

KIC 009814430

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})
009814430-01	OBS	No	187.549487	301.249603	346.7	4.257	7.4	7.4	2.15	5149	4.68	7.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009814430-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

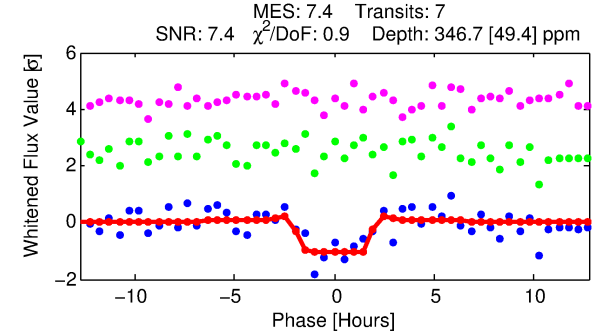
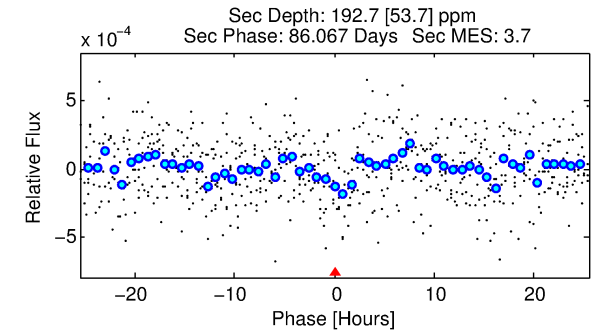
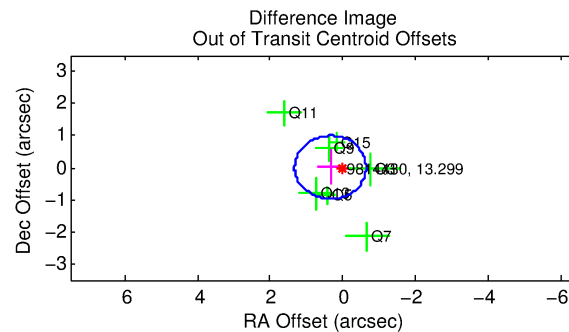
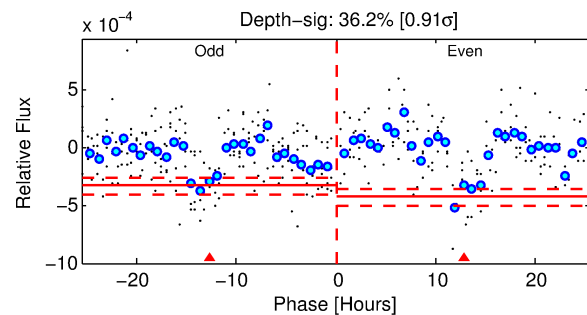
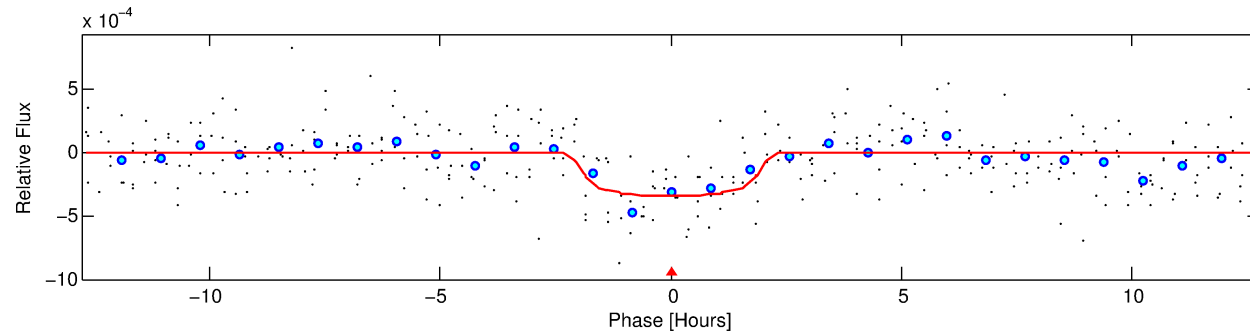
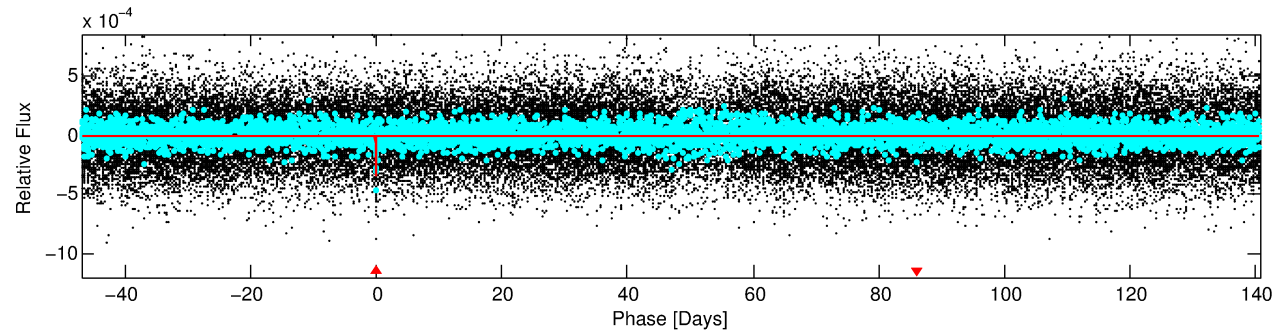
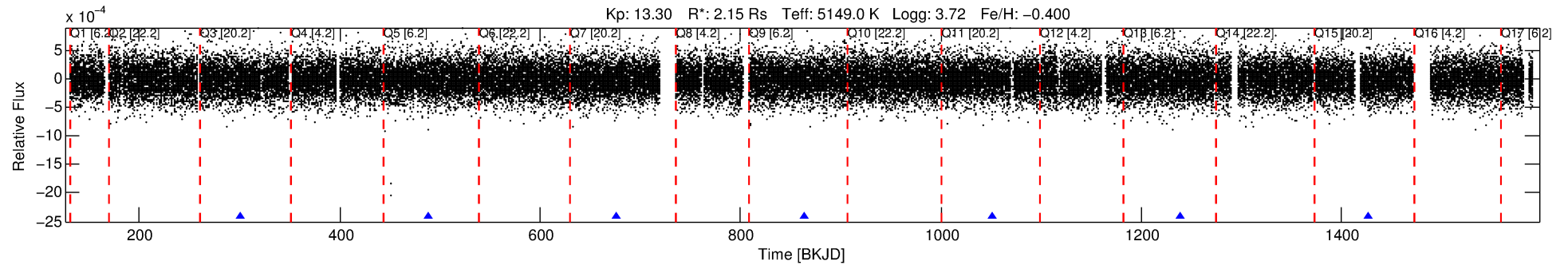
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009814430-01

No Significant Match Found

DV One-Page Summary

KIC: 9814430 Candidate: 1 of 1 Period: 187.549 d



DV Fit Results:

Period = 187.54949 [0.00246] d
Epoch = 301.2496 [0.0090] BKJD
Rp/R* = 0.0199 [0.0225]
a/R* = 181.70 [857.24]
b = 0.87 [1.40]
Seff = 7.68 [11.21]
Teq = 424 [155] K
Rp = 4.68 [6.05] Re
a = 0.6172 [0.5025] AU
Ag = 1846.49 [4987.30] [0.37σ]
Teffp = 4302 [2450] K [1.58σ]

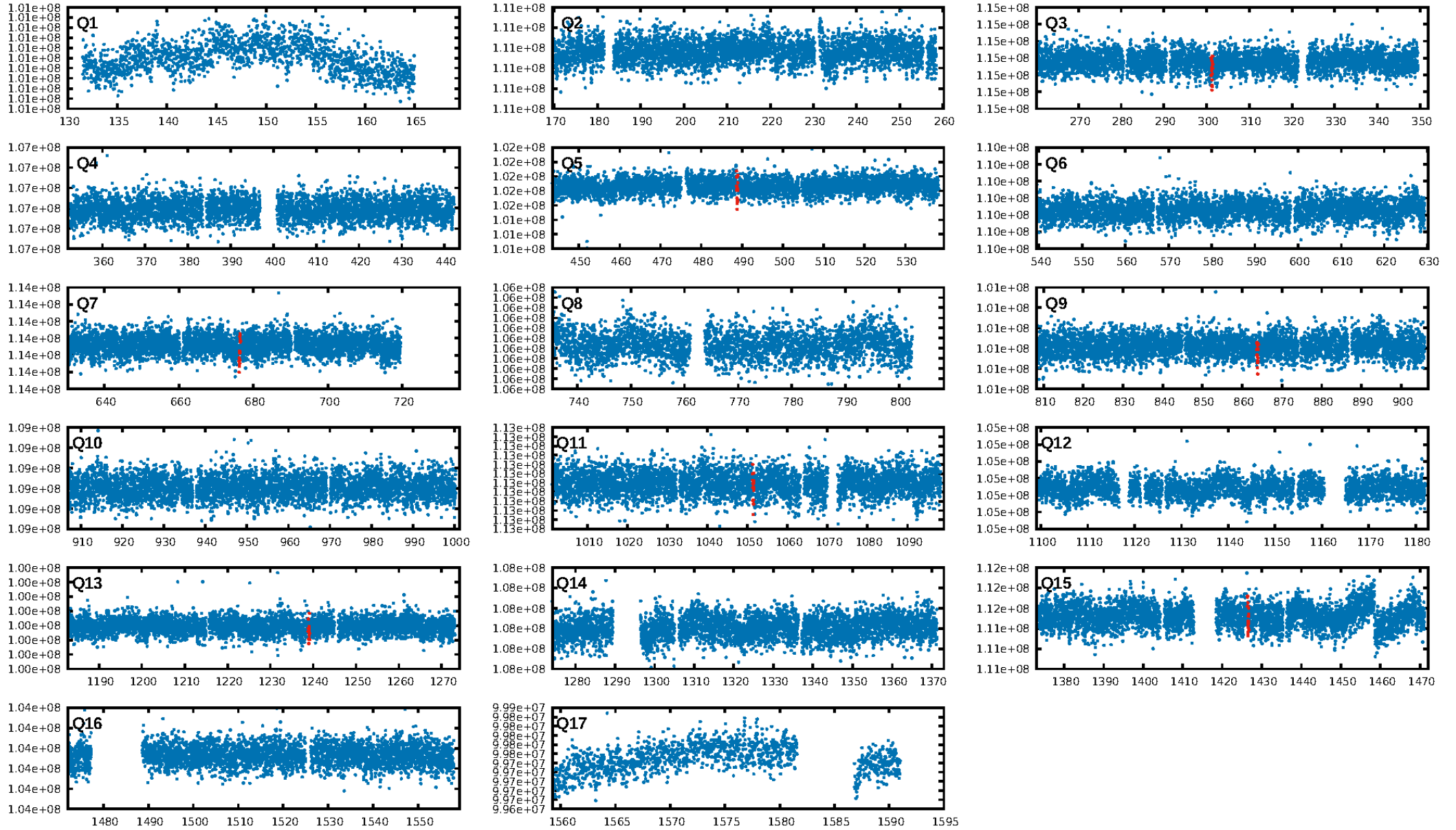
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 94.8%
ModelChiSquareGof-sig: 99.5%
Bootstrap-pfa: 1.74e-11
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 1.643
Centroid-sig: 1.0%
Centroid-so: 1.597 arcsec [1.82σ]
OotOffset-rm: 0.344 arcsec [1.05σ]
KicOffset-rm: 0.278 arcsec [1.01σ]
OotOffset-st: 0/4/0/3 [7]
KicOffset-st: 0/4/0/3 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [7/7]

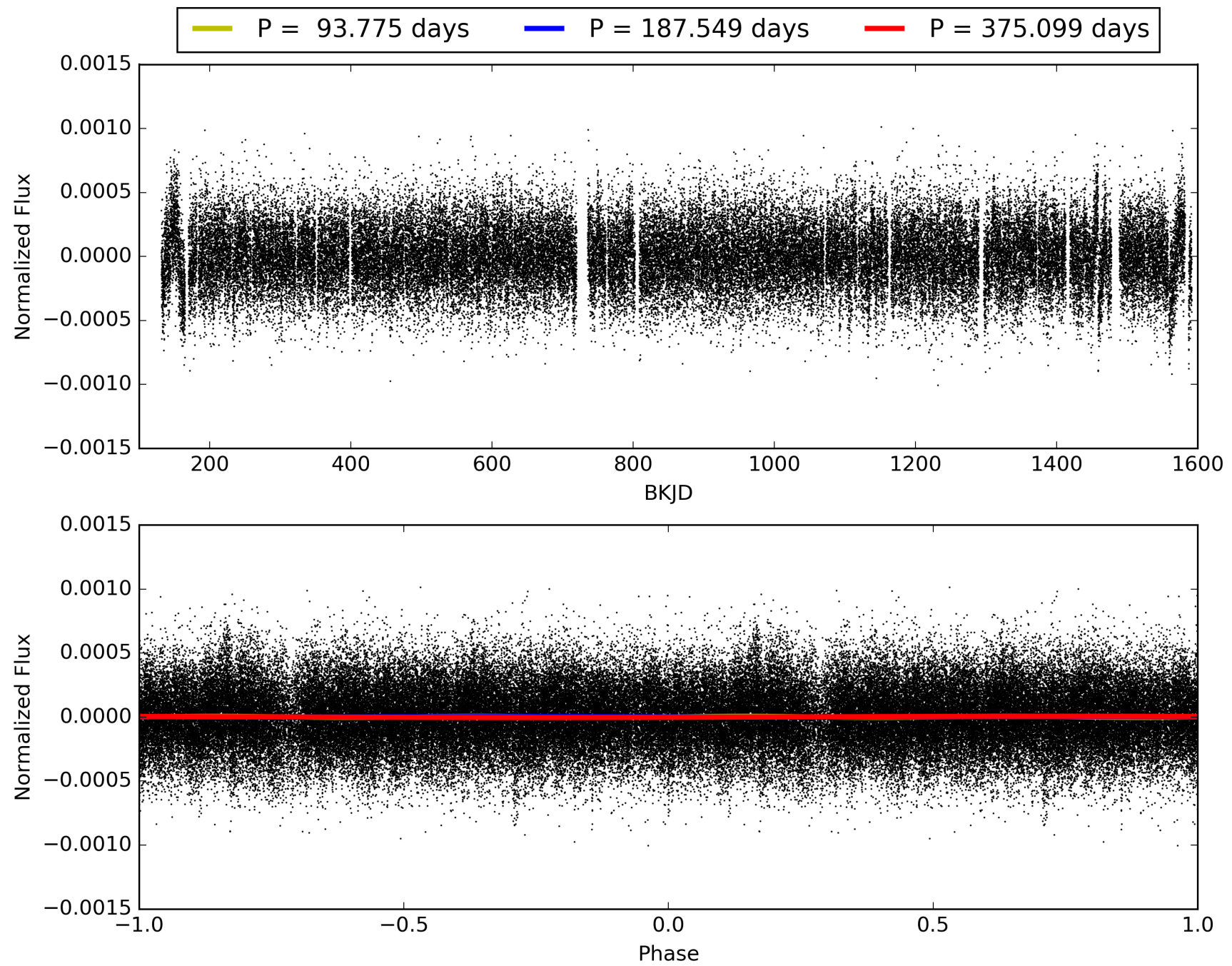
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:23:46 Z

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

TCE 009814430-01, PDC Light Curves

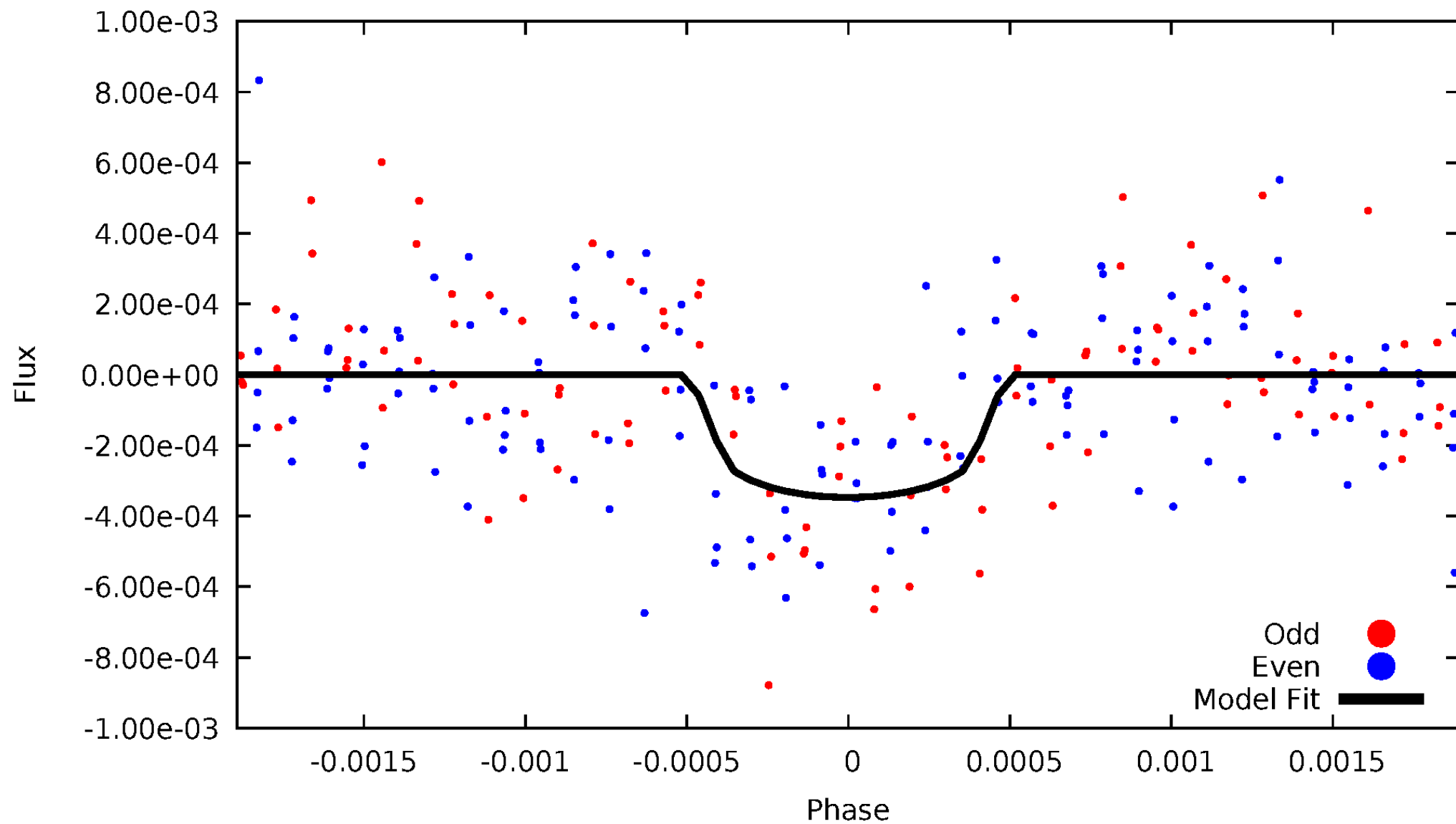


TCE 009814430-01



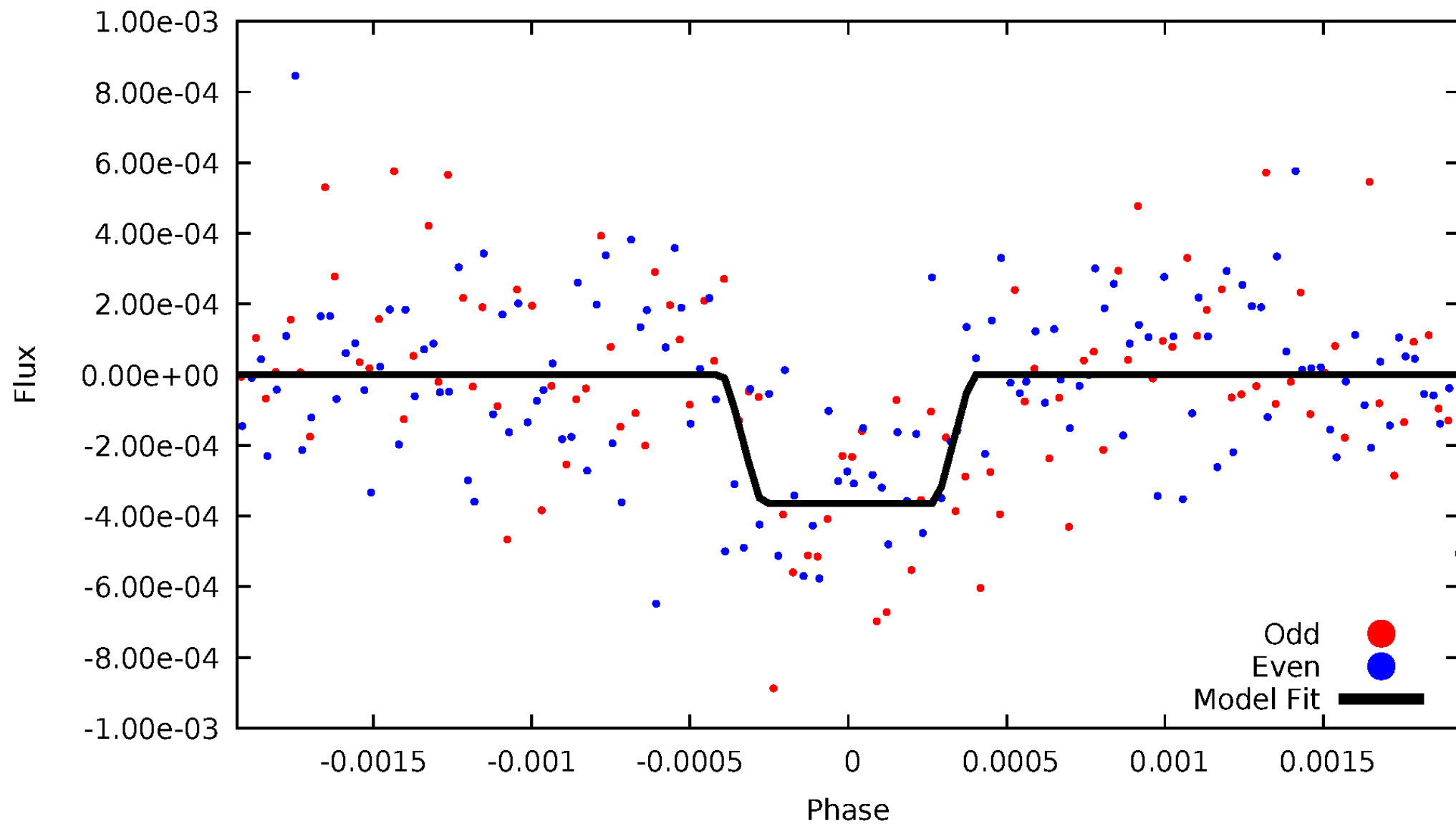
DV Odd/Even

TCE 009814430-01



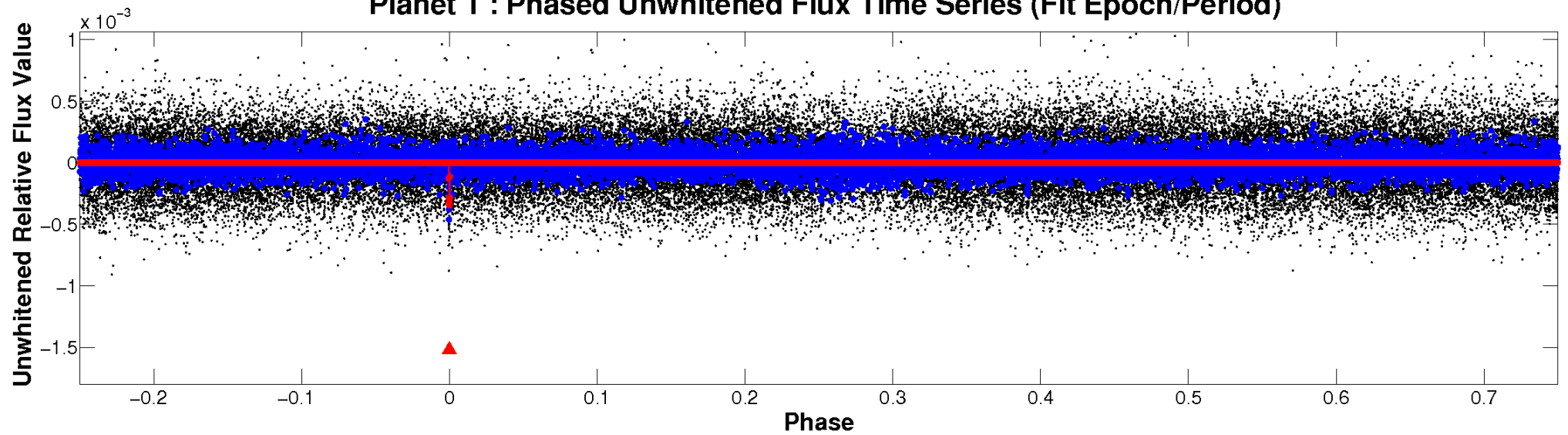
ALT Odd/Even

TCE 009814430-01

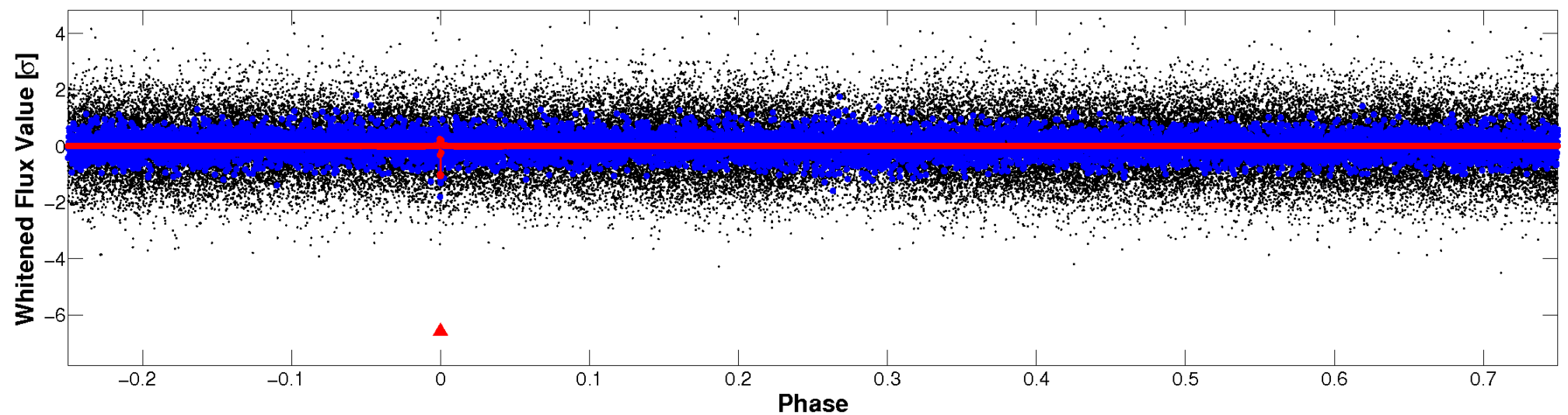


Non-Whitened Vs. Whitened Light Curve

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

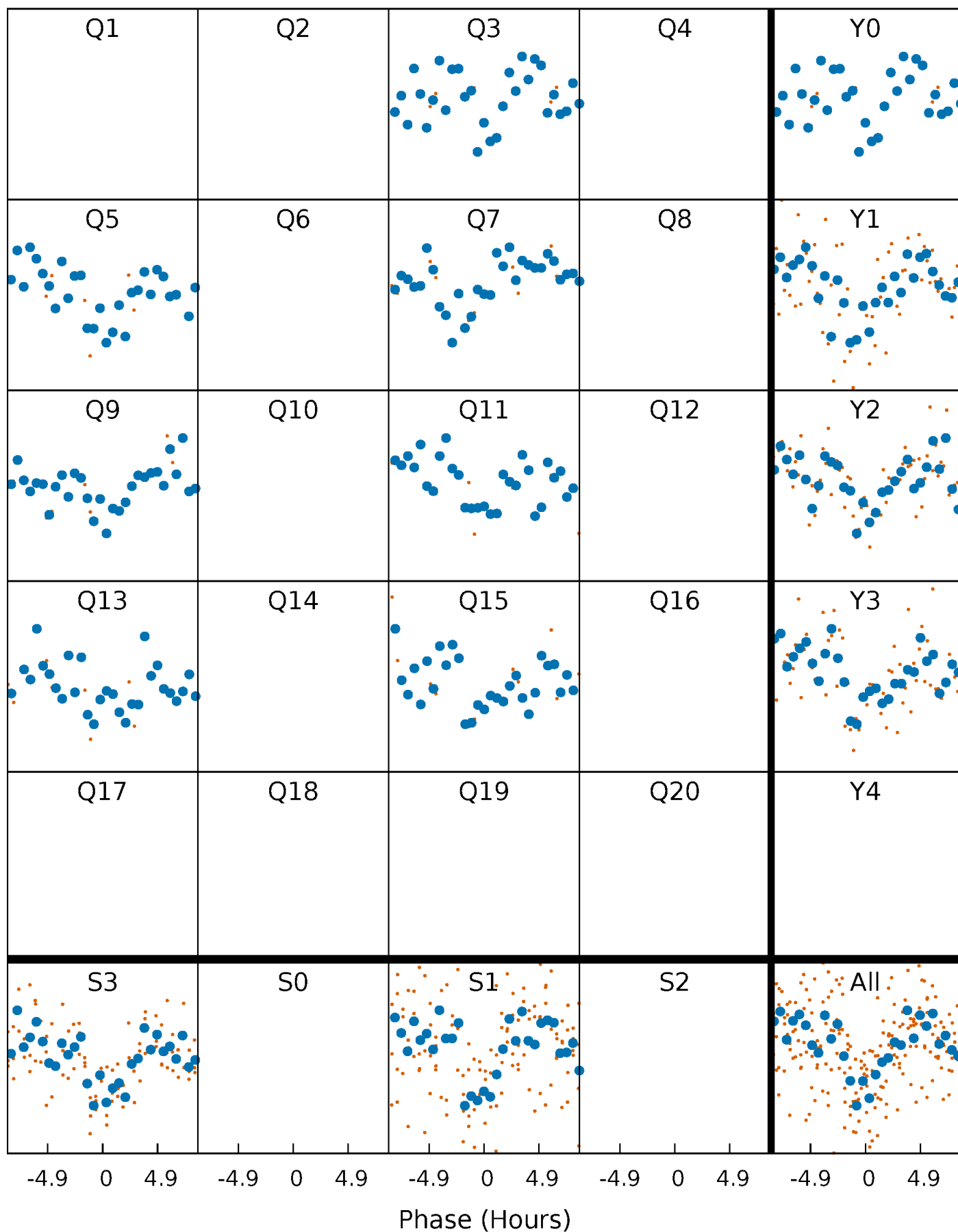


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



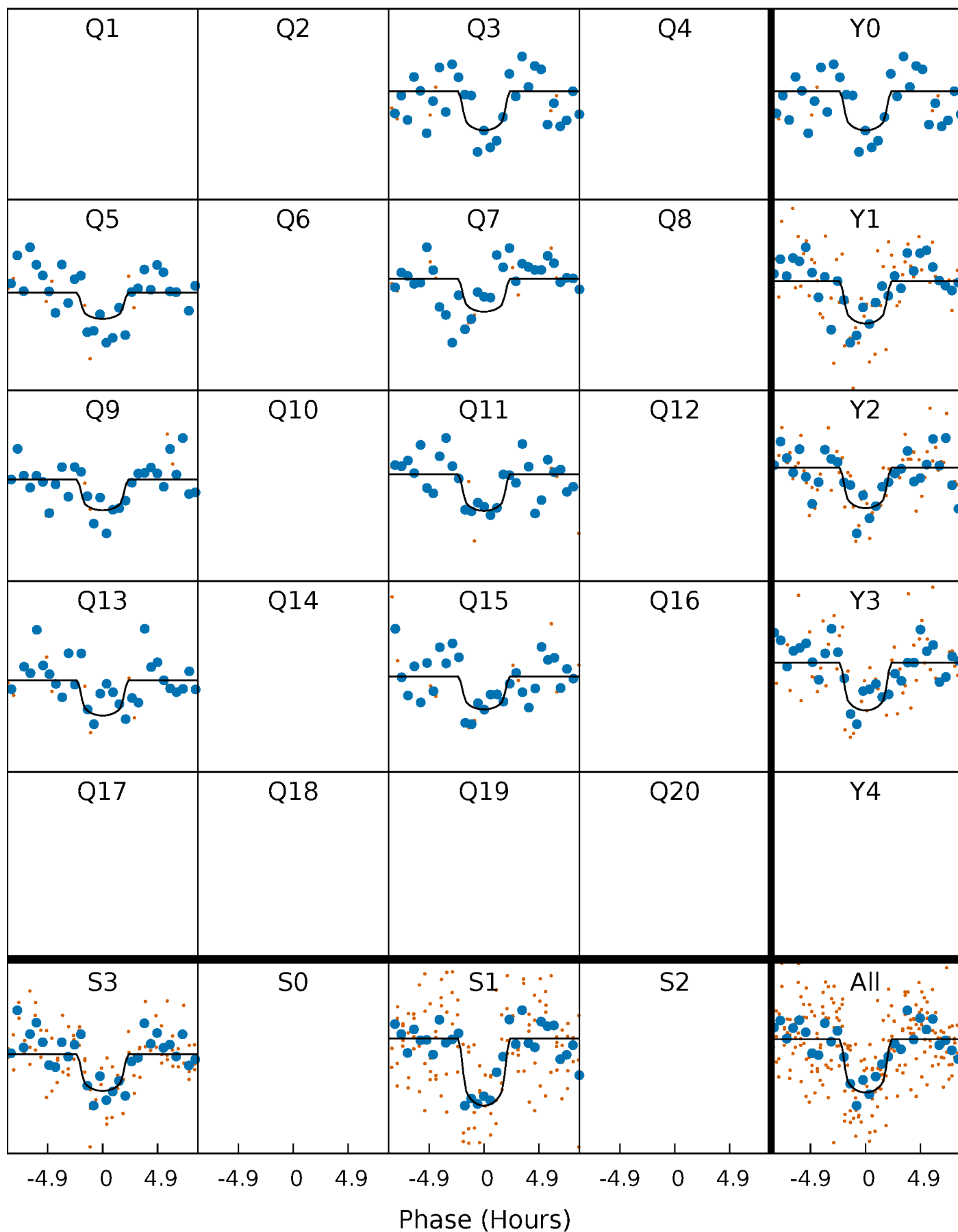
PDC Quarter-Phased Transit Curves

TCE 009814430-01 P=187.549487 Days $T_0=301.249603$ (BKJD)



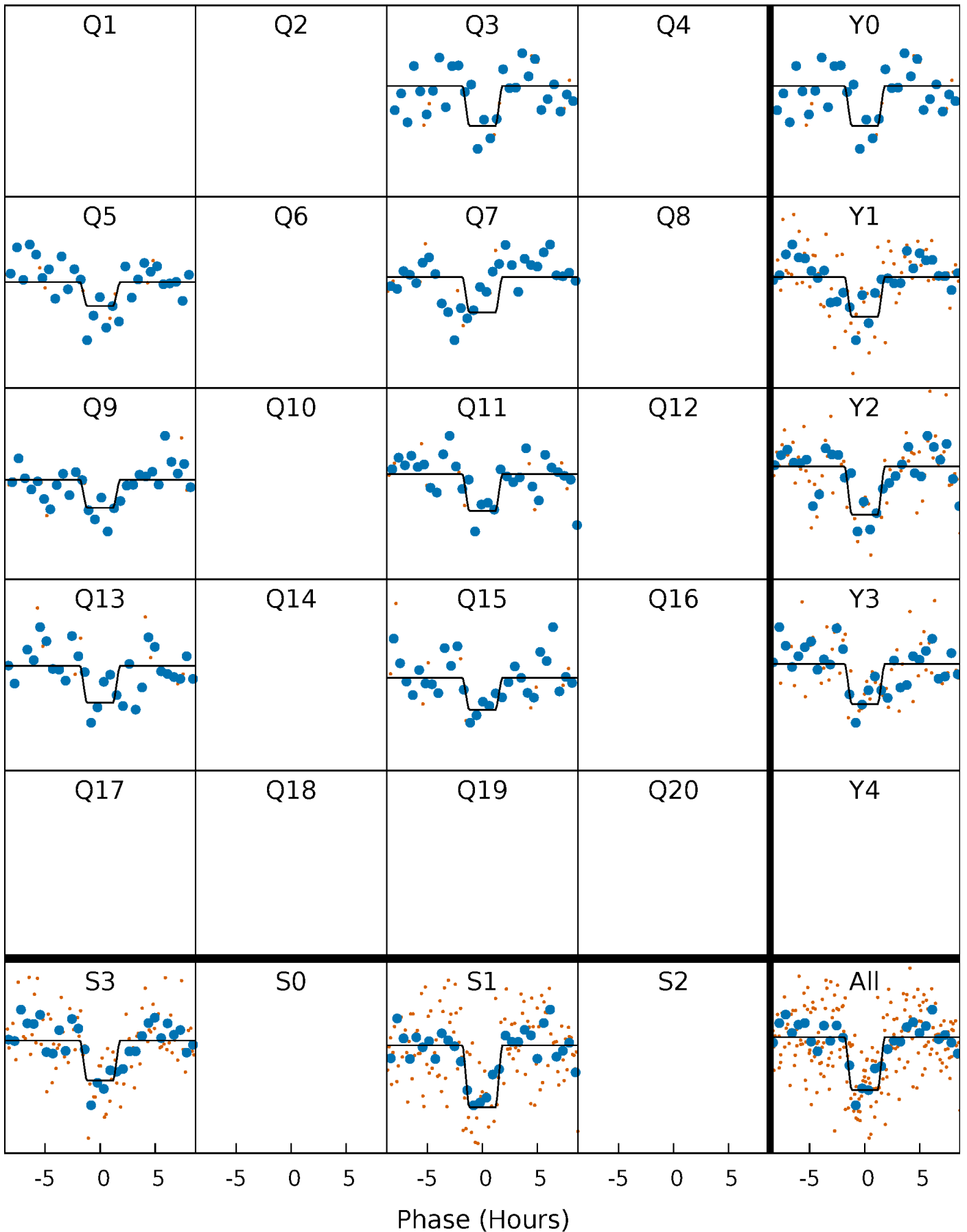
DV Quarter-Phased Transit Curves

TCE 009814430-01 P=187.549487 Days $T_0=301.249603$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

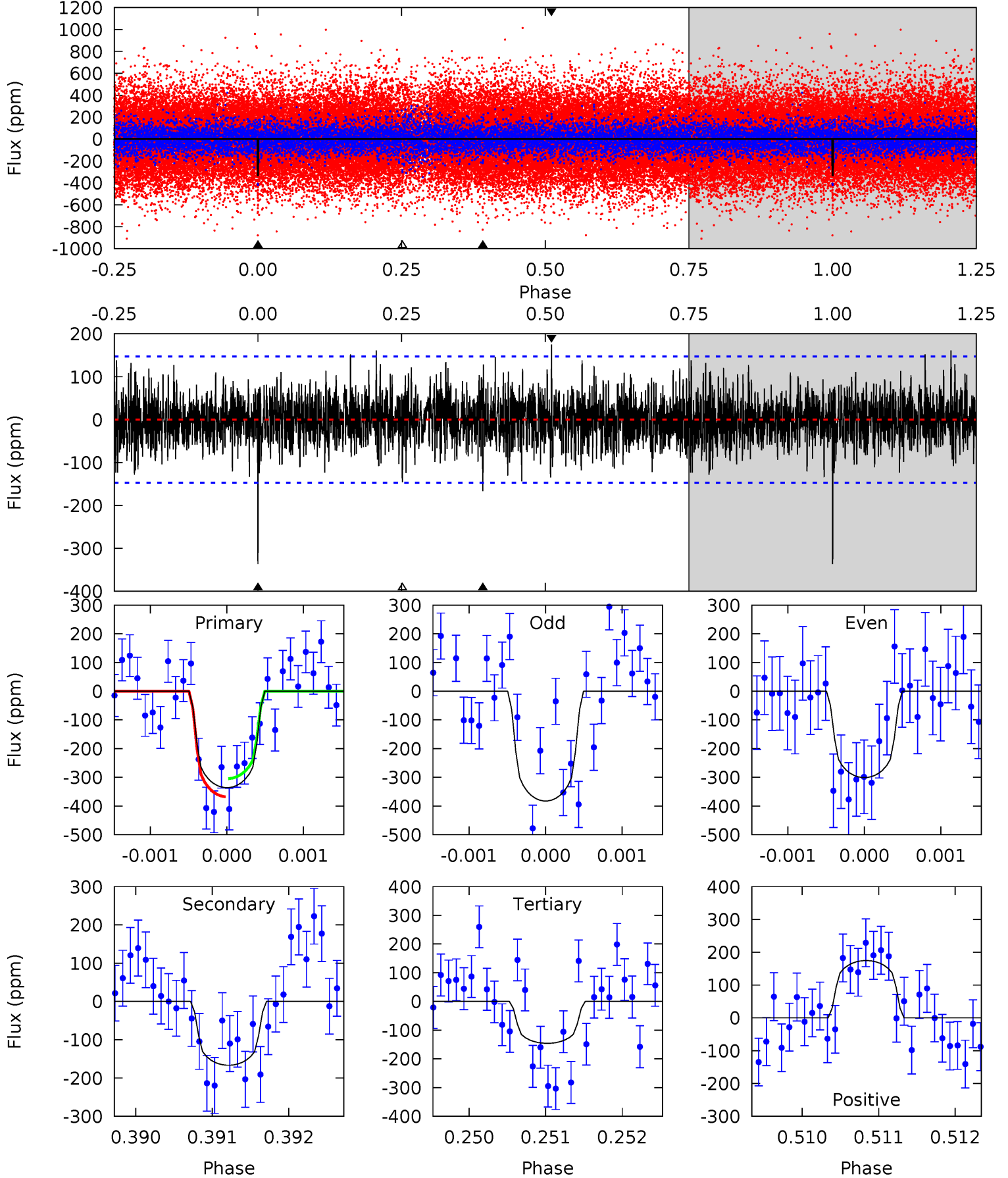
TCE 009814430-01 P=187.546954 Days $T_0=301.250239$ (BKJD)



DV Model-Shift Uniqueness Test

009814430-01, P = 187.549487 Days, E = 113.700116 Days

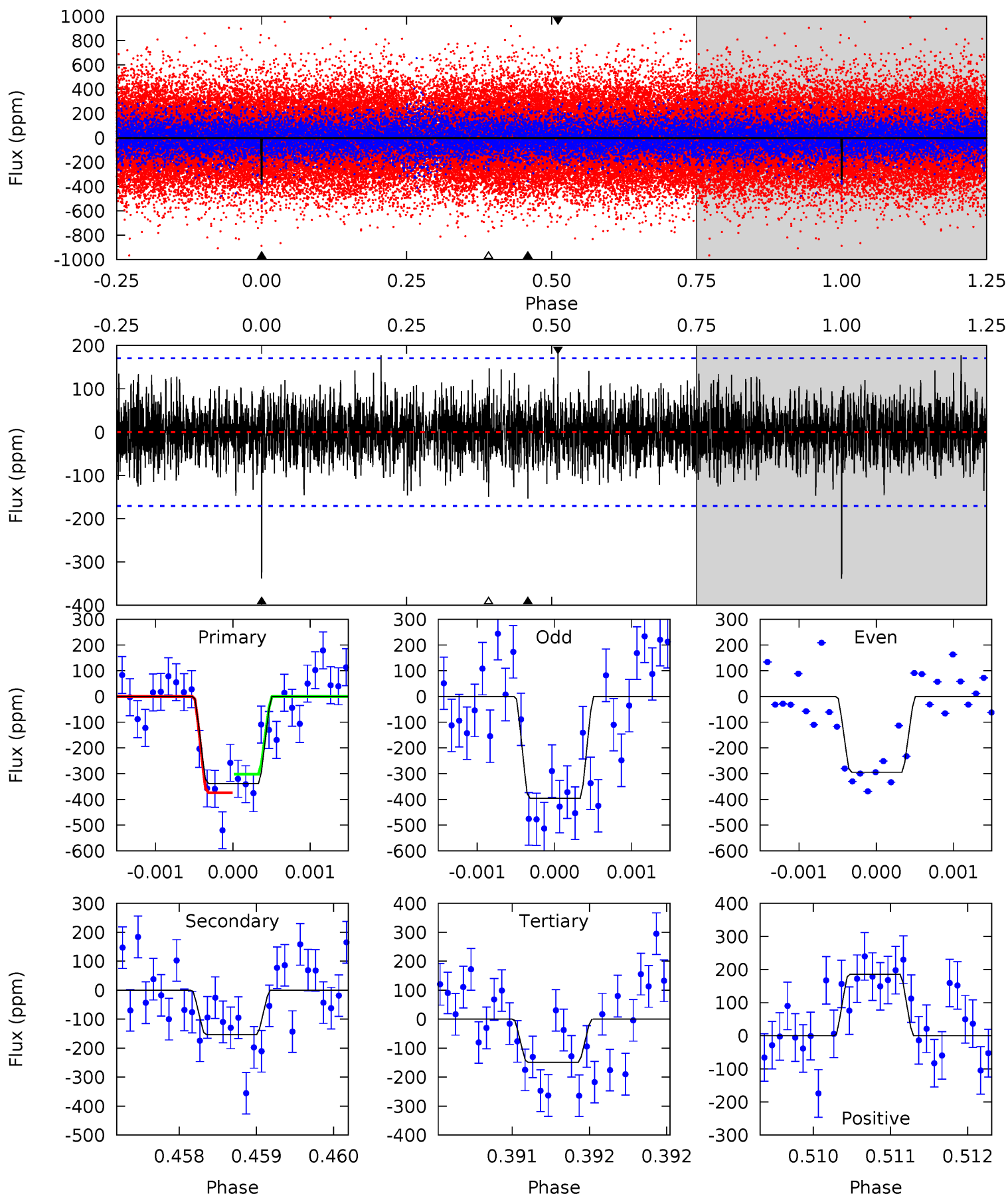
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	6.17	5.40	6.47	5.44	3.28	1.61	7.04	5.97	0.77	-0.30	1.50	1.02	0.34	1.16



Alt Model-Shift Uniqueness Test

009814430-01, P = 187.546954 Days, E = 113.703285 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	4.94	4.81	5.99	5.49	3.35	1.43	6.09	4.91	0.13	-1.05	1.61	1.01	0.35	1.16



Stellar Parameters For KIC 009814430

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5149^{+143}_{-130}	$3.721^{+0.908}_{-0.303}$	$-0.400^{+0.300}_{-0.250}$	$2.155^{+1.361}_{-1.361}$	$0.891^{+0.270}_{-0.166}$	$0.126^{+2.830}_{-0.075}$
	+3%/-3%	+24%/-8%	+75%/-62%	+63%/-63%	+30%/-19%	+2255%/-59%
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 009814430-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-167 ± 27	$5.45^{+5.67}_{-3.78}$	574^{+98}_{-115}	3915^{+1801}_{-682}	1211^{+10129}_{-925}
Alt.	-153 ± 31	$5.29^{+4.85}_{-3.78}$	580^{+85}_{-110}	3948^{+2352}_{-697}	1230^{+13082}_{-904}

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 $A_{obs} \gg 1.0$

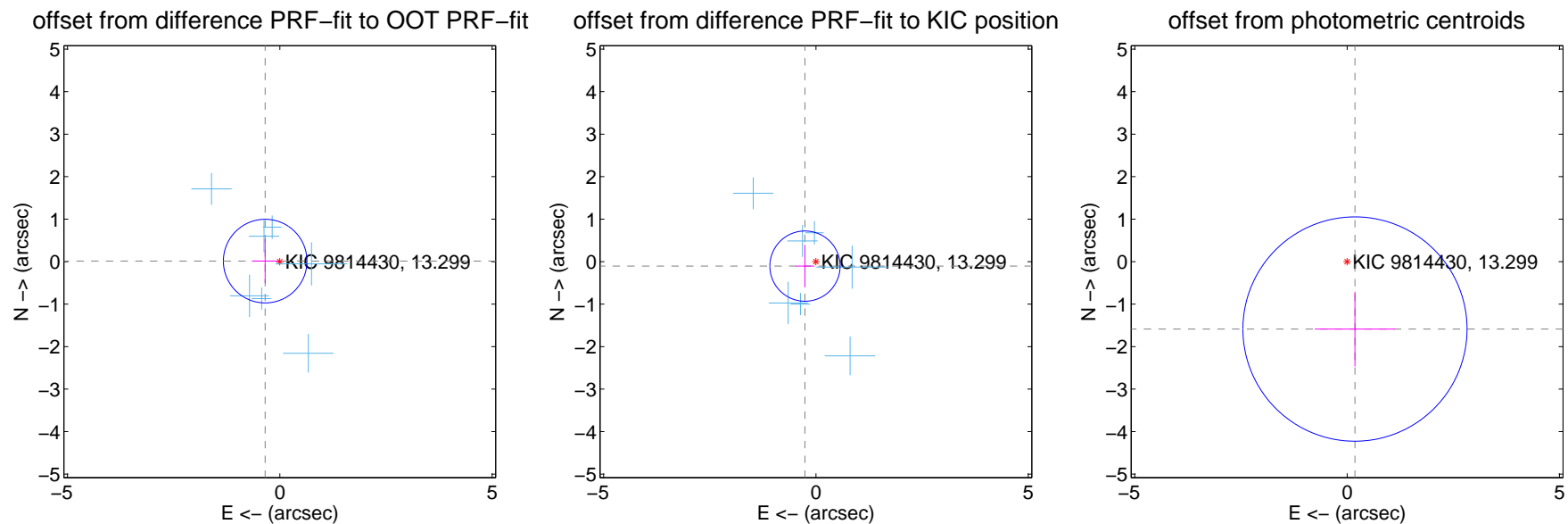
DV Centroid Data

Supplemental centroid analysis for 009814430-01. Kepler magnitude: 13.30. Transit SNR 7.36

There are 7 quarters with good PRF difference image offsets

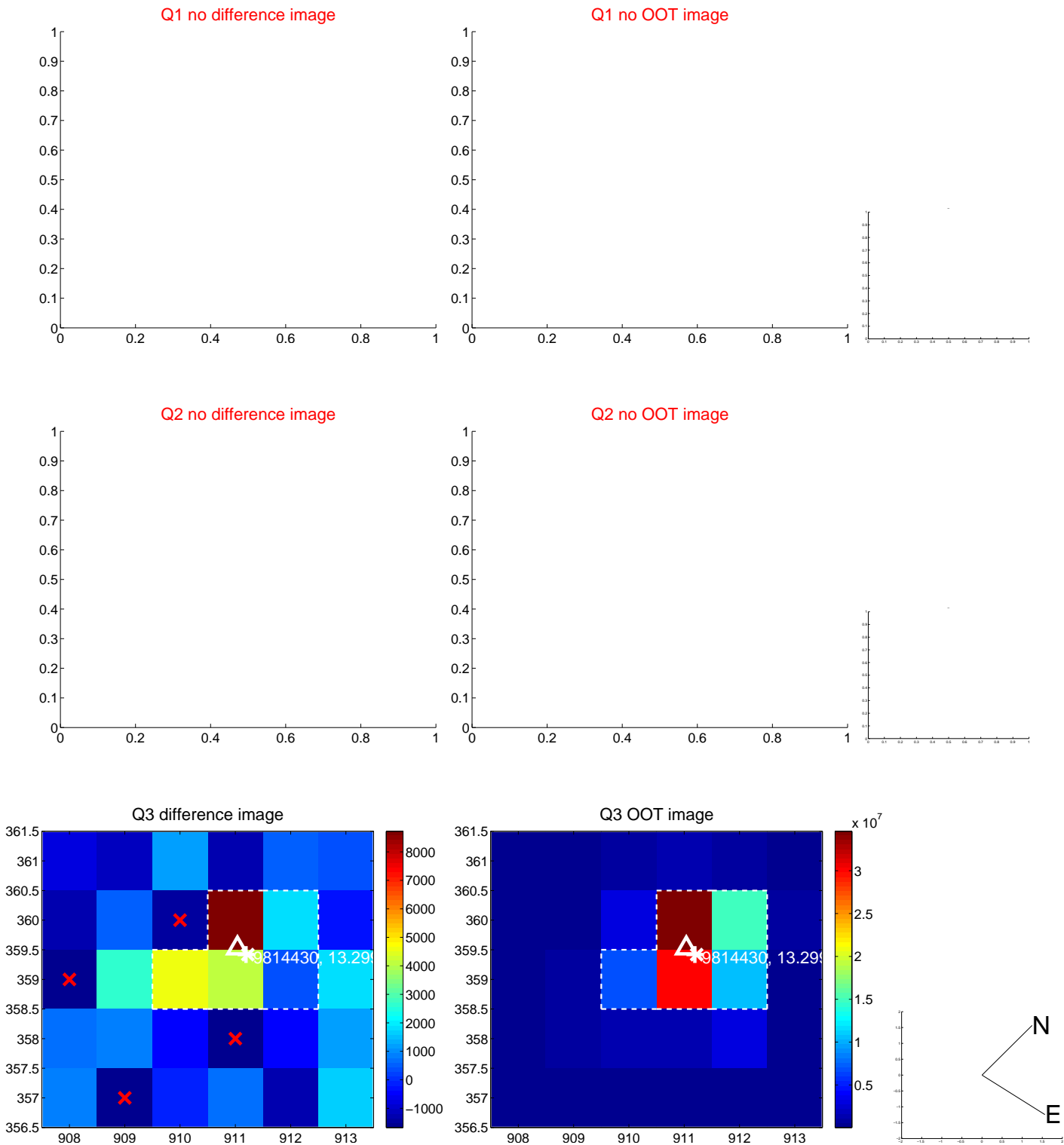
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.344 ± 0.328	1.05	0.344 ± 0.315	0.013 ± 0.518
PRF-fit source offset from KIC position	0.278 ± 0.276	1.01	0.258 ± 0.217	-0.105 ± 0.499
photometric centroid source offset	1.60 ± 0.88	1.82	-0.18 ± 0.95	-1.59 ± 0.88

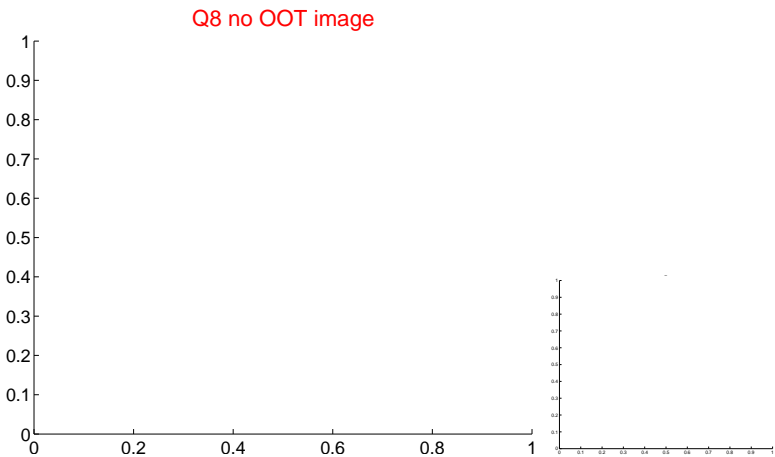
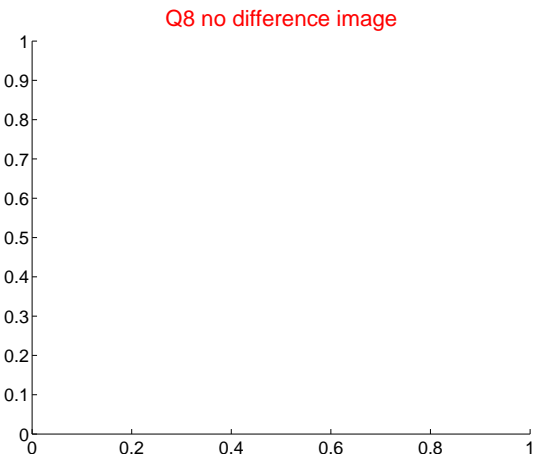
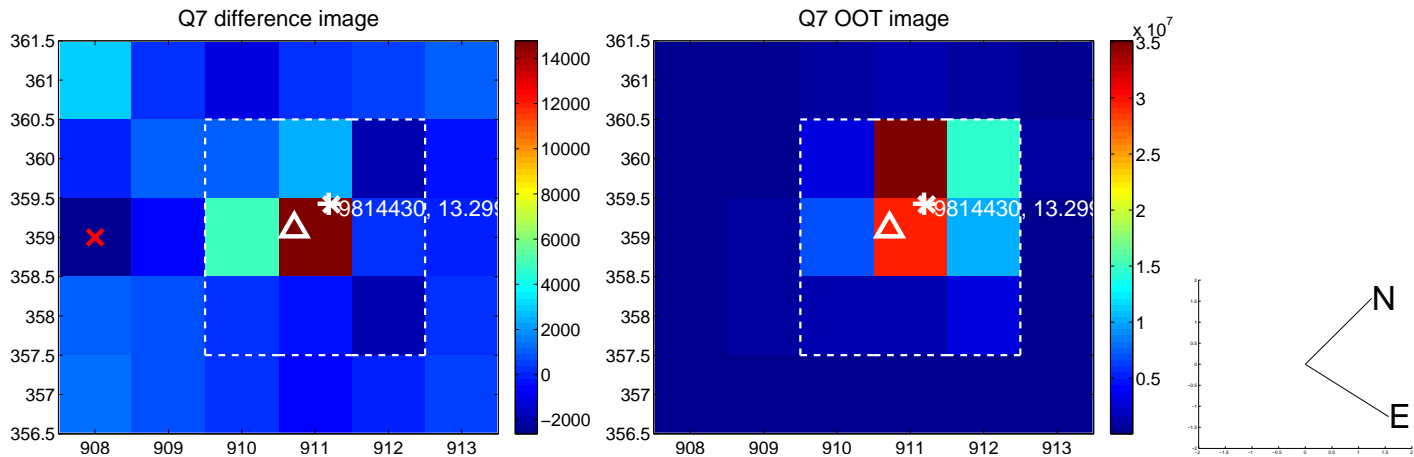
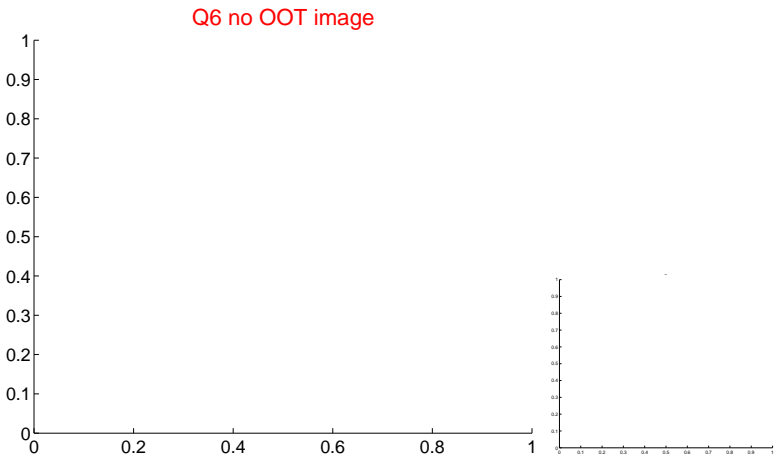
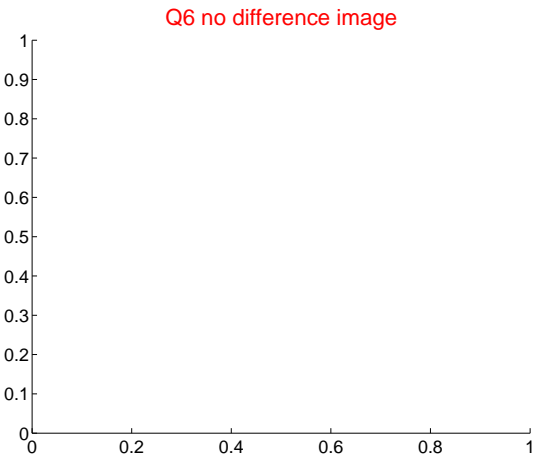
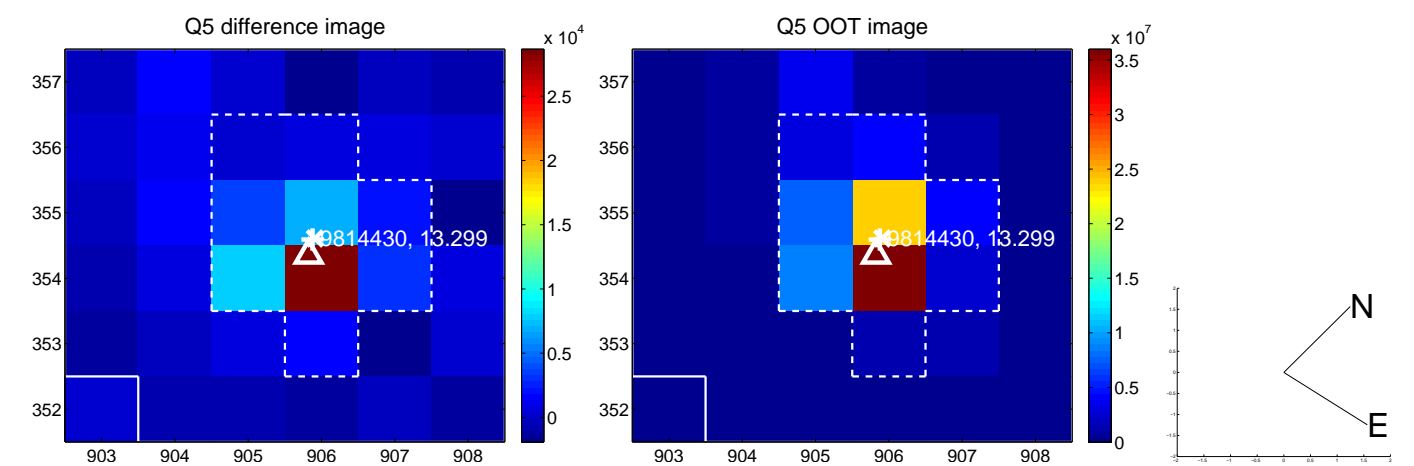


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

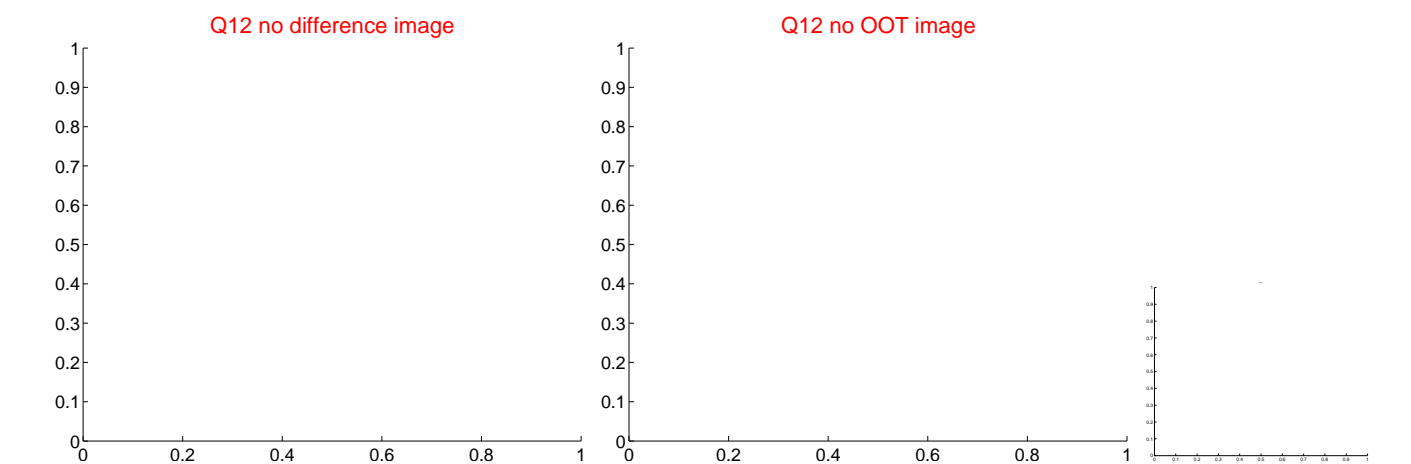
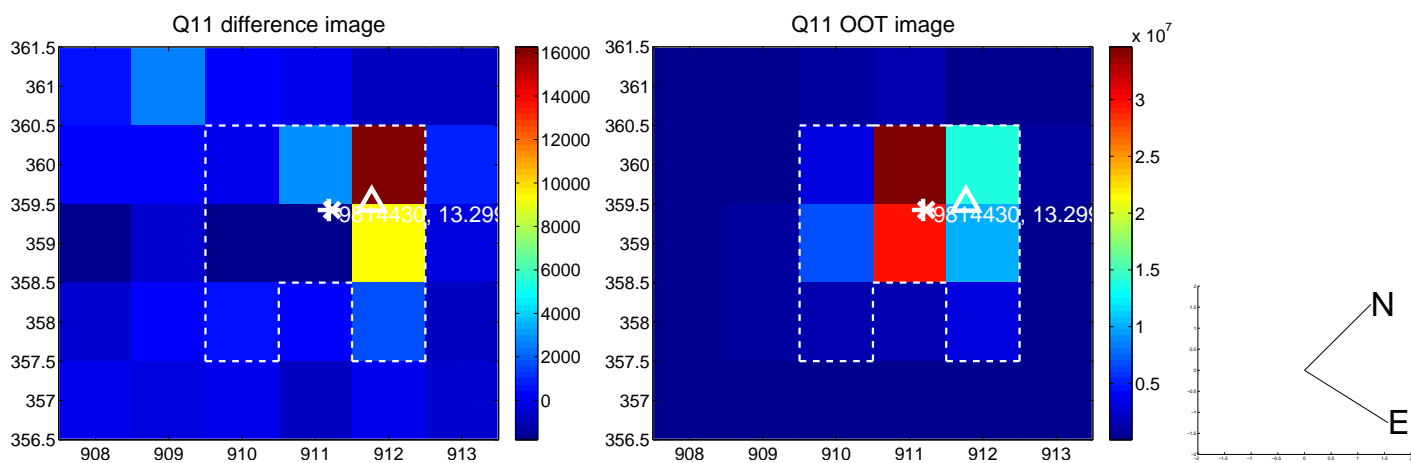
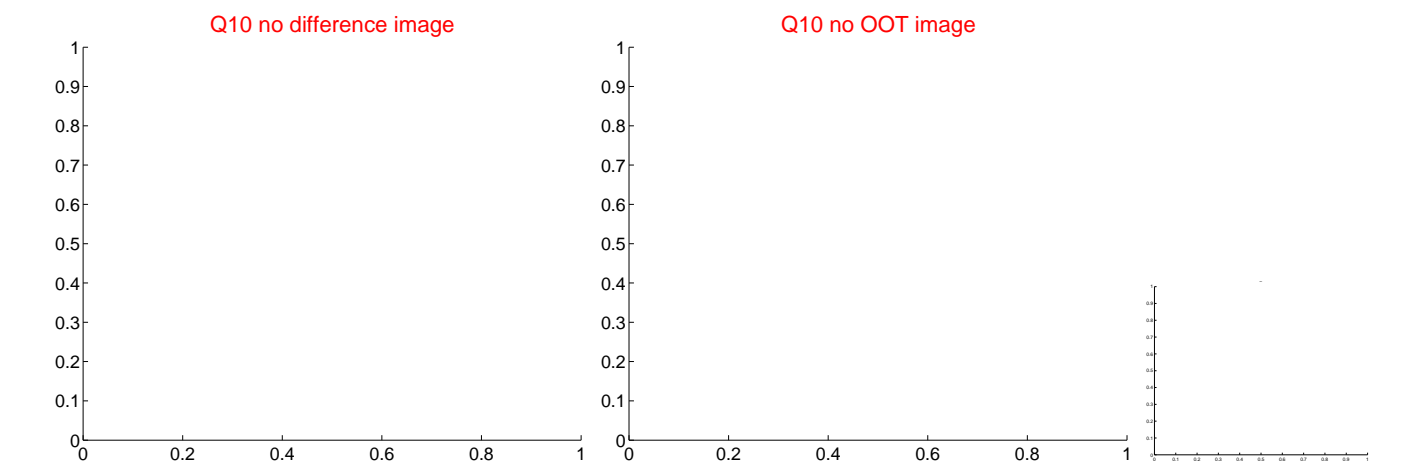
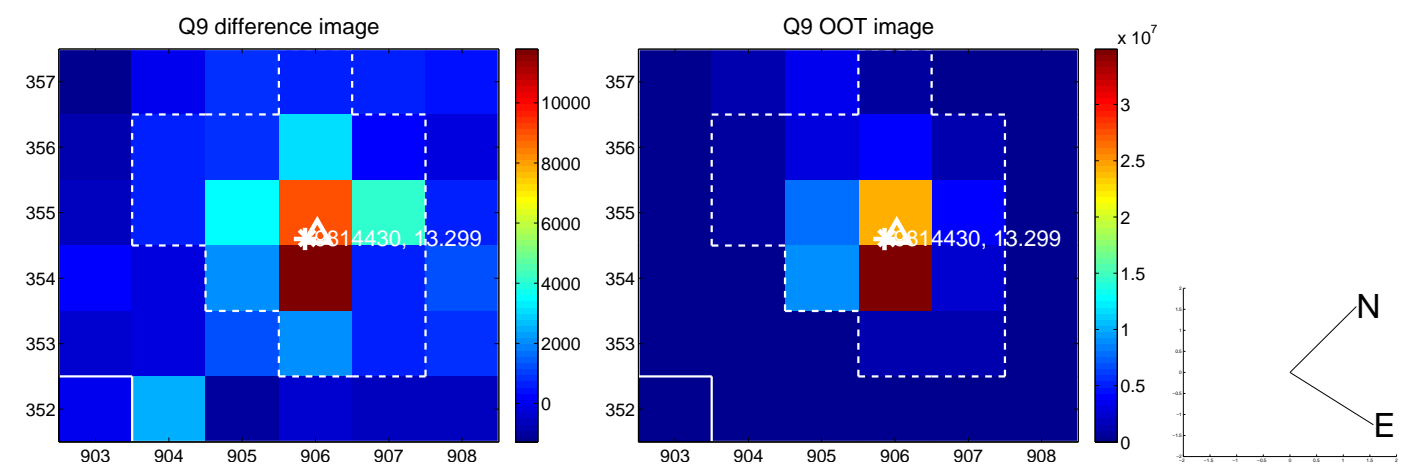
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



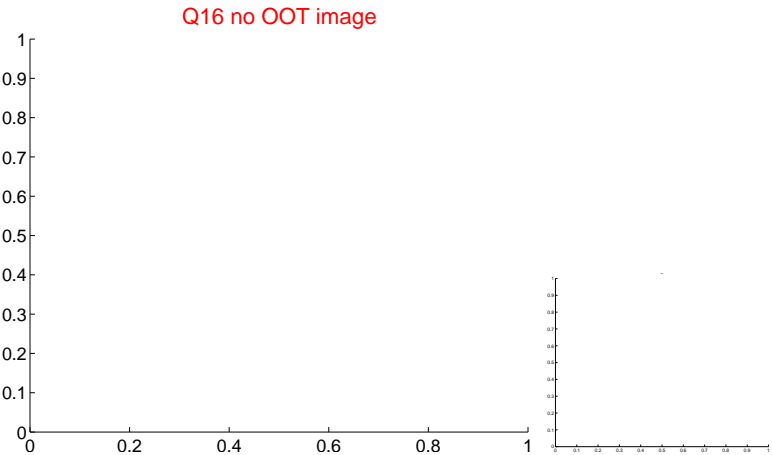
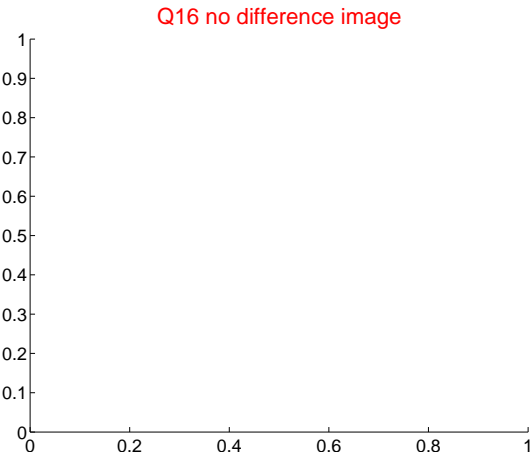
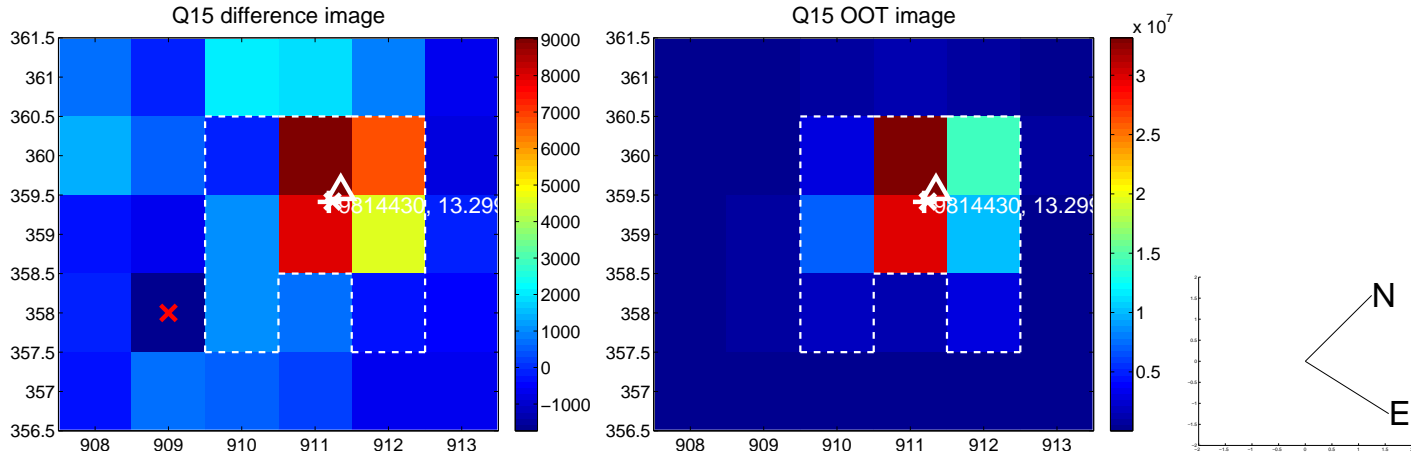
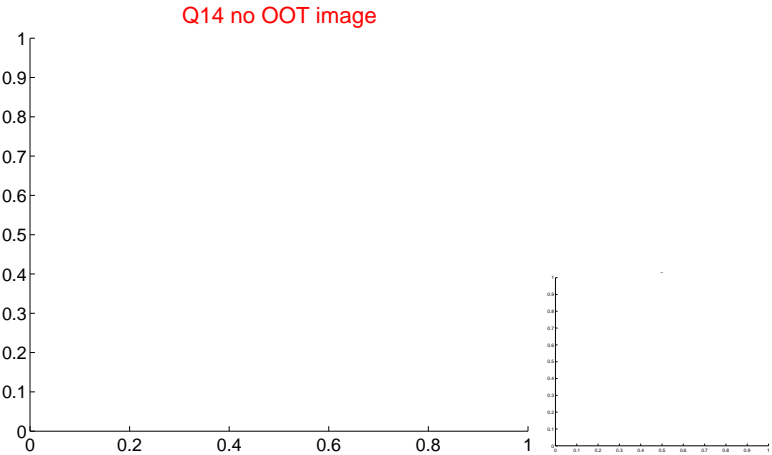
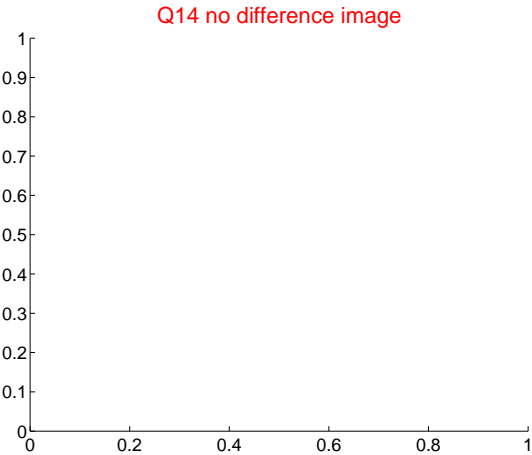
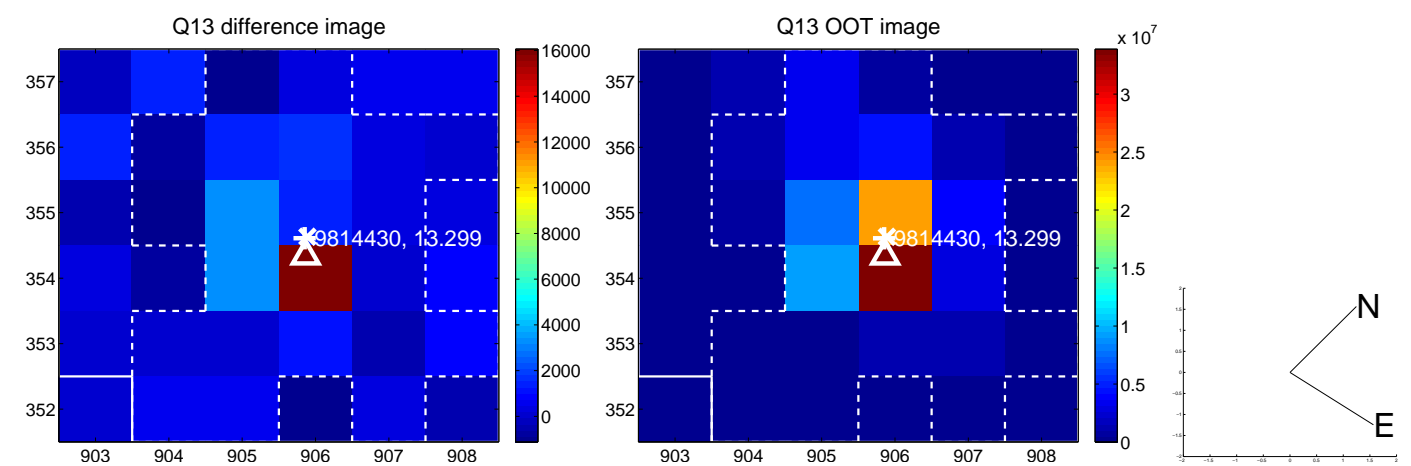
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



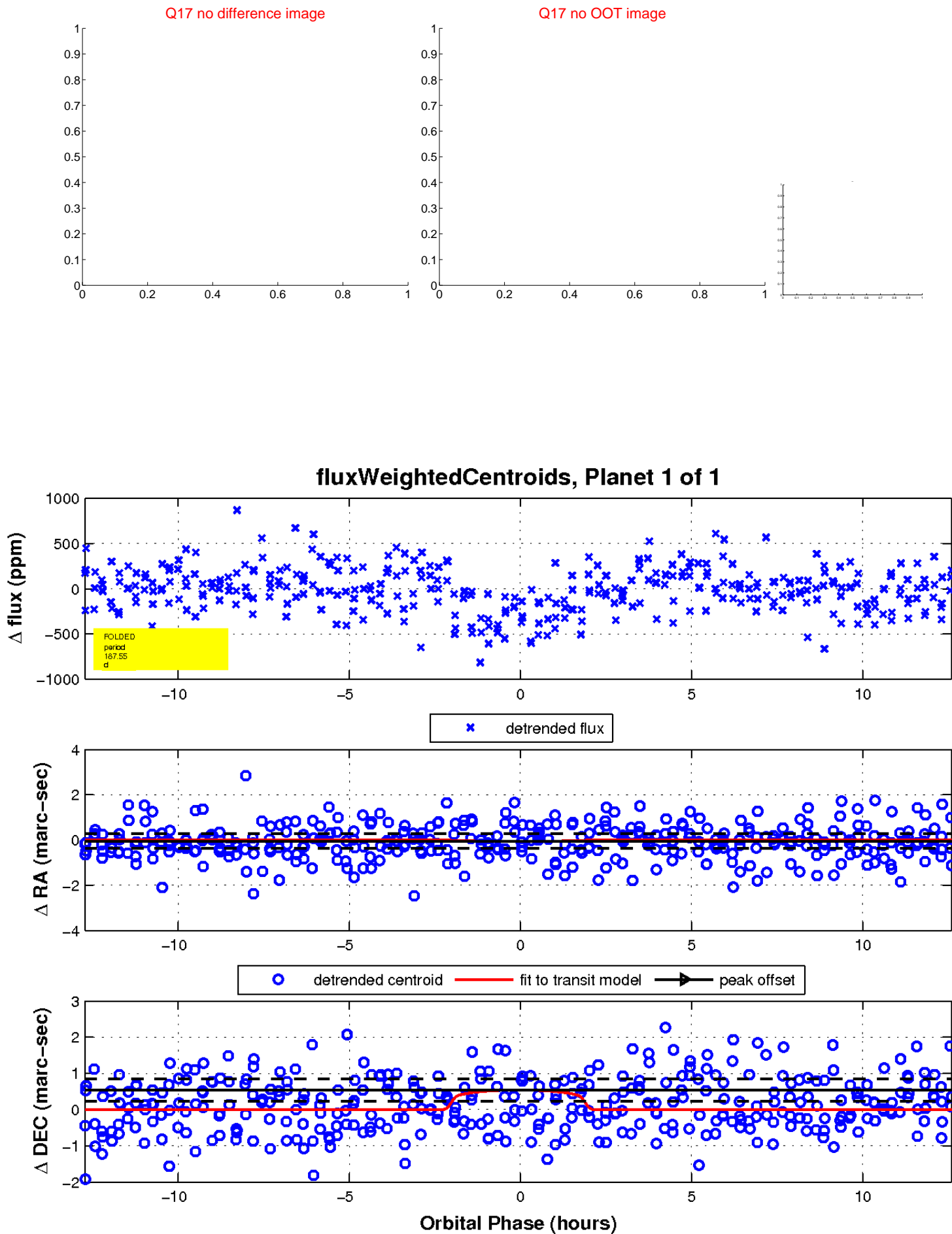
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

