

KIC 004075064

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})
004075064-01	OBS	6383.01	61.422491	161.238284	339471.0	2.000	4319.9	-1.0	0.61	4867	33.45	2.67
004075064-02	OBS	No	61.422476	141.199704	105450.1	12.757	1792.3	1603.4	0.61	4867	29.17	2.67
004075064-03	OBS	No	4.387184	135.306625	0.0	0.999	179.5	0.0	0.61	4867	0.00	89.95
004075064-04	OBS	No	5.118567	135.842909	13363.6	15.000	185.7	-1.0	0.61	4867	6.88	73.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004075064-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
004075064-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS
004075064-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
004075064-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—RESIDUAL_TCE—CENT_NOFITS

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 004075064-01

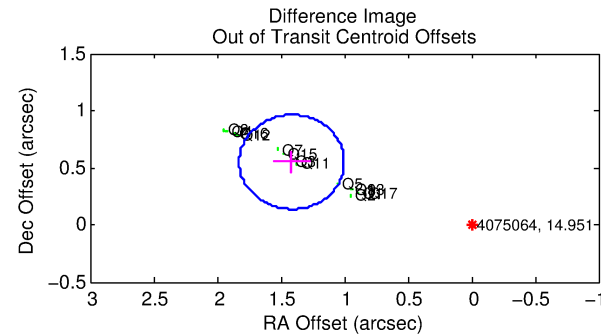
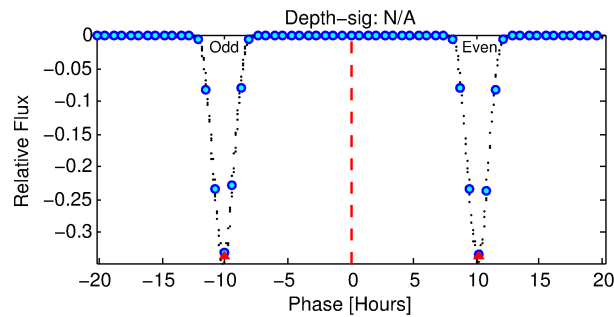
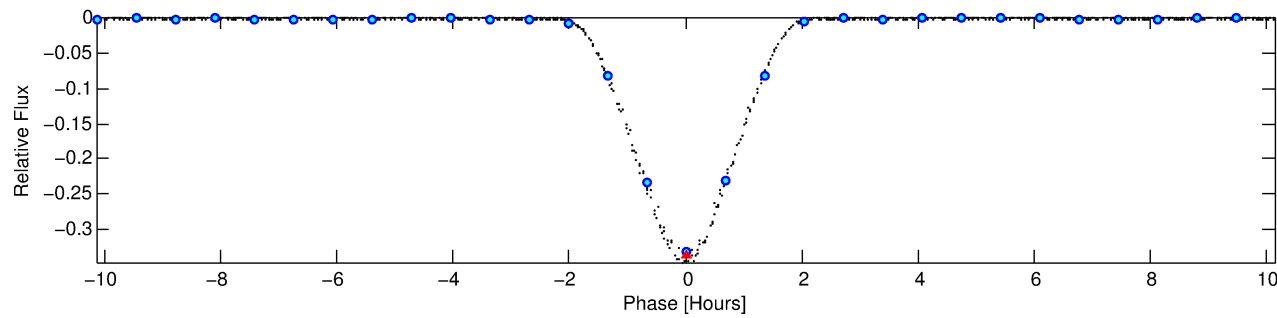
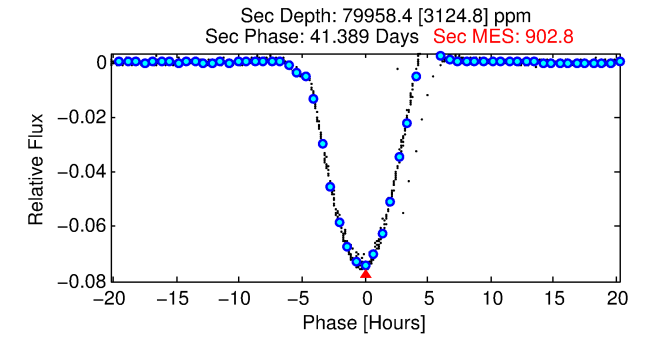
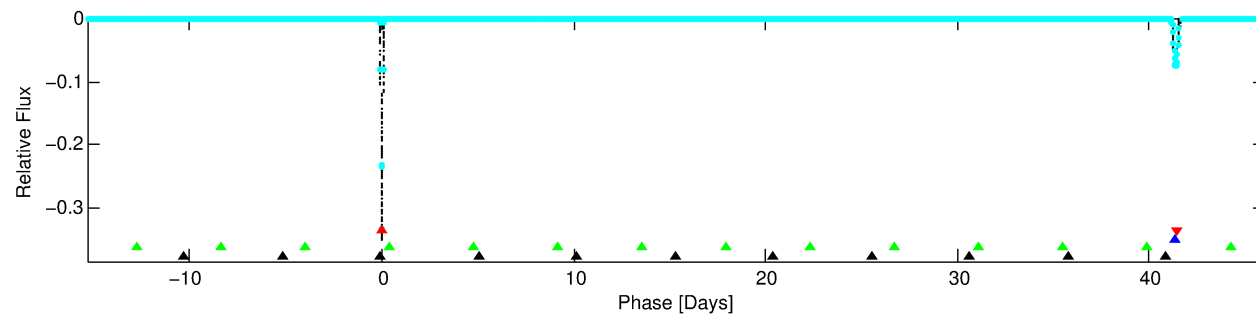
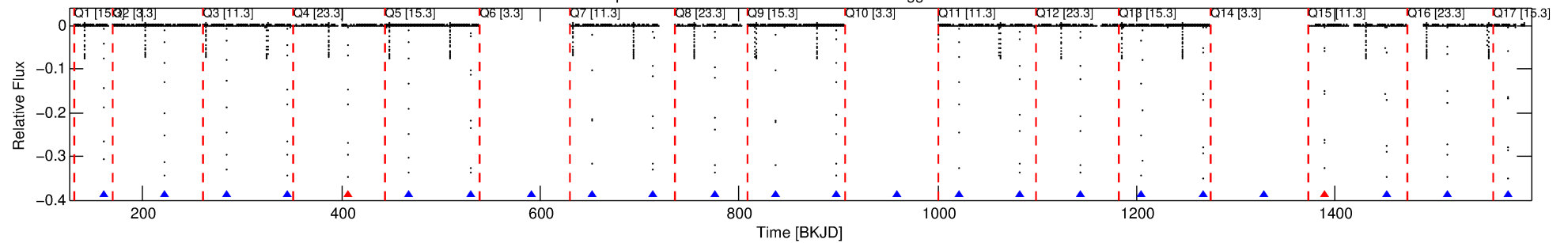
No Significant Match Found

DV One-Page Summary

KIC: 4075064 Candidate: 1 of 4 Period: 61.422 d

KOI: K06383 Corr: No Ephemeris Match

Kp: 14.95 R*: 0.61 Rs Teff: 4867.0 K Logg: 4.69 Fe/H: -0.560



TPS TCE Results:

Period = 61.42249 d
Epoch = 161.2383 BKJD

DV fit results are unavailable

DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]

LongPeriod-sig: N/A

ModelChiSquare2-sig: N/A

ModelChiSquareGof-sig: N/A

Bootstrap-pfa: N/A

RollingBand-fgt: 0.89 [17/19]

GhostDiagnostic-chr: 3.169

Centroid-sig: N/A

Centroid-so: 0.377 arcsec [197.90 σ]

OotOffset-rm: 1.518 arcsec [11.03 σ]

KicOffset-rm: 0.143 arcsec [2.06 σ]

OotOffset-st: 1/4/4/5 [14]

KicOffset-st: 1/4/4/5 [14]

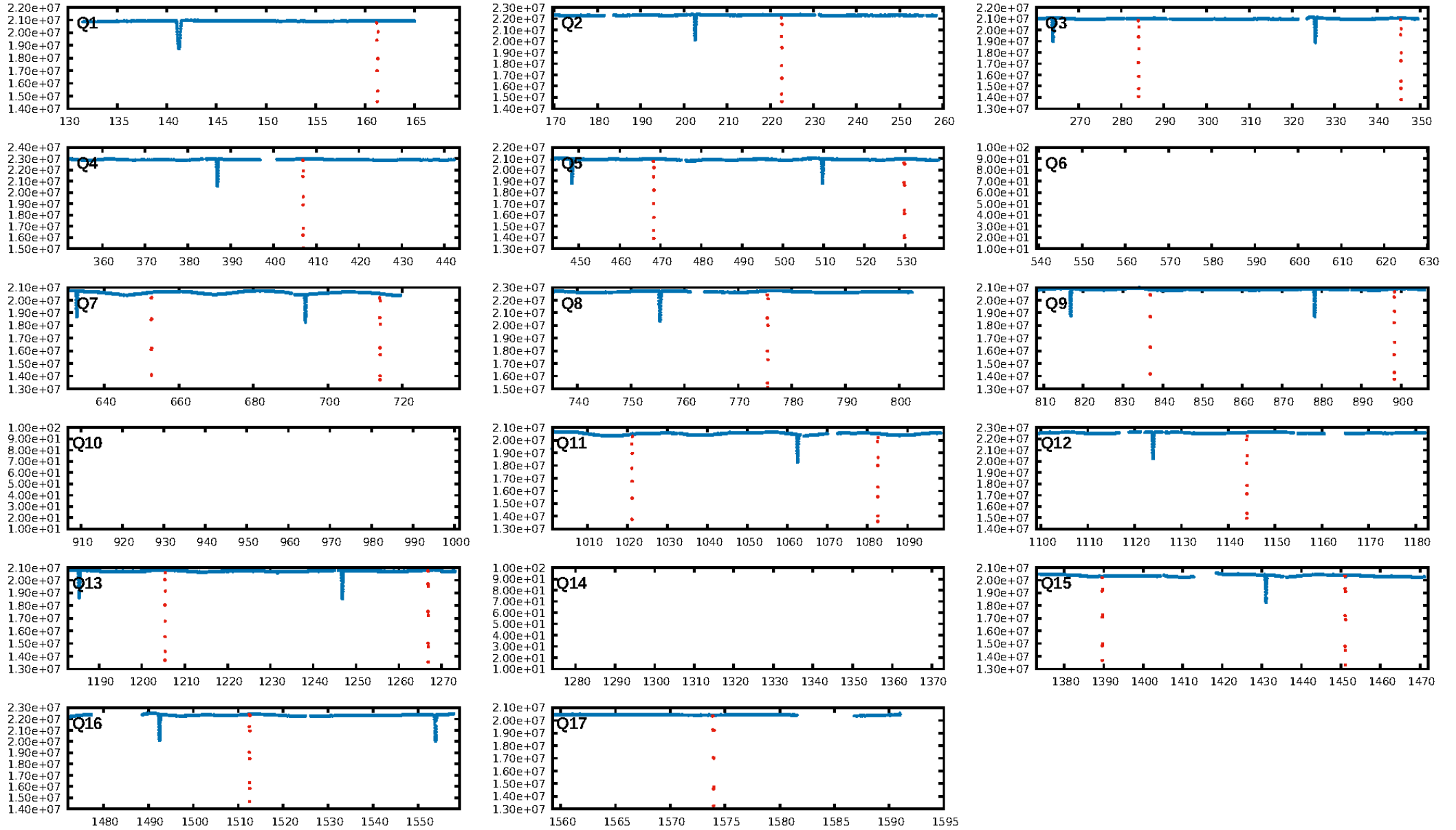
DiffImageQuality-fgm: 1.00 [14/14]

DiffImageOverlap-fno: 0.00 [0/14]

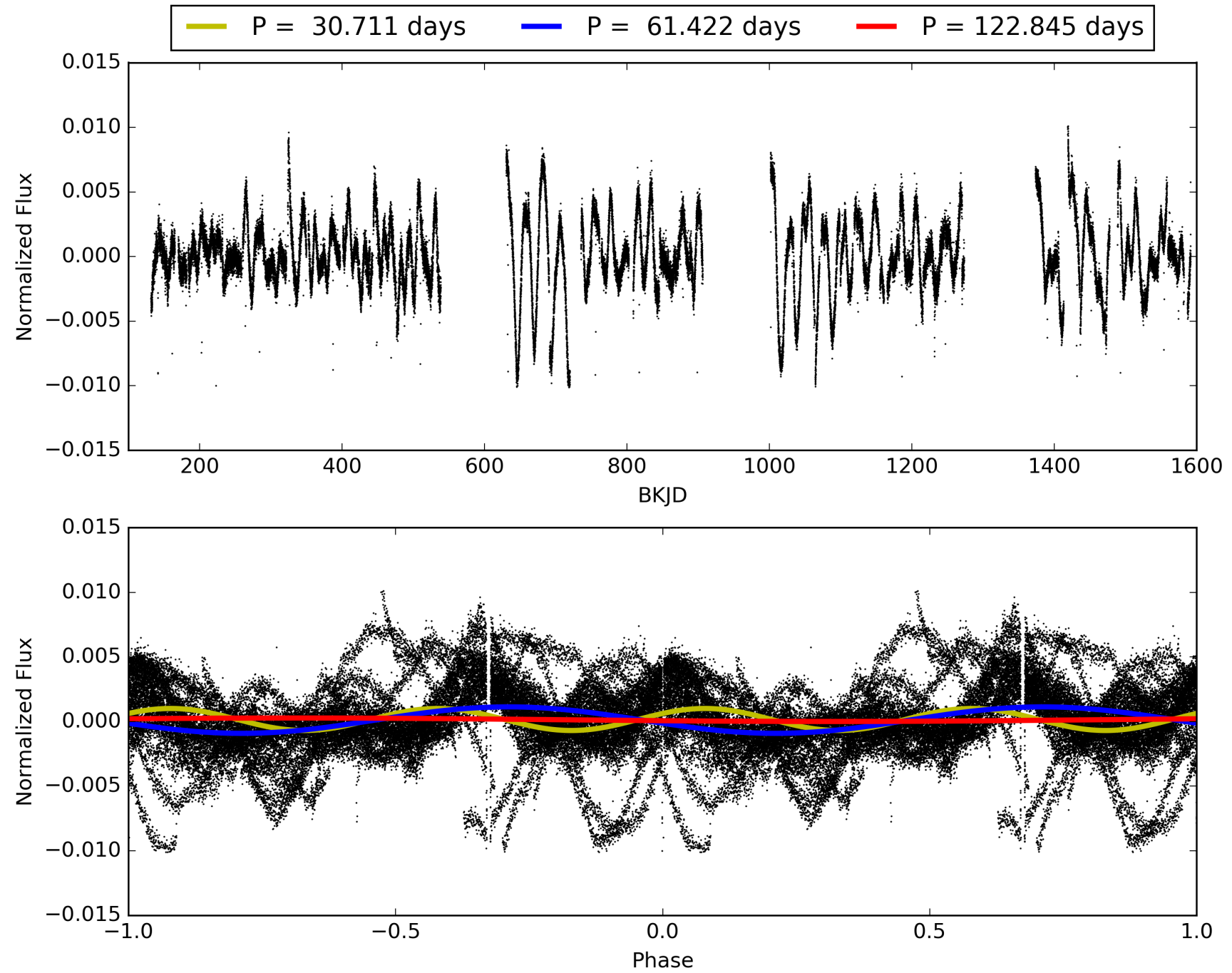
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:59:41 Z

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

TCE 004075064-01, PDC Light Curves

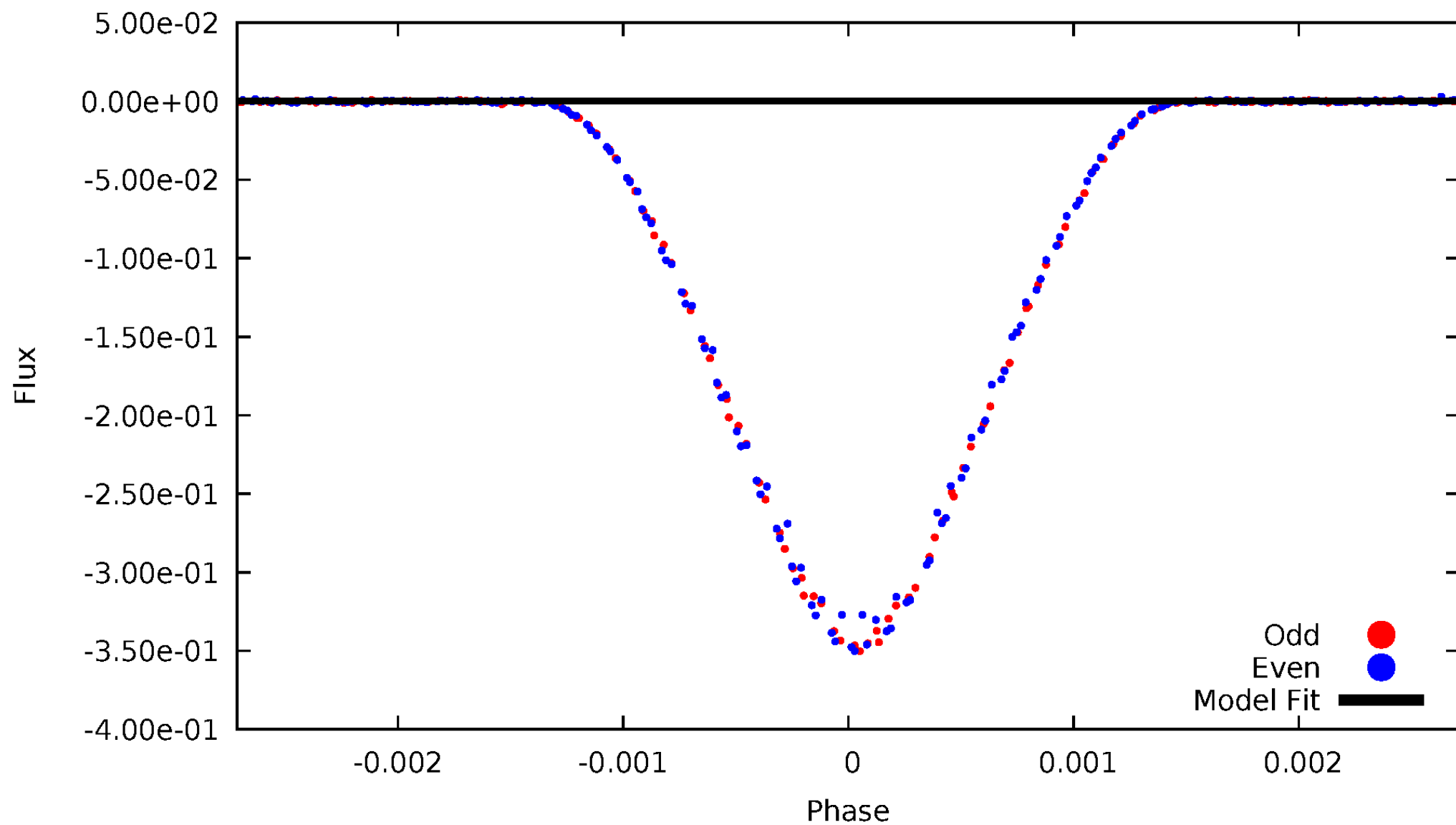


TCE 004075064-01



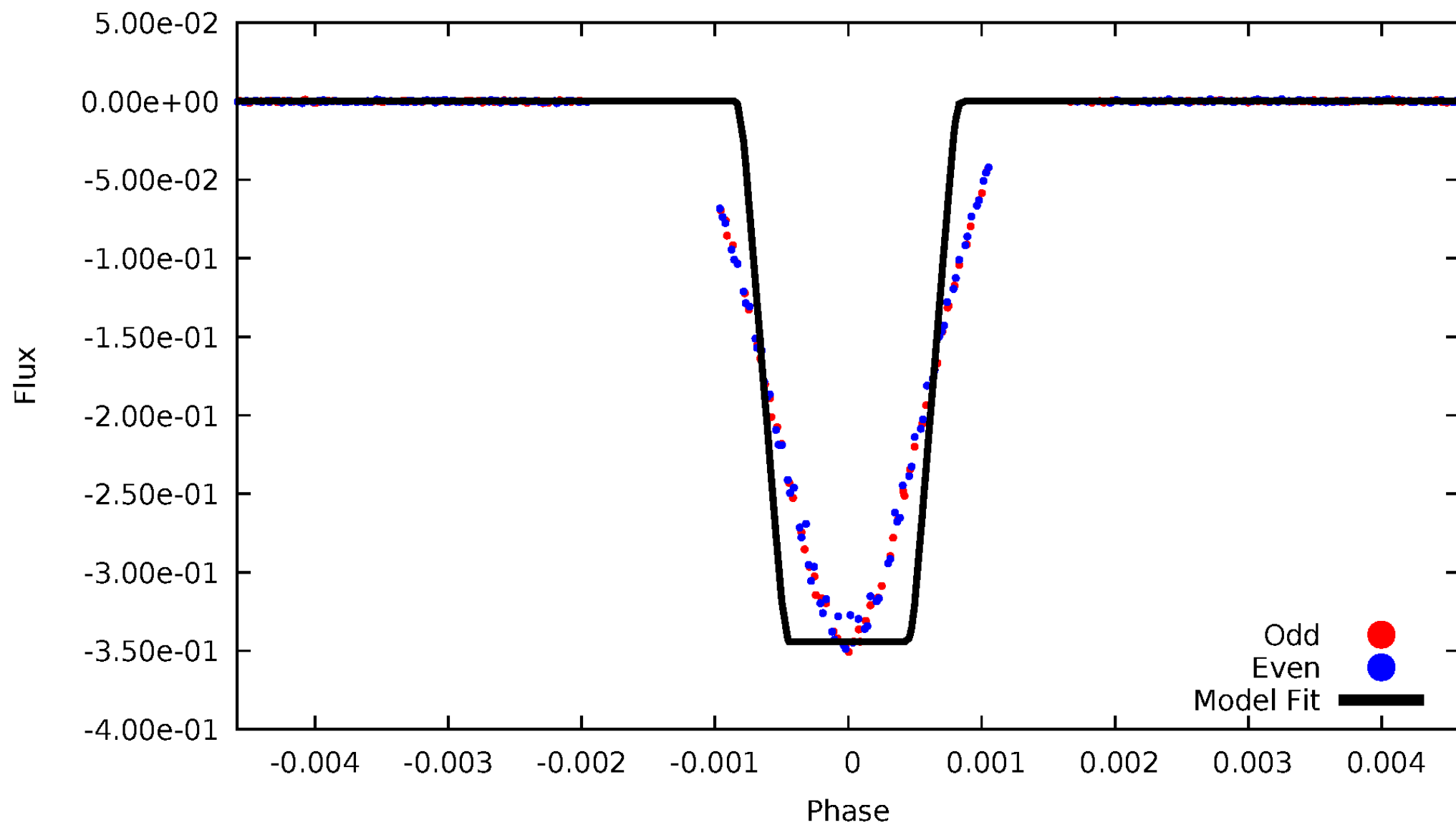
DV Odd/Even

TCE 004075064-01



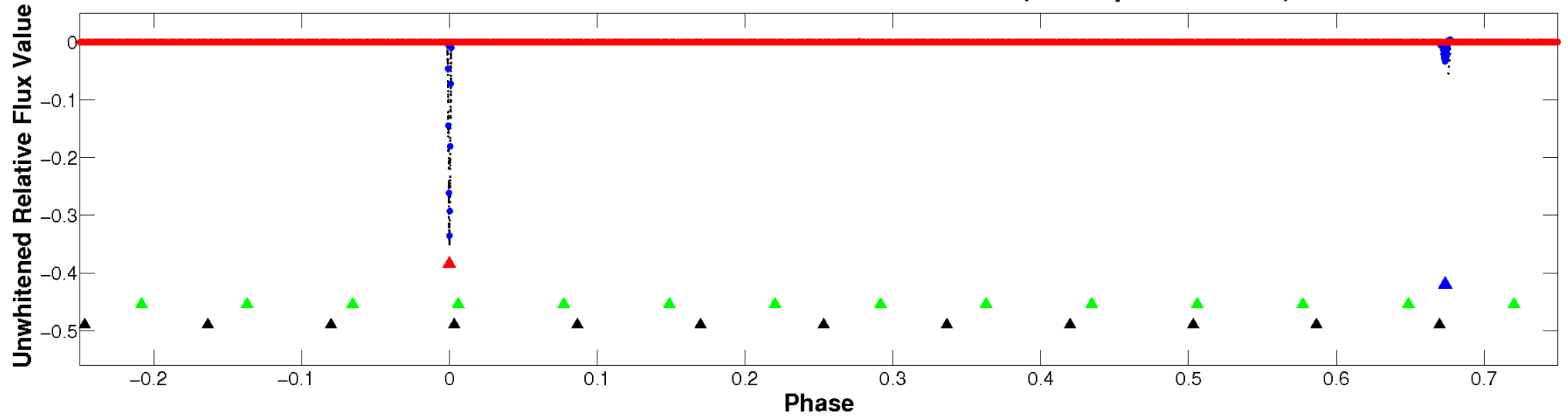
ALT Odd/Even

TCE 004075064-01



Non-Whitened Vs. Whitened Light Curve

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

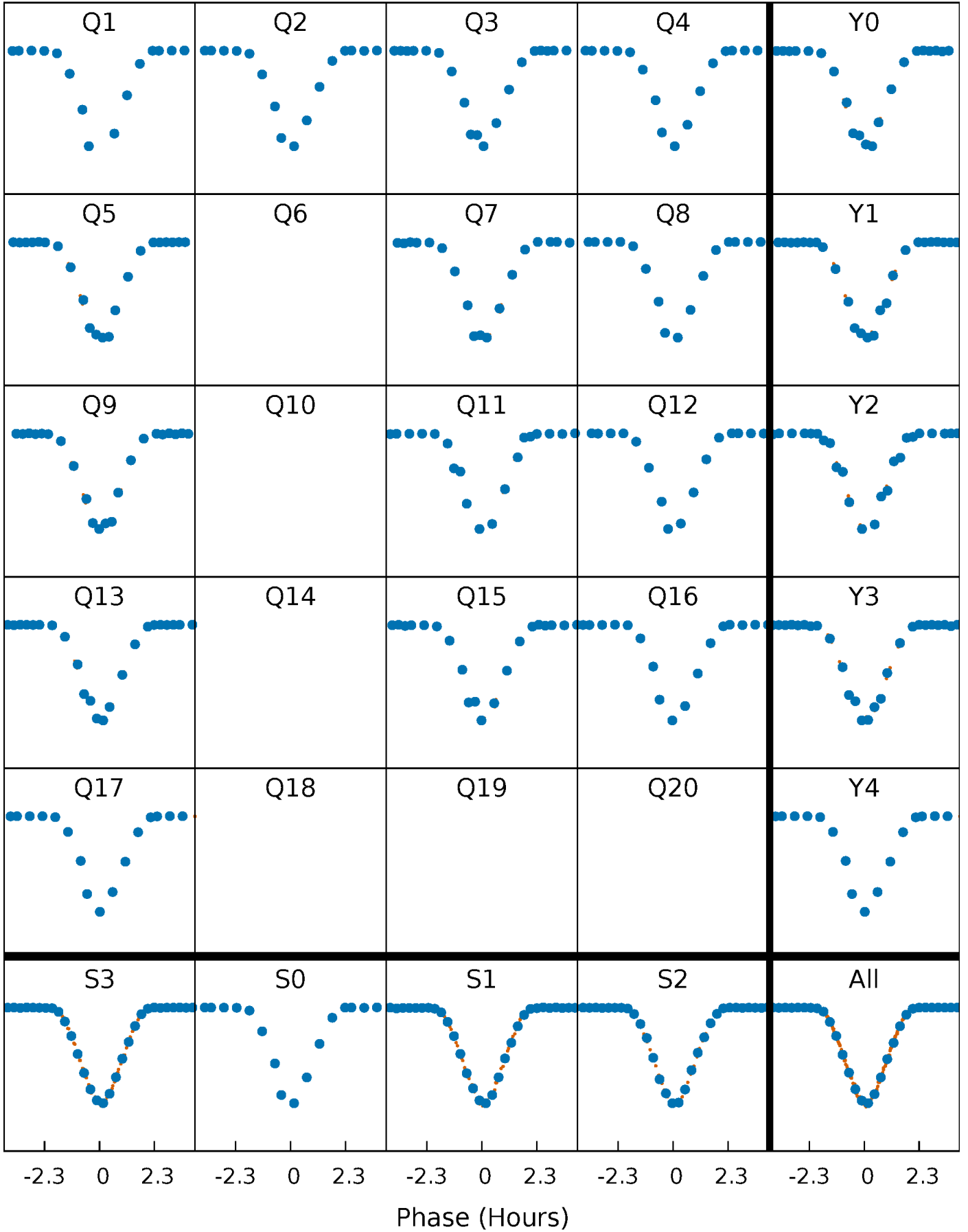


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



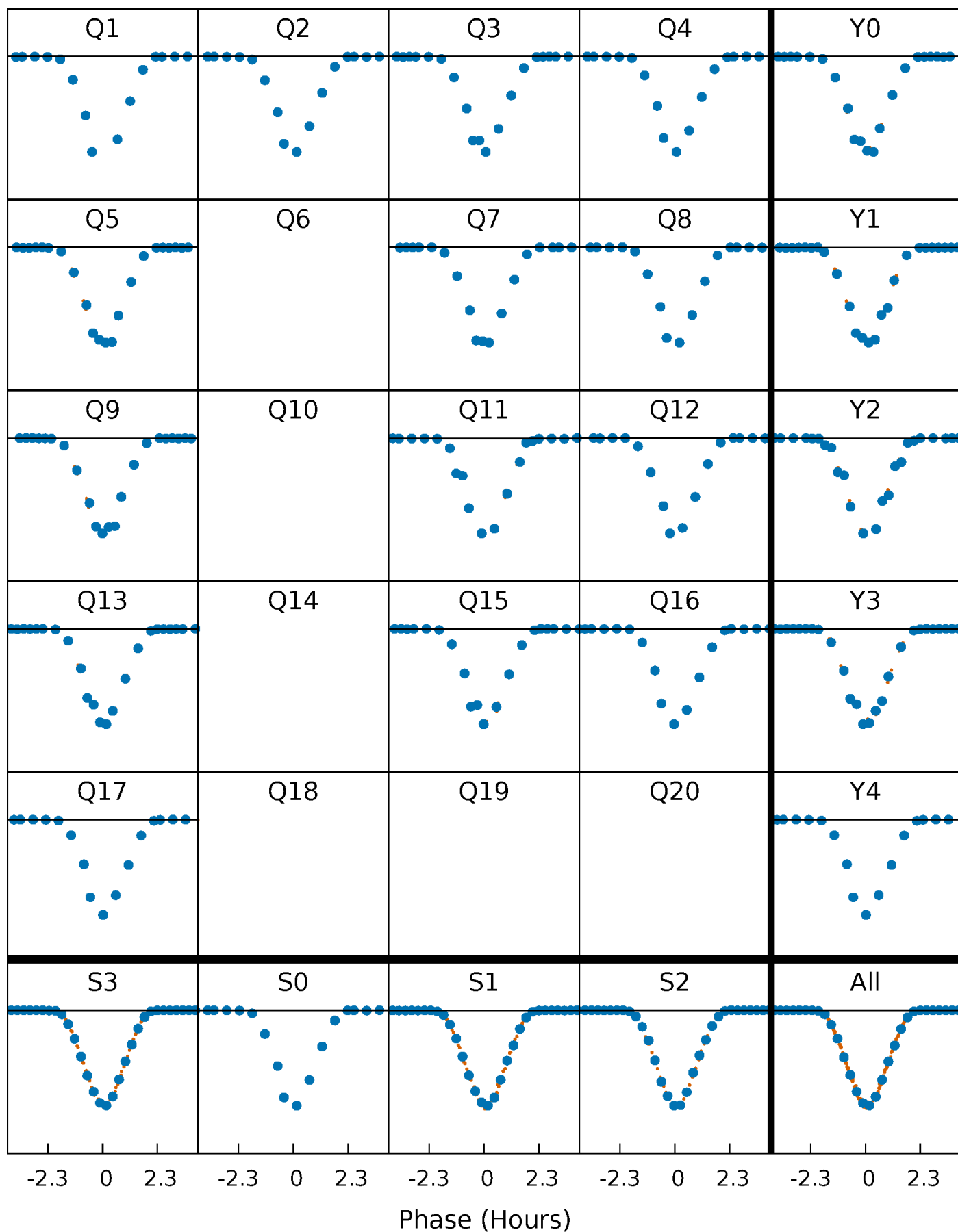
PDC Quarter-Phased Transit Curves

TCE 004075064-01 P= 61.422491 Days $T_0=161.238284$ (BKJD)



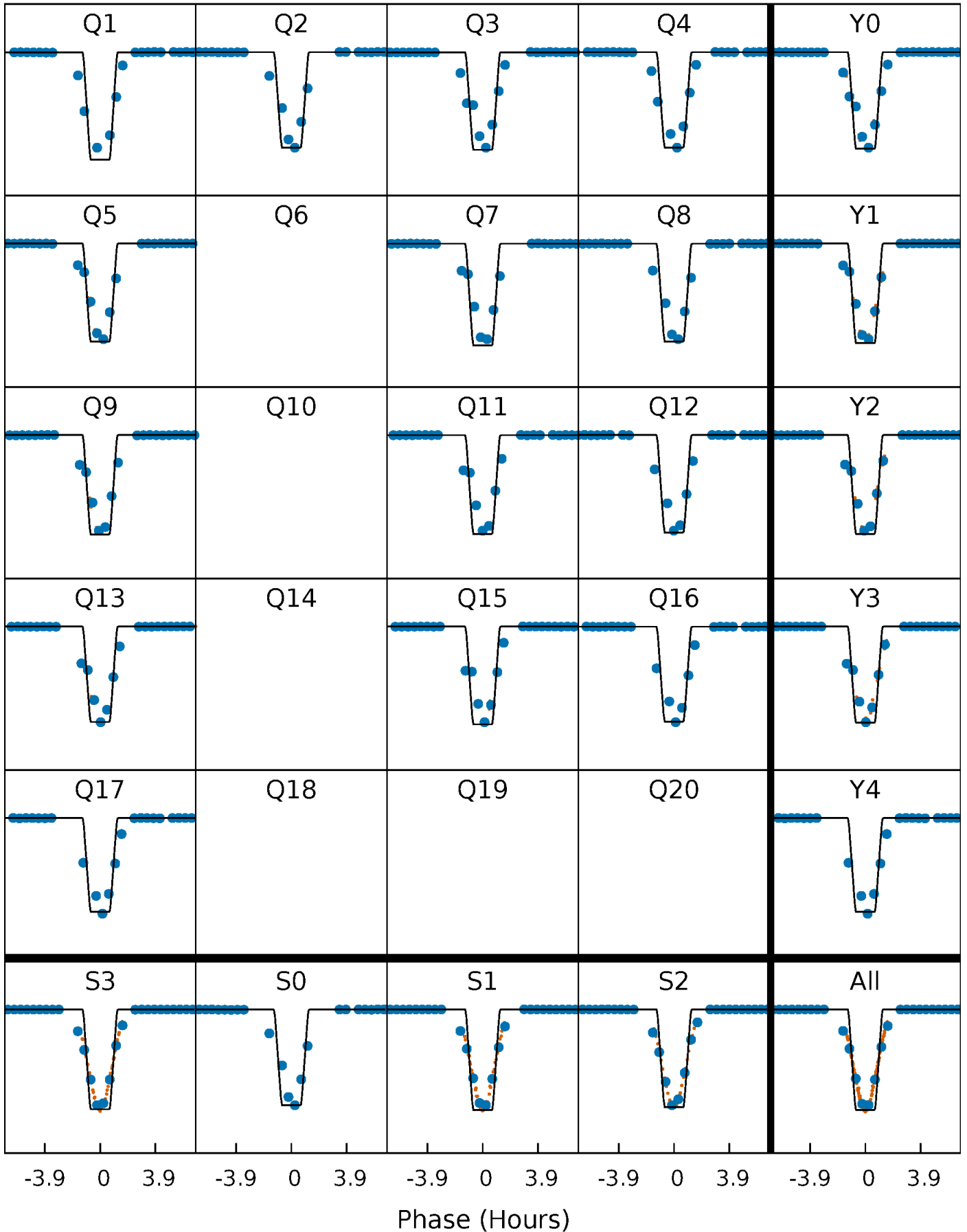
DV Quarter-Phased Transit Curves

TCE 004075064-01 P= 61.422491 Days $T_0=161.238284$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

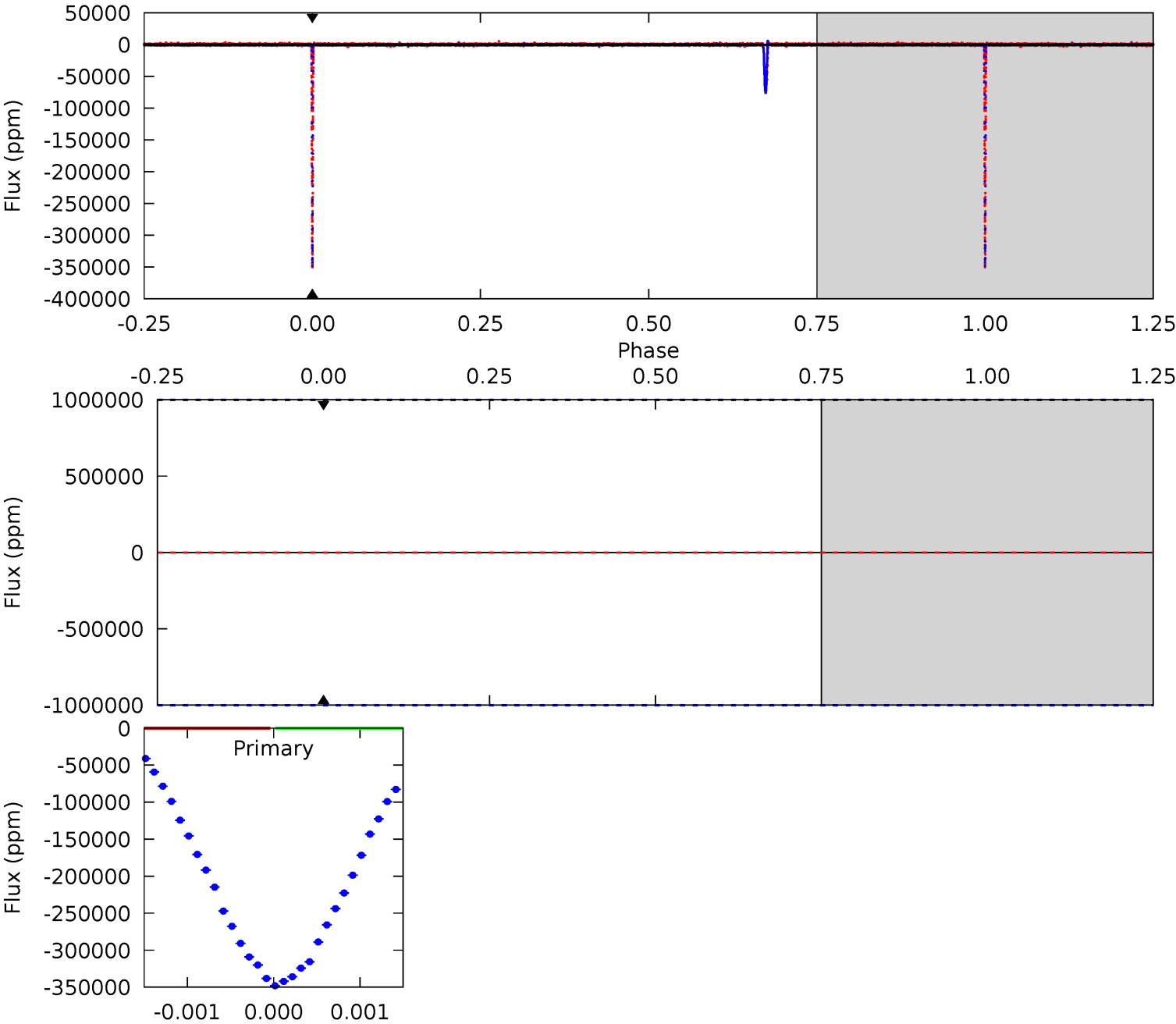
TCE 004075064-01 P= 61.422491 Days $T_0=161.241163$ (BKJD)



DV Model-Shift Uniqueness Test

004075064-01, P = 61.422491 Days, E = 99.815793 Days

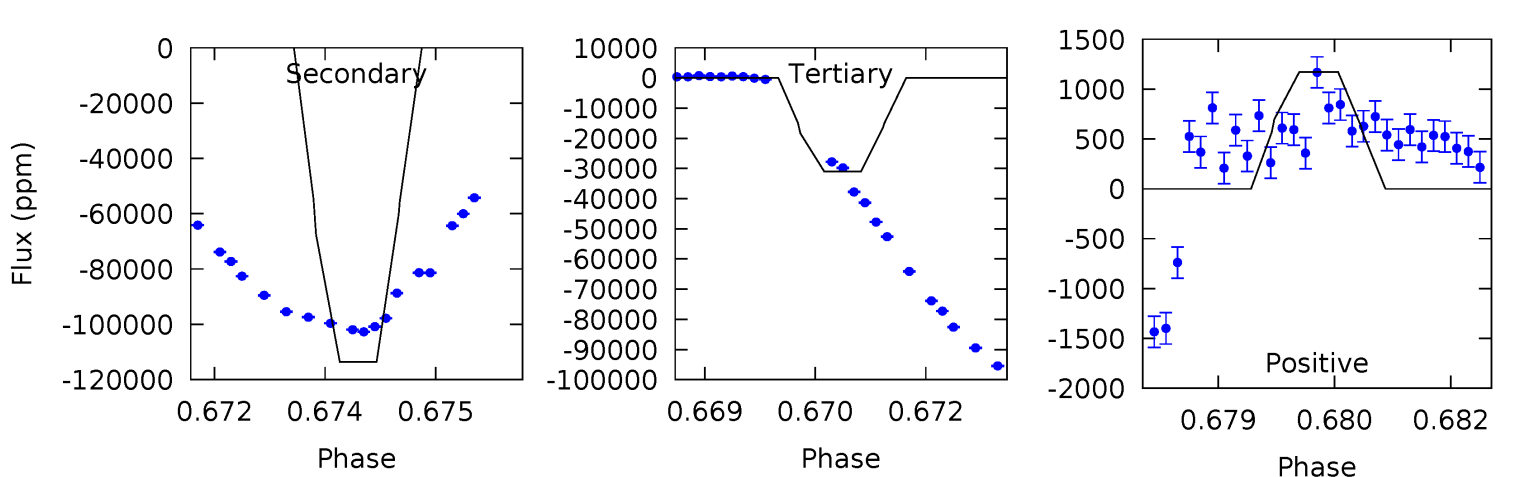
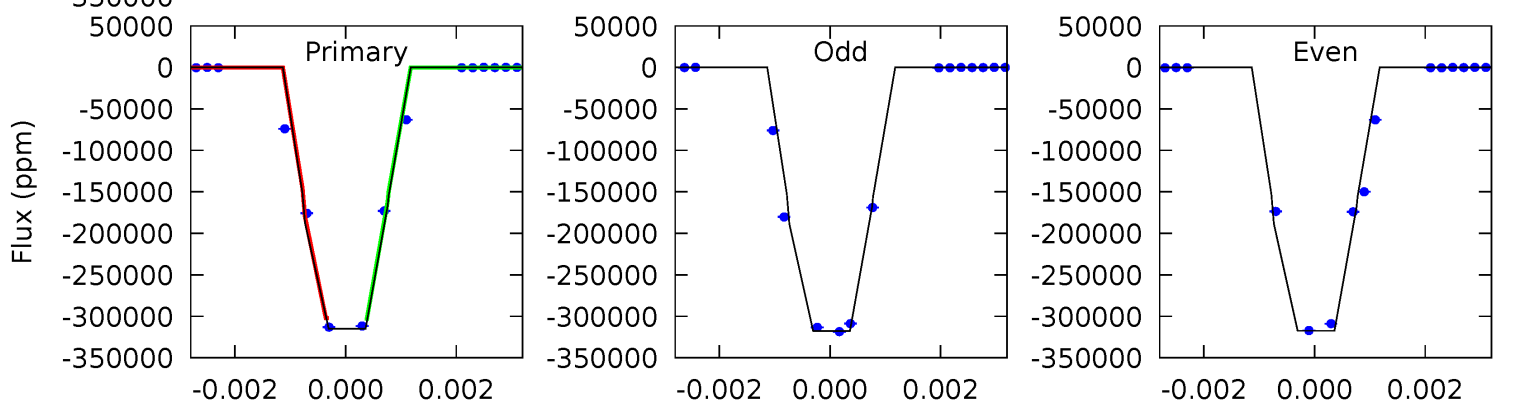
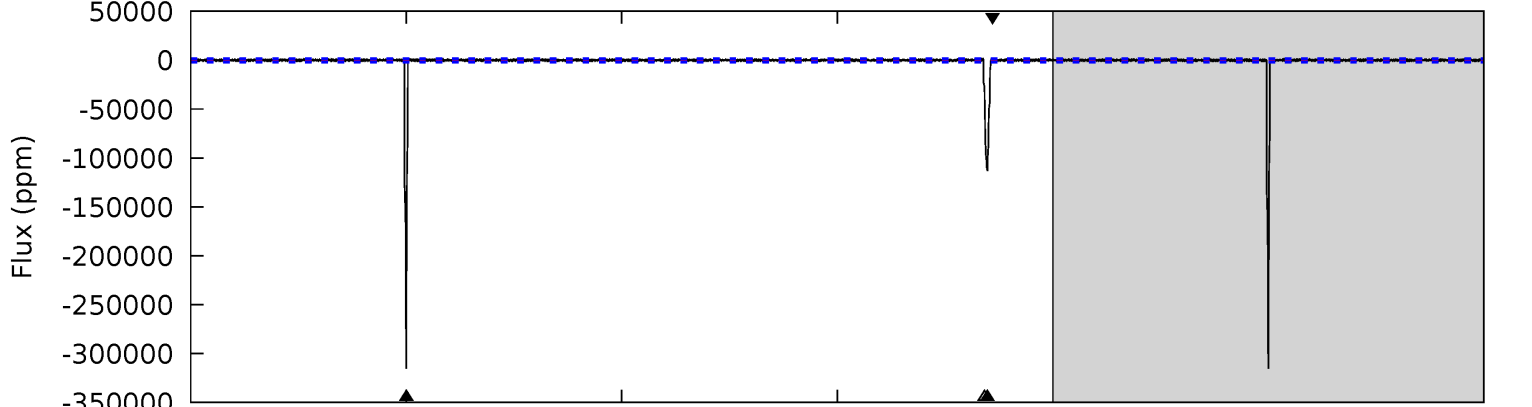
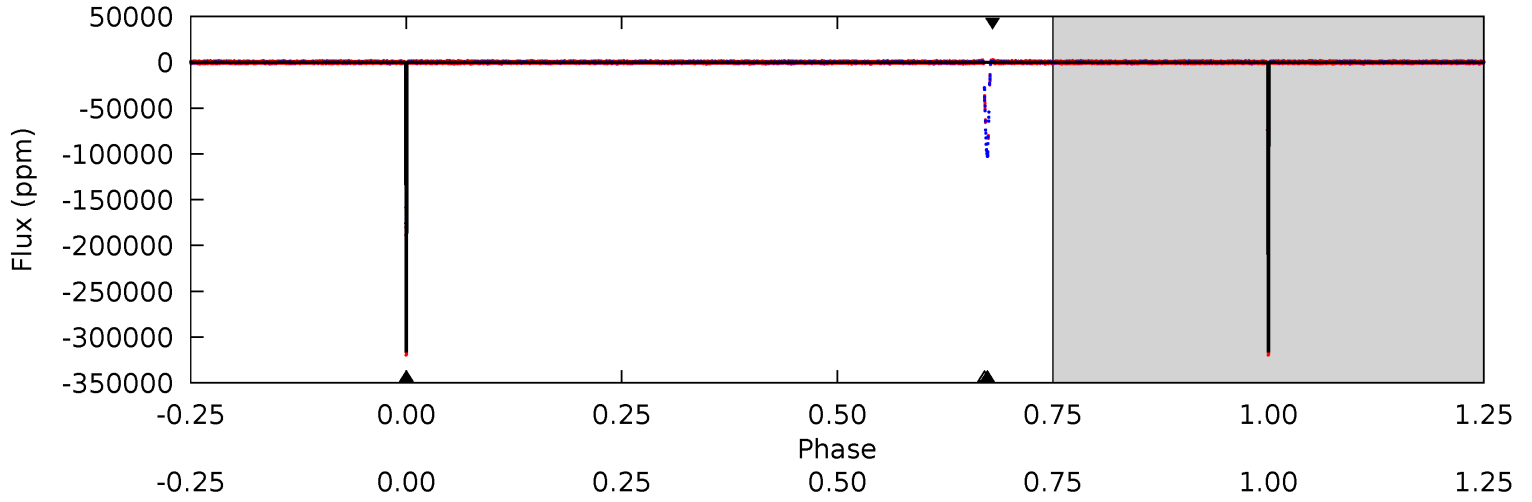
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

004075064-01, P = 61.422491 Days, E = 99.818672 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
960.1	345.9	94.4	3.57	5.36	3.14	5.06	865.8	956.6	251.6	342.4	0.21	1.01	0.00	0



Stellar Parameters For KIC 004075064

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4867^{+145}_{-145}	$4.687^{+0.025}_{-0.065}$	$-0.560^{+0.300}_{-0.300}$	$0.613^{+0.070}_{-0.035}$	$0.665^{+0.066}_{-0.054}$	$4.069^{+0.559}_{-0.924}$
	+3%/-3%	+1%/-1%	+54%/-54%	+11%/-6%	+10%/-8%	+14%/-23%
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 004075064-01 / KOI 6383.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$34.45^{+7.05}_{-7.34}$	459^{+17}_{-16}	1747^{+2460}_{-5795}	$4.620^{+3942.428}_{-3202.134}$
Alt.	-113570 ± 328	$39.57^{+6.70}_{-6.86}$	458^{+17}_{-16}	4034^{+296}_{-218}	3188^{+1481}_{-845}

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

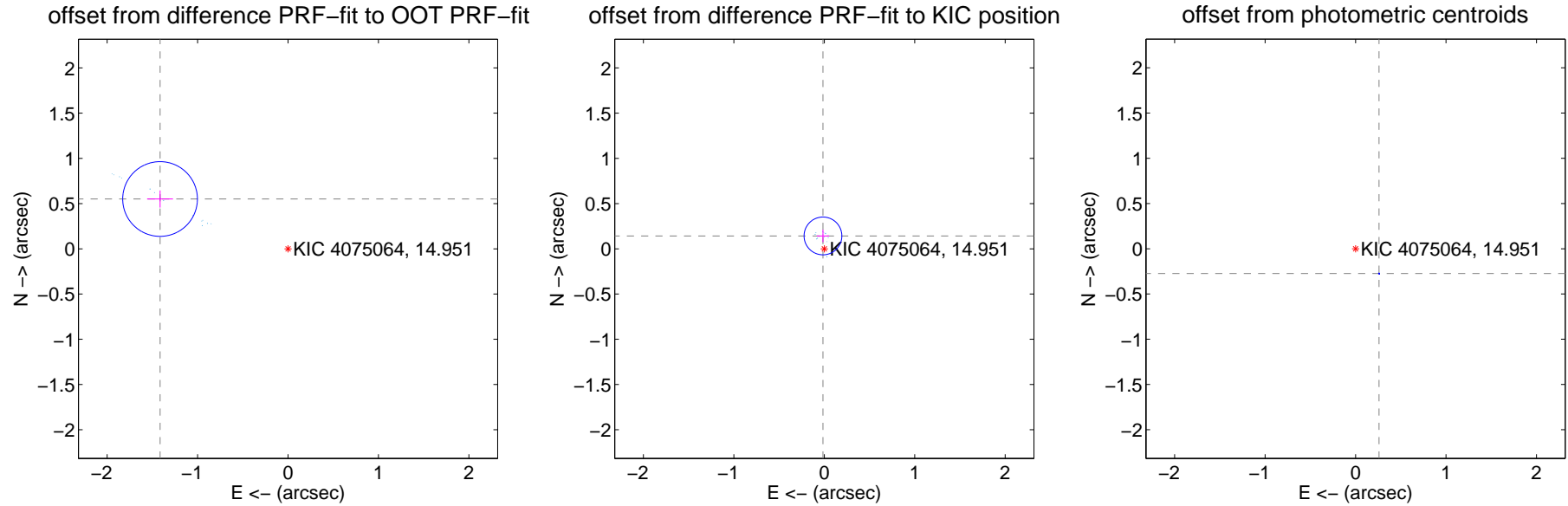
DV Centroid Data

Supplemental centroid analysis for 004075064-01. Kepler magnitude: 14.95. Transit SNR -1.00

There are 14 quarters with good PRF difference image offsets

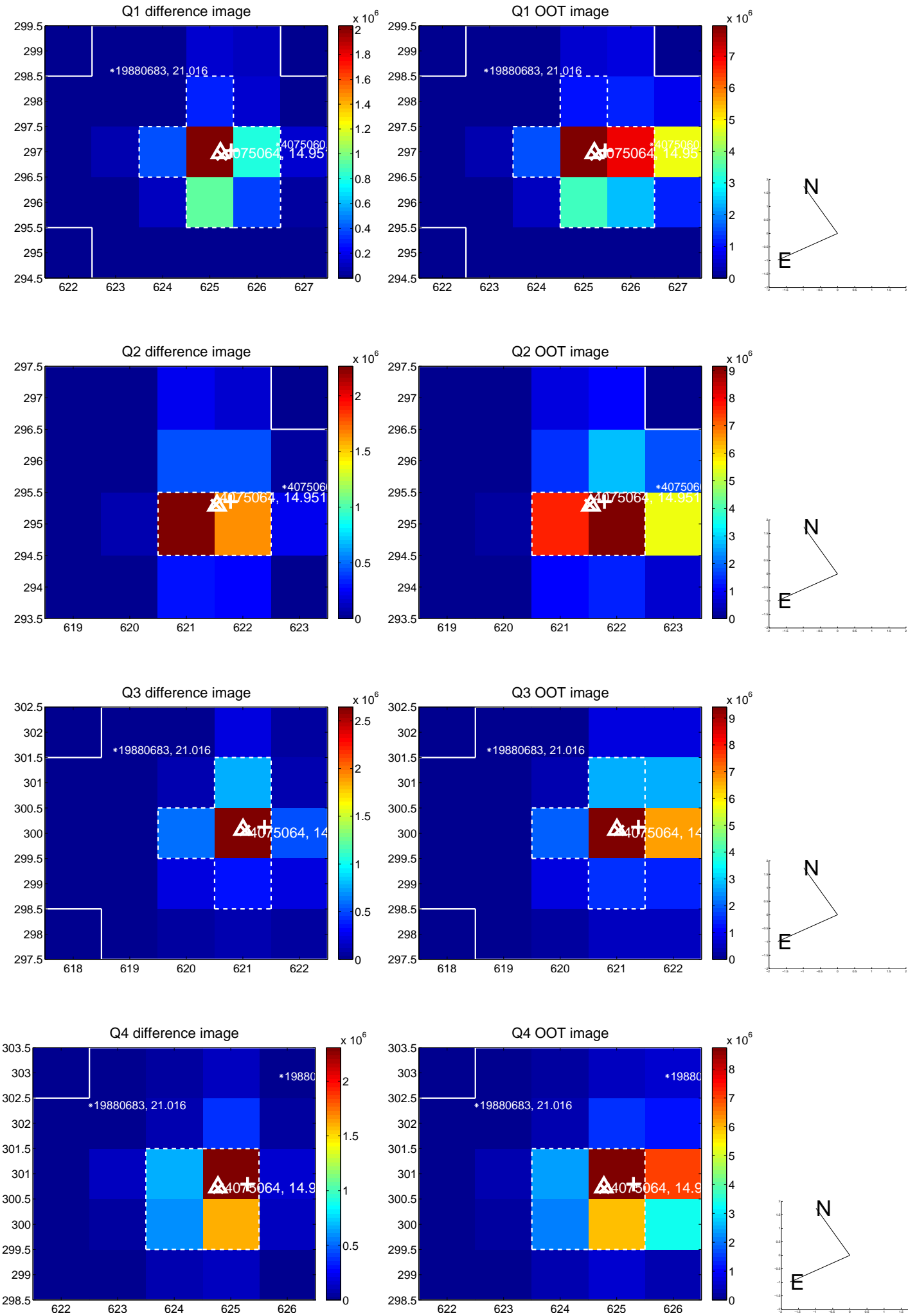
The direct PRF centroid is offset from the target star catalog position by about 0.87 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.518 \pm 0.138	11.03	1.414 \pm 0.143	0.551 \pm 0.095
PRF-fit source offset from KIC position	0.143 \pm 0.070	2.06	0.015 \pm 0.068	0.142 \pm 0.069
photometric centroid source offset	0.38 \pm 0.00	197.90	-0.26 \pm 0.00	-0.27 \pm 0.00

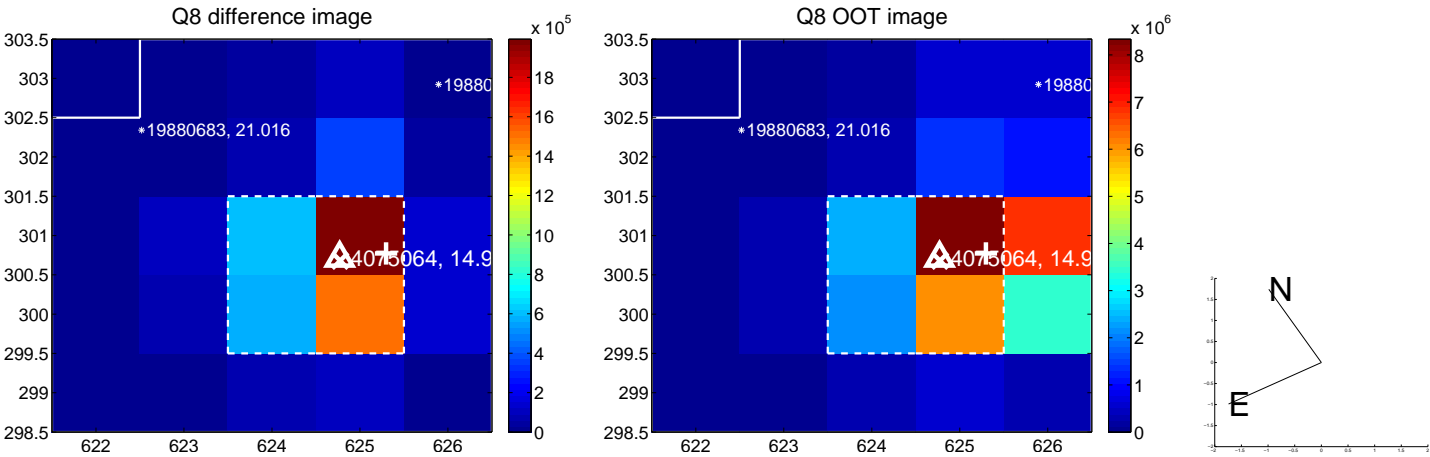
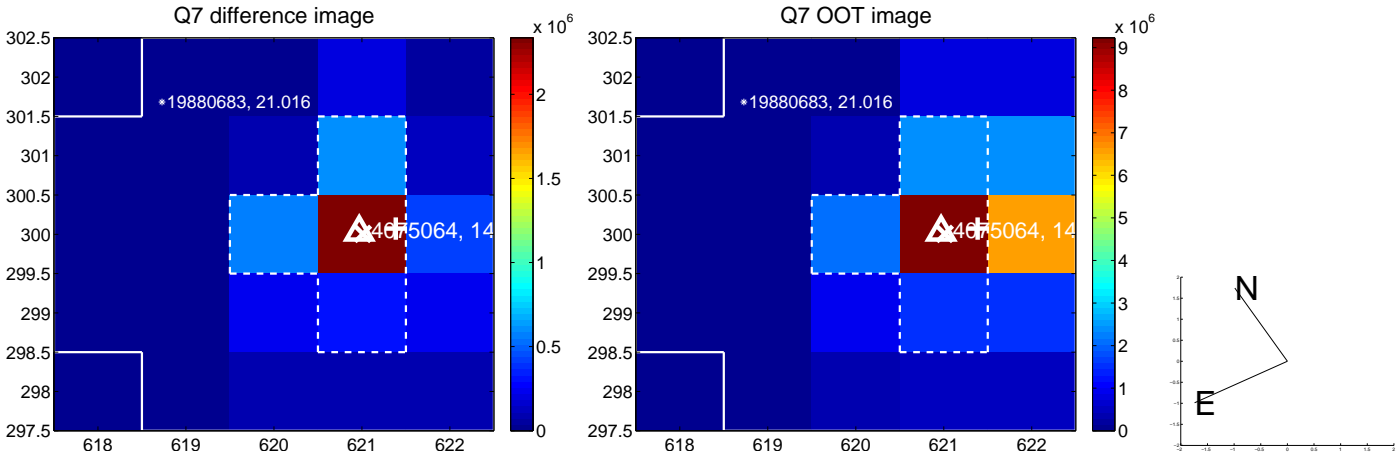
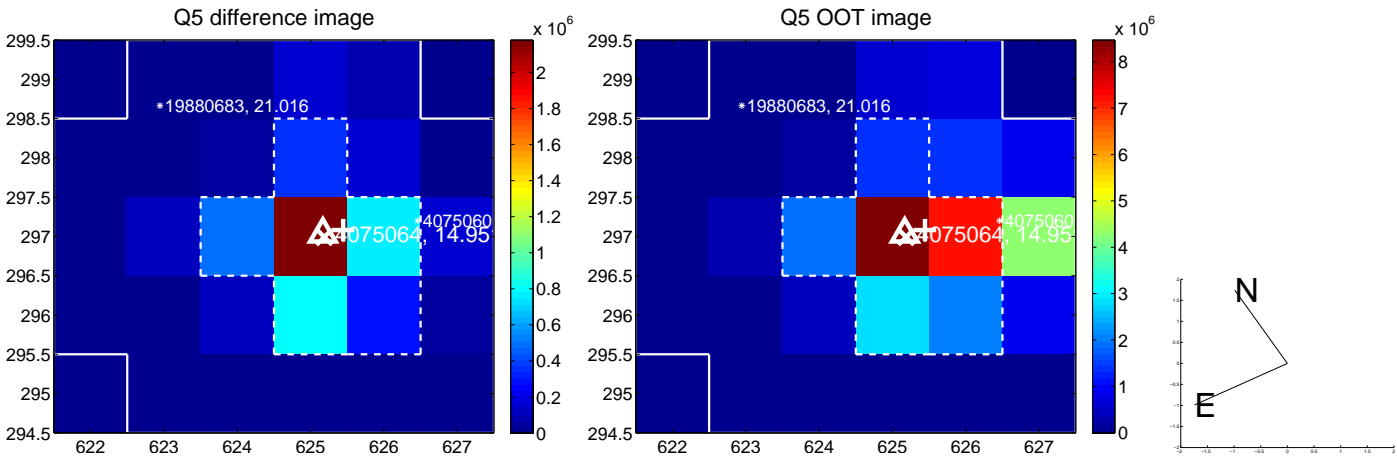


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

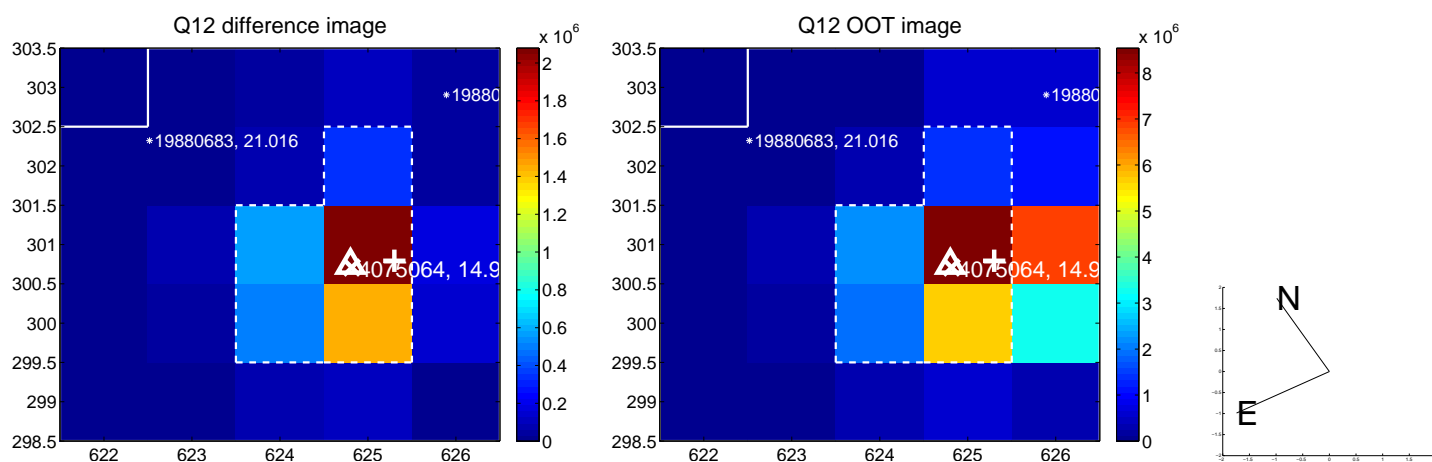
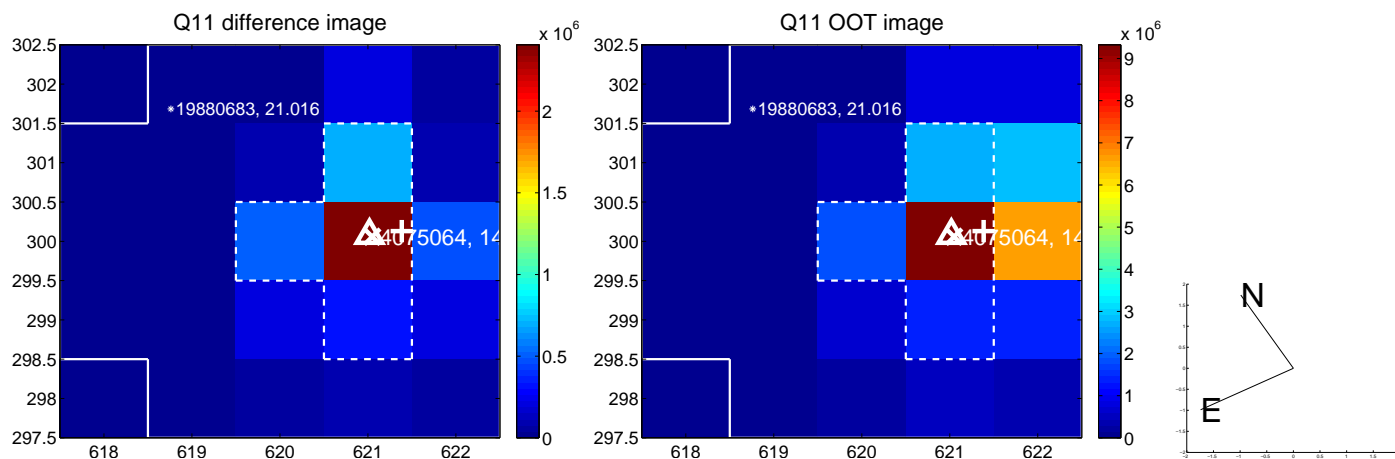
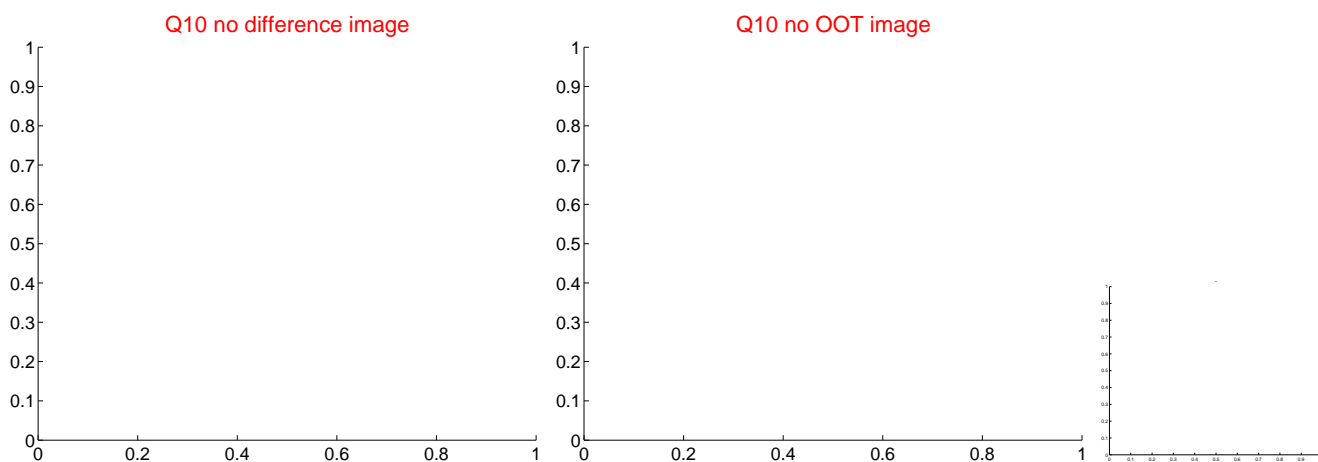
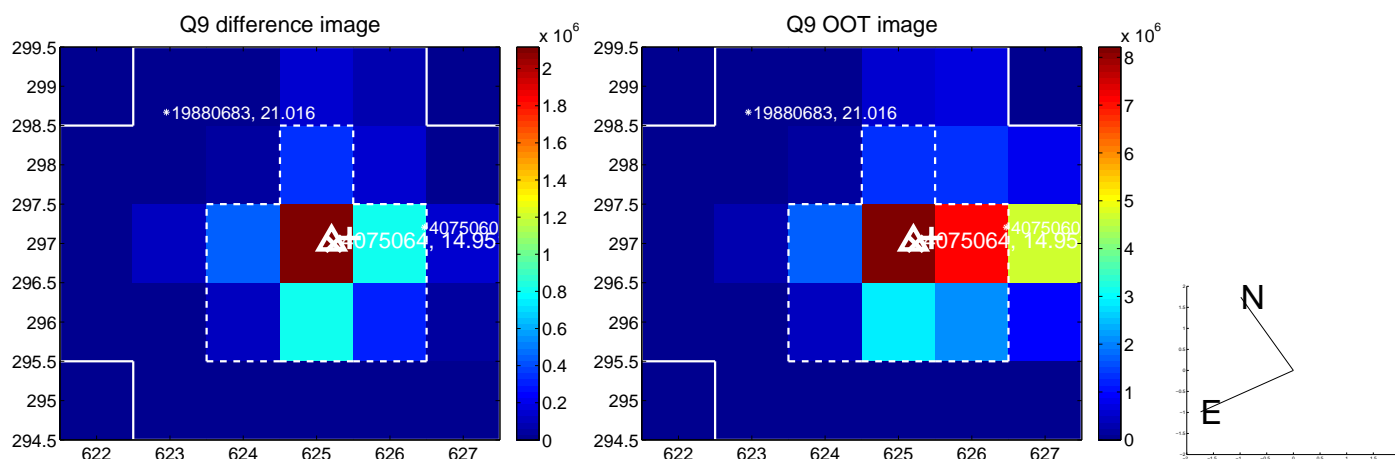
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



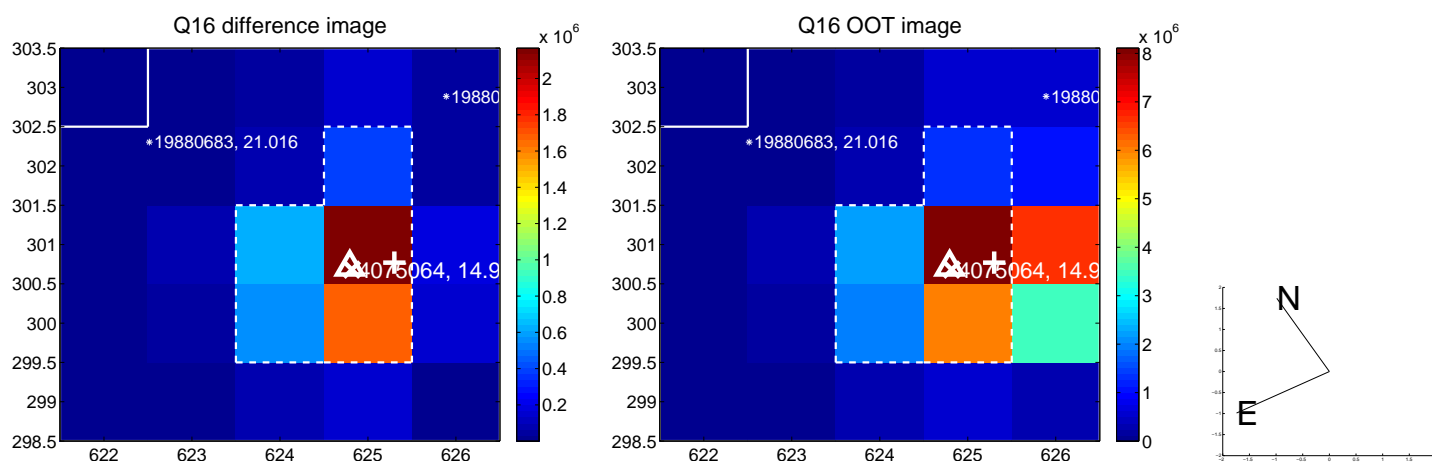
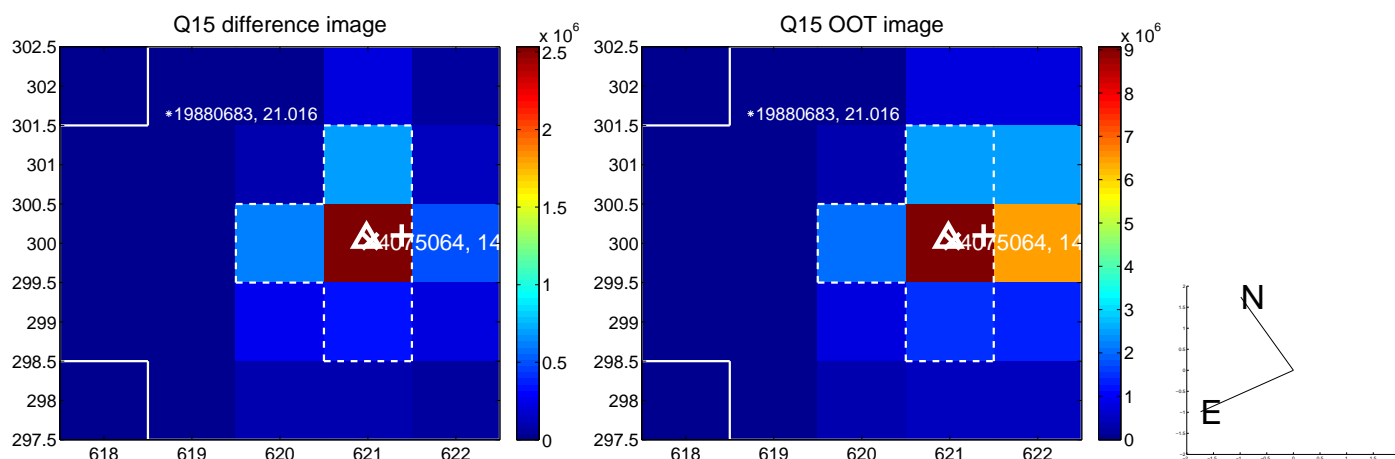
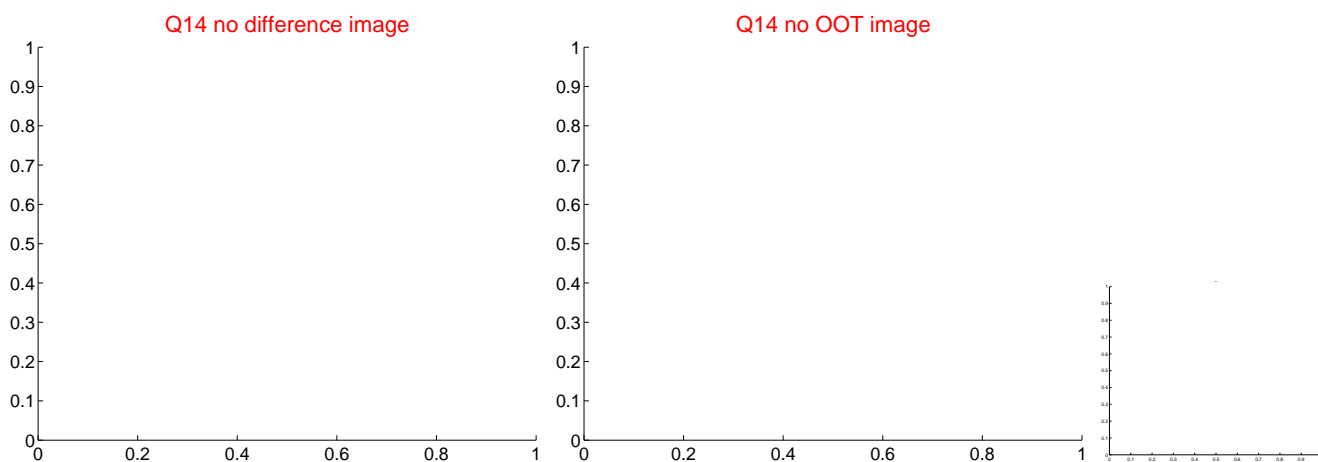
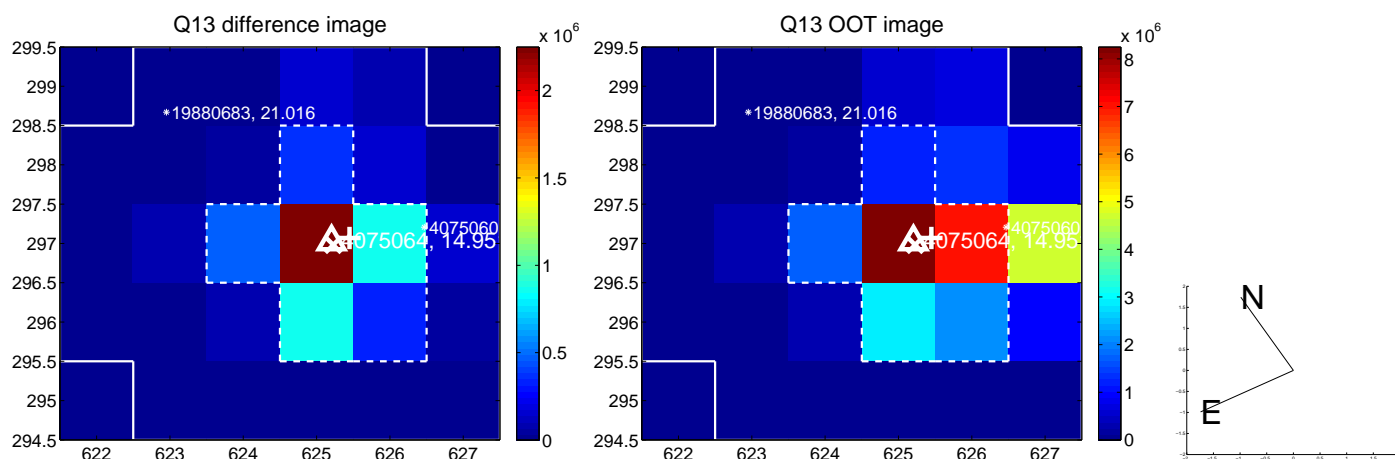
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



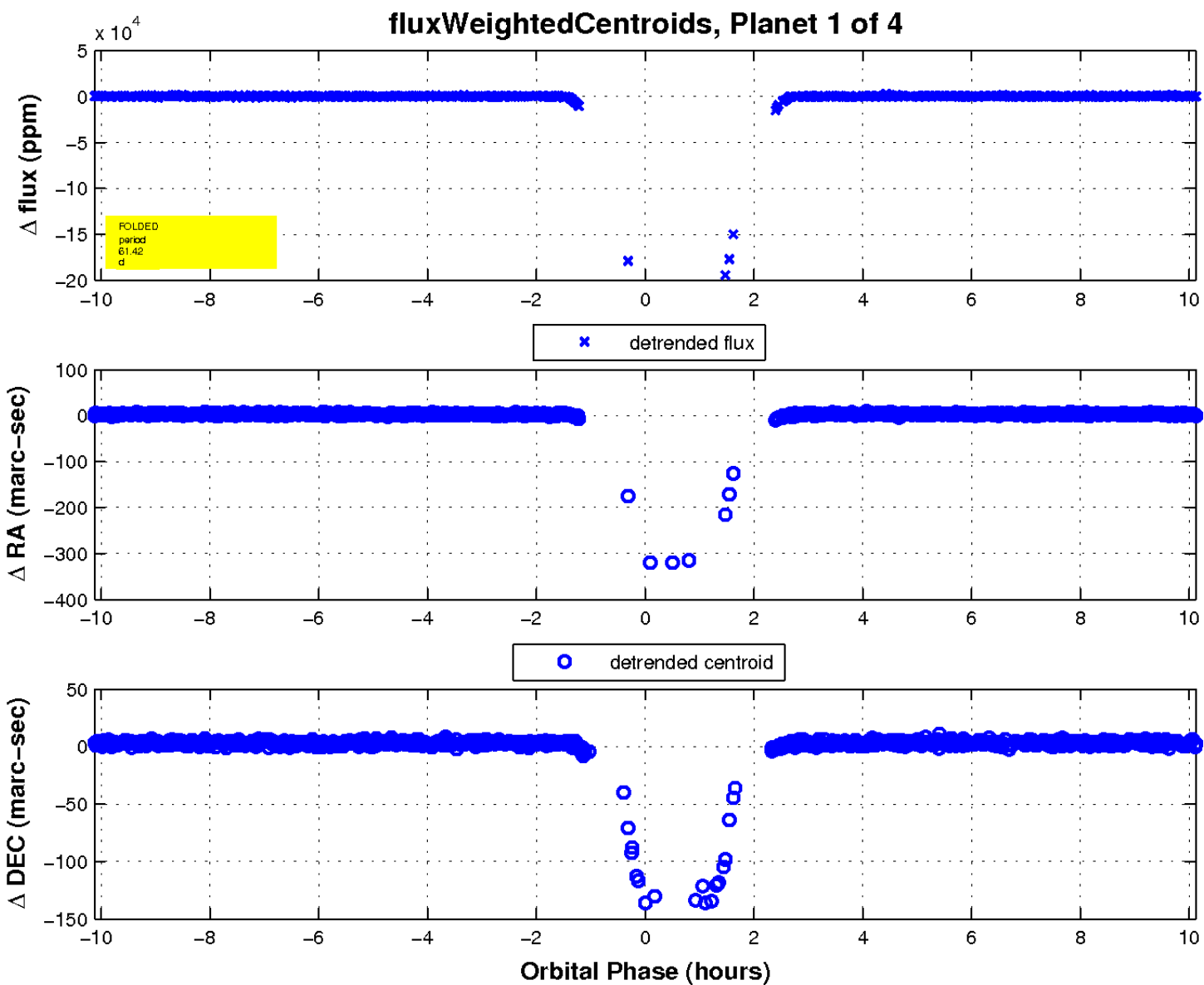
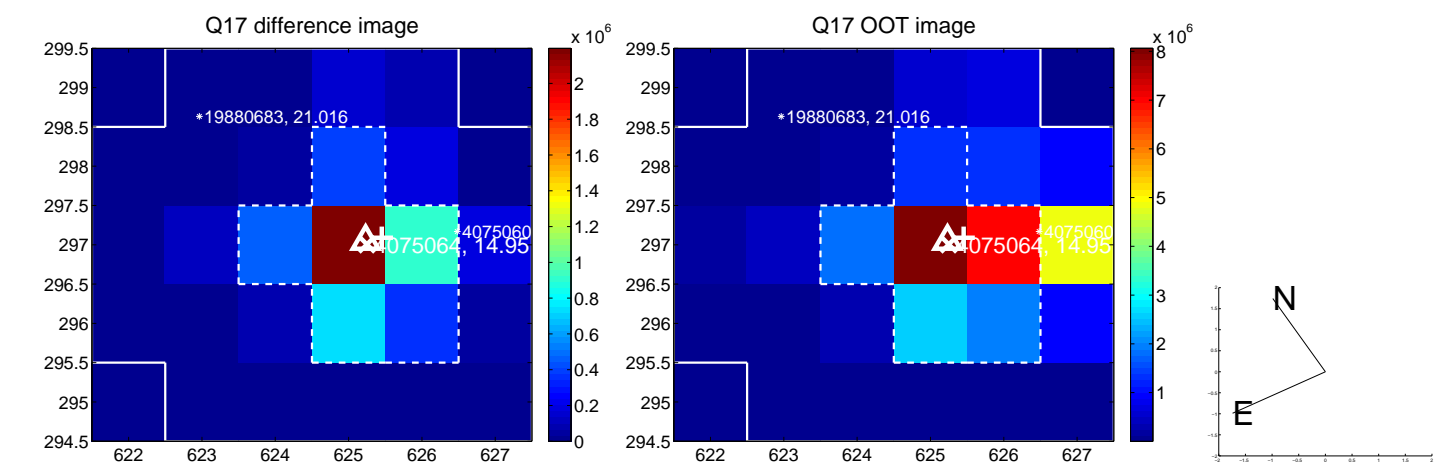
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value

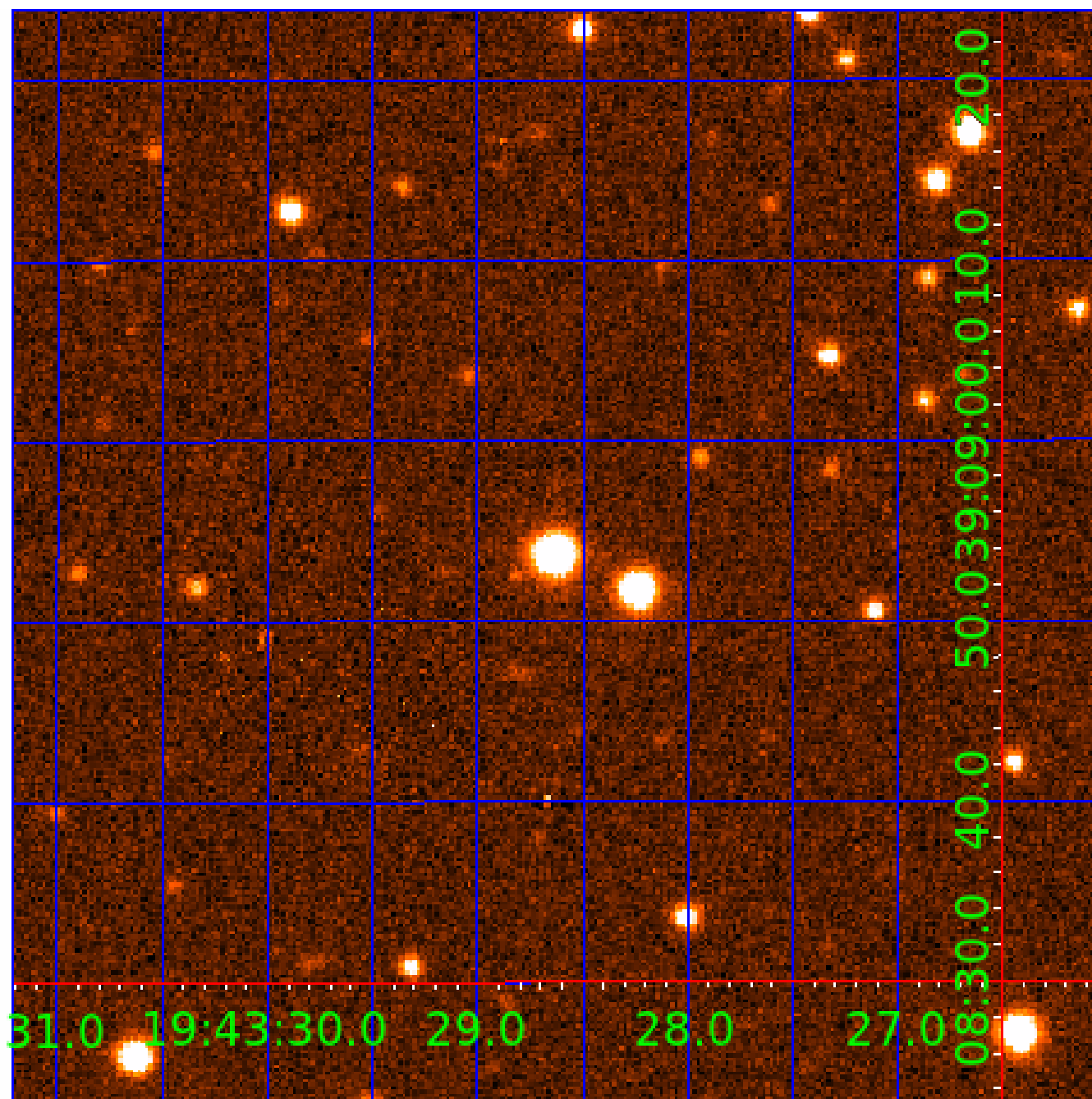


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004075064

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})
004075064-01	OBS	6383.01	61.422491	161.238284	339471.0	2.000	4319.9	-1.0	0.61	4867	33.45	2.67
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004075064-04	OBS	No	5.118567	135.842909	13363.6	15.000	185.7	-1.0	0.61	4867	6.88	73.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004075064-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
004075064-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS
004075064-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
004075064-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—RESIDUAL_TCE—CENT_NOFITS

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.

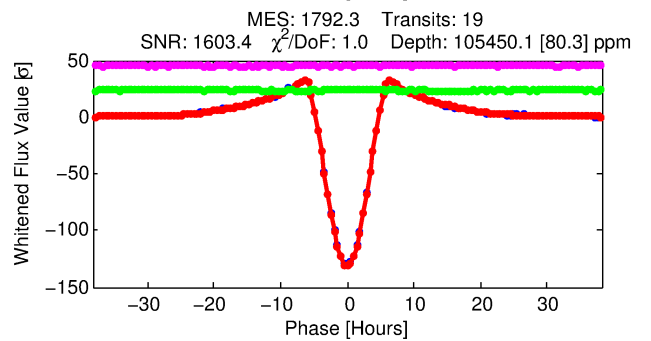
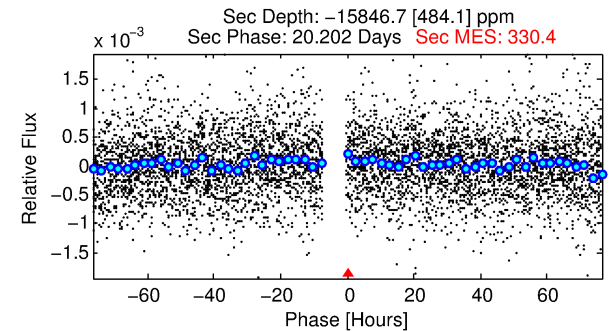
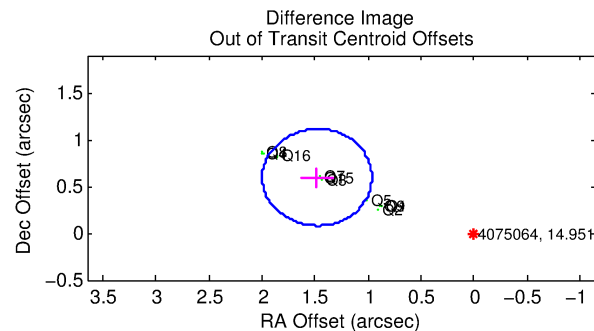
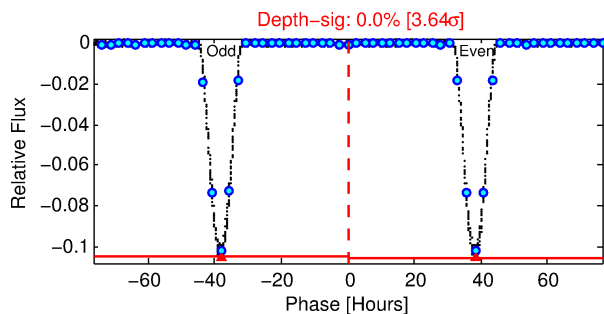
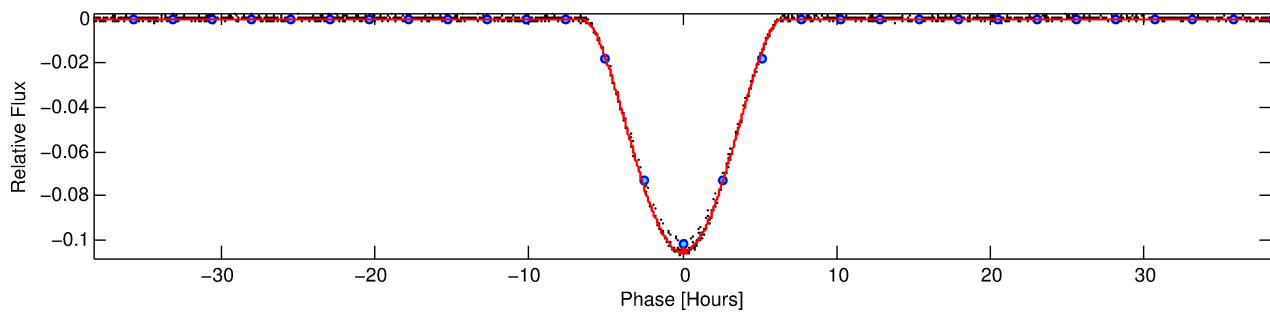
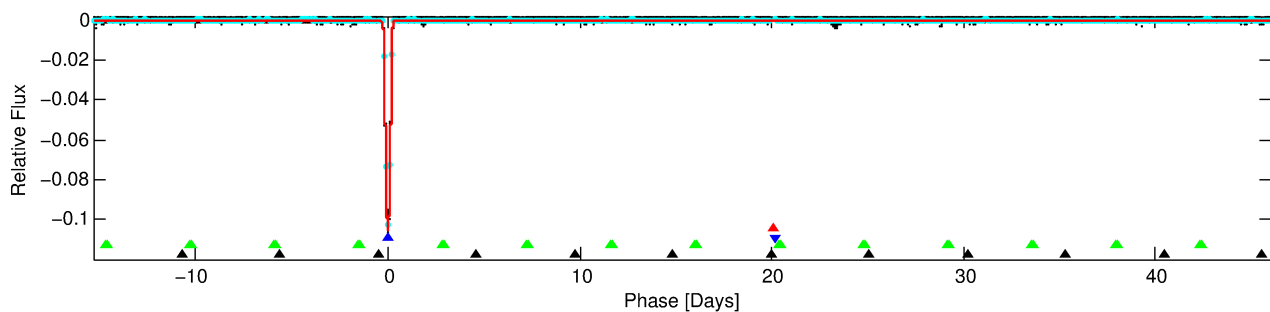
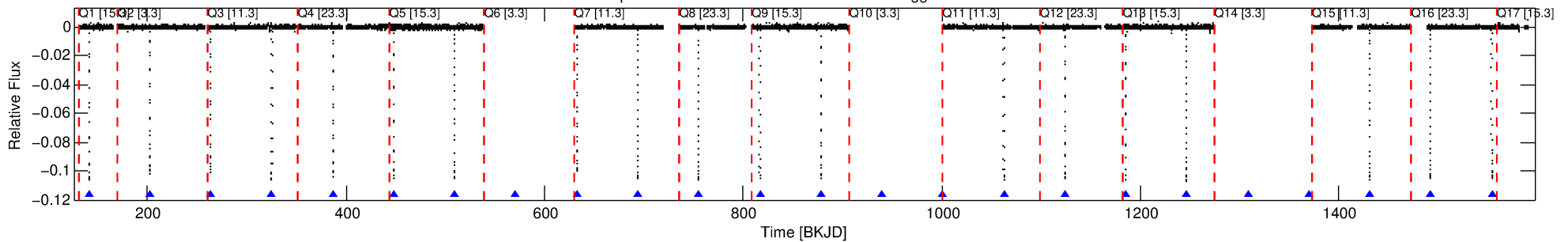
Ephemeris Match Information For 004075064-02

No Significant Match Found

DV One-Page Summary

KIC: 4075064 Candidate: 2 of 4 Period: 61.422 d
KOI: K06383 Corr: No Ephemeris Match

Kp: 14.95 R*: 0.61 Rs Teff: 4867.0 K Logg: 4.69 Fe/H: -0.560



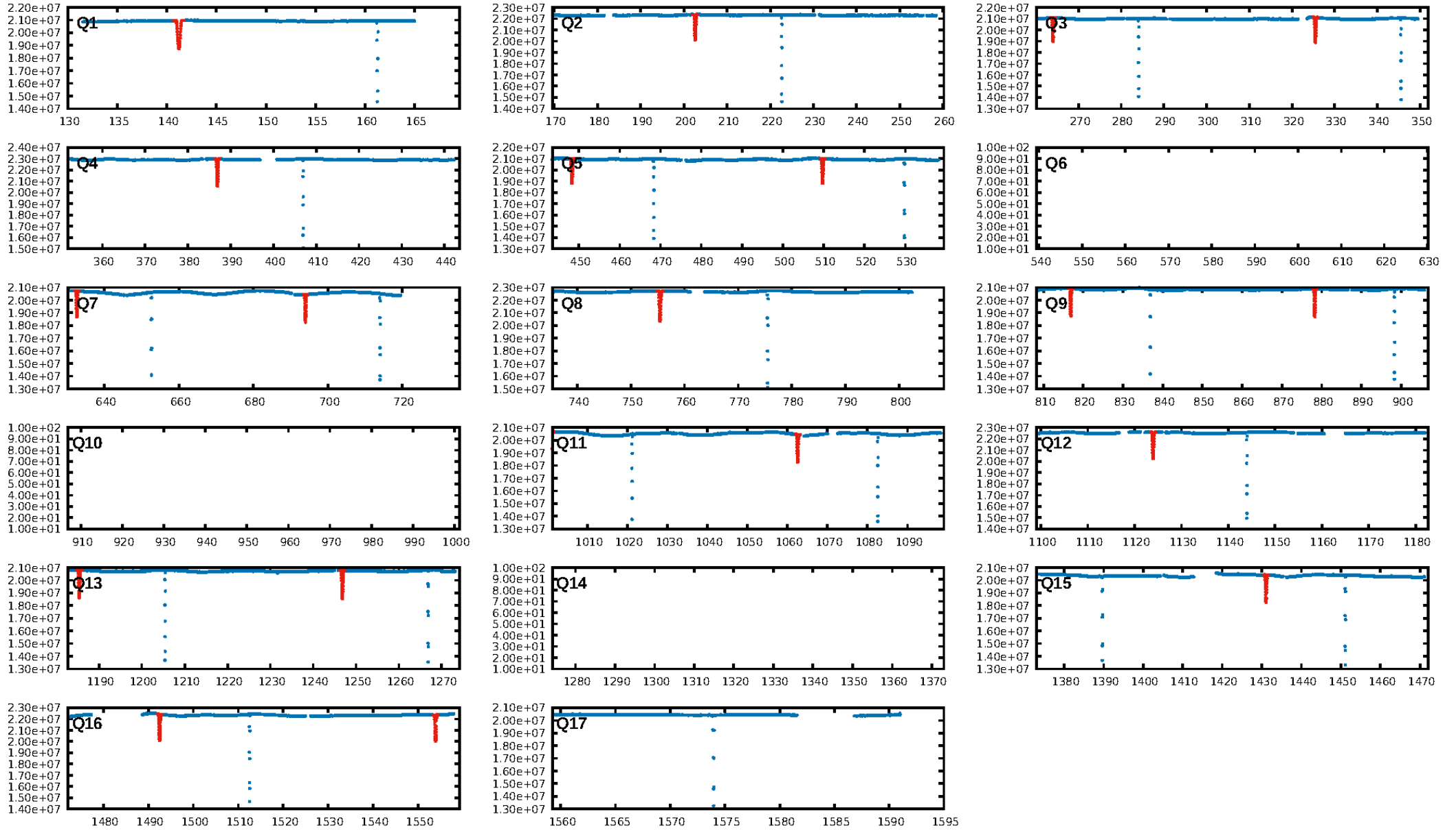
DV Fit Results:

Period = 61.42248 [0.00001] d
Epoch = 141.1997 [0.0001] BKJD
Rp/R* = 0.4361 [0.0268]
a/R* = 41.21 [0.11]
b = 0.90 [0.04]
Seff = 2.67 [0.46]
Teq = 326 [14] K
Rp = 29.17 [3.78] Re
a = 0.2662 [0.0242] AU
Ag = N/A
Teffp = N/A

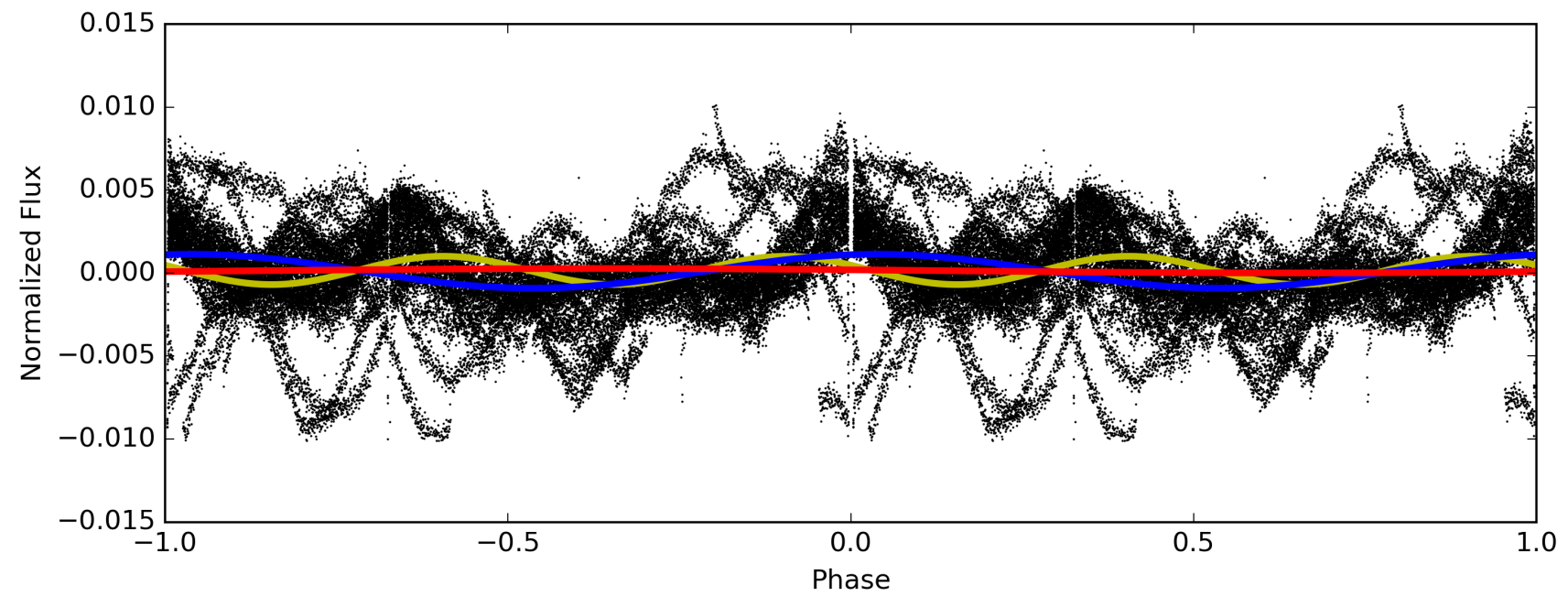
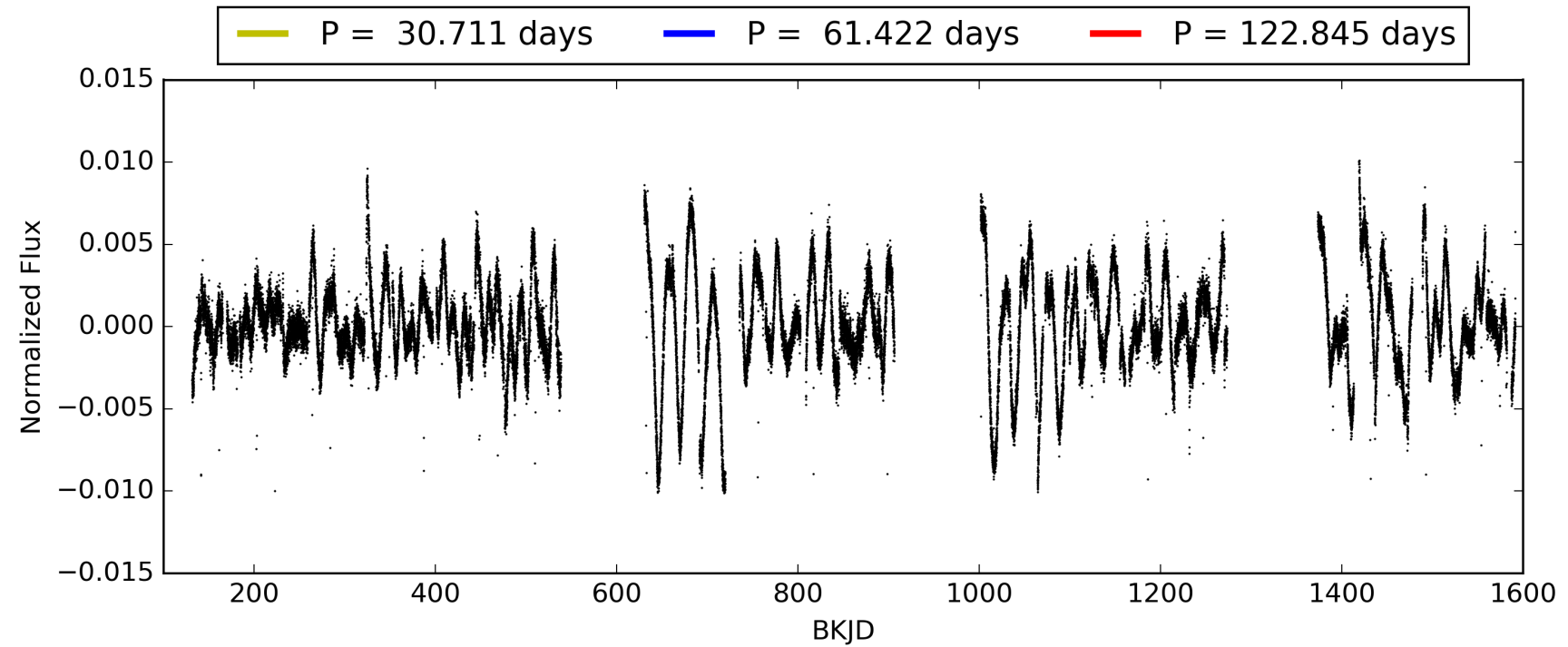
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [68.62σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [18/18]
GhostDiagnostic-chr: 1.914
Centroid-sig: N/A
Centroid-so: 0.412 arcsec [89.22σ]
OotOffset-rm: 1.596 arcsec [9.27σ]
KicOffset-rm: 0.129 arcsec [1.86σ]
OotOffset-st: 1/3/3/3 [10]
KicOffset-st: 1/3/3/3 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 0.00 [0/10]

TCE 004075064-02, PDC Light Curves

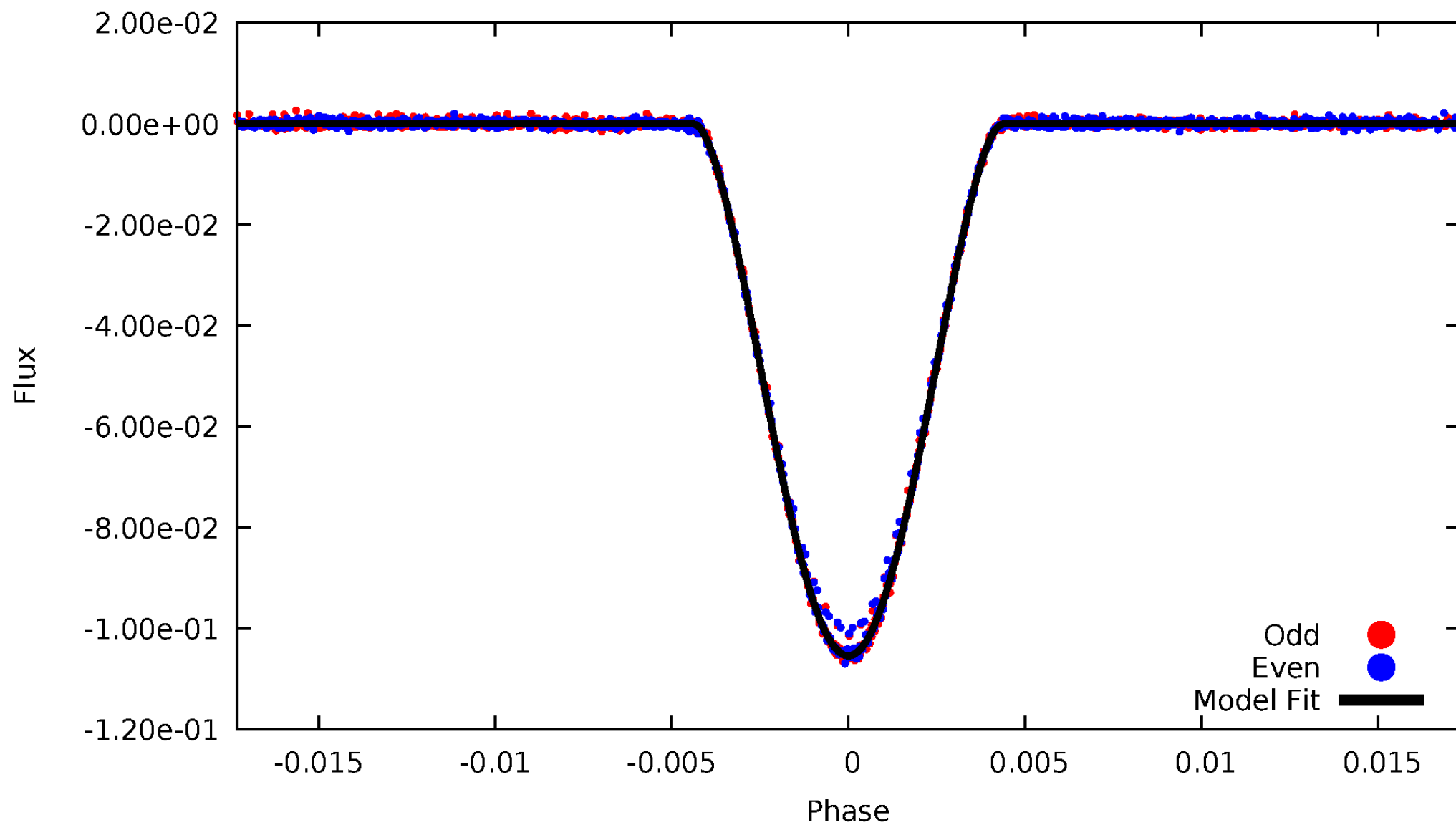


TCE 004075064-02



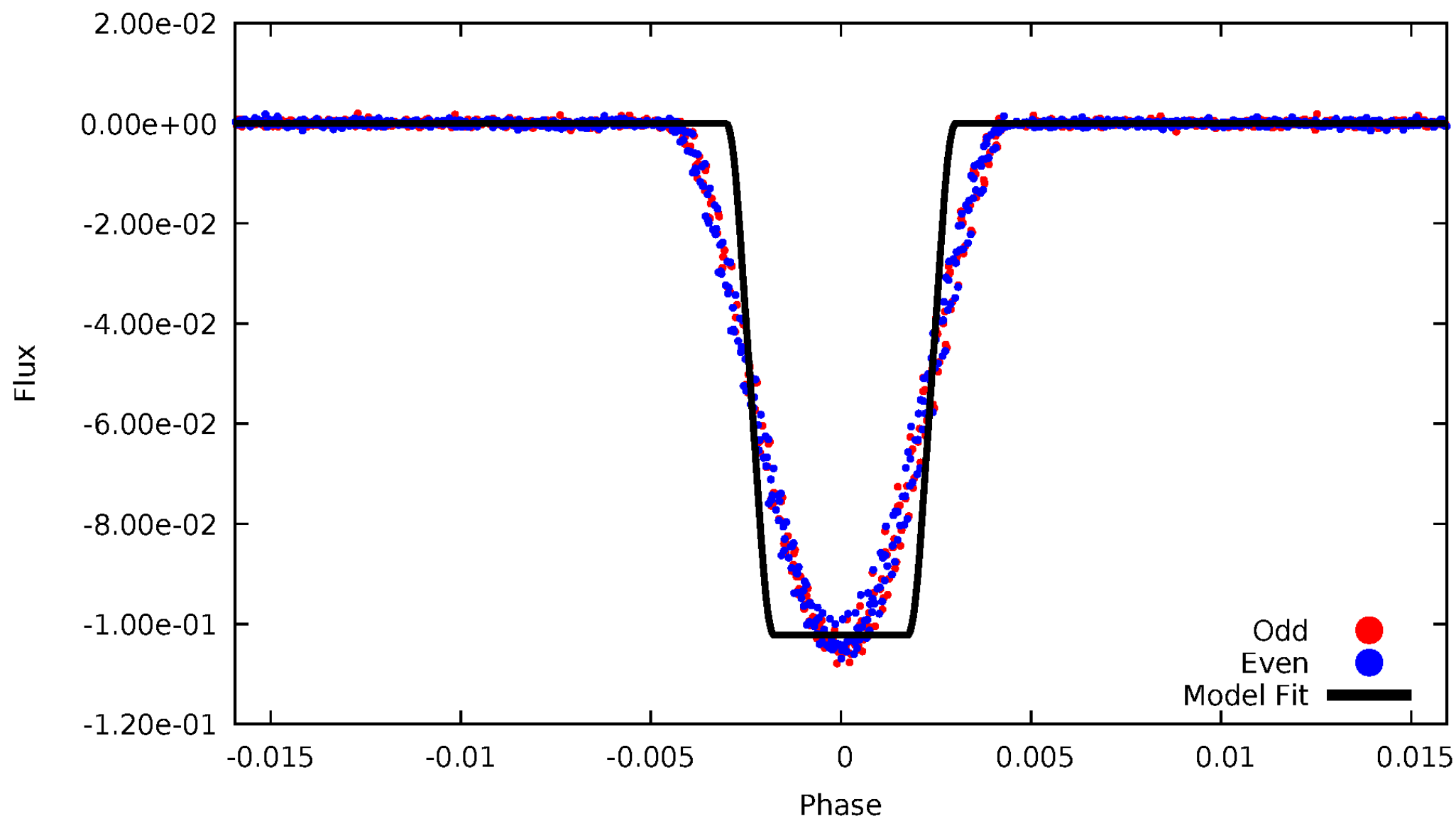
DV Odd/Even

TCE 004075064-02



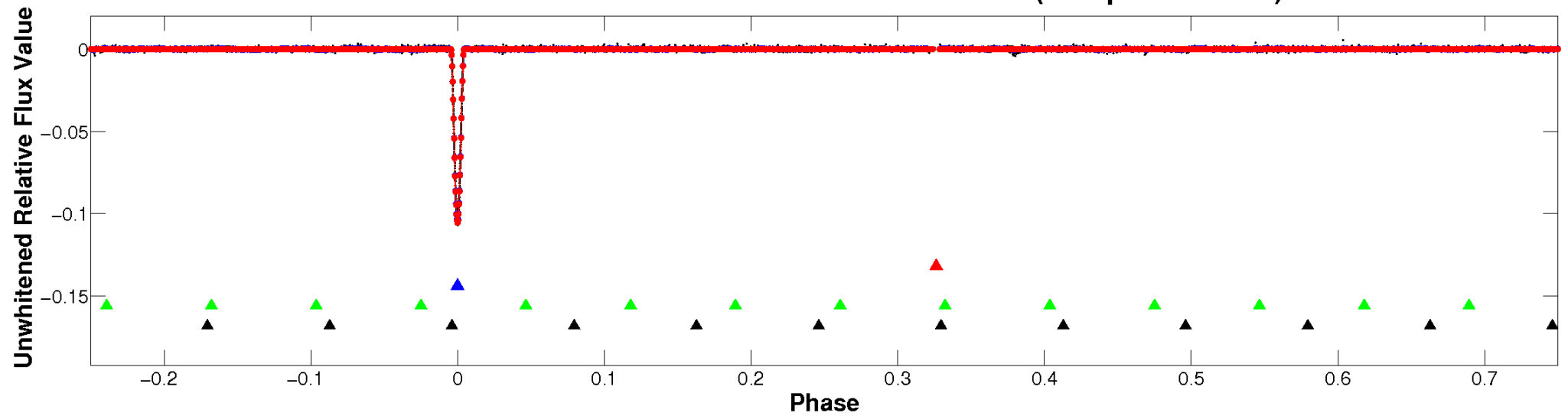
ALT Odd/Even

TCE 004075064-02

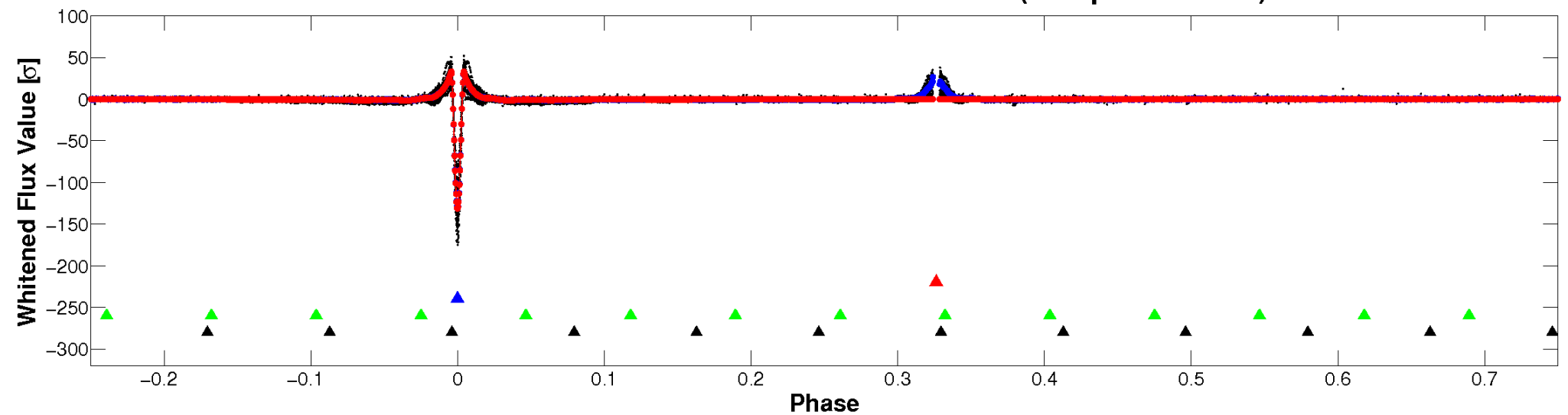


Non-Whitened Vs. Whitened Light Curve

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

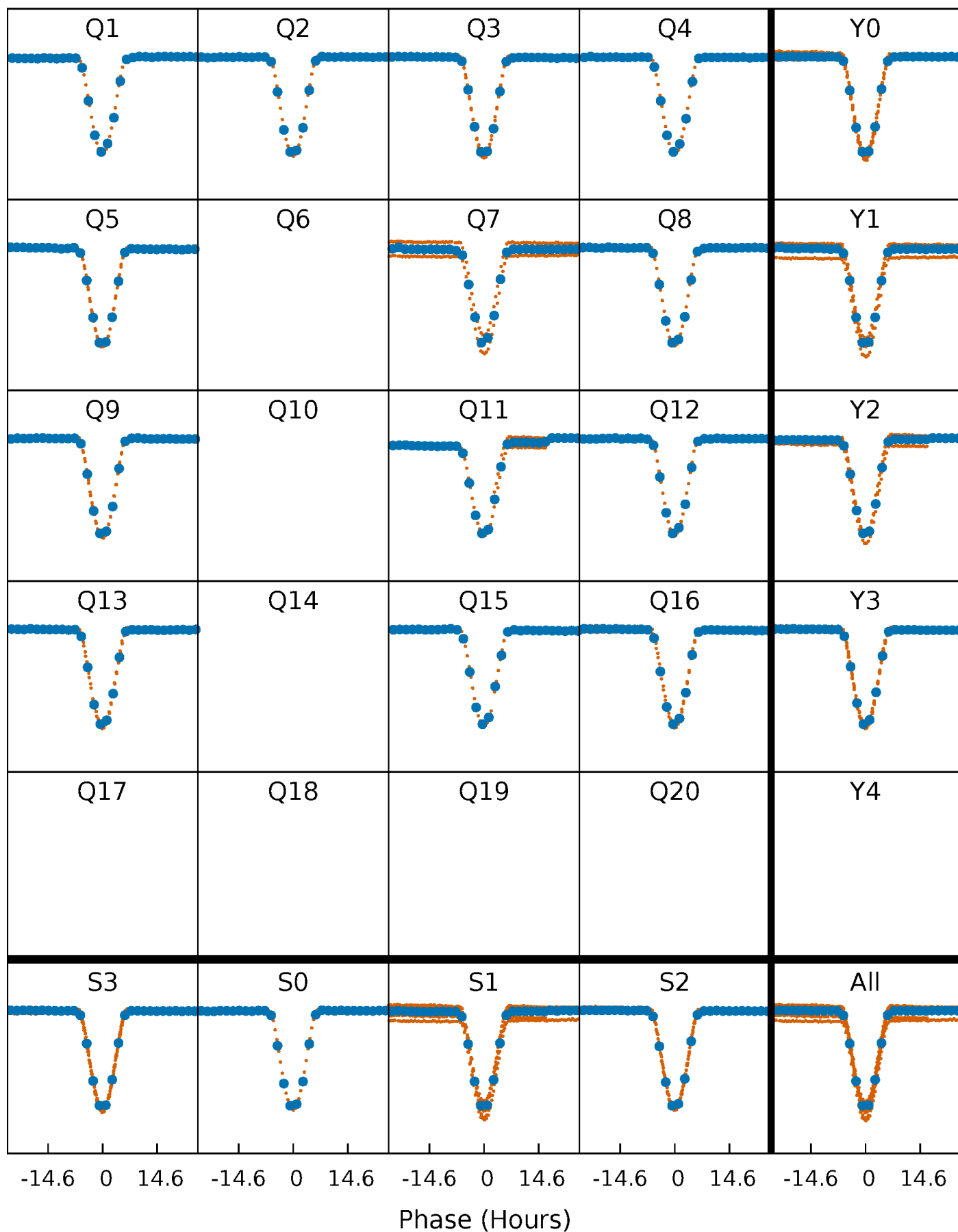


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



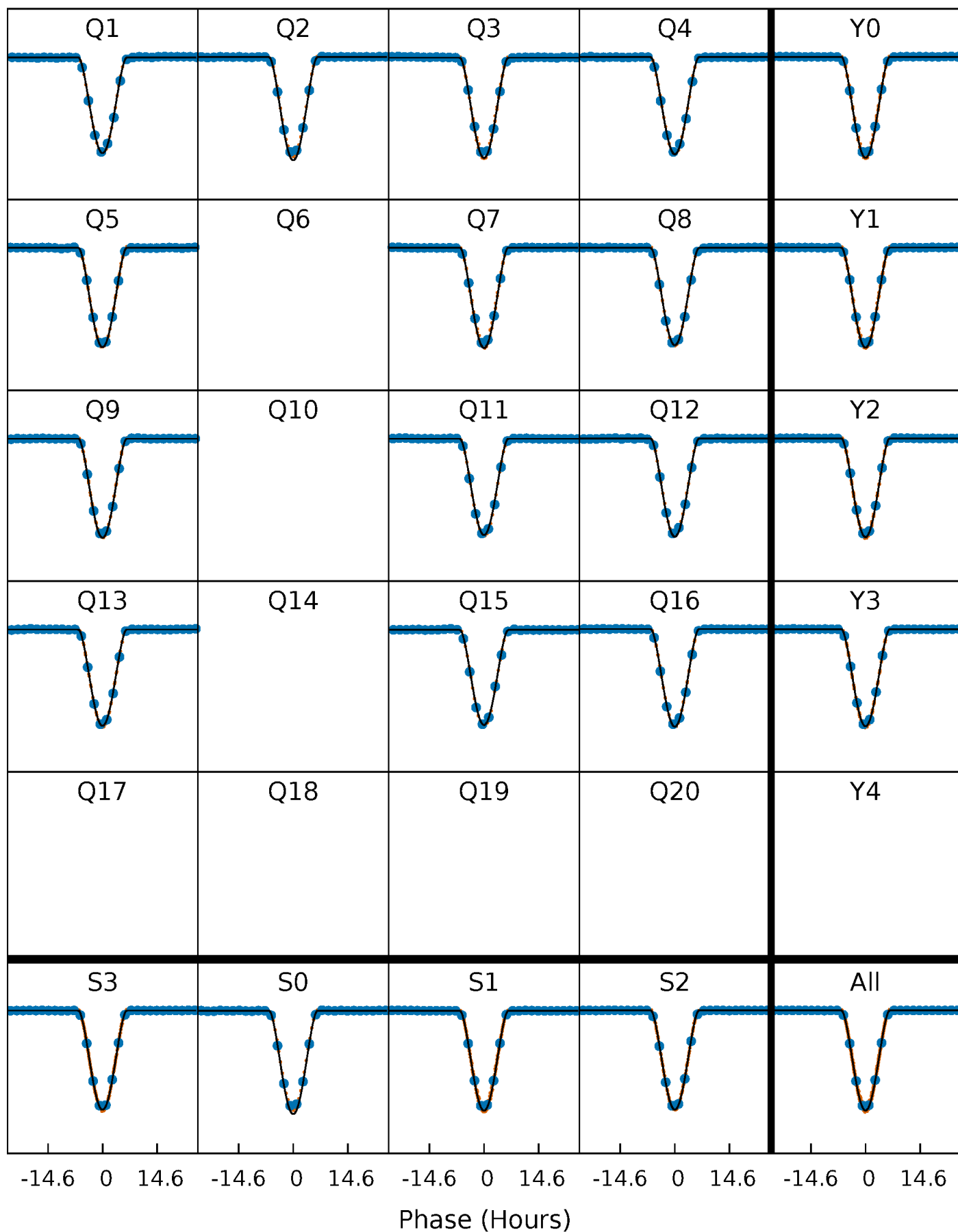
PDC Quarter-Phased Transit Curves

TCE 004075064-02 P= 61.422476 Days $T_0=141.199704$ (BKJD)



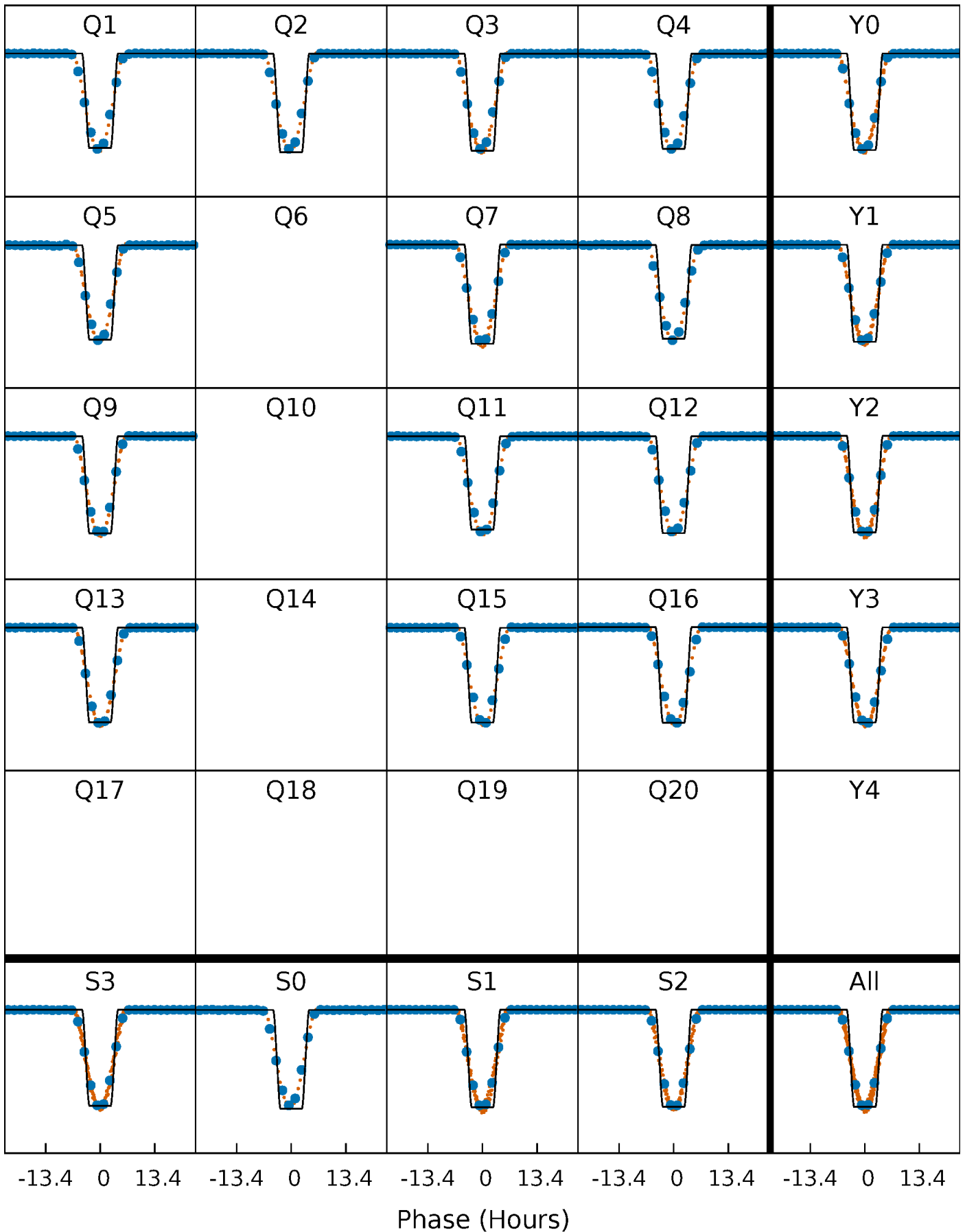
DV Quarter-Phased Transit Curves

TCE 004075064-02 P= 61.422476 Days $T_0=141.199704$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

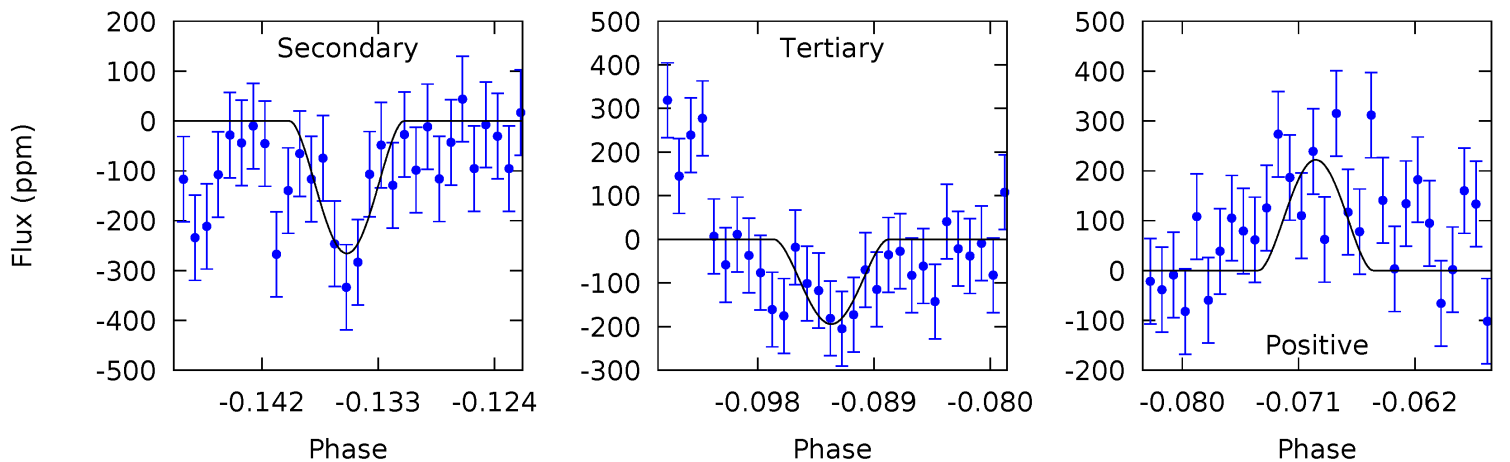
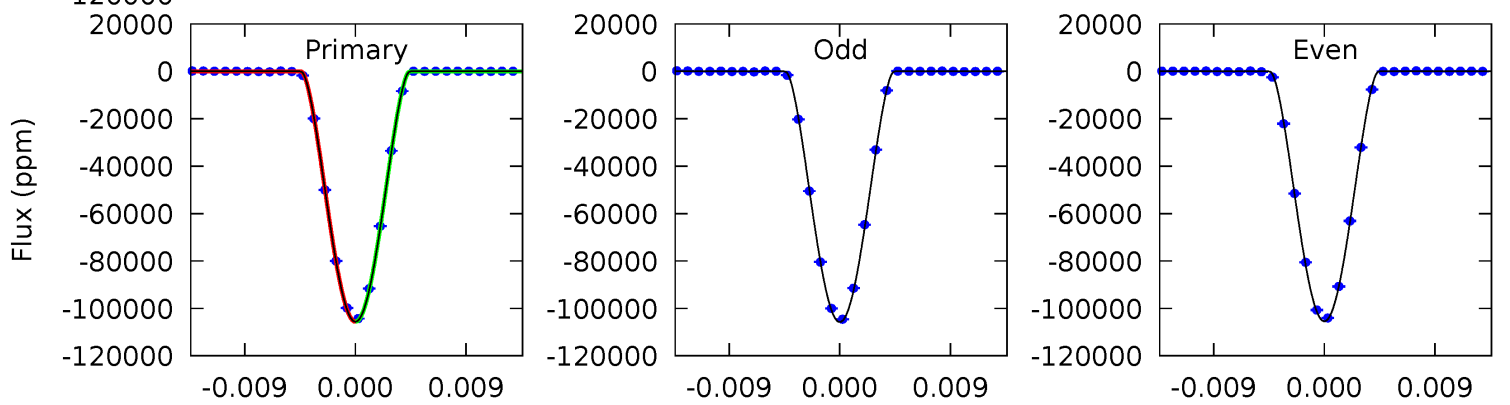
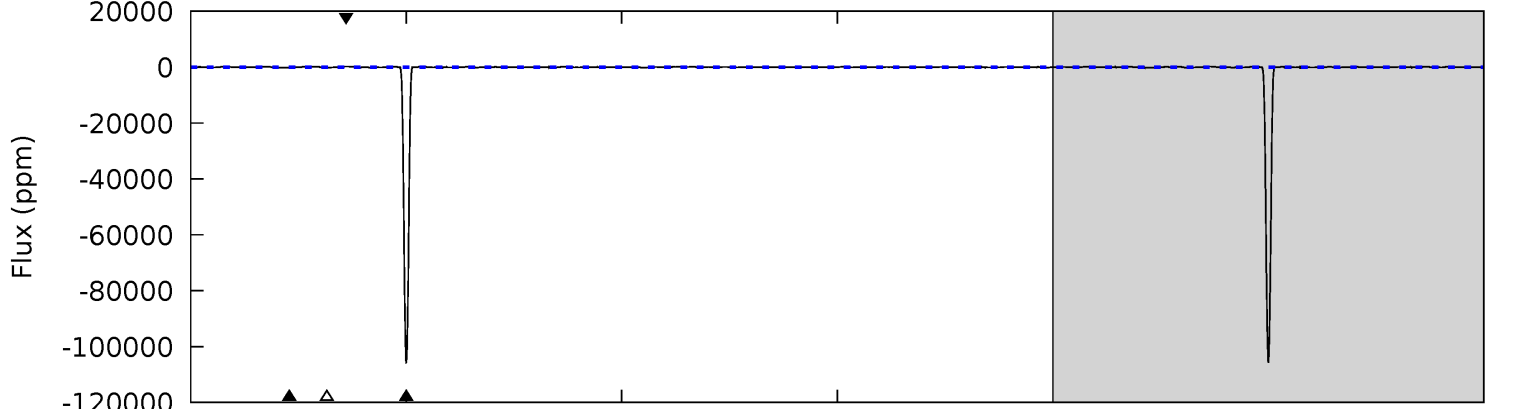
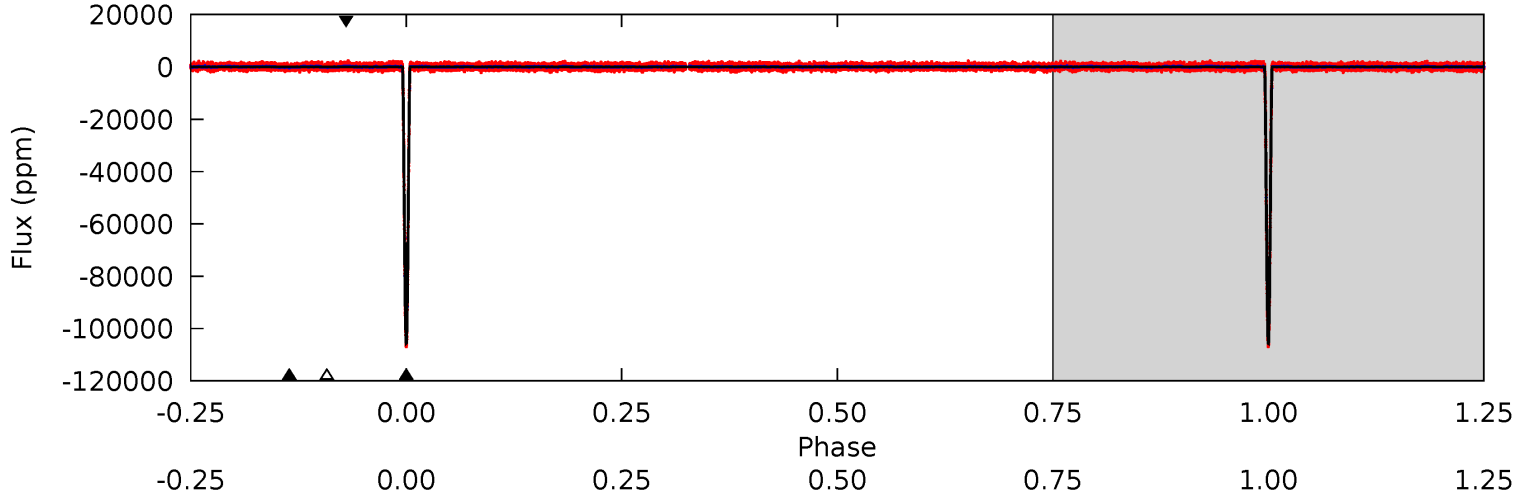
TCE 004075064-02 P= 61.421412 Days $T_0=141.212458$ (BKJD)



DV Model-Shift Uniqueness Test

004075064-02, P = 61.422476 Days, E = 79.777228 Days

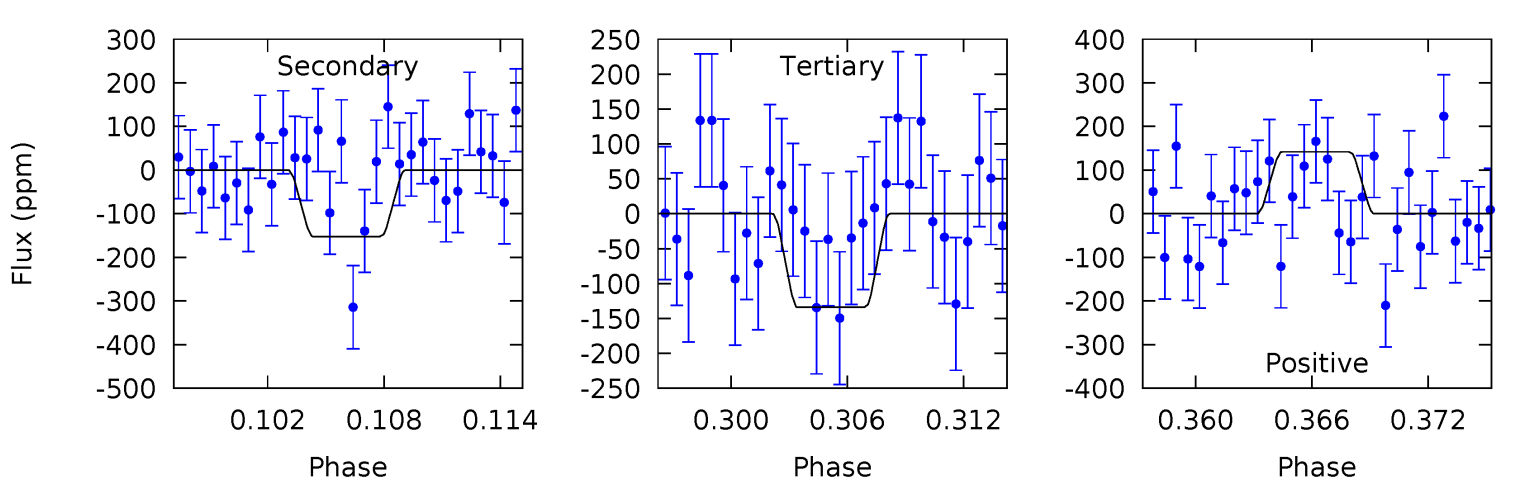
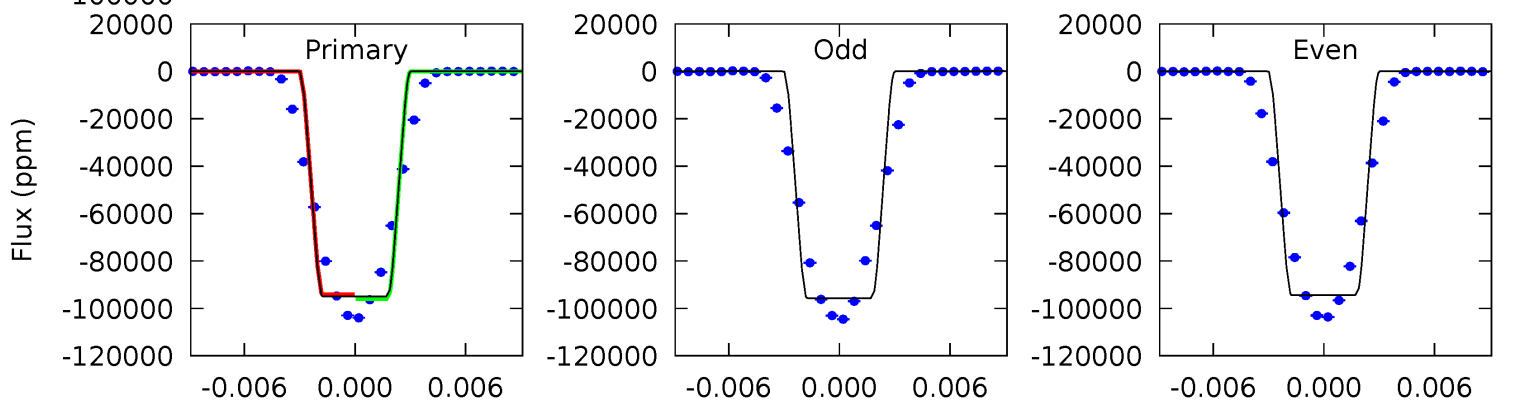
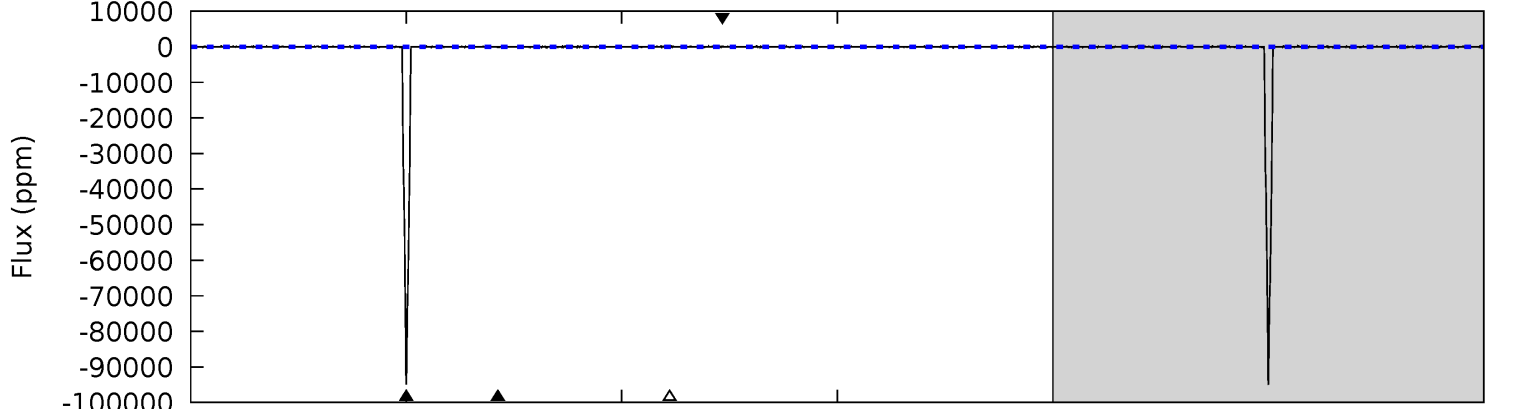
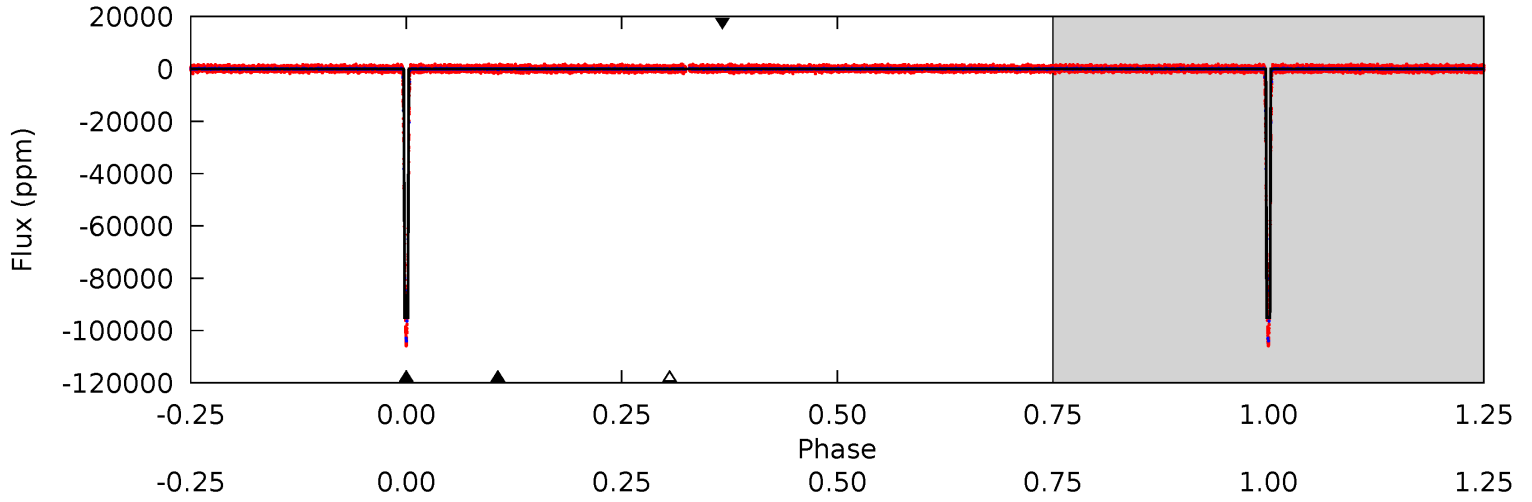
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4290	10.8	7.89	9.02	5.05	2.62	3.05	4282	4281	2.90	1.78	6.87	1.00	0.00	0.10



Alt Model-Shift Uniqueness Test

004075064-02, P = 61.421412 Days, E = 79.791046 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2456	3.94	3.47	3.67	5.12	2.75	1.02	2453	2453	0.47	0.27	15.5	1.00	0.00	24.5



Stellar Parameters For KIC 004075064

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4867^{+145}_{-145}	$4.687^{+0.025}_{-0.065}$	$-0.560^{+0.300}_{-0.300}$	$0.613^{+0.070}_{-0.035}$	$0.665^{+0.066}_{-0.054}$	$4.069^{+0.559}_{-0.924}$
	+3%/-3%	+1%/-1%	+54%/-54%	+11%/-6%	+10%/-8%	+14%/-23%
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 004075064-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-266 ± 25	$29.57^{+2.50}_{-2.40}$	459^{+17}_{-16}	1932^{+42}_{-41}	12^{+2}_{-2}
Alt.	-152 ± 39	$21.86^{+1.98}_{-1.94}$	460^{+15}_{-16}	1935^{+70}_{-67}	12^{+4}_{-3}

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

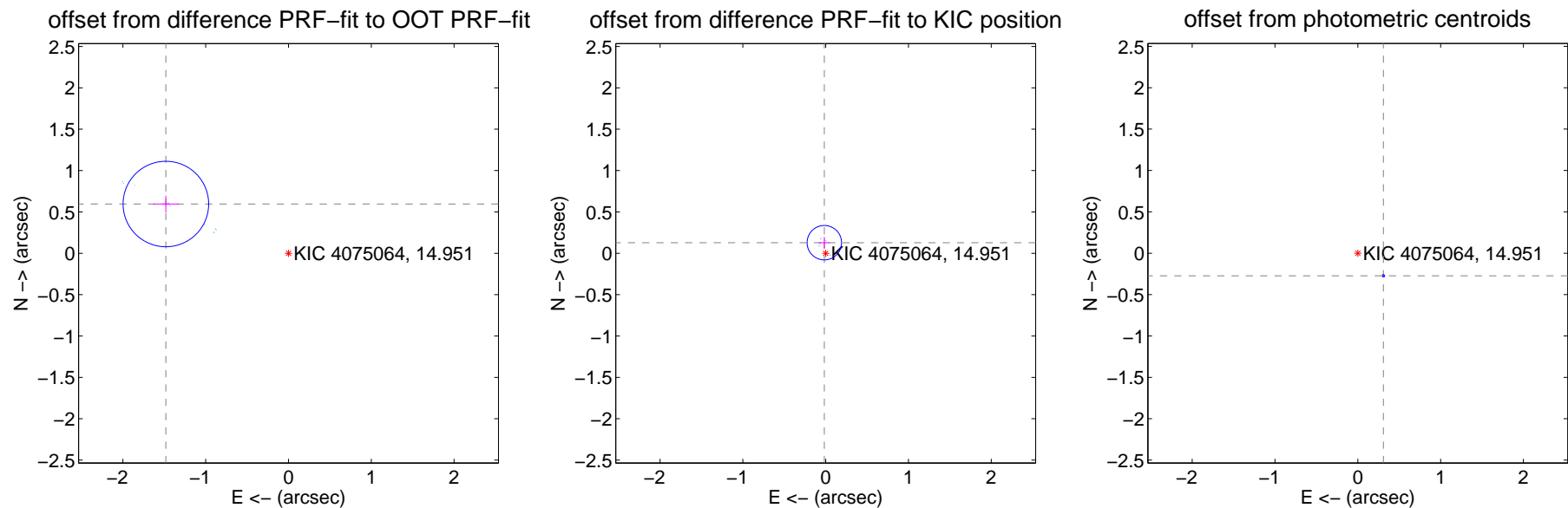
DV Centroid Data

Supplemental centroid analysis for 004075064-02. Kepler magnitude: 14.95. Transit SNR 1603.44

There are 10 quarters with good PRF difference image offsets

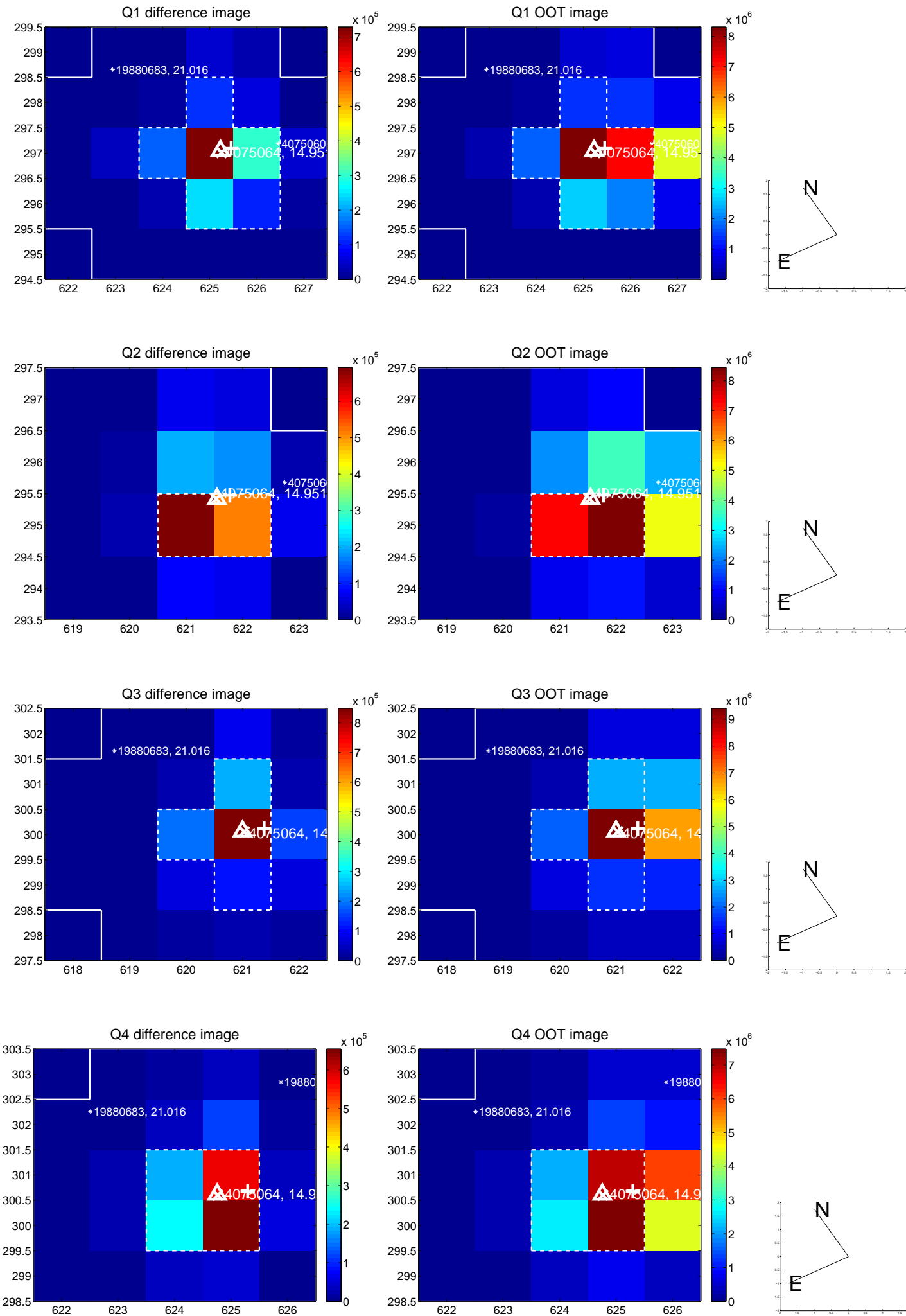
The direct PRF centroid is offset from the target star catalog position by about 1.96 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.596 \pm 0.172	9.27	1.481 \pm 0.156	0.596 \pm 0.101
PRF-fit source offset from KIC position	0.129 \pm 0.069	1.86	0.016 \pm 0.068	0.128 \pm 0.069
photometric centroid source offset	0.41 \pm 0.00	89.22	-0.31 \pm 0.00	-0.27 \pm 0.00

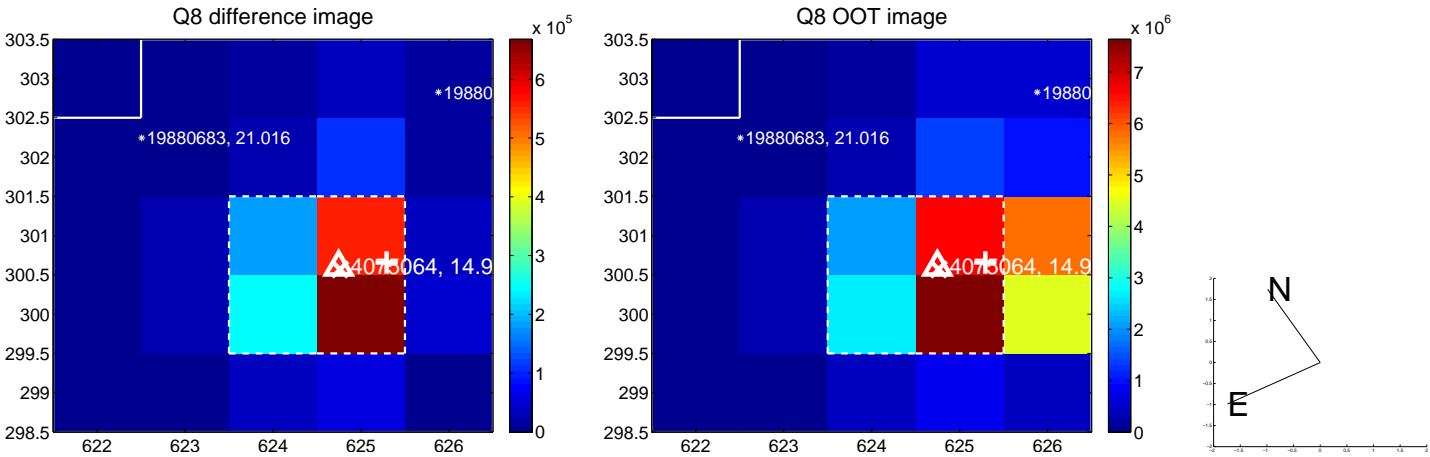
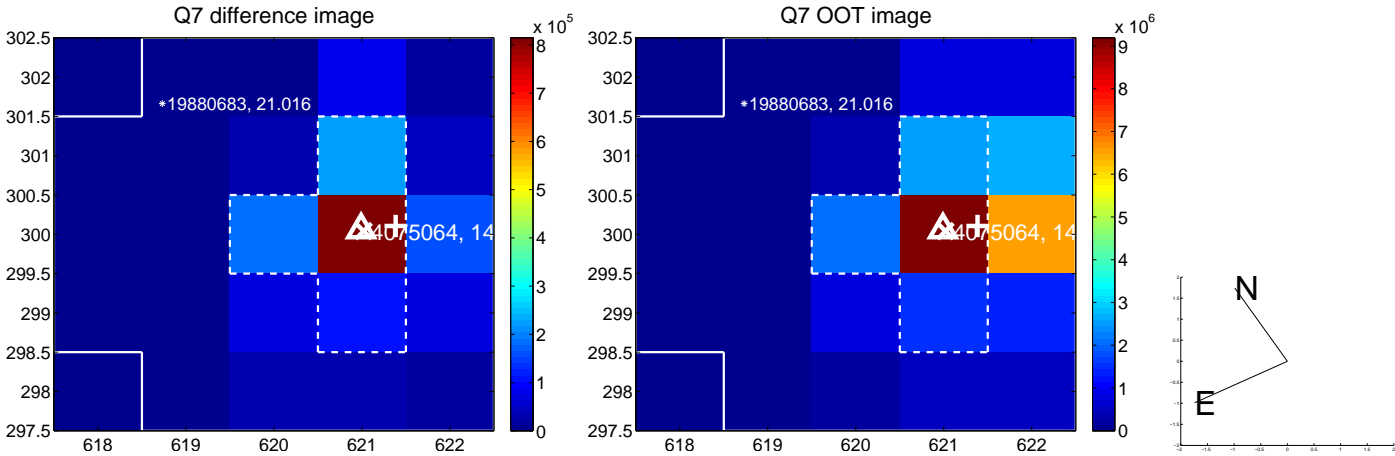
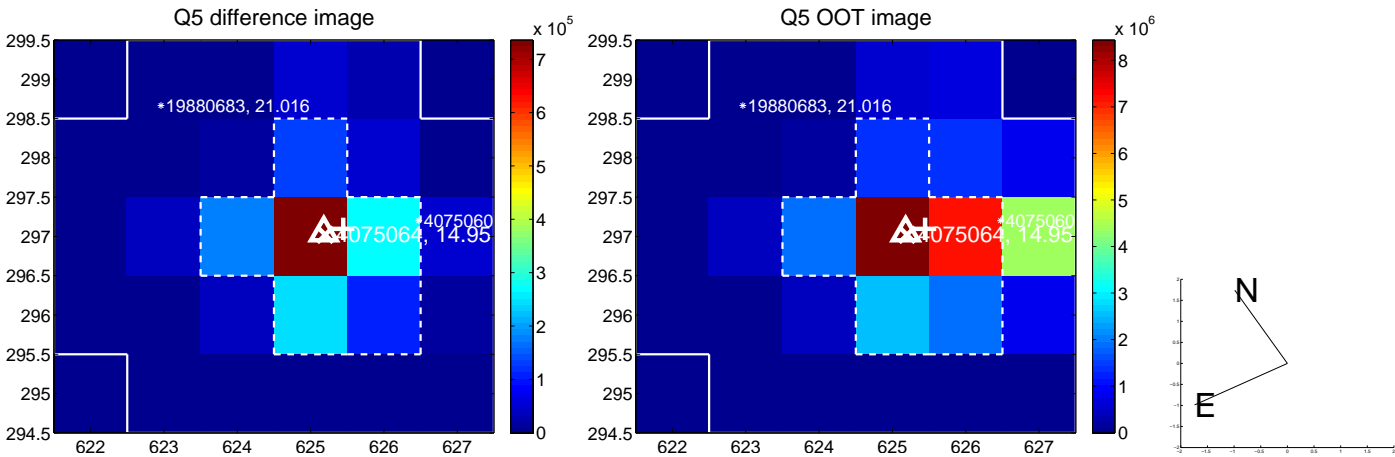


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

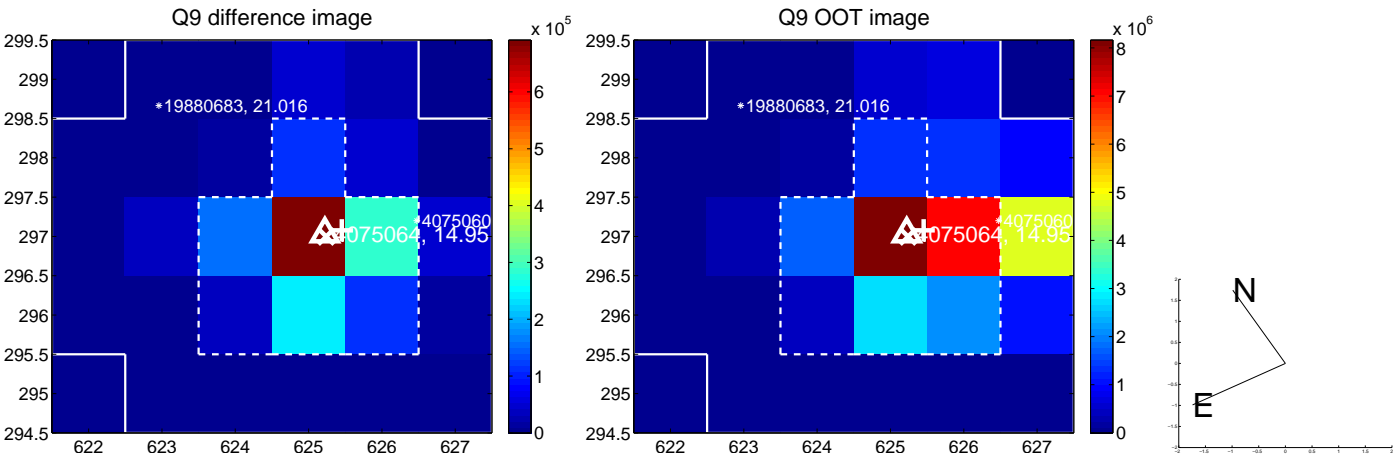
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



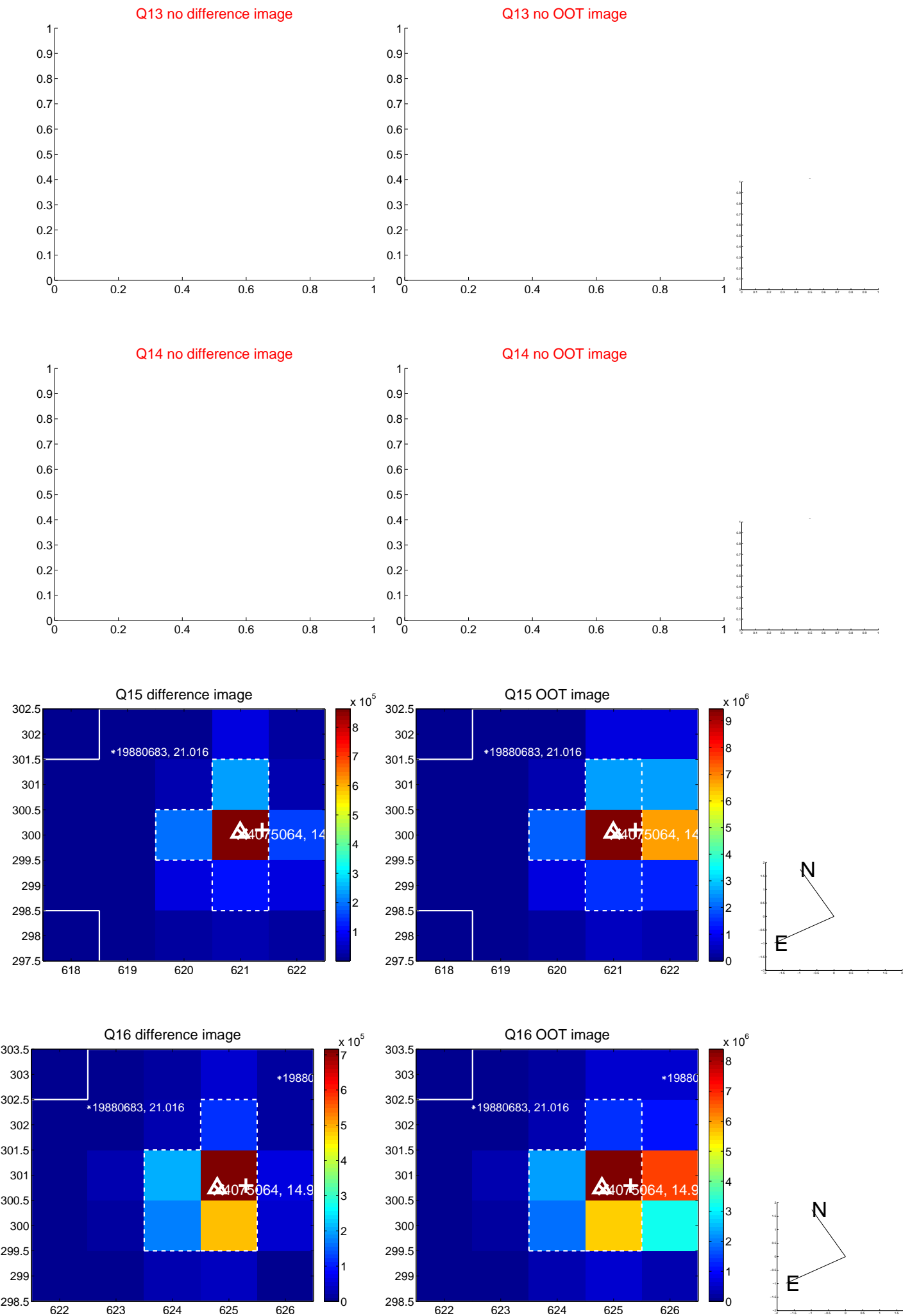
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



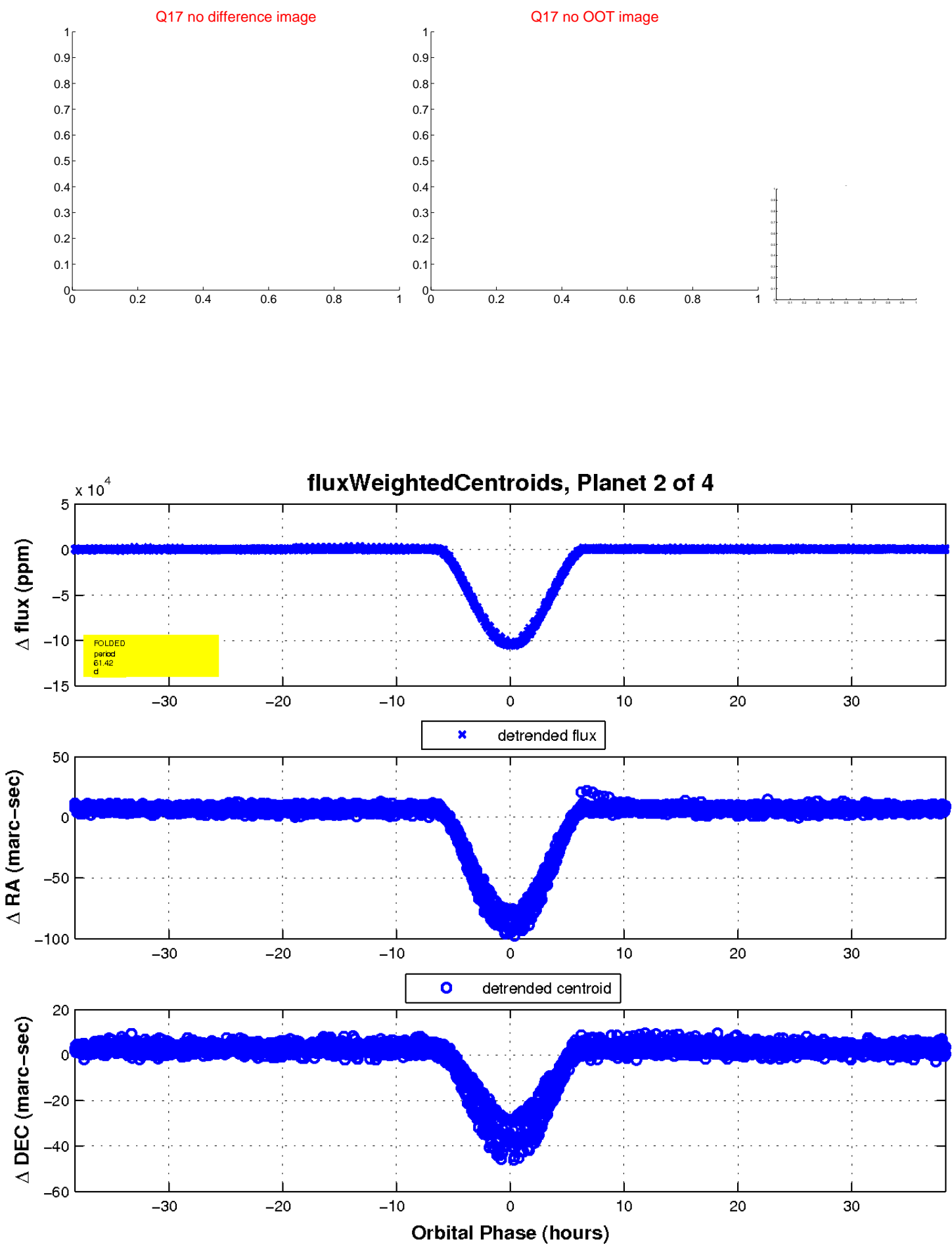
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

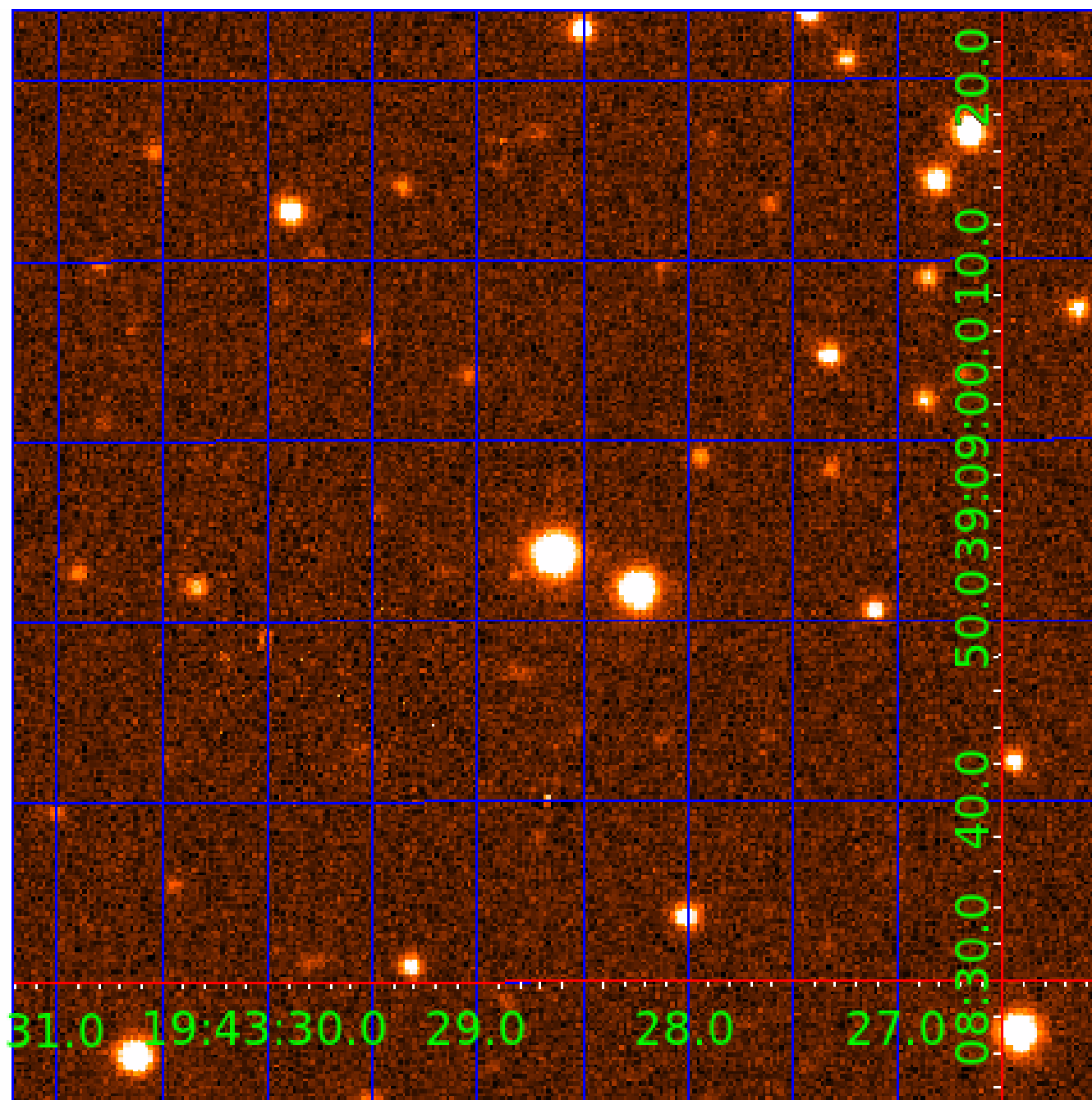


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004075064

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})
004075064-01	OBS	6383.01	61.422491	161.238284	339471.0	2.000	4319.9	-1.0	0.61	4867	33.45	2.67
004075064-02	OBS	No	61.422476	141.199704	105450.1	12.757	1792.3	1603.4	0.61	4867	29.17	2.67
004075064-03	OBS	No	4.387184	135.306625	0.0	0.999	179.5	0.0	0.61	4867	0.00	89.95
004075064-04	OBS	No	5.118567	135.842909	13363.6	15.000	185.7	-1.0	0.61	4867	6.88	73.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004075064-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
004075064-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS
004075064-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
004075064-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—RESIDUAL_TCE—CENT_NOFITS

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

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

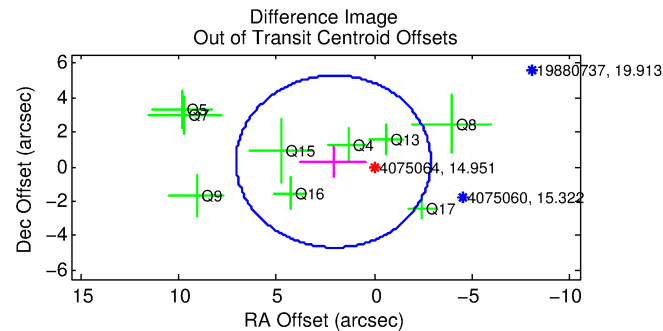
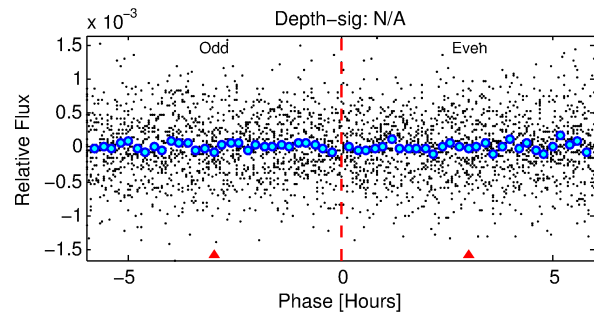
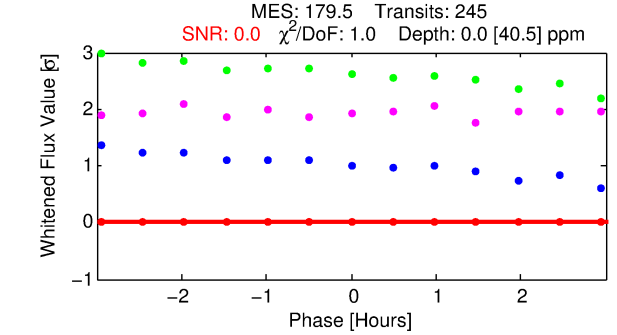
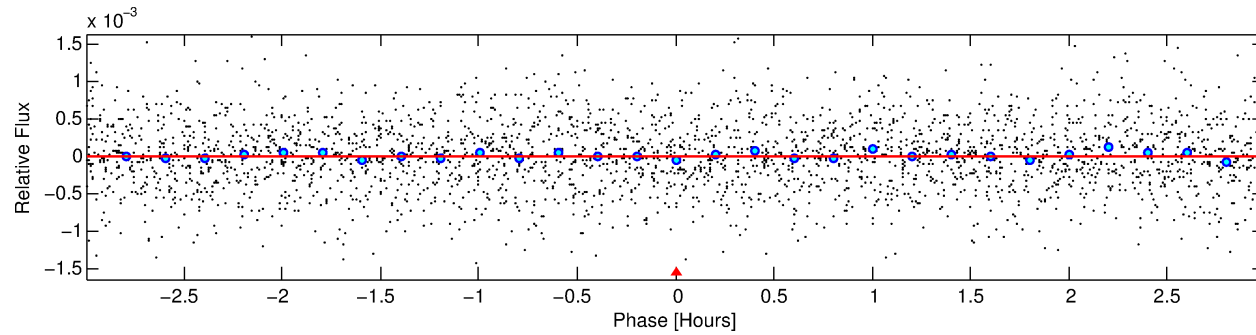
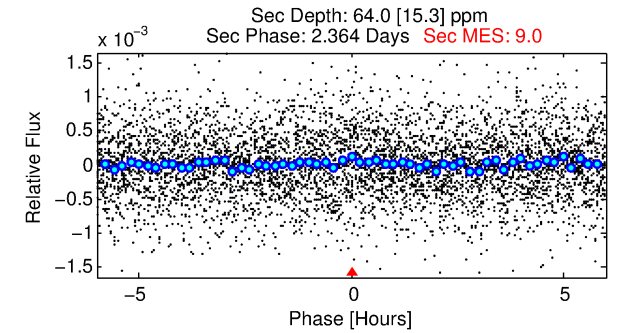
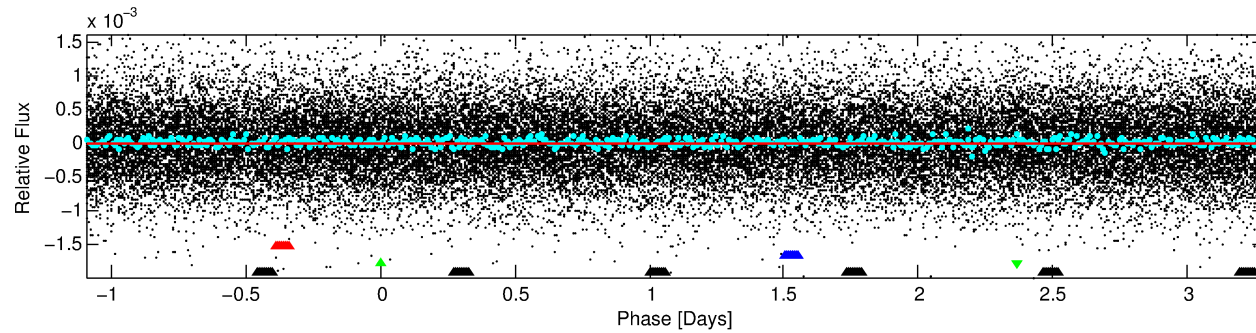
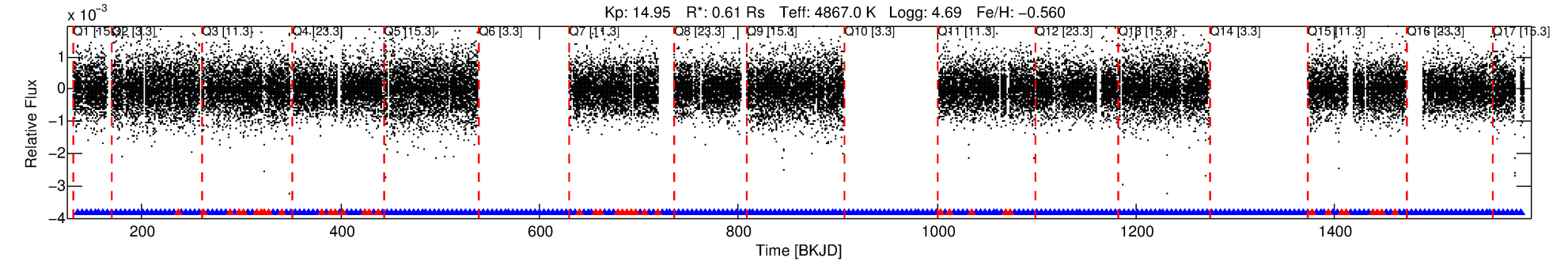
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004075064-03

No Significant Match Found

DV One-Page Summary

KIC: 4075064 Candidate: 3 of 4 Period: 4.387 d
KOI: K06383 Corr: No Ephemeris Match



DV Fit Results:

Period = 4.38718 [13.77359] d
Epoch = 135.3066 [1878.6624] BKJD
Rp/R* = 0.0000 [1.0088]
a/R* = 26.62 [4049386.73]
b = 0.61 [32096.51]
Seff = 89.95 [376.85]
Teq = 785 [823] K
Rp = 0.00 [67.48] Re
a = 0.0458 [0.0960] AU
Ag = 47664771.03 [5165134910964.6] [1.1006]
Teffp = 100882 [2733056163] K [0.003]

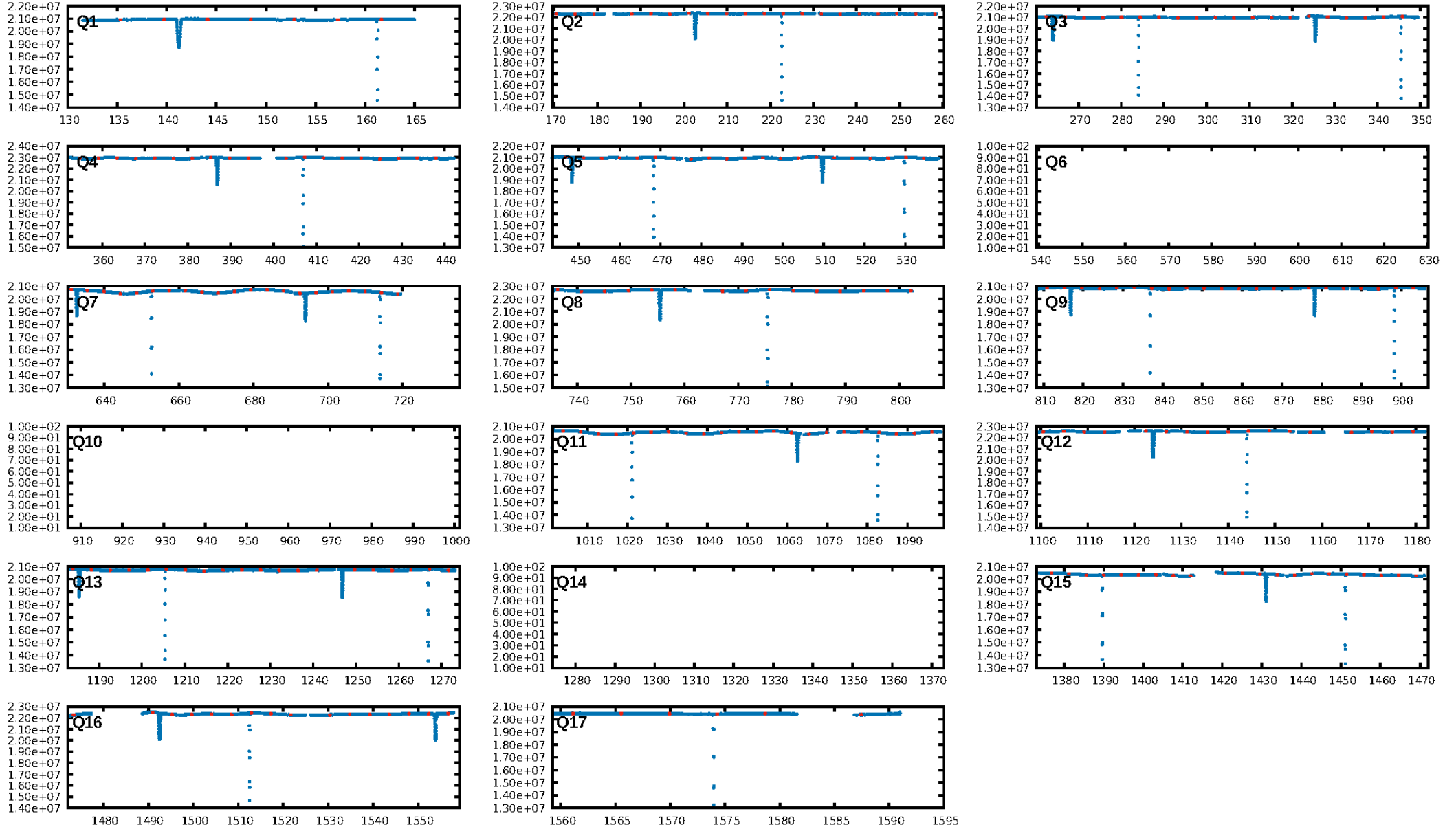
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 75.7% [1.17 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.83 [192/232]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
QotOffset-rm: 2.106 arcsec [1.27 σ]
QicOffset-rm: 0.730 arcsec [0.45 σ]
QotOffset-st: 0/2/3/4 [9]
KicOffset-st: 0/2/3/4 [9]
DiffImageQuality-fgm: 0.00 [0/9]
DiffImageOverlap-fno: 1.00 [14/14]

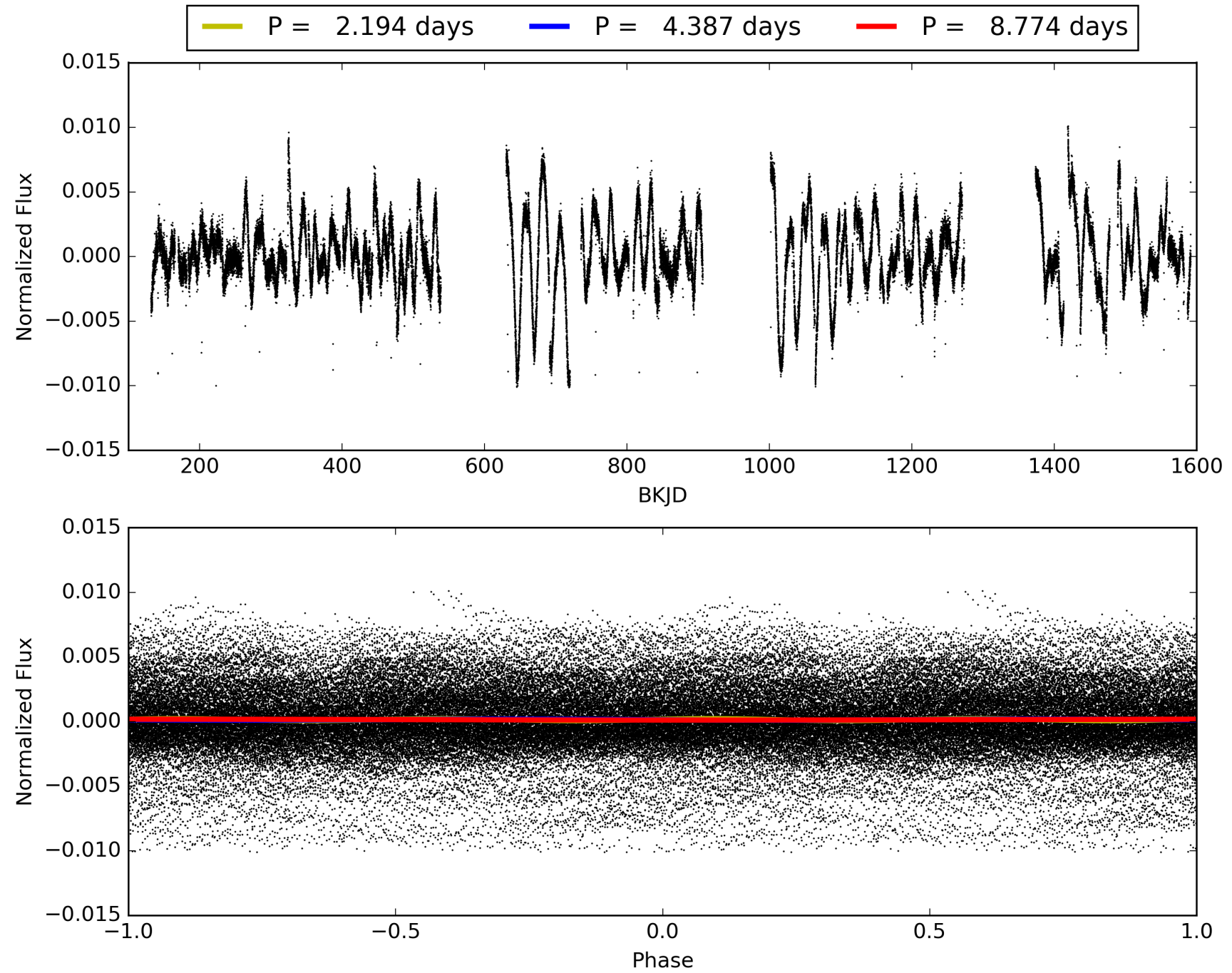
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:59:49 Z

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

TCE 004075064-03, PDC Light Curves

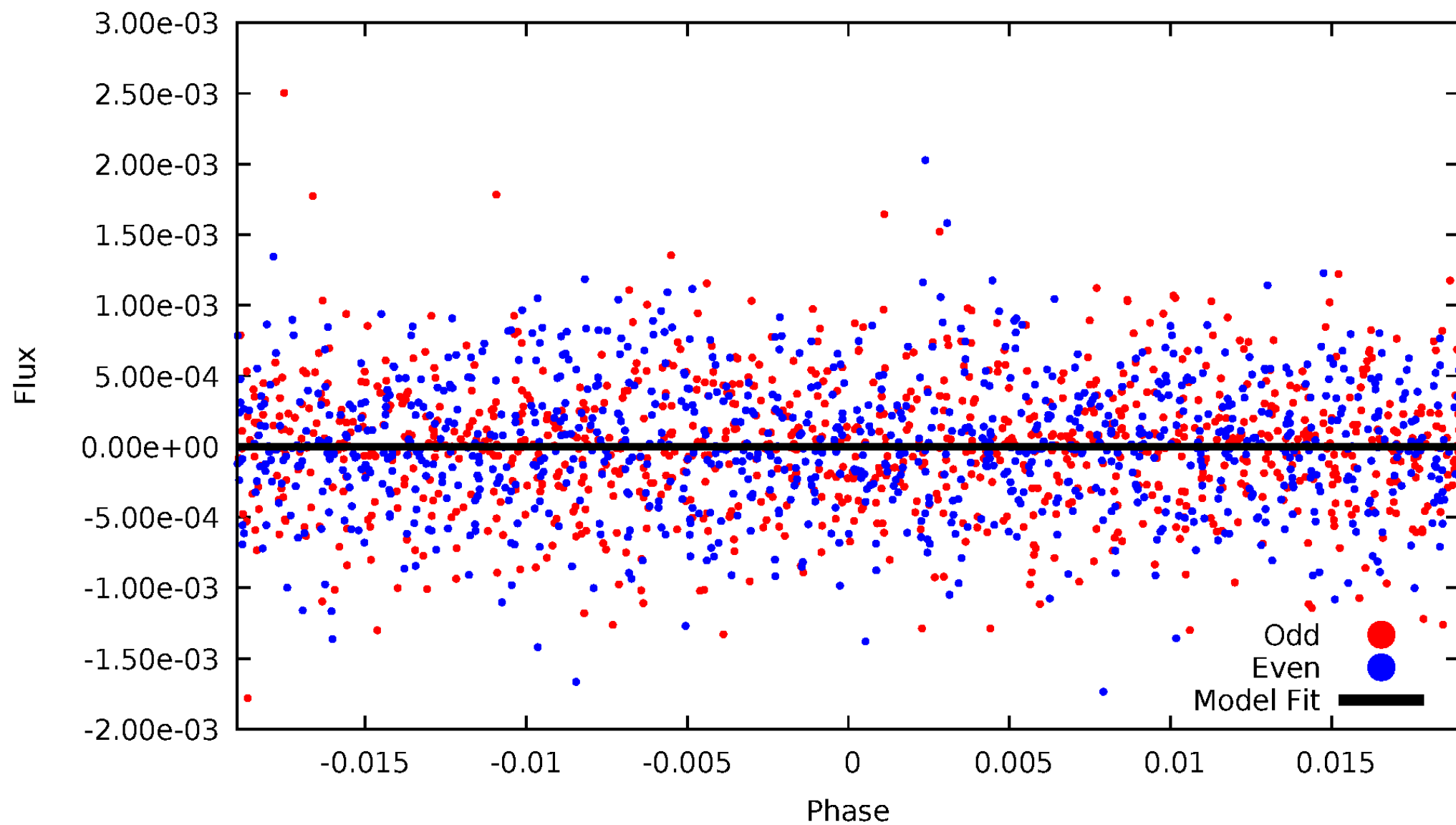


TCE 004075064-03



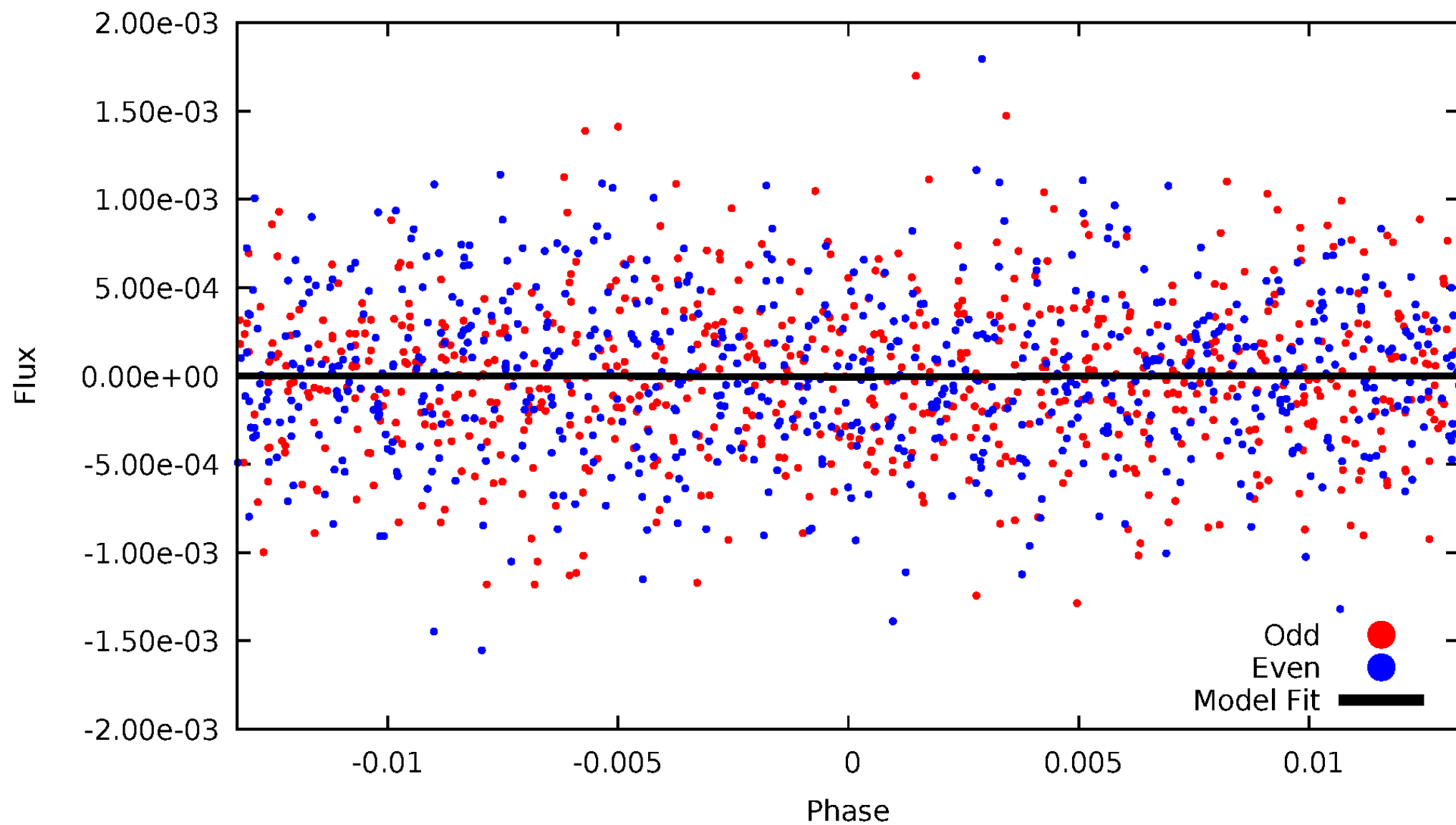
DV Odd/Even

TCE 004075064-03



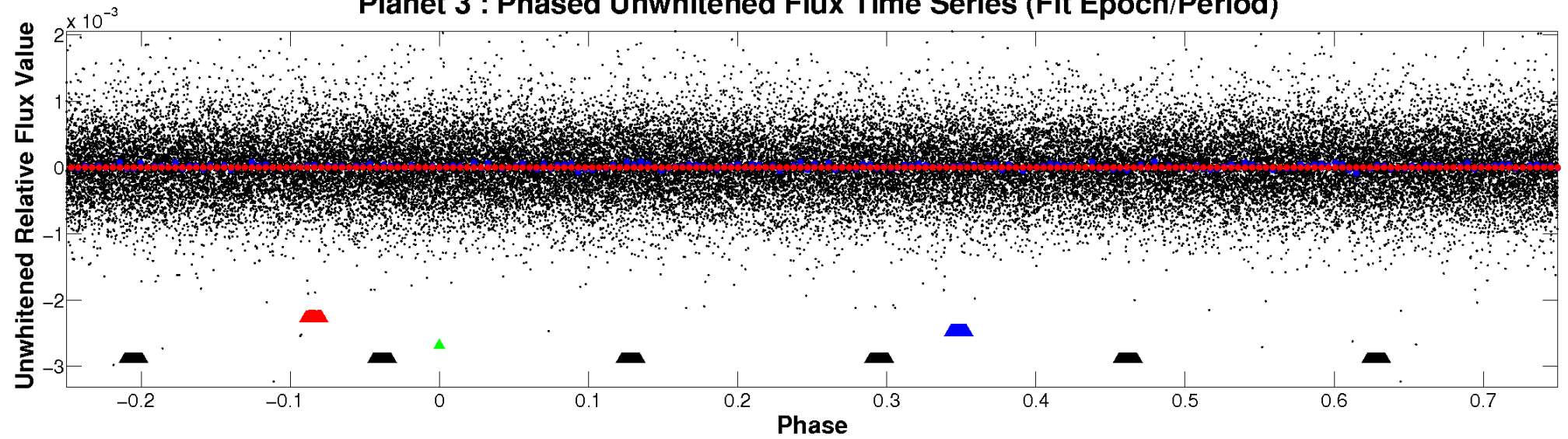
ALT Odd/Even

TCE 004075064-03

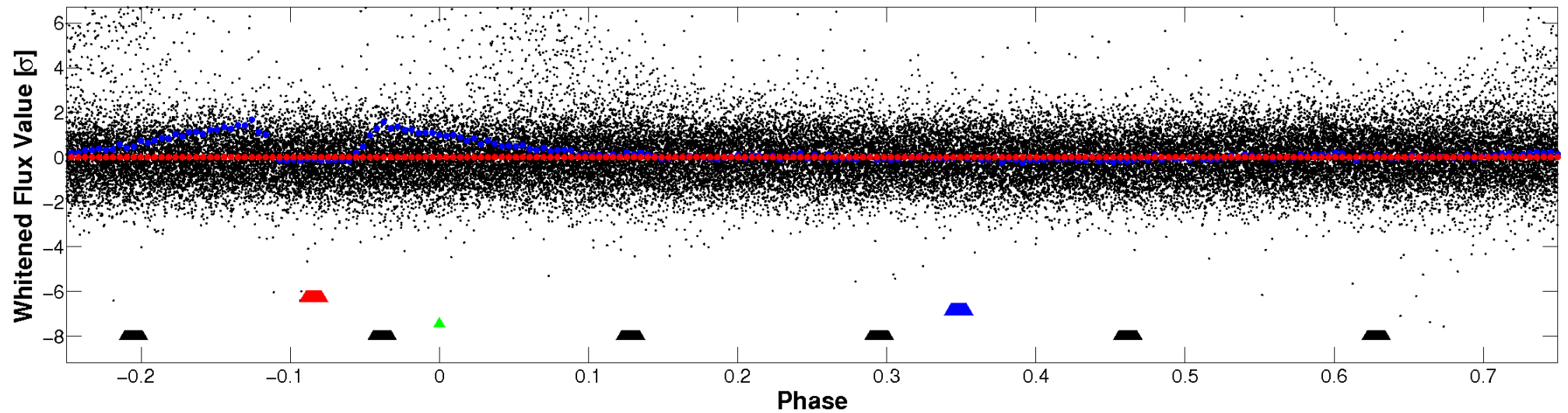


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

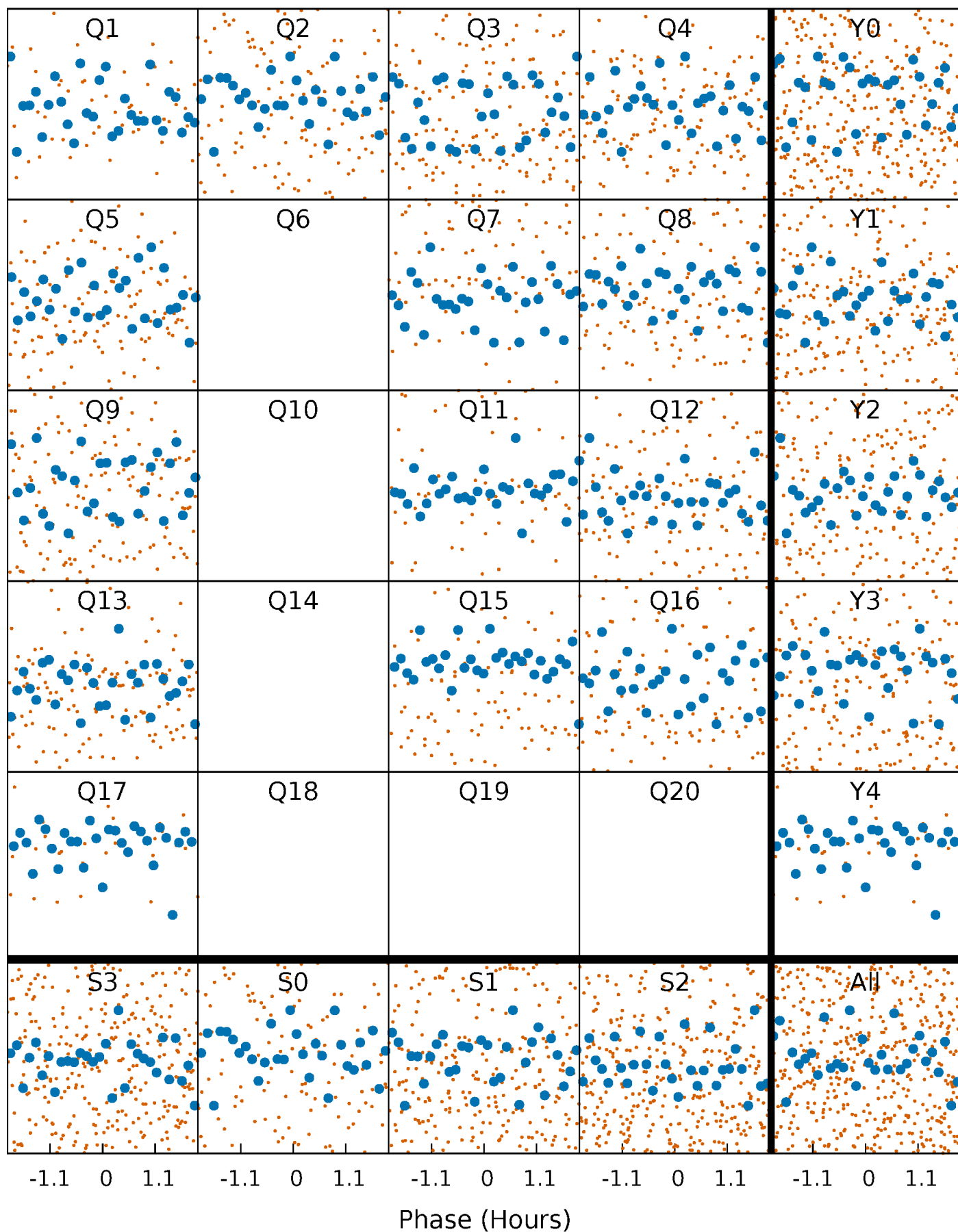


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



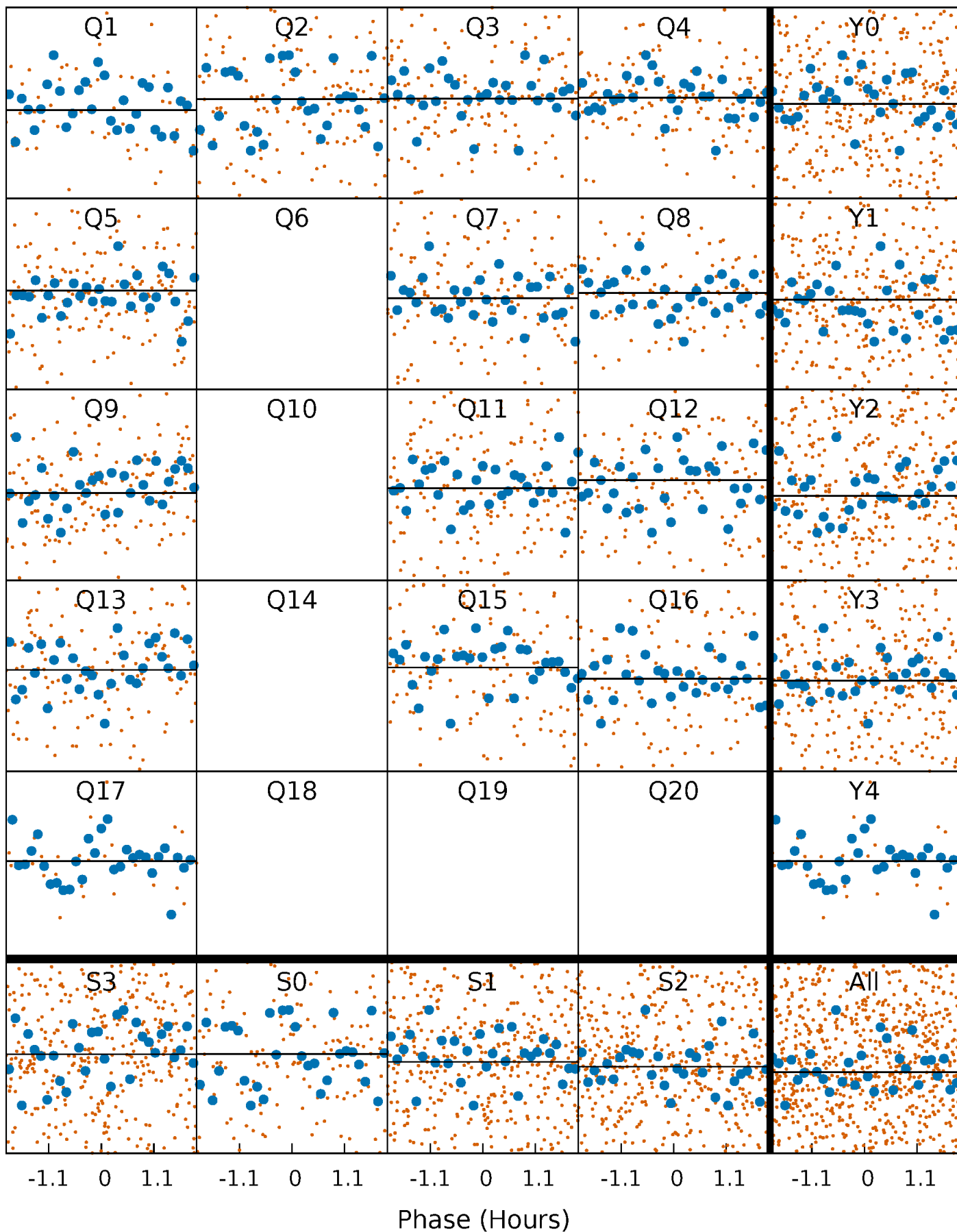
PDC Quarter-Phased Transit Curves

TCE 004075064-03 P= 4.387184 Days $T_0=135.306625$ (BKJD)



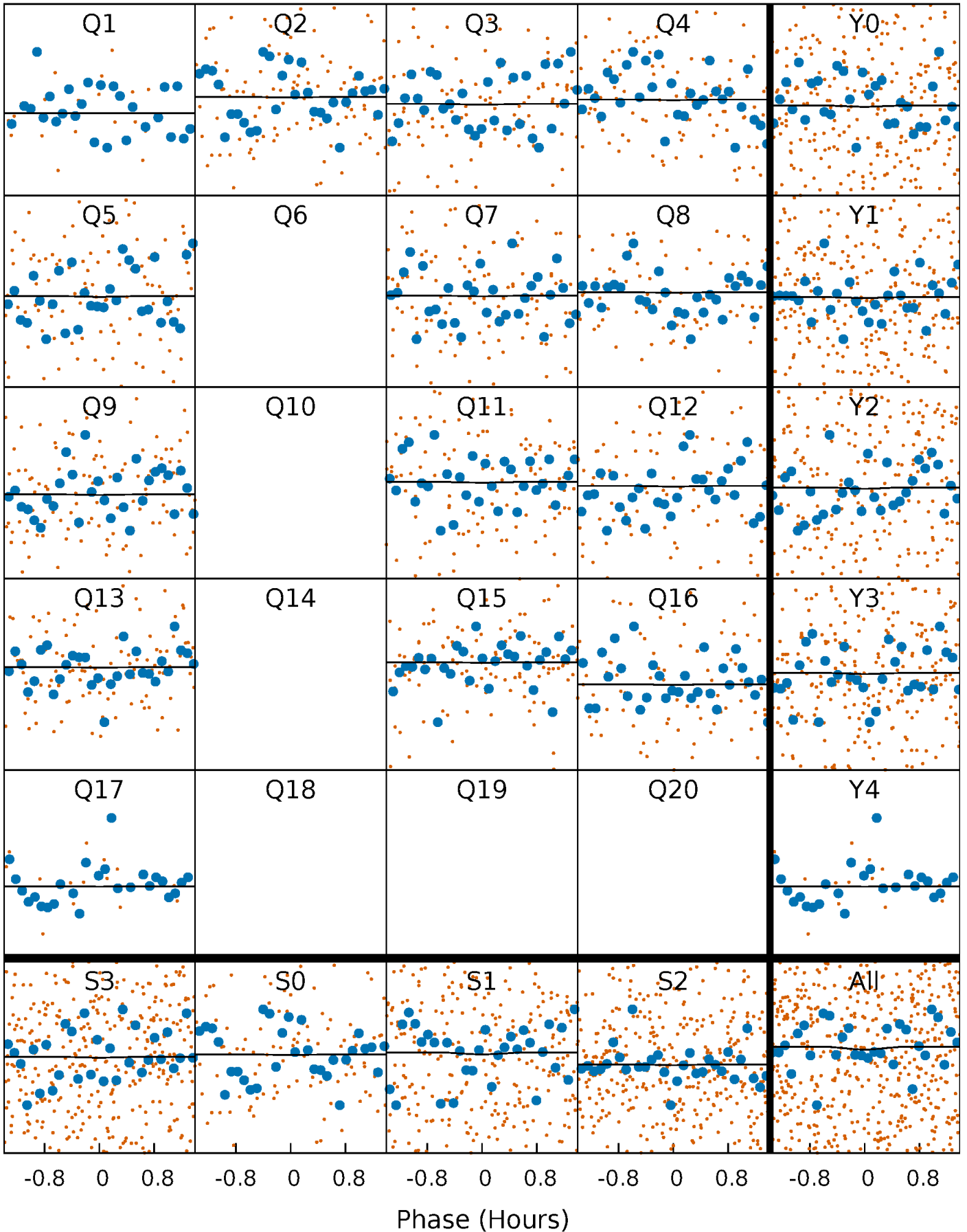
DV Quarter-Phased Transit Curves

TCE 004075064-03 P= 4.387184 Days $T_0=135.306625$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

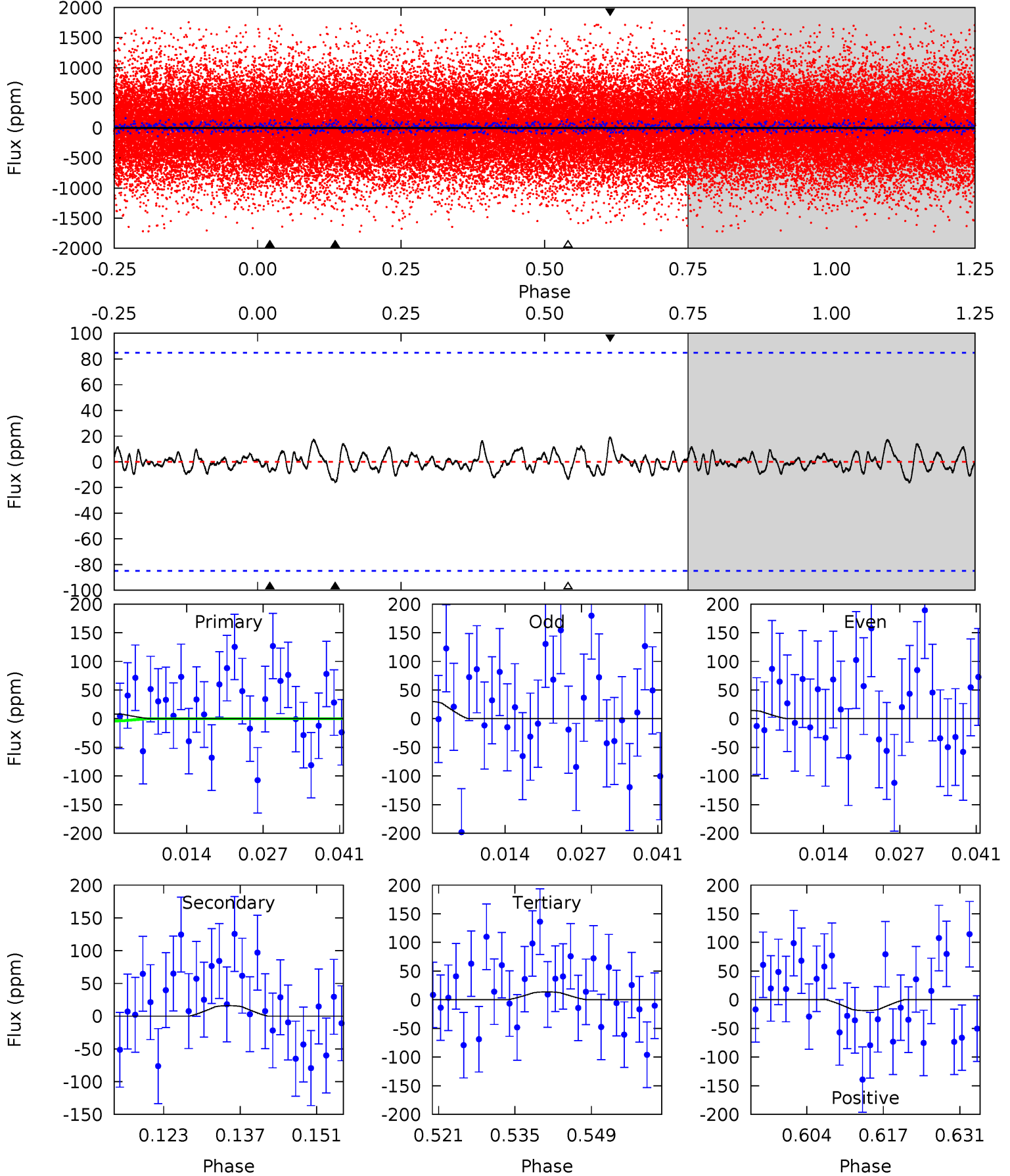
TCE 004075064-03 P= 4.387188 Days $T_0=135.303693$ (BKJD)



DV Model-Shift Uniqueness Test

004075064-03, P = 4.387184 Days, E = 130.919441 Days

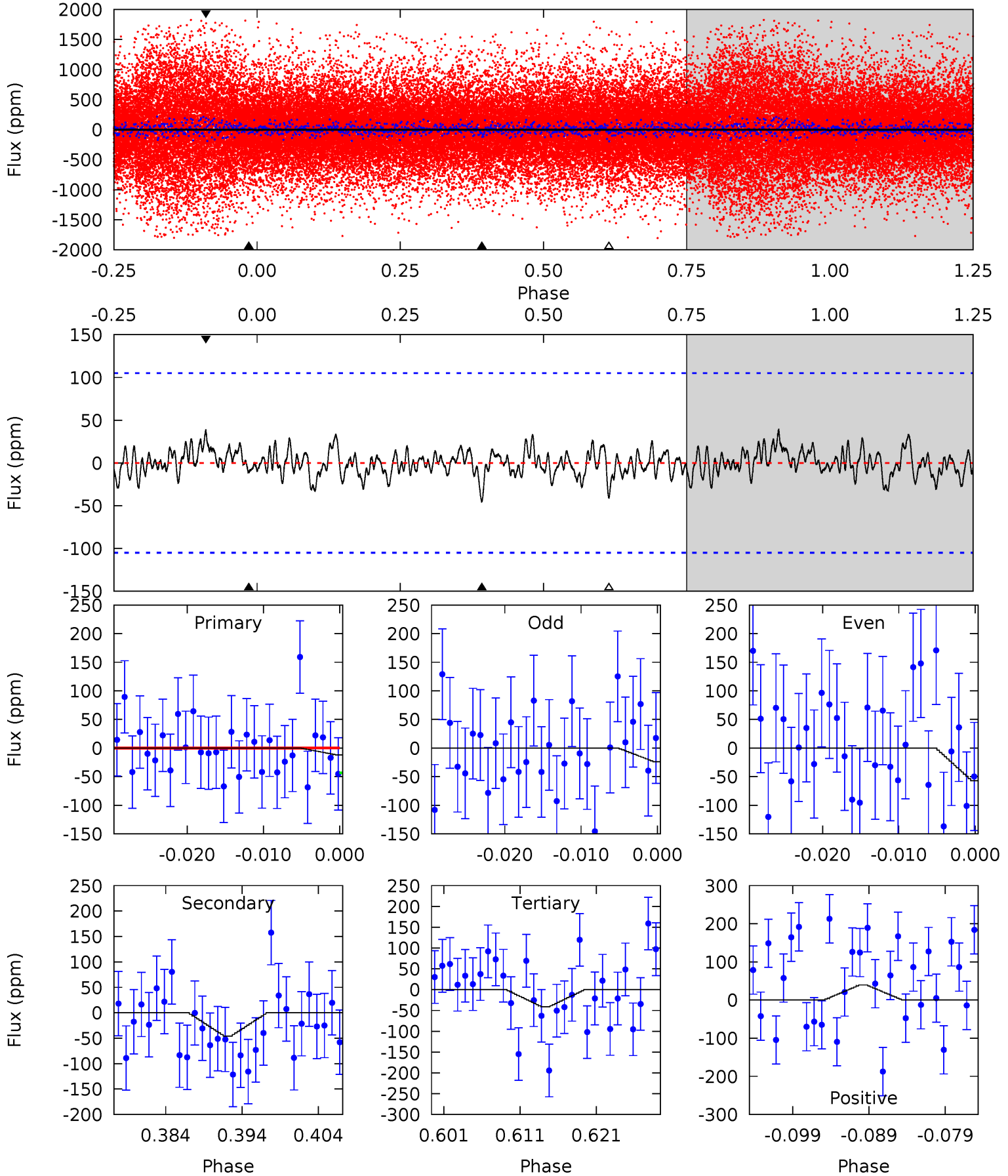
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.48	0.94	0.80	1.10	4.97	2.46	0.34	-0.32	-0.63	0.14	-0.17	0.46	4.18	0.54	0.21



Alt Model-Shift Uniqueness Test

004075064-03, P = 4.387188 Days, E = 130.916505 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.57	2.19	1.98	1.89	5.03	2.58	0.62	-1.41	-1.32	0.21	0.30	0.80	0.40	0.46	1.04



Stellar Parameters For KIC 004075064

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4867^{+145}_{-145}	$4.687^{+0.025}_{-0.065}$	$-0.560^{+0.300}_{-0.300}$	$0.613^{+0.070}_{-0.035}$	$0.665^{+0.066}_{-0.054}$	$4.069^{+0.559}_{-0.924}$
	+3%/-3%	+1%/-1%	+54%/-54%	+11%/-6%	+10%/-8%	+14%/-23%
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 004075064-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-16 ± 17	$47.17^{+50.04}_{-34.15}$	819^{+358}_{-177}	-1662^{+382}_{-292}	$0.018^{+0.263}_{-0.018}$
Alt.	-46 ± 21	$46.97^{+46.98}_{-33.35}$	818^{+338}_{-165}	-1610^{+3367}_{-301}	$0.065^{+0.887}_{-0.057}$

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 $A_{obs} \gg 1.0$

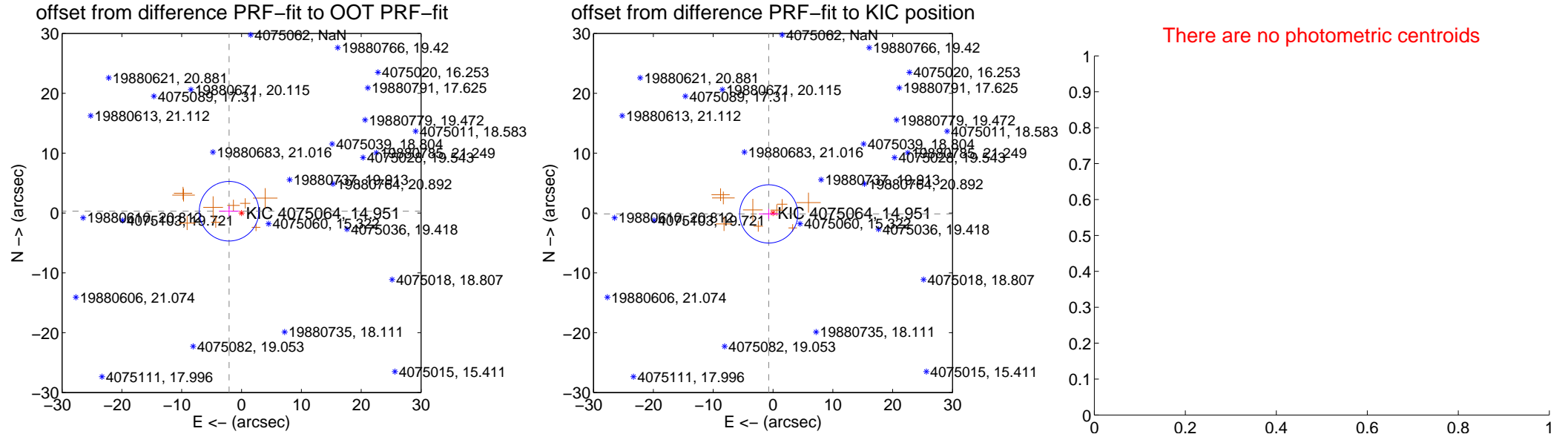
DV Centroid Data

Supplemental centroid analysis for 004075064-03. Kepler magnitude: 14.95. Transit SNR 0.00

There are 0 quarters with good PRF difference image offsets

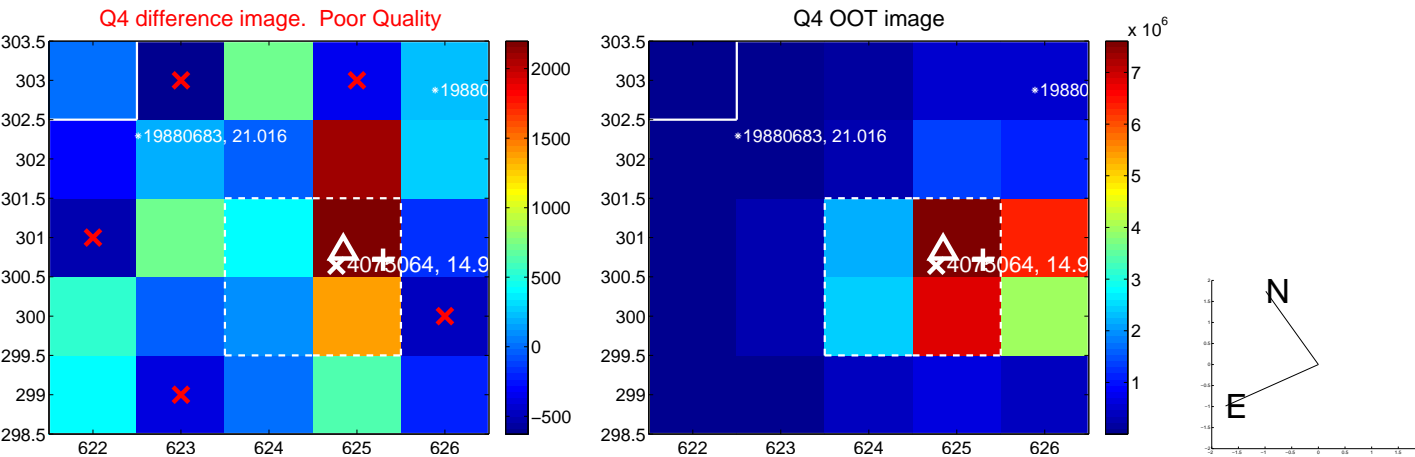
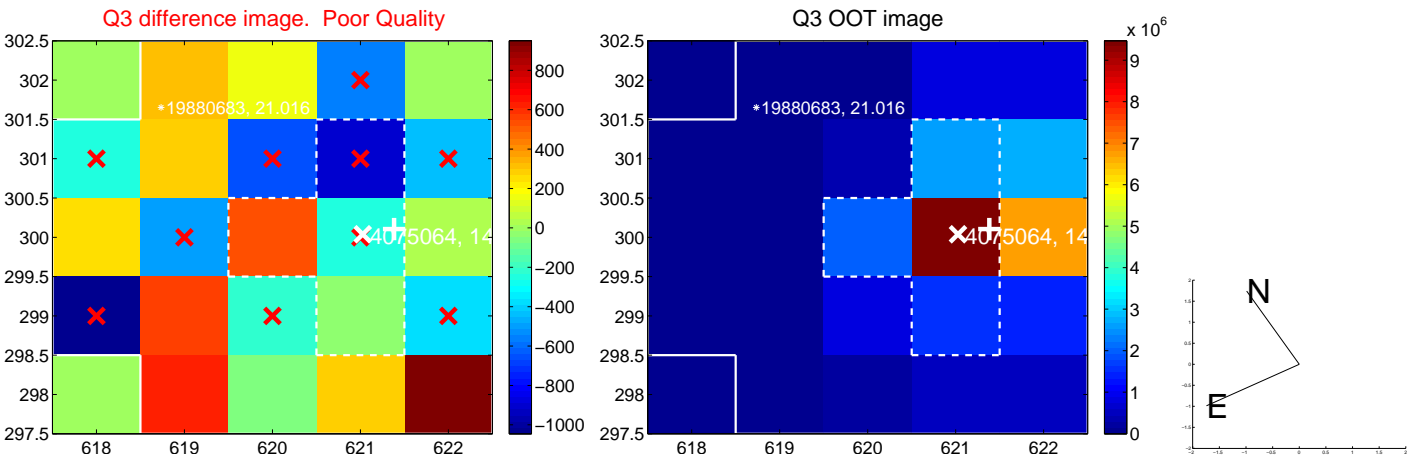
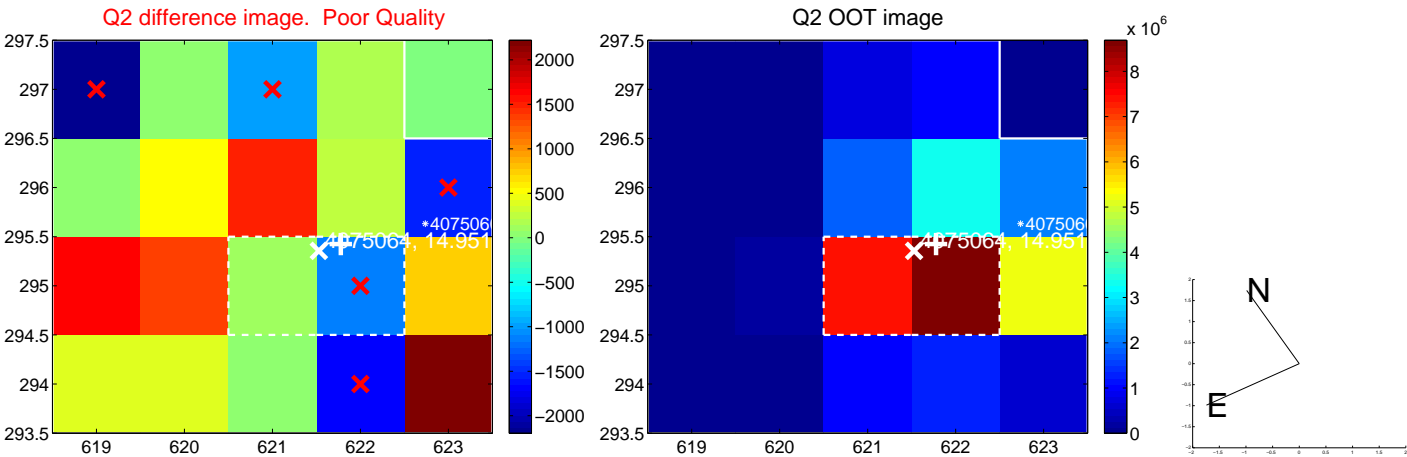
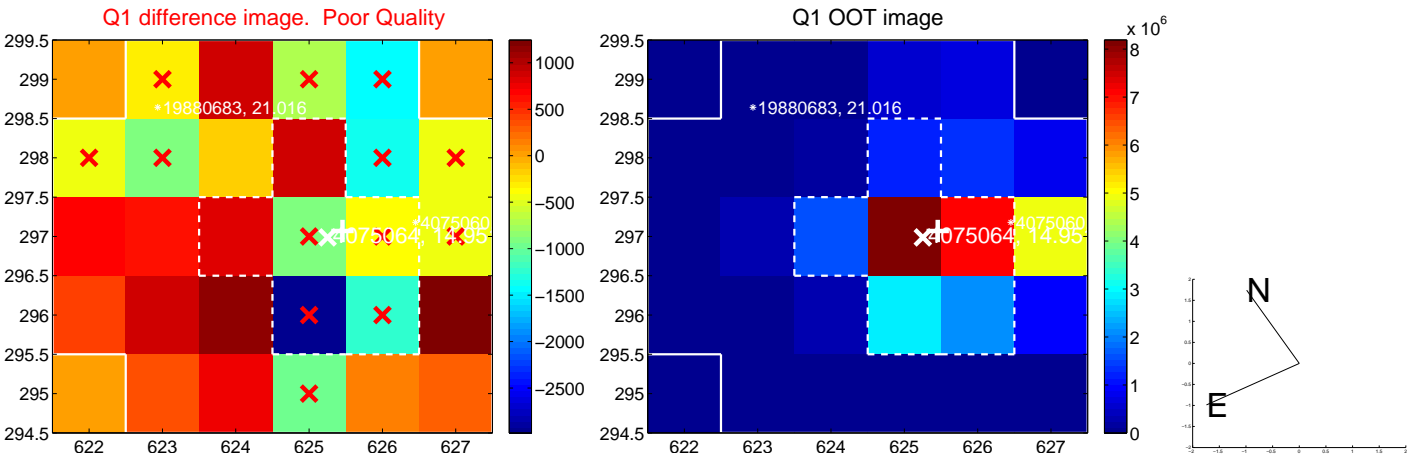
The direct PRF centroid is offset from the target star catalog position by about 0.86 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.106 ± 1.660	1.27	2.085 ± 1.672	0.299 ± 0.864
PRF-fit source offset from KIC position	0.730 ± 1.622	0.45	0.714 ± 1.649	-0.150 ± 0.818
photometric centroid source offset	—	—	—	—

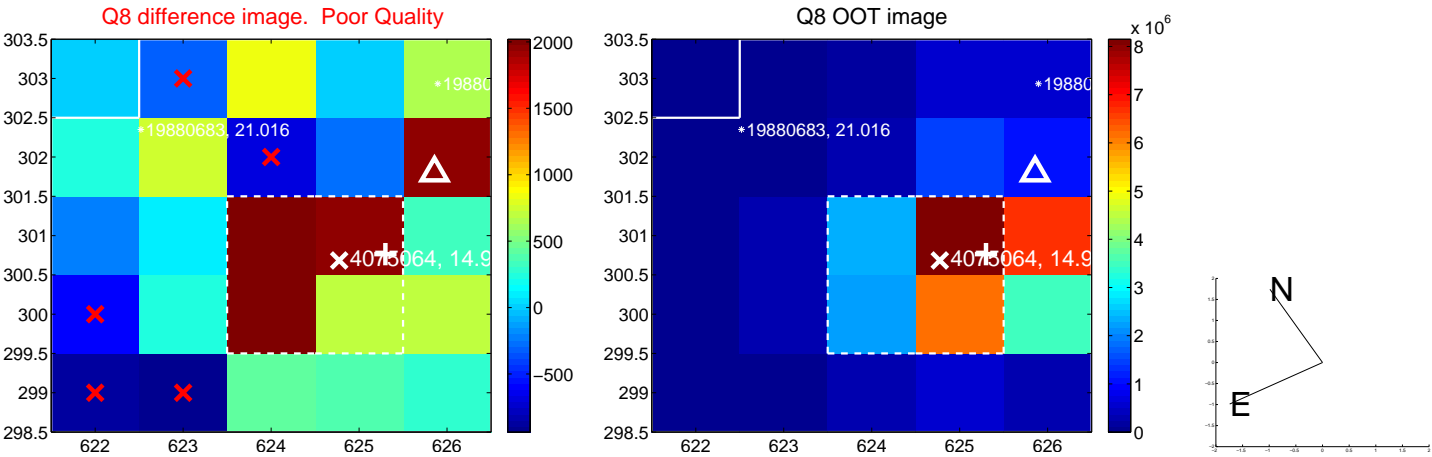
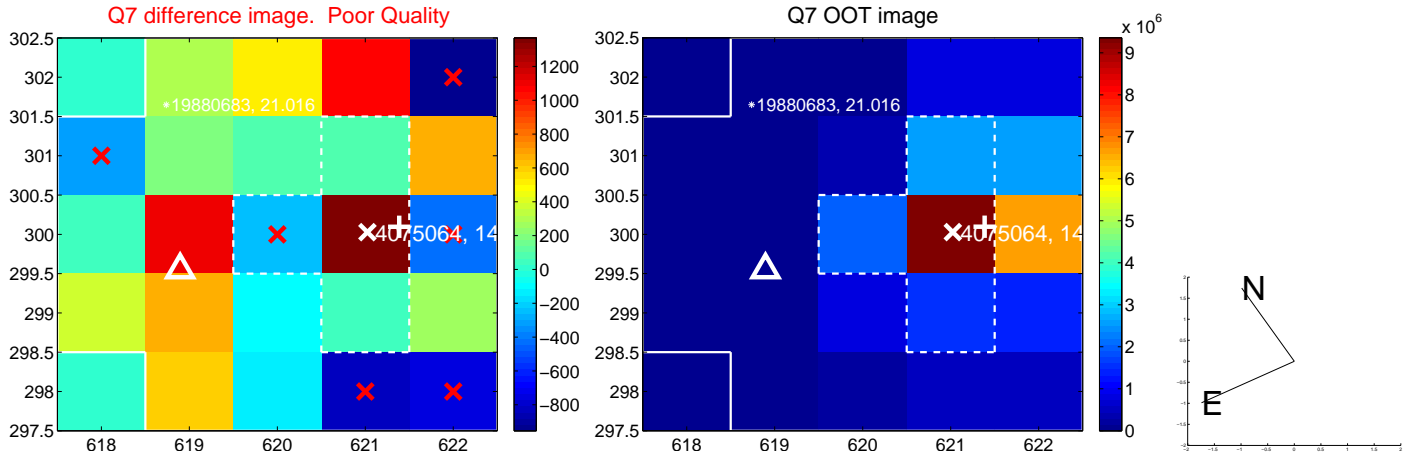
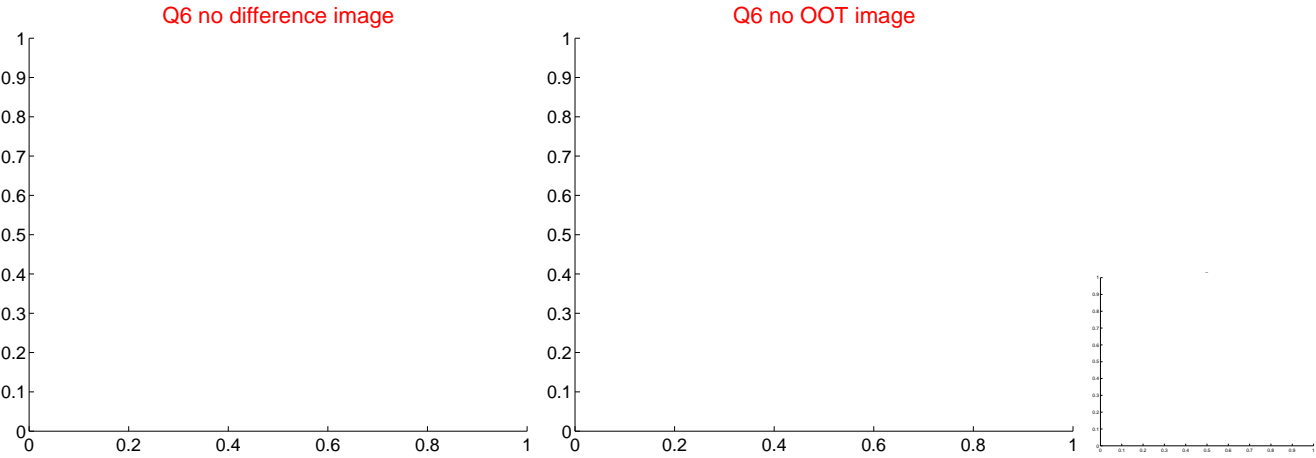
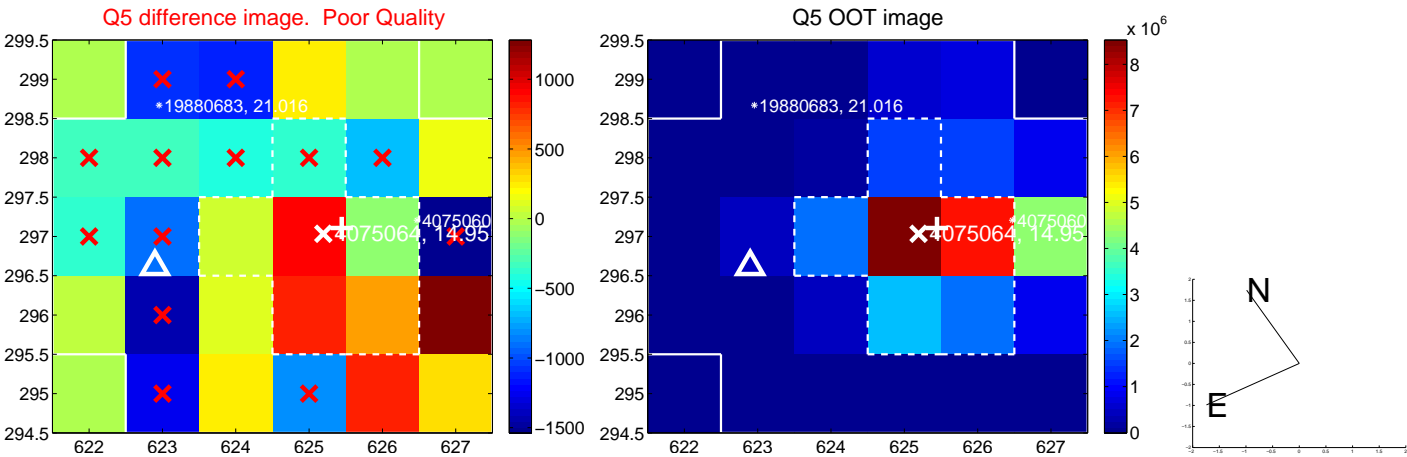


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

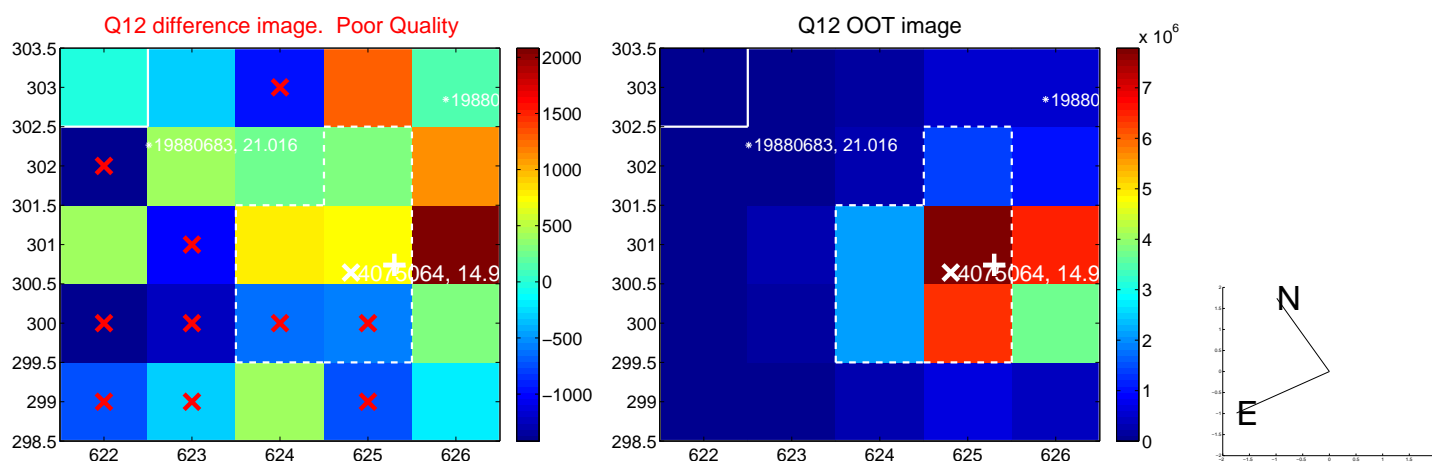
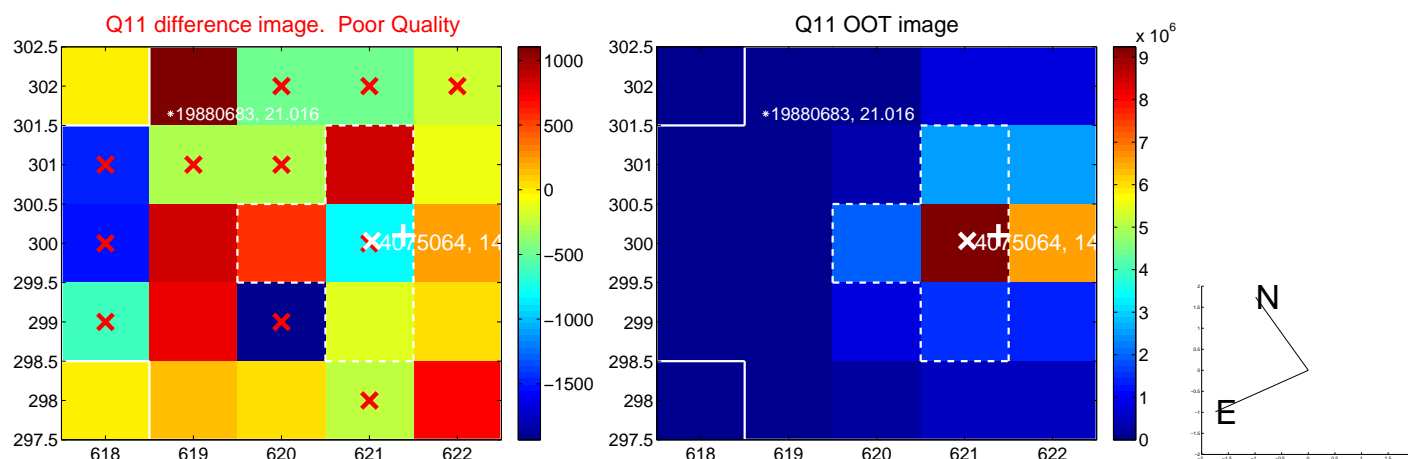
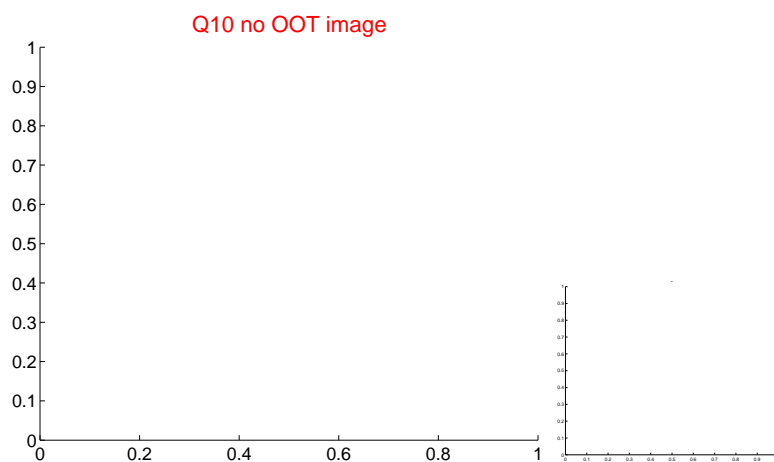
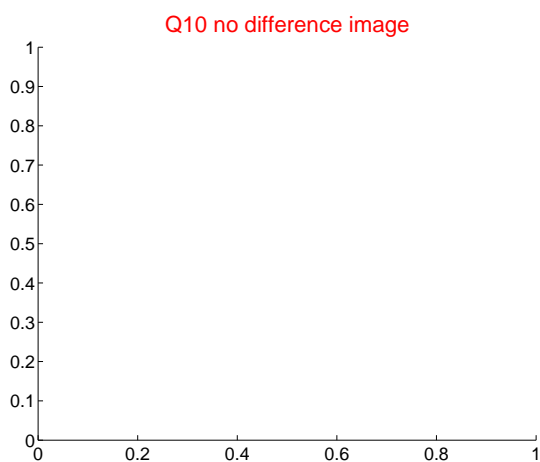
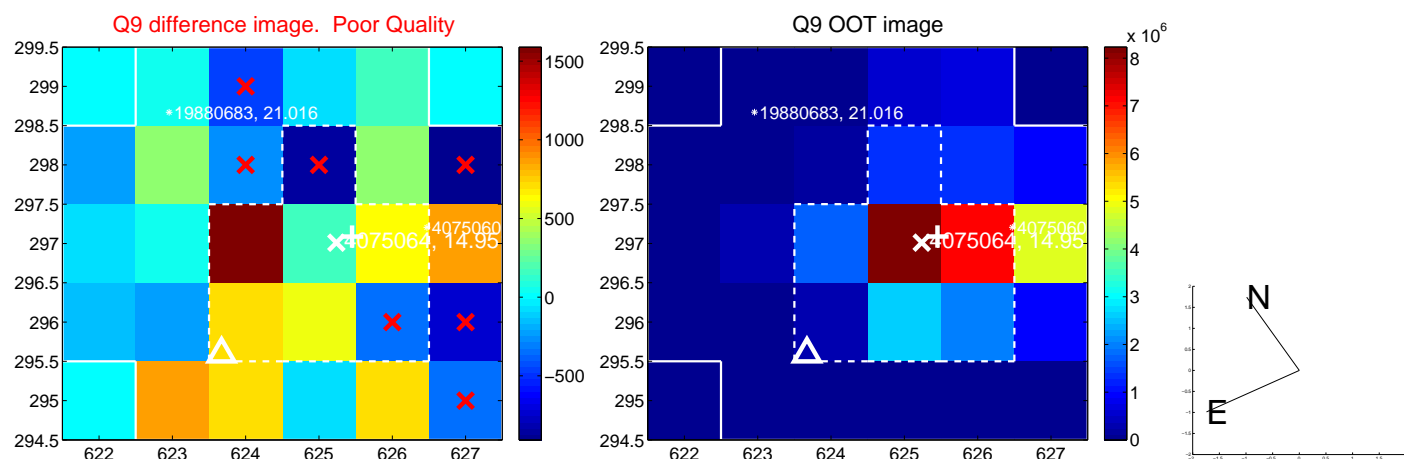
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



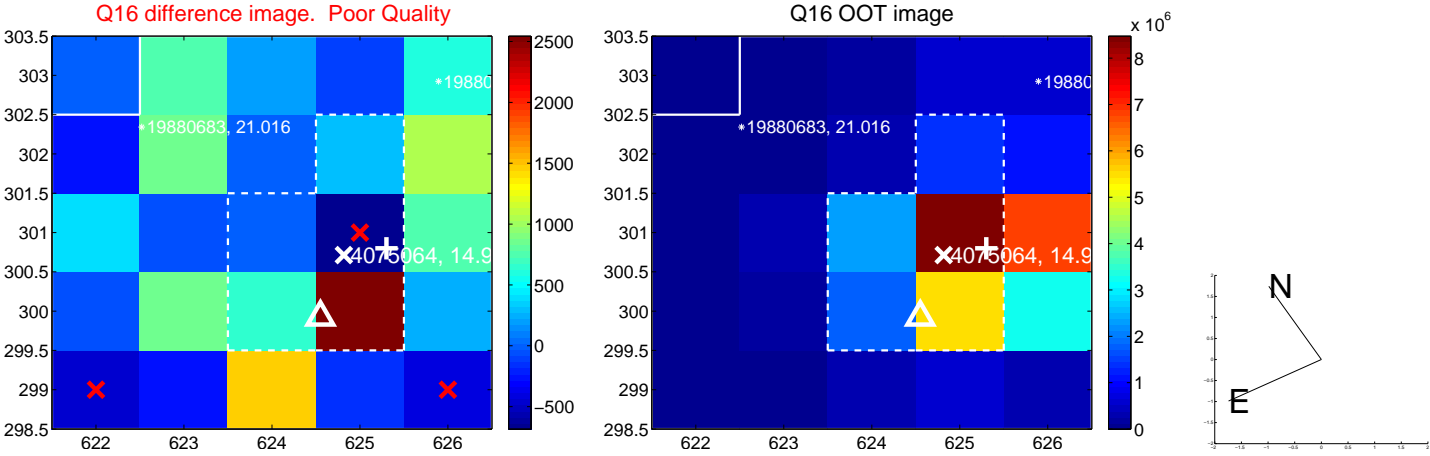
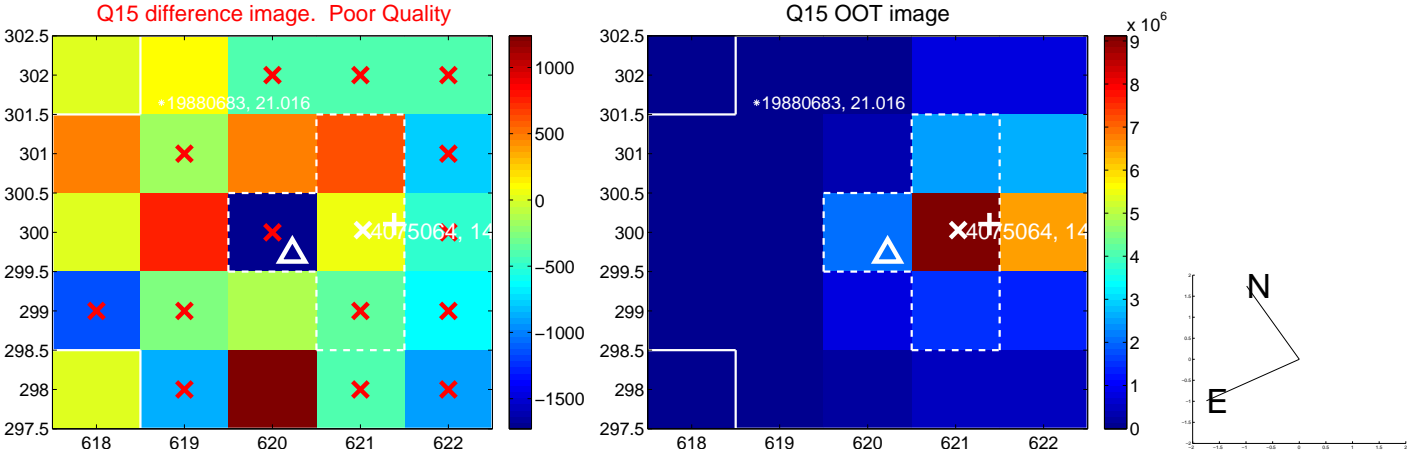
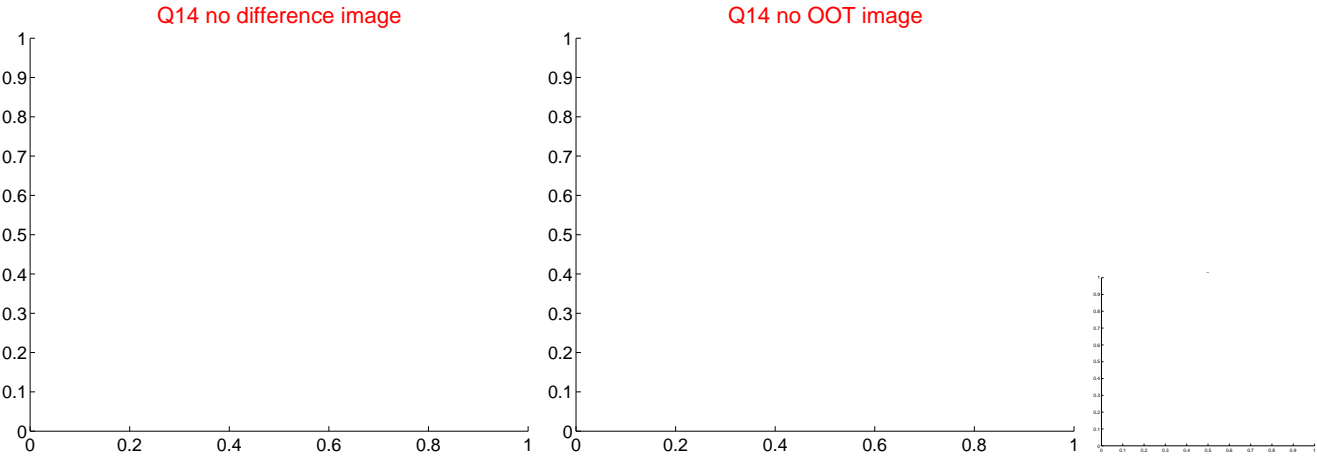
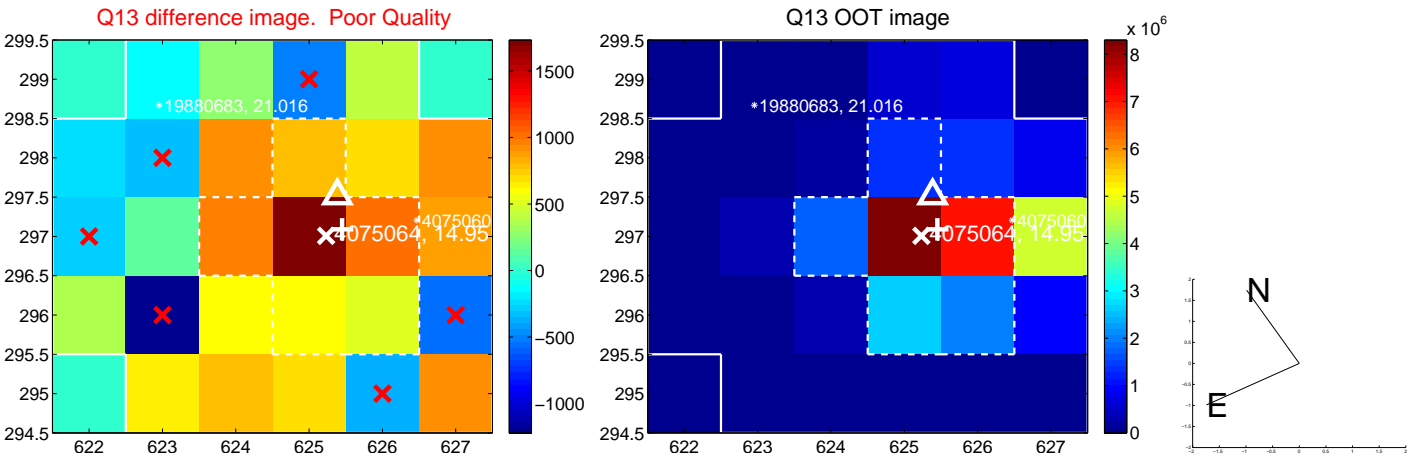
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



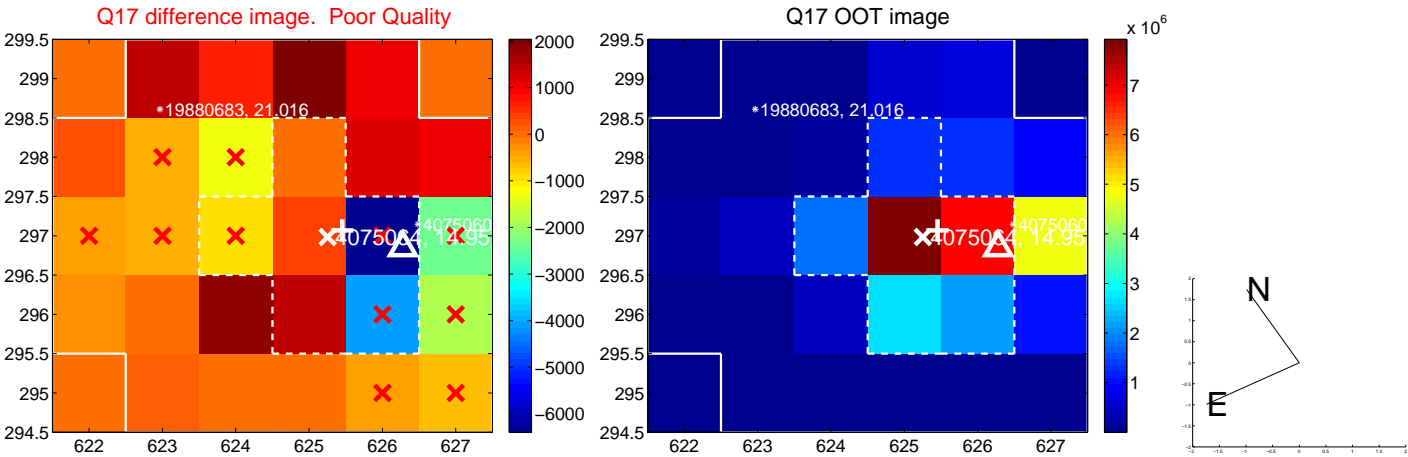
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



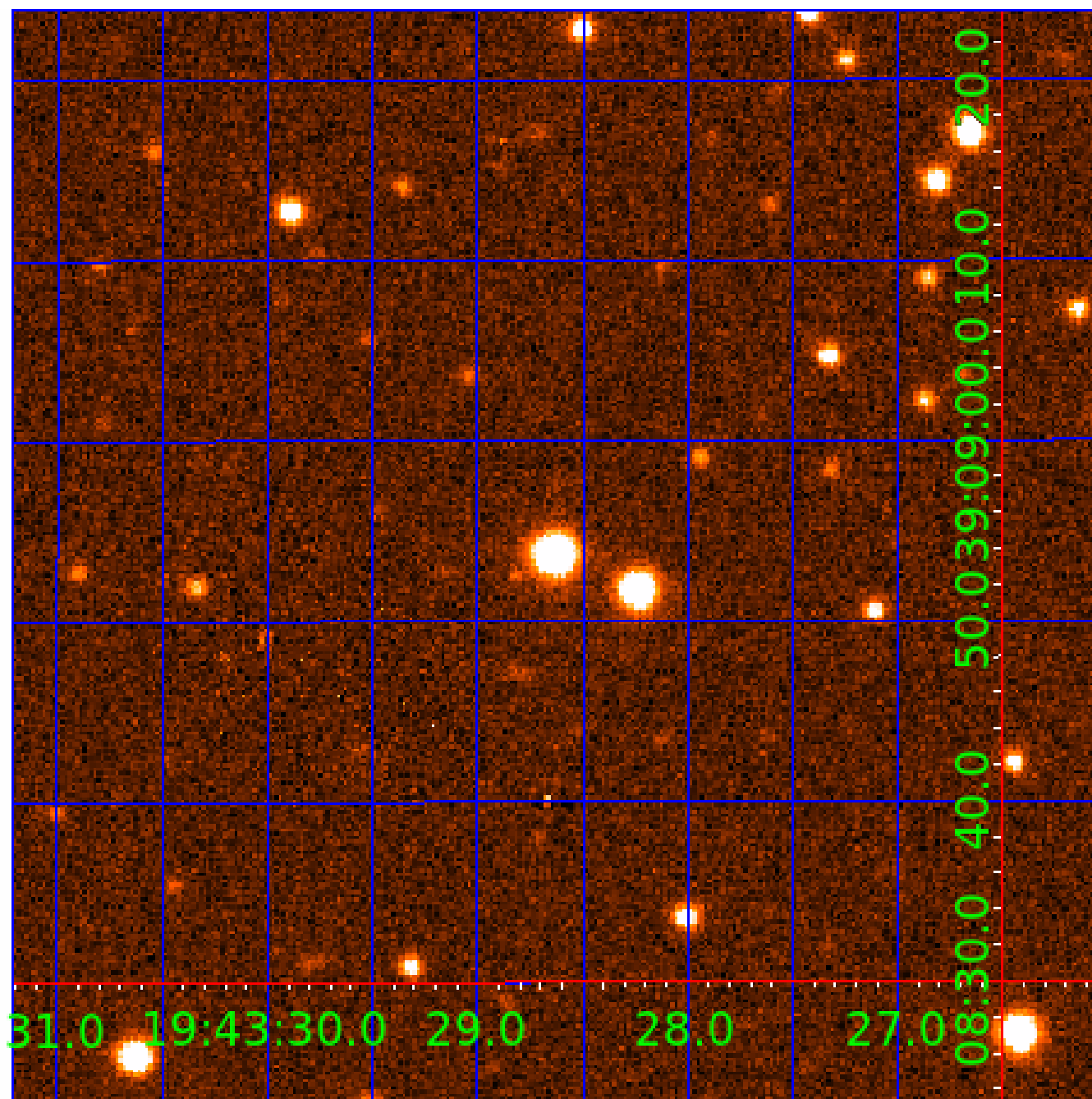
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 004075064

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})
004075064-01	OBS	6383.01	61.422491	161.238284	339471.0	2.000	4319.9	-1.0	0.61	4867	33.45	2.67
004075064-02	OBS	No	61.422476	141.199704	105450.1	12.757	1792.3	1603.4	0.61	4867	29.17	2.67
004075064-03	OBS	No	4.387184	135.306625	0.0	0.999	179.5	0.0	0.61	4867	0.00	89.95
004075064-04	OBS	No	5.118567	135.842909	13363.6	15.000	185.7	-1.0	0.61	4867	6.88	73.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004075064-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
004075064-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS
004075064-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
004075064-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—RESIDUAL_TCE—CENT_NOFITS

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.

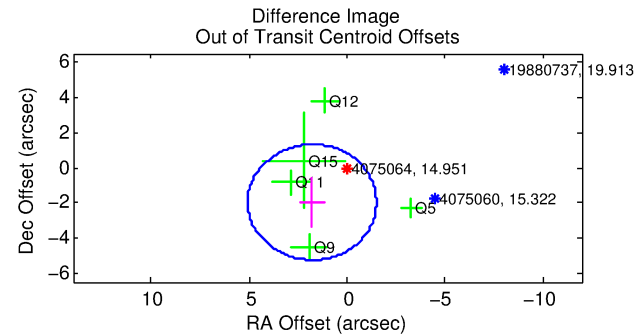
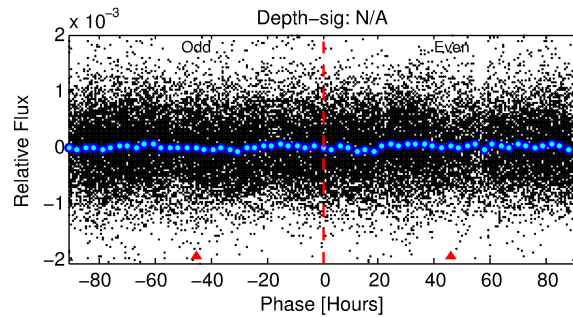
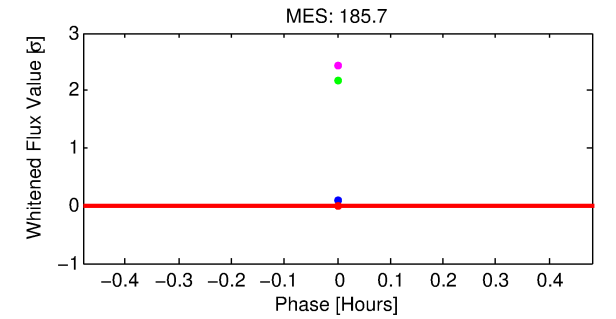
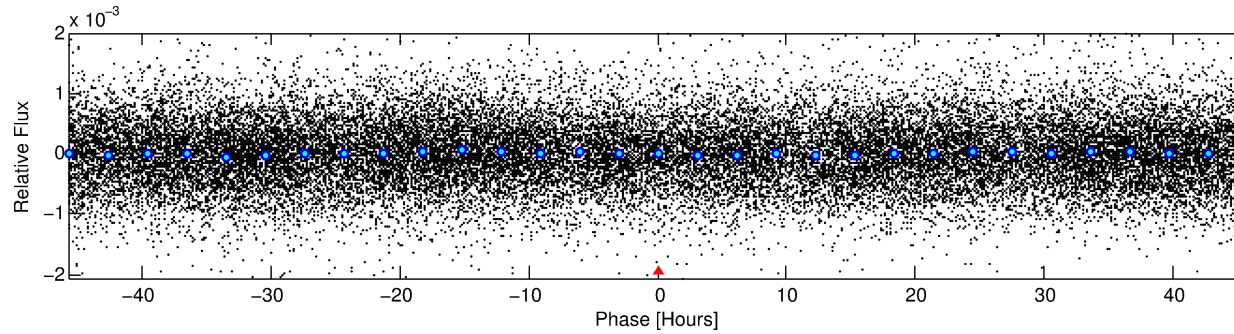
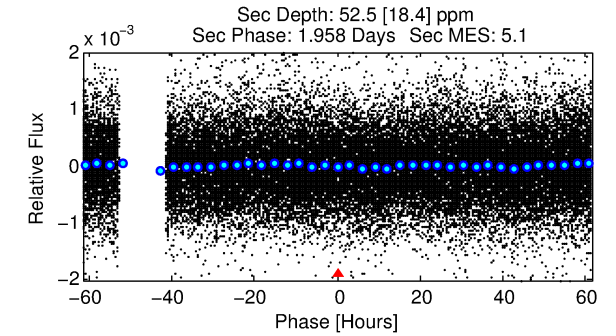
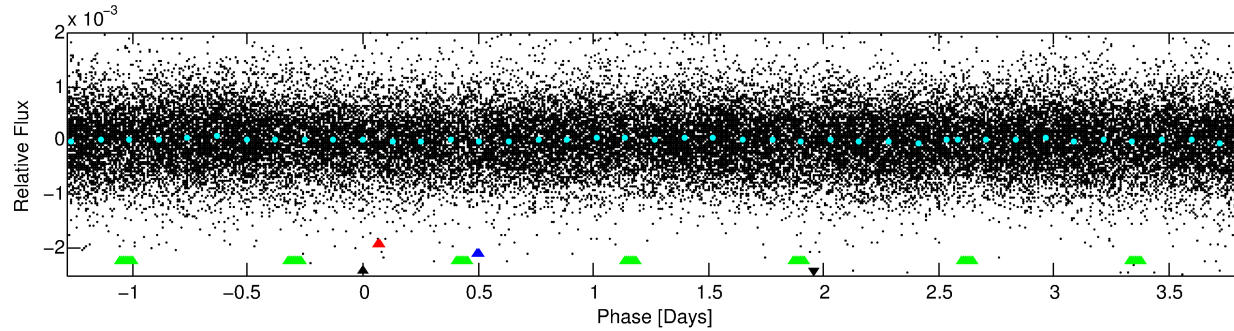
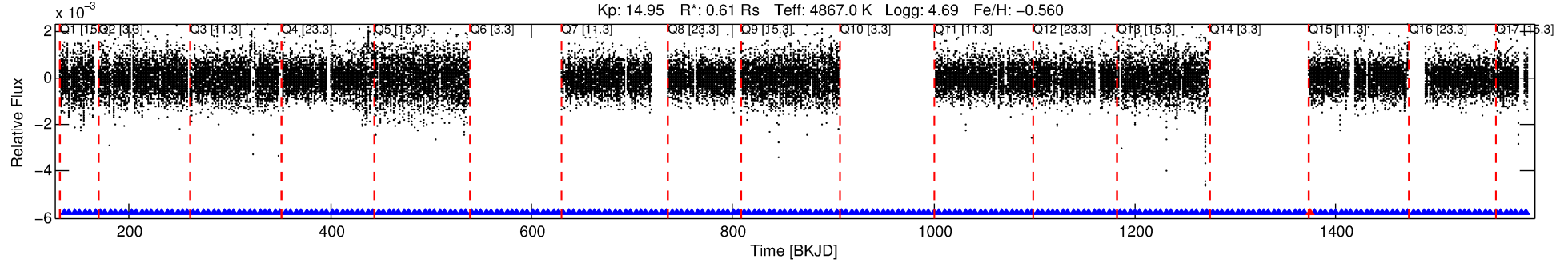
Ephemeris Match Information For 004075064-04

No Significant Match Found

DV One-Page Summary

KIC: 4075064 Candidate: 4 of 4 Period: 5.119 d
KOI: K06383 Corr: No Ephemeris Match

Kp: 14.95 R*: 0.61 Rs Teff: 4867.0 K Logg: 4.69 Fe/H: -0.560



TPS TCE Results:

Period = 5.11857 d
Epoch = 135.8429 BKJD

DV fit results are unavailable

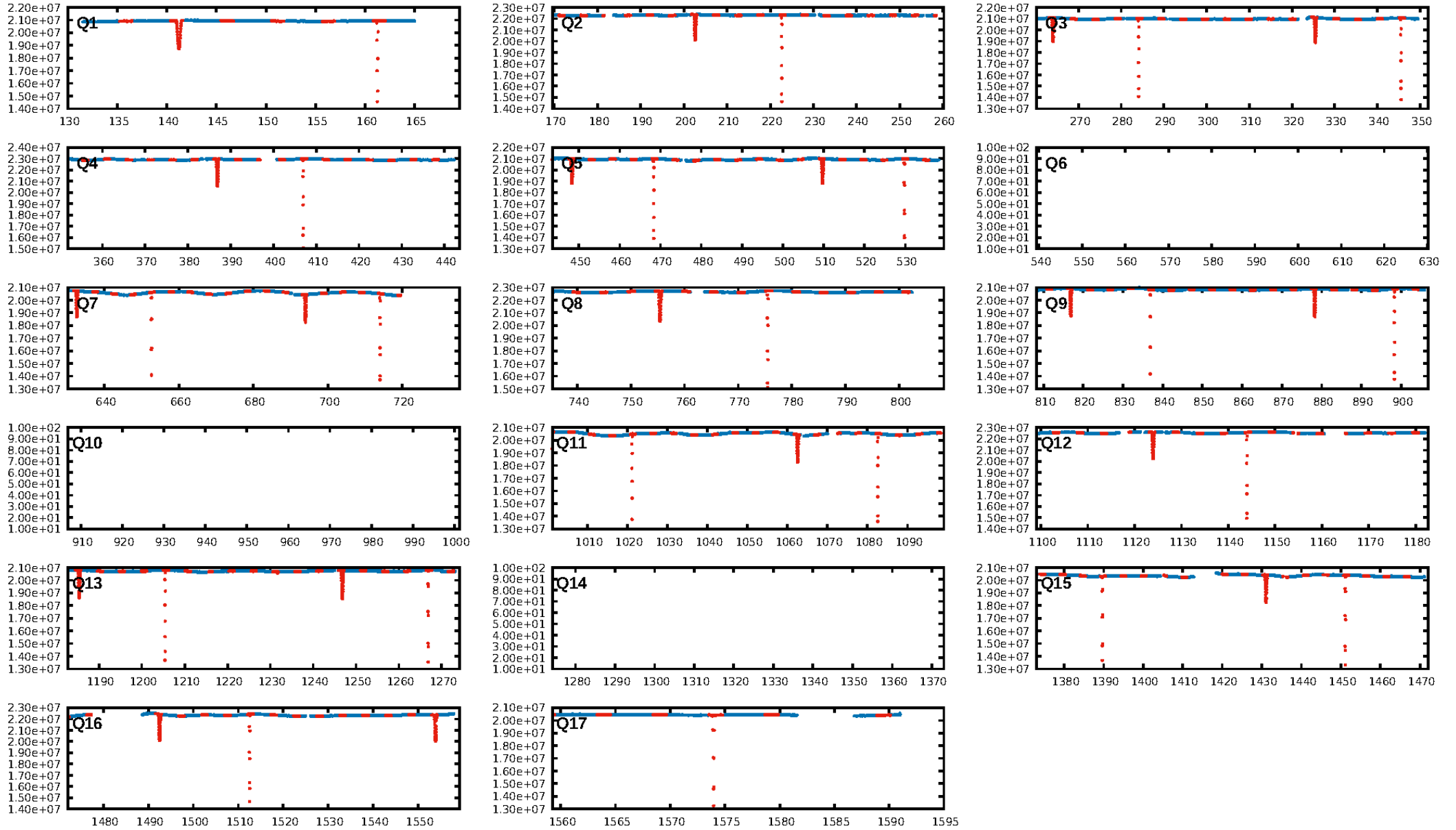
DV Diagnostic Results:

ShortPeriod-sig: 75.7% [1.17 σ]
LongPeriod-sig: 100.0% [68.62 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [197/198]
GhostDiagnostic-chr: 2.328
Centroid-sig: N/A
Centroid-so: 4.836 arcsec [1.59 σ]
OotOffset-rm: 2.653 arcsec [2.42 σ]
KicOffset-rm: 2.842 arcsec [2.24 σ]
OotOffset-st: 0/2/1/2 [5]
KicOffset-st: 0/2/1/2 [5]
DiffImageQuality-fgm: 0.00 [0/5]
DiffImageOverlap-fno: 1.00 [14/14]

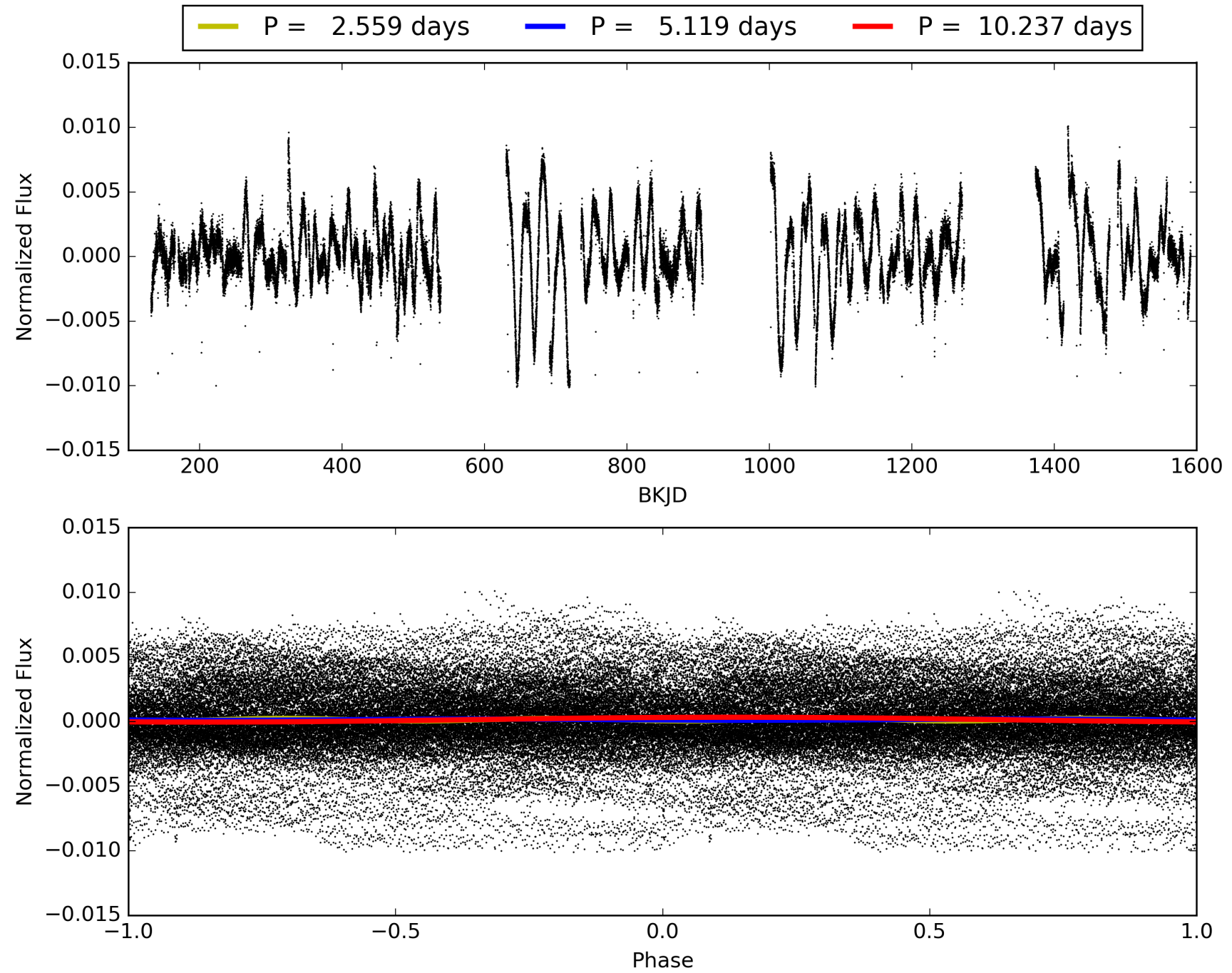
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:59:56 Z

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

TCE 004075064-04, PDC Light Curves

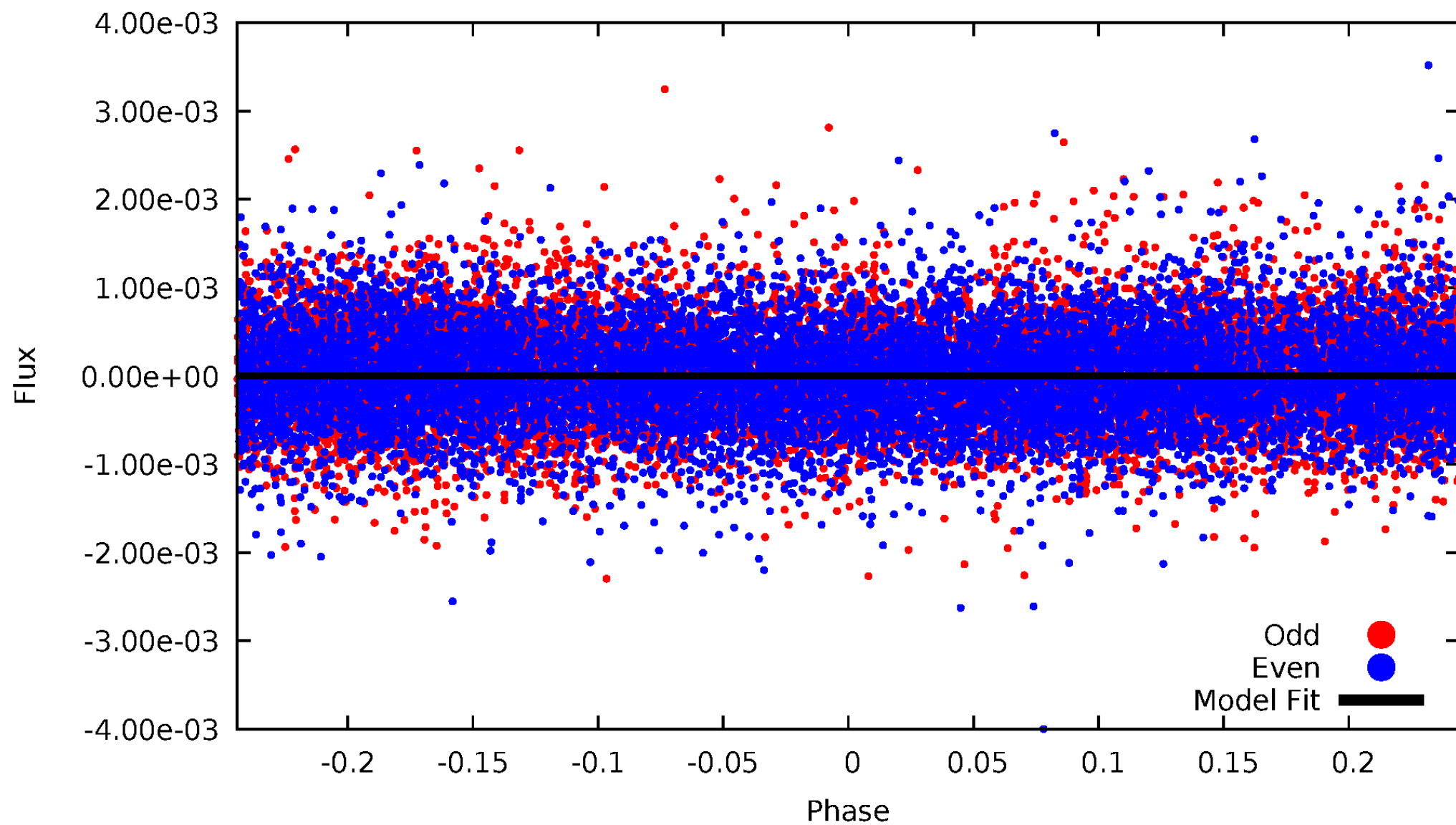


TCE 004075064-04



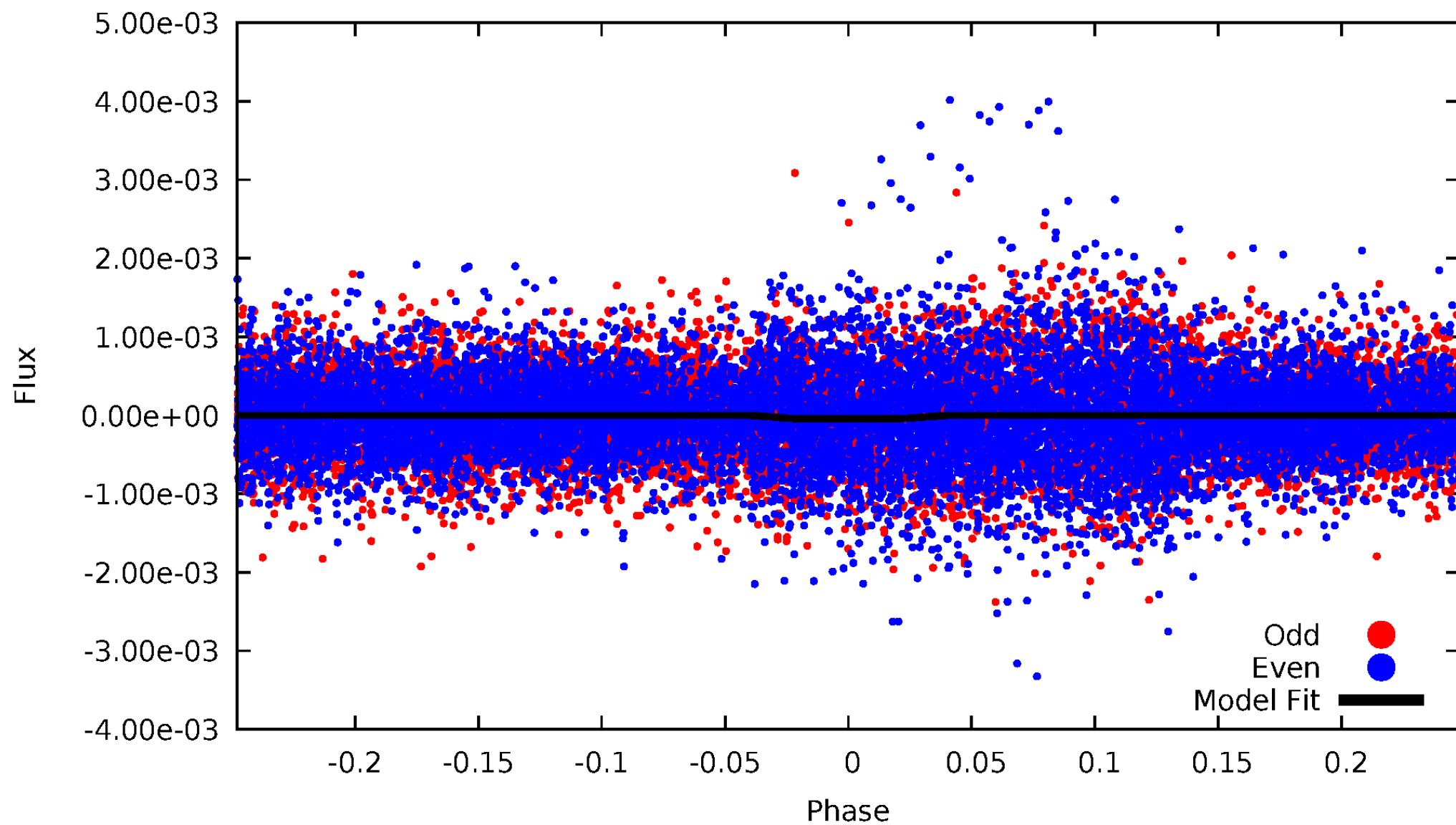
DV Odd/Even

TCE 004075064-04



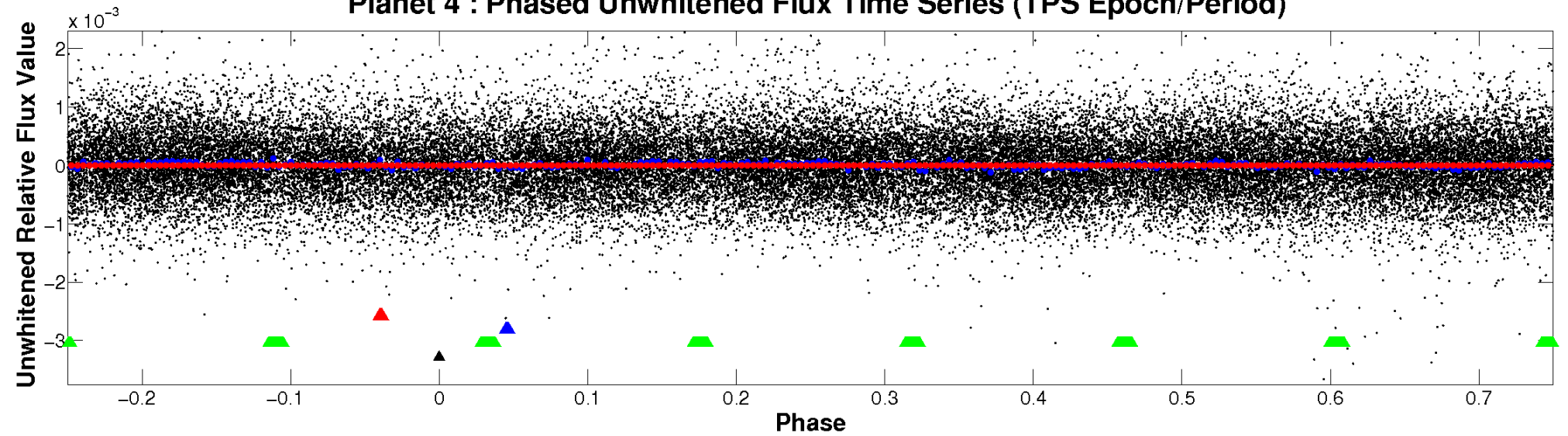
ALT Odd/Even

TCE 004075064-04



Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

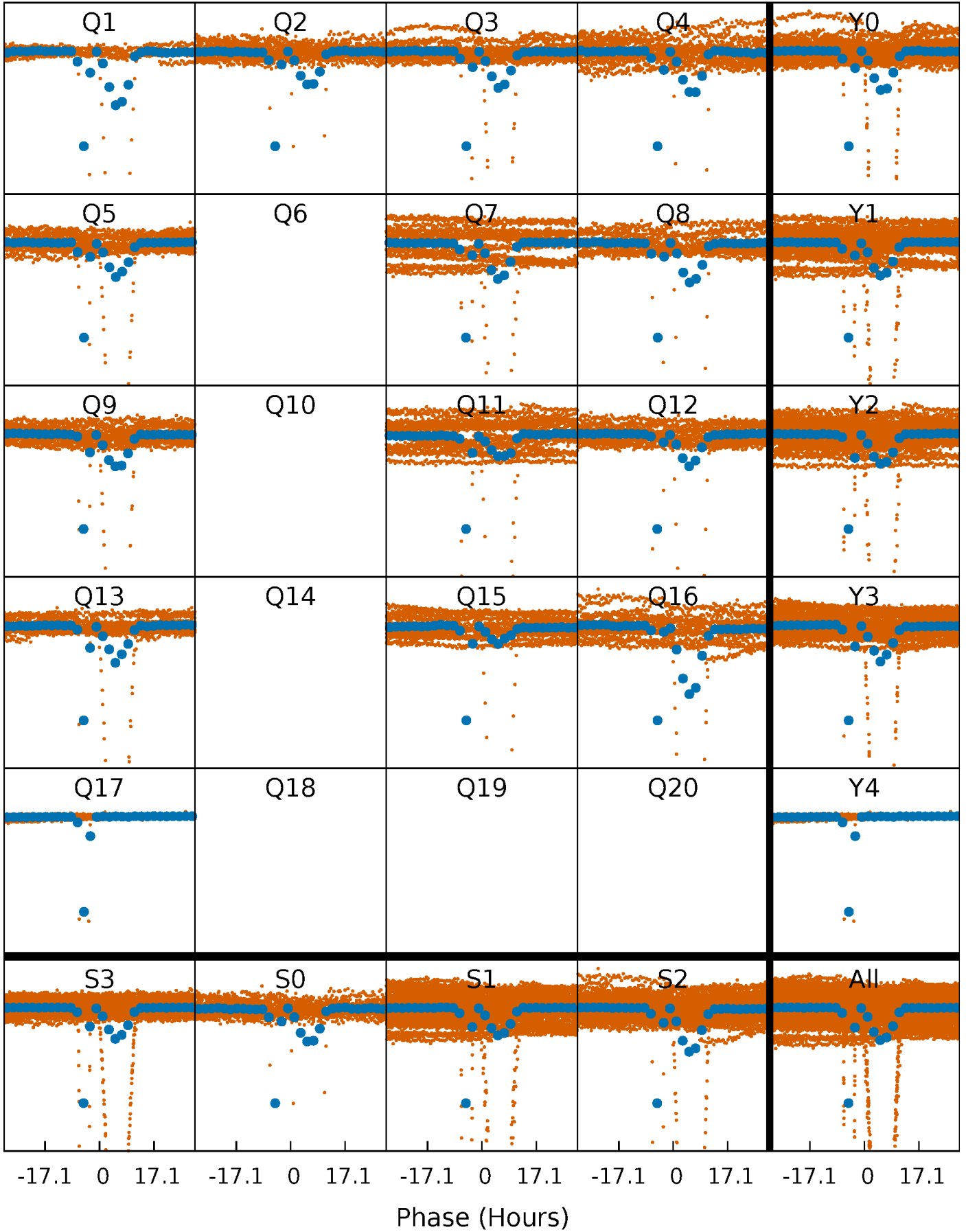


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



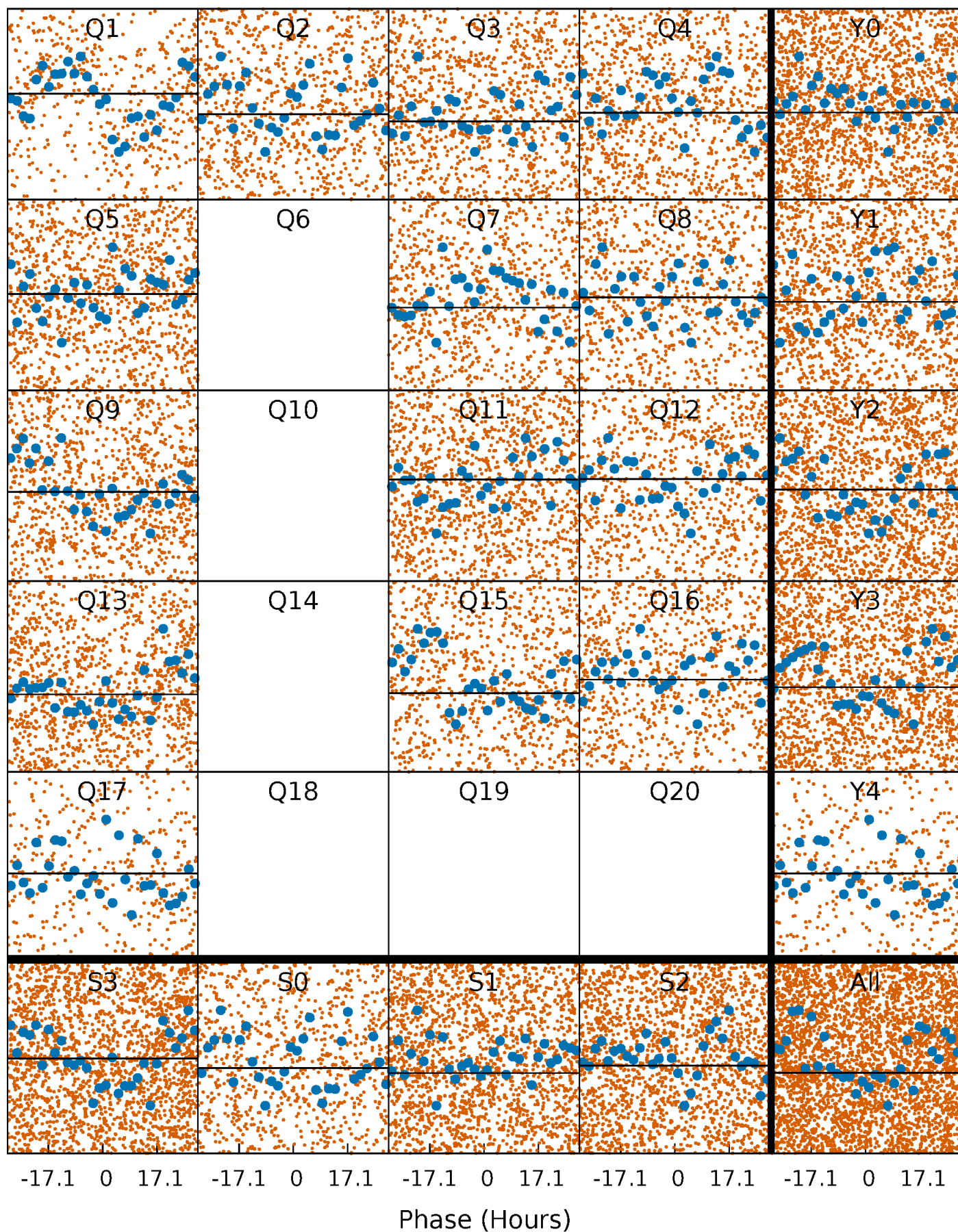
PDC Quarter-Phased Transit Curves

TCE 004075064-04 P= 5.118567 Days $T_0=135.842908$ (BKJD)



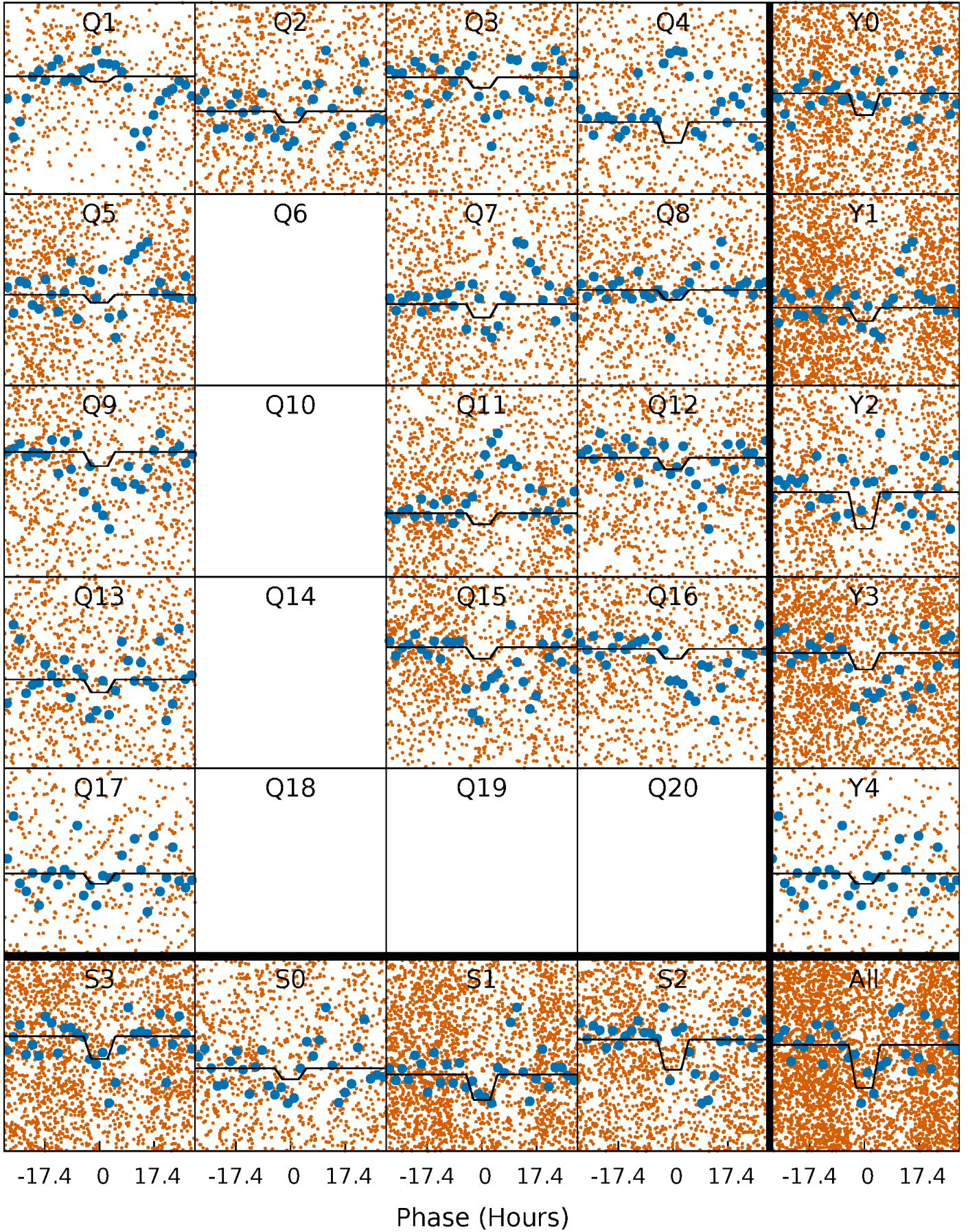
DV Quarter-Phased Transit Curves

TCE 004075064-04 P= 5.118567 Days $T_0=135.842908$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

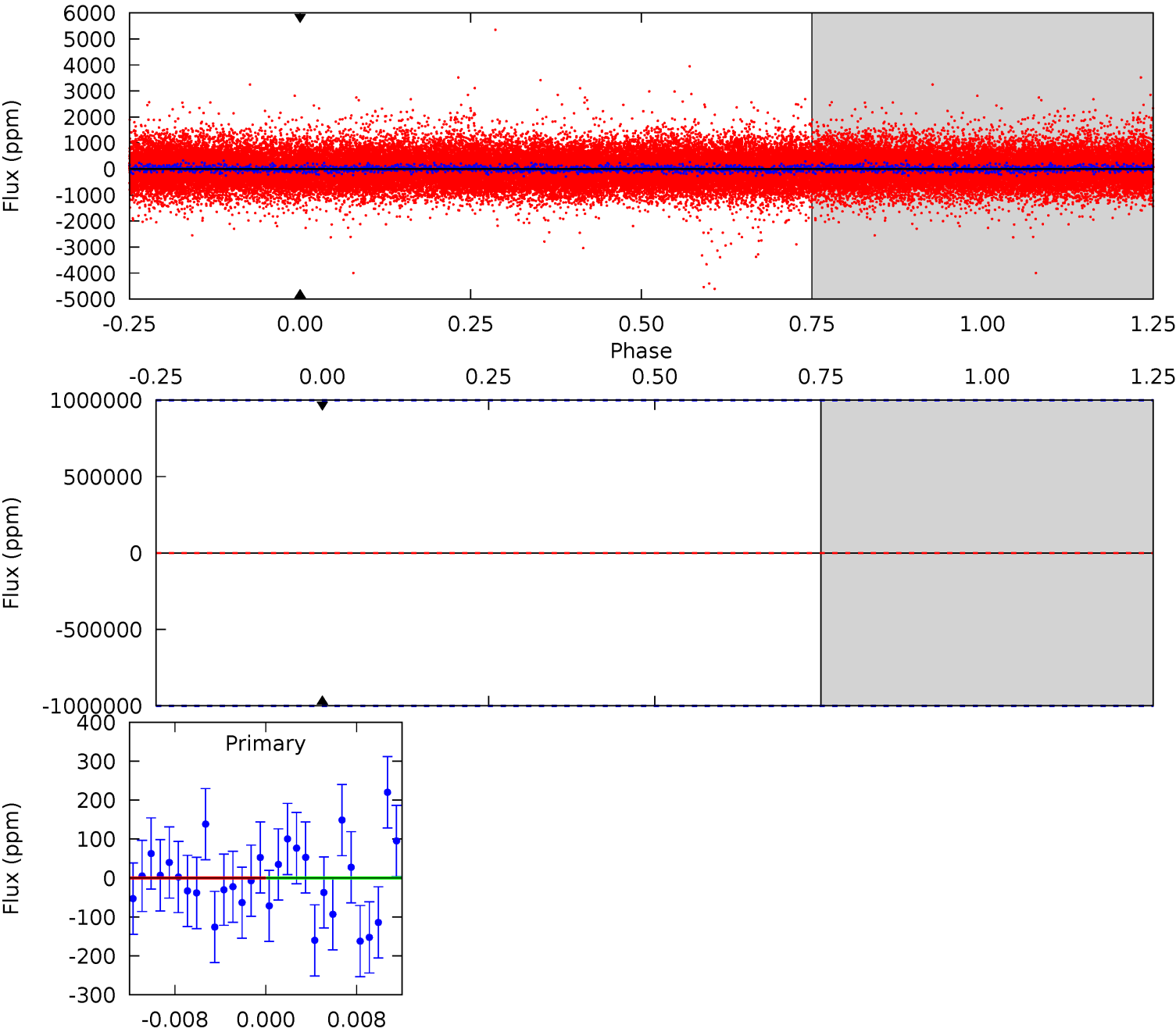
TCE 004075064-04 $P = 5.118567$ Days $T_0 = 135.578558$ (BKJD)



DV Model-Shift Uniqueness Test

004075064-04, P = 5.118567 Days, E = 130.724341 Days

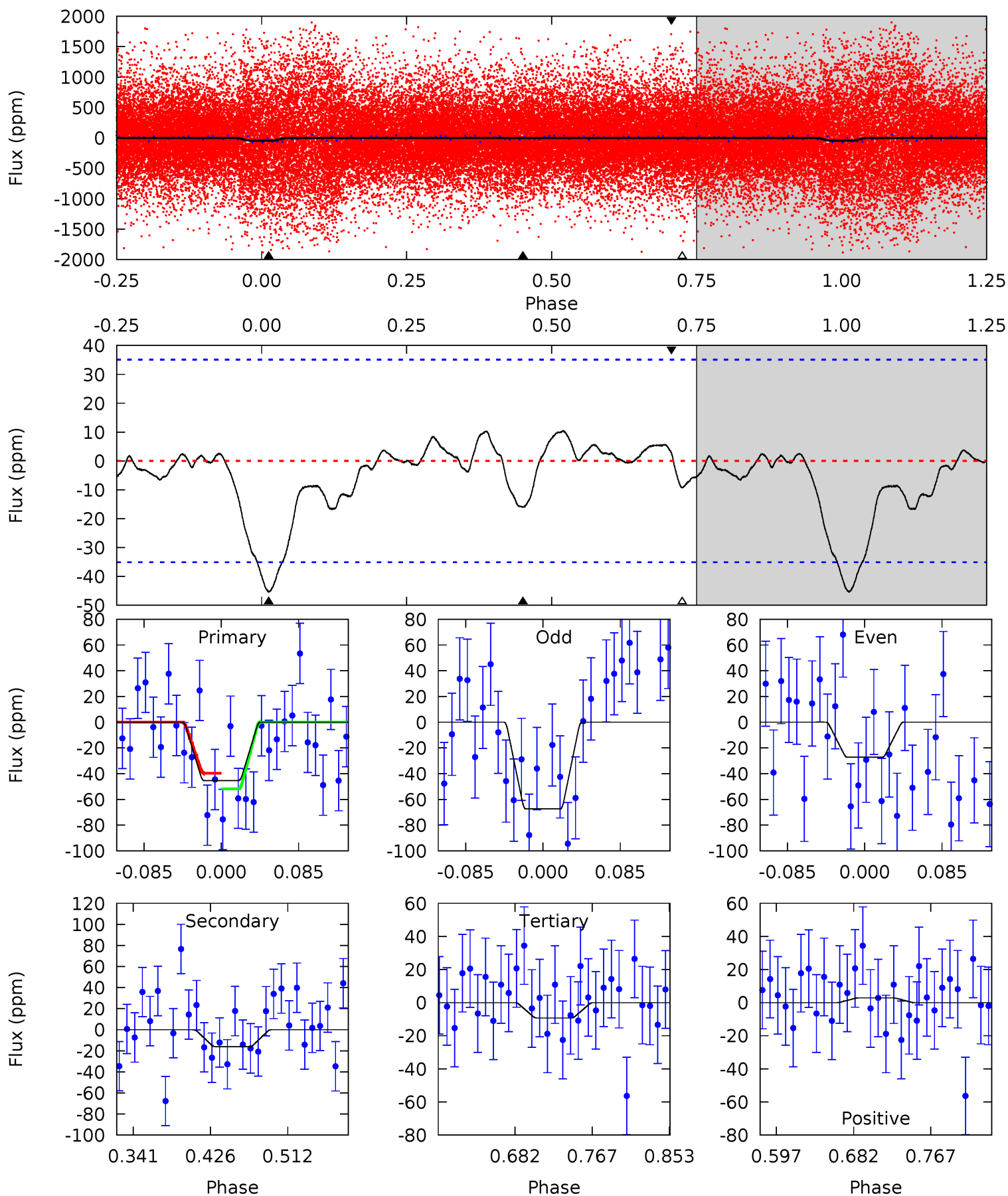
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

004075064-04, P = 5.118567 Days, E = 130.459991 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.94	2.10	1.22	0.37	4.60	1.72	0.68	4.72	5.57	0.89	1.73	2.58	0.46	0.19	0.80



Stellar Parameters For KIC 004075064

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4867^{+145}_{-145}	$4.687^{+0.025}_{-0.065}$	$-0.560^{+0.300}_{-0.300}$	$0.613^{+0.070}_{-0.035}$	$0.665^{+0.066}_{-0.054}$	$4.069^{+0.559}_{-0.924}$
	+3%/-3%	+1%/-1%	+54%/-54%	+11%/-6%	+10%/-8%	+14%/-23%
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 004075064-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$8.32^{+5.95}_{-5.05}$	1051^{+36}_{-37}	3576^{+5342}_{-12423}	66^{+3174}_{-2989}
Alt.	-16 ± 8	$4.47^{+5.17}_{-3.25}$	1052^{+39}_{-36}	2037^{+827}_{-3746}	$1.000^{+12.547}_{-0.814}$

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 $A_{obs} \gg 1.0$

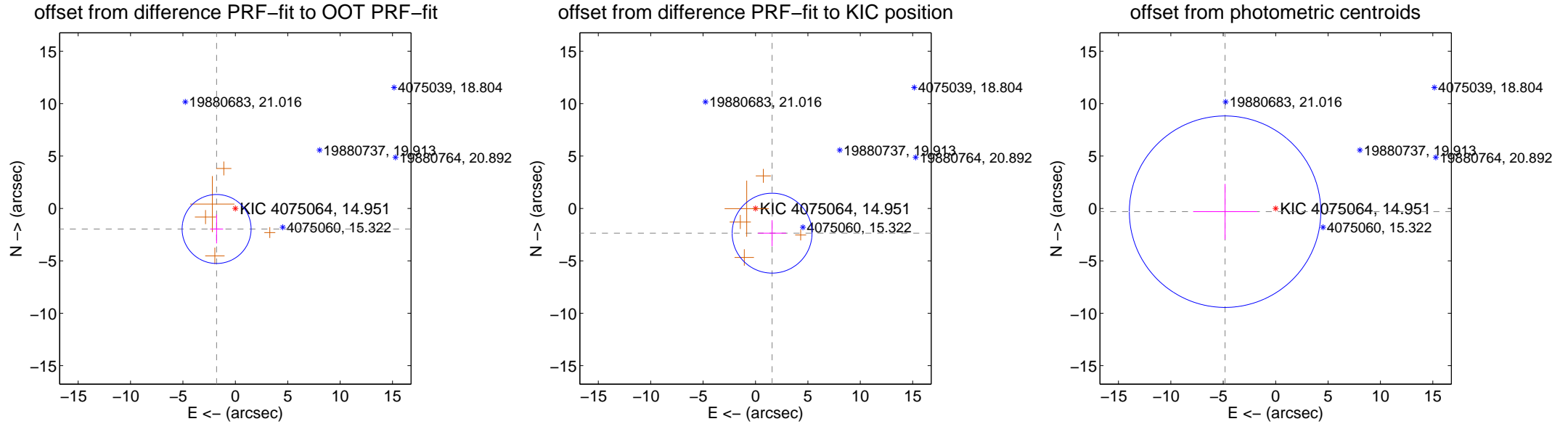
DV Centroid Data

Supplemental centroid analysis for 004075064-04. Kepler magnitude: 14.95. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

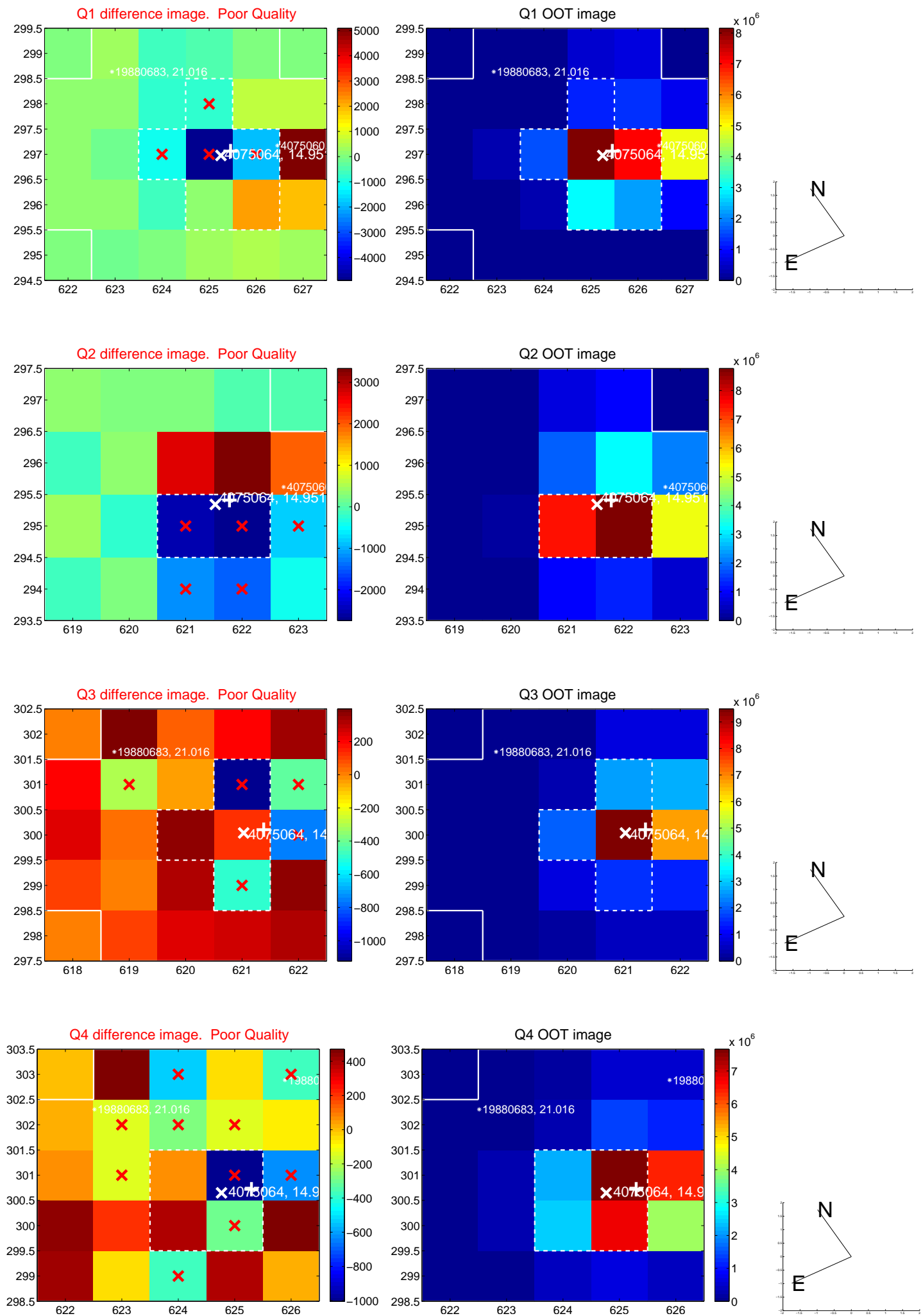
The direct PRF centroid is offset from the target star catalog position by about 1.43 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.653 ± 1.097	2.42	1.788 ± 0.619	-1.960 ± 1.374
PRF-fit source offset from KIC position	2.842 ± 1.270	2.24	-1.584 ± 1.341	-2.359 ± 1.237
photometric centroid source offset	4.84 ± 3.04	1.59	4.83 ± 3.05	-0.31 ± 2.64

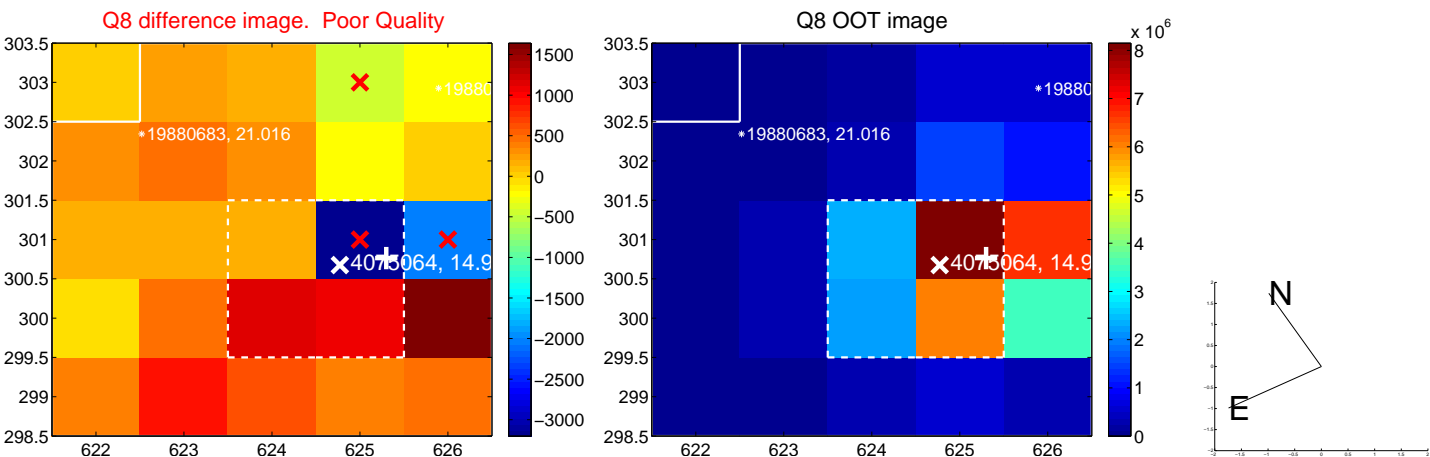
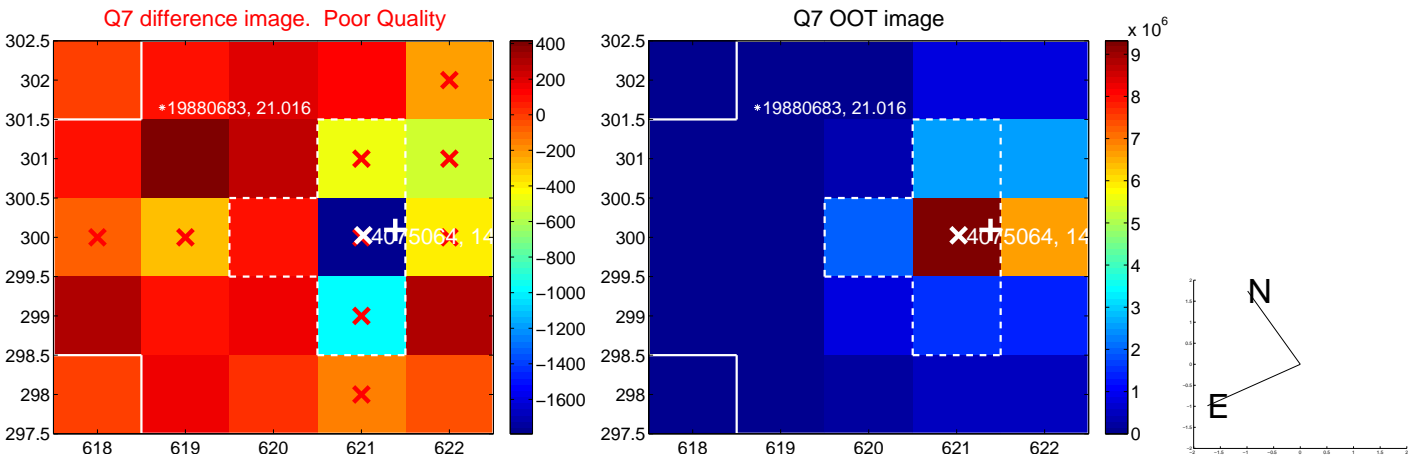
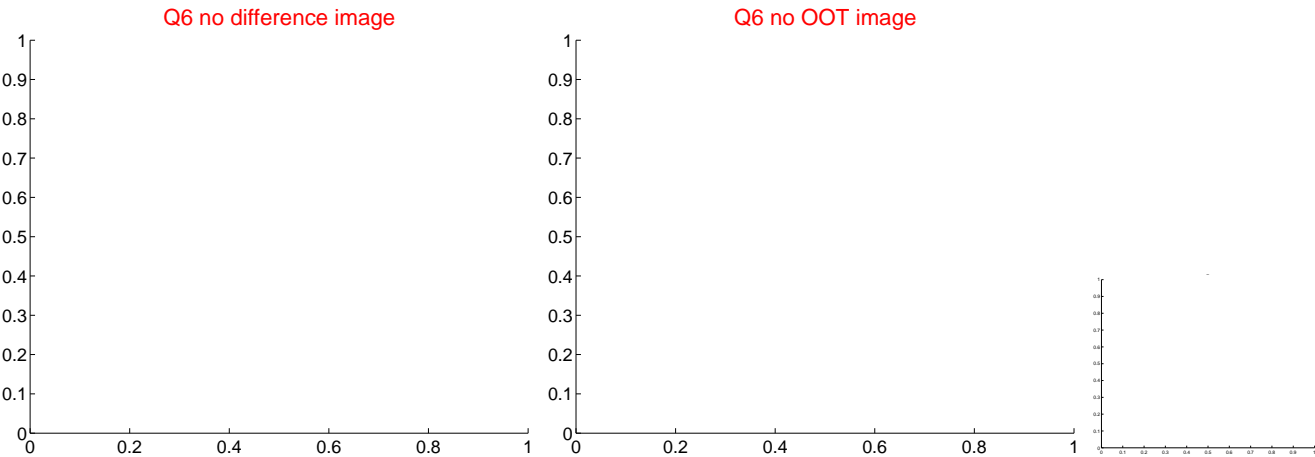
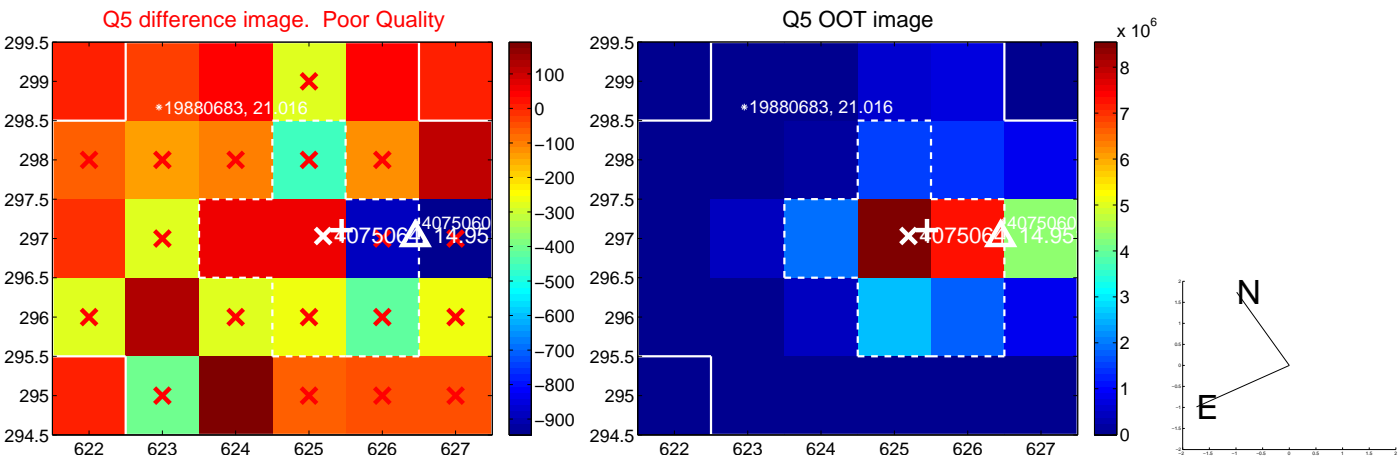


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

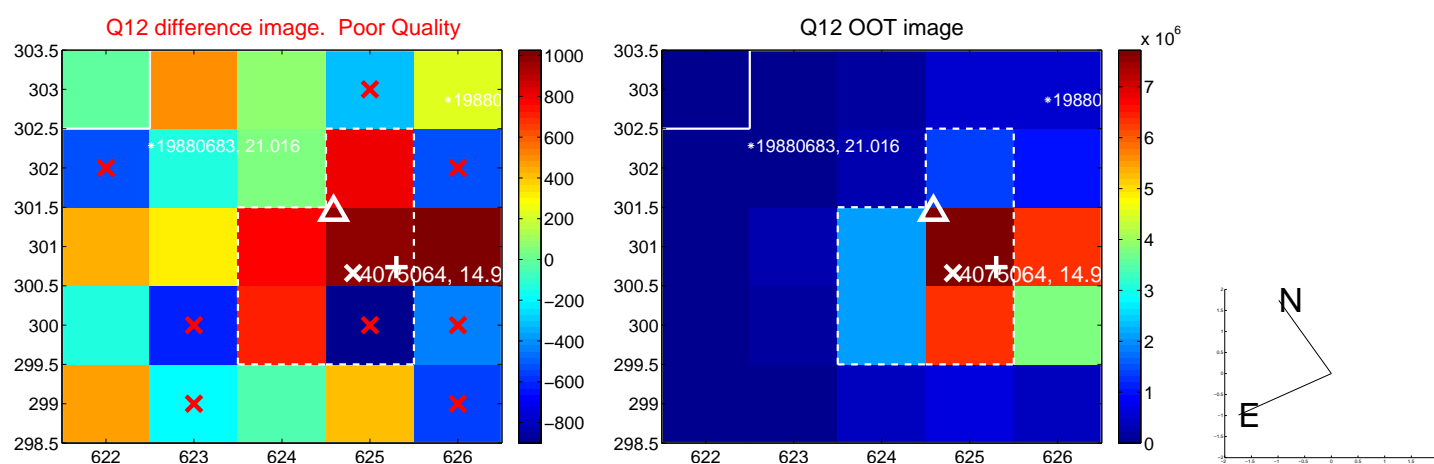
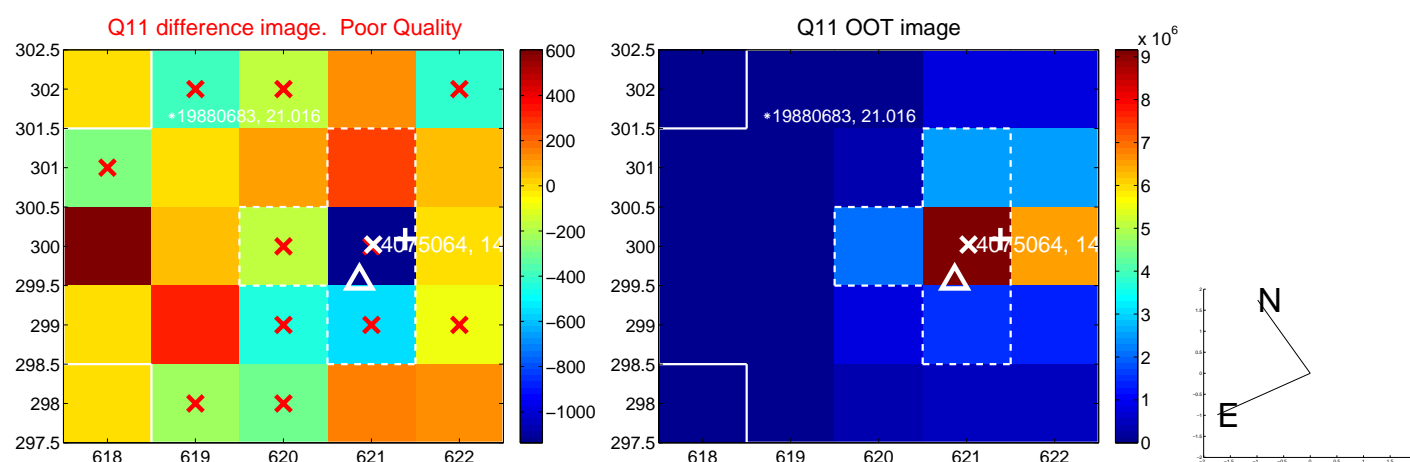
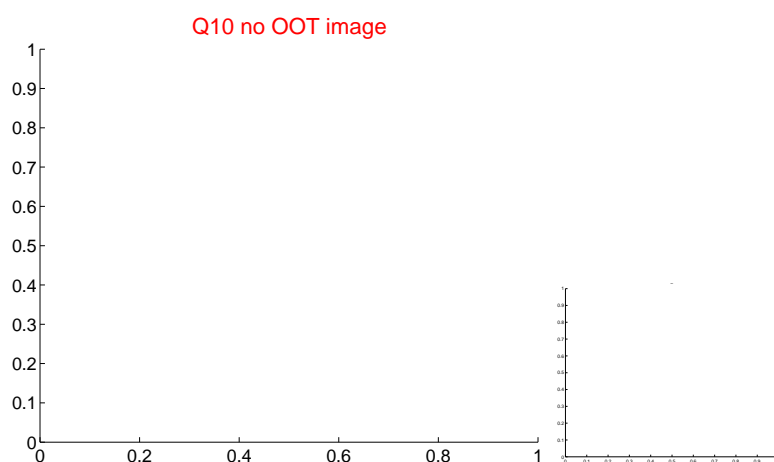
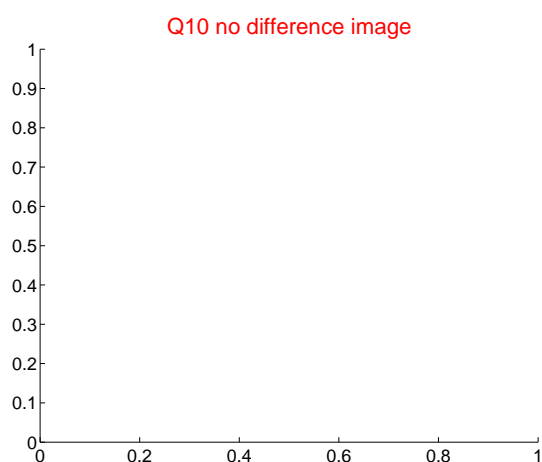
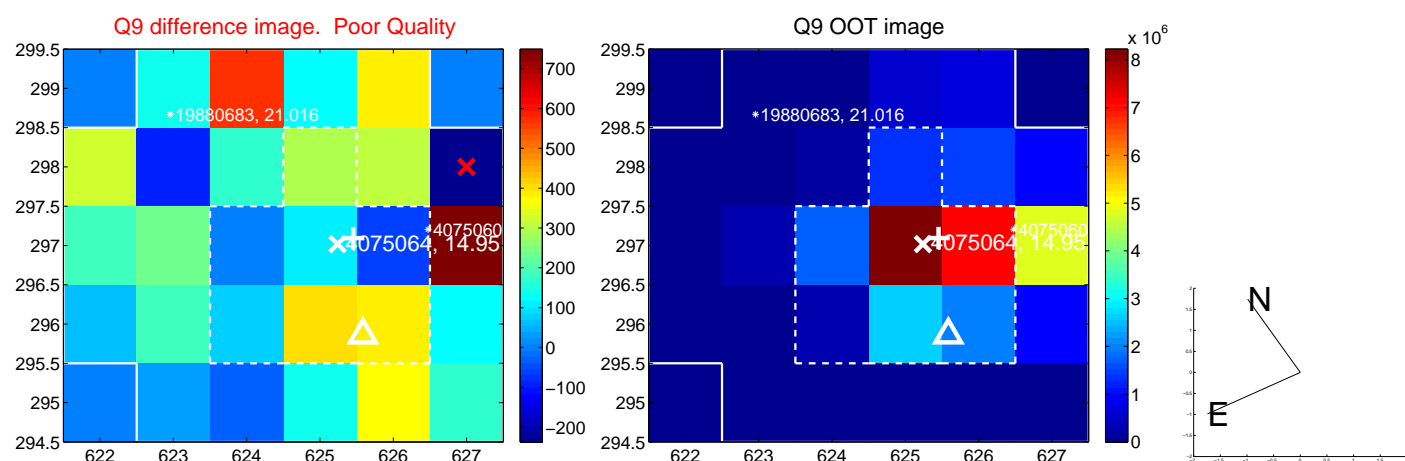
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



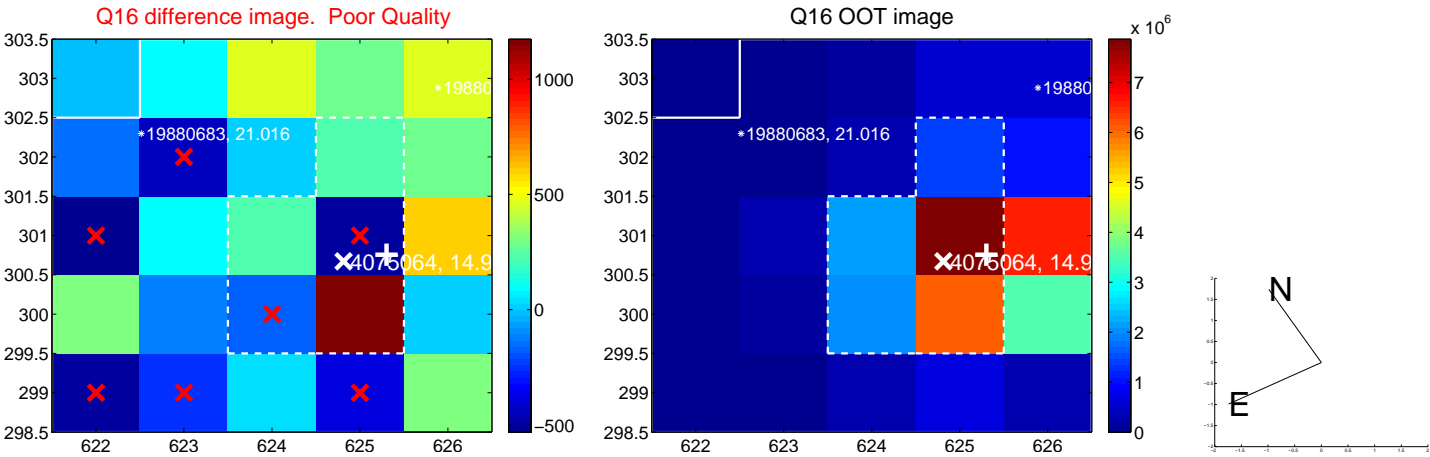
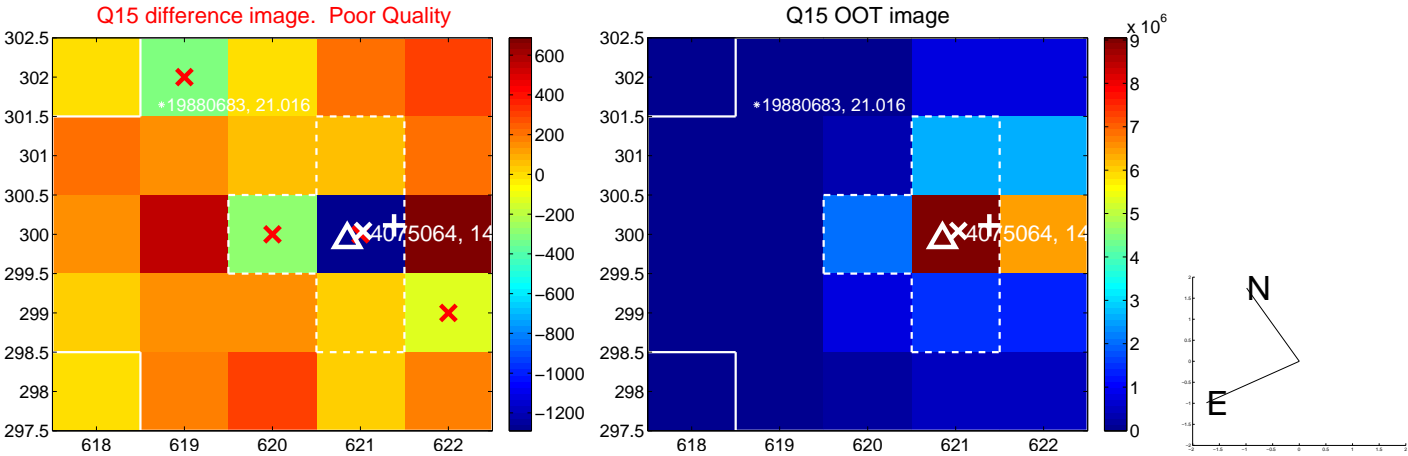
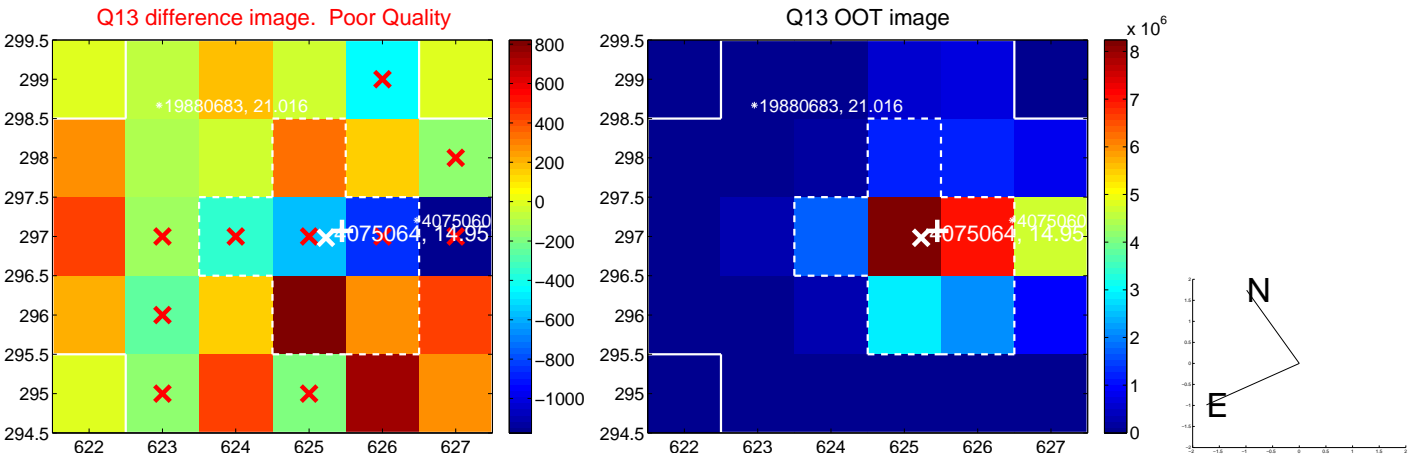
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



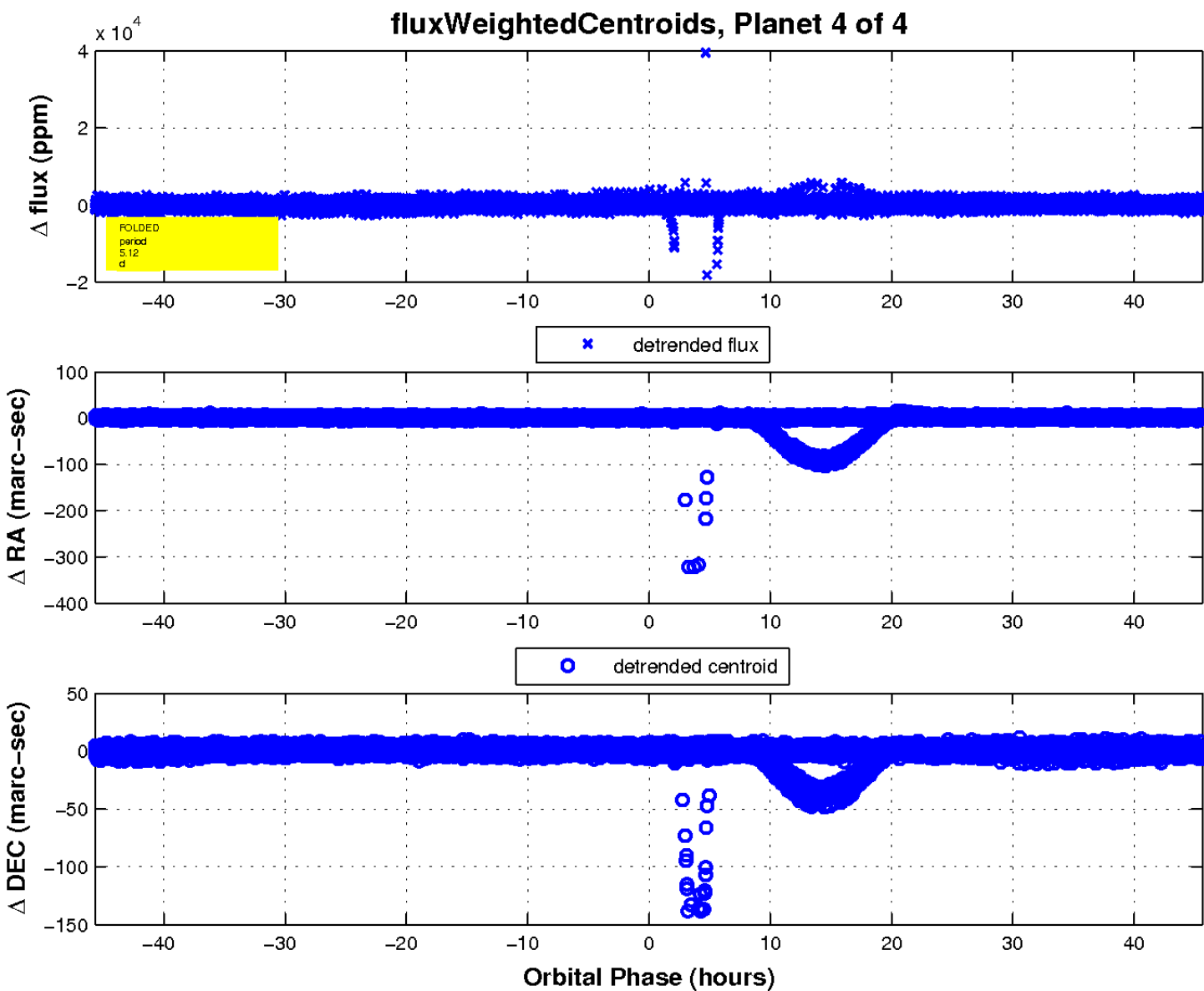
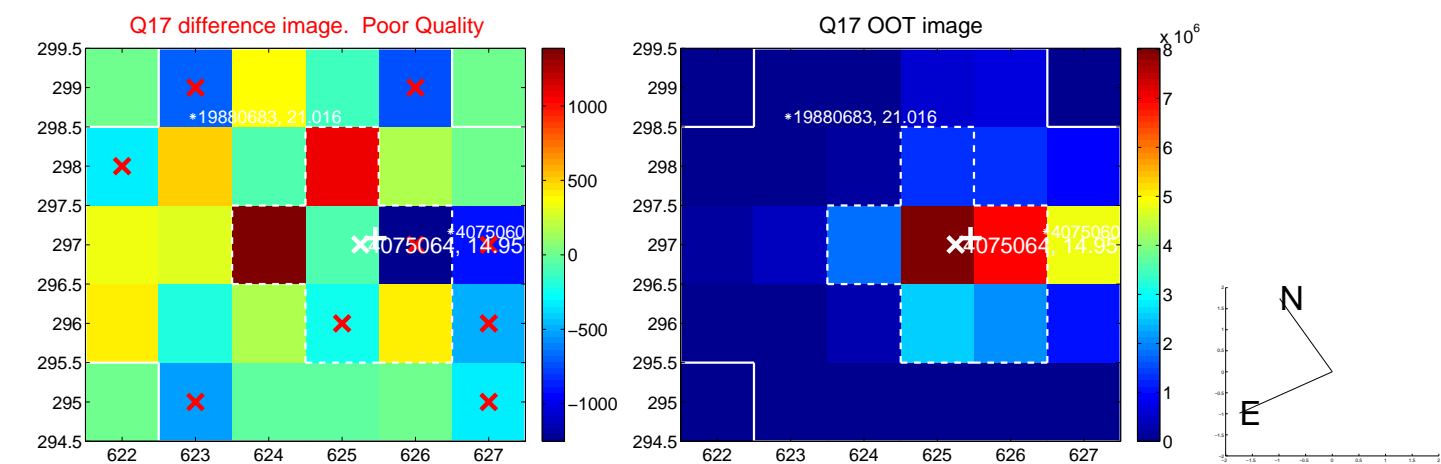
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

