

KIC 009710326

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})
009710326-01	OBS	0947.01	28.599128	132.729069	1579.1	3.759	45.7	46.3	0.46	3755	1.96	1.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009710326-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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.

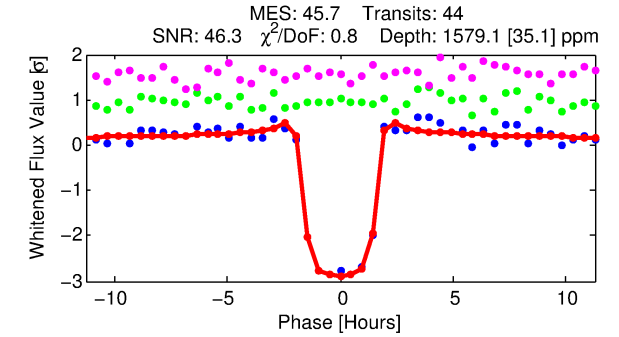
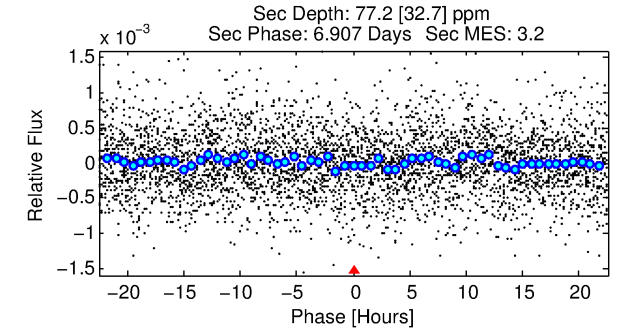
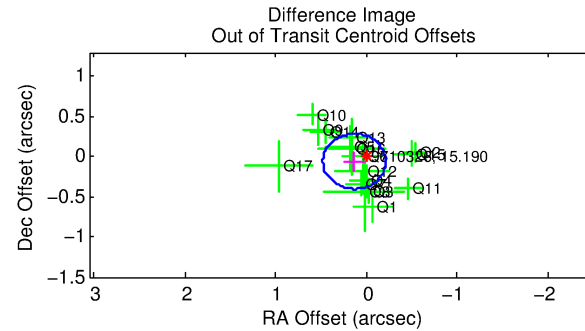
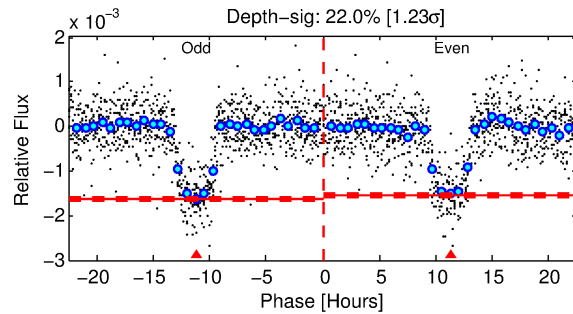
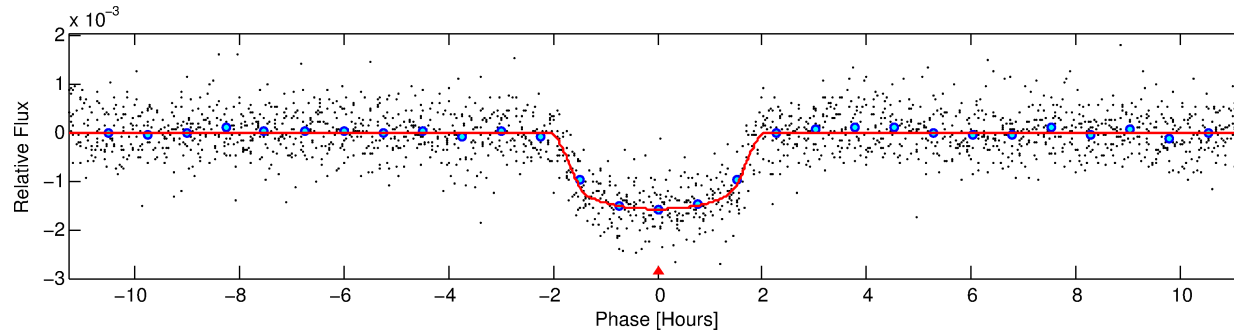
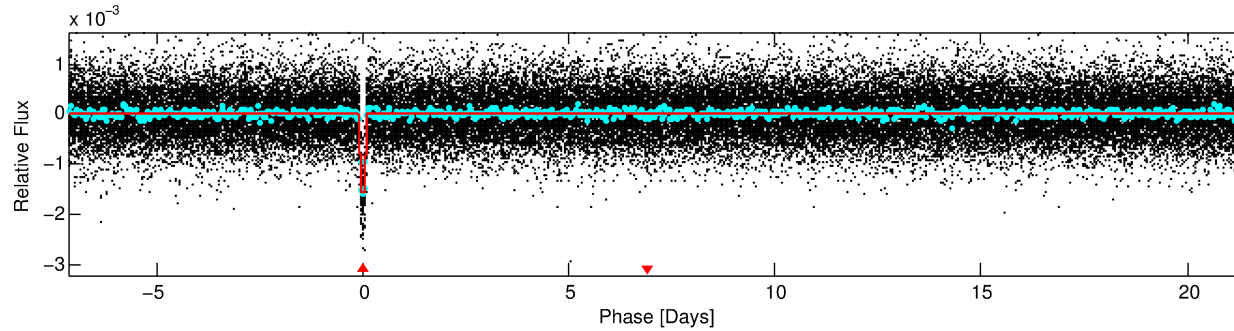
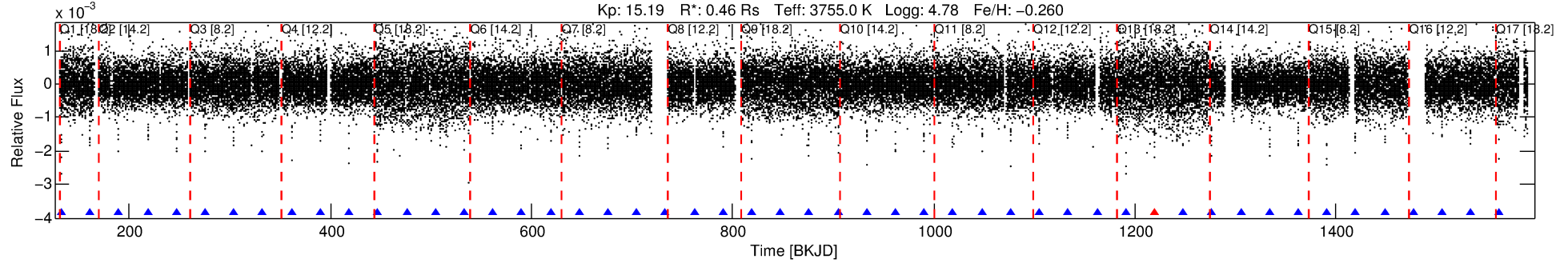
Ephemeris Match Information For 009710326-01

No Significant Match Found

DV One-Page Summary

KIC: 9710326 Candidate: 1 of 1 Period: 28.599 d
KOI: K00947.01 Corr: 0.987

Kp: 15.19 R*: 0.46 Rs Teff: 3755.0 K Logg: 4.78 Fe/H: -0.260



DV Fit Results:

Period = 28.59913 [0.00005] d
Epoch = 132.7291 [0.0015] BKJD
Rp/R* = 0.0390 [0.0036]
a/R* = 44.09 [19.58]
b = 0.71 [0.31]
Seff = 1.87 [0.29]
Teq = 298 [11] K
Rp = 1.96 [0.29] Re
a = 0.1421 [0.0129] AU
Ag = 223.36 [106.91] [2.08σ]
Teffp = 1783 [210] K [7.06σ]

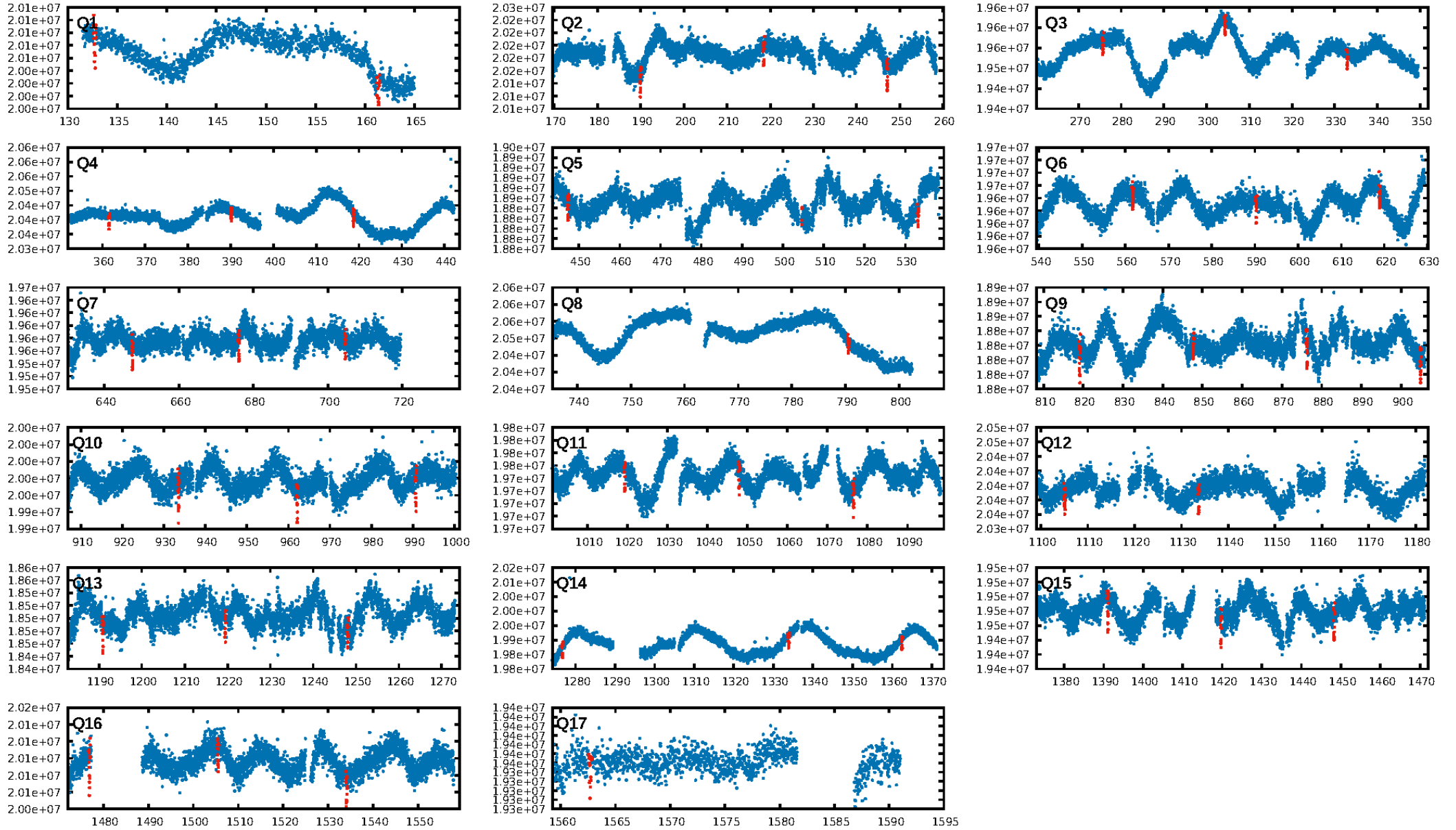
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 85.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.98 [40/41]
GhostDiagnostic-chr: 2.633
Centroid-sig: 86.9%
Centroid-so: 0.216 arcsec [0.93σ]
OotOffset-rm: 0.146 arcsec [1.27σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: **0.350 arcsec [3.31σ]**
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

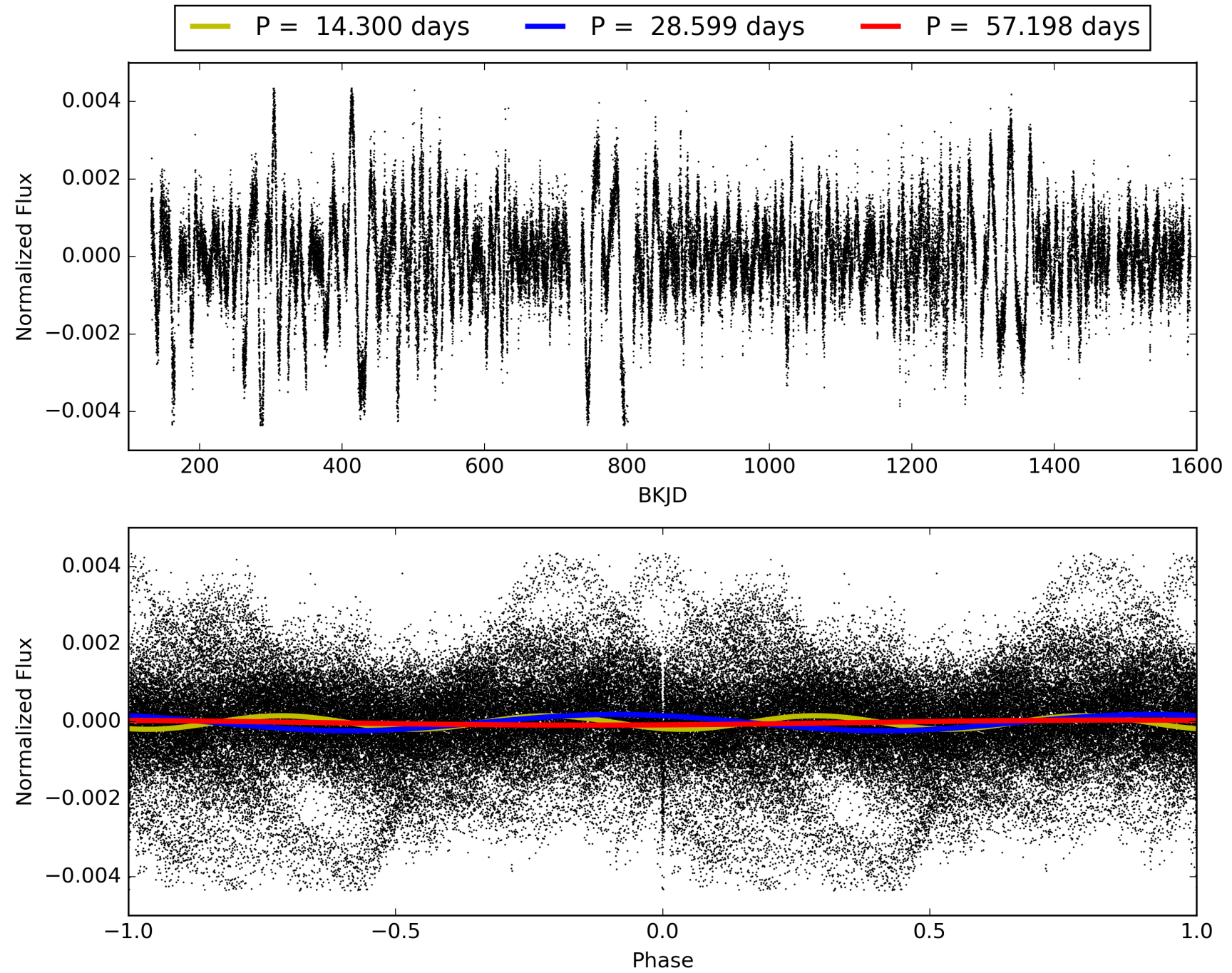
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:43:36 Z

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

TCE 009710326-01, PDC Light Curves

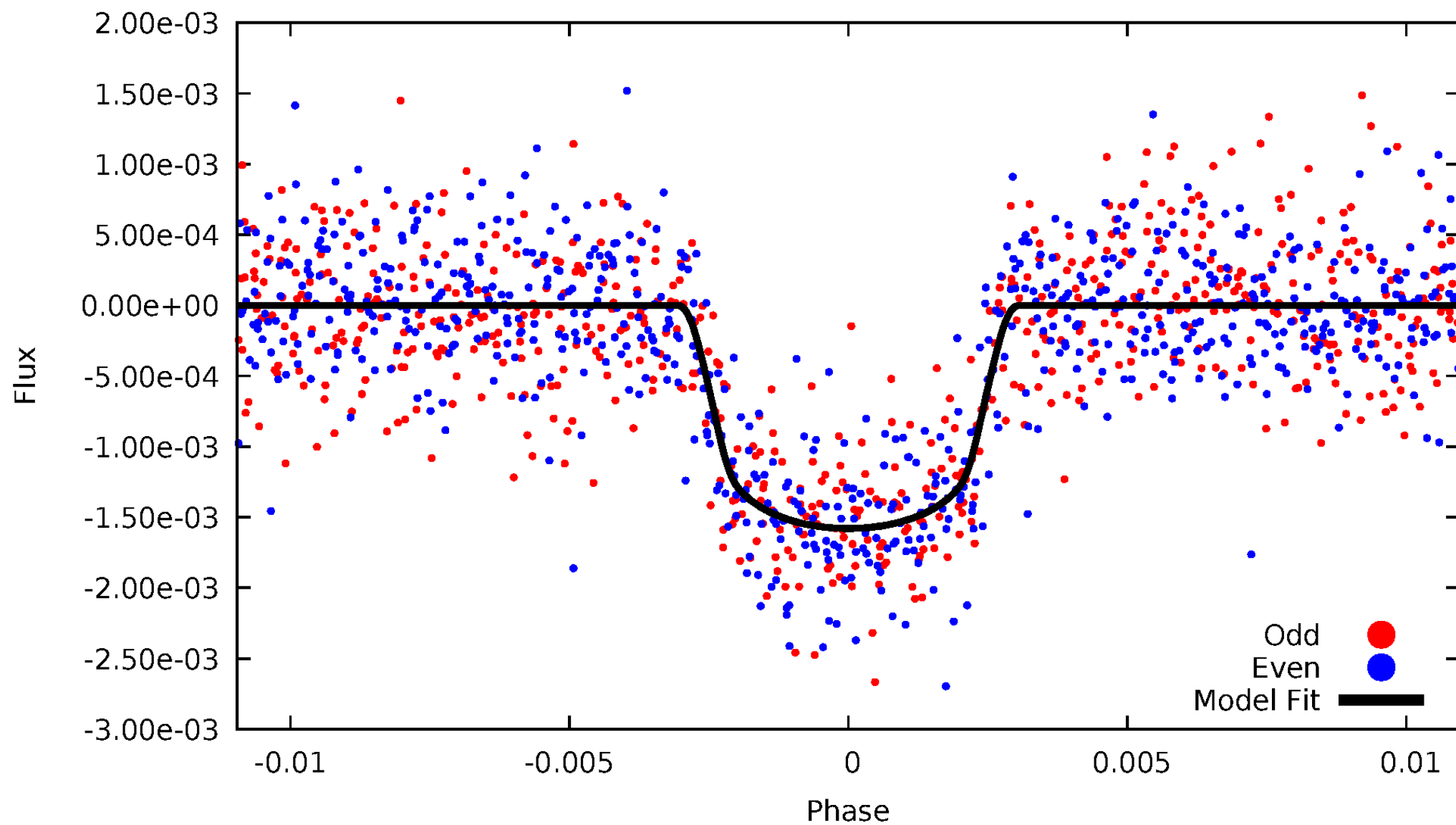


TCE 009710326-01



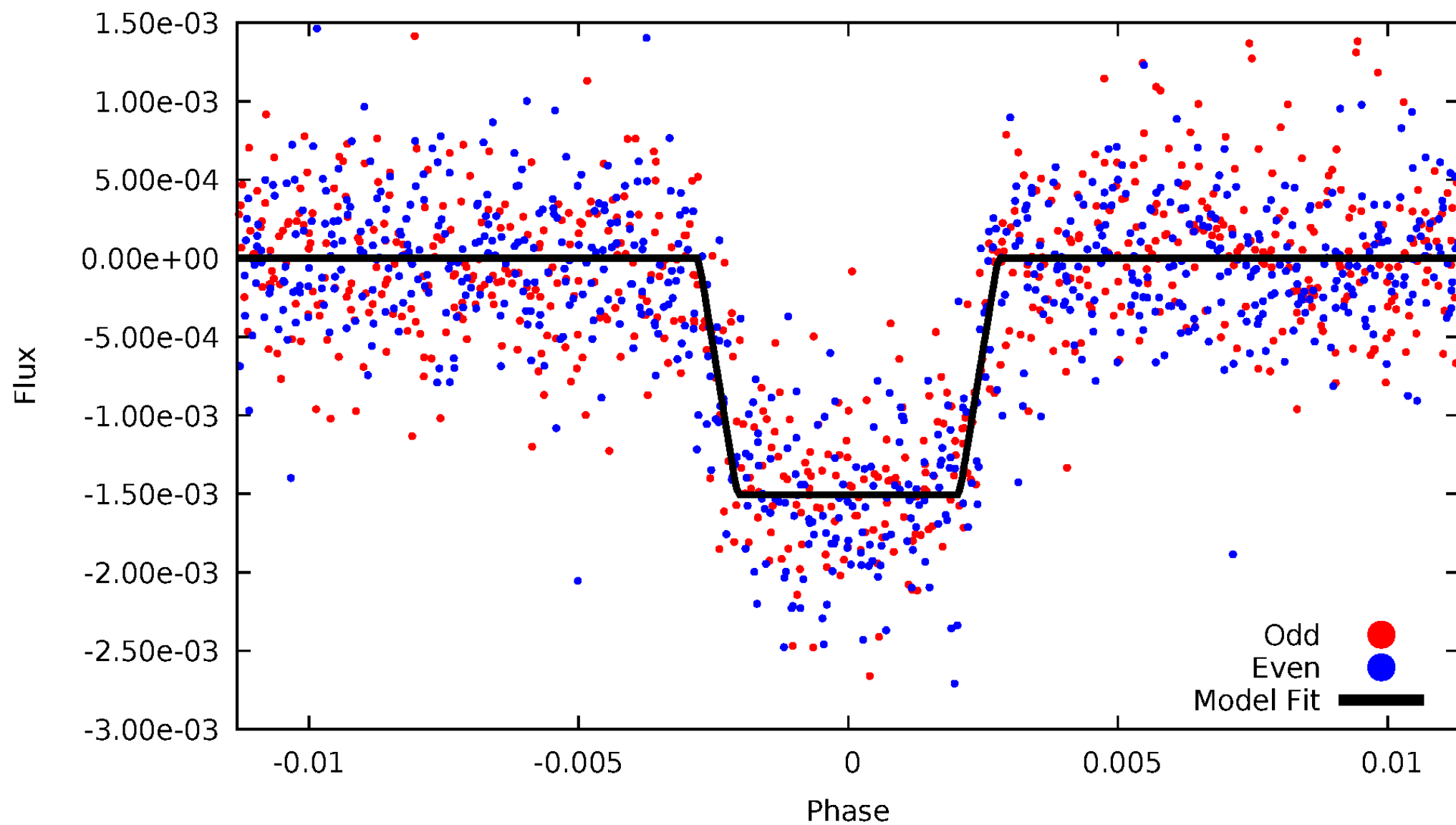
DV Odd/Even

TCE 009710326-01



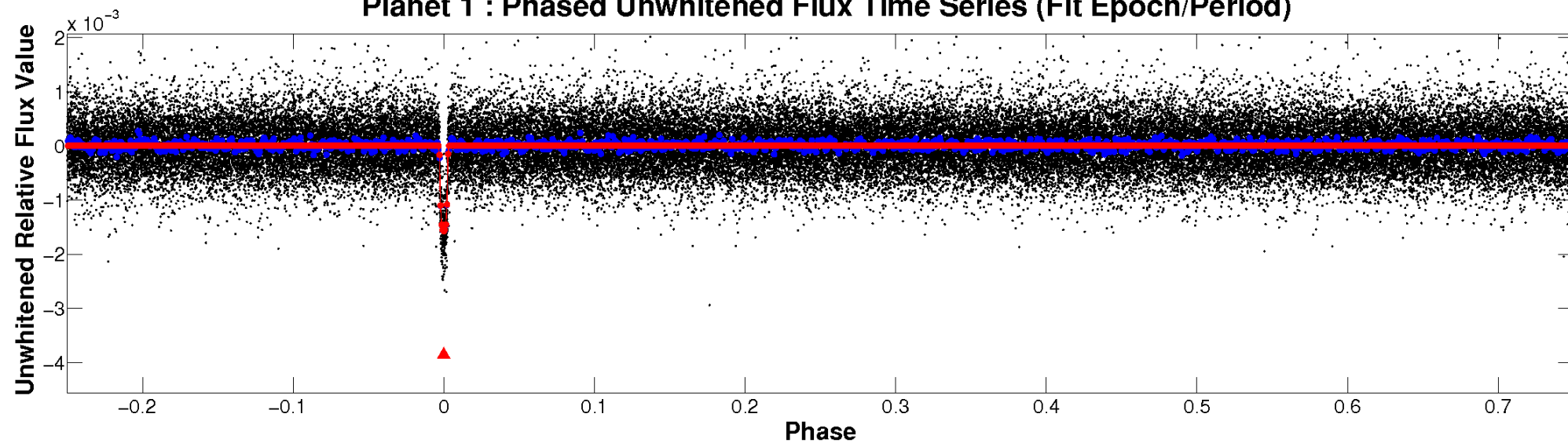
ALT Odd/Even

TCE 009710326-01

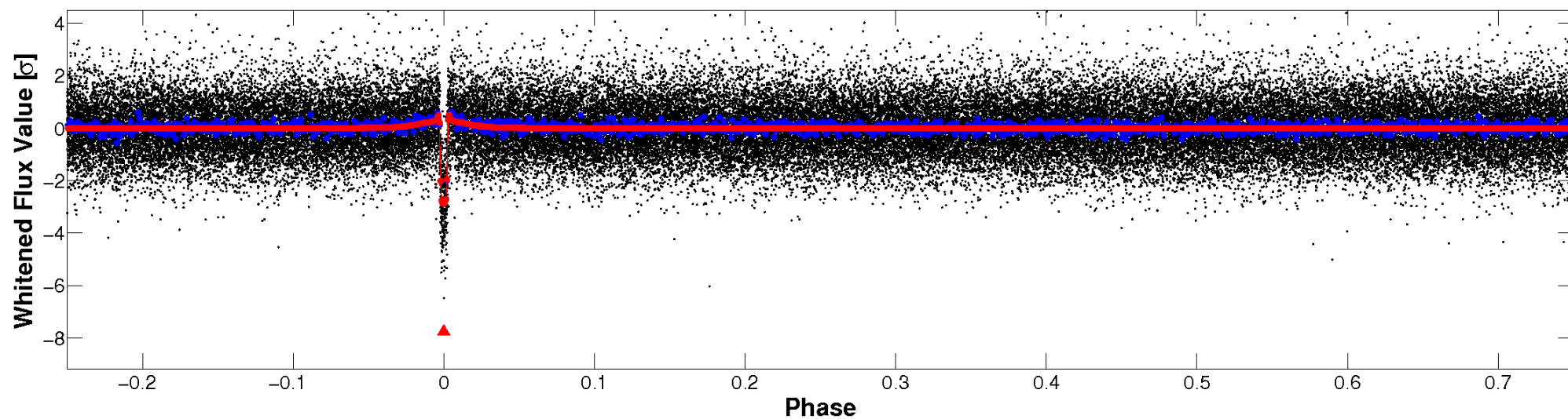


Non-Whitened Vs. Whitened Light Curve

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

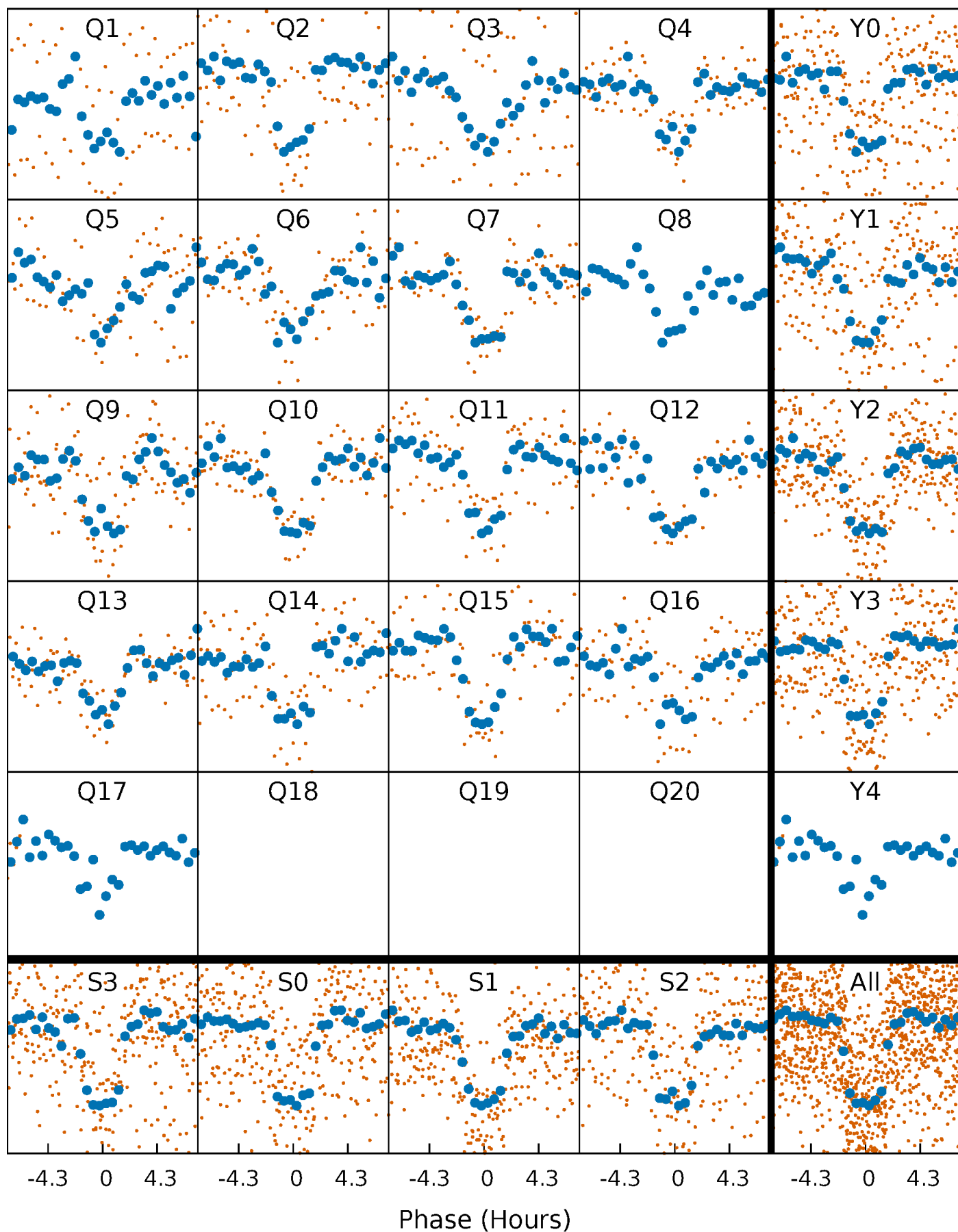


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



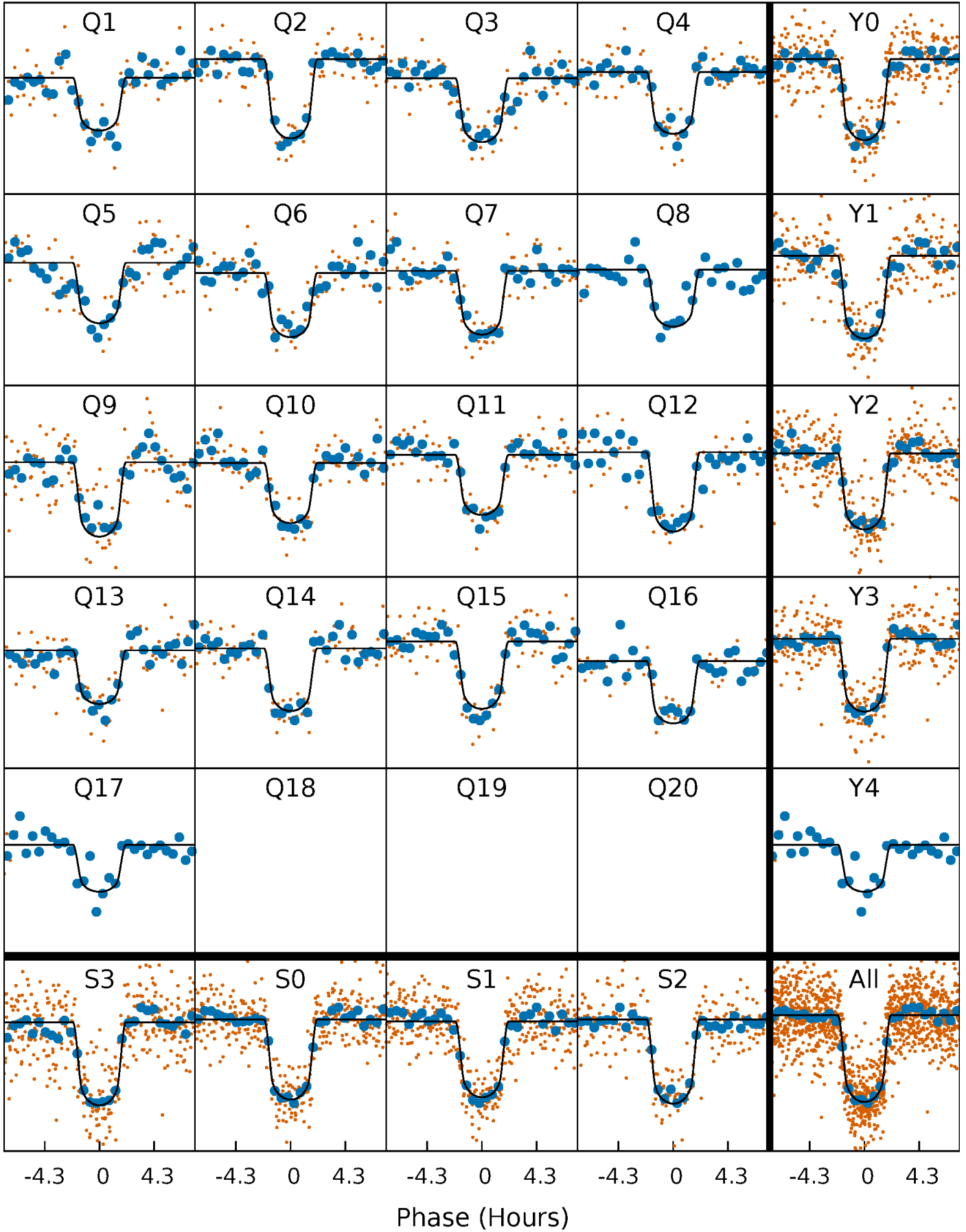
PDC Quarter-Phased Transit Curves

TCE 009710326-01 P= 28.599128 Days $T_0=132.729069$ (BKJD)



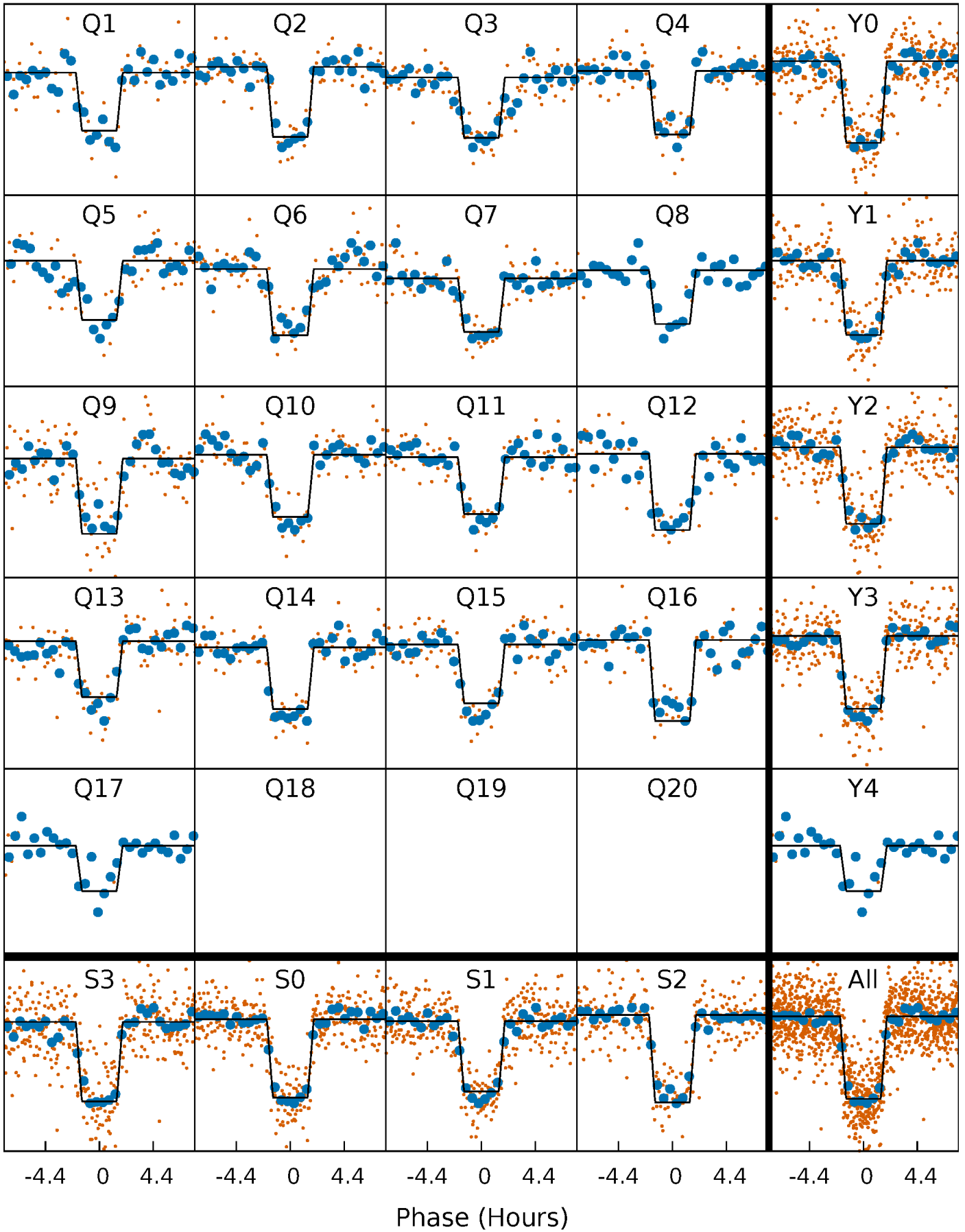
DV Quarter-Phased Transit Curves

TCE 009710326-01 P= 28.599128 Days $T_0=132.729069$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

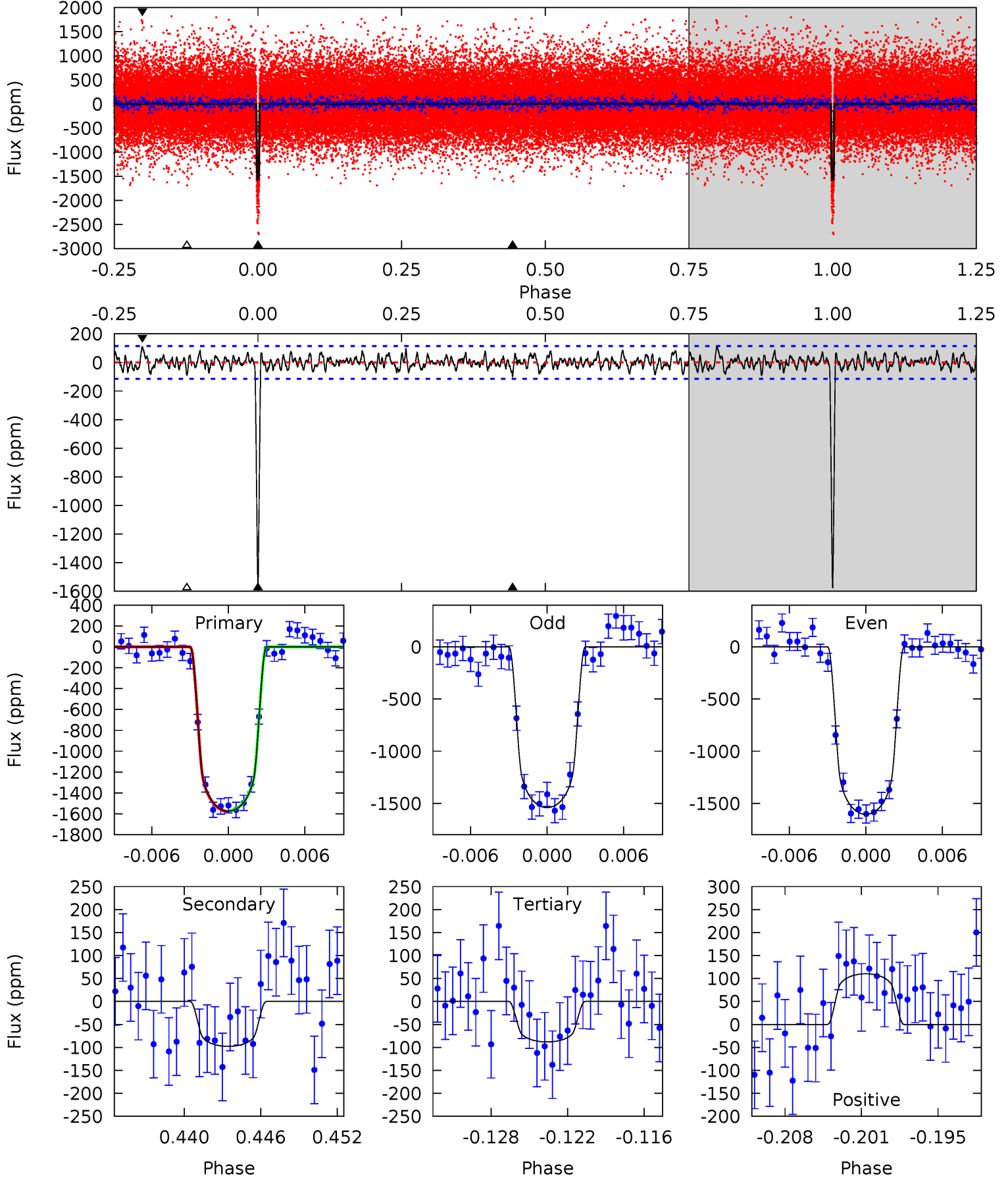
TCE 009710326-01 P= 28.599362 Days $T_0=132.722751$ (BKJD)



DV Model-Shift Uniqueness Test

009710326-01, P = 28.599128 Days, E = 104.129941 Days

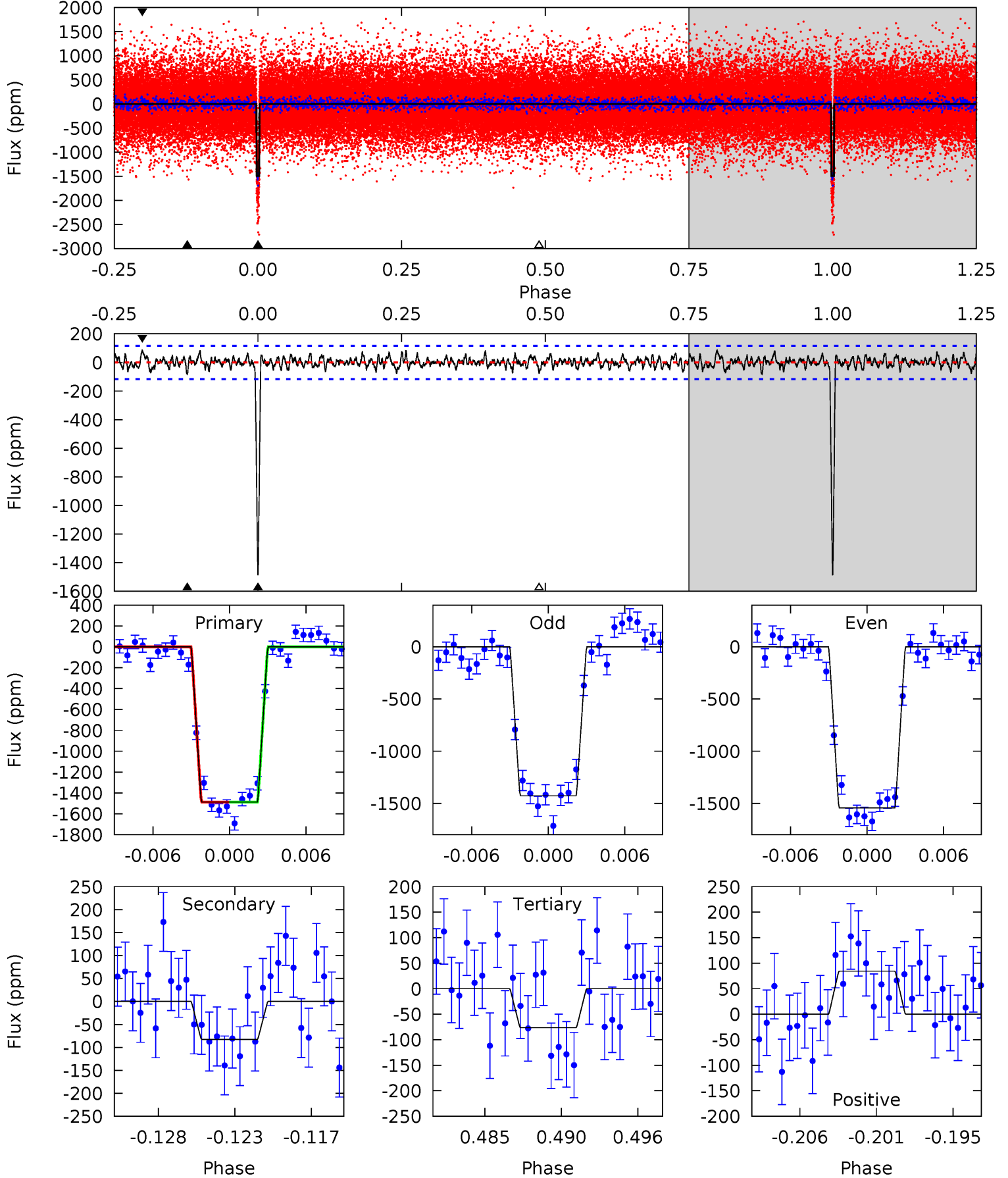
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
70.4	4.37	3.94	4.93	5.12	2.74	1.47	66.4	65.4	0.44	-0.56	1.43	0.99	0.07	0.15



Alt Model-Shift Uniqueness Test

009710326-01, P = 28.599362 Days, E = 104.123389 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
65.9	3.66	3.38	3.74	5.14	2.77	1.20	62.5	62.1	0.28	-0.08	2.56	0.99	0.05	0.00



Stellar Parameters For KIC 009710326

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3755^{+75}_{-84}	$4.781^{+0.063}_{-0.031}$	$-0.260^{+0.150}_{-0.150}$	$0.461^{+0.040}_{-0.053}$	$0.470^{+0.038}_{-0.046}$	$6.741^{+2.080}_{-0.908}$
	+2%/-2%	+1%/-1%	+58%/-58%	+9%/-11%	+8%/-10%	+31%/-13%
Source	SPE70	SPE60	SPE70	DSEP		

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

Secondary Eclipse Parameters for KIC 009710326-01 / KOI 0947.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-98 ± 22	$1.94^{+0.23}_{-0.20}$	414^{+11}_{-13}	2529^{+95}_{-101}	289^{+95}_{-83}
Alt.	-83 ± 23	$1.94^{+0.21}_{-0.22}$	414^{+12}_{-12}	2483^{+103}_{-114}	246^{+93}_{-80}

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

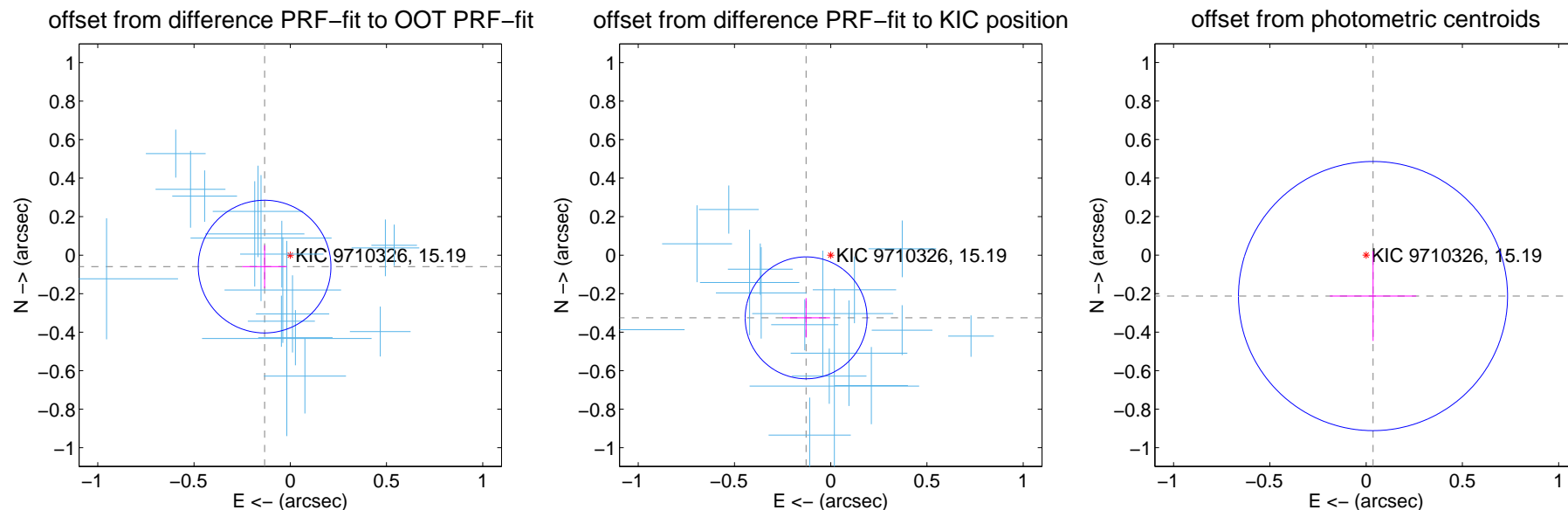
DV Centroid Data

Supplemental centroid analysis for 009710326-01. Kepler magnitude: 15.19. Transit SNR 46.26

There are 17 quarters with good PRF difference image offsets

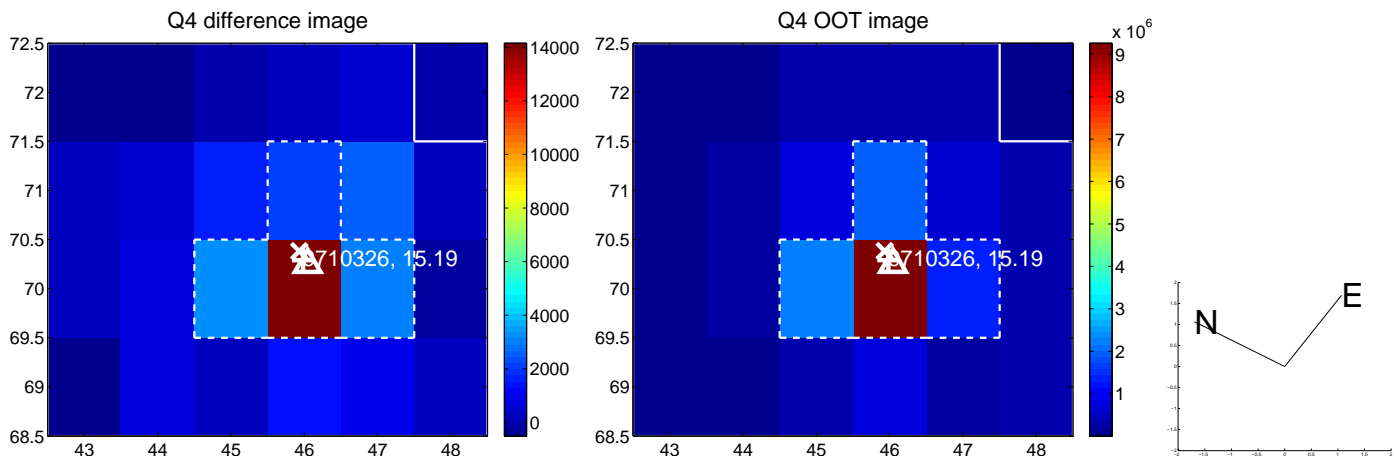
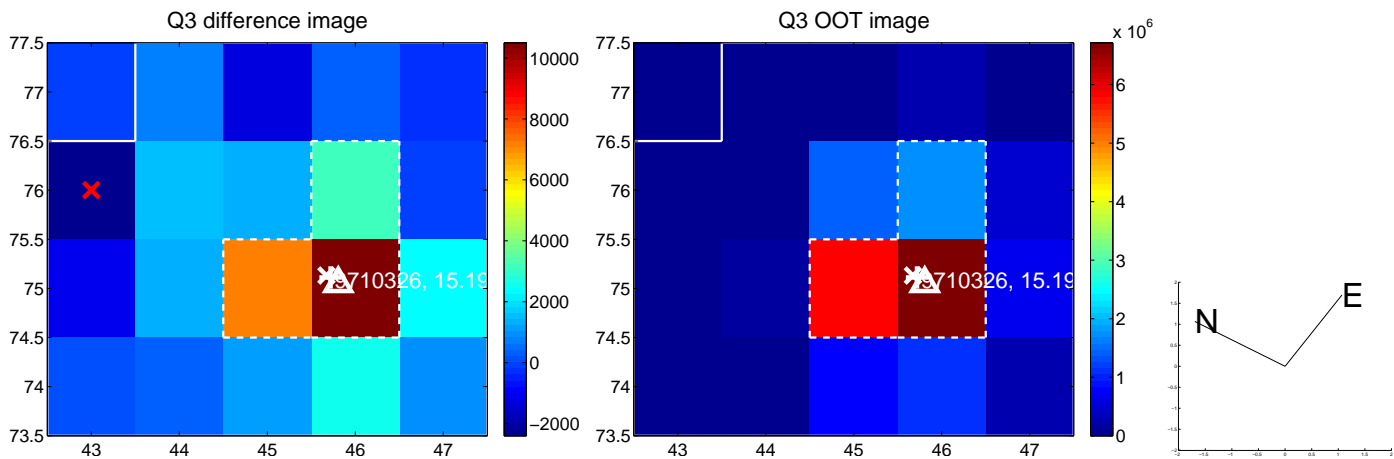
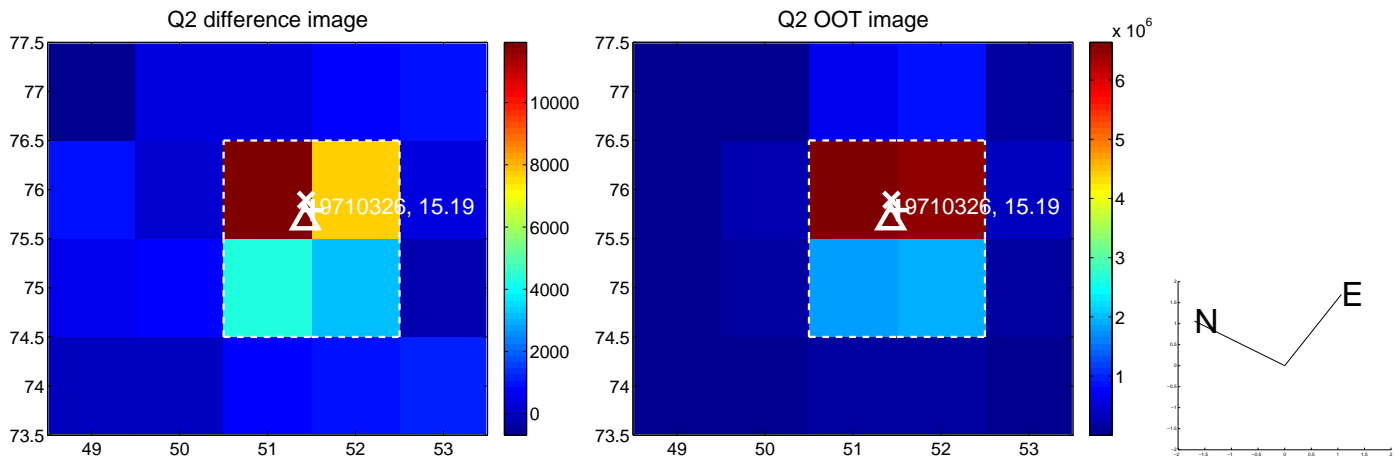
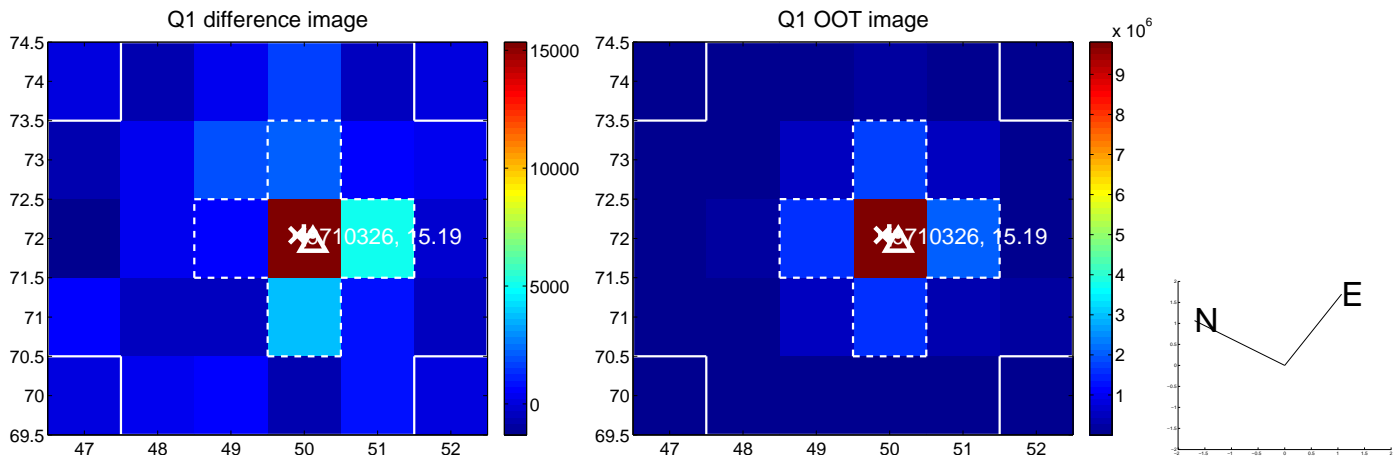
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.146 ± 0.115	1.27	0.133 ± 0.116	-0.059 ± 0.111
PRF-fit source offset from KIC position	0.350 ± 0.105	3.31	0.128 ± 0.124	-0.325 ± 0.102
photometric centroid source offset	0.22 ± 0.23	0.93	-0.04 ± 0.22	-0.21 ± 0.23

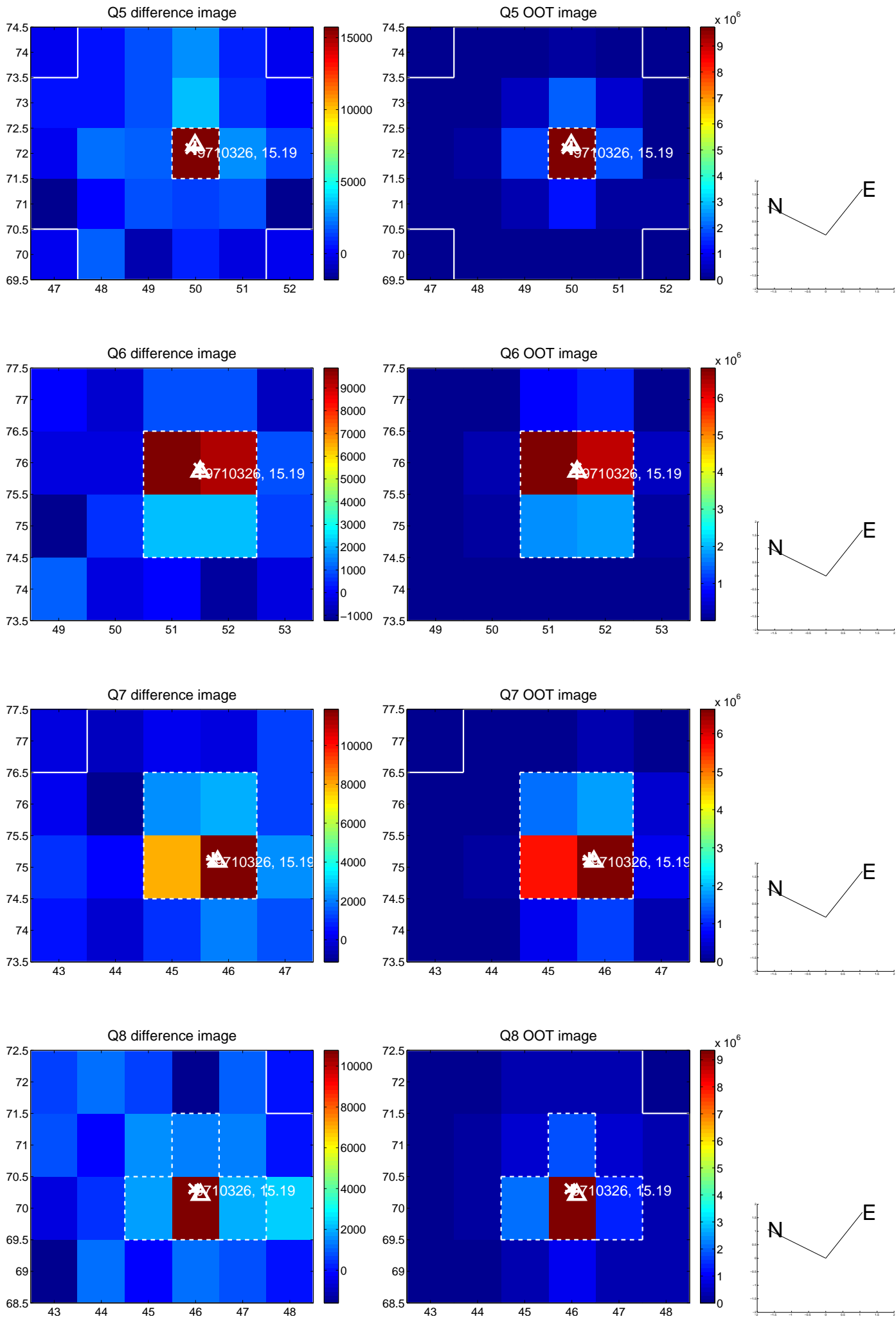


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

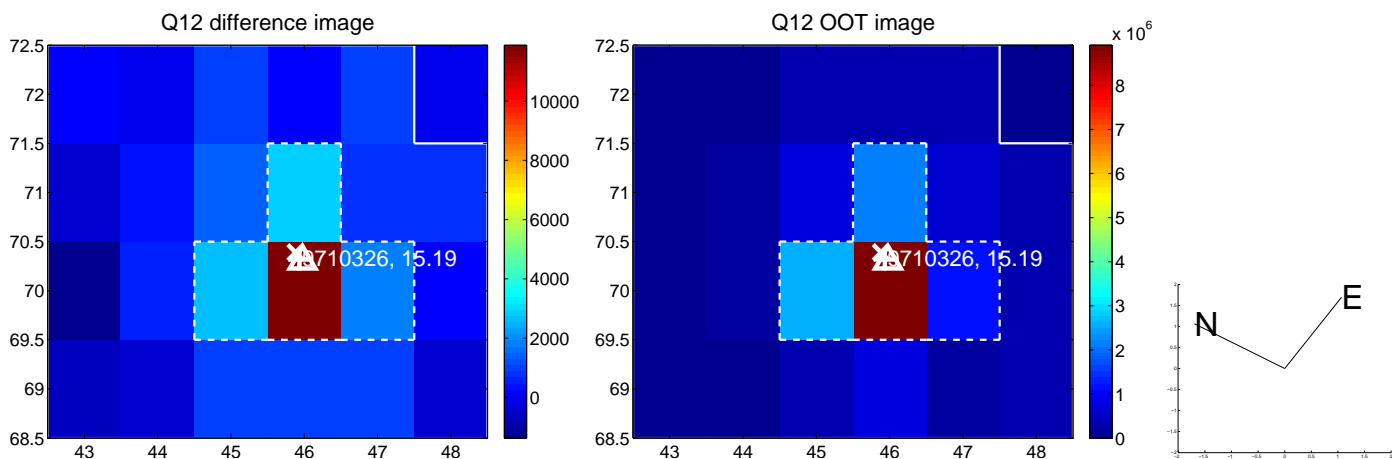
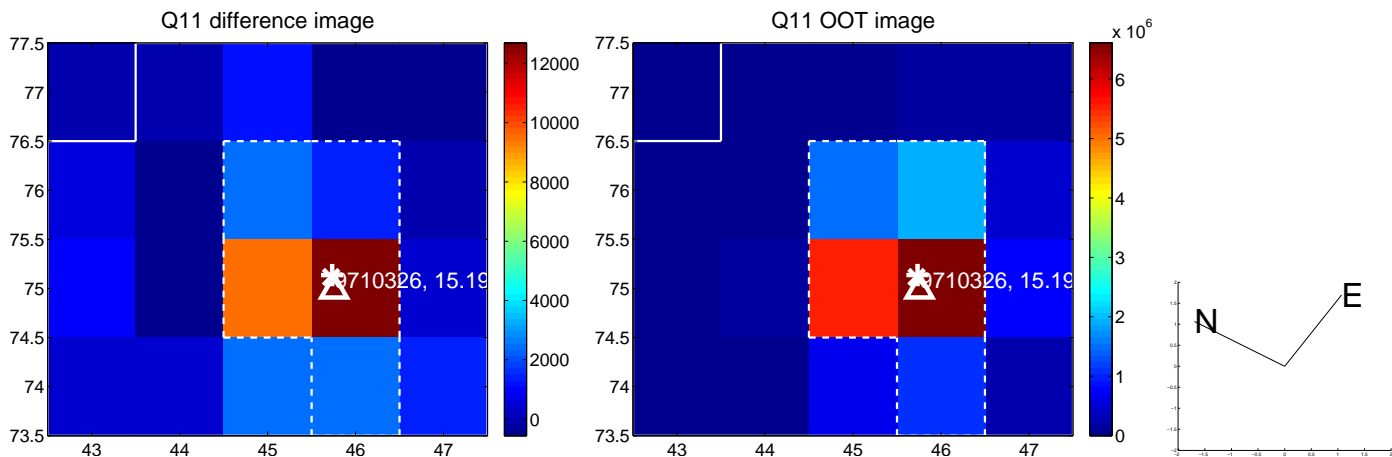
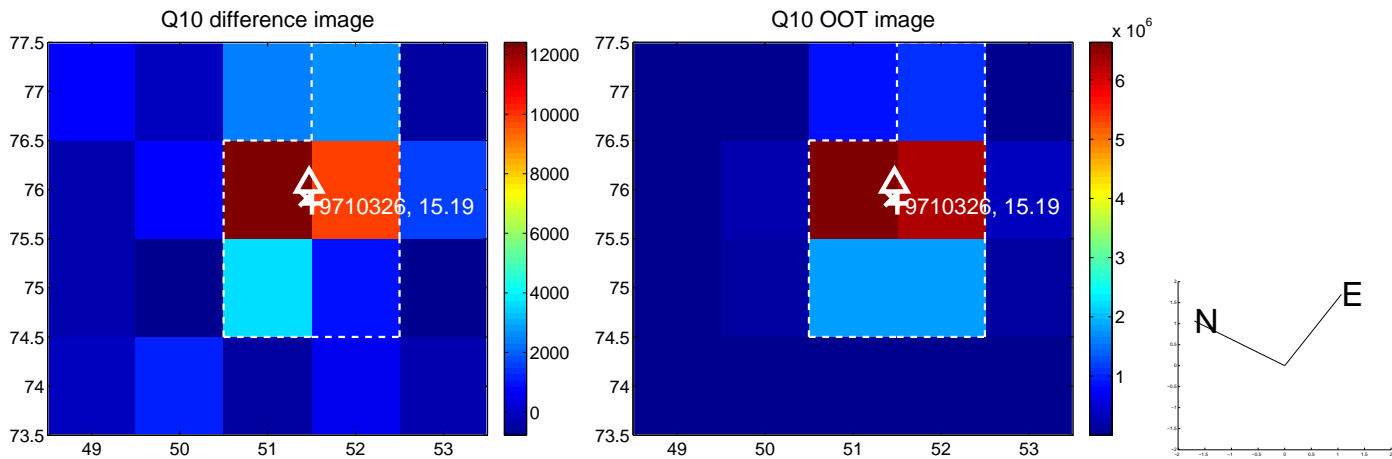
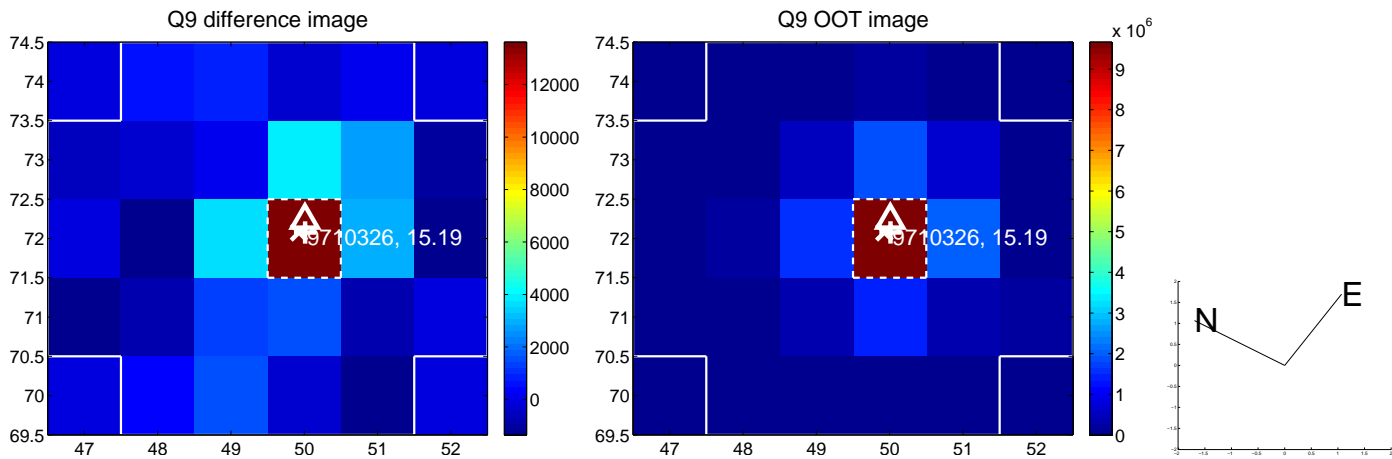
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



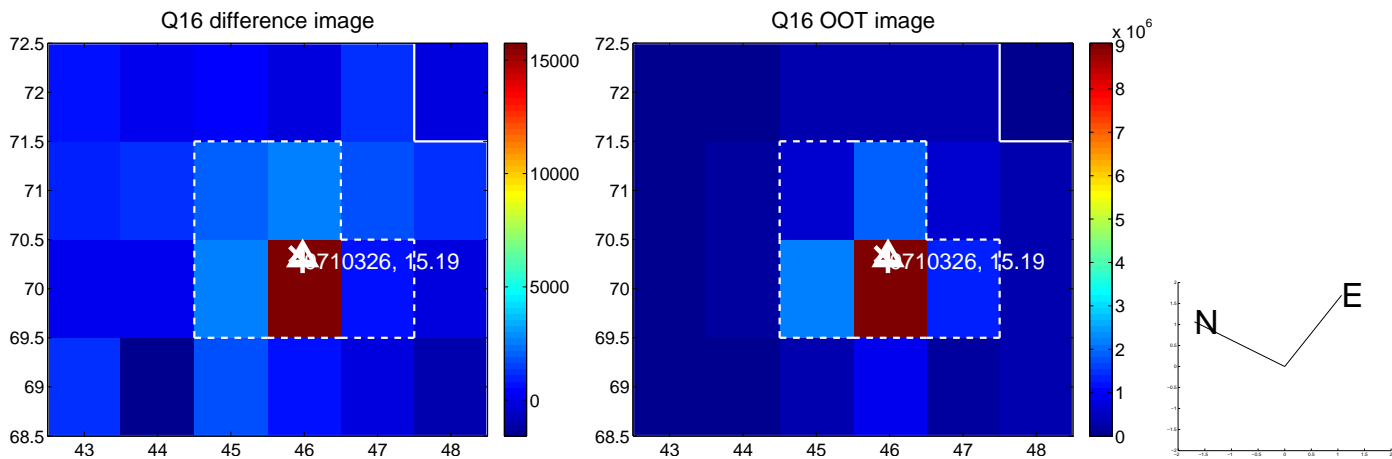
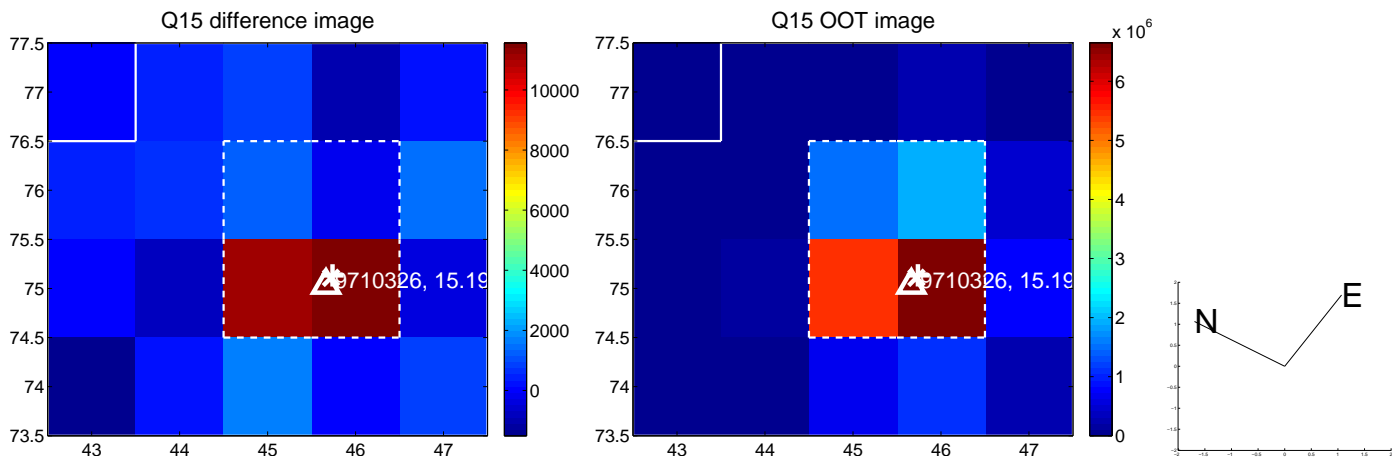
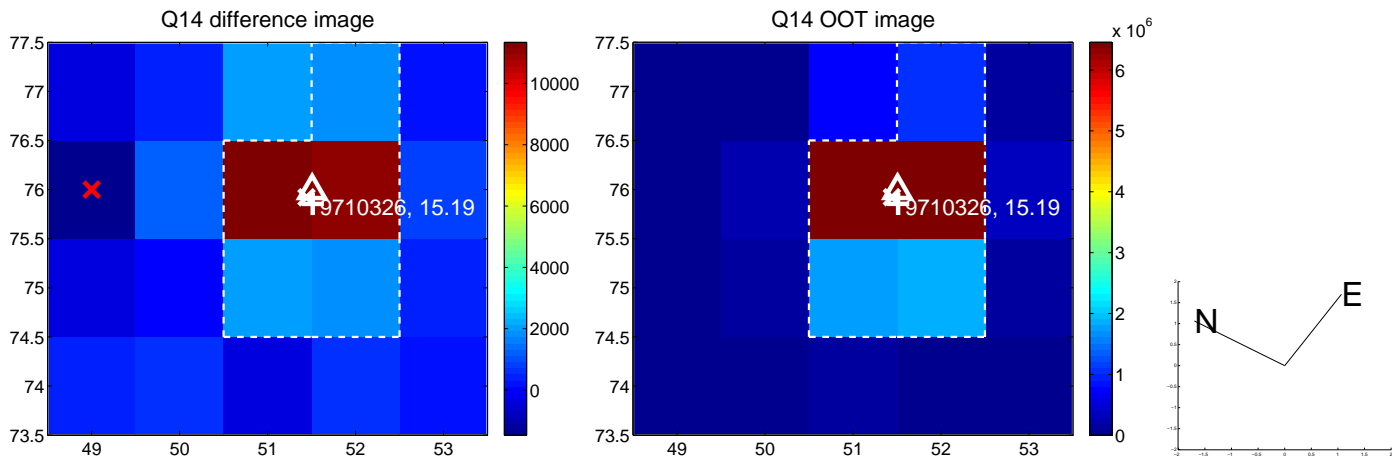
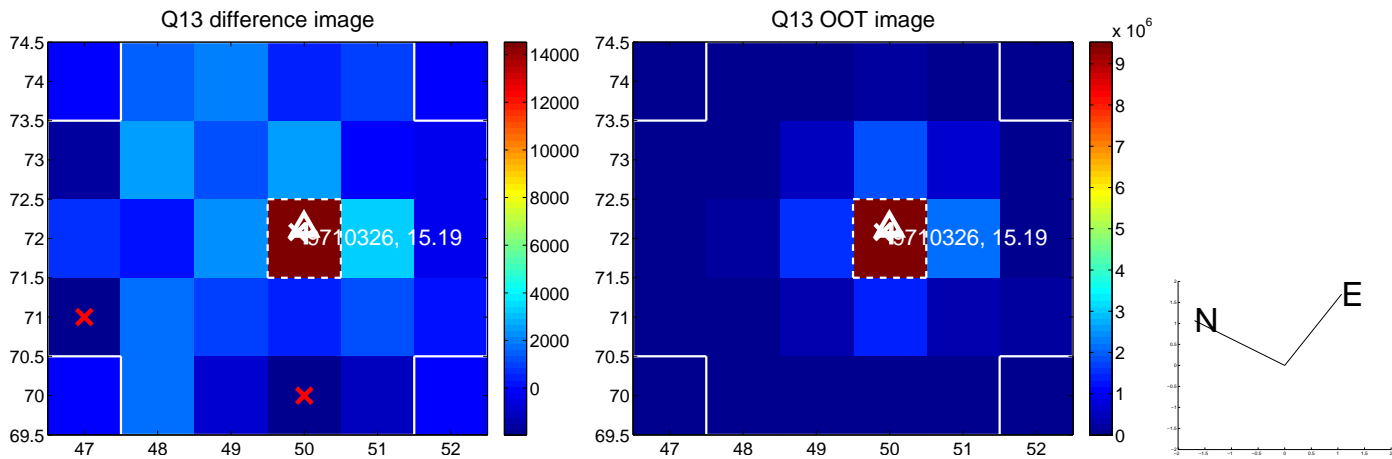
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



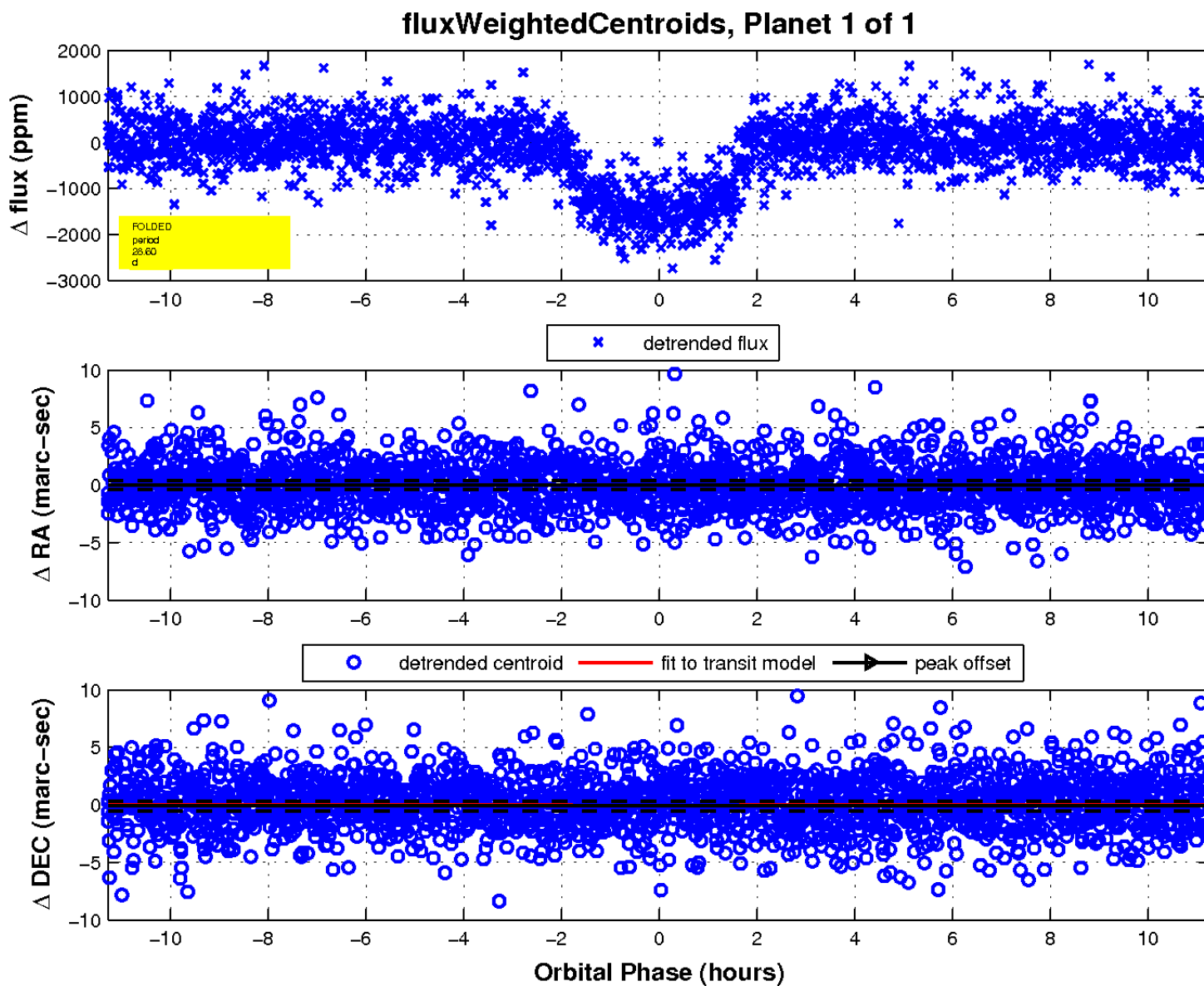
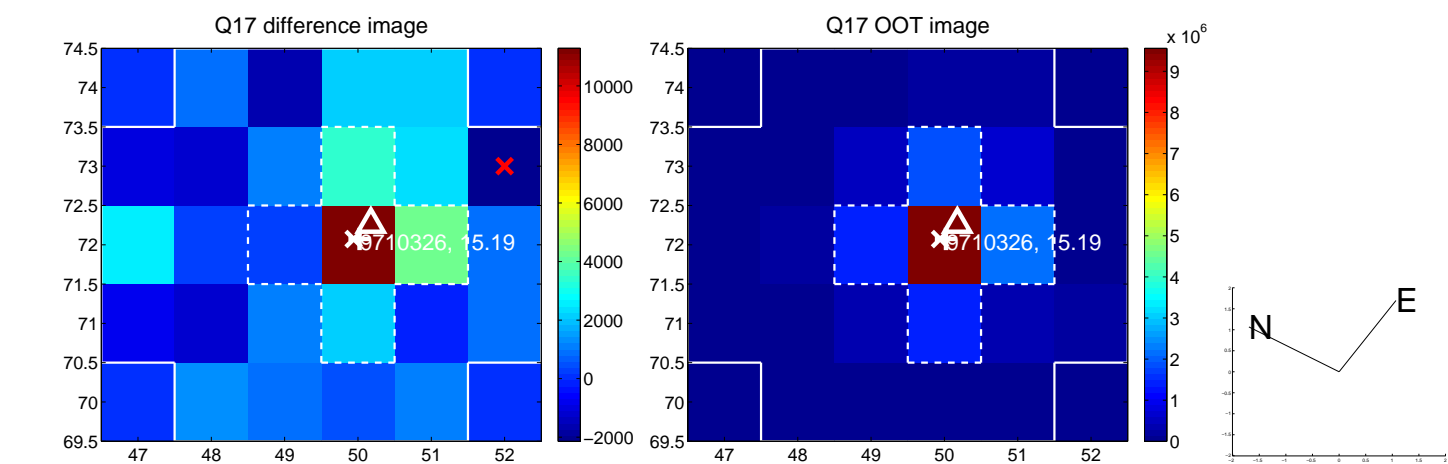
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

