

KIC 008826878

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})
008826878-01	OBS	0922.01	5.154487	135.556649	701.9	3.385	44.1	48.9	0.88	5431	2.99	204.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008826878-01	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.

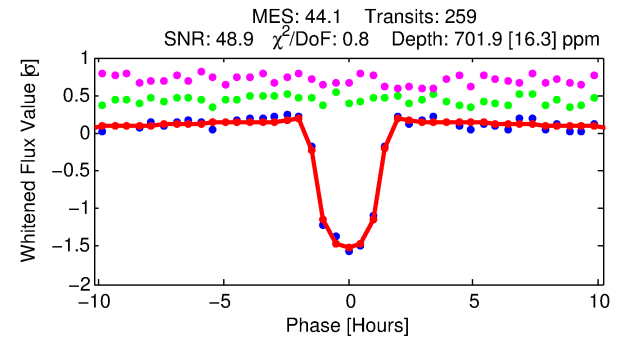
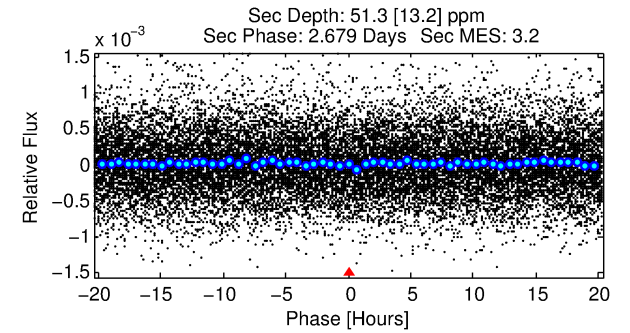
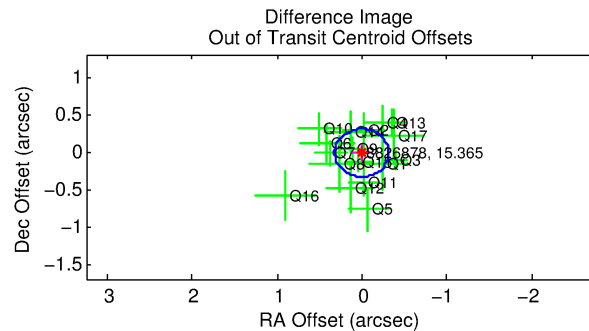
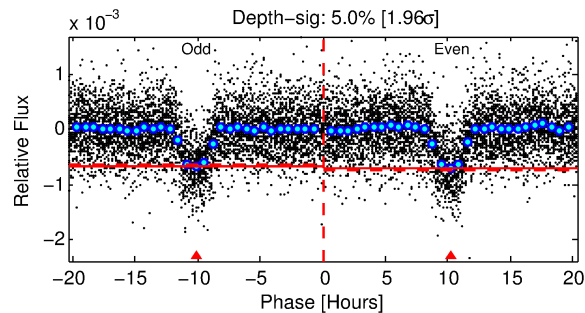
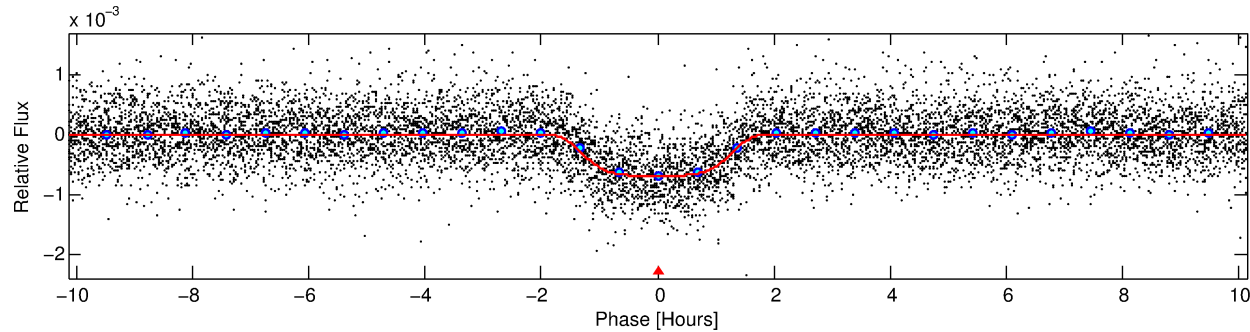
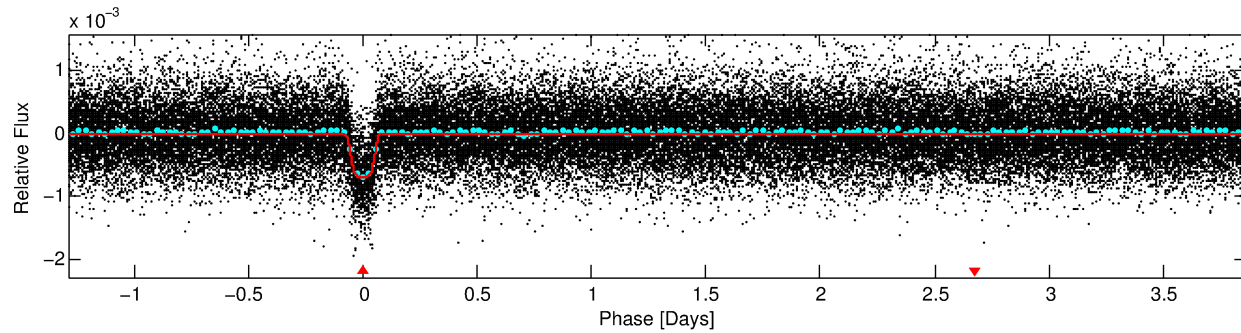
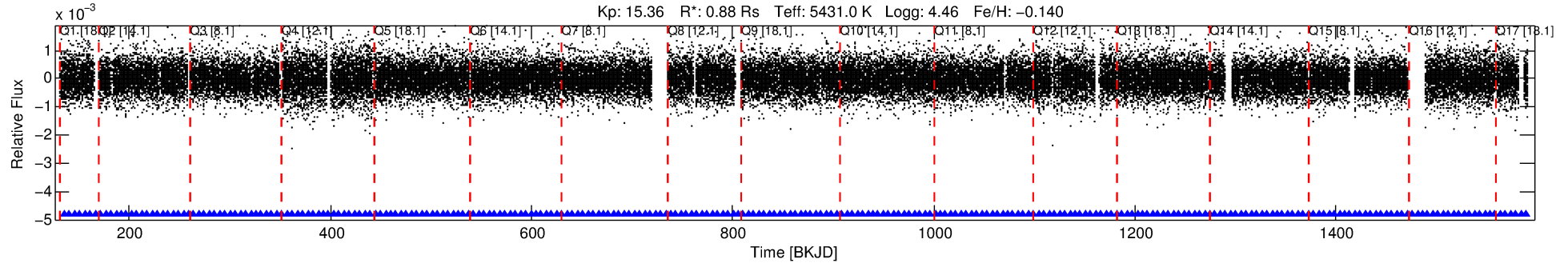
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008826878-01

No Significant Match Found

DV One-Page Summary

KIC: 8826878 Candidate: 1 of 1 Period: 5.154 d
KOI: K00922.01 Corr: 0.924



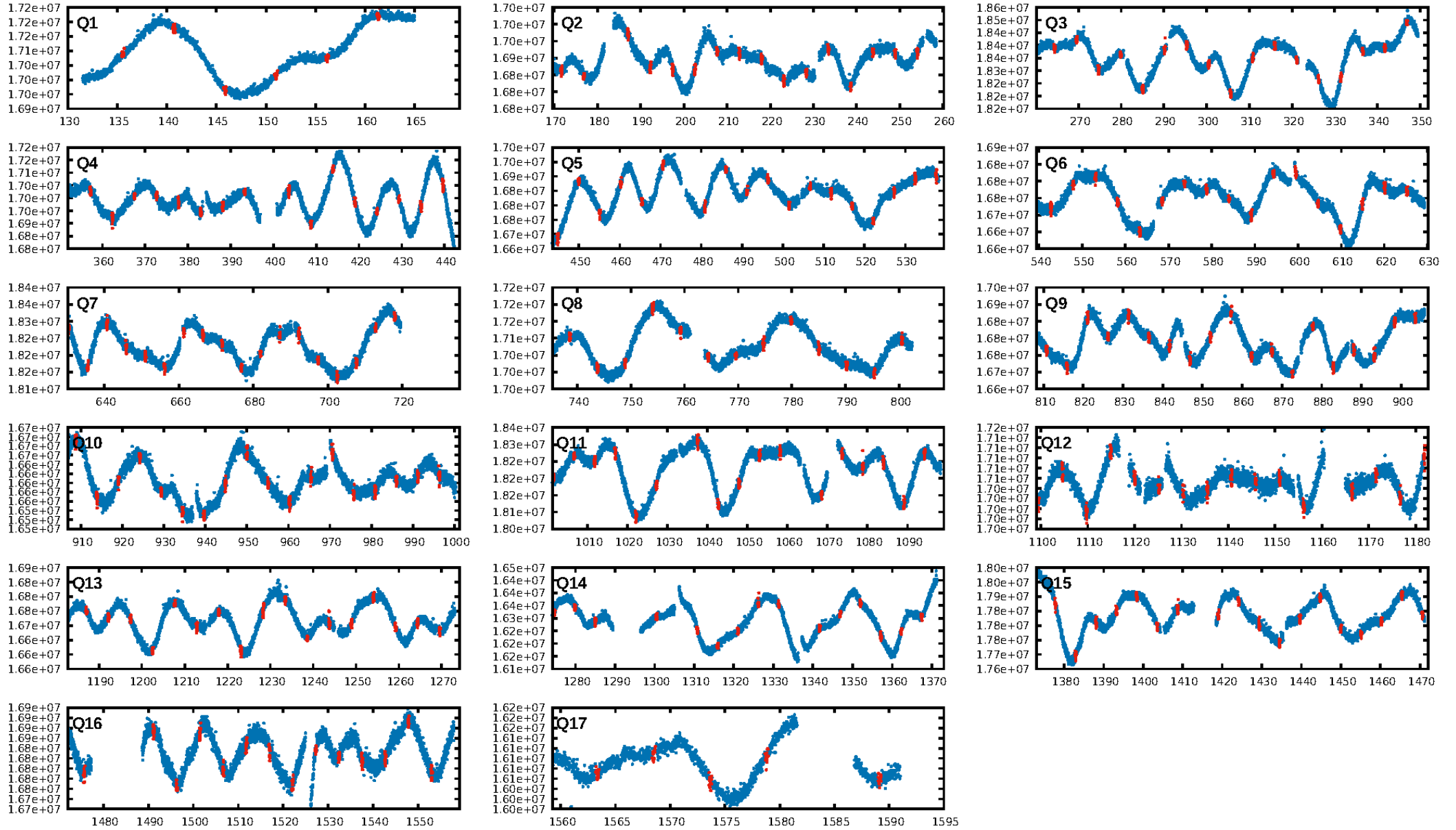
DV Fit Results:

Period = 5.15449 [0.00001] d
Epoch = 135.5566 [0.0013] BKJD
Rp/R* = 0.0310 [0.0007]
a/R* = 4.89 [0.37]
b = 0.95 [0.01]
Seff = 204.39 [61.97]
Teq = 964 [73] K
Rp = 2.99 [0.65] Re
a = 0.0546 [0.0102] AU
Ag = 9.38 [3.59] [2.34 σ]
Teffp = 2609 [187] K [8.19 σ]

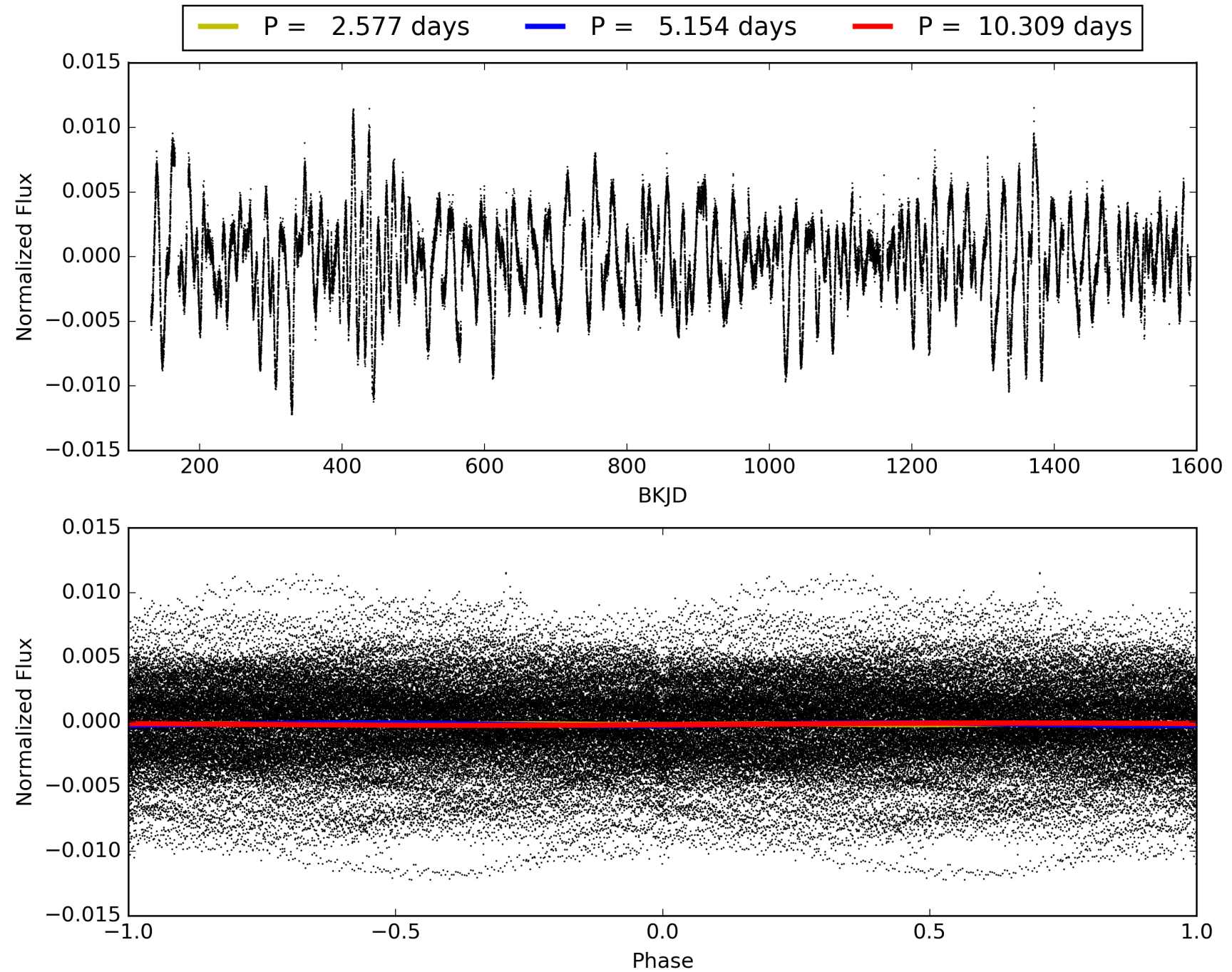
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [248/248]
GhostDiagnostic-chr: 8.467
Centroid-sig: 0.7%
Centroid-so: 0.696 arcsec [2.61 σ]
OotOffset-rm: 0.015 arcsec [0.14 σ]
KicOffset-rm: 0.102 arcsec [0.86 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 008826878-01, PDC Light Curves

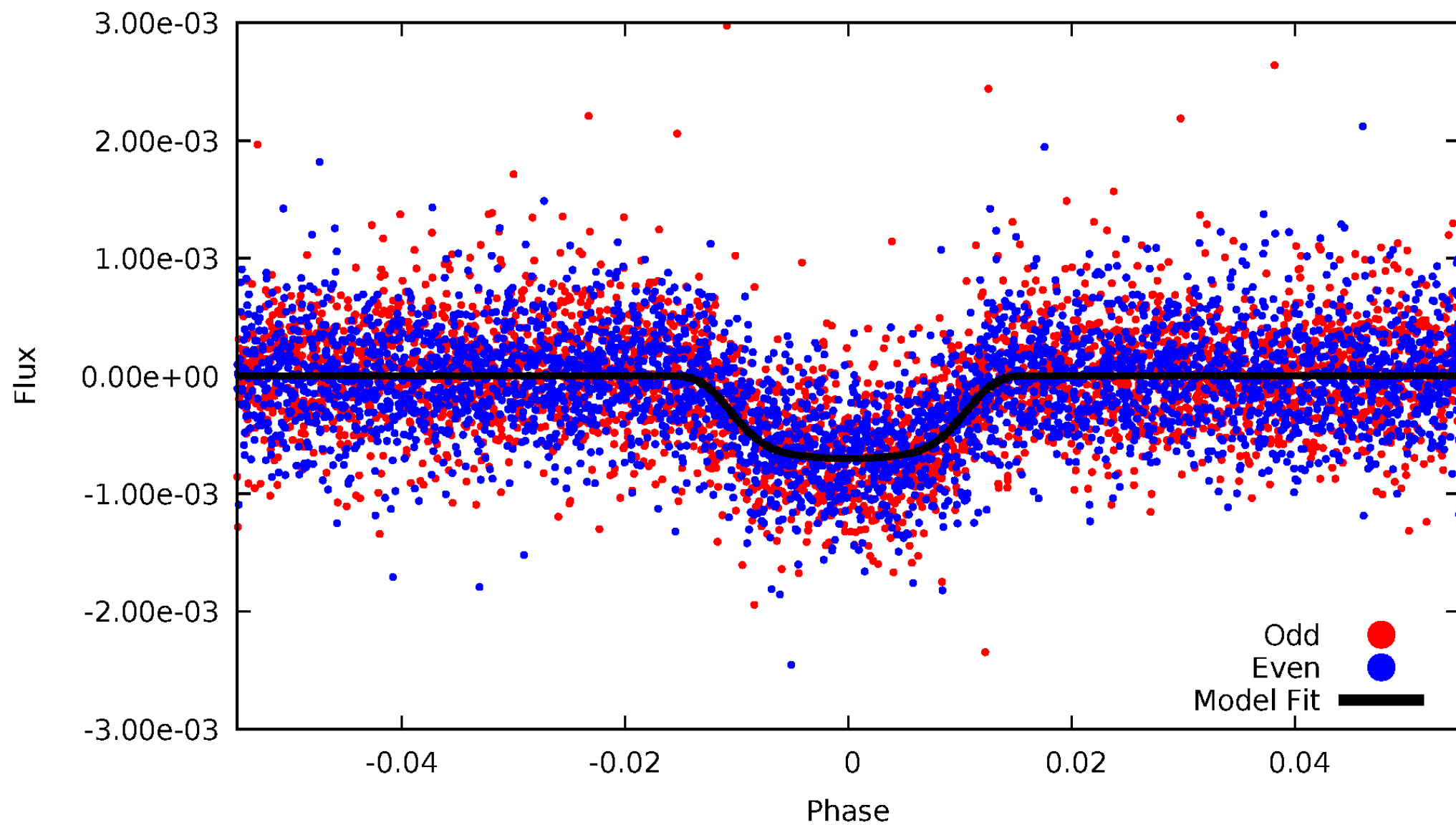


TCE 008826878-01



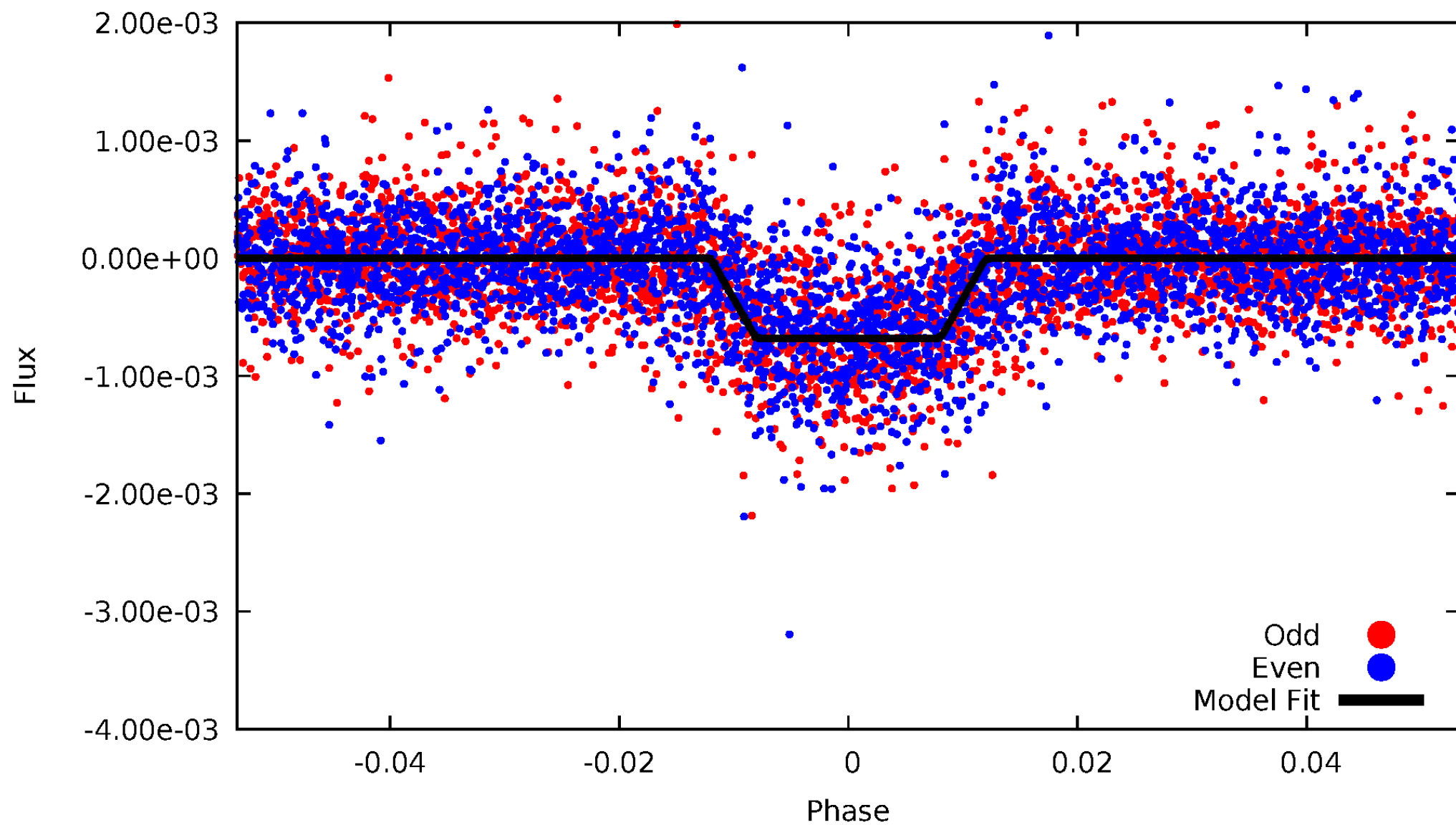
DV Odd/Even

TCE 008826878-01



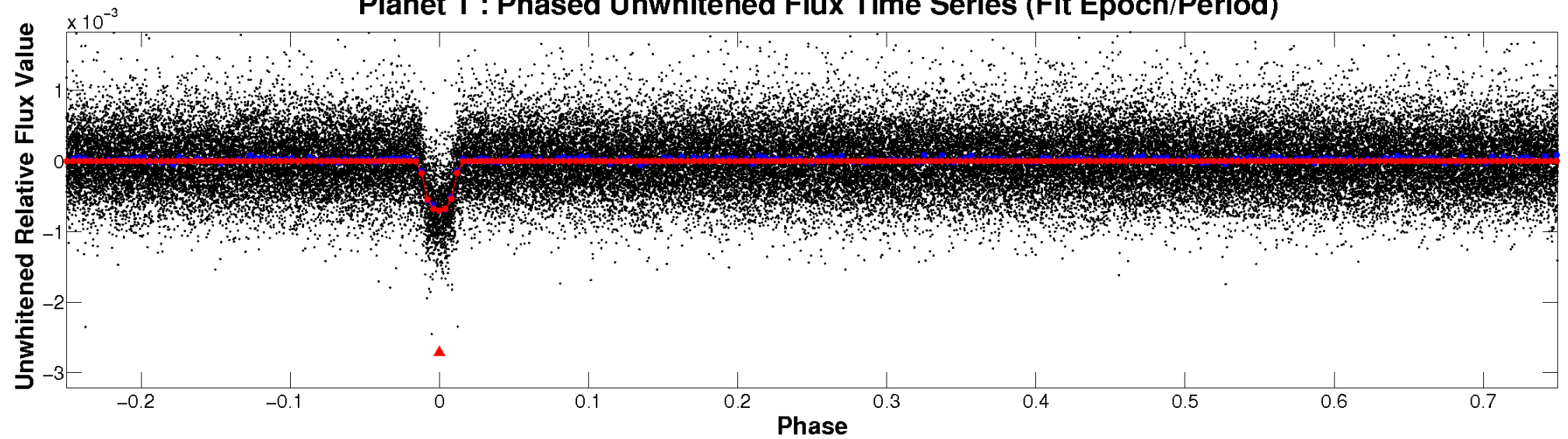
ALT Odd/Even

TCE 008826878-01

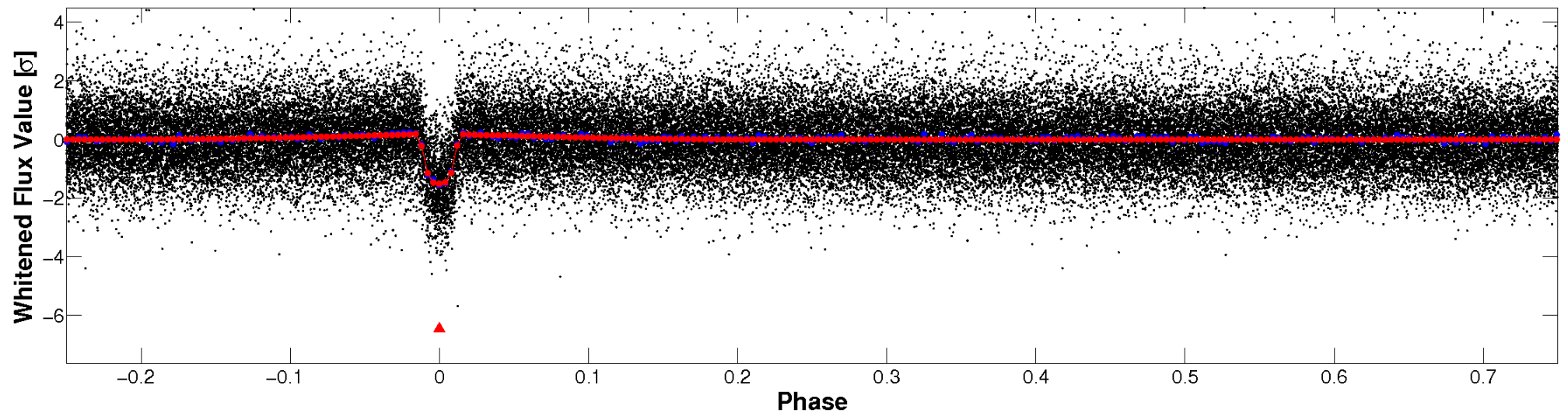


Non-Whitened Vs. Whitened Light Curve

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

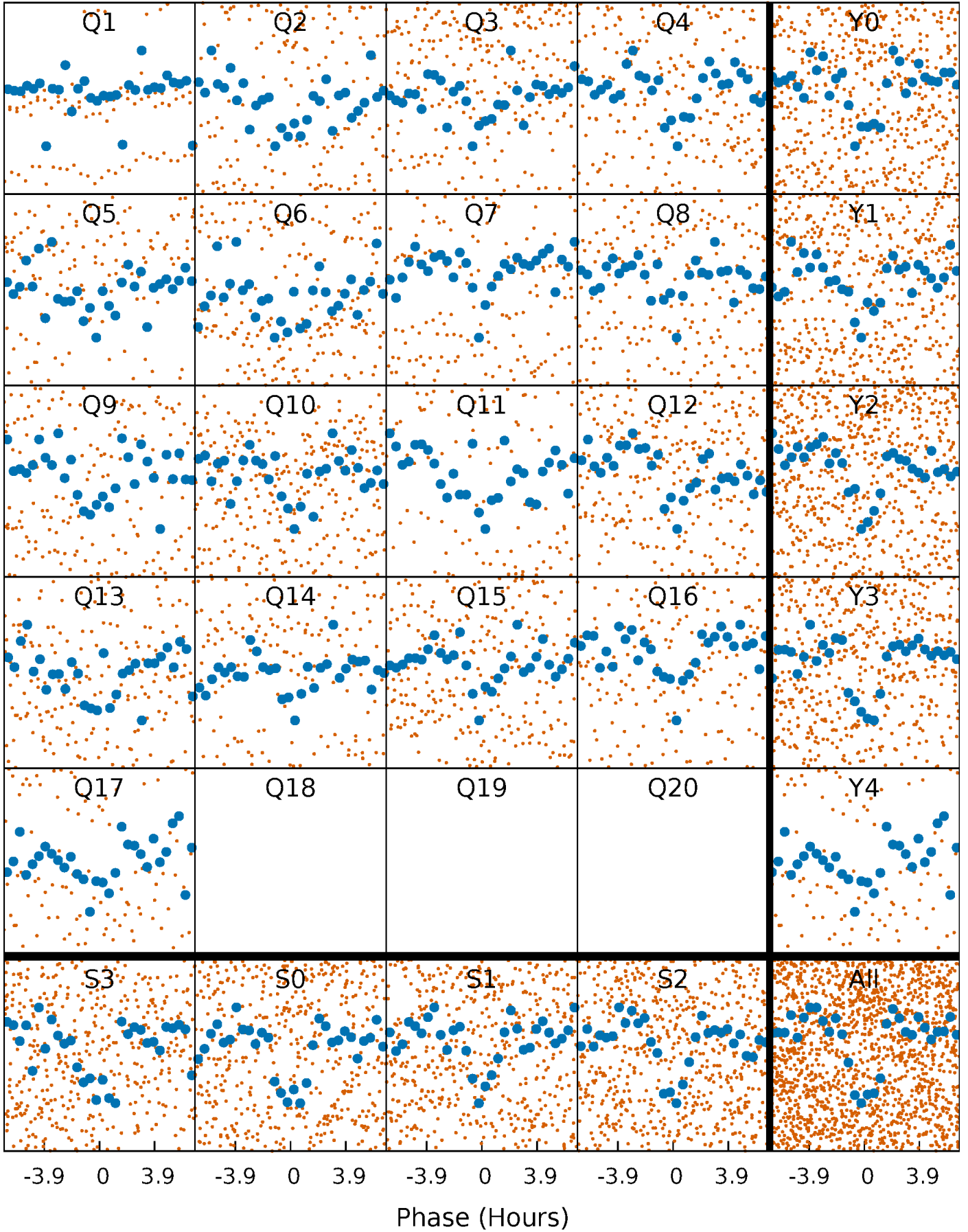


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



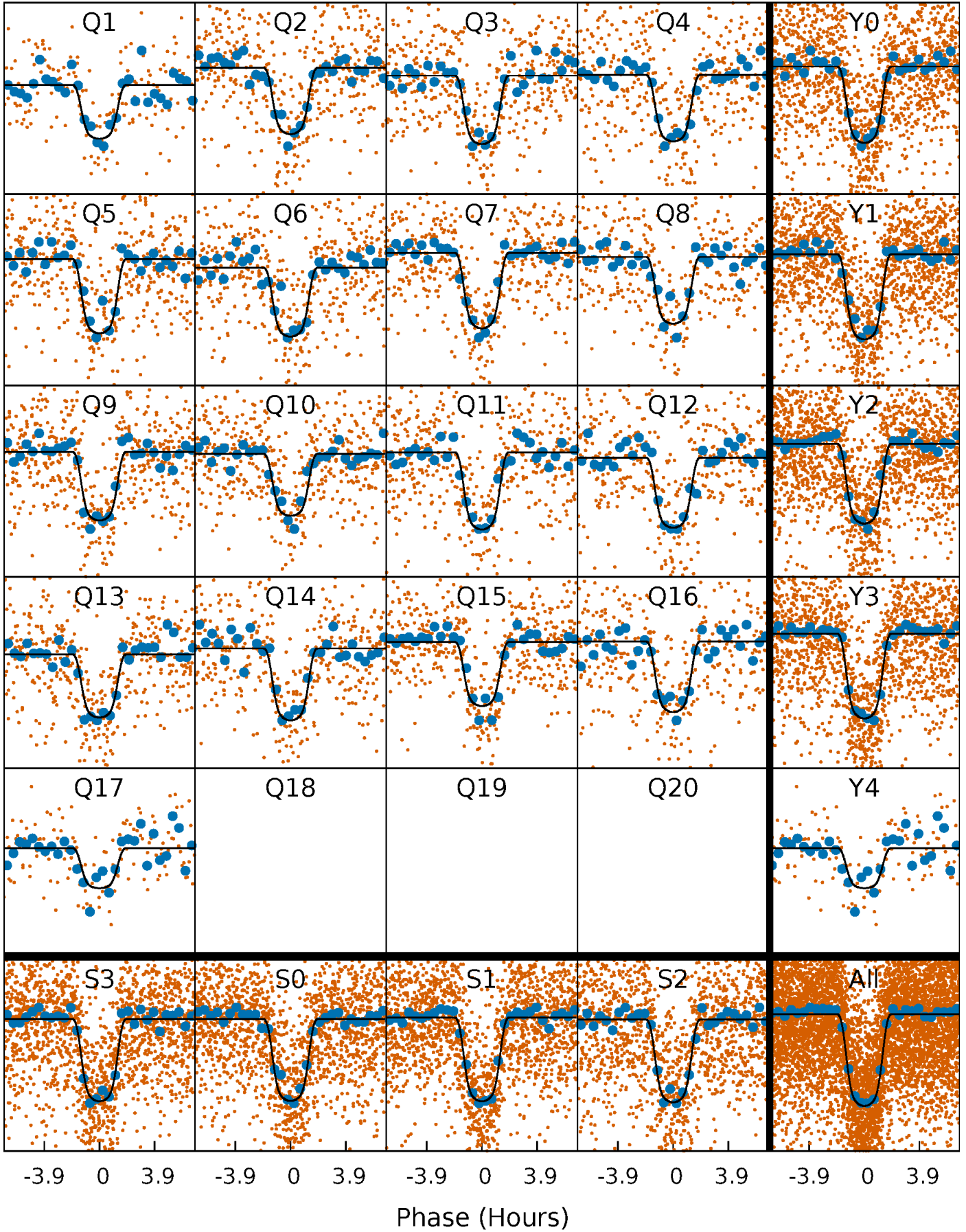
PDC Quarter-Phased Transit Curves

TCE 008826878-01 P= 5.154487 Days $T_0=135.556649$ (BKJD)



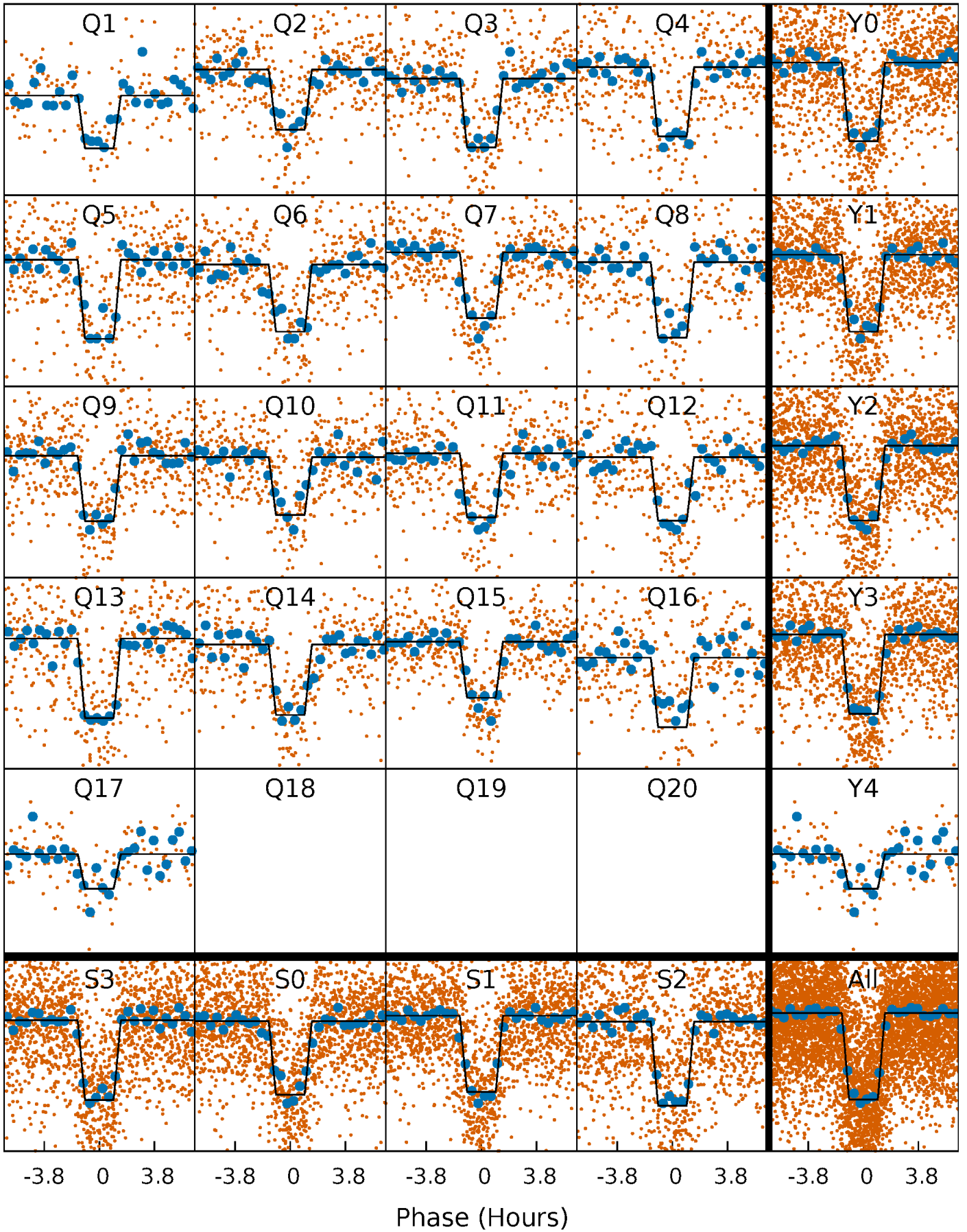
DV Quarter-Phased Transit Curves

TCE 008826878-01 P= 5.154487 Days $T_0=135.556649$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

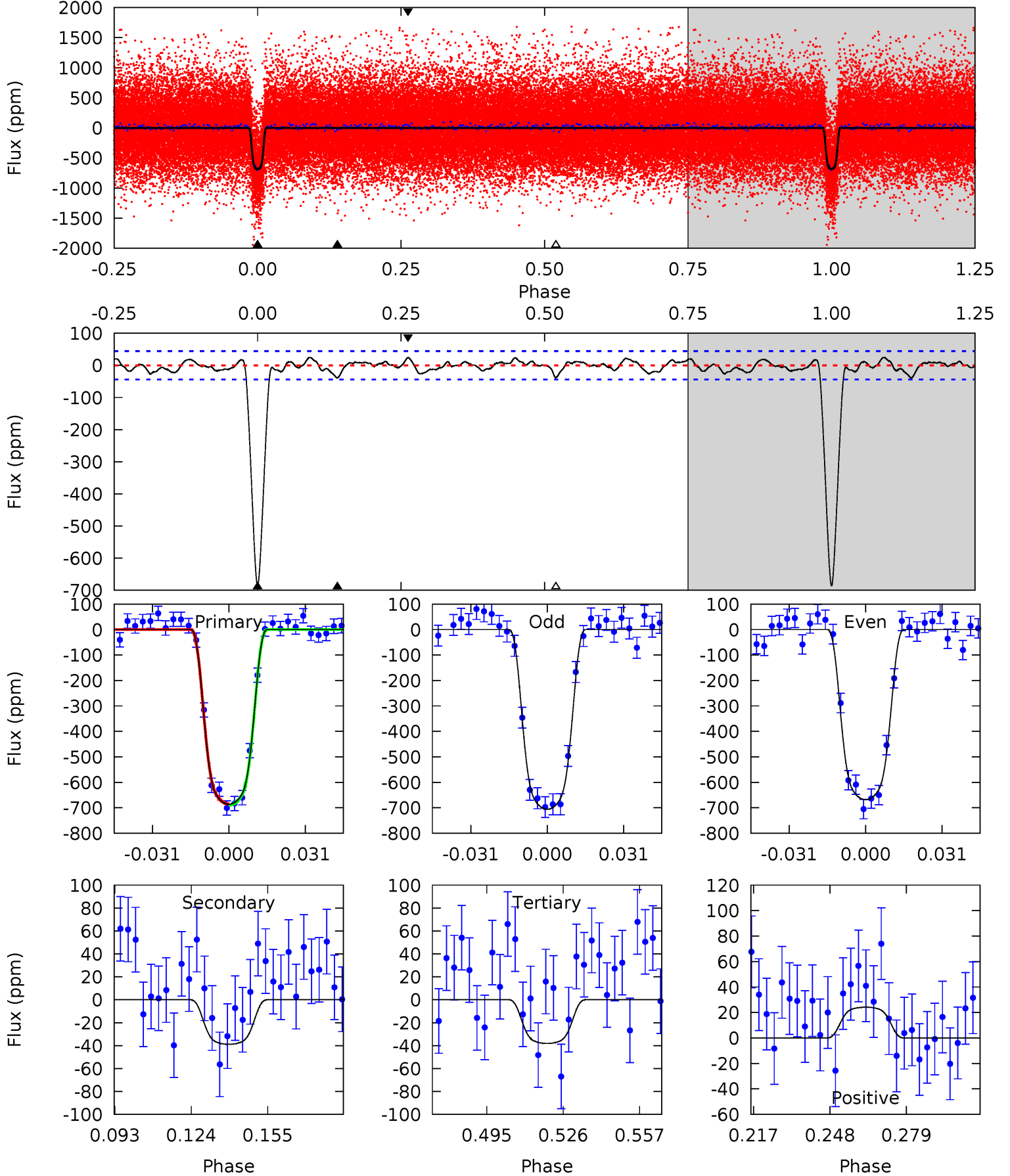
TCE 008826878-01 P= 5.154475 Days $T_0=135.557386$ (BKJD)



DV Model-Shift Uniqueness Test

008826878-01, P = 5.154487 Days, E = 130.402162 Days

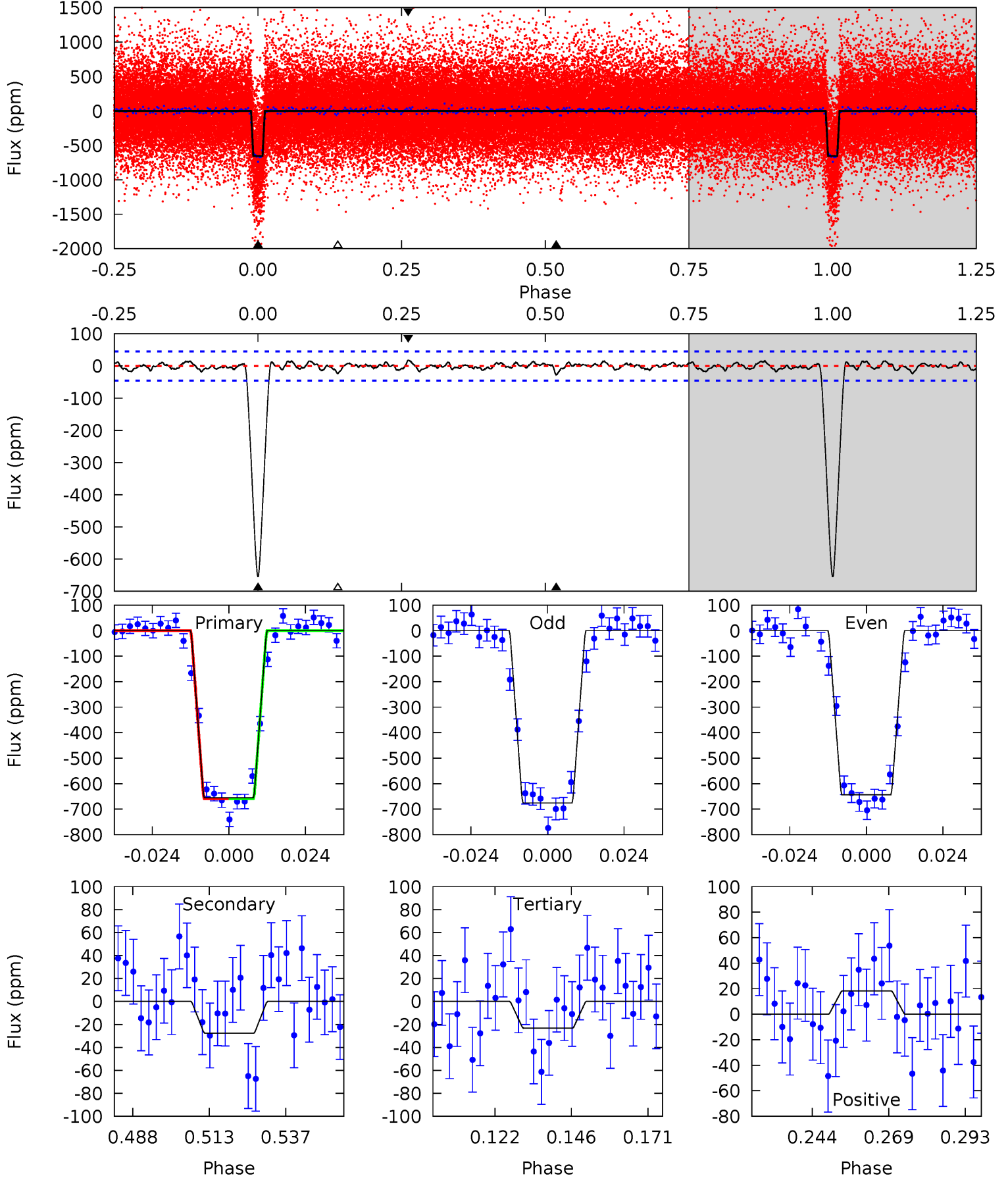
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
74.7	4.23	4.15	2.63	4.80	2.16	1.34	70.5	72.0	0.08	1.60	2.05	0.99	0.04	0.24



Alt Model-Shift Uniqueness Test

008826878-01, P = 5.154475 Days, E = 130.402911 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
70.5	2.97	2.51	1.96	4.85	2.25	0.79	67.9	68.5	0.46	1.01	1.73	0.99	0.03	0.01



Stellar Parameters For KIC 008826878

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5431^{+161}_{-161}	$4.457^{+0.104}_{-0.156}$	$-0.140^{+0.300}_{-0.300}$	$0.884^{+0.190}_{-0.117}$	$0.816^{+0.118}_{-0.063}$	$1.665^{+0.740}_{-0.705}$
	+3%/-3%	+2%/-4%	+214%/-214%	+21%/-13%	+14%/-8%	+44%/-42%
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 008826878-01 / KOI 0922.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-39 ± 9	$3.02^{+0.38}_{-0.25}$	1351^{+86}_{-63}	3045^{+126}_{-127}	$6.833^{+2.353}_{-2.009}$
Alt.	-28 ± 9	$2.57^{+0.33}_{-0.22}$	1364^{+80}_{-74}	3046^{+148}_{-197}	$6.741^{+2.746}_{-2.618}$

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

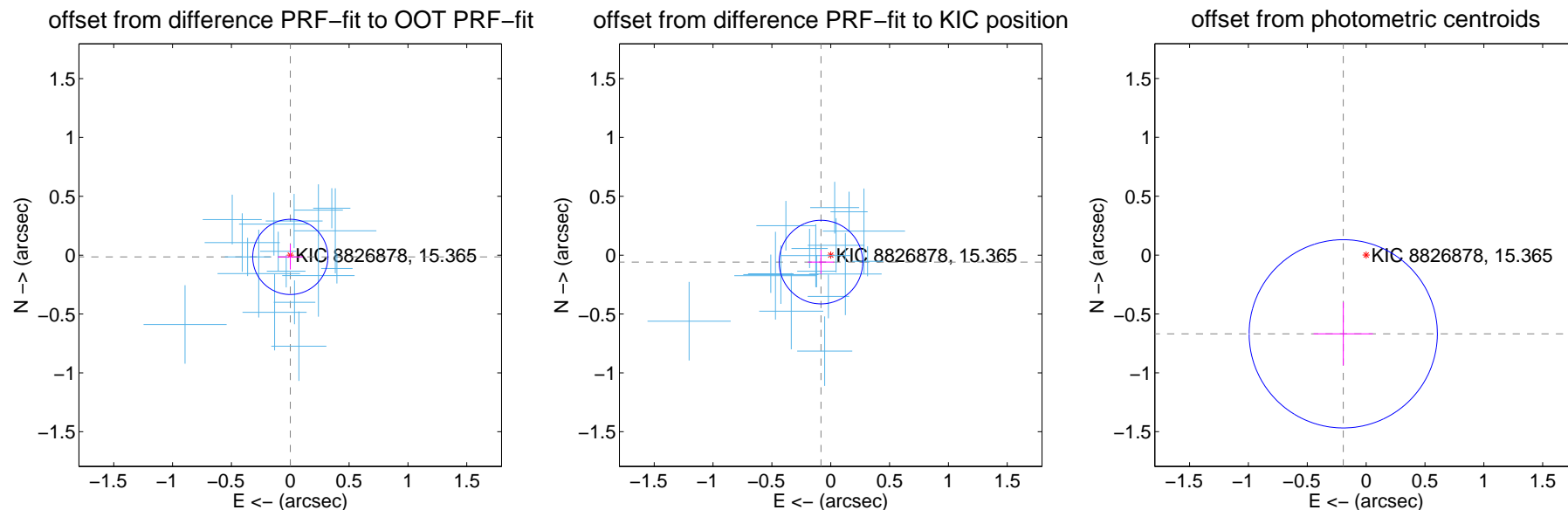
DV Centroid Data

Supplemental centroid analysis for 008826878-01. Kepler magnitude: 15.37. Transit SNR 48.93

There are 17 quarters with good PRF difference image offsets

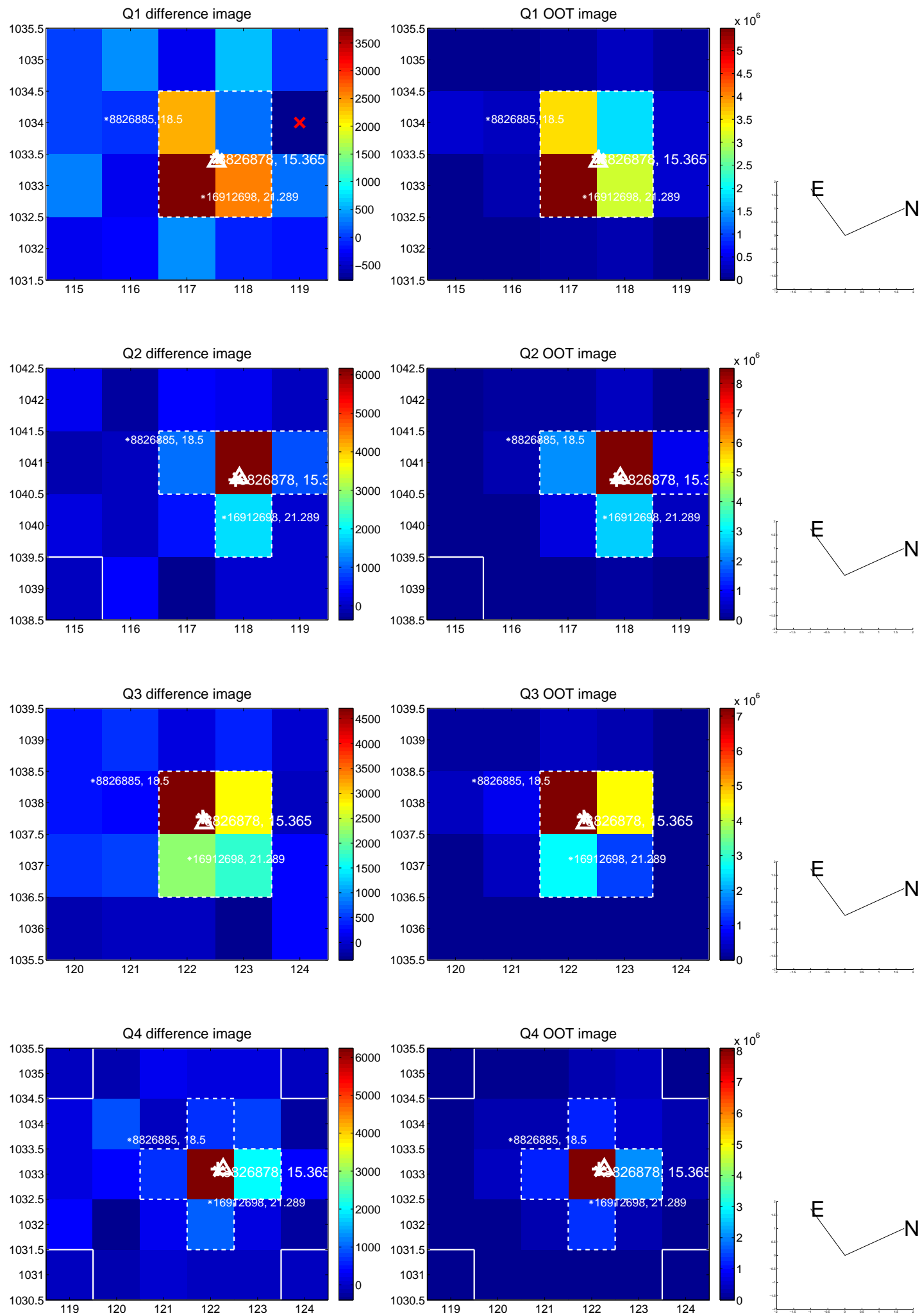
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.015 ± 0.106	0.14	-0.000 ± 0.106	-0.015 ± 0.107
PRF-fit source offset from KIC position	0.102 ± 0.118	0.86	0.083 ± 0.110	-0.059 ± 0.101
photometric centroid source offset	0.70 ± 0.27	2.61	0.19 ± 0.25	-0.67 ± 0.27

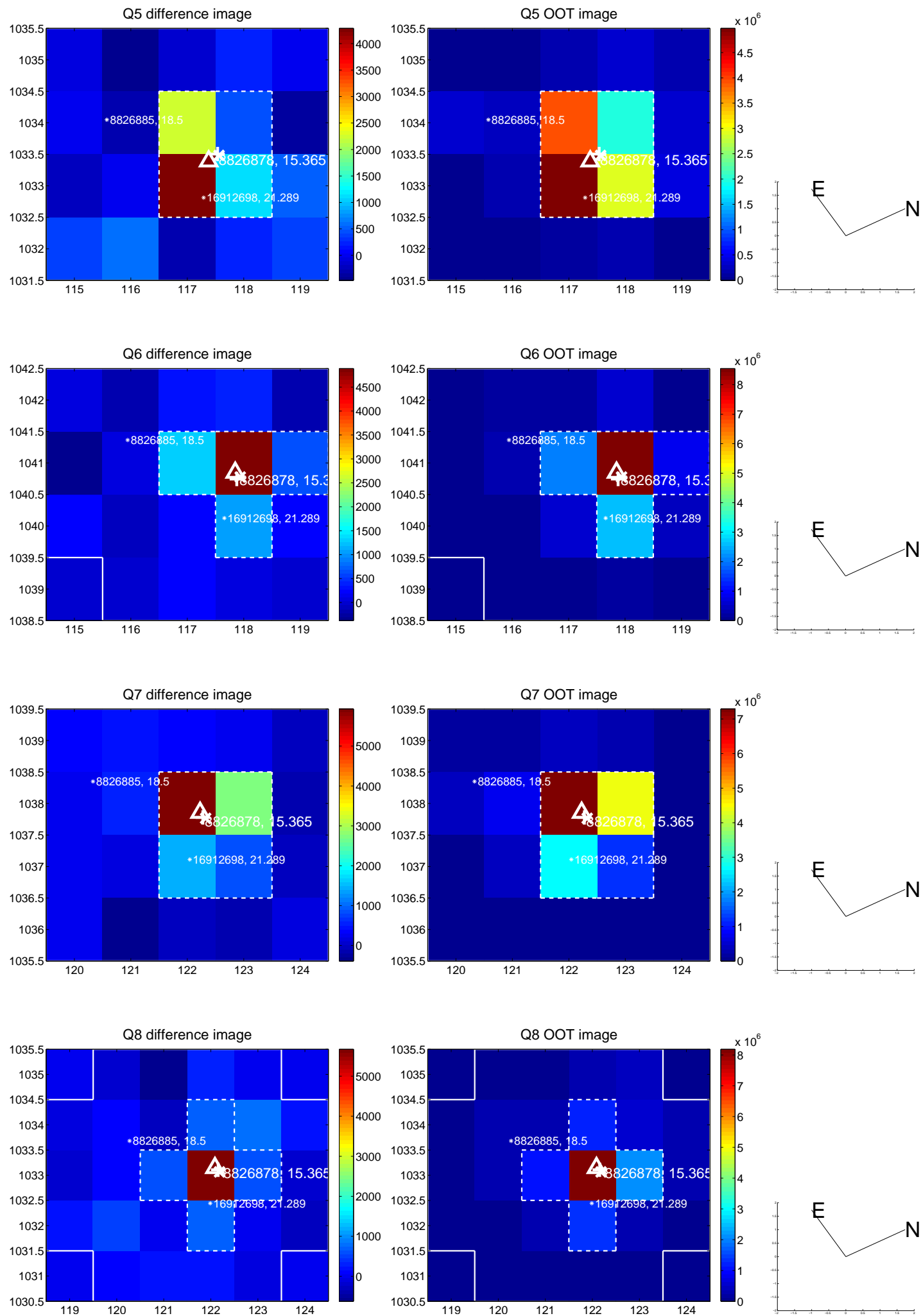


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

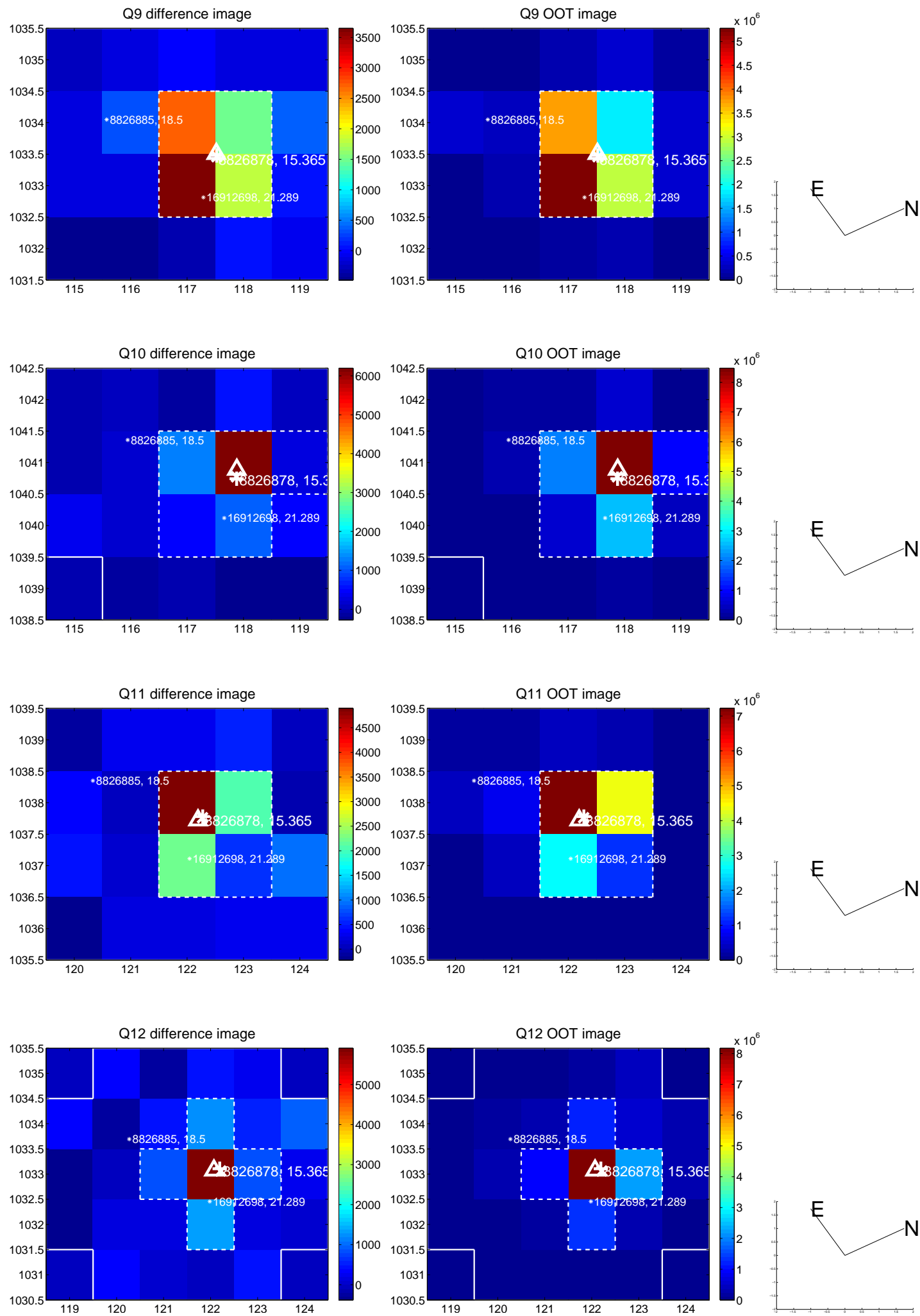
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



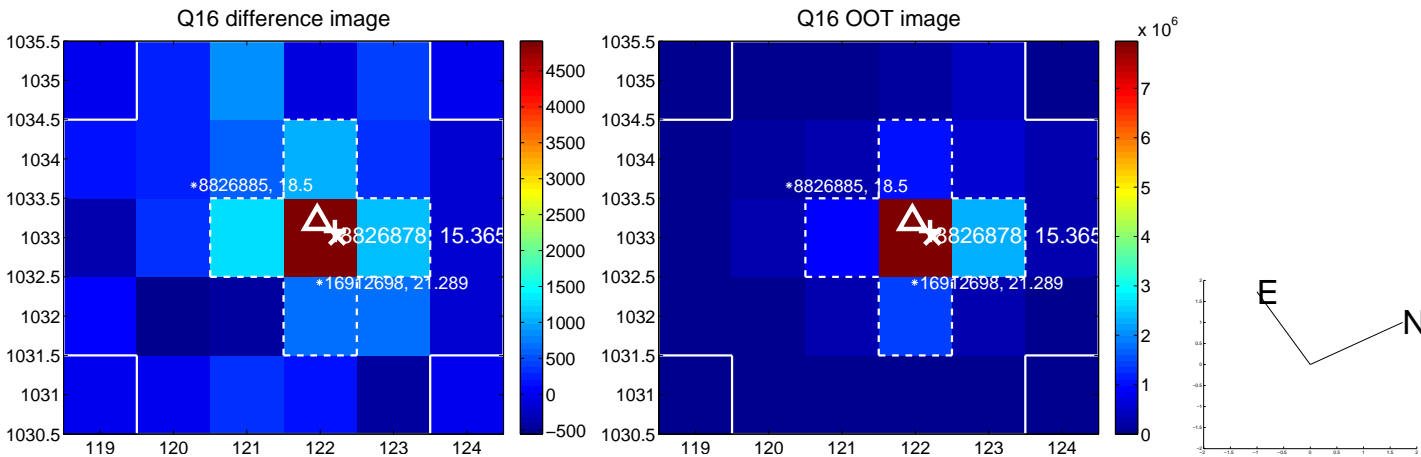
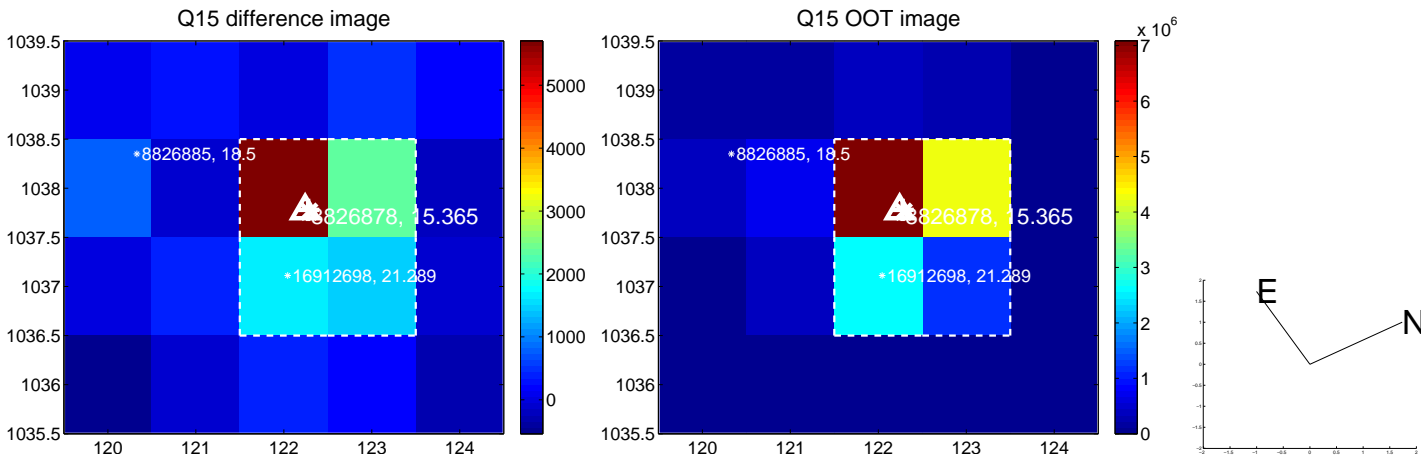
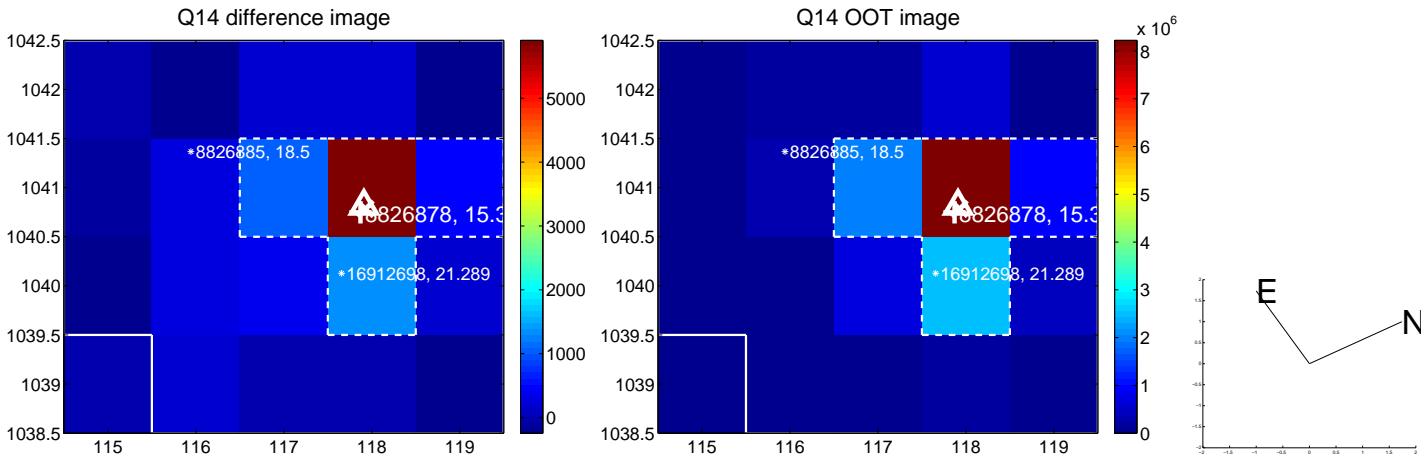
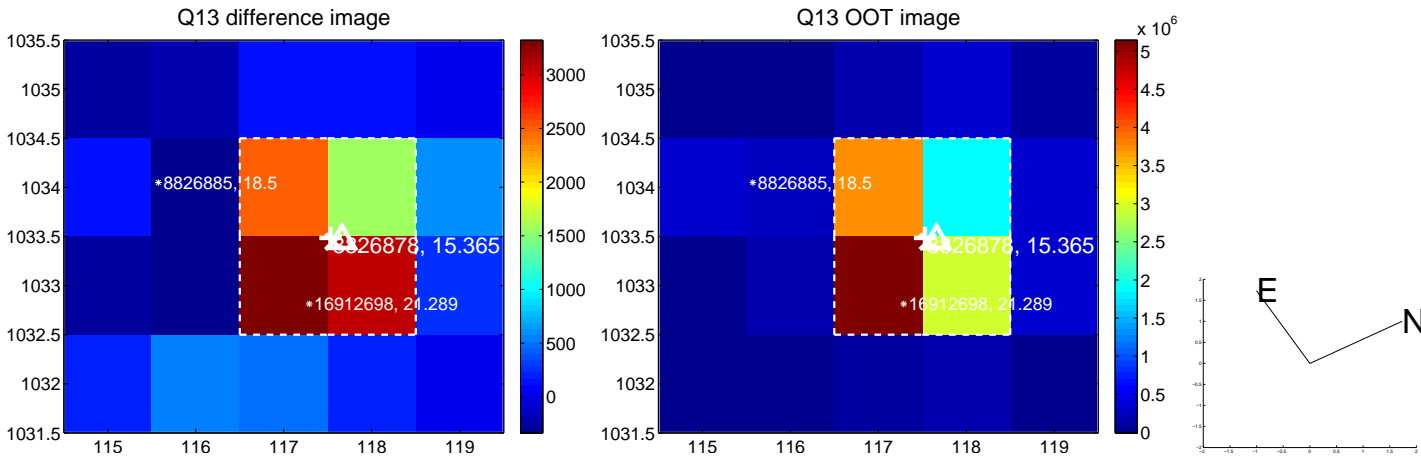
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



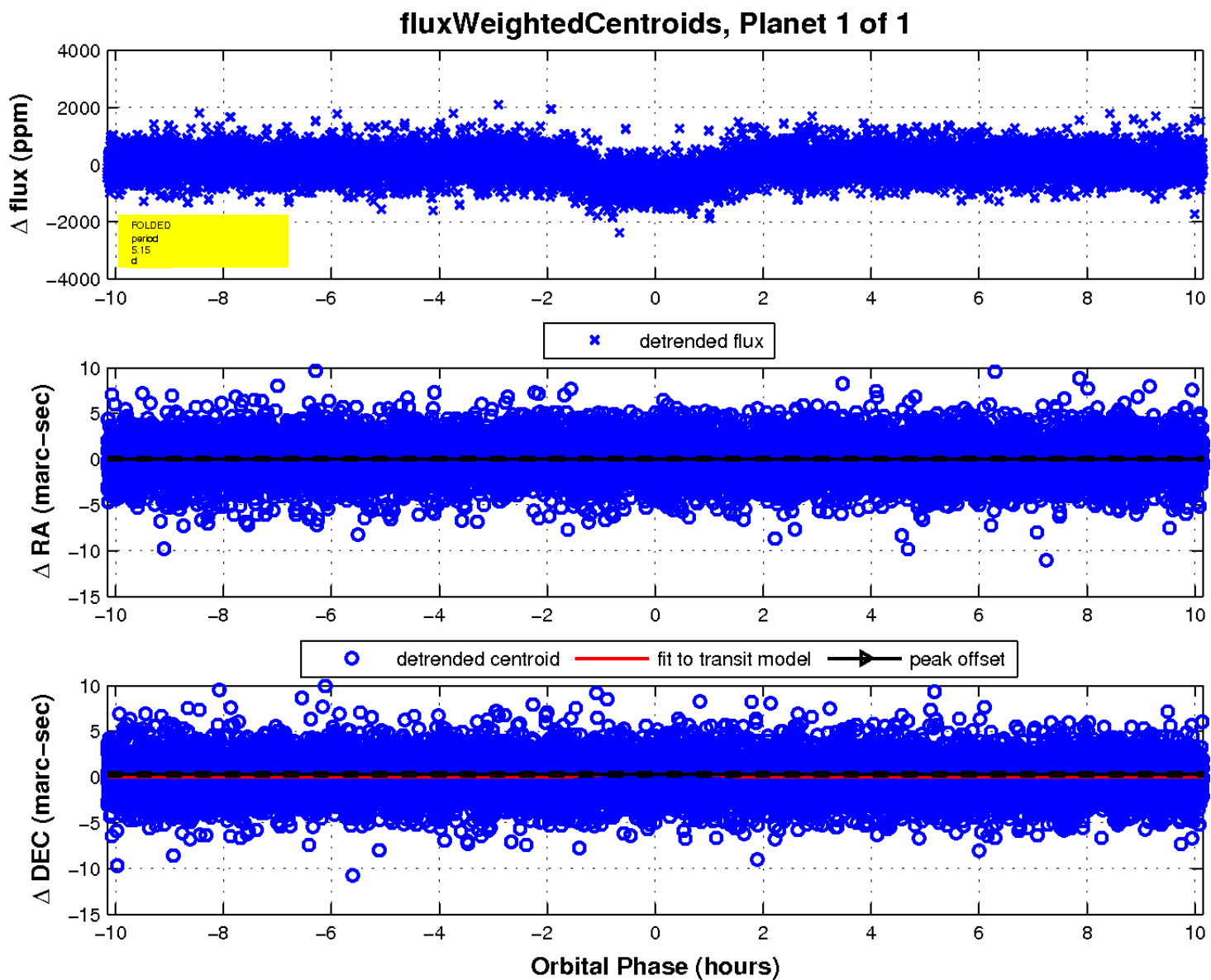
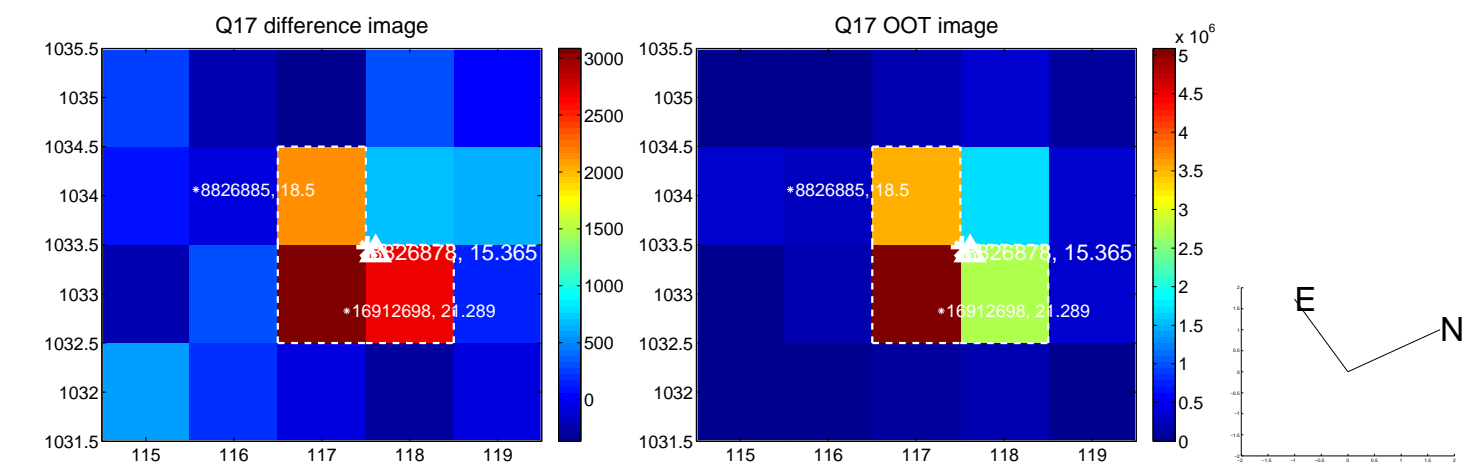
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

