

KIC 012557548

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})
012557548-01	OBS	3794.01	0.653558	132.054620	3794.1	1.316	156.9	178.8	0.66	4550	5.10	1009.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012557548-01	OBS	PC	0.76	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.

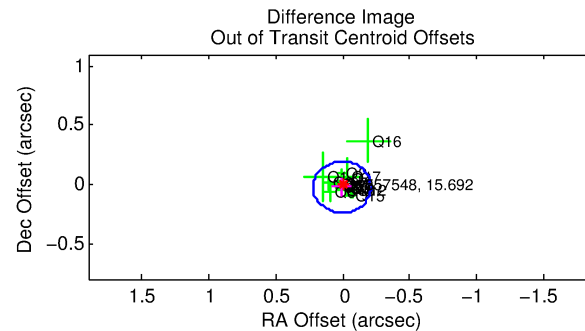
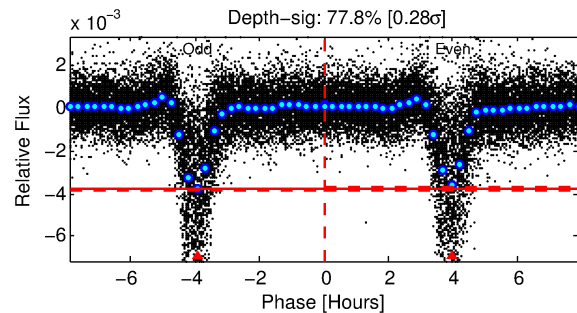
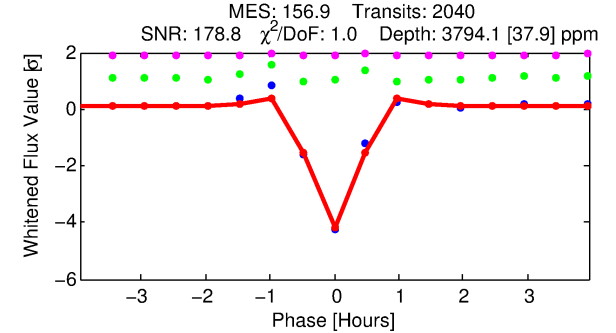
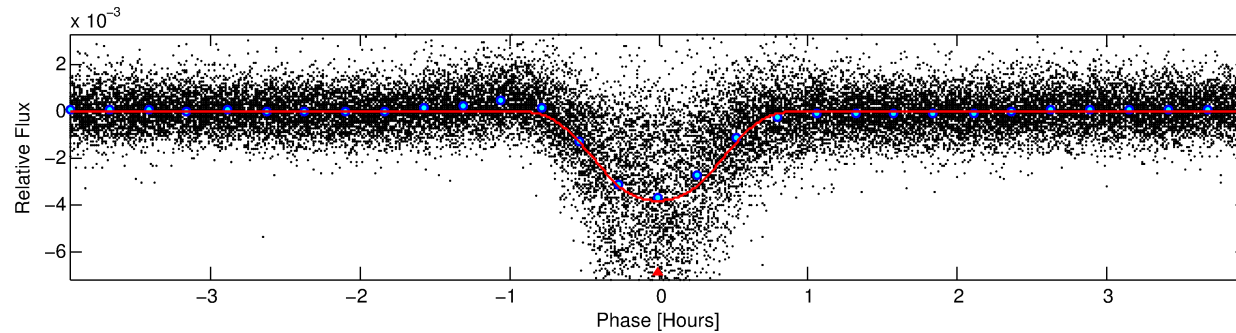
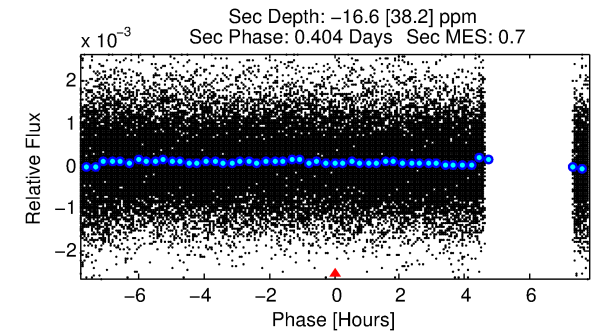
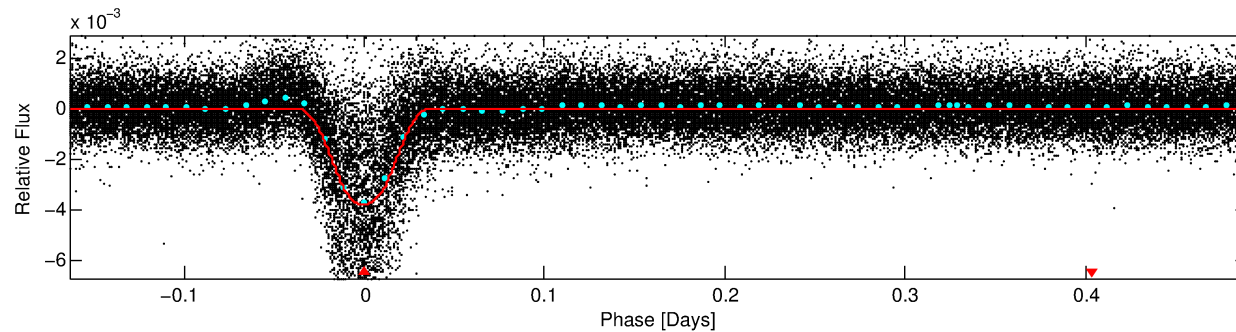
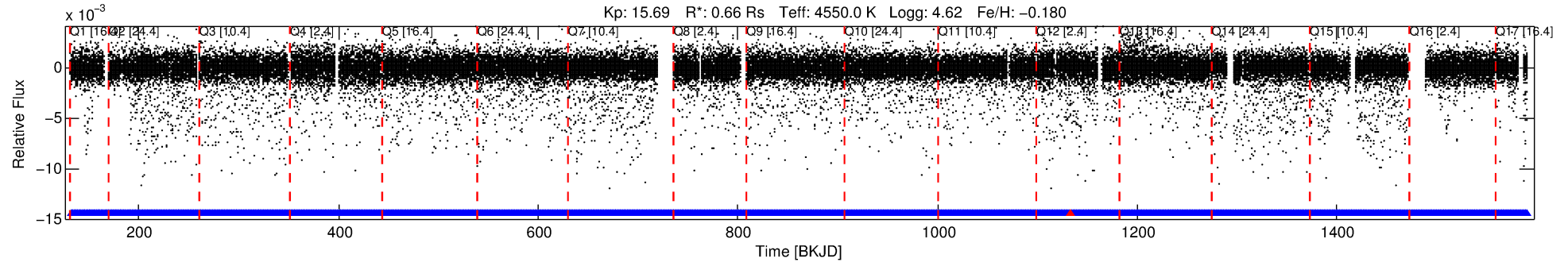
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012557548-01

No Significant Match Found

DV One-Page Summary

KIC: 12557548 Candidate: 1 of 1 Period: 0.654 d
KOI: K03794.01 Corr: 0.925



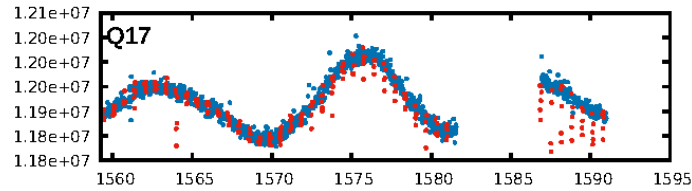
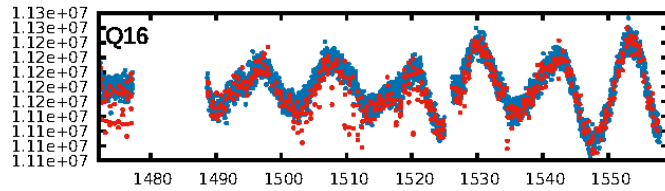
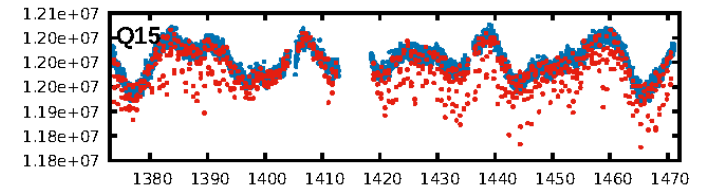
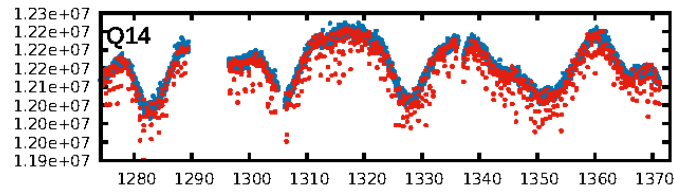
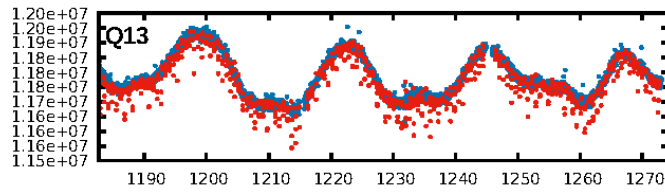
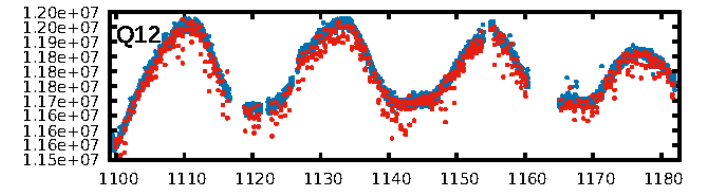
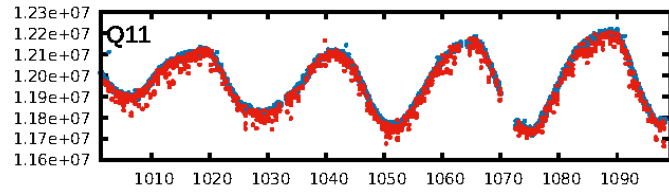
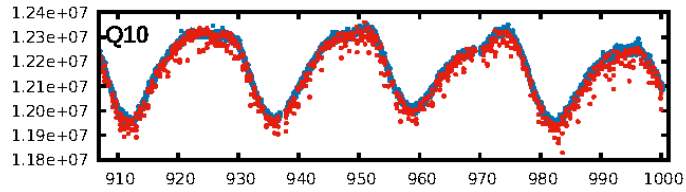
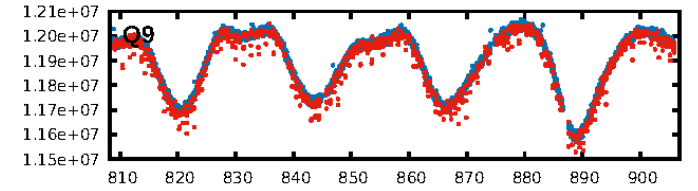
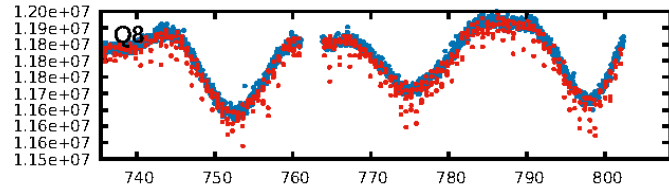
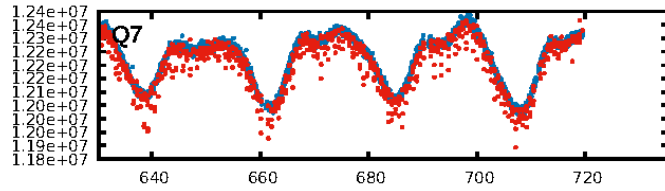
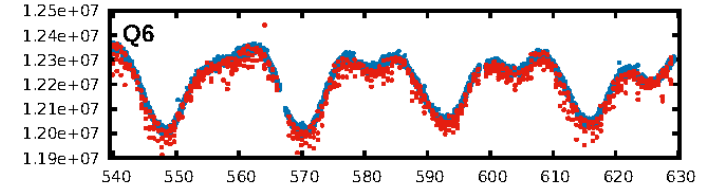
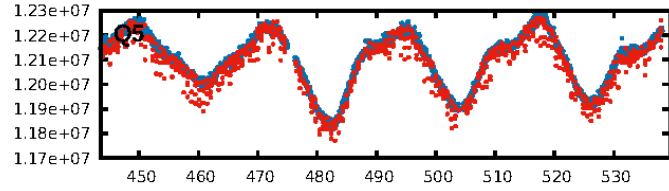
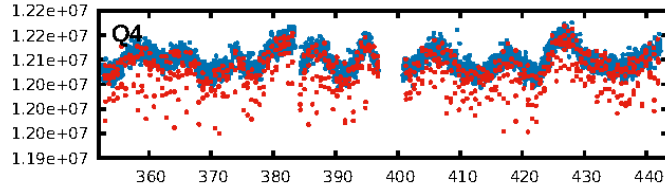
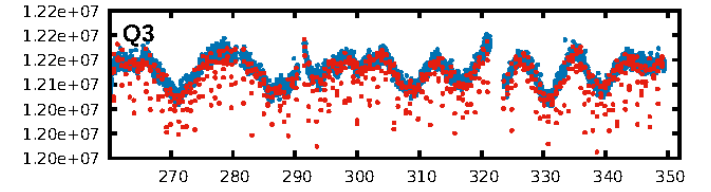
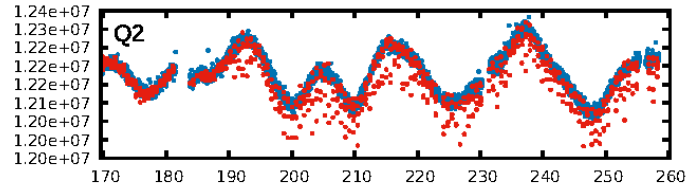
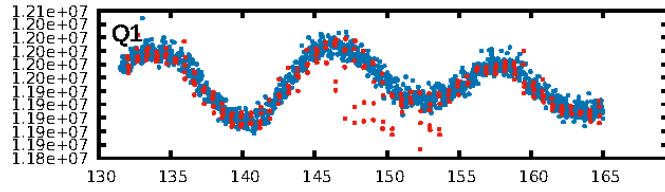
DV Fit Results:

Period = 0.65356 [0.00000] d
Epoch = 132.0546 [0.0001] BKJD
Rp/R* = 0.0708 [0.0012]
a/R* = 2.40 [0.08]
b = 0.90 [0.01]
Seff = 1009.85 [147.82]
Teff = 1437 [53] K
Rp = 5.10 [0.43] Re
a = 0.0129 [0.0008] AU
Ag = N/A
Teffp = N/A

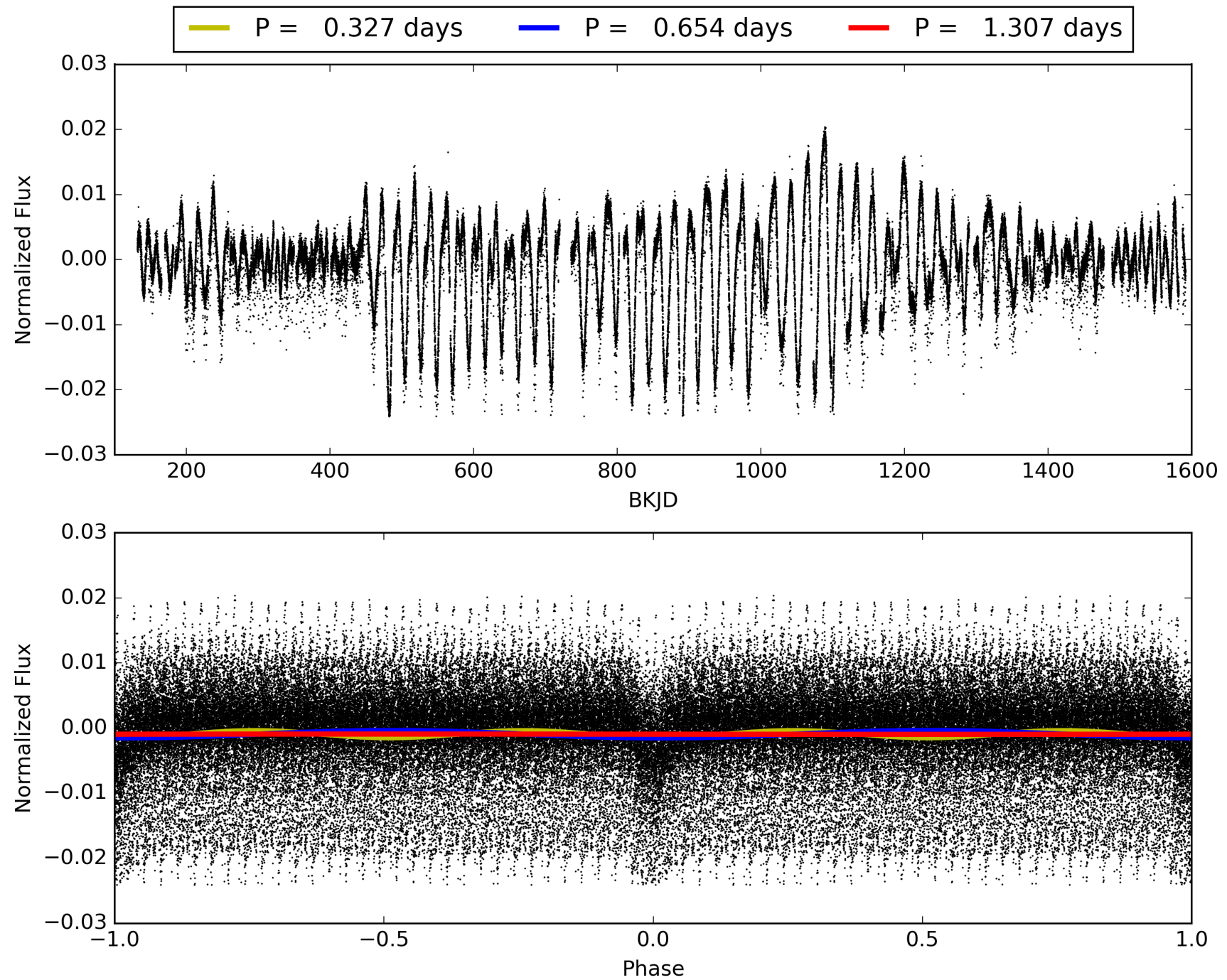
DV Diagnostic Results:

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 [1947/1948]
GhostDiagnostic-chr: 2.192
Centroid-sig: 0.1%
Centroid-so: 0.988 arcsec [18.88σ]
OotOffset-rm: 0.024 arcsec [0.33σ]
KicOffset-rm: 0.197 arcsec [2.41σ]
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 012557548-01, PDC Light Curves

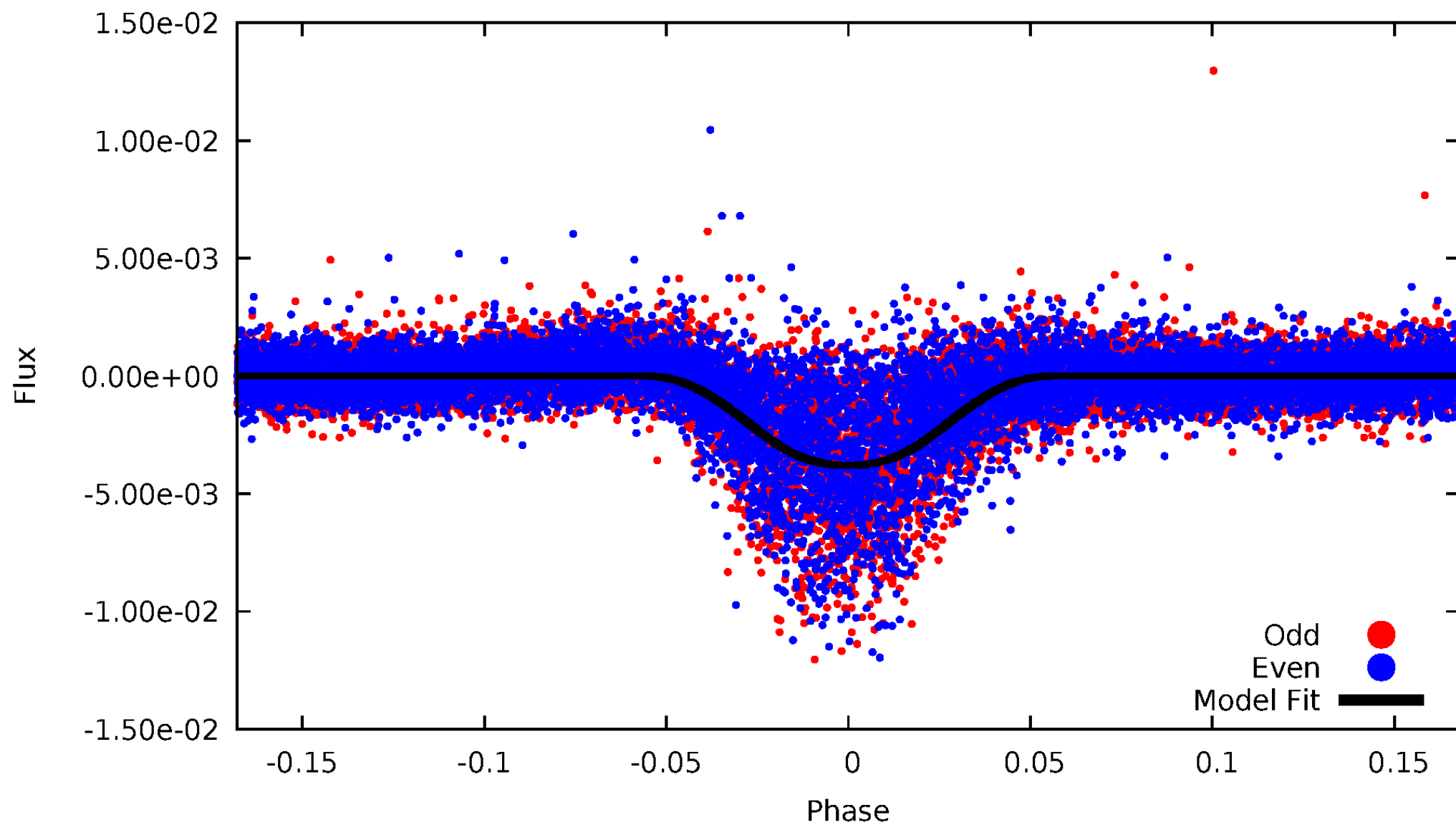


TCE 012557548-01



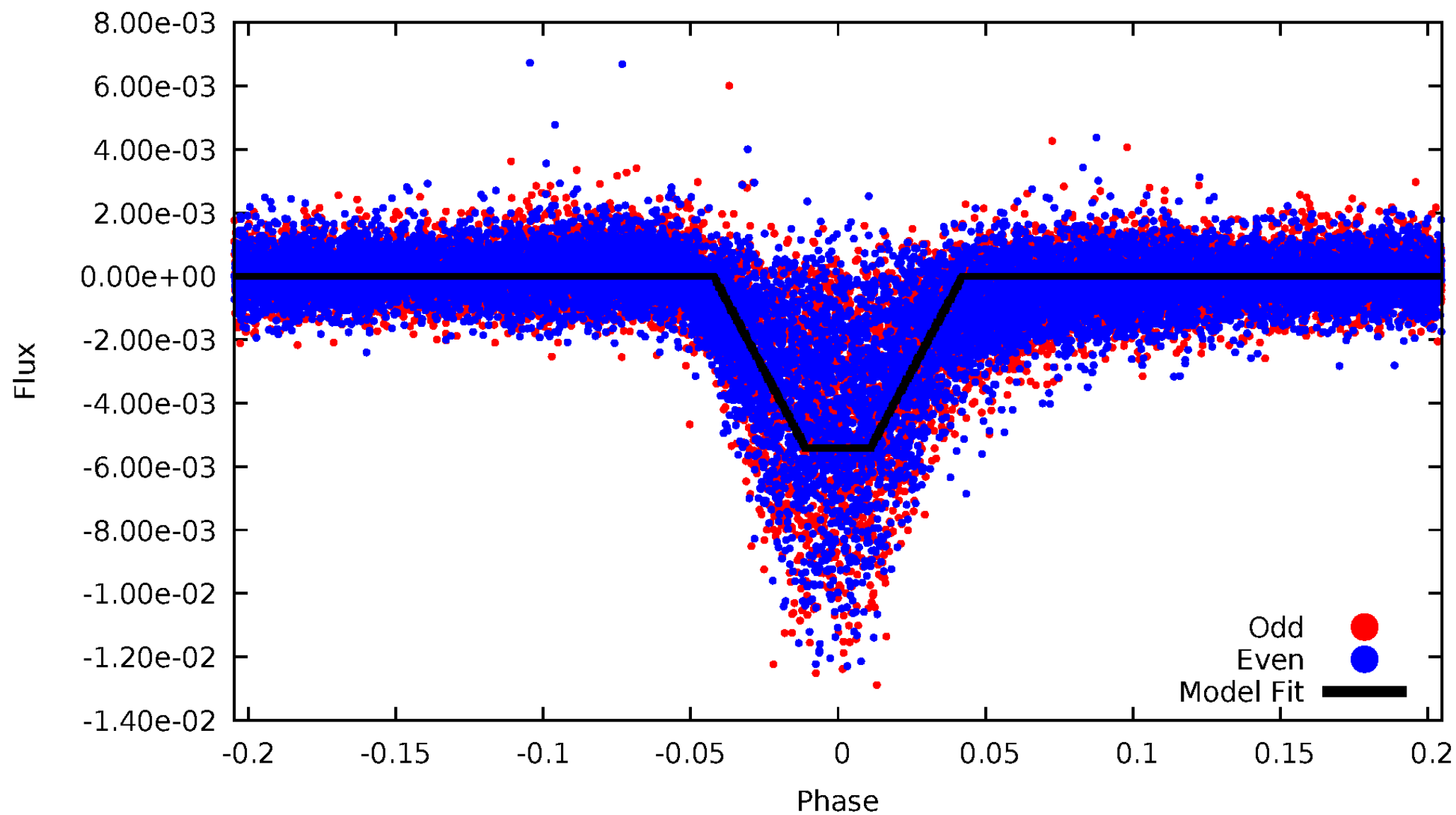
DV Odd/Even

TCE 012557548-01



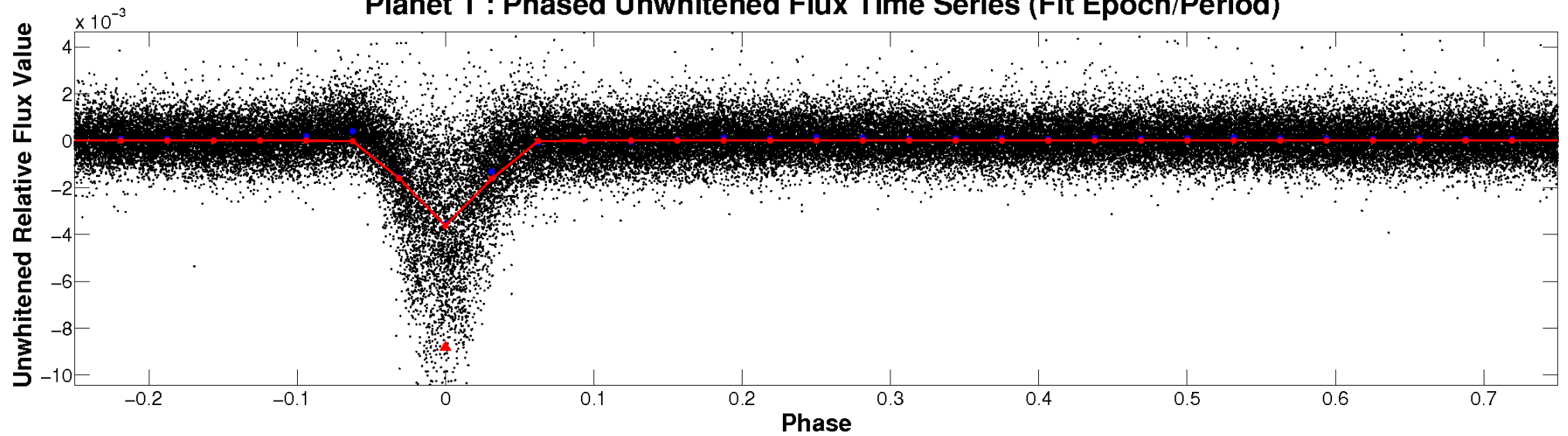
ALT Odd/Even

TCE 012557548-01

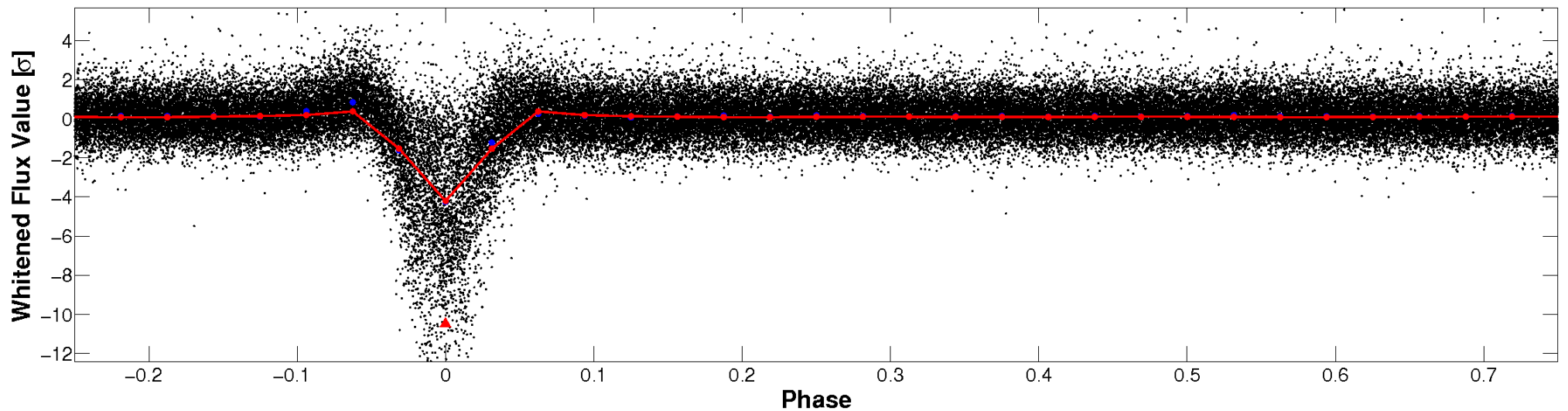


Non-Whitened Vs. Whitened Light Curve

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

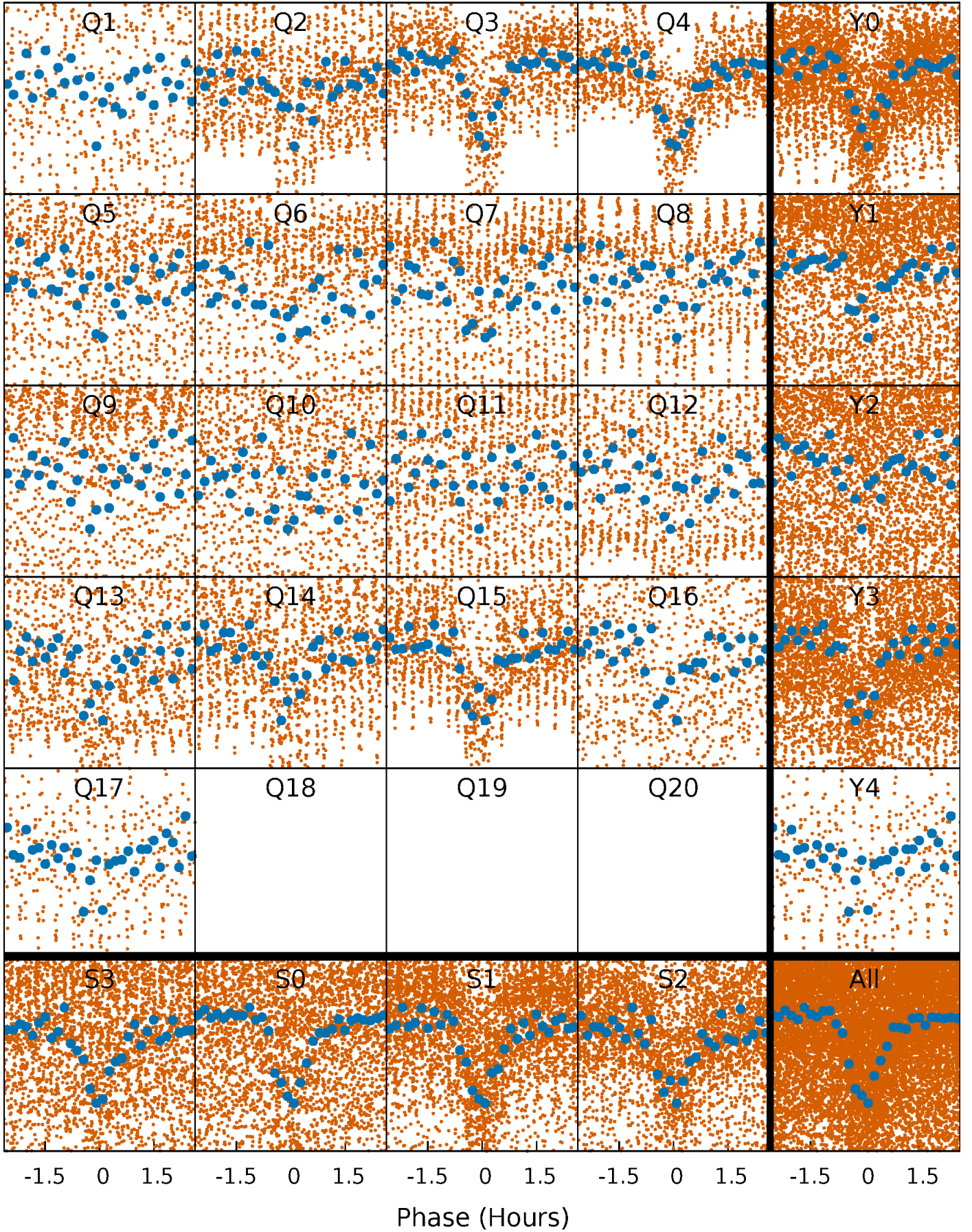


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



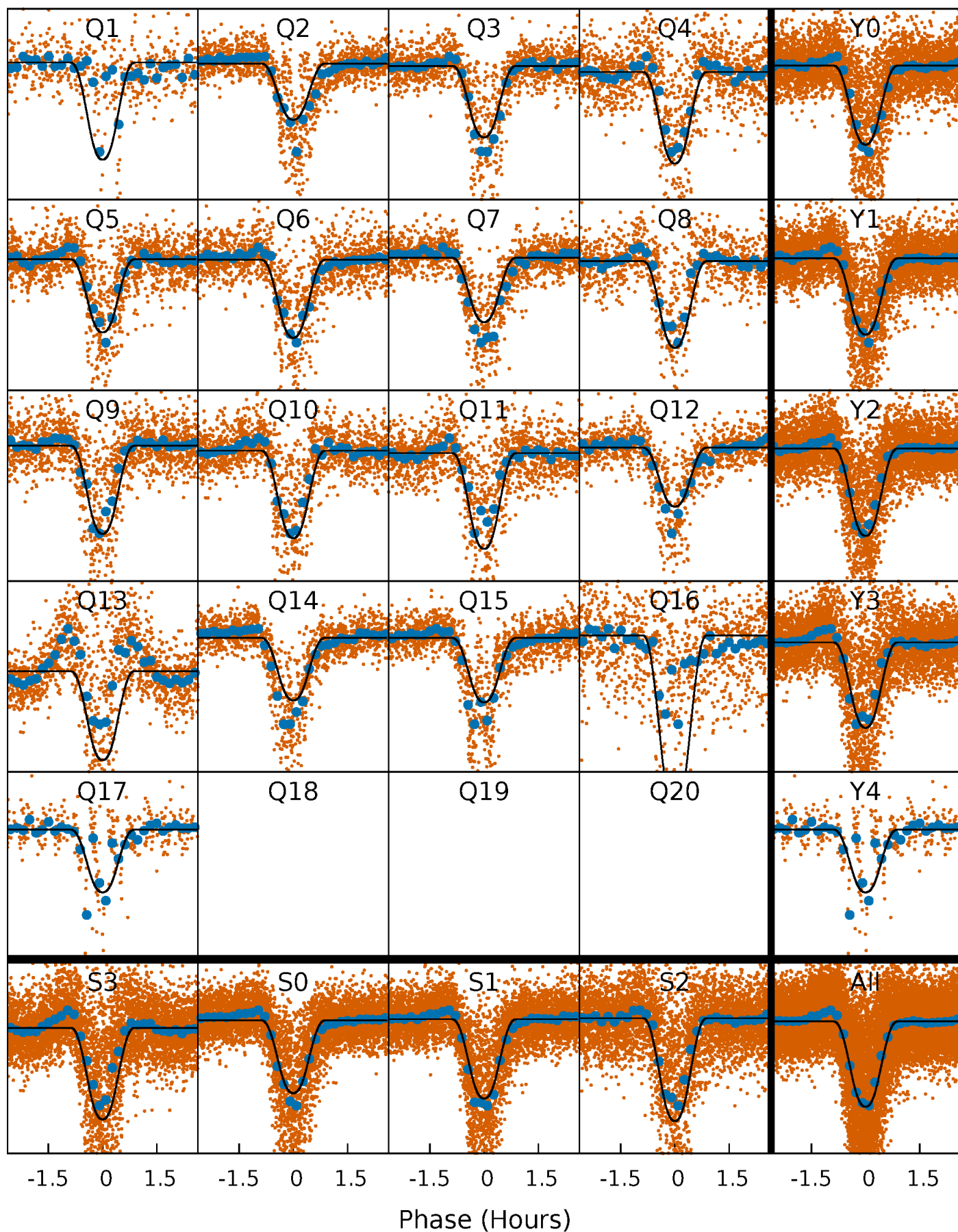
PDC Quarter-Phased Transit Curves

TCE 012557548-01 P= 0.653558 Days $T_0=132.054620$ (BKJD)



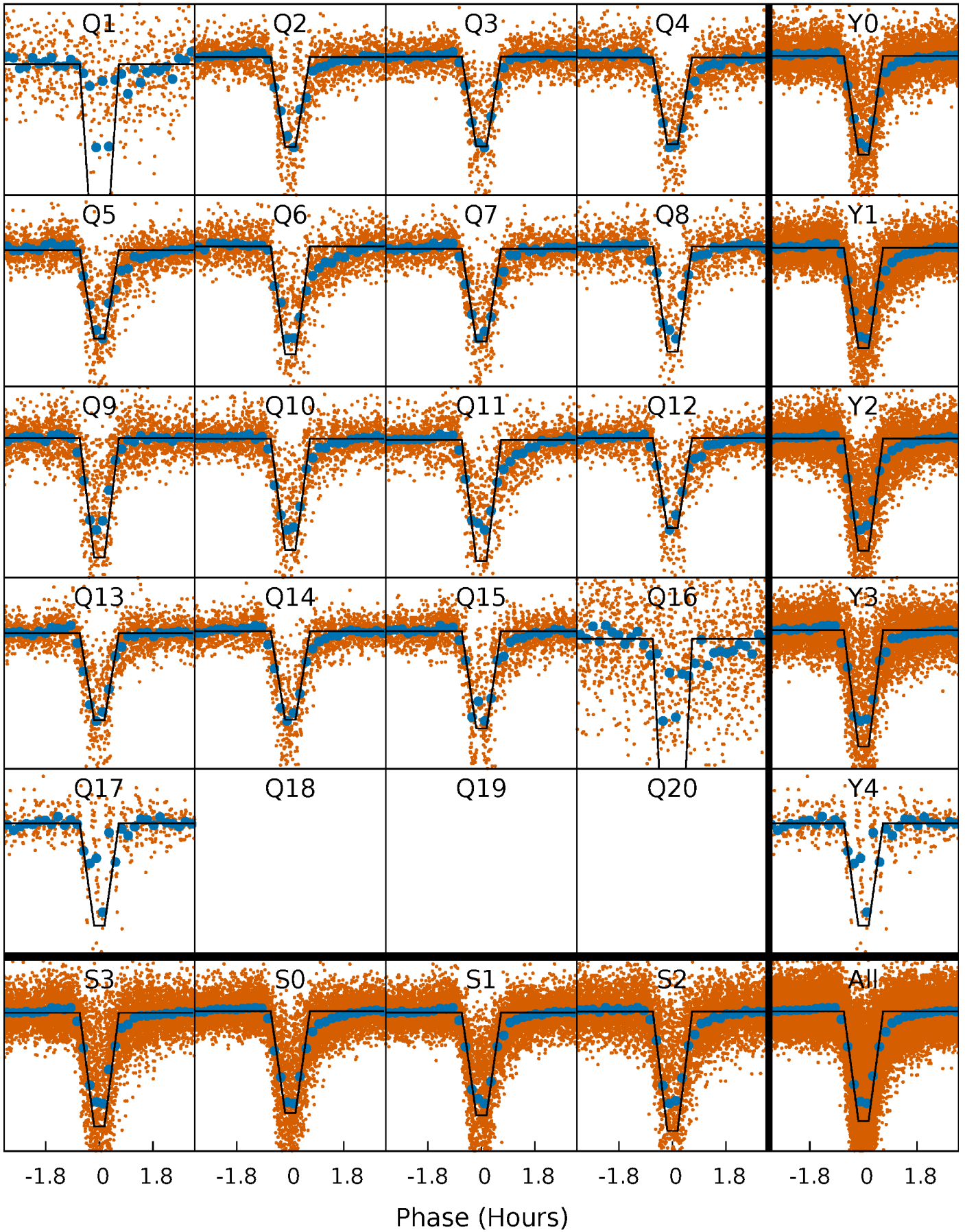
DV Quarter-Phased Transit Curves

TCE 012557548-01 P= 0.653558 Days $T_0=132.054620$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

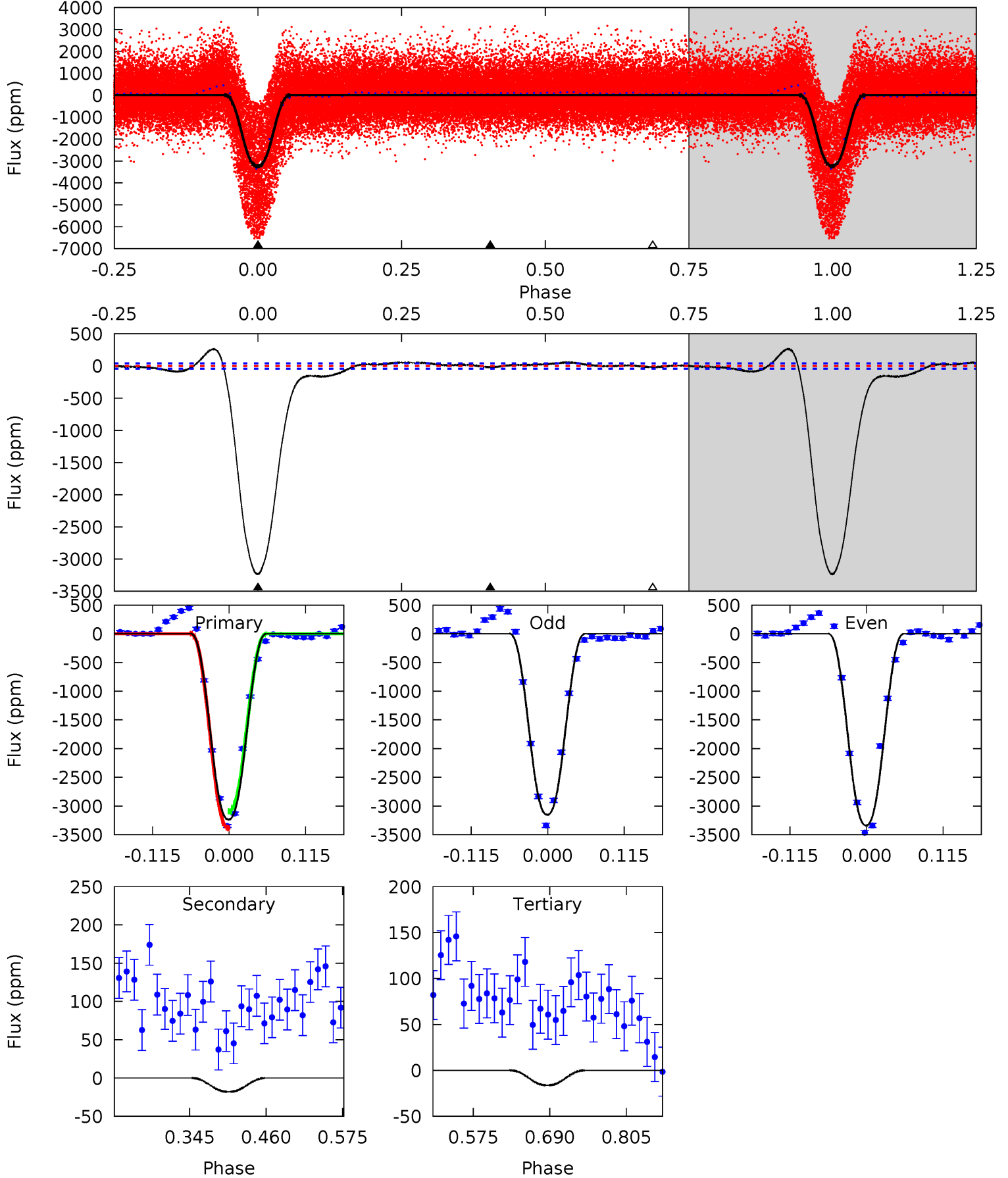
TCE 012557548-01 $P = 0.653555$ Days $T_0 = 132.057197$ (BKJD)



DV Model-Shift Uniqueness Test

012557548-01, P = 0.653558 Days, E = 131.401062 Days

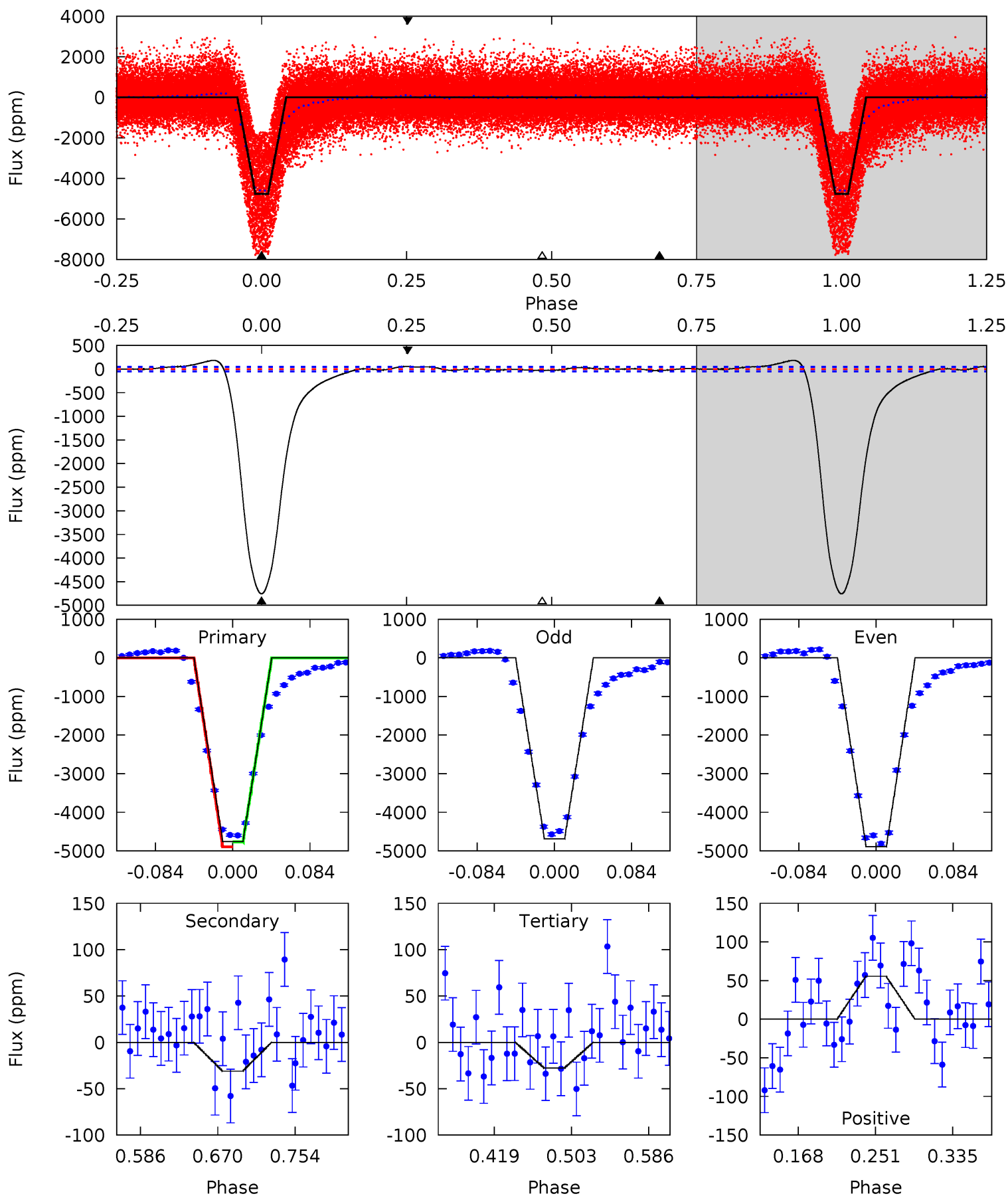
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
358.9	1.99	1.80	0	4.54	1.58	5.29	357.1	358.9	0.20	1.99	10.3	1.05	0.08	16.2



Alt Model-Shift Uniqueness Test

012557548-01, P = 0.653555 Days, E = 131.403642 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
462.3	3.02	2.69	5.39	4.60	1.73	8.77	459.6	456.9	0.33	-2.38	9.74	1.03	0.04	6.19



Stellar Parameters For KIC 012557548

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4550^{+136}_{-136}	$4.622^{+0.042}_{-0.032}$	$-0.180^{+0.300}_{-0.300}$	$0.660^{+0.054}_{-0.054}$	$0.666^{+0.067}_{-0.055}$	$3.257^{+0.630}_{-0.439}$
	+3%/-3%	+1%/-1%	+167%/-167%	+8%/-8%	+10%/-8%	+19%/-13%
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 012557548-01 / KOI 3794.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-18 ± 9	$5.09^{+0.24}_{-0.26}$	2000^{+68}_{-66}	-2378^{+60}_{-58}	$0.065^{+0.033}_{-0.031}$
Alt.	-31 ± 10	$5.31^{+0.26}_{-0.26}$	2006^{+68}_{-67}	-2333^{+71}_{-69}	$0.102^{+0.037}_{-0.036}$

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 $A_{obs} \gg 1.0$

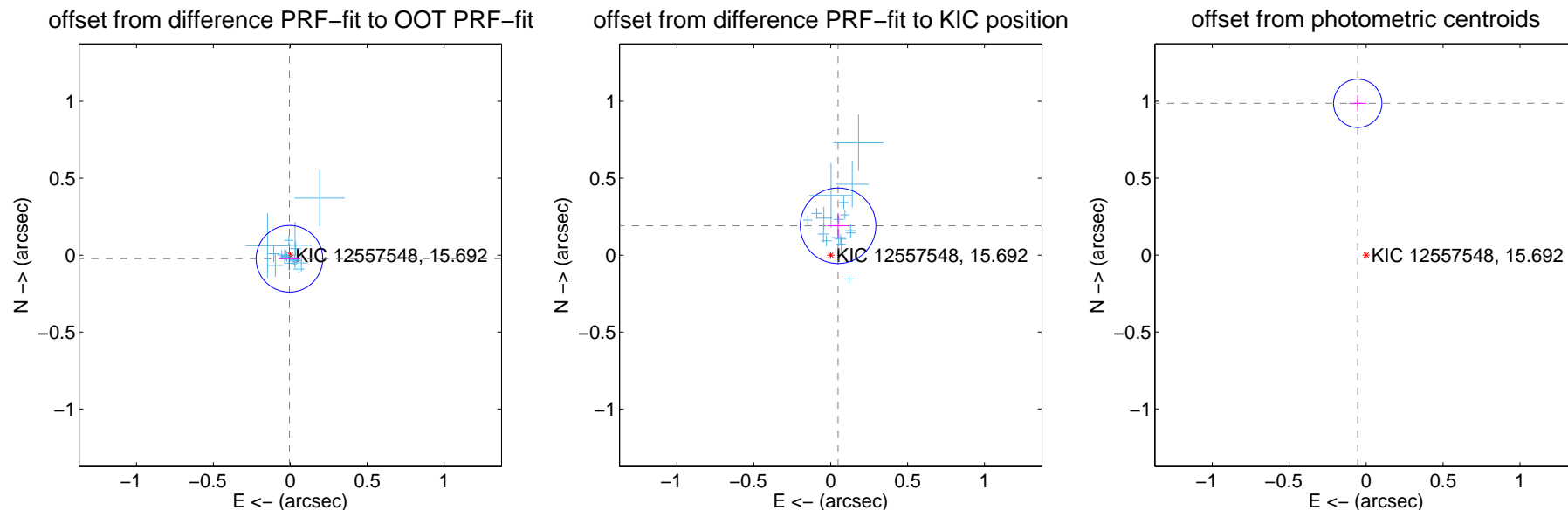
DV Centroid Data

Supplemental centroid analysis for 012557548-01. Kepler magnitude: 15.69. Transit SNR 178.81

There are 17 quarters with good PRF difference image offsets

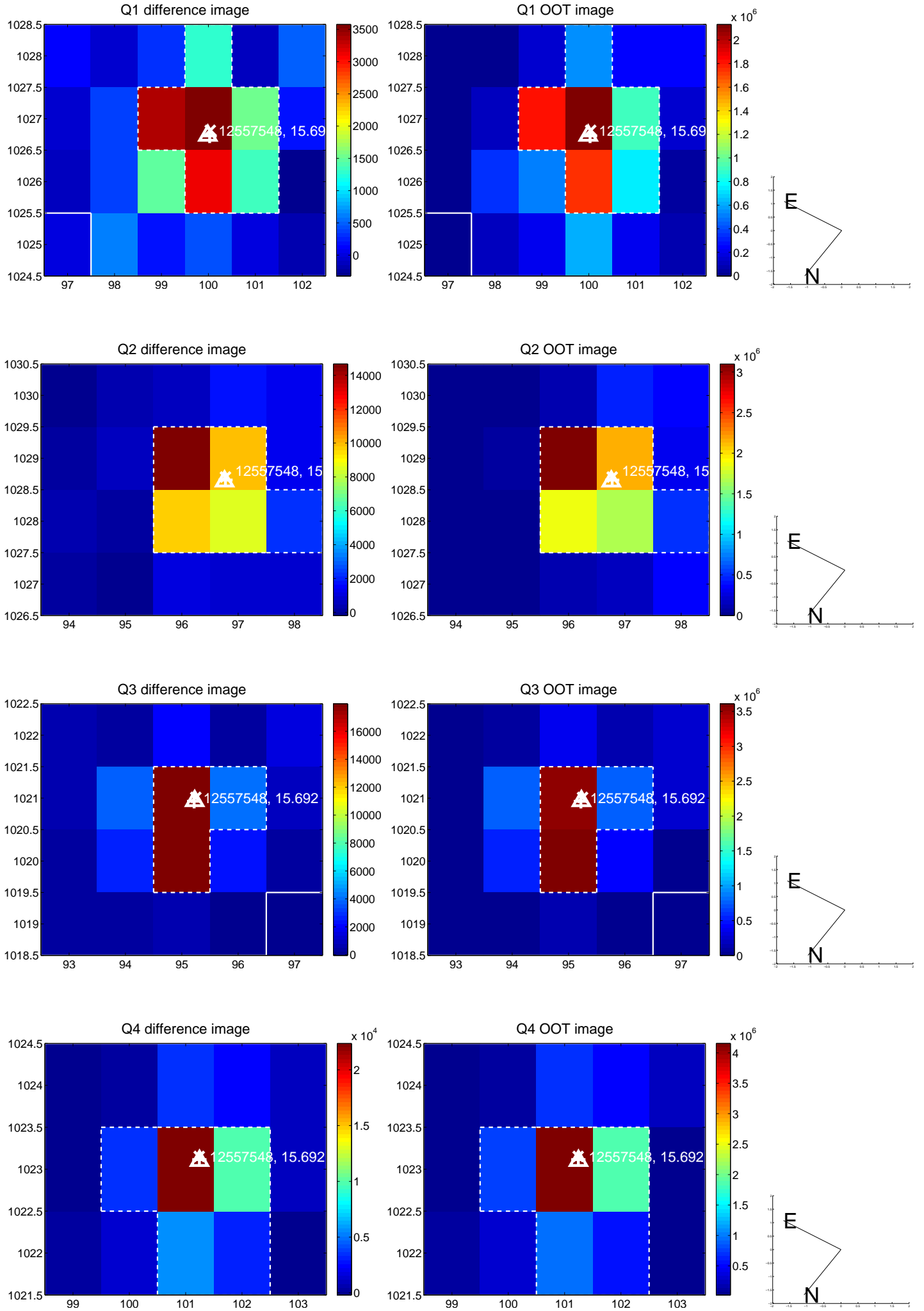
The direct PRF centroid is offset from the target star catalog position by about 0.41 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.024 ± 0.072	0.33	0.005 ± 0.069	-0.023 ± 0.072
PRF-fit source offset from KIC position	0.197 ± 0.082	2.41	-0.048 ± 0.070	0.191 ± 0.082
photometric centroid source offset	0.99 ± 0.05	18.88	0.05 ± 0.06	0.99 ± 0.05

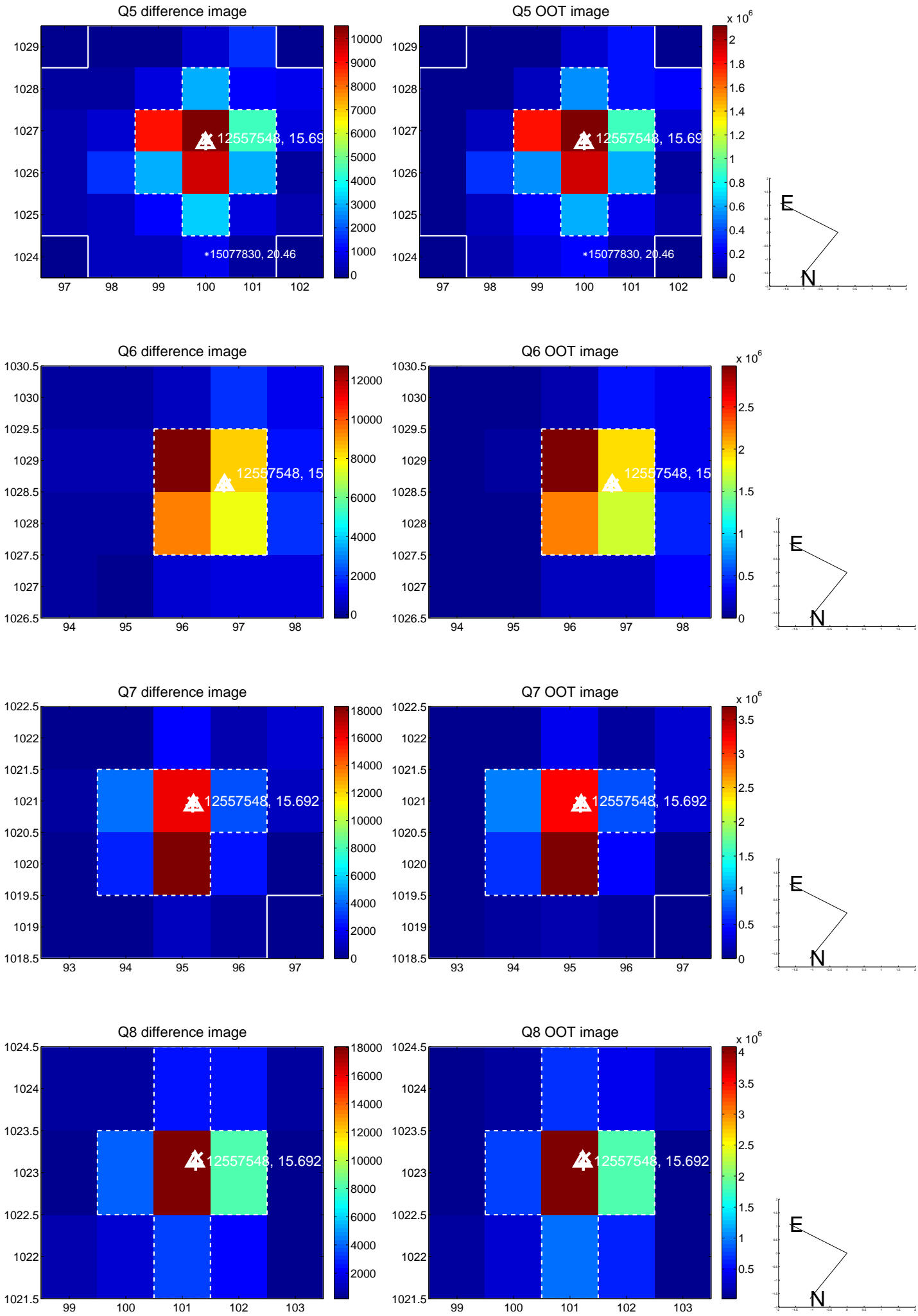


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

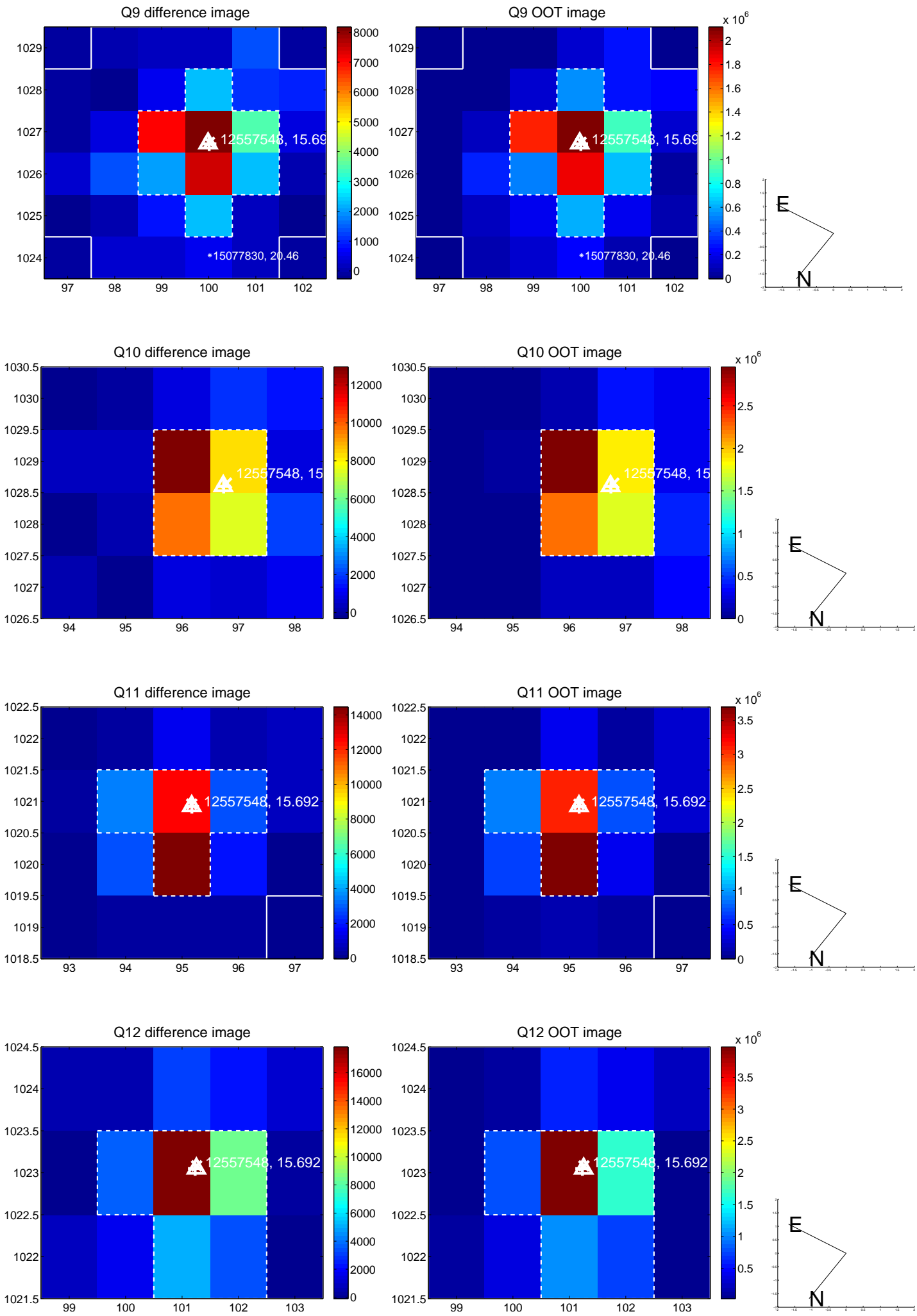
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



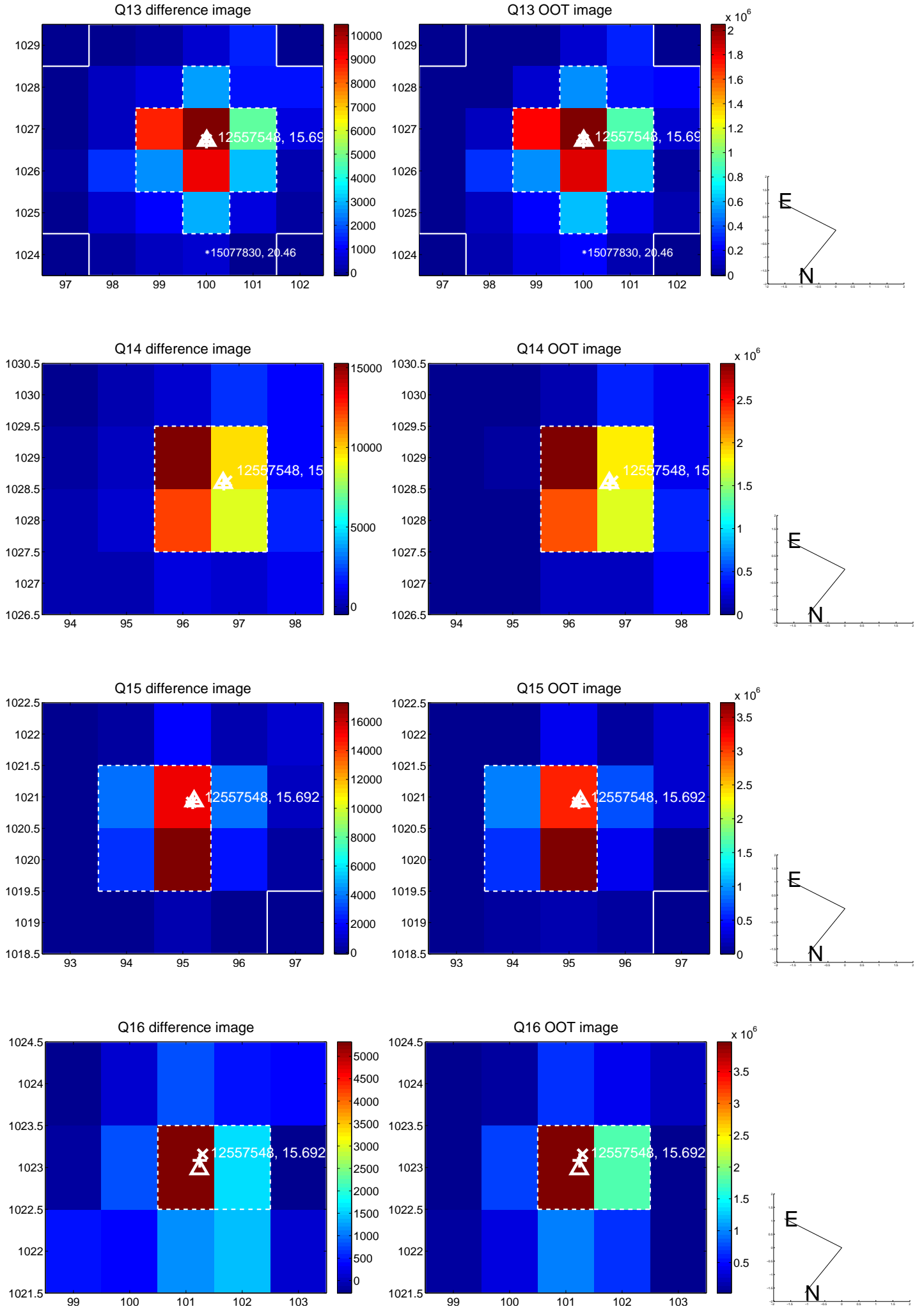
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



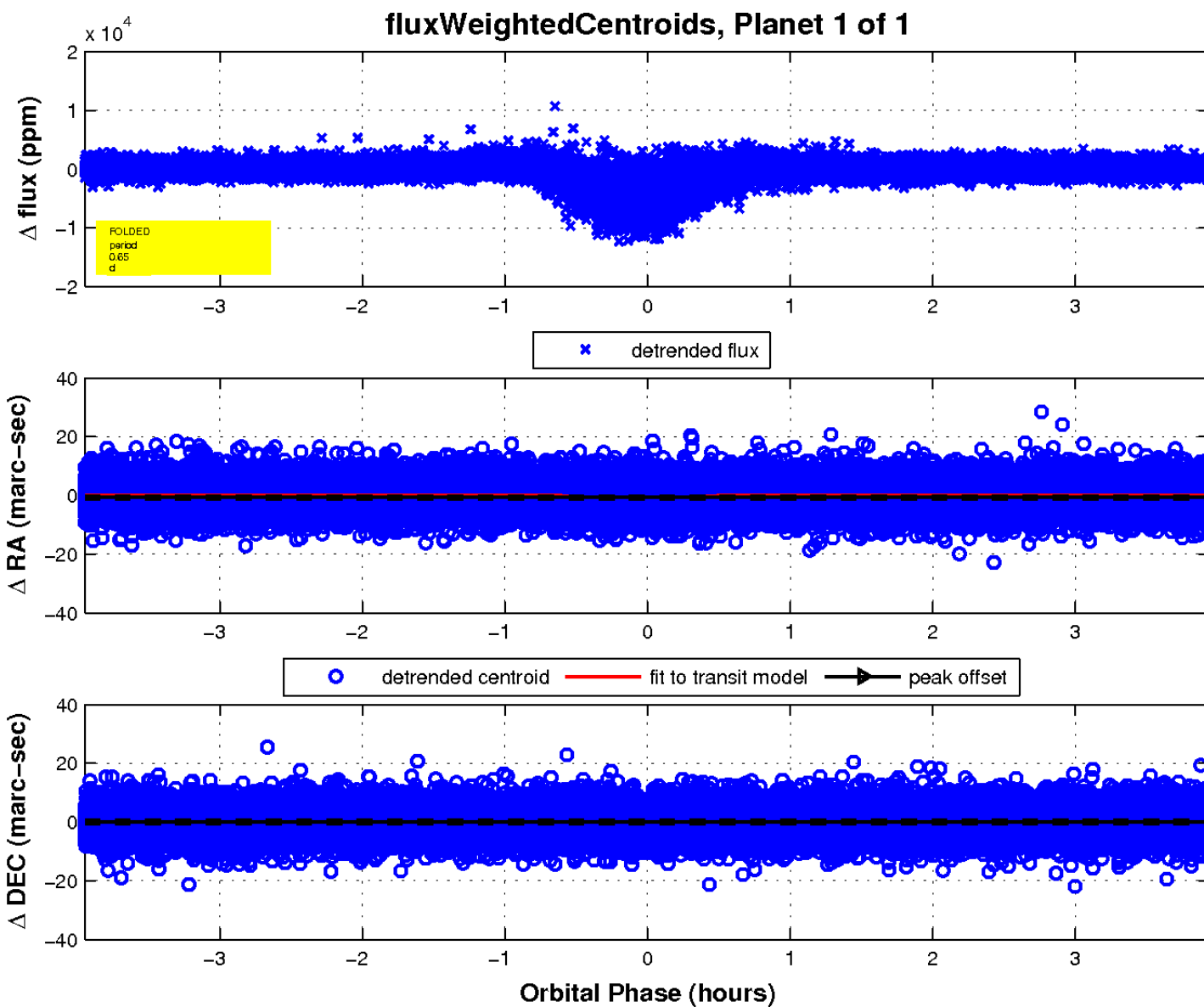
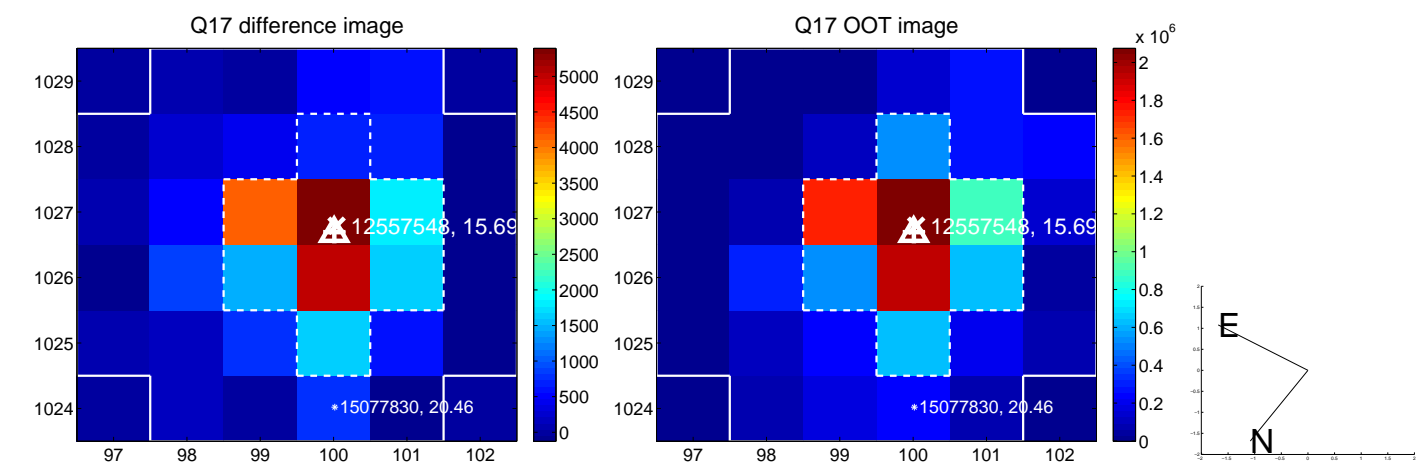
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

