

KIC 009043947

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})
009043947-01	OBS	7920.01	1.043481	131.840946	22.9	2.066	7.5	8.9	2.25	6014	1.34	12354.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009043947-01	OBS	PC	0.87	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.

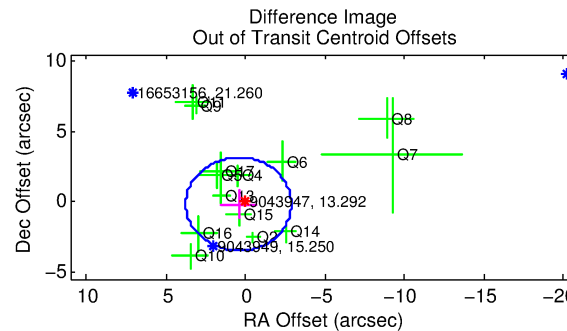
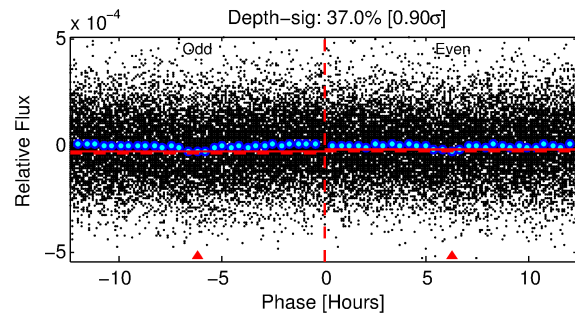
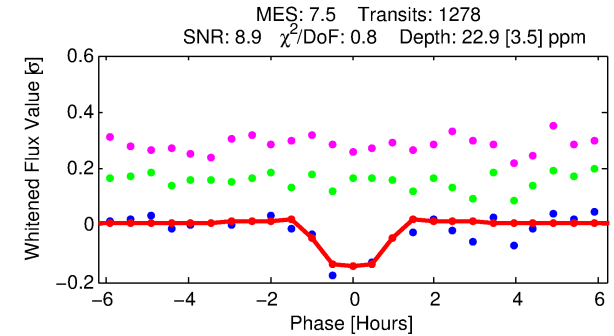
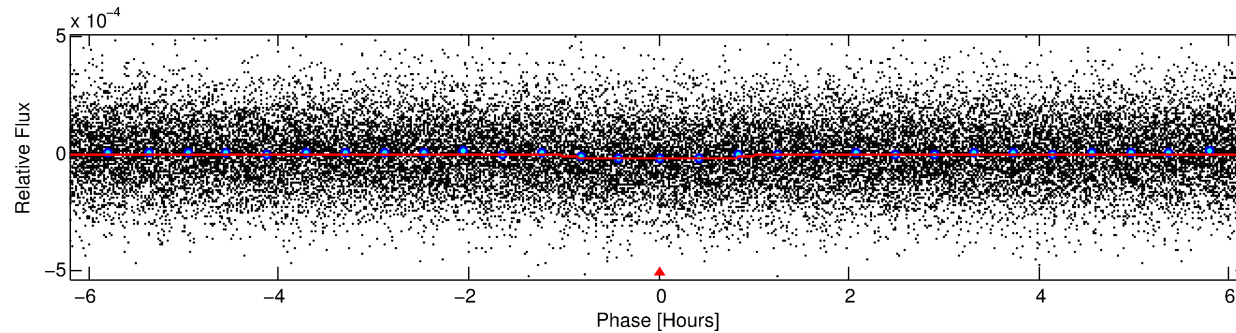
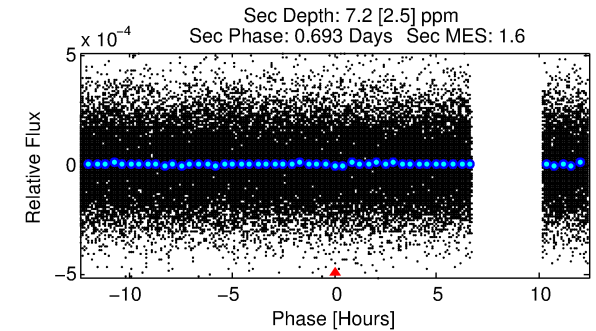
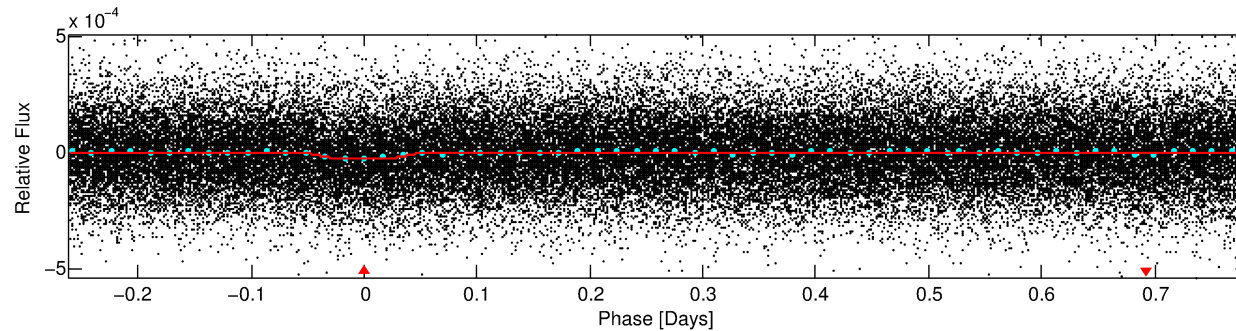
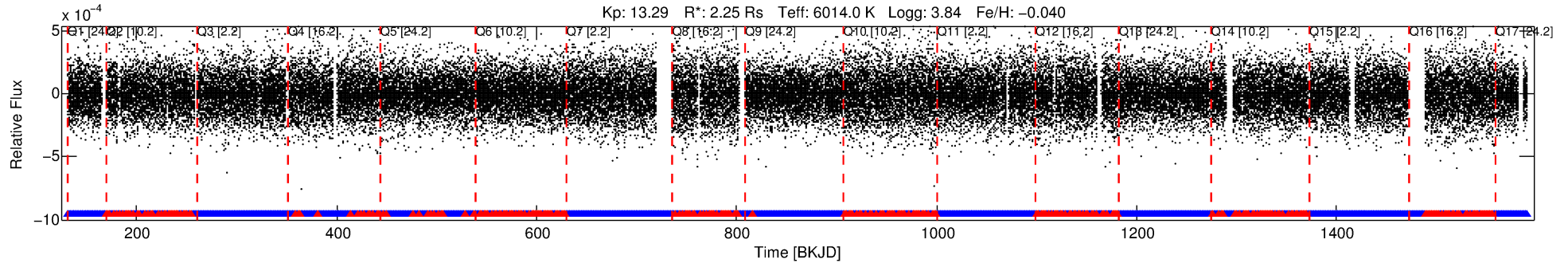
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009043947-01

No Significant Match Found

DV One-Page Summary

KIC: 9043947 Candidate: 1 of 1 Period: 1.043 d



DV Fit Results:

Period = 1.04348 [0.00001] d
Epoch = 131.8409 [0.0029] BKJD
Rp/R* = 0.0055 [0.0029]
a/R* = 1.64 [3.07]
b = 0.94 [0.35]
Seff = 12354.97 [6637.04]
Teq = 2688 [361] K
Rp = 1.34 [0.87] Re
a = 0.0219 [0.0073] AU
Ag = 1.06 [1.31] [0.04σ]
Teffp = 4216 [1196] K [1.22σ]

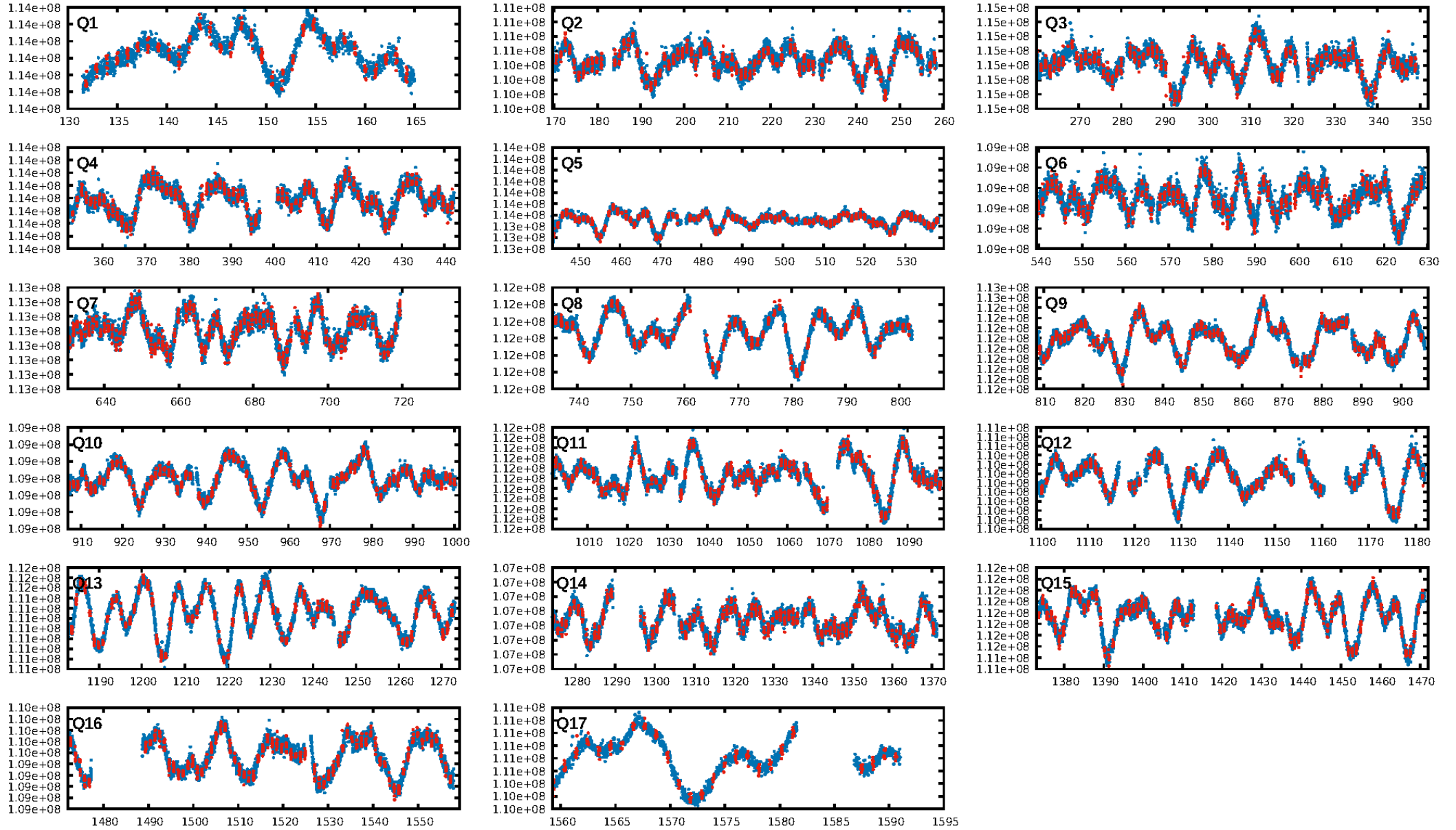
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 7.05e-14
RollingBand-fgt: 0.74 [898/1220]
GhostDiagnostic-chr: 21.69
Centroid-sig: 85.3%
Centroid-so: 0.498 arcsec [0.35σ]
OotOffset-rm: 0.445 arcsec [0.40σ]
KicOffset-rm: 0.437 arcsec [0.40σ]
OotOffset-st: 4/3/3/4 [14]
KicOffset-st: 4/3/3/4 [14]
DiffImageQuality-fgm: 0.43 [6/14]
DiffImageOverlap-fno: 1.00 [17/17]

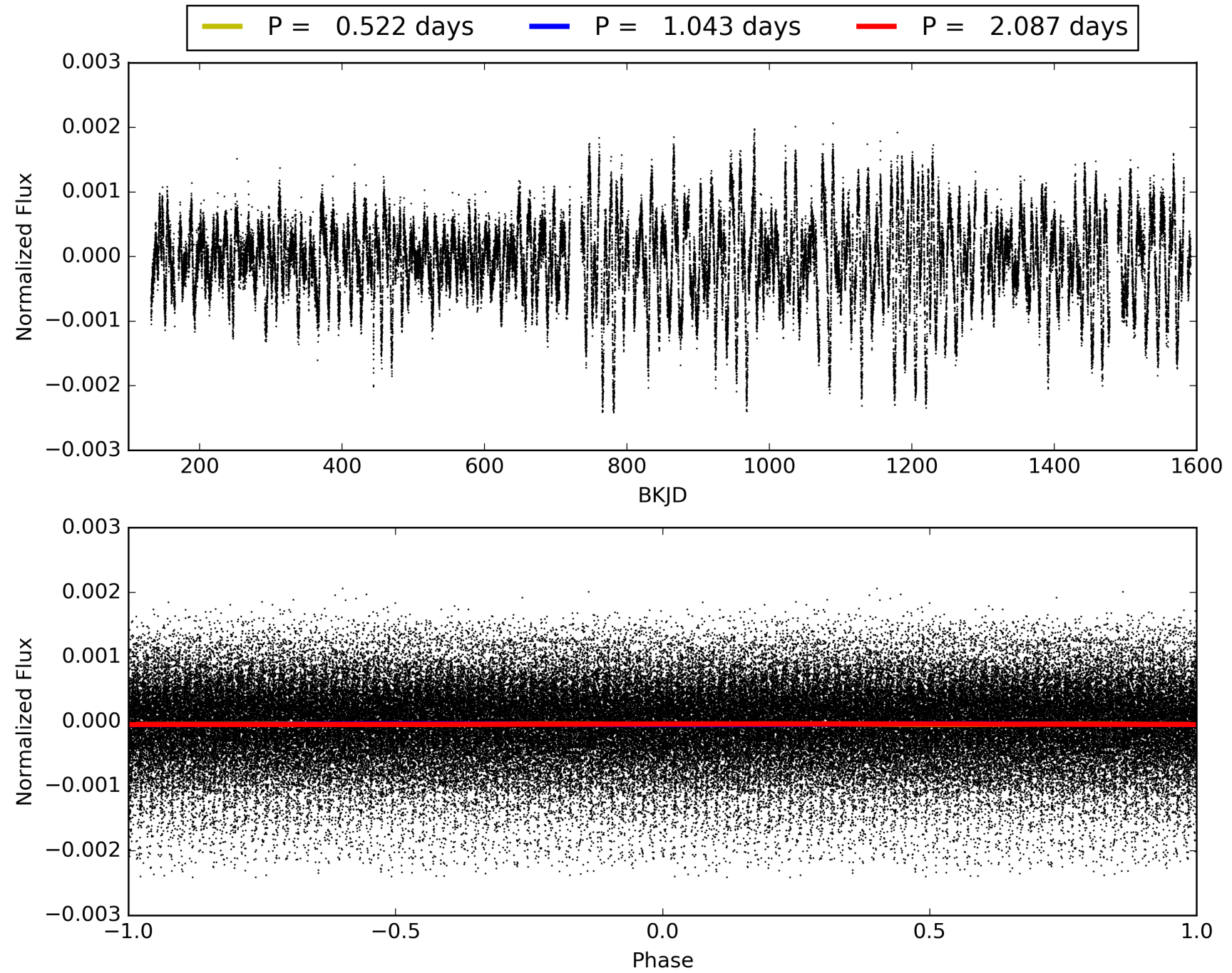
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:57:01 Z

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

TCE 009043947-01, PDC Light Curves

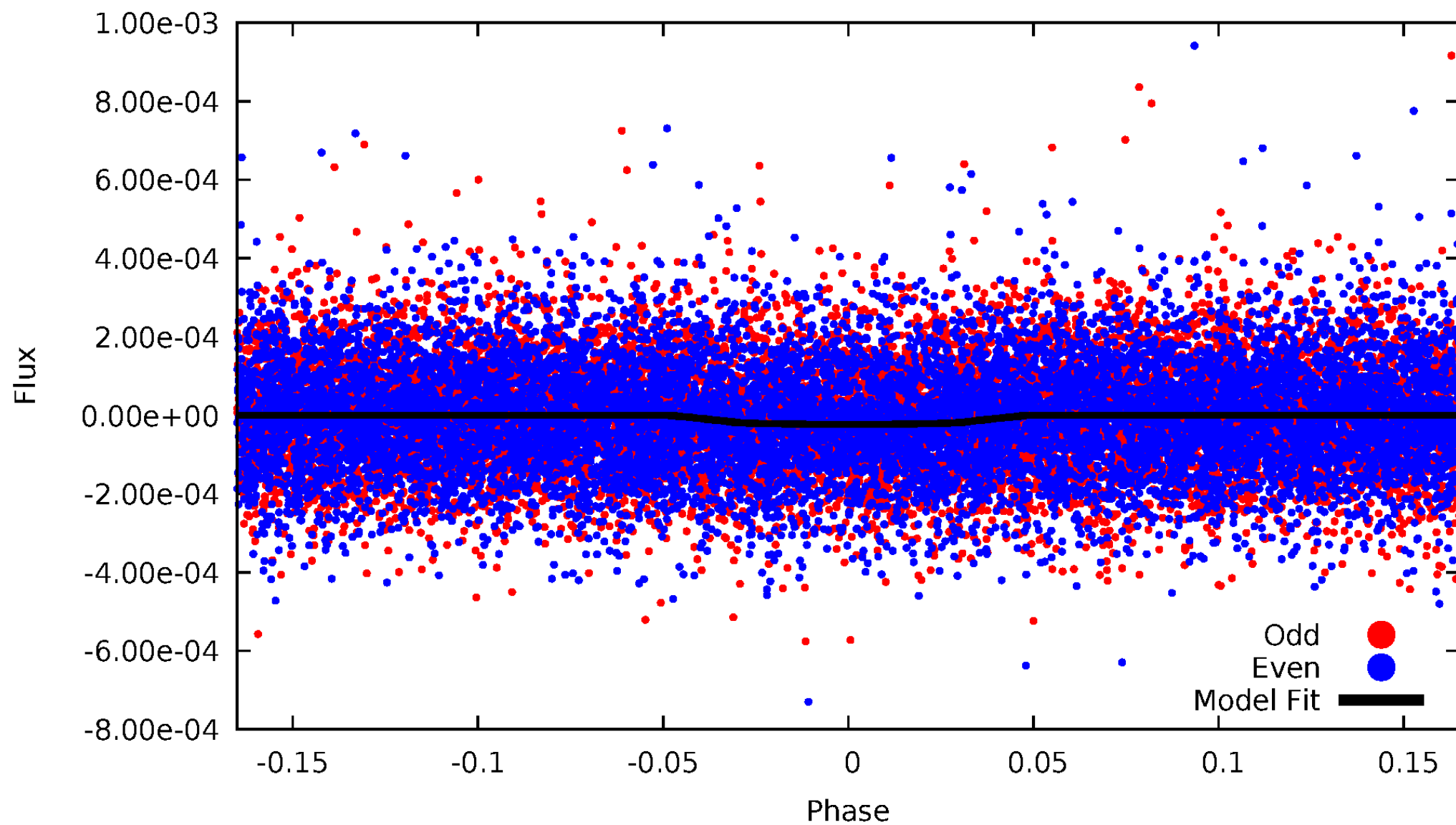


TCE 009043947-01



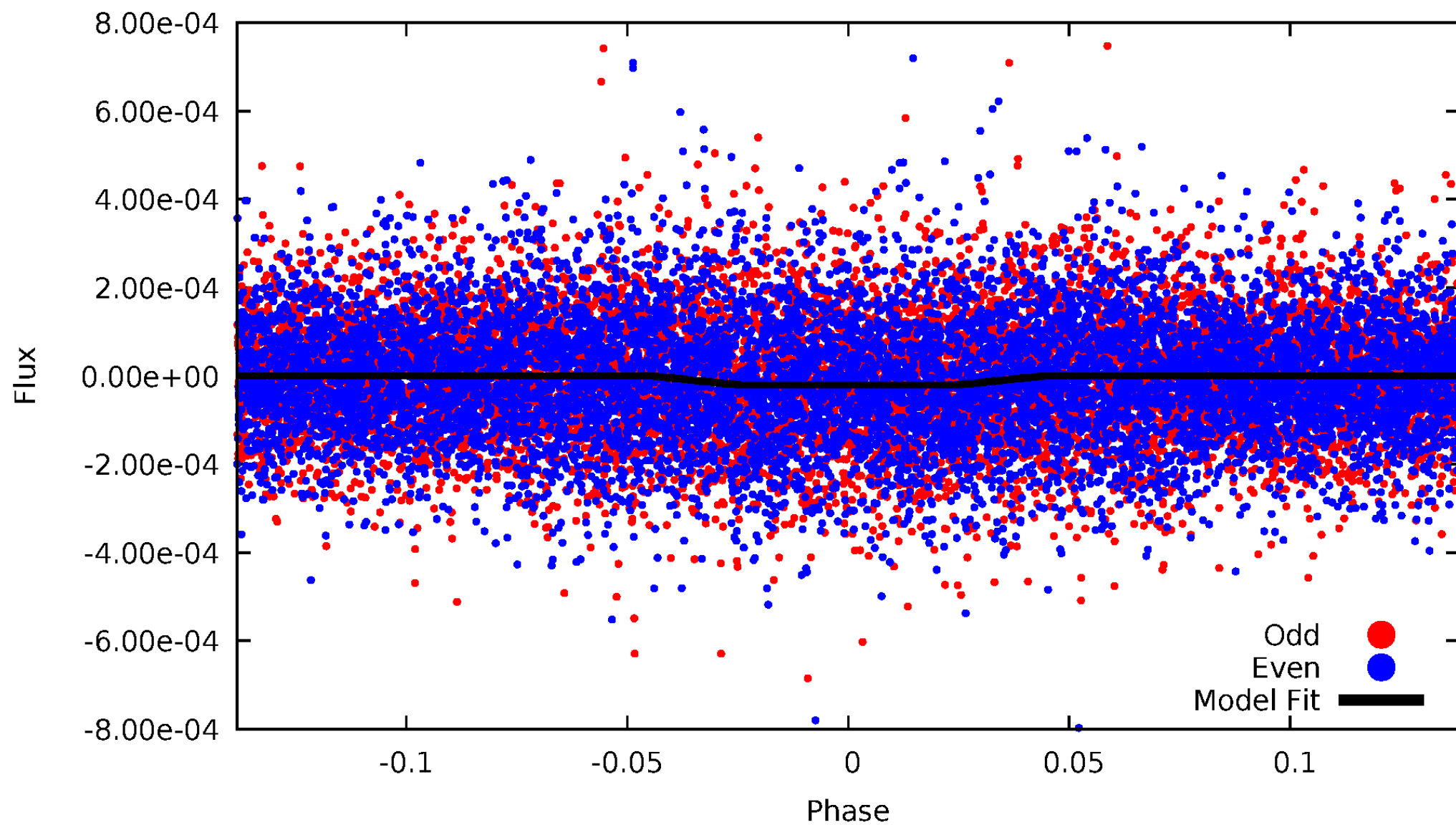
DV Odd/Even

TCE 009043947-01



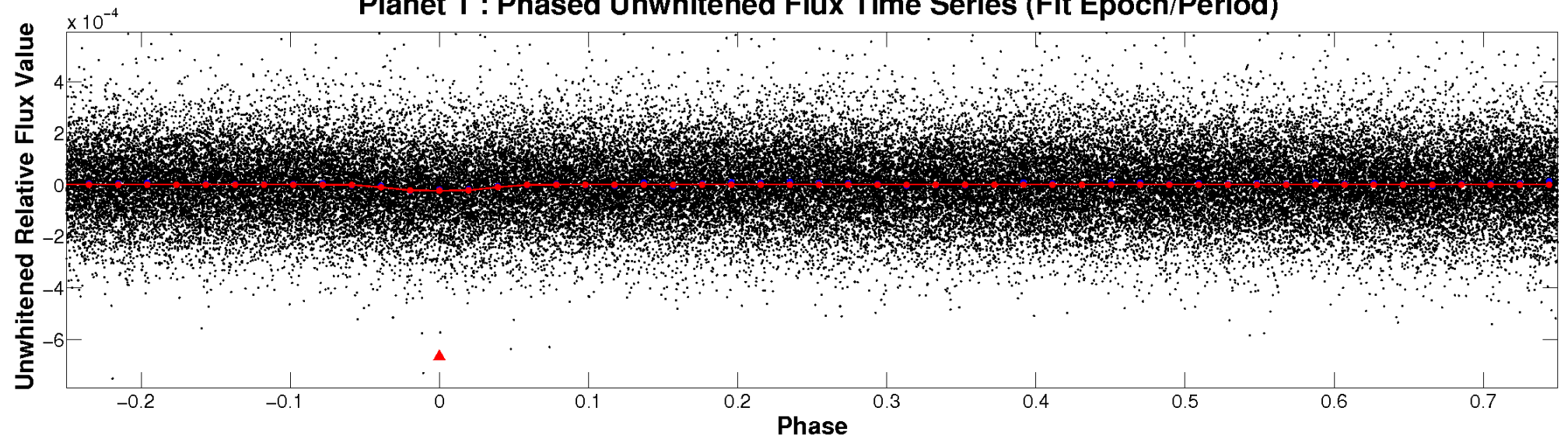
ALT Odd/Even

TCE 009043947-01

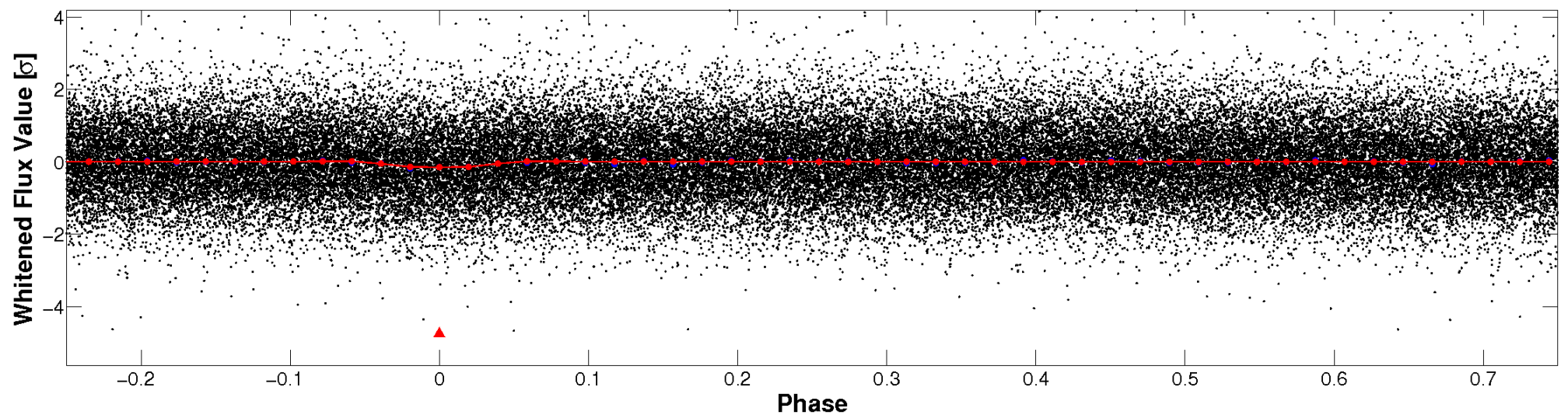


Non-Whitened Vs. Whitened Light Curve

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

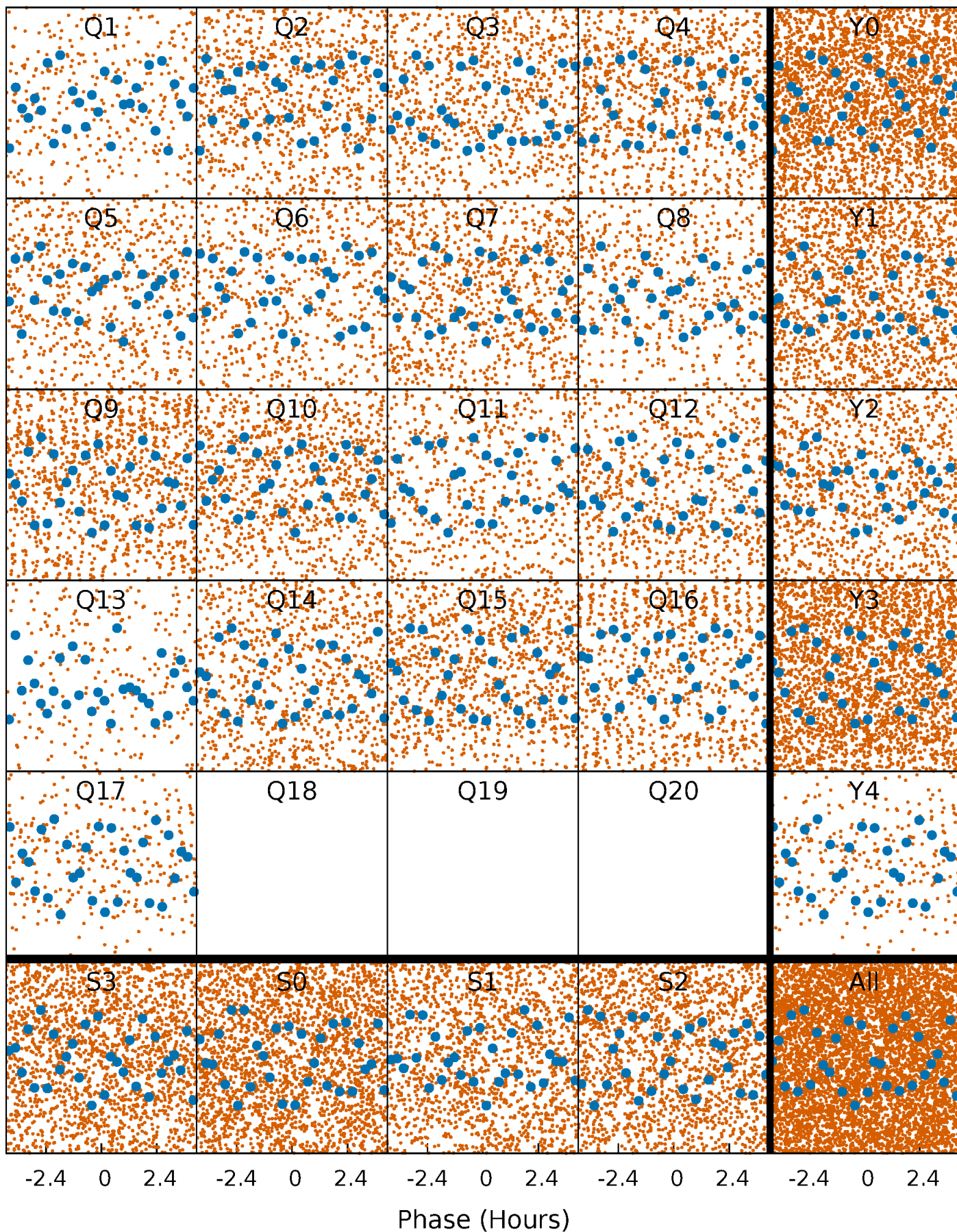


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



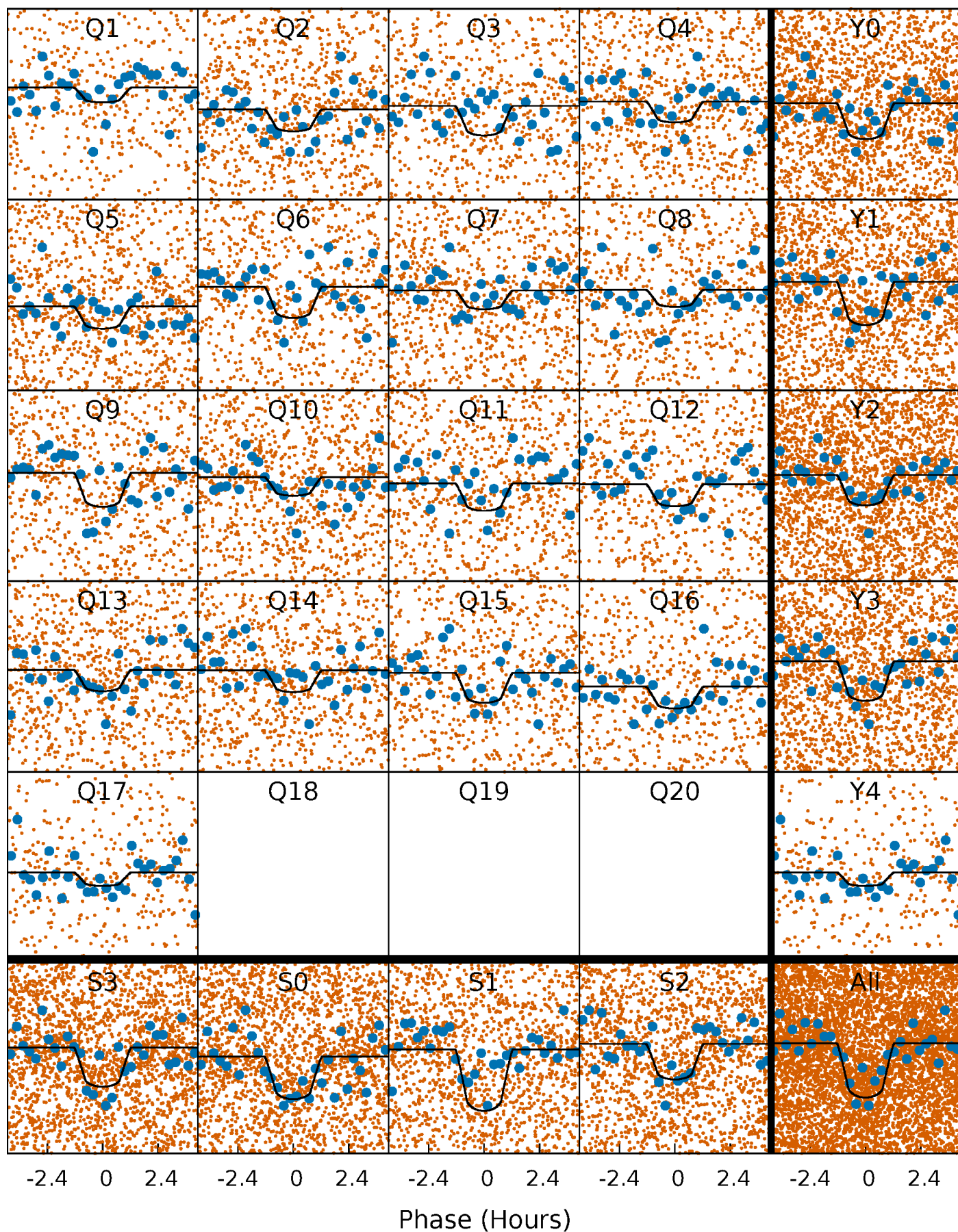
PDC Quarter-Phased Transit Curves

TCE 009043947-01 P= 1.043481 Days $T_0=131.840947$ (BKJD)



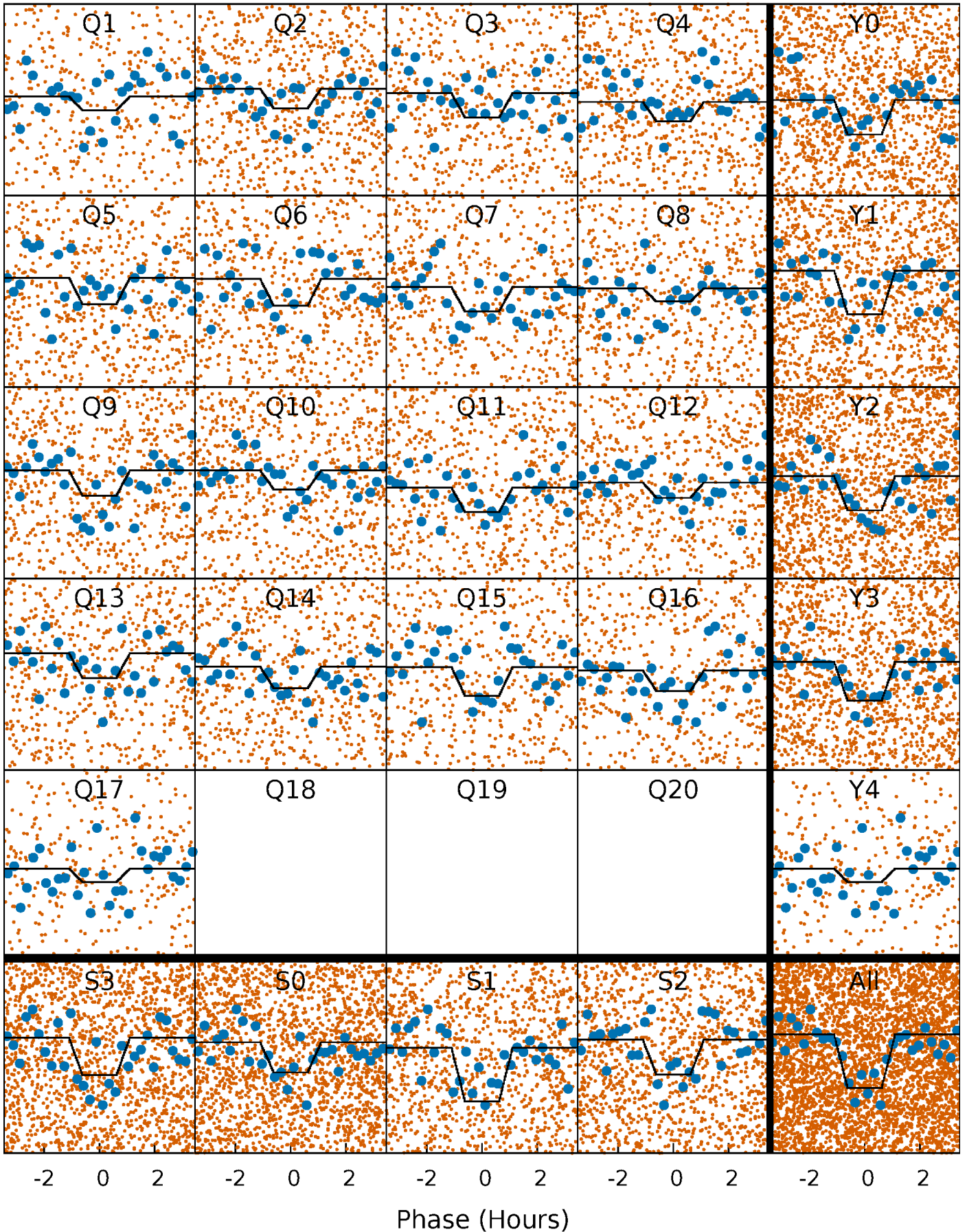
DV Quarter-Phased Transit Curves

TCE 009043947-01 $P = 1.043481$ Days $T_0 = 131.840947$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

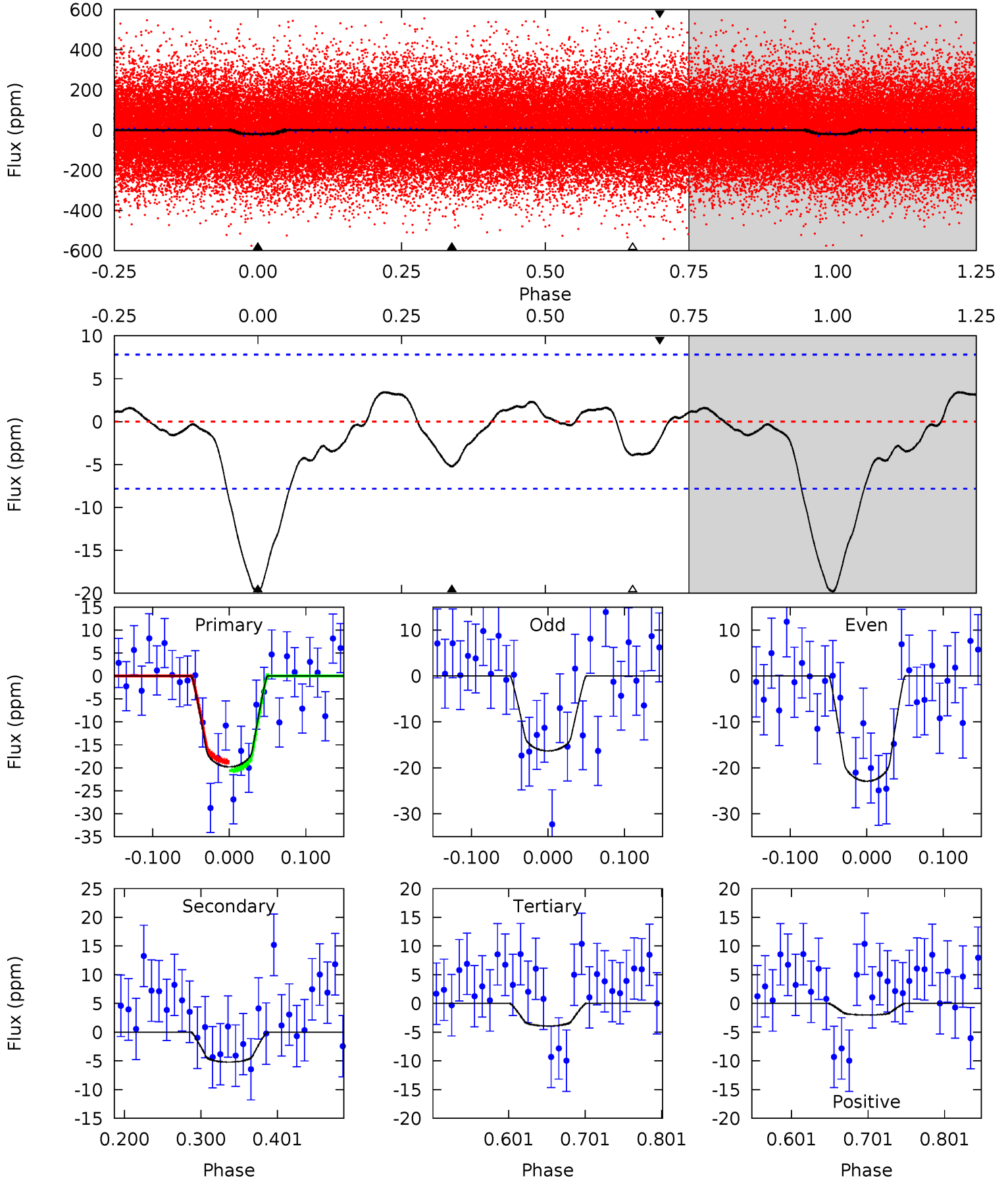
TCE 009043947-01 P= 1.043476 Days $T_0=131.841413$ (BKJD)



DV Model-Shift Uniqueness Test

009043947-01, P = 1.043481 Days, E = 130.797466 Days

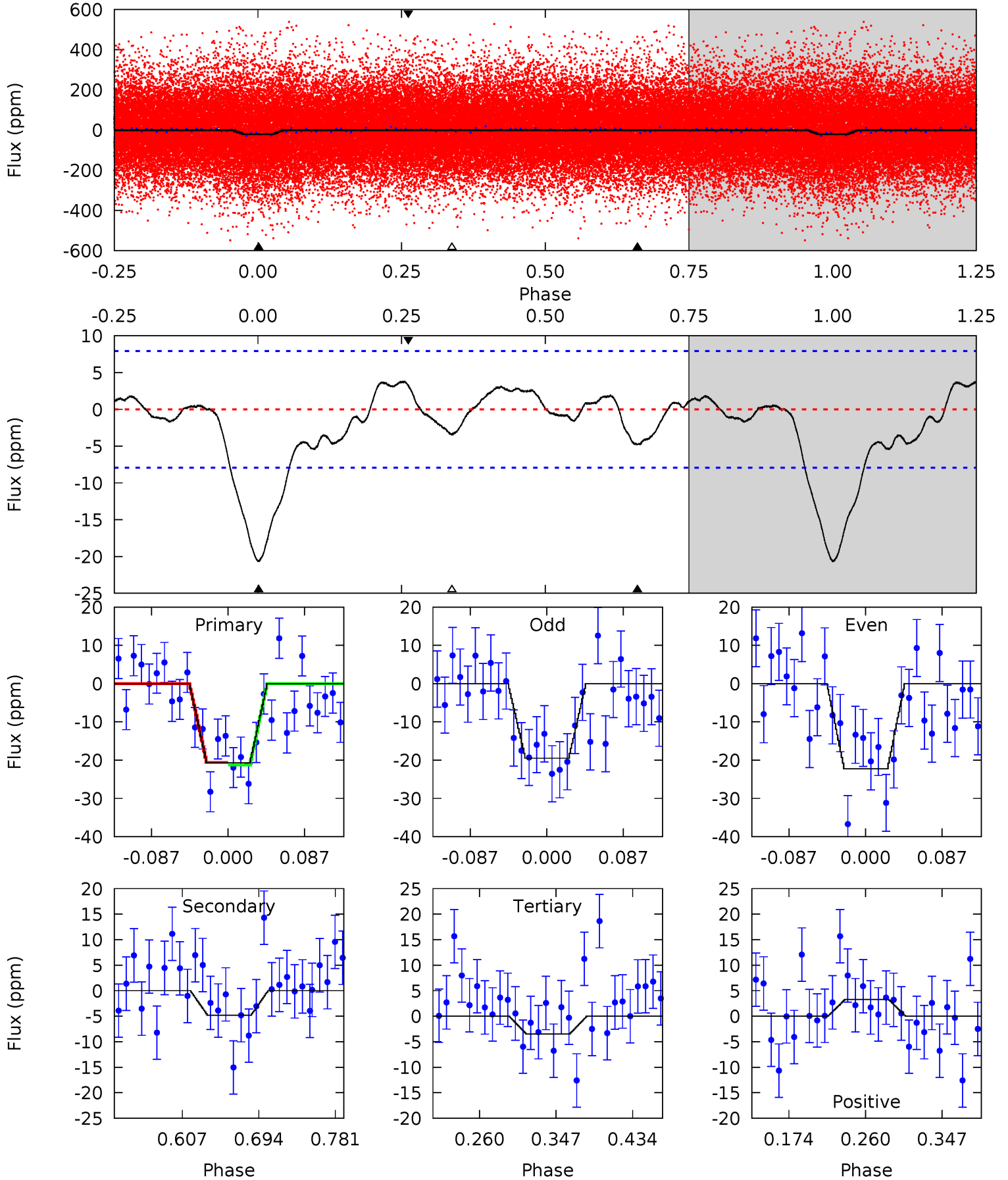
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	3.05	2.29	-1.18	4.56	1.64	1.13	9.27	12.7	0.76	4.23	1.93	0.98	0.15	0.58



Alt Model-Shift Uniqueness Test

009043947-01, P = 1.043476 Days, E = 130.797937 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	2.80	2.02	1.91	4.59	1.71	1.32	9.97	10.1	0.78	0.89	0.80	1.01	0.16	0.20



Stellar Parameters For KIC 009043947

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6014^{+200}_{-182}	$3.843^{+0.300}_{-0.100}$	$-0.040^{+0.300}_{-0.300}$	$2.246^{+0.409}_{-0.817}$	$1.281^{+0.192}_{-0.265}$	$0.159^{+0.321}_{-0.048}$
	+3%/-3%	+8%/-3%	+750%/-750%	+18%/-36%	+15%/-21%	+202%/-30%
Source	PHO1	FLK73	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 009043947-01 / KOI 7920.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5 ± 2	$1.25^{+0.72}_{-0.63}$	3696^{+235}_{-329}	3815^{+1648}_{-1595}	$0.844^{+2.839}_{-0.533}$
Alt.	-5 ± 2	$1.12^{+0.74}_{-0.62}$	3698^{+237}_{-347}	3937^{+1903}_{-1453}	$0.951^{+4.194}_{-0.629}$

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

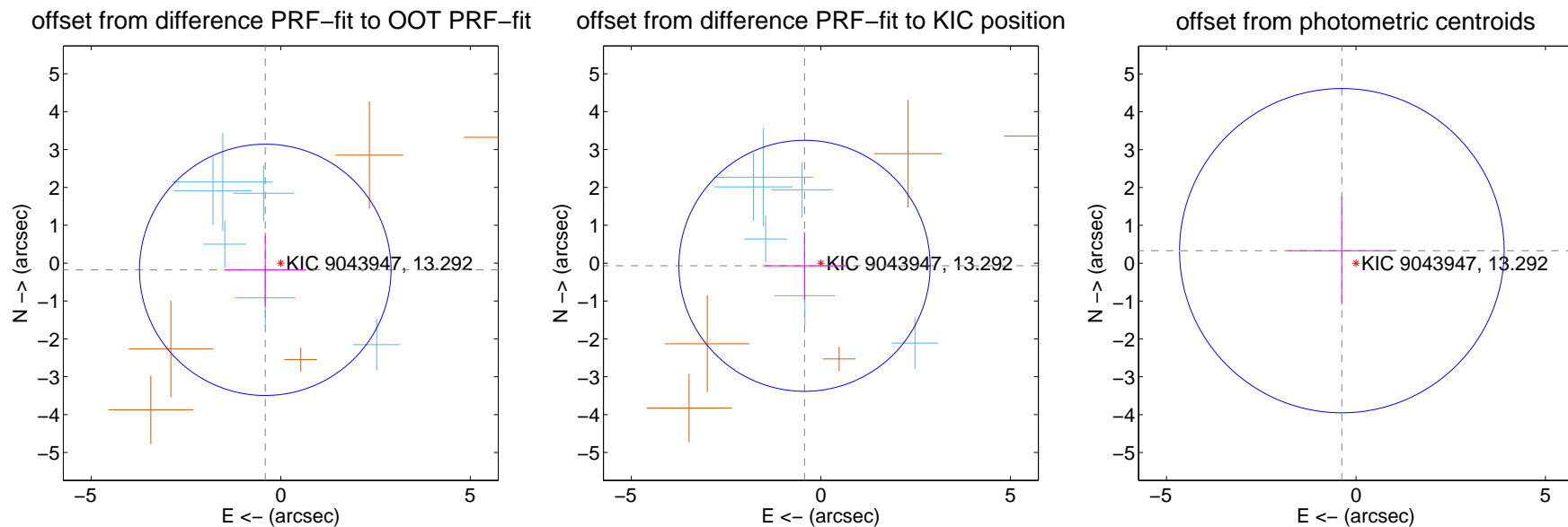
DV Centroid Data

Supplemental centroid analysis for 009043947-01. Kepler magnitude: 13.29. Transit SNR 8.90

There are 6 quarters with good PRF difference image offsets

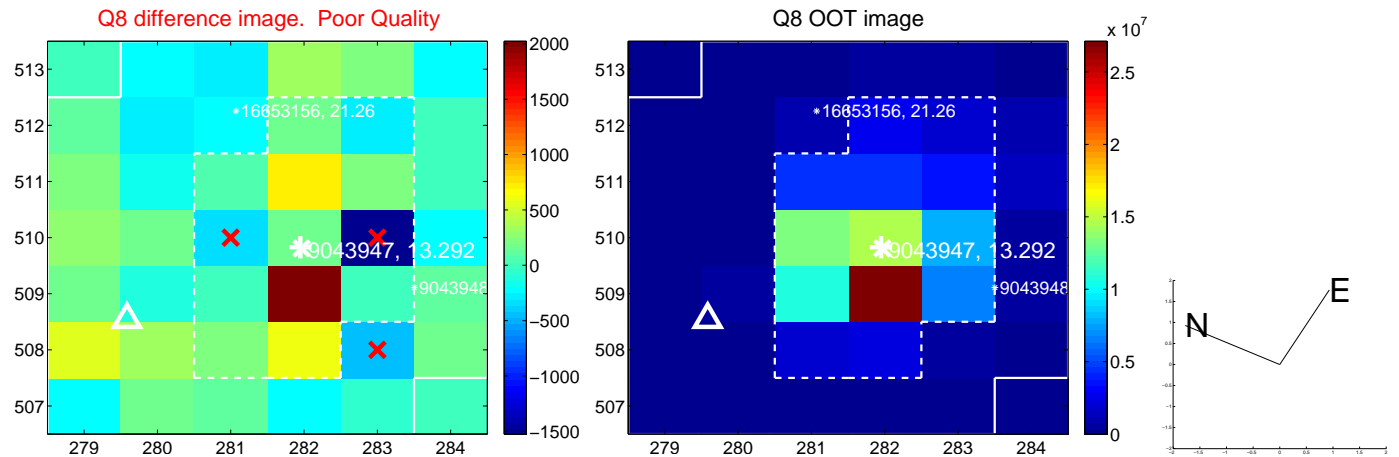
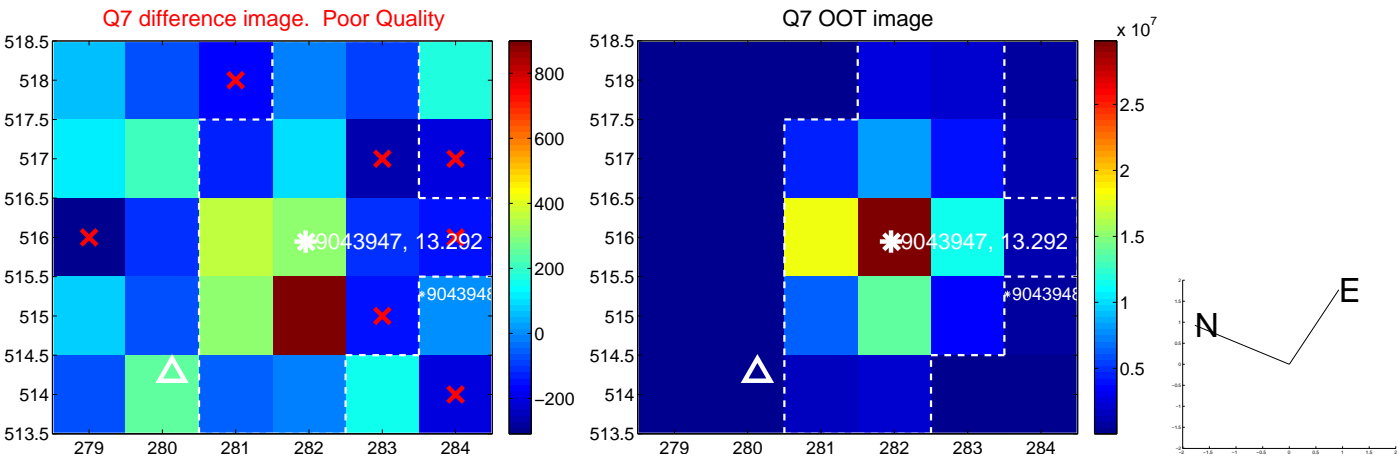
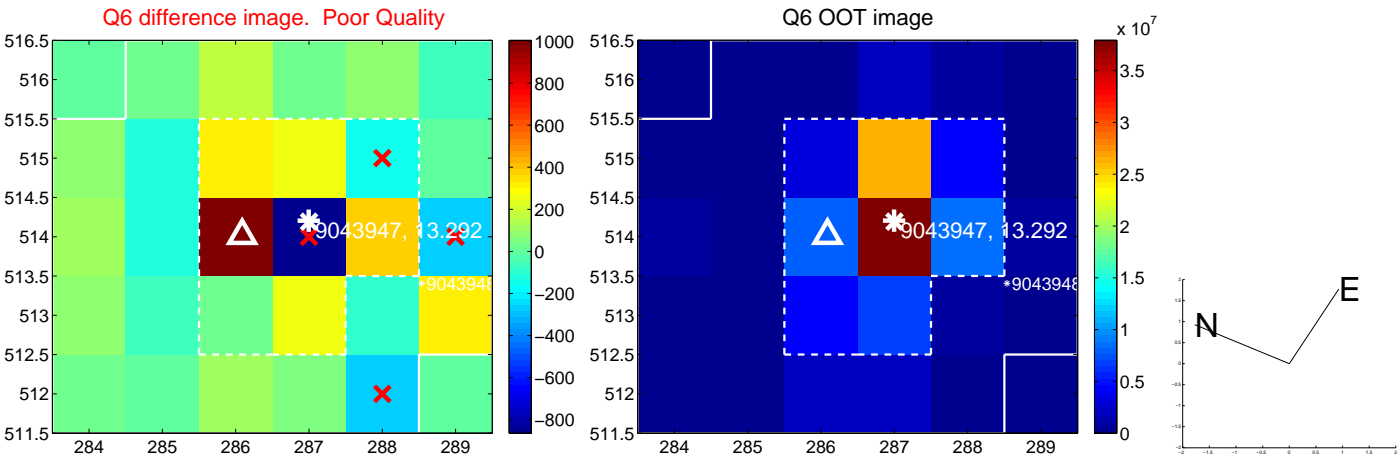
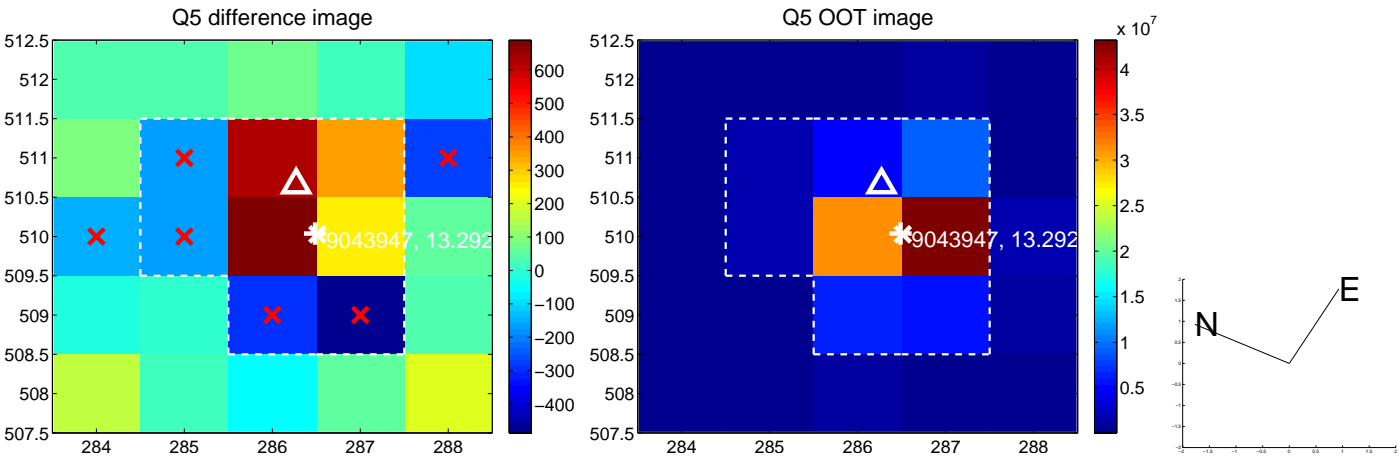
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.445 ± 1.106	0.40	0.409 ± 1.072	-0.177 ± 0.975
PRF-fit source offset from KIC position	0.437 ± 1.105	0.40	0.431 ± 1.081	-0.070 ± 0.890
photometric centroid source offset	0.50 ± 1.43	0.35	0.37 ± 1.43	0.33 ± 1.42

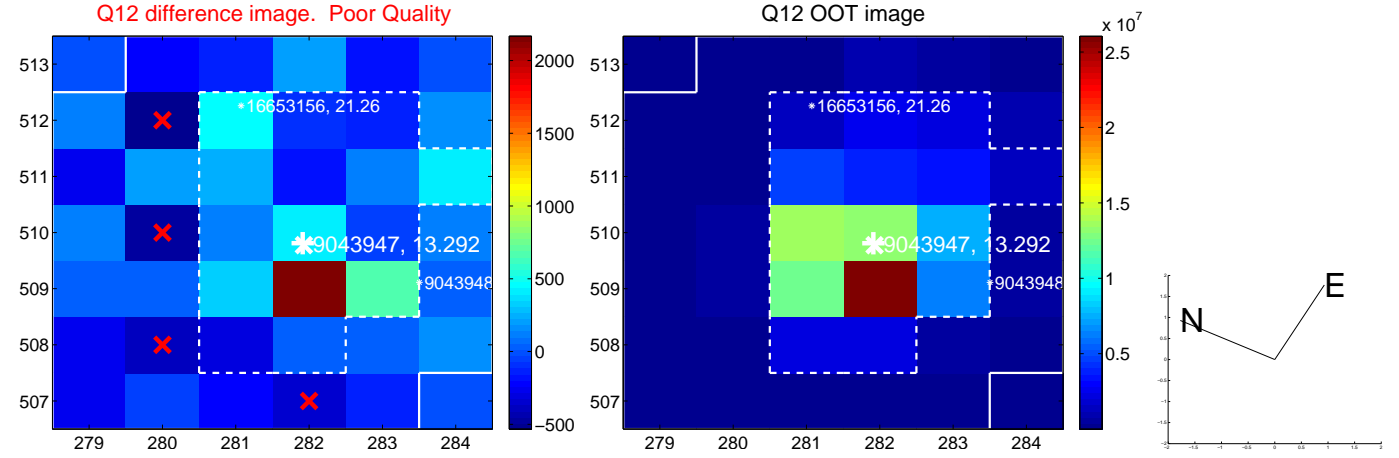
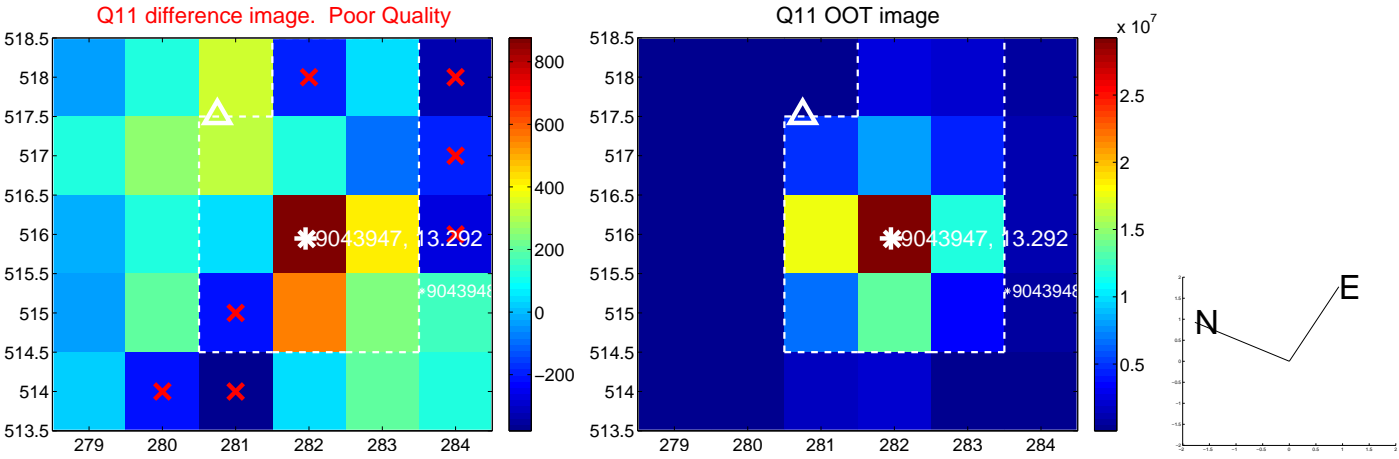
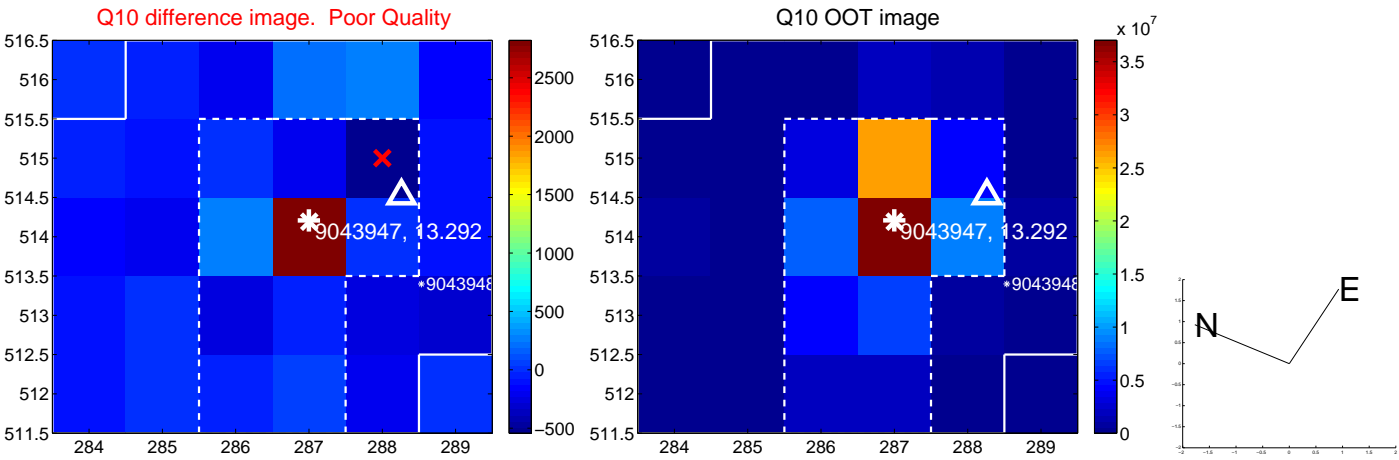
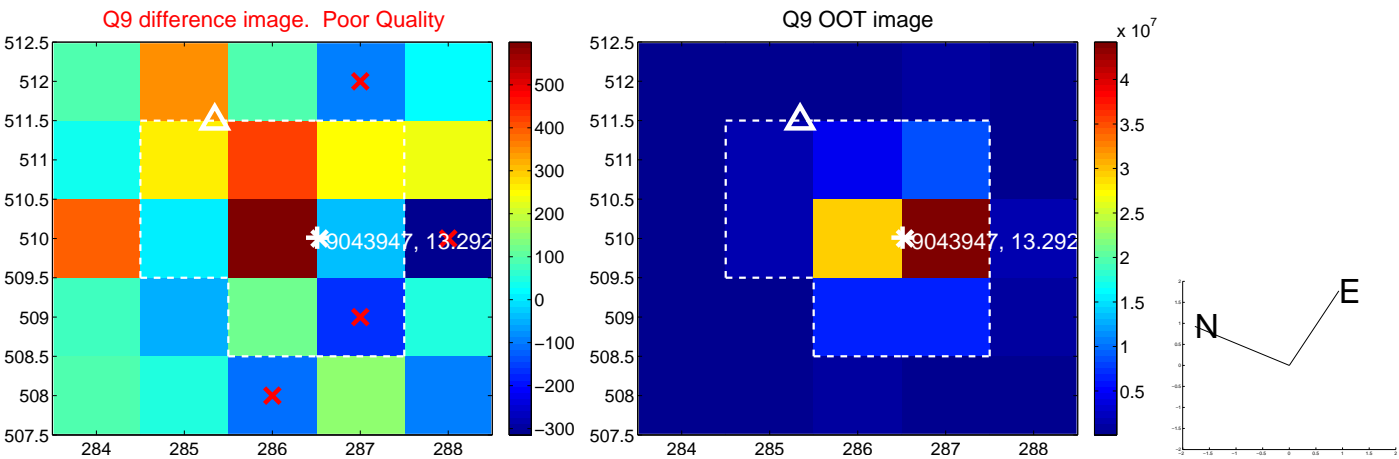


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

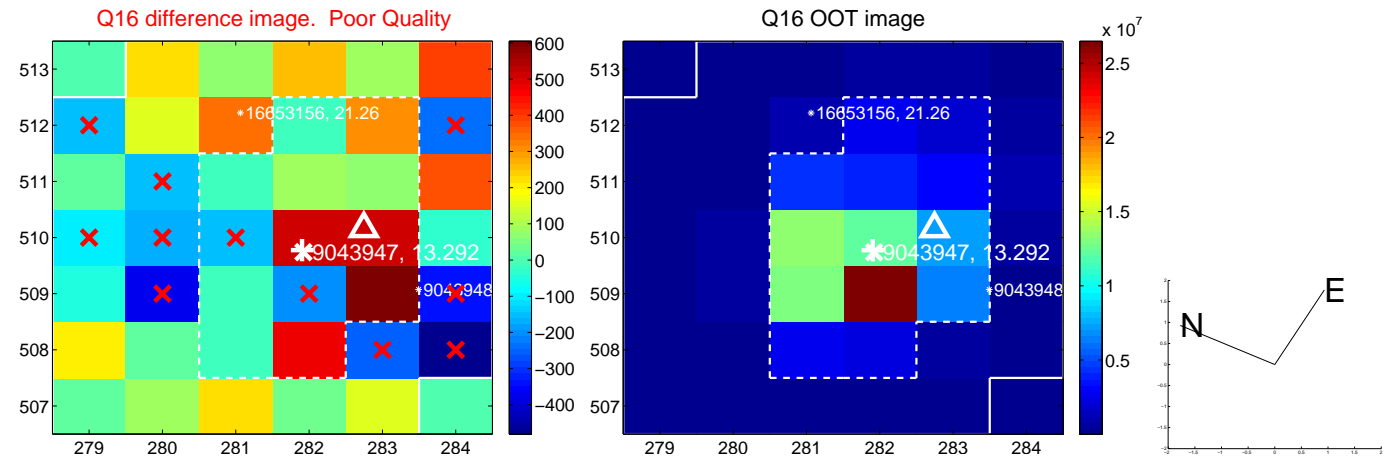
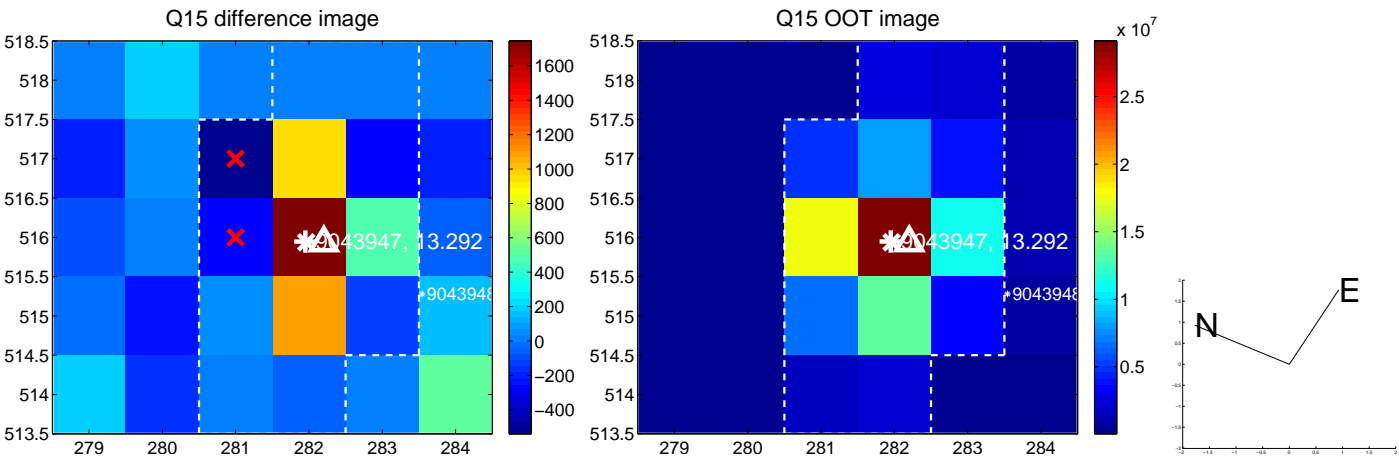
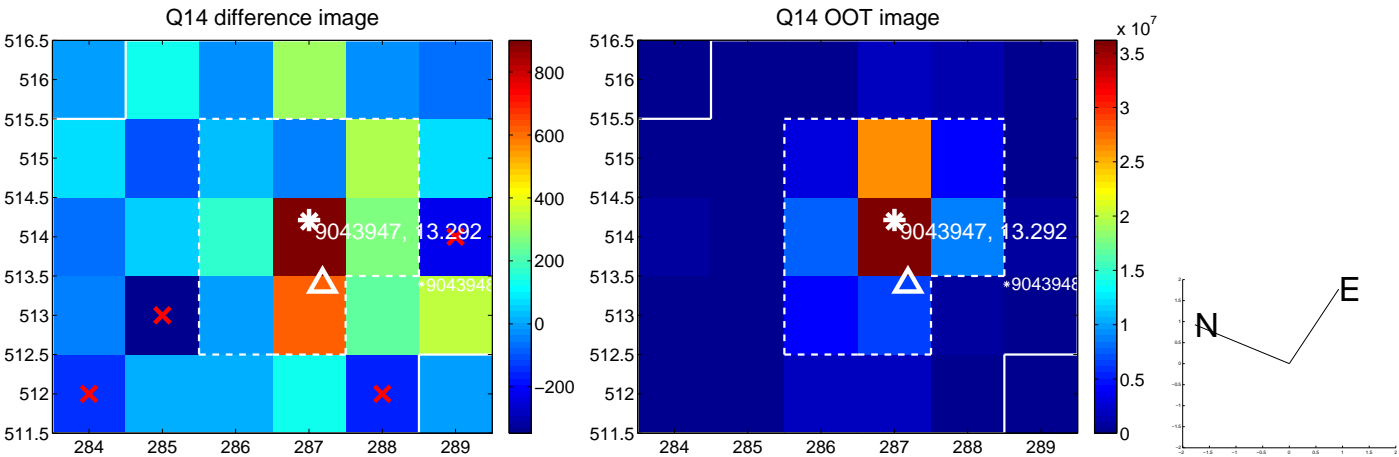
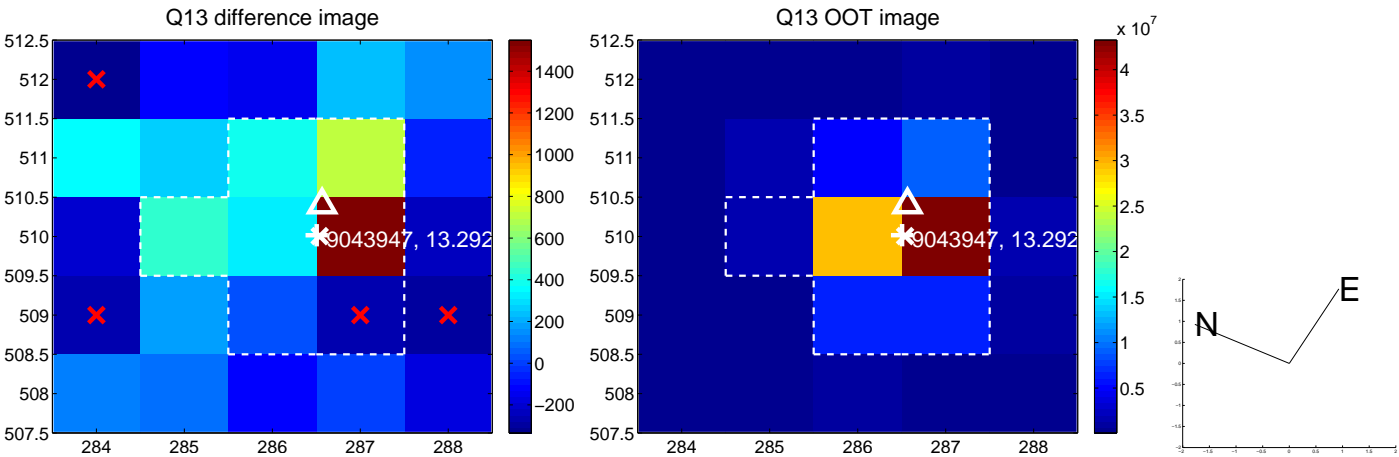
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



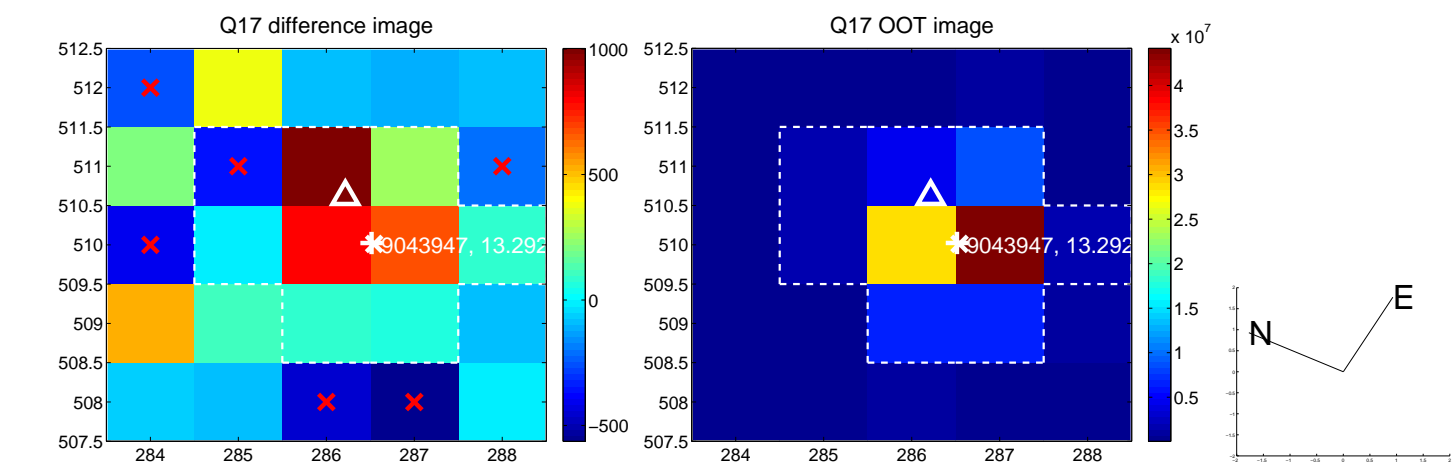
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



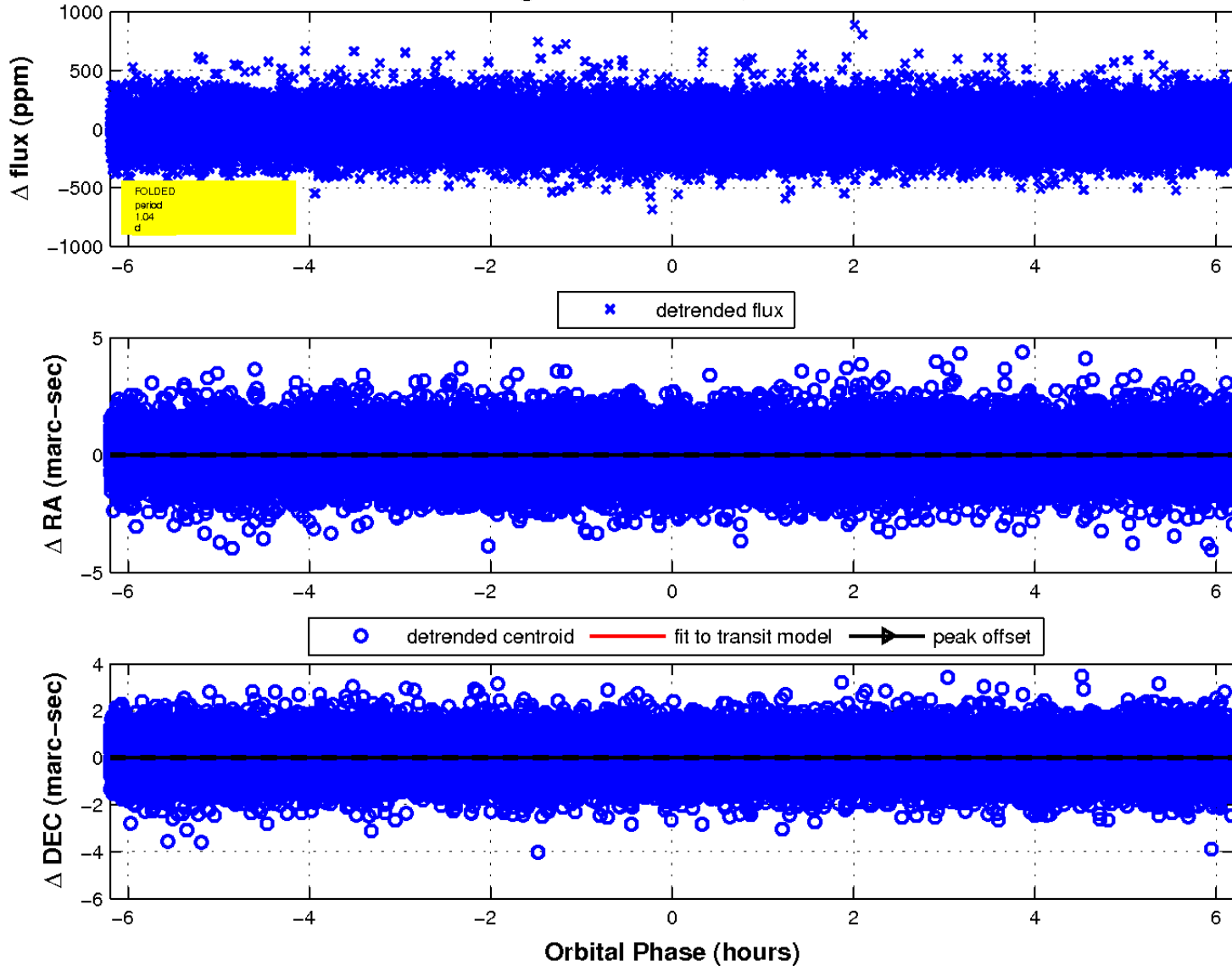
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

