

KIC 007976520

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})
007976520-01	OBS	0687.01	4.178395	134.381755	315.8	2.237	33.4	36.5	1.69	5746	3.59	990.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007976520-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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

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

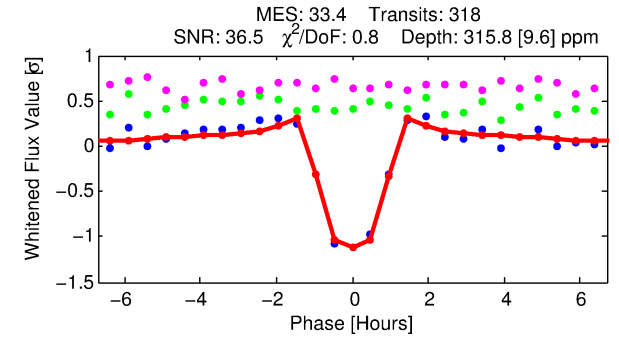
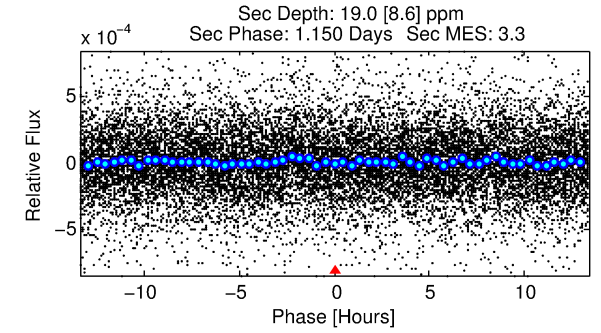
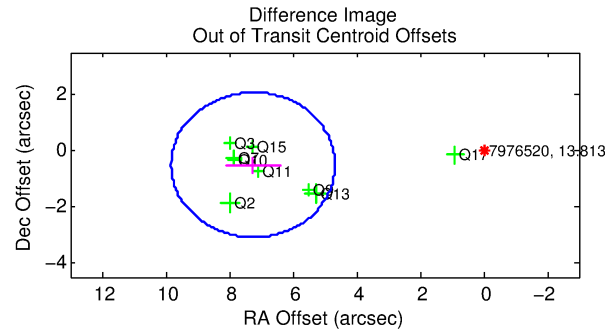
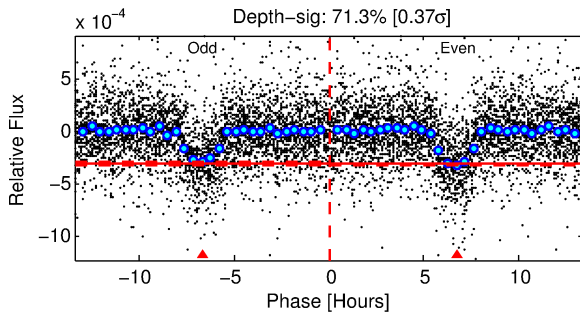
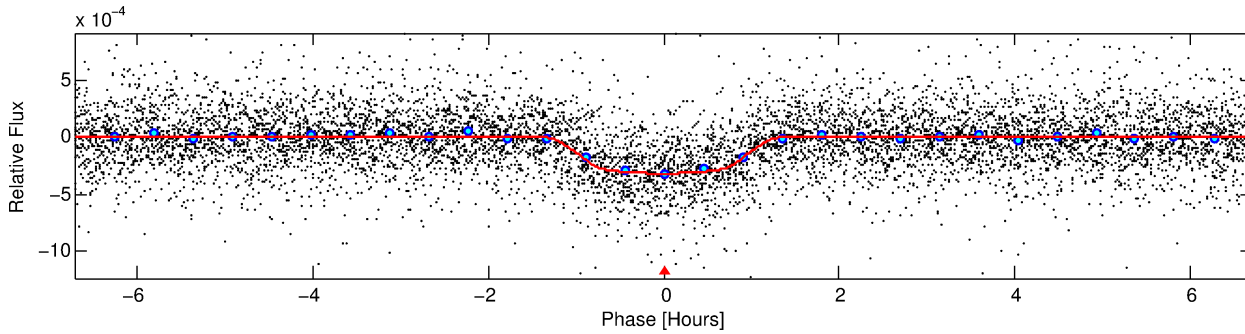
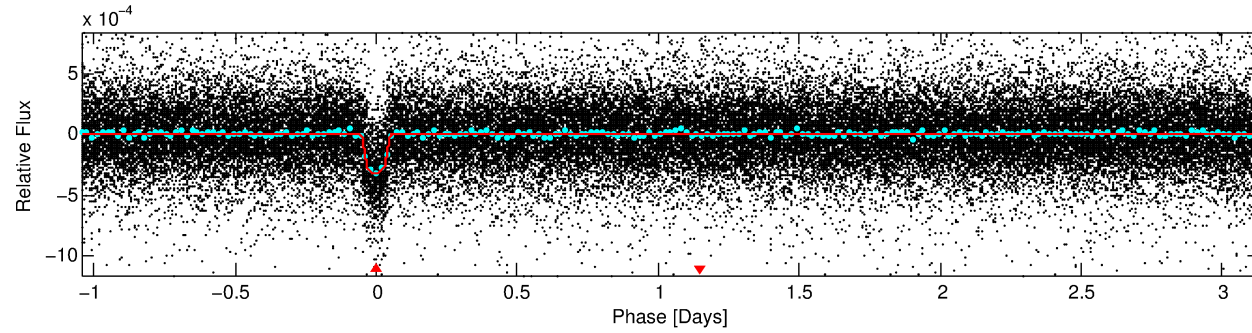
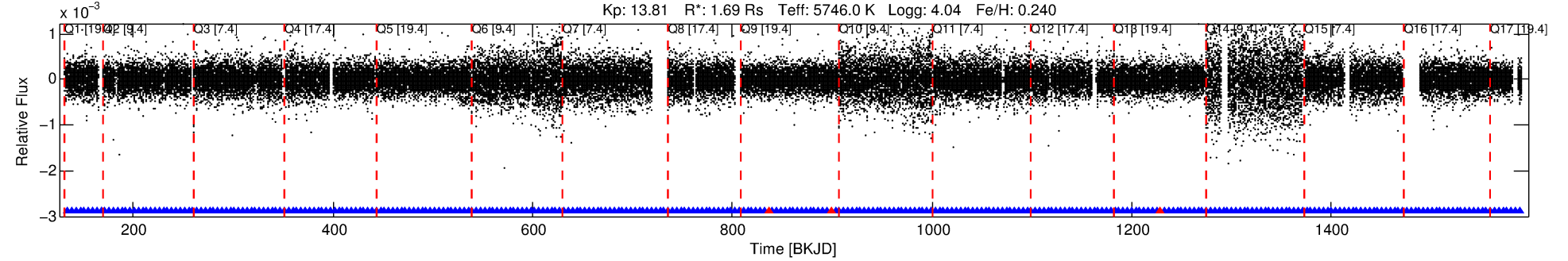
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007976520-01

No Significant Match Found

DV One-Page Summary

KIC: 7976520 Candidate: 1 of 1 Period: 4.178 d
KOI: K00687.01 Corr: 0.967



DV Fit Results:

Period = 4.17840 [0.00001] d
Epoch = 134.3818 [0.0009] BKJD
Rp/R* = 0.0195 [0.0025]
a/R* = 6.85 [3.91]
b = 0.90 [0.12]
Seff = 990.27 [347.16]
Teq = 1430 [125] K
Rp = 3.59 [0.95] Re
a = 0.0530 [0.0116] AU
Ag = 2.28 [1.43] [0.89 σ]
Teffp = 2716 [357] K [3.40 σ]

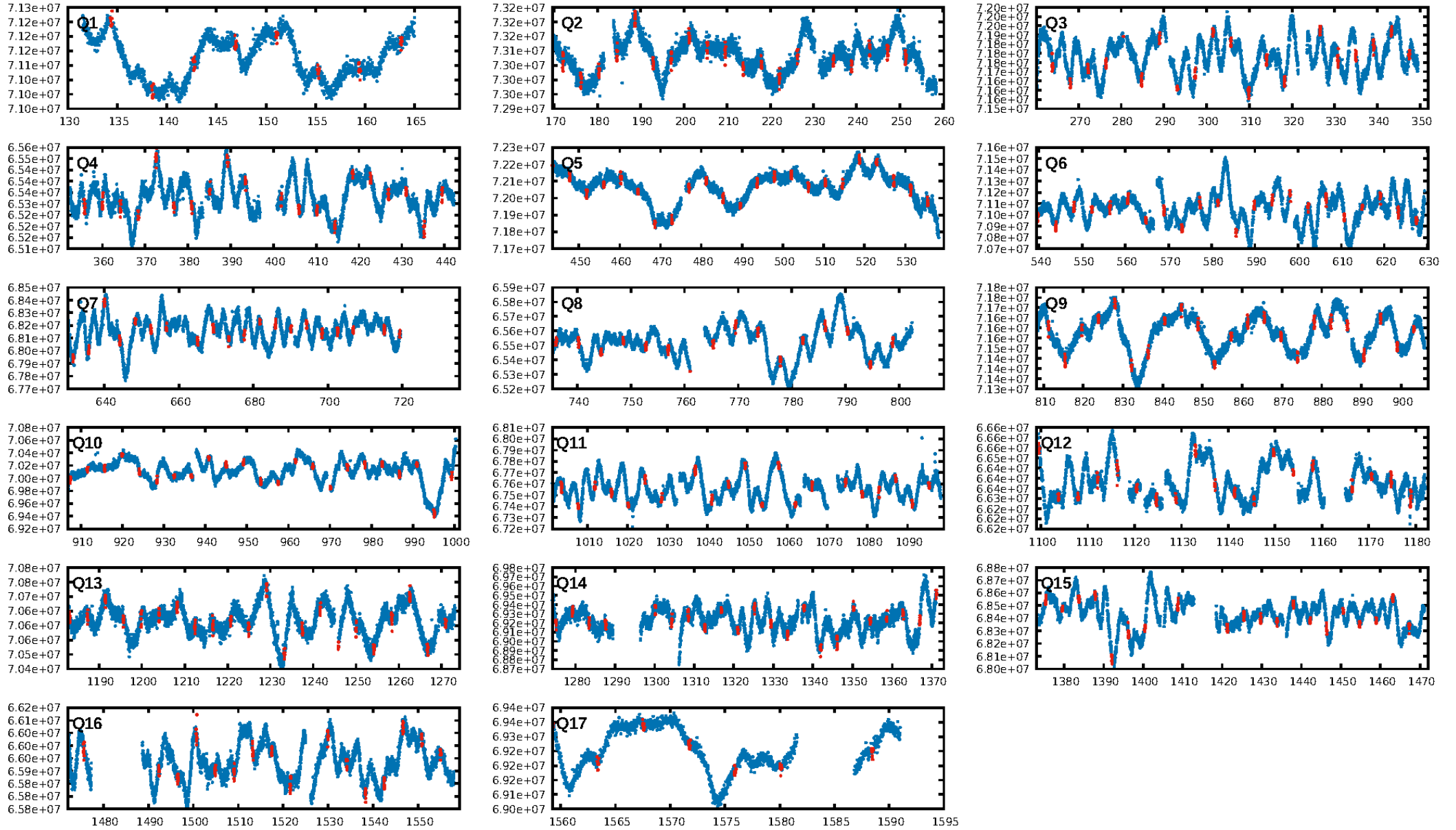
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.38e-232
RollingBand-fgt: 0.99 [300/303]
GhostDiagnostic-chr: 4.452
Centroid-sig: 0.0%
Centroid-so: 3.646 arcsec [21.73 σ]
OotOffset-rm: 7.268 arcsec [8.46 σ]
KicOffset-rm: 0.318 arcsec [1.10 σ]
OotOffset-st: 2/4/0/3 [9]
KicOffset-st: 2/4/3/3 [12]
DiffImageQuality-fgm: 0.67 [8/12]
DiffImageOverlap-fno: 1.00 [17/17]

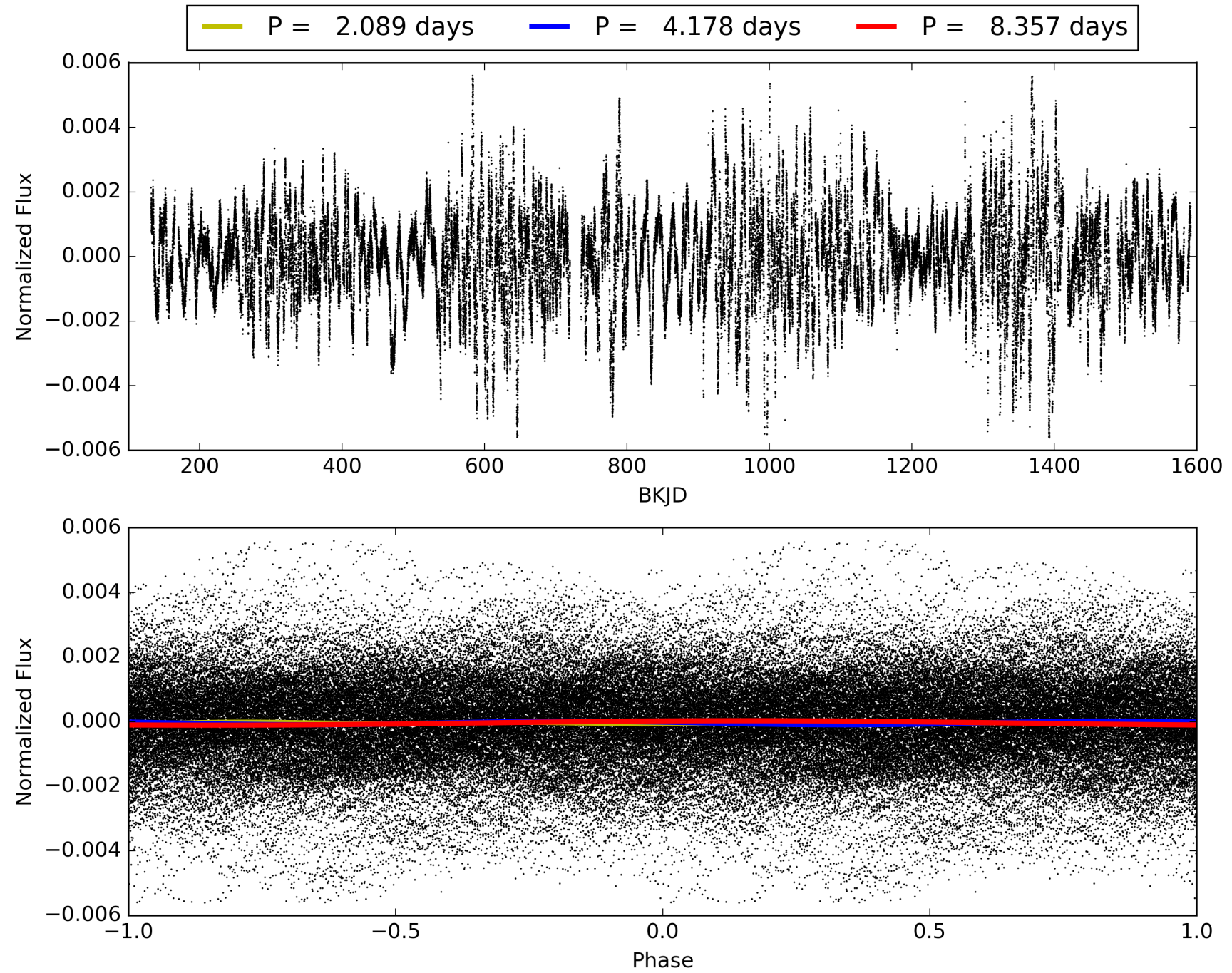
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:18:35 Z

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

TCE 007976520-01, PDC Light Curves

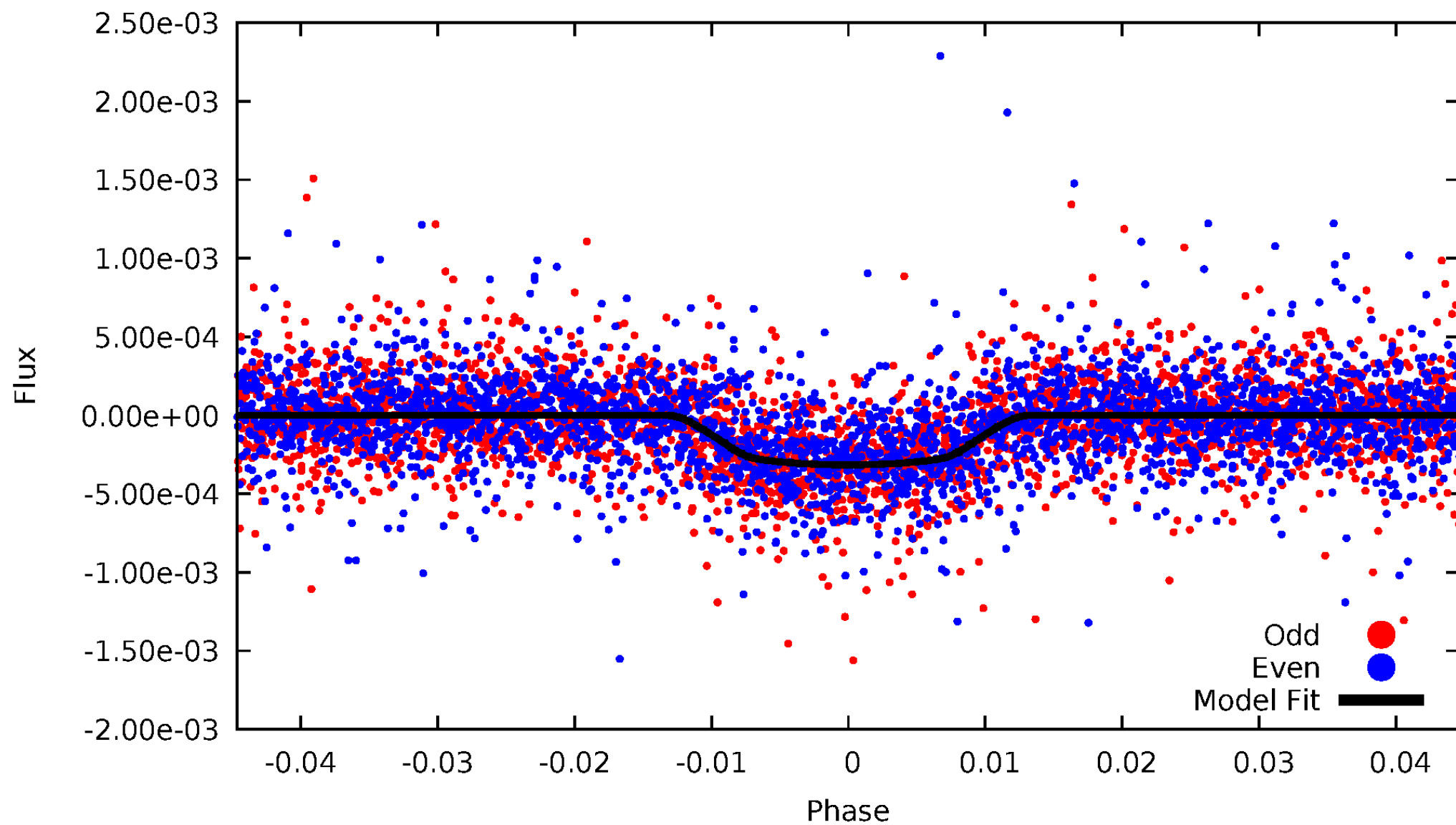


TCE 007976520-01



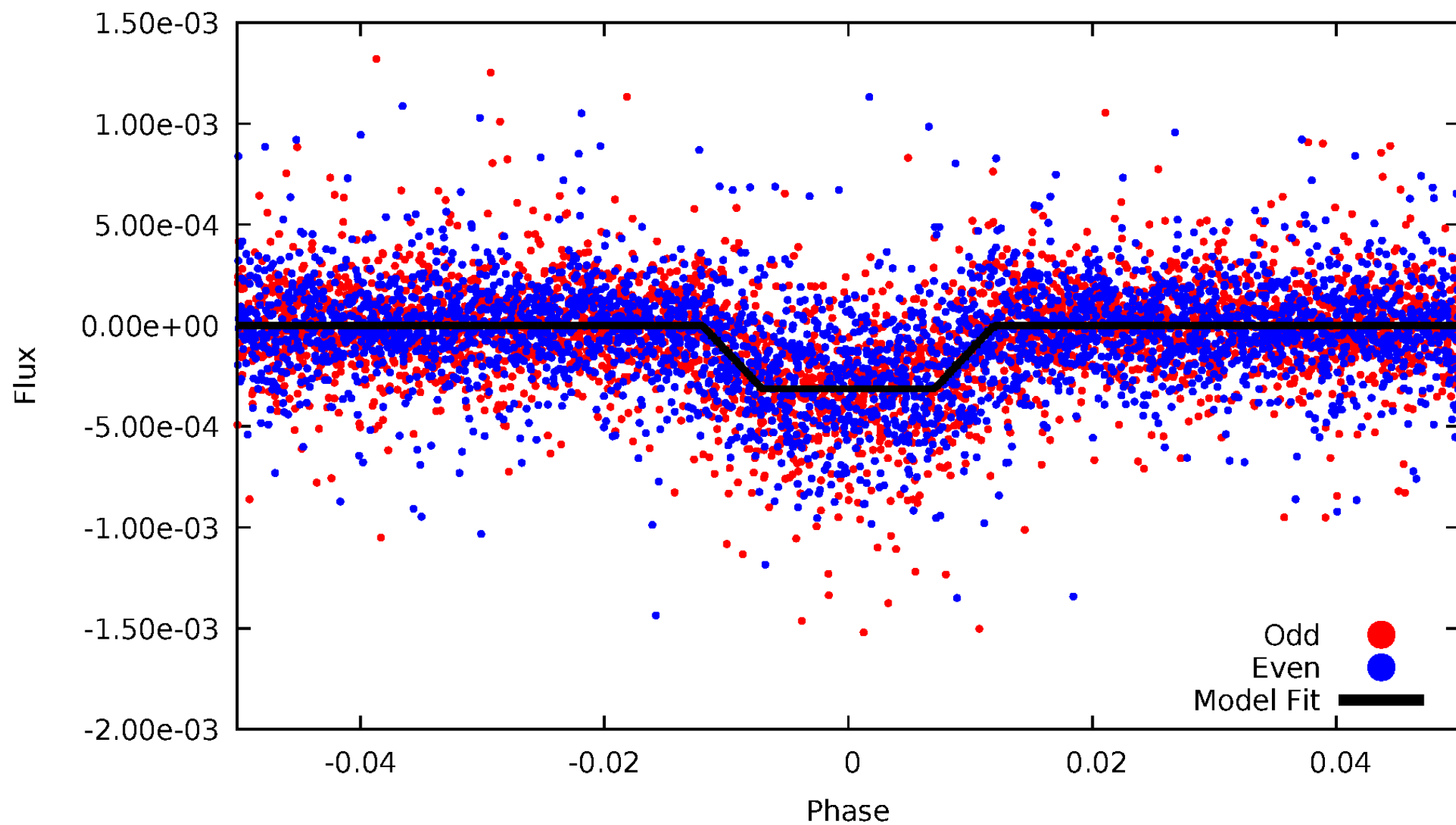
DV Odd/Even

TCE 007976520-01



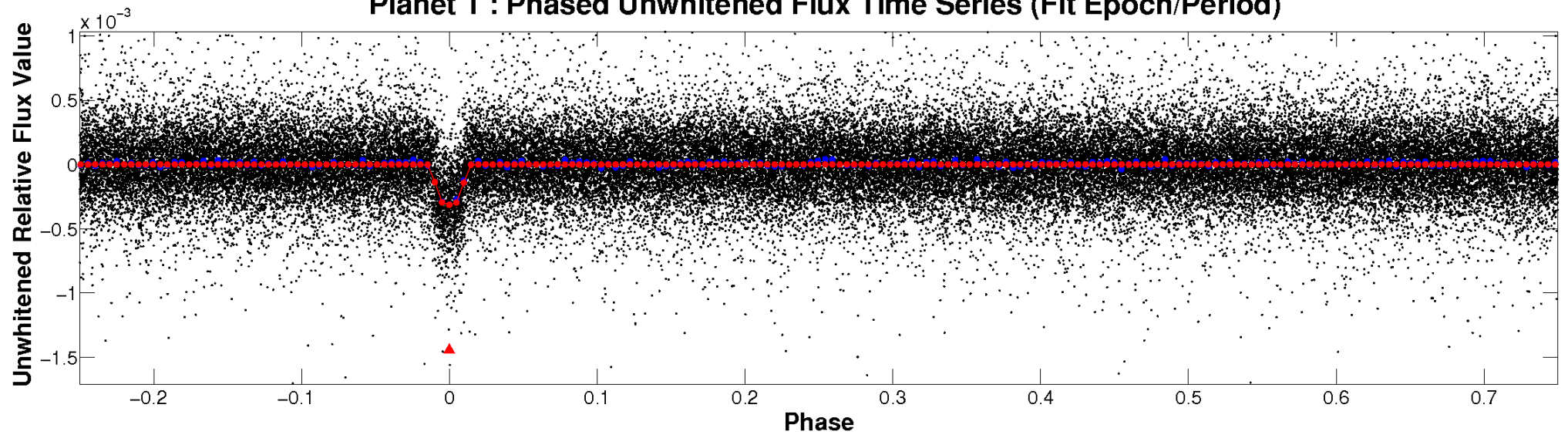
ALT Odd/Even

TCE 007976520-01

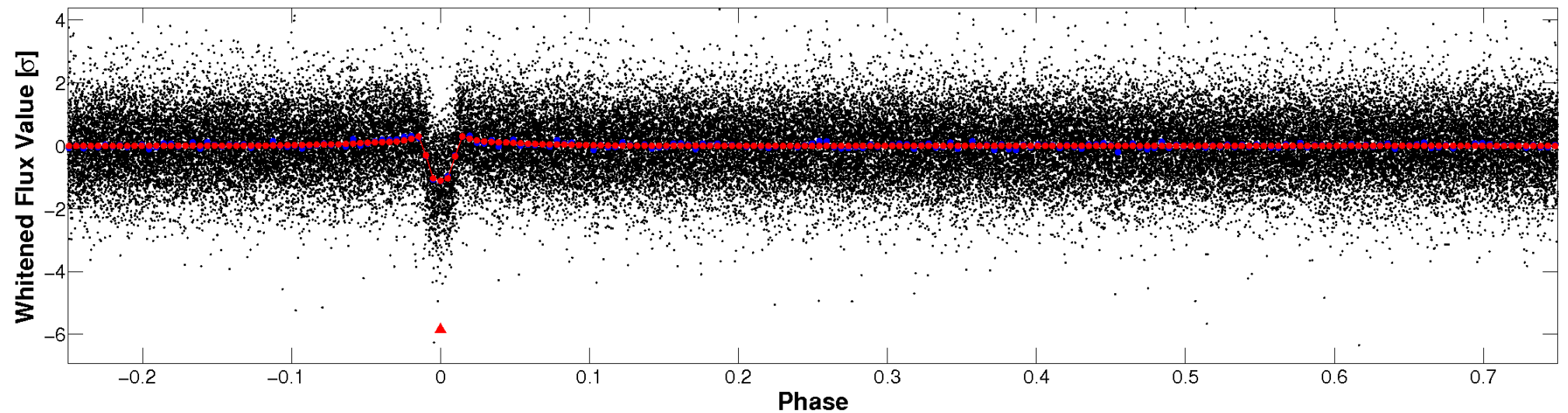


Non-Whitened Vs. Whitened Light Curve

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

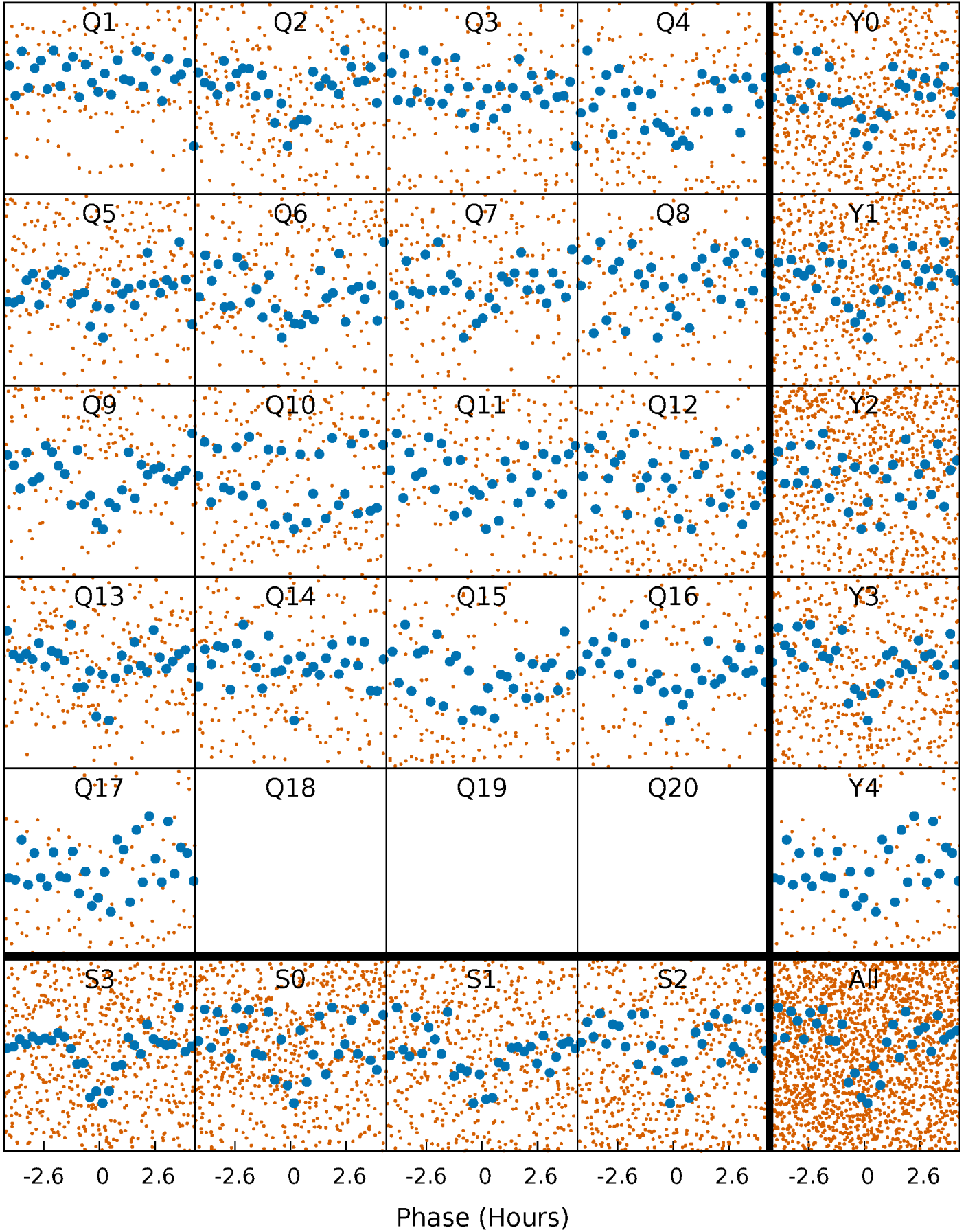


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



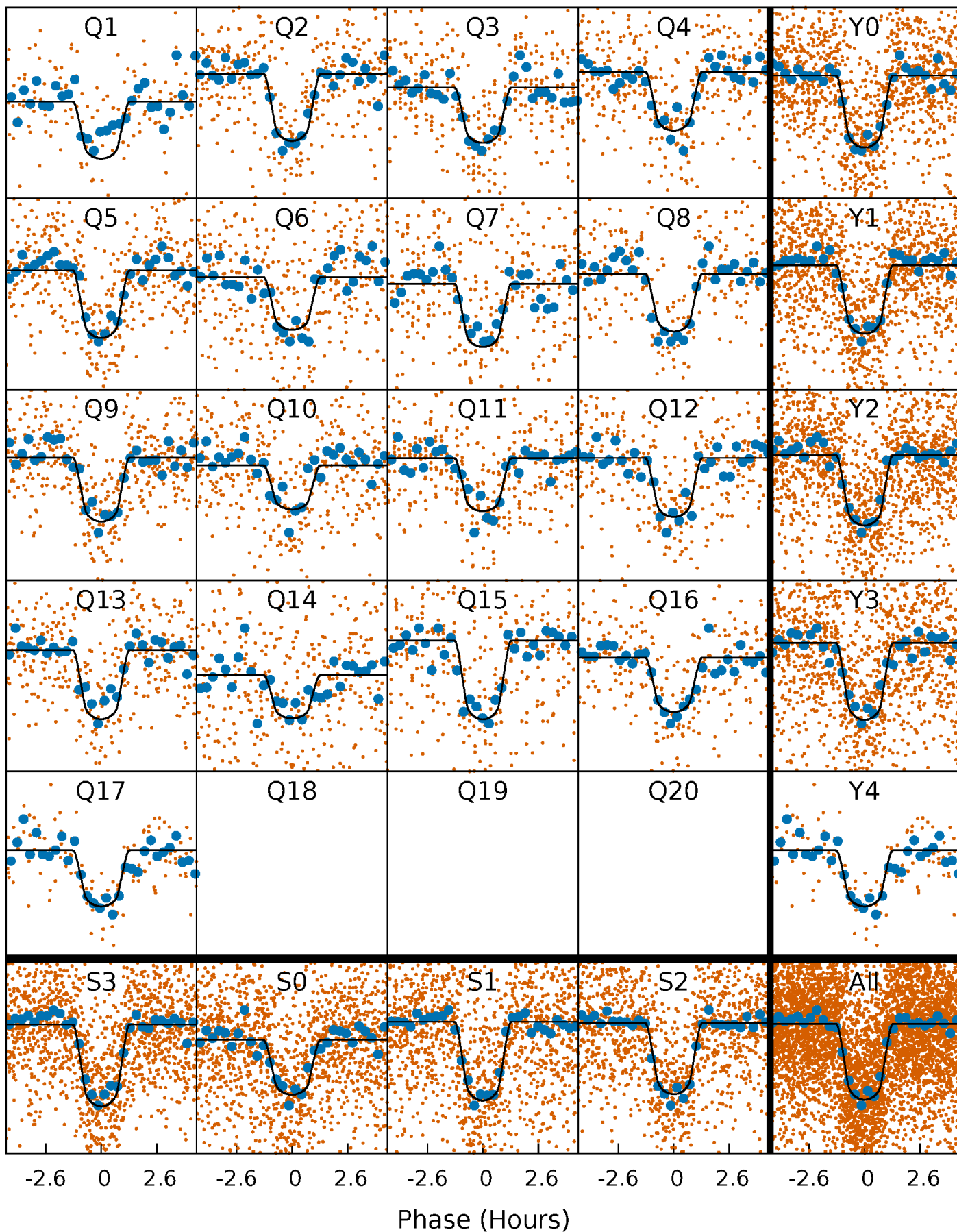
PDC Quarter-Phased Transit Curves

TCE 007976520-01 P= 4.178395 Days $T_0=134.381755$ (BKJD)



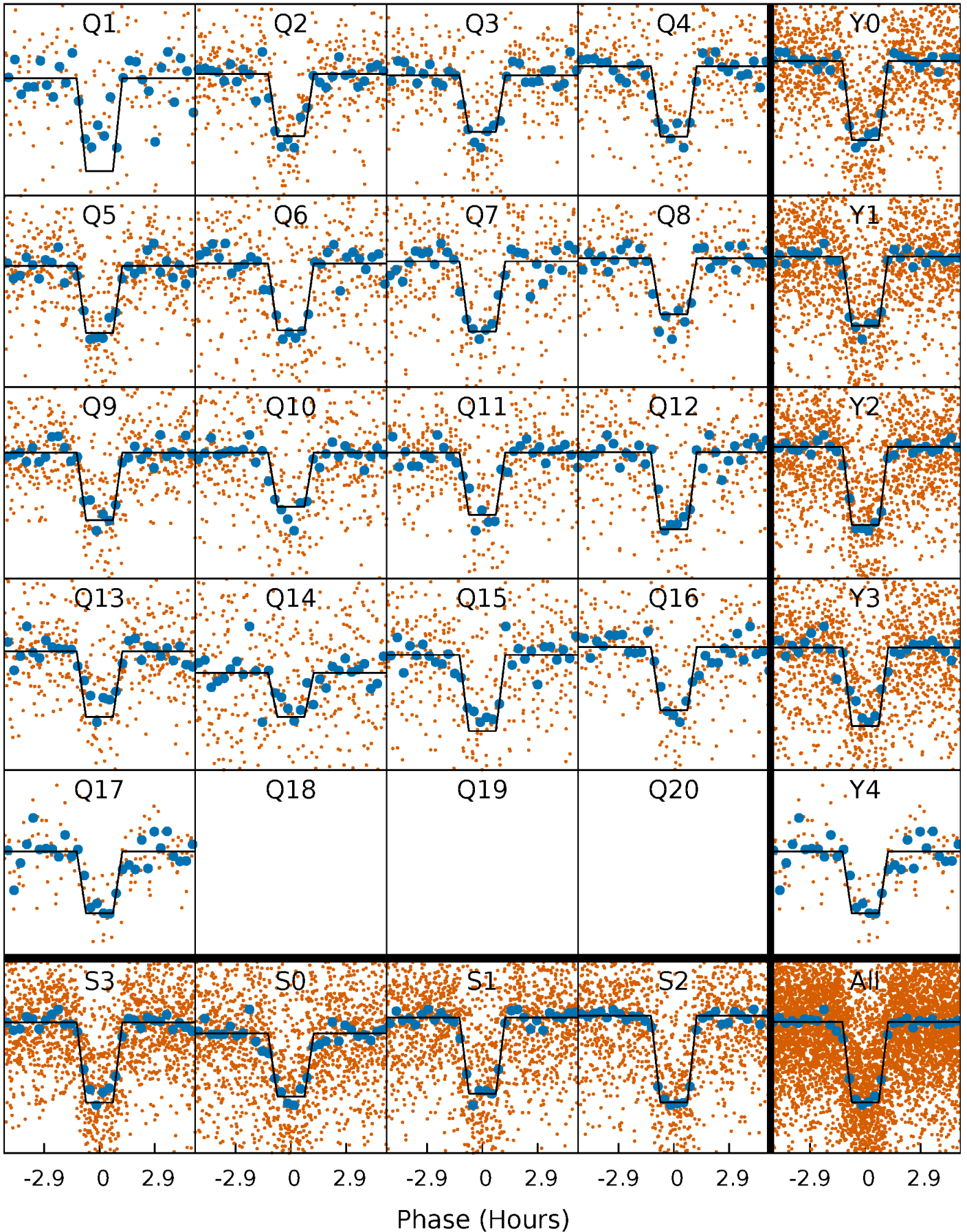
DV Quarter-Phased Transit Curves

TCE 007976520-01 P= 4.178395 Days $T_0=134.381755$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

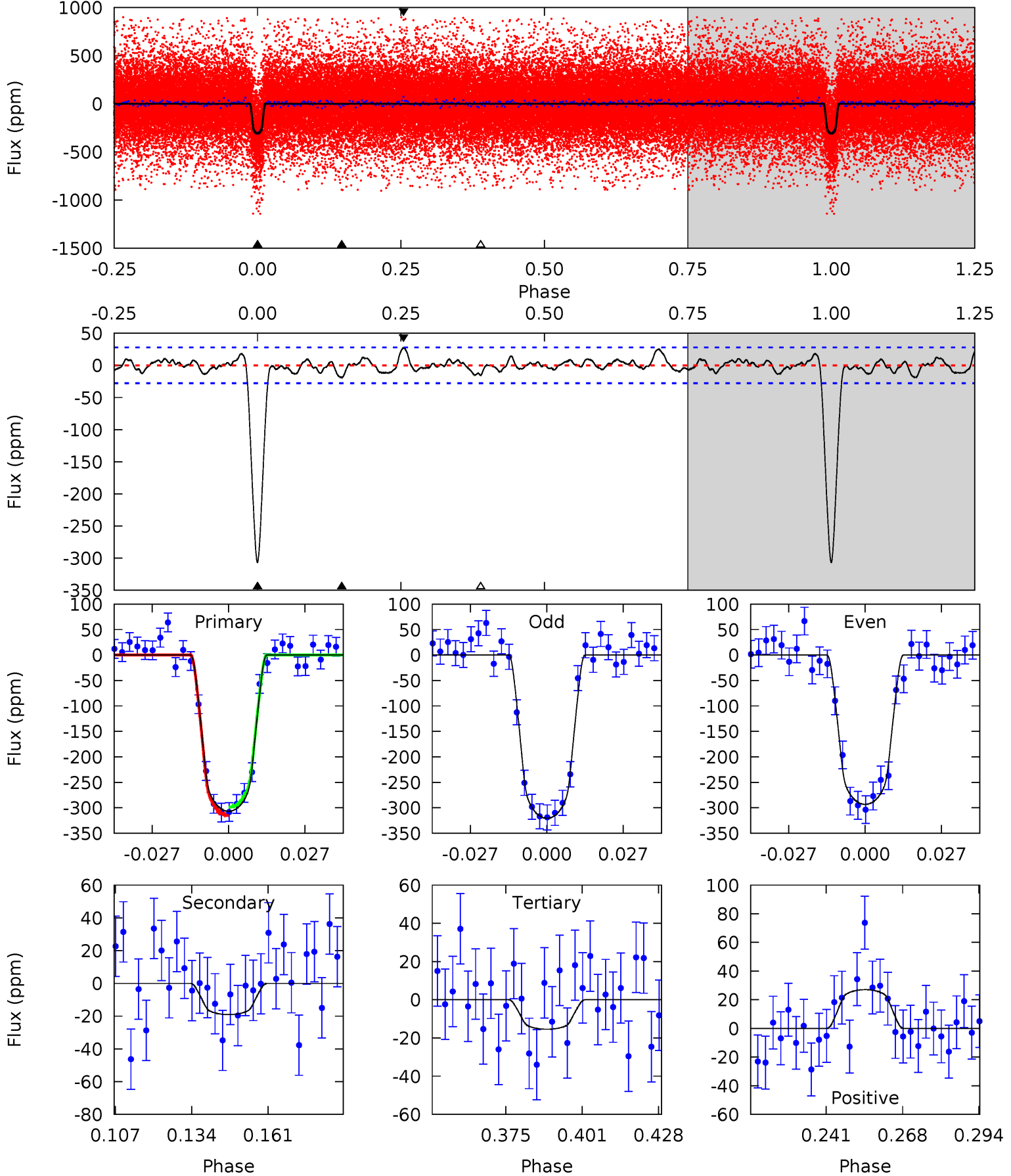
TCE 007976520-01 P= 4.178370 Days $T_0=134.385301$ (BKJD)



DV Model-Shift Uniqueness Test

007976520-01, P = 4.178395 Days, E = 130.203360 Days

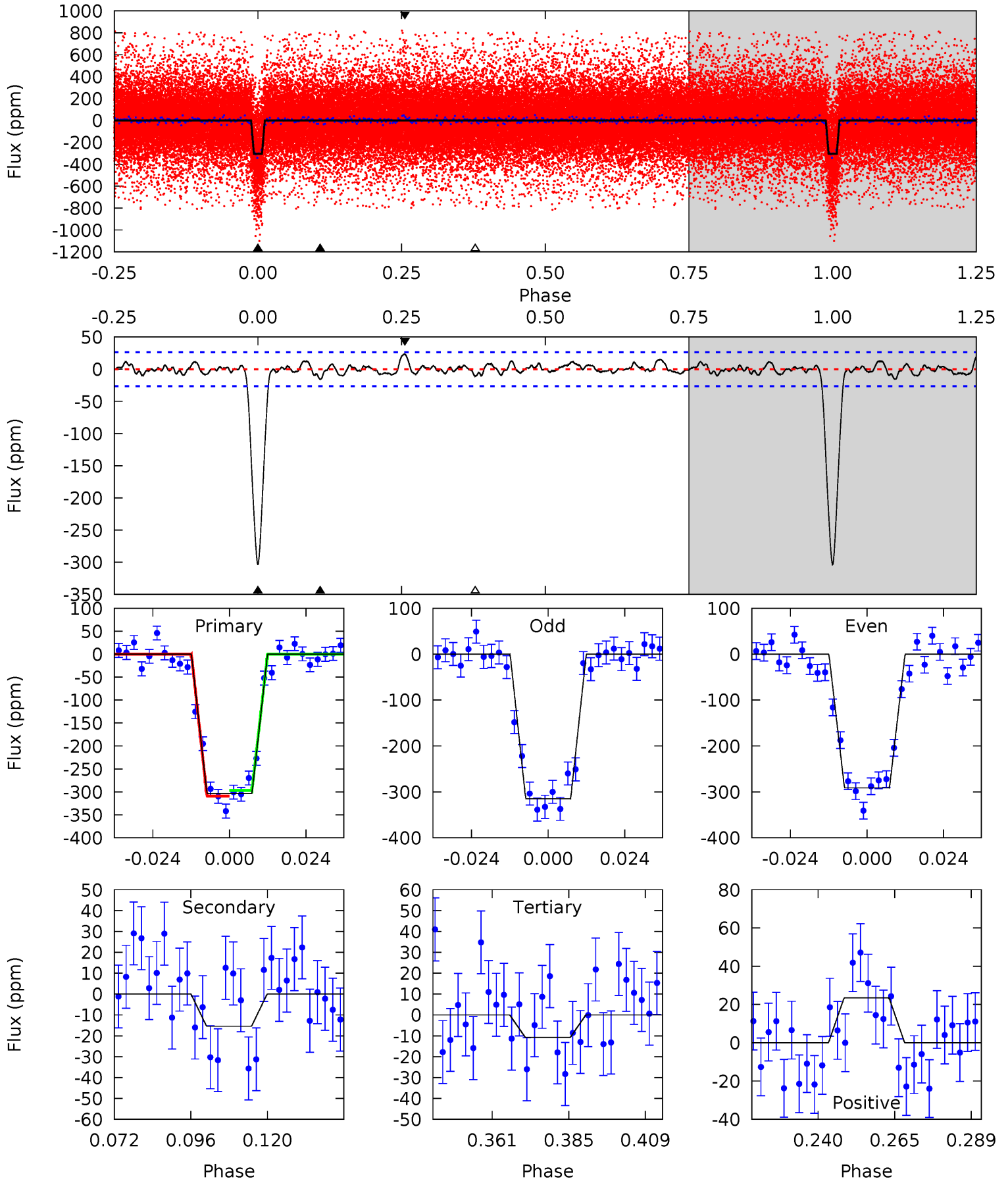
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.2	3.31	2.68	4.70	4.83	2.22	1.34	50.5	48.5	0.63	-1.39	2.38	0.96	0.08	1.44



Alt Model-Shift Uniqueness Test

007976520-01, P = 4.178370 Days, E = 130.206931 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
56.0	2.84	1.98	4.33	4.86	2.26	1.06	54.0	51.7	0.86	-1.48	2.20	1.00	0.07	1.15



Stellar Parameters For KIC 007976520

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5746^{+77}_{-77}	$4.039^{+0.202}_{-0.081}$	$0.240^{+0.150}_{-0.150}$	$1.687^{+0.228}_{-0.391}$	$1.136^{+0.130}_{-0.097}$	$0.333^{+0.336}_{-0.086}$
	+1%/-1%	+5%/-2%	+62%/-62%	+14%/-23%	+11%/-9%	+101%/-26%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 007976520-01 / KOI 0687.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-19 ± 6	$3.50^{+0.56}_{-0.57}$	1987^{+76}_{-125}	3222^{+219}_{-237}	$2.435^{+1.273}_{-0.906}$
Alt.	-15 ± 5	$3.17^{+0.62}_{-0.51}$	1986^{+84}_{-116}	3208^{+235}_{-272}	$2.381^{+1.417}_{-1.013}$

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

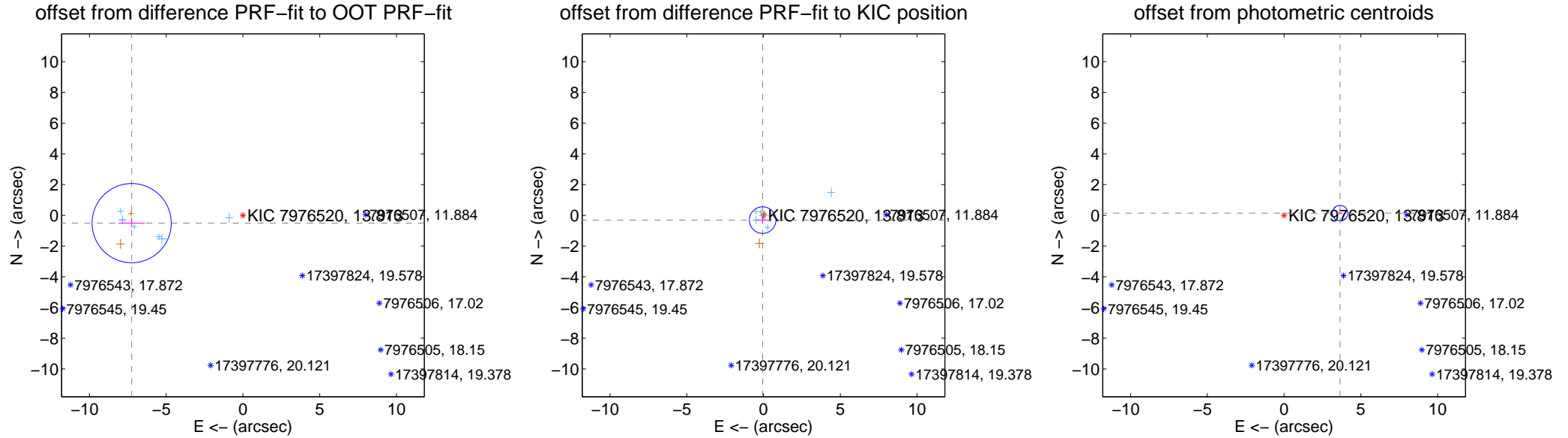
DV Centroid Data

Supplemental centroid analysis for 007976520-01. Kepler magnitude: 13.81. Transit SNR 36.52

There are 8 quarters with good PRF difference image offsets

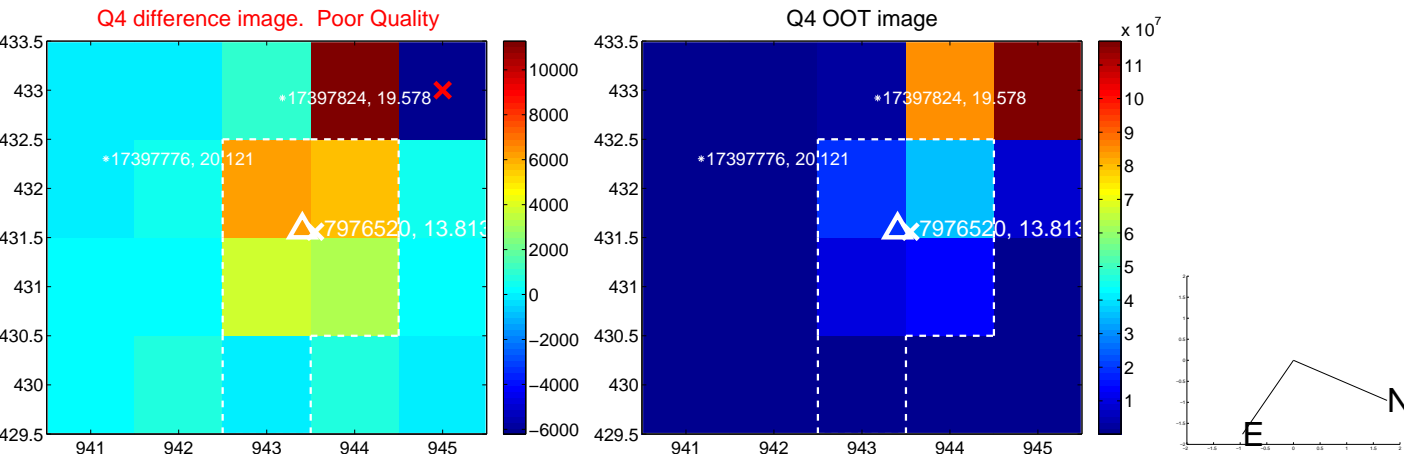
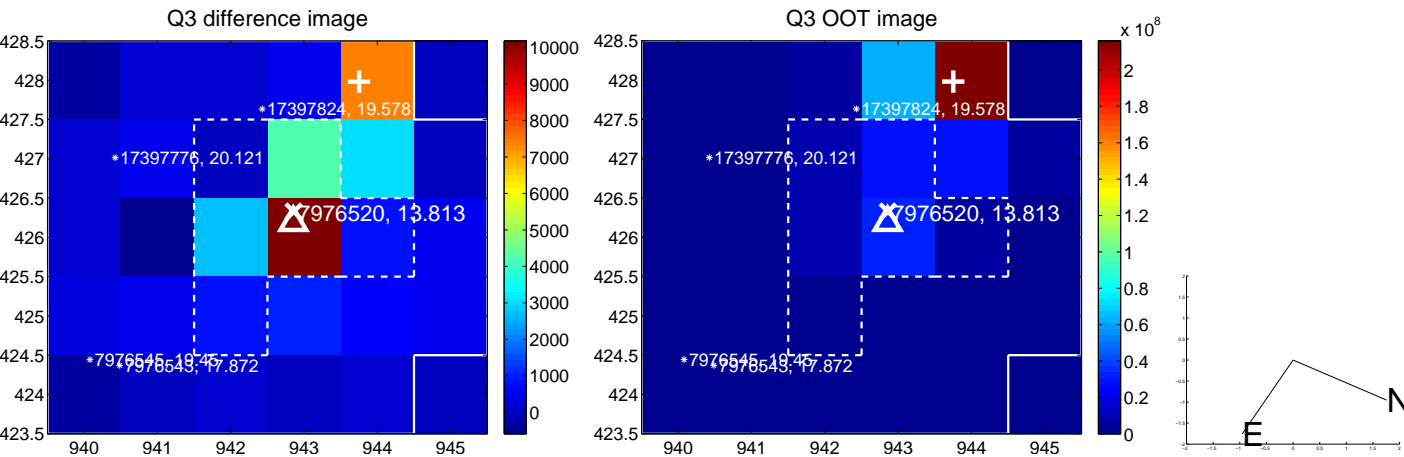
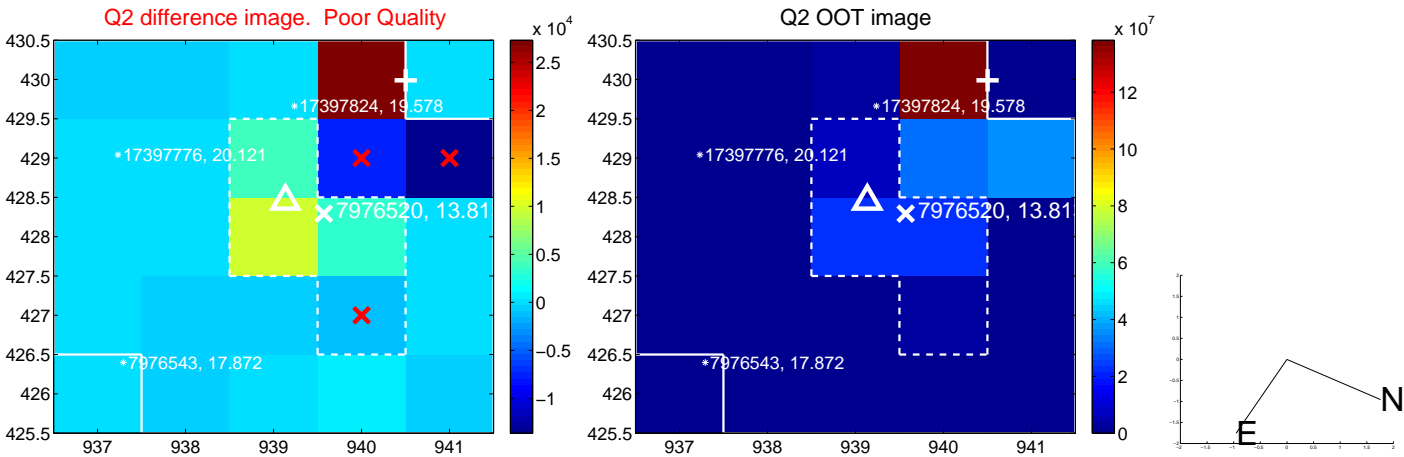
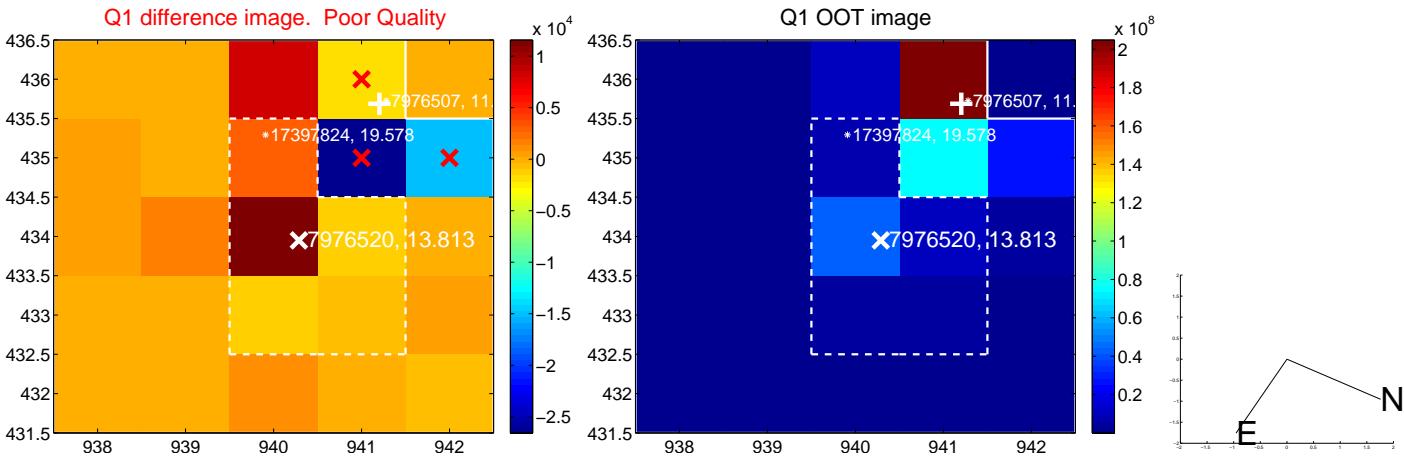
The OOT PRF centroid is offset from the target star catalog position by about 5.56 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.268 ± 0.859	8.46	7.250 ± 0.861	-0.508 ± 0.269
PRF-fit source offset from KIC position	0.318 ± 0.288	1.10	0.060 ± 0.414	-0.312 ± 0.241
photometric centroid source offset	3.65 ± 0.17	21.73	-3.64 ± 0.17	0.14 ± 0.07

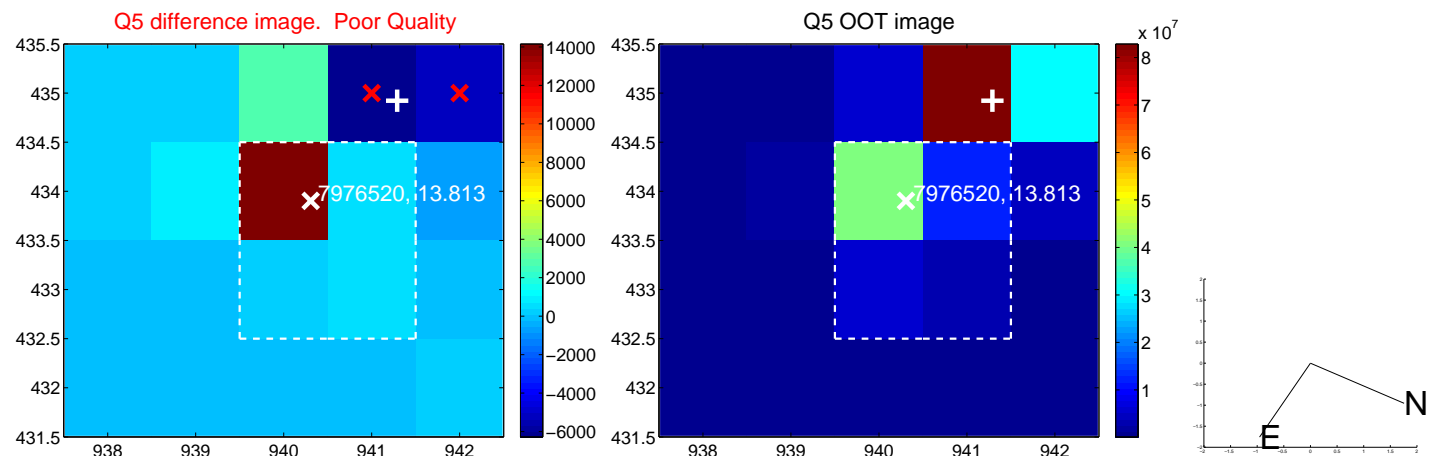


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

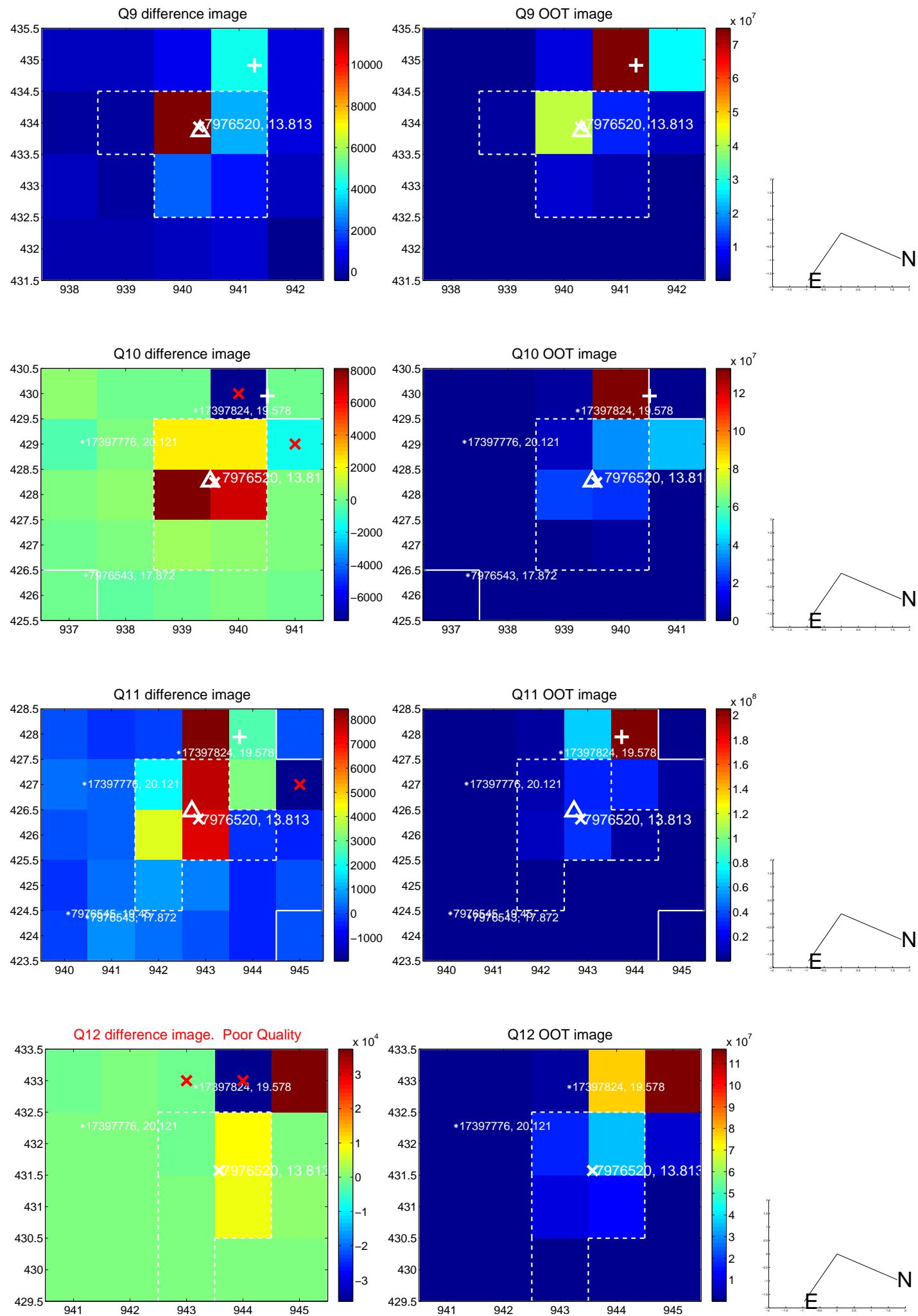
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



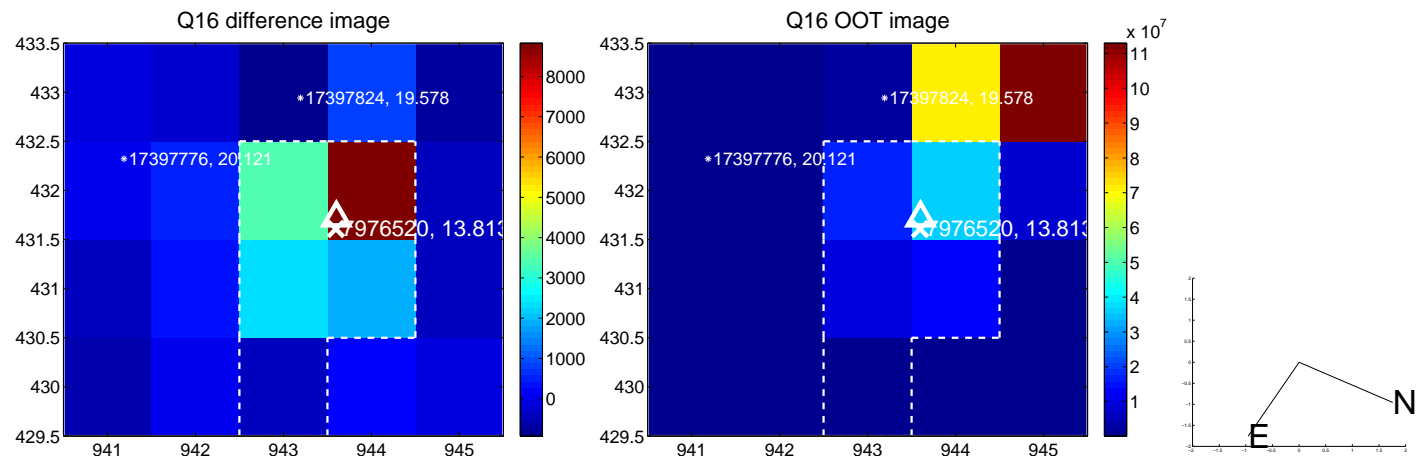
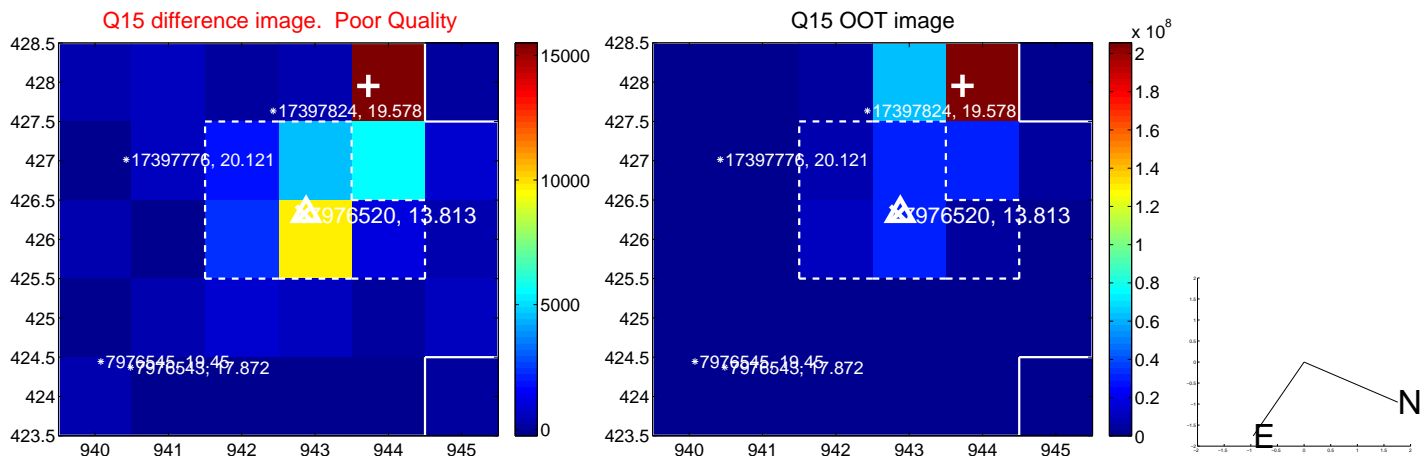
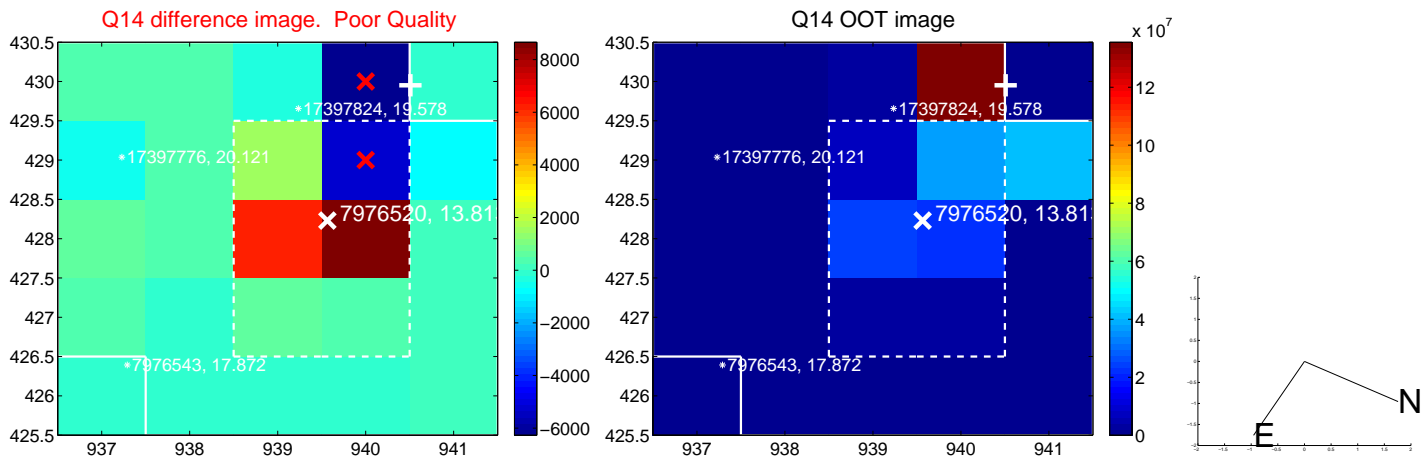
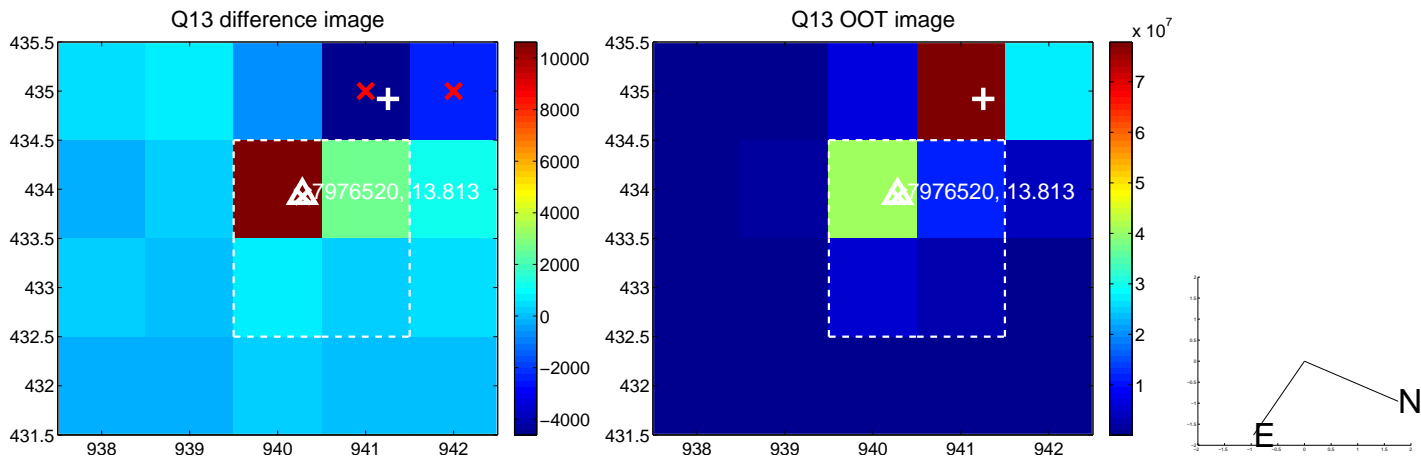
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



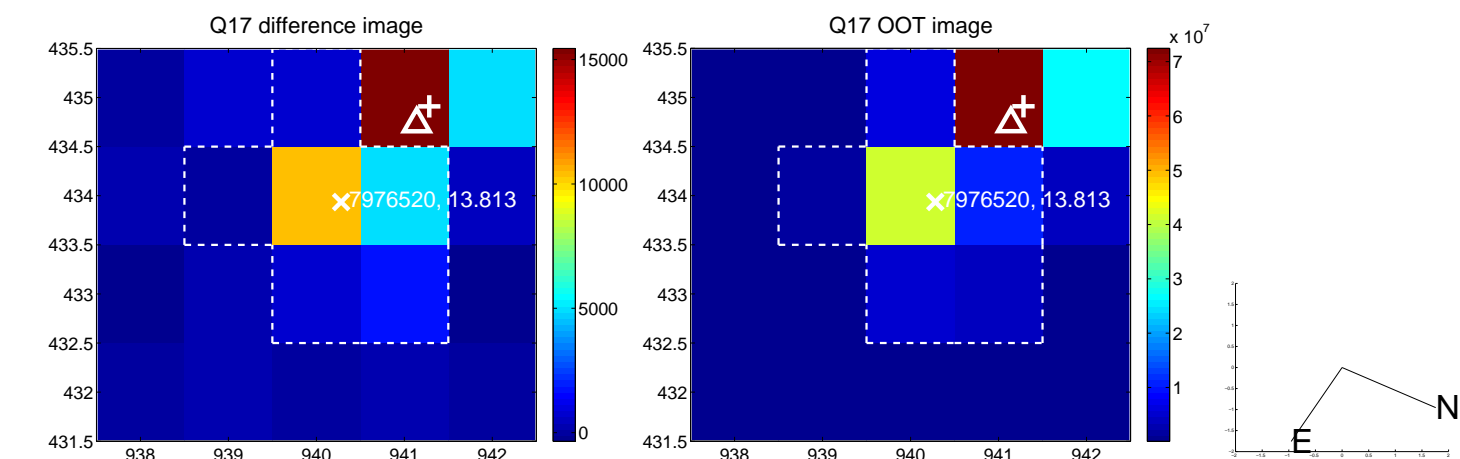
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



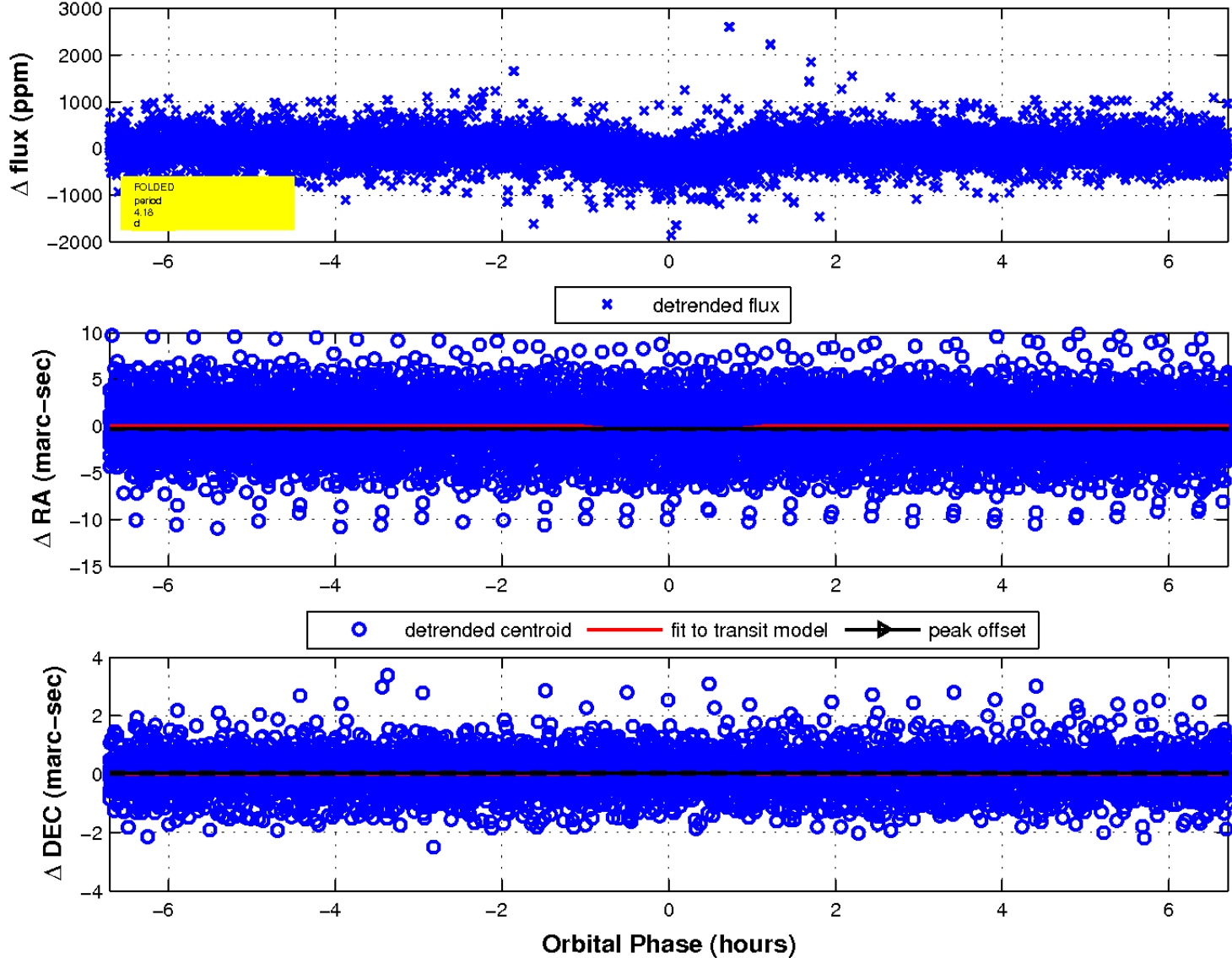
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

