

KIC 008210370

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})
008210370-01	OBS	7872.01	153.745980	284.037352	4871.8	116.056	11.5	47.9	6.82	4794	90.89	68.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008210370-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED—CENT_SATURATED

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

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

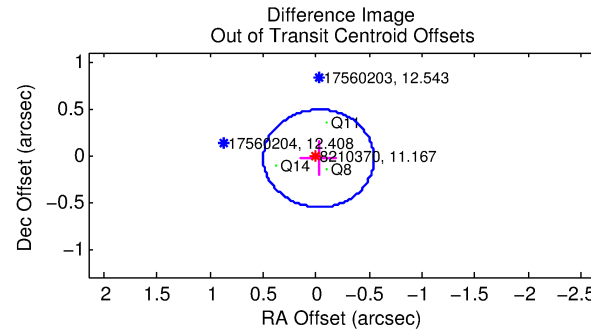
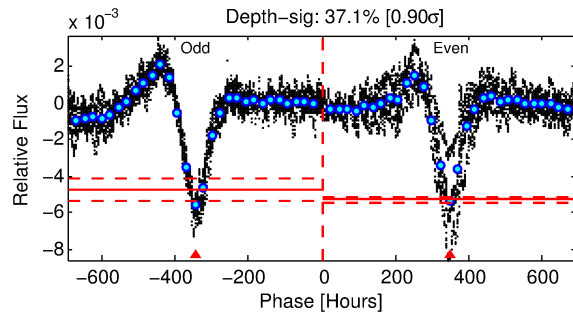
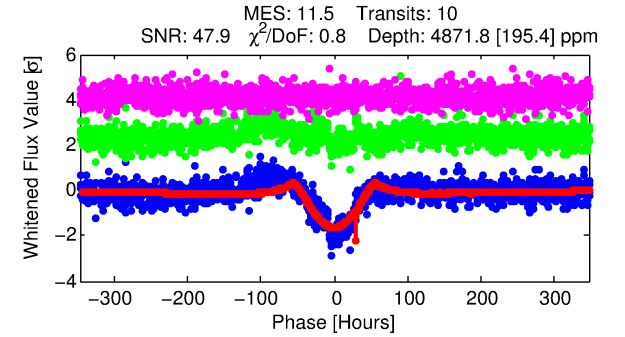
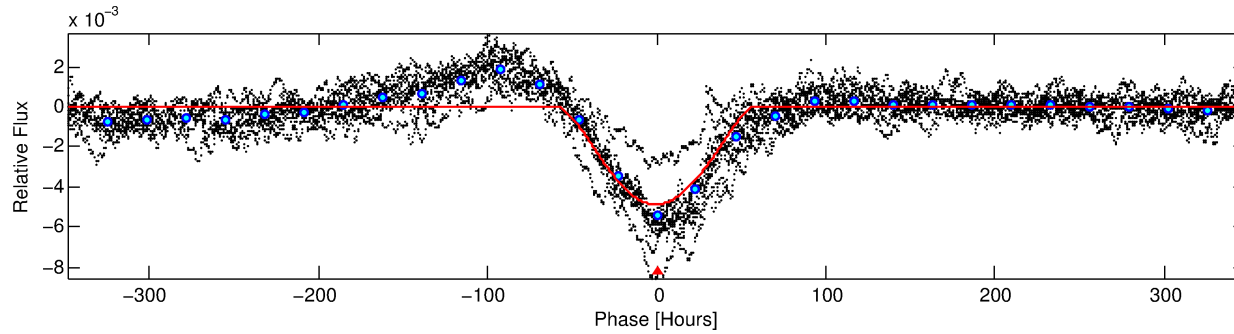
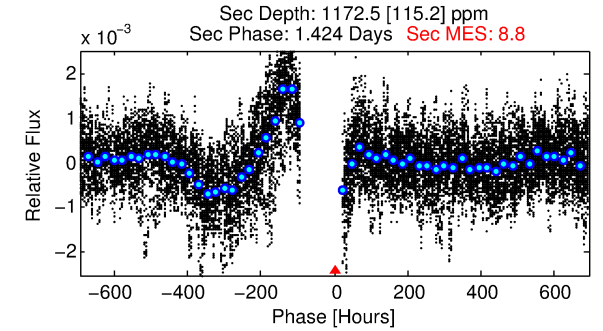
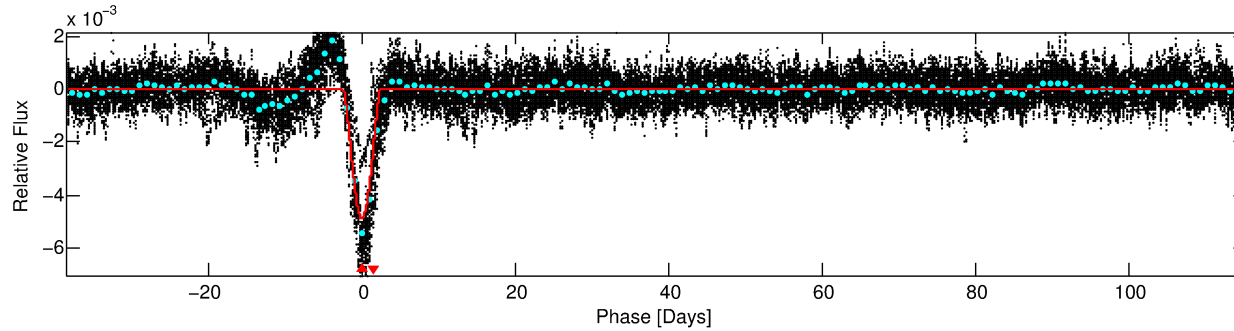
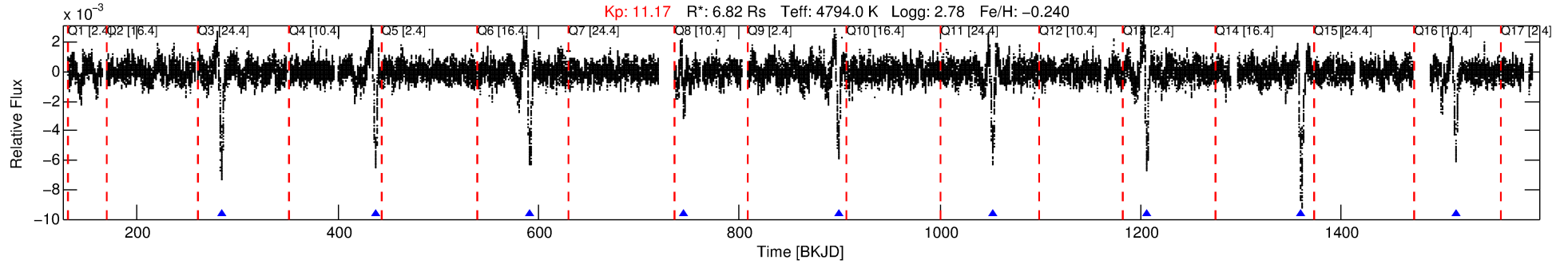
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008210370-01

No Significant Match Found

DV One-Page Summary

KIC: 8210370 Candidate: 1 of 1 Period: 153.746 d



DV Fit Results:

Period = 153.74598 [0.00755] d
Epoch = 284.0374 [0.0338] BKJD
Rp/R* = 0.1222 [0.0624]
a/R* = 5.27 [0.42]
b = 1.00 [0.09]
Seff = 68.60 [19.32]
Teff = 734 [52] K
Rp = 90.89 [52.46] Re
a = 0.5661 [0.1174] AU
Ag = 25.03 [26.57] [0.90σ]
Teffp = 2538 [652] K [2.76σ]

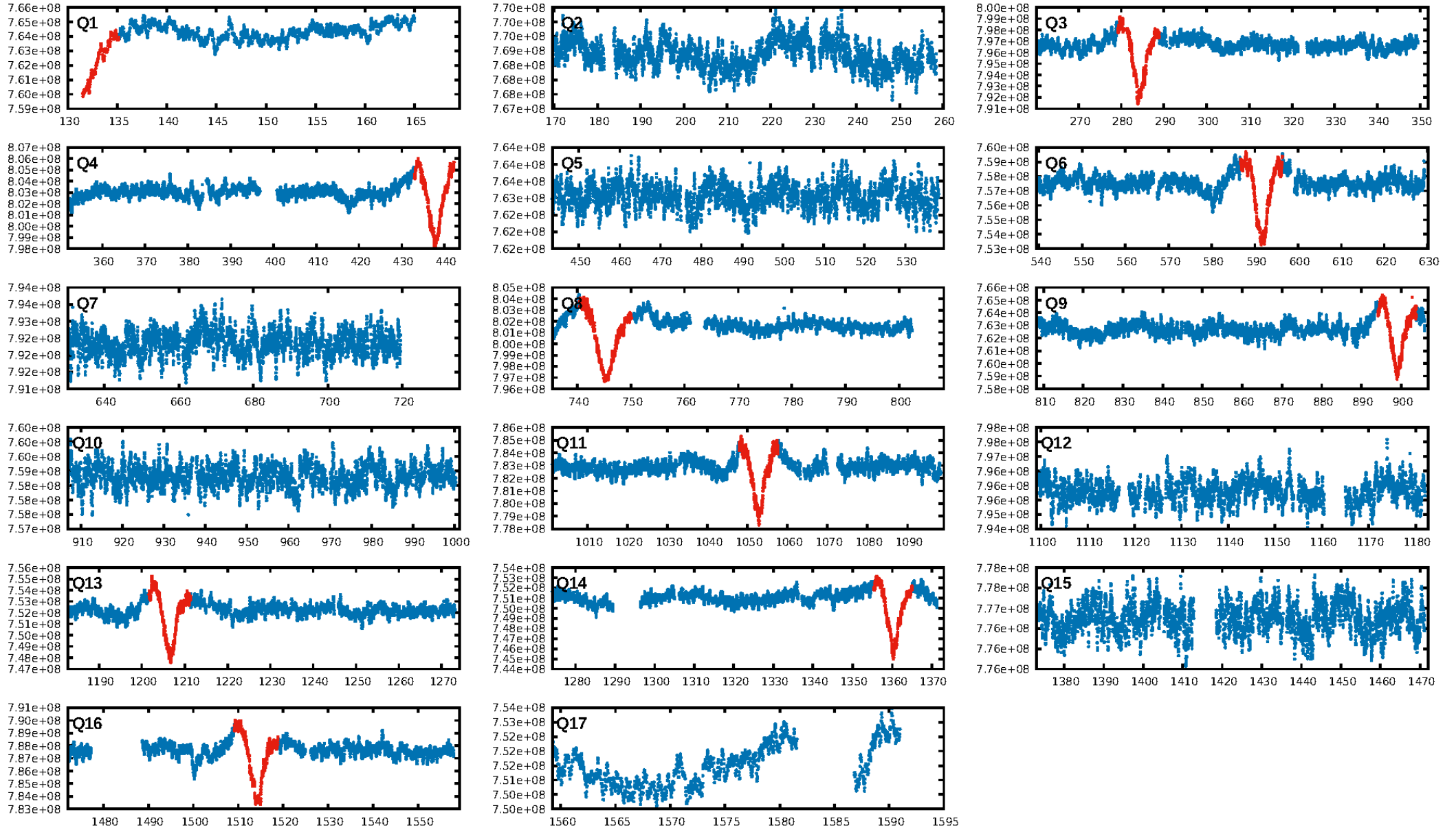
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.94e-20
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 1.457
Centroid-sig: 0.1%
Centroid-so: 0.160 arcsec [9.94σ]
OotOffset-rm: 0.041 arcsec [0.23σ]
KicOffset-rm: 0.082 arcsec [0.62σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

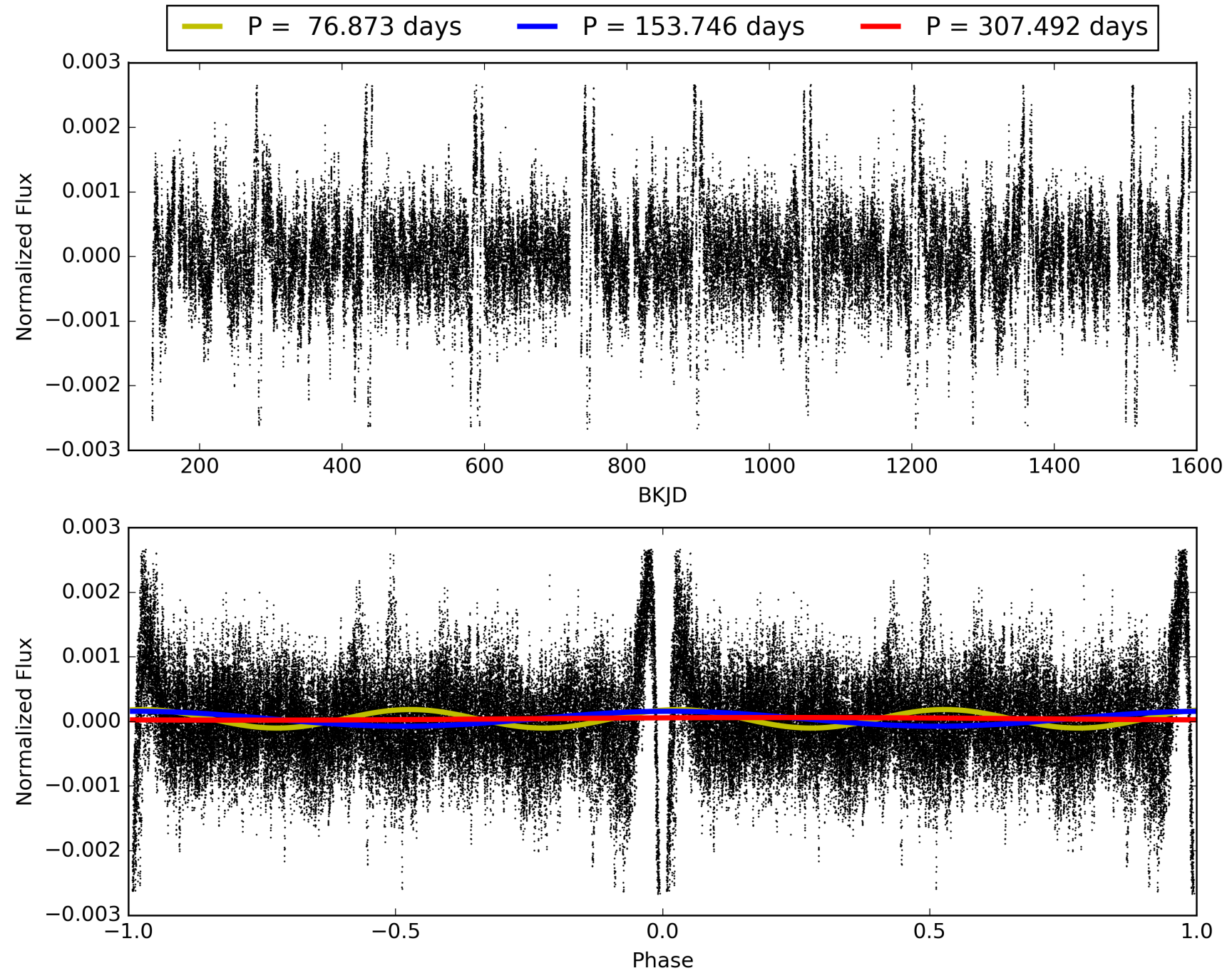
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 07:53:45 Z

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

TCE 008210370-01, PDC Light Curves

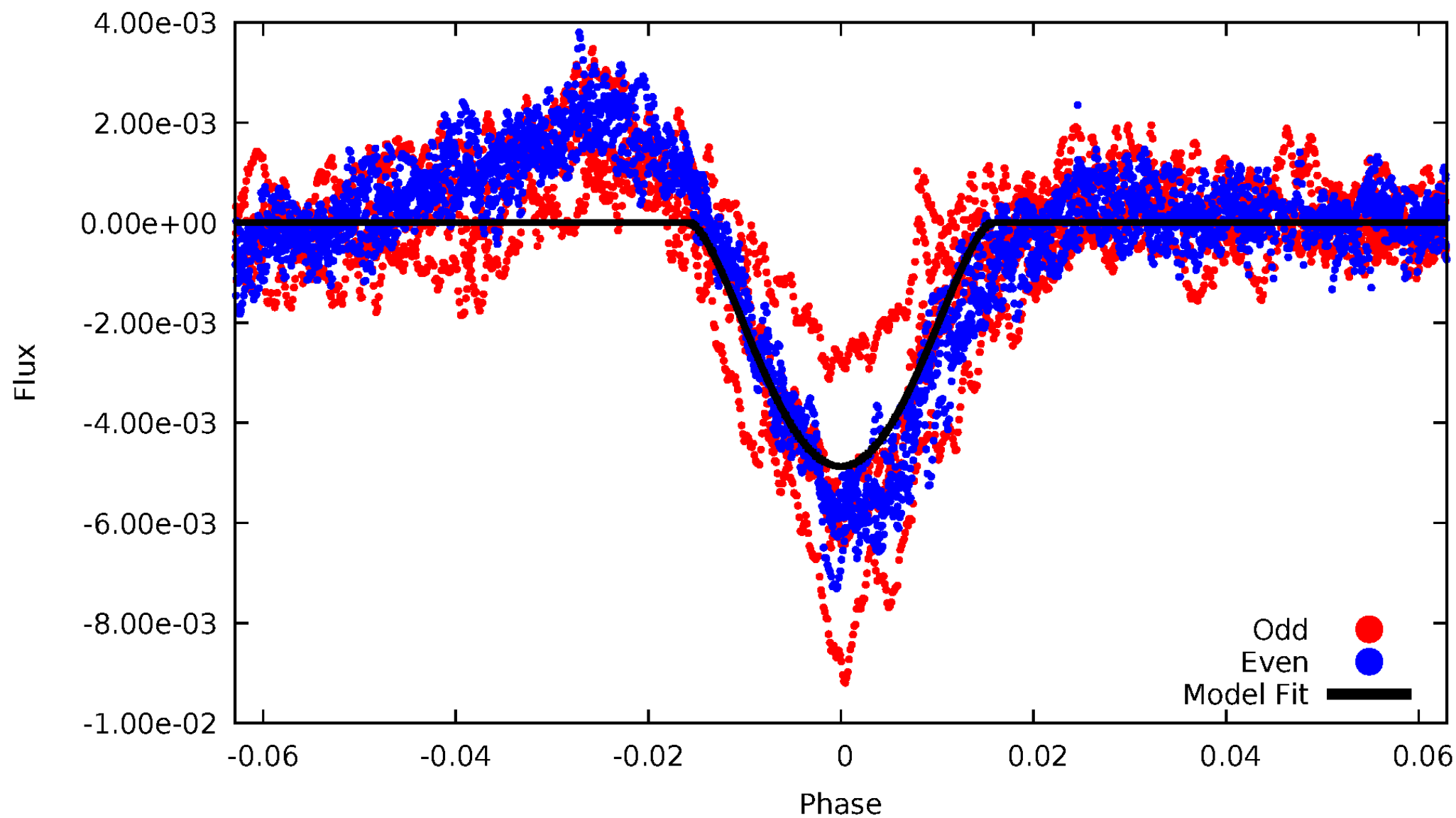


TCE 008210370-01



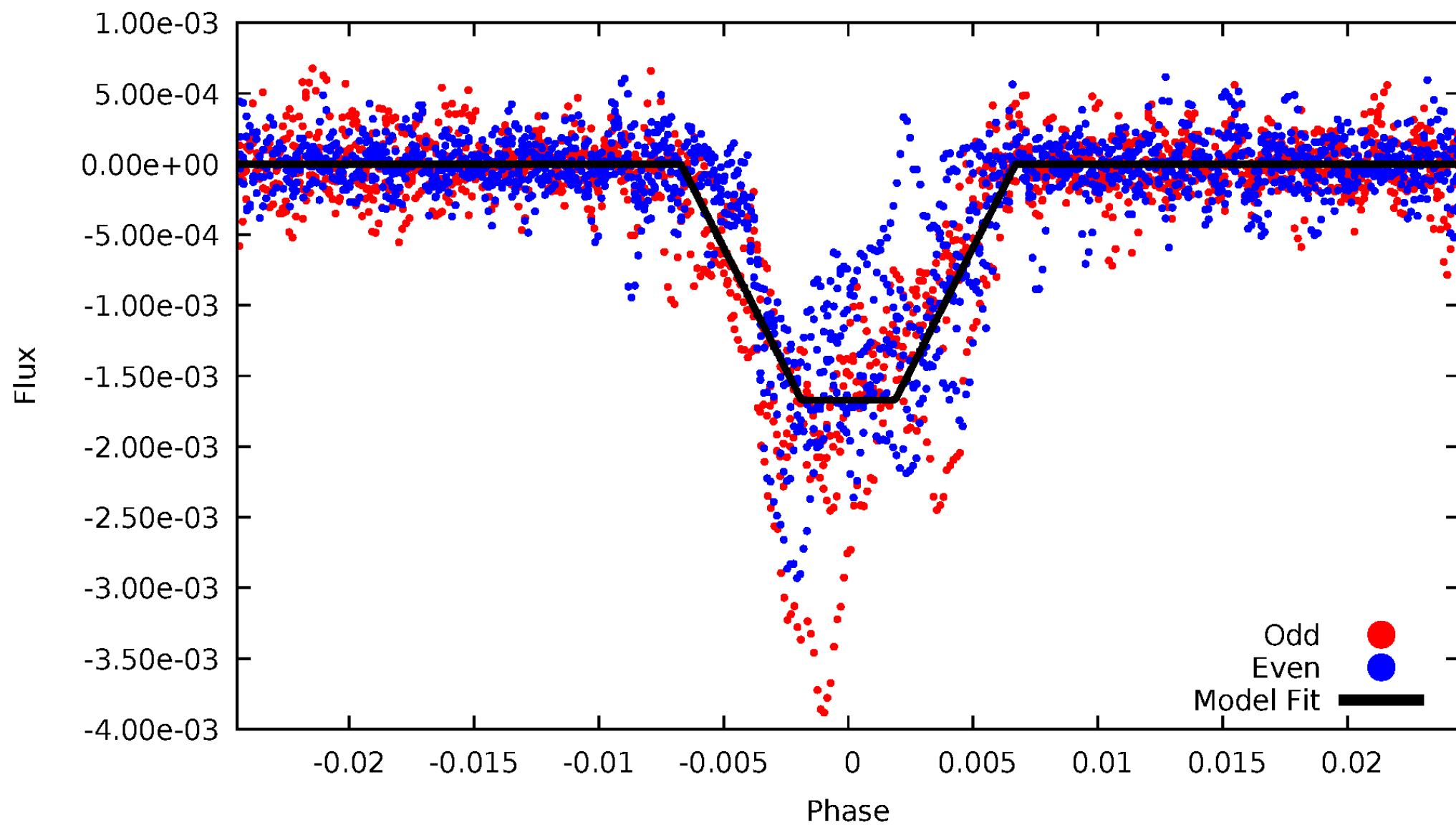
DV Odd/Even

TCE 008210370-01



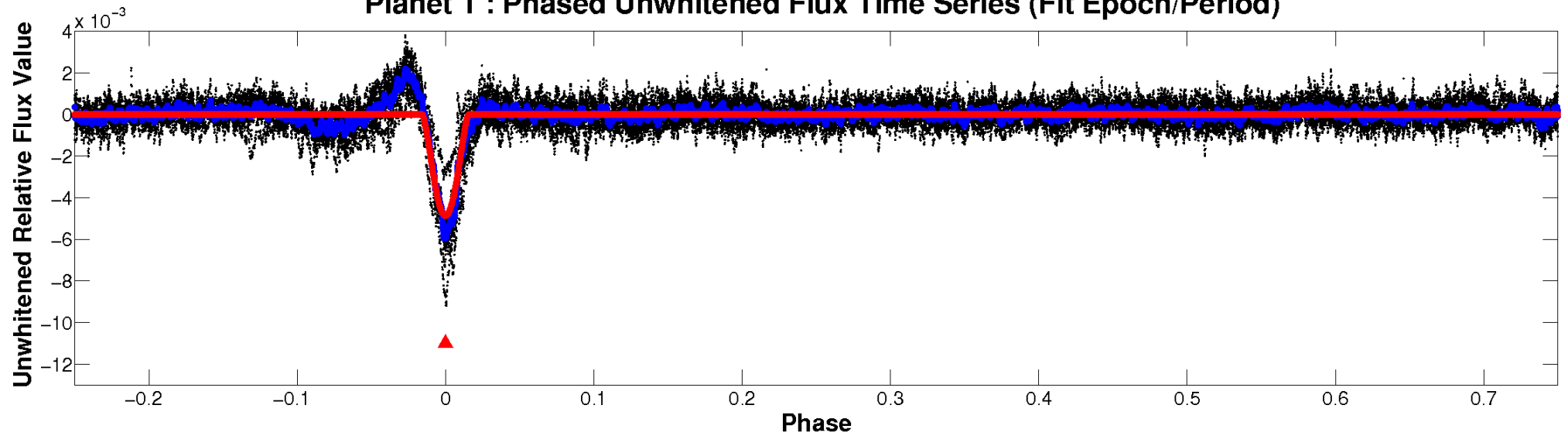
ALT Odd/Even

TCE 008210370-01

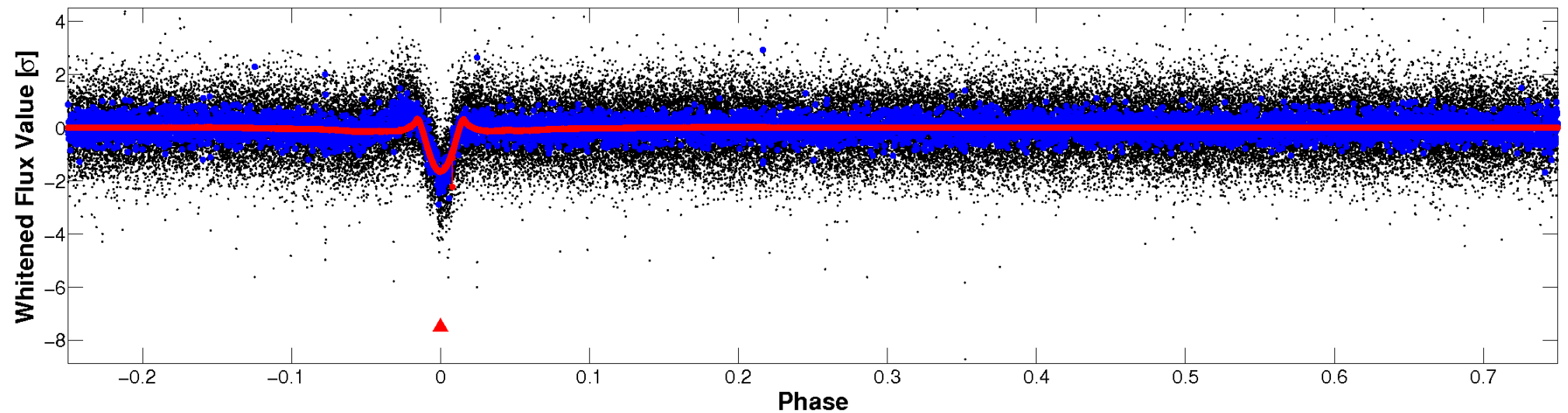


Non-Whitened Vs. Whitened Light Curve

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

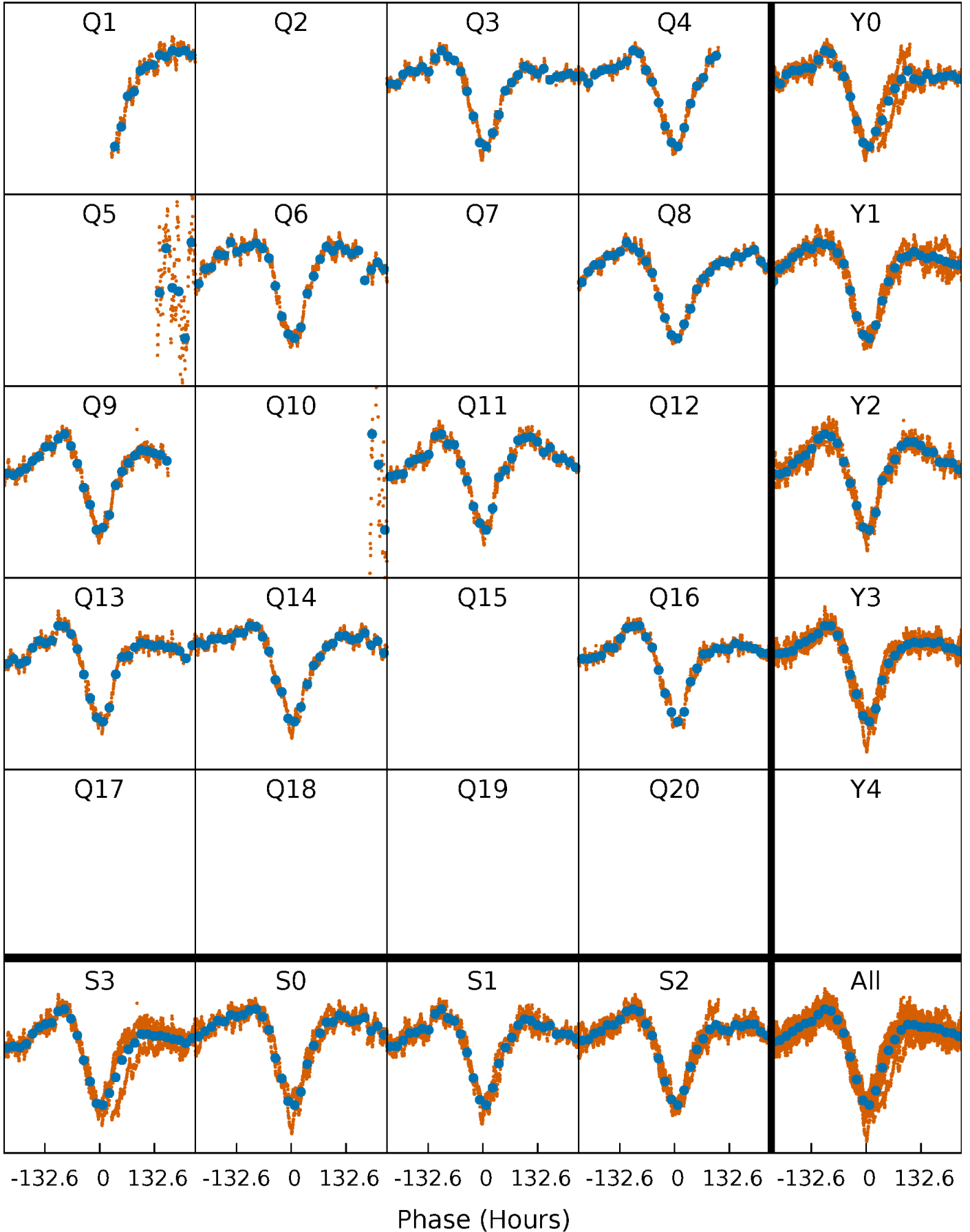


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



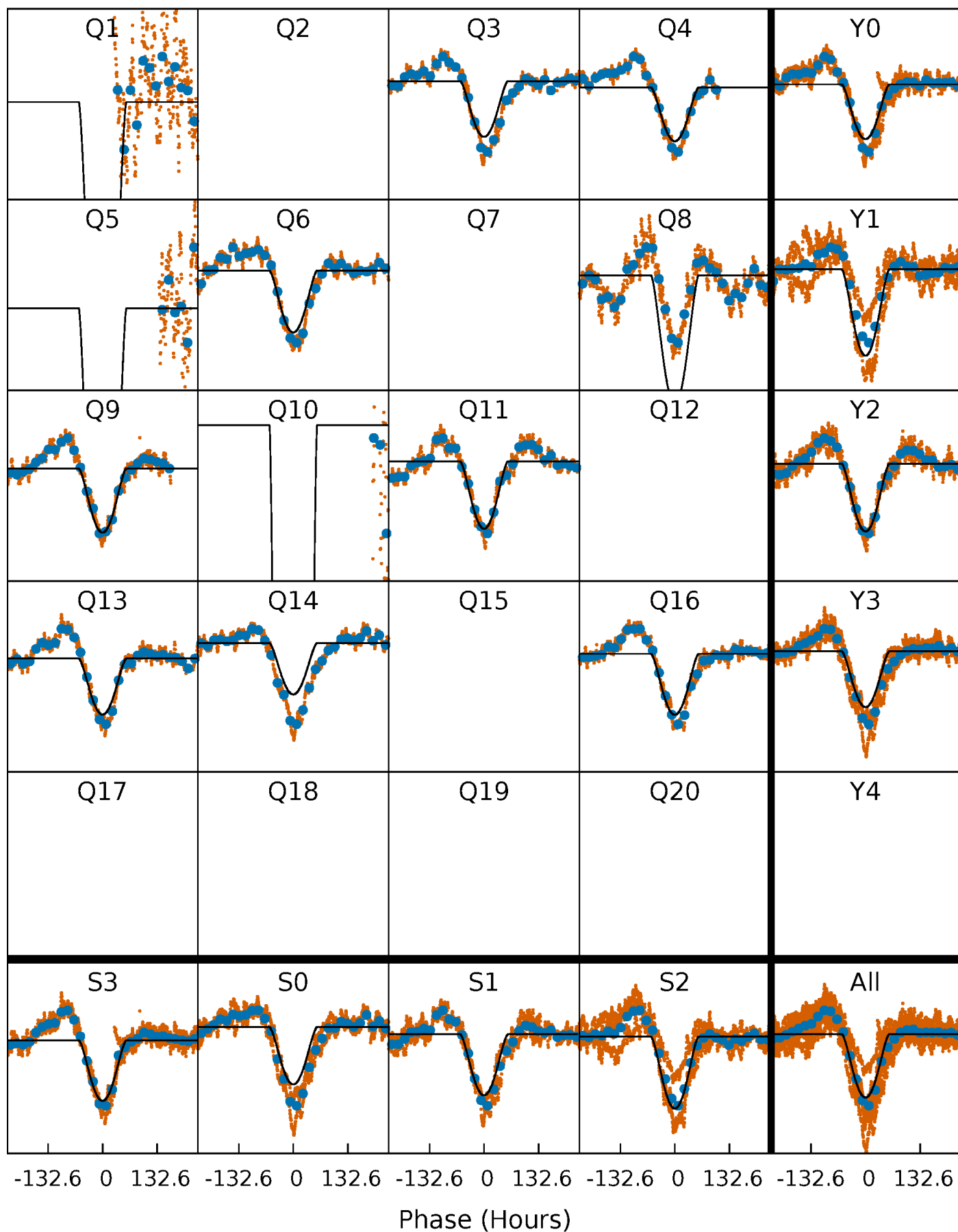
PDC Quarter-Phased Transit Curves

TCE 008210370-01 P=153.745980 Days $T_0=284.037352$ (BKJD)



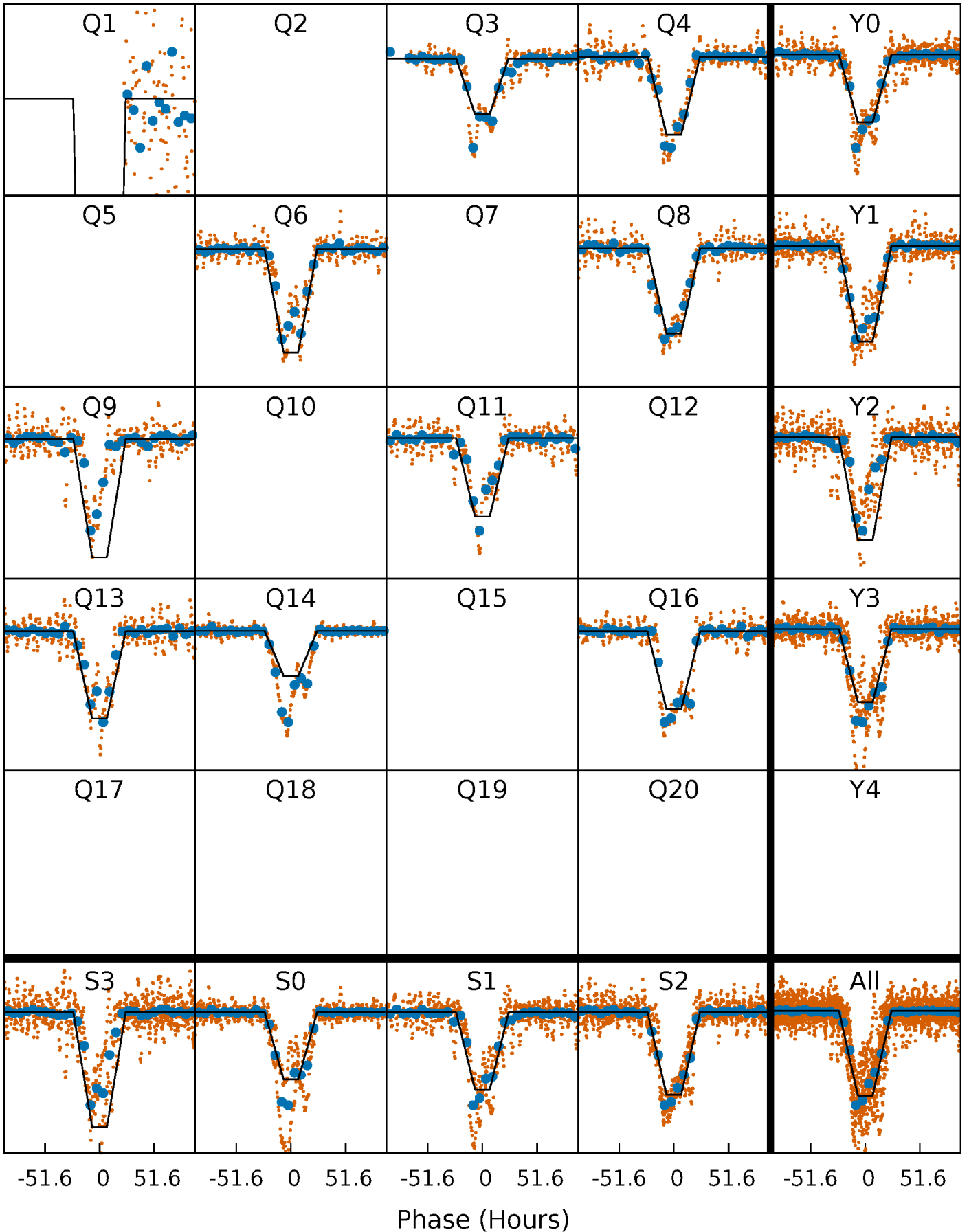
DV Quarter-Phased Transit Curves

TCE 008210370-01 P=153.745980 Days $T_0=284.037352$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

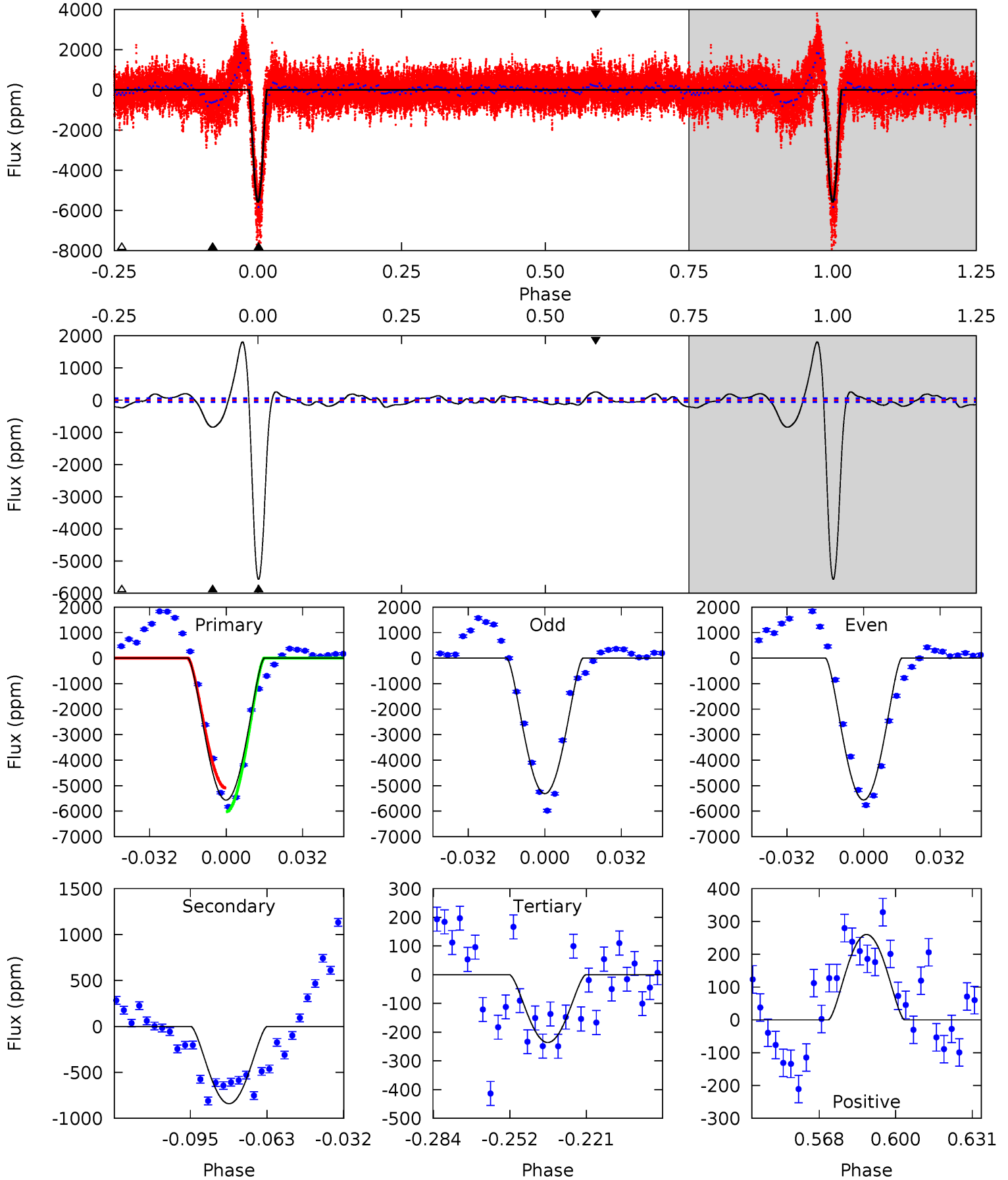
TCE 008210370-01 P=153.742105 Days $T_0=284.283367$ (BKJD)



DV Model-Shift Uniqueness Test

008210370-01, P = 153.745980 Days, E = 130.291372 Days

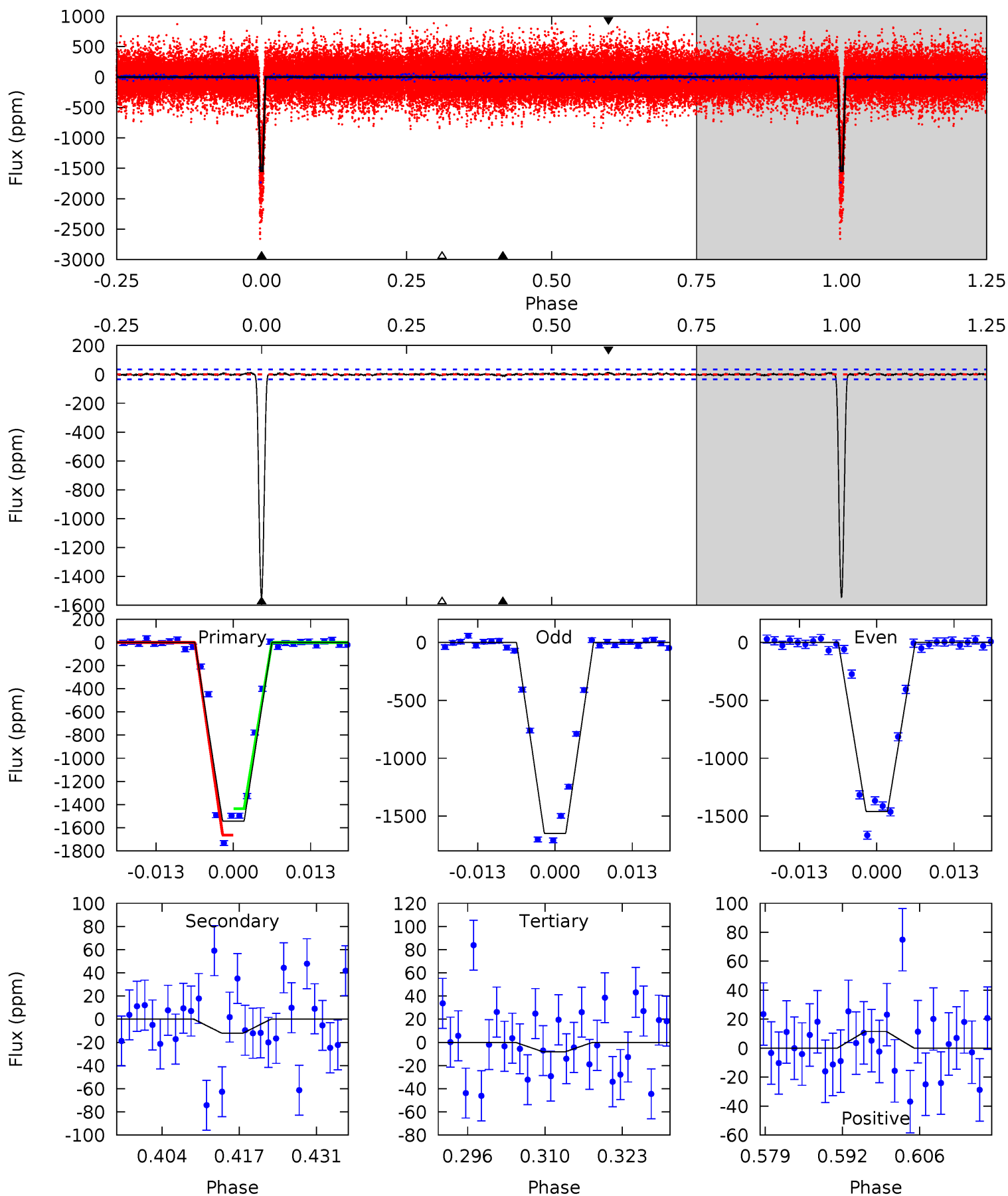
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
473.7	71.6	20.1	22.1	4.80	2.15	15.8	453.6	451.6	51.5	49.4	10.4	0.87	0.25	37.9



Alt Model-Shift Uniqueness Test

008210370-01, P = 153.742105 Days, E = 130.541262 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
220.5	1.72	1.18	1.64	4.97	2.47	0.48	219.3	218.8	0.54	0.08	13.5	1.06	0.01	0



Stellar Parameters For KIC 008210370

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4794^{+77}_{-57}	$2.781^{+0.135}_{-0.135}$	$-0.240^{+0.150}_{-0.100}$	$6.816^{+1.836}_{-1.071}$	$1.023^{+0.376}_{-0.094}$	$0.005^{+0.003}_{-0.002}$
	+2%/-1%	+5%/-5%	+62%/-42%	+27%/-16%	+37%/-9%	+67%/-43%
Source	SPE74	SPE74	SPE74	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008210370-01 / KOI 7872.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-841 ± 12	$92.32^{+51.87}_{-43.67}$	1027^{+57}_{-51}	2954^{+652}_{-307}	18^{+47}_{-10}
Alt.	-12 ± 7	$47.74^{+41.12}_{-32.05}$	1028^{+58}_{-46}	1954^{+711}_{-3656}	$0.858^{+7.606}_{-0.676}$

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 $A_{obs} \gg 1.0$

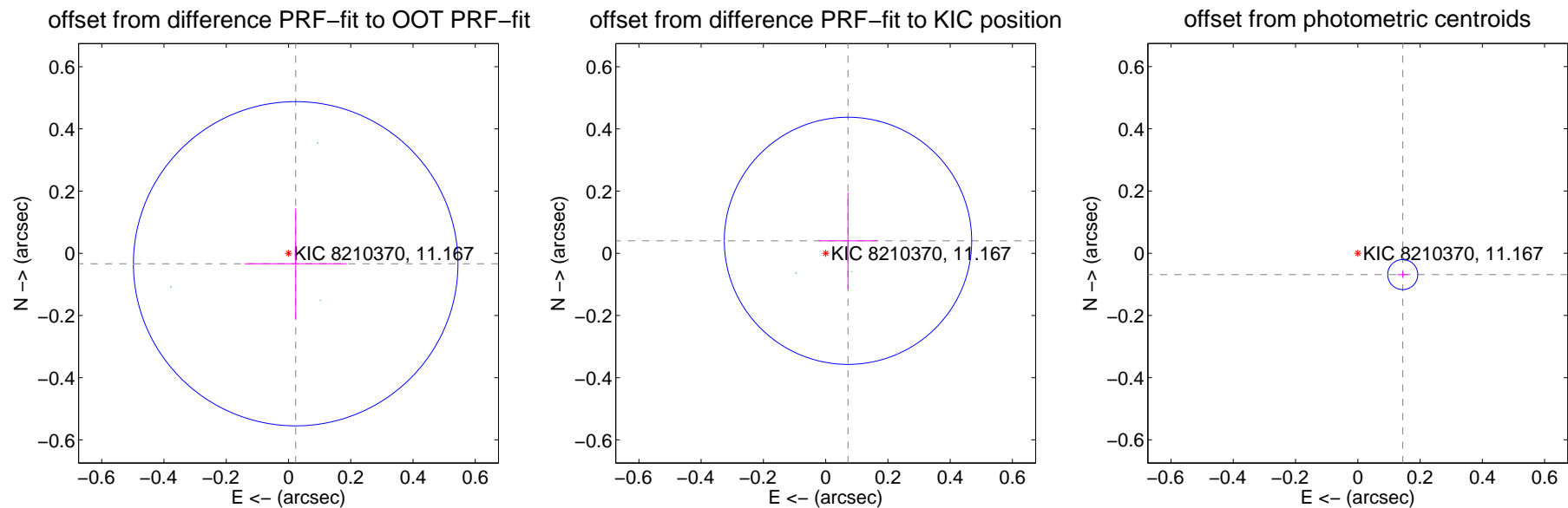
DV Centroid Data

Supplemental centroid analysis for 008210370-01. **Kepler magnitude: 11.17.** Transit SNR 47.93

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.041 ± 0.174	0.23	-0.023 ± 0.164	-0.034 ± 0.178
PRF-fit source offset from KIC position	0.082 ± 0.132	0.62	-0.072 ± 0.094	0.040 ± 0.155
photometric centroid source offset	0.16 ± 0.02	9.94	-0.14 ± 0.02	-0.07 ± 0.01

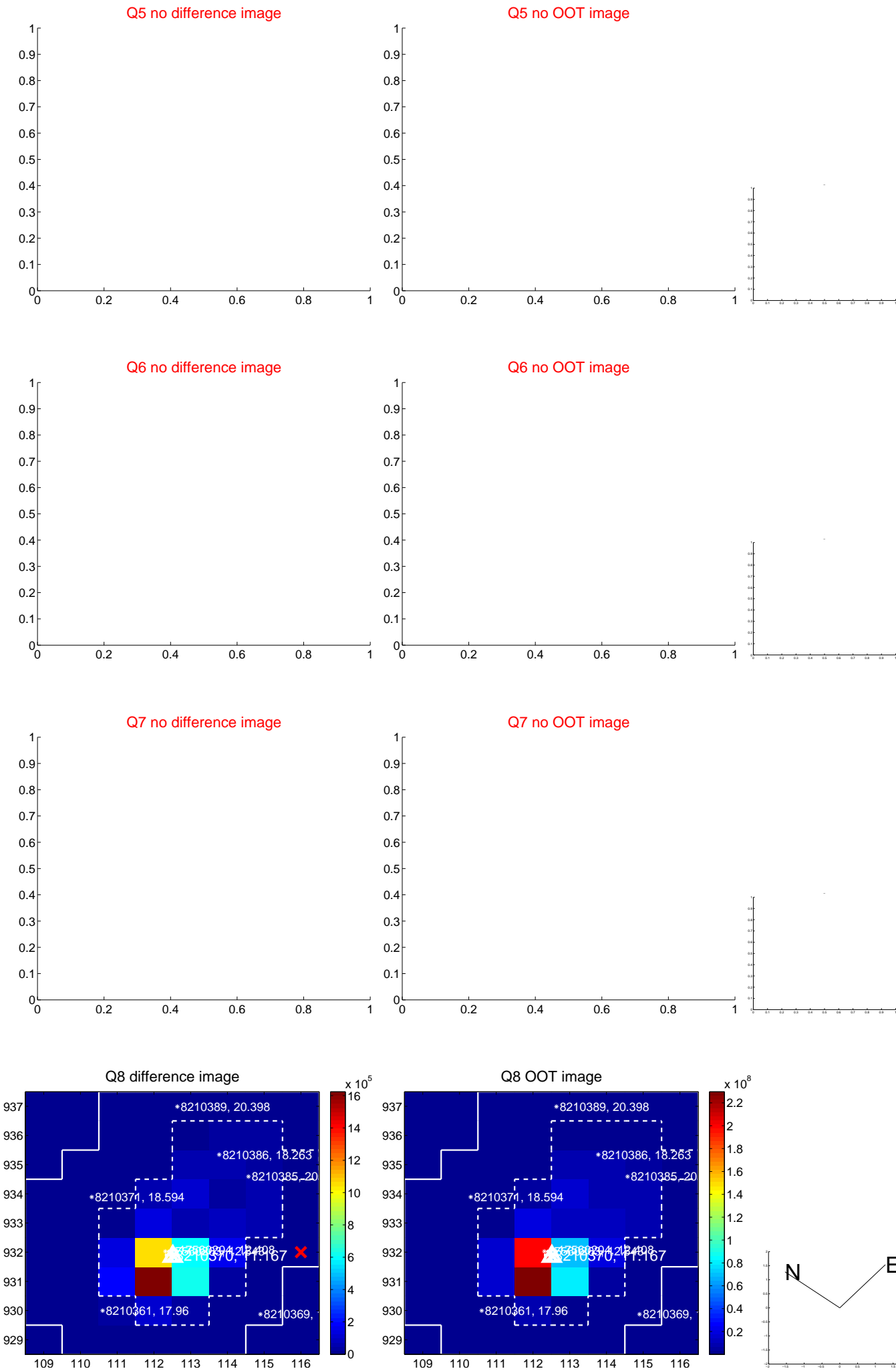


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

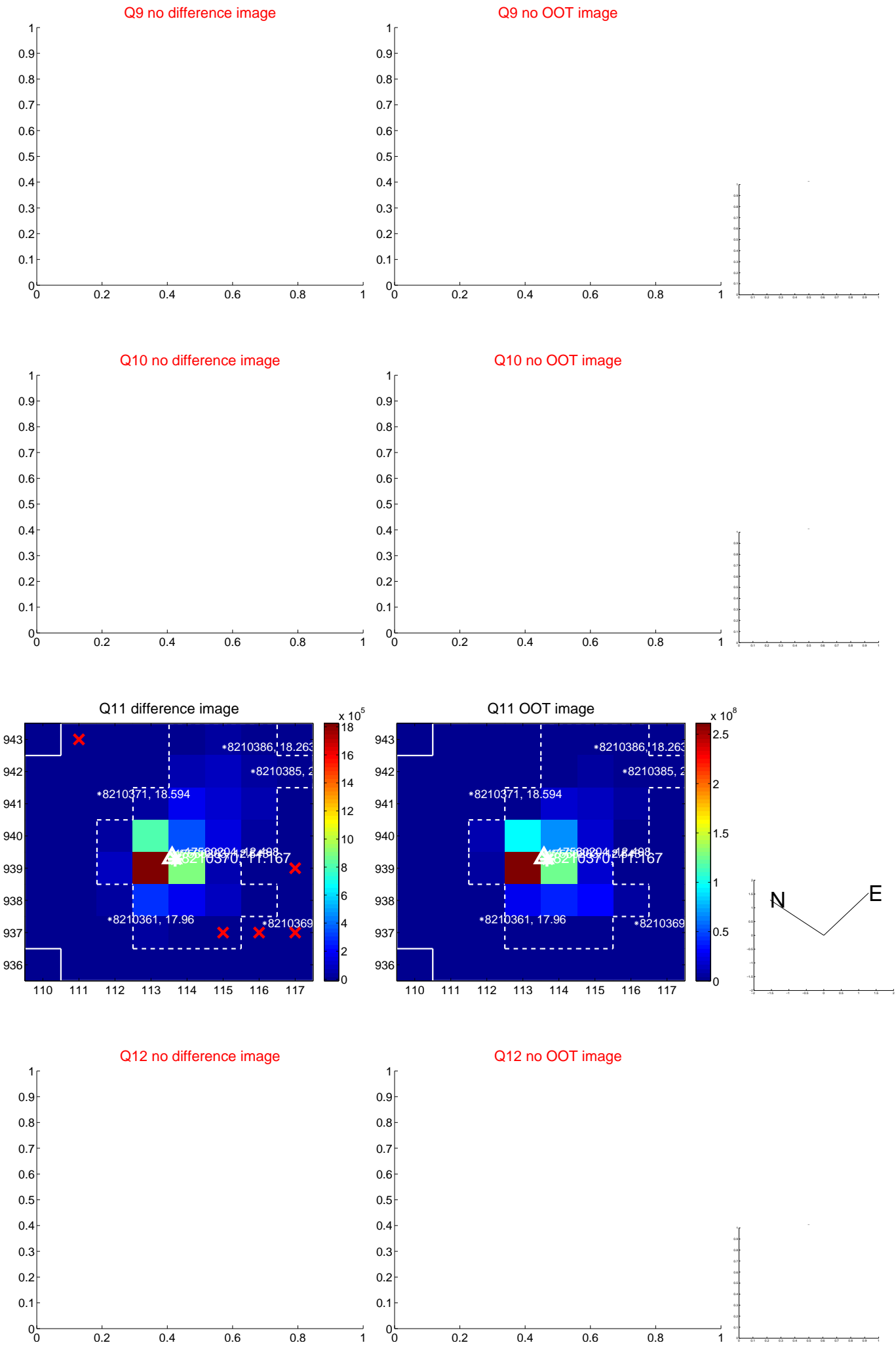
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



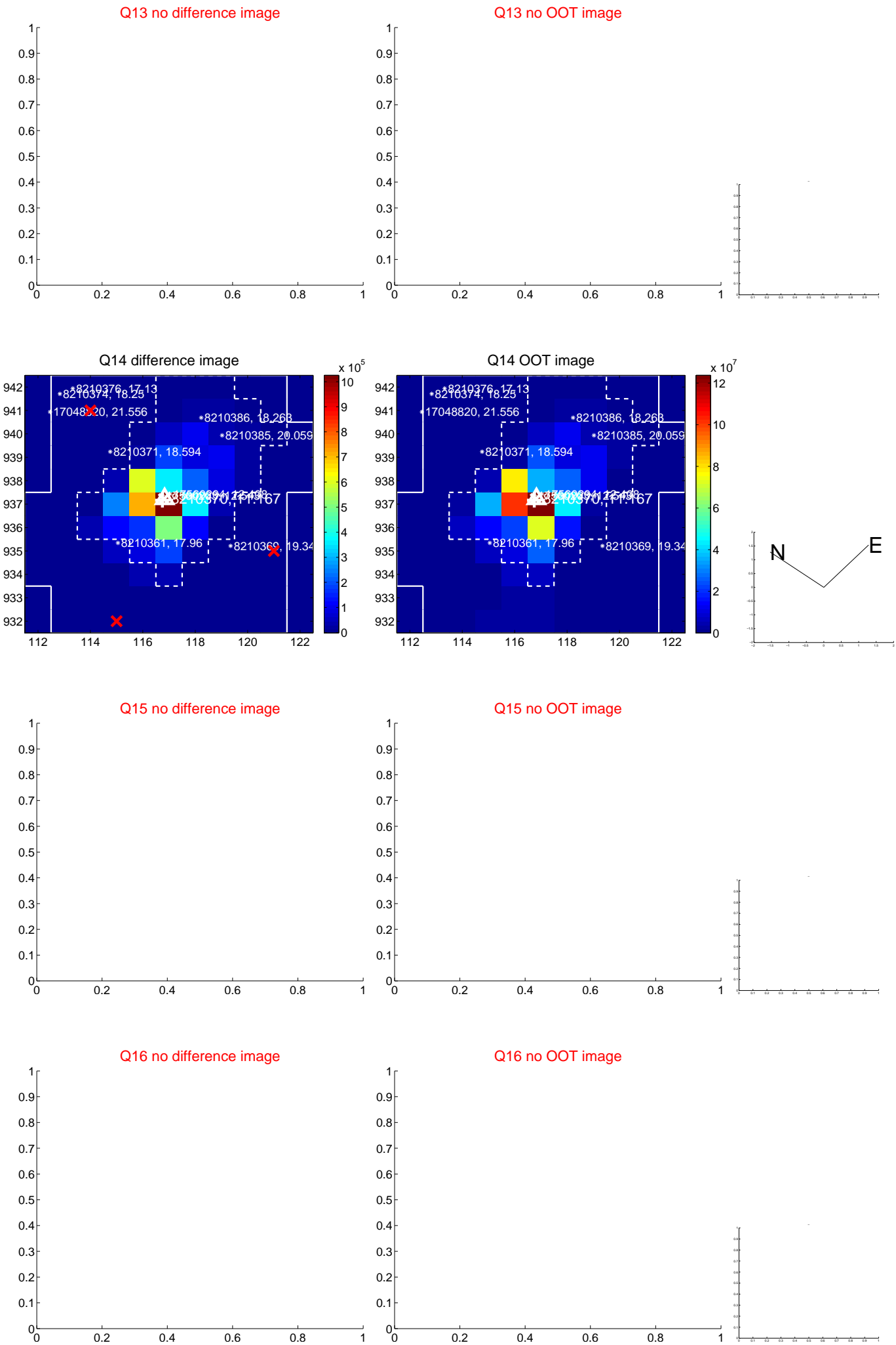
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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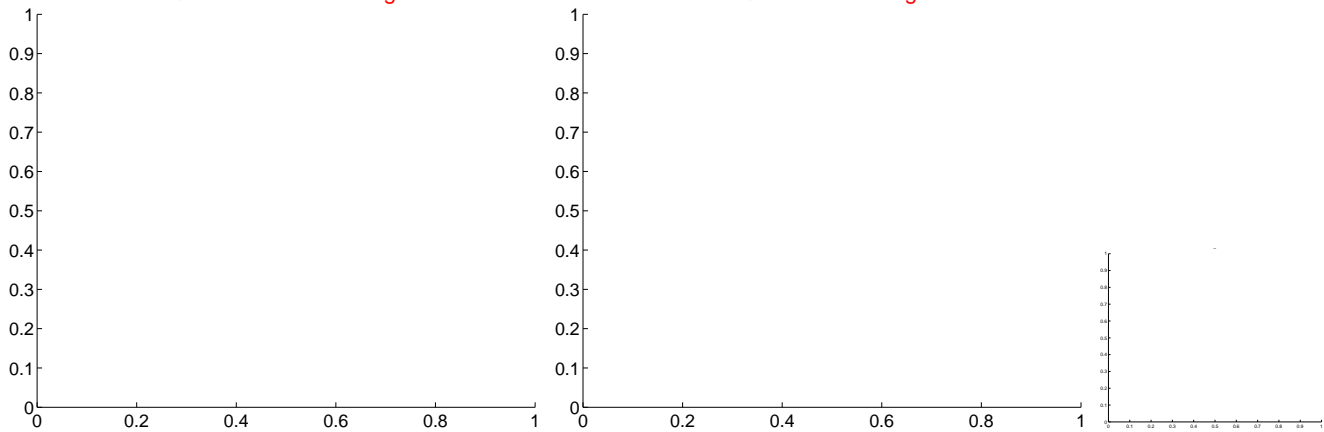
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



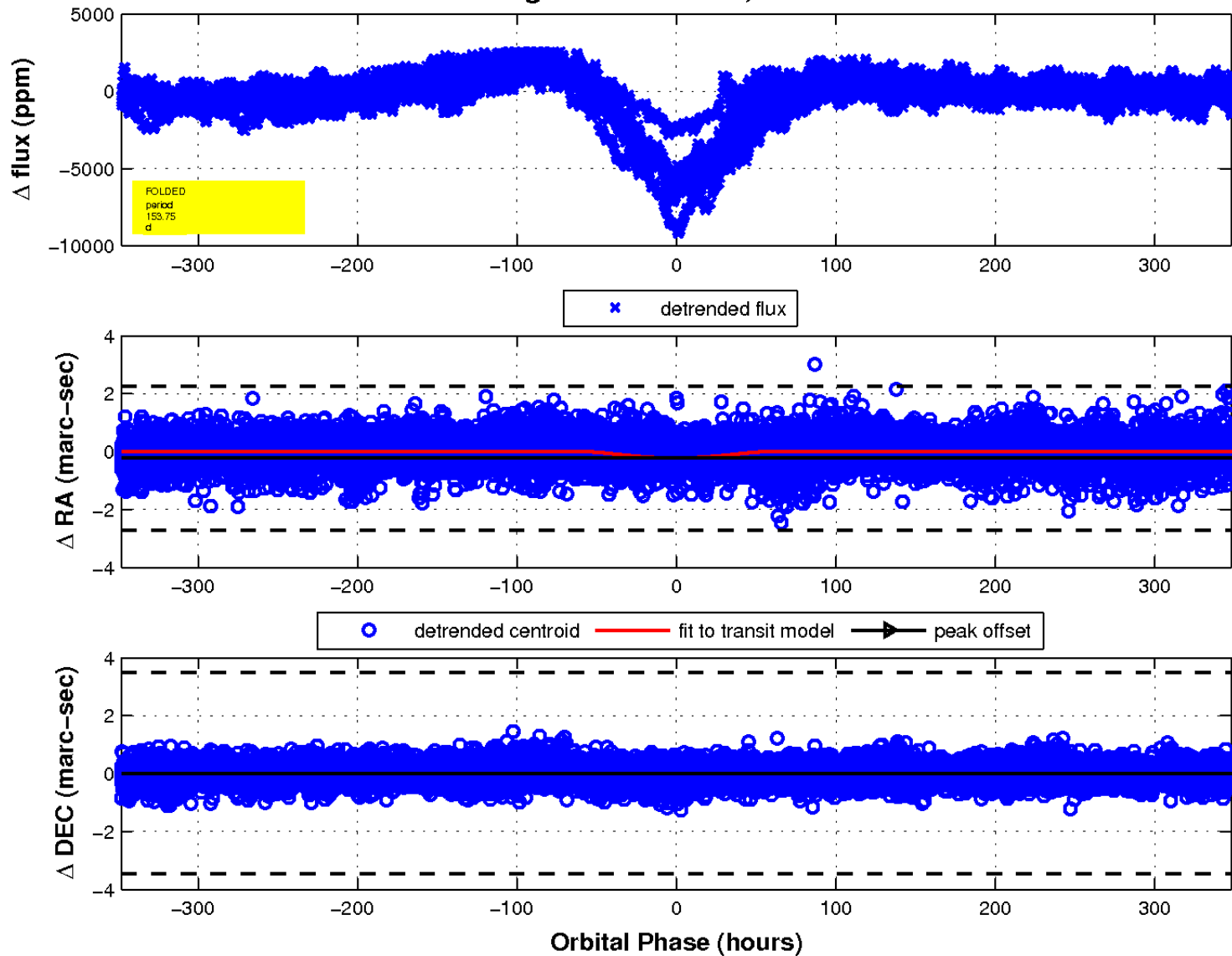
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q17 no difference image

Q17 no OOT image



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

