

KIC 004989879

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})
004989879-01	OBS	No	3.771061	134.487906	43.1	9.768	11.0	10.6	2.86	6546	2.67	4813.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004989879-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

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

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

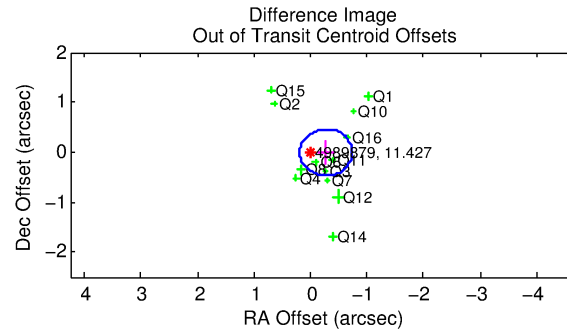
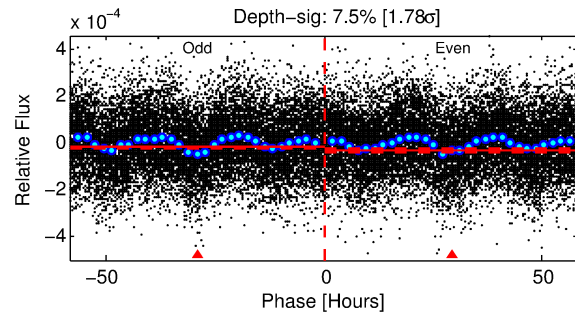
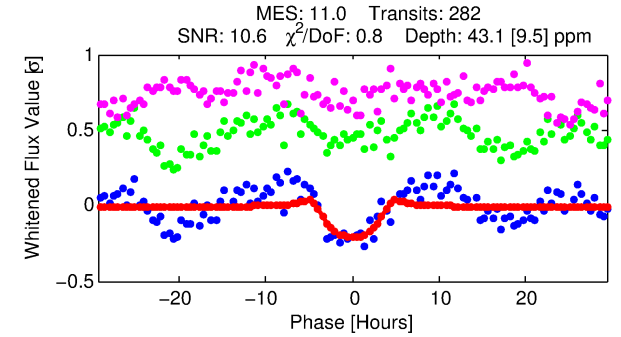
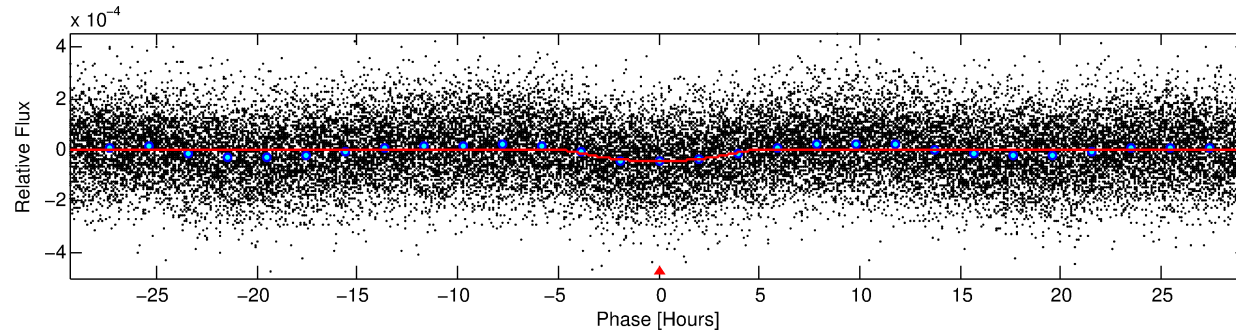
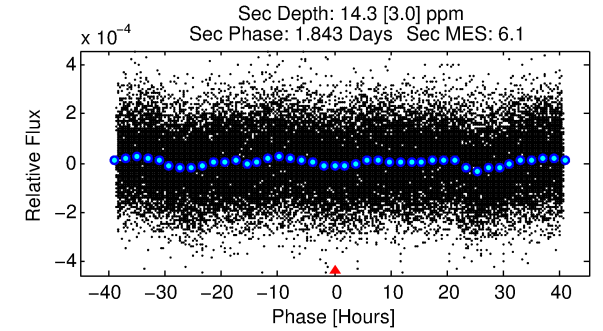
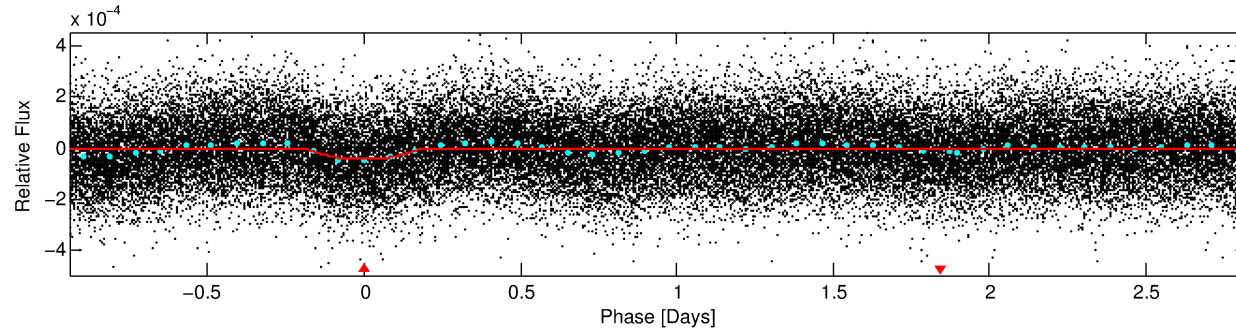
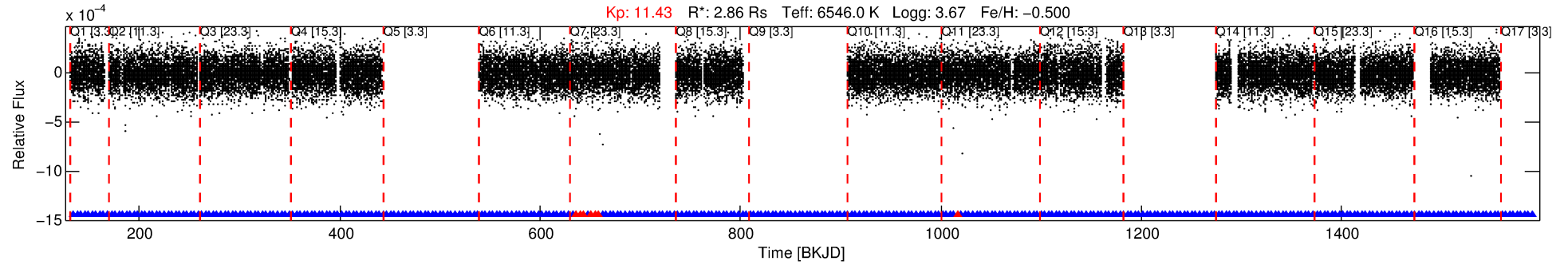
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004989879-01

No Significant Match Found

DV One-Page Summary

KIC: 4989879 Candidate: 1 of 1 Period: 3.771 d



DV Fit Results:

Period = 3.77106 [0.00008] d
Epoch = 134.4879 [0.0159] BKJD
Rp/R* = 0.0086 [0.0014]
a/R* = 1.13 [0.04]
b = 0.99 [0.00]
Seff = 4813.09 [2733.36]
Teq = 2124 [302] K
Rp = 2.67 [1.10] Re
a = 0.0529 [0.0188] AU
Ag = 3.08 [2.08] [1.00σ]
Teffp = 4351 [433] K [4.22σ]

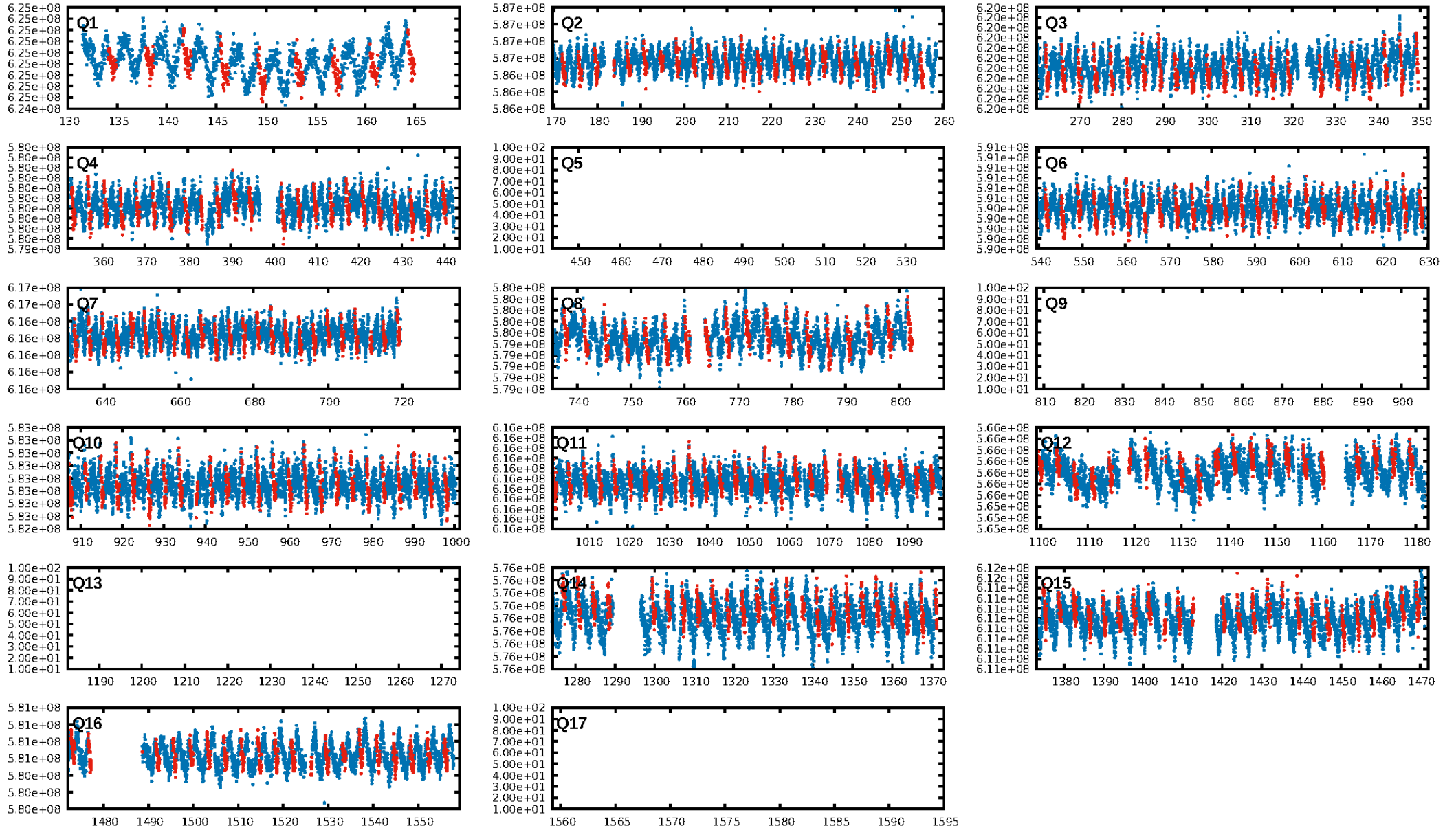
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.38e-23
RollingBand-fgt: 0.97 [266/273]
GhostDiagnostic-chr: 1.299
Centroid-sig: 74.5%
Centroid-so: 0.096 arcsec [0.19σ]
OotOffset-rm: 0.274 arcsec [1.76σ]
KicOffset-rm: 0.329 arcsec [2.14σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

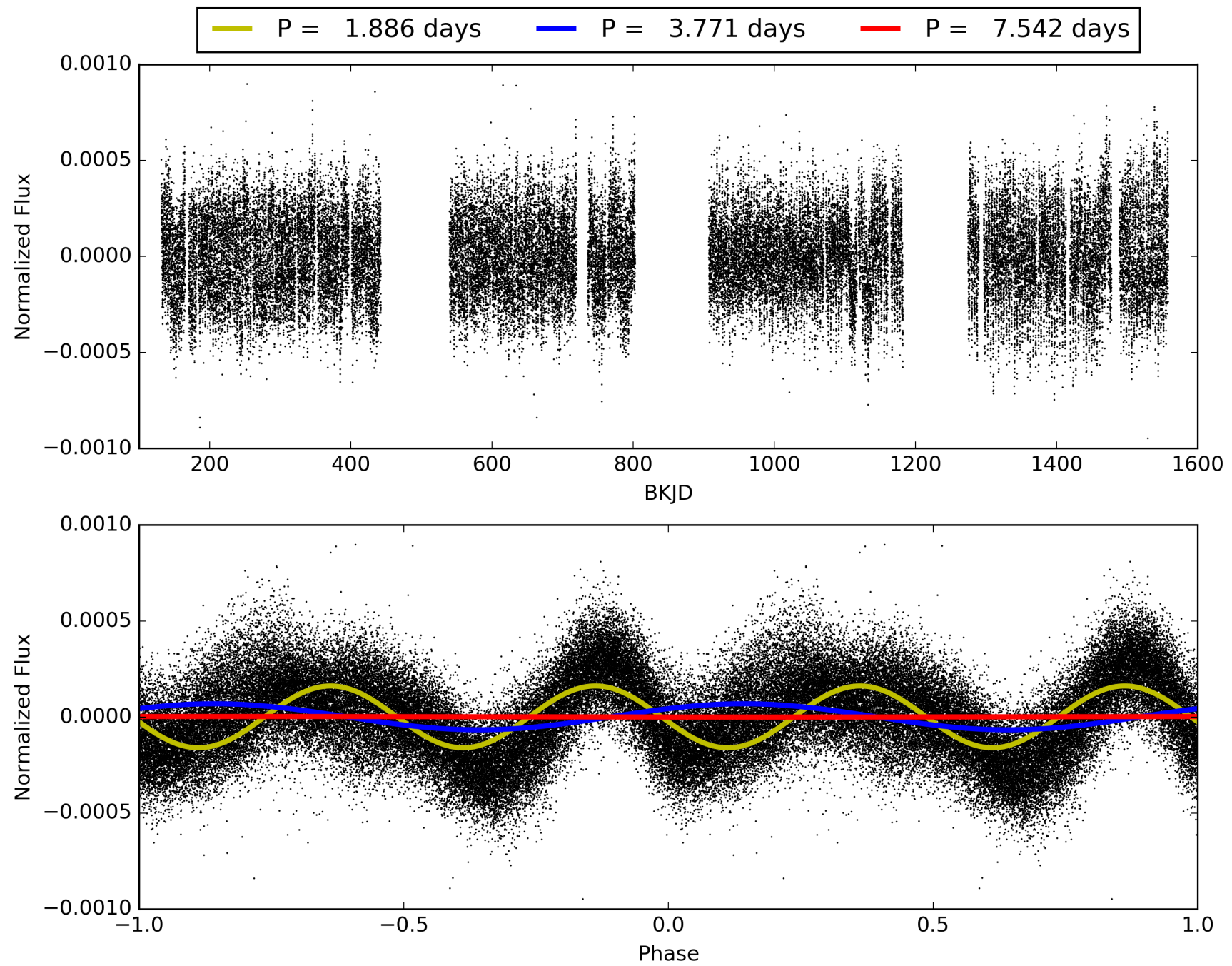
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:38:46 Z

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

TCE 004989879-01, PDC Light Curves

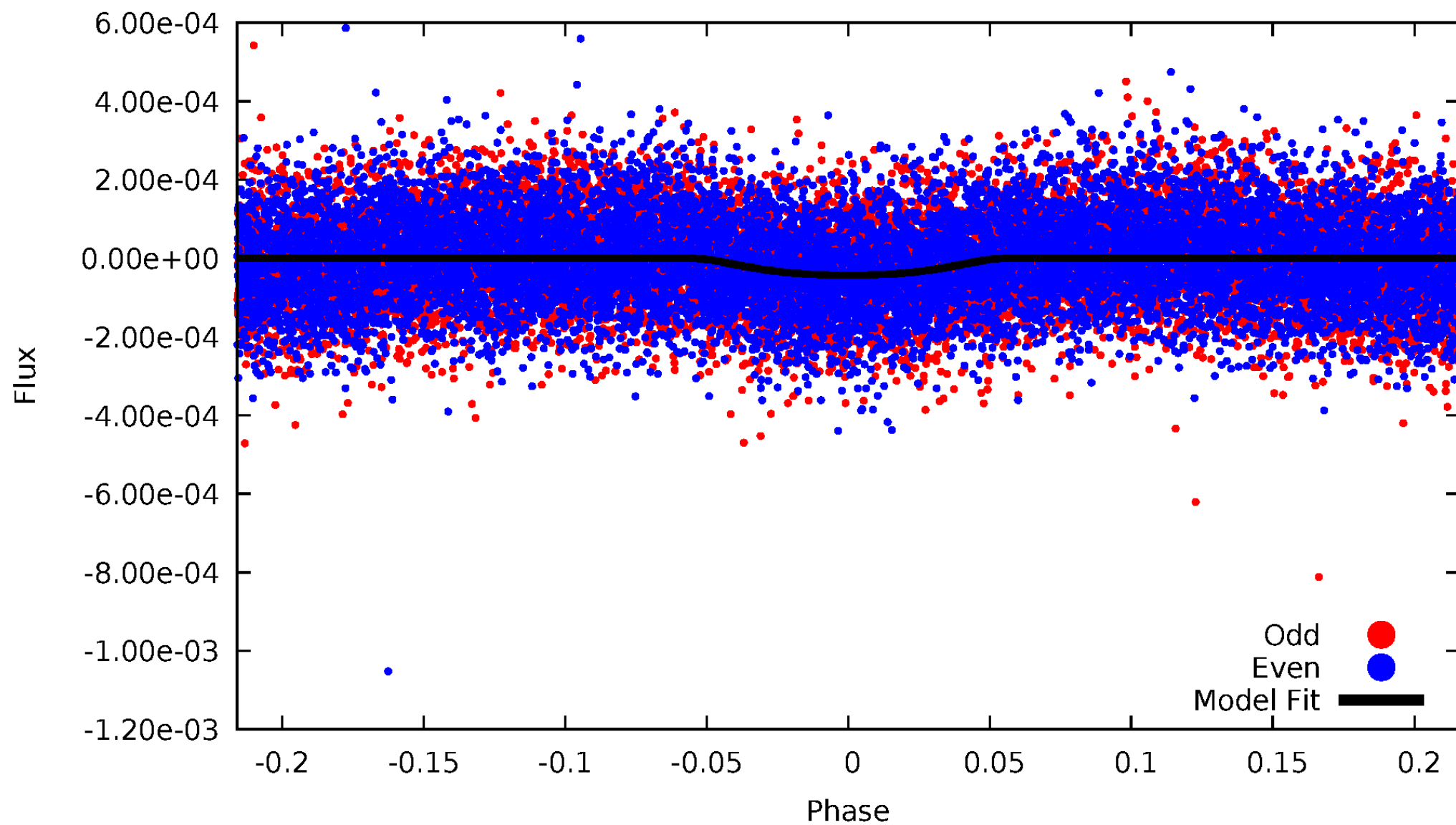


TCE 004989879-01



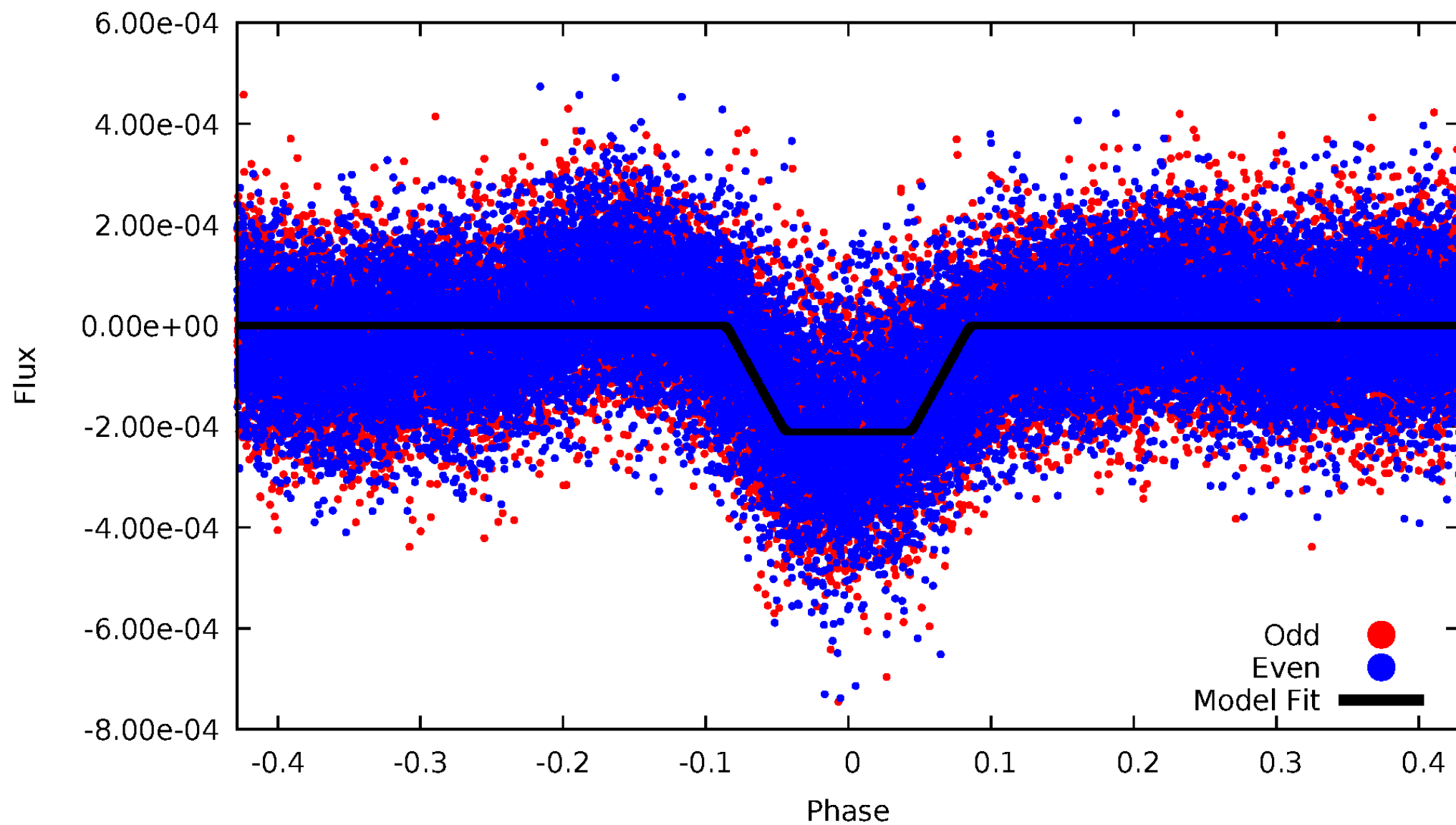
DV Odd/Even

TCE 004989879-01

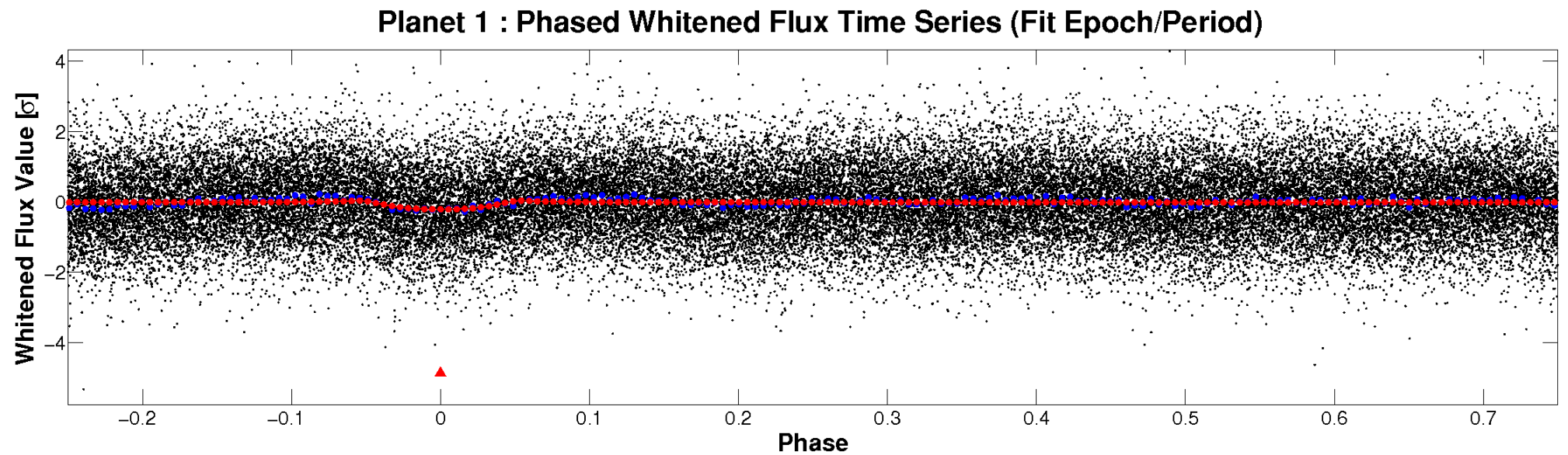
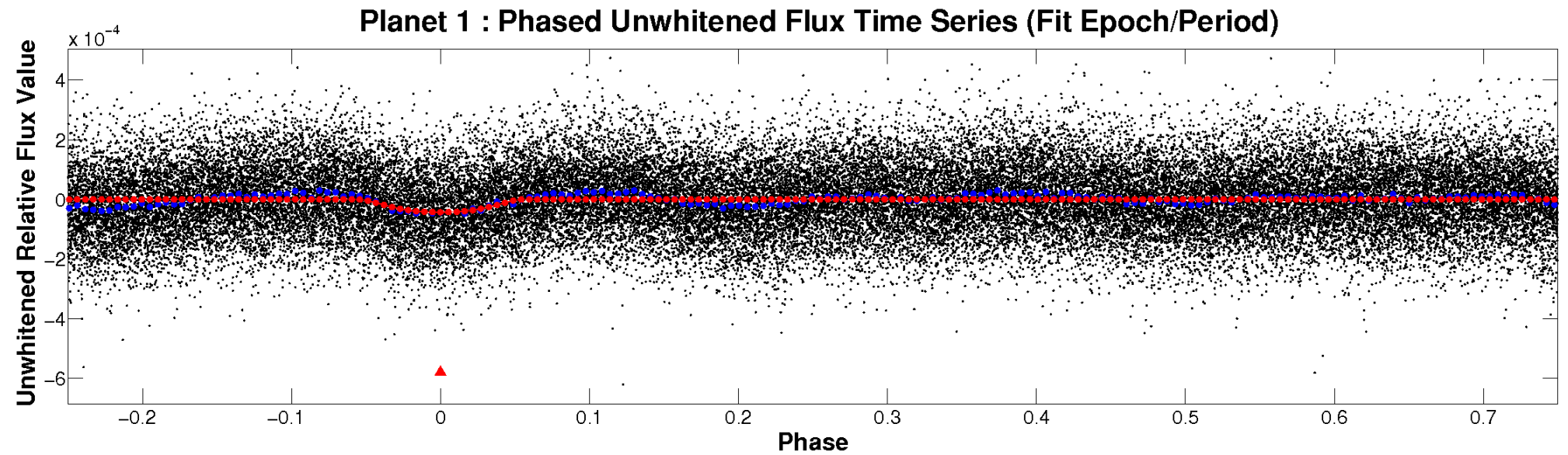


ALT Odd/Even

TCE 004989879-01

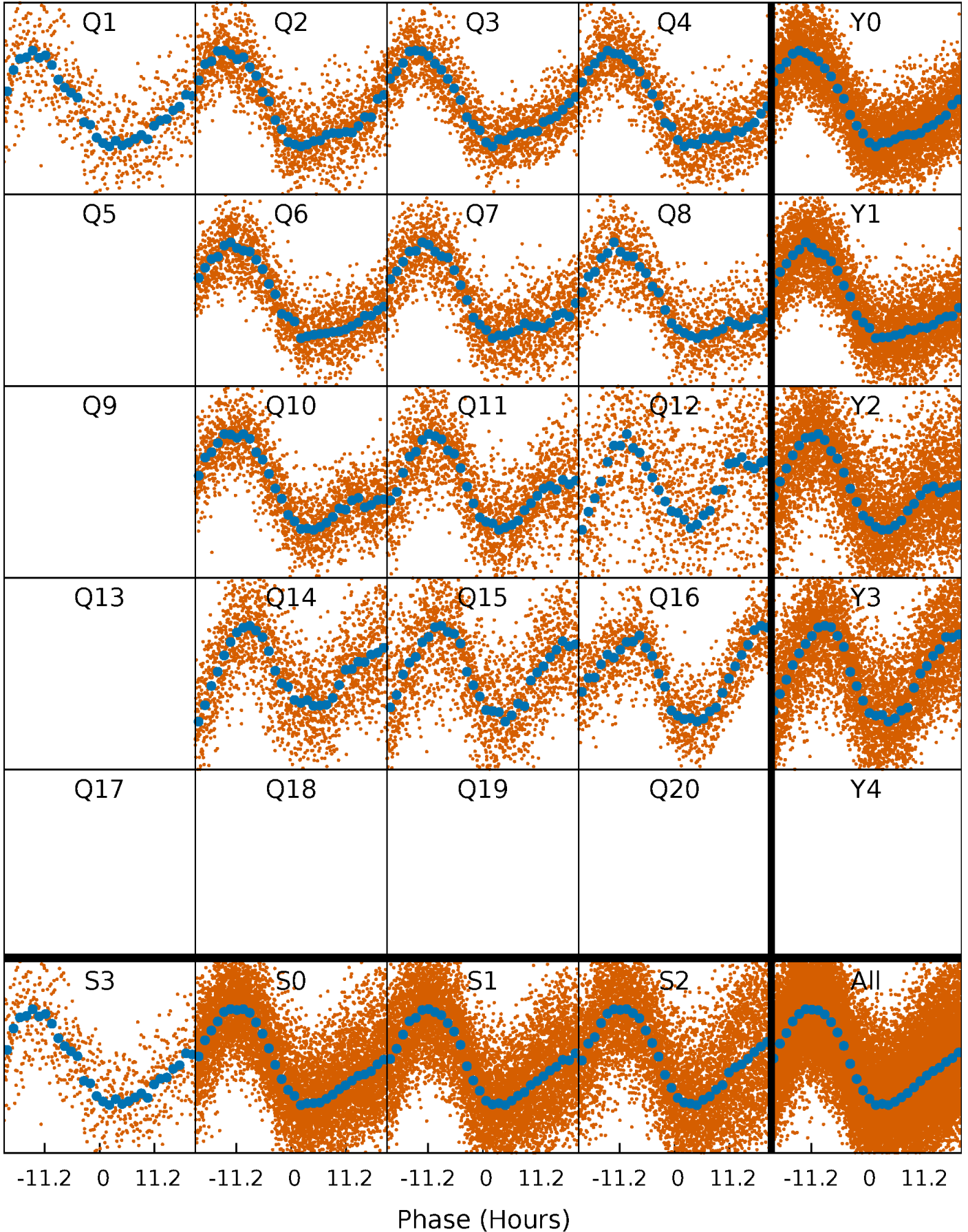


Non-Whitened Vs. Whitened Light Curve



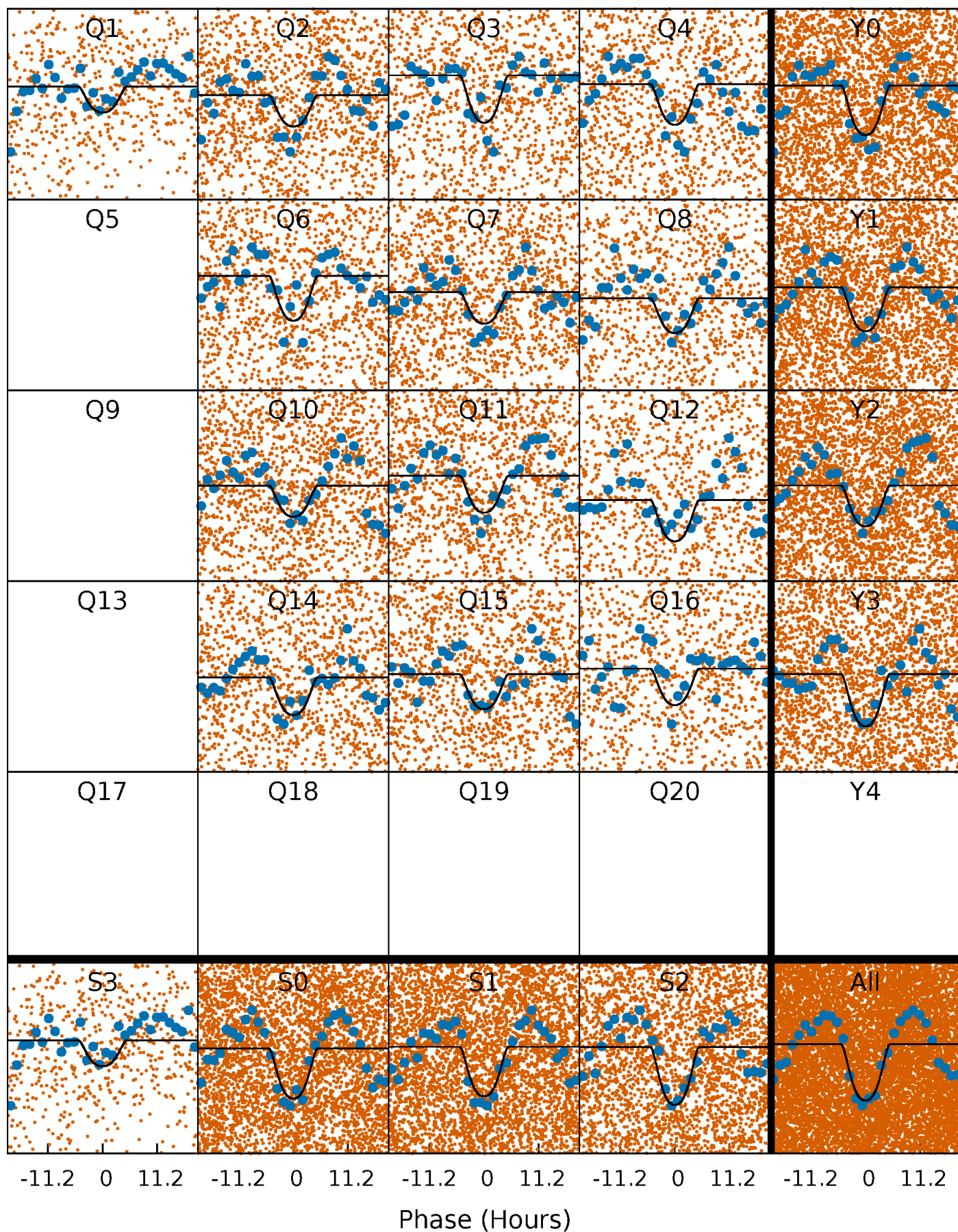
PDC Quarter-Phased Transit Curves

TCE 004989879-01 P= 3.771061 Days $T_0=134.487906$ (BKJD)



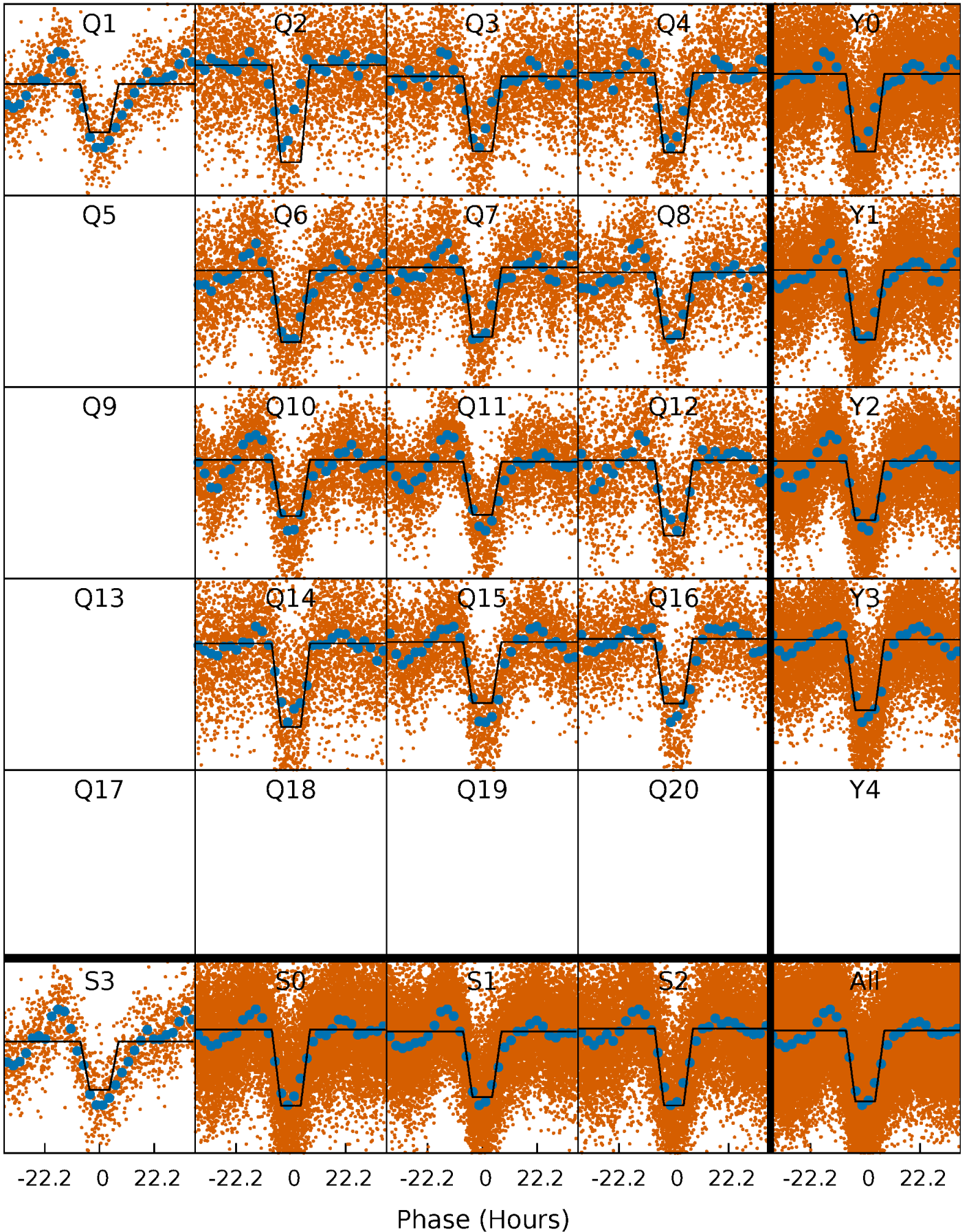
DV Quarter-Phased Transit Curves

TCE 004989879-01 P= 3.771061 Days $T_0=134.487906$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

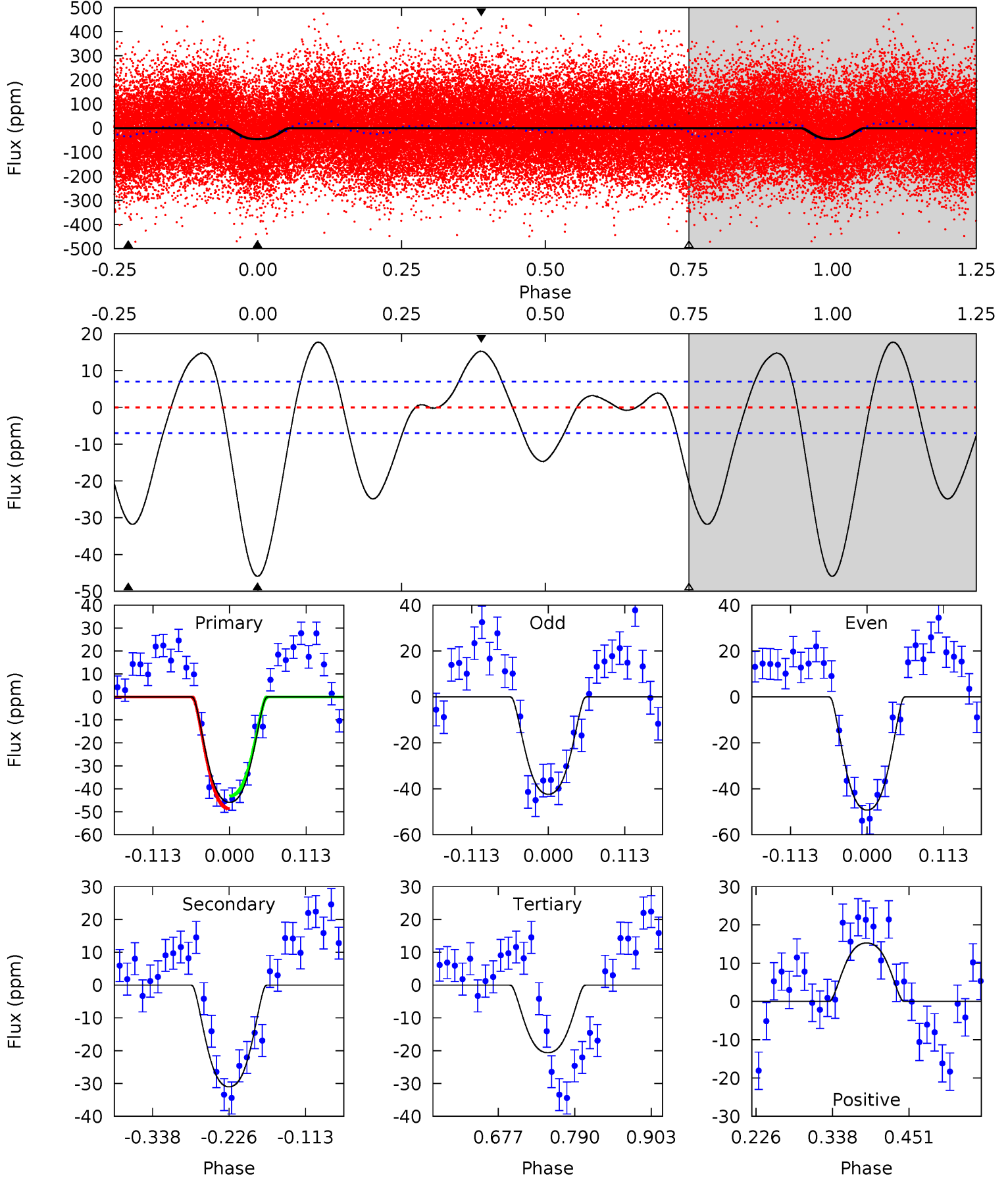
TCE 004989879-01 P= 3.771046 Days $T_0=134.571718$ (BKJD)



DV Model-Shift Uniqueness Test

004989879-01, P = 3.771061 Days, E = 130.716845 Days

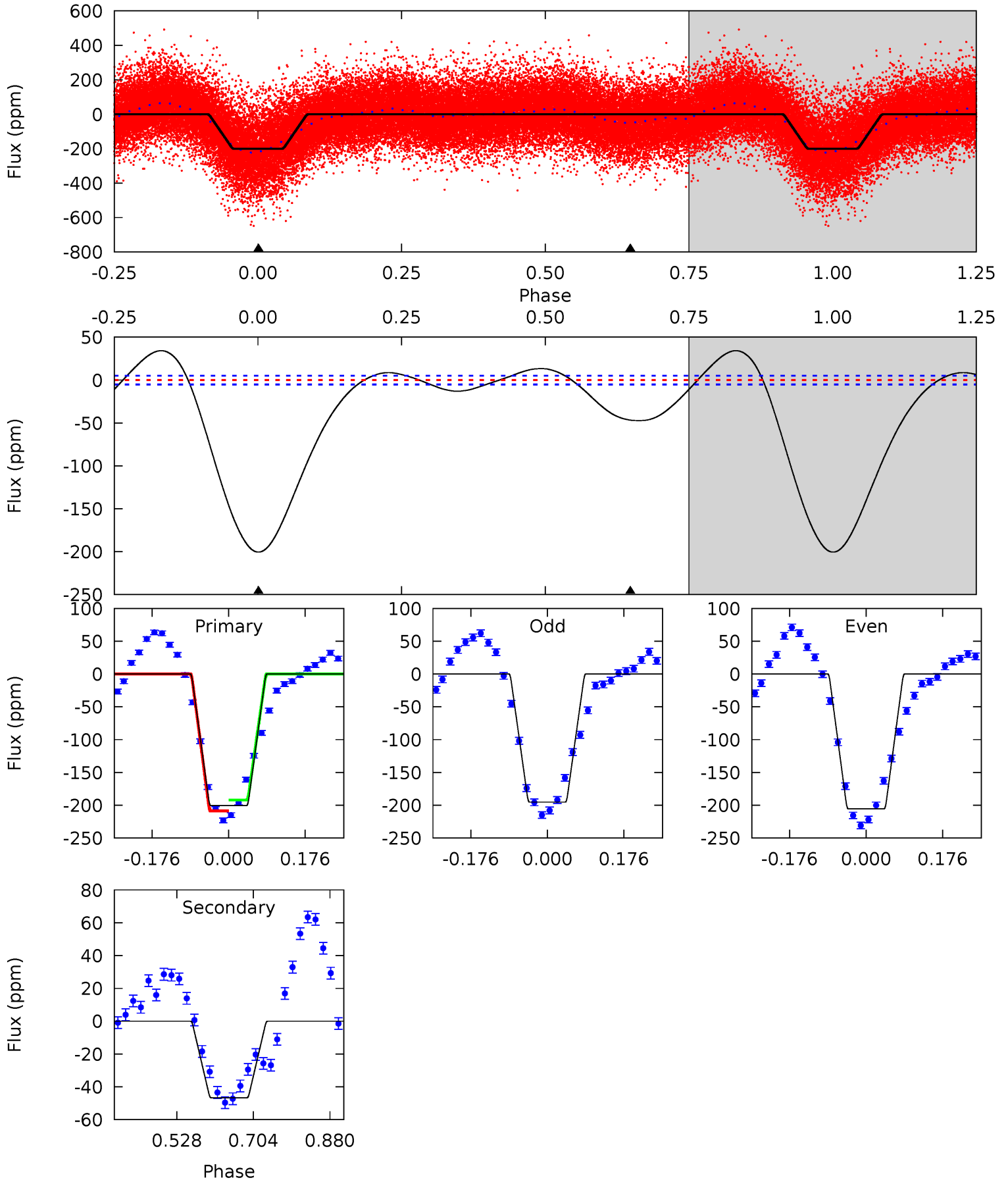
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.8	20.1	13.4	9.91	4.54	1.59	6.51	16.4	19.9	6.75	10.2	2.24	1.04	0.28	1.78



Alt Model-Shift Uniqueness Test

004989879-01, P = 3.771046 Days, E = 130.800672 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
173.4	40.4	0	0	4.44	1.35	6.72	173.4	173.4	40.4	40.4	4.34	0.98	0.15	7.15



Stellar Parameters For KIC 004989879

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6546^{+165}_{-181}	$3.667^{+0.323}_{-0.108}$	$-0.500^{+0.350}_{-0.300}$	$2.860^{+0.467}_{-1.089}$	$1.386^{+0.241}_{-0.294}$	$0.083^{+0.200}_{-0.028}$
	+3%/-3%	+9%/-3%	+70%/-60%	+16%/-38%	+17%/-21%	+240%/-34%
Source	PHO1	FLK73	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 004989879-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-31 ± 2	$2.58^{+0.55}_{-0.60}$	2912^{+182}_{-254}	5271^{+448}_{-382}	$7.452^{+4.447}_{-2.488}$
Alt.	-47 ± 1	$4.37^{+0.75}_{-0.90}$	2914^{+172}_{-268}	4583^{+215}_{-207}	$3.861^{+2.017}_{-0.987}$

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

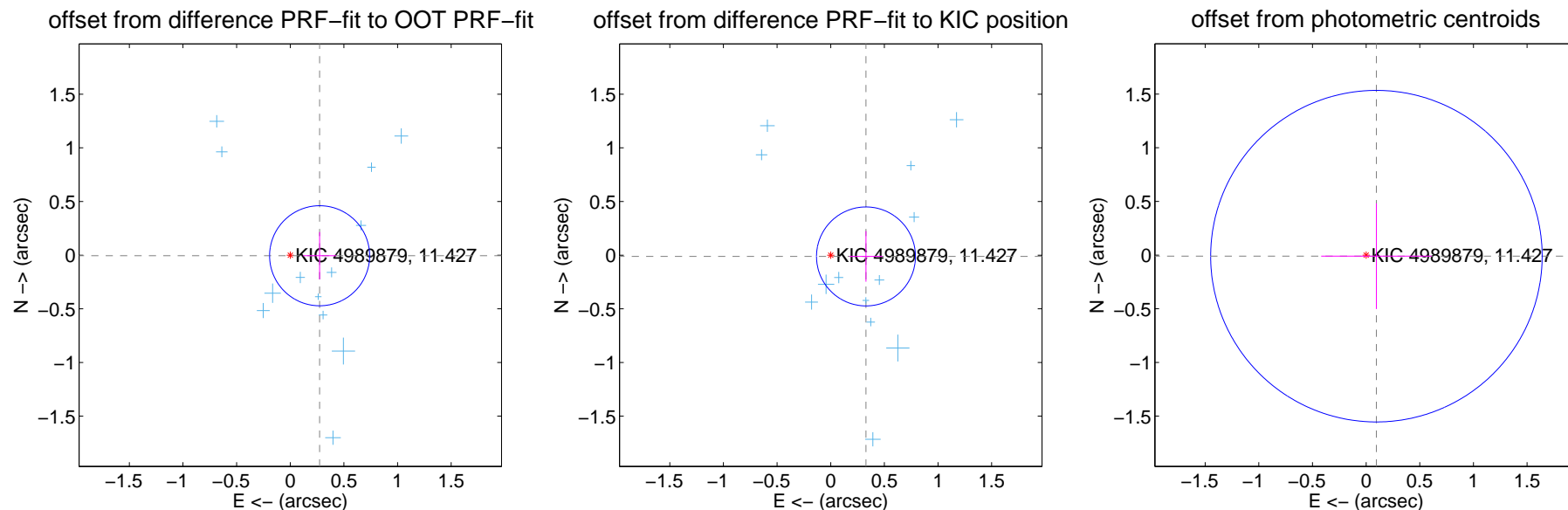
DV Centroid Data

Supplemental centroid analysis for 004989879-01. **Kepler magnitude: 11.43.** Transit SNR 10.62

There are 13 quarters with good PRF difference image offsets

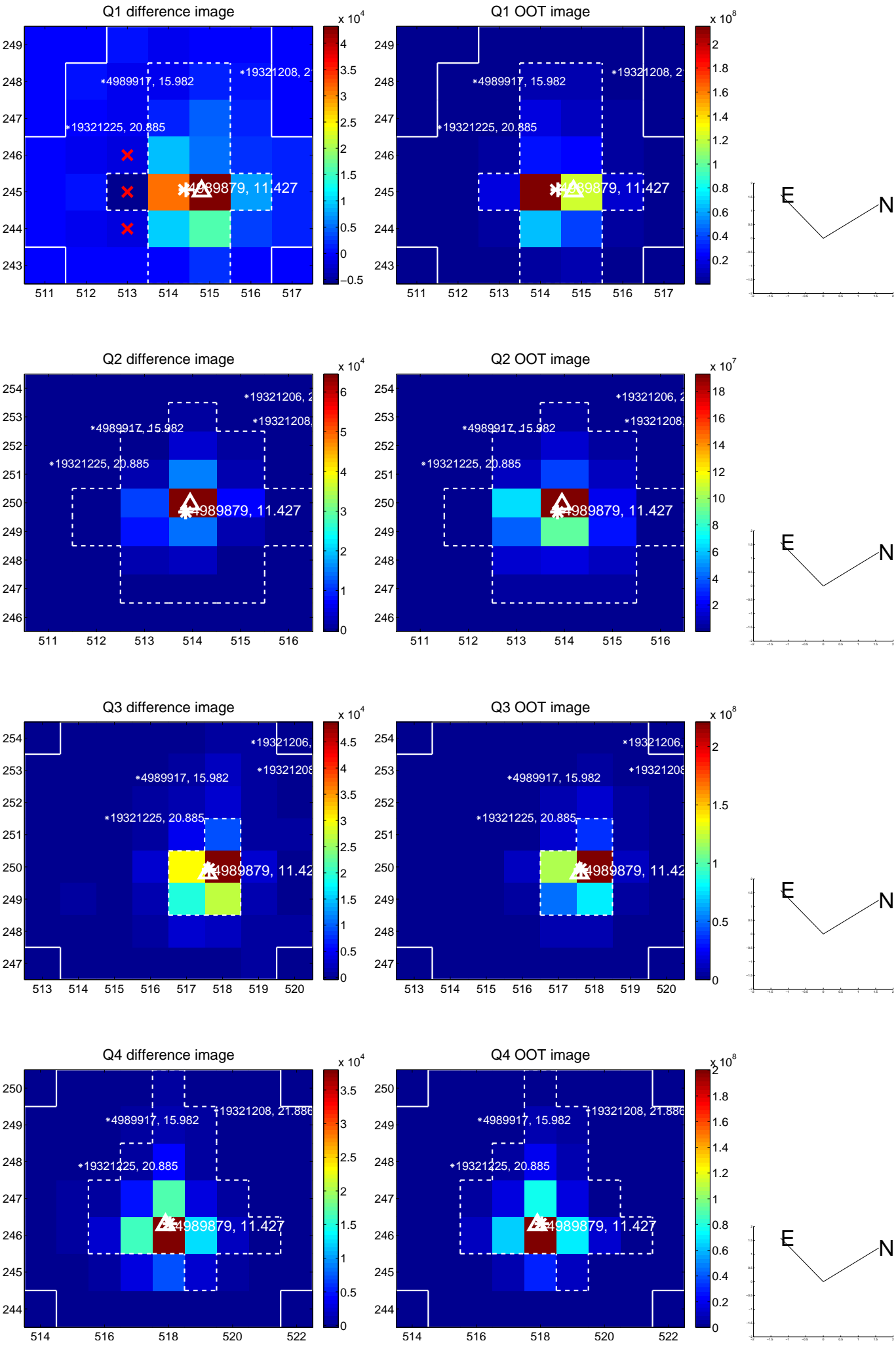
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.274 ± 0.155	1.76	-0.274 ± 0.155	-0.006 ± 0.221
PRF-fit source offset from KIC position	0.329 ± 0.154	2.14	-0.329 ± 0.154	-0.012 ± 0.236
photometric centroid source offset	0.10 ± 0.51	0.19	-0.10 ± 0.52	-0.01 ± 0.49

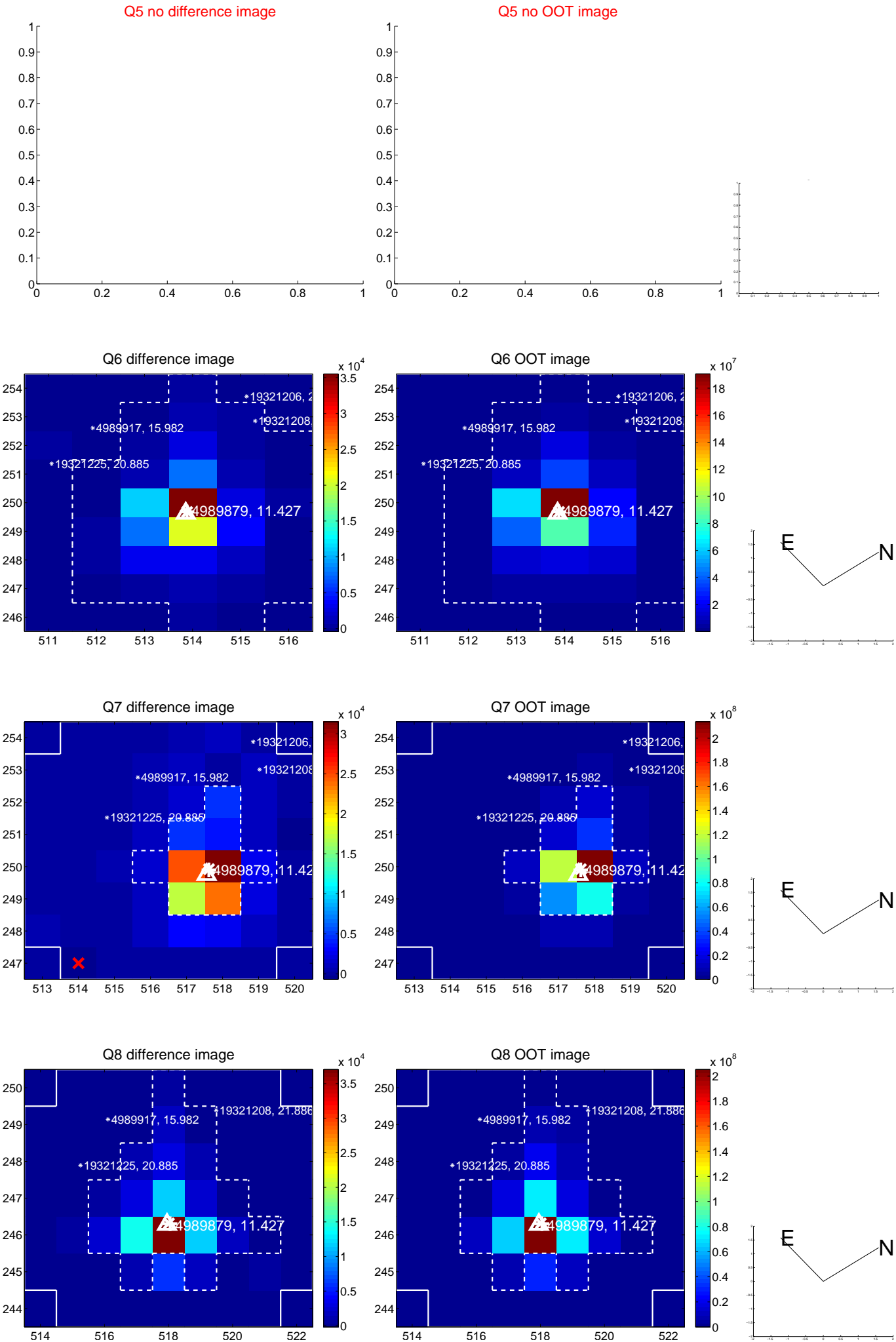


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

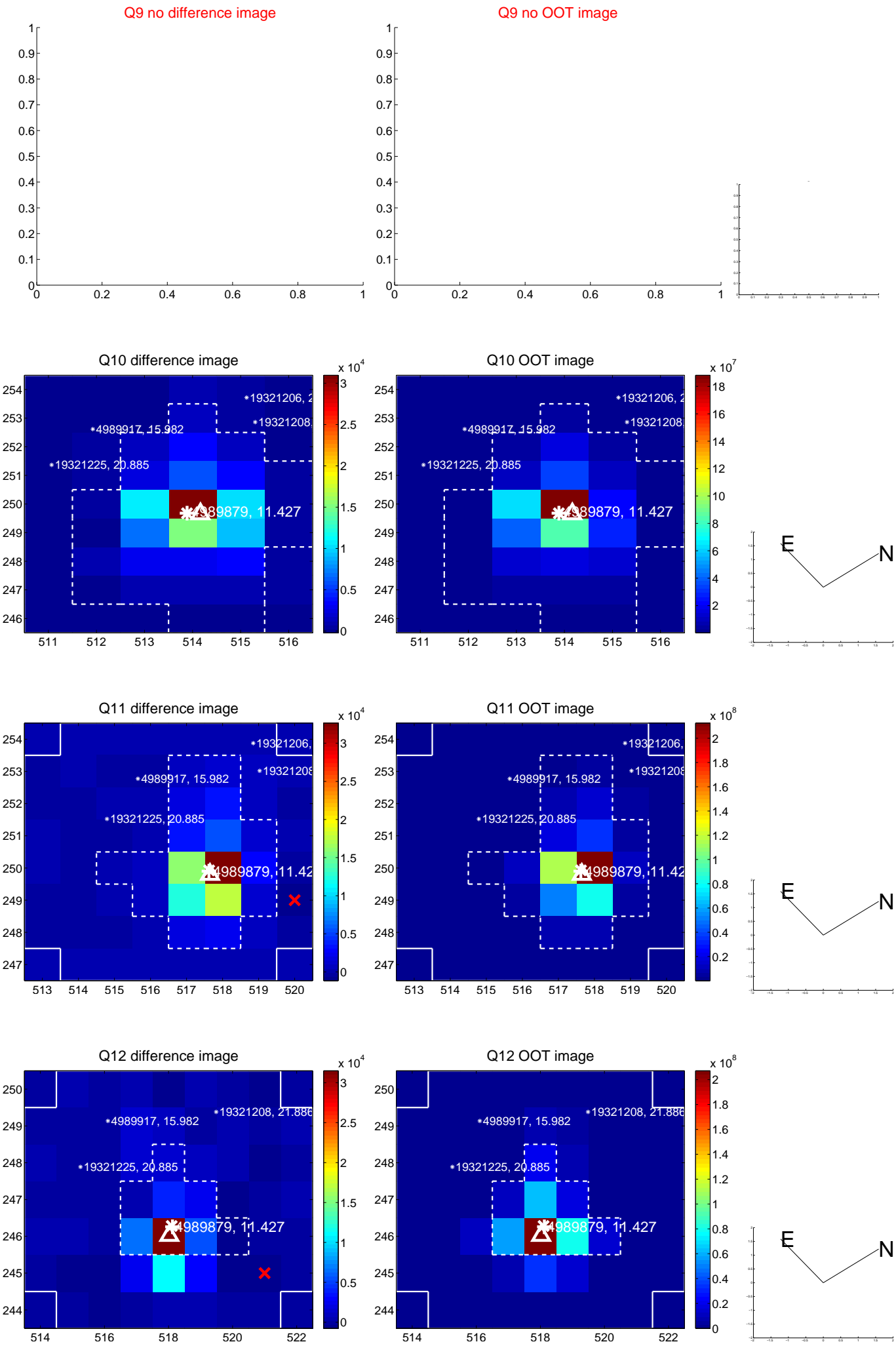
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



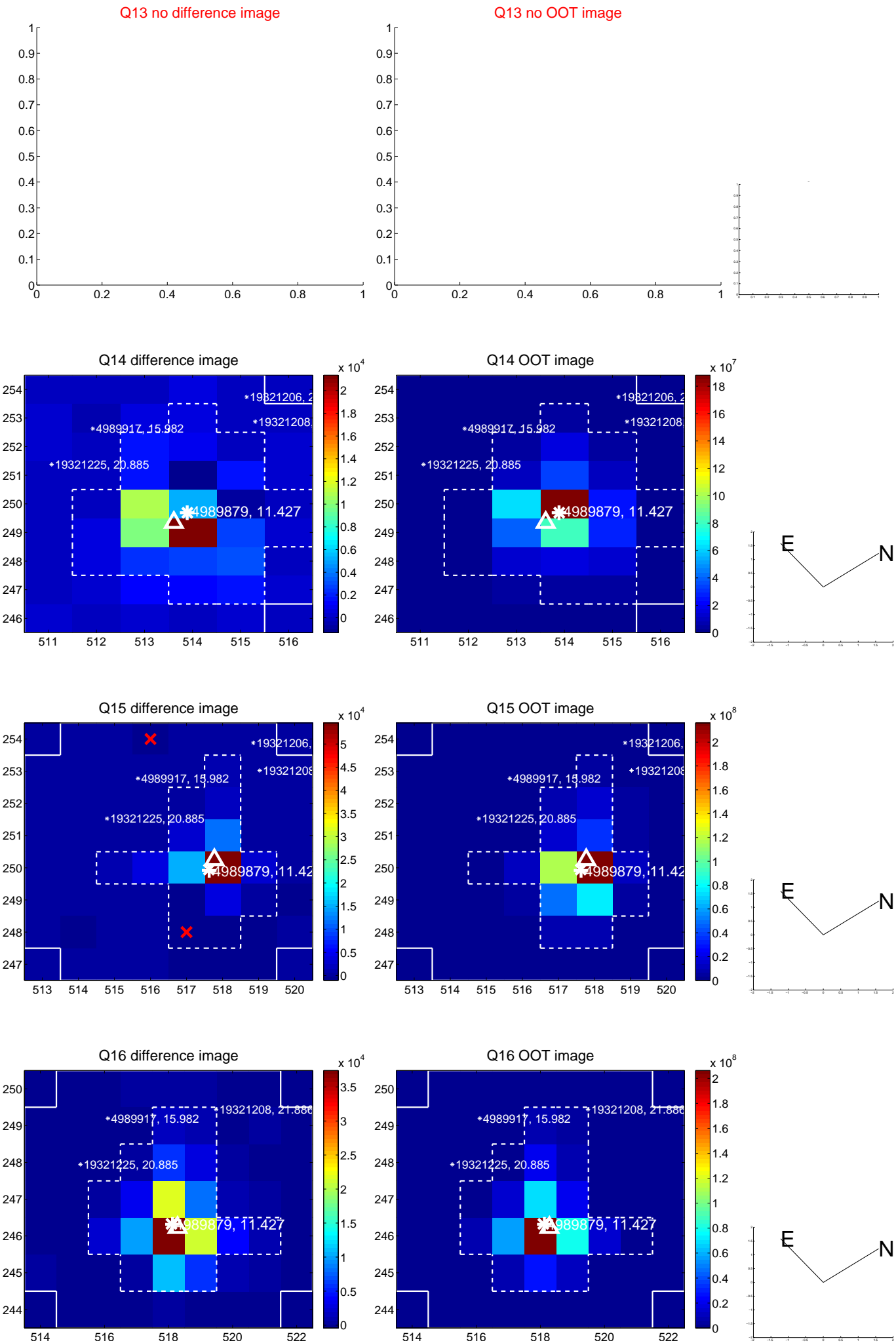
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



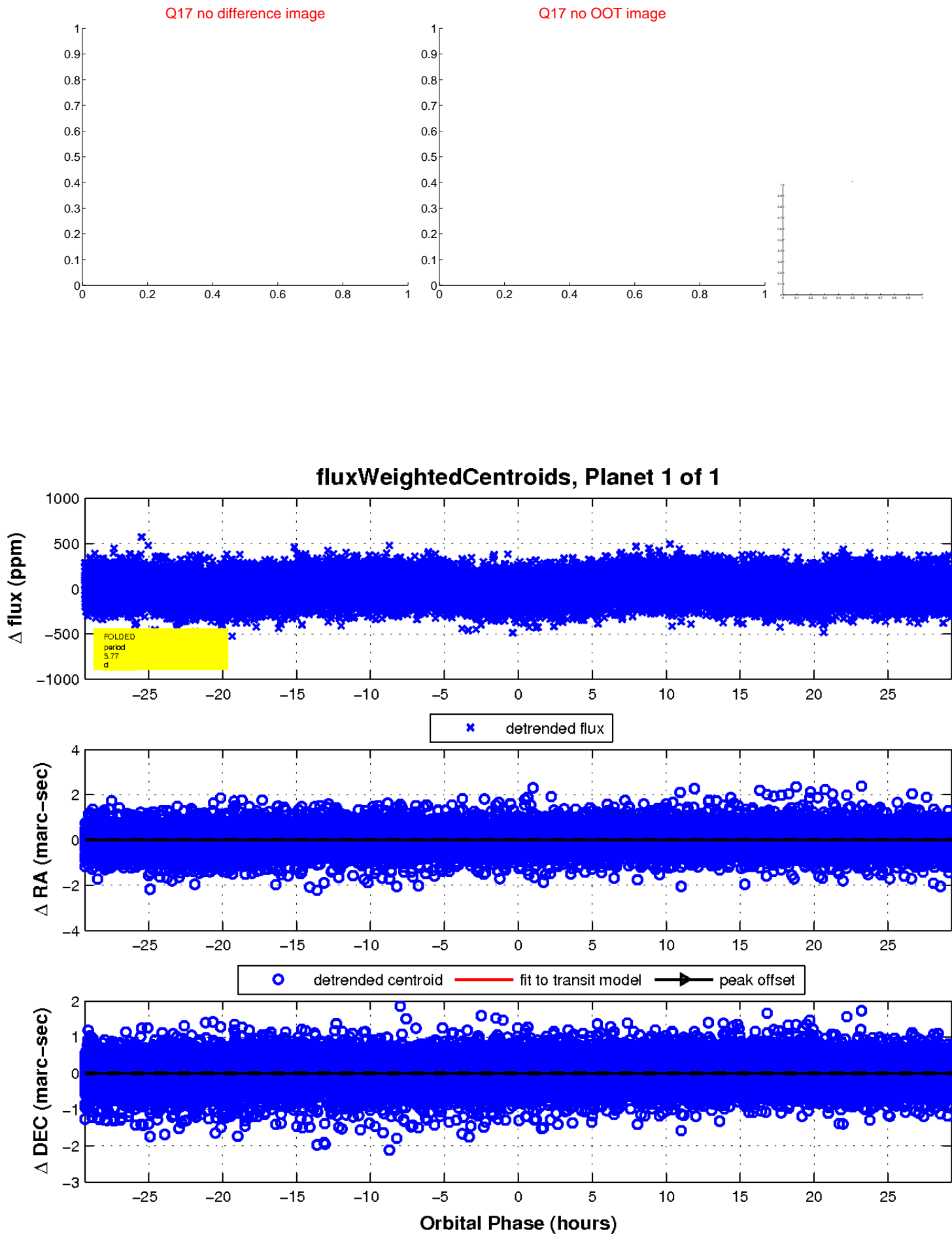
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

