

KIC 005024482

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})
005024482-01	OBS	2041.01	1.525871	132.719050	67.3	2.655	11.7	12.0	2.10	6640	2.00	9928.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005024482-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—EPHEM_MATCH

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.

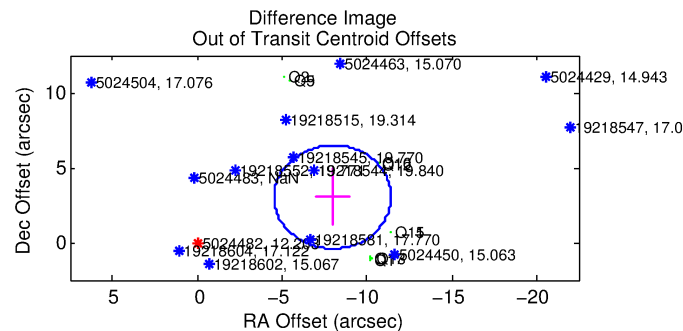
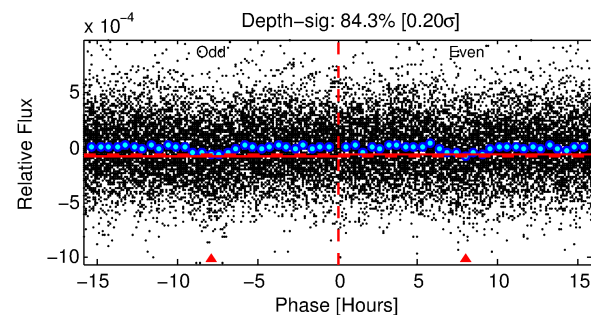
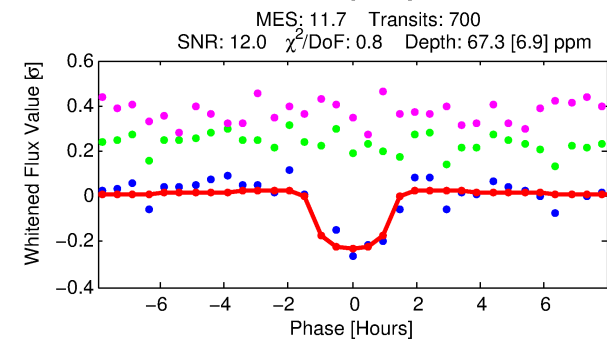
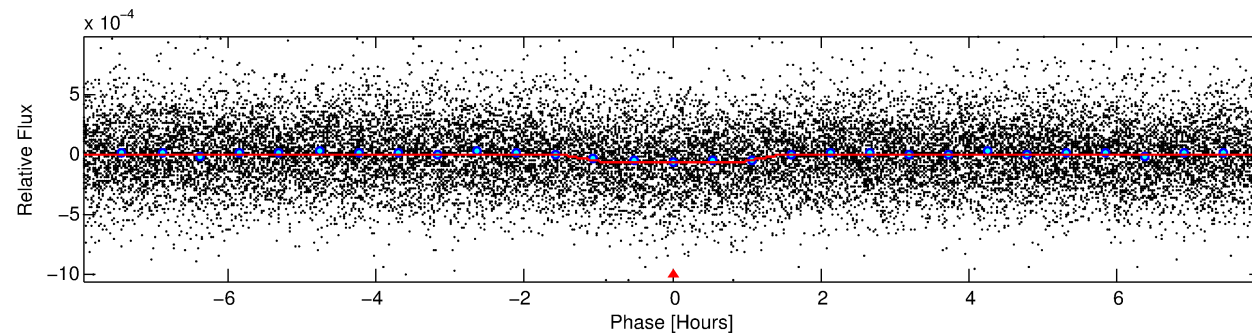
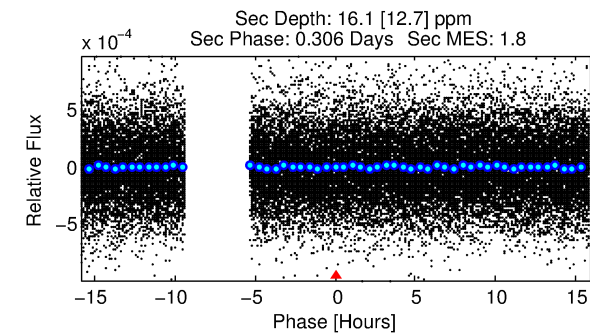
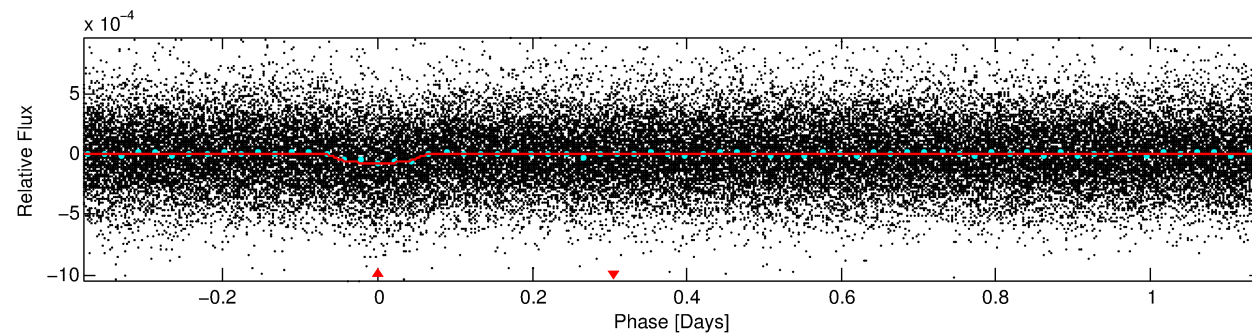
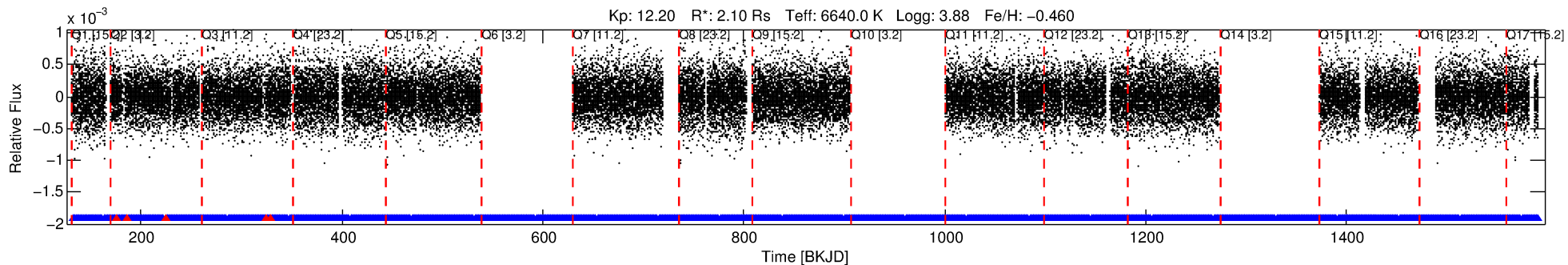
Ephemeris Match Information For 005024482-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
005024482-01	5024482	1544.01	5024450	1:1	11.7	1	-2	15.06	12.20	373.84	Direct-PRF	0	2.76	1.05

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 5024482 Candidate: 1 of 1 Period: 1.526 d
KOI: K02041.01 Corr: 0.879



DV Fit Results:

Period = 1.52587 [0.00001] d
Epoch = 132.7191 [0.0029] BKJD
Rp/R* = 0.0088 [0.0037]
a/R* = 2.22 [4.45]
b = 0.90 [0.55]
Seff = 9928.52 [7600.97]
Teq = 2545 [487] K
Rp = 2.01 [1.25] Re
a = 0.0278 [0.0128] AU
Ag = 1.71 [2.35] [0.30 σ]
Teffp = 4497 [1311] K [1.40 σ]

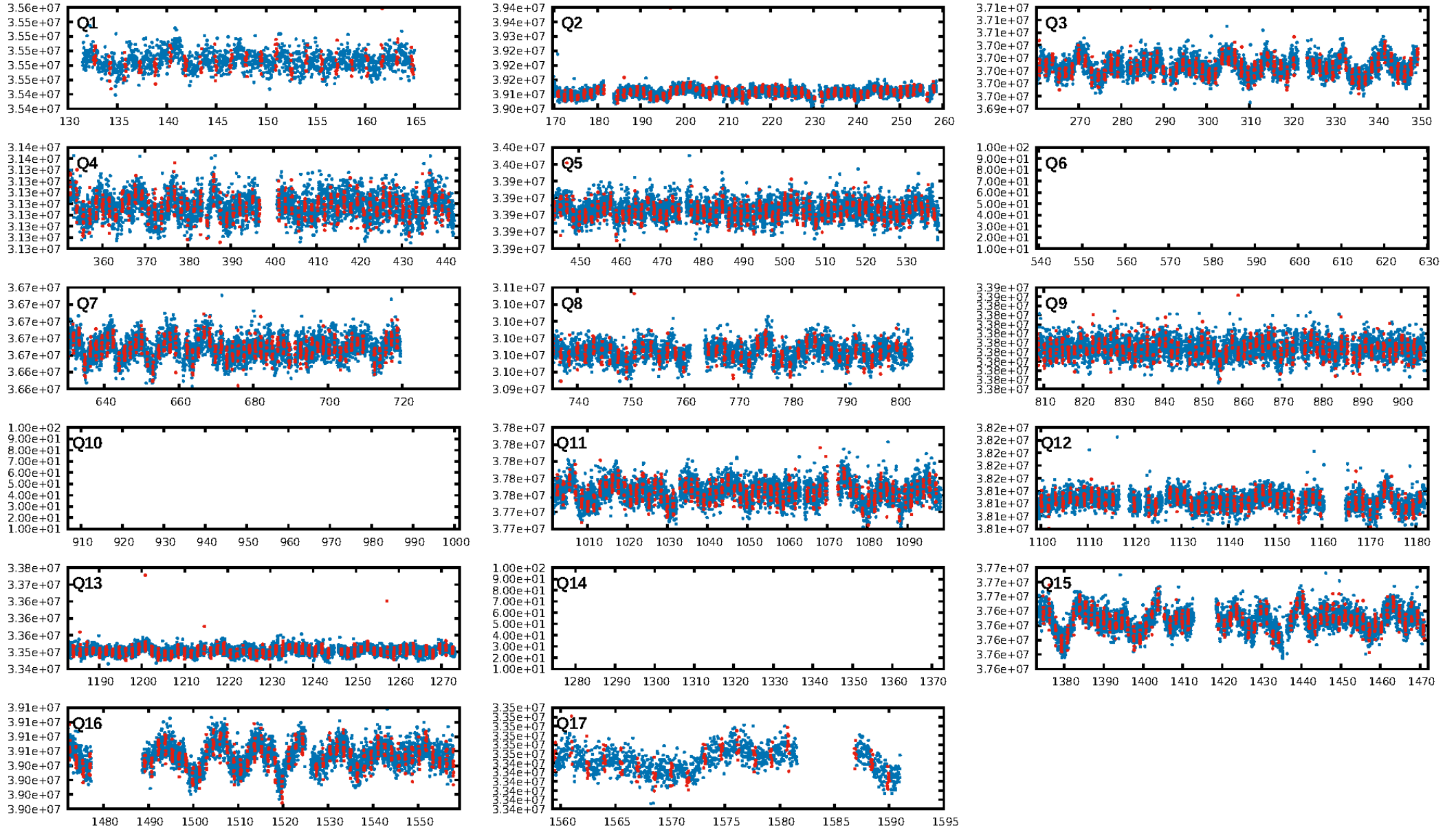
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.03e-30
RollingBand-fgt: 0.99 [655/660]
GhostDiagnostic-chr: 3.488
Centroid-sig: 0.0%
Centroid-so: 7.935 arcsec [7.37 σ]
OotOffset-rm: 8.536 arcsec [7.43 σ]
KicOffset-rm: 11.712 arcsec [165.81 σ]
OotOffset-st: 1/2/2/5 [10]
KicOffset-st: 1/2/2/5 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 1.00 [14/14]

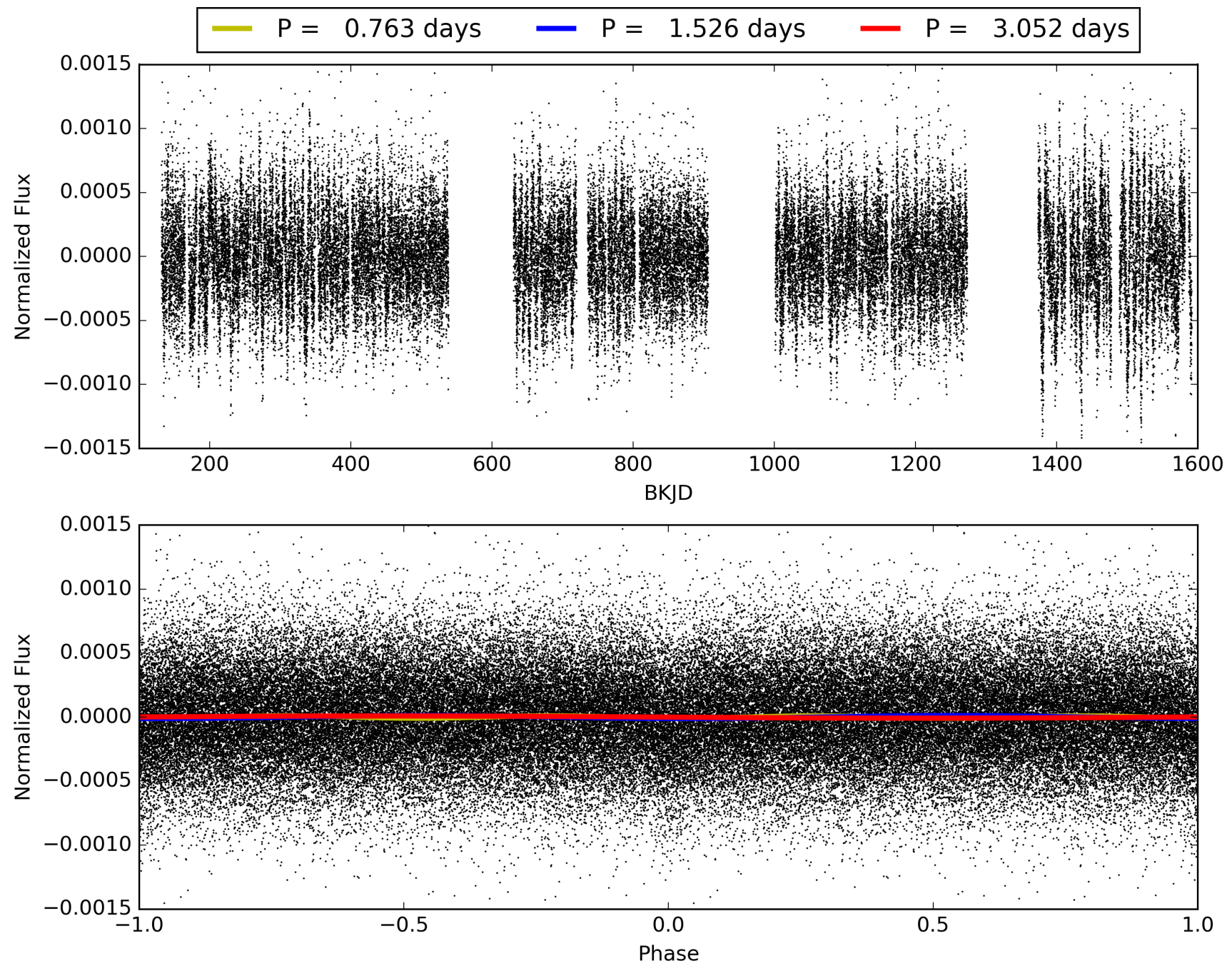
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 21:11:56 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005024482-01, PDC Light Curves

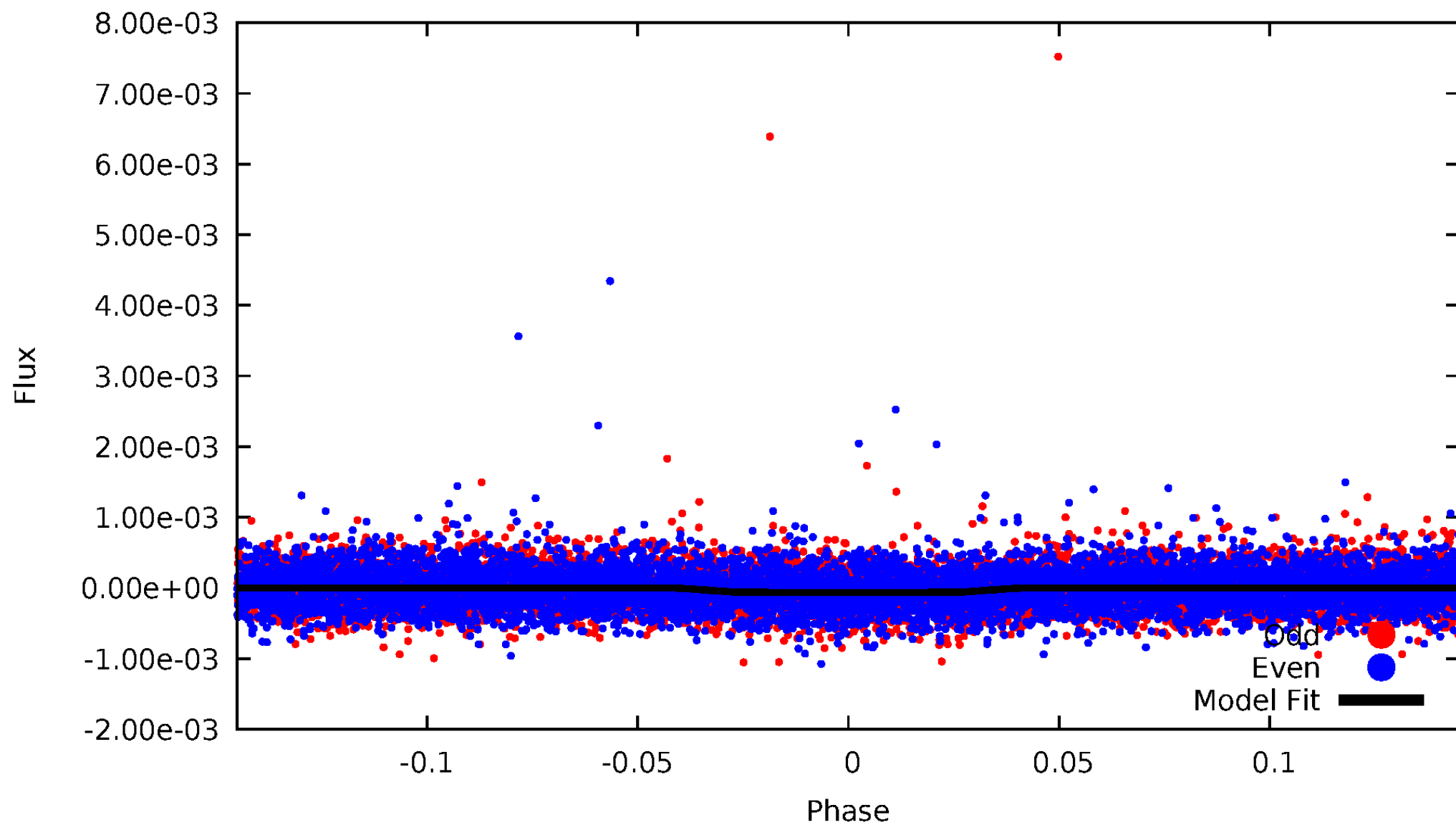


TCE 005024482-01



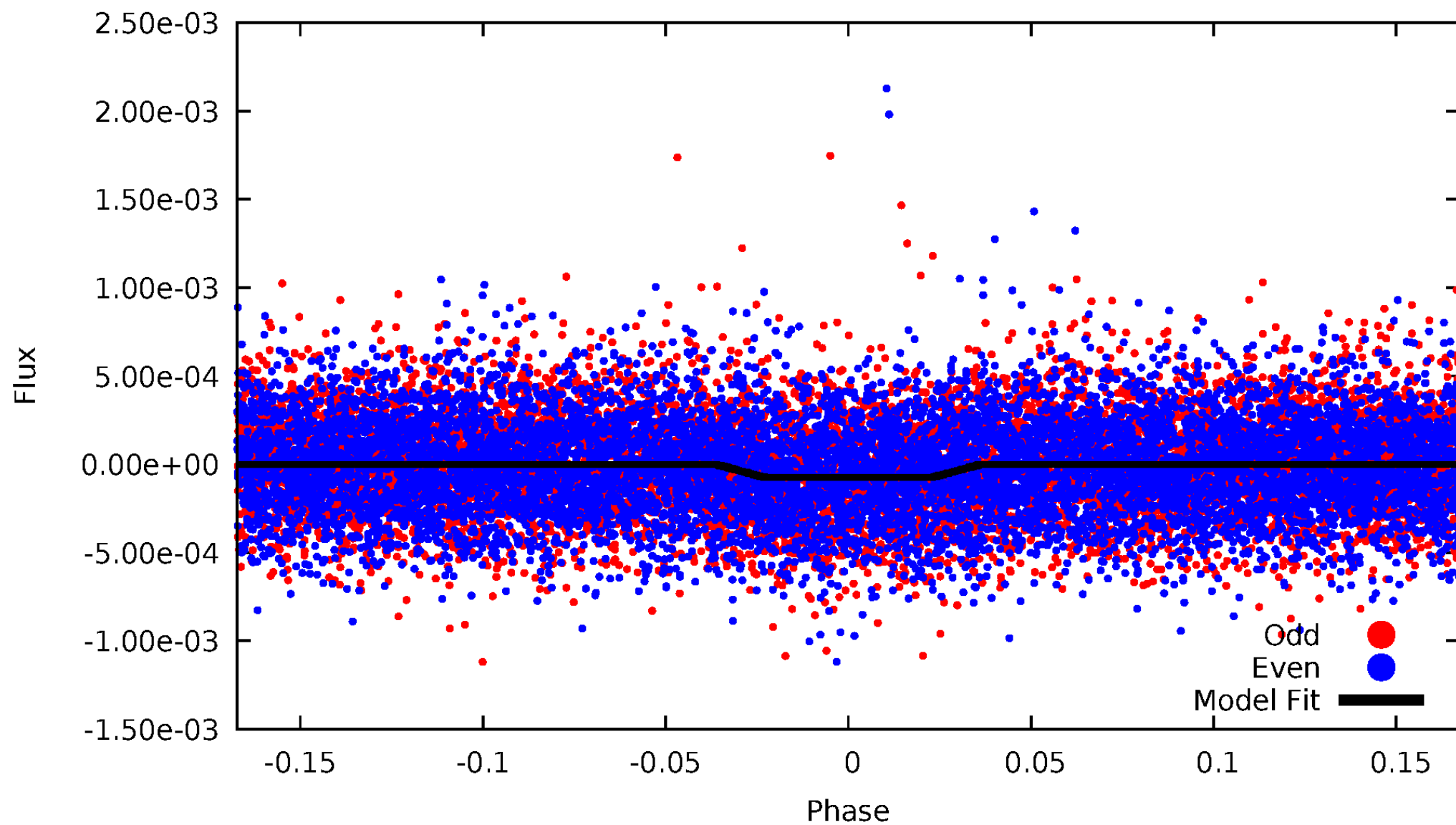
DV Odd/Even

TCE 005024482-01

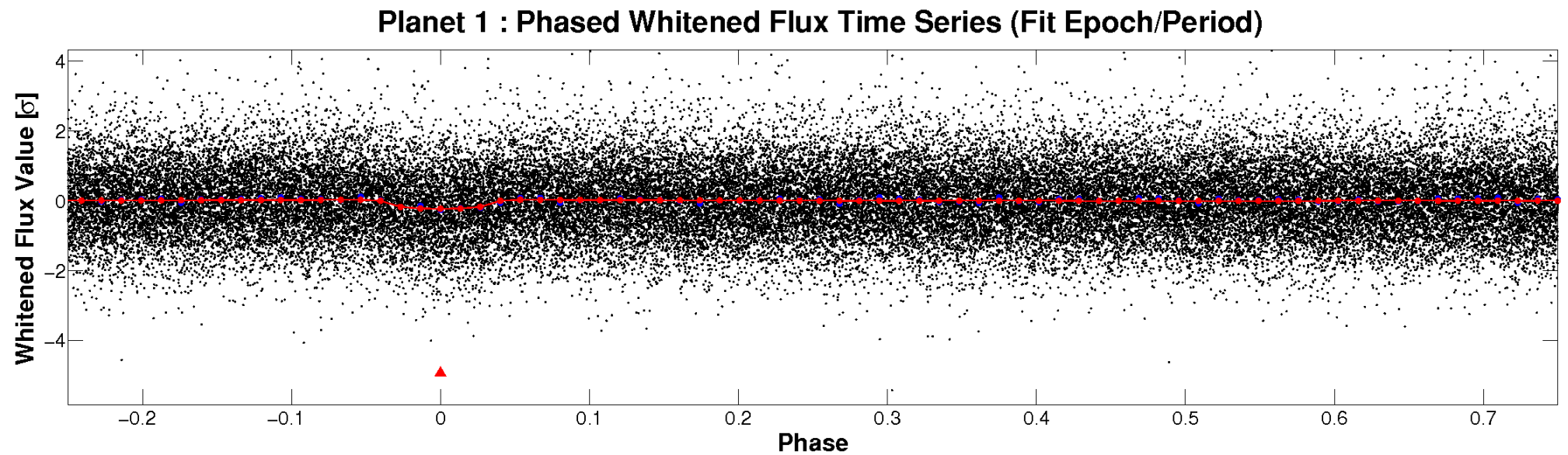
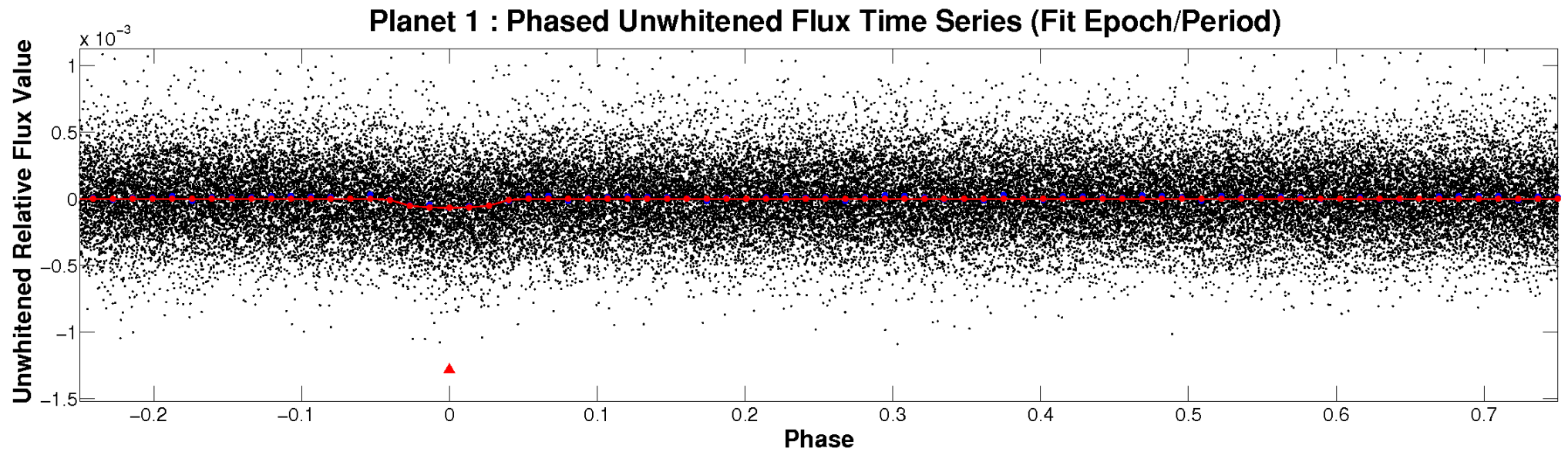


ALT Odd/Even

TCE 005024482-01

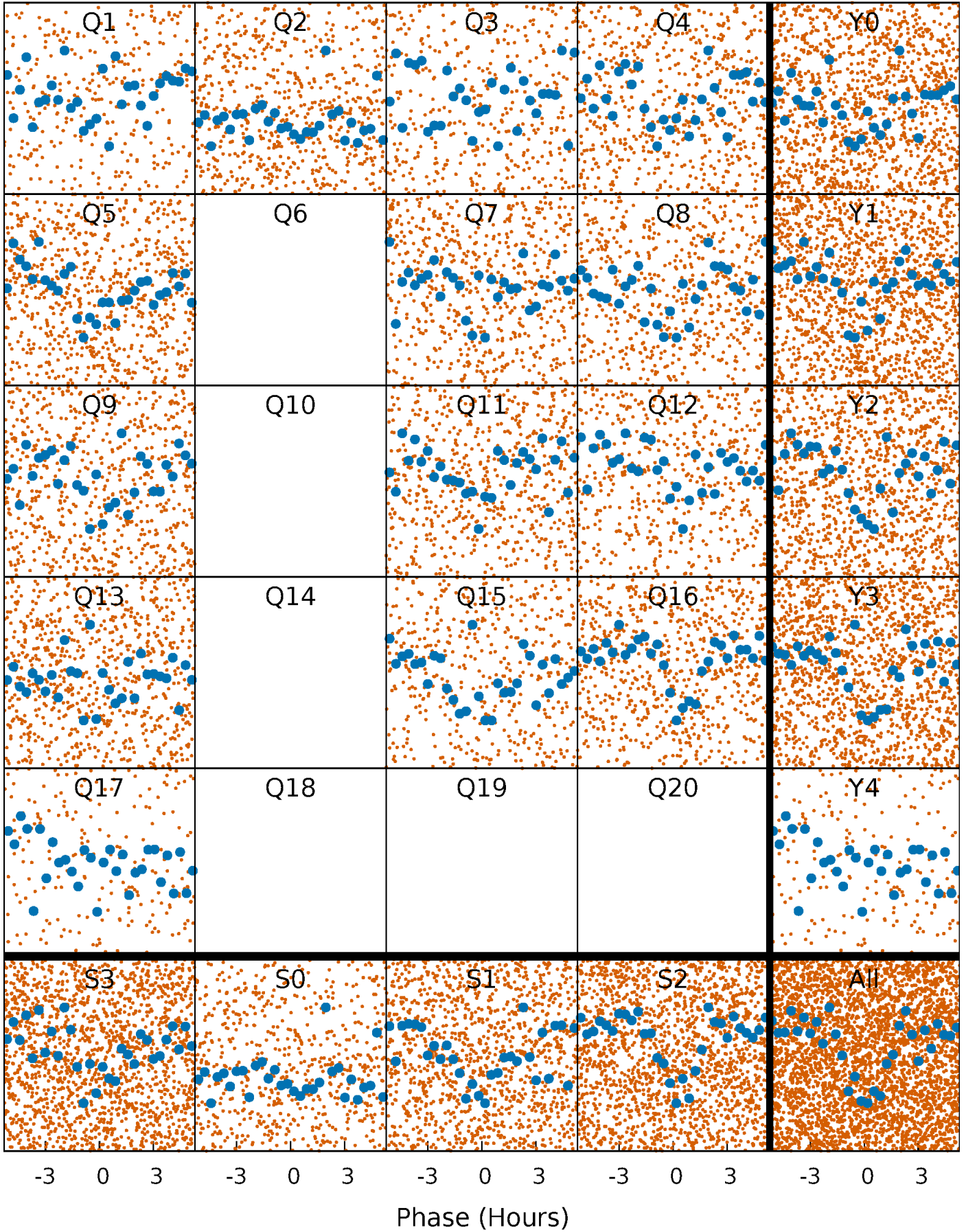


Non-Whitened Vs. Whitened Light Curve



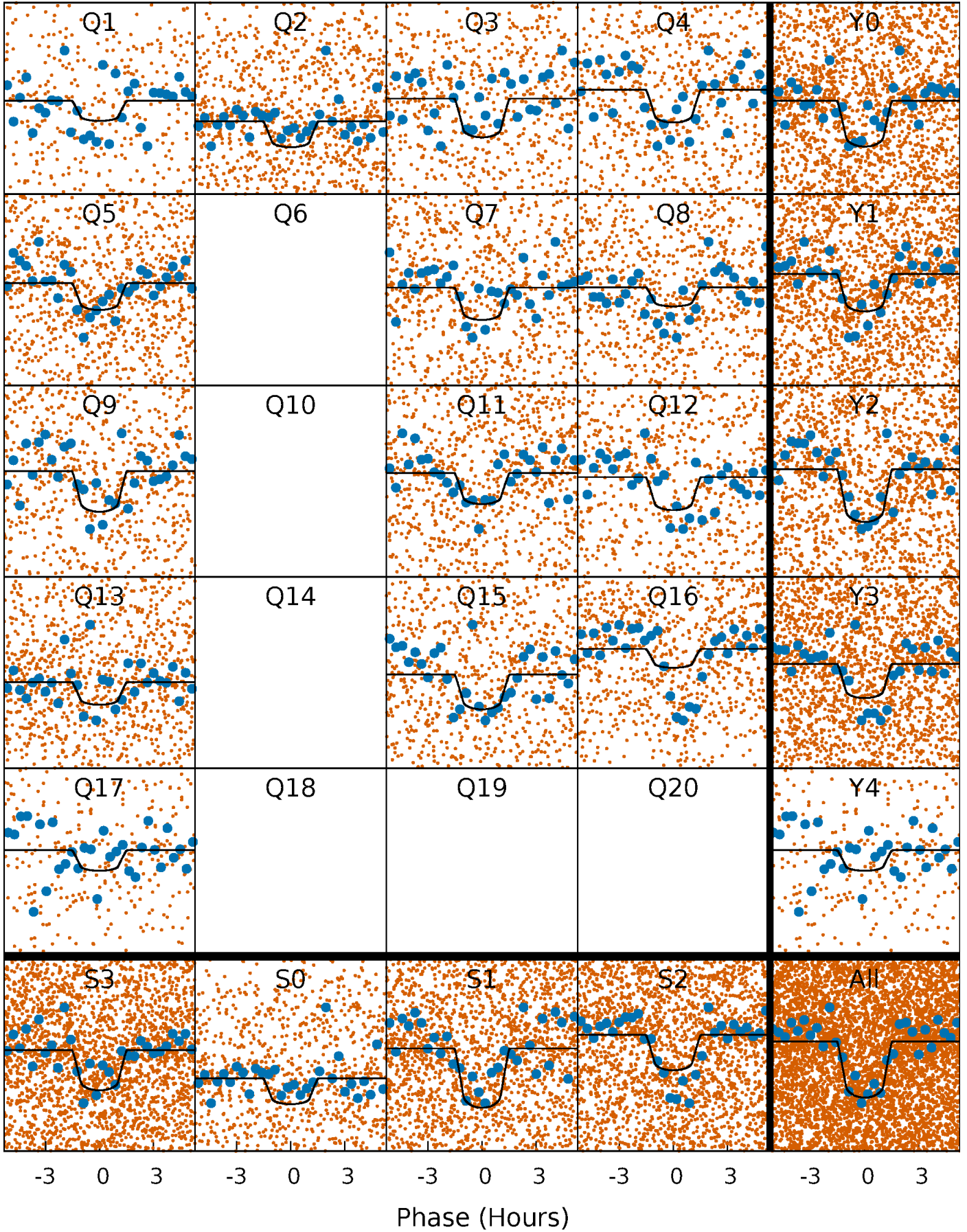
PDC Quarter-Phased Transit Curves

TCE 005024482-01 P= 1.525871 Days $T_0=132.719050$ (BKJD)



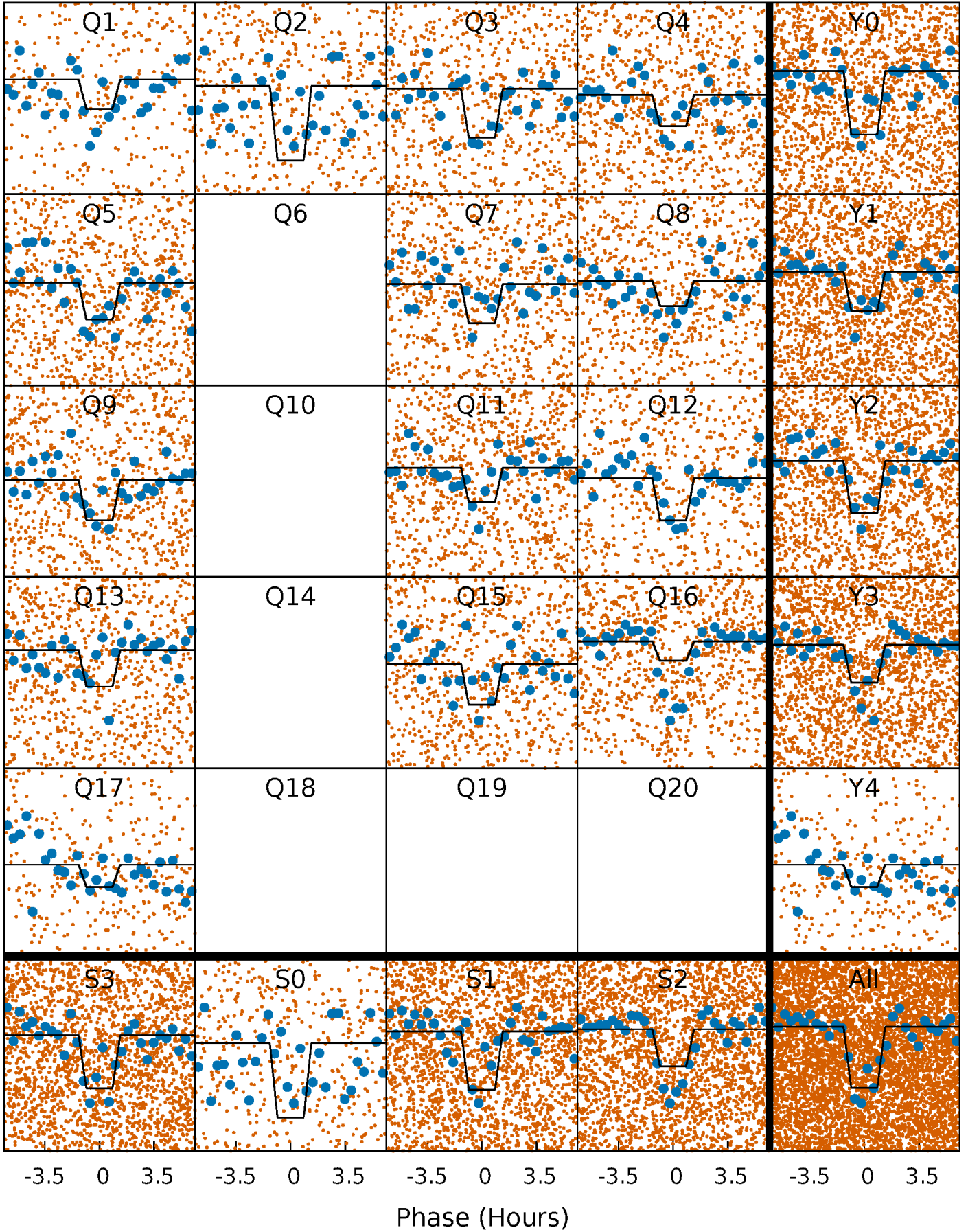
DV Quarter-Phased Transit Curves

TCE 005024482-01 P= 1.525871 Days $T_0=132.719050$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

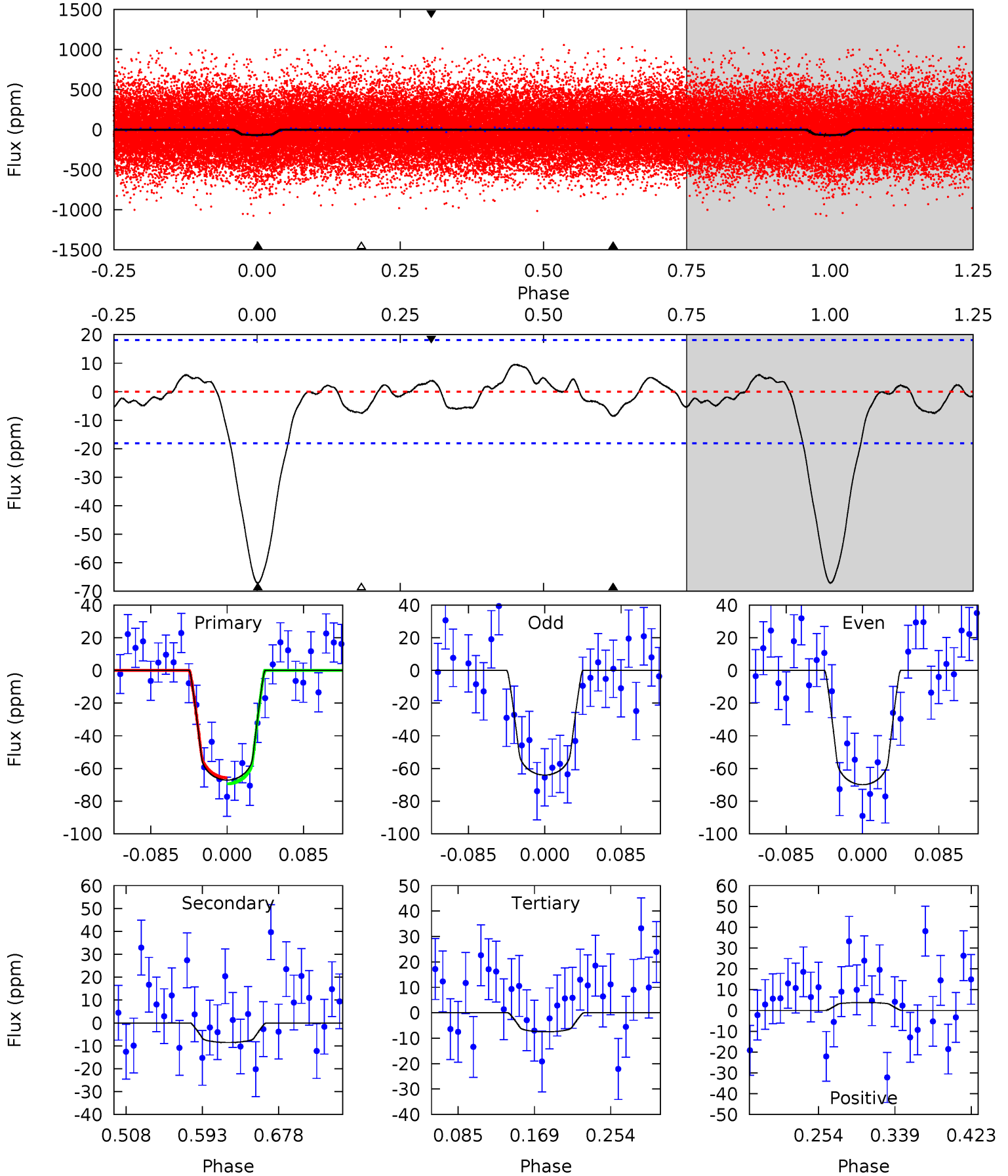
TCE 005024482-01 P= 1.525910 Days $T_0=132.706114$ (BKJD)



DV Model-Shift Uniqueness Test

005024482-01, P = 1.525871 Days, E = 131.193179 Days

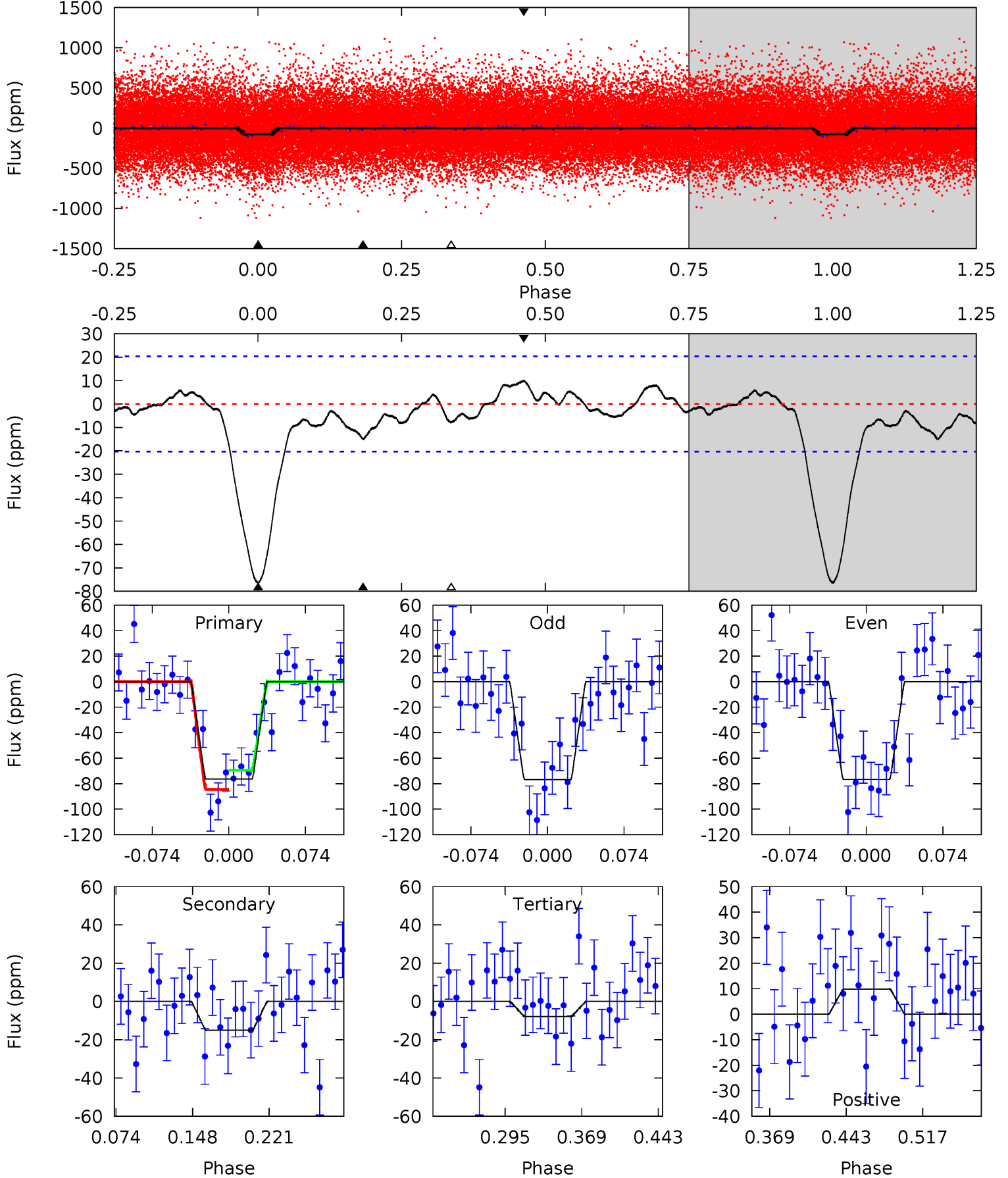
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.0	2.17	1.90	0.97	4.60	1.72	1.04	15.1	16.1	0.27	1.20	0.75	0.82	0.12	0.47



Alt Model-Shift Uniqueness Test

005024482-01, P = 1.525910 Days, E = 131.180204 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.4	3.41	1.78	2.24	4.63	1.79	1.04	15.6	15.1	1.64	1.17	0.01	1.04	0.11	1.71



Stellar Parameters For KIC 005024482

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6640^{+189}_{-237}	$3.884^{+0.448}_{-0.112}$	$-0.460^{+0.300}_{-0.300}$	$2.099^{+0.479}_{-0.959}$	$1.231^{+0.196}_{-0.239}$	$0.188^{+0.732}_{-0.079}$
	+3%/-4%	+12%/-3%	+65%/-65%	+23%/-46%	+16%/-19%	+390%/-42%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 005024482-01 / KOI 2041.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-9 ± 4	$1.82^{+0.90}_{-0.84}$	3443^{+255}_{-391}	3824^{+1173}_{-1054}	$1.058^{+2.619}_{-0.679}$
Alt.	-15 ± 4	$1.83^{+0.91}_{-0.81}$	3434^{+268}_{-456}	4354^{+1233}_{-785}	$1.904^{+3.987}_{-1.145}$

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 $A_{obs} \gg 1.0$

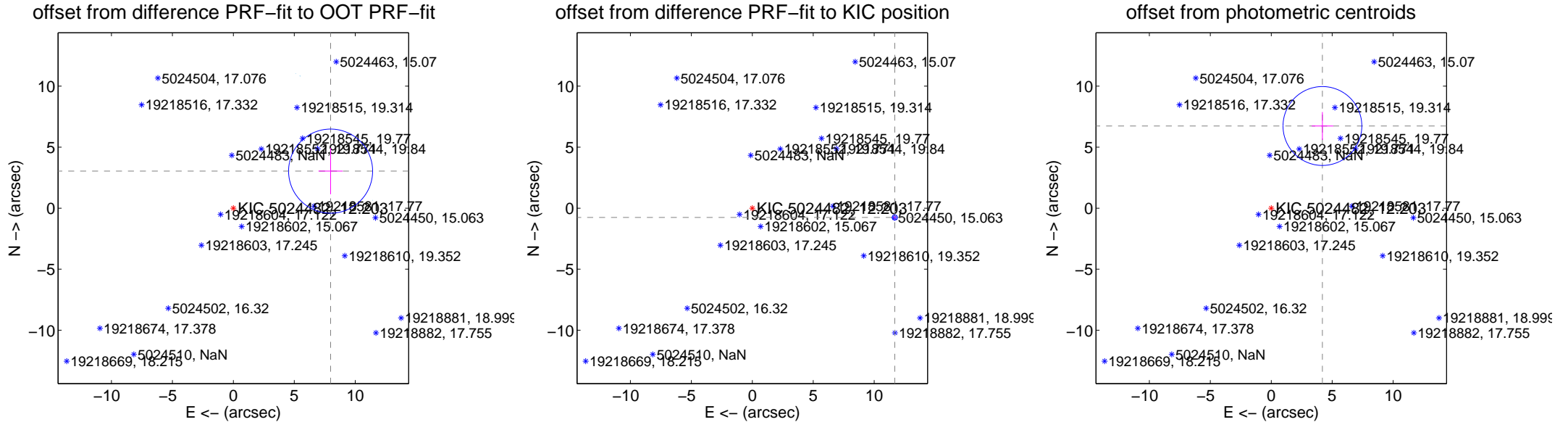
DV Centroid Data

Supplemental centroid analysis for 005024482-01. Kepler magnitude: 12.20. Transit SNR 11.96

There are 10 quarters with good PRF difference image offsets

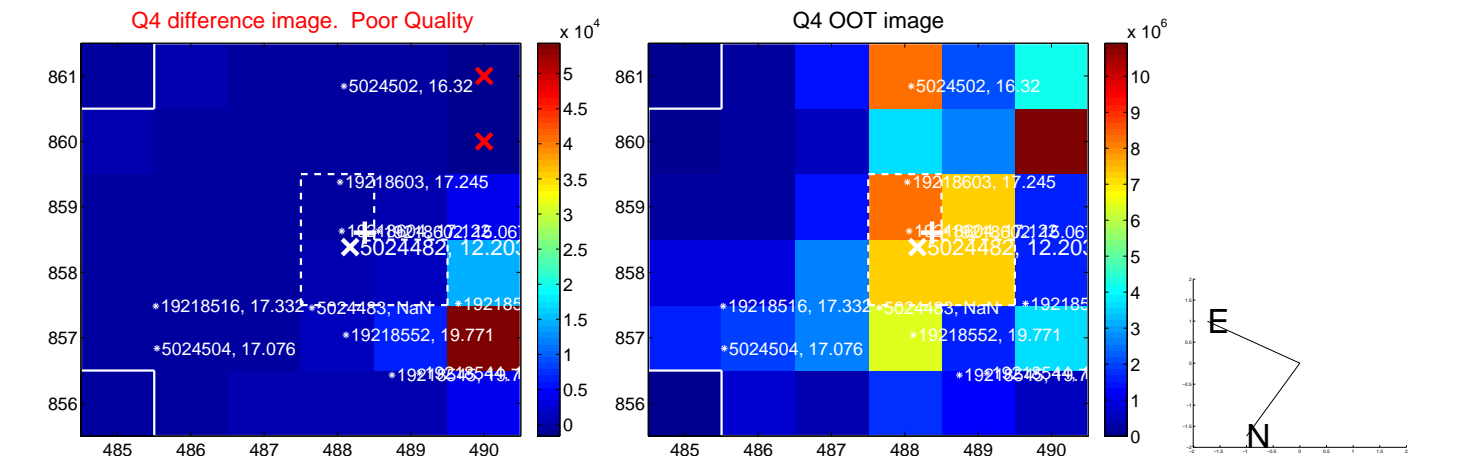
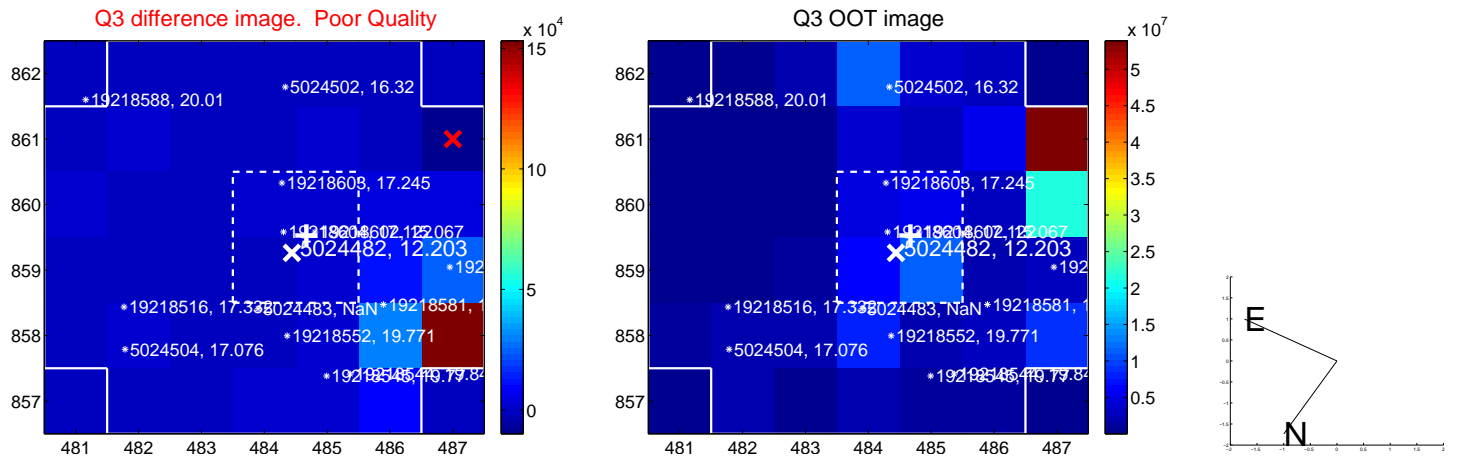
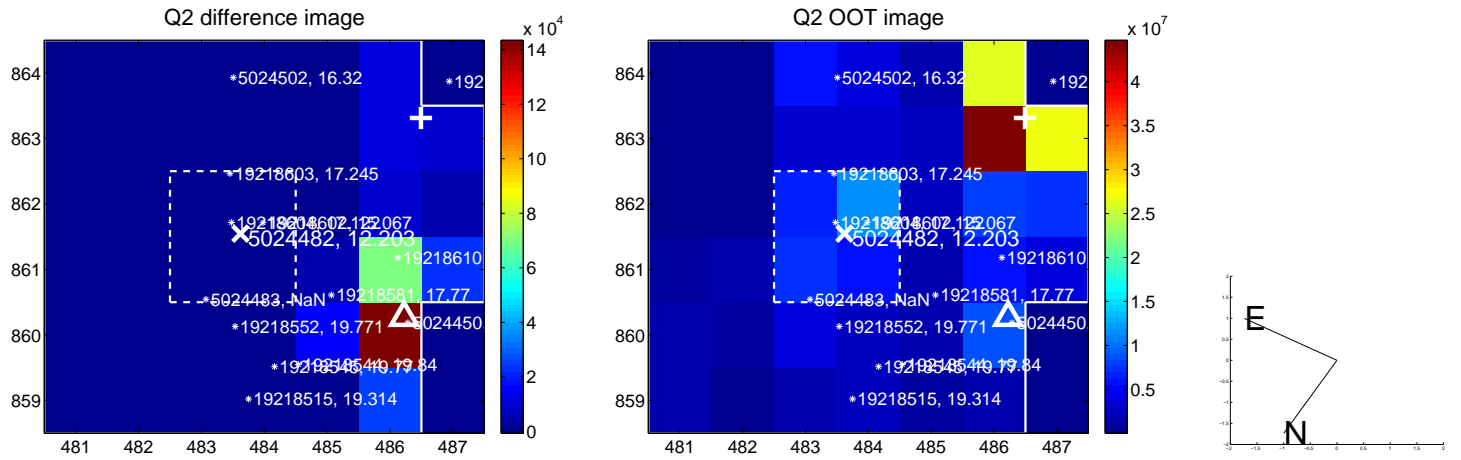
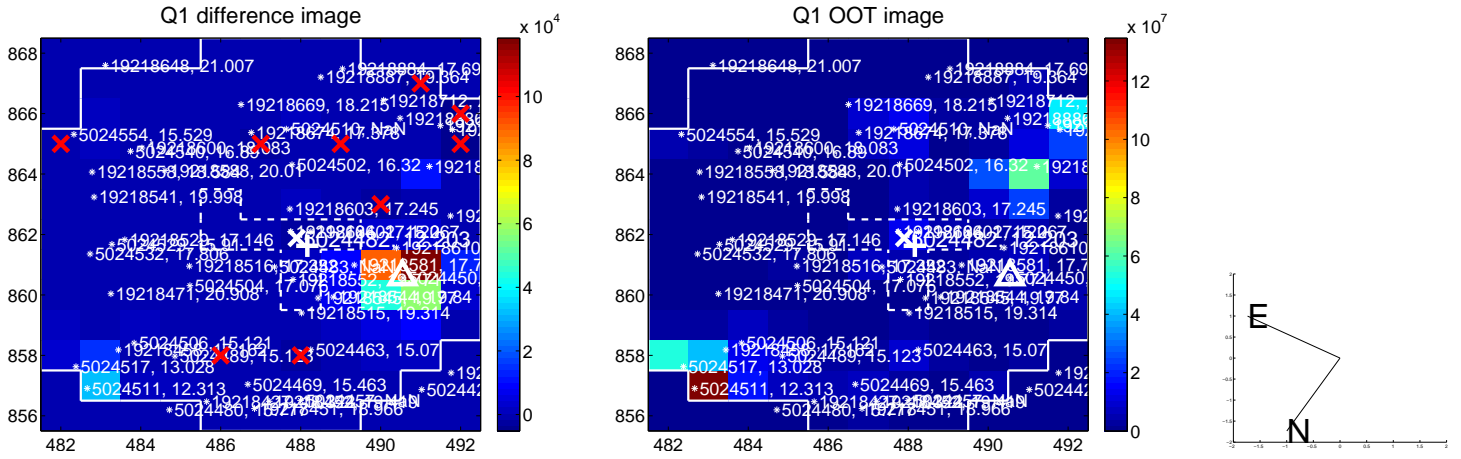
The direct PRF centroid is offset from the target star catalog position by about 1.46 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.536 \pm 1.149	7.43	-7.978 \pm 0.996	3.035 \pm 1.894
PRF-fit source offset from KIC position	11.712 \pm 0.071	165.81	-11.688 \pm 0.071	-0.759 \pm 0.068
photometric centroid source offset	7.94 \pm 1.08	7.37	-4.20 \pm 0.88	6.73 \pm 1.14

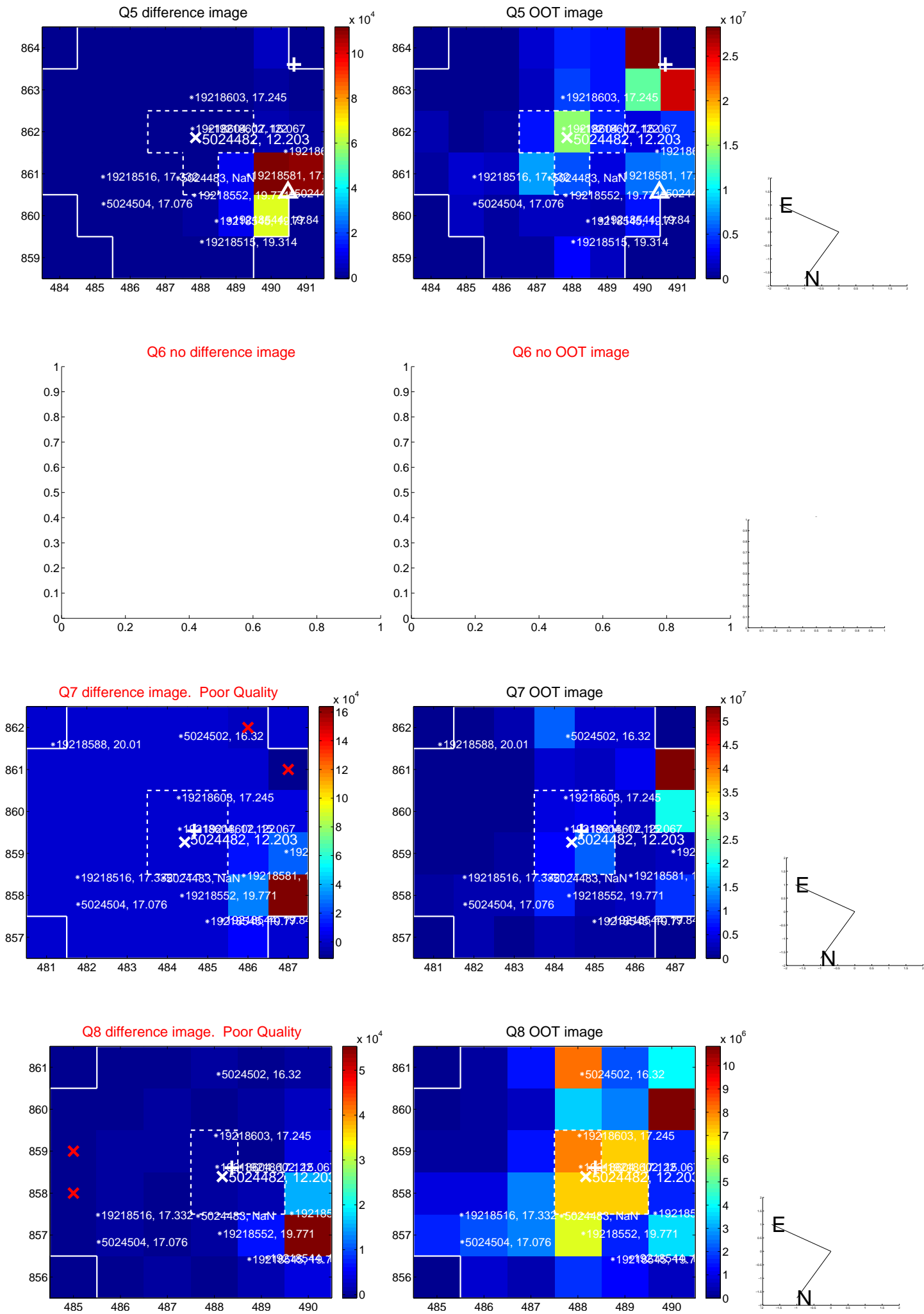


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

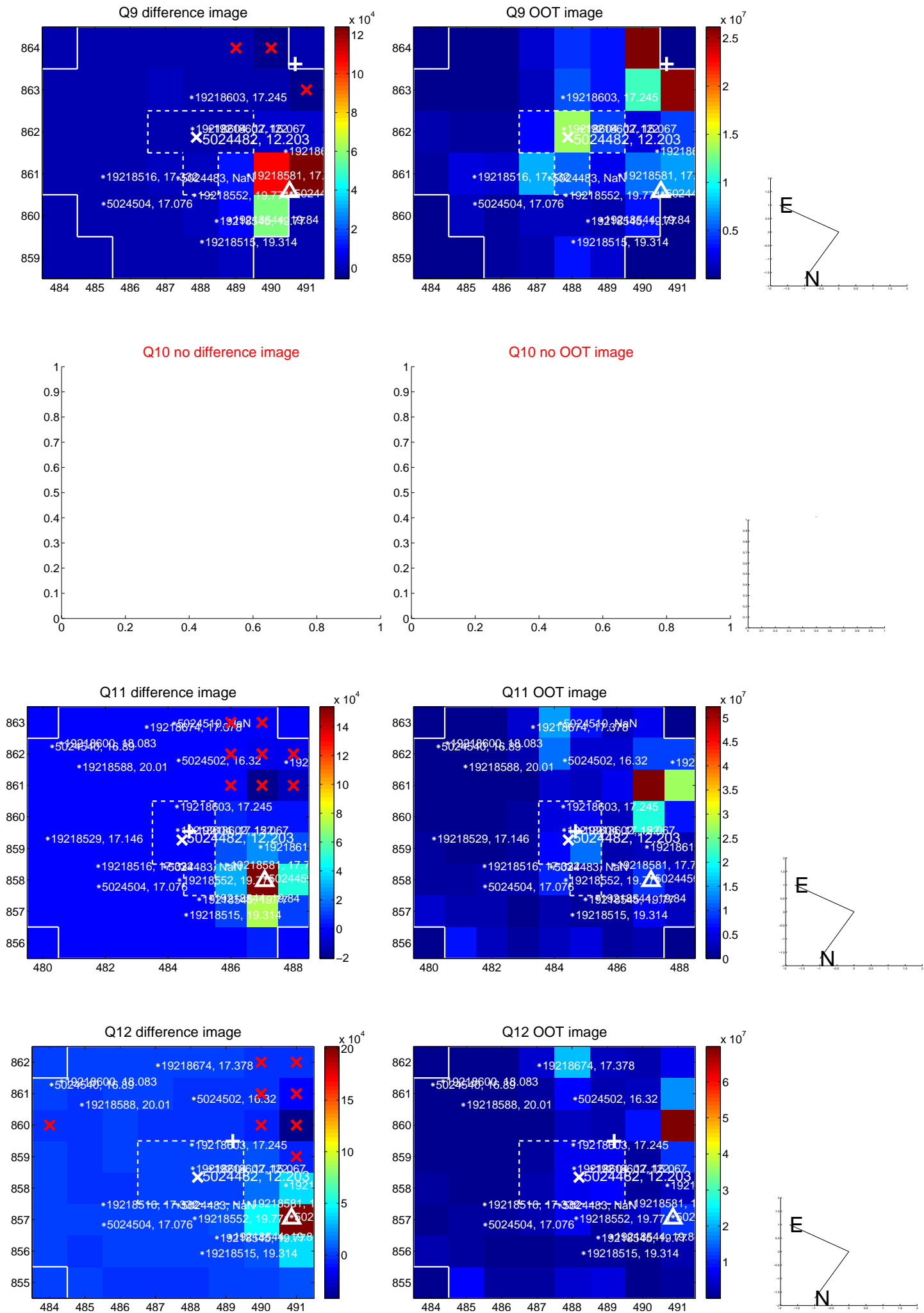
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



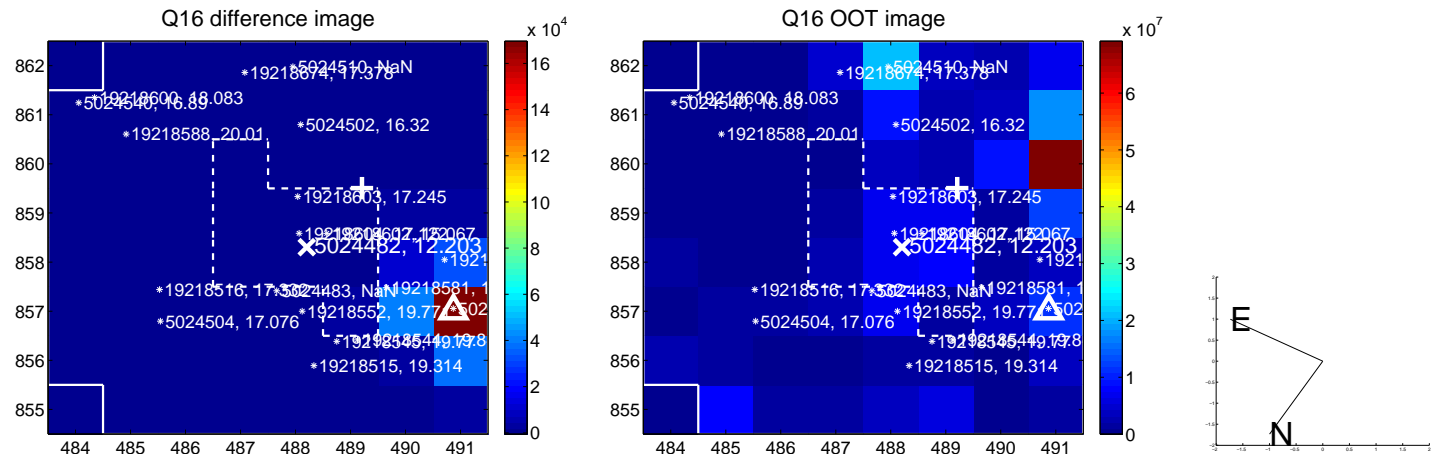
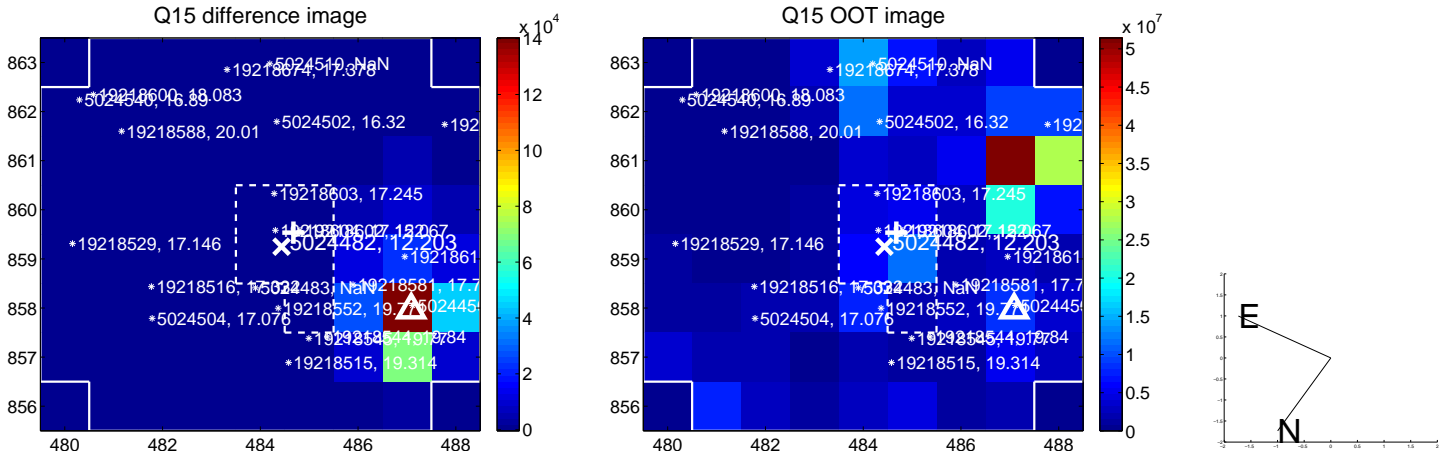
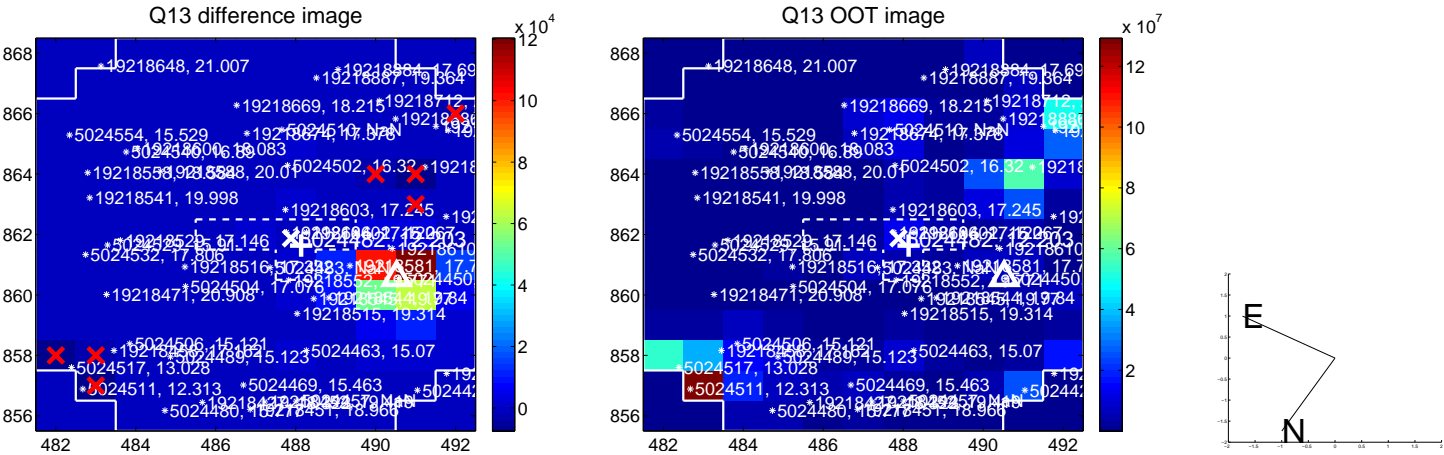
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

