

KIC 006019872

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})
006019872-01	OBS	3942.01	1.485876	132.753284	149.6	1.880	22.9	23.4	0.73	5088	1.08	620.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006019872-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—CENT_RESOLVED_OFFSET

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

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

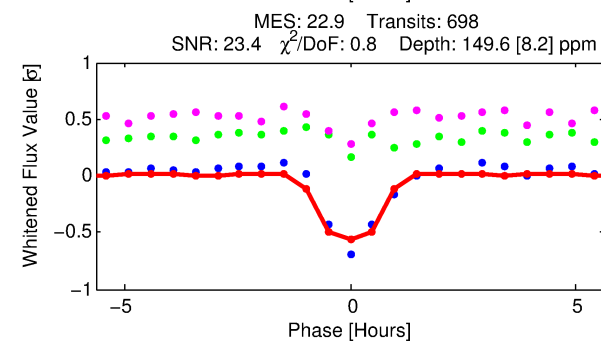
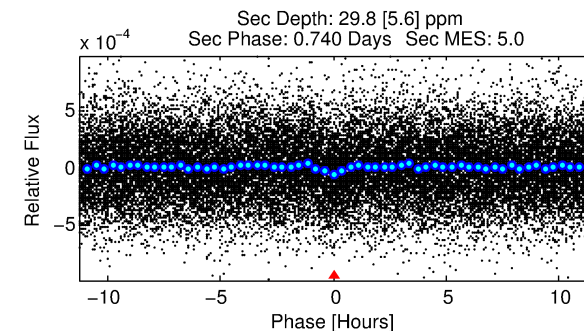
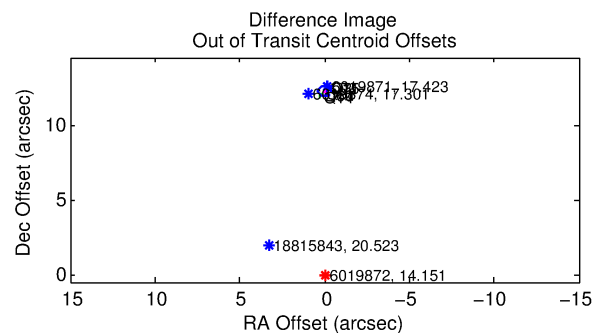
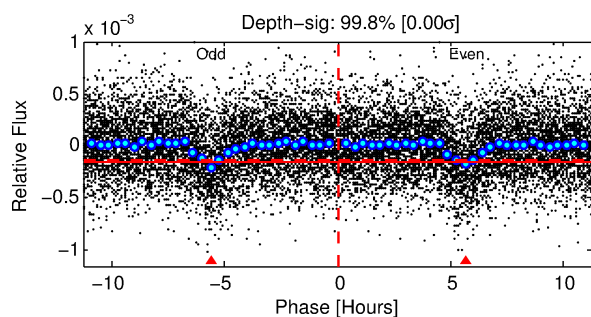
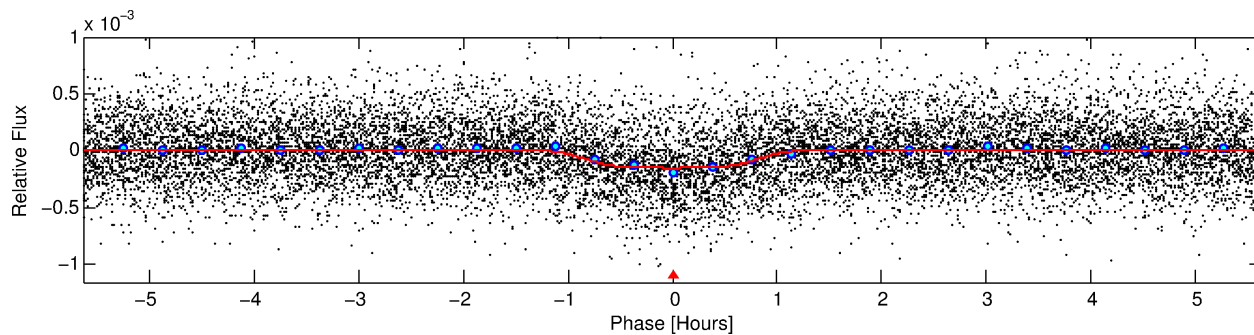
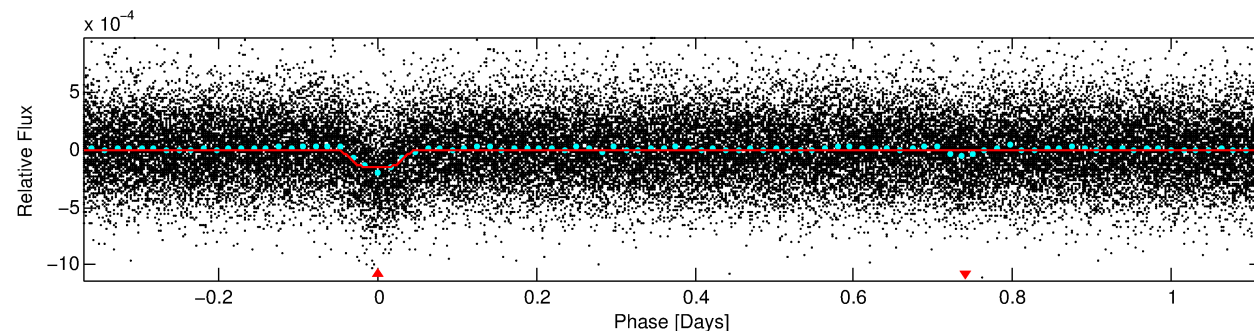
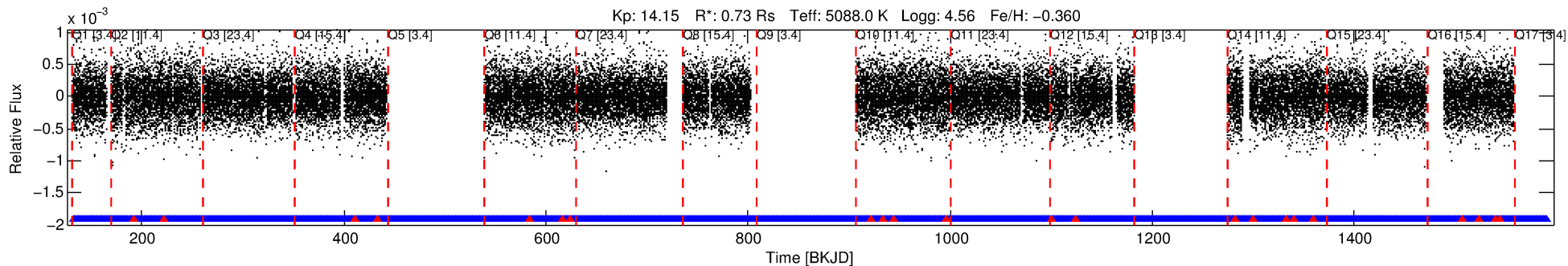
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006019872-01

No Significant Match Found

DV One-Page Summary

KIC: 6019872 Candidate: 1 of 1 Period: 1.486 d
KOI: K03942.01 Corr: 0.875



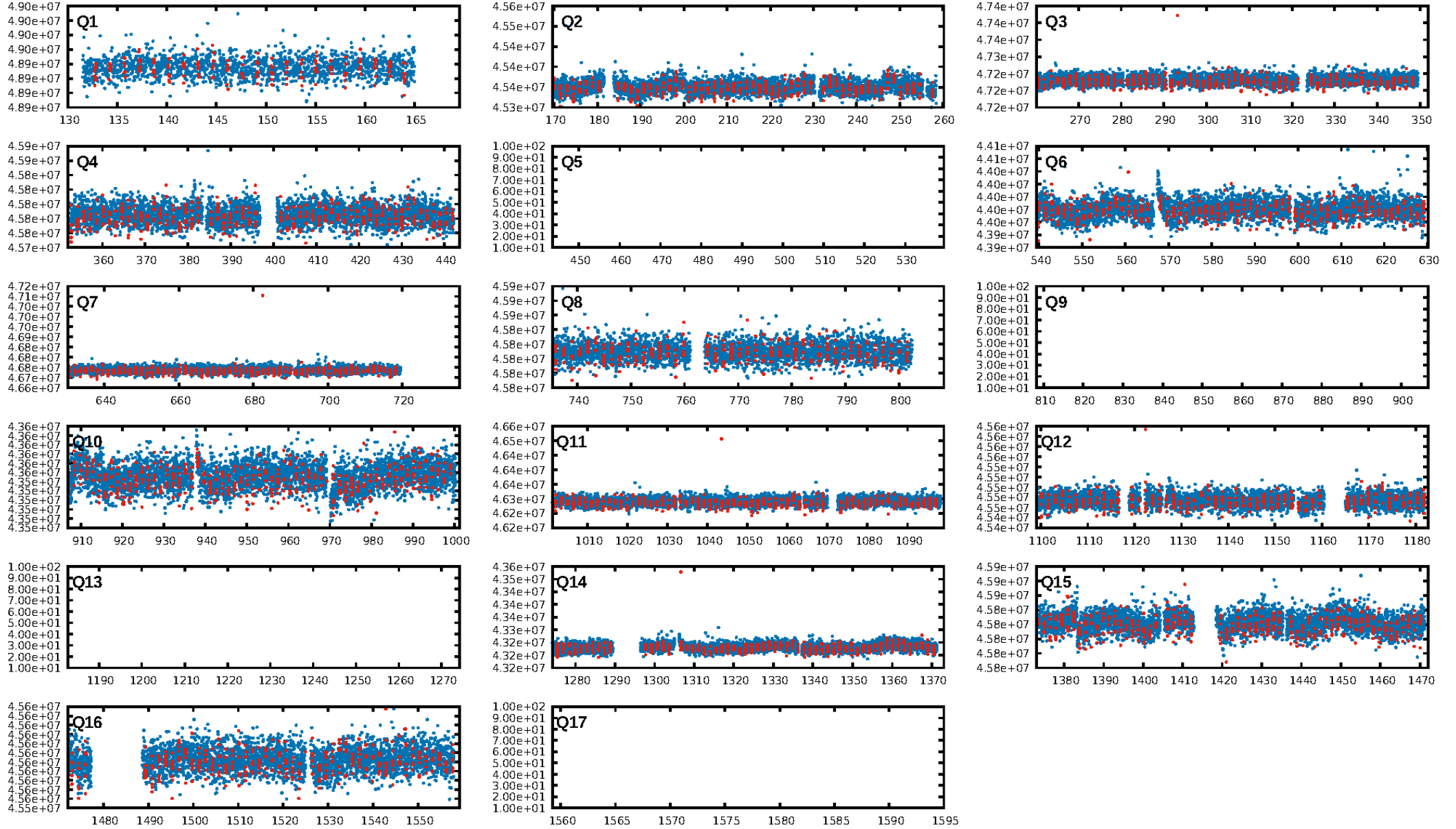
DV Fit Results:

Period = 1.48588 [0.00000] d
Epoch = 132.7533 [0.0012] BKJD
Rp/R* = 0.0136 [0.0052]
a/R* = 2.96 [4.18]
b = 0.90 [0.34]
Seff = 620.58 [110.24]
Teq = 1273 [57] K
Rp = 1.08 [0.43] Re
a = 0.0226 [0.0021] AU
Ag = 7.22 [5.73] [1.09σ]
Teff = 3225 [638] K [3.05σ]

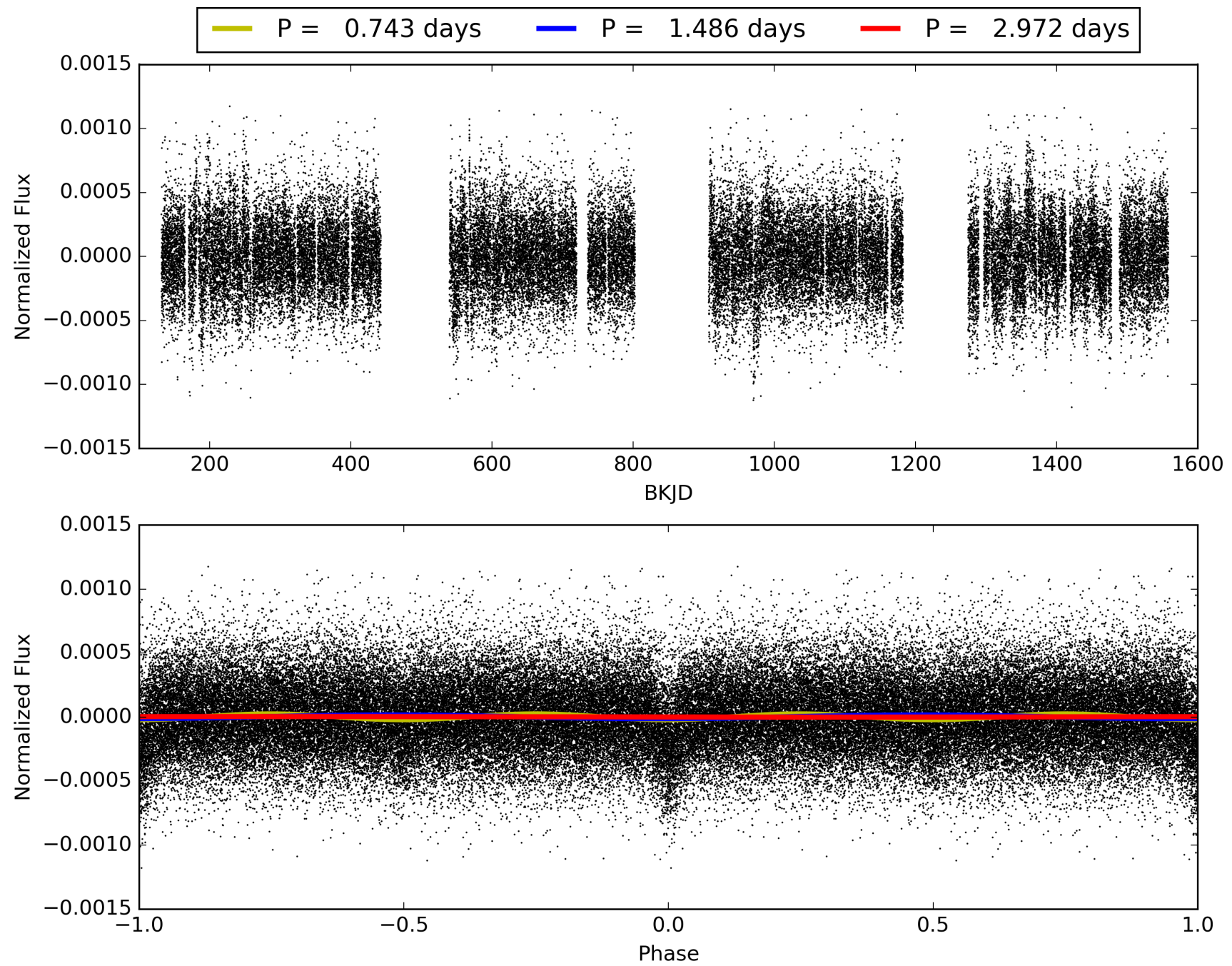
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.40e-110
RollingBand-fgt: 0.97 [654/676]
GhostDiagnostic-chr: -0.8267
Centroid-sig: 0.0%
Centroid-so: N/A
OotOffset-rm: 12.246 arcsec [102.62σ]
KicOffset-rm: 12.183 arcsec [122.80σ]
OotOffset-st: 4/4/0/1 [9]
KicOffset-st: 4/4/0/1 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 006019872-01, PDC Light Curves

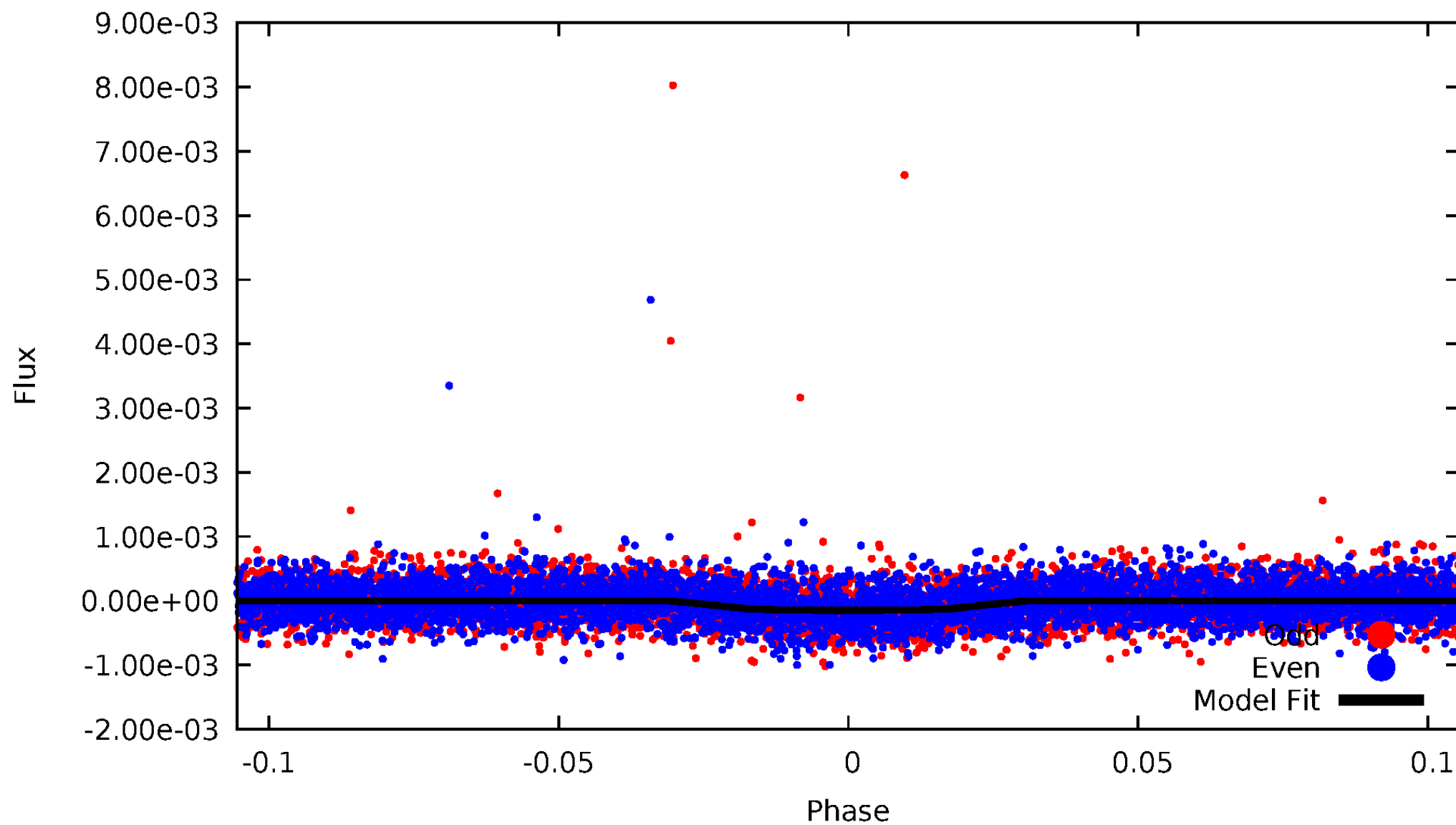


TCE 006019872-01



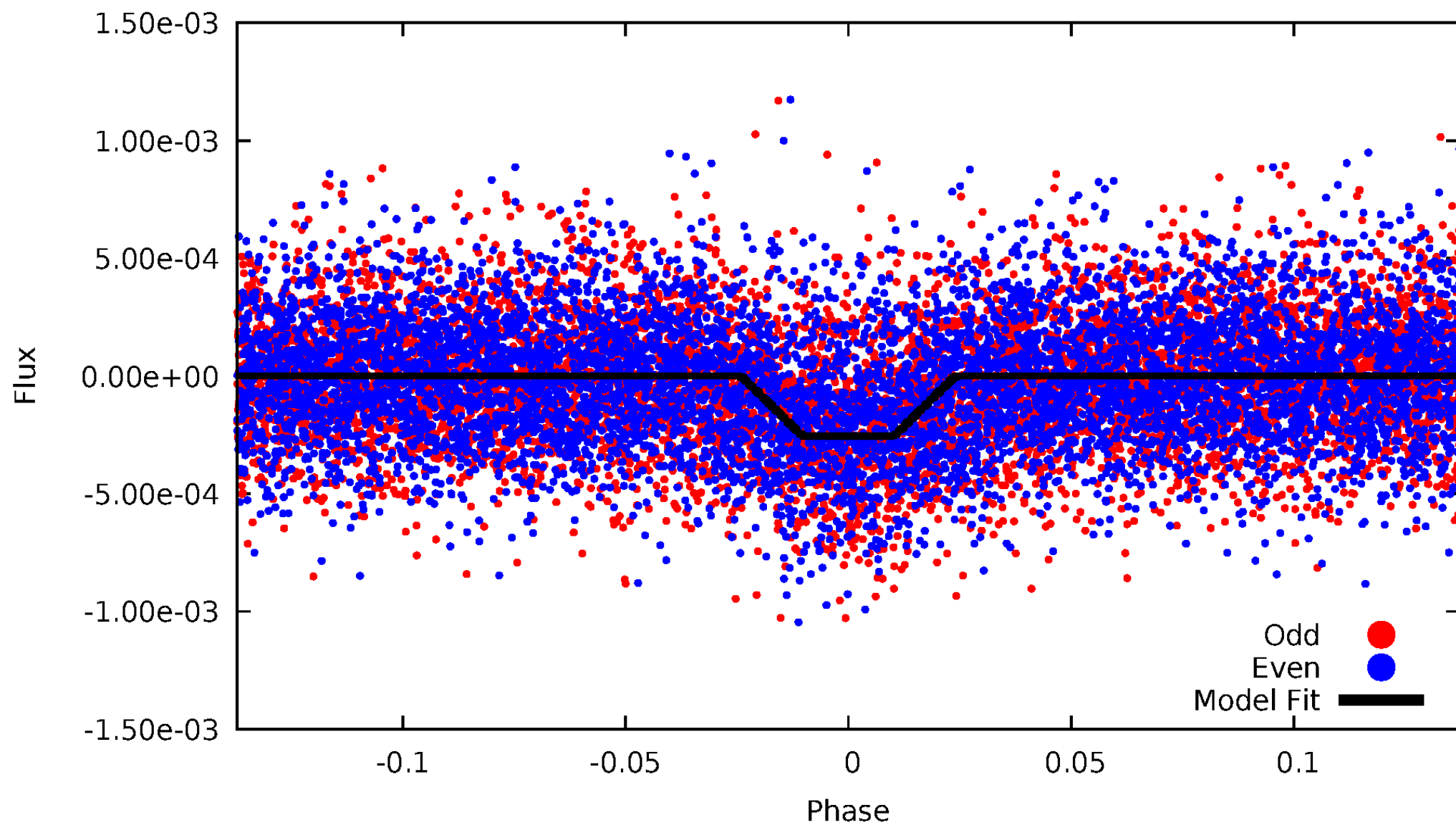
DV Odd/Even

TCE 006019872-01

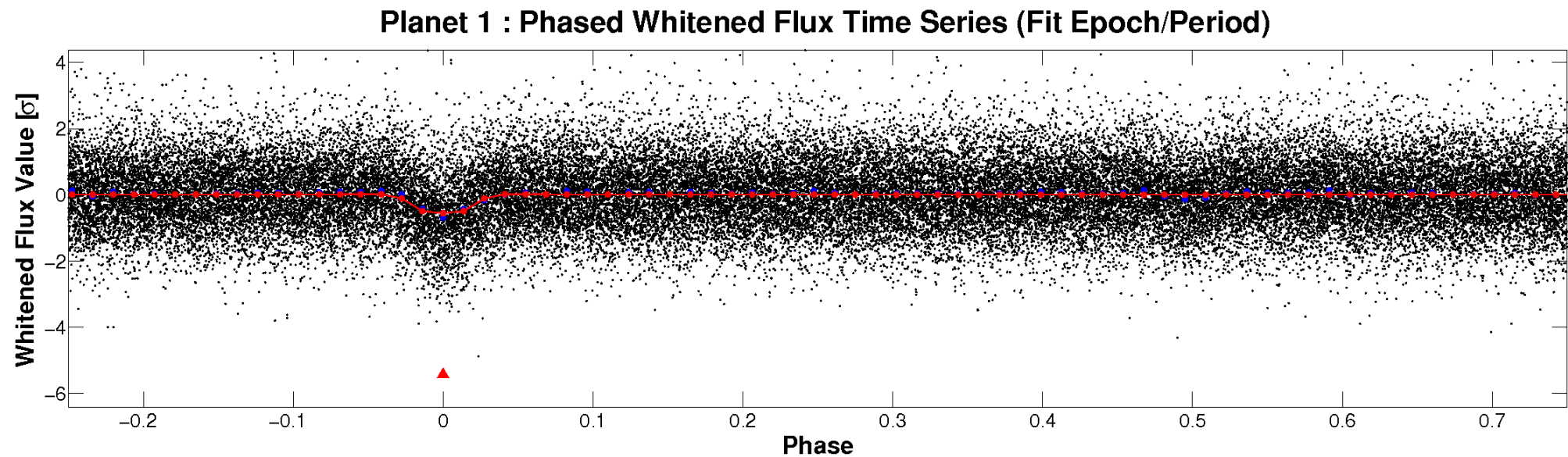
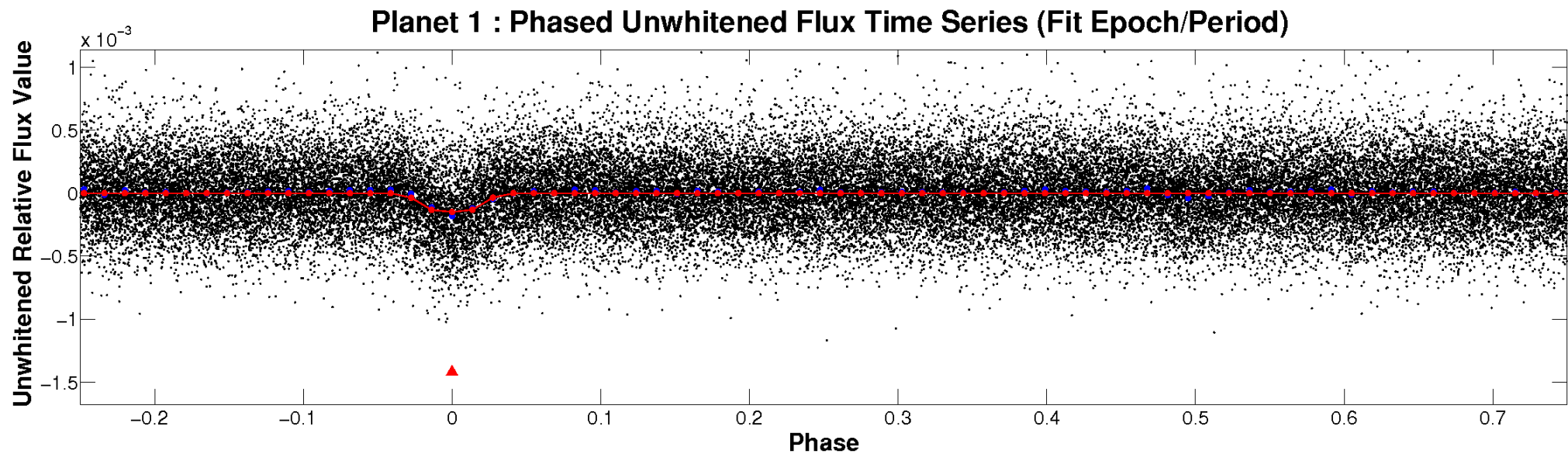


ALT Odd/Even

TCE 006019872-01

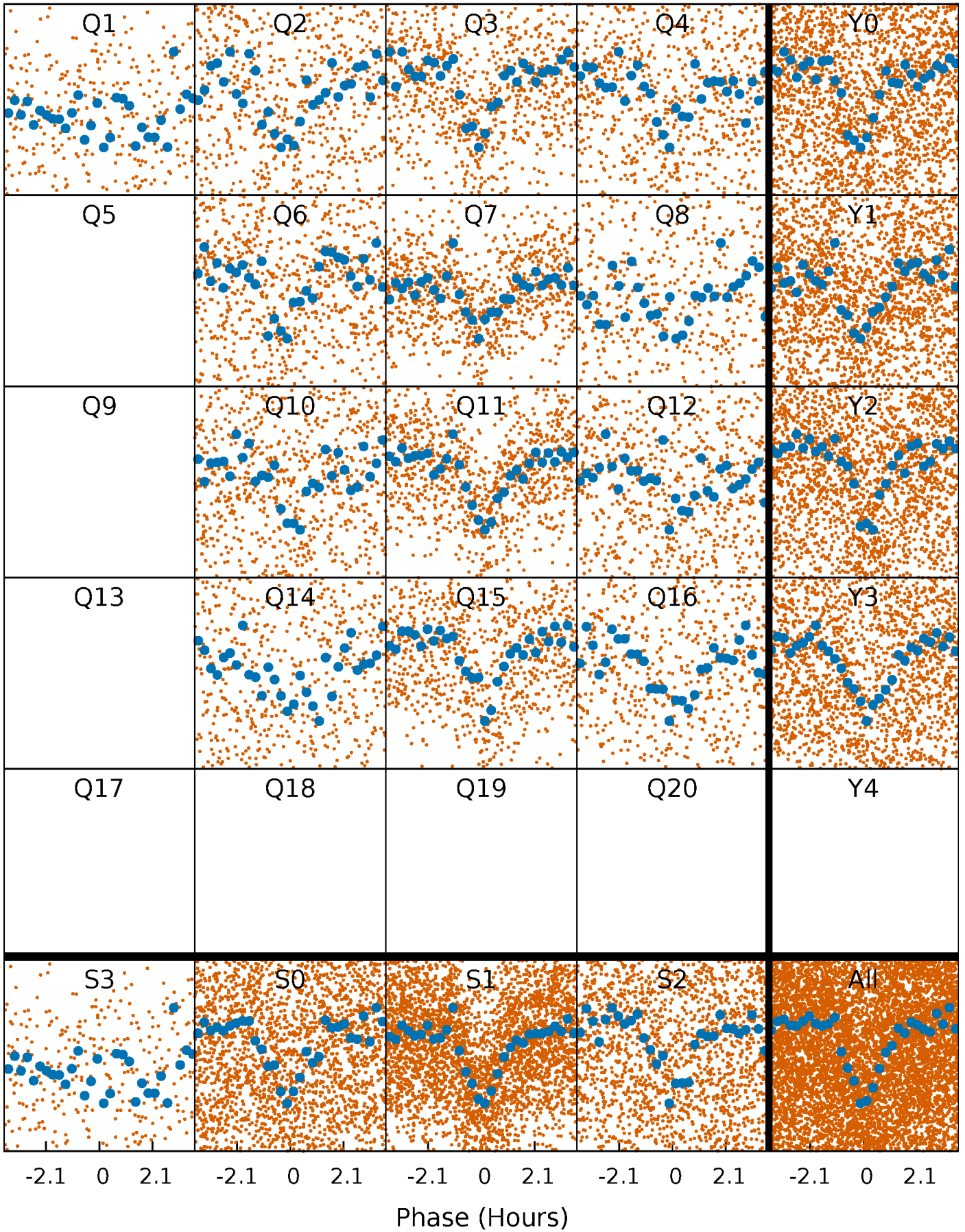


Non-Whitened Vs. Whitened Light Curve



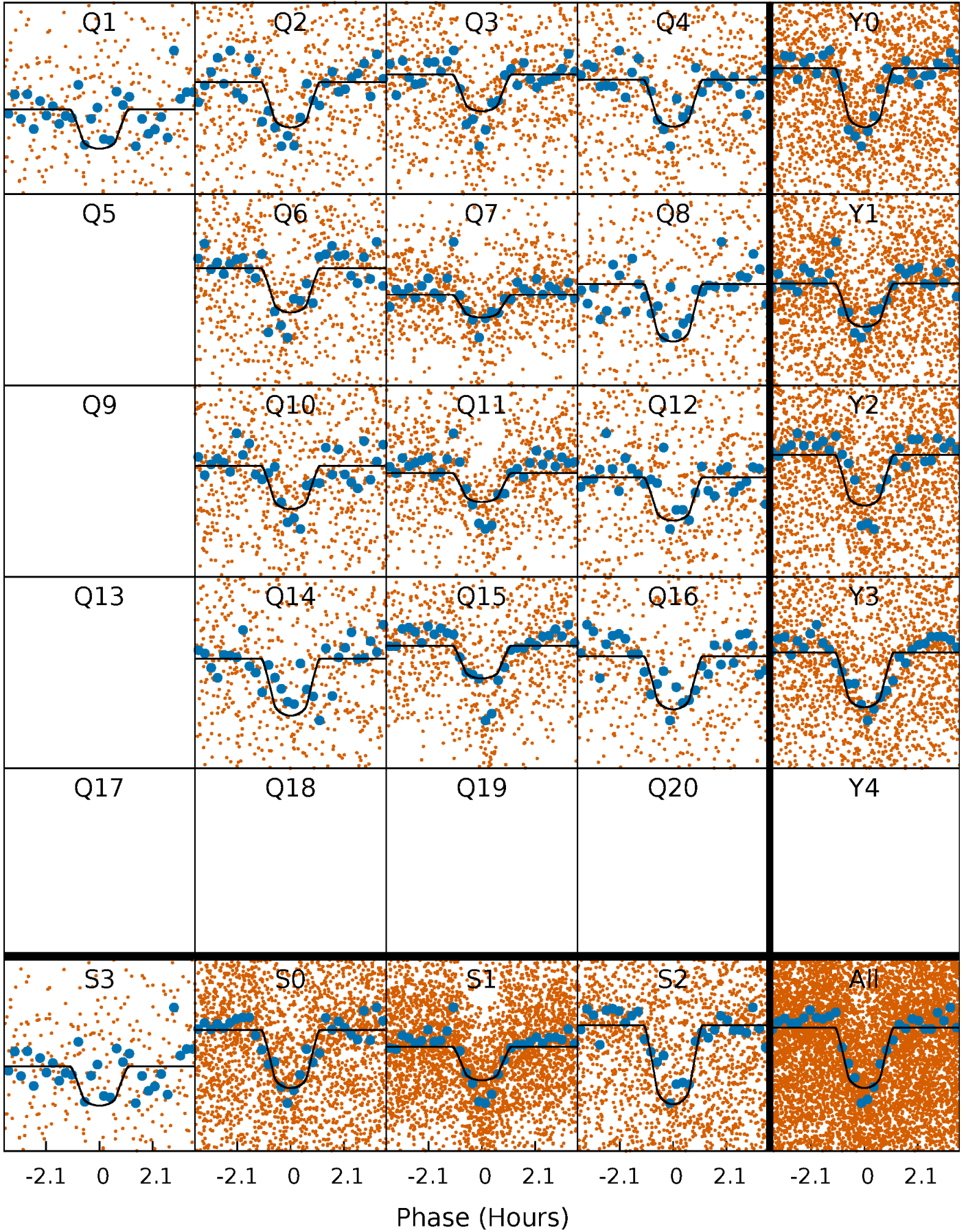
PDC Quarter-Phased Transit Curves

TCE 006019872-01 P= 1.485876 Days $T_0=132.753284$ (BKJD)



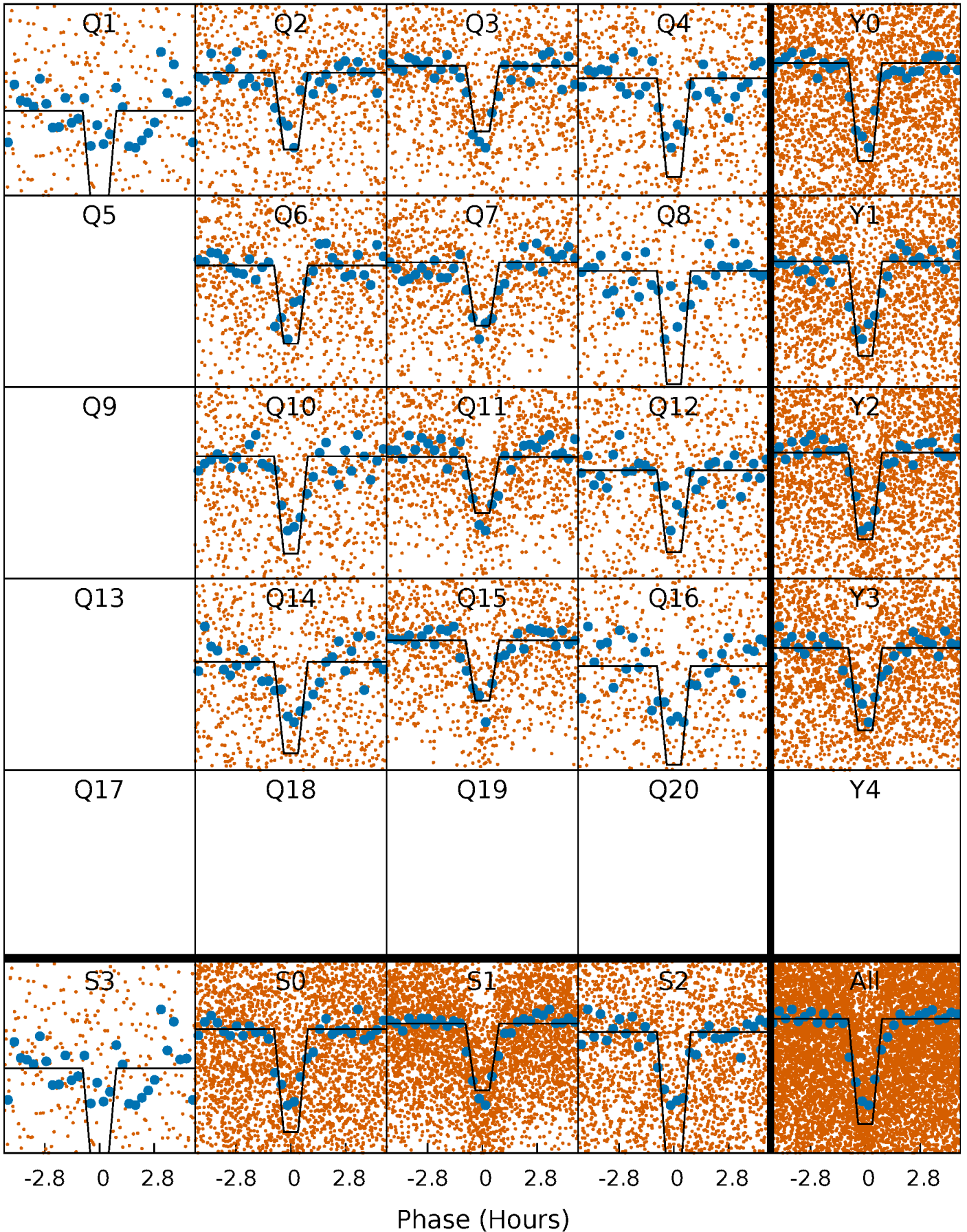
DV Quarter-Phased Transit Curves

TCE 006019872-01 P= 1.485876 Days $T_0=132.753284$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

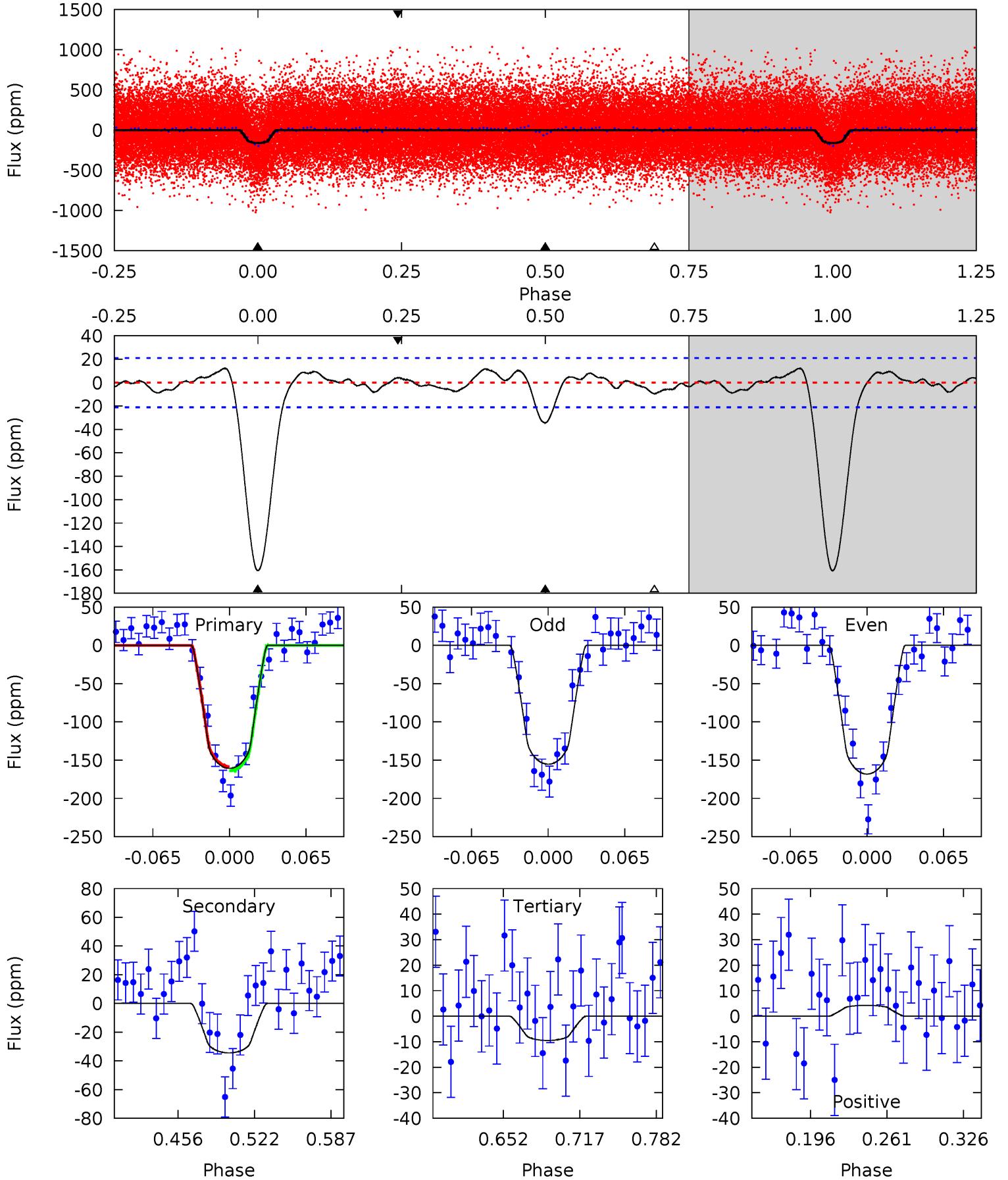
TCE 006019872-01 P= 1.485890 Days $T_0=132.747887$ (BKJD)



DV Model-Shift Uniqueness Test

006019872-01, P = 1.485876 Days, E = 131.267408 Days

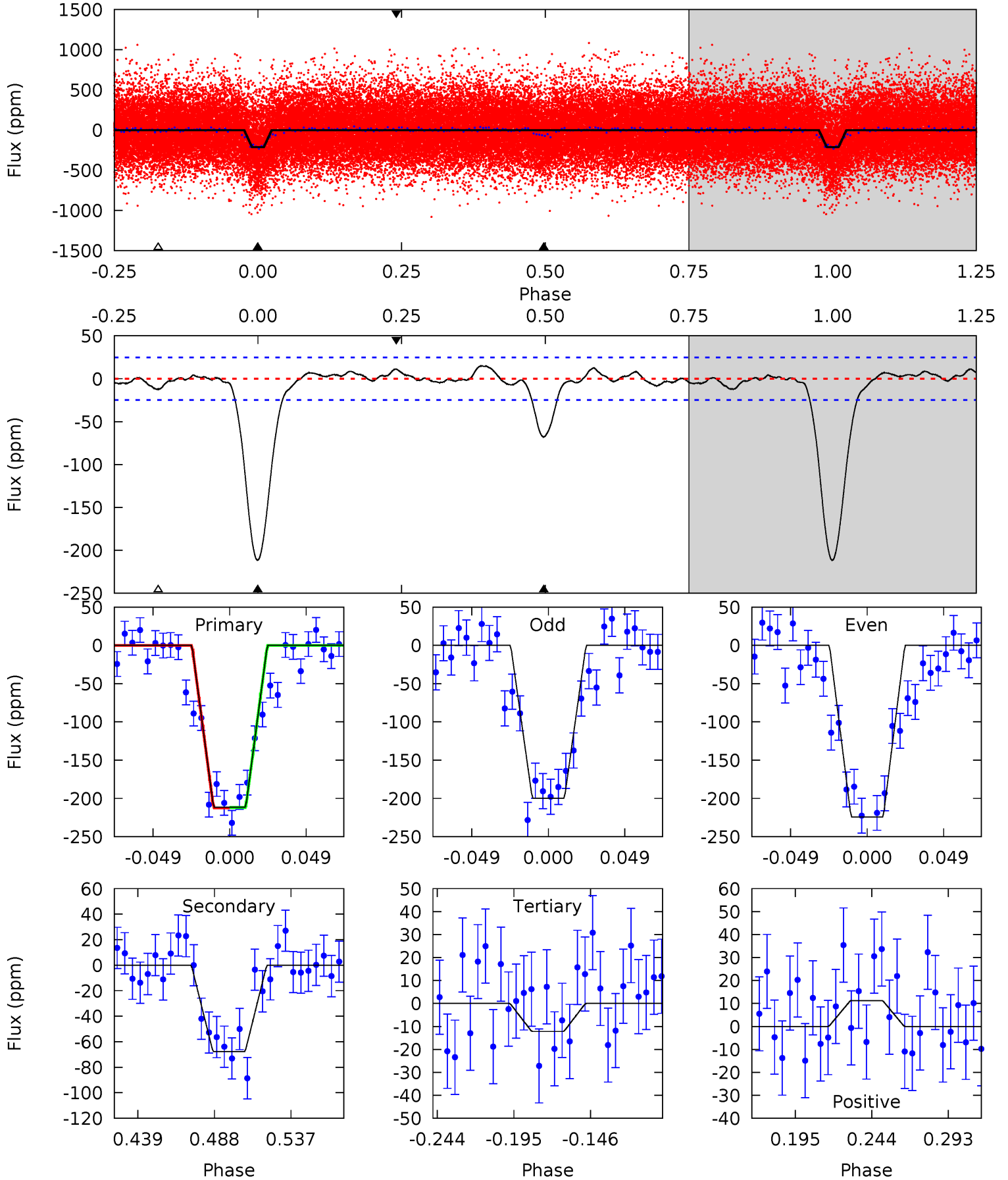
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.5	7.61	2.10	0.94	4.65	1.84	1.12	33.4	34.5	5.50	6.67	1.43	0.93	0.07	0.56



Alt Model-Shift Uniqueness Test

006019872-01, P = 1.485890 Days, E = 131.261997 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.1	12.9	2.31	2.14	4.71	1.97	1.05	37.8	38.0	10.5	10.7	2.34	0.98	0.07	0.05



Stellar Parameters For KIC 006019872

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5088^{+151}_{-136}	$4.559^{+0.072}_{-0.048}$	$-0.360^{+0.300}_{-0.300}$	$0.727^{+0.072}_{-0.079}$	$0.699^{+0.093}_{-0.050}$	$2.558^{+0.854}_{-0.446}$
	+3%/-3%	+2%/-1%	+83%/-83%	+10%/-11%	+13%/-7%	+33%/-17%
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 006019872-01 / KOI 3942.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-34 ± 5	$1.10^{+0.42}_{-0.40}$	1774^{+68}_{-64}	3664^{+654}_{-402}	$7.970^{+12.023}_{-3.863}$
Alt.	-68 ± 5	$1.26^{+0.41}_{-0.42}$	1772^{+65}_{-71}	3939^{+677}_{-382}	12^{+16}_{-5}

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

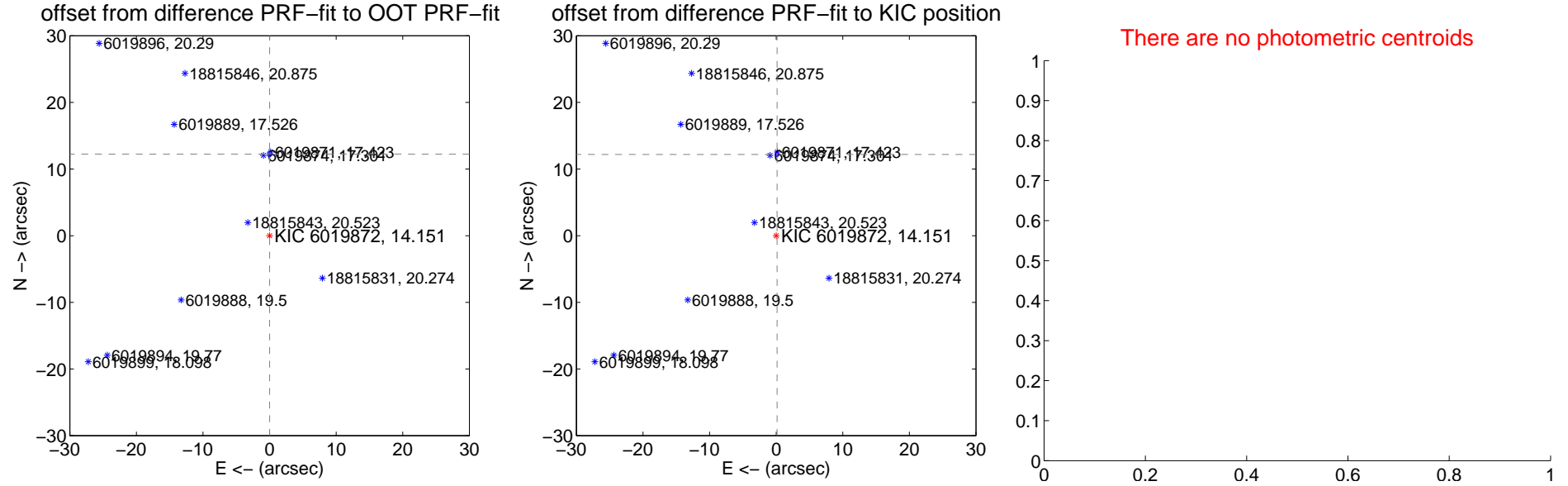
DV Centroid Data

Supplemental centroid analysis for 006019872-01. Kepler magnitude: 14.15. Transit SNR 23.42

There are 9 quarters with good PRF difference image offsets

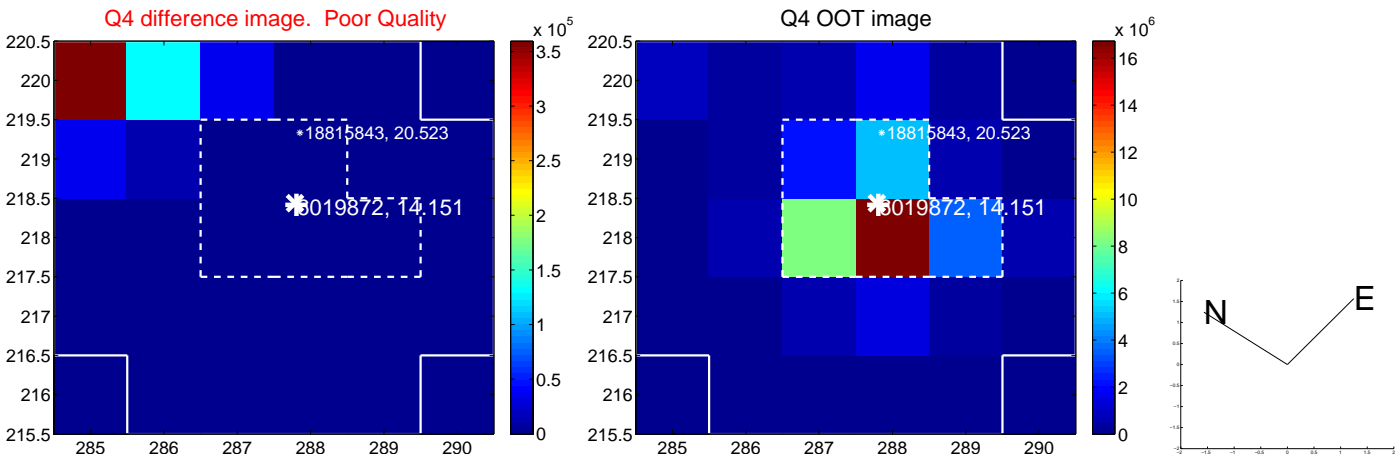
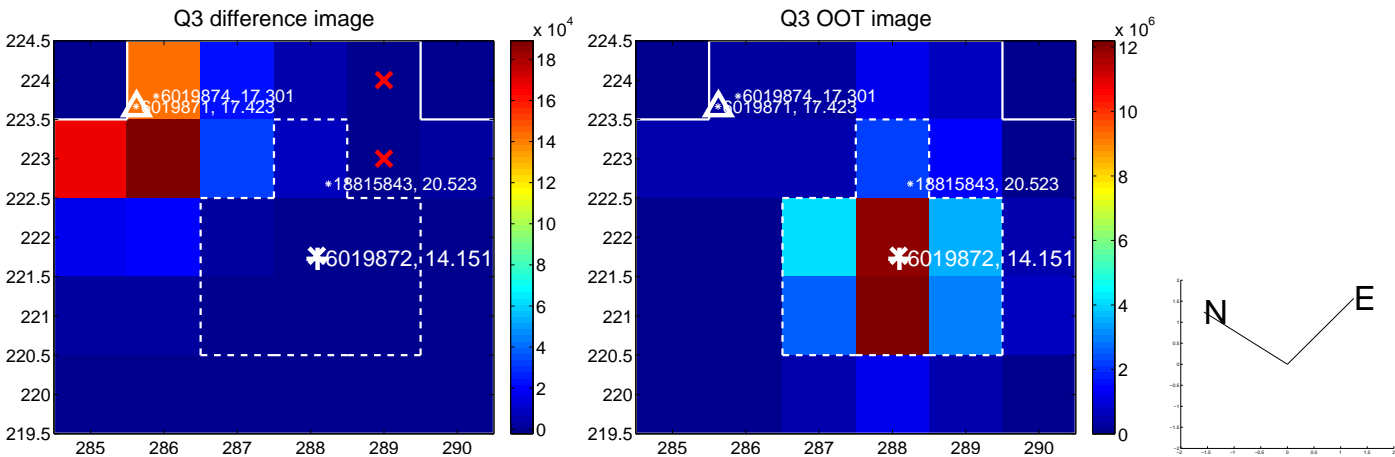
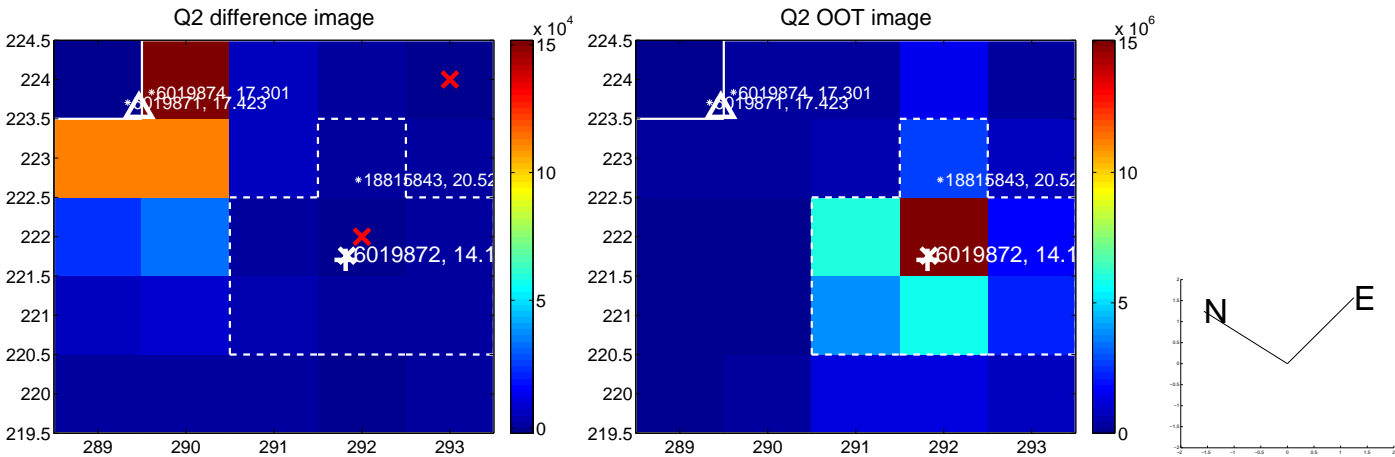
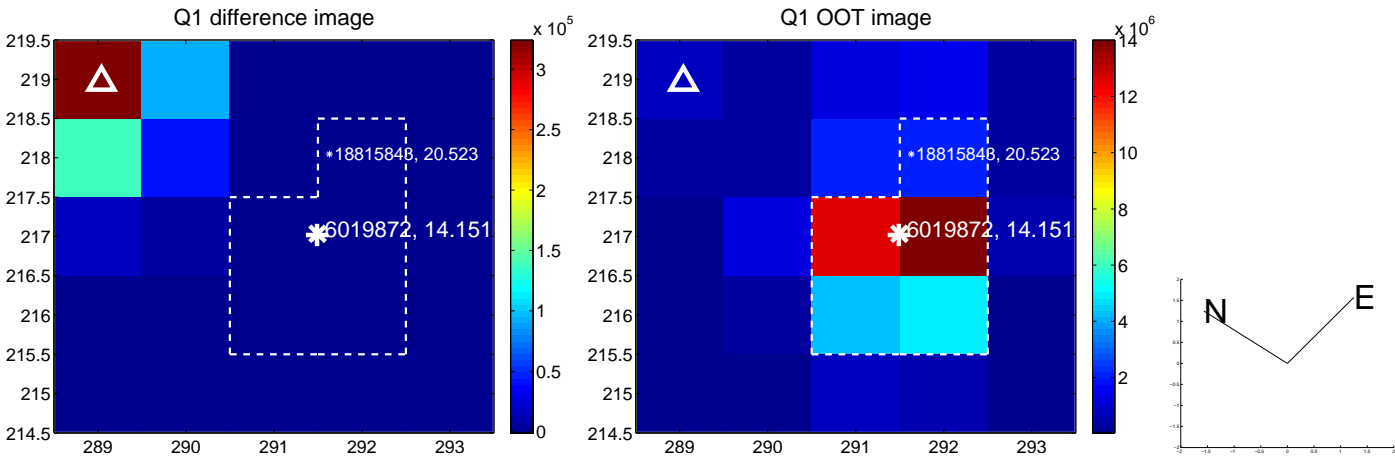
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	12.246 \pm 0.119	102.62	-0.005 \pm 0.085	12.246 \pm 0.119
PRF-fit source offset from KIC position	12.183 \pm 0.099	122.80	-0.137 \pm 0.071	12.182 \pm 0.099
photometric centroid source offset	—	—	—	—

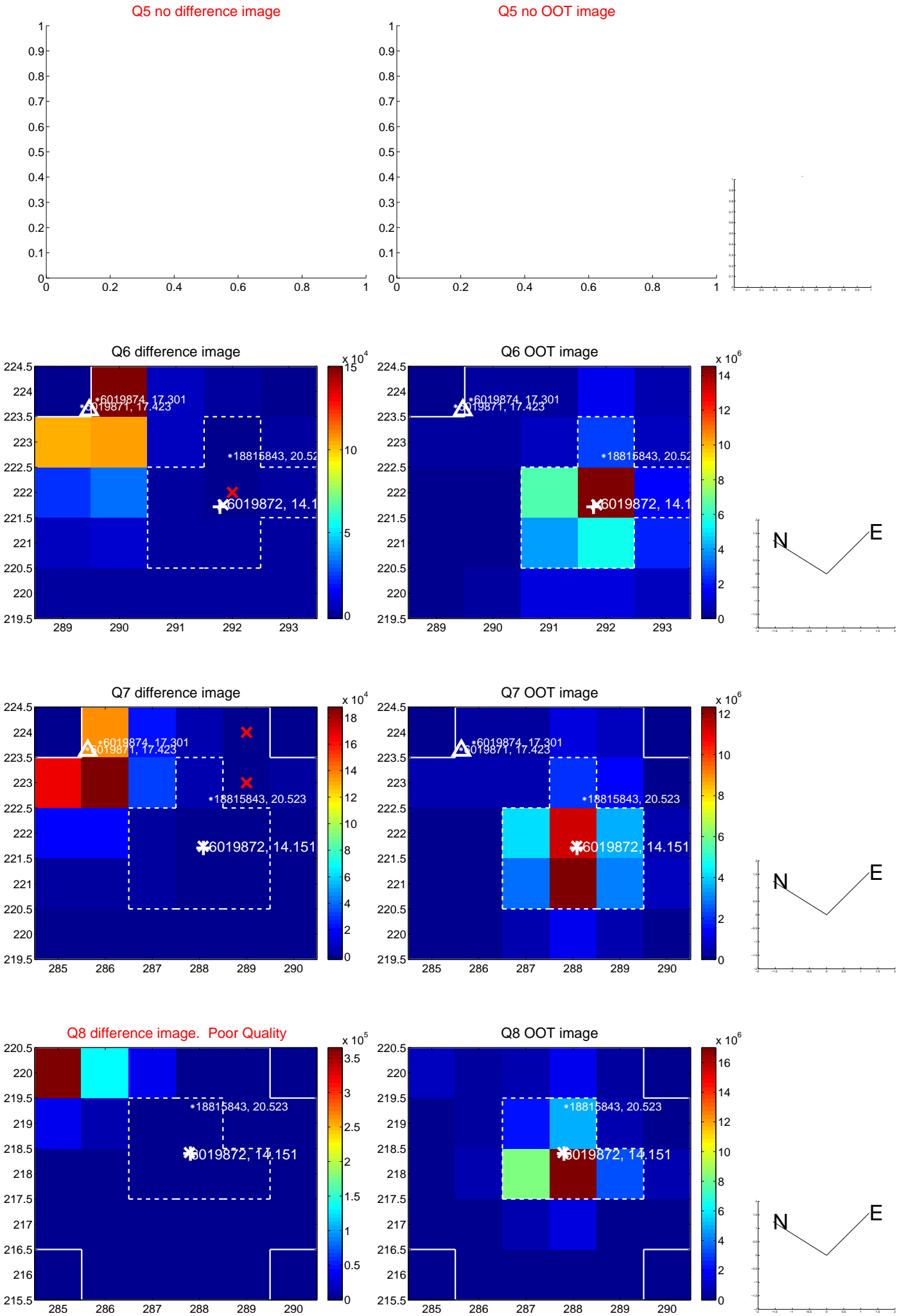


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

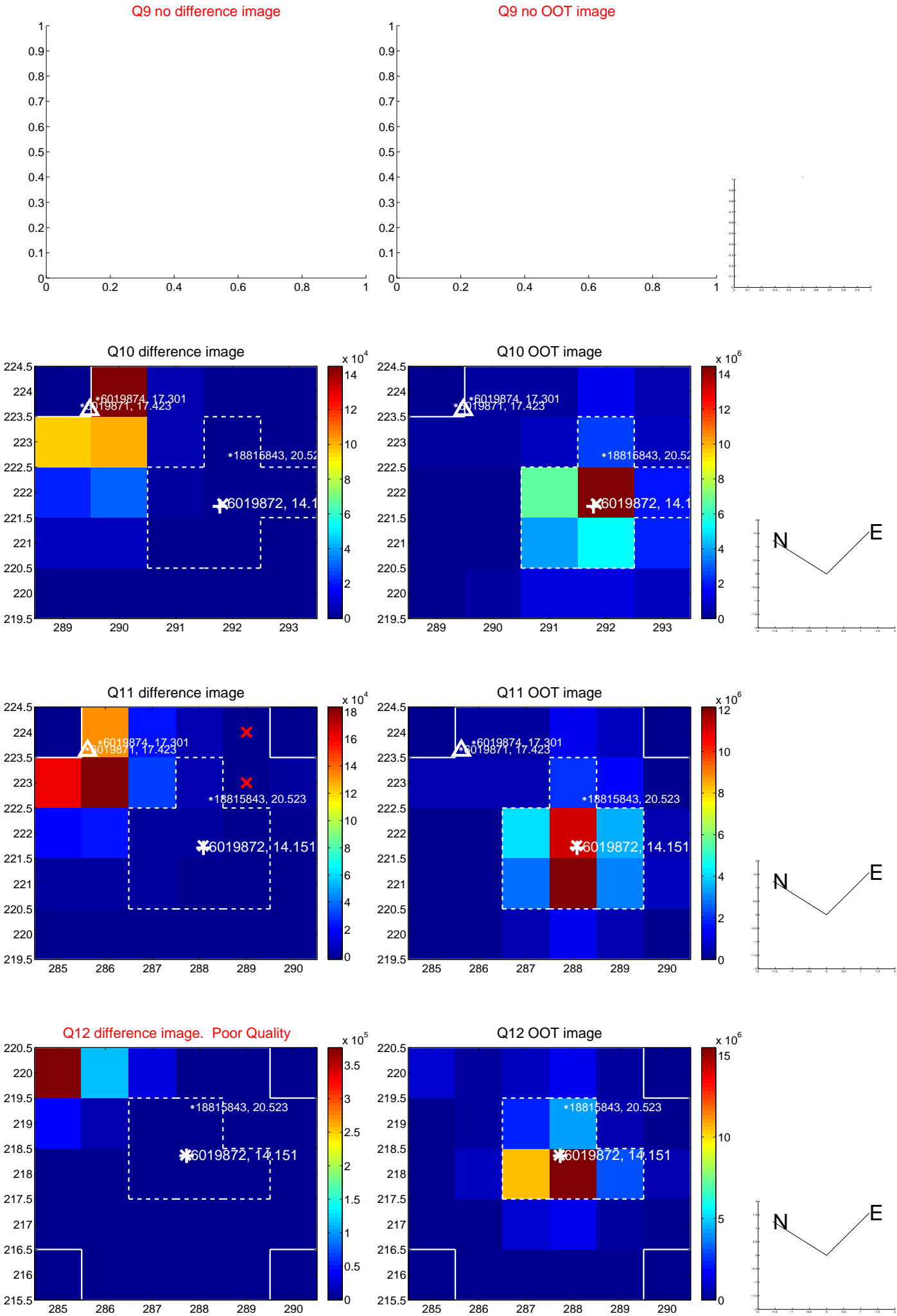
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



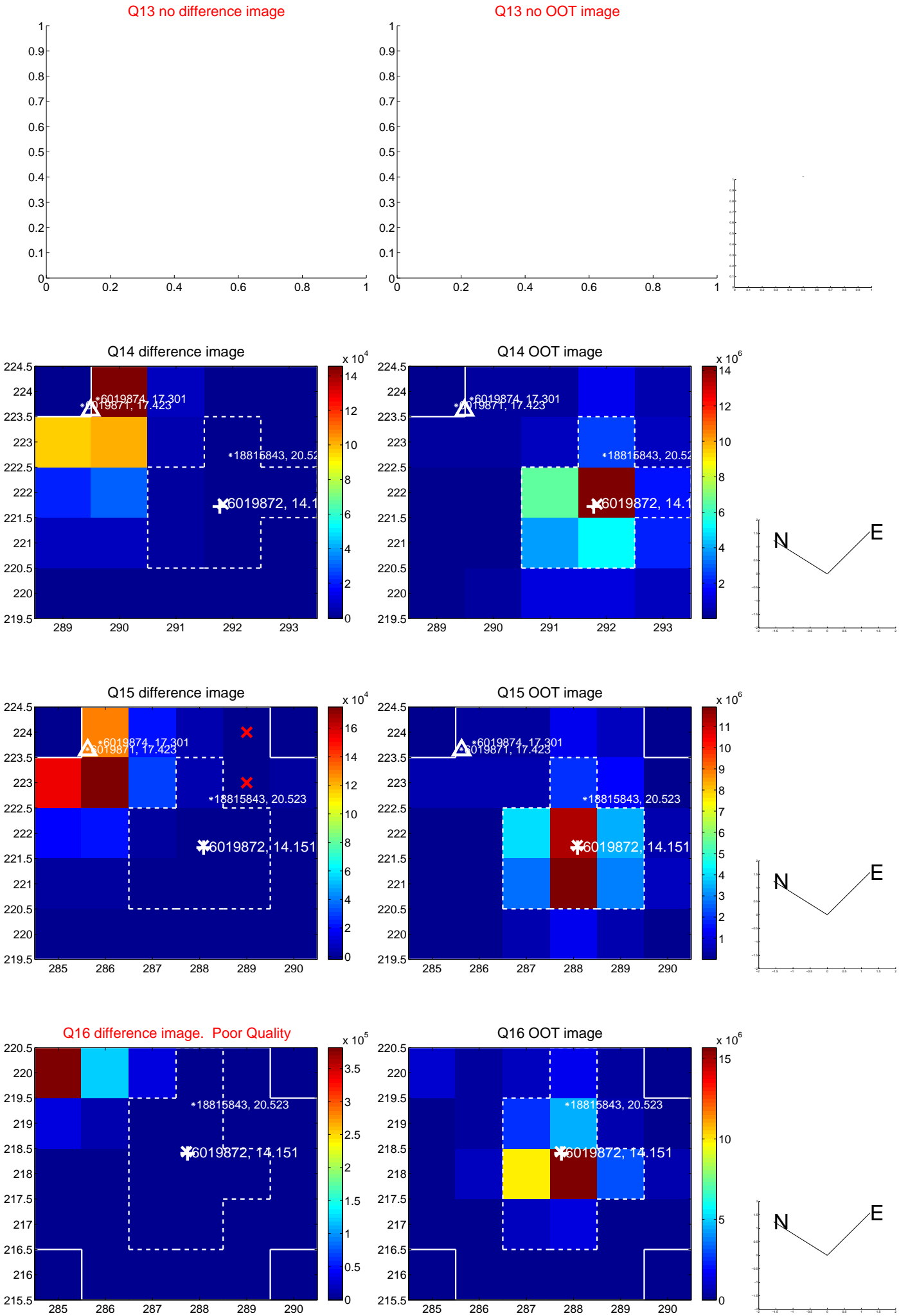
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



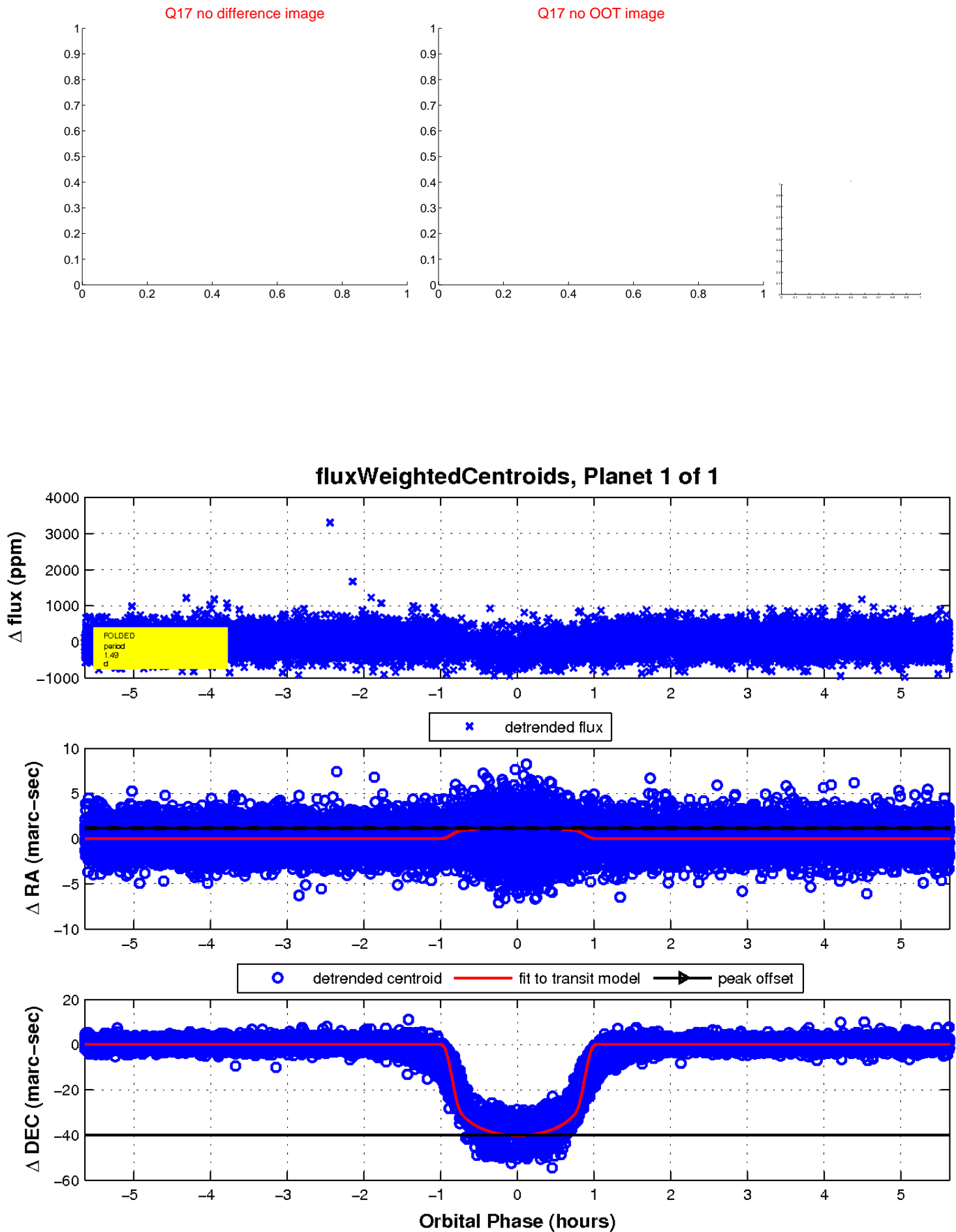
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

