

KIC 009356710

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})
009356710-01	OBS	No	0.876251	131.644271	16.5	2.376	8.5	5.3	1.75	6966	0.88	17566.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009356710-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

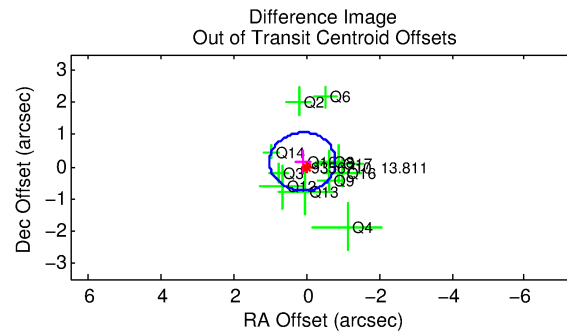
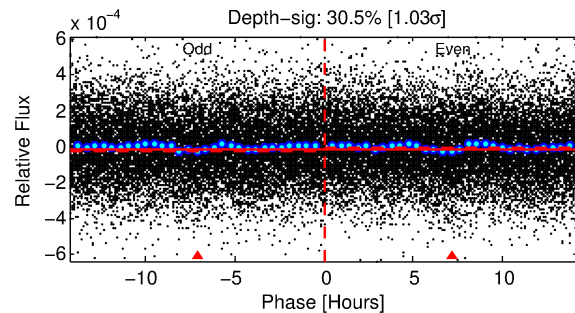
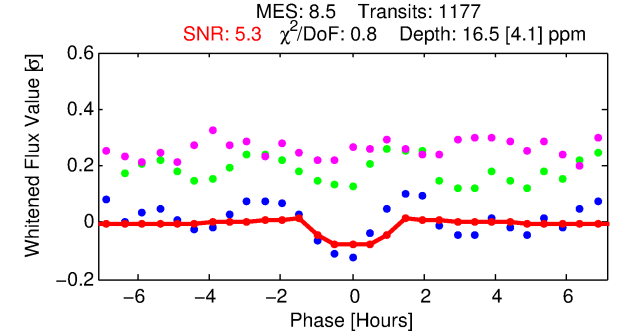
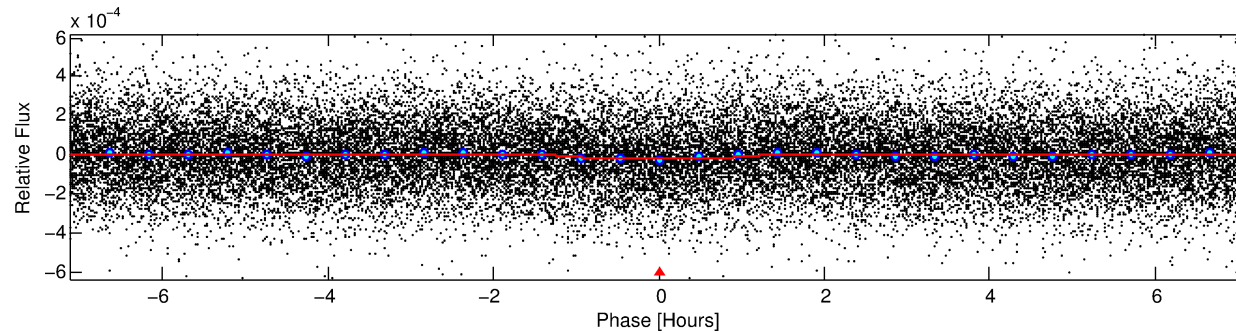
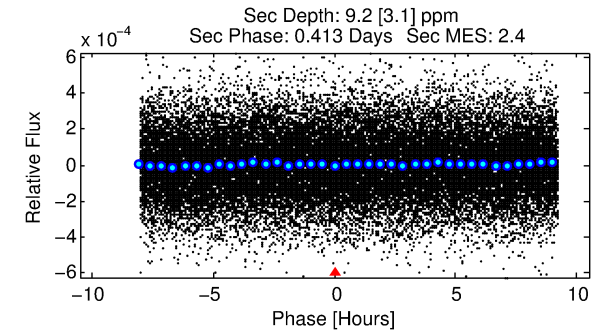
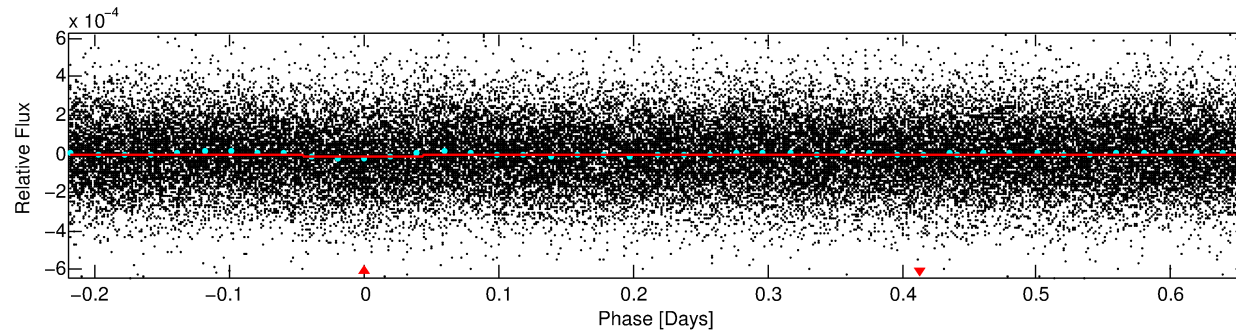
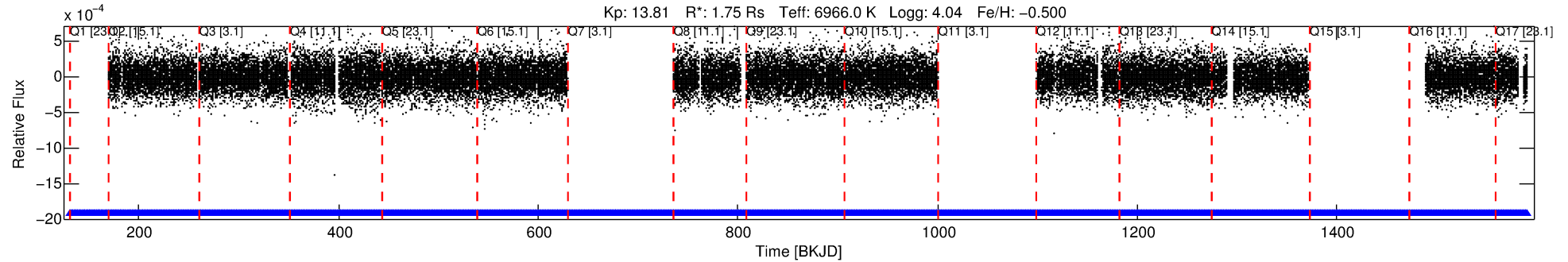
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009356710-01

No Significant Match Found

DV One-Page Summary

KIC: 9356710 Candidate: 1 of 1 Period: 0.876 d



DV Fit Results:

Period = 0.87625 [0.00002] d
Epoch = 131.6443 [0.0048] BKJD
Rp/R* = 0.0046 [0.0024]
a/R* = 1.30 [1.81]
b = 0.96 [0.31]
Seff = 17566.54 [9151.16]
Teff = 2936 [382] K
Rp = 0.88 [0.55] Re
a = 0.0191 [0.0059] AU
Ag = 2.41 [2.93] [0.48σ]
Teffp = 5655 [1597] K [1.66σ]

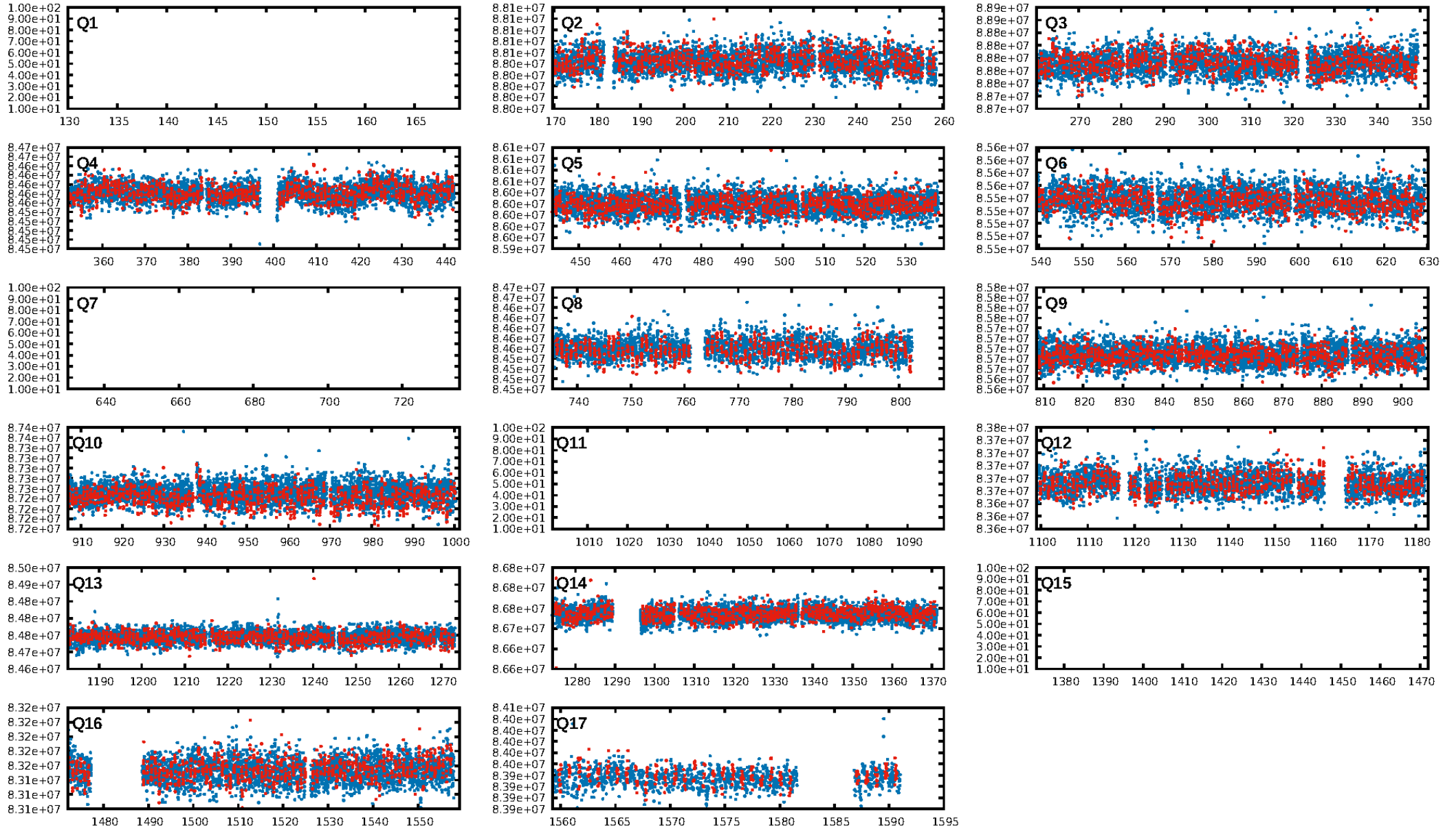
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.12e-16
RollingBand-fgt: 1.00 [1147/1147]
GhostDiagnostic-chr: 2.449
Centroid-sig: 13.6%
Centroid-so: 1.841 arcsec [1.05σ]
OotOffset-rm: 0.187 arcsec [0.62σ]
KicOffset-rm: 0.176 arcsec [0.79σ]
OotOffset-st: 4/1/4/3 [12]
KicOffset-st: 4/1/4/3 [12]
DiffImageQuality-fgm: 0.33 [4/12]
DiffImageOverlap-fno: 1.00 [13/13]

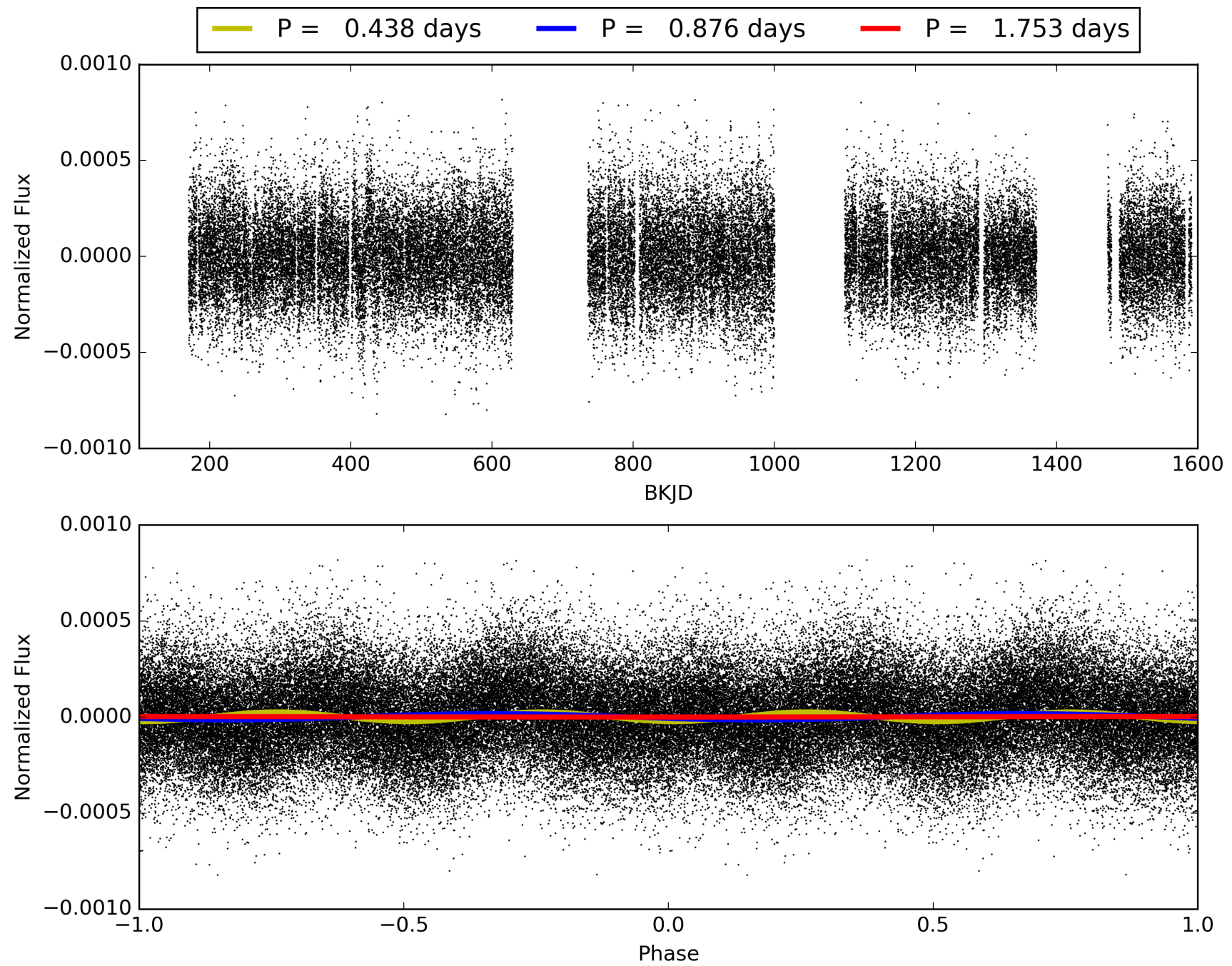
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:22:36 Z

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

TCE 009356710-01, PDC Light Curves

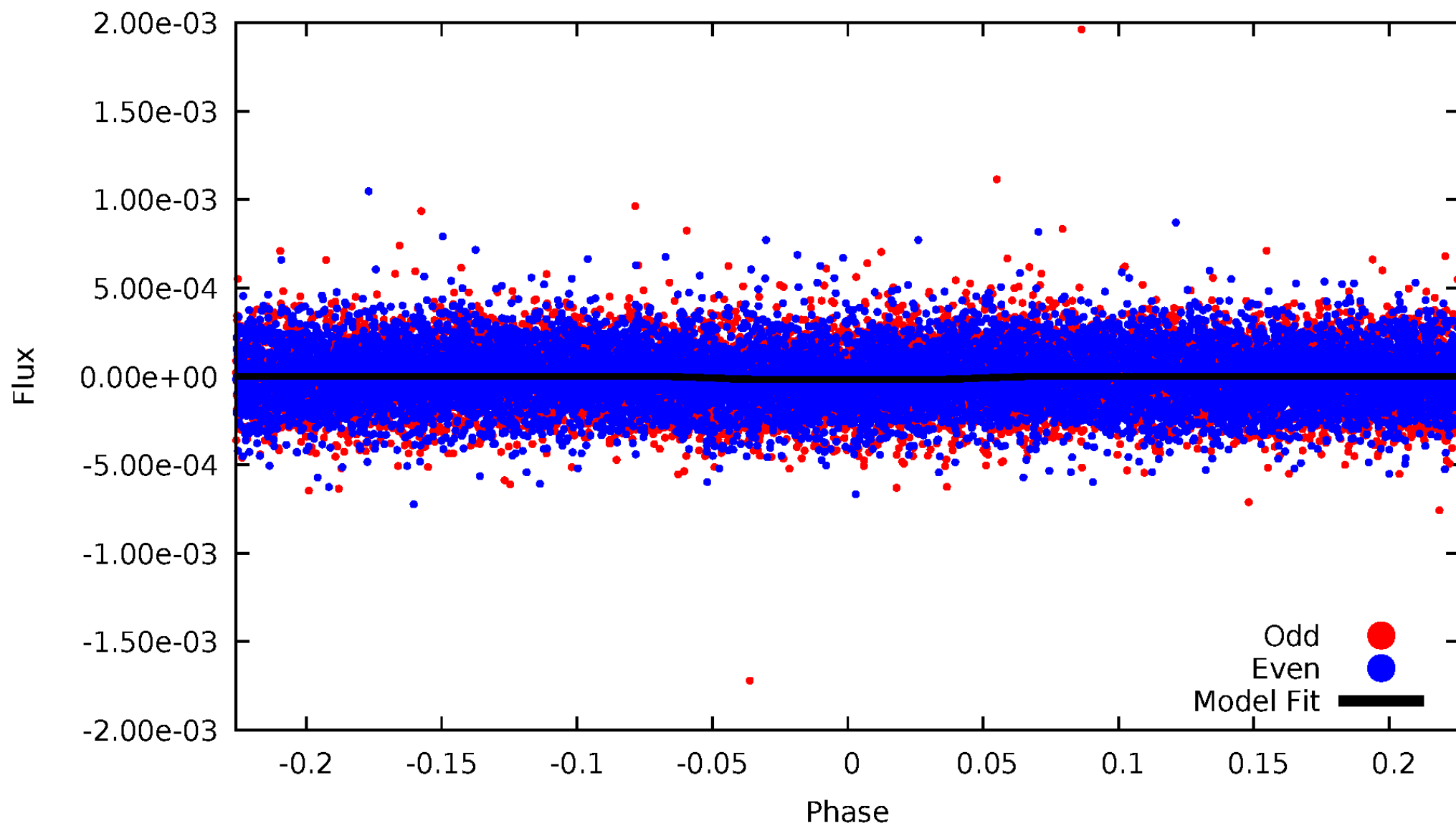


TCE 009356710-01



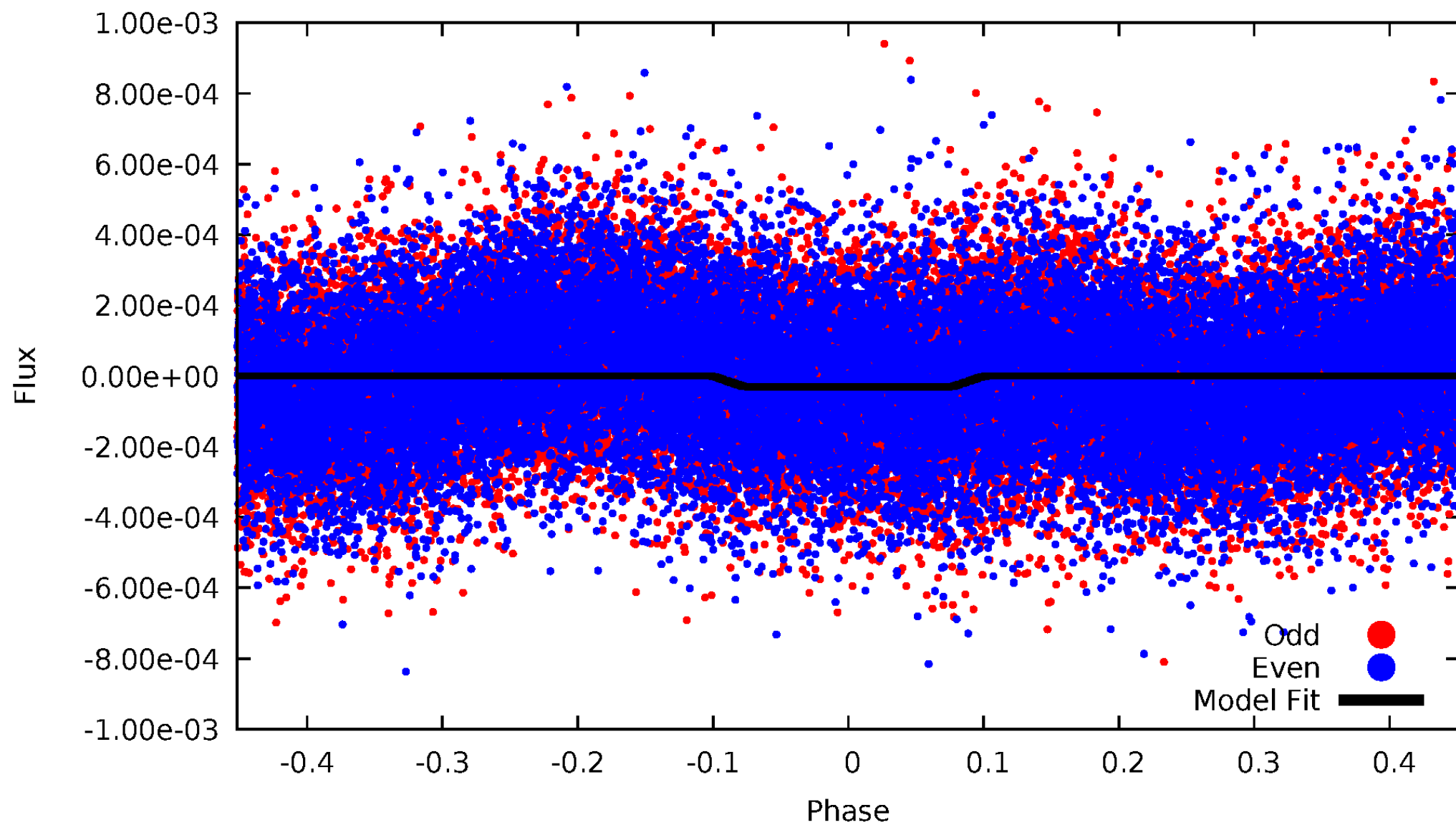
DV Odd/Even

TCE 009356710-01



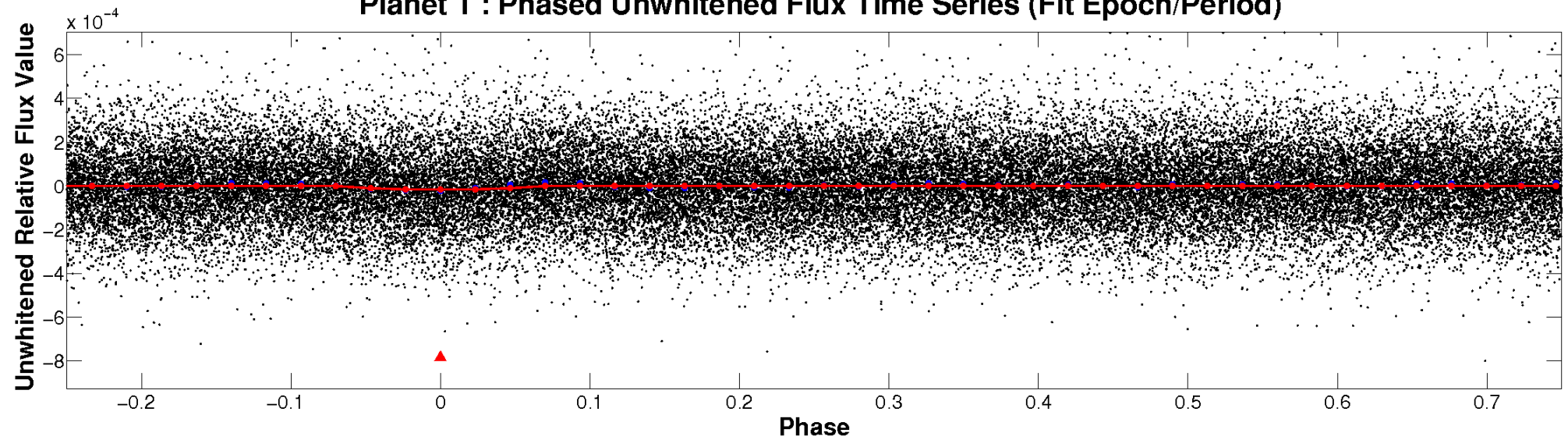
ALT Odd/Even

TCE 009356710-01

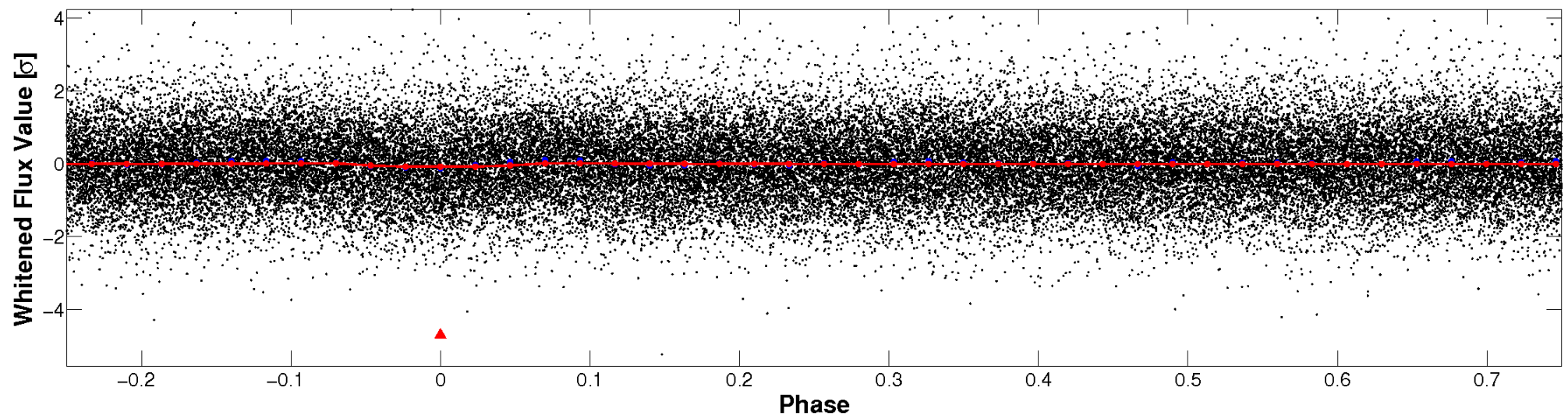


Non-Whitened Vs. Whitened Light Curve

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

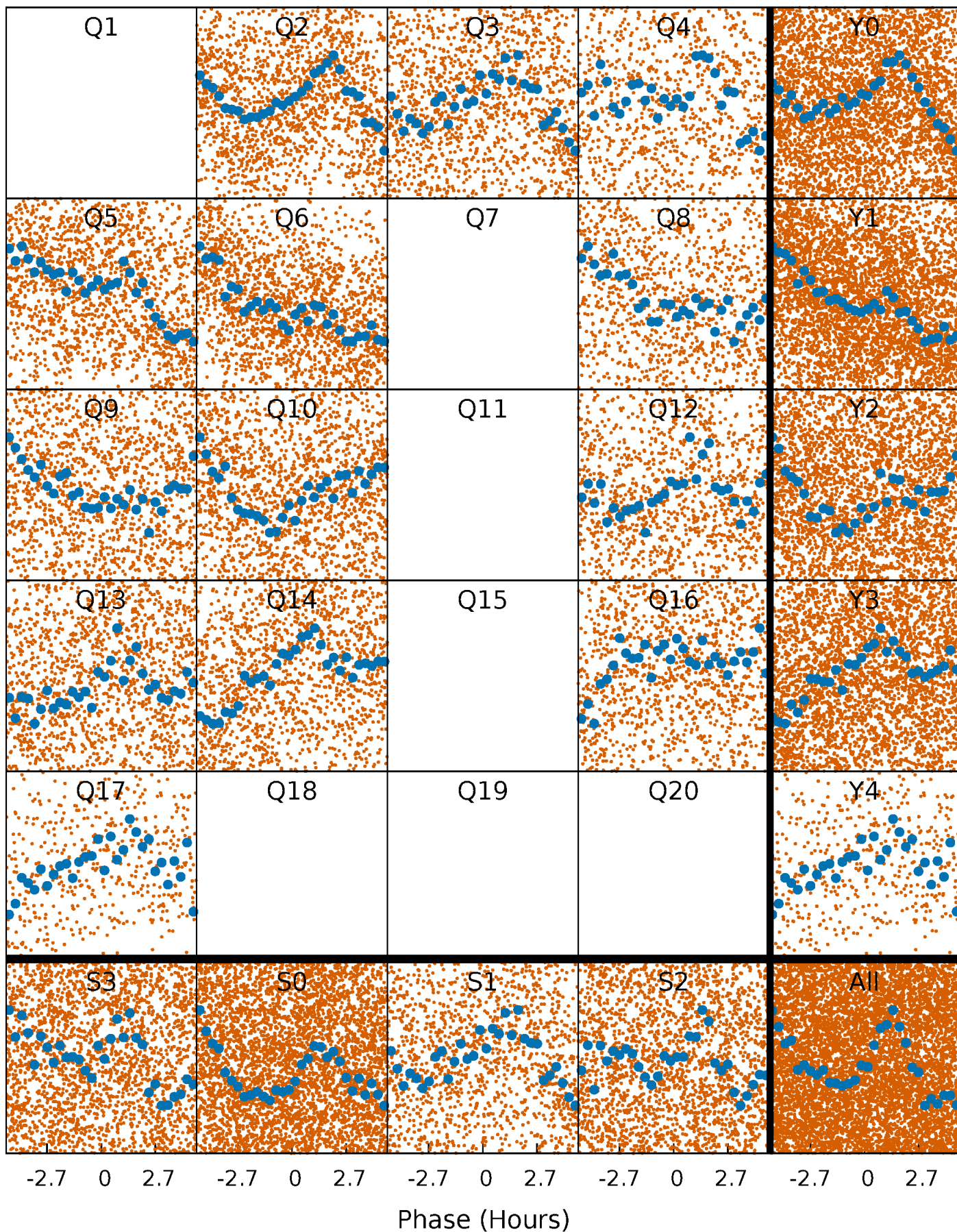


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



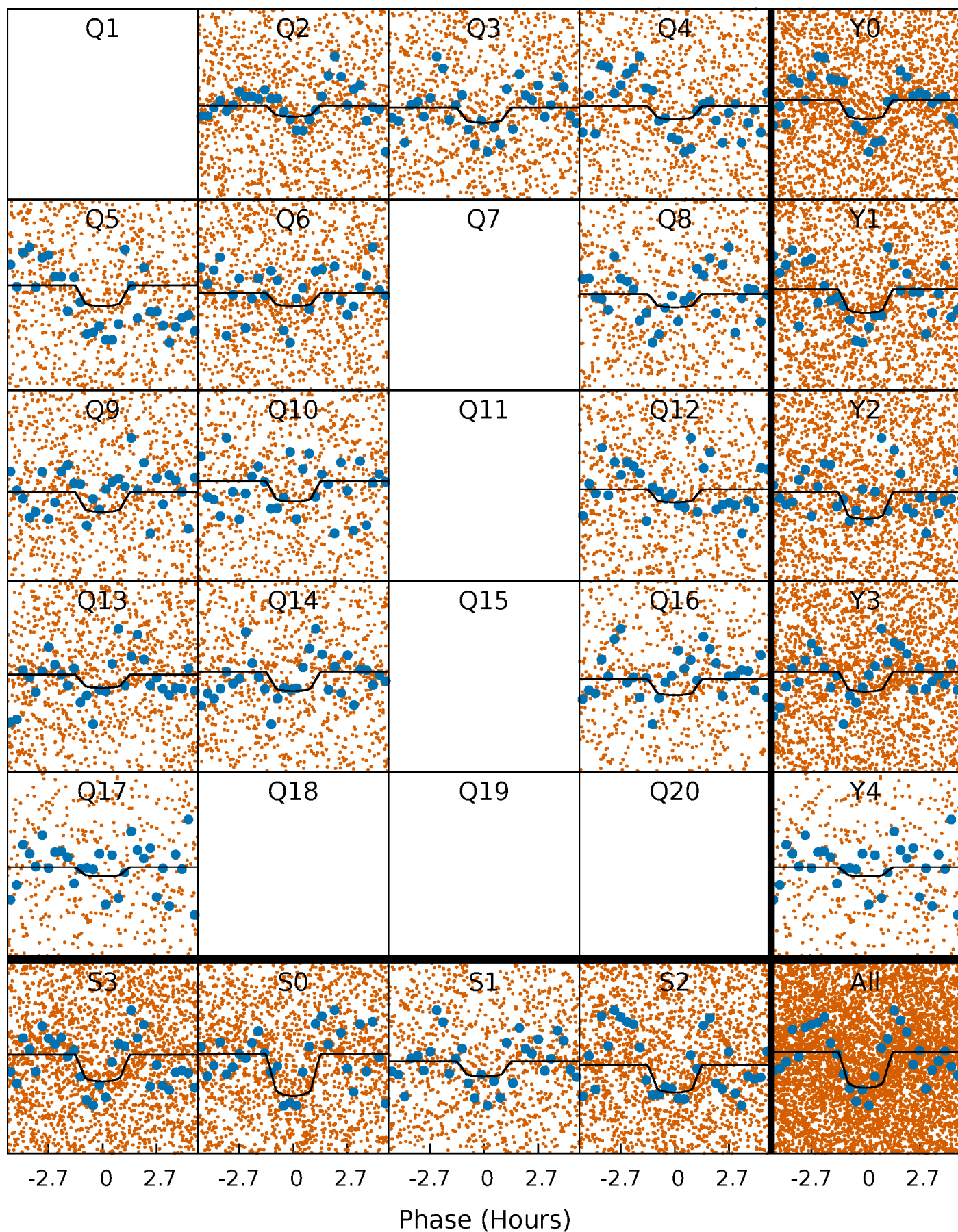
PDC Quarter-Phased Transit Curves

TCE 009356710-01 P= 0.876251 Days $T_0=131.644271$ (BKJD)



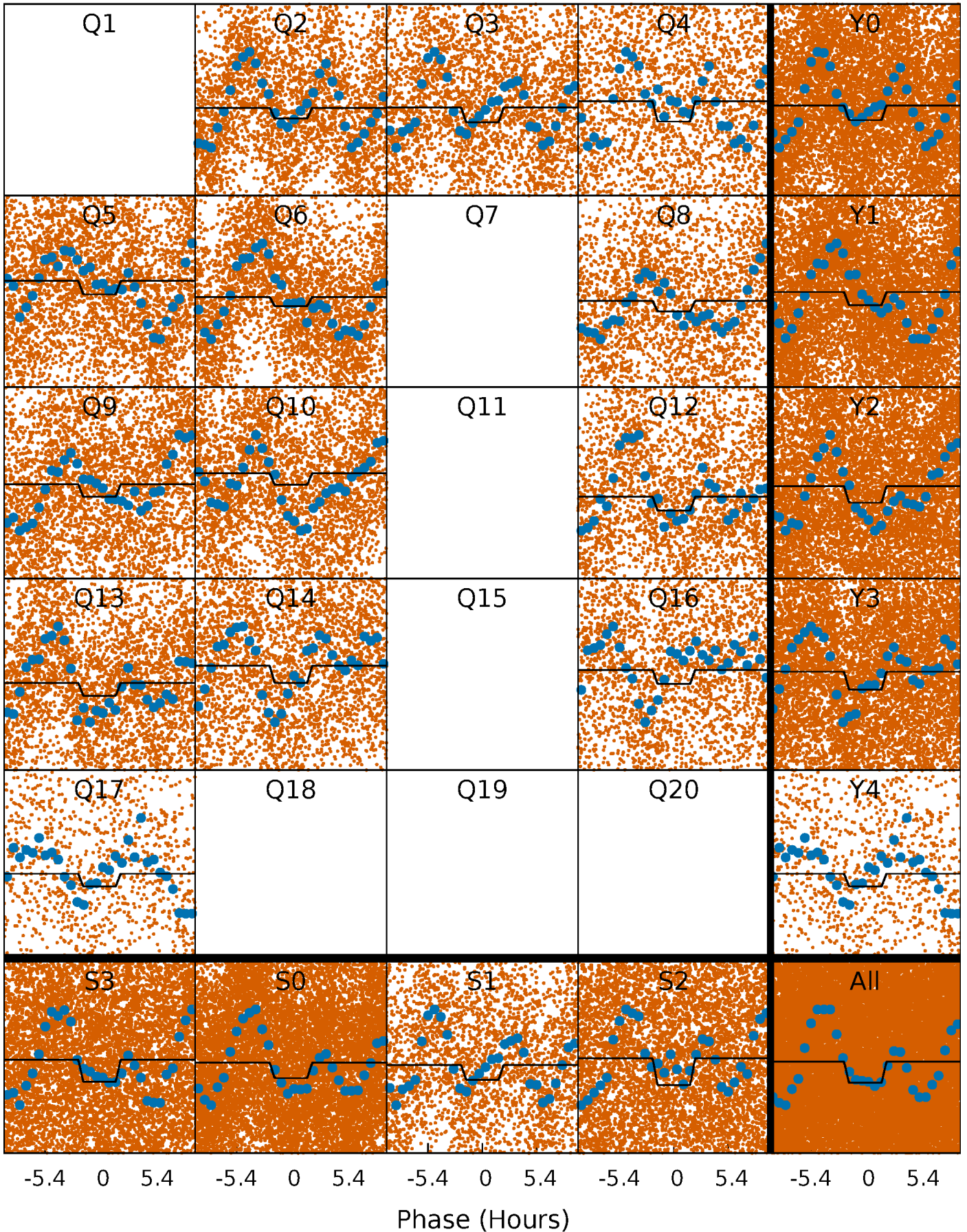
DV Quarter-Phased Transit Curves

TCE 009356710-01 P= 0.876251 Days $T_0=131.644271$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

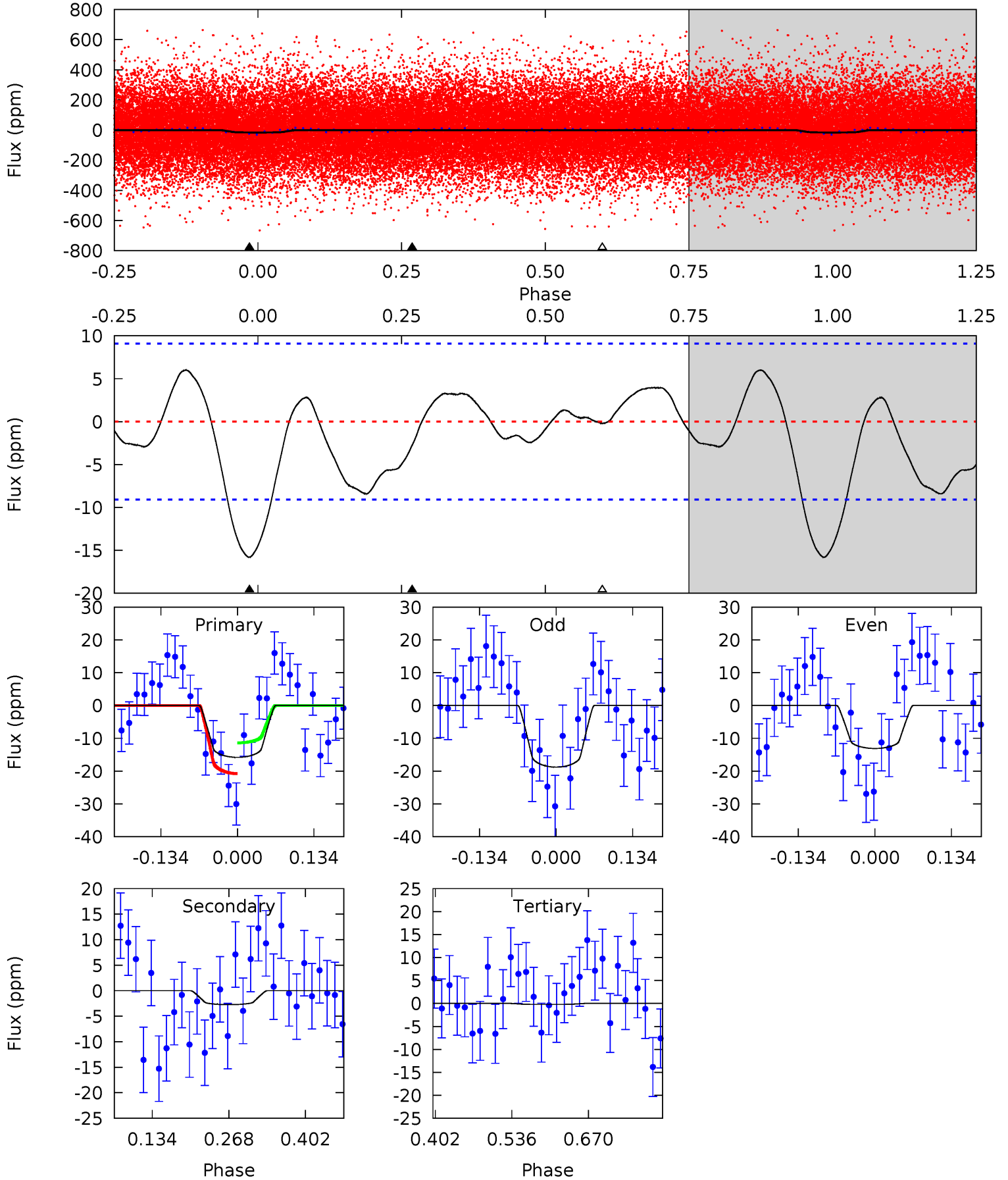
TCE 009356710-01 P= 0.876231 Days $T_0=131.578974$ (BKJD)



DV Model-Shift Uniqueness Test

009356710-01, P = 0.876251 Days, E = 131.644271 Days

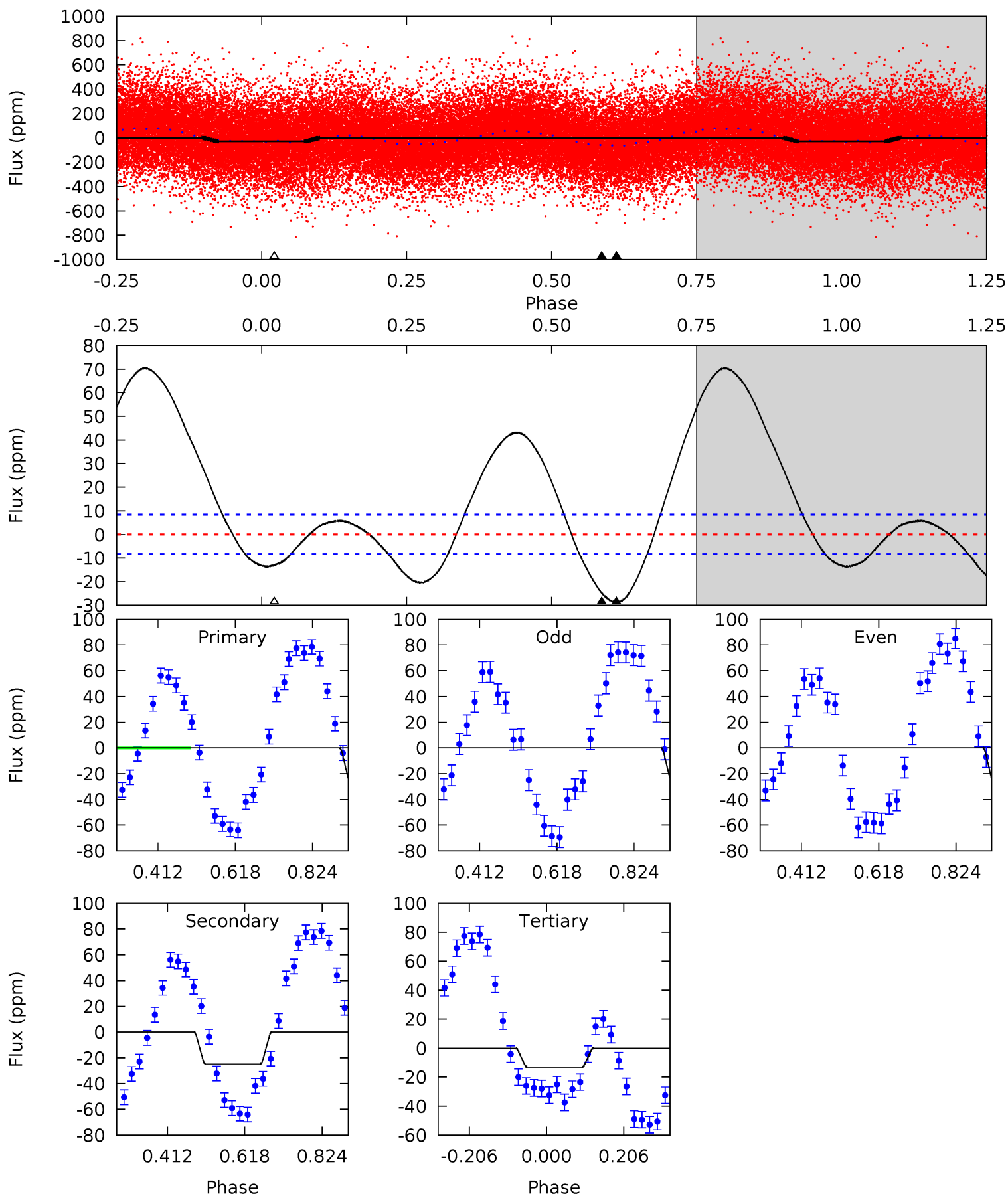
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.84	1.35	0.10	0	4.50	1.50	1.08	7.74	7.84	1.25	1.35	1.42	0.81	0.28	2.33



Alt Model-Shift Uniqueness Test

009356710-01, P = 0.876231 Days, E = 131.578974 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.2	13.1	6.89	0	4.41	1.26	11.6	8.28	15.2	6.20	13.1	0.08	1.21	0.71	2.22



Stellar Parameters For KIC 009356710

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6966^{+216}_{-312}	$4.039^{+0.286}_{-0.154}$	$-0.500^{+0.250}_{-0.300}$	$1.746^{+0.462}_{-0.565}$	$1.216^{+0.185}_{-0.185}$	$0.322^{+0.590}_{-0.136}$
	+3%/-4%	+7%/-4%	+50%/-60%	+26%/-32%	+15%/-15%	+183%/-42%
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 009356710-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-3 ± 2	$0.85^{+0.54}_{-0.42}$	4046^{+315}_{-358}	3878^{+1657}_{-7253}	$0.708^{+2.059}_{-0.571}$
Alt.	-25 ± 2	$1.05^{+0.50}_{-0.44}$	4025^{+333}_{-347}	6318^{+2269}_{-1108}	$4.488^{+8.745}_{-2.378}$

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 $A_{obs} \gg 1.0$

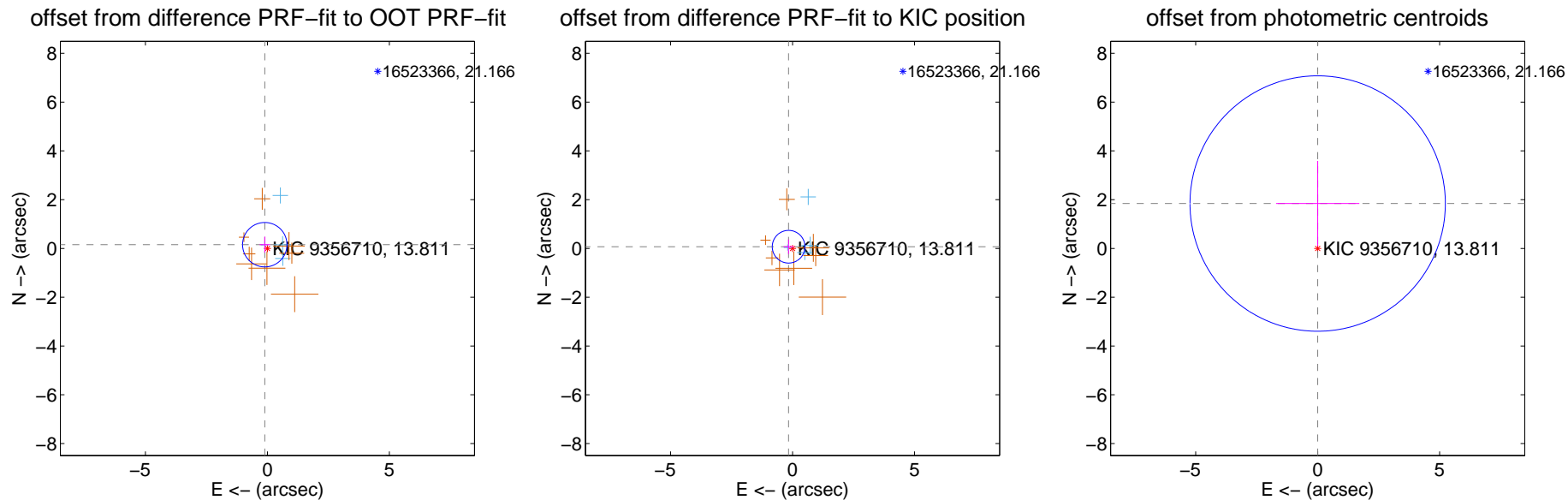
DV Centroid Data

Supplemental centroid analysis for 009356710-01. Kepler magnitude: 13.81. Transit SNR 5.26

There are 4 quarters with good PRF difference image offsets

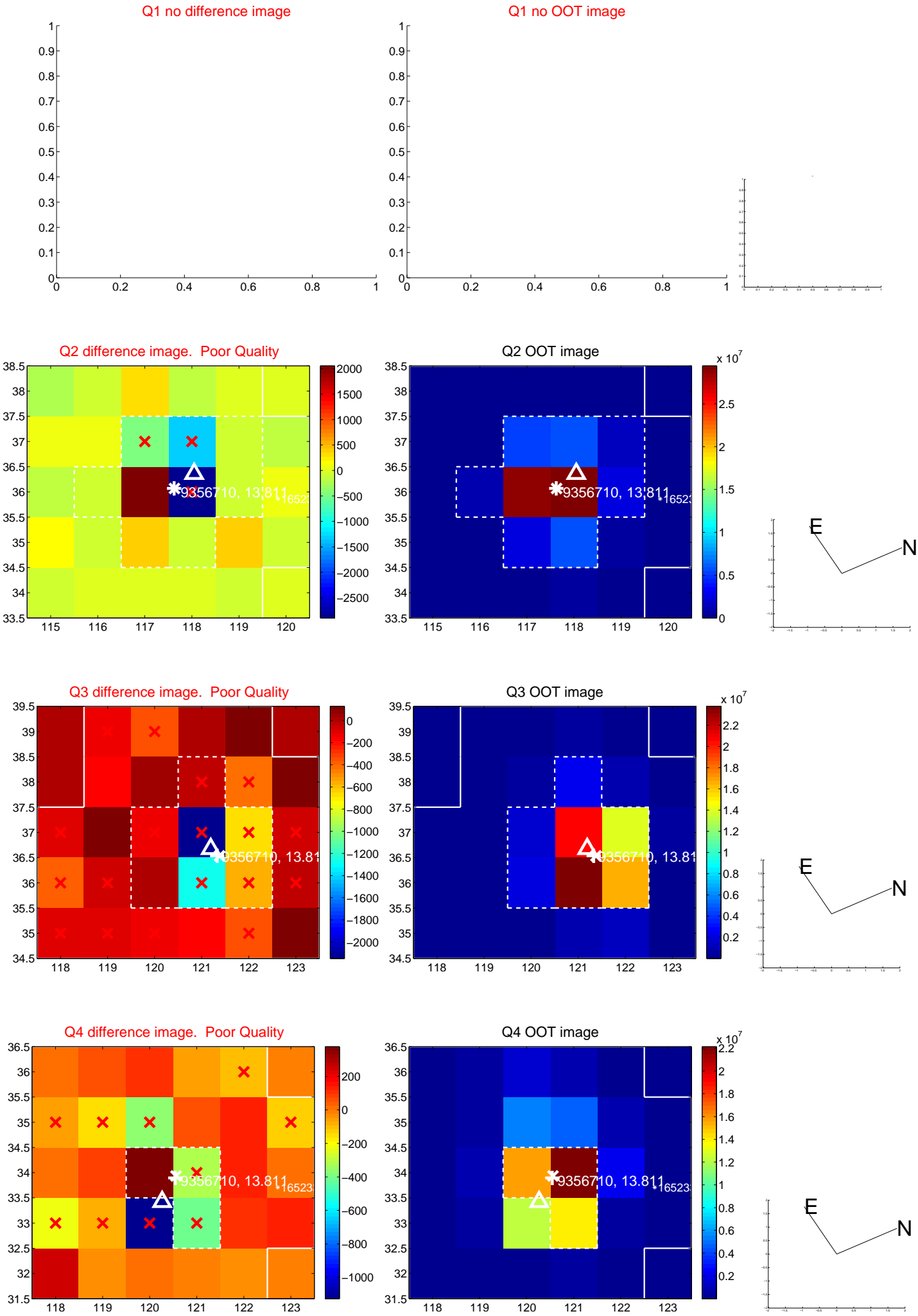
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.187 ± 0.303	0.62	0.107 ± 0.214	0.153 ± 0.329
PRF-fit source offset from KIC position	0.176 ± 0.223	0.79	0.161 ± 0.203	0.070 ± 0.299
photometric centroid source offset	1.84 ± 1.75	1.05	-0.00 ± 1.71	1.84 ± 1.75

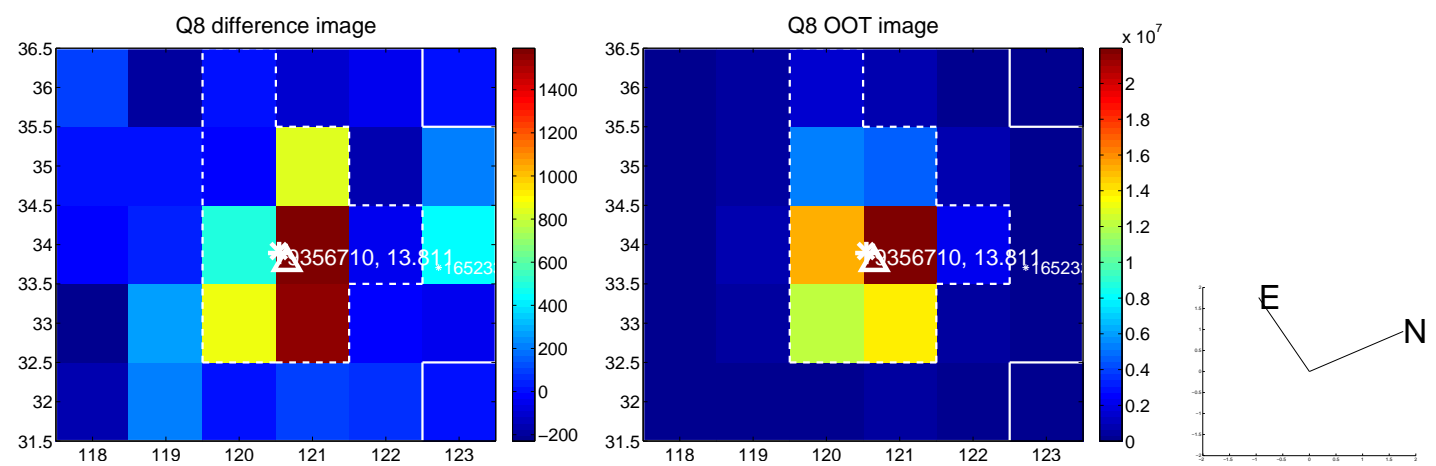
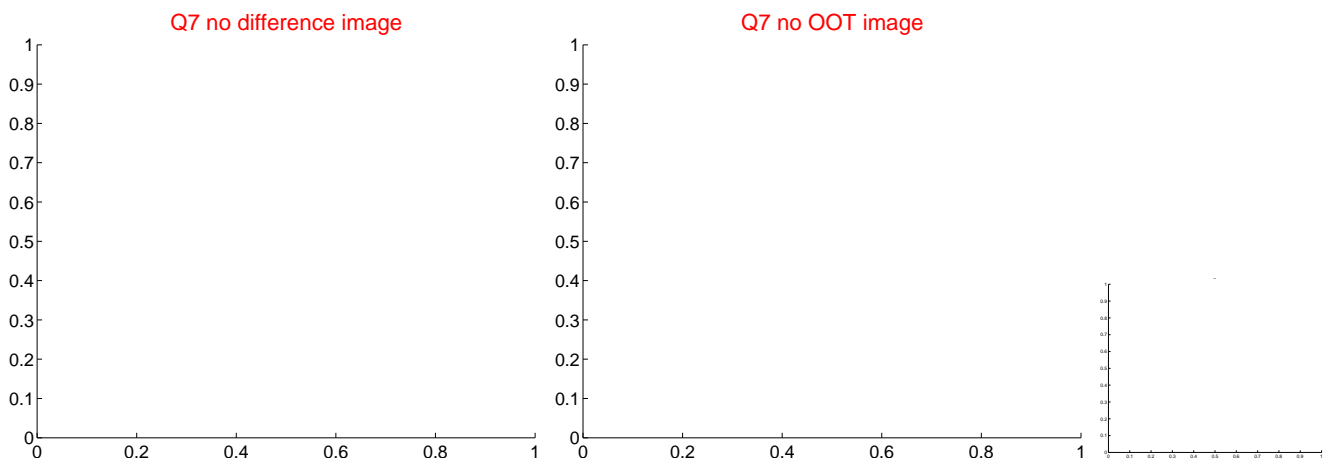
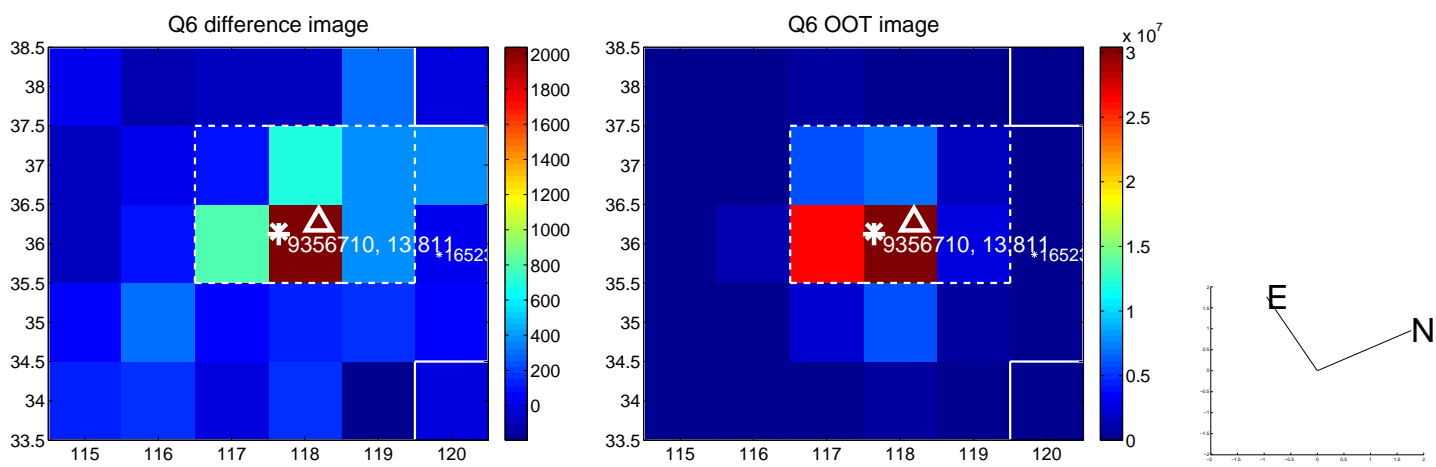
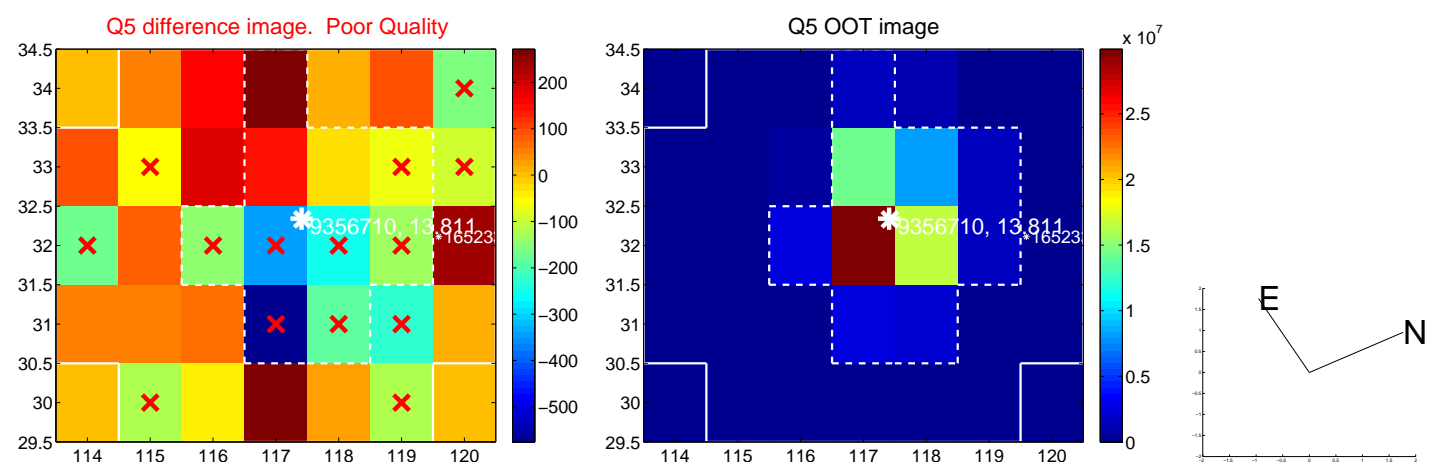


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

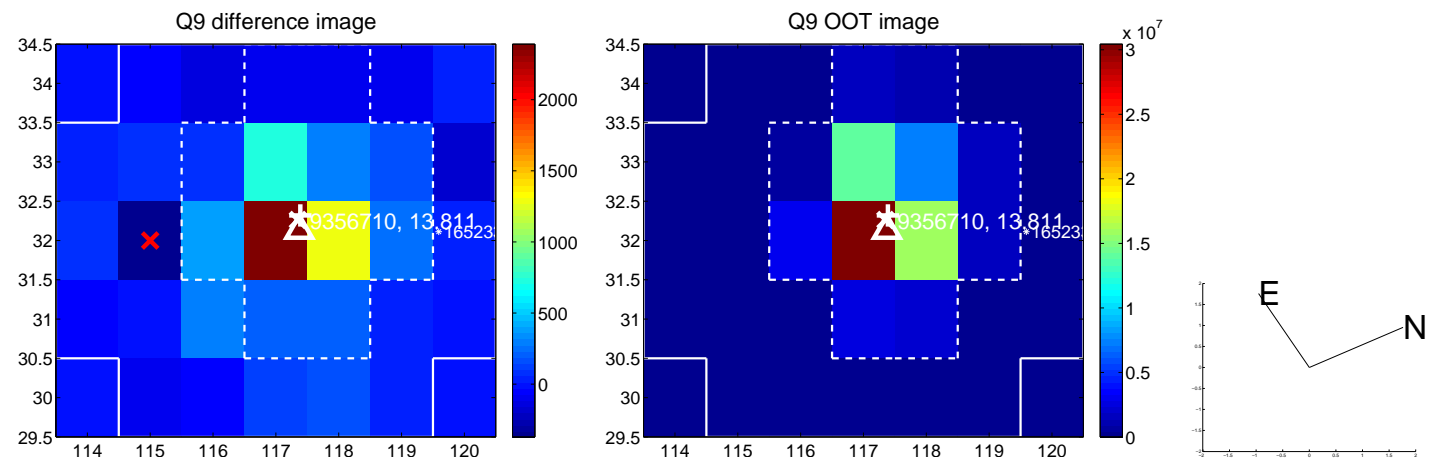
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



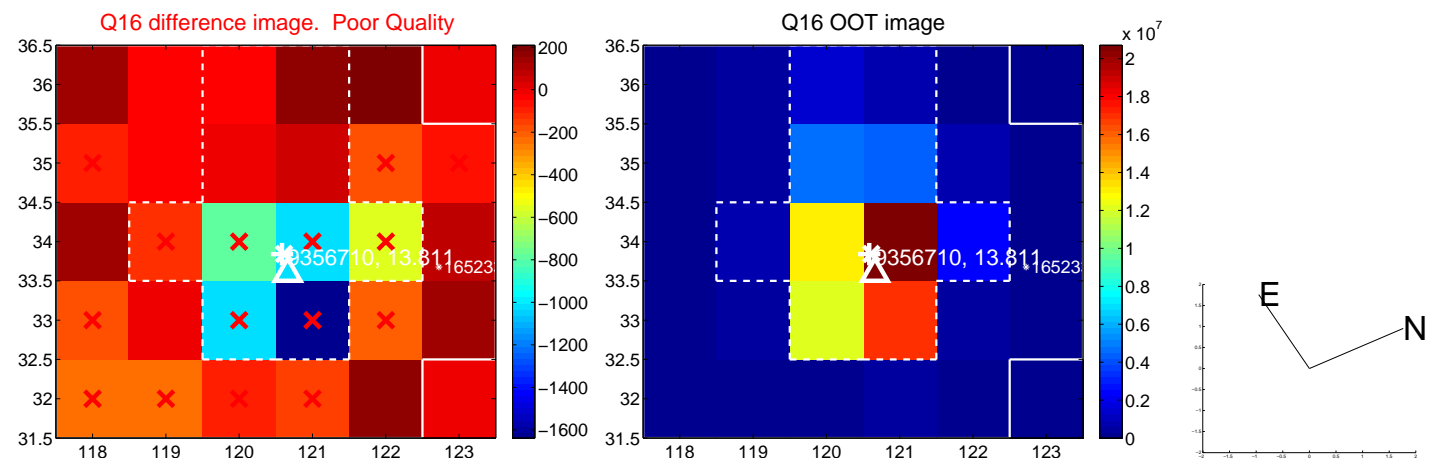
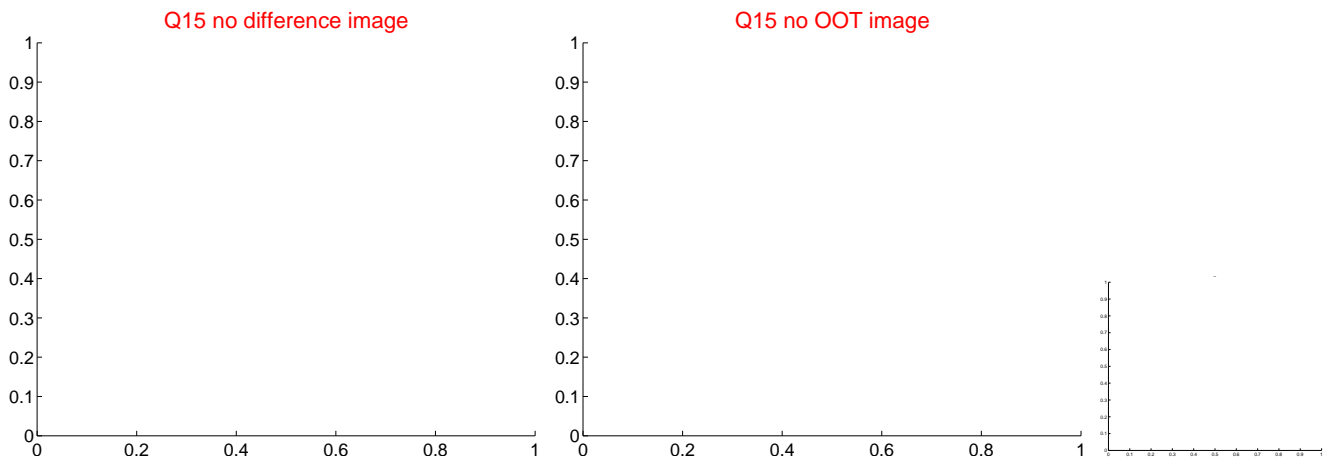
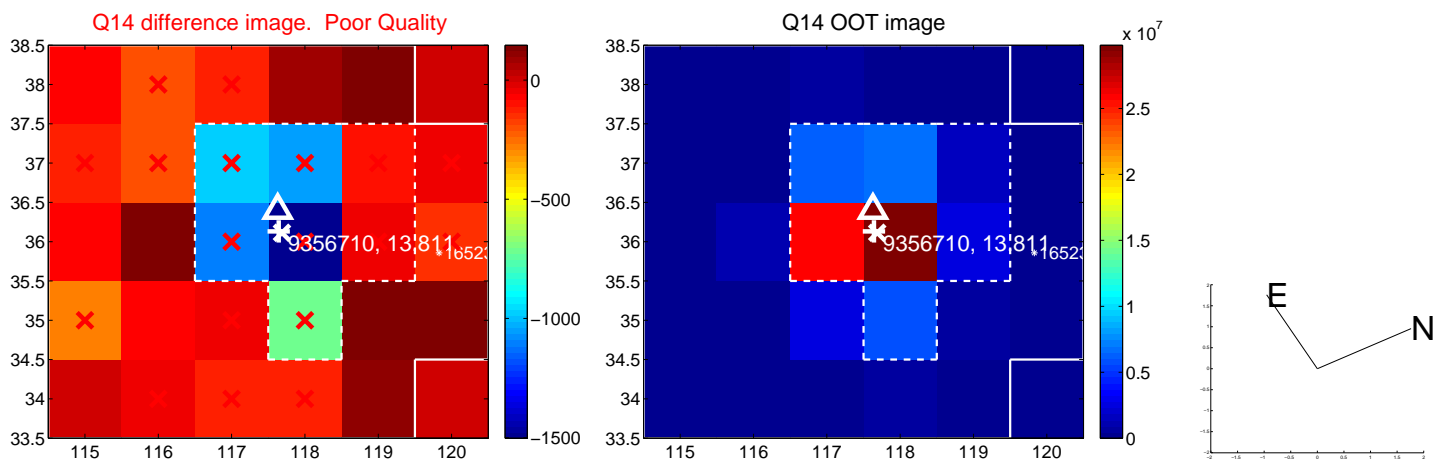
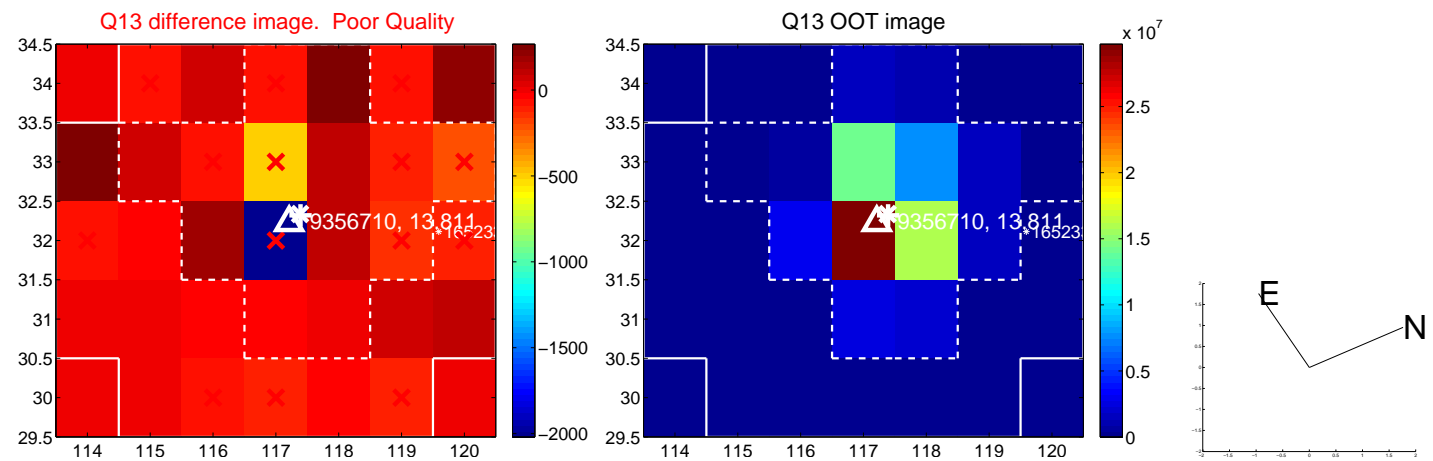
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



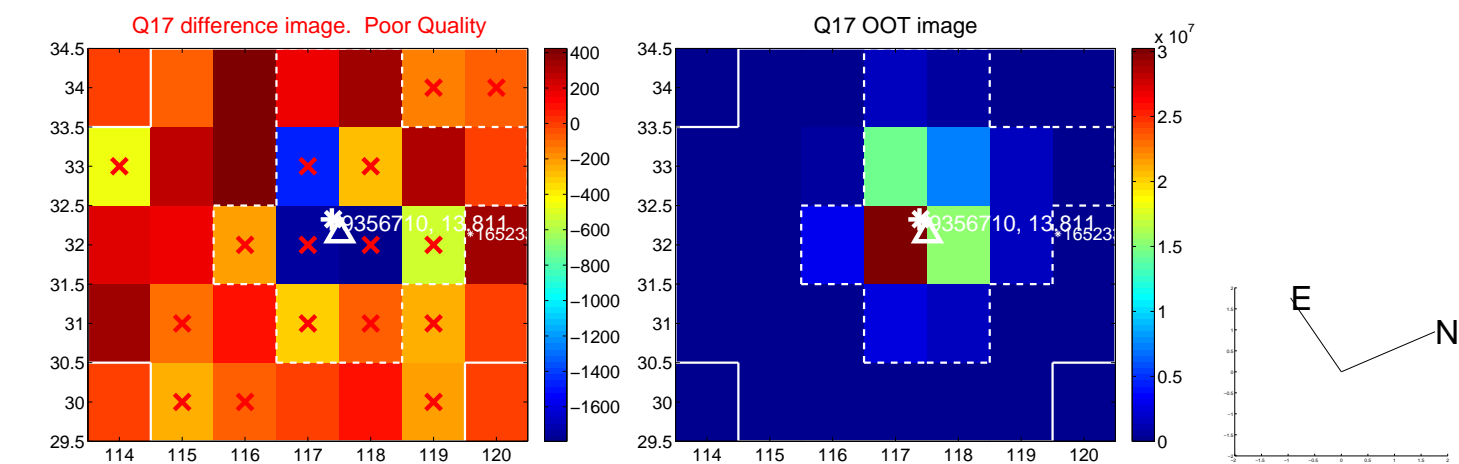
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



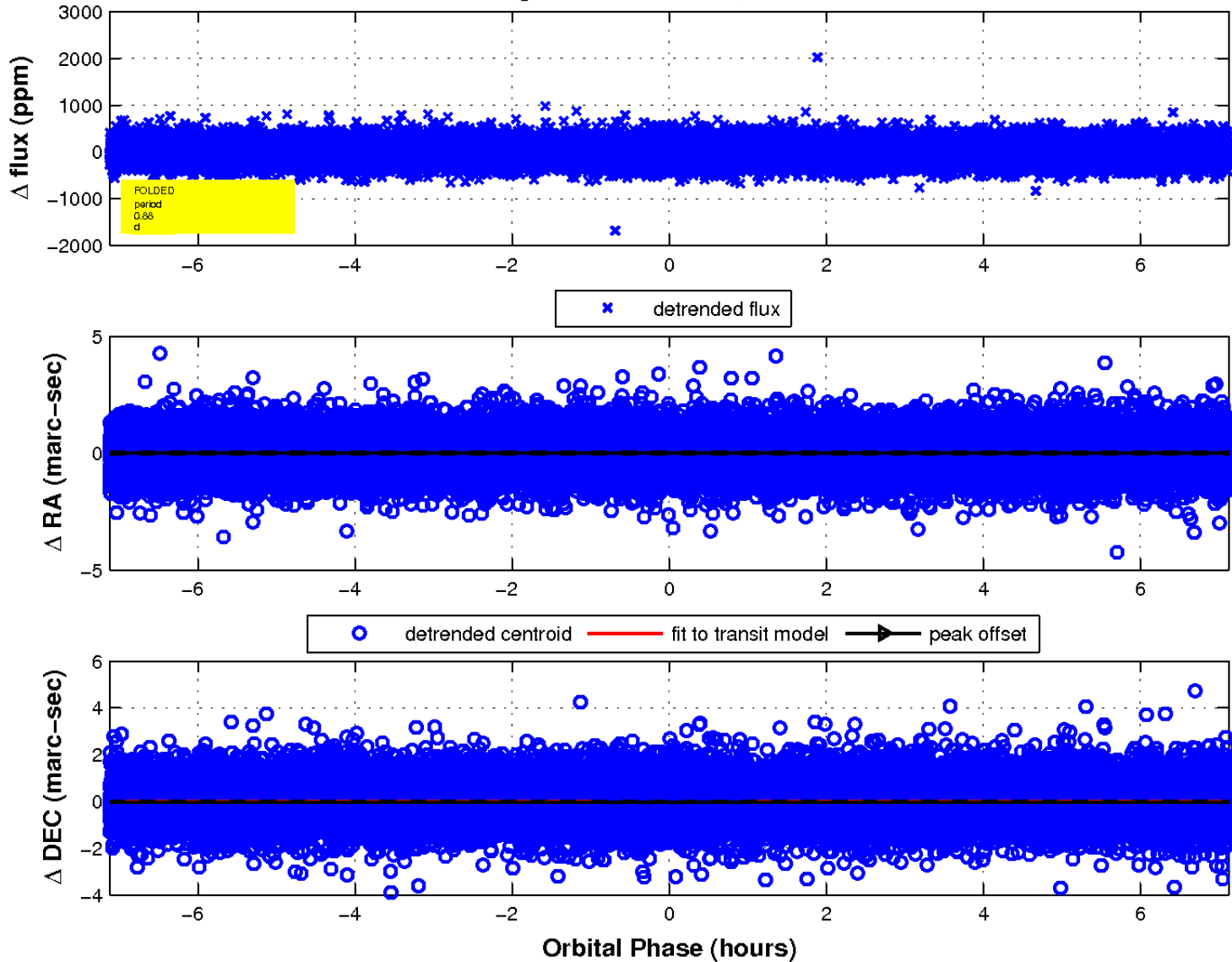
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

