

KIC 002856960

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})
002856960-01	OBS	No	204.224110	165.298619	37606.3	2.774	176.1	157.4	0.73	4907	13.67	0.73
002856960-02	OBS	6295.01	204.244982	164.867093	19563.7	32.664	211.5	105.9	0.73	4907	9.82	0.73
002856960-03	OBS	No	0.517015	131.532869	5424.7	1.500	83.3	-1.0	0.73	4907	5.21	2117.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002856960-01	OBS	FP	0.00	1	0	0	0	LPP_DV
002856960-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
002856960-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—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.

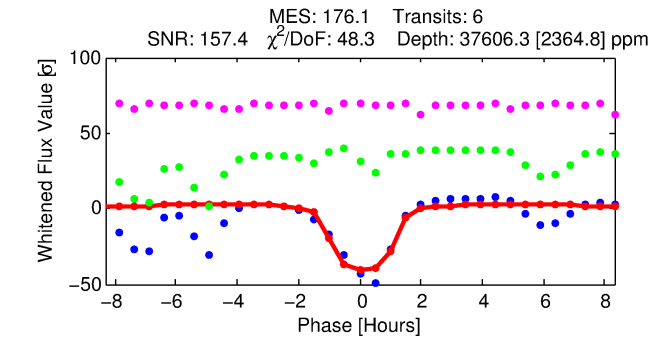
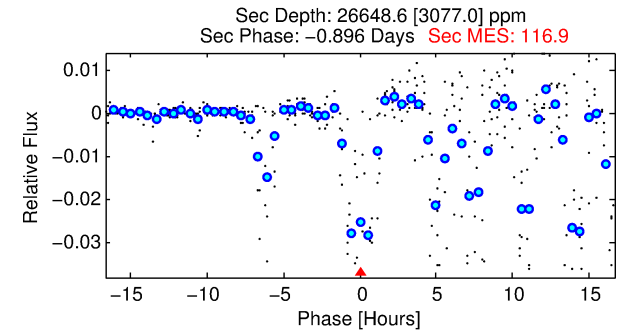
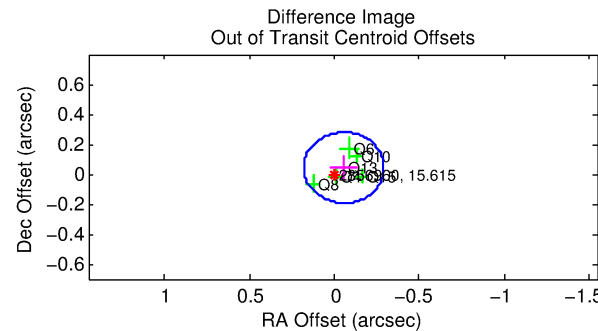
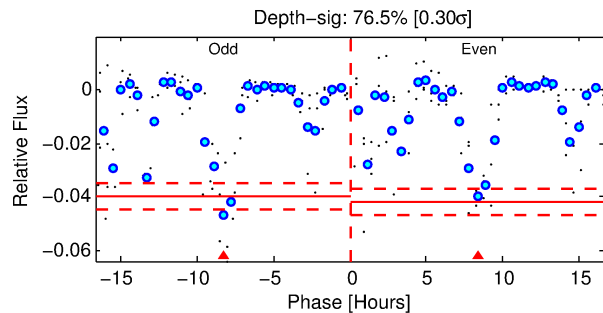
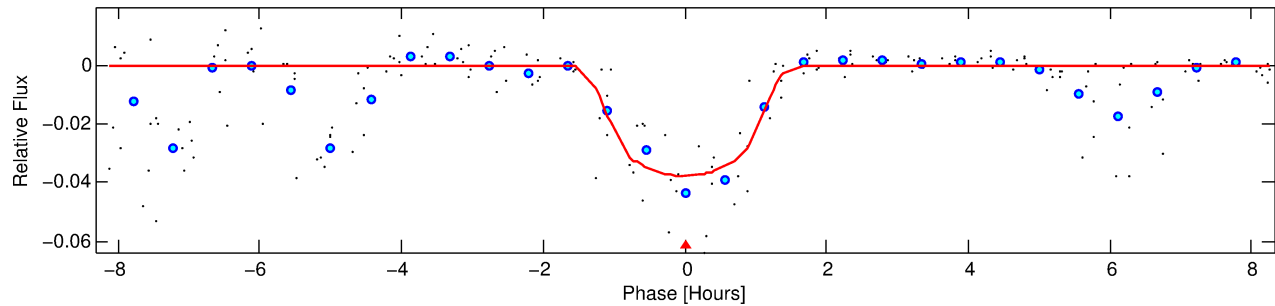
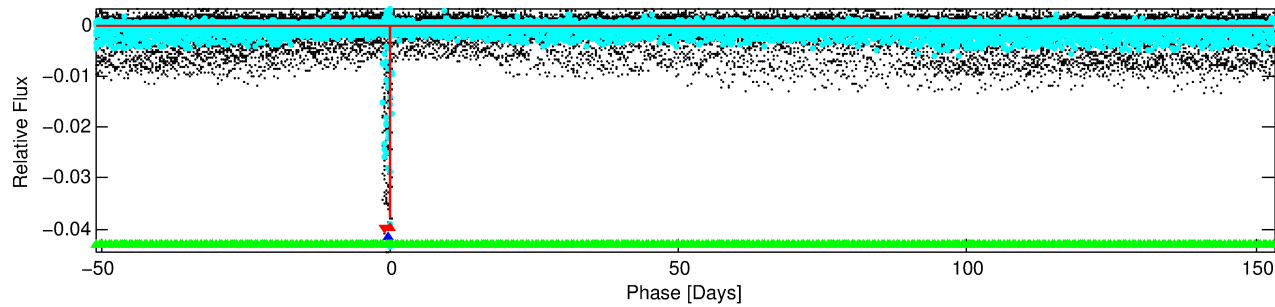
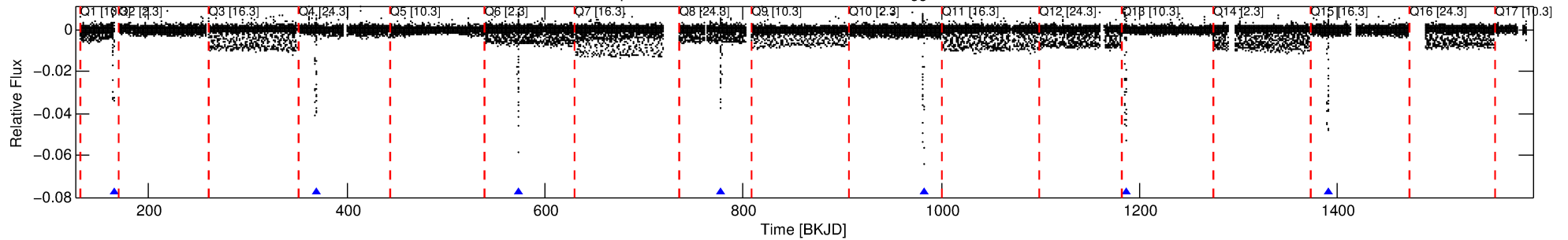
Ephemeris Match Information For 002856960-01

No Significant Match Found

DV One-Page Summary

KIC: 2856960 Candidate: 1 of 3 Period: 204.224 d
KOI: K06295 Corr: No Ephemeris Match

Kp: 15.61 R*: 0.73 Rs Teff: 4907.0 K Logg: 4.58 Fe/H: -0.120



DV Fit Results:

Period = 204.22411 [0.00113] d
Epoch = 165.2986 [0.0045] BKJD
Rp/R* = 0.1724 [0.0518]
a/R* = 659.46 [596.12]
b = 0.00 [351.74]
Seff = 0.73 [0.11]
Teq = 236 [9] K
Rp = 13.67 [4.31] Re
a = 0.6130 [0.0454] AU
Ag = 29465.50 [18268.76] [1.61σ]
Teffp = 4776 [744] K [6.10σ]

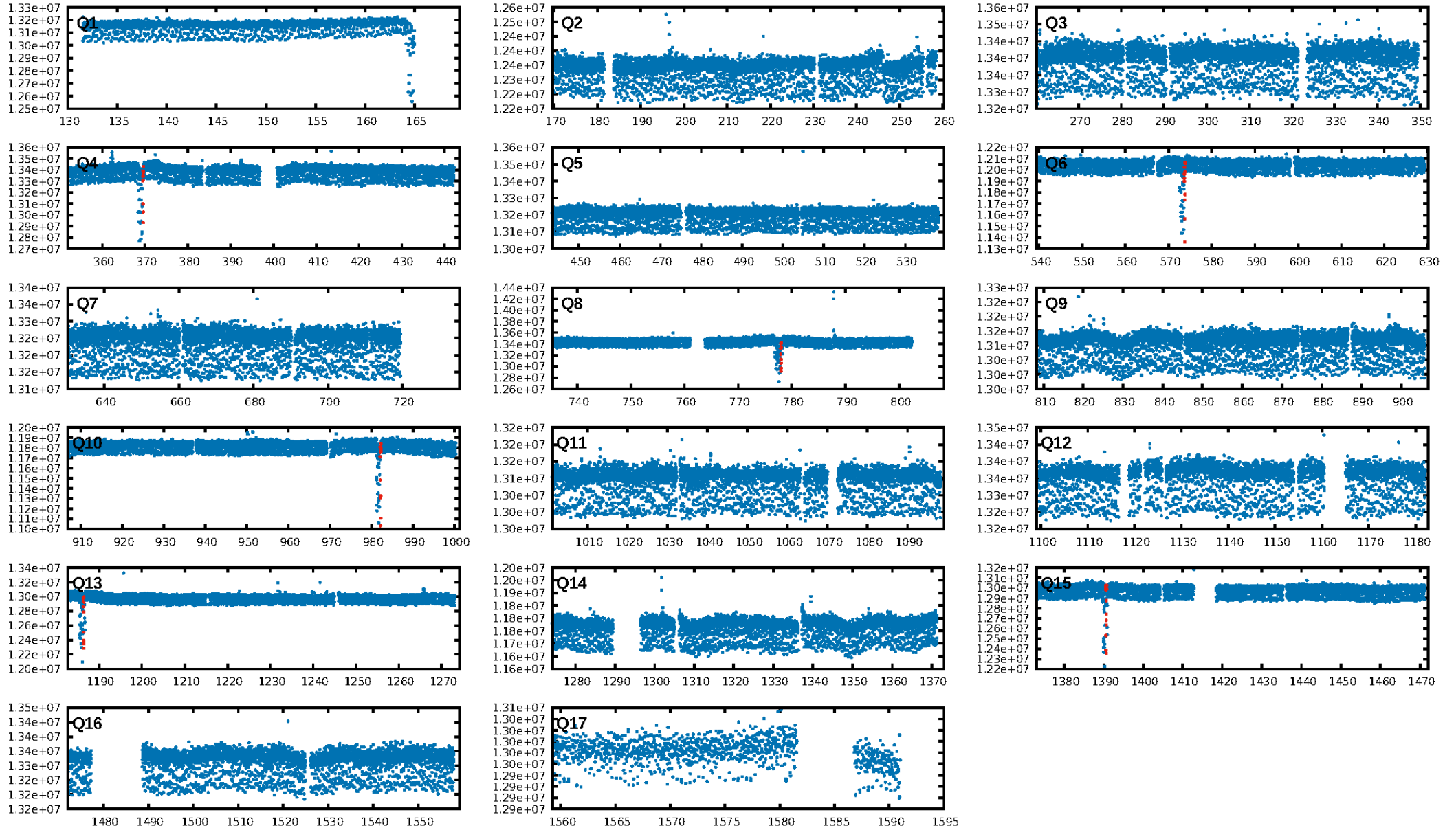
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1550.48σ]
LongPeriod-sig: 1.2% [0.02σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 0.574 arcsec [10.83σ]
OotOffset-rm: 0.070 arcsec [0.89σ]
KicOffset-rm: 0.136 arcsec [1.85σ]
OotOffset-st: 2/1/2/1 [6]
KicOffset-st: 2/1/2/1 [6]
DiffImageQuality-fgm: 1.00 [6/6]
DiffImageOverlap-fno: 0.00 [0/6]

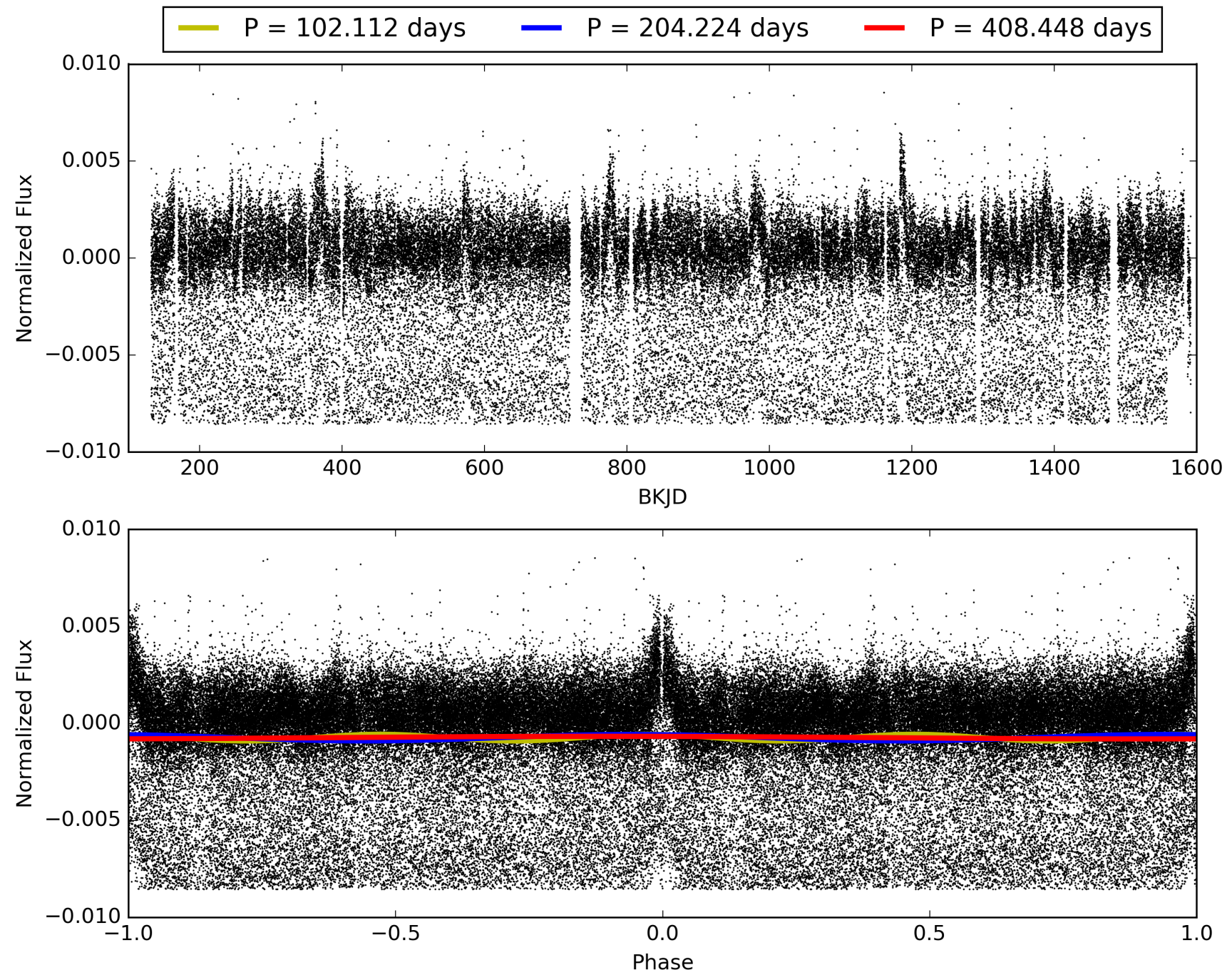
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:03:13 Z

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

TCE 002856960-01, PDC Light Curves

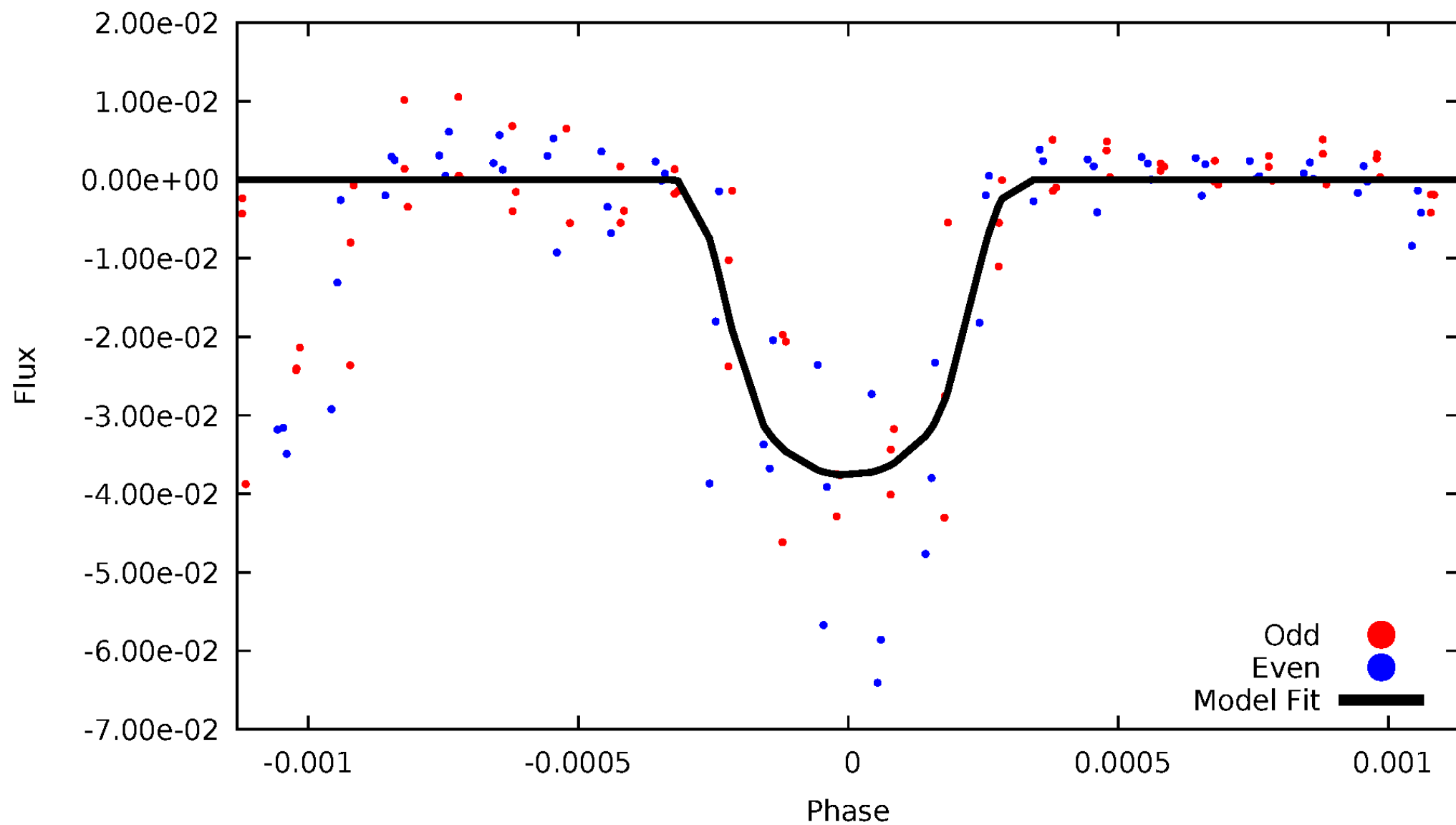


TCE 002856960-01



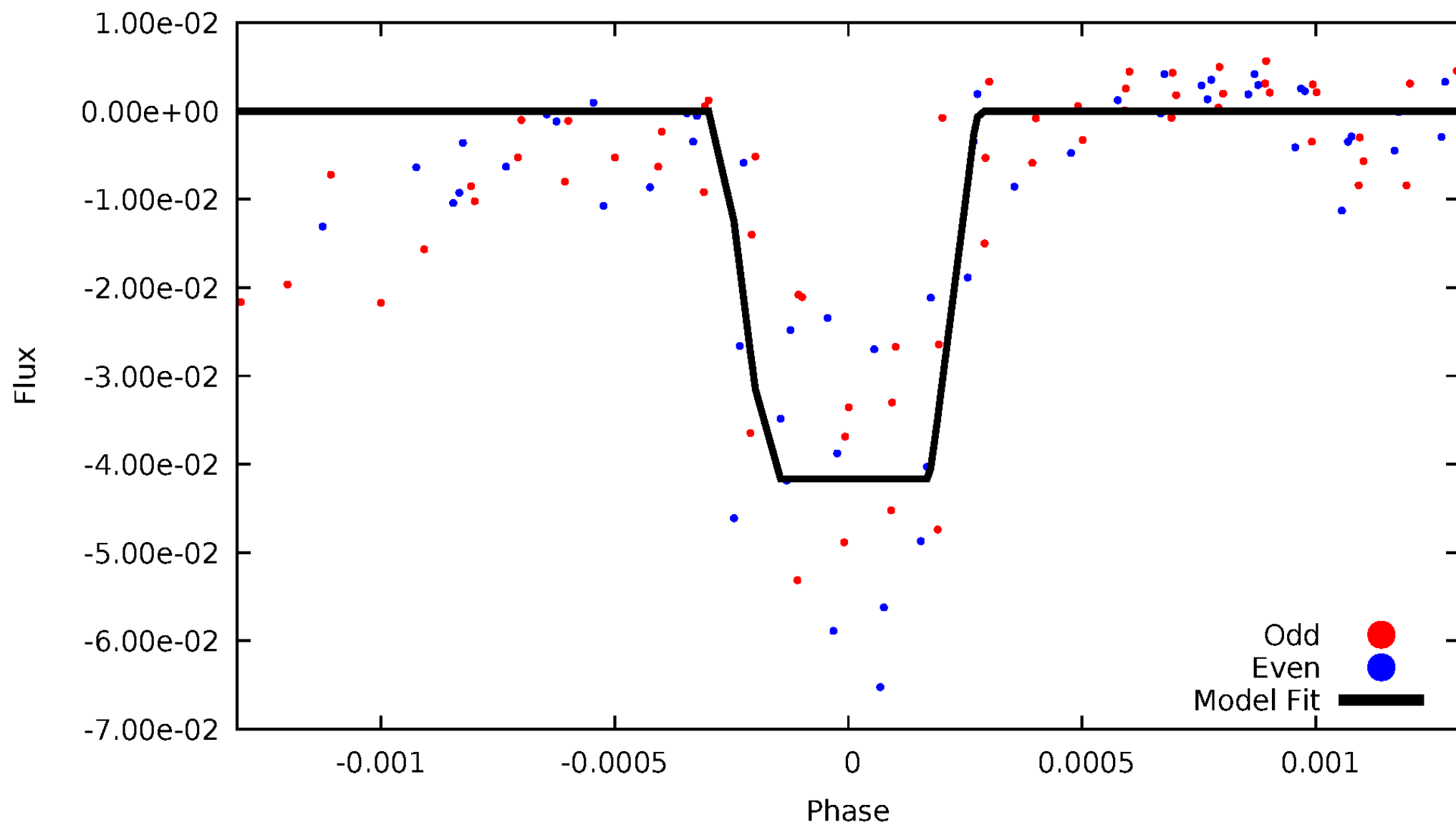
DV Odd/Even

TCE 002856960-01



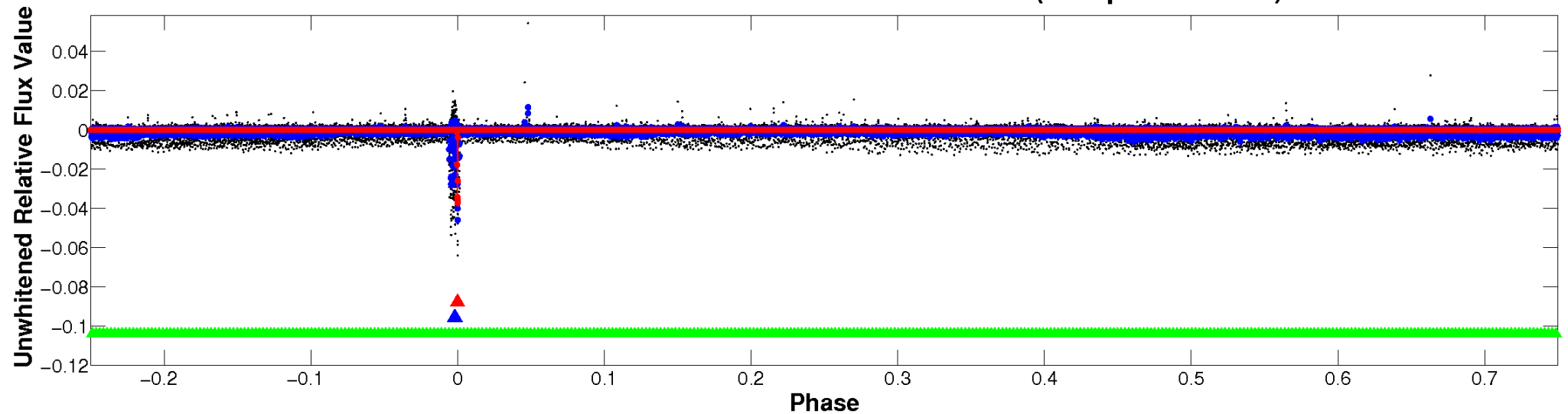
ALT Odd/Even

TCE 002856960-01

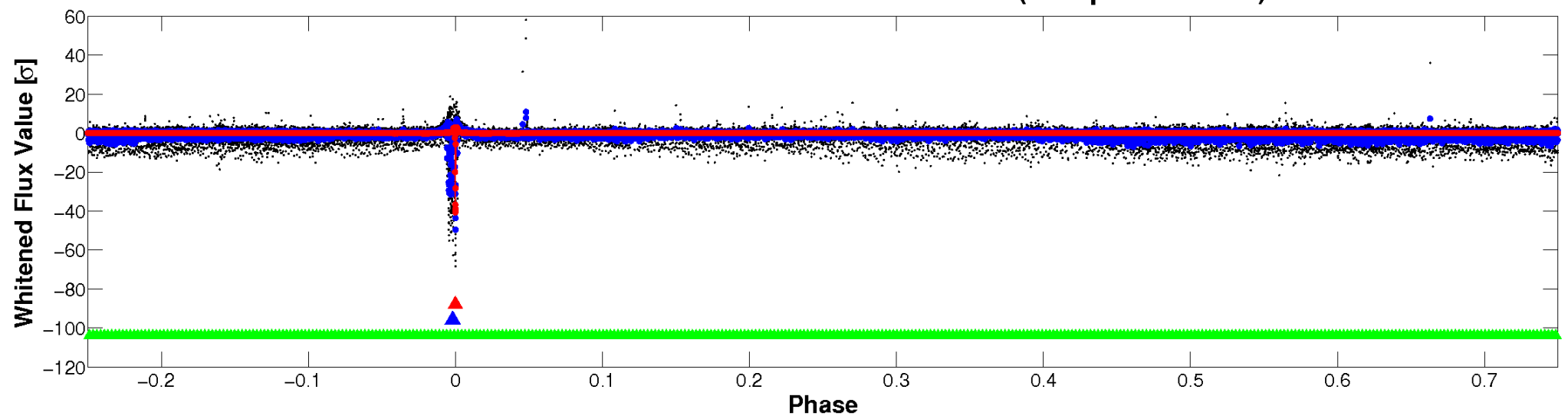


Non-Whitened Vs. Whitened Light Curve

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

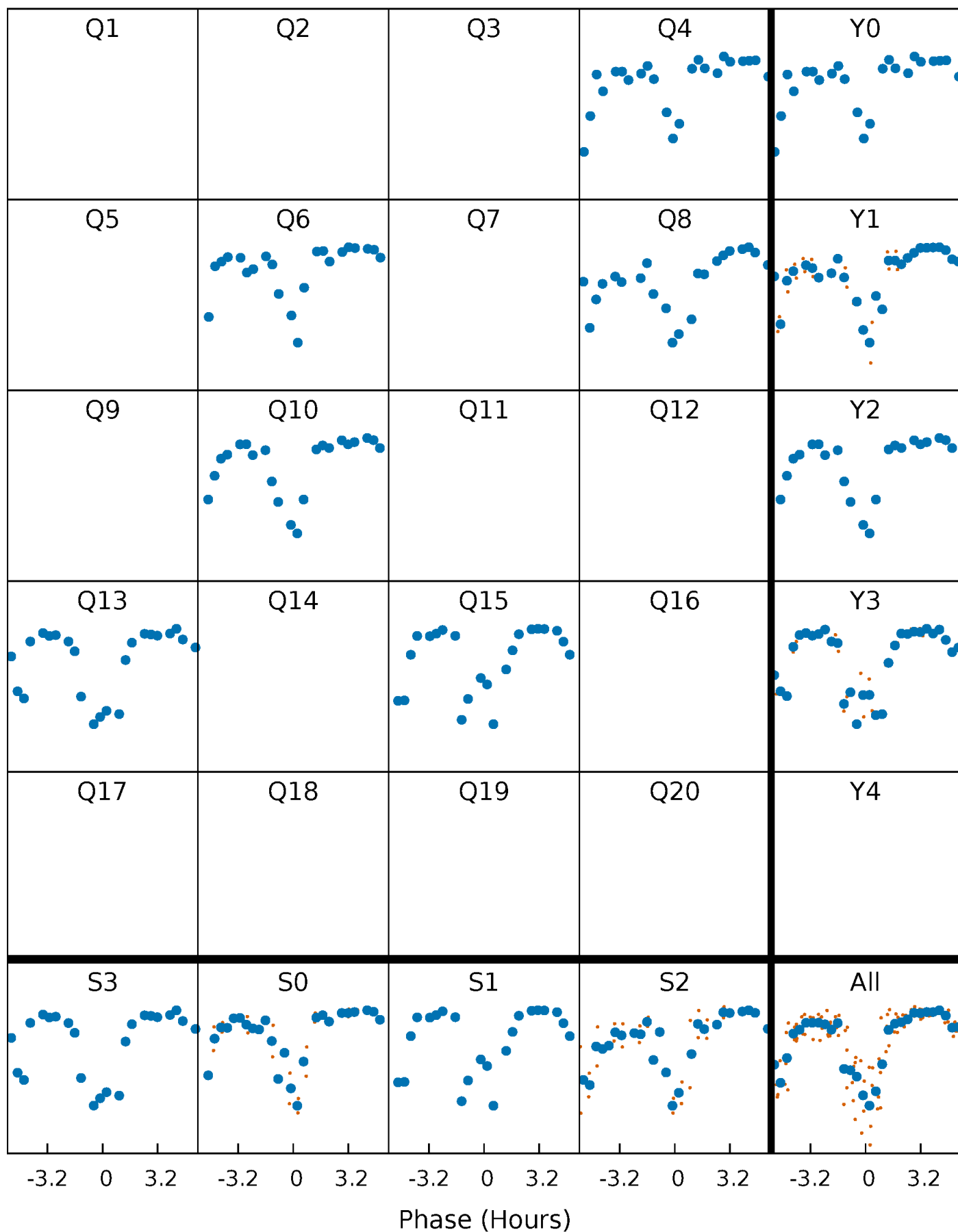


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



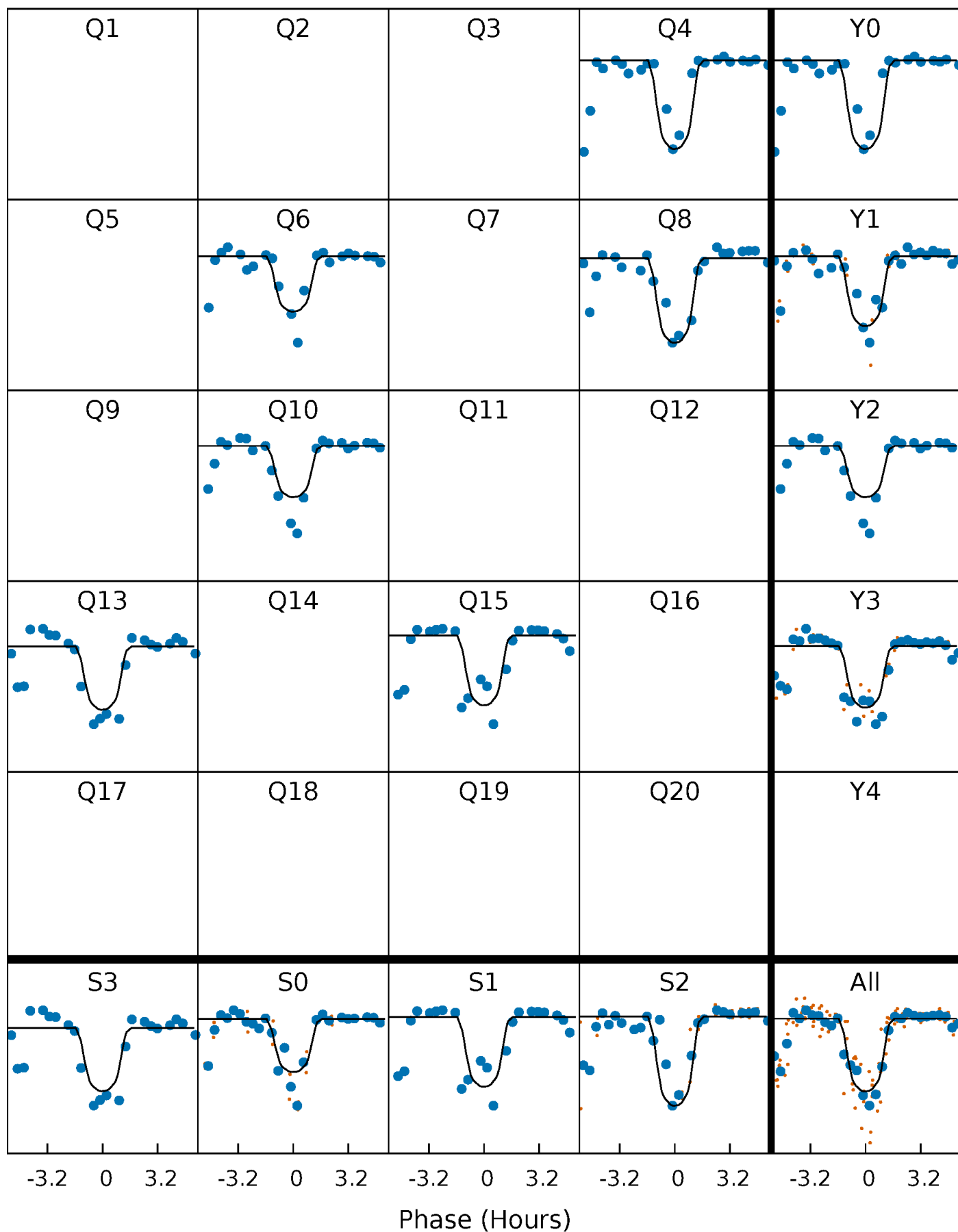
PDC Quarter-Phased Transit Curves

TCE 002856960-01 P=204.224110 Days $T_0=165.298619$ (BKJD)



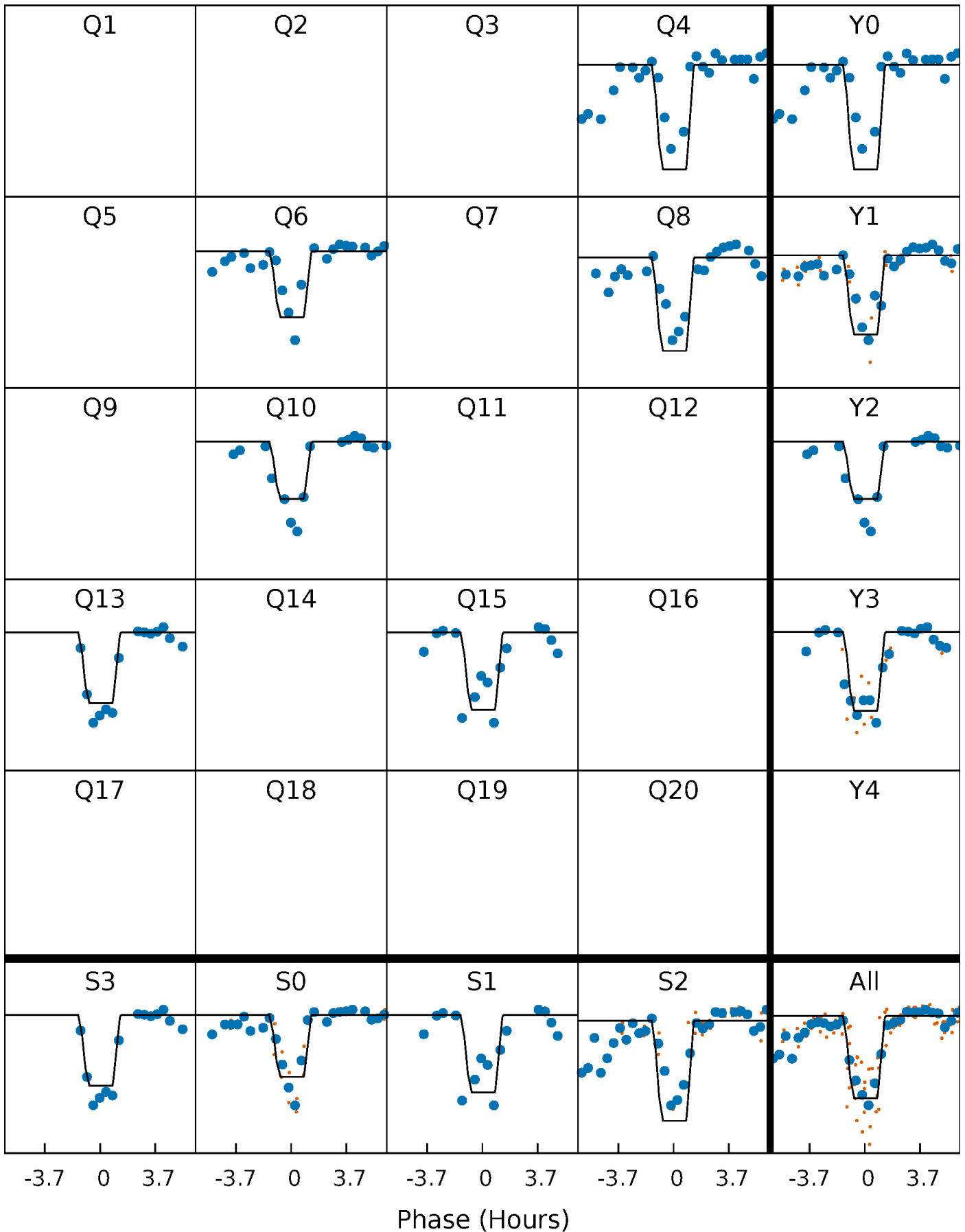
DV Quarter-Phased Transit Curves

TCE 002856960-01 P=204.224110 Days $T_0=165.298619$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

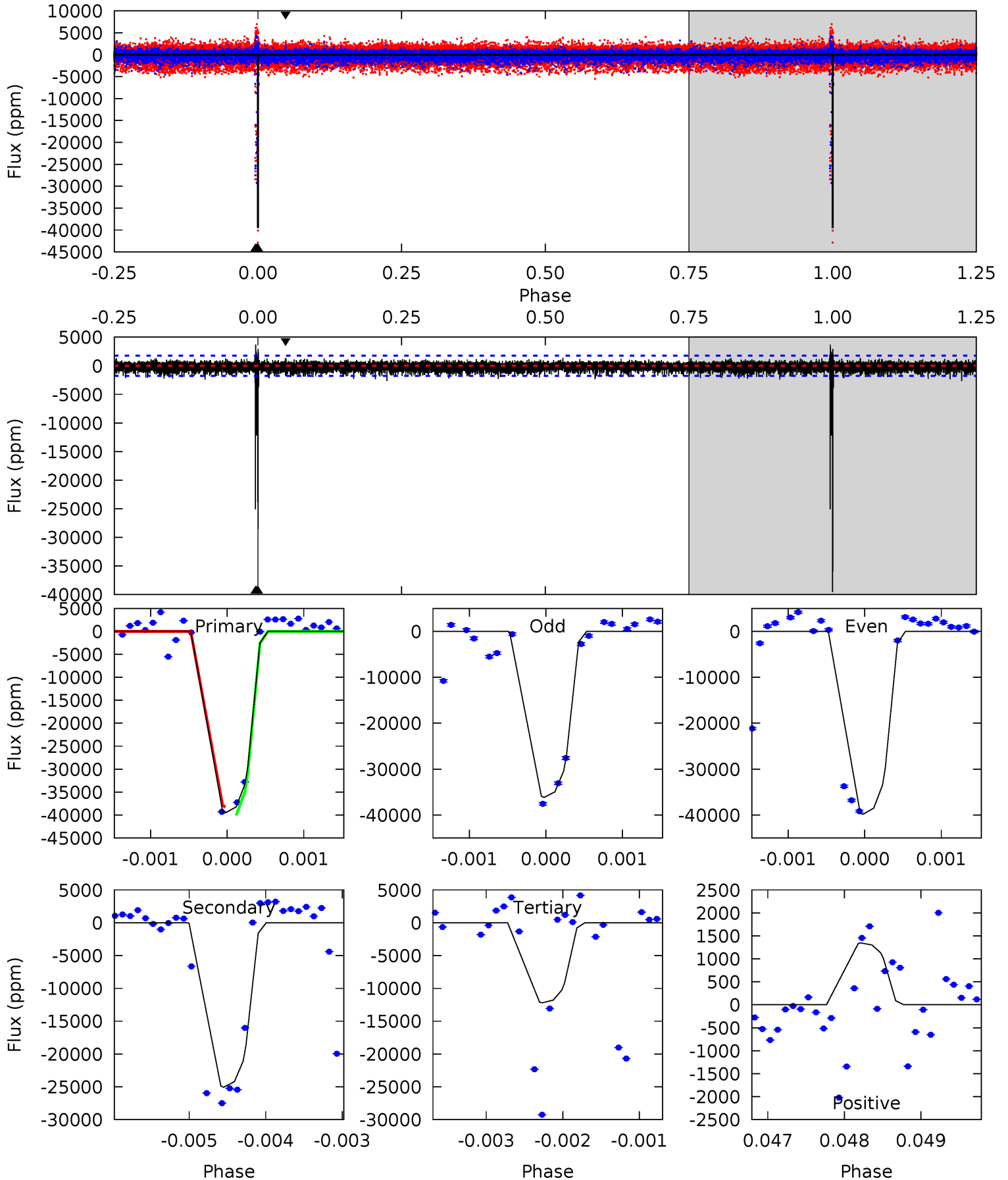
TCE 002856960-01 P=204.224284 Days $T_0=165.295078$ (BKJD)



DV Model-Shift Uniqueness Test

002856960-01, P = 204.224110 Days, E = 165.298619 Days

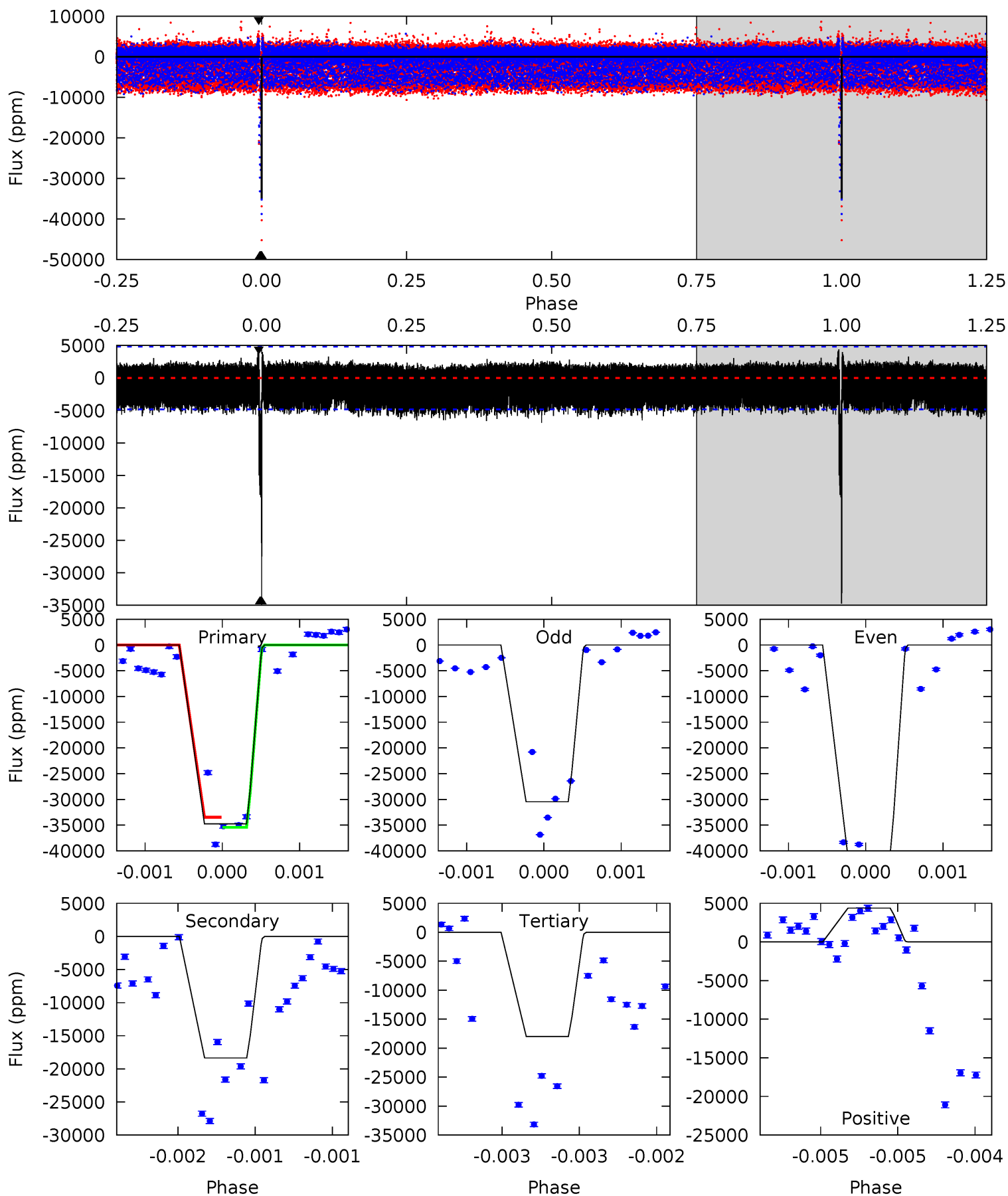
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
123.7	78.4	38.2	4.22	5.52	3.40	1.62	85.5	119.5	40.2	74.2	5.57	1.03	0.08	2.69



Alt Model-Shift Uniqueness Test

002856960-01, P = 204.224284 Days, E = 165.295078 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.0	21.1	20.7	5.04	5.56	3.46	2.31	19.3	34.9	0.43	16.1	6.57	1.06	0.11	0.99



Stellar Parameters For KIC 002856960

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4907^{+146}_{-131}	$4.582^{+0.050}_{-0.045}$	$-0.120^{+0.300}_{-0.300}$	$0.727^{+0.069}_{-0.062}$	$0.737^{+0.075}_{-0.061}$	$2.702^{+0.584}_{-0.436}$
	+3%/-3%	+1%/-1%	+250%/-250%	+9%/-9%	+10%/-8%	+22%/-16%
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 002856960-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-25055 ± 319	$13.56^{+4.25}_{-4.03}$	329^{+12}_{-11}	4772^{+829}_{-468}	29252^{+29073}_{-12370}
Alt.	-18353 ± 869	$16.18^{+4.21}_{-3.99}$	330^{+12}_{-12}	4211^{+489}_{-342}	14742^{+11469}_{-5328}

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

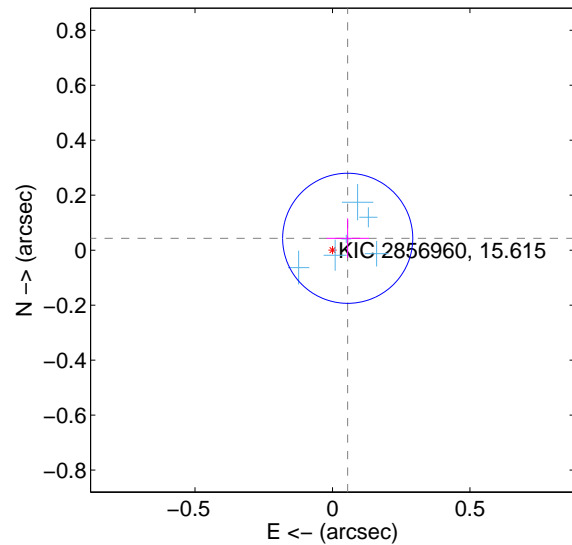
Supplemental centroid analysis for 002856960-01. Kepler magnitude: 15.62. Transit SNR 157.39

There are 6 quarters with good PRF difference image offsets

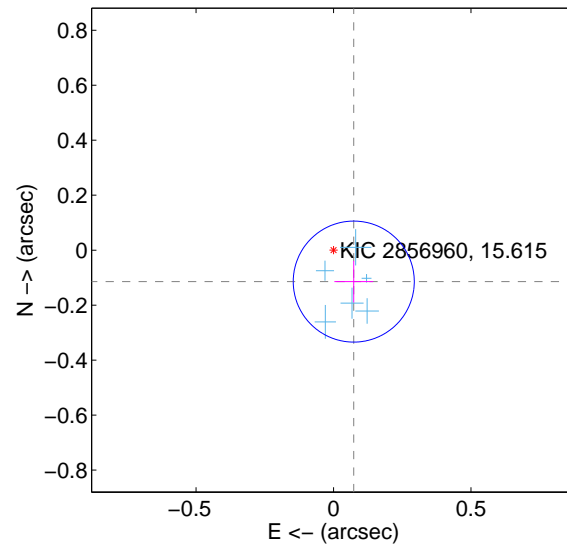
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.070 ± 0.079	0.89	-0.055 ± 0.077	0.043 ± 0.072
PRF-fit source offset from KIC position	0.136 ± 0.073	1.85	-0.074 ± 0.071	-0.114 ± 0.076
photometric centroid source offset	0.57 ± 0.05	10.83	0.02 ± 0.06	-0.57 ± 0.05

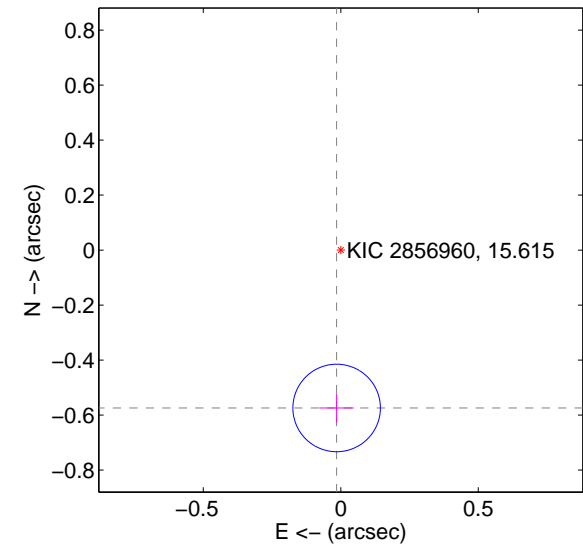
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

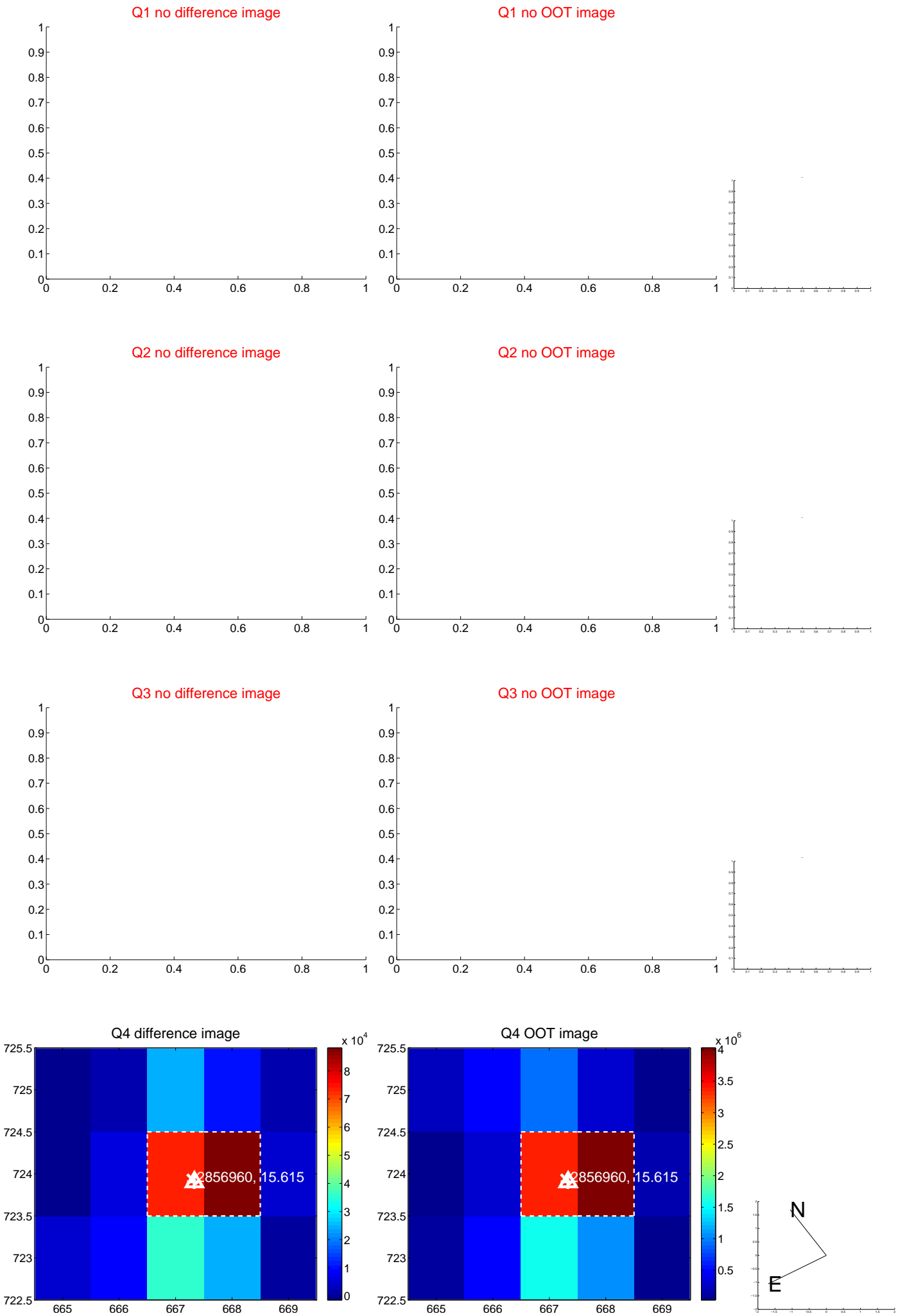


offset from photometric centroids



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

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



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

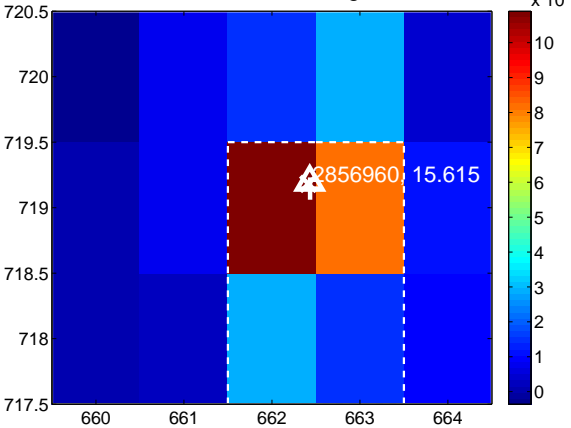
Q5 no difference image



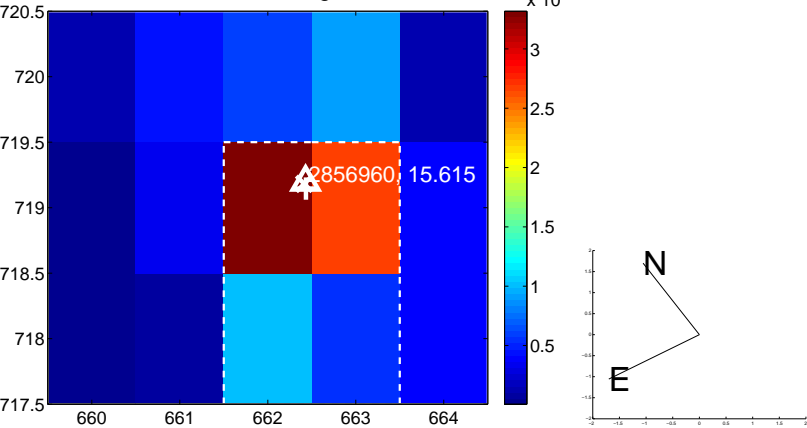
Q5 no OOT image



Q6 difference image



Q6 OOT image



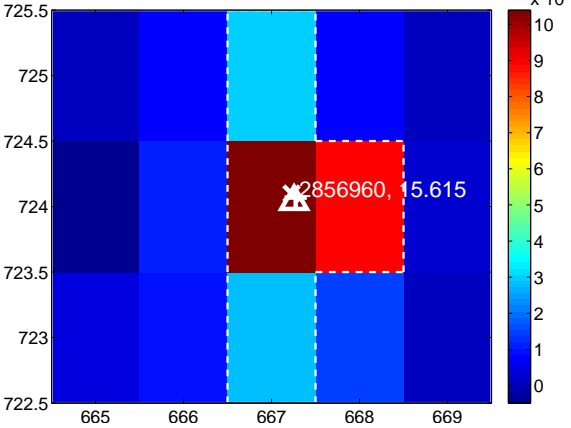
Q7 no difference image



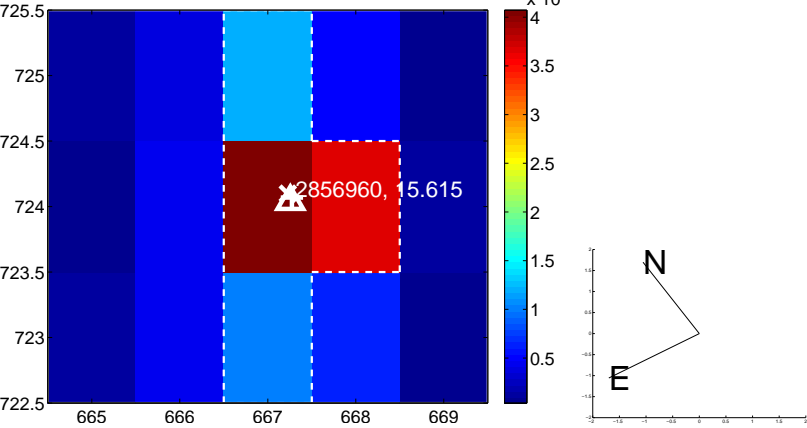
Q7 no OOT image



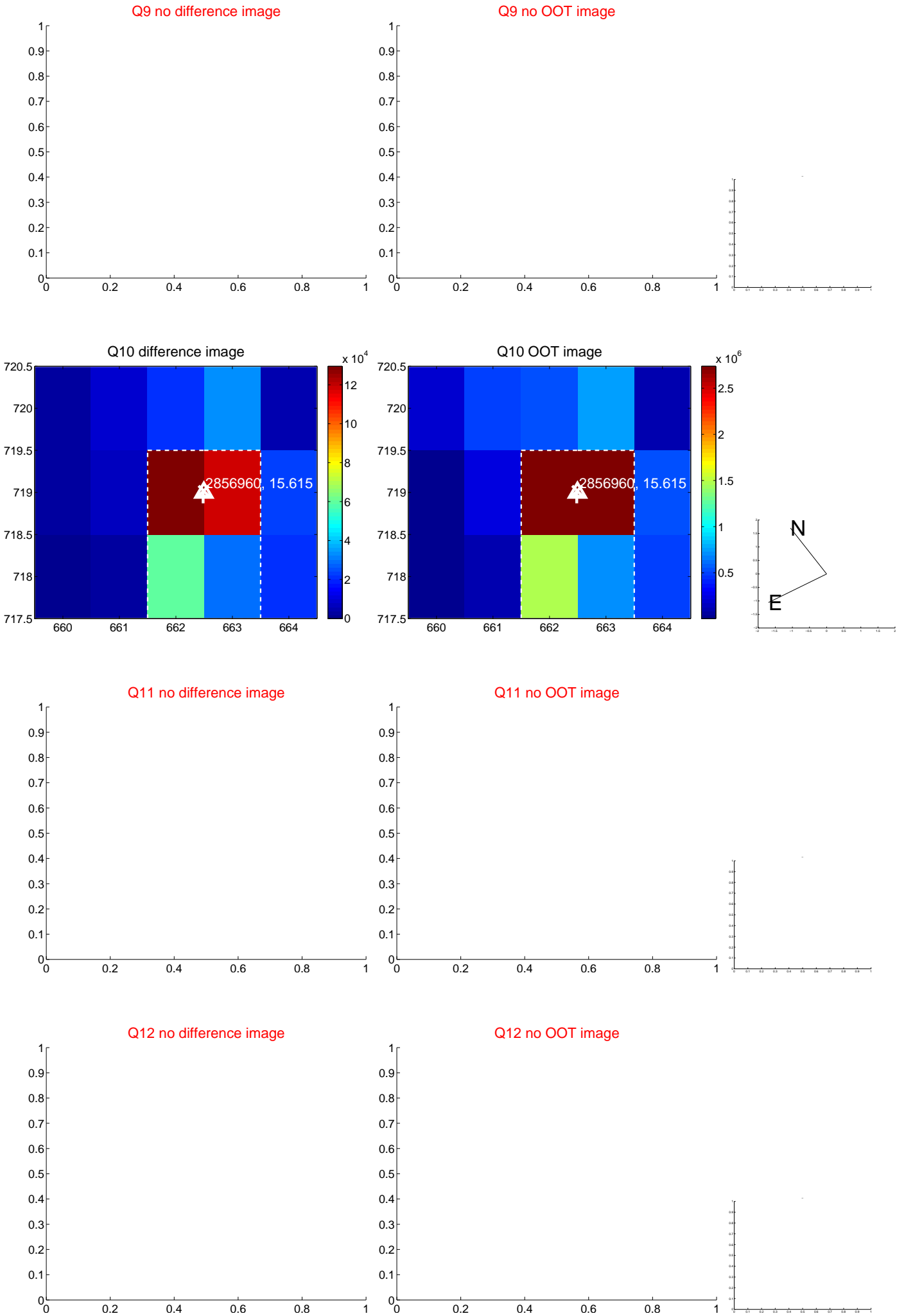
Q8 difference image



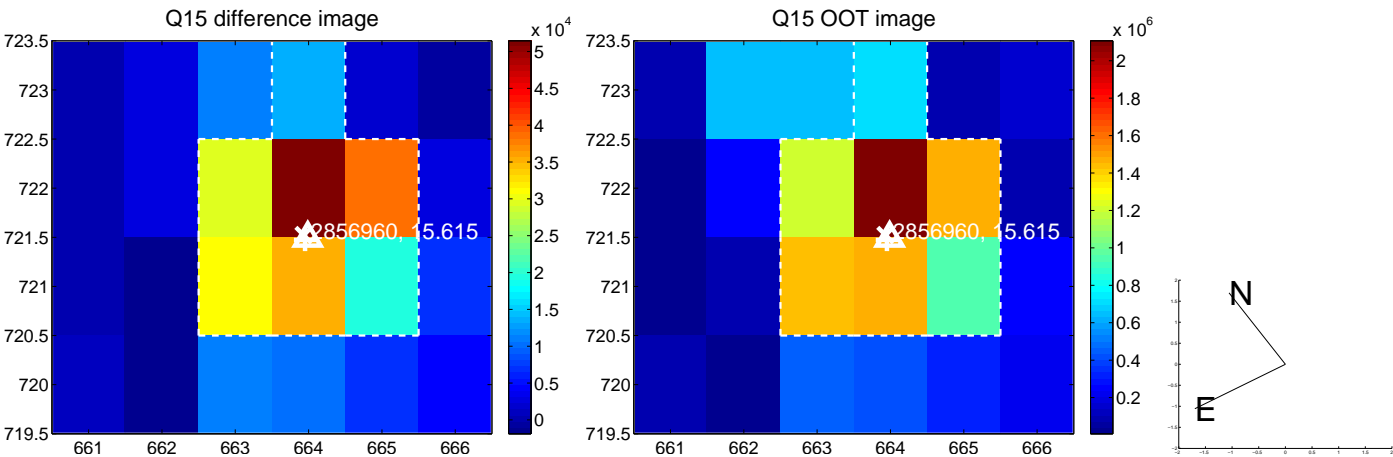
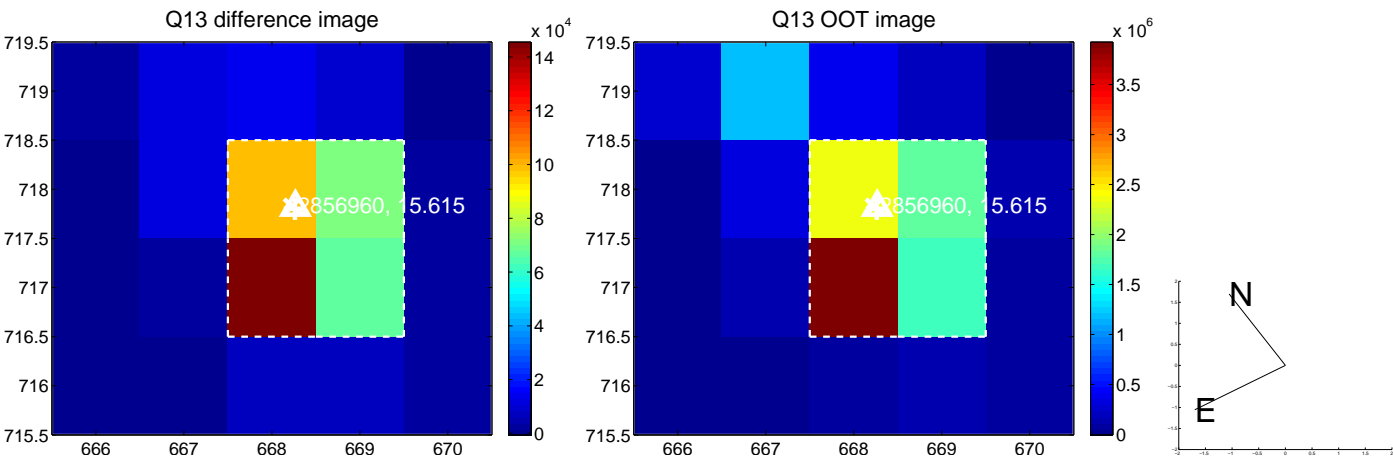
Q8 OOT image



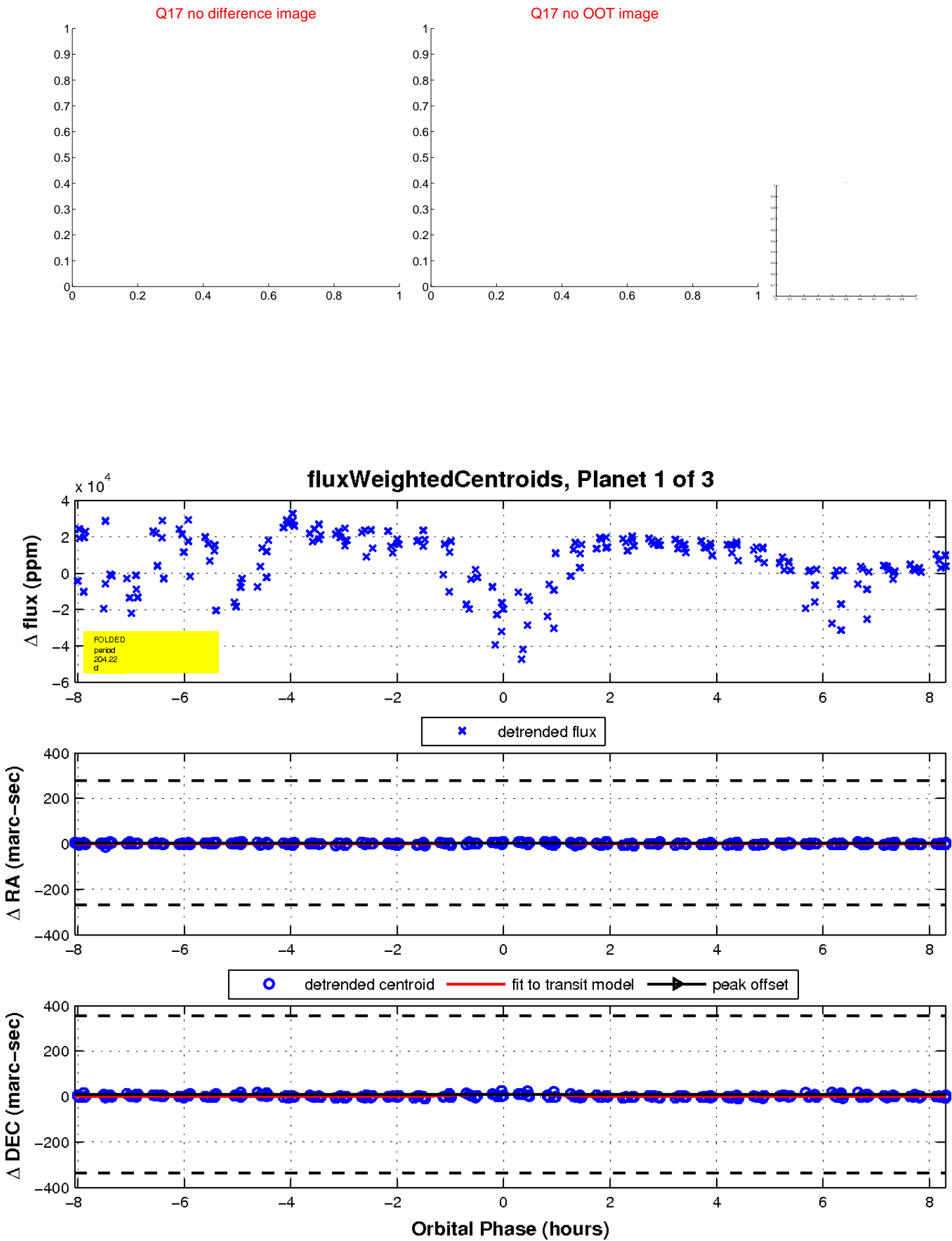
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



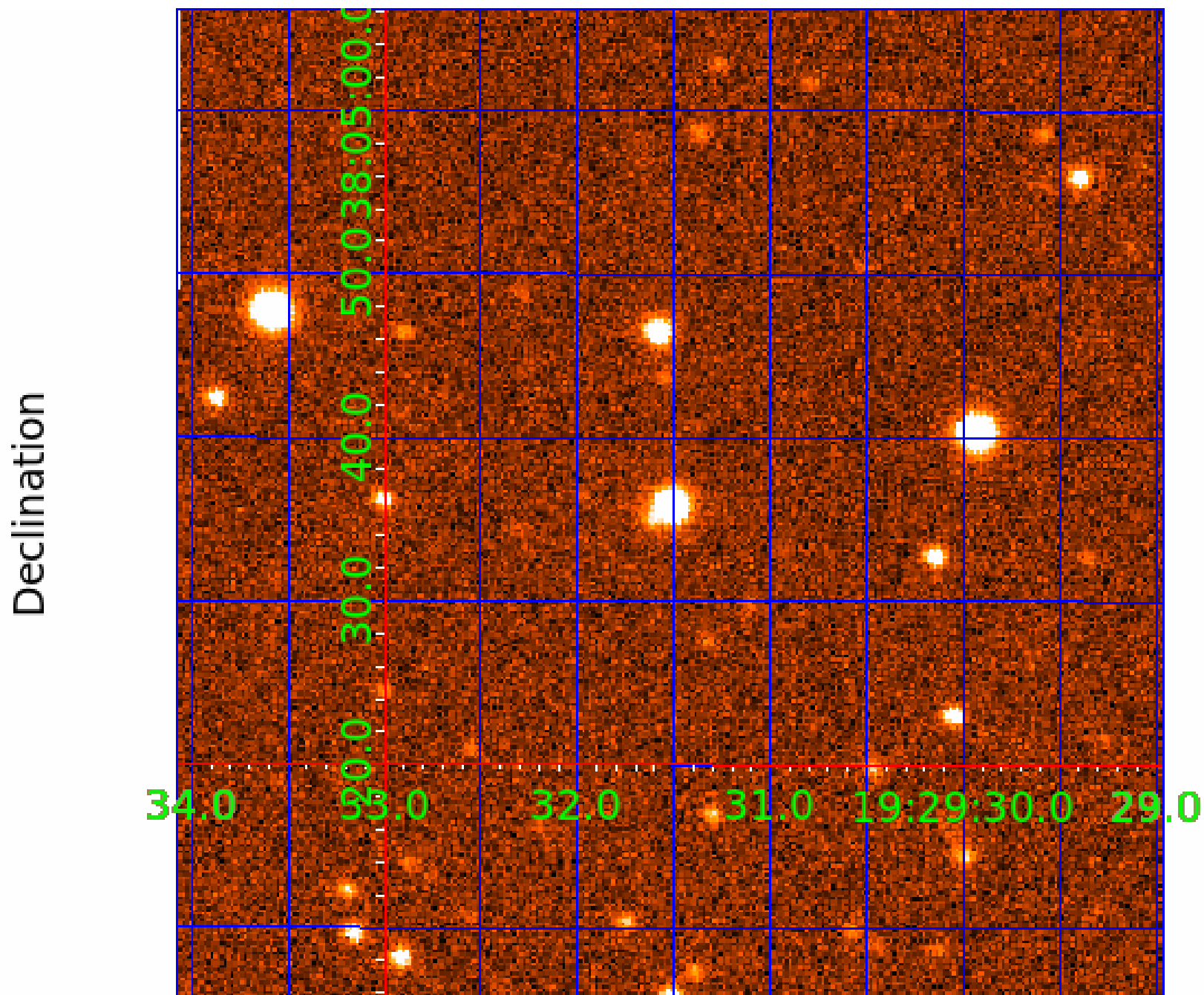
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 002856960

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})
002856960-01	OBS	No	204.224110	165.298619	37606.3	2.774	176.1	157.4	0.73	4907	13.67	0.73
002856960-02	OBS	6295.01	204.244982	164.867093	19563.7	32.664	211.5	105.9	0.73	4907	9.82	0.73
002856960-03	OBS	No	0.517015	131.532869	5424.7	1.500	83.3	-1.0	0.73	4907	5.21	2117.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002856960-01	OBS	FP	0.00	1	0	0	0	LPP_DV
002856960-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
002856960-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—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.

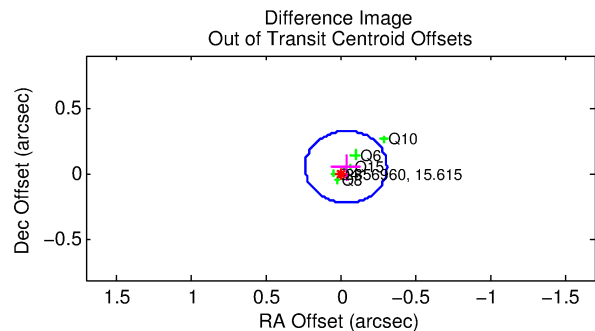
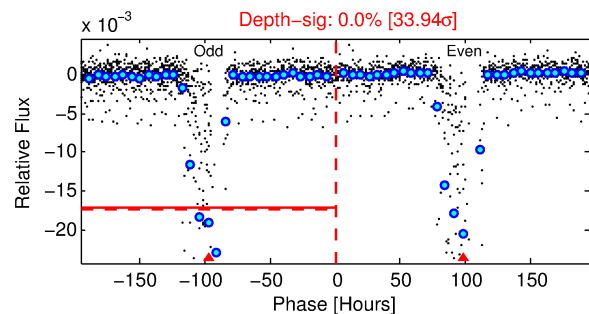
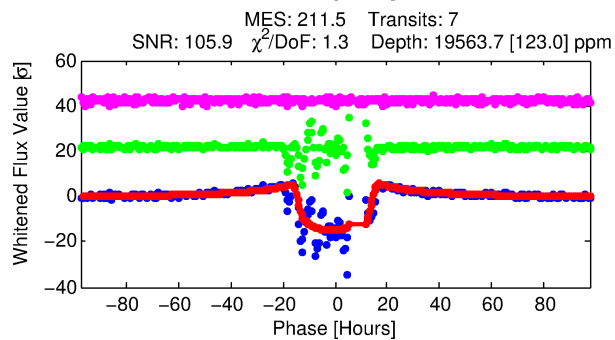
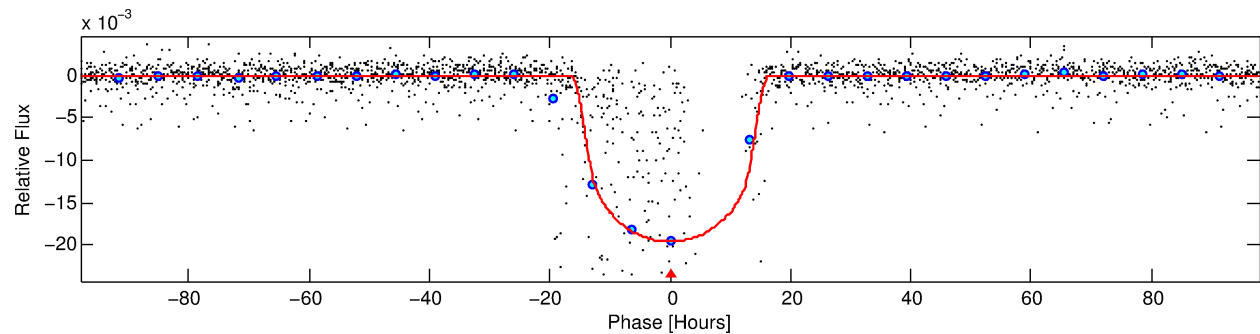
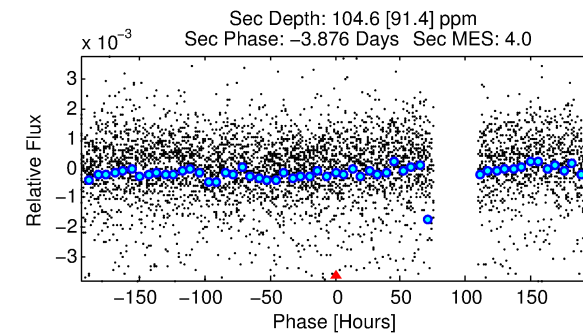
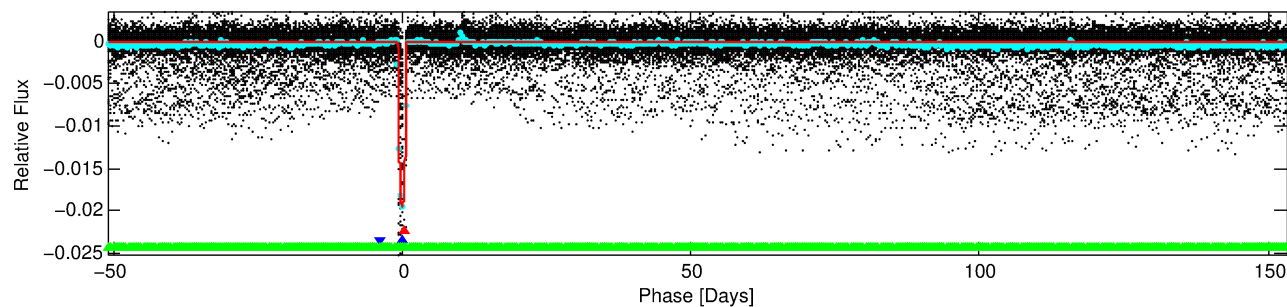
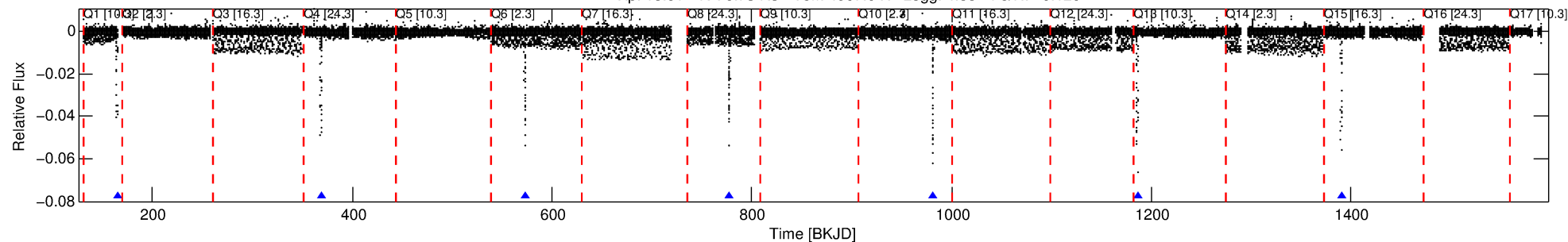
Ephemeris Match Information For 002856960-02

No Significant Match Found

DV One-Page Summary

KIC: 2856960 Candidate: 2 of 3 Period: 204.245 d
KOI: K06295.01 Corr: 0.925

Kp: 15.61 R*: 0.73 Rs Teff: 4907.0 K Logg: 4.58 Fe/H: -0.120



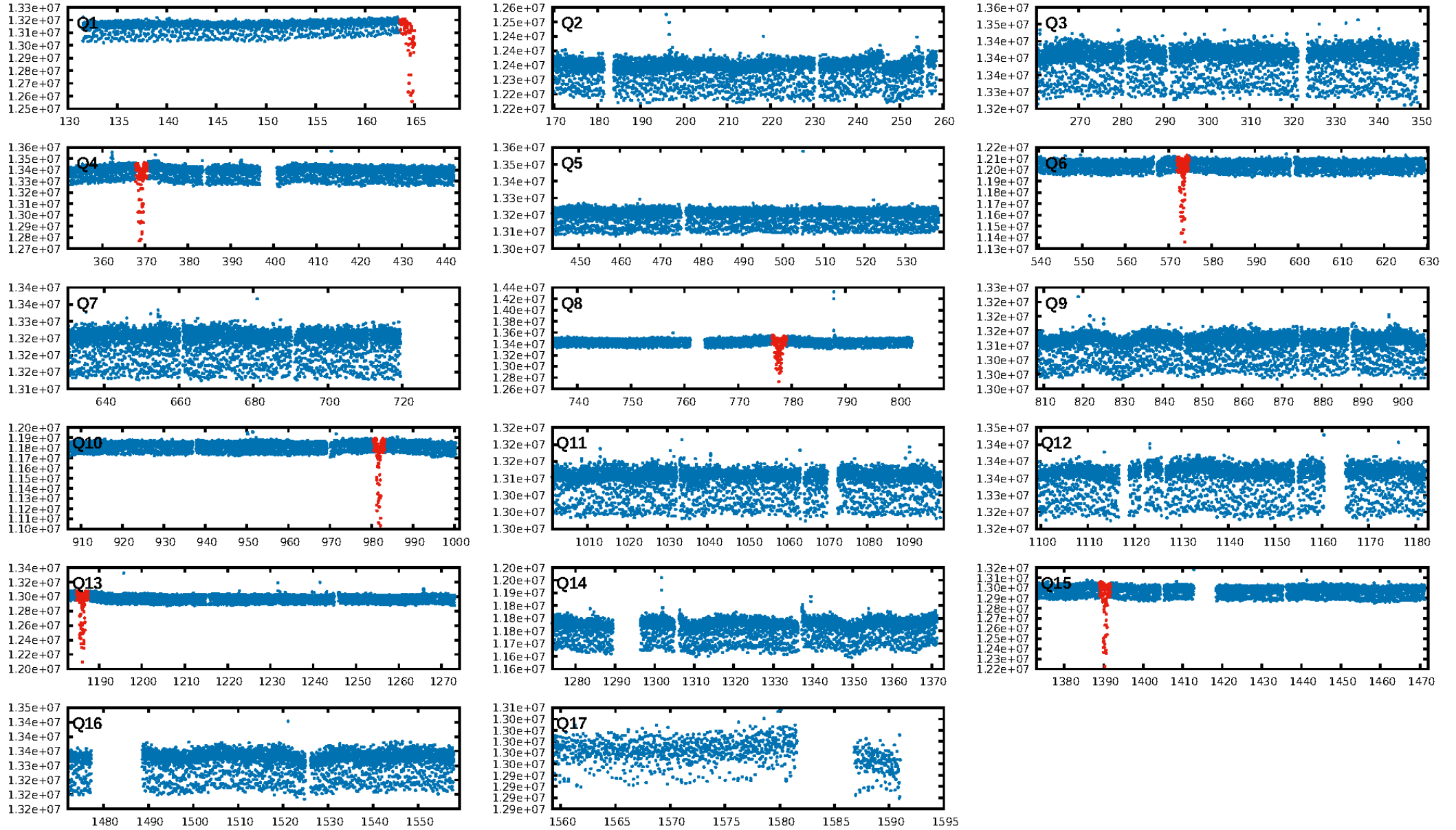
DV Fit Results:

Period = 204.24498 [0.00085] d
Epoch = 164.8671 [0.0036] BKJD
Rp/R* = 0.1238 [0.0013]
a/R* = 53.69 [1.67]
b = 0.00 [11.34]
Seff = 0.73 [0.11]
Teq = 236 [9] K
Rp = 9.82 [0.94] Re
a = 0.6130 [0.0454] AU
Ag = 224.14 [197.20] [1.13σ]
Teffp = 1410 [311] K [3.77σ]

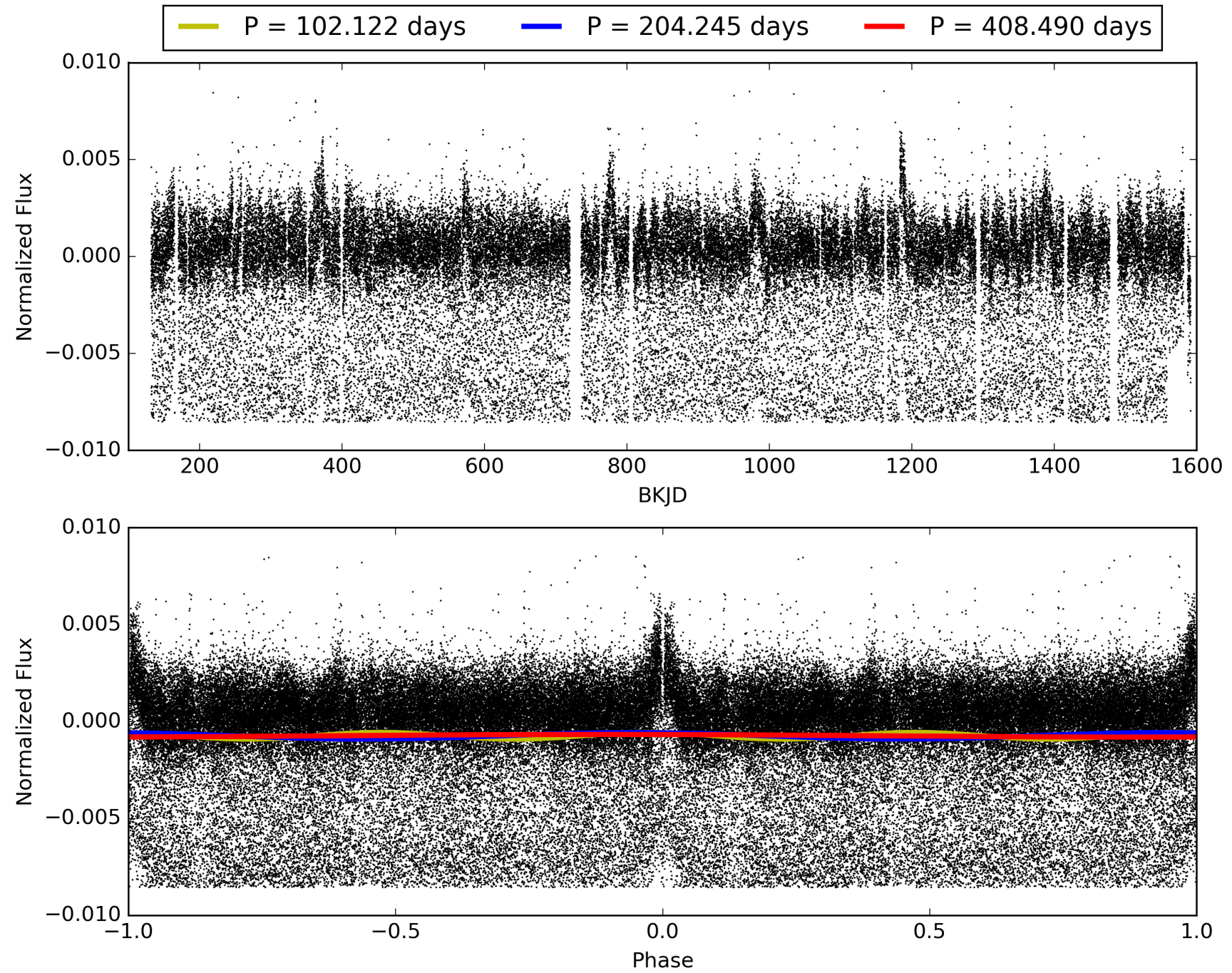
DV Diagnostic Results:

ShortPeriod-sig: 1.2% [0.02σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 75.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 0.436 arcsec [14.68σ]
OotOffset-rm: 0.067 arcsec [0.74σ]
KicOffset-rm: 0.143 arcsec [1.62σ]
OotOffset-st: 2/1/2/0 [5]
KicOffset-st: 2/1/2/0 [5]
DiffImageQuality-fgm: 1.00 [5/5]
DiffImageOverlap-fno: 0.00 [0/5]

TCE 002856960-02, PDC Light Curves

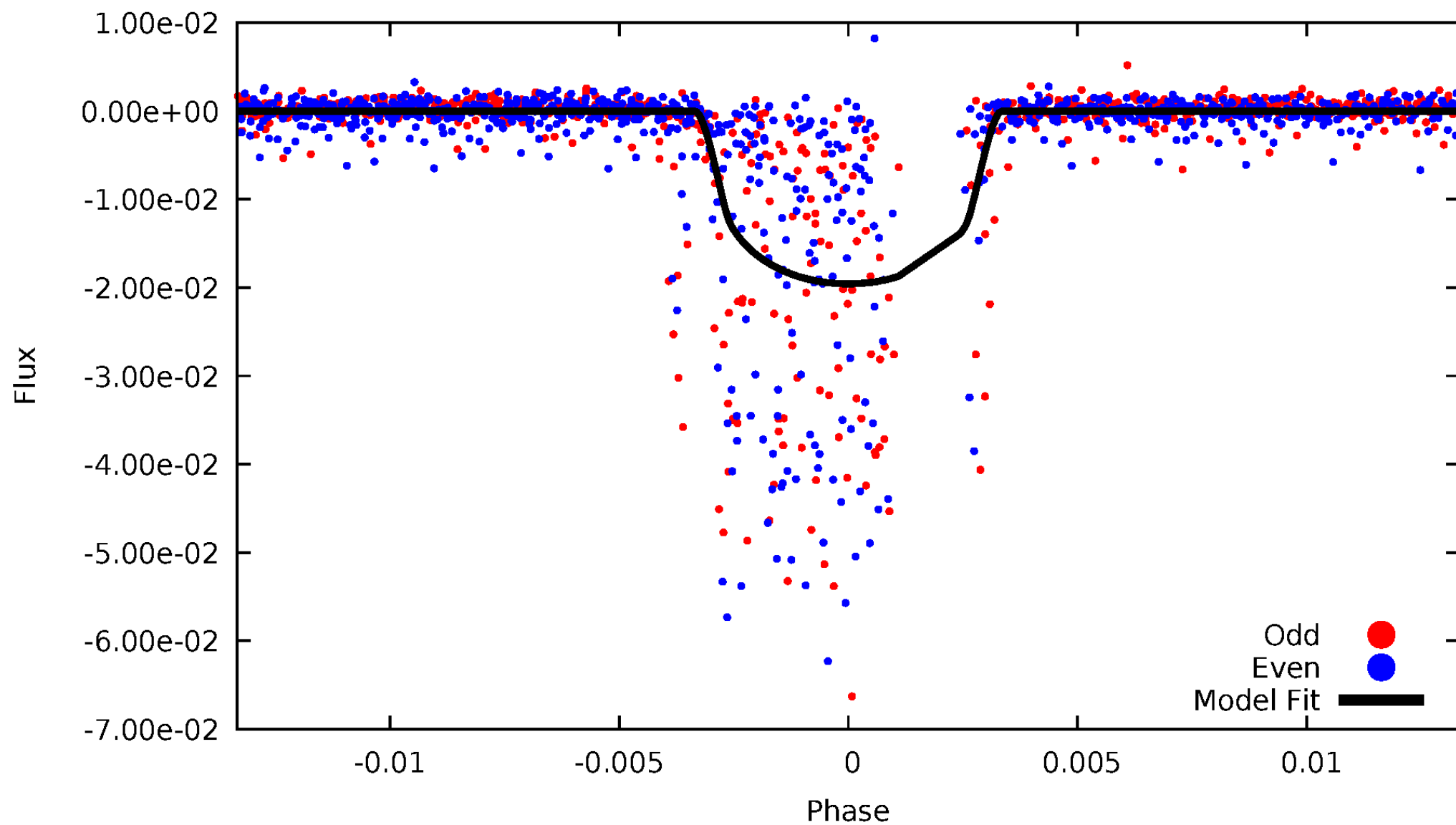


TCE 002856960-02



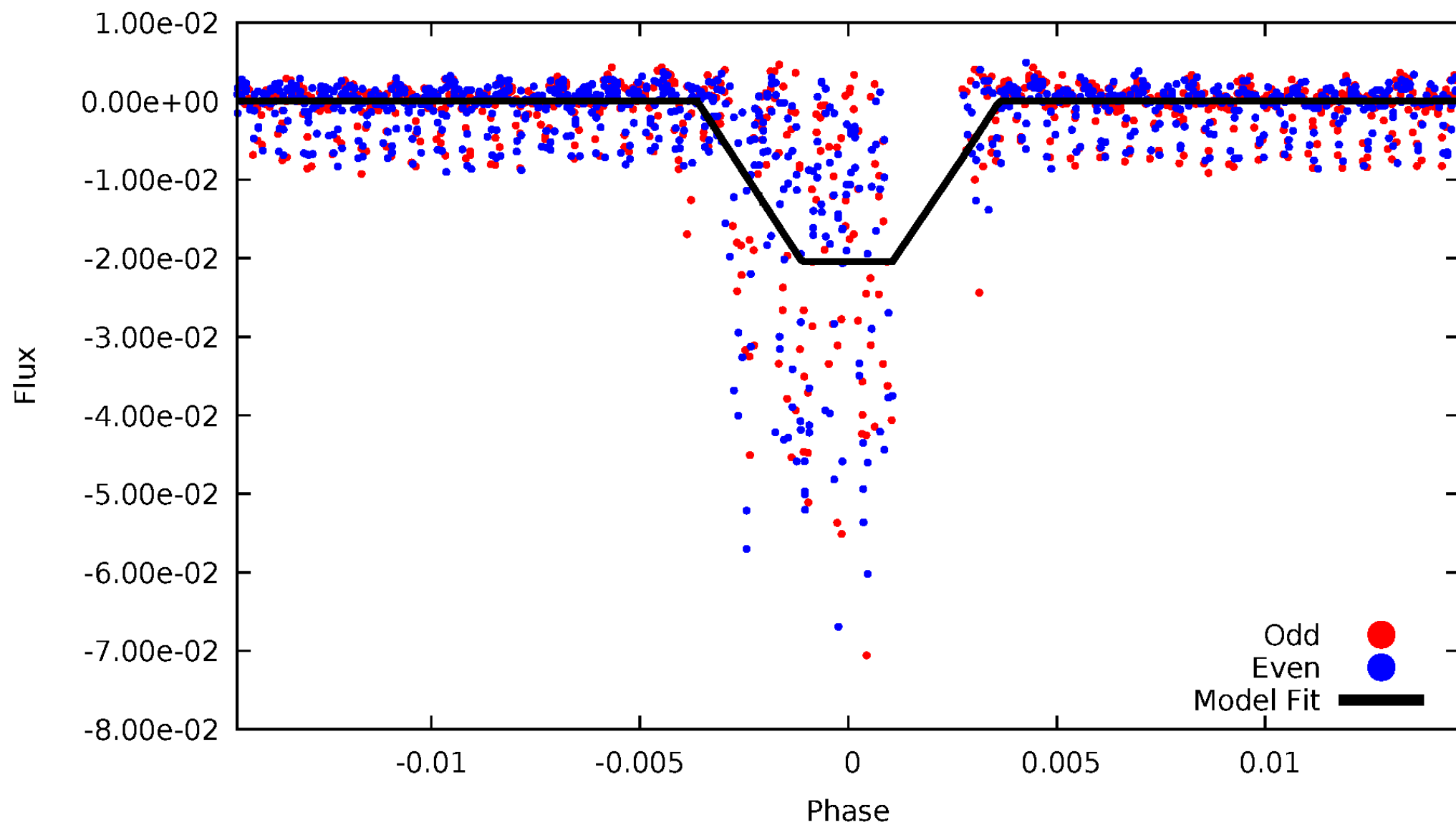
DV Odd/Even

TCE 002856960-02



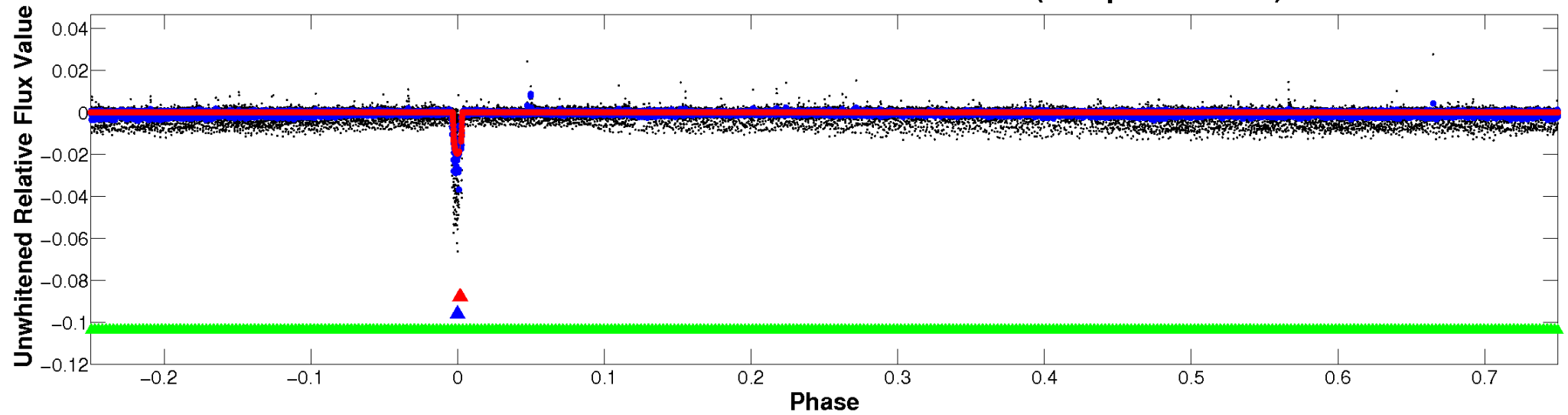
ALT Odd/Even

TCE 002856960-02

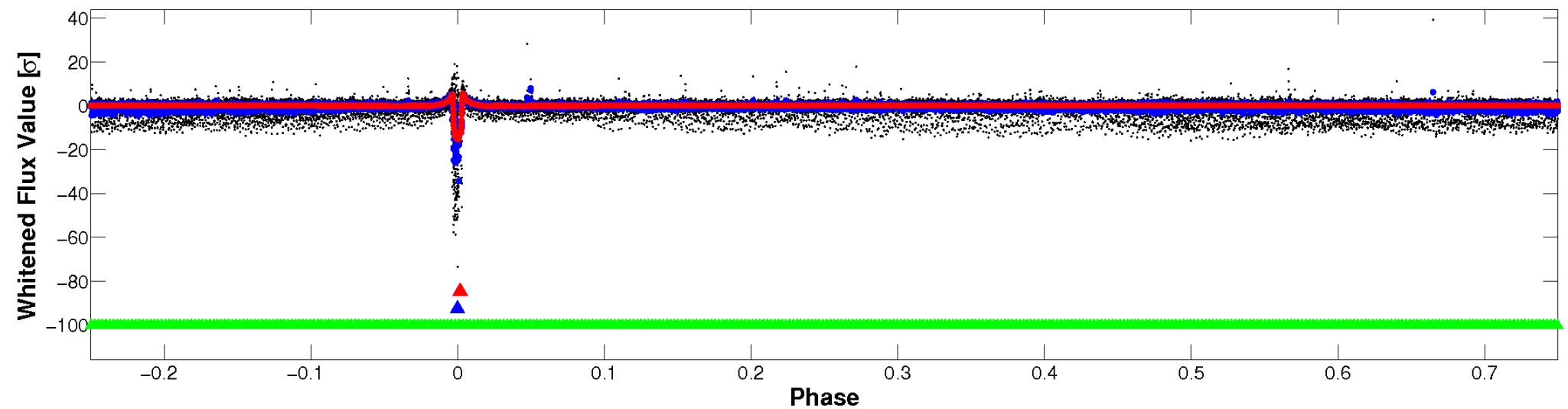


Non-Whitened Vs. Whitened Light Curve

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

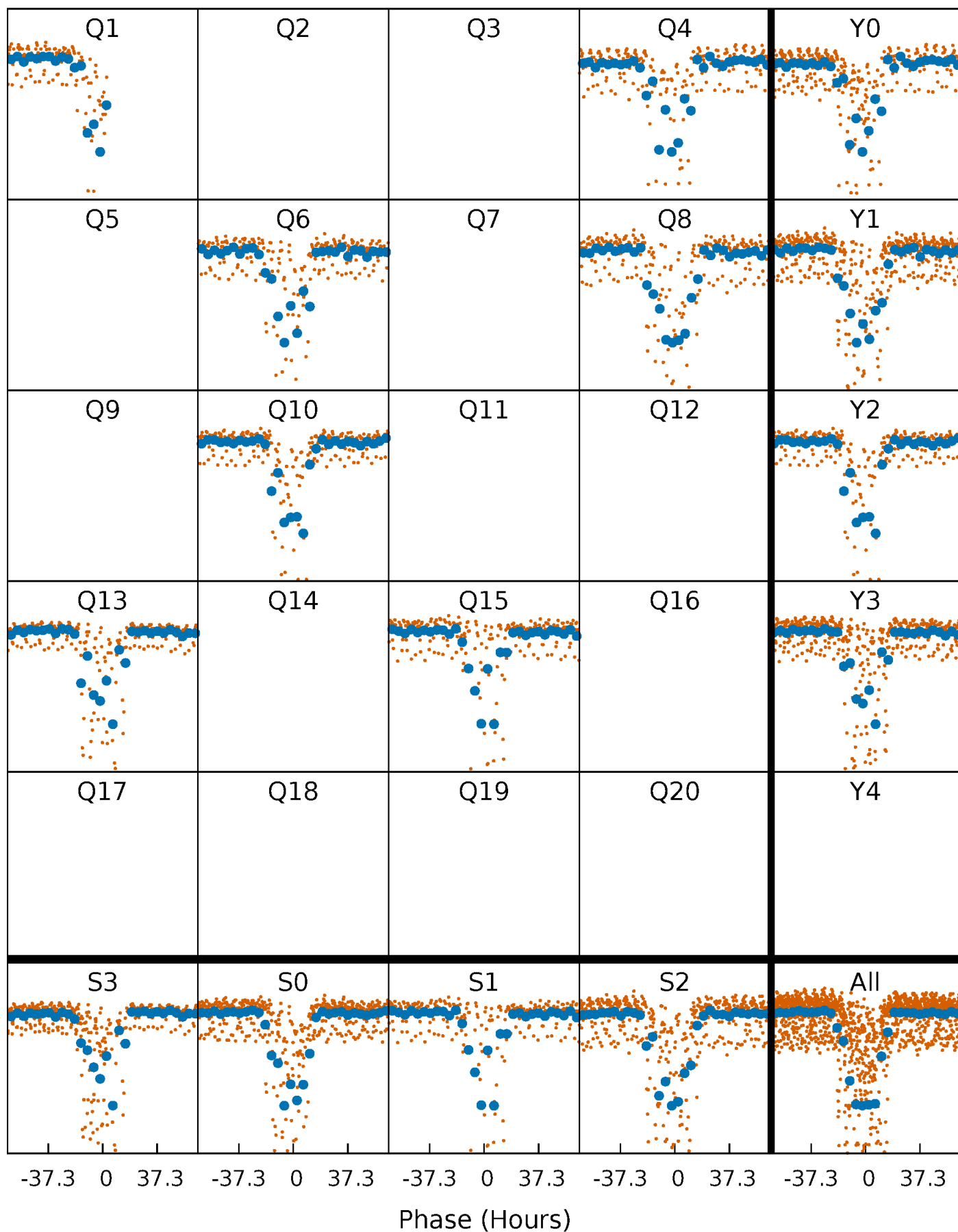


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



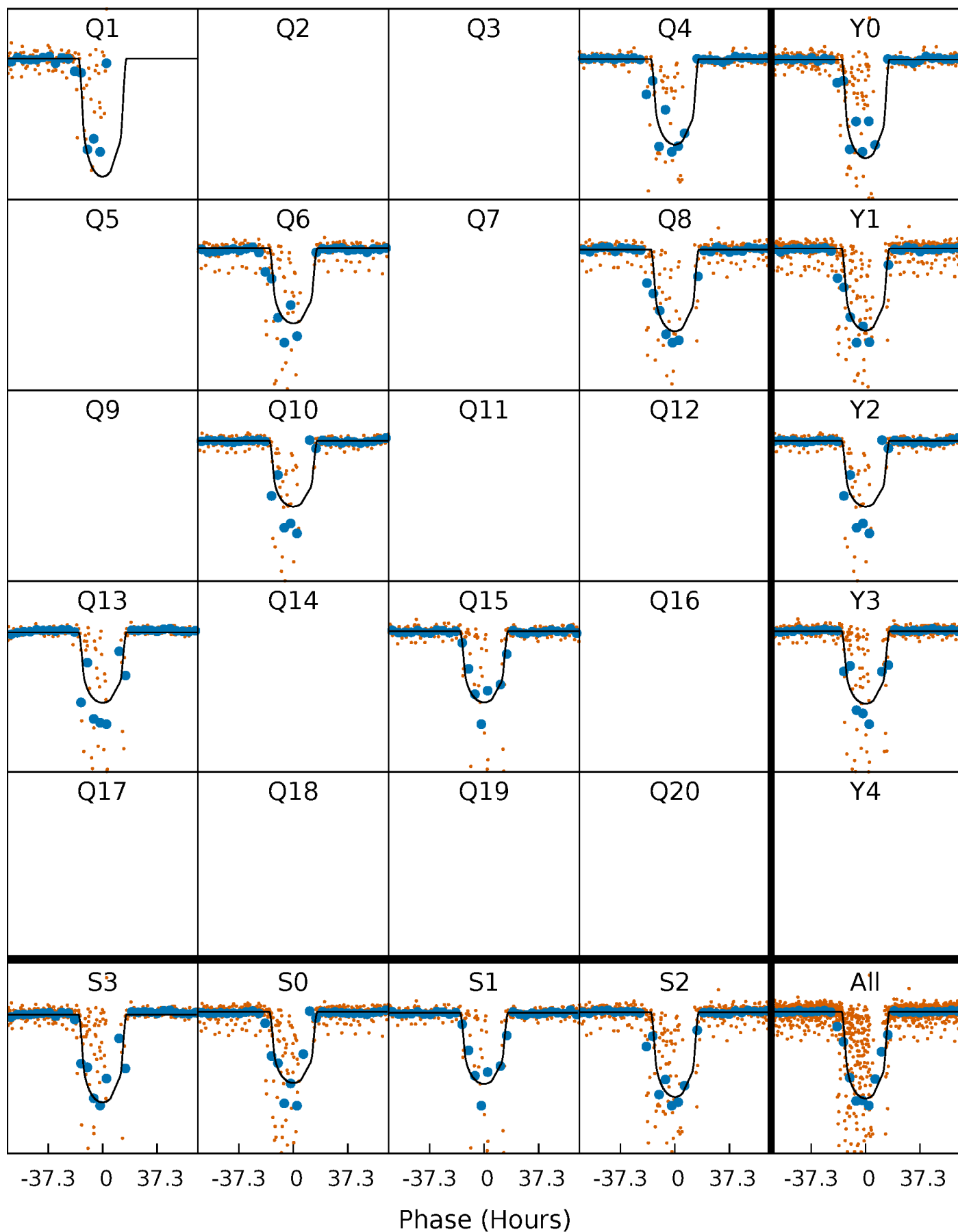
PDC Quarter-Phased Transit Curves

TCE 002856960-02 P=204.244982 Days $T_0=164.867093$ (BKJD)



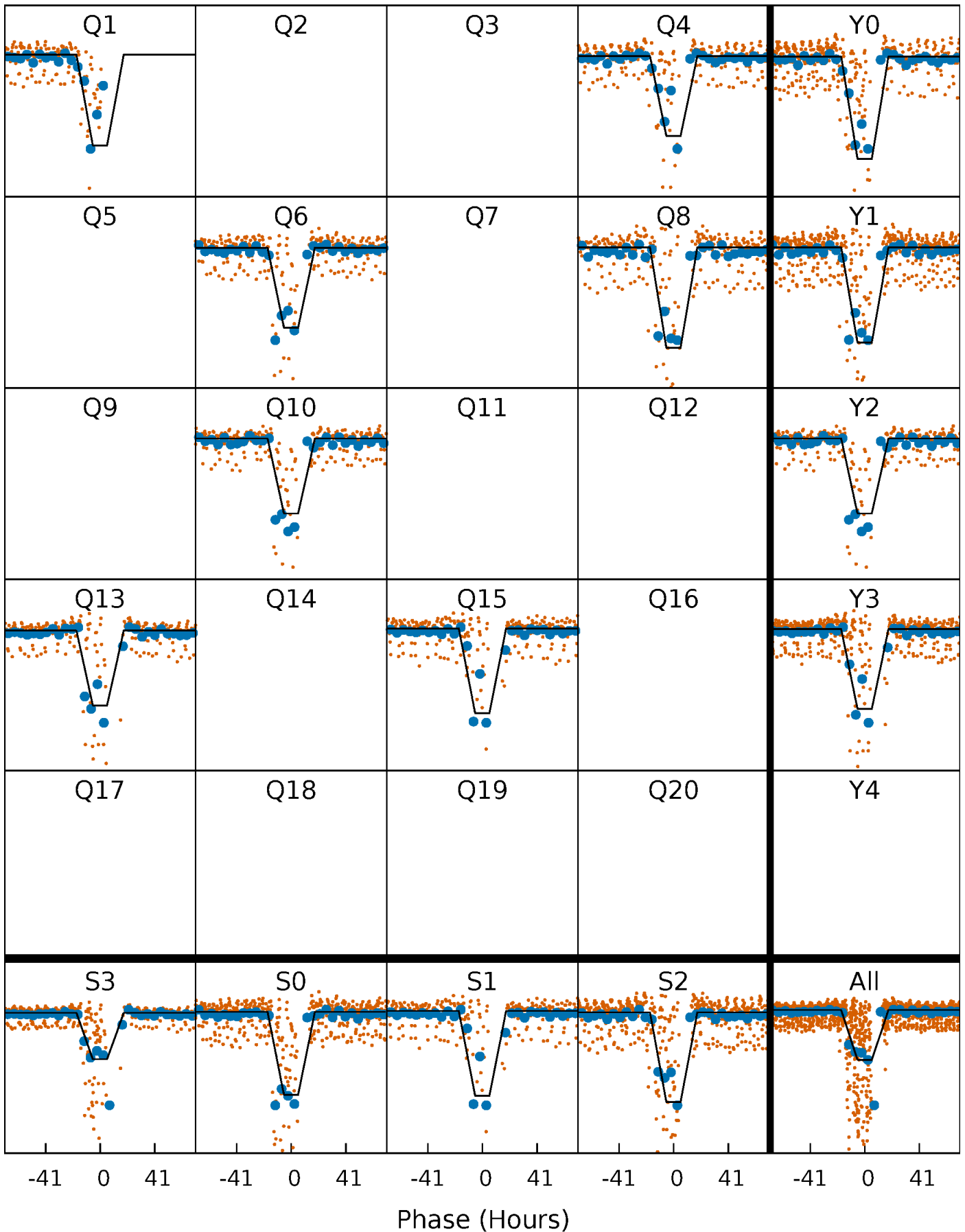
DV Quarter-Phased Transit Curves

TCE 002856960-02 $P=204.244982$ Days $T_0=164.867093$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

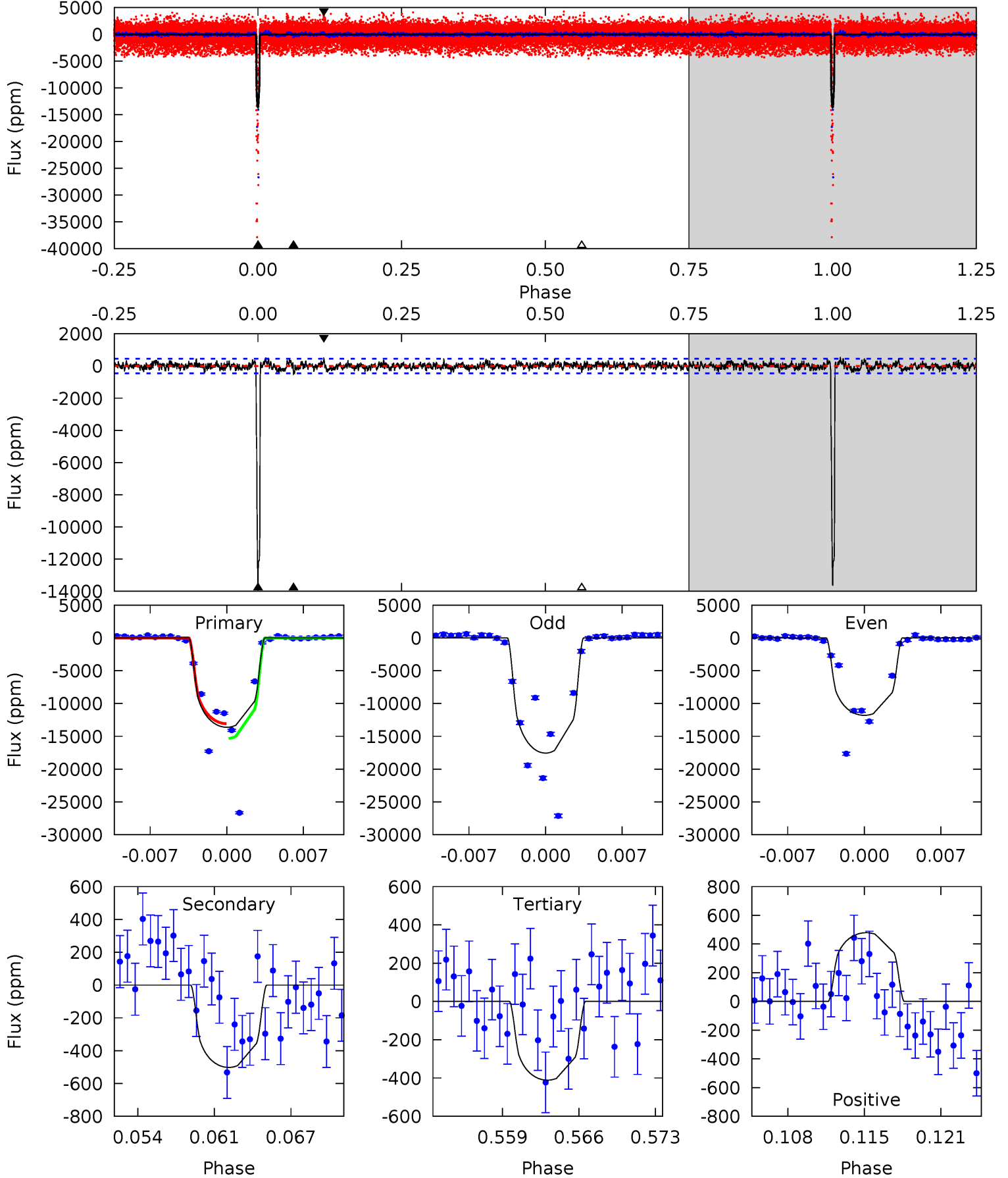
TCE 002856960-02 $P=204.212999$ Days $T_0=164.953144$ (BKJD)



DV Model-Shift Uniqueness Test

002856960-02, P = 204.244982 Days, E = 164.867093 Days

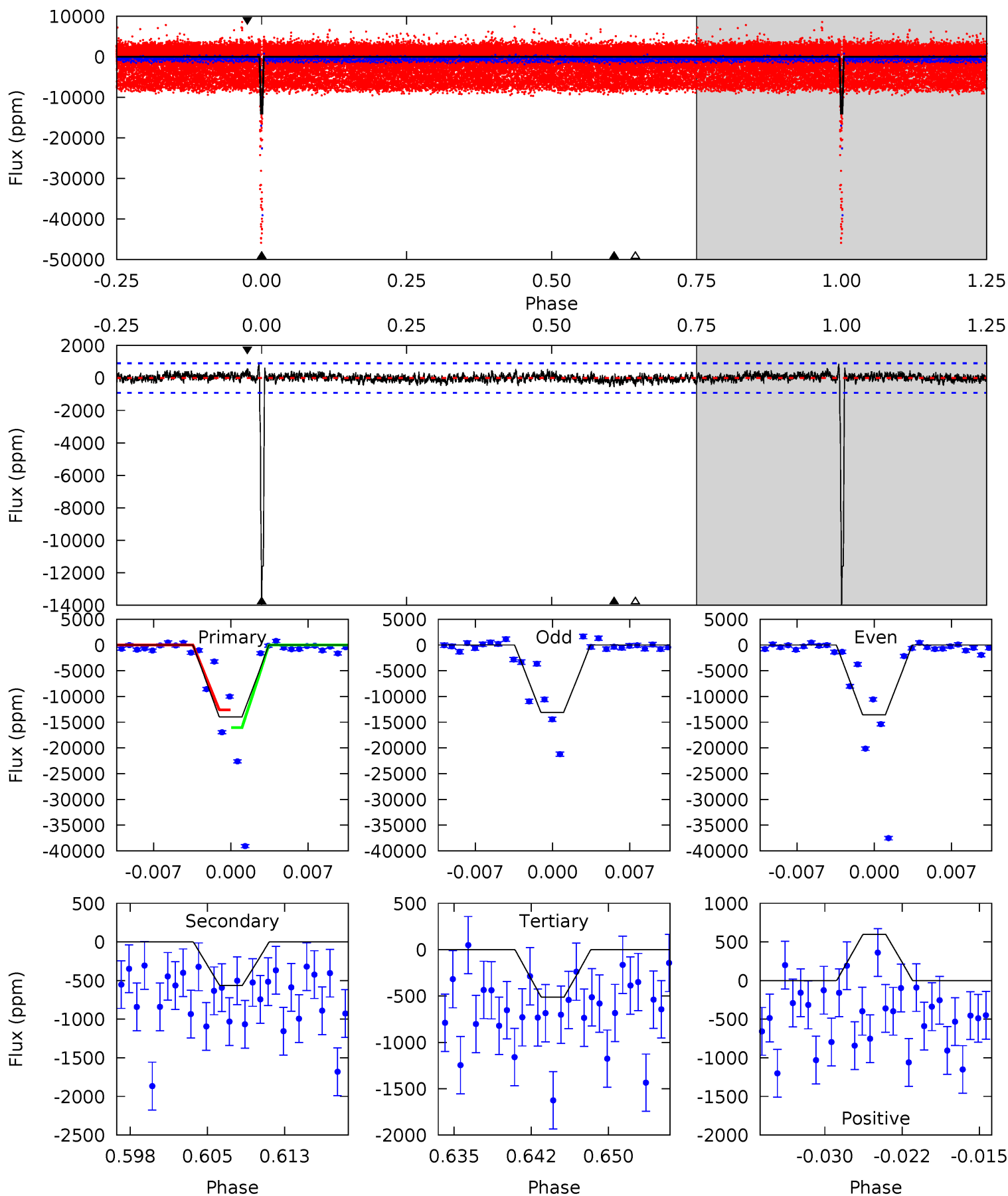
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
152.6	5.62	4.61	5.37	5.10	2.71	1.52	148.0	147.3	1.02	0.26	34.1	0.96	0.04	0



Alt Model-Shift Uniqueness Test

002856960-02, P = 204.212999 Days, E = 164.953144 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
77.8	3.13	2.85	3.33	5.08	2.68	0.89	75.0	74.5	0.28	-0.20	1.35	1.05	0.06	0



Stellar Parameters For KIC 002856960

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4907^{+146}_{-131}	$4.582^{+0.050}_{-0.045}$	$-0.120^{+0.300}_{-0.300}$	$0.727^{+0.069}_{-0.062}$	$0.737^{+0.075}_{-0.061}$	$2.702^{+0.584}_{-0.436}$
	+3%/-3%	+1%/-1%	+250%/-250%	+9%/-9%	+10%/-8%	+22%/-16%
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 002856960-02 / KOI 6295.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-501 ± 89	$9.86^{+0.51}_{-0.50}$	329^{+13}_{-11}	2796^{+81}_{-84}	1091^{+224}_{-194}
Alt.	-563 ± 180	$11.36^{+0.63}_{-0.55}$	330^{+10}_{-11}	2725^{+120}_{-139}	894^{+321}_{-289}

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 $A_{obs} \gg 1.0$

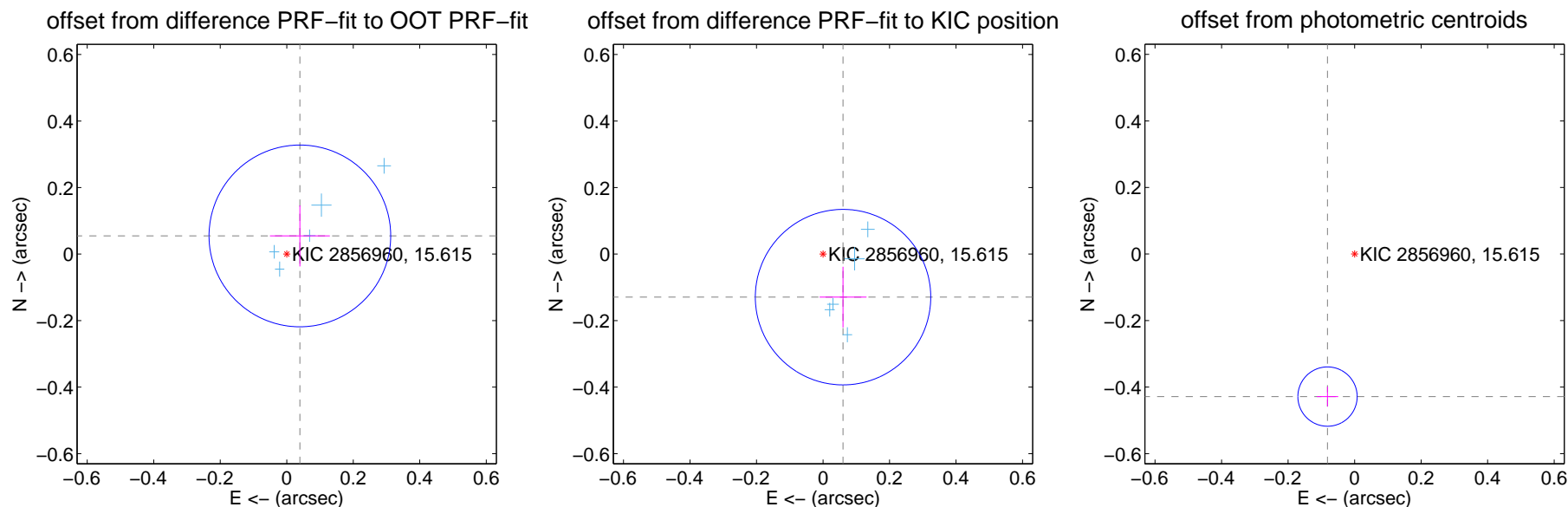
DV Centroid Data

Supplemental centroid analysis for 002856960-02. Kepler magnitude: 15.62. Transit SNR 105.93

There are 5 quarters with good PRF difference image offsets

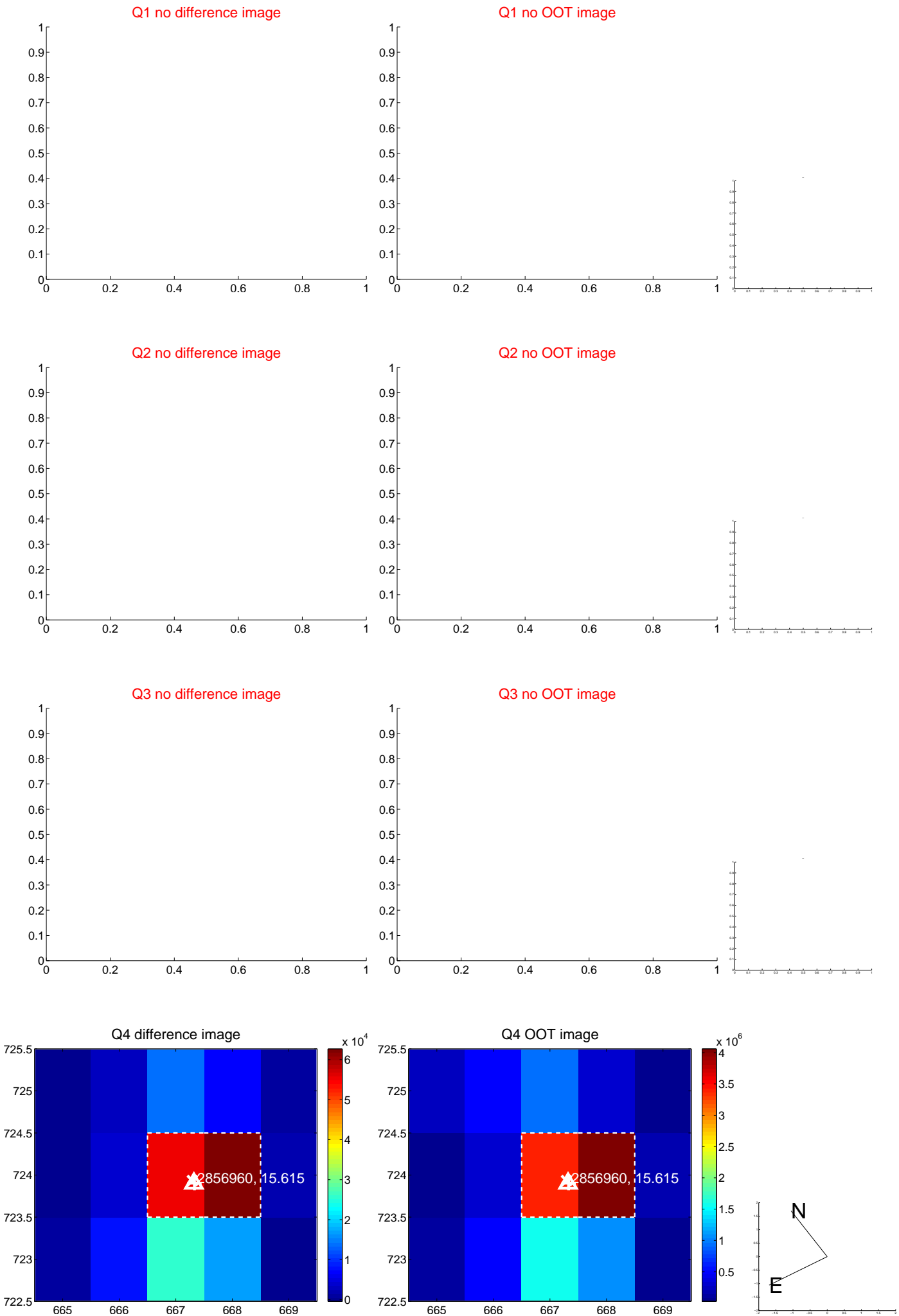
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.067 ± 0.091	0.74	-0.039 ± 0.090	0.055 ± 0.092
PRF-fit source offset from KIC position	0.143 ± 0.088	1.62	-0.060 ± 0.071	-0.129 ± 0.091
photometric centroid source offset	0.44 ± 0.03	14.68	0.08 ± 0.03	-0.43 ± 0.03



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.

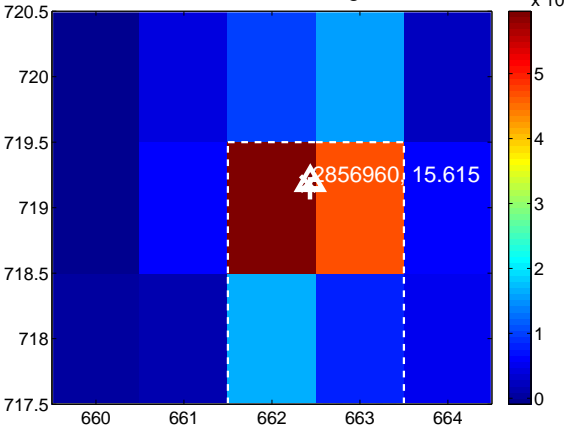
Q5 no difference image



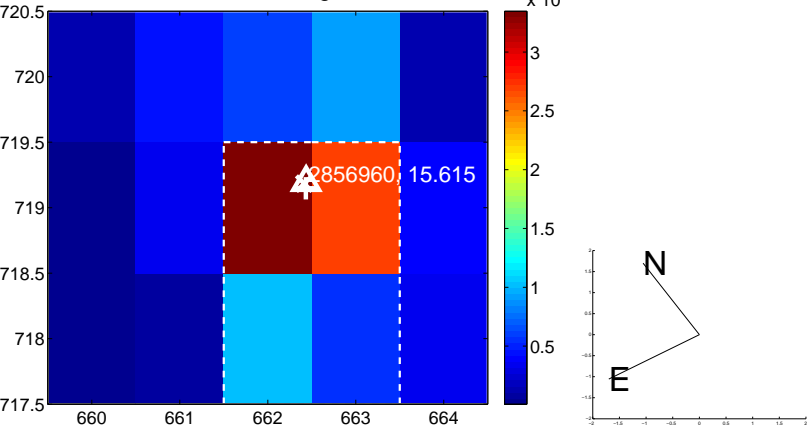
Q5 no OOT image



Q6 difference image



Q6 OOT image



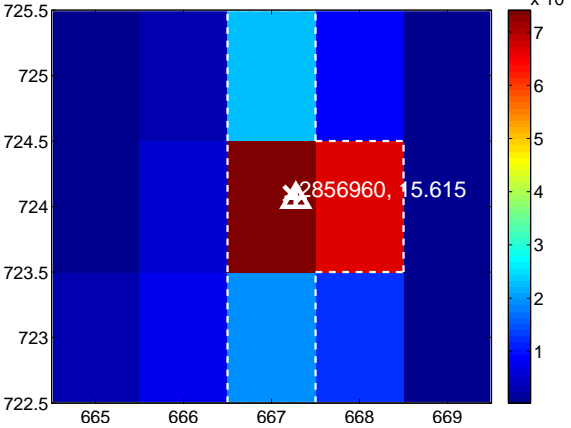
Q7 no difference image



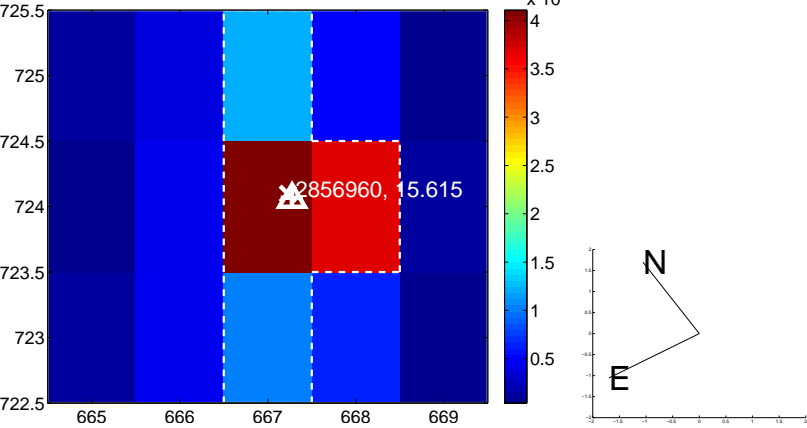
Q7 no OOT image



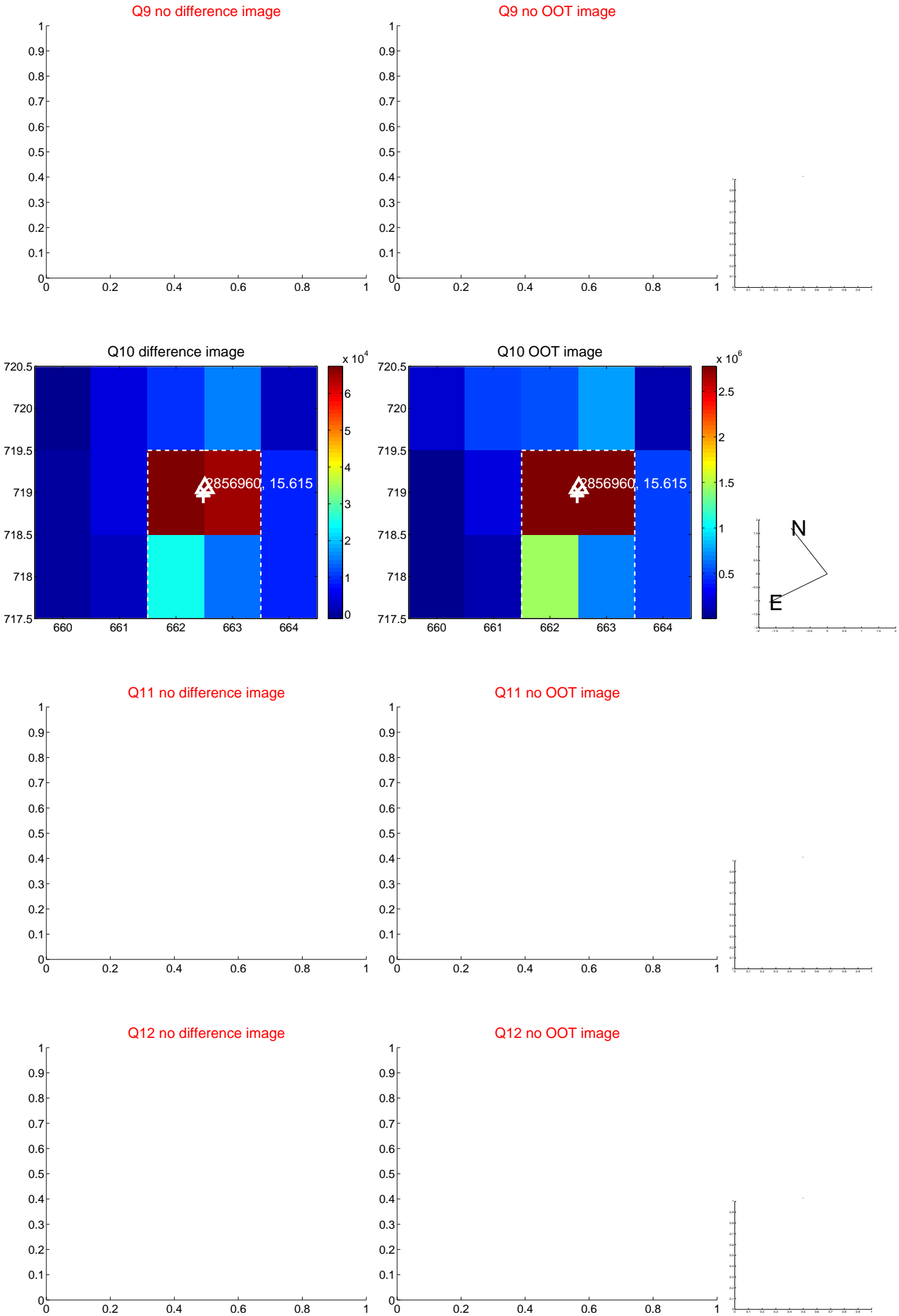
Q8 difference image



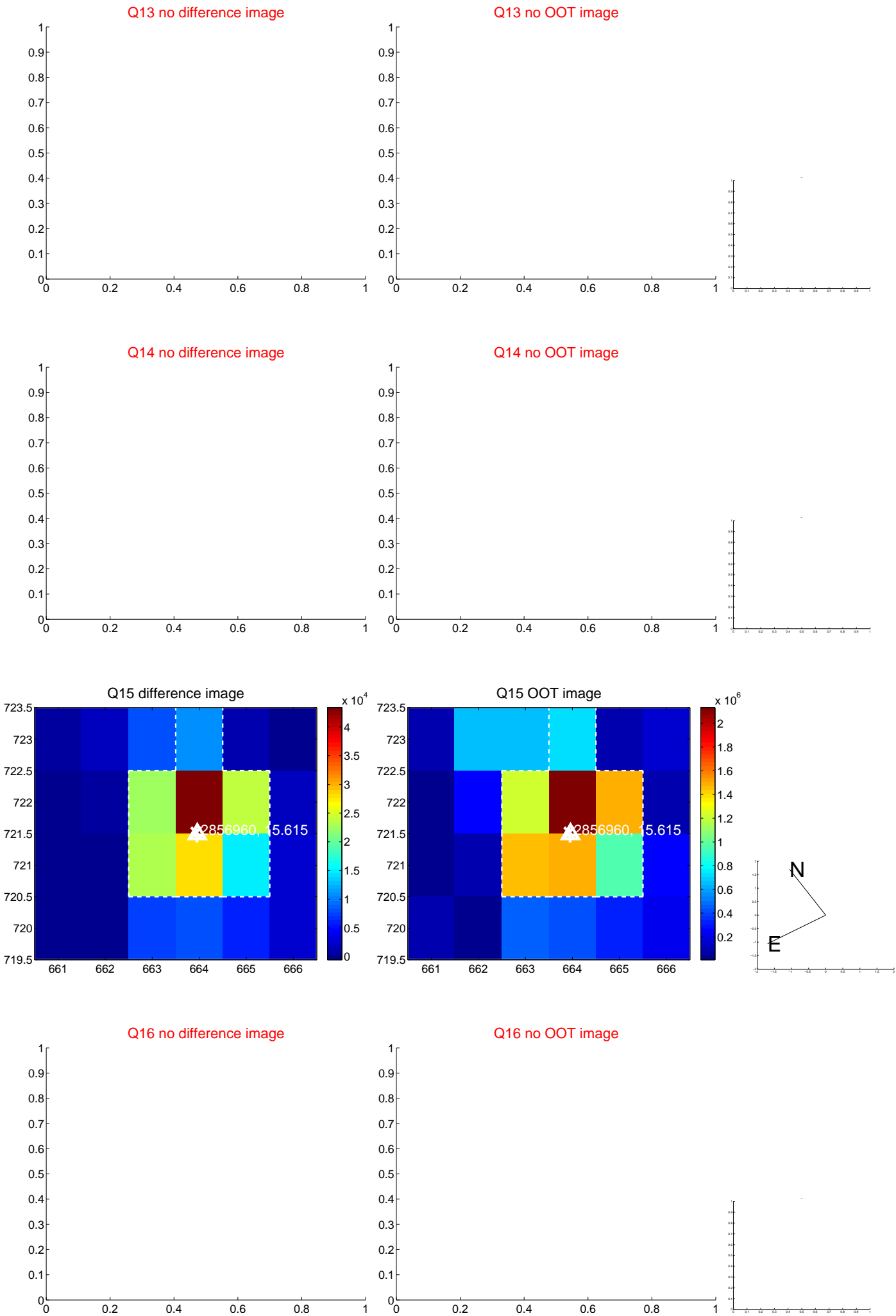
Q8 OOT image



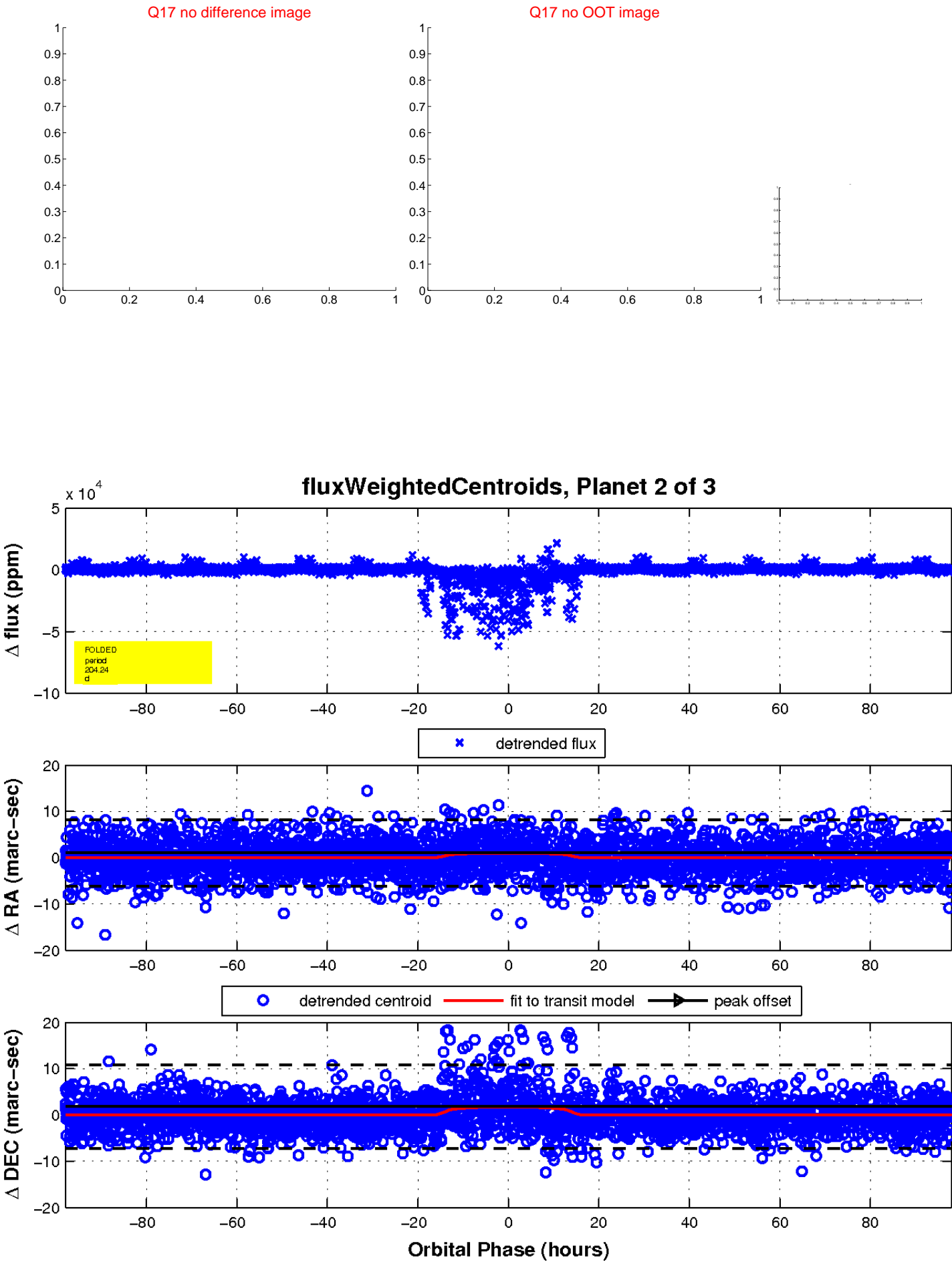
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



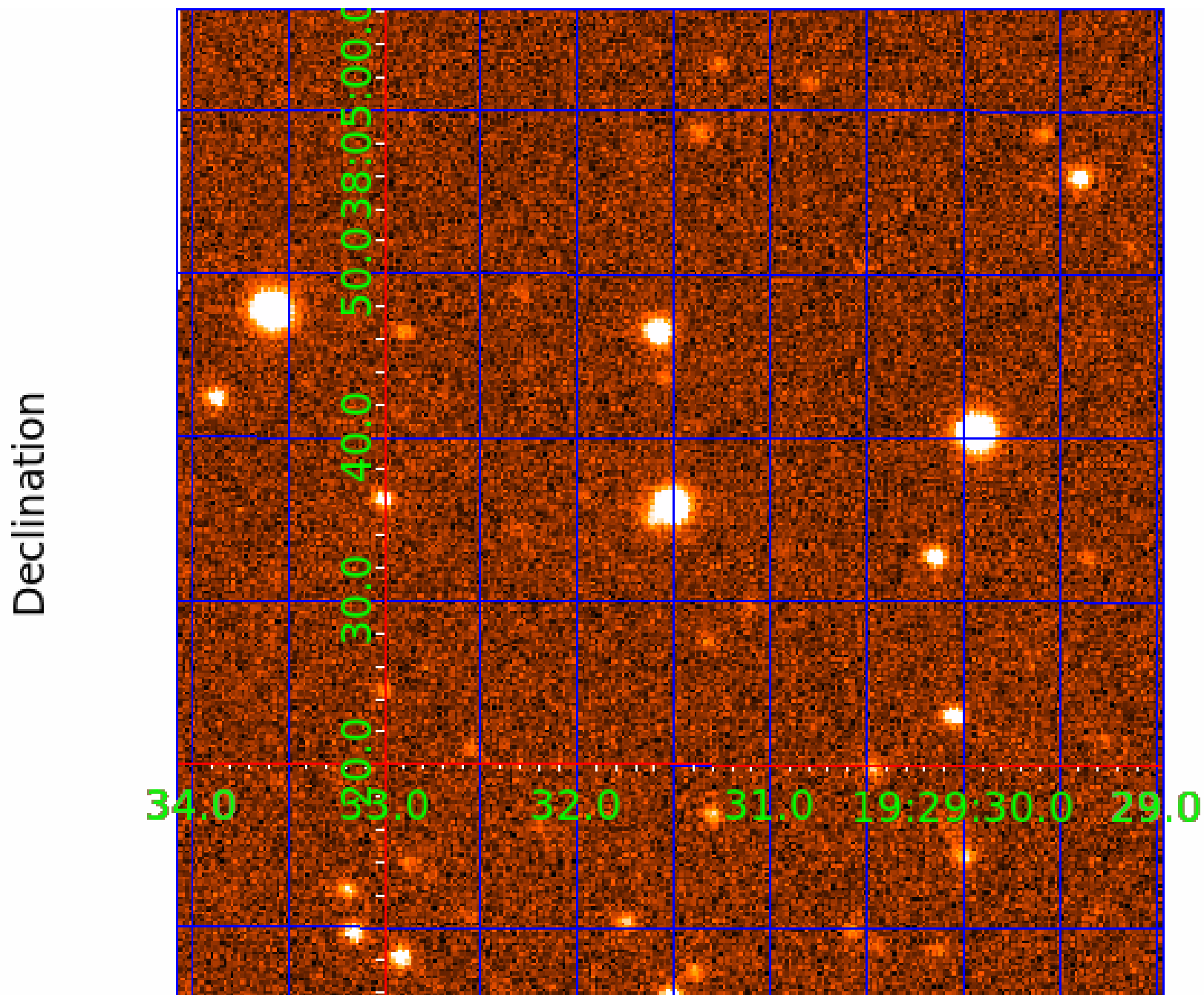
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 002856960

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})
002856960-01	OBS	No	204.224110	165.298619	37606.3	2.774	176.1	157.4	0.73	4907	13.67	0.73
002856960-02	OBS	6295.01	204.244982	164.867093	19563.7	32.664	211.5	105.9	0.73	4907	9.82	0.73
002856960-03	OBS	No	0.517015	131.532869	5424.7	1.500	83.3	-1.0	0.73	4907	5.21	2117.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002856960-01	OBS	FP	0.00	1	0	0	0	LPP_DV
002856960-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
002856960-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—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 002856960-03

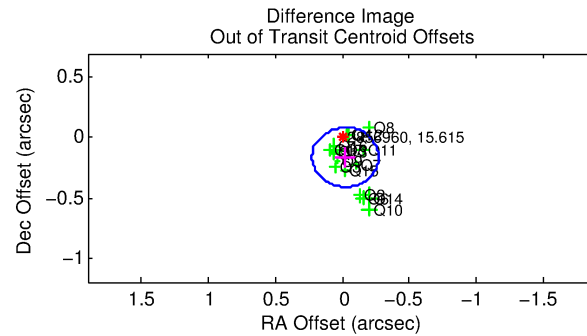
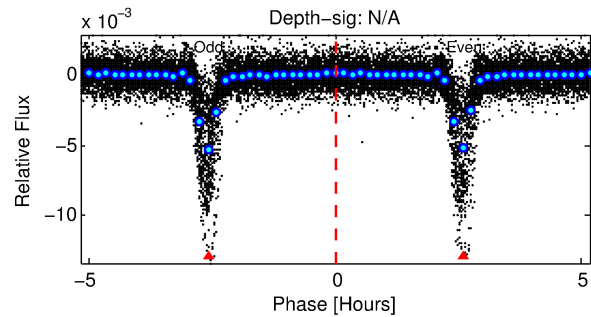
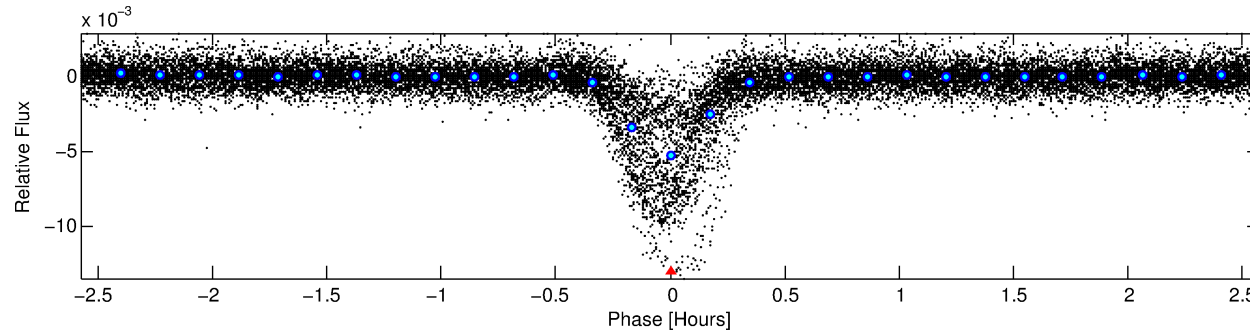
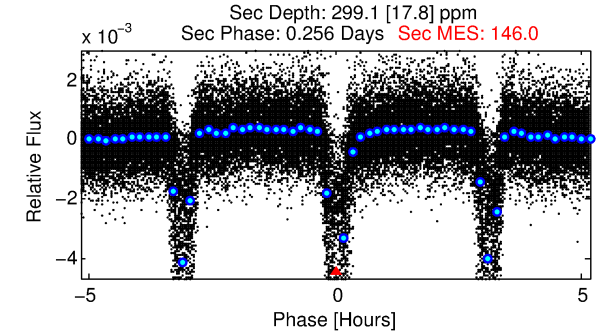
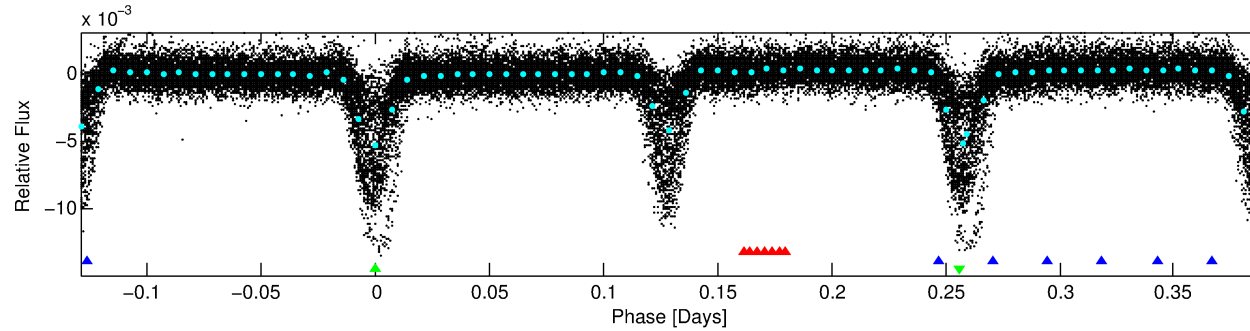
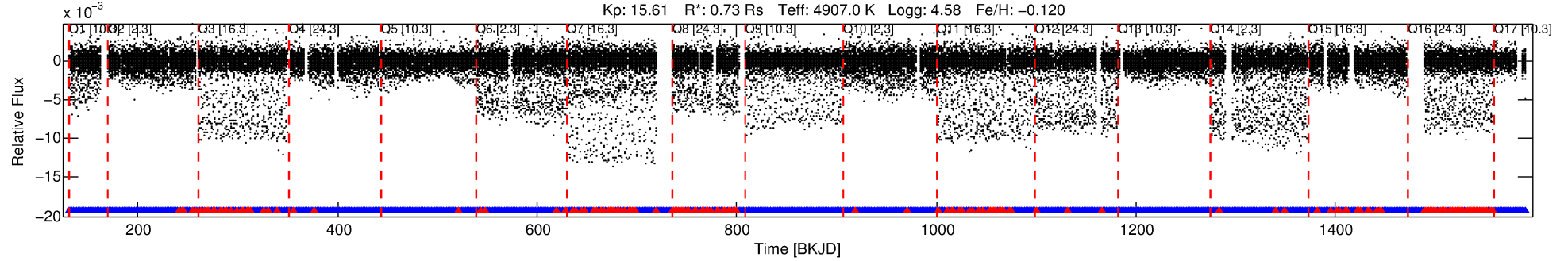
No Significant Match Found

DV One-Page Summary

KIC: 2856960 Candidate: 3 of 3 Period: 0.517 d

KOI: K06295 Corr: No Ephemeris Match

Kp: 15.61 R*: 0.73 Rs Teff: 4907.0 K Logg: 4.58 Fe/H: -0.120



TPS TCE Results:

Period = 0.51702 d
Epoch = 131.5329 BKJD

DV fit results are unavailable

DV Diagnostic Results:

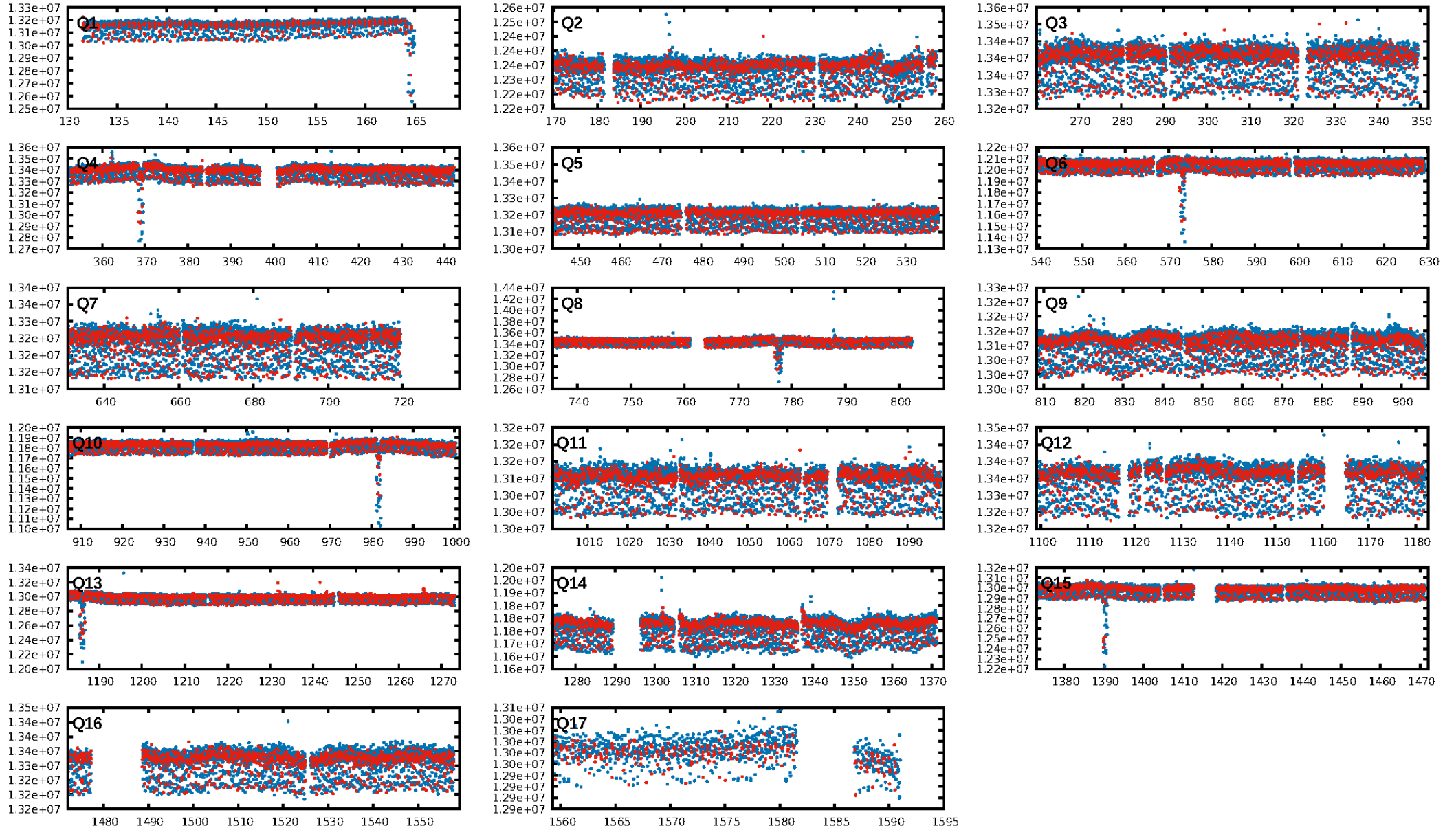
ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [1550.48σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.91 [2213/2420]
GhostDiagnostic-chr: N/A

Centroid-sig: 0.0%
Centroid-so: 0.388 arcsec [19.28σ]
OotOffset-rm: 0.164 arcsec [1.99σ]
KicOffset-rm: 0.316 arcsec [3.88σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

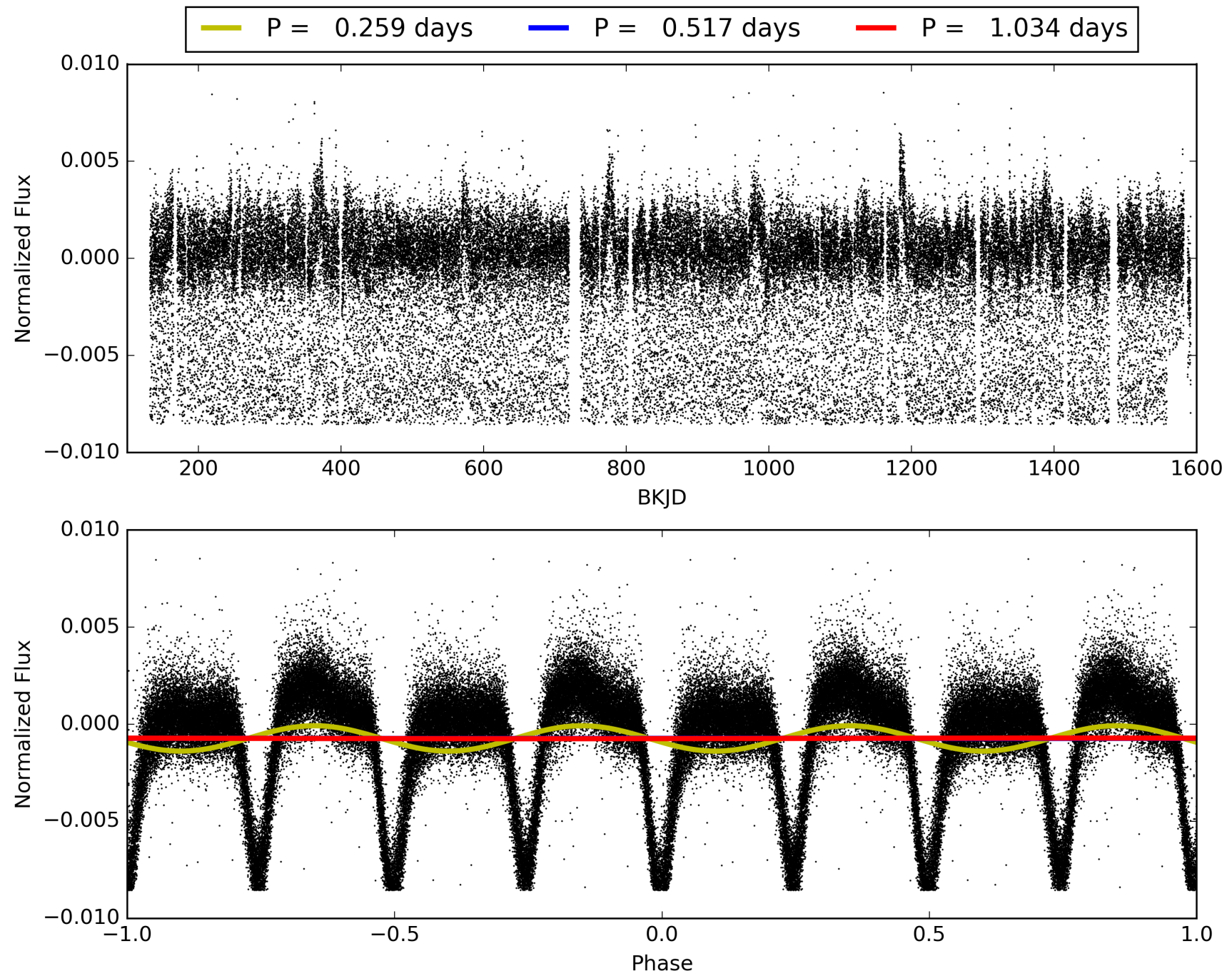
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:03:27 Z

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

TCE 002856960-03, PDC Light Curves

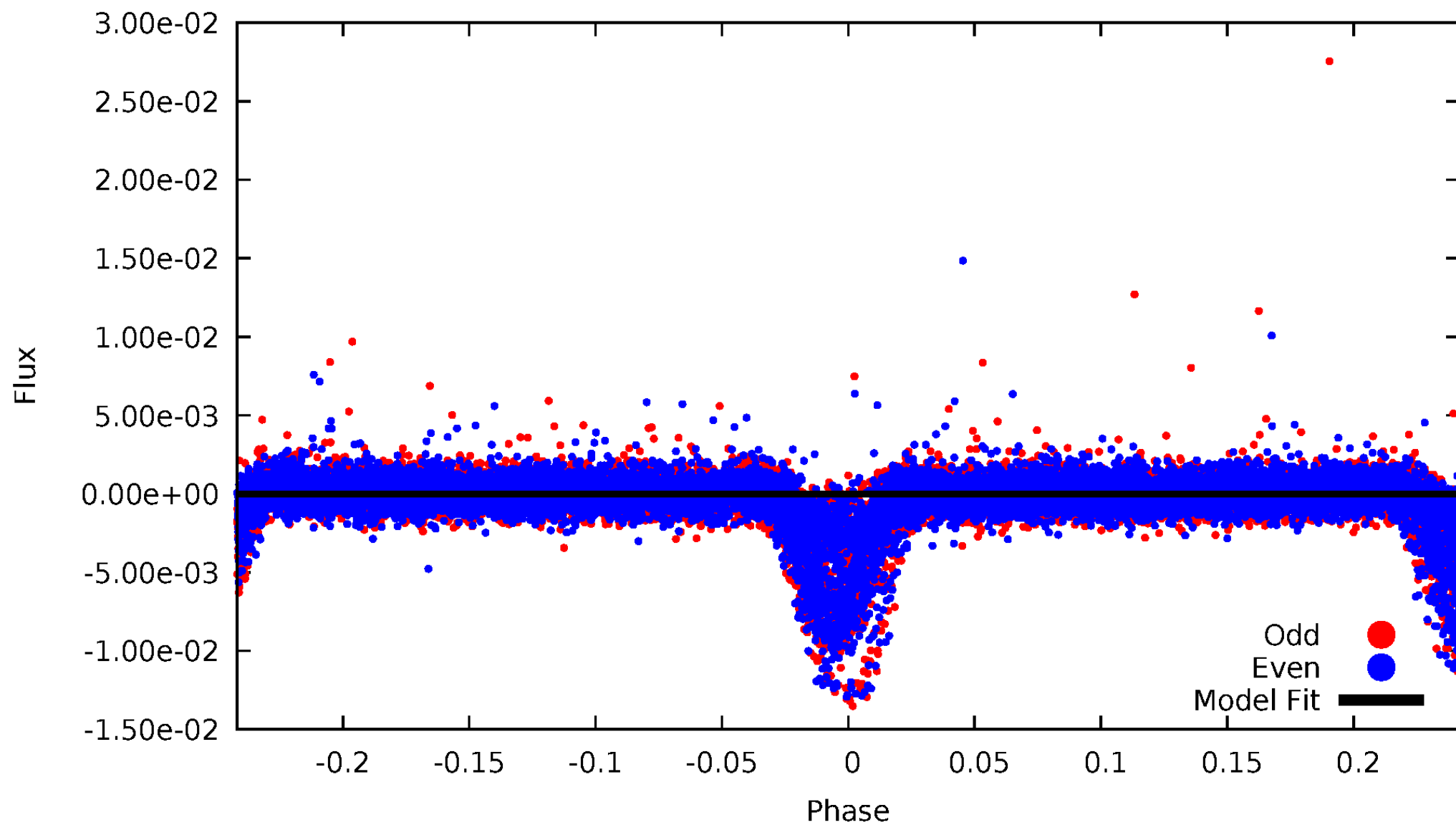


TCE 002856960-03



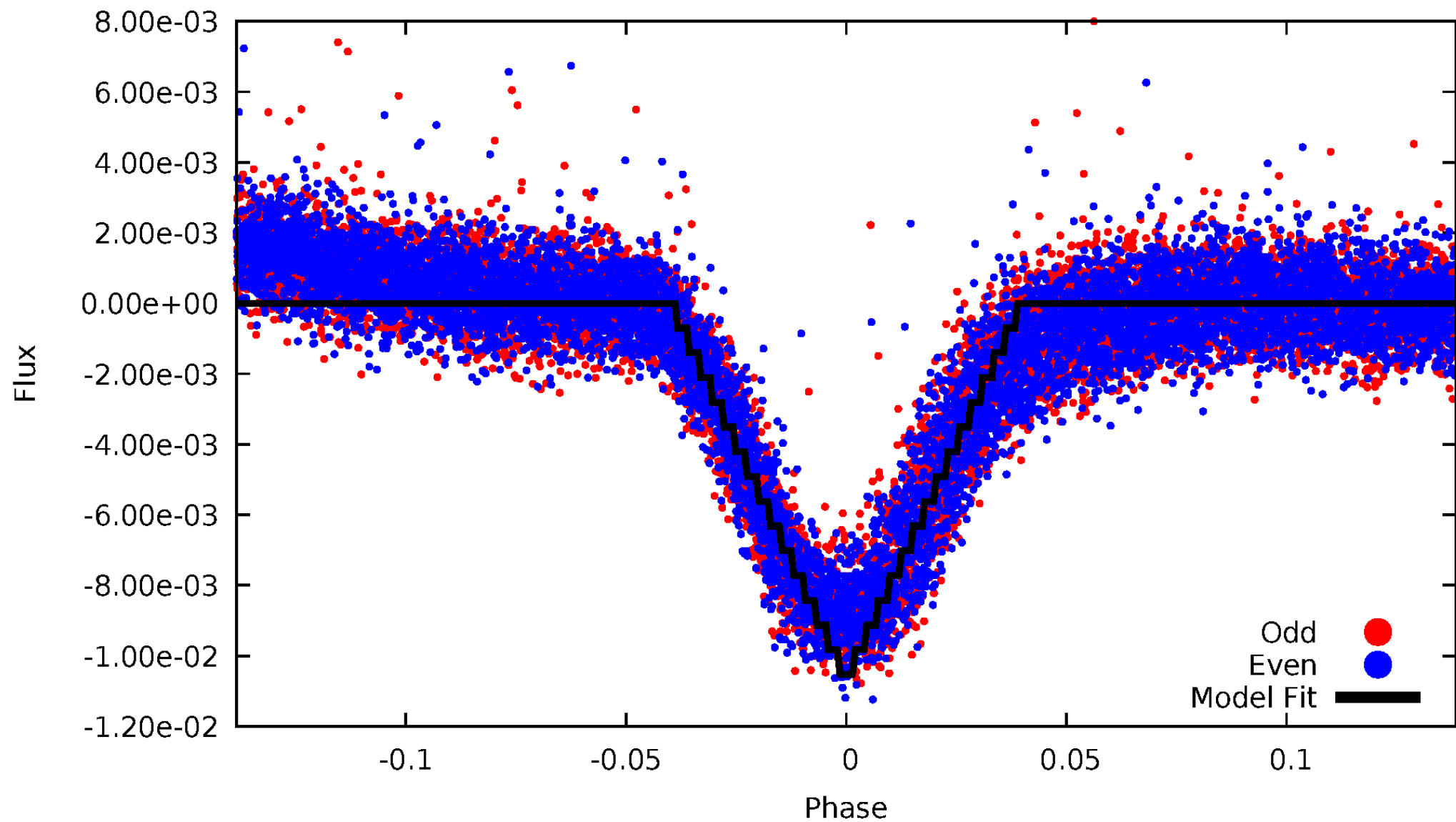
DV Odd/Even

TCE 002856960-03

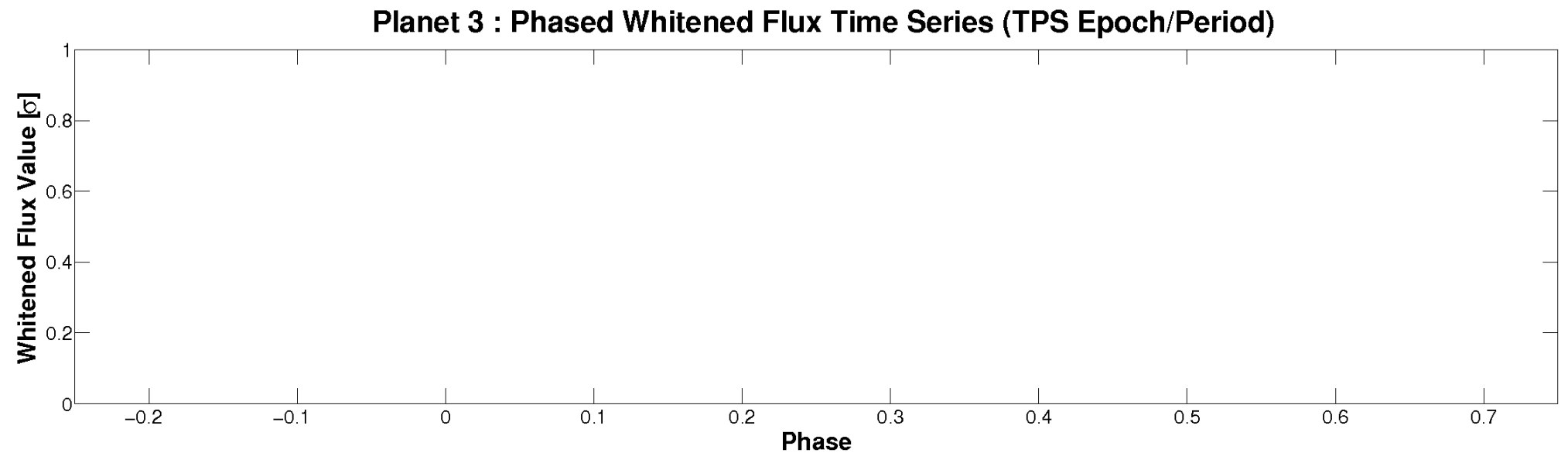
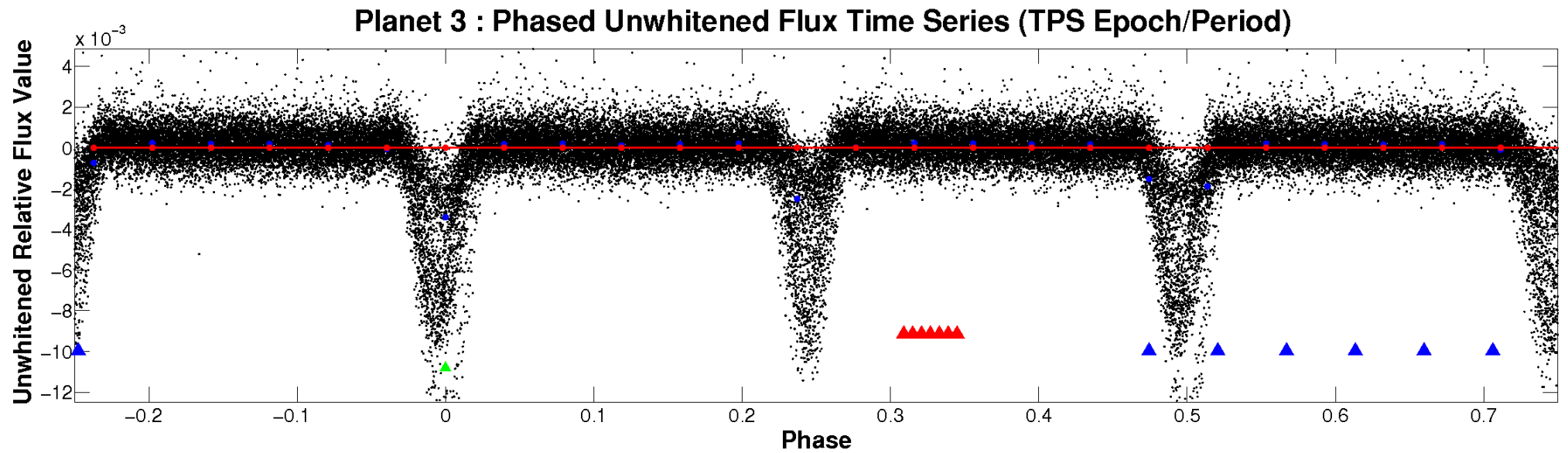


ALT Odd/Even

TCE 002856960-03

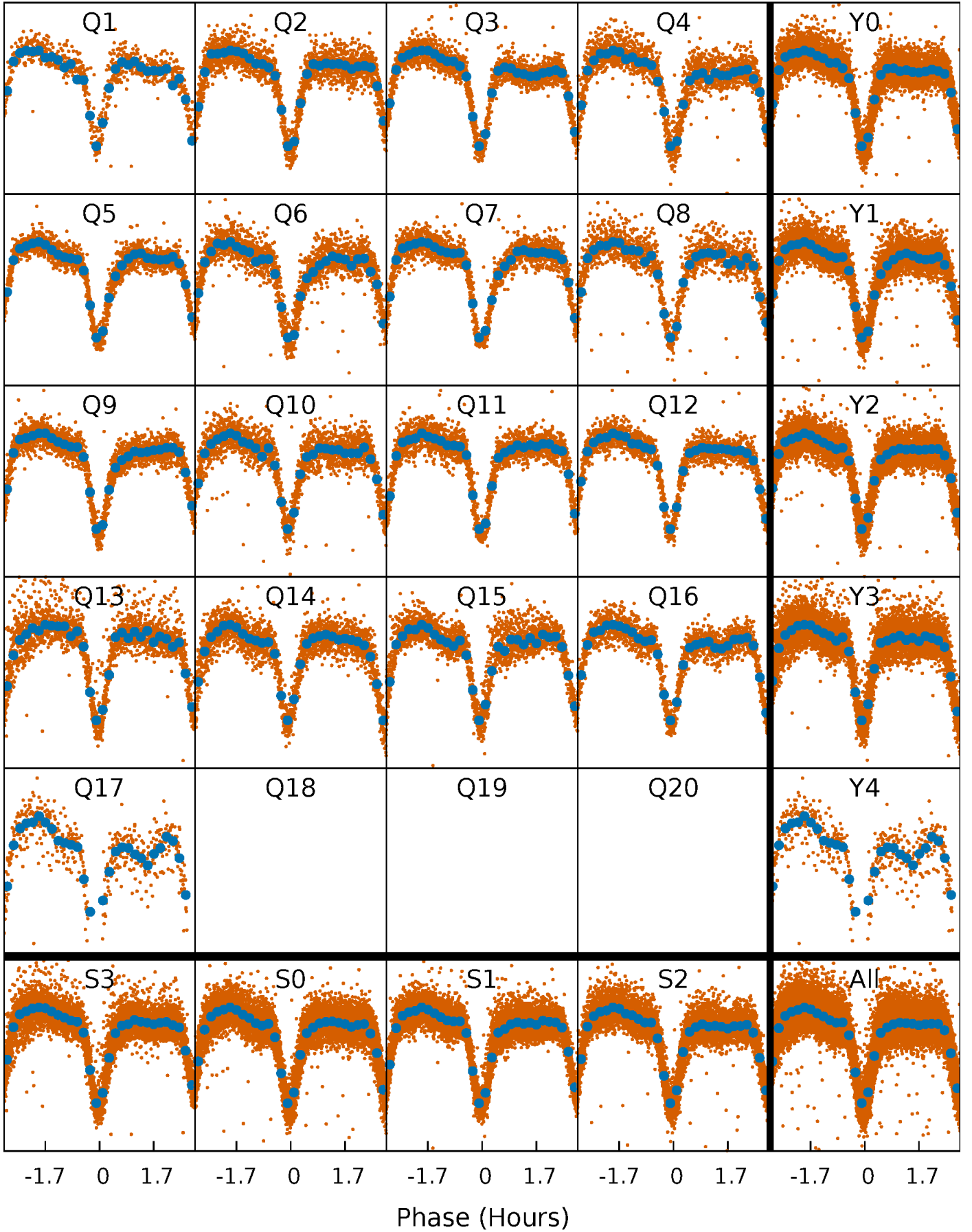


Non-Whitened Vs. Whitened Light Curve



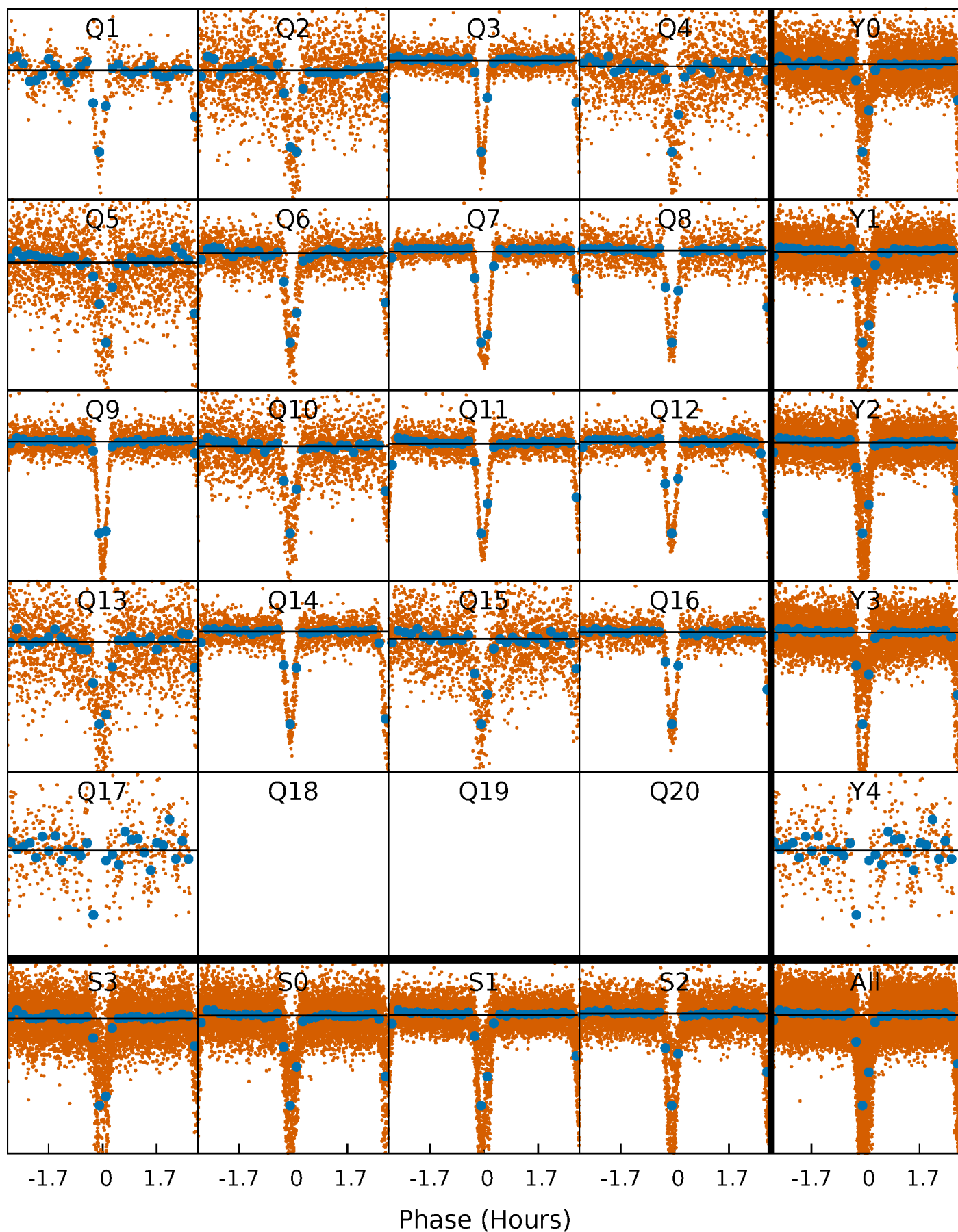
PDC Quarter-Phased Transit Curves

TCE 002856960-03 P= 0.517015 Days $T_0=131.532869$ (BKJD)



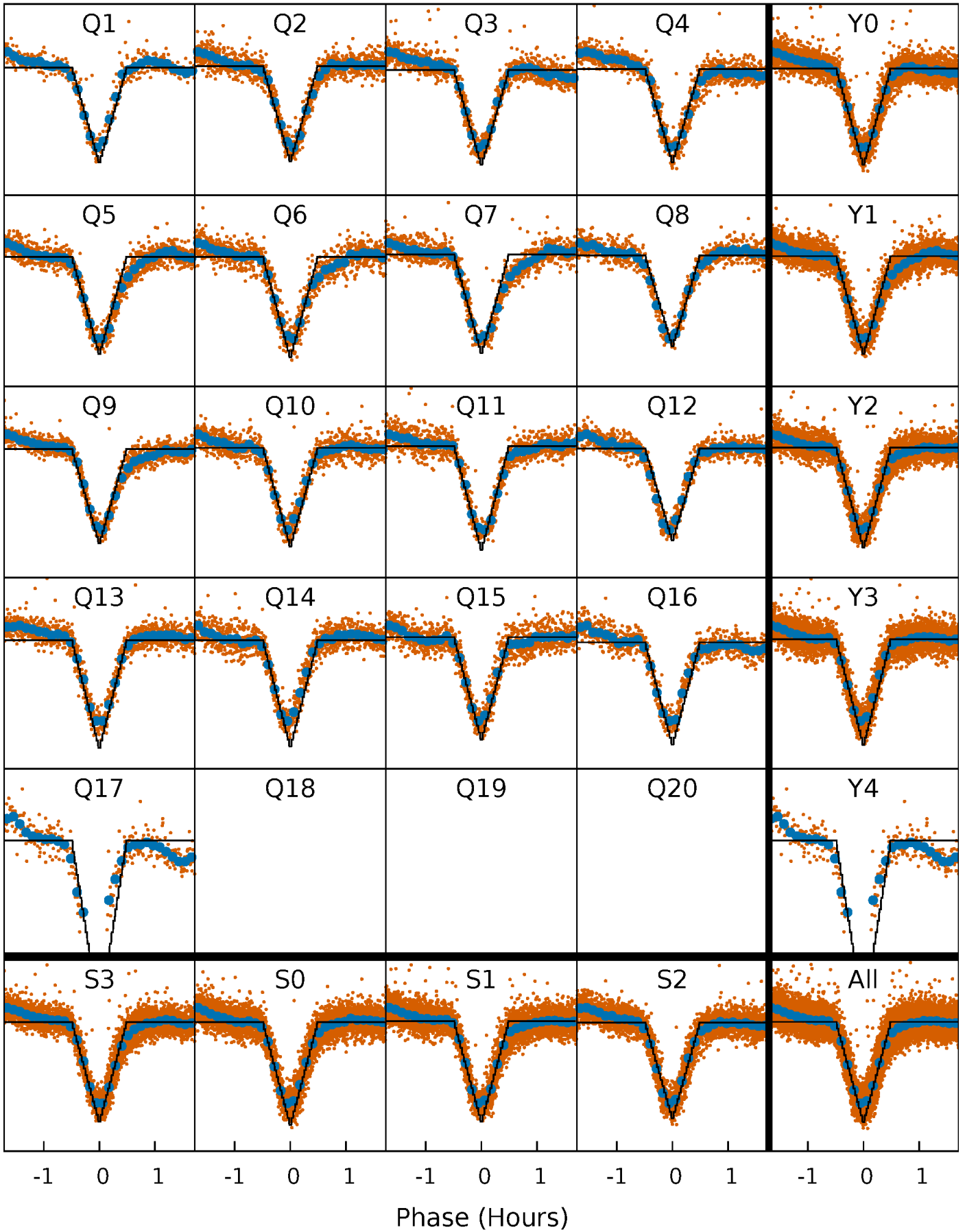
DV Quarter-Phased Transit Curves

TCE 002856960-03 P= 0.517015 Days $T_0=131.532869$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

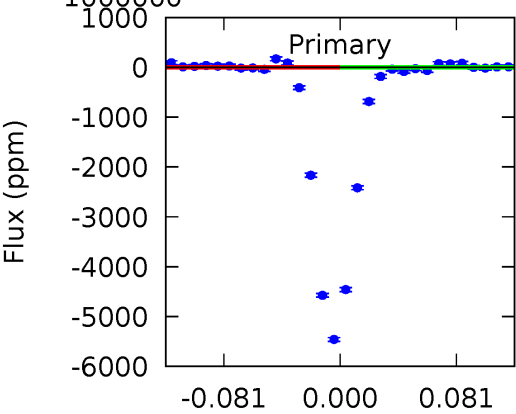
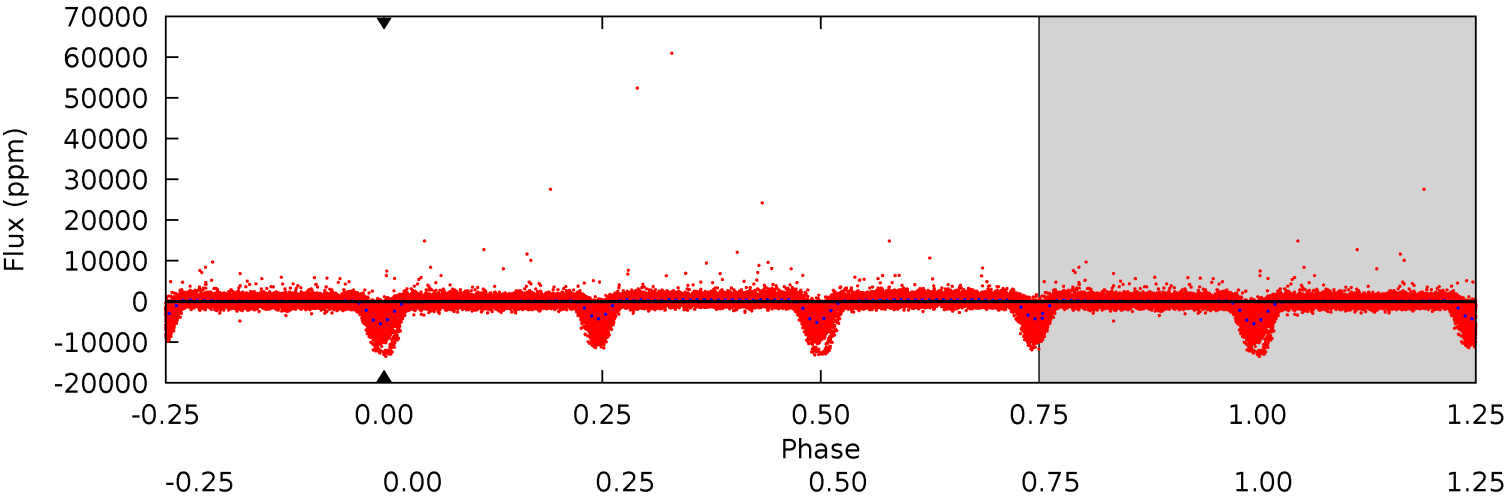
TCE 002856960-03 P= 0.517015 Days $T_0=131.531248$ (BKJD)



DV Model-Shift Uniqueness Test

002856960-03, P = 0.517015 Days, E = 131.015854 Days

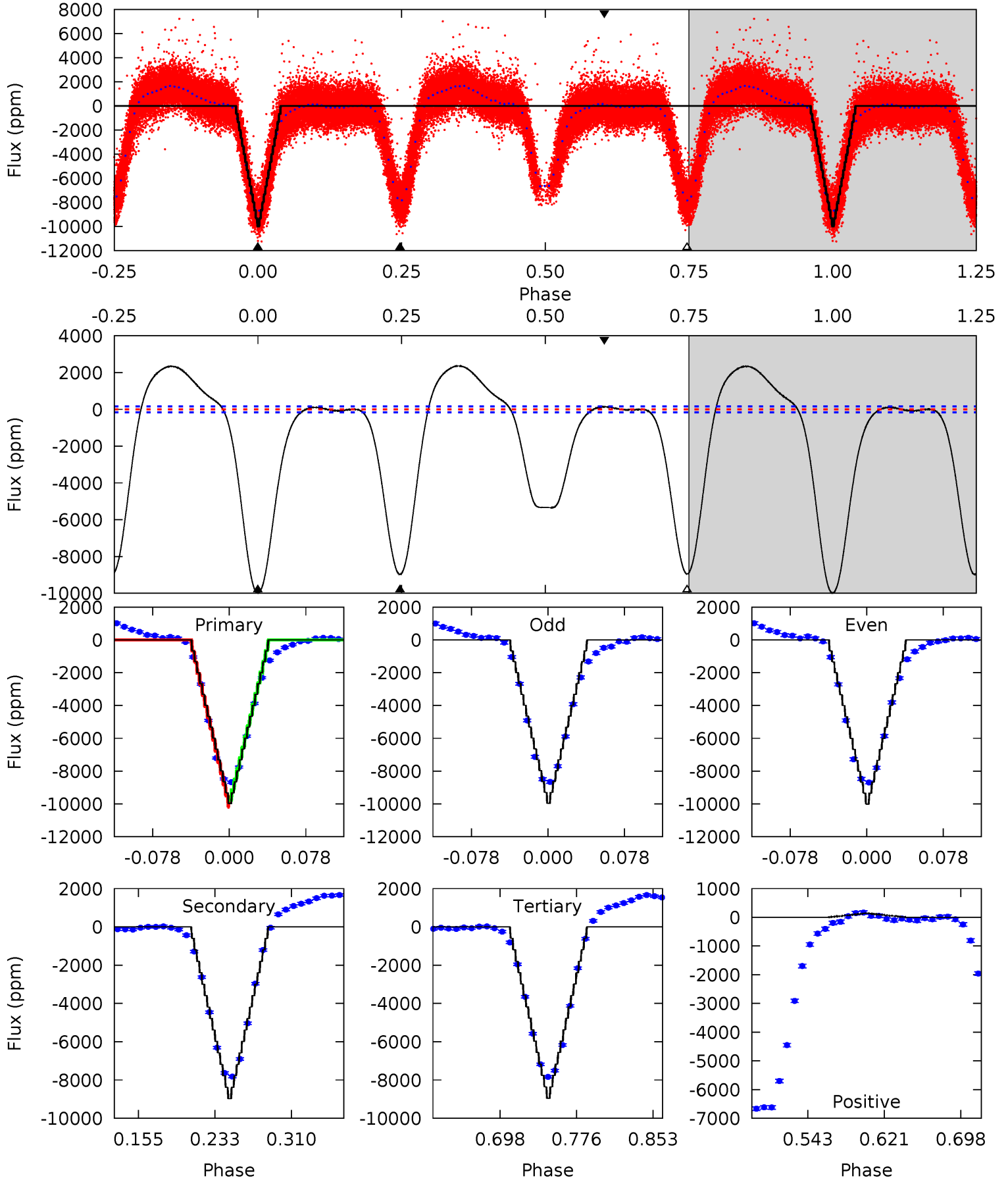
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

002856960-03, P = 0.517015 Days, E = 131.014233 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
289.8	260.6	259.8	4.15	4.62	1.76	79.0	30.0	285.7	0.74	256.4	0.68	1.00	0.19	6.64



Stellar Parameters For KIC 002856960

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4907^{+146}_{-131}	$4.582^{+0.050}_{-0.045}$	$-0.120^{+0.300}_{-0.300}$	$0.727^{+0.069}_{-0.062}$	$0.737^{+0.075}_{-0.061}$	$2.702^{+0.584}_{-0.436}$
	+3%/-3%	+1%/-1%	+250%/-250%	+9%/-9%	+10%/-8%	+22%/-16%
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 002856960-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$7.36^{+7.42}_{-4.86}$	2418^{+88}_{-85}	3273^{+7962}_{-14587}	$1.658^{+200.075}_{-211.373}$
Alt.	-8978 ± 34	$9.56^{+7.62}_{-5.76}$	2418^{+82}_{-84}	4448^{+2242}_{-905}	$7.062^{+35.421}_{-4.855}$

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

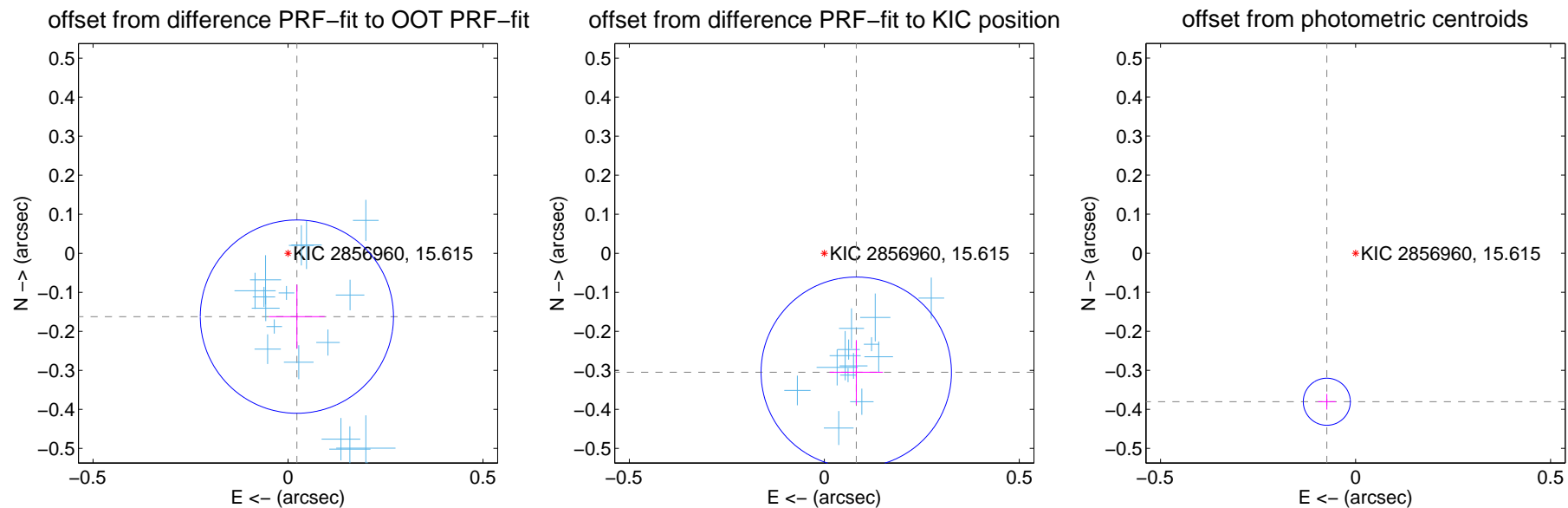
DV Centroid Data

Supplemental centroid analysis for 002856960-03. Kepler magnitude: 15.62. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

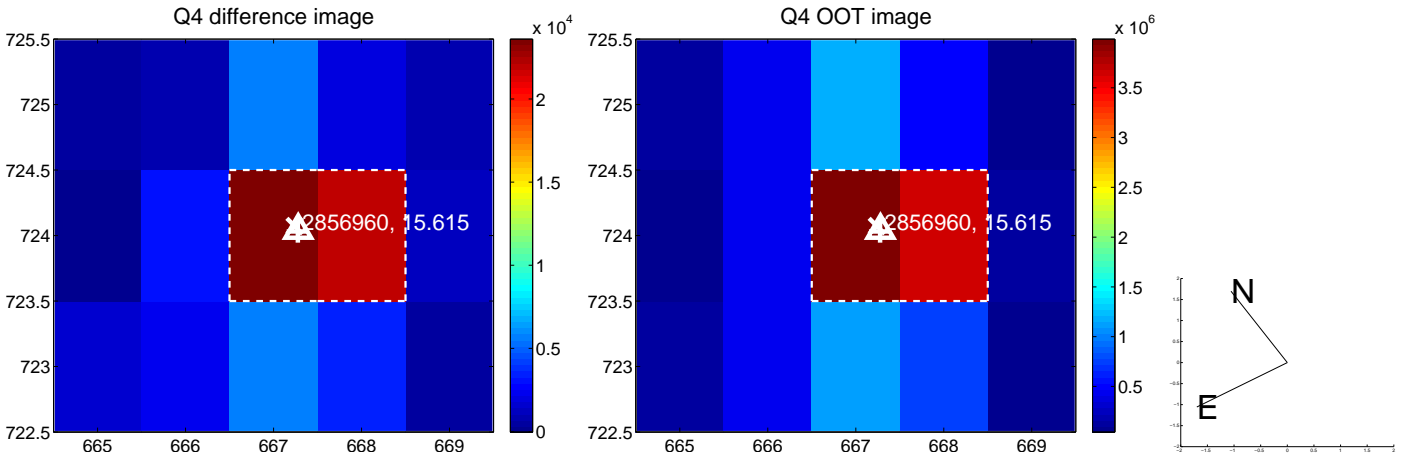
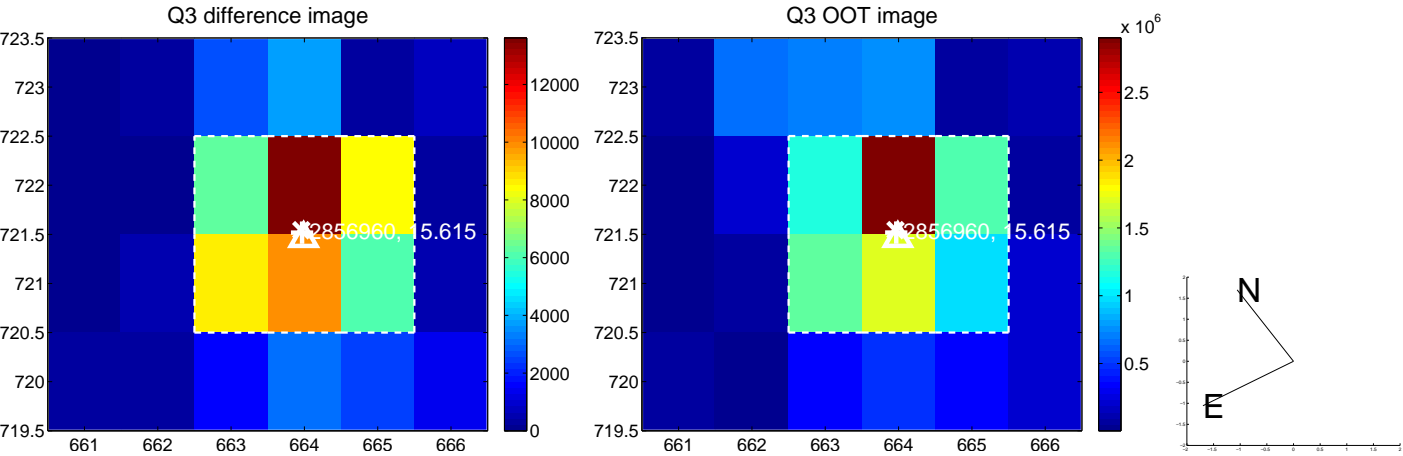
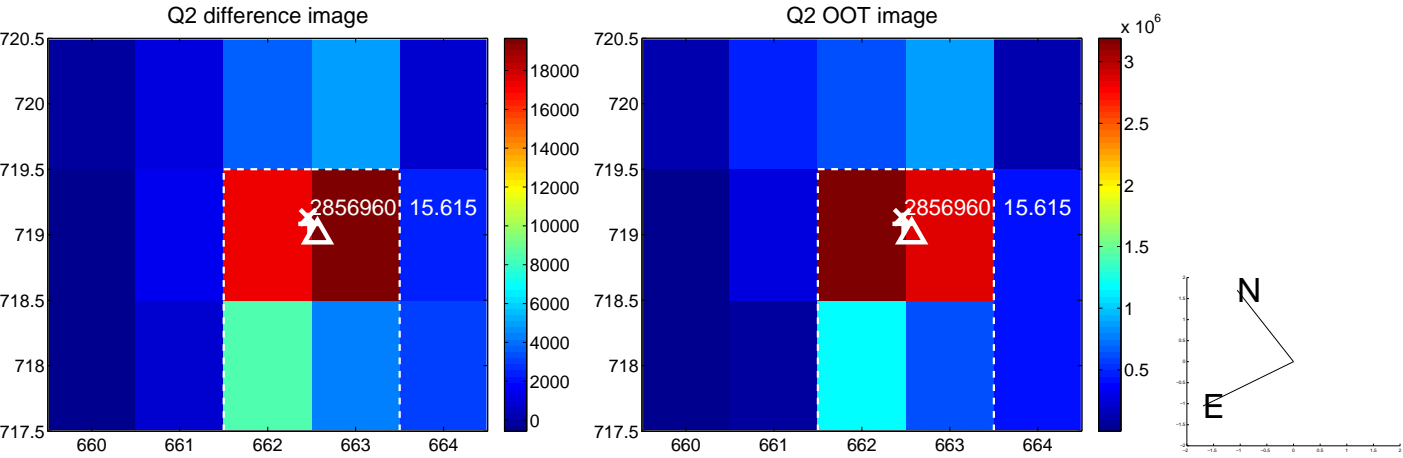
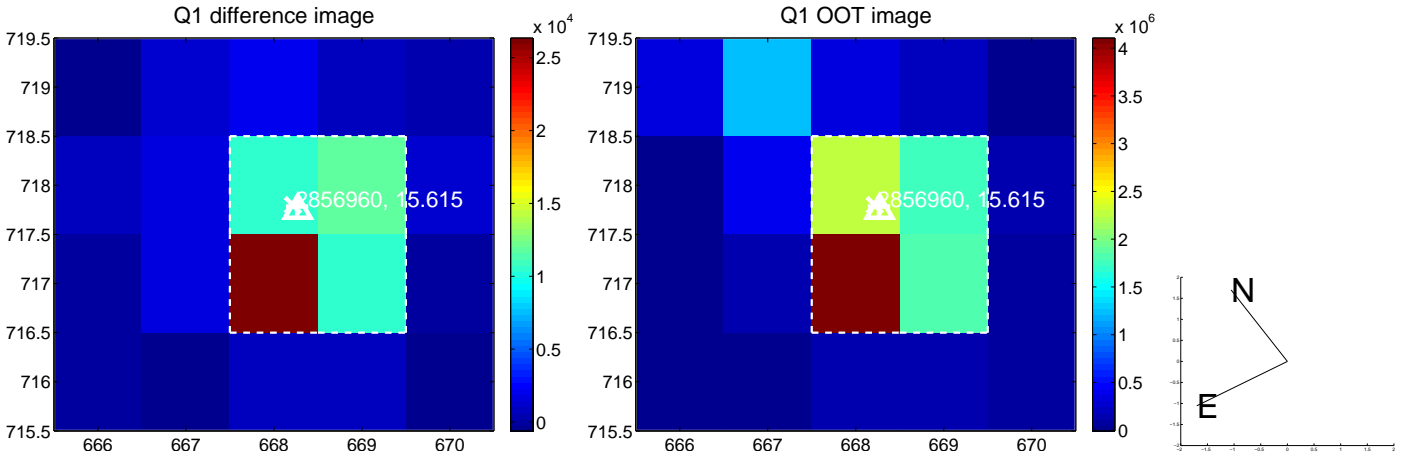
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.164 ± 0.083	1.99	-0.023 ± 0.071	-0.162 ± 0.082
PRF-fit source offset from KIC position	0.316 ± 0.081	3.88	-0.082 ± 0.068	-0.305 ± 0.082
photometric centroid source offset	0.39 ± 0.02	19.28	0.07 ± 0.02	-0.38 ± 0.02

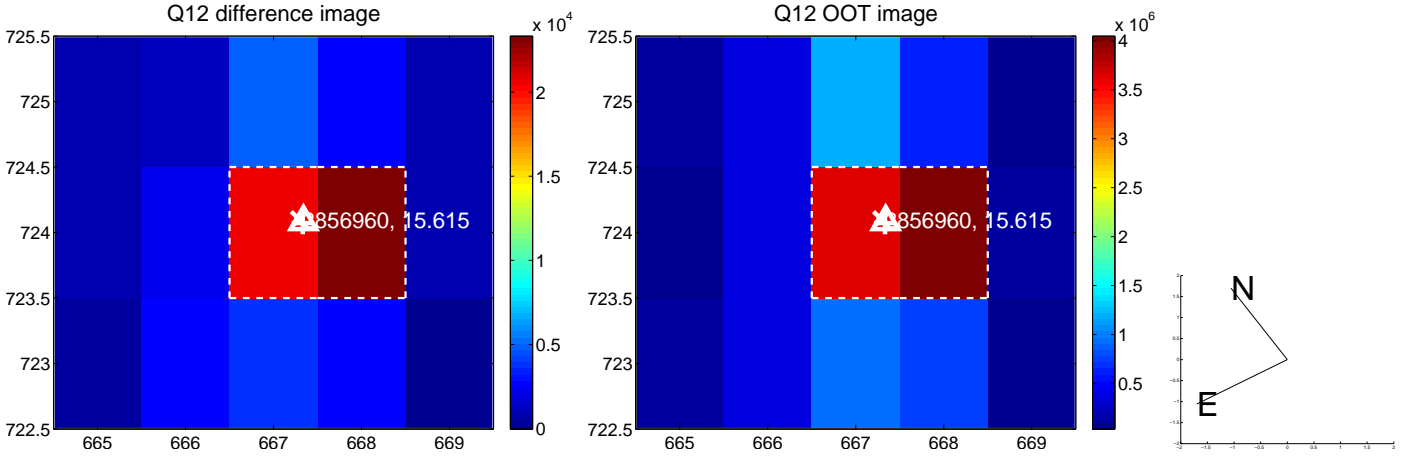
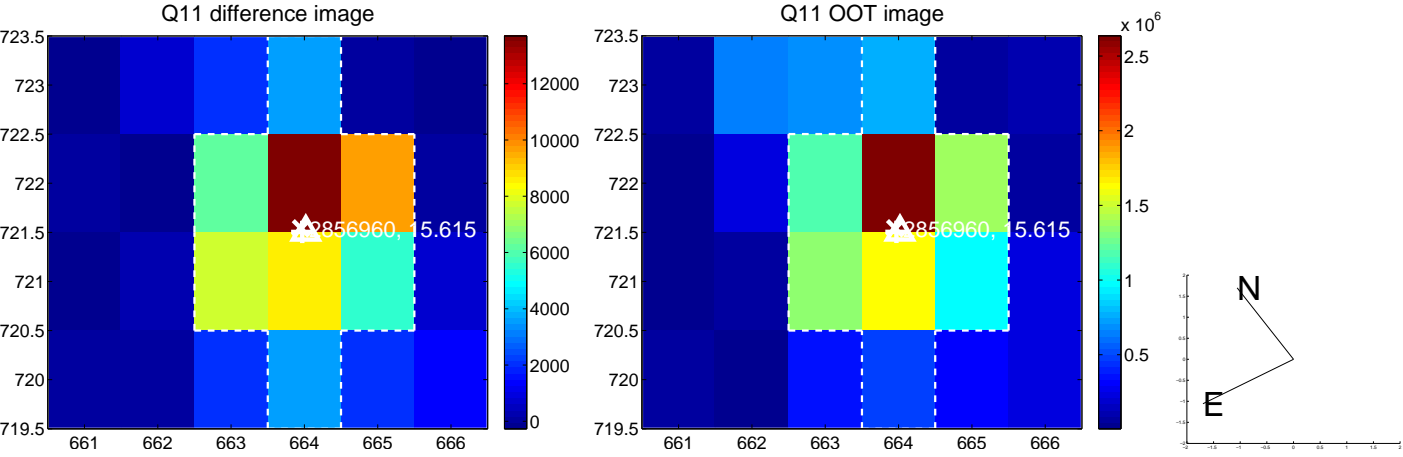
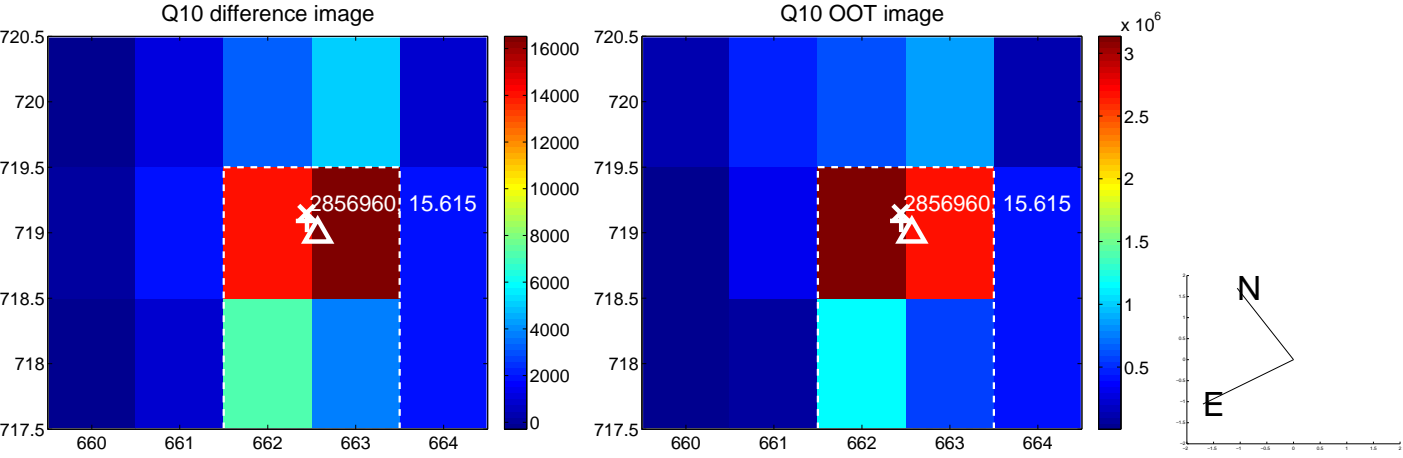
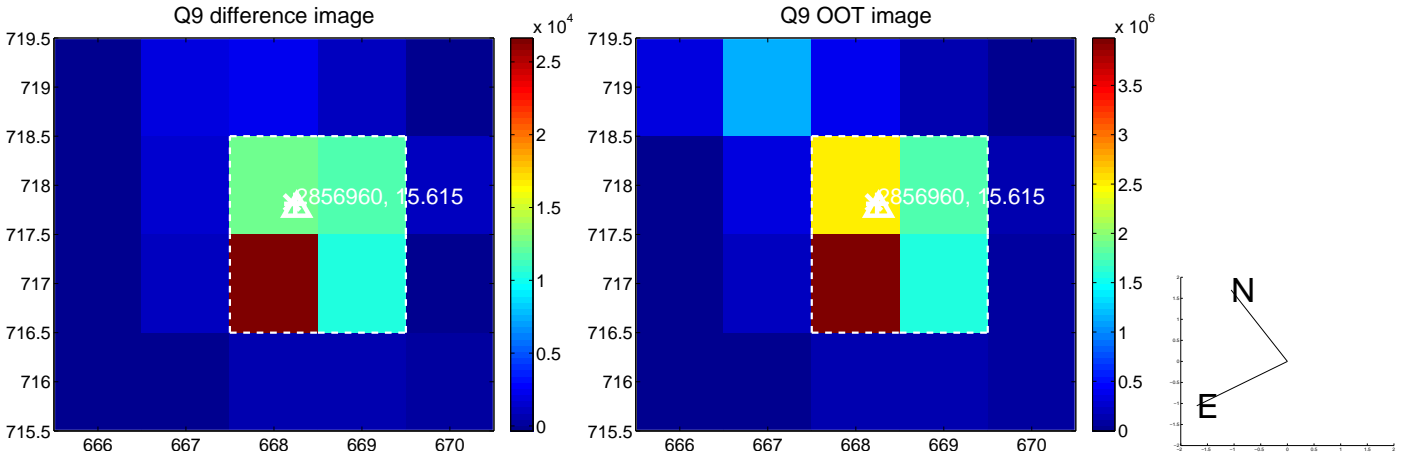


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

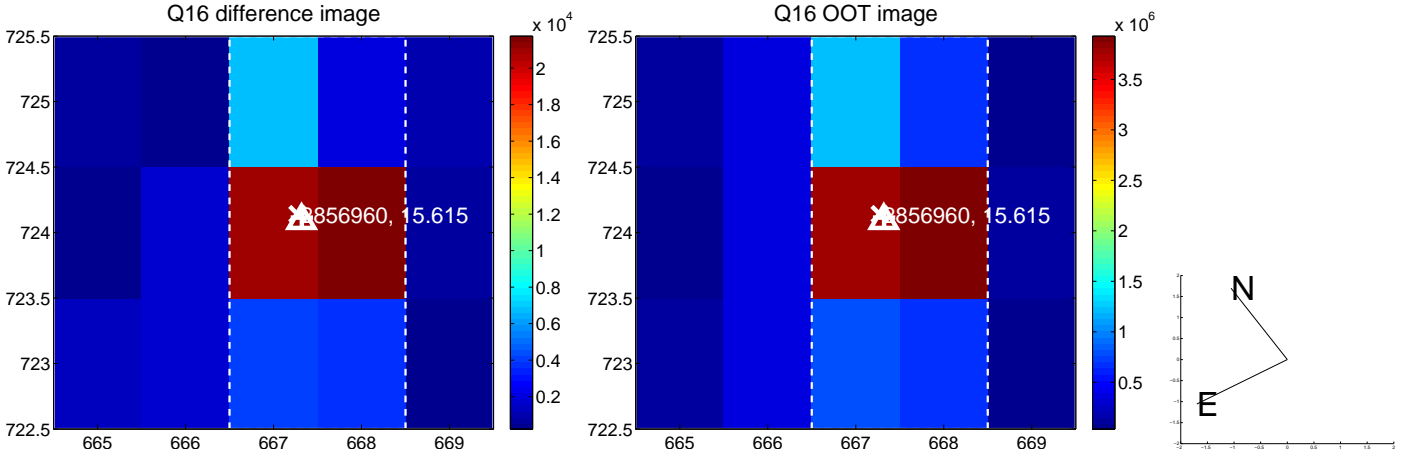
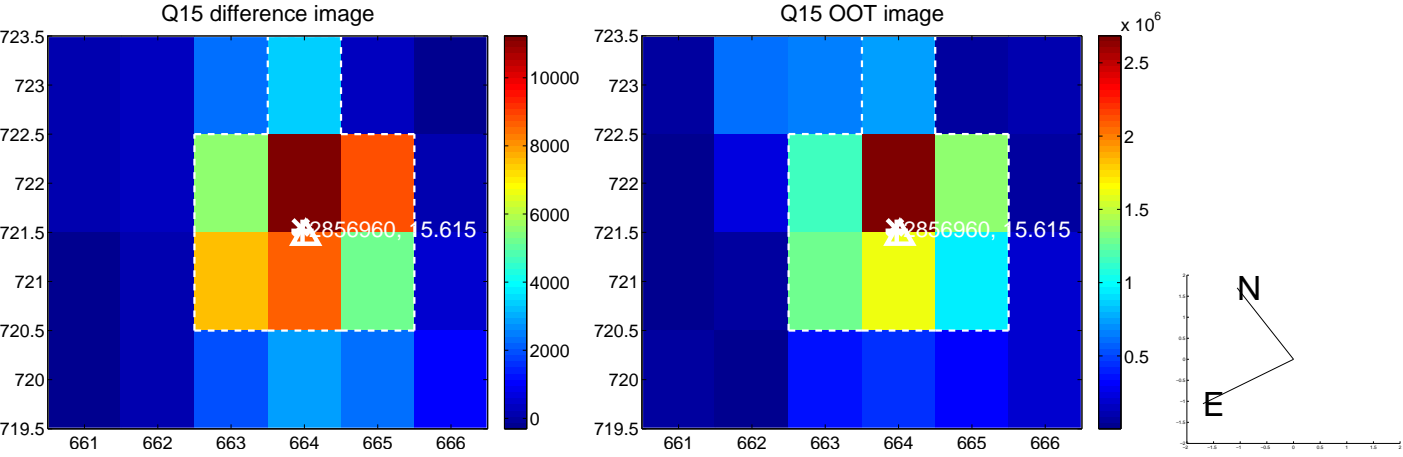
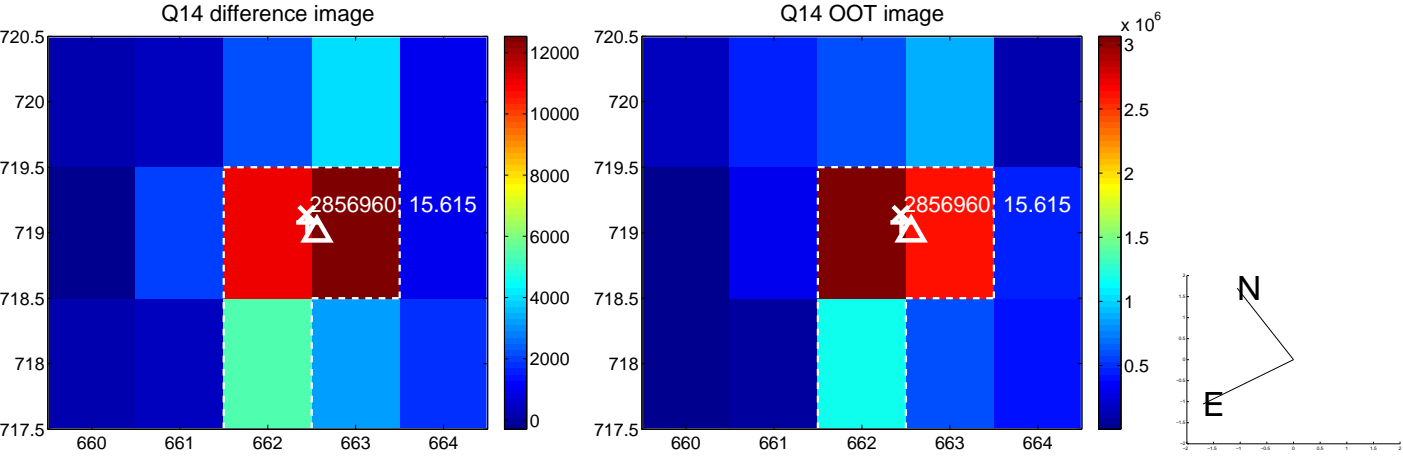
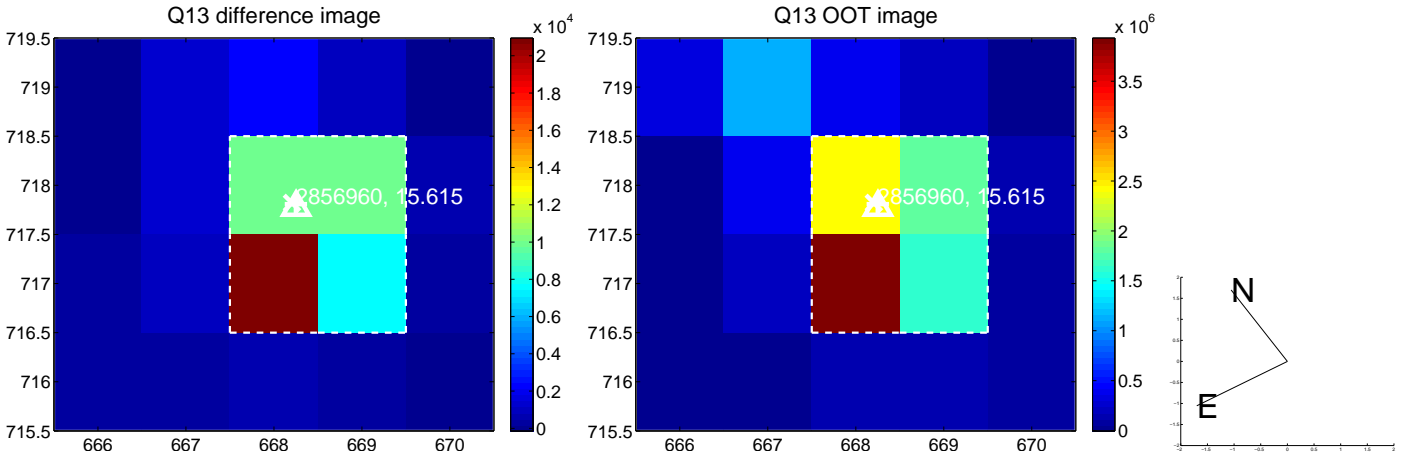
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



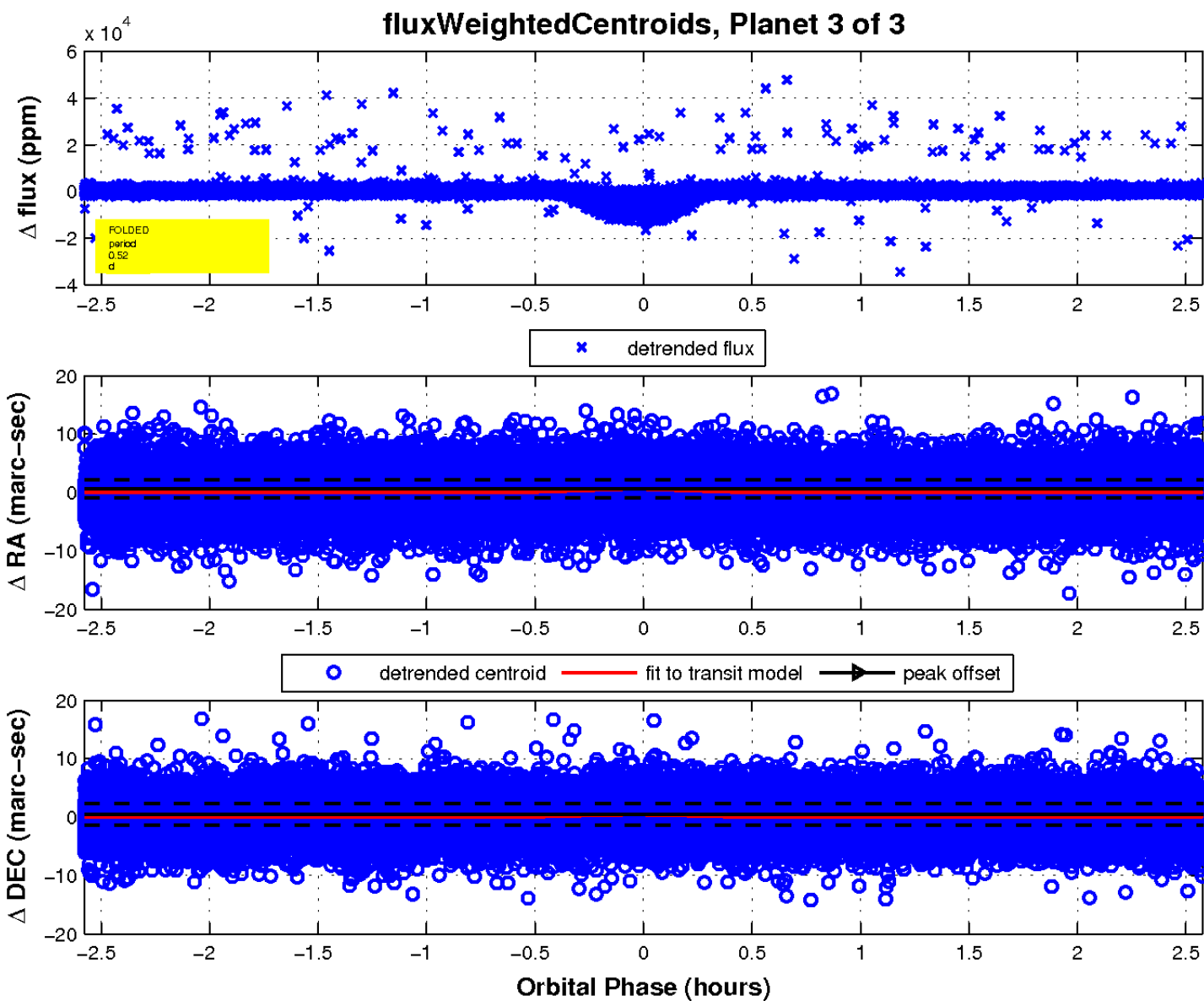
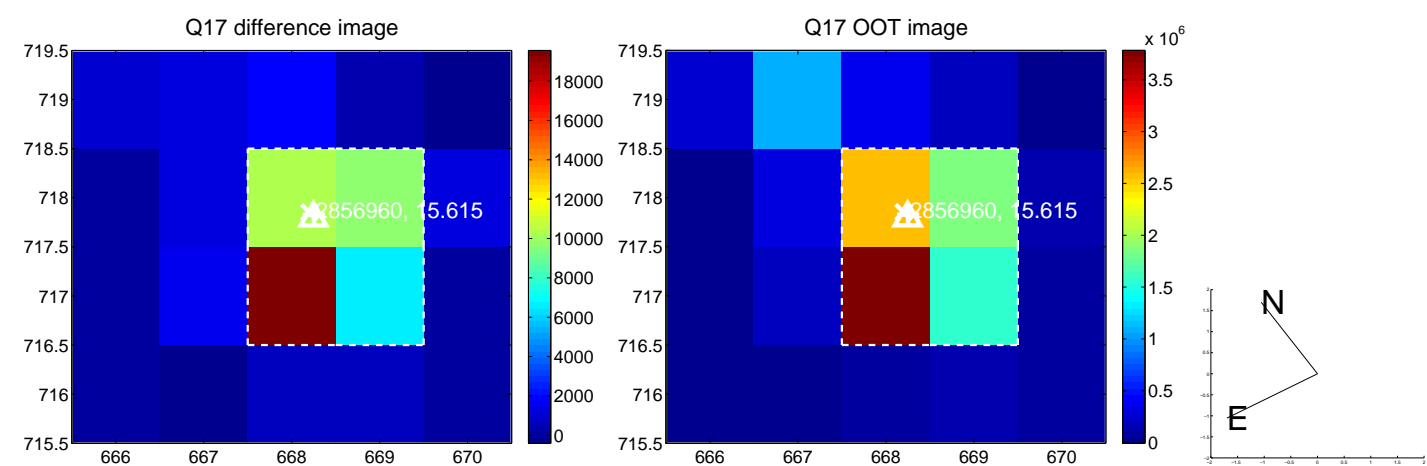
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

