

KIC 009596037

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})
009596037-01	OBS	No	33.359438	157.481332	228.5	57.767	13.0	24.1	1.56	6582	4.53	85.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009596037-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV

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

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

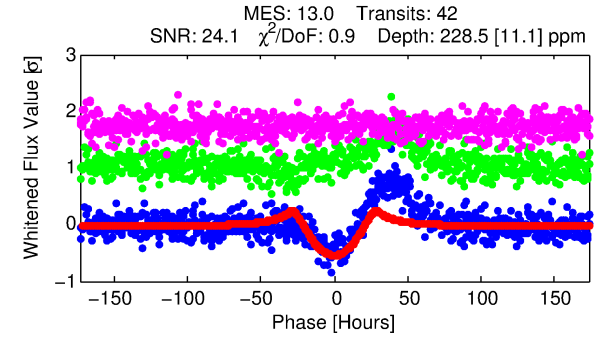
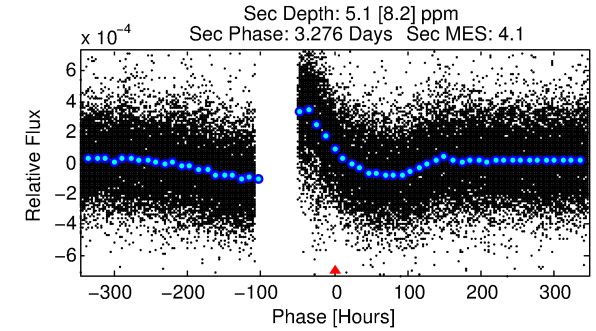
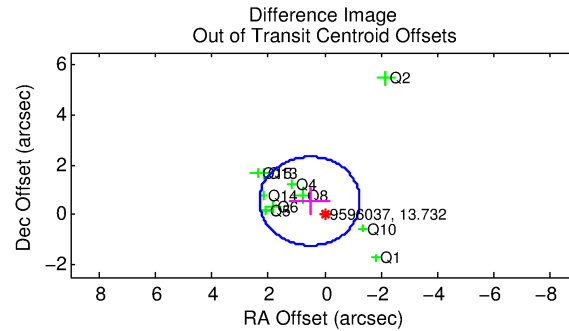
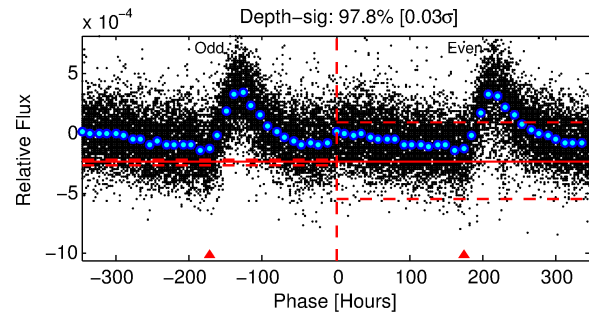
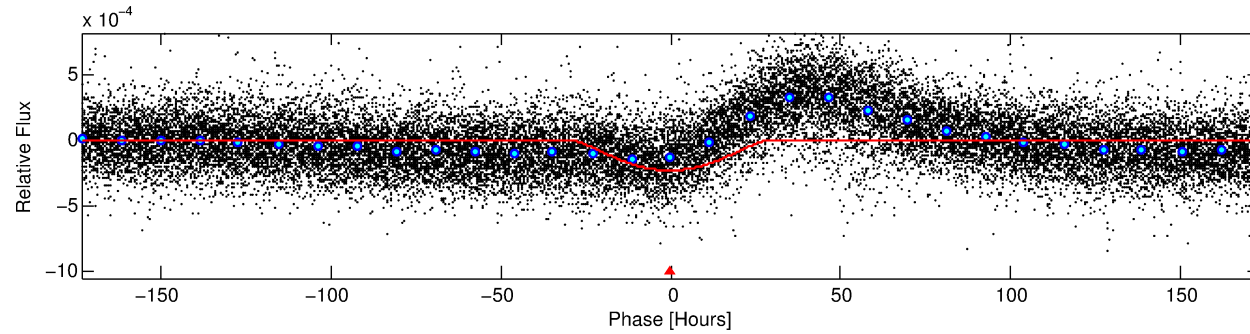
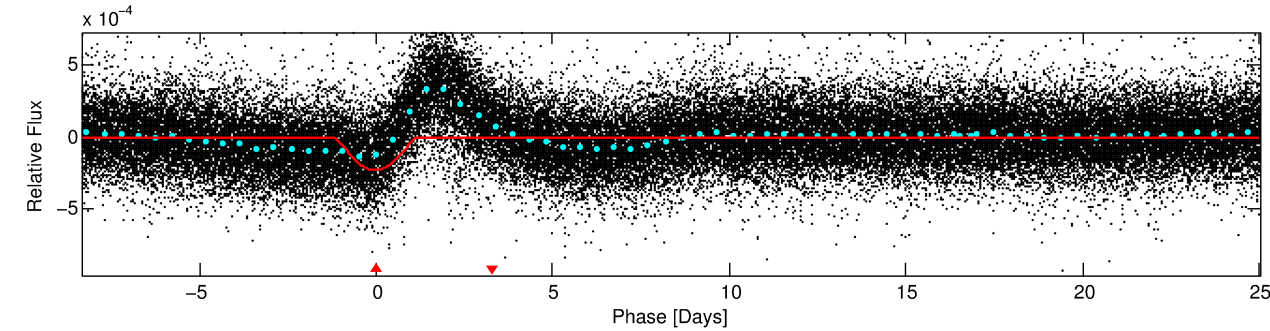
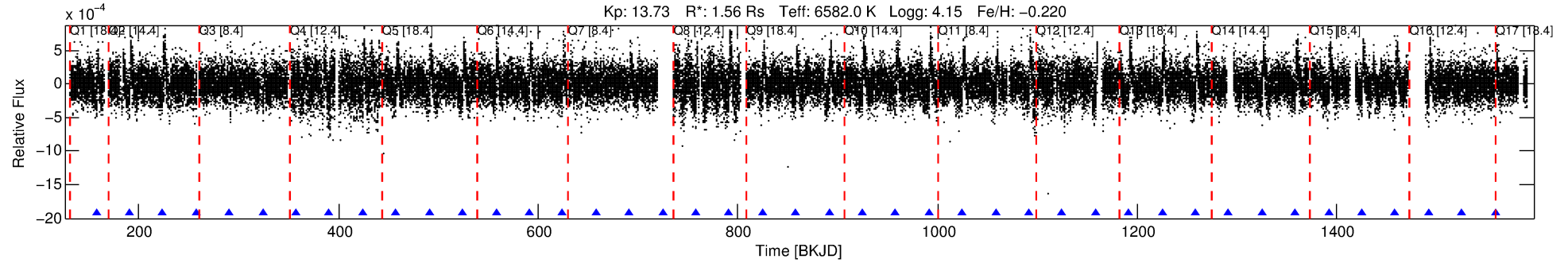
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009596037-01

No Significant Match Found

DV One-Page Summary

KIC: 9596037 Candidate: 1 of 1 Period: 33.359 d



DV Fit Results:

Period = 33.35944 [0.00155] d
Epoch = 157.4813 [0.0379] BKJD
Rp/R* = 0.0266 [0.0172]
a/R* = 1.45 [0.12]
b = 1.00 [0.03]
Seff = 85.70 [34.17]
Teq = 776 [77] K
Rp = 4.53 [3.22] Re
a = 0.2187 [0.0557] AU
Ag = 6.48 [13.68] [0.40 σ]
Teffp = 1914 [997] K [1.14 σ]

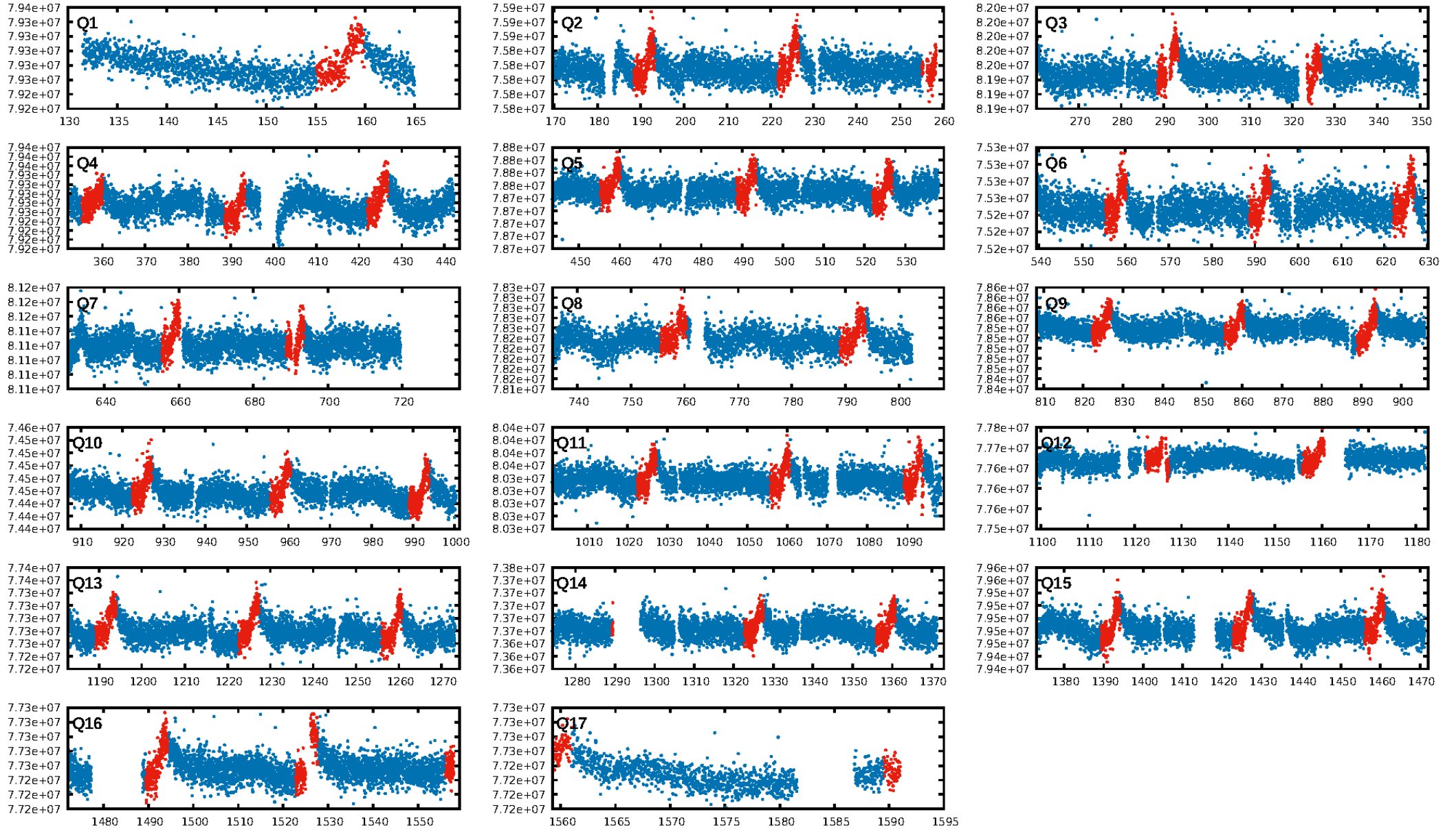
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 94.8%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 1.17e-37
RollingBand-fgt: 1.00 [40/40]
GhostDiagnostic-chr: 2.996
Centroid-sig: 8.4%
Centroid-so: 0.474 arcsec [2.13 σ]
OotOffset-rm: 0.754 arcsec [1.27 σ]
OotOffset-st: 4/1/2/3 [10]
KicOffset-rm: 0.698 arcsec [1.14 σ]
KicOffset-st: 4/1/2/3 [10]
DiffImageQuality-fgm: 0.70 [7/10]
DiffImageOverlap-fno: 1.00 [12/12]

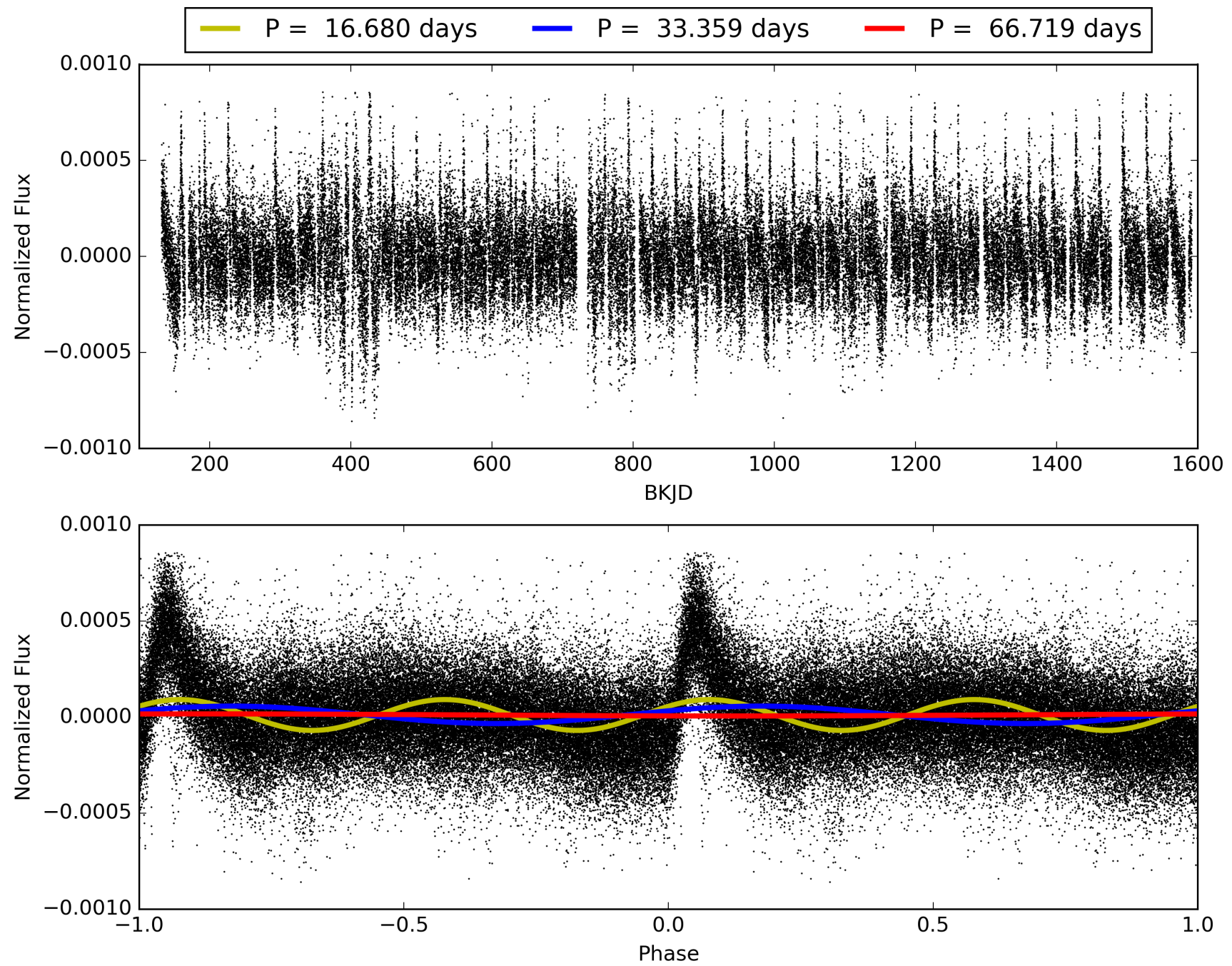
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:53:24 Z

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

TCE 009596037-01, PDC Light Curves

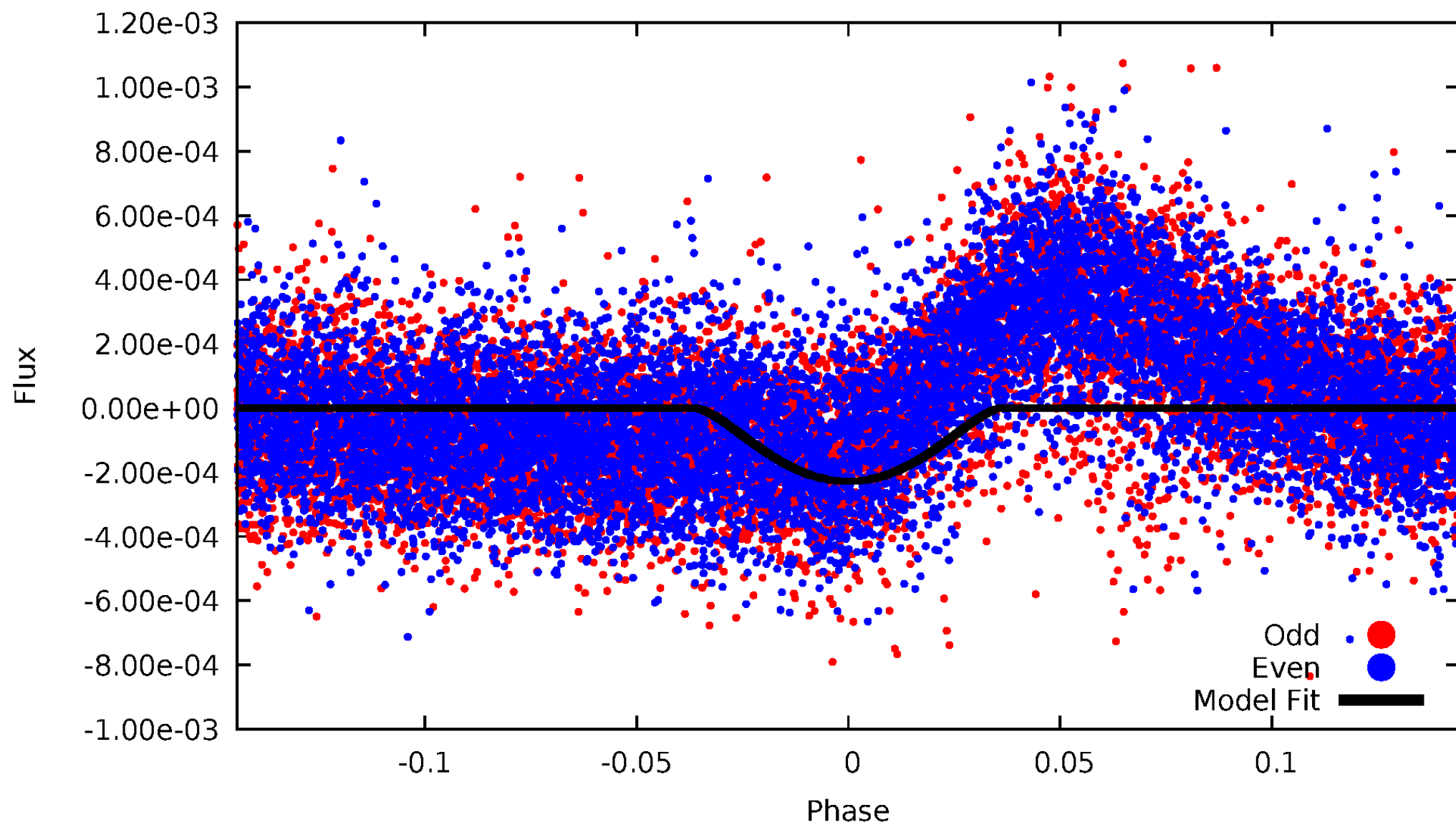


TCE 009596037-01



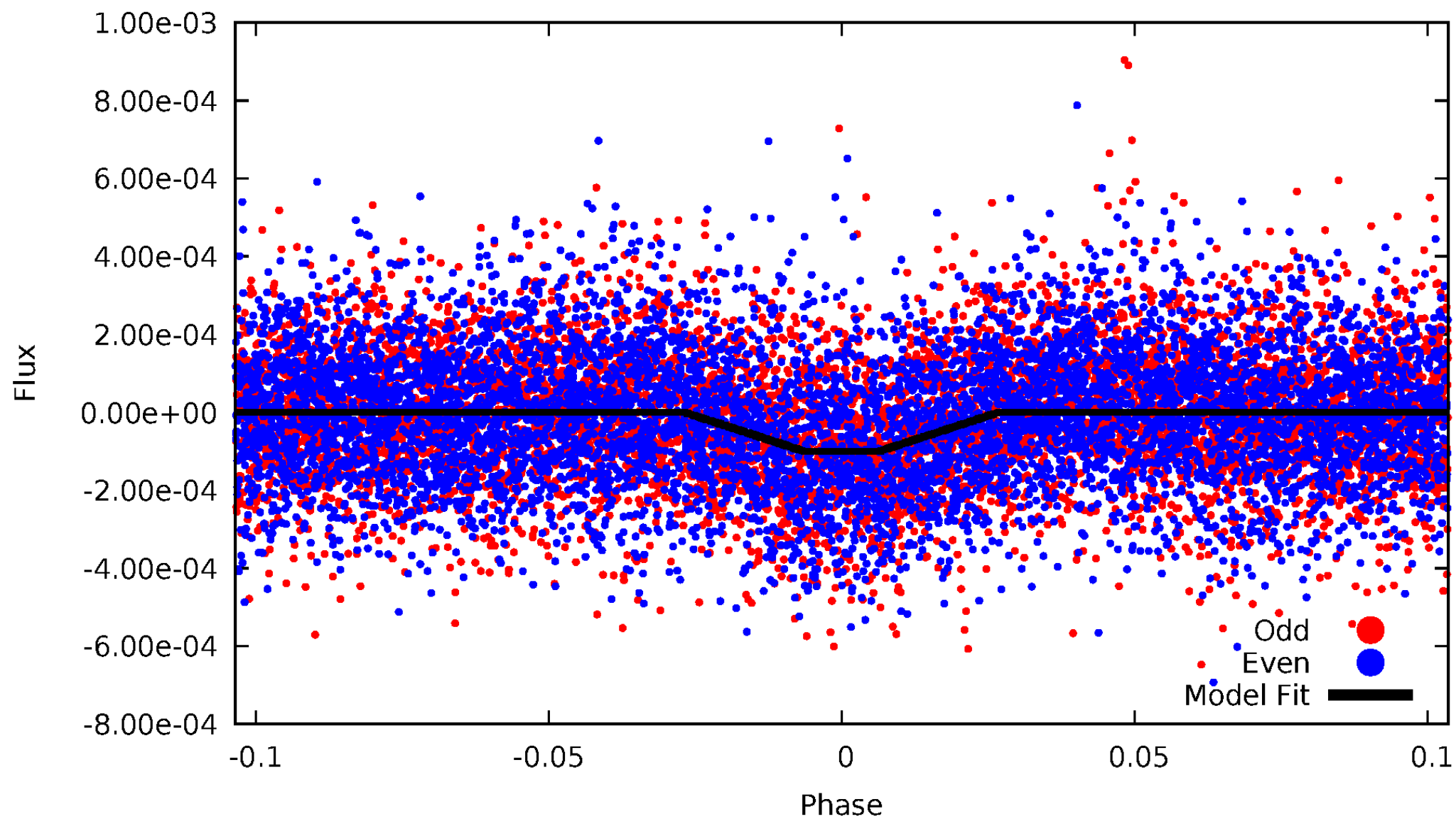
DV Odd/Even

TCE 009596037-01



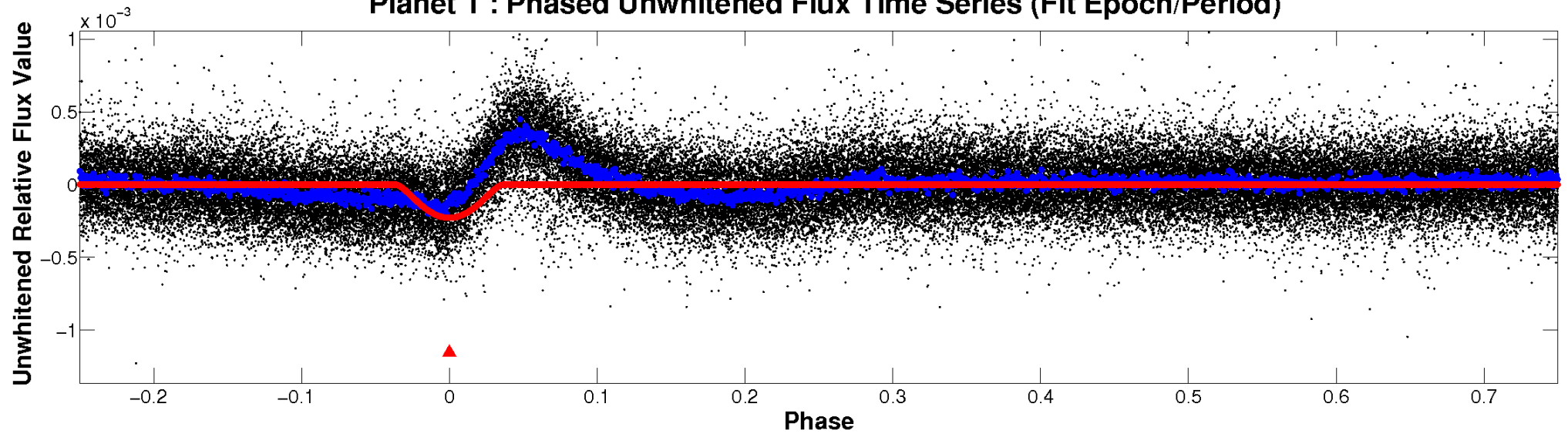
ALT Odd/Even

TCE 009596037-01

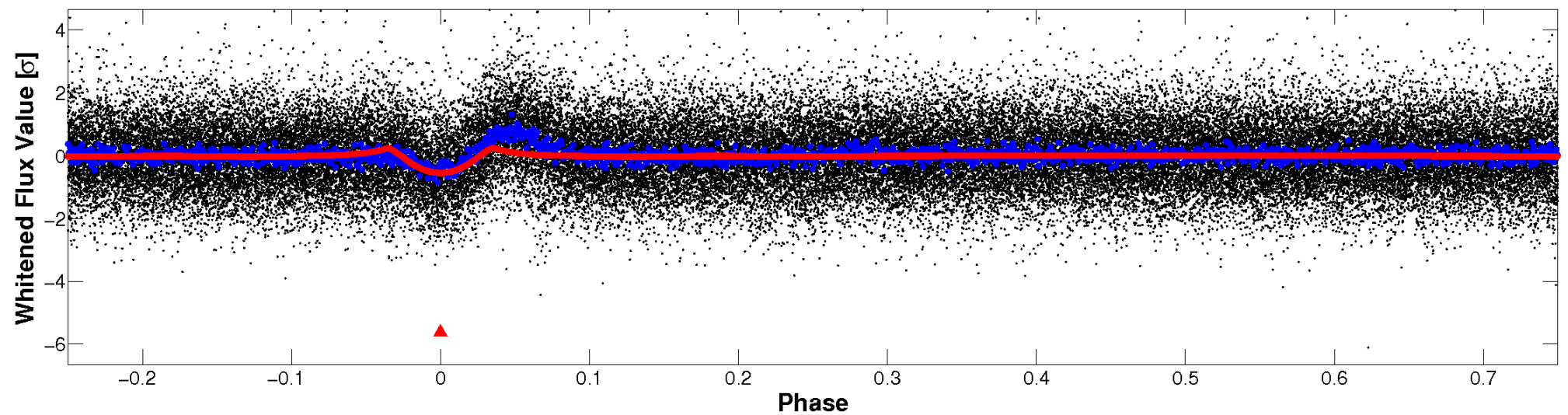


Non-Whitened Vs. Whitened Light Curve

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

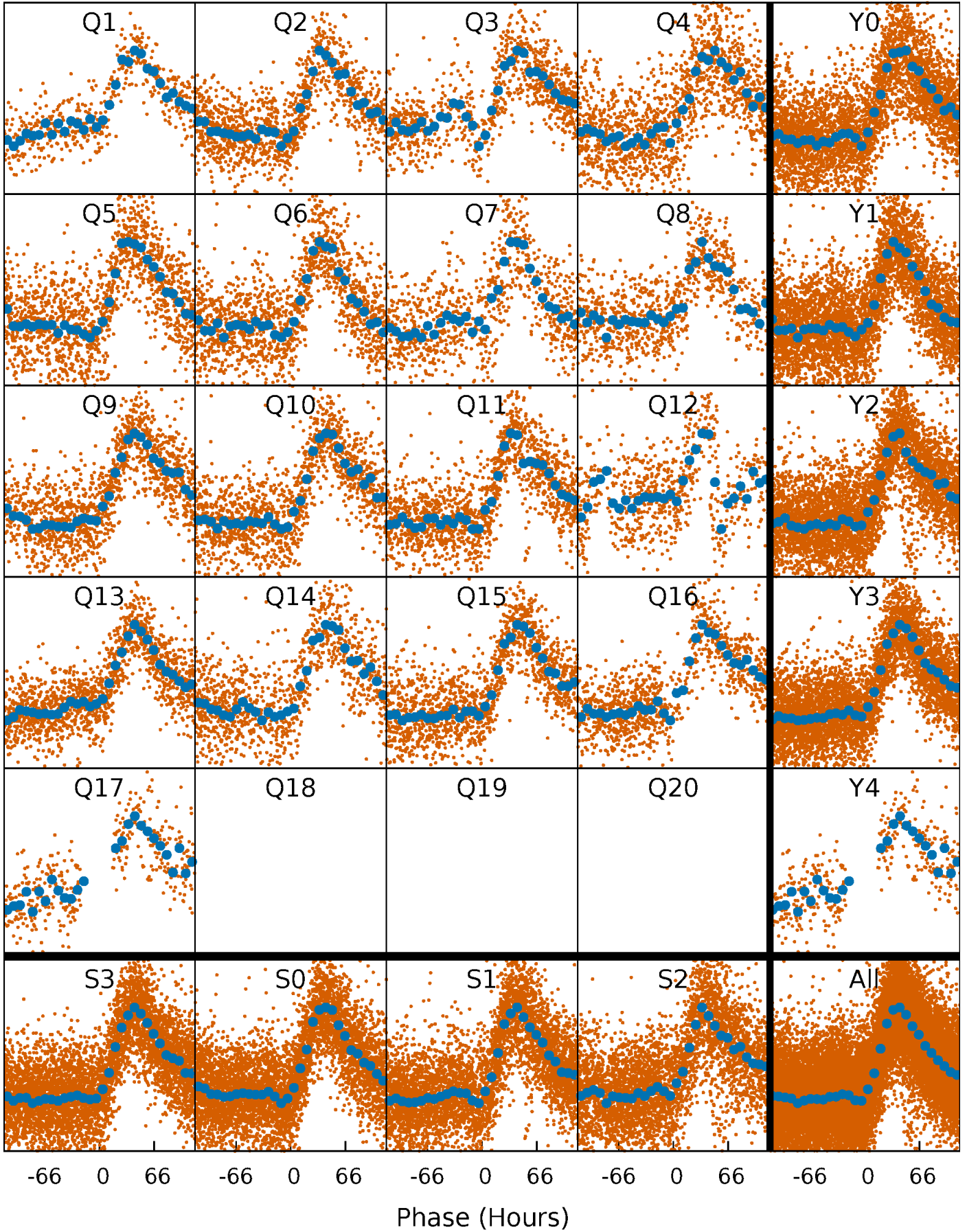


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



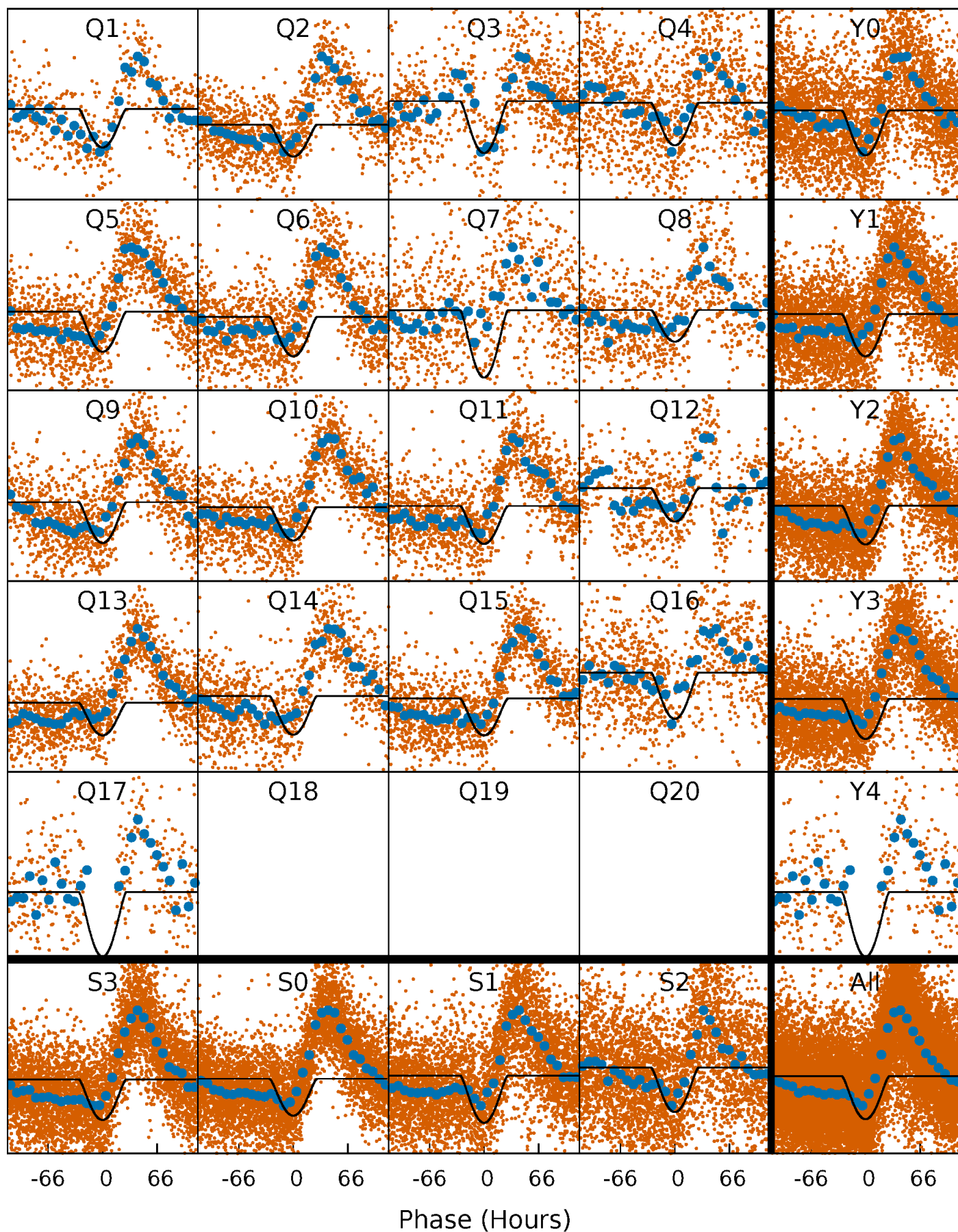
PDC Quarter-Phased Transit Curves

TCE 009596037-01 P= 33.359438 Days $T_0=157.481332$ (BKJD)



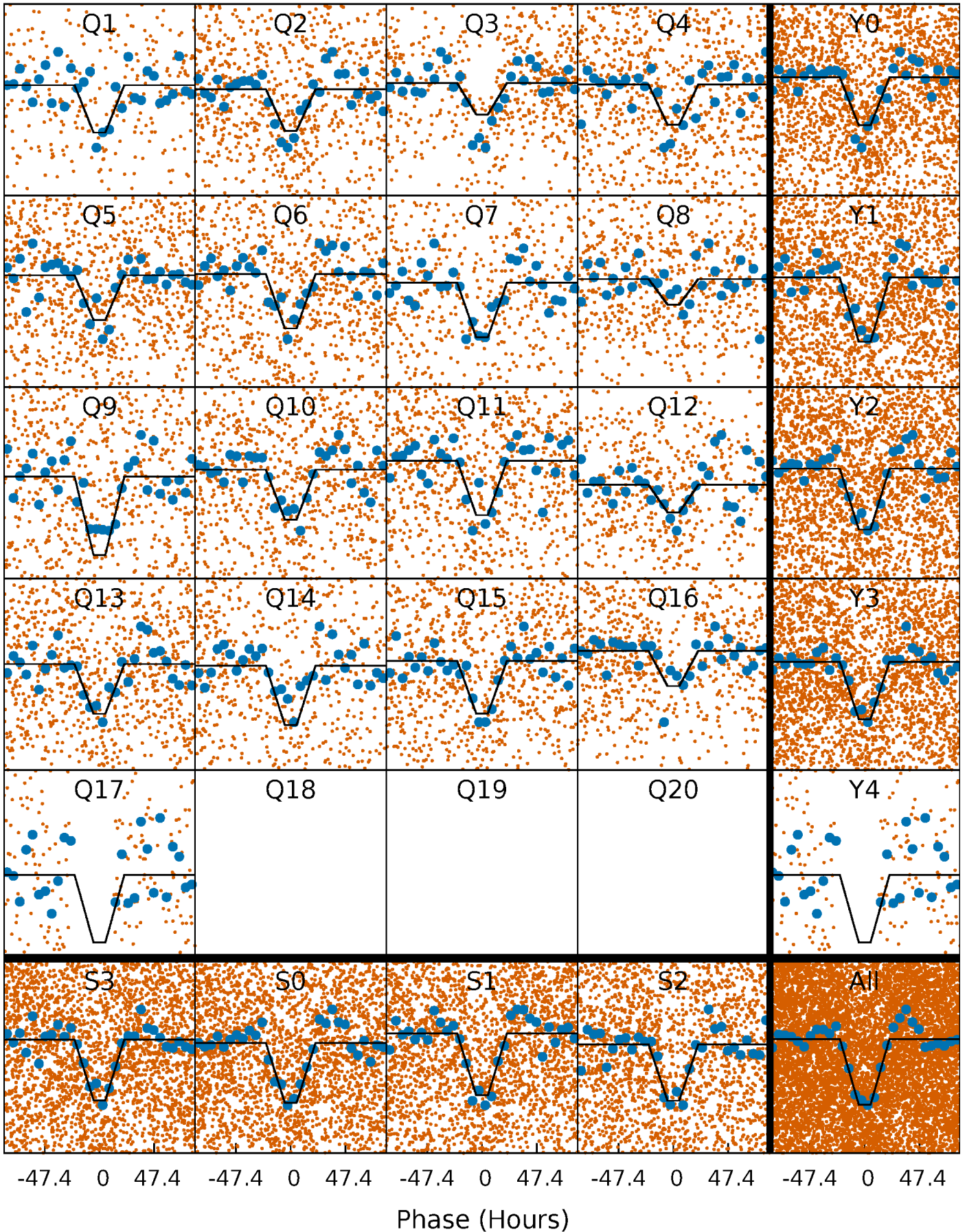
DV Quarter-Phased Transit Curves

TCE 009596037-01 P= 33.359438 Days $T_0=157.481332$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

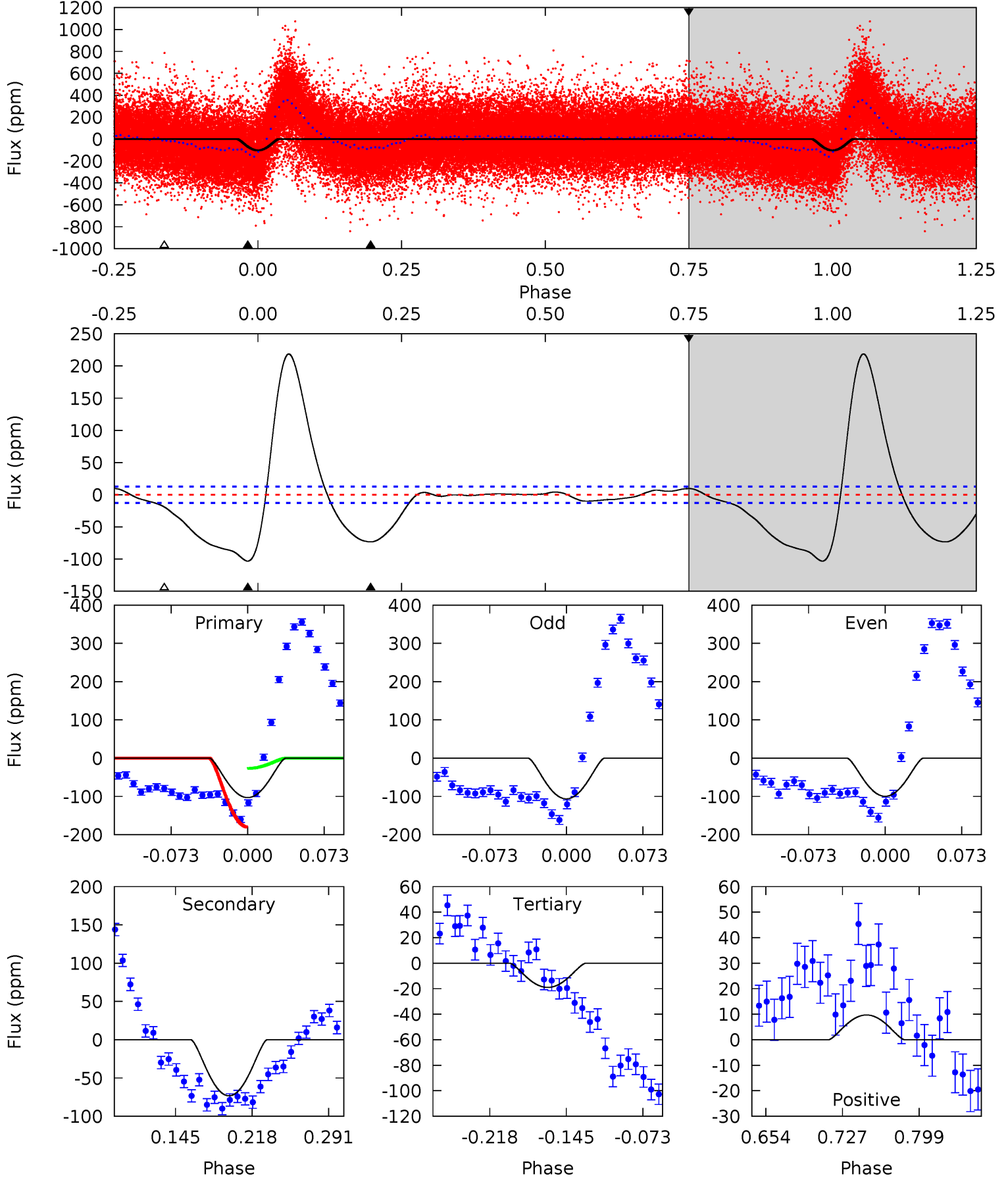
TCE 009596037-01 P= 33.361934 Days $T_0=157.538556$ (BKJD)



DV Model-Shift Uniqueness Test

009596037-01, P = 33.359438 Days, E = 124.121894 Days

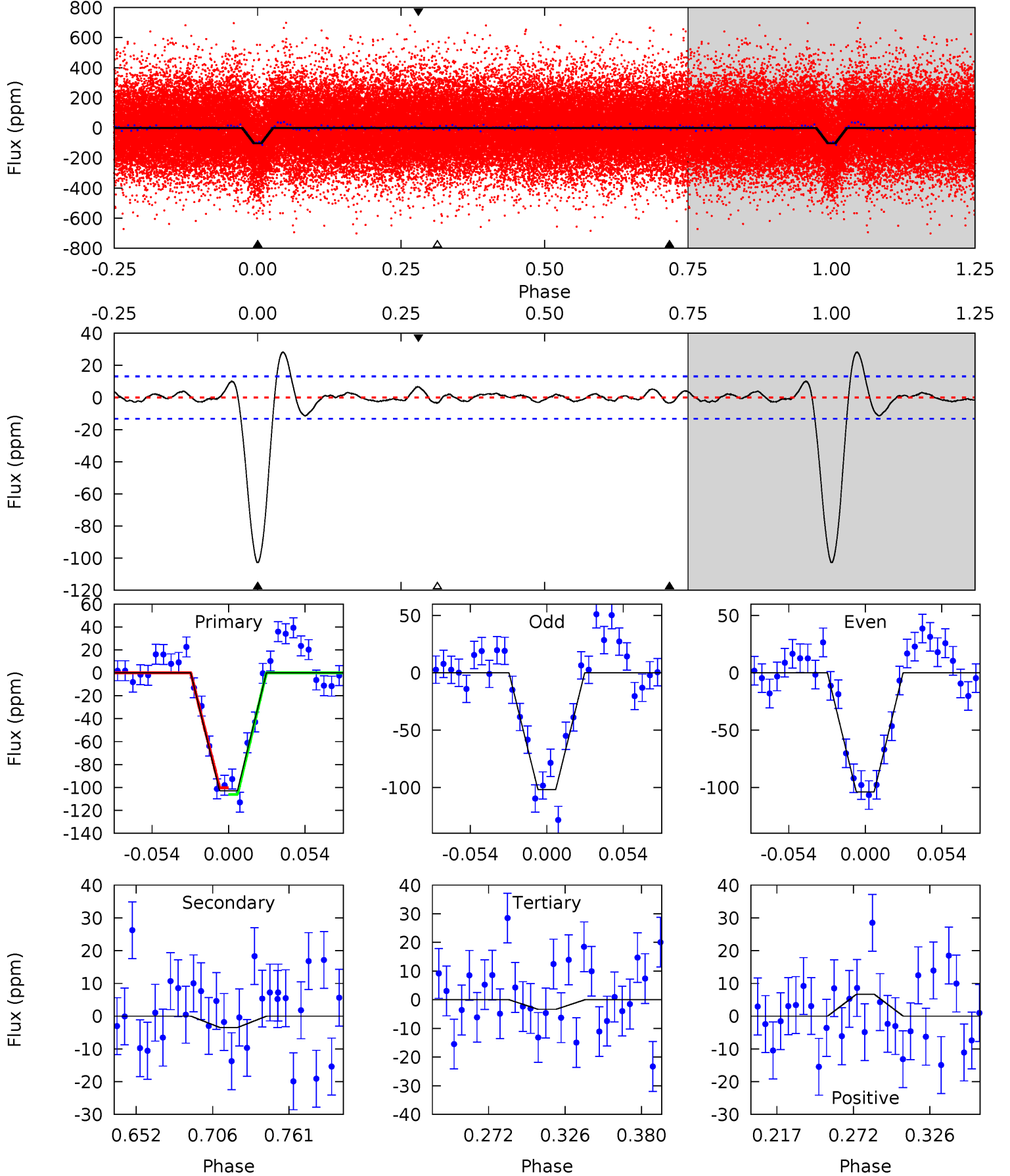
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.5	26.7	6.92	3.53	4.63	1.79	15.4	30.6	34.0	19.7	23.1	1.23	1.02	0.68	26.2



Alt Model-Shift Uniqueness Test

009596037-01, P = 33.361934 Days, E = 124.176622 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.6	1.23	1.19	2.37	4.69	1.92	1.03	35.4	34.3	0.04	-1.14	0.37	1.04	0.22	1.03



Stellar Parameters For KIC 009596037

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6582^{+175}_{-214}	$4.149^{+0.209}_{-0.171}$	$-0.220^{+0.250}_{-0.300}$	$1.561^{+0.463}_{-0.421}$	$1.258^{+0.181}_{-0.221}$	$0.466^{+0.531}_{-0.213}$
	+3%/-3%	+5%/-4%	+114%/-136%	+30%/-27%	+14%/-18%	+114%/-46%
Source	PHO1	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 009596037-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-73 ± 3	$4.60^{+3.11}_{-2.41}$	1081^{+80}_{-85}	3978^{+1406}_{-582}	88^{+308}_{-56}
Alt.	-3 ± 3	$2.71^{+2.50}_{-1.87}$	1085^{+82}_{-82}	2829^{+1398}_{-659}	$9.649^{+101.563}_{-8.340}$

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

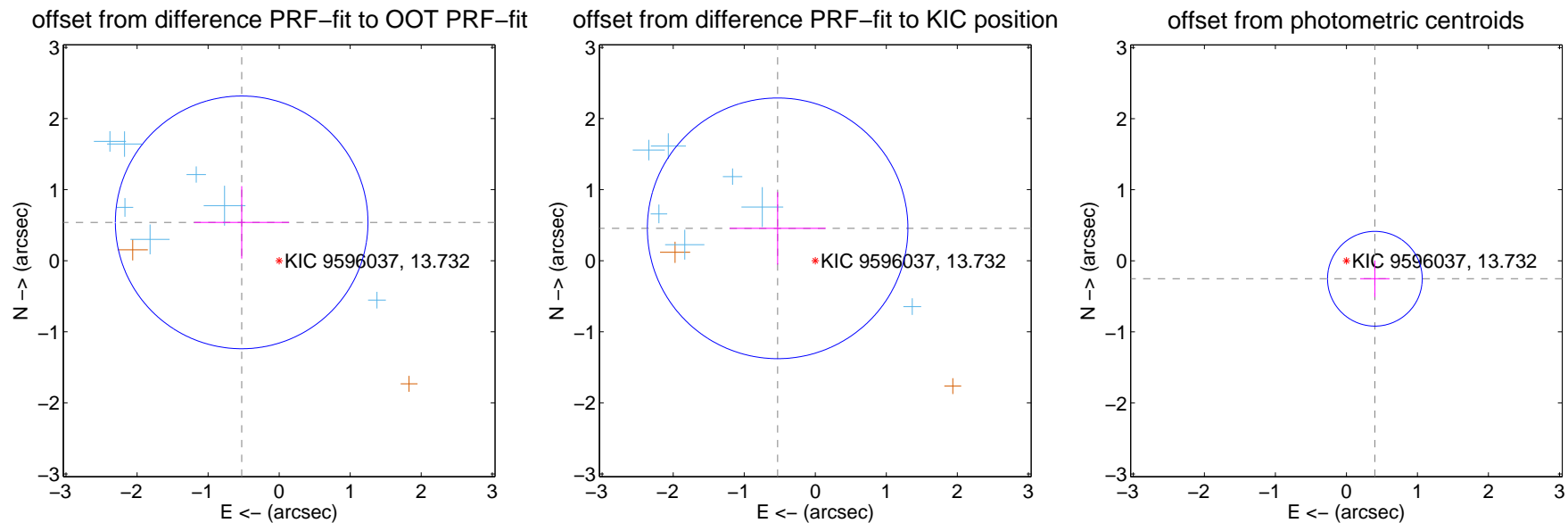
DV Centroid Data

Supplemental centroid analysis for 009596037-01. Kepler magnitude: 13.73. Transit SNR 24.14

There are 7 quarters with good PRF difference image offsets

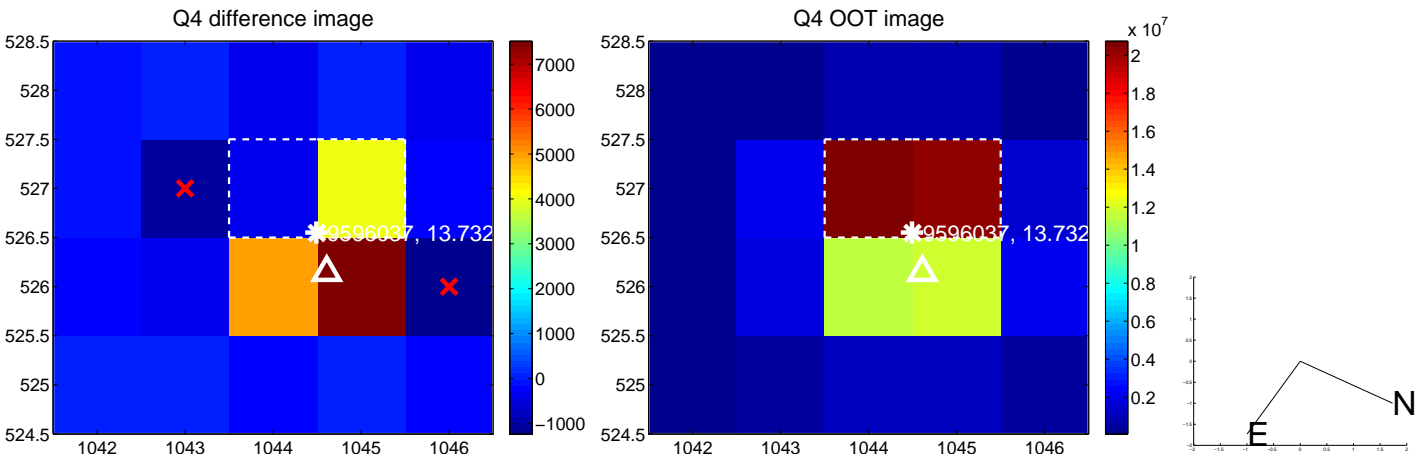
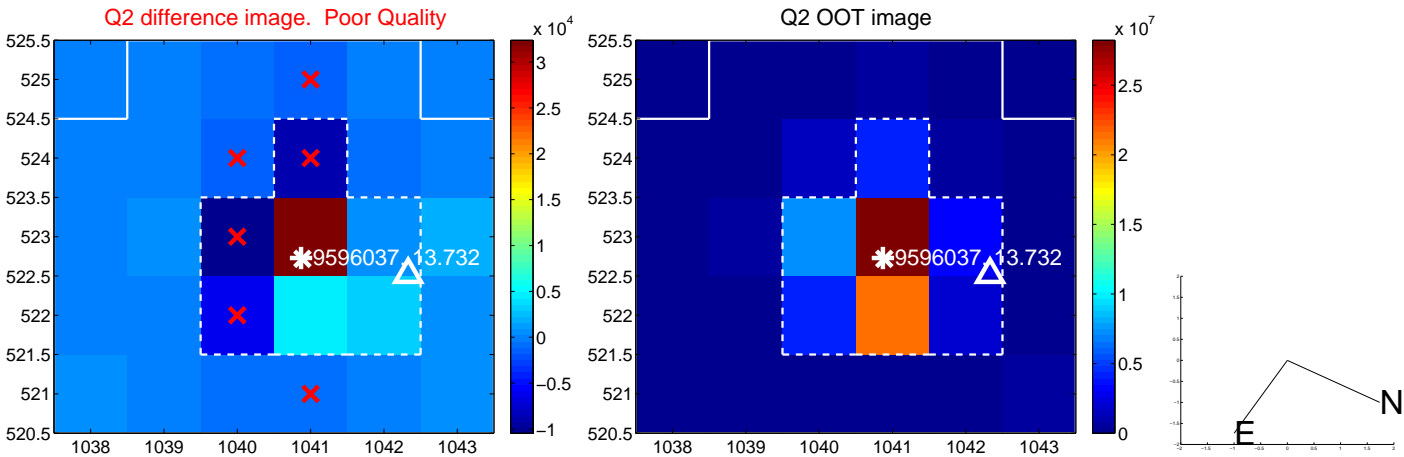
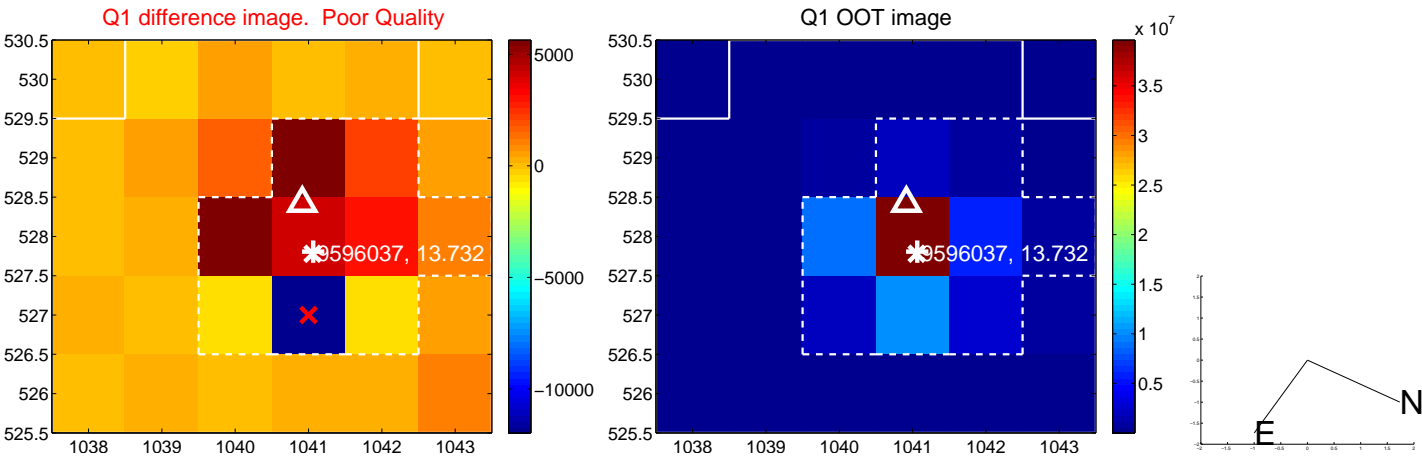
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.754 ± 0.593	1.27	0.528 ± 0.668	0.539 ± 0.510
PRF-fit source offset from KIC position	0.698 ± 0.611	1.14	0.530 ± 0.677	0.455 ± 0.508
photometric centroid source offset	0.47 ± 0.22	2.13	-0.40 ± 0.21	-0.25 ± 0.26

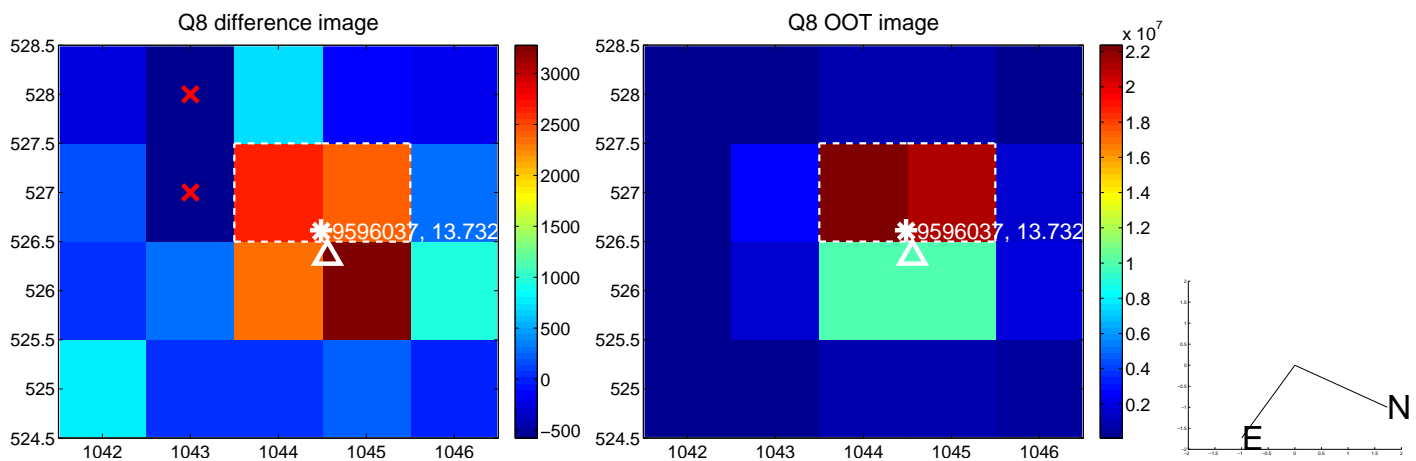
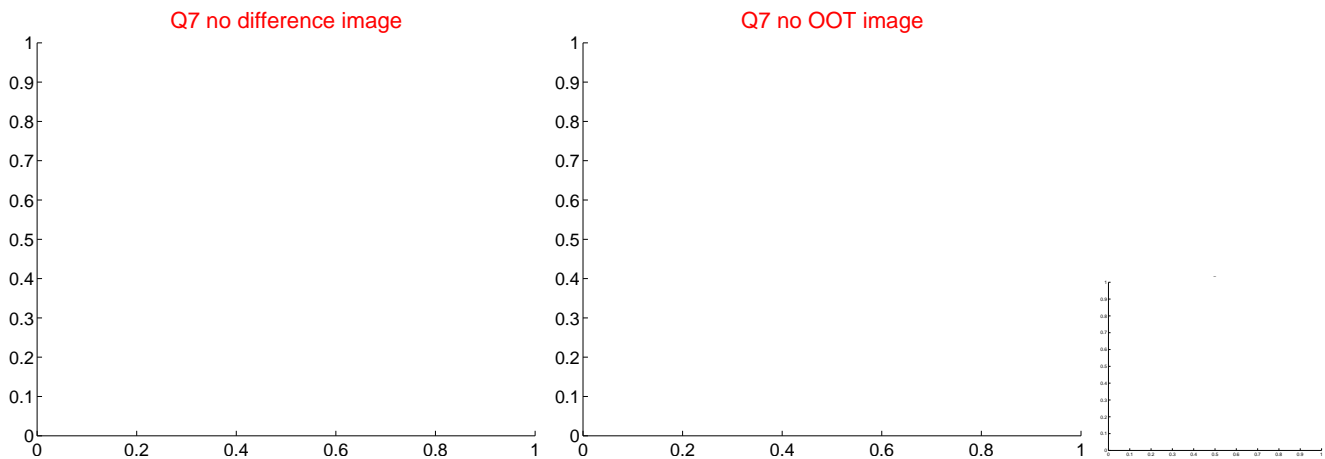
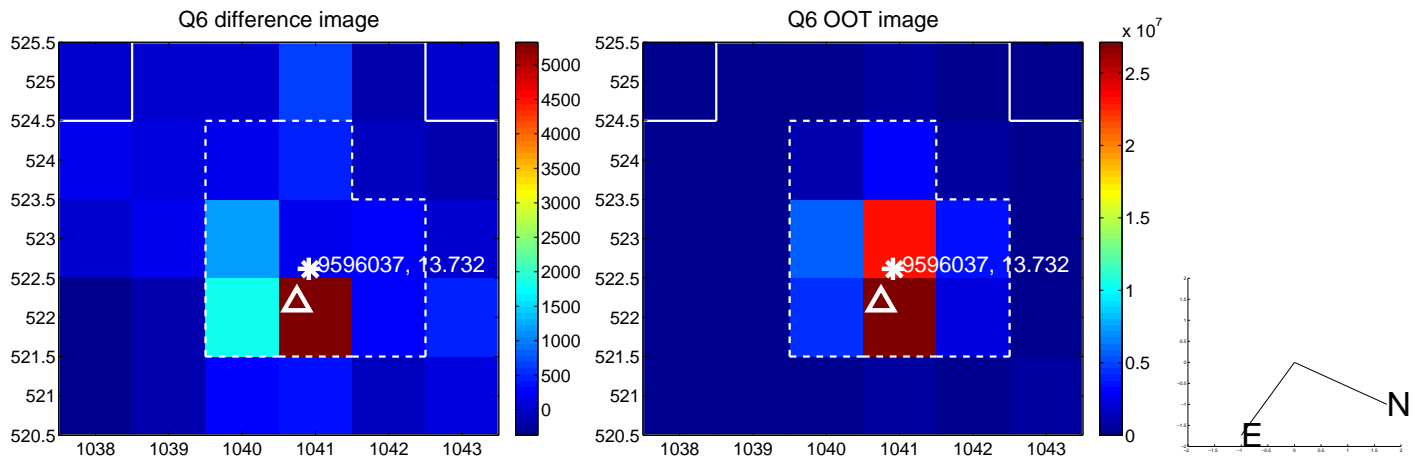
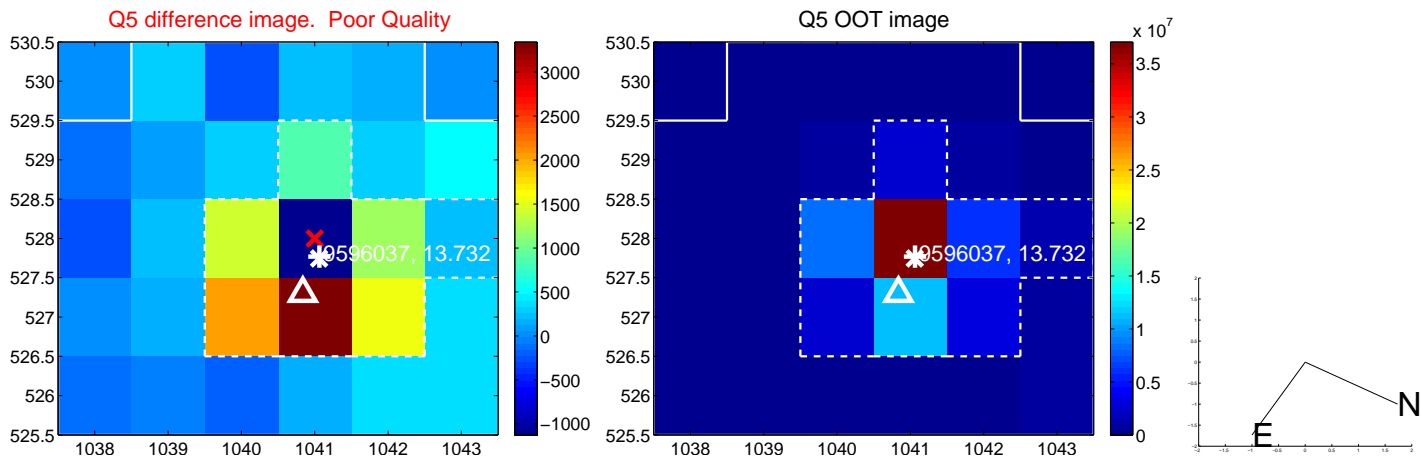


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

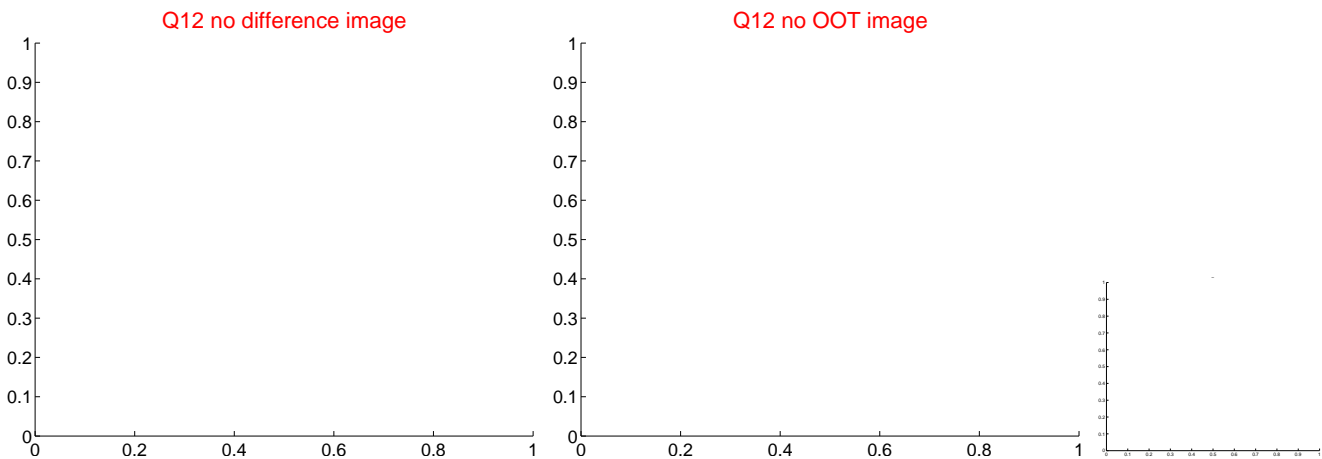
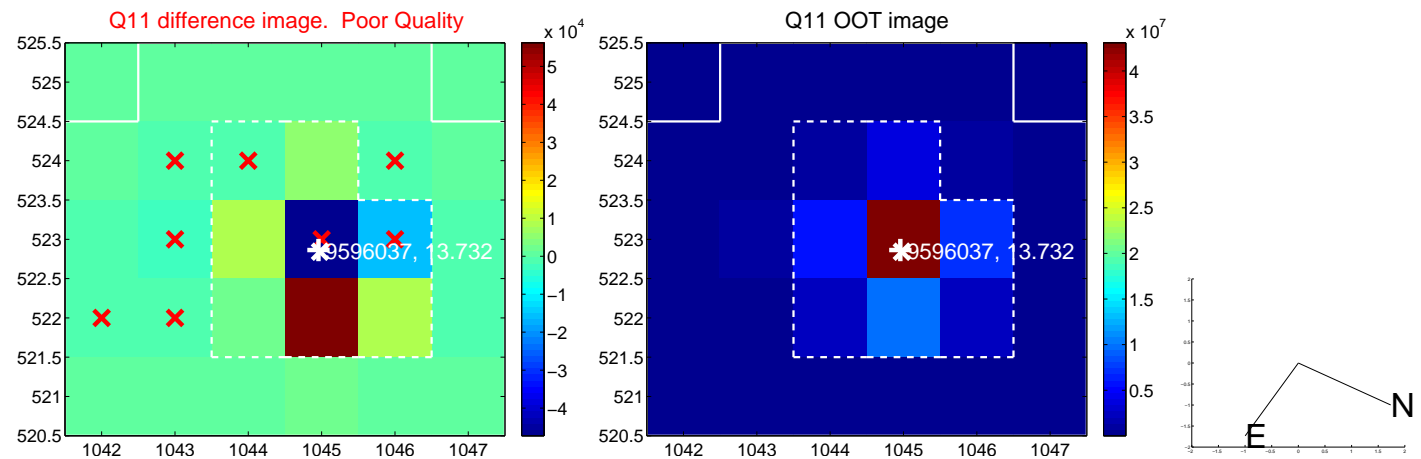
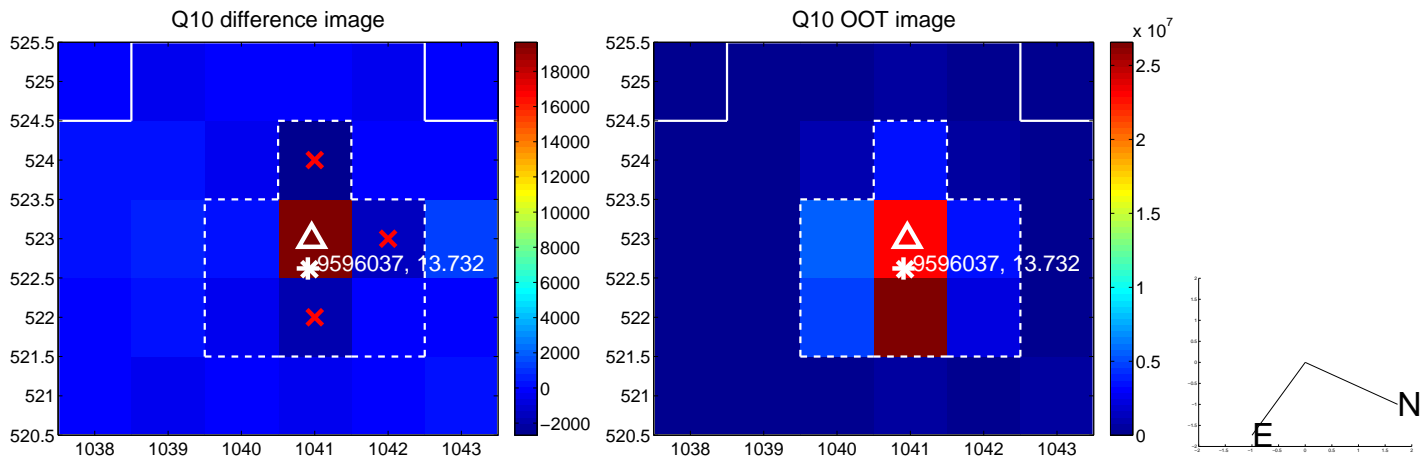
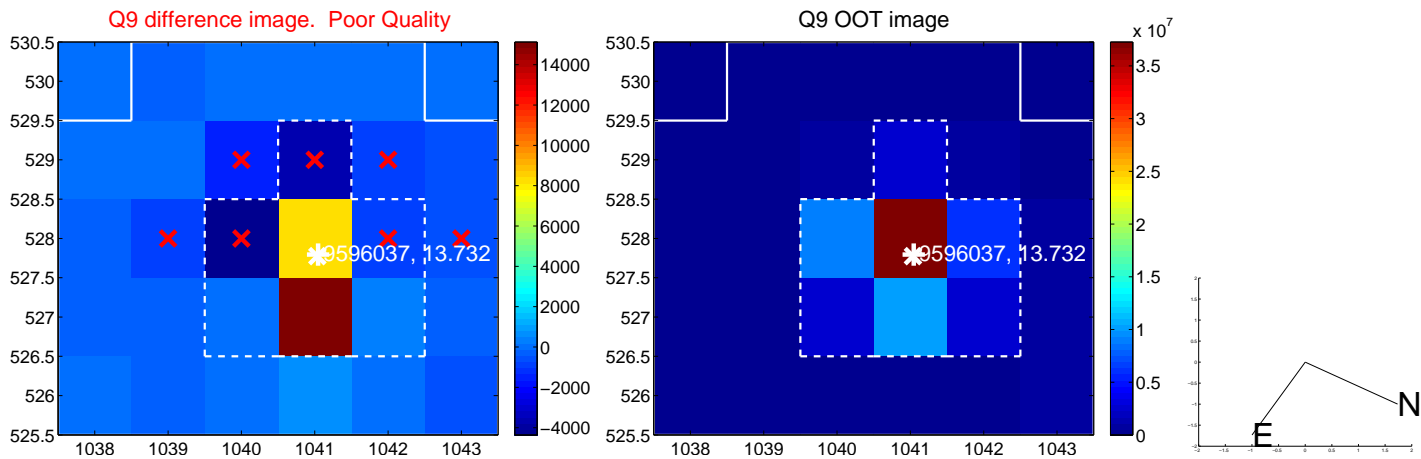
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



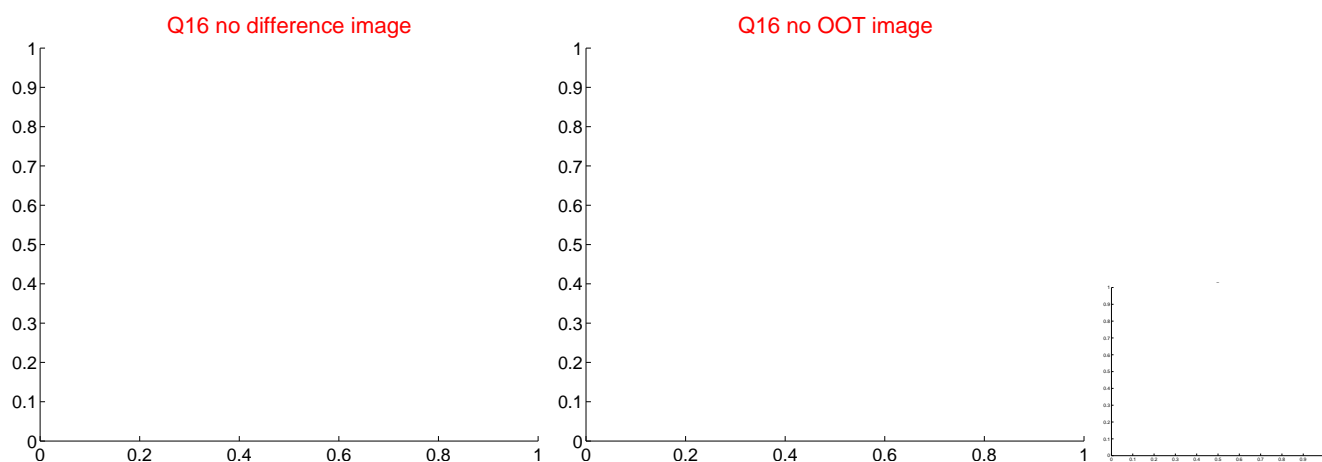
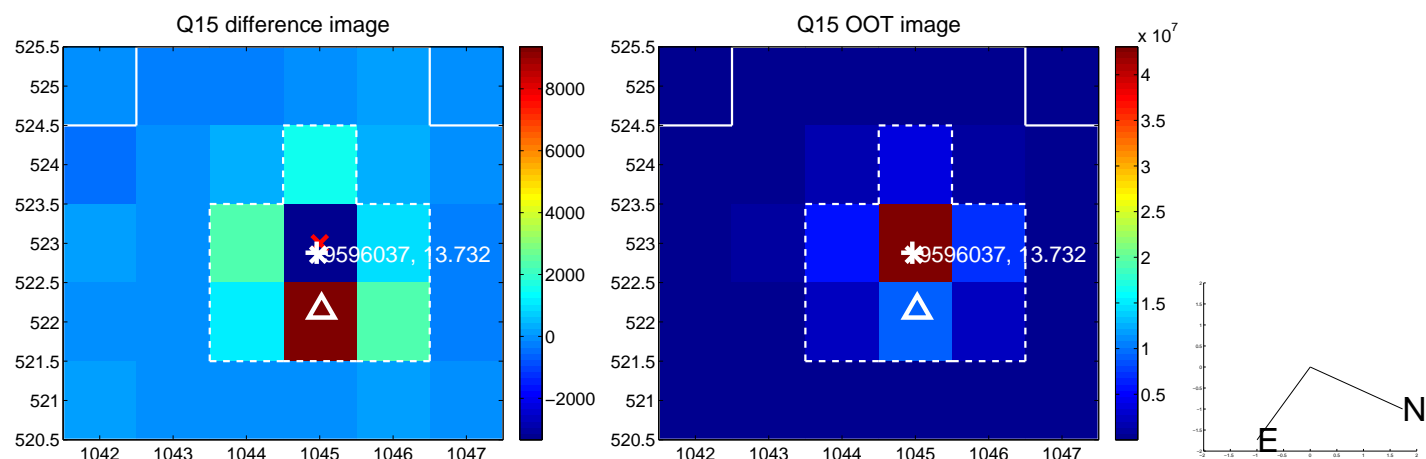
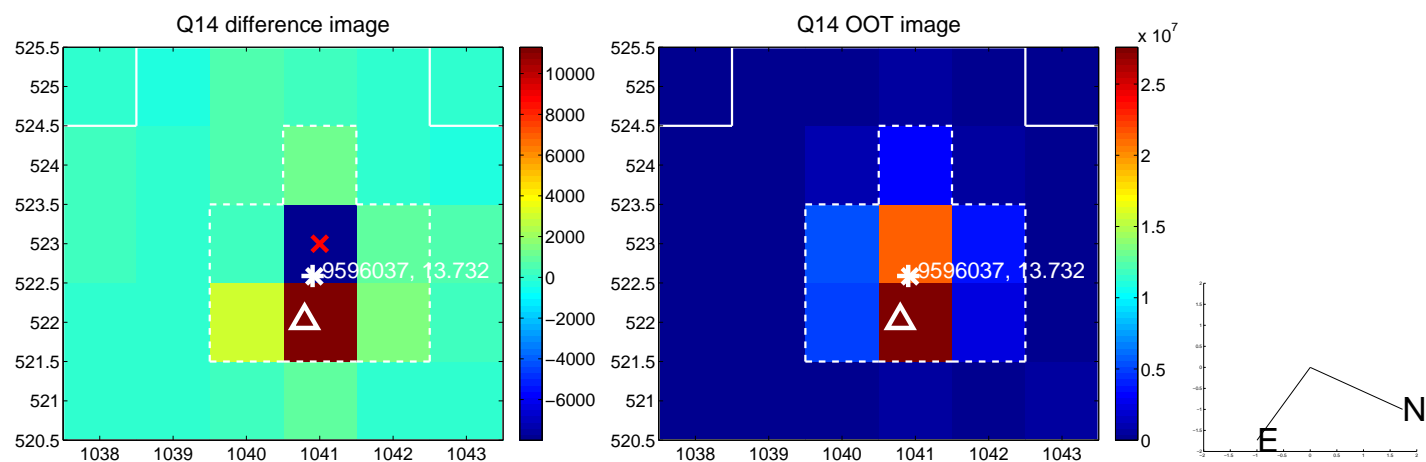
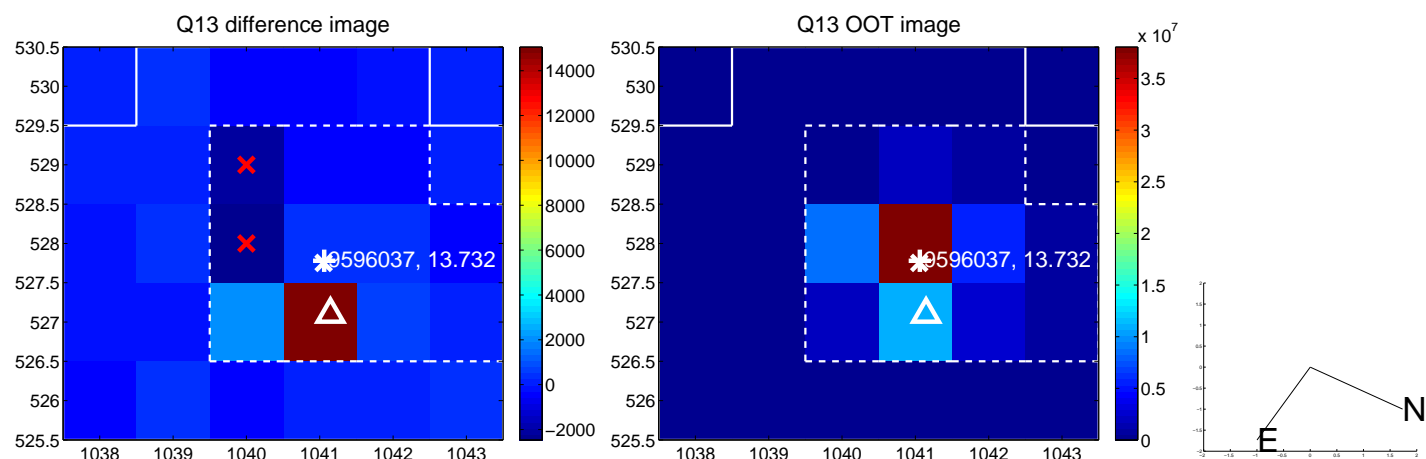
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



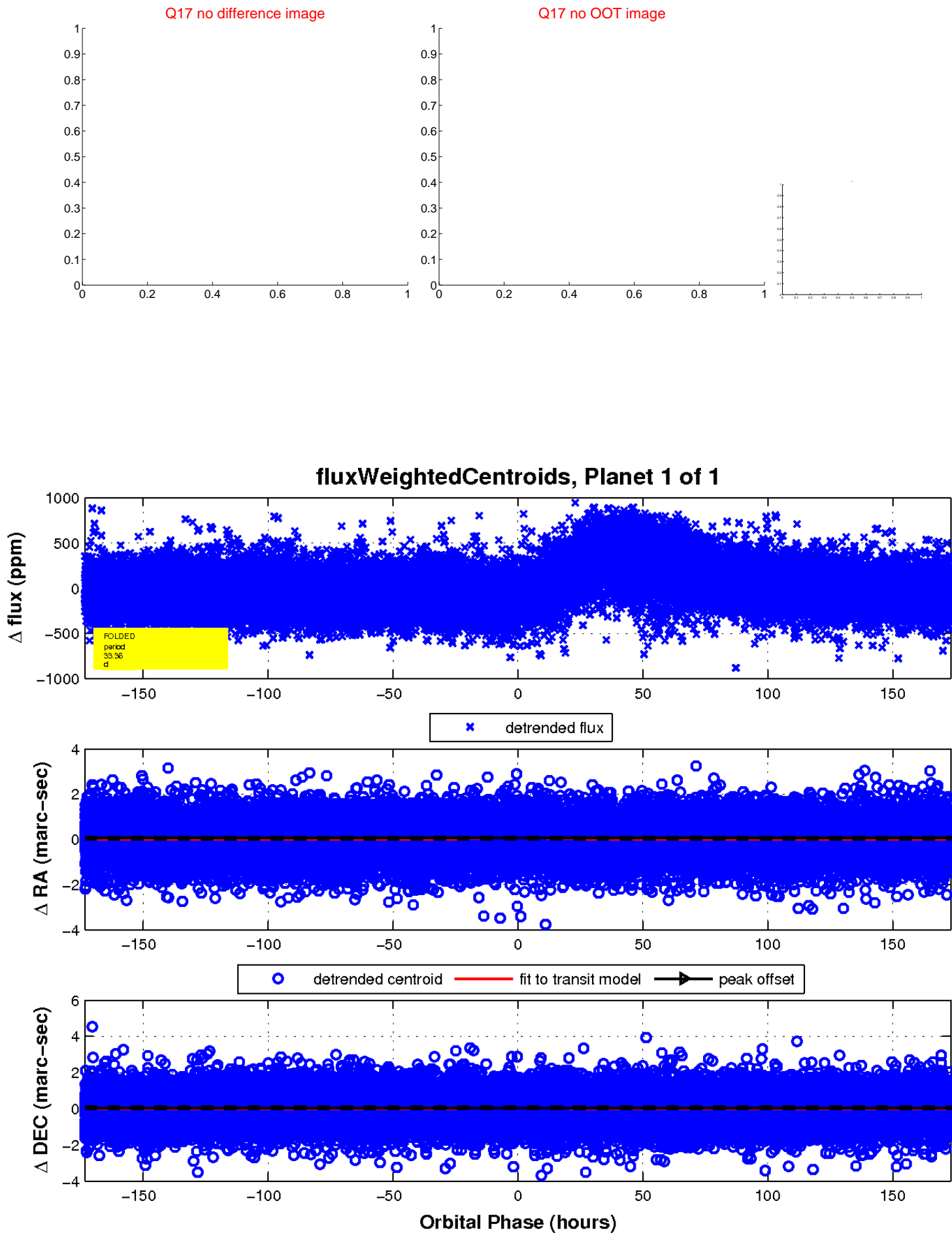
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

