

KIC 007509806

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})
007509806-01	OBS	No	215.792137	266.345648	734.7	3.389	7.3	7.7	0.83	5612	2.88	1.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007509806-01	OBS	FP	0.01	1	0	0	0	INDIV_TRANS_SKYE—MOD_NONUNIQ_ALT—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.

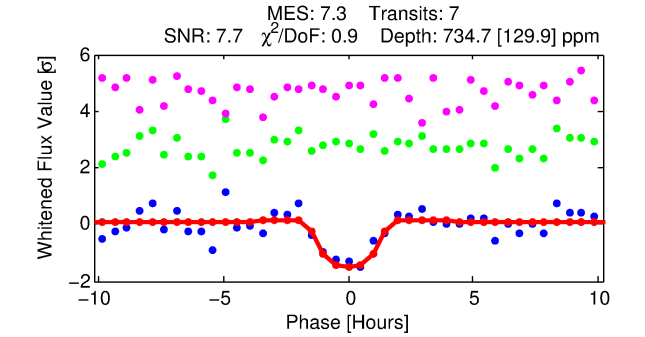
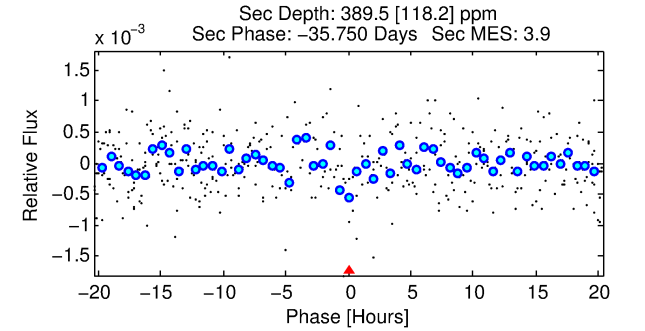
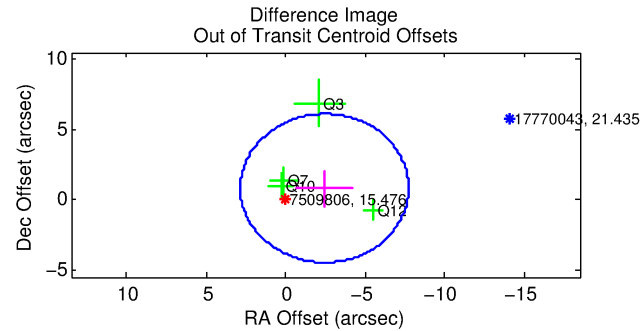
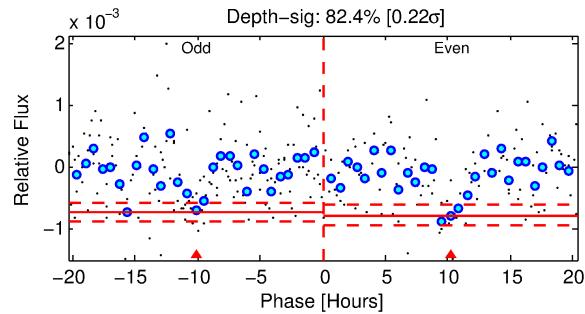
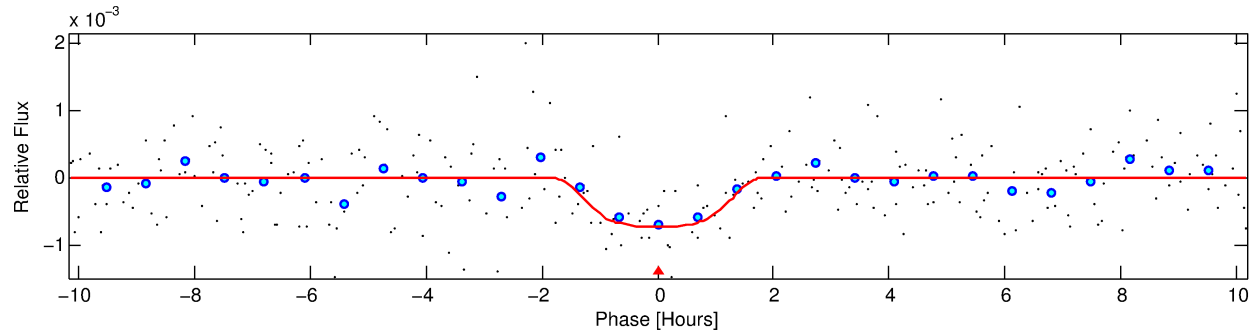
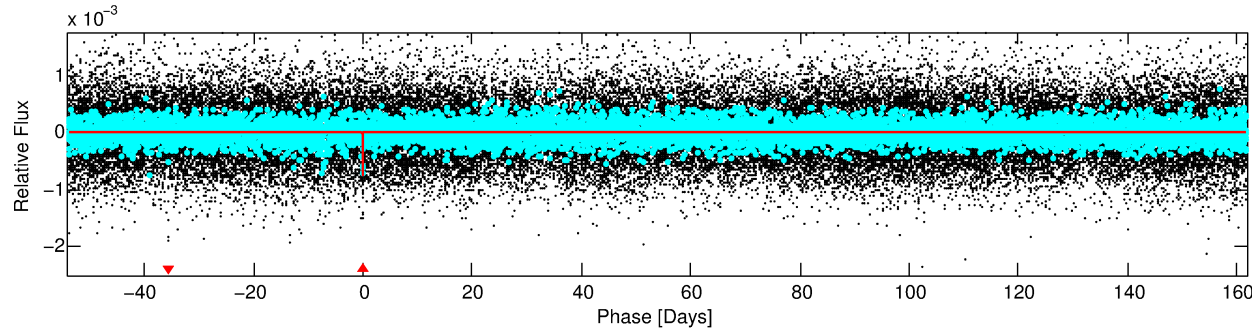
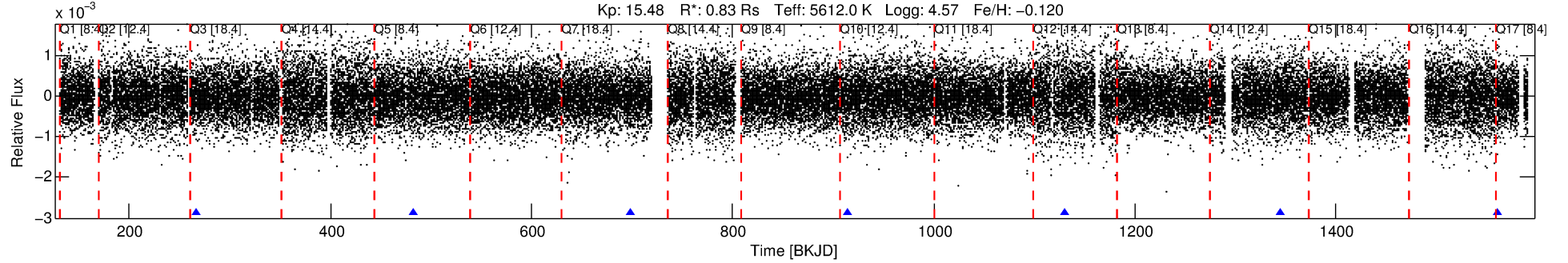
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007509806-01

No Significant Match Found

DV One-Page Summary

KIC: 7509806 Candidate: 1 of 1 Period: 215.792 d



DV Fit Results:

Period = 215.79214 [0.00278] d
Epoch = 266.3456 [0.0095] BKJD
Rp/R* = 0.0319 [0.0053]
a/R* = 194.33 [96.40]
b = 0.95 [0.05]
Seff = 1.30 [0.42]
Teq = 272 [22] K
Rp = 2.89 [0.87] Re
a = 0.6856 [0.1444] AU
Ag = 12099.95 [6595.67] [1.83σ]
Teffp = 4415 [511] K [8.09σ]

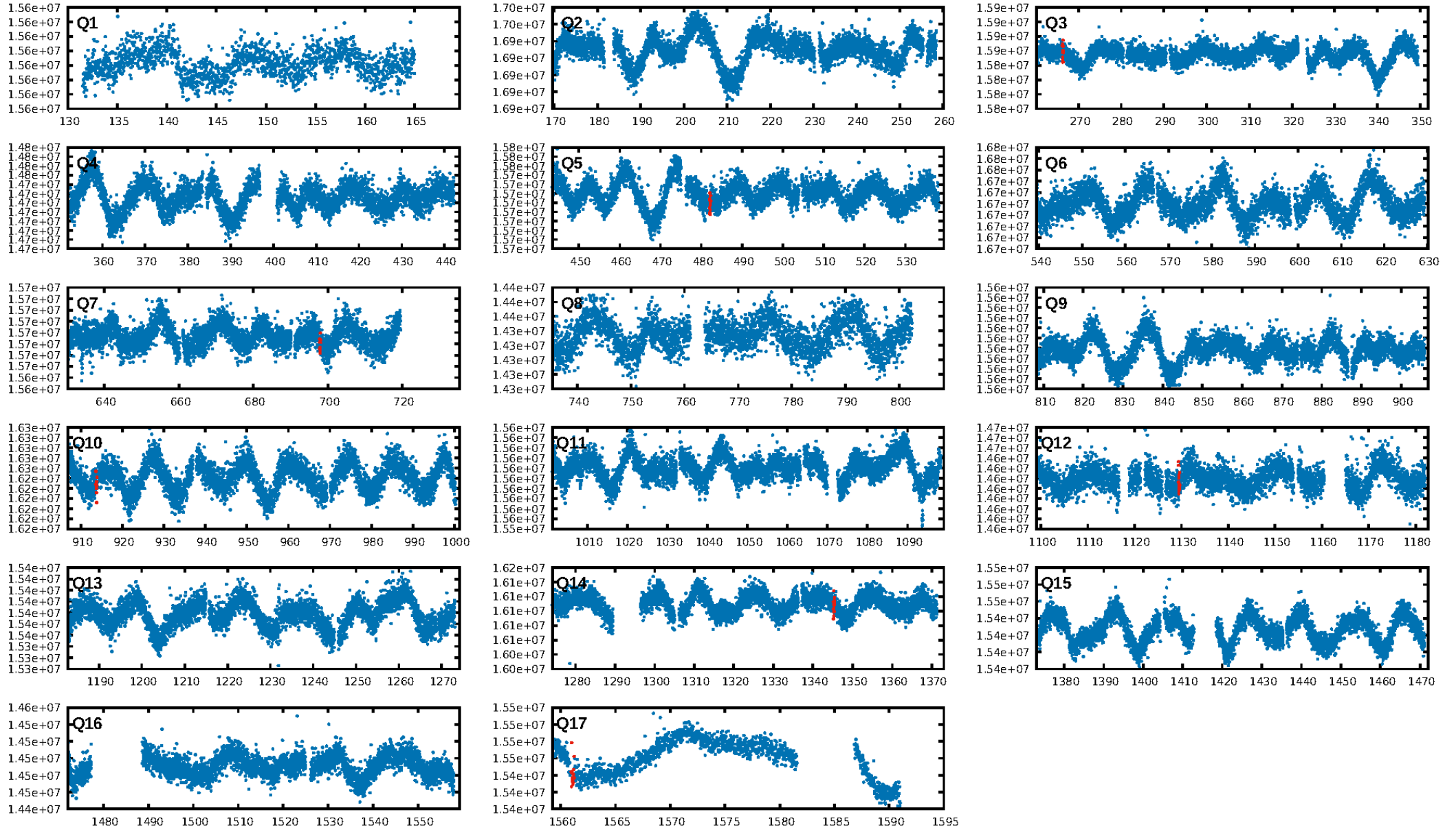
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 90.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.68e-11
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 1.856
Centroid-sig: 17.1%
Centroid-so: 2.075 arcsec [1.25σ]
OotOffset-rm: 2.569 arcsec [1.46σ]
KicOffset-rm: 2.631 arcsec [1.49σ]
OotOffset-st: 1/2/1/0 [4]
KicOffset-st: 1/2/1/0 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 1.00 [6/6]

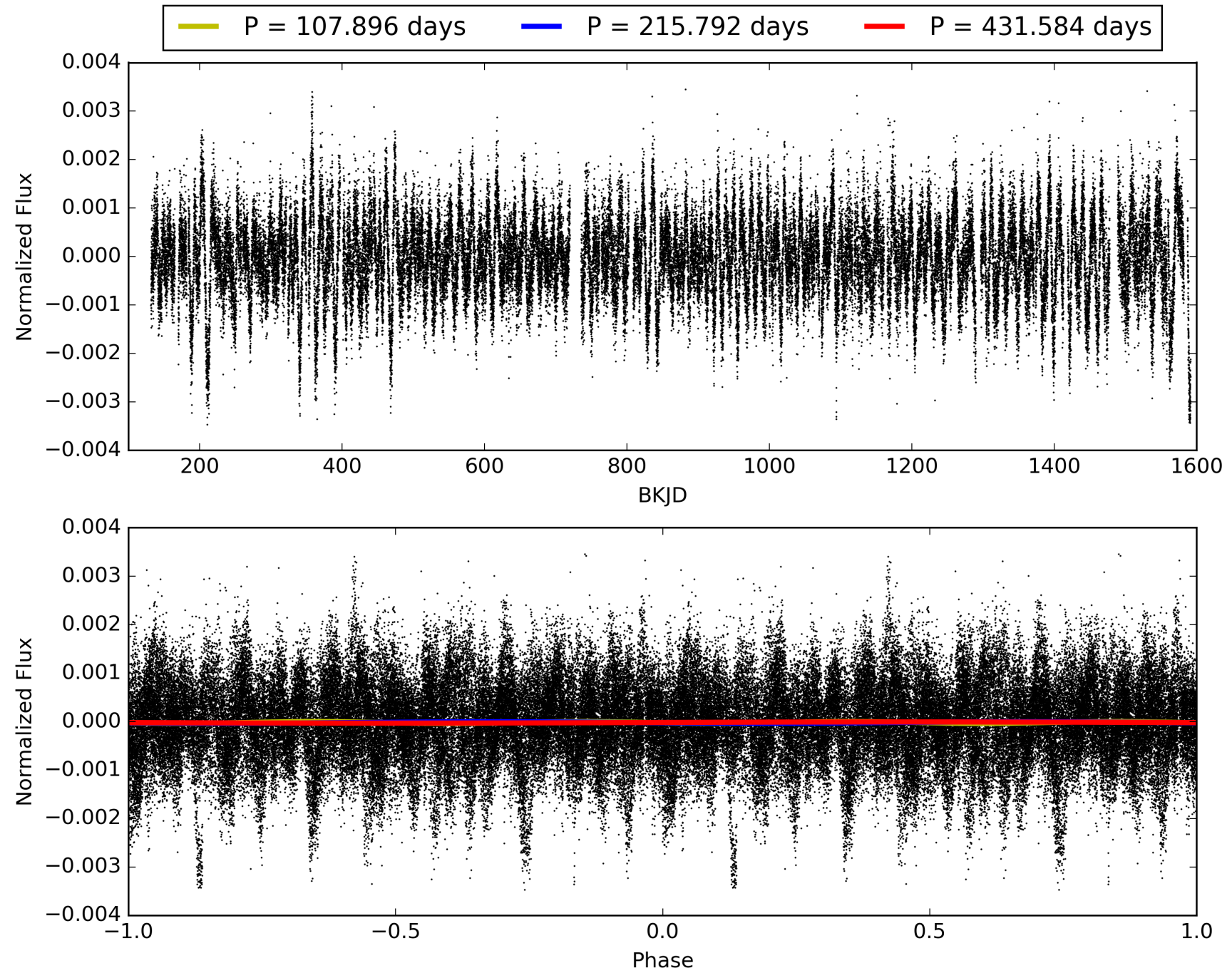
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:43:37 Z

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

TCE 007509806-01, PDC Light Curves

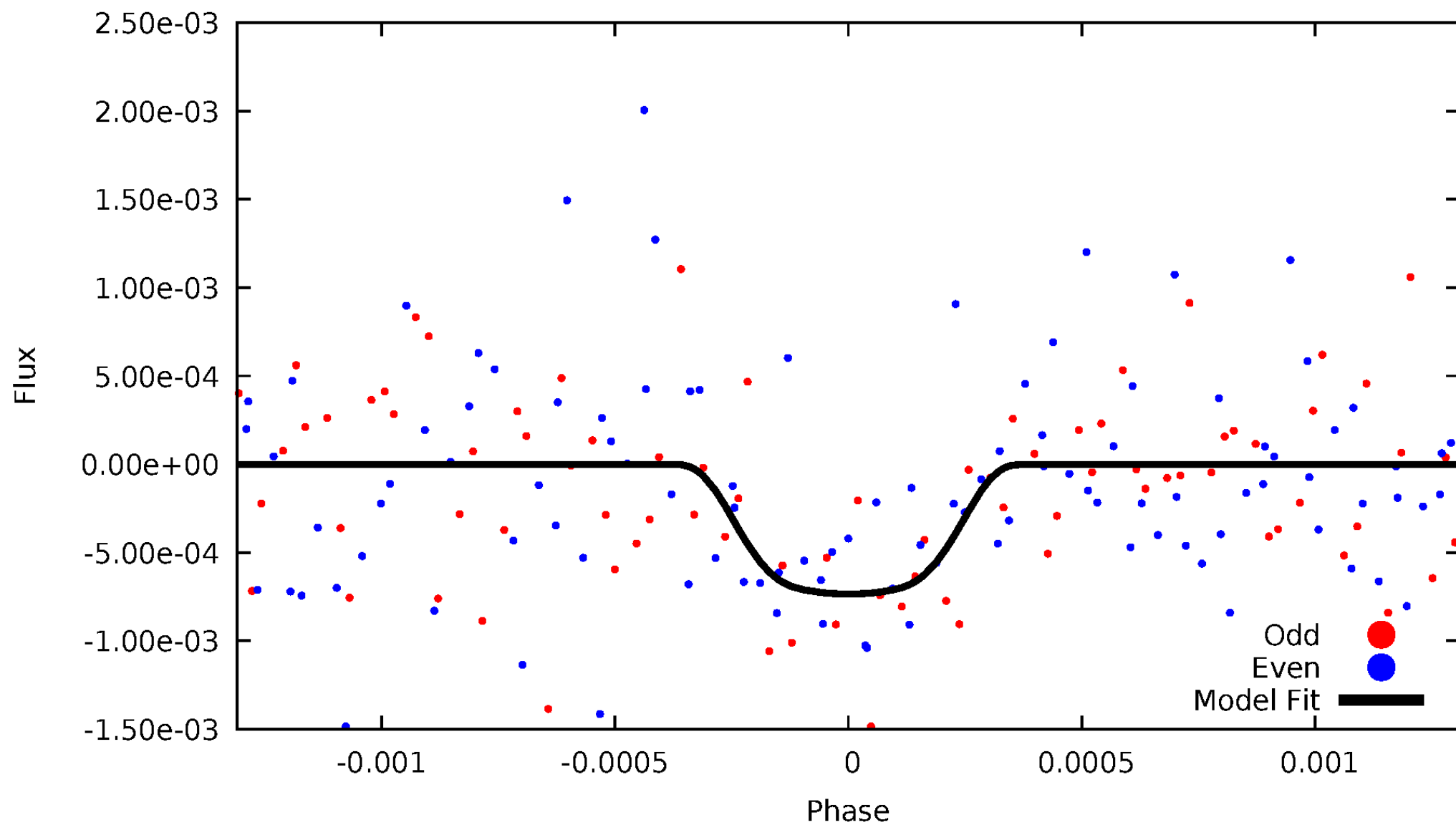


TCE 007509806-01



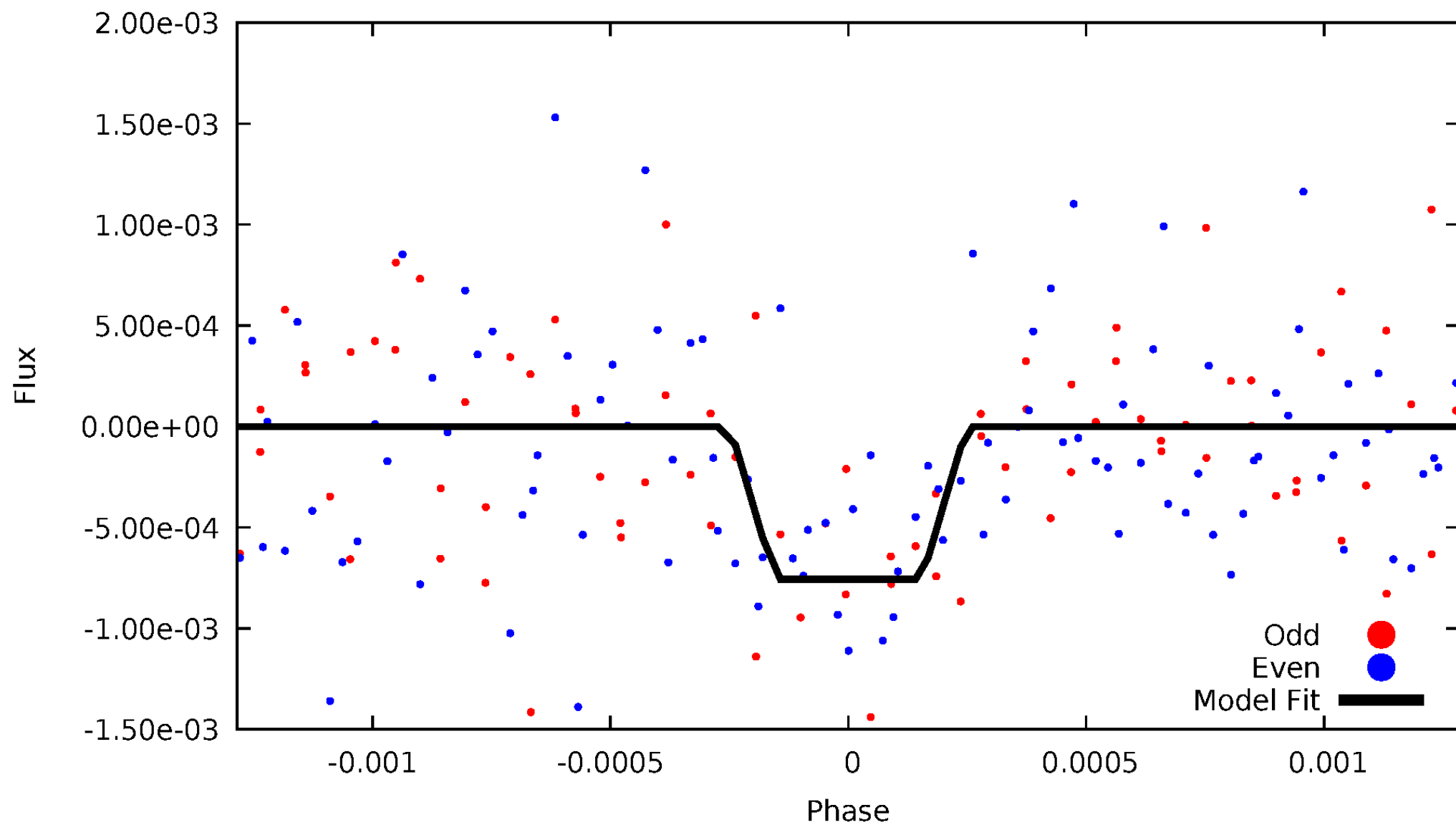
DV Odd/Even

TCE 007509806-01

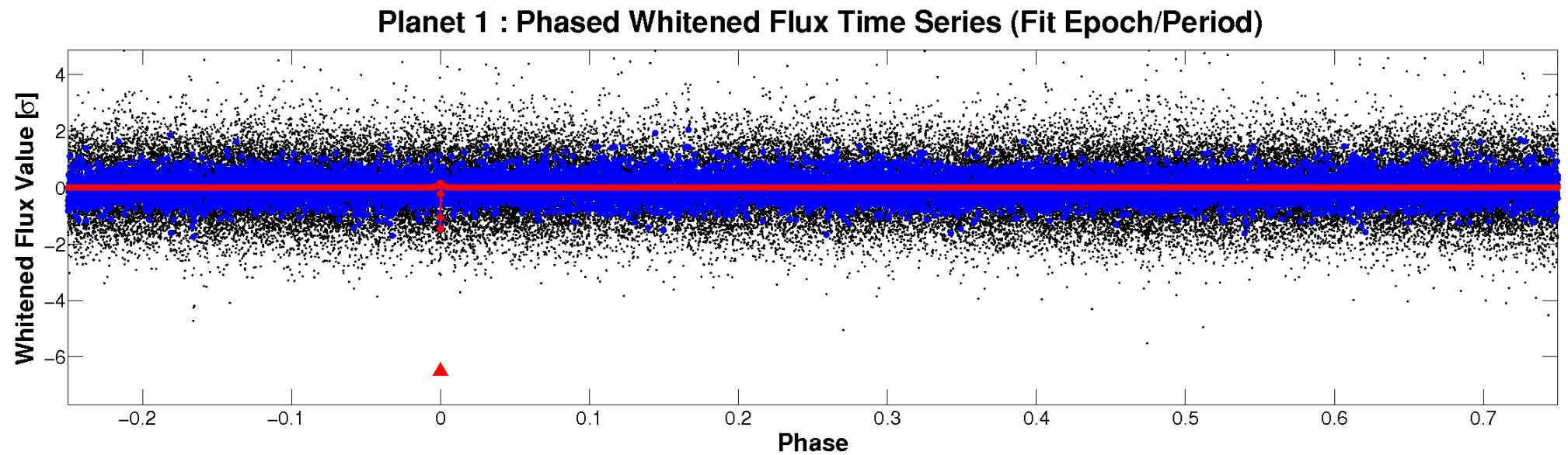
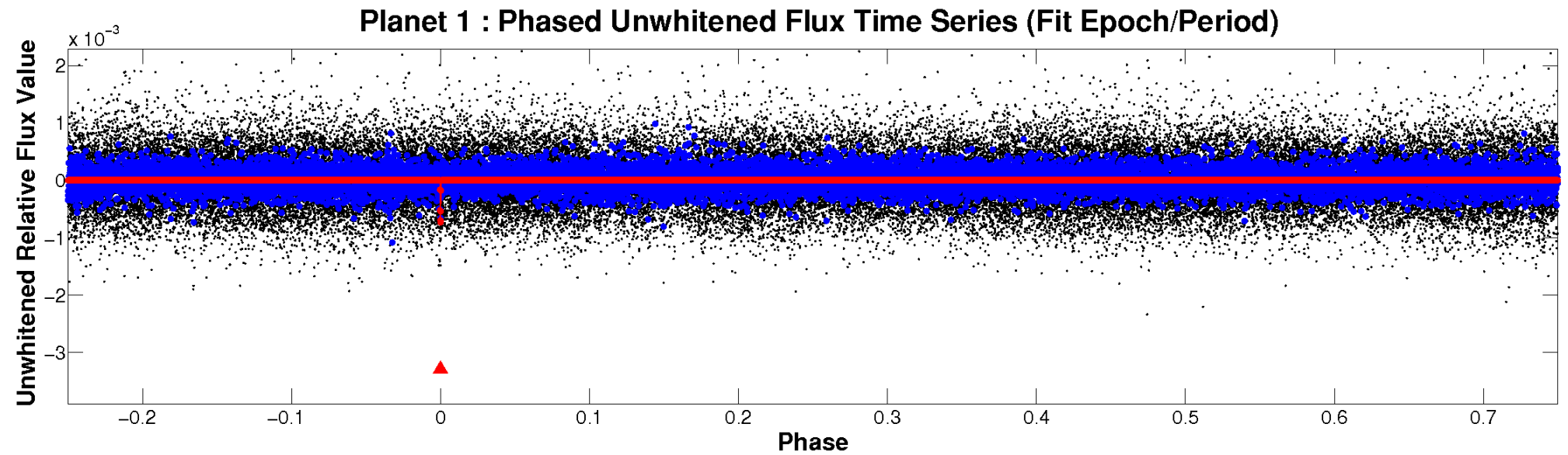


ALT Odd/Even

TCE 007509806-01

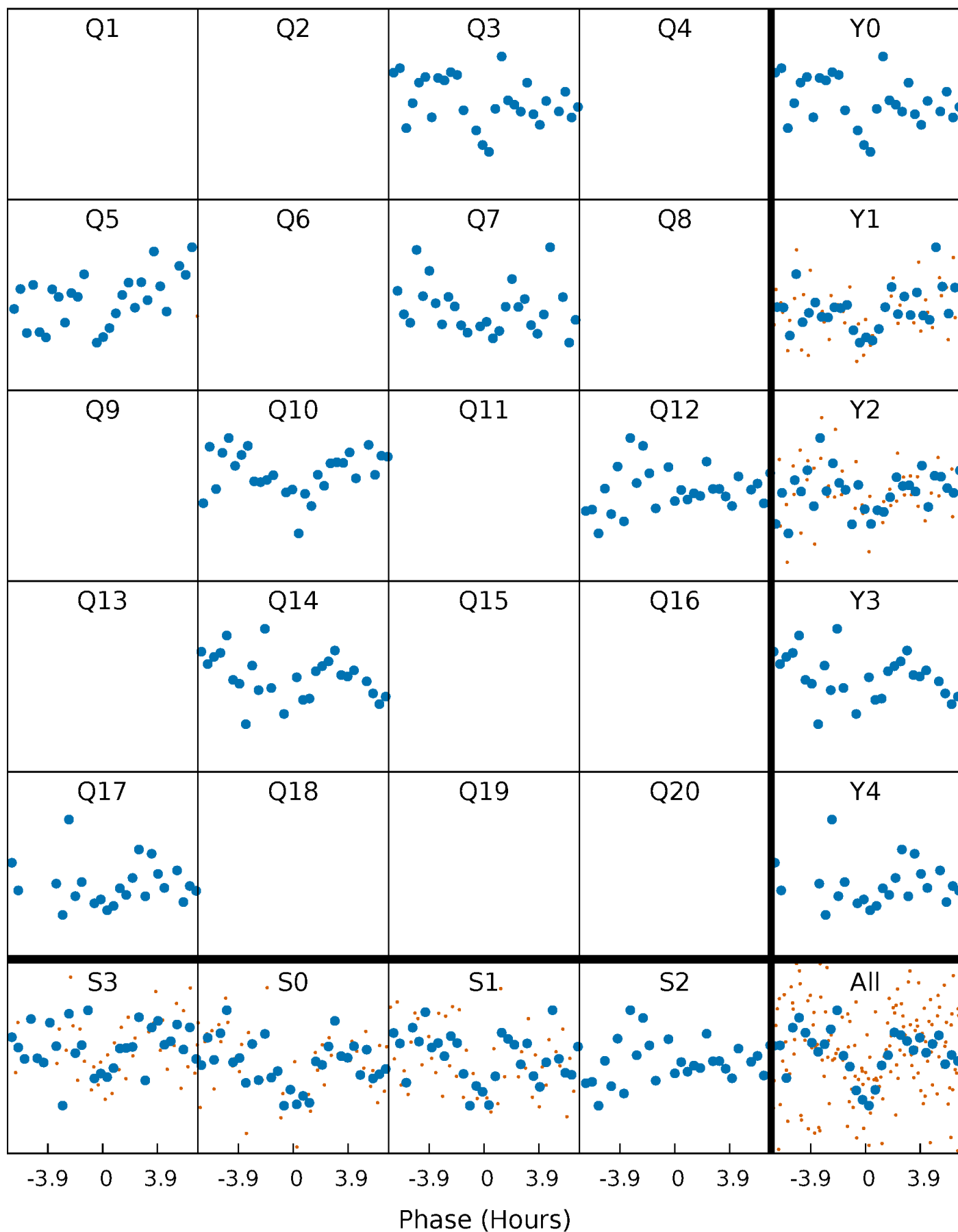


Non-Whitened Vs. Whitened Light Curve



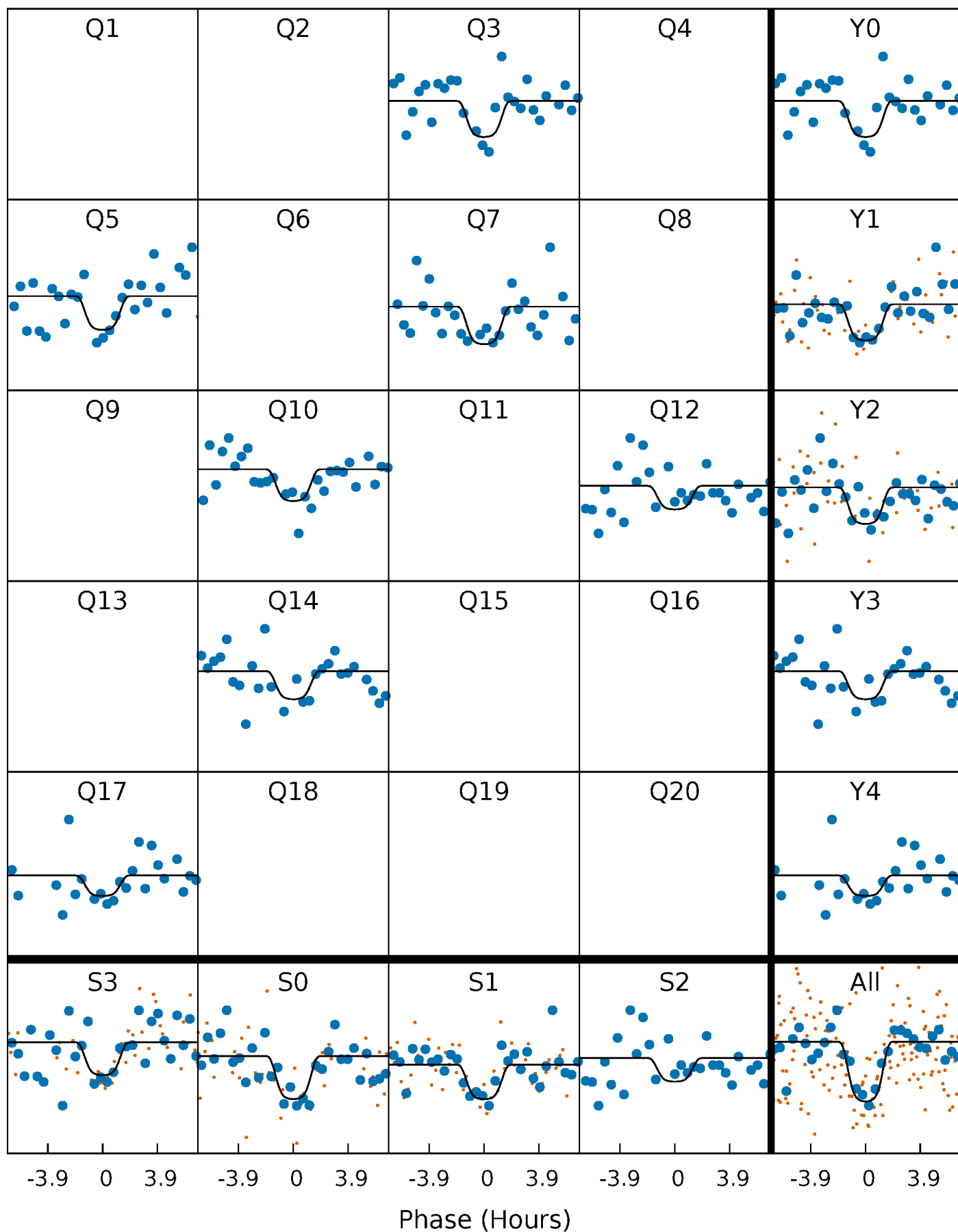
PDC Quarter-Phased Transit Curves

TCE 007509806-01 P=215.792137 Days $T_0=266.345648$ (BKJD)



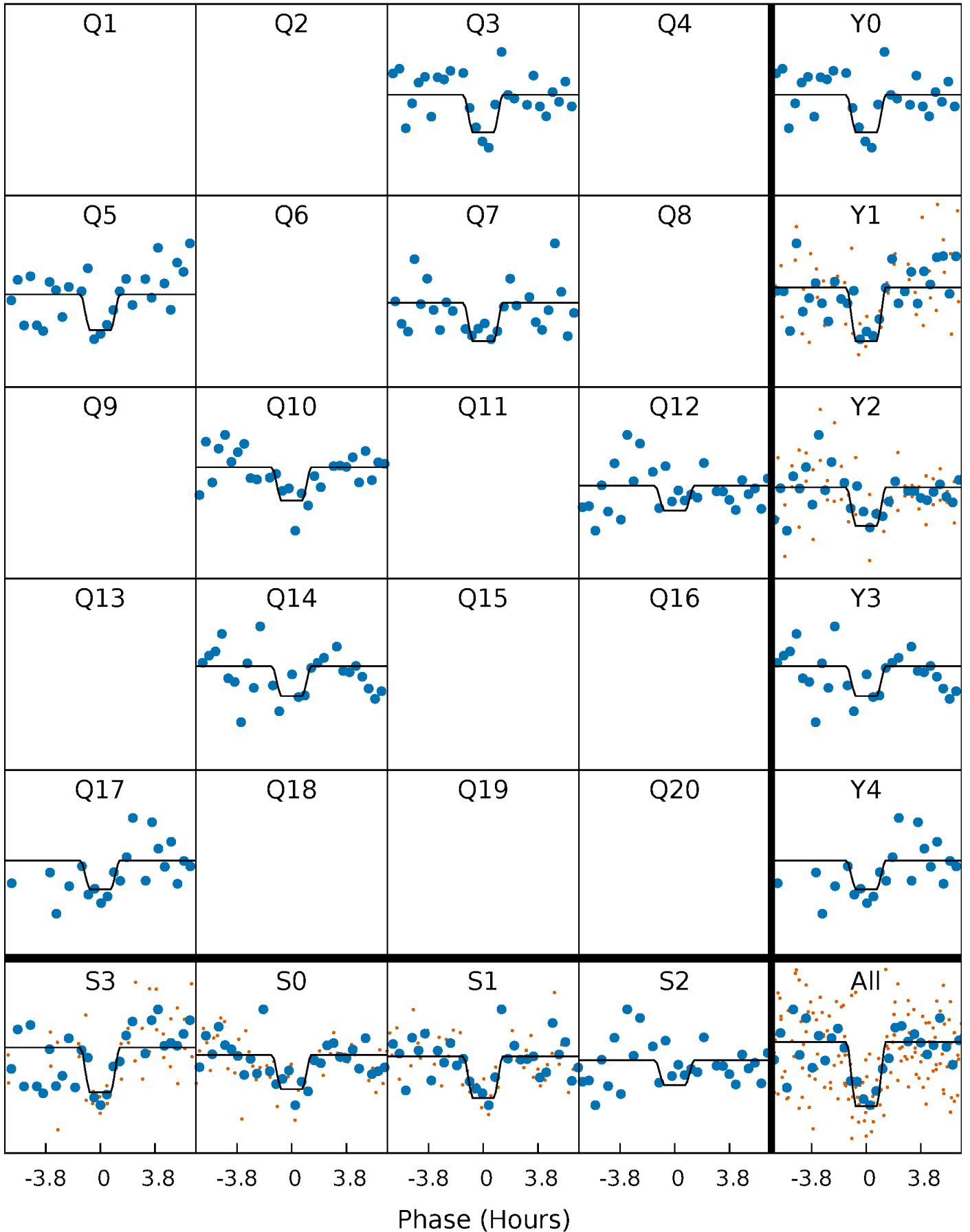
DV Quarter-Phased Transit Curves

TCE 007509806-01 P=215.792137 Days $T_0=266.345648$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

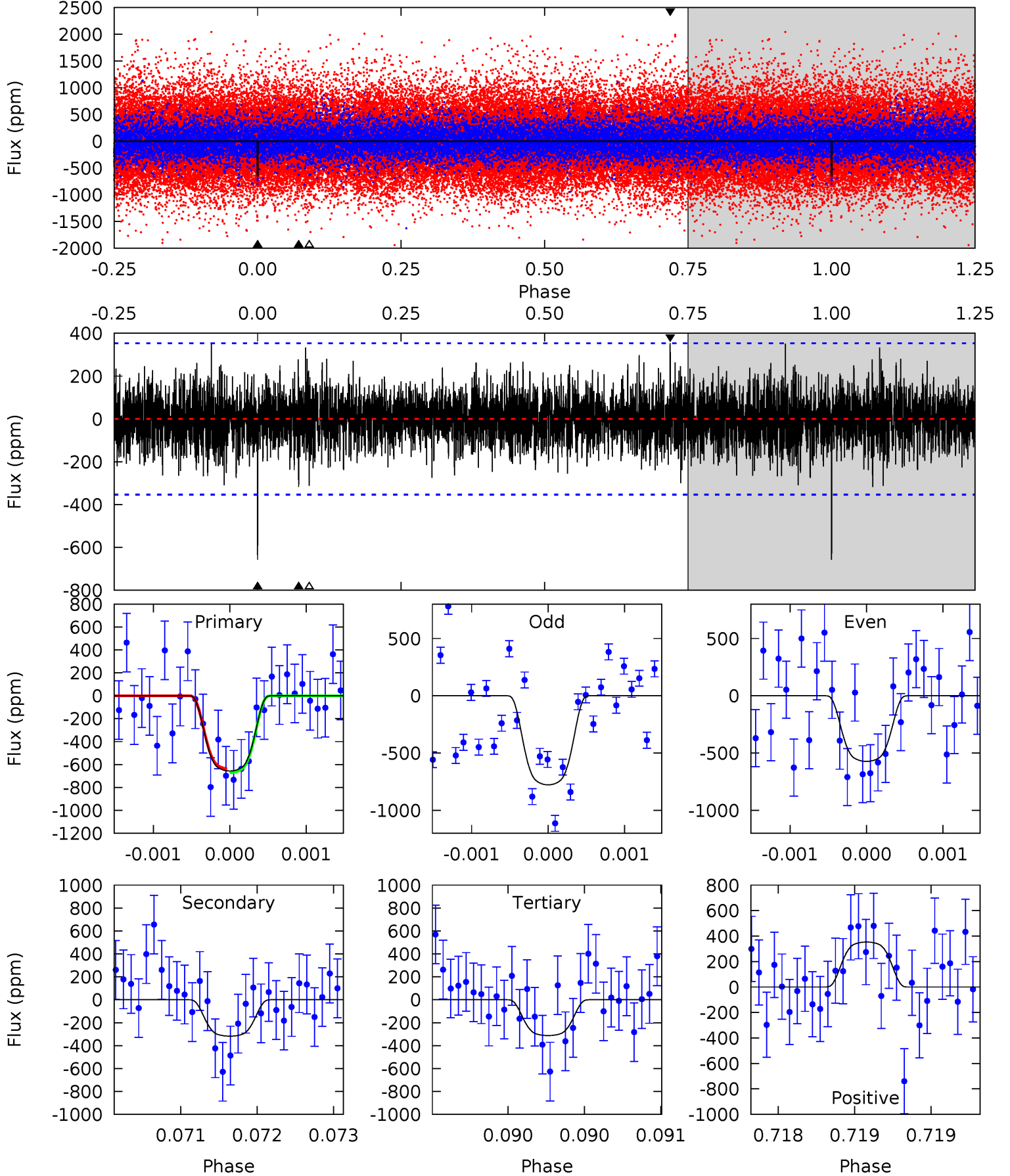
TCE 007509806-01 P=215.794599 Days $T_0=266.338648$ (BKJD)



DV Model-Shift Uniqueness Test

007509806-01, $P = 215.792137$ Days, $E = 50.553511$ Days

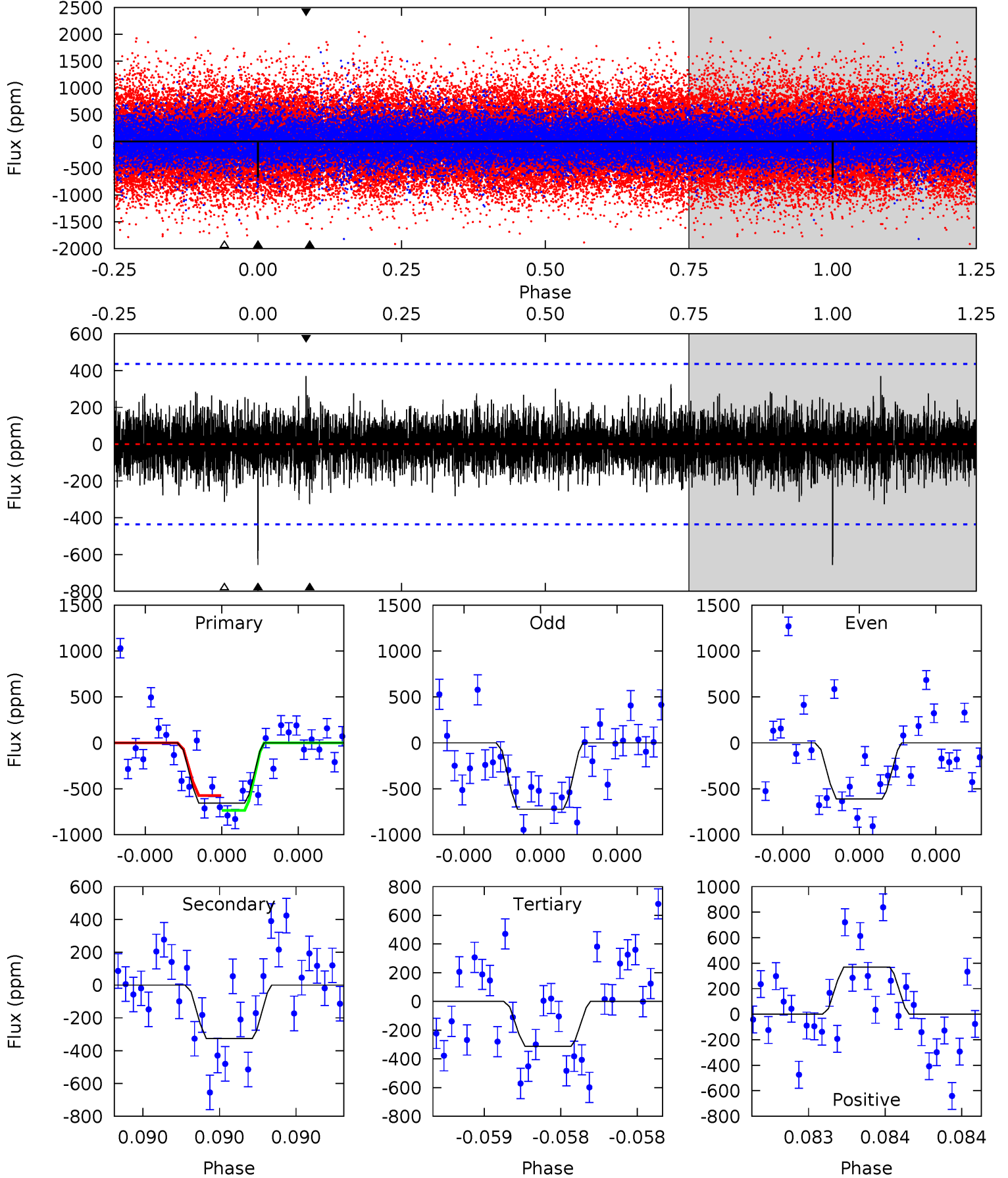
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	4.95	4.87	5.51	5.51	3.39	1.40	5.37	4.73	0.08	-0.55	1.57	1.01	0.35	0.26



Alt Model-Shift Uniqueness Test

007509806-01, $P = 215.794599$ Days, $E = 50.544049$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.40	4.18	4.00	4.73	5.58	3.50	1.10	4.40	3.67	0.17	-0.55	0.71	0.89	0.36	1.04



Stellar Parameters For KIC 007509806

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5612^{+152}_{-152}	$4.566^{+0.031}_{-0.168}$	$-0.120^{+0.300}_{-0.300}$	$0.829^{+0.207}_{-0.069}$	$0.926^{+0.094}_{-0.104}$	$2.293^{+0.392}_{-1.077}$
	+3%/-3%	+1%/-4%	+250%/-250%	+25%/-8%	+10%/-11%	+17%/-47%
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 007509806-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-318 ± 64	$3.01^{+0.59}_{-0.54}$	389^{+23}_{-15}	4398^{+363}_{-295}	8851^{+4615}_{-3072}
Alt.	-326 ± 78	$2.57^{+0.59}_{-0.51}$	389^{+22}_{-15}	4653^{+571}_{-397}	12255^{+7700}_{-4911}

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

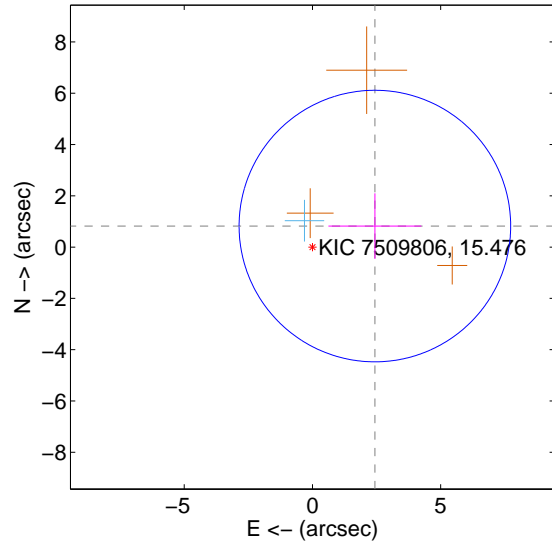
Supplemental centroid analysis for 007509806-01. Kepler magnitude: 15.48. Transit SNR 7.74

There are 1 quarters with good PRF difference image offsets

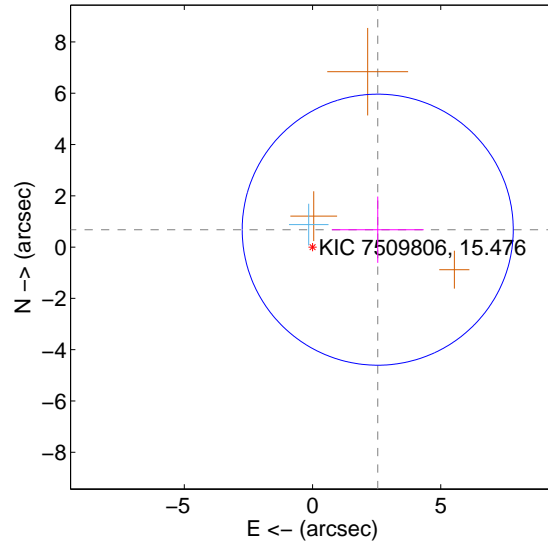
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.569 ± 1.764	1.46	-2.434 ± 1.811	0.820 ± 1.277
PRF-fit source offset from KIC position	2.631 ± 1.761	1.49	-2.542 ± 1.790	0.678 ± 1.292
photometric centroid source offset	2.08 ± 1.66	1.25	-1.77 ± 1.65	1.08 ± 1.67

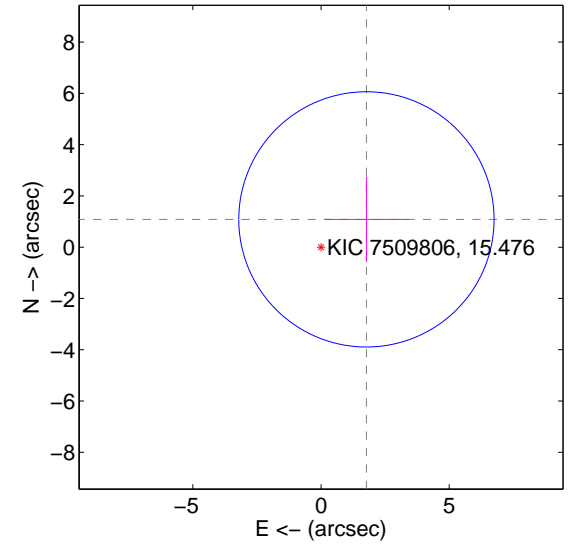
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

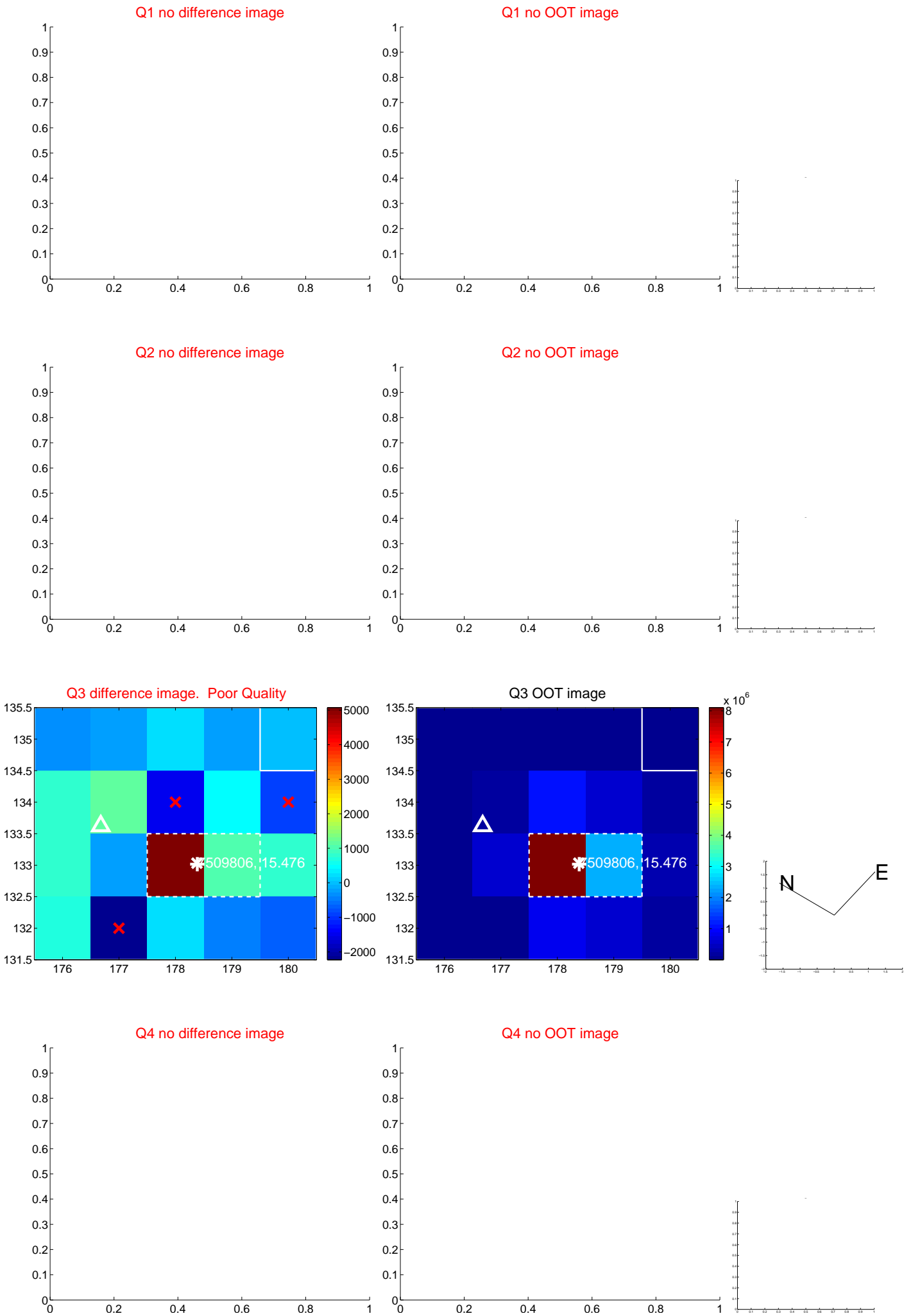


offset from photometric centroids

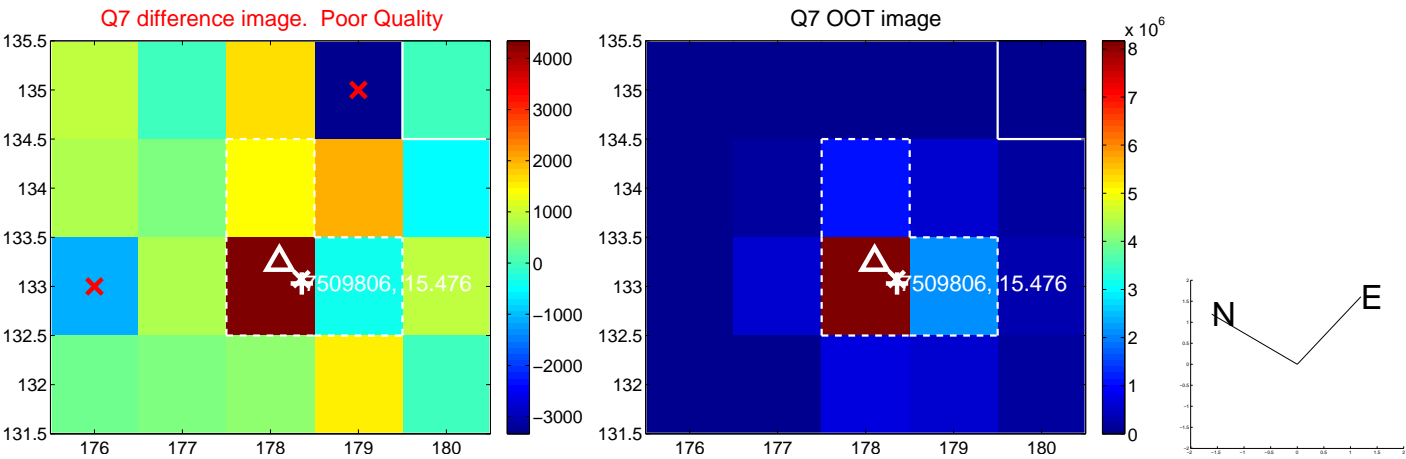
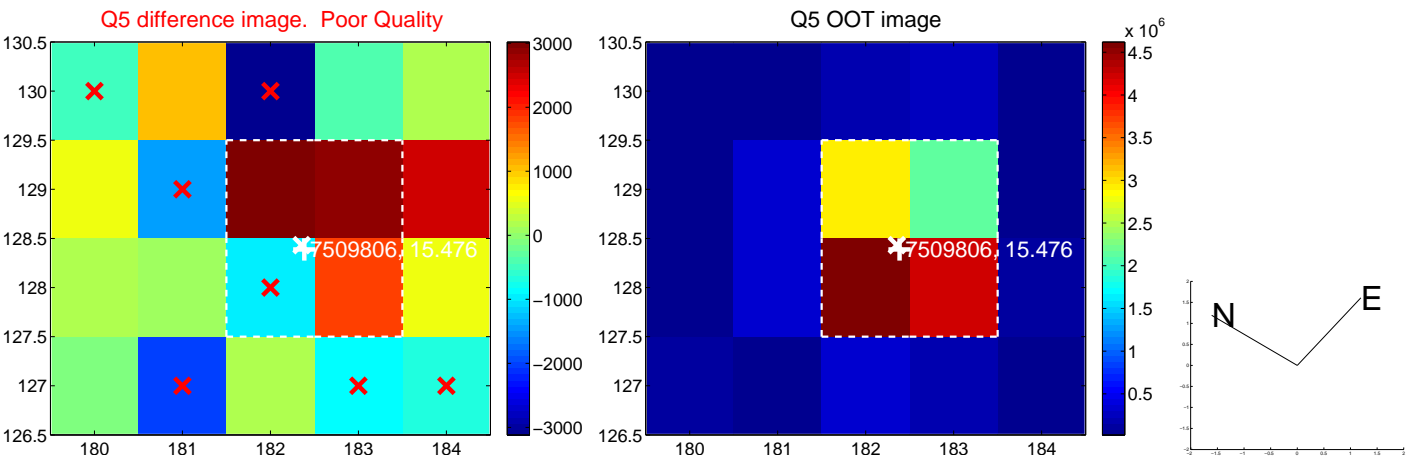


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

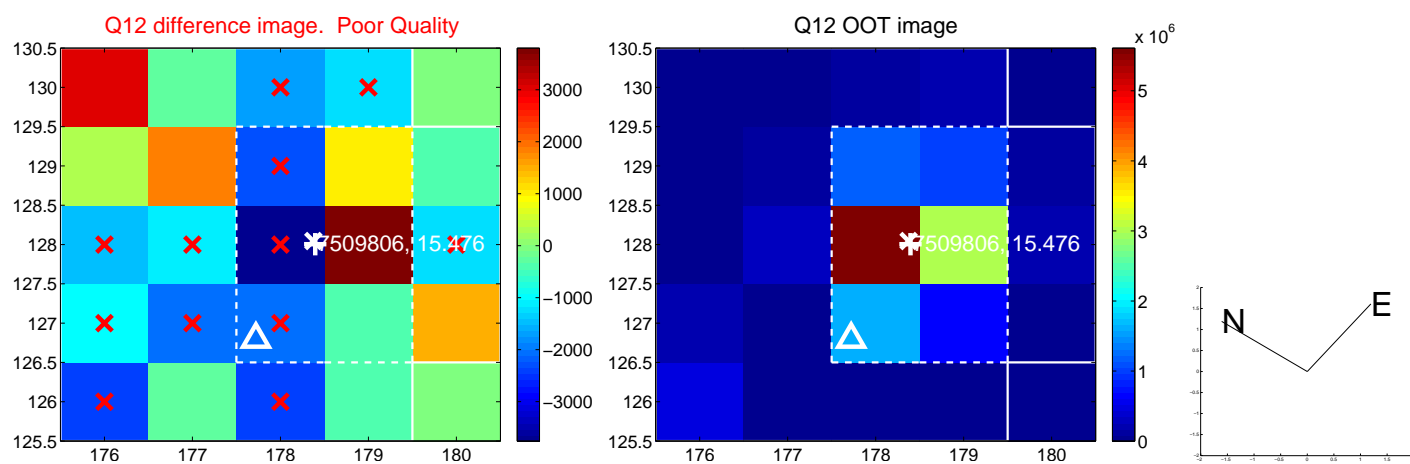
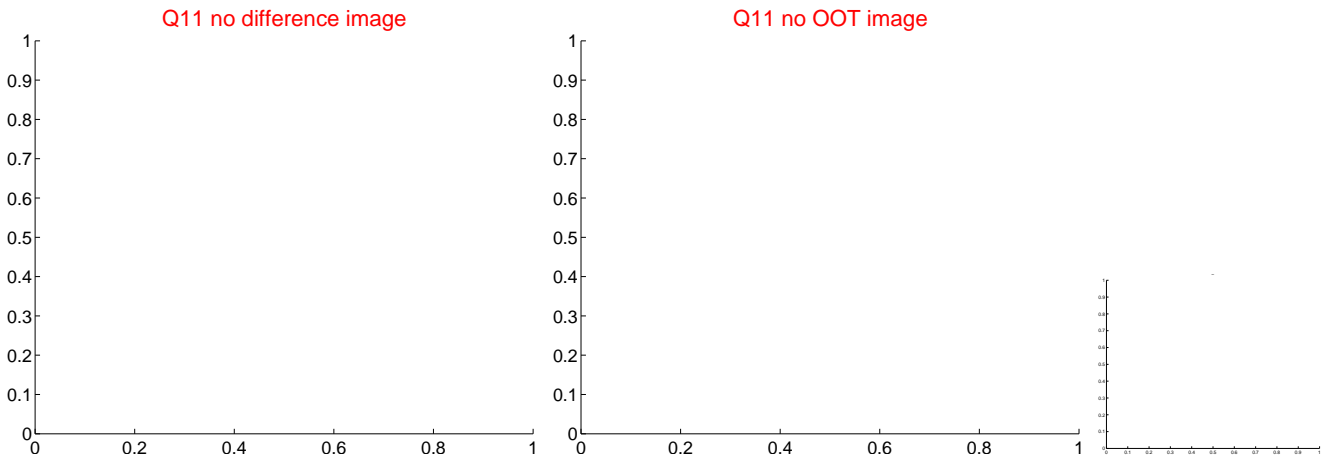
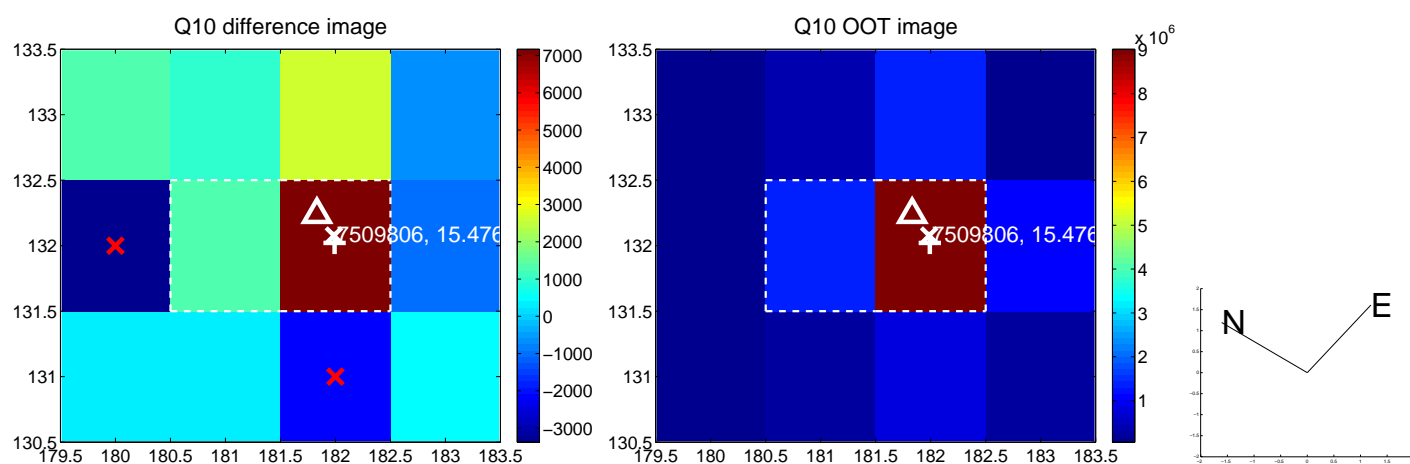
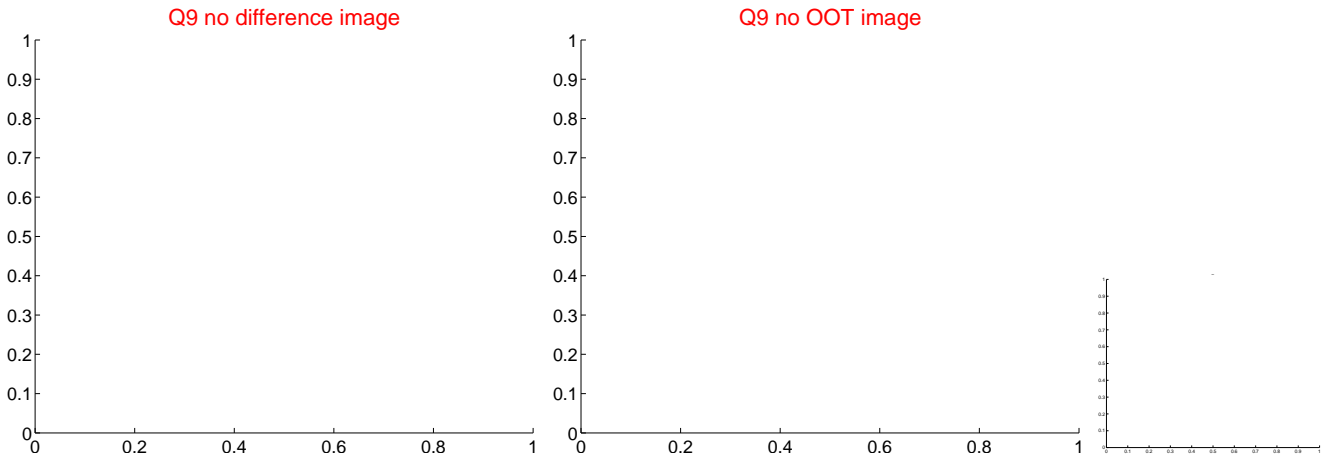
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



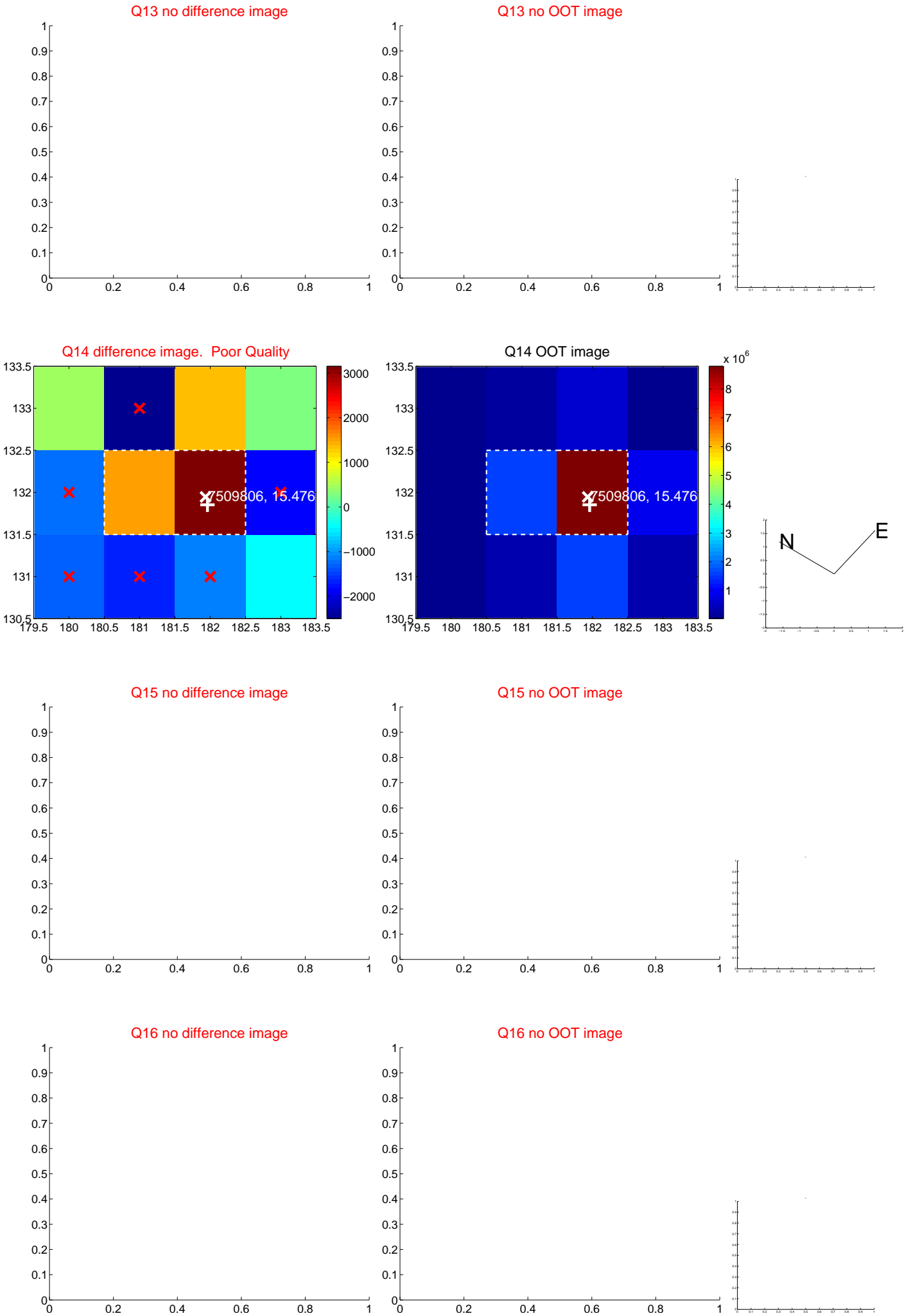
white \times : KIC target position; +: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



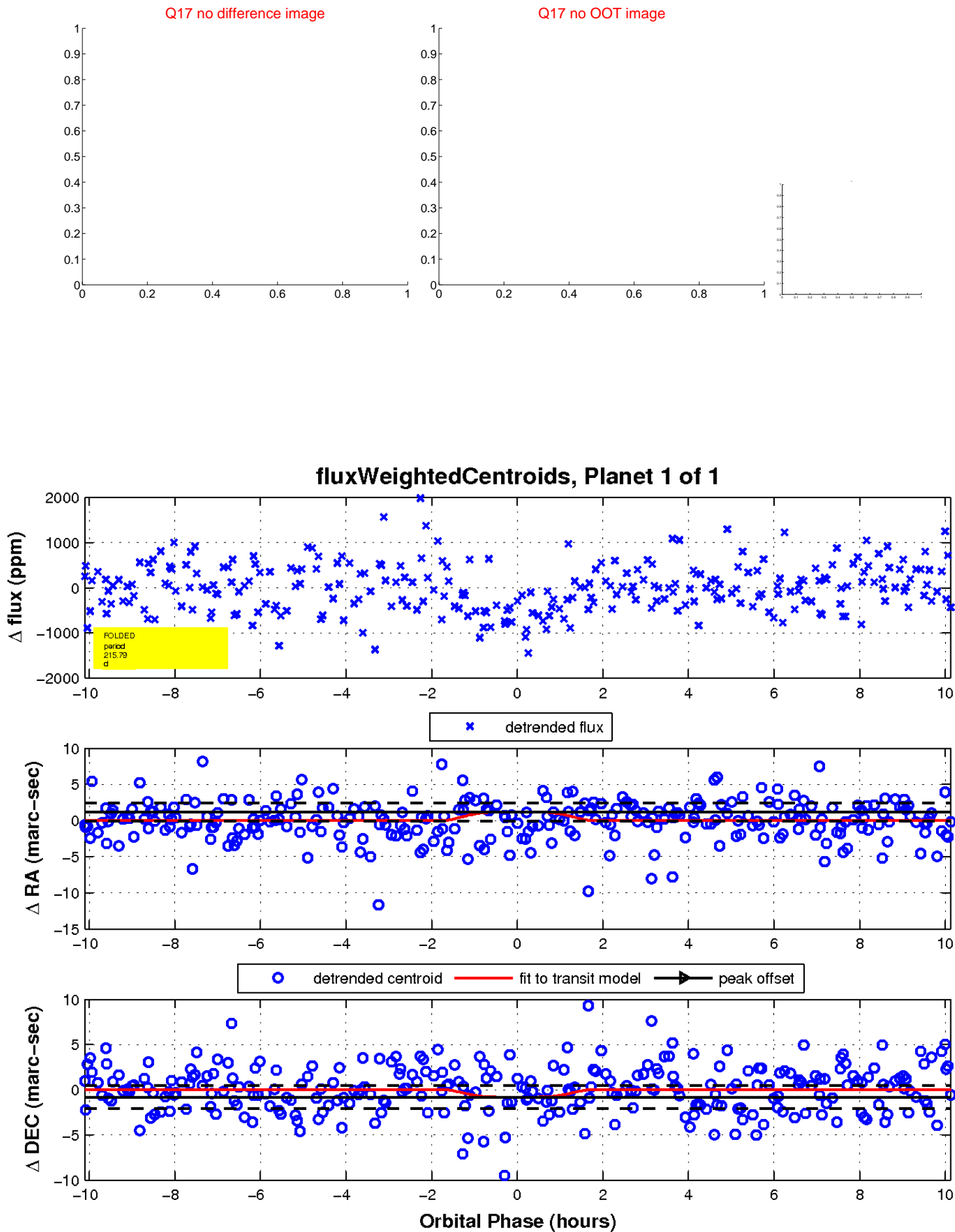
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

