

KIC 011671429

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})
011671429-01	OBS	3567.01	112.463598	197.557855	244235.3	31.898	3843.2	3479.8	2.46	7426	129.77	54.31
011671429-02	OBS	No	112.463596	167.684204	193474.1	19.206	2074.9	1796.0	2.46	7426	112.14	54.31
011671429-03	OBS	No	0.995763	131.785943	143.9	2.580	9.8	10.6	2.46	7426	3.42	29649.41
011671429-04	OBS	No	0.565618	131.850777	73.3	2.000	8.1	-1.0	2.46	7426	2.14	63026.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011671429-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_SATURATED
011671429-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_SATURATED
011671429-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
011671429-04	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

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.

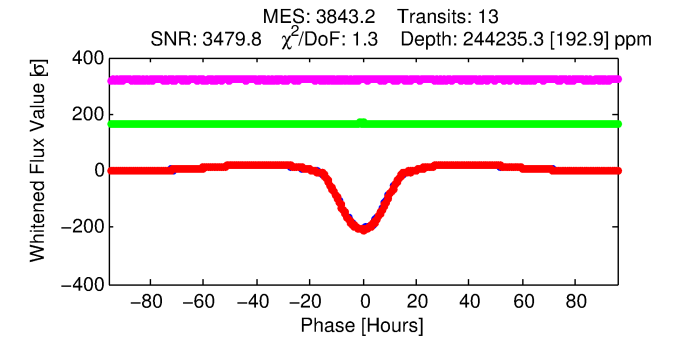
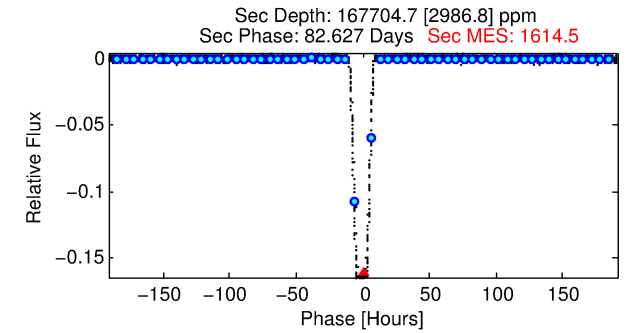
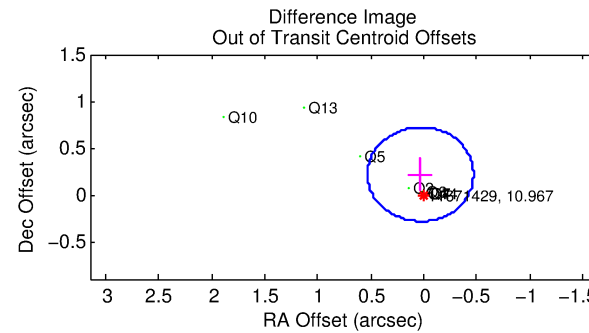
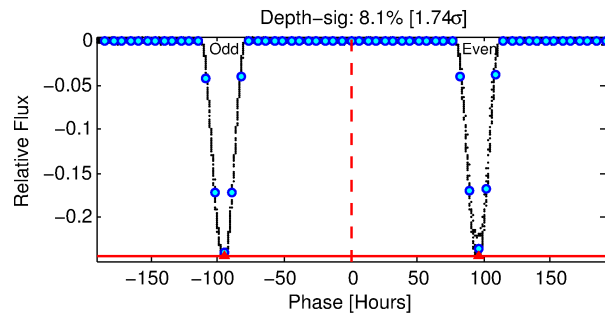
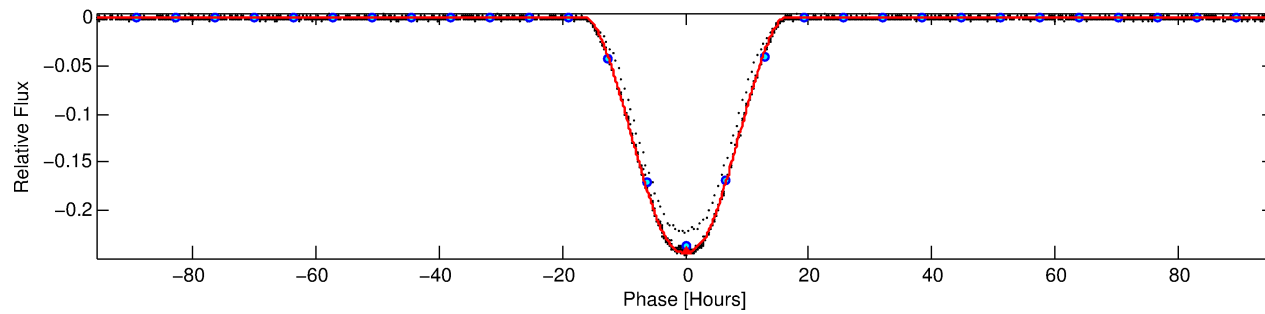
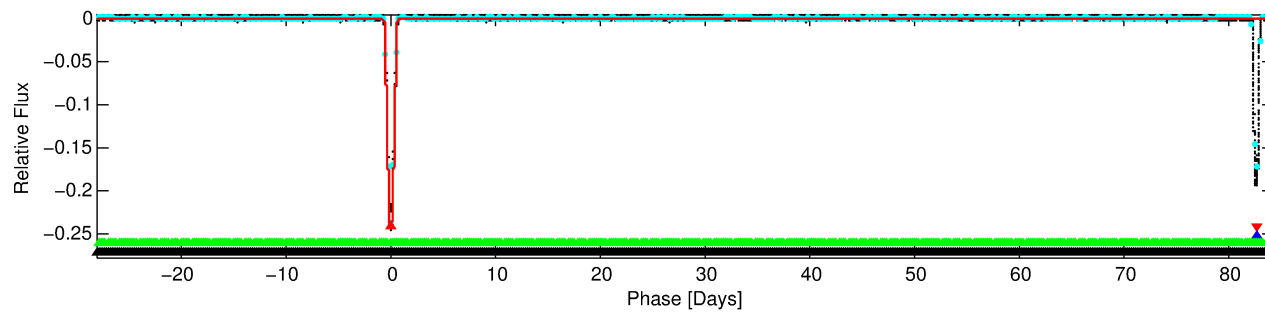
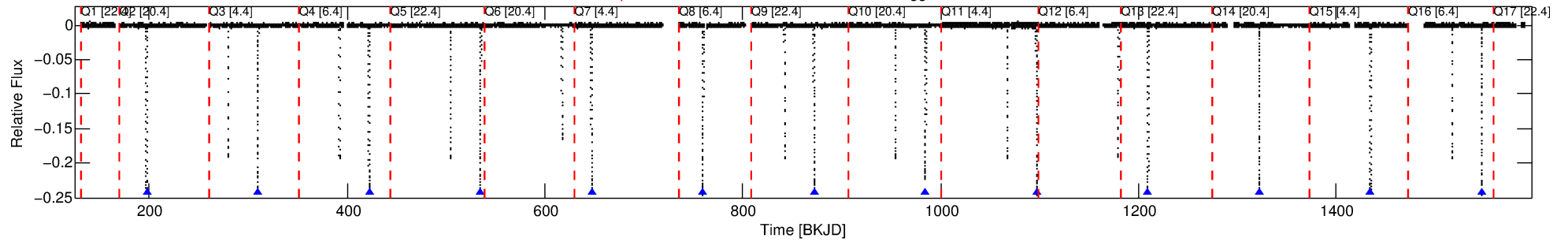
Ephemeris Match Information For 011671429-01

No Significant Match Found

DV One-Page Summary

KIC: 11671429 Candidate: 1 of 4 Period: 112.464 d
KOI: K03567.01 Corr: 0.976

Kp: 10.97 R*: 2.46 Rs Teff: 7426.0 K Logg: 3.90 Fe/H: -0.080



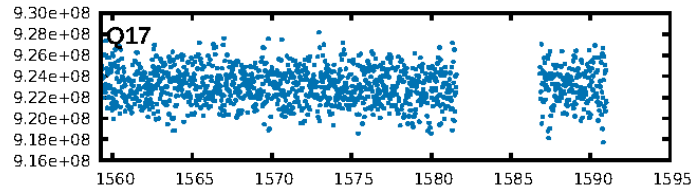
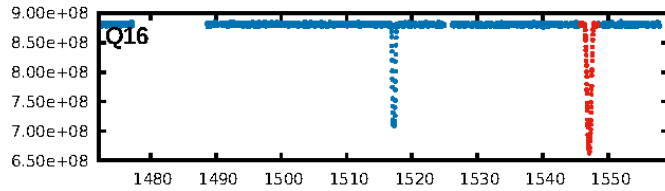
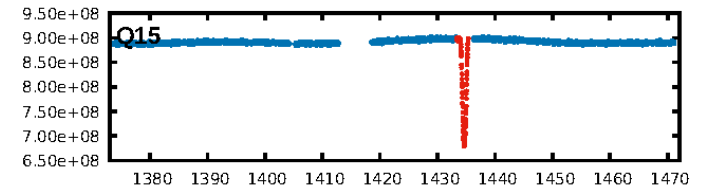
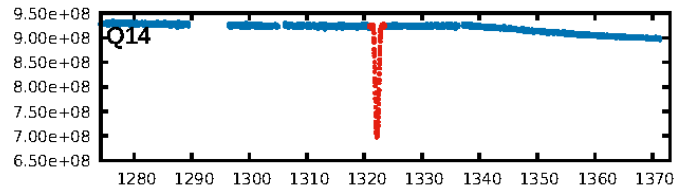
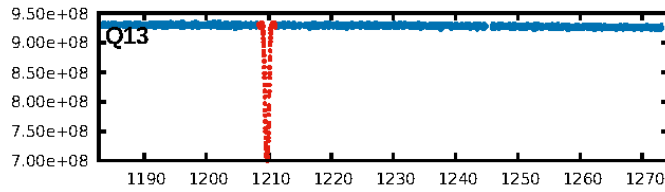
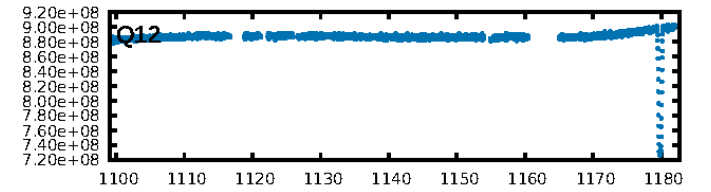
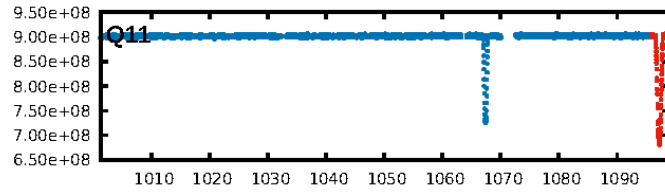
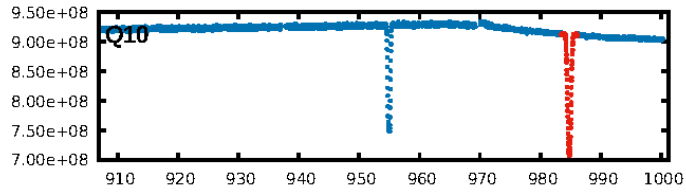
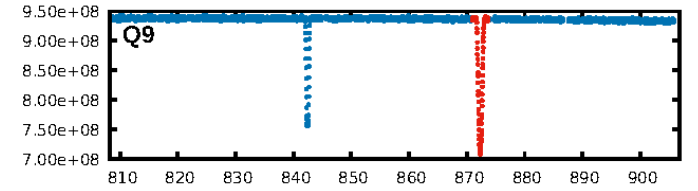
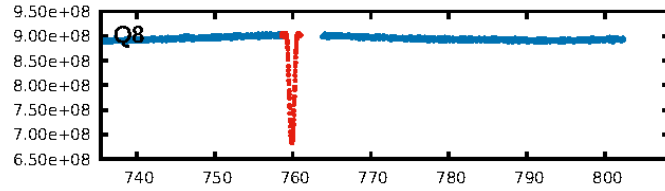
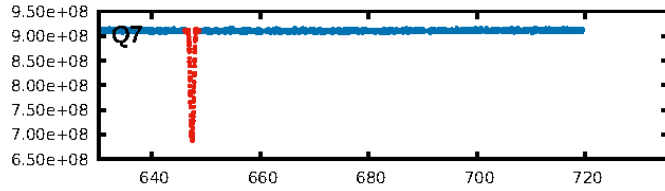
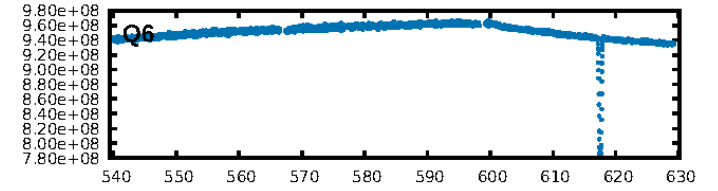
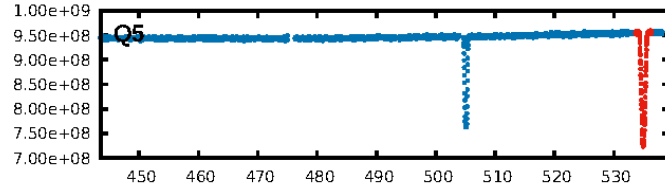
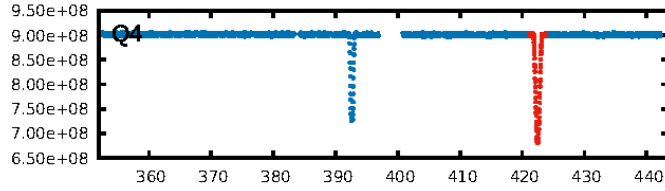
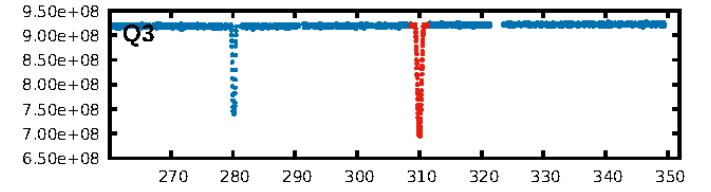
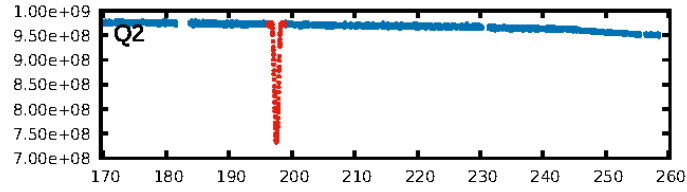
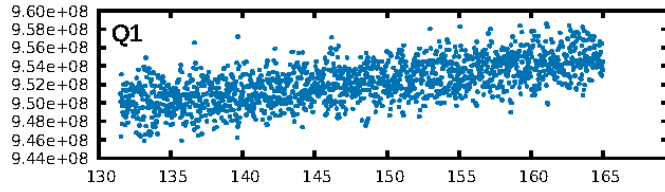
DV Fit Results:

Period = 112.46360 [0.00004] d
Epoch = 197.5579 [0.0002] BKJD
Rp/R* = 0.4828 [0.0005]
a/R* = 37.38 [0.02]
b = 0.52 [0.00]
Seff = 54.31 [17.33]
Teff = 692 [55] K
Rp = 129.77 [28.77] Re
a = 0.5517 [0.1122] AU
Ag = 1667.27 [527.80] [3.16σ]
Teffp = 6839 [81] K [62.90σ]

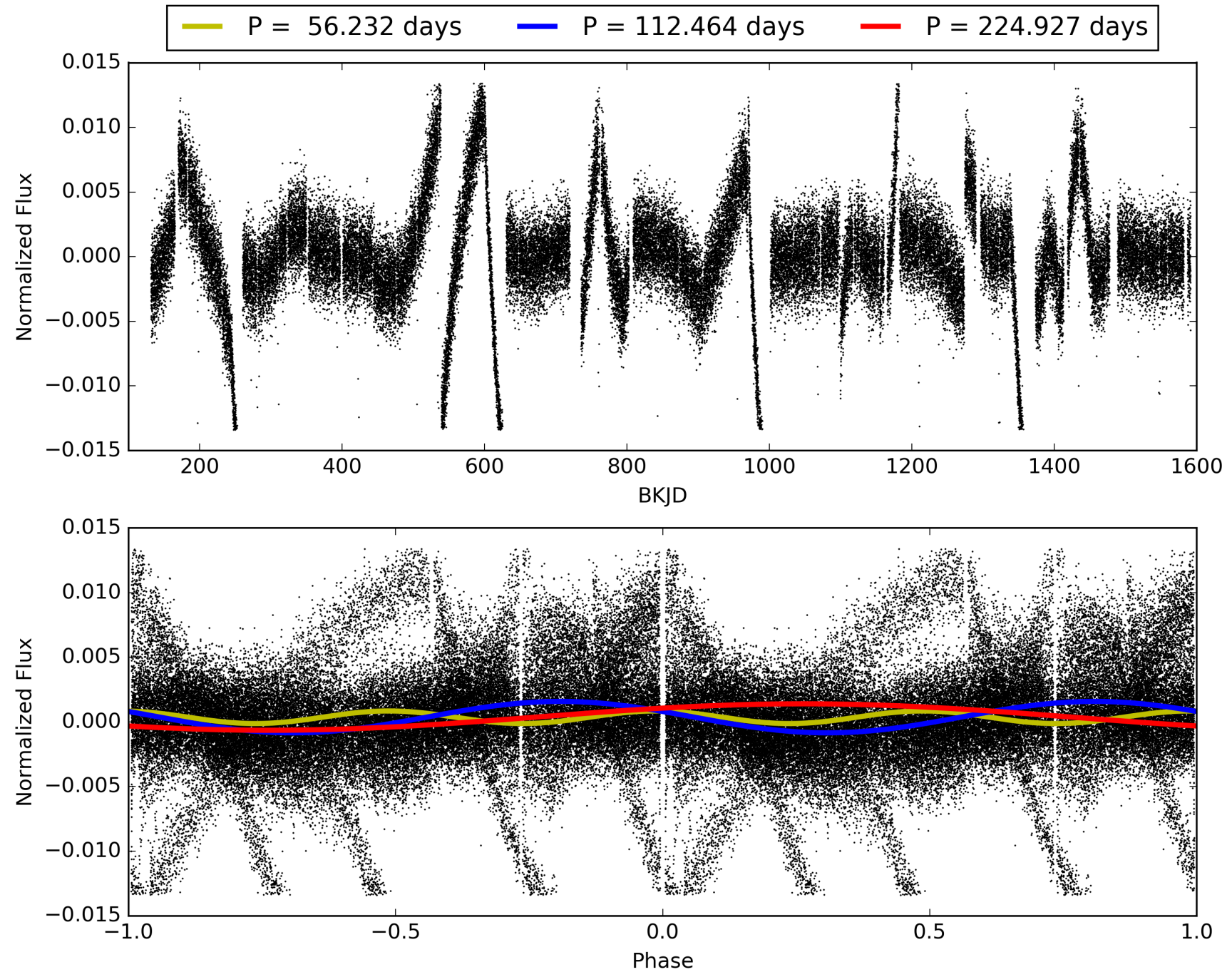
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [13/13]
GhostDiagnostic-chr: 3.158
Centroid-sig: N/A
Centroid-so: 0.049 arcsec [100.67σ]
OotOffset-rm: 0.220 arcsec [1.32σ]
KicOffset-rm: 0.418 arcsec [1.66σ]
OotOffset-st: 3/2/1/2 [8]
KicOffset-st: 3/2/1/2 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 0.00 [0/8]

TCE 011671429-01, PDC Light Curves

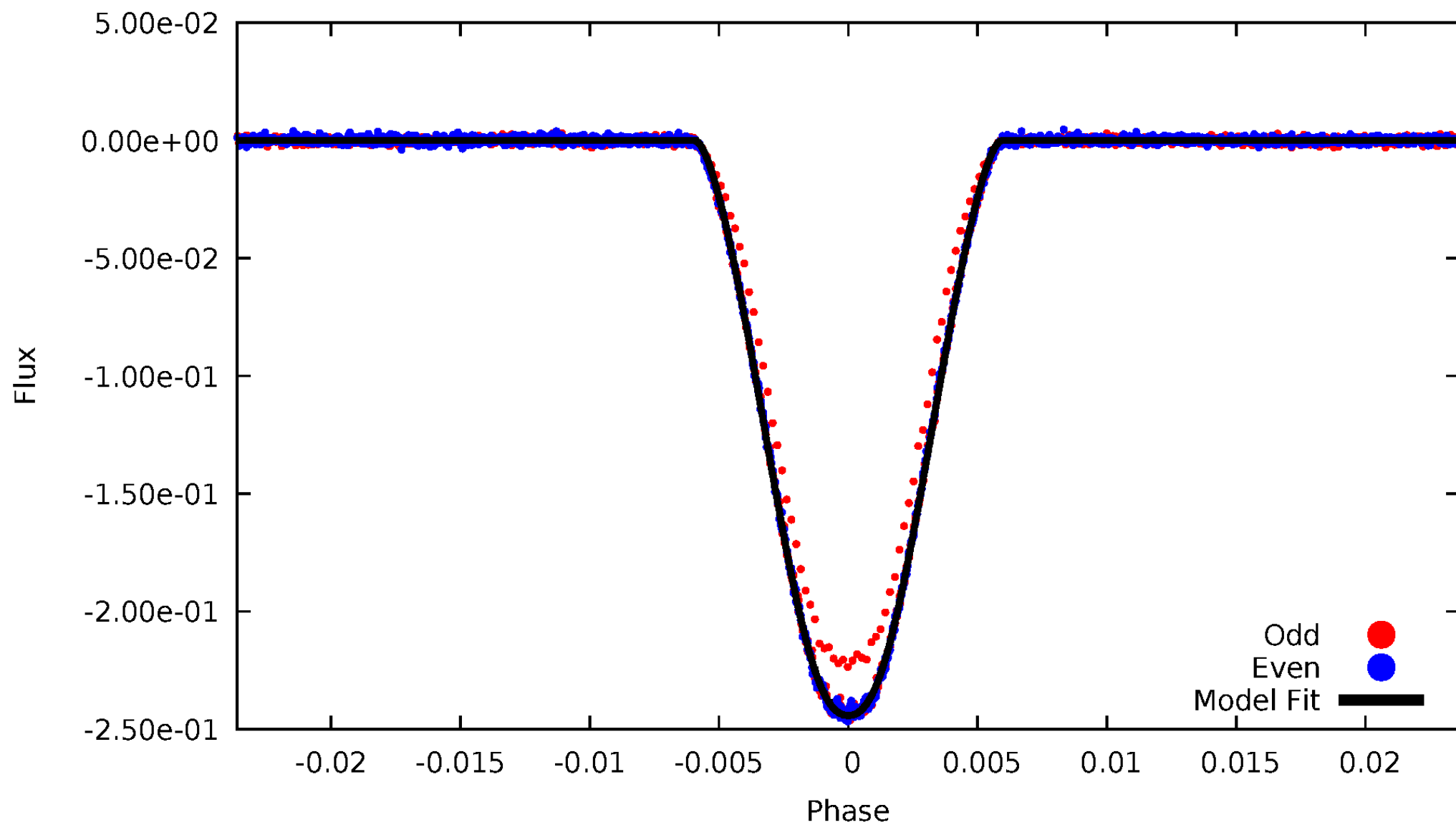


TCE 011671429-01



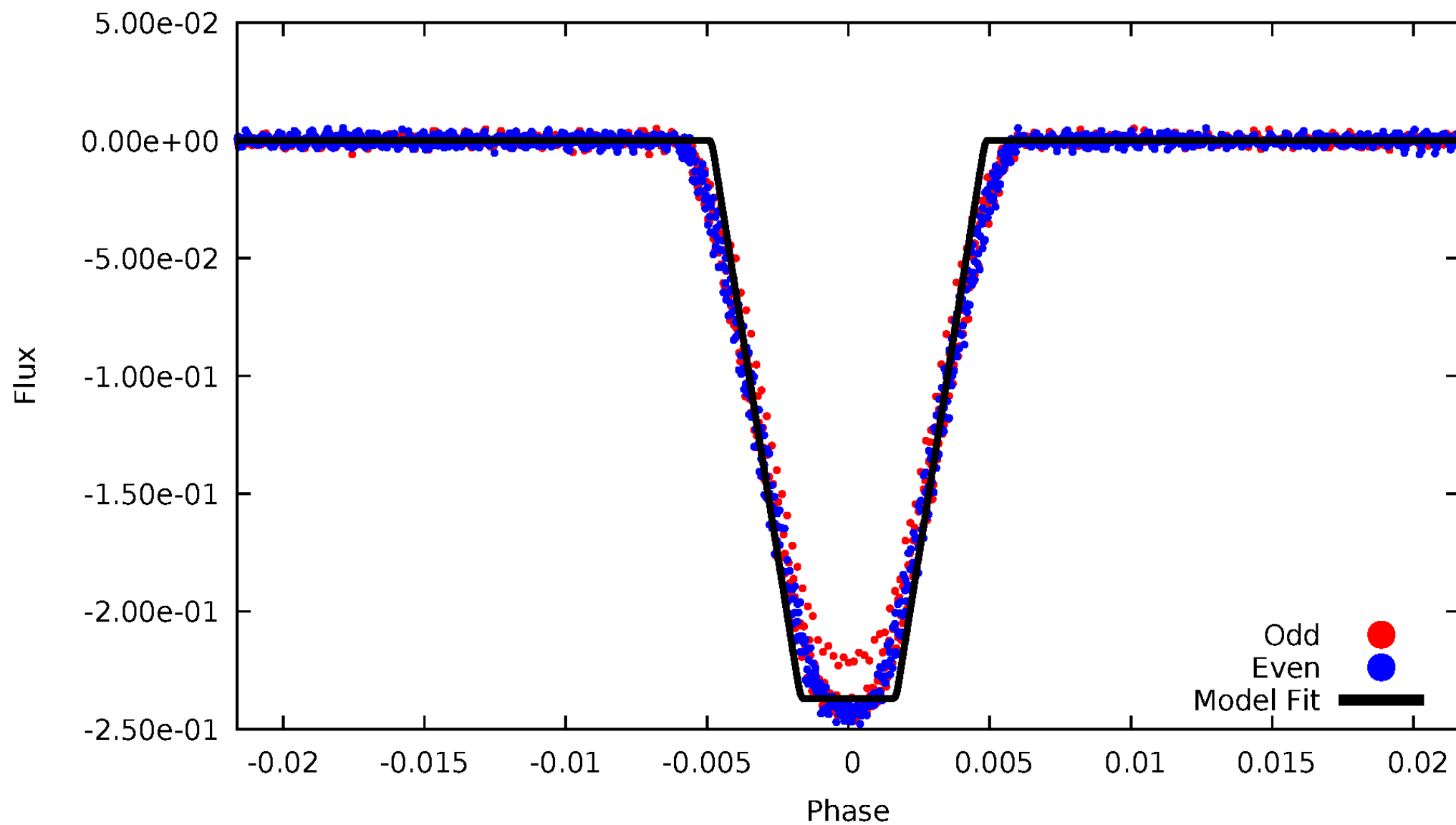
DV Odd/Even

TCE 011671429-01



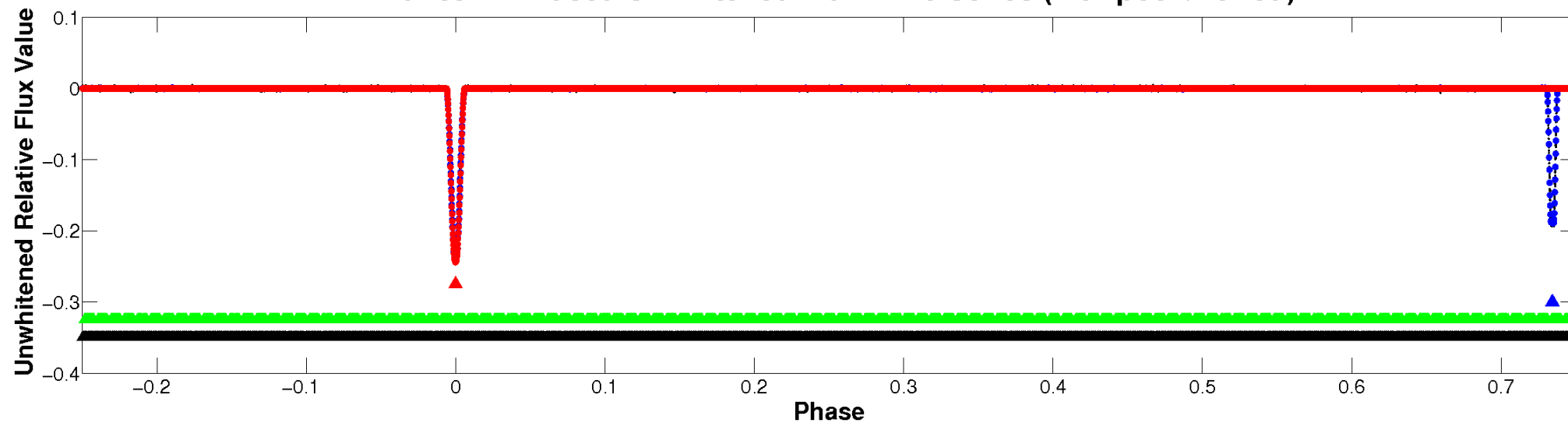
ALT Odd/Even

TCE 011671429-01

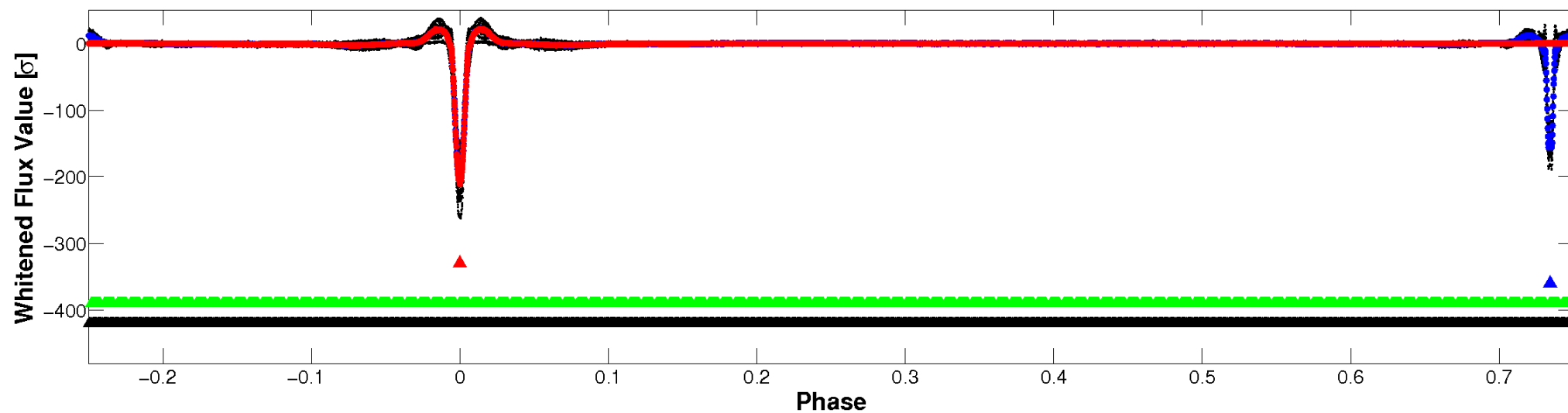


Non-Whitened Vs. Whitened Light Curve

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

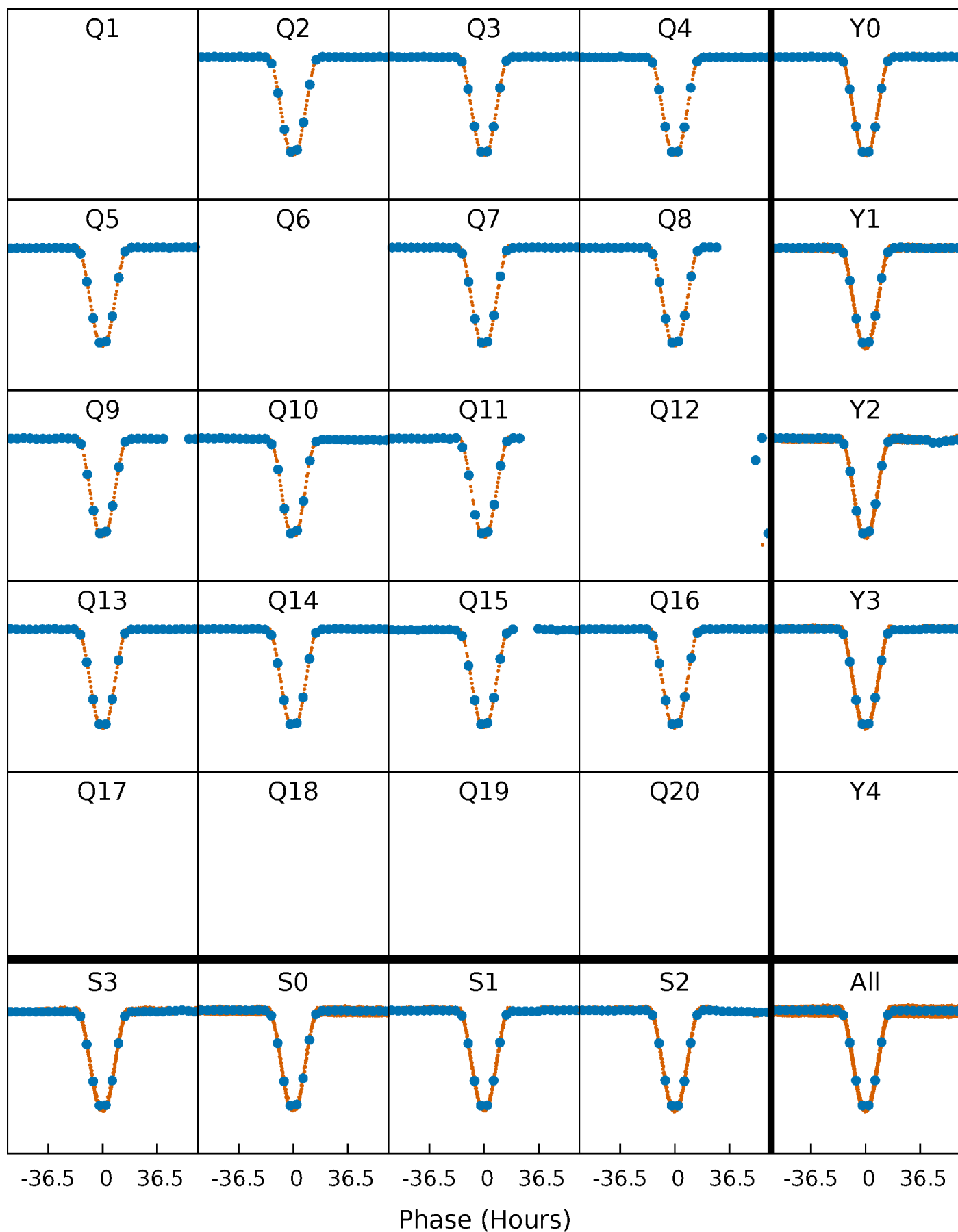


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



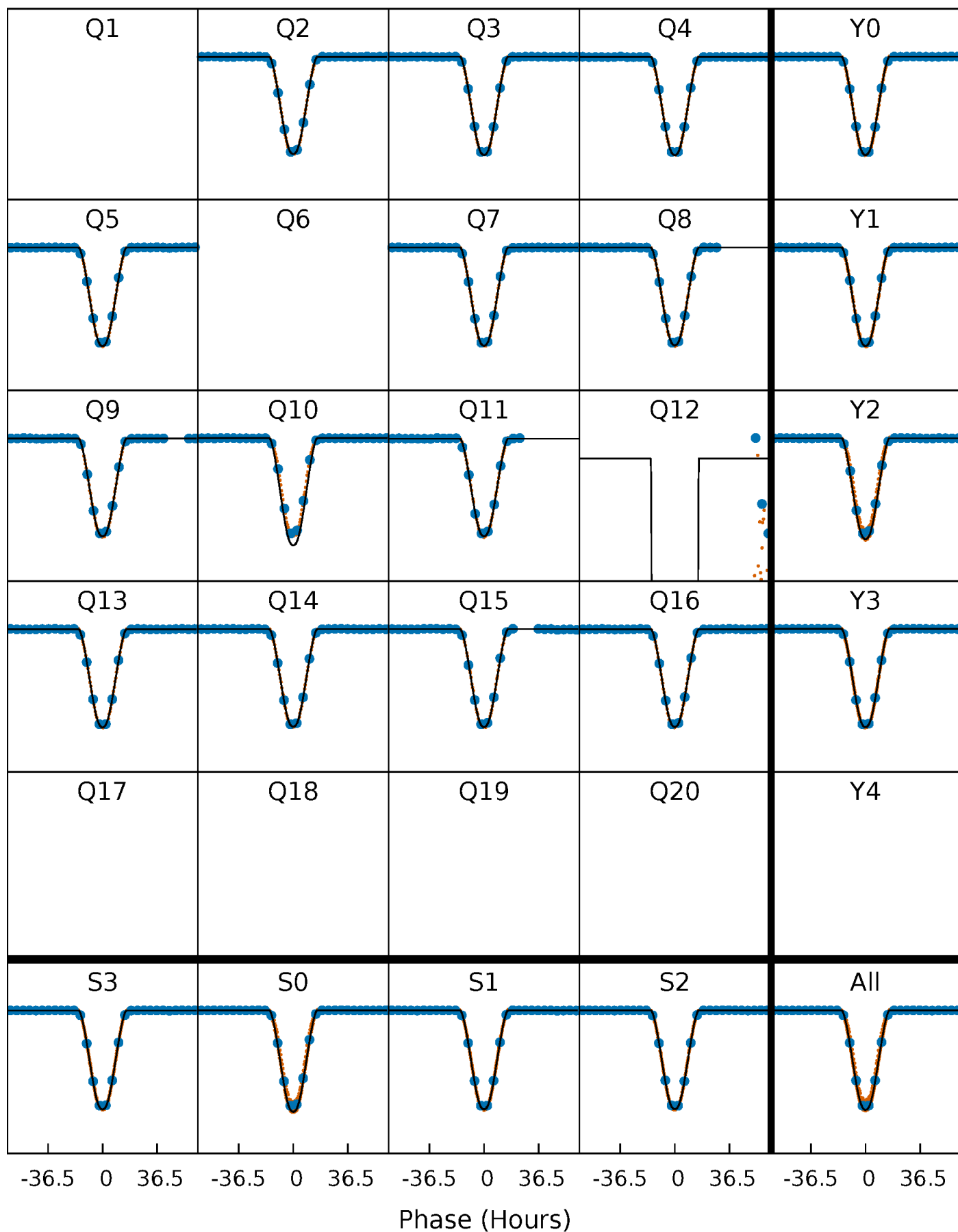
PDC Quarter-Phased Transit Curves

TCE 011671429-01 P=112.463598 Days $T_0=197.557855$ (BKJD)



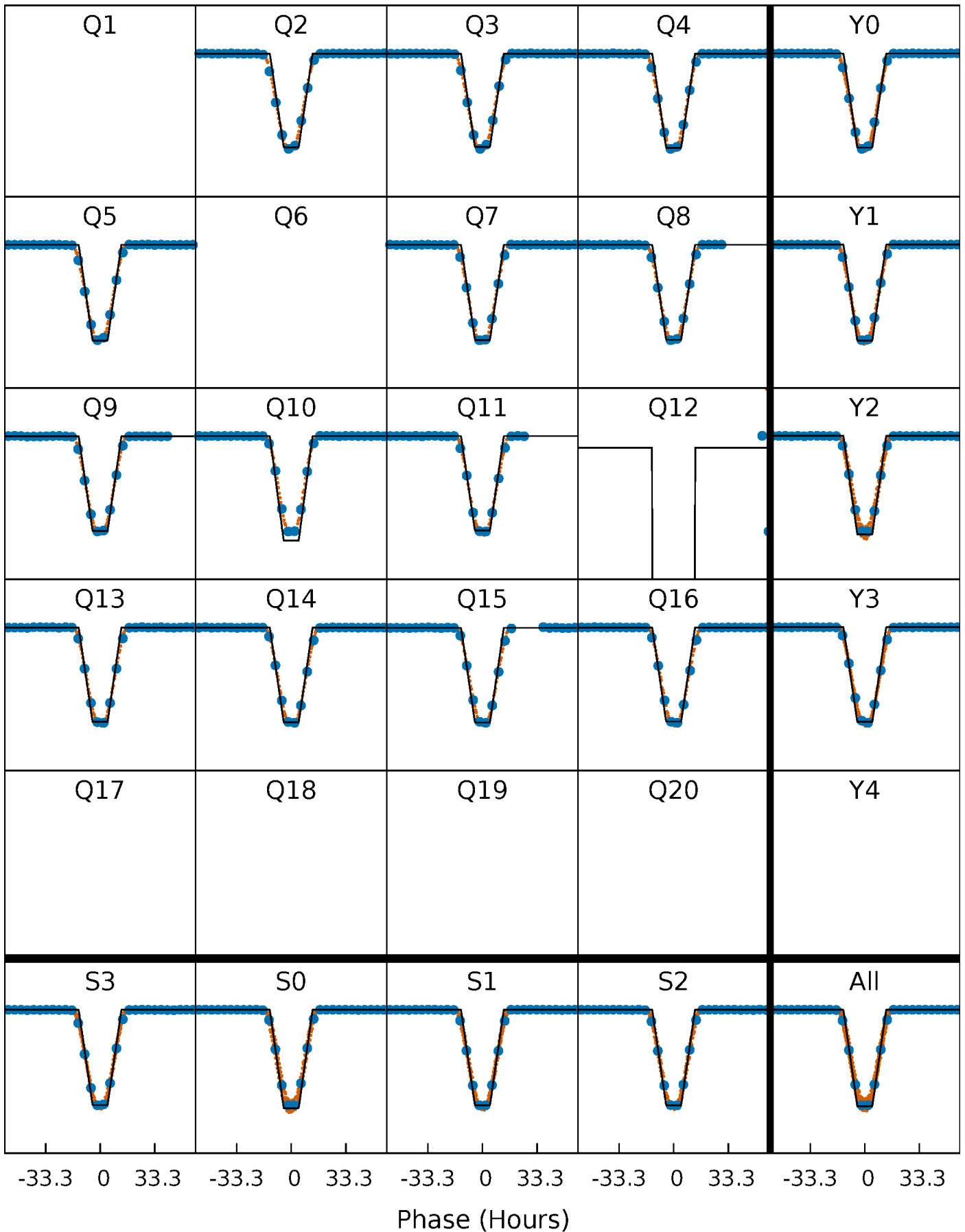
DV Quarter-Phased Transit Curves

TCE 011671429-01 P=112.463598 Days $T_0=197.557855$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

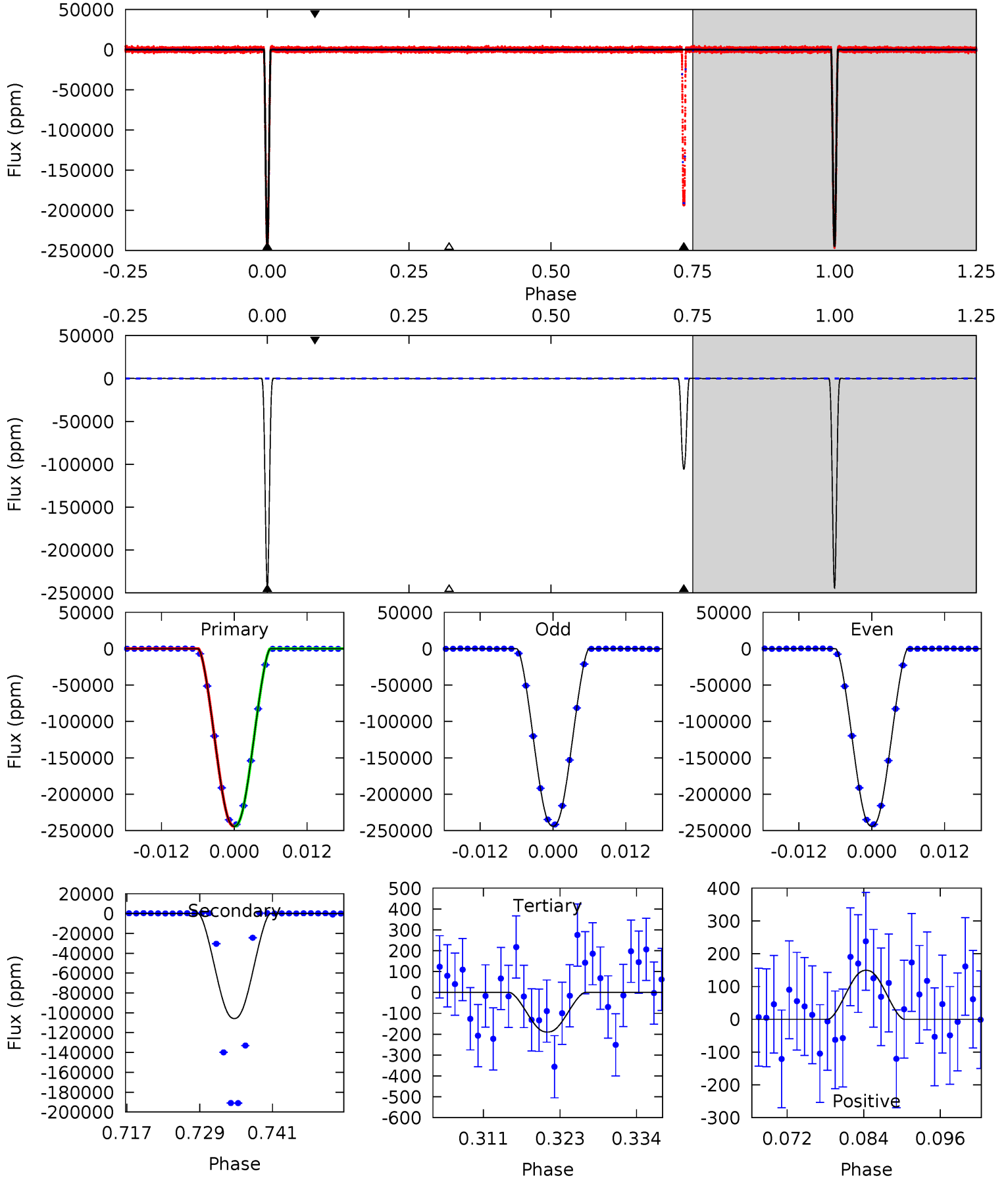
TCE 011671429-01 P=112.459503 Days $T_0=197.582114$ (BKJD)



DV Model-Shift Uniqueness Test

011671429-01, P = 112.463598 Days, E = 85.094257 Days

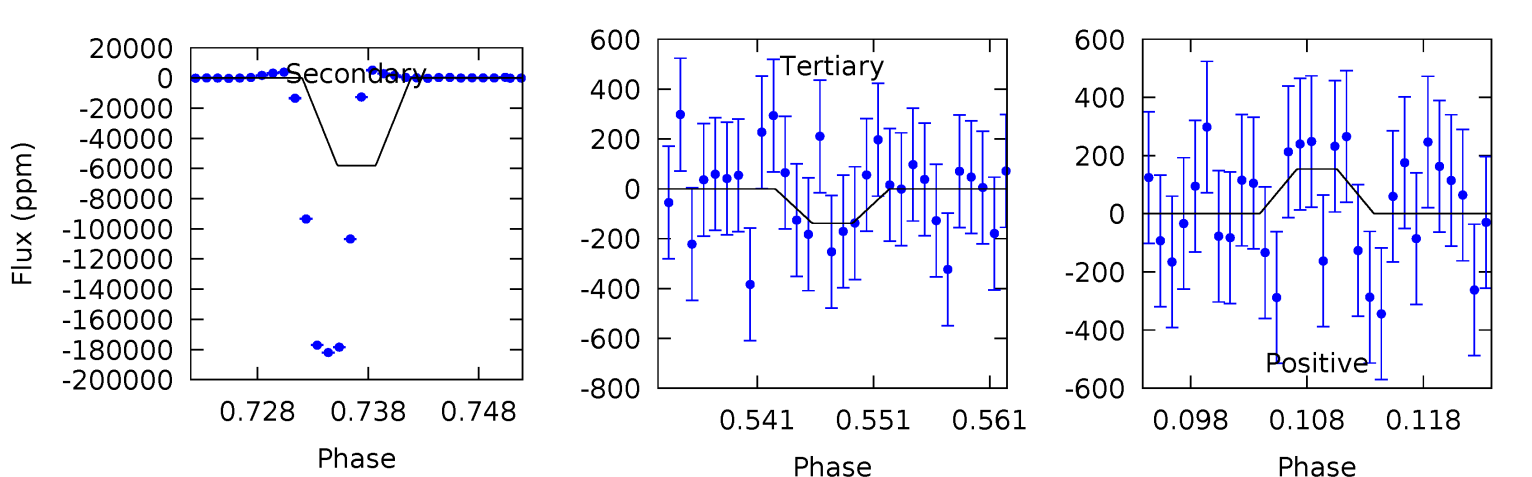
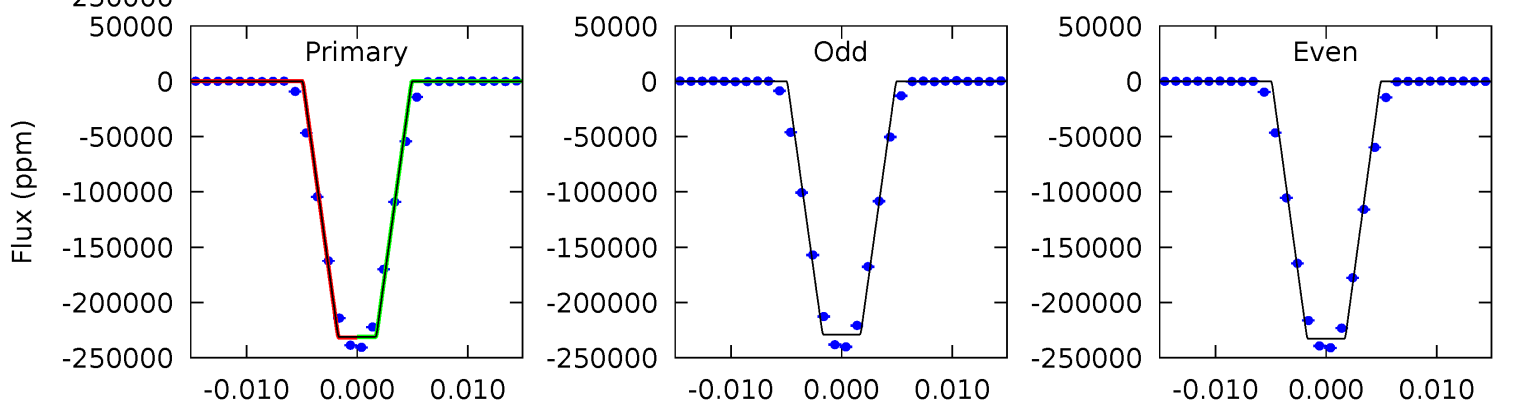
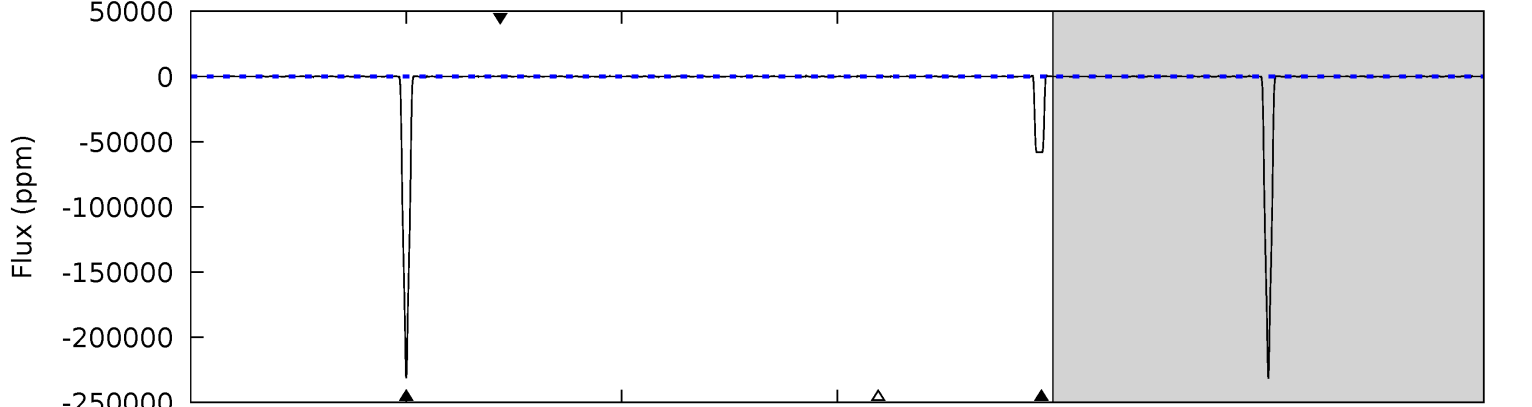
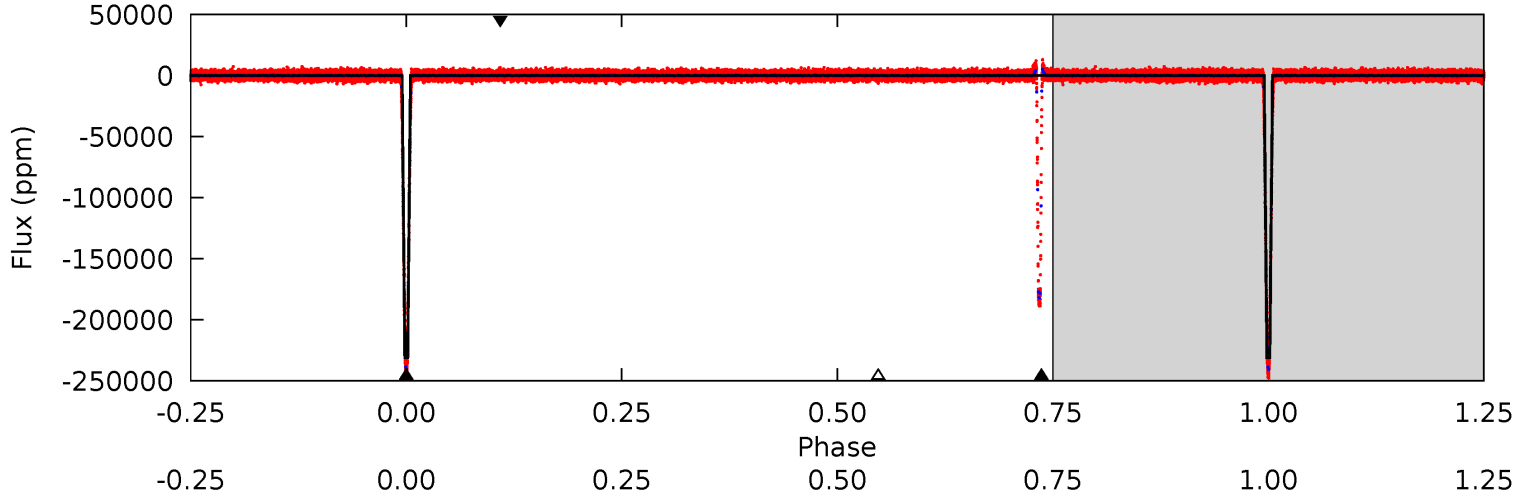
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6251	2709	4.86	3.82	4.99	2.51	1.80	6246	6247	2705	2706	1.80	0.99	0.00	0.08



Alt Model-Shift Uniqueness Test

011671429-01, P = 112.459503 Days, E = 85.122611 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2753	693.6	1.65	1.83	5.03	2.58	0.62	2751	2751	691.9	691.8	22.8	0.99	0.00	0.82



Stellar Parameters For KIC 011671429

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7426^{+74}_{-81}	$3.903^{+0.182}_{-0.098}$	$-0.080^{+0.150}_{-0.150}$	$2.463^{+0.397}_{-0.546}$	$1.769^{+0.193}_{-0.212}$	$0.167^{+0.168}_{-0.053}$
	+1%/-1%	+5%/-3%	+188%/-188%	+16%/-22%	+11%/-12%	+101%/-31%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 011671429-01 / KOI 3567.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-105821 ± 39	$129.22^{+11.80}_{-15.43}$	964^{+42}_{-57}	6184^{+51}_{-60}	1197^{+317}_{-183}
Alt.	-58218 ± 84	$129.53^{+11.71}_{-16.42}$	962^{+39}_{-60}	5283^{+43}_{-43}	619^{+171}_{-89}

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 $A_{obs} \gg 1.0$

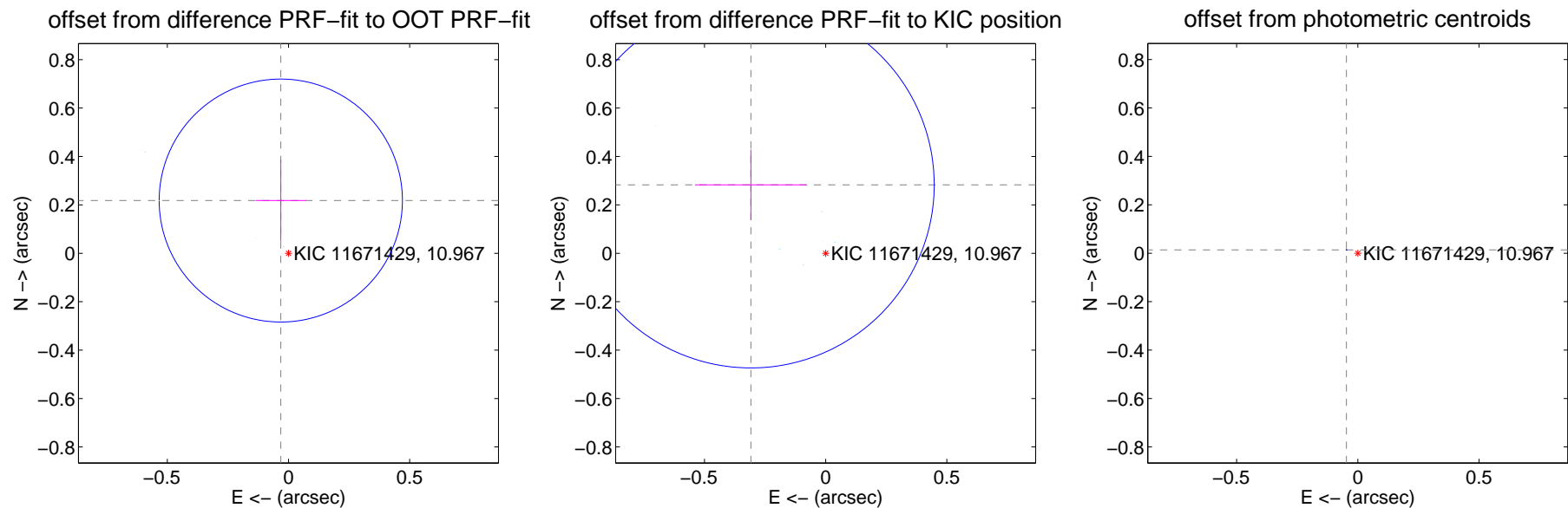
DV Centroid Data

Supplemental centroid analysis for 011671429-01. **Kepler magnitude: 10.97.** Transit SNR 3479.77

There are 8 quarters with good PRF difference image offsets

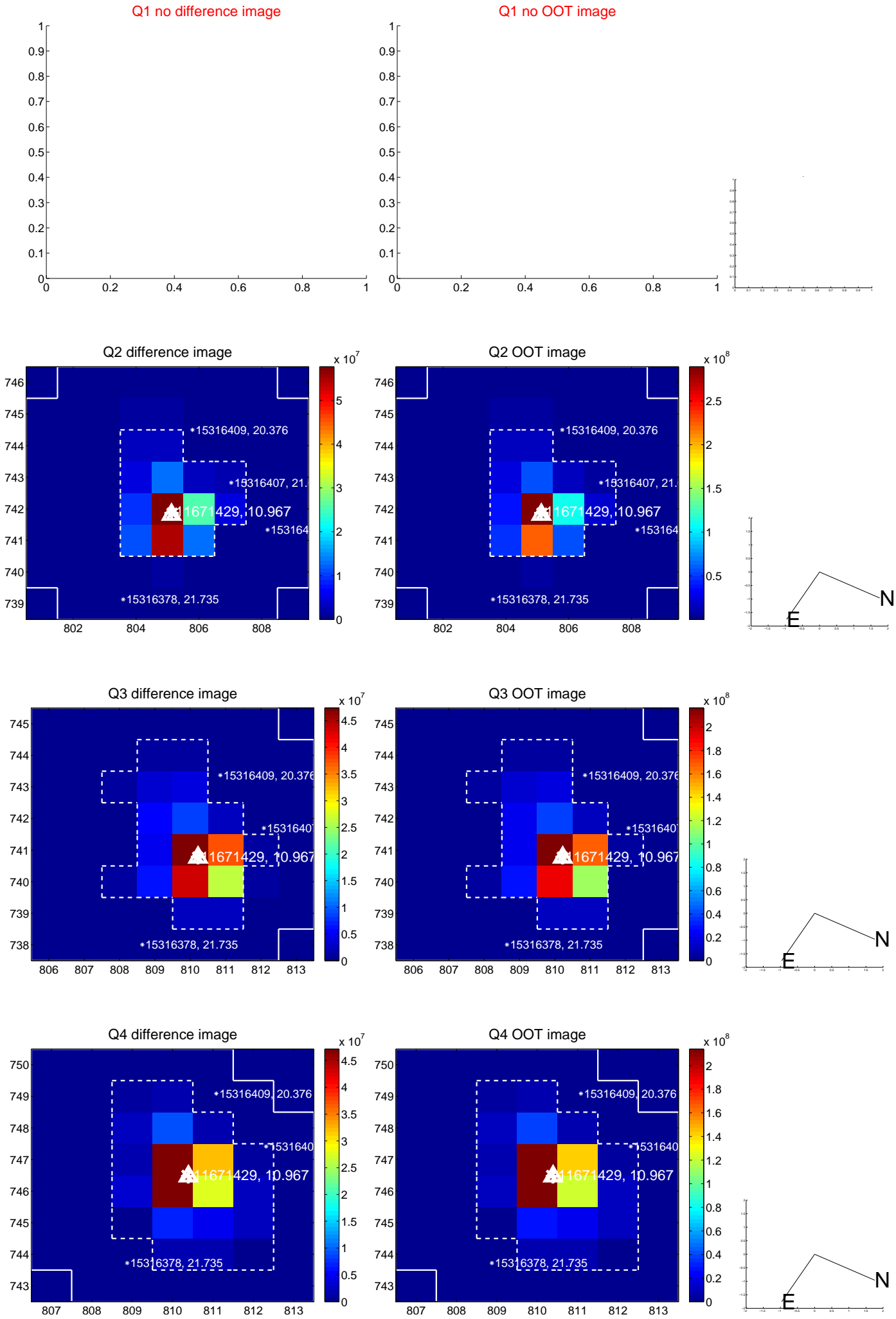
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.220 ± 0.167	1.32	0.032 ± 0.104	0.218 ± 0.168
PRF-fit source offset from KIC position	0.418 ± 0.252	1.66	0.308 ± 0.231	0.283 ± 0.146
photometric centroid source offset	0.05 ± 0.00	100.67	0.05 ± 0.00	0.01 ± 0.00

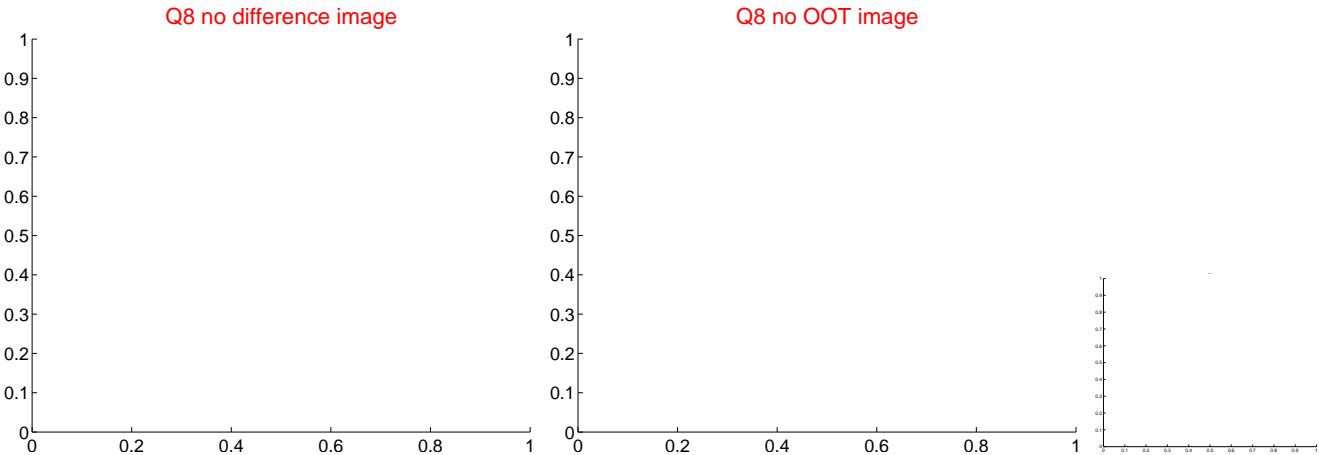
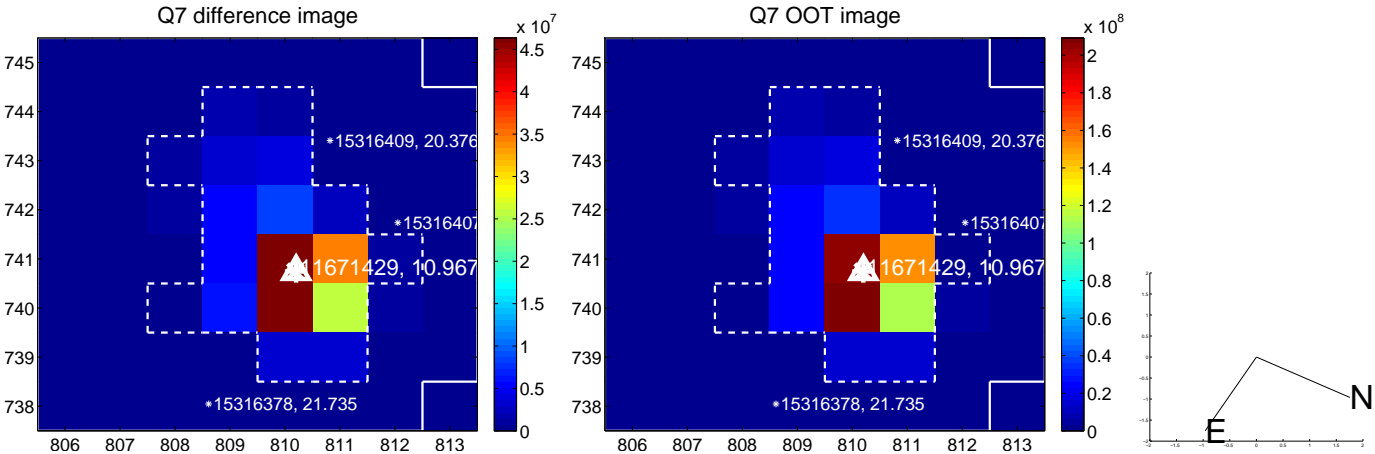
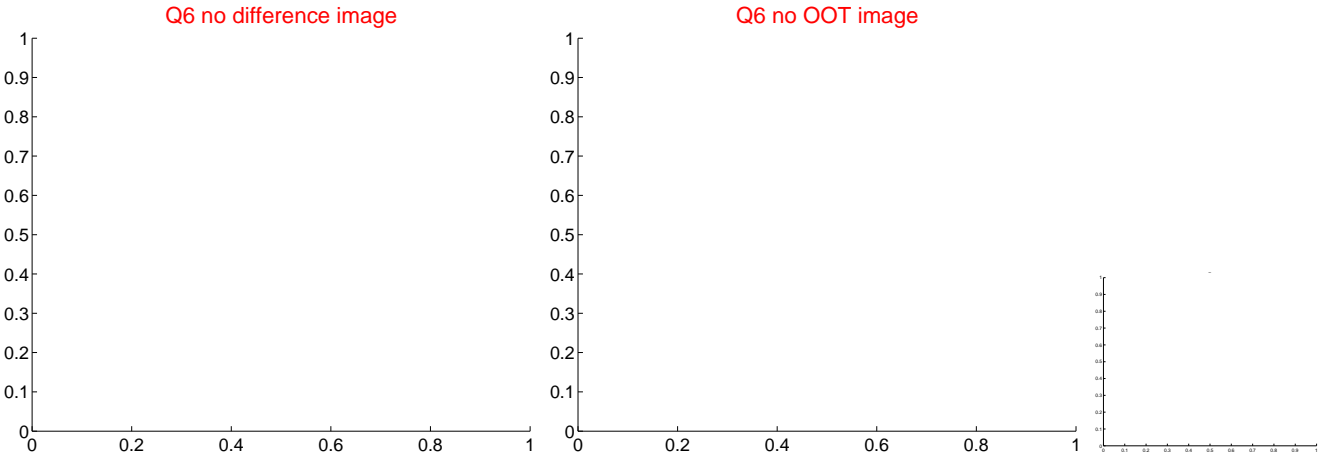
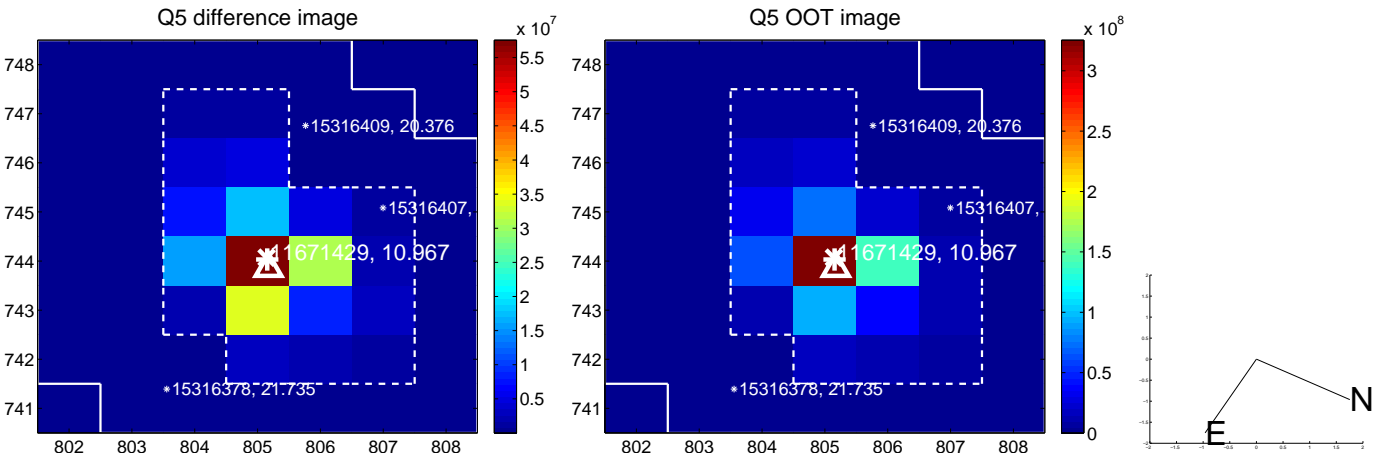


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

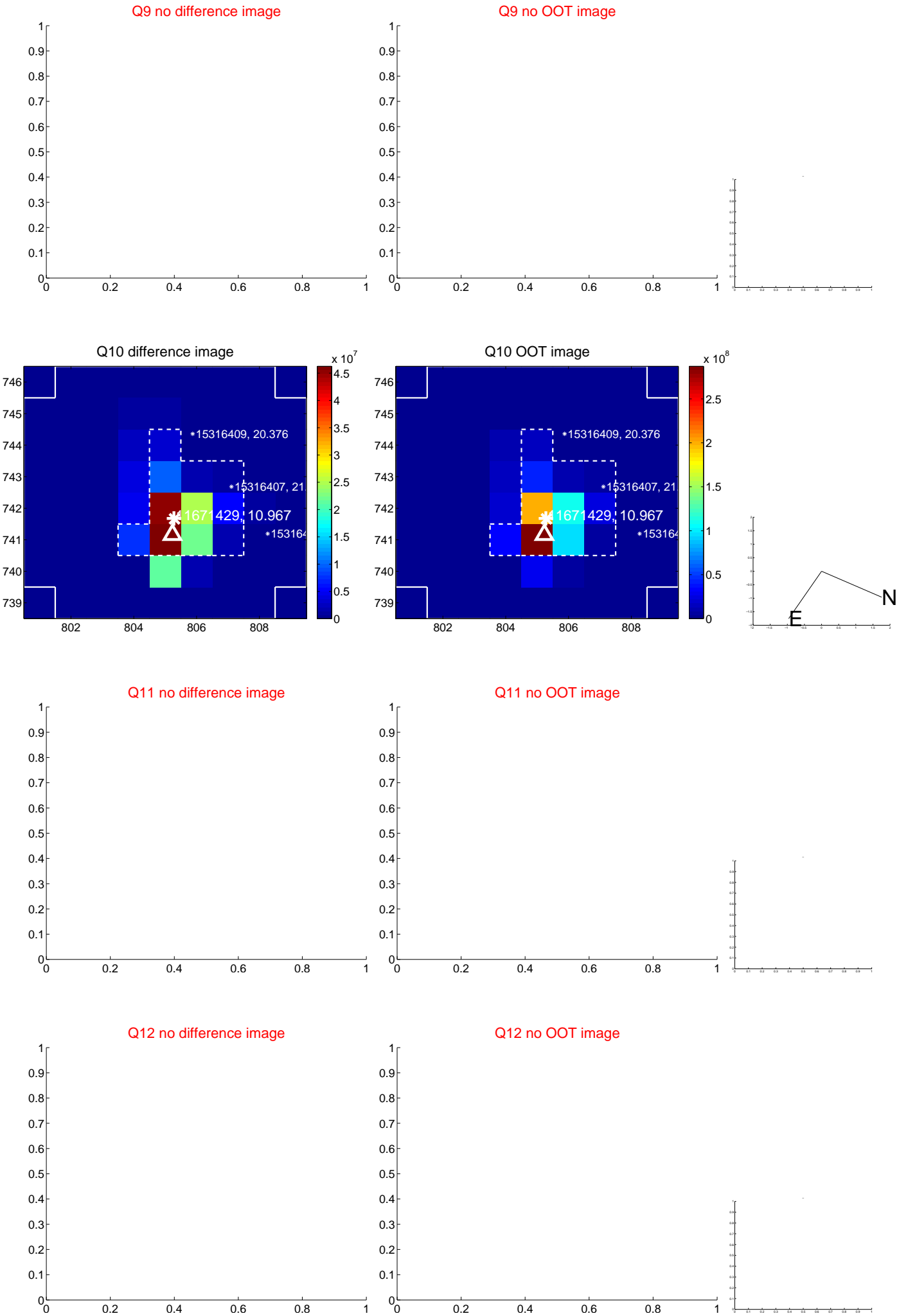
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



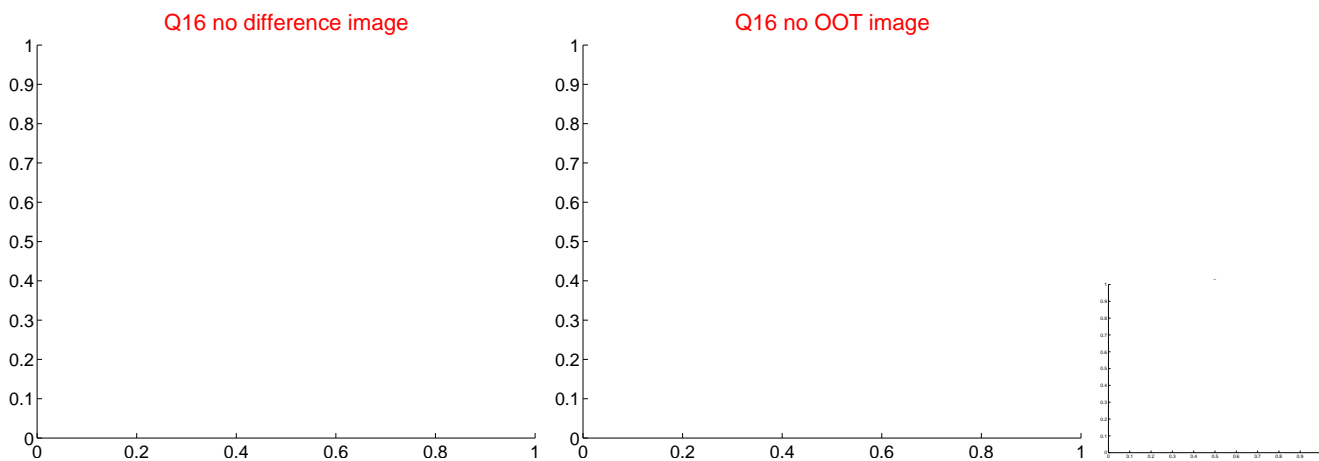
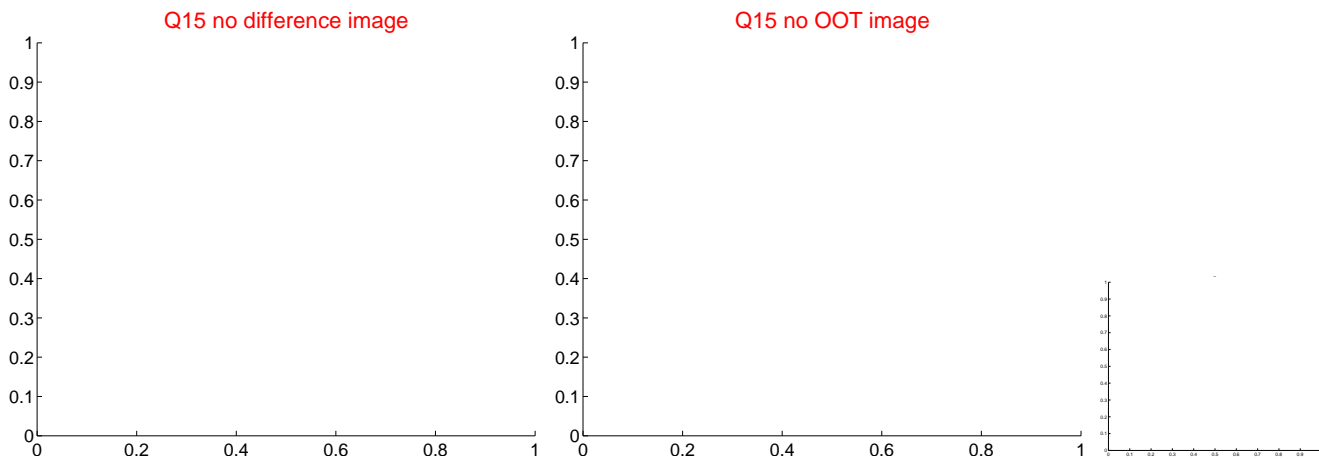
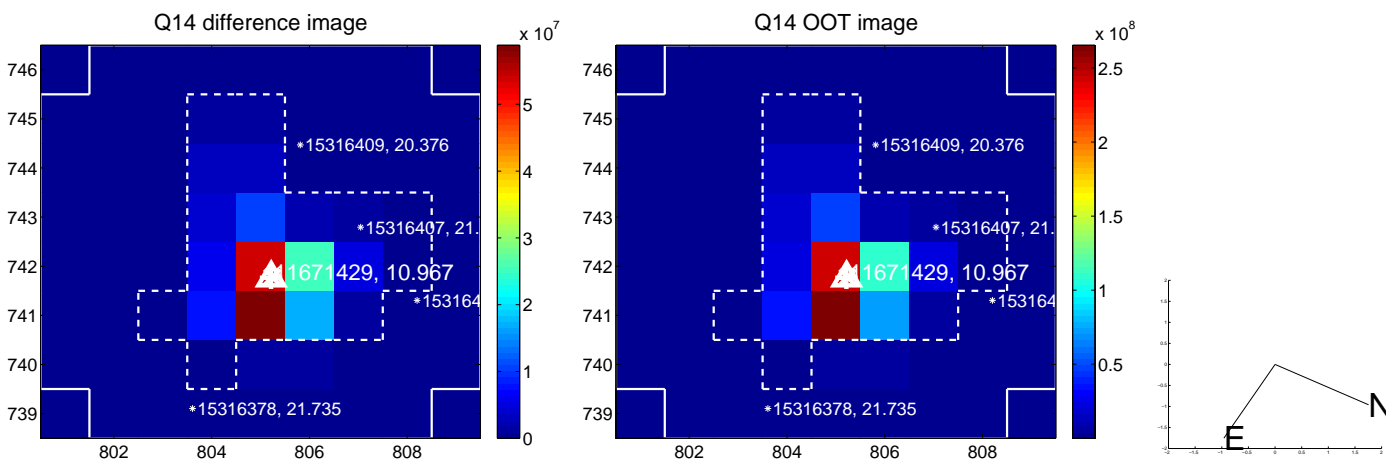
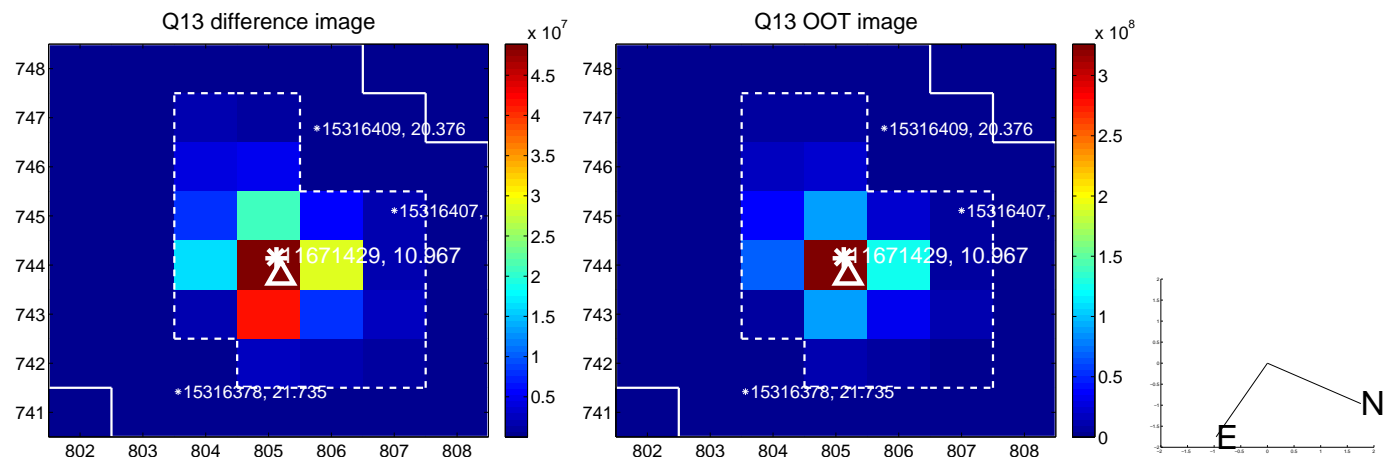
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



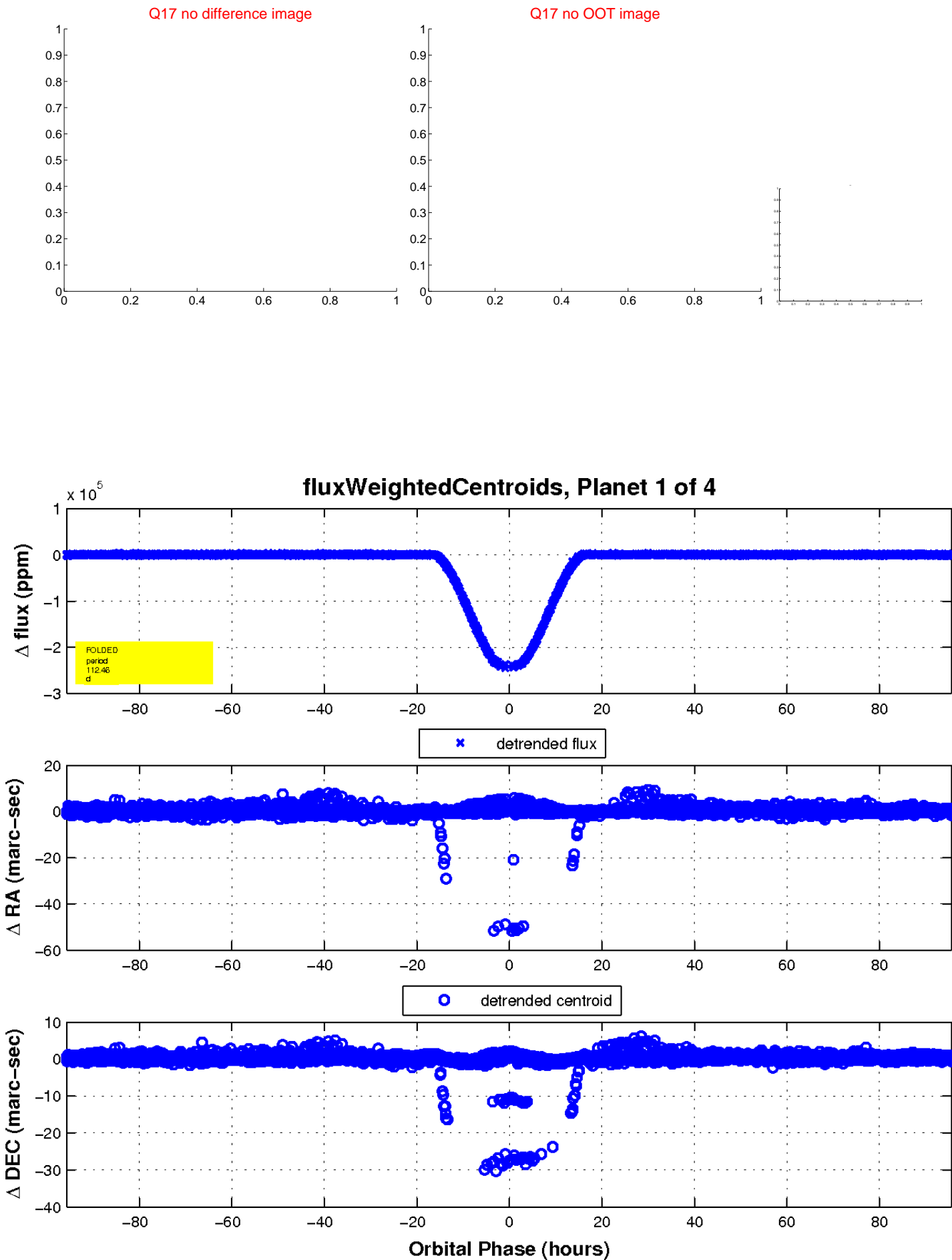
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

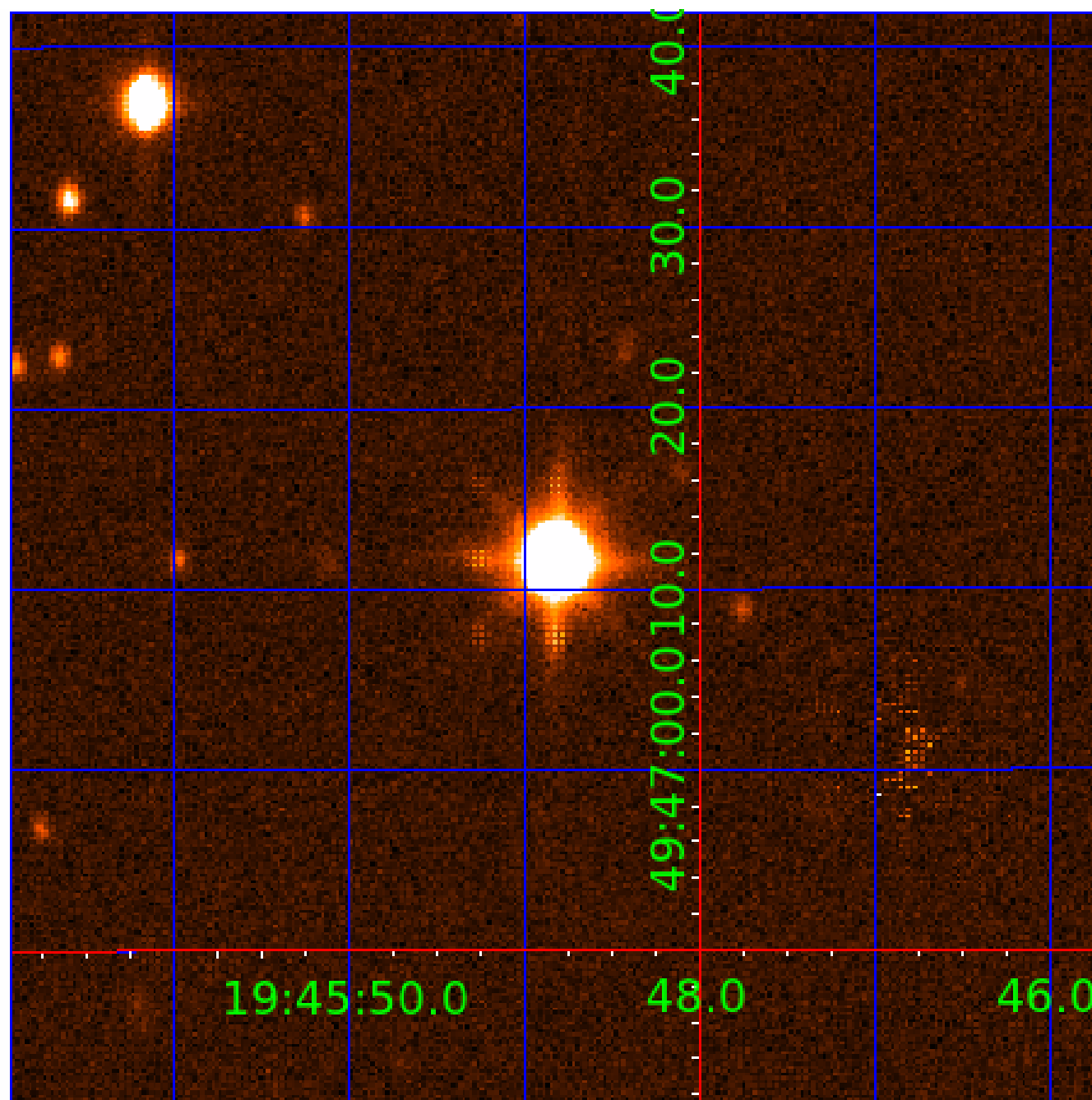


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011671429

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})
011671429-01	OBS	3567.01	112.463598	197.557855	244235.3	31.898	3843.2	3479.8	2.46	7426	129.77	54.31
011671429-02	OBS	No	112.463596	167.684204	193474.1	19.206	2074.9	1796.0	2.46	7426	112.14	54.31
011671429-03	OBS	No	0.995763	131.785943	143.9	2.580	9.8	10.6	2.46	7426	3.42	29649.41
011671429-04	OBS	No	0.565618	131.850777	73.3	2.000	8.1	-1.0	2.46	7426	2.14	63026.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011671429-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_SATURATED
011671429-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_SATURATED
011671429-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
011671429-04	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

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 011671429-02

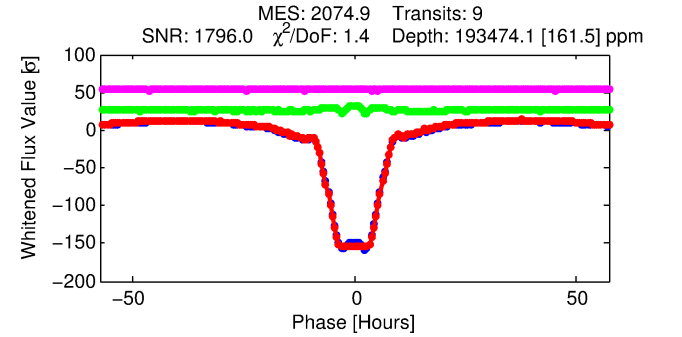
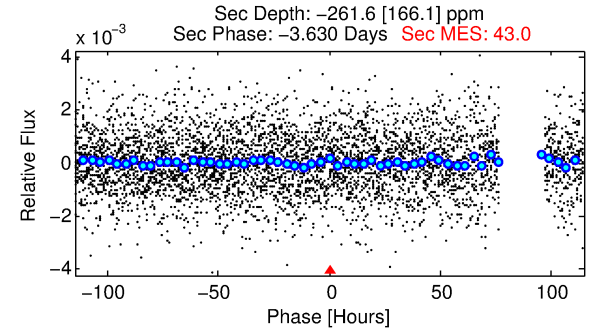
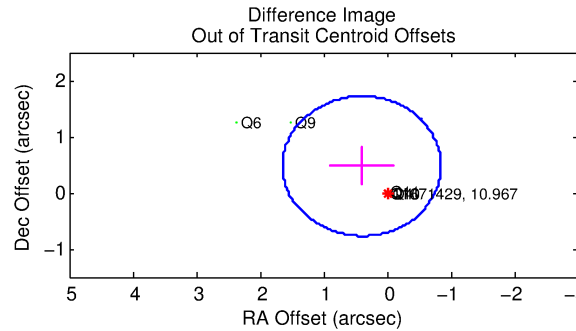
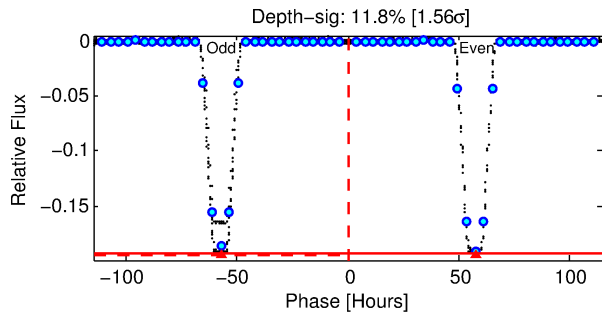
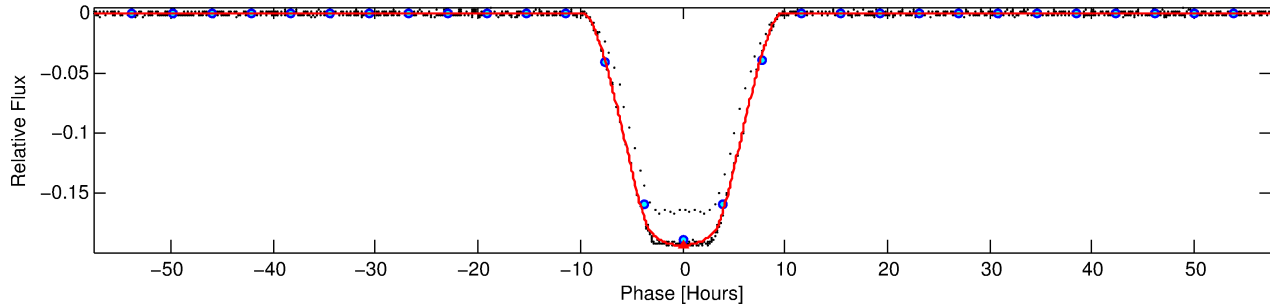
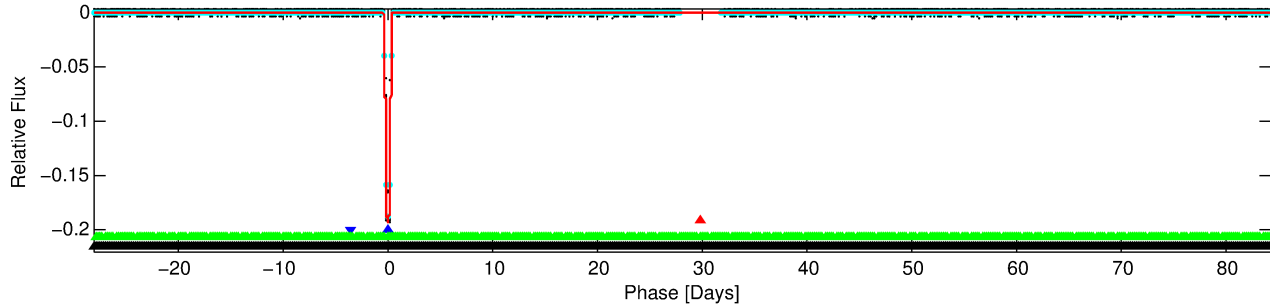
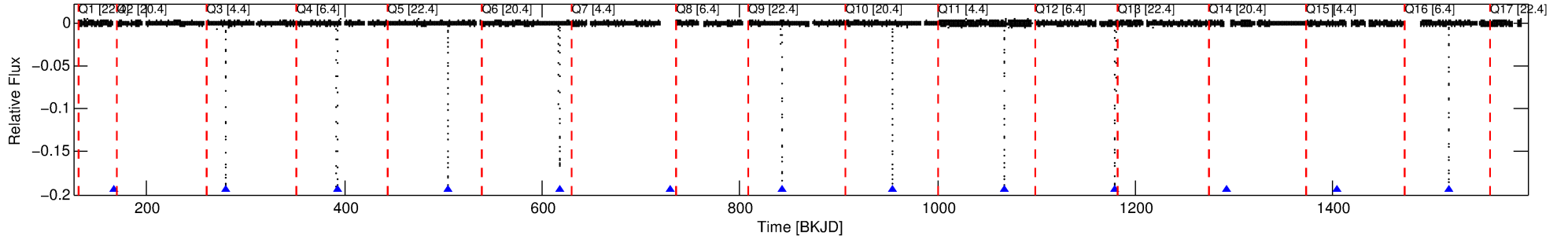
No Significant Match Found

DV One-Page Summary

KIC: 11671429 Candidate: 2 of 4 Period: 112.464 d

KOI: K03567 Corr: No Ephemeris Match

Kp: 10.97 R*: 2.46 Rs Teff: 7426.0 K Logg: 3.90 Fe/H: -0.080



DV Fit Results:

Period = 112.46360 [0.00005] d
Epoch = 167.6842 [0.0003] BKJD
Rp/R* = 0.4172 [0.0002]
a/R* = 61.47 [0.07]
b = 0.35 [0.00]
Seff = 54.31 [17.33]
Teq = 692 [55] K
Rp = 112.14 [24.86] Re
a = 0.5517 [0.1122] AU
Ag = N/A
Teffp = N/A

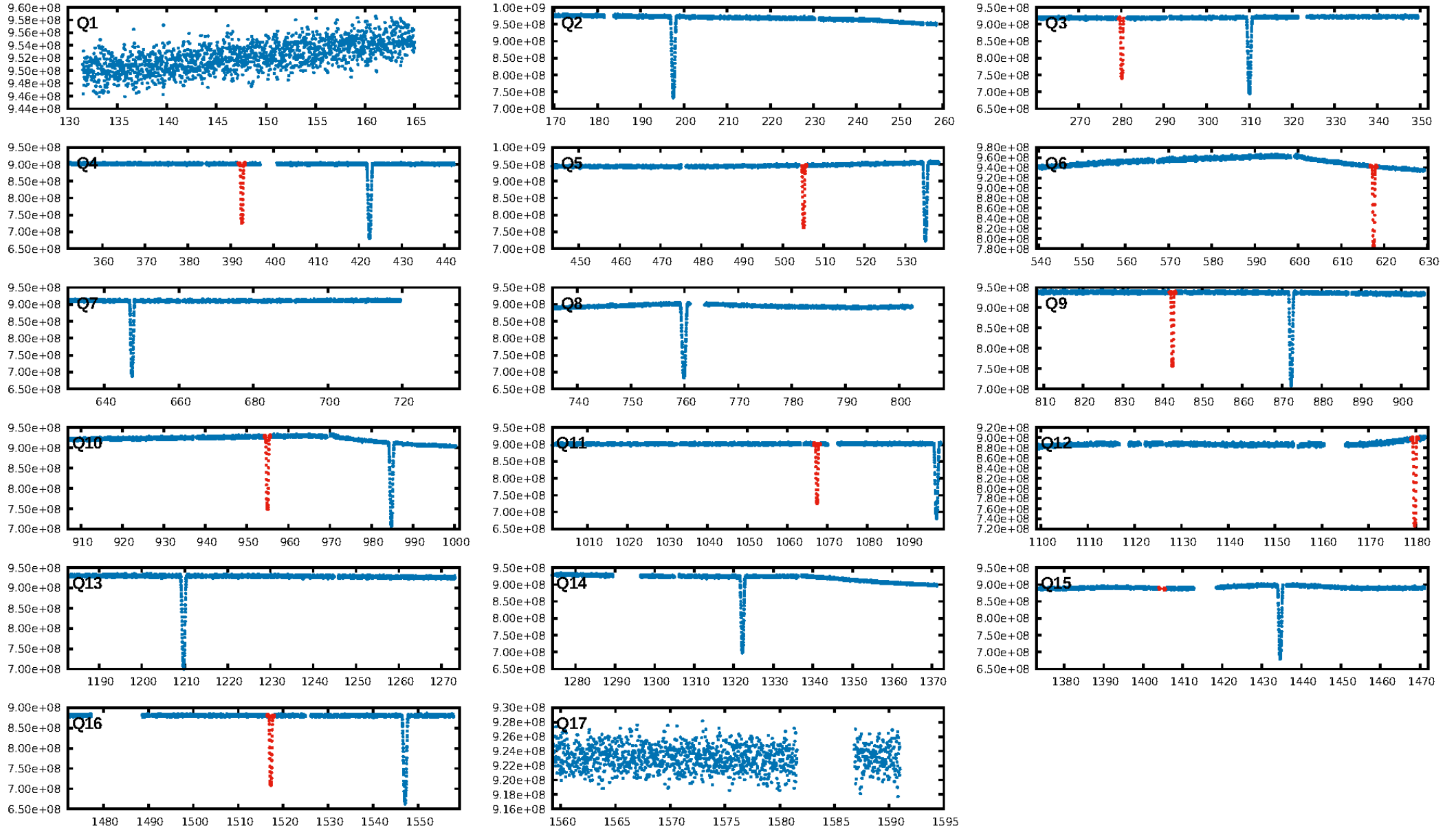
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [138.05σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 96.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 2.292
Centroid-sig: N/A
Centroid-so: 0.061 arcsec [92.04σ]
OotOffset-rm: 0.621 arcsec [1.50σ]
KicOffset-rm: 0.874 arcsec [1.79σ]
OotOffset-st: 2/1/1/1 [5]
KicOffset-st: 2/1/1/1 [5]
DiffImageQuality-fgm: 1.00 [5/5]
DiffImageOverlap-fno: 0.00 [0/5]

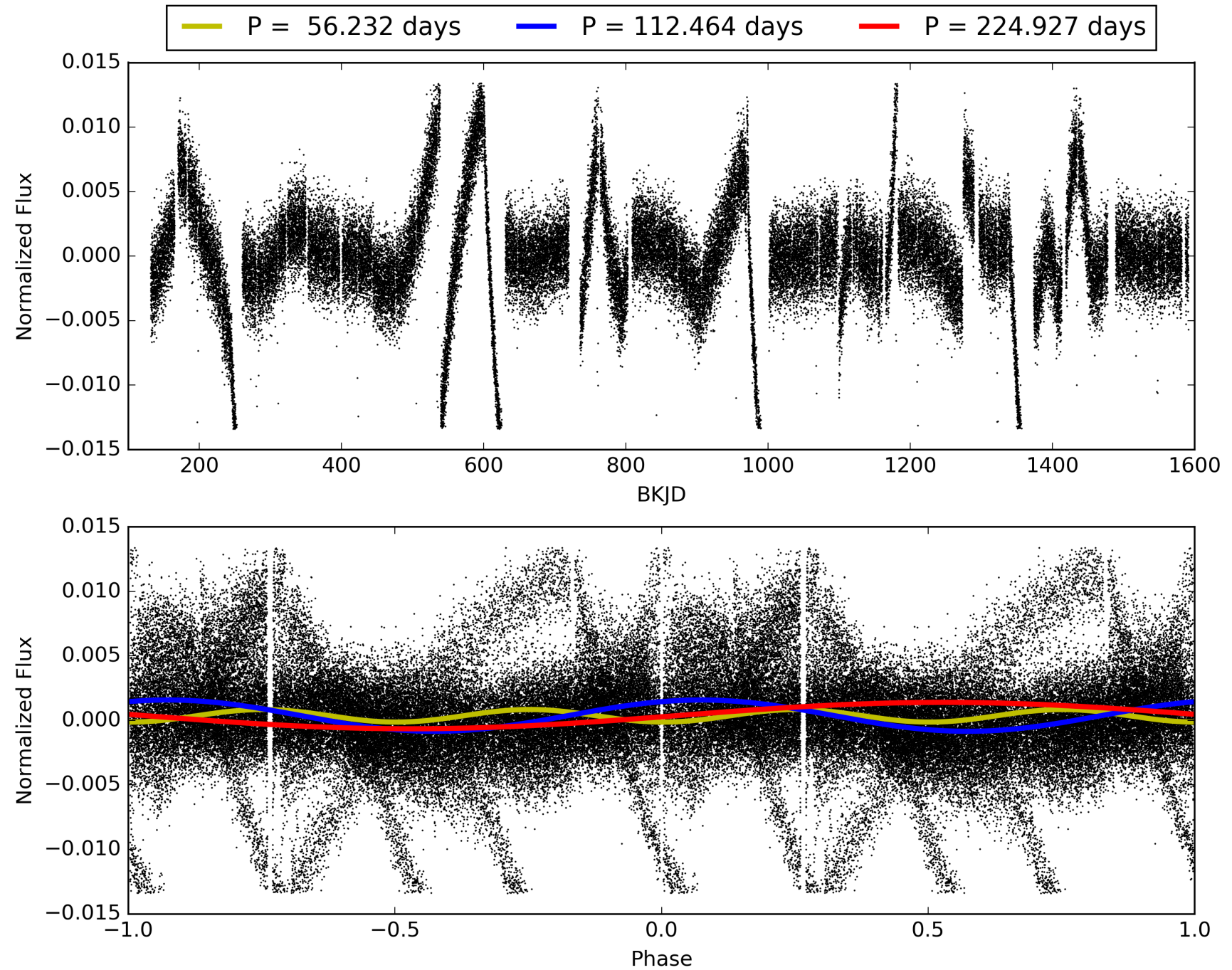
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:39:04 Z

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

TCE 011671429-02, PDC Light Curves

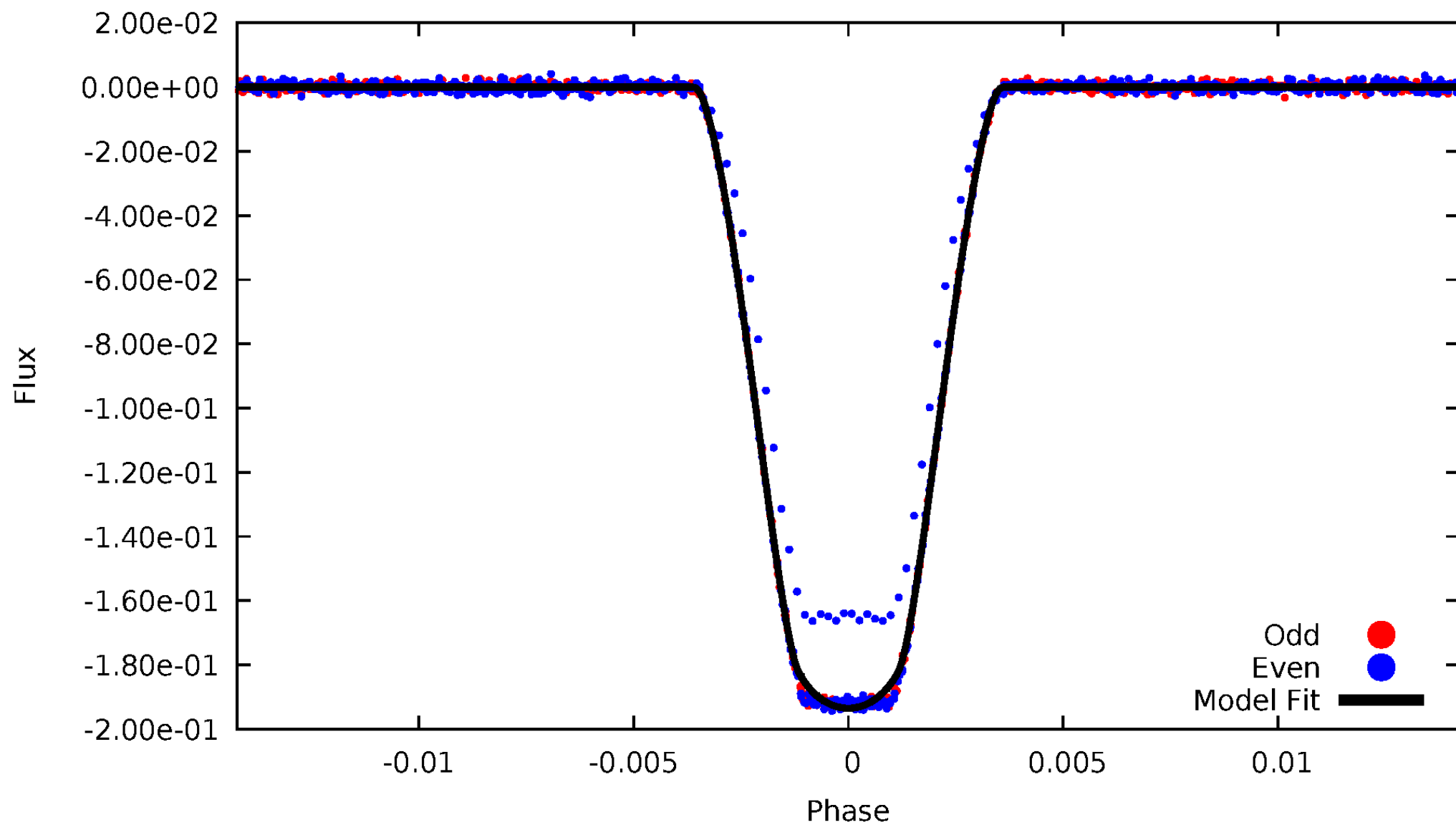


TCE 011671429-02



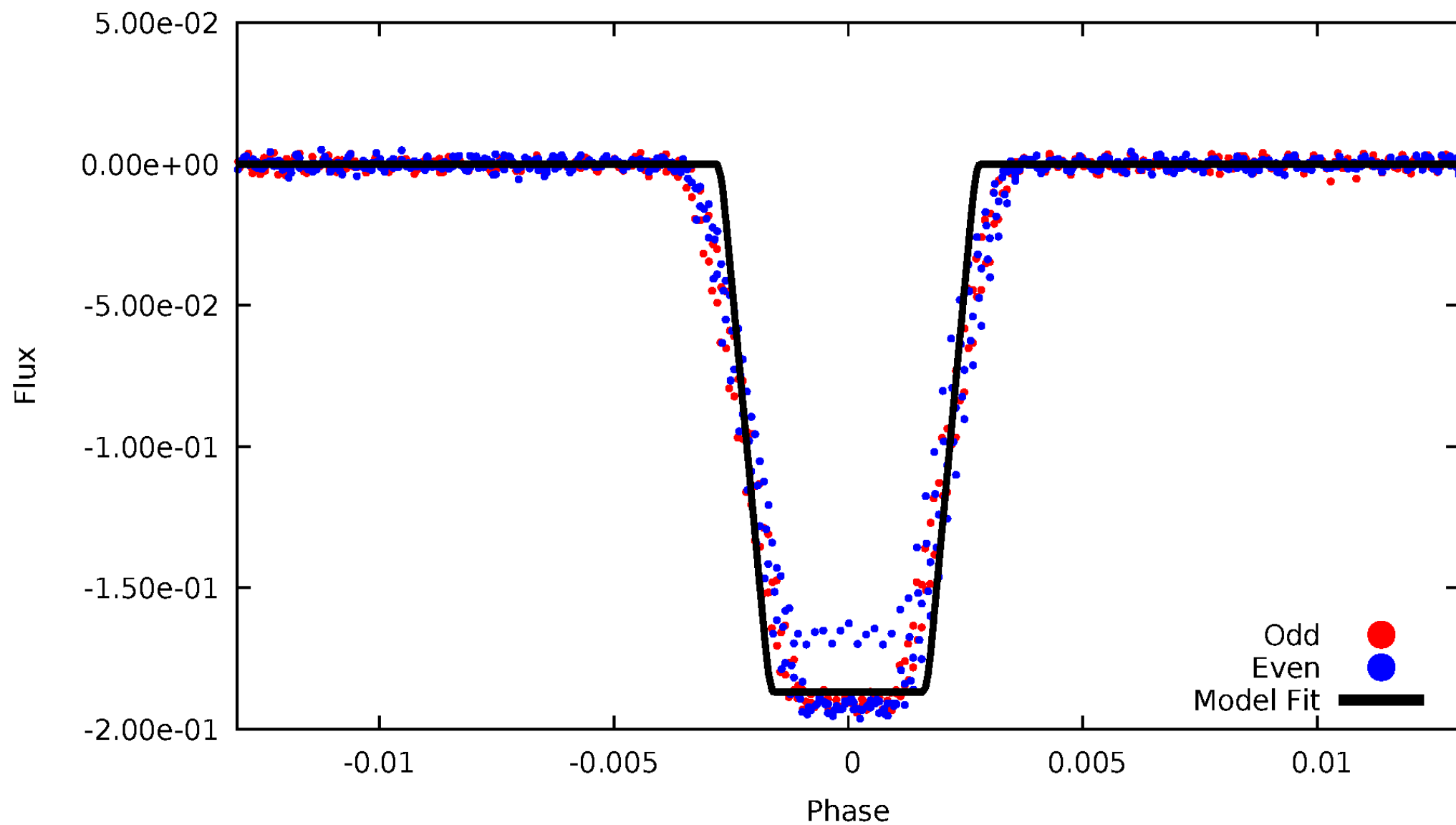
DV Odd/Even

TCE 011671429-02



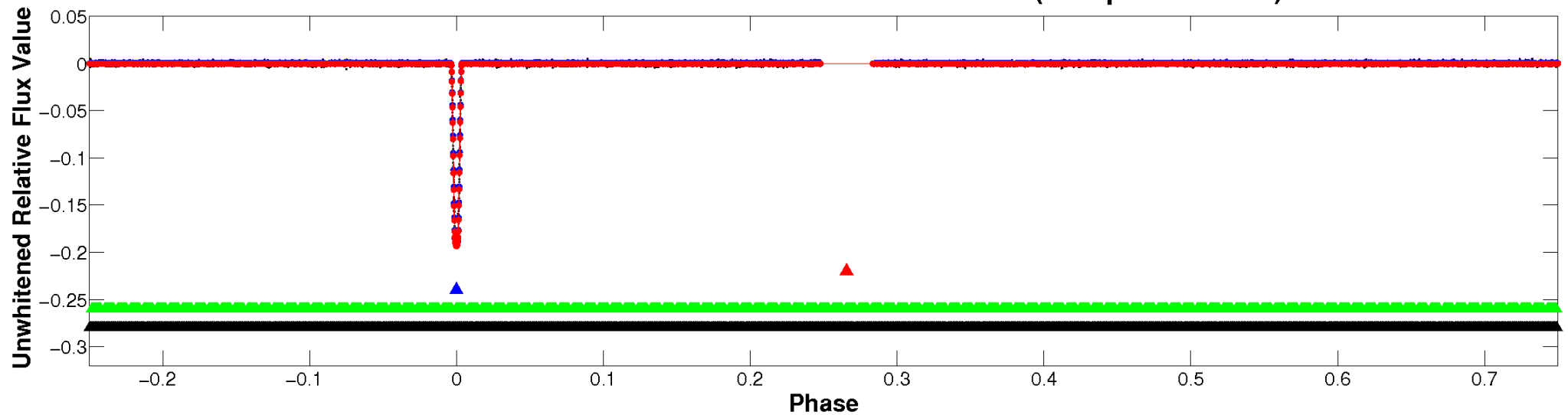
ALT Odd/Even

TCE 011671429-02

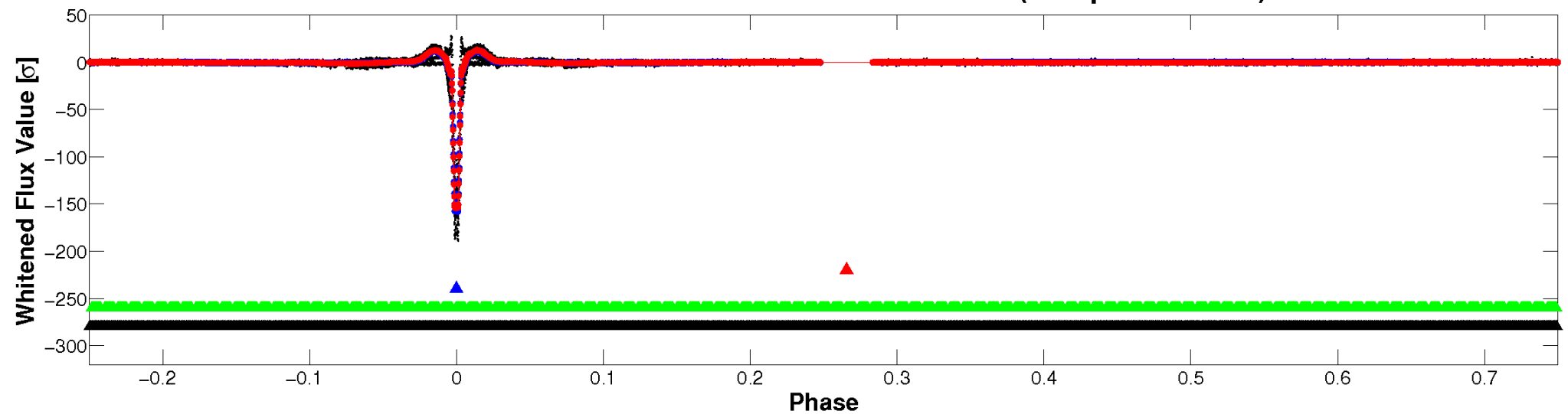


Non-Whitened Vs. Whitened Light Curve

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

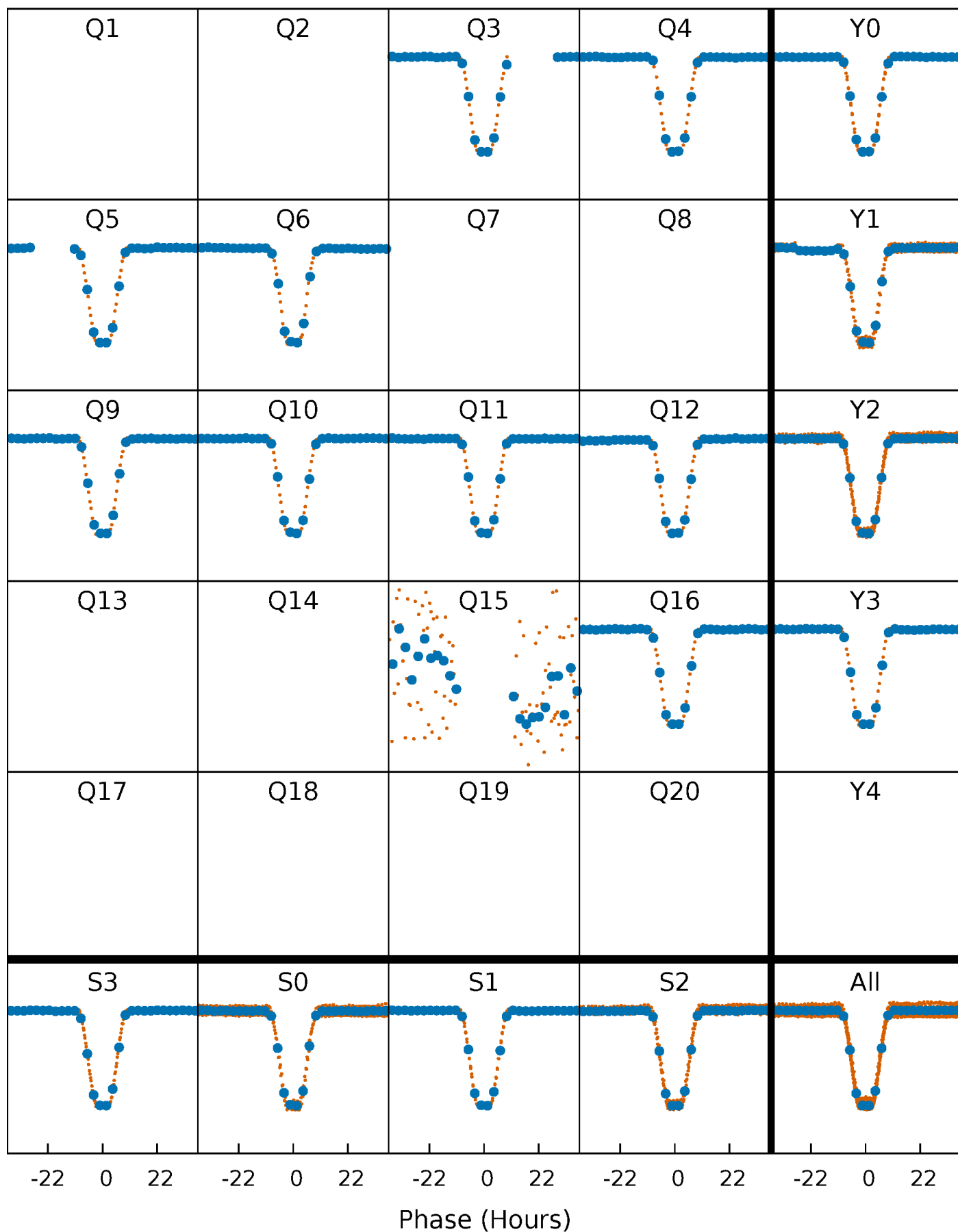


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



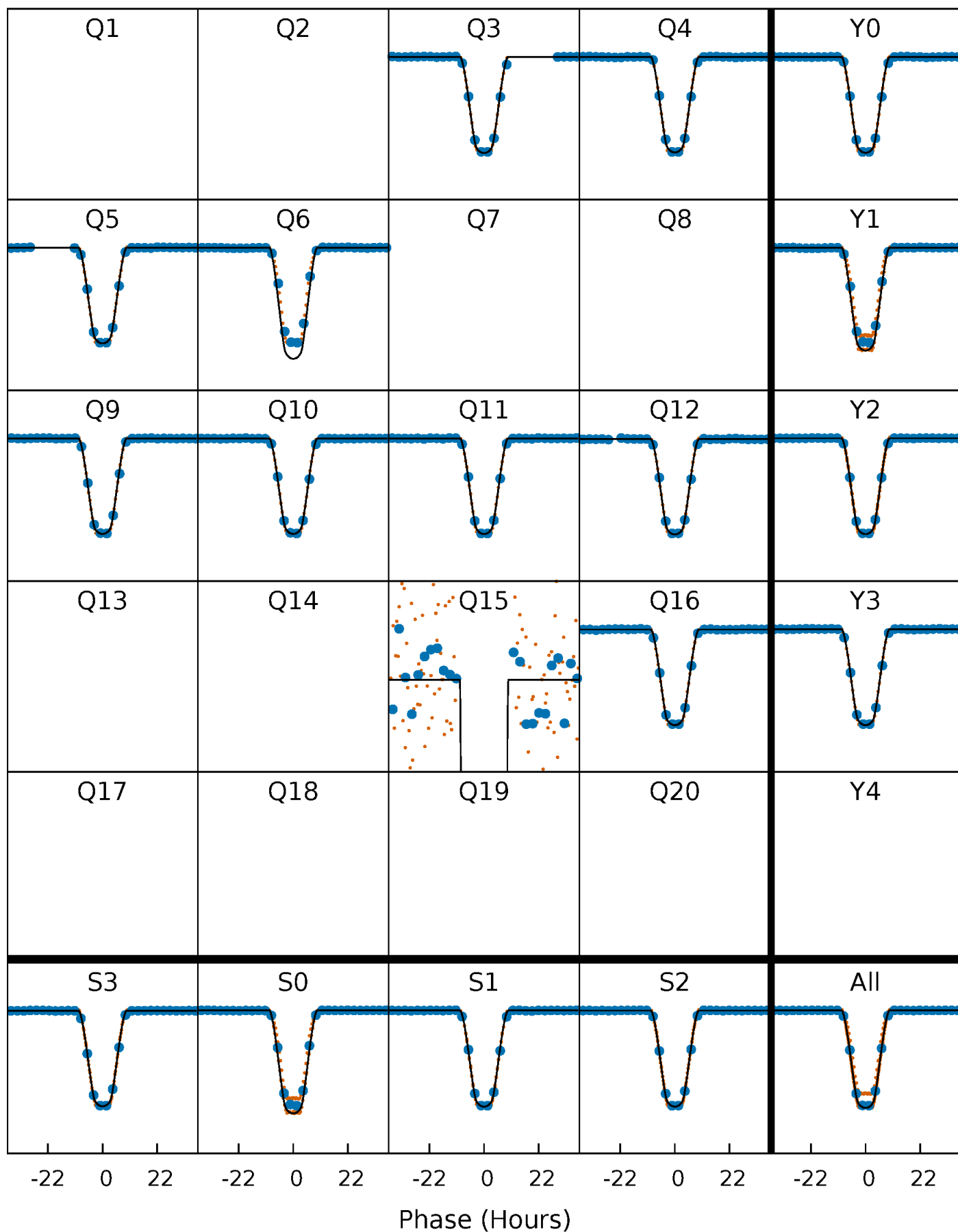
PDC Quarter-Phased Transit Curves

TCE 011671429-02 P=112.463596 Days $T_0=167.684204$ (BKJD)



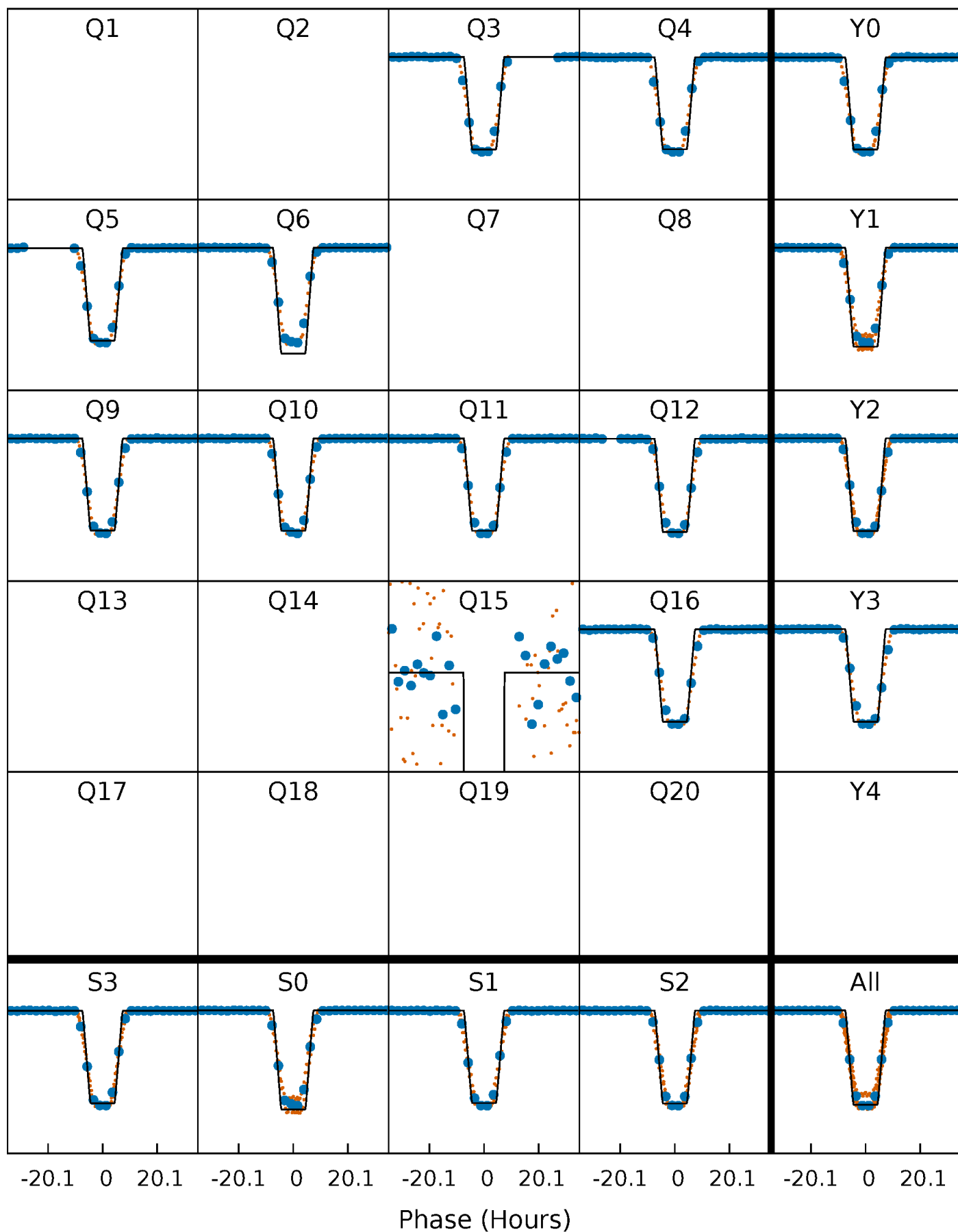
DV Quarter-Phased Transit Curves

TCE 011671429-02 P=112.463596 Days $T_0=167.684204$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

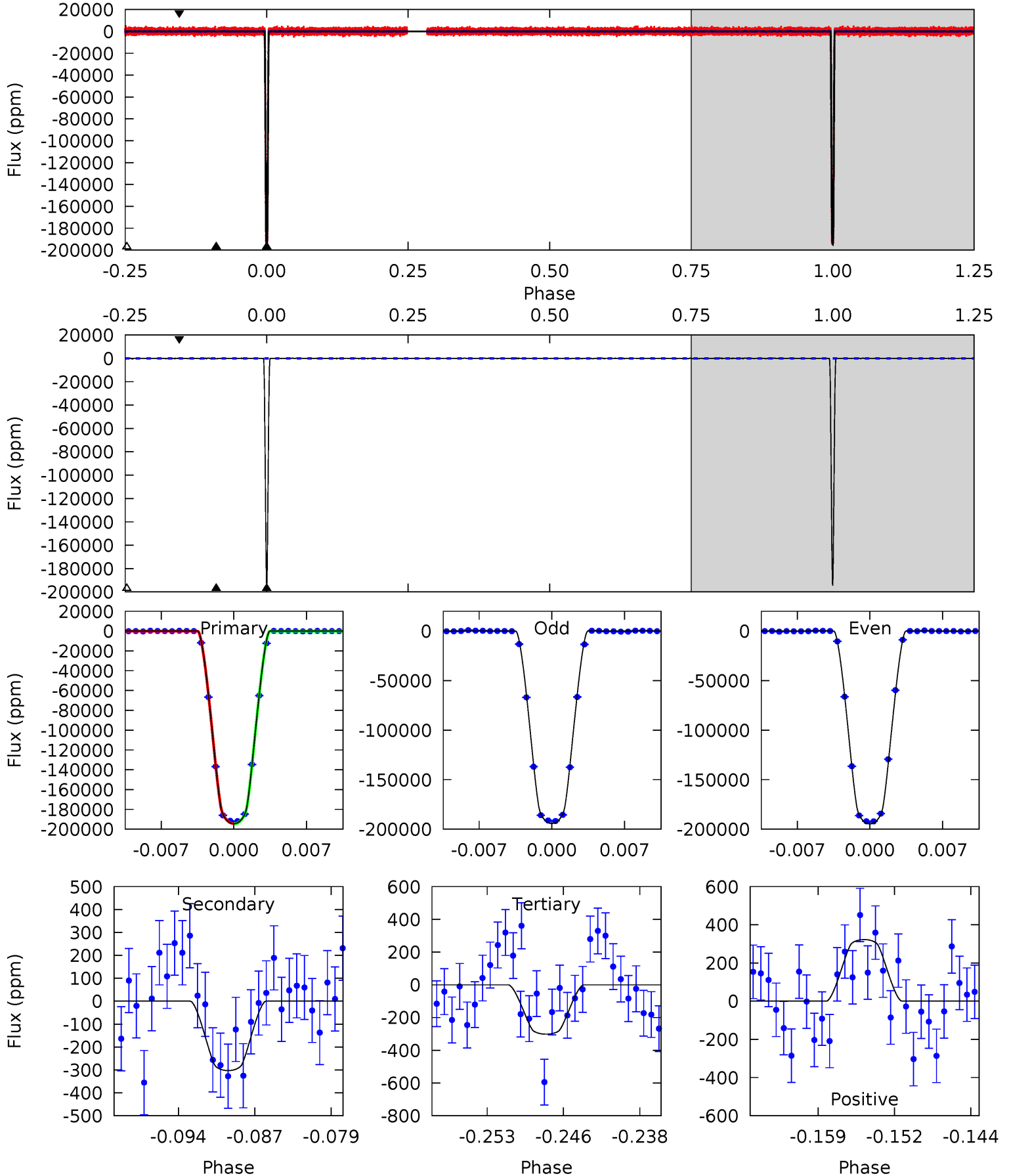
TCE 011671429-02 P=112.459503 Days $T_0=167.707815$ (BKJD)



DV Model-Shift Uniqueness Test

011671429-02, P = 112.463596 Days, E = 55.220608 Days

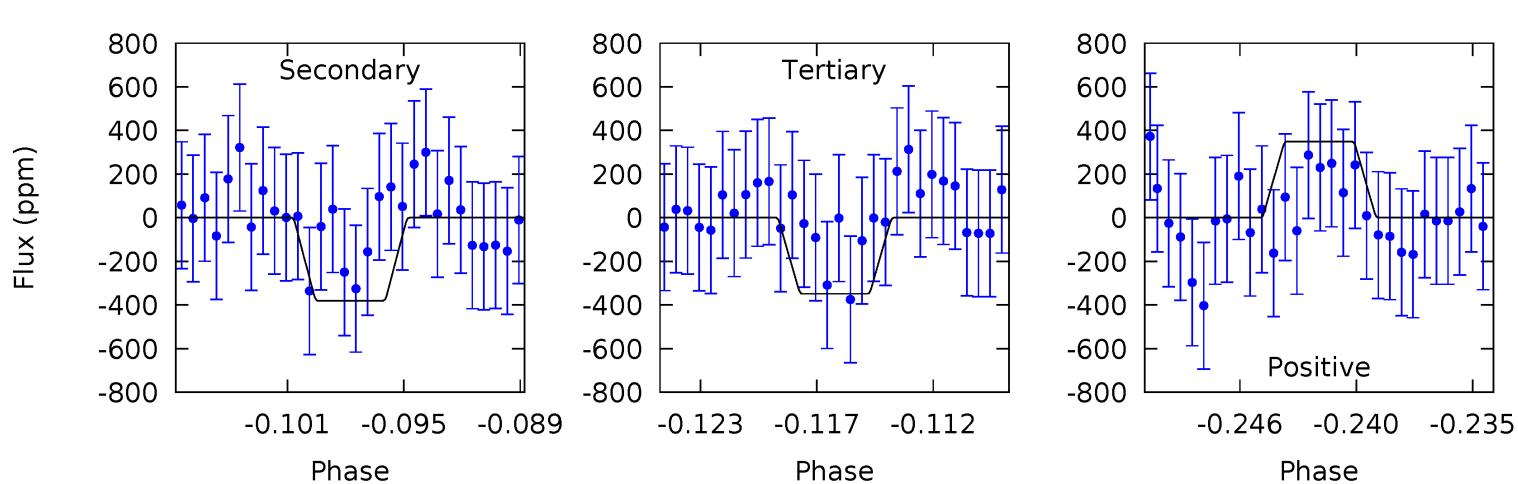
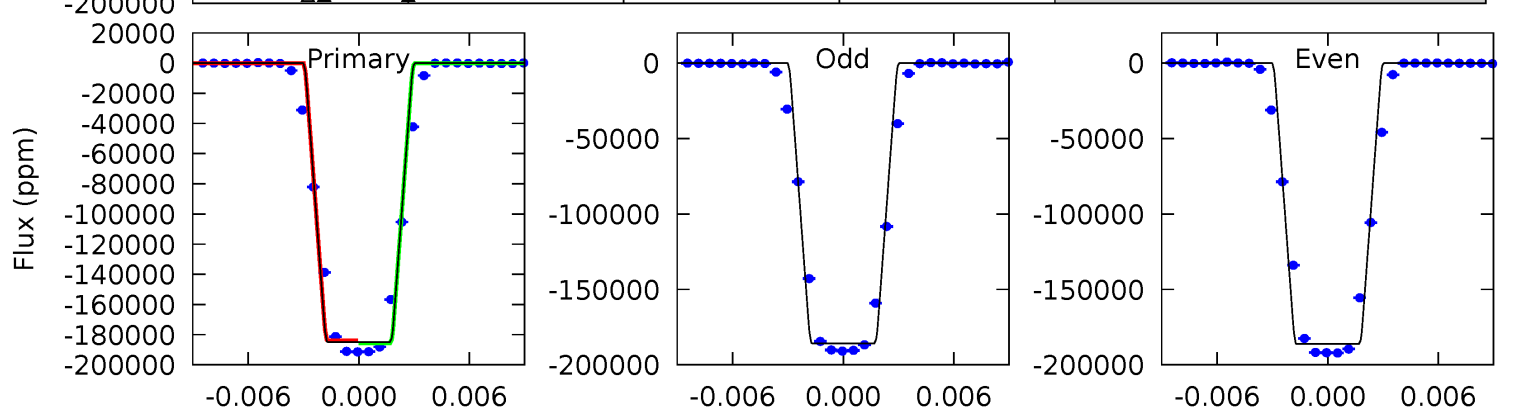
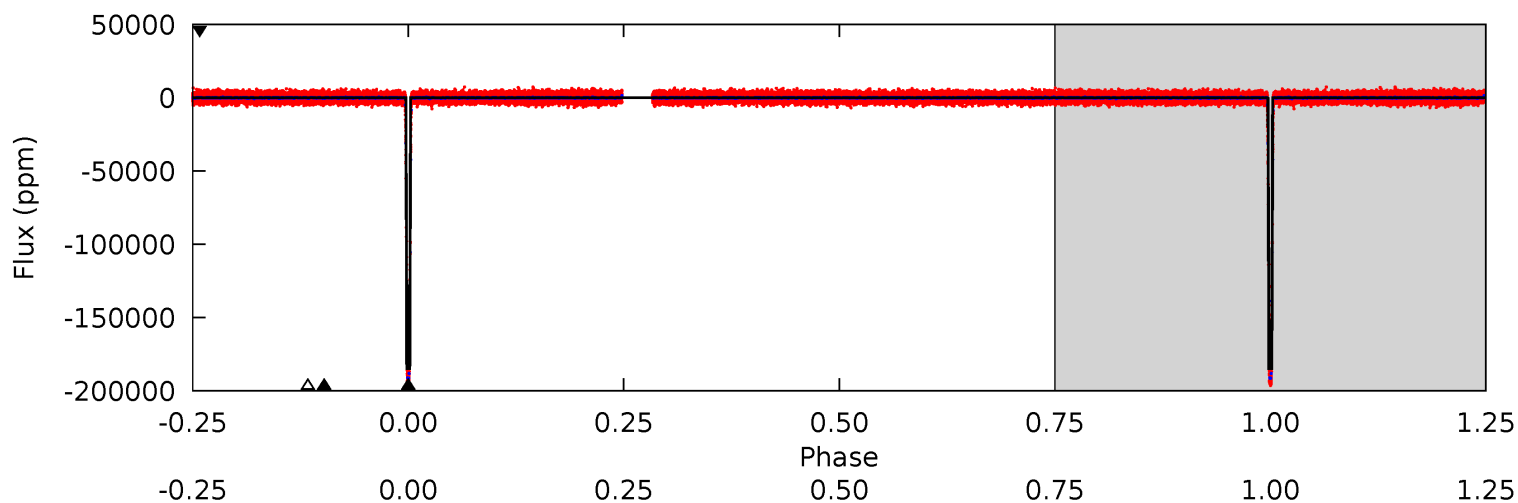
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3181	4.96	4.93	5.28	5.09	2.69	1.59	3176	3176	0.02	-0.32	3.10	0.98	0.00	3.19



Alt Model-Shift Uniqueness Test

011671429-02, P = 112.459503 Days, E = 55.248312 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1290	2.66	2.43	2.43	5.14	2.77	0.71	1288	1288	0.22	0.22	1.88	0.98	0.00	6.14



Stellar Parameters For KIC 011671429

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7426^{+74}_{-81}	$3.903^{+0.182}_{-0.098}$	$-0.080^{+0.150}_{-0.150}$	$2.463^{+0.397}_{-0.546}$	$1.769^{+0.193}_{-0.212}$	$0.167^{+0.168}_{-0.053}$
	+1%/-1%	+5%/-3%	+188%/-188%	+16%/-22%	+11%/-12%	+101%/-31%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 011671429-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-303 ± 61	$111.35^{+9.62}_{-14.50}$	962^{+38}_{-58}	2372^{+55}_{-62}	$4.151^{+1.478}_{-0.964}$
Alt.	-381 ± 143	$114.75^{+11.45}_{-13.45}$	959^{+44}_{-54}	2415^{+97}_{-143}	$4.841^{+2.275}_{-1.933}$

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

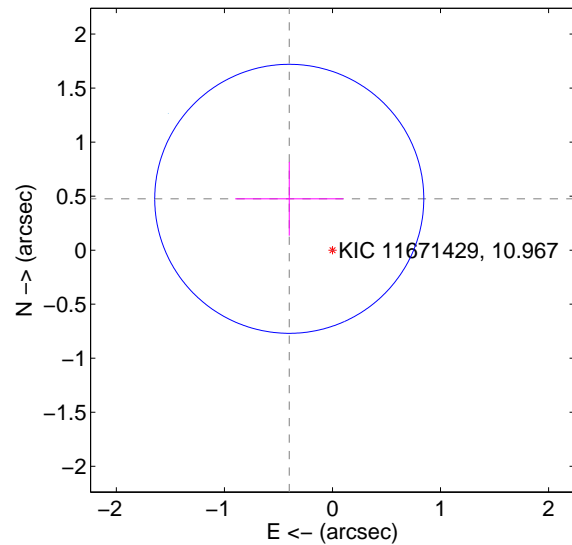
Supplemental centroid analysis for 011671429-02. **Kepler magnitude: 10.97.** Transit SNR 1795.96

There are 5 quarters with good PRF difference image offsets

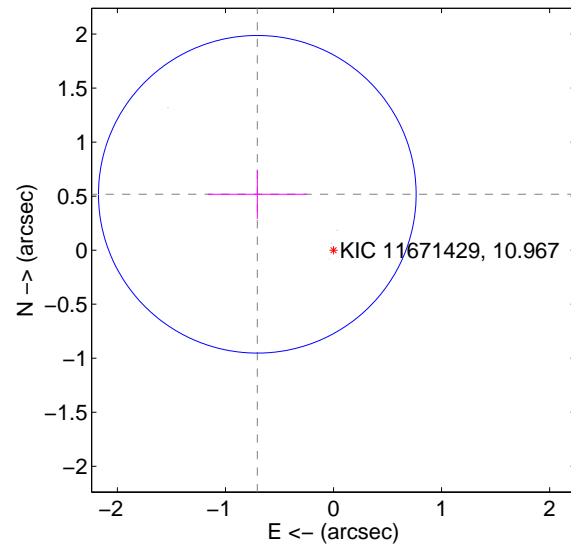
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.621 ± 0.415	1.50	0.400 ± 0.500	0.475 ± 0.341
PRF-fit source offset from KIC position	0.874 ± 0.490	1.79	0.705 ± 0.458	0.517 ± 0.228
photometric centroid source offset	0.06 ± 0.00	92.04	0.05 ± 0.00	0.03 ± 0.00

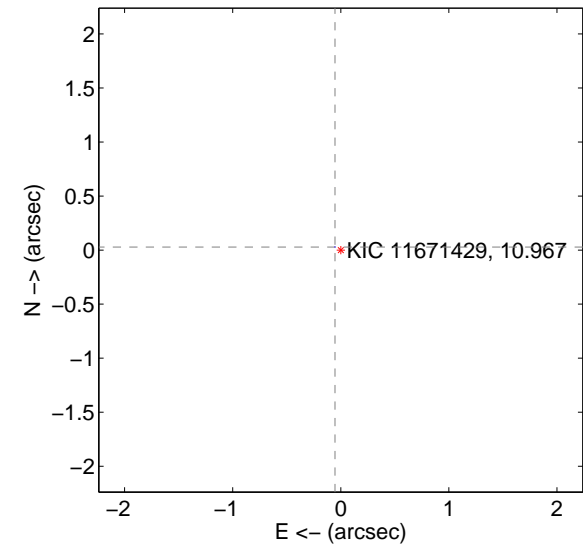
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

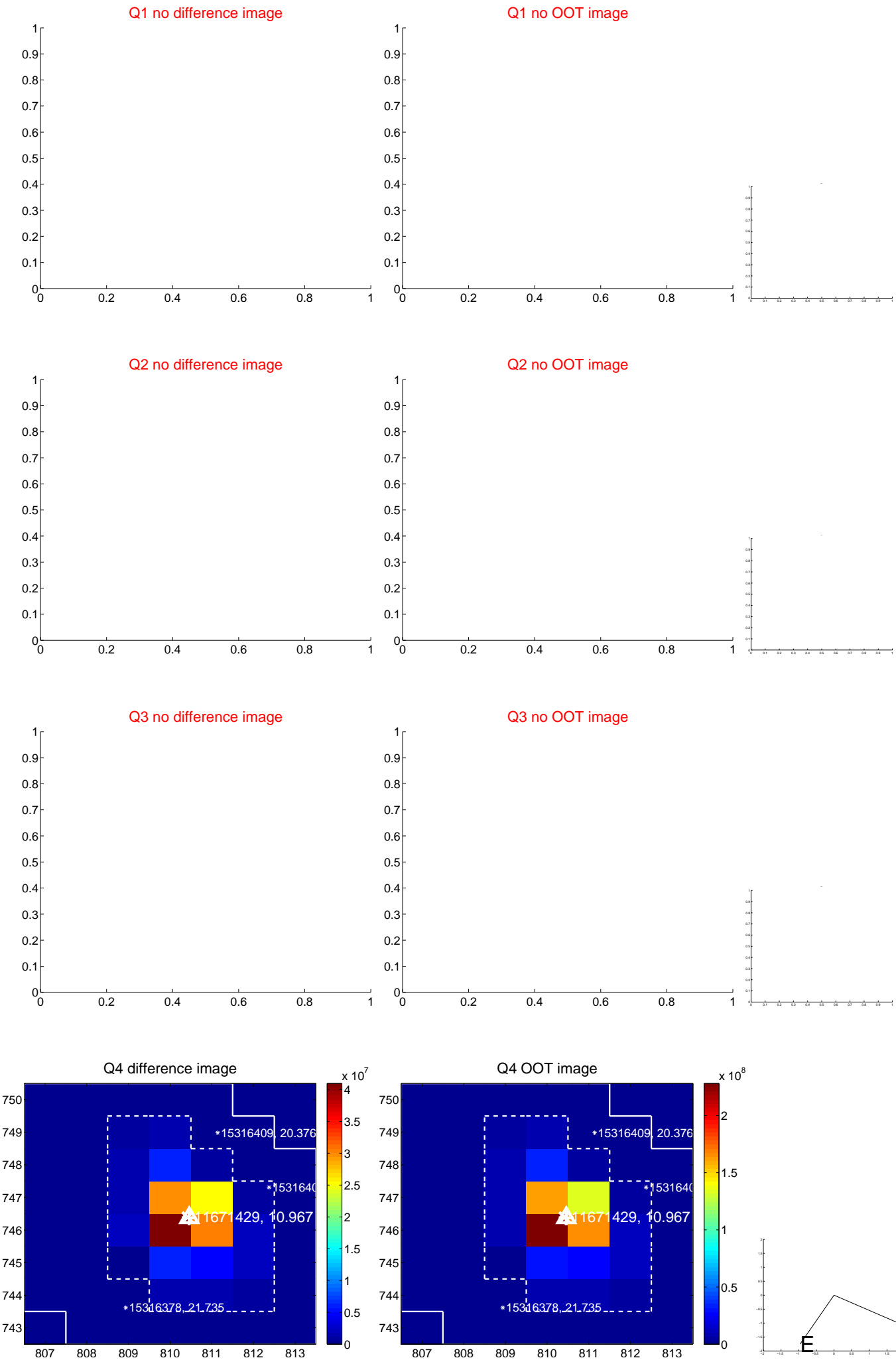


offset from photometric centroids

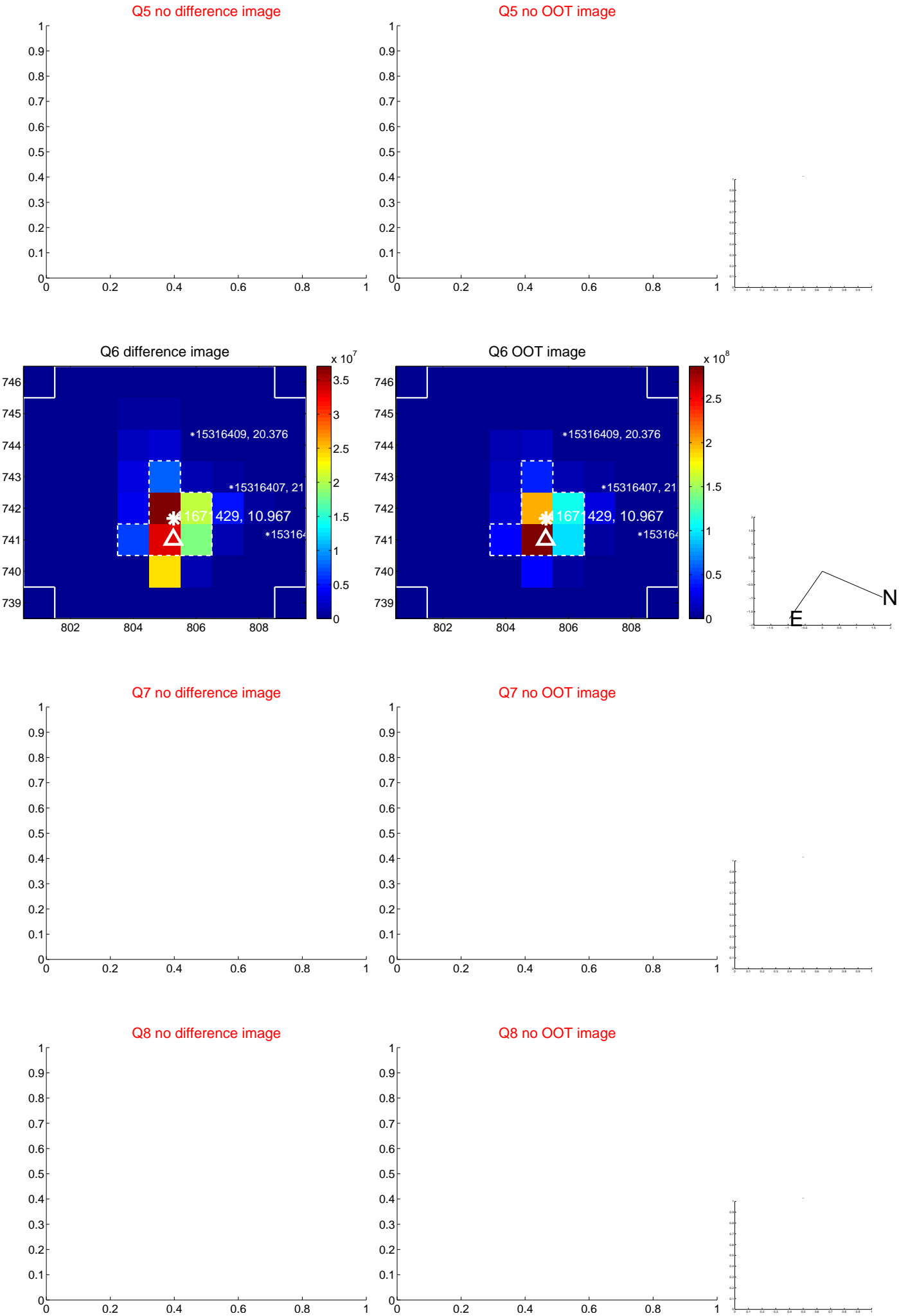


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

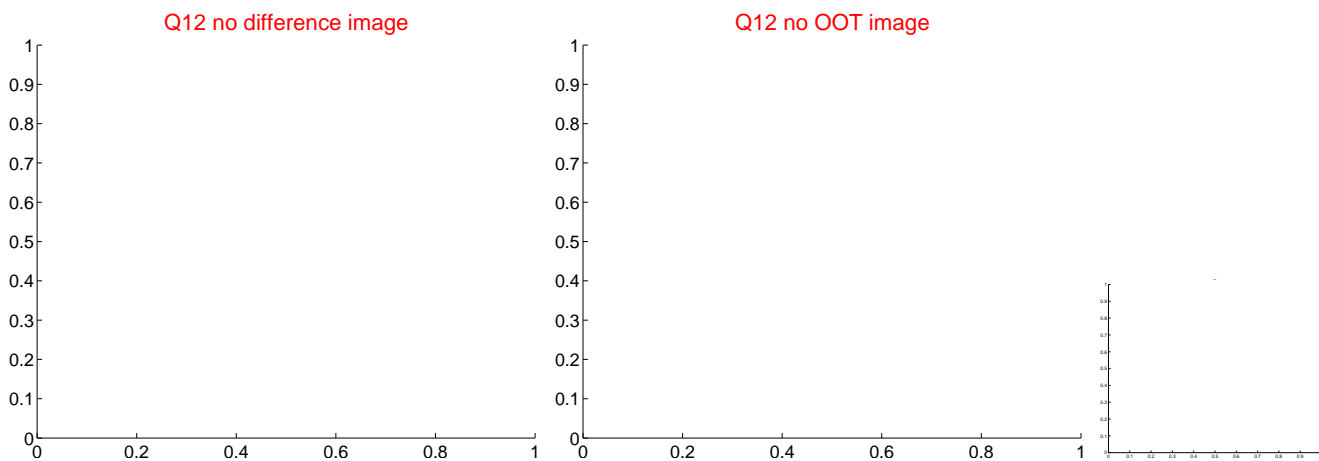
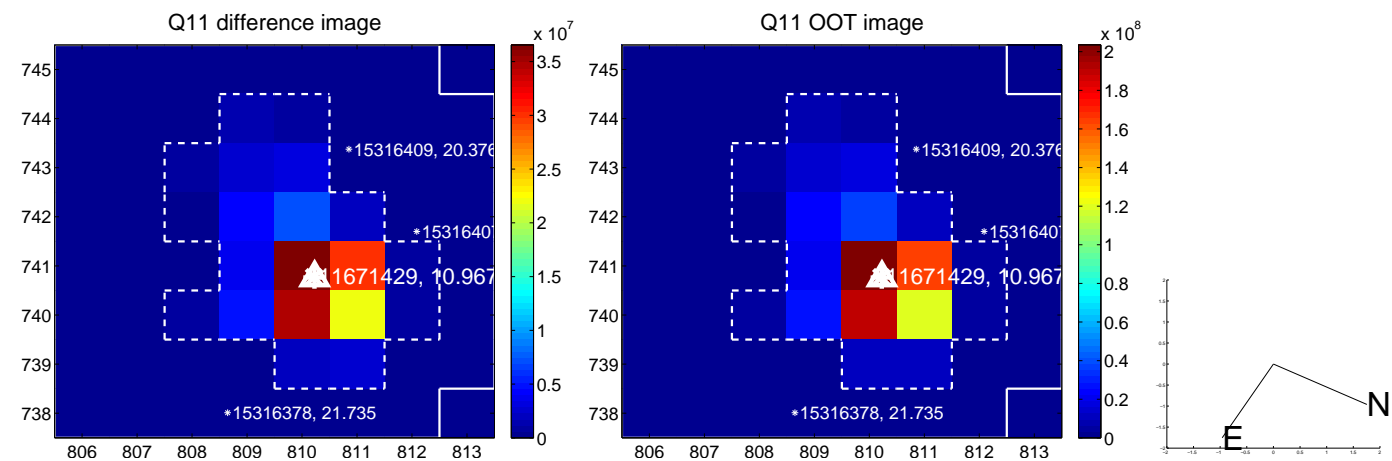
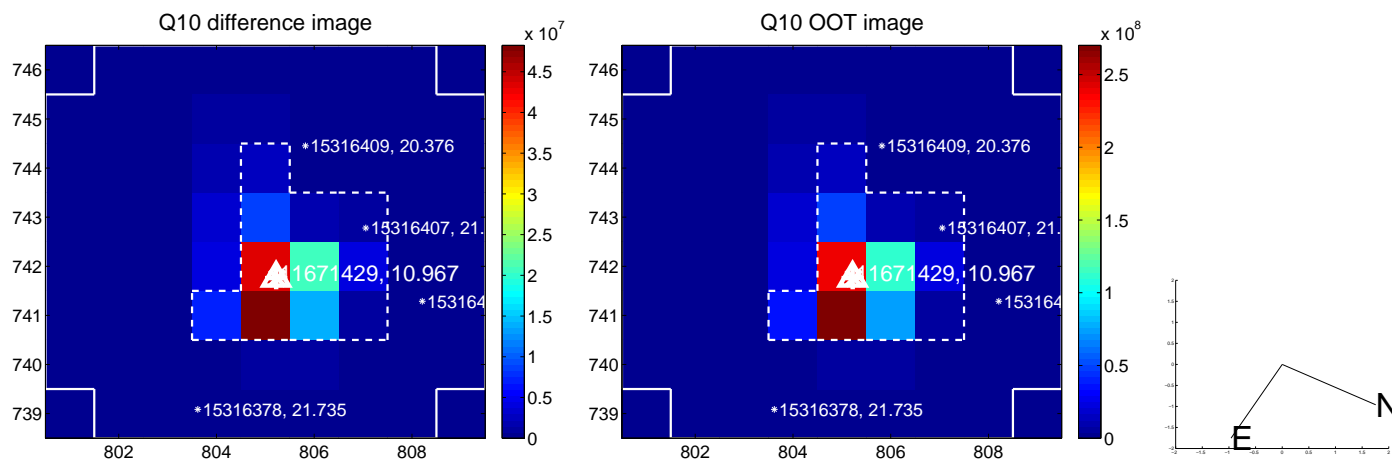
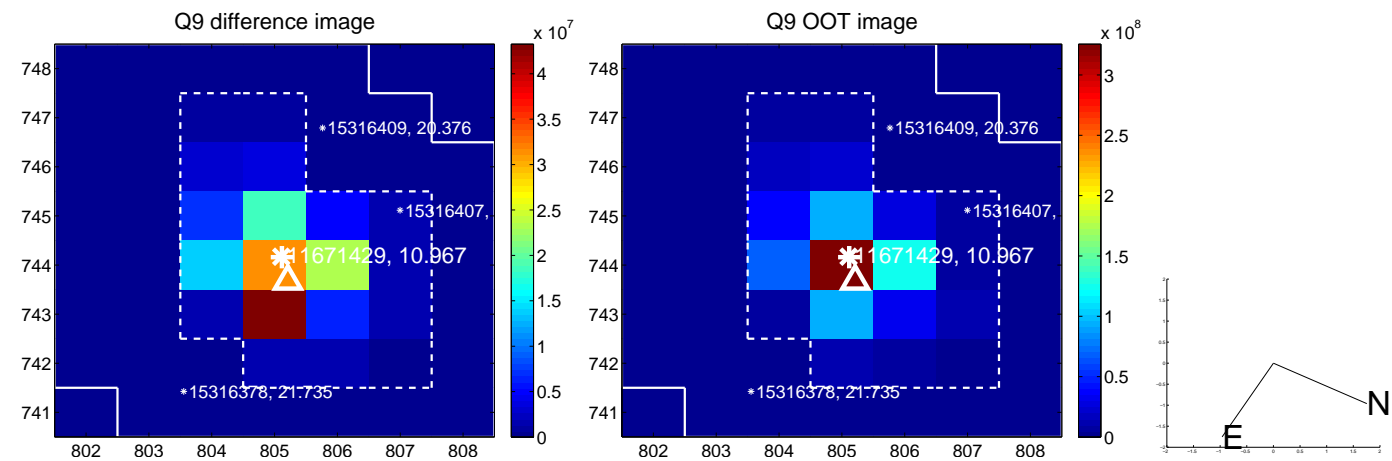
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



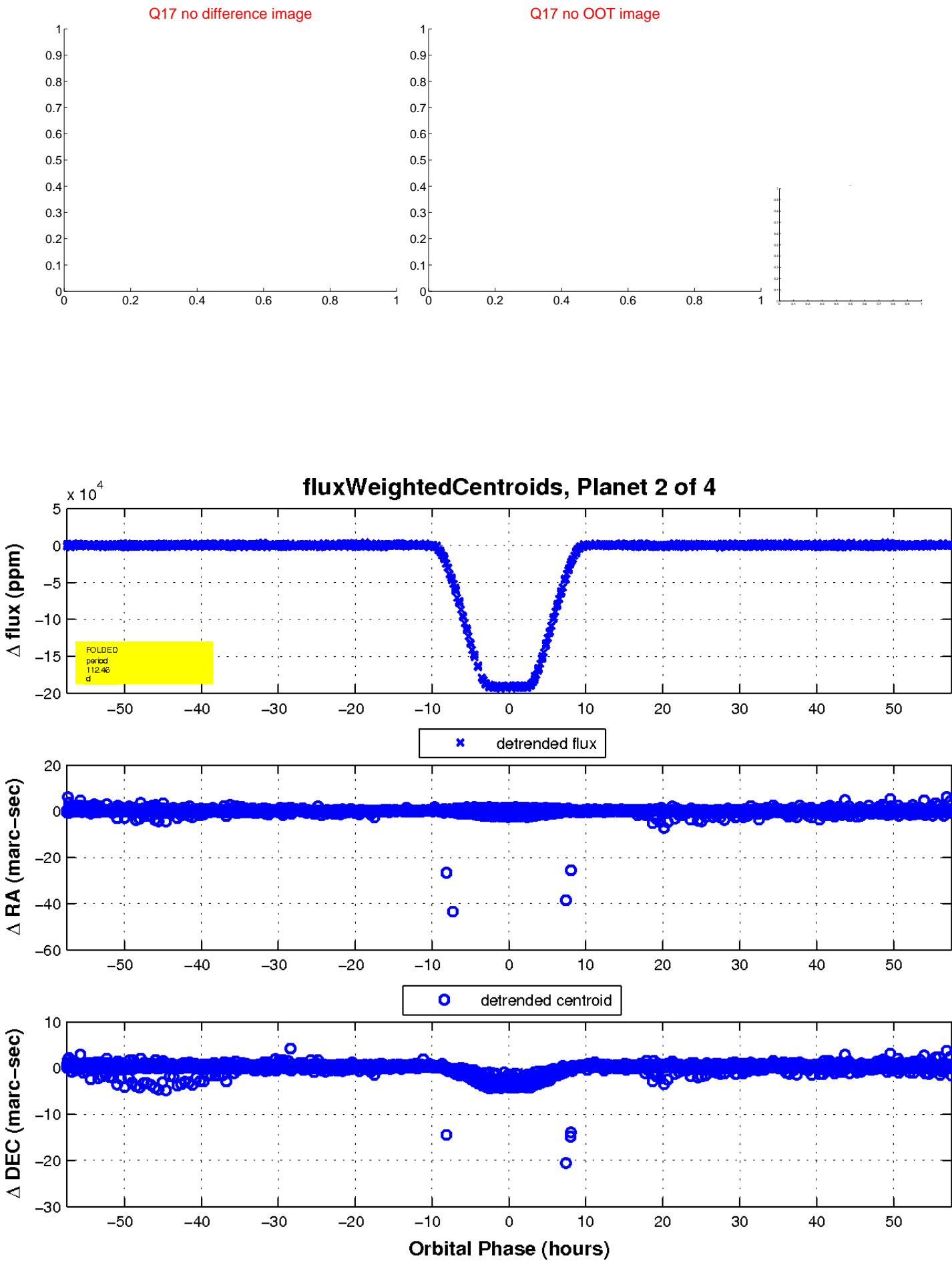
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

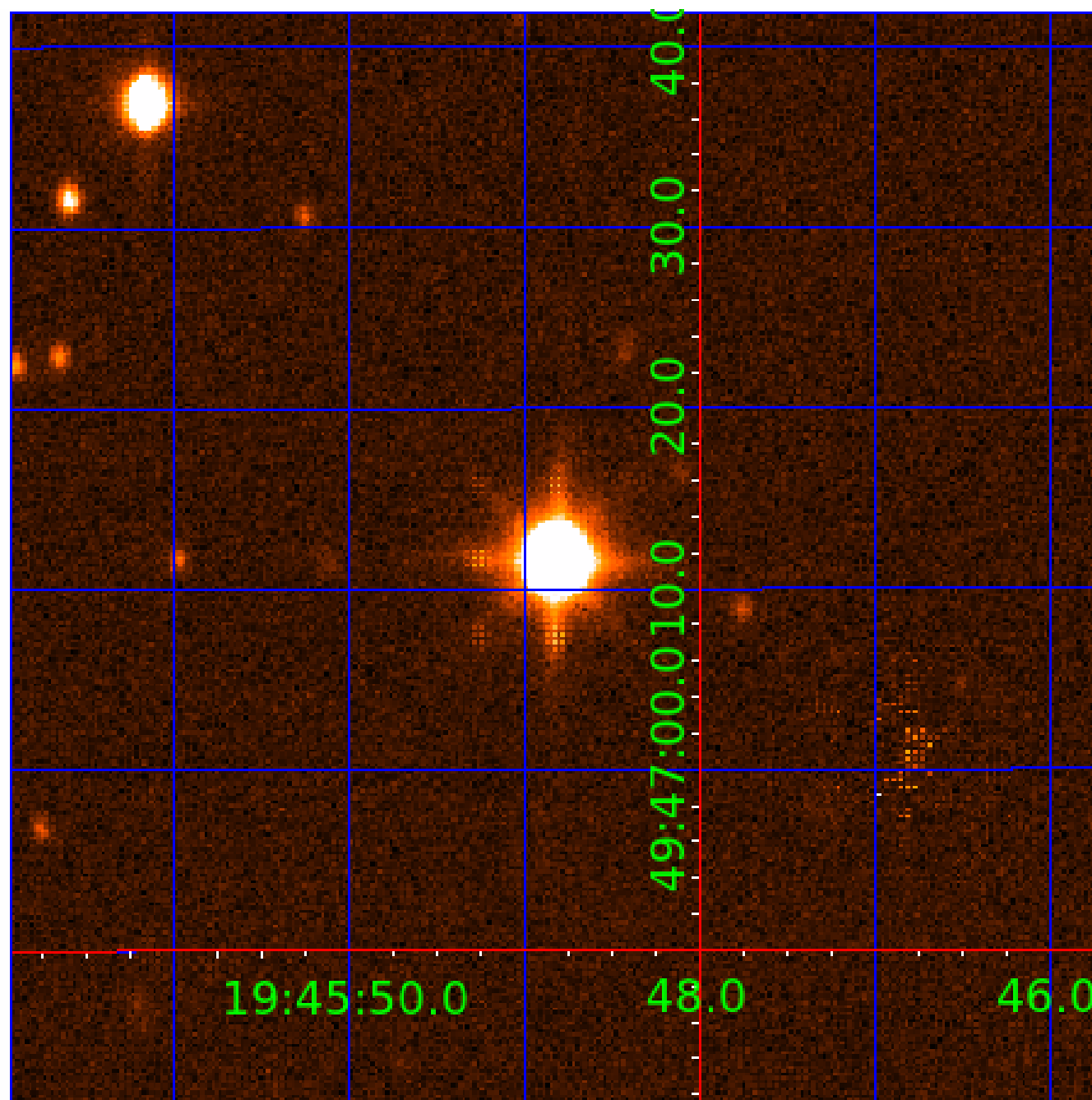


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011671429

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})
011671429-01	OBS	3567.01	112.463598	197.557855	244235.3	31.898	3843.2	3479.8	2.46	7426	129.77	54.31
011671429-02	OBS	No	112.463596	167.684204	193474.1	19.206	2074.9	1796.0	2.46	7426	112.14	54.31
011671429-03	OBS	No	0.995763	131.785943	143.9	2.580	9.8	10.6	2.46	7426	3.42	29649.41
011671429-04	OBS	No	0.565618	131.850777	73.3	2.000	8.1	-1.0	2.46	7426	2.14	63026.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011671429-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_SATURATED
011671429-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_SATURATED
011671429-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
011671429-04	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

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 011671429-03

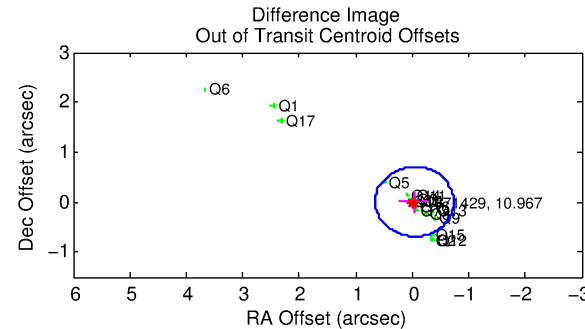
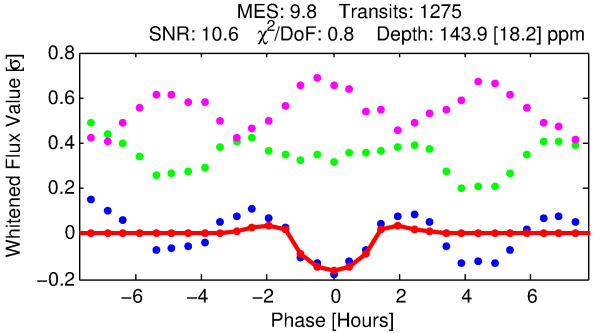
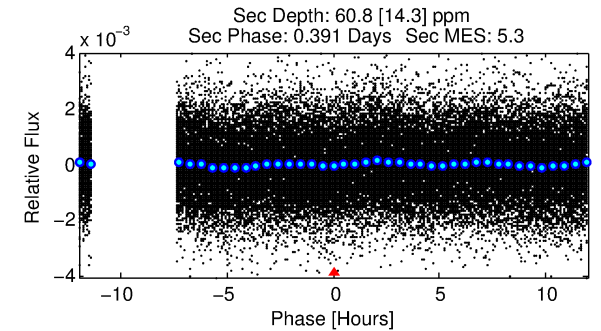
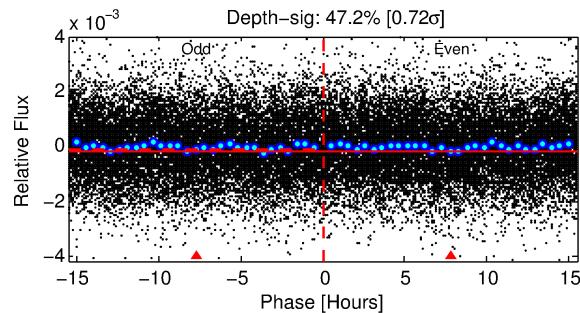
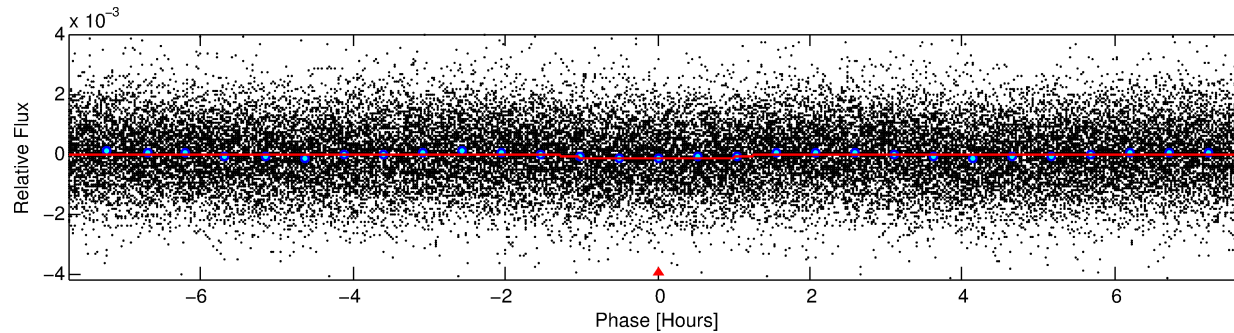
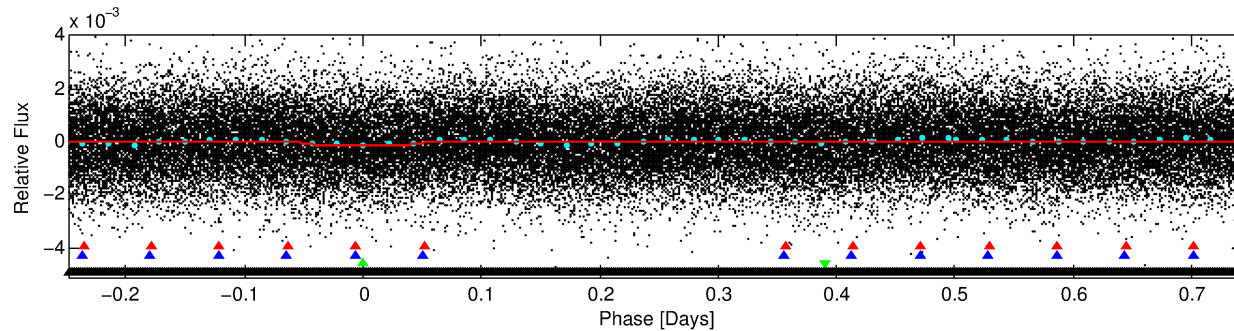
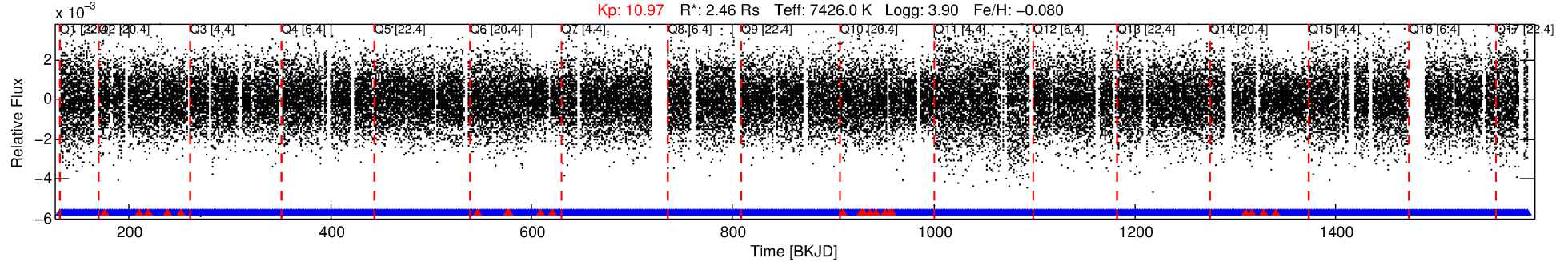
No Significant Match Found

DV One-Page Summary

KIC: 11671429 Candidate: 3 of 4 Period: 0.996 d

KOI: K03567 Corr: No Ephemeris Match

Kp: 10.97 R*: 2.46 Rs Teff: 7426.0 K Logg: 3.90 Fe/H: -0.080



DV Fit Results:

Period = 0.99576 [0.00001] d
Epoch = 131.7859 [0.0030] BKJD
Rp/R* = 0.0127 [0.0064]
a/R* = 1.66 [3.41]
b = 0.90 [0.69]
Seff = 29649.41 [9459.88]
Teq = 3346 [267] K
Rp = 3.42 [1.88] Re
a = 0.0236 [0.0048] AU
Ag = 1.59 [1.72] [0.35σ]
Teffp = 5812 [1501] K [1.62σ]

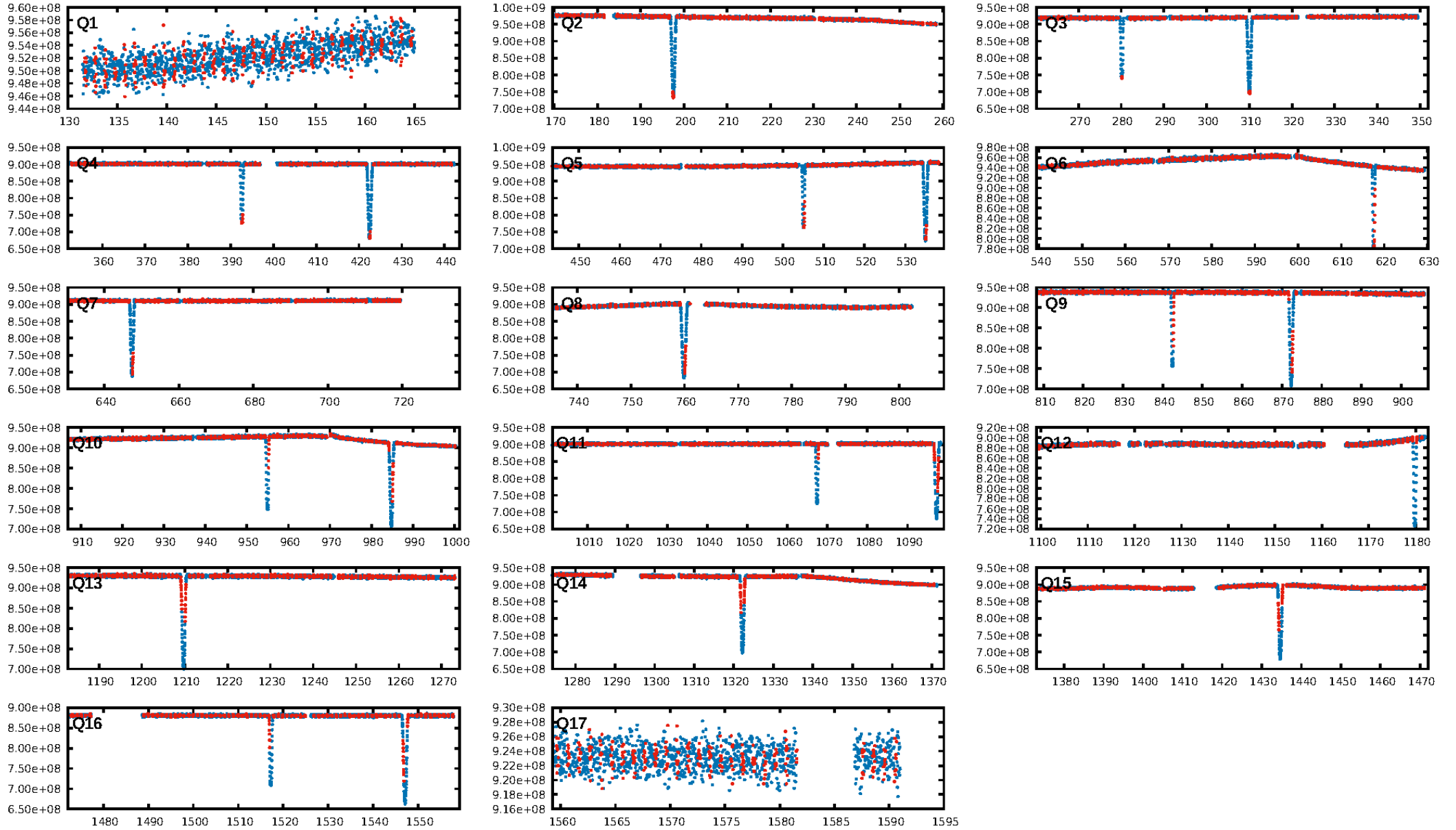
DV Diagnostic Results:

ShortPeriod-sig: 99.8% [3.16σ]
LongPeriod-sig: 100.0% [138.05σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [1191/1214]
GhostDiagnostic-chr: 2.235
Centroid-sig: N/A
Centroid-so: 0.076 arcsec [0.85σ]
OotOffset-rm: 0.037 arcsec [0.16σ]
KicOffset-rm: 0.080 arcsec [0.64σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.53 [9/17]
DiffImageOverlap-fno: 0.00 [0/17]

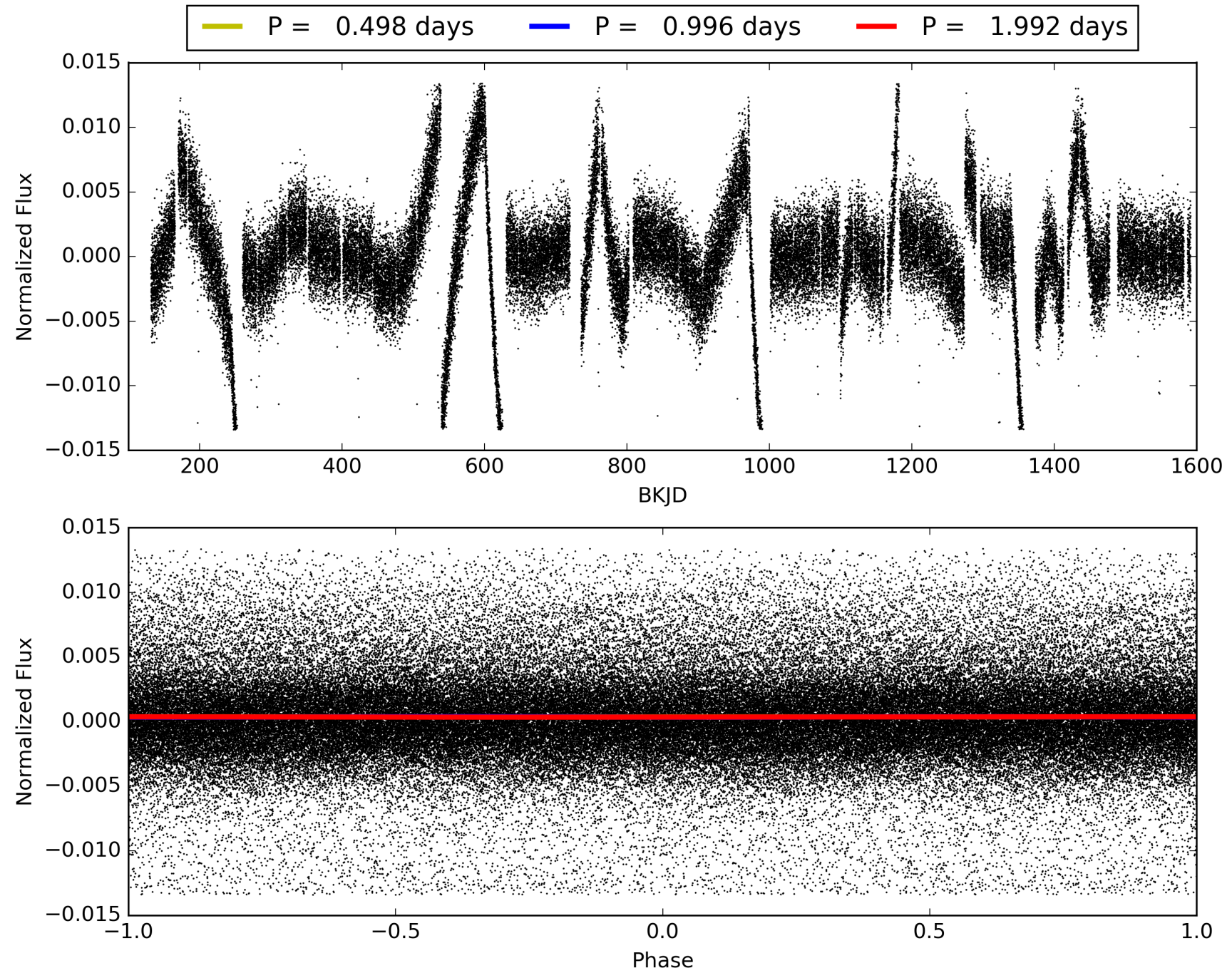
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:39:11 Z

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

TCE 011671429-03, PDC Light Curves

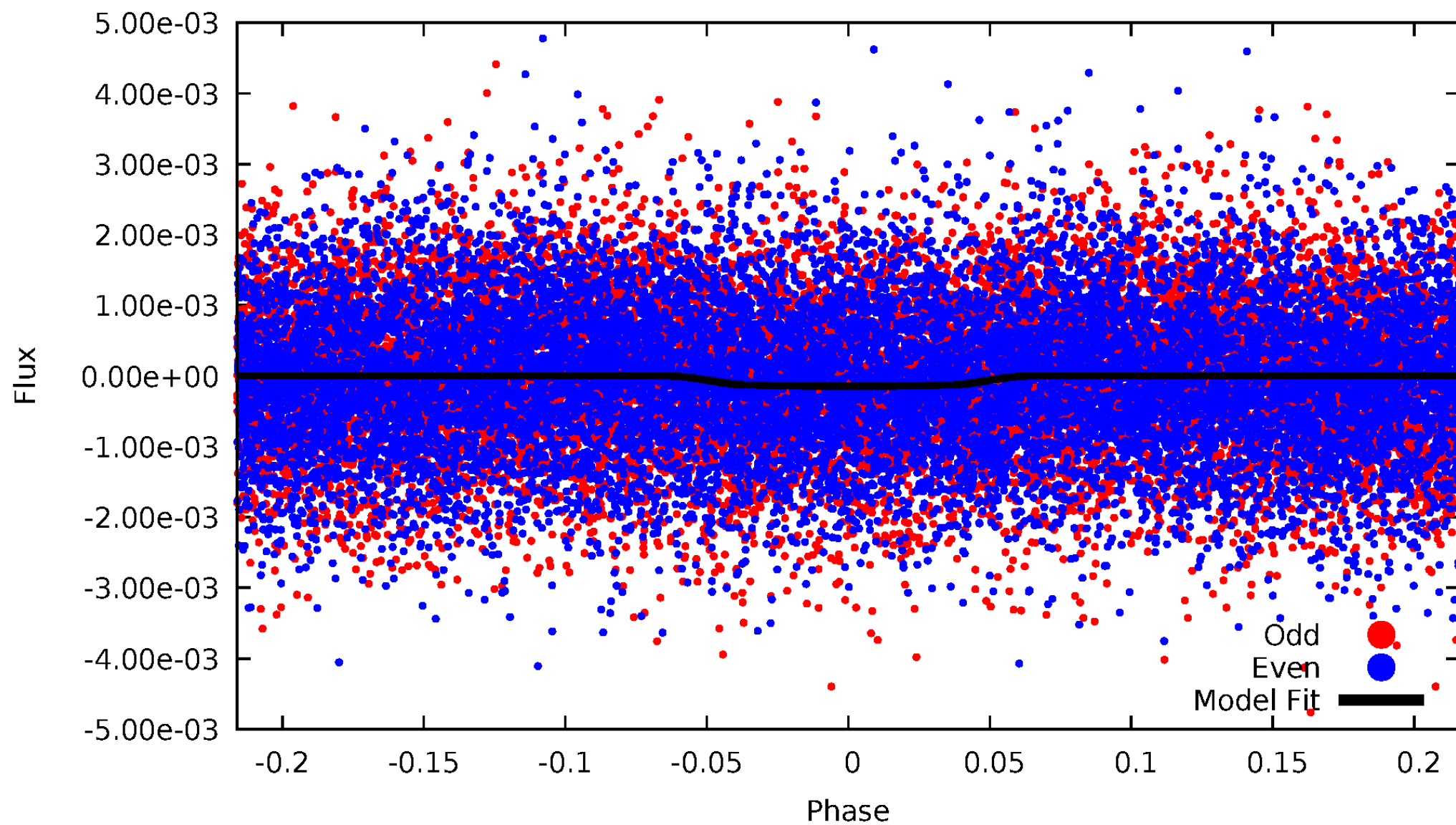


TCE 011671429-03



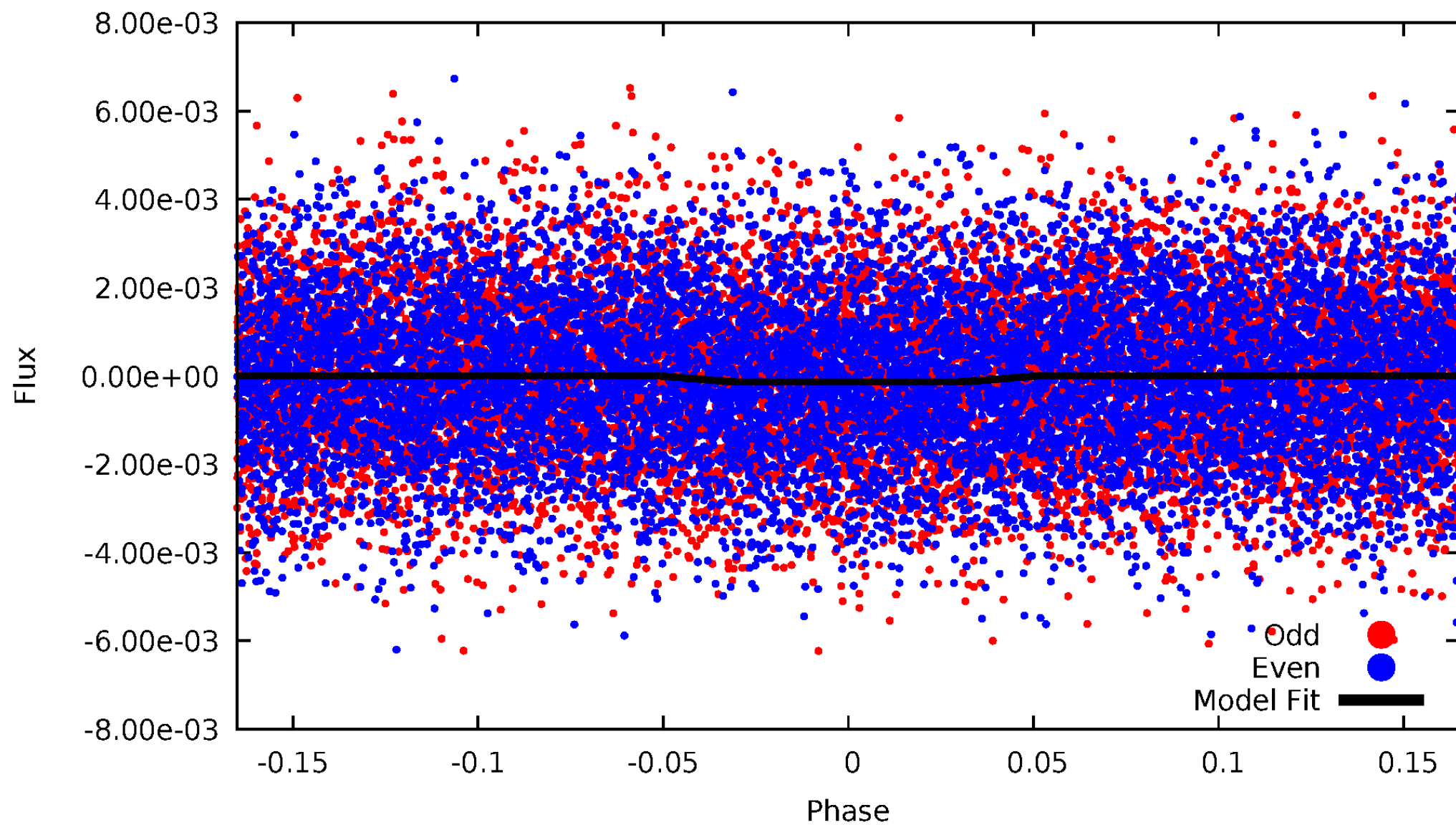
DV Odd/Even

TCE 011671429-03



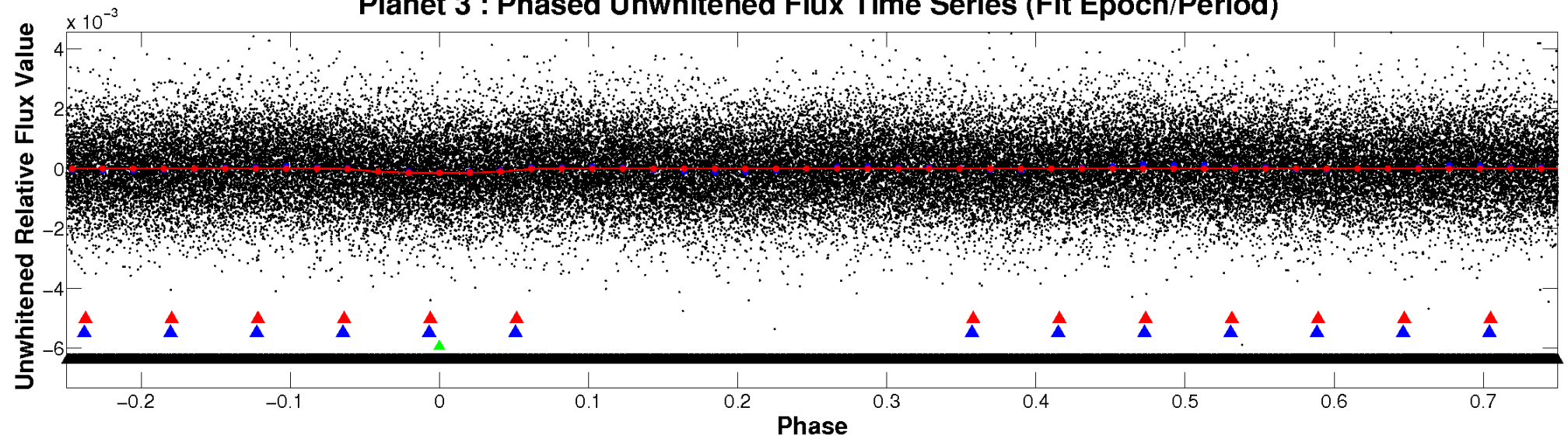
ALT Odd/Even

TCE 011671429-03

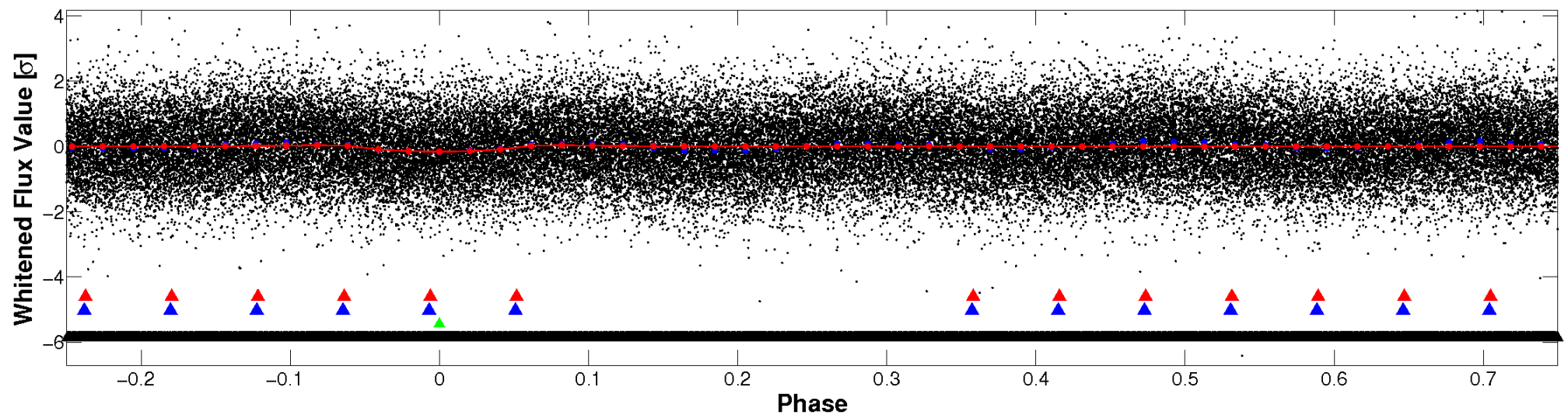


Non-Whitened Vs. Whitened Light Curve

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

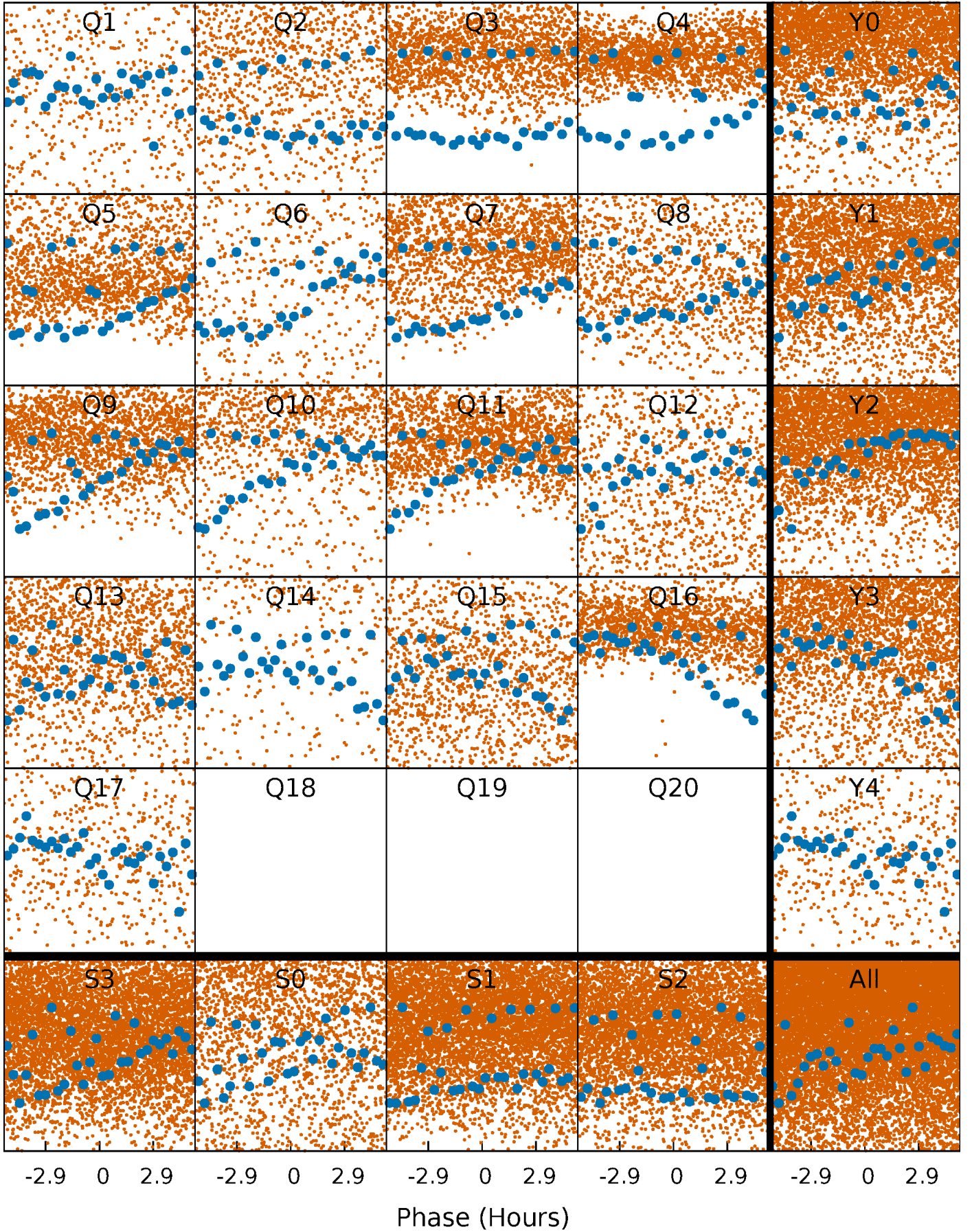


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



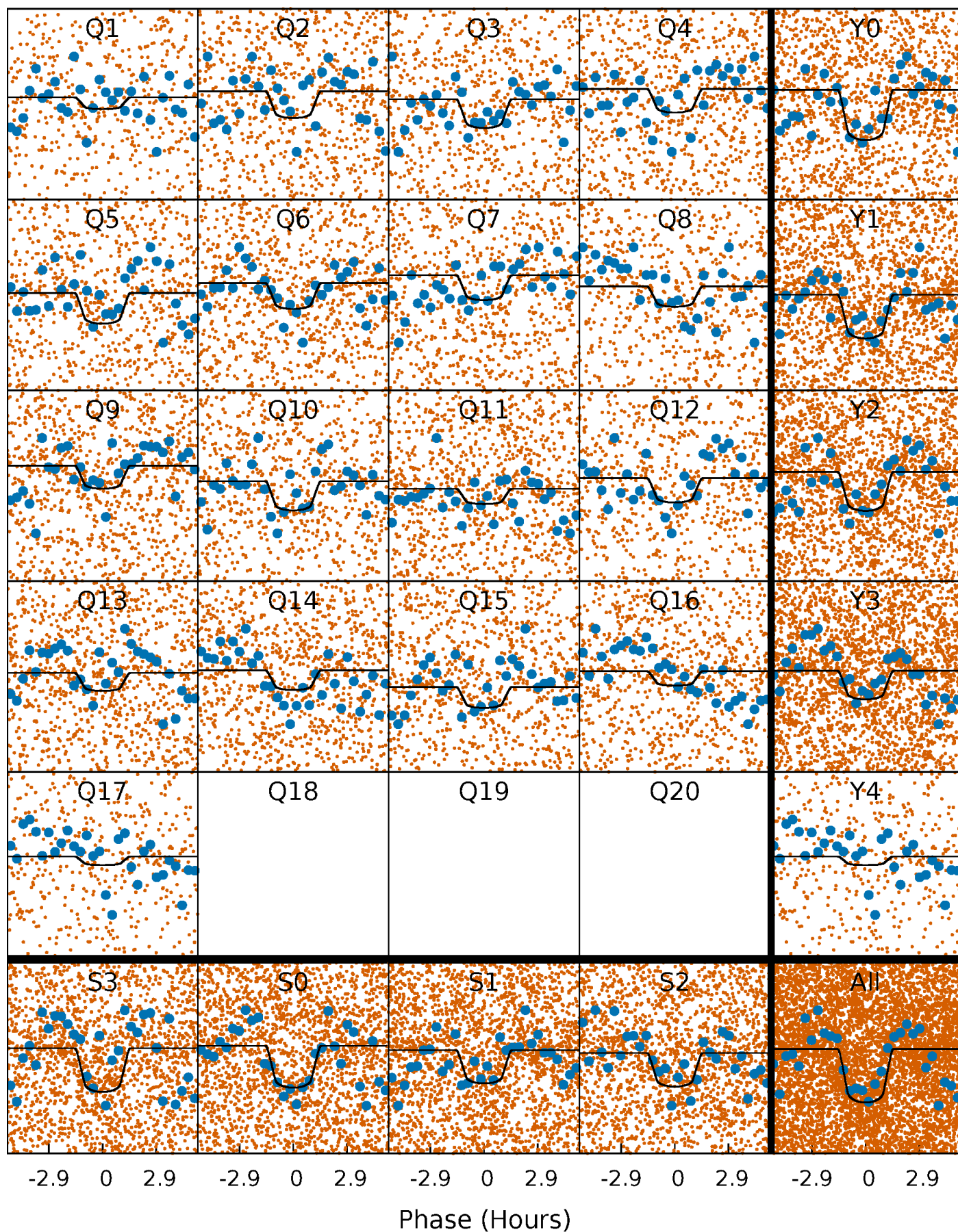
PDC Quarter-Phased Transit Curves

TCE 011671429-03 P= 0.995763 Days $T_0=131.785943$ (BKJD)



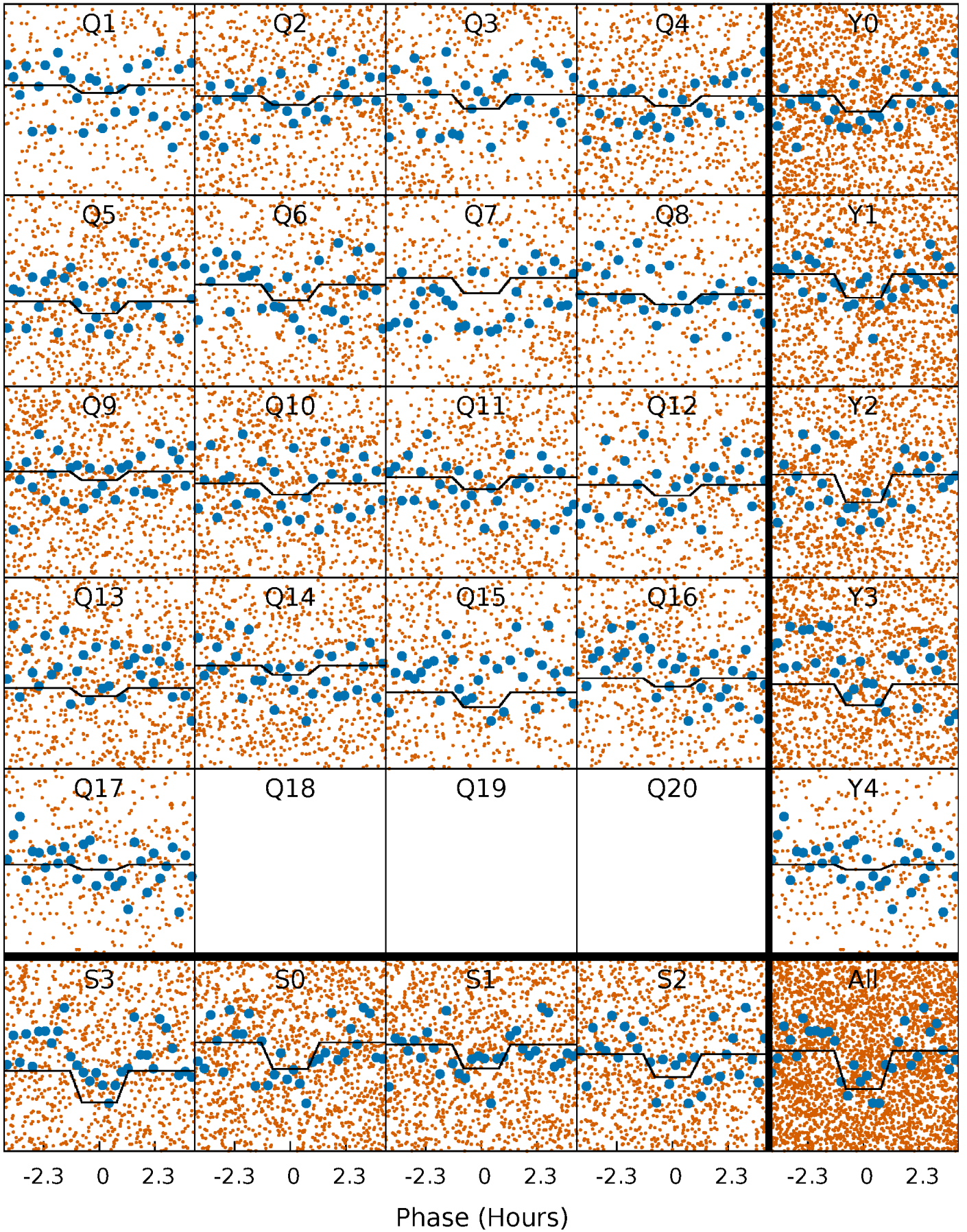
DV Quarter-Phased Transit Curves

TCE 011671429-03 P= 0.995763 Days $T_0=131.785943$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

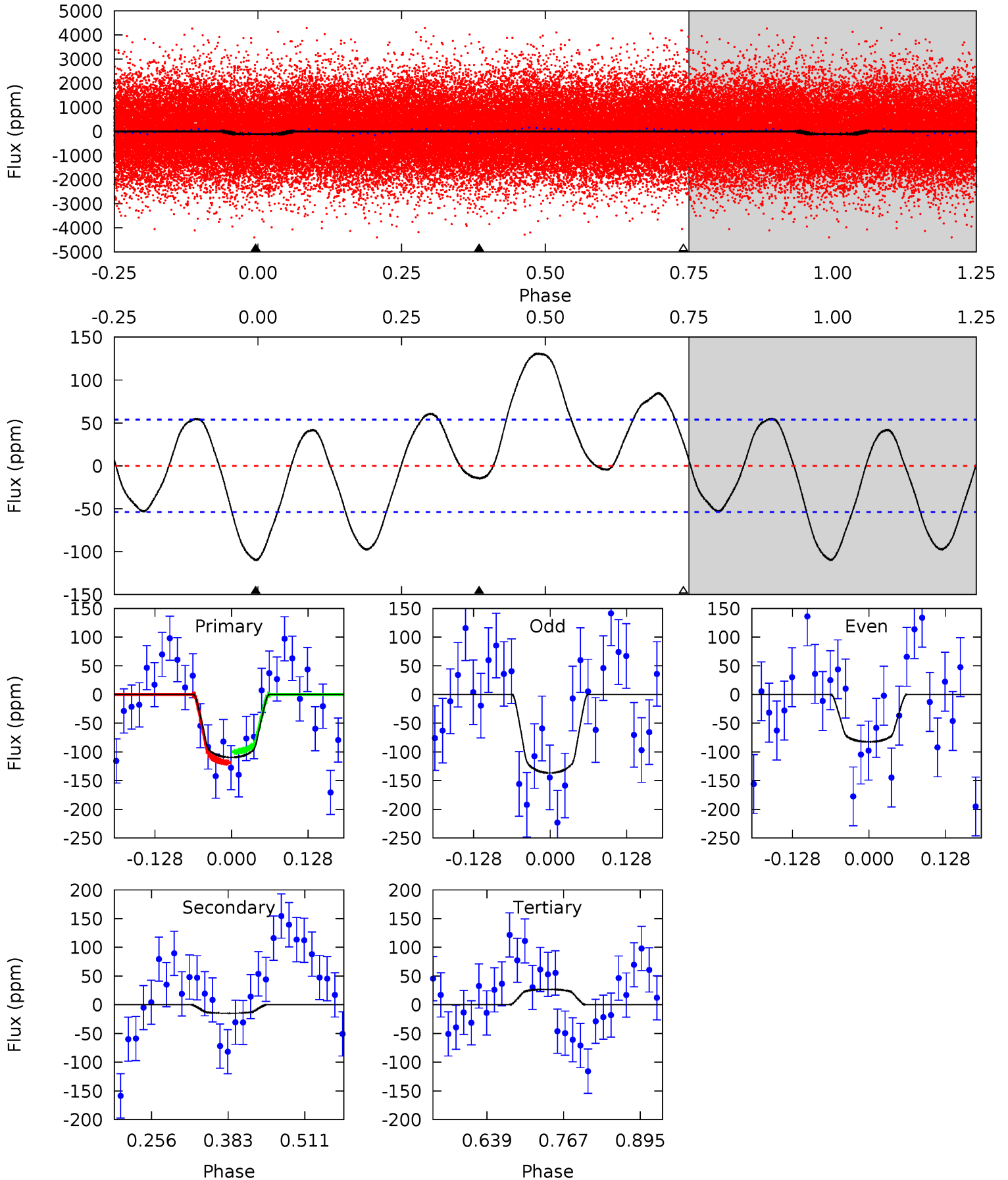
TCE 011671429-03 P= 0.995750 Days $T_0=131.784510$ (BKJD)



DV Model-Shift Uniqueness Test

011671429-03, P = 0.995763 Days, E = 130.790180 Days

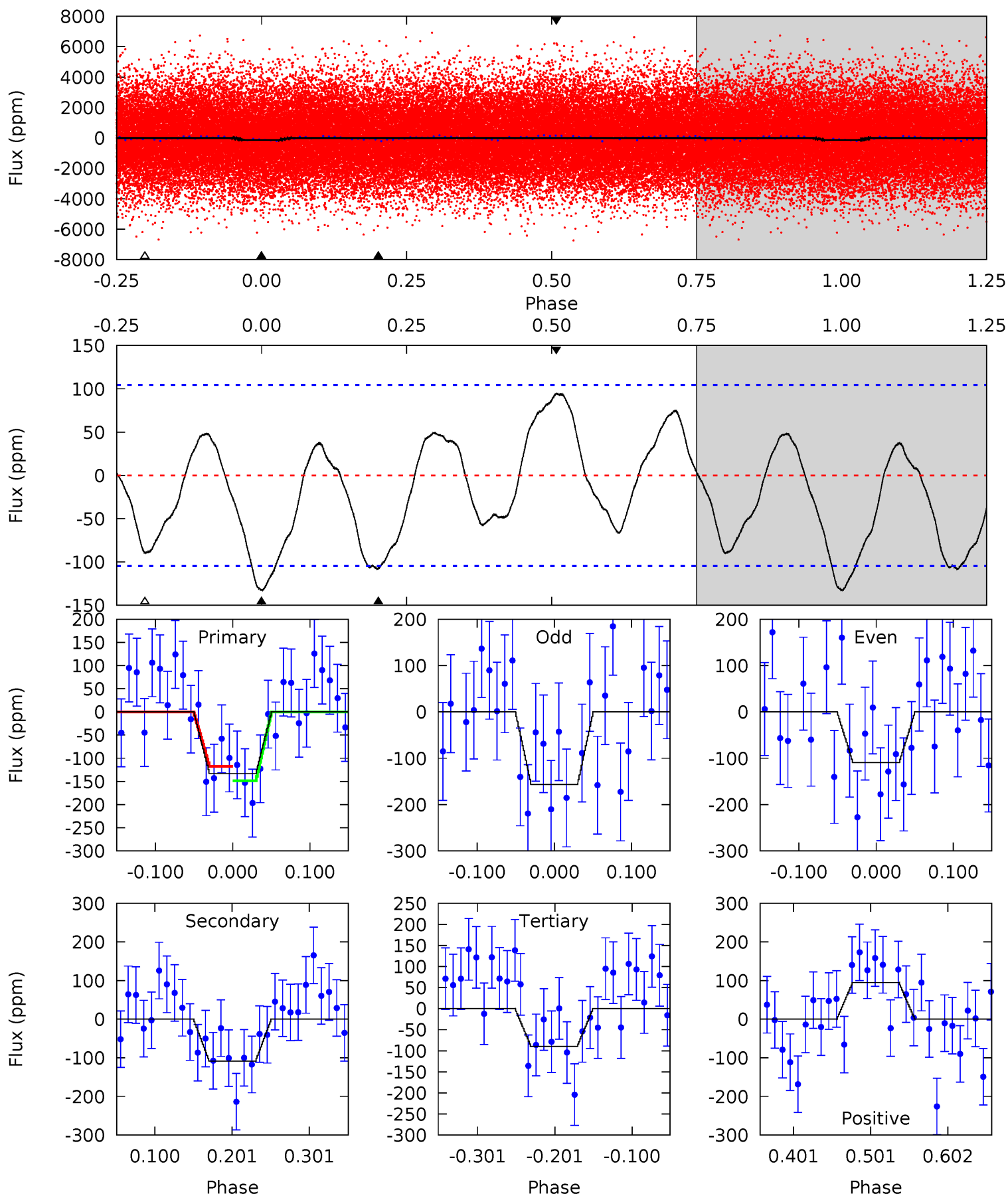
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.19	1.24	-2.25	0	4.51	1.52	4.54	11.4	9.19	3.48	1.24	2.27	1.08	0.54	0.79



Alt Model-Shift Uniqueness Test

011671429-03, P = 0.995750 Days, E = 130.788760 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.81	4.73	3.92	4.14	4.56	1.64	2.22	1.89	1.66	0.81	0.59	1.03	0.94	0.42	0.69



Stellar Parameters For KIC 011671429

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7426^{+74}_{-81}	$3.903^{+0.182}_{-0.098}$	$-0.080^{+0.150}_{-0.150}$	$2.463^{+0.397}_{-0.546}$	$1.769^{+0.193}_{-0.212}$	$0.167^{+0.168}_{-0.053}$
	+1%/-1%	+5%/-3%	+188%/-188%	+16%/-22%	+11%/-12%	+101%/-31%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 011671429-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-15 ± 12	$3.29^{+1.98}_{-1.54}$	4640^{+210}_{-249}	2967^{+2175}_{-6907}	$0.345^{+1.028}_{-0.287}$
Alt.	-108 ± 23	$3.24^{+1.67}_{-1.57}$	4656^{+197}_{-268}	6523^{+3538}_{-1333}	$3.099^{+9.420}_{-1.795}$

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

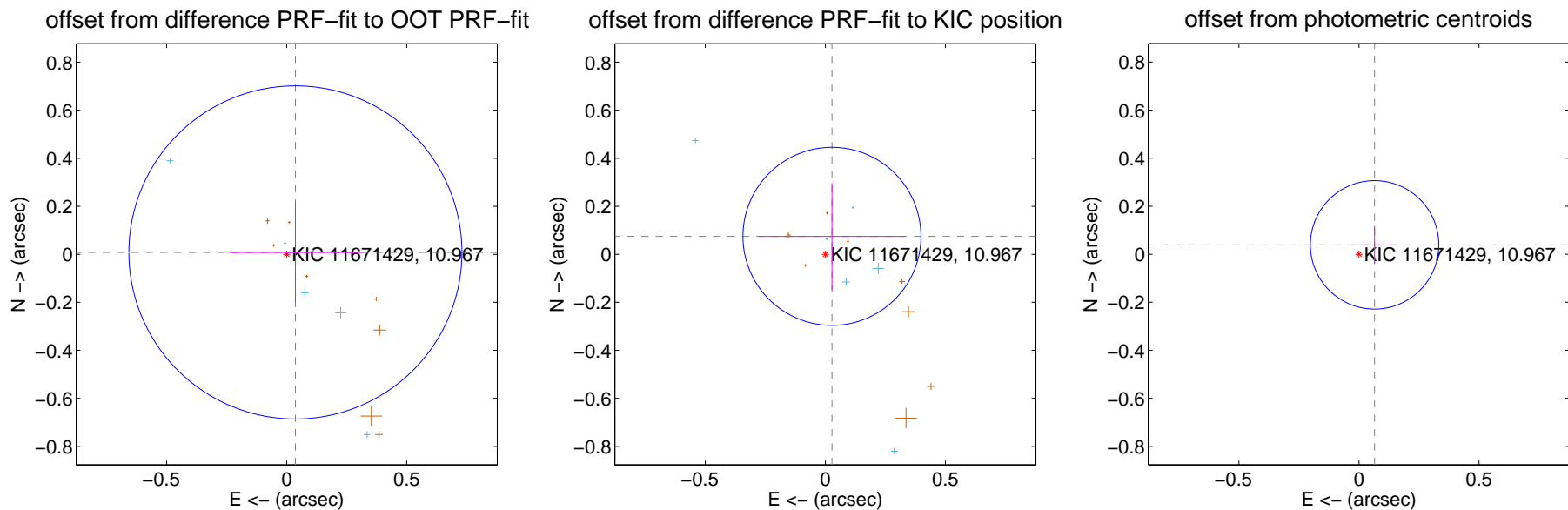
DV Centroid Data

Supplemental centroid analysis for 011671429-03. **Kepler magnitude: 10.97.** Transit SNR 10.58

There are 9 quarters with good PRF difference image offsets

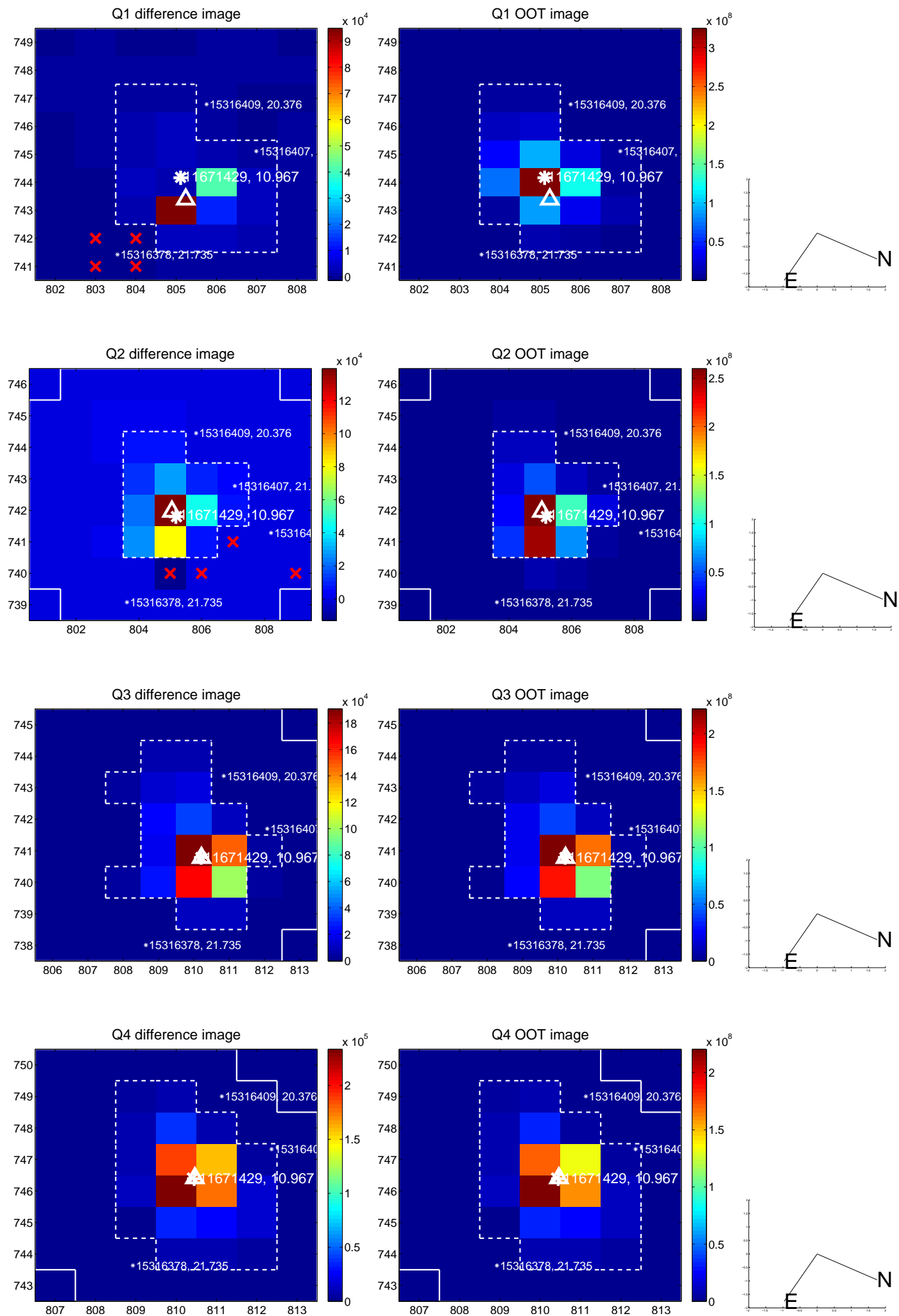
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.037 ± 0.231	0.16	-0.036 ± 0.276	0.008 ± 0.212
PRF-fit source offset from KIC position	0.080 ± 0.124	0.64	-0.028 ± 0.305	0.075 ± 0.222
photometric centroid source offset	0.08 ± 0.09	0.85	-0.07 ± 0.09	0.04 ± 0.08

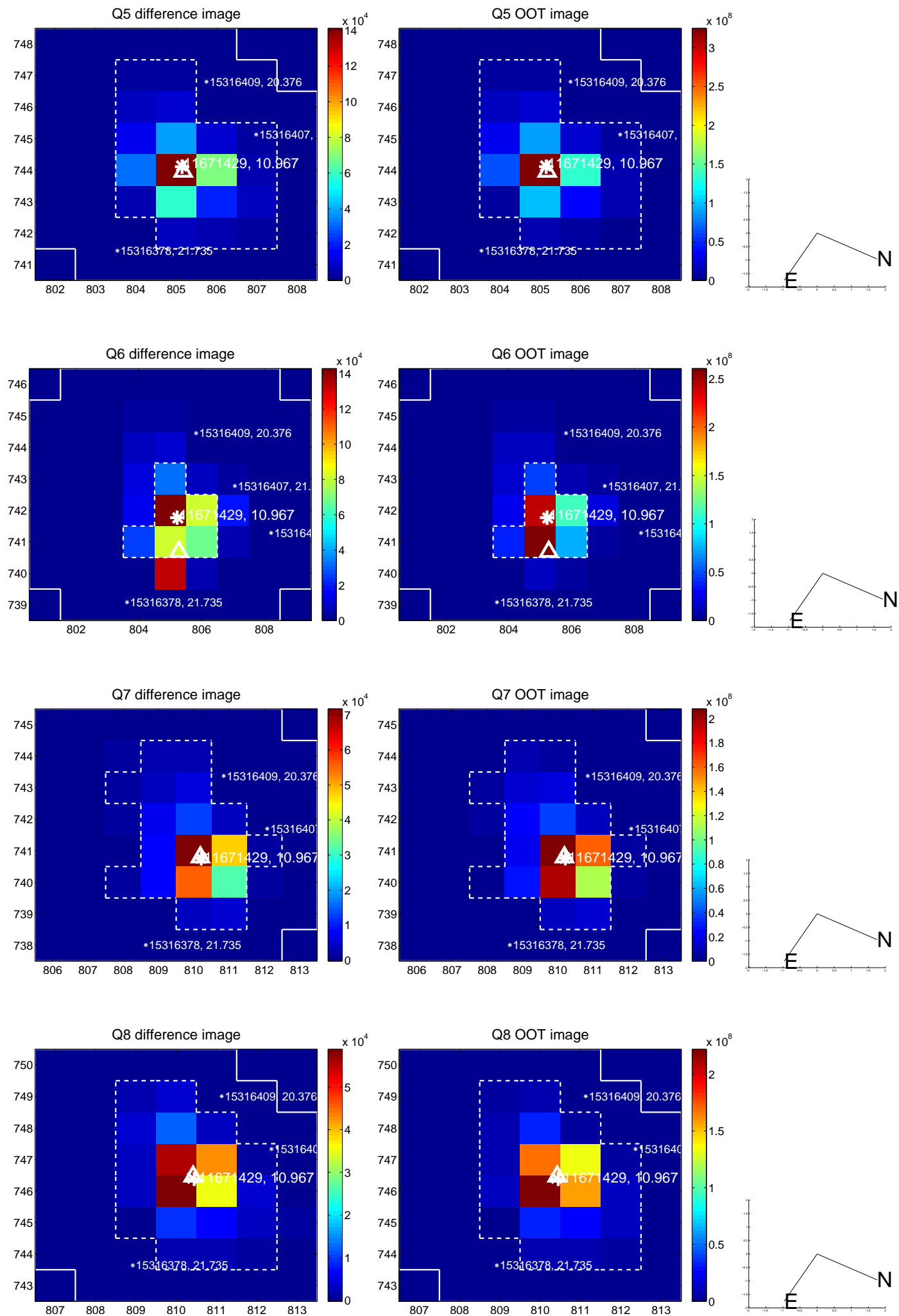


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

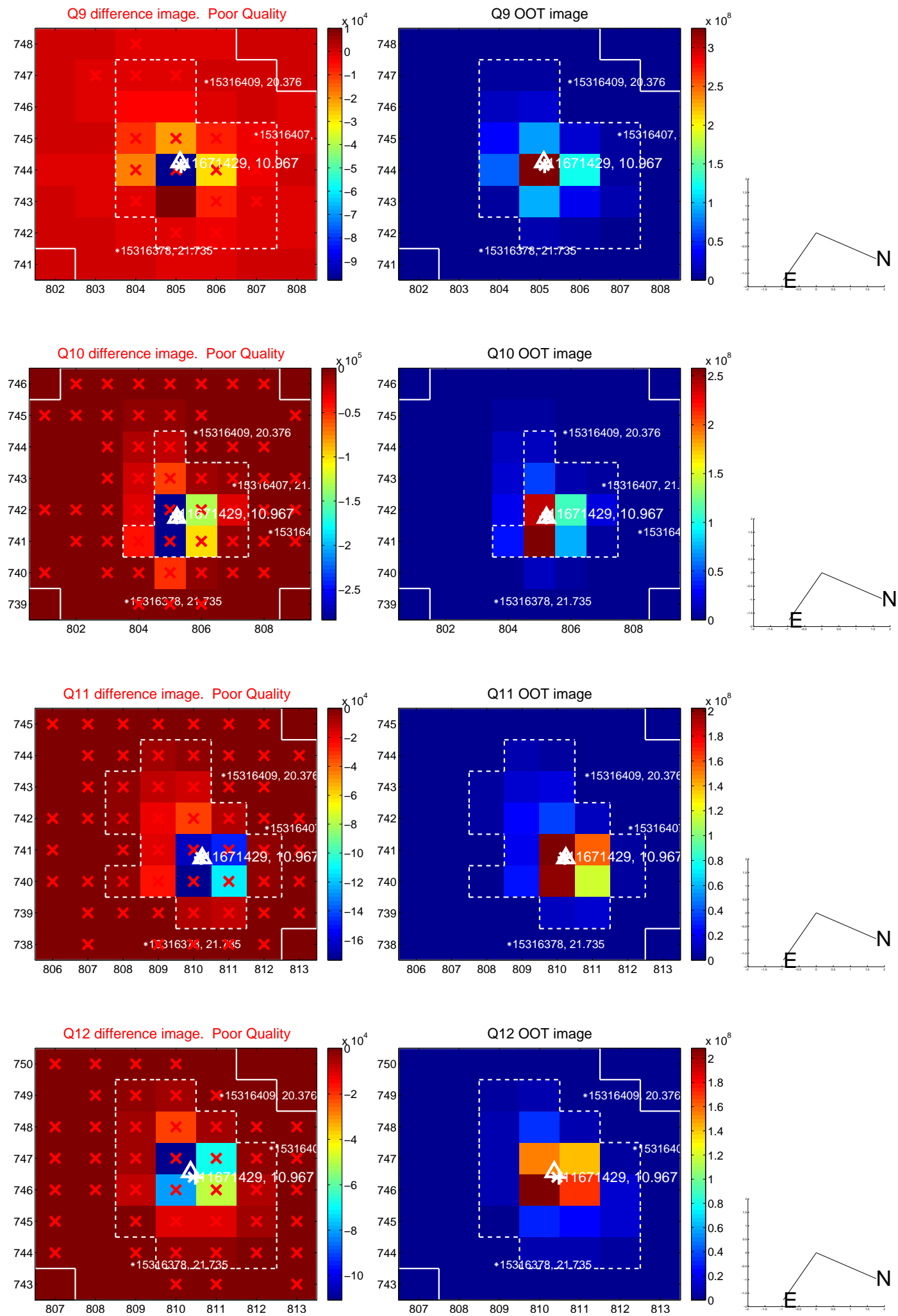
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



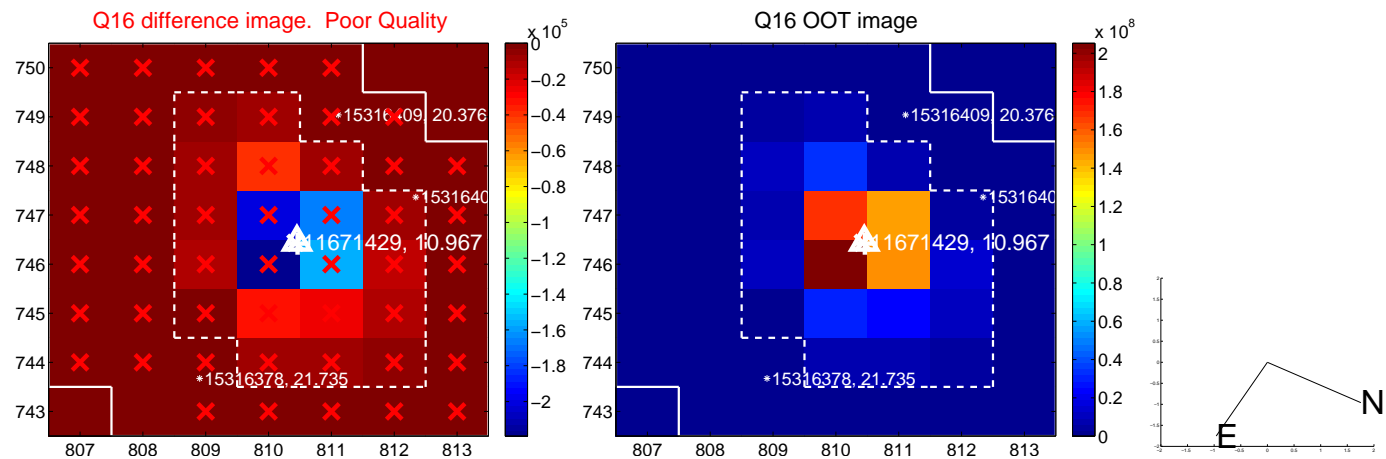
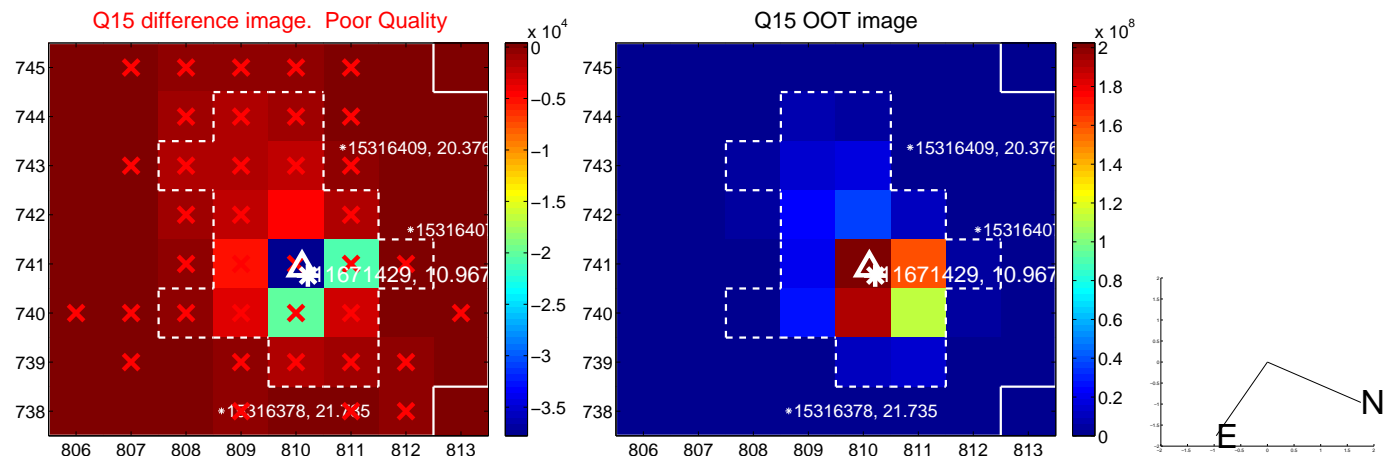
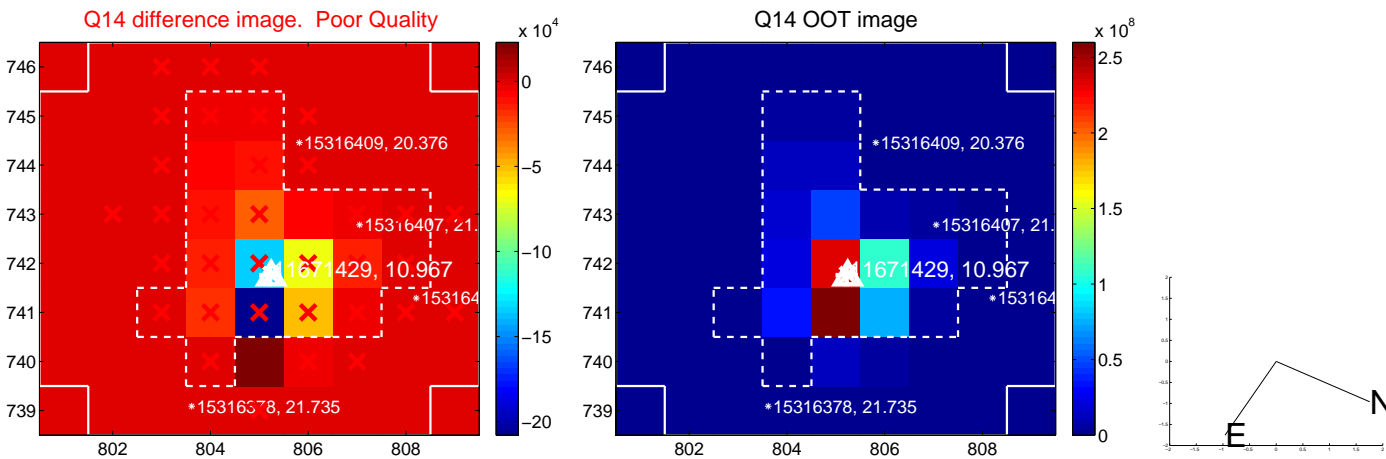
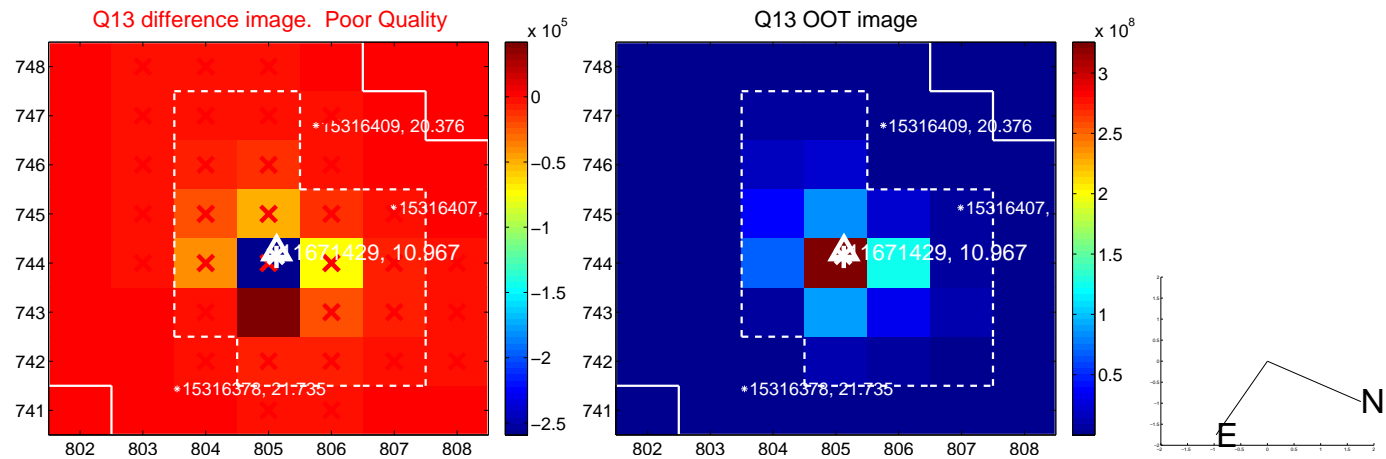
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



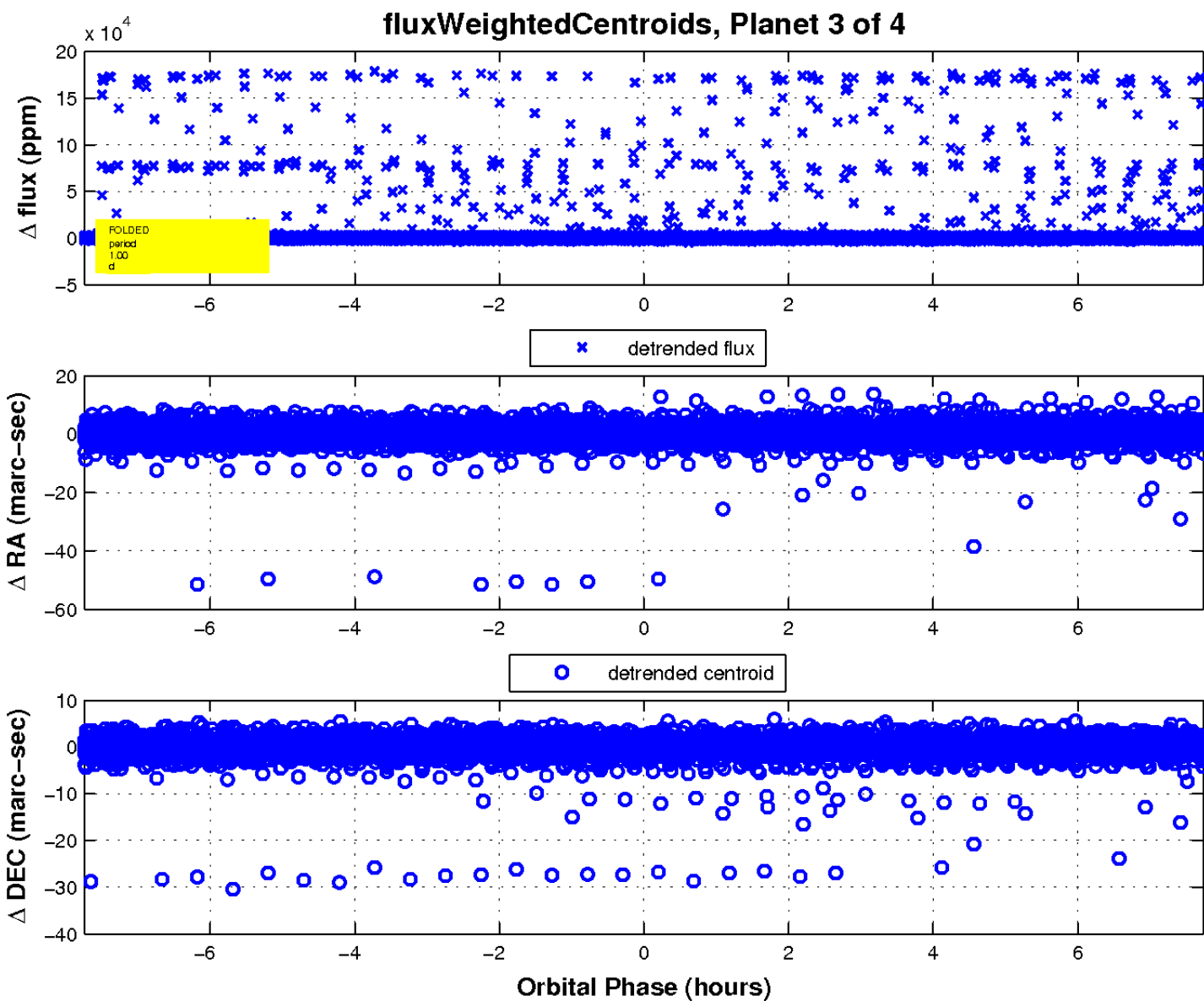
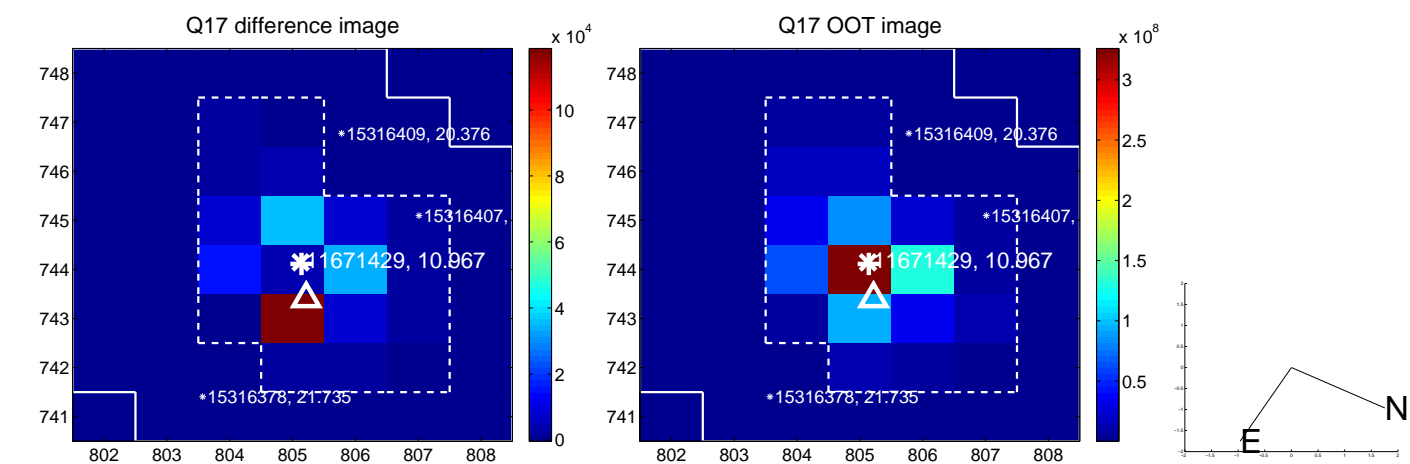
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

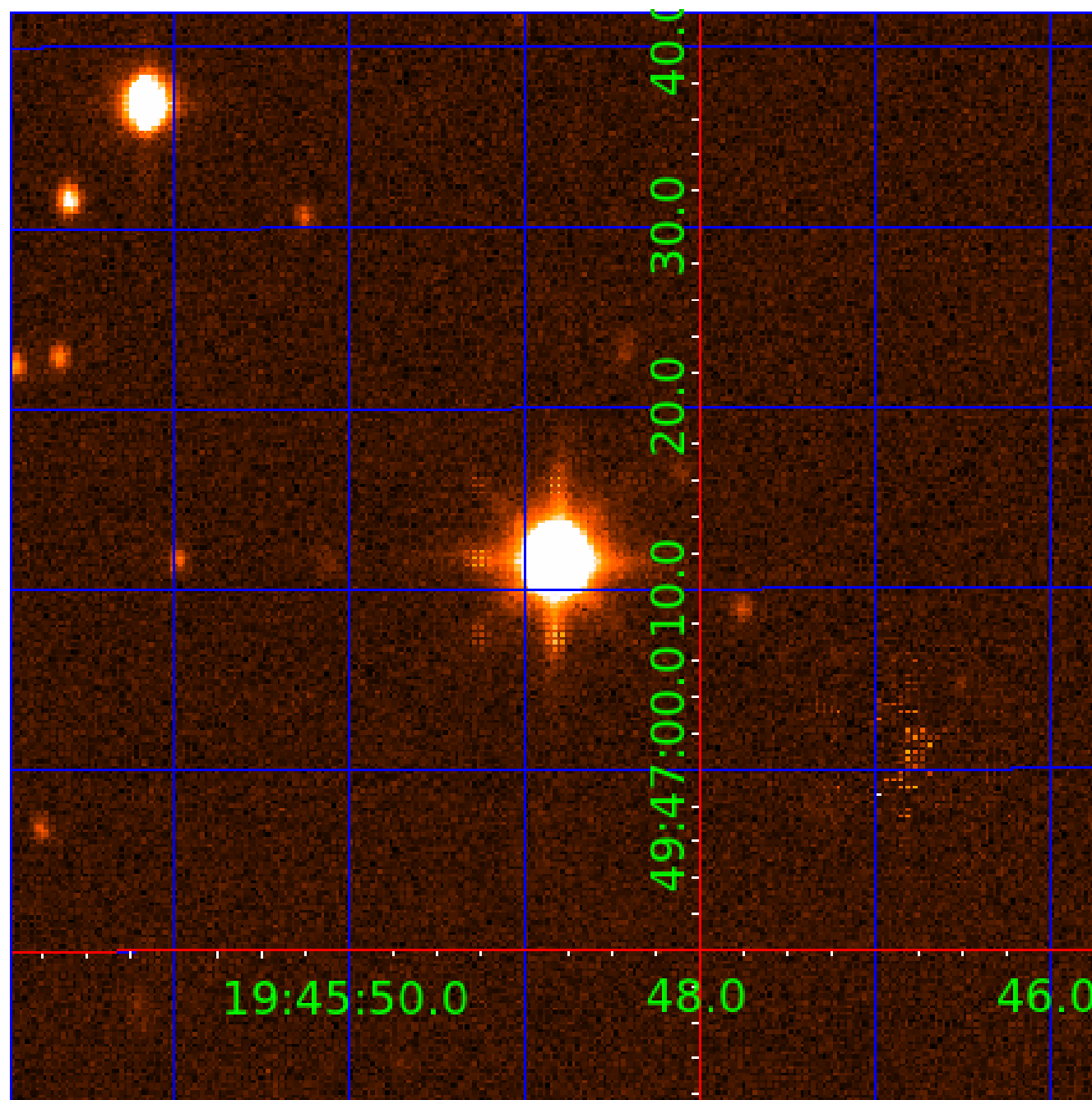


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011671429

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})
011671429-01	OBS	3567.01	112.463598	197.557855	244235.3	31.898	3843.2	3479.8	2.46	7426	129.77	54.31
011671429-02	OBS	No	112.463596	167.684204	193474.1	19.206	2074.9	1796.0	2.46	7426	112.14	54.31
011671429-03	OBS	No	0.995763	131.785943	143.9	2.580	9.8	10.6	2.46	7426	3.42	29649.41
011671429-04	OBS	No	0.565618	131.850777	73.3	2.000	8.1	-1.0	2.46	7426	2.14	63026.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011671429-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_SATURATED
011671429-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_SATURATED
011671429-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
011671429-04	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

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 011671429-04

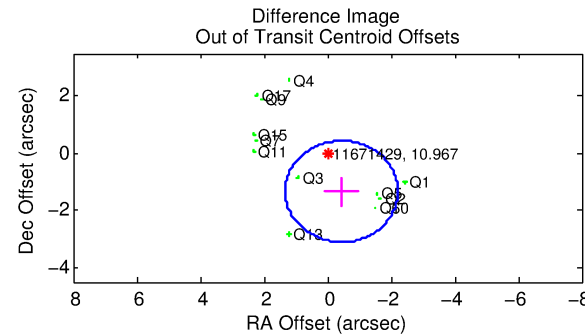
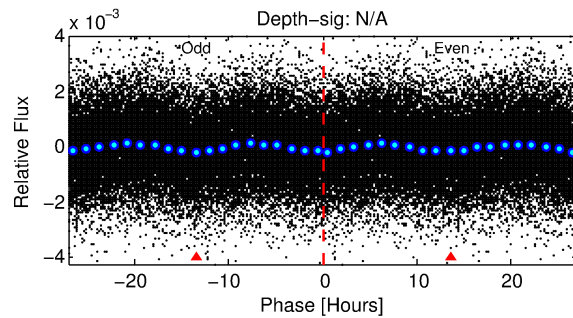
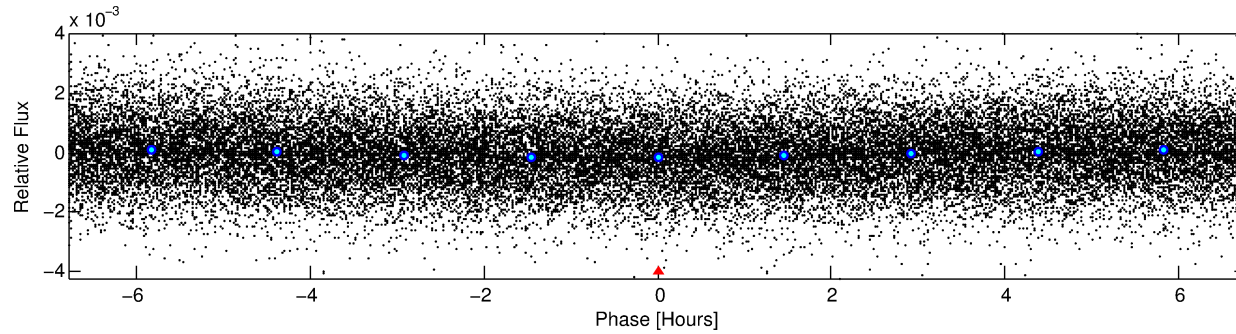
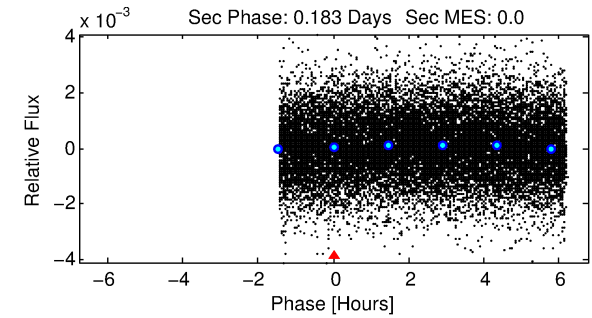
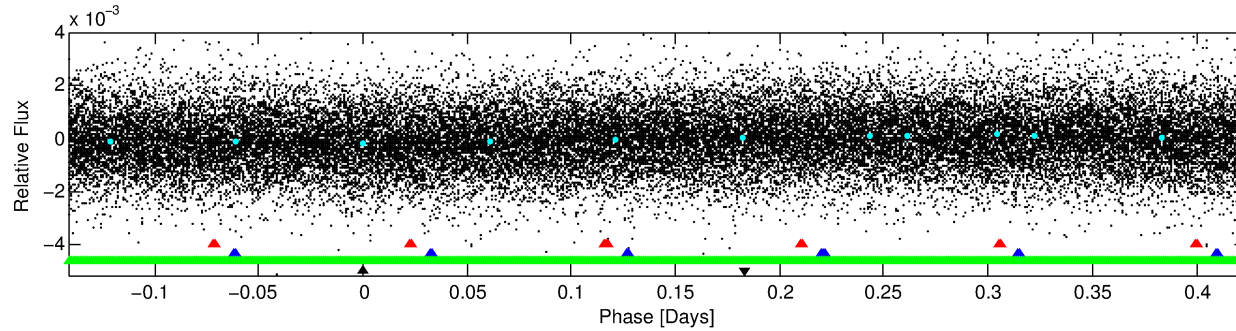
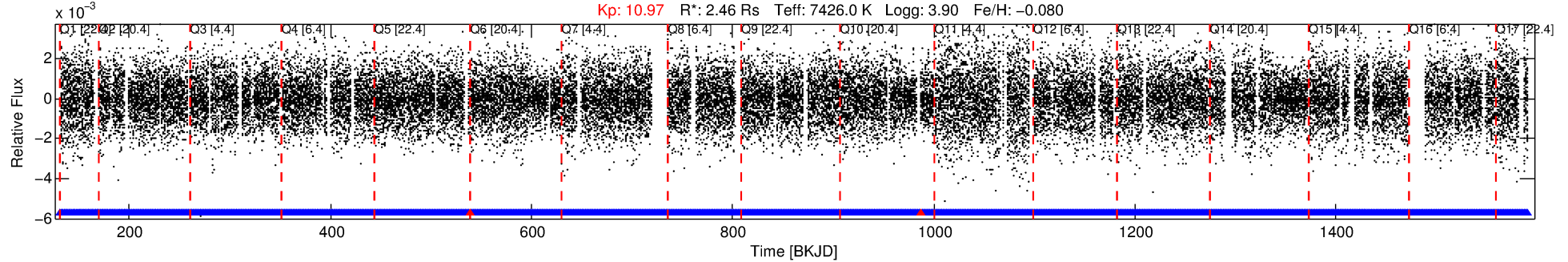
No Significant Match Found

DV One-Page Summary

KIC: 11671429 Candidate: 4 of 4 Period: 0.566 d

KOI: K03567 Corr: No Ephemeris Match

Kp: 10.97 R*: 2.46 Rs Teff: 7426.0 K Logg: 3.90 Fe/H: -0.080



TPS TCE Results:

Period = 0.56562 d
Epoch = 131.8508 BKJD

DV fit results are unavailable

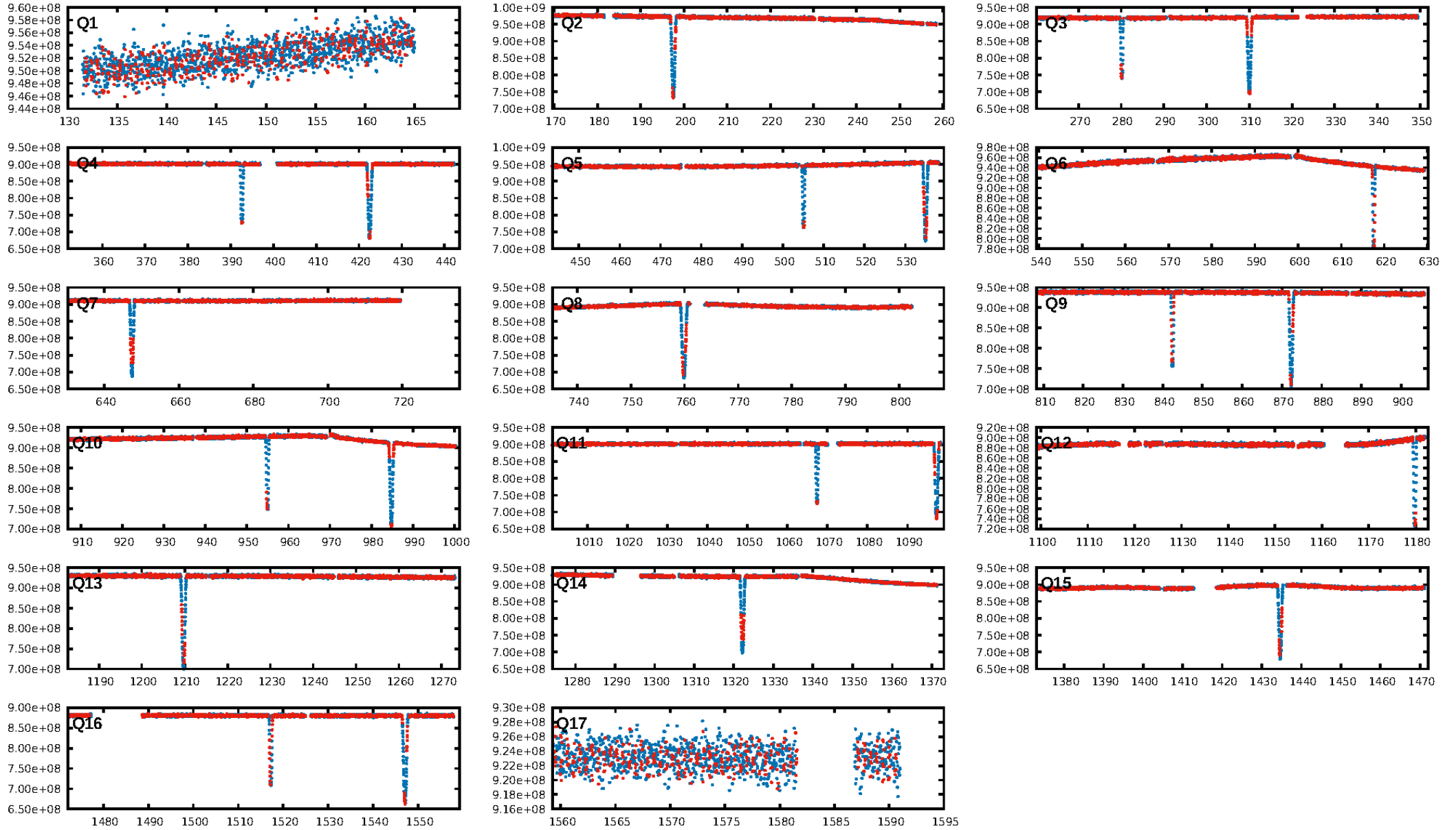
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.8% [3.16 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1977/1979]
GhostDiagnostic-chr: 1.312
Centroid-sig: N/A
Centroid-so: 0.031 arcsec [0.72 σ]
OotOffset-rm: 1.400 arcsec [2.37 σ]
KicOffset-rm: 1.428 arcsec [2.55 σ]
OotOffset-st: 3/4/1/5 [13]
KicOffset-st: 3/4/1/5 [13]
DiffImageQuality-fgm: 0.77 [10/13]
DiffImageOverlap-fno: 1.00 [17/17]

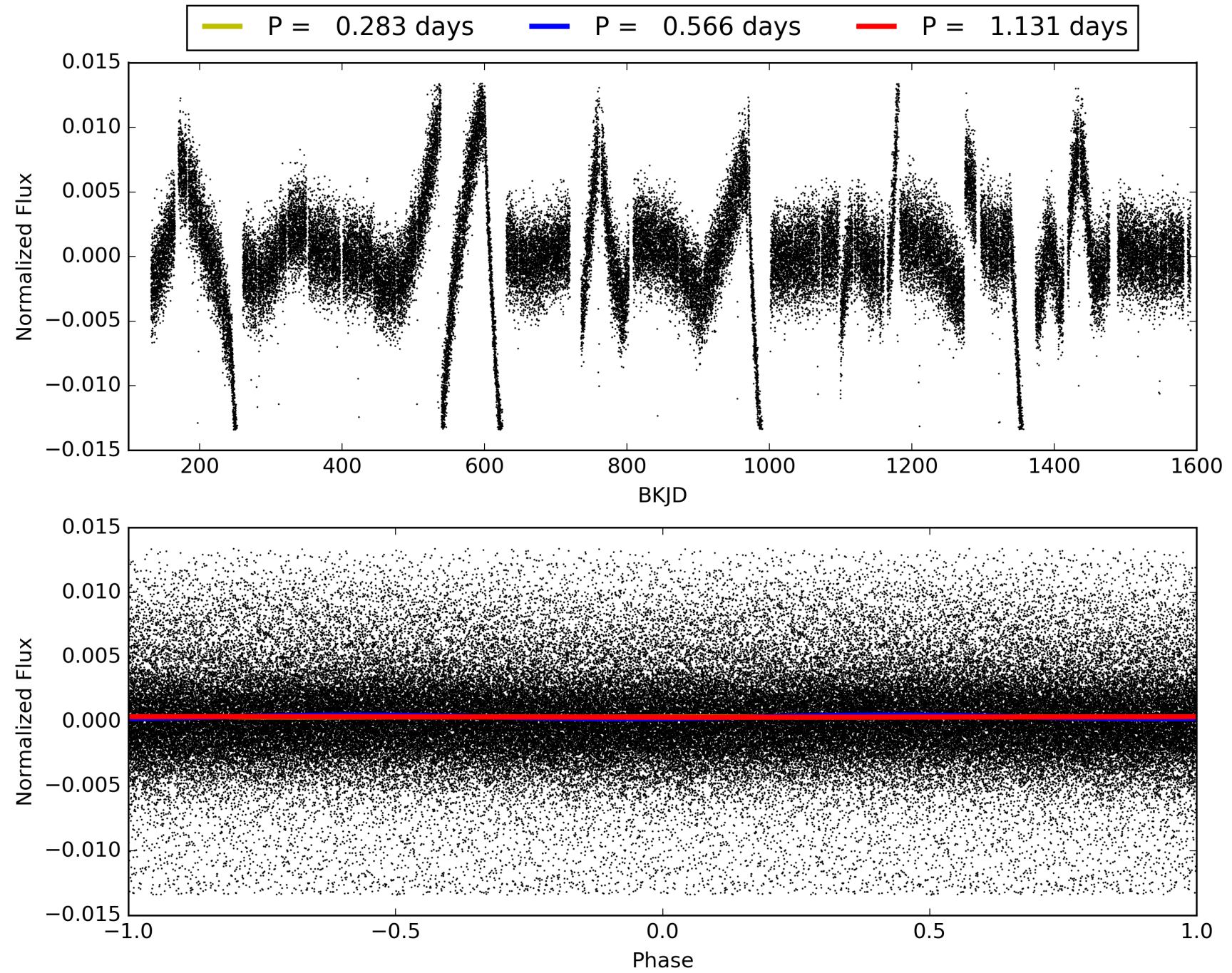
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:39:25 Z

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

TCE 011671429-04, PDC Light Curves

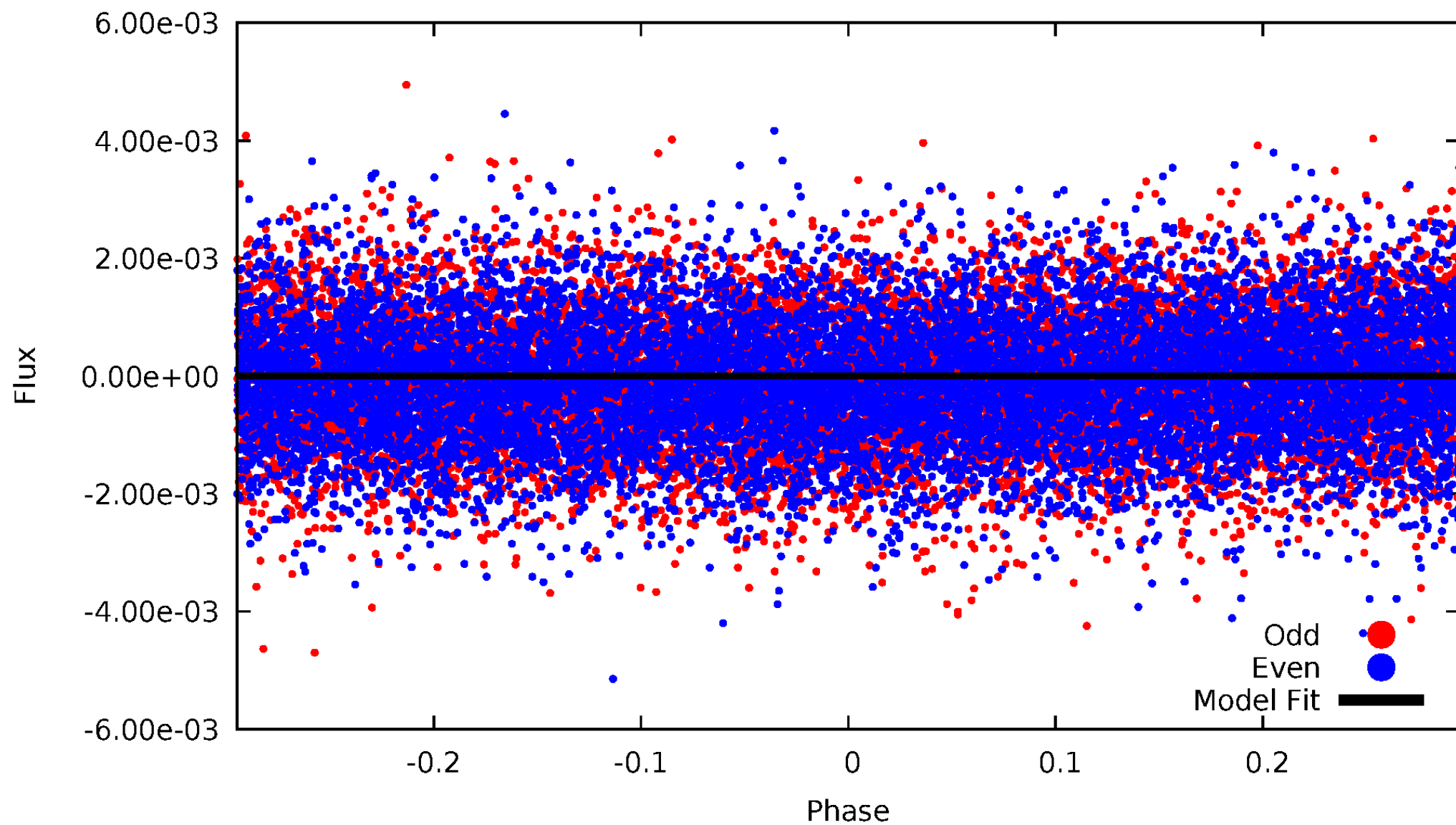


TCE 011671429-04



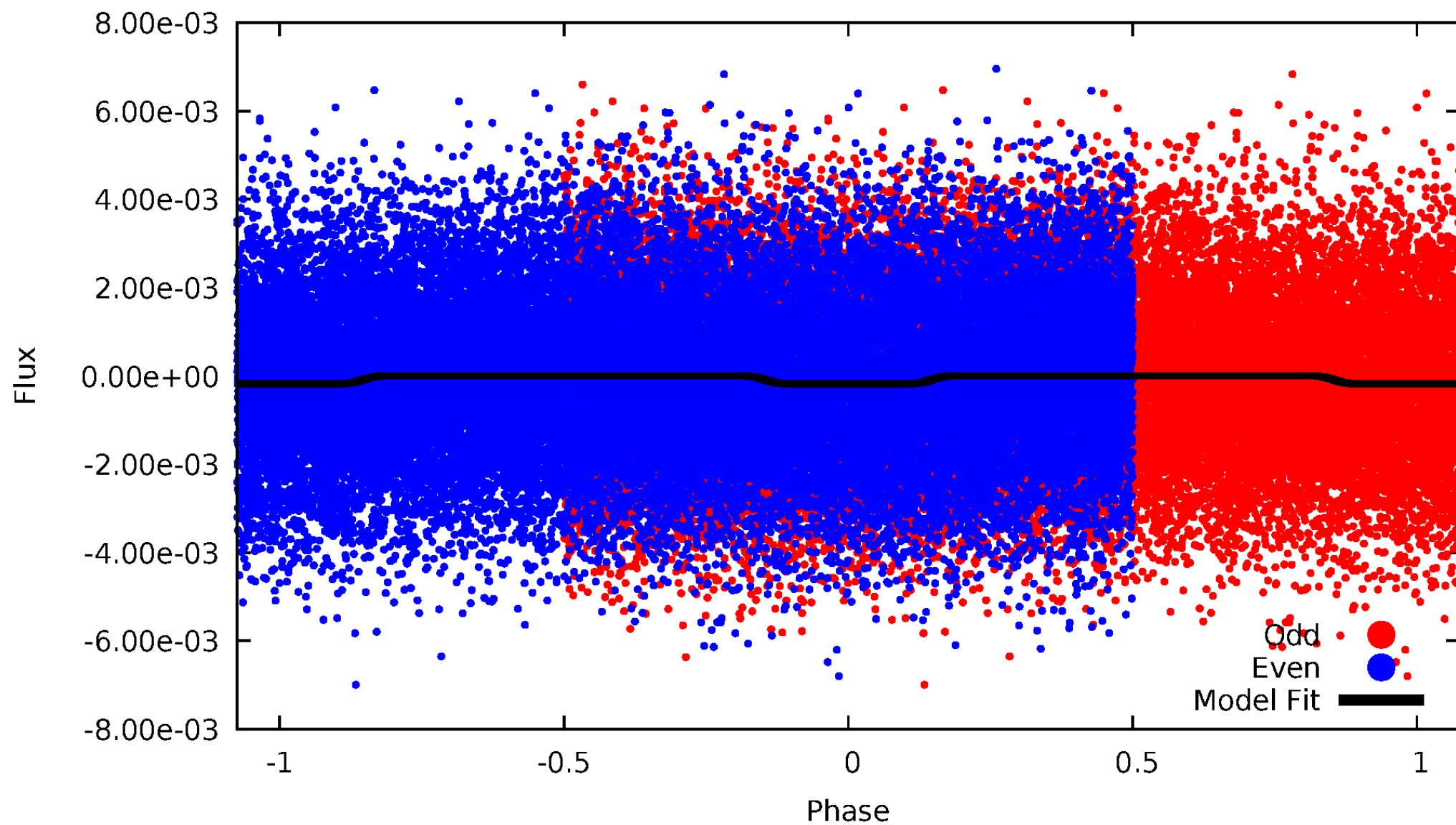
DV Odd/Even

TCE 011671429-04



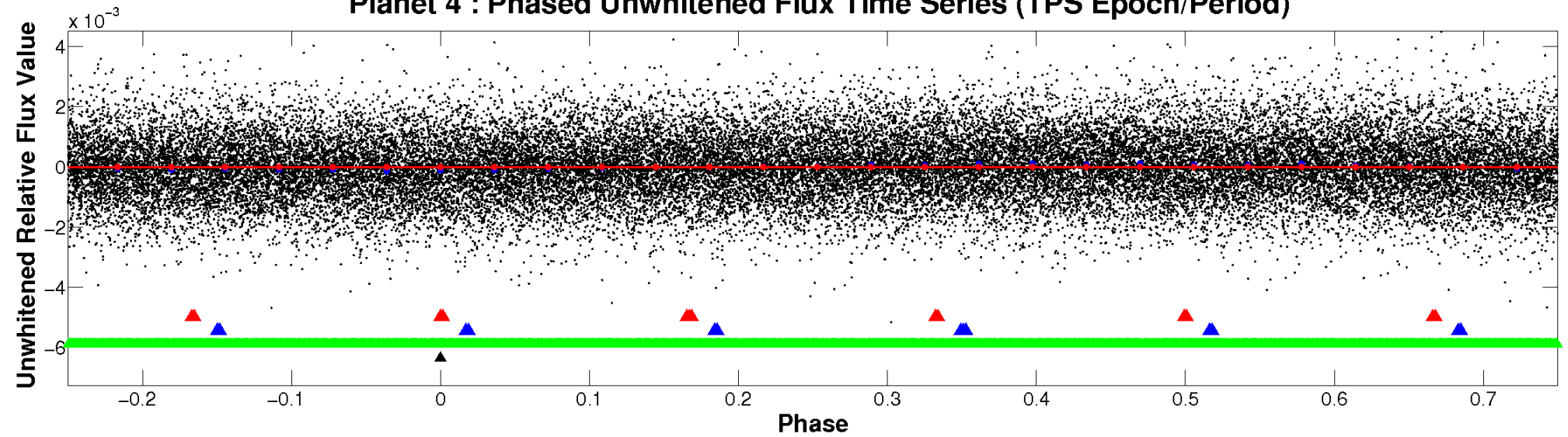
ALT Odd/Even

TCE 011671429-04

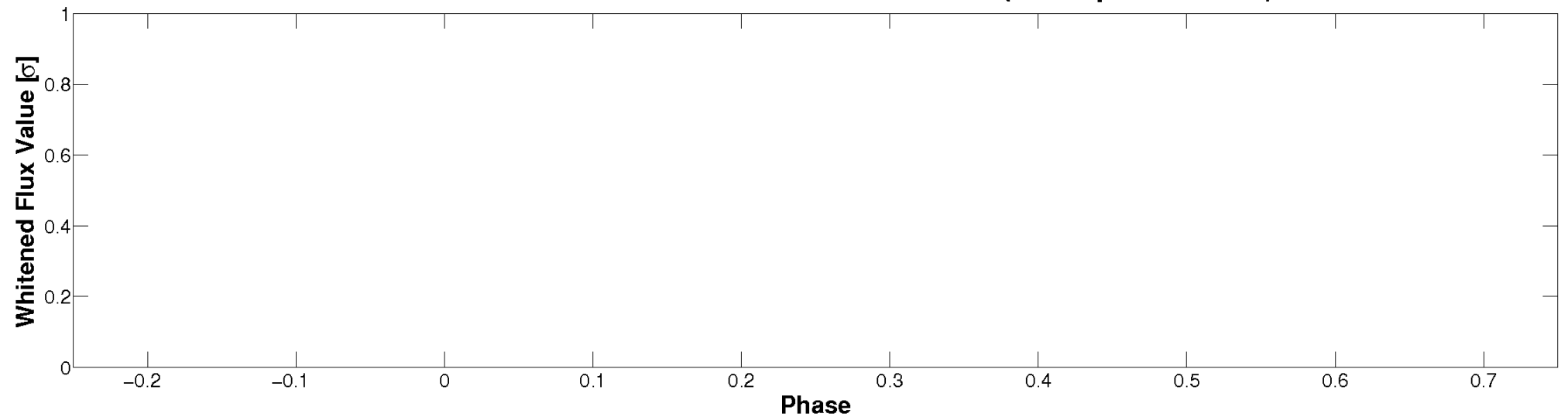


Non-Whitened Vs. Whitened Light Curve

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

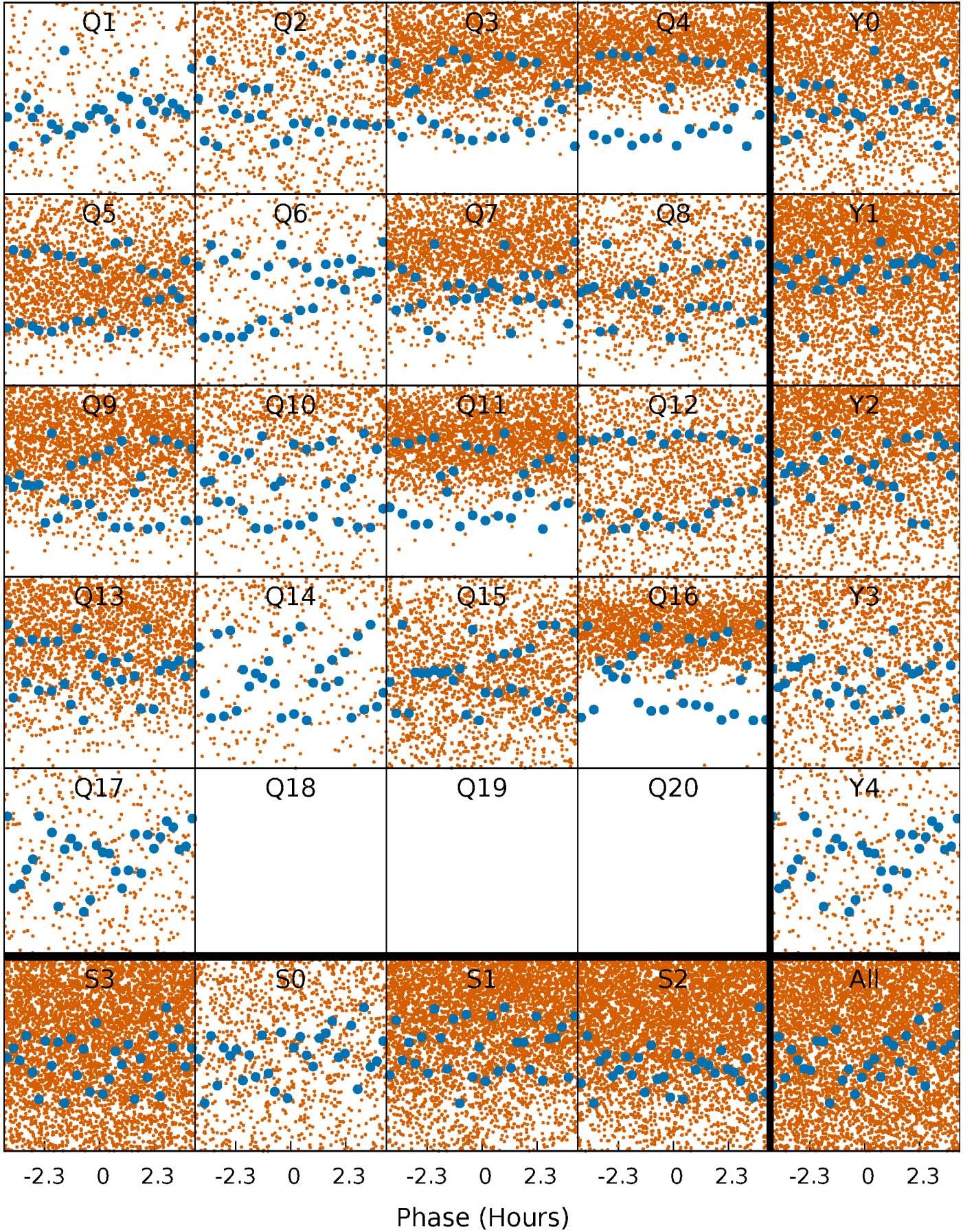


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



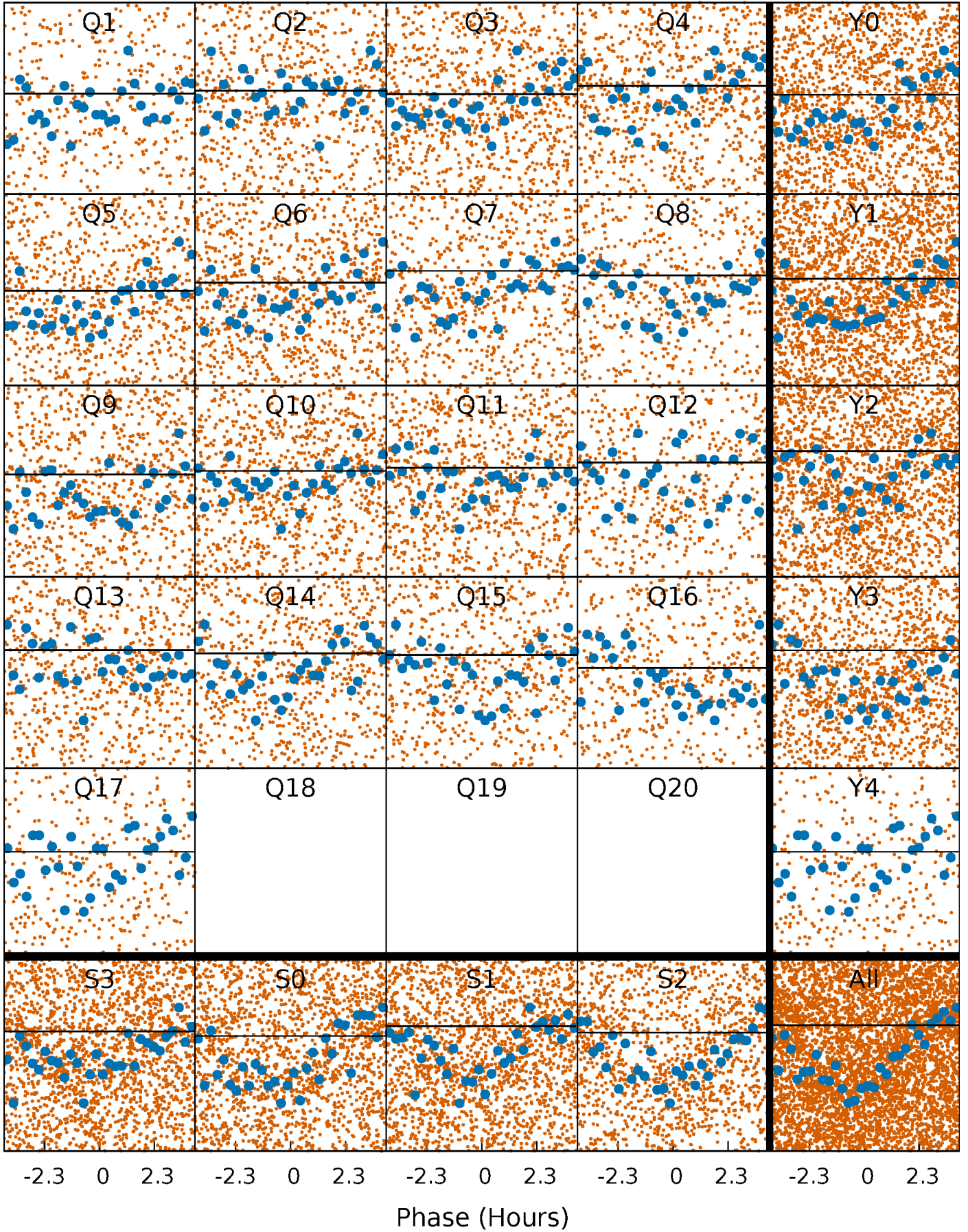
PDC Quarter-Phased Transit Curves

TCE 011671429-04 P= 0.565618 Days $T_0=131.850777$ (BKJD)



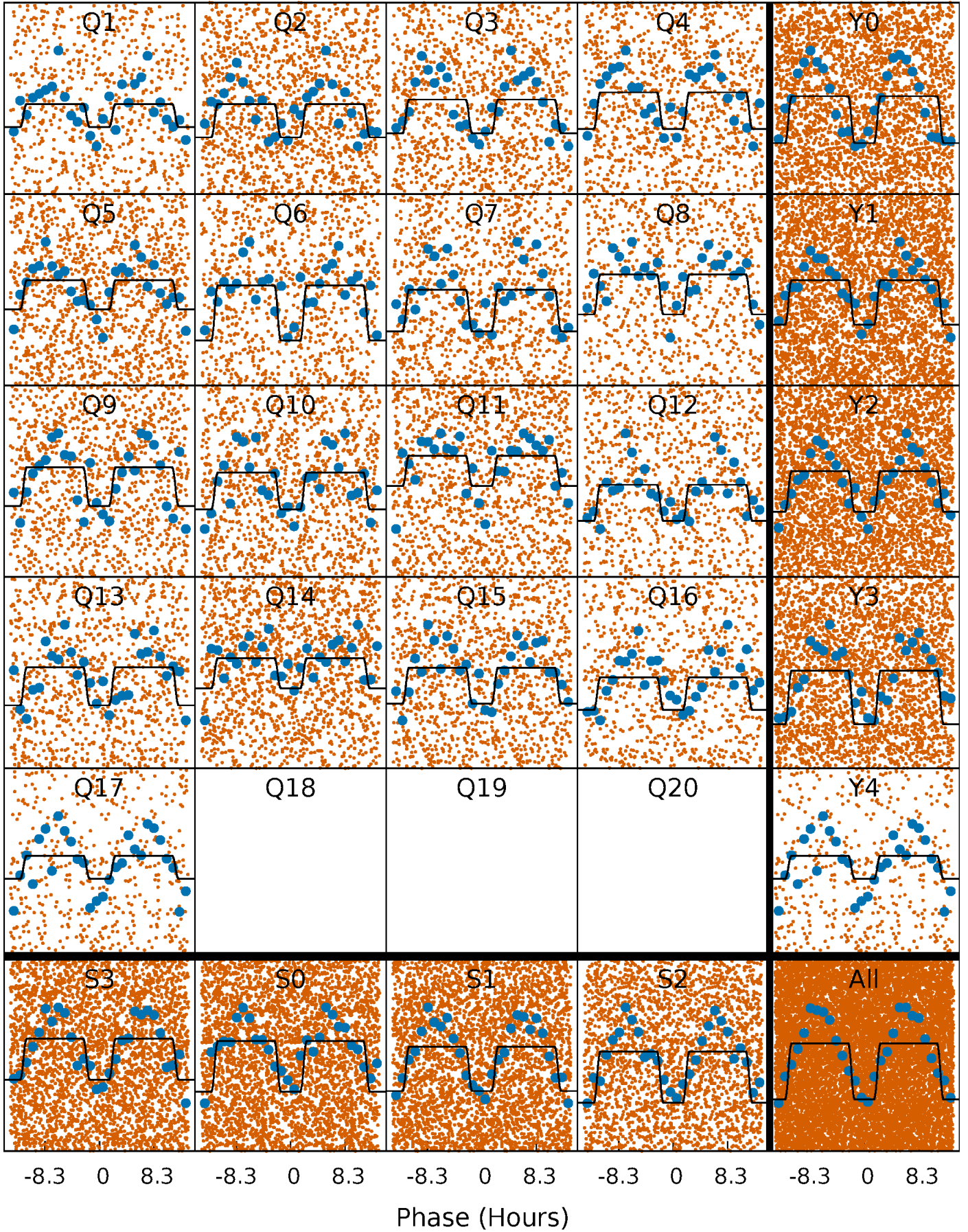
DV Quarter-Phased Transit Curves

TCE 011671429-04 P= 0.565618 Days $T_0=131.850777$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

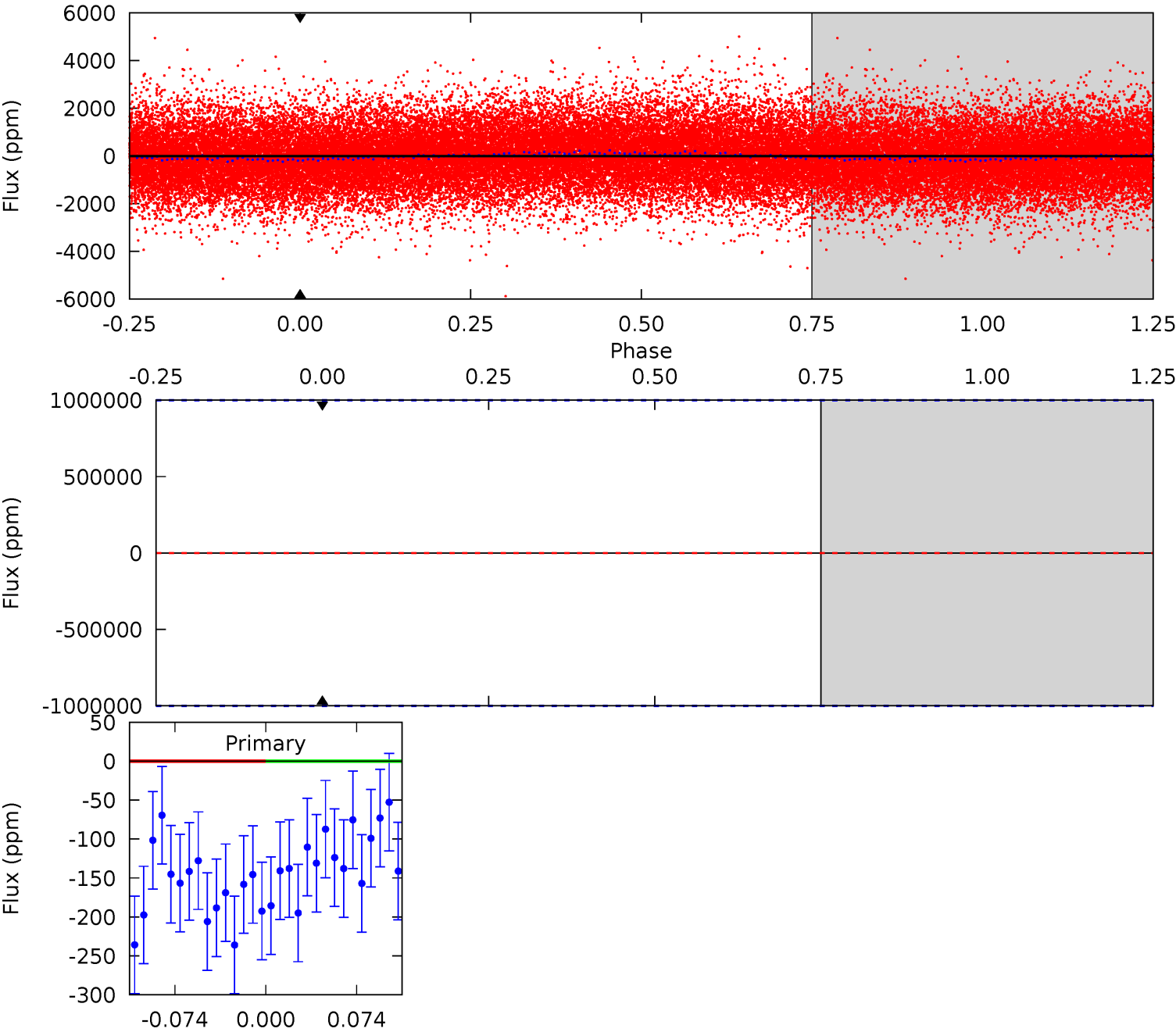
TCE 011671429-04 P= 0.565618 Days $T_0=131.828221$ (BKJD)



DV Model-Shift Uniqueness Test

011671429-04, P = 0.565618 Days, E = 131.285159 Days

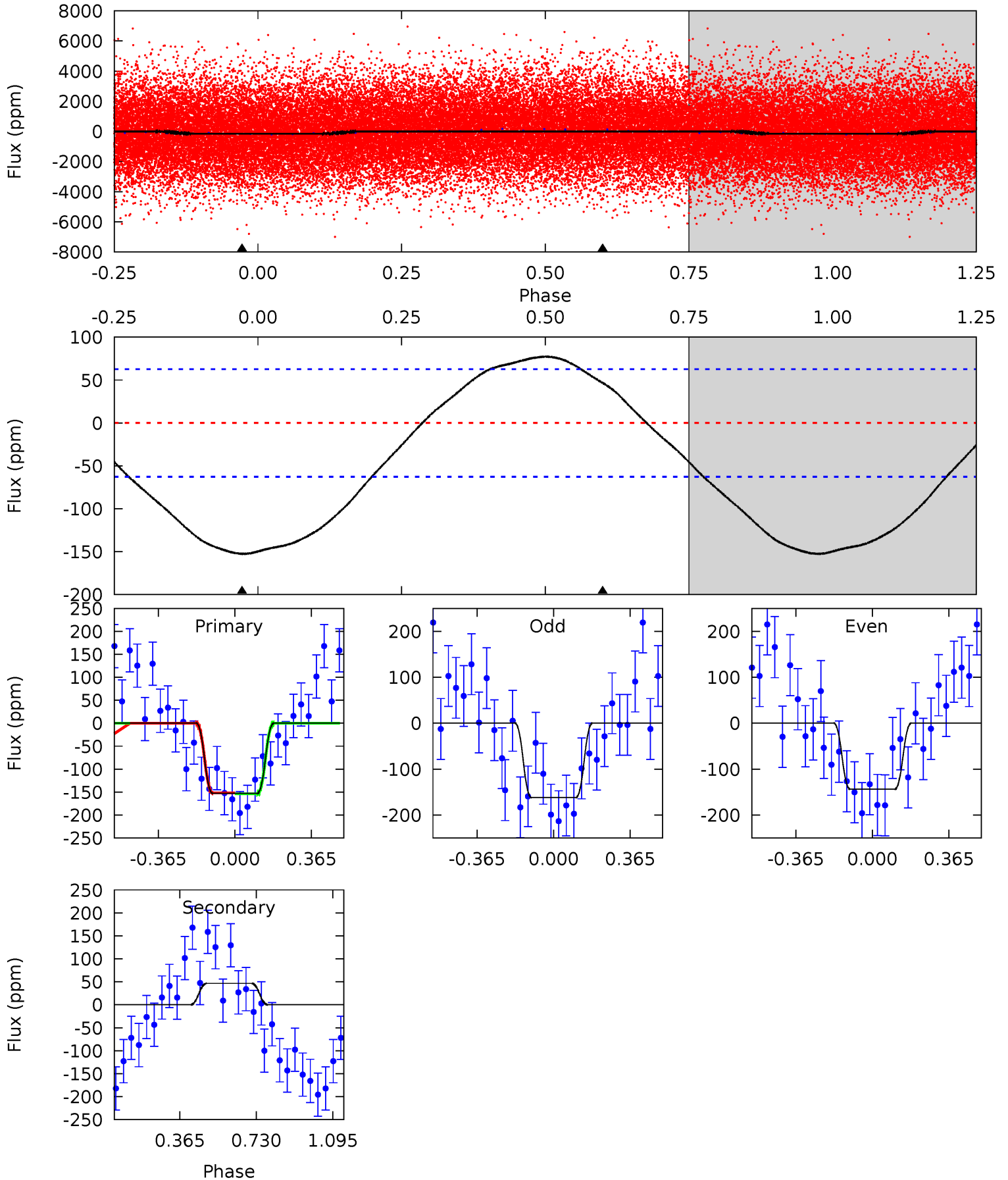
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

011671429-04, P = 0.565618 Days, E = 131.262603 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	-3.18	0	0	4.29	0.91	1.33	10.4	10.4	-3.18	-3.18	0.61	1.11	0.34	0.07



Stellar Parameters For KIC 011671429

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7426^{+74}_{-81}	$3.903^{+0.182}_{-0.098}$	$-0.080^{+0.150}_{-0.150}$	$2.463^{+0.397}_{-0.546}$	$1.769^{+0.193}_{-0.212}$	$0.167^{+0.168}_{-0.053}$
	+1%/-1%	+5%/-3%	+188%/-188%	+16%/-22%	+11%/-12%	+101%/-31%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 011671429-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$19.42^{+20.05}_{-13.92}$	5603^{+261}_{-307}	-6161^{+46190}_{-30671}	$-0.706^{+73.489}_{-62.352}$
Alt.	47 ± 15	$19.69^{+18.91}_{-13.99}$	5600^{+267}_{-310}	-4795^{+216}_{-483}	$-0.017^{+0.013}_{-0.203}$

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 $A_{obs} \gg 1.0$

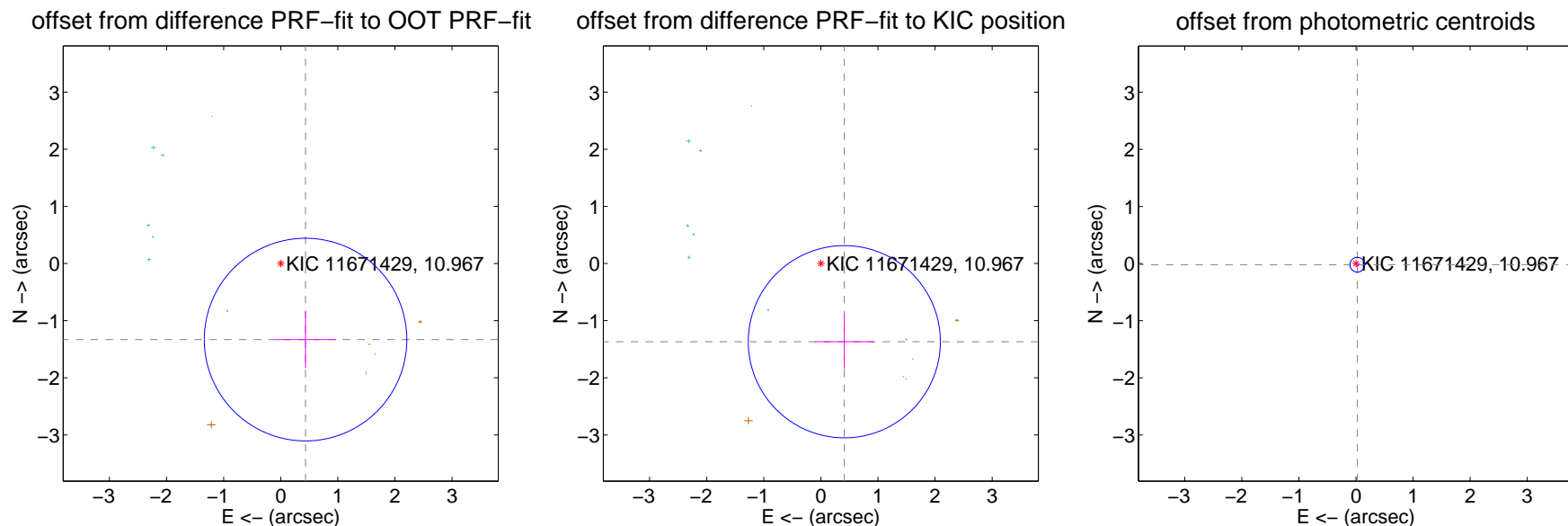
DV Centroid Data

Supplemental centroid analysis for 011671429-04. **Kepler magnitude: 10.97.** Transit SNR -1.00

There are 10 quarters with good PRF difference image offsets

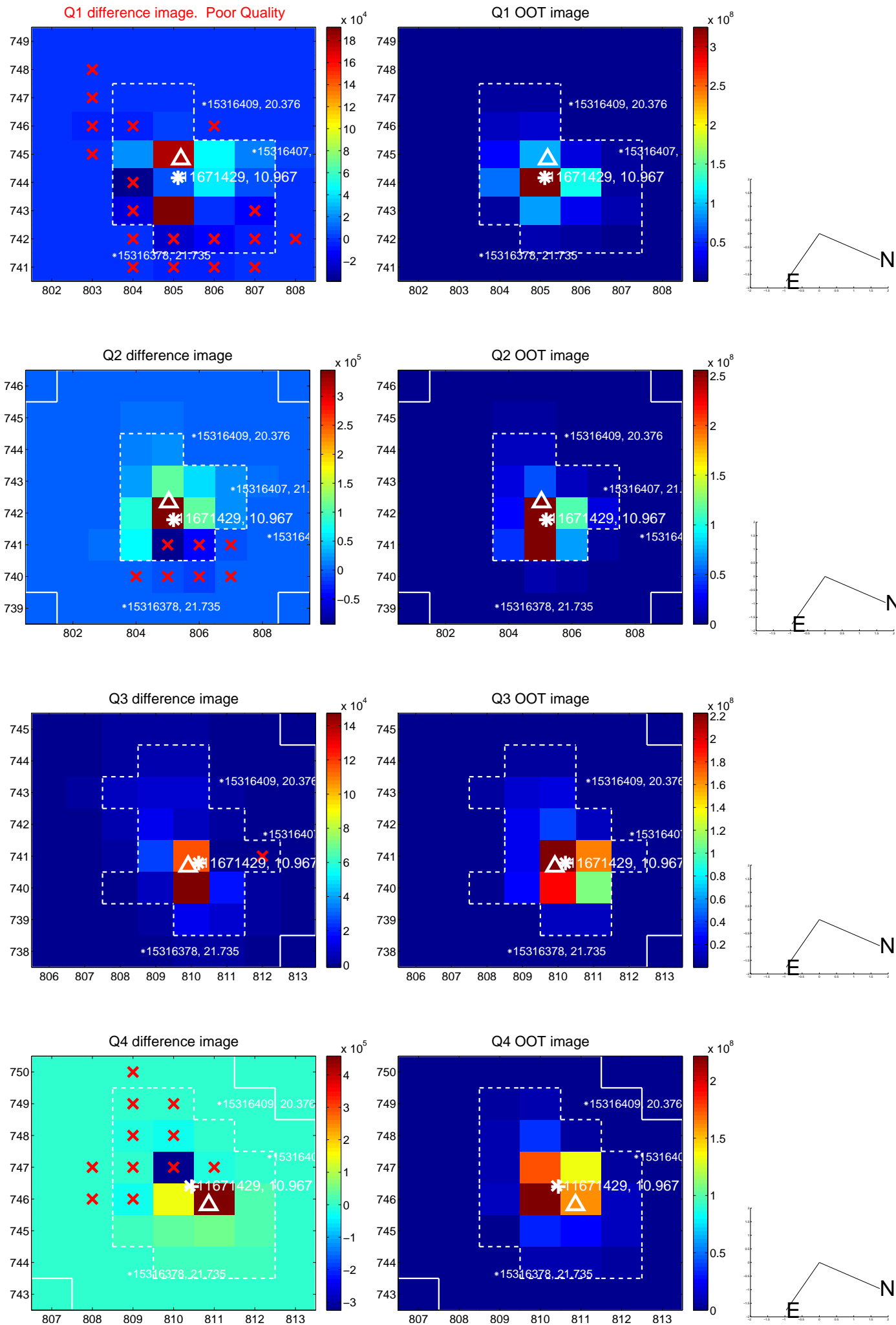
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.400 ± 0.591	2.37	-0.434 ± 0.537	-1.331 ± 0.496
PRF-fit source offset from KIC position	1.428 ± 0.560	2.55	-0.411 ± 0.516	-1.368 ± 0.479
photometric centroid source offset	0.03 ± 0.04	0.72	-0.02 ± 0.05	-0.02 ± 0.04

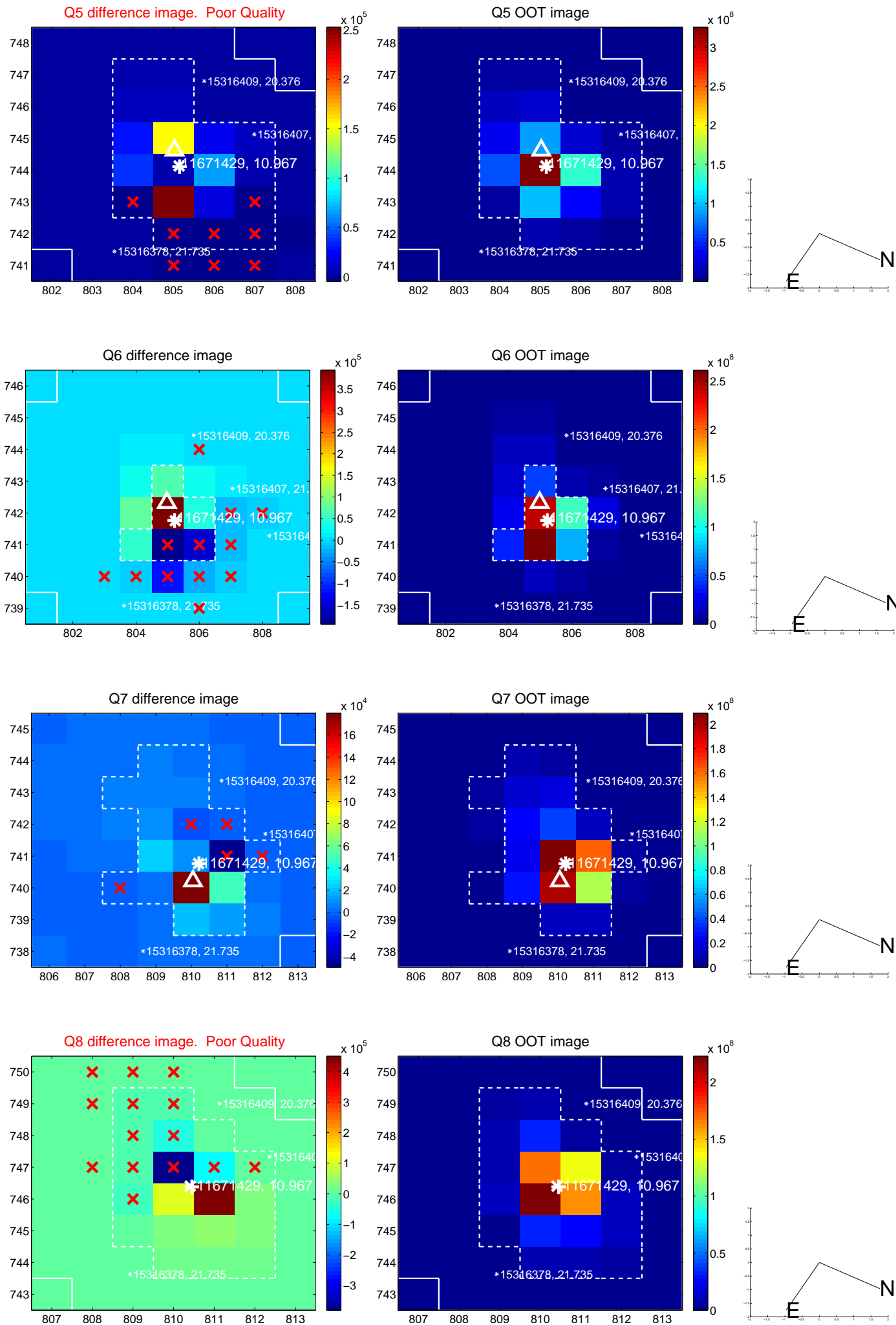


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

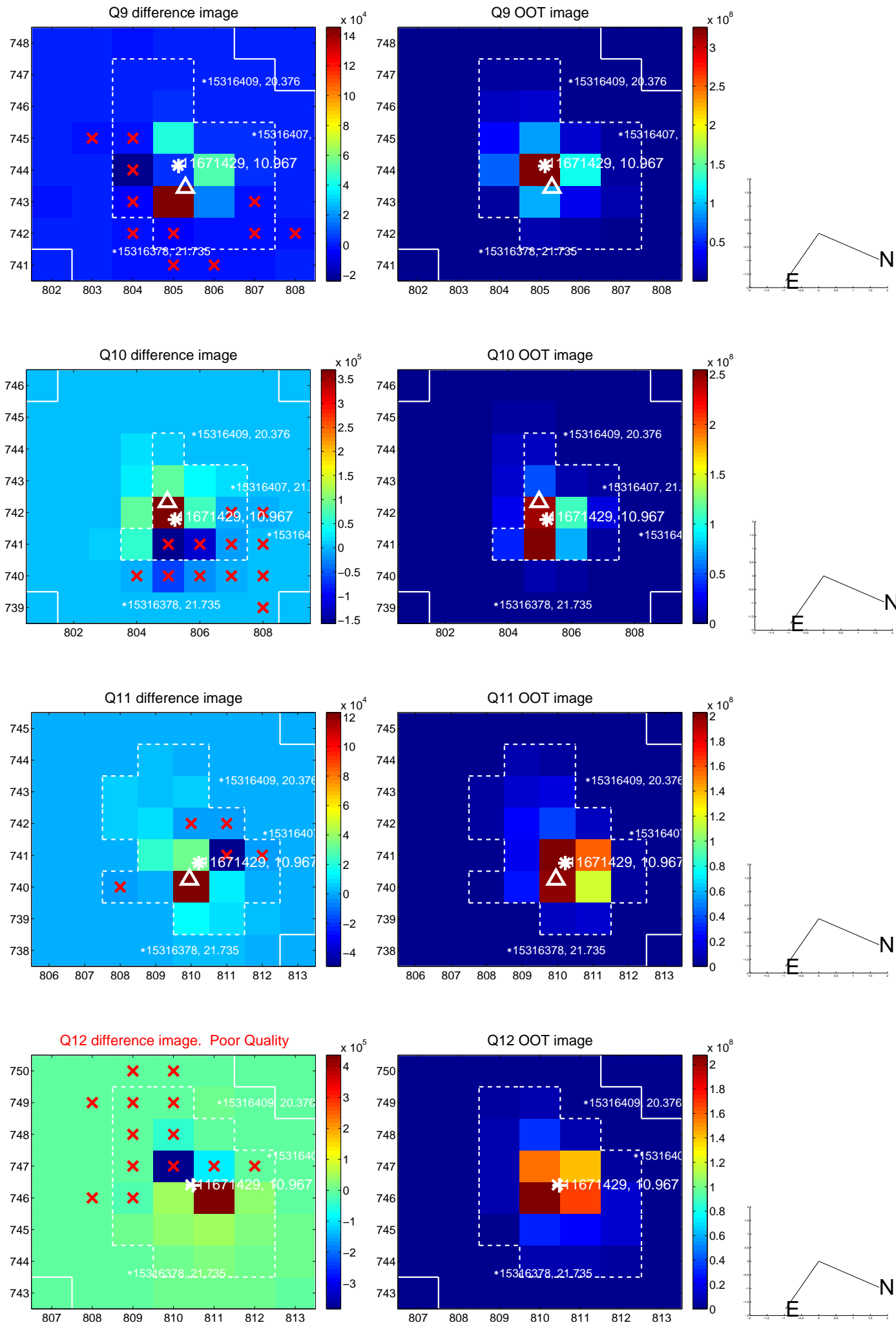
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



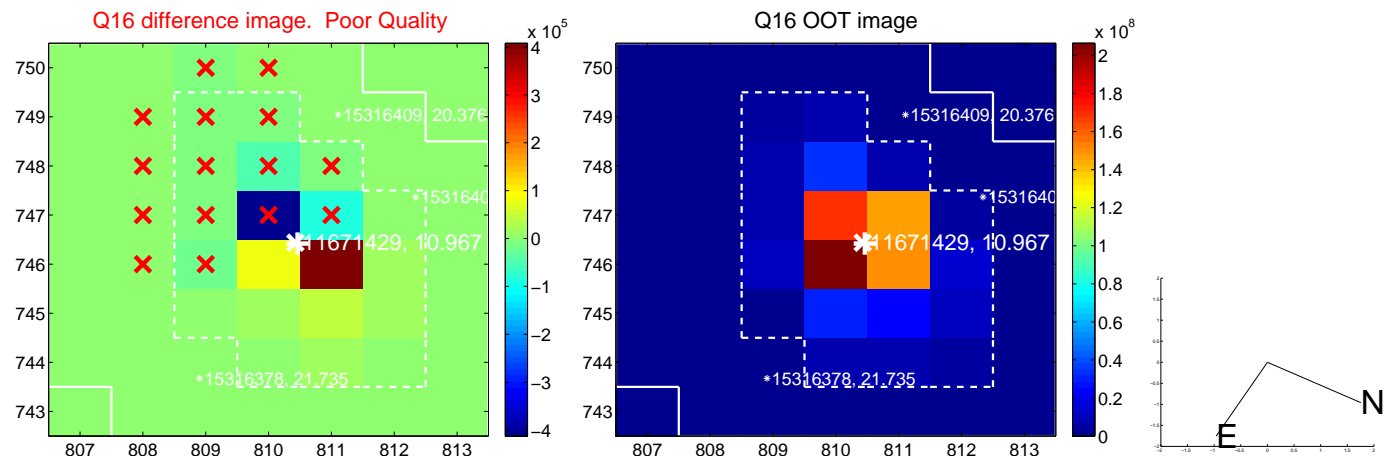
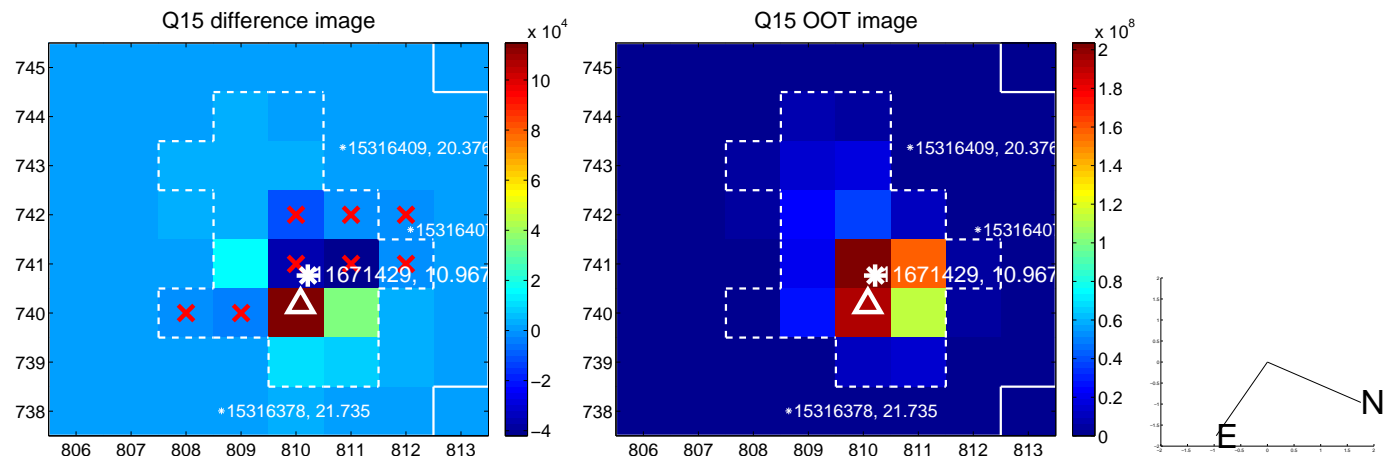
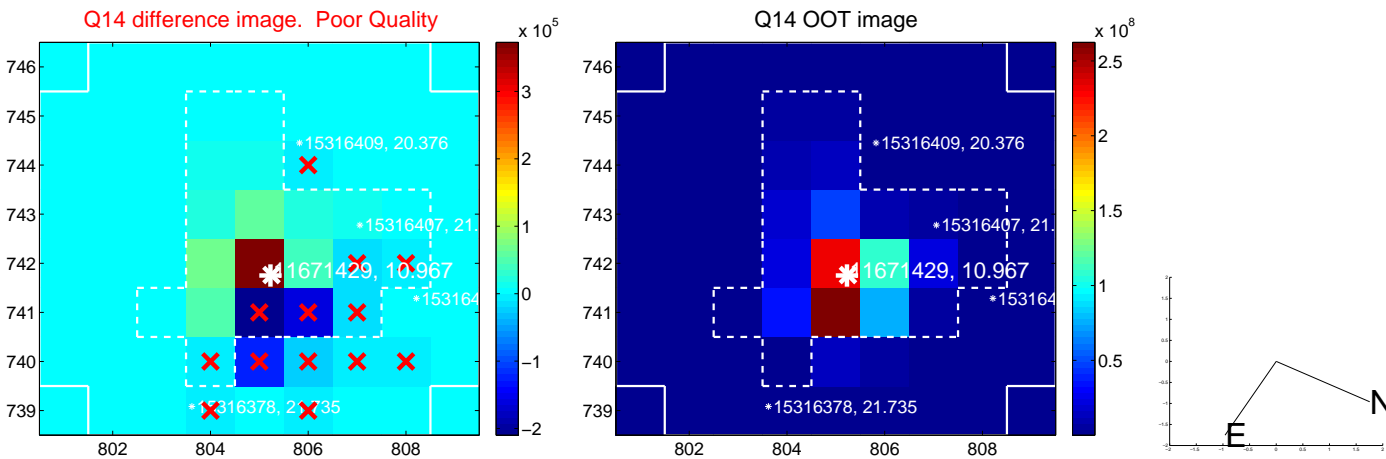
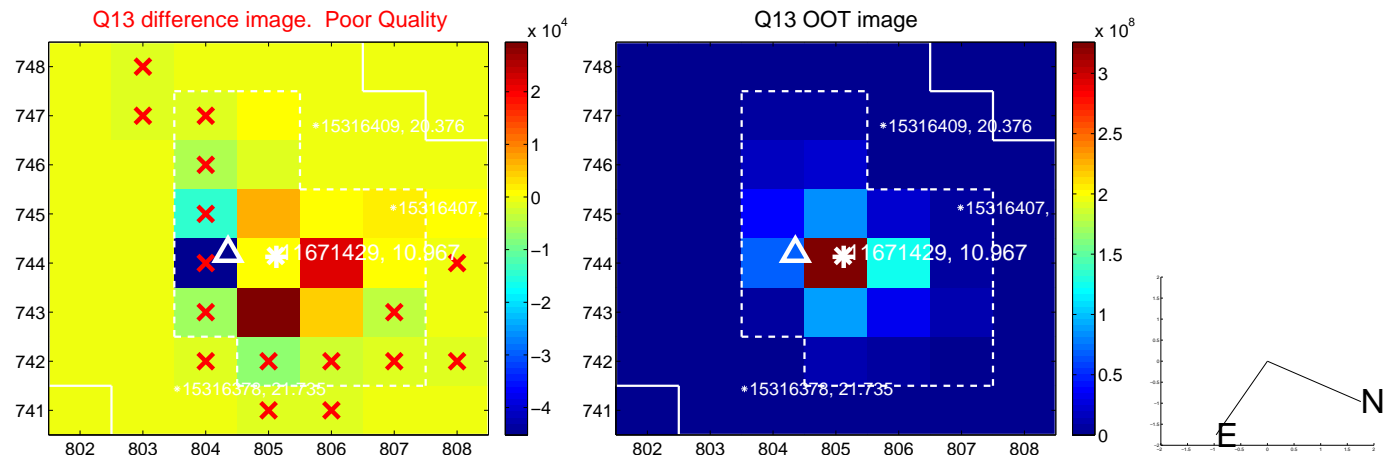
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



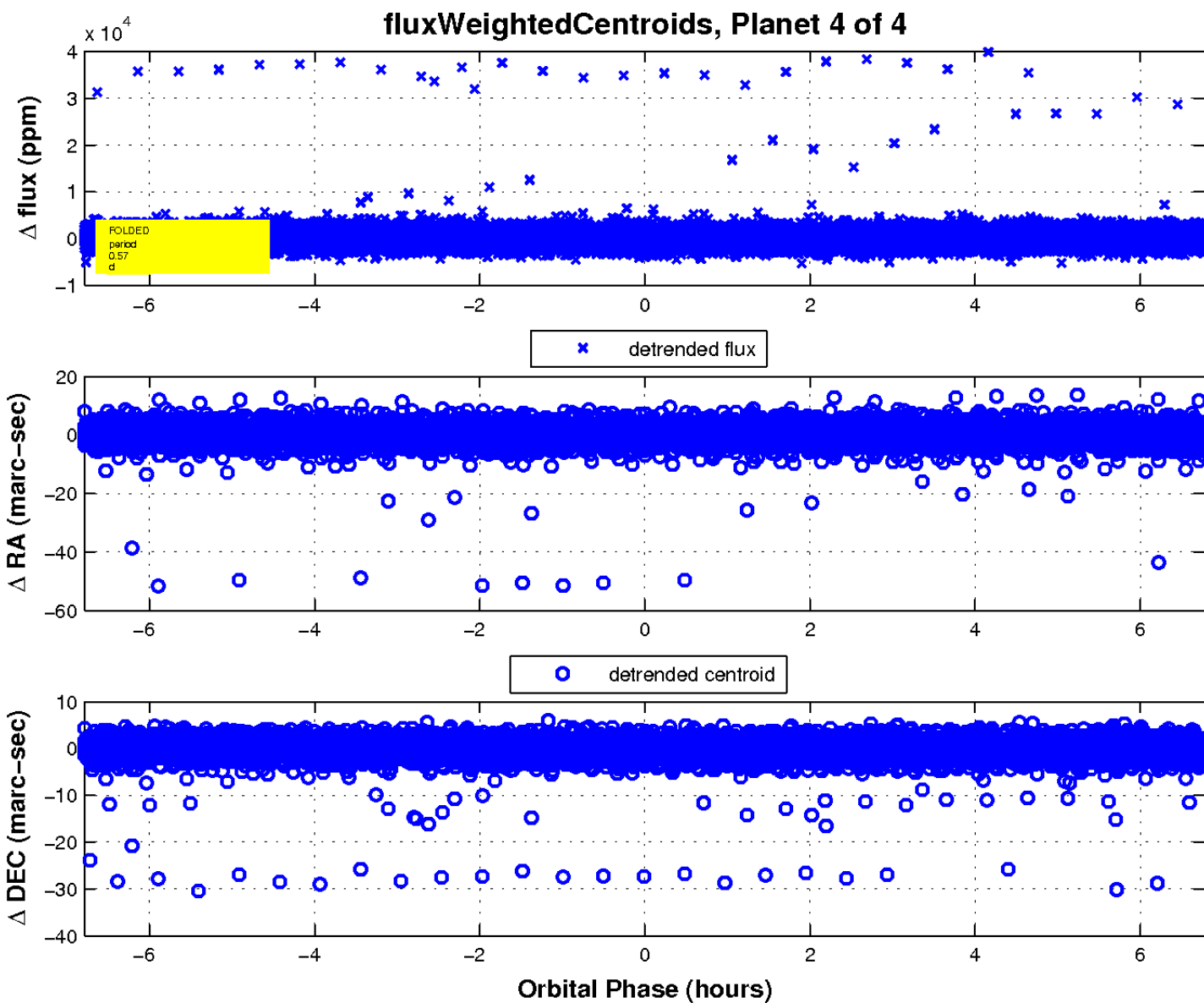
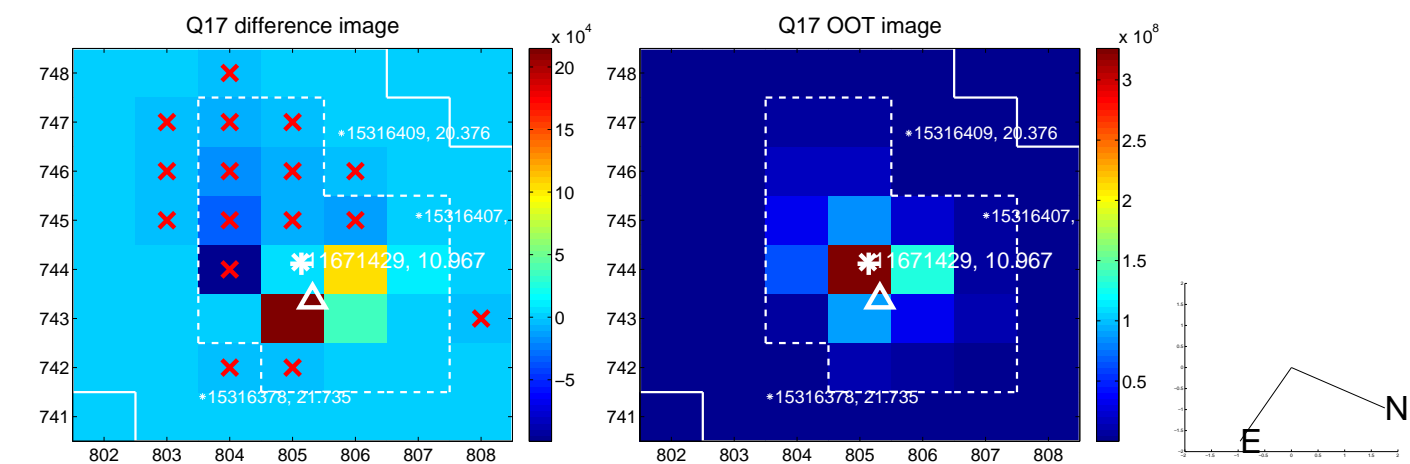
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

