

KIC 007777818

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})
007777818-01	OBS	4380.01	5.781670	136.765736	70.6	2.252	14.0	14.7	1.88	6443	1.95	1120.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007777818-01	OBS	PC	1.00	0	0	0	0	CENT_CROWDED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

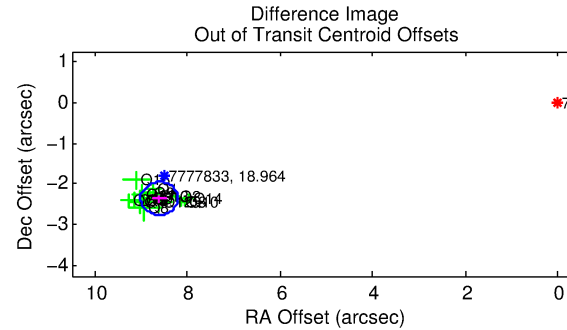
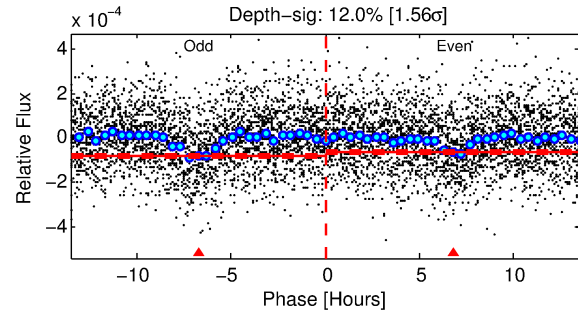
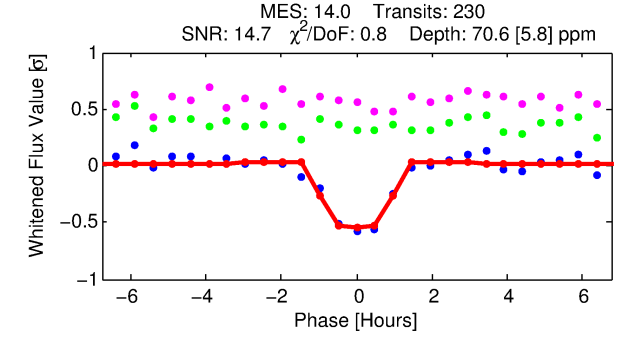
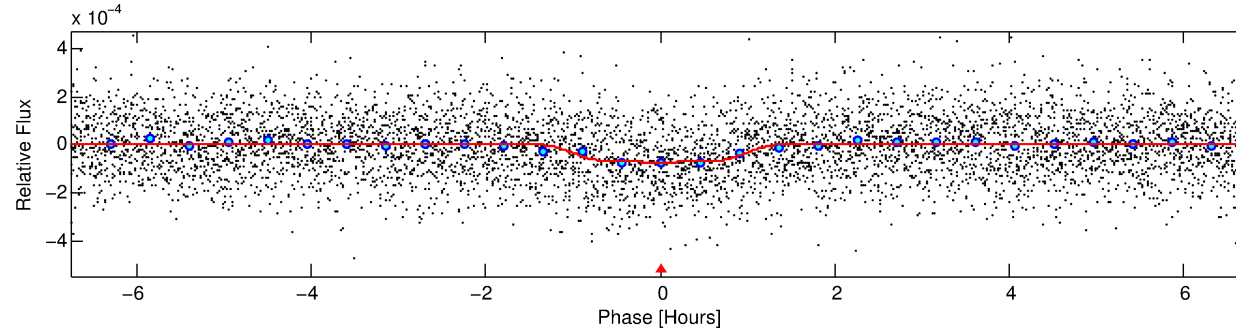
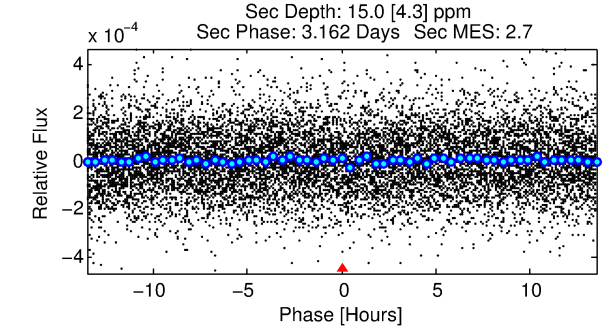
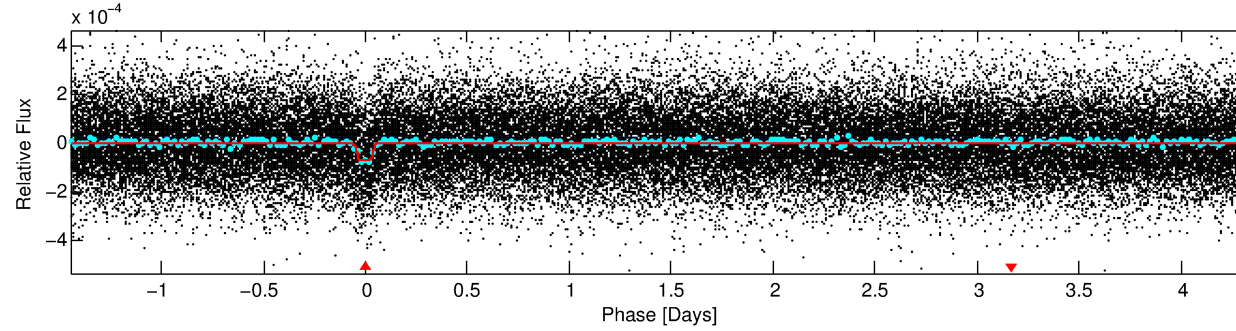
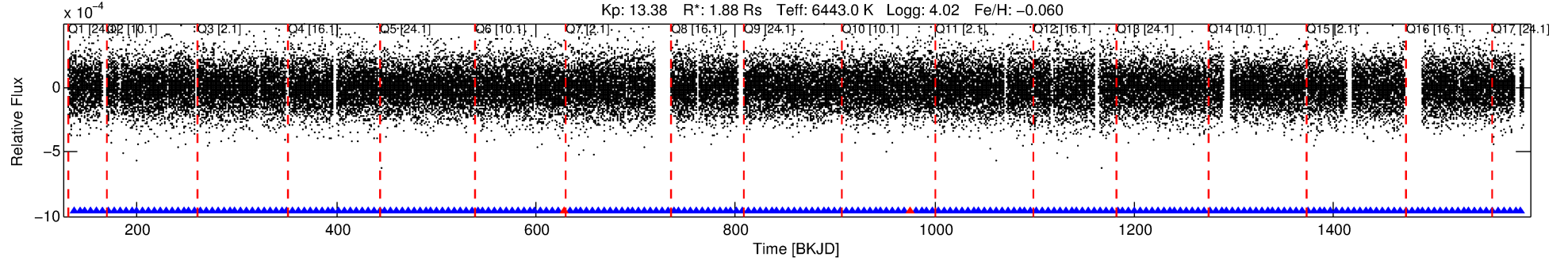
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007777818-01

No Significant Match Found

DV One-Page Summary

KIC: 7777818 Candidate: 1 of 1 Period: 5.782 d
KOI: K04380.01 Corr: 0.961



DV Fit Results:

Period = 5.78167 [0.00002] d
Epoch = 136.7657 [0.0030] BKJD
Rp/R* = 0.0095 [0.0028]
a/R* = 7.04 [11.78]
b = 0.94 [0.20]
Seff = 1120.03 [591.57]
Teq = 1475 [195] K
Rp = 1.95 [0.86] Re
a = 0.0699 [0.0222] AU
Ag = 10.67 [8.82] [1.10σ]
Teffp = 4122 [687] K [3.70σ]

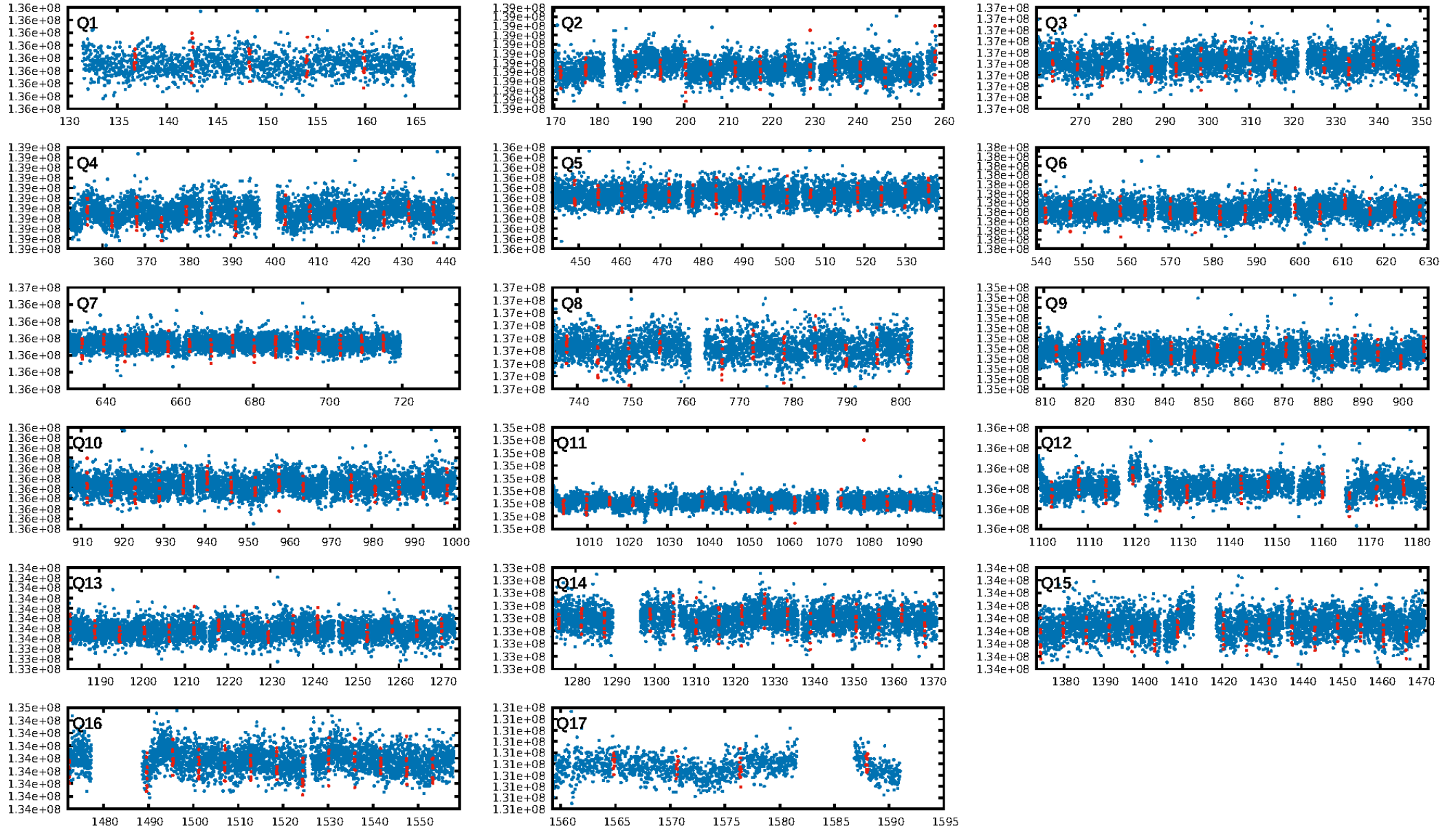
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.97e-43
RollingBand-fgt: 0.99 [219/221]
GhostDiagnostic-chr: 0.398
Centroid-sig: 0.0%
Centroid-so: 15.622 arcsec [14.50σ]
OotOffset-rm: 8.930 arcsec [66.89σ]
KicOffset-rm: 9.080 arcsec [79.79σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [17/17]

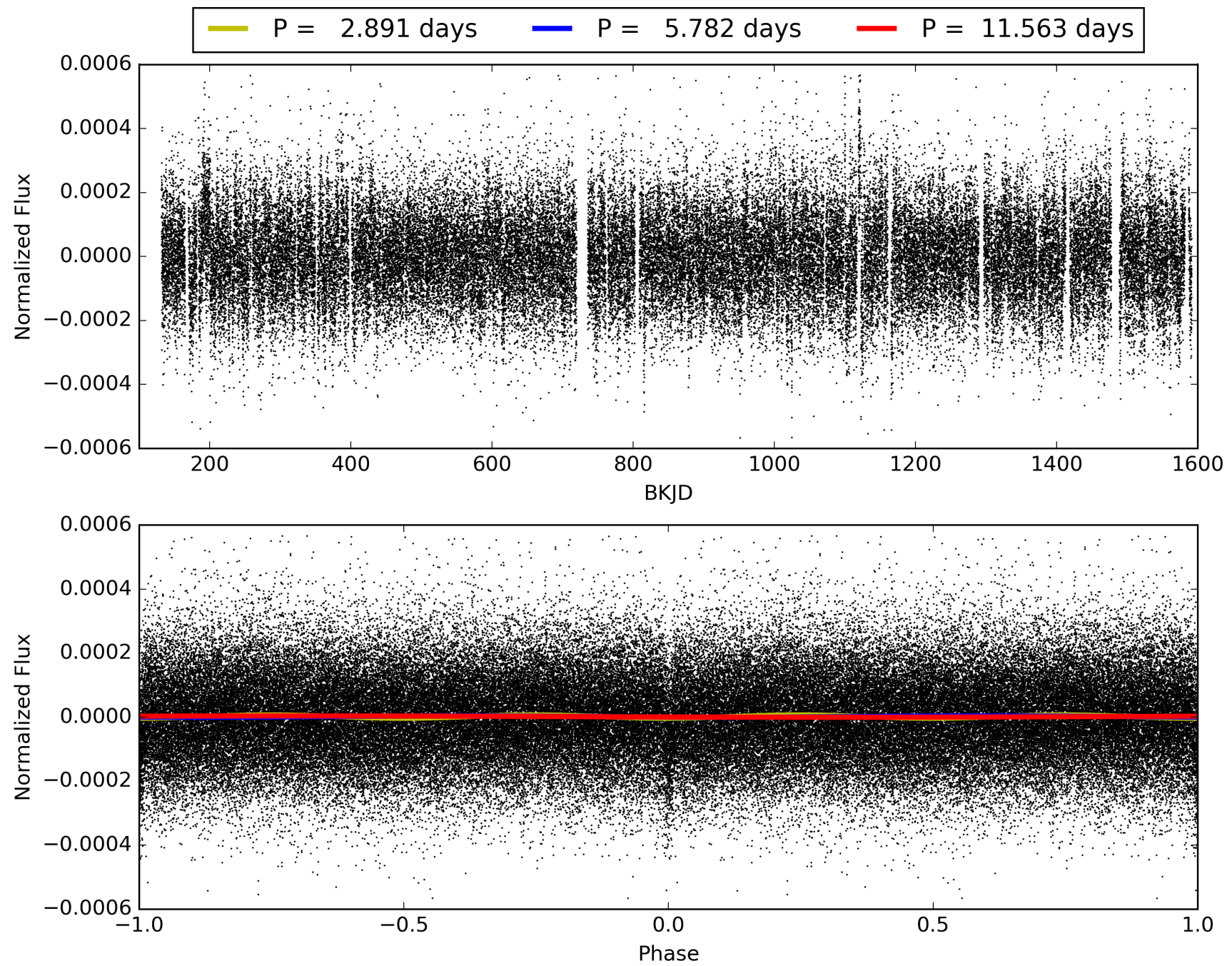
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:08:21 Z

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

TCE 007777818-01, PDC Light Curves

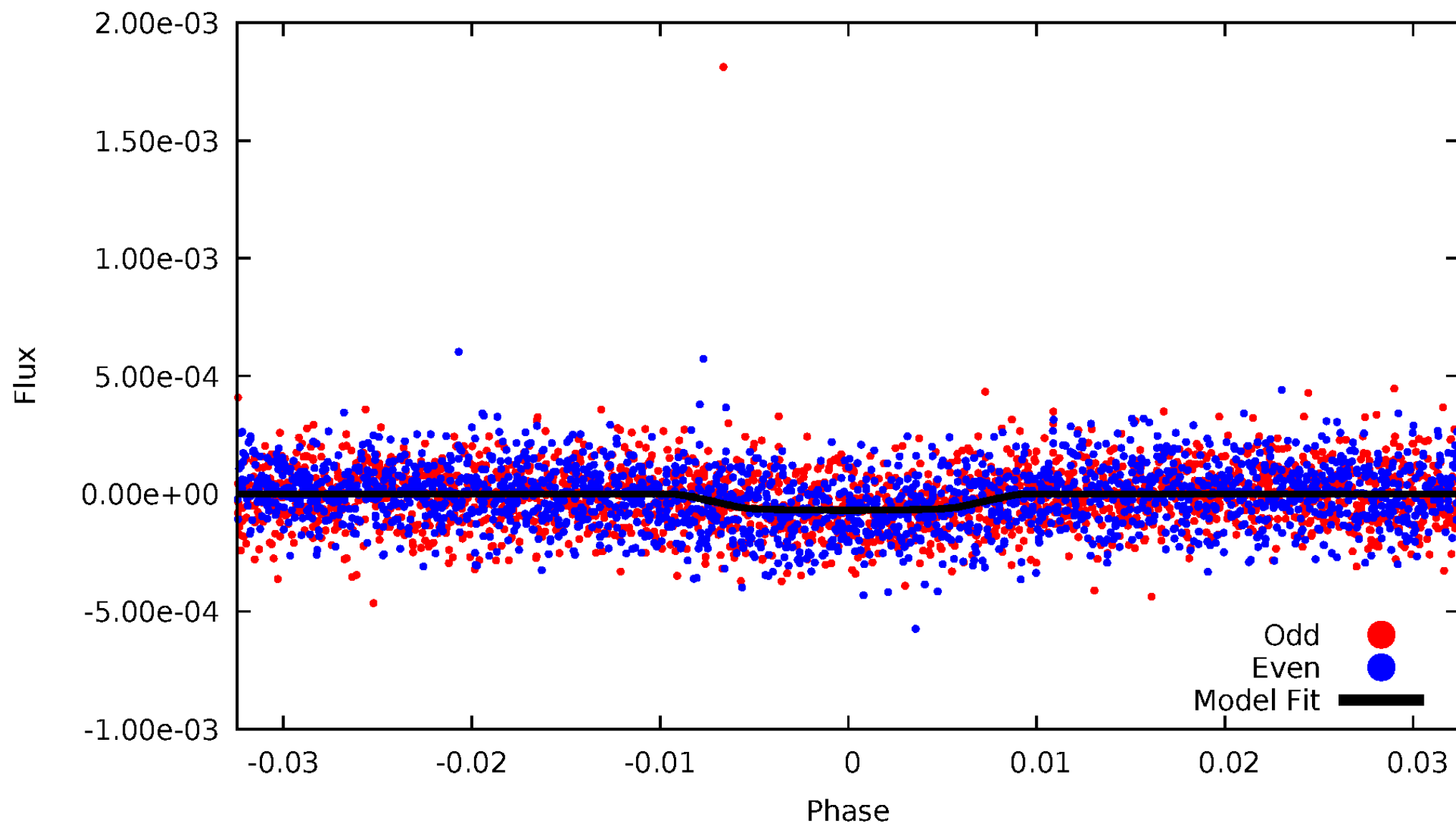


TCE 007777818-01



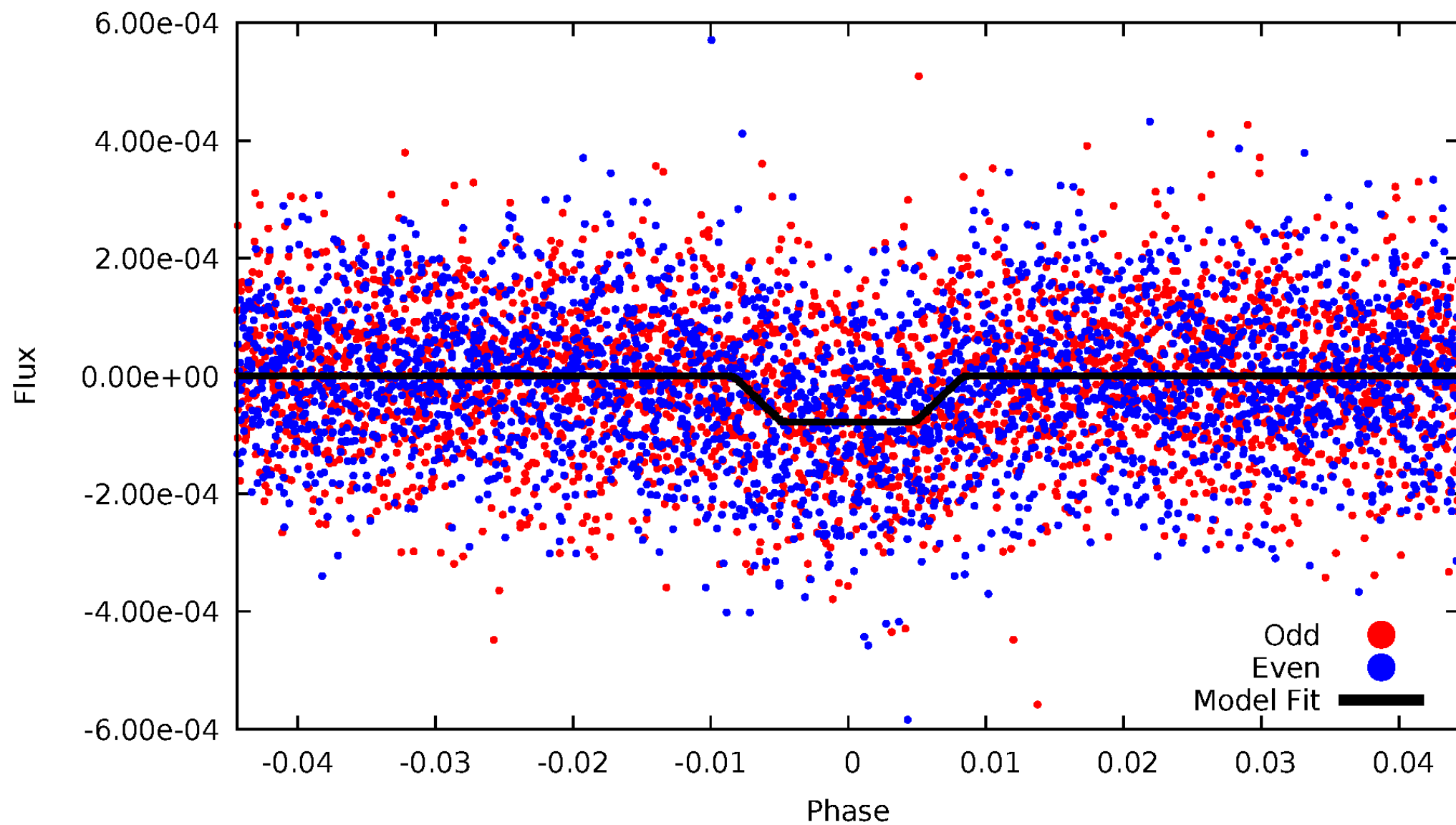
DV Odd/Even

TCE 007777818-01



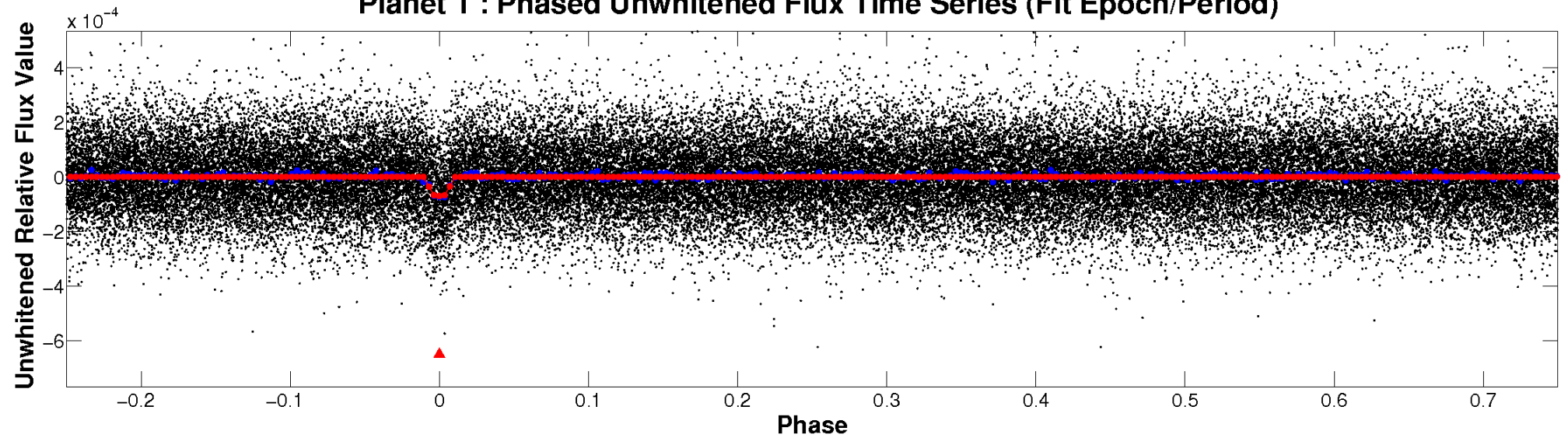
ALT Odd/Even

TCE 007777818-01

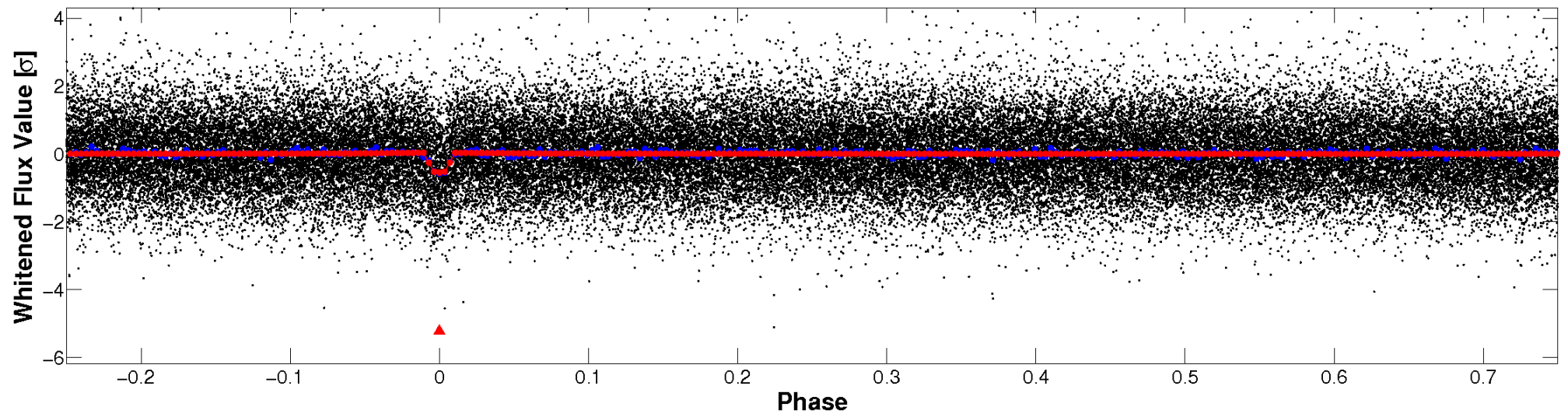


Non-Whitened Vs. Whitened Light Curve

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

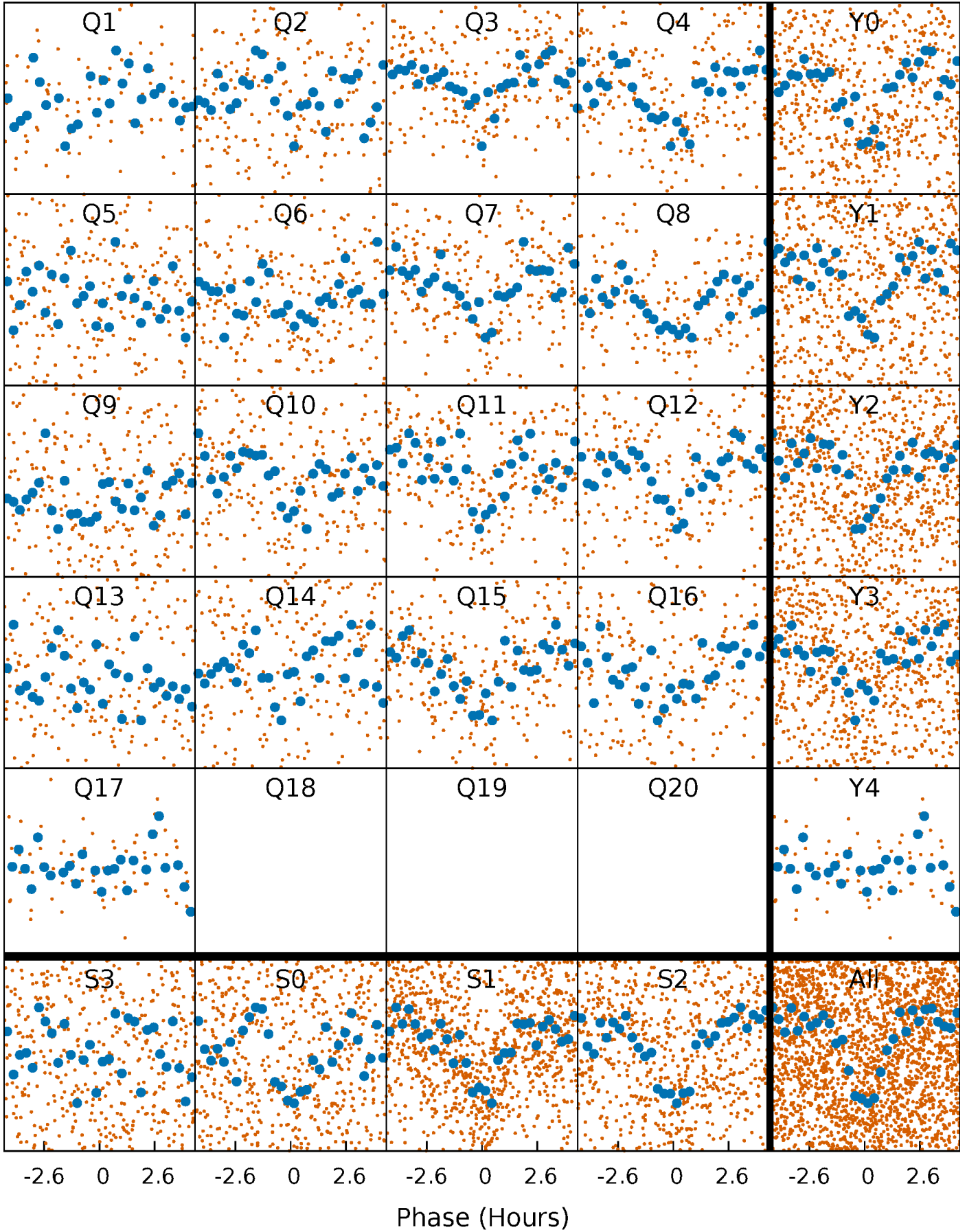


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



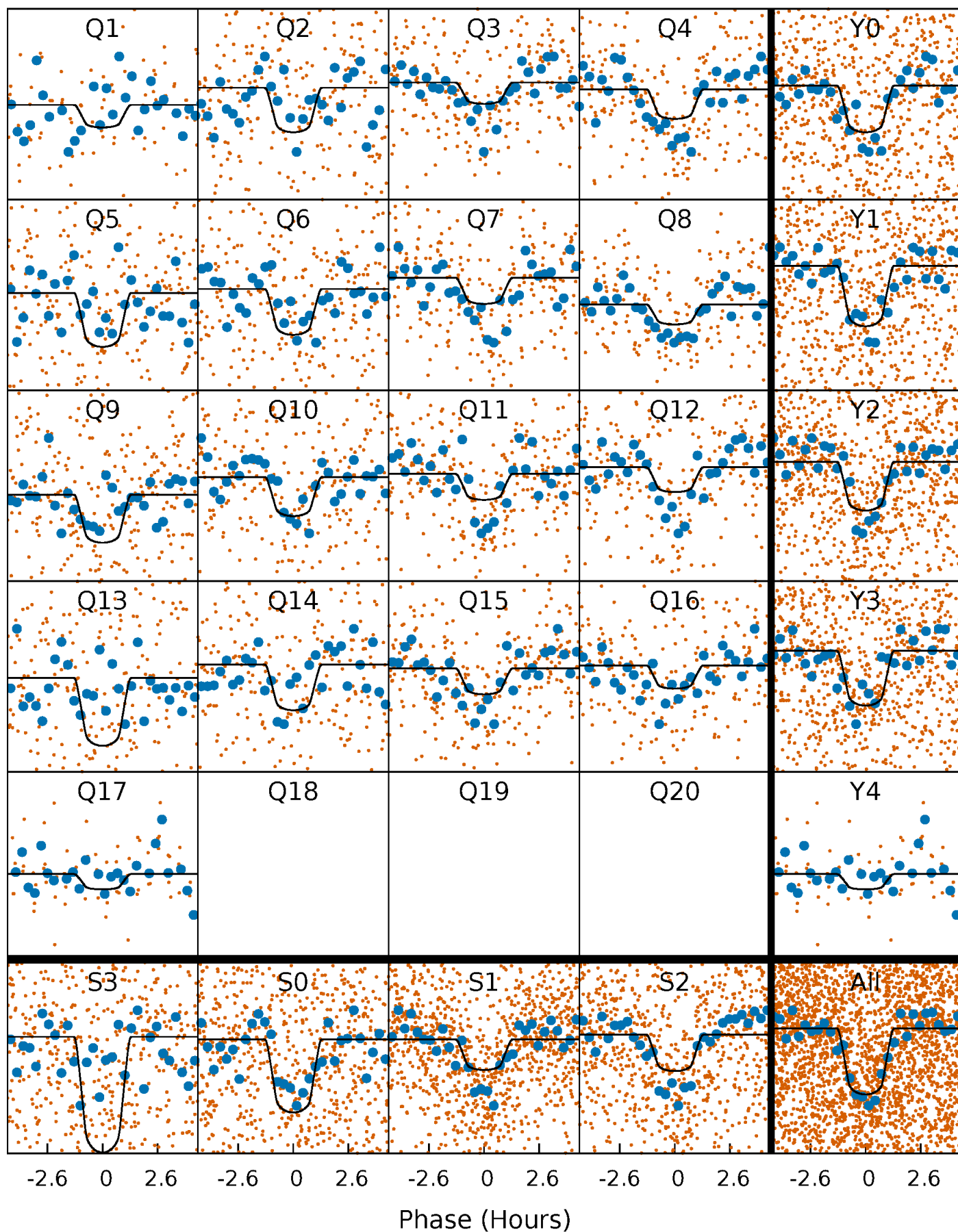
PDC Quarter-Phased Transit Curves

TCE 007777818-01 P= 5.781670 Days $T_0=136.765736$ (BKJD)



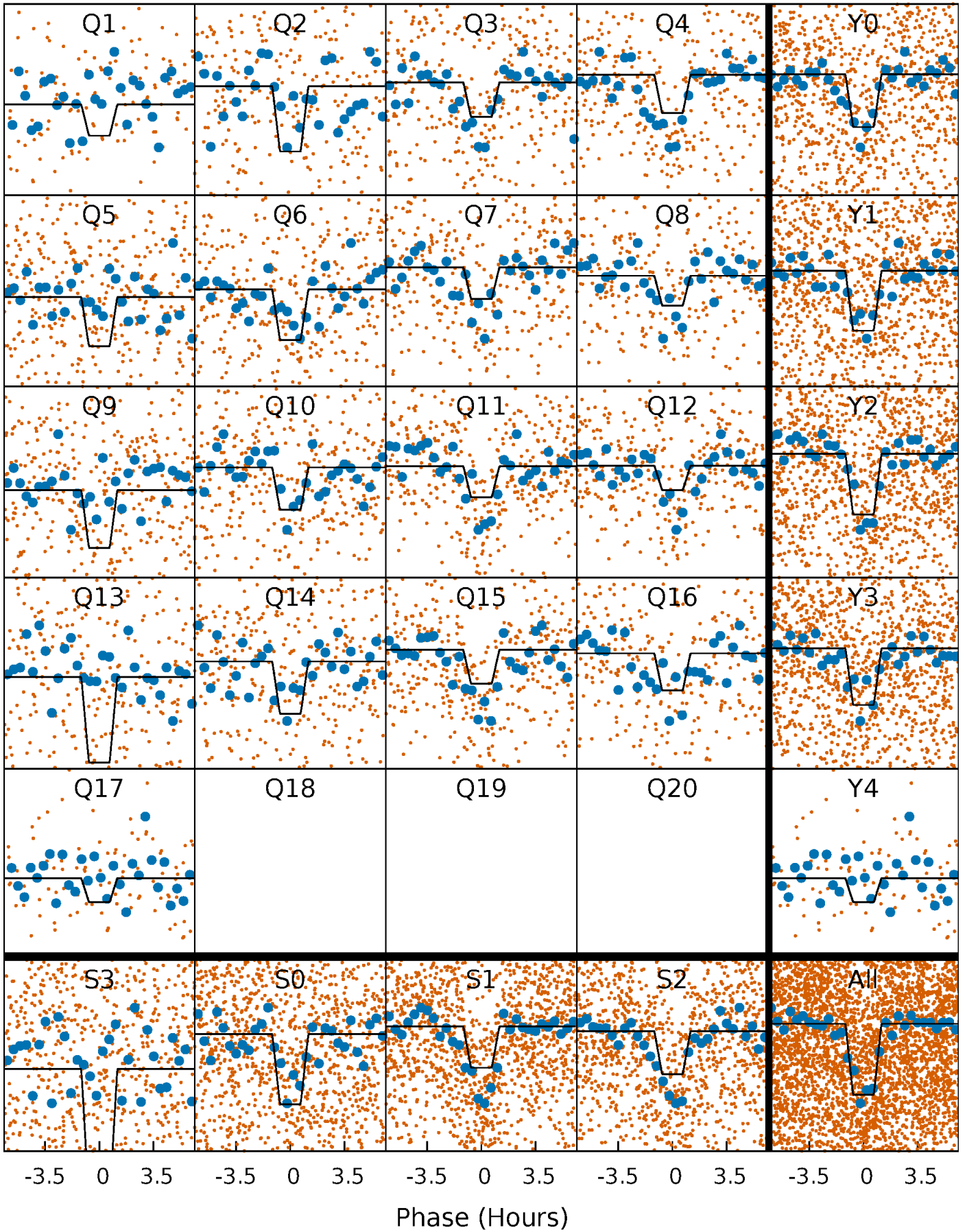
DV Quarter-Phased Transit Curves

TCE 007777818-01 P= 5.781670 Days $T_0=136.765736$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

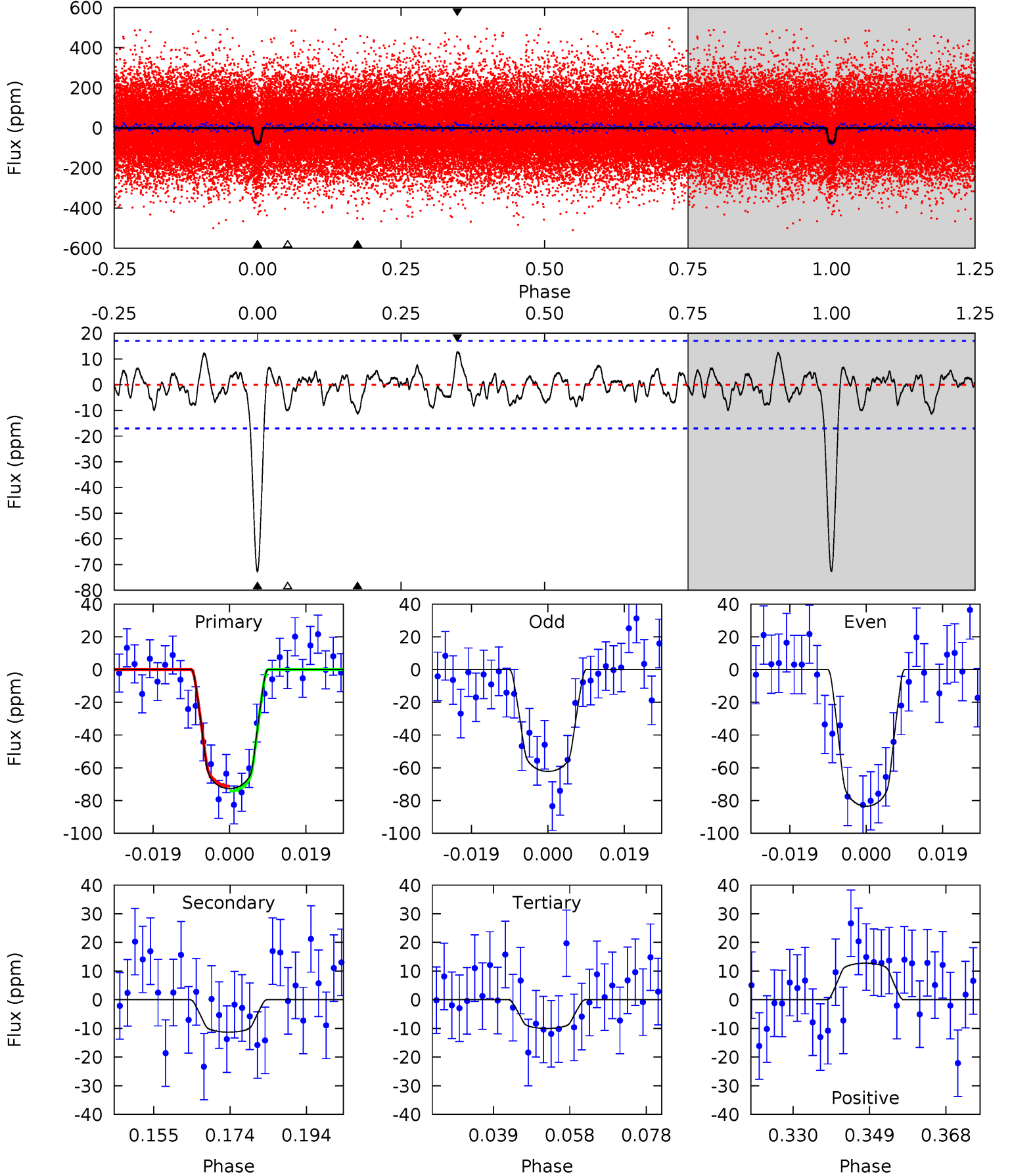
TCE 007777818-01 P= 5.781550 Days $T_0=136.780692$ (BKJD)



DV Model-Shift Uniqueness Test

007777818-01, P = 5.781670 Days, E = 130.984066 Days

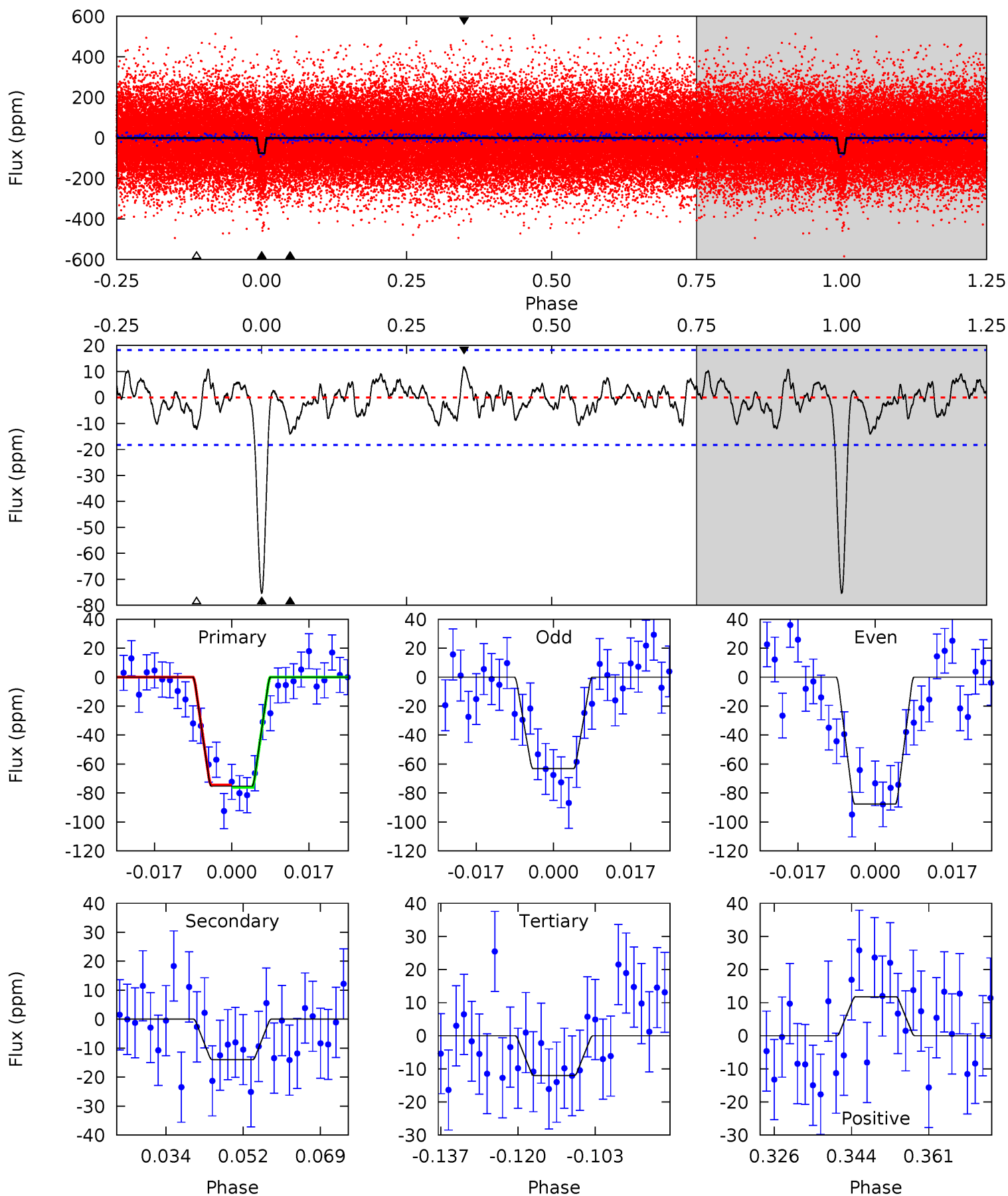
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.9	3.25	2.88	3.67	4.90	2.34	1.20	18.0	17.3	0.37	-0.42	3.06	0.99	0.15	0.44



Alt Model-Shift Uniqueness Test

007777818-01, P = 5.781550 Days, E = 130.999142 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.3	3.76	3.24	3.17	4.92	2.38	1.23	17.0	17.1	0.52	0.59	3.30	0.93	0.14	0.22



Stellar Parameters For KIC 007777818

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6443^{+181}_{-227}	$4.023^{+0.299}_{-0.161}$	$-0.060^{+0.250}_{-0.300}$	$1.884^{+0.559}_{-0.622}$	$1.371^{+0.193}_{-0.289}$	$0.289^{+0.592}_{-0.128}$
	+3%/-4%	+7%/-4%	+417%/-500%	+30%/-33%	+14%/-21%	+205%/-44%
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 007777818-01 / KOI 4380.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-11 ± 3	$1.84^{+0.72}_{-0.59}$	2029^{+171}_{-190}	4056^{+595}_{-457}	$8.324^{+10.702}_{-4.314}$
Alt.	-14 ± 4	$1.77^{+0.61}_{-0.60}$	2030^{+159}_{-180}	4346^{+688}_{-484}	12^{+16}_{-6}

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

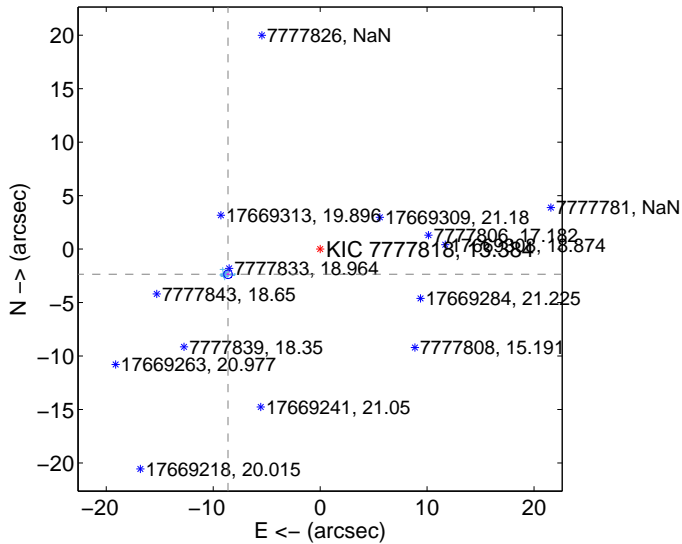
Supplemental centroid analysis for 007777818-01. Kepler magnitude: 13.38. Transit SNR 14.74

There are 16 quarters with good PRF difference image offsets

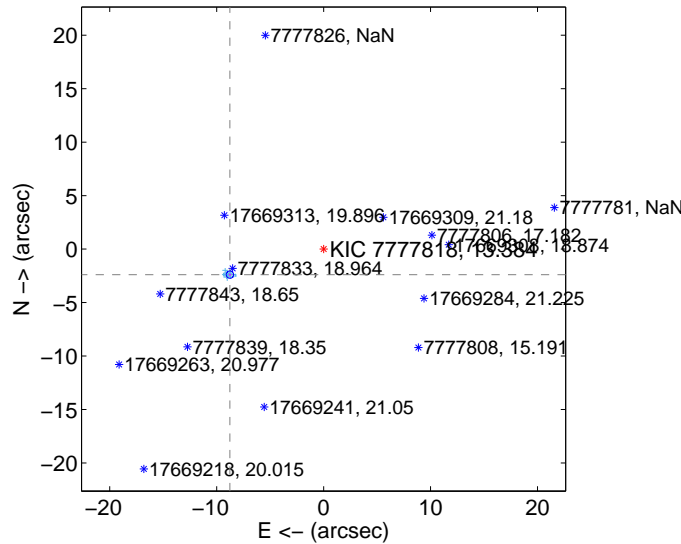
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.930 \pm 0.133	66.89	8.614 \pm 0.137	-2.353 \pm 0.073
PRF-fit source offset from KIC position	9.080 \pm 0.114	79.79	8.760 \pm 0.116	-2.389 \pm 0.074
photometric centroid source offset	15.62 \pm 1.08	14.50	15.30 \pm 1.08	-3.16 \pm 0.96

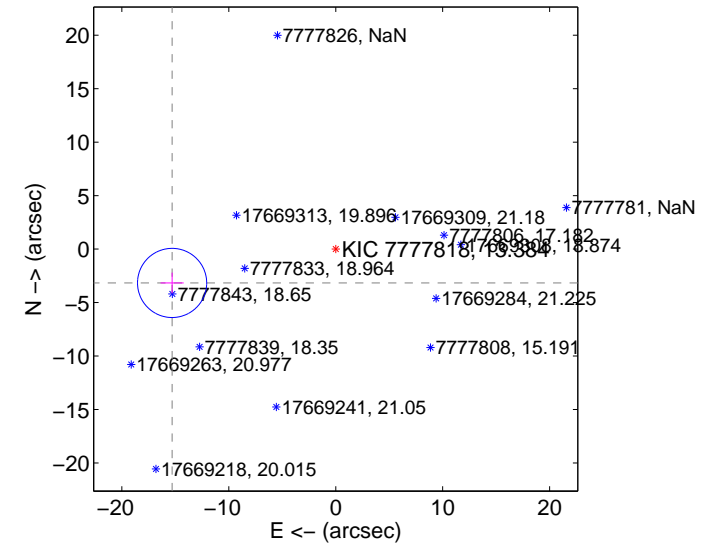
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

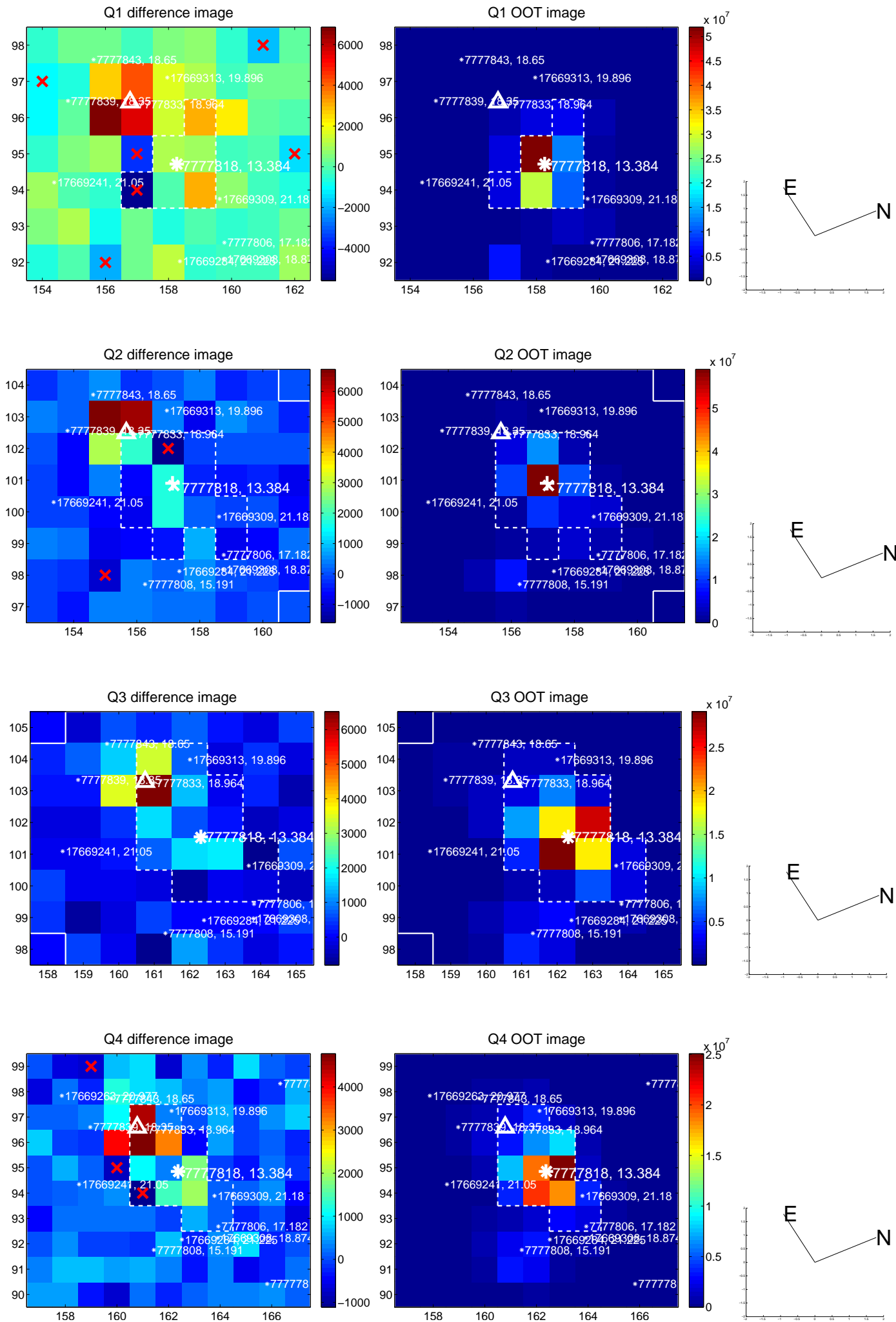


offset from photometric centroids

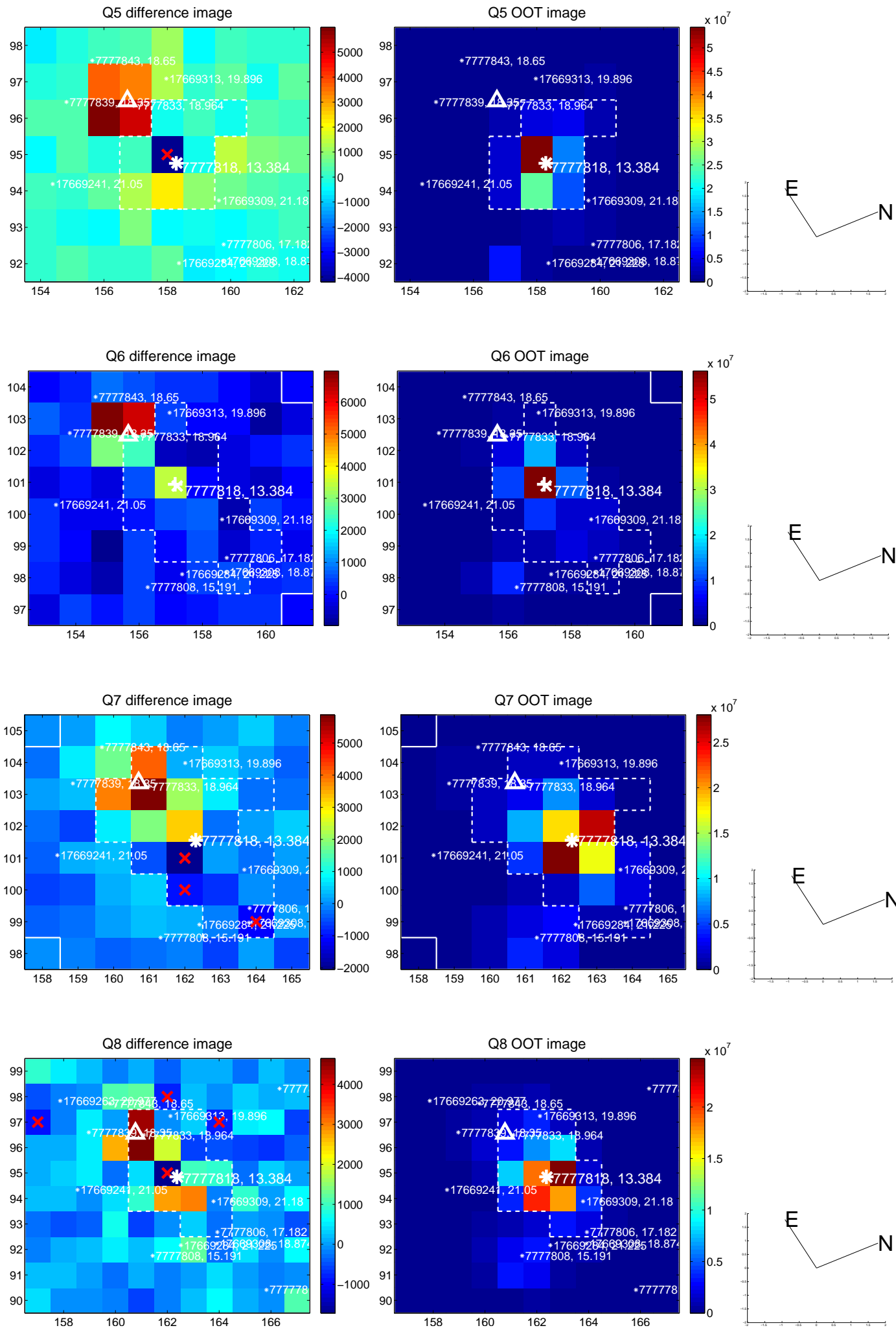


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

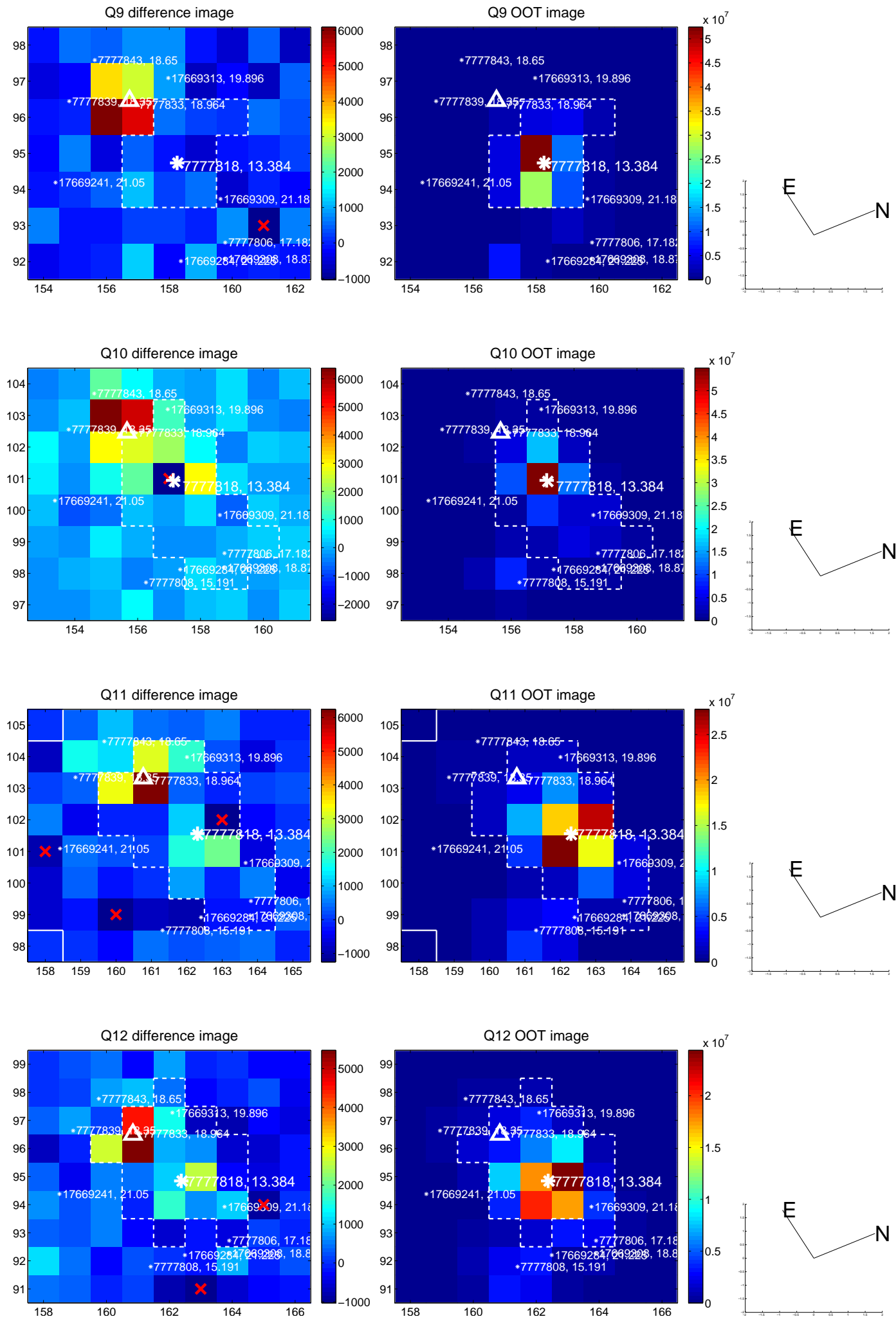
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



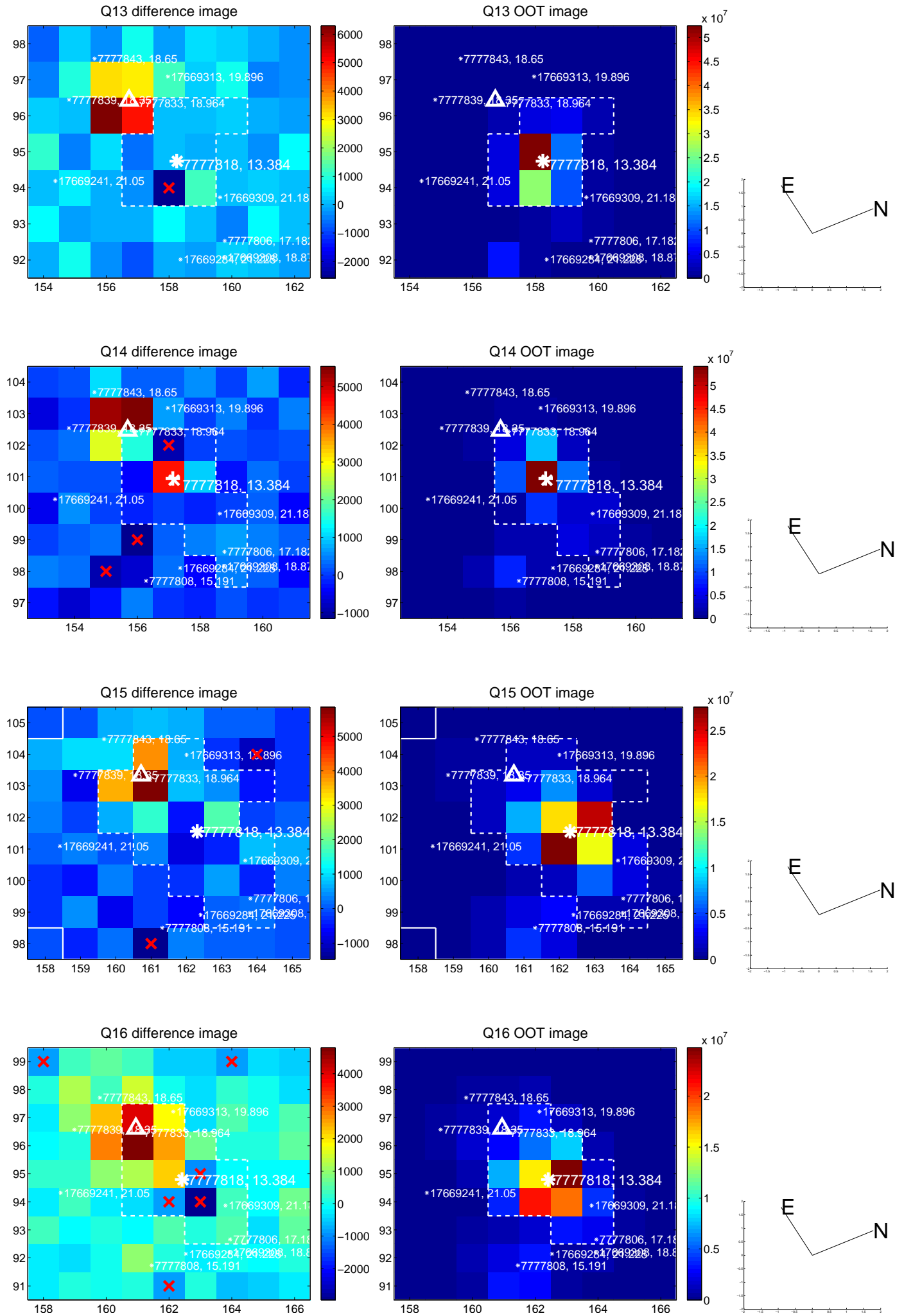
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



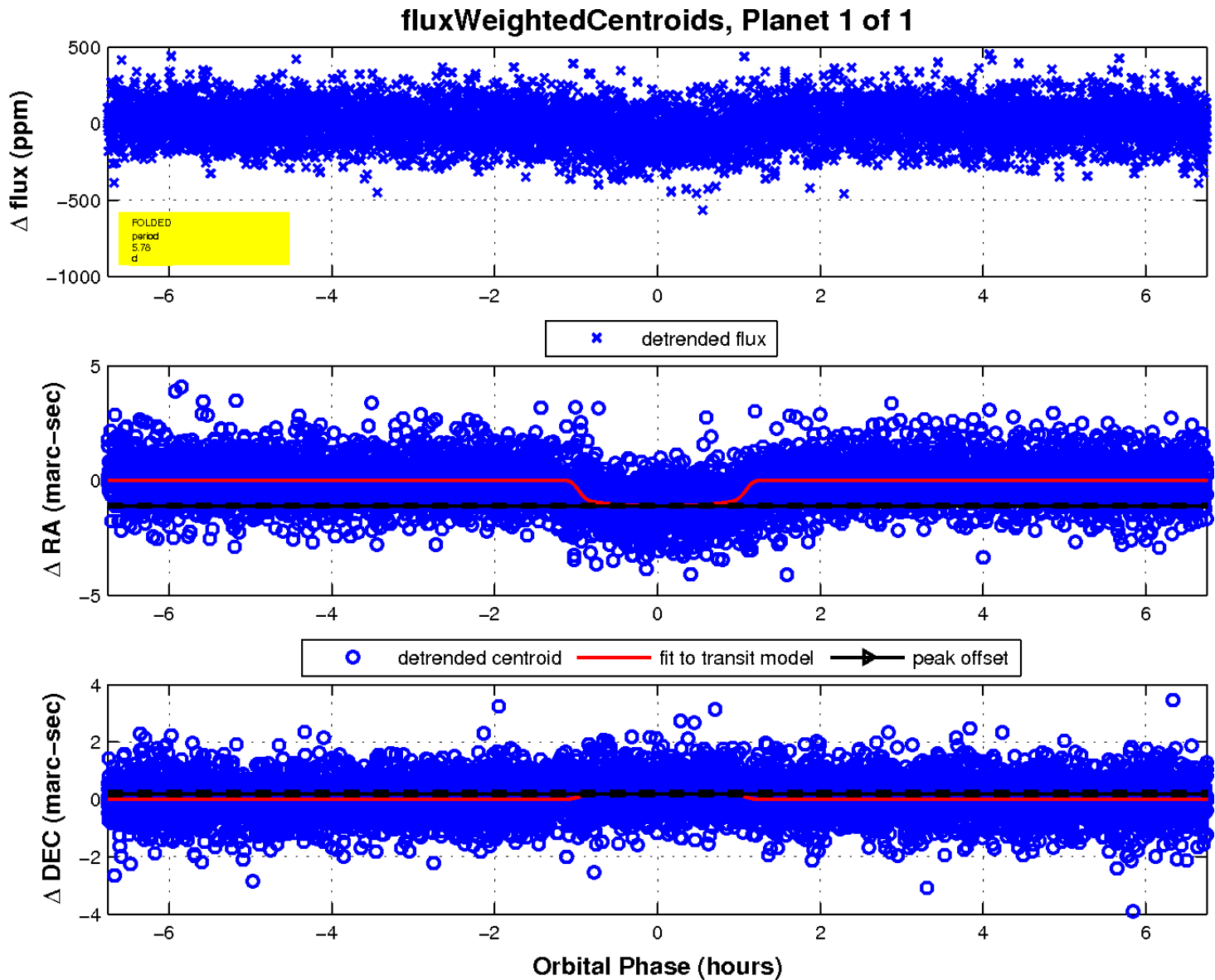
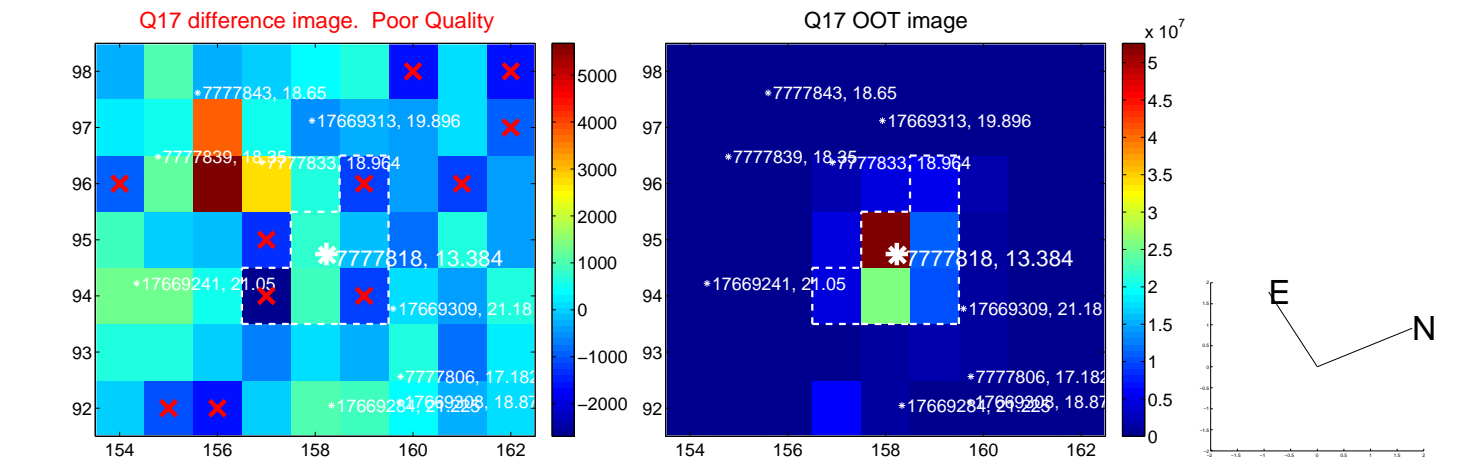
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UKIRT Image

Declination

