

KIC 002443393

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})
002443393-01	OBS	2603.01	73.709251	202.811871	133.1	10.346	15.4	15.3	1.50	6374	2.00	23.86

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002443393-01	OBS	PC	0.88	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.

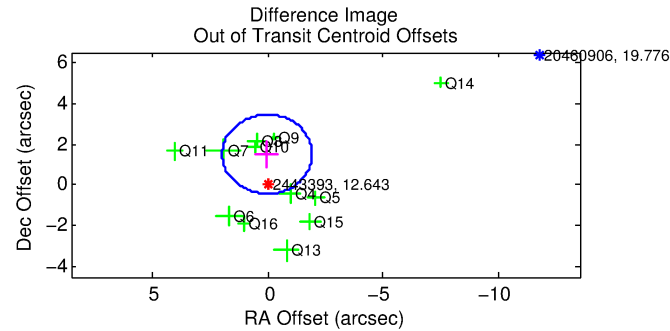
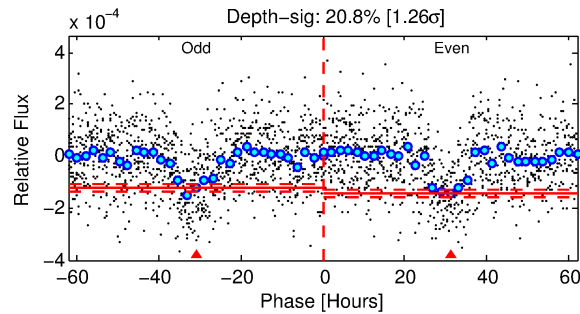
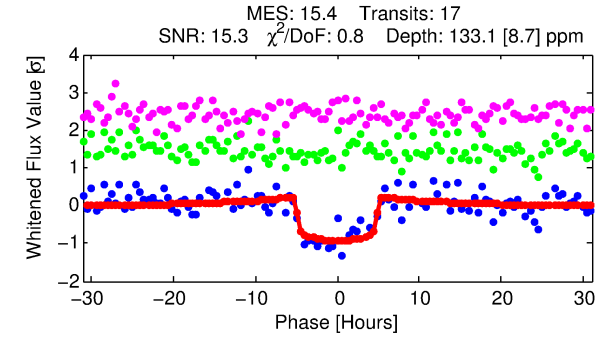
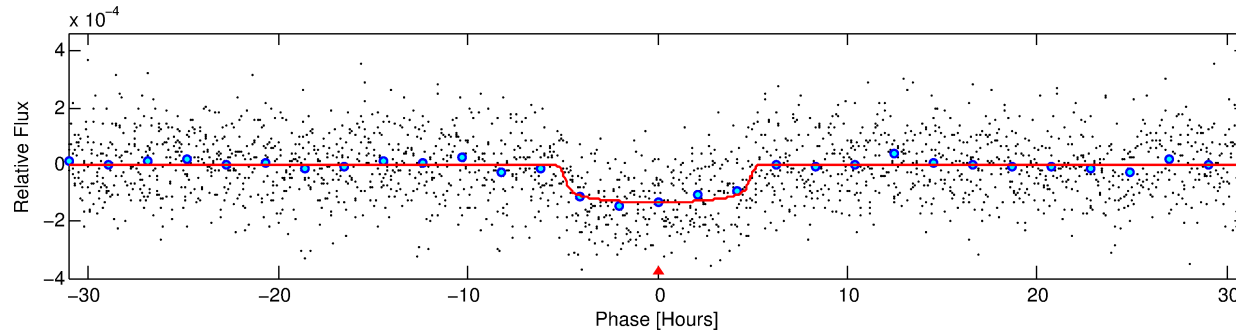
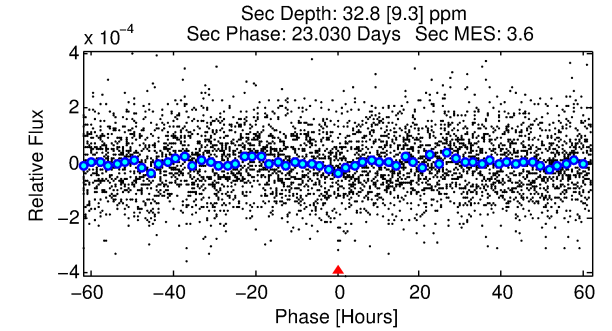
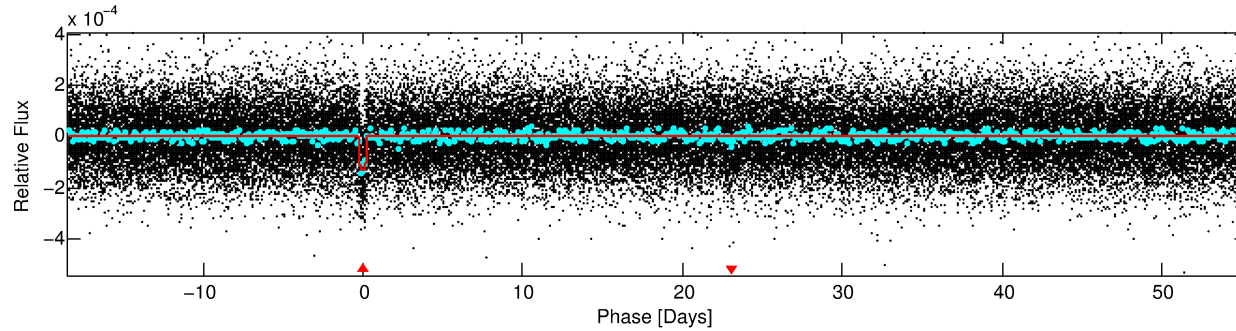
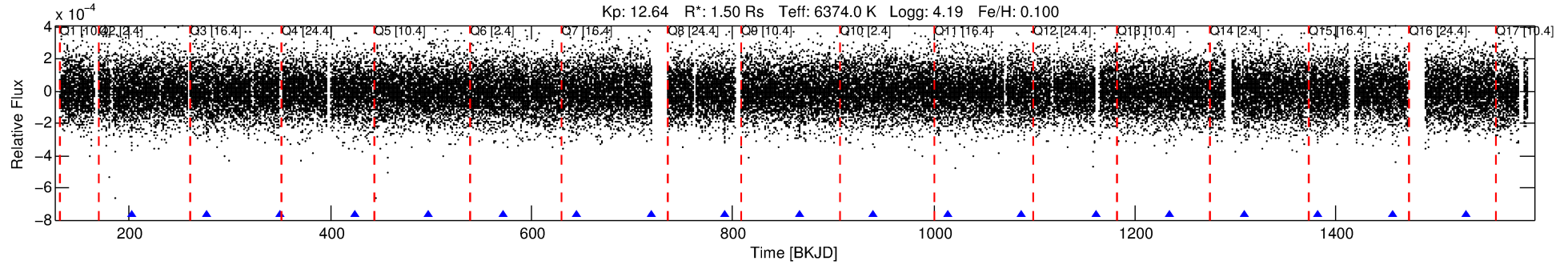
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002443393-01

No Significant Match Found

DV One-Page Summary

KIC: 2443393 Candidate: 1 of 1 Period: 73.709 d
KOI: K02603.01 Corr: 0.962



DV Fit Results:

Period = 73.70925 [0.00088] d
Epoch = 202.8119 [0.0099] BKJD
Rp/R* = 0.0122 [0.0014]
a/R* = 27.20 [16.02]
b = 0.88 [0.15]
Seff = 23.86 [6.05]
Teq = 564 [36] K
Rp = 2.00 [0.45] Re
a = 0.3740 [0.0613] AU
Ag = 629.94 [273.99] [2.30σ]
Teffp = 4365 [408] K [9.27σ]

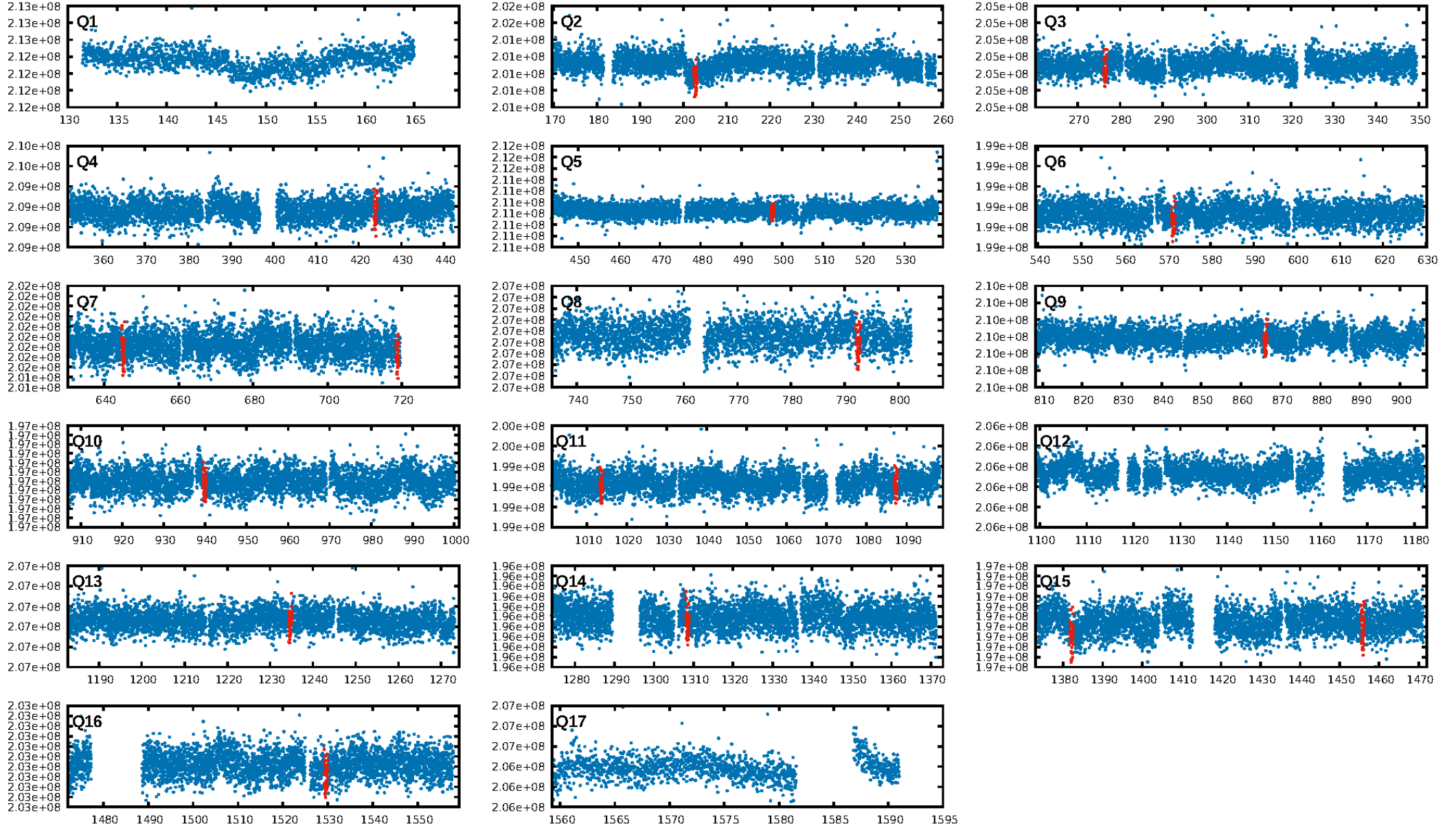
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 92.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.56e-52
RollingBand-fgt: 1.00 [17/17]
GhostDiagnostic-chr: 3.235
Centroid-sig: 3.2%
Centroid-so: 1.108 arcsec [1.22σ]
OotOffset-rm: 1.509 arcsec [2.34σ]
KicOffset-rm: 1.515 arcsec [2.35σ]
OotOffset-st: 3/3/3/3 [12]
KicOffset-st: 3/3/3/3 [12]
DiffImageQuality-fgm: 0.33 [4/12]
DiffImageOverlap-fno: 1.00 [14/14]

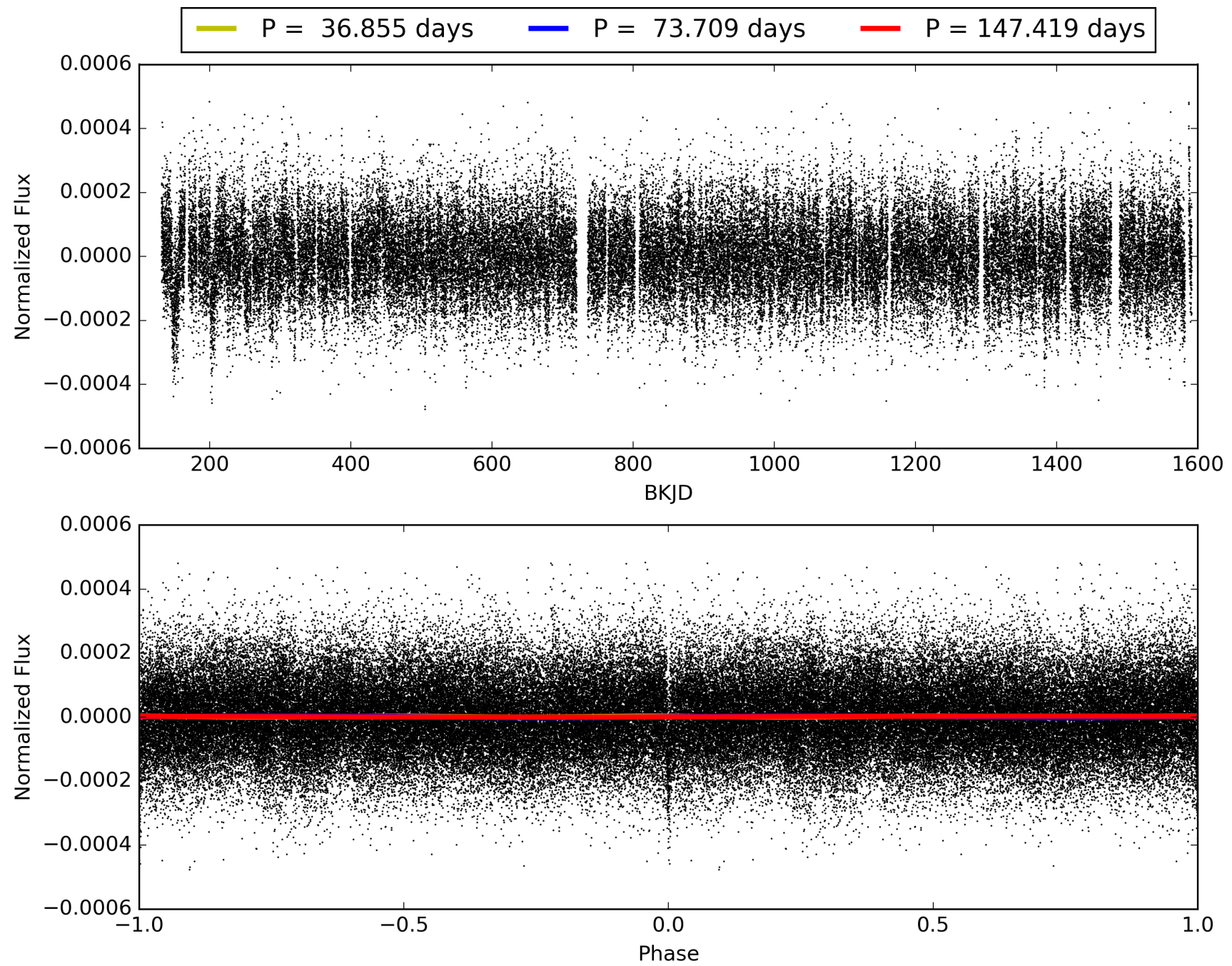
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:07:36 Z

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

TCE 002443393-01, PDC Light Curves

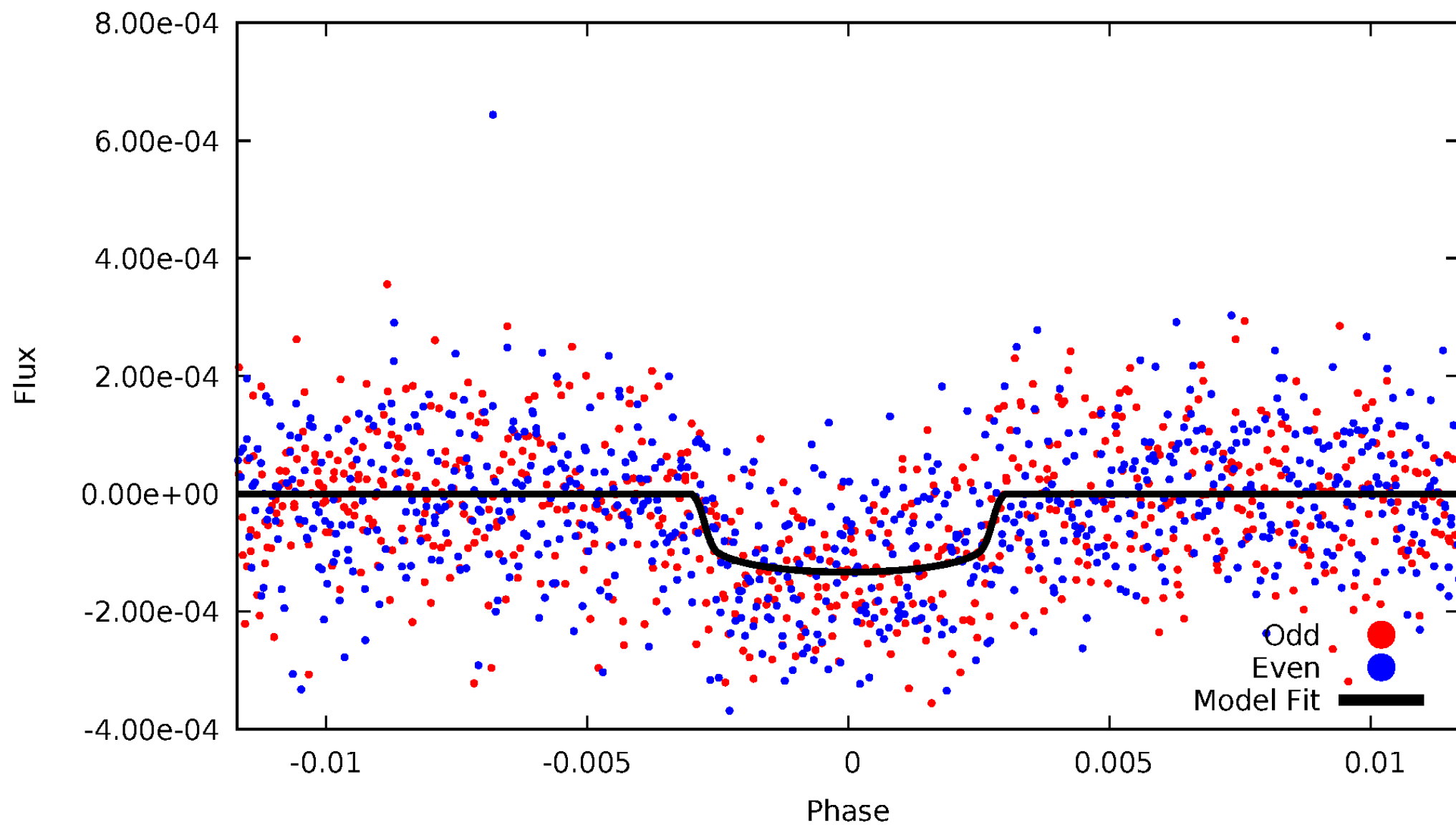


TCE 002443393-01



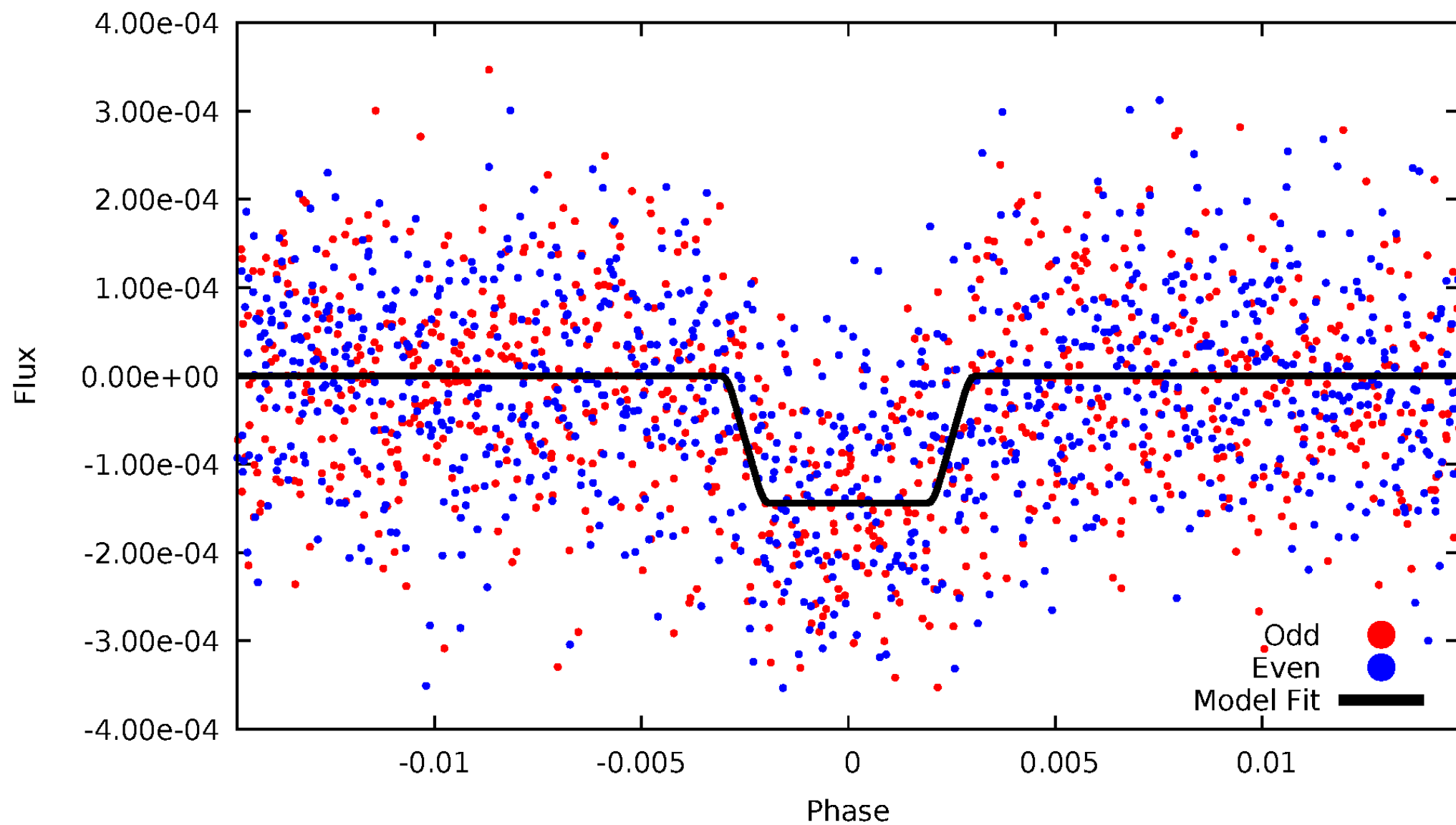
DV Odd/Even

TCE 002443393-01

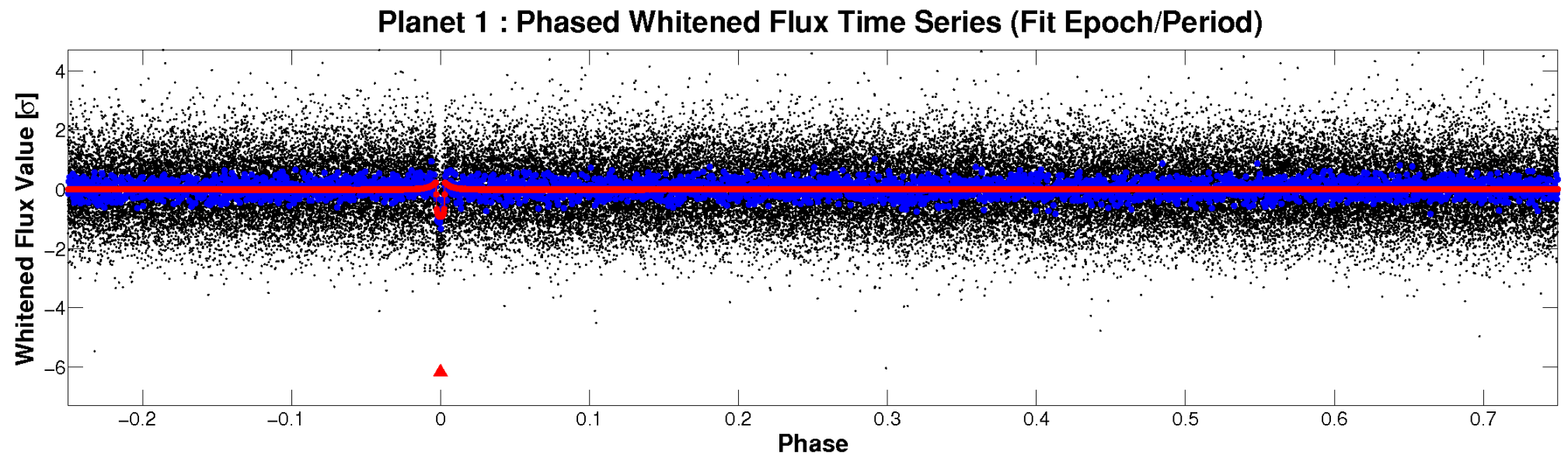
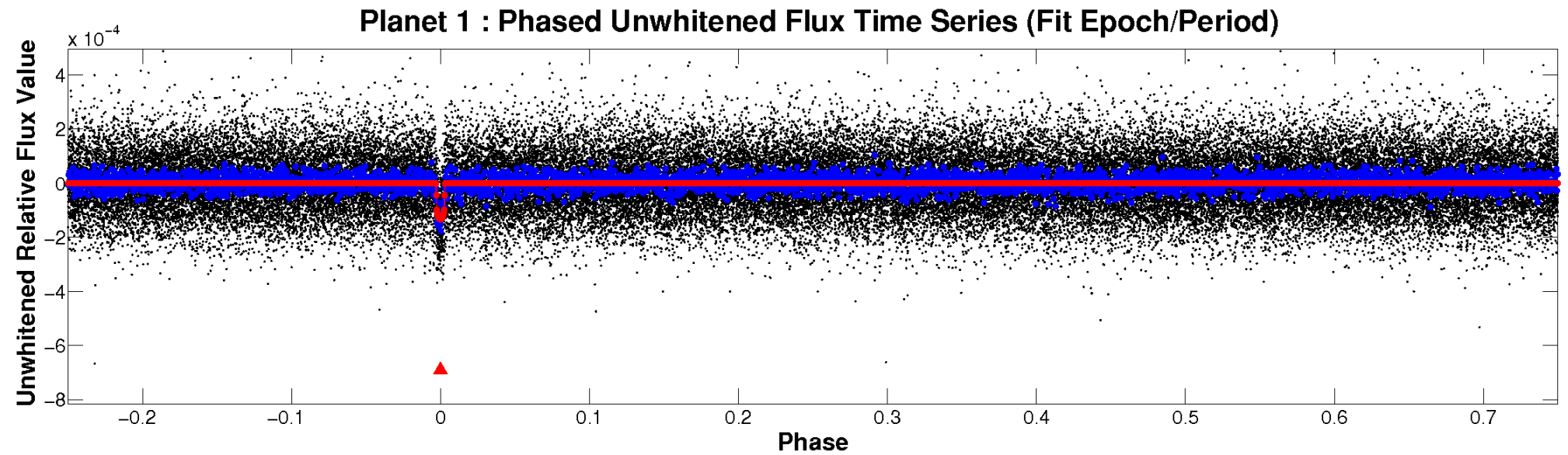


ALT Odd/Even

TCE 002443393-01

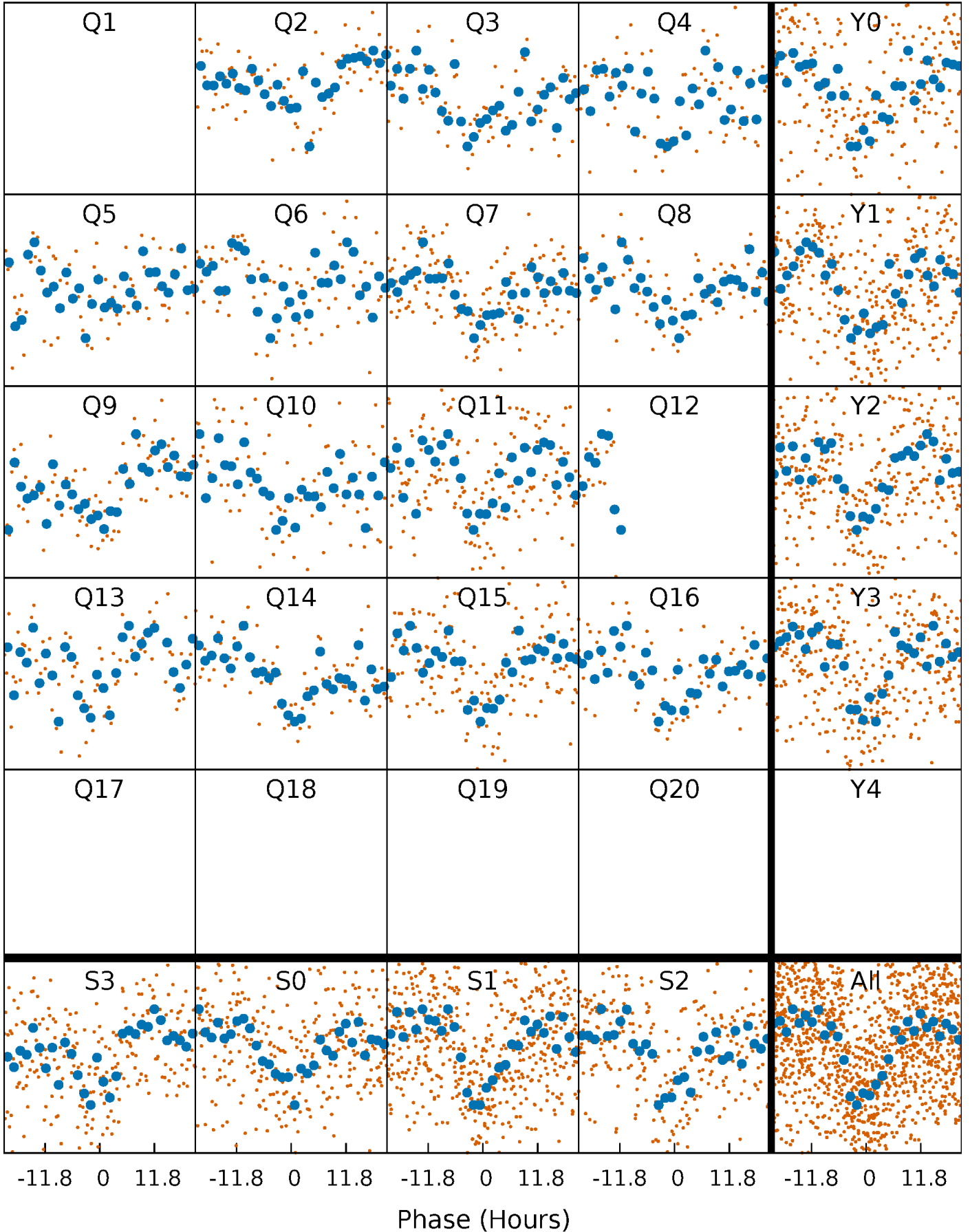


Non-Whitened Vs. Whitened Light Curve



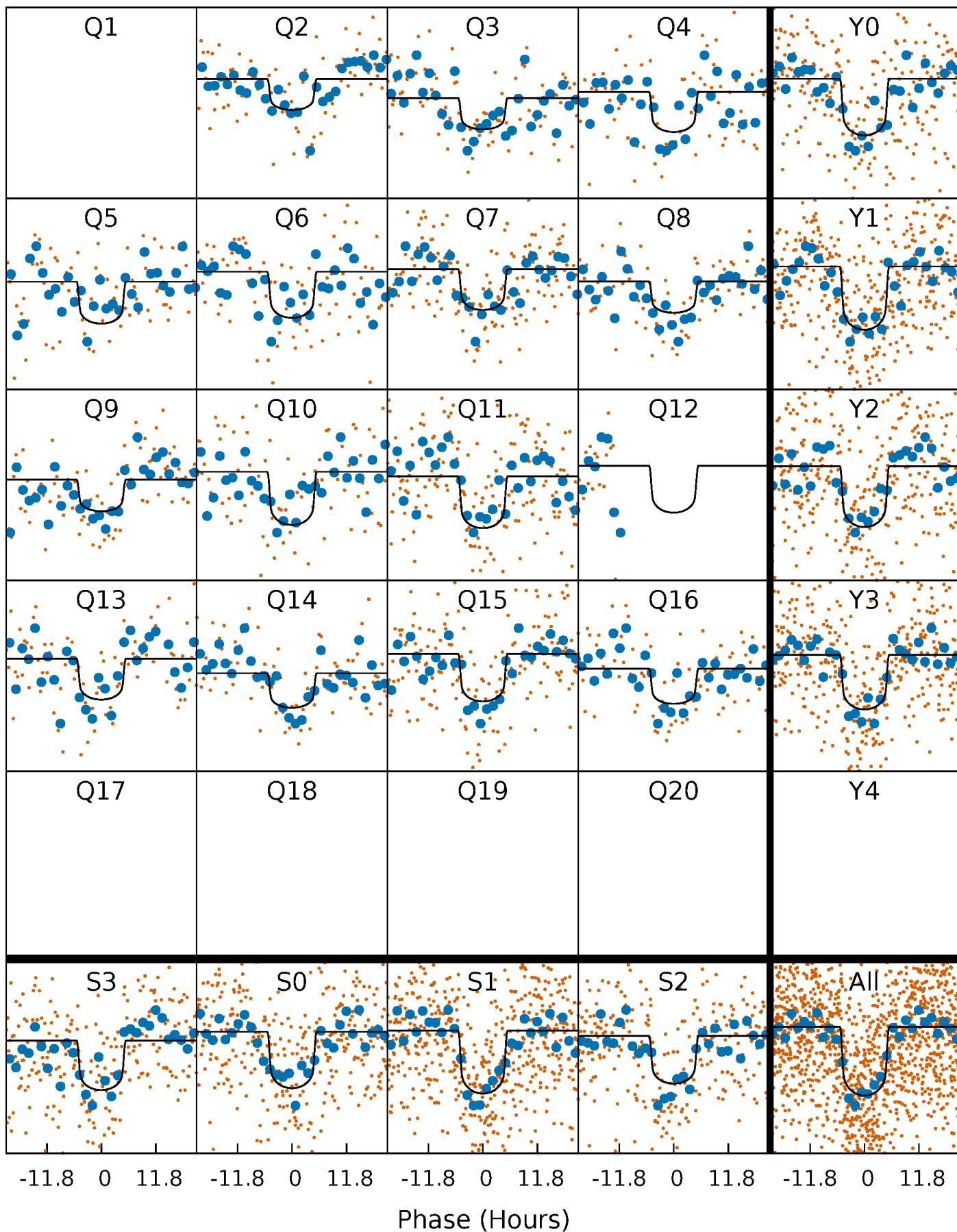
PDC Quarter-Phased Transit Curves

TCE 002443393-01 P= 73.709251 Days $T_0=202.811871$ (BKJD)



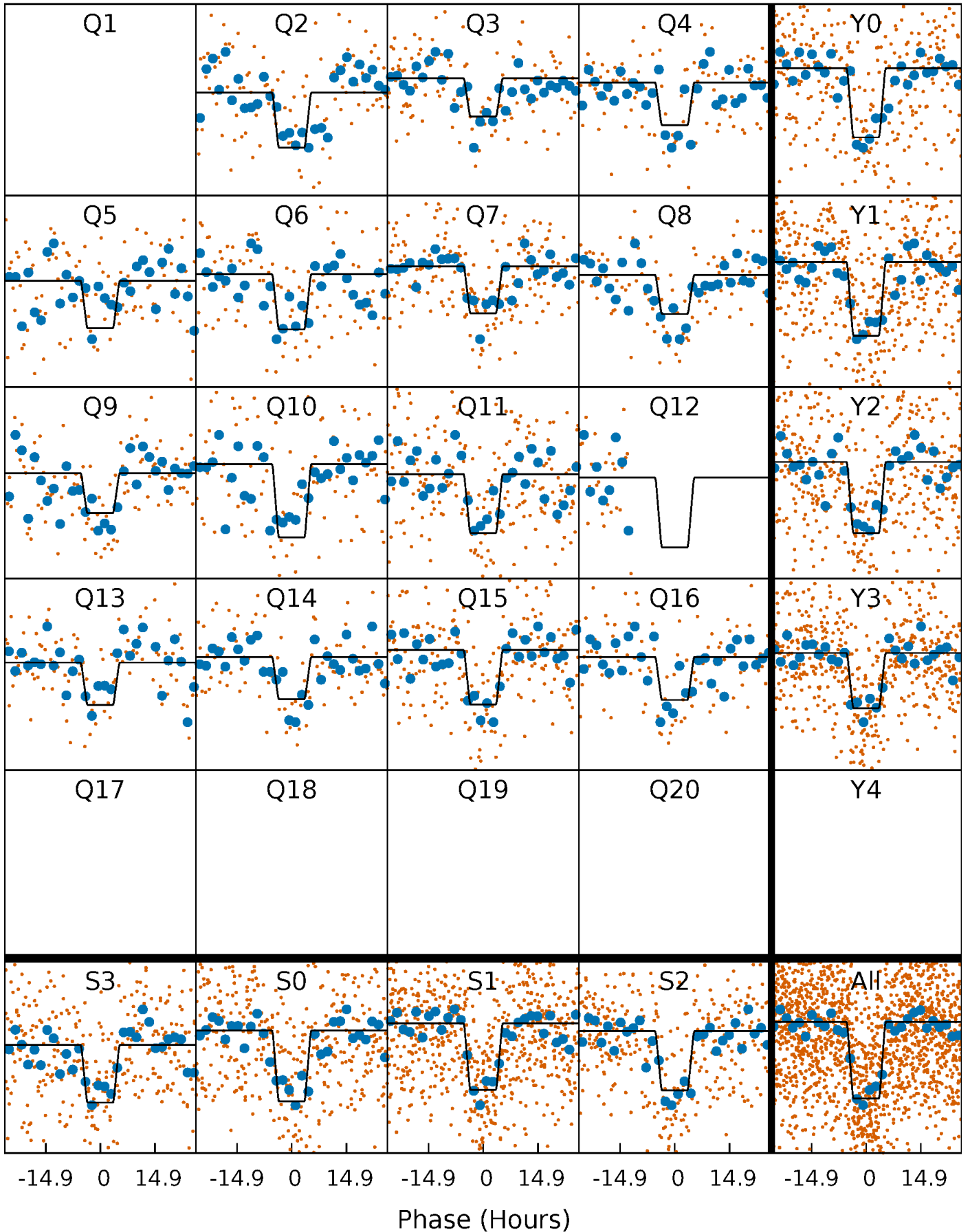
DV Quarter-Phased Transit Curves

TCE 002443393-01 P= 73.709251 Days $T_0=202.811871$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

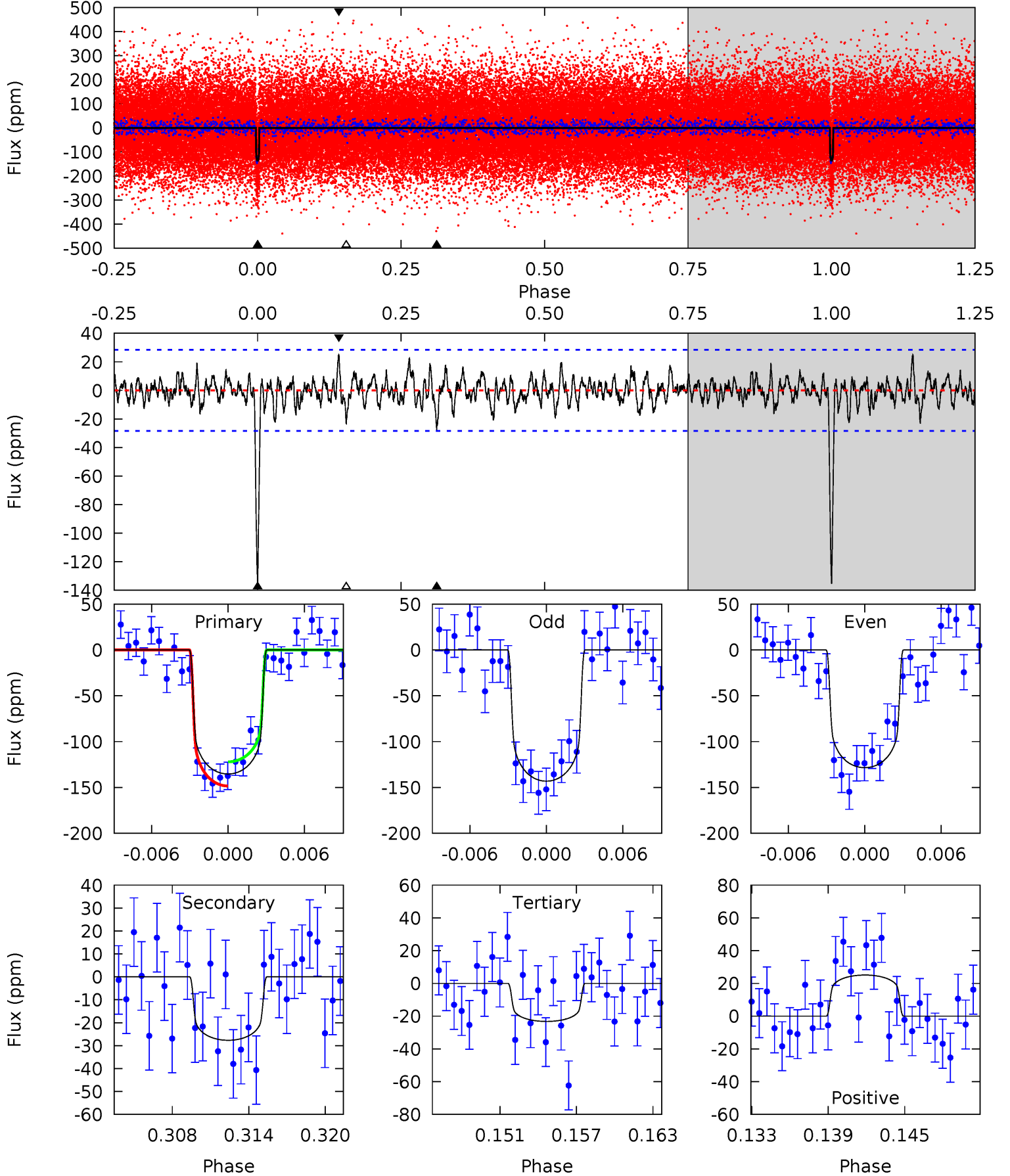
TCE 002443393-01 P= 73.712375 Days $T_0=202.760747$ (BKJD)



DV Model-Shift Uniqueness Test

002443393-01, P = 73.709251 Days, E = 129.102620 Days

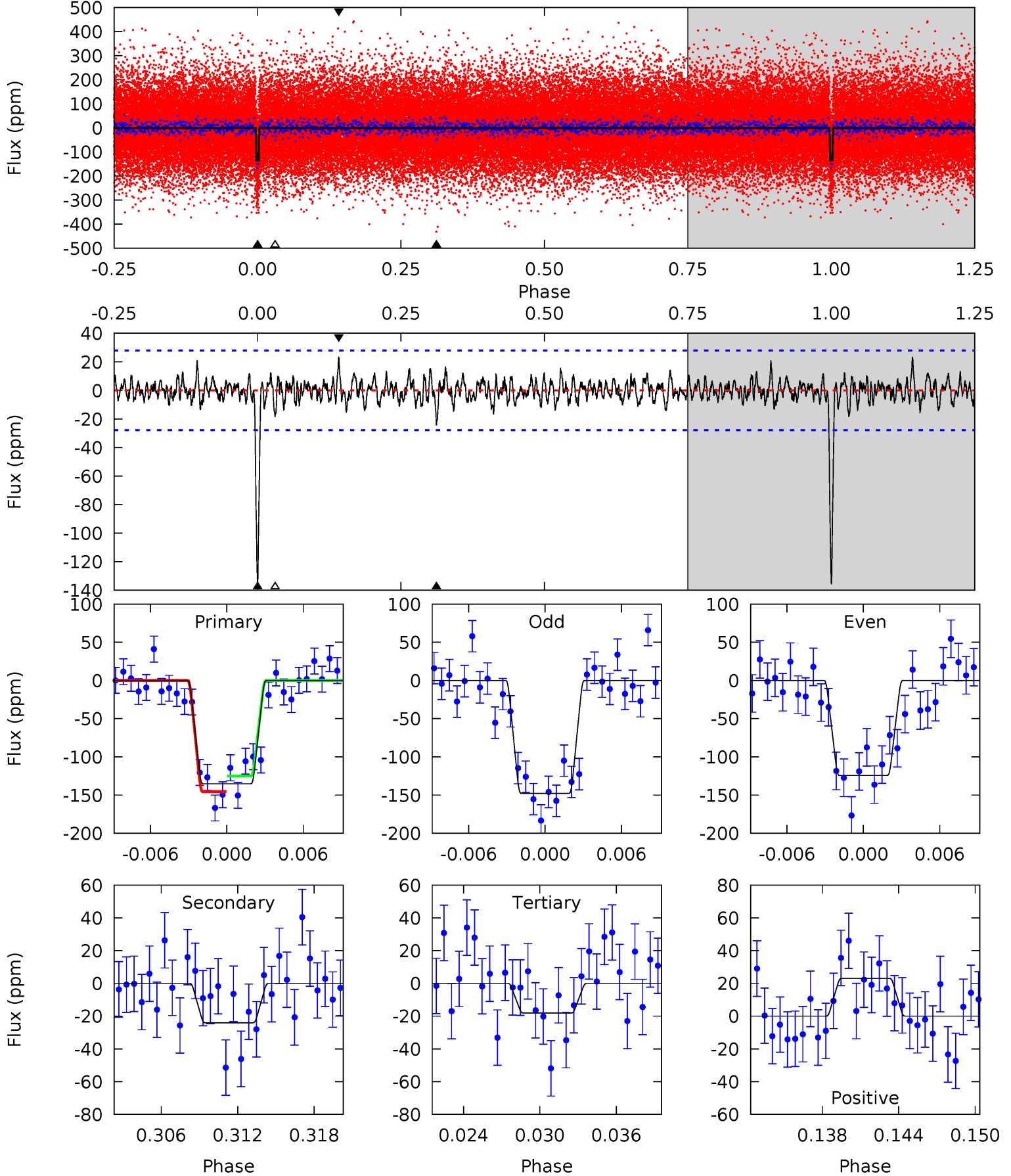
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.4	4.99	4.19	4.53	5.12	2.75	1.31	20.2	19.9	0.80	0.47	1.32	0.95	0.16	2.38



Alt Model-Shift Uniqueness Test

002443393-01, P = 73.712375 Days, E = 129.048372 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.8	4.40	3.32	4.23	5.12	2.75	1.09	21.5	20.6	1.08	0.17	2.14	0.99	0.15	1.89



Stellar Parameters For KIC 002443393

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6374^{+113}_{-139}	$4.193^{+0.130}_{-0.130}$	$0.100^{+0.150}_{-0.150}$	$1.502^{+0.293}_{-0.240}$	$1.284^{+0.102}_{-0.125}$	$0.534^{+0.319}_{-0.201}$
	+2%/-2%	+3%/-3%	+150%/-150%	+20%/-16%	+8%/-10%	+60%/-38%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 002443393-01 / KOI 2603.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-28 ± 6	$2.01^{+0.30}_{-0.31}$	785^{+41}_{-37}	4410^{+262}_{-282}	532^{+241}_{-161}
Alt.	-24 ± 5	$1.96^{+0.35}_{-0.28}$	785^{+42}_{-38}	4292^{+288}_{-288}	478^{+214}_{-168}

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 $A_{obs} \gg 1.0$

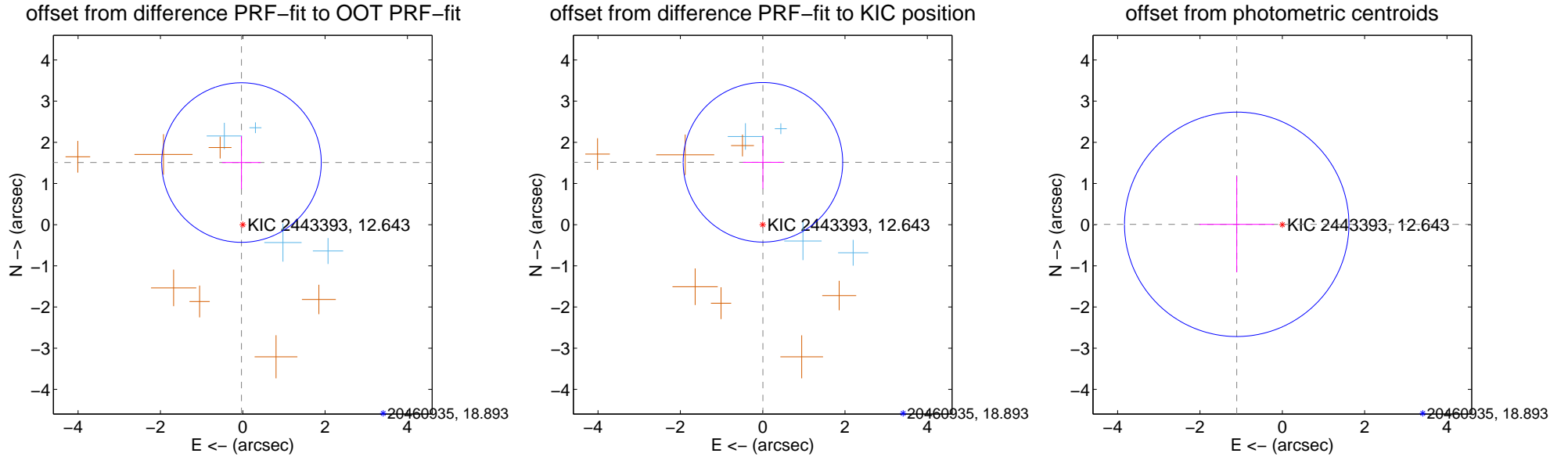
DV Centroid Data

Supplemental centroid analysis for 002443393-01. Kepler magnitude: 12.64. Transit SNR 15.34

There are 4 quarters with good PRF difference image offsets

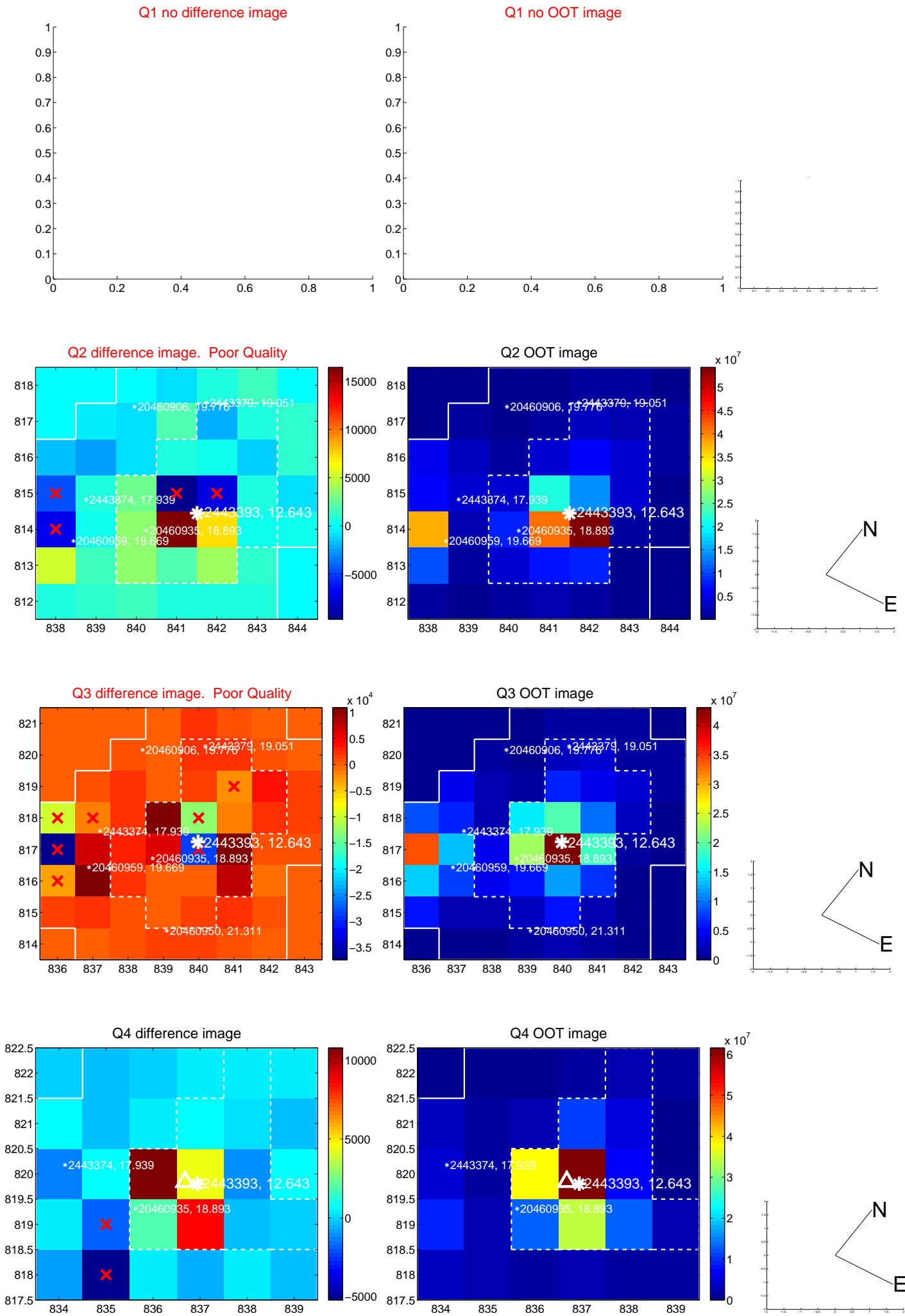
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.509 ± 0.646	2.34	0.031 ± 0.470	1.509 ± 0.646
PRF-fit source offset from KIC position	1.515 ± 0.646	2.35	-0.006 ± 0.485	1.515 ± 0.646
photometric centroid source offset	1.11 ± 0.91	1.22	1.11 ± 0.91	0.01 ± 1.17

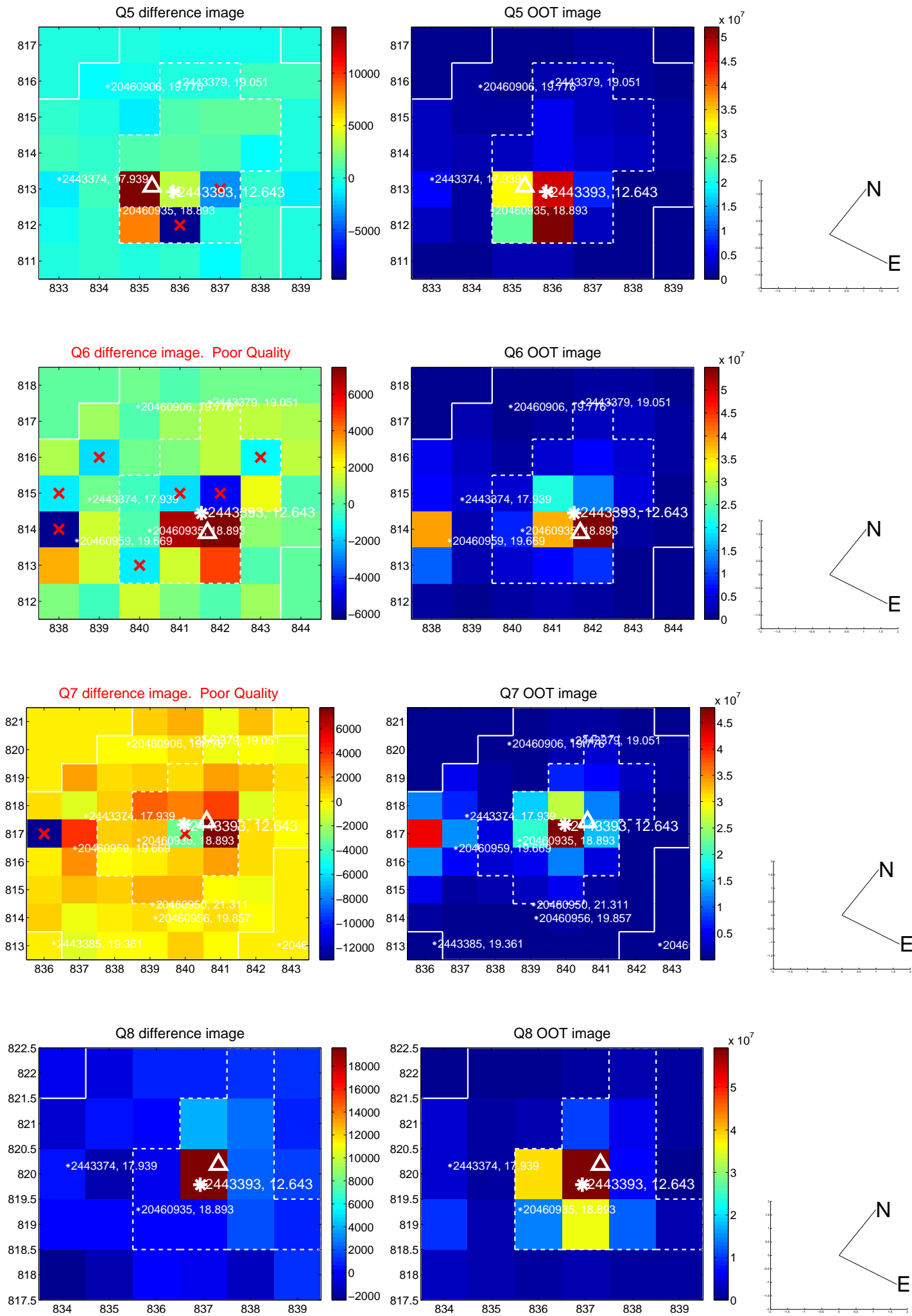


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

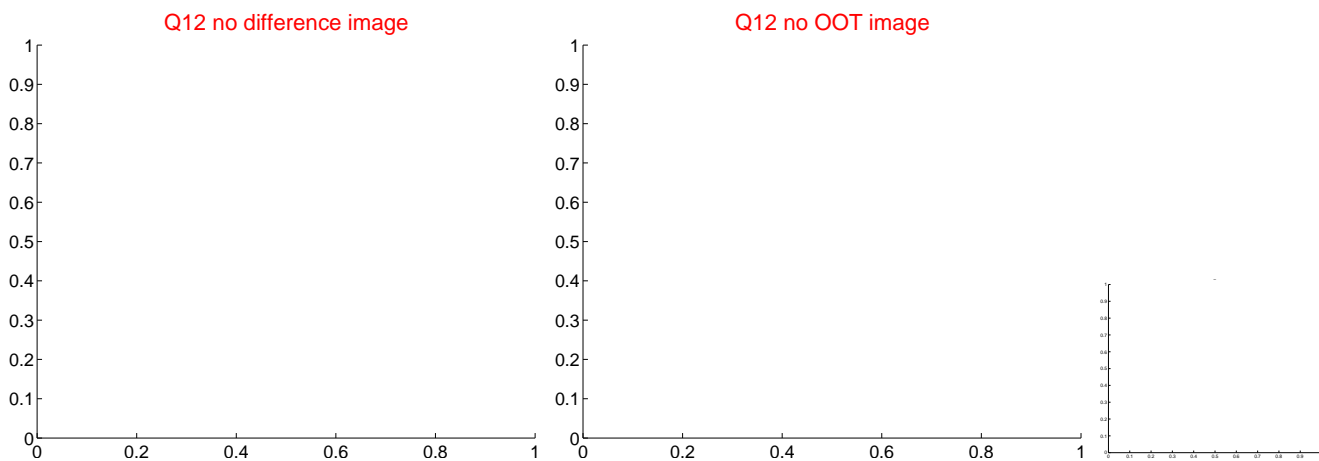
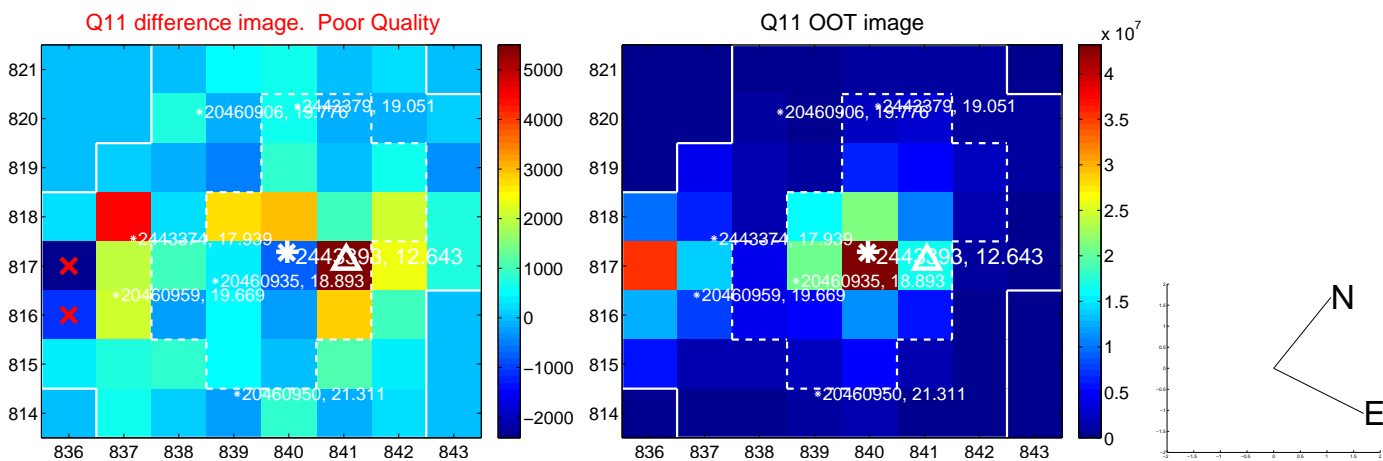
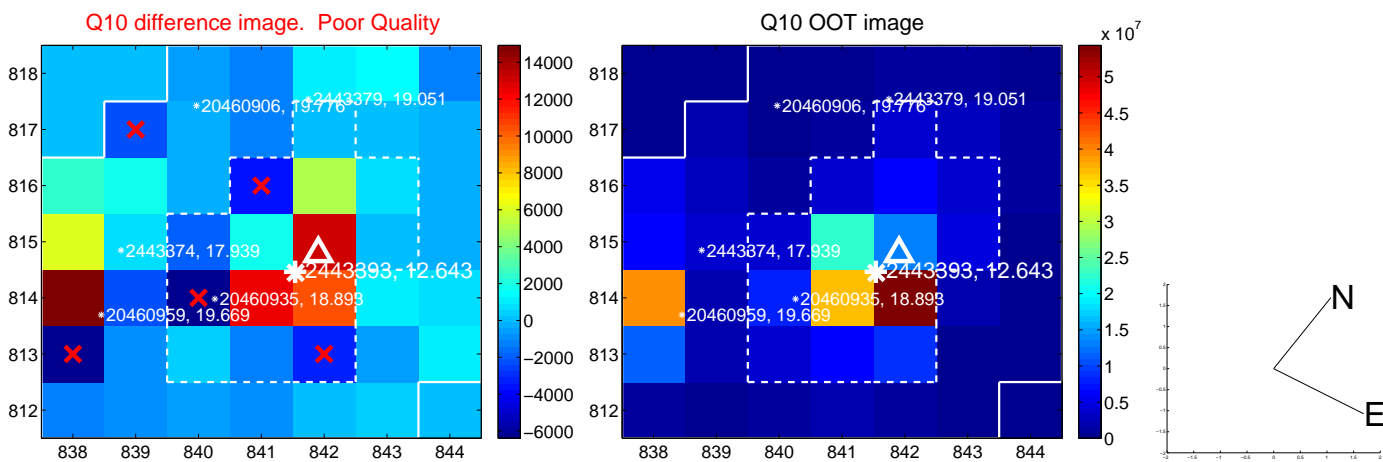
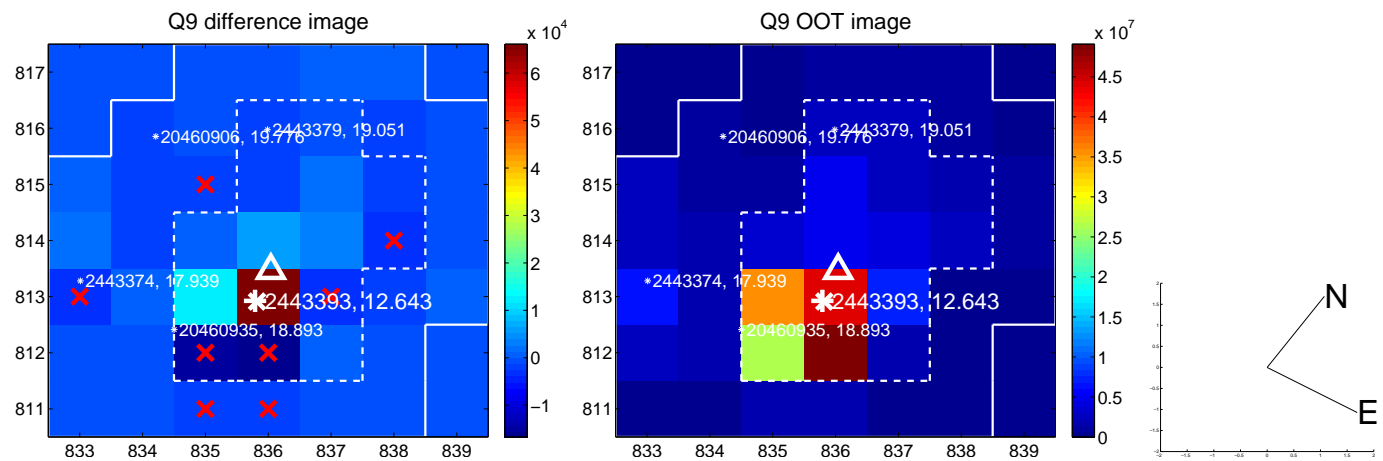
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



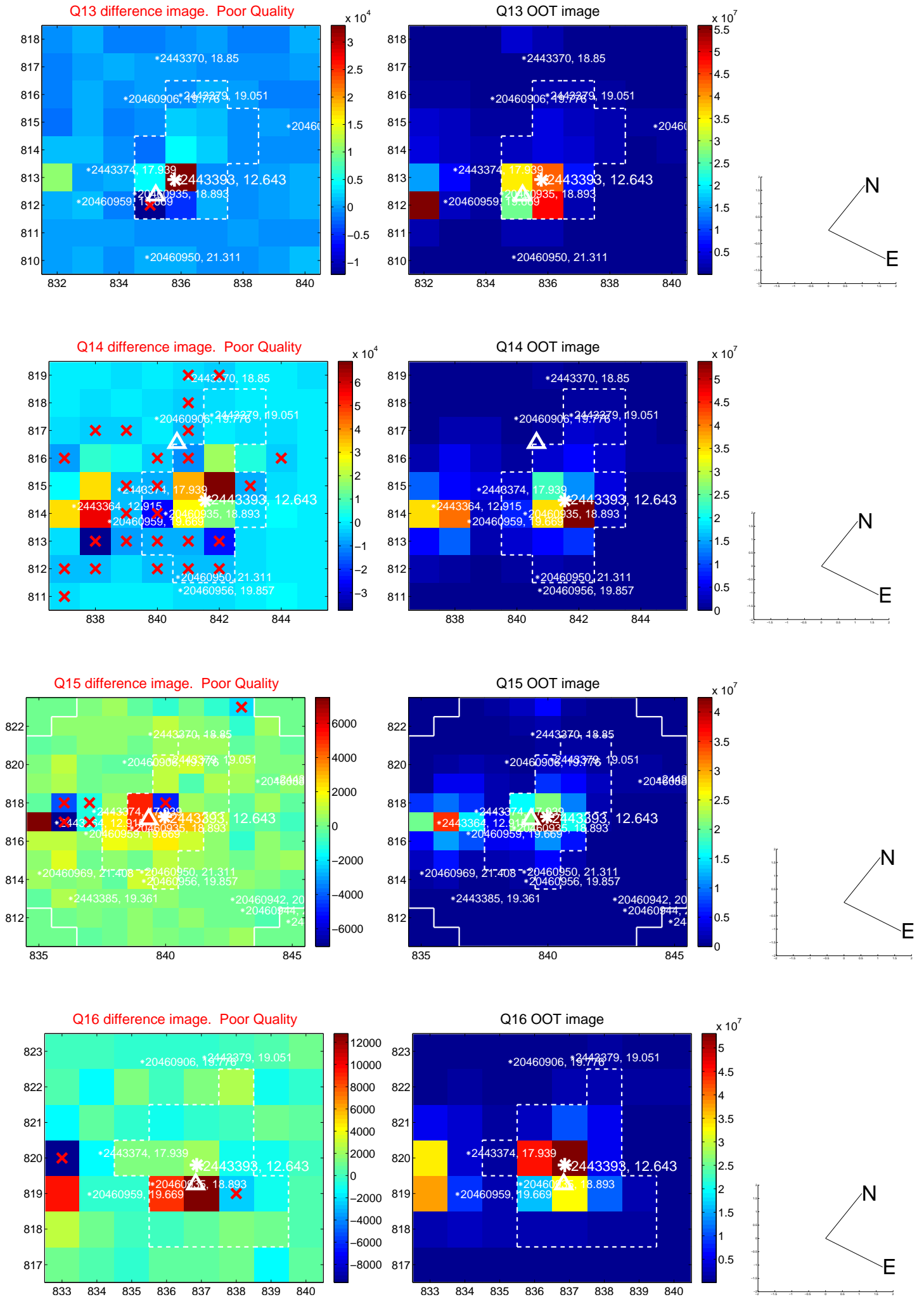
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



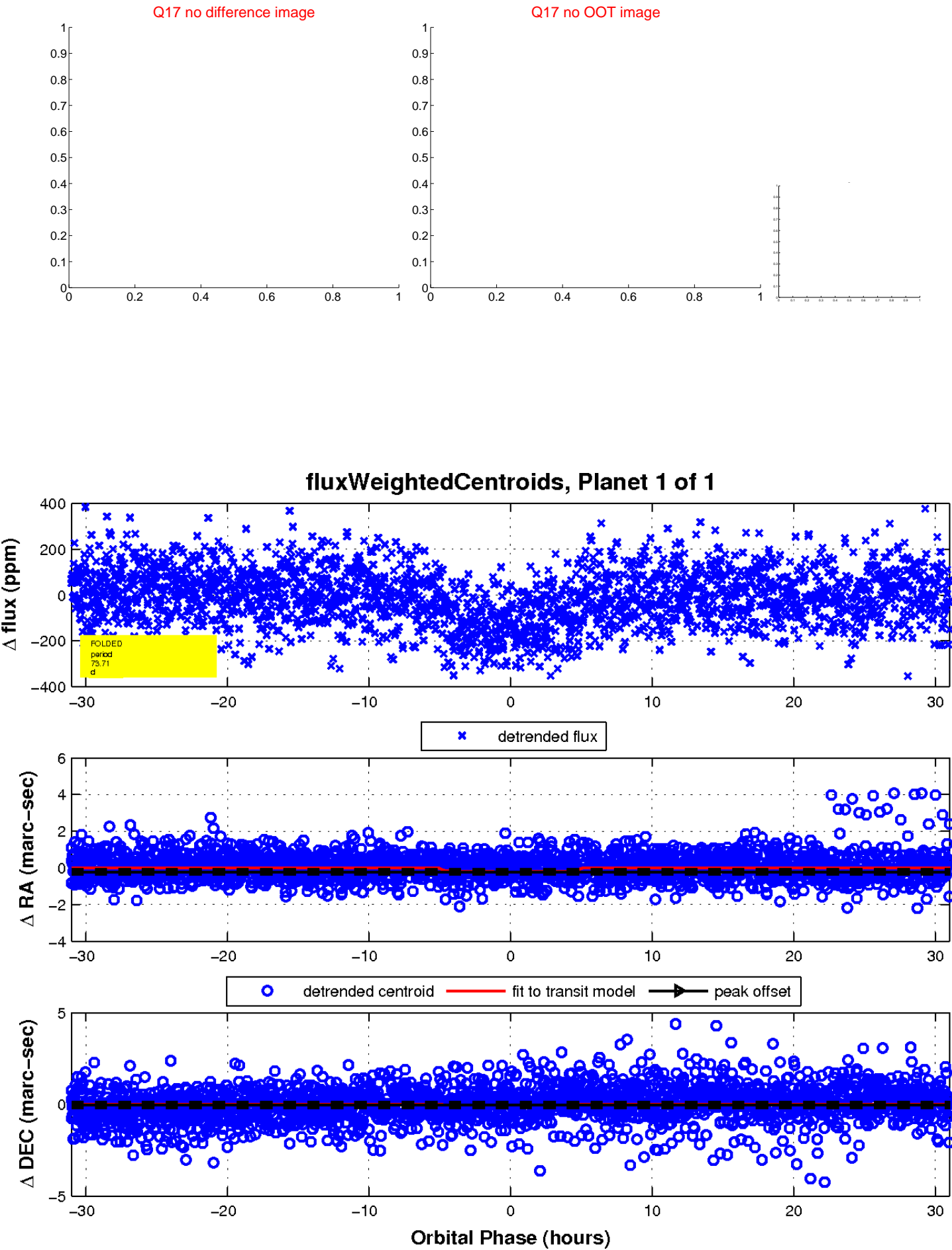
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

