

KIC 010014604

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})
010014604-01	OBS	No	0.588911	131.515761	41.6	2.006	8.2	9.1	1.82	7558	1.36	36392.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010014604-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

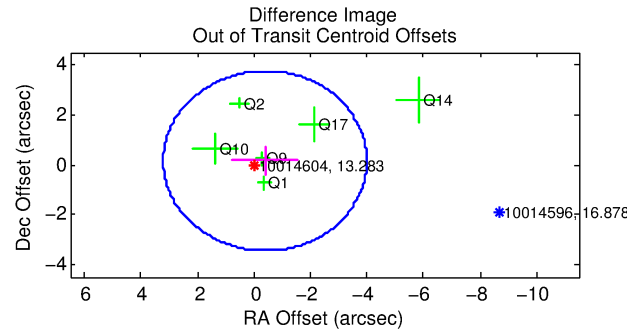
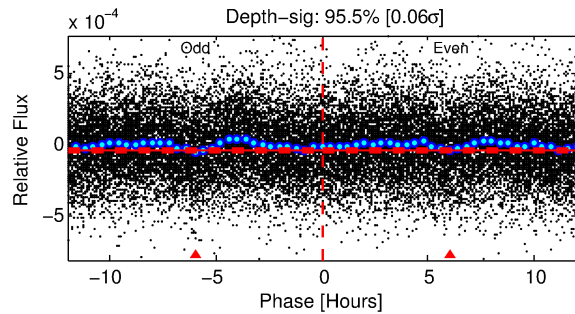
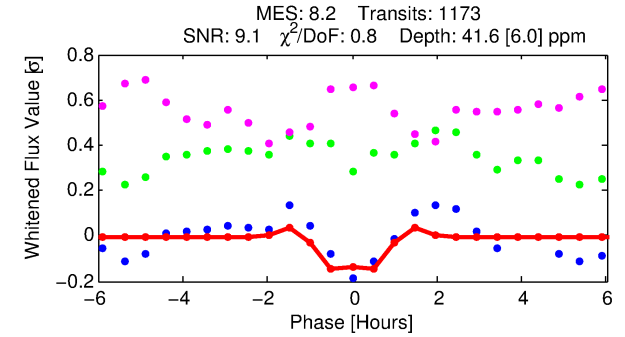
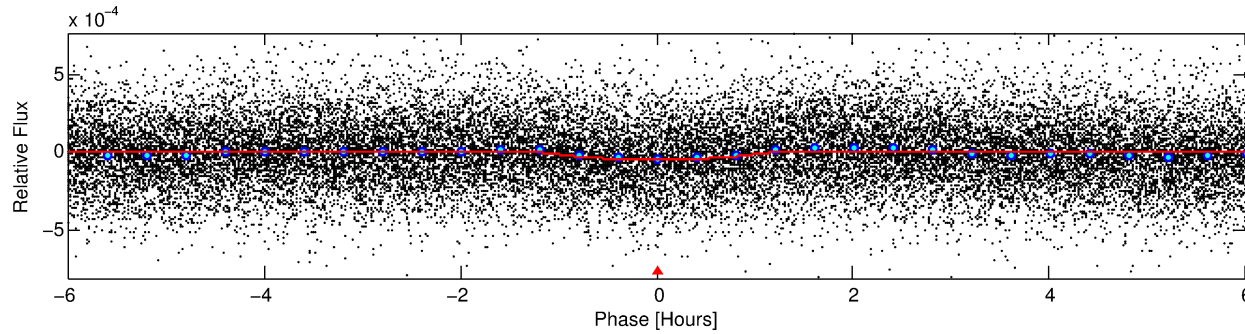
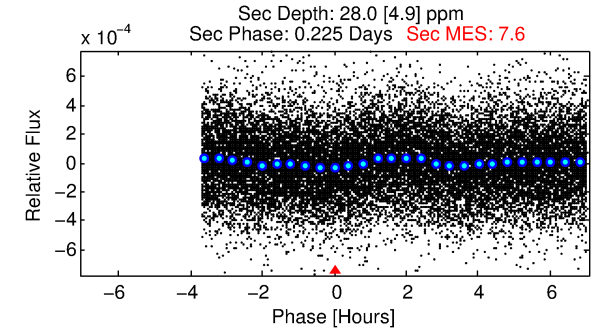
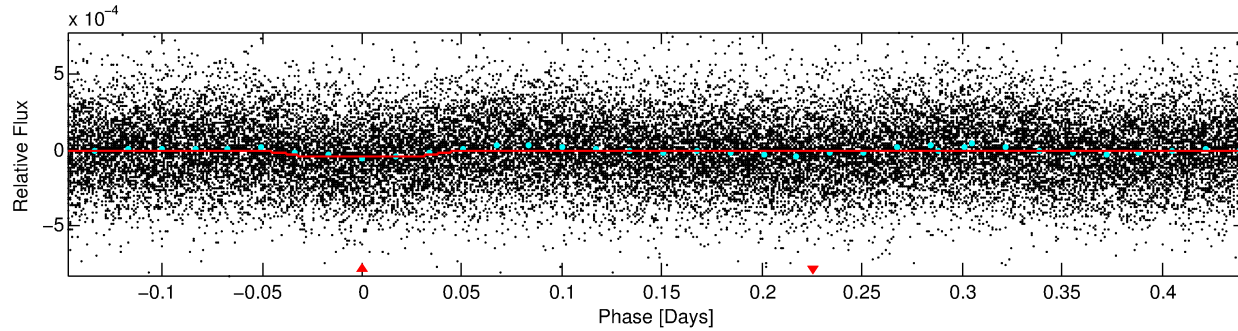
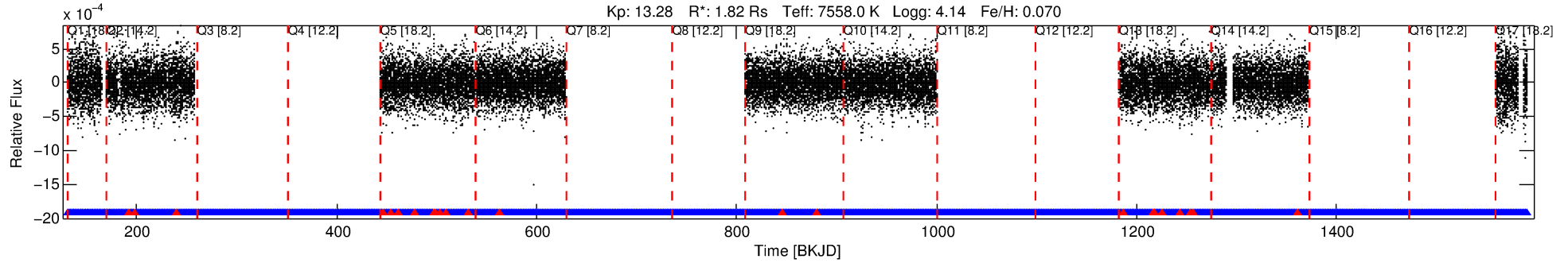
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010014604-01

No Significant Match Found

DV One-Page Summary

KIC: 10014604 Candidate: 1 of 1 Period: 0.589 d



DV Fit Results:

Period = 0.58891 [0.00001] d
Epoch = 131.5158 [0.0020] BKJD
Rp/R* = 0.0068 [0.0022]
a/R* = 1.38 [1.34]
b = 0.90 [0.43]
Seff = 36392.38 [14257.87]
Teq = 3522 [345] K
Rp = 1.36 [0.58] Re
a = 0.0163 [0.0039] AU
Ag = 2.21 [1.65] [0.74σ]
Teffp = 6641 [1132] K [2.64σ]

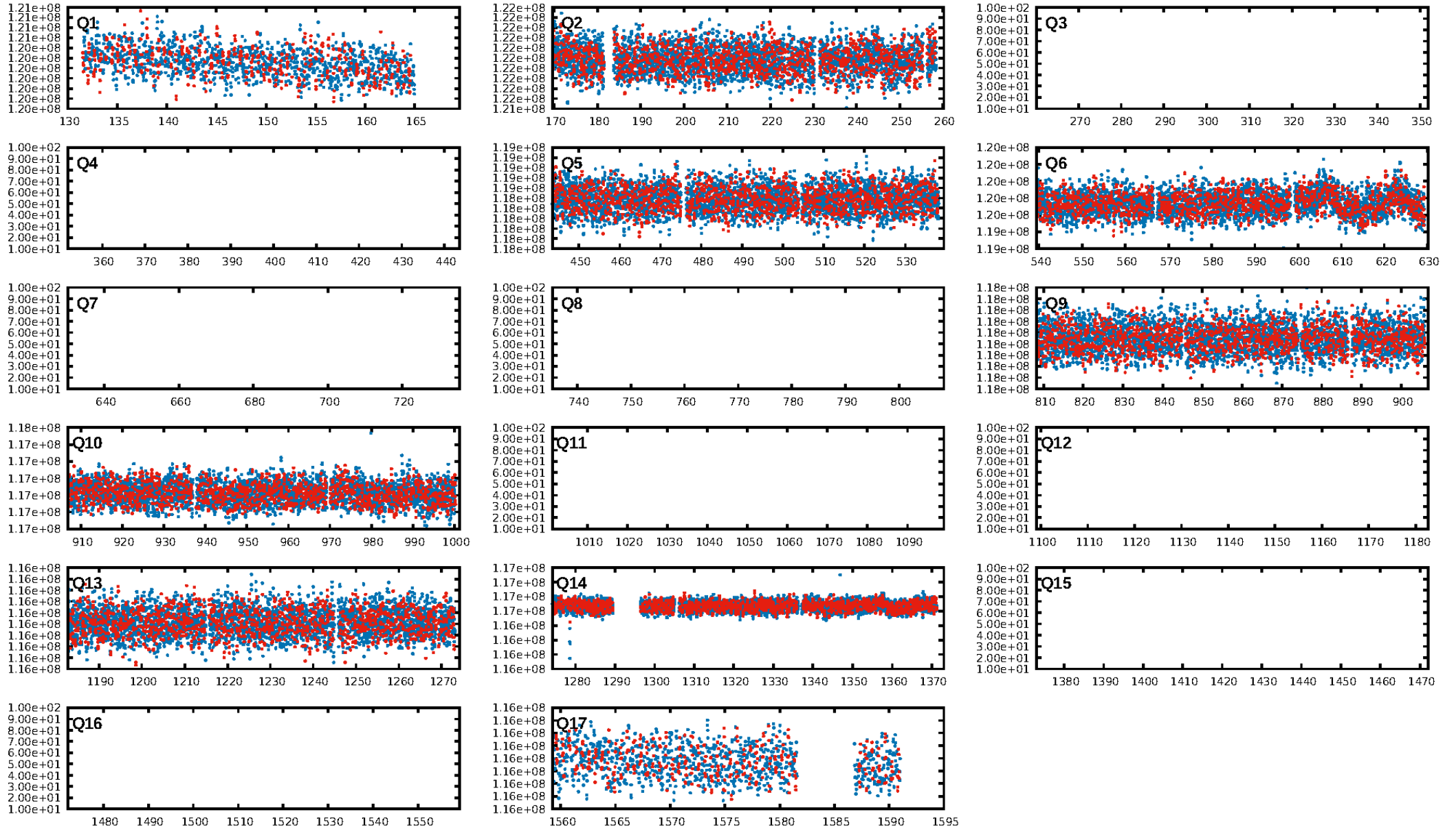
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.04e-12
RollingBand-fgt: 0.98 [1048/1071]
GhostDiagnostic-chr: 2.218
Centroid-sig: 0.2%
Centroid-so: 1.447 arcsec [2.11σ]
OotOffset-rm: 0.419 arcsec [0.35σ]
KicOffset-rm: 0.337 arcsec [0.38σ]
OotOffset-st: 3/0/0/3 [6]
KicOffset-st: 3/0/0/3 [6]
DiffImageQuality-fgm: 0.83 [5/6]
DiffImageOverlap-fno: 1.00 [9/9]

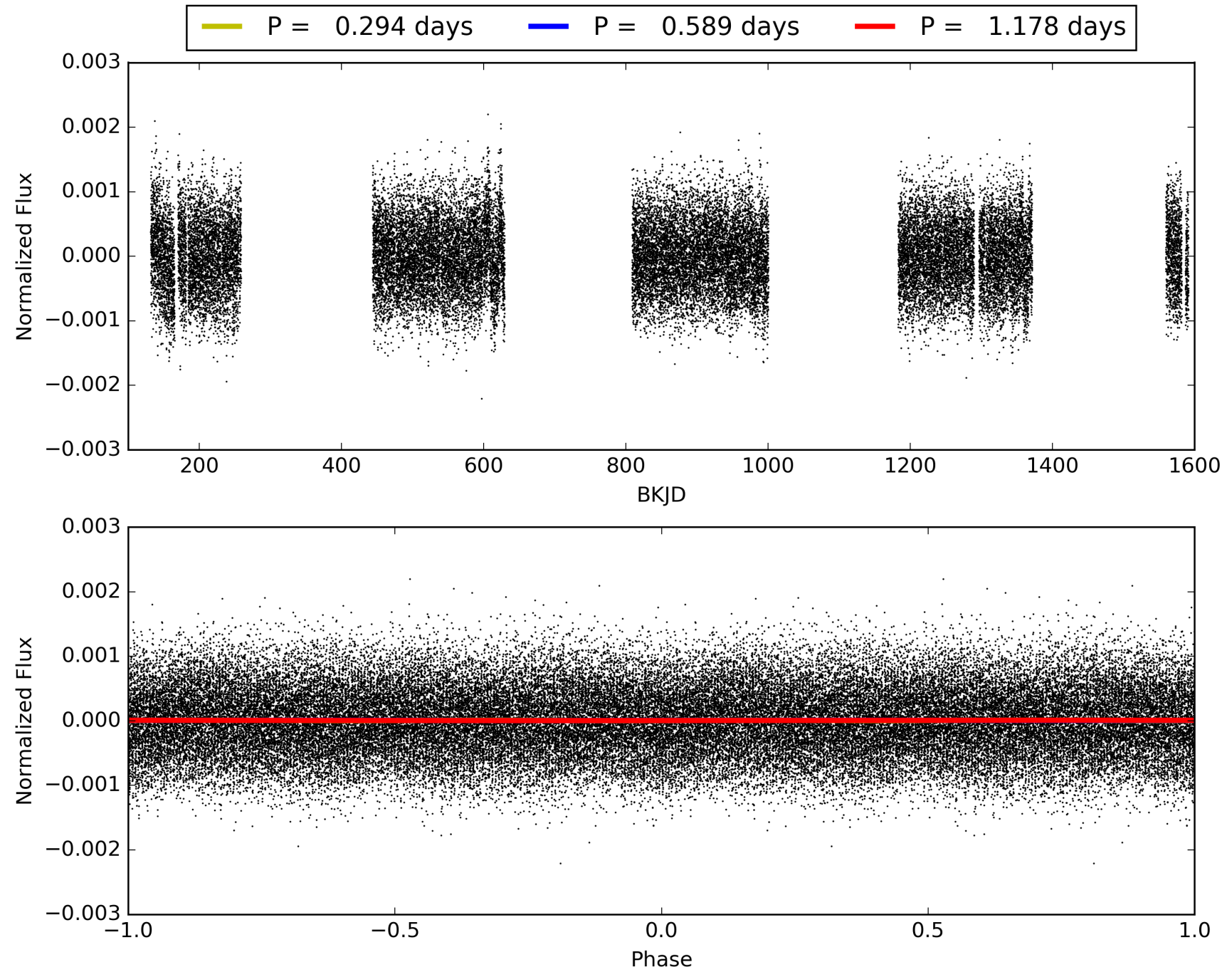
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:07:07 Z

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

TCE 010014604-01, PDC Light Curves

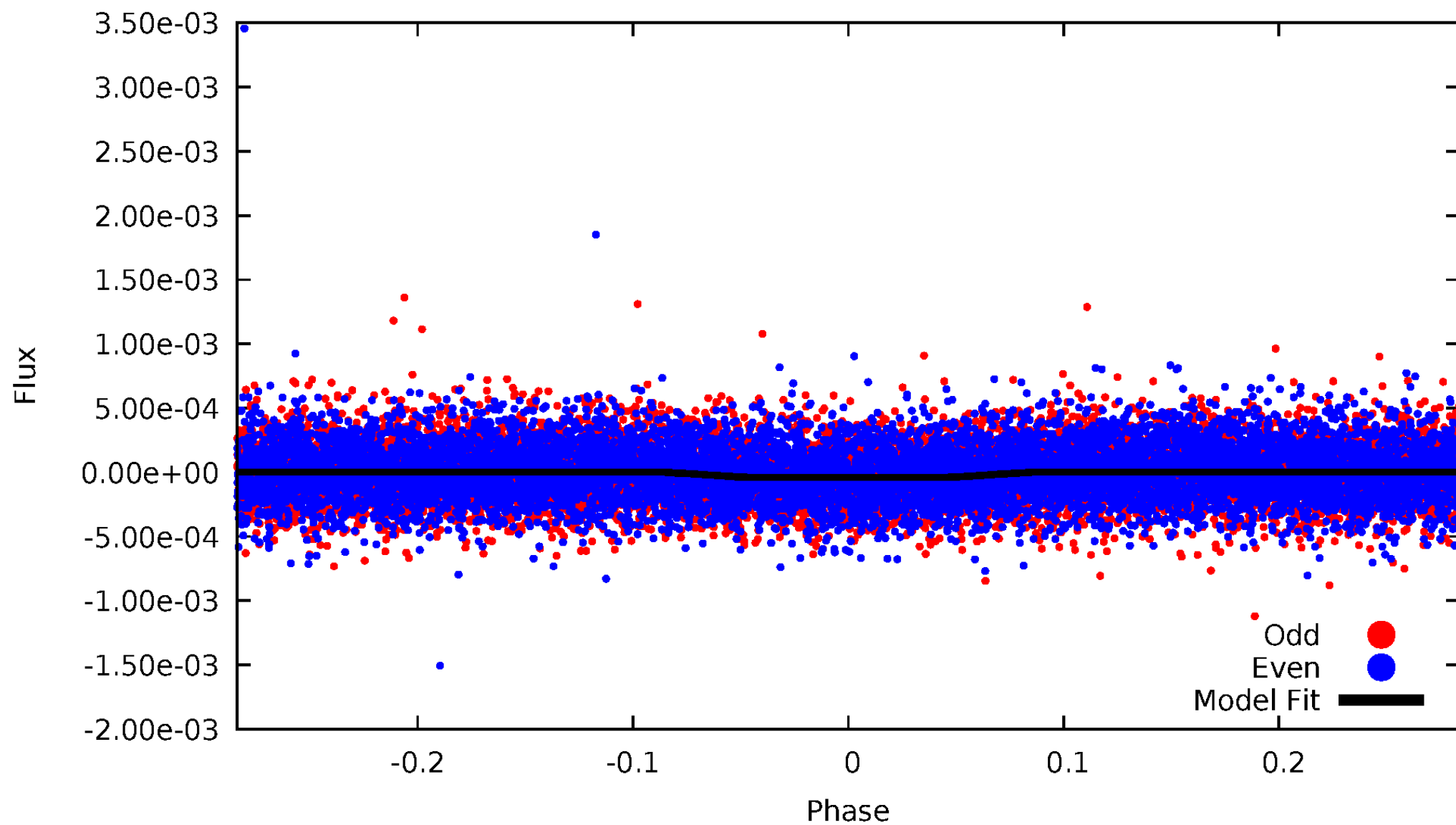


TCE 010014604-01



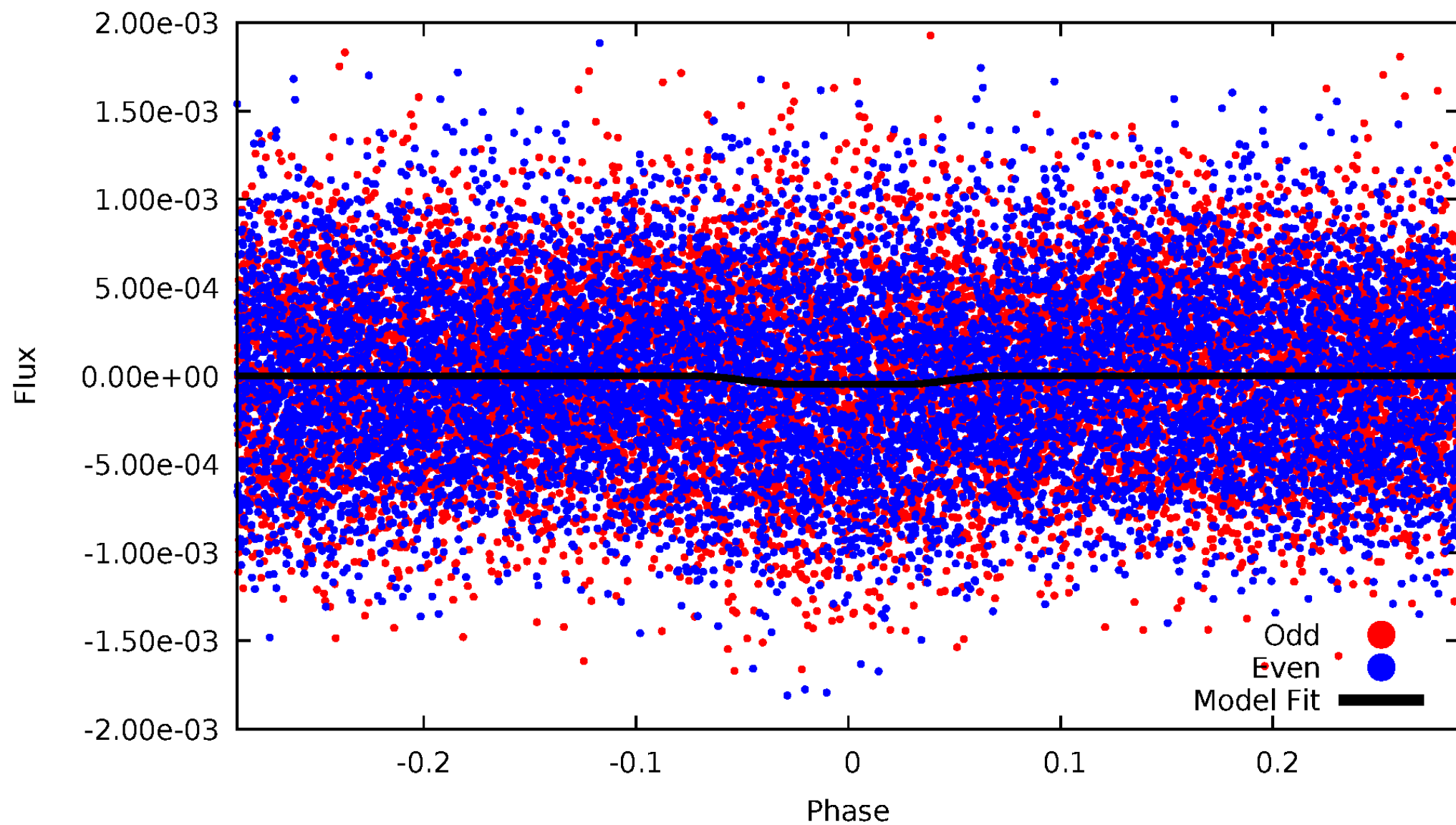
DV Odd/Even

TCE 010014604-01

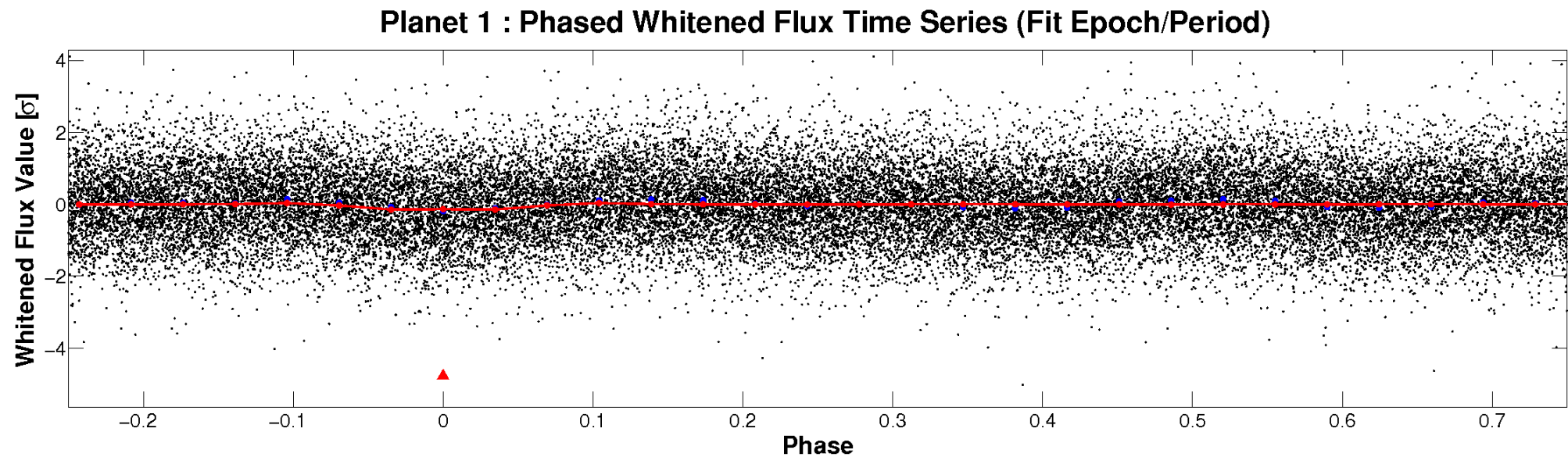
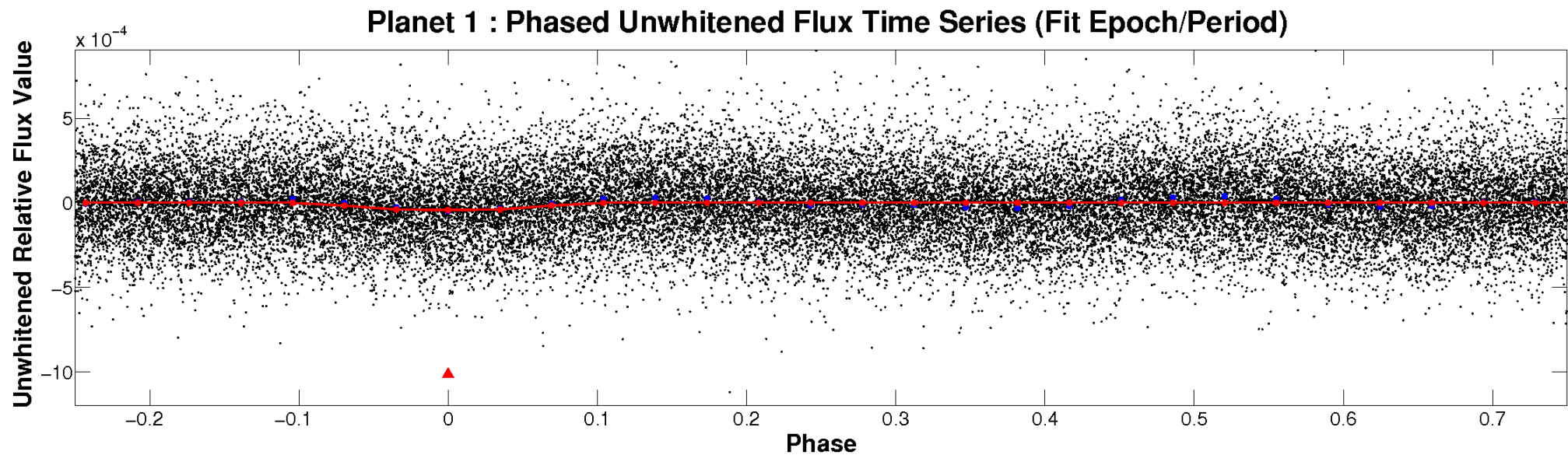


ALT Odd/Even

TCE 010014604-01

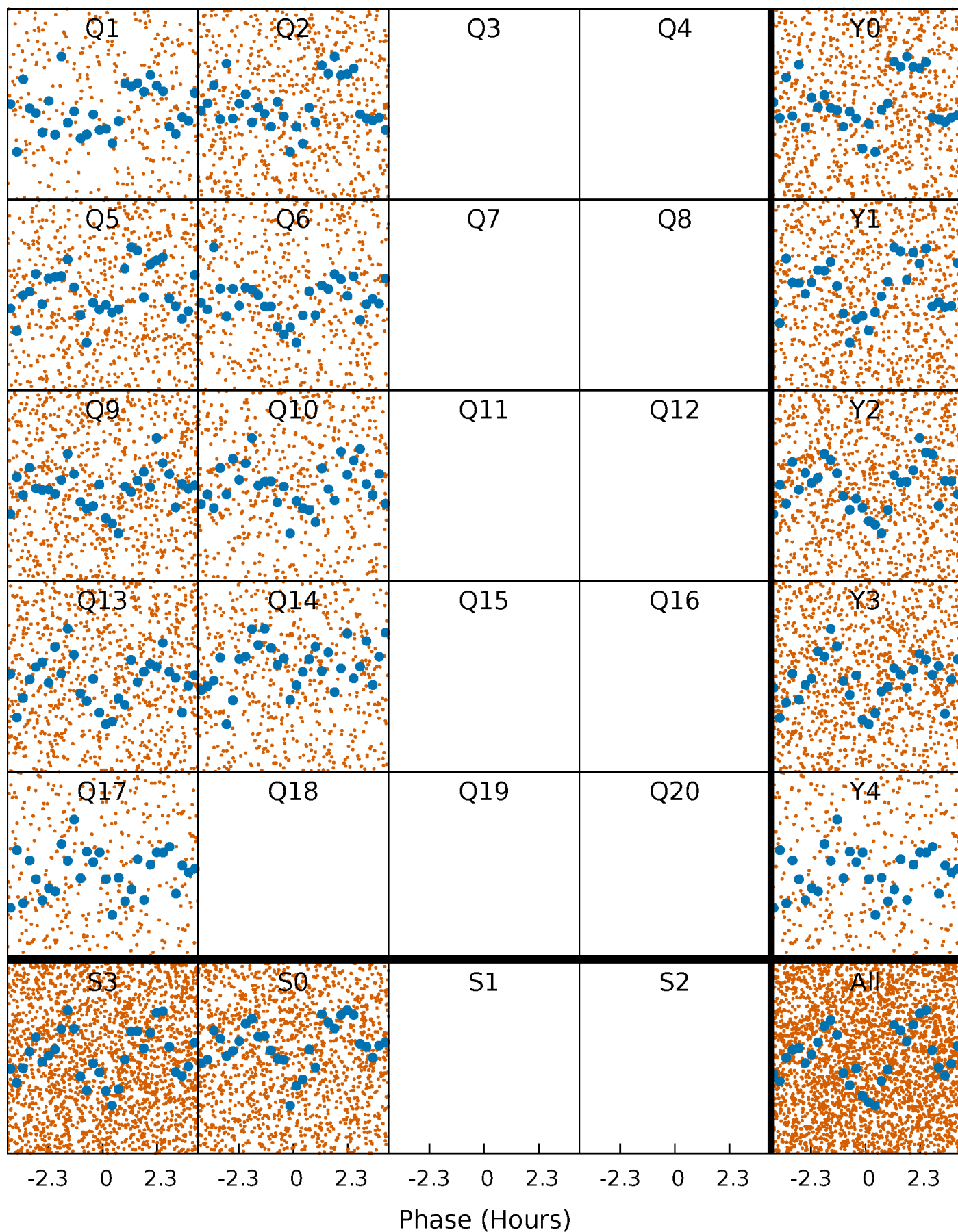


Non-Whitened Vs. Whitened Light Curve



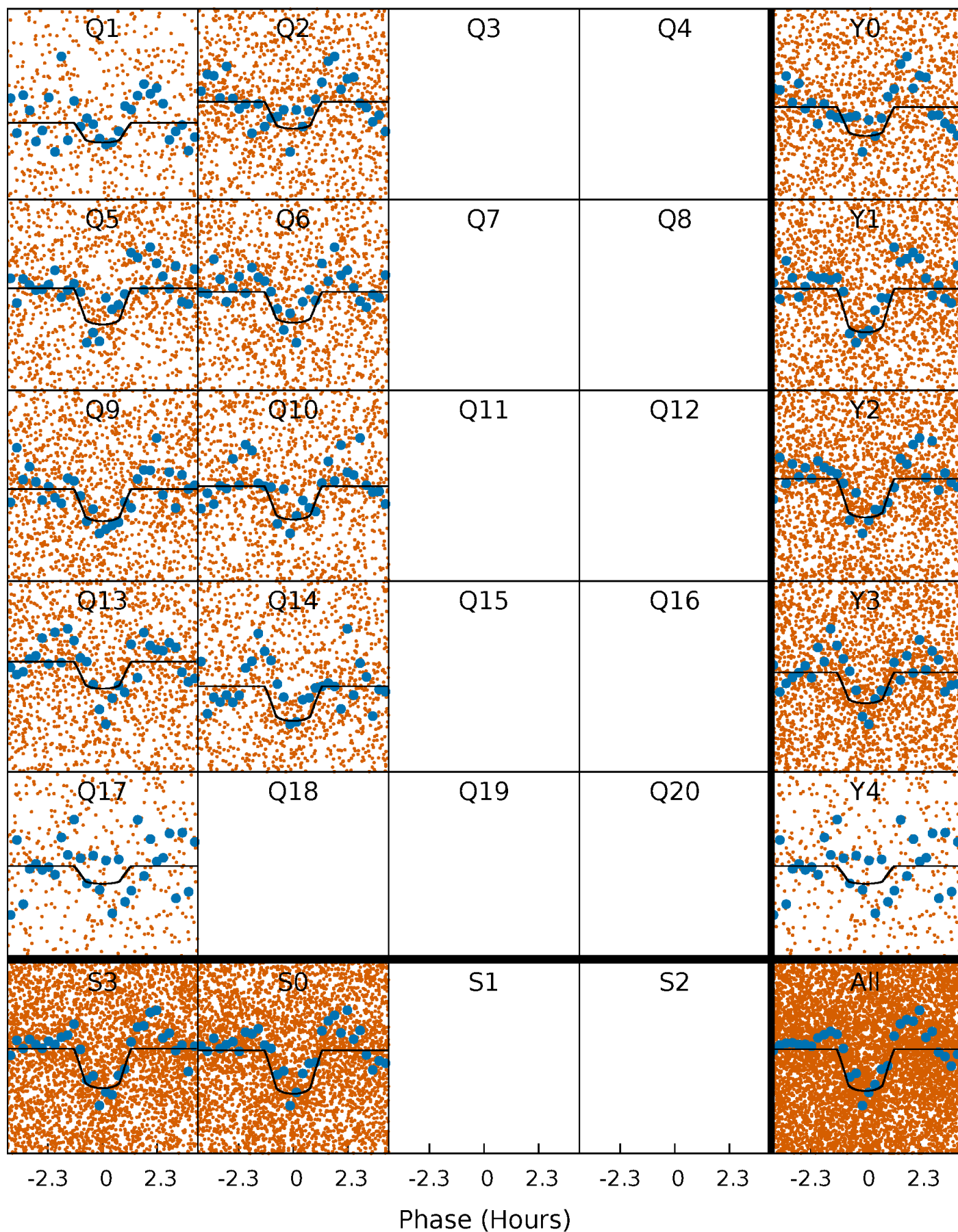
PDC Quarter-Phased Transit Curves

TCE 010014604-01 P= 0.588911 Days $T_0=131.515761$ (BKJD)



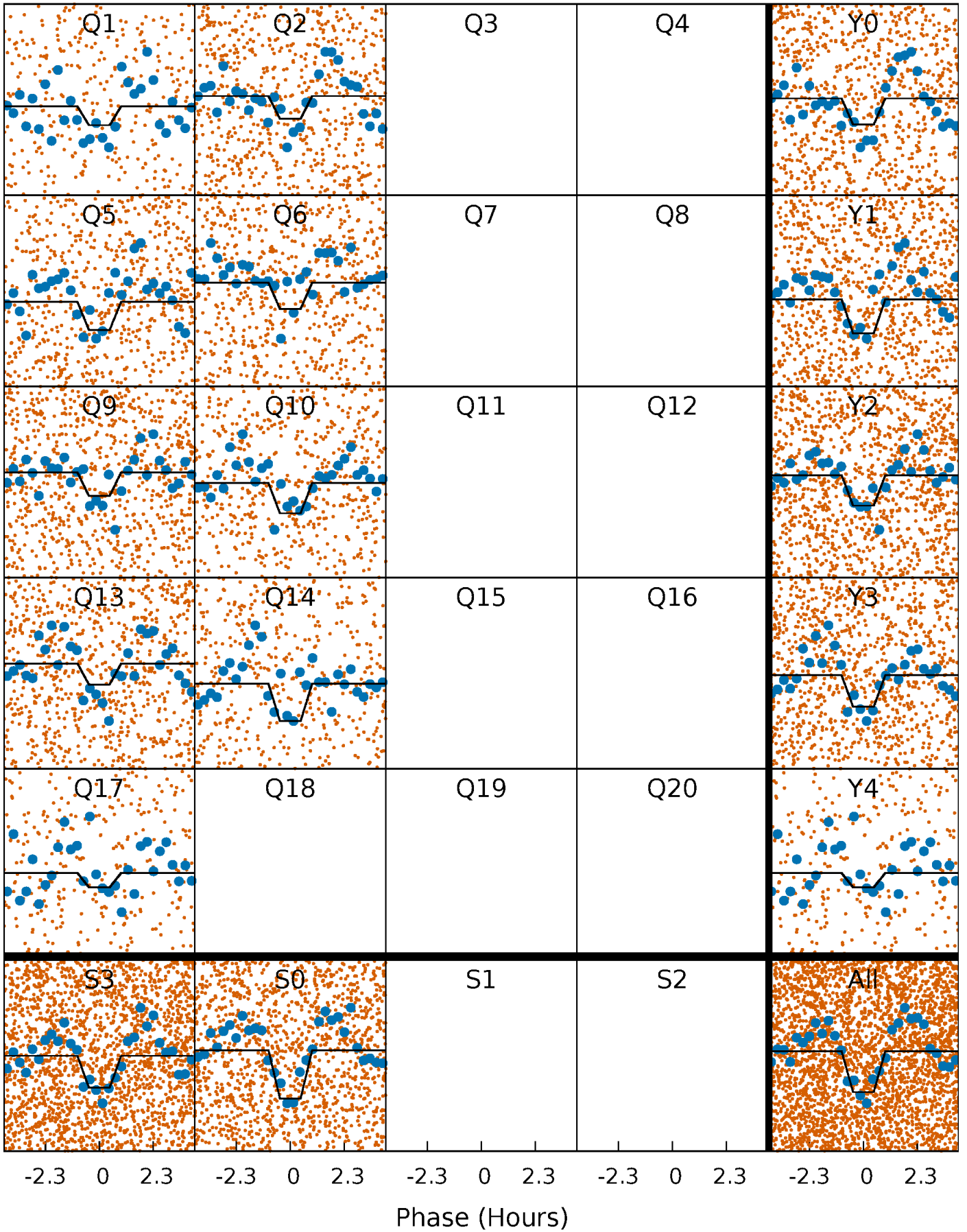
DV Quarter-Phased Transit Curves

TCE 010014604-01 P= 0.588911 Days $T_0=131.515761$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

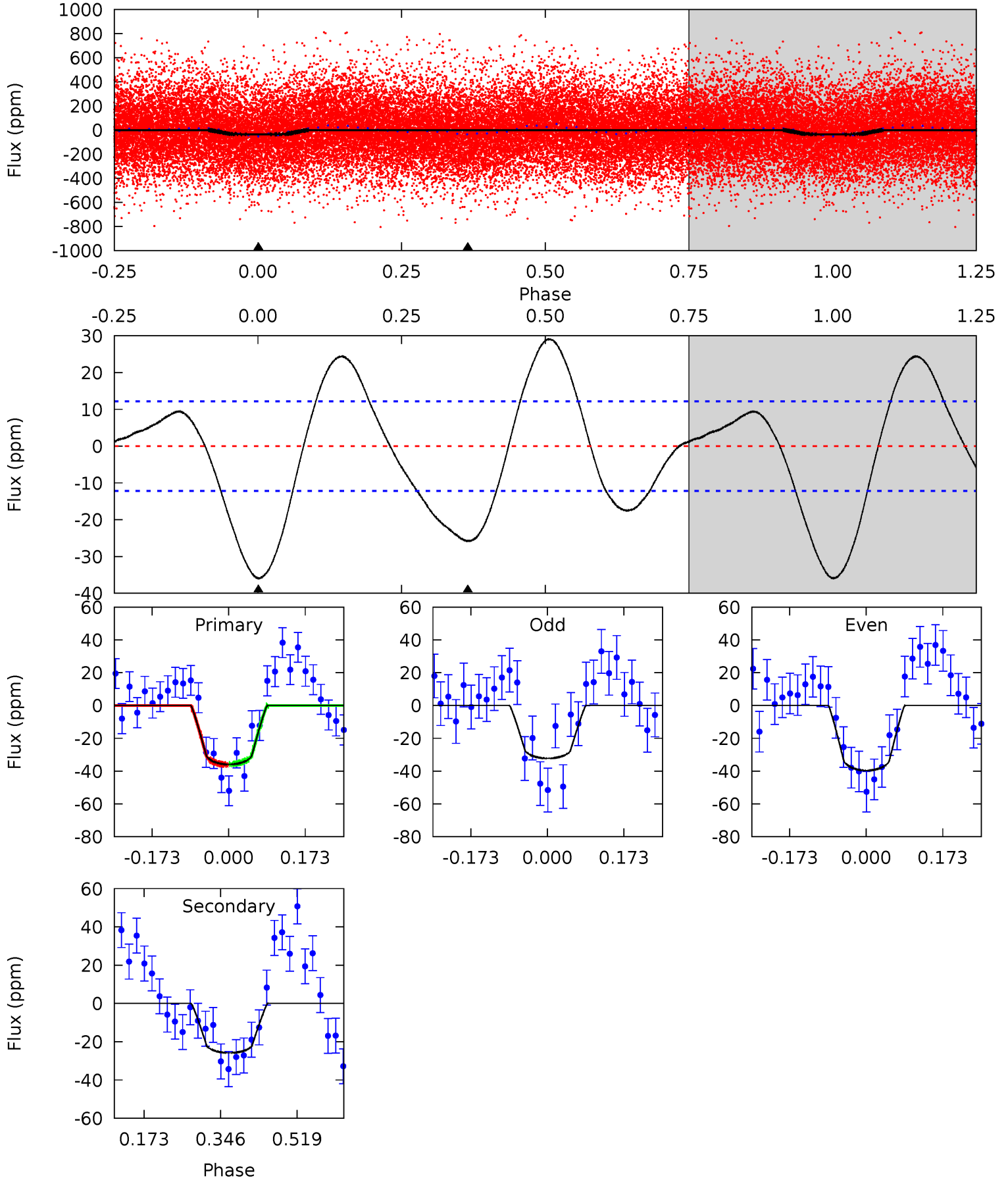
TCE 010014604-01 P= 0.588913 Days $T_0=131.515683$ (BKJD)



DV Model-Shift Uniqueness Test

010014604-01, P = 0.588911 Days, E = 130.926850 Days

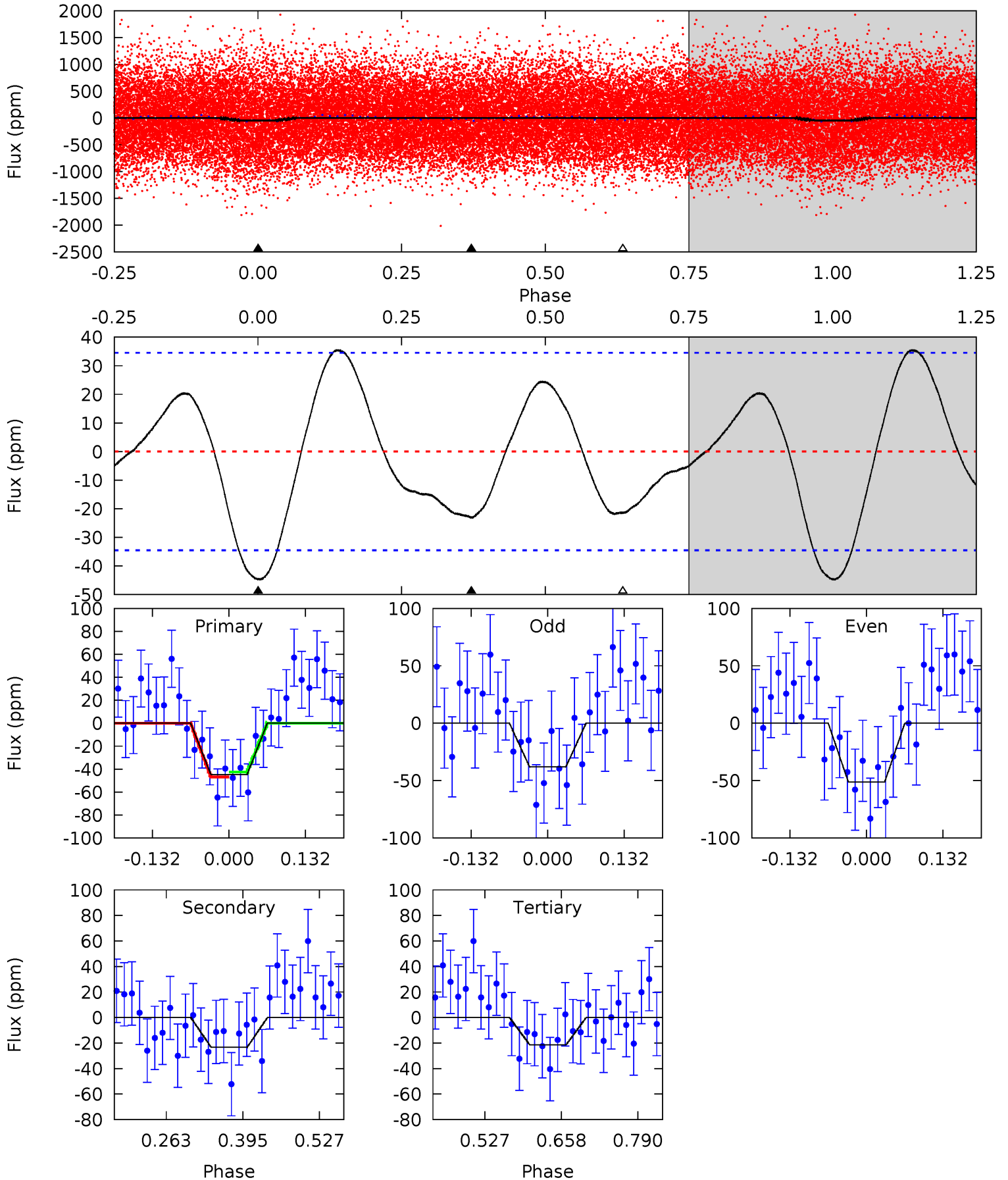
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	9.44	0	0	4.45	1.36	3.87	13.1	13.1	9.44	9.44	1.36	1.04	0.45	0.09



Alt Model-Shift Uniqueness Test

010014604-01, P = 0.588913 Days, E = 130.926770 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.84	3.02	2.80	0	4.51	1.51	2.10	3.04	5.84	0.22	3.02	0.87	0.88	0.44	0.28



Stellar Parameters For KIC 010014604

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7558^{+211}_{-342}	$4.140^{+0.101}_{-0.188}$	$0.070^{+0.200}_{-0.350}$	$1.819^{+0.528}_{-0.308}$	$1.667^{+0.227}_{-0.227}$	$0.390^{+0.212}_{-0.185}$
	+3%/-5%	+2%/-5%	+286%/-500%	+29%/-17%	+14%/-14%	+54%/-47%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010014604-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-26 ± 3	$1.39^{+0.49}_{-0.49}$	4949^{+374}_{-297}	6116^{+1749}_{-969}	$1.974^{+2.598}_{-0.928}$
Alt.	-23 ± 8	$1.43^{+0.47}_{-0.46}$	4941^{+380}_{-319}	5714^{+1765}_{-996}	$1.585^{+2.473}_{-0.813}$

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 $A_{obs} \gg 1.0$

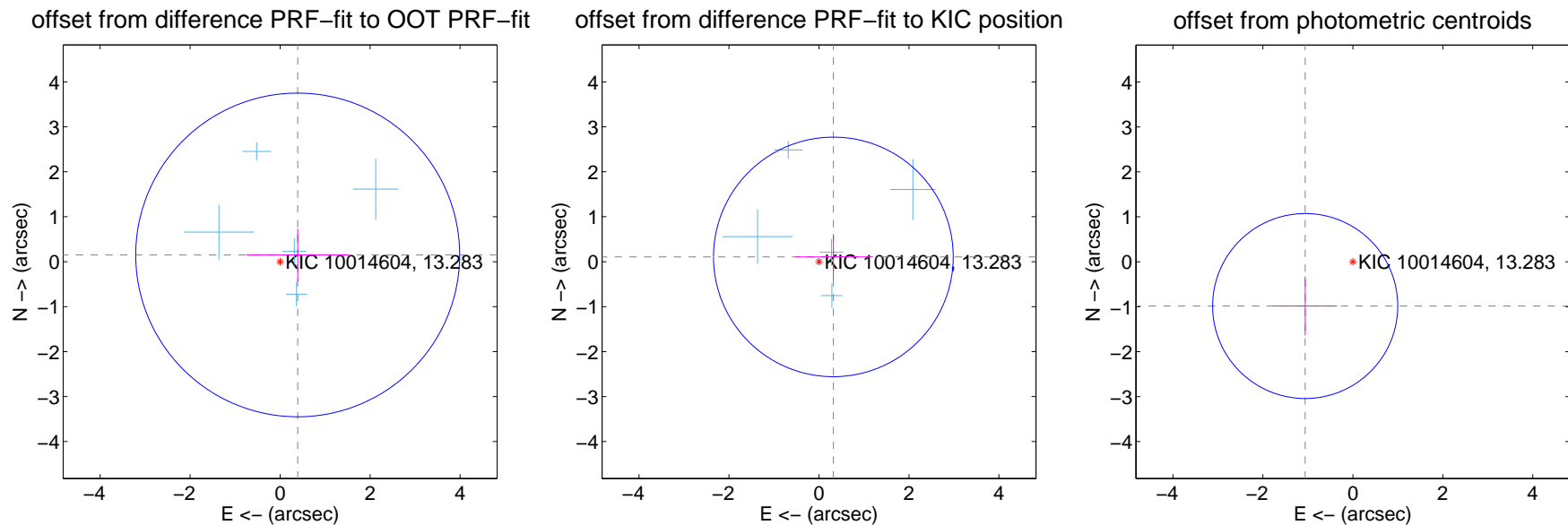
DV Centroid Data

Supplemental centroid analysis for 010014604-01. Kepler magnitude: 13.28. Transit SNR 9.13

There are 5 quarters with good PRF difference image offsets

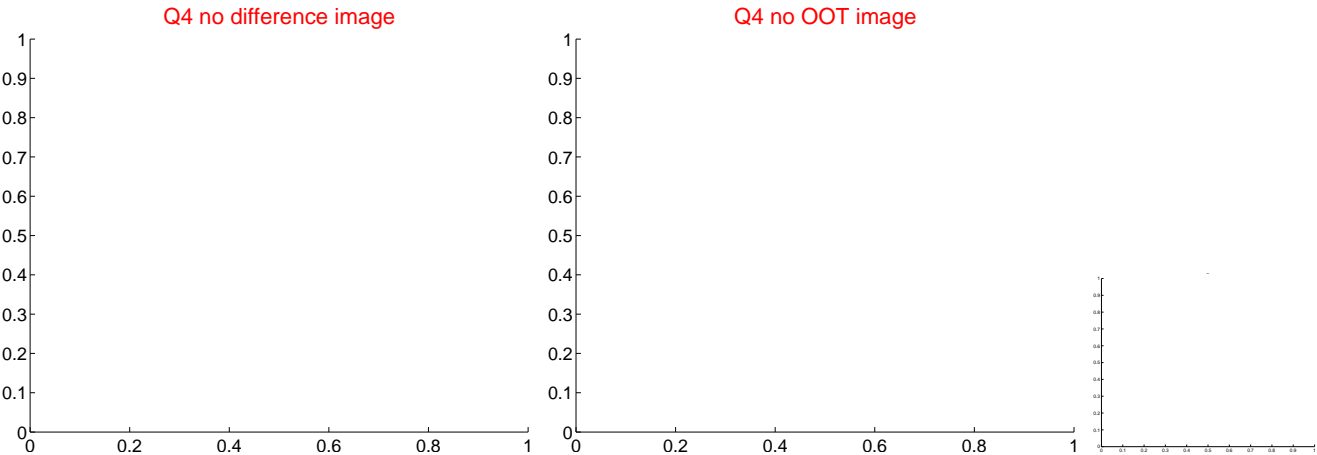
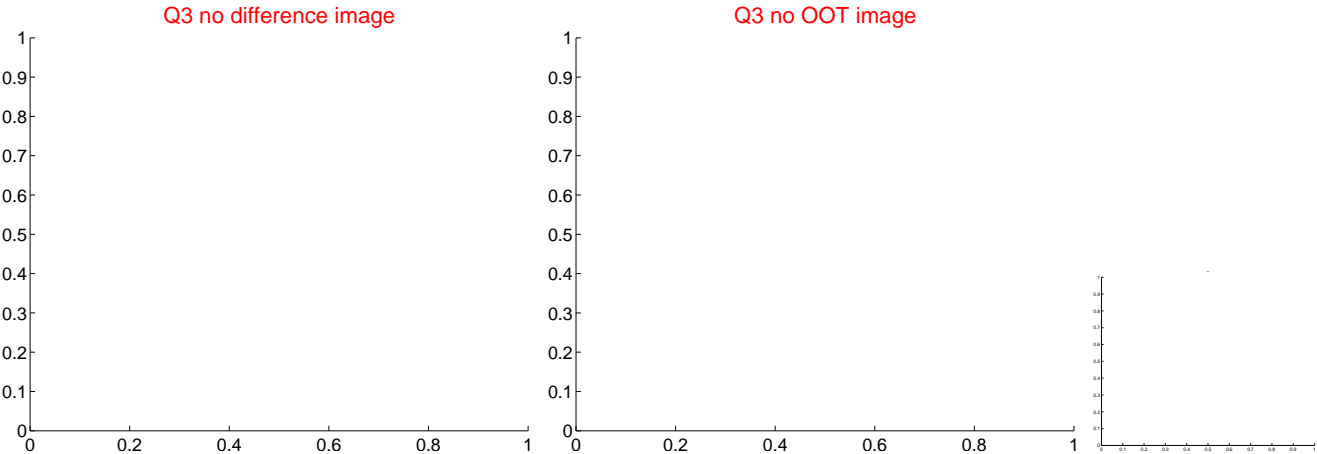
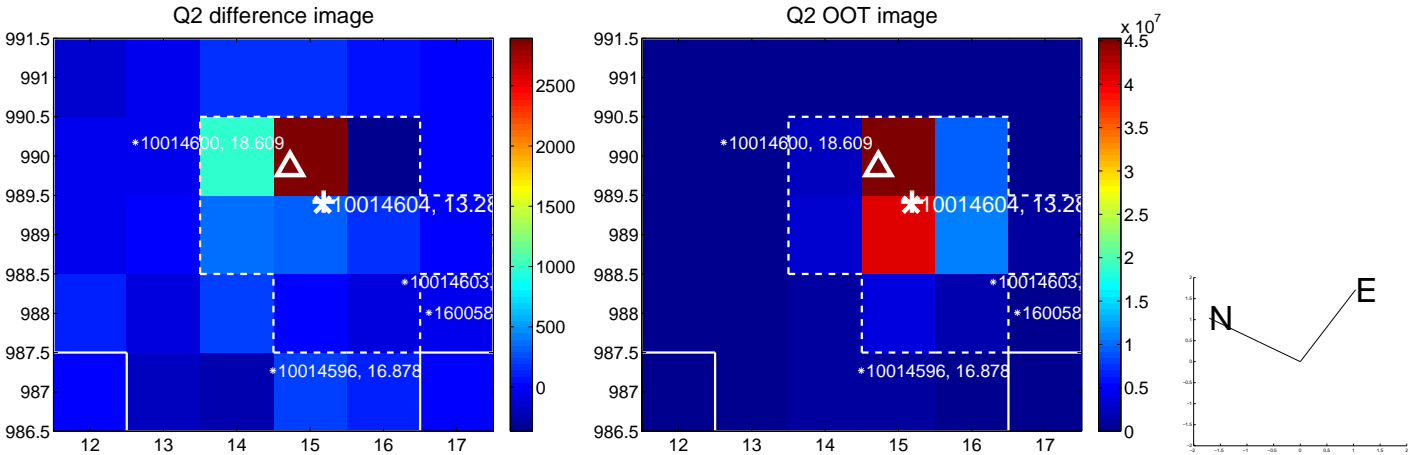
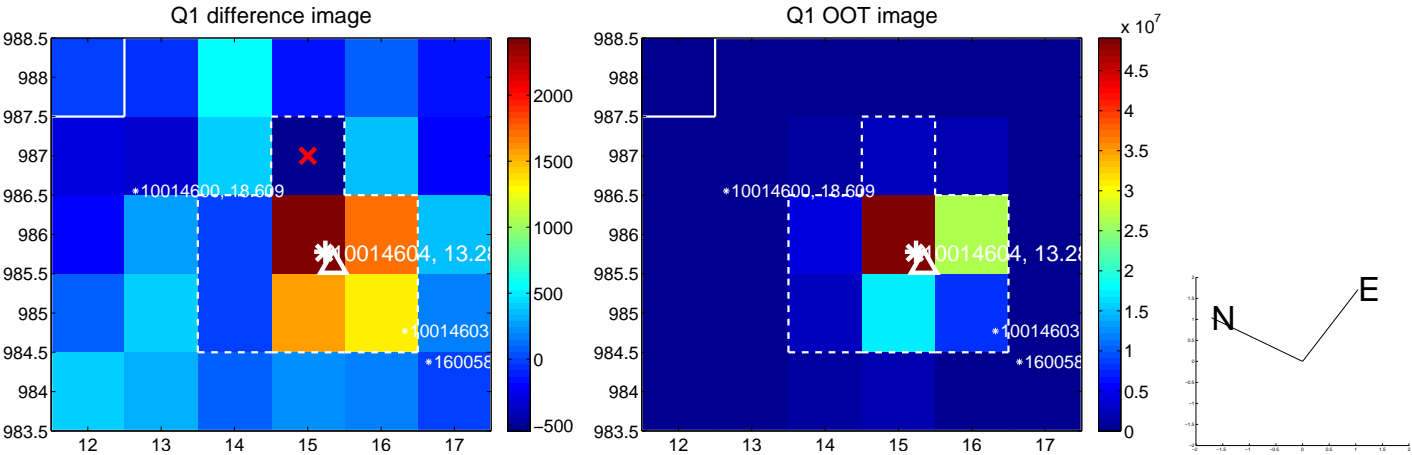
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.419 ± 1.200	0.35	-0.391 ± 1.139	0.150 ± 0.587
PRF-fit source offset from KIC position	0.337 ± 0.888	0.38	-0.320 ± 0.841	0.106 ± 0.505
photometric centroid source offset	1.45 ± 0.69	2.11	1.06 ± 0.71	-0.98 ± 0.66

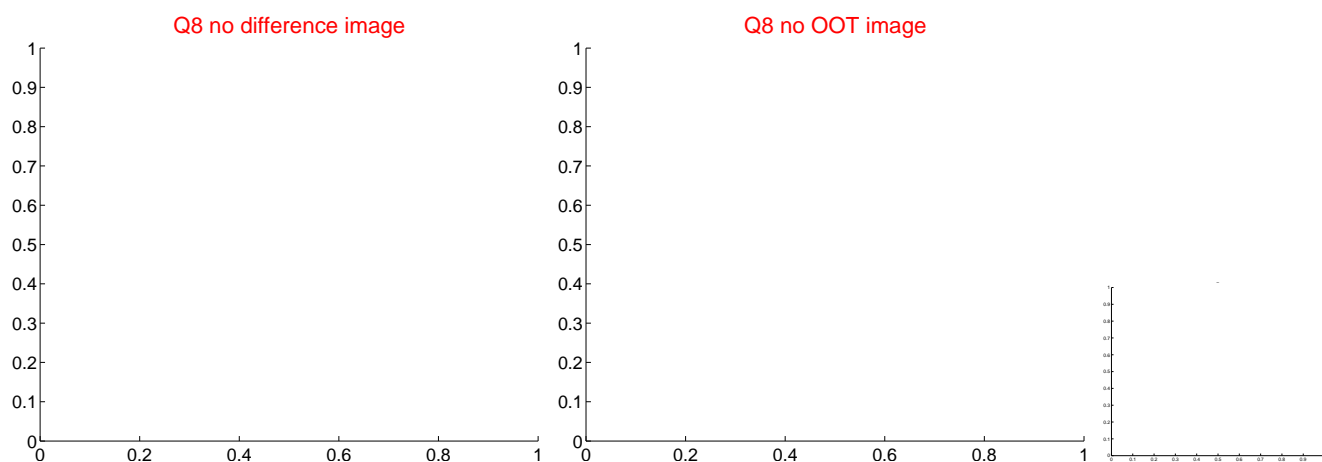
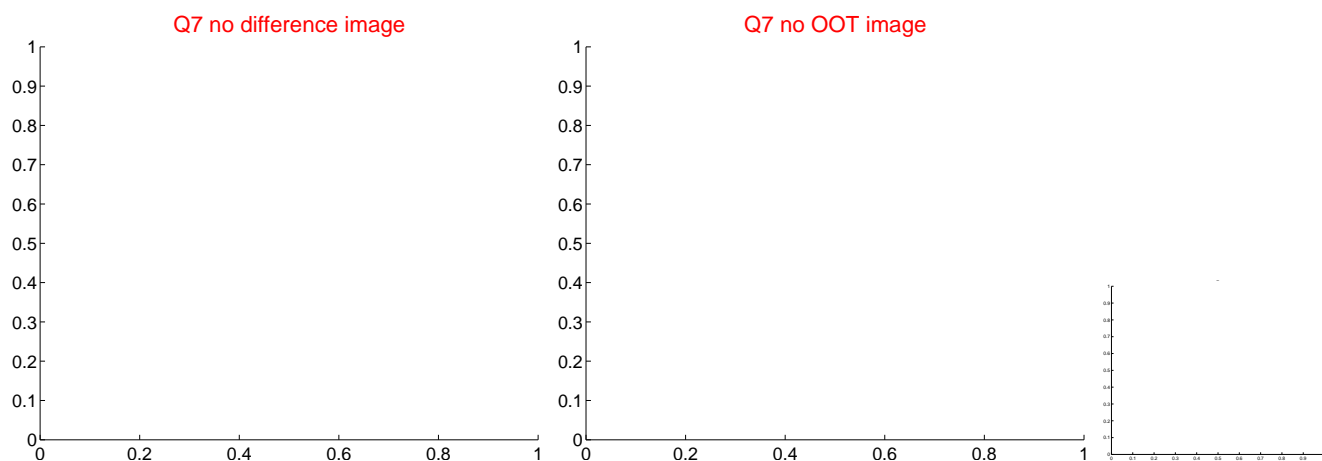
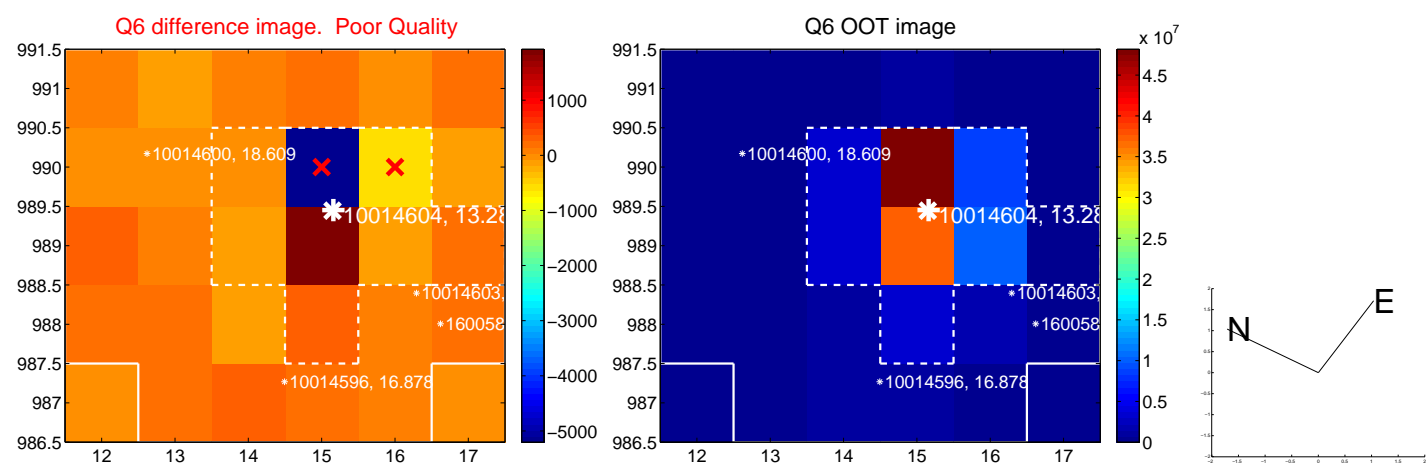
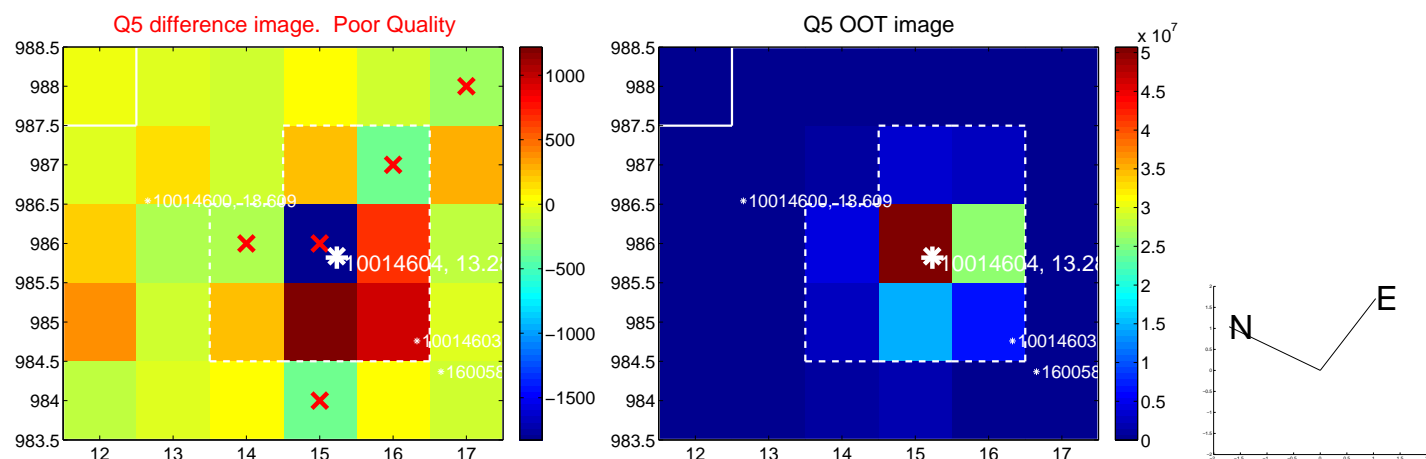


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

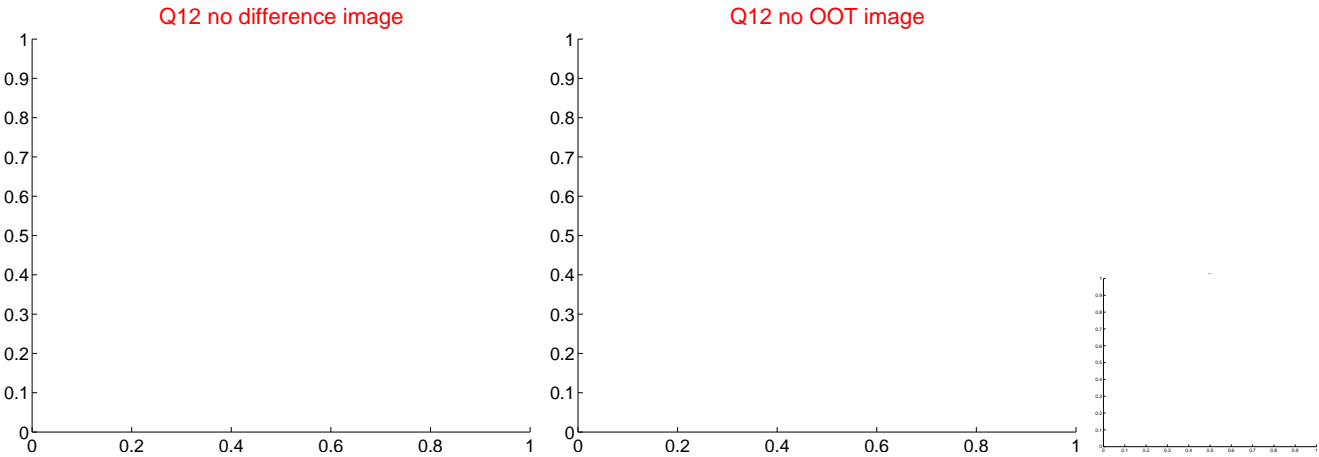
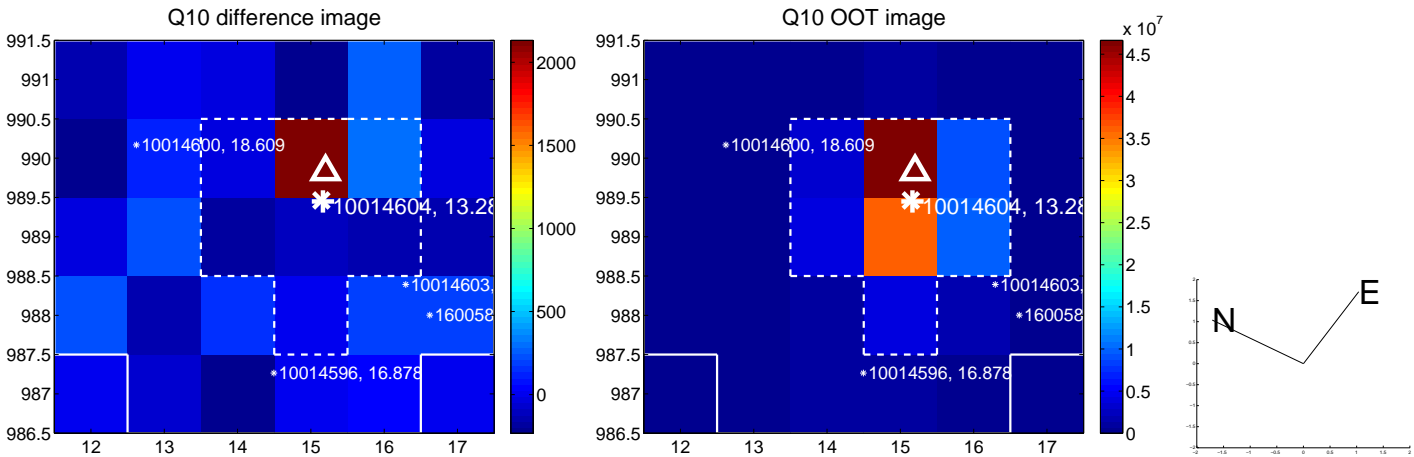
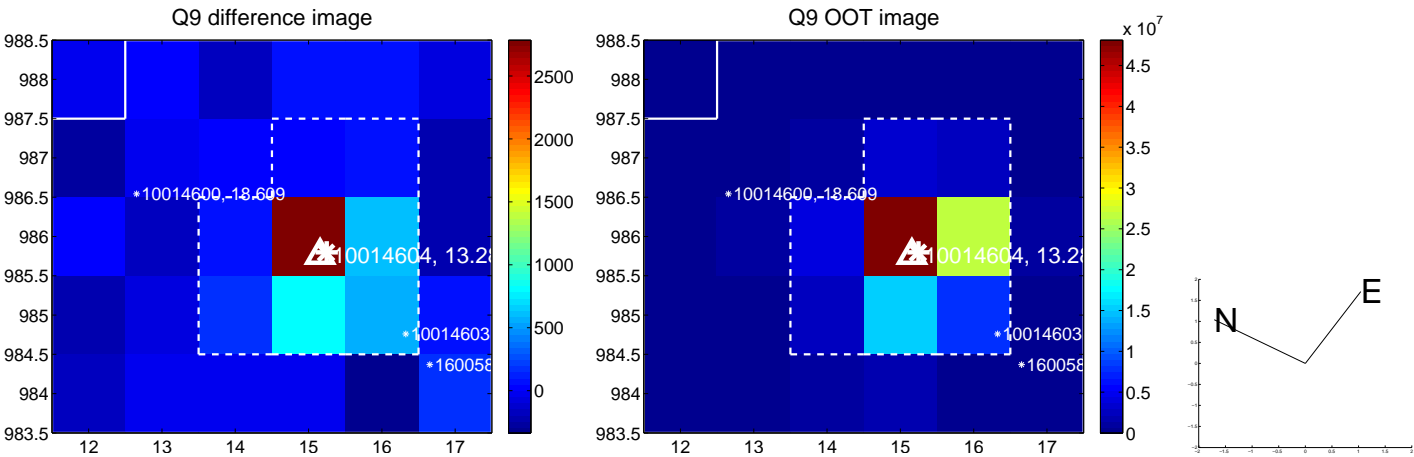
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



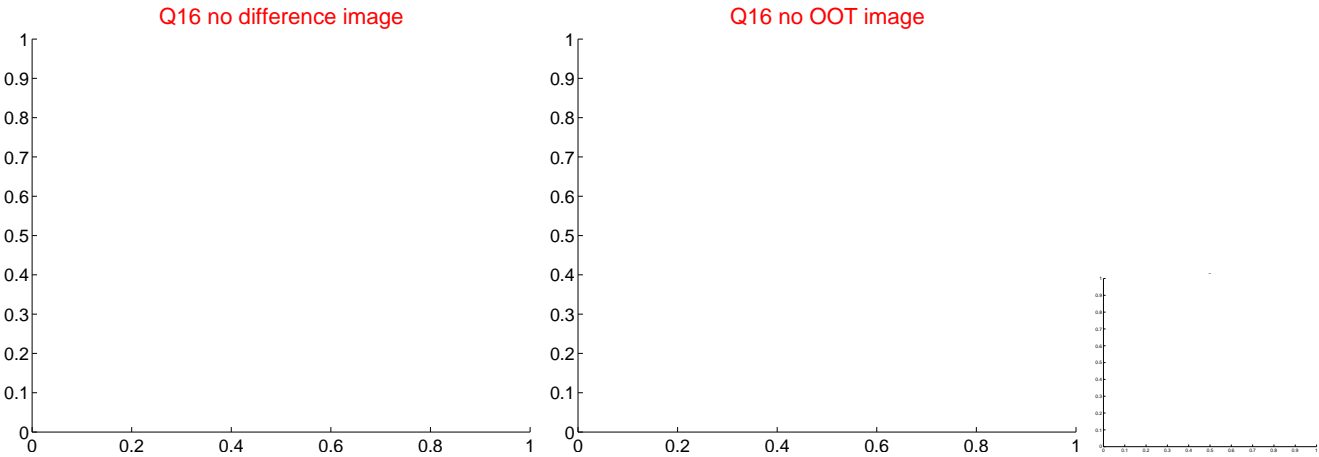
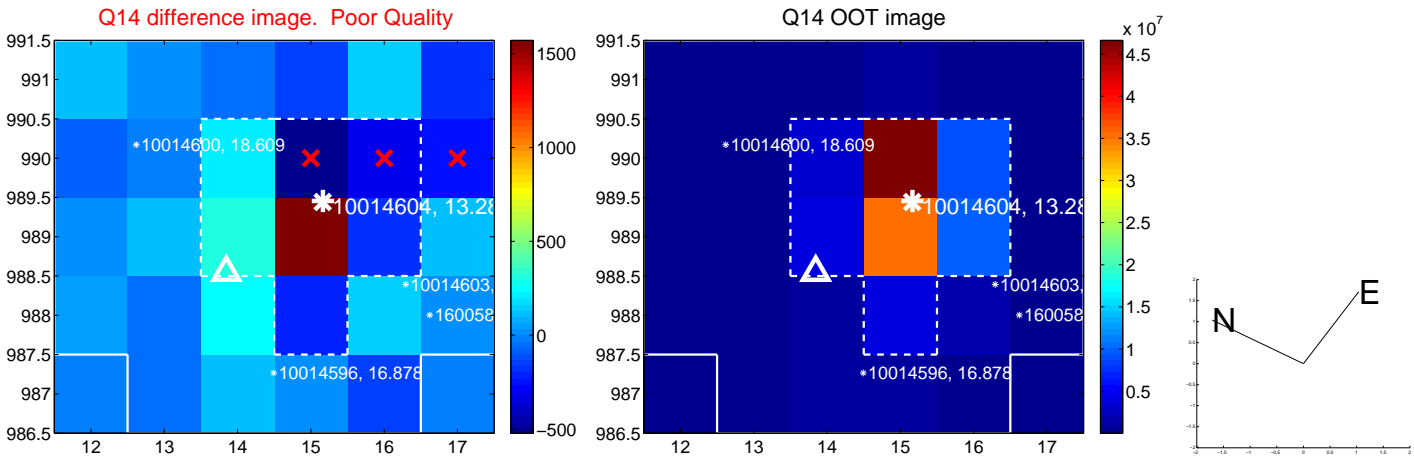
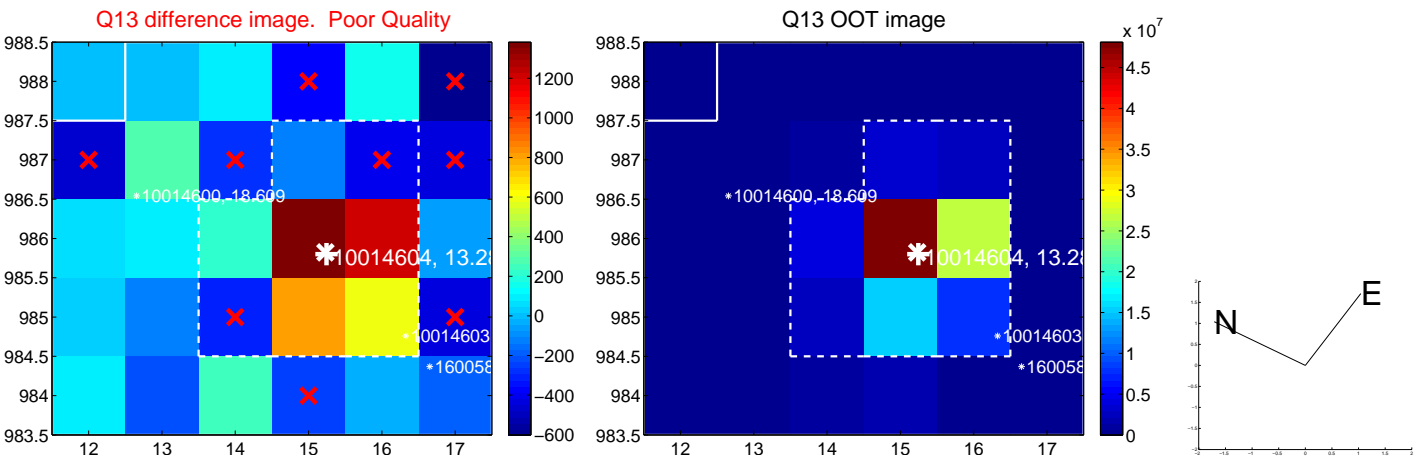
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



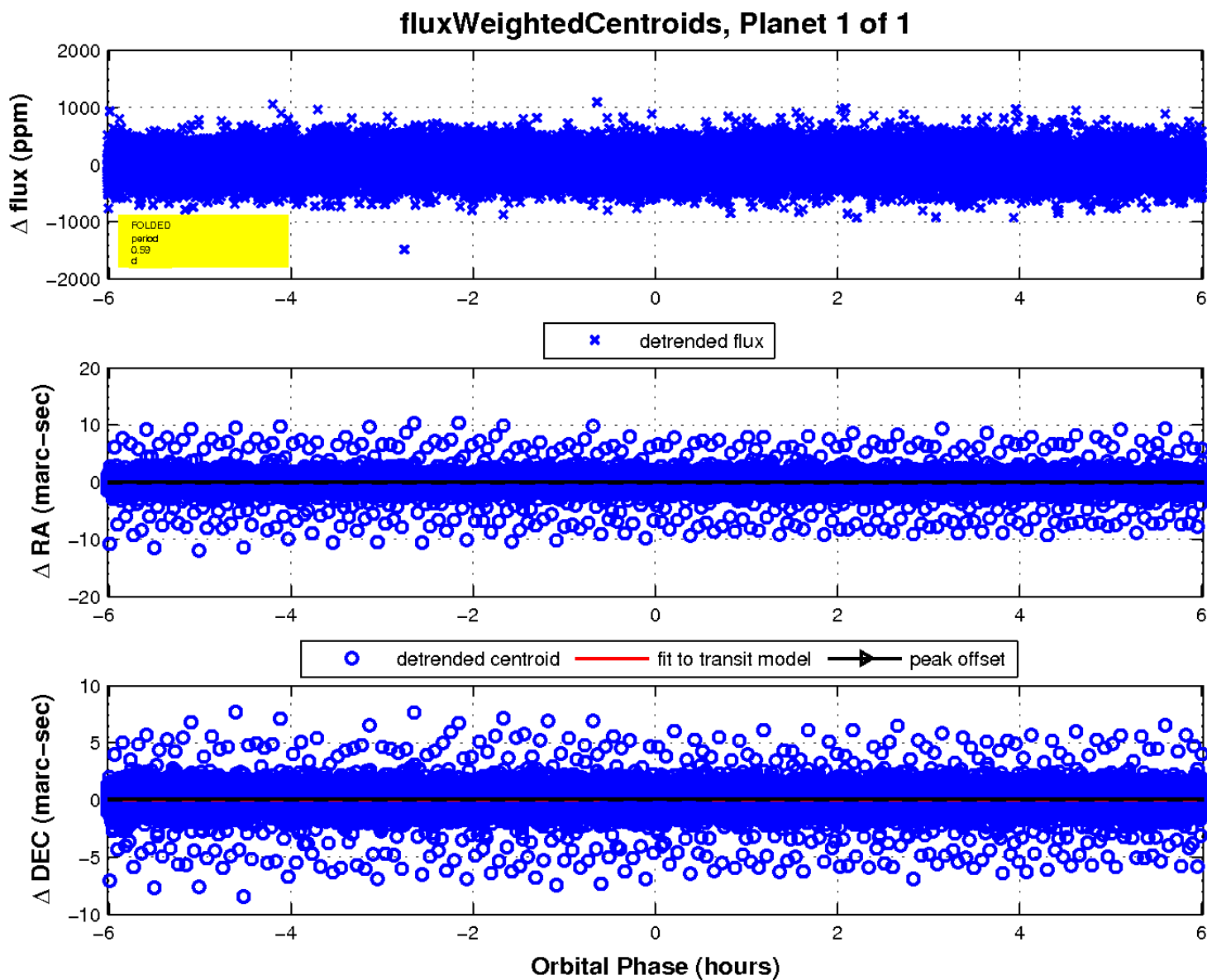
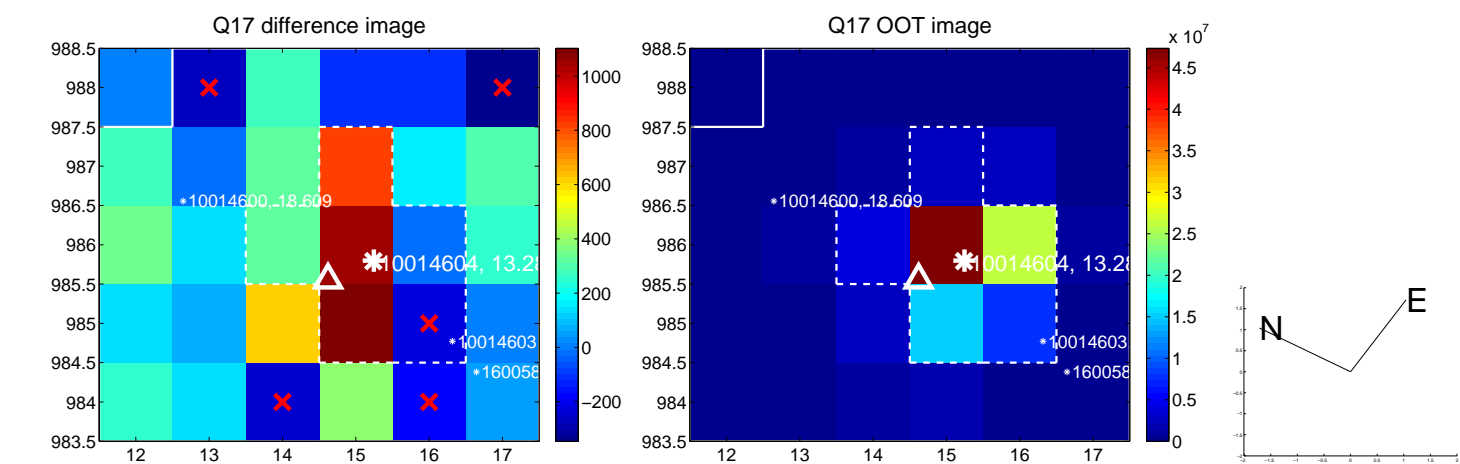
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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.



UKIRT Image

