

KIC 006953047

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})
006953047-01	OBS	No	1.144554	132.012186	48.2	4.658	11.8	11.8	4.33	10577	3.44	204591.26
006953047-02	OBS	No	0.858447	131.872417	76.9	3.114	10.4	14.9	4.33	10577	3.92	300227.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006953047-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_FEW_DIFFS
006953047-02	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—HALO_GHOST

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

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

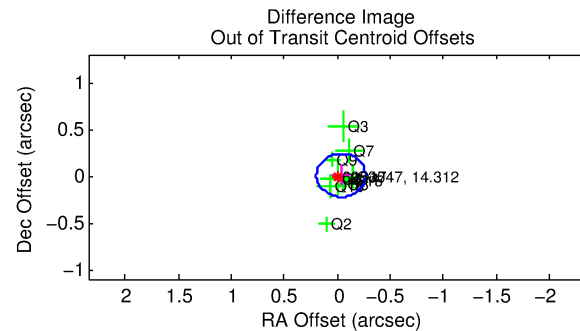
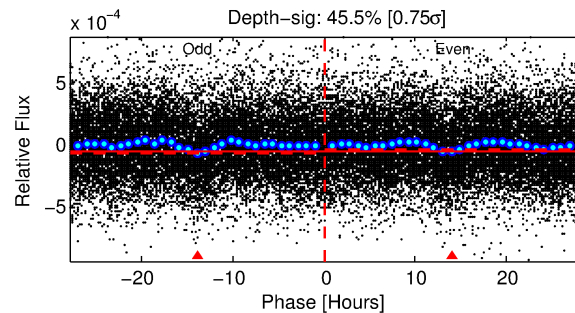
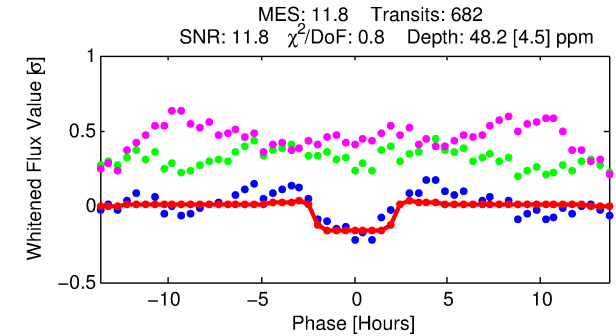
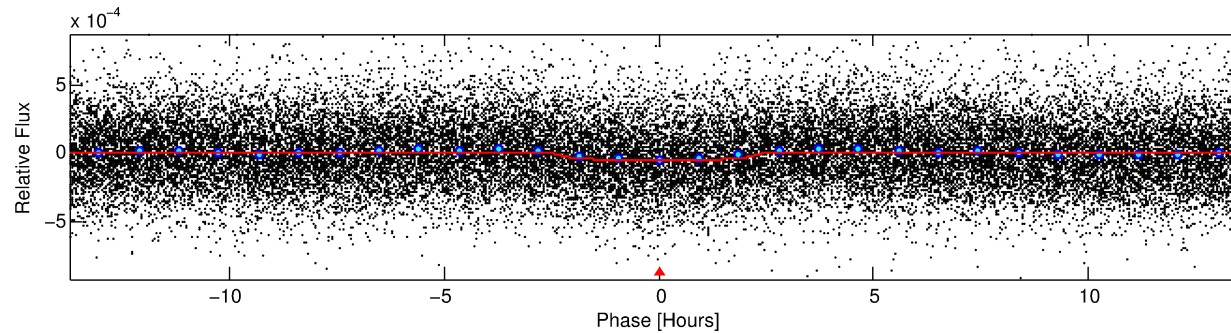
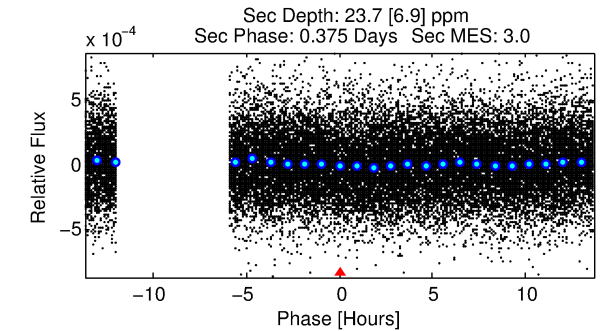
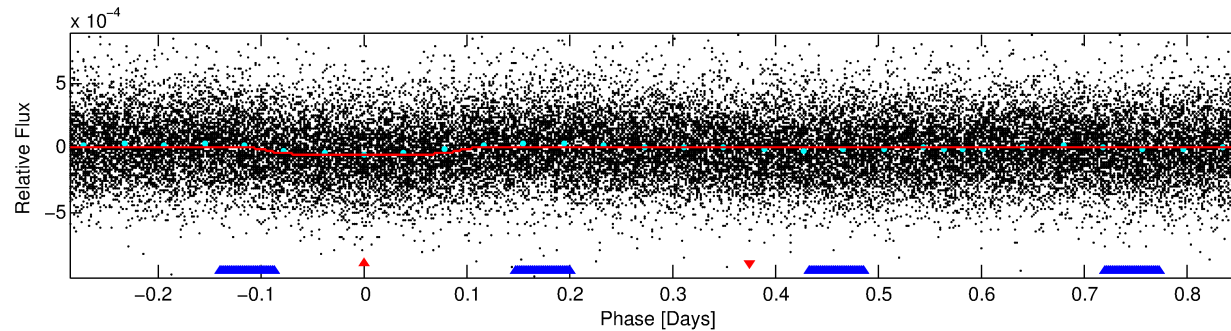
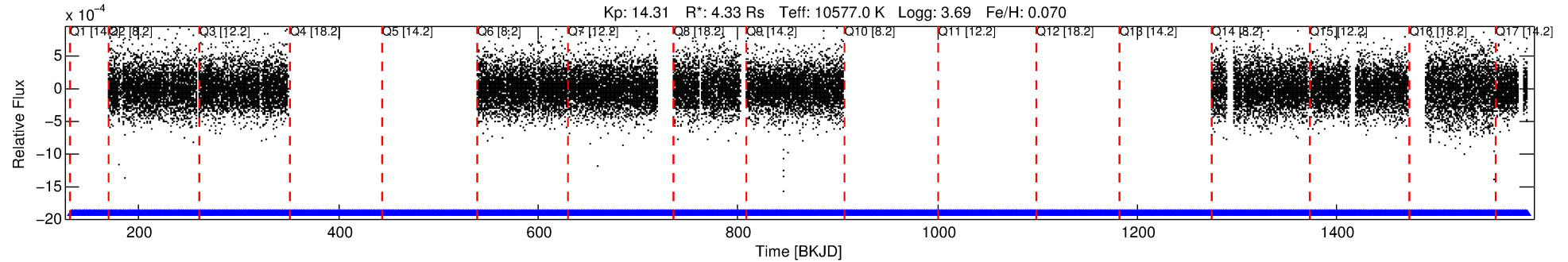
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006953047-01

No Significant Match Found

DV One-Page Summary

KIC: 6953047 Candidate: 1 of 2 Period: 1.145 d



DV Fit Results:

Period = 1.14455 [0.00001] d
Epoch = 132.0122 [0.0036] BKJD
Rp/R* = 0.0073 [0.0016]
a/R* = 1.26 [0.82]
b = 0.90 [0.36]
Seff = 204591.26 [151858.26]
Teff = 5423 [1006] K
Rp = 3.44 [1.74] Re
a = 0.0320 [0.0143] AU
Ag = 1.13 [1.00] [0.13σ]
Teffp = 8638 [1197] K [2.06σ]

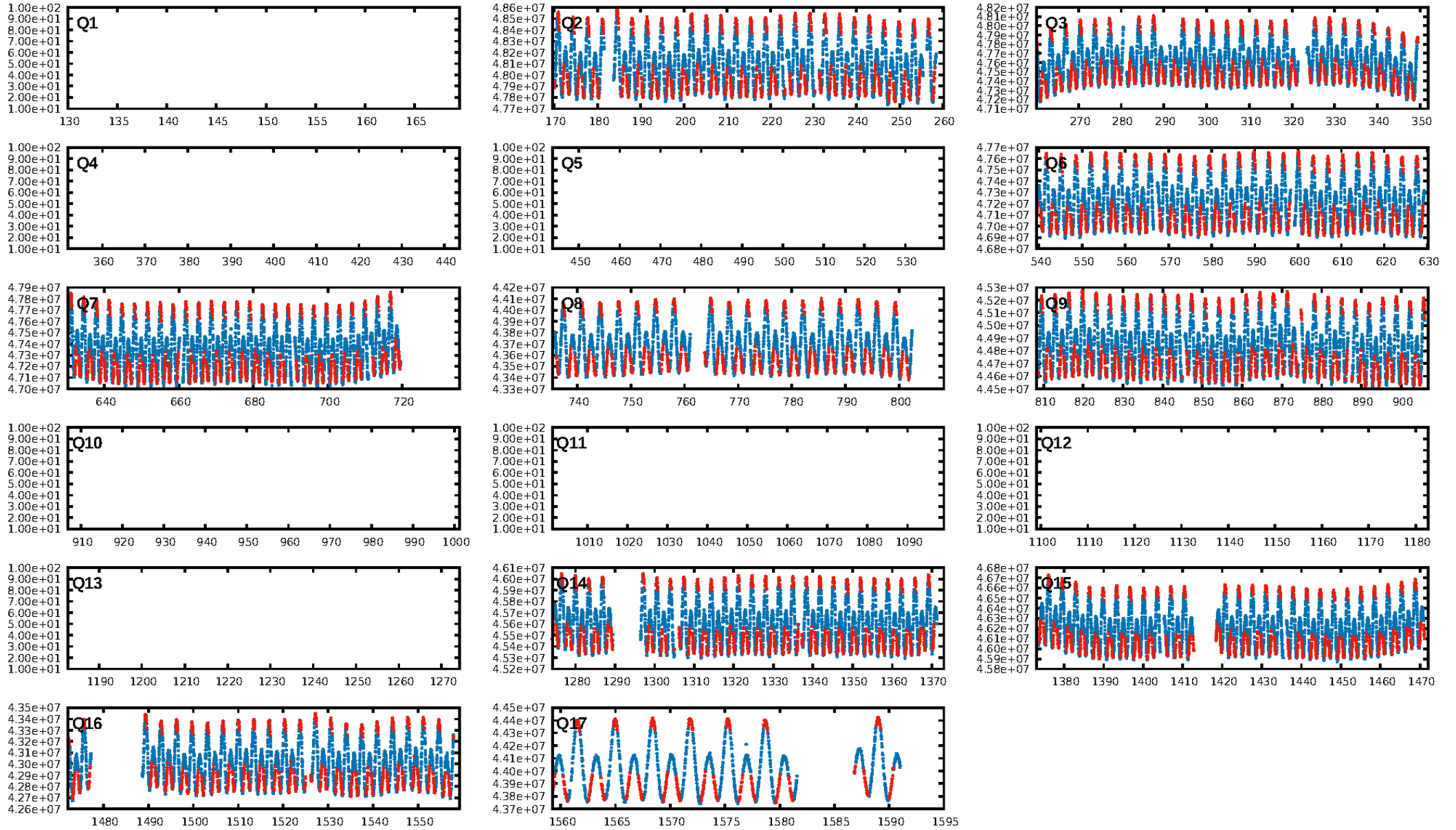
DV Diagnostic Results:

ShortPeriod-sig: 78.0% [1.23σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.53e-36
RollingBand-fgt: 1.00 [658/658]
GhostDiagnostic-chr: -0.3083
Centroid-sig: 0.7%
Centroid-so: 2.074 arcsec [2.22σ]
OotOffset-rm: 0.034 arcsec [0.44σ]
KicOffset-rm: 0.074 arcsec [0.74σ]
OotOffset-st: 3/3/2/2 [10]
KicOffset-st: 3/3/2/2 [10]
DiffImageQuality-fgm: 0.00 [0/10]
DiffImageOverlap-fno: 0.00 [0/10]

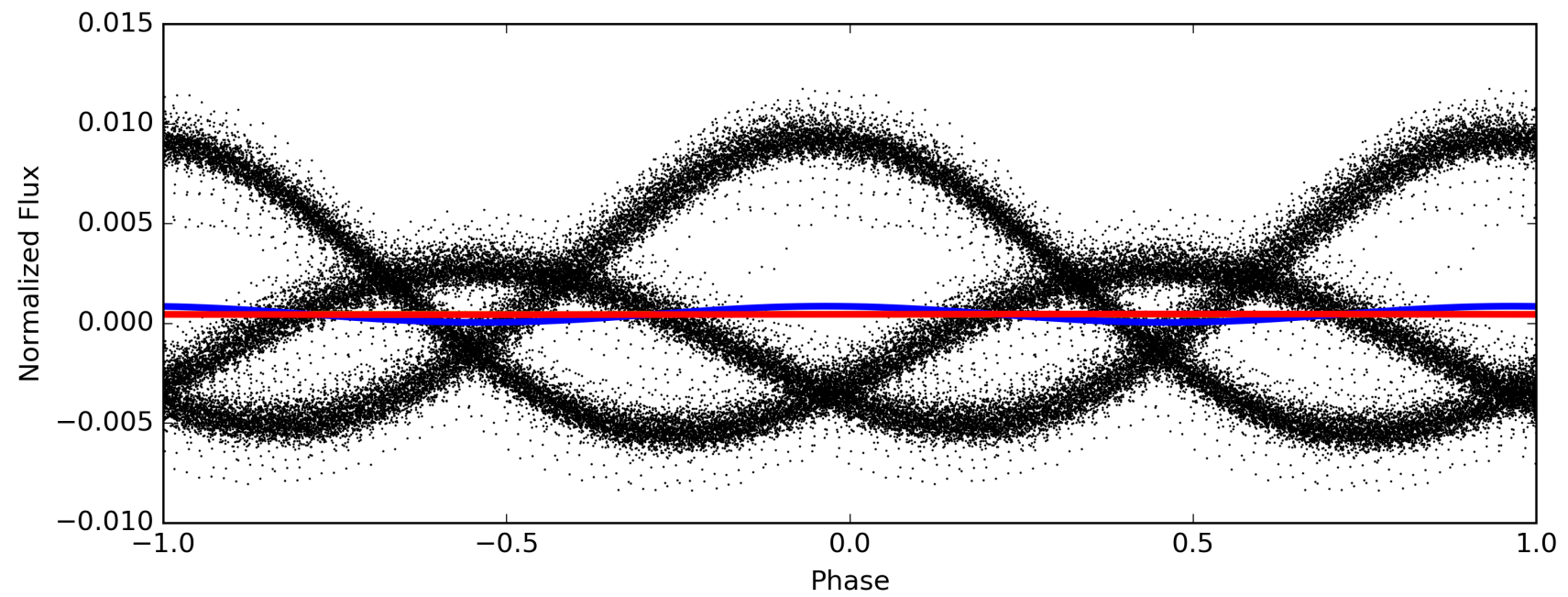
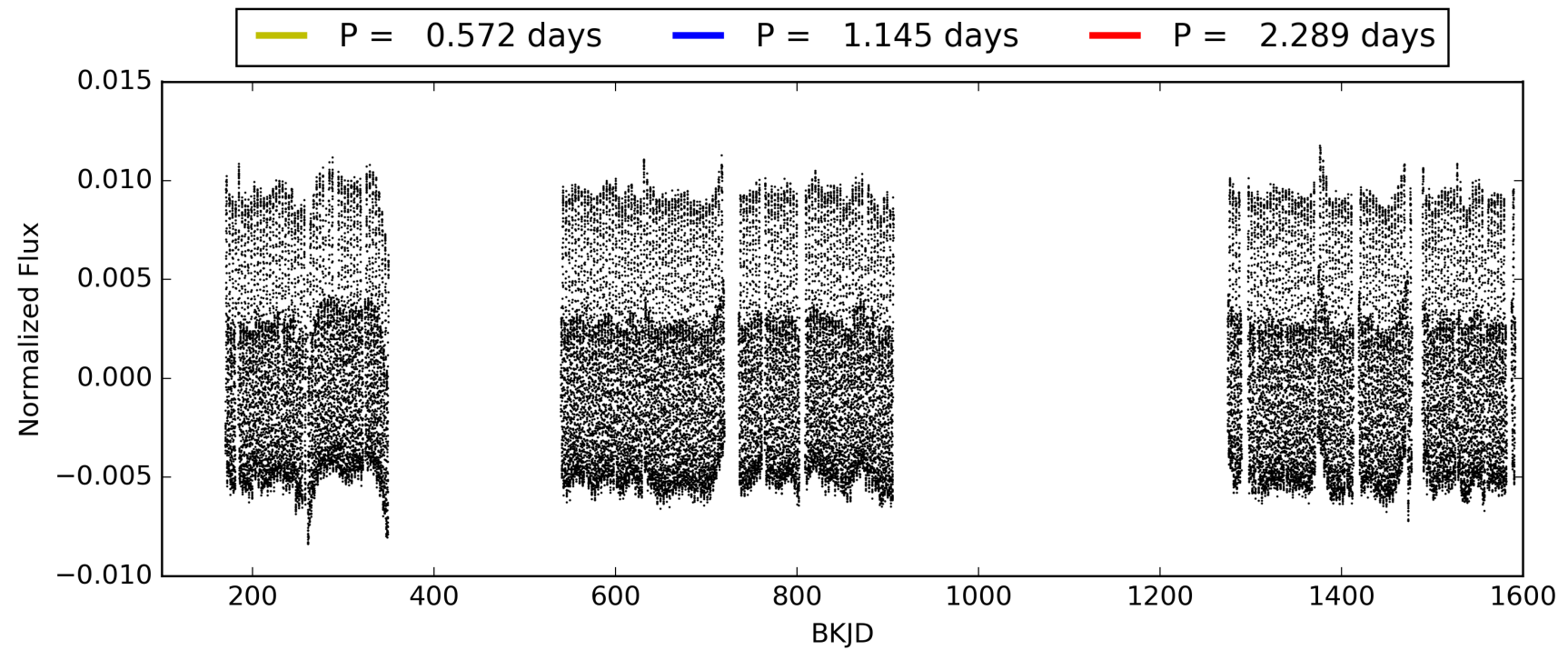
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:59:59 Z

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

TCE 006953047-01, PDC Light Curves

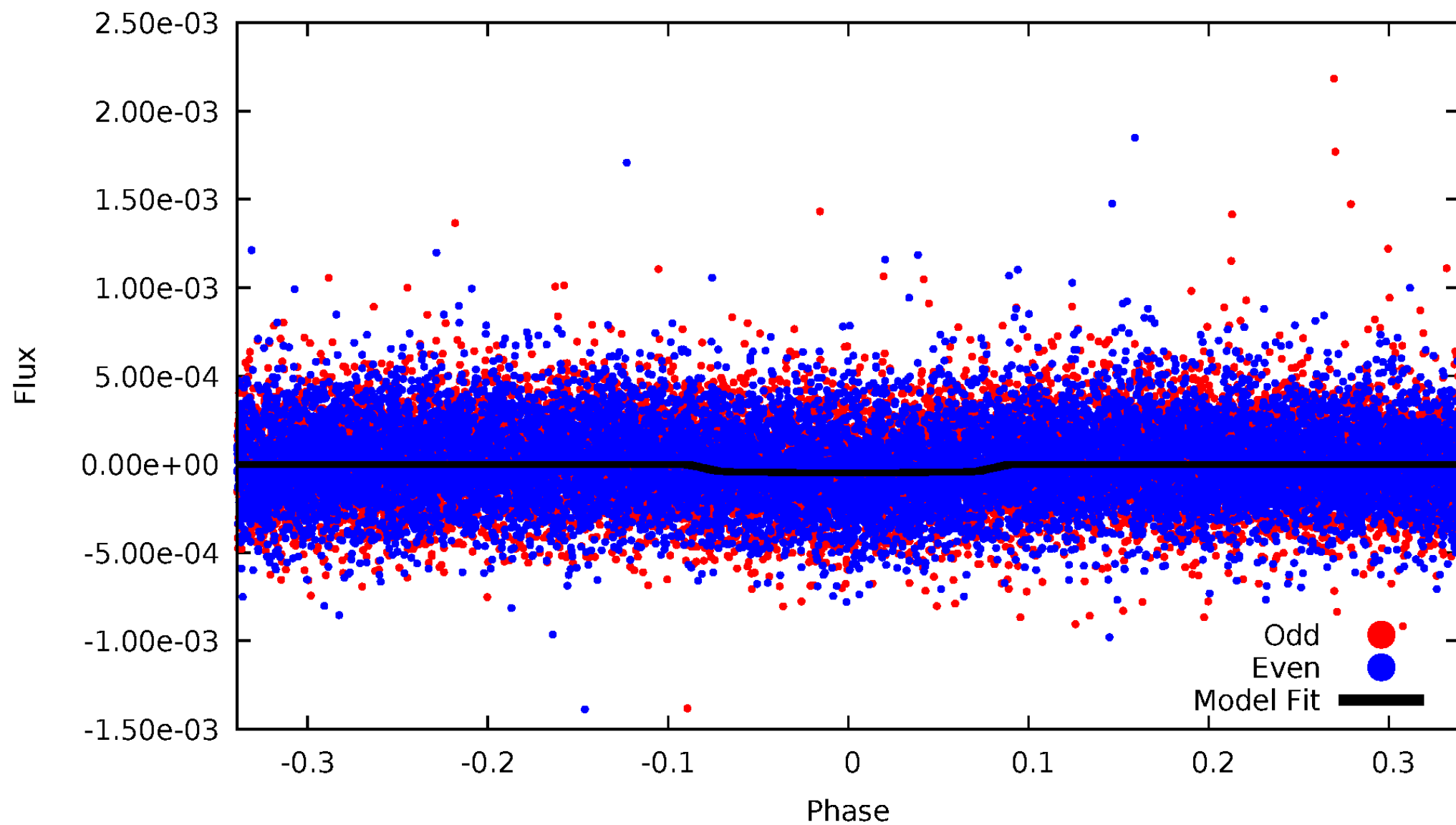


TCE 006953047-01



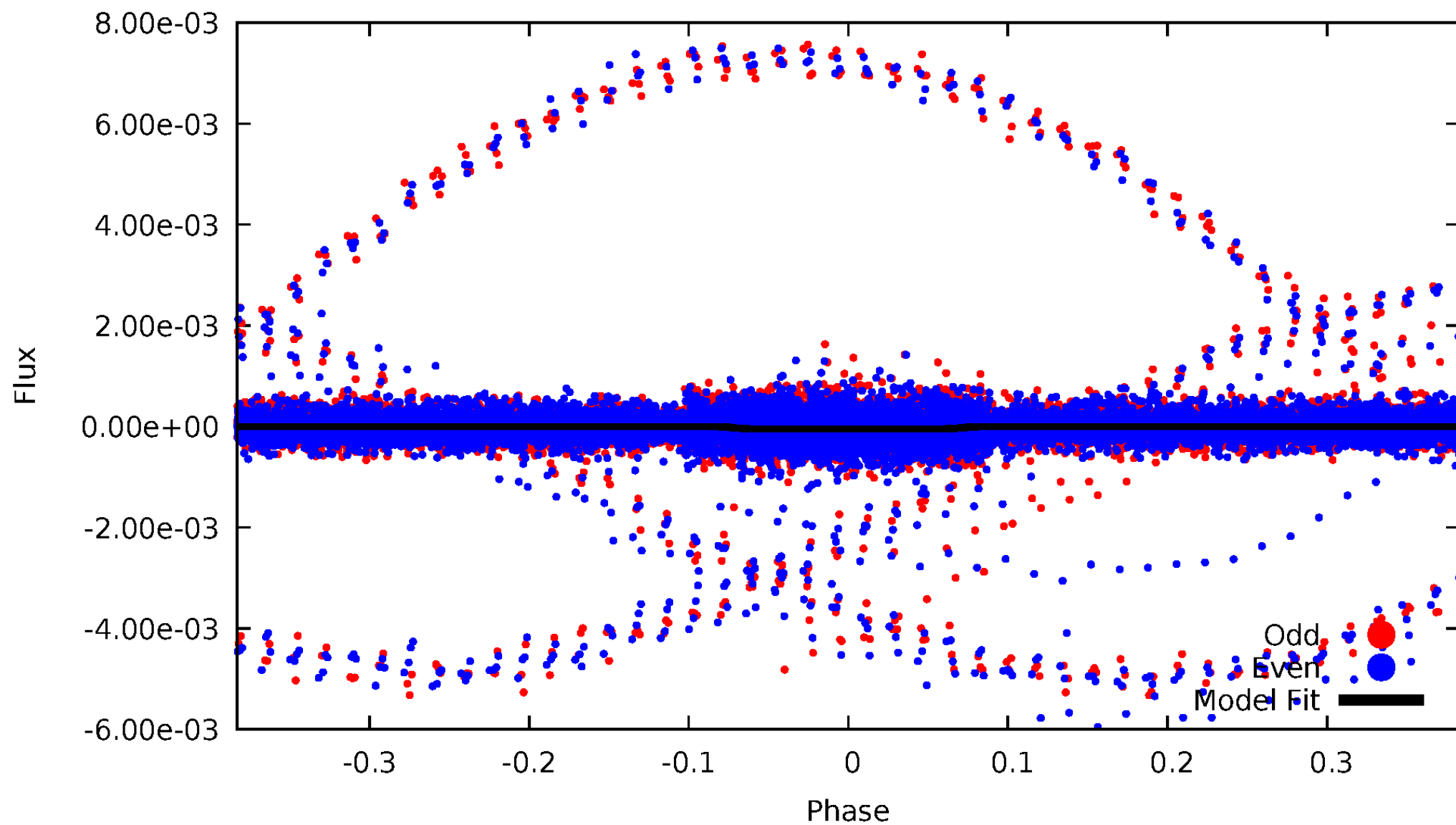
DV Odd/Even

TCE 006953047-01

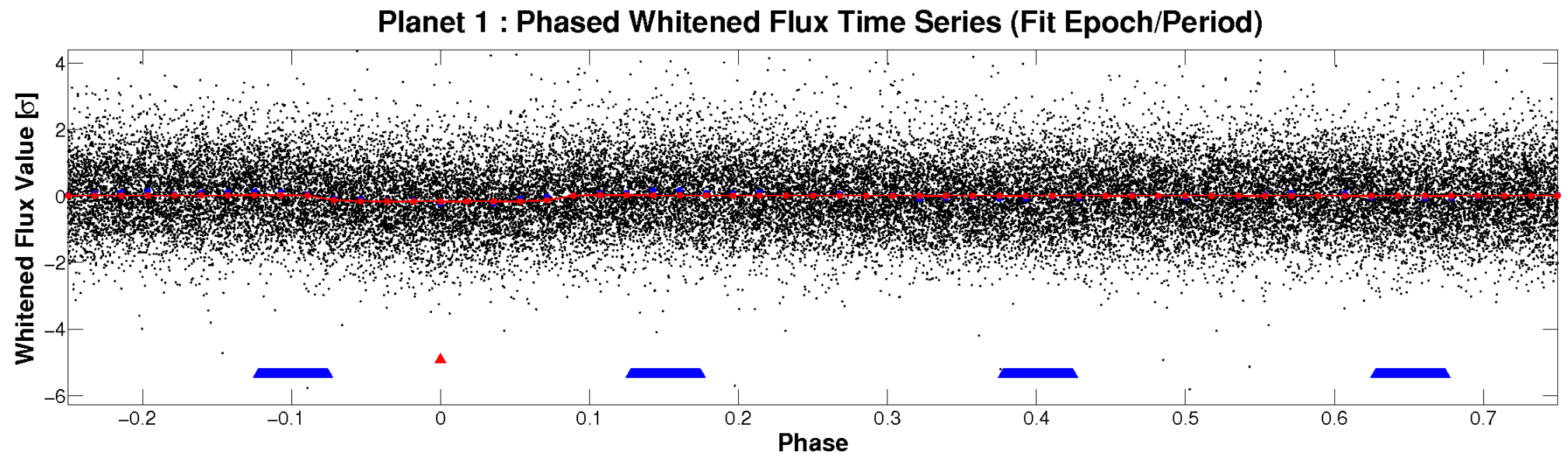
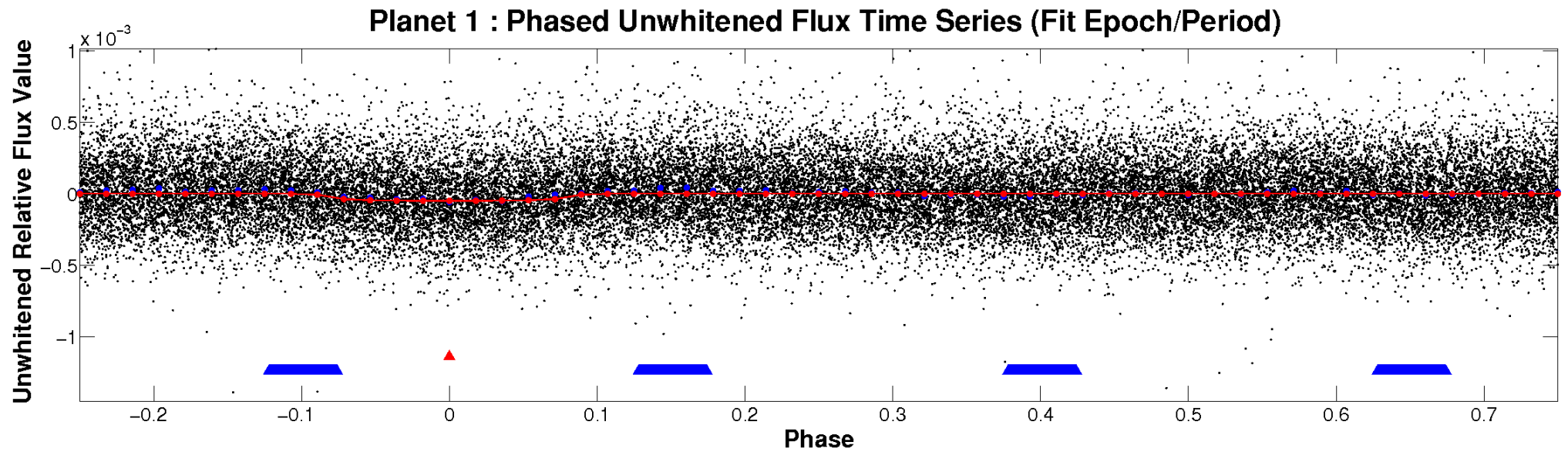


ALT Odd/Even

TCE 006953047-01

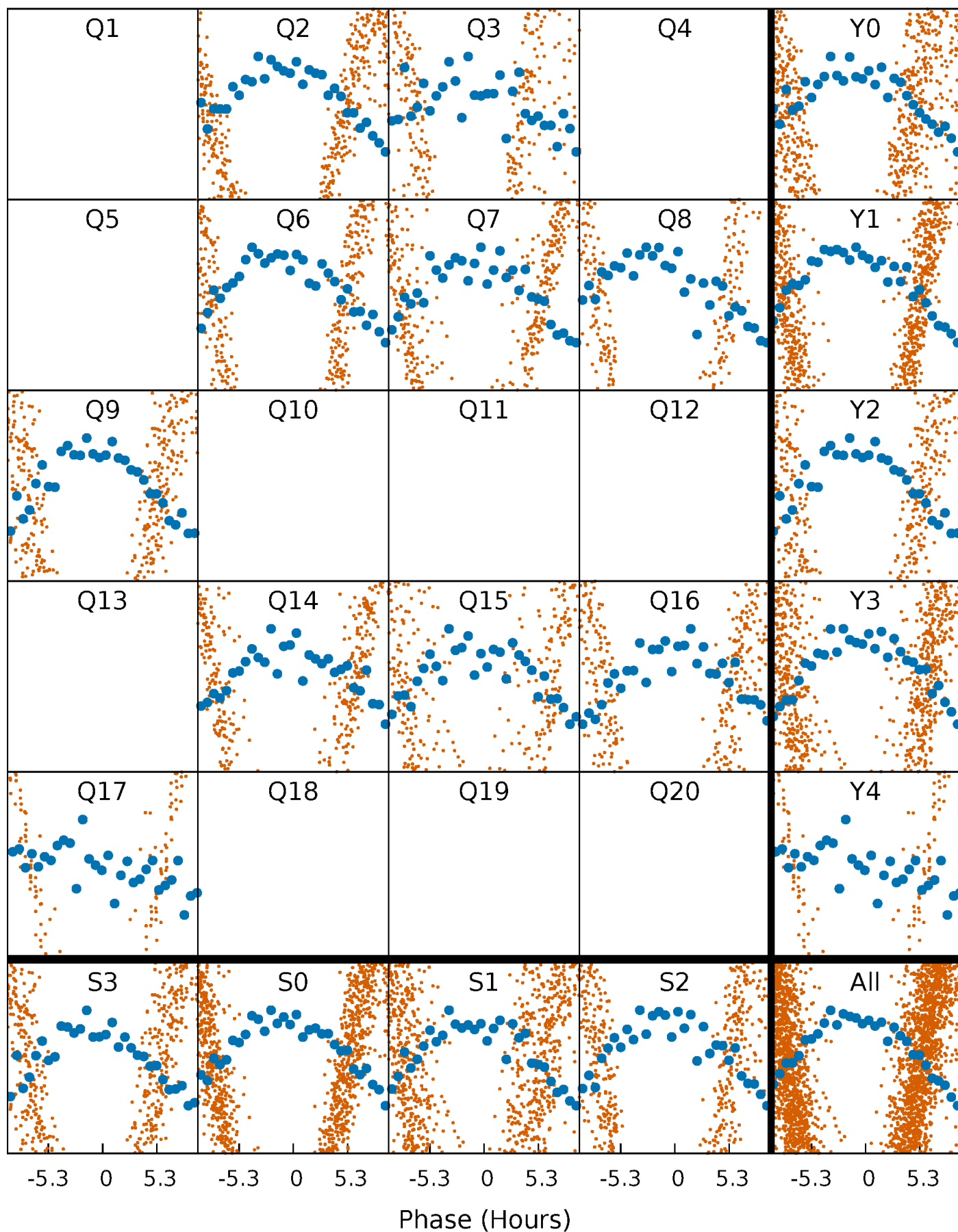


Non-Whitened Vs. Whitened Light Curve



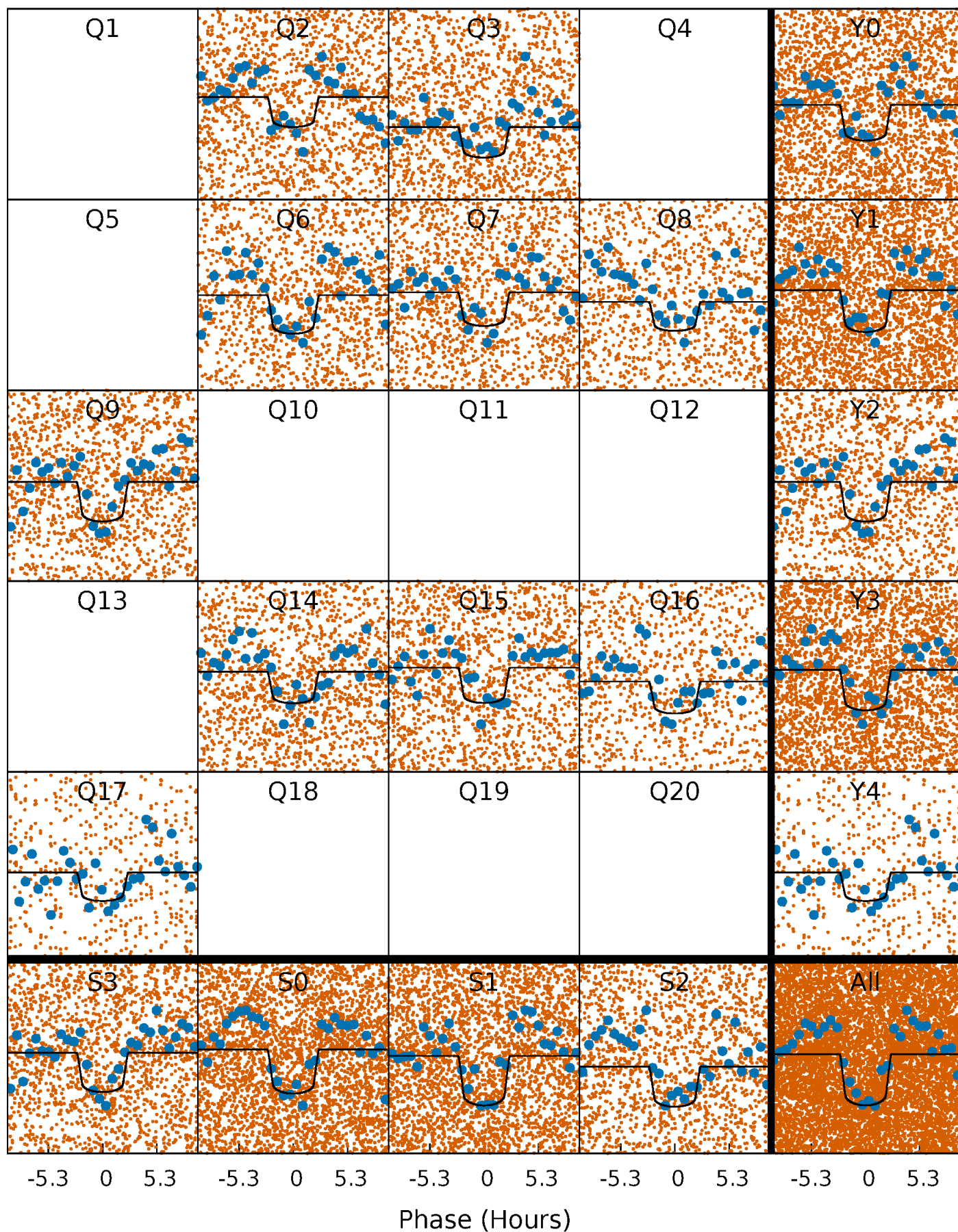
PDC Quarter-Phased Transit Curves

TCE 006953047-01 P= 1.144554 Days $T_0=132.012186$ (BKJD)



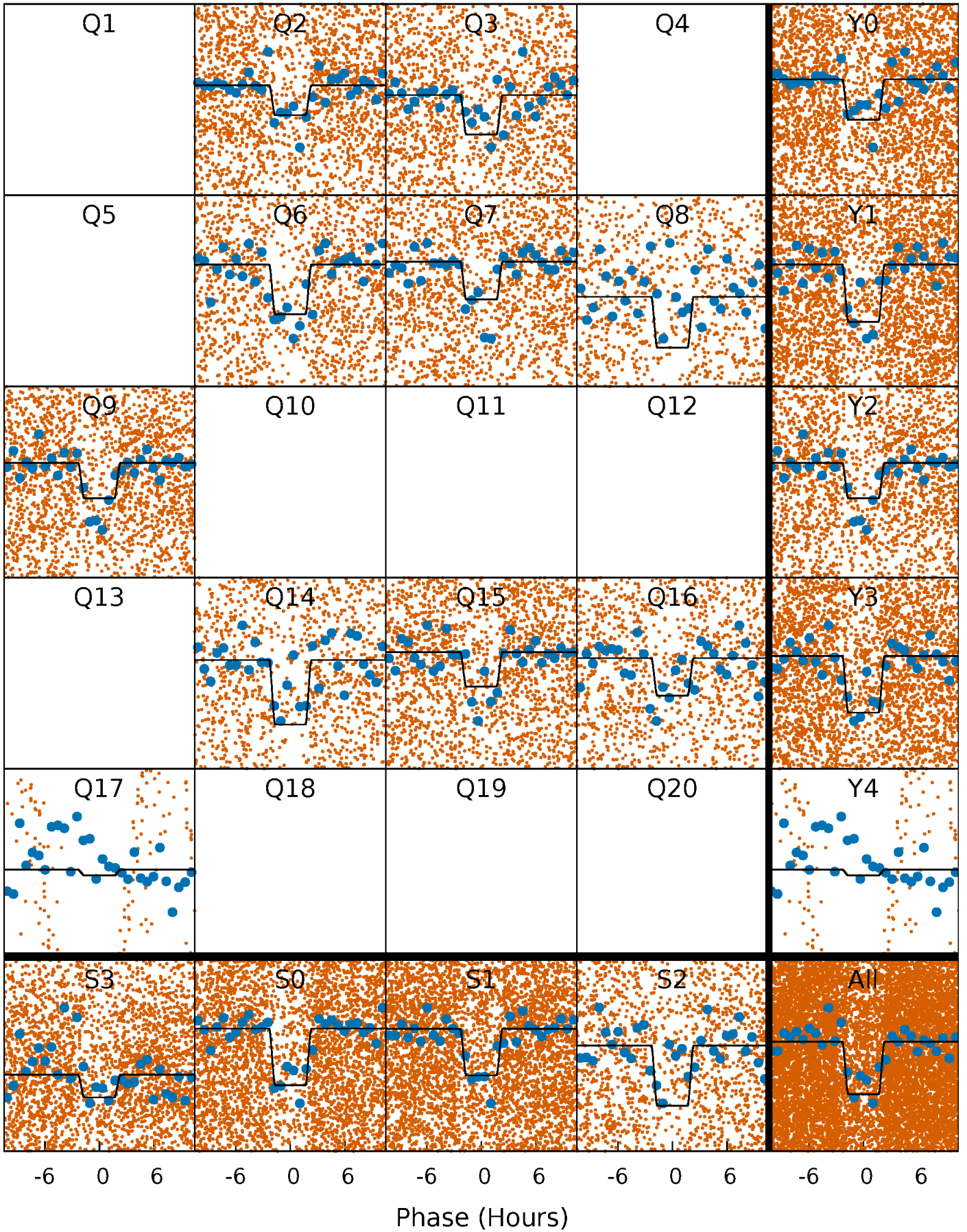
DV Quarter-Phased Transit Curves

TCE 006953047-01 P= 1.144554 Days $T_0=132.012186$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

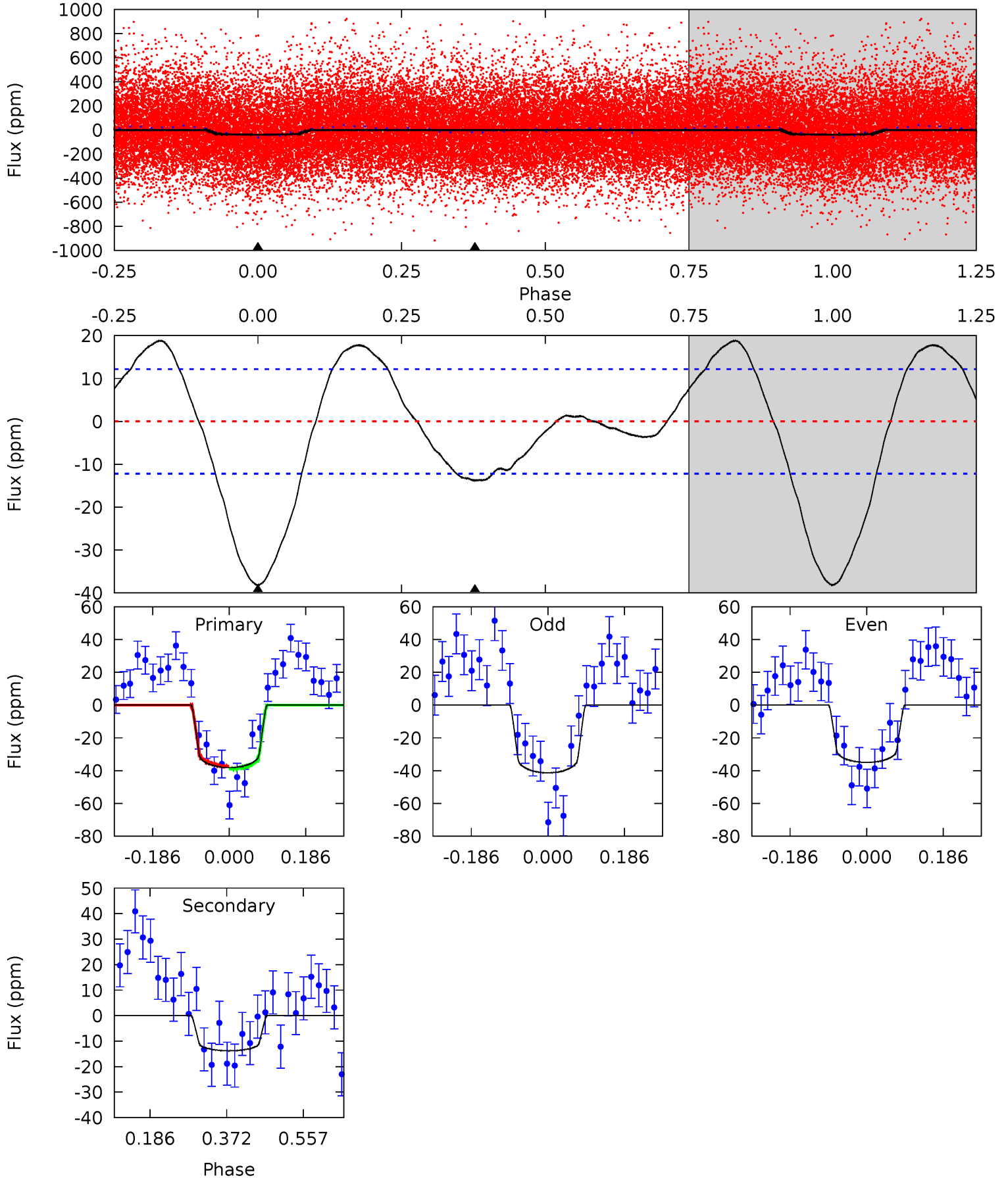
TCE 006953047-01 P= 1.144588 Days $T_0=131.990387$ (BKJD)



DV Model-Shift Uniqueness Test

006953047-01, P = 1.144554 Days, E = 132.012186 Days

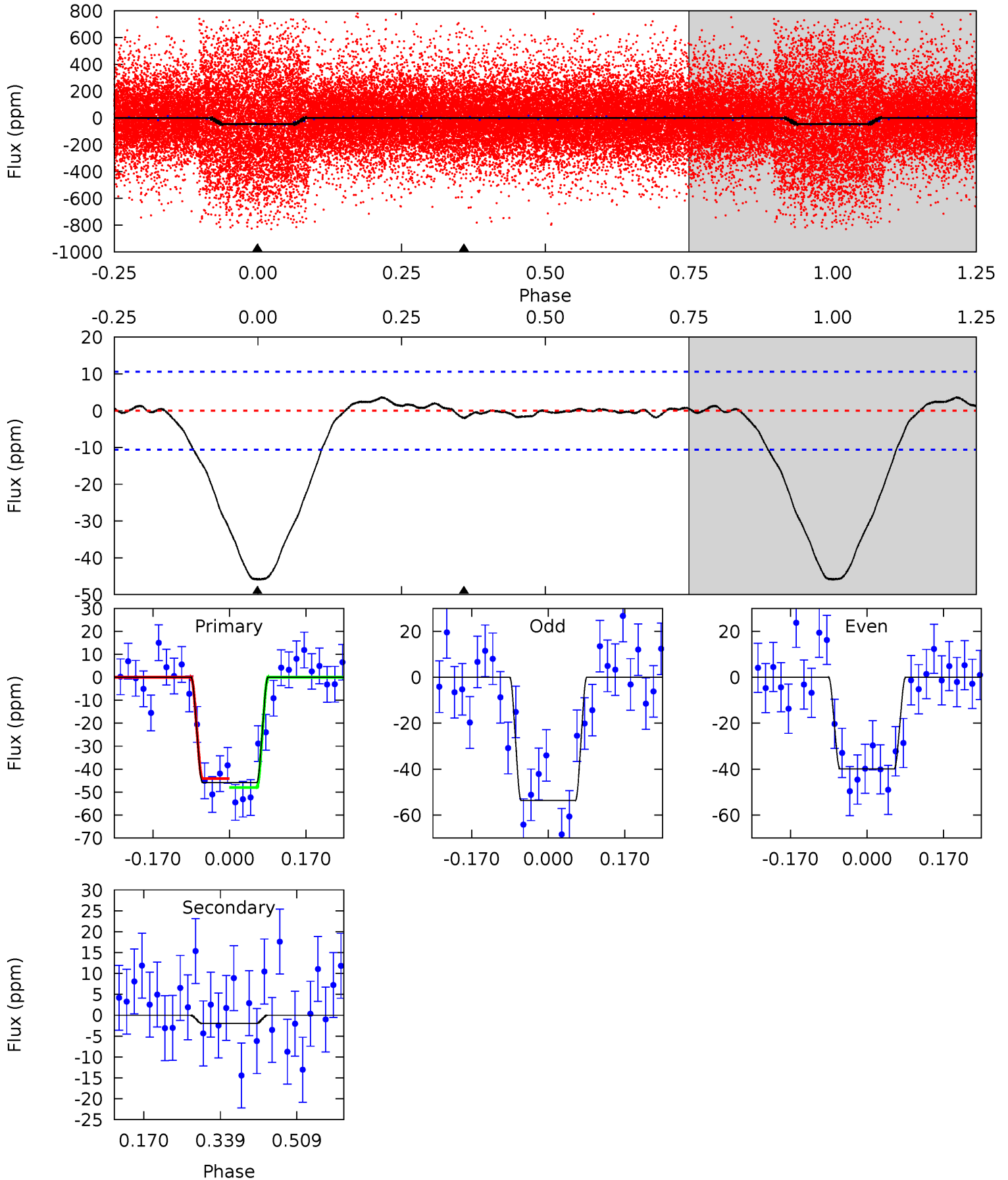
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	5.01	0	0	4.43	1.32	2.49	13.9	13.9	5.01	5.01	1.16	0.97	0.33	0.32



Alt Model-Shift Uniqueness Test

006953047-01, P = 1.144588 Days, E = 131.990387 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.3	0.83	0	0	4.45	1.37	0.34	19.3	19.3	0.83	0.83	2.89	0.86	0.07	0.82



Stellar Parameters For KIC 006953047

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	10577^{+294}_{-478}	$3.690^{+0.425}_{-0.100}$	$0.070^{+0.050}_{-0.600}$	$4.326^{+0.617}_{-1.975}$	$3.343^{+0.105}_{-0.946}$	$0.058^{+0.202}_{-0.018}$
	+3%/-5%	+12%/-3%	+71%/-857%	+14%/-46%	+3%/-28%	+348%/-31%
Source	KIC0	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 006953047-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-14 ± 3	$3.08^{+0.97}_{-0.98}$	7277^{+581}_{-879}	5979^{+1400}_{-1249}	$0.779^{+0.854}_{-0.339}$
Alt.	-2 ± 2	$2.84^{+0.99}_{-0.88}$	7353^{+540}_{-869}	-4814^{+8564}_{-880}	$0.121^{+0.232}_{-0.148}$

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

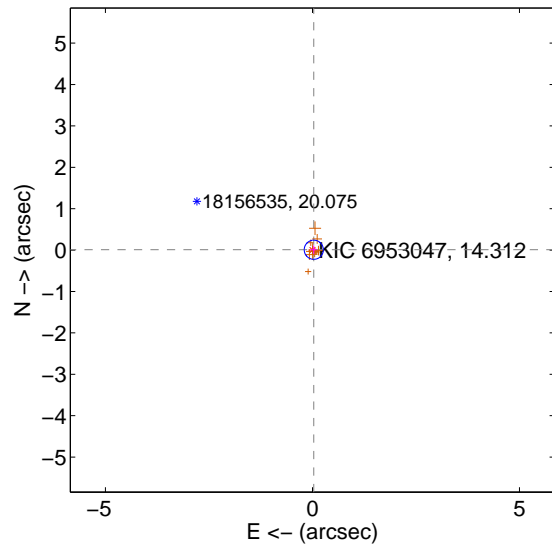
Supplemental centroid analysis for 006953047-01. Kepler magnitude: 14.31. Transit SNR 11.80

There are 0 quarters with good PRF difference image offsets

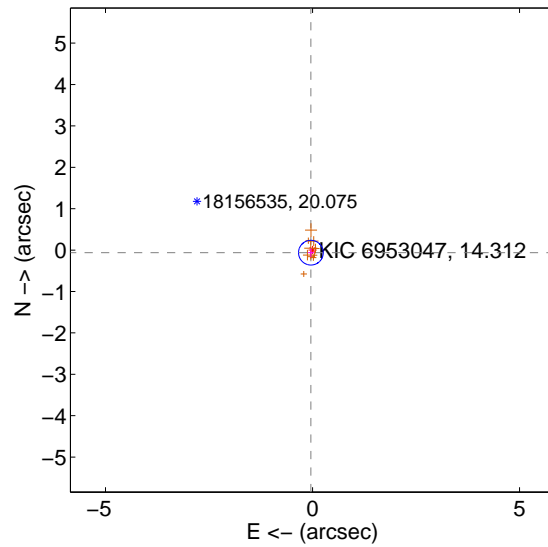
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.034 ± 0.077	0.44	-0.033 ± 0.072	0.008 ± 0.105
PRF-fit source offset from KIC position	0.074 ± 0.099	0.74	0.039 ± 0.073	-0.062 ± 0.108
photometric centroid source offset	2.07 ± 0.93	2.22	2.00 ± 0.94	-0.54 ± 0.87

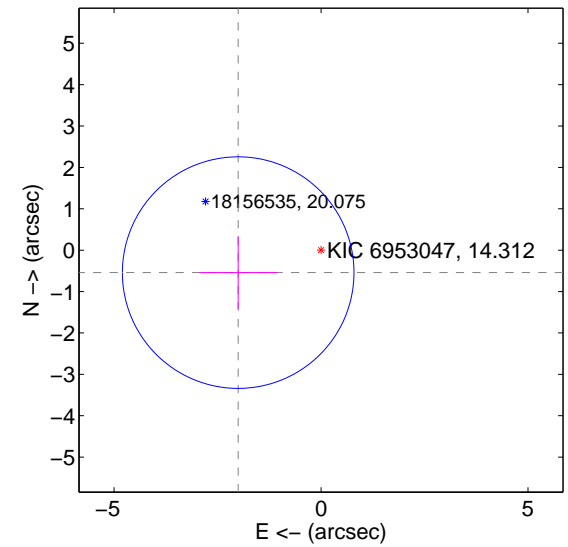
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

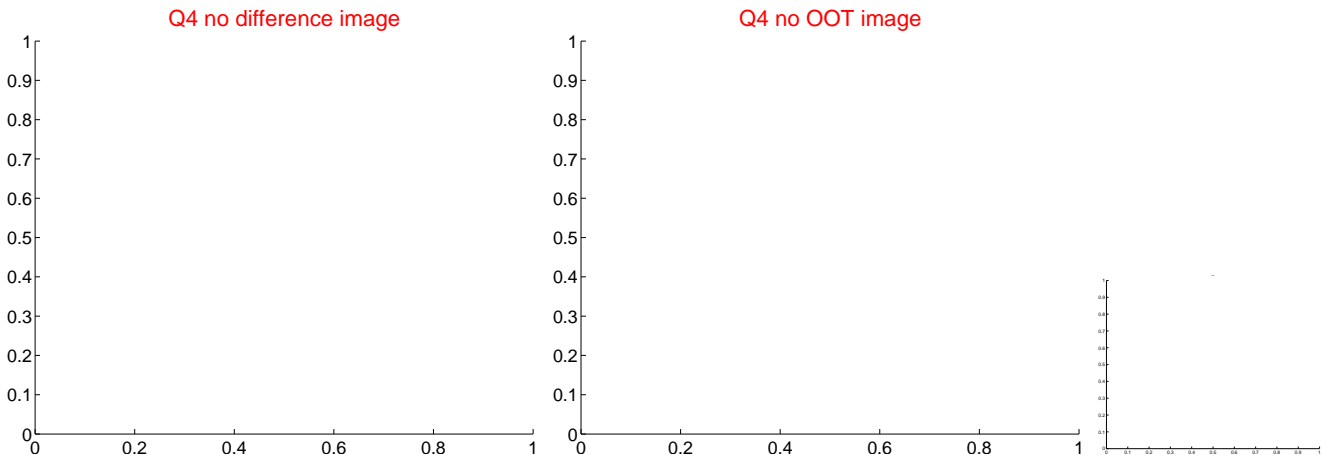
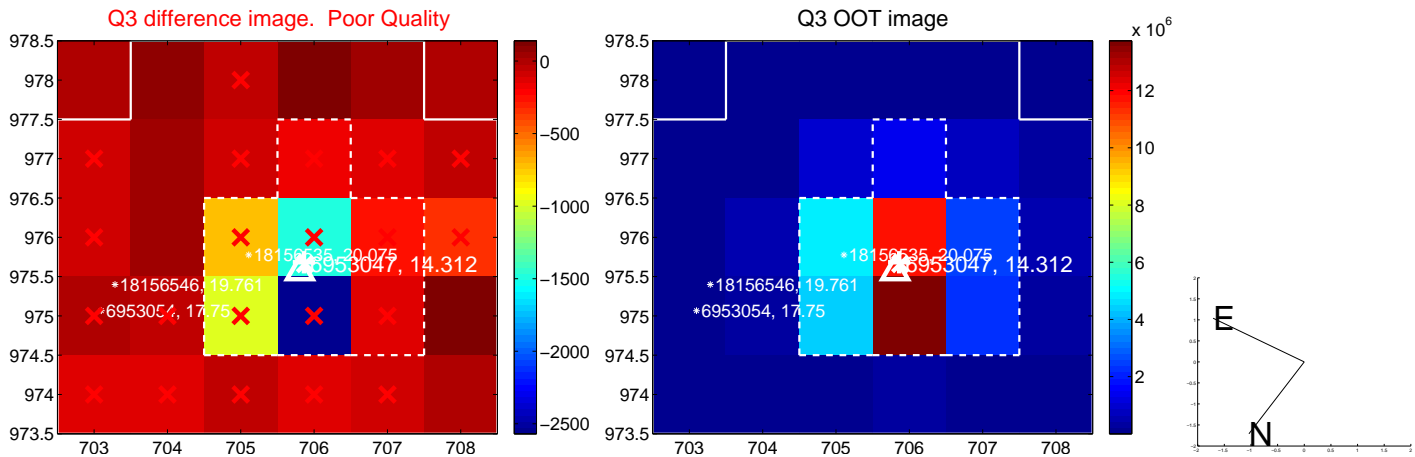
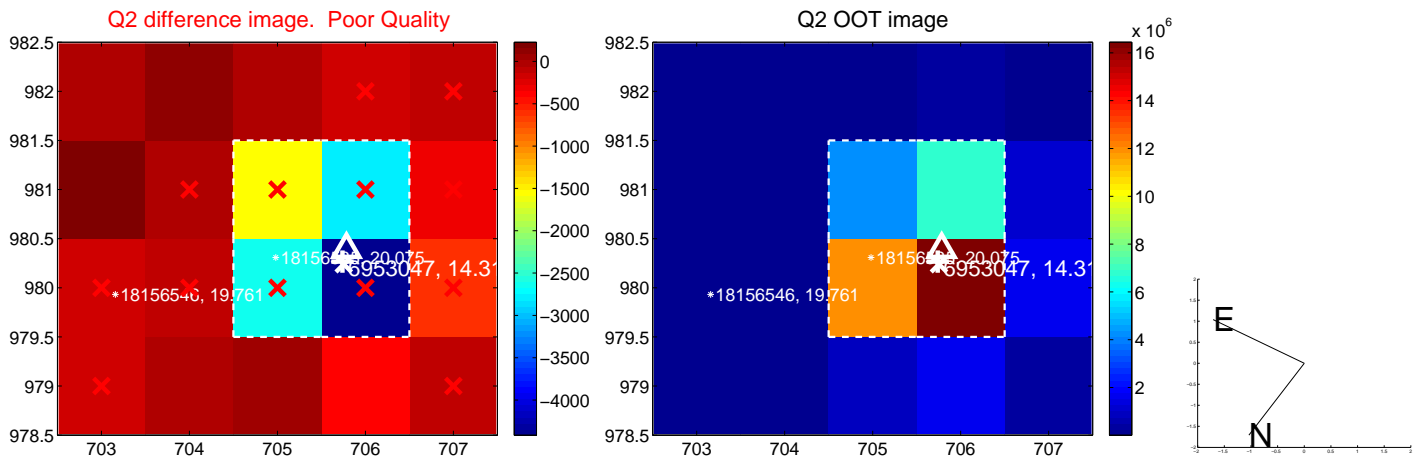
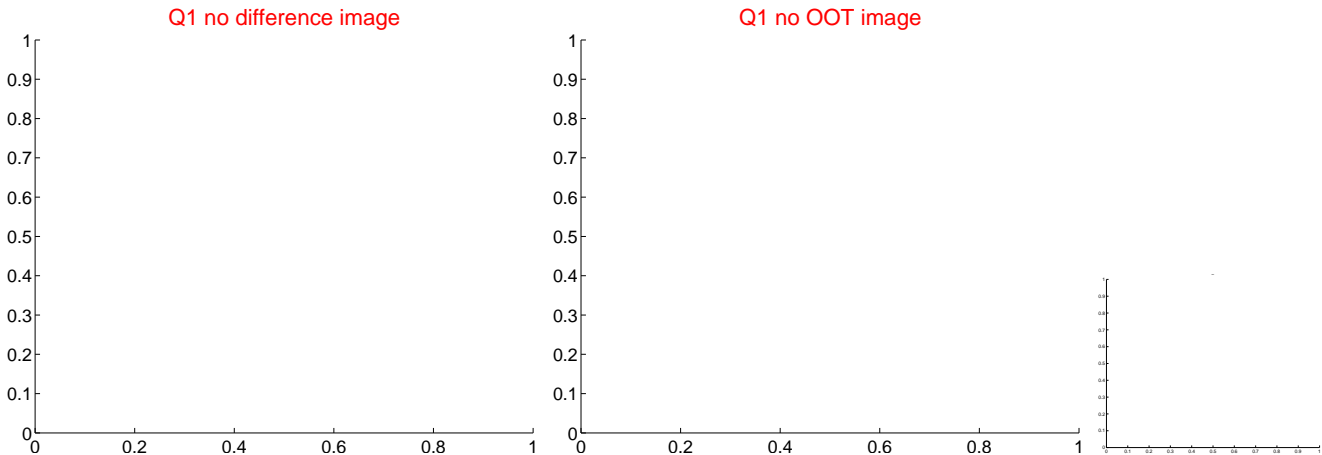


offset from photometric centroids

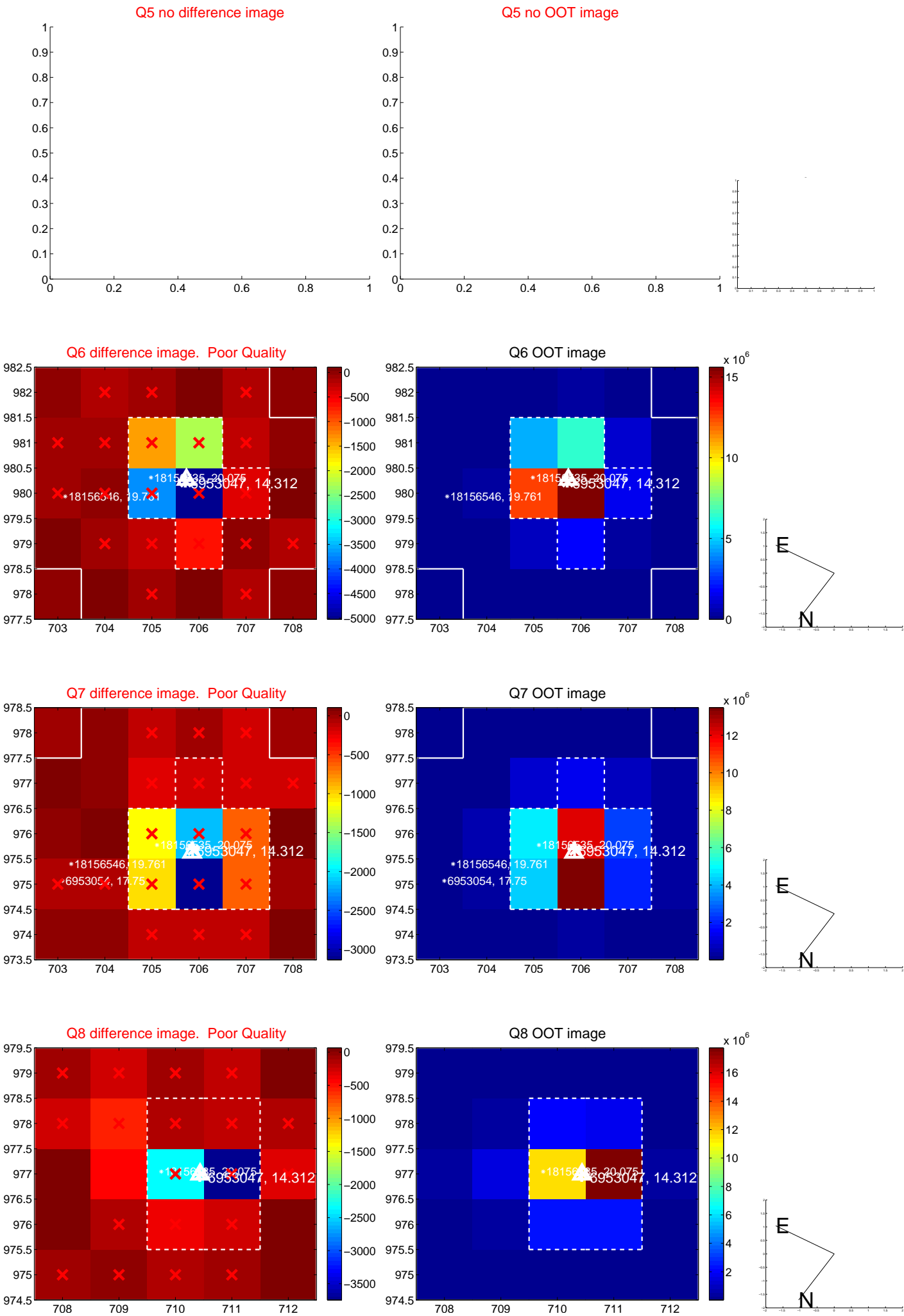


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

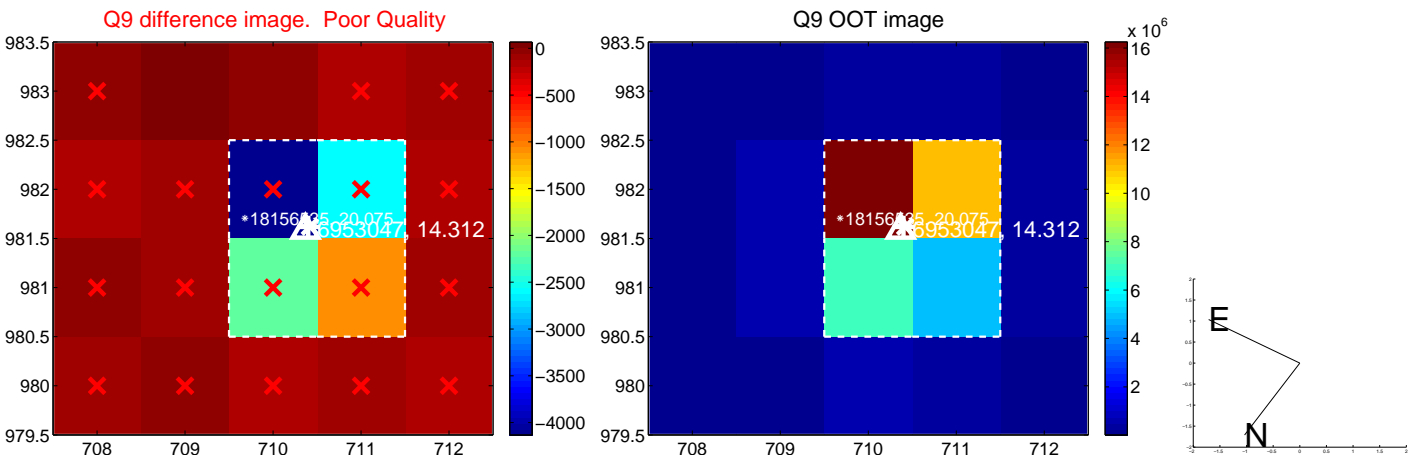
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



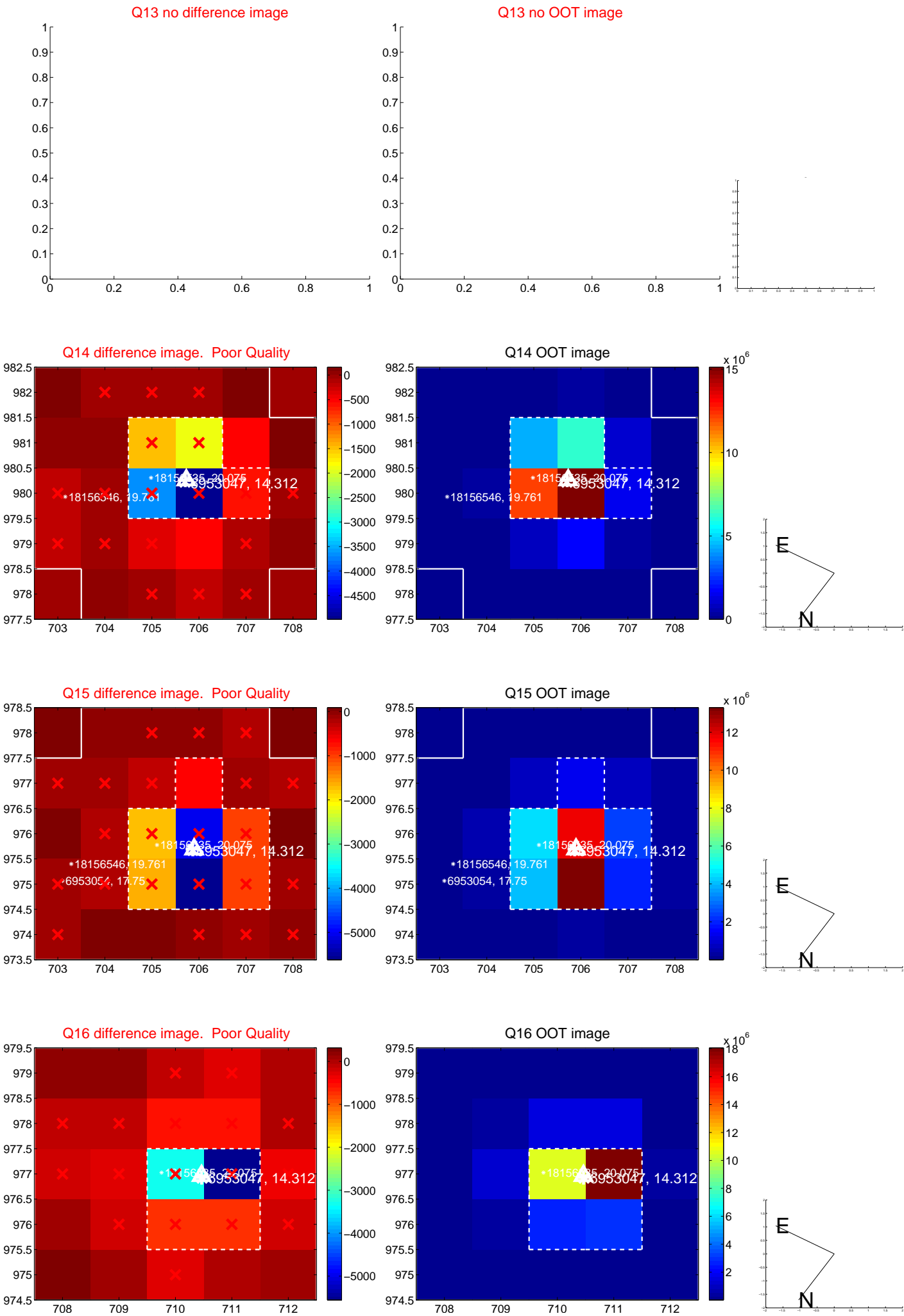
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



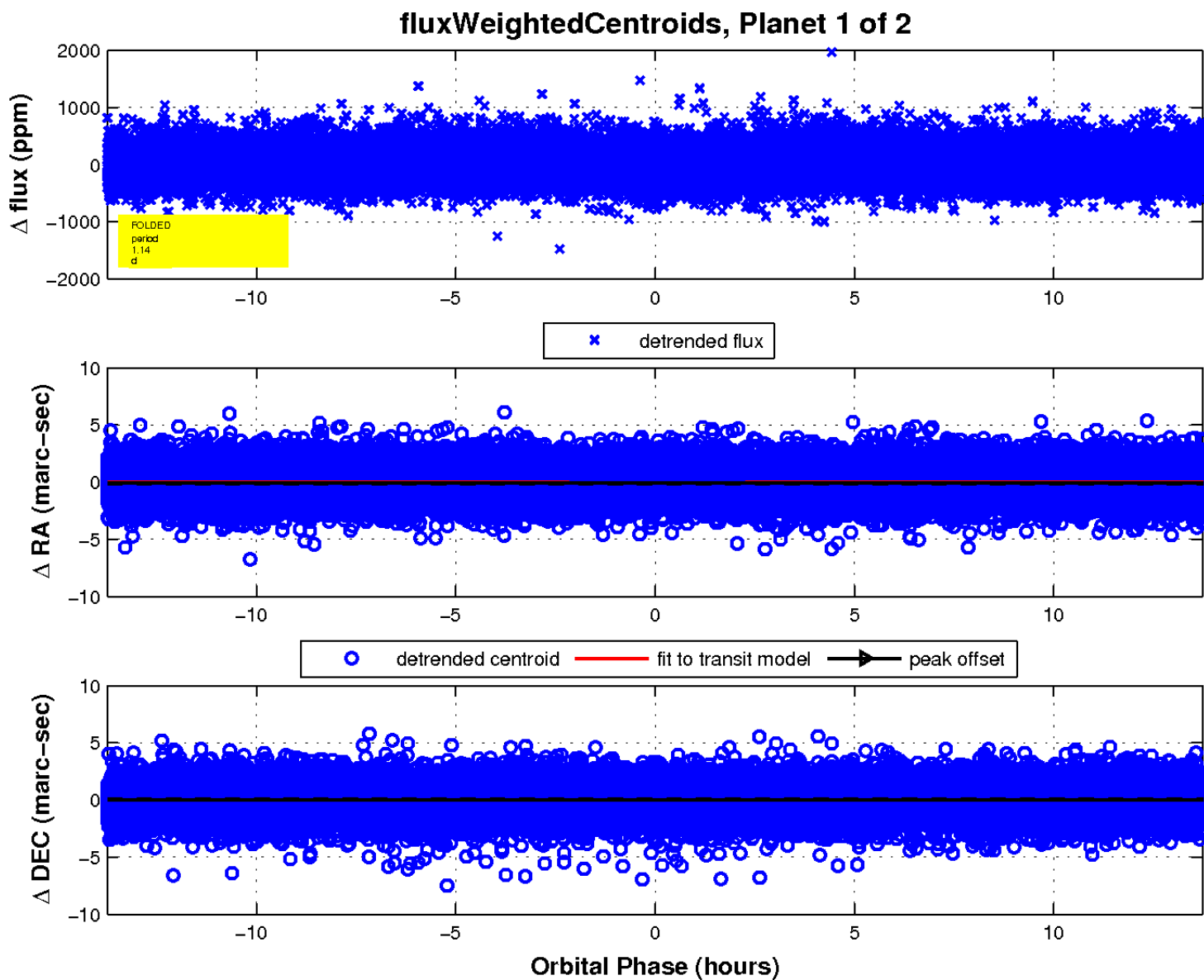
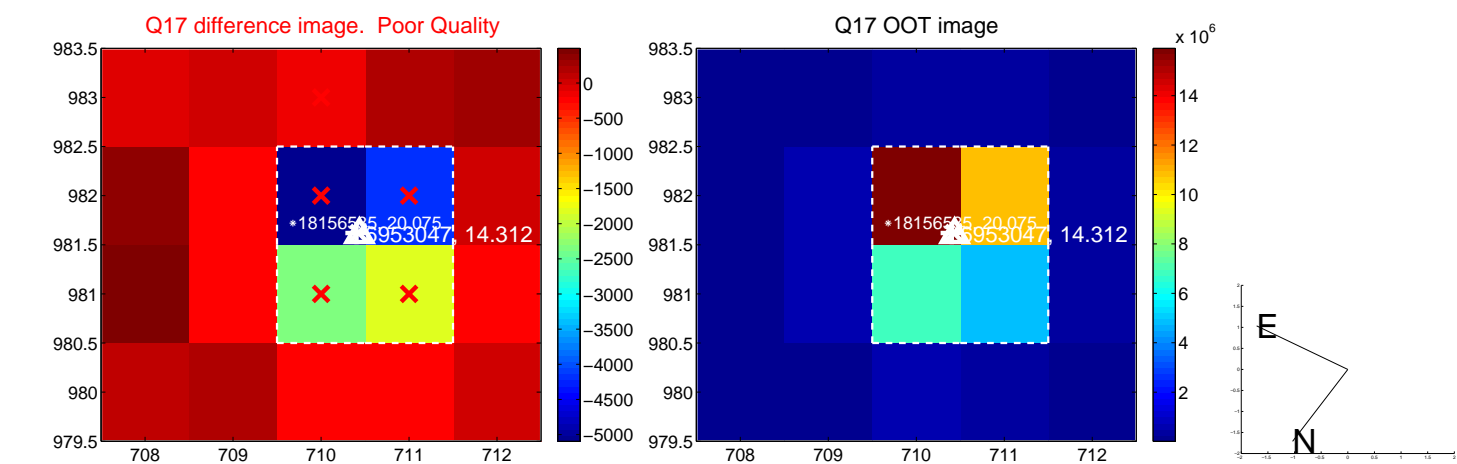
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

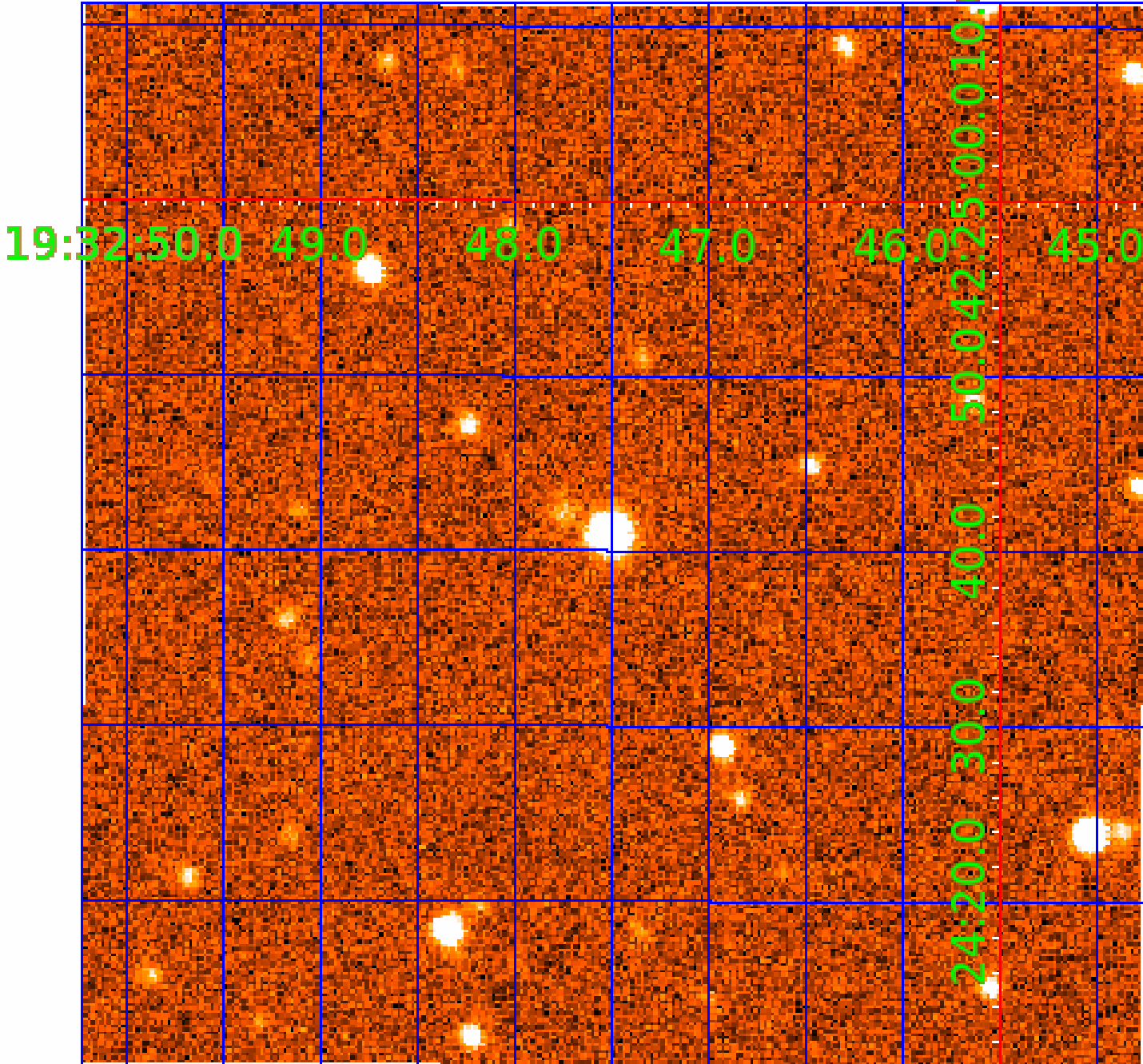


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006953047

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})
006953047-01	OBS	No	1.144554	132.012186	48.2	4.658	11.8	11.8	4.33	10577	3.44	204591.26
006953047-02	OBS	No	0.858447	131.872417	76.9	3.114	10.4	14.9	4.33	10577	3.92	300227.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006953047-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_FEW_DIFFS
006953047-02	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—HALO_GHOST

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

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

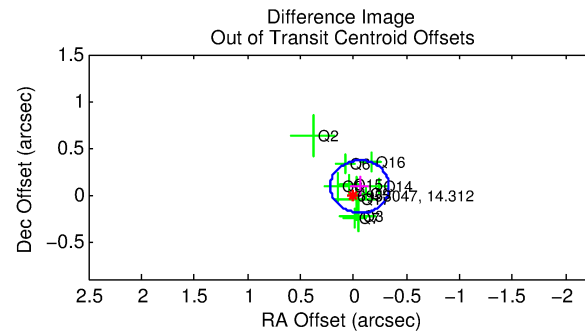
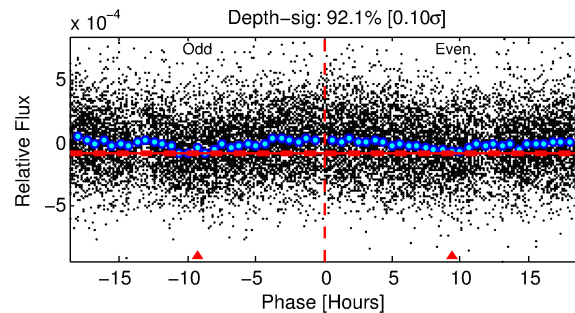
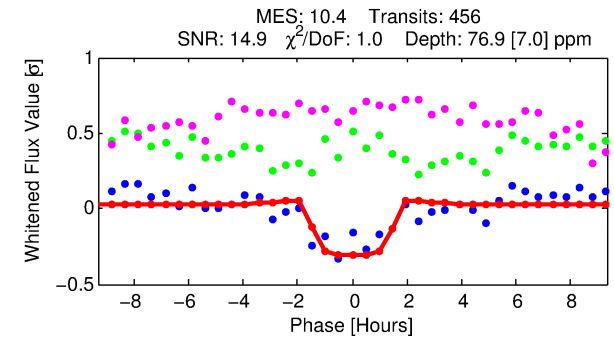
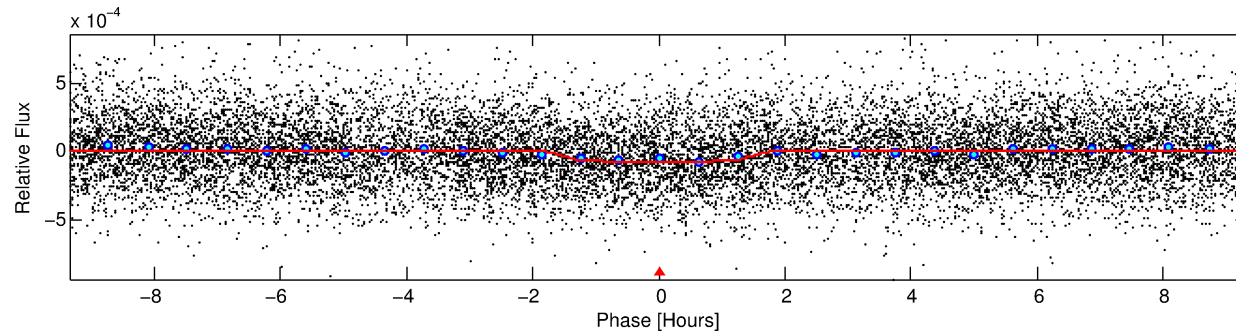
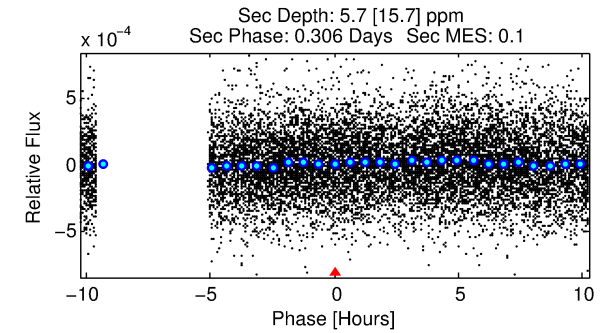
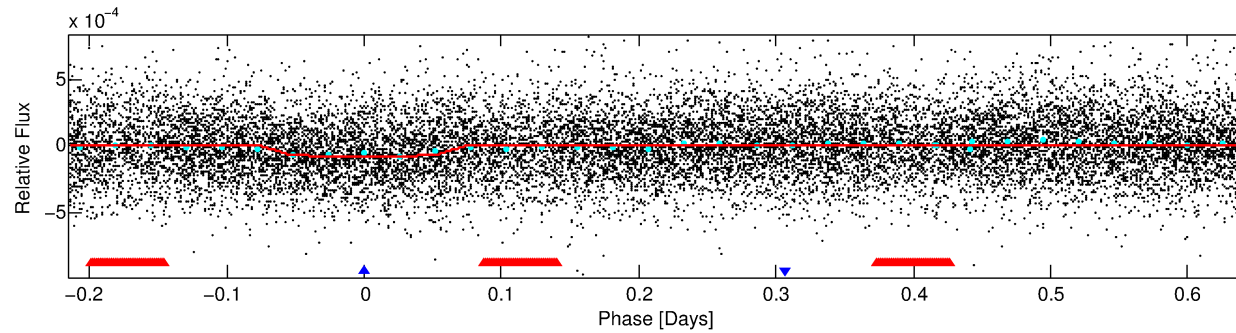
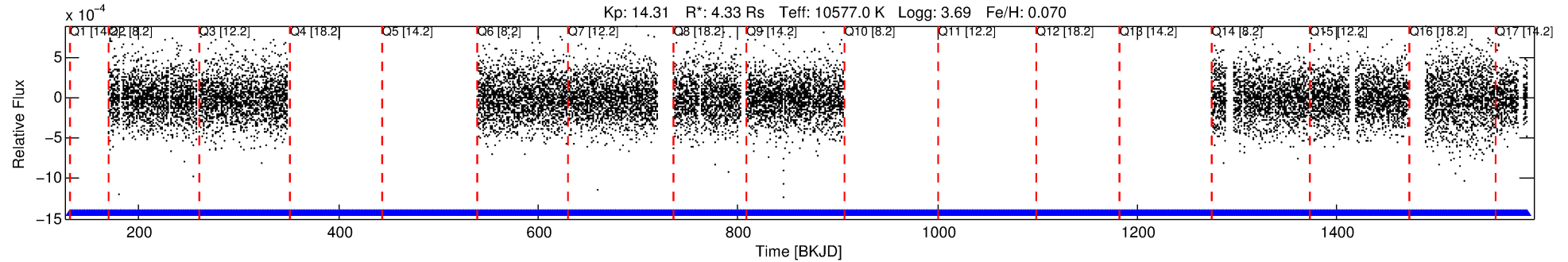
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006953047-02

No Significant Match Found

DV One-Page Summary

KIC: 6953047 Candidate: 2 of 2 Period: 0.858 d



DV Fit Results:

Period = 0.85845 [0.00001] d
Epoch = 131.8724 [0.0025] BKJD
Rp/R* = 0.0083 [0.0033]
a/R* = 2.13 [4.78]
b = 0.30 [8.80]
Seff = 300227.85 [222844.72]
Teq = 5969 [1108] K
Rp = 3.92 [2.36] Re
a = 0.0264 [0.0118] AU
Ag = 0.14 [0.42] [-2.04σ]
Teffp = 5679 [4046] K [-0.07σ]

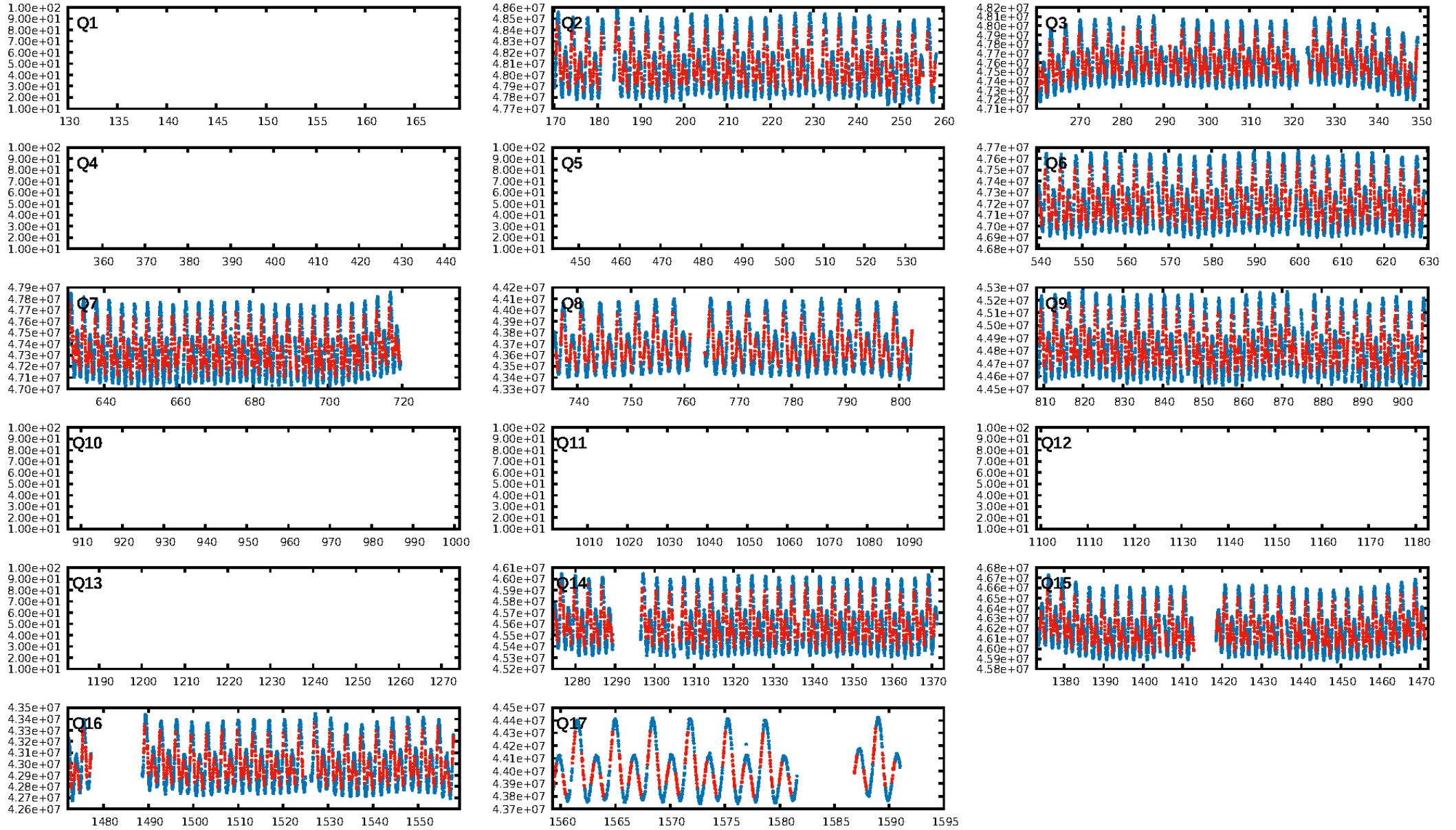
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 78.0% [1.23σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.65e-34
RollingBand-fgt: 1.00 [442/442]
GhostDiagnostic-chr: -0.2175
Centroid-sig: 72.4%
Centroid-so: 0.387 arcsec [0.63σ]
OotOffset-rm: 0.105 arcsec [1.13σ]
OotOffset-st: 3/3/2/2 [10]
KicOffset-rm: 0.060 arcsec [0.57σ]
KicOffset-st: 3/3/2/2 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 1.00 [10/10]

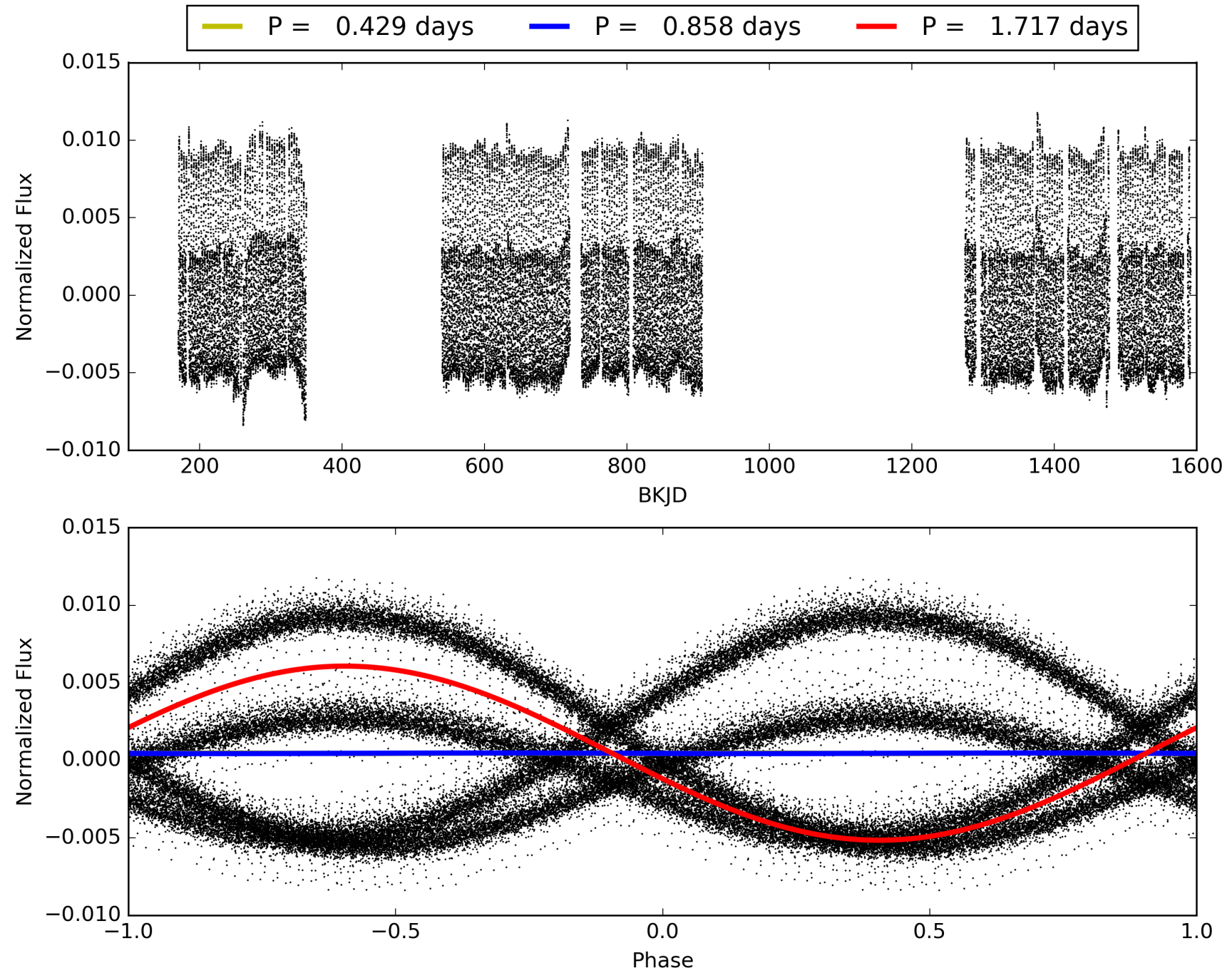
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:00:09 Z

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

TCE 006953047-02, PDC Light Curves

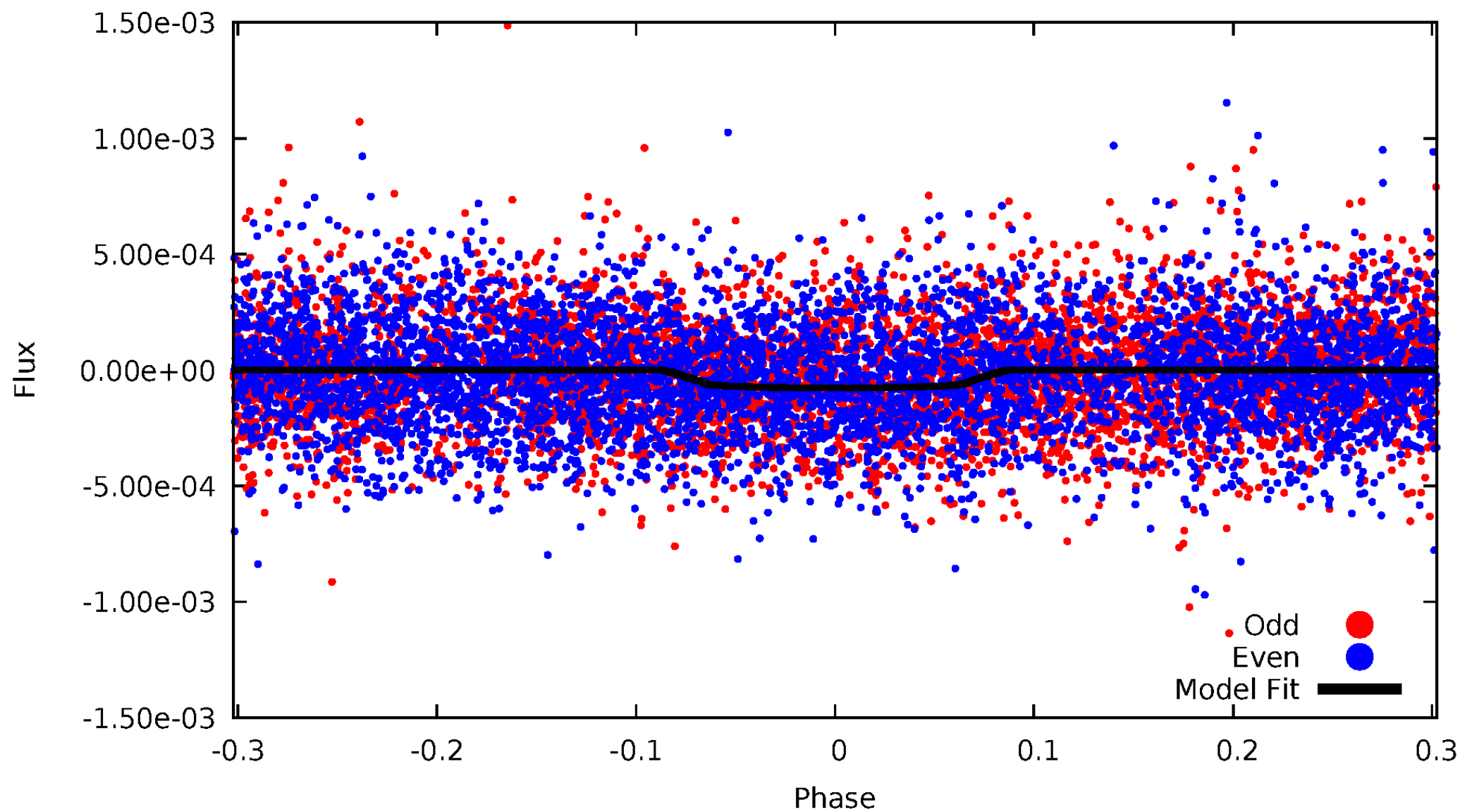


TCE 006953047-02



DV Odd/Even

TCE 006953047-02

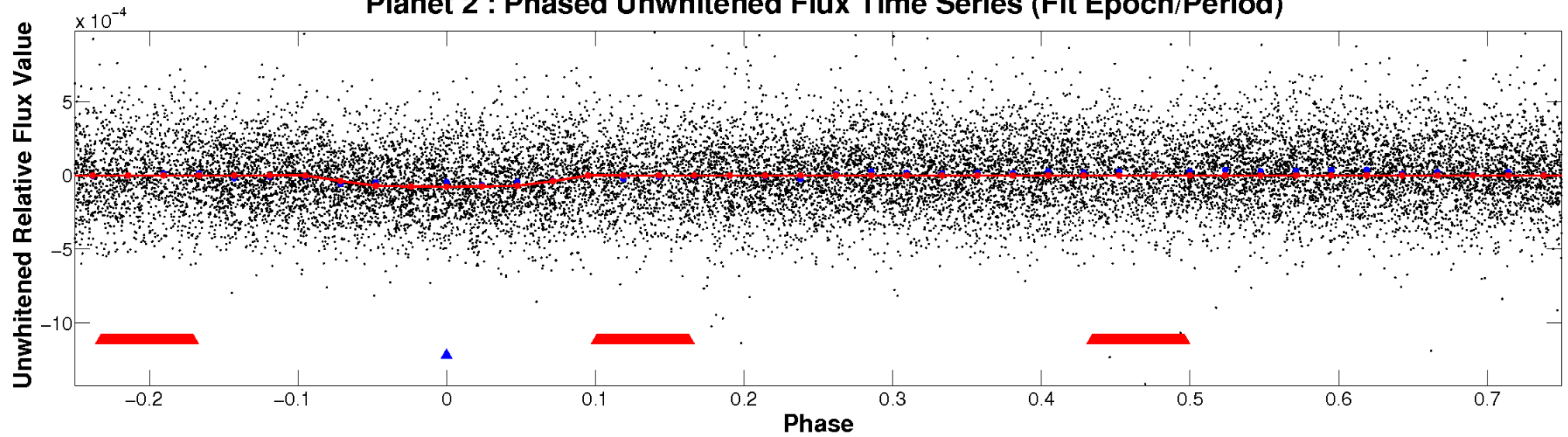


ALT Odd/Even

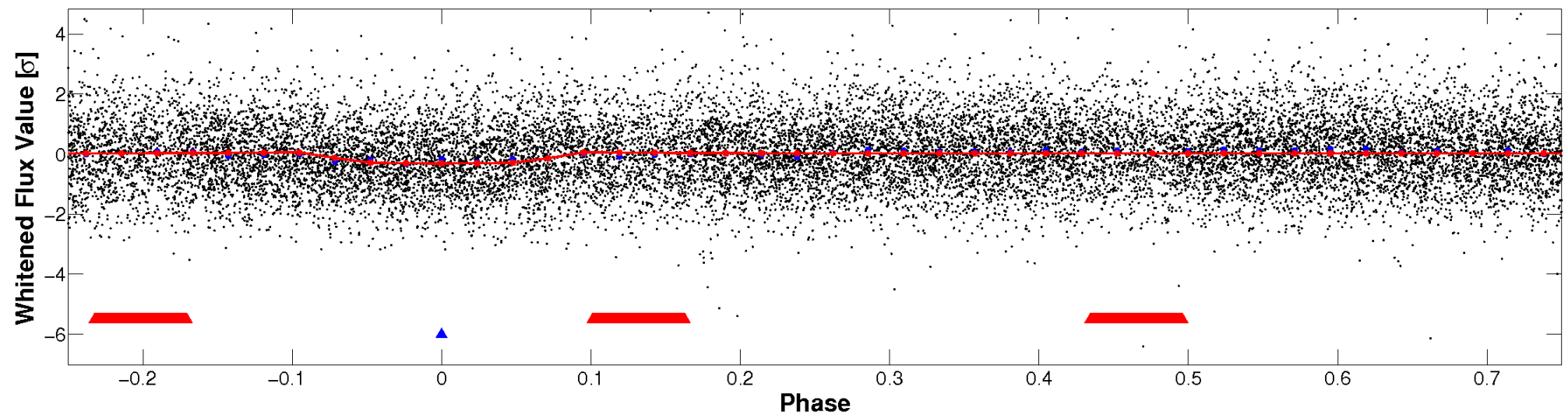
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

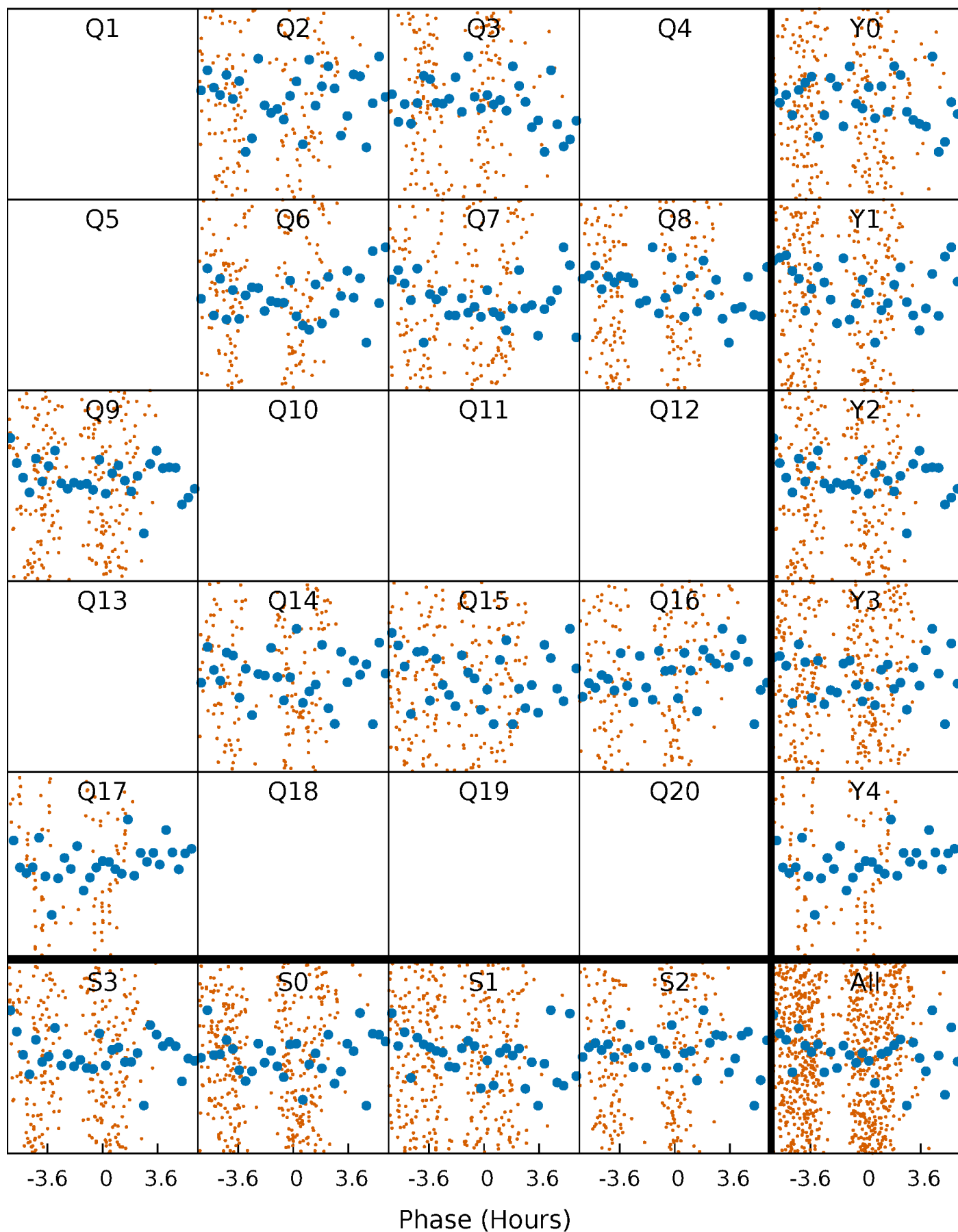


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



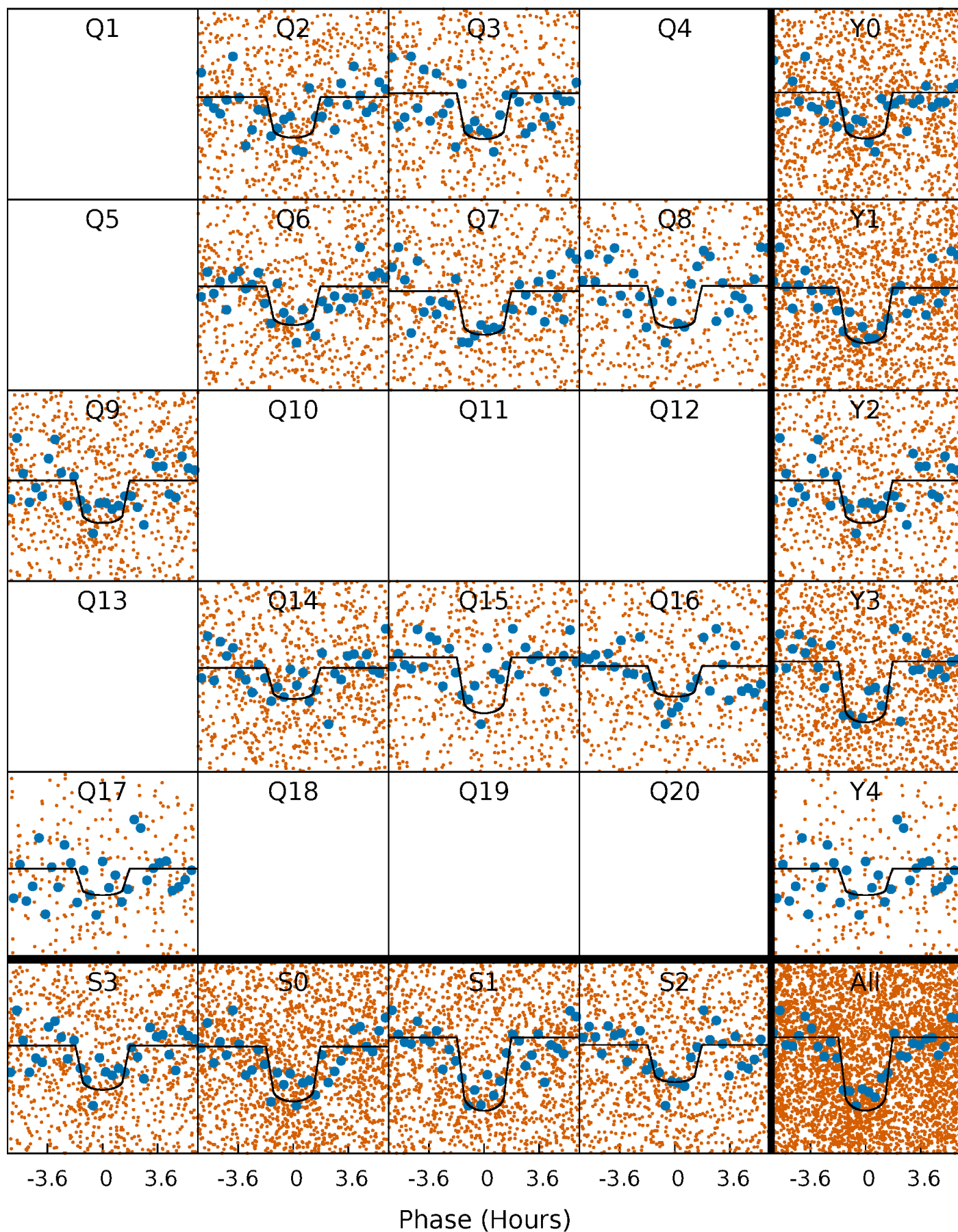
PDC Quarter-Phased Transit Curves

TCE 006953047-02 P= 0.858447 Days $T_0=131.872417$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 006953047-02 P= 0.858447 Days $T_0=131.872417$ (BKJD)

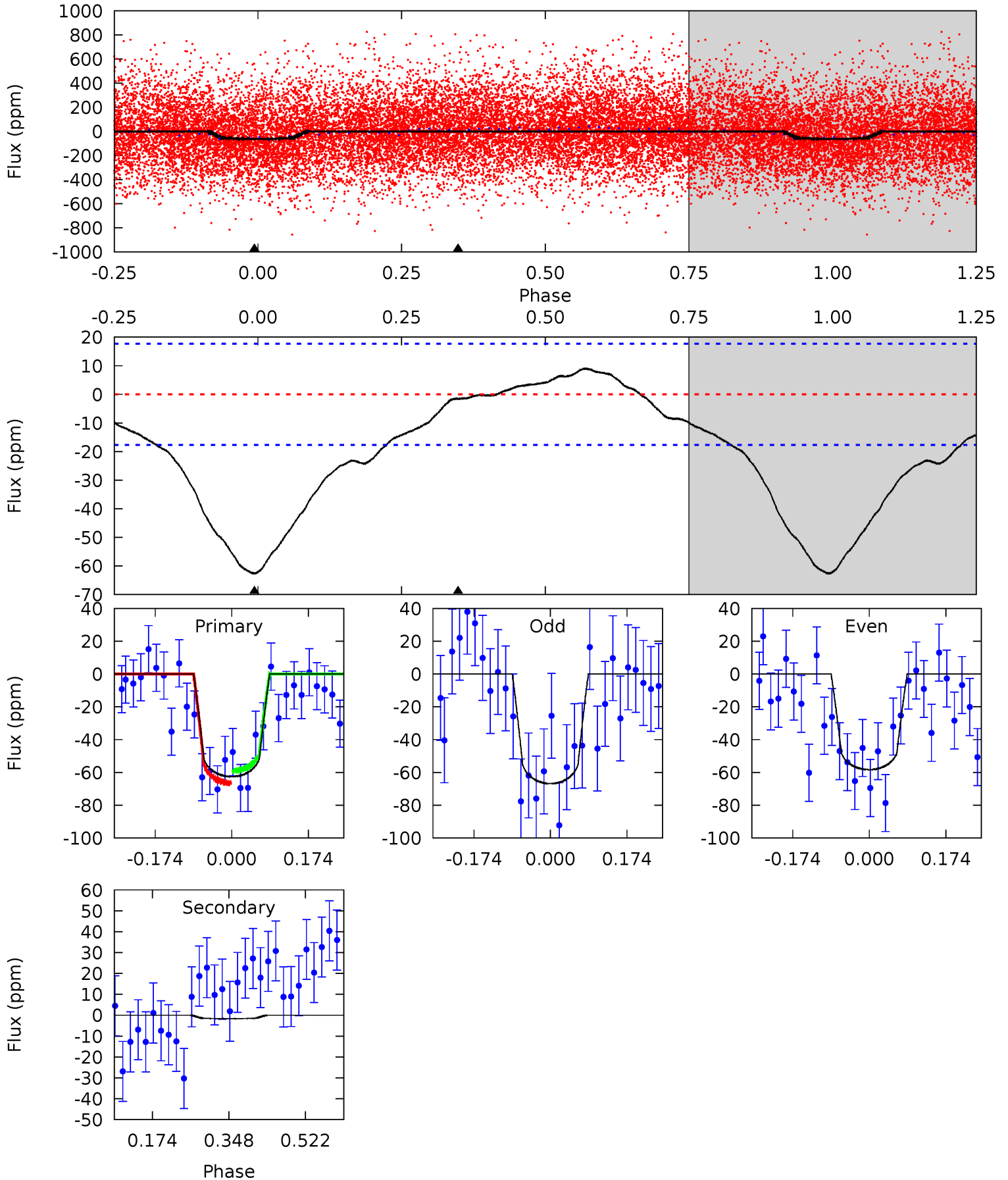


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

006953047-02, P = 0.858447 Days, E = 131.872417 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	0.41	0	0	4.45	1.36	2.19	15.7	15.7	0.41	0.41	1.07	0.94	0.13	0.95



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 006953047

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10577^{+294}_{-478}	$3.690^{+0.425}_{-0.100}$	$0.070^{+0.050}_{-0.600}$	$4.326^{+0.617}_{-1.975}$	$3.343^{+0.105}_{-0.946}$	$0.058^{+0.202}_{-0.018}$
	+3%/-5%	+12%/-3%	+71%/-857%	+14%/-46%	+3%/-28%	+348%/-31%
Source	KIC0	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 006953047-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2±4	$3.60^{+1.50}_{-1.59}$	8103^{+562}_{-924}	-5750^{+1627}_{-732}	$0.038^{+0.189}_{-0.105}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

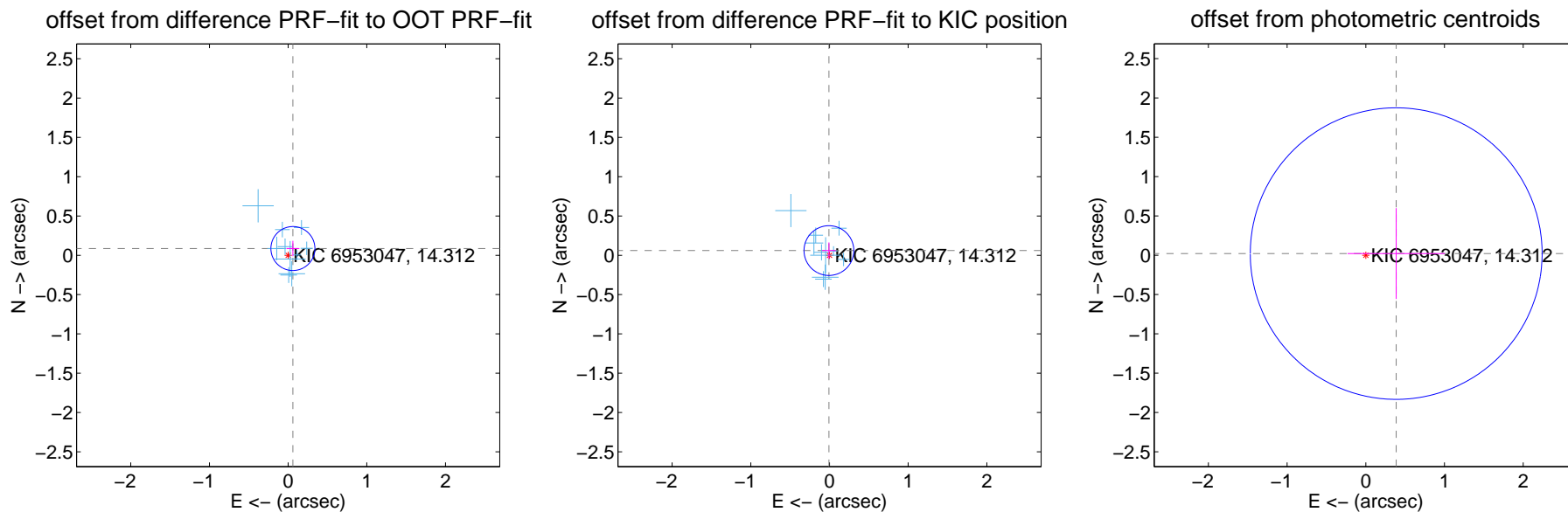
DV Centroid Data

Supplemental centroid analysis for 006953047-02. Kepler magnitude: 14.31. Transit SNR 14.88

There are 10 quarters with good PRF difference image offsets

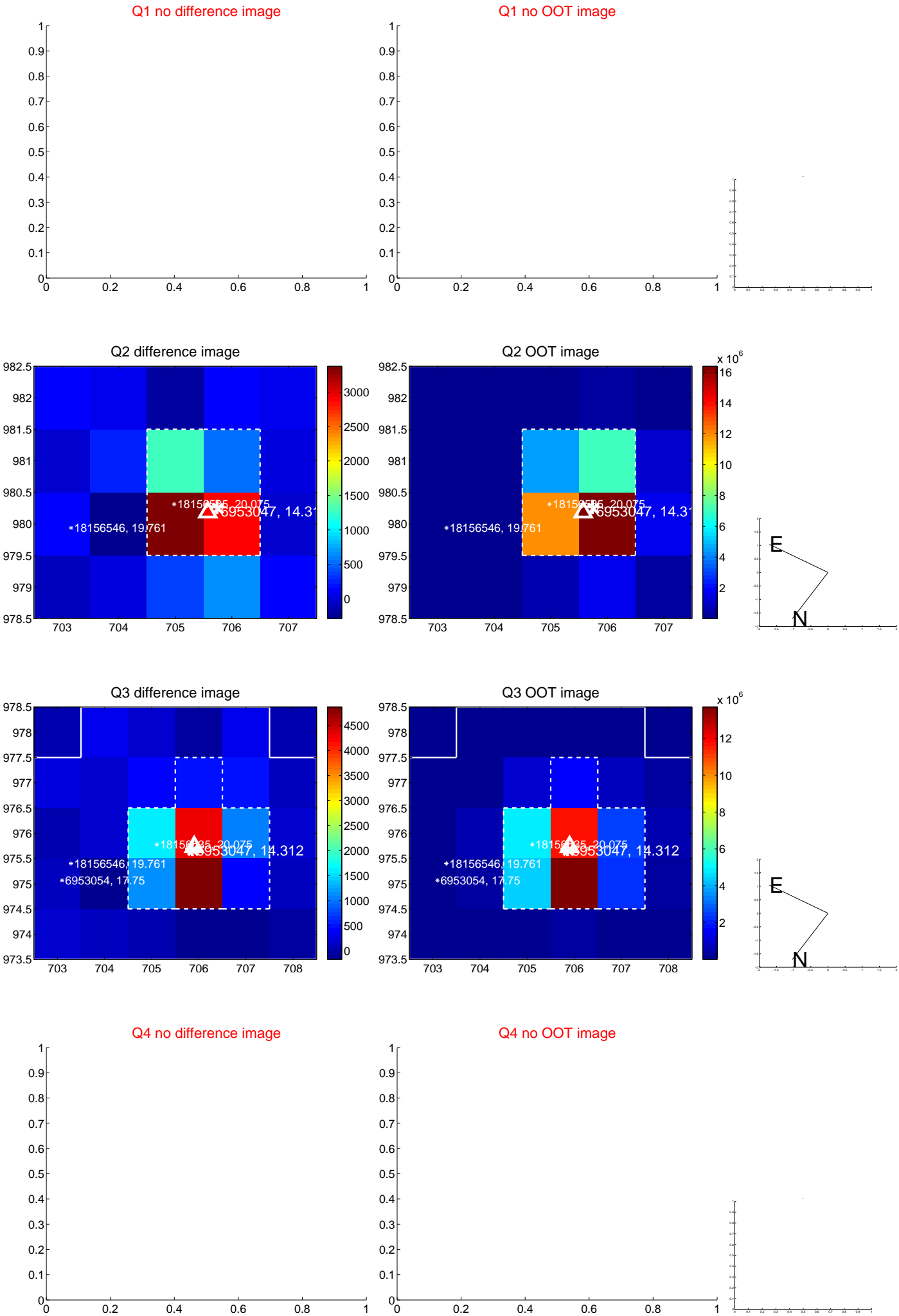
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.105 ± 0.093	1.13	-0.061 ± 0.082	0.086 ± 0.098
PRF-fit source offset from KIC position	0.060 ± 0.105	0.57	0.007 ± 0.087	0.060 ± 0.104
photometric centroid source offset	0.39 ± 0.62	0.63	-0.39 ± 0.62	0.02 ± 0.58

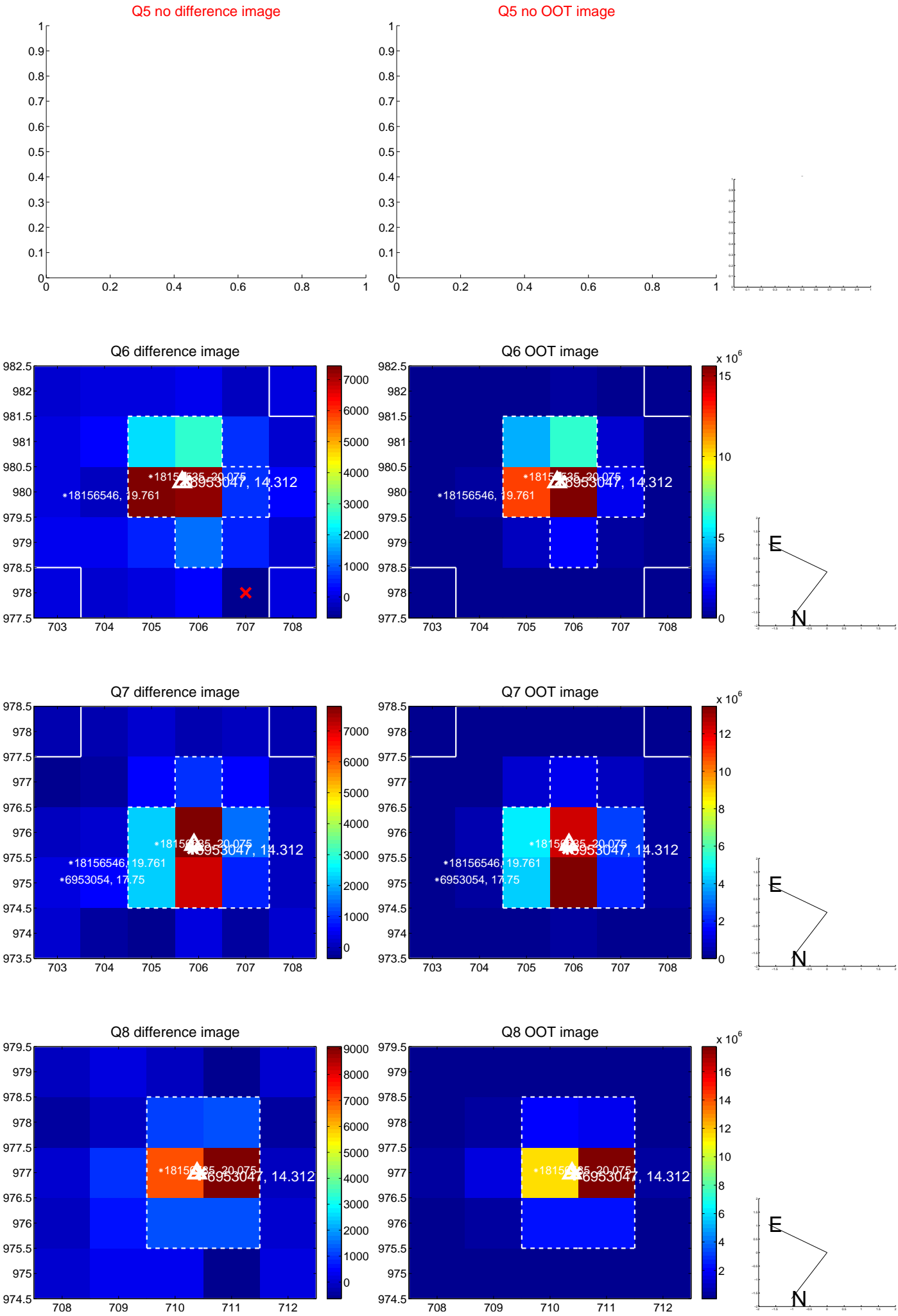


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

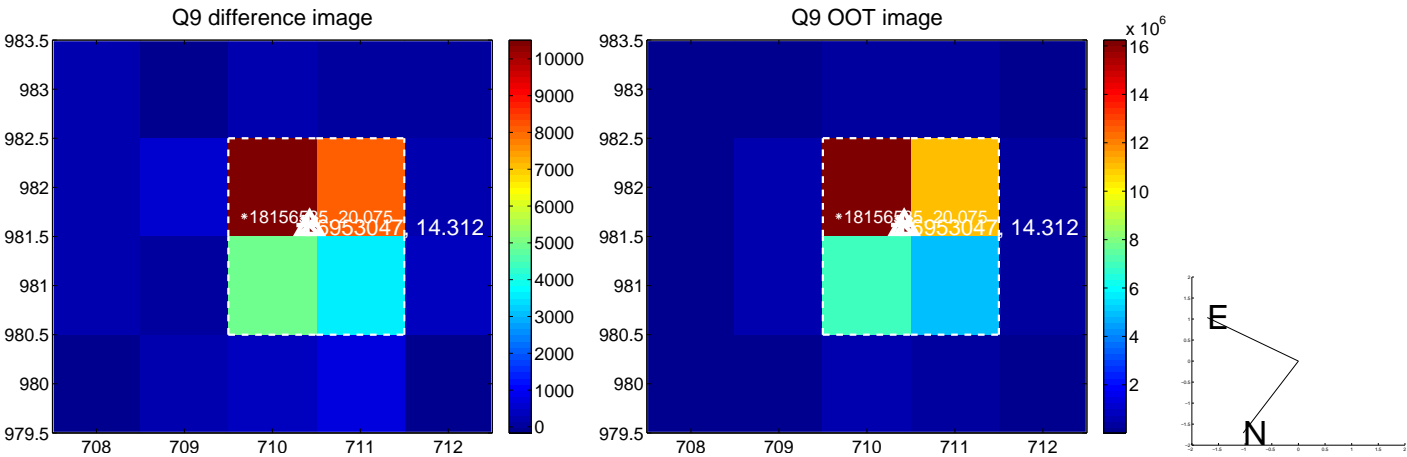
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



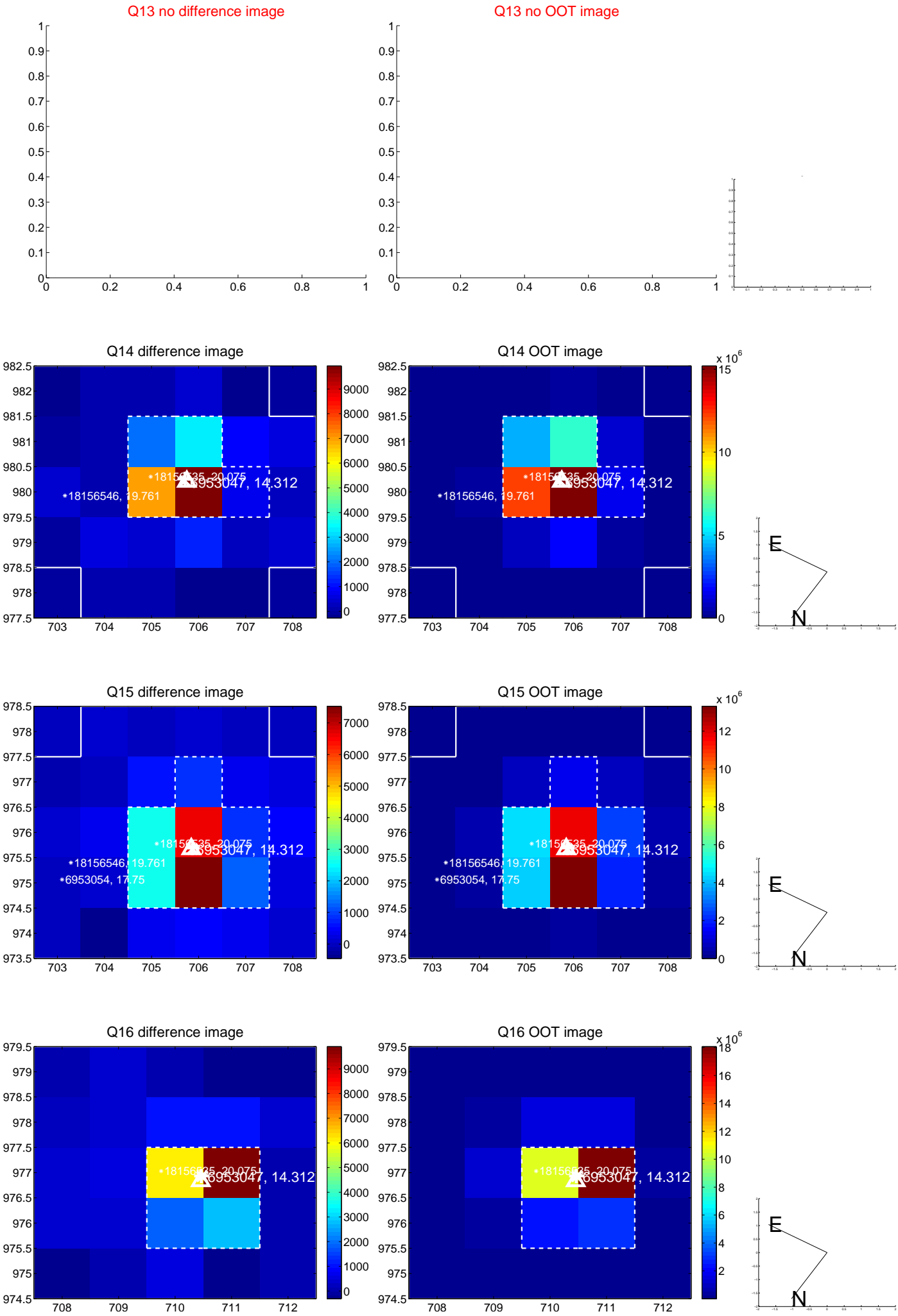
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



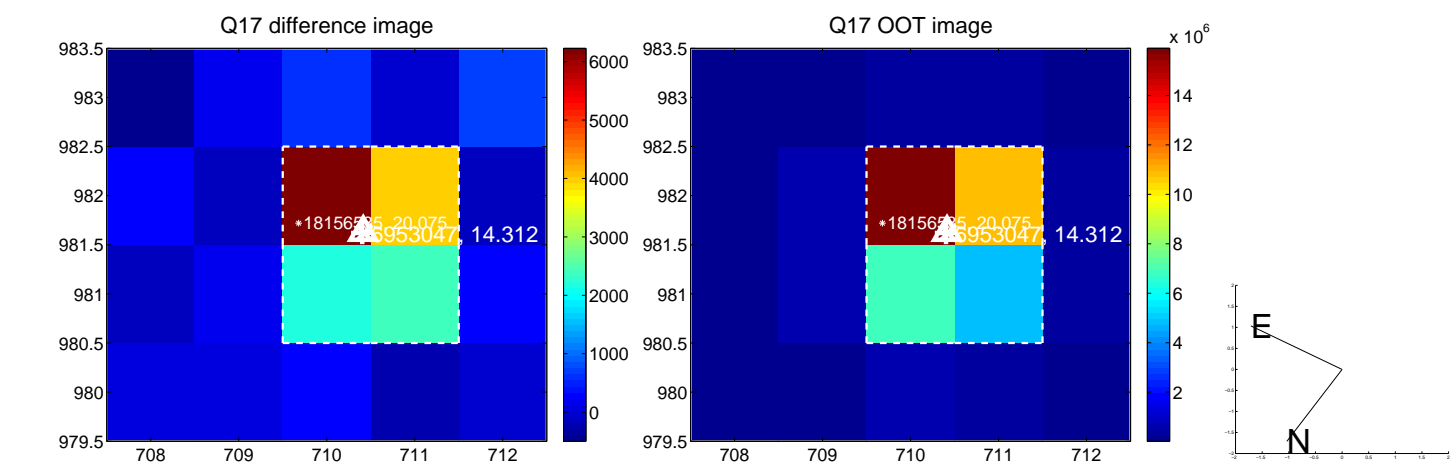
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



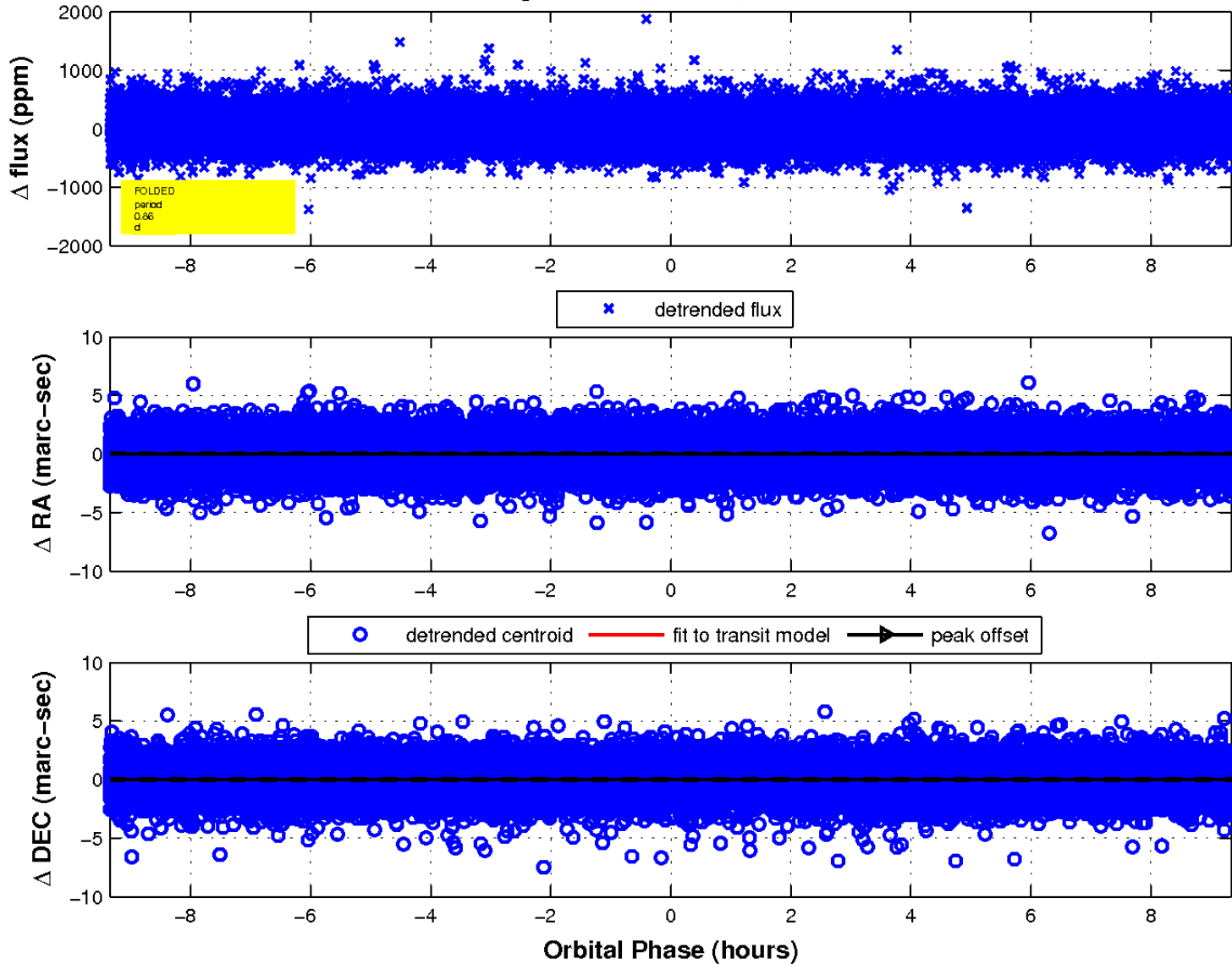
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

