

KIC 010451090

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})
010451090-01	OBS	No	1.159570	132.042834	12.9	4.792	9.6	10.8	3.26	7640	1.35	41887.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010451090-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_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.

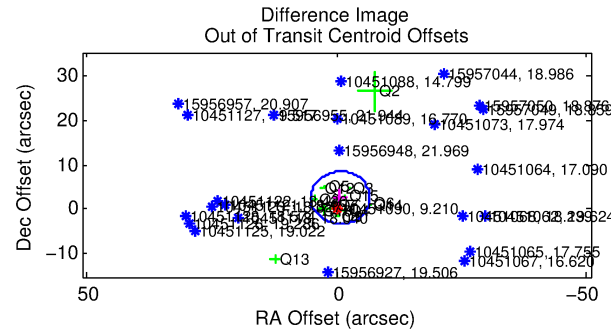
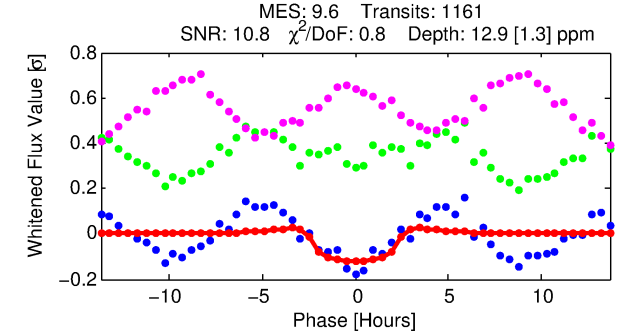
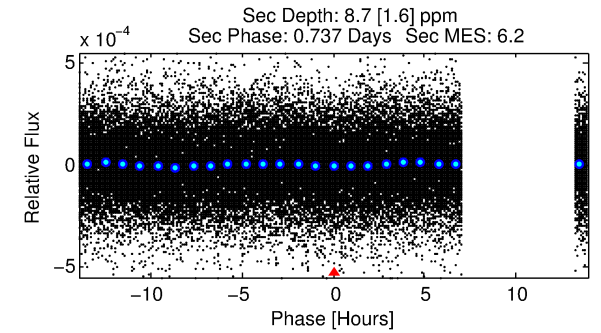
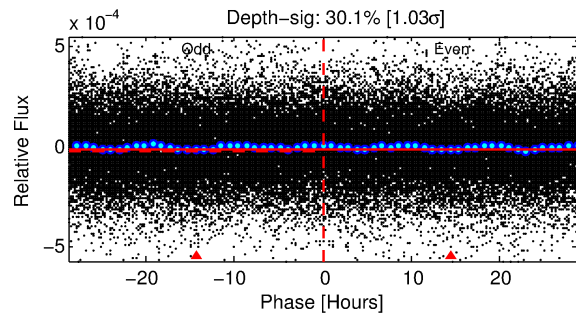
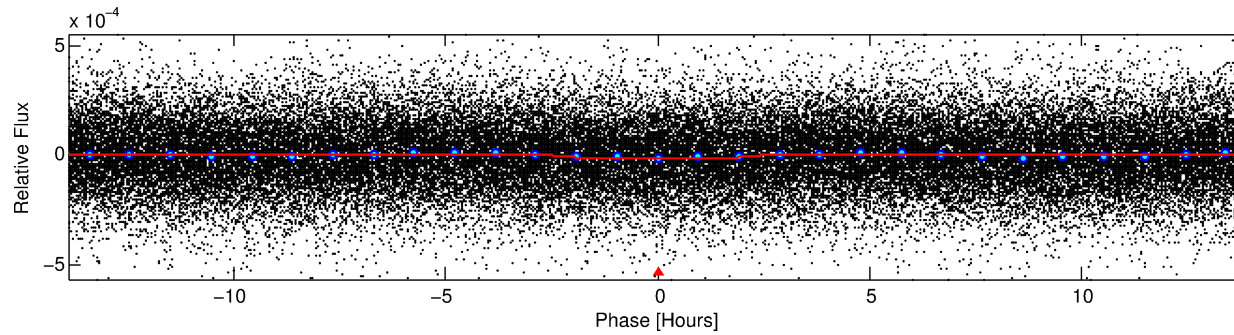
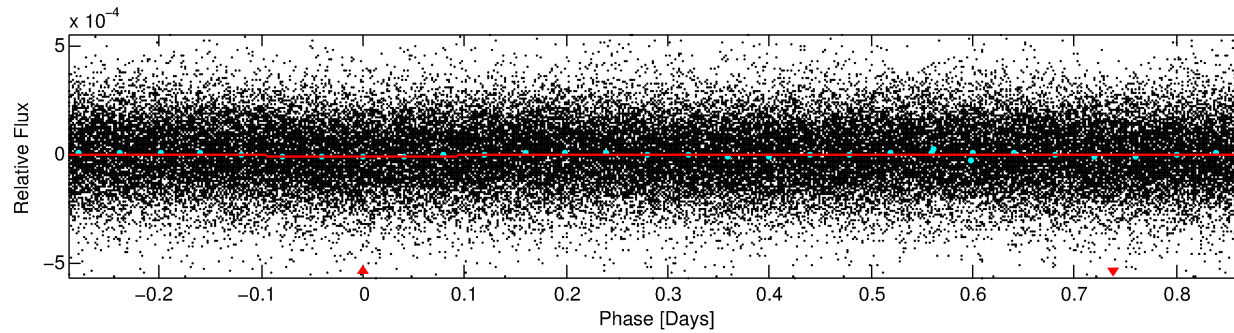
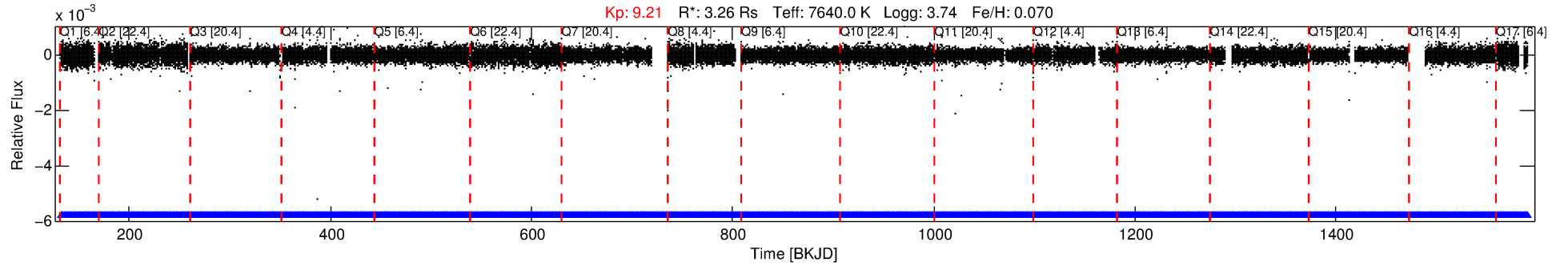
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010451090-01

No Significant Match Found

DV One-Page Summary

KIC: 10451090 Candidate: 1 of 1 Period: 1.160 d



DV Fit Results:

Period = 1.15957 [0.00001] d
Epoch = 132.0428 [0.0055] BKJD
 R_p/R^* = 0.0038 [0.0015]
 a/R^* = 1.25 [1.14]
 b = 0.90 [0.55]
 Seff = 41887.43 [16017.95]
 T_{eq} = 3648 [349] K
 R_p = 1.35 [0.65] R_e
 a = 0.0278 [0.0068] AU
 A_g = 2.03 [1.81] [0.57 σ]
 T_{effp} = 6731 [1373] K [2.18 σ]

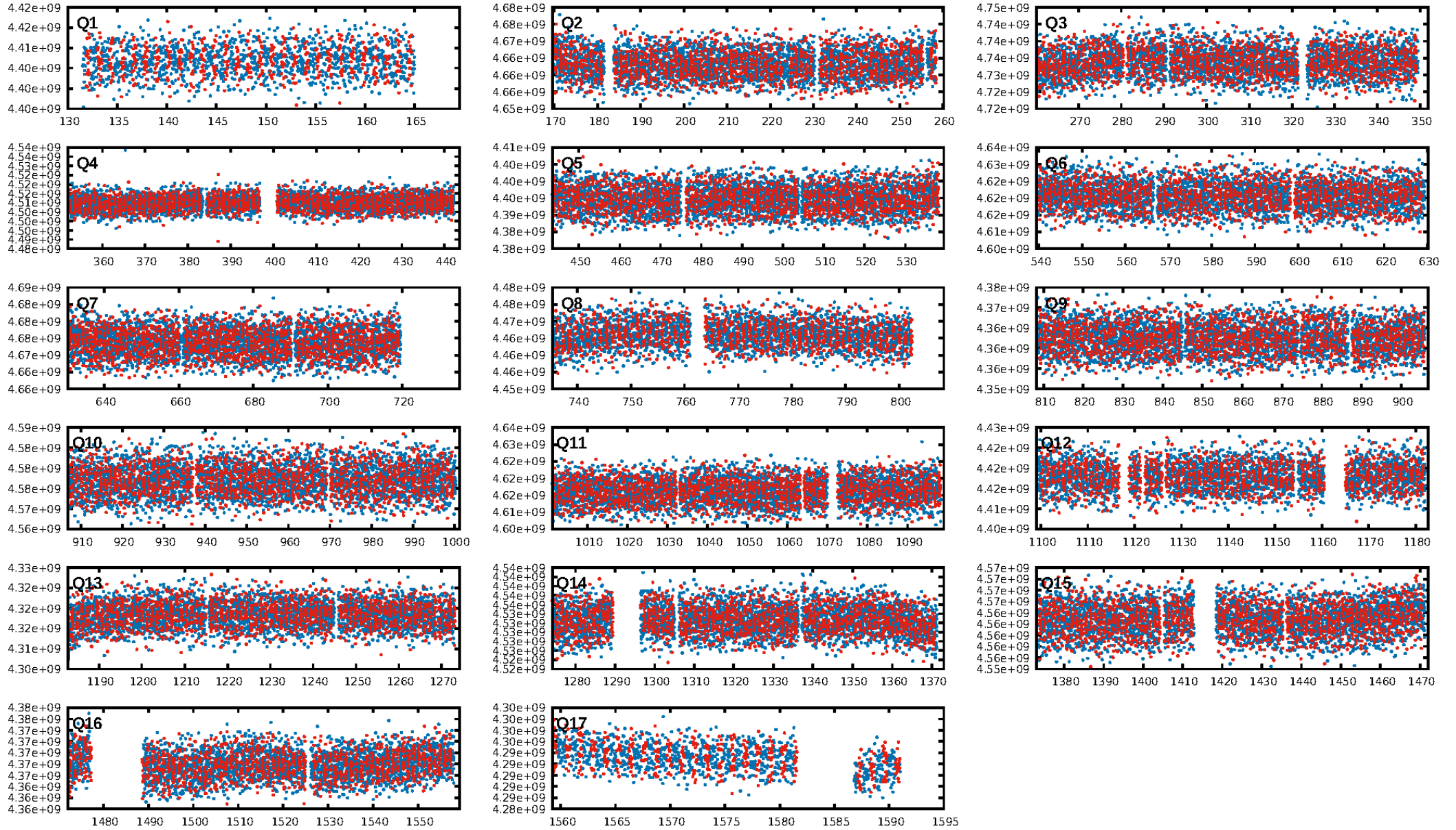
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.84e-22
RollingBand-fgt: 1.00 [1108/1108]
GhostDiagnostic-chr: N/A
Centroid-sig: 8.6%
Centroid-so: 1.458 arcsec [1.36 σ]
OotOffset-rm: 2.623 arcsec [1.32 σ]
KicOffset-rm: 3.317 arcsec [1.56 σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 0.00 [0/15]
DiffImageOverlap-fno: 1.00 [17/17]

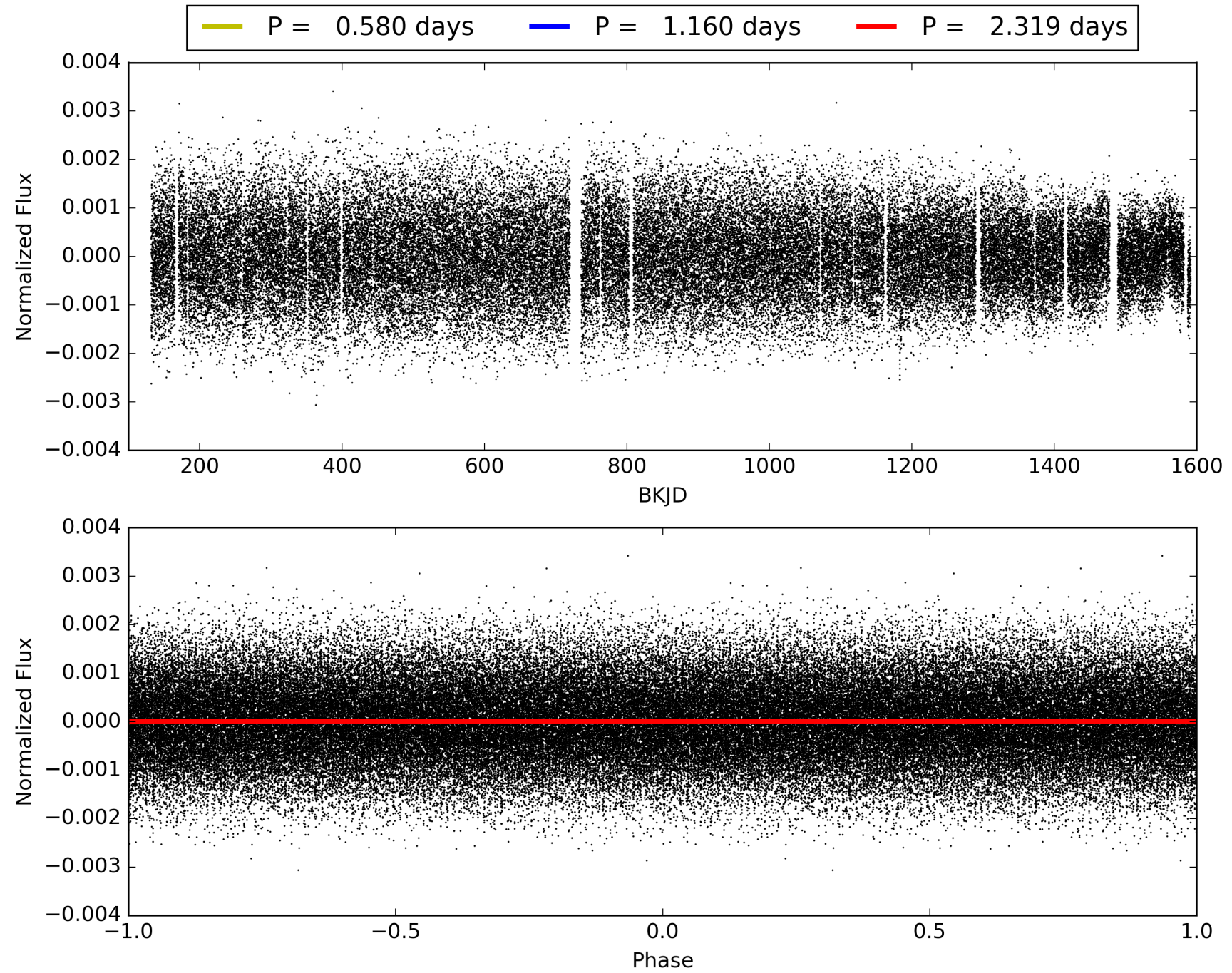
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:47:39 Z

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

TCE 010451090-01, PDC Light Curves

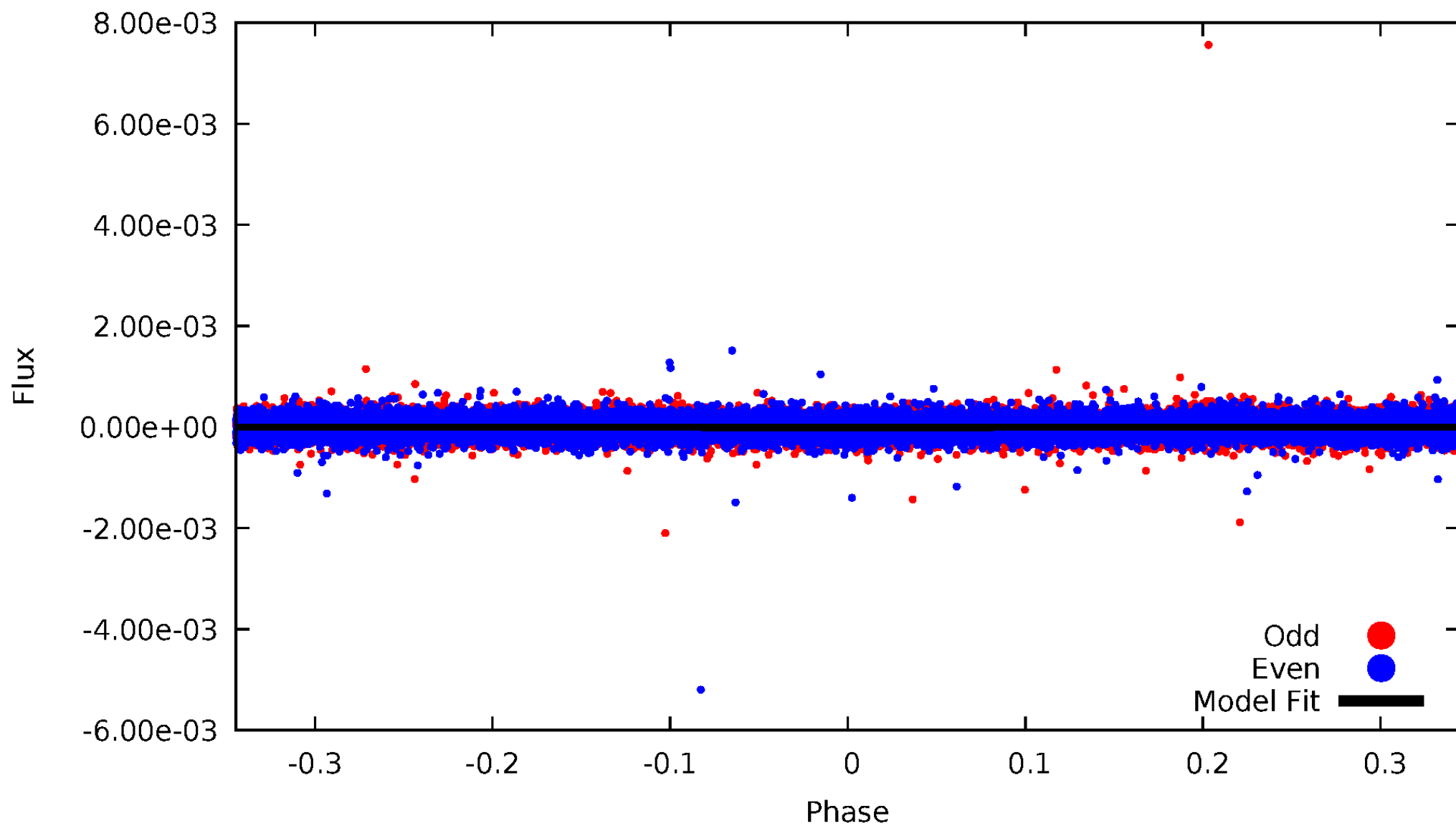


TCE 010451090-01



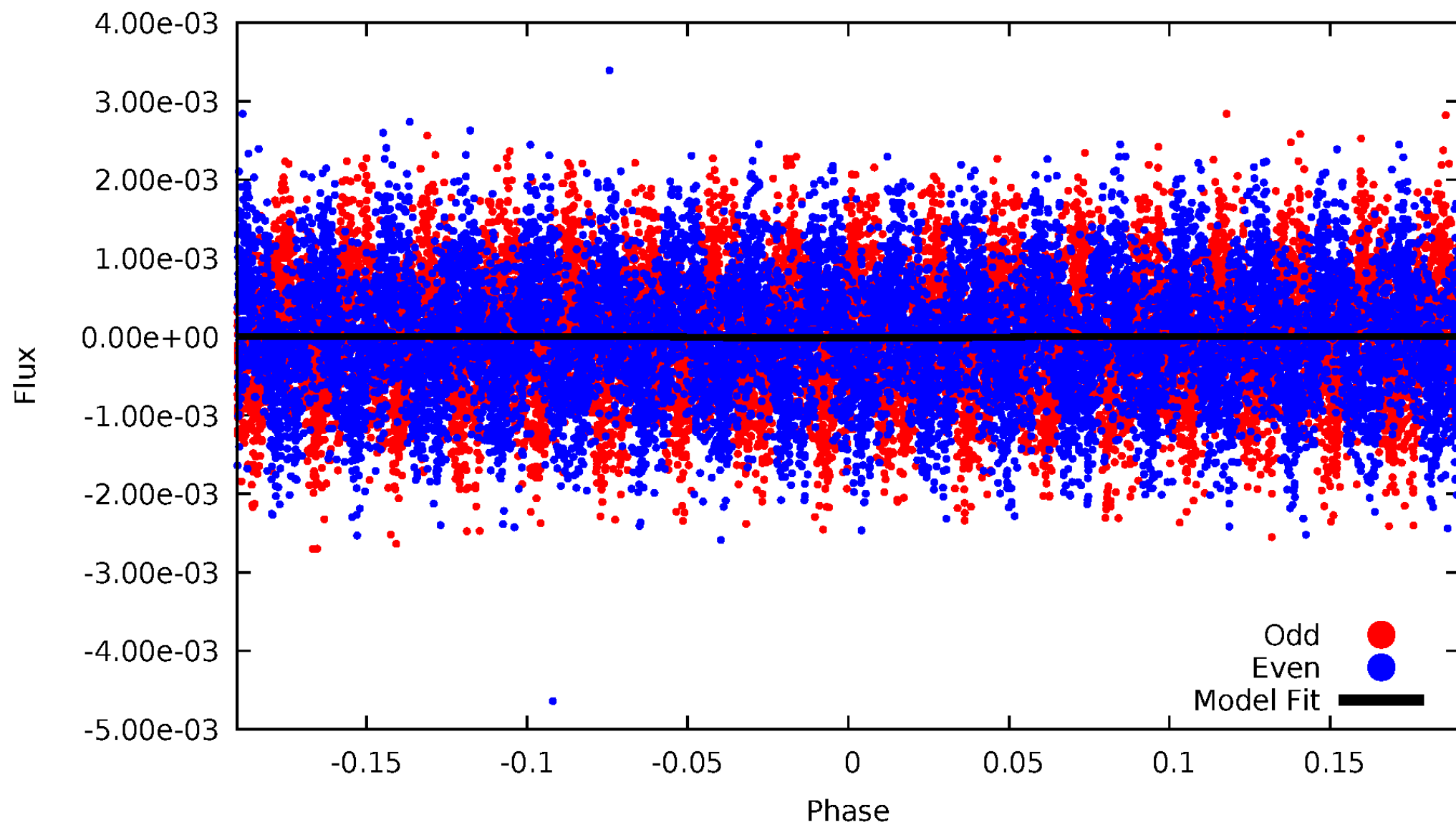
DV Odd/Even

TCE 010451090-01



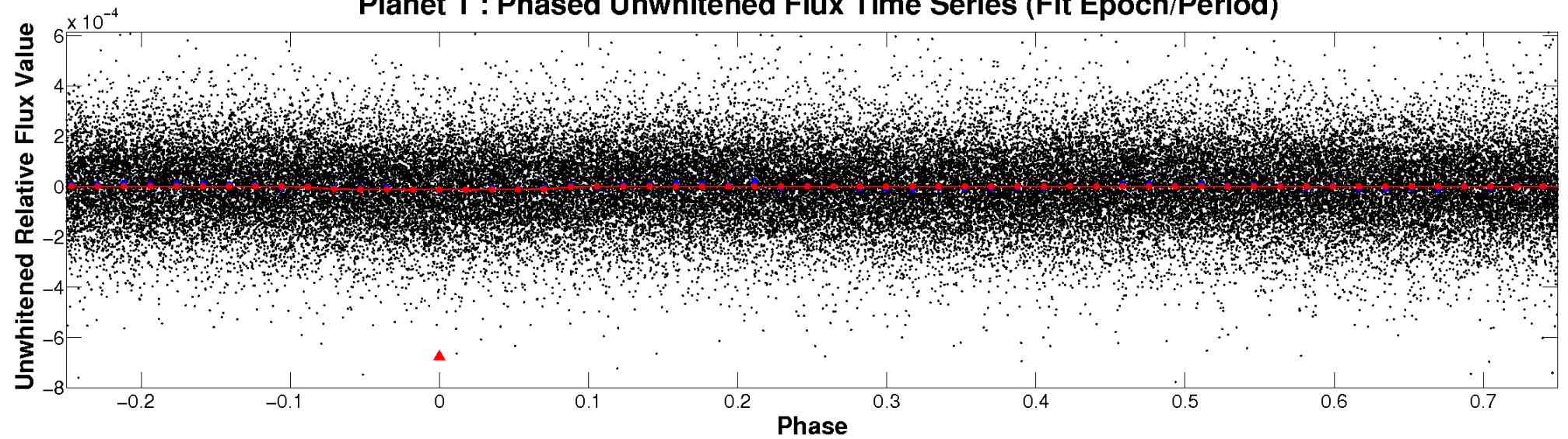
ALT Odd/Even

TCE 010451090-01

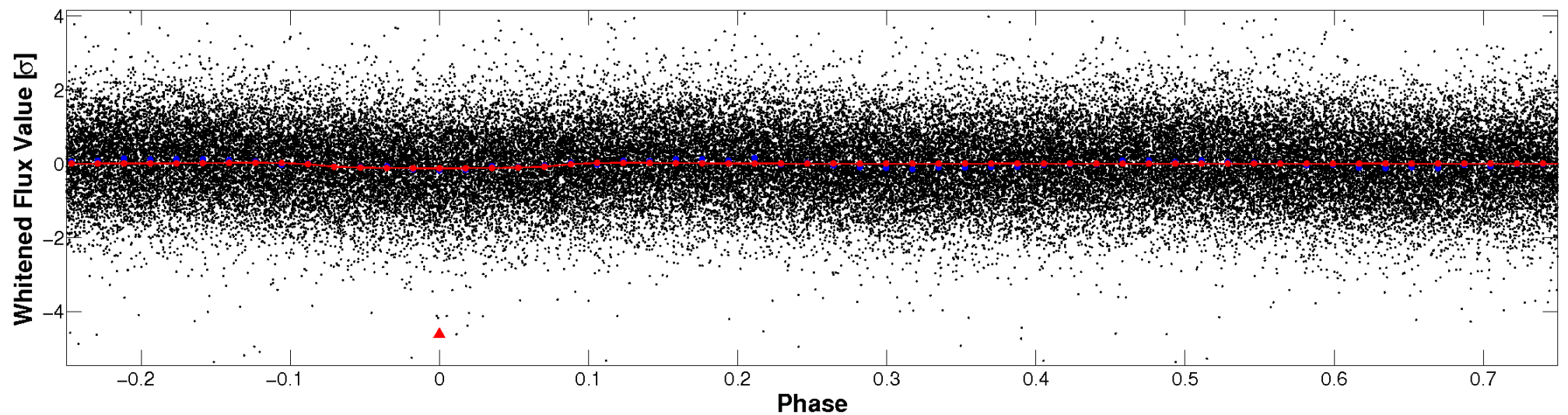


Non-Whitened Vs. Whitened Light Curve

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

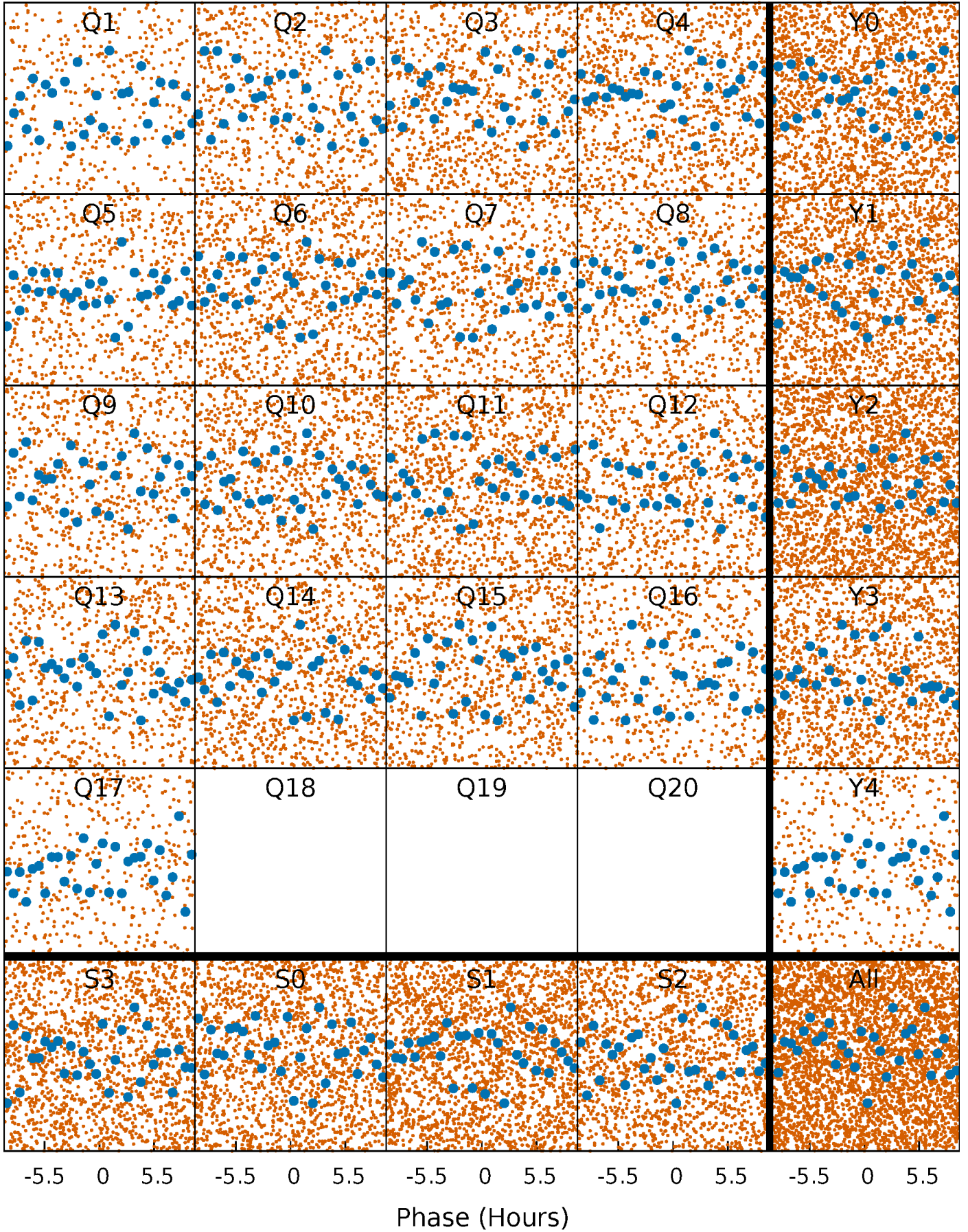


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



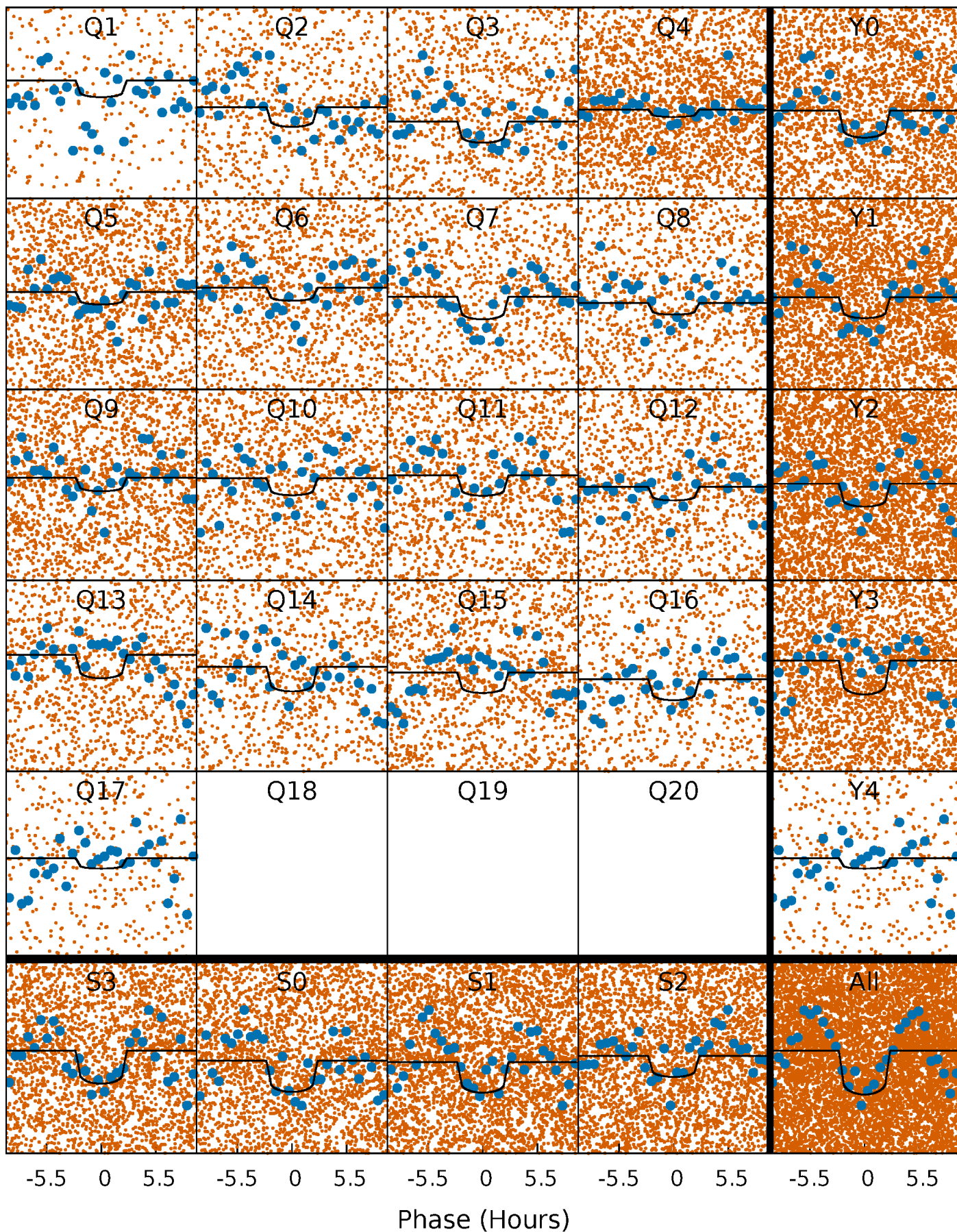
PDC Quarter-Phased Transit Curves

TCE 010451090-01 P= 1.159570 Days $T_0=132.042834$ (BKJD)



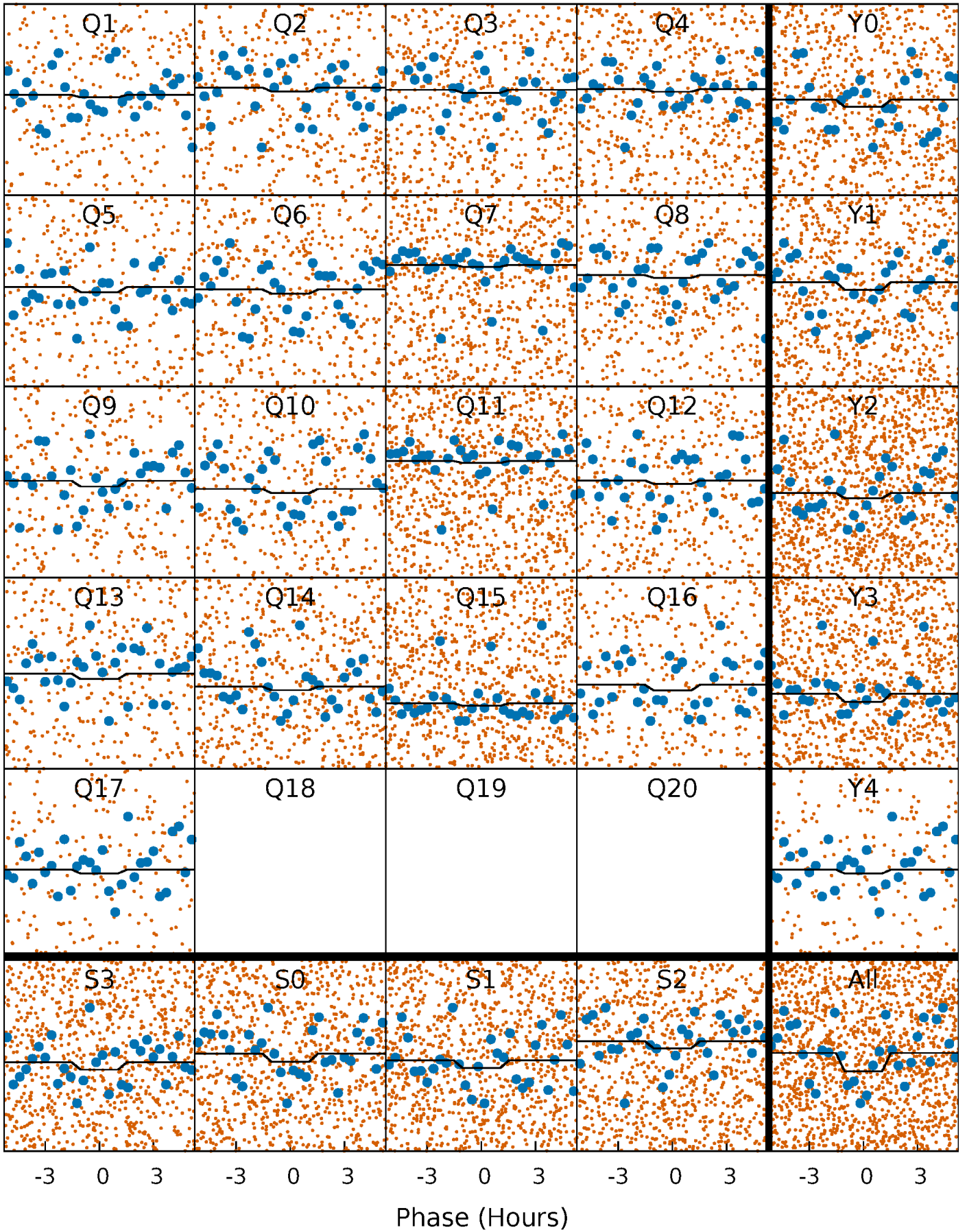
DV Quarter-Phased Transit Curves

TCE 010451090-01 P= 1.159570 Days $T_0=132.042834$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

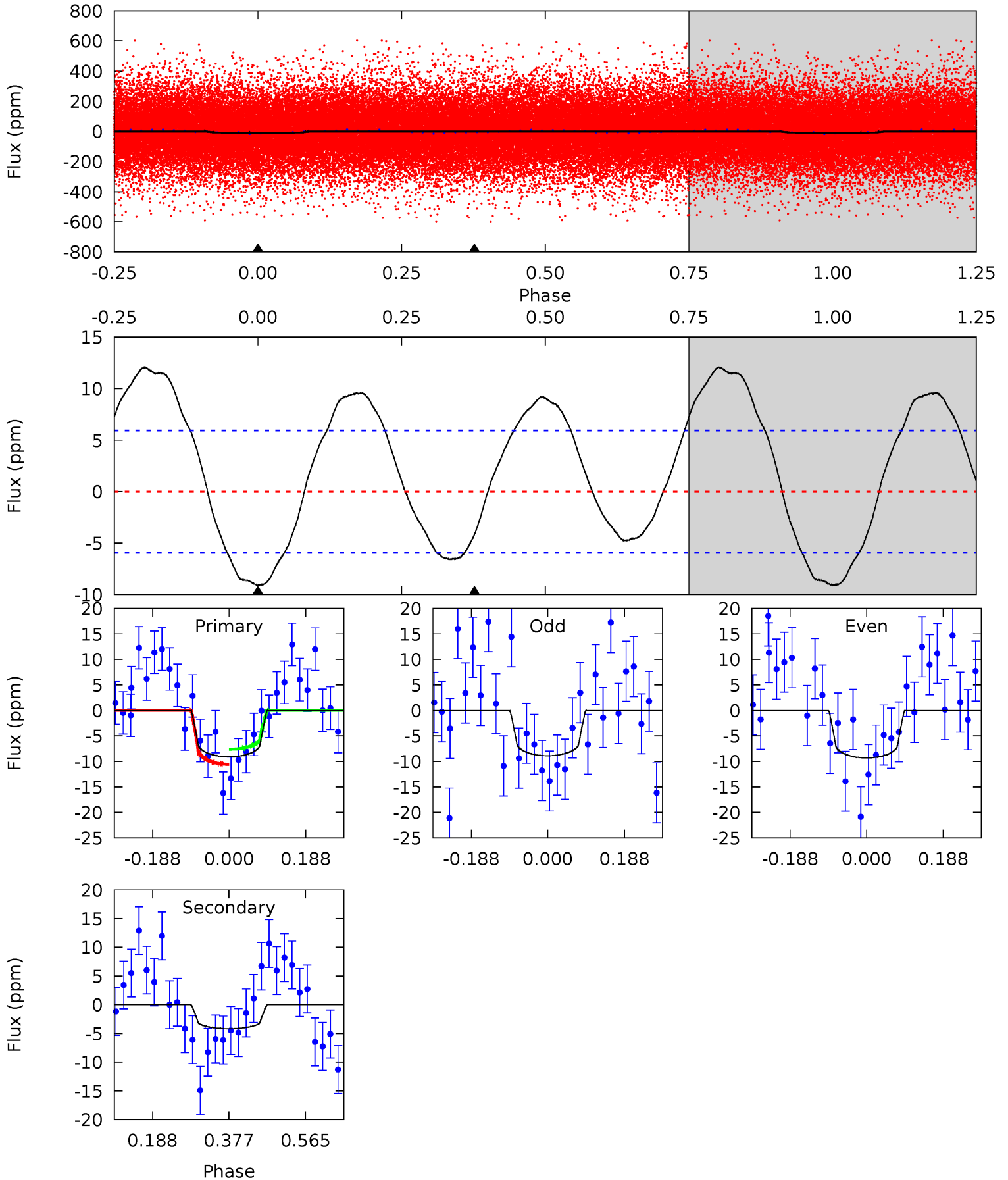
TCE 010451090-01 P= 1.159570 Days $T_0=132.053633$ (BKJD)



DV Model-Shift Uniqueness Test

010451090-01, P = 1.159570 Days, E = 130.883264 Days

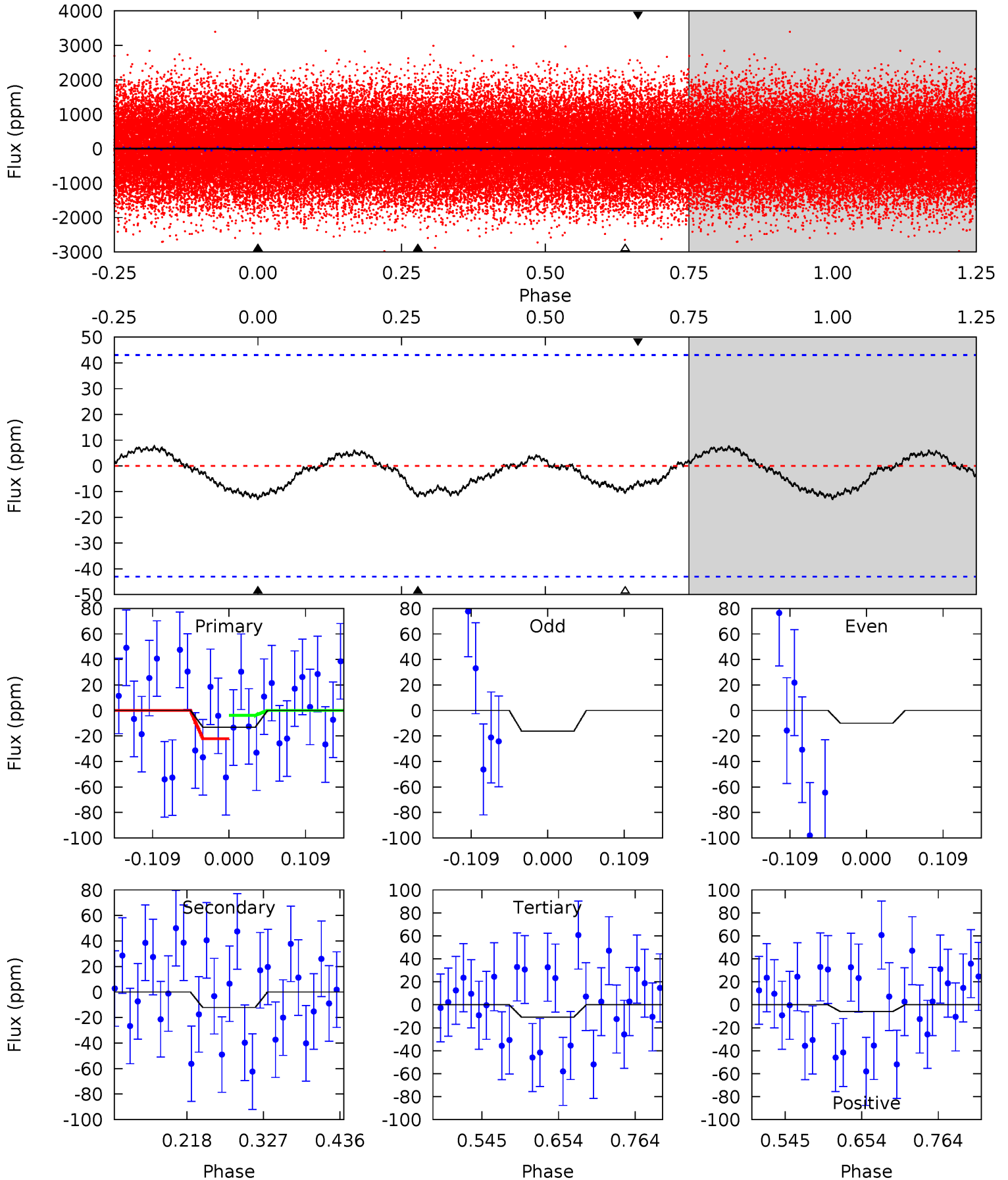
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.79	3.10	0	0	4.43	1.32	4.31	6.79	6.79	3.10	3.10	0.16	1.04	0.57	1.11



Alt Model-Shift Uniqueness Test

010451090-01, P = 1.159570 Days, E = 130.894063 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.38	1.28	1.13	-0.62	4.55	1.60	0.49	0.25	2.01	0.15	1.90	0.32	1.29	0.37	0.97



Stellar Parameters For KIC 010451090

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7640^{+121}_{-181}	$3.741^{+0.210}_{-0.090}$	$0.070^{+0.150}_{-0.150}$	$3.257^{+0.480}_{-0.892}$	$2.131^{+0.209}_{-0.279}$	$0.087^{+0.106}_{-0.025}$
	+2%/-2%	+6%/-2%	+214%/-214%	+15%/-27%	+10%/-13%	+122%/-29%
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 010451090-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4 ± 1	$1.30^{+0.56}_{-0.52}$	5023^{+241}_{-316}	5106^{+1833}_{-1259}	$1.044^{+1.906}_{-0.573}$
Alt.	-12 ± 9	$1.18^{+0.50}_{-0.56}$	5042^{+225}_{-302}	7577^{+4363}_{-3176}	$3.711^{+10.139}_{-3.012}$

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

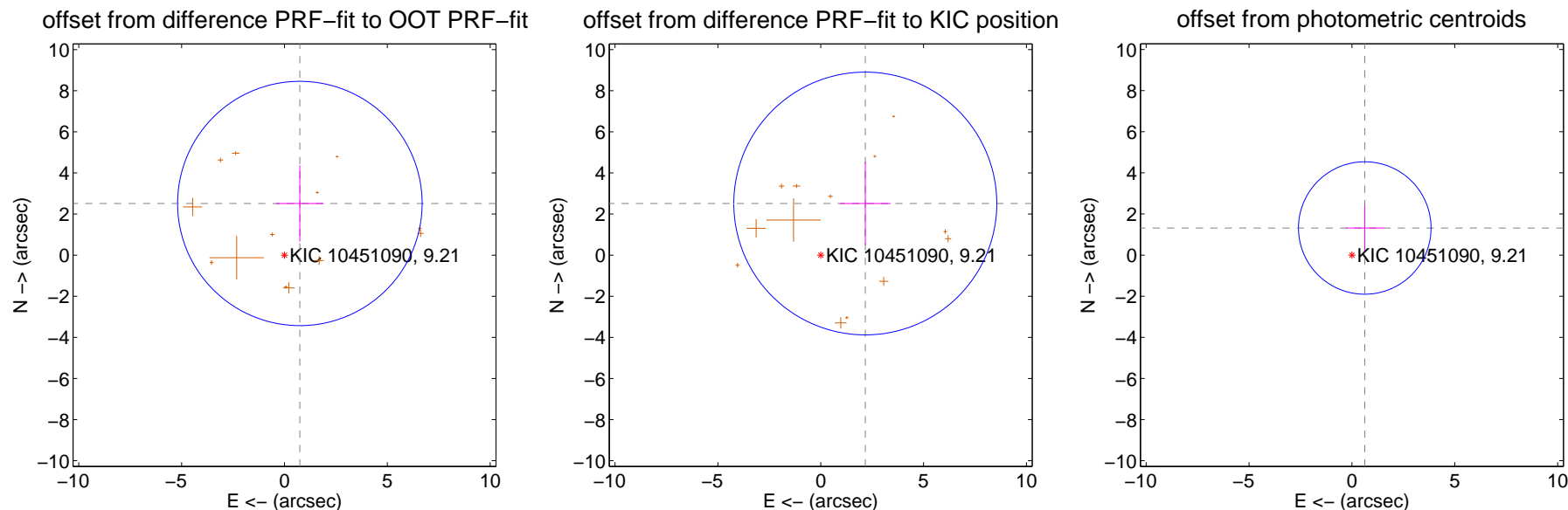
DV Centroid Data

Supplemental centroid analysis for 010451090-01. **Kepler magnitude: 9.21.** Transit SNR 10.85

There are 0 quarters with good PRF difference image offsets

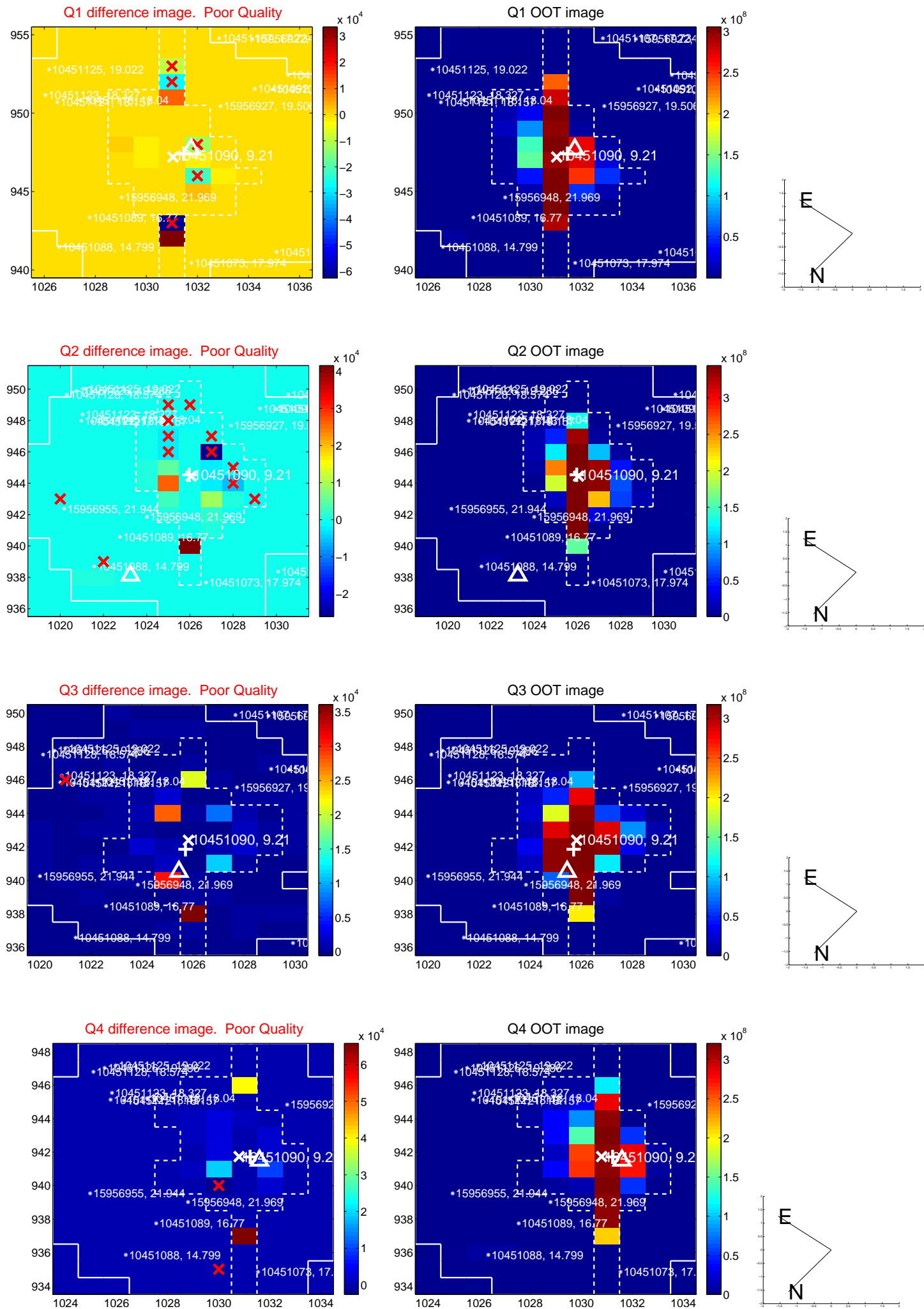
The OOT PRF centroid is offset from the target star catalog position by about 2.04 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.623 ± 1.981	1.32	-0.748 ± 1.151	2.514 ± 1.856
PRF-fit source offset from KIC position	3.317 ± 2.130	1.56	-2.166 ± 1.232	2.512 ± 2.027
photometric centroid source offset	1.46 ± 1.07	1.36	-0.62 ± 0.92	1.32 ± 1.11

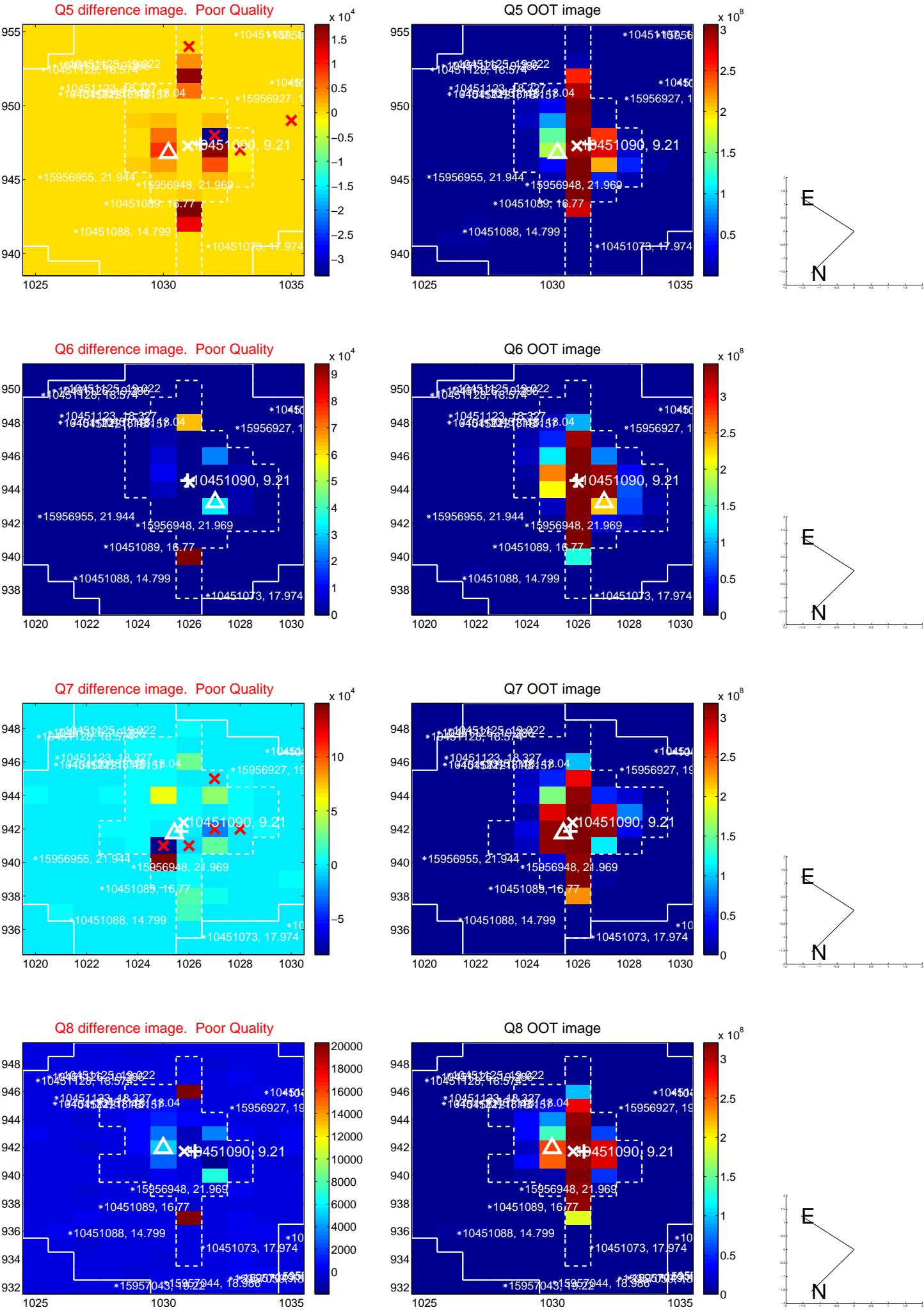


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

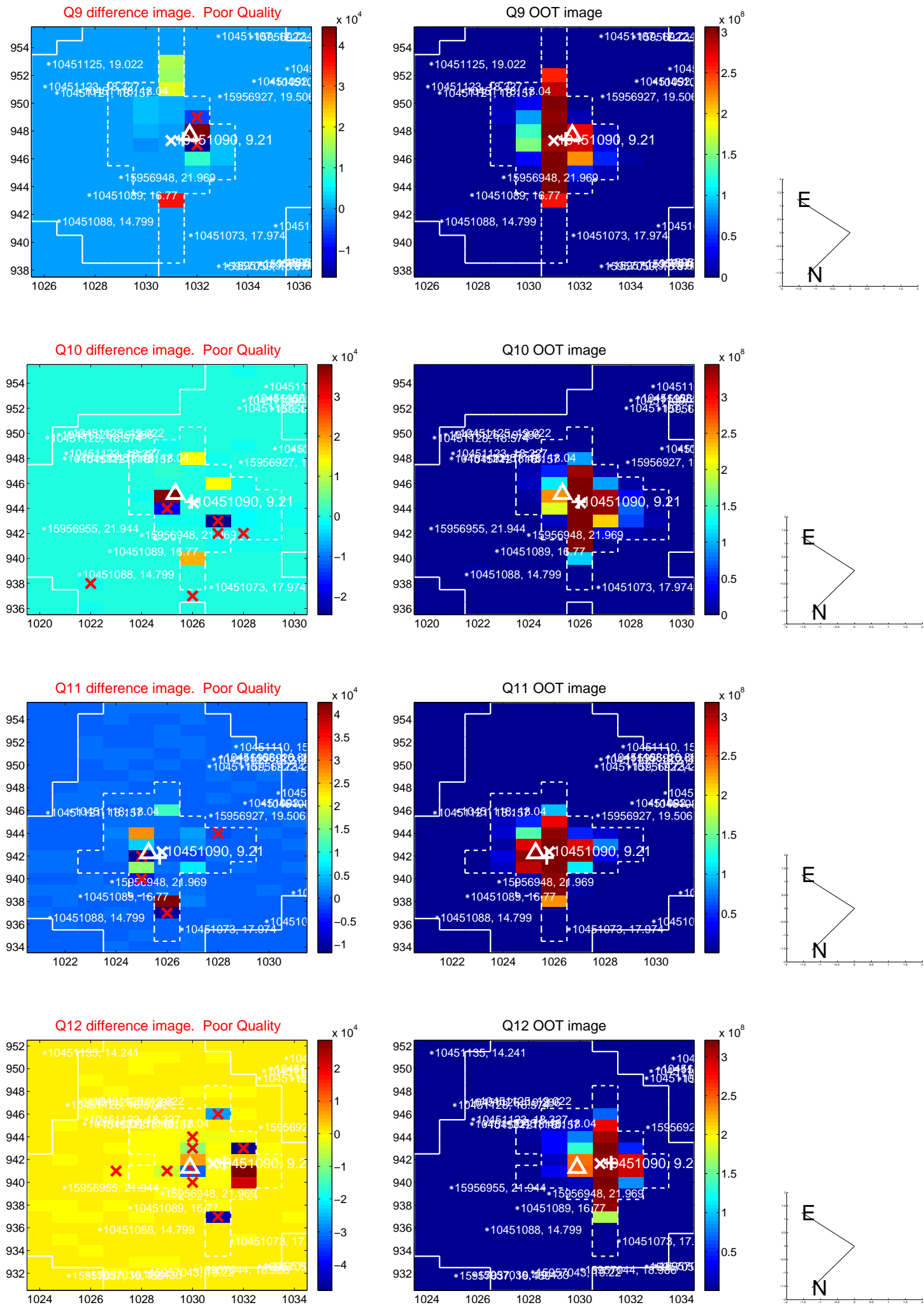
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



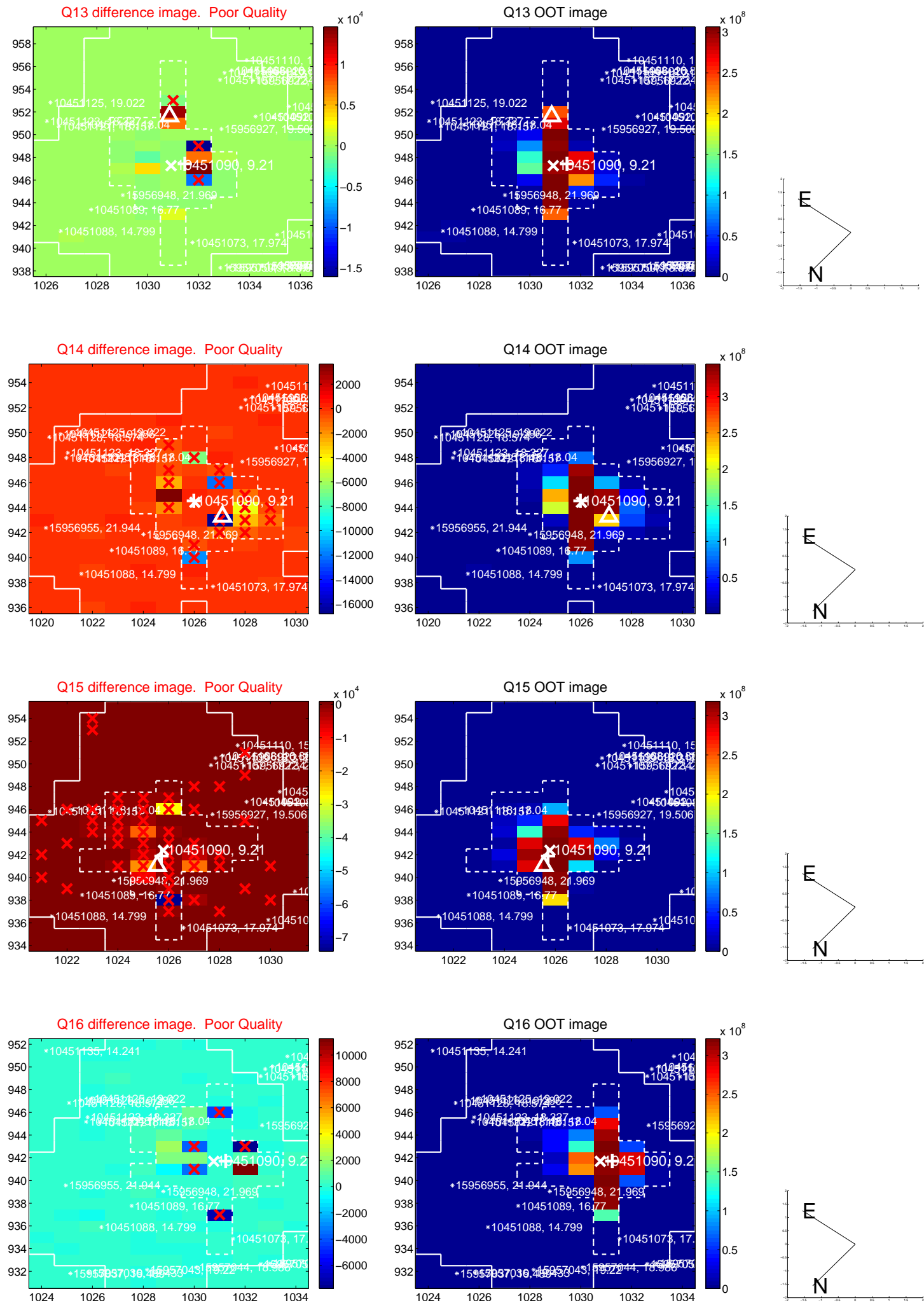
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

