

KIC 007097571

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})
007097571-01	OBS	6818.01	2.213964	132.566029	106281.8	5.905	4234.8	4074.4	1.51	6256	52.21	3028.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007097571-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_DV—MOD_SEC_ALT—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.

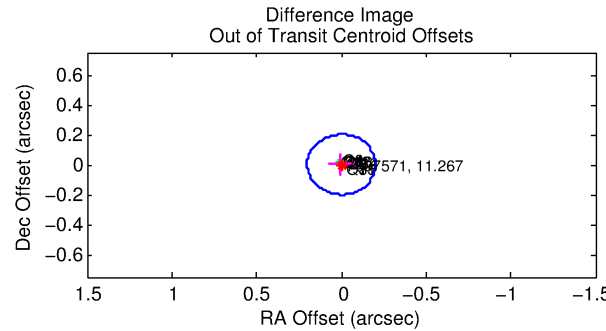
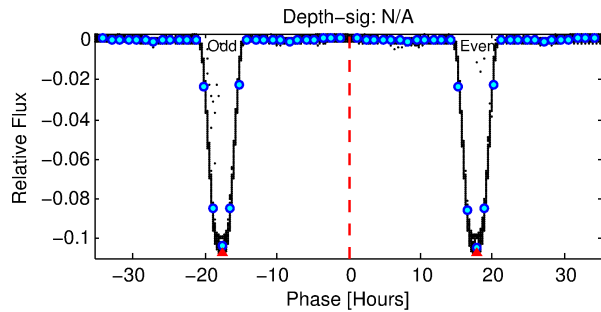
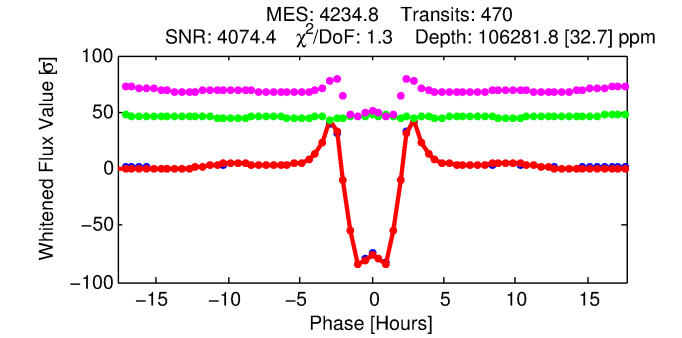
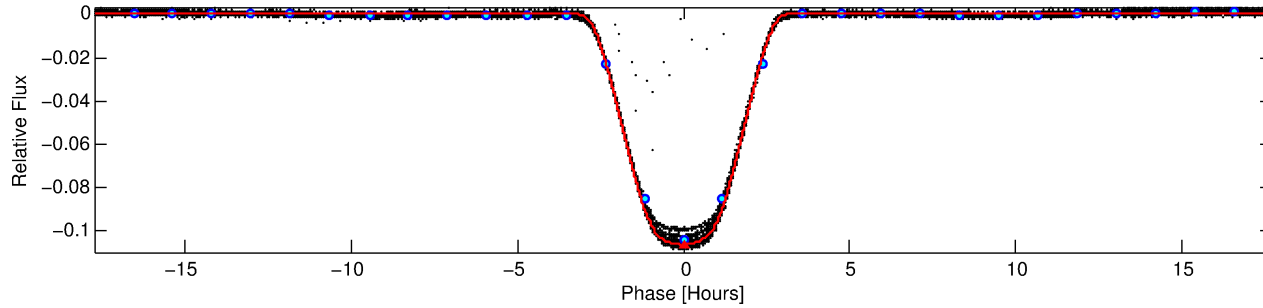
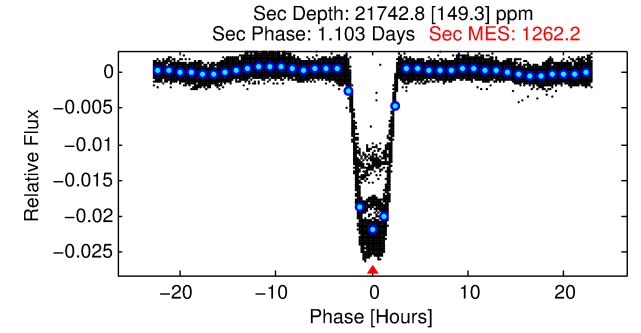
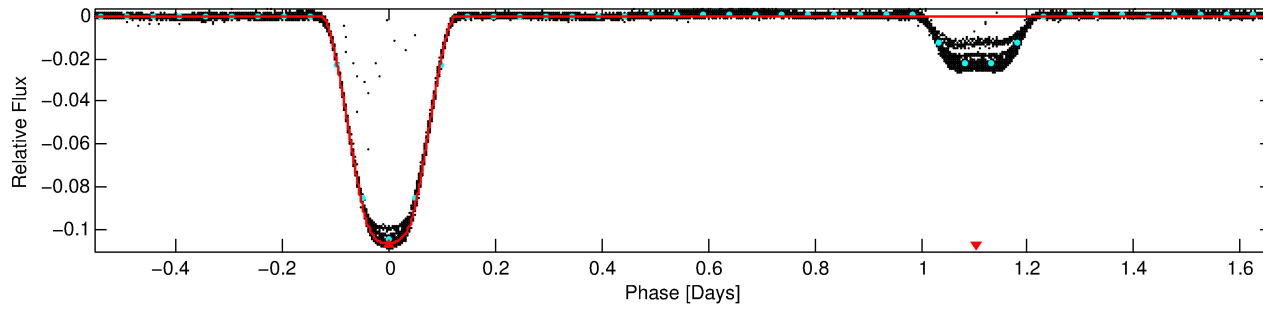
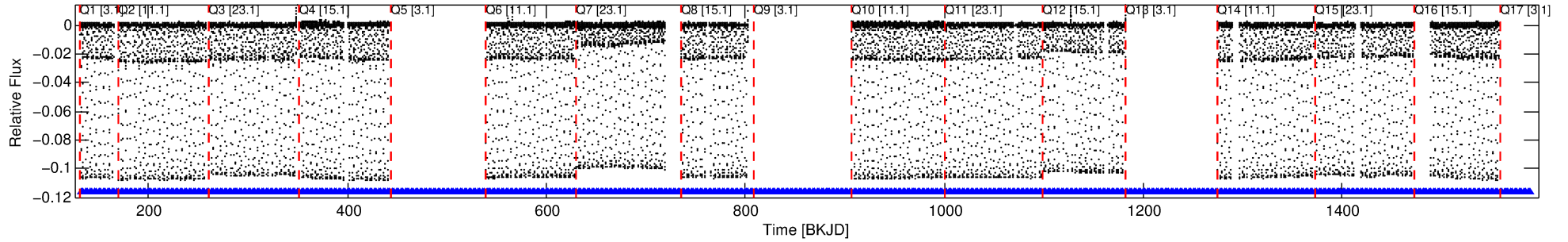
Ephemeris Match Information For 007097571-01

No Significant Match Found

DV One-Page Summary

KIC: 7097571 Candidate: 1 of 1 Period: 2.214 d
KOI: K06818.01 Corr: 0.933

Kp: 11.27 R*: 1.51 Rs Teff: 6256.0 K Logg: 4.04 Fe/H: -0.740



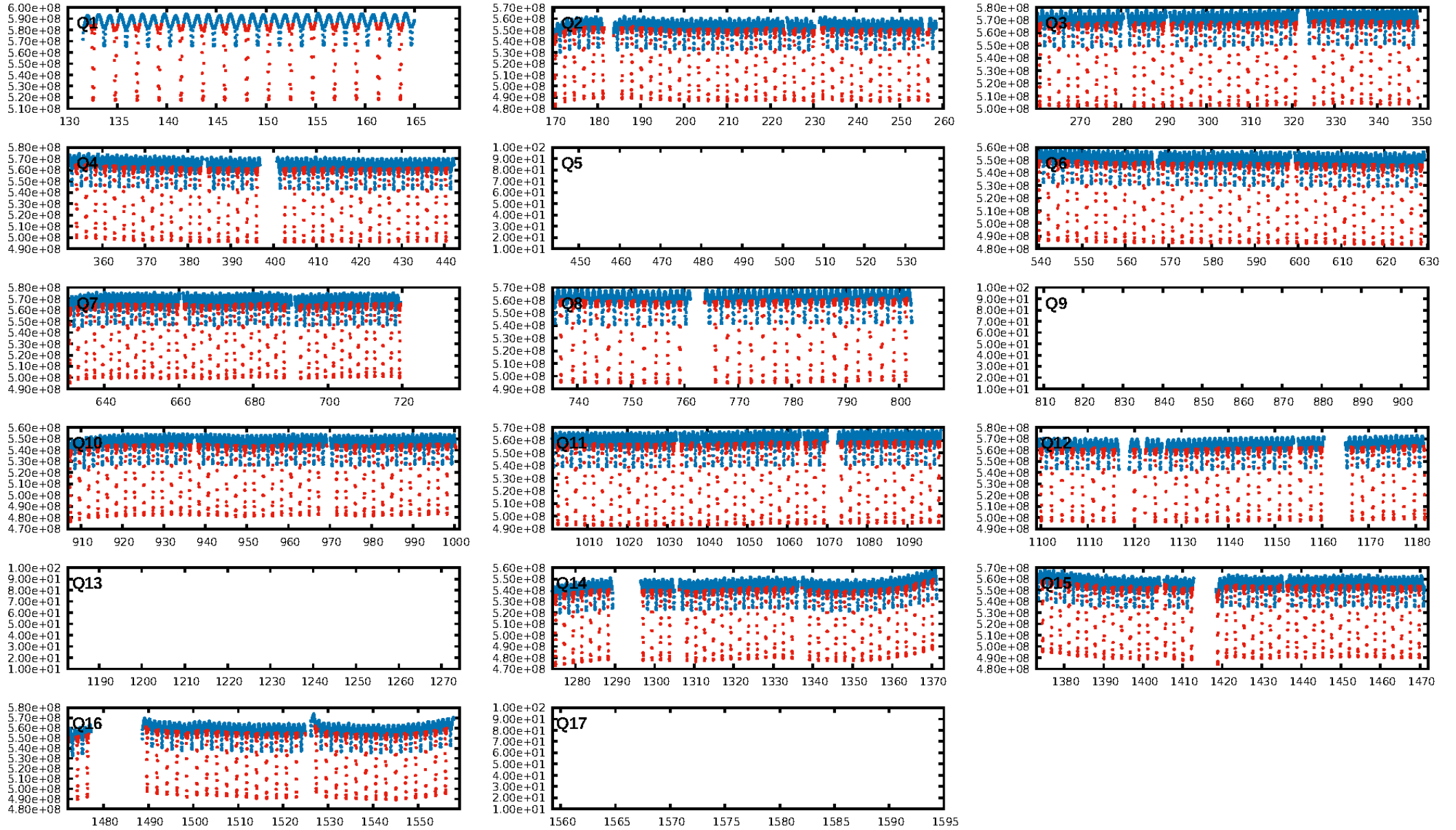
DV Fit Results:

Period = 2.21396 [0.00000] d
Epoch = 132.5660 [0.0000] BKJD
Rp/R* = 0.3160 [0.0001]
a/R* = 3.49 [0.00]
b = 0.59 [0.00]
Seff = 3028.80 [2182.35]
Teff = 1892 [341] K
Rp = 52.21 [20.38] Re
a = 0.0322 [0.0135] AU
Ag = 4.56 [3.22] [1.10σ]
Teffp = 4274 [150] K [6.39σ]

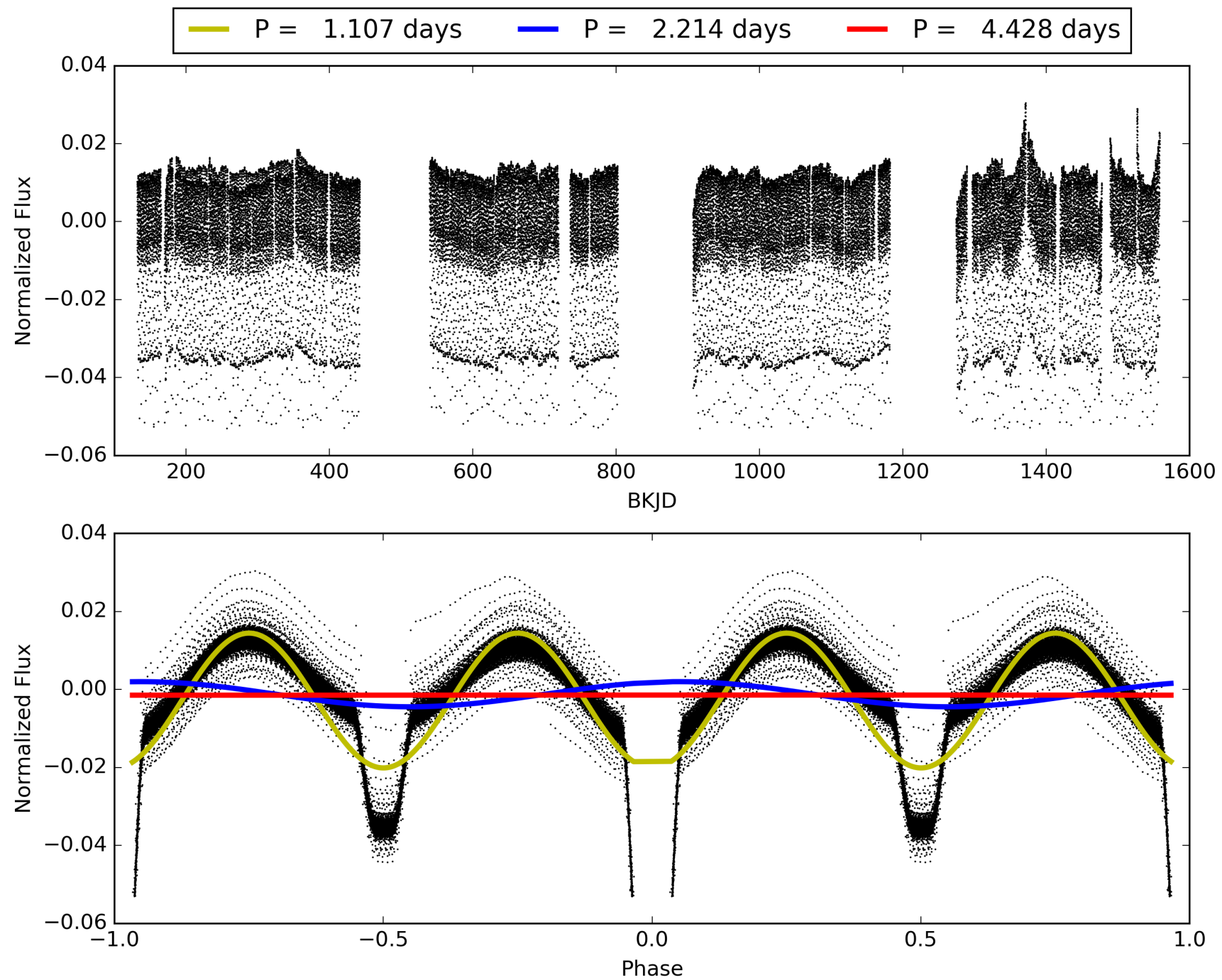
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [455/455]
GhostDiagnostic-chr: 1.901
Centroid-sig: 0.0%
Centroid-so: 0.171 arcsec [621.41σ]
OotOffset-rm: 0.001 arcsec [0.02σ]
KicOffset-rm: 0.097 arcsec [1.40σ]
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]

TCE 007097571-01, PDC Light Curves

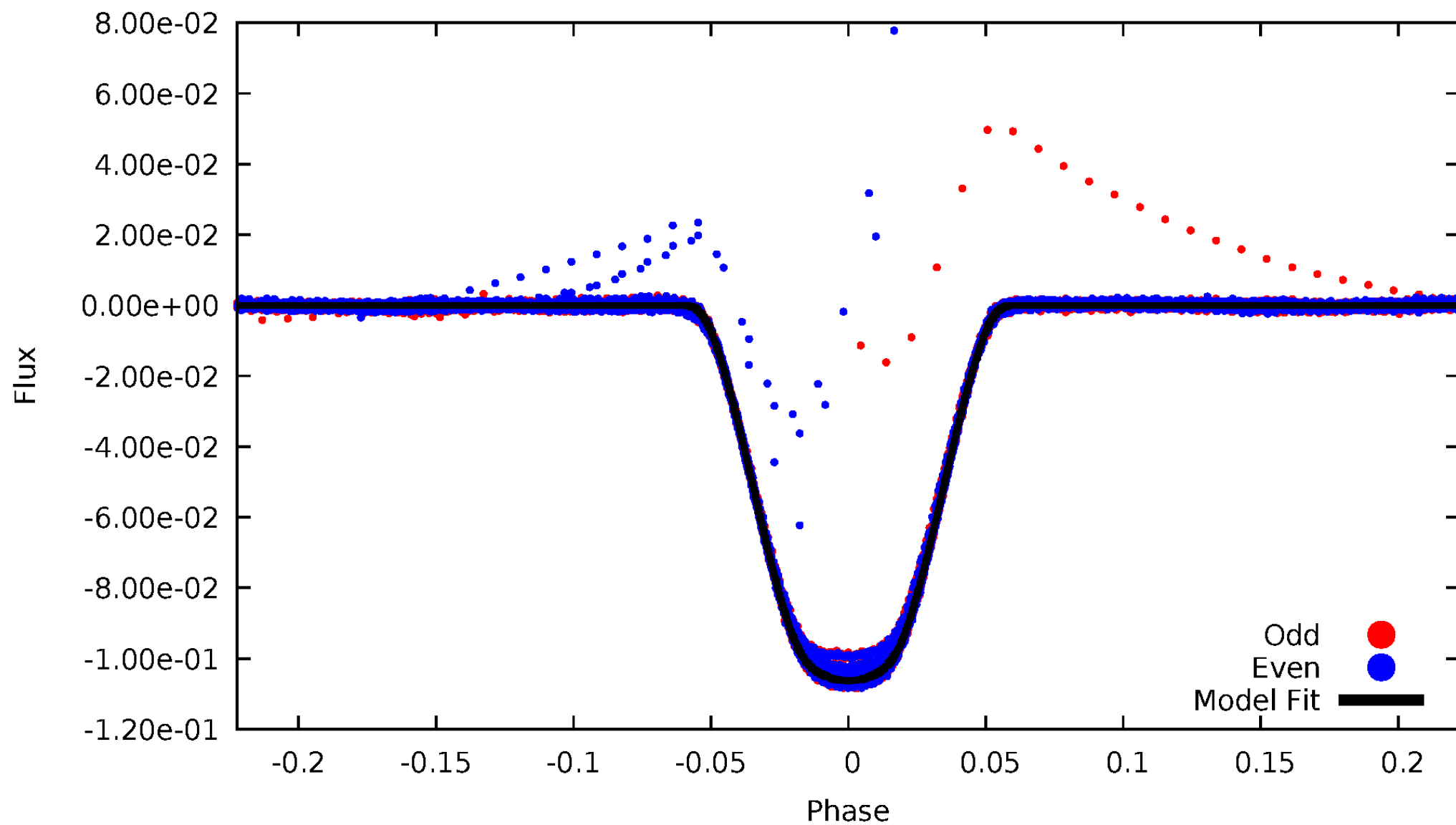


TCE 007097571-01



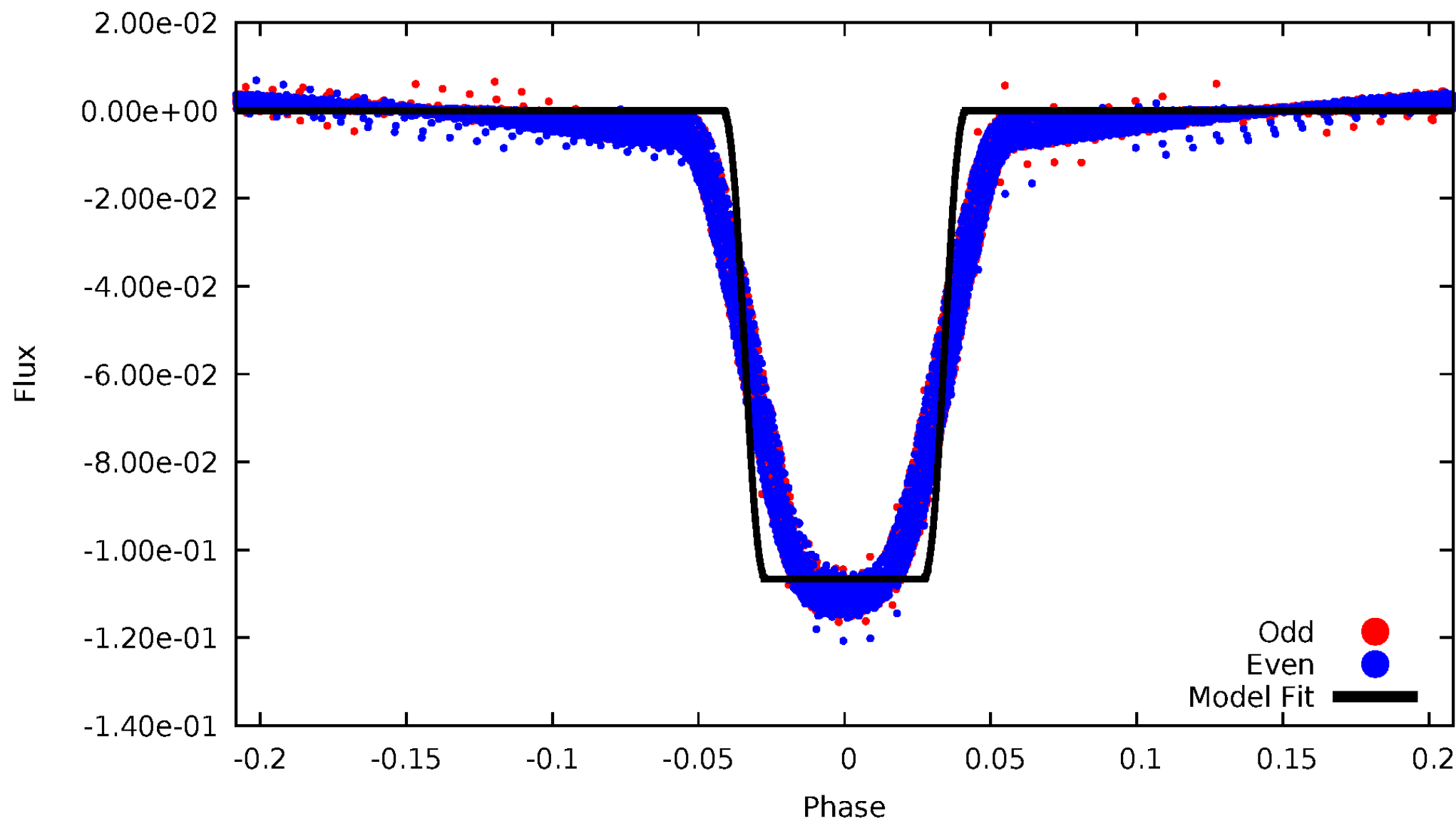
DV Odd/Even

TCE 007097571-01



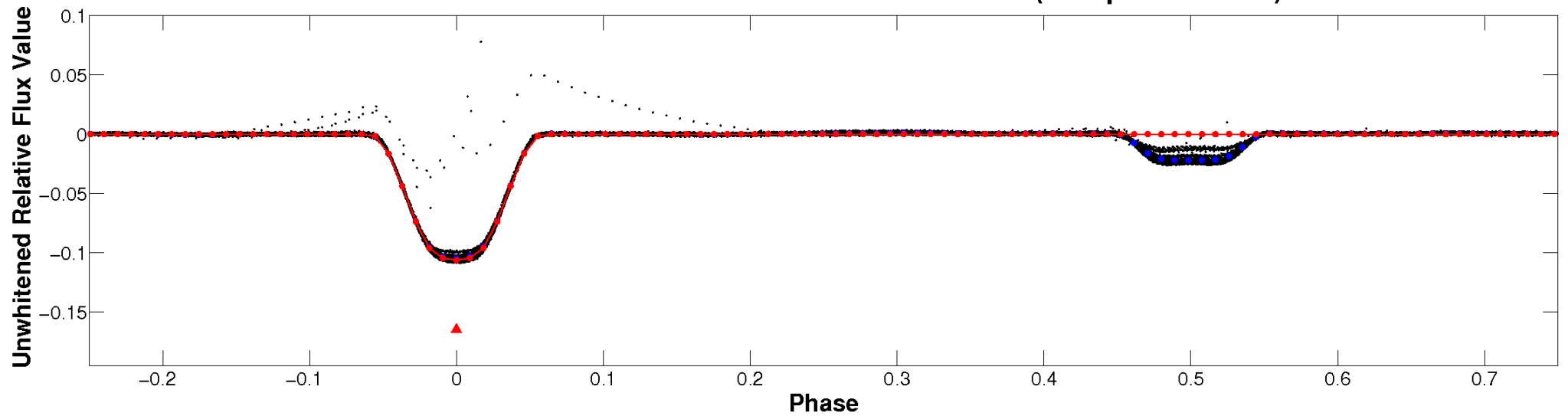
ALT Odd/Even

TCE 007097571-01

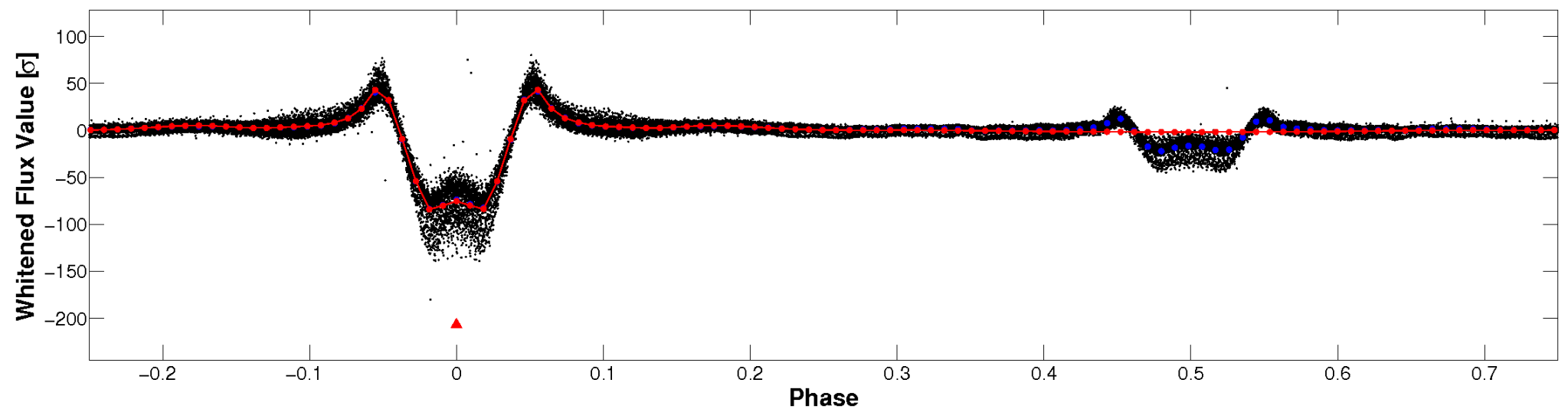


Non-Whitened Vs. Whitened Light Curve

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

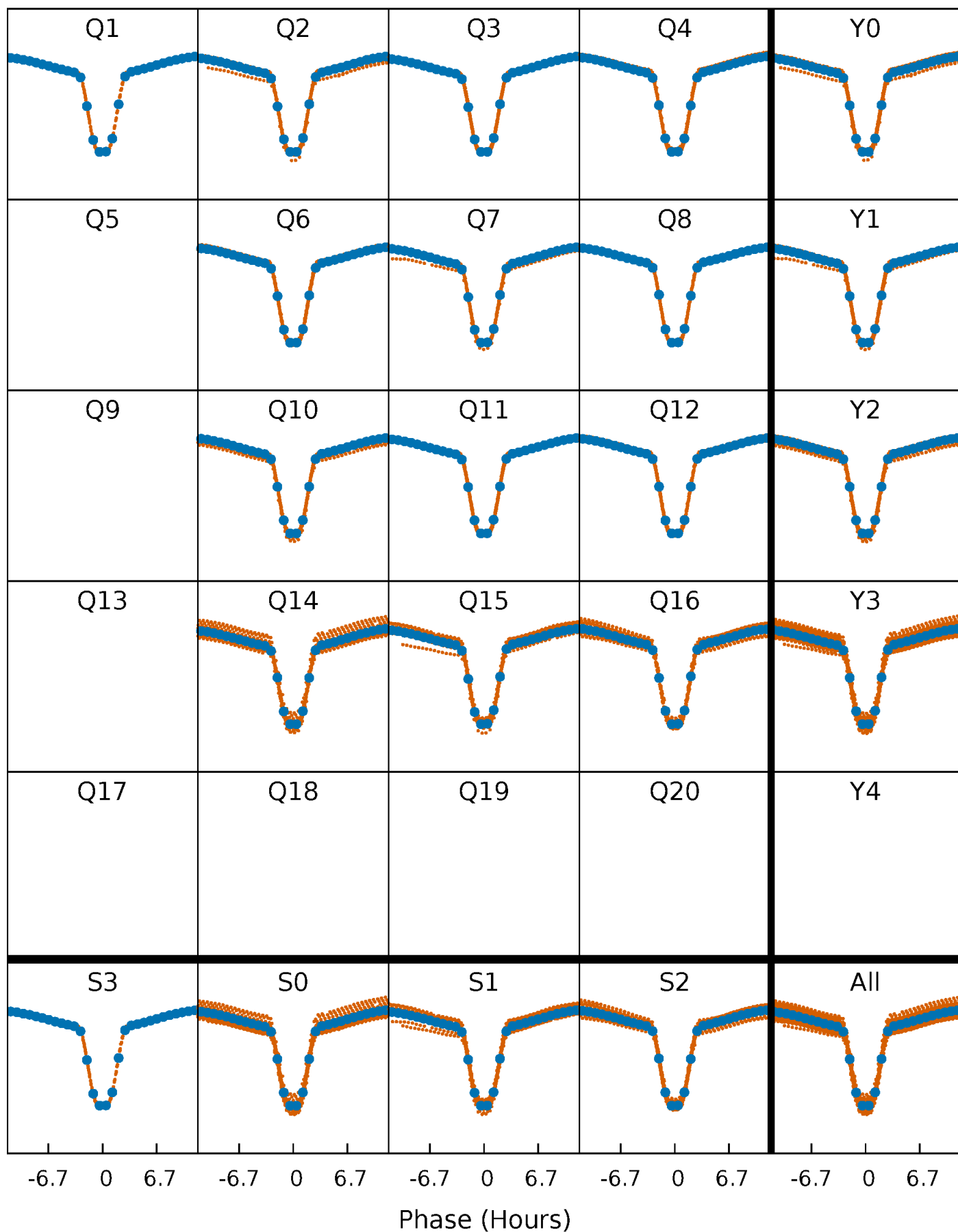


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



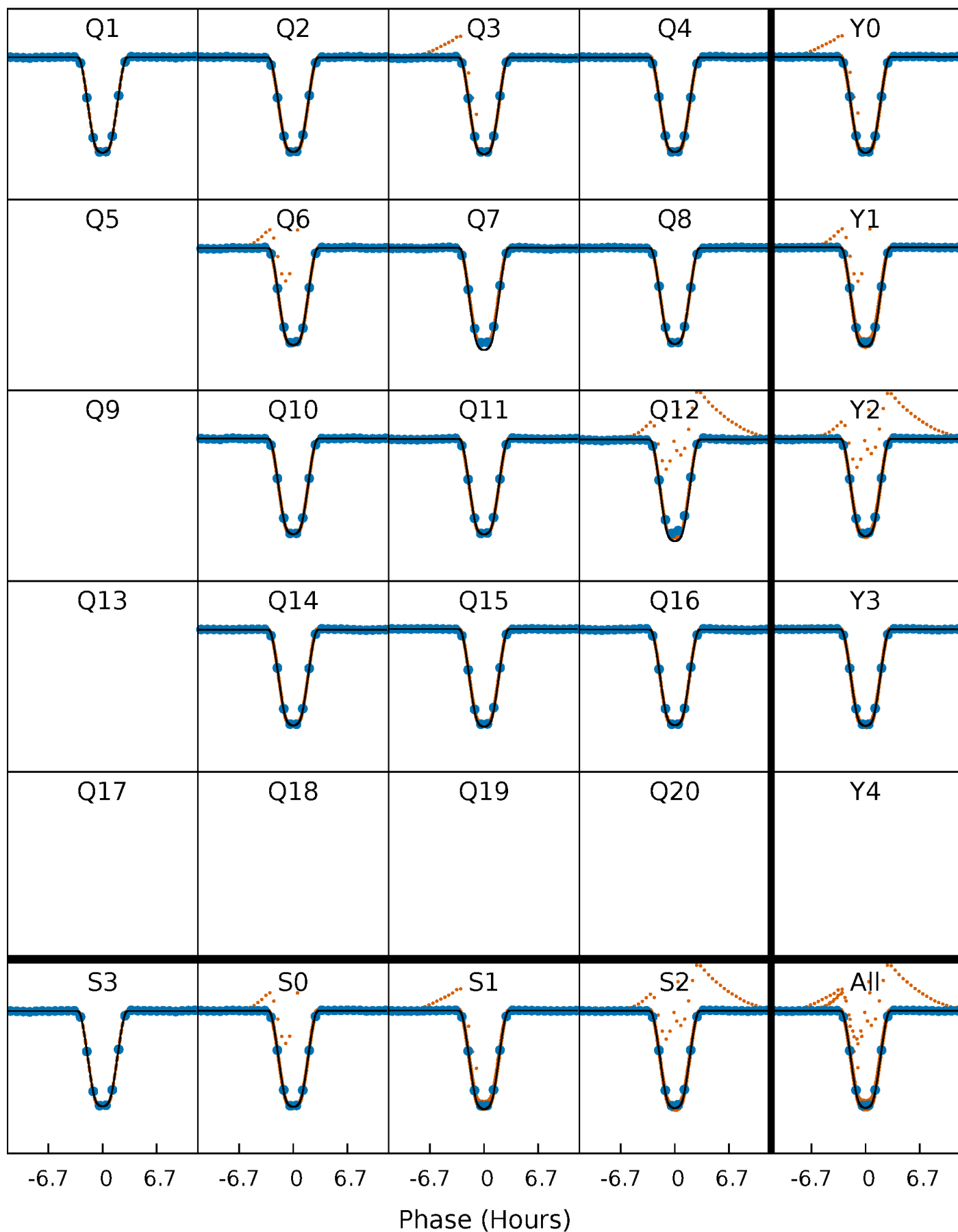
PDC Quarter-Phased Transit Curves

TCE 007097571-01 P= 2.213964 Days $T_0=132.566029$ (BKJD)



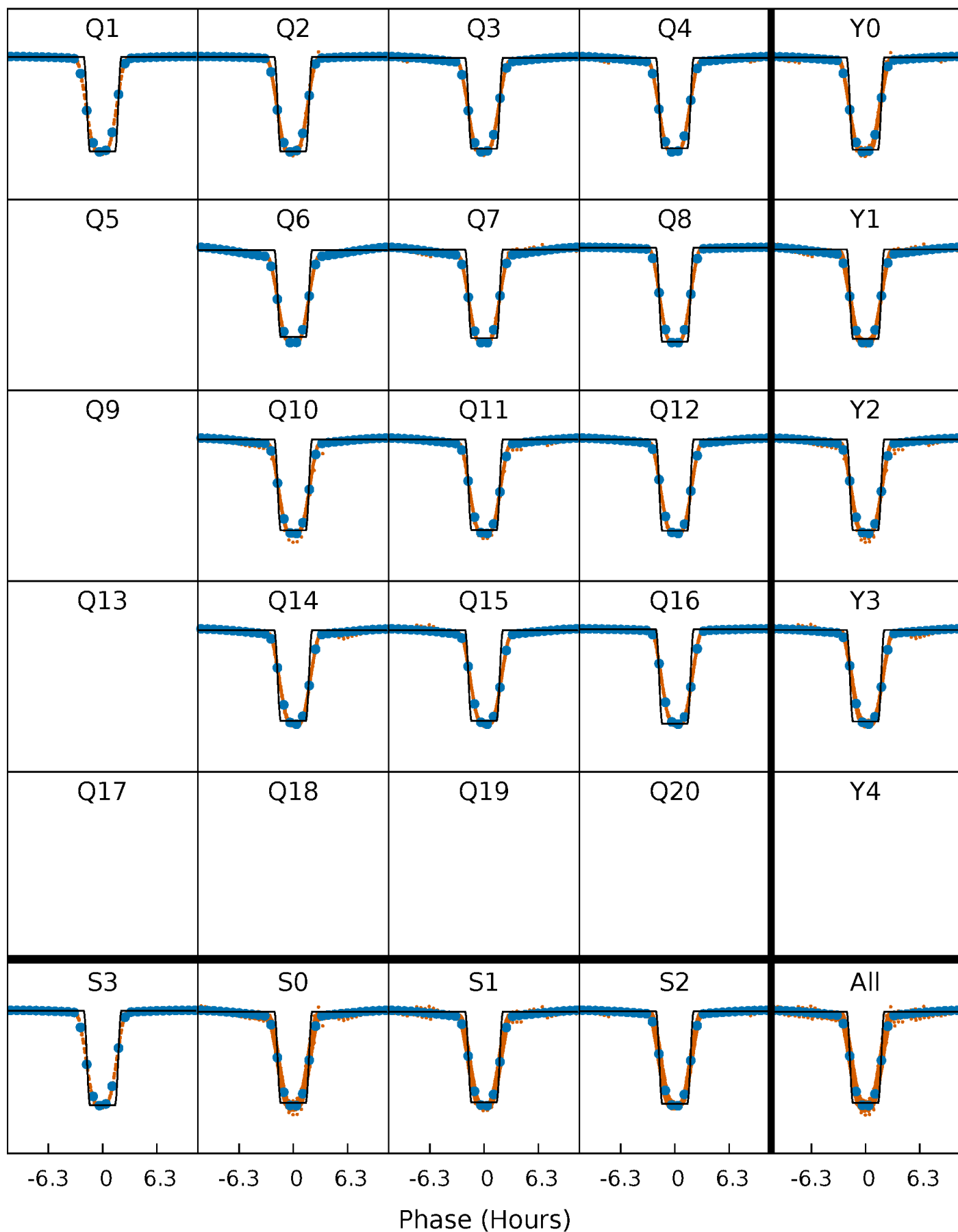
DV Quarter-Phased Transit Curves

TCE 007097571-01 P= 2.213964 Days $T_0=132.566029$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

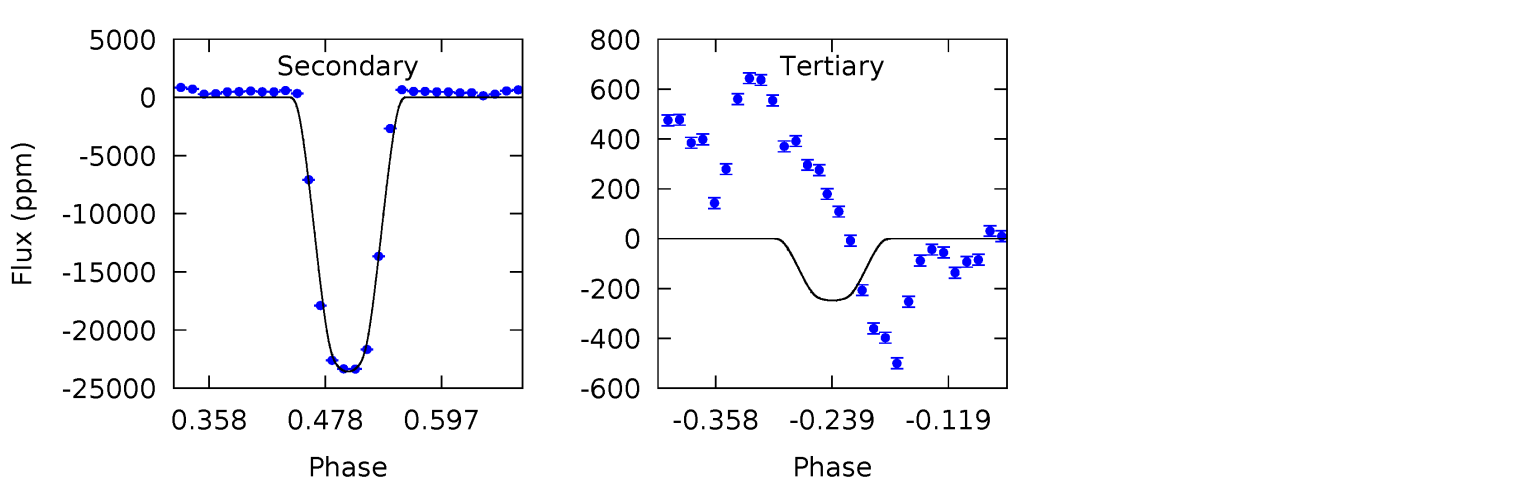
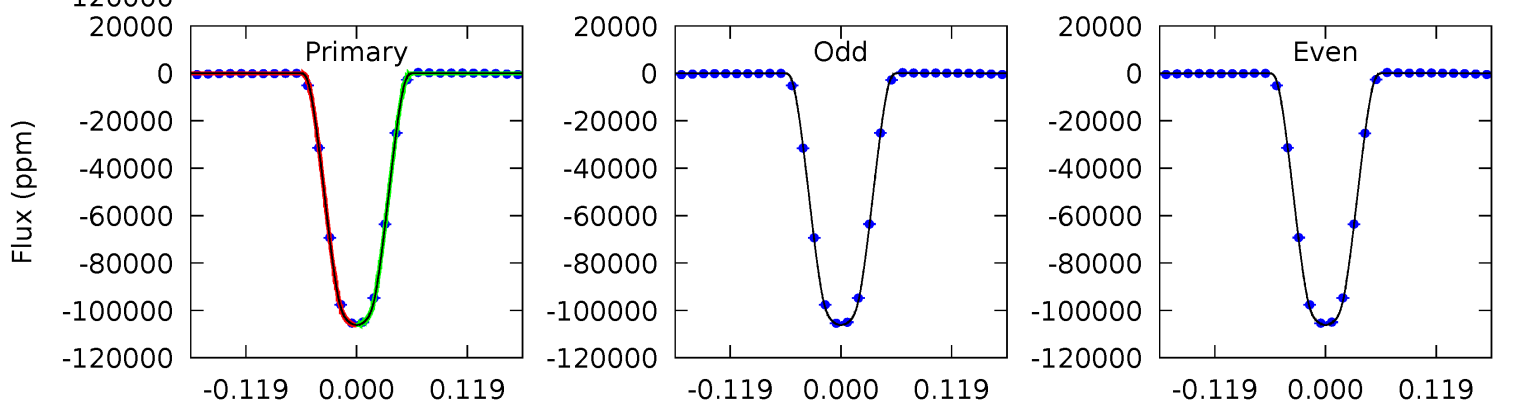
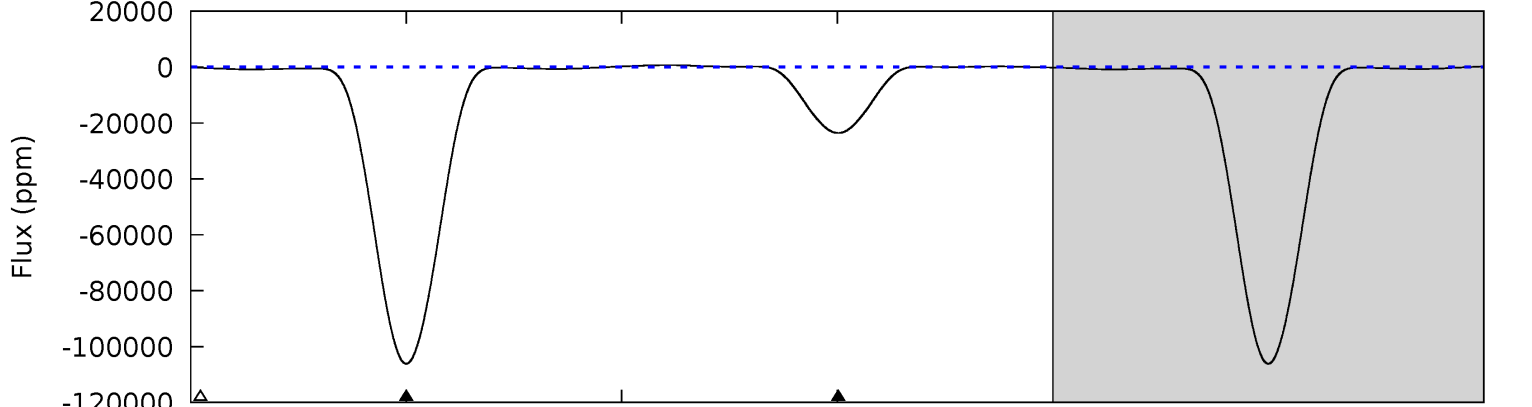
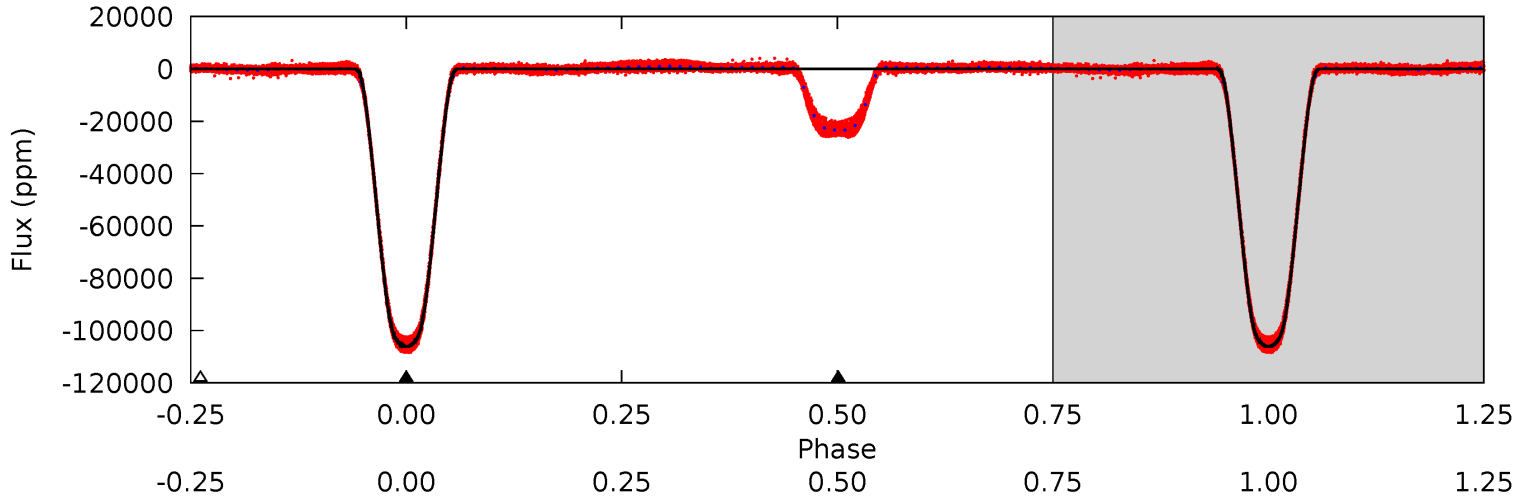
TCE 007097571-01 P= 2.213939 Days $T_0=132.572268$ (BKJD)



DV Model-Shift Uniqueness Test

007097571-01, P = 2.213964 Days, E = 130.352065 Days

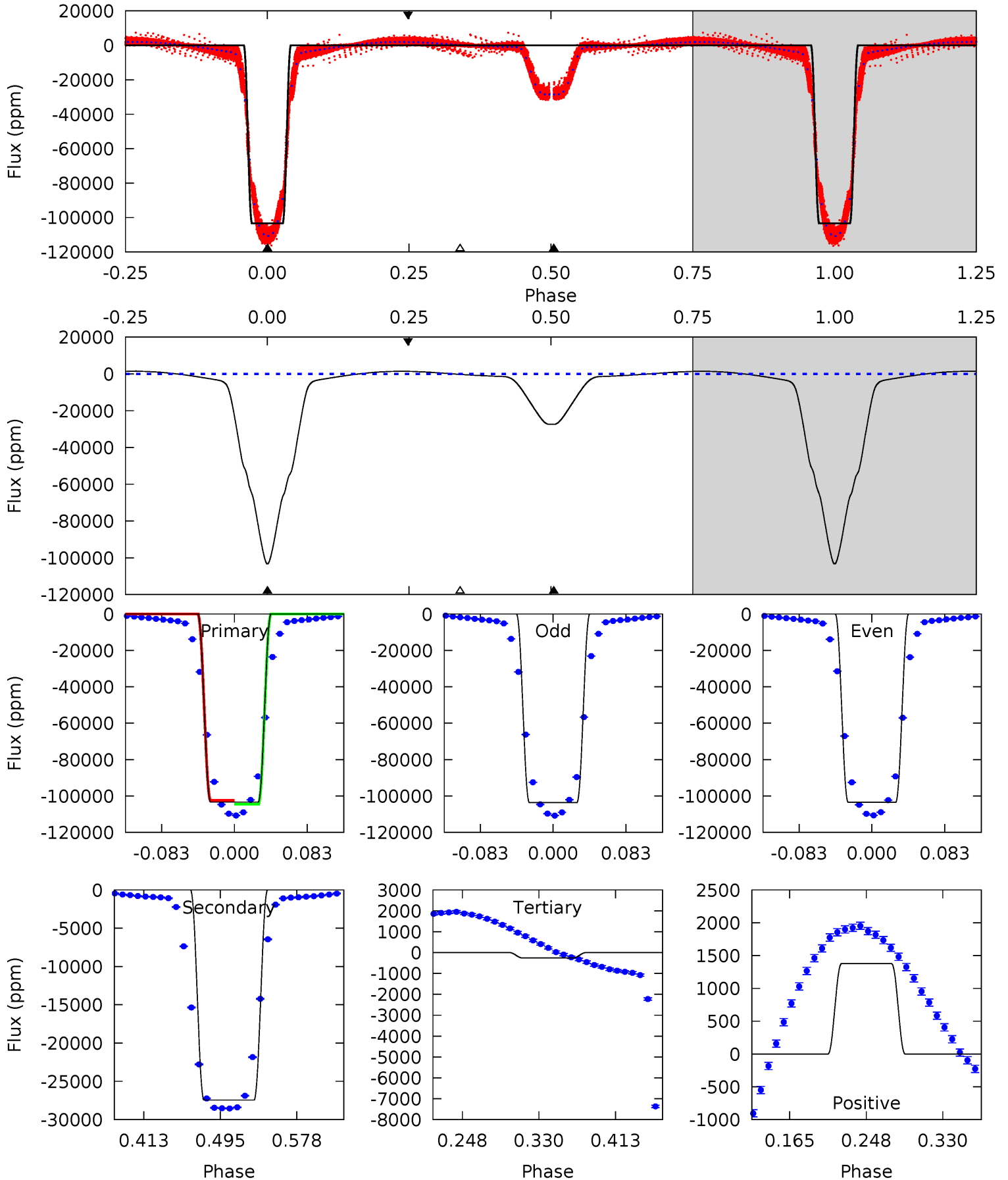
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10218	2269	23.9	0	4.53	1.56	43.5	10194	10218	2245	2269	0.26	0.99	0.01	5.65



Alt Model-Shift Uniqueness Test

007097571-01, P = 2.213939 Days, E = 130.358329 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3748	995.1	9.39	49.9	4.60	1.74	46.8	3739	3698	985.8	945.2	3.37	1.00	0.01	36.2



Stellar Parameters For KIC 007097571

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6256^{+220}_{-198}	$4.037^{+0.428}_{-0.171}$	$-0.740^{+0.300}_{-0.300}$	$1.514^{+0.394}_{-0.591}$	$0.911^{+0.113}_{-0.102}$	$0.370^{+1.238}_{-0.178}$
	+4%/-3%	+11%/-4%	+41%/-41%	+26%/-39%	+12%/-11%	+335%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007097571-01 / KOI 6818.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-23570 ± 10	$51.30^{+7.83}_{-11.52}$	2604^{+235}_{-300}	4517^{+123}_{-121}	$5.313^{+3.359}_{-1.288}$
Alt.	-27445 ± 28	$53.22^{+8.53}_{-12.78}$	2599^{+234}_{-328}	4592^{+122}_{-120}	$5.758^{+4.045}_{-1.411}$

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

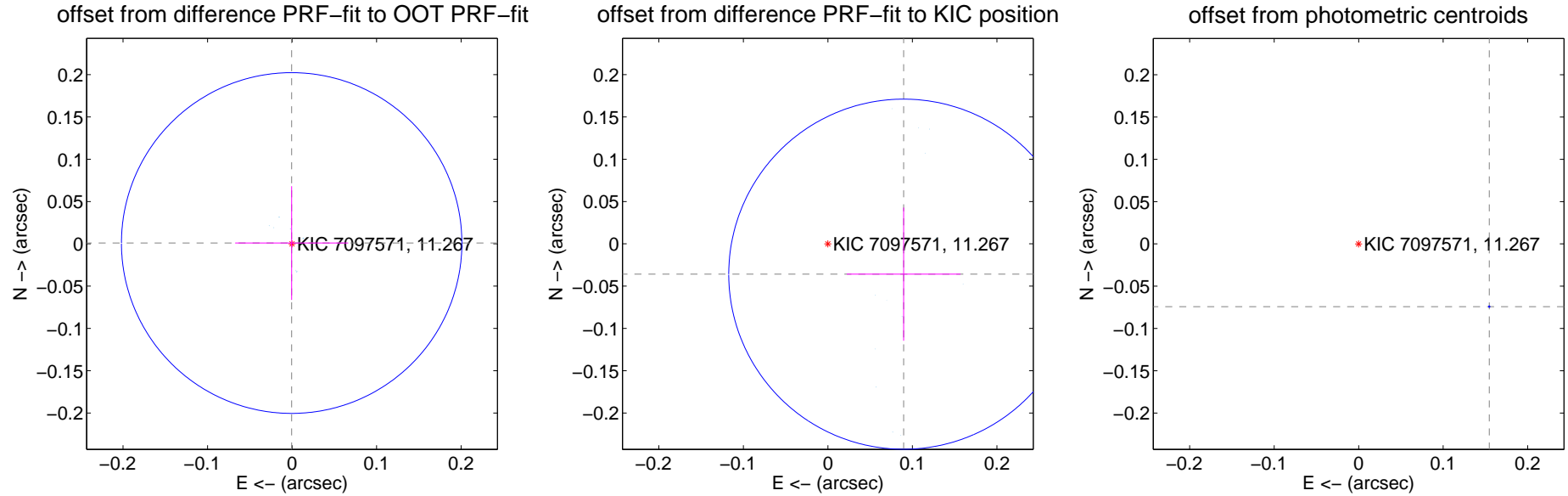
DV Centroid Data

Supplemental centroid analysis for 007097571-01. **Kepler magnitude: 11.27.** Transit SNR 4074.38

There are 13 quarters with good PRF difference image offsets

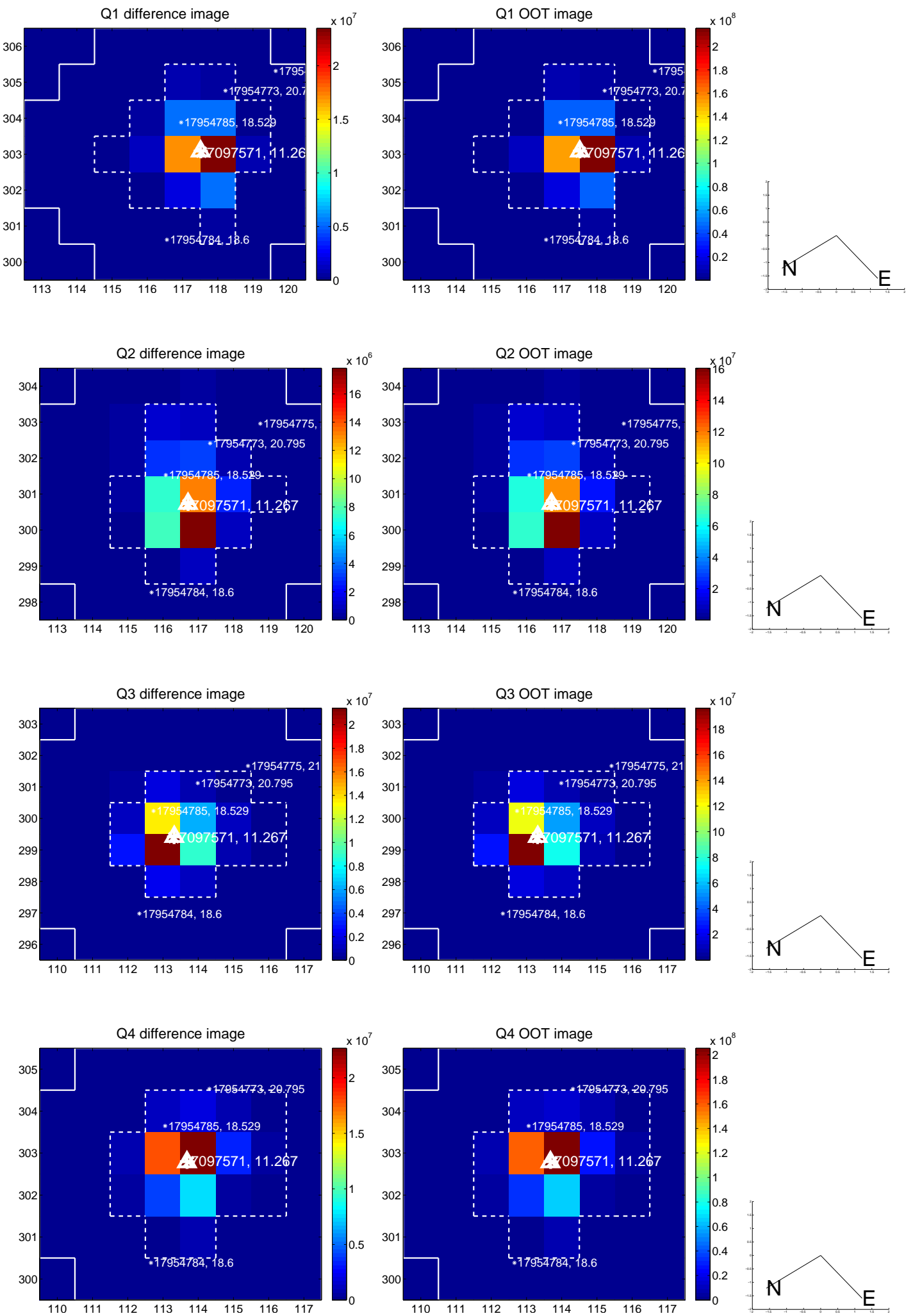
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.001 ± 0.067	0.02	0.000 ± 0.067	0.001 ± 0.067
PRF-fit source offset from KIC position	0.097 ± 0.069	1.40	-0.090 ± 0.067	-0.036 ± 0.079
photometric centroid source offset	0.17 ± 0.00	621.41	-0.15 ± 0.00	-0.07 ± 0.00

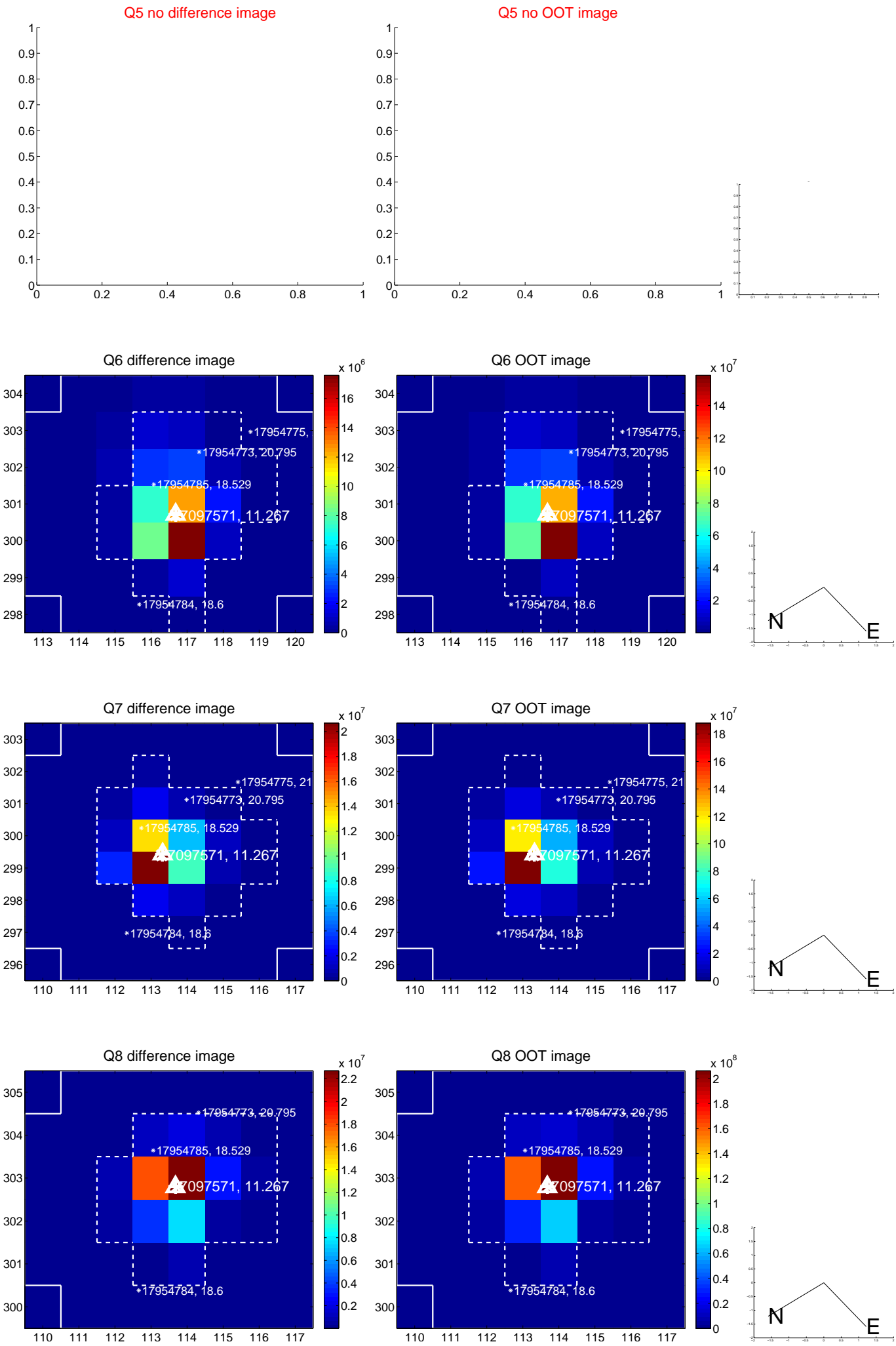


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

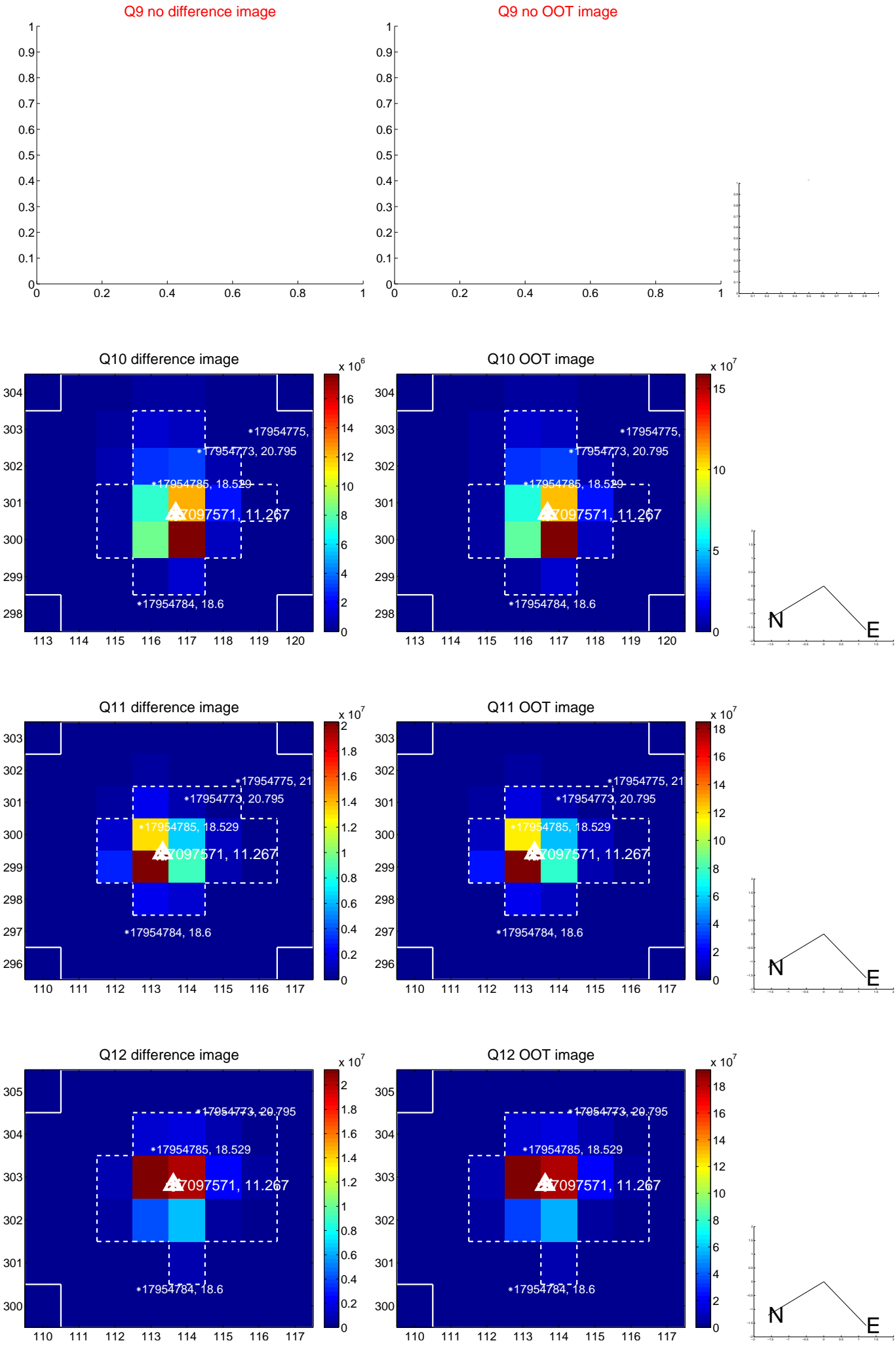
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



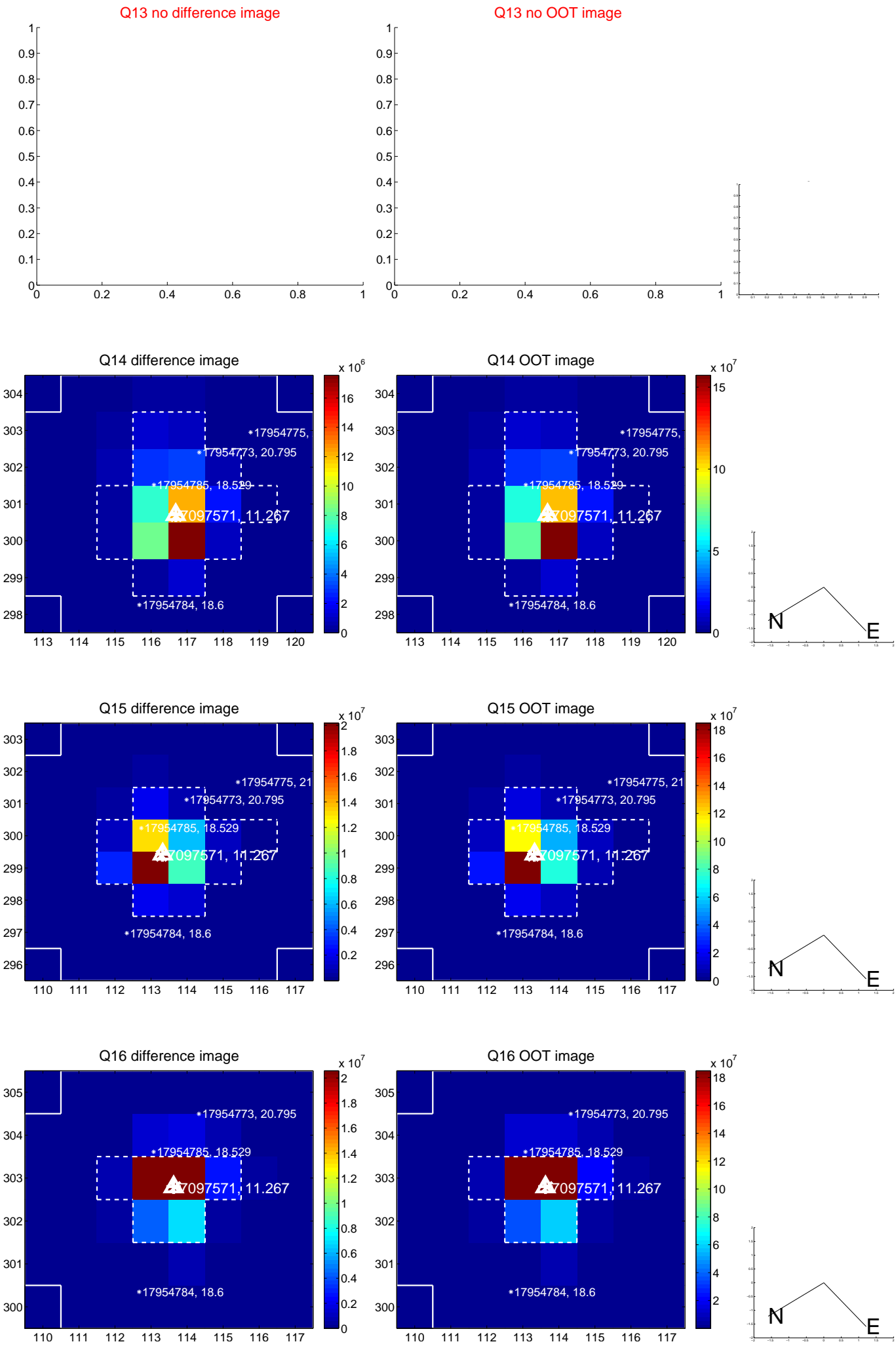
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



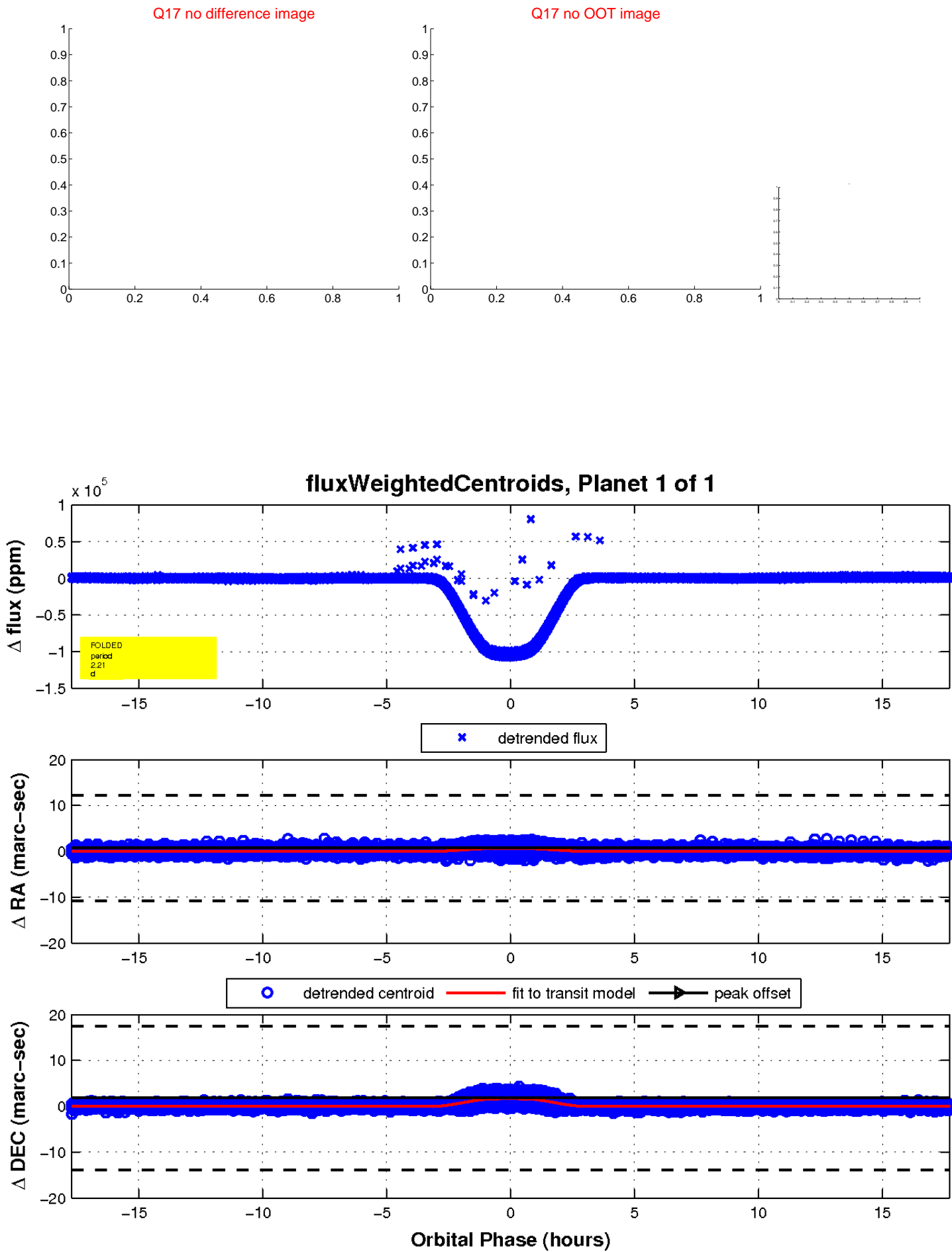
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

