

KIC 006947095

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})
006947095-01	OBS	No	0.566806	131.783633	26.0	3.481	8.2	8.5	0.83	5522	0.51	3456.90
006947095-02	OBS	No	39.185445	147.371330	316.8	3.255	7.7	7.6	0.83	5522	1.65	12.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006947095-01	OBS	FP	0.00	1	0	1	1	LPP_DV—HALO_GHOST—EPHEM_MATCH
006947095-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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.

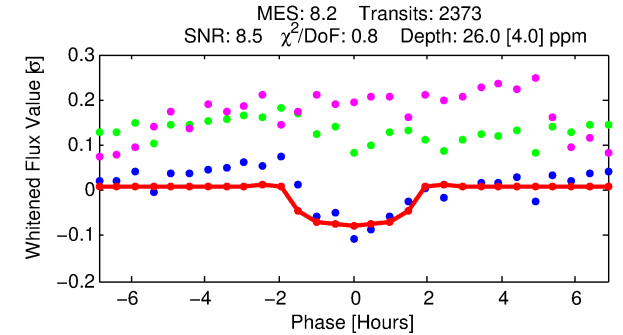
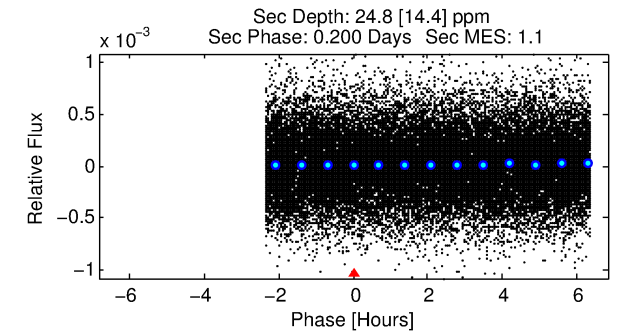
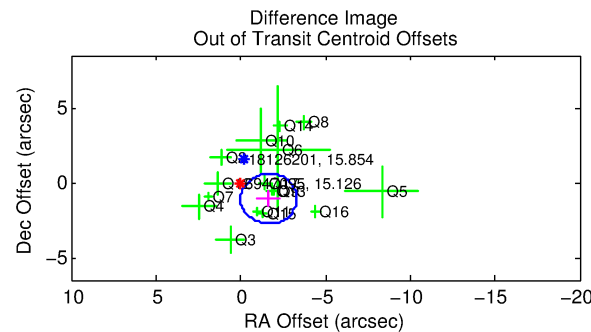
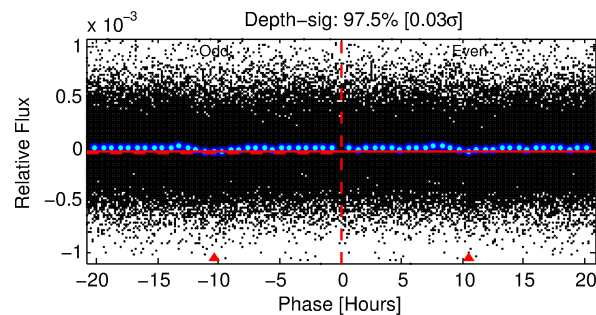
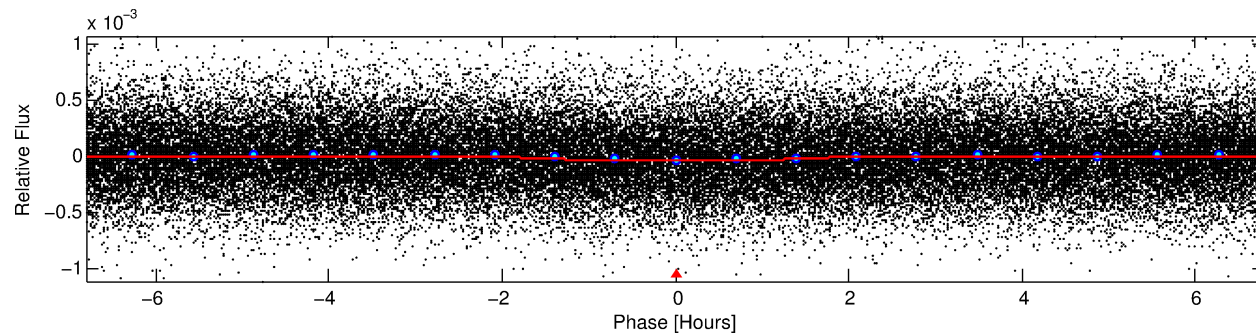
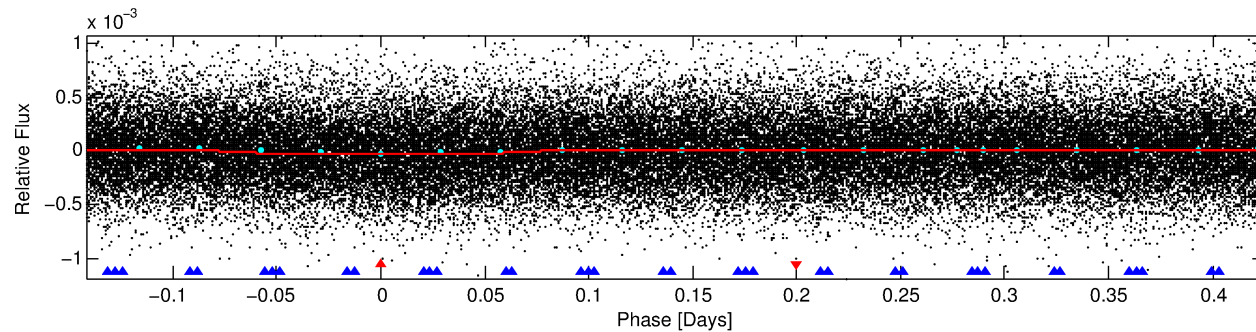
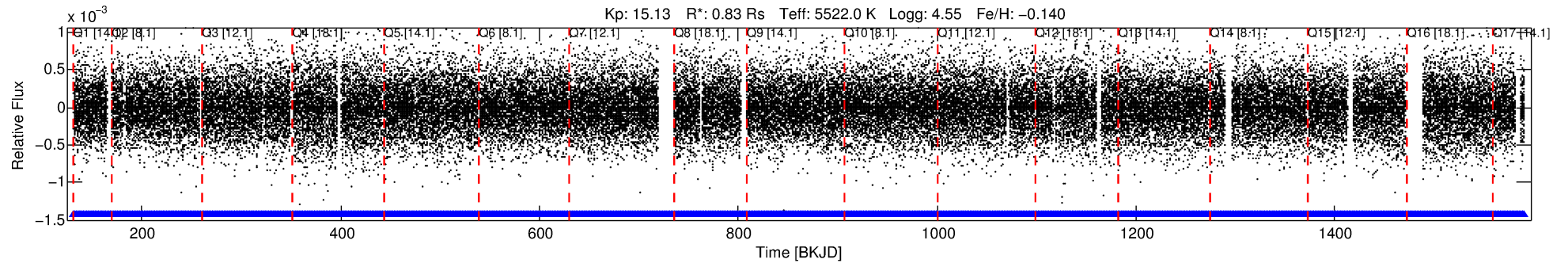
Ephemeris Match Information For 006947095-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
006947095-01	6947095	RR-Lyr-pri	7198959	1:1	1064.9	213	-163	7.86	15.12	23973.00	Direct-PRF	0	4.32	21.84

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 6947095 Candidate: 1 of 2 Period: 0.567 d



DV Fit Results:

Period = 0.56681 [0.00001] d
Epoch = 131.7836 [0.0044] BKJD
Rp/R* = 0.0056 [0.0043]
a/R* = 1.09 [0.61]
b = 0.91 [0.72]
Seff = 3456.90 [1435.18]
Teff = 1955 [203] K
Rp = 0.51 [0.41] Re
a = 0.0128 [0.0031] AU
Ag = 8.70 [14.44] [0.53 σ]
Teffp = 5192 [2135] K [1.51 σ]

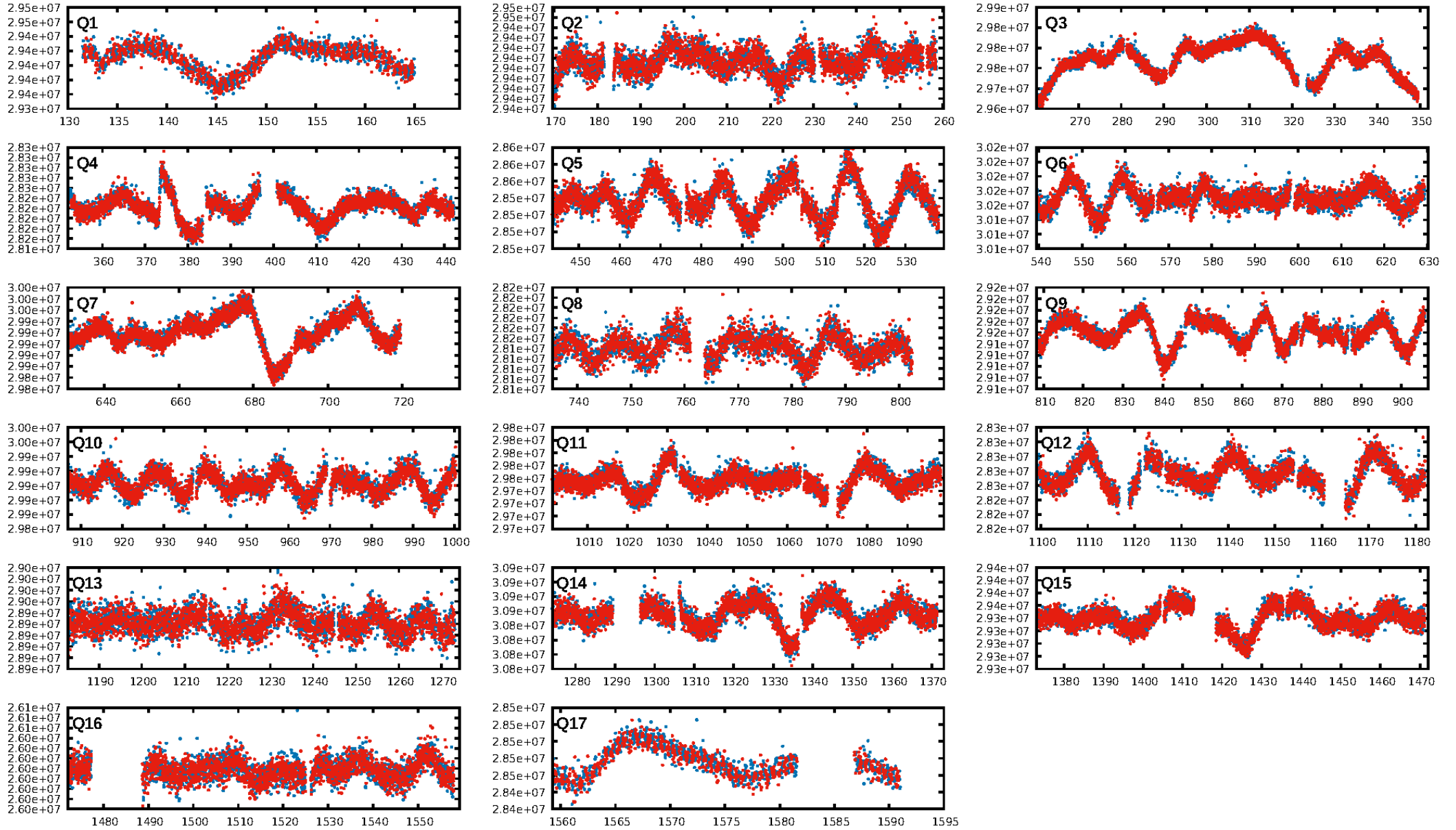
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [194.49 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.32e-14
RollingBand-fgt: 1.00 [2267/2267]
GhostDiagnostic-chr: 0.1668
Centroid-sig: 0.1%
Centroid-so: 2.365 arcsec [1.87 σ]
OotOffset-rm: 1.969 arcsec [3.55 σ]
KicOffset-rm: 2.033 arcsec [3.30 σ]
OotOffset-st: 4/4/4 [16]
KicOffset-st: 4/4/4 [16]
DiffImageQuality-fgm: 0.25 [4/16]
DiffImageOverlap-fno: 1.00 [17/17]

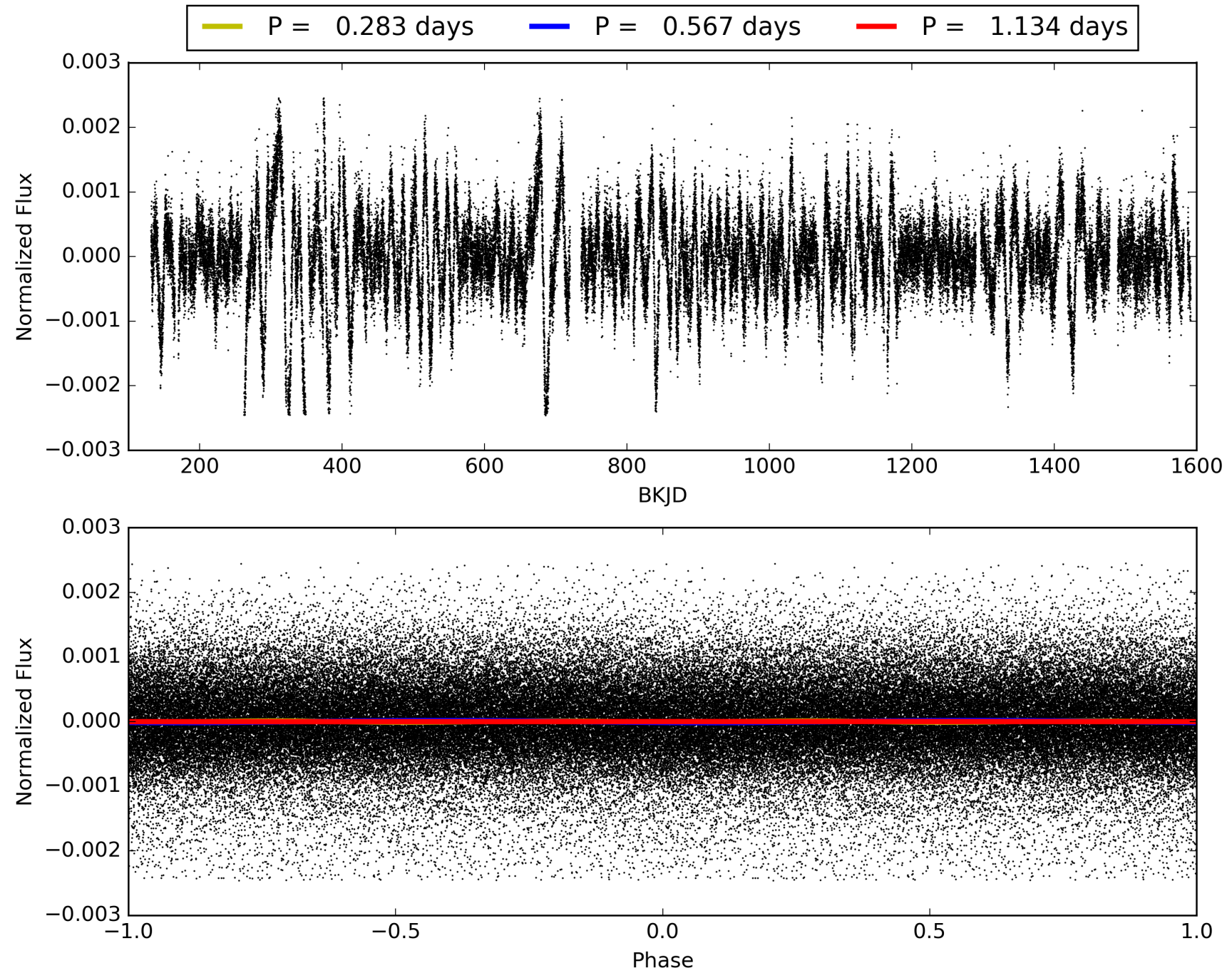
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:19:05 Z

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

TCE 006947095-01, PDC Light Curves

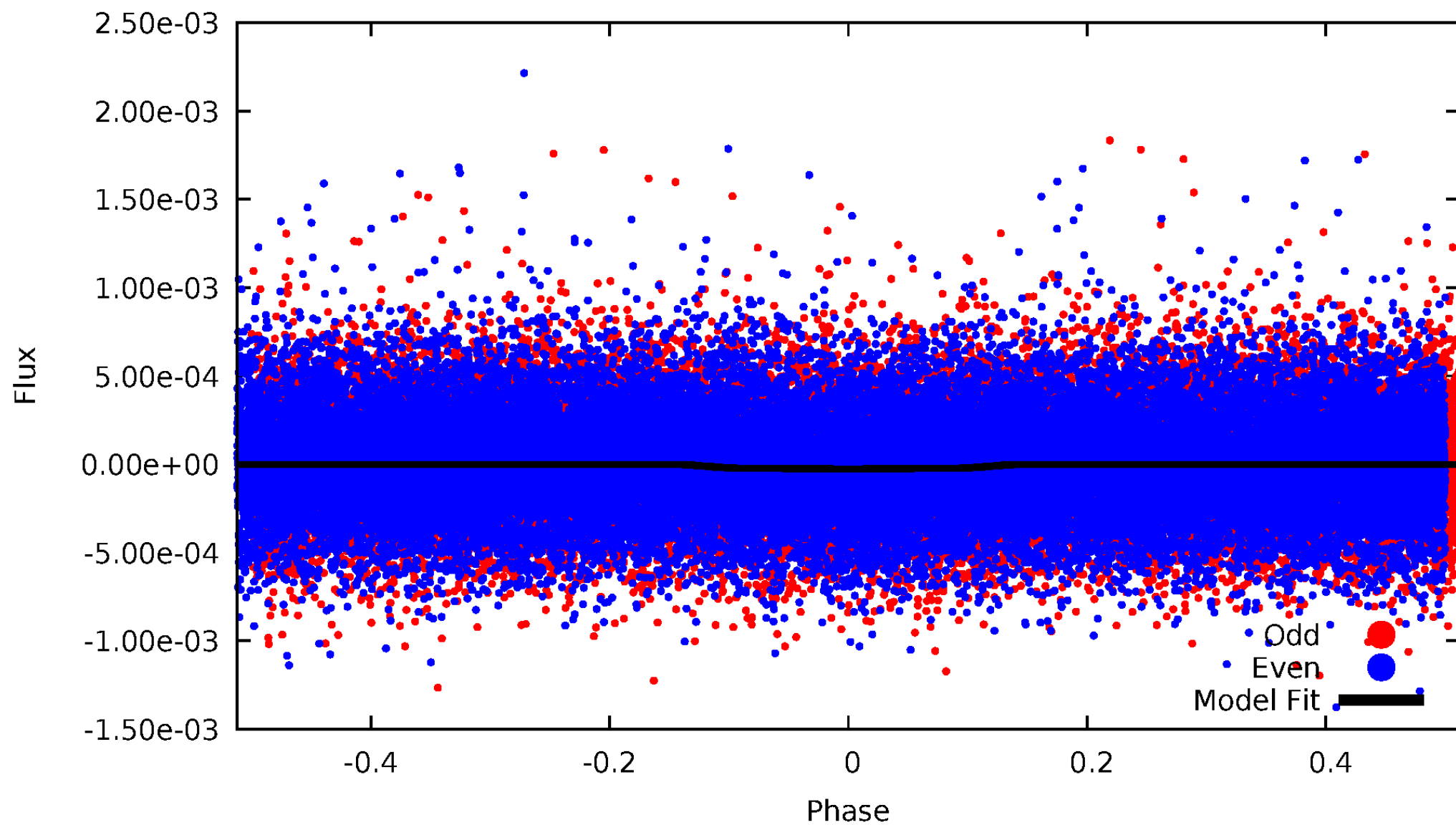


TCE 006947095-01



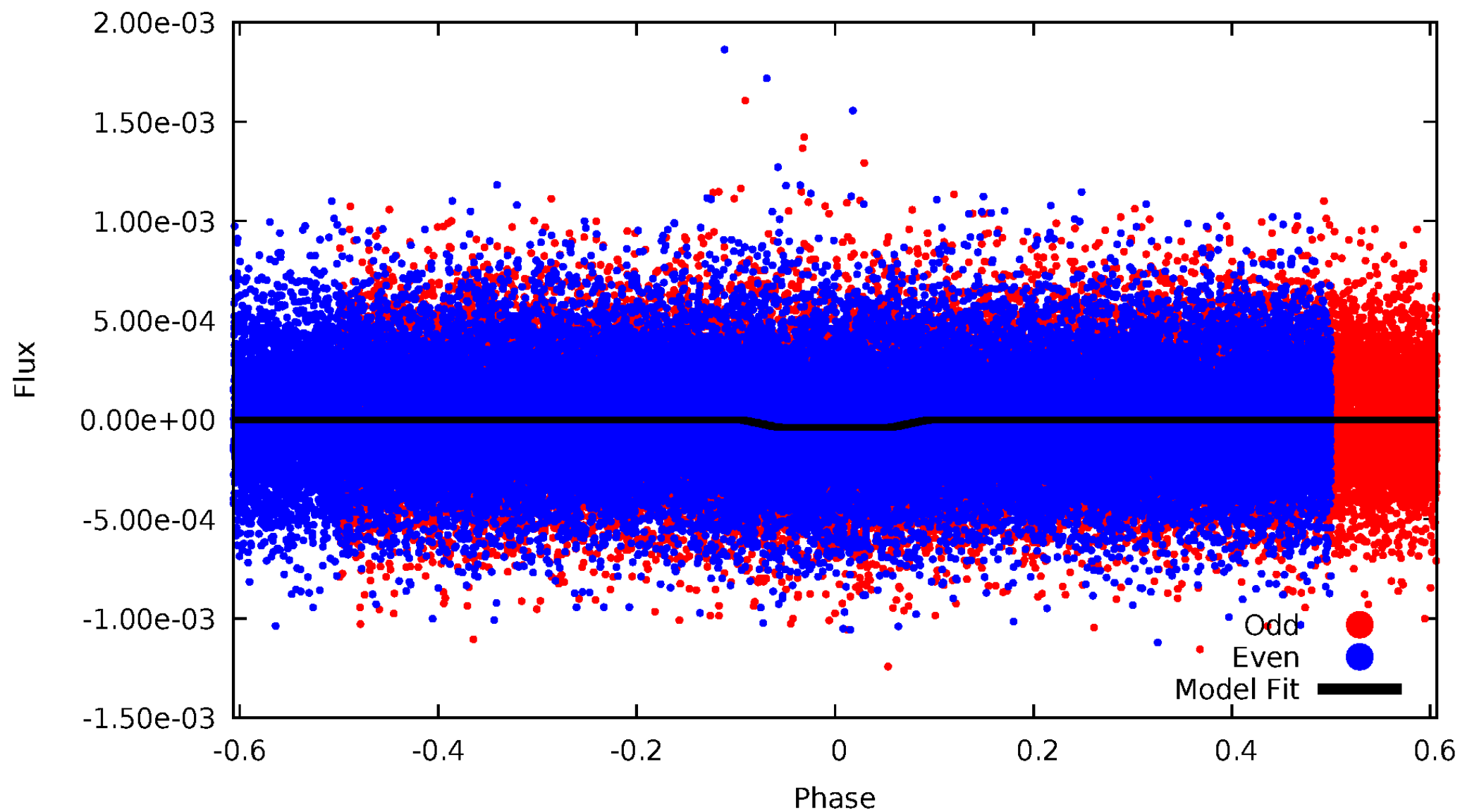
DV Odd/Even

TCE 006947095-01



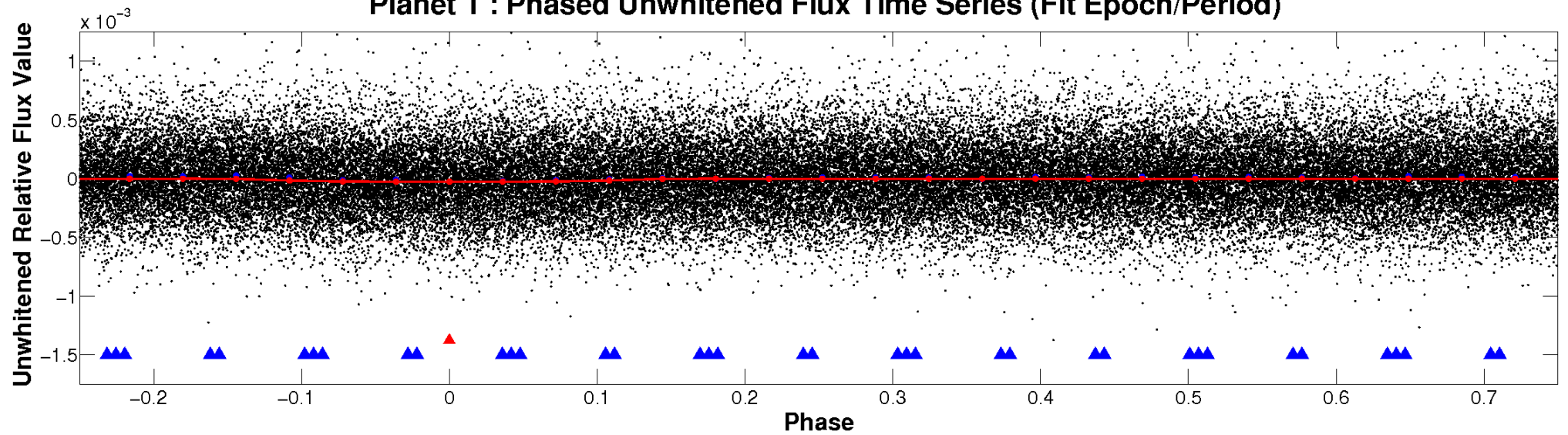
ALT Odd/Even

TCE 006947095-01

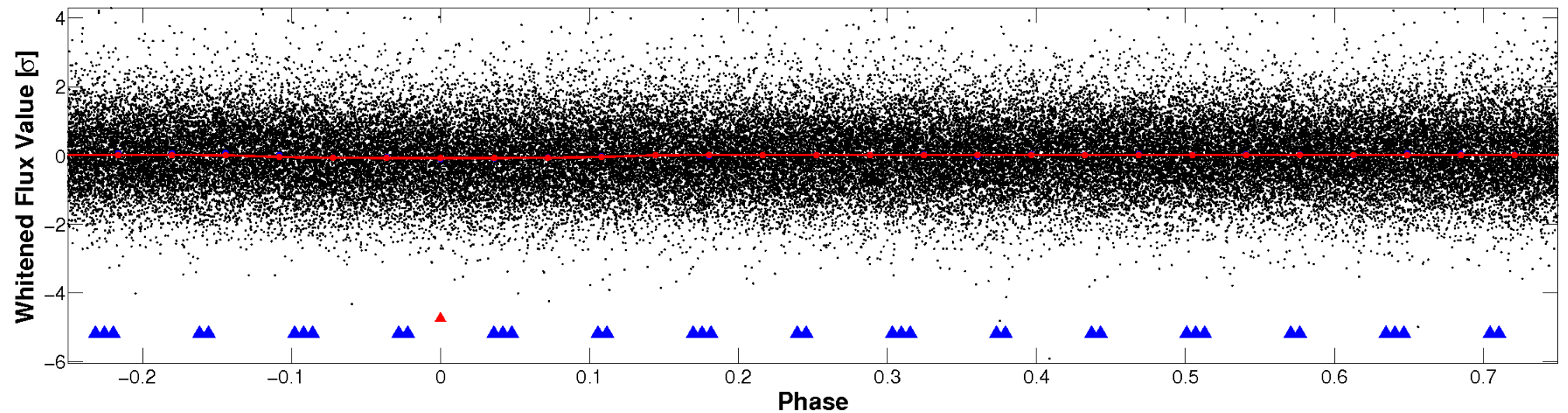


Non-Whitened Vs. Whitened Light Curve

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

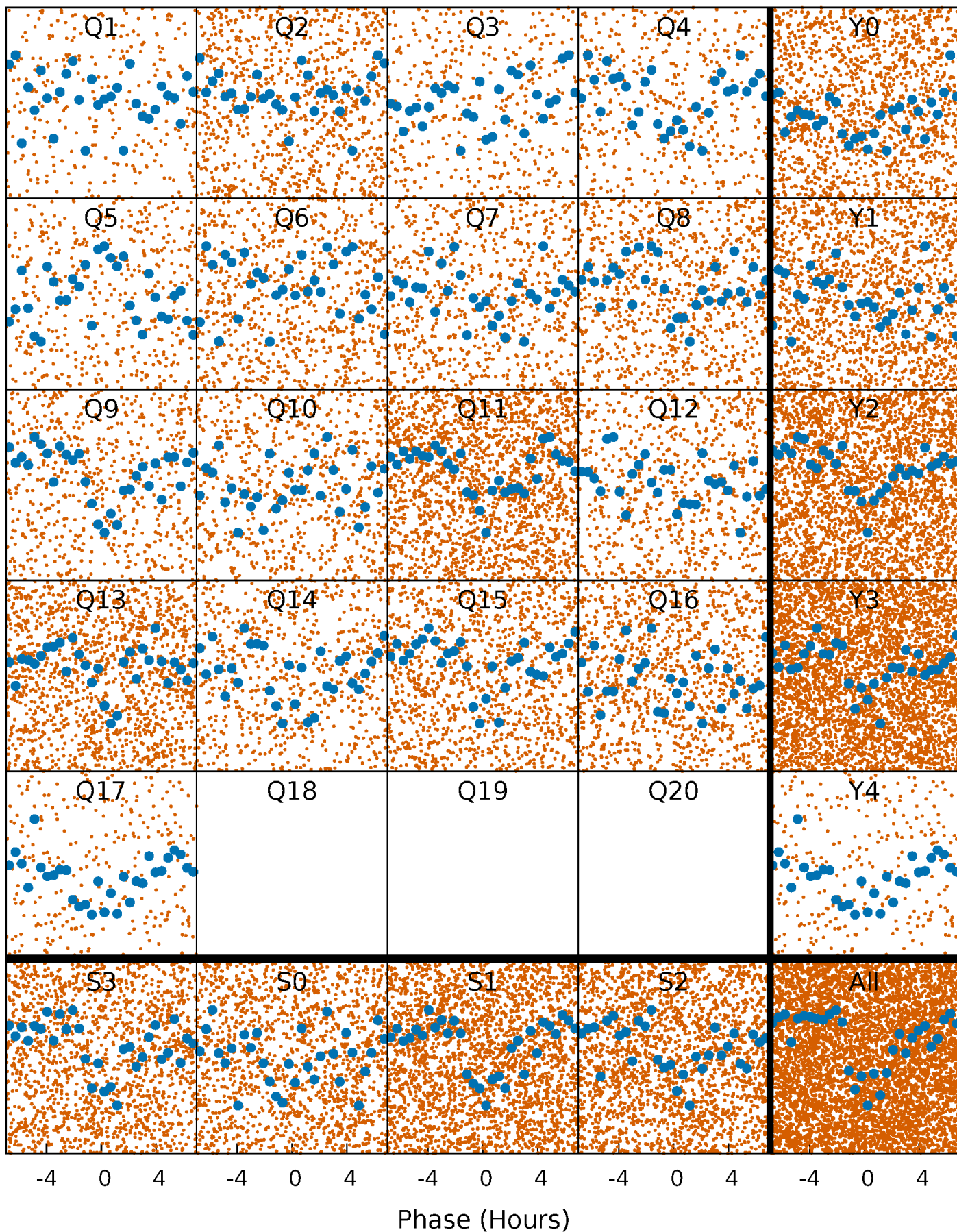


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



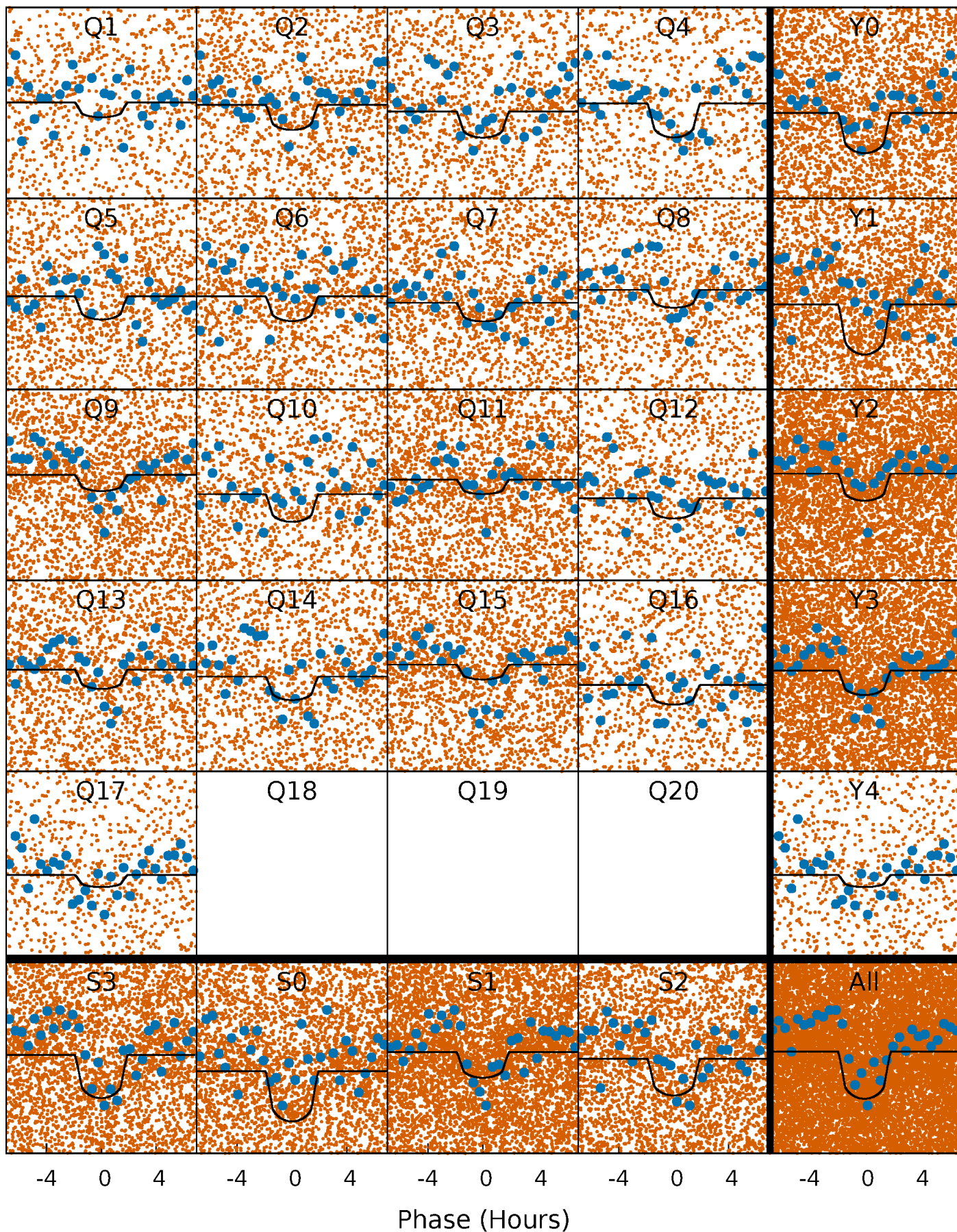
PDC Quarter-Phased Transit Curves

TCE 006947095-01 P= 0.566806 Days $T_0=131.783633$ (BKJD)



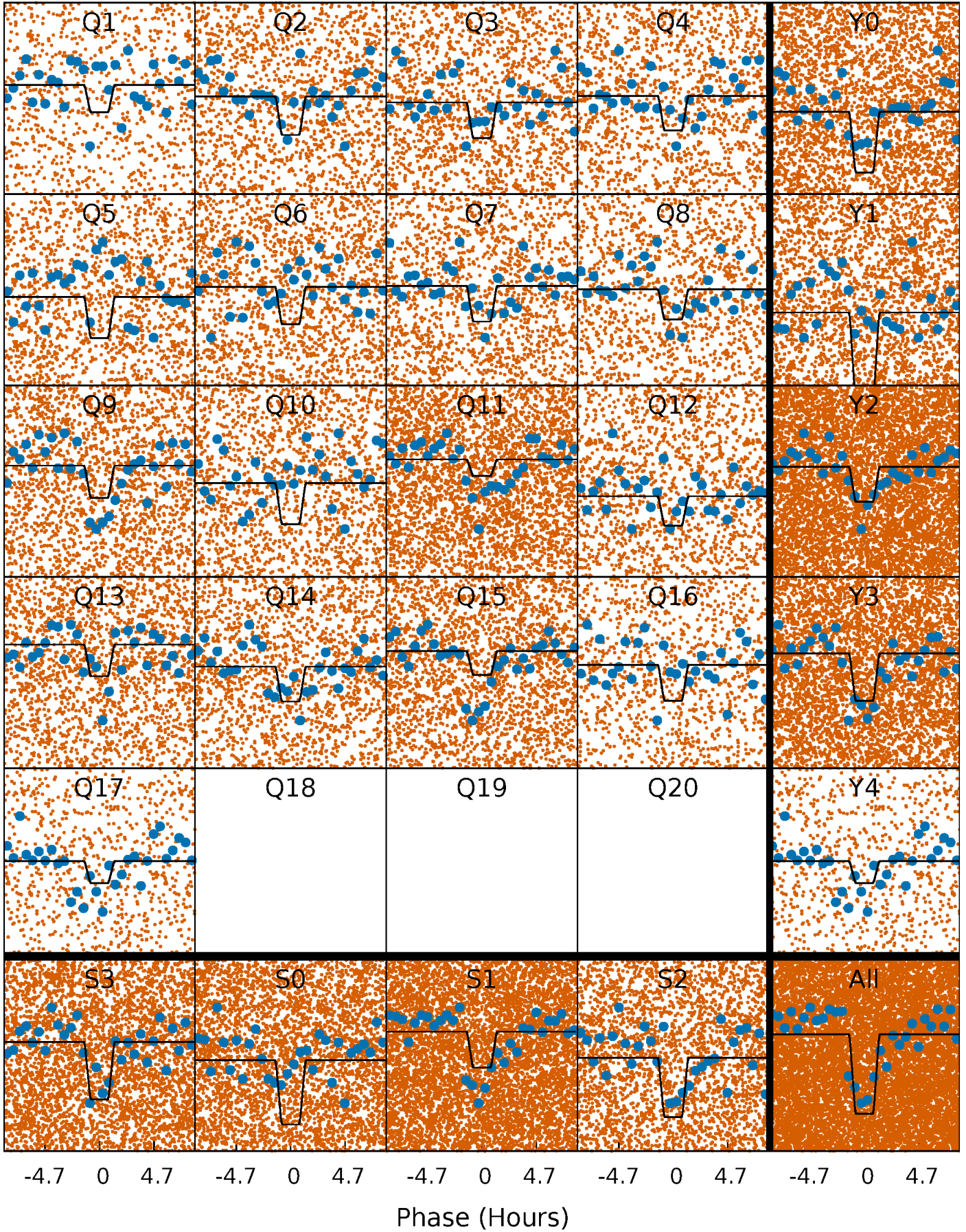
DV Quarter-Phased Transit Curves

TCE 006947095-01 P= 0.566806 Days $T_0=131.783633$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

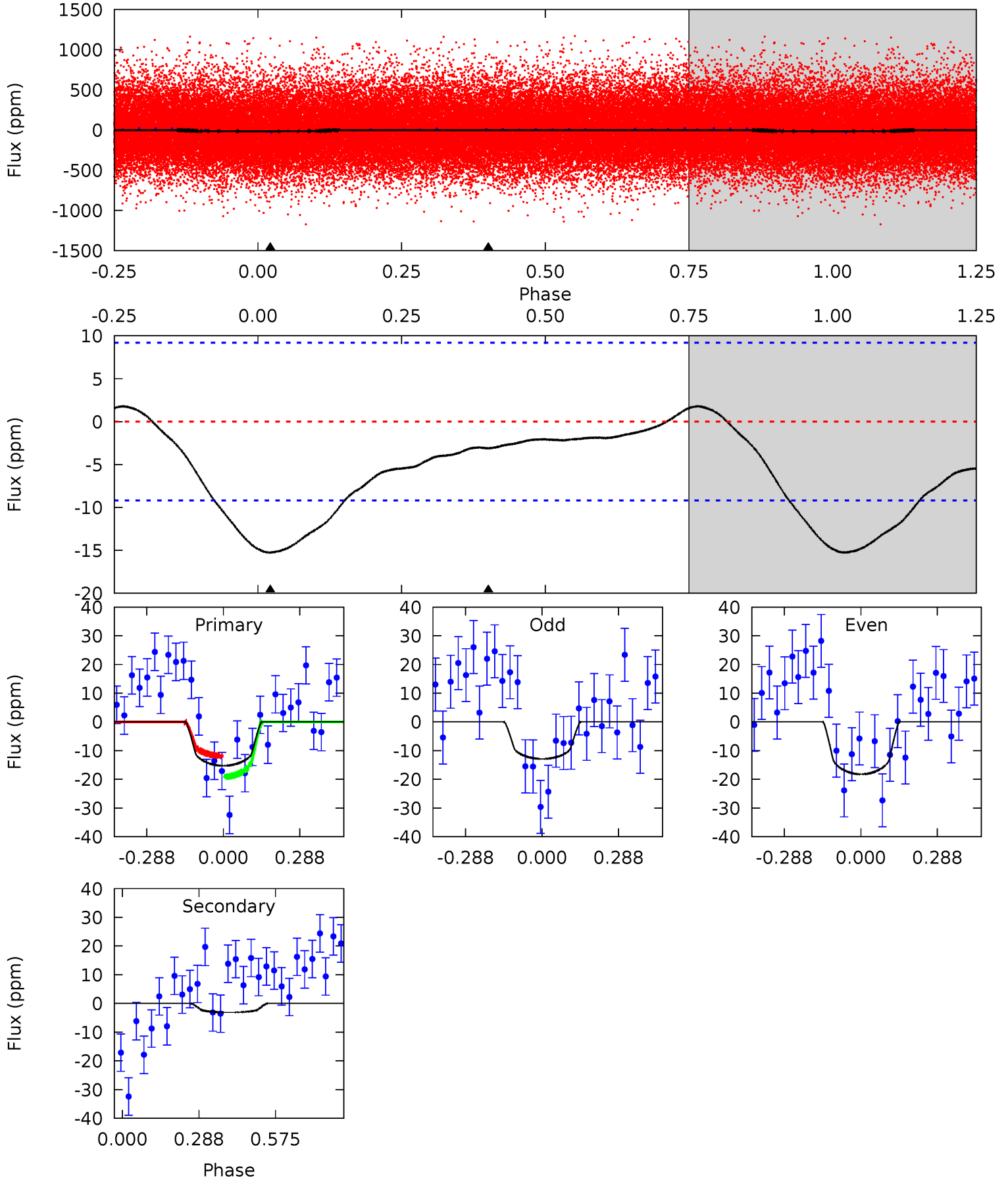
TCE 006947095-01 P= 0.566821 Days $T_0=131.773926$ (BKJD)



DV Model-Shift Uniqueness Test

006947095-01, P = 0.566806 Days, E = 131.216827 Days

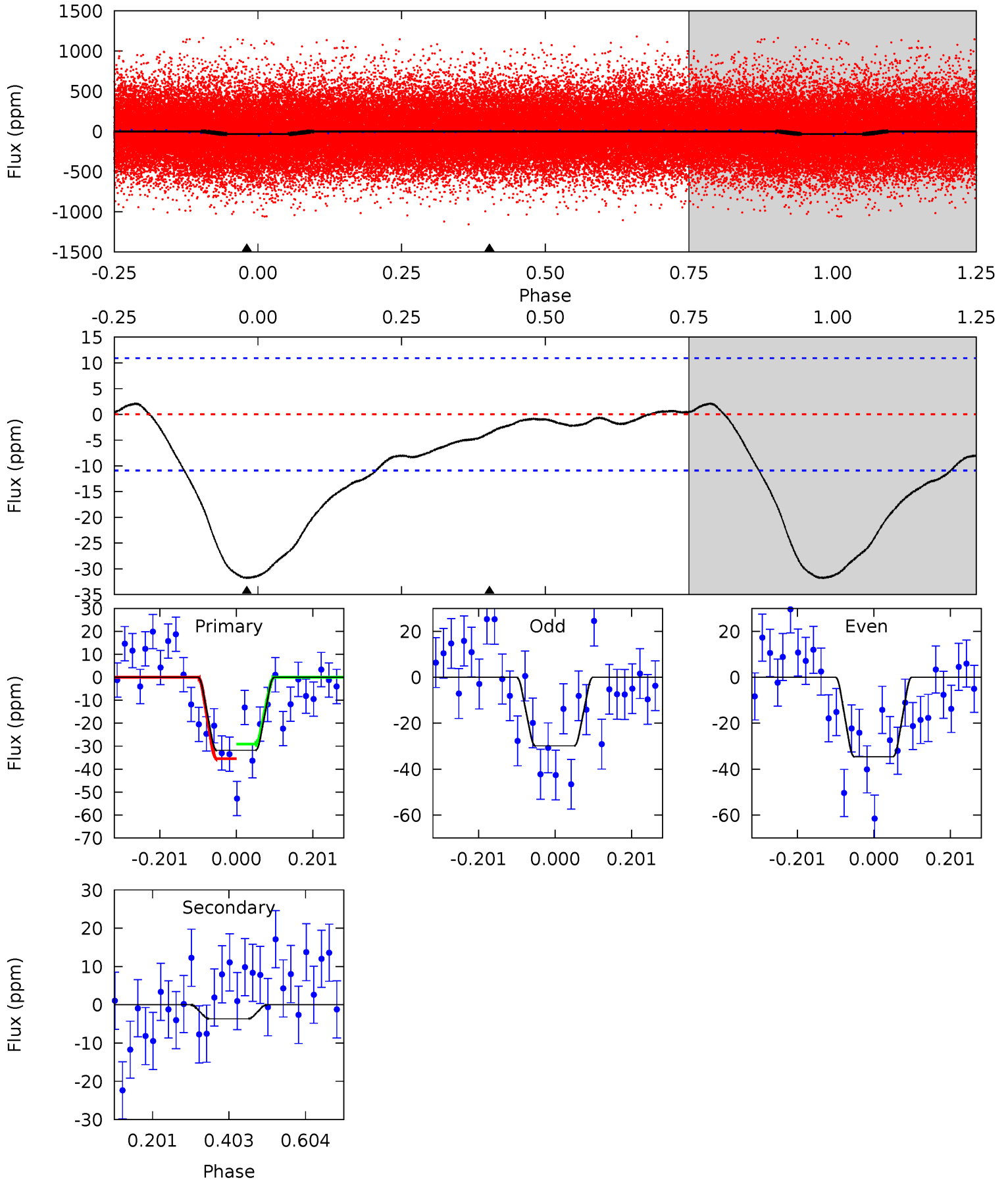
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.21	1.47	0	0	4.34	1.06	0.47	7.21	7.21	1.47	1.47	1.26	0.76	0.11	1.72



Alt Model-Shift Uniqueness Test

006947095-01, P = 0.566821 Days, E = 131.207105 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	1.49	0	0	4.42	1.28	1.51	12.9	12.9	1.49	1.49	0.96	0.98	0.06	1.30



Stellar Parameters For KIC 006947095

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5522^{+344}_{-344}	$4.546^{+0.058}_{-0.173}$	$-0.140^{+0.300}_{-0.300}$	$0.826^{+0.247}_{-0.099}$	$0.875^{+0.124}_{-0.102}$	$2.190^{+0.710}_{-1.060}$
	+6%/-6%	+1%/-4%	+214%/-214%	+30%/-12%	+14%/-12%	+32%/-48%
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 006947095-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-3 ± 2	$0.56^{+0.40}_{-0.34}$	2790^{+216}_{-208}	3195^{+1601}_{-5827}	$0.844^{+4.621}_{-0.675}$
Alt.	-4 ± 2	$0.60^{+0.39}_{-0.33}$	2800^{+211}_{-200}	3171^{+1328}_{-5806}	$0.793^{+3.398}_{-0.626}$

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

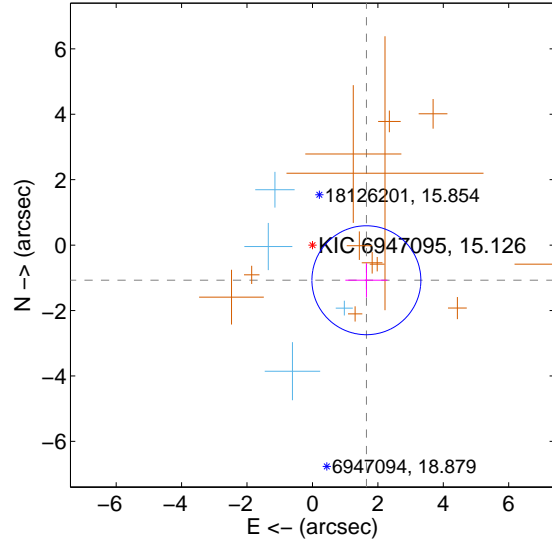
Supplemental centroid analysis for 006947095-01. Kepler magnitude: 15.13. Transit SNR 8.48

There are 4 quarters with good PRF difference image offsets

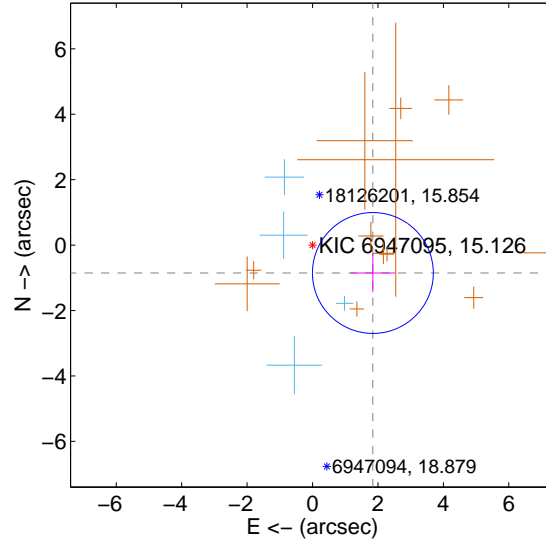
The direct PRF centroid is offset from the target star catalog position by about 0.46 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.969 ± 0.555	3.55	-1.650 ± 0.643	-1.074 ± 0.523
PRF-fit source offset from KIC position	2.033 ± 0.616	3.30	-1.845 ± 0.680	-0.853 ± 0.585
photometric centroid source offset	2.37 ± 1.27	1.87	-0.51 ± 1.30	-2.31 ± 1.27

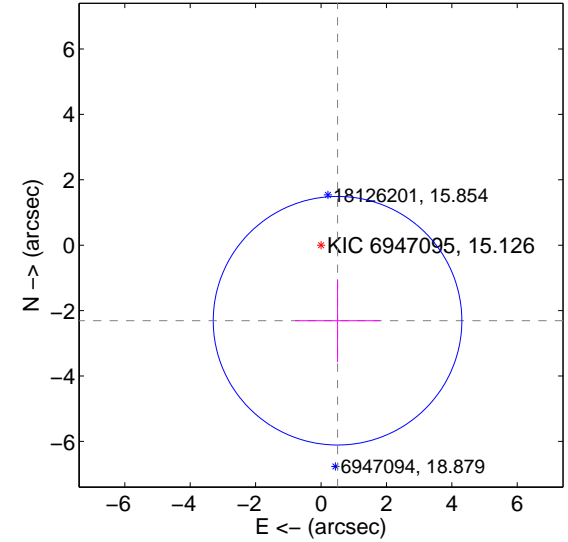
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

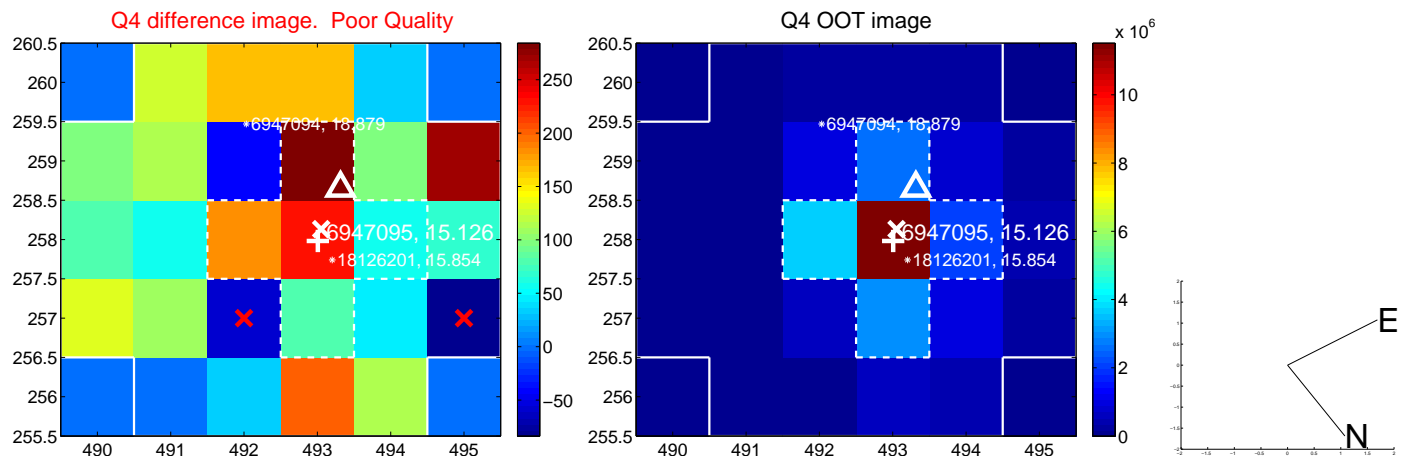
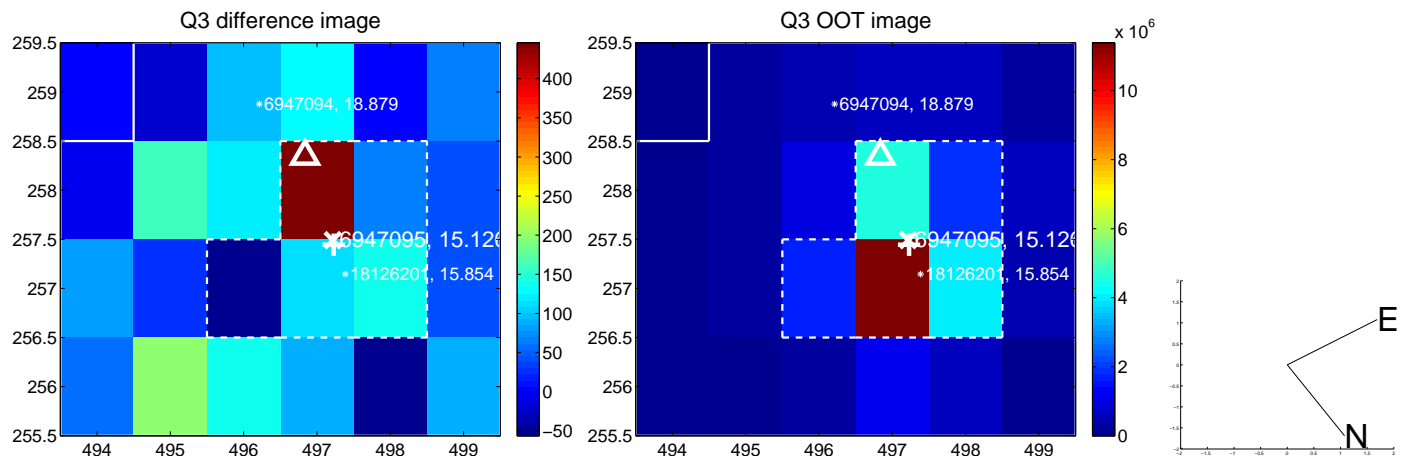
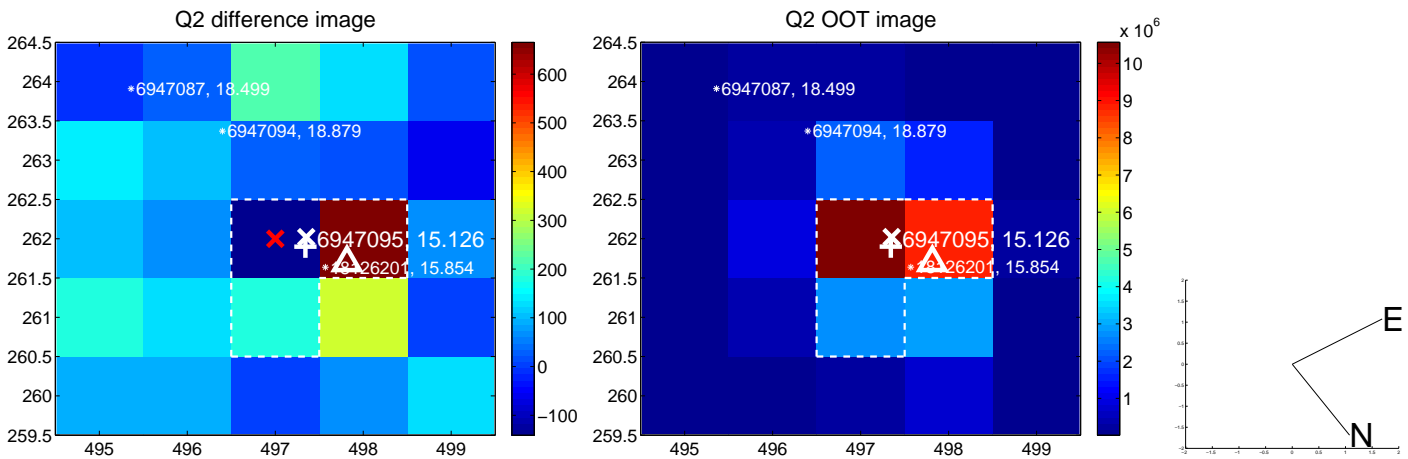
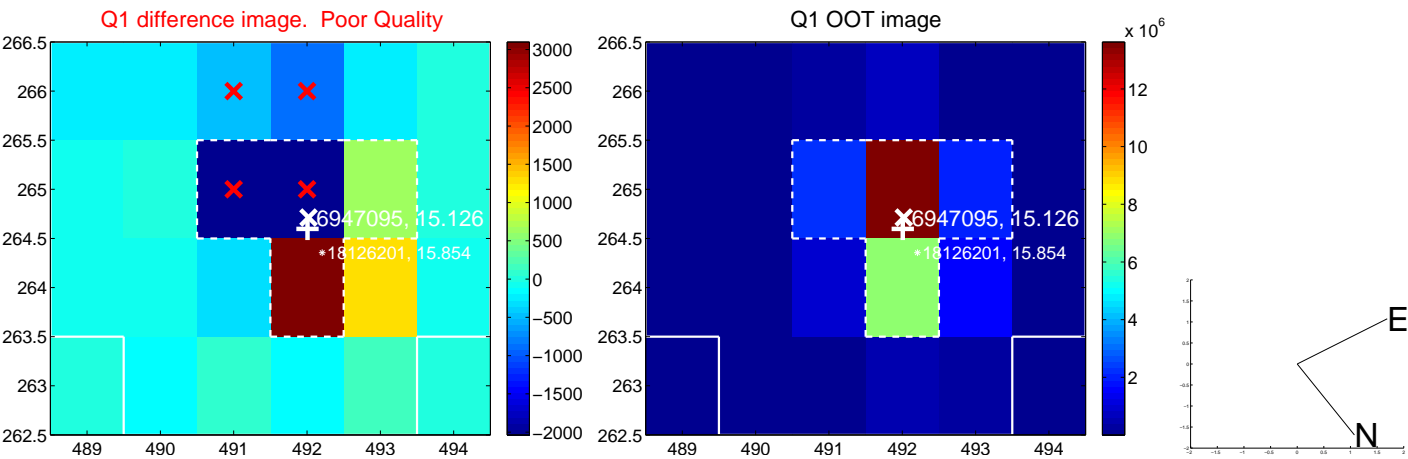


offset from photometric centroids

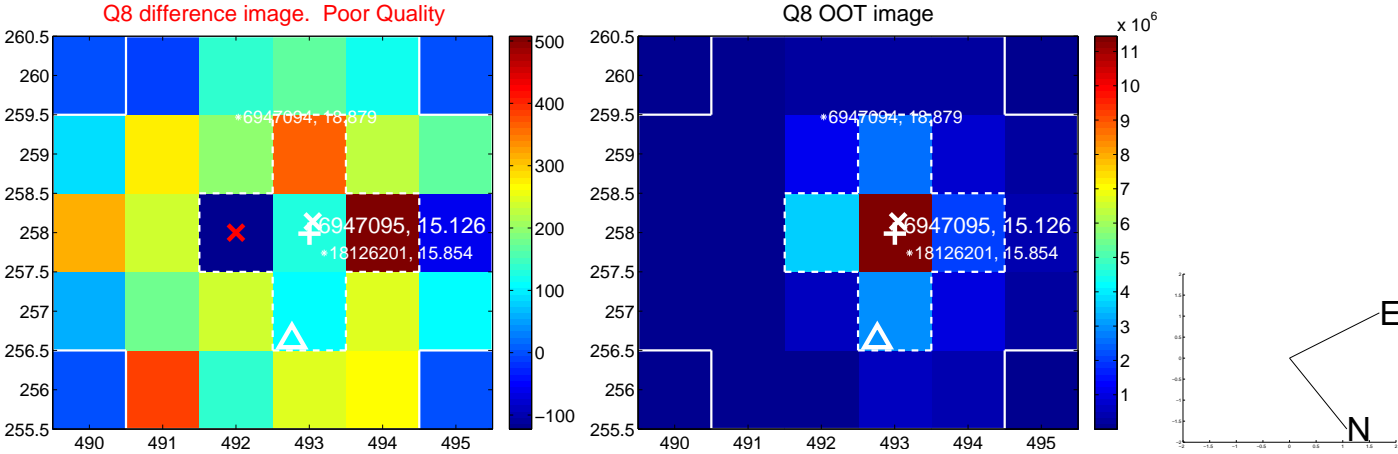
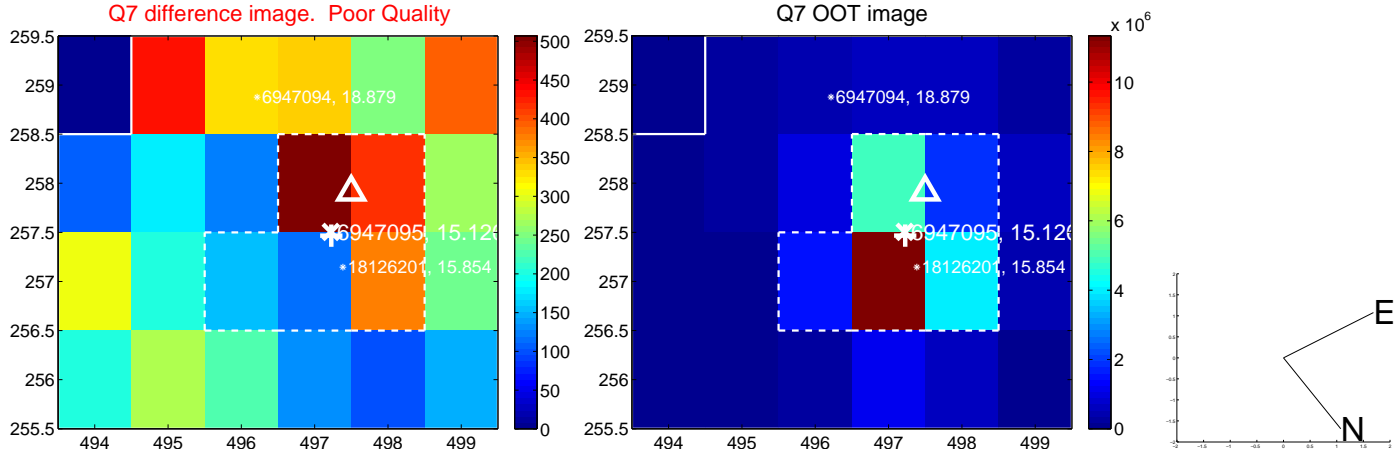
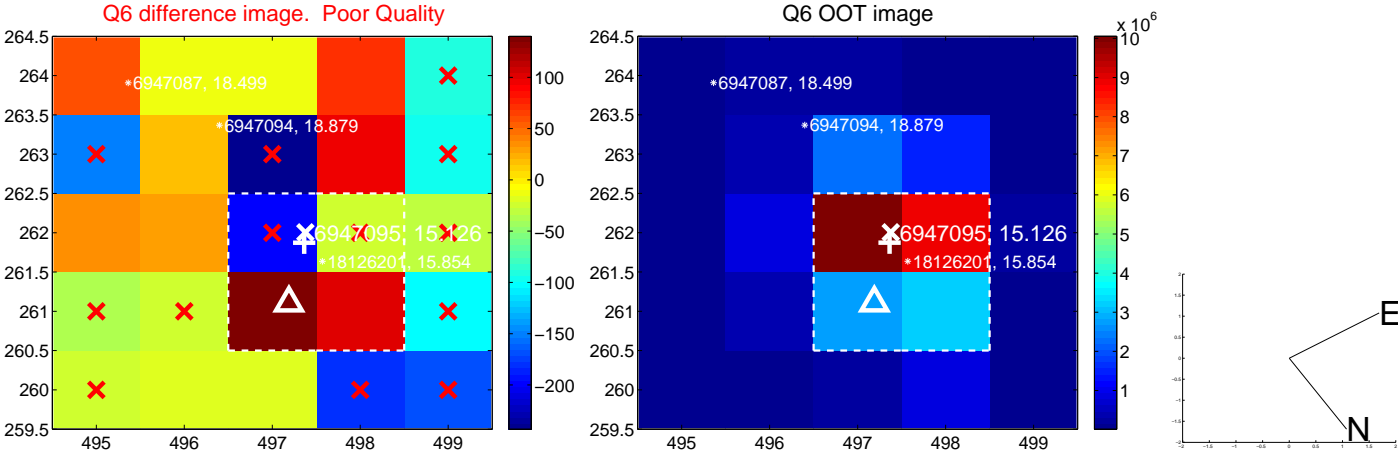
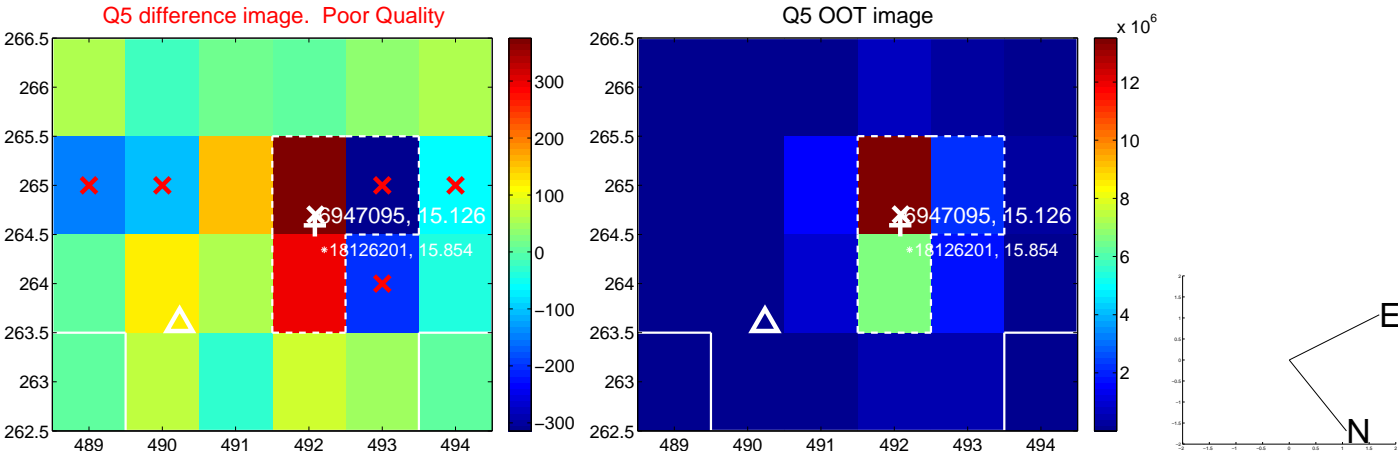


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

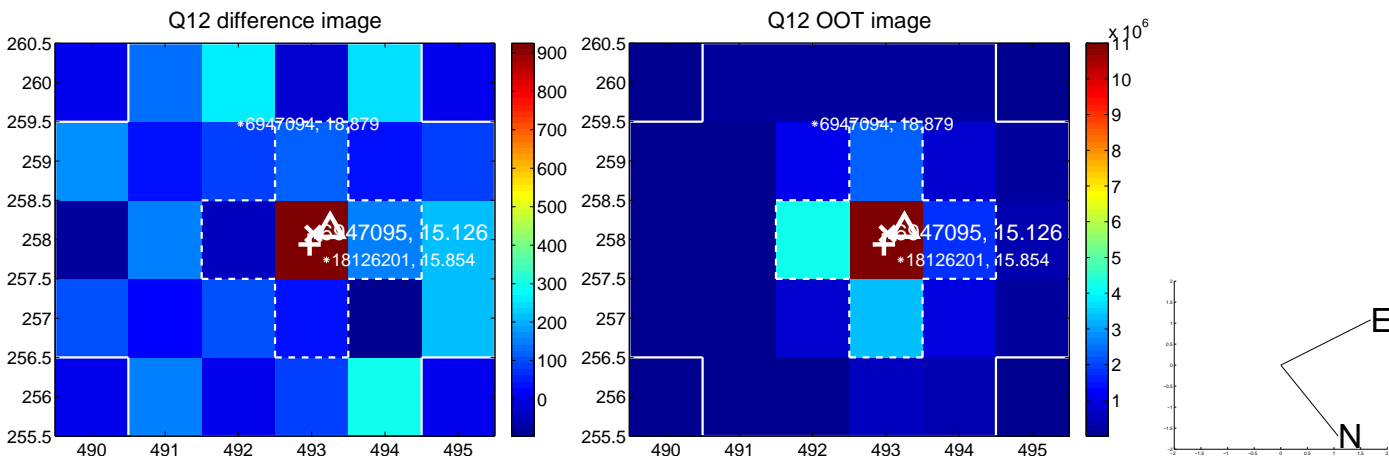
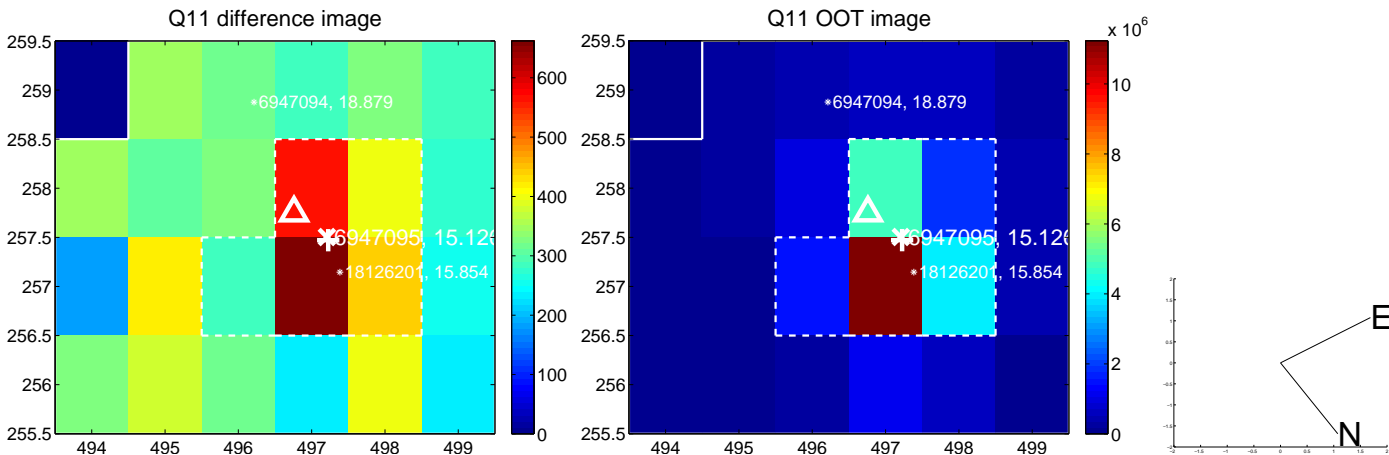
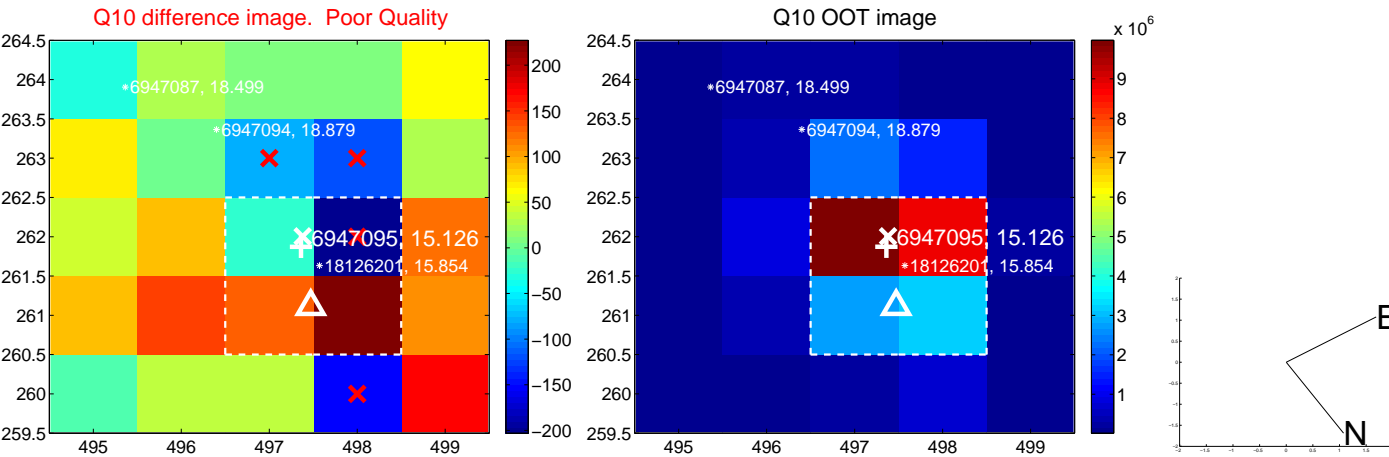
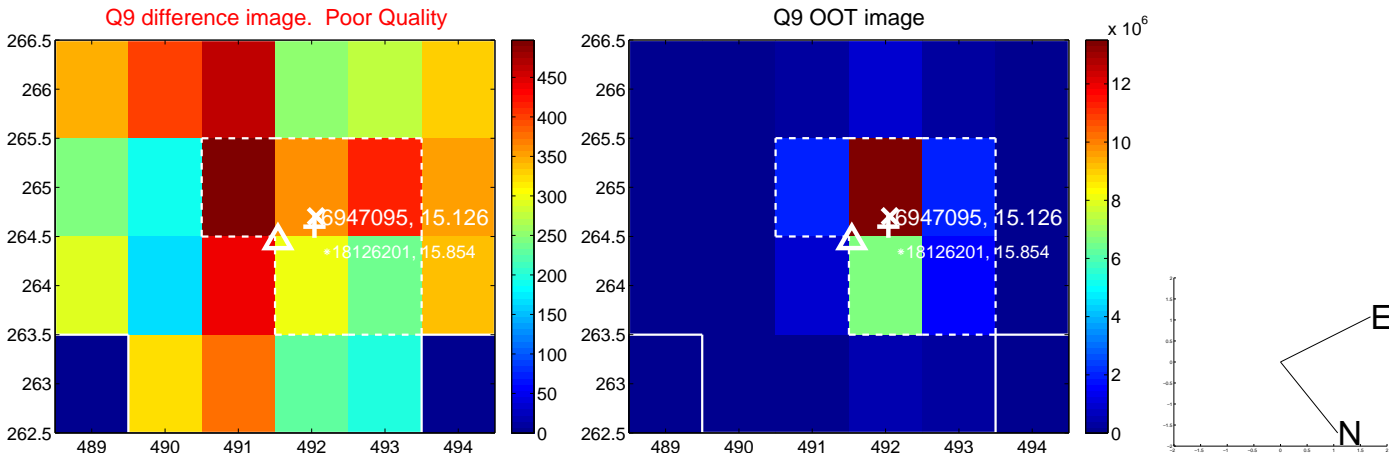
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



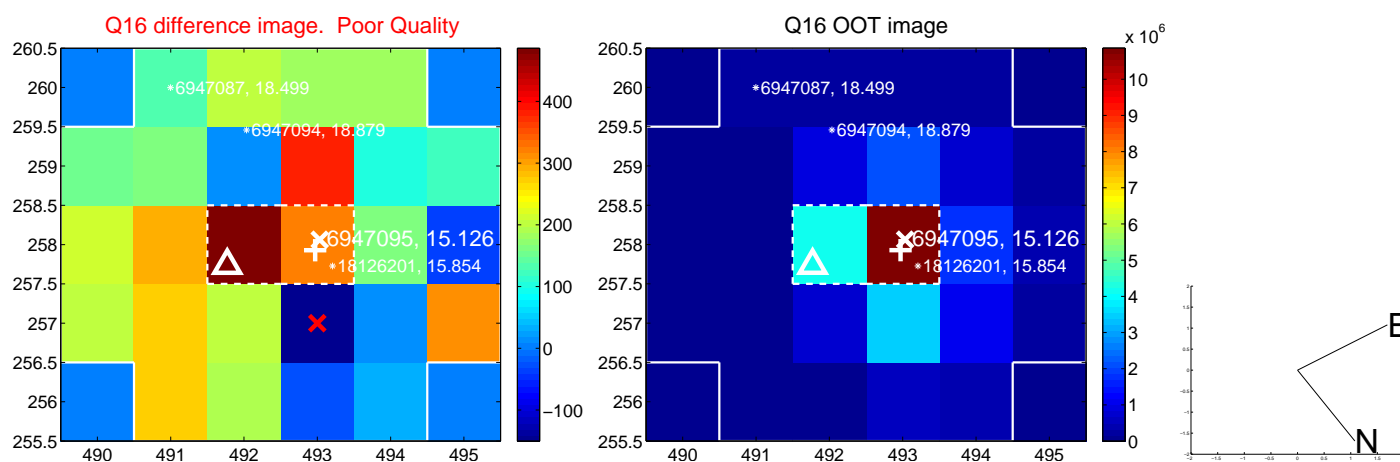
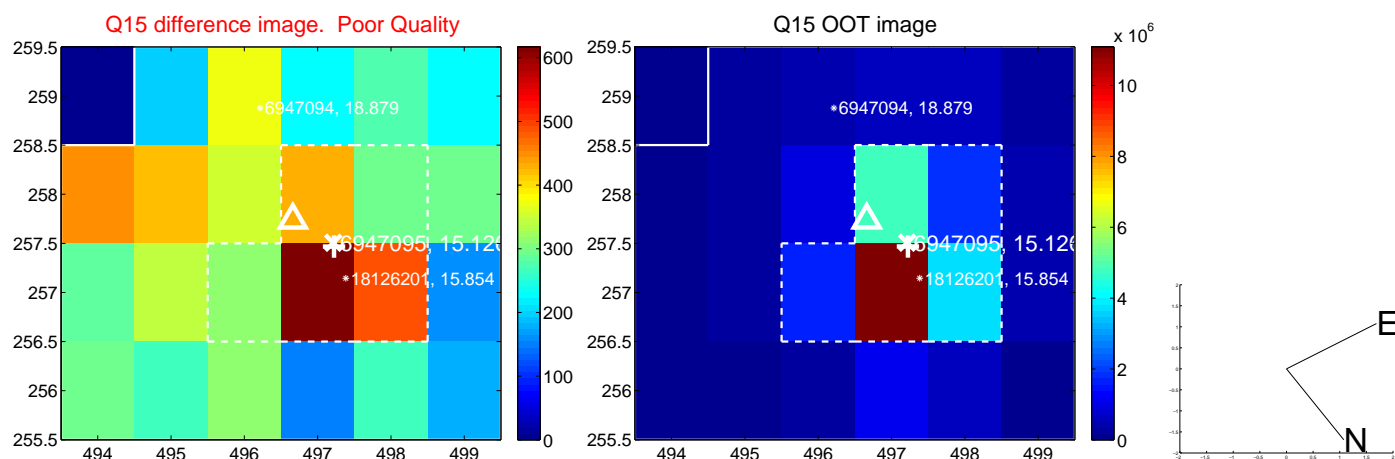
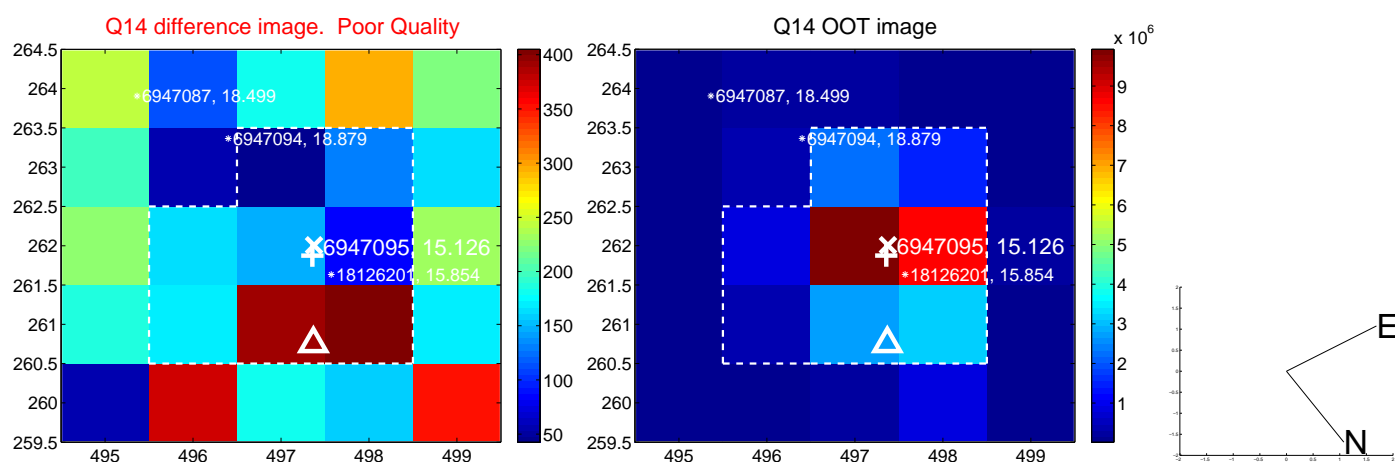
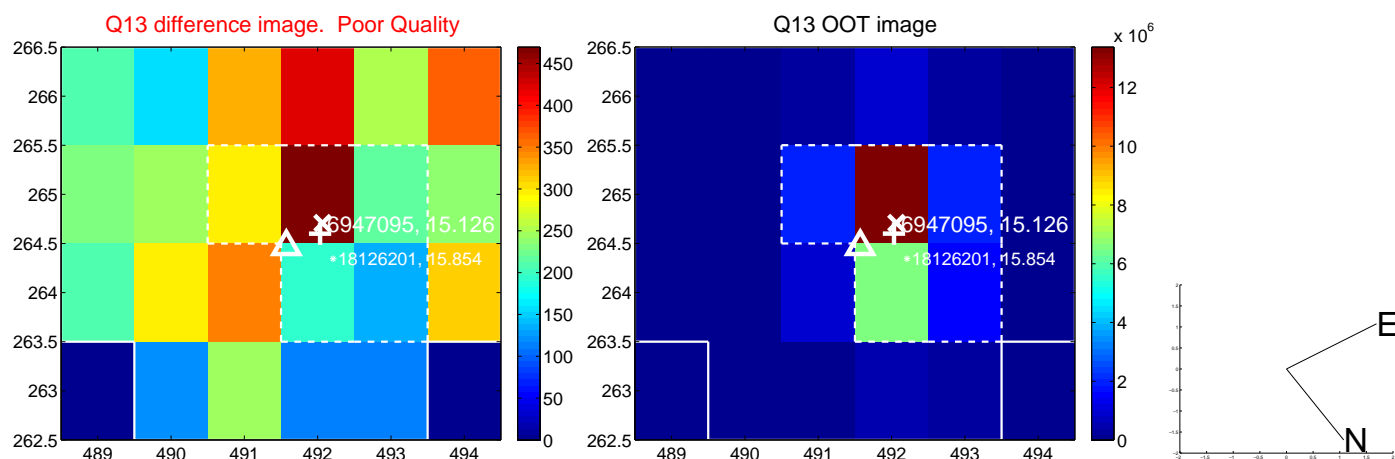
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



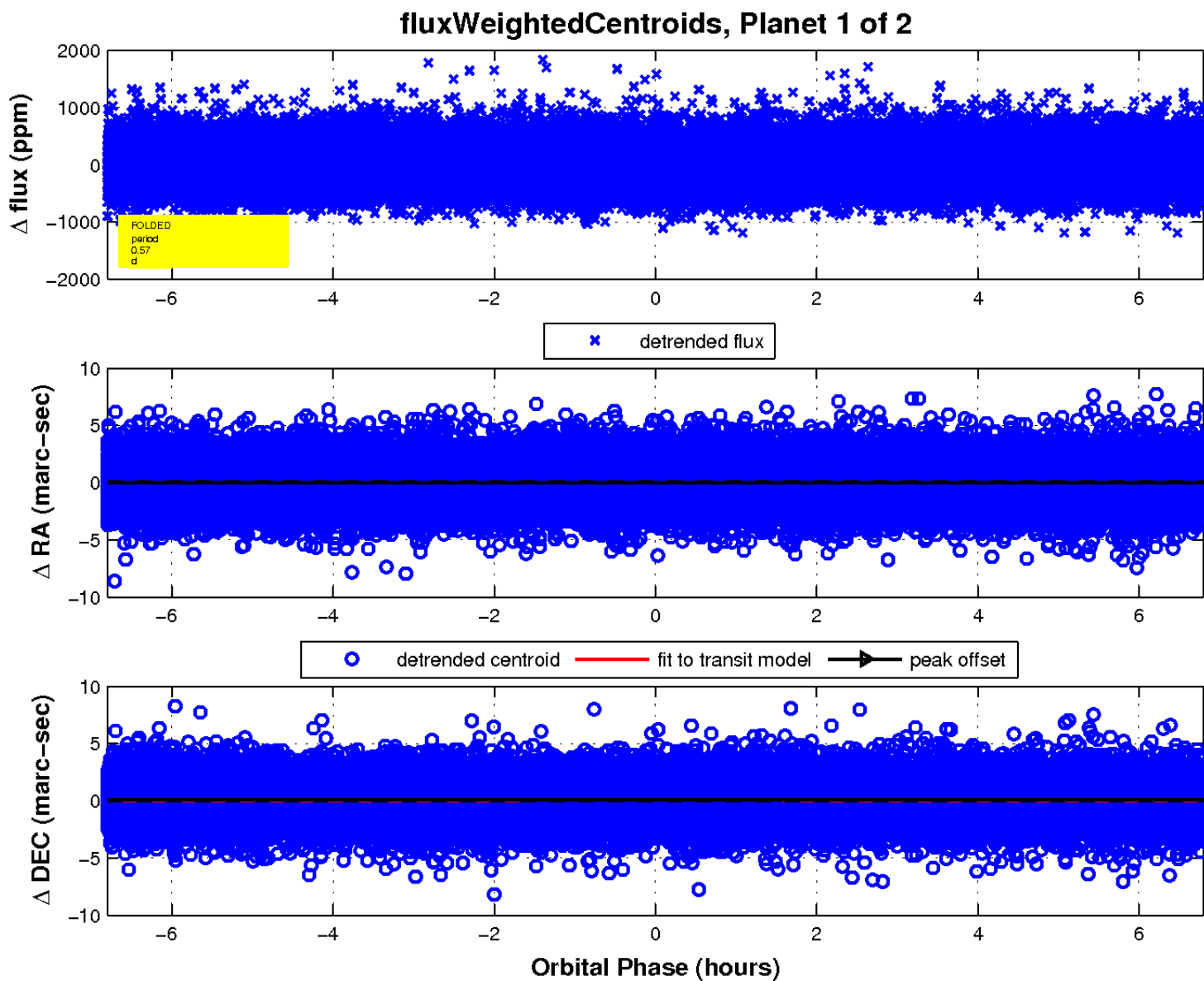
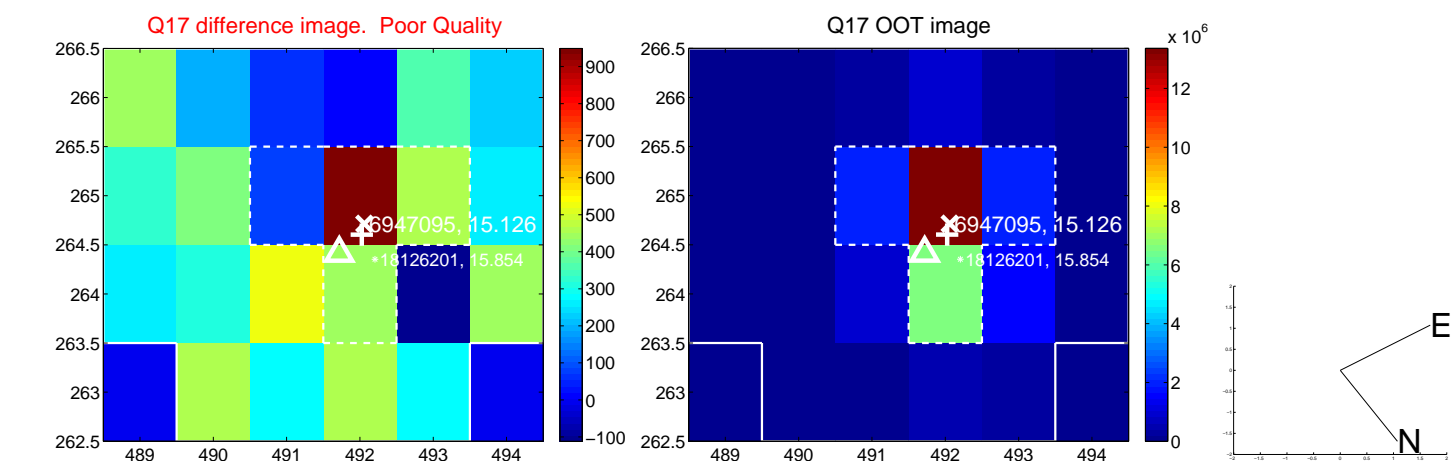
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

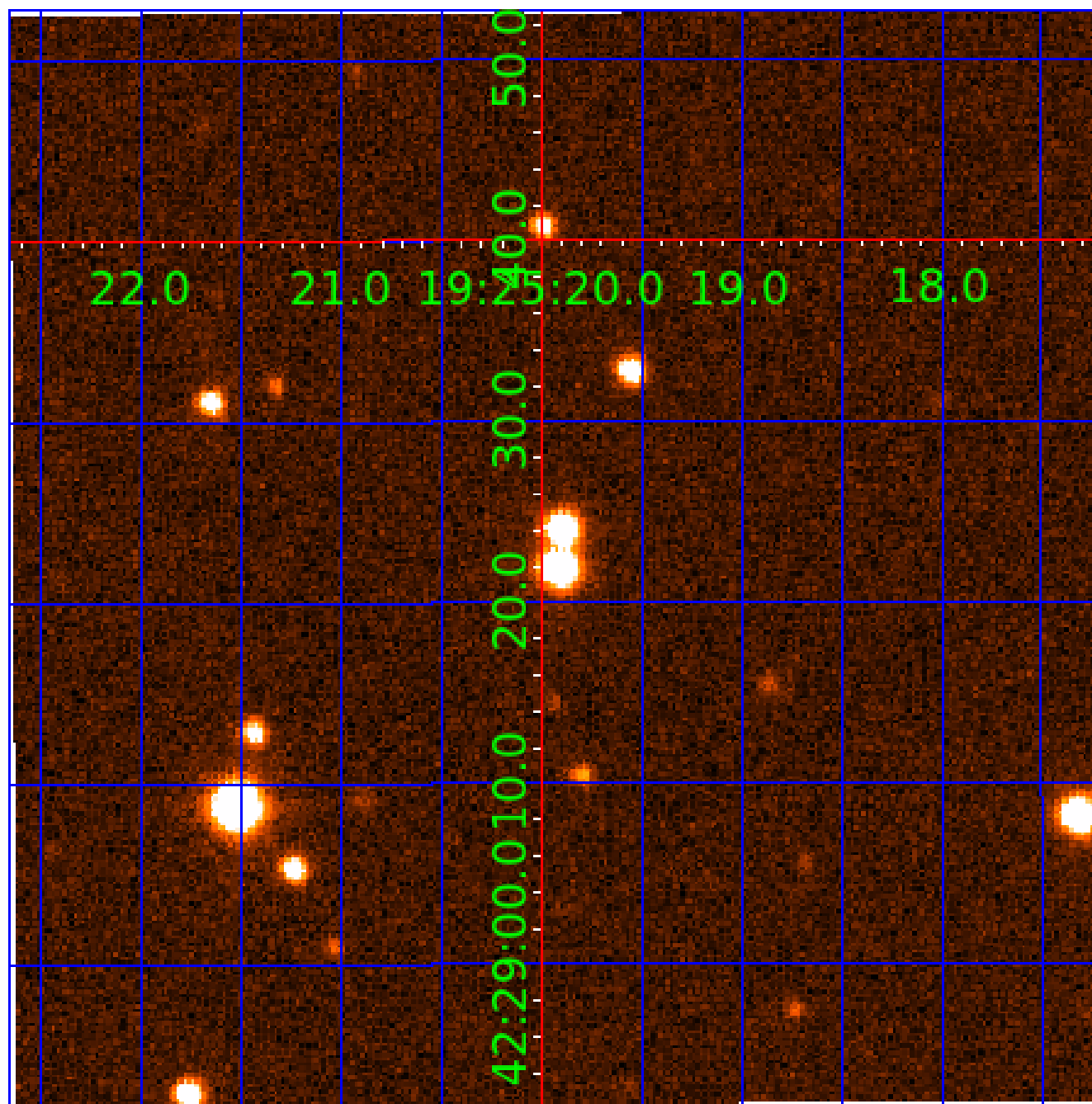


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006947095

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})
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Robovetter Results

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006947095-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

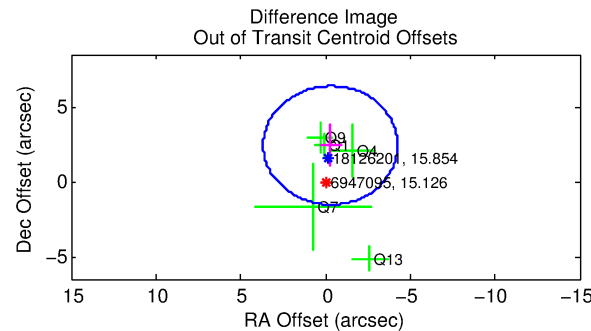
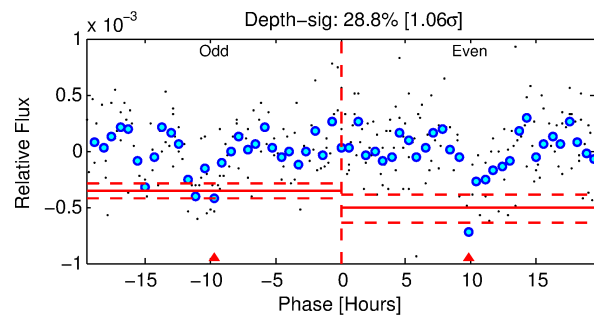
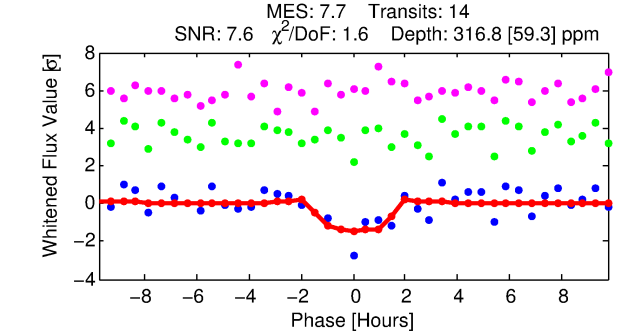
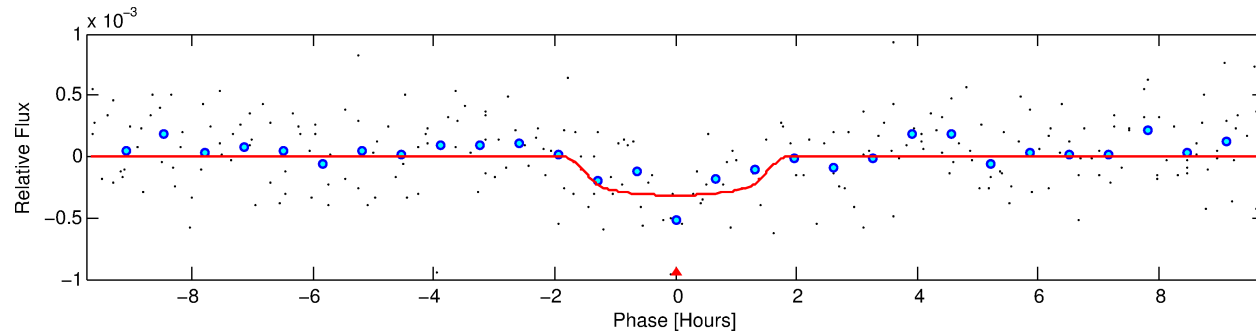
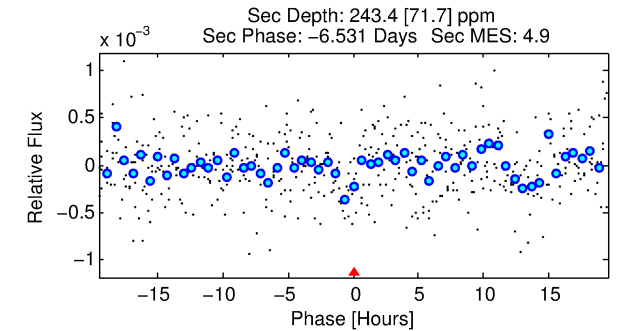
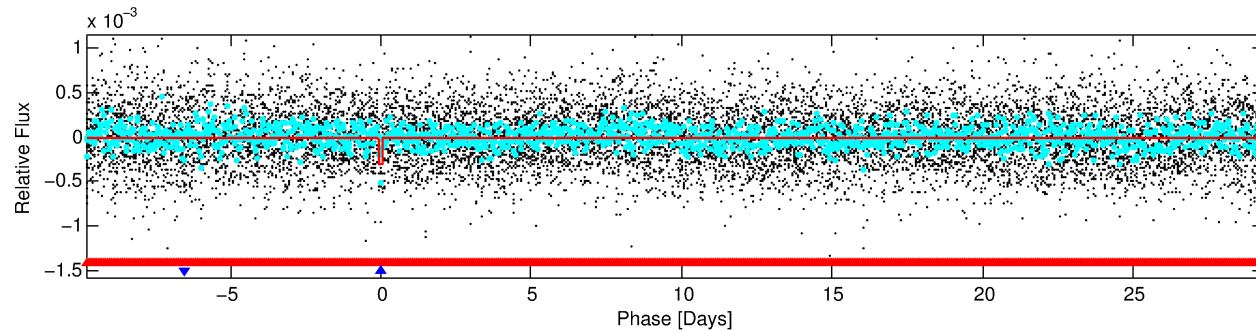
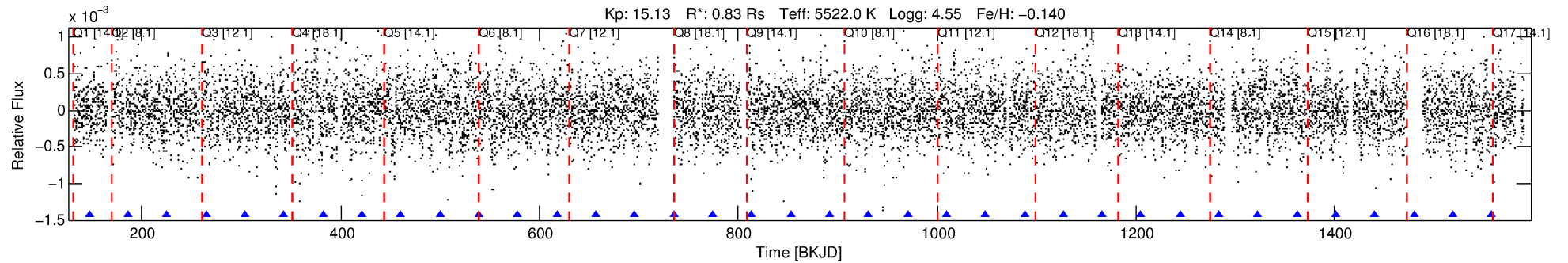
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006947095-02

No Significant Match Found

DV One-Page Summary

KIC: 6947095 Candidate: 2 of 2 Period: 39.185 d



DV Fit Results:

Period = 39.18544 [0.00069] d
Epoch = 147.3713 [0.0137] BKJD
Rp/R* = 0.0183 [0.0271]
a/R* = 56.33 [356.75]
b = 0.81 [2.68]
Seff = 12.18 [5.06]
Teff = 476 [49] K
Rp = 1.65 [2.50] Re
a = 0.2160 [0.0517] AU
Ag = 2300.74 [6907.08] [0.33σ]
Teffp = 5101 [3818] K [1.21σ]

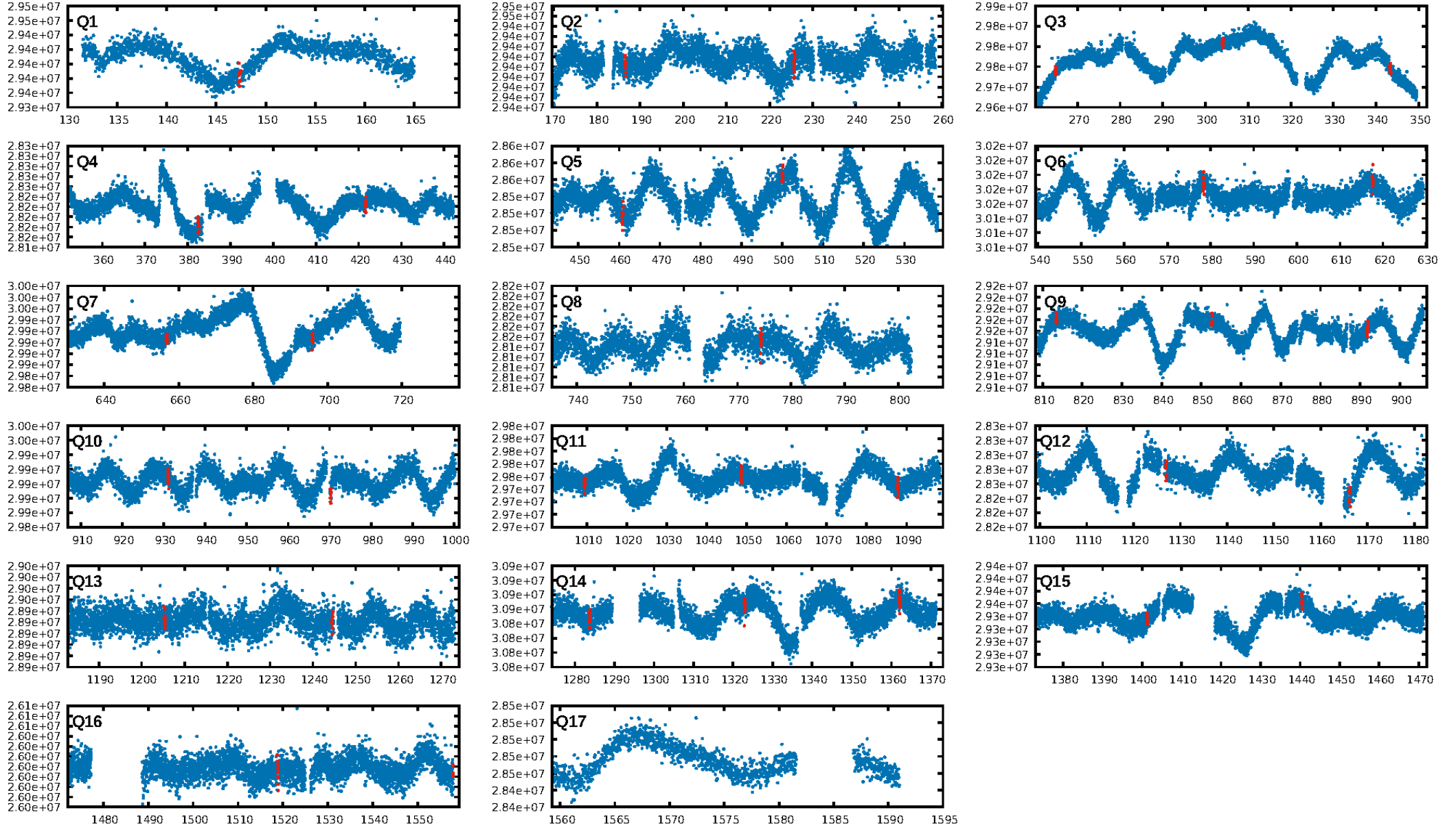
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [194.49σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.28e-09
RollingBand-fgt: 1.00 [13/13]
GhostDiagnostic-chr: 1.023
Centroid-sig: 2.3%
Centroid-so: 1.817 arcsec [1.92σ]
OotOffset-rm: 2.440 arcsec [1.85σ]
KicOffset-rm: 2.852 arcsec [1.95σ]
OotOffset-st: 0/1/1/3 [5]
KicOffset-st: 0/1/1/3 [5]
DiffImageQuality-fgm: 0.20 [1/5]
DiffImageOverlap-fno: 0.00 [0/15]

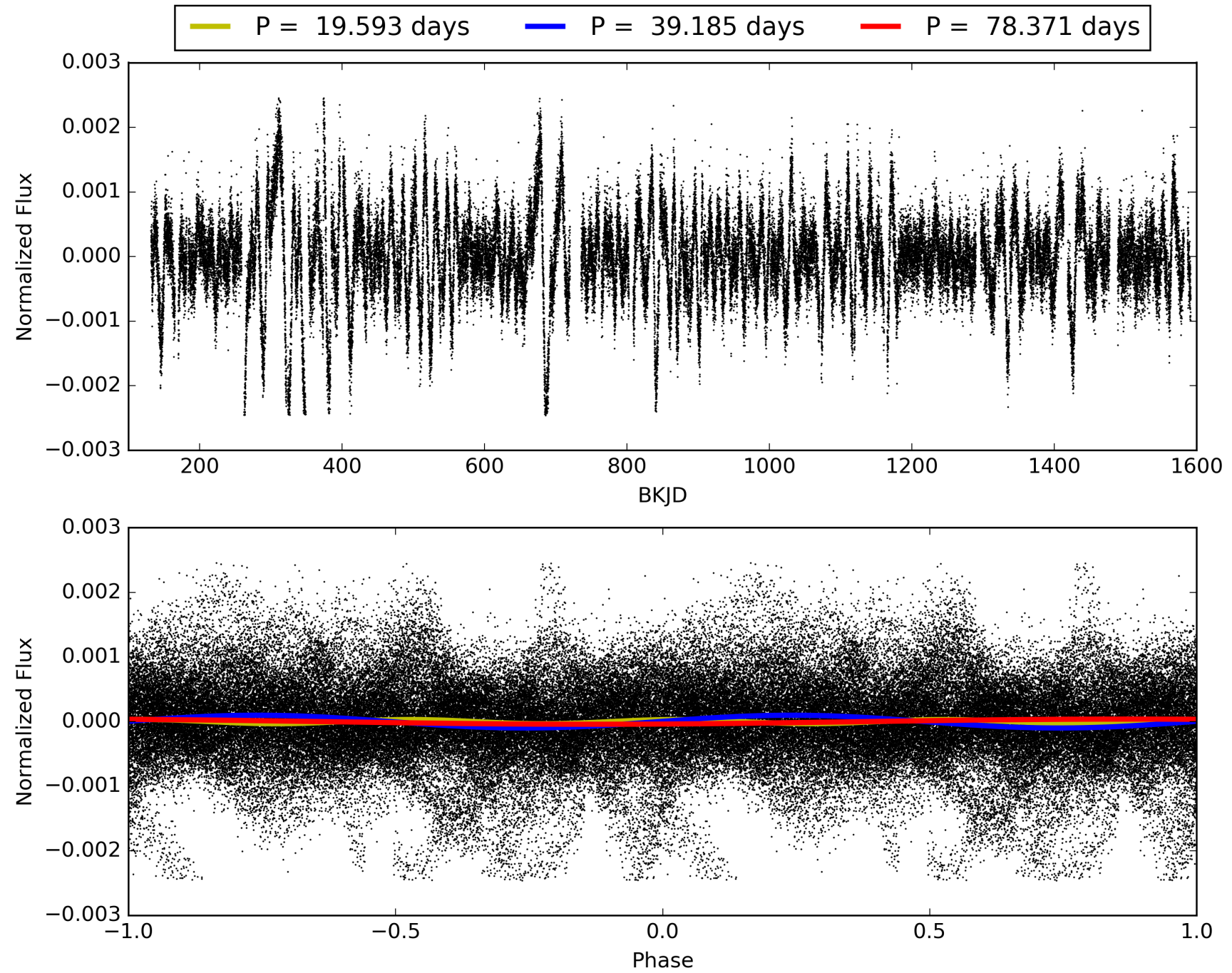
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:19:16 Z

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

TCE 006947095-02, PDC Light Curves

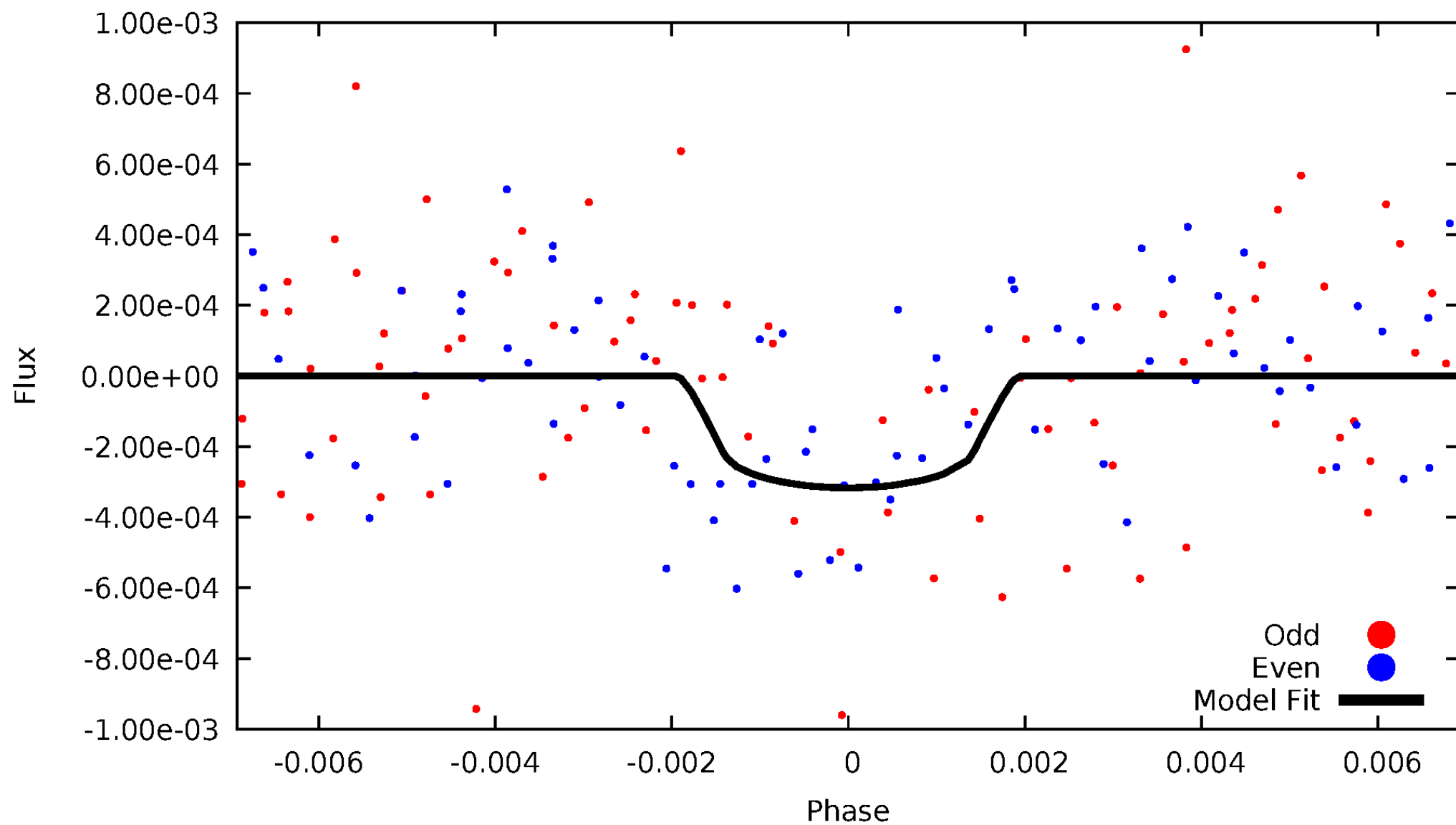


TCE 006947095-02



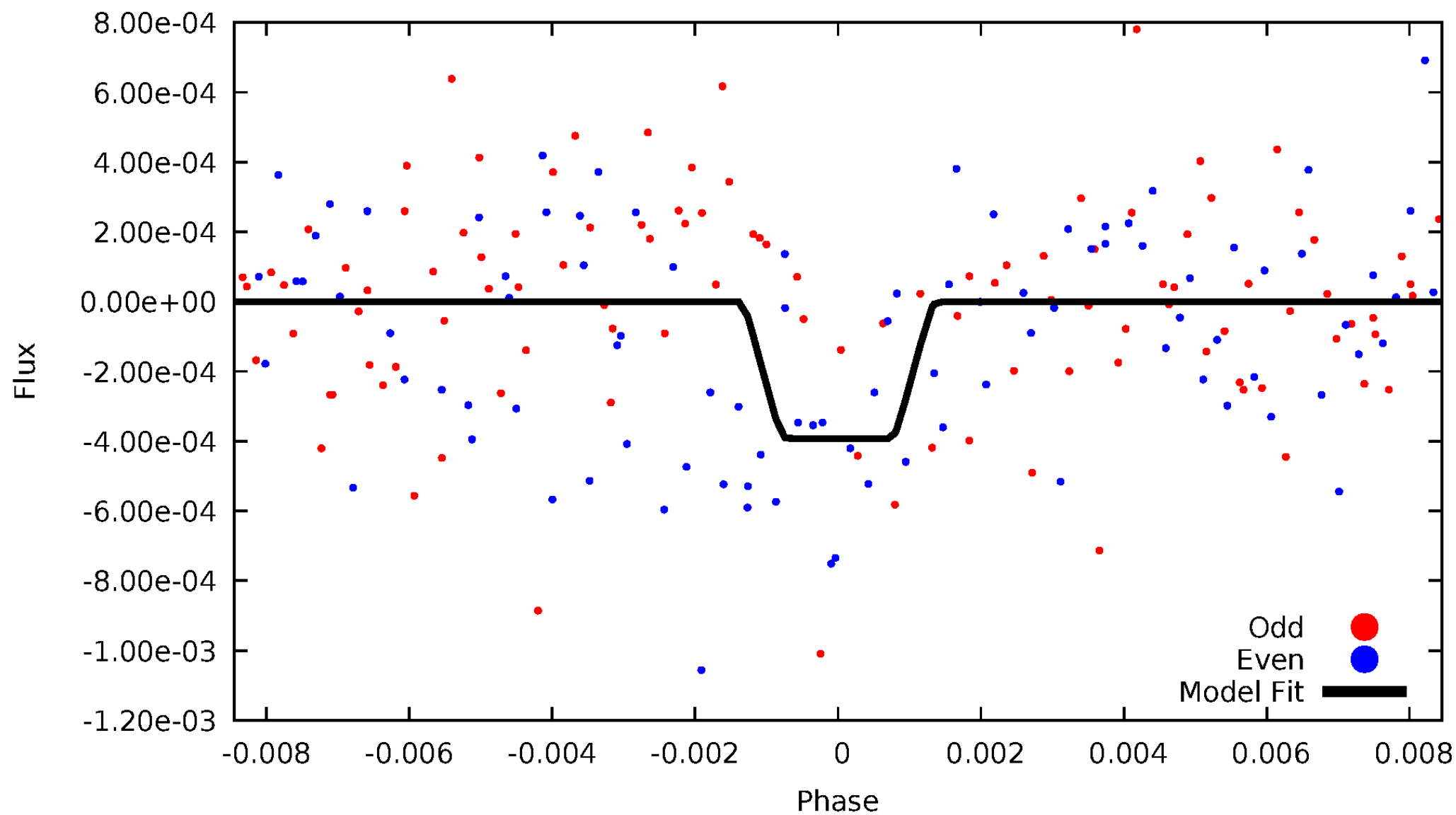
DV Odd/Even

TCE 006947095-02



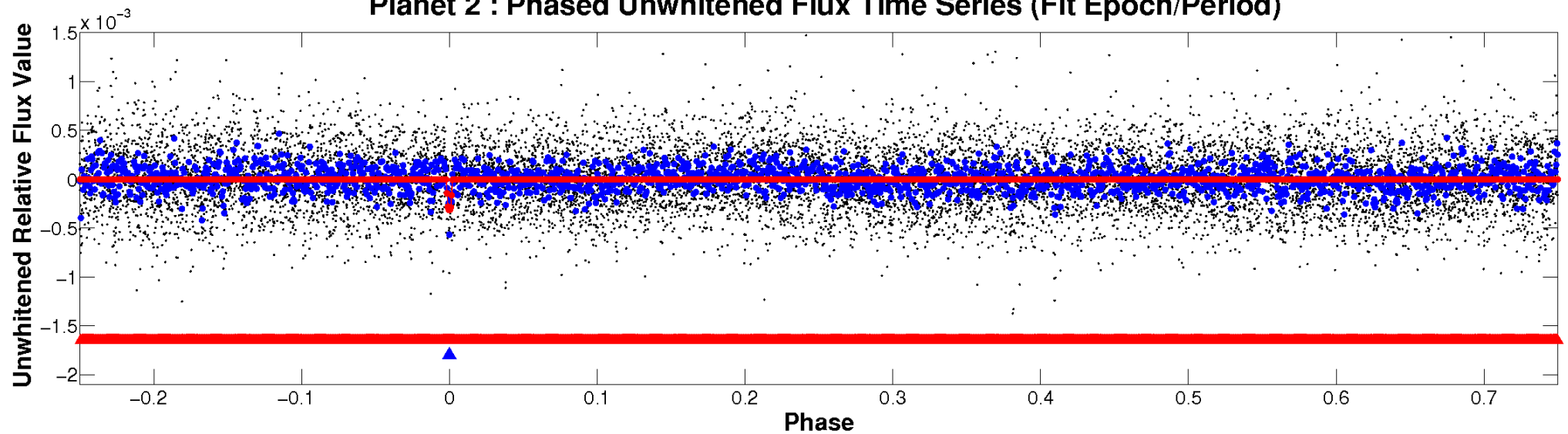
ALT Odd/Even

TCE 006947095-02

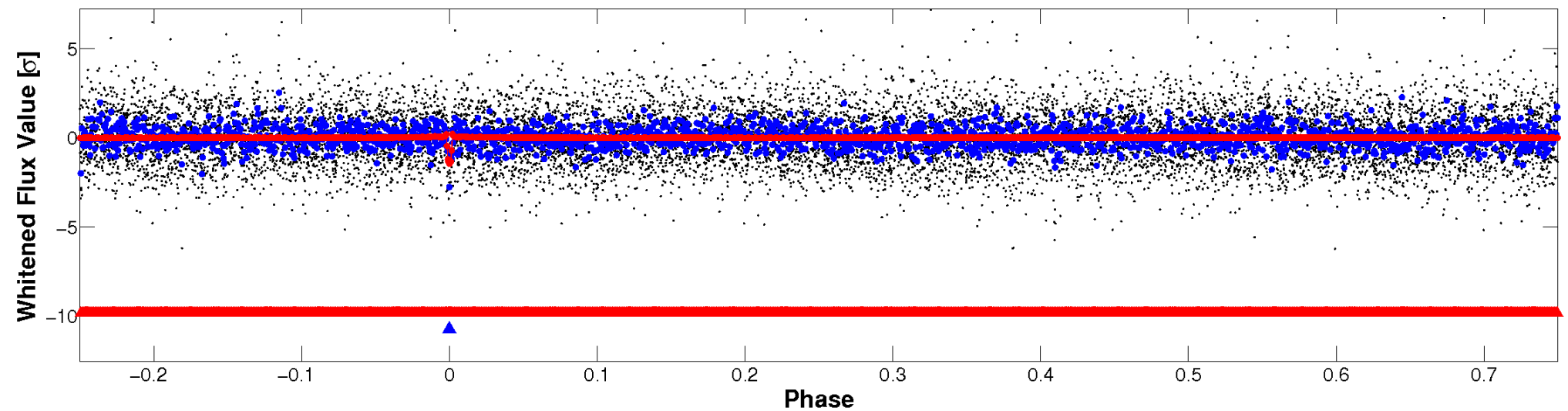


Non-Whitened Vs. Whitened Light Curve

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

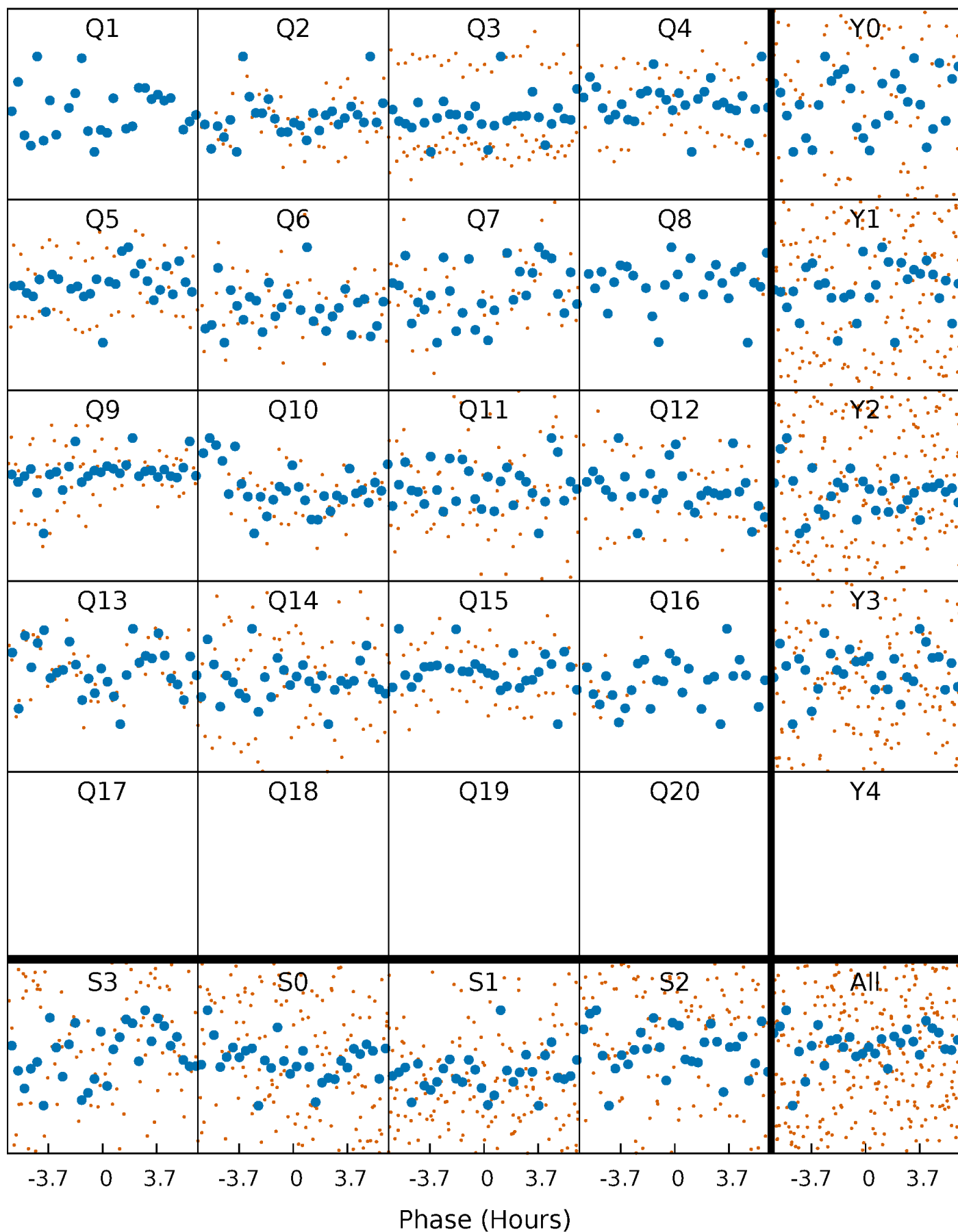


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



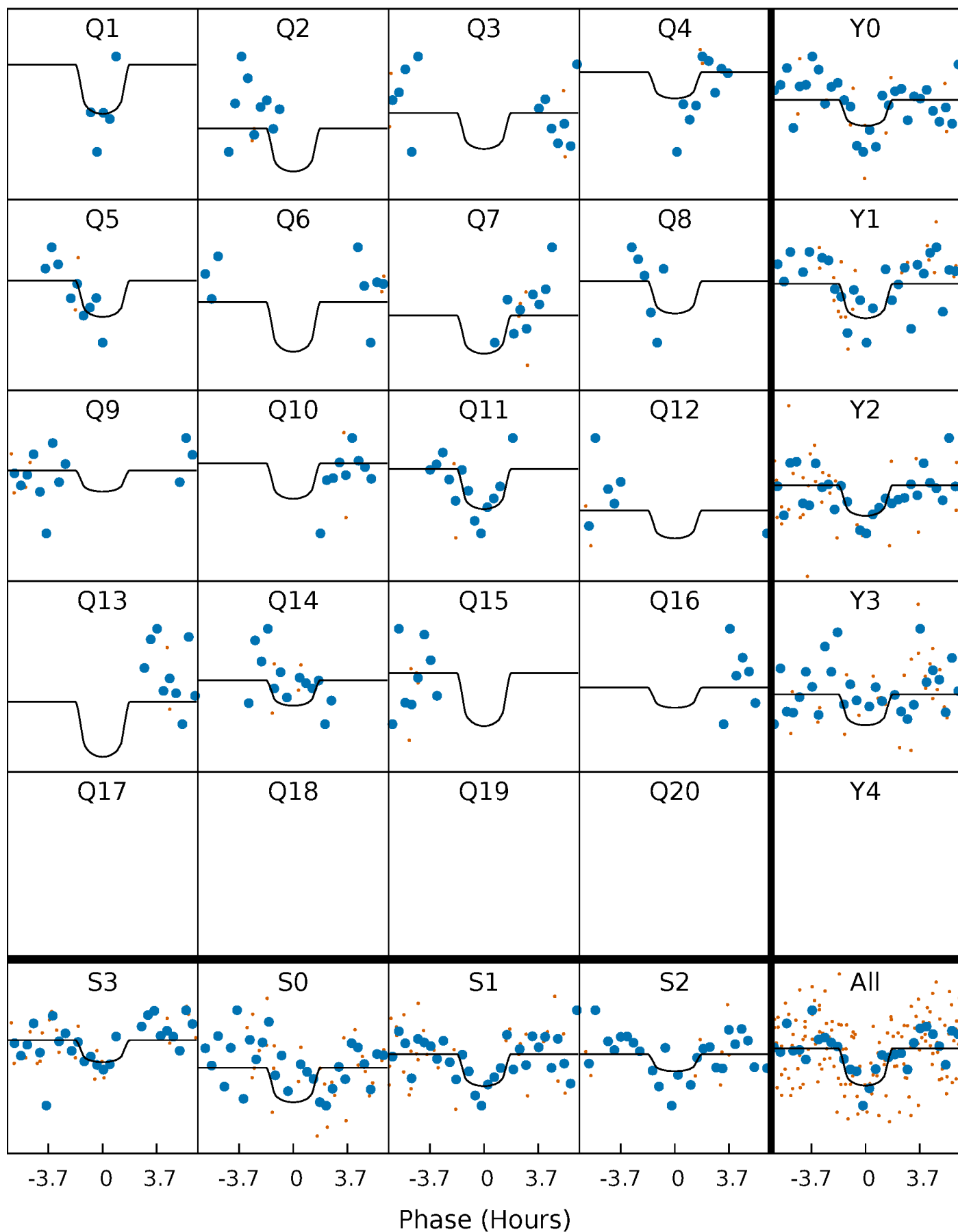
PDC Quarter-Phased Transit Curves

TCE 006947095-02 $P = 39.185445$ Days $T_0 = 147.371330$ (BKJD)



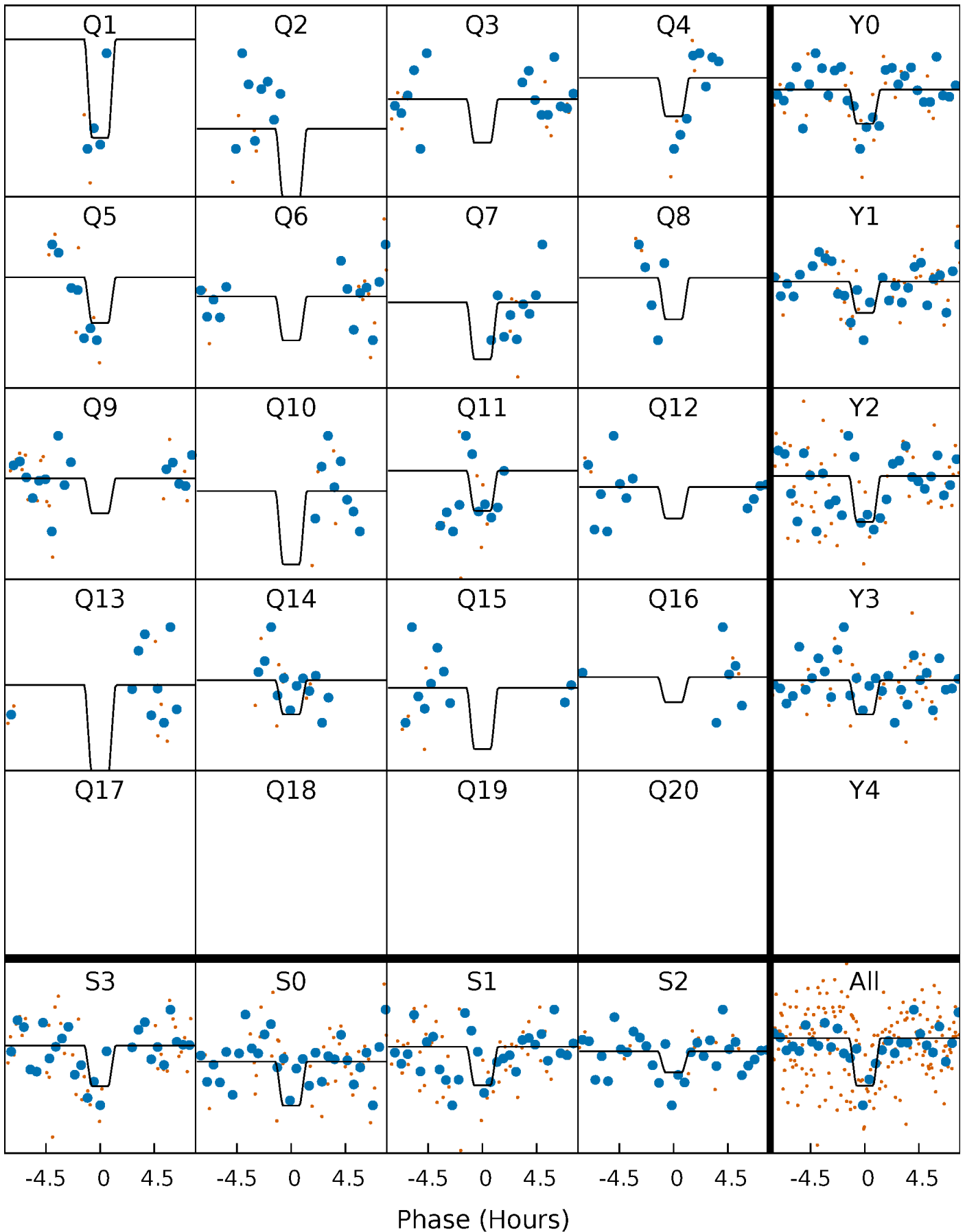
DV Quarter-Phased Transit Curves

TCE 006947095-02 P= 39.185445 Days $T_0=147.371330$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

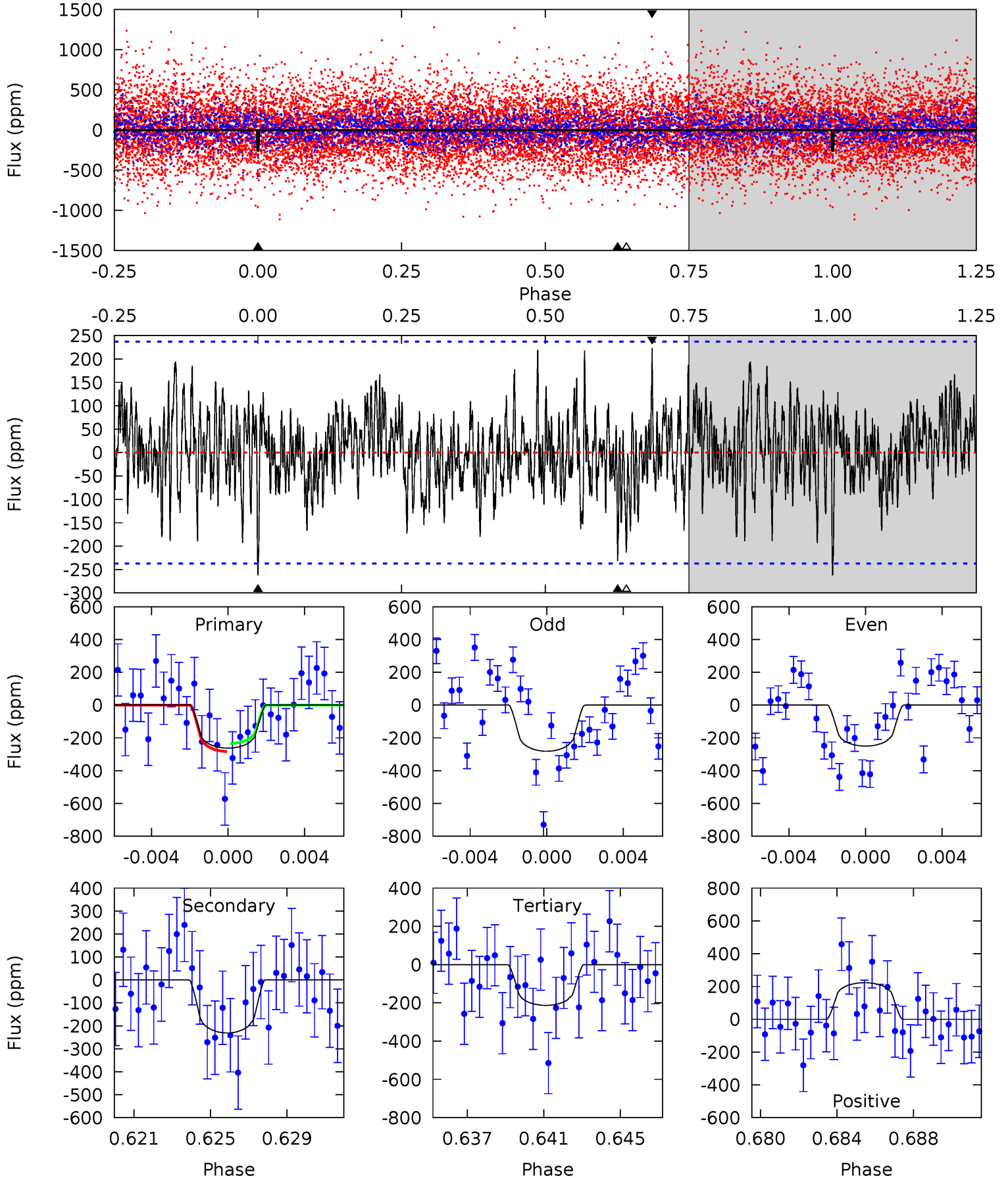
TCE 006947095-02 P= 39.184706 Days $T_0=147.383224$ (BKJD)



DV Model-Shift Uniqueness Test

006947095-02, P = 39.185445 Days, E = 108.185885 Days

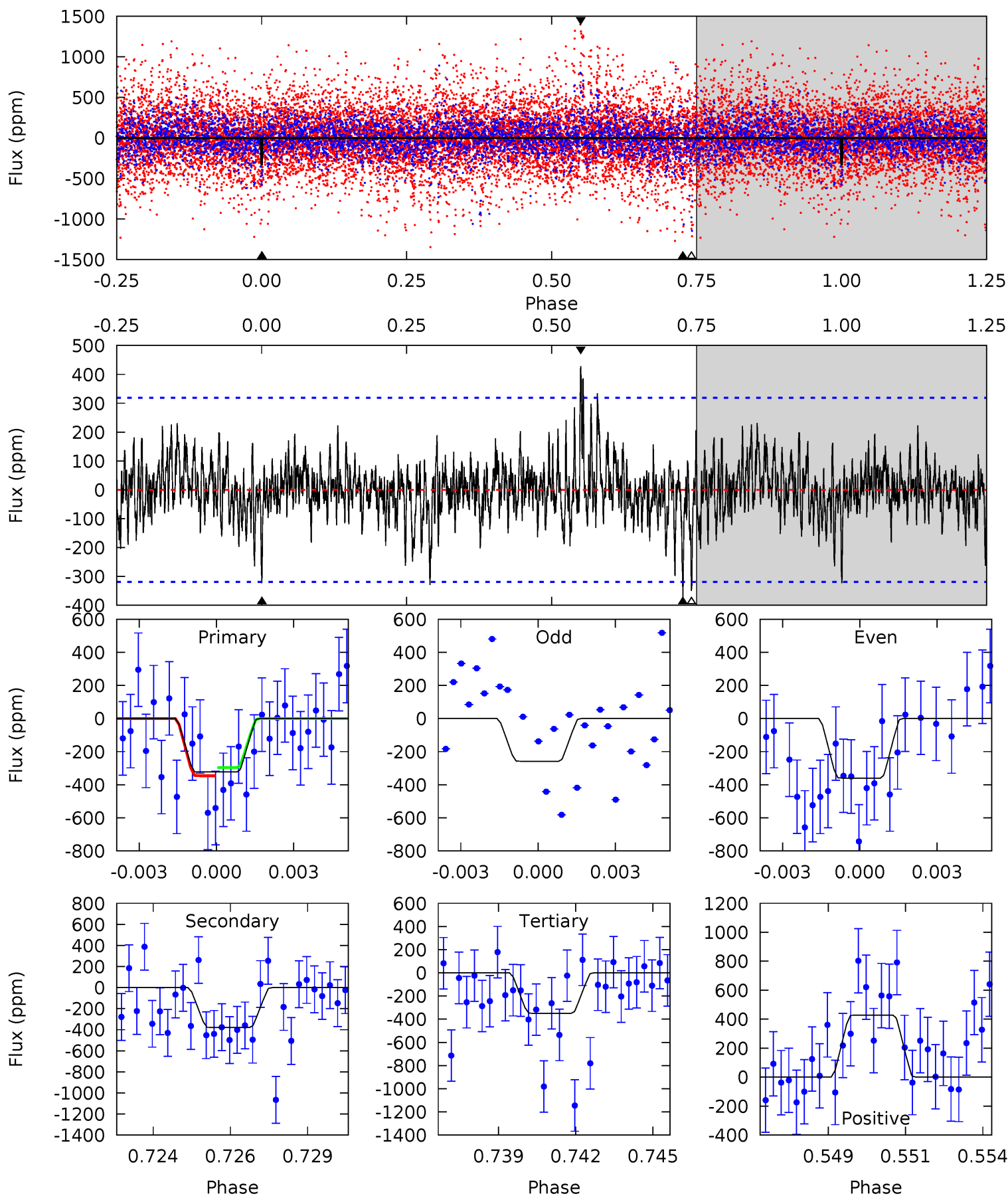
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.75	5.07	4.67	4.89	5.20	2.88	1.49	1.08	0.86	0.39	0.18	0.34	0.80	0.46	0.53



Alt Model-Shift Uniqueness Test

006947095-02, P = 39.184706 Days, E = 108.198518 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.35	6.28	5.79	7.09	5.28	3.01	1.40	-0.44	-1.74	0.49	-0.81	0.83	1.80	0.53	0.41



Stellar Parameters For KIC 006947095

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5522^{+344}_{-344}	$4.546^{+0.058}_{-0.173}$	$-0.140^{+0.300}_{-0.300}$	$0.826^{+0.247}_{-0.099}$	$0.875^{+0.124}_{-0.102}$	$2.190^{+0.710}_{-1.060}$
	+6%/-6%	+1%/-4%	+214%/-214%	+30%/-12%	+14%/-12%	+32%/-48%
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 006947095-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-231 ± 46	$2.57^{+2.06}_{-1.60}$	682^{+56}_{-52}	4312^{+2381}_{-839}	852^{+5236}_{-589}
Alt.	-379 ± 60	$2.59^{+2.32}_{-1.71}$	676^{+63}_{-51}	4738^{+3588}_{-1001}	1475^{+10531}_{-1071}

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 $A_{obs} \gg 1.0$

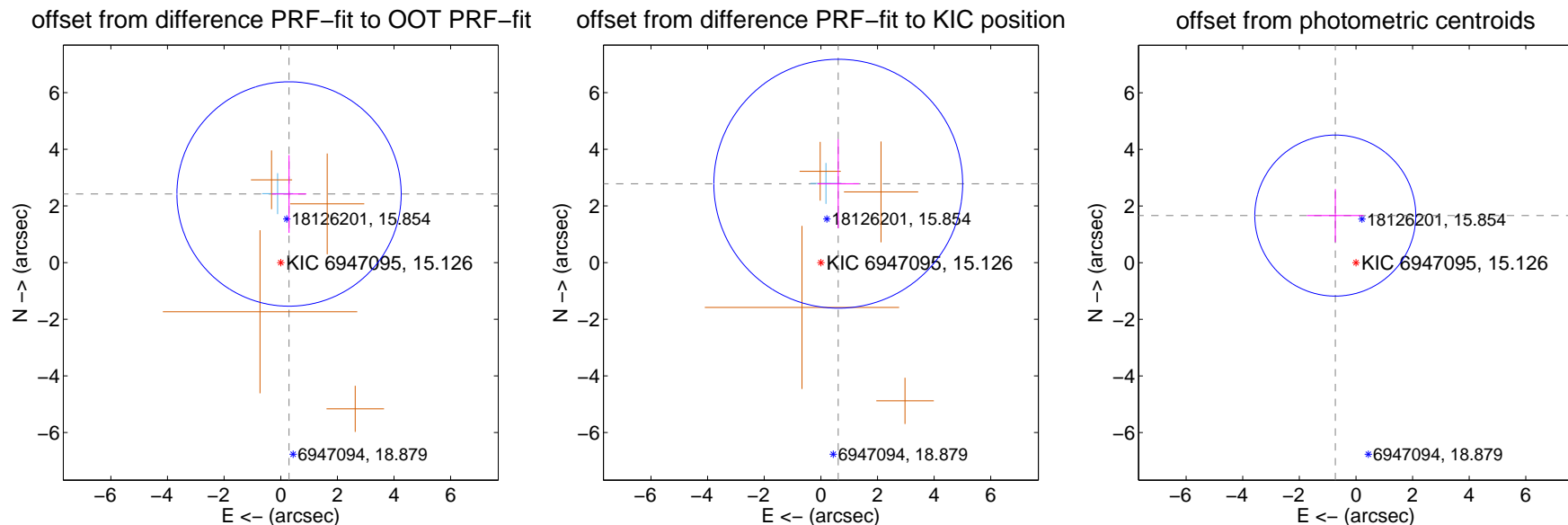
DV Centroid Data

Supplemental centroid analysis for 006947095-02. Kepler magnitude: 15.13. Transit SNR 7.56

There are 1 quarters with good PRF difference image offsets

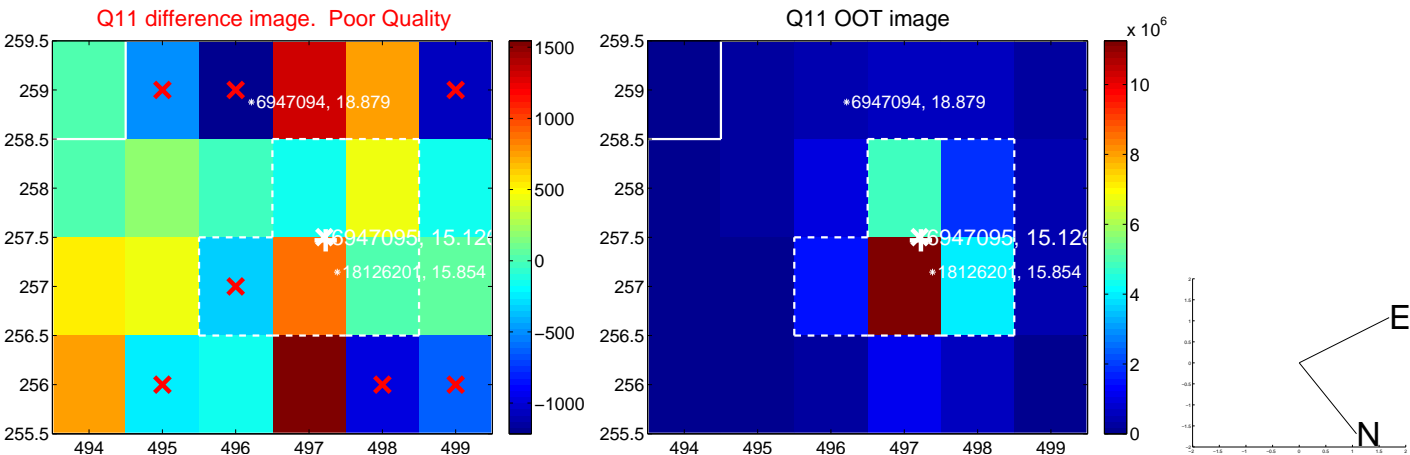
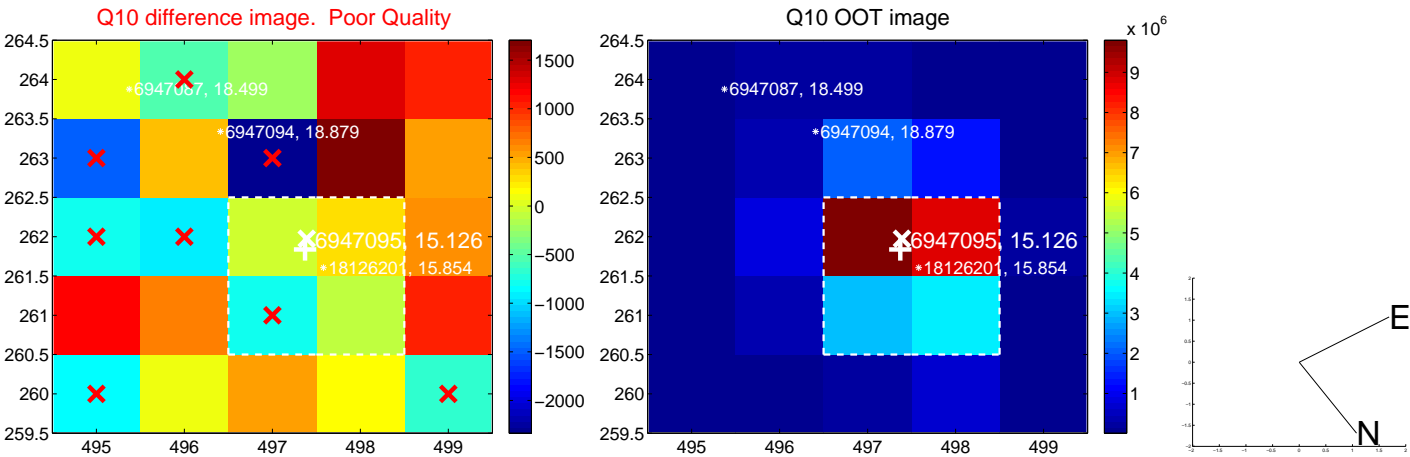
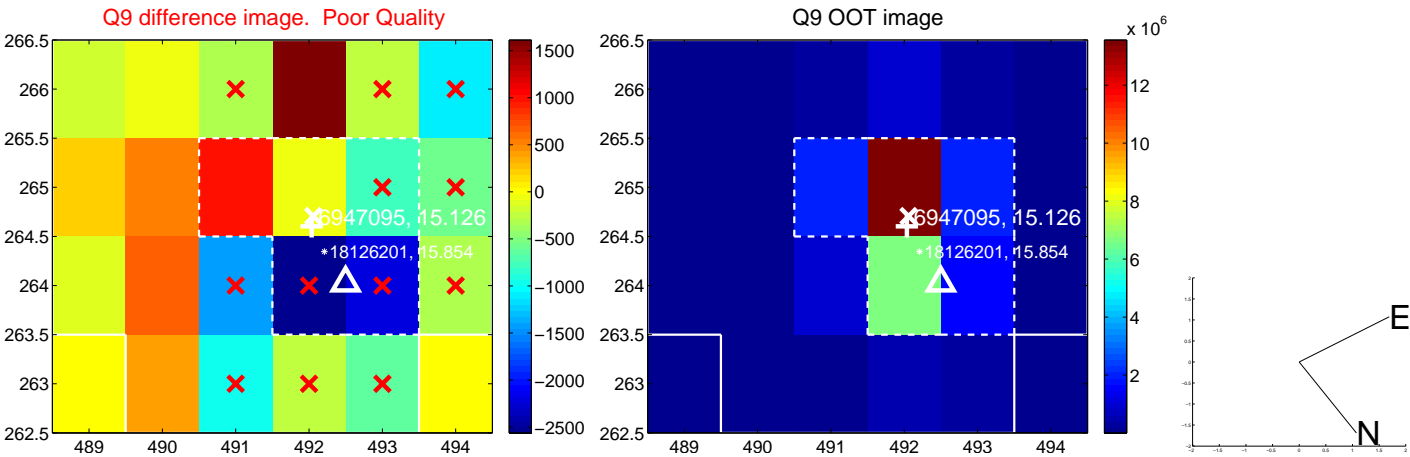
The direct PRF centroid is offset from the target star catalog position by about 0.44 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.440 ± 1.320	1.85	-0.293 ± 0.609	2.422 ± 1.372
PRF-fit source offset from KIC position	2.852 ± 1.465	1.95	-0.614 ± 0.731	2.785 ± 1.573
photometric centroid source offset	1.82 ± 0.95	1.92	0.73 ± 1.00	1.66 ± 0.94

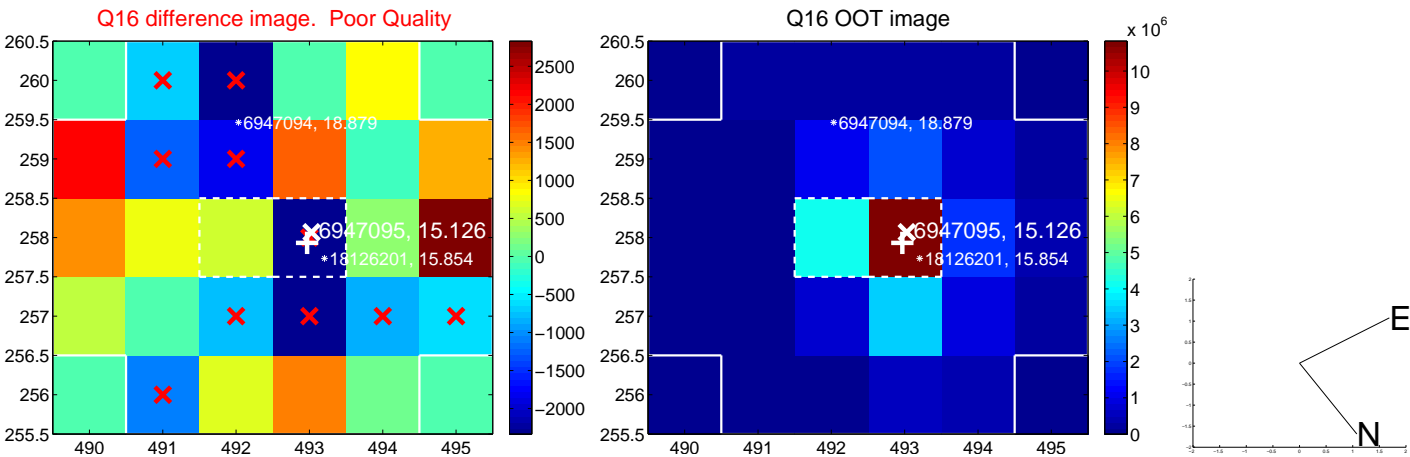
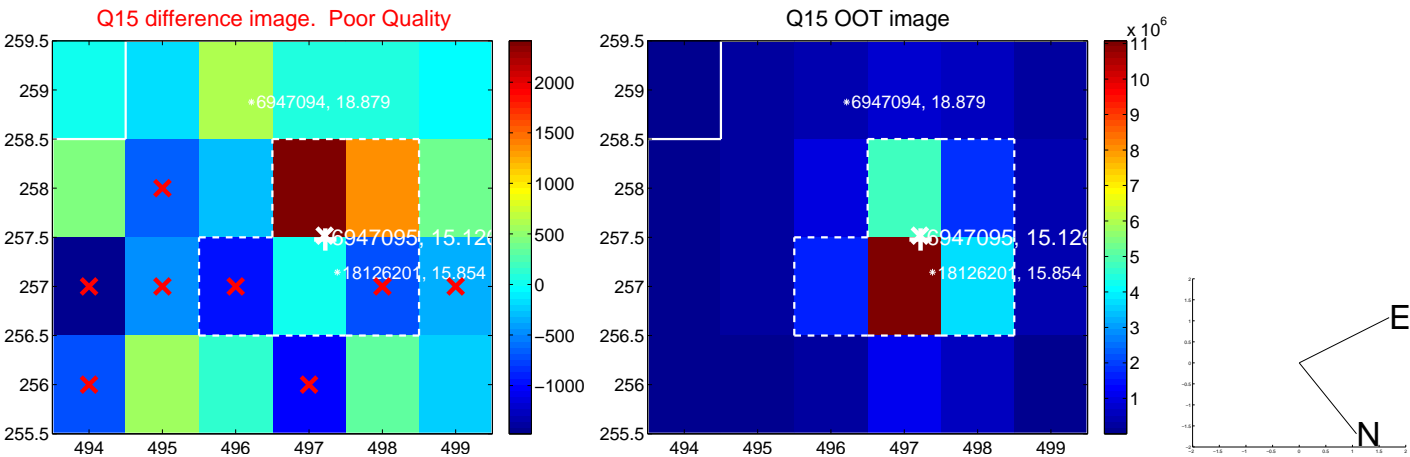
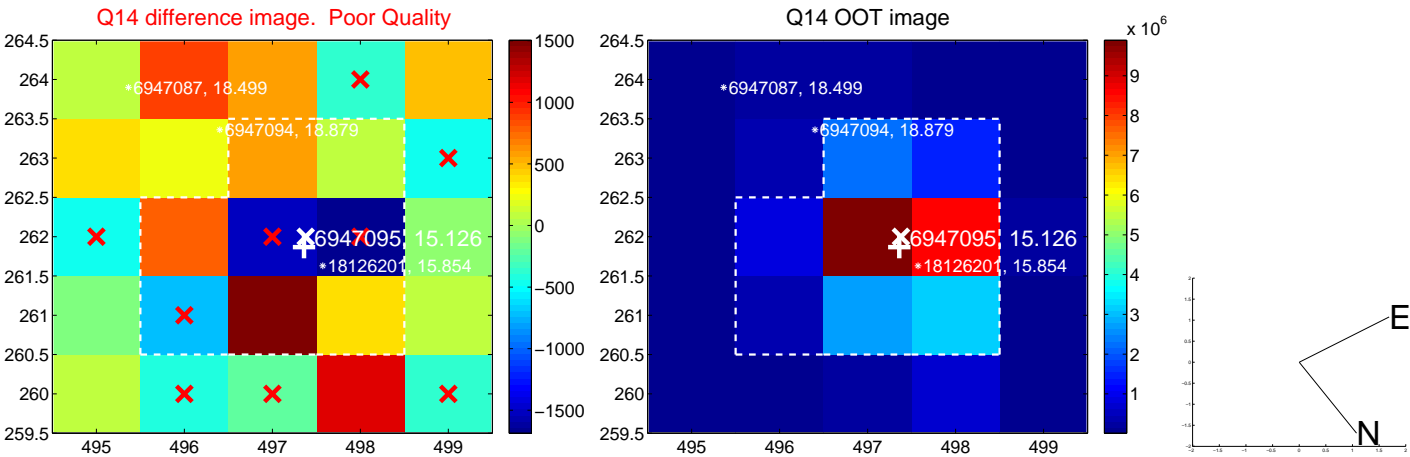
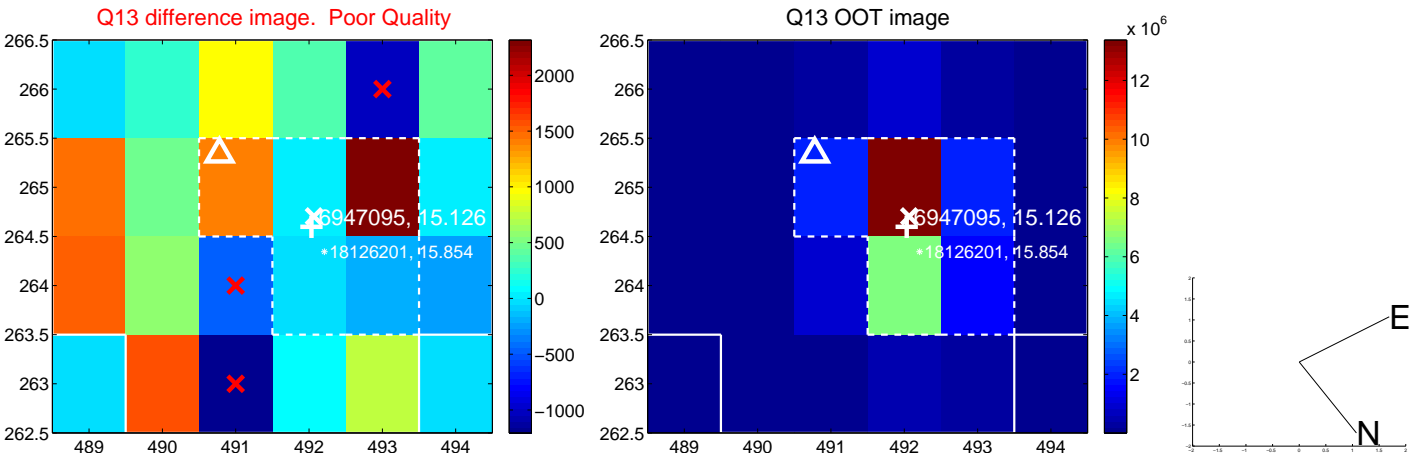


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

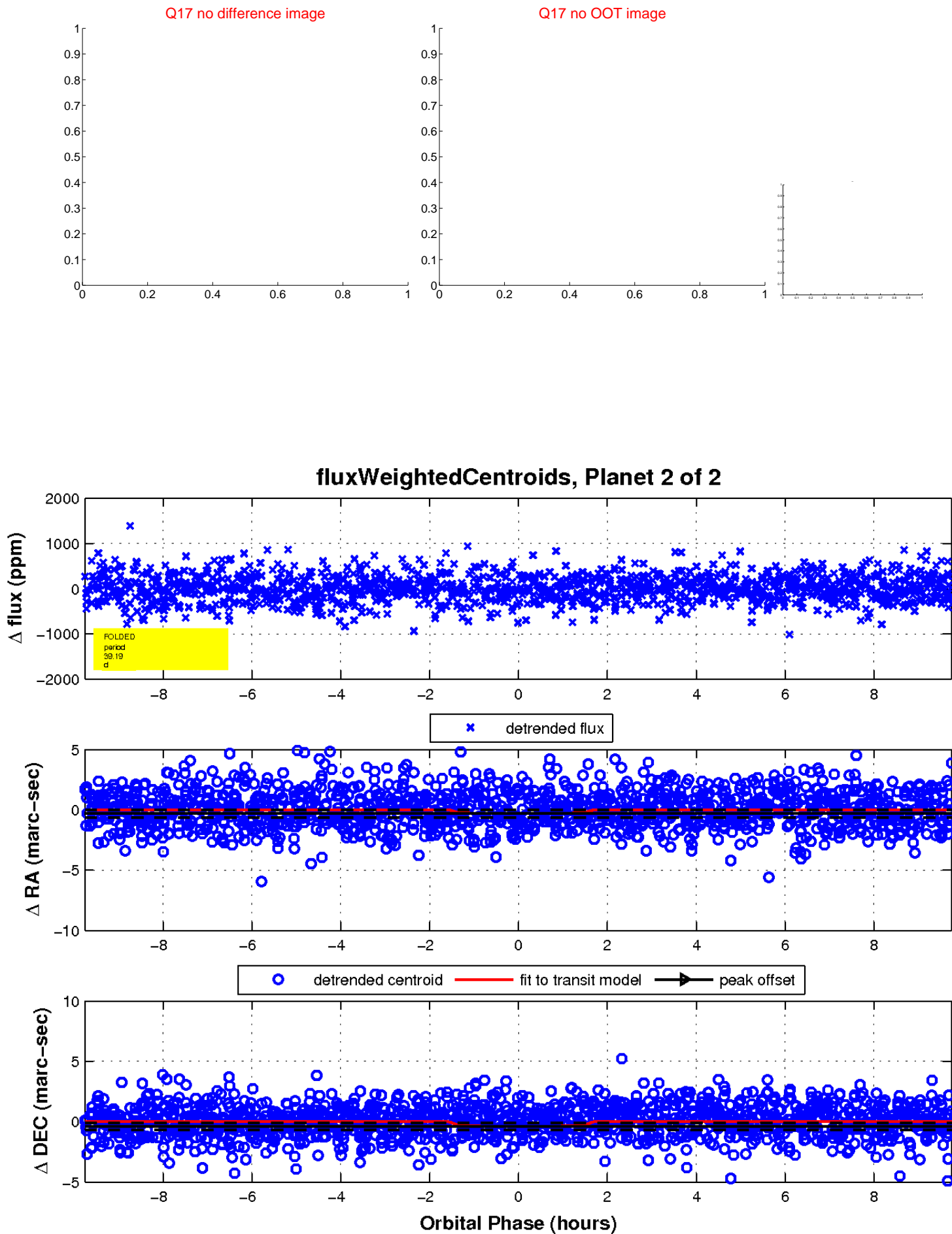
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

