

KIC 008947520

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})
008947520-01	OBS	2517.01	0.968529	132.479081	120.9	1.358	16.3	19.9	0.89	5580	1.19	1871.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008947520-01	OBS	PC	0.98	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.

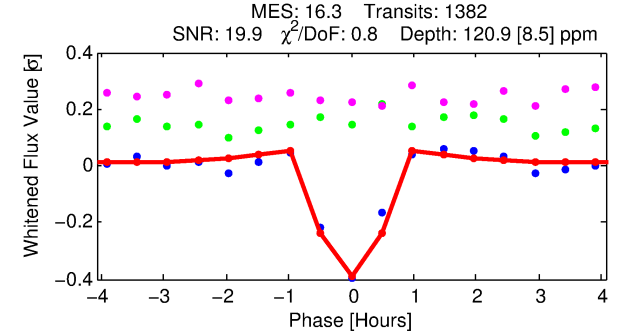
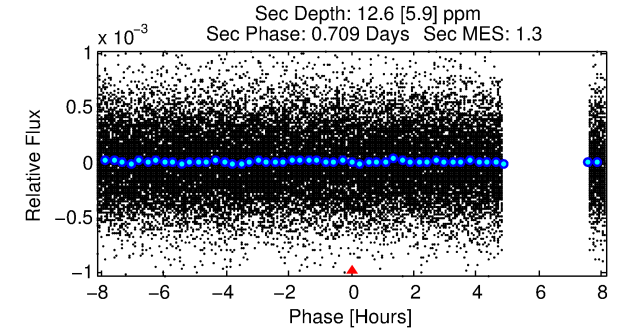
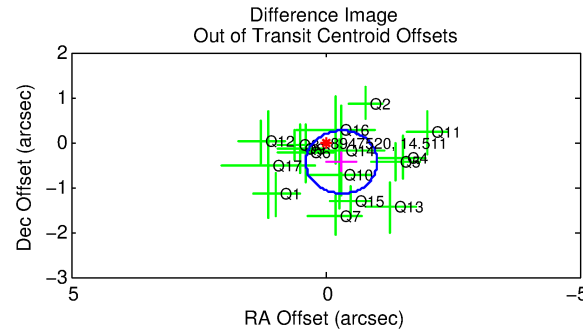
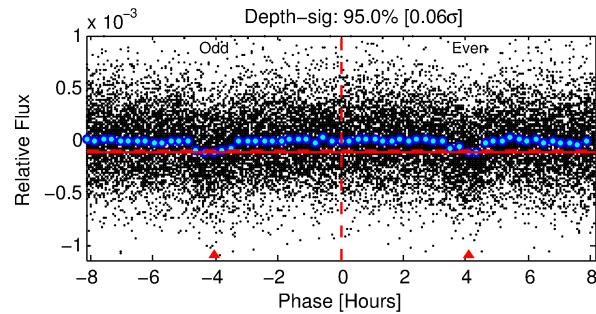
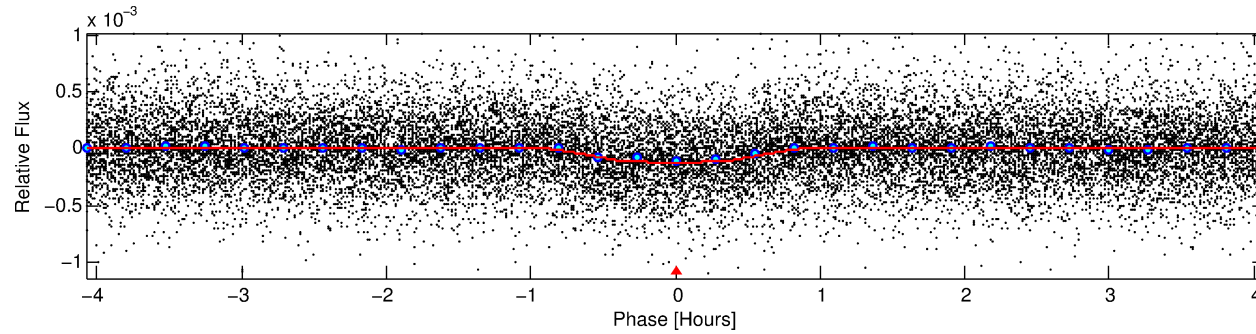
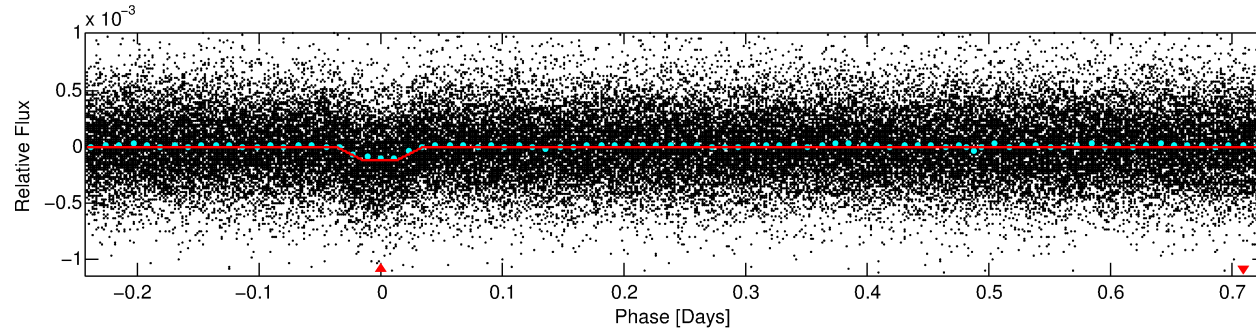
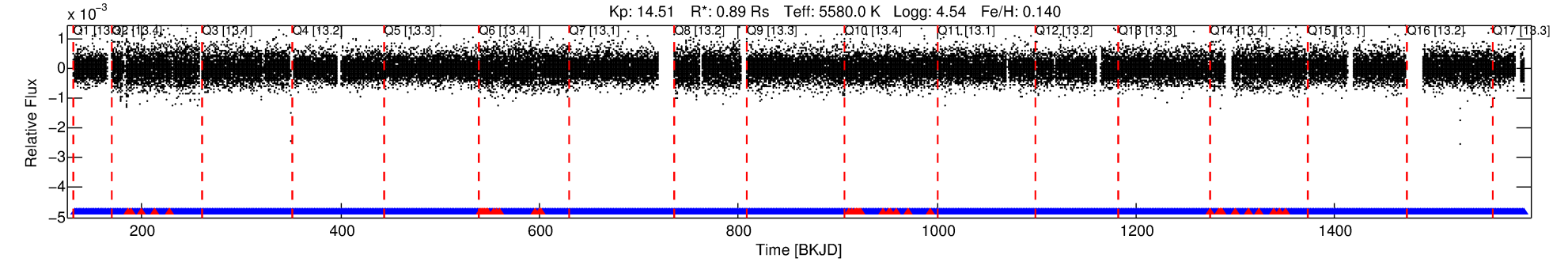
Ephemeris Match Information For 008947520-01

No Significant Match Found

DV One-Page Summary

KIC: 8947520 Candidate: 1 of 1 Period: 0.969 d

KOI: K02517.01 Corr: 0.968



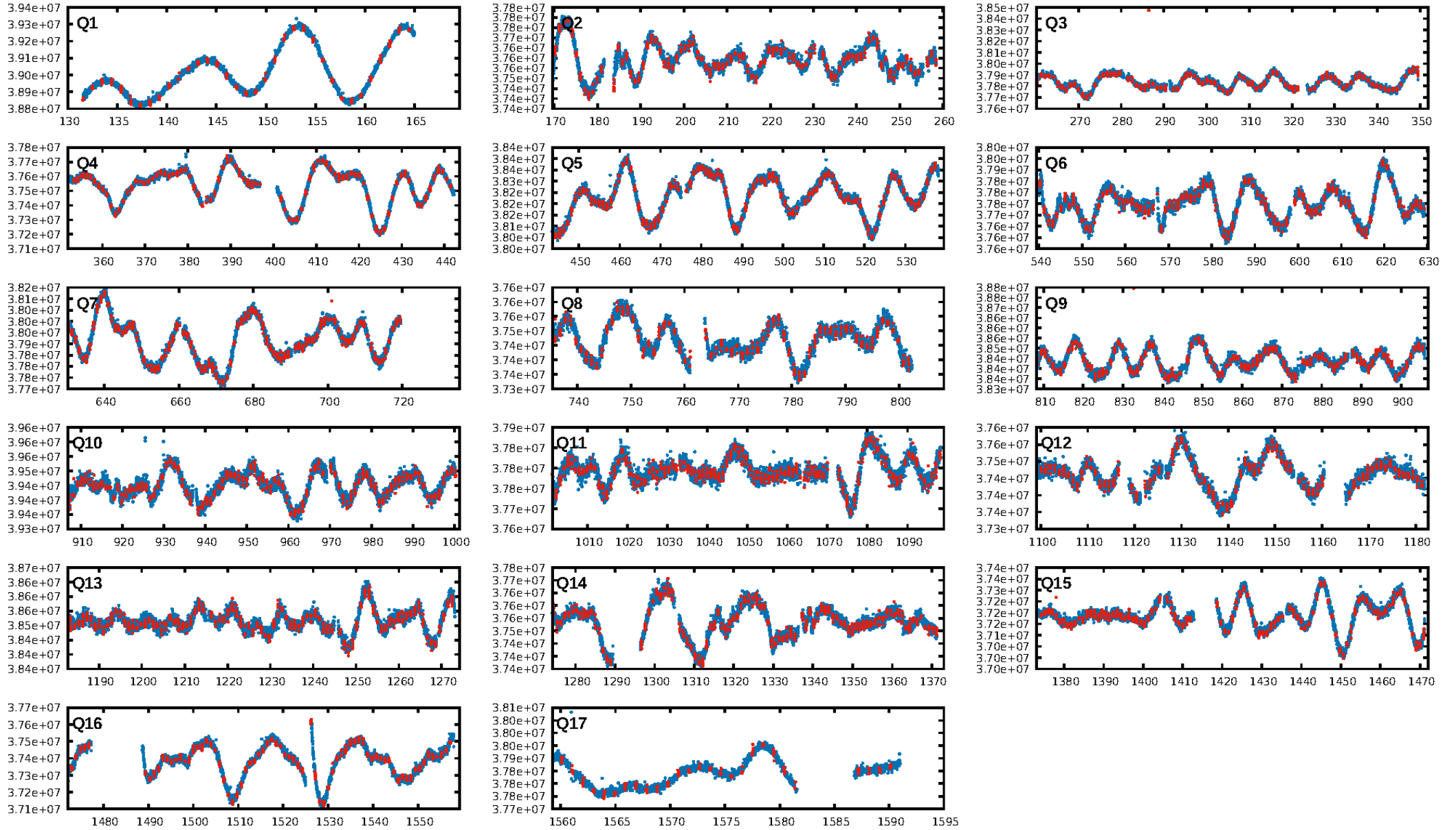
DV Fit Results:

Period = 0.96853 [0.00001] d
Epoch = 132.4791 [0.0009] BKJD
Rp/R* = 0.0123 [0.0042]
a/R* = 2.59 [3.45]
b = 0.91 [0.30]
Seff = 1871.70 [357.02]
Teff = 1677 [80] K
Rp = 1.19 [0.44] Re
a = 0.0191 [0.0022] AU
Ag = 1.80 [1.54] [0.52 σ]
Teffp = 3004 [627] K [2.10 σ]

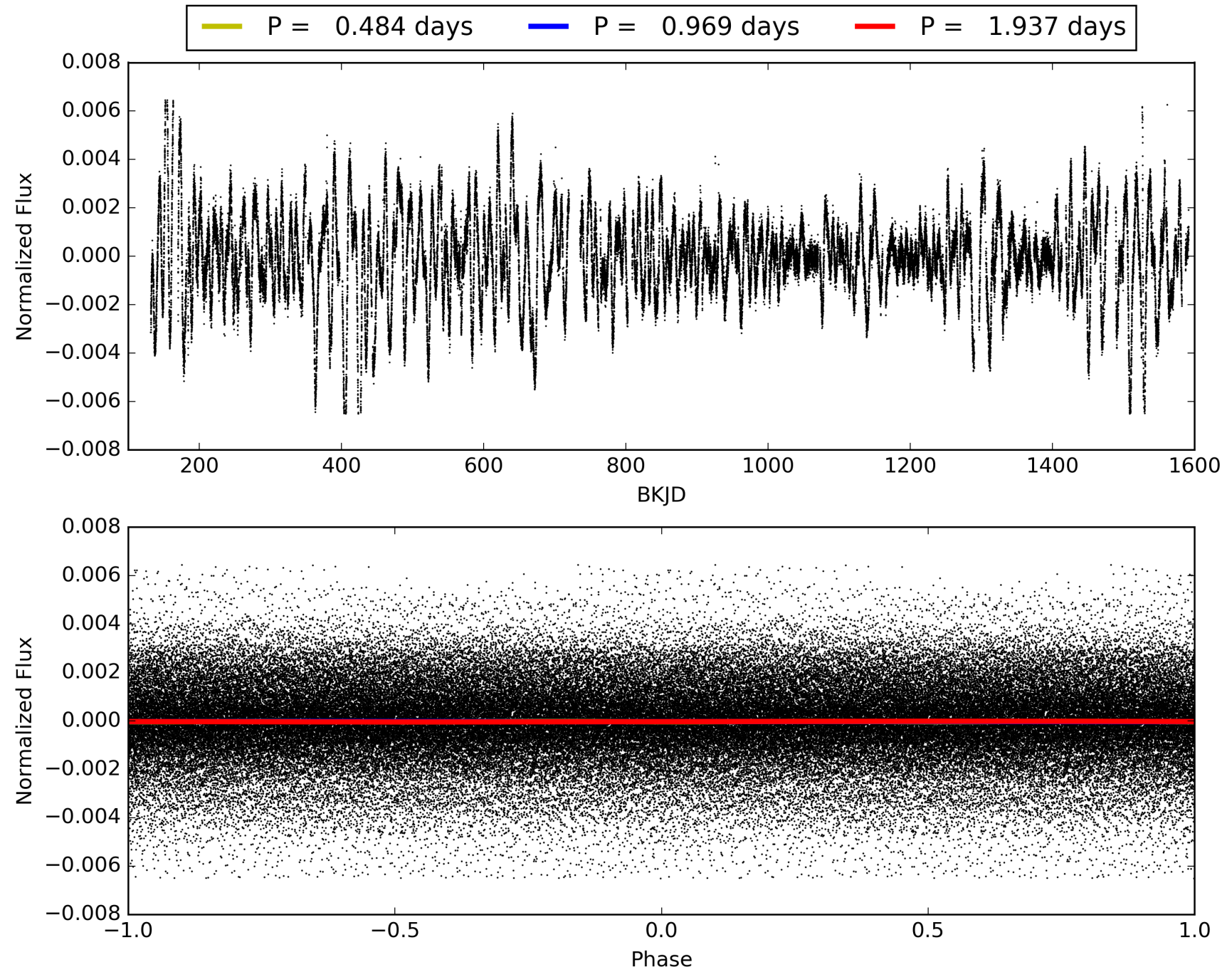
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.66e-55
RollingBand-fgt: 0.97 [1274/1320]
GhostDiagnostic-chr: 1.914
Centroid-sig: 0.0%
Centroid-so: 1.371 arcsec [2.58 σ]
OotOffset-rm: 0.541 arcsec [2.31 σ]
KicOffset-rm: 0.484 arcsec [2.20 σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008947520-01, PDC Light Curves

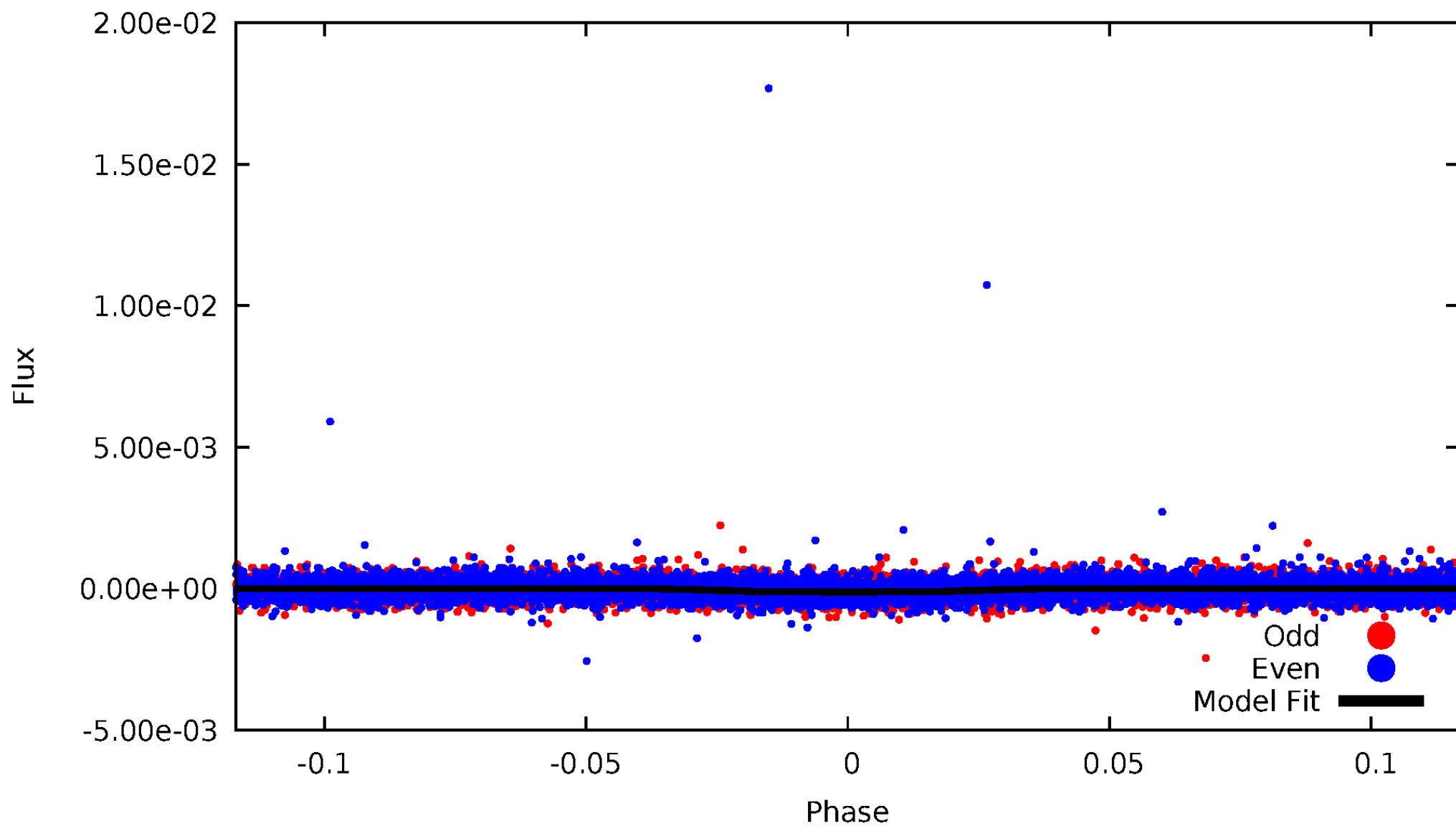


TCE 008947520-01



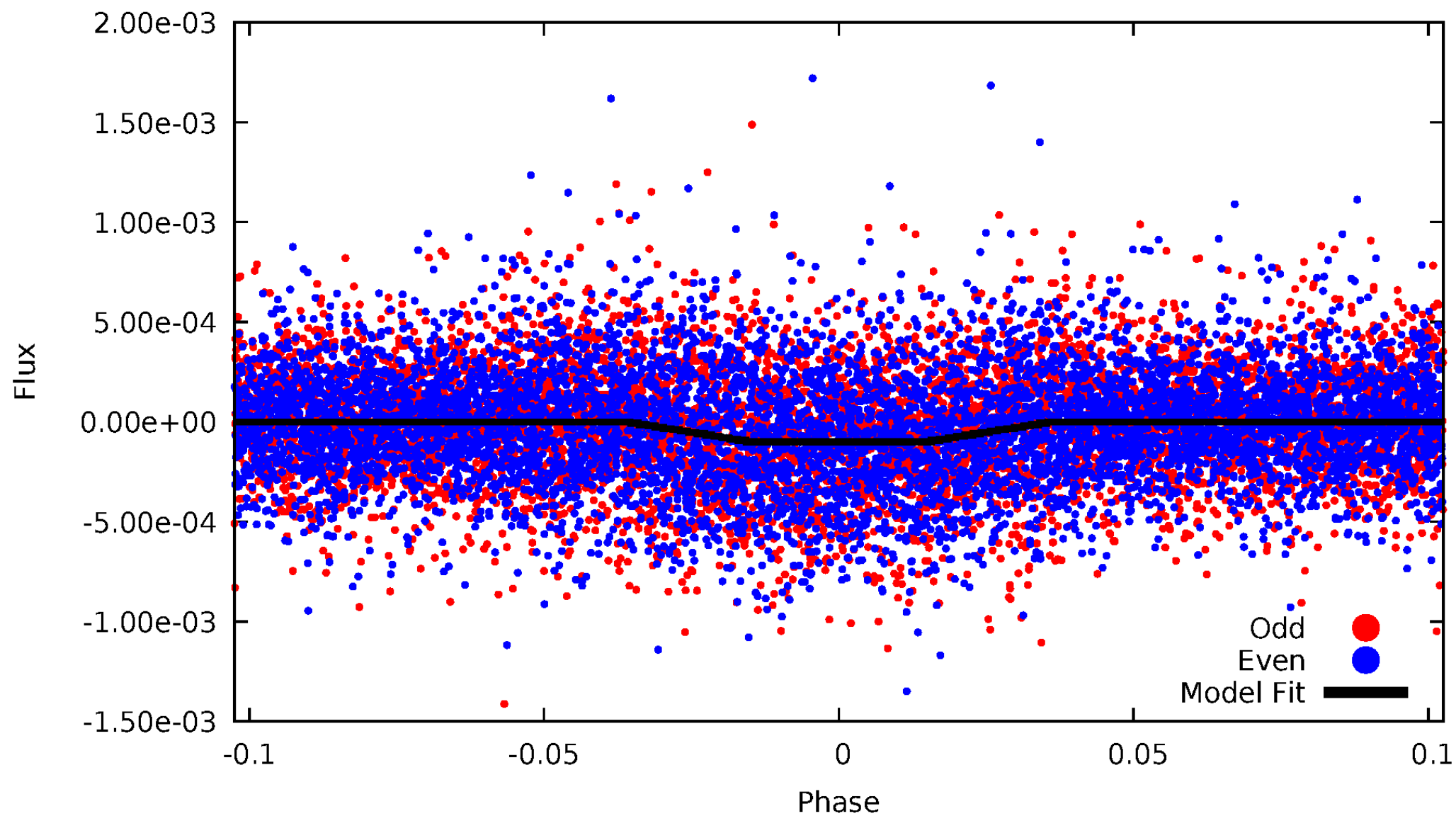
DV Odd/Even

TCE 008947520-01



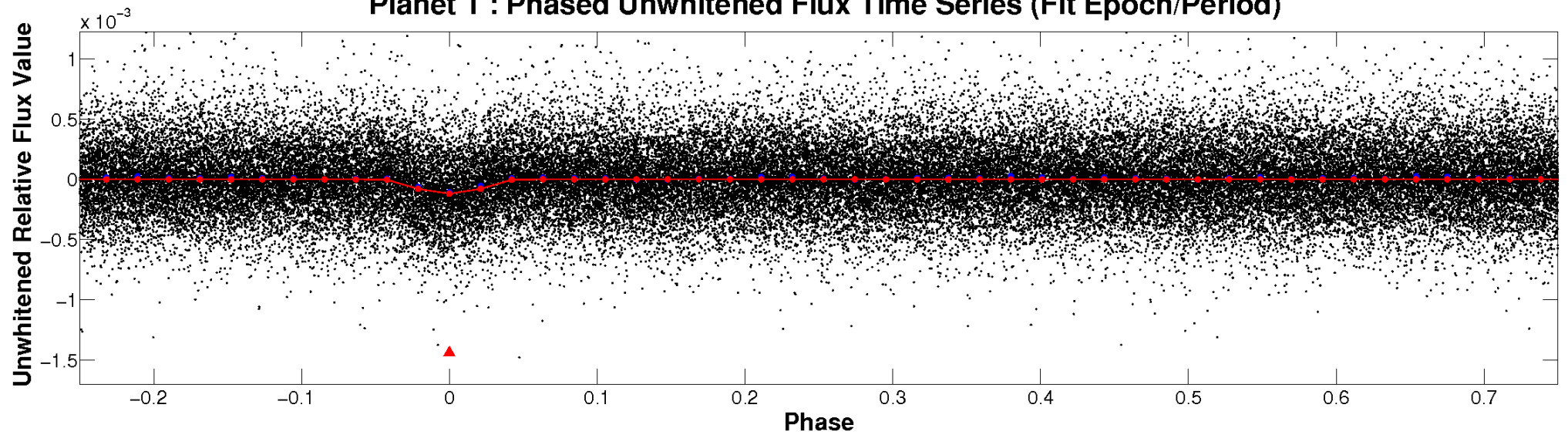
ALT Odd/Even

TCE 008947520-01

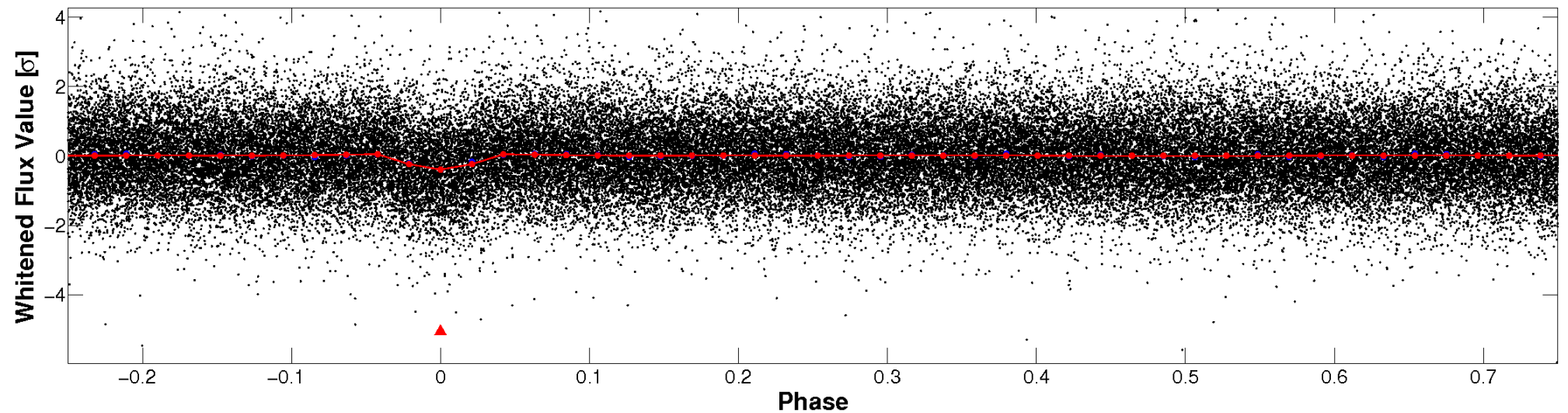


Non-Whitened Vs. Whitened Light Curve

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

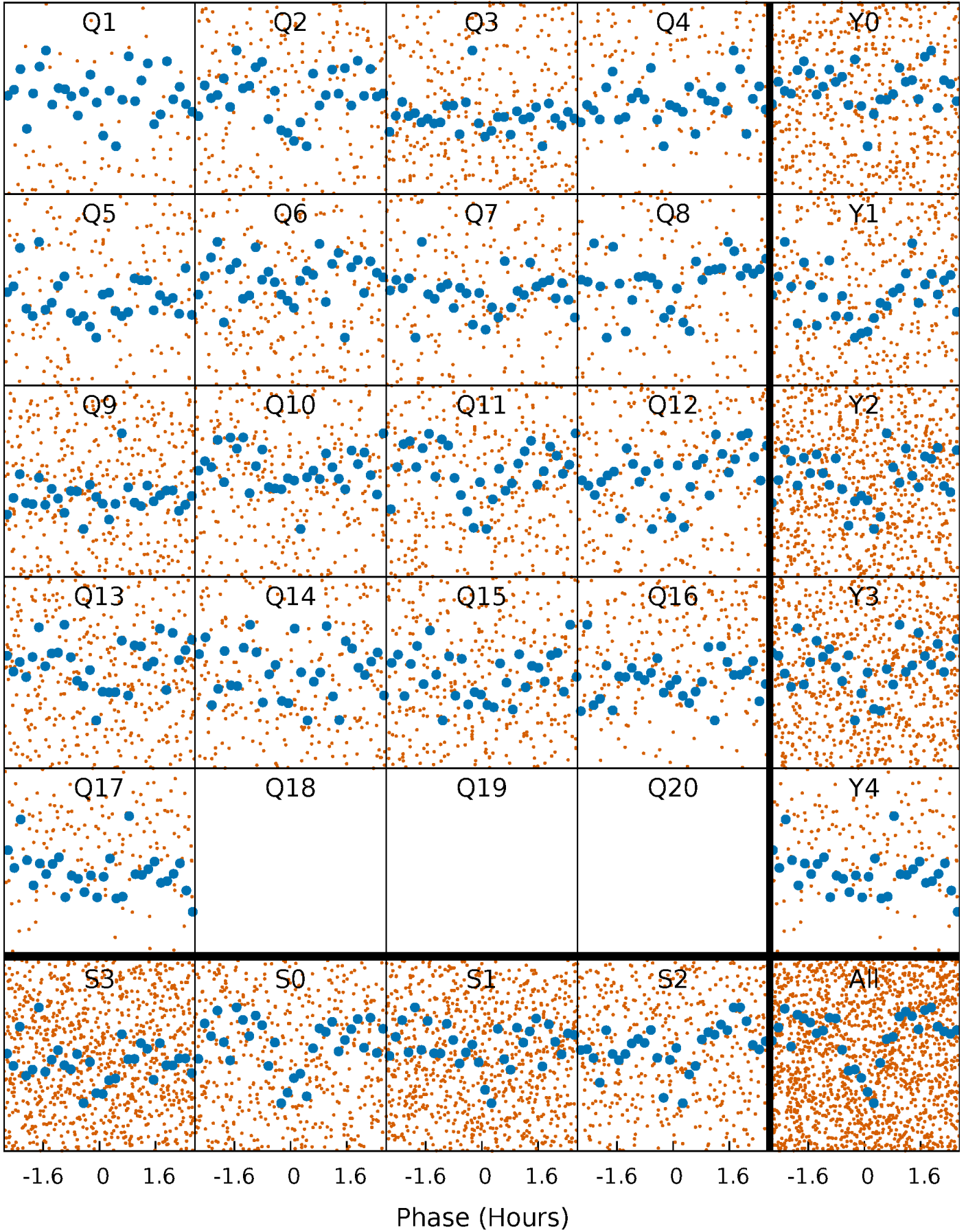


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



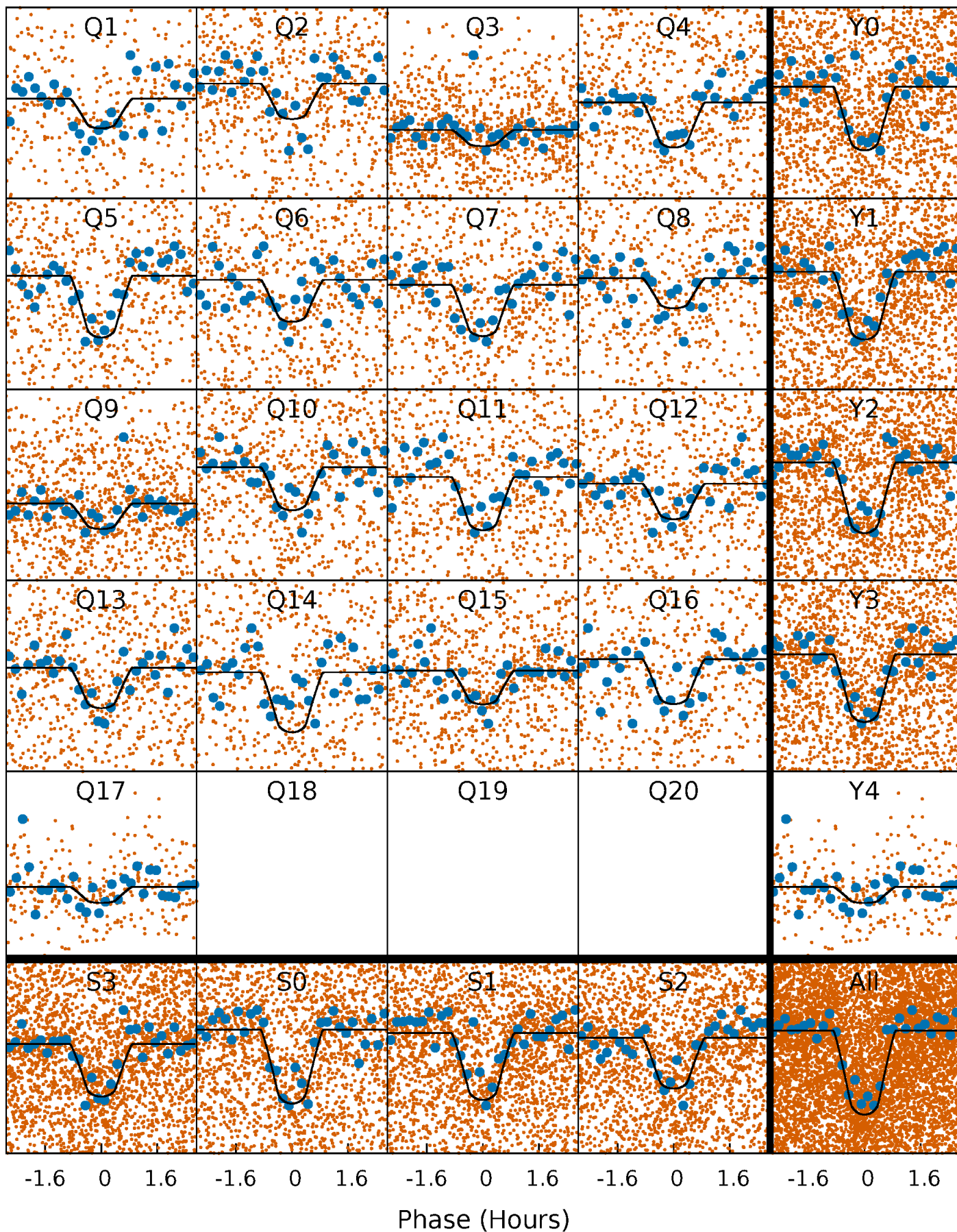
PDC Quarter-Phased Transit Curves

TCE 008947520-01 P= 0.968529 Days $T_0=132.479081$ (BKJD)



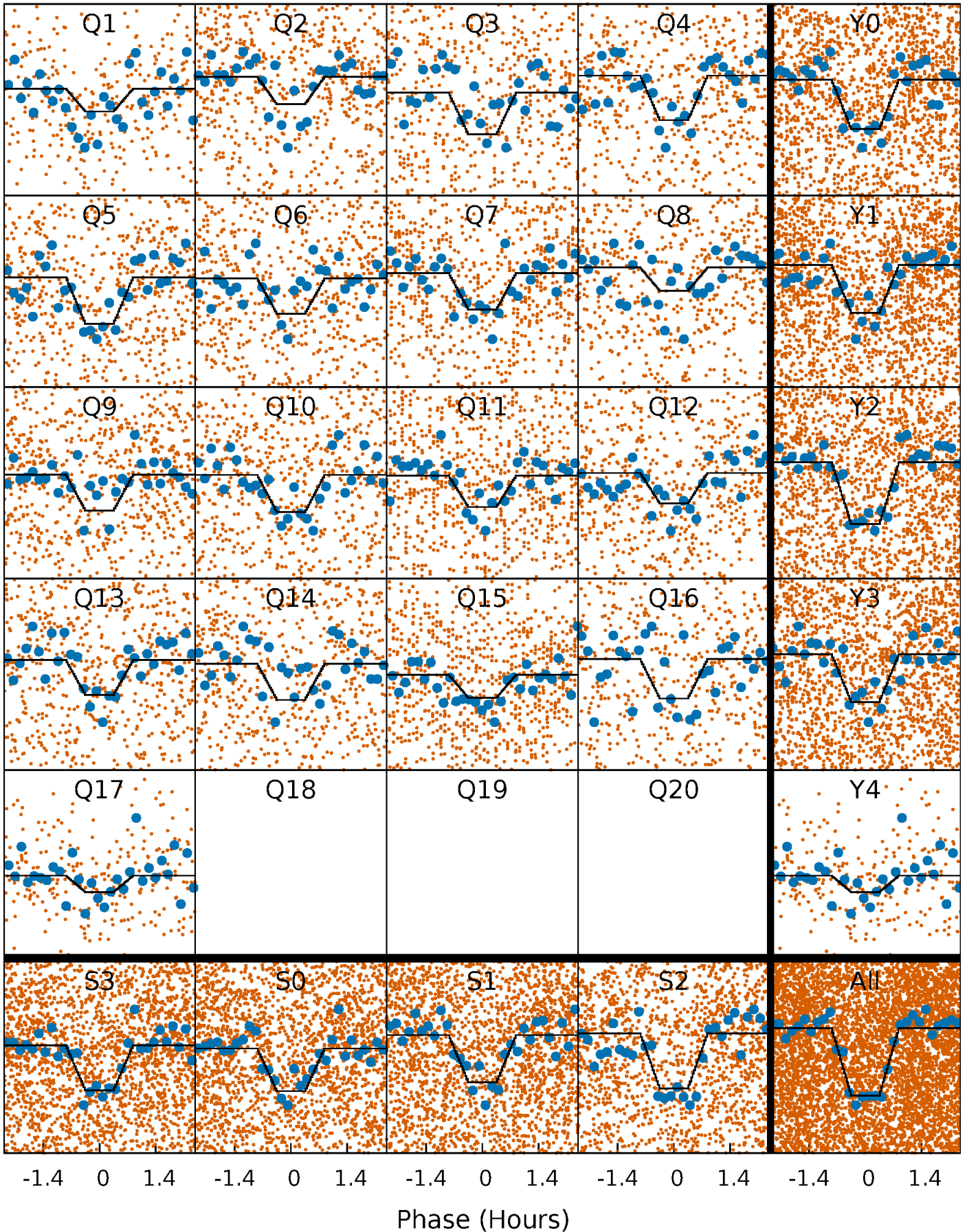
DV Quarter-Phased Transit Curves

TCE 008947520-01 P= 0.968529 Days $T_0=132.479081$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

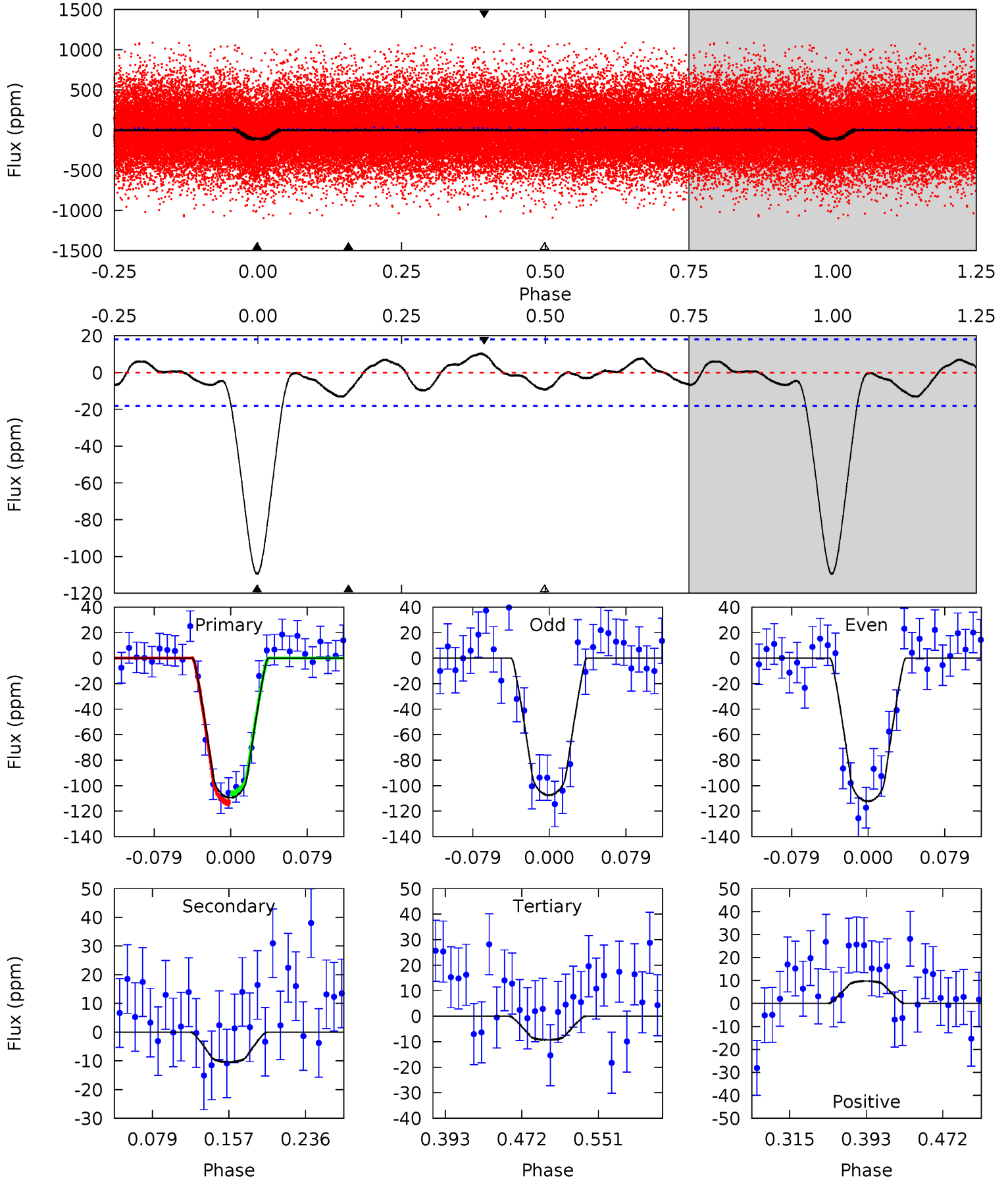
TCE 008947520-01 P= 0.968523 Days $T_0=132.481009$ (BKJD)



DV Model-Shift Uniqueness Test

008947520-01, P = 0.968529 Days, E = 131.510552 Days

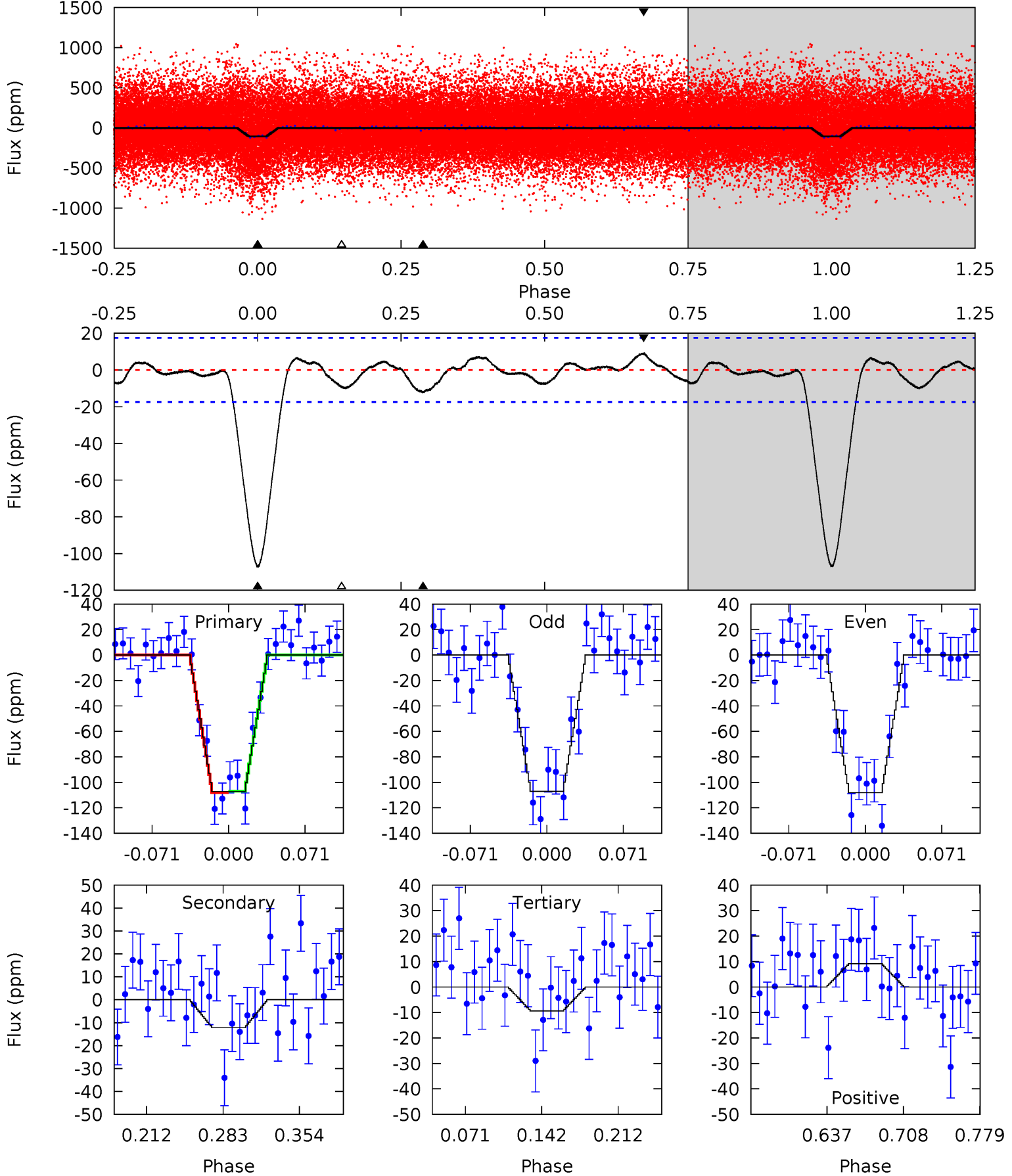
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.0	2.66	2.38	2.50	4.61	1.76	1.25	25.6	25.5	0.29	0.17	0.62	0.90	0.09	0.96



Alt Model-Shift Uniqueness Test

008947520-01, P = 0.968523 Days, E = 130.543963 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.5	3.24	2.49	2.43	4.64	1.81	1.11	26.0	26.0	0.75	0.80	0.14	0.99	0.08	0.16



Stellar Parameters For KIC 008947520

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5580^{+83}_{-75}	$4.538^{+0.020}_{-0.104}$	$0.140^{+0.150}_{-0.150}$	$0.886^{+0.114}_{-0.036}$	$0.989^{+0.039}_{-0.069}$	$2.003^{+0.191}_{-0.611}$
	+1%/-1%	+0%/-2%	+107%/-107%	+13%/-4%	+4%/-7%	+10%/-31%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 008947520-01 / KOI 2517.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-10 ± 4	$1.23^{+0.45}_{-0.43}$	2371^{+82}_{-53}	3214^{+630}_{-530}	$1.276^{+2.048}_{-0.693}$
Alt.	-12 ± 4	$0.97^{+0.43}_{-0.38}$	2371^{+77}_{-48}	3610^{+863}_{-503}	$2.425^{+4.813}_{-1.344}$

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

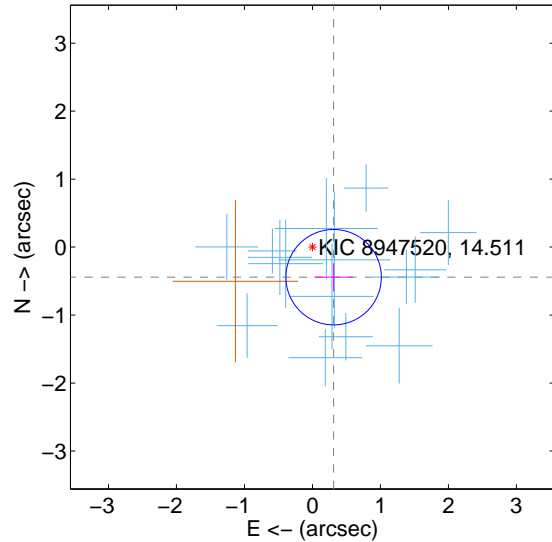
Supplemental centroid analysis for 008947520-01. Kepler magnitude: 14.51. Transit SNR 19.90

There are 15 quarters with good PRF difference image offsets

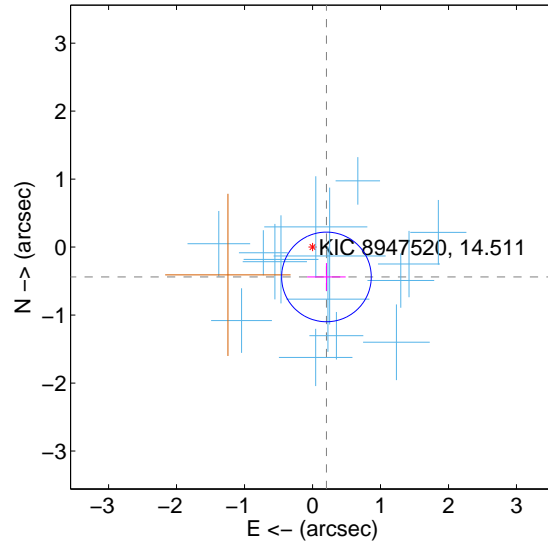
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.541 ± 0.234	2.31	-0.311 ± 0.282	-0.442 ± 0.206
PRF-fit source offset from KIC position	0.484 ± 0.220	2.20	-0.205 ± 0.283	-0.439 ± 0.203
photometric centroid source offset	1.37 ± 0.53	2.58	0.42 ± 0.53	-1.31 ± 0.53

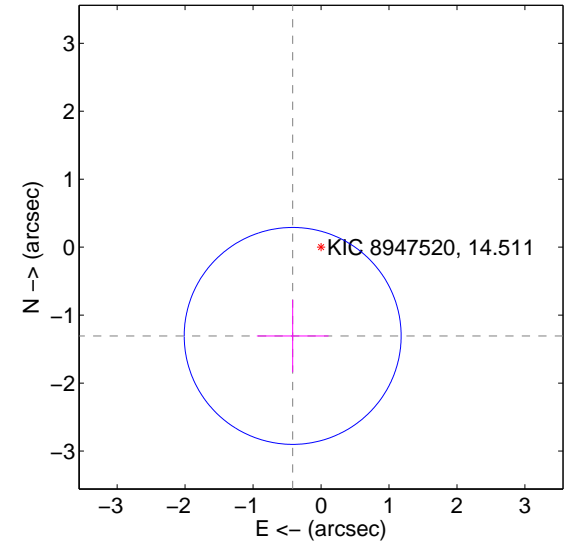
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

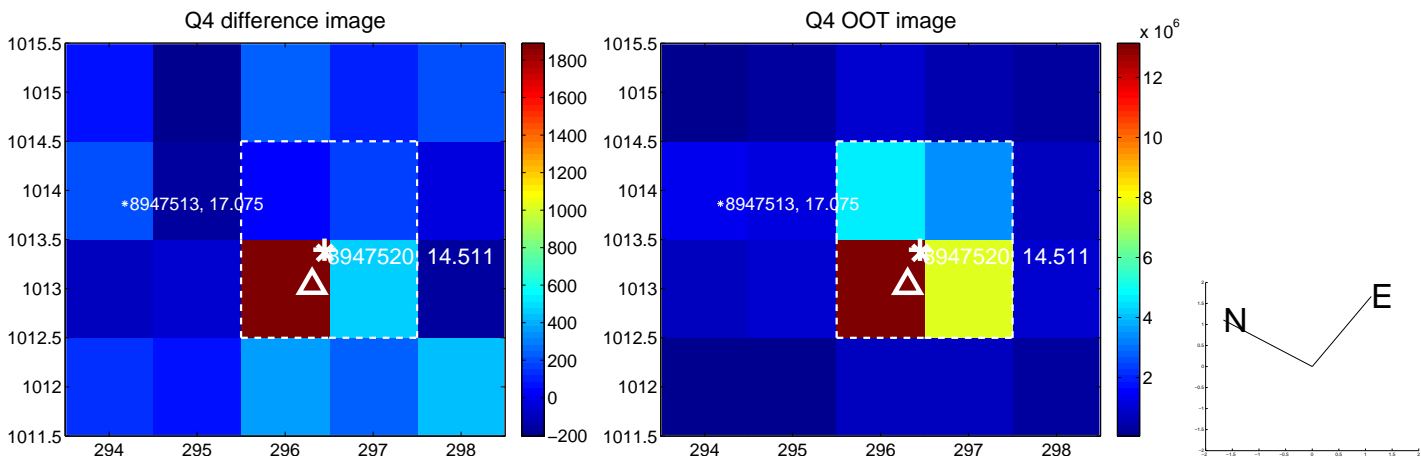
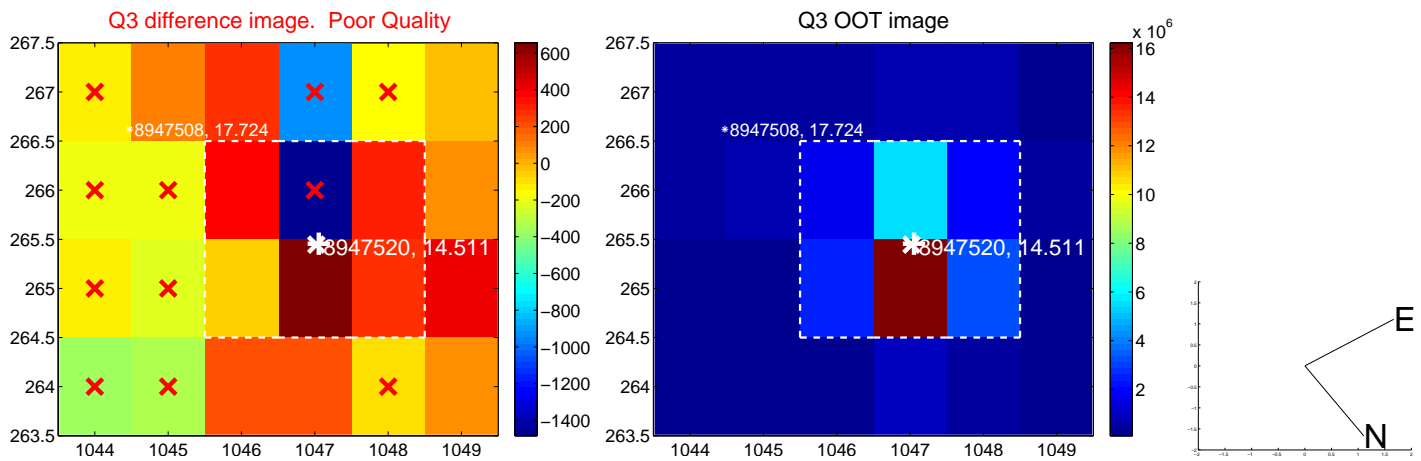
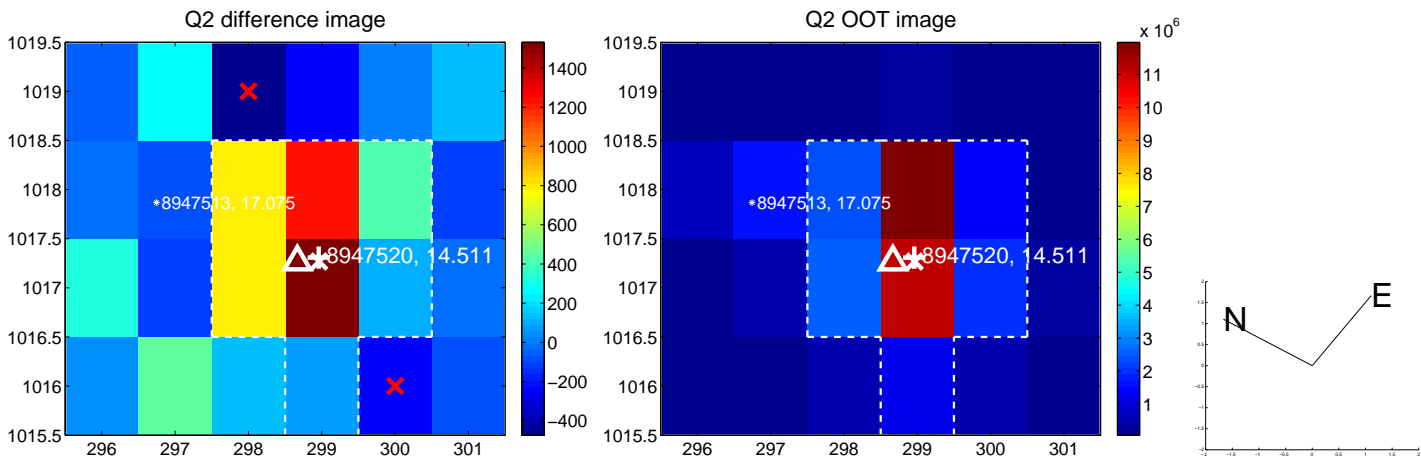
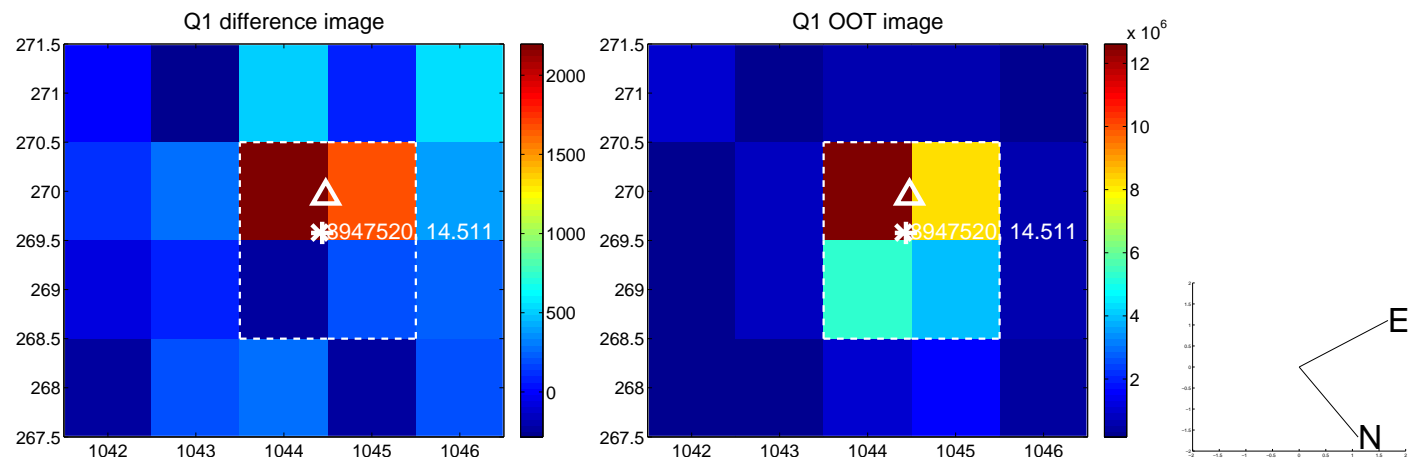


offset from photometric centroids

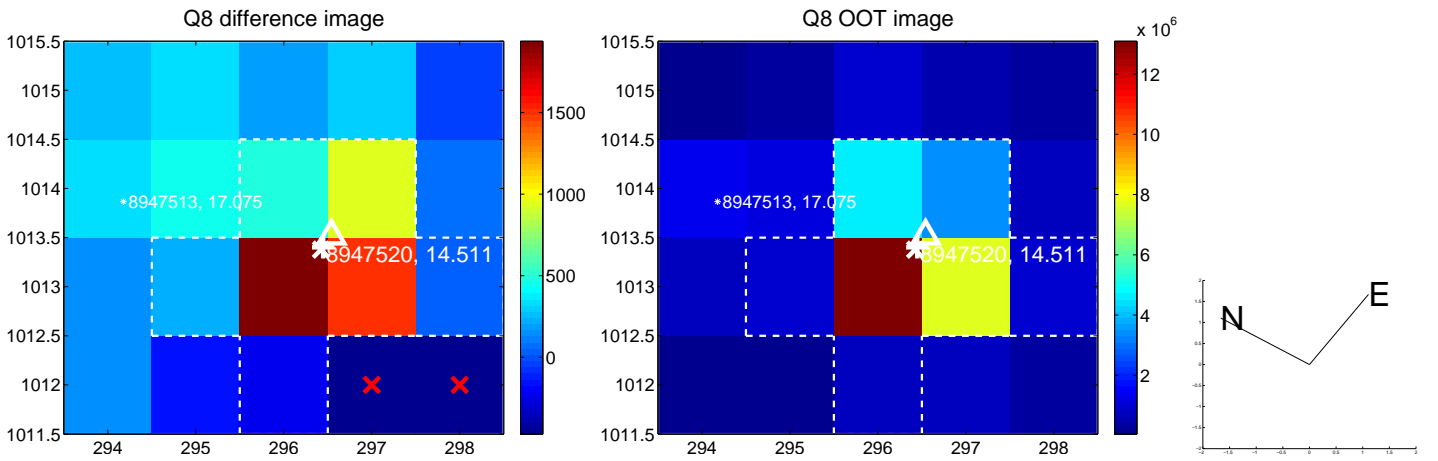
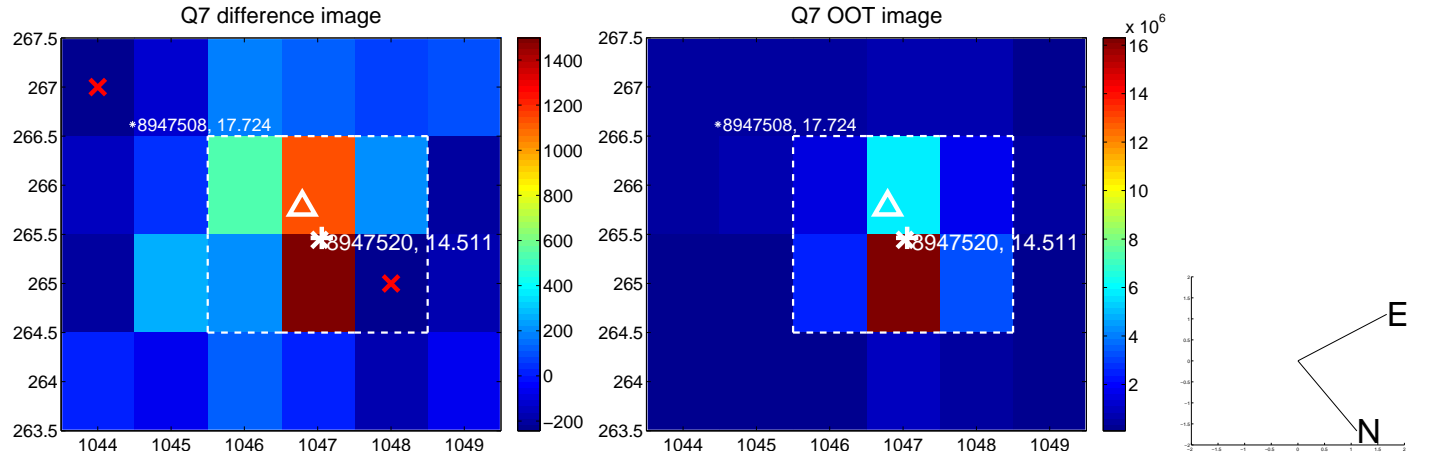
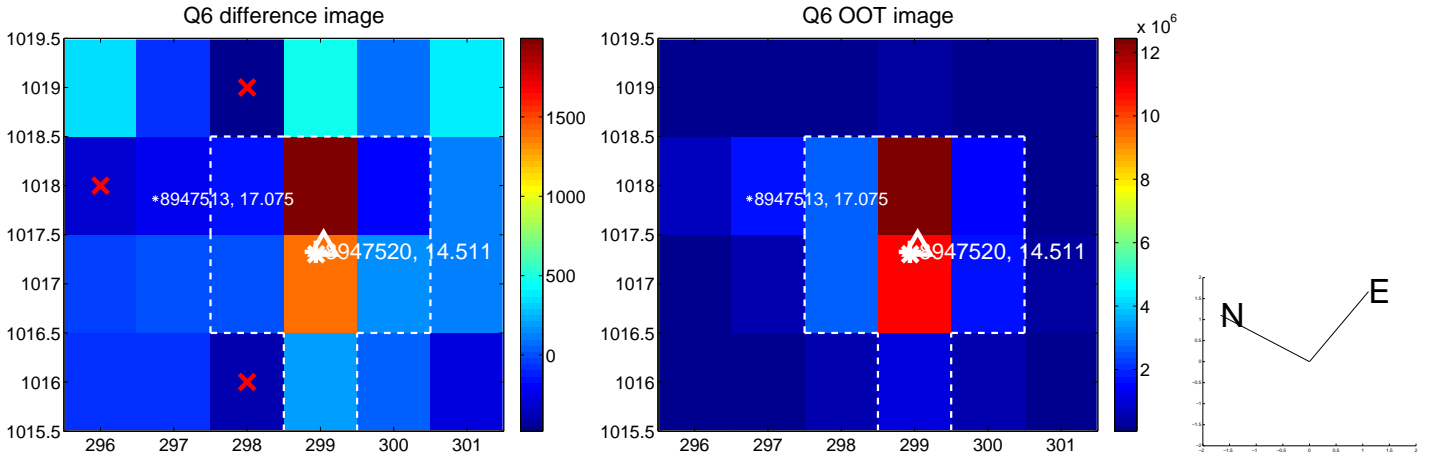
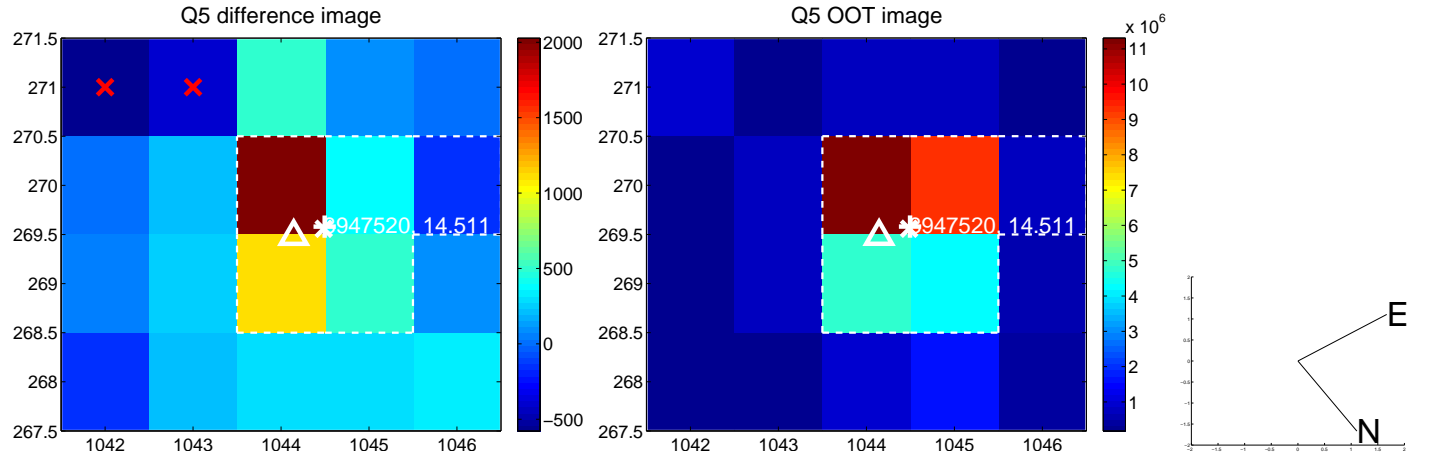


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

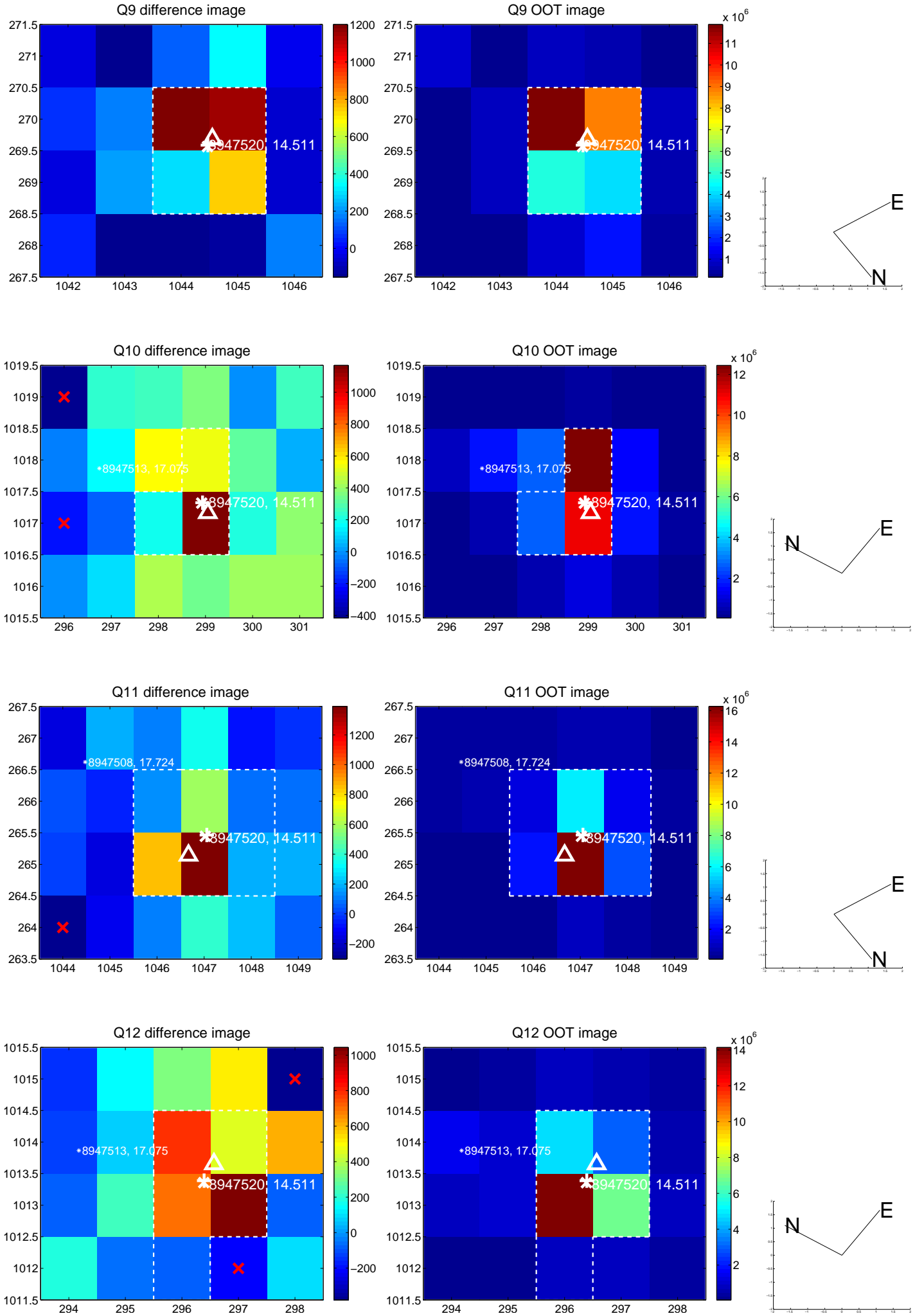
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



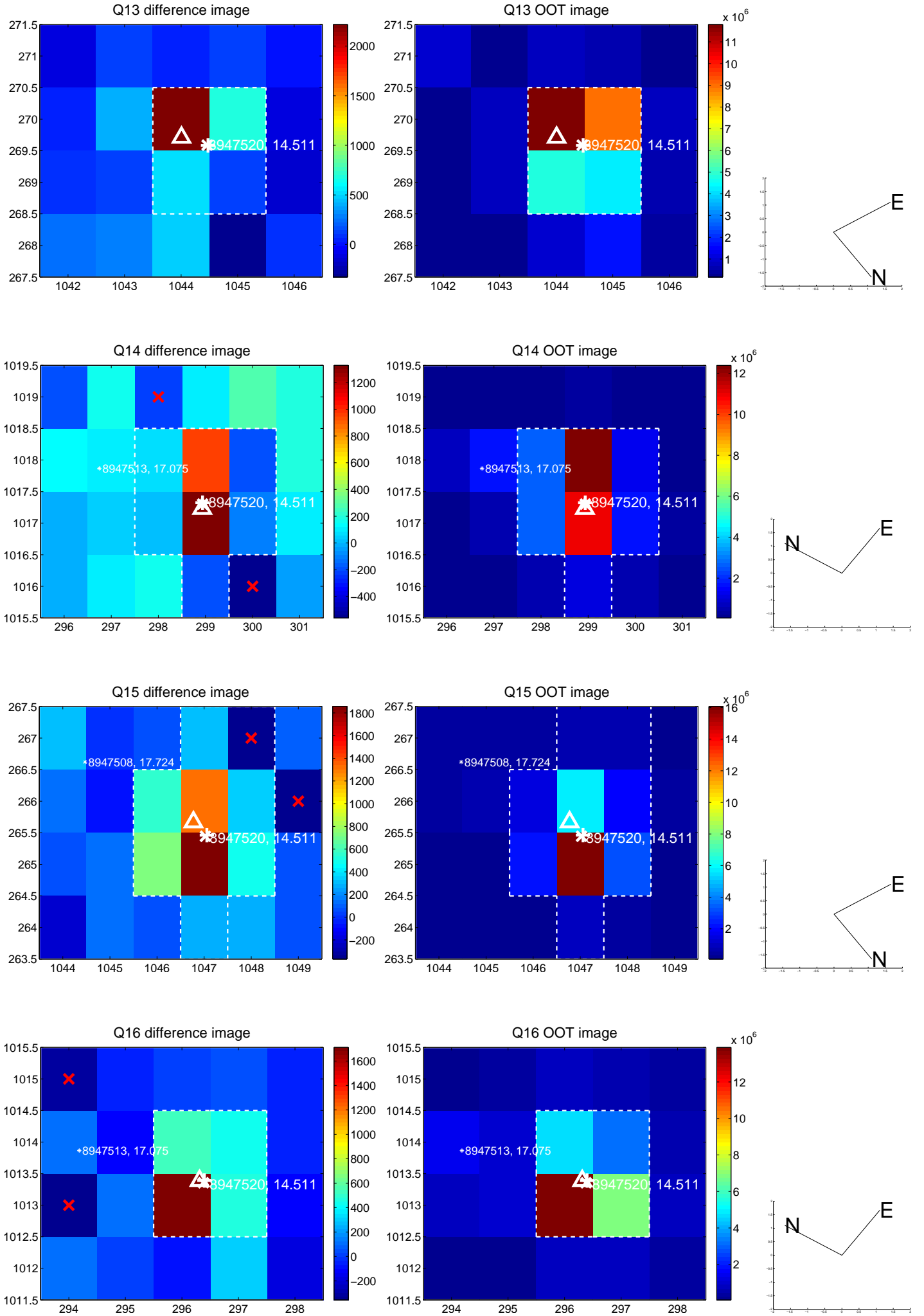
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



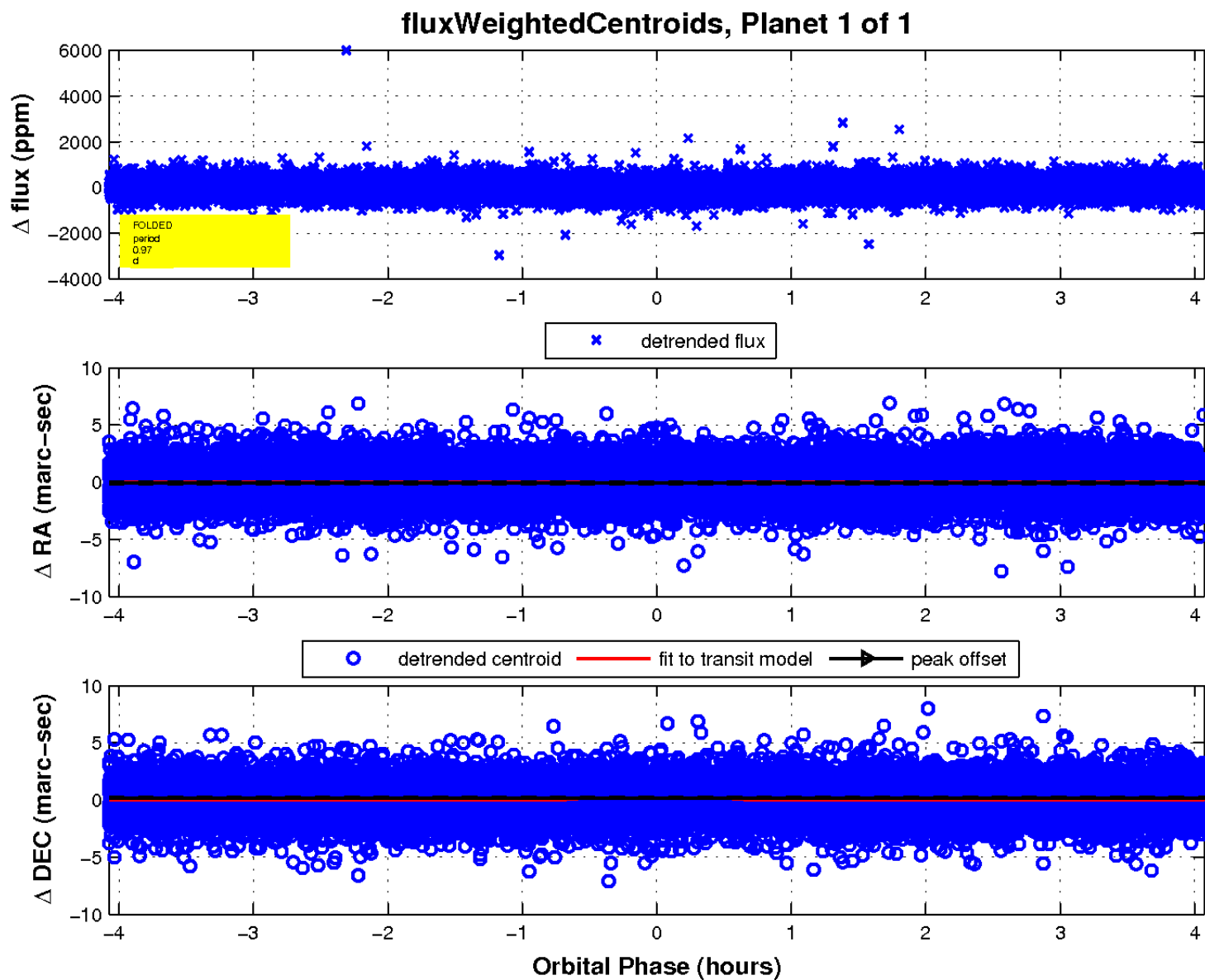
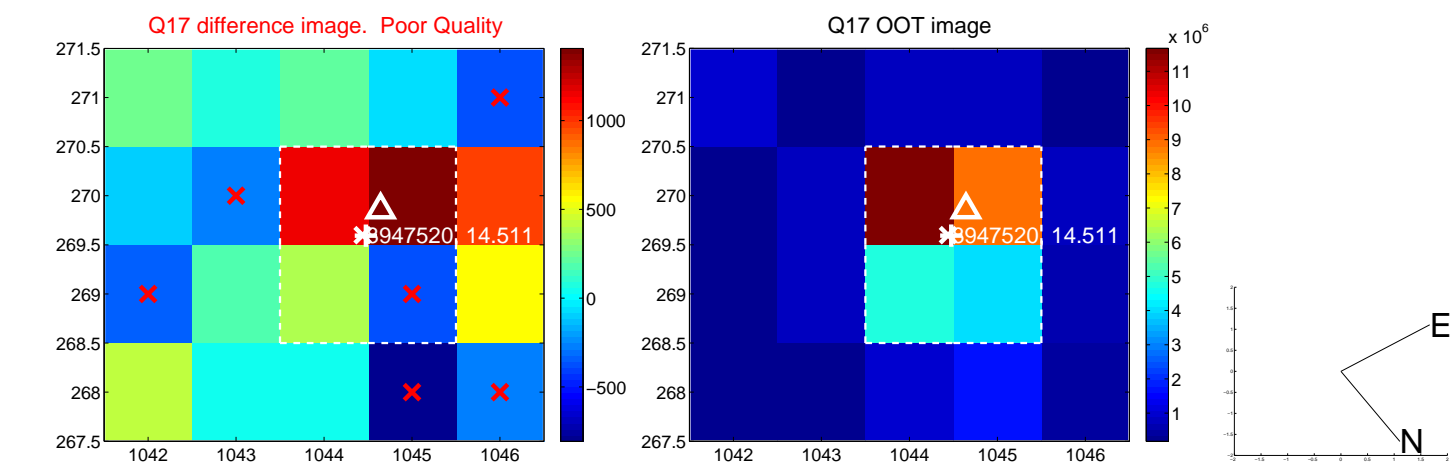
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

