

KIC 012214207

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})
012214207-02	OBS	No	365.917136	186.239495	1318.2	13.683	7.5	7.2	0.70	5589	4.12	0.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012214207-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

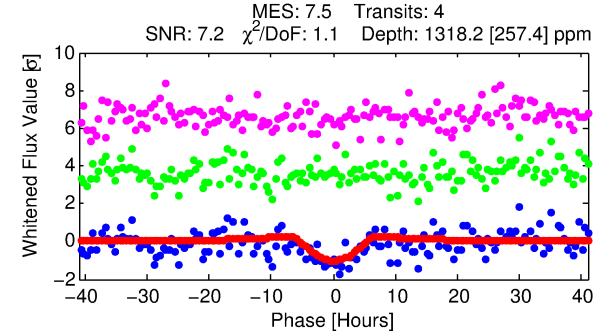
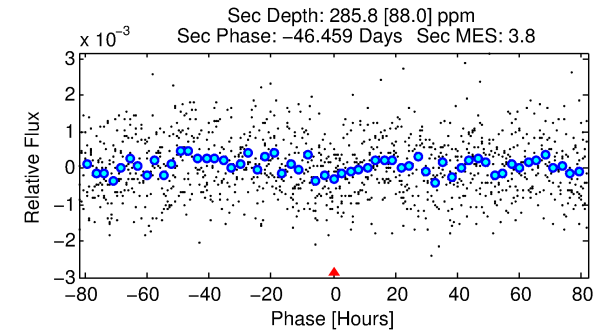
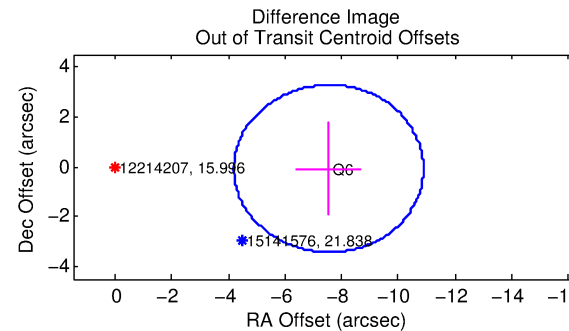
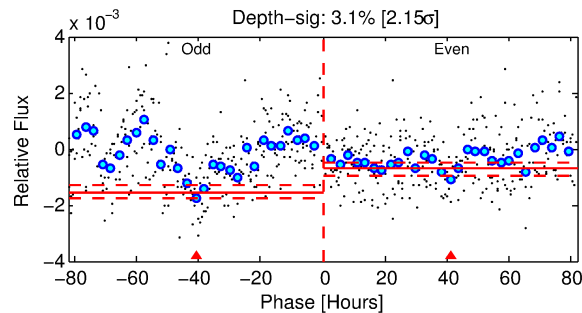
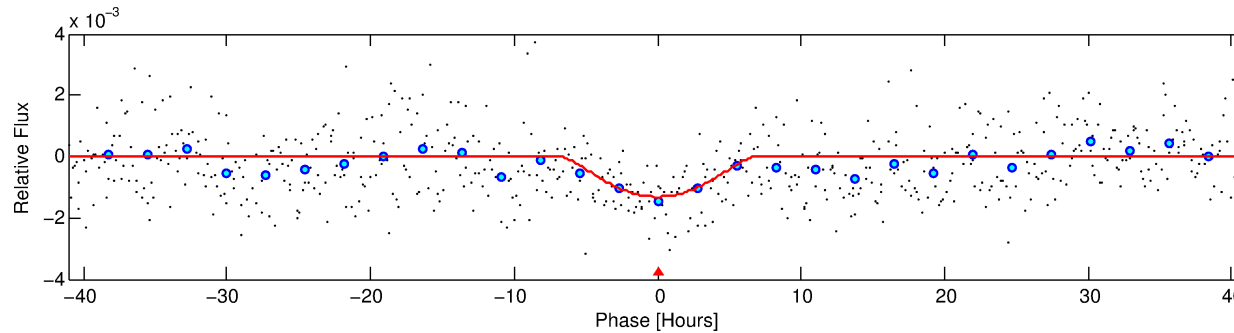
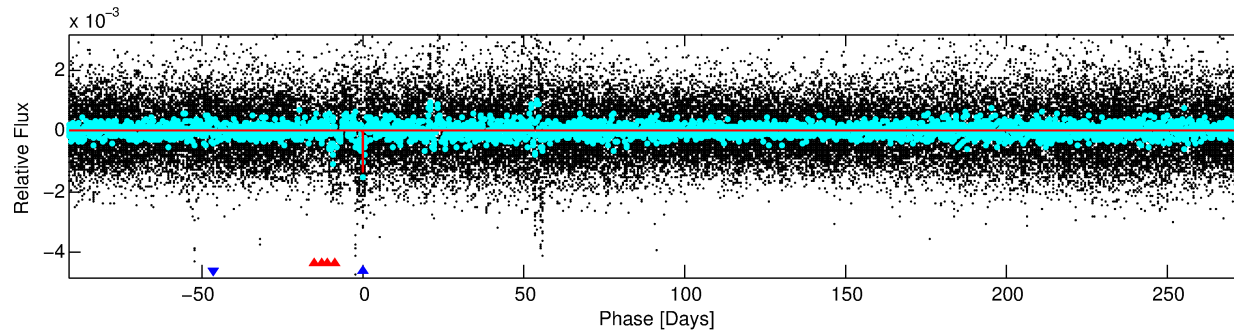
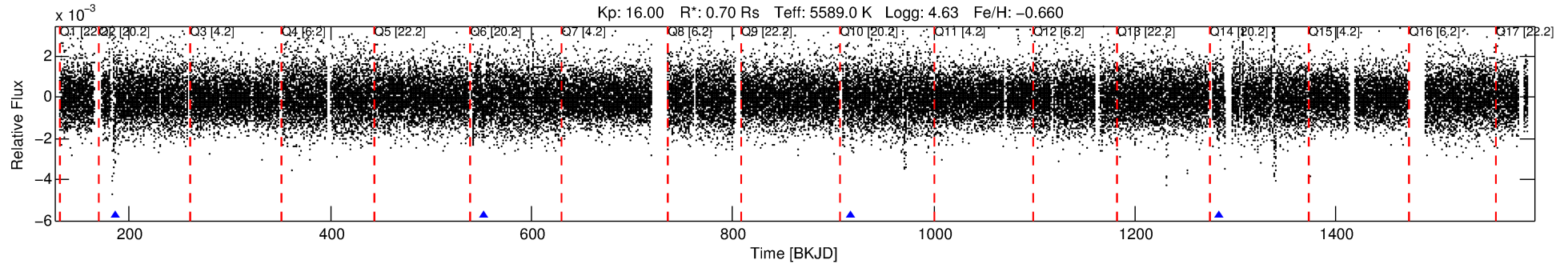
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012214207-02

No Significant Match Found

DV One-Page Summary

KIC: 12214207 Candidate: 2 of 2 Period: 365.917 d



DV Fit Results:

Period = 365.91714 [0.01931] d
Epoch = 186.2395 [0.0366] BKJD
Rp/R* = 0.0538 [0.1309]
a/R* = 77.02 [58.98]
b = 0.98 [0.23]
Seff = 0.51 [0.12]
Teq = 215 [12] K
Rp = 4.12 [10.05] Re
a = 0.9194 [0.1251] AU
Ag = 7815.32 [38116.86] [0.21 σ]
Teffp = 3132 [3817] K [0.76 σ]

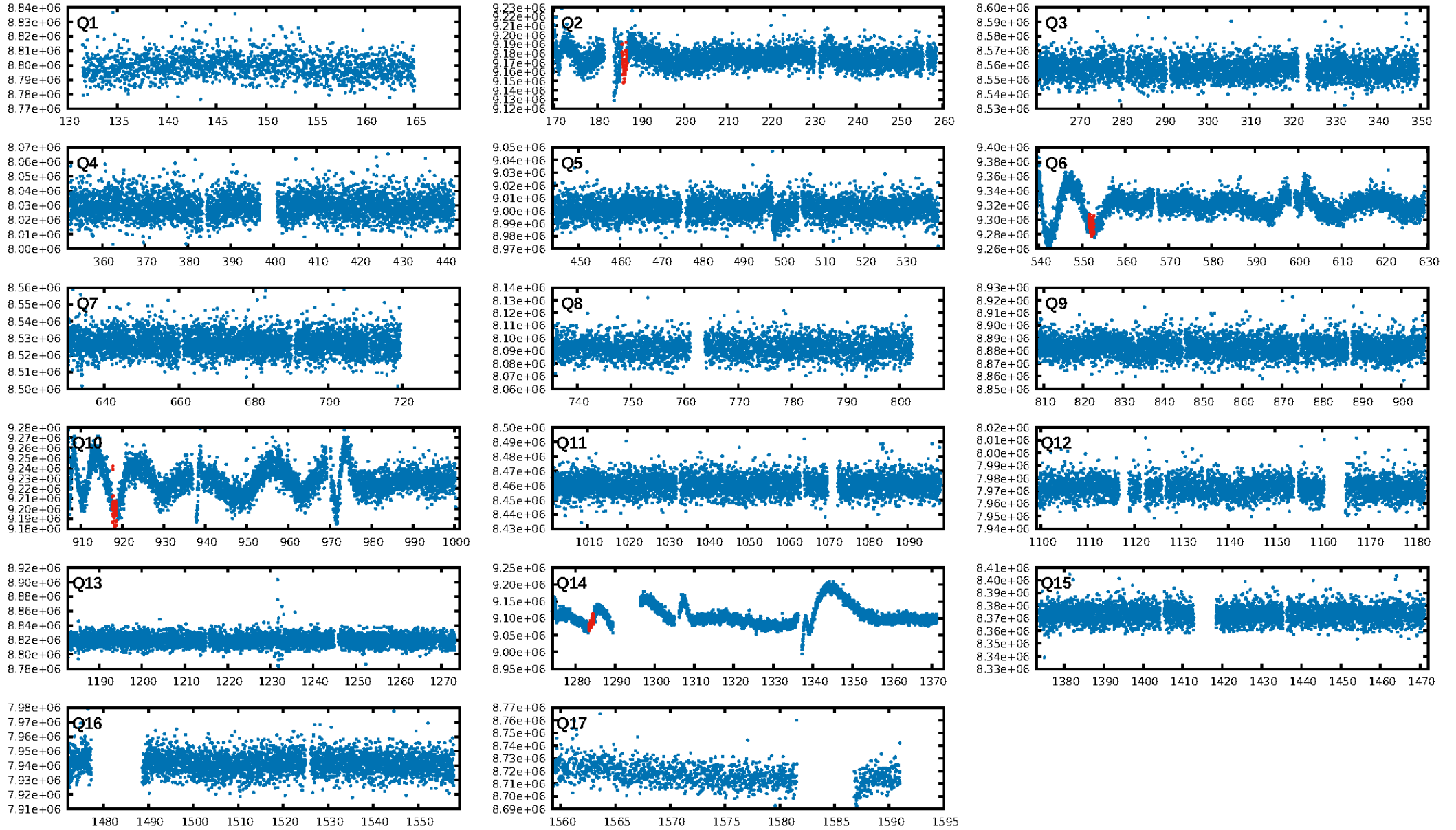
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 90.3% [1.66 σ]
ModelChiSquare2-sig: 29.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.49e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 110.6
Centroid-sig: 42.0%
Centroid-so: 2.424 arcsec [0.86 σ]
OotOffset-rm: 7.542 arcsec [6.75 σ]
KicOffset-rm: 7.875 arcsec [7.05 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [3/3]

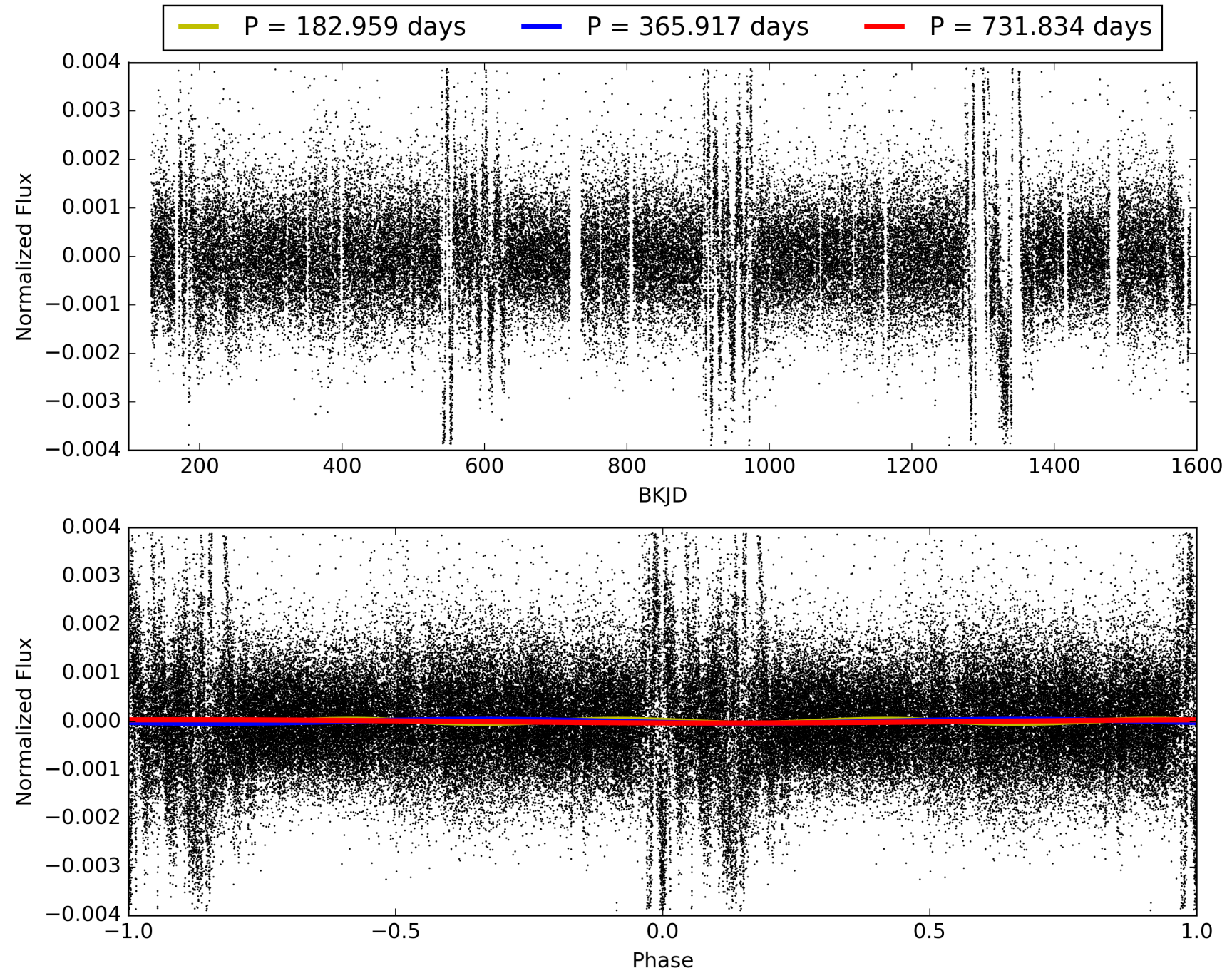
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:54:41 Z

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

TCE 012214207-02, PDC Light Curves

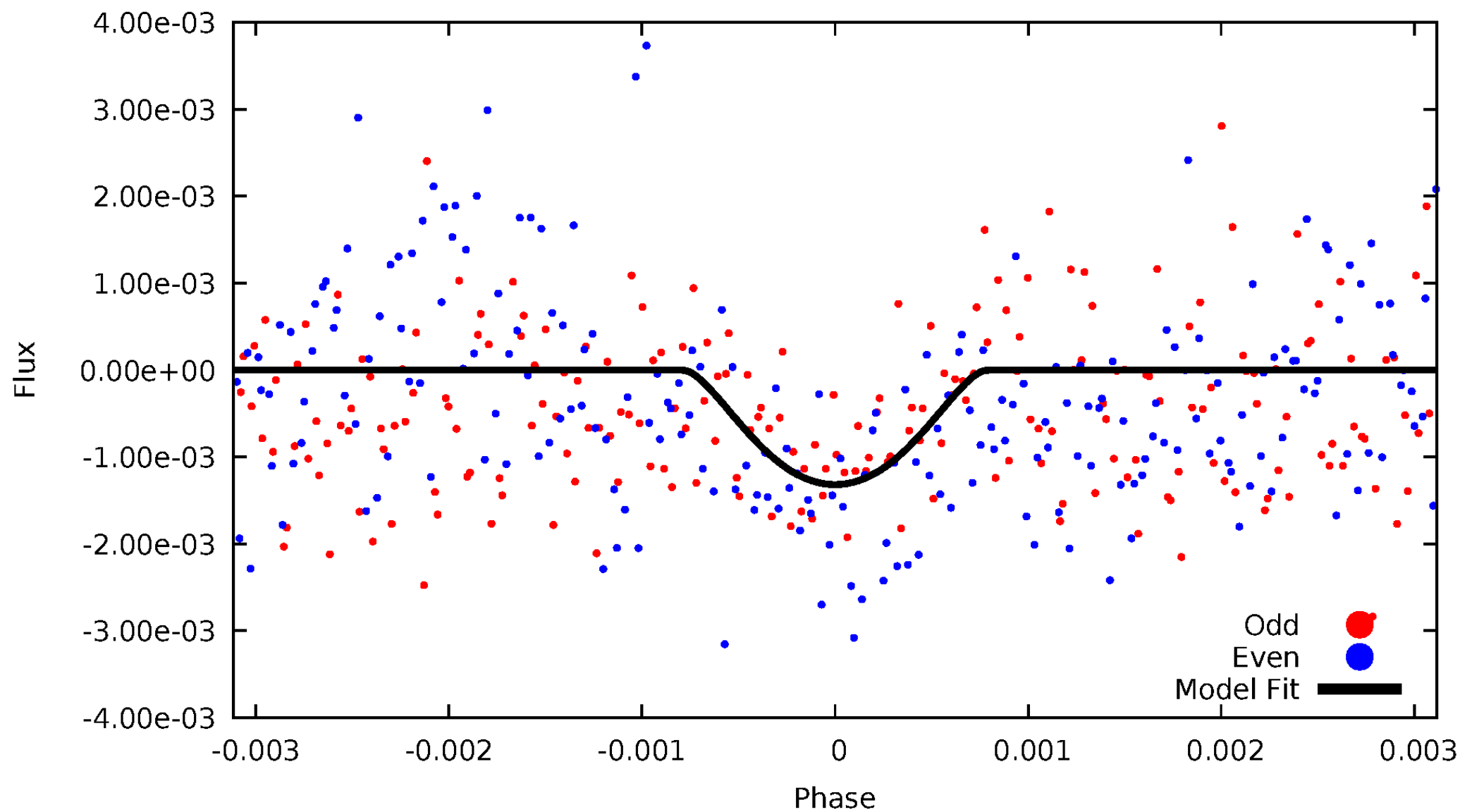


TCE 012214207-02



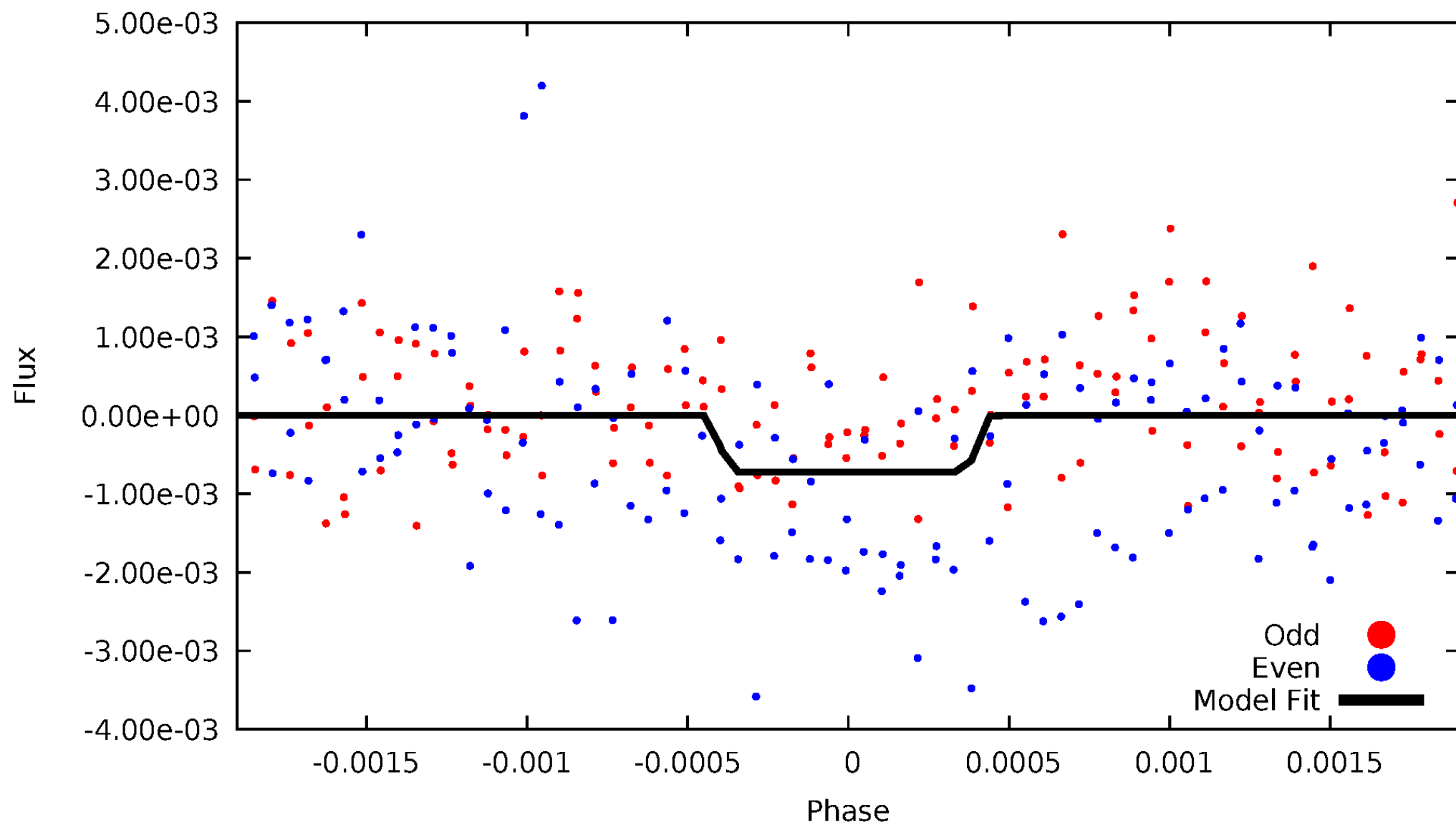
DV Odd/Even

TCE 012214207-02



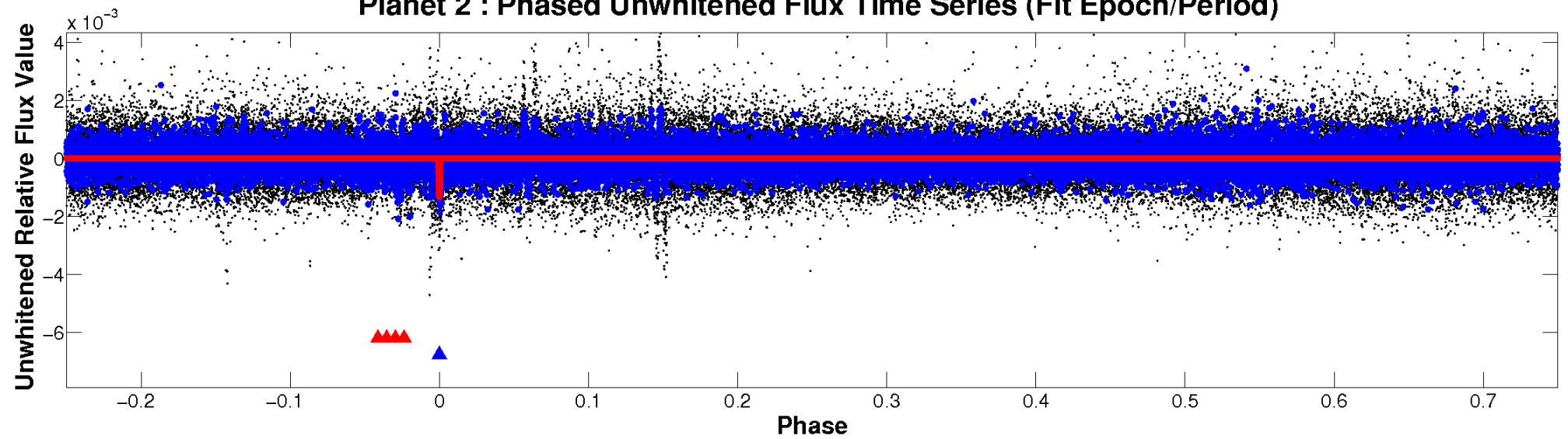
ALT Odd/Even

TCE 012214207-02

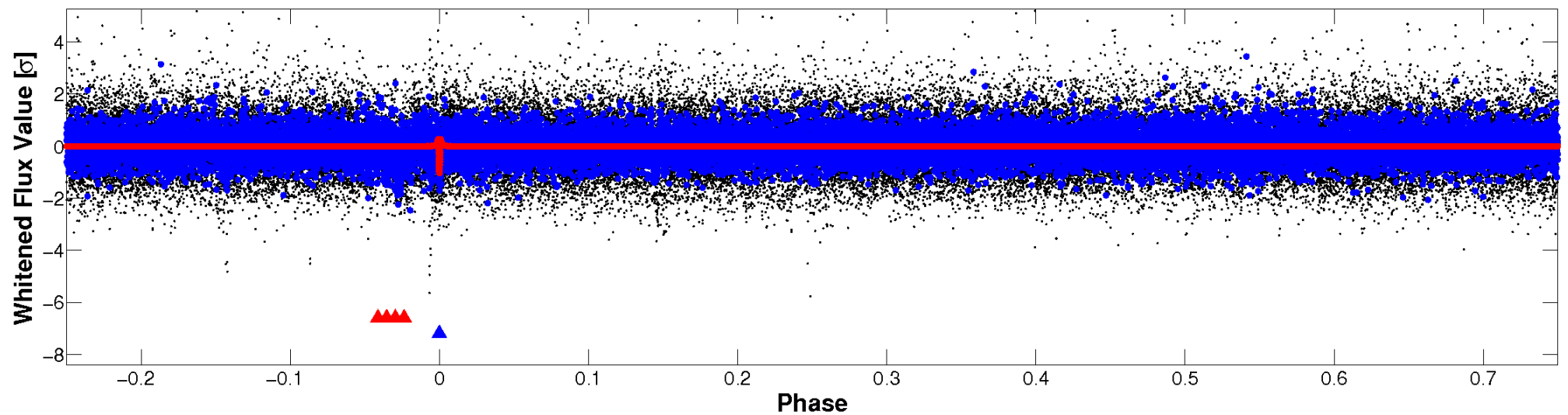


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

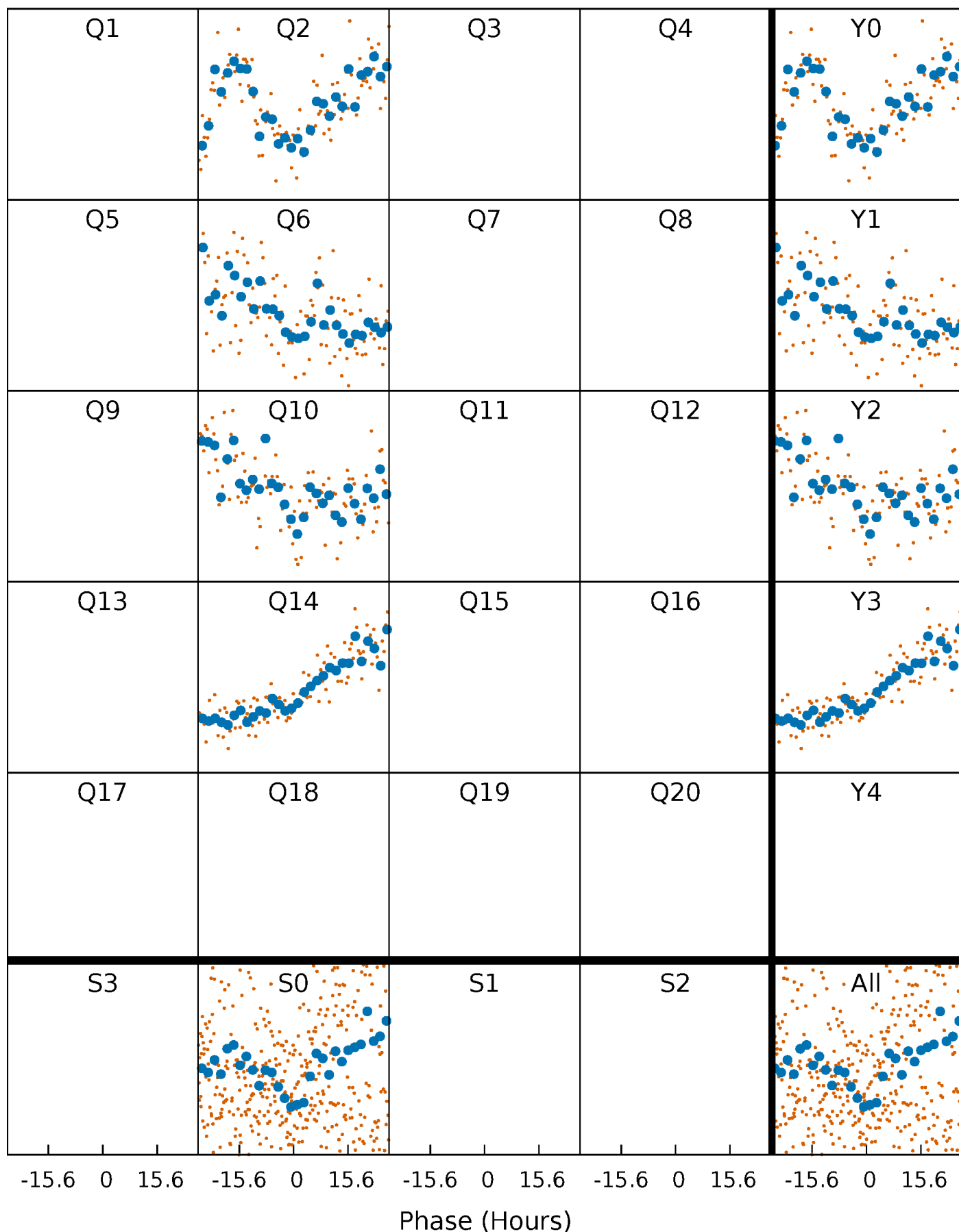


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



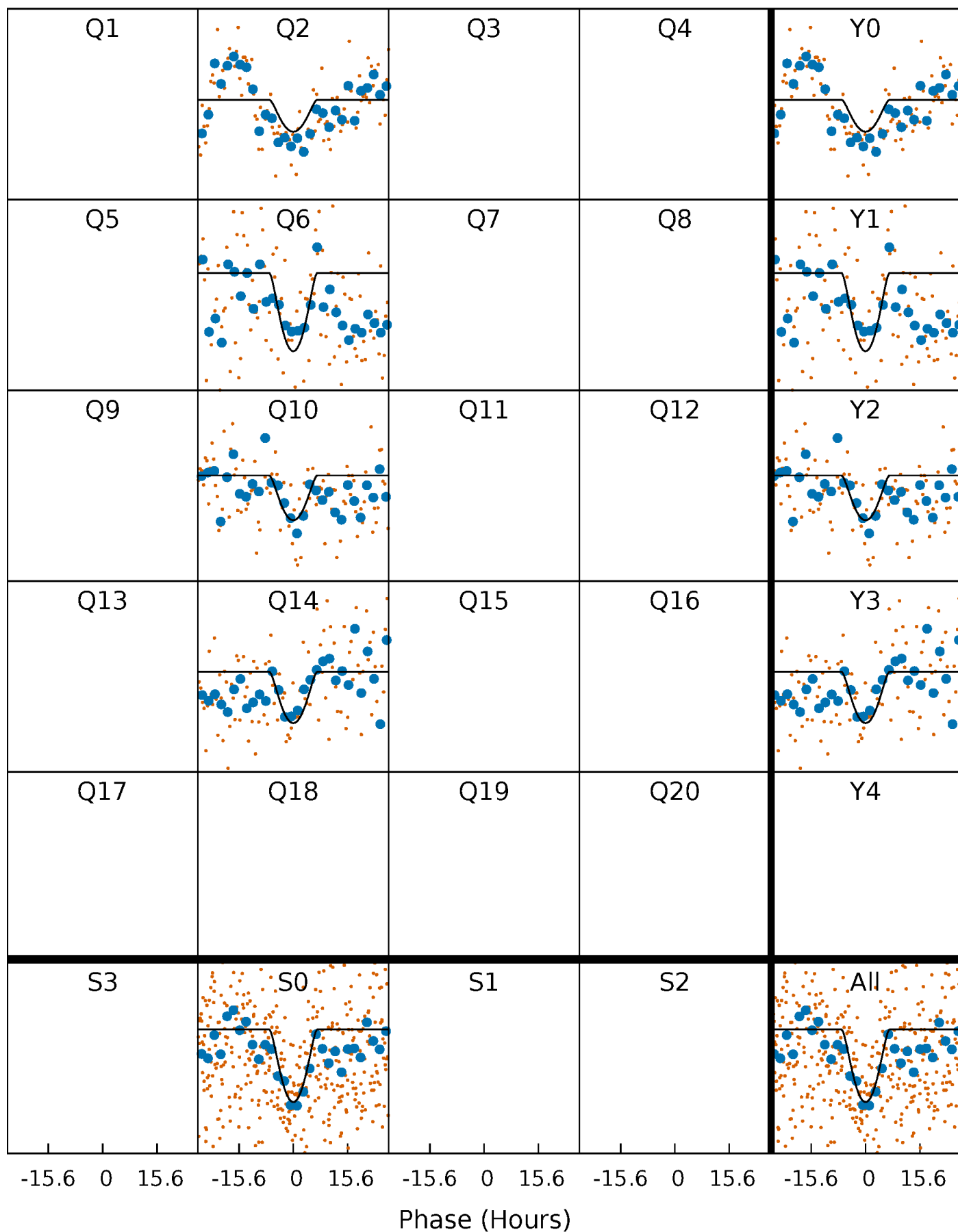
PDC Quarter-Phased Transit Curves

TCE 012214207-02 P=365.917136 Days $T_0=186.239495$ (BKJD)



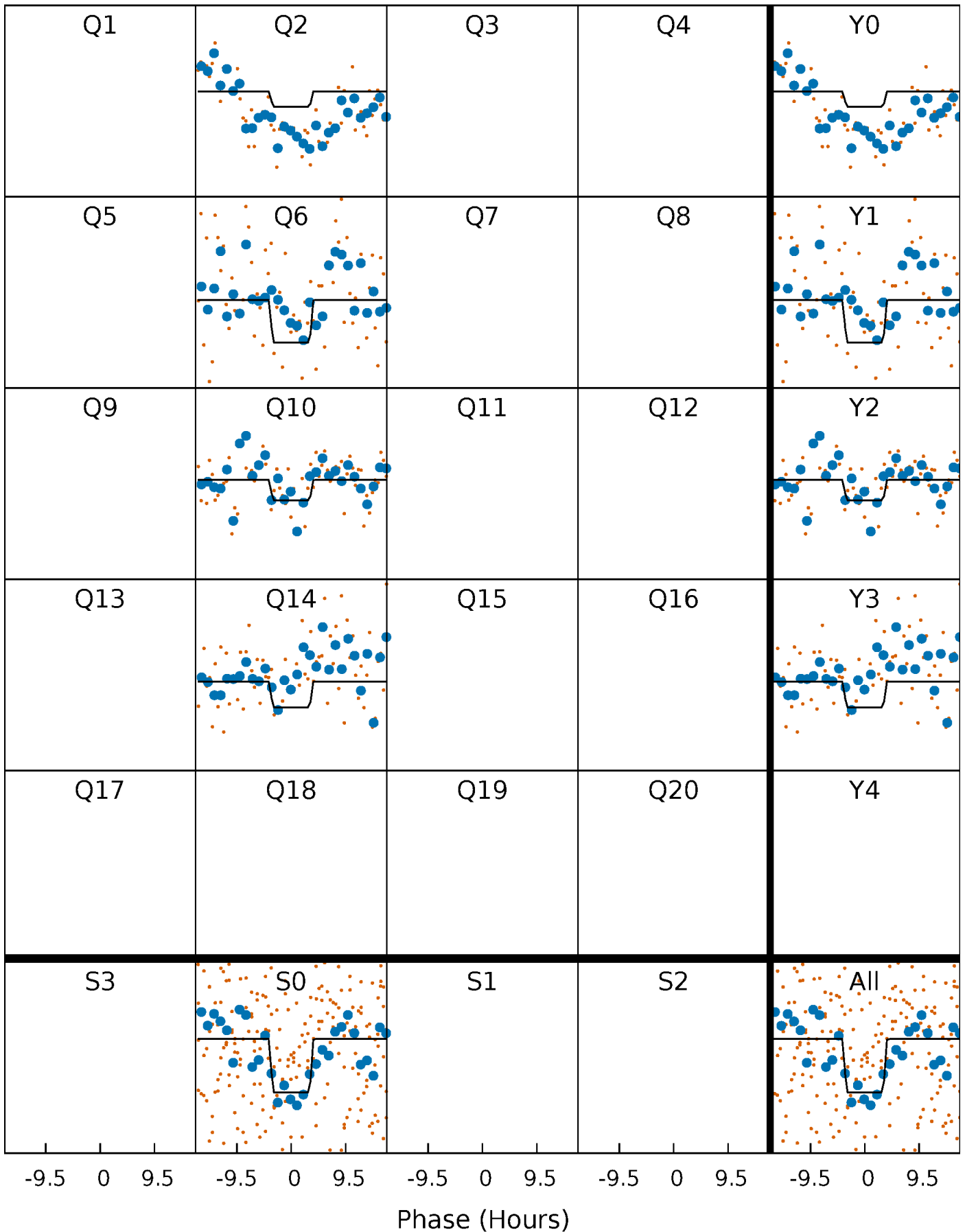
DV Quarter-Phased Transit Curves

TCE 012214207-02 P=365.917136 Days $T_0=186.239495$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

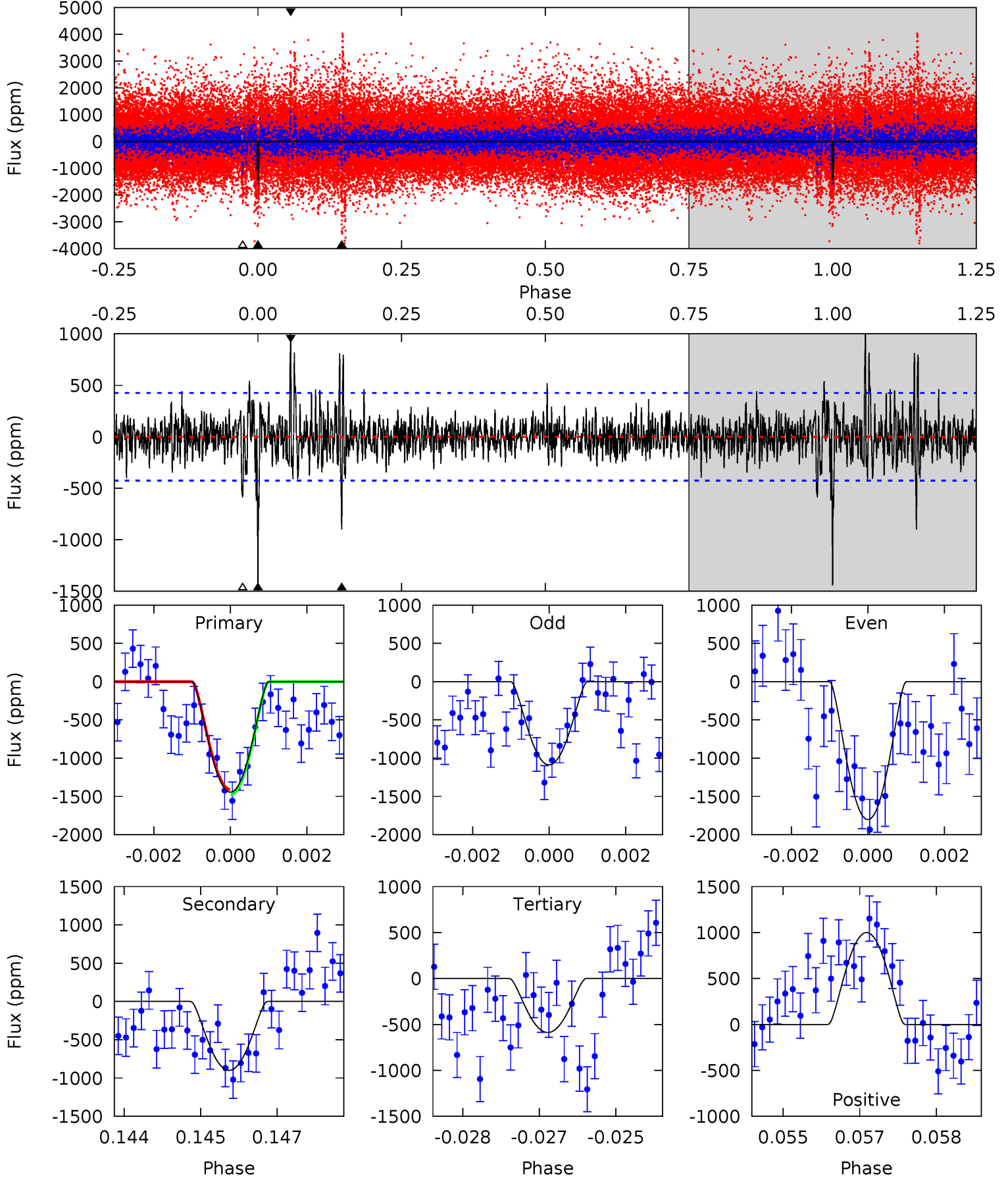
TCE 012214207-02 P=365.965060 Days $T_0=186.135209$ (BKJD)



DV Model-Shift Uniqueness Test

012214207-02, P = 365.917136 Days, E = 186.239495 Days

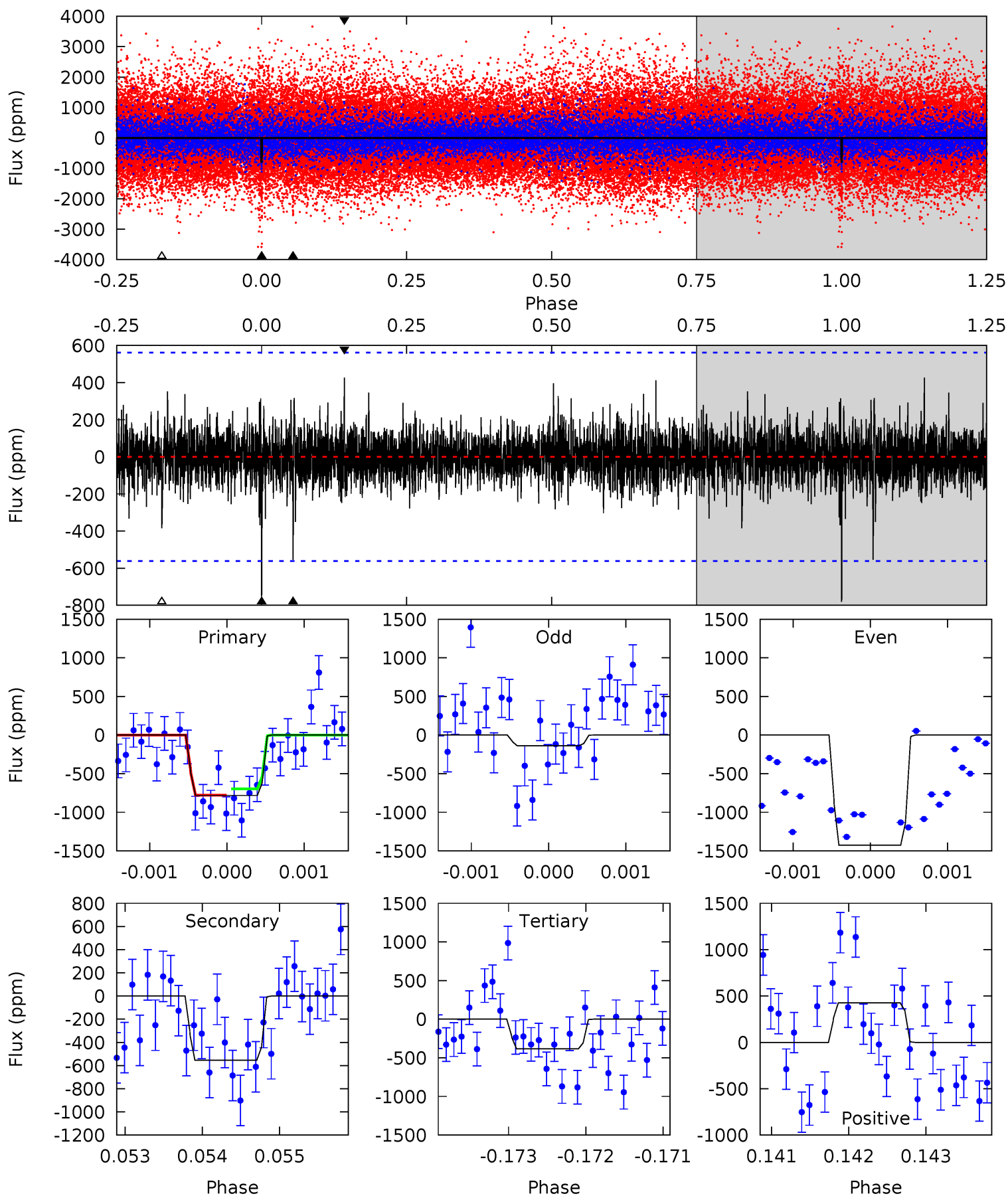
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	11.4	7.41	12.6	5.37	3.16	1.85	10.8	5.60	3.94	-1.24	4.50	1.15	0.41	0.43



Alt Model-Shift Uniqueness Test

012214207-02, P = 365.965060 Days, E = 186.135209 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.62	5.41	3.75	4.17	5.48	3.34	0.89	3.88	3.46	1.66	1.24	6.29	1.68	0.35	0.39



Stellar Parameters For KIC 012214207

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5589^{+165}_{-165}	$4.634^{+0.032}_{-0.104}$	$-0.660^{+0.300}_{-0.300}$	$0.702^{+0.116}_{-0.050}$	$0.781^{+0.073}_{-0.080}$	$3.188^{+0.456}_{-1.057}$
	+3%/-3%	+1%/-2%	+45%/-45%	+17%/-7%	+9%/-10%	+14%/-33%
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 012214207-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-900 ± 79	$8.75^{+9.16}_{-6.29}$	305^{+13}_{-11}	3420^{+1853}_{-652}	5358^{+59991}_{-4059}
Alt.	-554 ± 102	$8.22^{+7.90}_{-5.70}$	306^{+12}_{-11}	3226^{+1696}_{-555}	3860^{+37547}_{-2900}

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 $A_{obs} \gg 1.0$

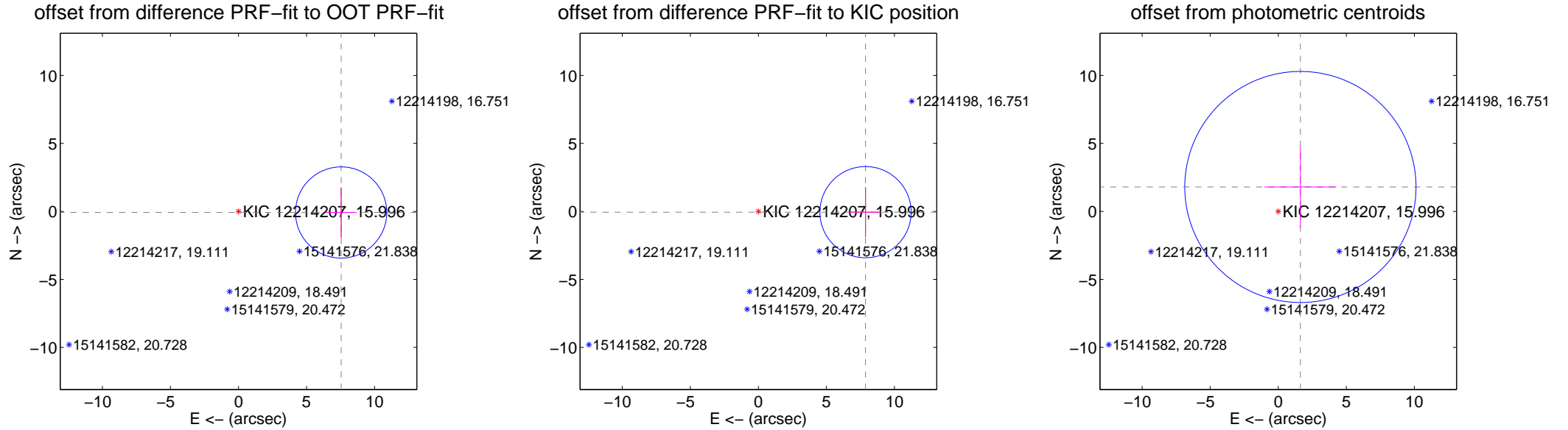
DV Centroid Data

Supplemental centroid analysis for 012214207-02. Kepler magnitude: 16.00. Transit SNR 7.22

There are 0 quarters with good PRF difference image offsets

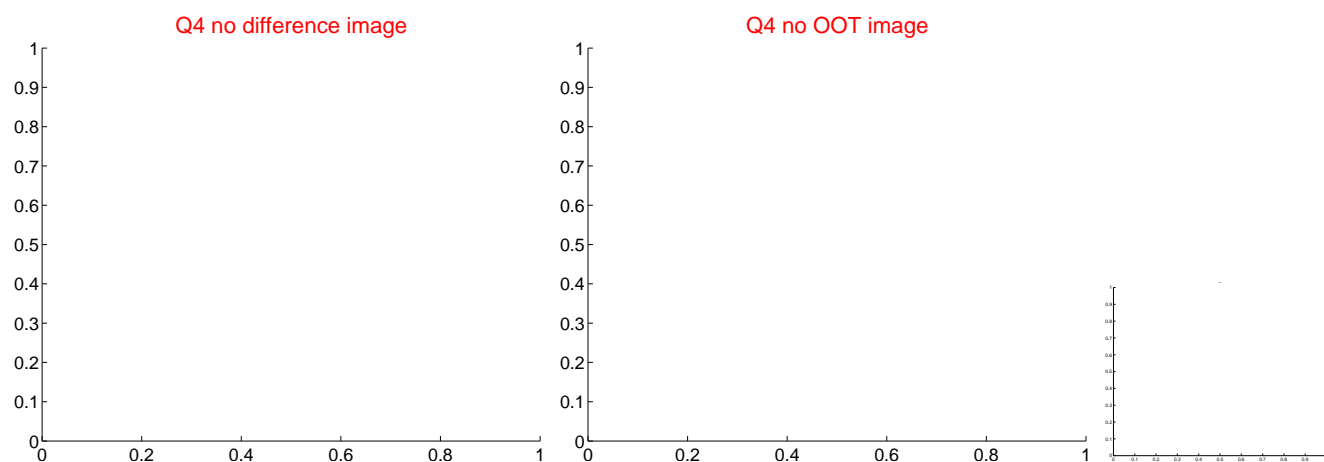
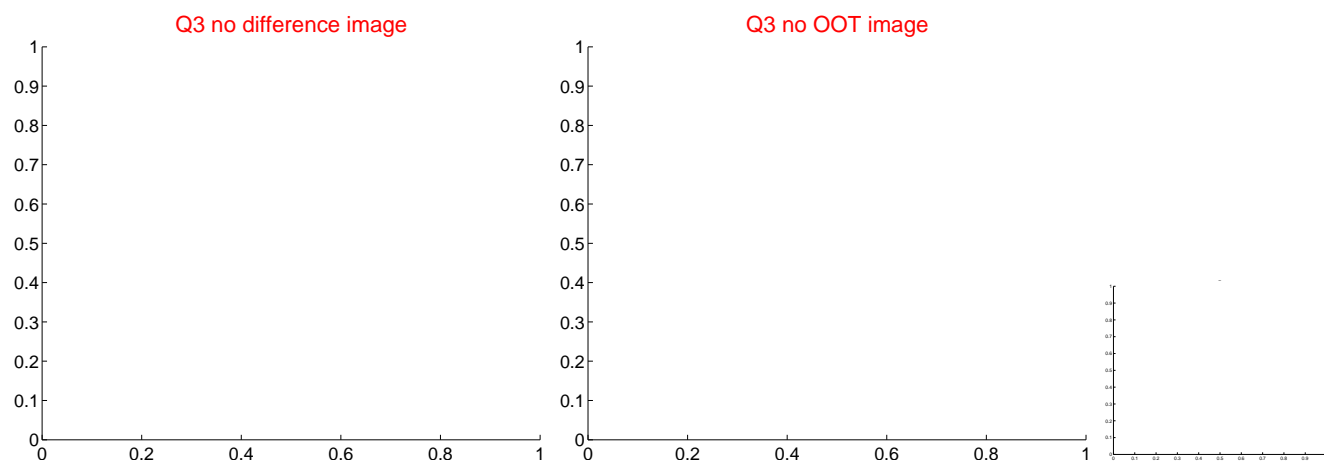
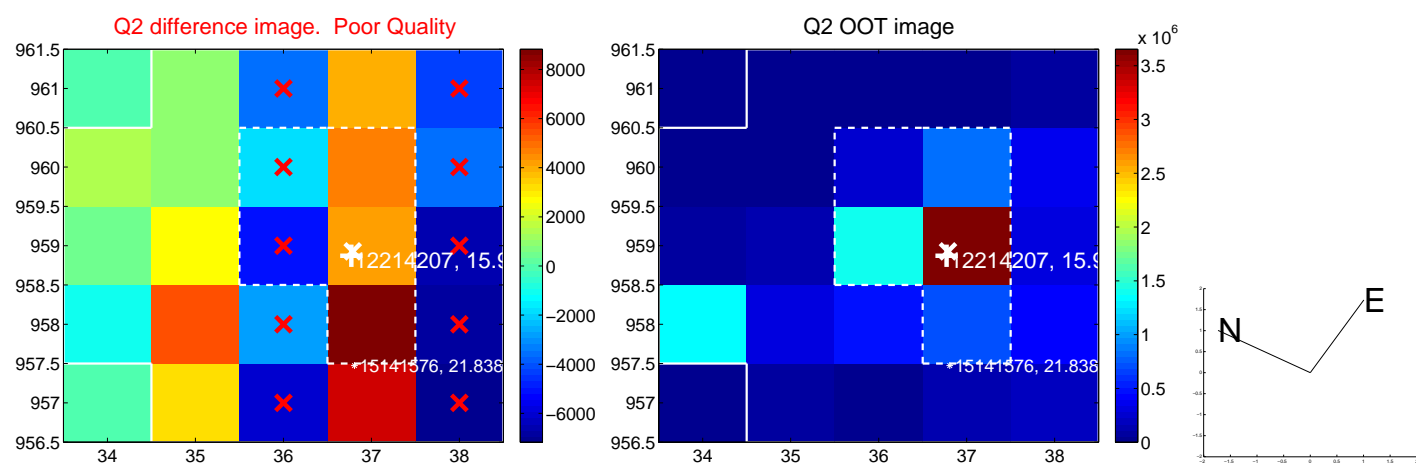
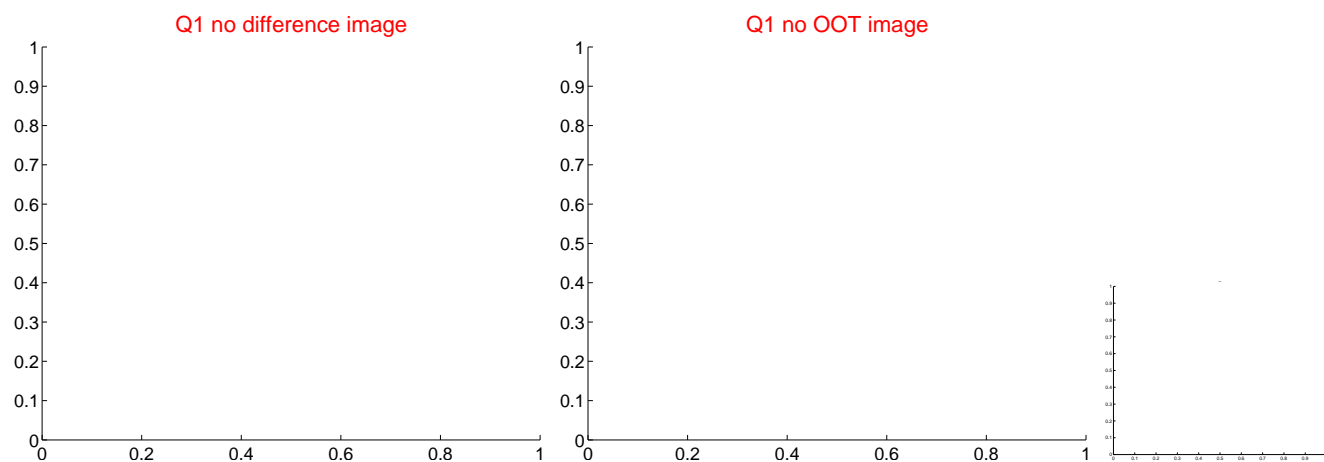
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.542 ± 1.118	6.75	-7.542 ± 1.118	-0.080 ± 1.840
PRF-fit source offset from KIC position	7.875 ± 1.118	7.05	-7.874 ± 1.118	-0.056 ± 1.840
photometric centroid source offset	2.42 ± 2.83	0.86	-1.63 ± 2.64	1.80 ± 2.98

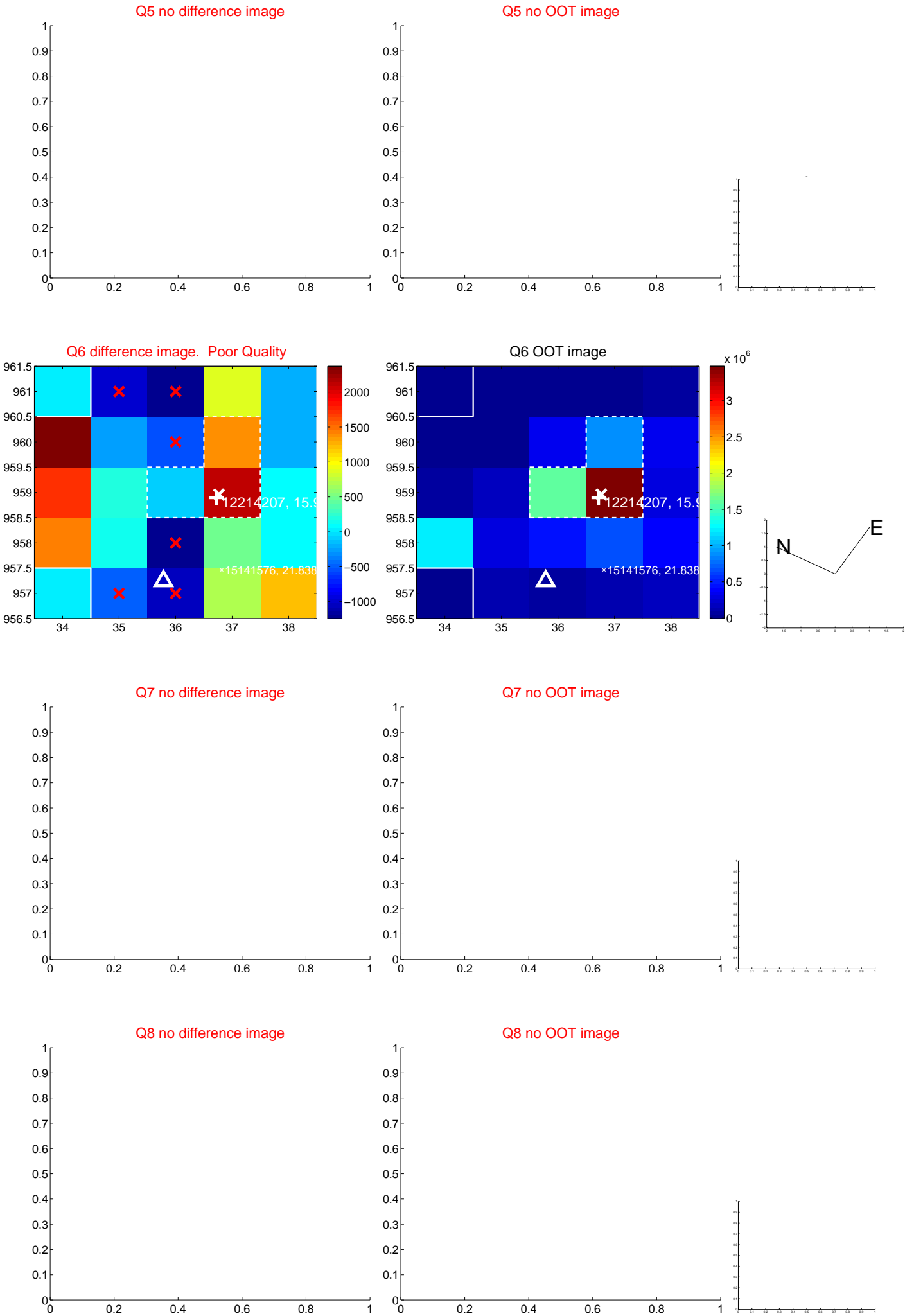


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

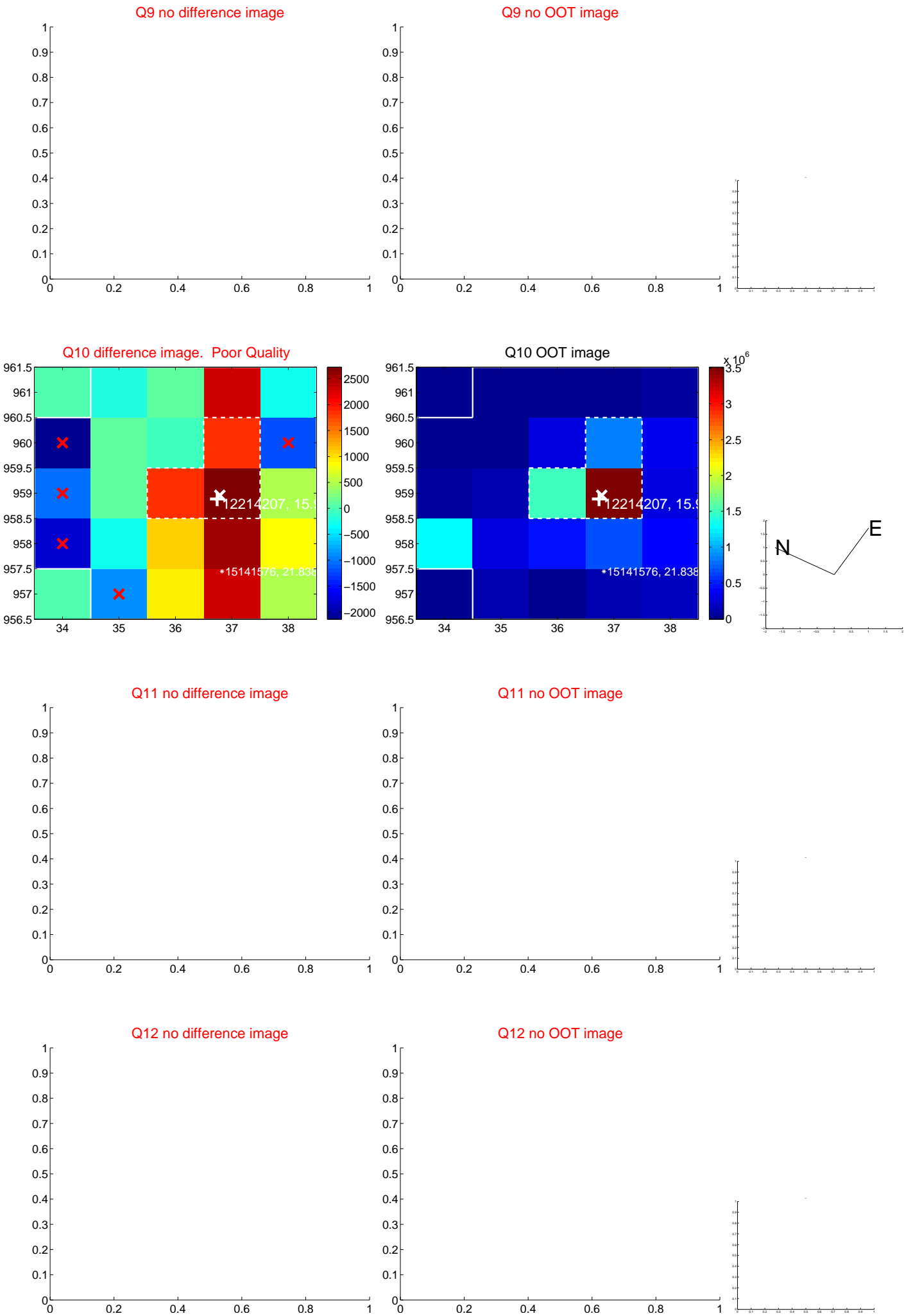
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



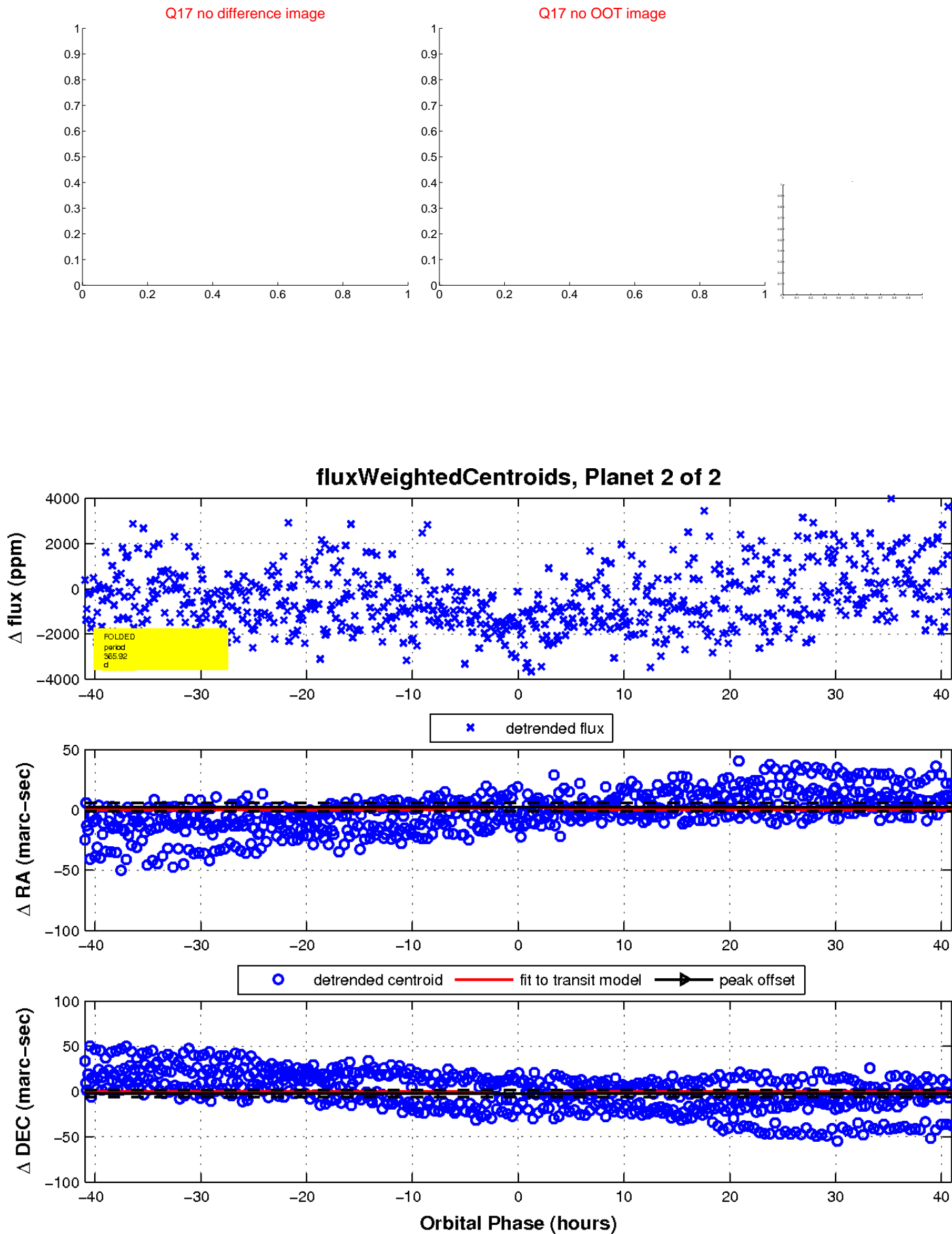
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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.



UKIRT Image

Declination

