

KIC 009775454

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})
009775454-01	OBS	No	3.856481	133.375927	23.3	23.410	7.8	8.0	2.23	7045	1.37	3513.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009775454-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED

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

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

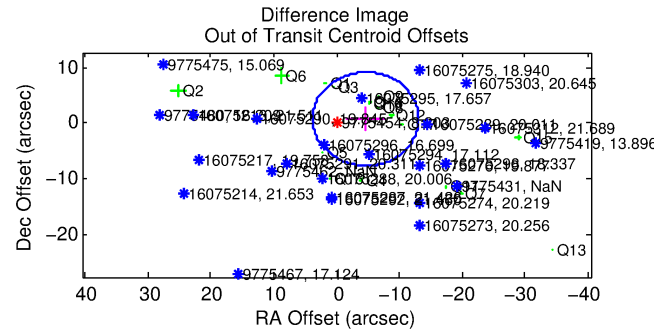
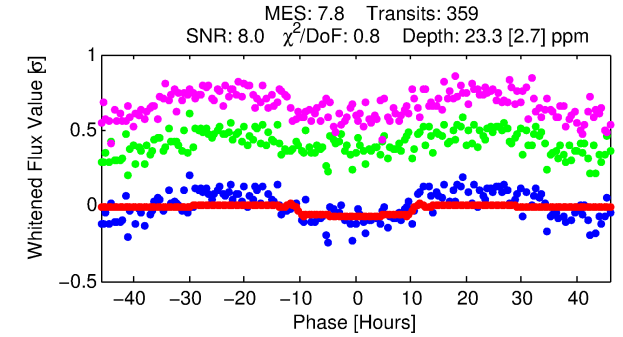
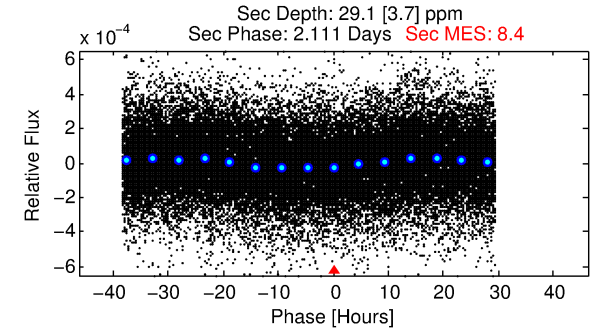
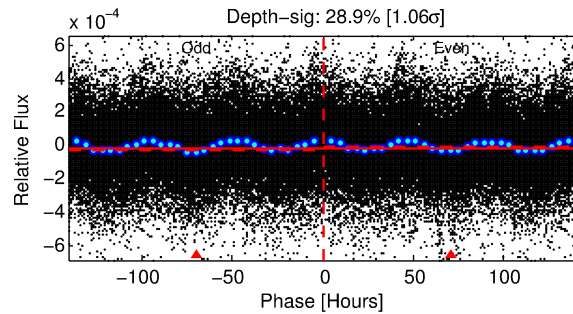
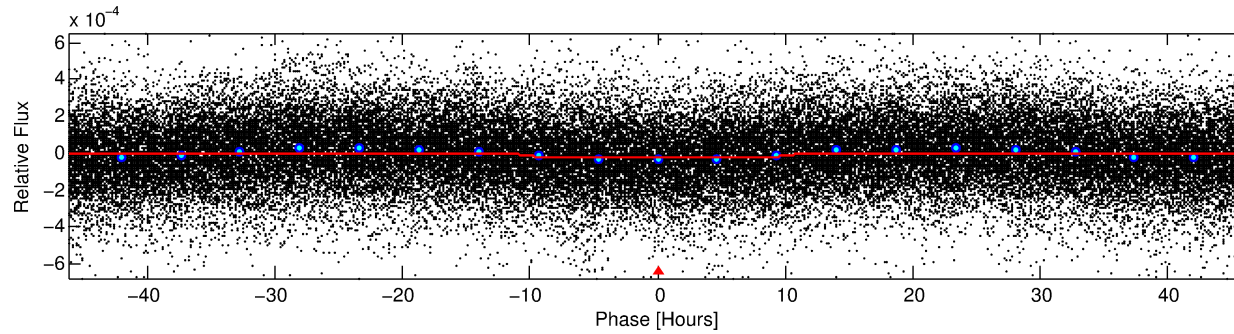
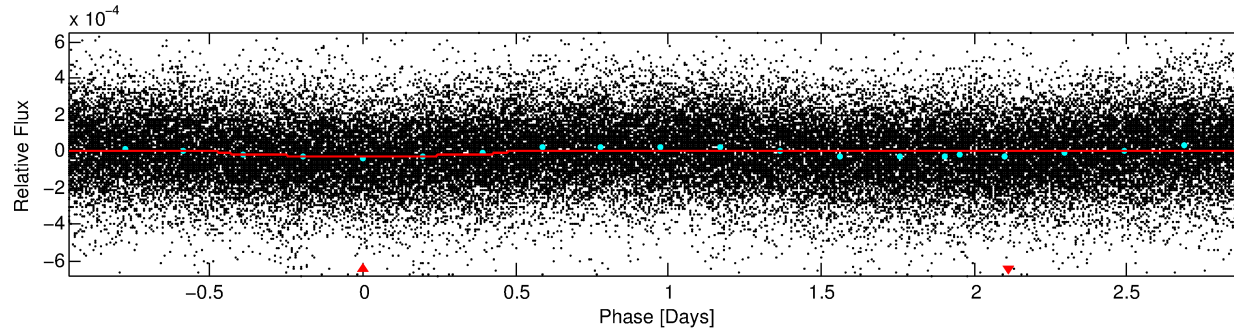
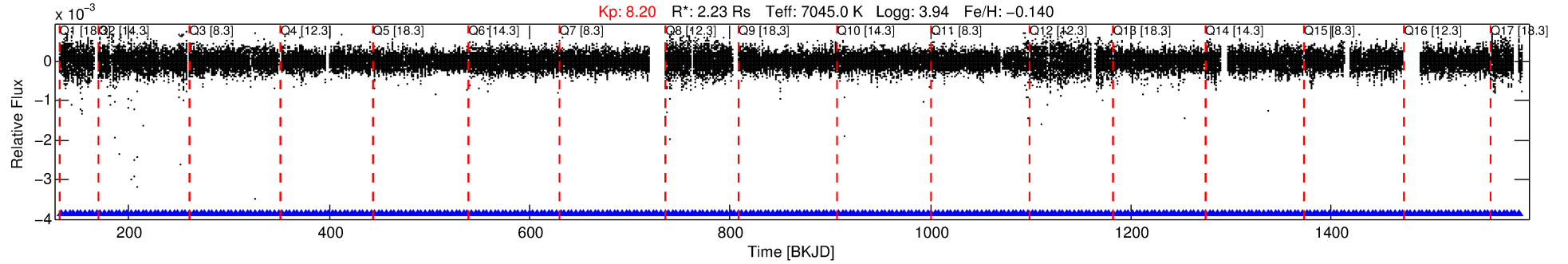
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009775454-01

No Significant Match Found

DV One-Page Summary

KIC: 9775454 Candidate: 1 of 1 Period: 3.856 d



DV Fit Results:

Period = 3.85648 [0.00015] d
Epoch = 133.3759 [0.0279] BKJD
 $R_p/R^* = 0.0056$ [0.0004]
 $a/R^* = 1.04$ [0.02]
 $b = 0.97$ [0.02]
 $\text{Seff} = 3513.03$ [1099.08]
 $T_{\text{eq}} = 1963$ [154] K
 $R_p = 1.37$ [0.30] R_e
 $a = 0.0560$ [0.0108] AU
 $A_g = 26.90$ [9.53] [2.72 σ]
 $T_{\text{eff}} = 6913$ [357] K [12.73 σ]

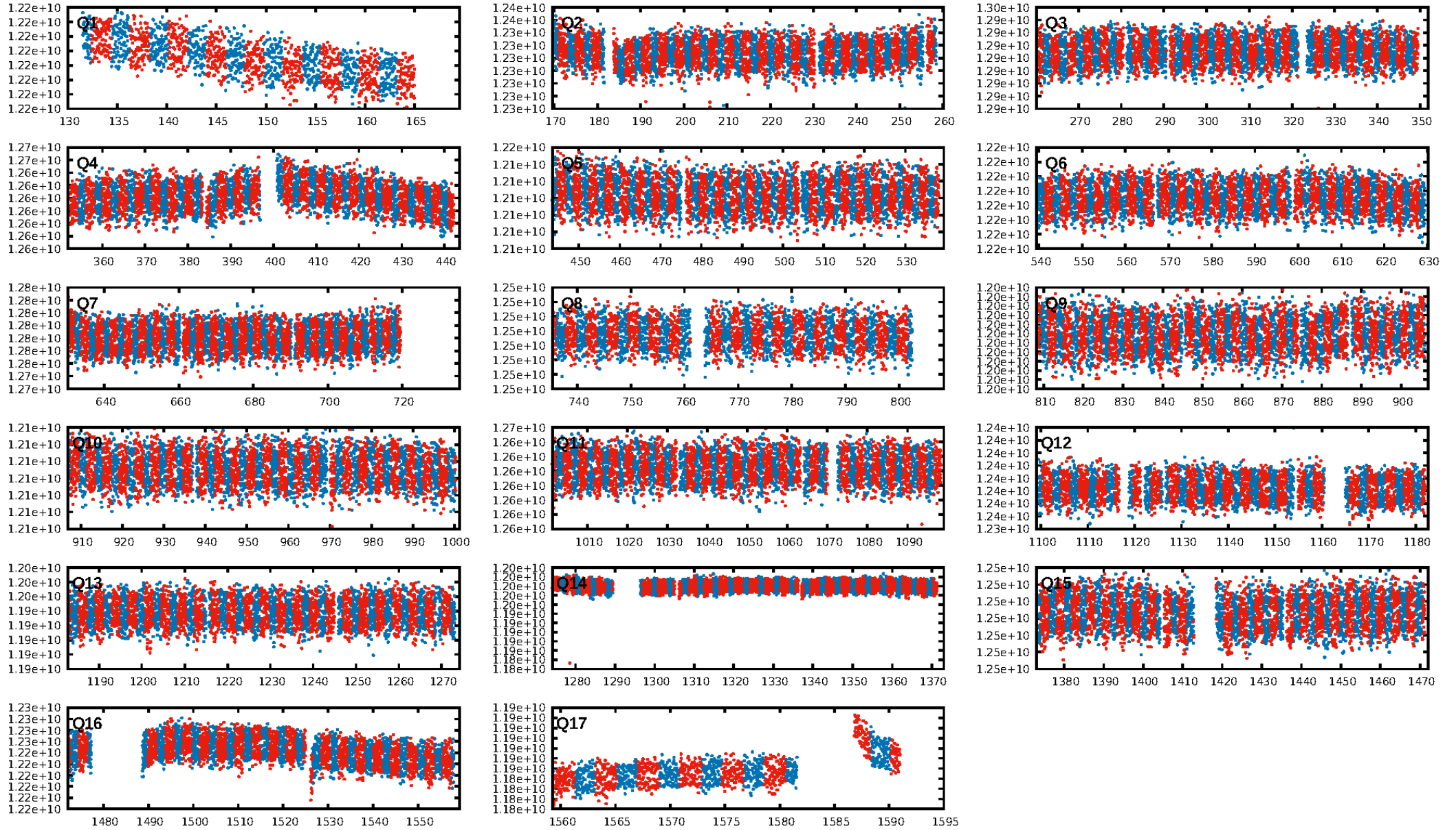
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.43e-14
RollingBand-fgt: 1.00 [342/342]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.4%
Centroid-so: 4.525 arcsec [2.72 σ]
OotOffset-rm: 4.667 arcsec [1.66 σ]
KicOffset-rm: 4.220 arcsec [1.70 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

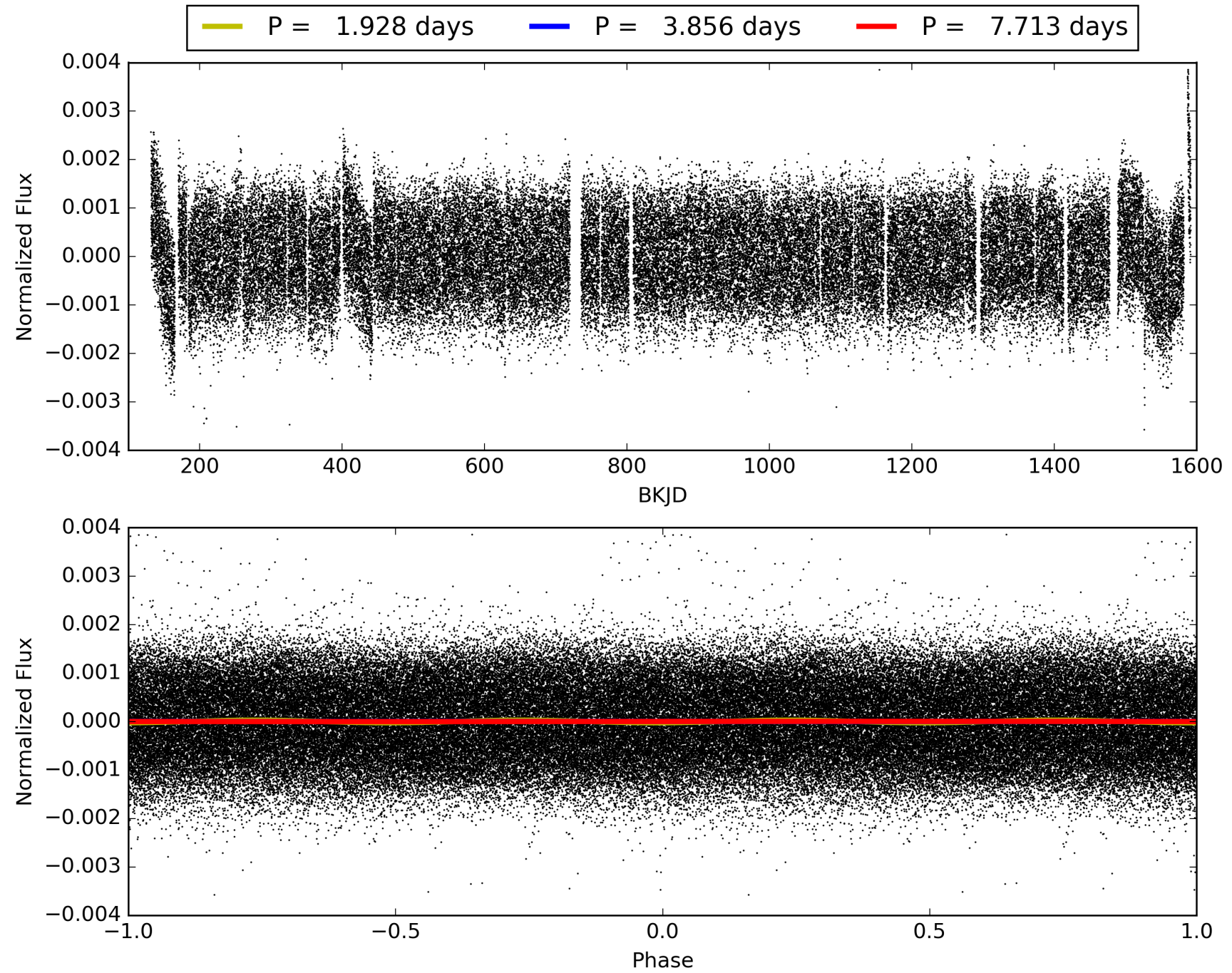
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 18:51:50 Z

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

TCE 009775454-01, PDC Light Curves

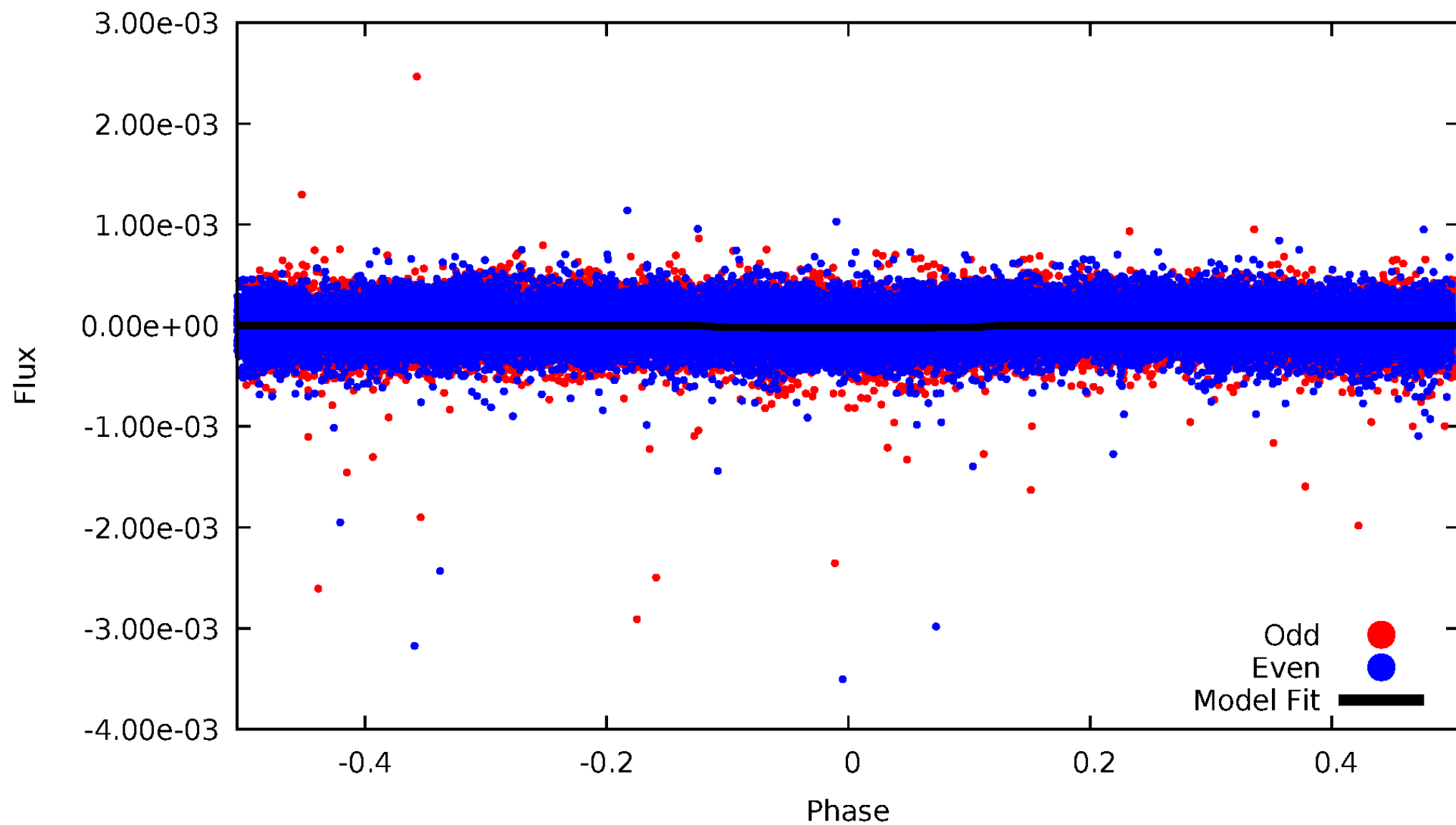


TCE 009775454-01



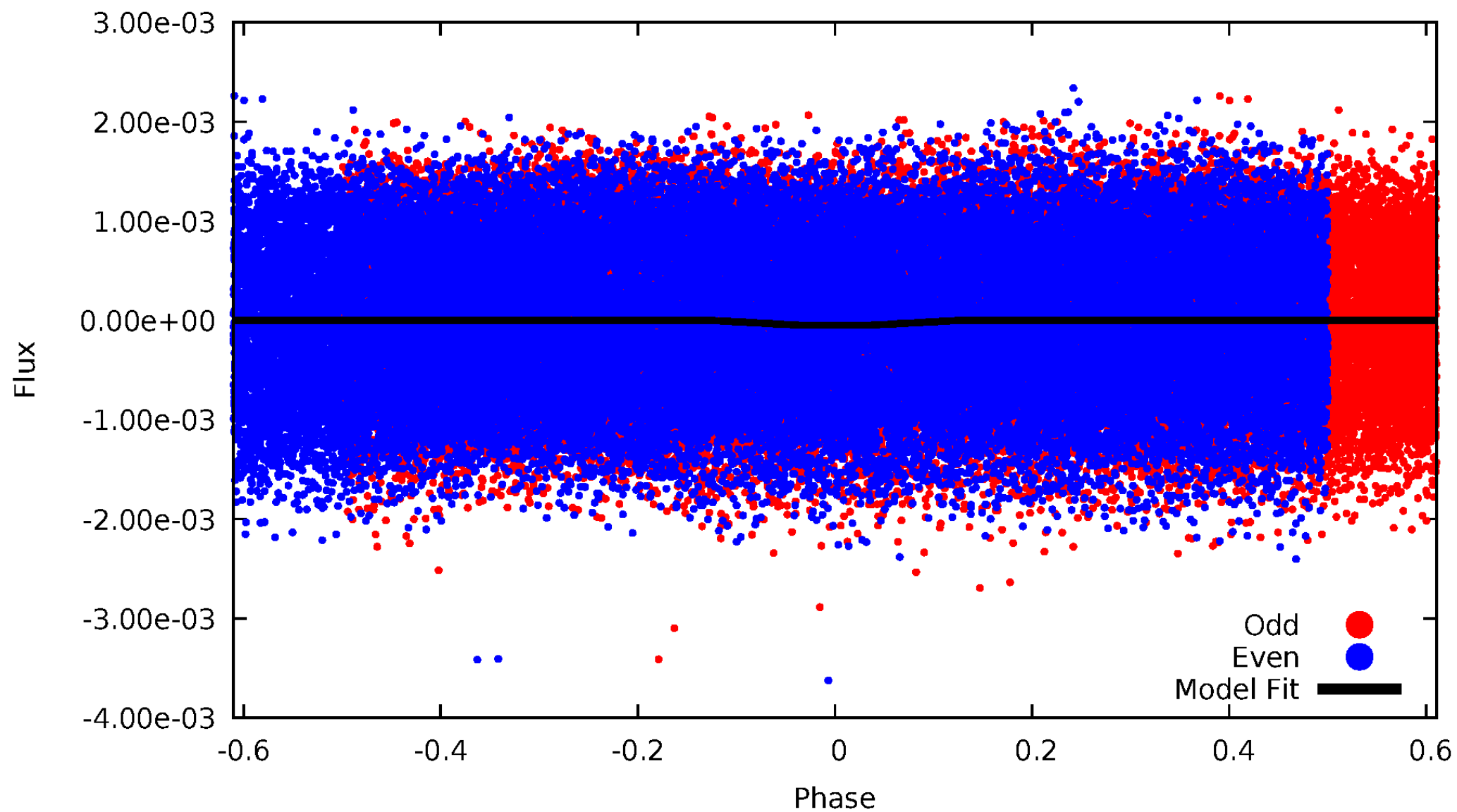
DV Odd/Even

TCE 009775454-01



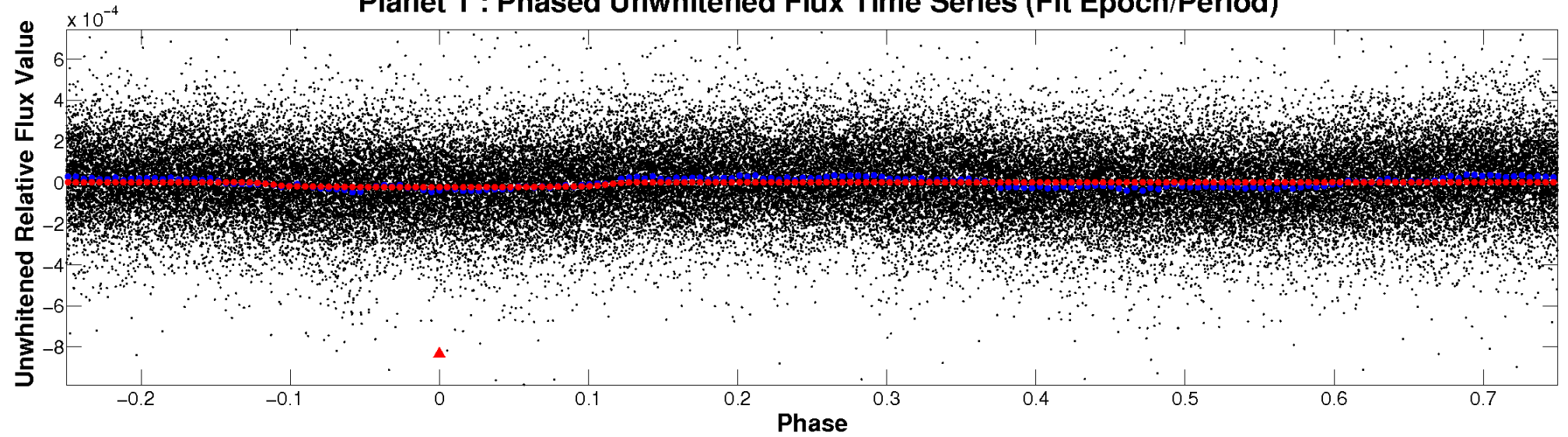
ALT Odd/Even

TCE 009775454-01

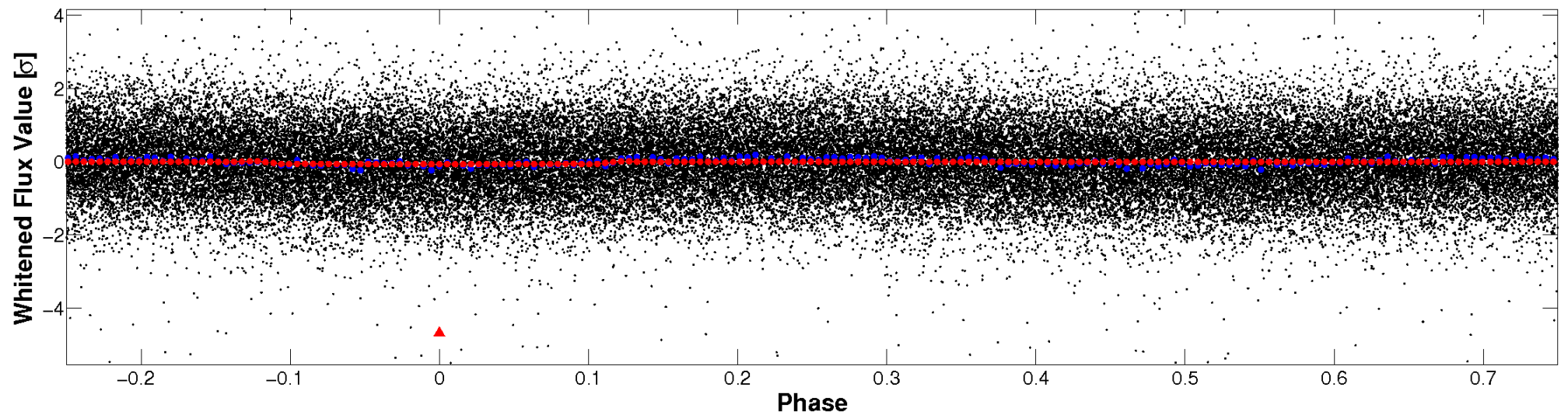


Non-Whitened Vs. Whitened Light Curve

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

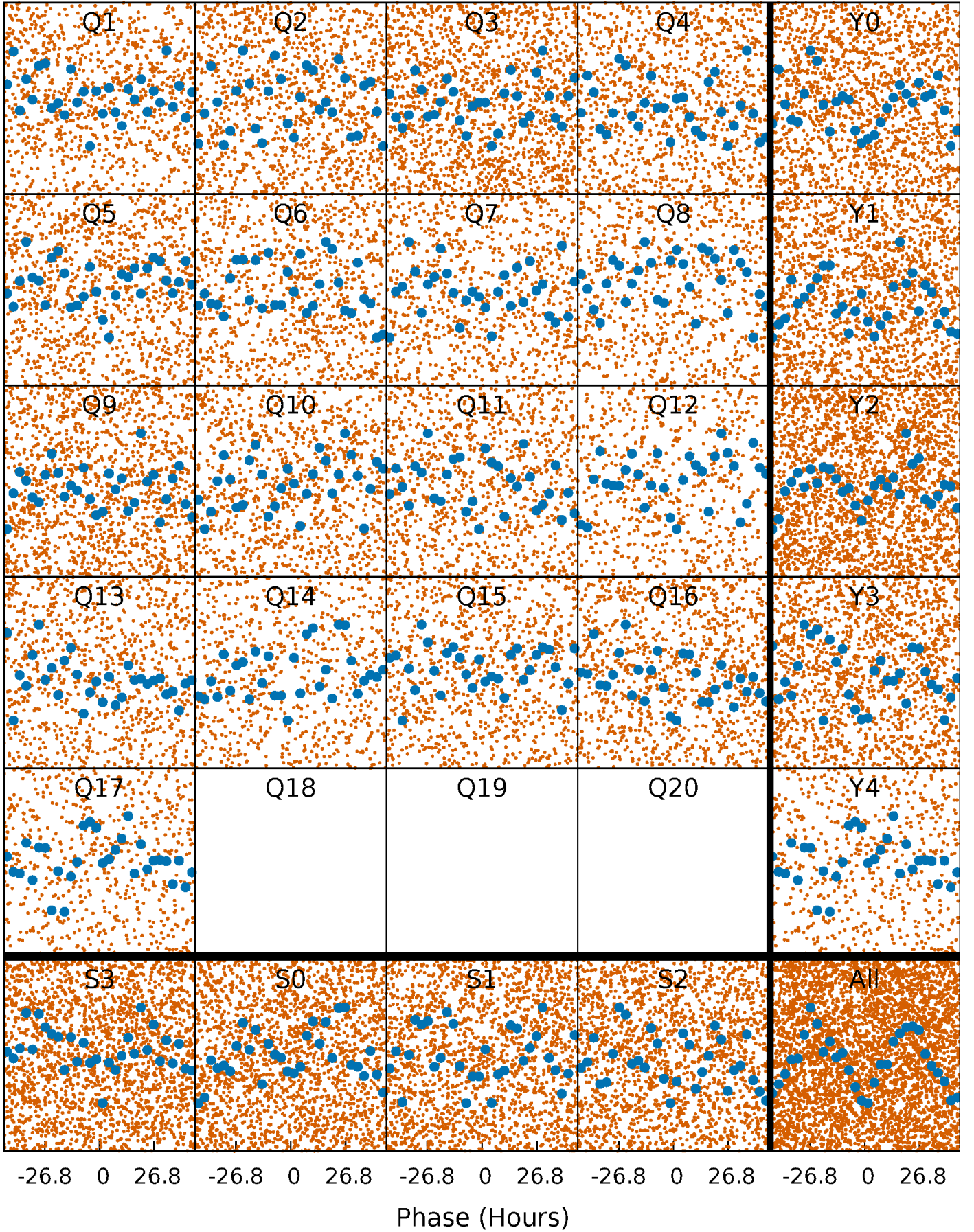


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



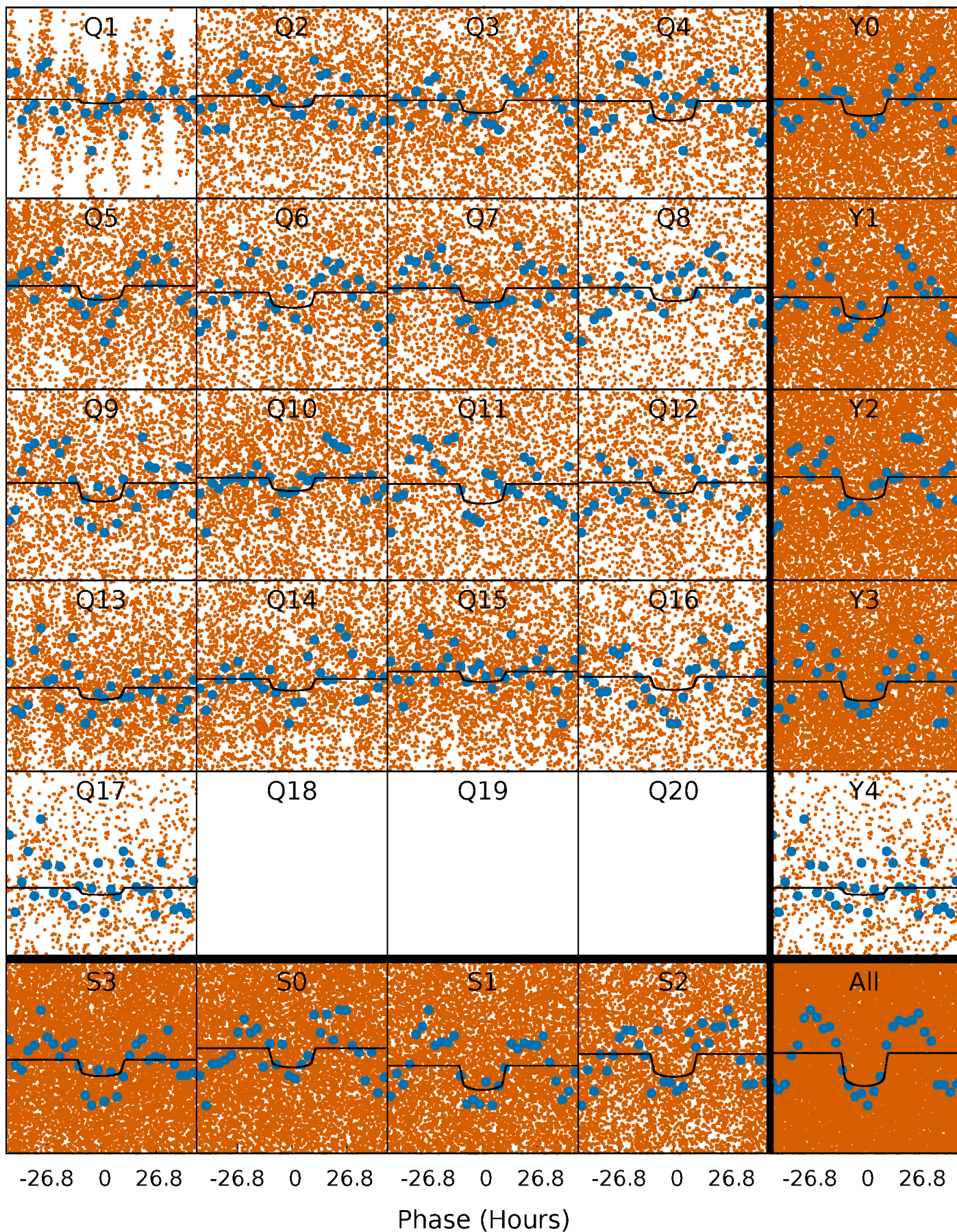
PDC Quarter-Phased Transit Curves

TCE 009775454-01 P= 3.856481 Days $T_0=133.375927$ (BKJD)



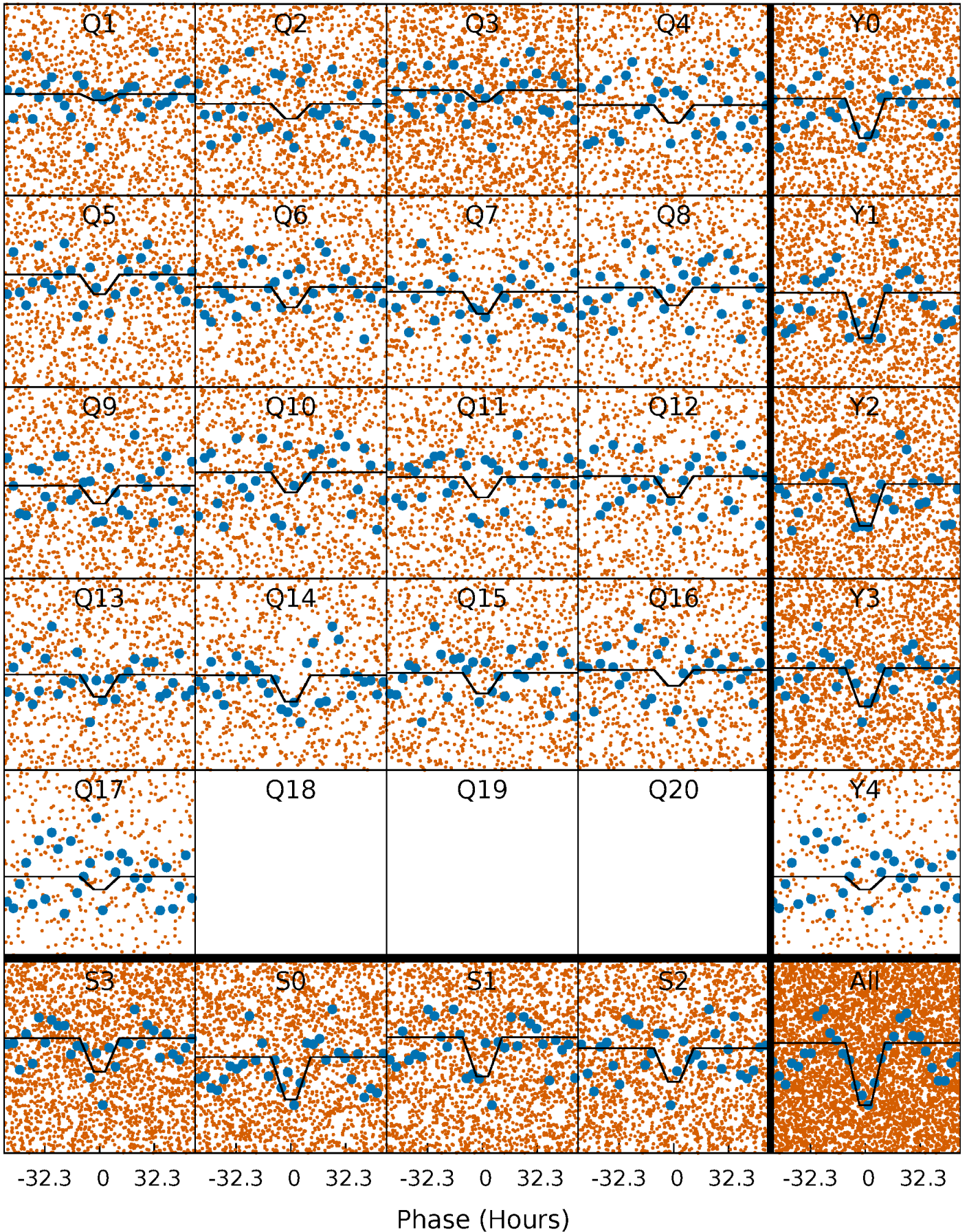
DV Quarter-Phased Transit Curves

TCE 009775454-01 P= 3.856481 Days $T_0=133.375927$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

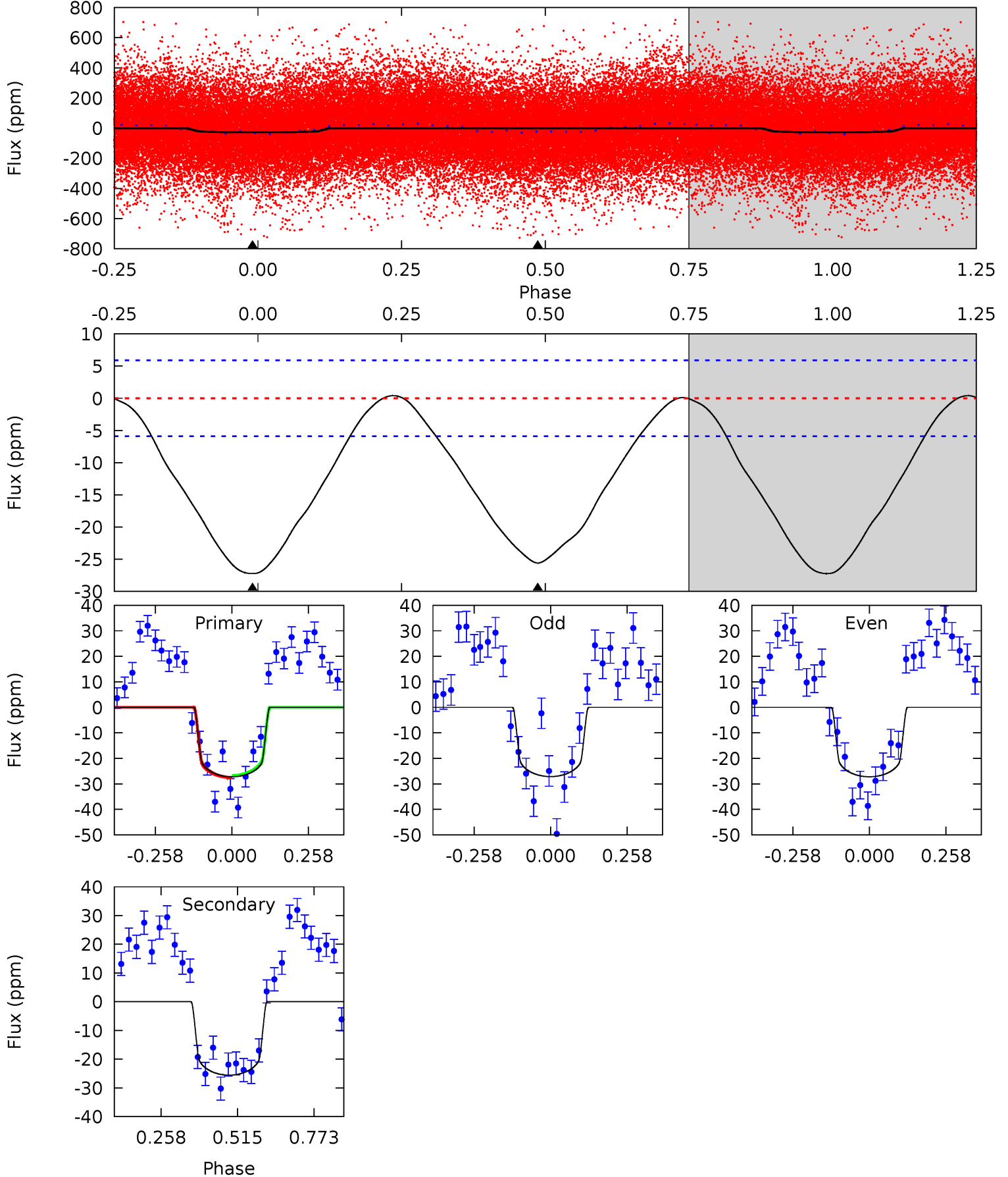
TCE 009775454-01 P= 3.856244 Days $T_0=133.395525$ (BKJD)



DV Model-Shift Uniqueness Test

009775454-01, P = 3.856481 Days, E = 129.519446 Days

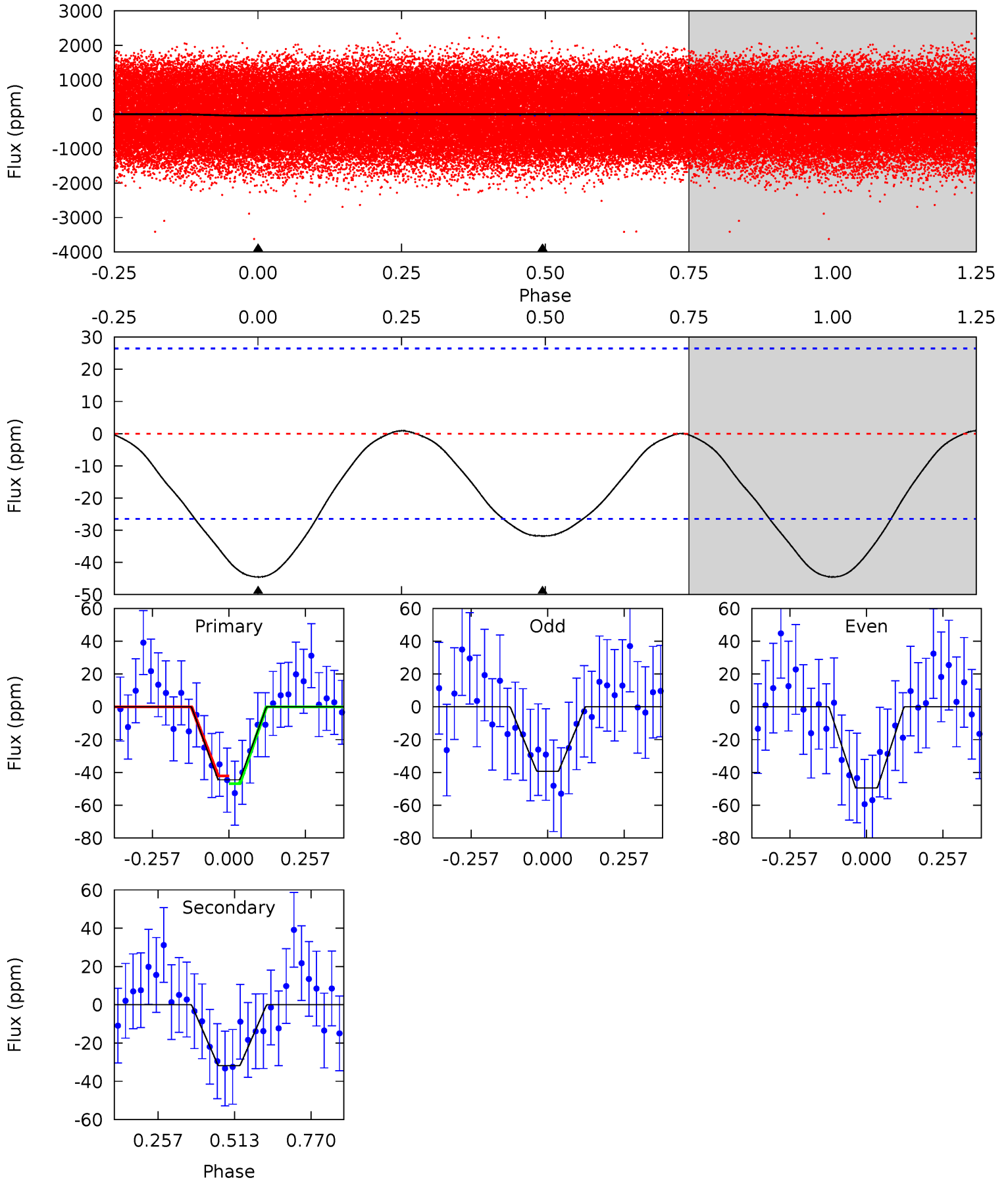
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.2	18.9	0	0	4.36	1.13	0.26	20.2	20.2	18.9	18.9	0.03	1.29	0.02	0.29



Alt Model-Shift Uniqueness Test

009775454-01, P = 3.856244 Days, E = 129.539281 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.34	5.24	0	0	4.36	1.13	0.15	7.34	7.34	5.24	5.24	0.84	1.18	0.02	0.38



Stellar Parameters For KIC 009775454

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7045^{+139}_{-153}	$3.937^{+0.174}_{-0.116}$	$-0.140^{+0.200}_{-0.150}$	$2.235^{+0.462}_{-0.462}$	$1.575^{+0.147}_{-0.161}$	$0.199^{+0.165}_{-0.071}$
	+2%/-2%	+4%/-3%	+143%/-107%	+21%/-21%	+9%/-10%	+83%/-36%
Source	SPE4	SPE4	SPE4	DSEP		

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

Secondary Eclipse Parameters for KIC 009775454-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-26 ± 1	$1.34^{+0.19}_{-0.17}$	2730^{+150}_{-172}	6648^{+317}_{-262}	25^{+8}_{-5}
Alt.	-32 ± 6	$1.67^{+0.20}_{-0.20}$	2714^{+144}_{-150}	6292^{+358}_{-402}	20^{+7}_{-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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

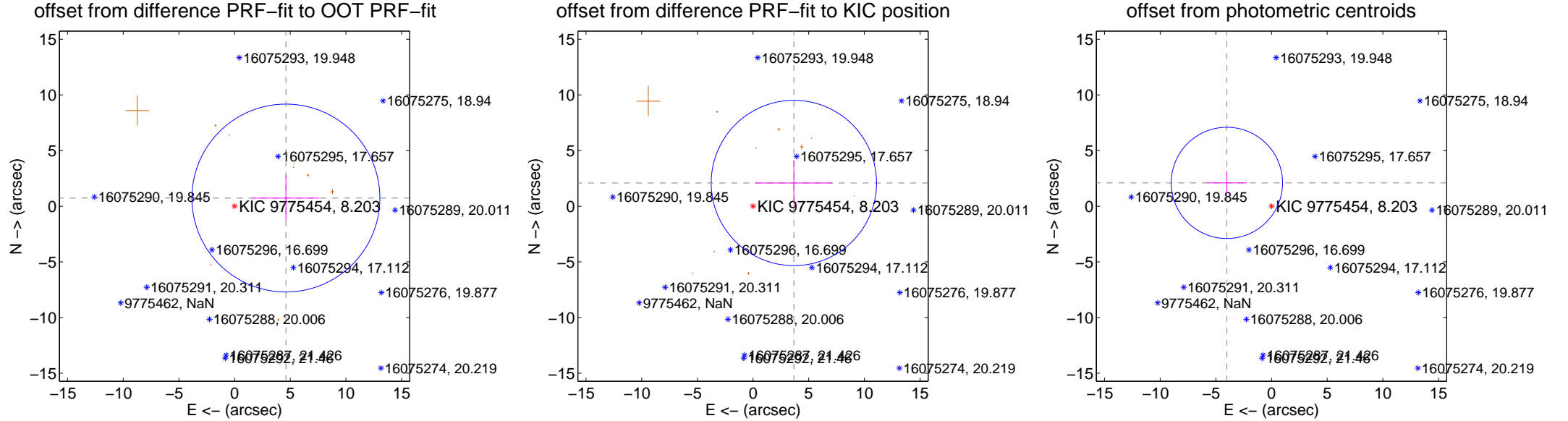
DV Centroid Data

Supplemental centroid analysis for 009775454-01. **Kepler magnitude: 8.20.** Transit SNR 8.02

There are 0 quarters with good PRF difference image offsets

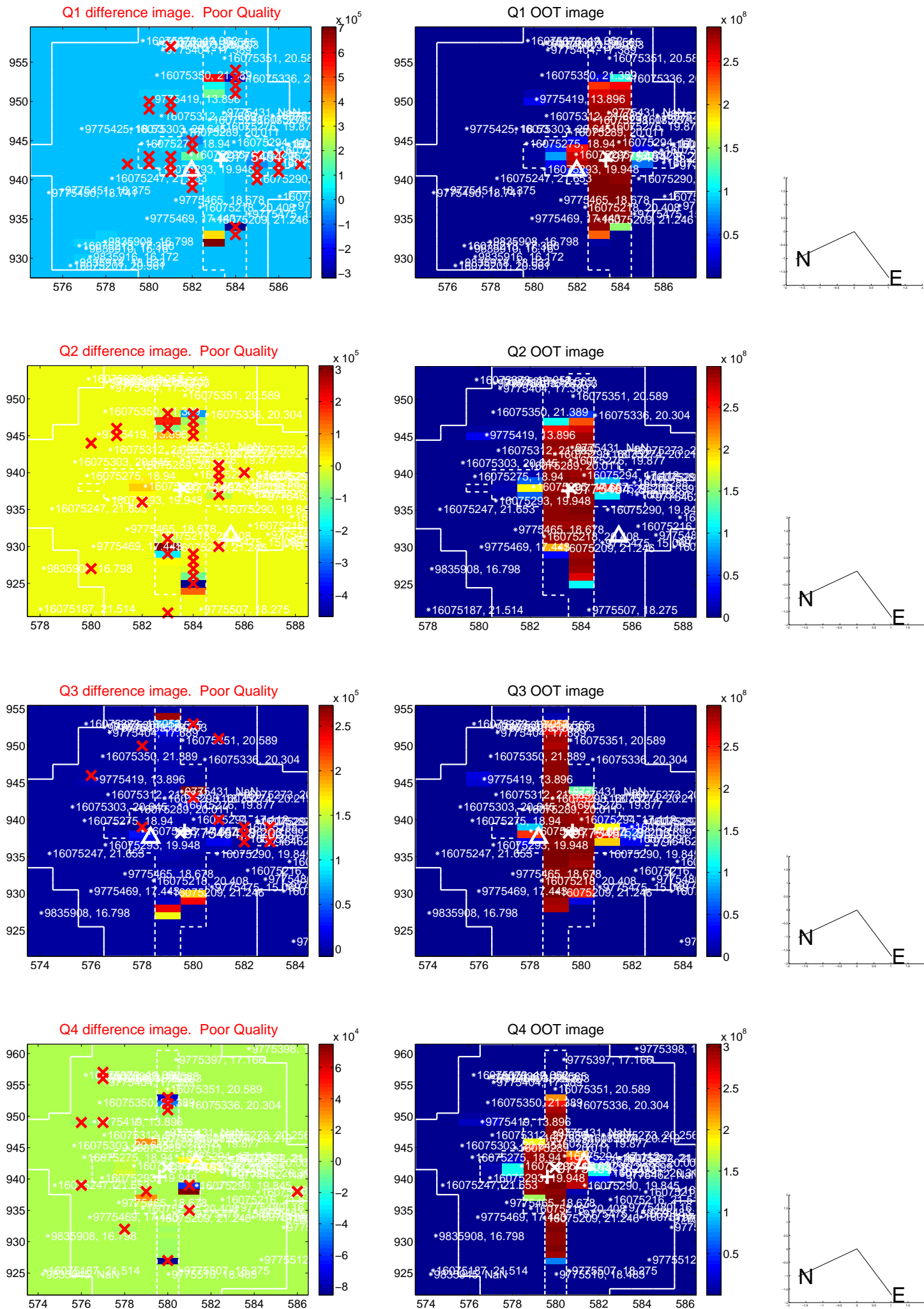
The direct PRF centroid is offset from the target star catalog position by about 1.83 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.667 ± 2.813	1.66	-4.609 ± 3.020	0.735 ± 2.039
PRF-fit source offset from KIC position	4.220 ± 2.475	1.70	-3.666 ± 3.476	2.090 ± 2.036
photometric centroid source offset	4.52 ± 1.67	2.72	4.01 ± 1.80	2.10 ± 1.05

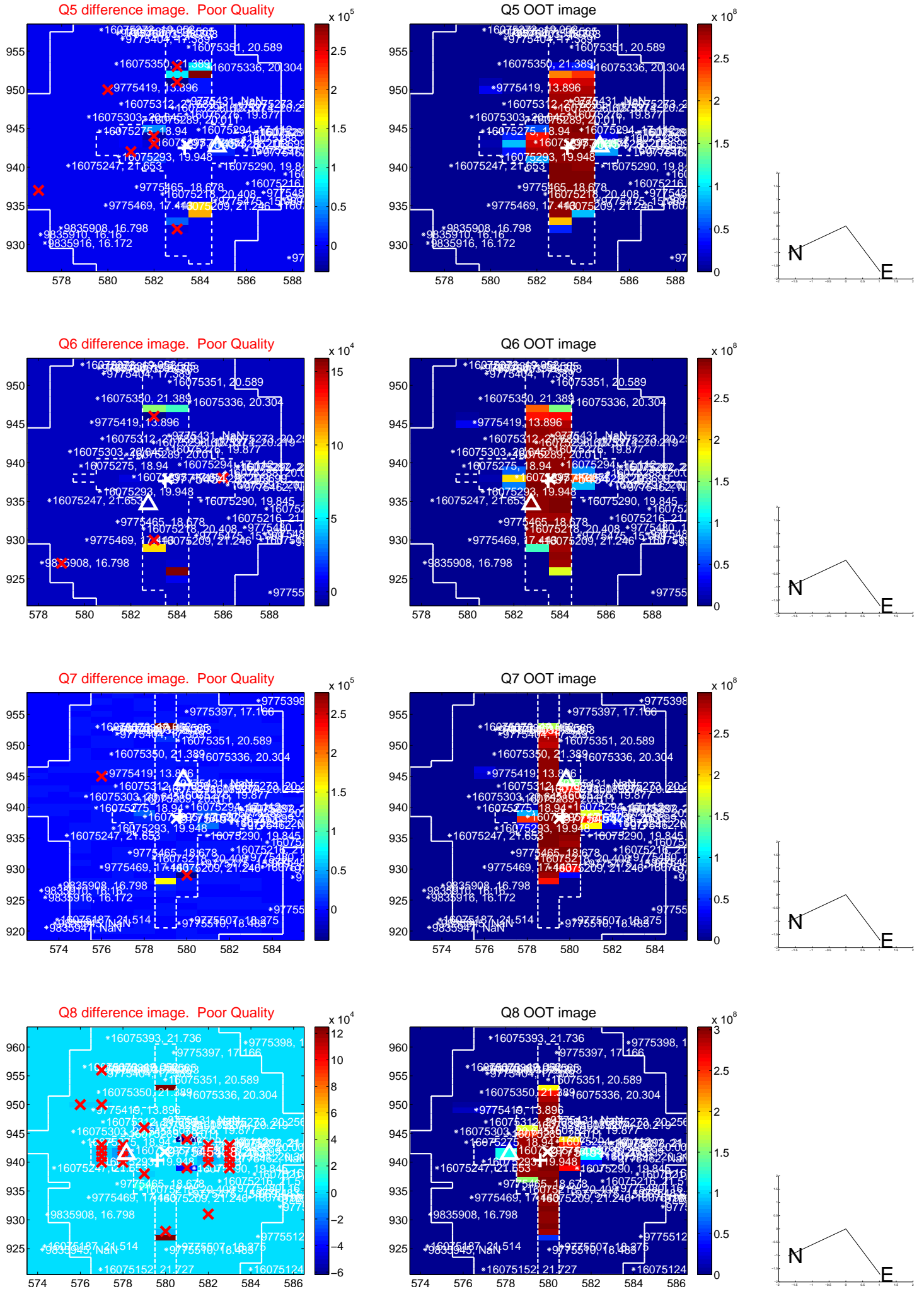


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

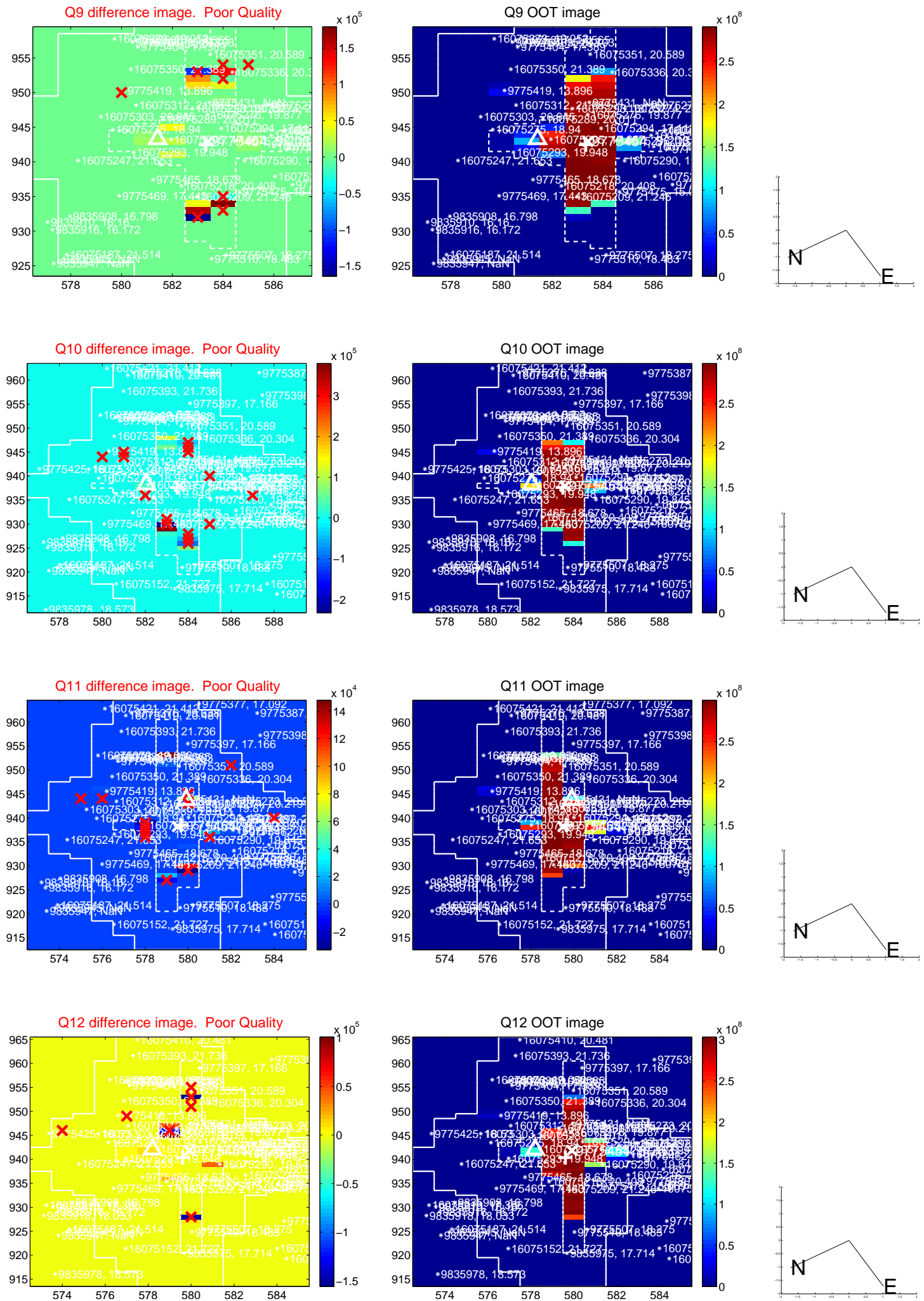
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



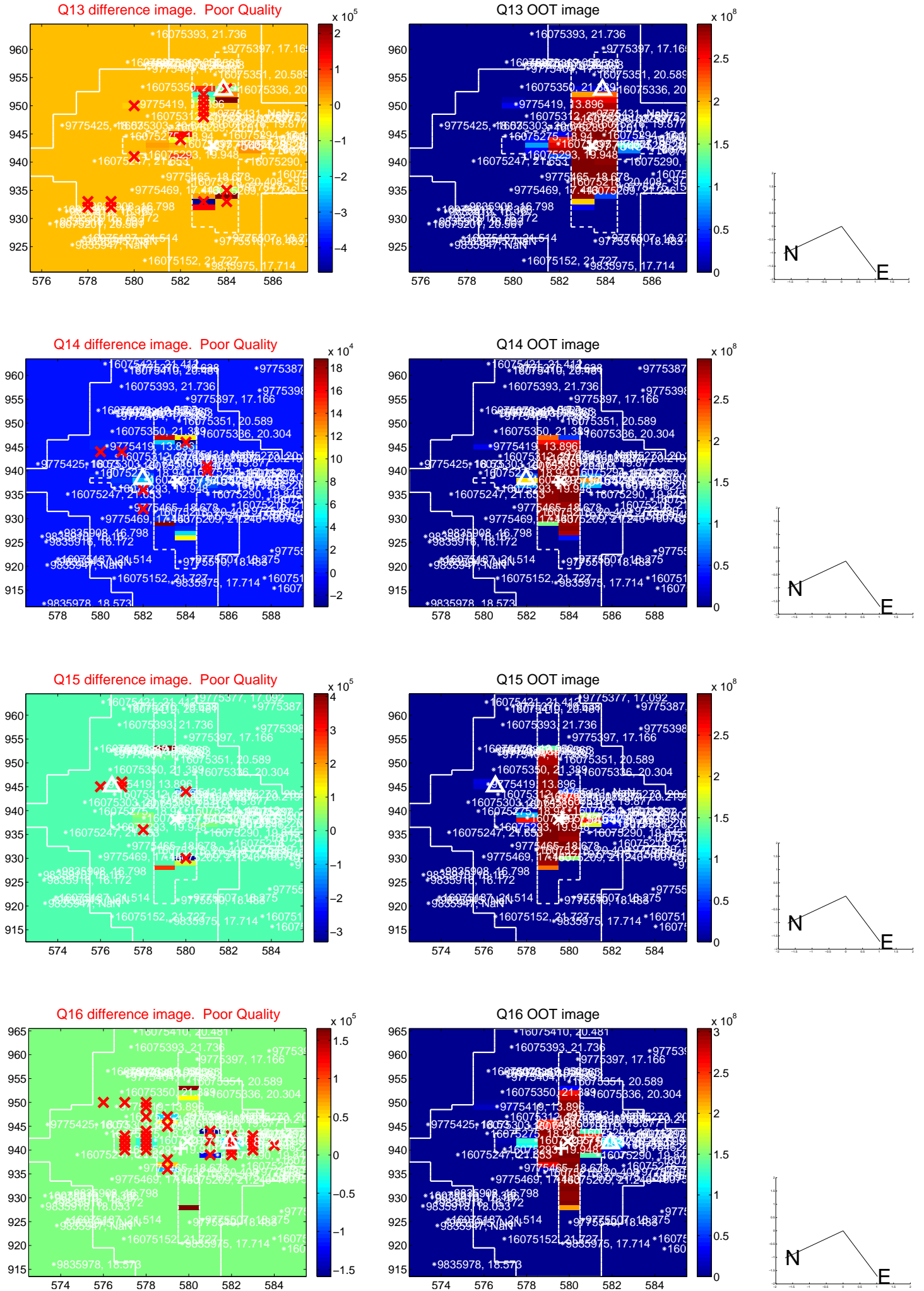
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



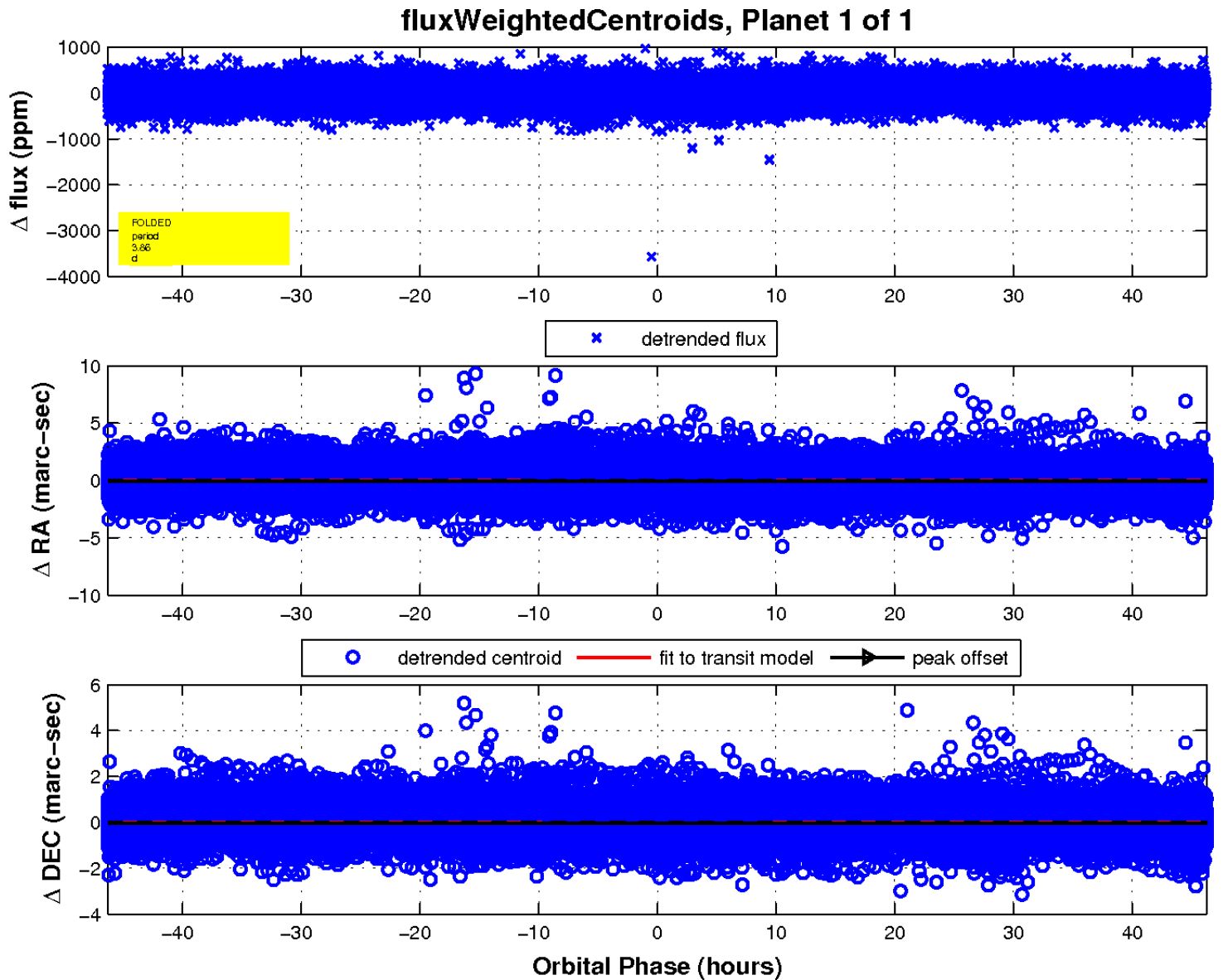
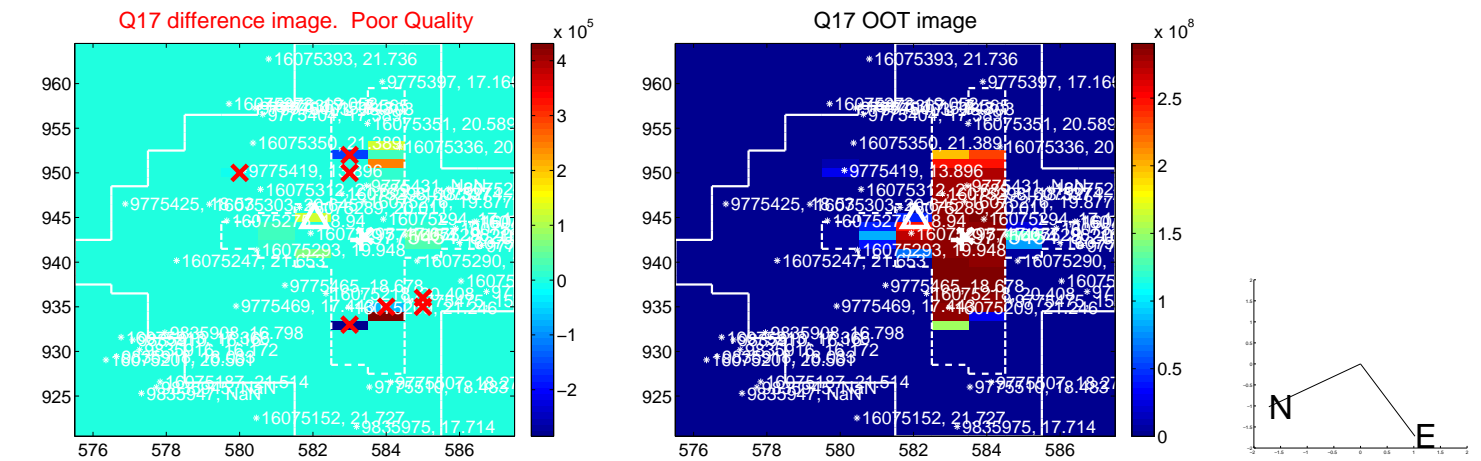
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

