

KIC 012553358

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})
012553358-01	OBS	No	2.952217	133.339797	243.6	6.000	9.7	-1.0	1.62	6547	2.55	2398.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012553358-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

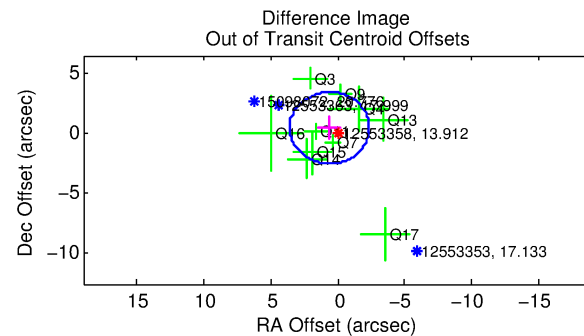
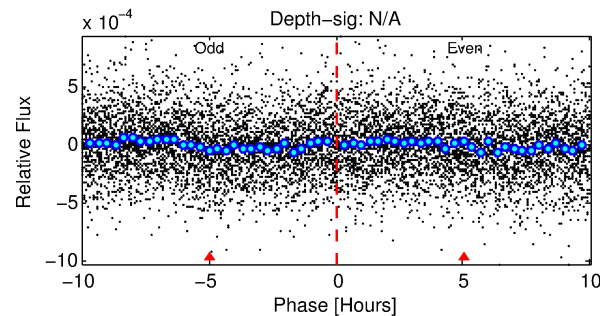
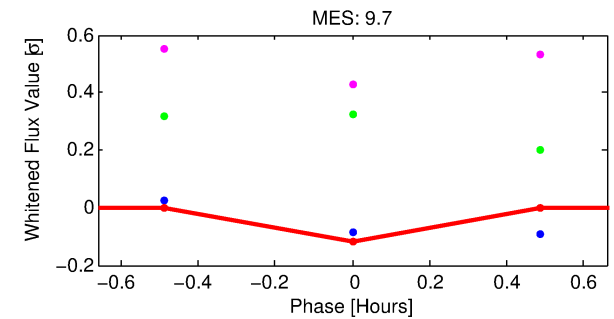
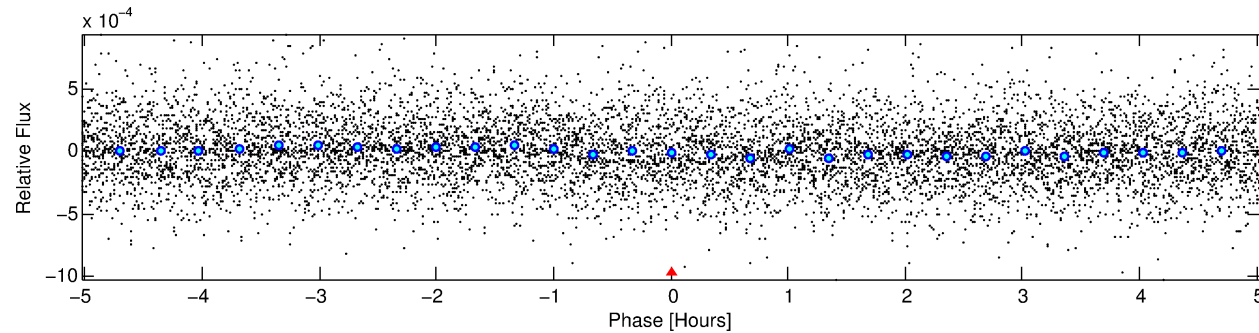
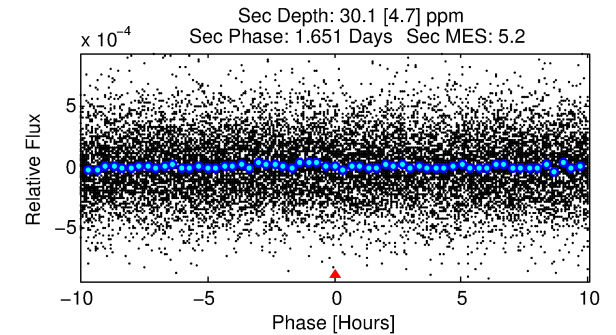
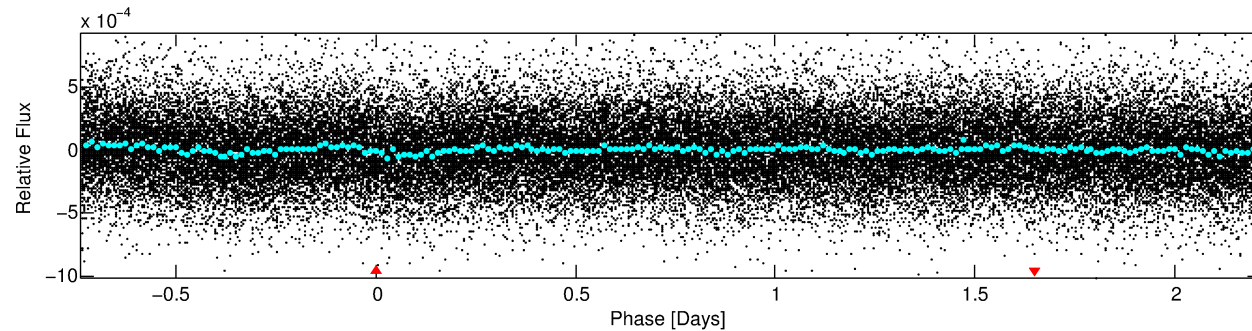
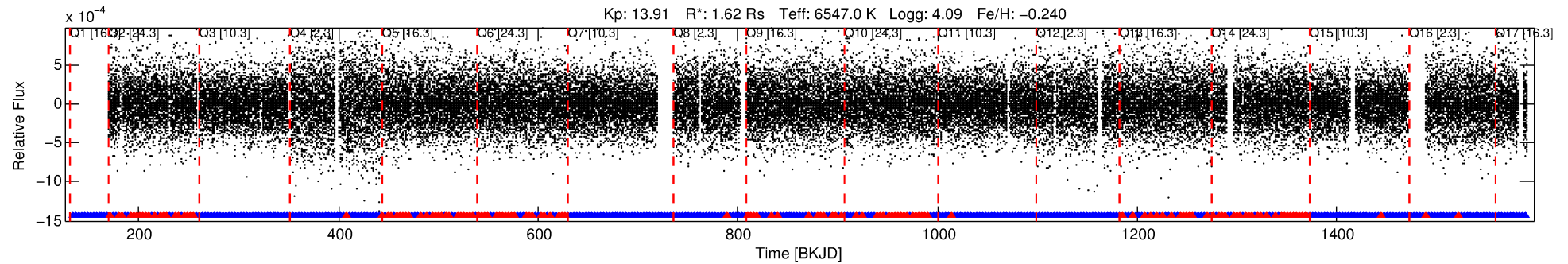
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012553358-01

No Significant Match Found

DV One-Page Summary

KIC: 12553358 Candidate: 1 of 1 Period: 2.952 d



TPS TCE Results:

Period = 2.9522 d
Epoch = 133.3398 BKJD

DV fit results are unavailable

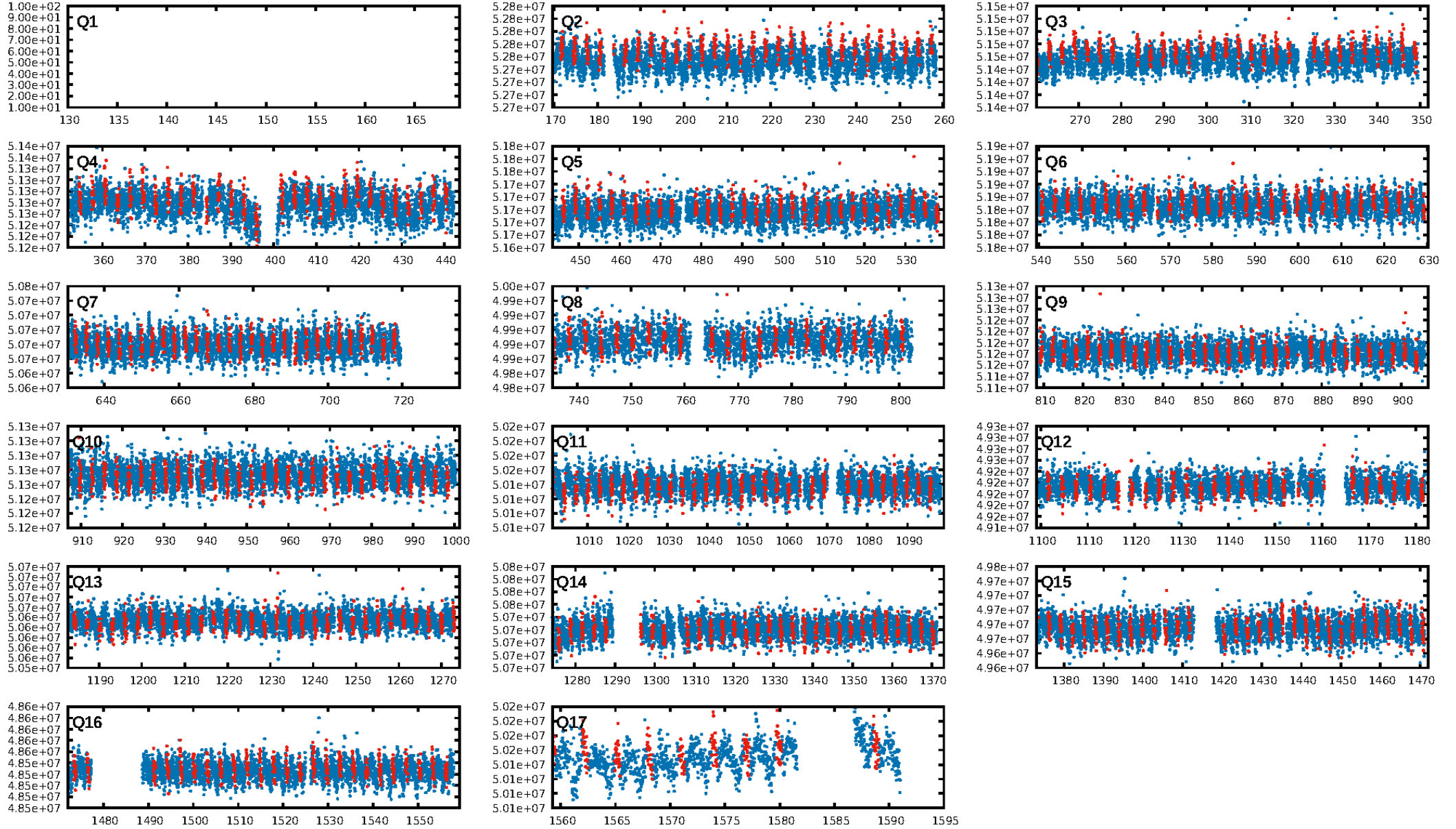
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.91e-21
RollingBand-fgt: 0.69 [298/434]
GhostDiagnostic-chr: -2.784
Centroid-sig: 17.5%
Centroid-so: 1.463 arcsec [1.40σ]
OotOffset-rm: 0.783 arcsec [0.79σ]
KicOffset-rm: 0.721 arcsec [0.58σ]
OotOffset-st: 1/4/2/3 [10]
KicOffset-st: 1/4/2/3 [10]
DiffImageQuality-fgm: 0.10 [1/10]
DiffImageOverlap-fno: 1.00 [16/16]

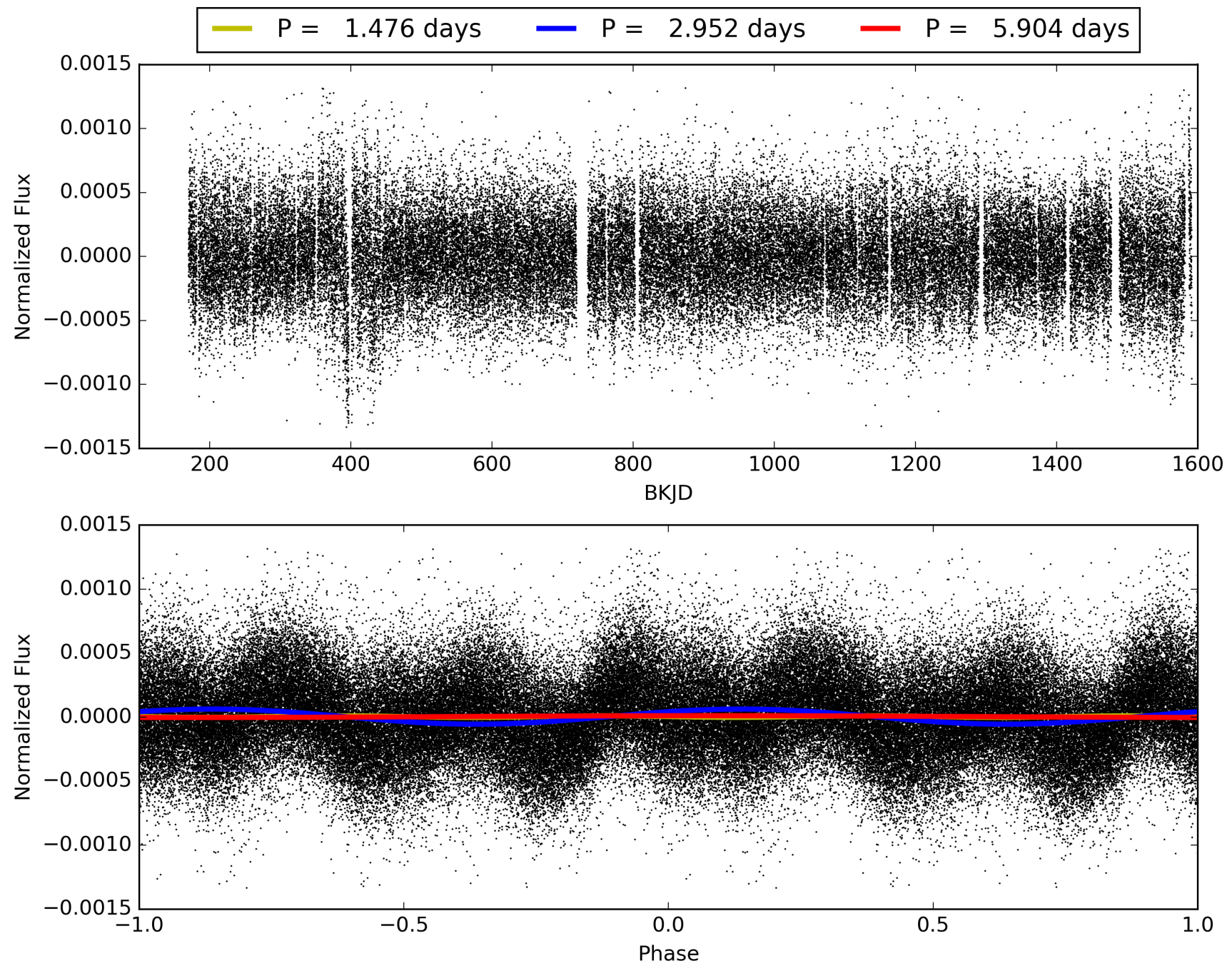
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 18:33:59 Z

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

TCE 012553358-01, PDC Light Curves

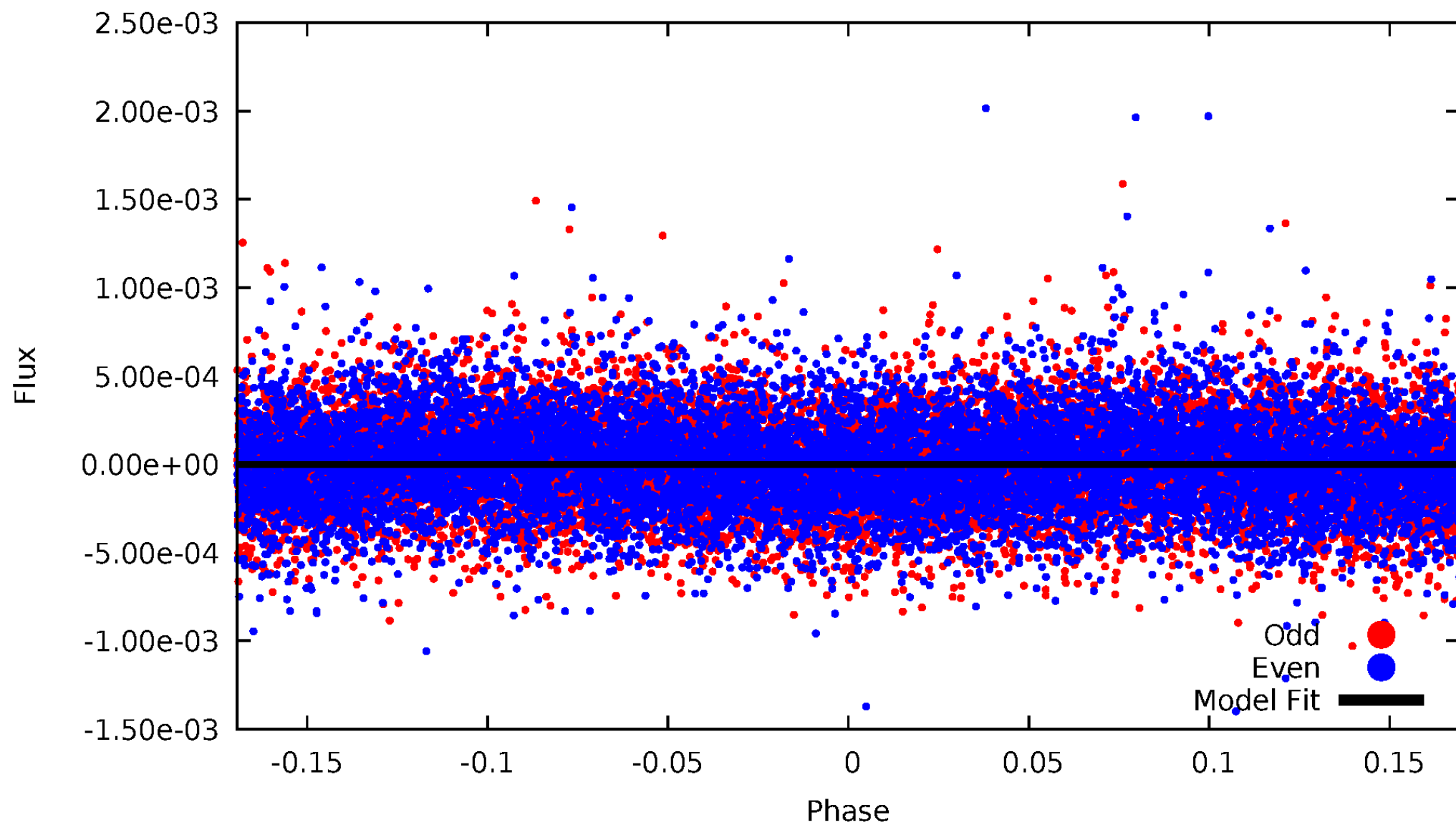


TCE 012553358-01



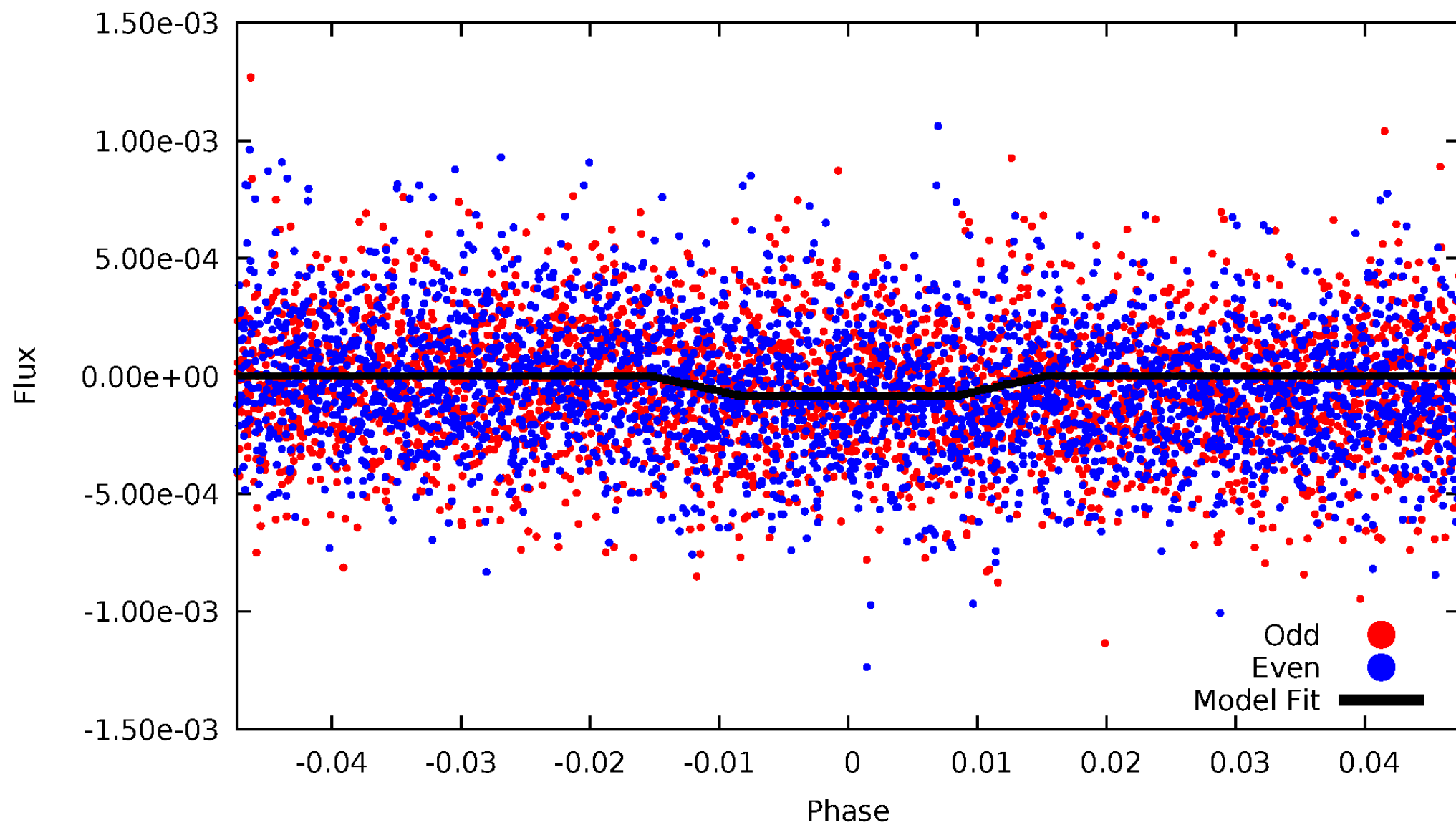
DV Odd/Even

TCE 012553358-01

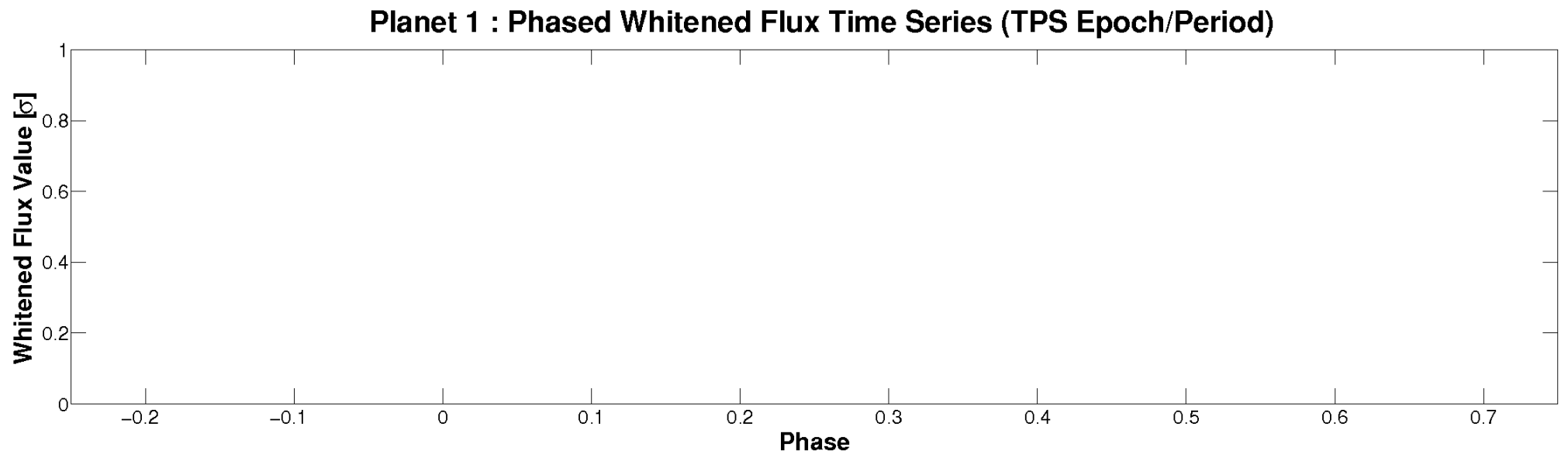
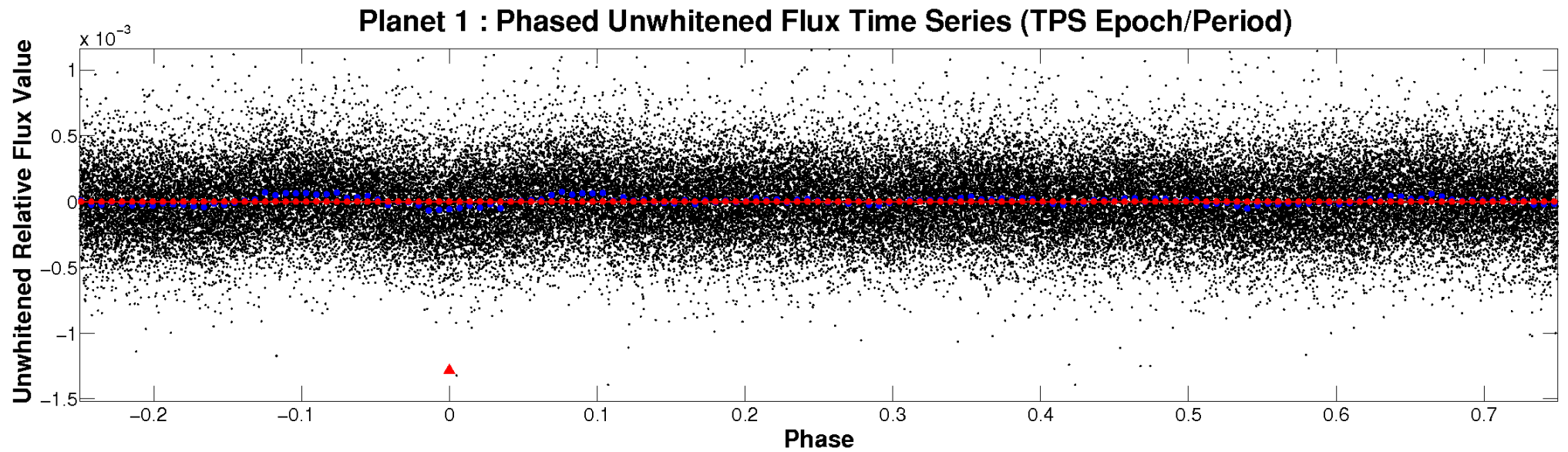


ALT Odd/Even

TCE 012553358-01

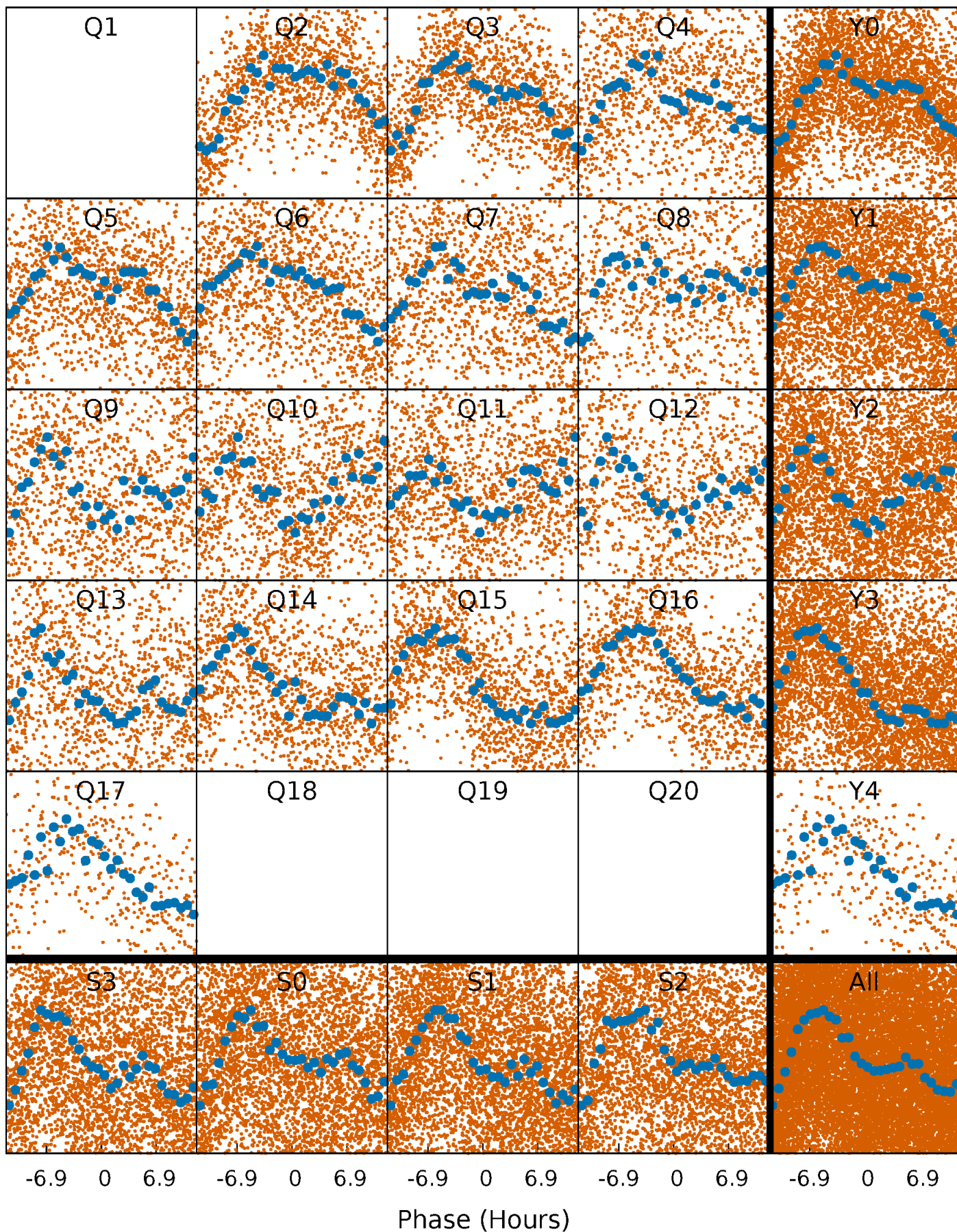


Non-Whitened Vs. Whitened Light Curve



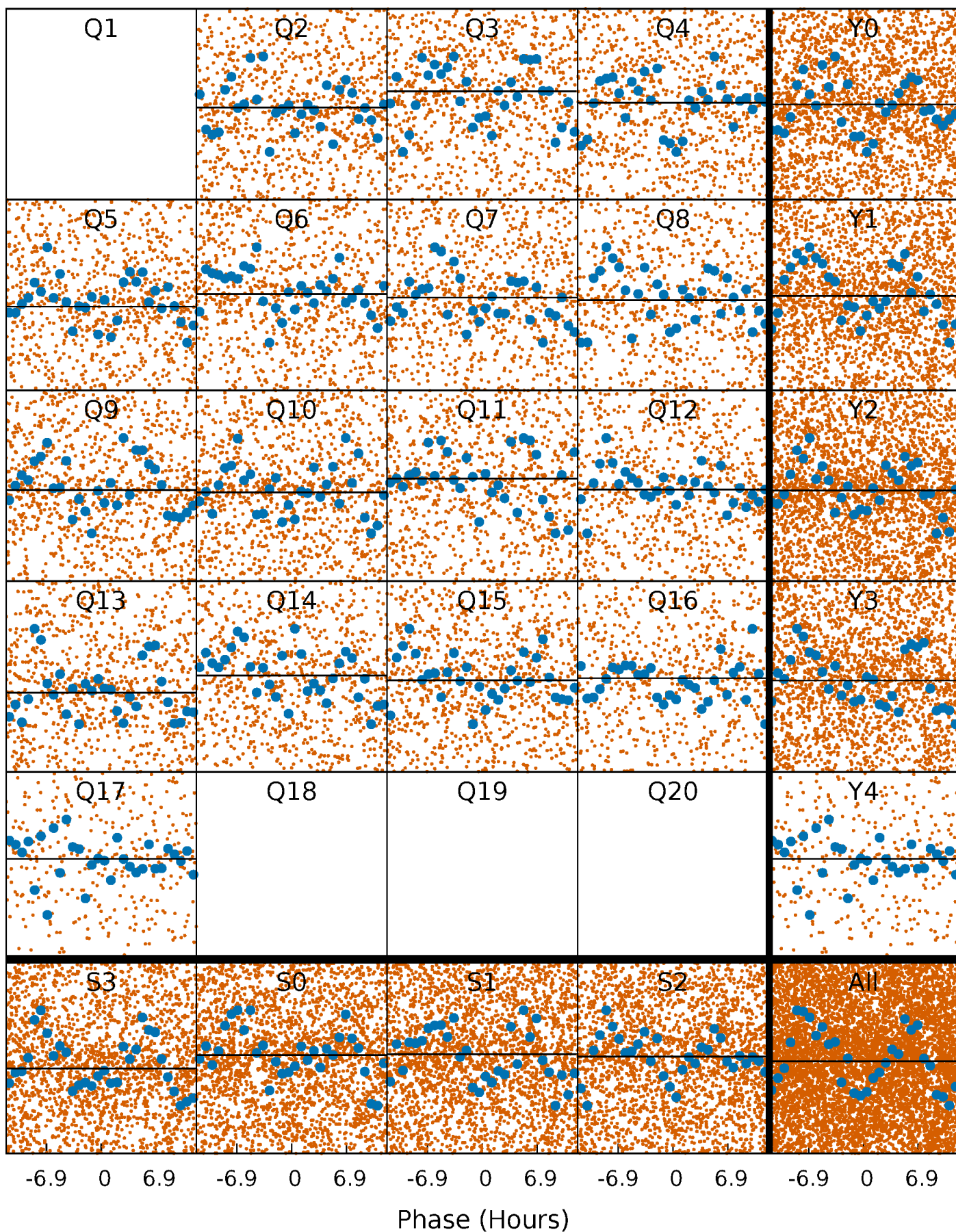
PDC Quarter-Phased Transit Curves

TCE 012553358-01 P= 2.952217 Days $T_0=133.339797$ (BKJD)



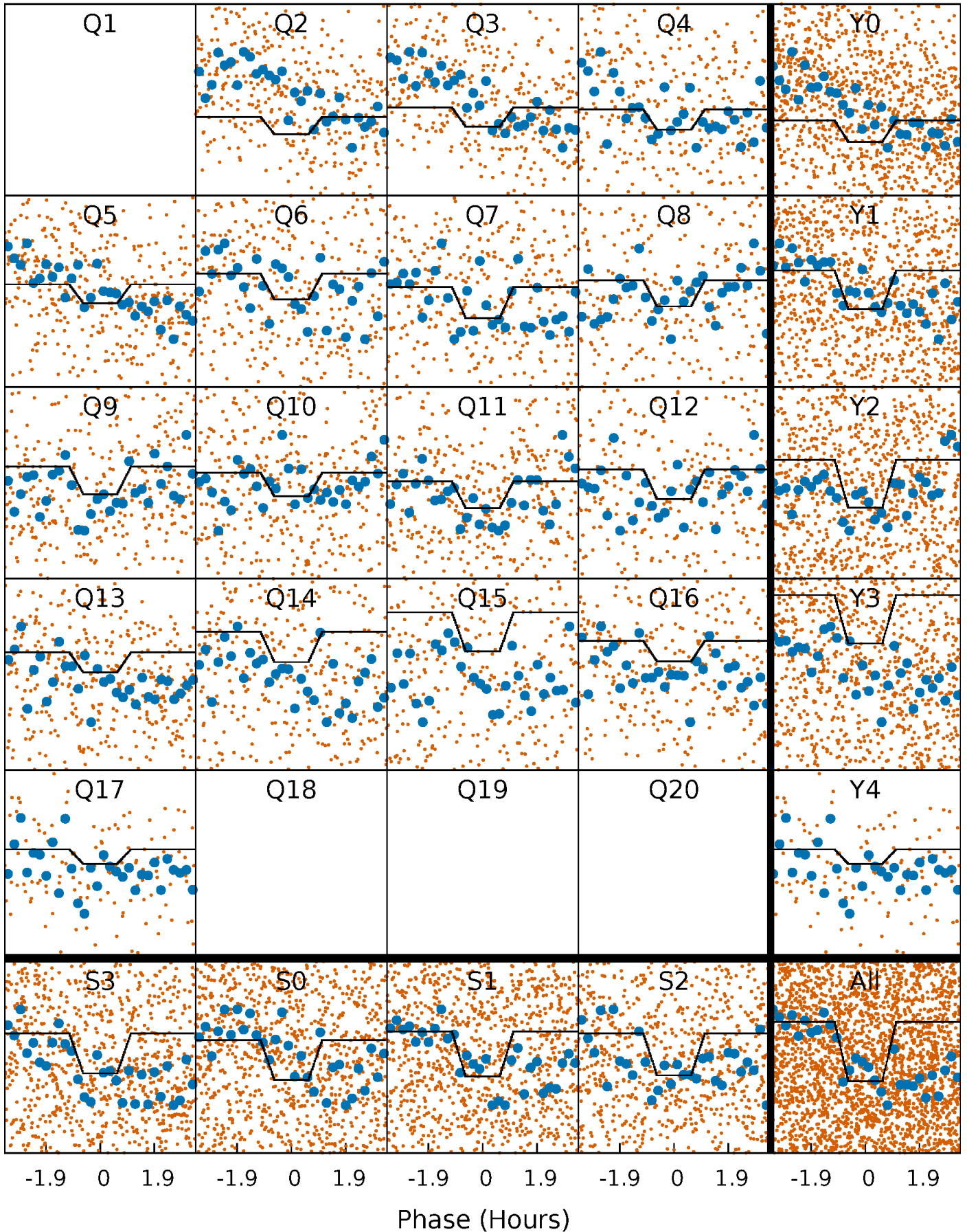
DV Quarter-Phased Transit Curves

TCE 012553358-01 P= 2.952217 Days $T_0=133.339797$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

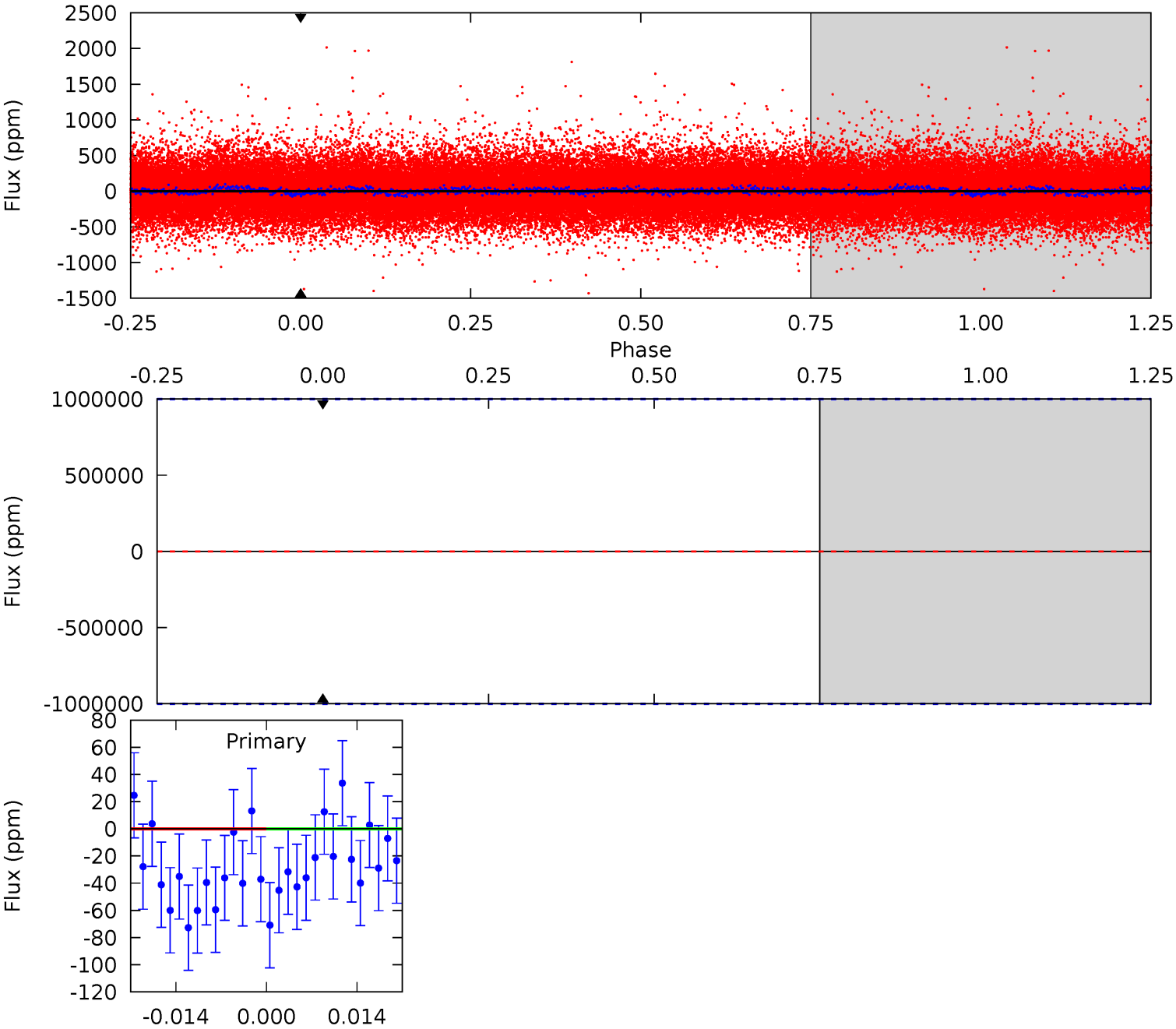
TCE 012553358-01 P= 2.952217 Days $T_0=133.693460$ (BKJD)



DV Model-Shift Uniqueness Test

012553358-01, P = 2.952217 Days, E = 133.339797 Days

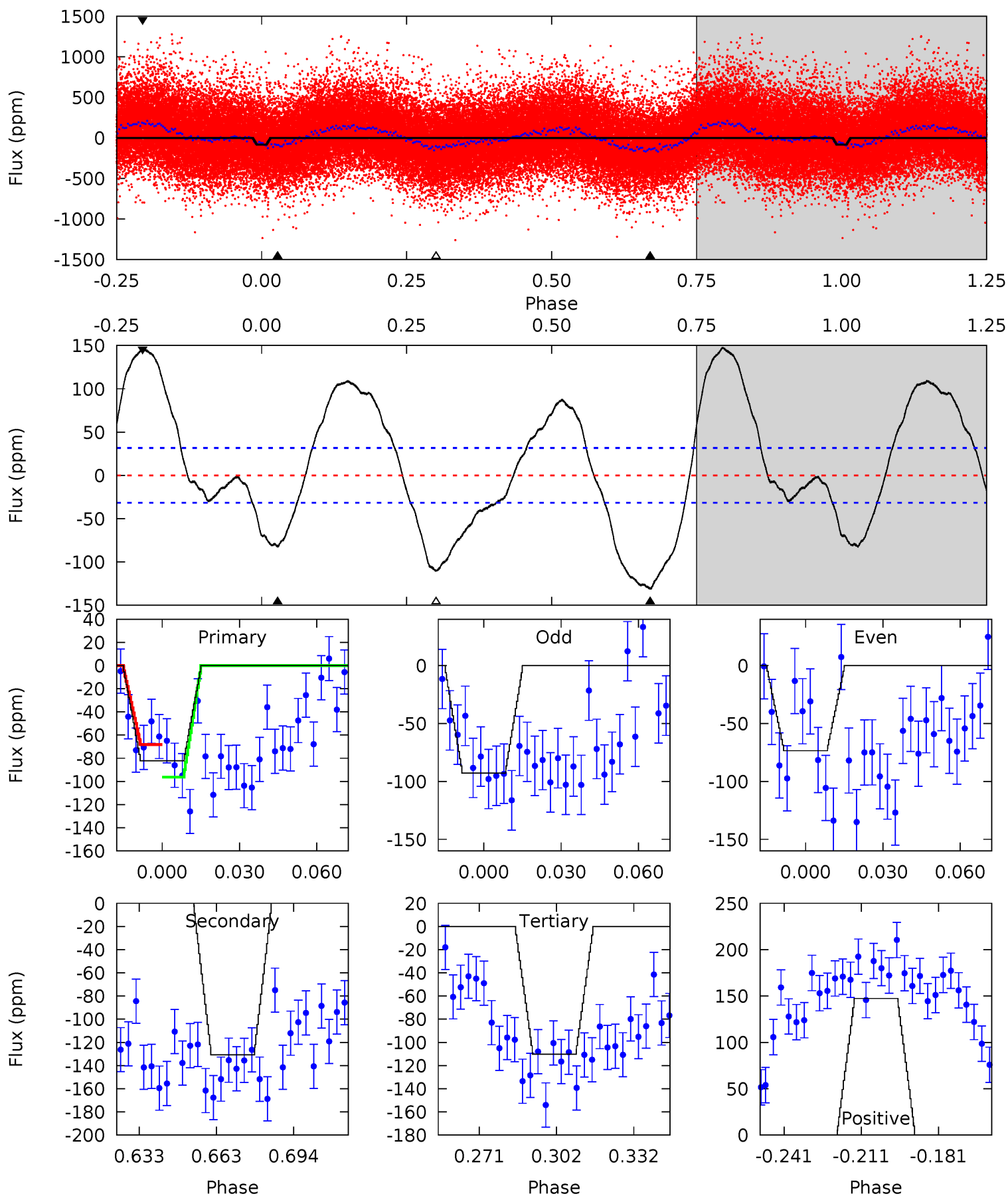
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

012553358-01, P = 2.952217 Days, E = 133.693460 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	19.9	16.8	22.4	4.81	2.17	10.6	-4.25	-9.91	3.13	-2.53	1.48	0.88	0.53	2.14



Stellar Parameters For KIC 012553358

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6547^{+181}_{-227}	$4.088^{+0.252}_{-0.168}$	$-0.240^{+0.250}_{-0.300}$	$1.624^{+0.475}_{-0.475}$	$1.177^{+0.206}_{-0.169}$	$0.387^{+0.609}_{-0.184}$
	+3%/-3%	+6%/-4%	+104%/-125%	+29%/-29%	+18%/-14%	+157%/-48%
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 012553358-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$12.53^{+12.27}_{-8.48}$	2469^{+197}_{-210}	2892^{+31491}_{-27950}	$0.918^{+1379.411}_{-912.561}$
Alt.	-131 ± 7	$11.84^{+14.29}_{-8.61}$	2467^{+203}_{-188}	3060^{+1989}_{-5494}	$0.922^{+11.243}_{-0.723}$

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

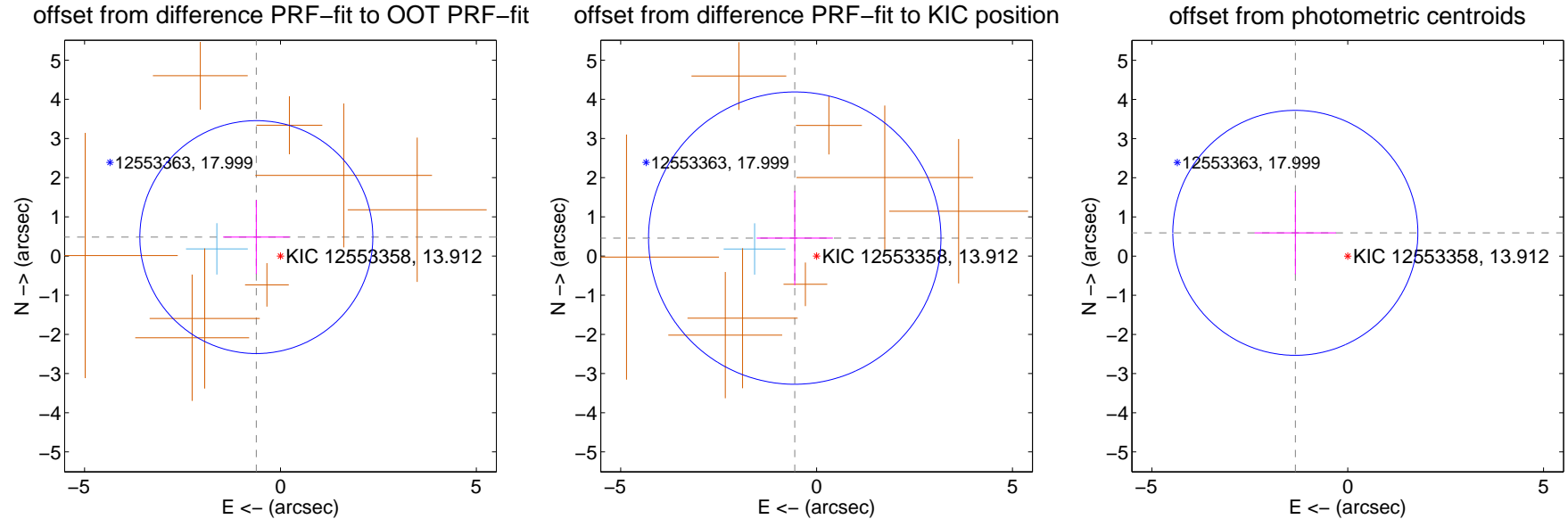
DV Centroid Data

Supplemental centroid analysis for 012553358-01. Kepler magnitude: 13.91. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

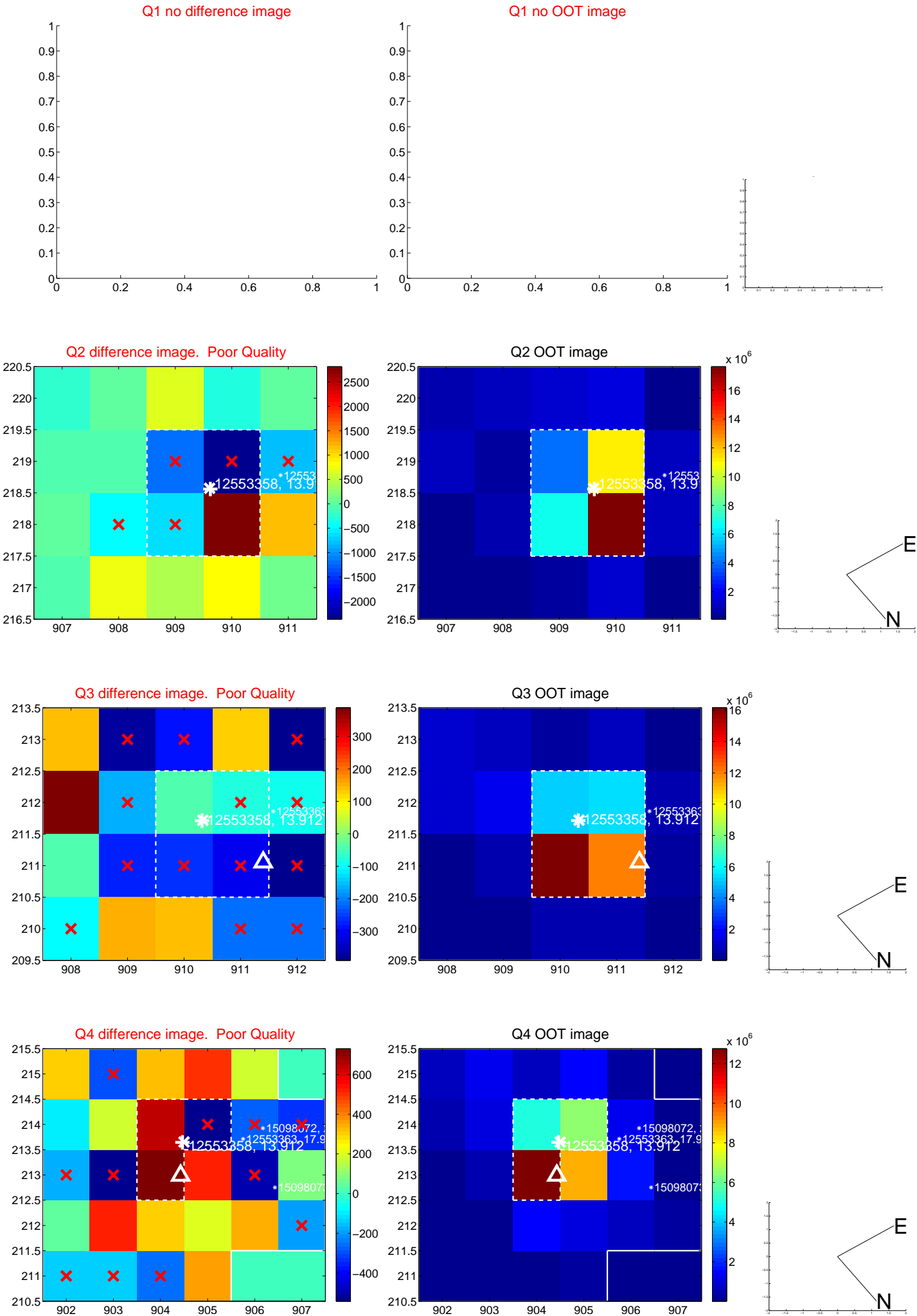
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.783 ± 0.991	0.79	0.616 ± 0.849	0.483 ± 0.942
PRF-fit source offset from KIC position	0.721 ± 1.244	0.58	0.557 ± 0.972	0.458 ± 1.204
photometric centroid source offset	1.46 ± 1.04	1.40	1.34 ± 1.04	0.59 ± 1.06

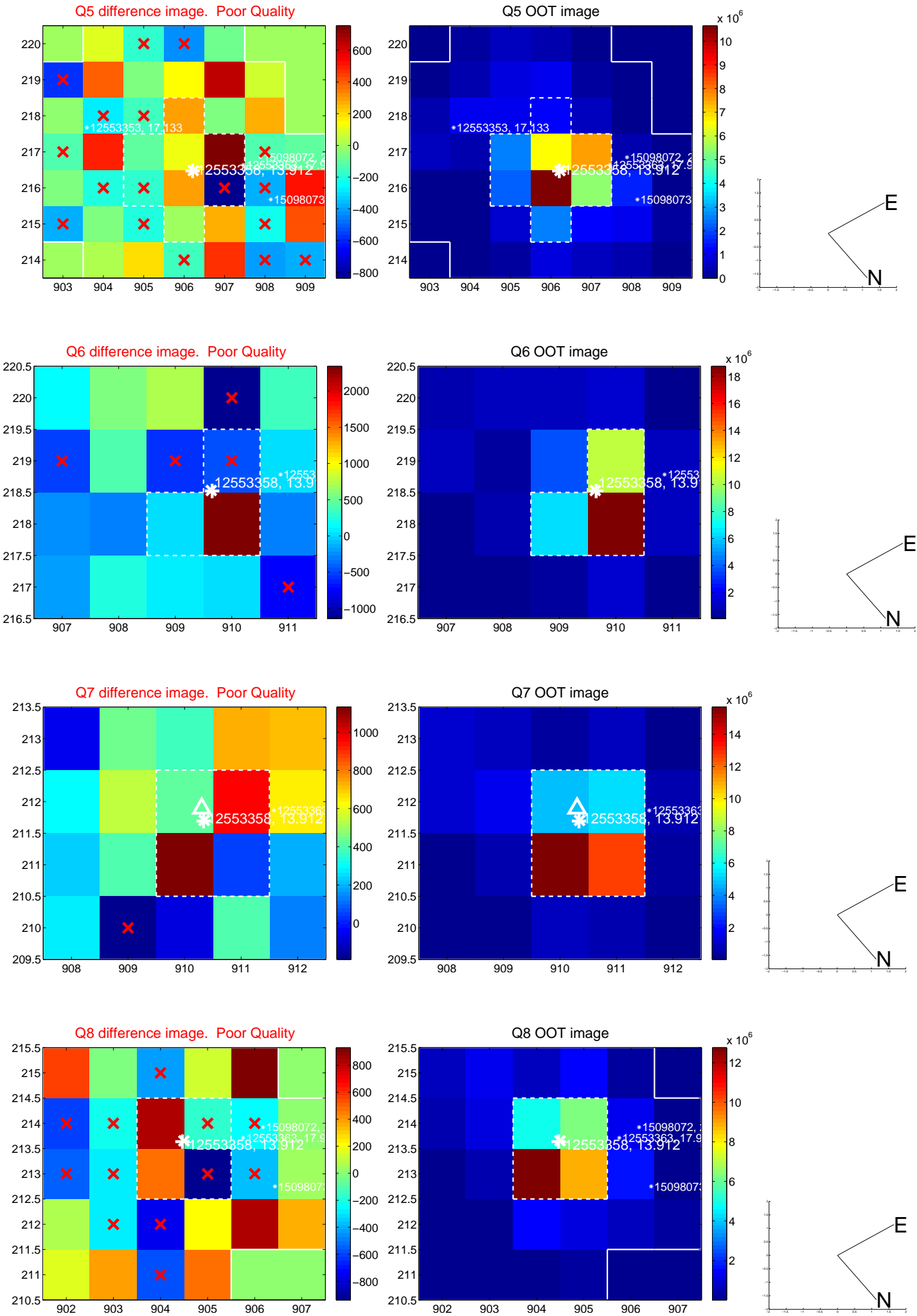


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

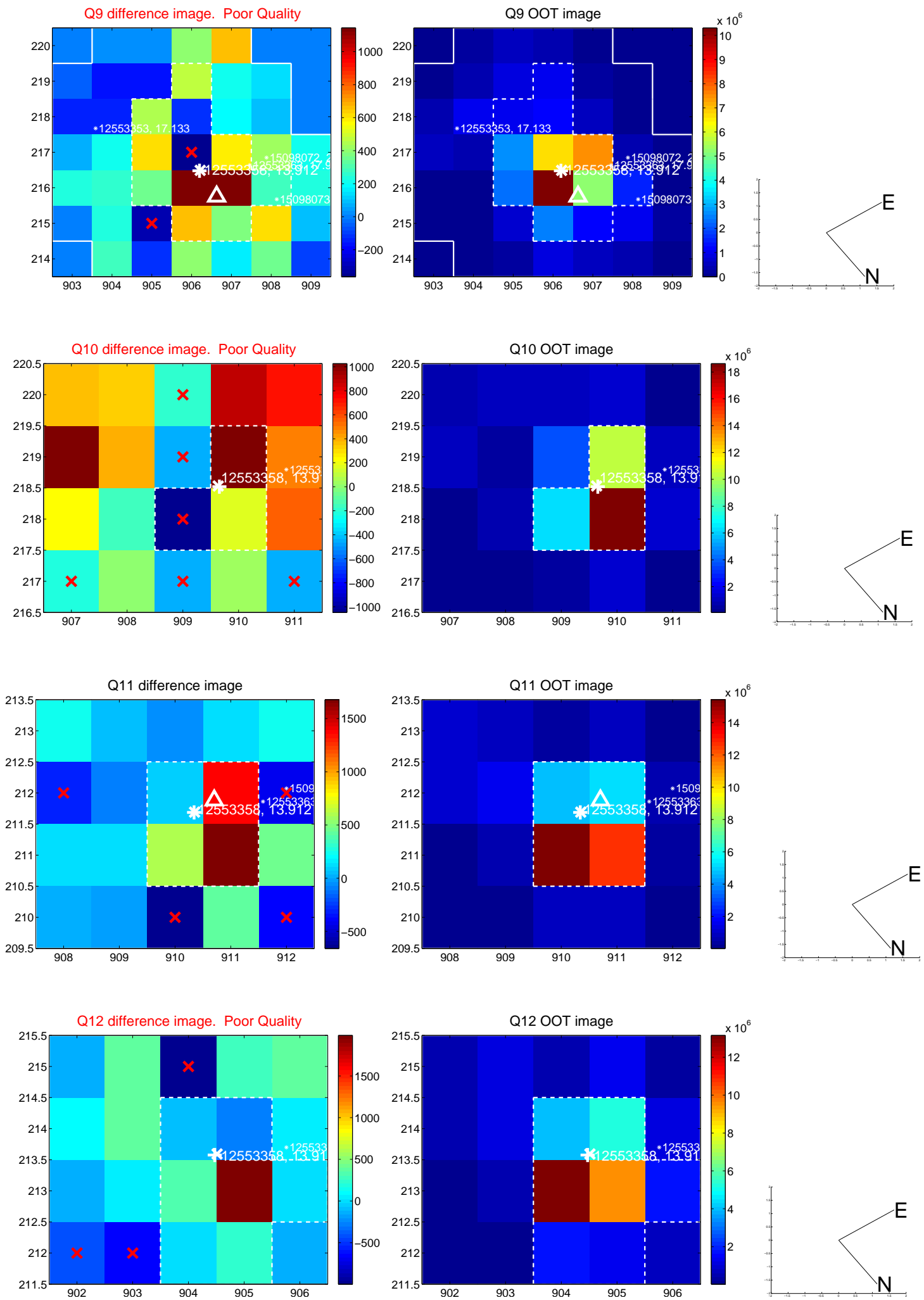
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



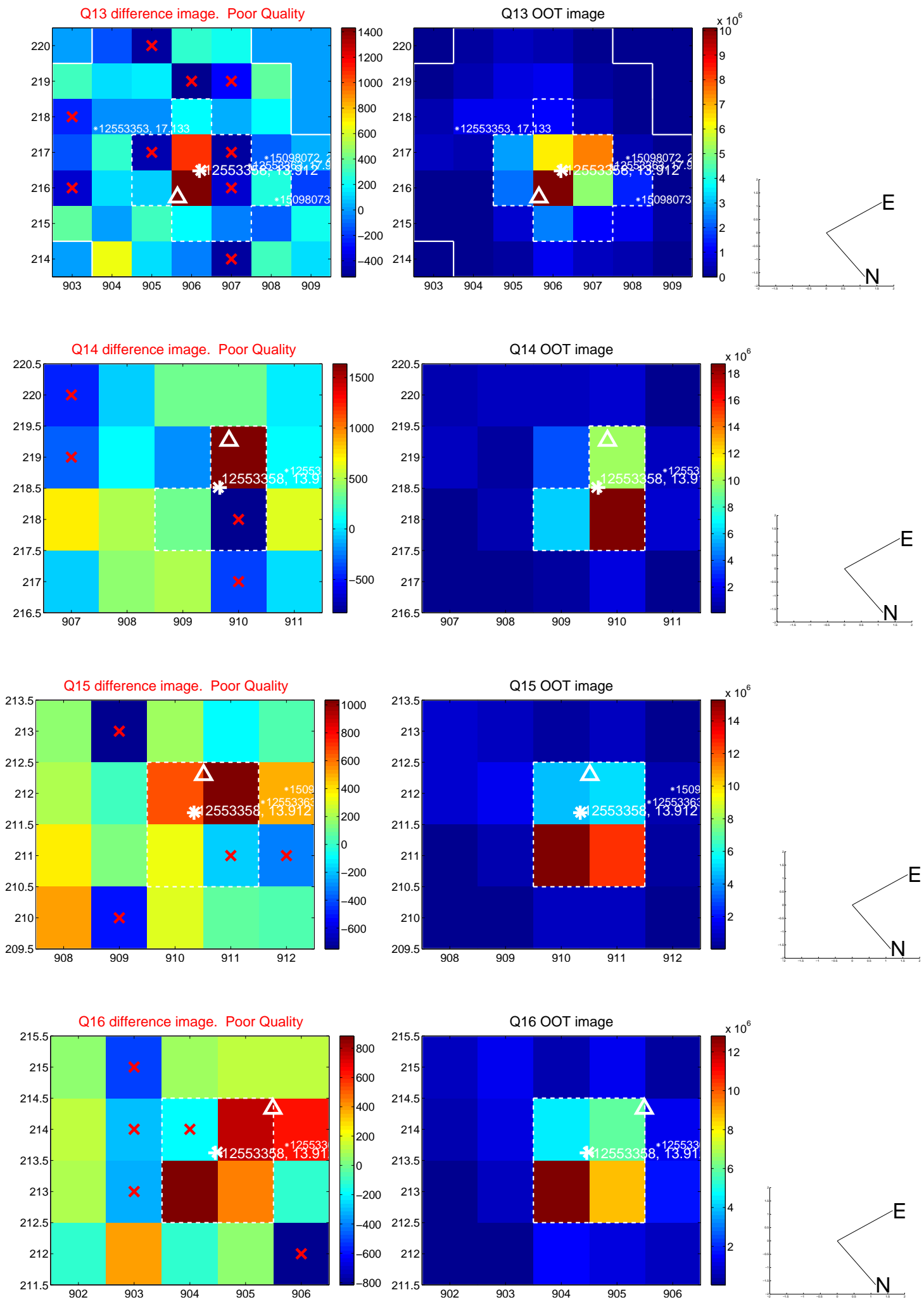
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



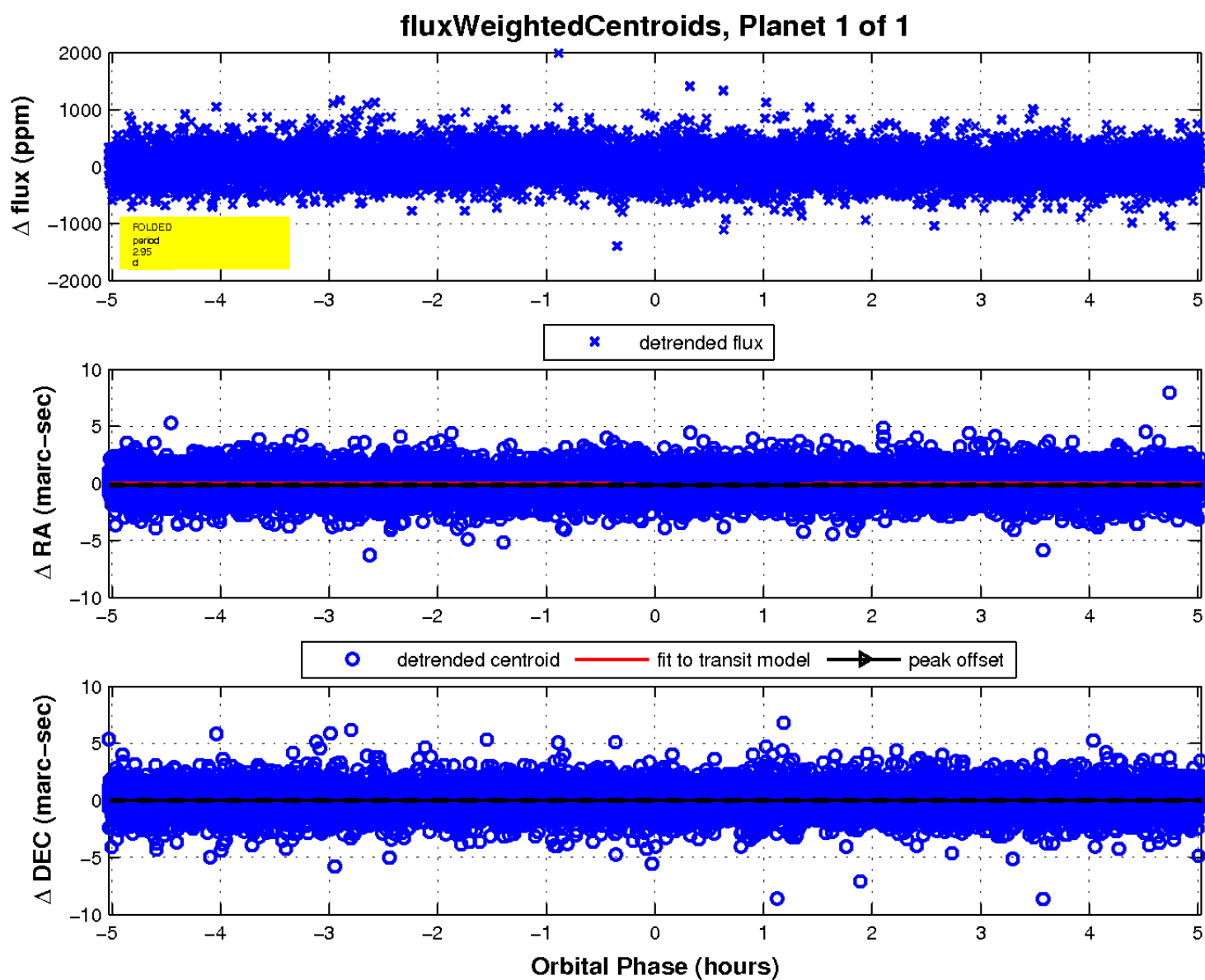
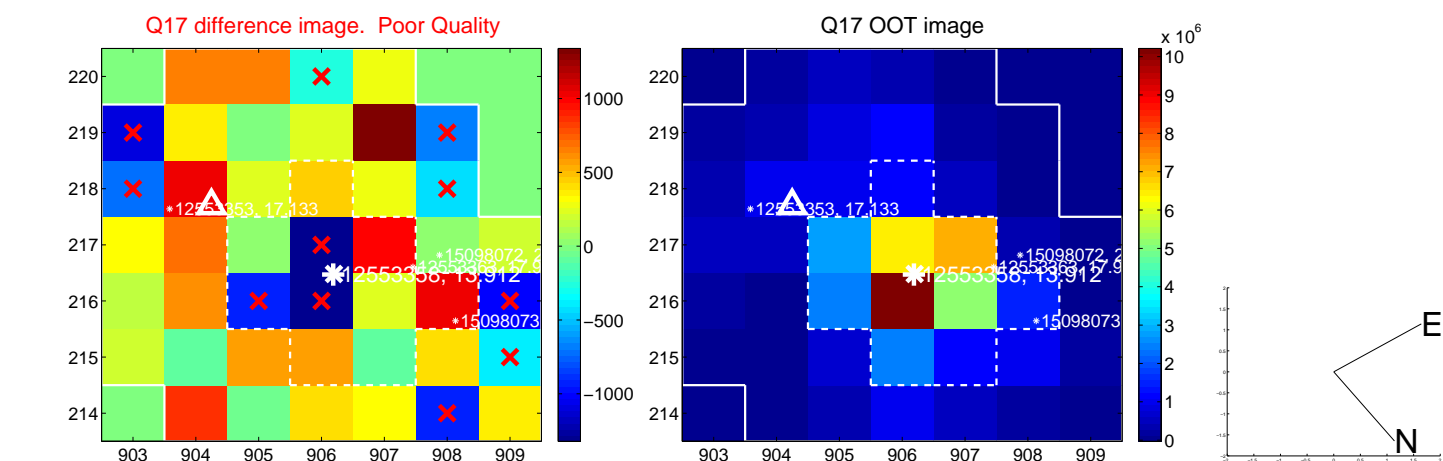
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

