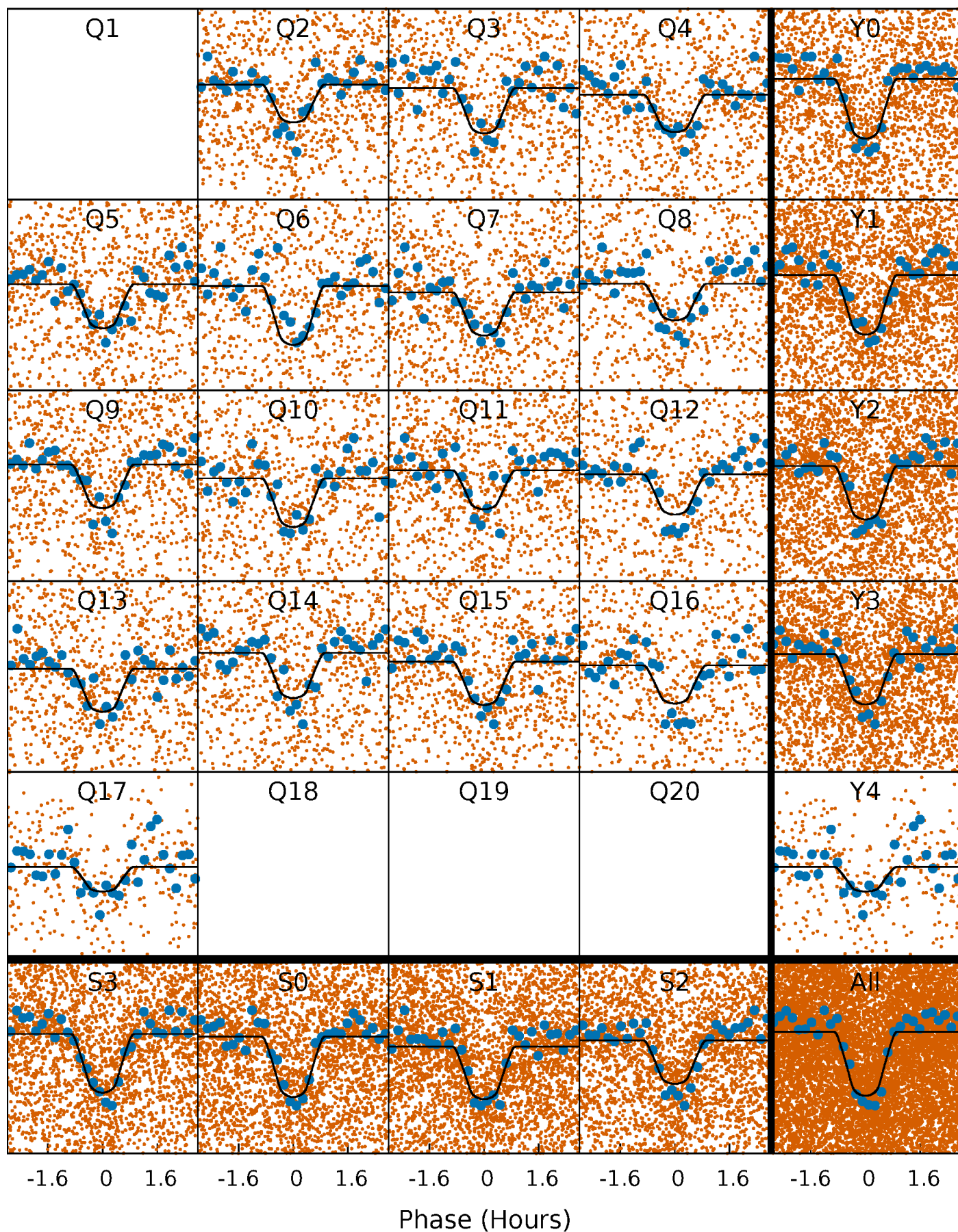
PDC Quarter-Phased Transit Curves

TCE 011870545-01 P= 0.839958 Days $T_0=132.156887$ (BKJD)



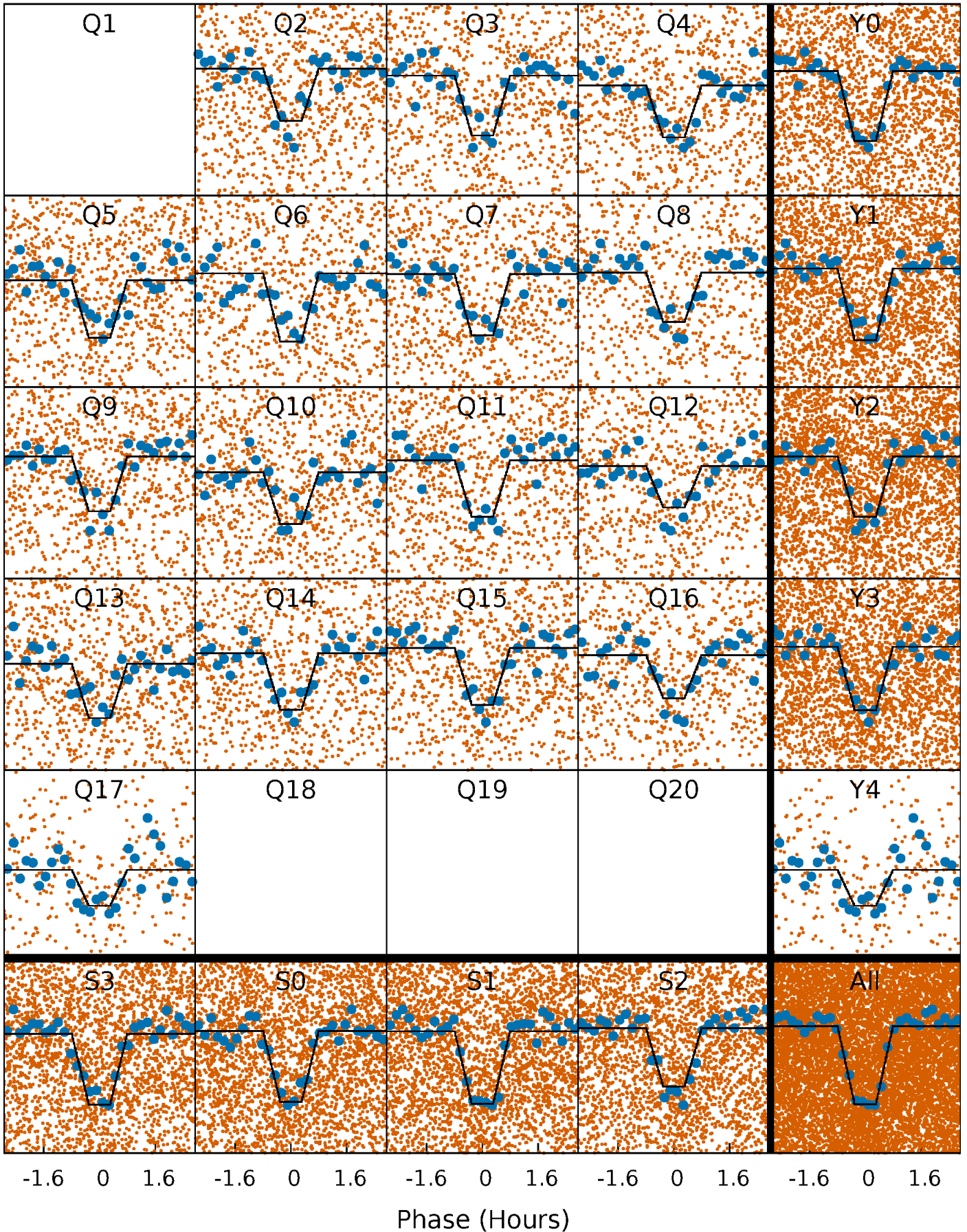
DV Quarter-Phased Transit Curves

TCE 011870545-01 P= 0.839958 Days $T_0=132.156887$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

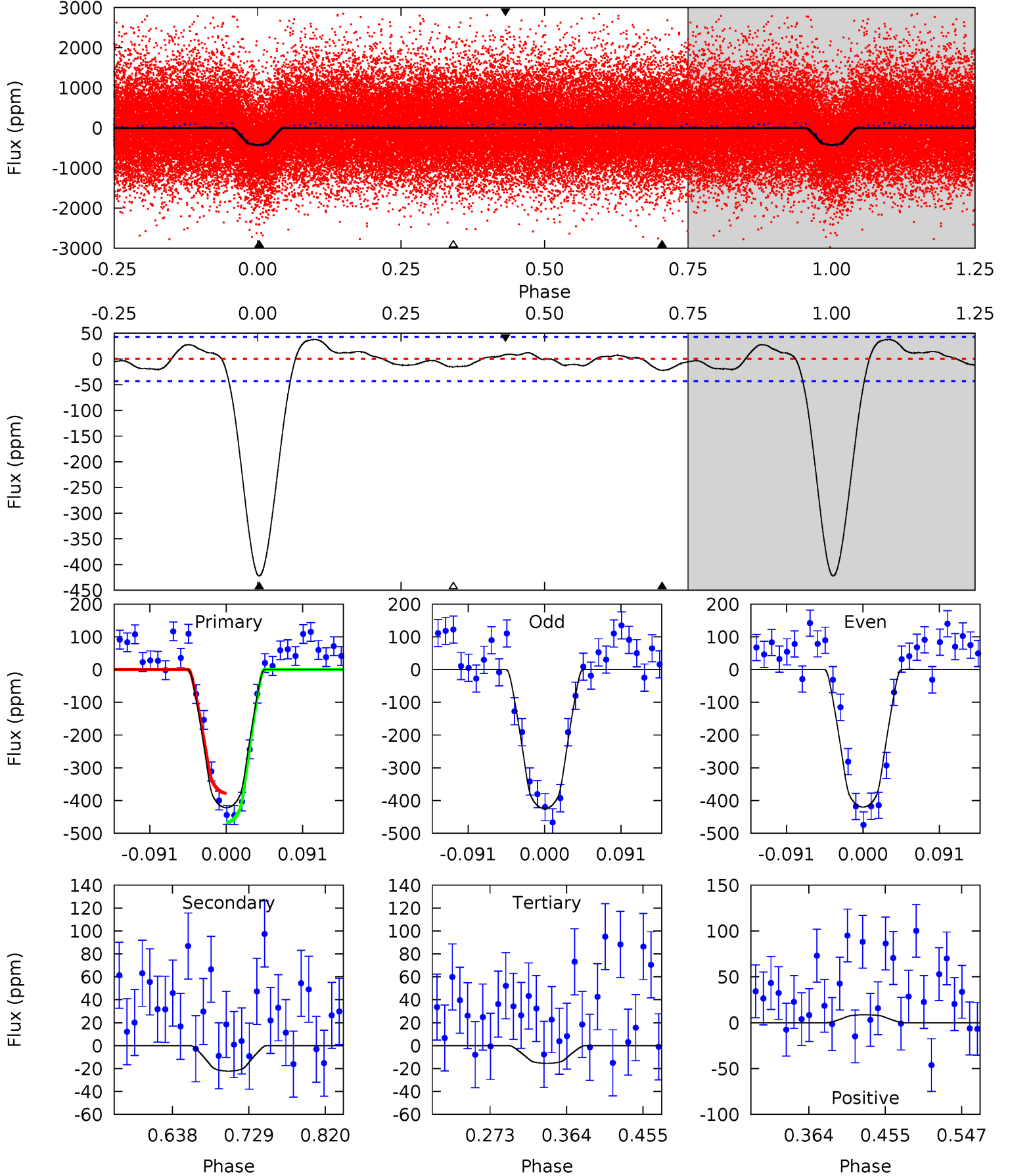
TCE 011870545-01 P= 0.839960 Days $T_0=132.156839$ (BKJD)



DV Model-Shift Uniqueness Test

011870545-01, P = 0.839958 Days, E = 132.156887 Days

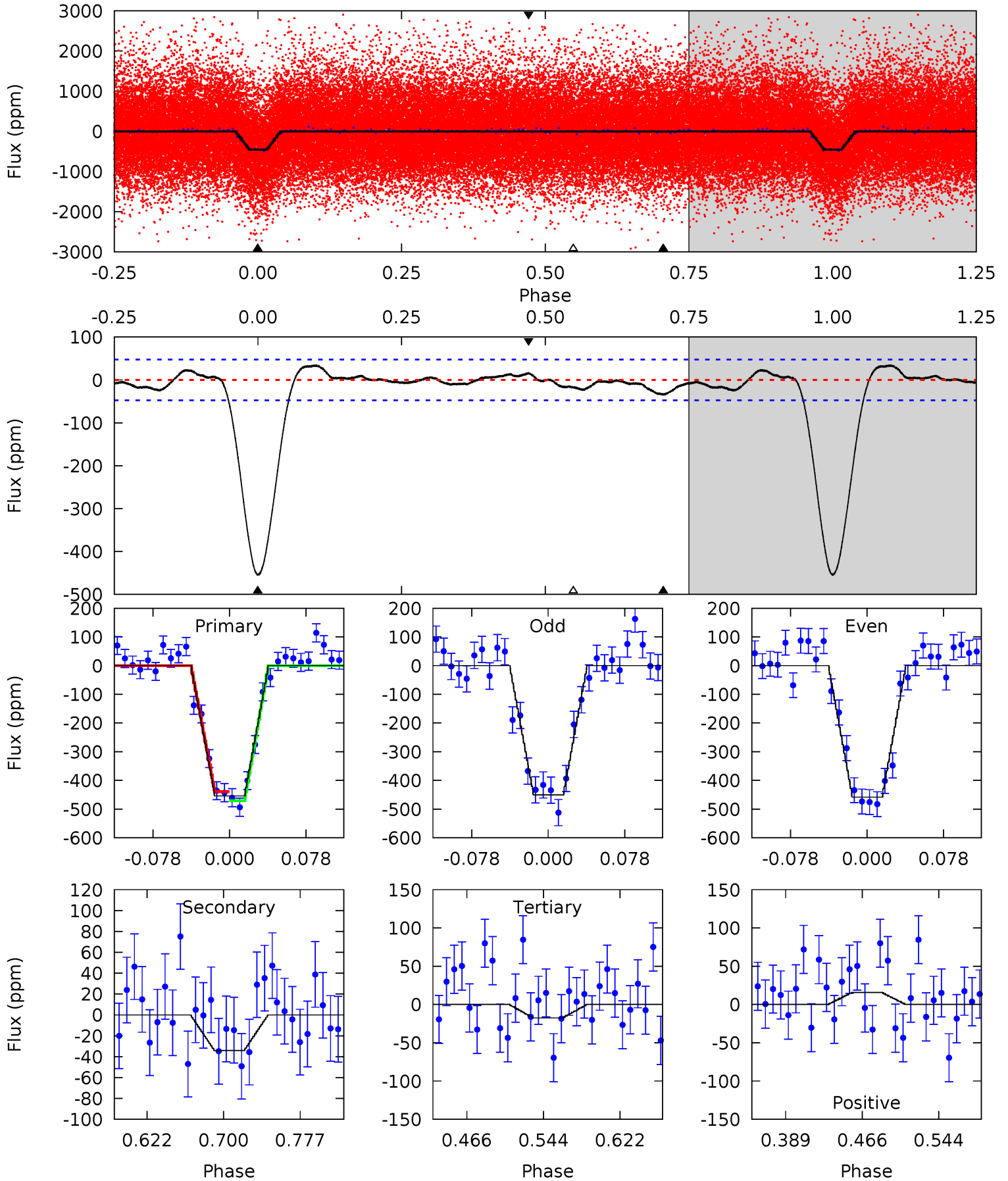
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.9	2.37	1.65	0.91	4.58	1.69	1.46	43.3	44.0	0.72	1.46	0.24	0.96	0.08	4.80



Alt Model-Shift Uniqueness Test

011870545-01, P = 0.839960 Days, E = 132.156839 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.2	3.31	1.70	1.53	4.62	1.76	1.25	42.5	42.6	1.61	1.78	0.39	1.00	0.07	1.53



Stellar Parameters For KIC 011870545

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4932^{+134}_{-149}	$4.618^{+0.025}_{-0.065}$	$0.000^{+0.250}_{-0.300}$	$0.718^{+0.083}_{-0.048}$	$0.808^{+0.047}_{-0.087}$	$3.075^{+0.383}_{-0.736}$
	+3%/-3%	+1%/-1%	+inf%/-inf%	+12%/-7%	+6%/-11%	+12%/-24%
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 011870545-01 / KOI 1510.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-22 ± 9	$1.69^{+0.65}_{-0.61}$	2051^{+77}_{-64}	2795^{+529}_{-490}	$1.035^{+1.777}_{-0.597}$
Alt.	-34 ± 10	$1.74^{+0.63}_{-0.63}$	2056^{+68}_{-72}	3018^{+522}_{-365}	$1.585^{+2.251}_{-0.810}$

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

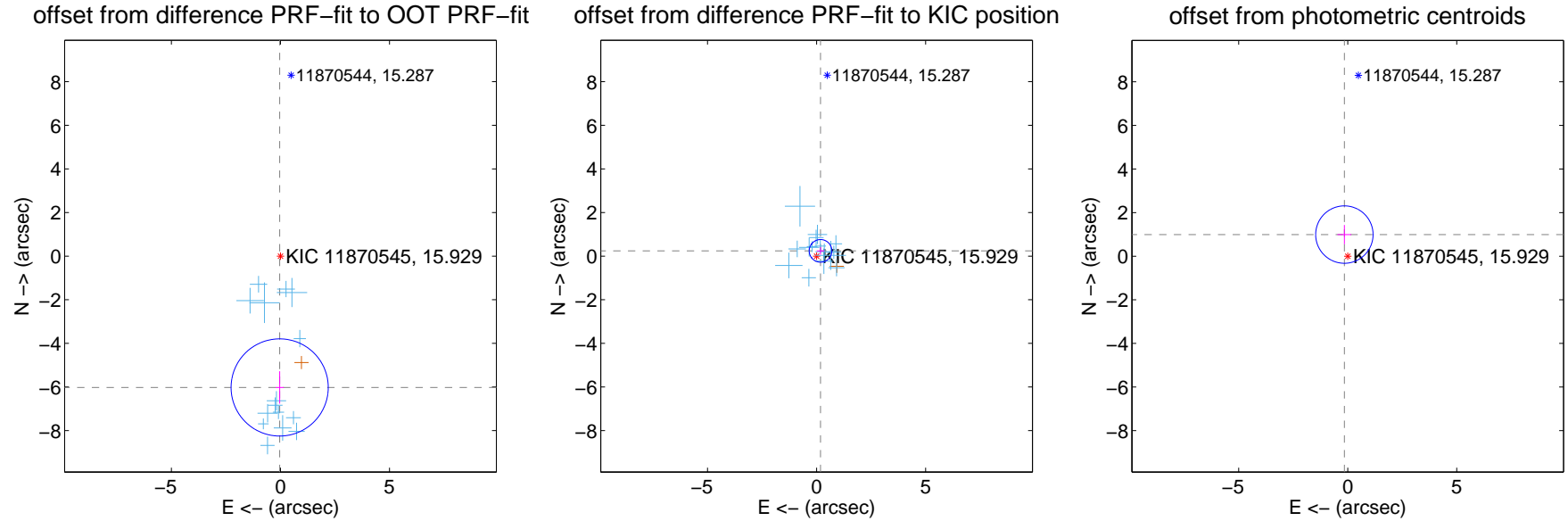
DV Centroid Data

Supplemental centroid analysis for 011870545-01. Kepler magnitude: 15.93. Transit SNR 26.32

There are 15 quarters with good PRF difference image offsets

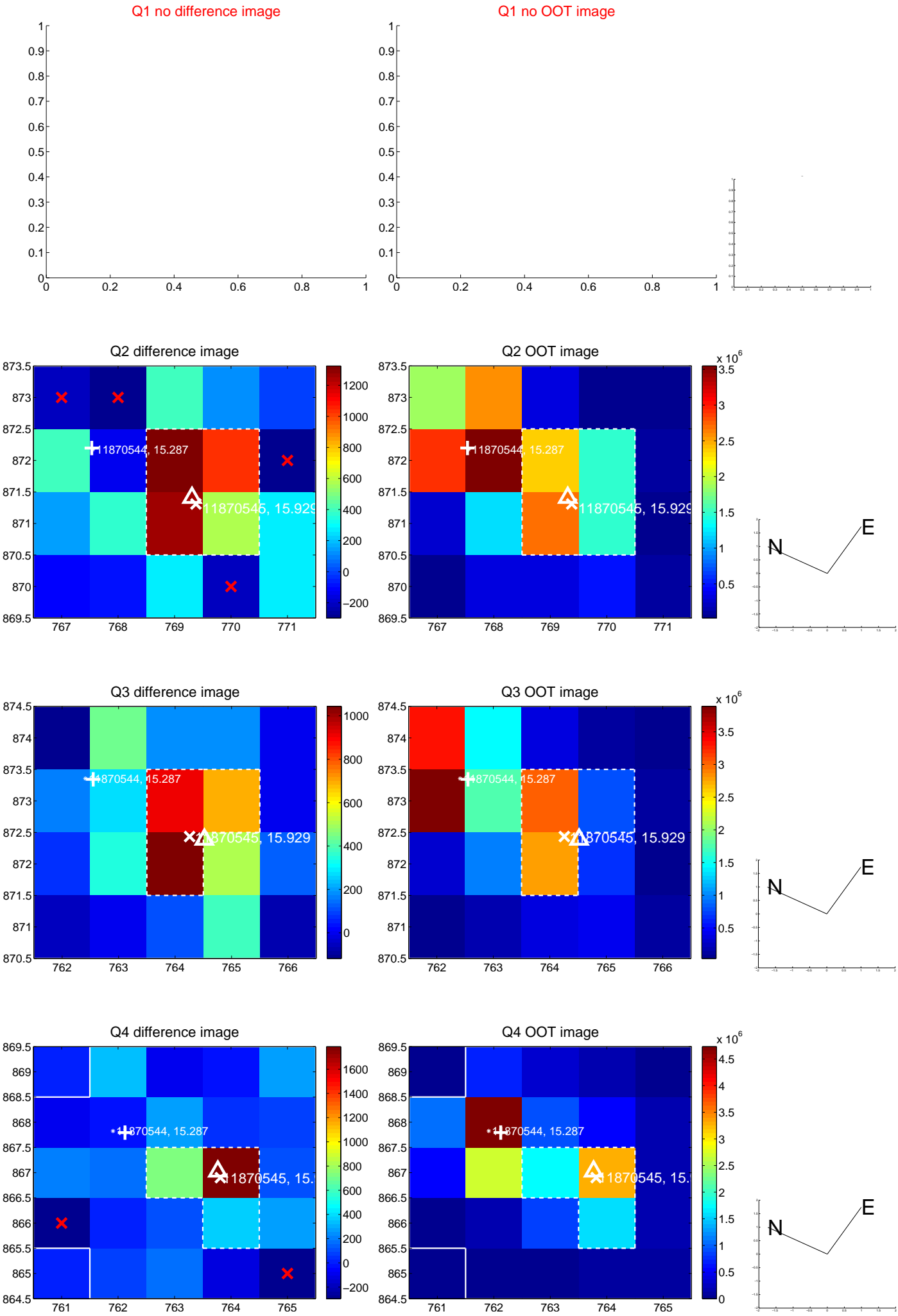
The direct PRF centroid is offset from the target star catalog position by about 1.62 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.020 ± 0.743	8.11	0.036 ± 0.188	-6.020 ± 0.743
PRF-fit source offset from KIC position	0.302 ± 0.173	1.75	-0.181 ± 0.173	0.242 ± 0.173
photometric centroid source offset	1.00 ± 0.44	2.29	0.15 ± 0.32	0.99 ± 0.44

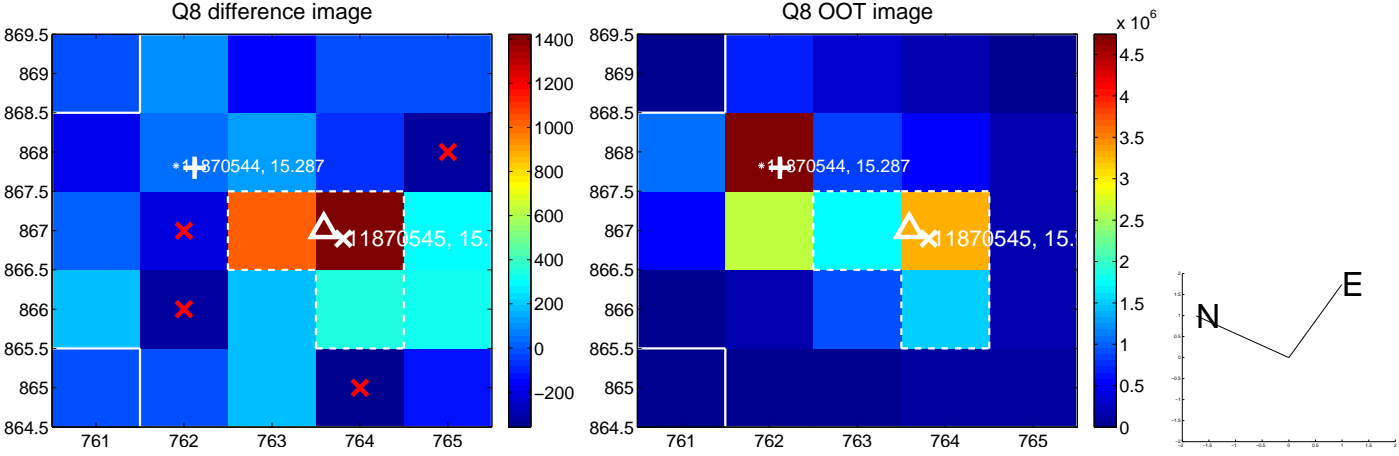
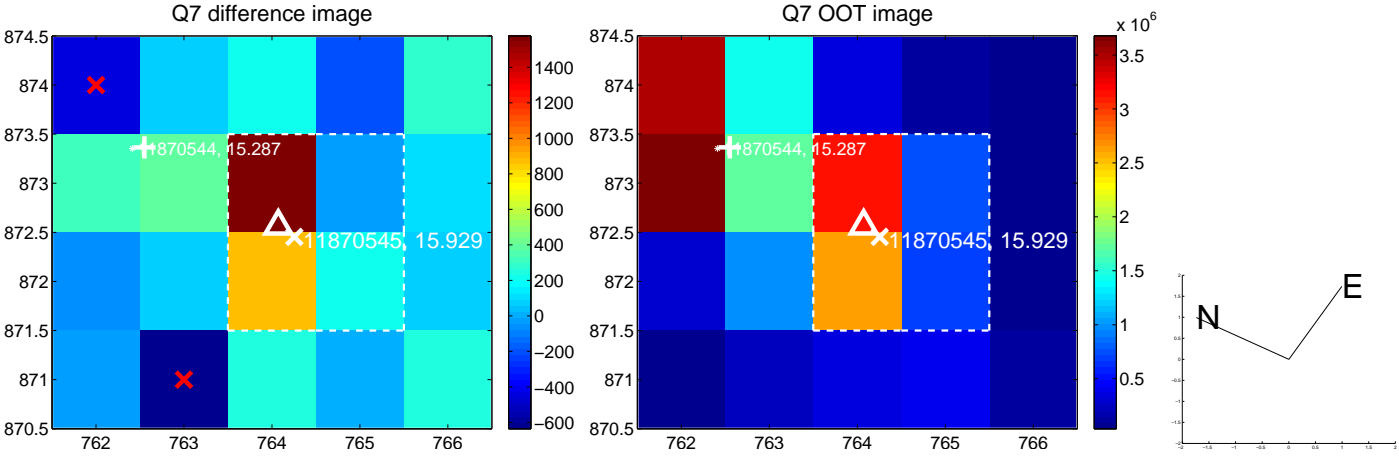
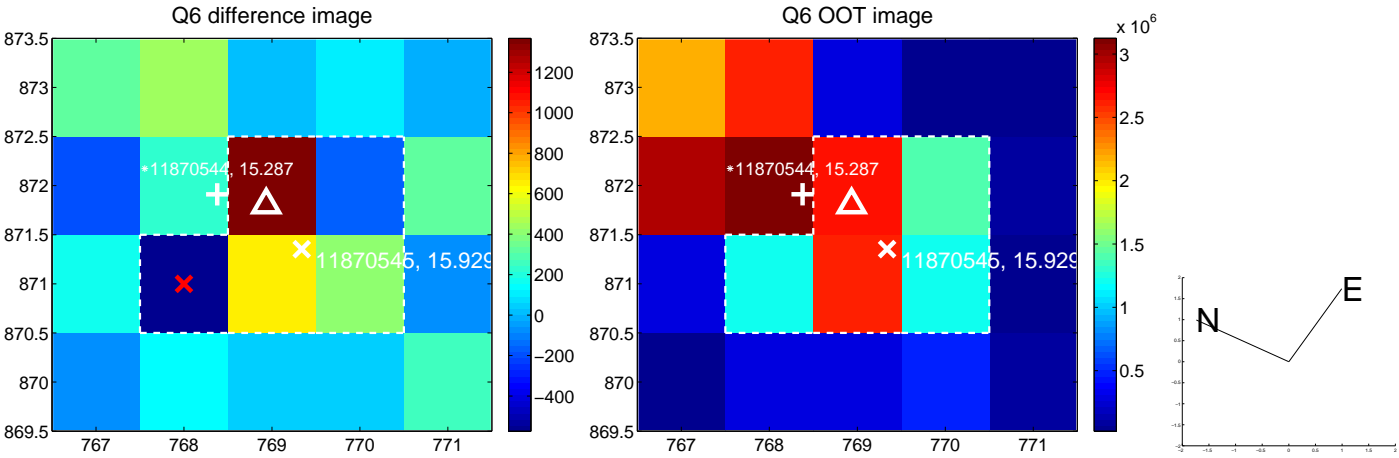
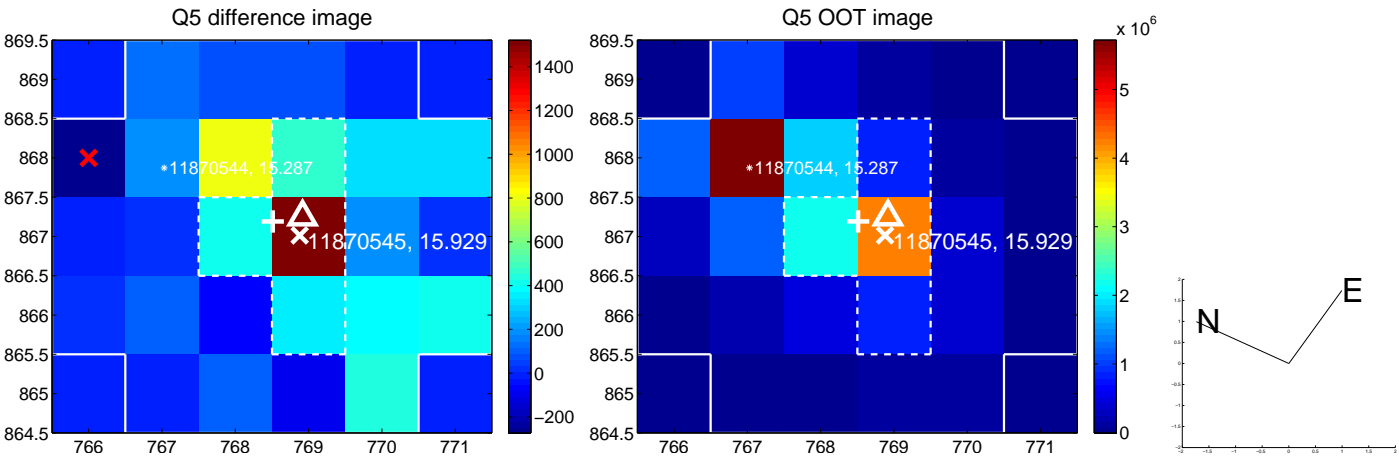


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

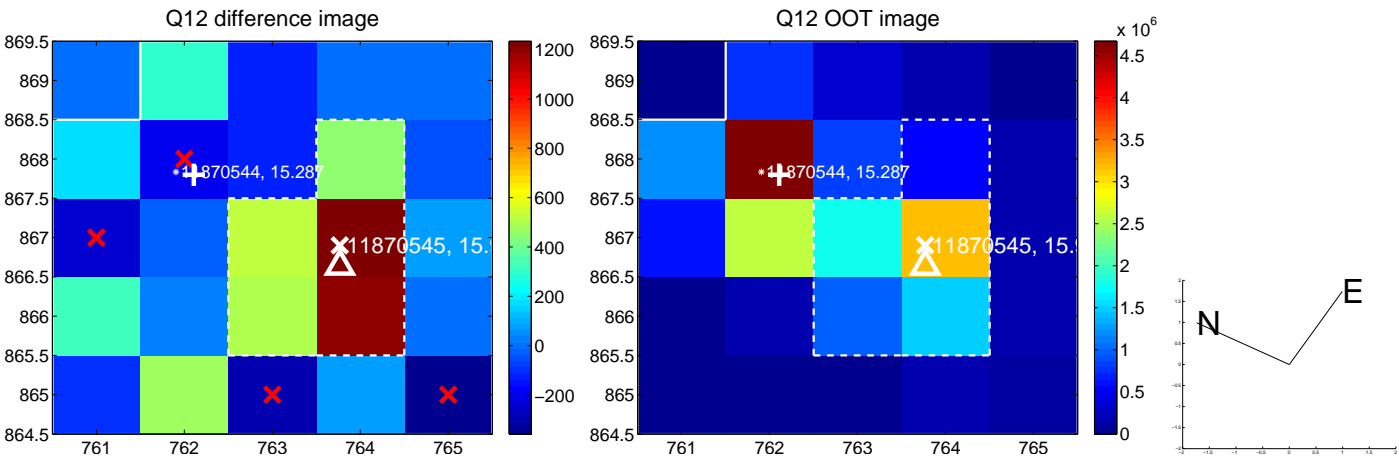
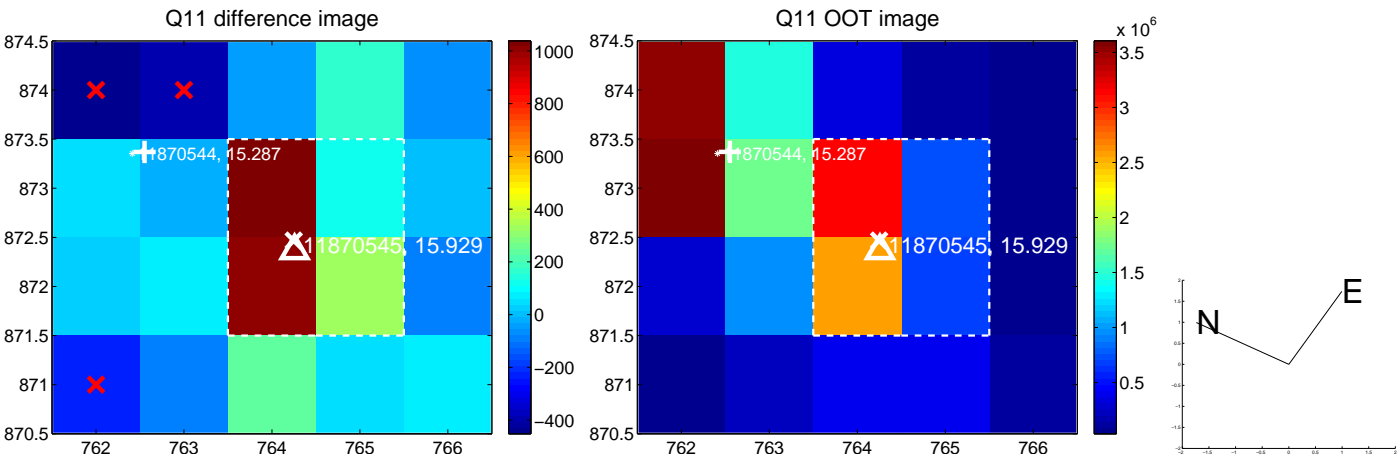
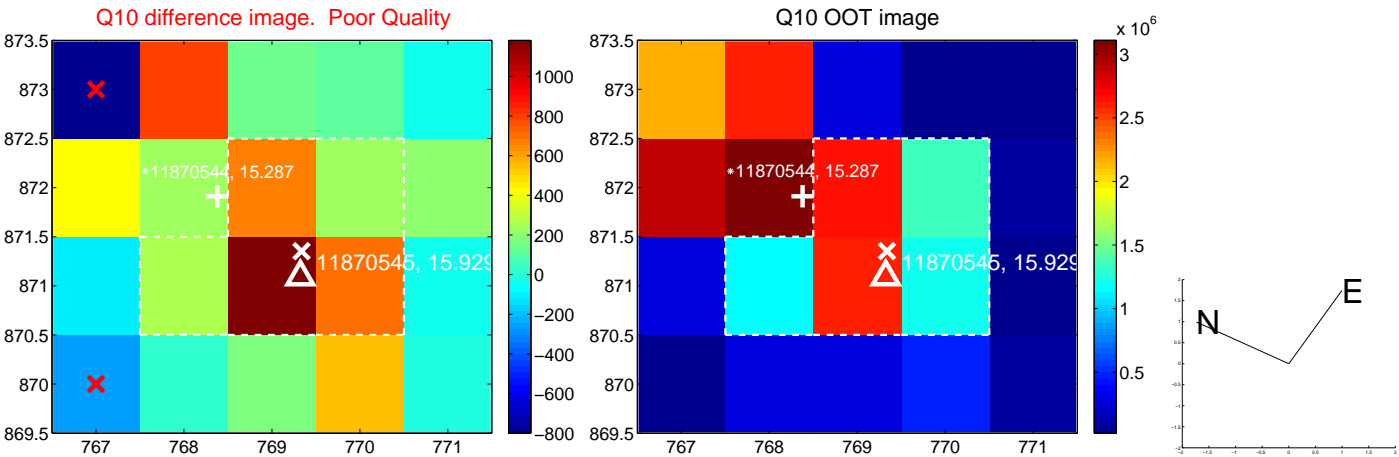
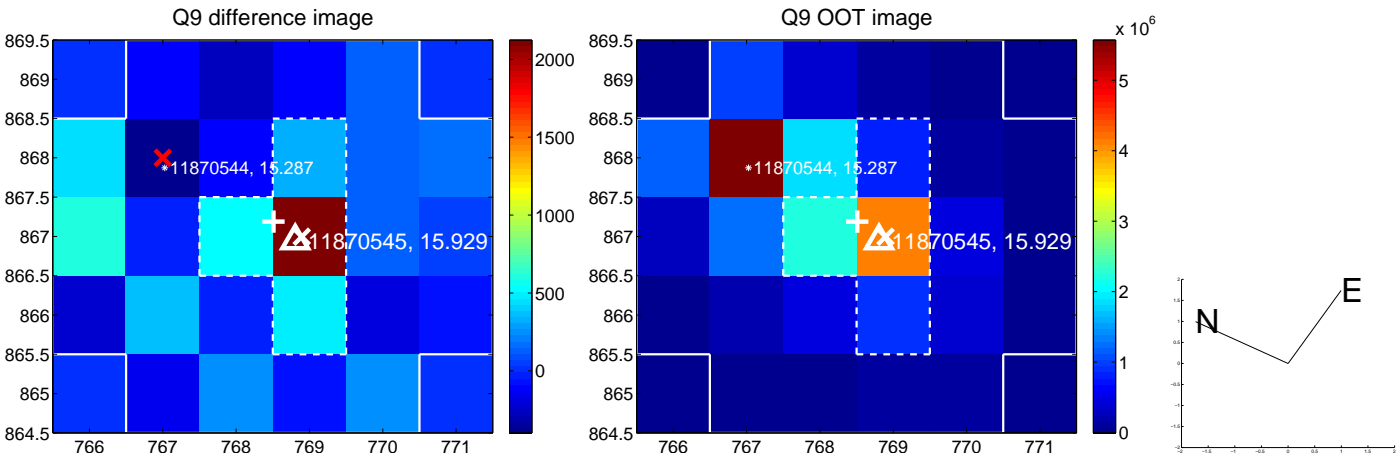
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



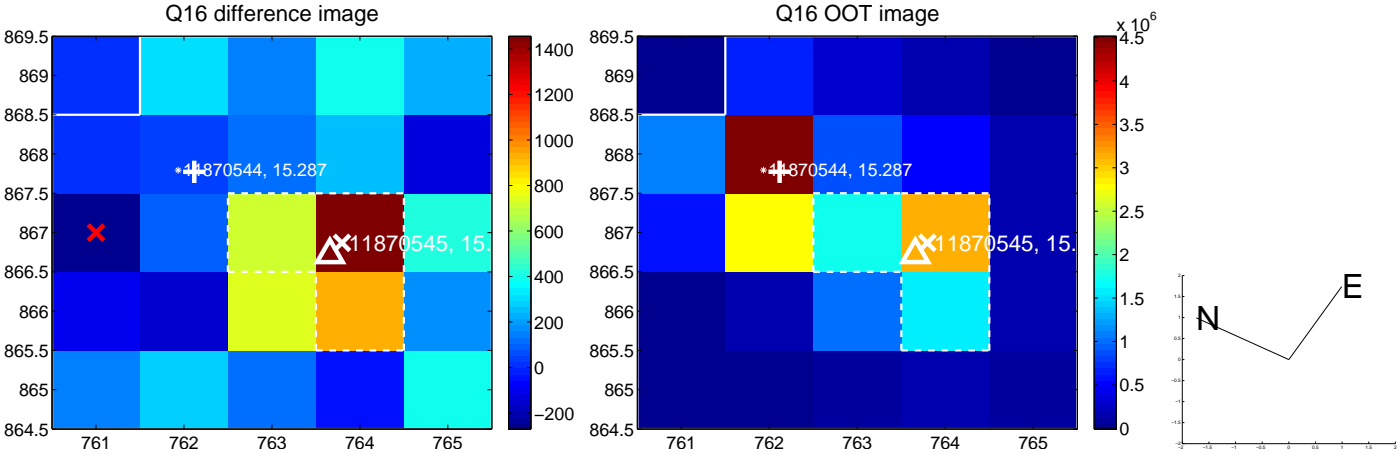
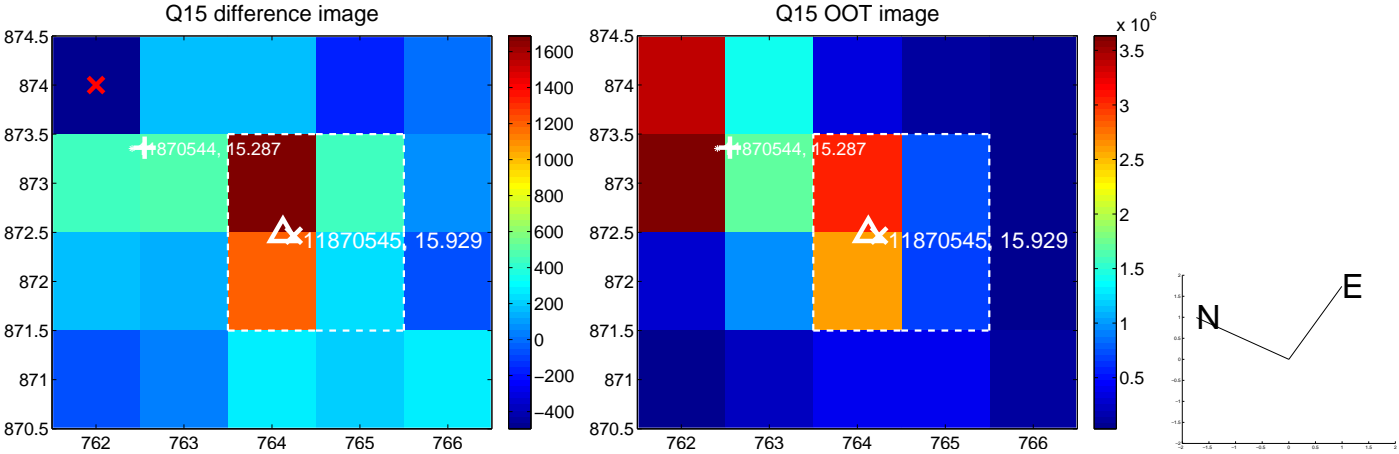
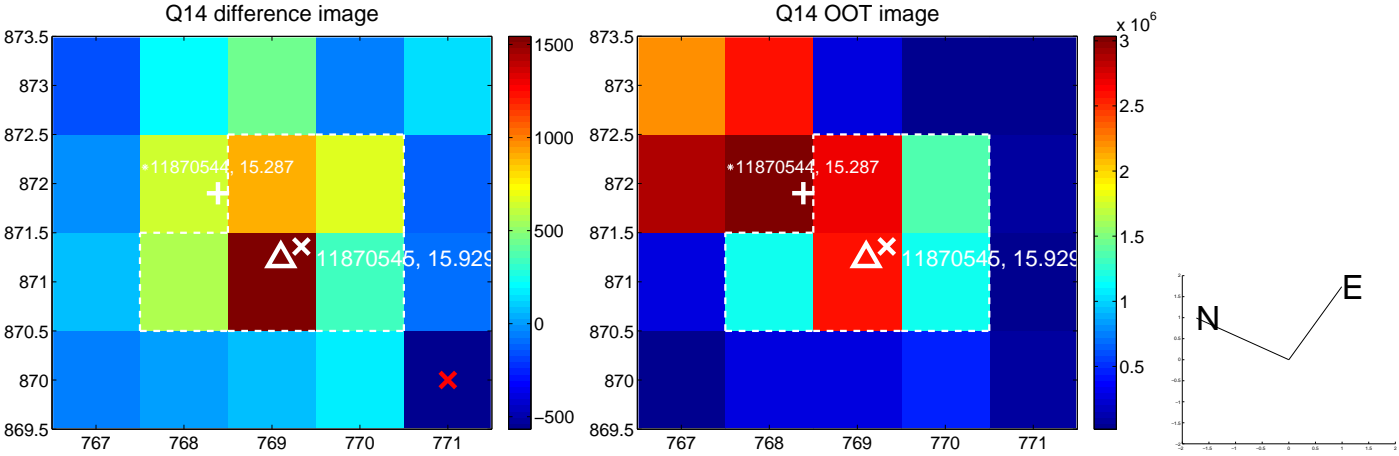
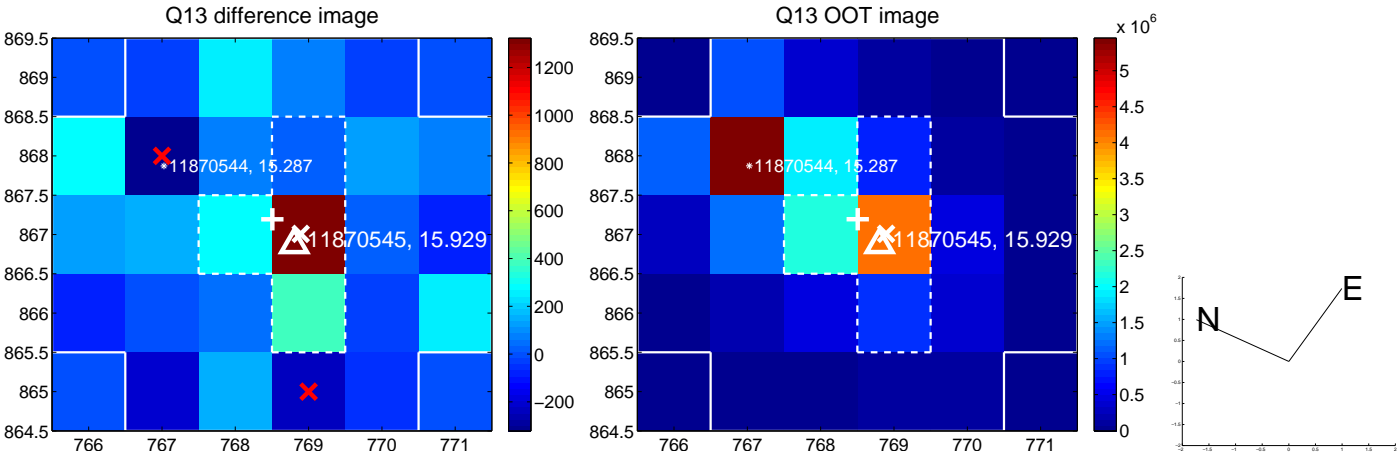
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



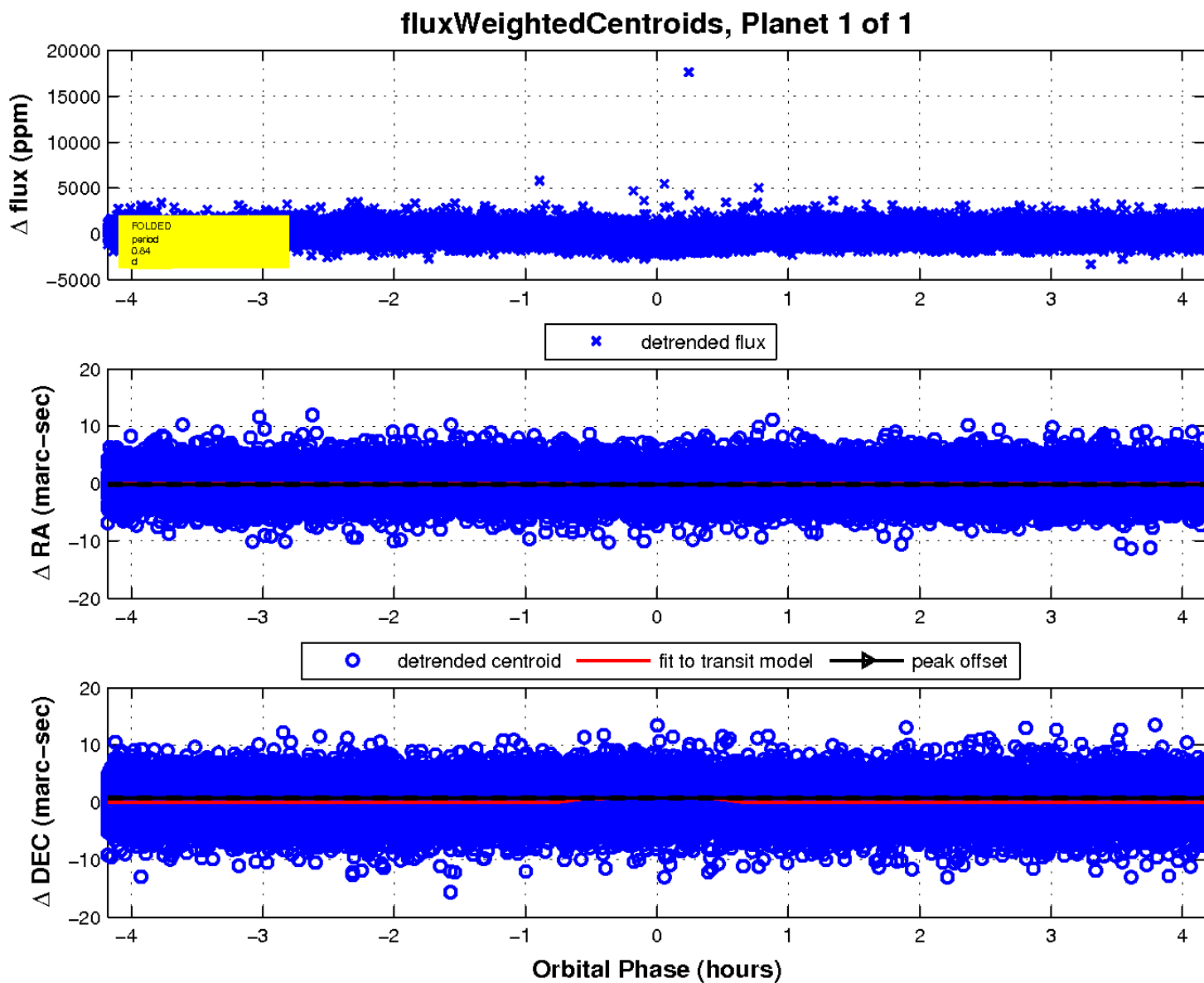
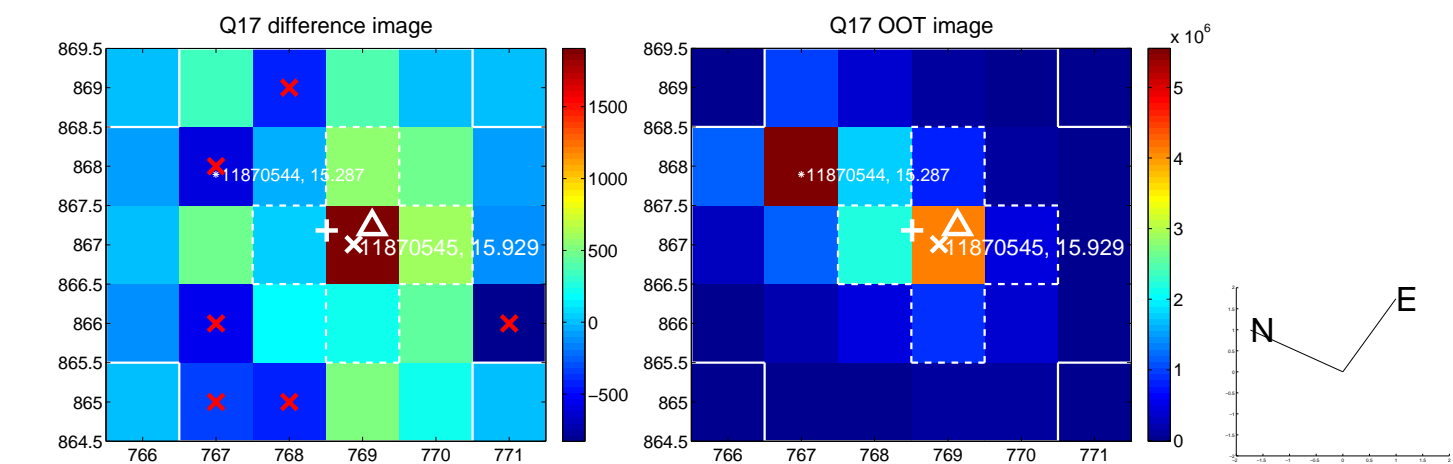
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

