

KIC 005039129

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})
005039129-01	OBS	2546.01	1.319655	132.071254	82.0	2.428	15.6	16.3	1.08	6306	1.15	2732.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005039129-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET

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.

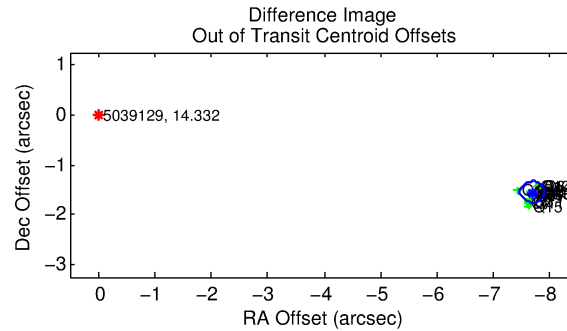
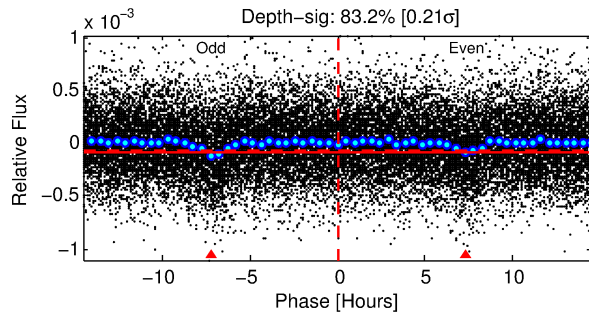
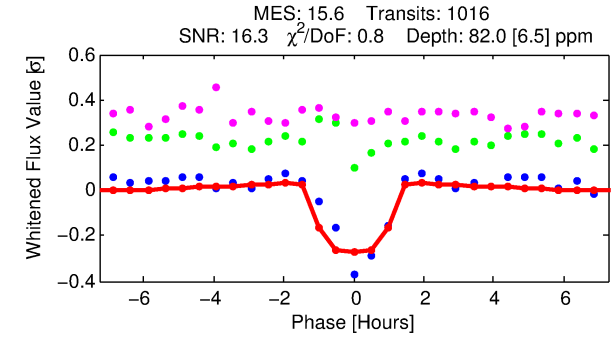
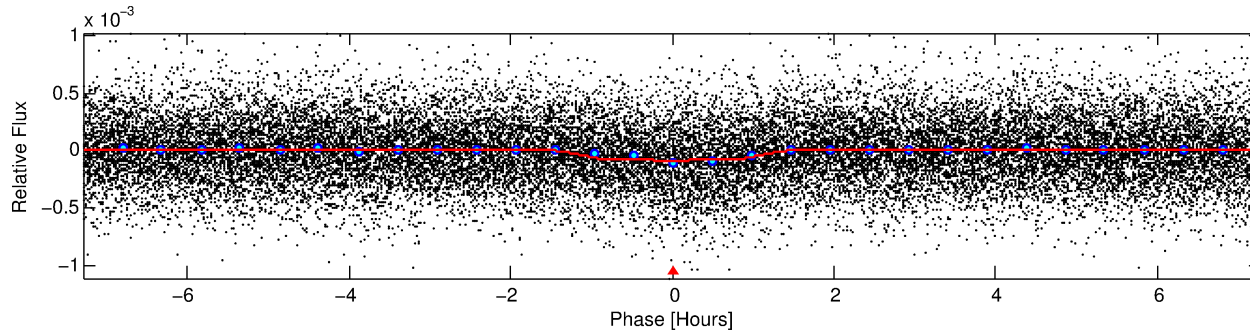
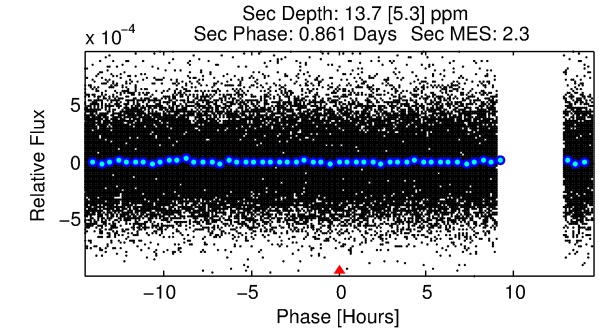
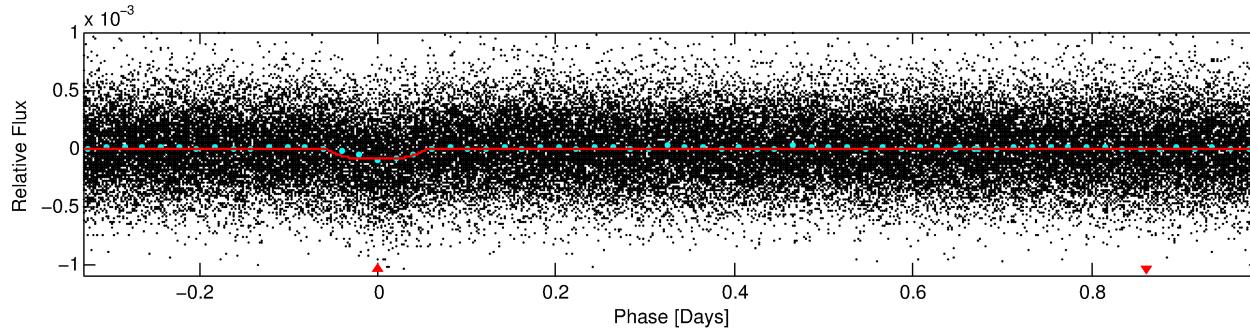
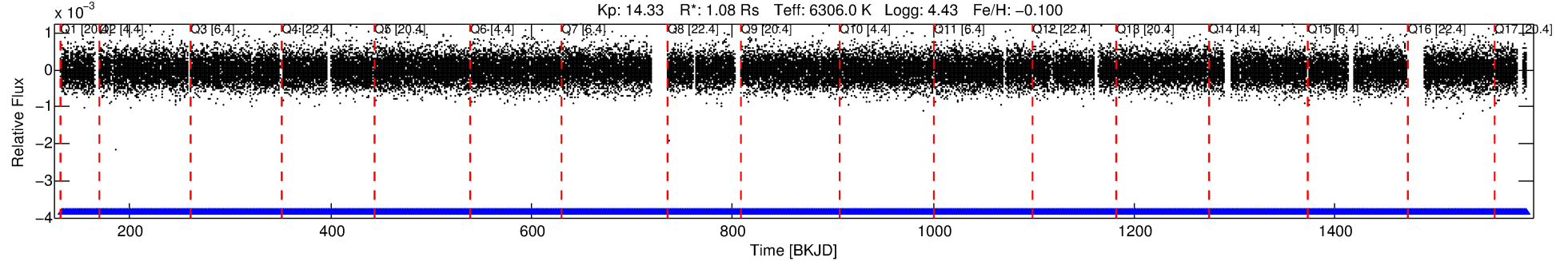
Ephemeris Match Information For 005039129-01

No Significant Match Found

DV One-Page Summary

KIC: 5039129 Candidate: 1 of 1 Period: 1.320 d
KOI: K02546.01 Corr: 0.905

Kp: 14.33 R*: 1.08 Rs Teff: 6306.0 K Logg: 4.43 Fe/H: -0.100



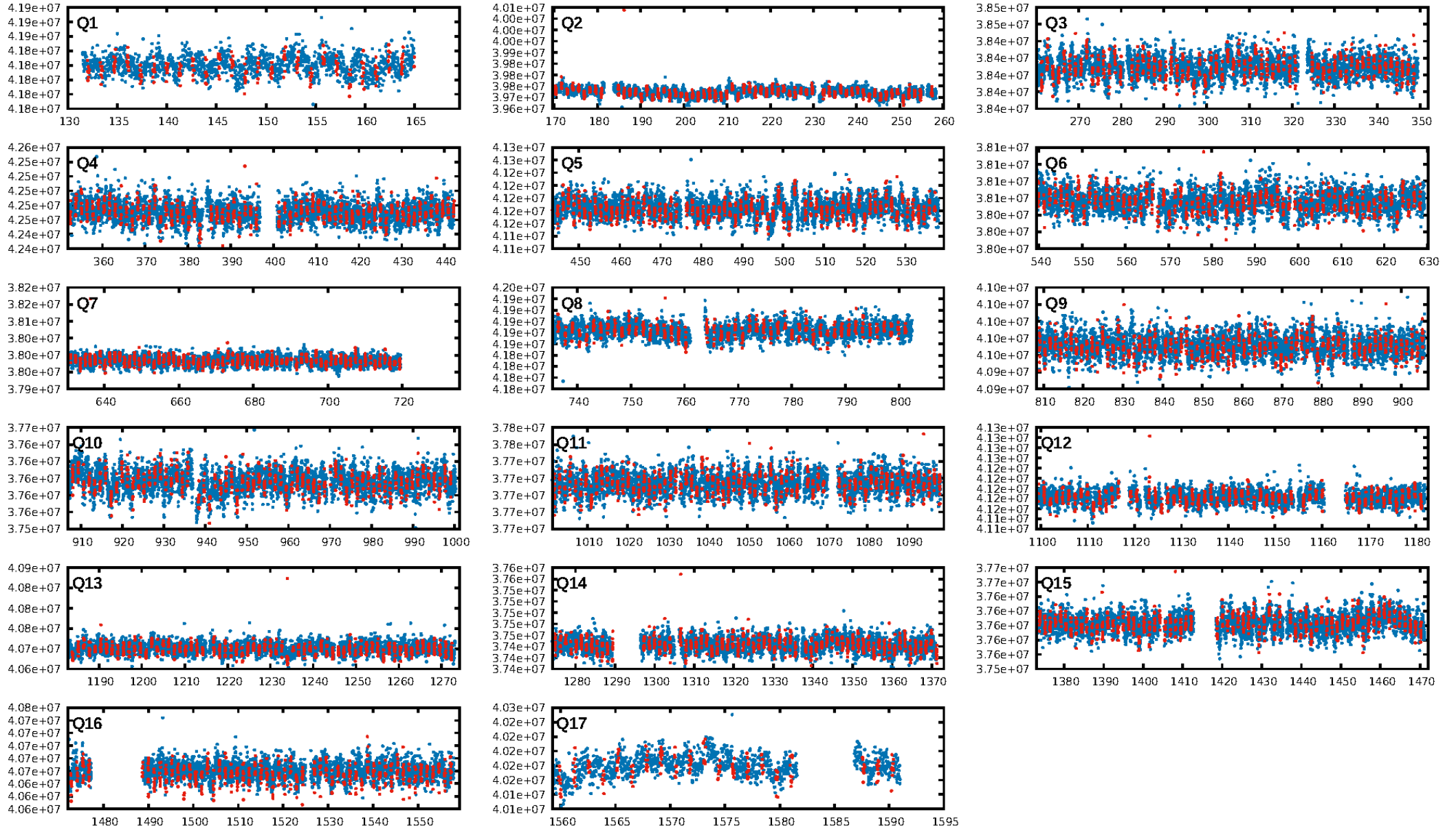
DV Fit Results:

Period = 1.31966 [0.00001] d
Epoch = 132.0713 [0.0019] BKJD
Rp/R* = 0.0098 [0.0034]
a/R* = 2.11 [3.16]
b = 0.90 [0.41]
Seff = 2732.15 [1099.46]
Teq = 1844 [185] K
Rp = 1.15 [0.54] Re
a = 0.0245 [0.0064] AU
Ag = 3.46 [3.07] [0.80σ]
Teffp = 3887 [790] K [2.52σ]

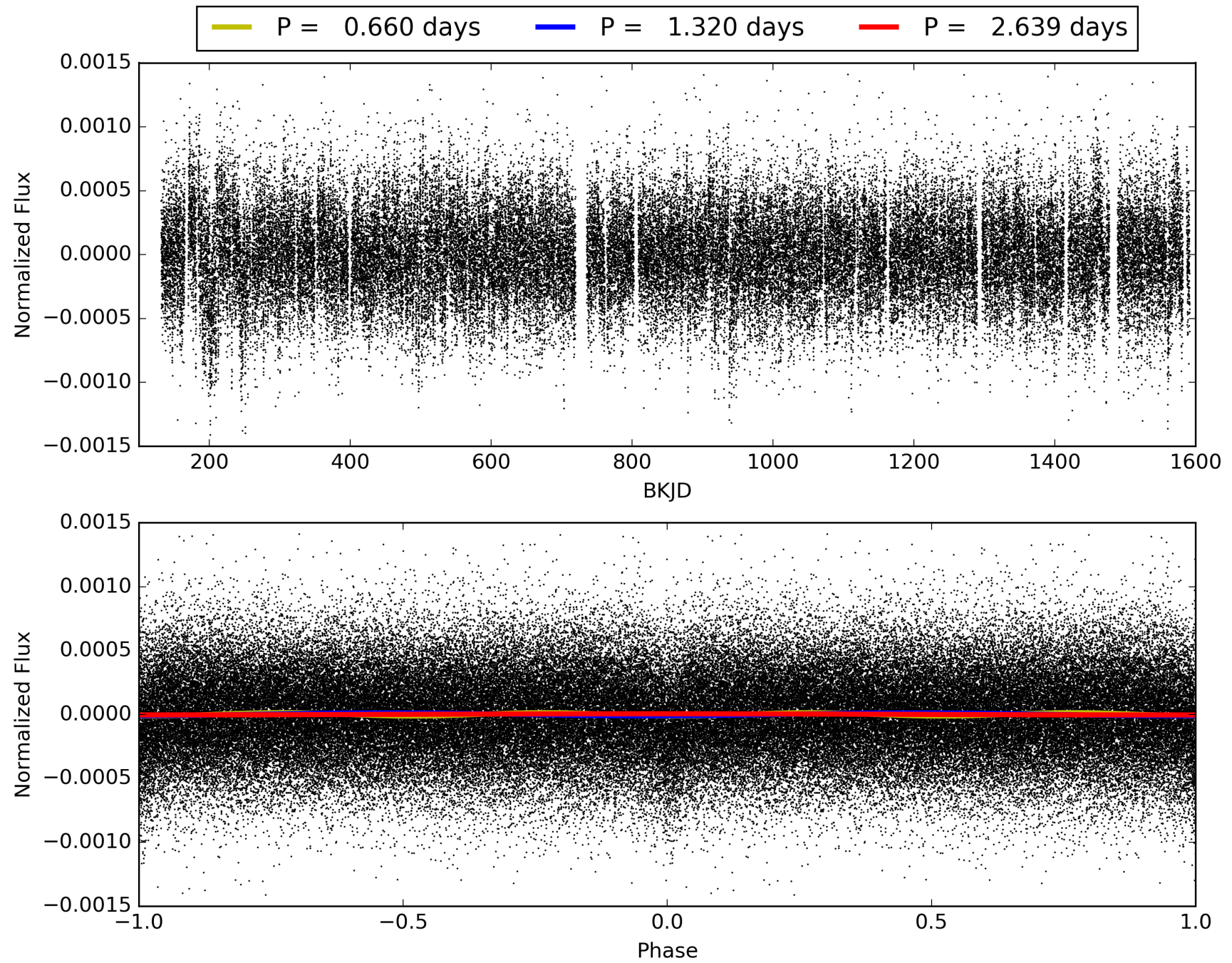
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.50e-53
RollingBand-fgt: 1.00 [971/971]
GhostDiagnostic-chr: -0.6243
Centroid-sig: 0.0%
Centroid-so: 12.373 arcsec [16.45σ]
OotOffset-rm: 7.834 arcsec [110.91σ]
KicOffset-rm: 7.796 arcsec [110.46σ]
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 005039129-01, PDC Light Curves

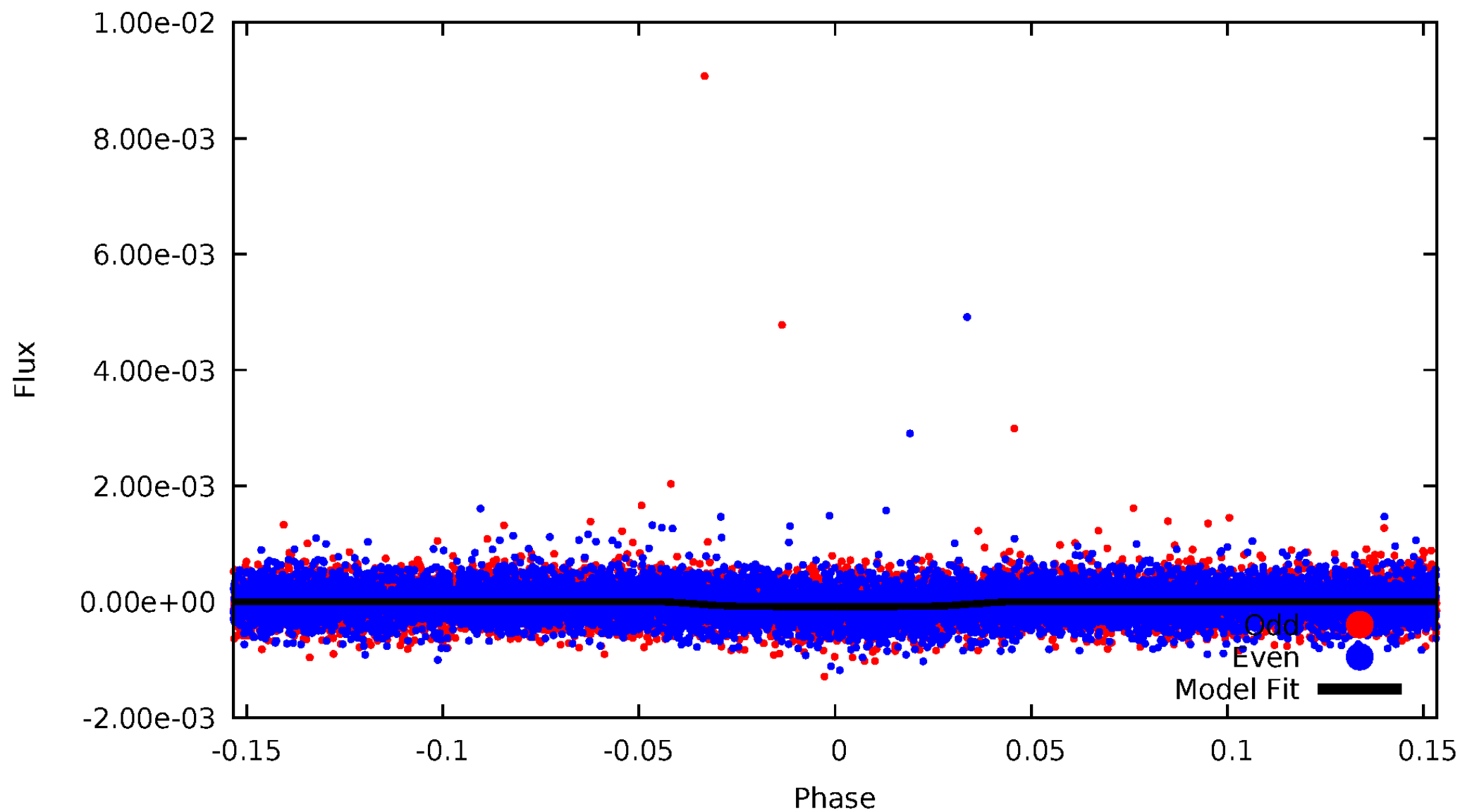


TCE 005039129-01



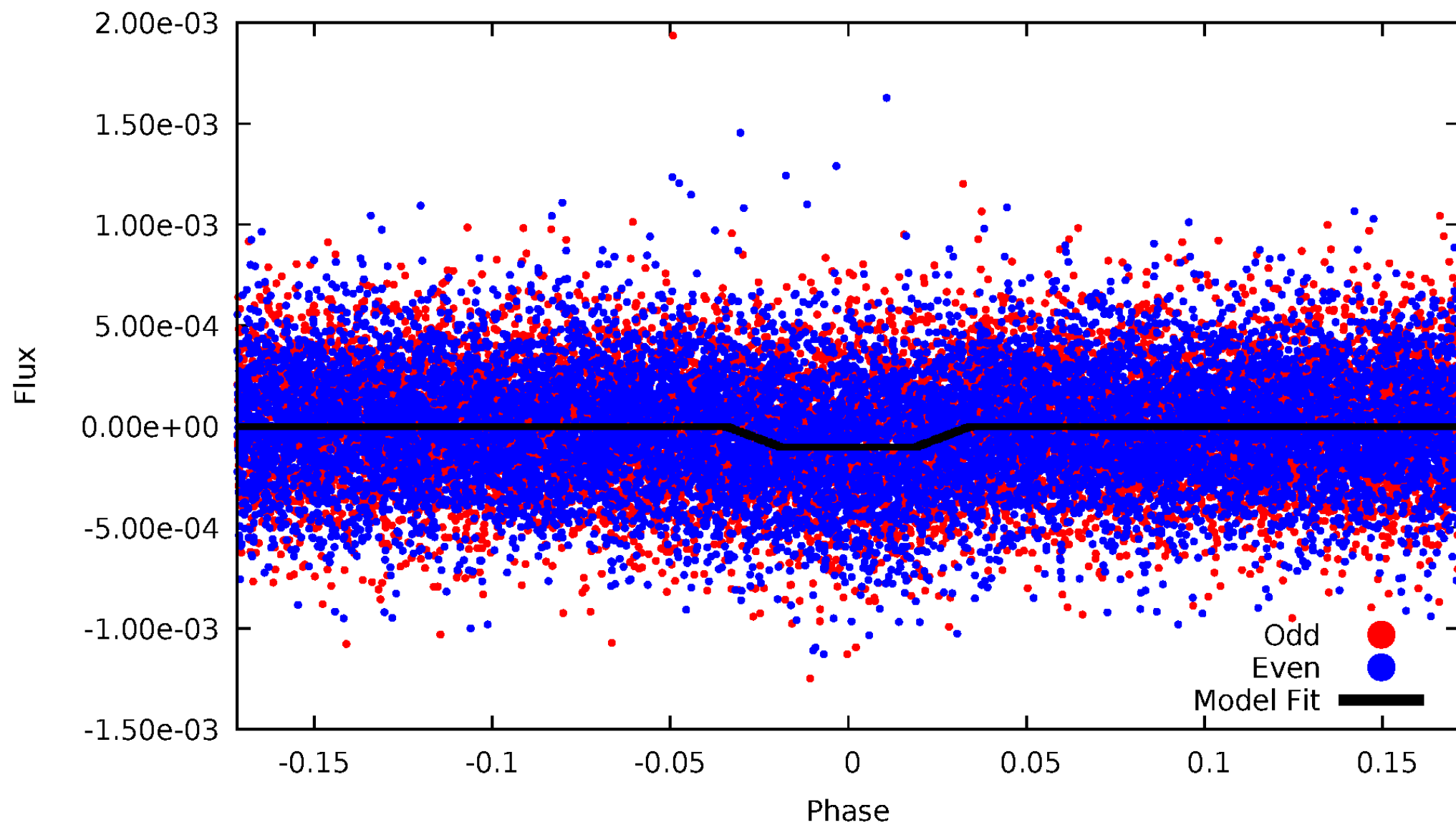
DV Odd/Even

TCE 005039129-01



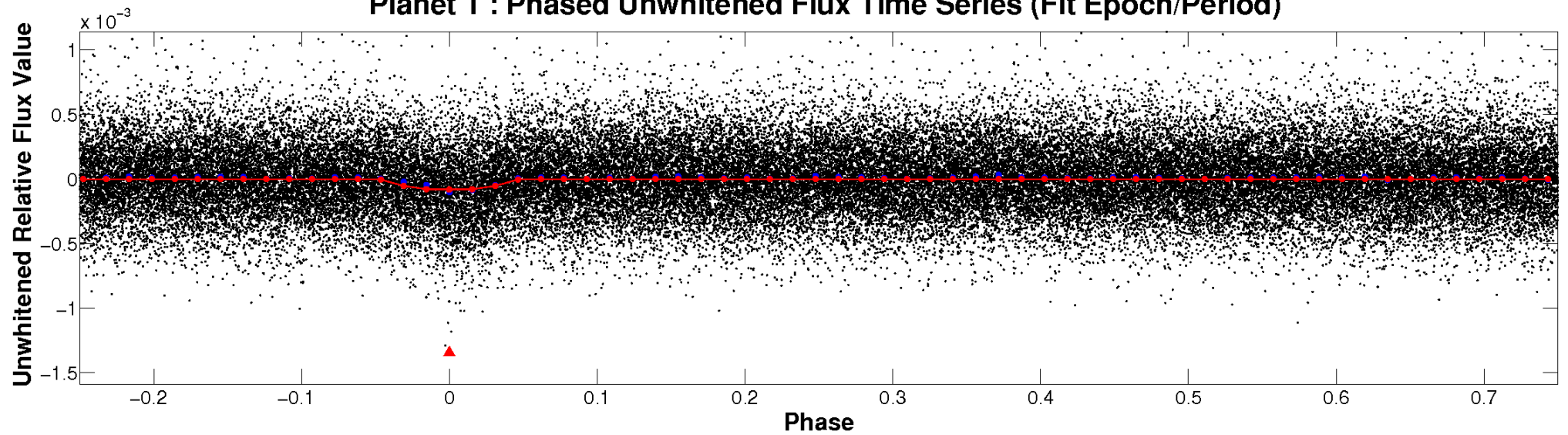
ALT Odd/Even

TCE 005039129-01

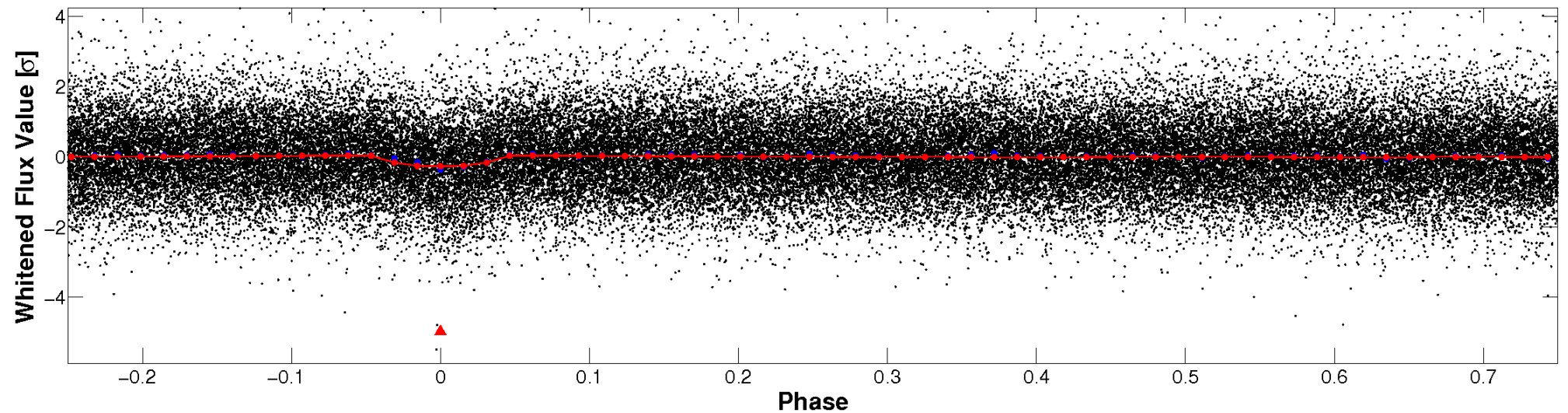


Non-Whitened Vs. Whitened Light Curve

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

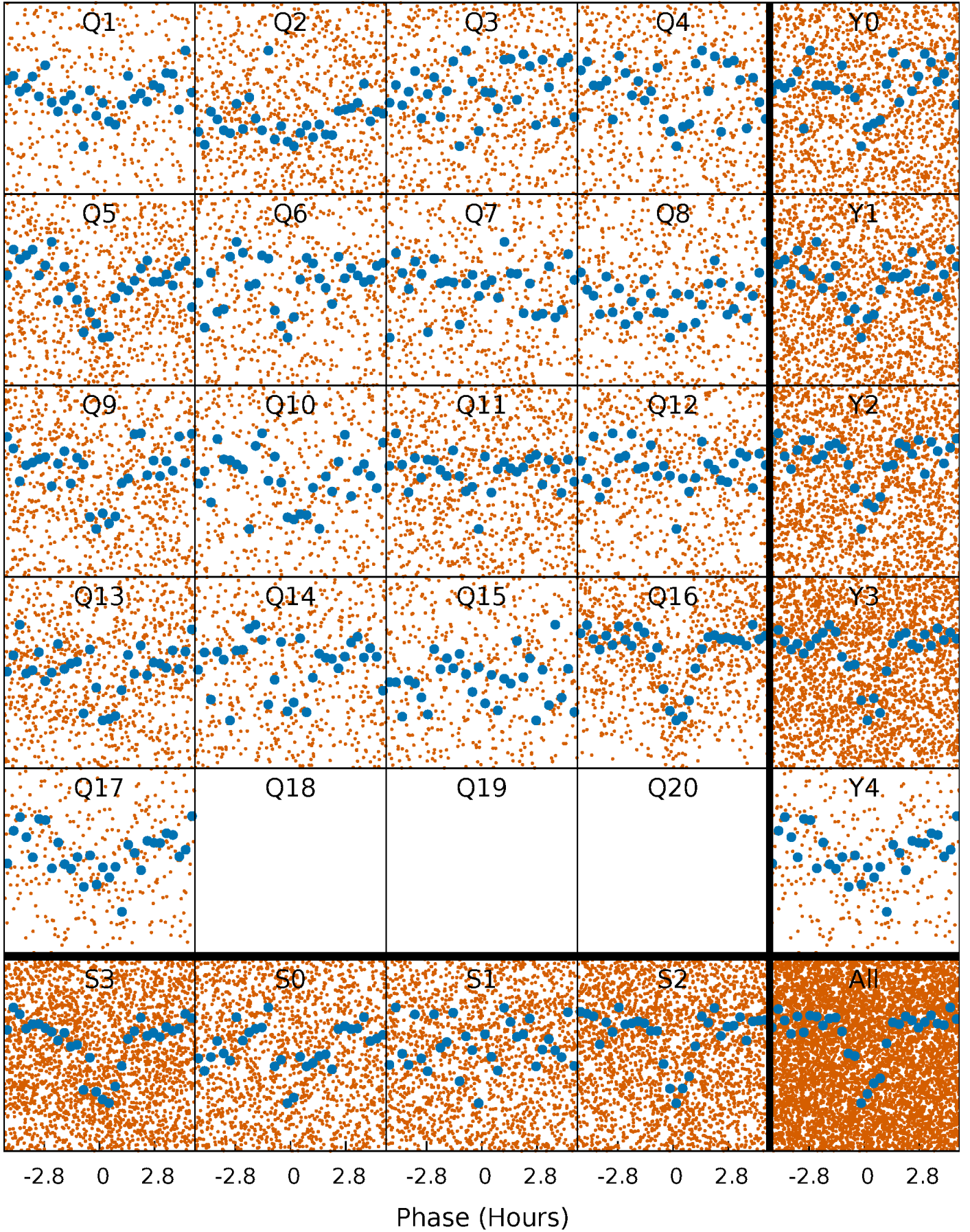


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



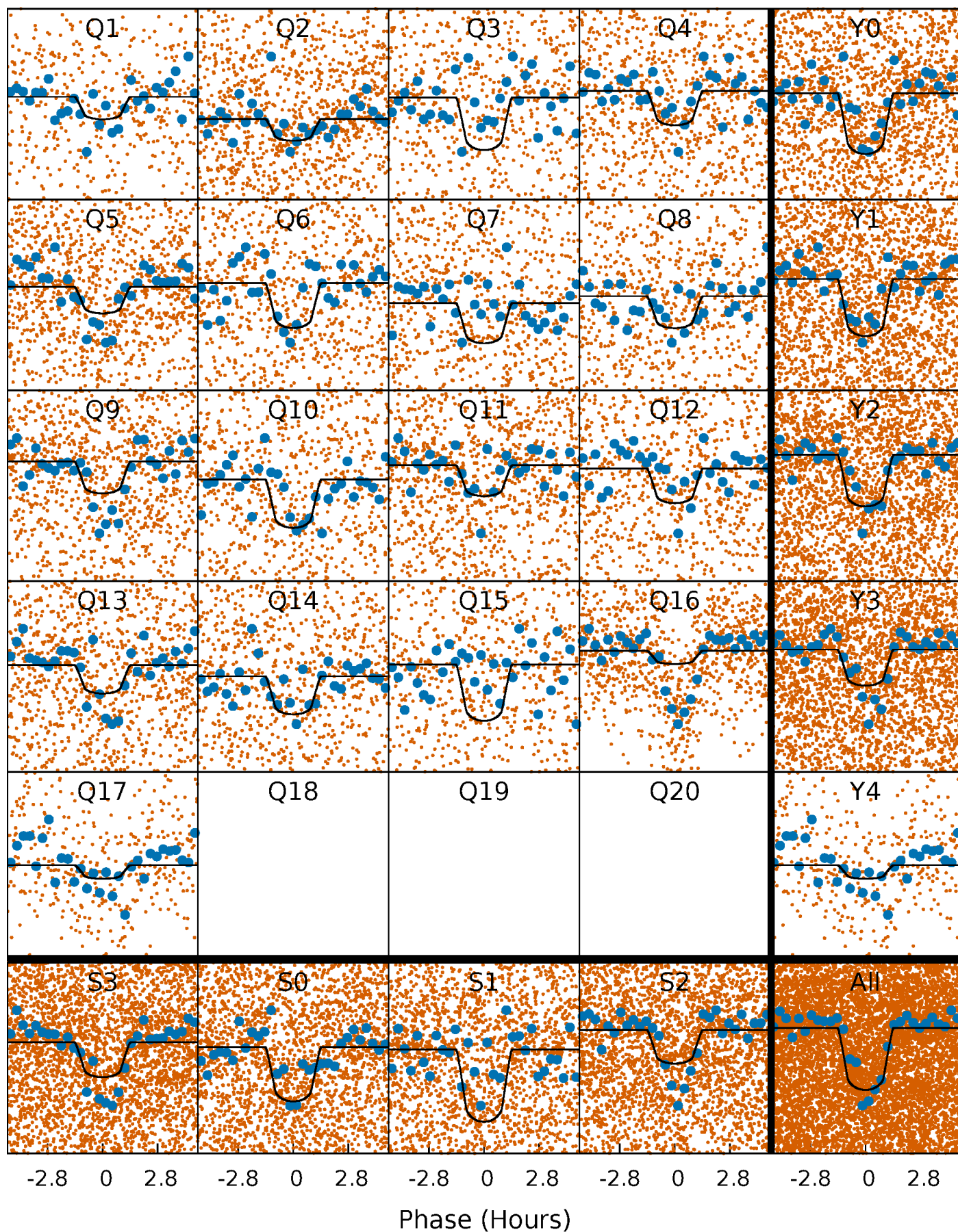
PDC Quarter-Phased Transit Curves

TCE 005039129-01 P= 1.319655 Days $T_0=132.071254$ (BKJD)



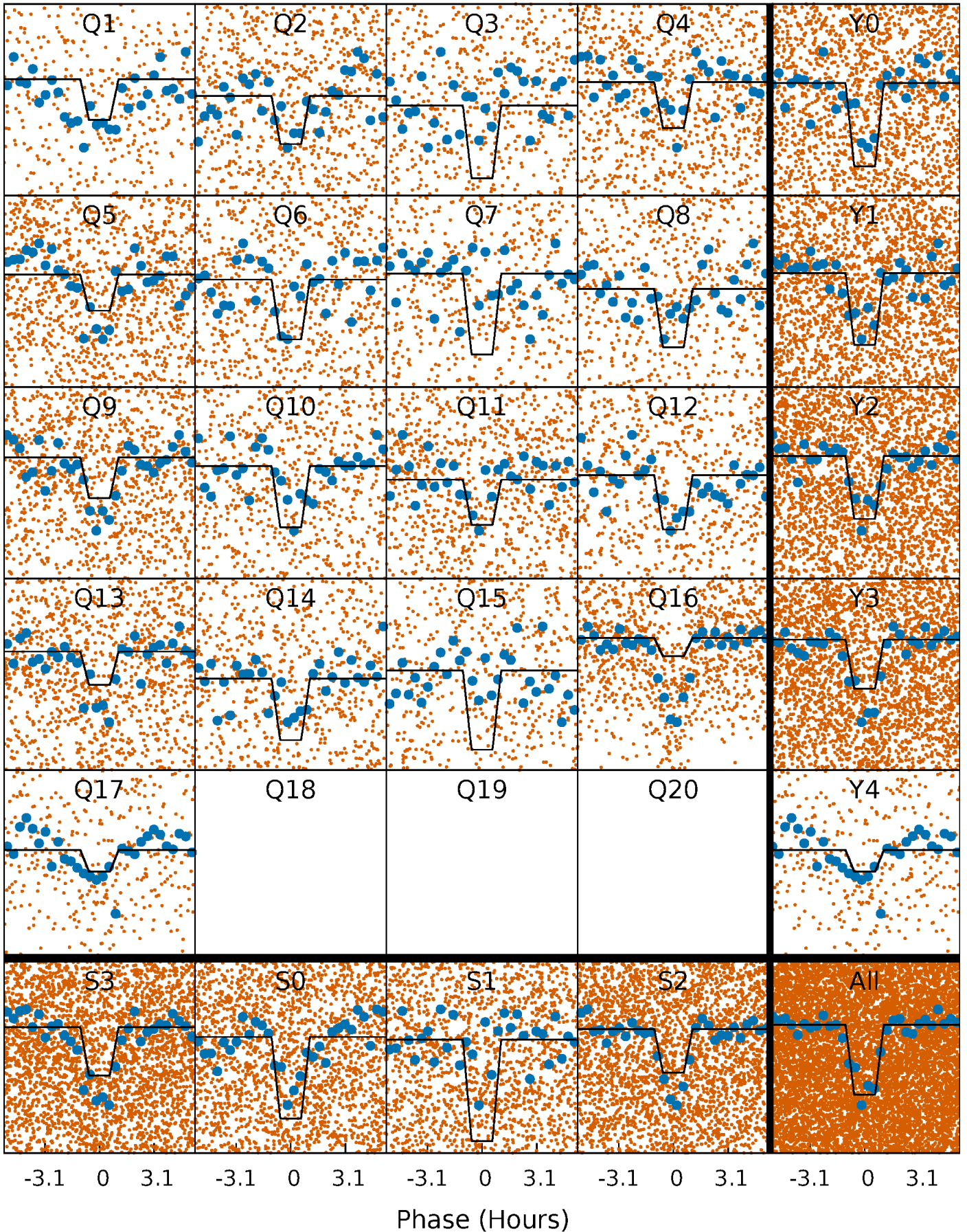
DV Quarter-Phased Transit Curves

TCE 005039129-01 P= 1.319655 Days $T_0=132.071254$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

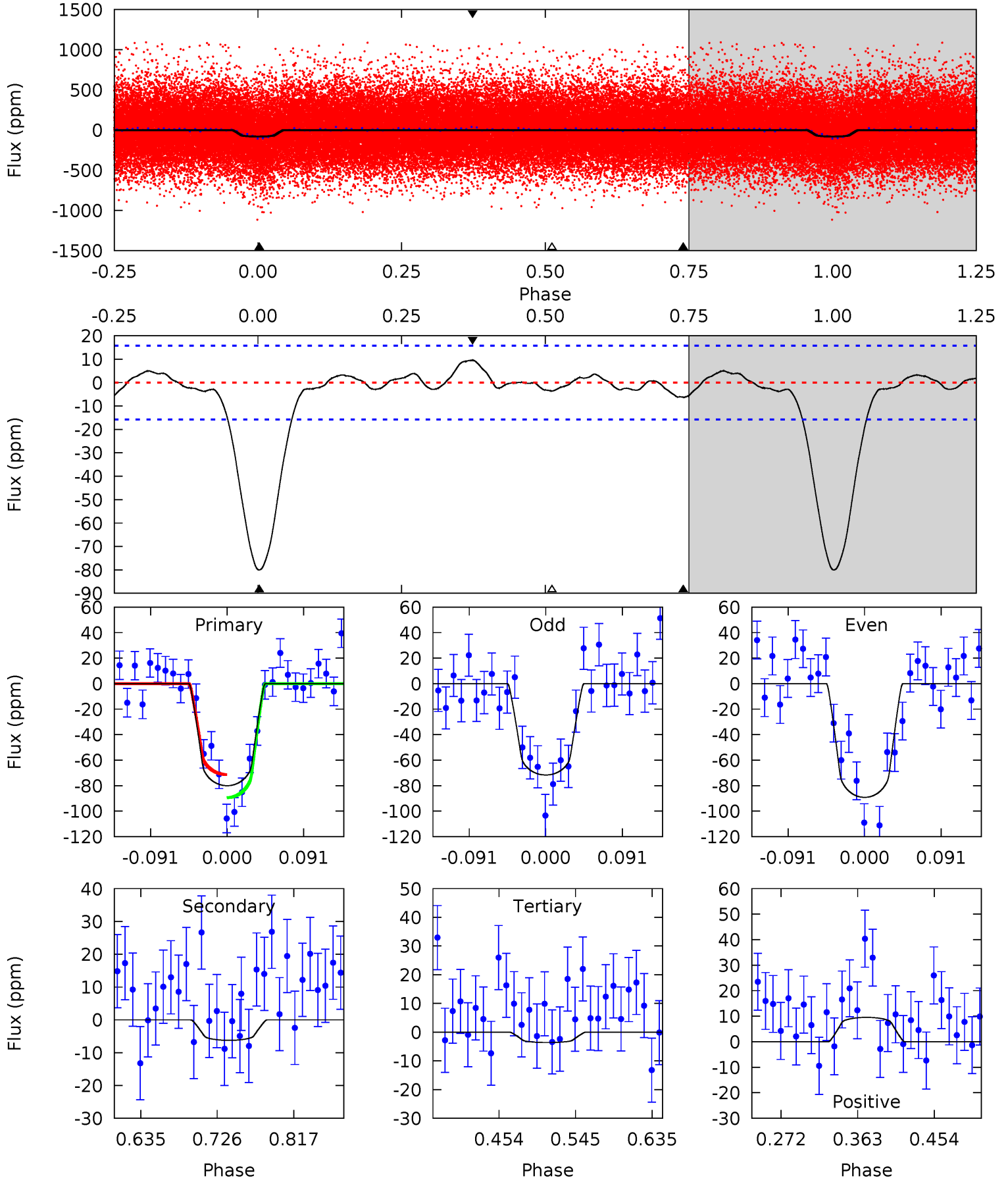
TCE 005039129-01 P= 1.319666 Days $T_0=132.070717$ (BKJD)



DV Model-Shift Uniqueness Test

005039129-01, P = 1.319655 Days, E = 130.751599 Days

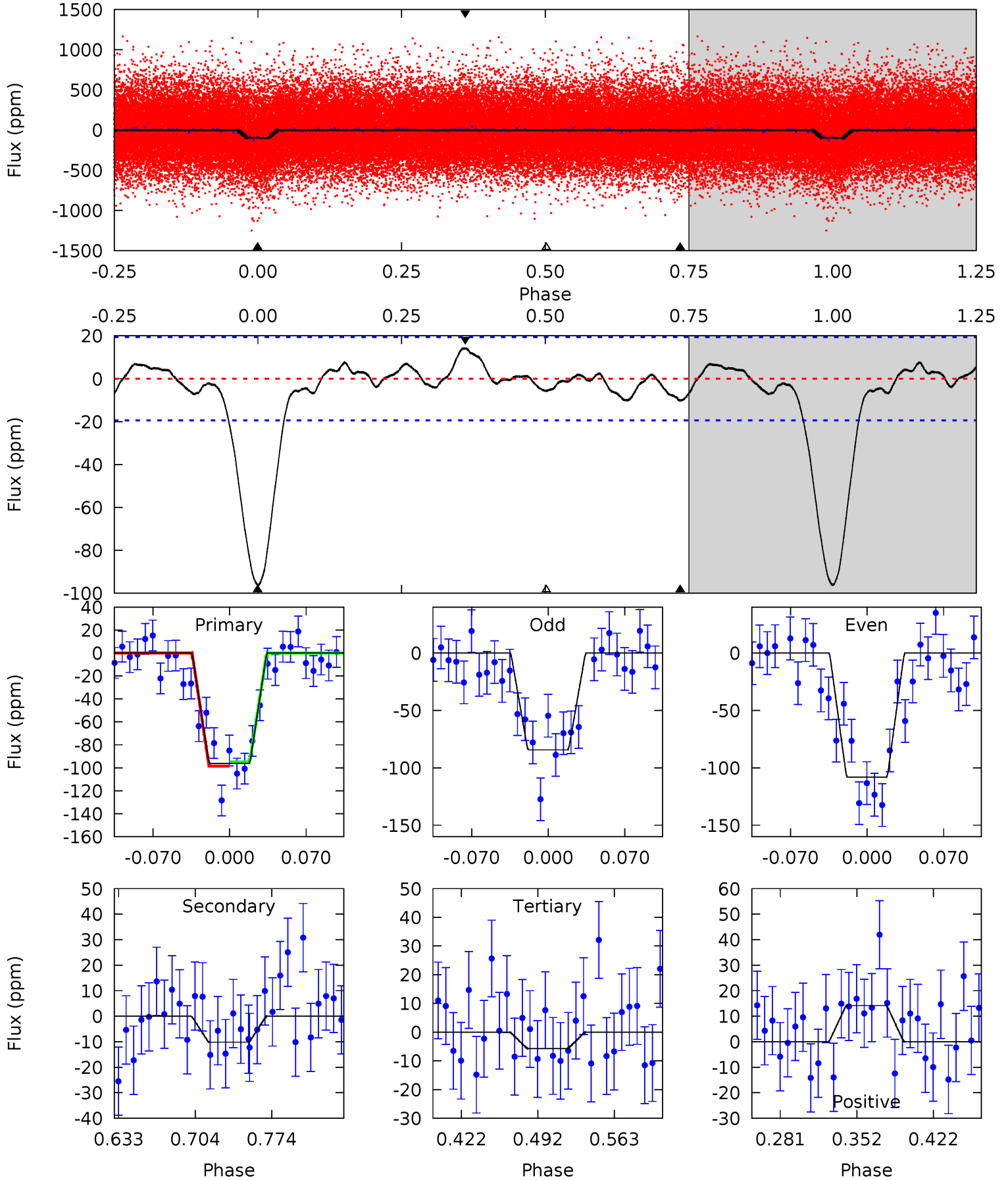
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.2	1.81	1.05	2.77	4.59	1.69	0.91	22.2	20.5	0.77	-0.96	2.55	0.91	0.11	2.61



Alt Model-Shift Uniqueness Test

005039129-01, P = 1.319666 Days, E = 130.751051 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.0	2.43	1.37	3.39	4.64	1.81	1.18	21.6	19.6	1.06	-0.96	2.84	1.00	0.13	0.45



Stellar Parameters For KIC 005039129

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6306^{+168}_{-205}	$4.426^{+0.052}_{-0.208}$	$-0.100^{+0.250}_{-0.300}$	$1.076^{+0.335}_{-0.134}$	$1.126^{+0.159}_{-0.145}$	$1.272^{+0.354}_{-0.668}$
	+3%/-3%	+1%/-5%	+250%/-300%	+31%/-12%	+14%/-13%	+28%/-53%
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 005039129-01 / KOI 2546.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6 ± 3	$1.20^{+0.44}_{-0.45}$	2628^{+194}_{-130}	3479^{+712}_{-770}	$1.345^{+2.172}_{-0.870}$
Alt.	-10 ± 4	$1.27^{+0.45}_{-0.46}$	2626^{+182}_{-127}	3756^{+663}_{-589}	$2.058^{+2.727}_{-1.189}$

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

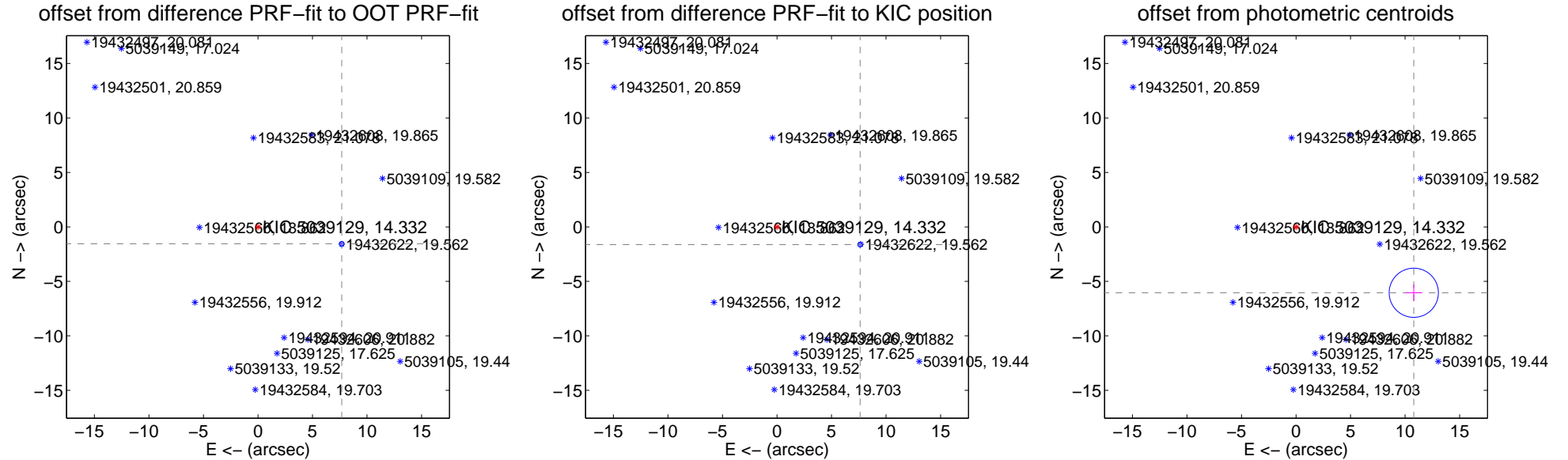
DV Centroid Data

Supplemental centroid analysis for 005039129-01. Kepler magnitude: 14.33. Transit SNR 16.30

There are 17 quarters with good PRF difference image offsets

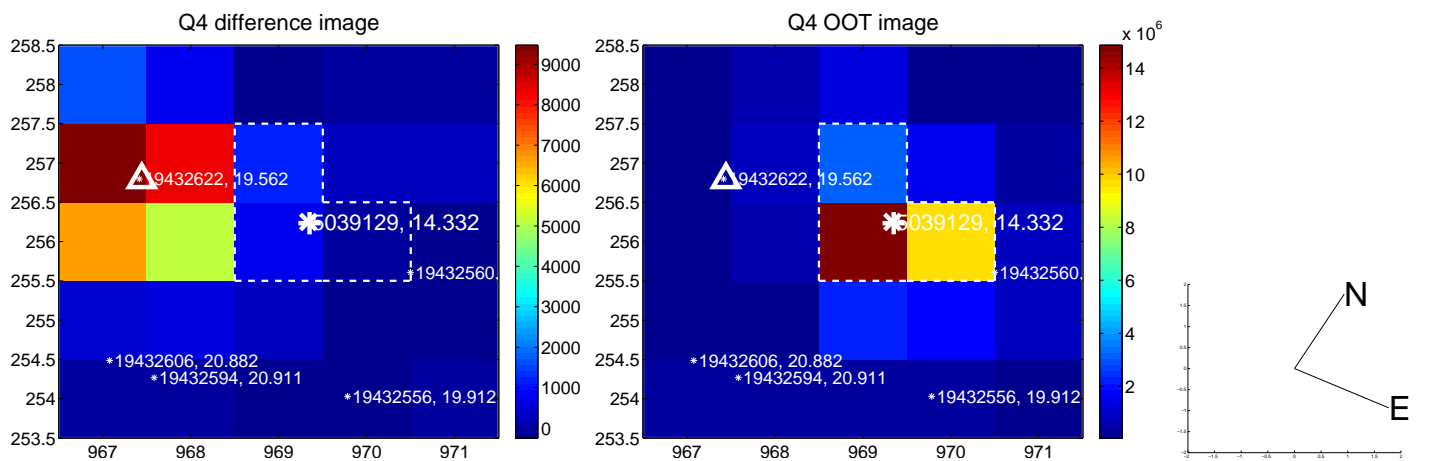
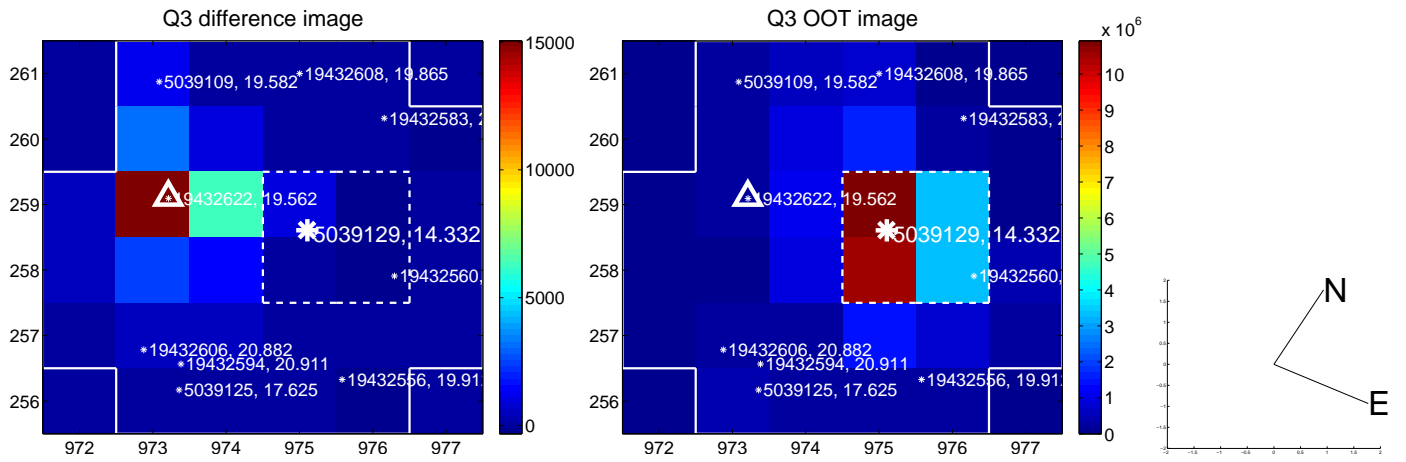
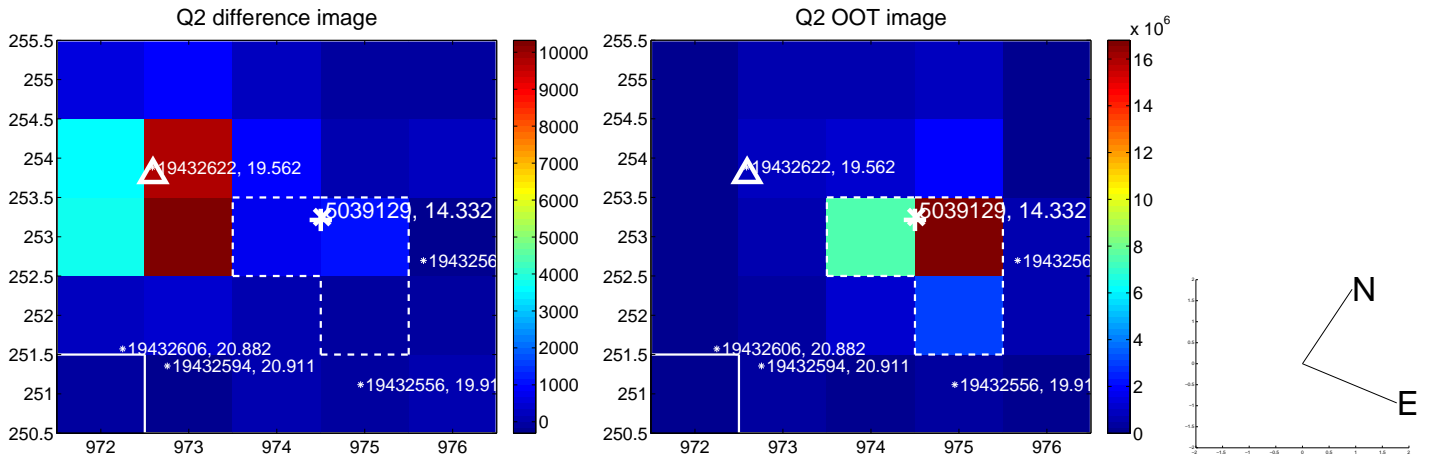
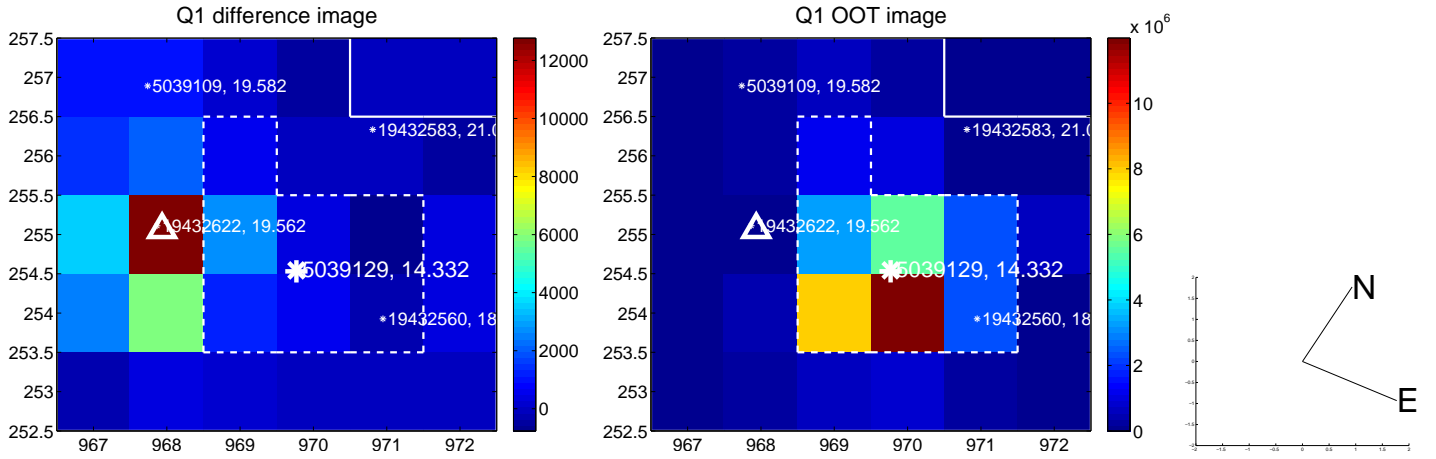
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.834 ± 0.071	110.91	-7.680 ± 0.071	-1.547 ± 0.073
PRF-fit source offset from KIC position	7.796 ± 0.071	110.46	-7.625 ± 0.071	-1.627 ± 0.069
photometric centroid source offset	12.37 ± 0.75	16.45	-10.80 ± 0.74	-6.04 ± 0.78

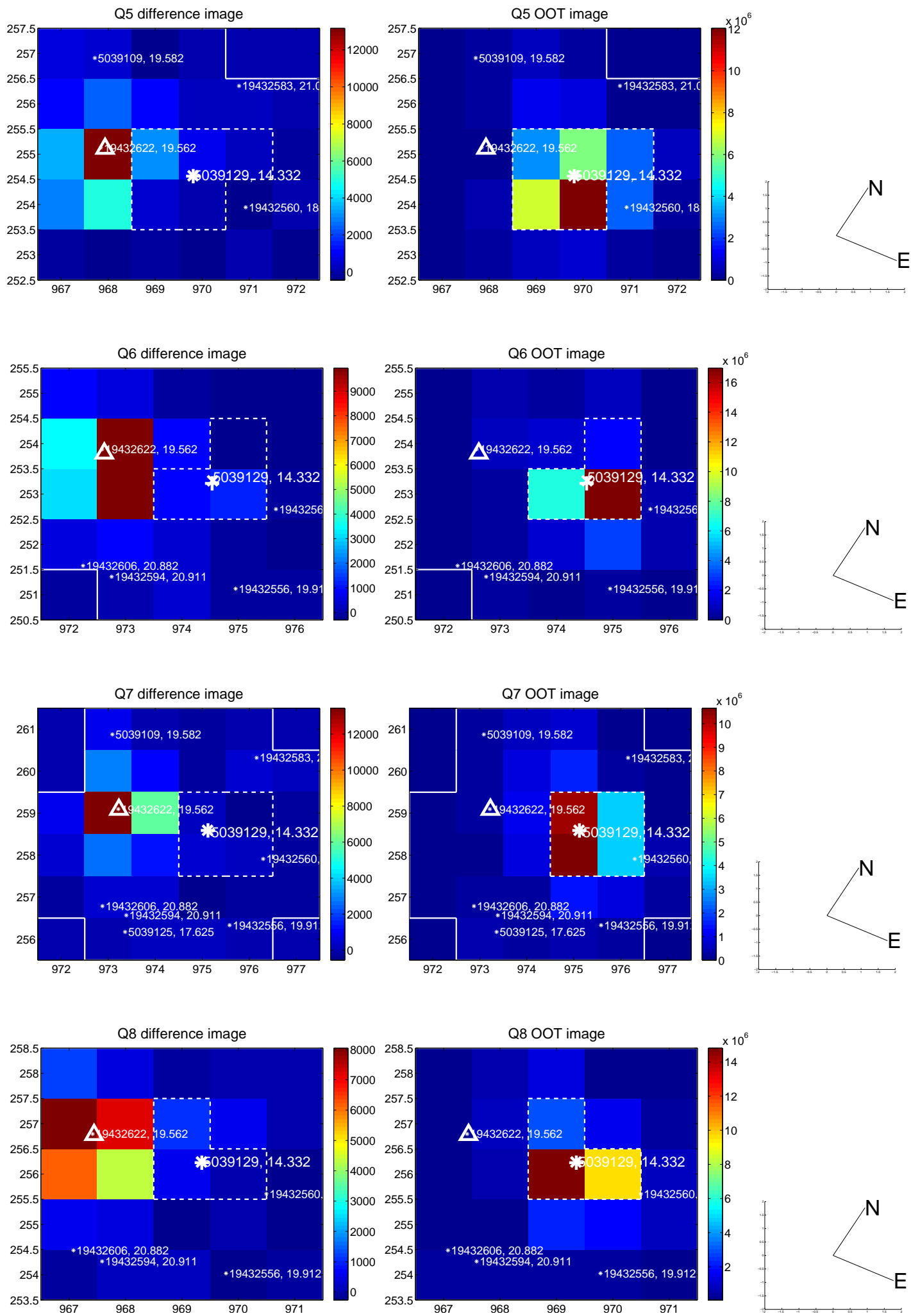


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

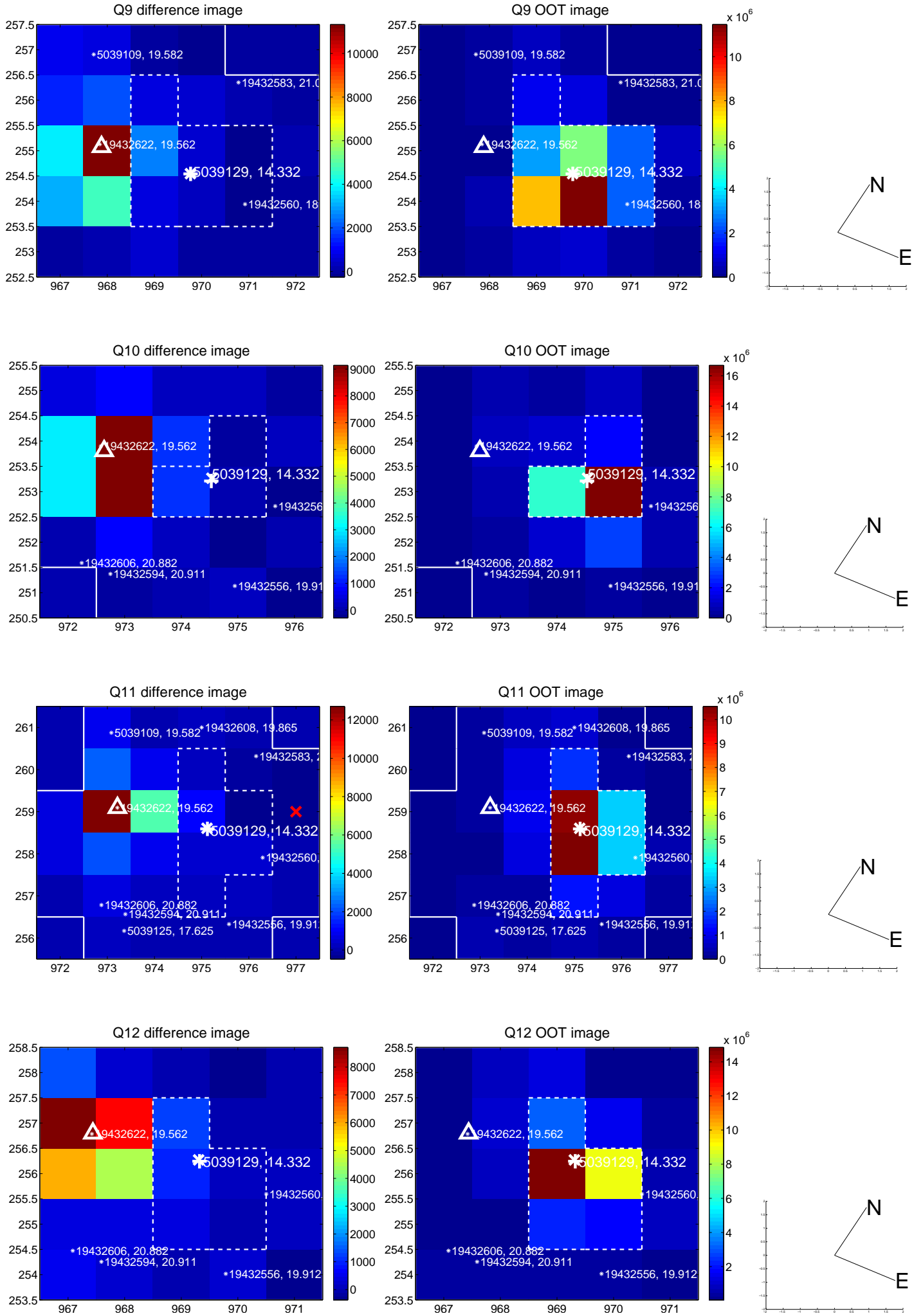
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



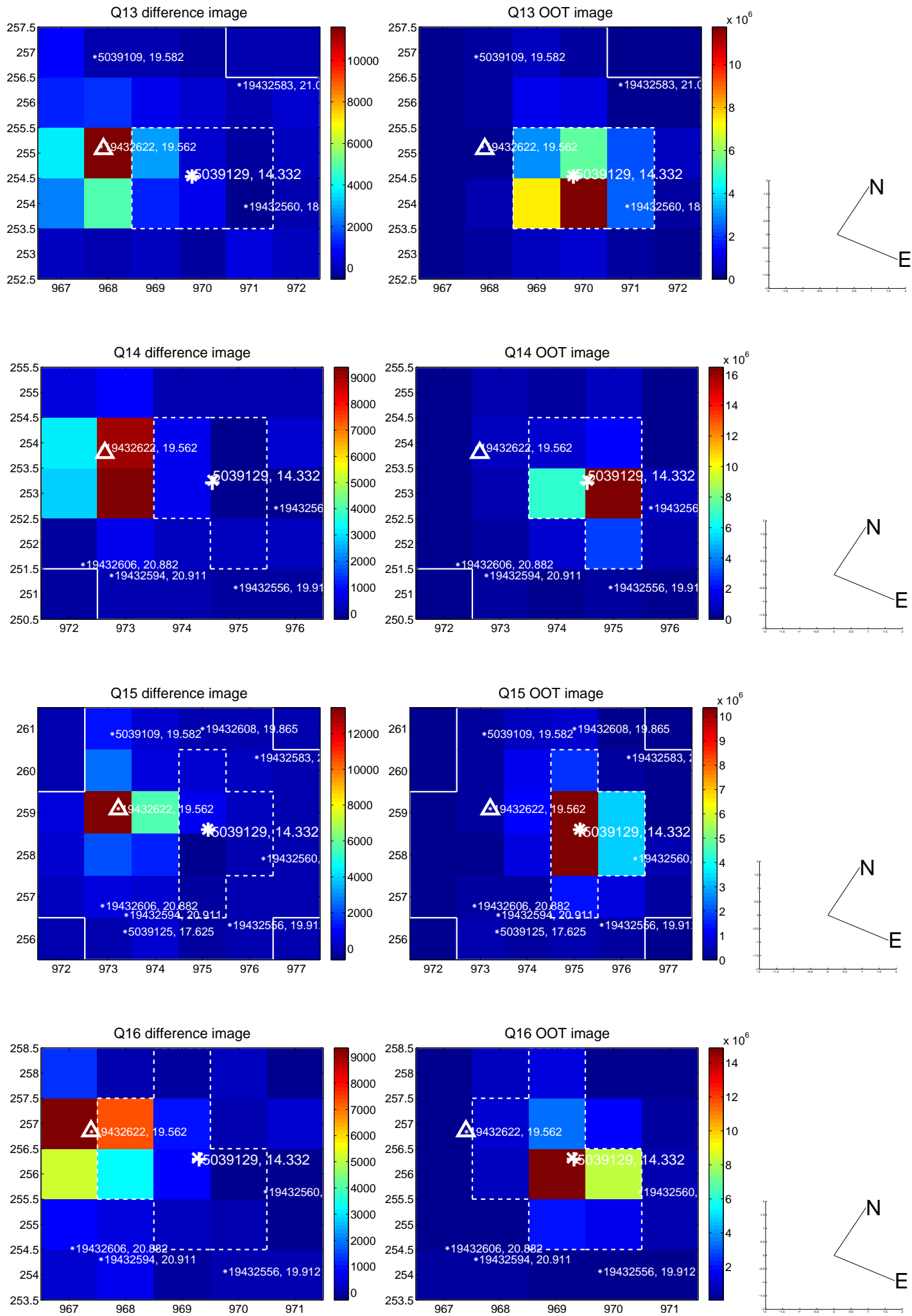
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



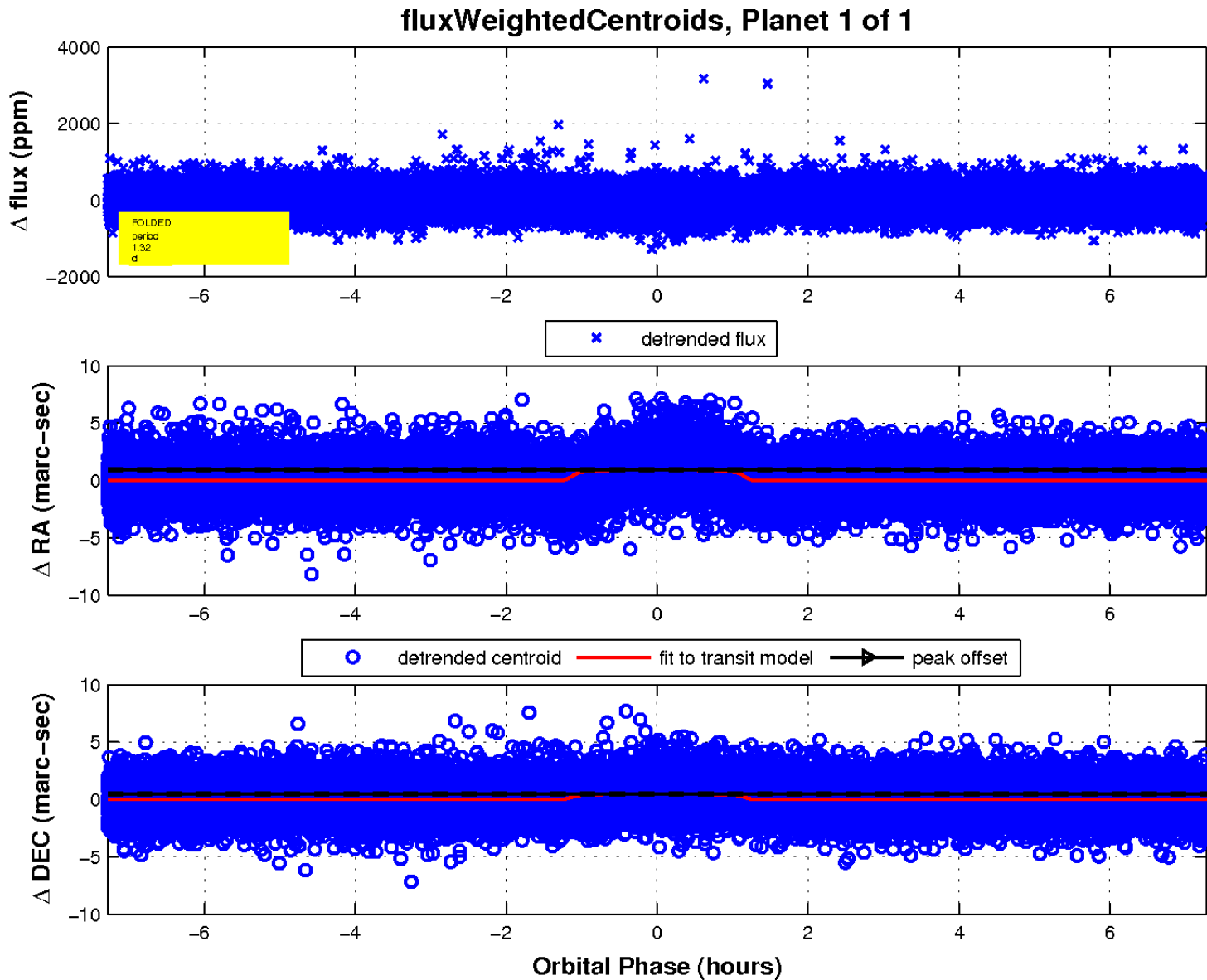
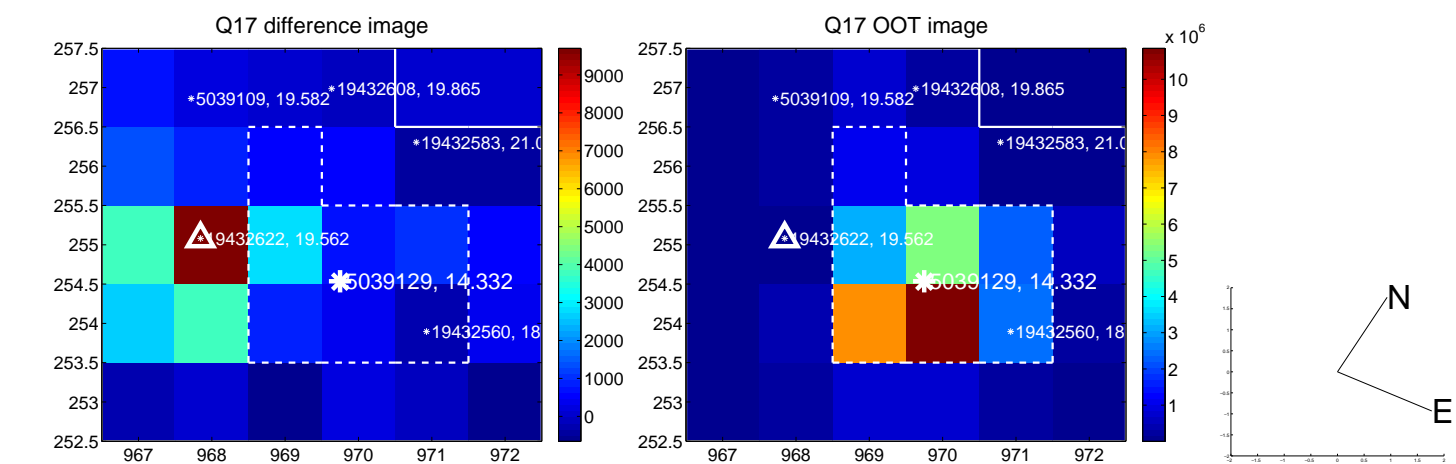
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

