

KIC 002140360

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})
002140360-01	OBS	No	0.952760	131.571240	19.1	3.479	7.2	7.0	1.45	6156	0.74	7258.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002140360-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

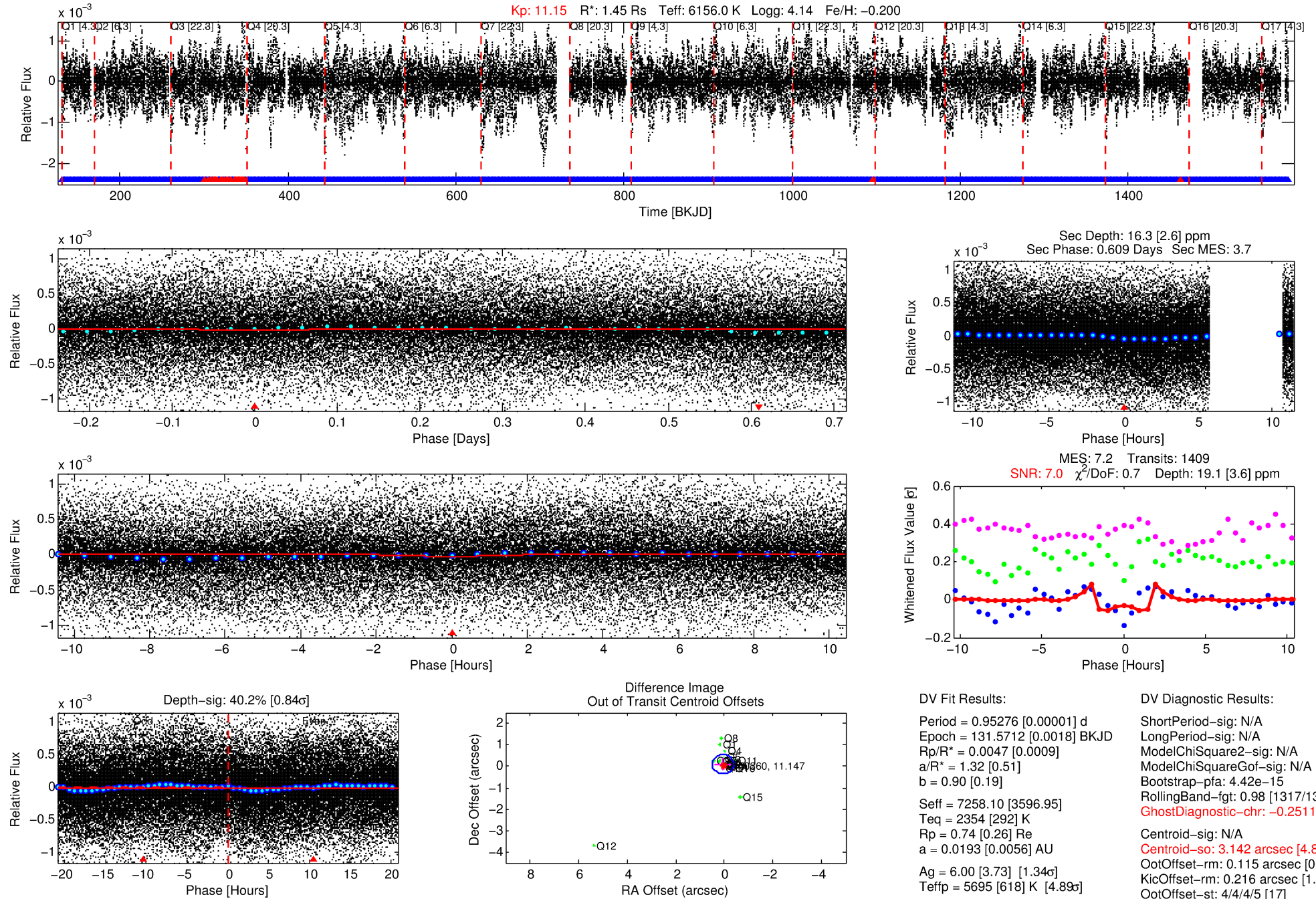
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002140360-01

No Significant Match Found

DV One-Page Summary

KIC: 2140360 Candidate: 1 of 1 Period: 0.953 d



DV Fit Results:

Period = 0.95276 [0.00001] d
Epoch = 131.5712 [0.0018] BKJD
Rp/R* = 0.0047 [0.0009]
a/R* = 1.32 [0.51]
b = 0.90 [0.19]
Seff = 7258.10 [3596.95]
Teff = 2354 [292] K
Rp = 0.74 [0.26] Re
a = 0.0193 [0.0056] AU
Ag = 6.00 [3.73] [1.34σ]
Teffp = 5695 [618] K [4.89σ]

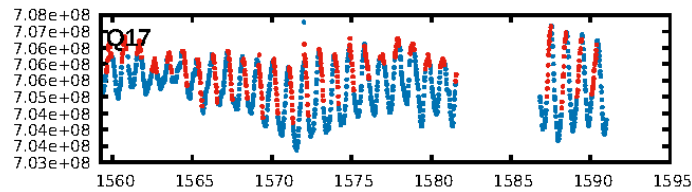
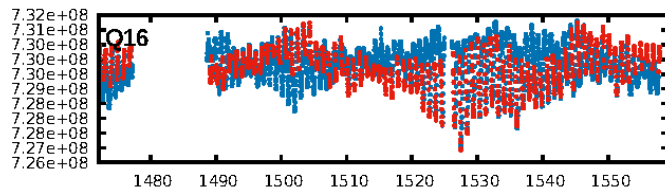
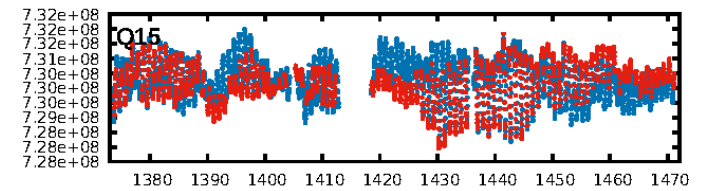
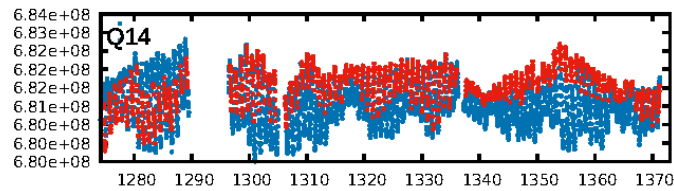
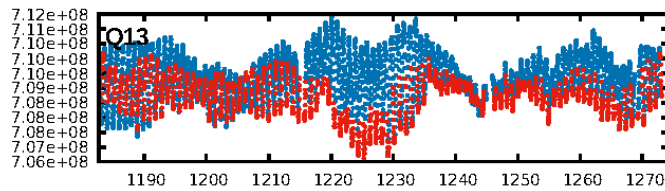
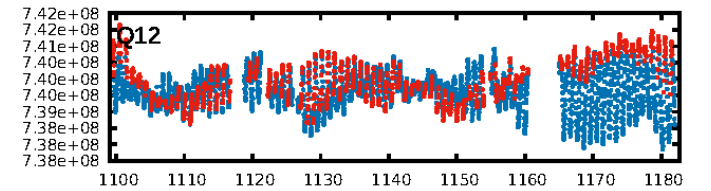
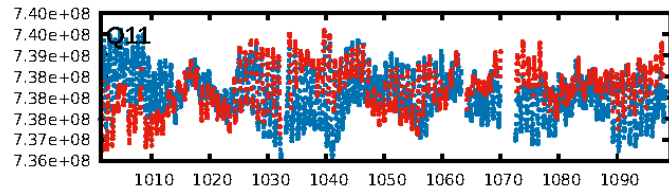
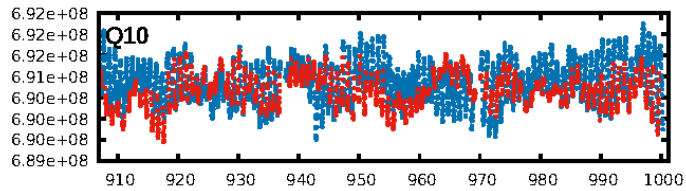
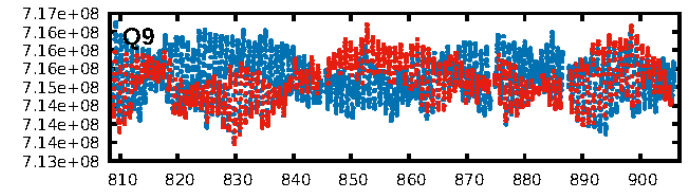
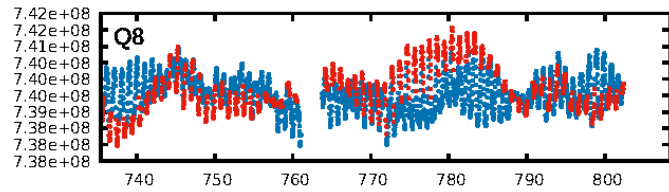
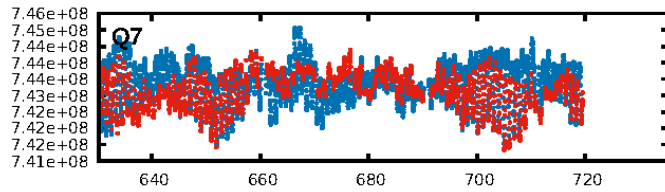
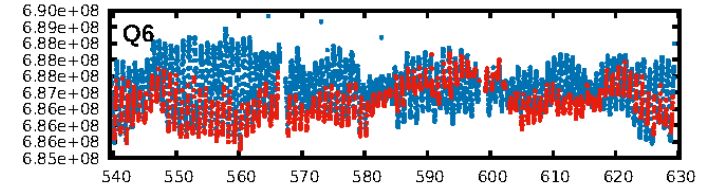
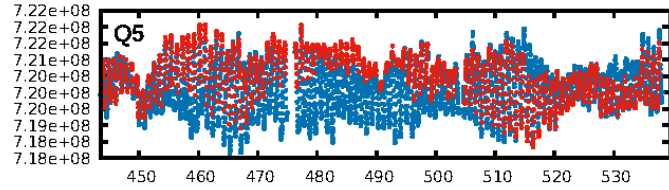
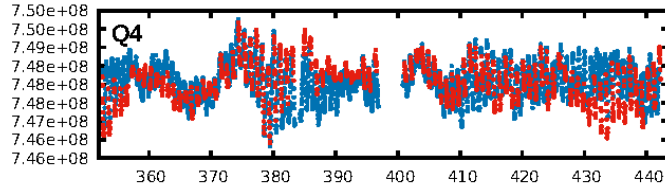
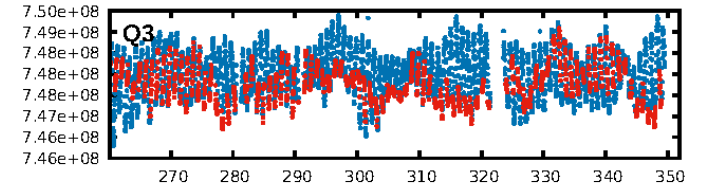
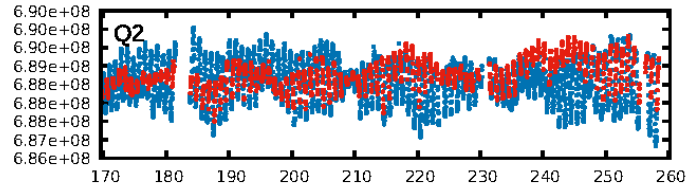
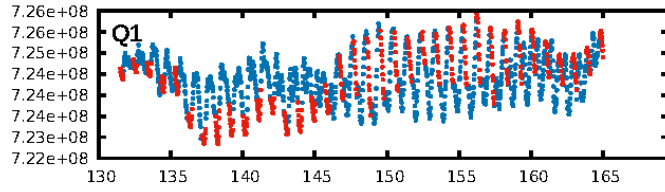
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.42e-15
RollingBand-fgt: 0.98 [1317/1346]
GhostDiagnostic-chr: -0.2511
Centroid-sig: N/A
Centroid-so: 3.142 arcsec [4.80σ]
OotOffset-rm: 0.115 arcsec [0.77σ]
KicOffset-rm: 0.216 arcsec [1.43σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.53 [9/17]
DiffImageOverlap-fno: 1.00 [17/17]

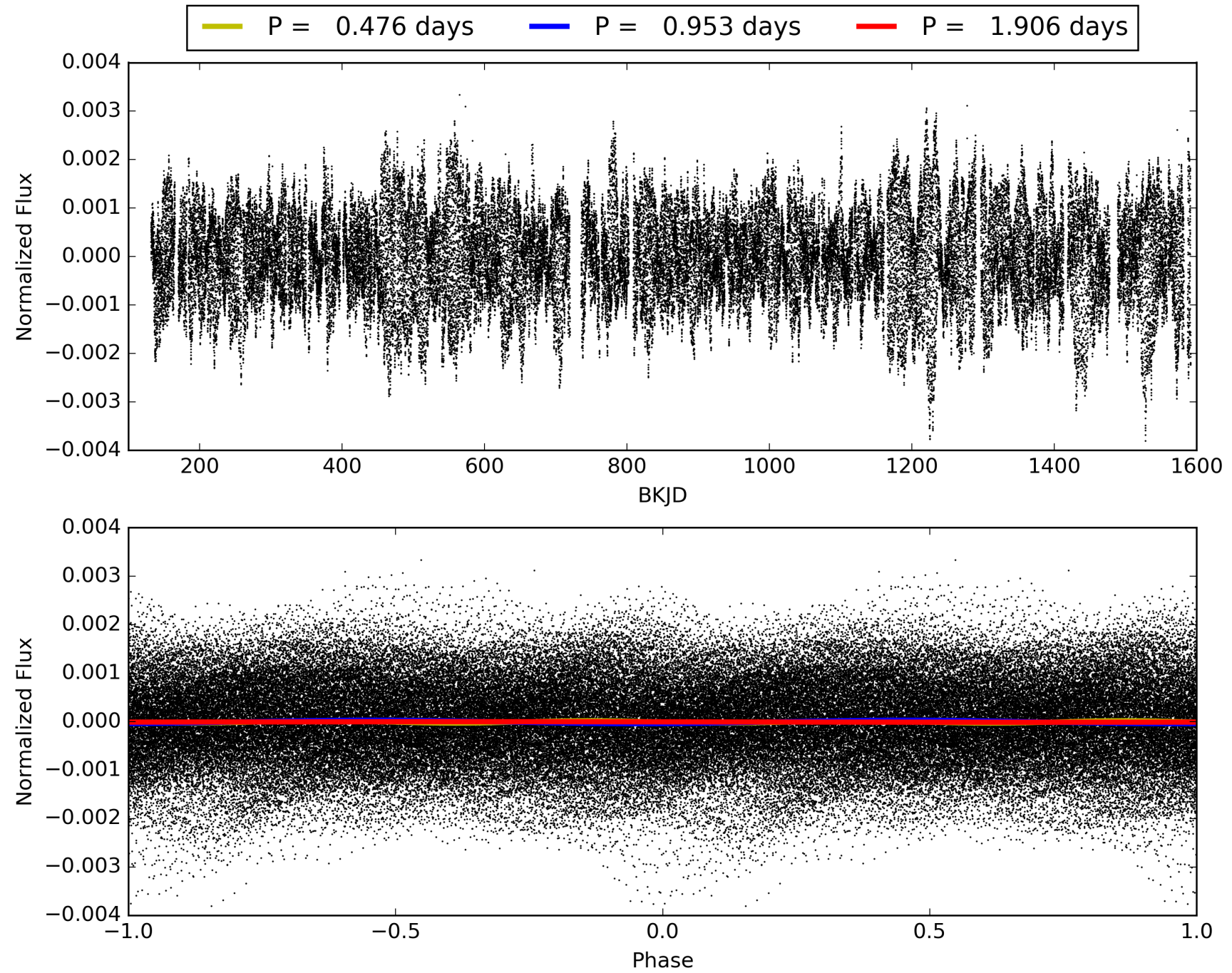
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:12:38 Z

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

TCE 002140360-01, PDC Light Curves

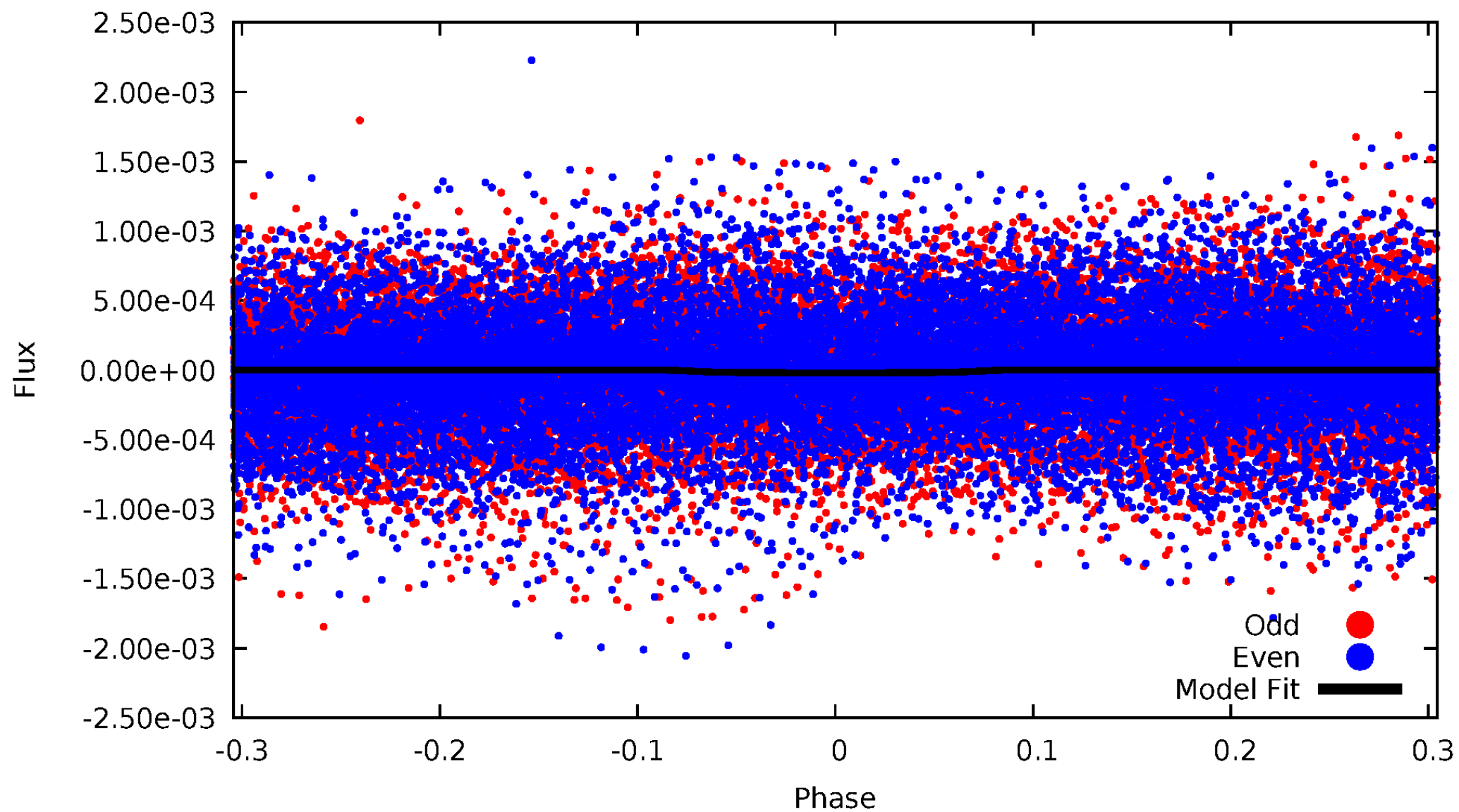


TCE 002140360-01



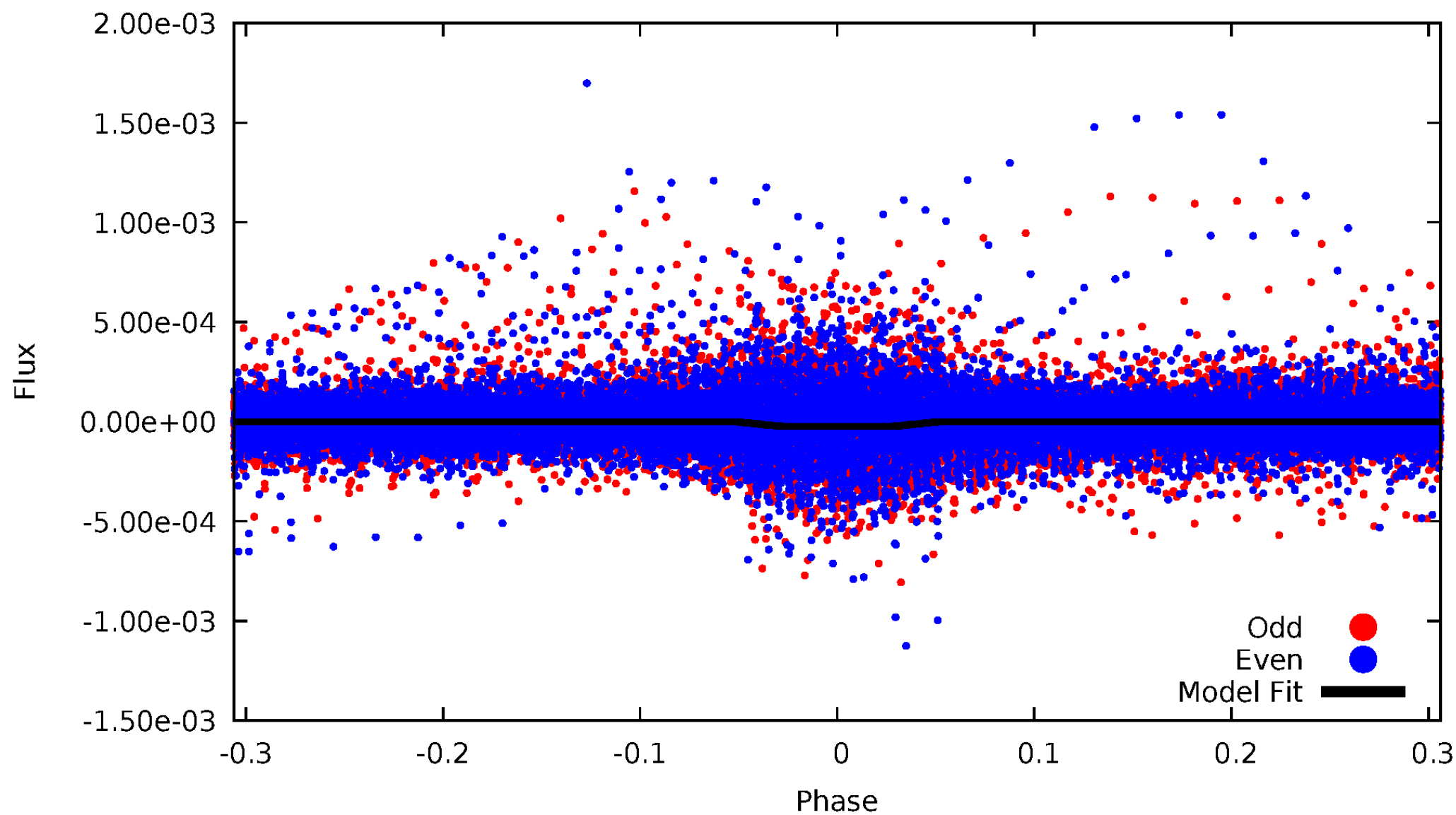
DV Odd/Even

TCE 002140360-01



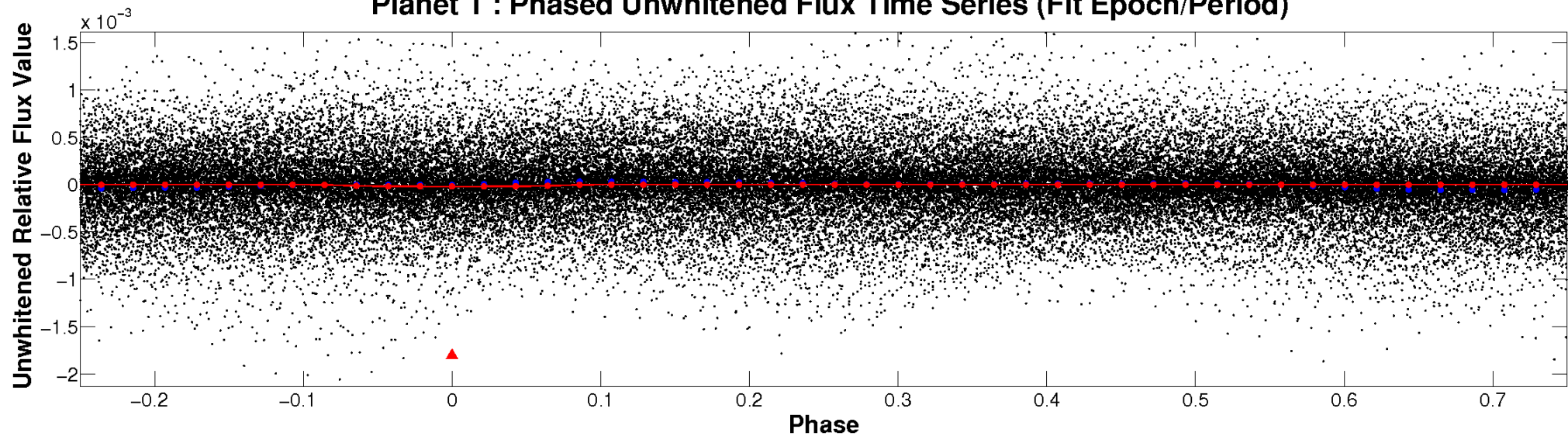
ALT Odd/Even

TCE 002140360-01

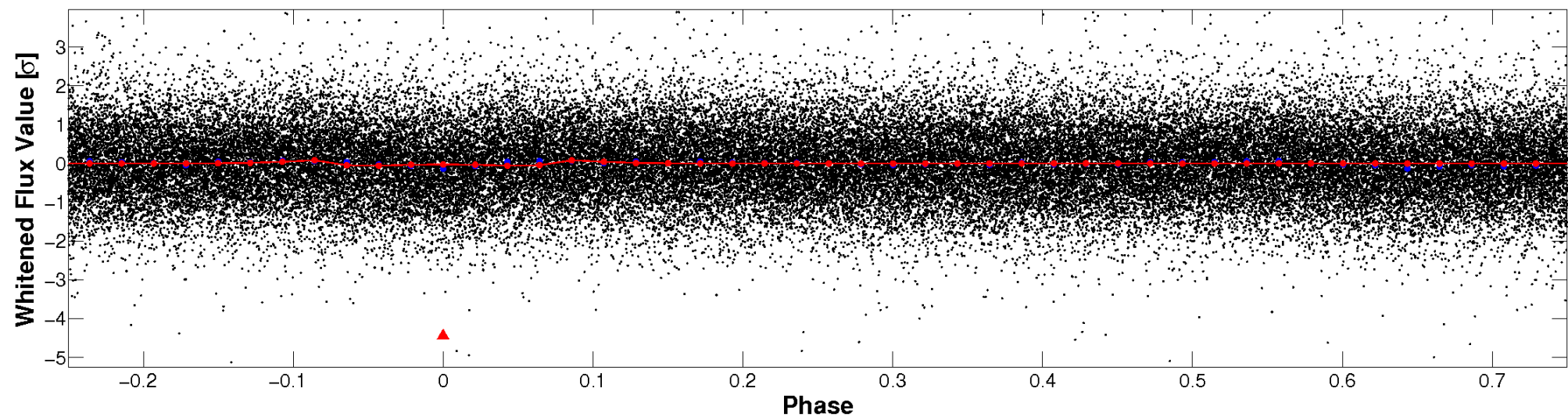


Non-Whitened Vs. Whitened Light Curve

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

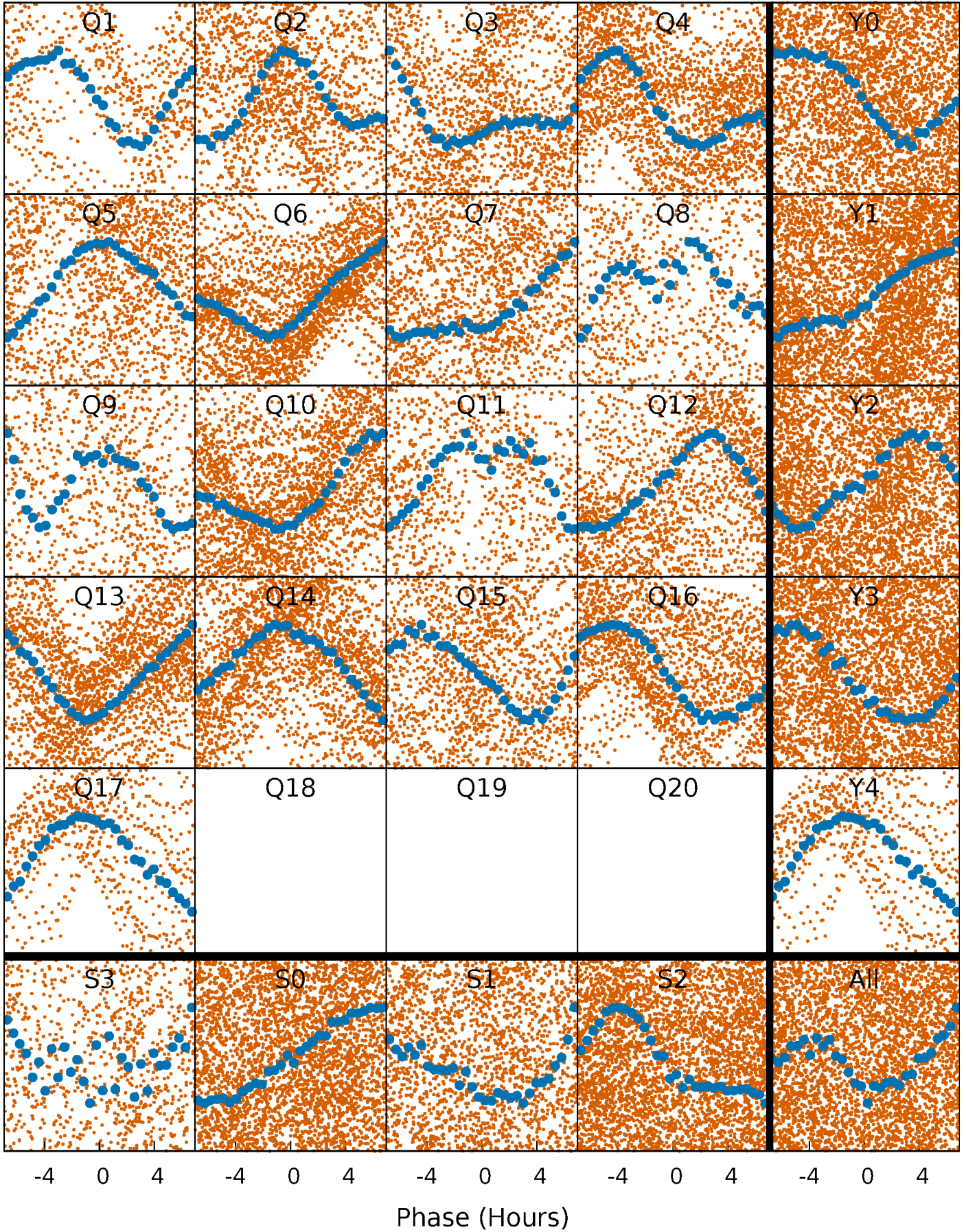


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



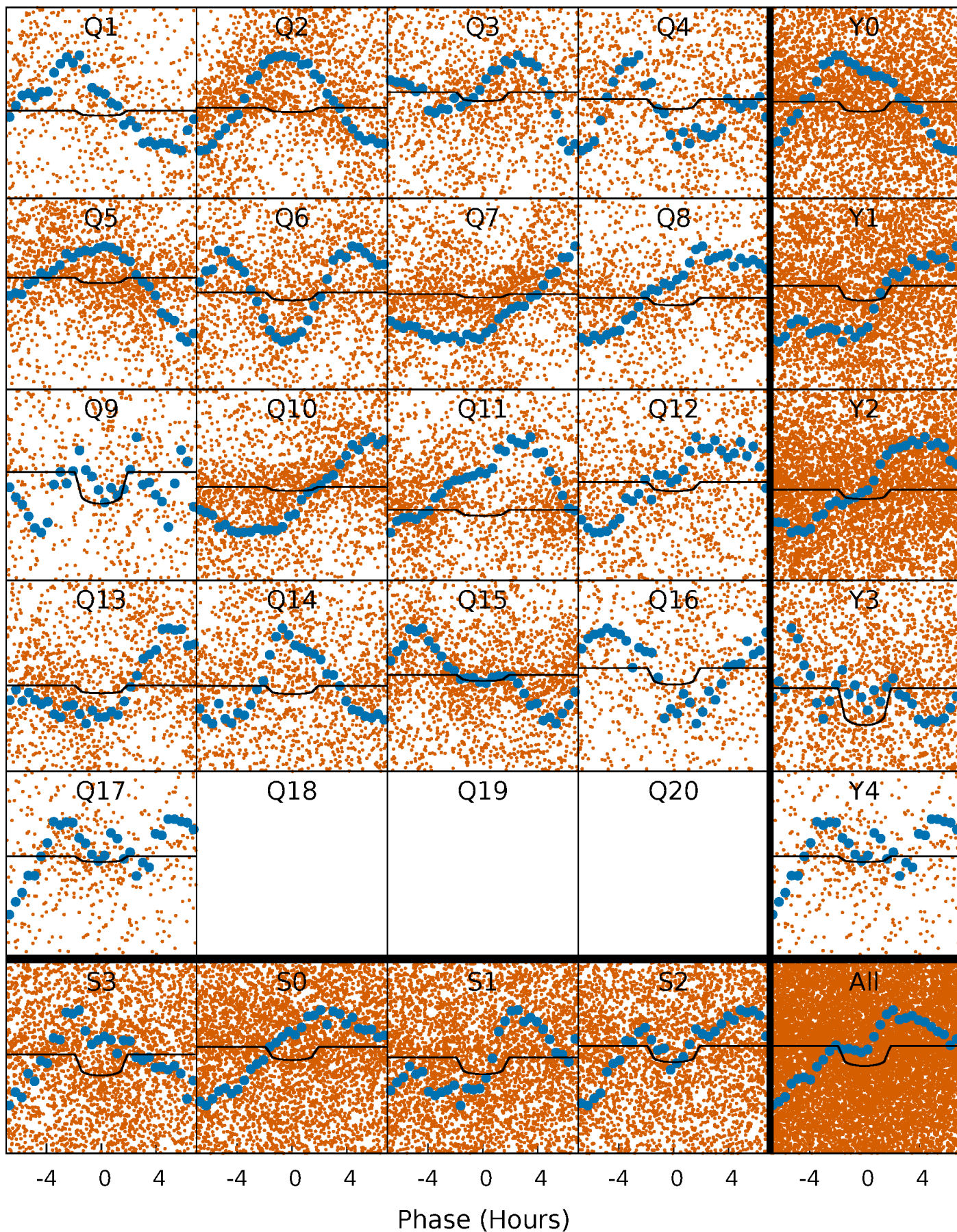
PDC Quarter-Phased Transit Curves

TCE 002140360-01 P= 0.952760 Days $T_0=131.571240$ (BKJD)



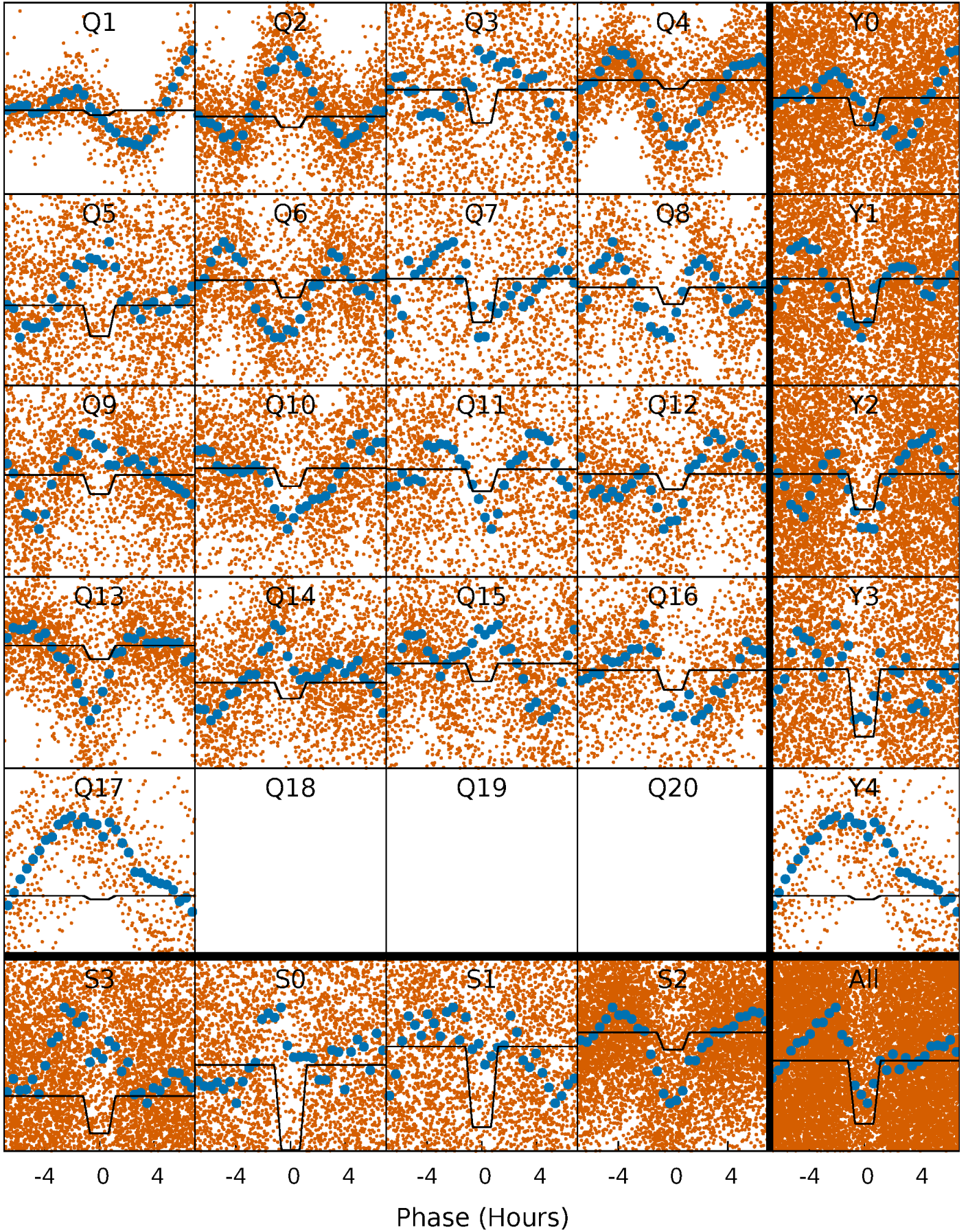
DV Quarter-Phased Transit Curves

TCE 002140360-01 P= 0.952760 Days $T_0=131.571240$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

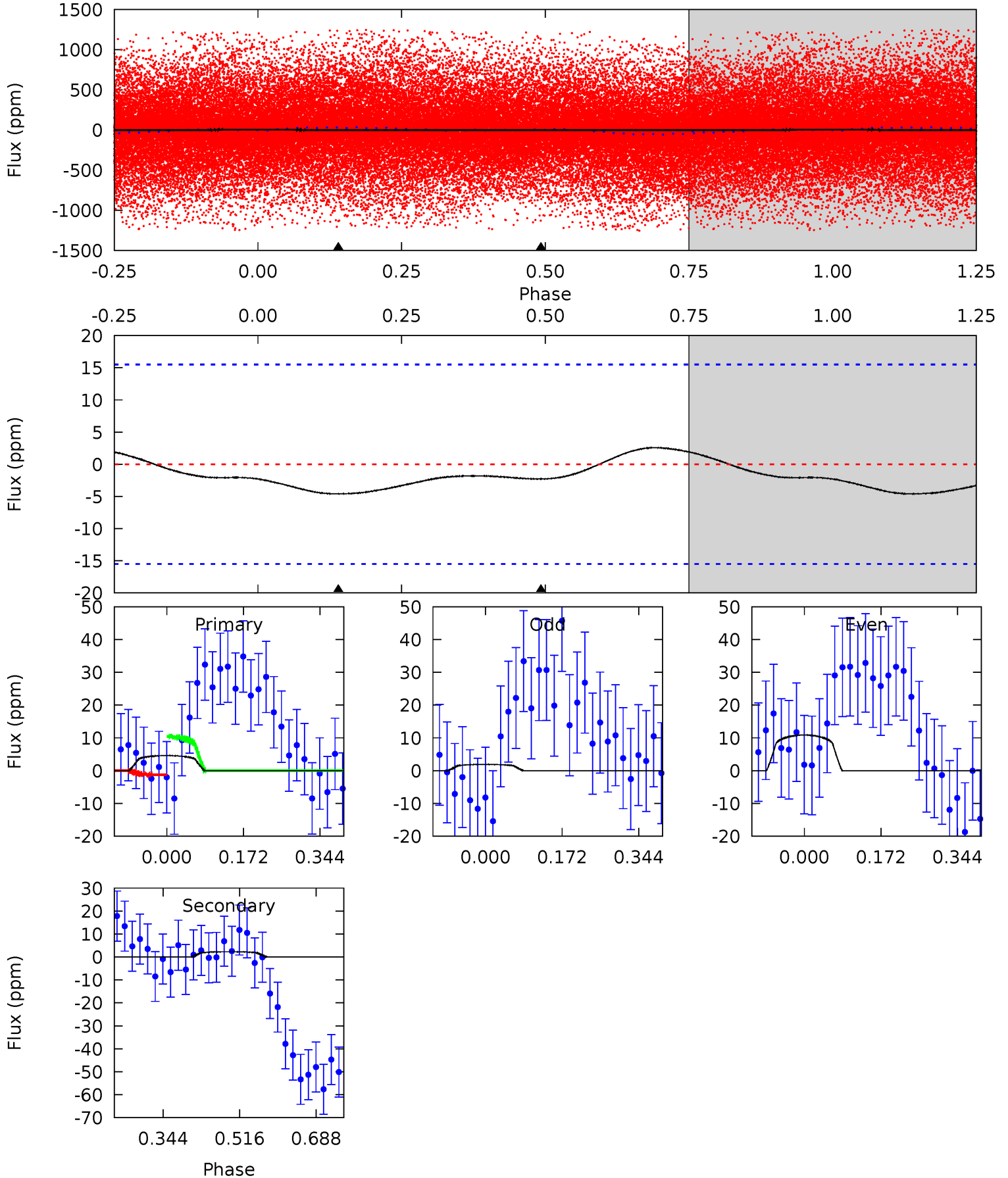
TCE 002140360-01 P= 0.952757 Days $T_0=131.571066$ (BKJD)



DV Model-Shift Uniqueness Test

002140360-01, P = 0.952760 Days, E = 130.618480 Days

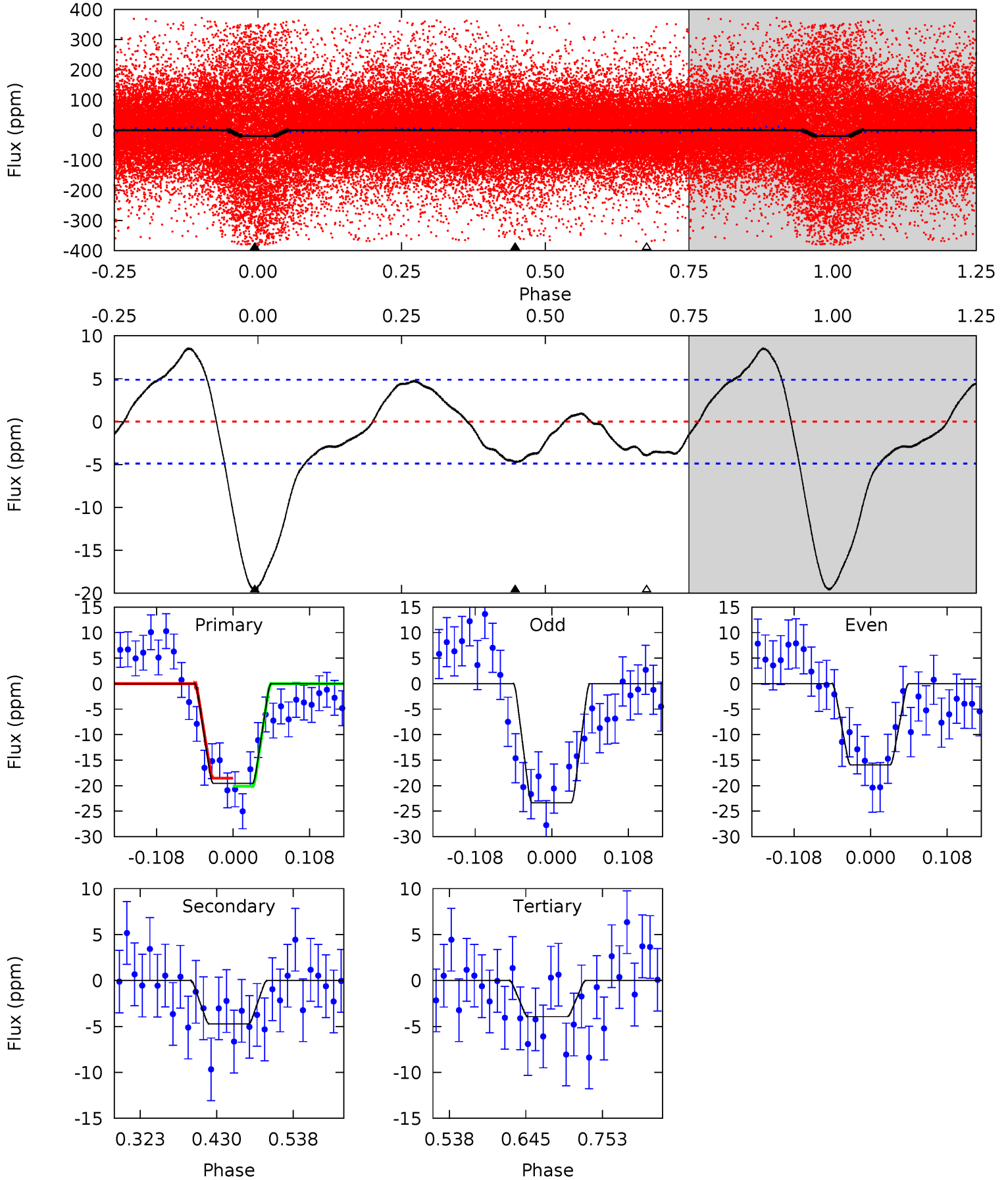
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.32	0.66	0	0	4.45	1.37	0.52	1.32	1.32	0.66	0.66	1.30	-1.13	0.36	1.30



Alt Model-Shift Uniqueness Test

002140360-01, P = 0.952757 Days, E = 130.618309 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	4.39	3.66	0	4.55	1.61	3.25	14.5	18.2	0.73	4.39	3.44	1.02	0.30	0.73



Stellar Parameters For KIC 002140360

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6156^{+214}_{-236}	$4.139^{+0.280}_{-0.172}$	$-0.200^{+0.250}_{-0.300}$	$1.449^{+0.420}_{-0.420}$	$1.054^{+0.178}_{-0.146}$	$0.488^{+0.876}_{-0.225}$
	+3%/-4%	+7%/-4%	+125%/-150%	+29%/-29%	+17%/-14%	+179%/-46%
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 002140360-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2 ± 3	$0.72^{+0.22}_{-0.18}$	3264^{+275}_{-297}	3581^{+962}_{-7338}	$0.861^{+1.693}_{-1.273}$
Alt.	-5 ± 1	$0.75^{+0.20}_{-0.18}$	3269^{+286}_{-286}	4208^{+458}_{-409}	$1.749^{+1.362}_{-0.737}$

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

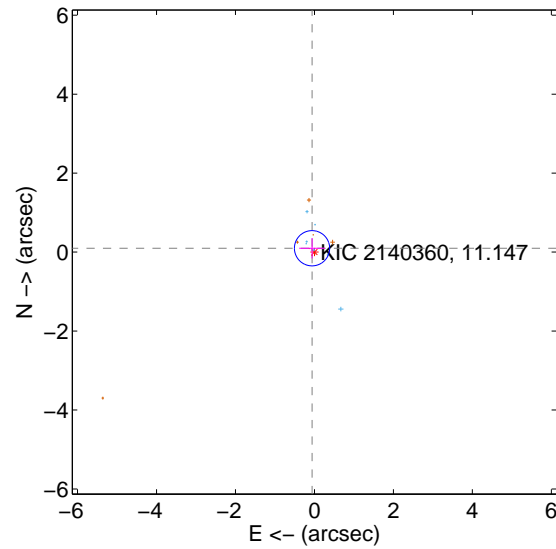
Supplemental centroid analysis for 002140360-01. **Kepler magnitude: 11.15.** Transit SNR 6.99

There are 9 quarters with good PRF difference image offsets

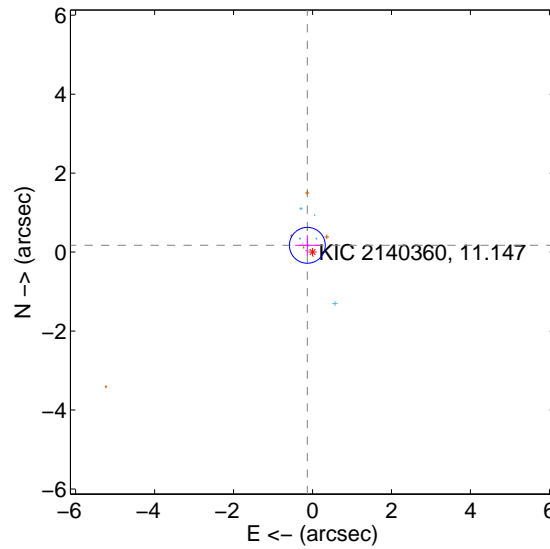
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.115 ± 0.149	0.77	0.061 ± 0.326	0.098 ± 0.258
PRF-fit source offset from KIC position	0.216 ± 0.151	1.43	0.131 ± 0.309	0.172 ± 0.259
photometric centroid source offset	3.14 ± 0.66	4.80	2.97 ± 0.64	-1.02 ± 0.75

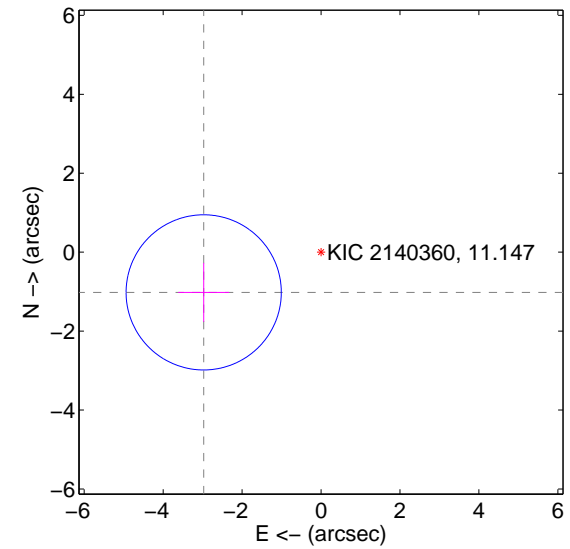
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

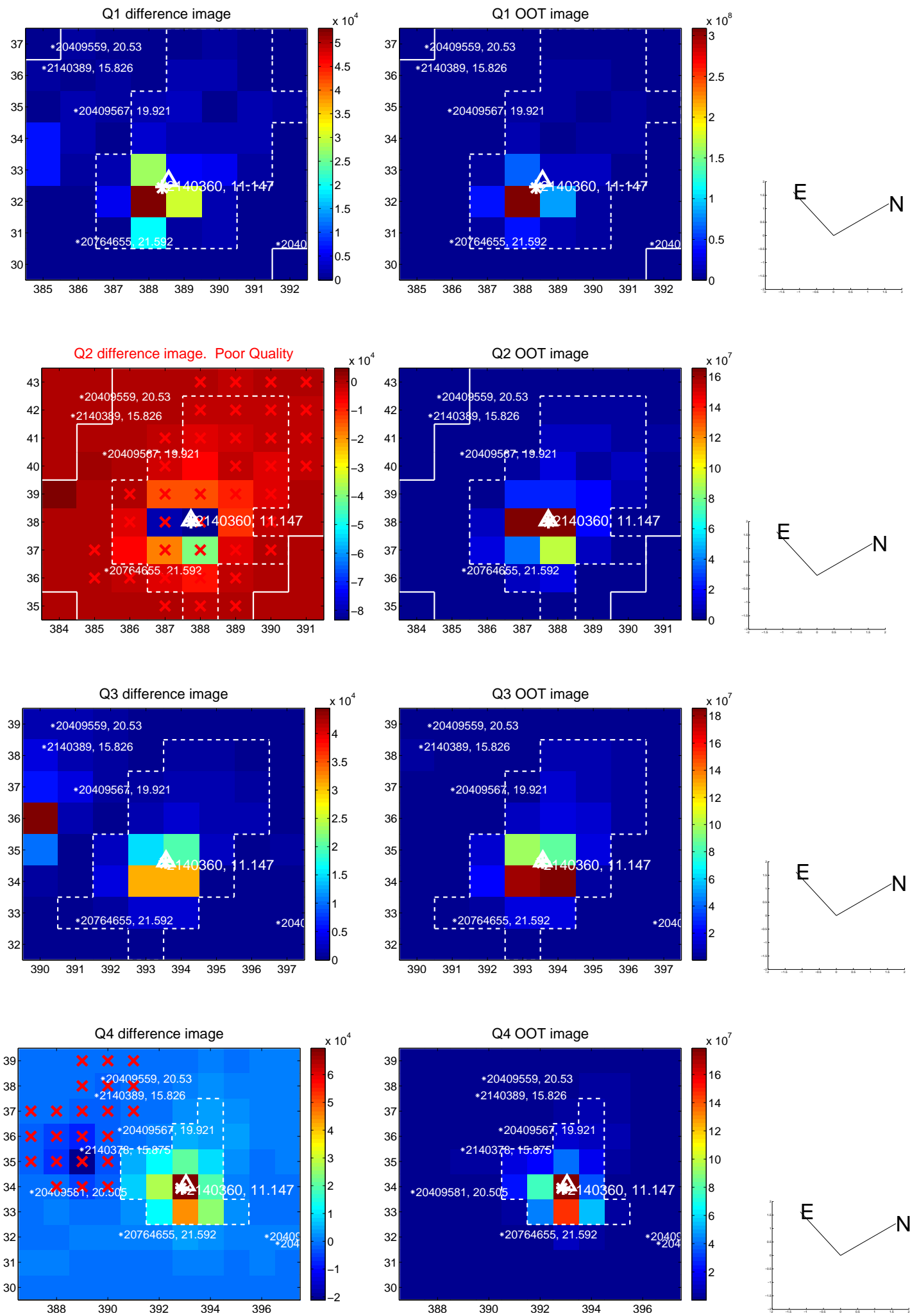


offset from photometric centroids

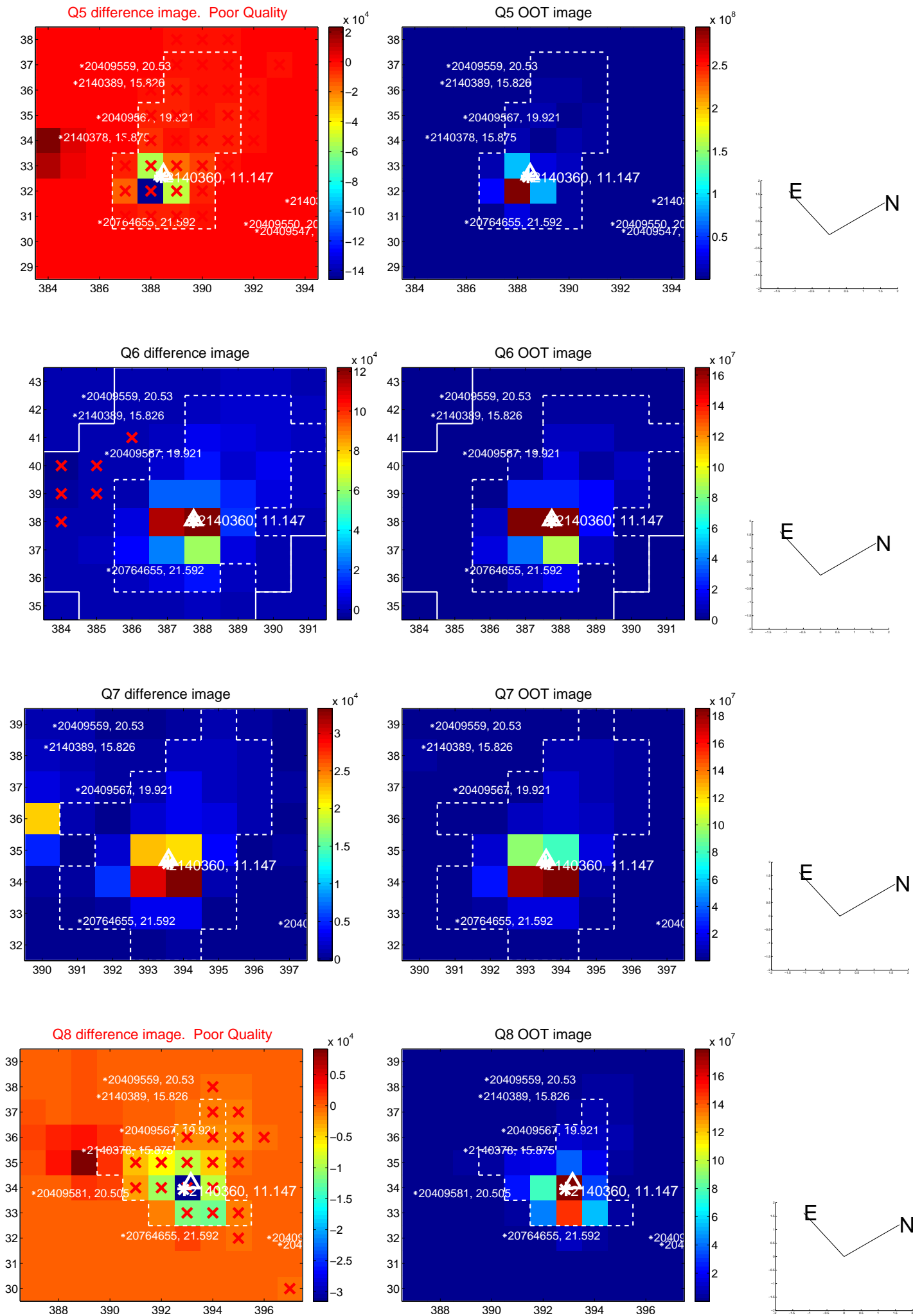


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

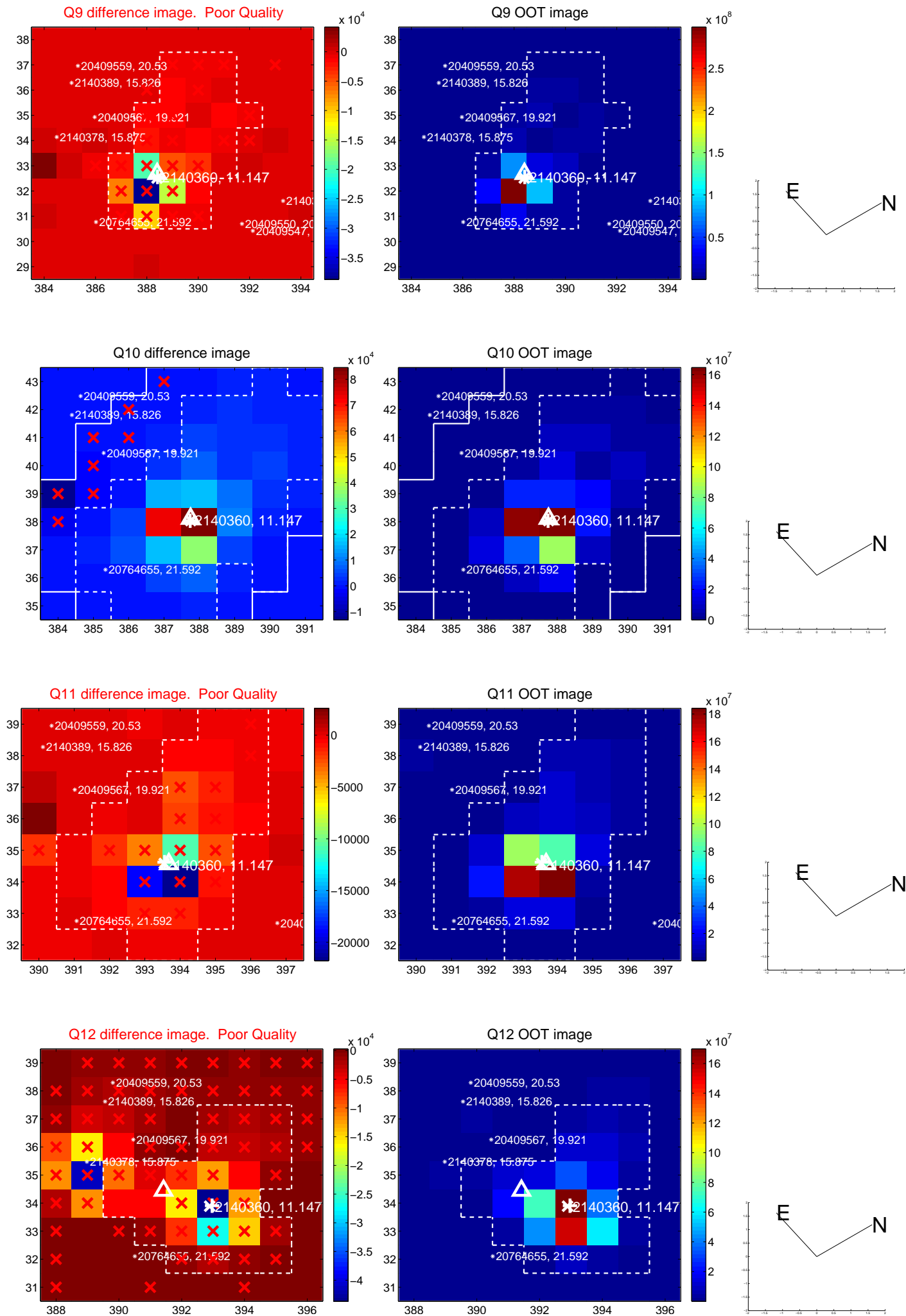
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



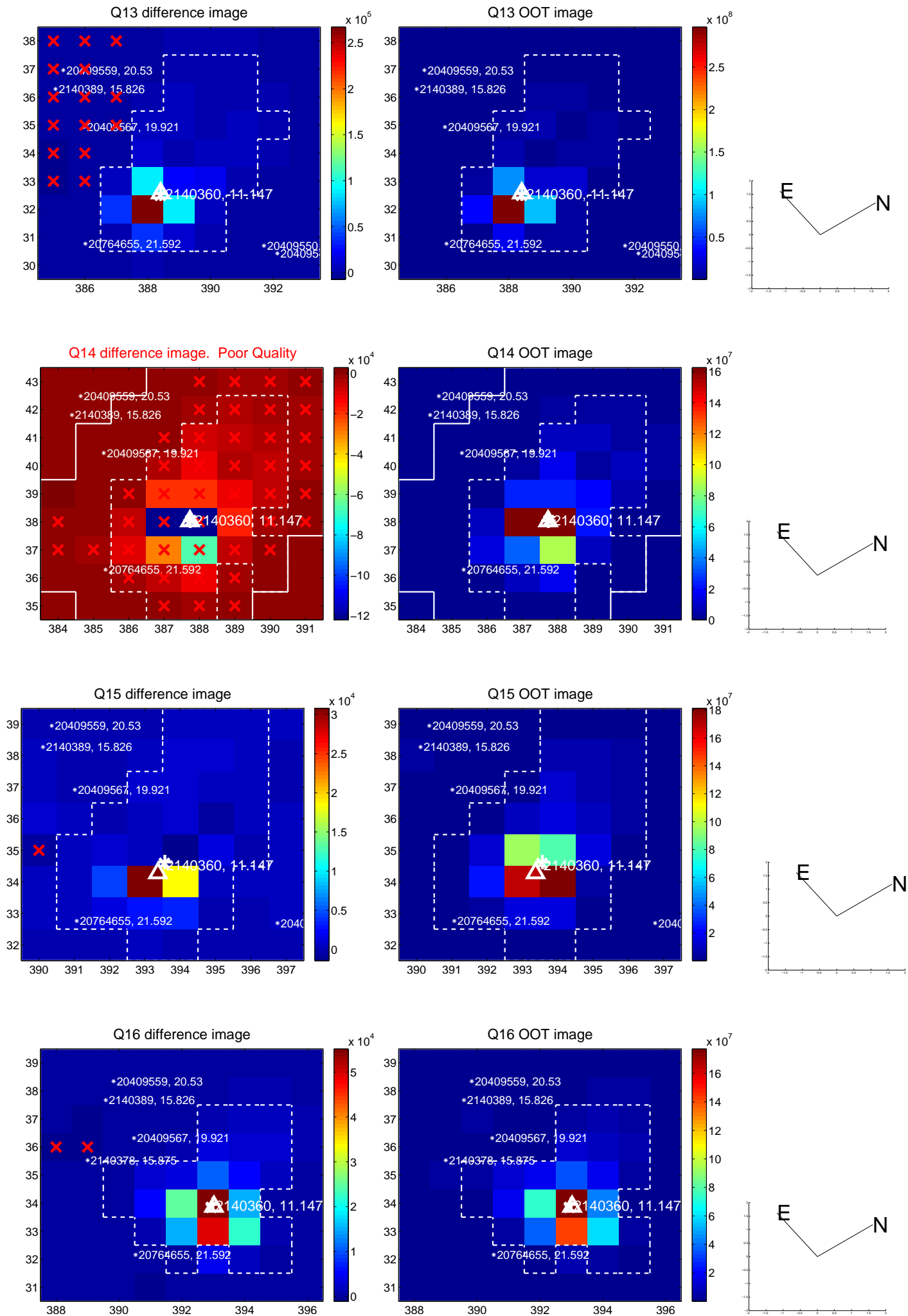
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



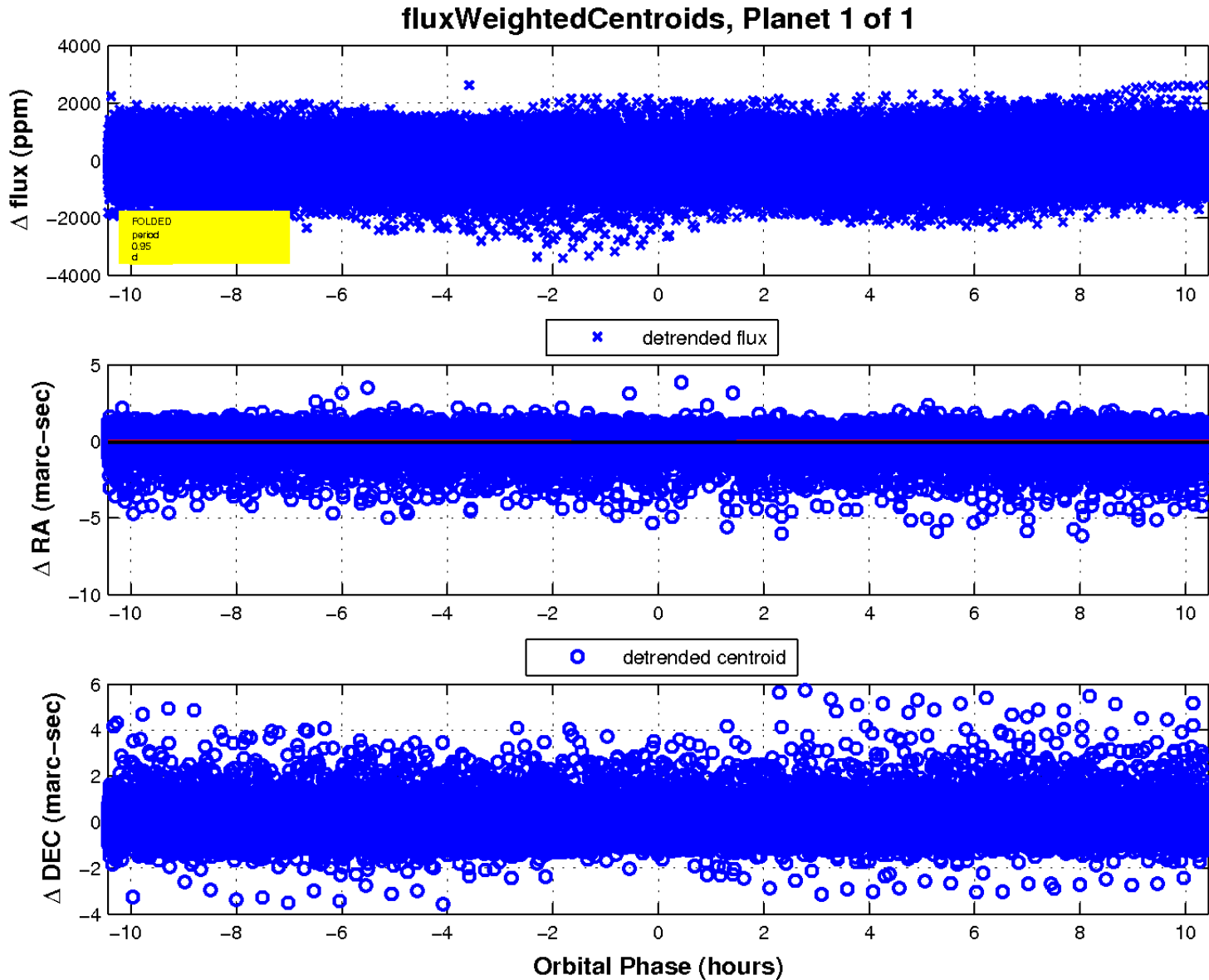
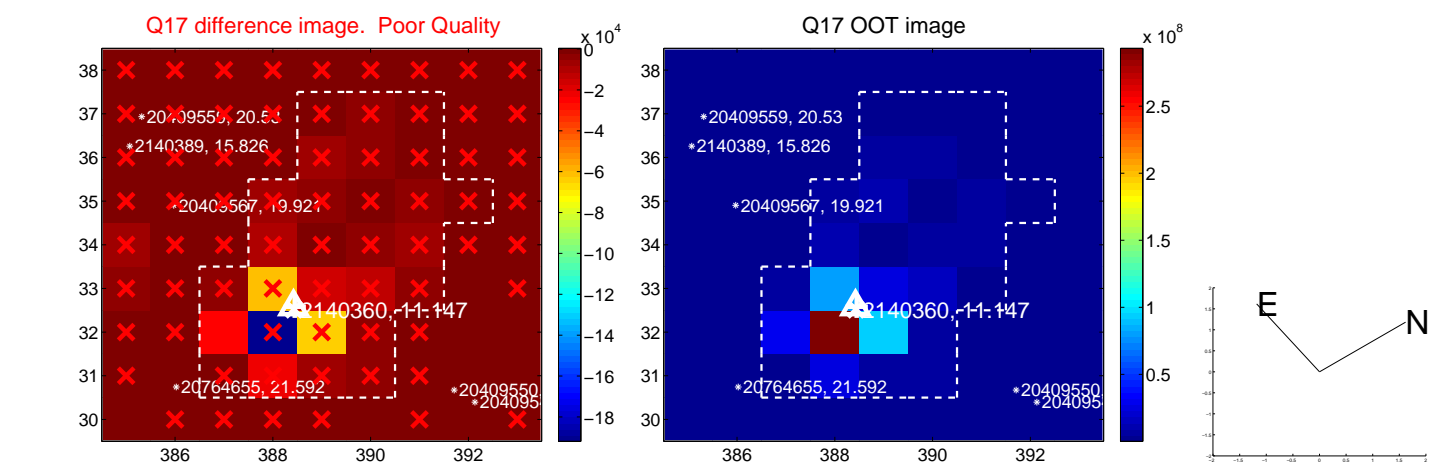
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

