

KIC 007885570

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})
007885570-01	OBS	6929.01	1.729453	132.507450	109465.9	5.064	1593.6	796.7	2.55	5587	112.16	5858.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007885570-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—CENT_KIC_POS

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.

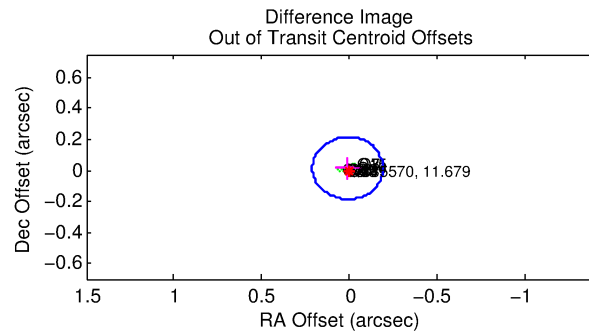
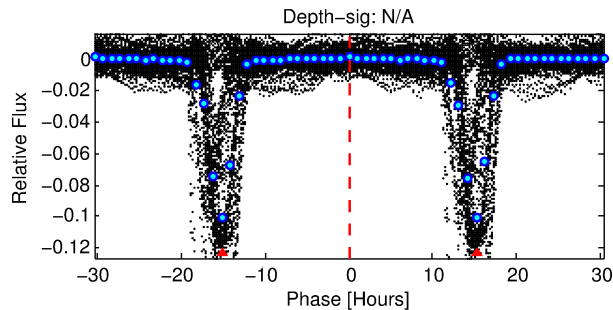
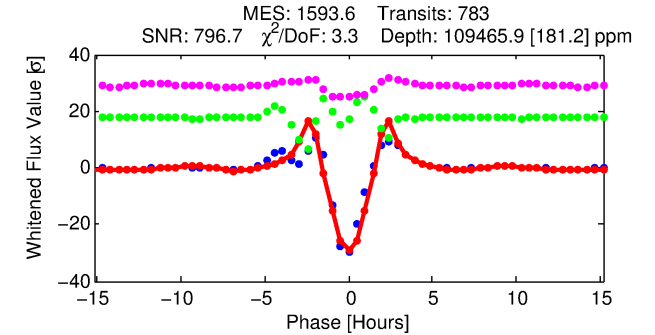
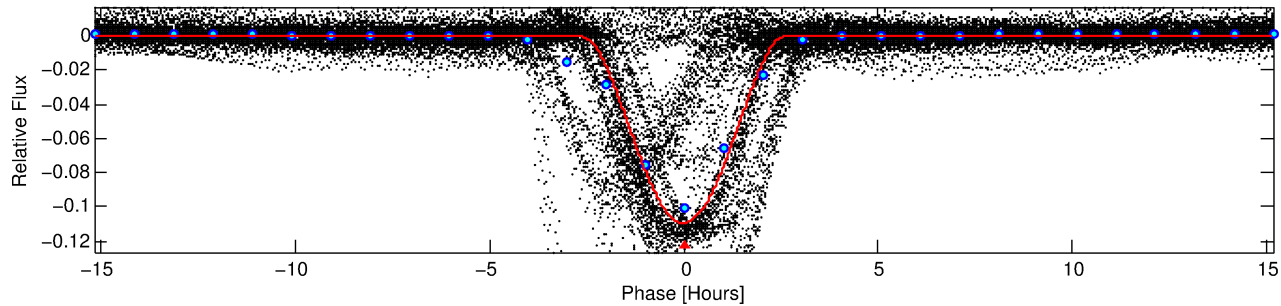
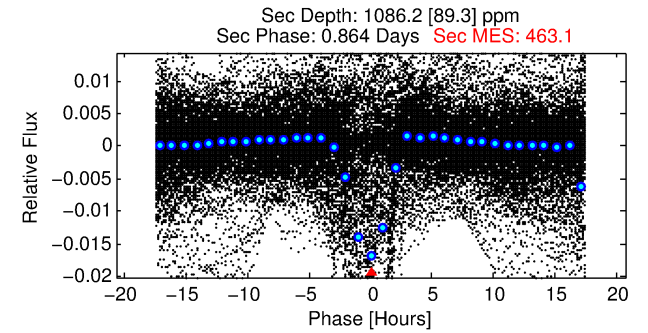
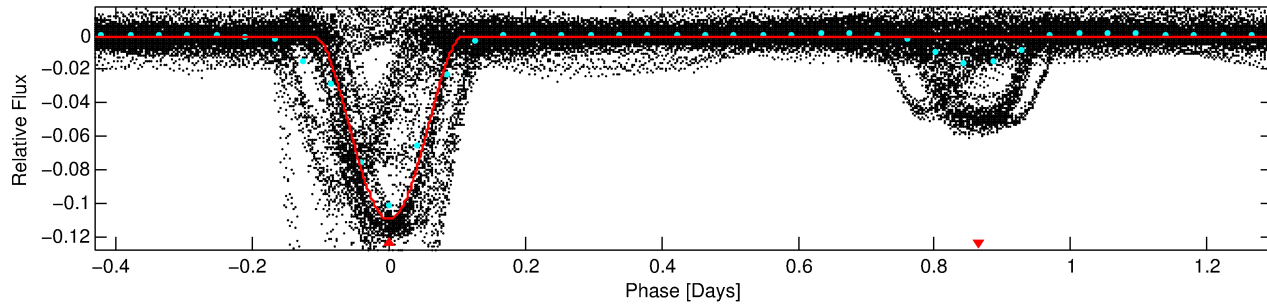
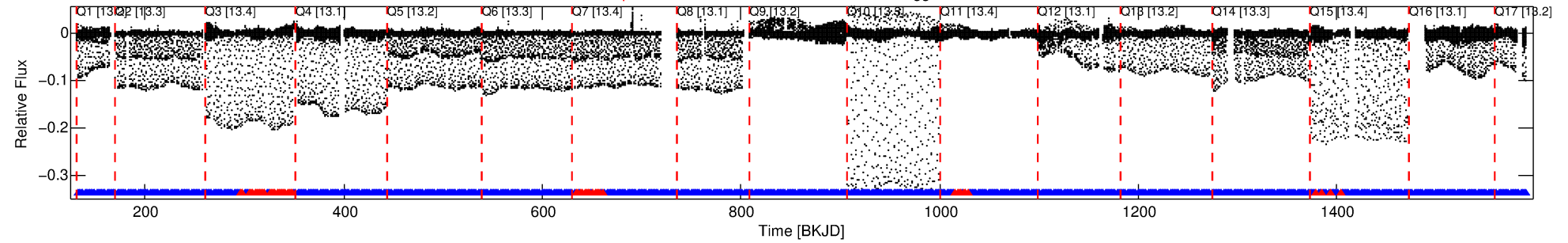
Ephemeris Match Information For 007885570-01

No Significant Match Found

DV One-Page Summary

KIC: 7885570 Candidate: 1 of 1 Period: 1.729 d
KOI: K06929.01 Corr: 0.841

Kp: 11.68 R*: 2.55 Rs Teff: 5587.0 K Logg: 3.75 Fe/H: 0.040



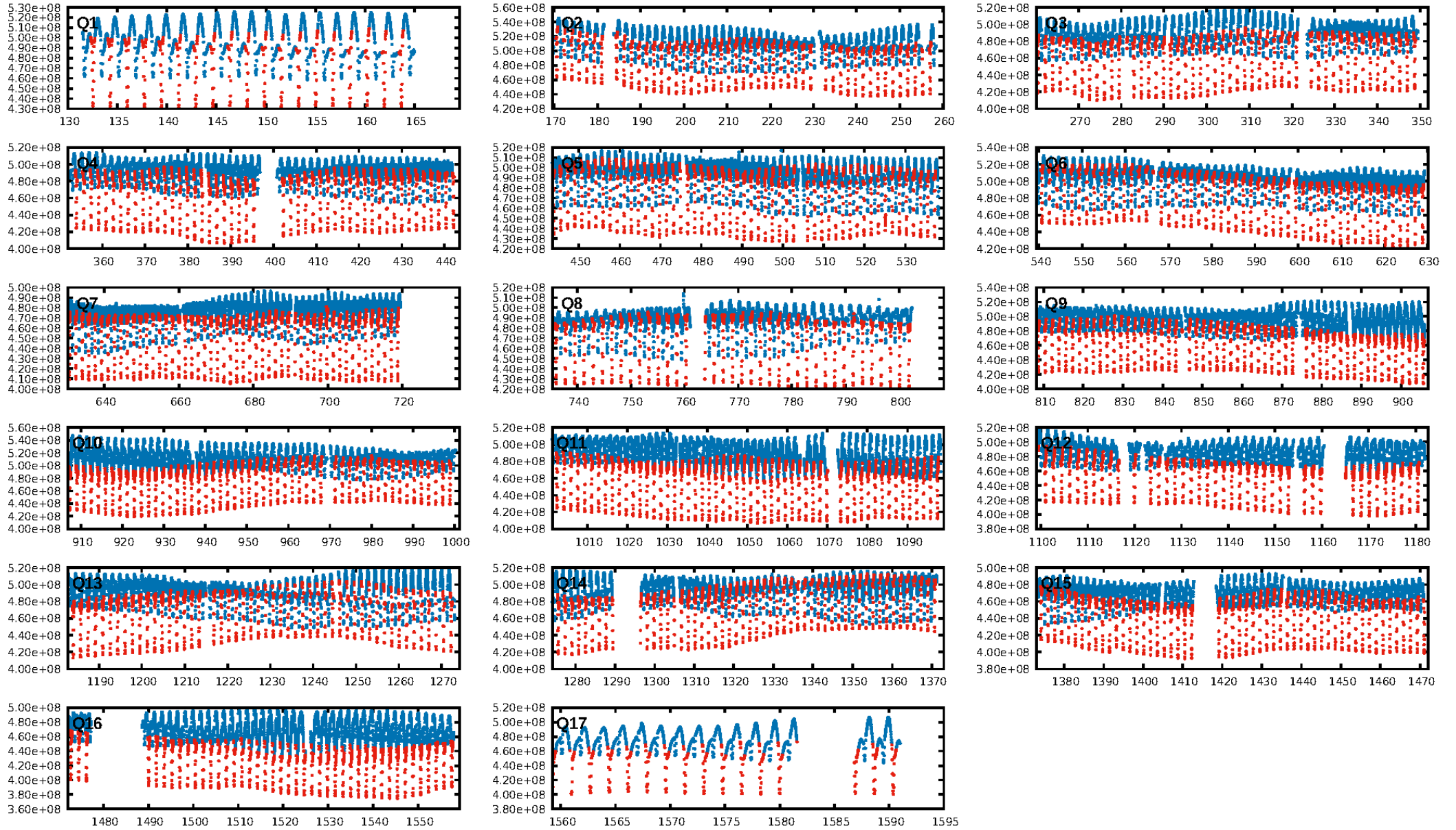
DV Fit Results:

Period = 1.72945 [0.00000] d
Epoch = 132.5074 [0.0001] BKJD
Rp/R* = 0.4026 [0.0059]
a/R* = 3.13 [0.00]
b = 0.84 [0.01]
Seff = 5858.20 [2416.99]
Teq = 2231 [230] K
Rp = 112.16 [37.07] Re
a = 0.0312 [0.0087] AU
Ag = 0.05 [0.02] [-49.52σ]
Teffp = 1599 [42] K [-2.70σ]

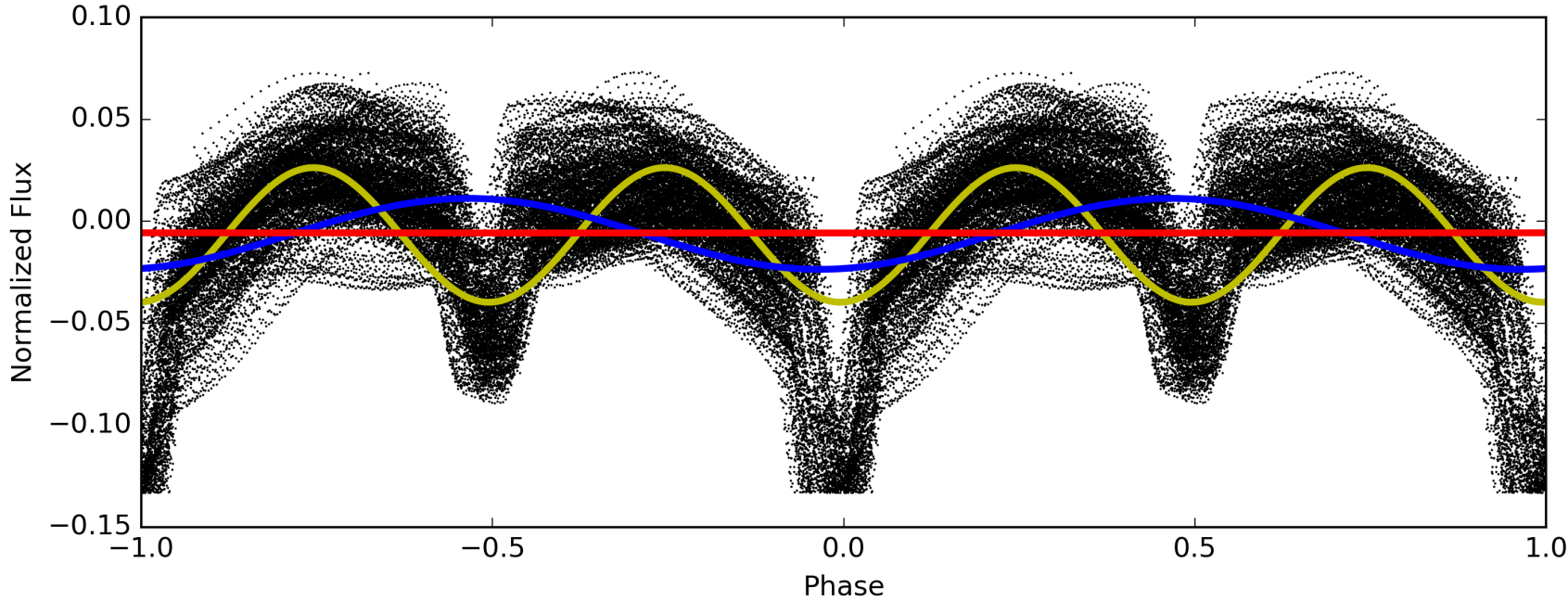
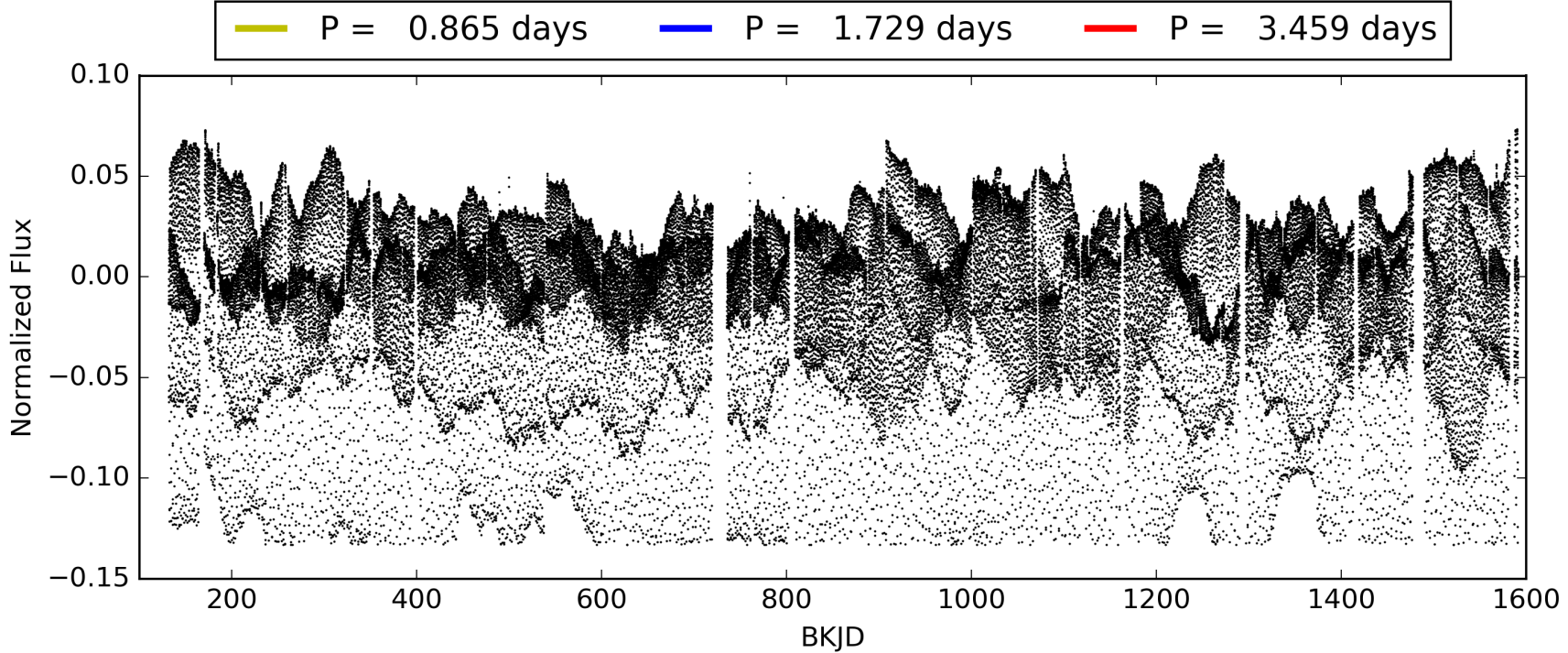
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.93 [697/748]
GhostDiagnostic-chr: 2.445
Centroid-sig: N/A
Centroid-so: 0.399 arcsec [1626.57σ]
OotOffset-rm: 0.019 arcsec [0.28σ]
KicOffset-rm: 0.453 arcsec [6.60σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007885570-01, PDC Light Curves

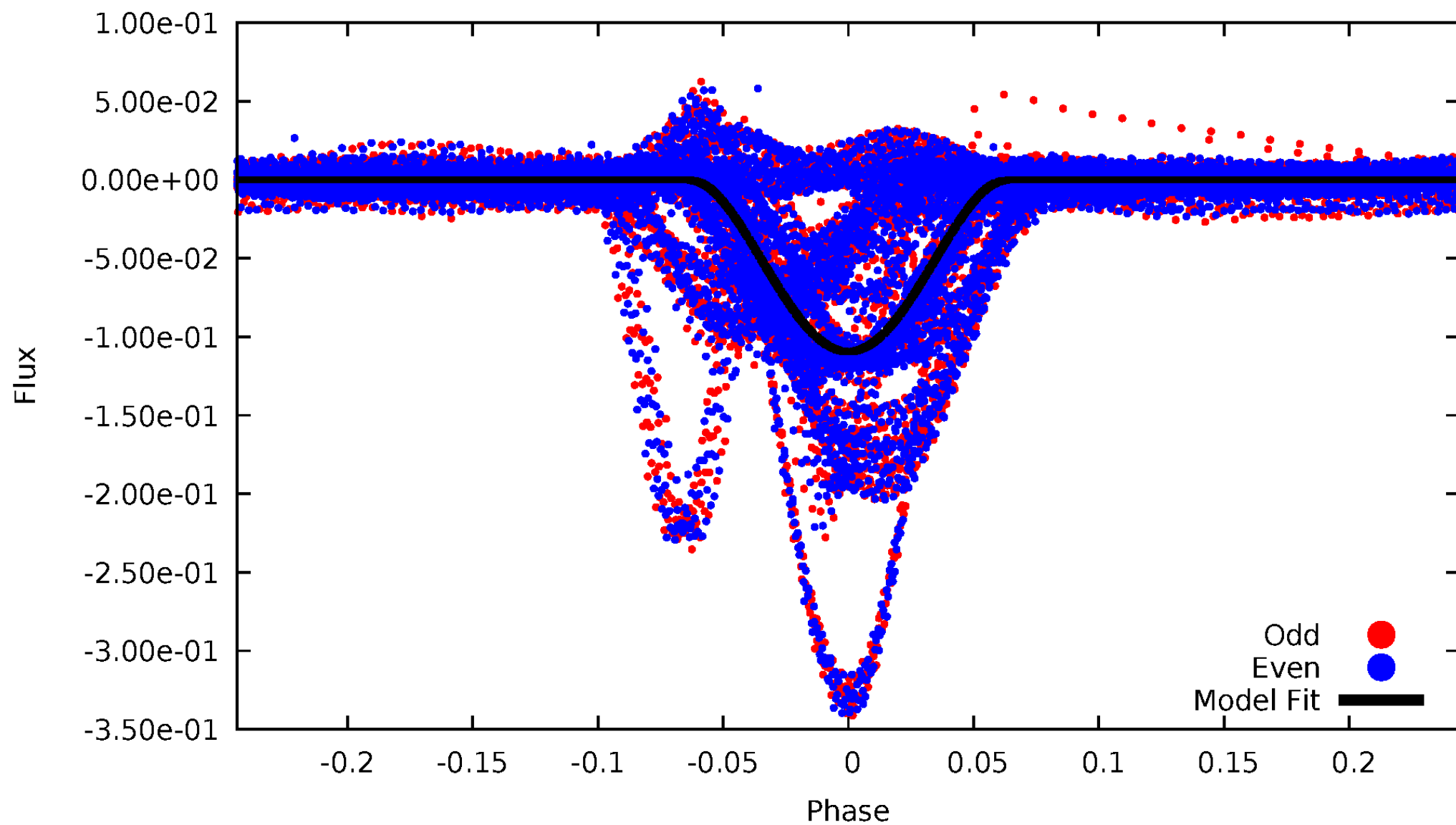


TCE 007885570-01



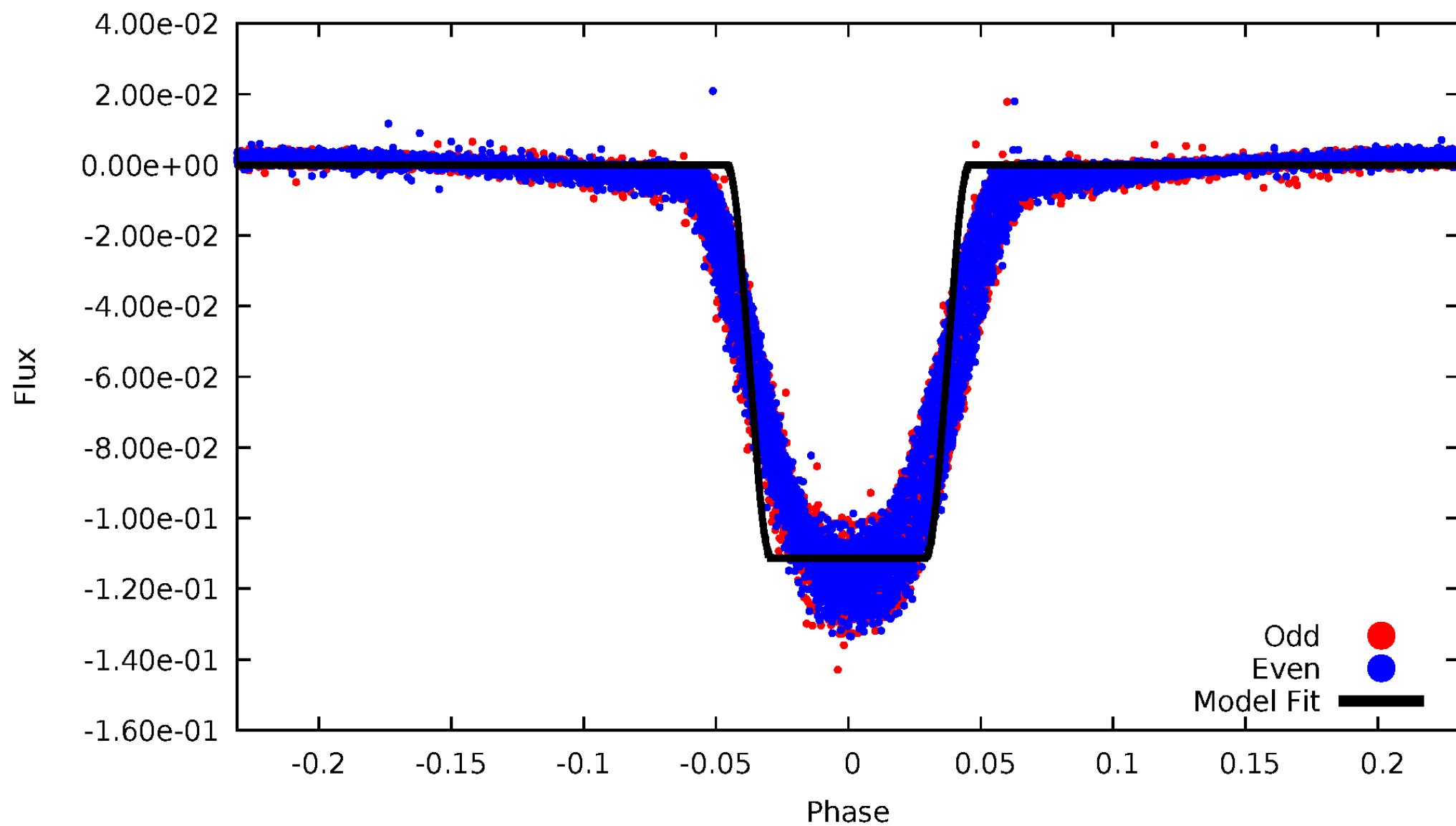
DV Odd/Even

TCE 007885570-01



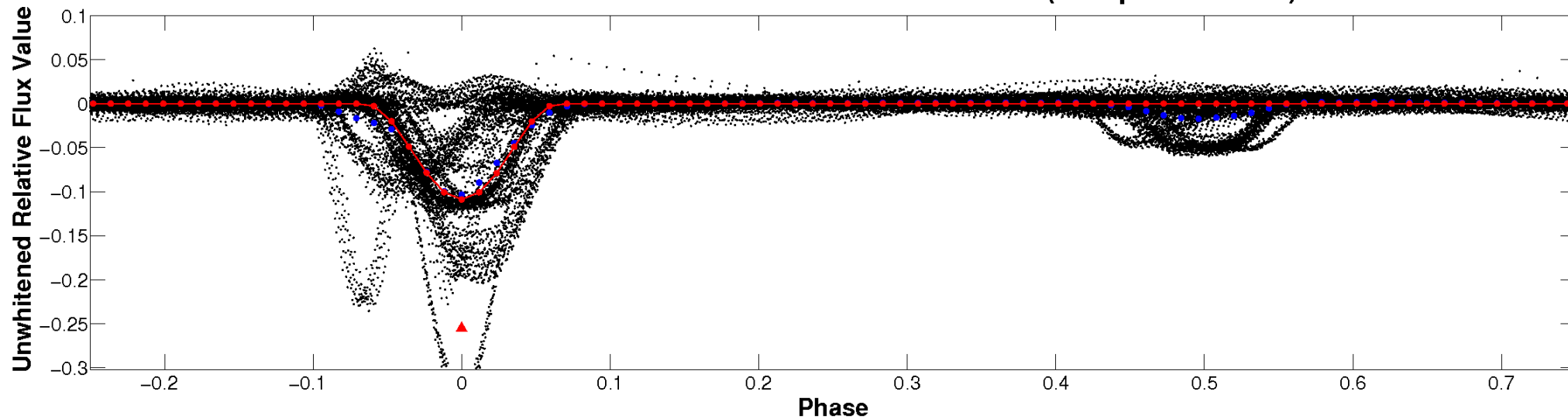
ALT Odd/Even

TCE 007885570-01

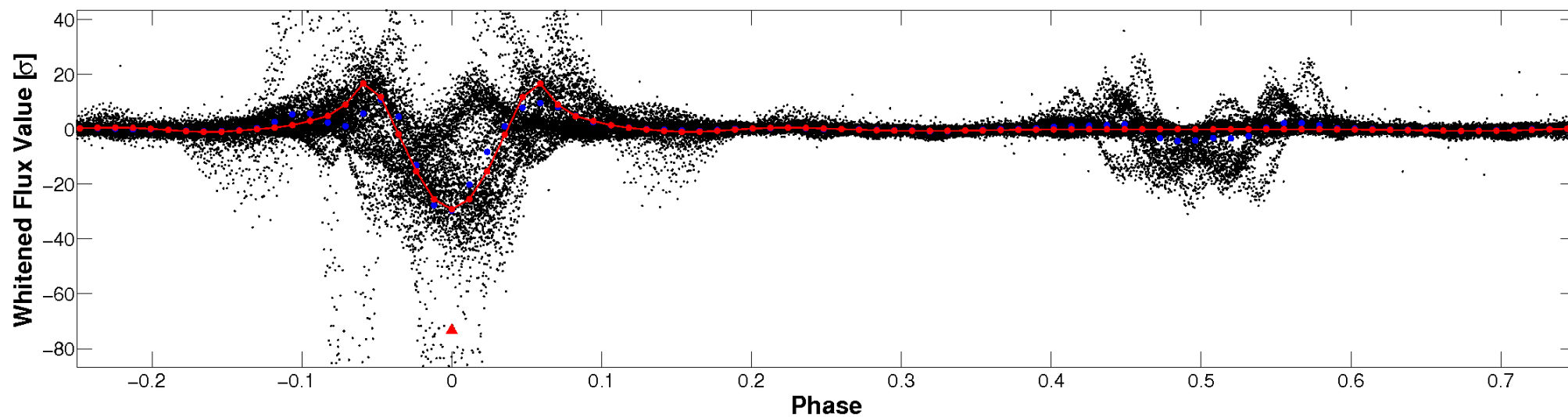


Non-Whitened Vs. Whitened Light Curve

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

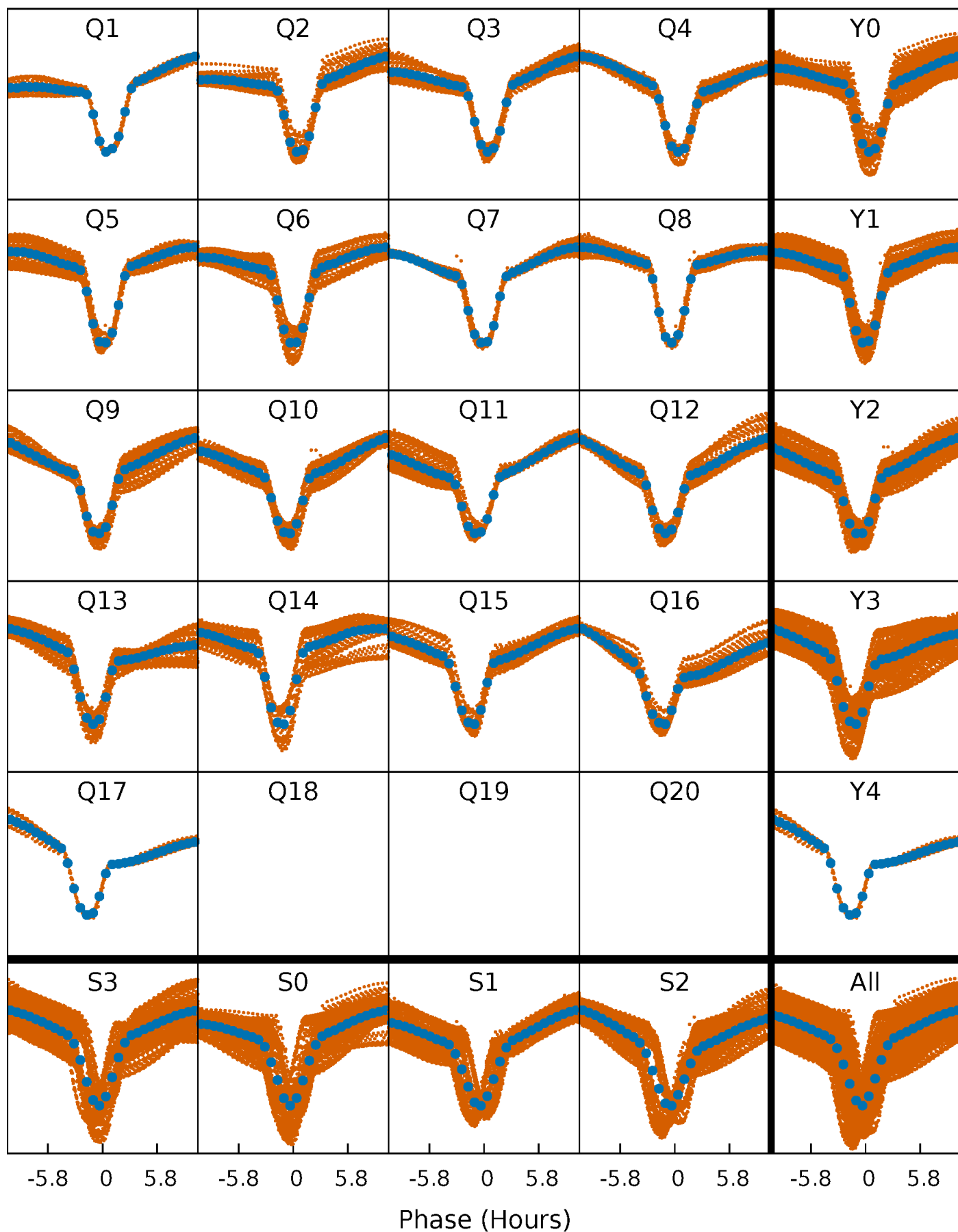


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



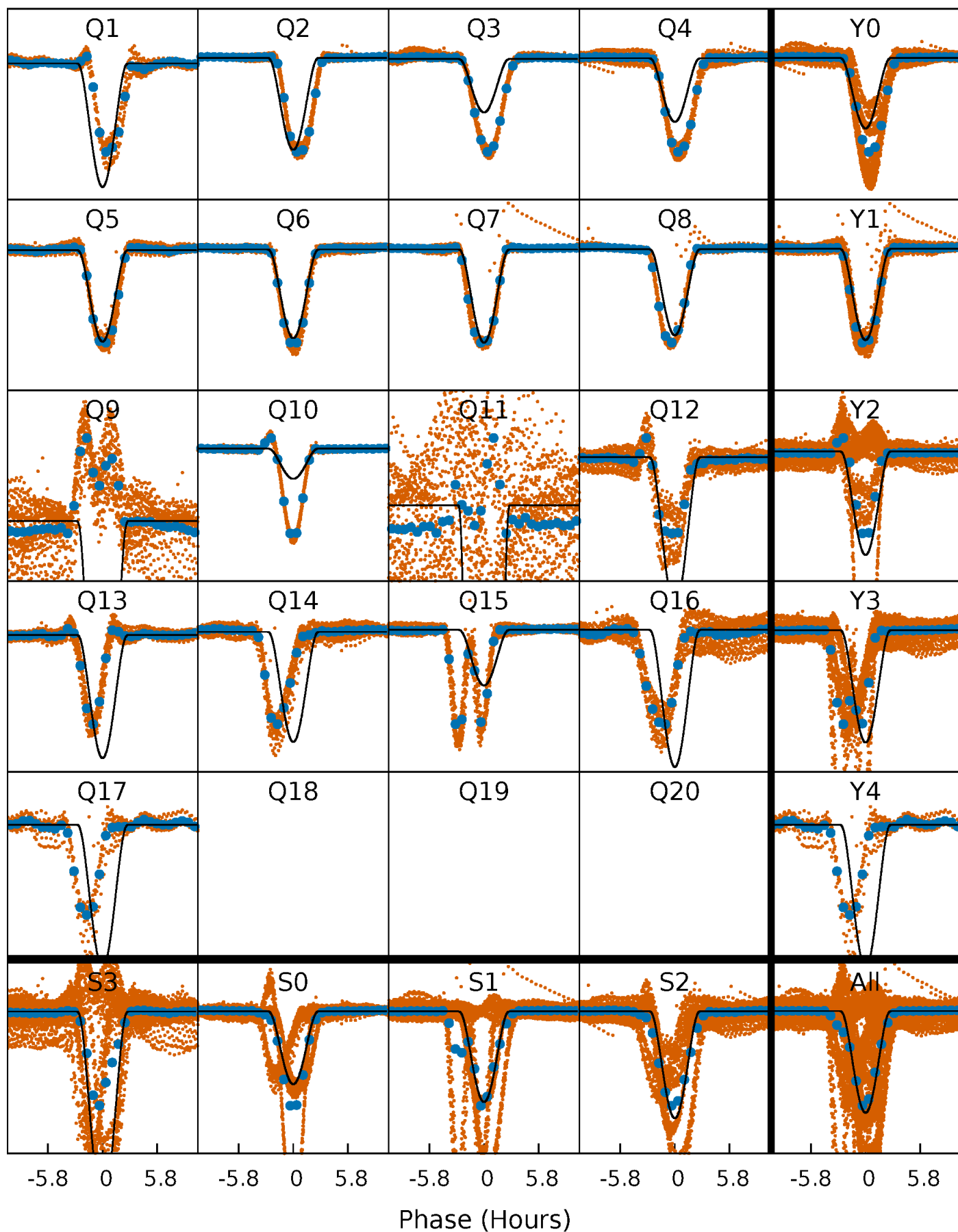
PDC Quarter-Phased Transit Curves

TCE 007885570-01 P= 1.729453 Days $T_0=132.507450$ (BKJD)



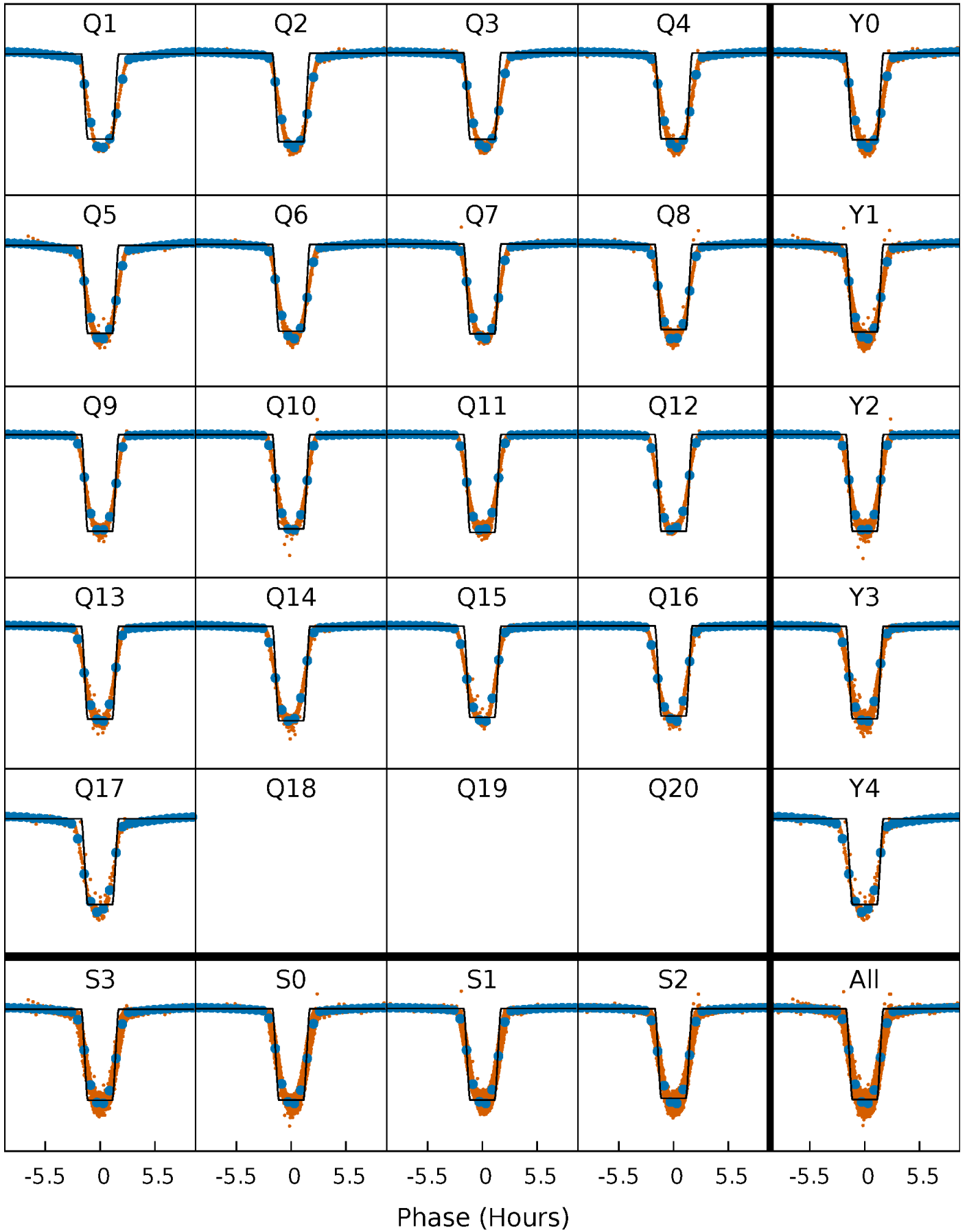
DV Quarter-Phased Transit Curves

TCE 007885570-01 P= 1.729453 Days $T_0=132.507450$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

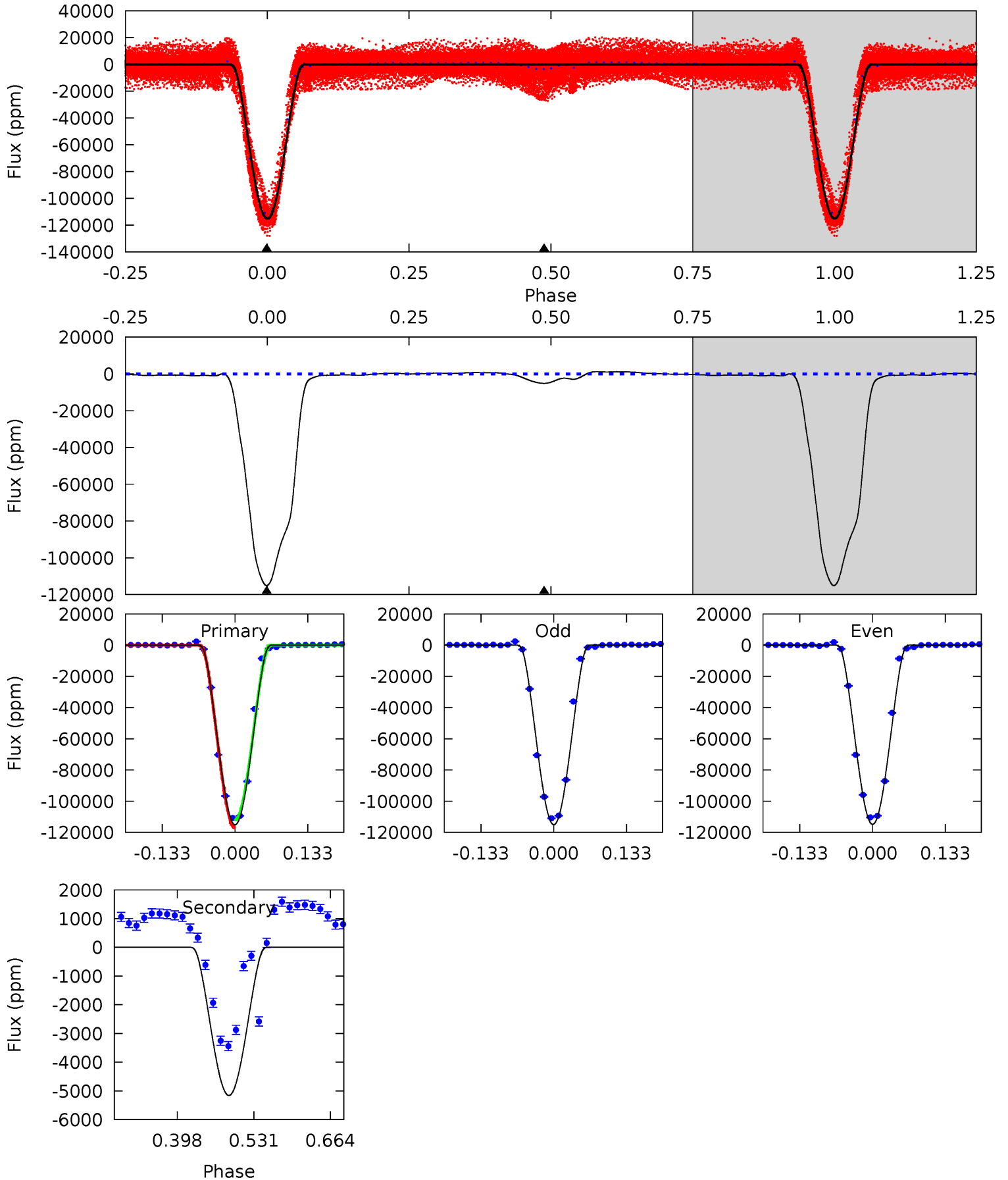
TCE 007885570-01 P= 1.729354 Days $T_0=132.527324$ (BKJD)



DV Model-Shift Uniqueness Test

007885570-01, P = 1.729453 Days, E = 130.777997 Days

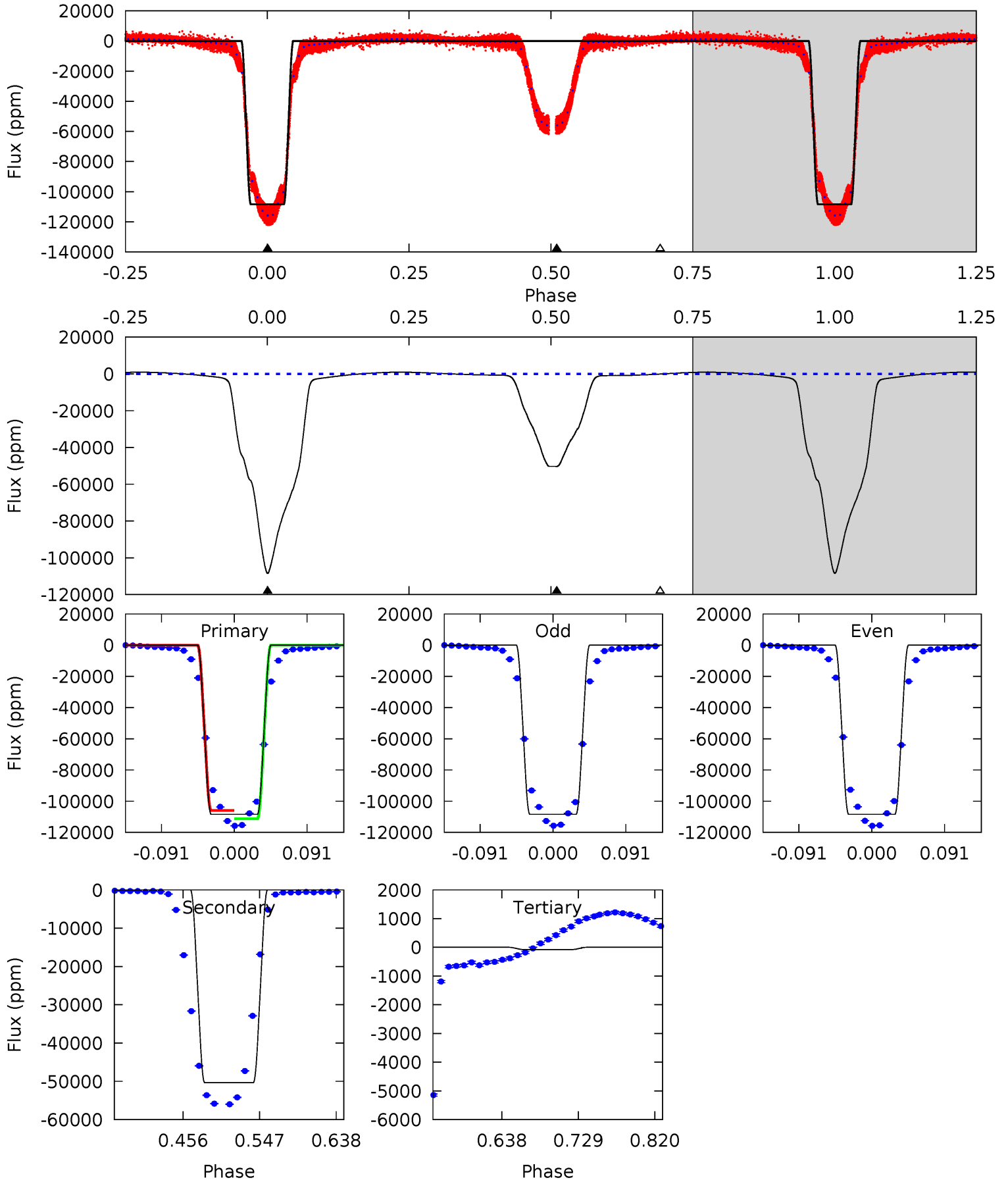
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1615	72.4	0	0	4.50	1.50	7.28	1615	1615	72.4	72.4	1.38	0.88	0.01	0



Alt Model-Shift Uniqueness Test

007885570-01, P = 1.729354 Days, E = 130.797970 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4832	2244	3.40	0	4.58	1.69	34.4	4829	4832	2241	2244	0.25	1.00	0.01	0



Stellar Parameters For KIC 007885570

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5587^{+83}_{-75}	$3.754^{+0.224}_{-0.096}$	$0.040^{+0.150}_{-0.150}$	$2.553^{+0.454}_{-0.843}$	$1.350^{+0.136}_{-0.317}$	$0.114^{+0.173}_{-0.037}$
	+1%/-1%	+6%/-3%	+375%/-375%	+18%/-33%	+10%/-23%	+151%/-33%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 007885570-01 / KOI 6929.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5159 ± 71	$111.21^{+9.98}_{-18.51}$	3091^{+143}_{-224}	-2597^{+4486}_{-196}	$0.227^{+0.077}_{-0.037}$
Alt.	-50349 ± 22	$90.83^{+9.74}_{-16.30}$	3084^{+152}_{-243}	4678^{+71}_{-71}	$3.438^{+1.234}_{-0.587}$

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

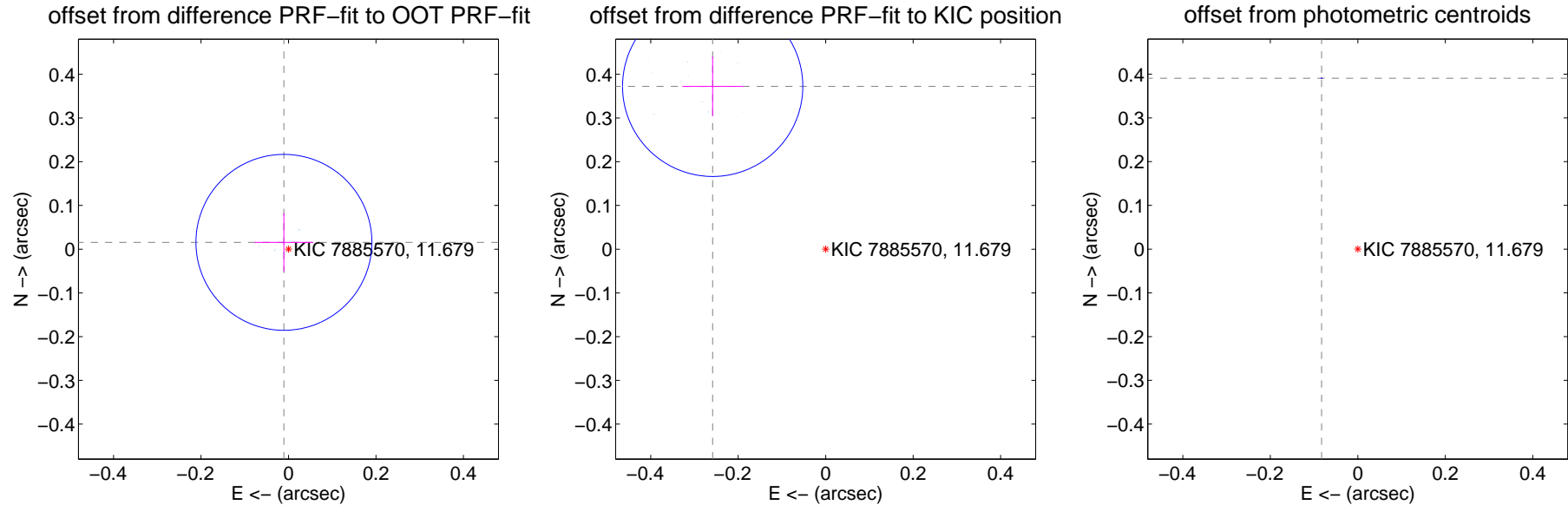
DV Centroid Data

Supplemental centroid analysis for 007885570-01. **Kepler magnitude: 11.68.** Transit SNR 796.69

There are 17 quarters with good PRF difference image offsets

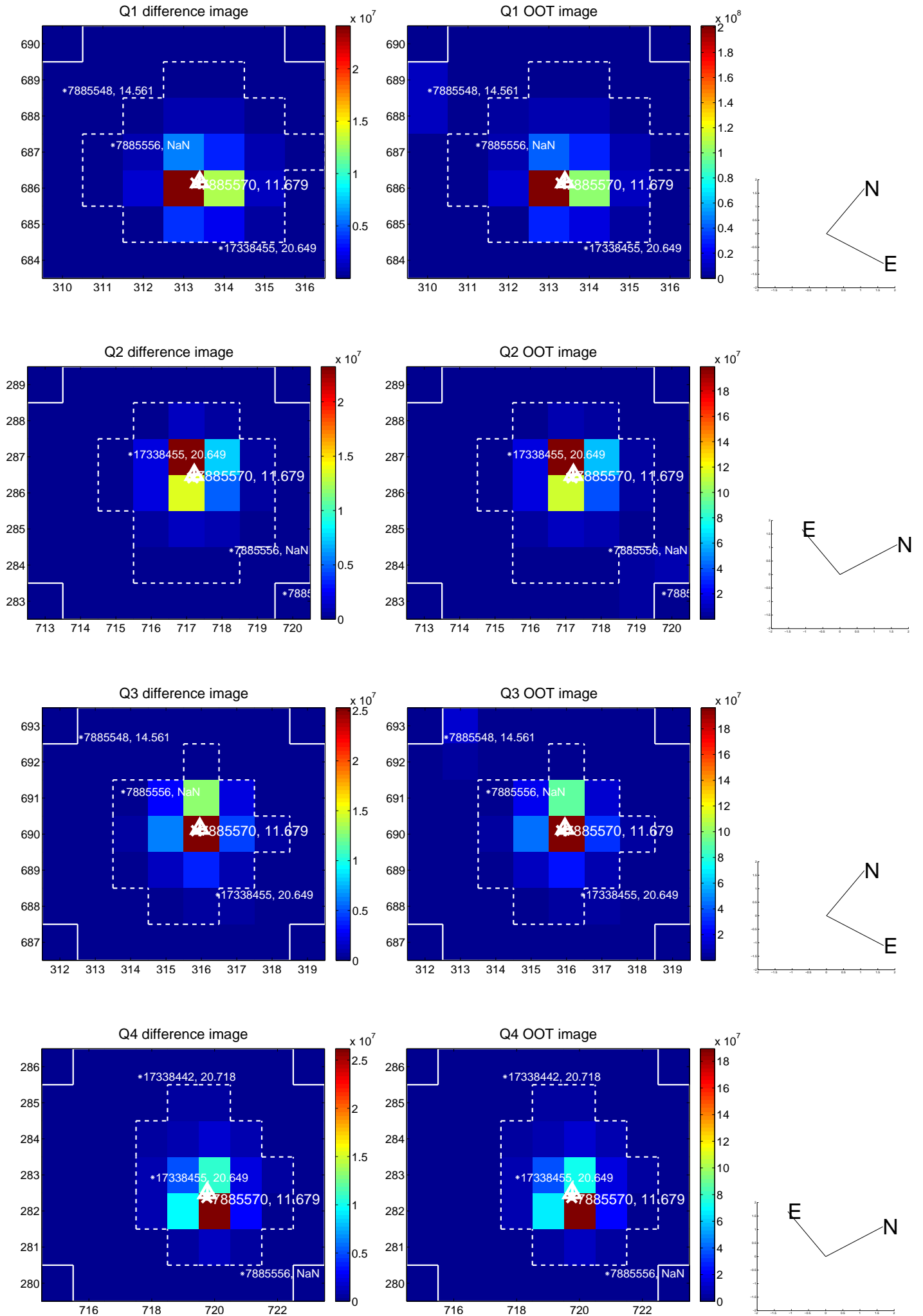
The direct PRF centroid is offset from the target star catalog position by about 0.50 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.019 ± 0.067	0.28	0.010 ± 0.067	0.016 ± 0.067
PRF-fit source offset from KIC position	0.453 \pm 0.069	6.60	0.258 ± 0.070	0.372 ± 0.068
photometric centroid source offset	0.40 \pm 0.00	1626.58	0.08 ± 0.00	0.39 ± 0.00

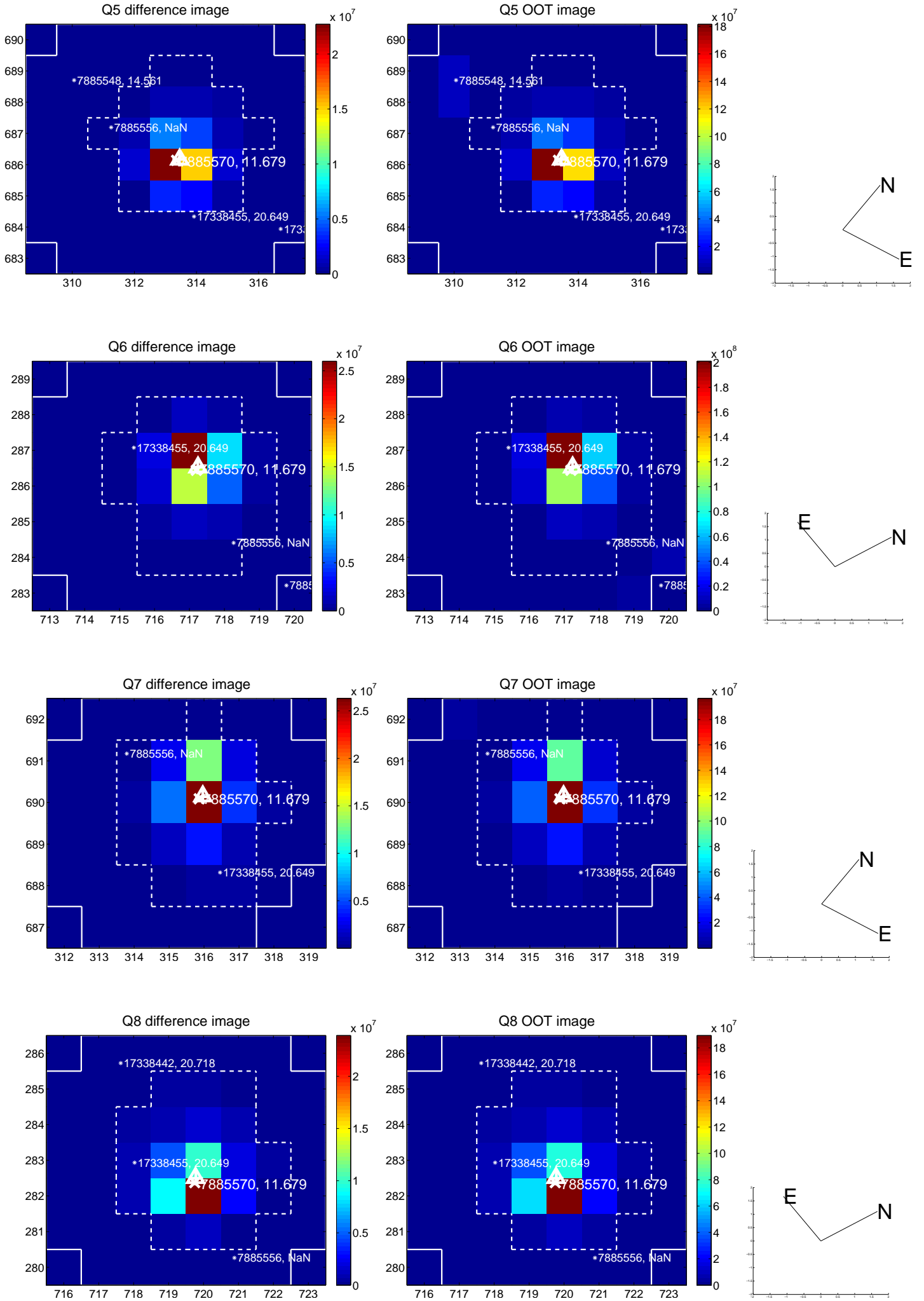


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

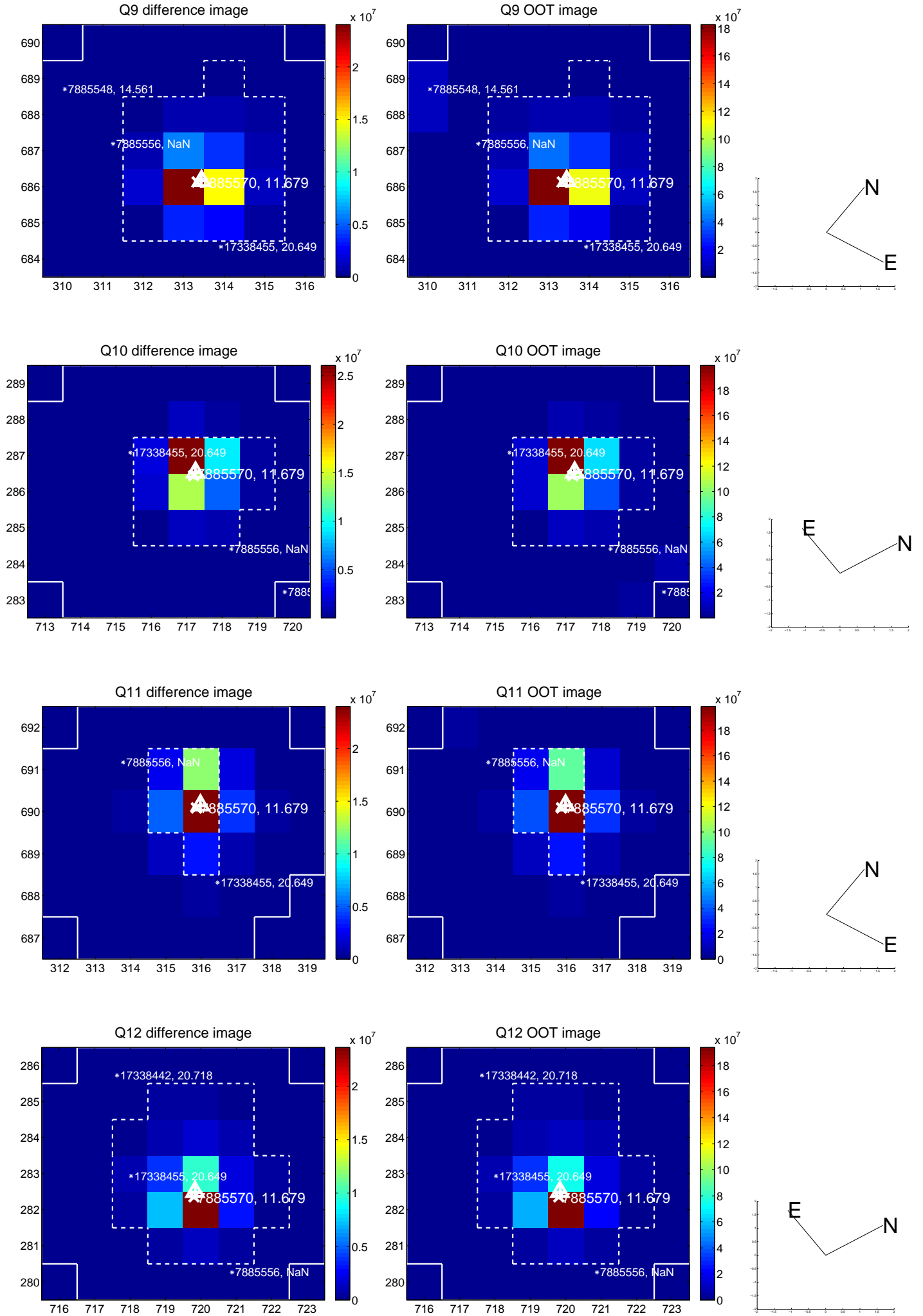
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



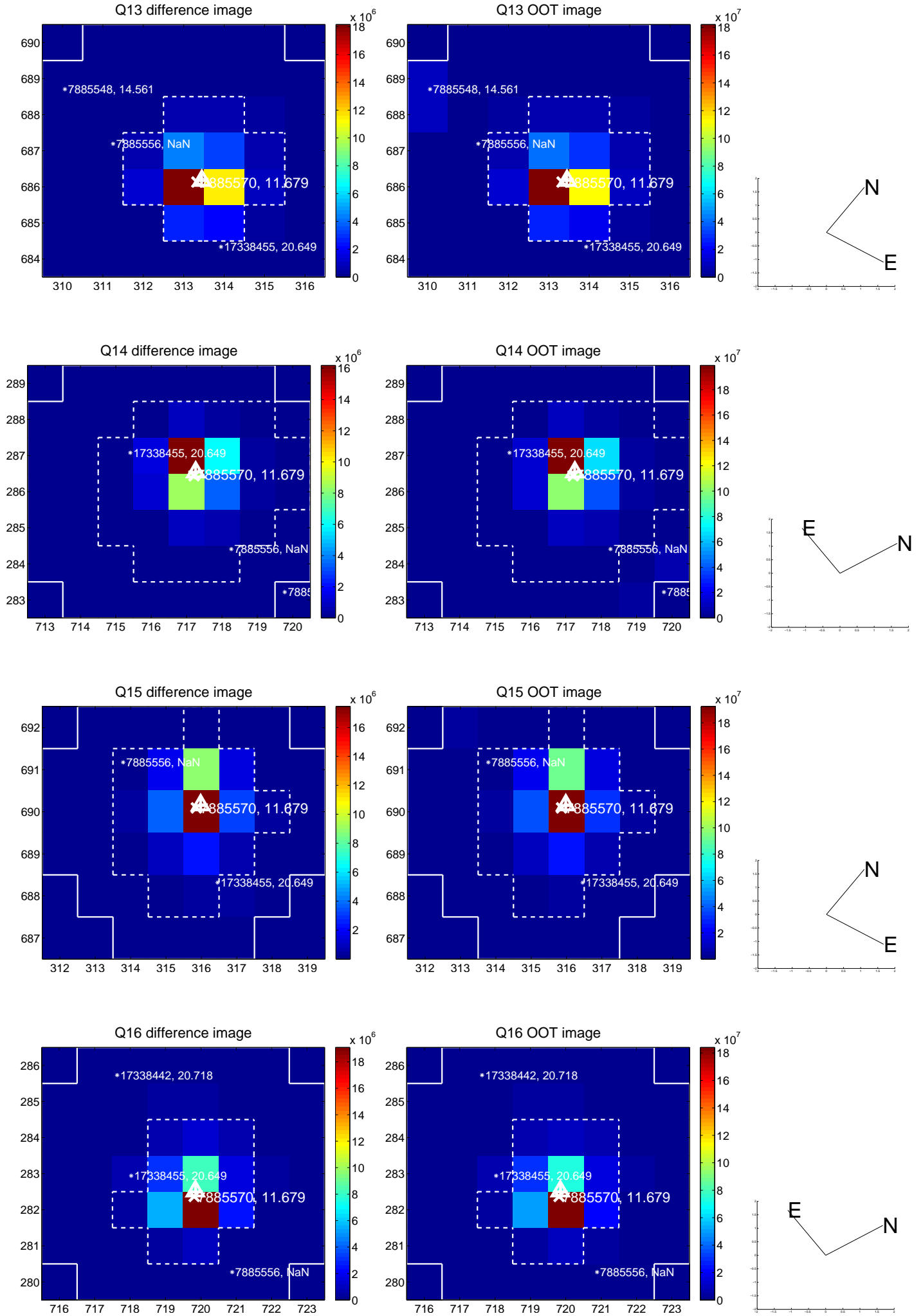
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



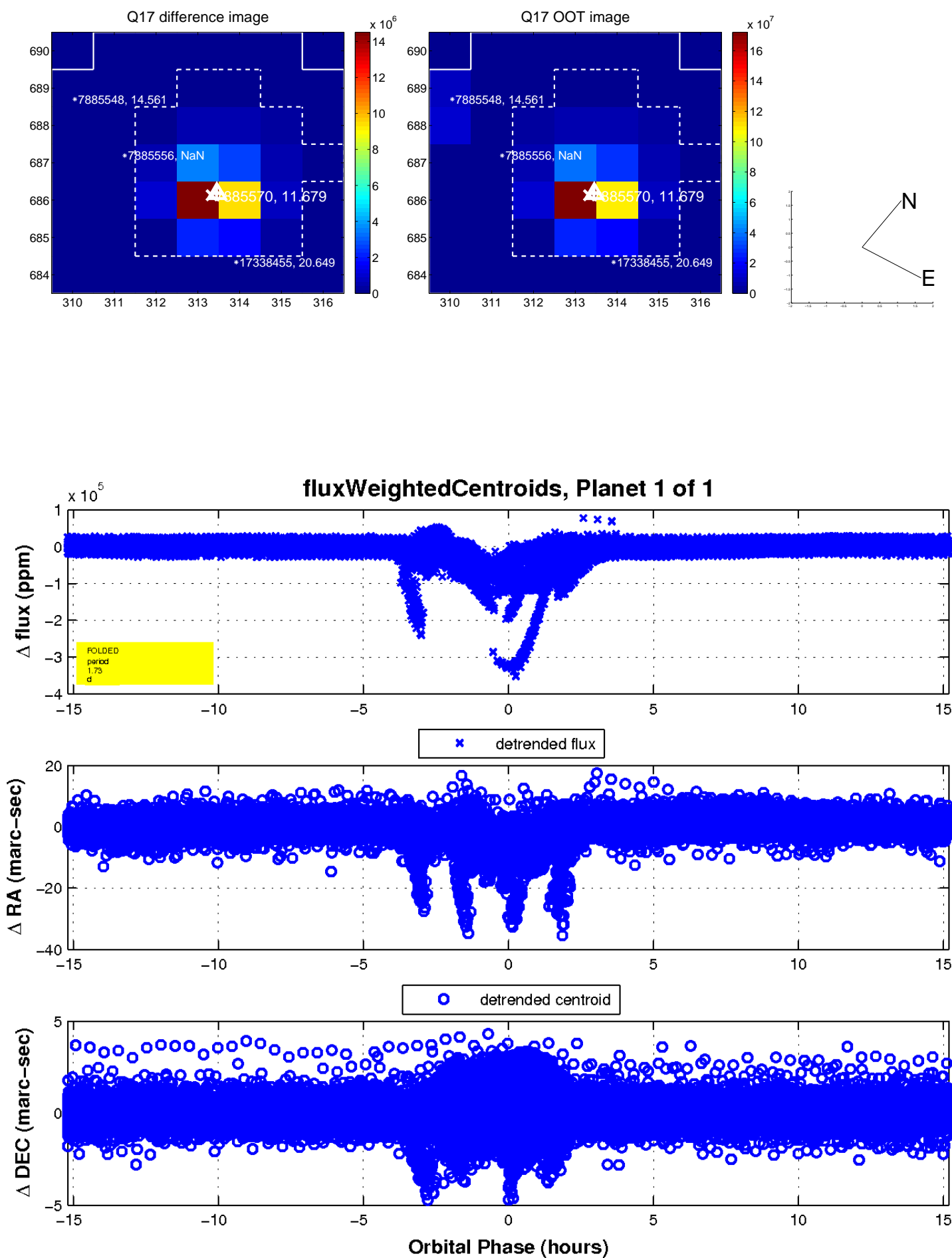
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

