

KIC 009973036

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})
009973036-01	OBS	No	0.694284	131.755943	11.7	2.571	9.1	13.2	2.50	7177	1.00	42891.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009973036-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

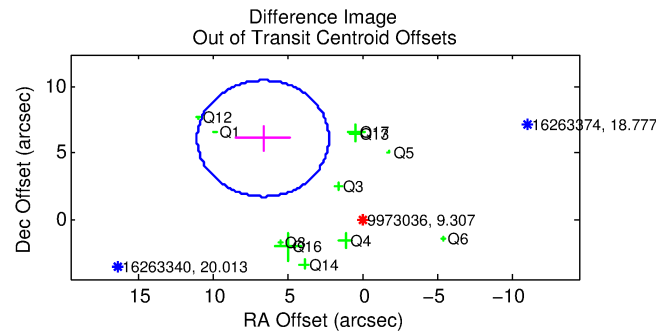
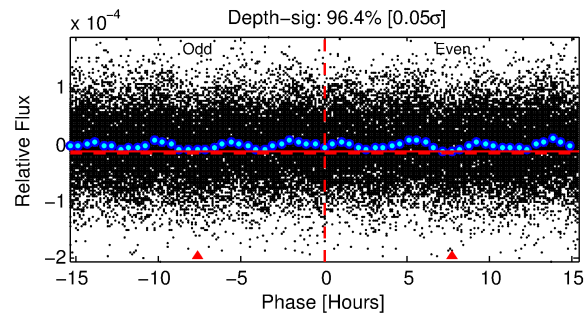
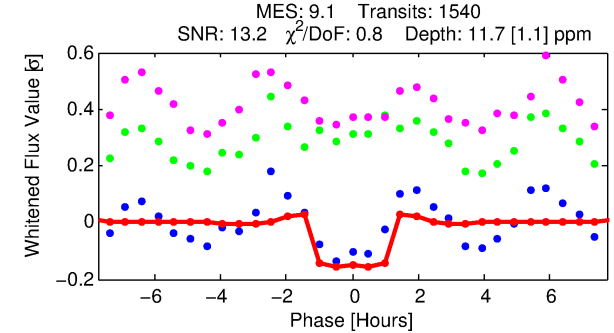
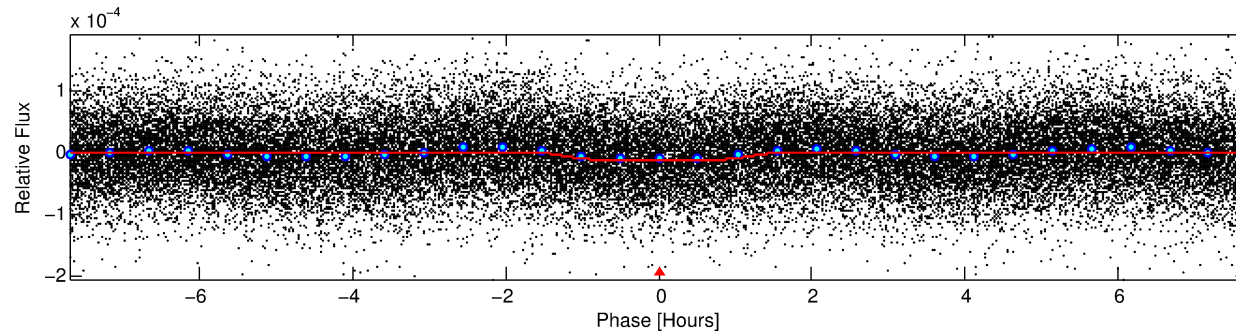
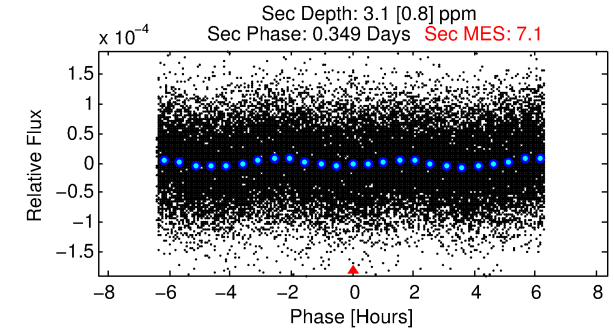
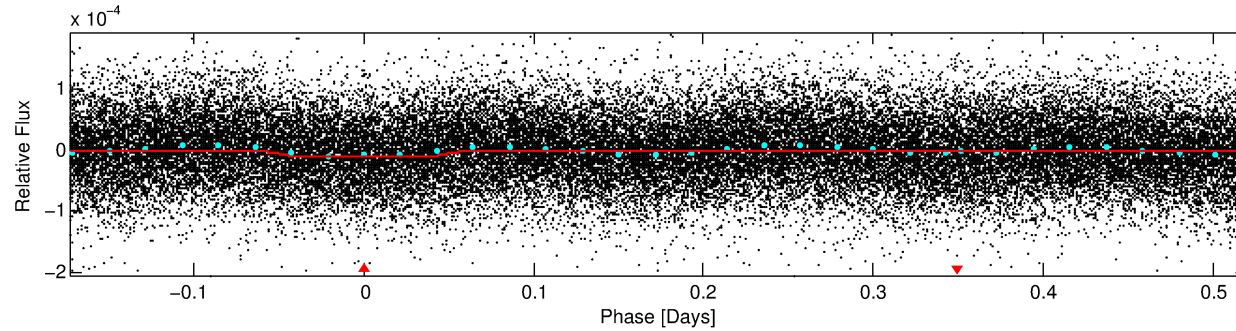
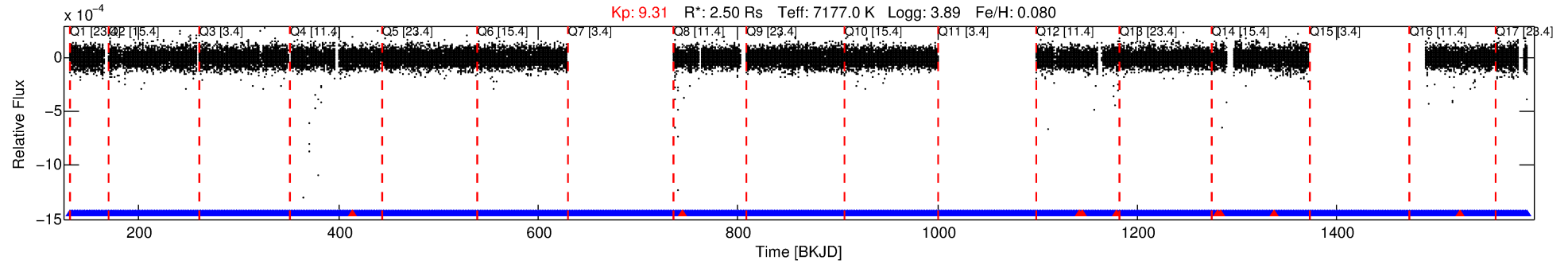
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009973036-01

No Significant Match Found

DV One-Page Summary

KIC: 9973036 Candidate: 1 of 1 Period: 0.694 d



DV Fit Results:

Period = 0.69428 [0.00001] d
Epoch = 131.7559 [0.0016] BKJD
Rp/R* = 0.0036 [0.0005]
a/R* = 1.31 [0.47]
b = 0.90 [0.18]
Seff = 42891.62 [21855.88]
Teq = 3670 [467] K
Rp = 1.00 [0.37] Re
a = 0.0186 [0.0058] AU
Ag = 0.59 [0.36] [-1.14σ]
Teffp = 4967 [530] K [1.84σ]

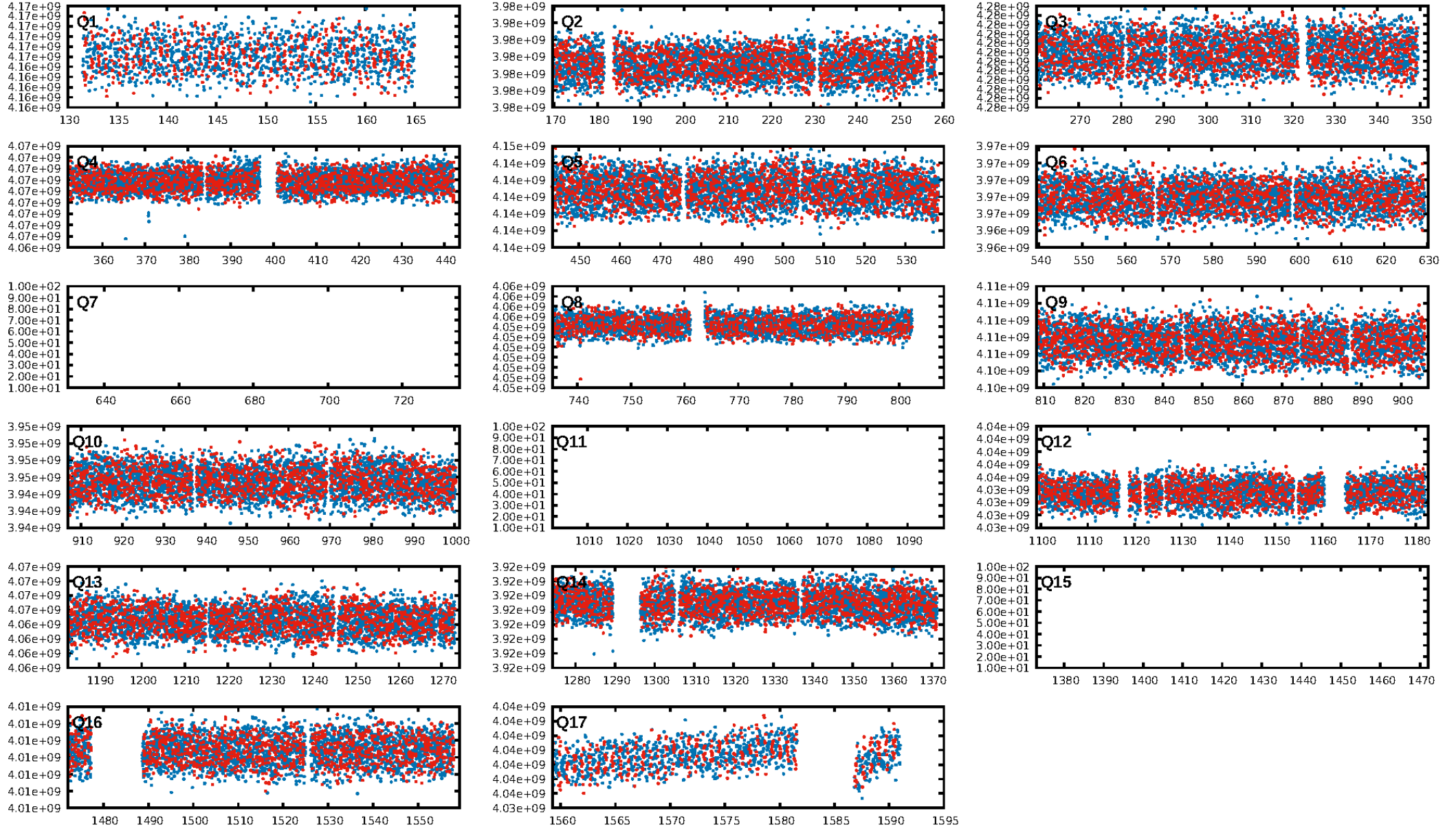
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.21e-15
RollingBand-fgt: 0.99 [1444/1453]
GhostDiagnostic-chr: N/A
Centroid-sig: 76.1%
Centroid-so: 0.246 arcsec [0.29σ]
OotOffset-rm: 9.023 arcsec [6.15σ]
KicOffset-rm: 6.500 arcsec [4.27σ]
OotOffset-st: 2/1/4/4 [11]
KicOffset-st: 2/1/4/4 [11]
DiffImageQuality-fgm: 0.00 [0/11]
DiffImageOverlap-fno: 1.00 [14/14]

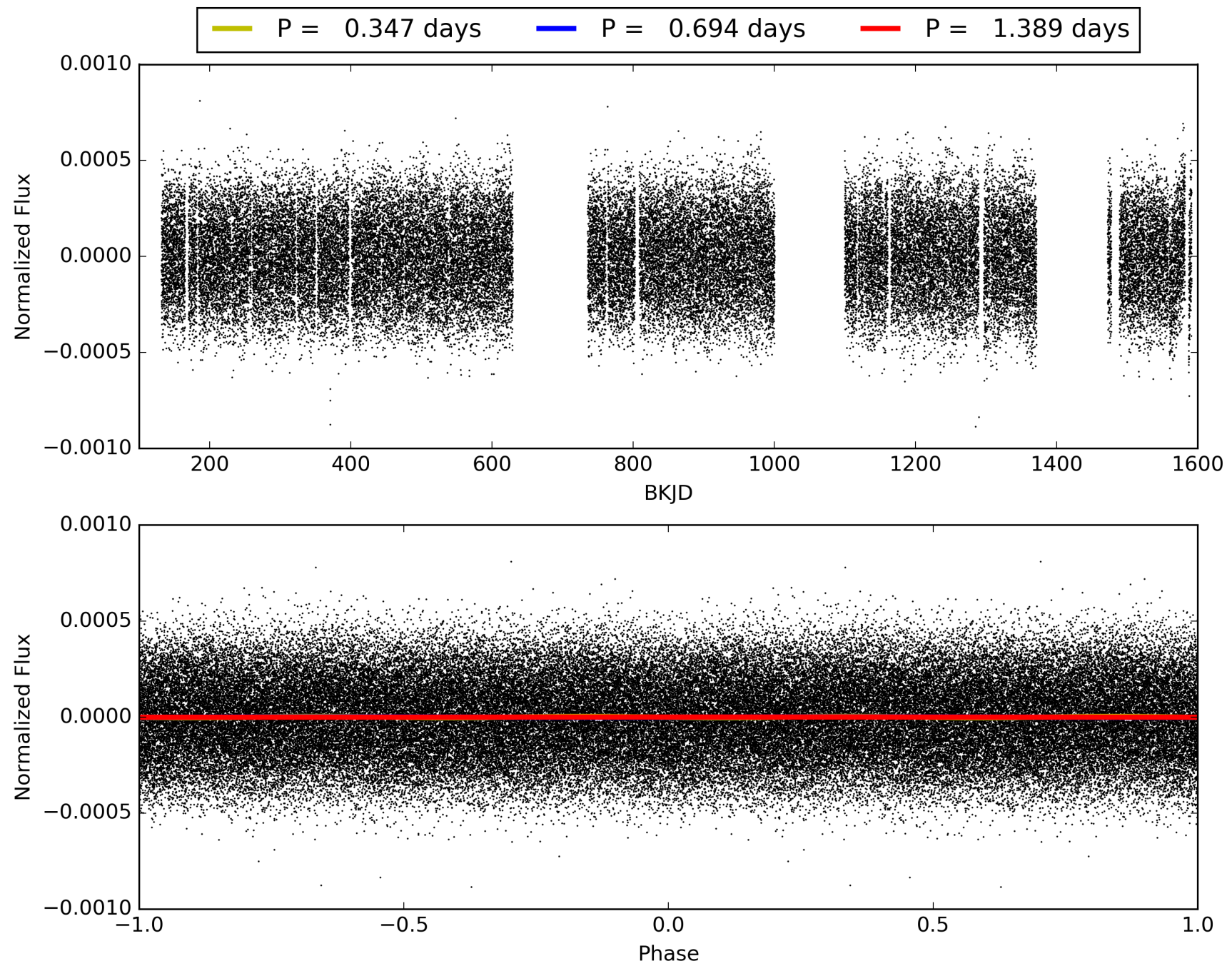
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:10:34 Z

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

TCE 009973036-01, PDC Light Curves

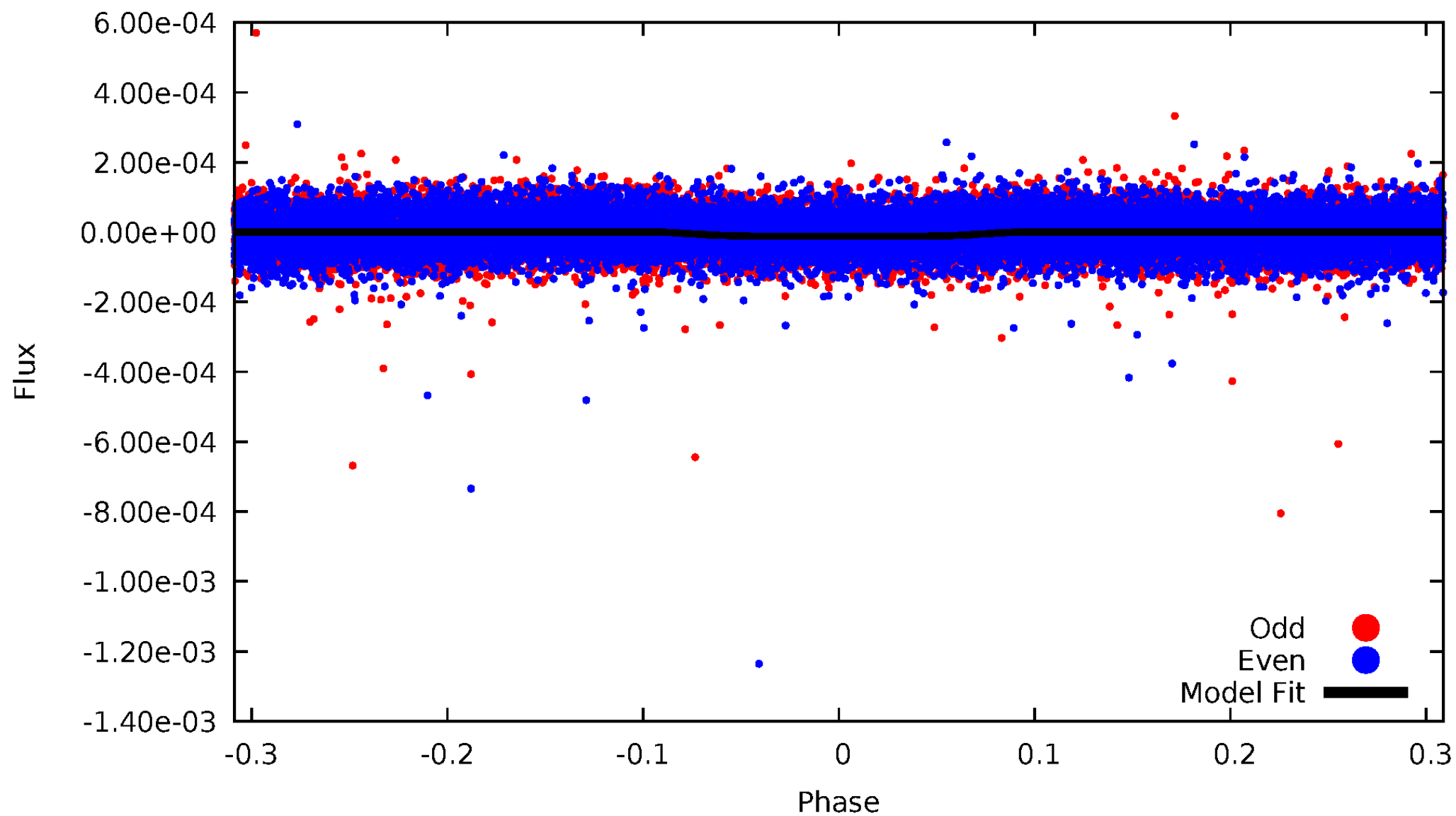


TCE 009973036-01



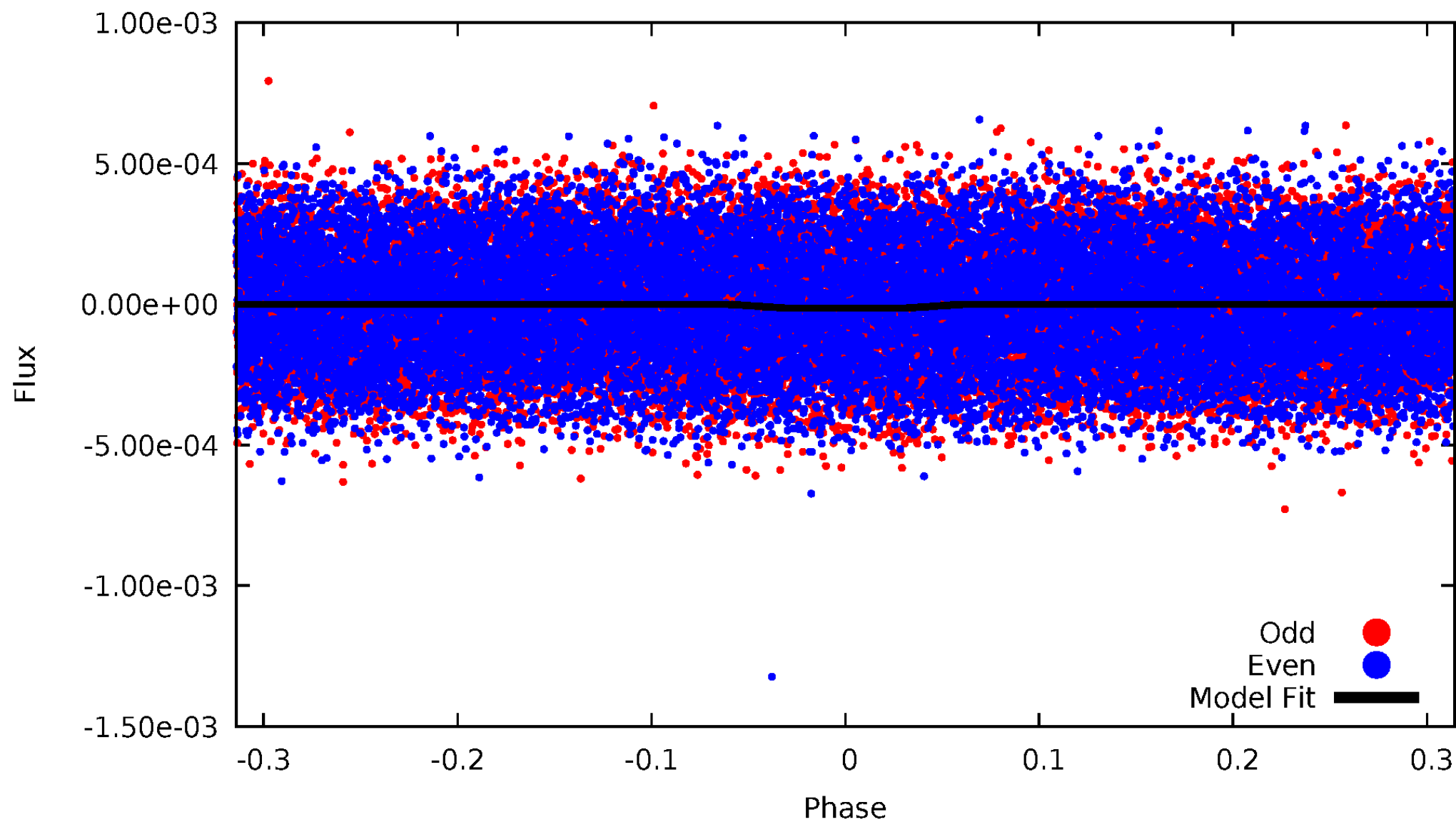
DV Odd/Even

TCE 009973036-01

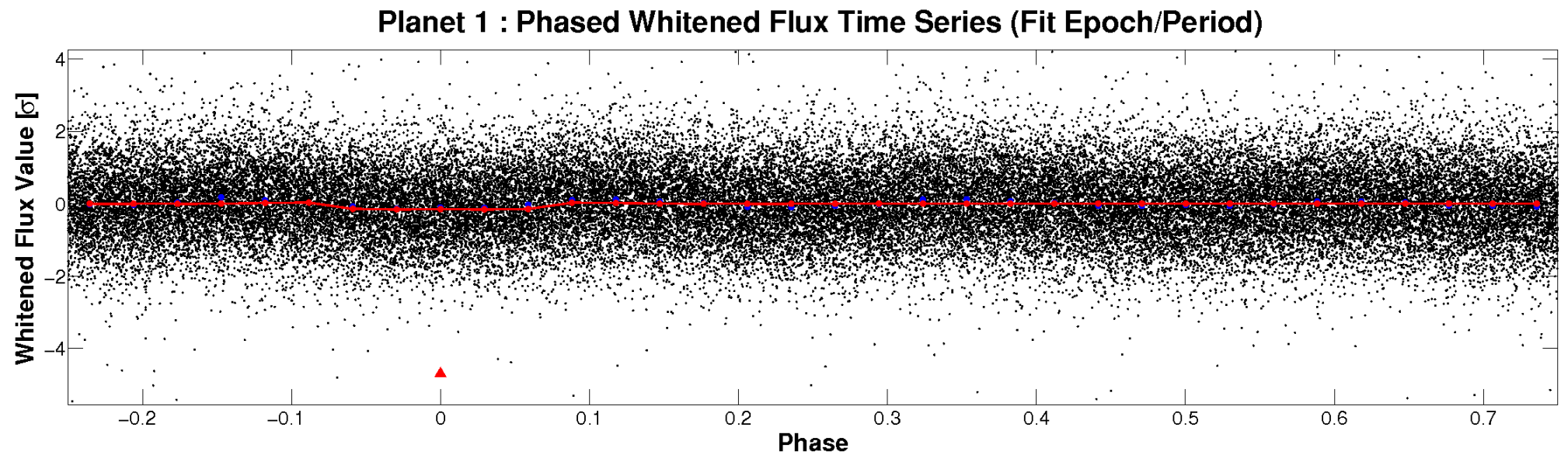
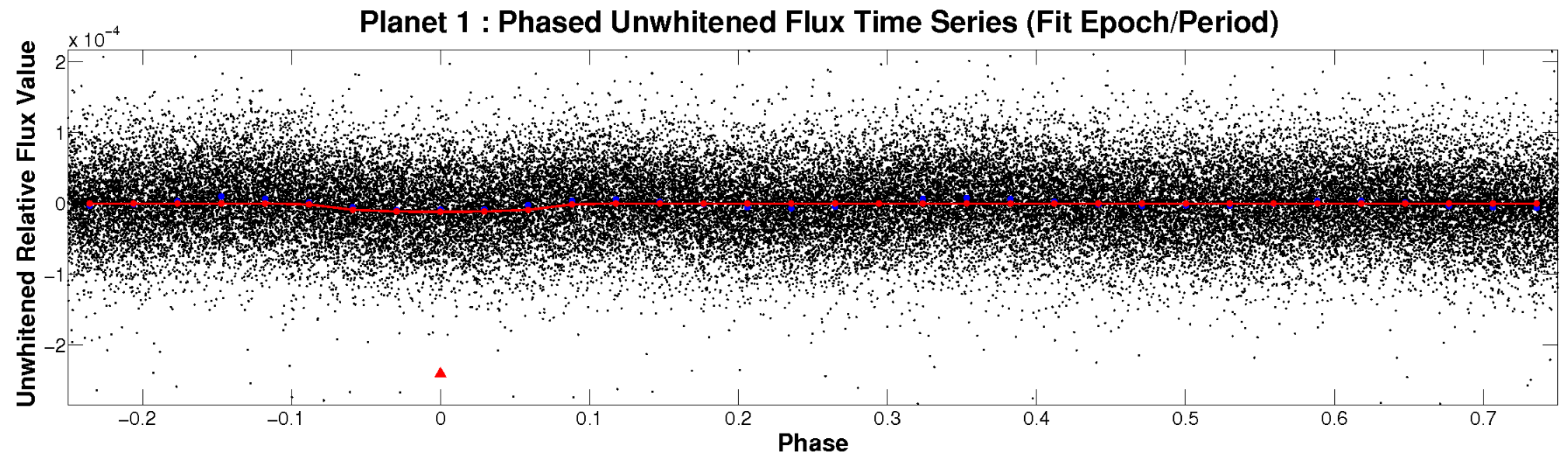


ALT Odd/Even

TCE 009973036-01

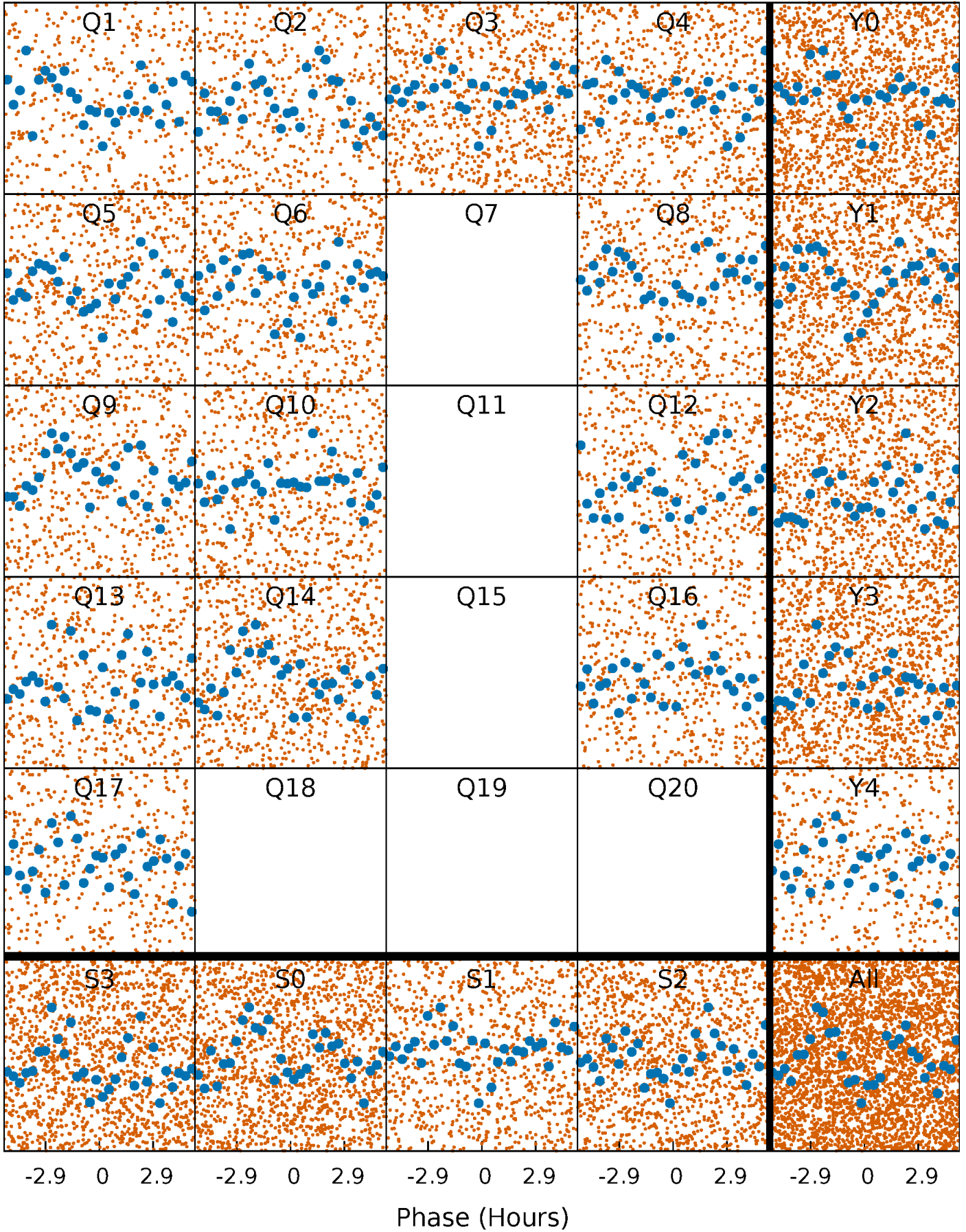


Non-Whitened Vs. Whitened Light Curve



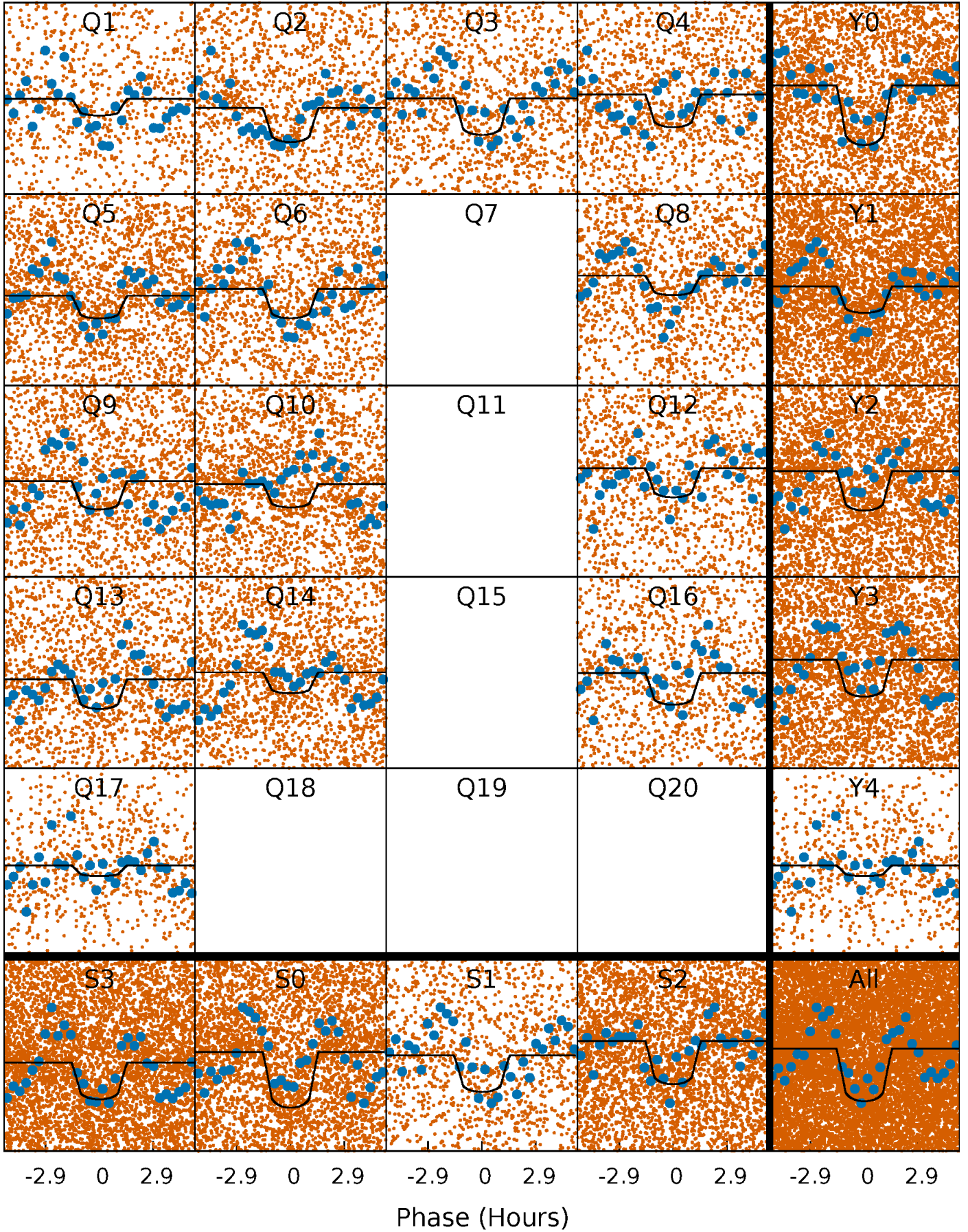
PDC Quarter-Phased Transit Curves

TCE 009973036-01 P= 0.694284 Days $T_0=131.755943$ (BKJD)



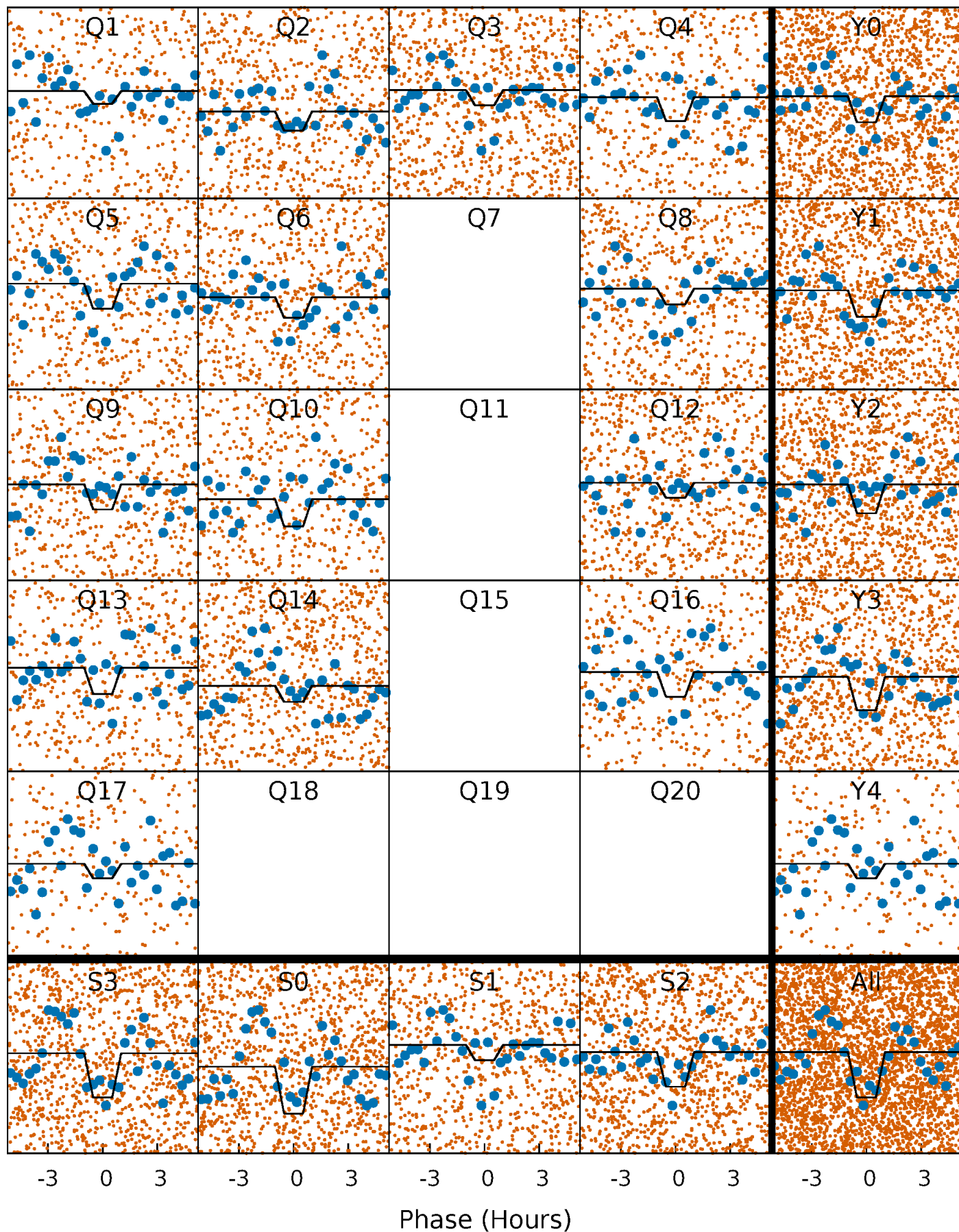
DV Quarter-Phased Transit Curves

TCE 009973036-01 P= 0.694284 Days $T_0=131.755943$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

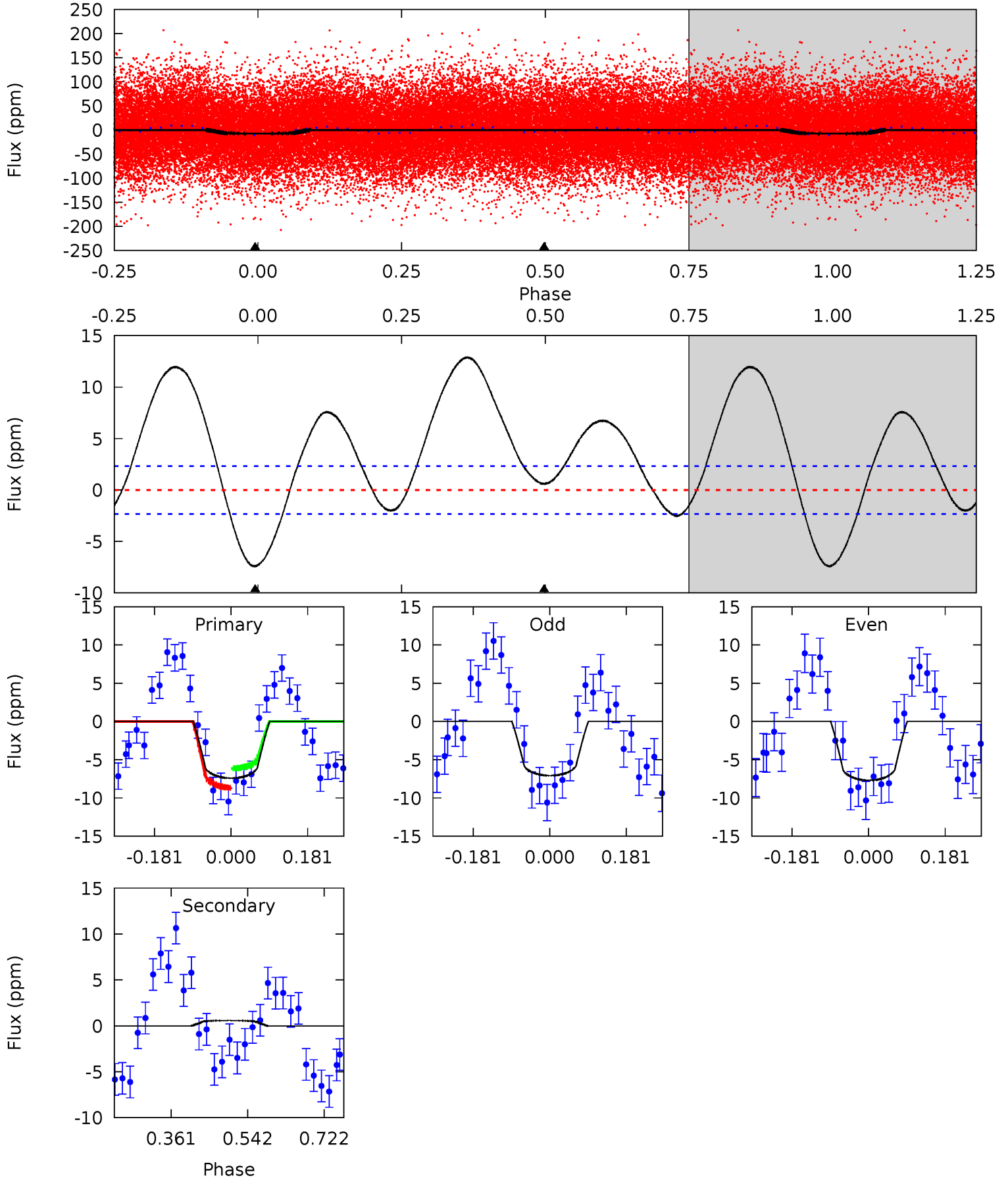
TCE 009973036-01 P= 0.694282 Days $T_0=131.756136$ (BKJD)



DV Model-Shift Uniqueness Test

009973036-01, P = 0.694284 Days, E = 131.061659 Days

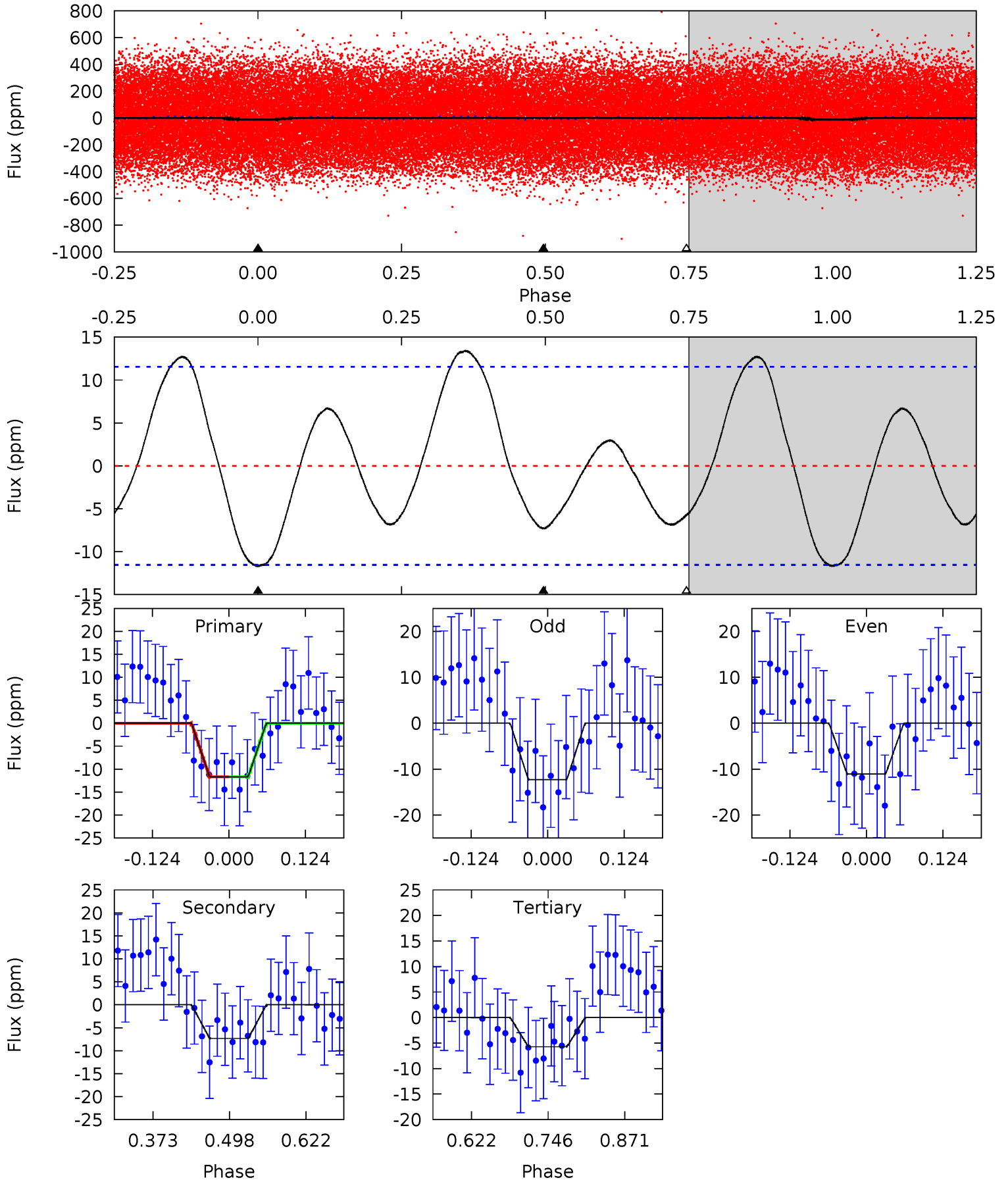
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	-1.11	0	0	4.44	1.34	6.17	14.2	14.2	-1.11	-1.11	0.59	1.01	0.63	2.43



Alt Model-Shift Uniqueness Test

009973036-01, P = 0.694282 Days, E = 131.061854 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.58	2.87	2.25	0	4.52	1.54	2.60	2.33	4.58	0.63	2.87	0.24	1.24	0.53	0.01



Stellar Parameters For KIC 009973036

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7177^{+200}_{-314}	$3.894^{+0.273}_{-0.147}$	$0.080^{+0.200}_{-0.350}$	$2.504^{+0.579}_{-0.868}$	$1.792^{+0.201}_{-0.373}$	$0.161^{+0.307}_{-0.071}$
	+3%/-4%	+7%/-4%	+250%/-438%	+23%/-35%	+11%/-21%	+191%/-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 009973036-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	1 ± 1	$0.96^{+0.21}_{-0.20}$	5047^{+381}_{-426}	-4603^{+360}_{-351}	$-0.116^{+0.111}_{-0.139}$
Alt.	-7 ± 3	$0.99^{+0.22}_{-0.22}$	5095^{+386}_{-460}	5660^{+824}_{-893}	$1.403^{+0.960}_{-0.646}$

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 $A_{obs} \gg 1.0$

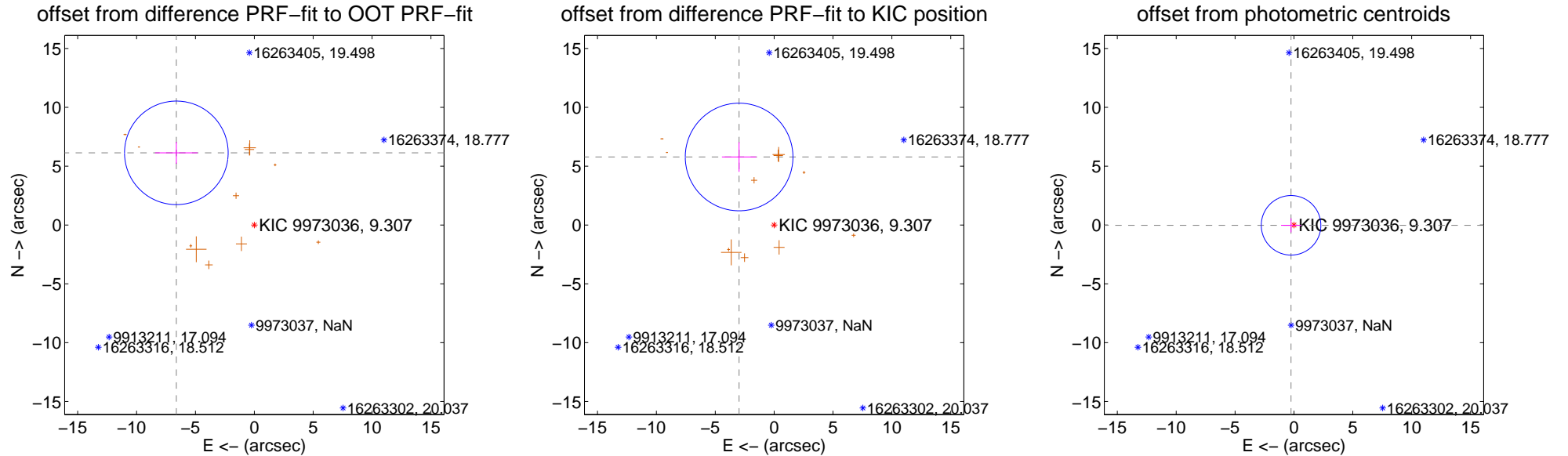
DV Centroid Data

Supplemental centroid analysis for 009973036-01. **Kepler magnitude: 9.31.** Transit SNR 13.22

There are 0 quarters with good PRF difference image offsets

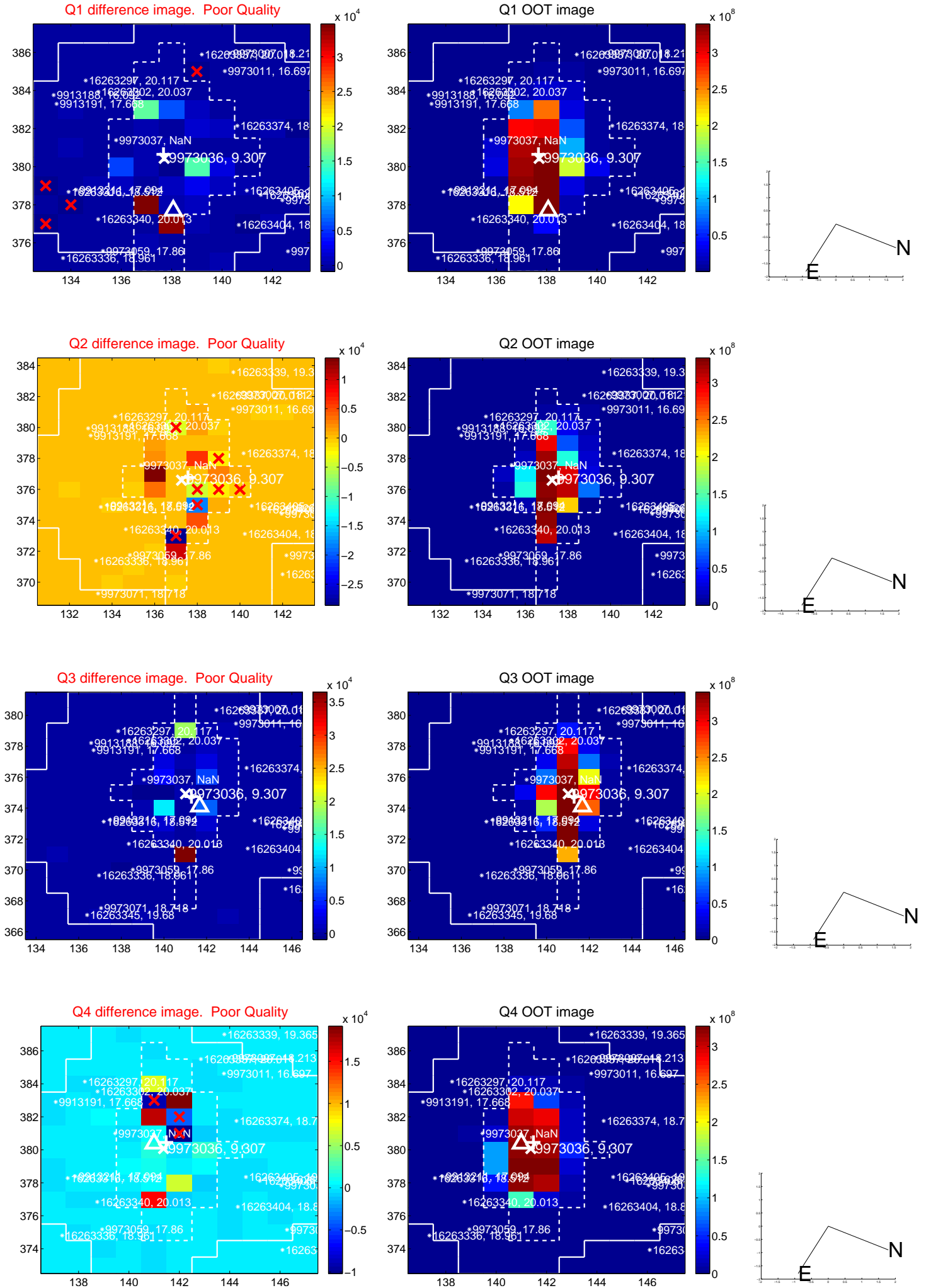
The direct PRF centroid is offset from the target star catalog position by about 0.96 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.023 ± 1.466	6.15	6.620 ± 1.803	6.131 ± 0.931
PRF-fit source offset from KIC position	6.500 ± 1.524	4.27	2.974 ± 1.461	5.779 ± 1.261
photometric centroid source offset	0.25 ± 0.84	0.29	0.24 ± 0.85	-0.03 ± 0.59

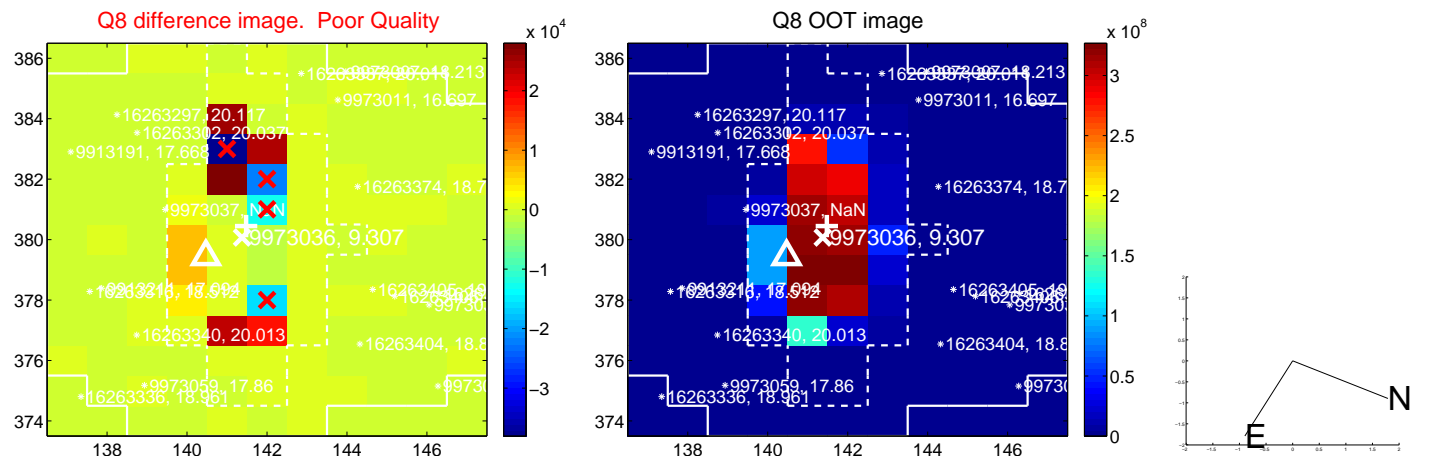
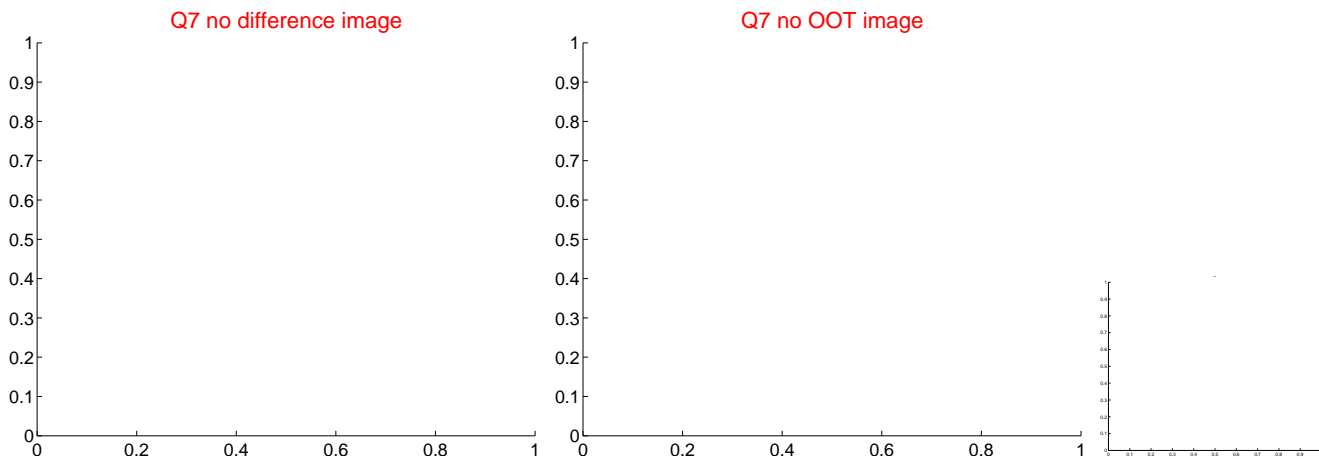
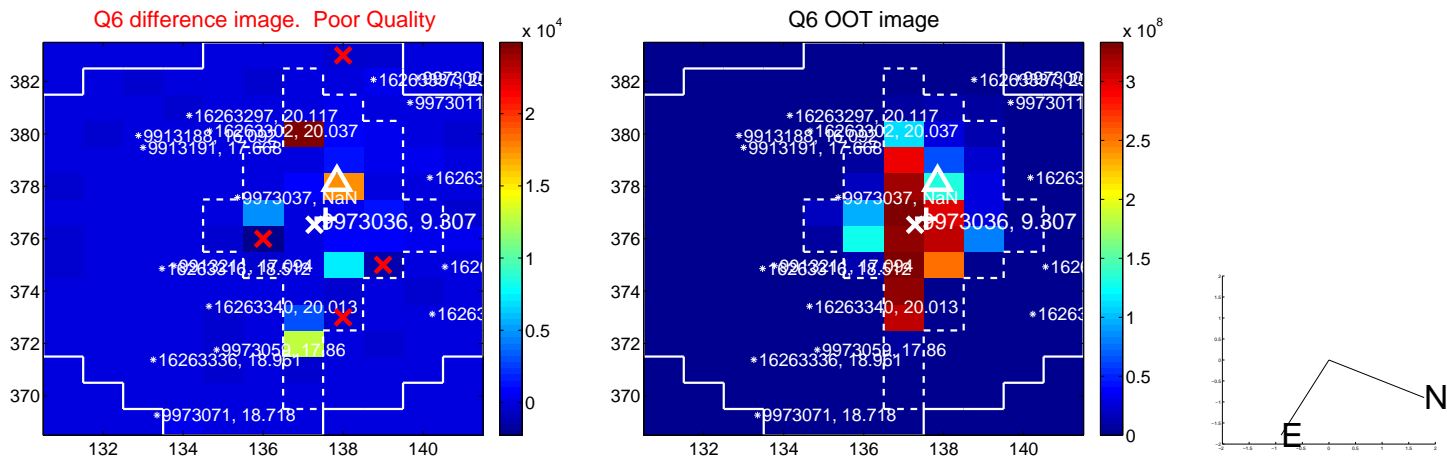
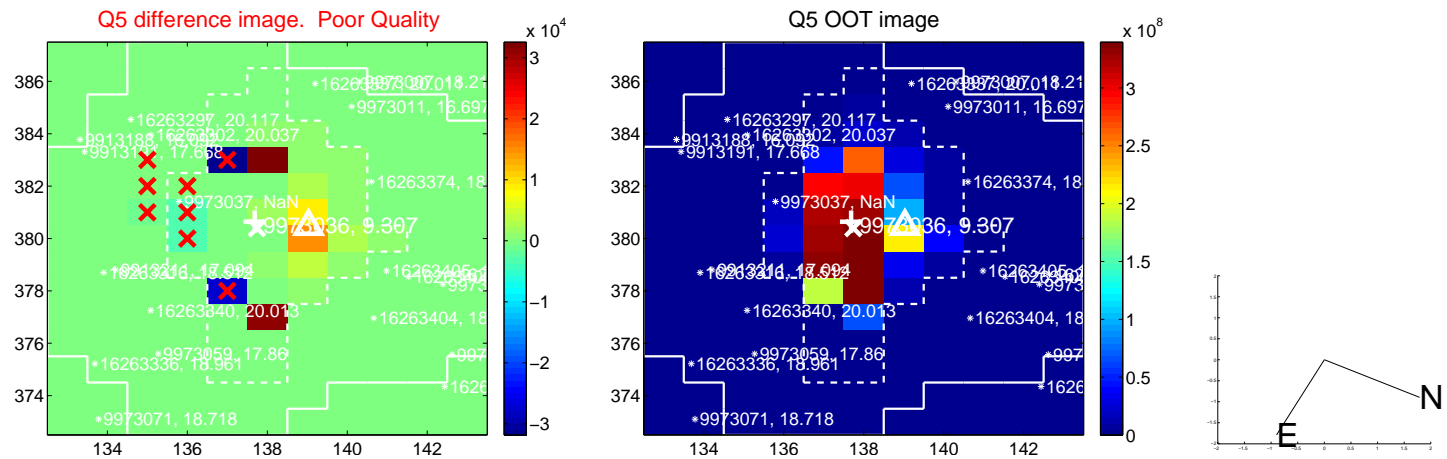


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

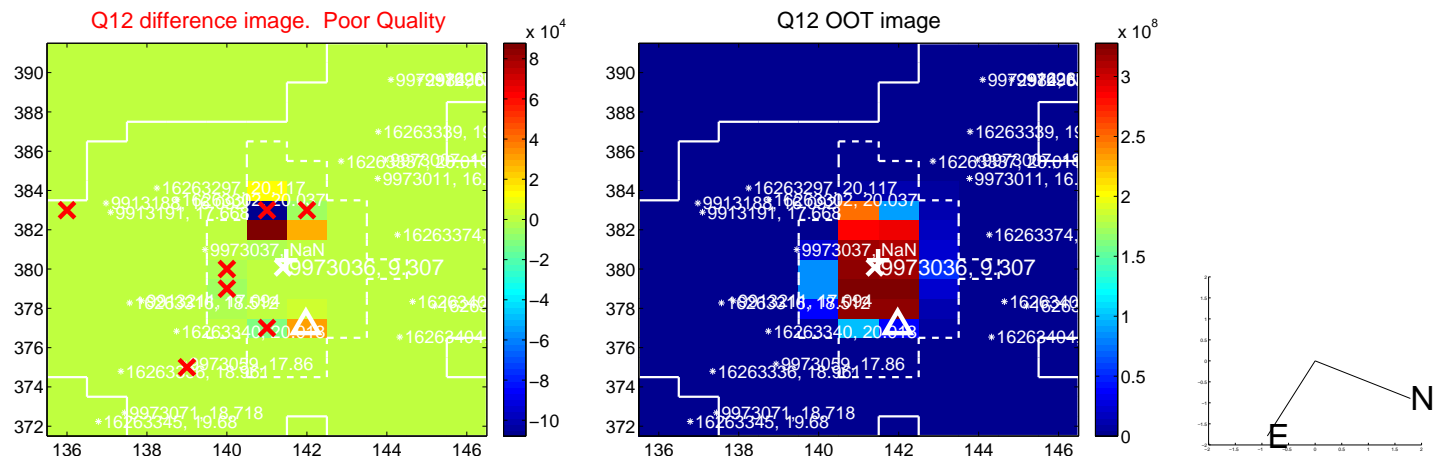
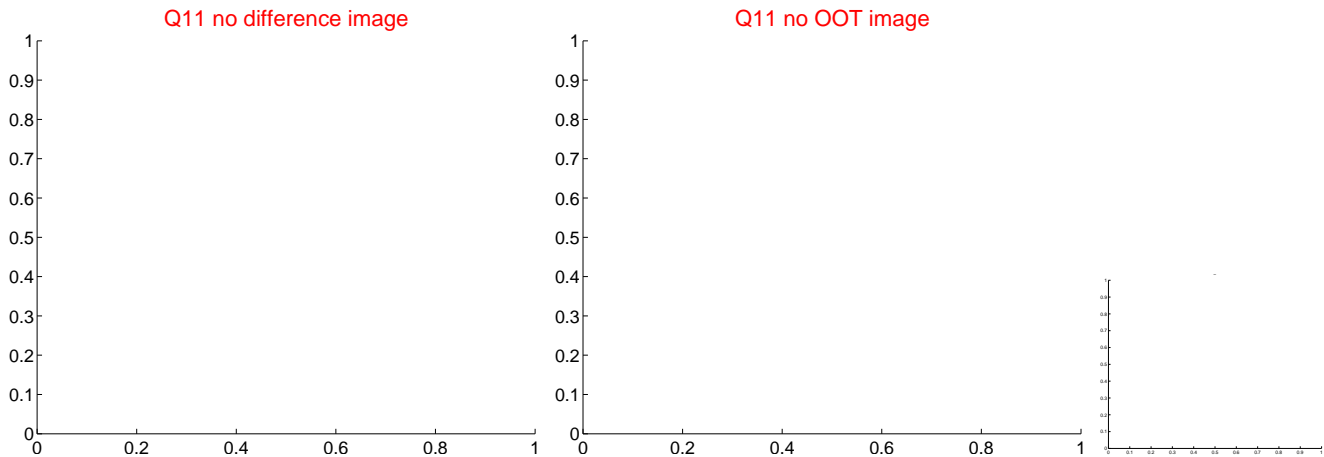
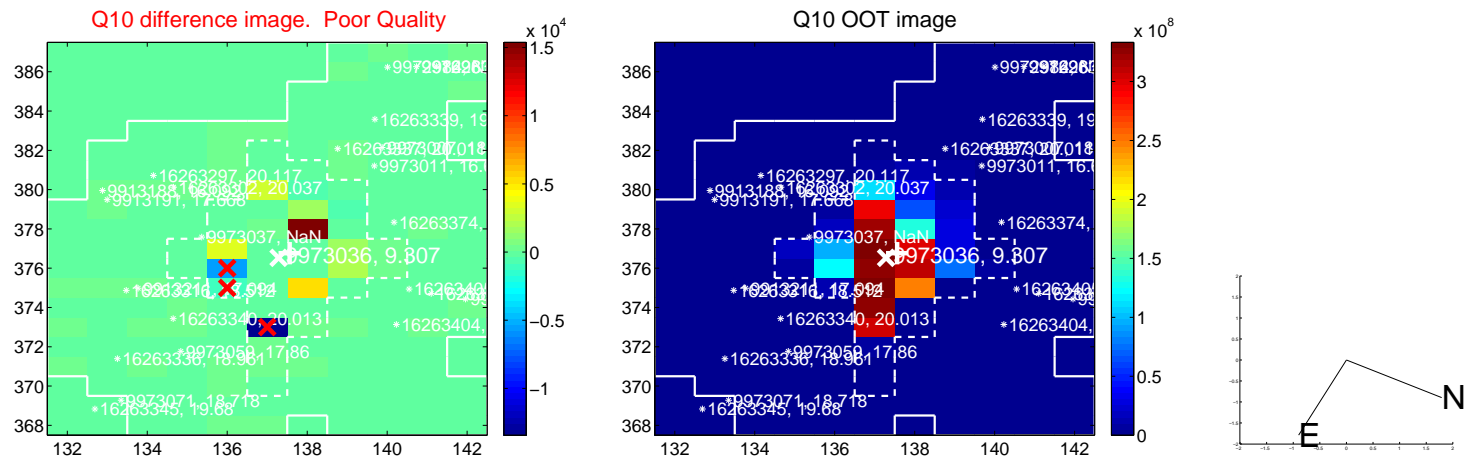
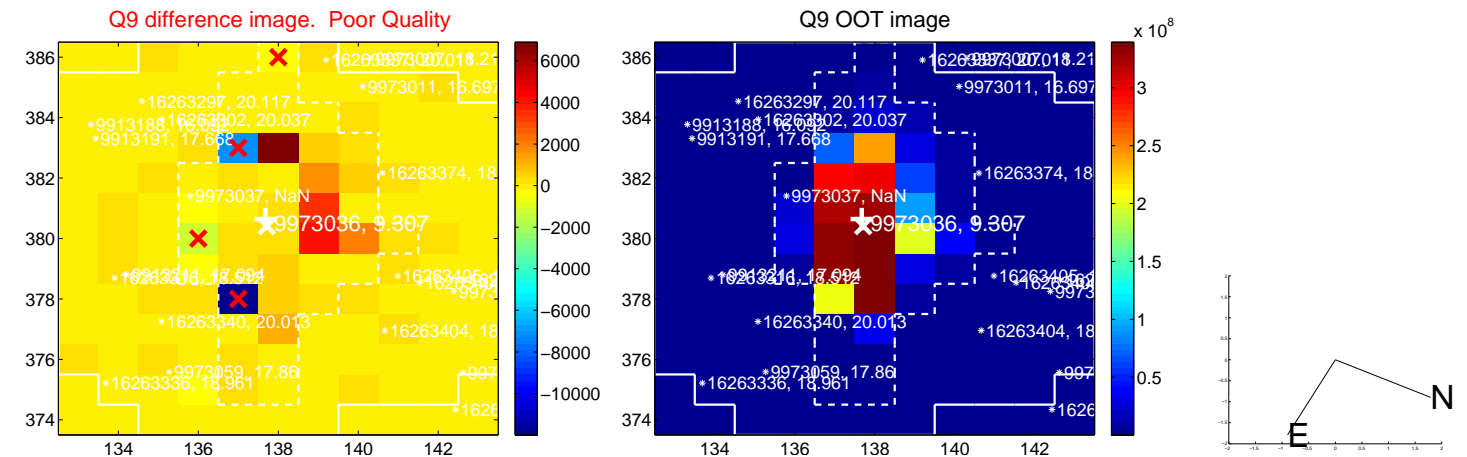
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



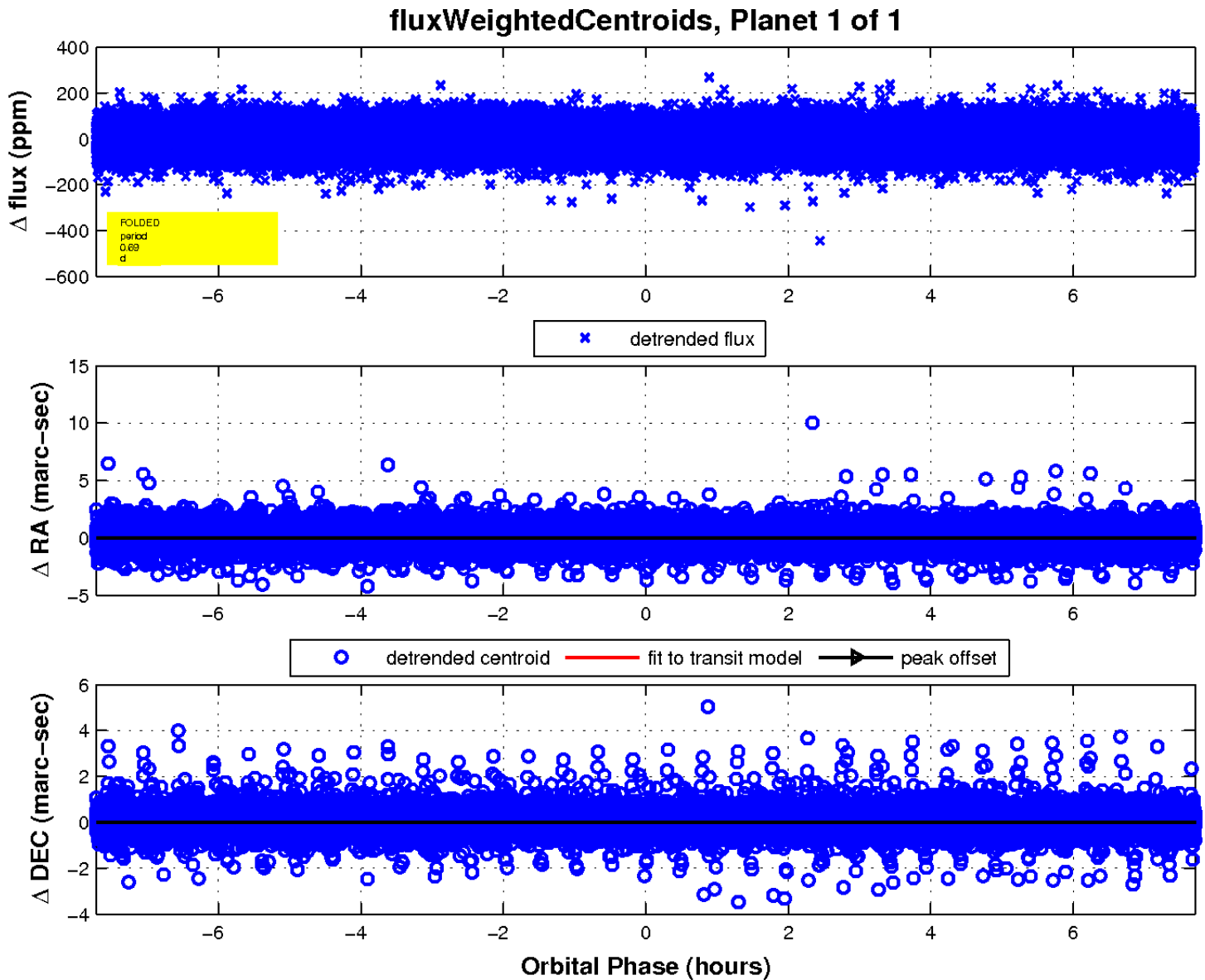
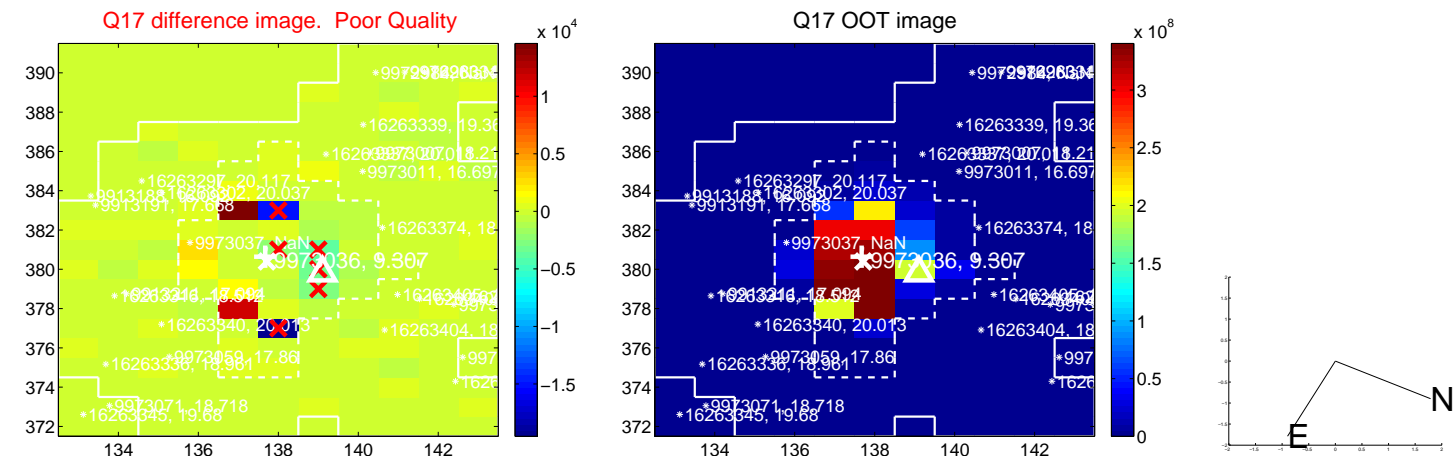
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

