

KIC 006974867

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})
006974867-01	OBS	7800.01	0.887676	132.370453	19.9	1.474	9.0	10.0	2.49	5500	1.34	12752.30
006974867-02	OBS	No	0.887684	131.930184	15.2	1.844	8.0	8.7	2.49	5500	1.17	12752.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006974867-01	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
006974867-02	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_RESOLVED_OFFSET

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

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

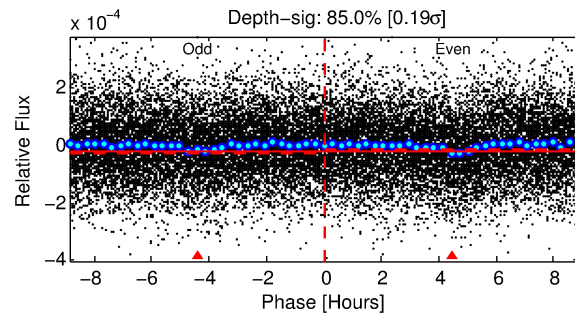
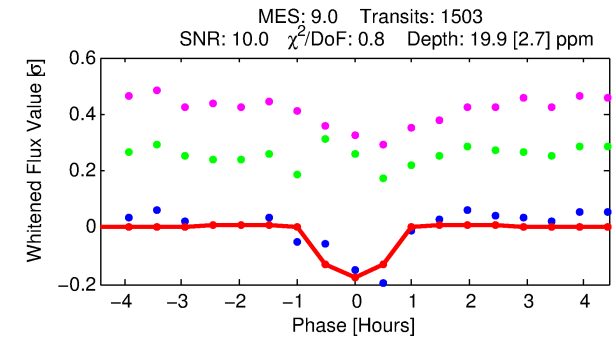
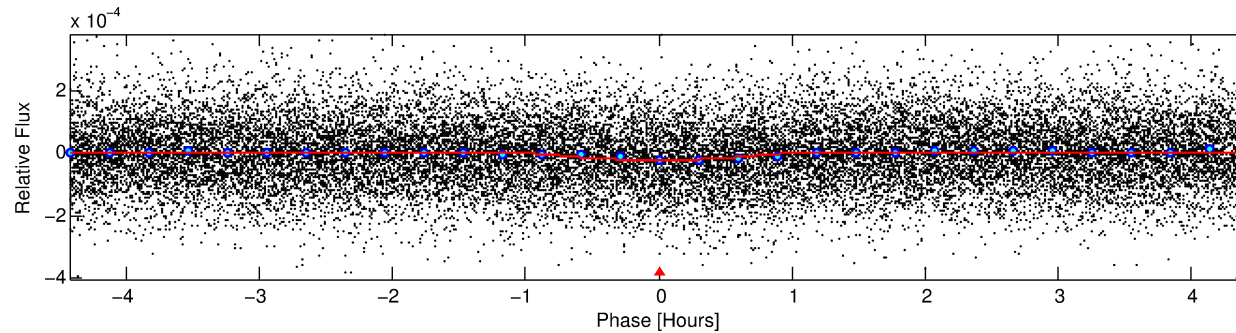
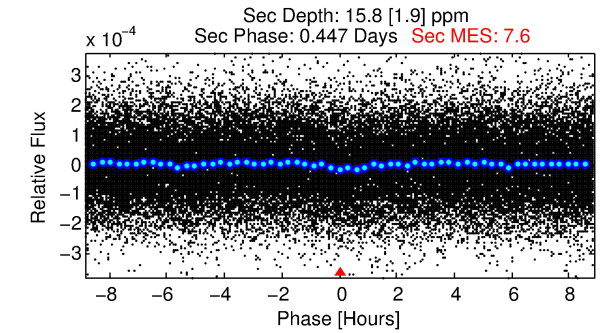
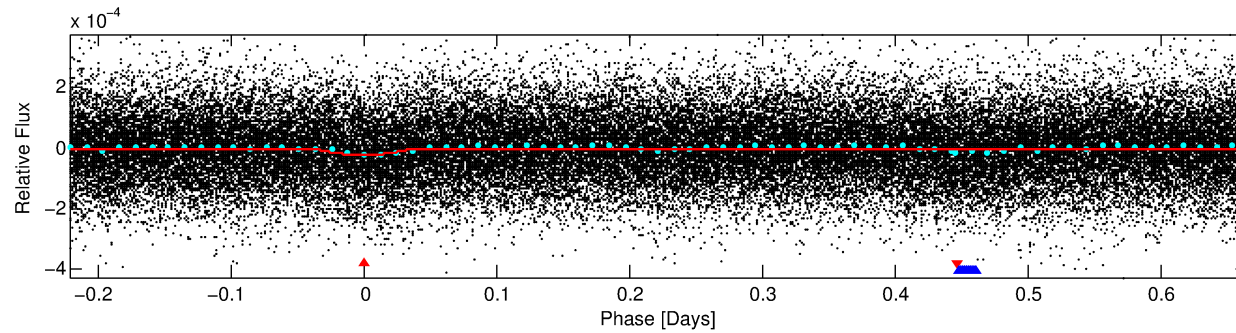
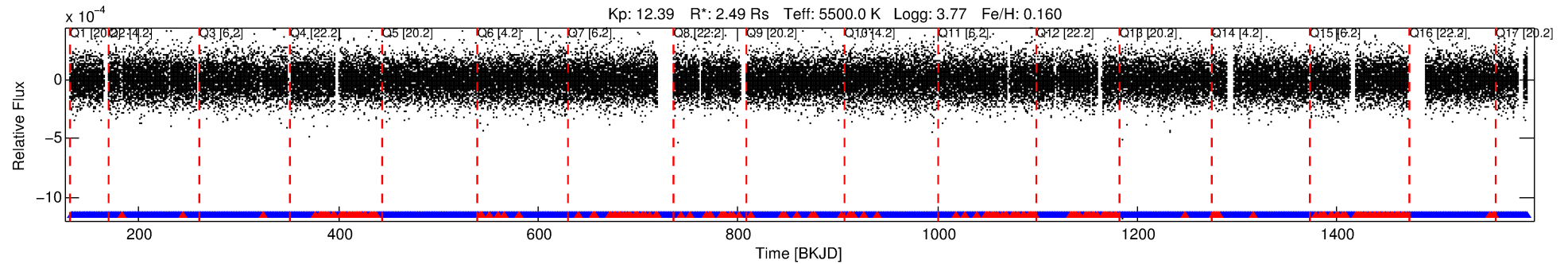
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006974867-01

No Significant Match Found

DV One-Page Summary

KIC: 6974867 Candidate: 1 of 2 Period: 0.888 d



DV Fit Results:

Period = 0.88768 [0.00001] d
Epoch = 132.3705 [0.0022] BKJD
Rp/R* = 0.0049 [0.0014]
a/R* = 2.26 [2.22]
b = 0.90 [0.26]
Seff = 12752.30 [7413.69]
Teq = 2710 [394] K
Rp = 1.34 [0.67] Re
a = 0.0200 [0.0074] AU
Ag = 1.93 [1.55] [0.60σ]
Teffp = 4937 [724] K [2.70σ]

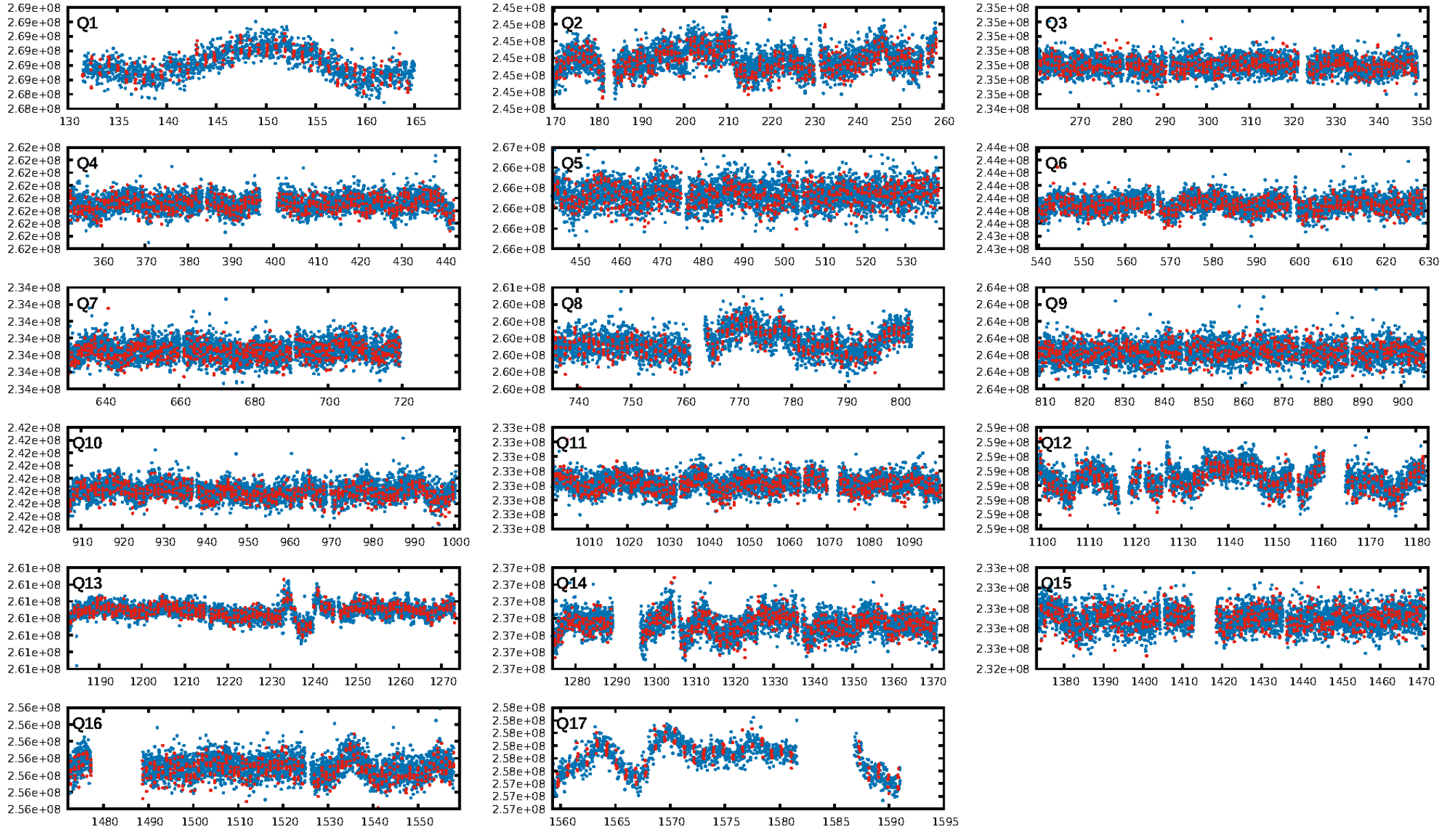
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 1.55e-19
RollingBand-fgt: 0.85 [1221/1435]
GhostDiagnostic-chr: -1.041
Centroid-sig: 0.0%
Centroid-so: 4.579 arcsec [4.57σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [17/17]

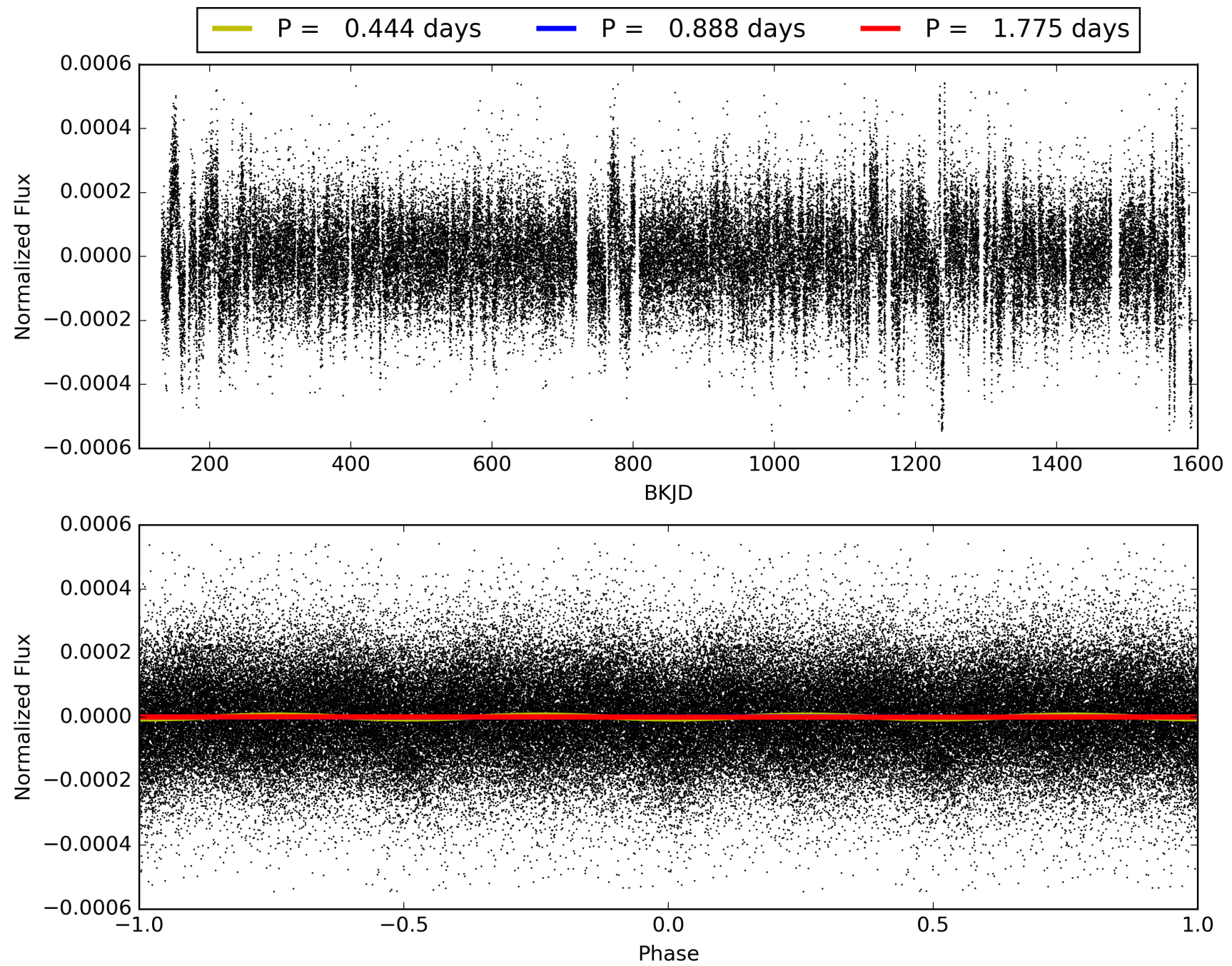
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:24:38 Z

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

TCE 006974867-01, PDC Light Curves

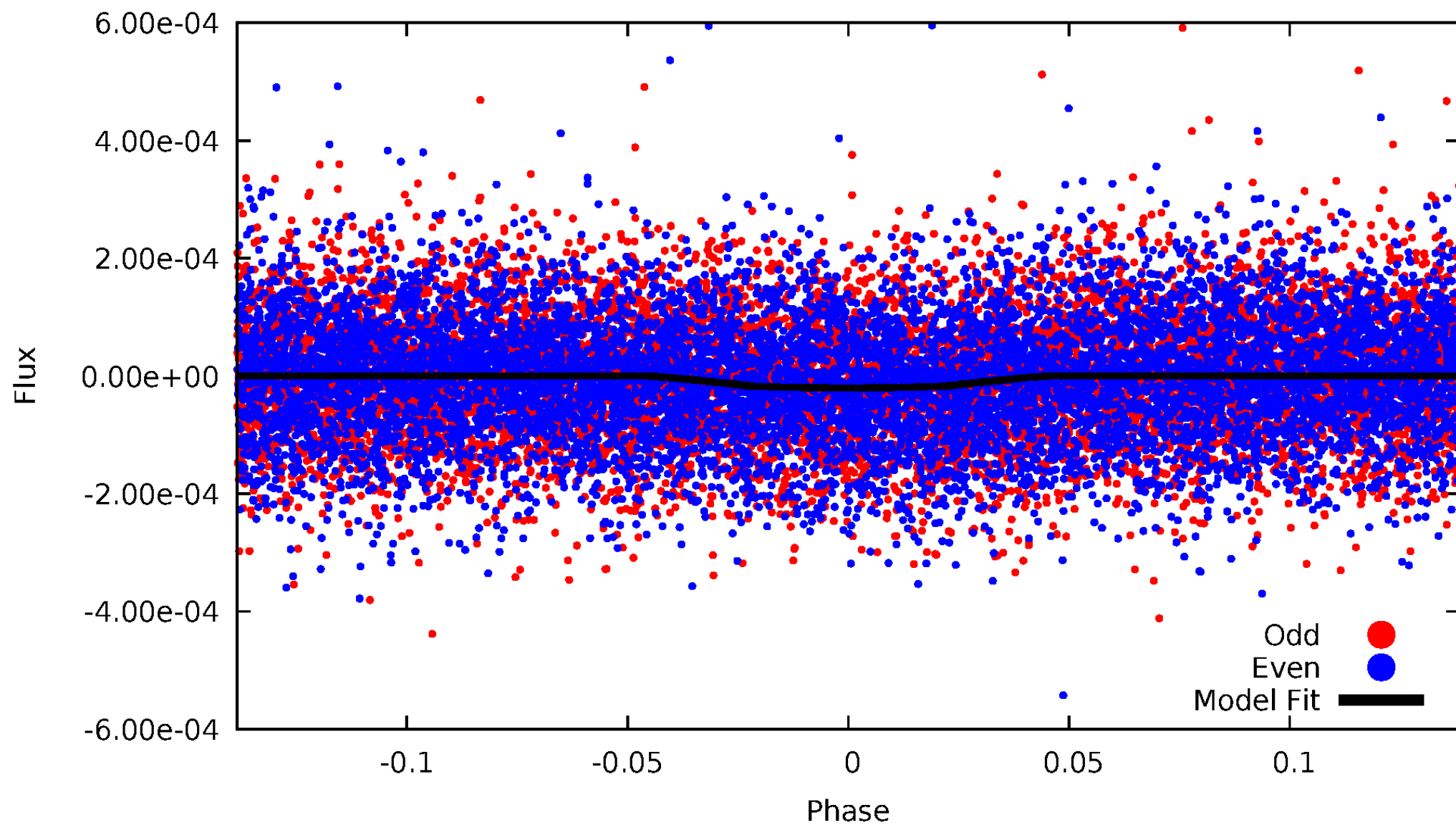


TCE 006974867-01



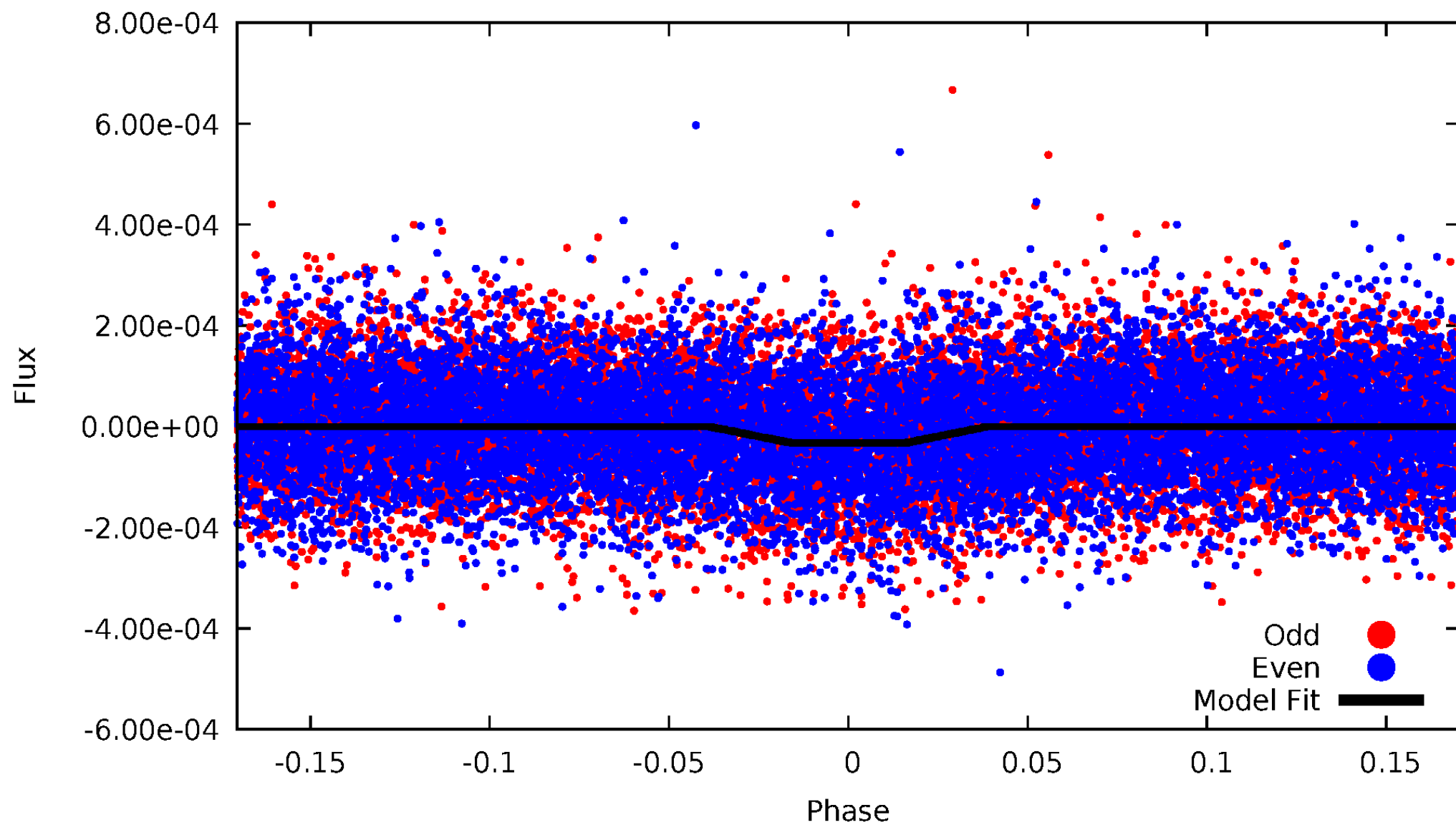
DV Odd/Even

TCE 006974867-01



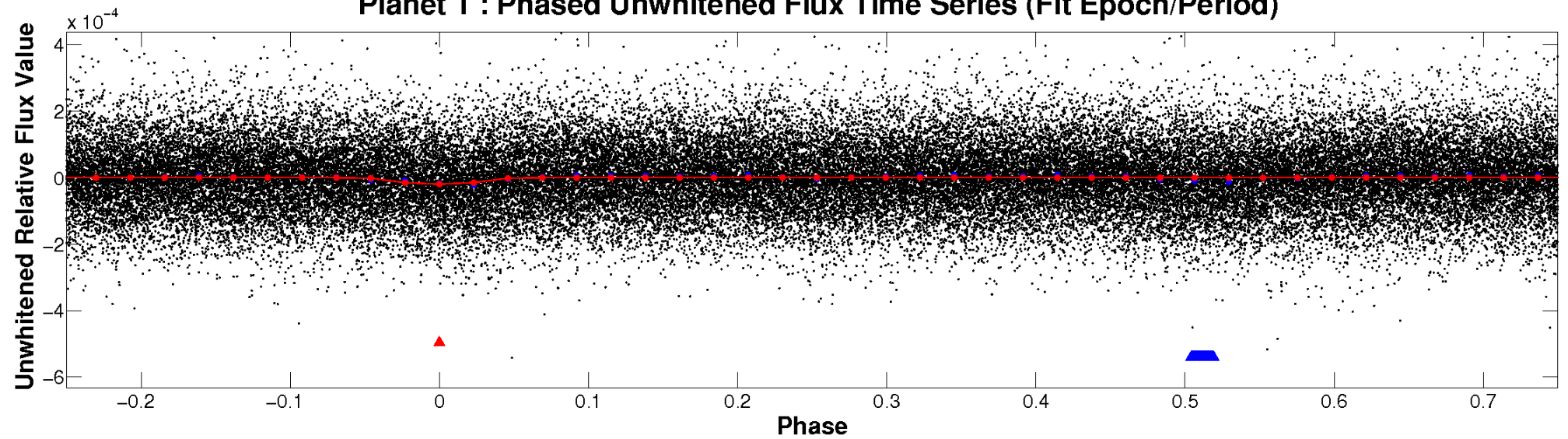
ALT Odd/Even

TCE 006974867-01

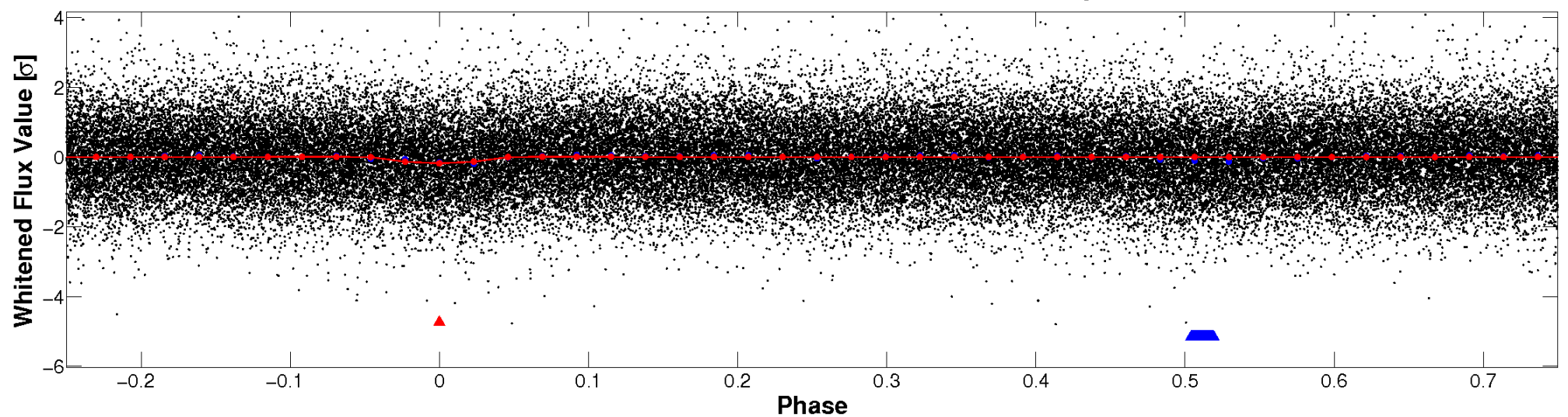


Non-Whitened Vs. Whitened Light Curve

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

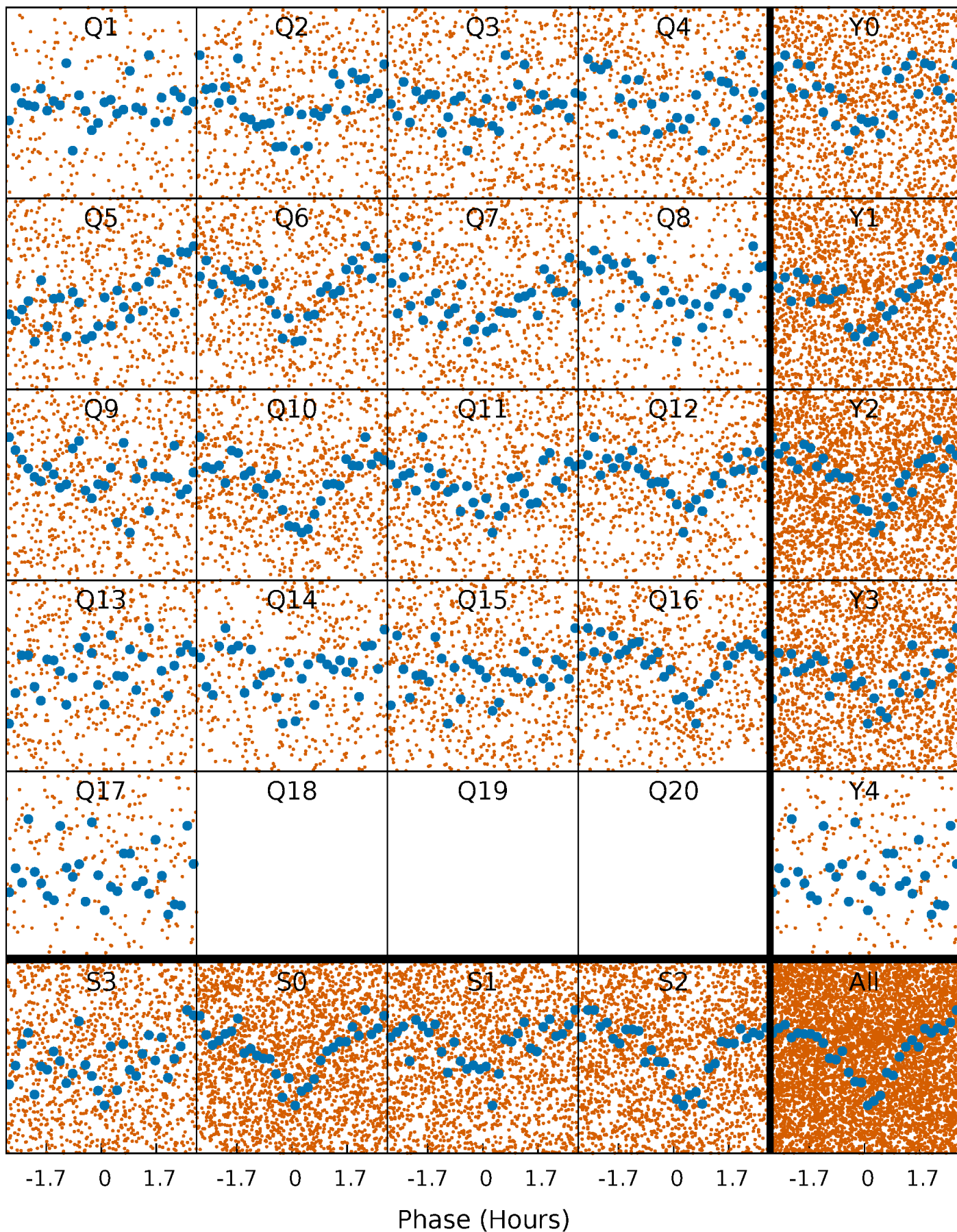


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



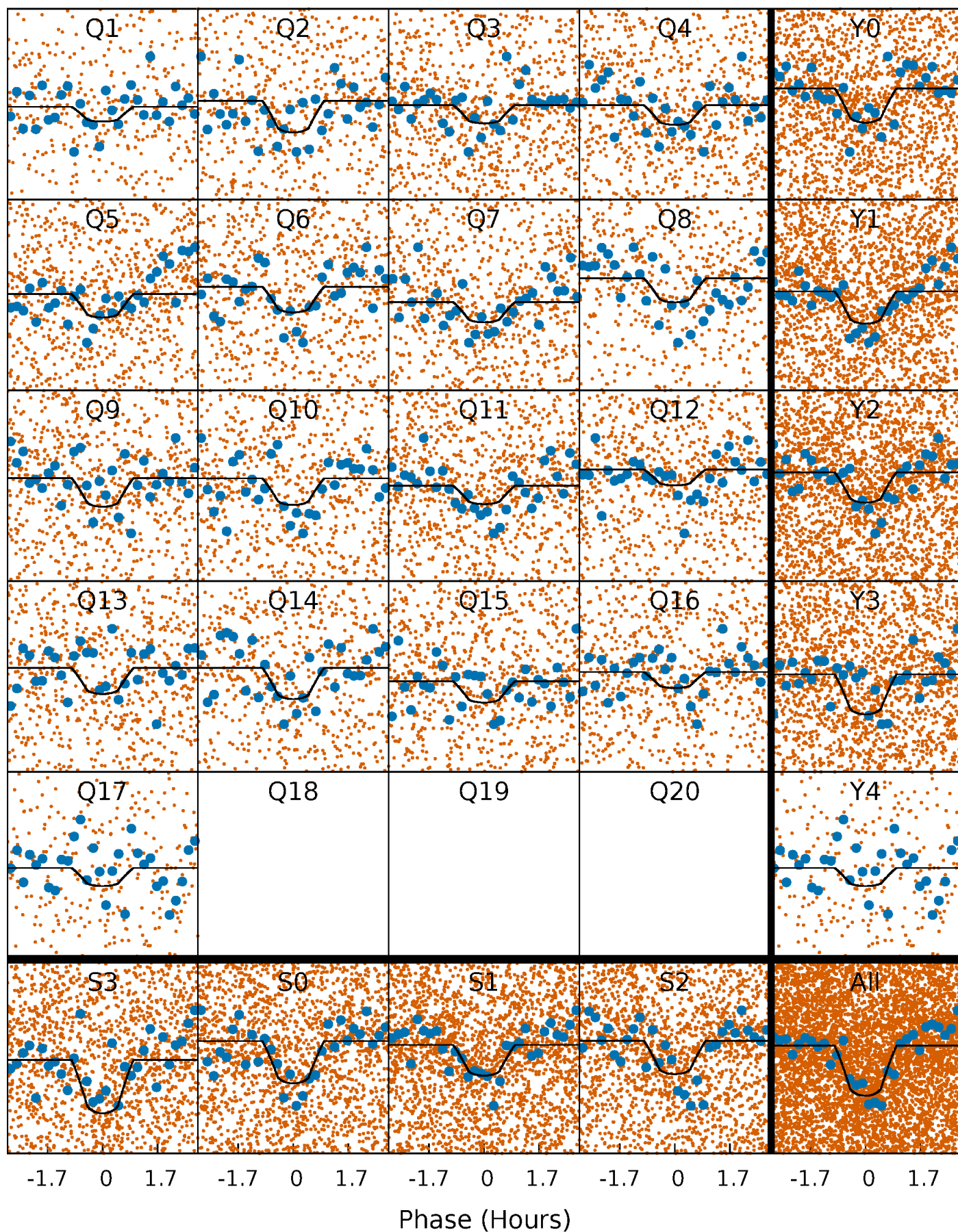
PDC Quarter-Phased Transit Curves

TCE 006974867-01 P= 0.887676 Days $T_0=132.370453$ (BKJD)



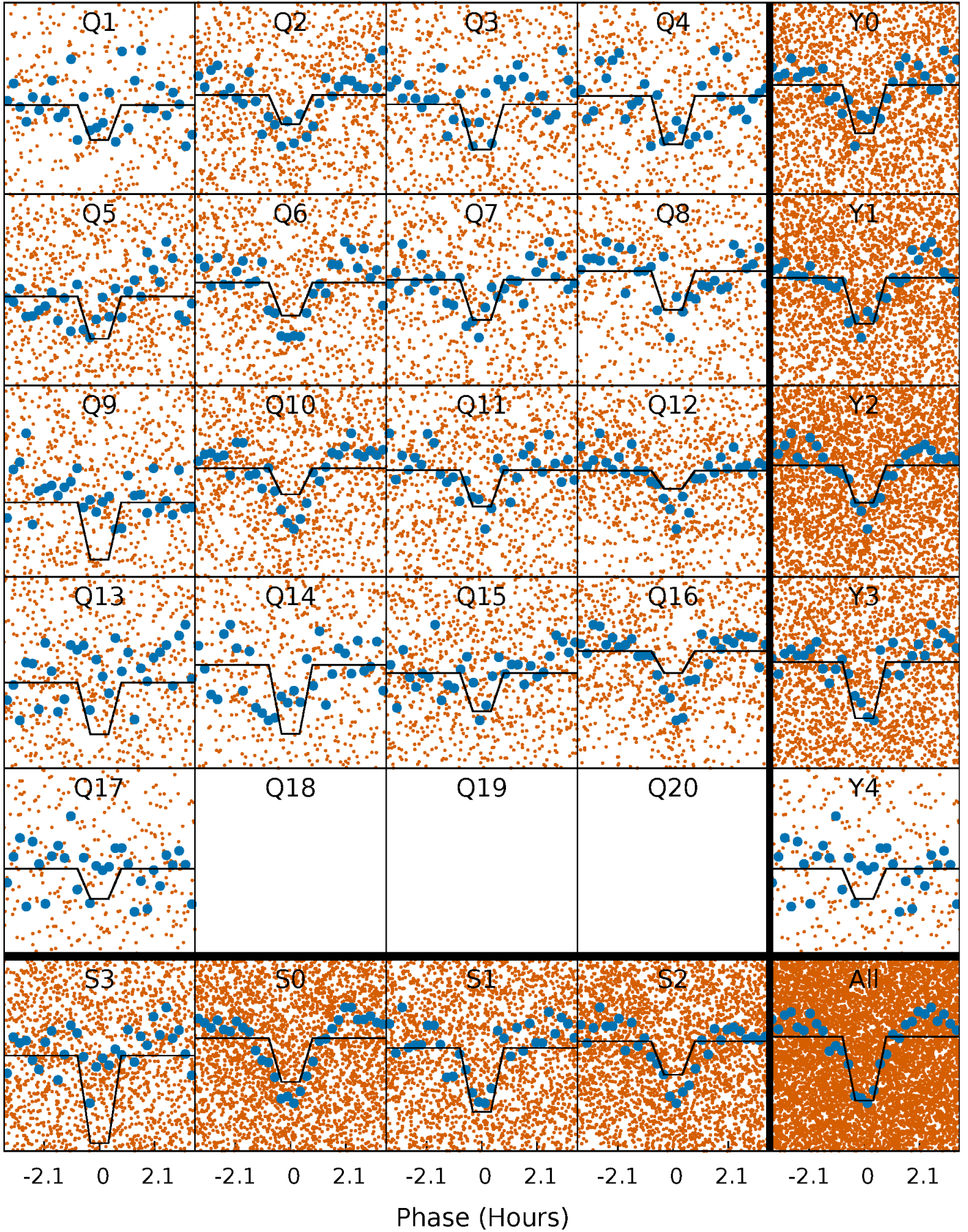
DV Quarter-Phased Transit Curves

TCE 006974867-01 P= 0.887676 Days $T_0=132.370453$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

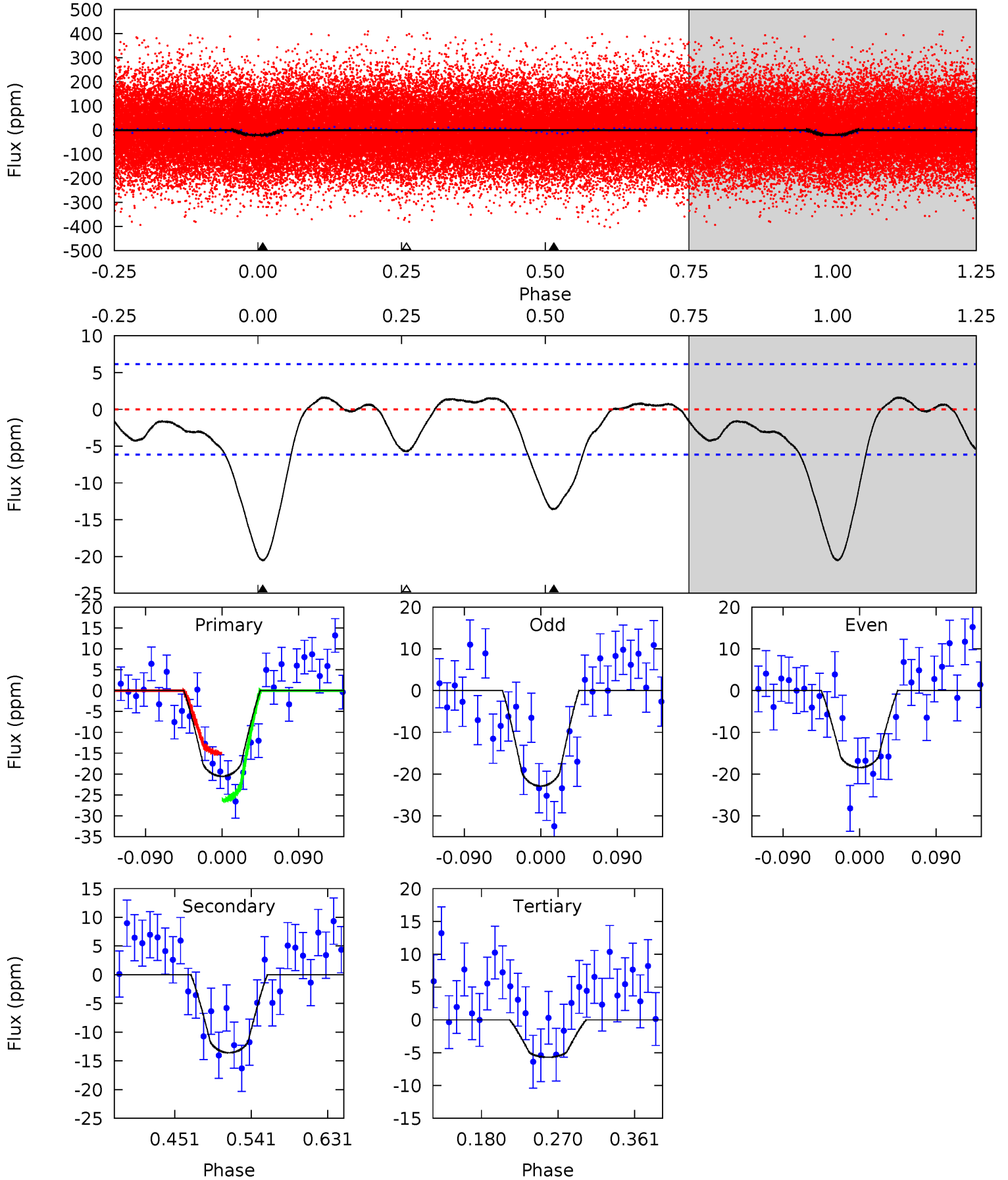
TCE 006974867-01 P= 0.887689 Days $T_0=132.366726$ (BKJD)



DV Model-Shift Uniqueness Test

006974867-01, P = 0.887676 Days, E = 131.482777 Days

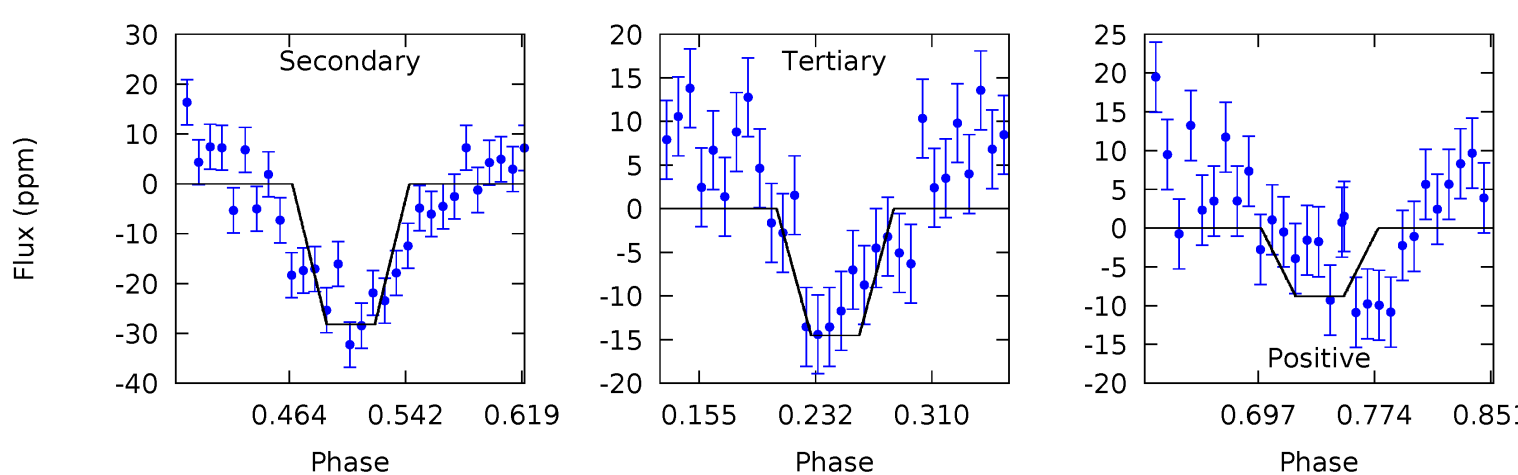
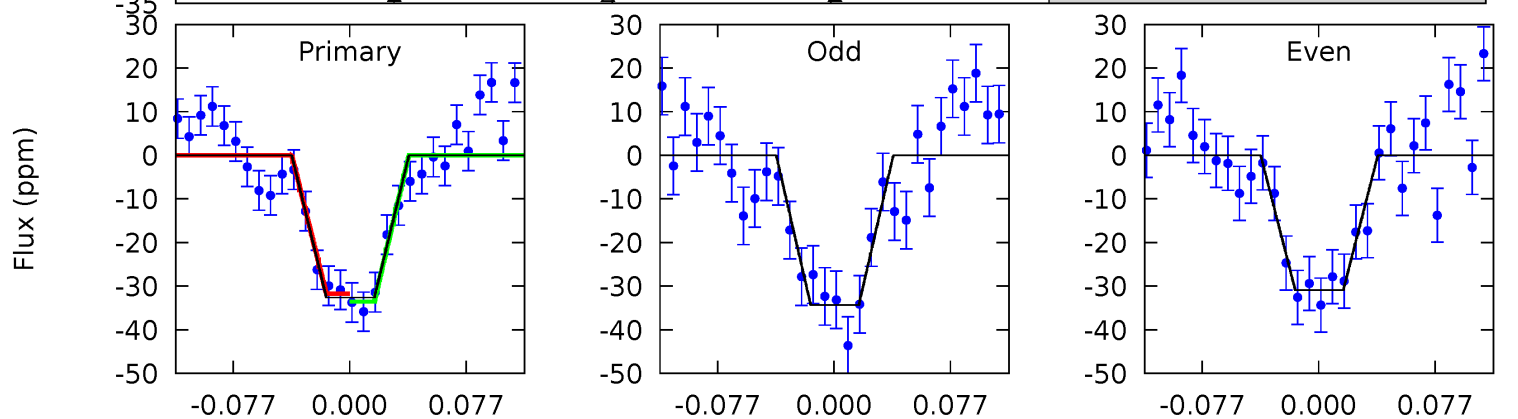
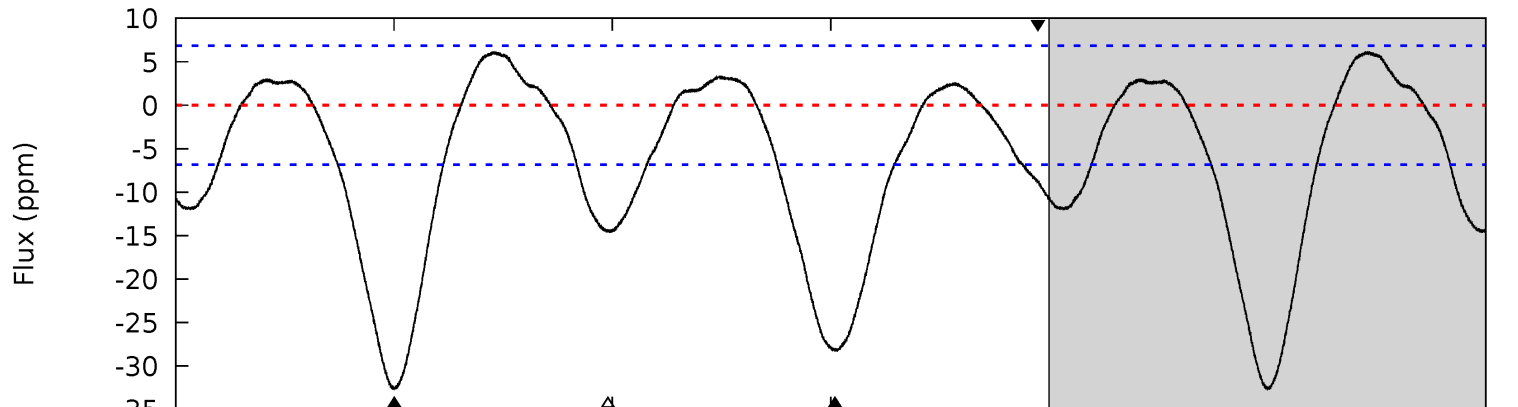
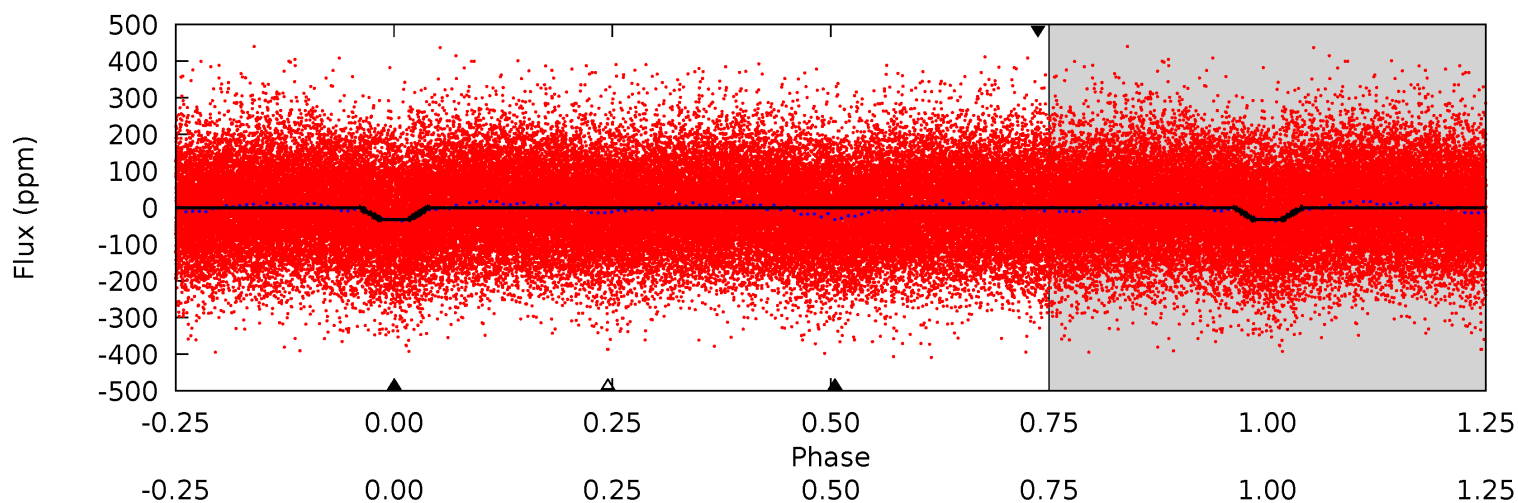
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	10.1	4.26	0	4.59	1.69	1.53	11.1	15.3	5.88	10.1	1.65	1.08	0.07	4.19



Alt Model-Shift Uniqueness Test

006974867-01, P = 0.887689 Days, E = 131.479037 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.0	19.0	9.80	-5.93	4.62	1.77	3.76	12.2	28.0	9.23	25.0	1.15	1.09	0.16	0.60



Stellar Parameters For KIC 006974867

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5500^{+181}_{-148}	$3.775^{+0.323}_{-0.108}$	$0.160^{+0.250}_{-0.250}$	$2.491^{+0.511}_{-1.022}$	$1.348^{+0.145}_{-0.339}$	$0.123^{+0.316}_{-0.043}$
	+3%/-3%	+9%/-3%	+156%/-156%	+21%/-41%	+11%/-25%	+257%/-35%
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 006974867-01 / KOI 7800.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-14 ± 1	$1.24^{+0.44}_{-0.36}$	3699^{+278}_{-367}	4661^{+743}_{-547}	$1.901^{+1.894}_{-0.842}$
Alt.	-28 ± 1	$1.46^{+0.49}_{-0.41}$	3737^{+249}_{-380}	5200^{+736}_{-546}	$2.889^{+2.652}_{-1.223}$

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

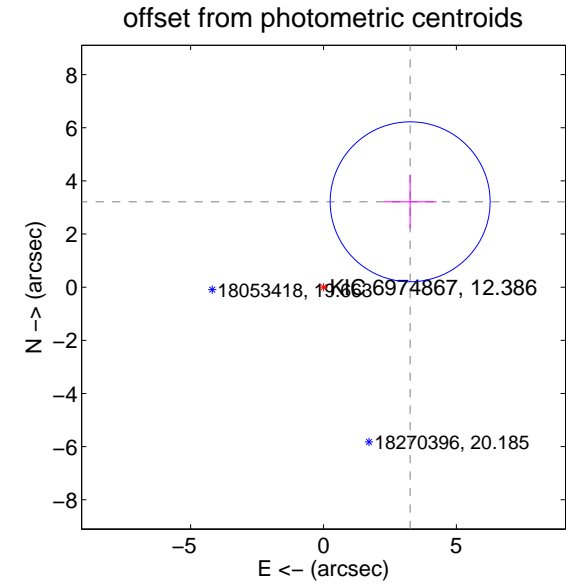
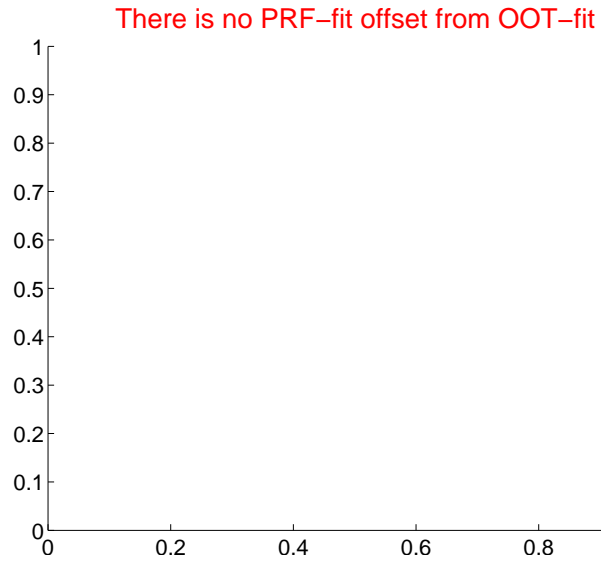
DV Centroid Data

Supplemental centroid analysis for 006974867-01. Kepler magnitude: 12.39. Transit SNR 10.01

There are 0 quarters with good PRF difference image offsets

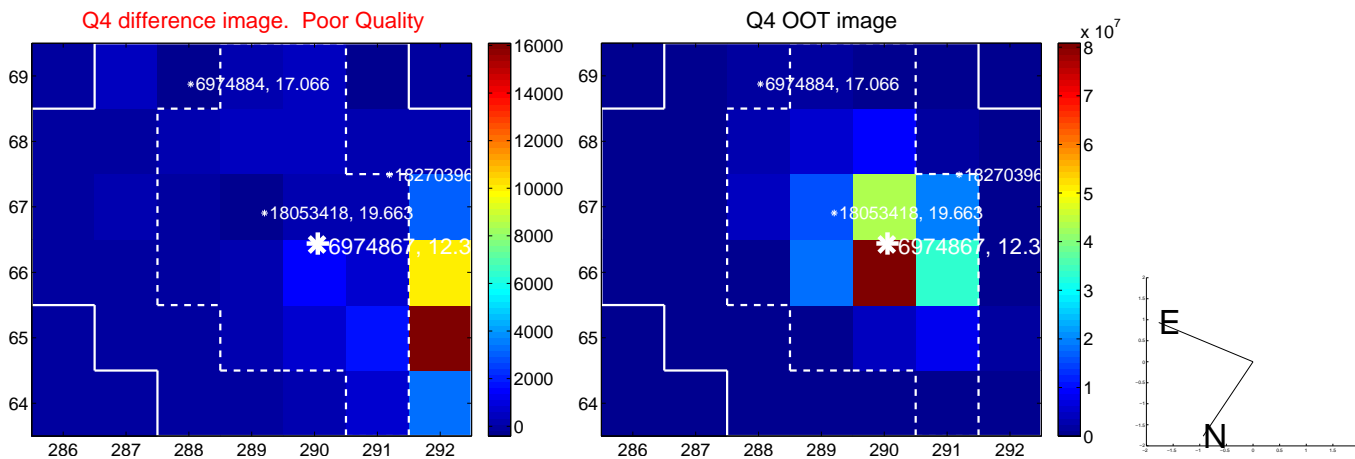
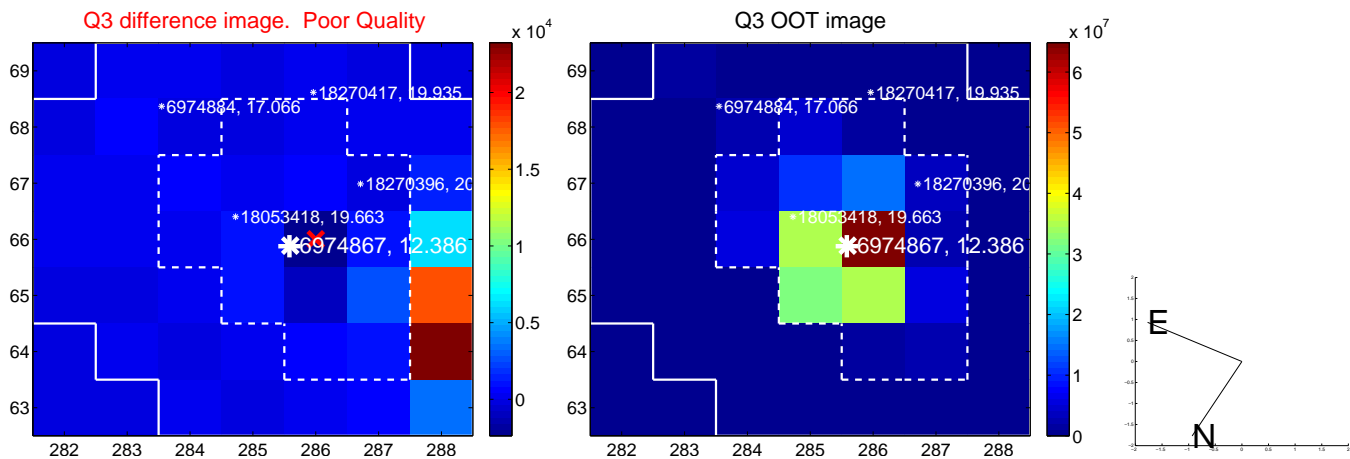
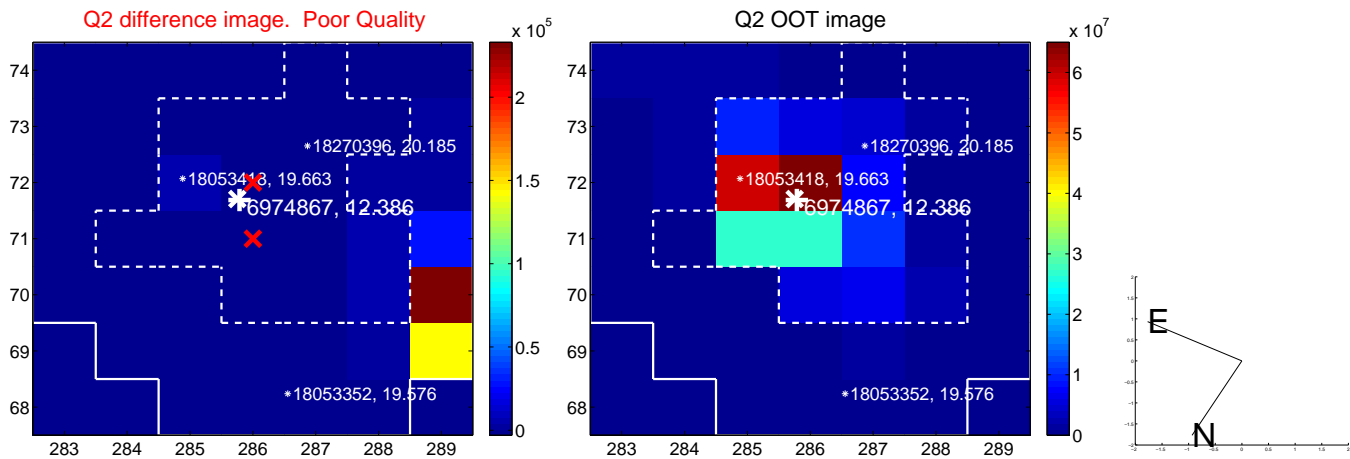
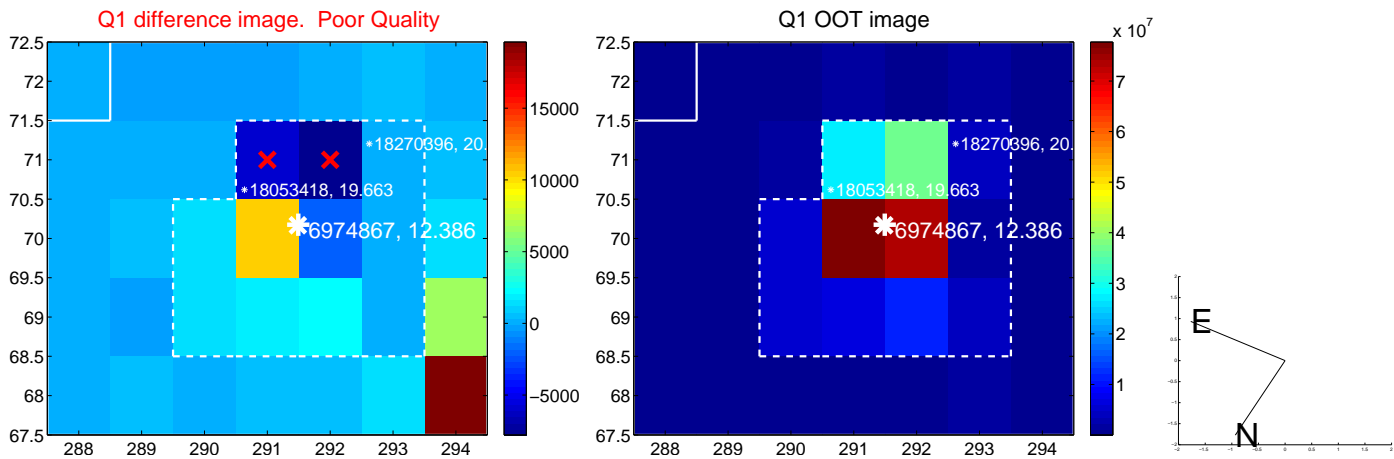
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	4.58 ± 1.00	4.57	-3.26 ± 0.99	3.21 ± 1.01

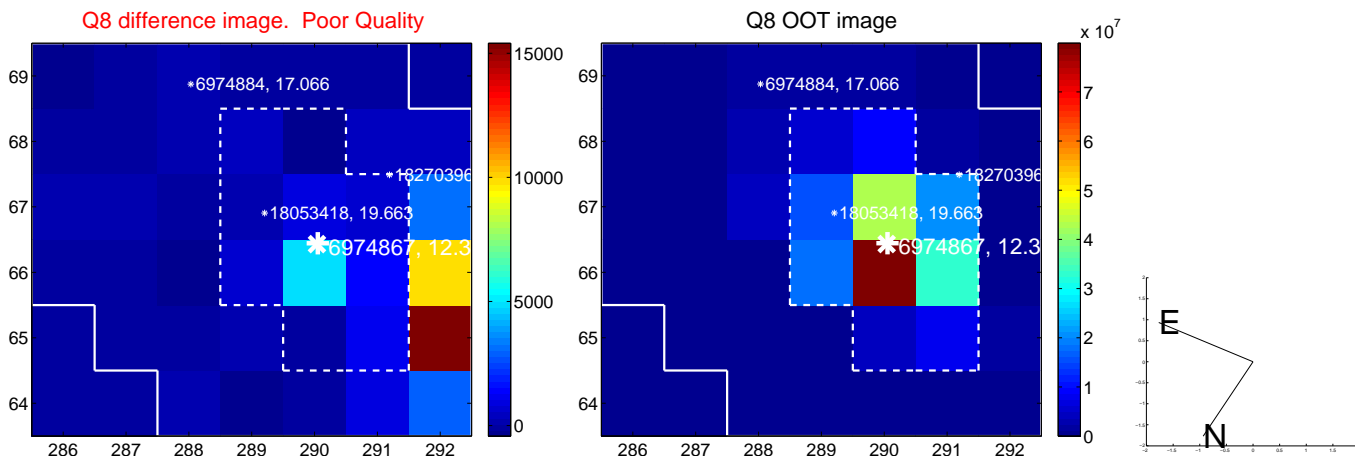
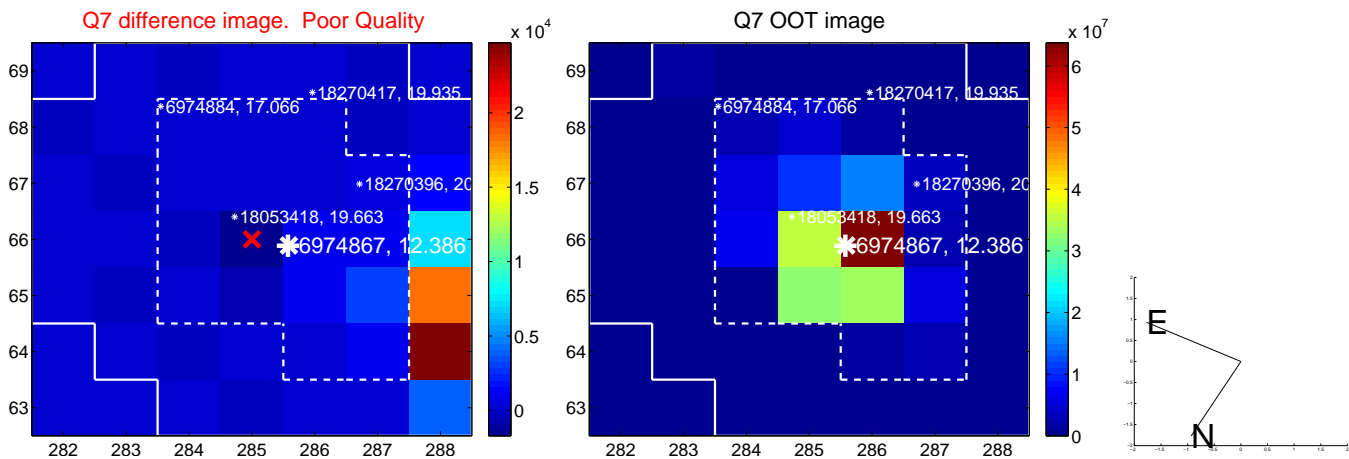
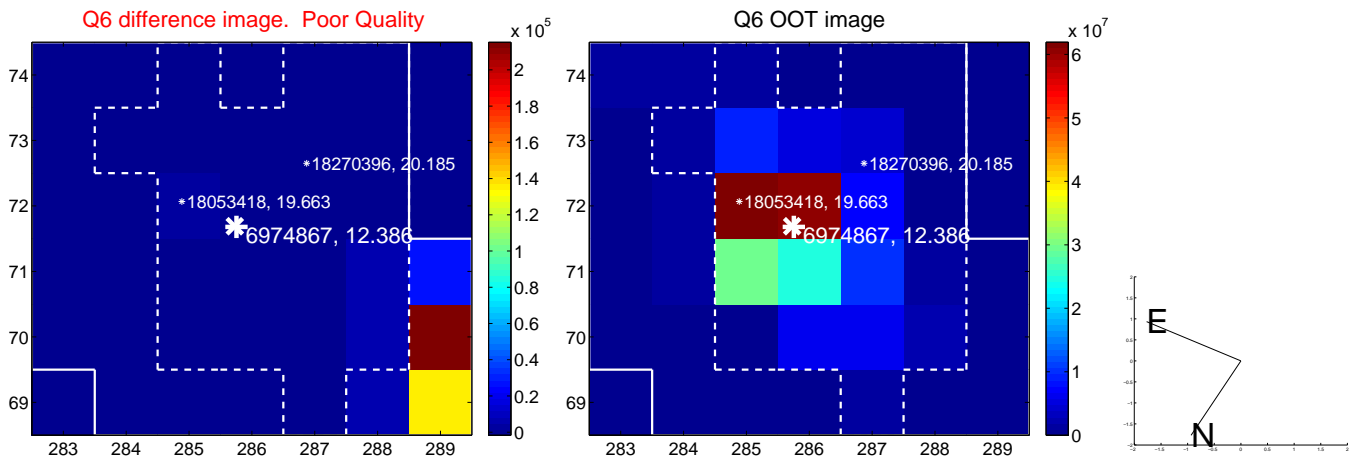
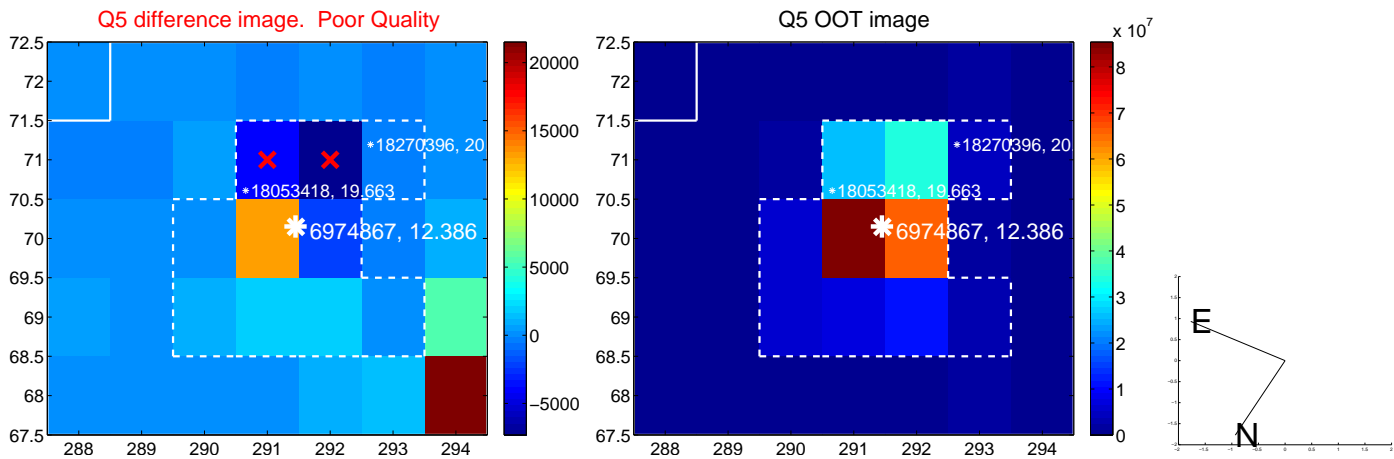


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

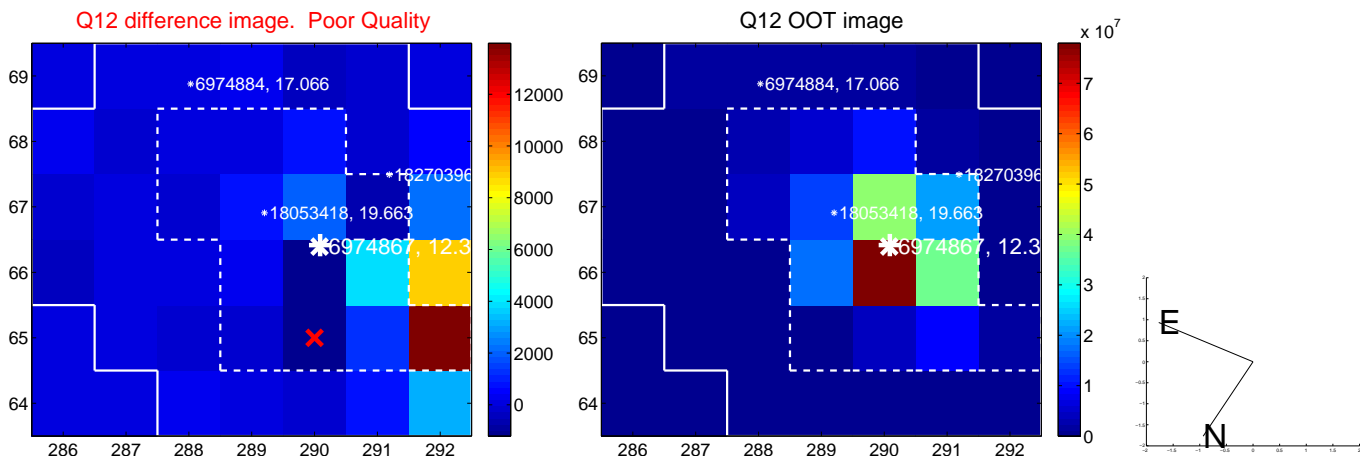
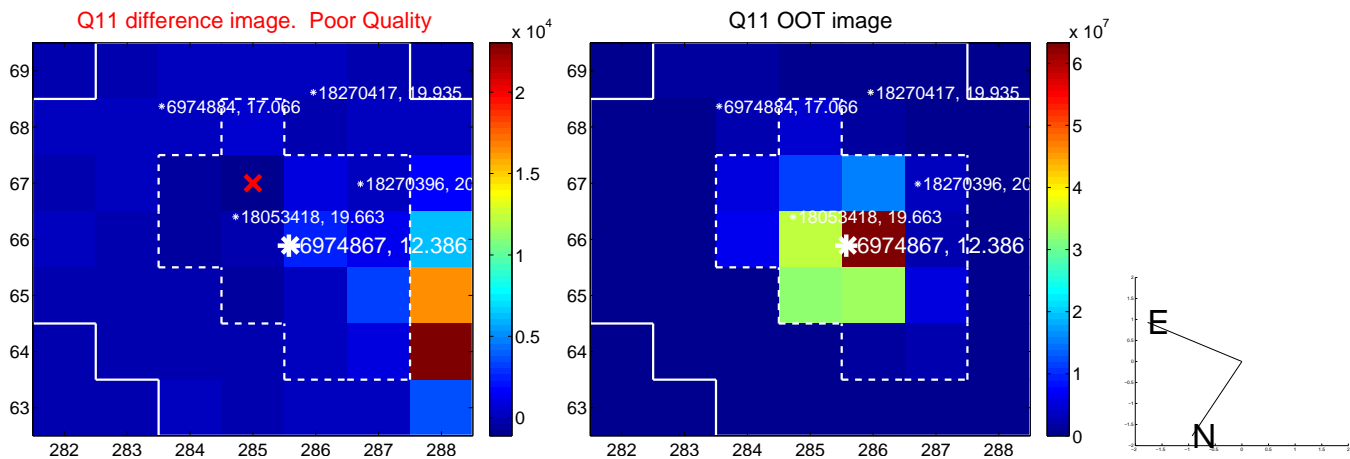
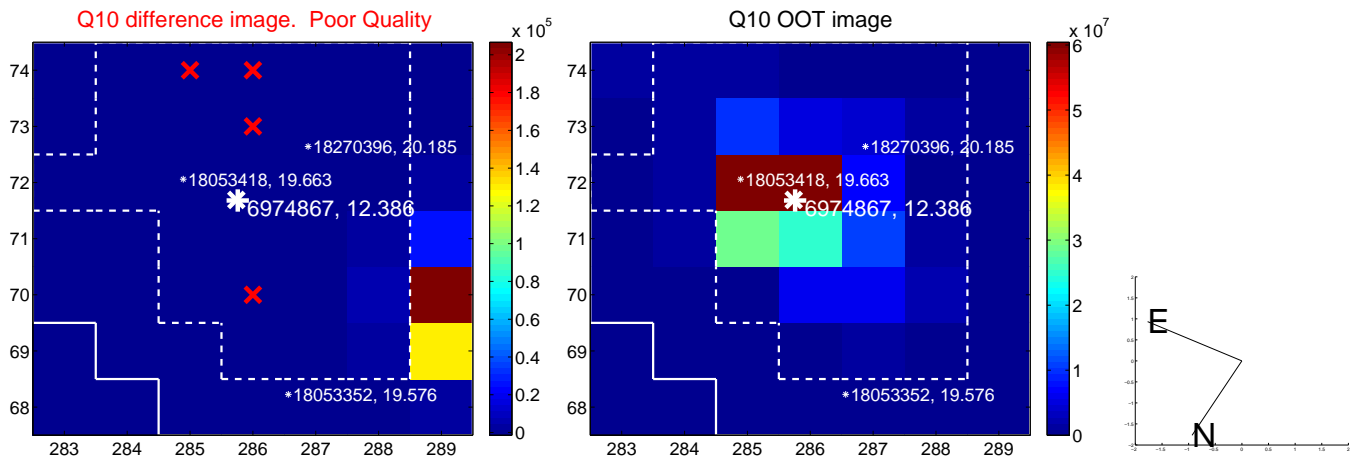
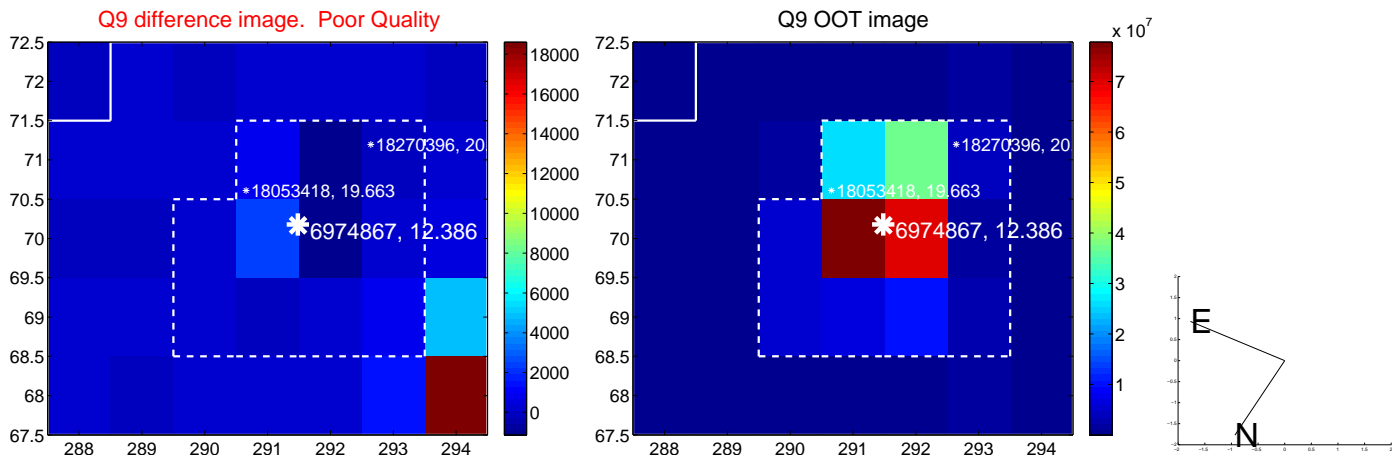
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



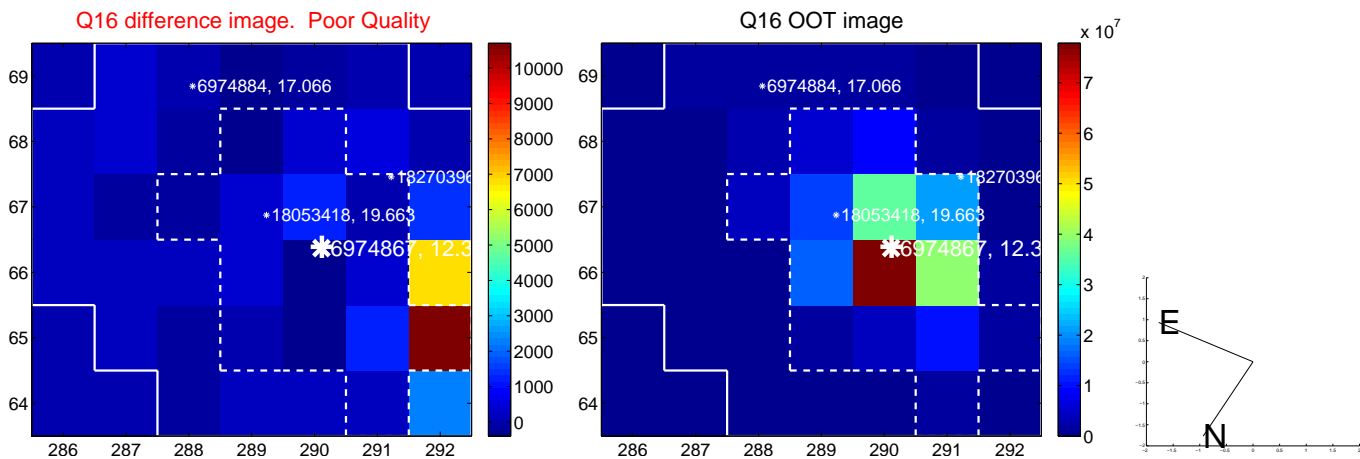
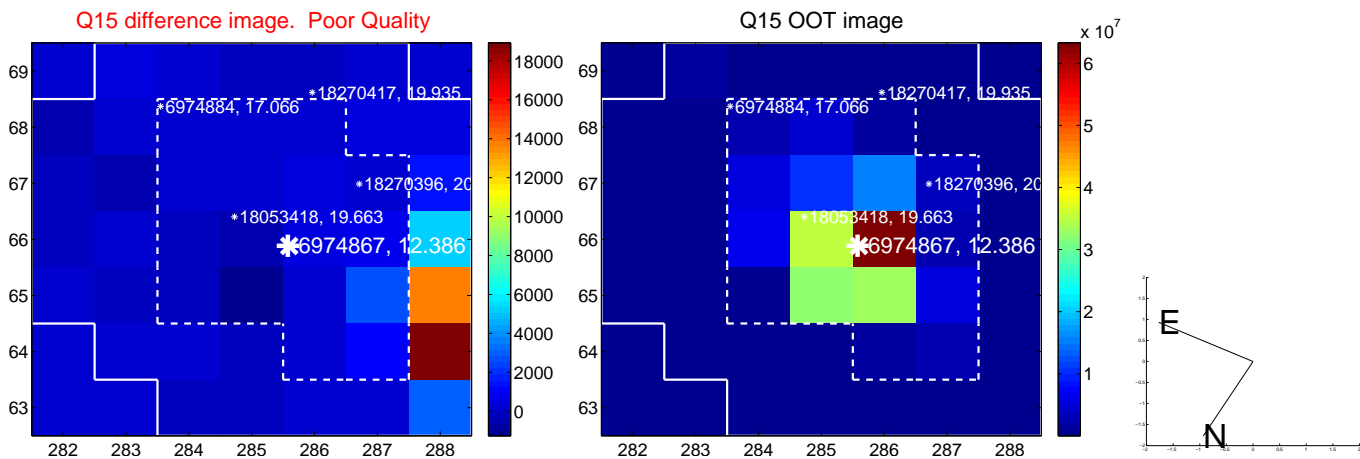
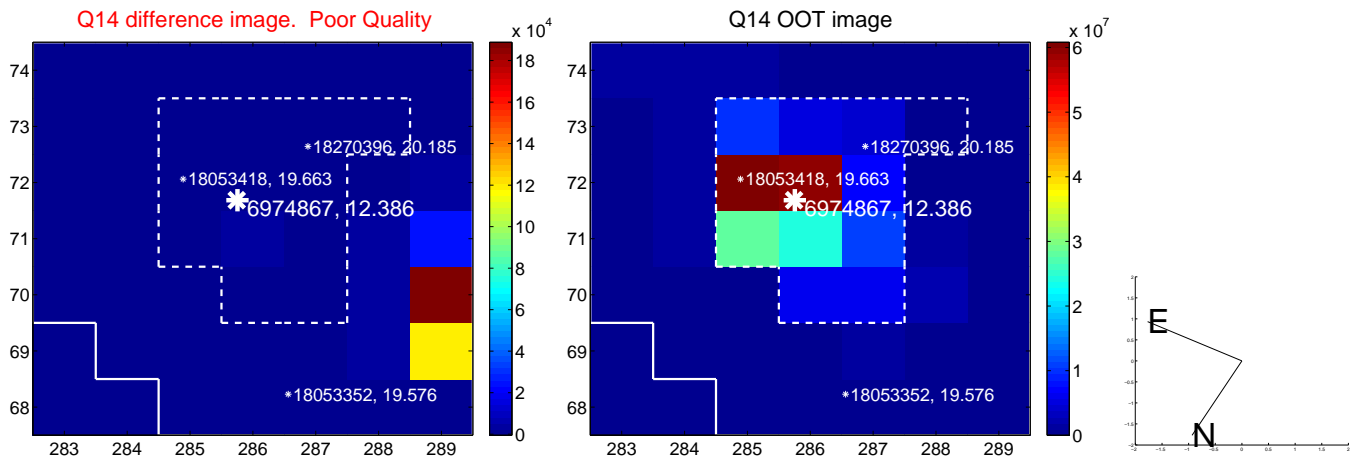
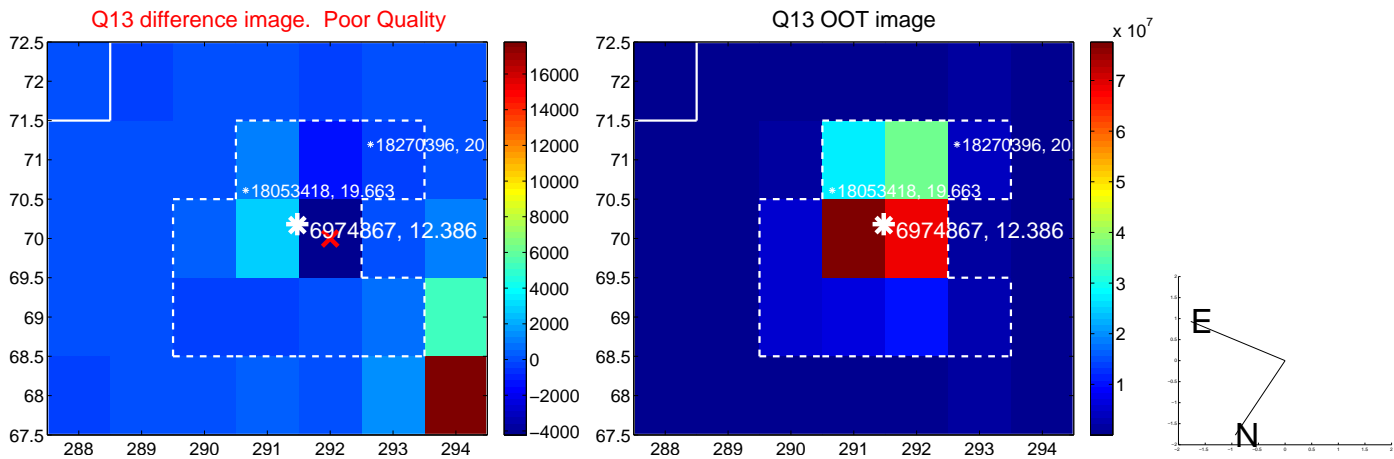
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



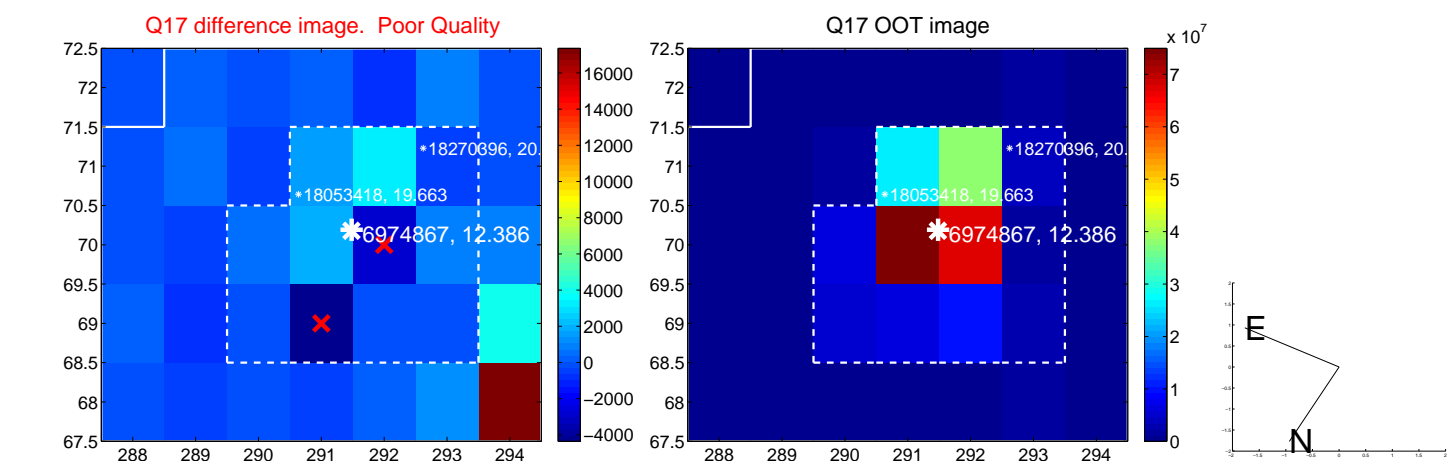
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



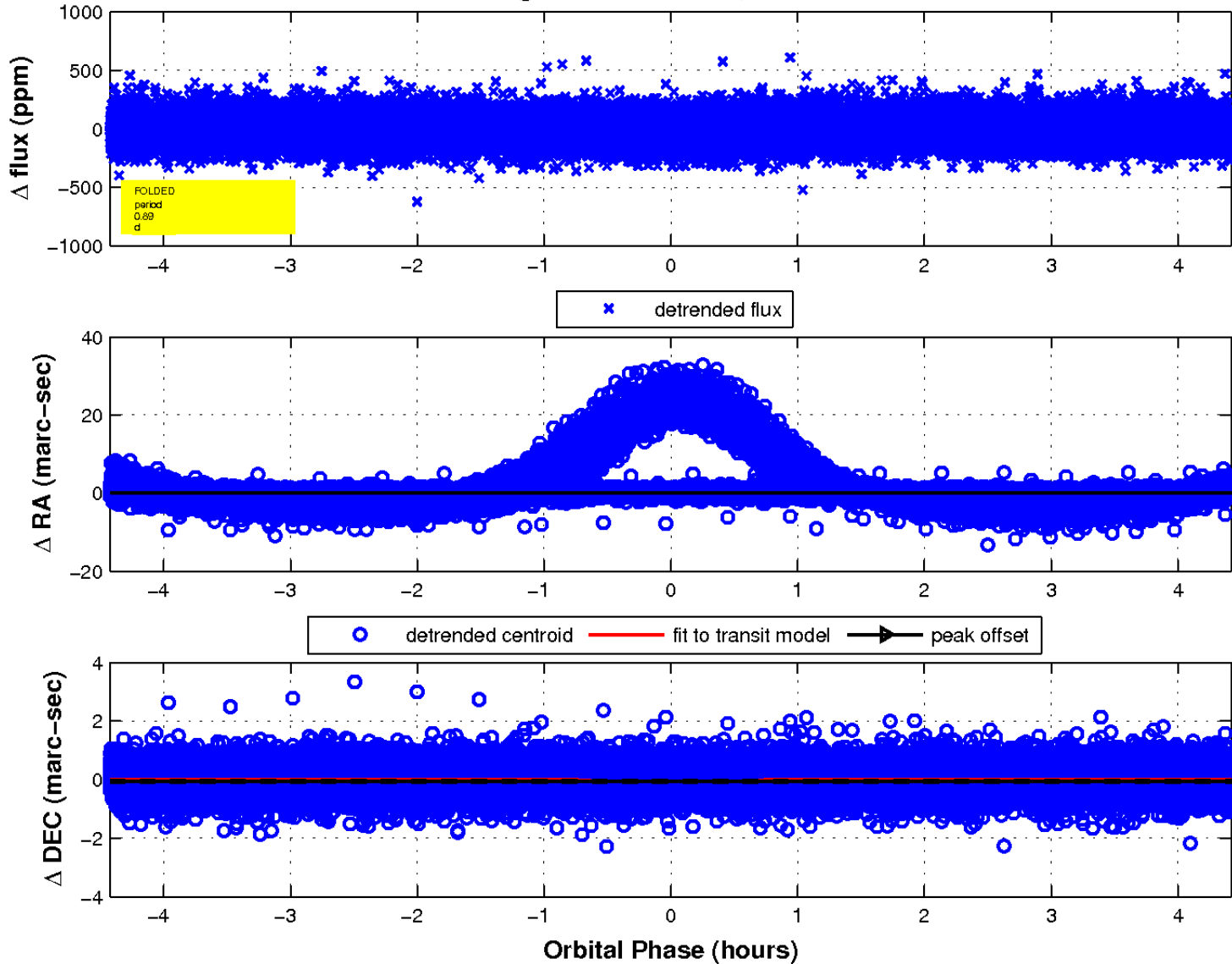
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

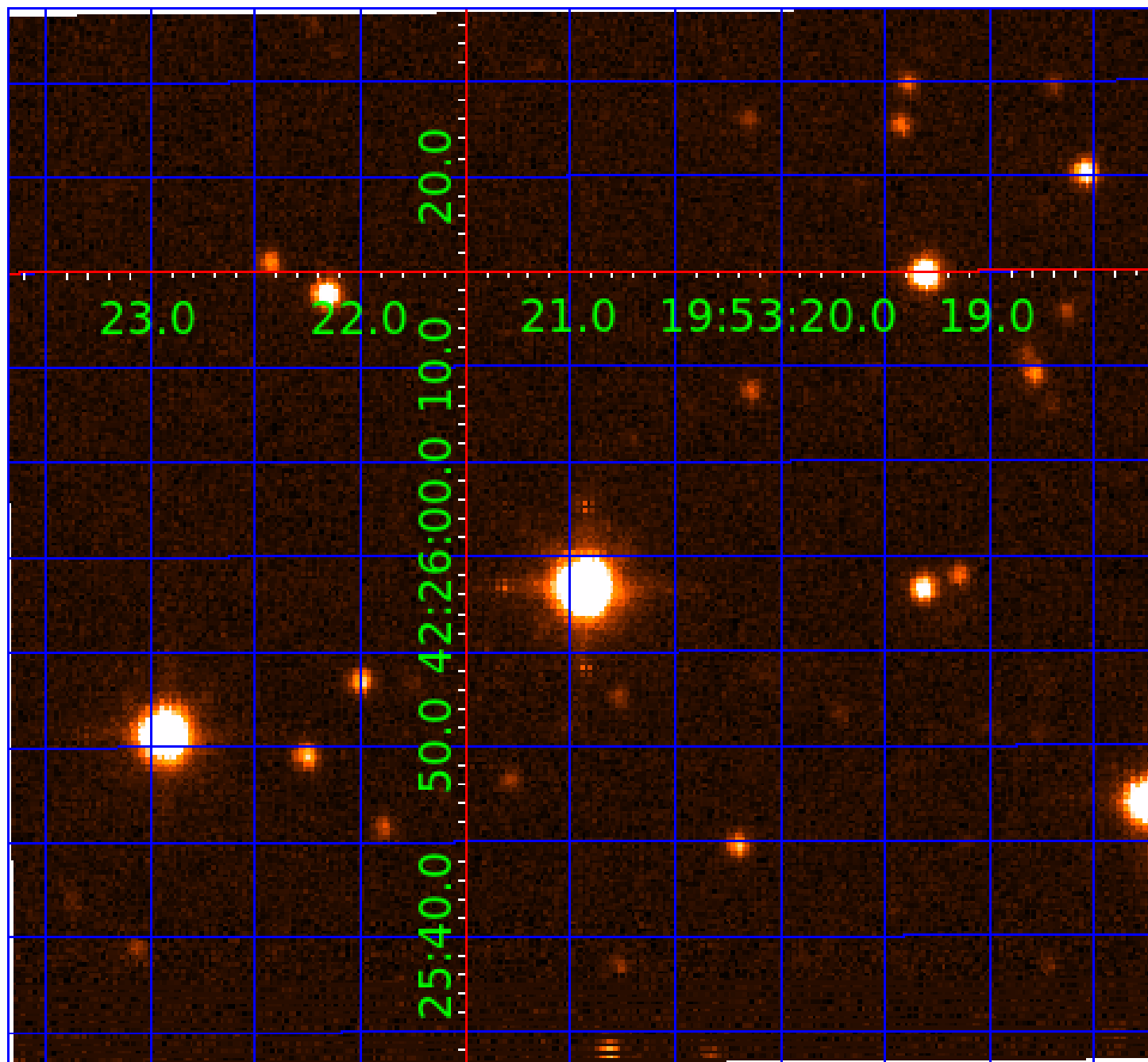


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 006974867

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})
006974867-01	OBS	7800.01	0.887676	132.370453	19.9	1.474	9.0	10.0	2.49	5500	1.34	12752.30
006974867-02	OBS	No	0.887684	131.930184	15.2	1.844	8.0	8.7	2.49	5500	1.17	12752.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006974867-01	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
006974867-02	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_RESOLVED_OFFSET

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

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

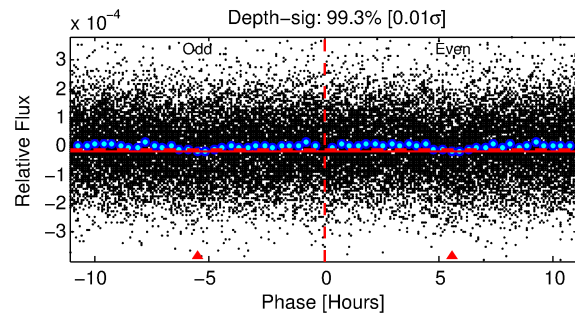
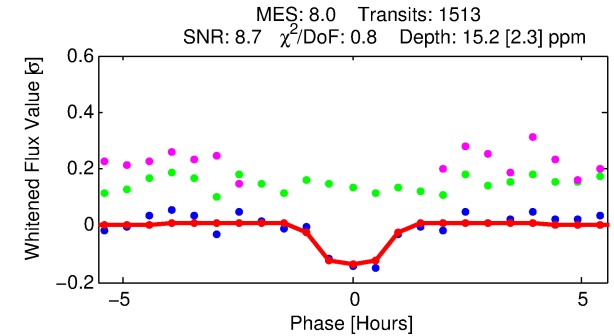
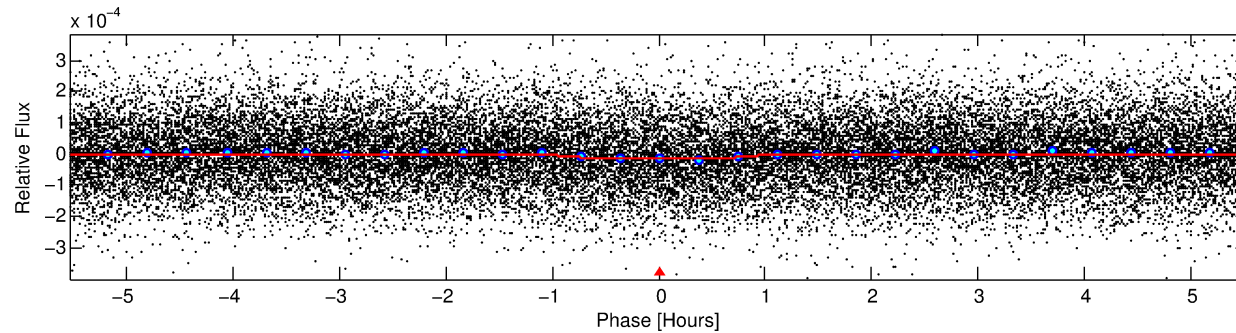
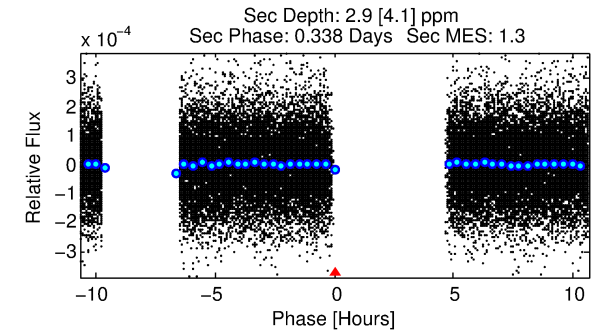
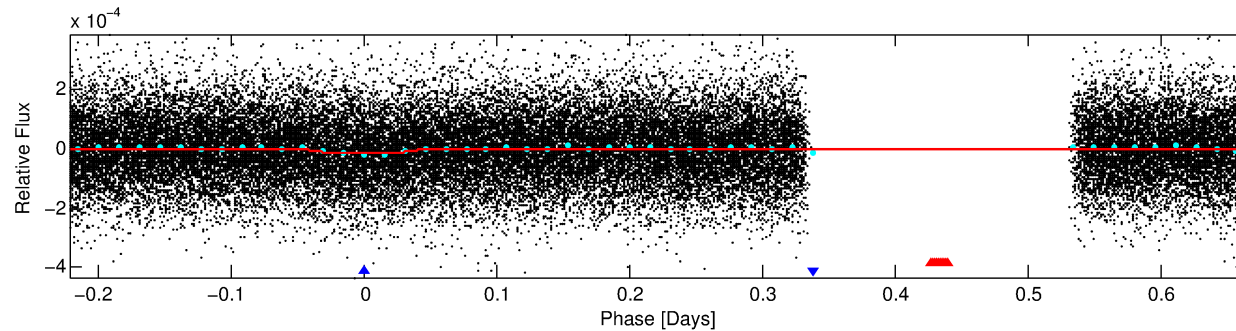
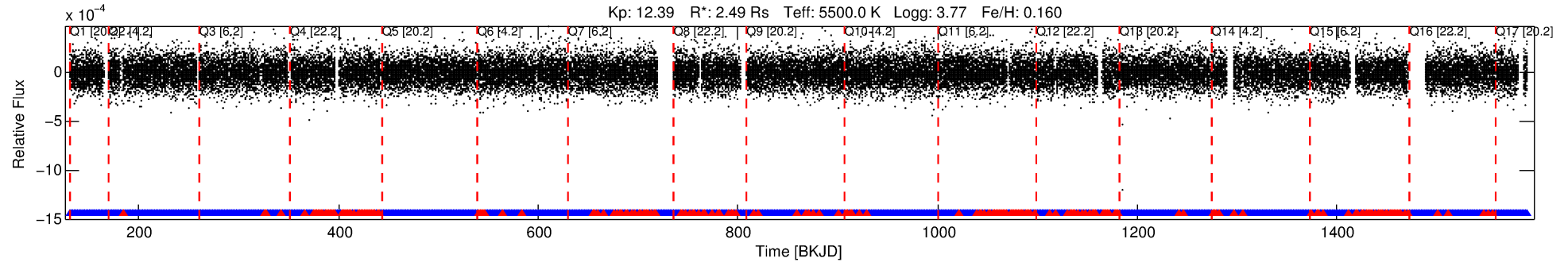
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006974867-02

No Significant Match Found

DV One-Page Summary

KIC: 6974867 Candidate: 2 of 2 Period: 0.888 d



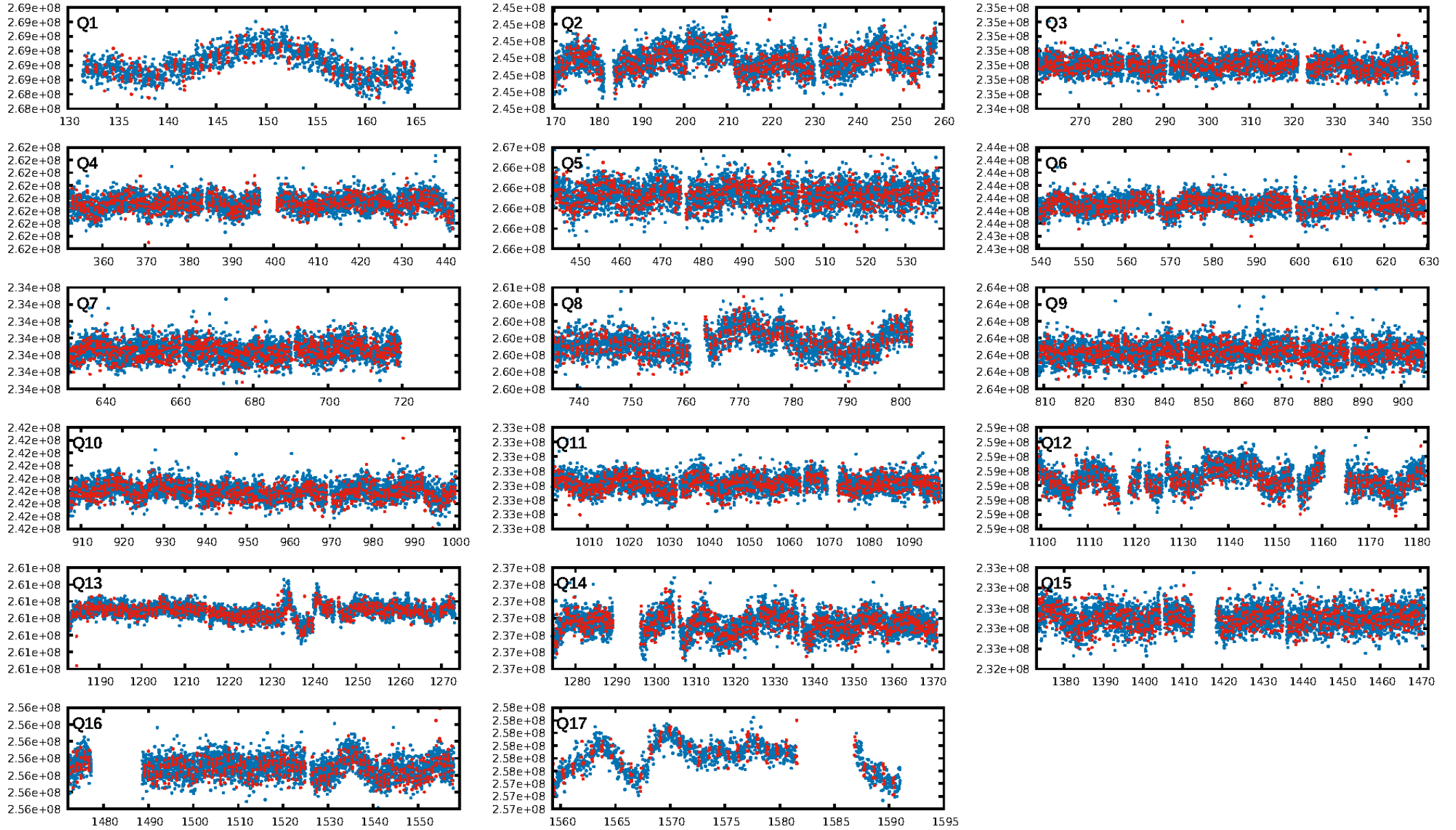
DV Fit Results:

Period = 0.88768 [0.00001] d
Epoch = 131.9302 [0.0029] BKJD
Rp/R* = 0.0043 [0.0013]
a/R* = 1.89 [1.81]
b = 0.90 [0.29]
Seff = 12752.14 [7413.60]
Teq = 2710 [394] K
Rp = 1.17 [0.60] Re
a = 0.0200 [0.0074] AU
Ag = 0.47 [0.77] [-0.69σ]
Teffp = 3468 [1344] K [0.54σ]

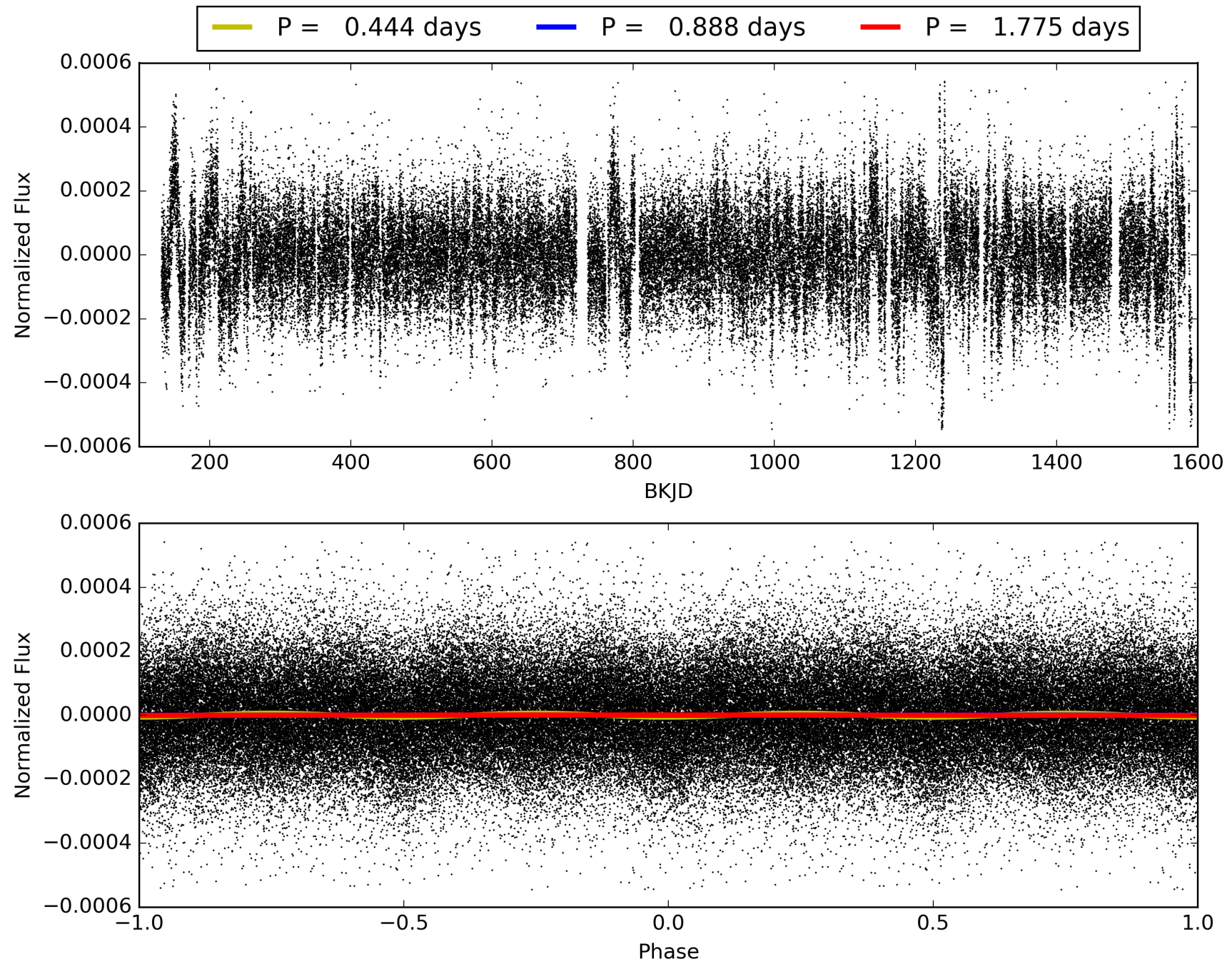
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.22e-16
RollingBand-fgt: 0.84 [1209/1444]
GhostDiagnostic-chr: -1.081
Centroid-sig: 0.0%
Centroid-so: 3.715 arcsec [3.15σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006974867-02, PDC Light Curves

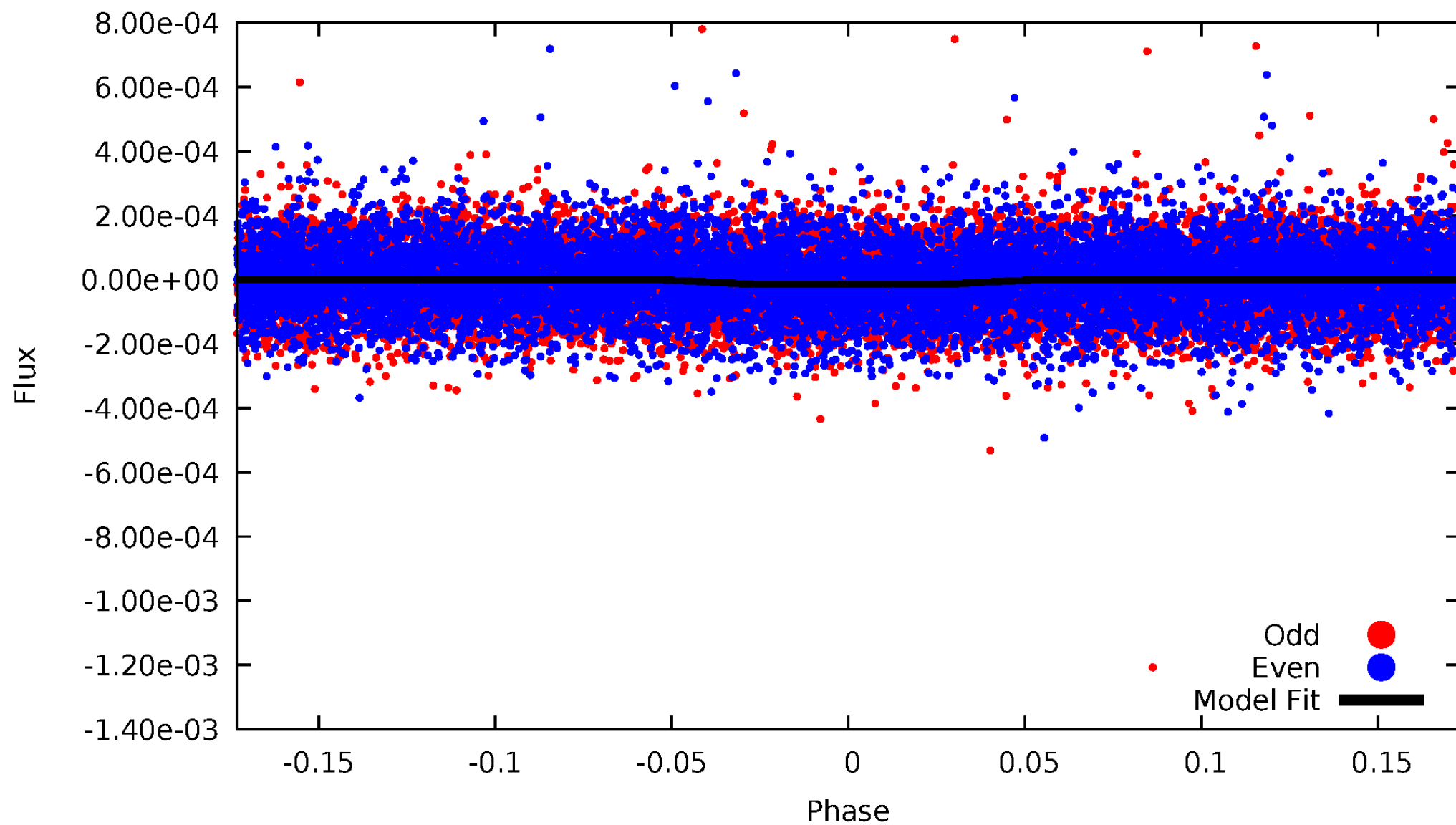


TCE 006974867-02



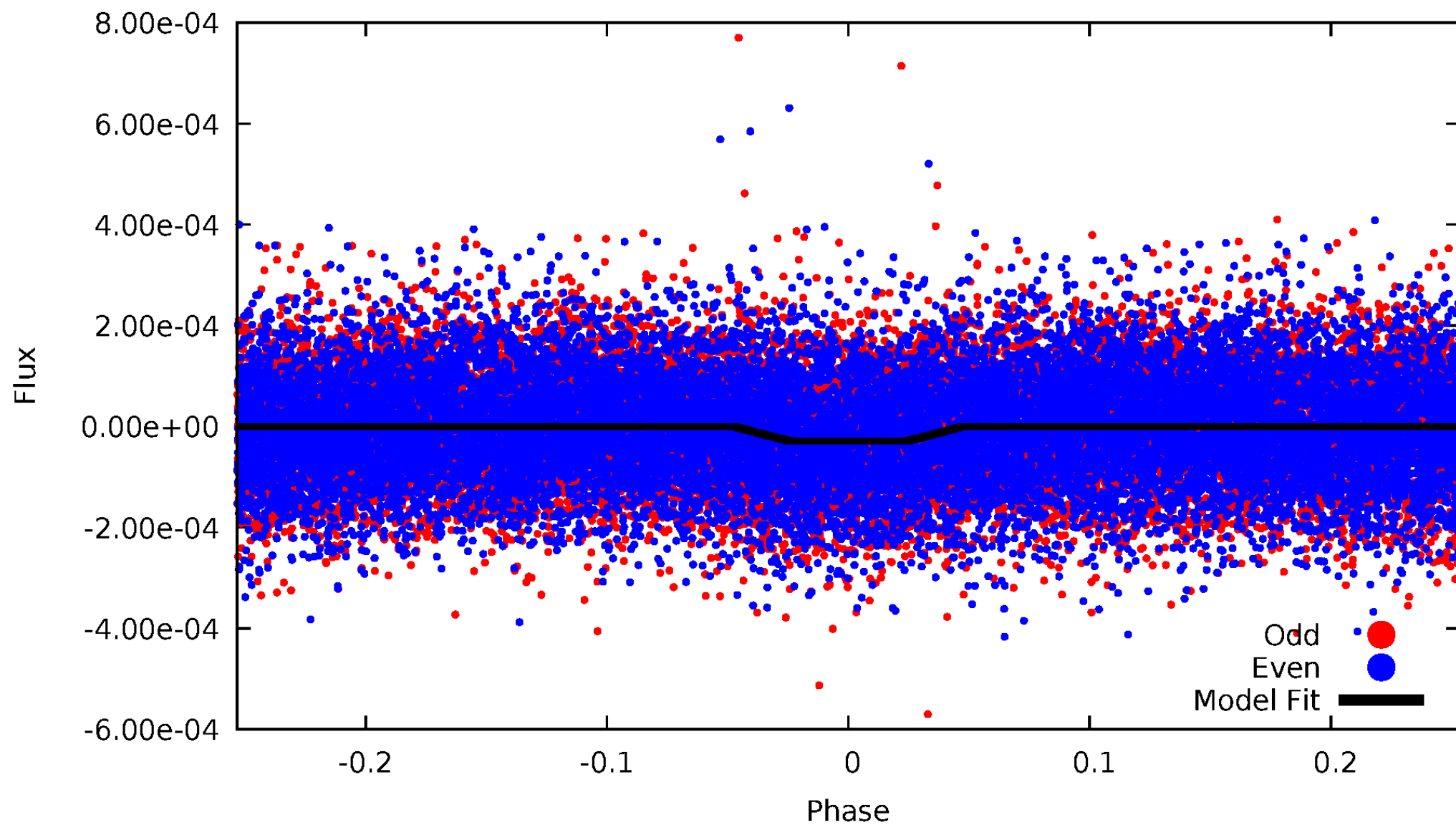
DV Odd/Even

TCE 006974867-02



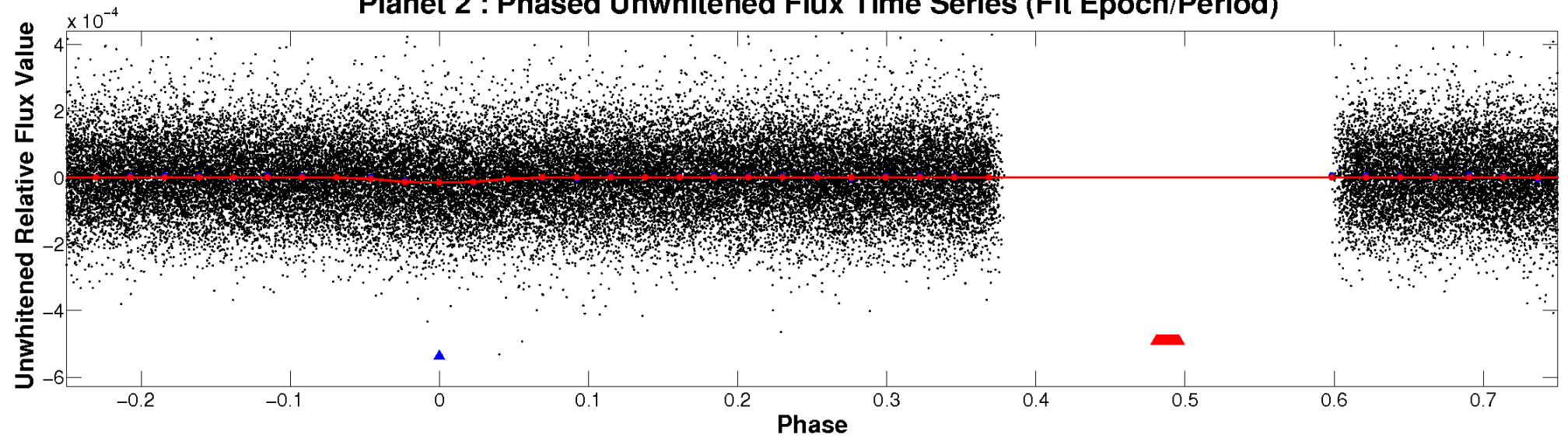
ALT Odd/Even

TCE 006974867-02

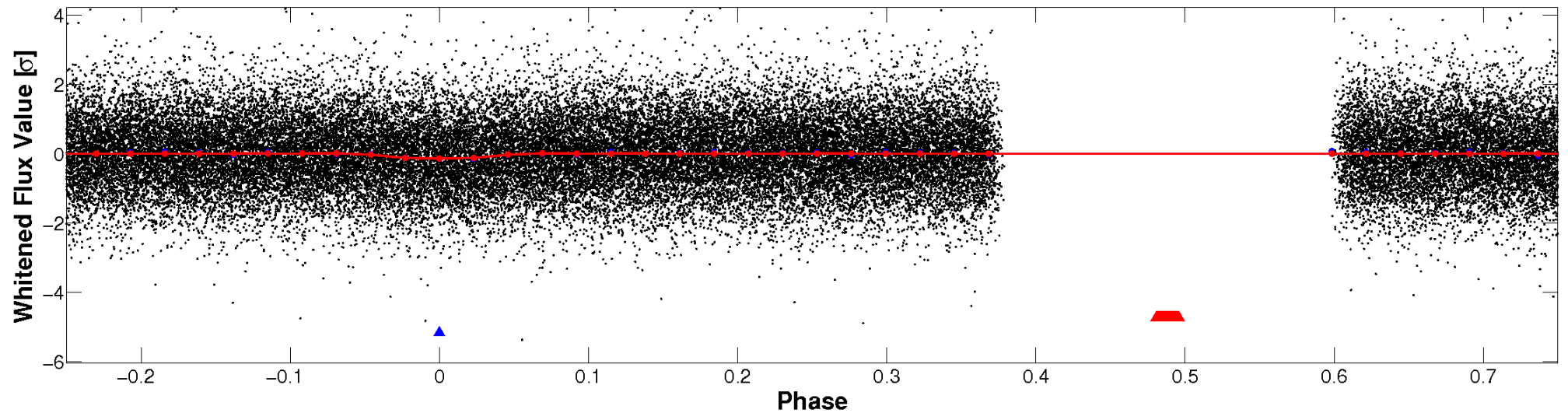


Non-Whitened Vs. Whitened Light Curve

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

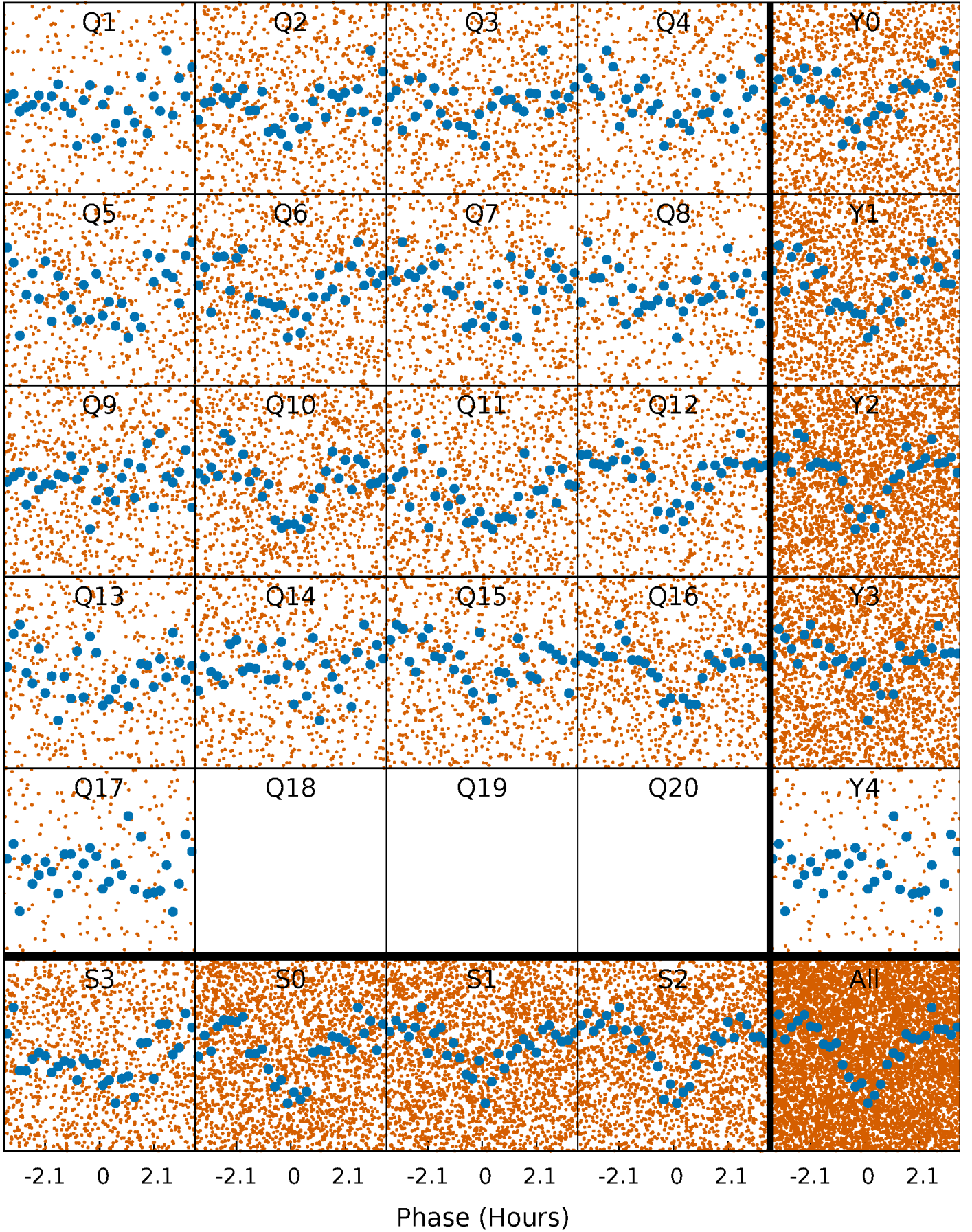


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



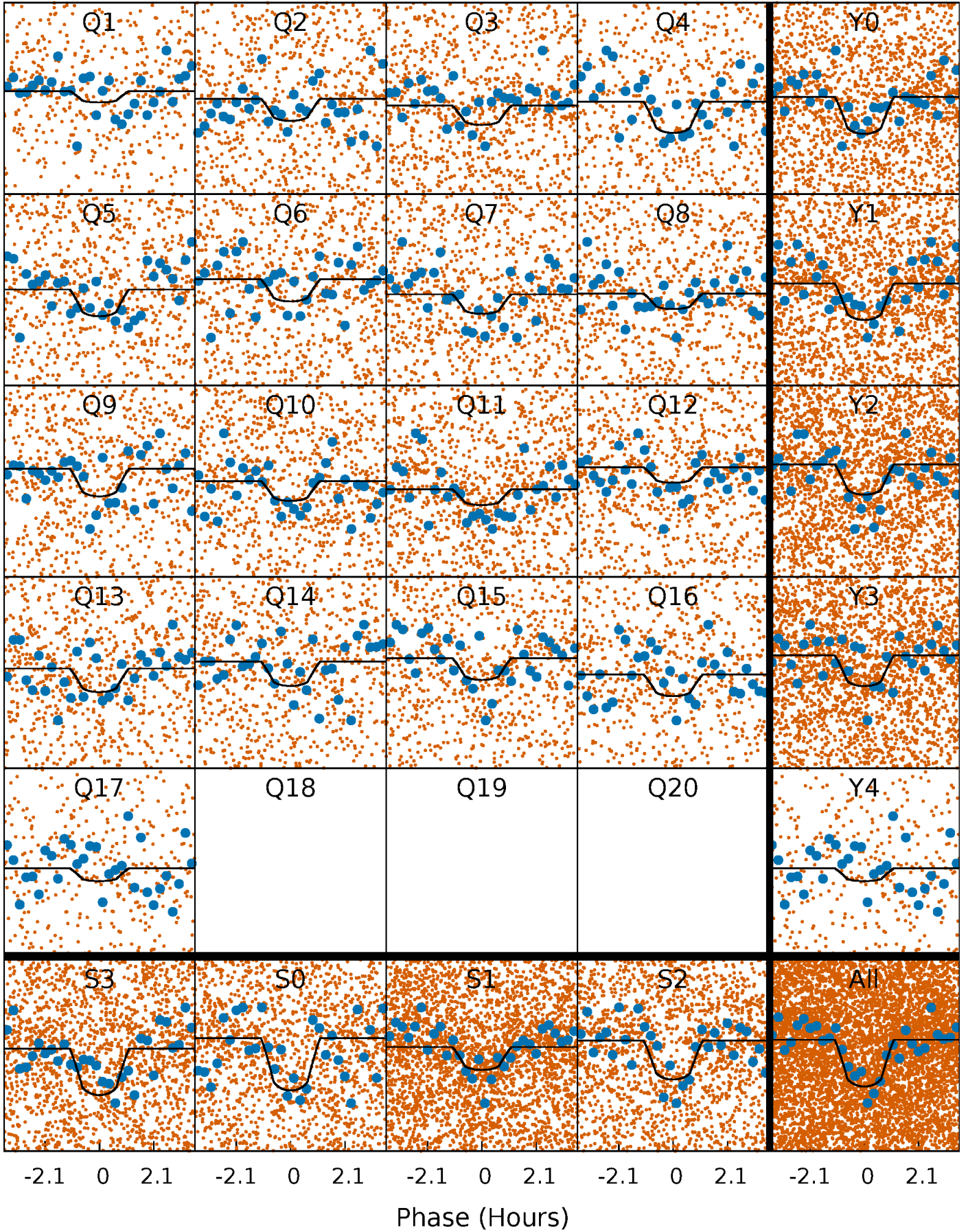
PDC Quarter-Phased Transit Curves

TCE 006974867-02 P= 0.887684 Days $T_0=131.930184$ (BKJD)



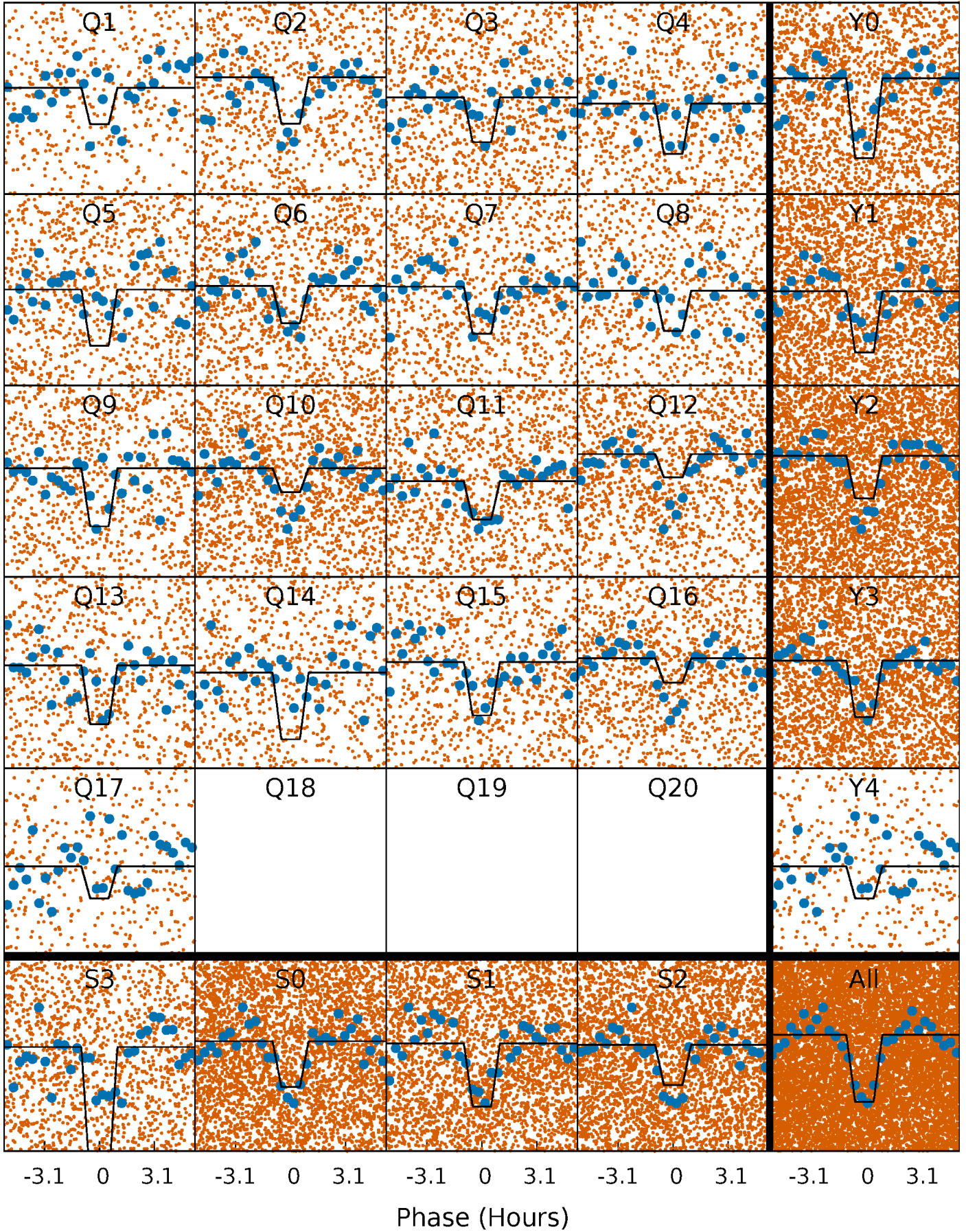
DV Quarter-Phased Transit Curves

TCE 006974867-02 P= 0.887684 Days $T_0=131.930184$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

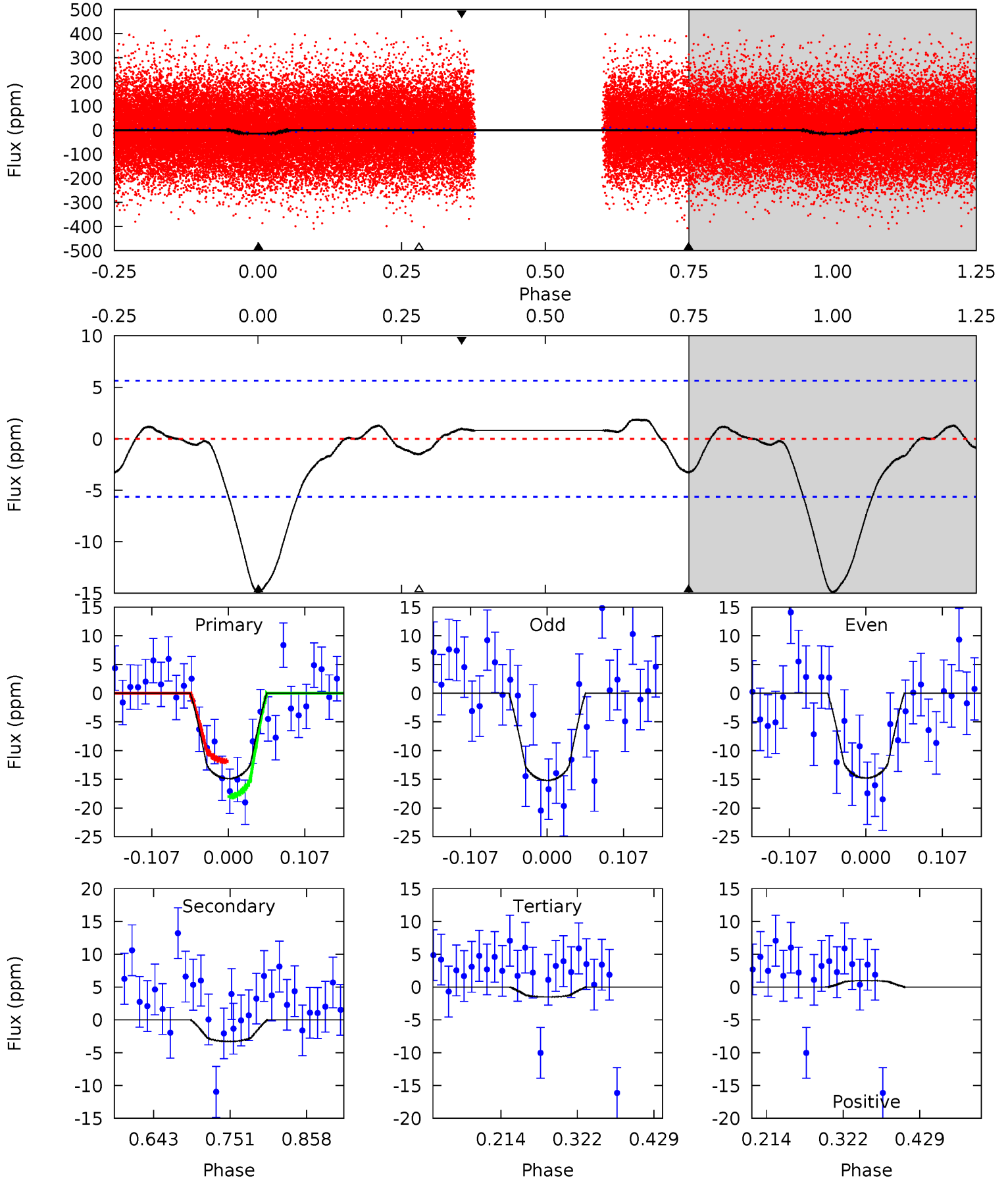
TCE 006974867-02 P= 0.887697 Days $T_0=131.921277$ (BKJD)



DV Model-Shift Uniqueness Test

006974867-02, P = 0.887684 Days, E = 131.042500 Days

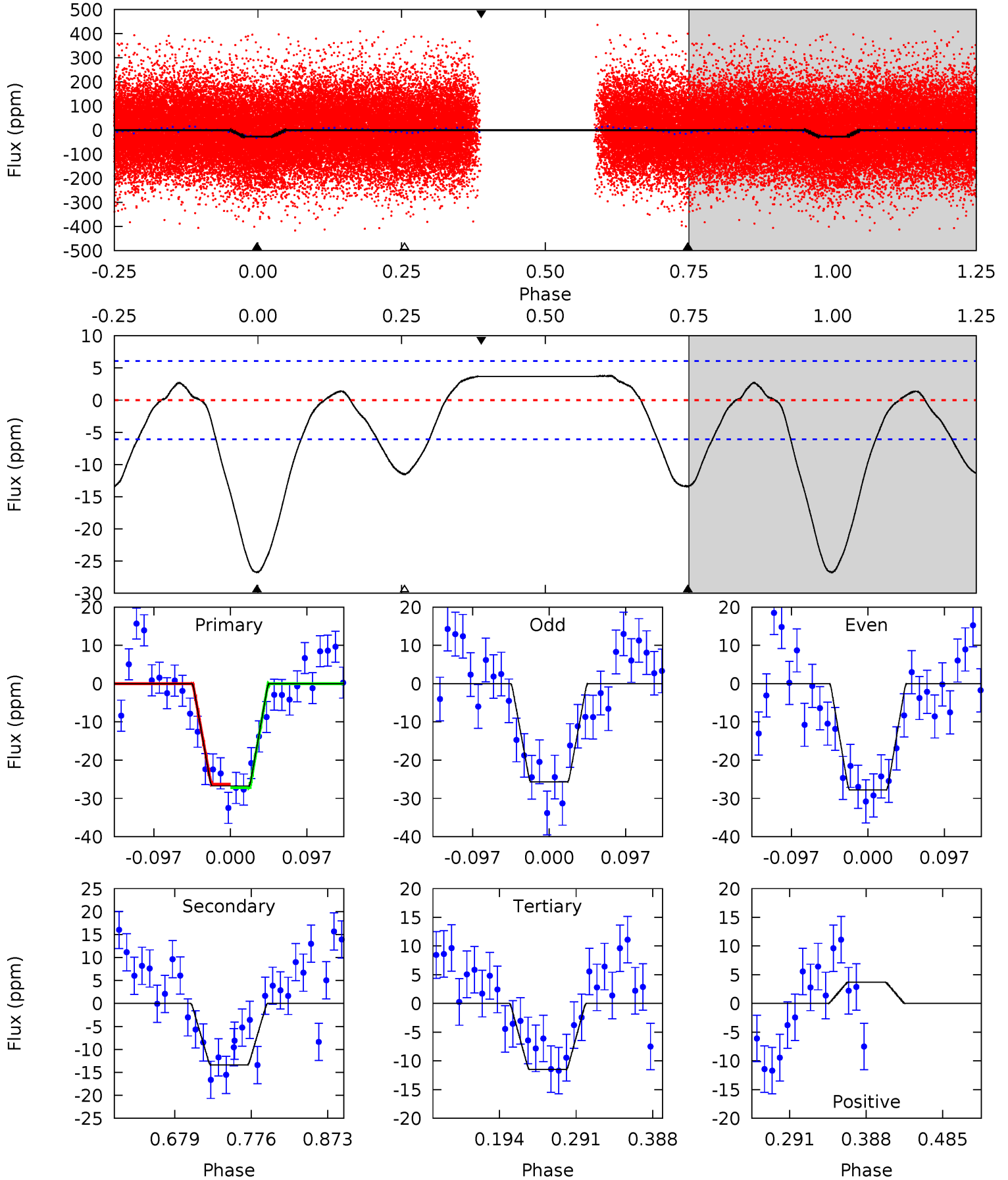
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	2.65	1.21	0.79	4.55	1.61	0.72	10.8	11.2	1.44	1.87	0.17	1.05	0.11	2.49



Alt Model-Shift Uniqueness Test

006974867-02, P = 0.887697 Days, E = 131.033580 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	10.1	8.63	2.78	4.57	1.66	3.58	11.4	17.3	1.44	7.29	0.79	0.95	0.12	0.36



Stellar Parameters For KIC 006974867

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5500^{+181}_{-148}	$3.775^{+0.323}_{-0.108}$	$0.160^{+0.250}_{-0.250}$	$2.491^{+0.511}_{-1.022}$	$1.348^{+0.145}_{-0.339}$	$0.123^{+0.316}_{-0.043}$
	+3%/-3%	+9%/-3%	+156%/-156%	+21%/-41%	+11%/-25%	+257%/-35%
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 006974867-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-3 ± 1	$1.11^{+0.38}_{-0.40}$	3730^{+234}_{-367}	3415^{+863}_{-5881}	$0.575^{+0.853}_{-0.301}$
Alt.	-13 ± 1	$1.34^{+0.46}_{-0.36}$	3714^{+256}_{-354}	4483^{+676}_{-516}	$1.600^{+1.294}_{-0.678}$

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

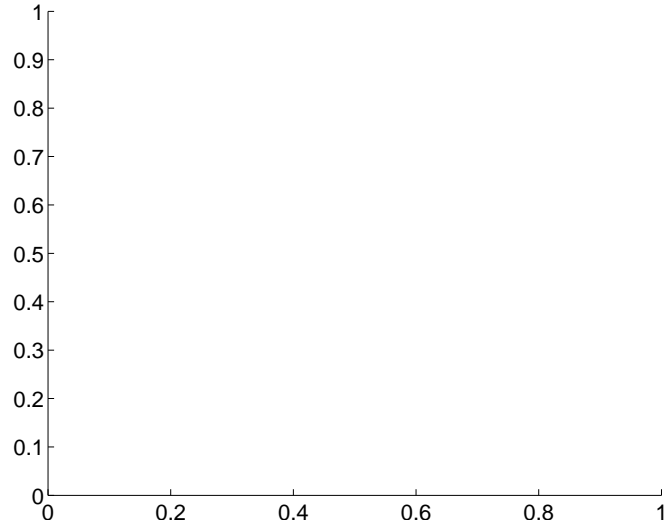
Supplemental centroid analysis for 006974867-02. Kepler magnitude: 12.39. Transit SNR 8.69

There are 0 quarters with good PRF difference image offsets

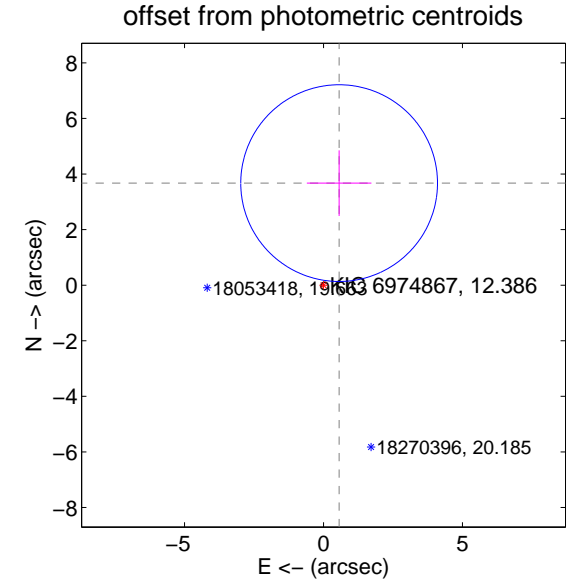
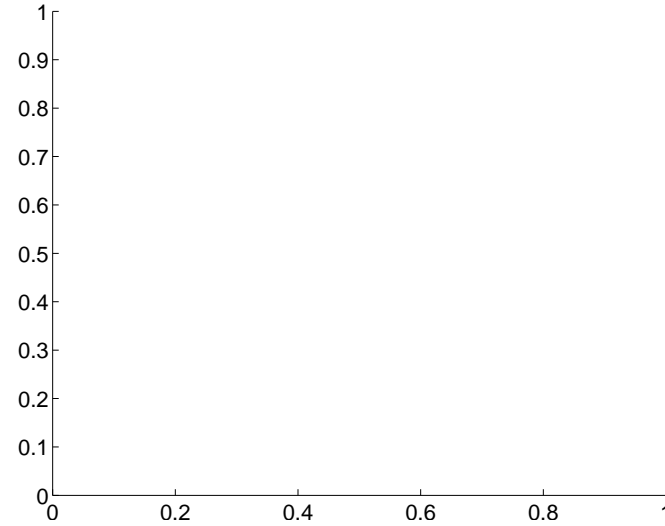
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	3.72 ± 1.18	3.15	-0.56 ± 1.16	3.67 ± 1.18

There is no PRF-fit offset from OOT-fit

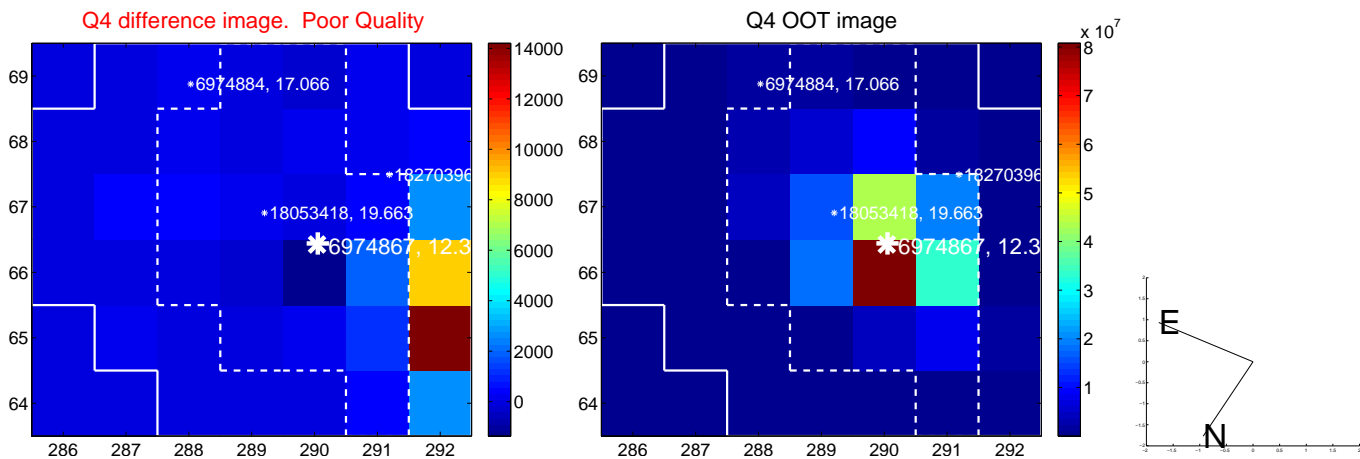
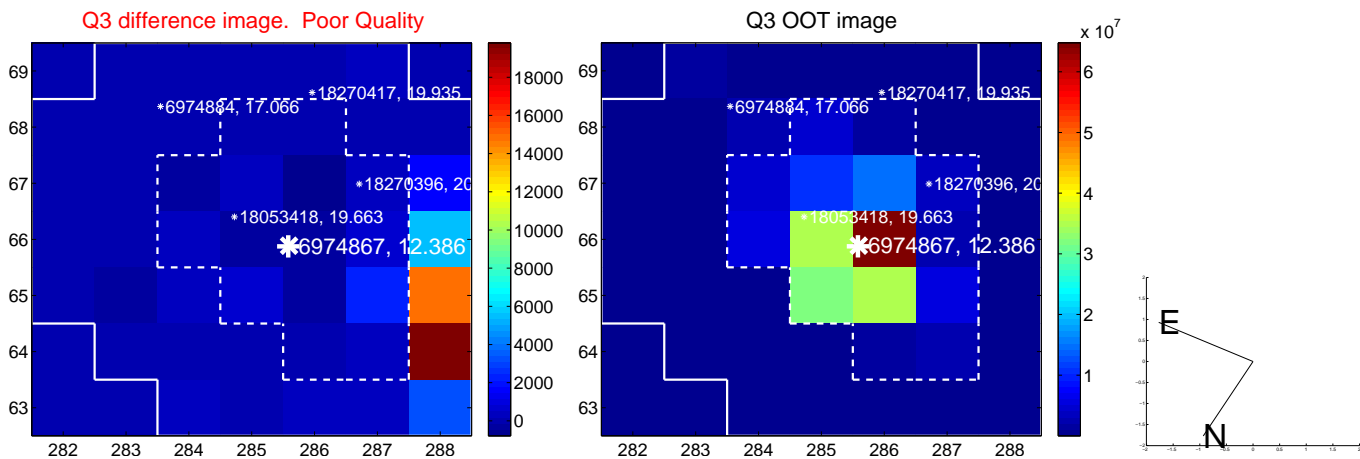
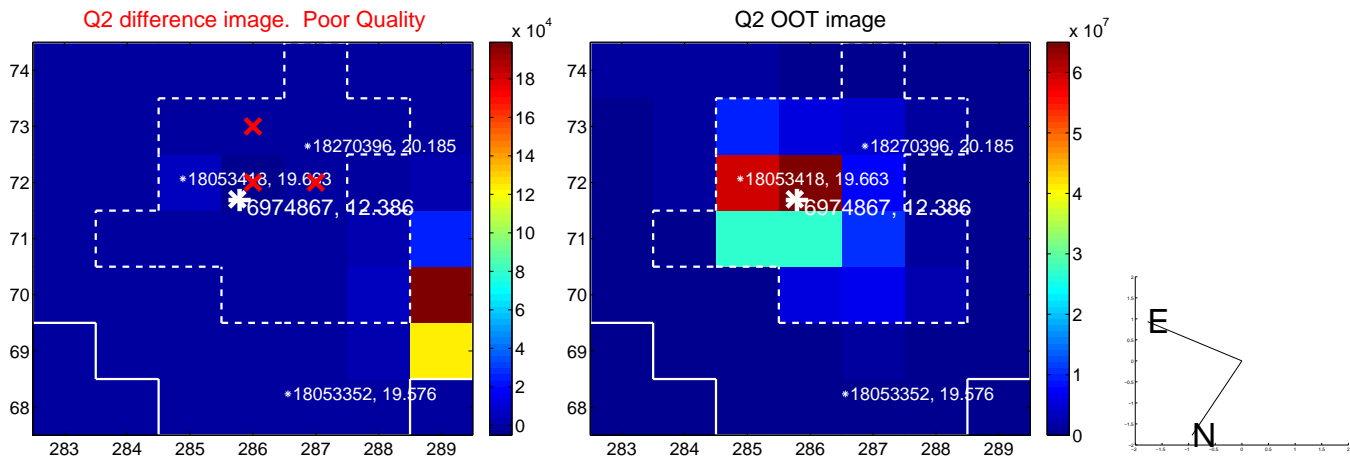
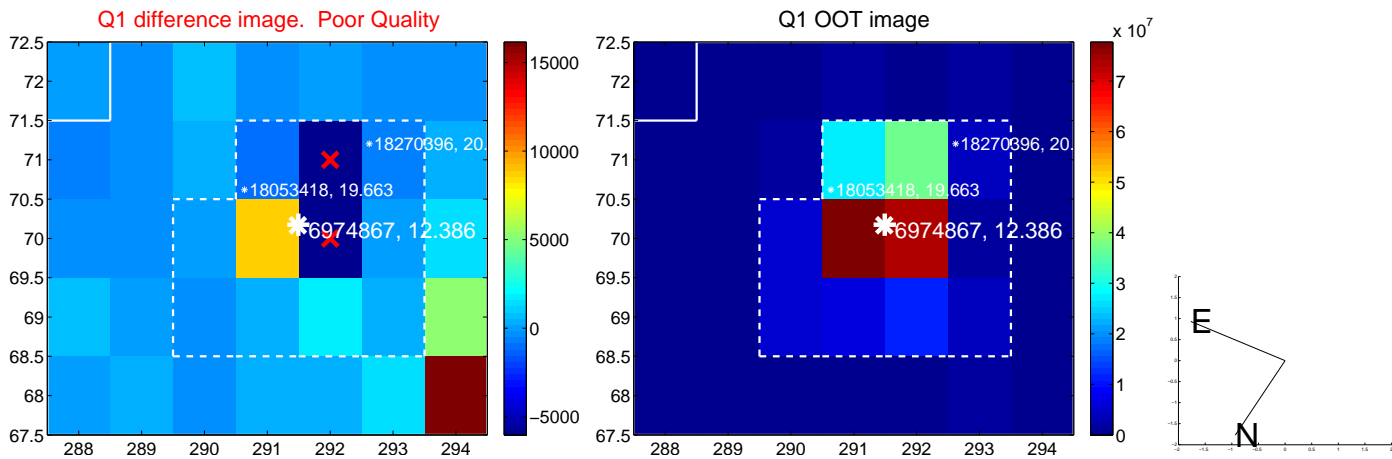


There is no PRF-fit offset from KIC

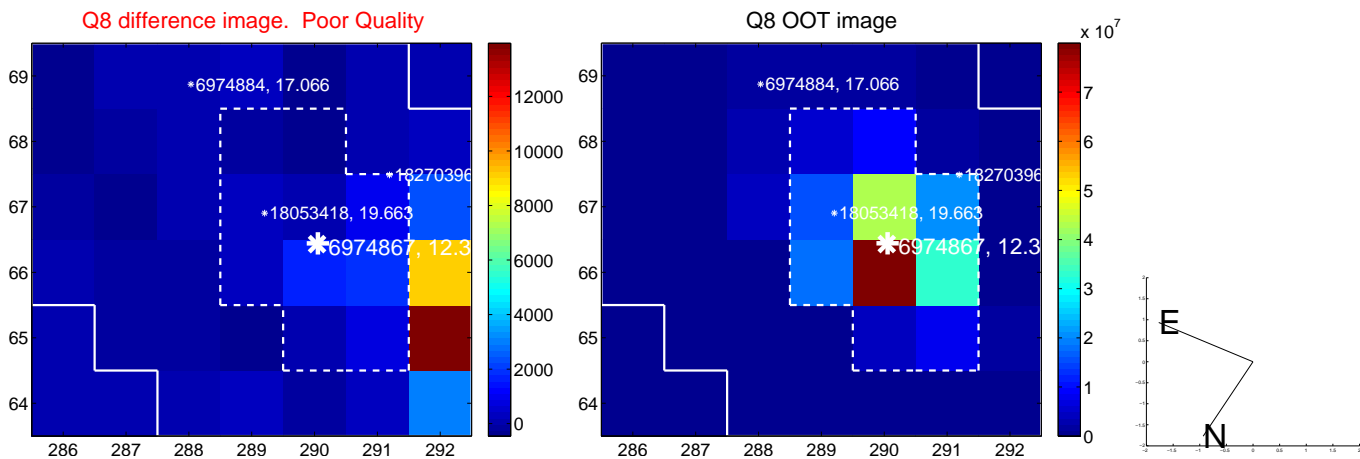
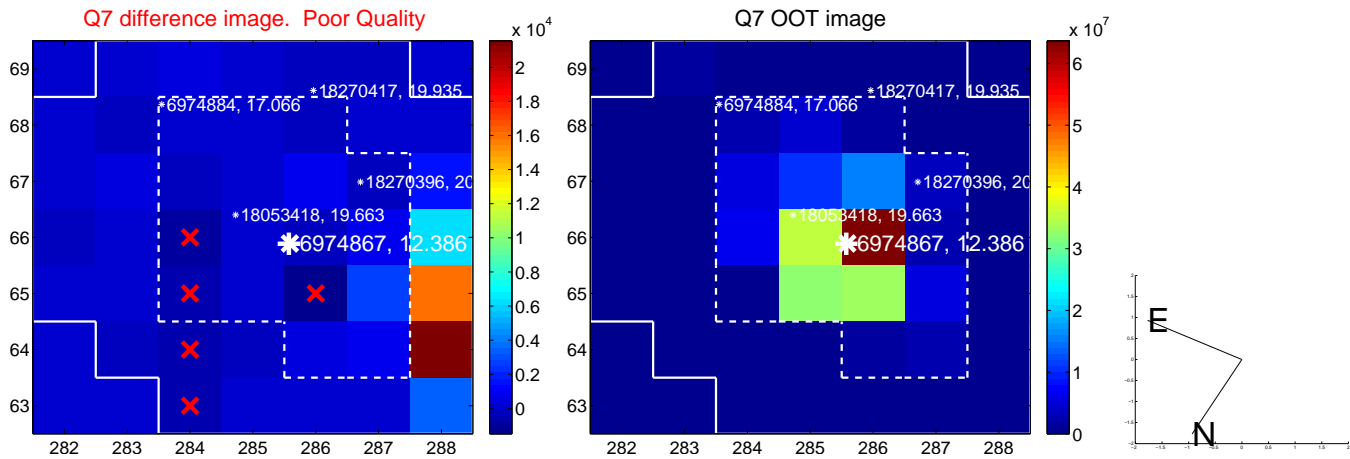
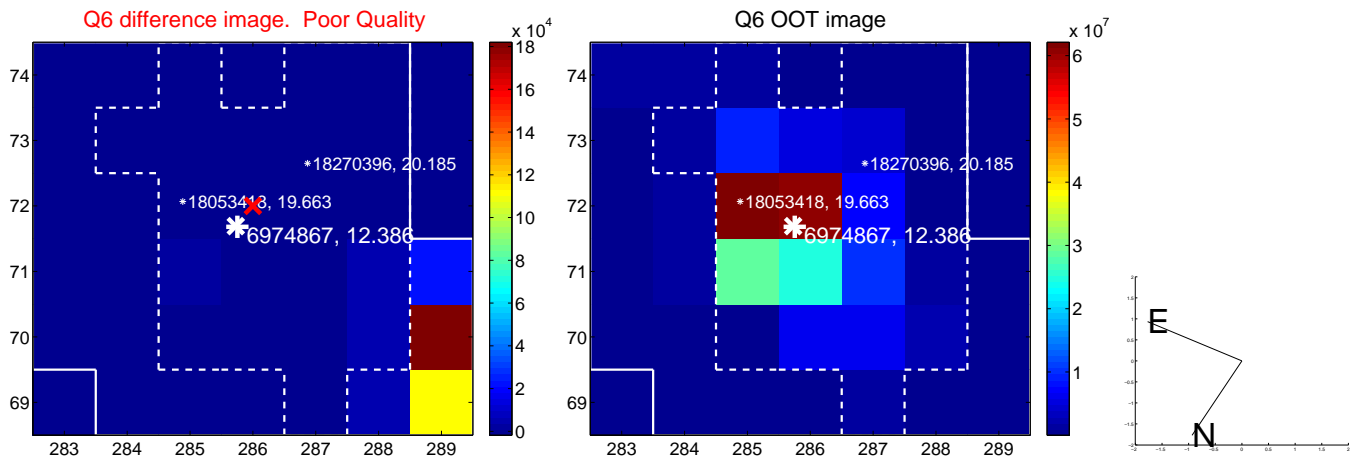
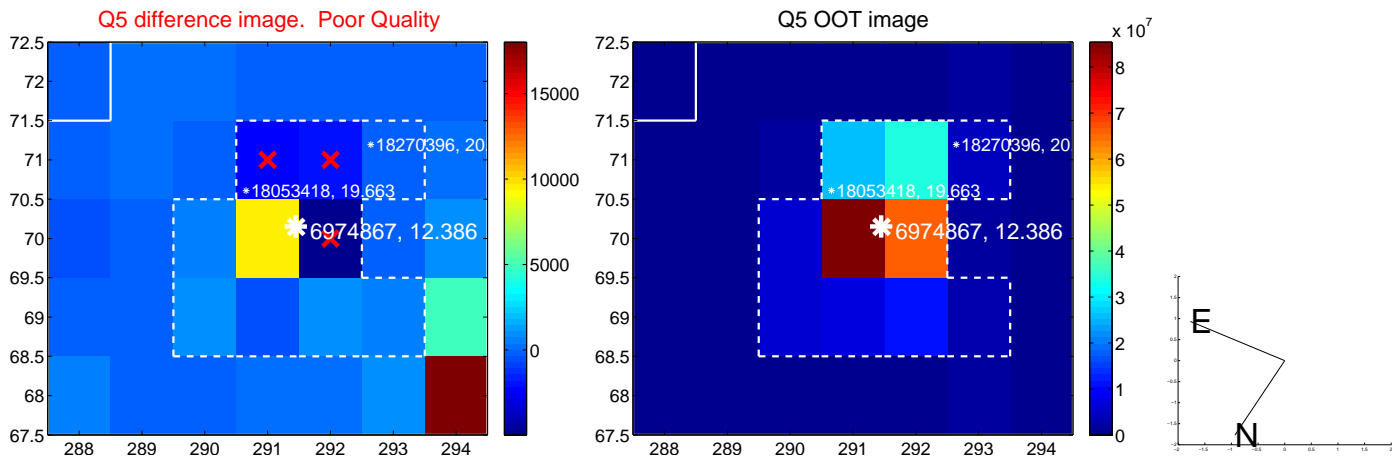


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

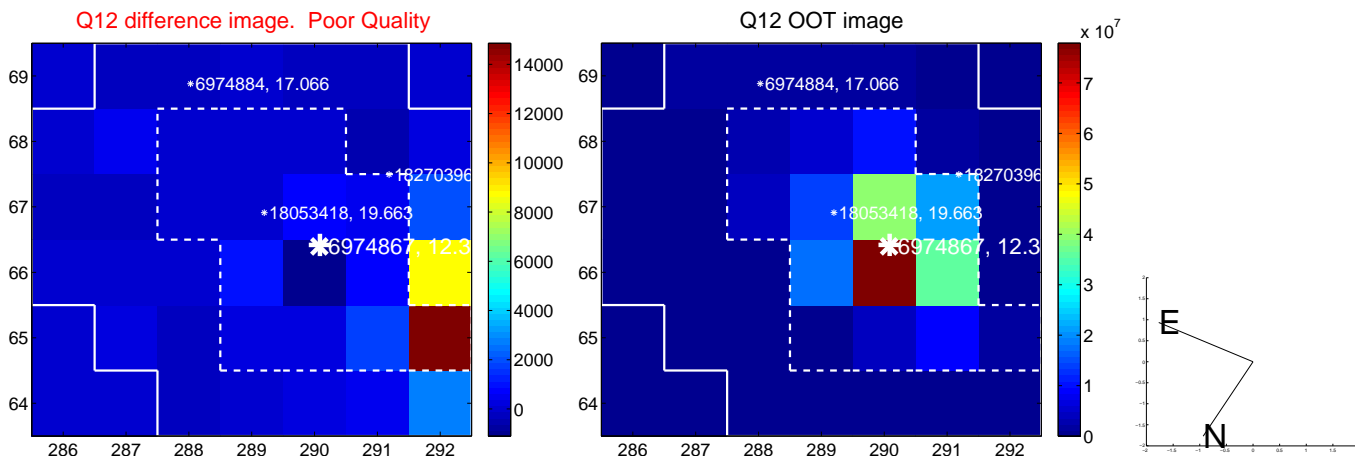
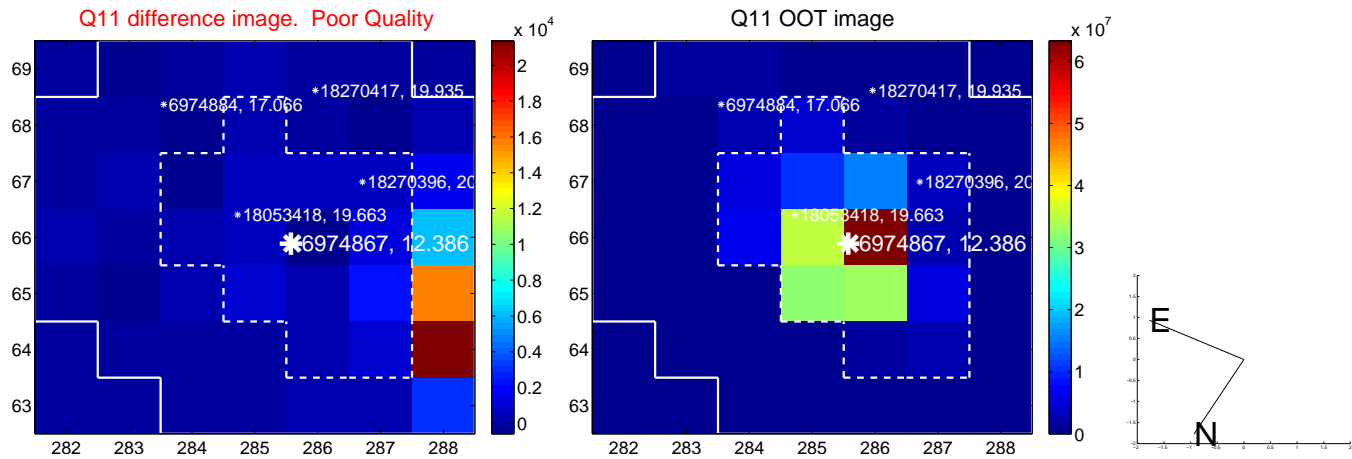
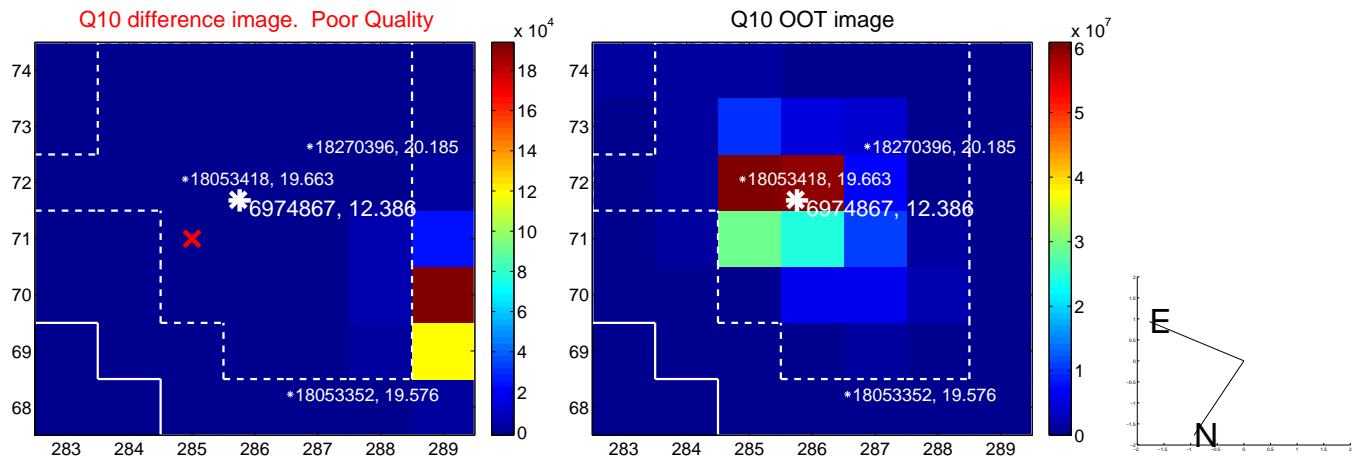
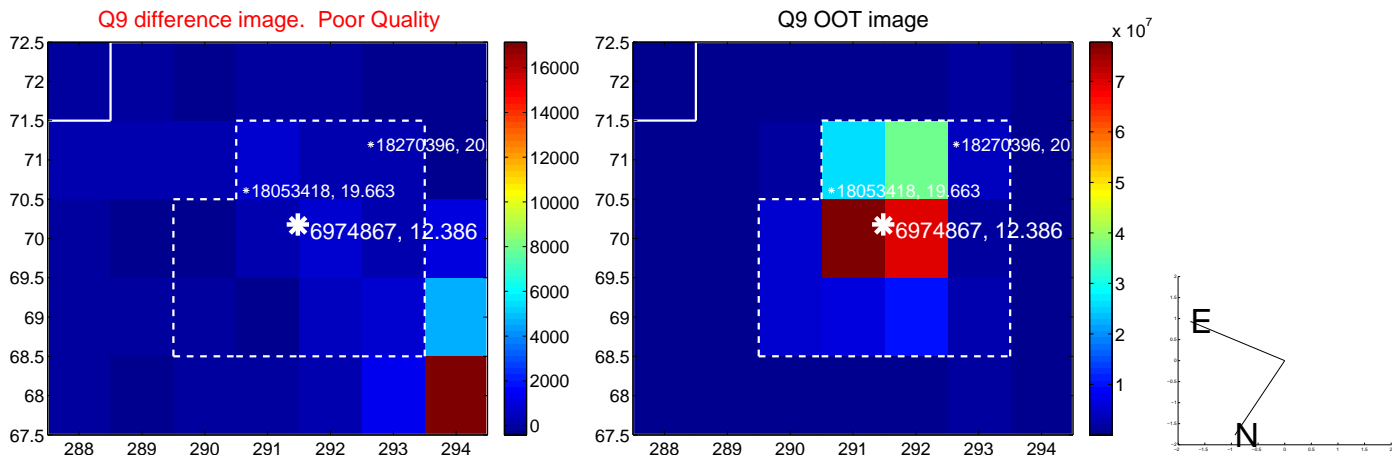
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



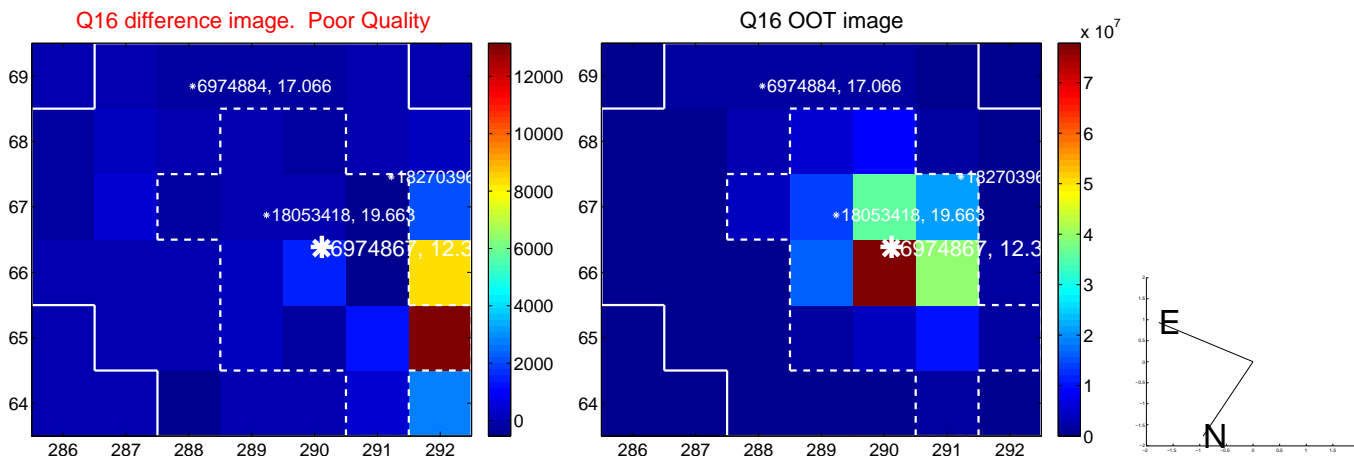
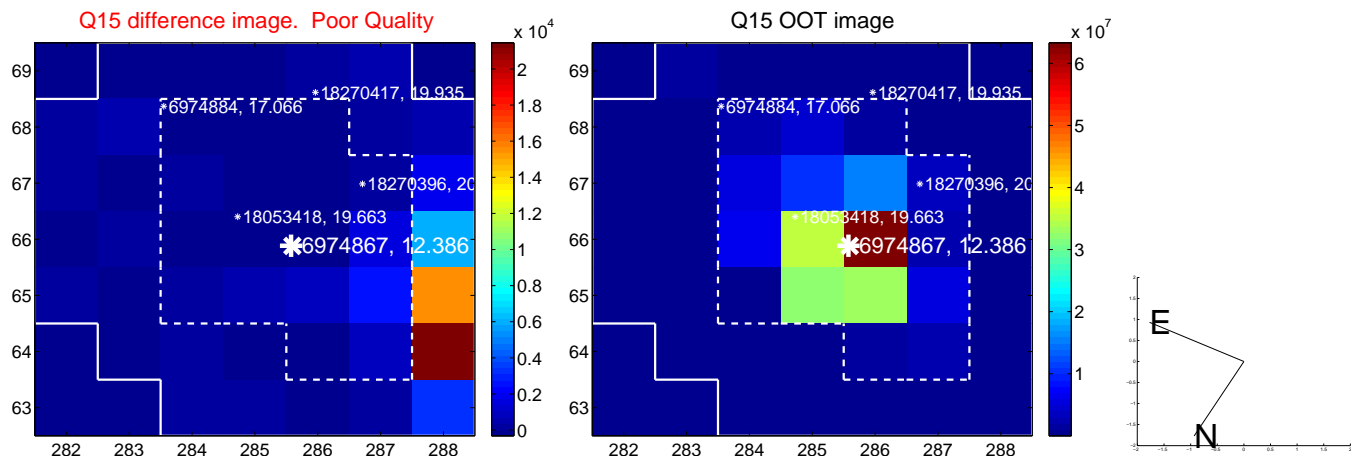
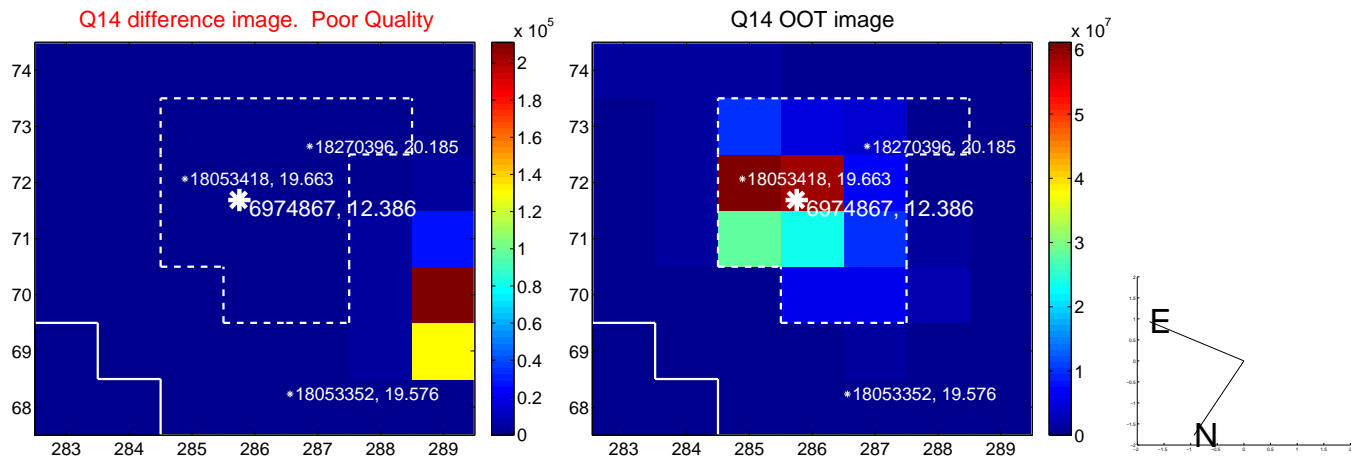
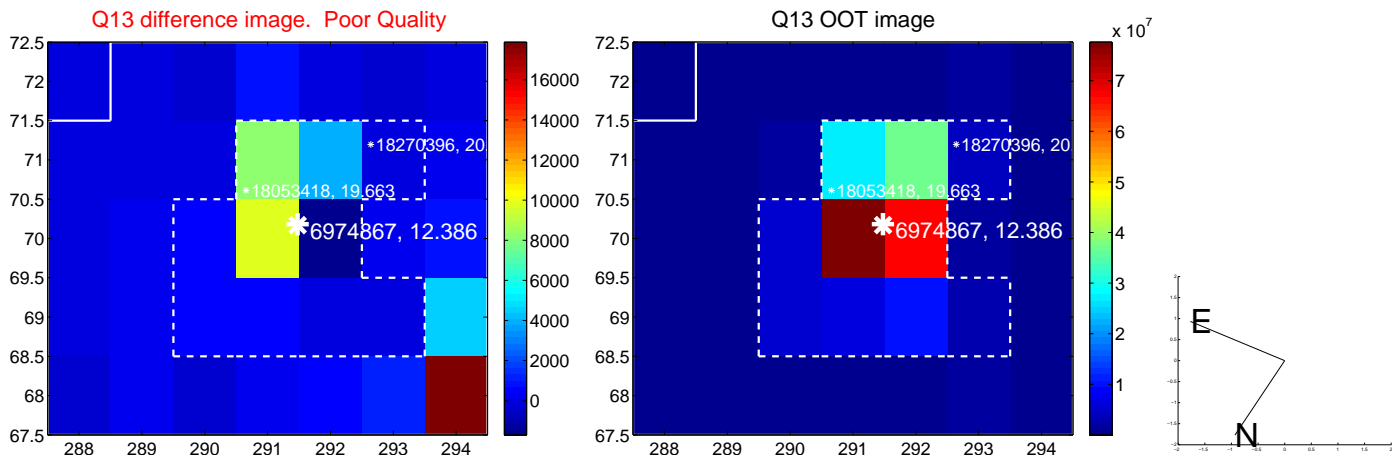
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



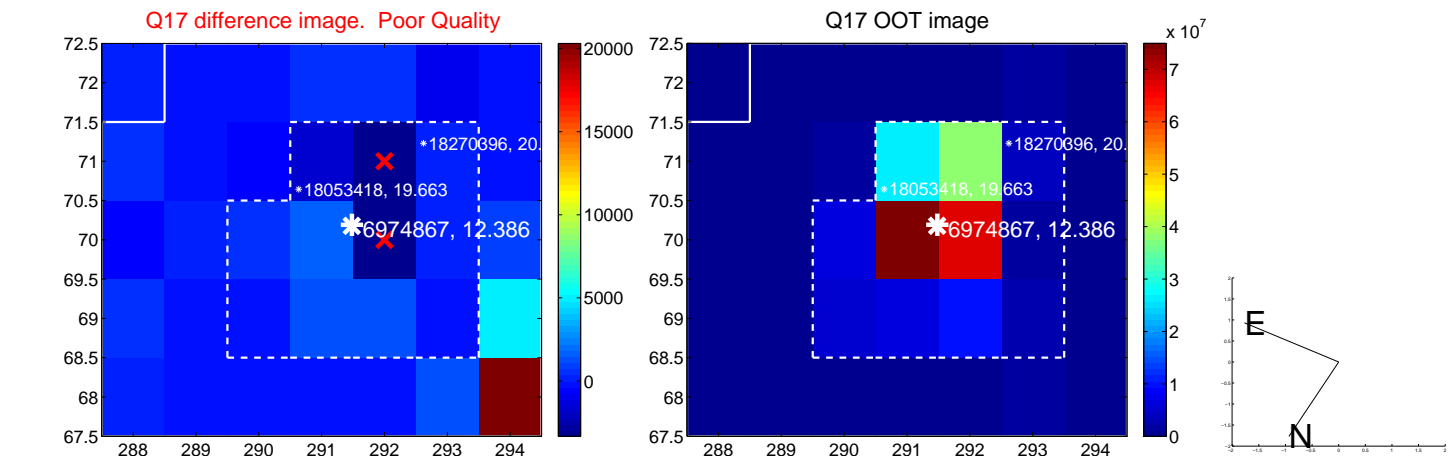
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



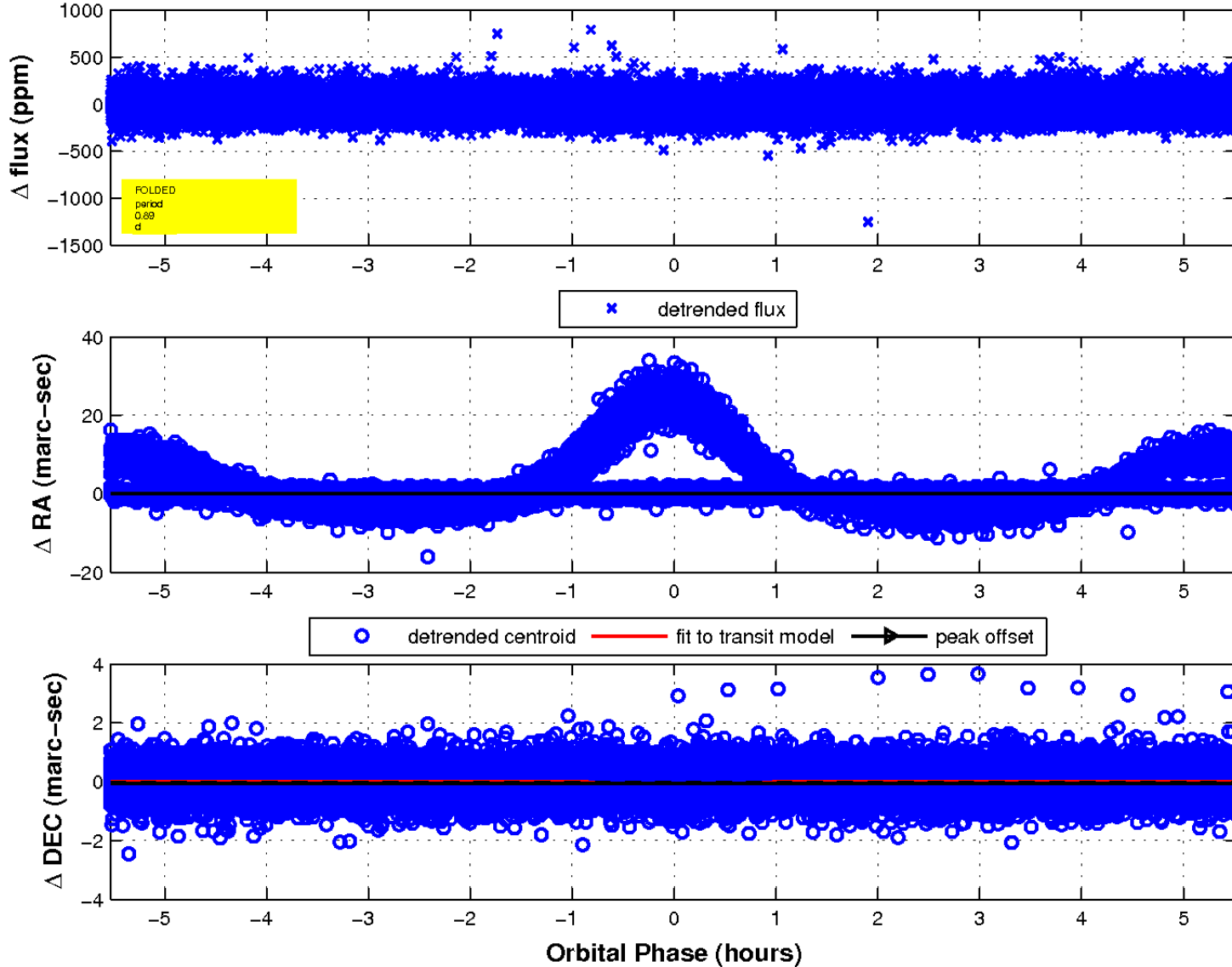
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

