

KIC 008359498

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})
008359498-01	OBS	0127.01	3.578781	134.030398	11386.8	2.946	1721.2	1678.7	0.99	5524	10.59	406.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008359498-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

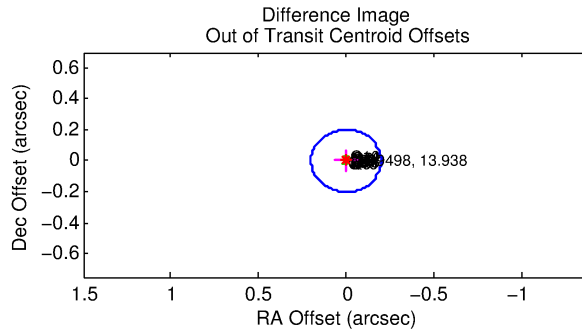
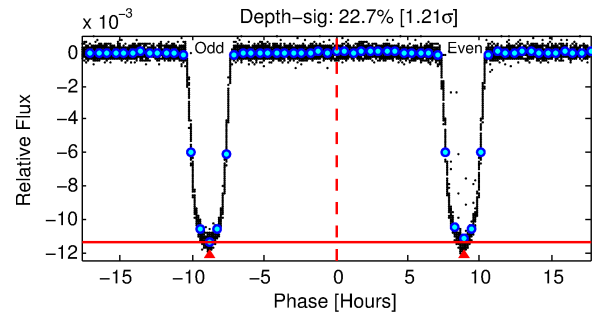
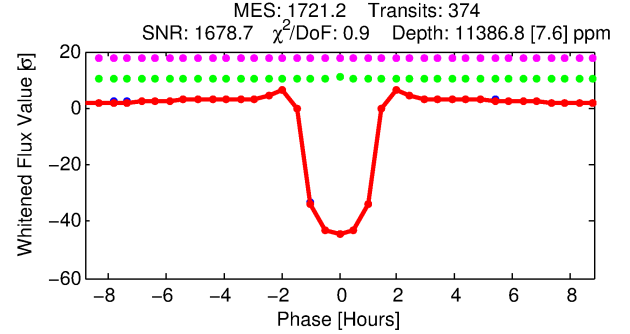
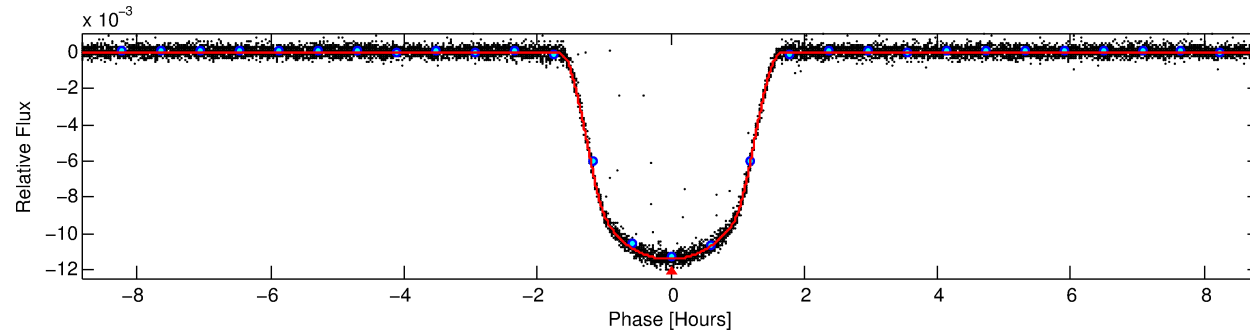
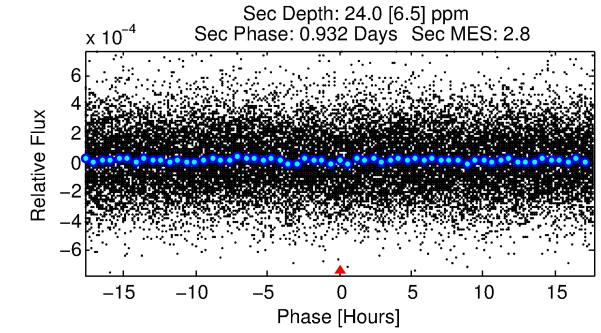
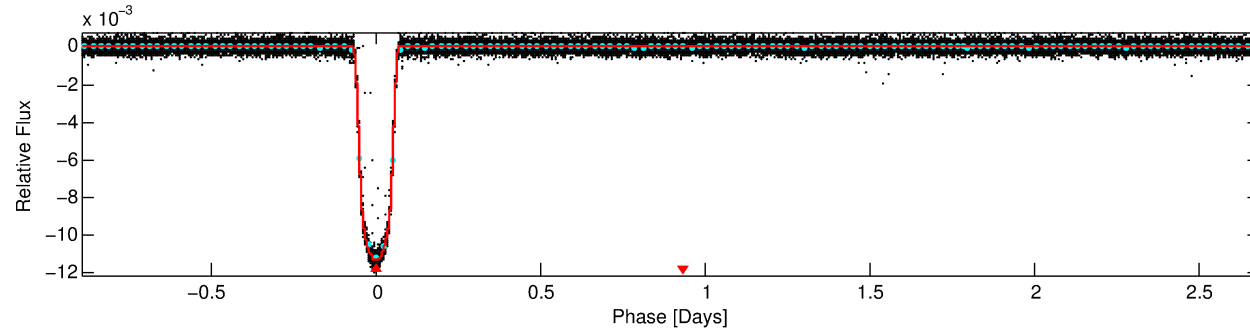
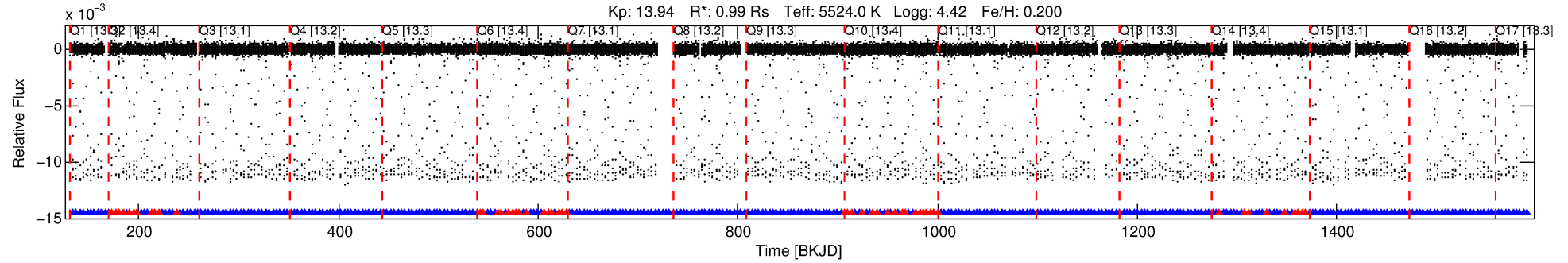
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008359498-01

No Significant Match Found

DV One-Page Summary

KIC: 8359498 Candidate: 1 of 1 Period: 3.579 d
KOI: K00127.01 Name: Kepler-77b Corr: 0.993



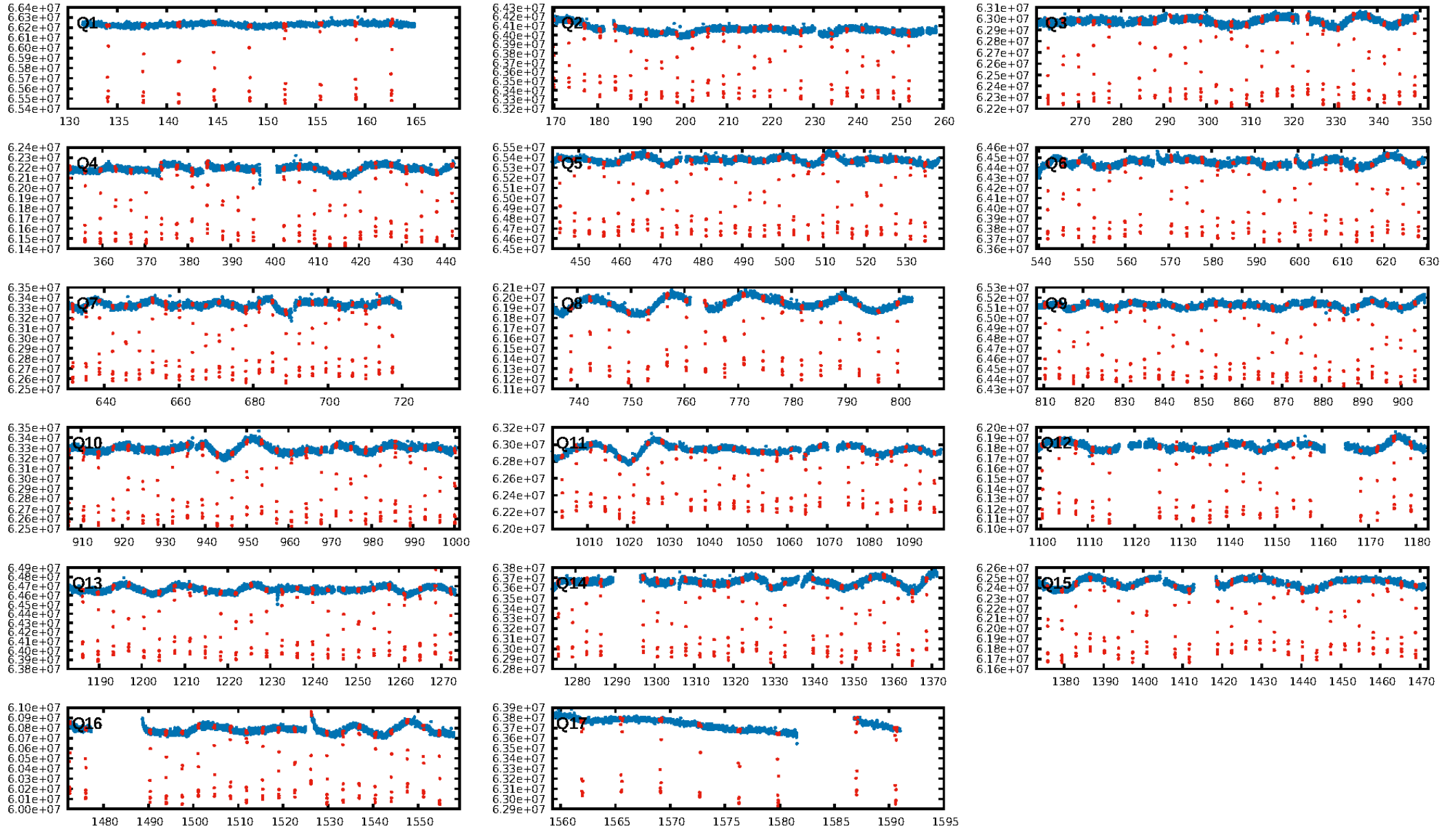
DV Fit Results:

Period = 3.57878 [0.00000] d
Epoch = 134.0304 [0.0000] BKJD
Rp/R* = 0.0976 [0.0003]
a/R* = 9.66 [0.11]
b = 0.36 [0.03]
Seff = 406.62 [47.77]
Teff = 1145 [34] K
Rp = 10.59 [0.63] Re
a = 0.0450 [0.0025] AU
Ag = 0.24 [0.07] [-11.29 σ]
Teffp = 1237 [87] K [0.98 σ]

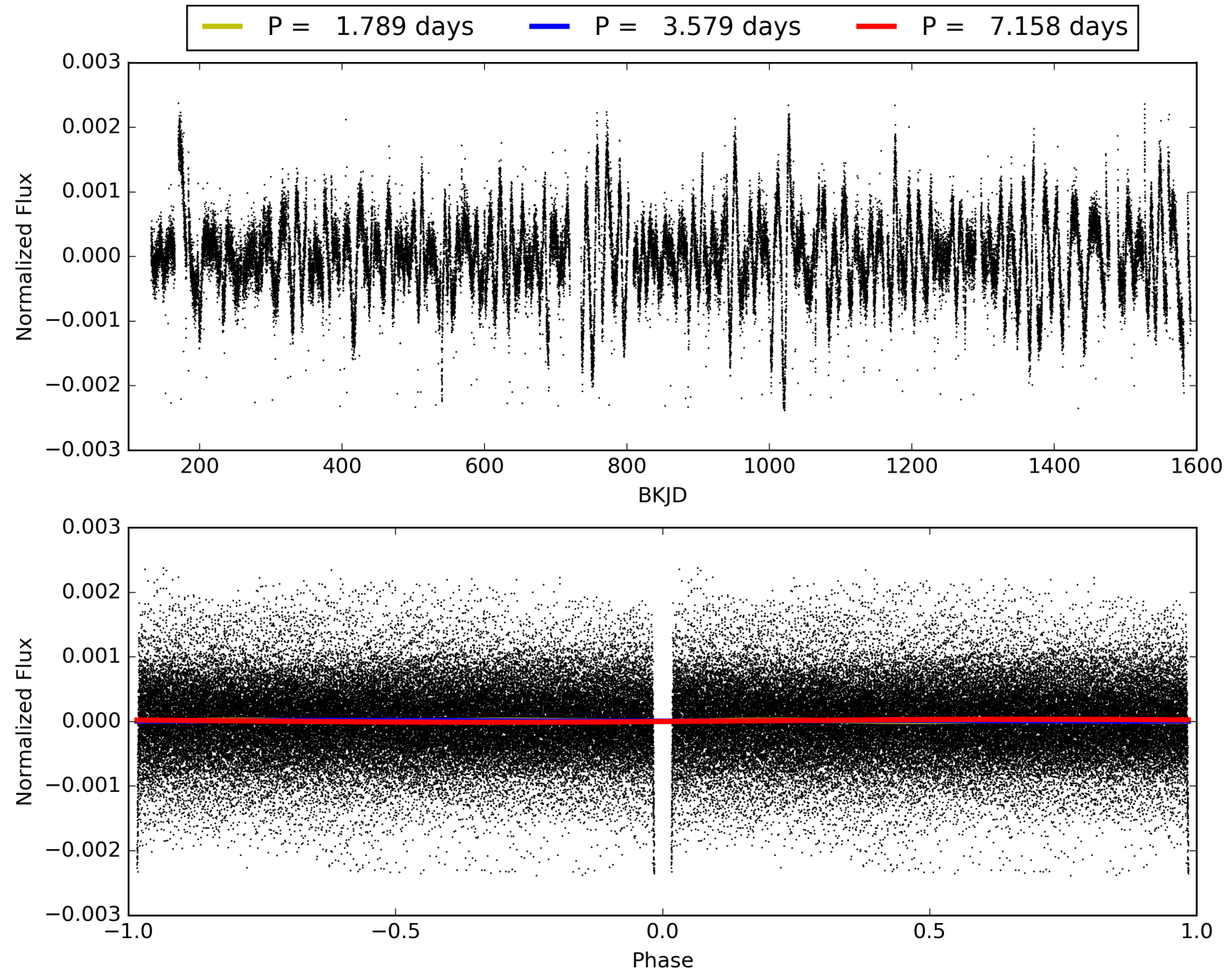
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.85 [305/357]
GhostDiagnostic-chr: 5.295
Centroid-sig: 0.0%
Centroid-so: 0.128 arcsec [20.61 σ]
OotOffset-rm: 0.002 arcsec [0.03 σ]
KicOffset-rm: 0.153 arcsec [2.26 σ]
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 008359498-01, PDC Light Curves

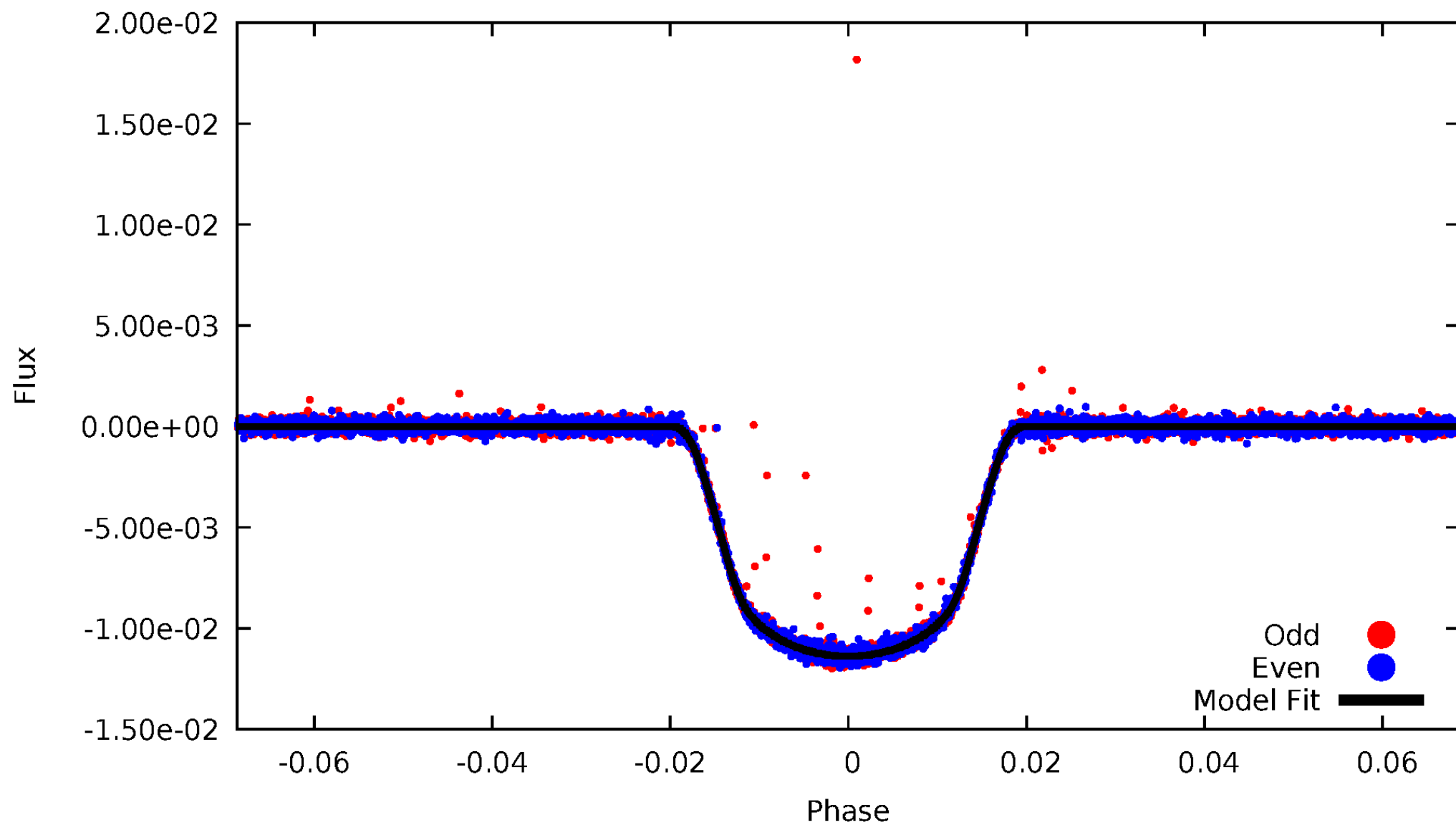


TCE 008359498-01



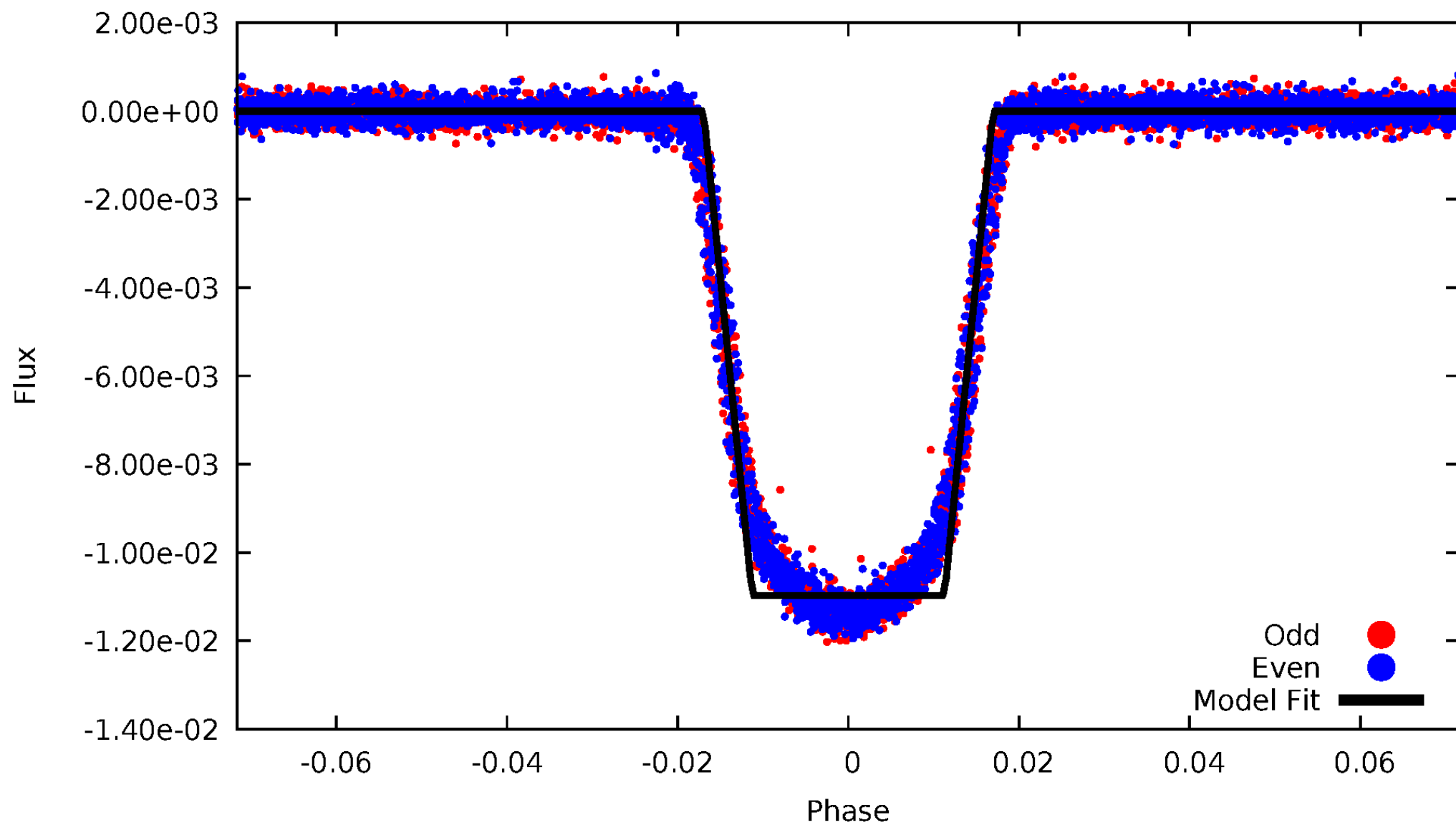
DV Odd/Even

TCE 008359498-01



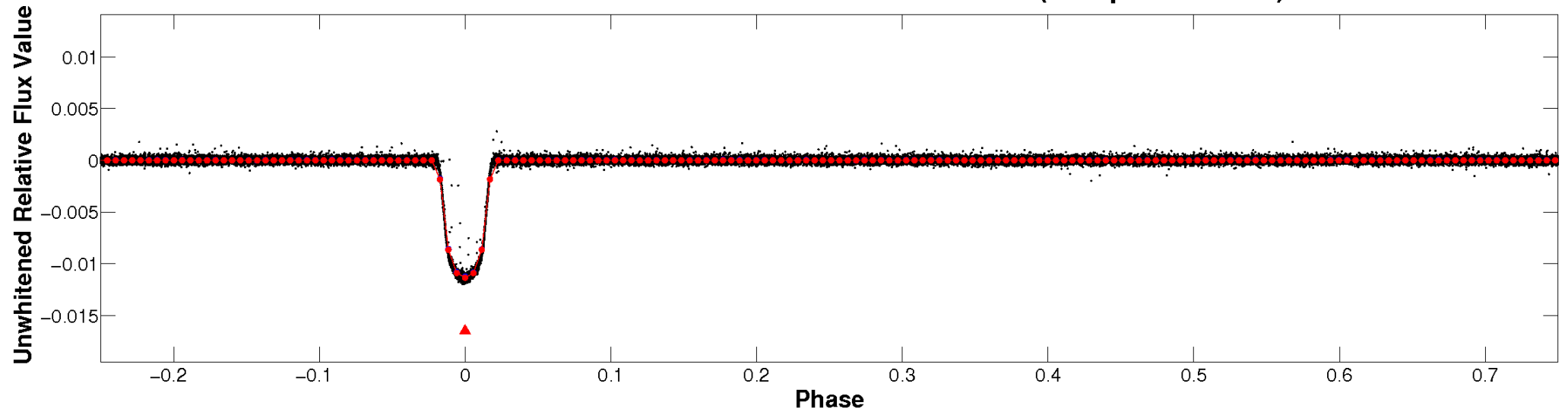
ALT Odd/Even

TCE 008359498-01

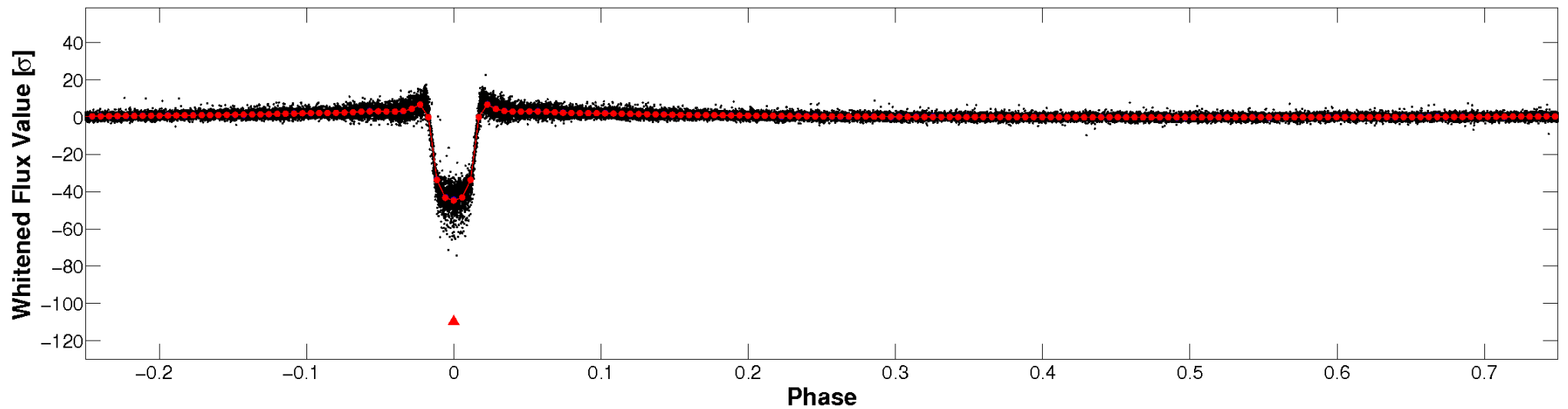


Non-Whitened Vs. Whitened Light Curve

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

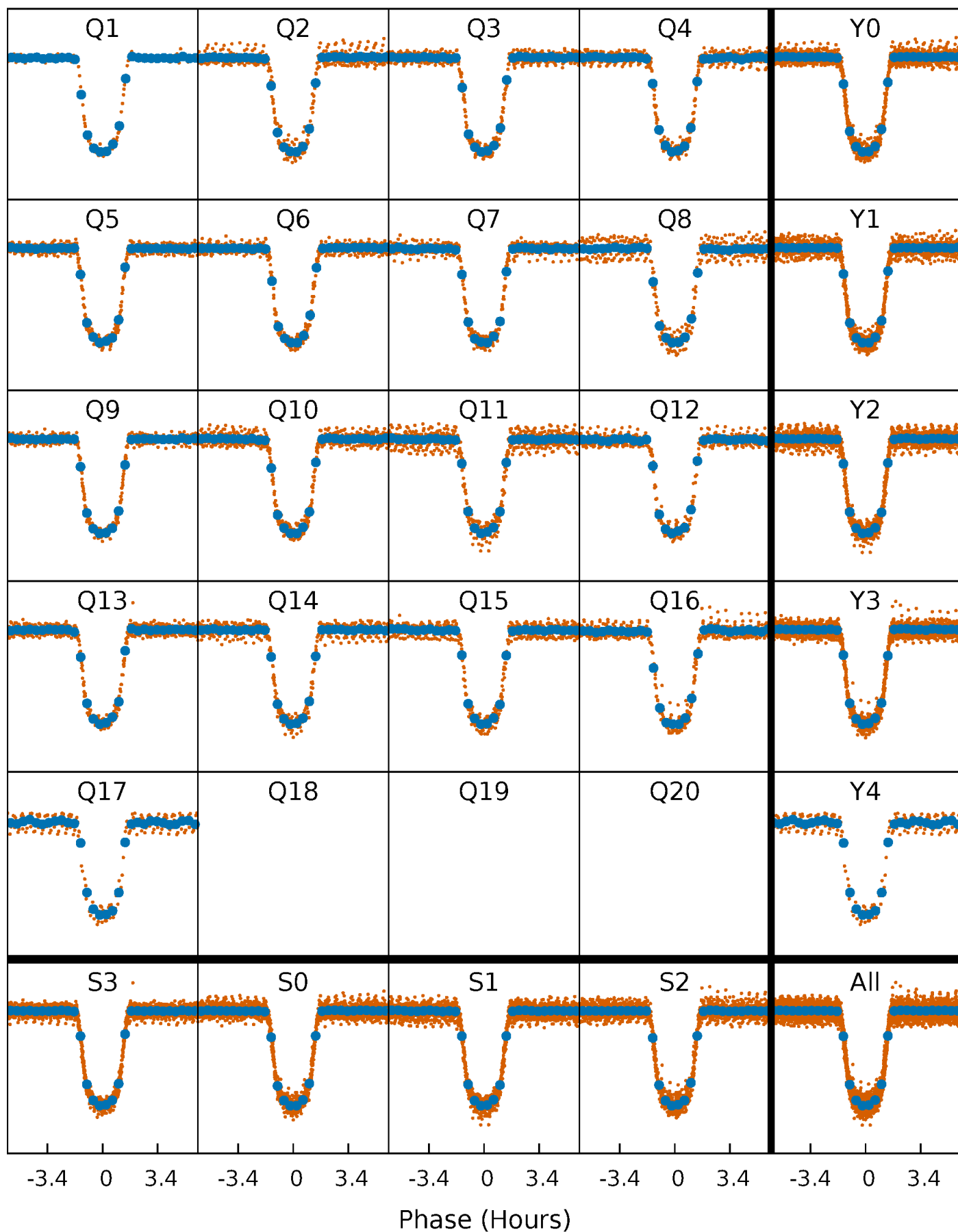


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



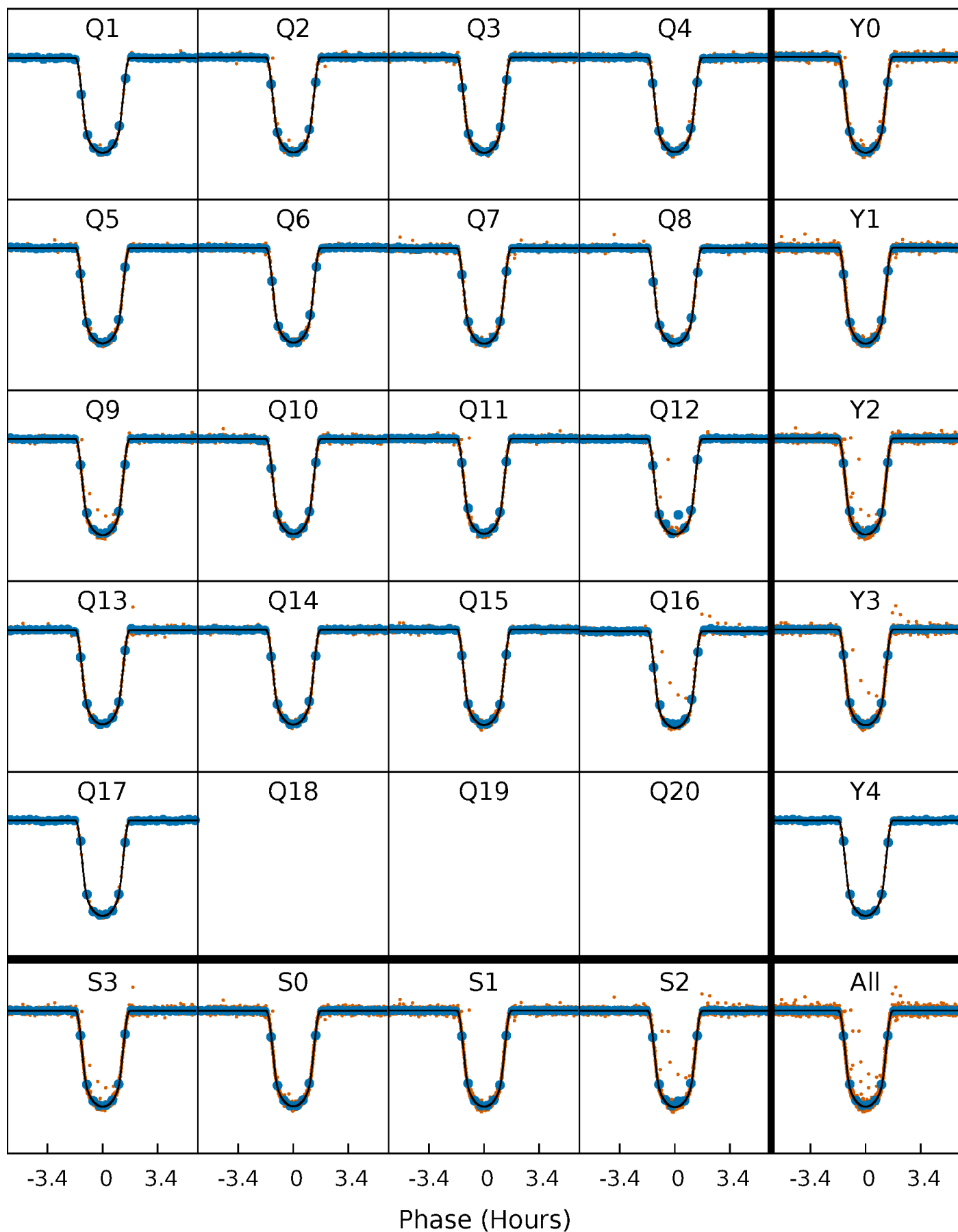
PDC Quarter-Phased Transit Curves

TCE 008359498-01 P= 3.578781 Days $T_0=134.030398$ (BKJD)



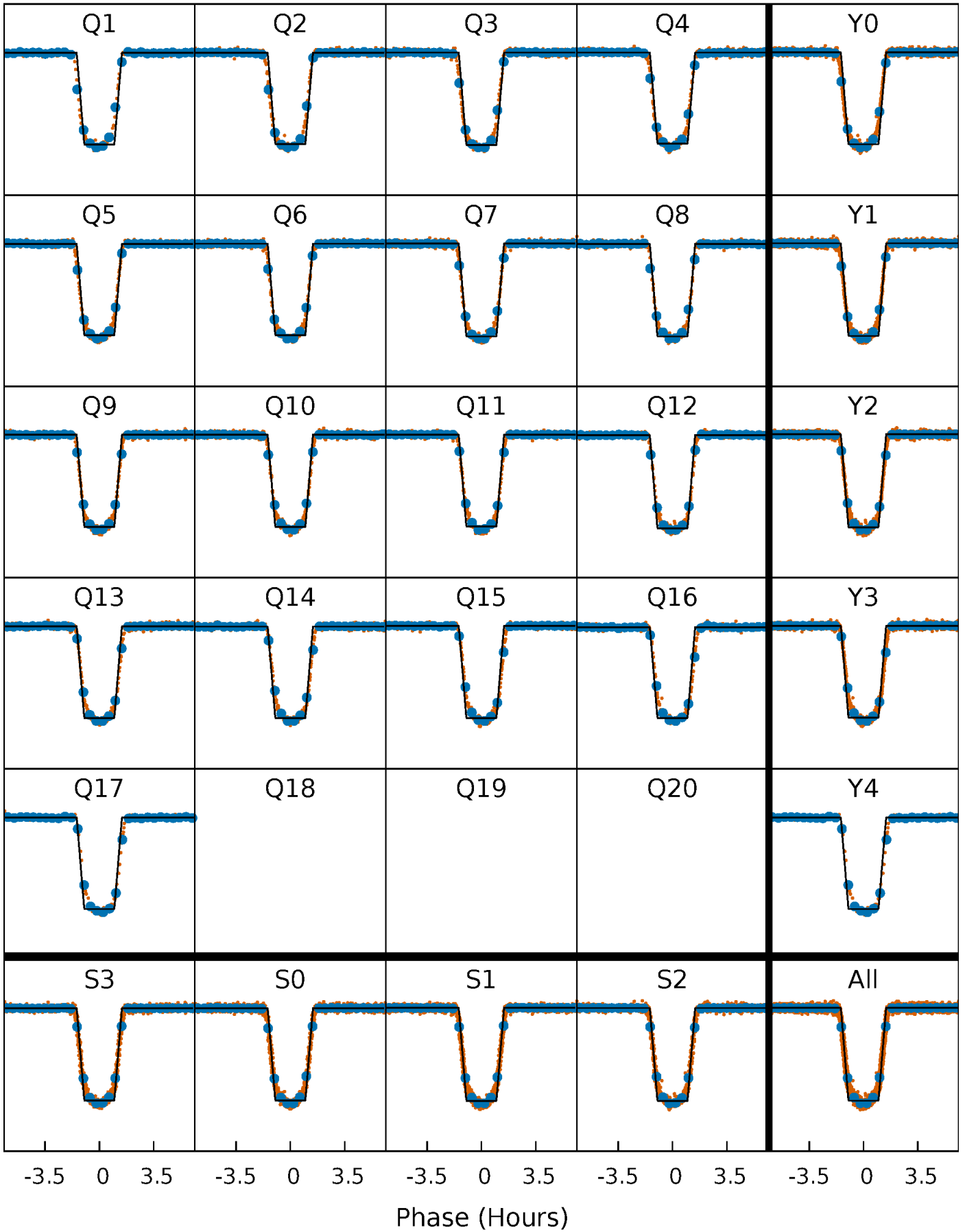
DV Quarter-Phased Transit Curves

TCE 008359498-01 P= 3.578781 Days $T_0=134.030398$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

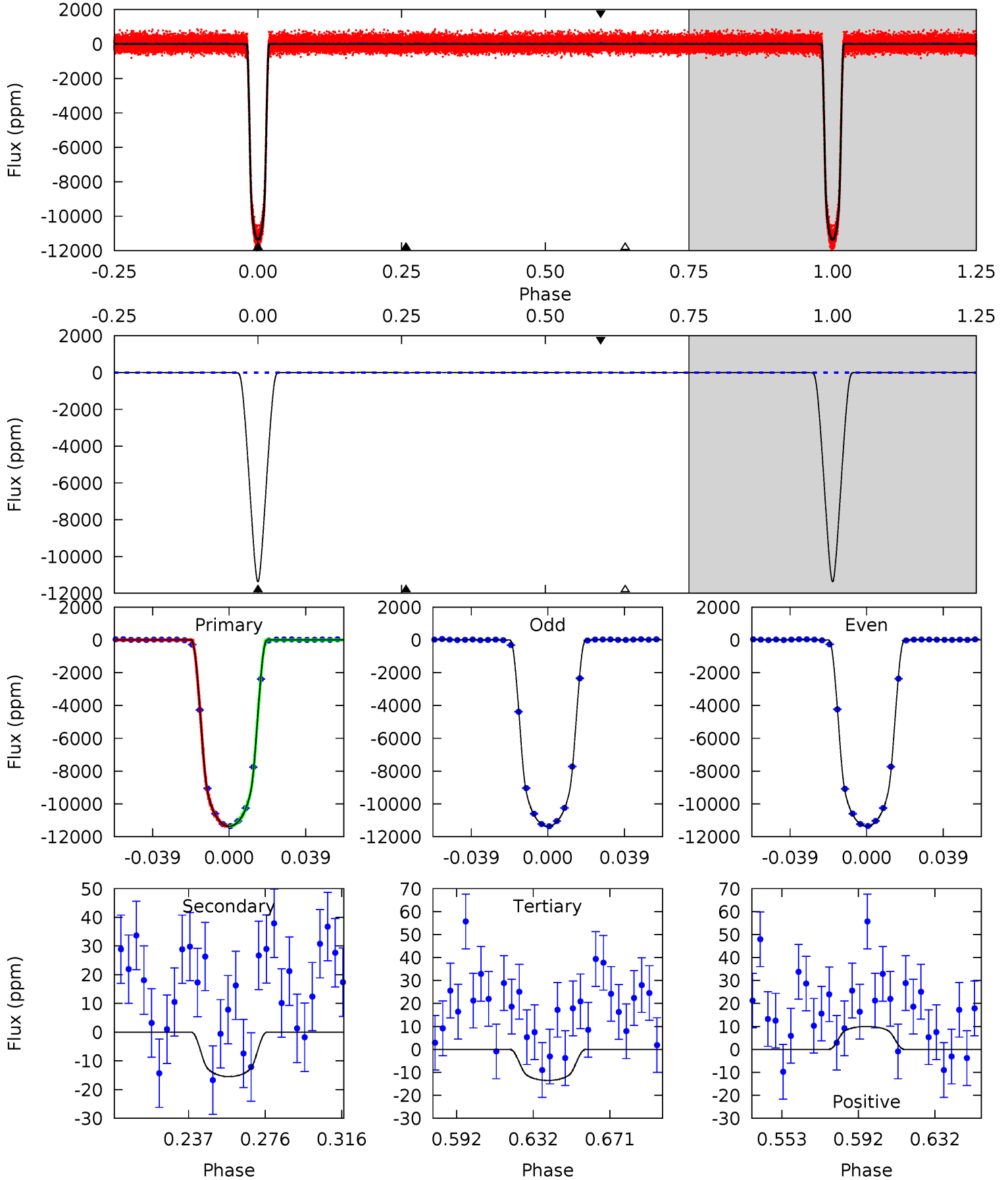
TCE 008359498-01 P= 3.578759 Days $T_0=134.034675$ (BKJD)



DV Model-Shift Uniqueness Test

008359498-01, P = 3.578781 Days, E = 130.451617 Days

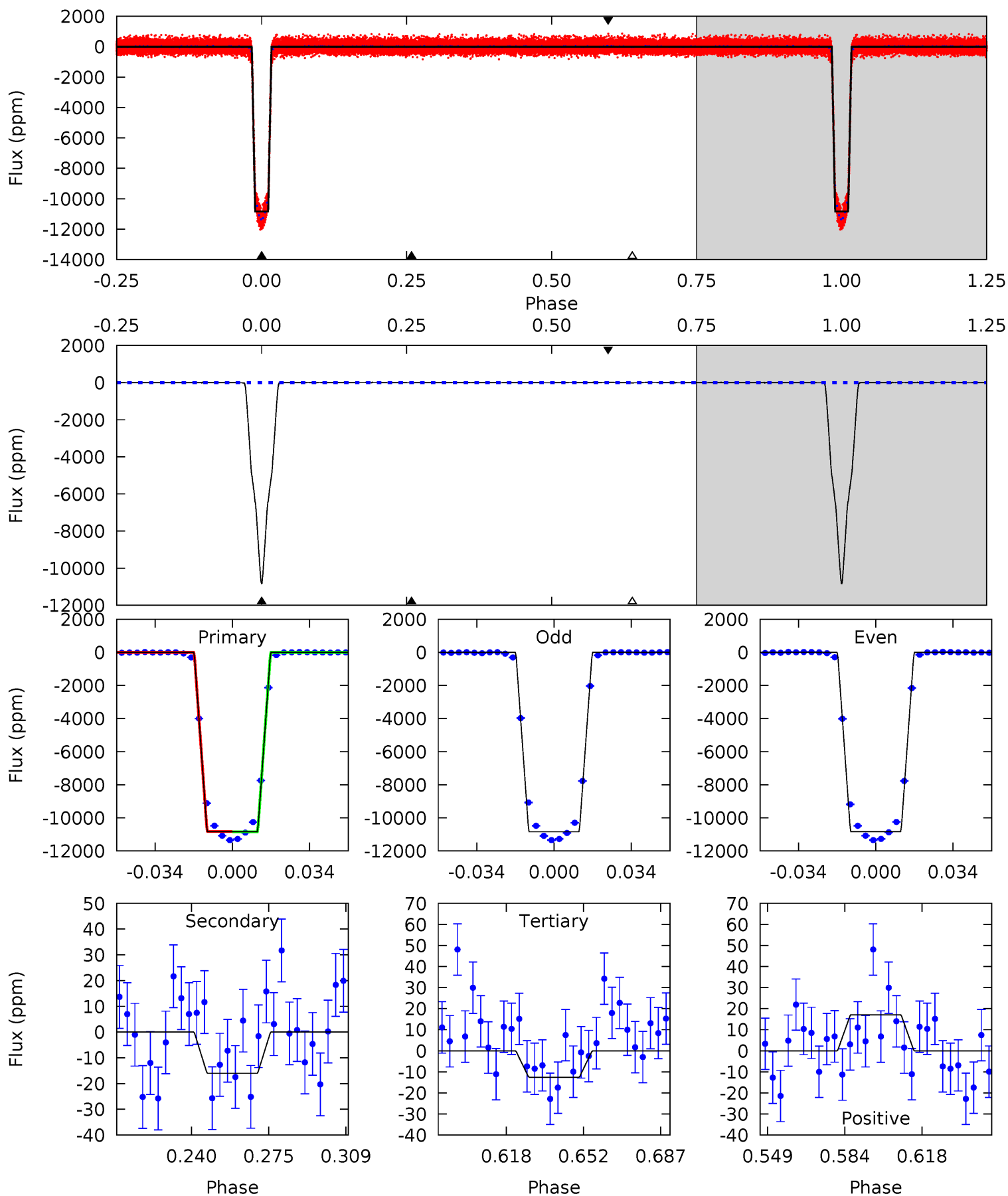
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2829	3.85	3.37	2.49	4.76	2.06	1.44	2825	2826	0.49	1.37	0.19	0.99	0.00	1.09



Alt Model-Shift Uniqueness Test

008359498-01, P = 3.578759 Days, E = 130.455916 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2237	3.30	2.60	3.53	4.78	2.12	1.21	2235	2234	0.71	-0.23	1.35	1.00	0.00	2.88



Stellar Parameters For KIC 008359498

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5524^{+110}_{-110}	$4.421^{+0.050}_{-0.045}$	$0.200^{+0.150}_{-0.150}$	$0.994^{+0.059}_{-0.059}$	$0.950^{+0.058}_{-0.058}$	$1.361^{+0.255}_{-0.195}$
	+2%/-2%	+1%/-1%	+75%/-75%	+6%/-6%	+6%/-6%	+19%/-14%
Source	SPE64	TRA64	SPE64	DSEP		

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

Secondary Eclipse Parameters for KIC 008359498-01 / KOI 0127.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-15 ± 4	$10.60^{+0.39}_{-0.40}$	1601^{+40}_{-42}	-2075^{+82}_{-63}	$0.156^{+0.041}_{-0.044}$
Alt.	-16 ± 5	$11.38^{+0.42}_{-0.44}$	1600^{+42}_{-40}	-2098^{+76}_{-60}	$0.140^{+0.044}_{-0.044}$

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

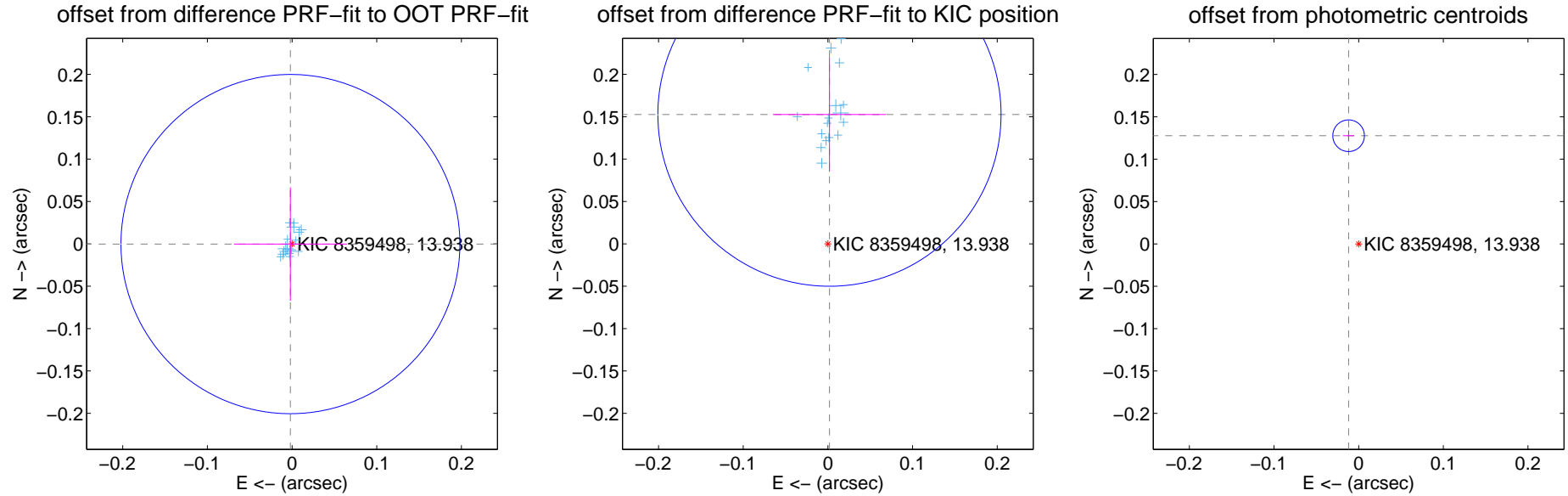
DV Centroid Data

Supplemental centroid analysis for 008359498-01. Kepler magnitude: 13.94. Transit SNR 1678.67

There are 17 quarters with good PRF difference image offsets

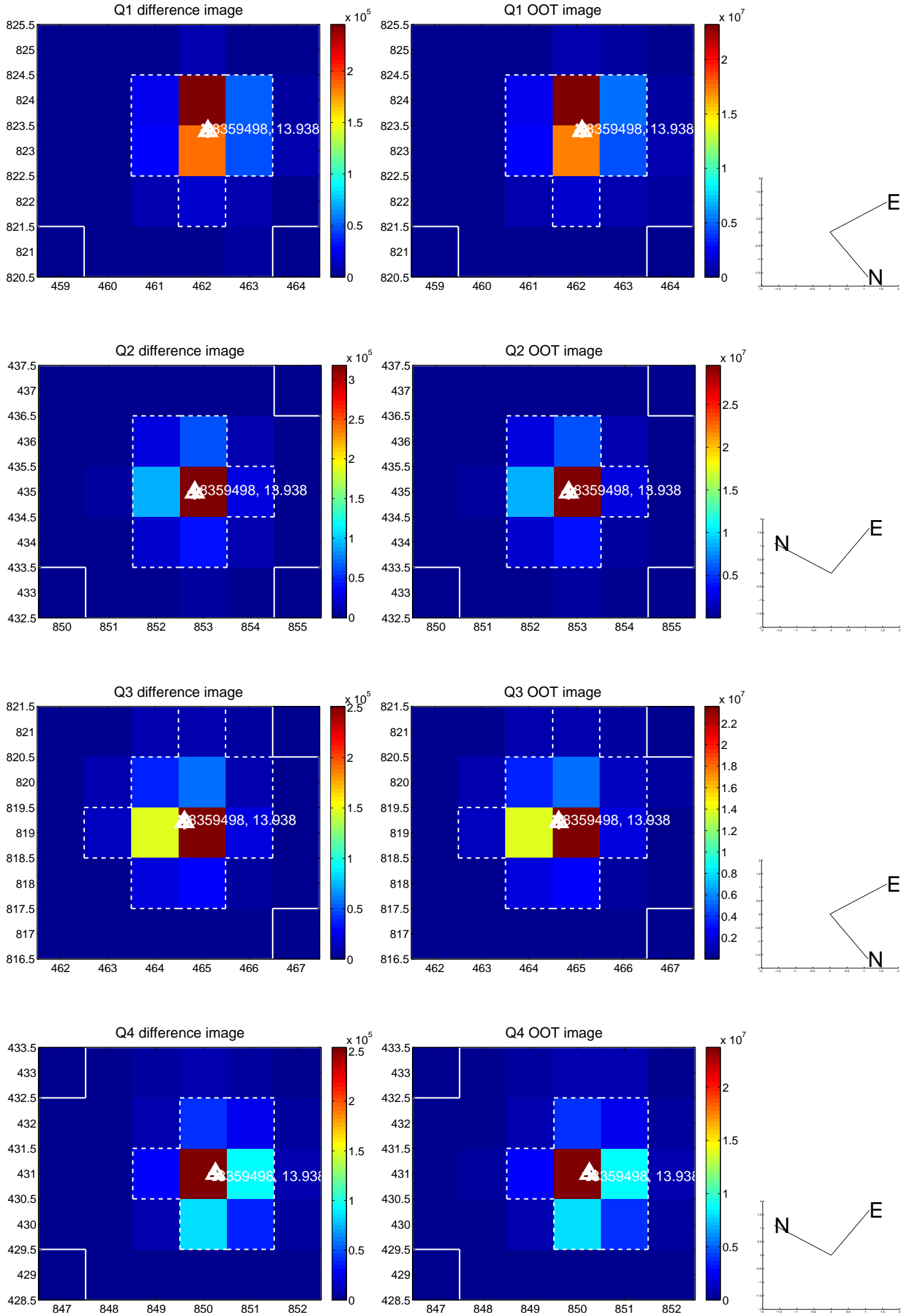
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.002 ± 0.067	0.03	0.002 ± 0.067	-0.000 ± 0.067
PRF-fit source offset from KIC position	0.153 ± 0.068	2.26	-0.002 ± 0.067	0.153 ± 0.068
photometric centroid source offset	0.13 ± 0.01	20.61	0.01 ± 0.01	0.13 ± 0.01

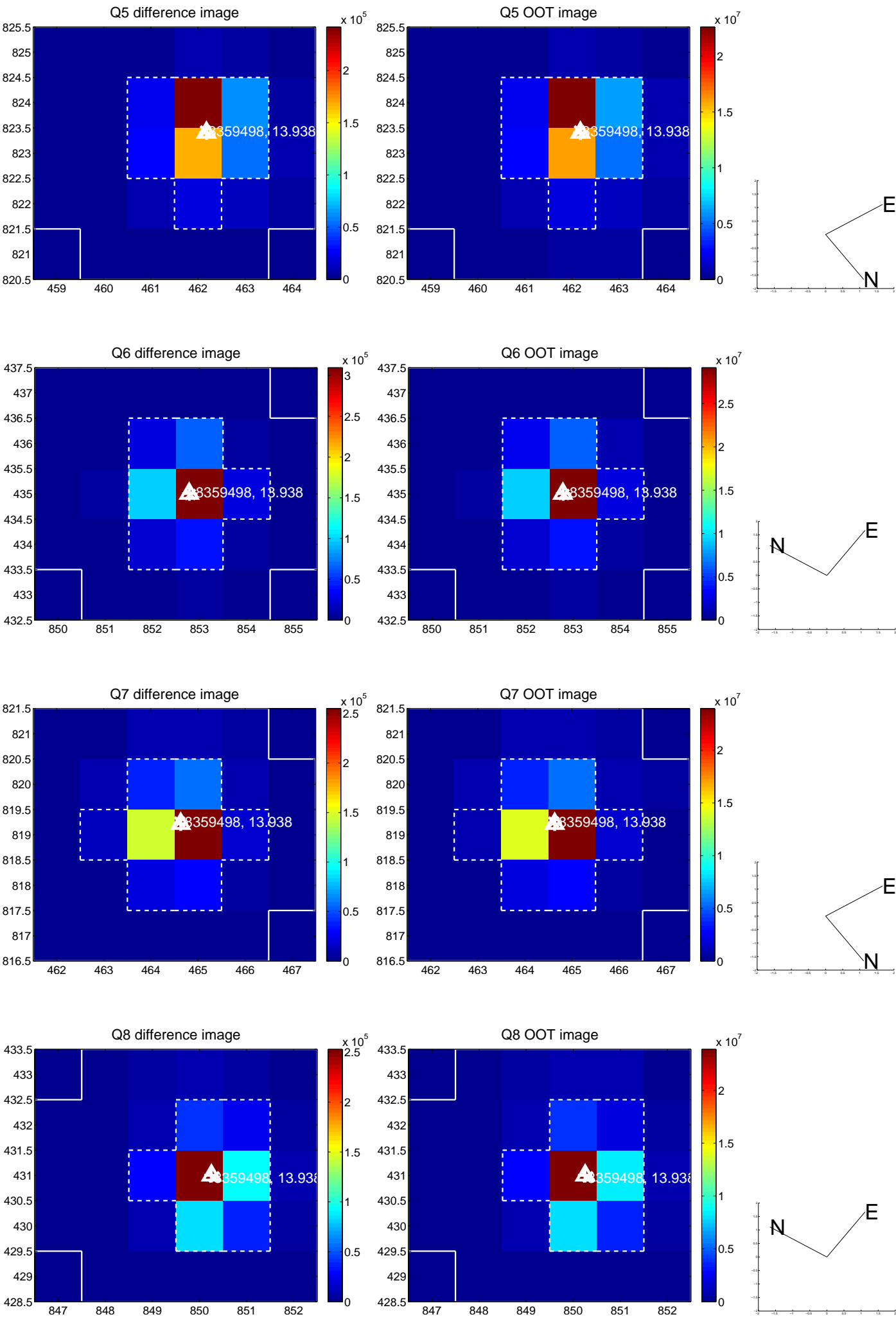


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

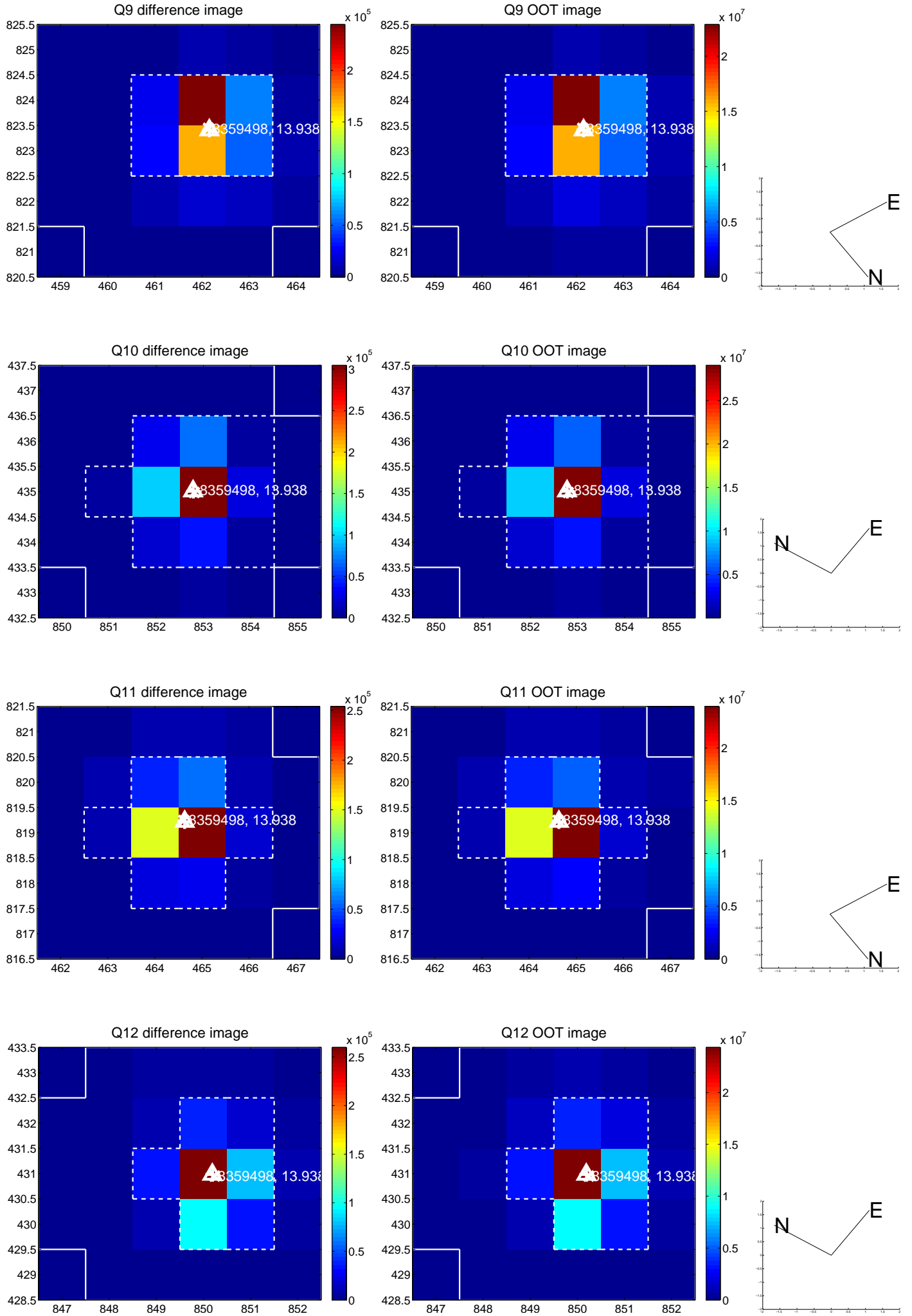
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



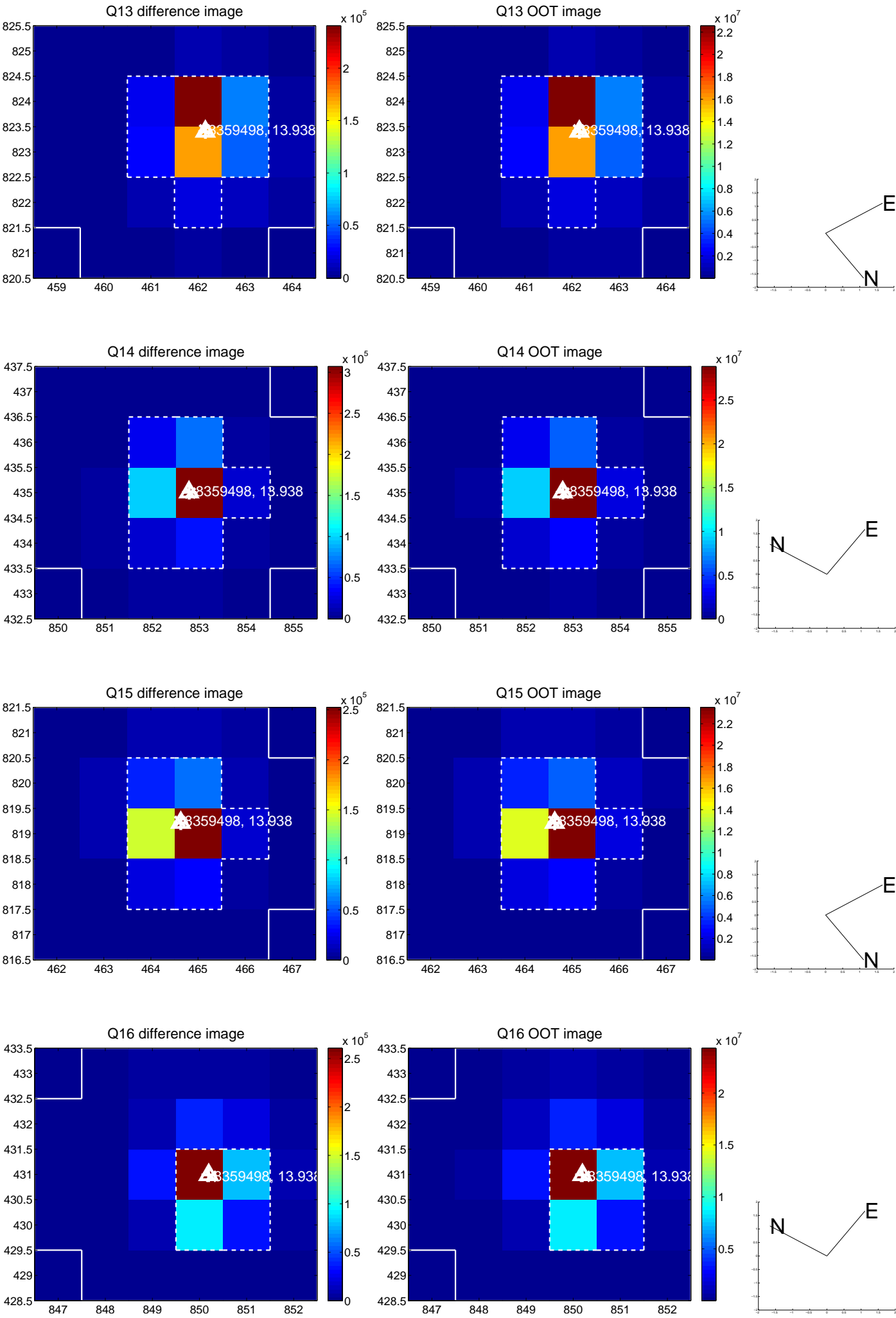
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



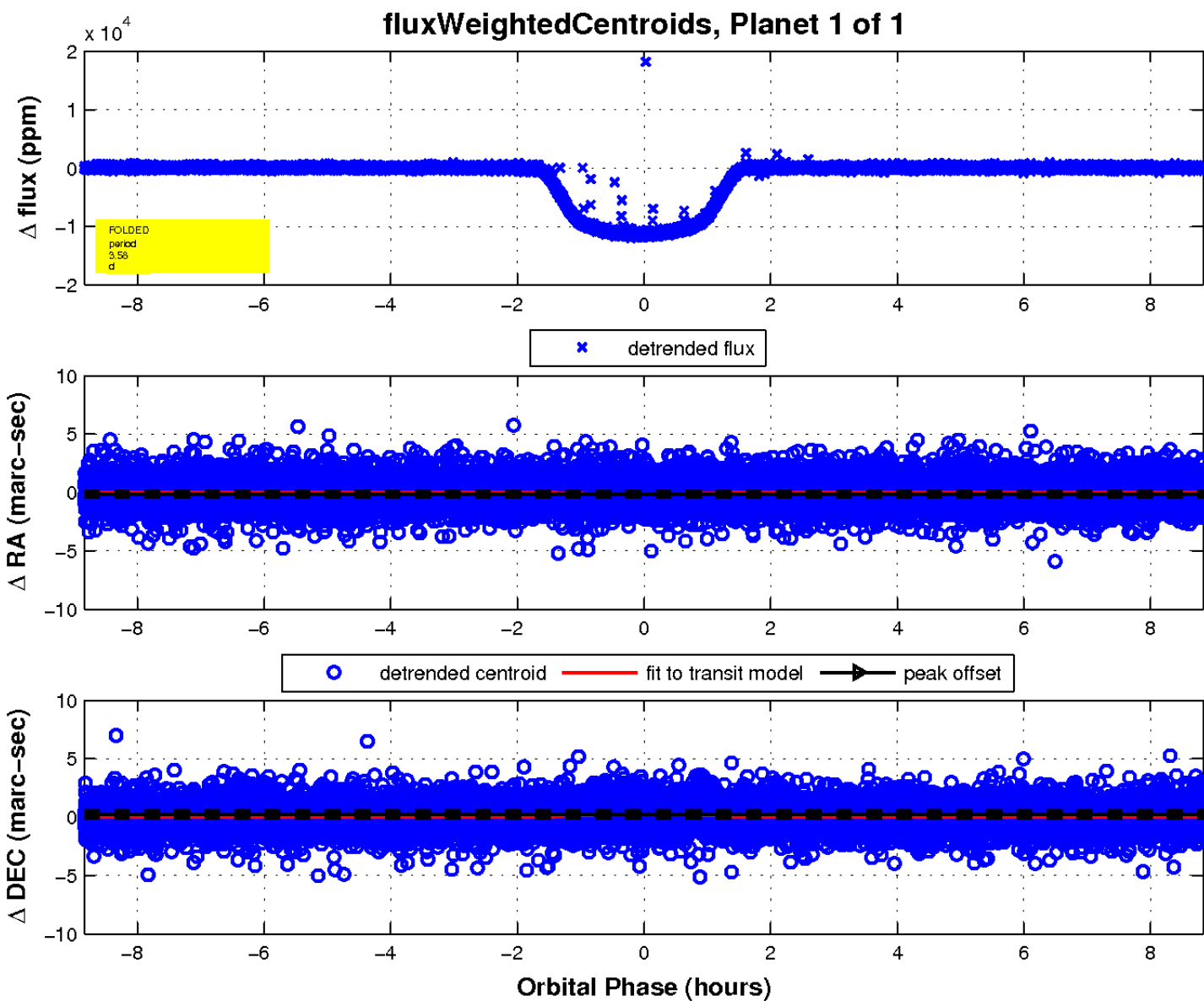
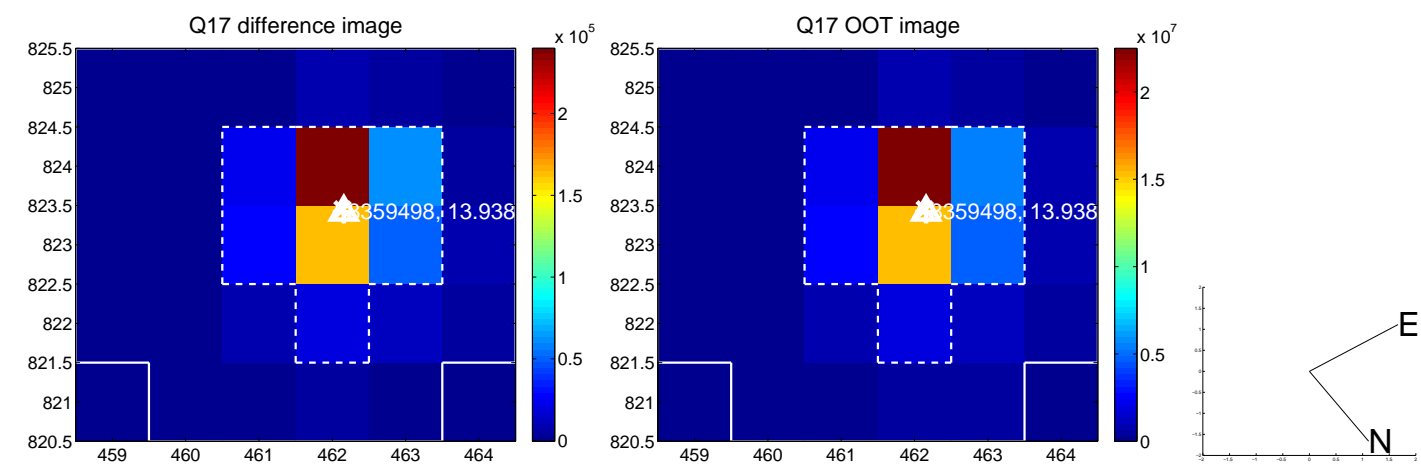
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

