

KIC 006960913

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})
006960913-01	OBS	1361.01	59.877967	151.184984	1407.7	4.874	41.3	44.0	0.60	4016	2.36	1.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006960913-01	OBS	PC	1.00	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.

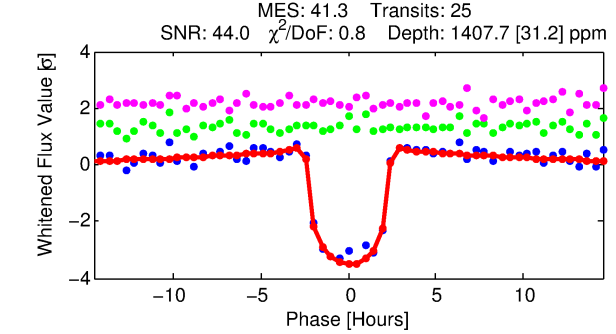
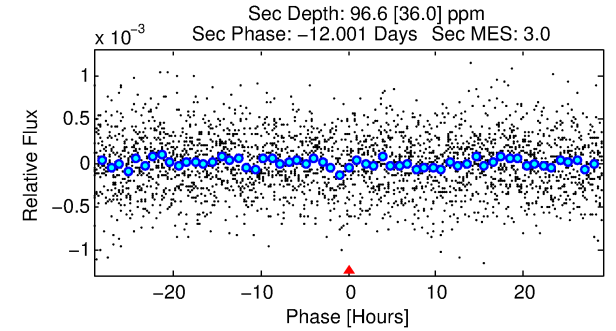
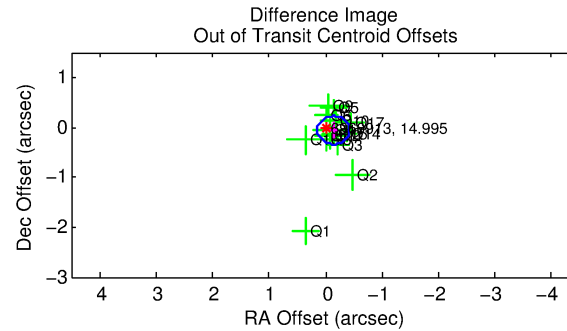
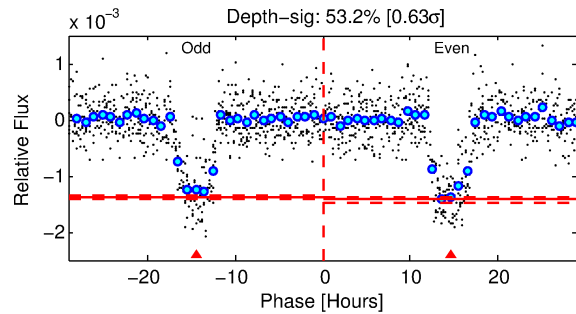
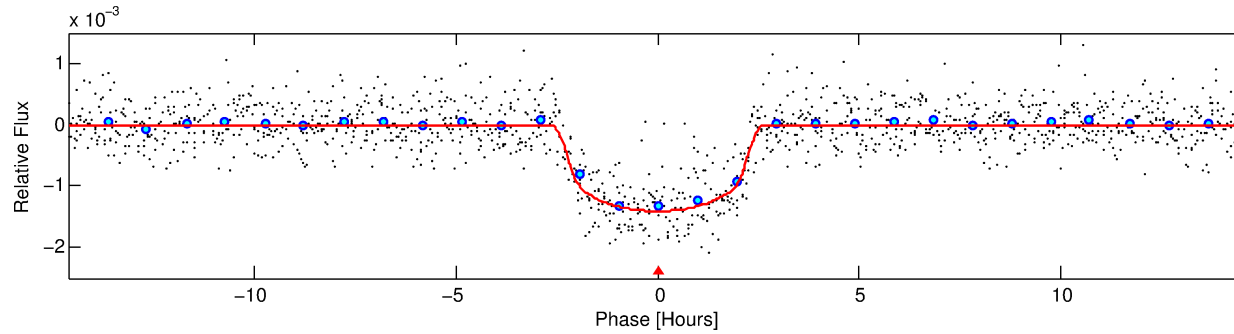
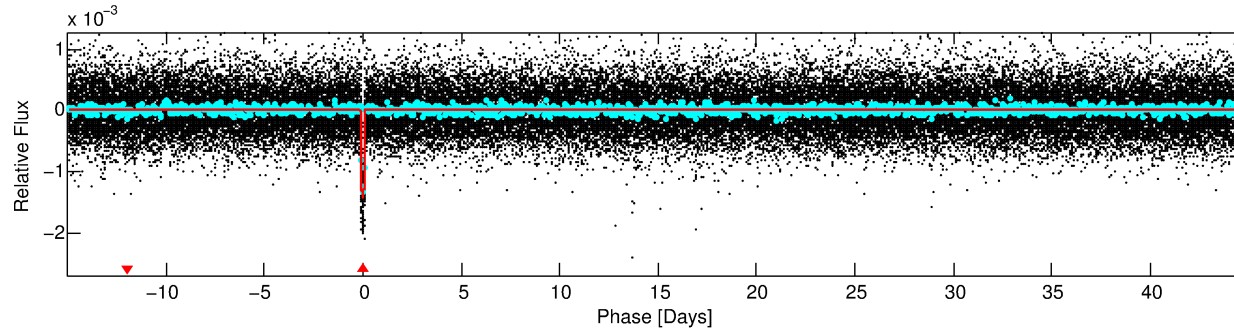
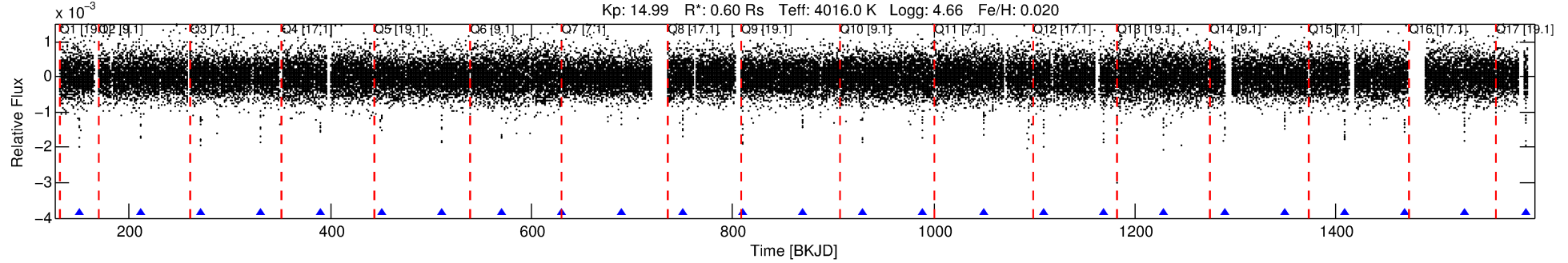
Ephemeris Match Information For 006960913-01

No Significant Match Found

DV One-Page Summary

KIC: 6960913 Candidate: 1 of 1 Period: 59.878 d
KOI: K01361.01 Name: Kepler-61b Corr: 0.988

Kp: 14.99 R*: 0.60 Rs Teff: 4016.0 K Logg: 4.66 Fe/H: 0.020



DV Fit Results:

Period = 59.87797 [0.00015] d
Epoch = 151.1850 [0.0021] BKJD
Rp/R* = 0.0361 [0.0060]
a/R* = 75.30 [45.03]
b = 0.66 [0.53]
Seff = 1.32 [0.14]
Teff = 273 [7] K
Rp = 2.36 [0.42] Re
a = 0.2521 [0.0128] AU
Ag = 605.06 [304.57] [1.98σ]
Teffp = 2094 [264] K [6.90σ]

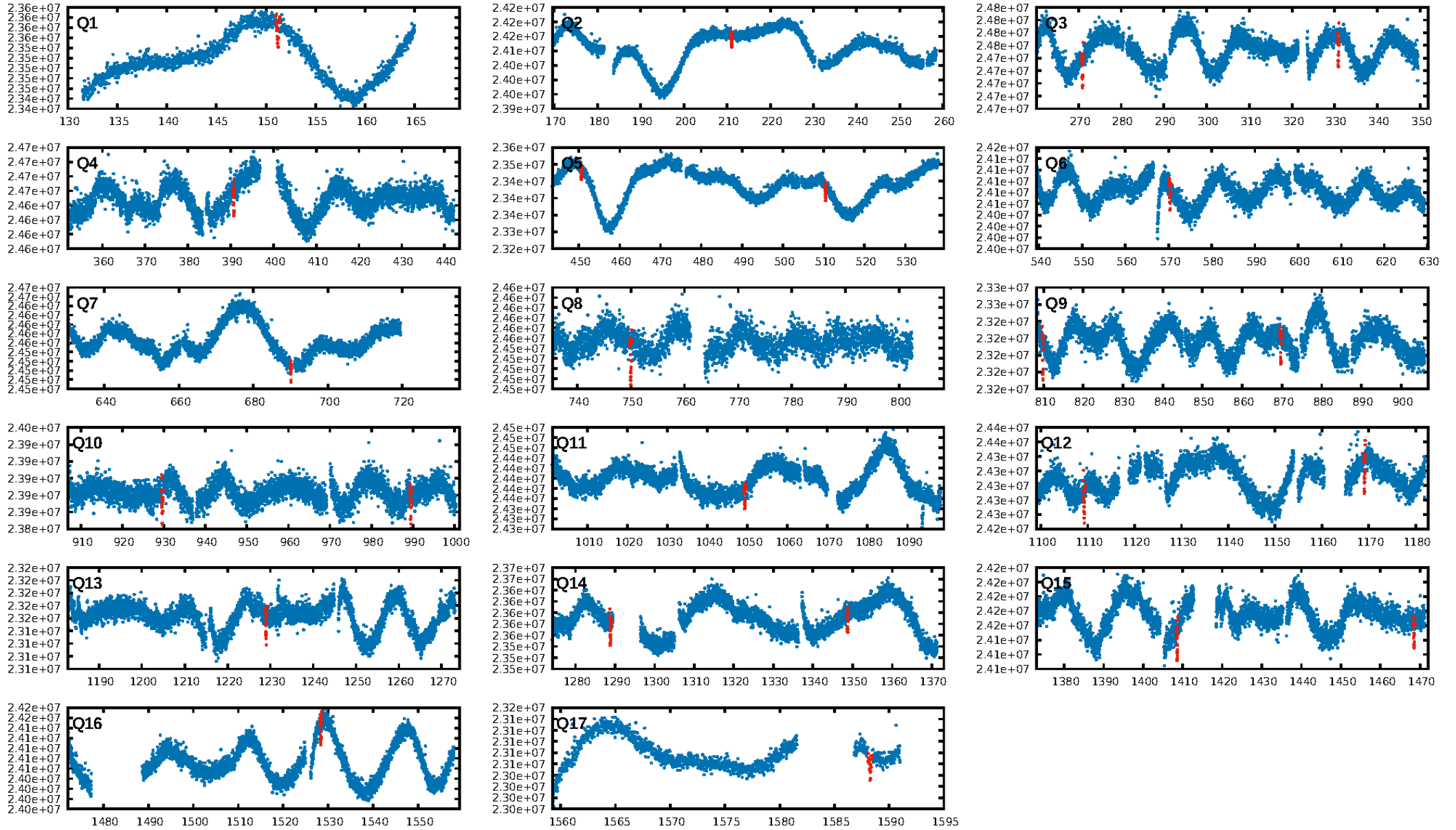
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 32.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [23/23]
GhostDiagnostic-chr: 17.49
Centroid-sig: 2.4%
Centroid-so: 0.371 arcsec [1.49σ]
OotOffset-rm: 0.145 arcsec [1.53σ]
KicOffset-rm: 0.139 arcsec [1.27σ]
OotOffset-st: 4/3/4/4 [15]
KicOffset-st: 4/3/4/4 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [15/15]

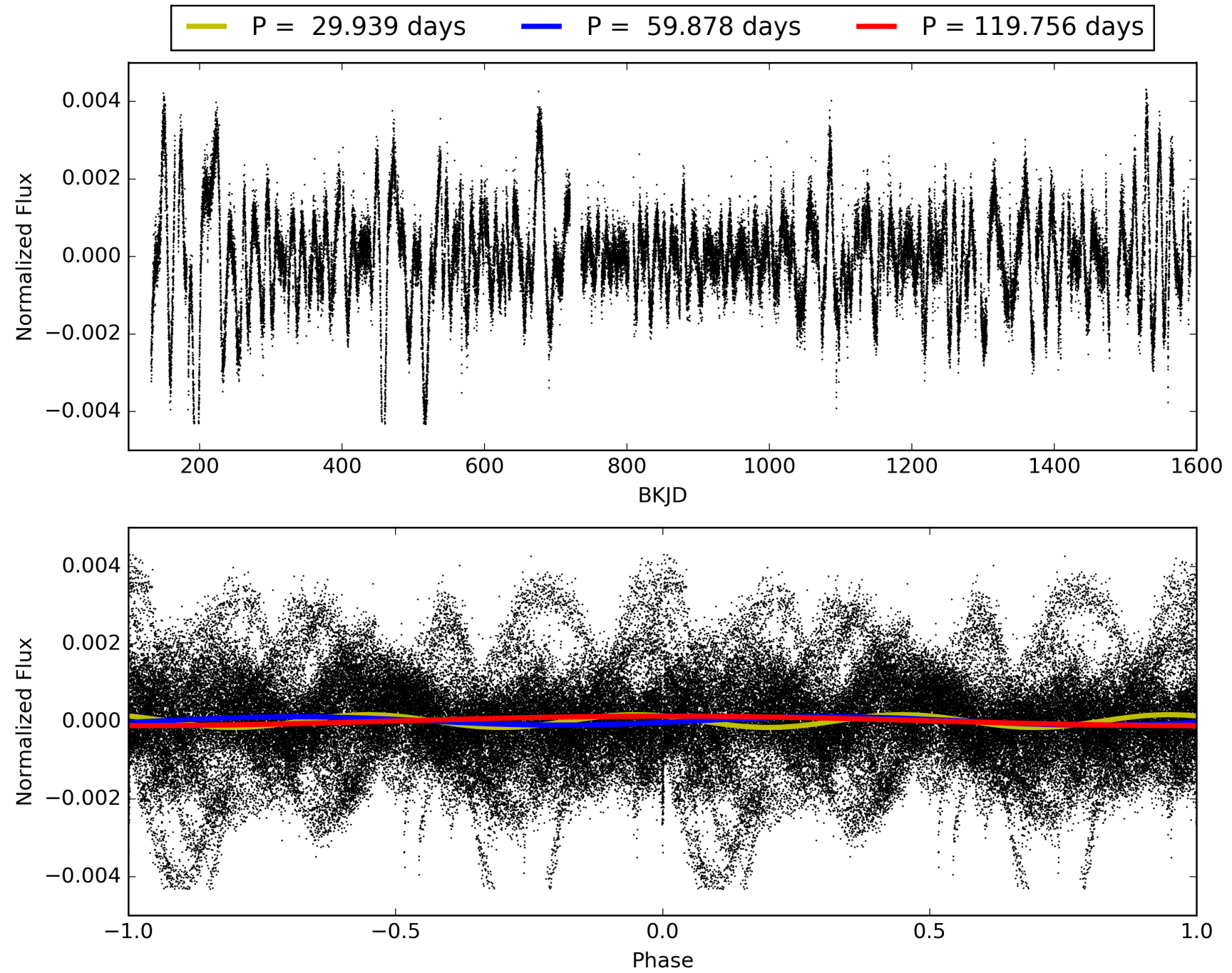
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:14:24 Z

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

TCE 006960913-01, PDC Light Curves

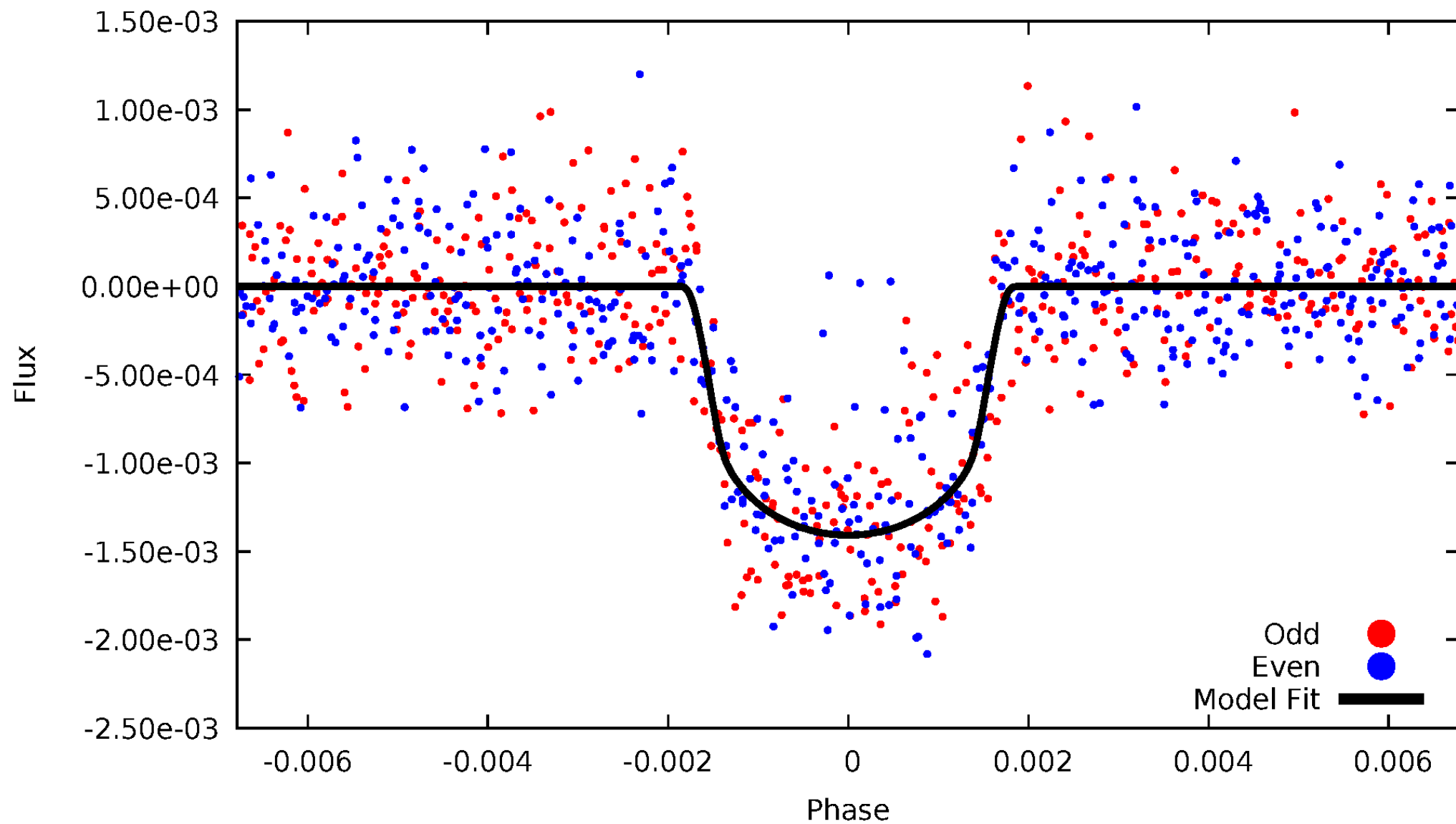


TCE 006960913-01



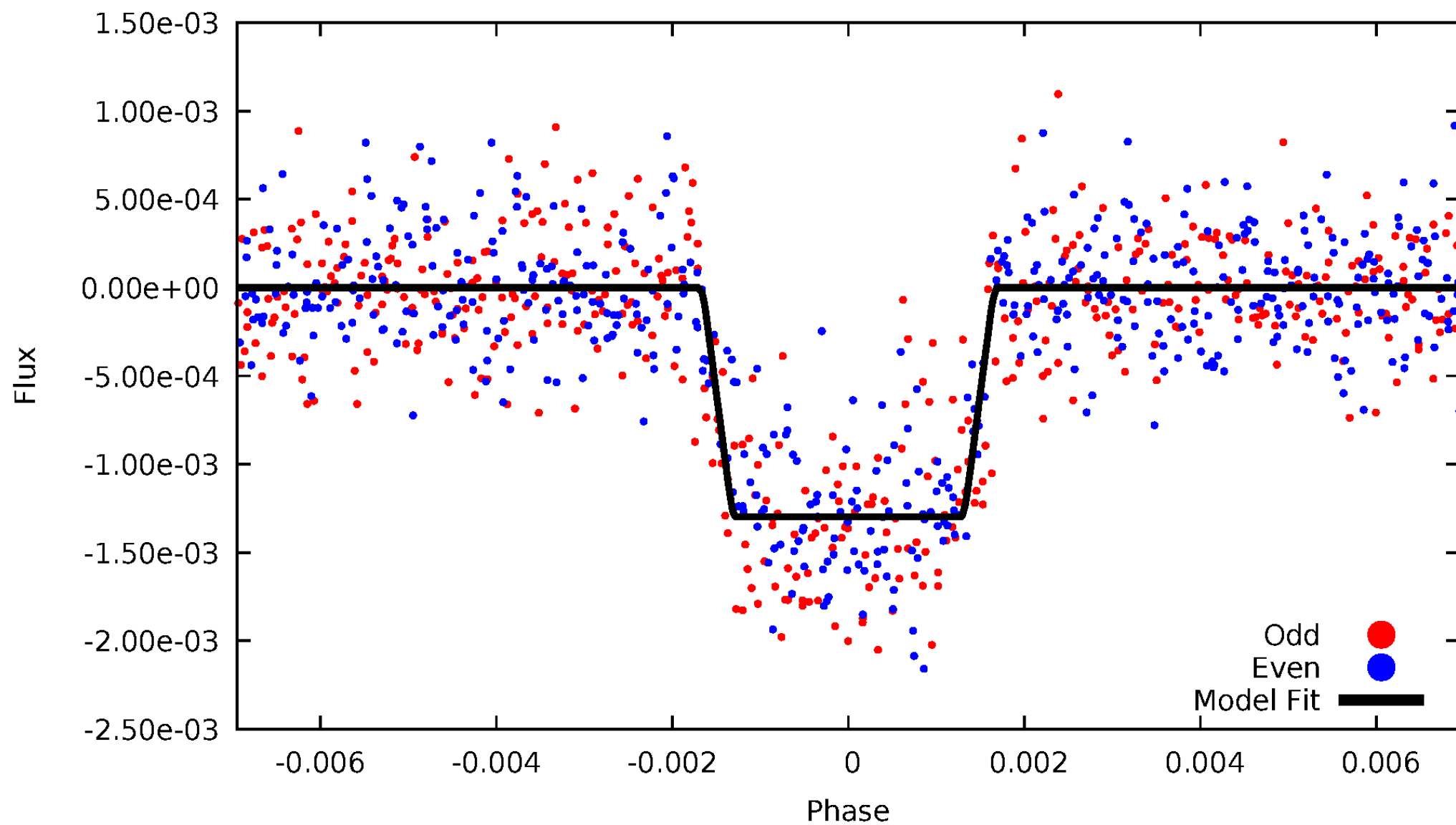
DV Odd/Even

TCE 006960913-01



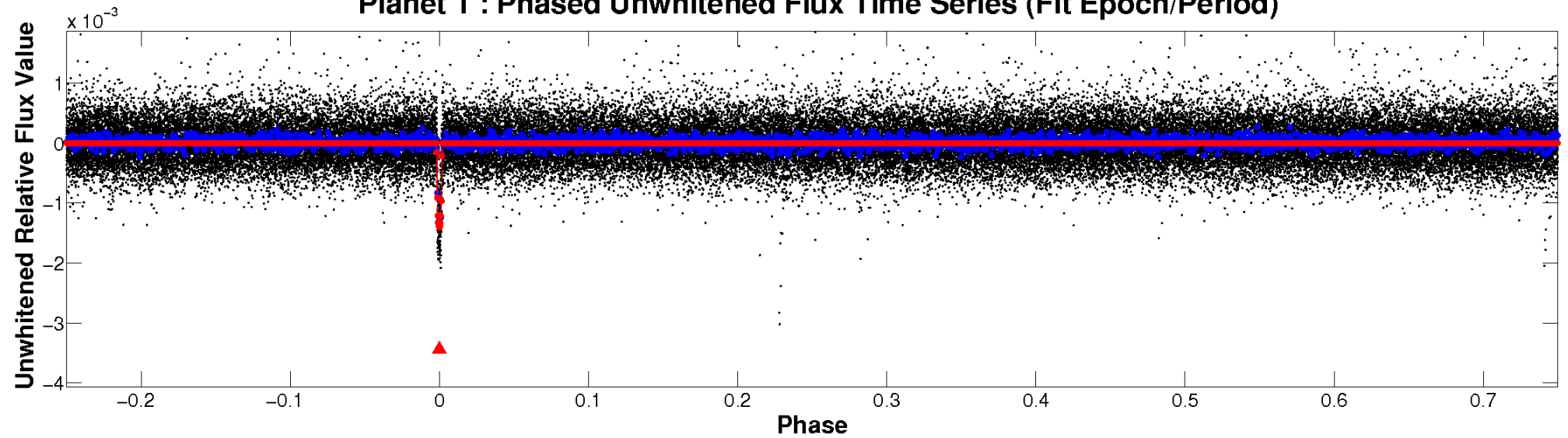
ALT Odd/Even

TCE 006960913-01

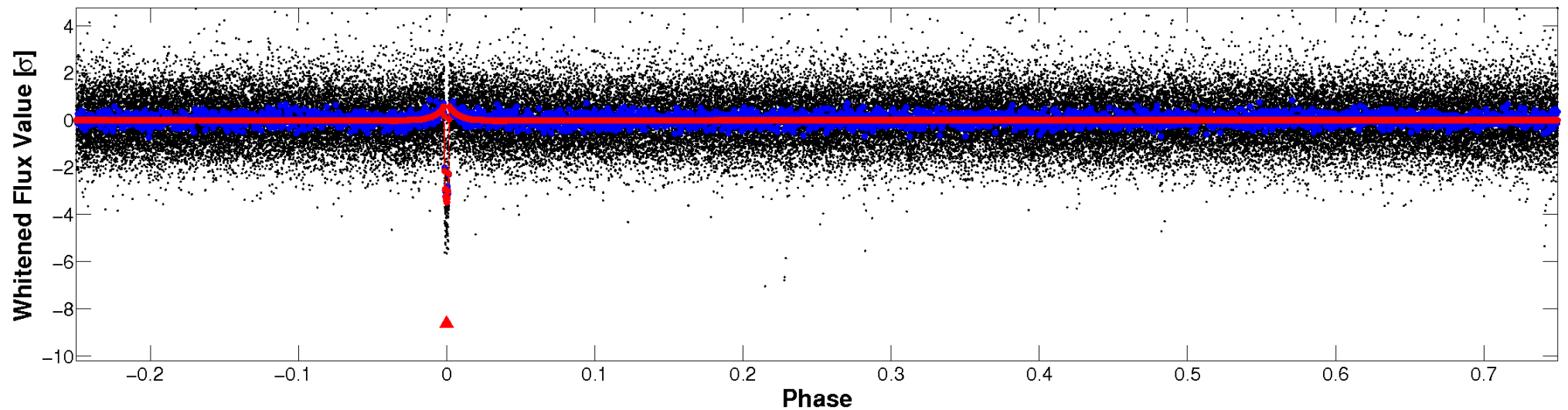


Non-Whitened Vs. Whitened Light Curve

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

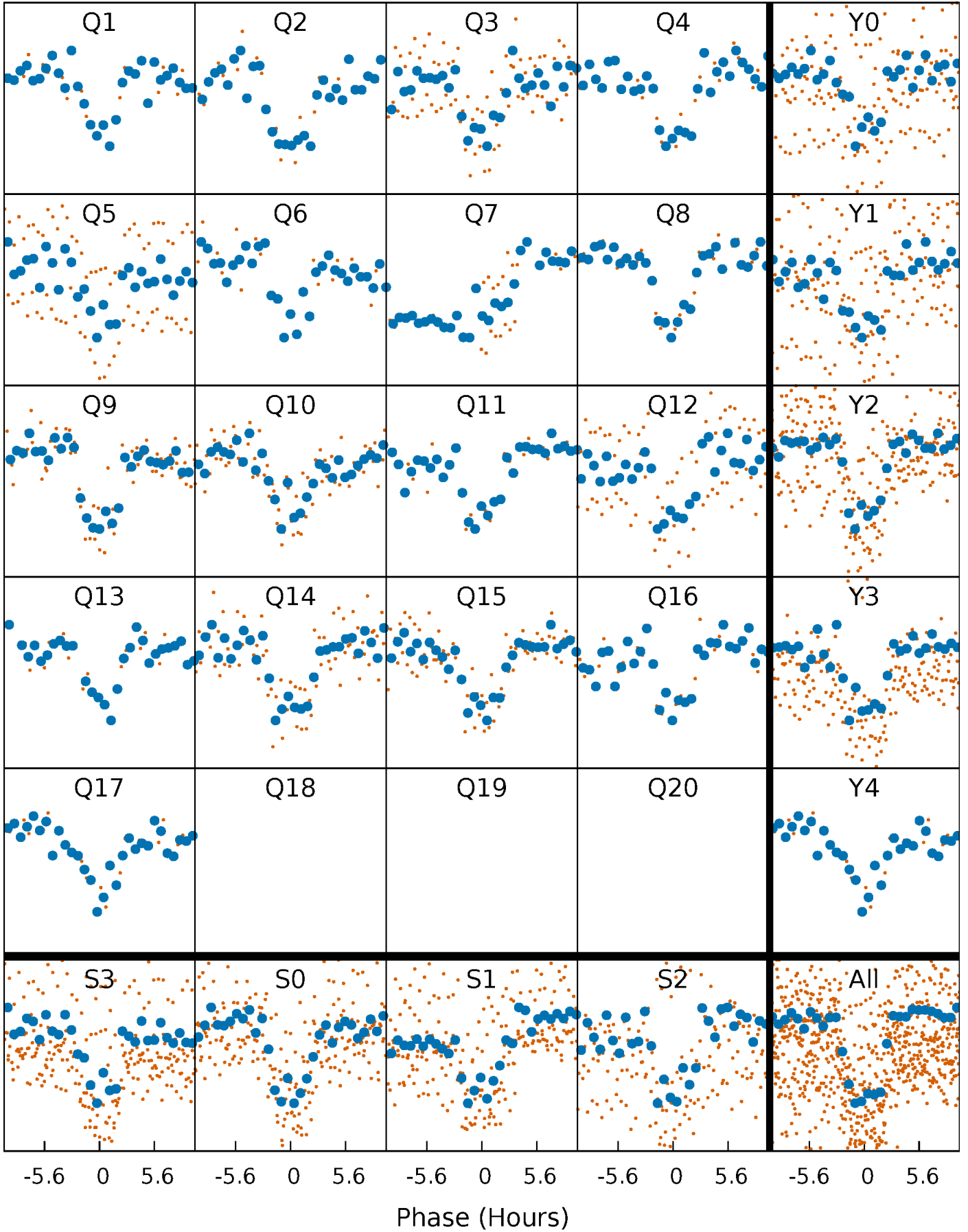


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



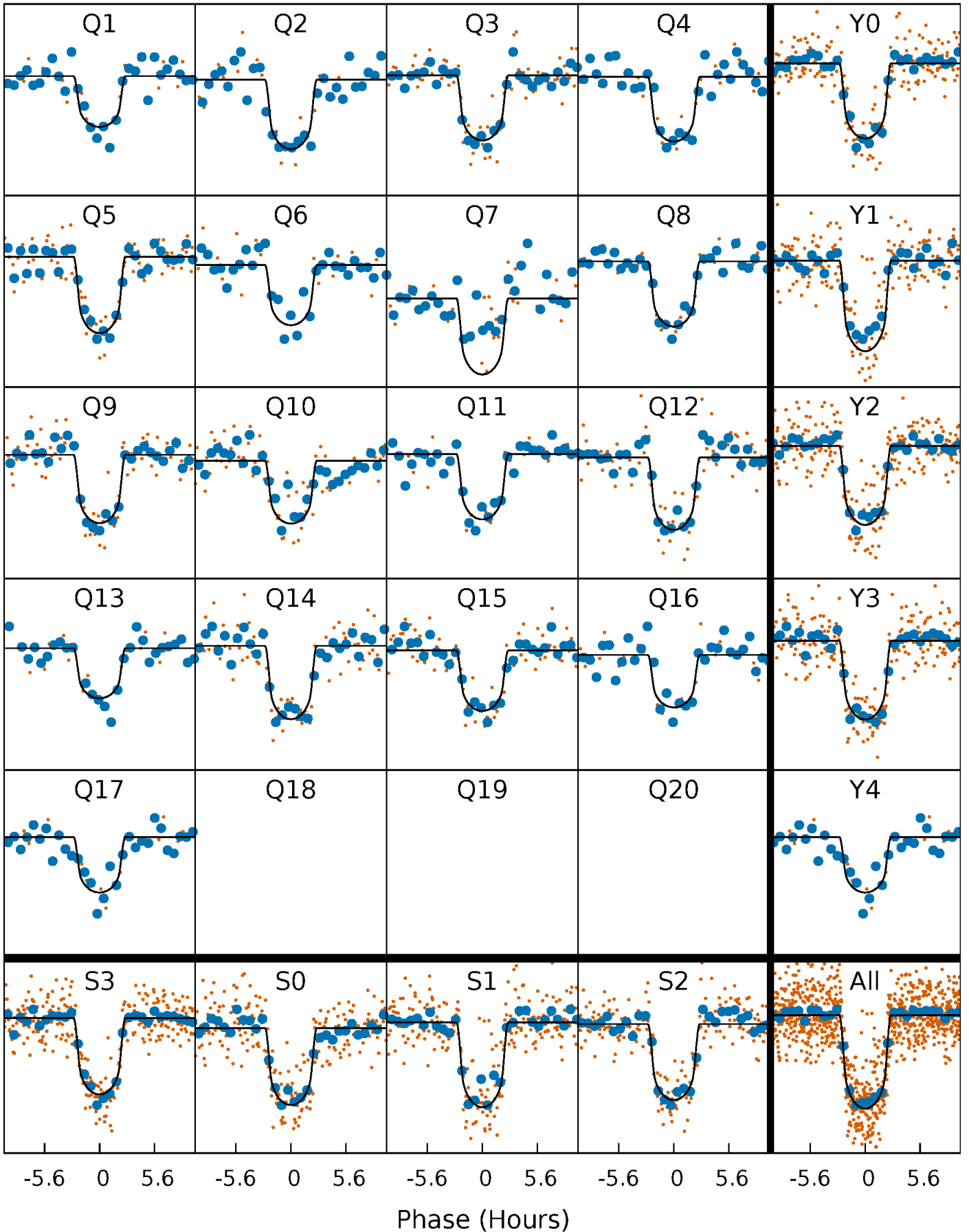
PDC Quarter-Phased Transit Curves

TCE 006960913-01 P= 59.877967 Days $T_0=151.184984$ (BKJD)



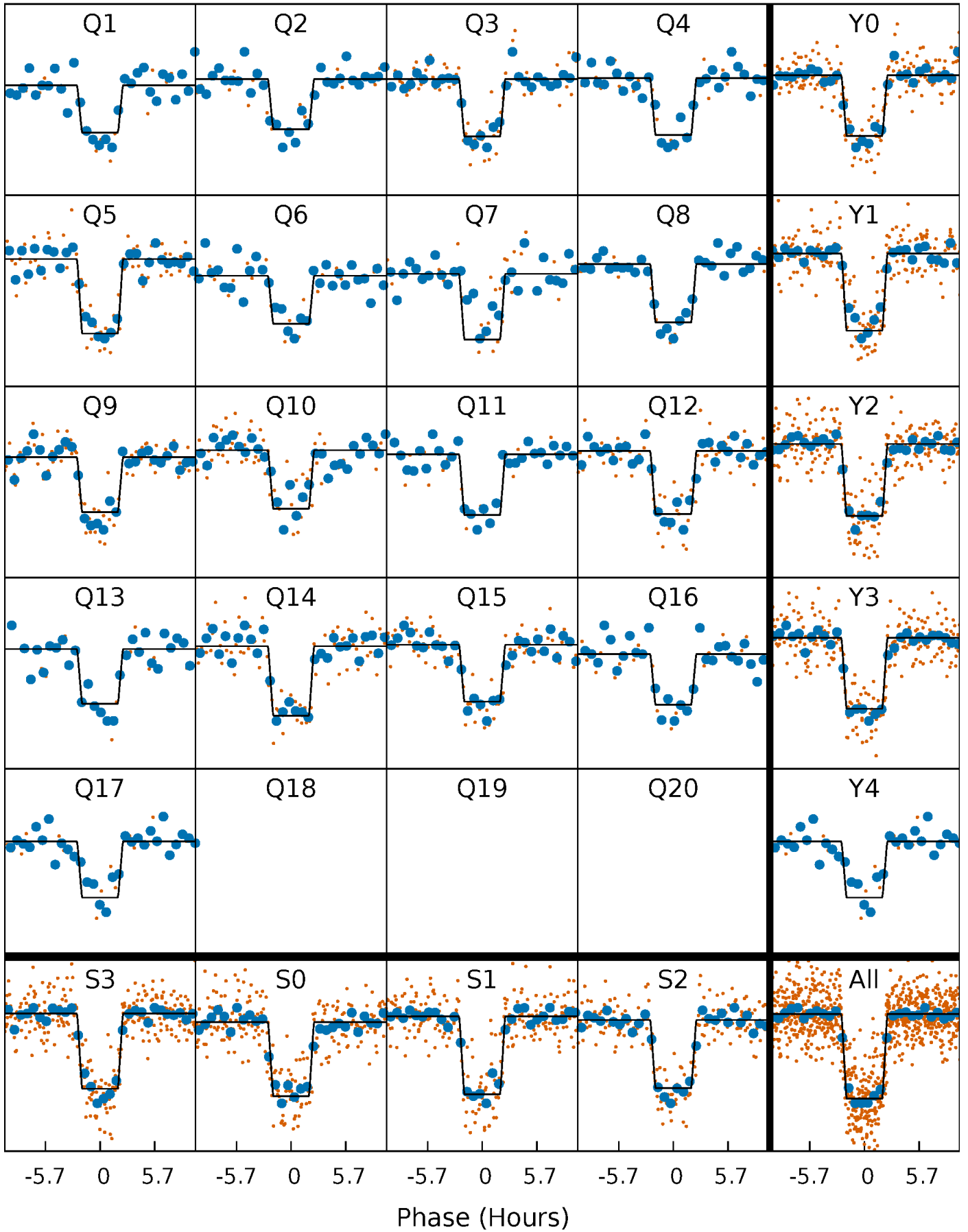
DV Quarter-Phased Transit Curves

TCE 006960913-01 P= 59.877967 Days $T_0=151.184984$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

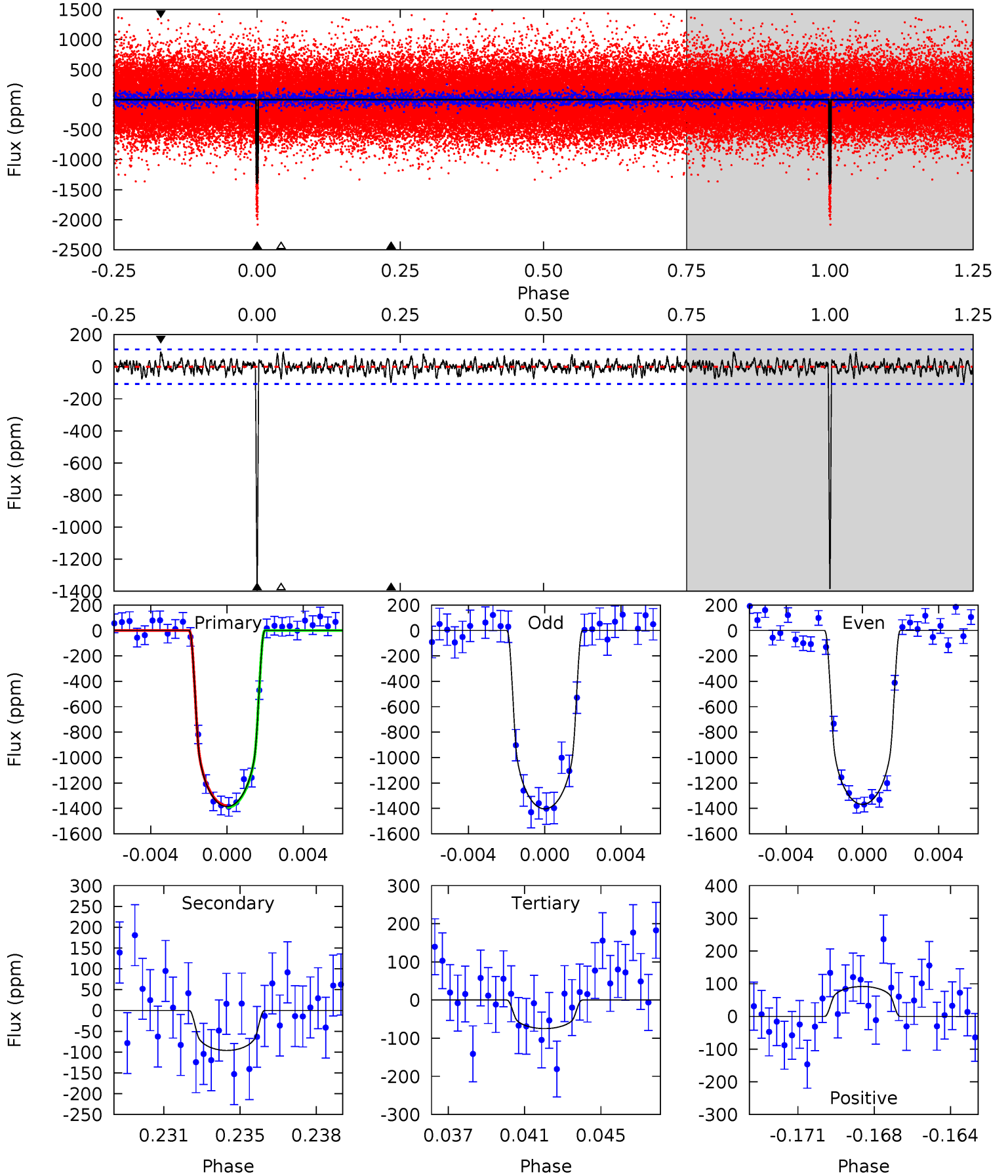
TCE 006960913-01 P= 59.877936 Days $T_0=151.186636$ (BKJD)



DV Model-Shift Uniqueness Test

006960913-01, P = 59.877967 Days, E = 91.307017 Days

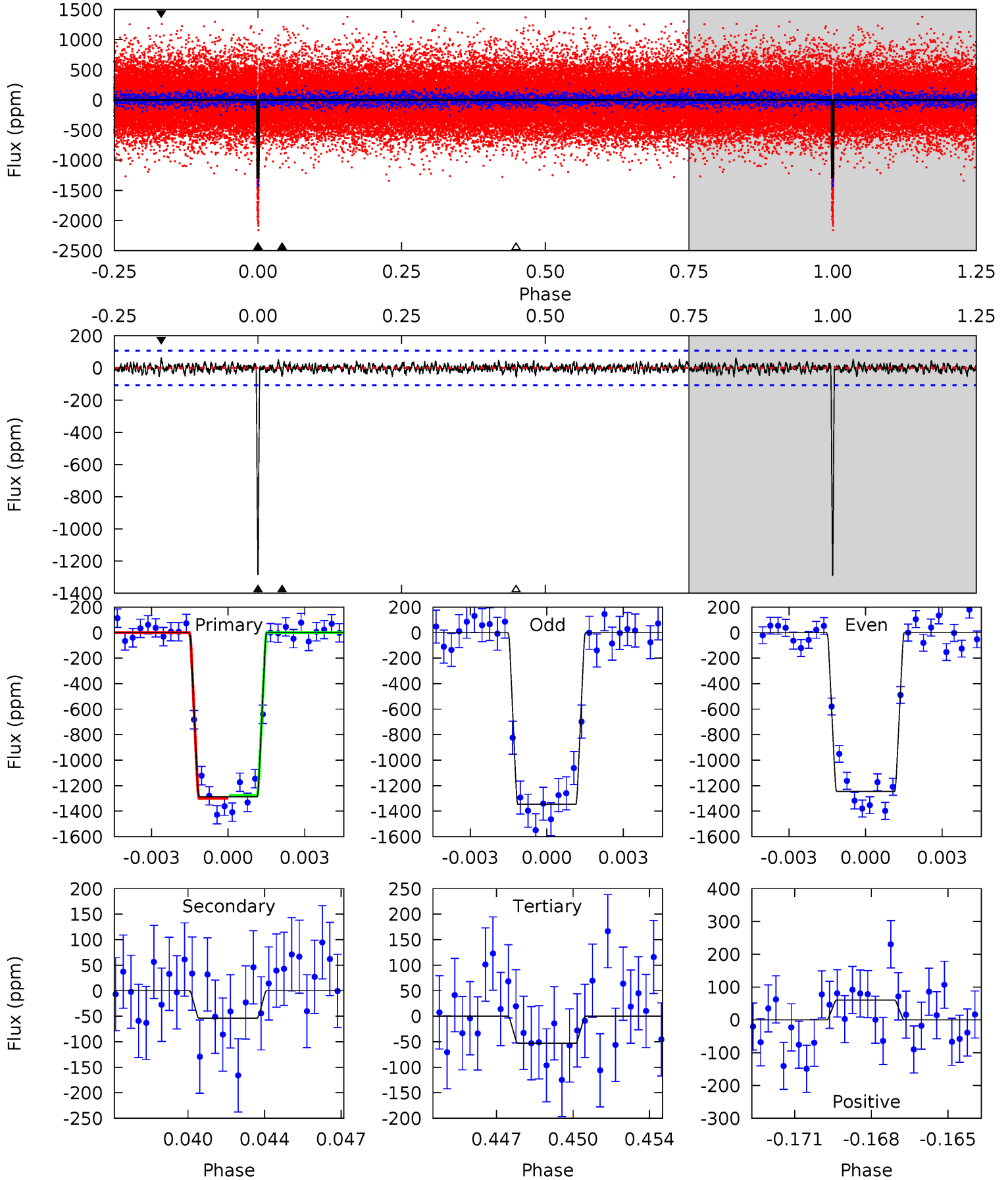
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
66.9	4.64	3.61	4.42	5.21	2.90	1.28	63.3	62.5	1.03	0.22	0.86	0.97	0.06	0.32



Alt Model-Shift Uniqueness Test

006960913-01, P = 59.877936 Days, E = 91.308700 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
62.9	2.63	2.59	2.94	5.23	2.93	0.80	60.3	60.0	0.04	-0.31	2.47	0.99	0.04	0.57



Stellar Parameters For KIC 006960913

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4016^{+79}_{-79}	$4.658^{+0.039}_{-0.015}$	$0.020^{+0.150}_{-0.150}$	$0.599^{+0.023}_{-0.037}$	$0.595^{+0.036}_{-0.029}$	$3.908^{+0.608}_{-0.273}$
	+2%/-2%	+1%/-0%	+750%/-750%	+4%/-6%	+6%/-5%	+16%/-7%
Source	SPE46	PHO46	SPE46	DSEP		

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

Secondary Eclipse Parameters for KIC 006960913-01 / KOI 1361.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-96 ± 21	$2.32^{+0.42}_{-0.42}$	380^{+8}_{-9}	2710^{+170}_{-138}	617^{+363}_{-200}
Alt.	-54 ± 20	$2.31^{+0.43}_{-0.35}$	379^{+9}_{-8}	2517^{+162}_{-156}	343^{+223}_{-141}

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 $A_{obs} \gg 1.0$

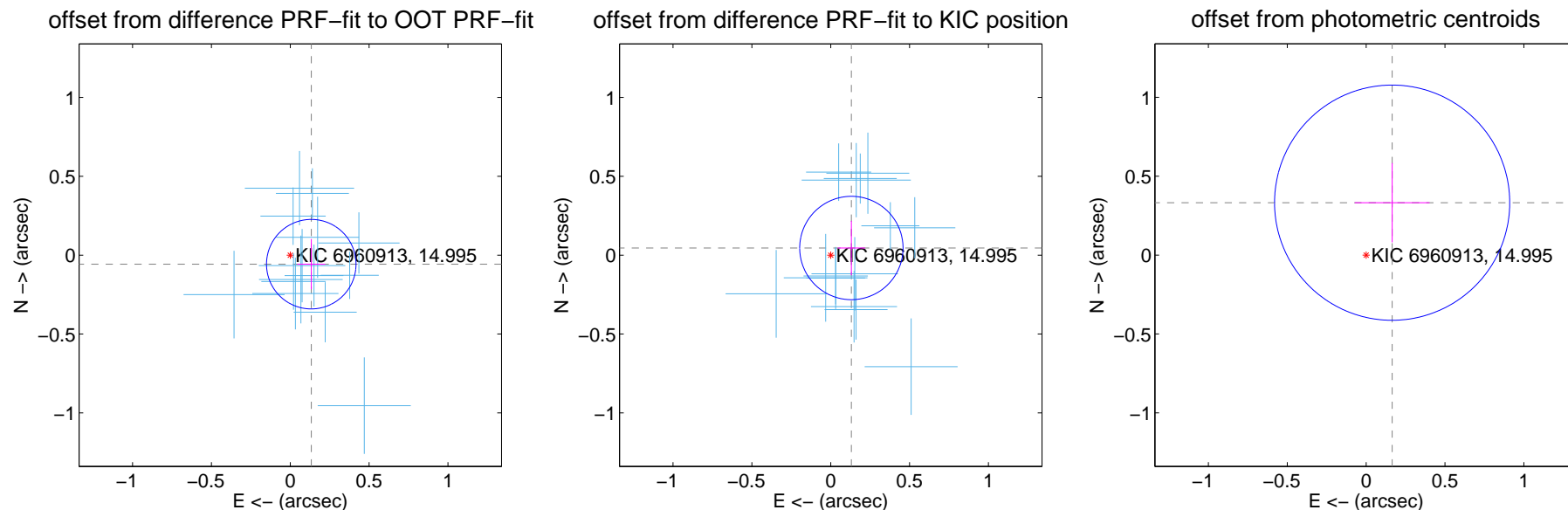
DV Centroid Data

Supplemental centroid analysis for 006960913-01. Kepler magnitude: 14.99. Transit SNR 43.98

There are 15 quarters with good PRF difference image offsets

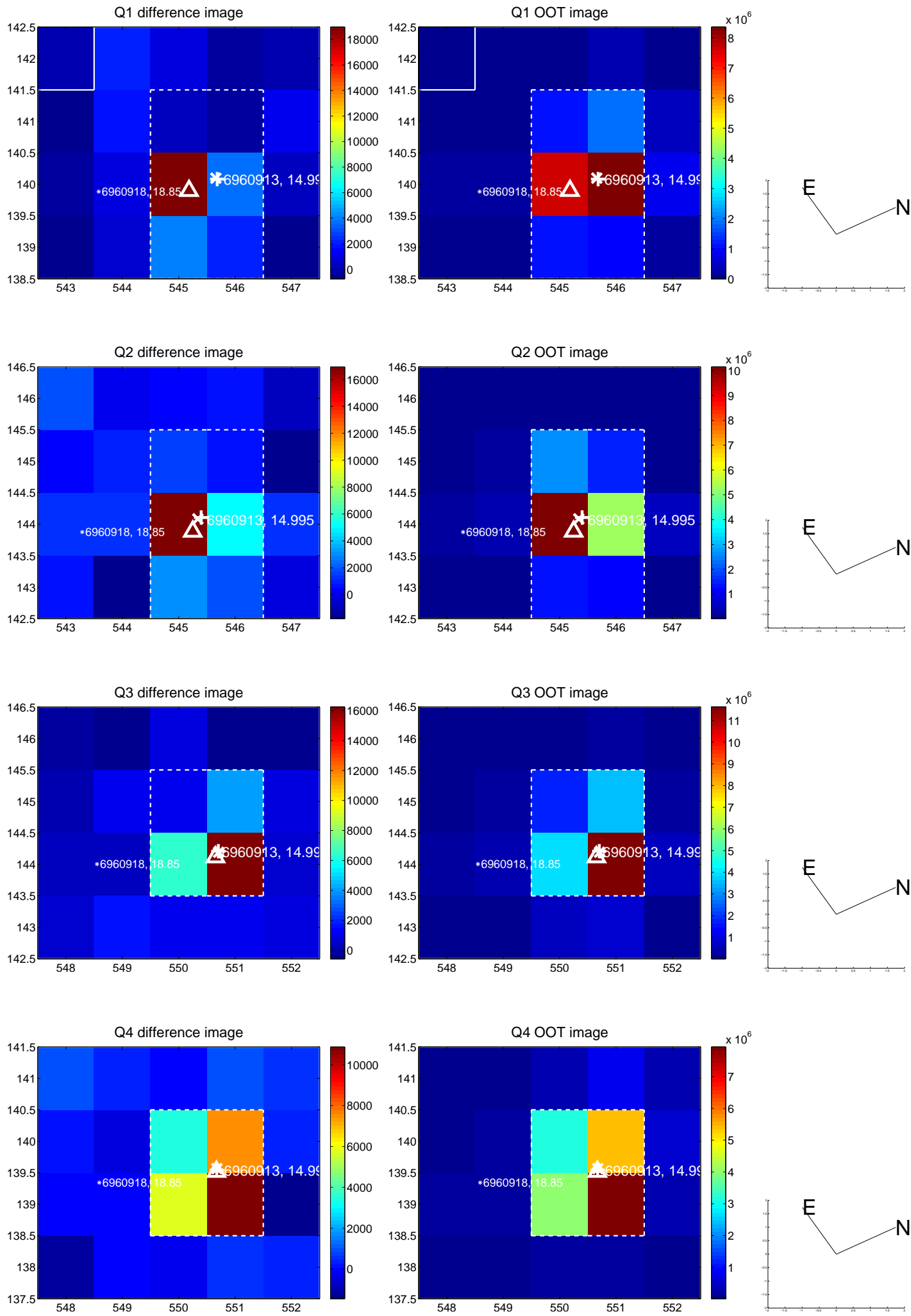
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.145 ± 0.095	1.53	-0.133 ± 0.089	-0.057 ± 0.159
PRF-fit source offset from KIC position	0.139 ± 0.109	1.27	-0.131 ± 0.087	0.045 ± 0.172
photometric centroid source offset	0.37 ± 0.25	1.49	-0.16 ± 0.24	0.33 ± 0.25

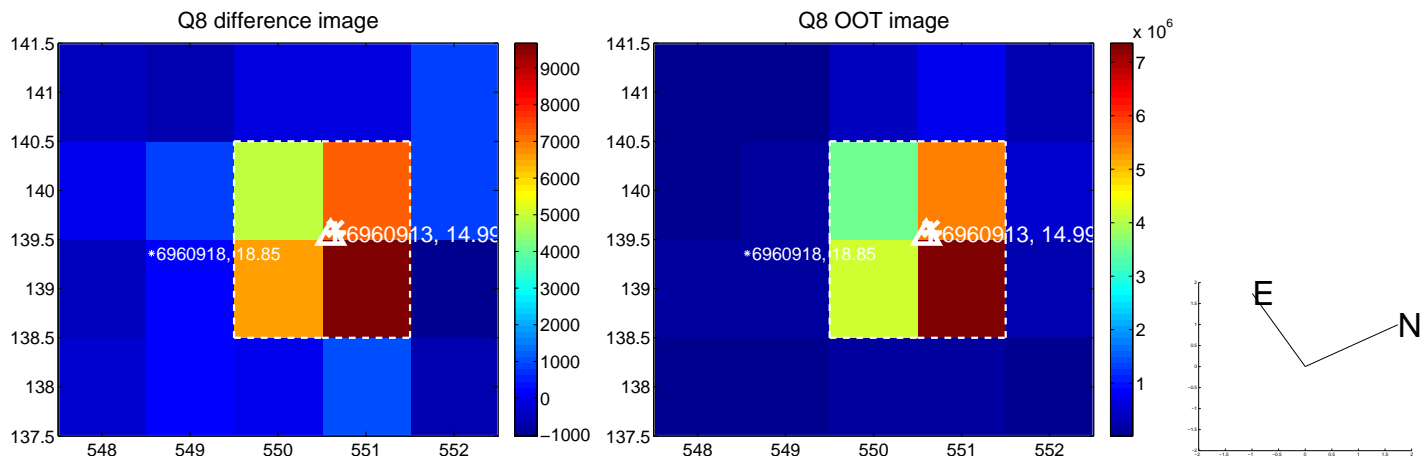
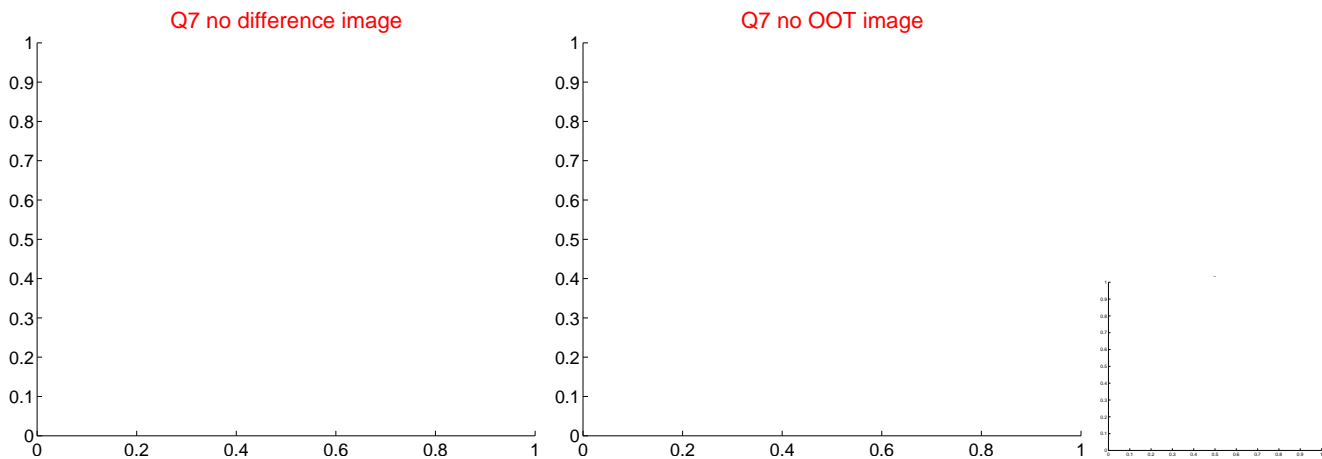
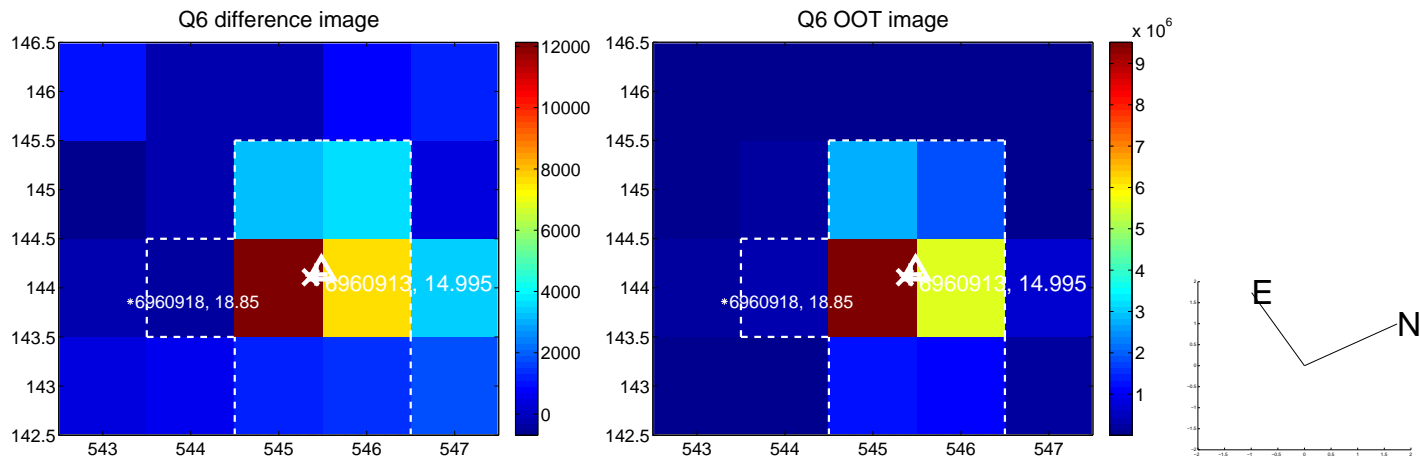
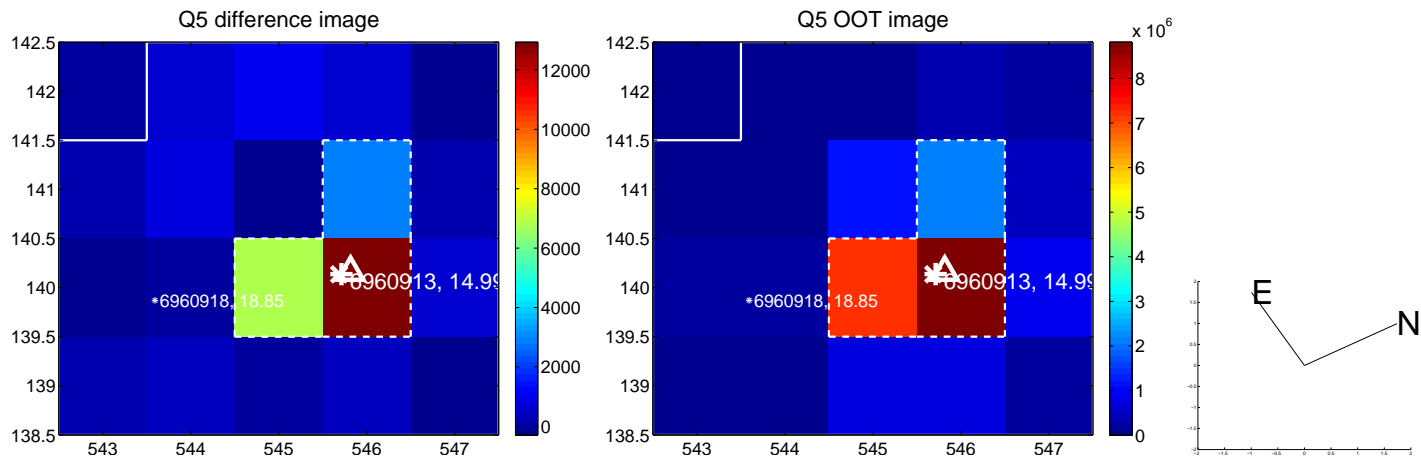


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

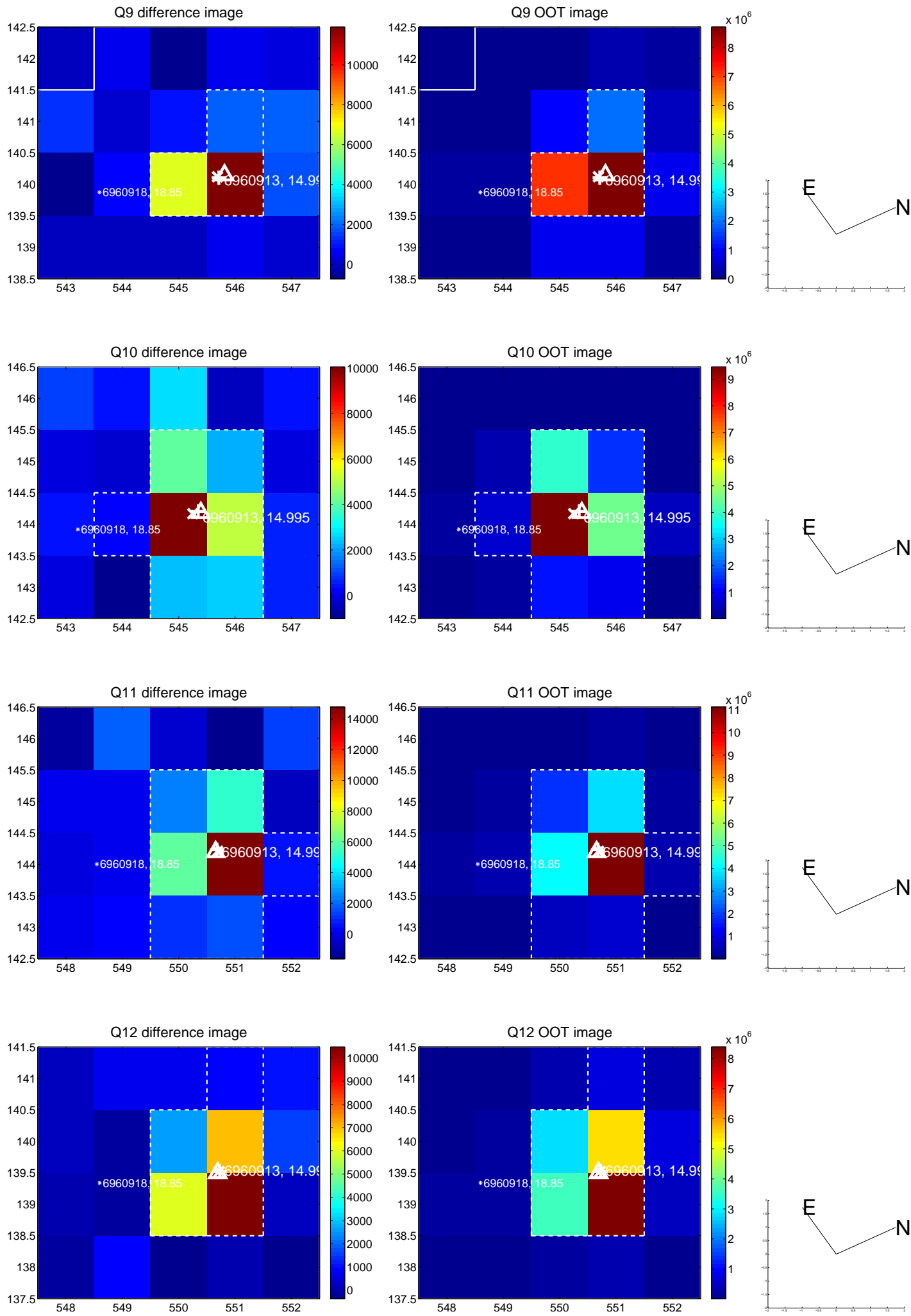
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



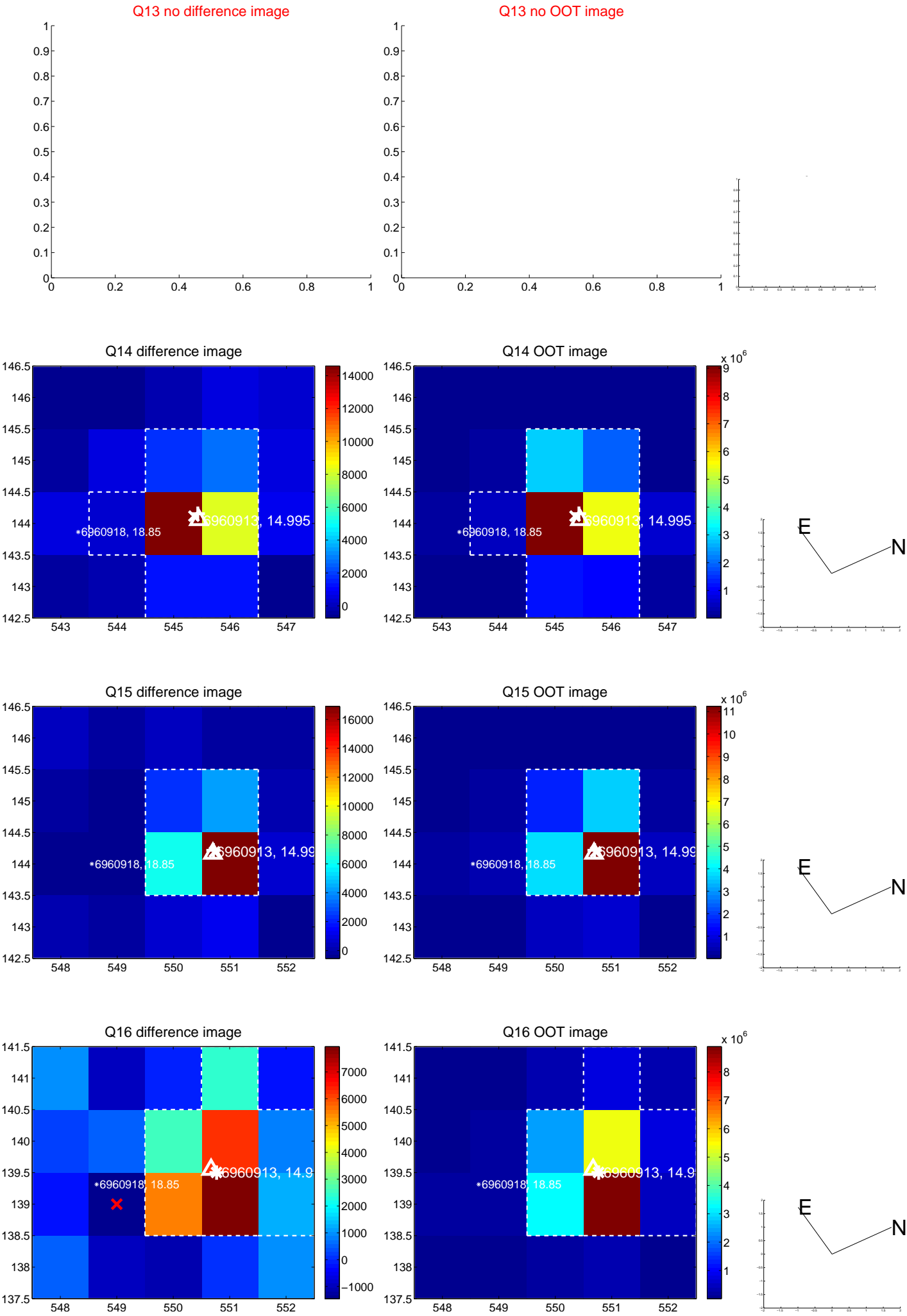
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



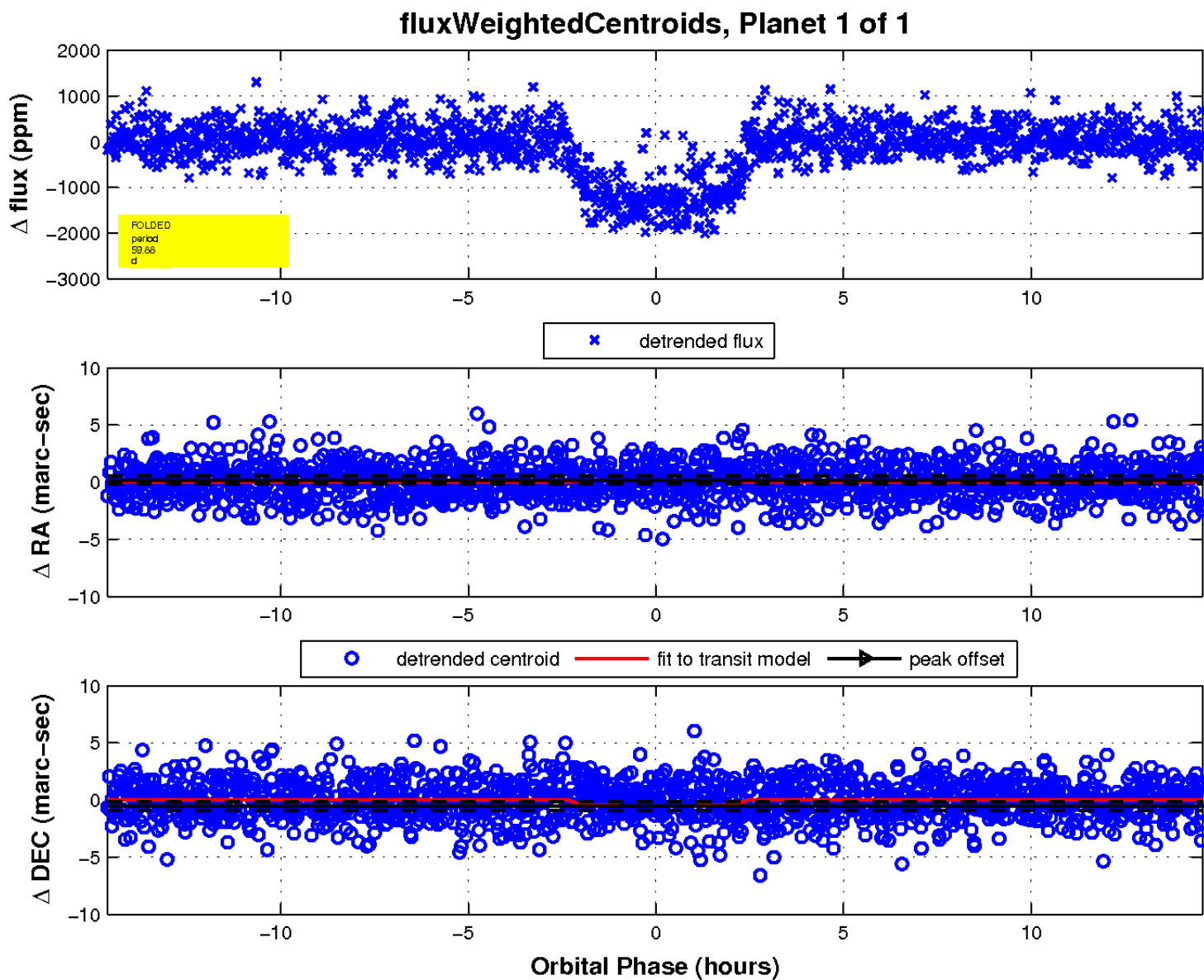
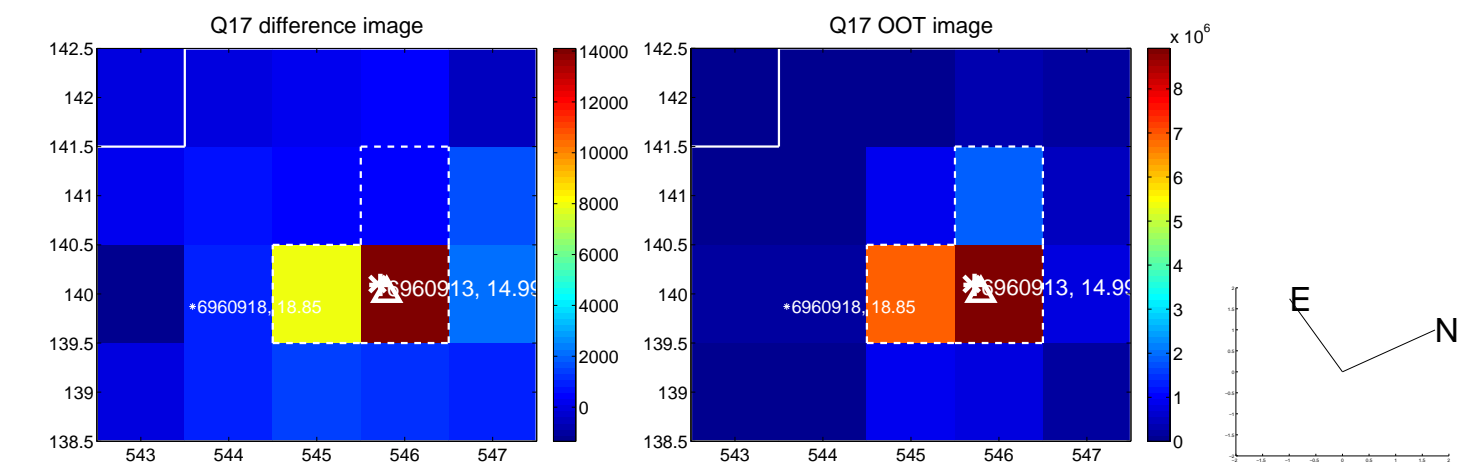
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

