

KIC 010659313

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})
010659313-01	OBS	6079.01	15.249338	143.662590	34246.1	3.787	2449.7	2364.1	1.19	6385	37.21	139.10
010659313-02	OBS	No	15.249008	143.420335	55.7	4.250	9.0	3.6	1.19	6385	1.04	139.10
010659313-03	OBS	No	15.250751	143.800546	725.6	27.707	8.9	13.2	1.19	6385	6.12	139.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010659313-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED
010659313-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—RESIDUAL_TCE—CENT_FEW_DIFFS
010659313-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_DV—RESIDUAL_TCE

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.

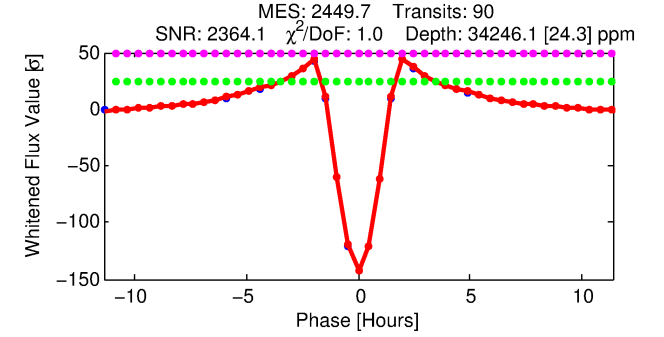
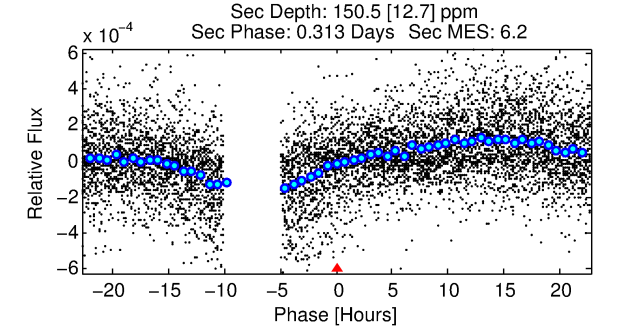
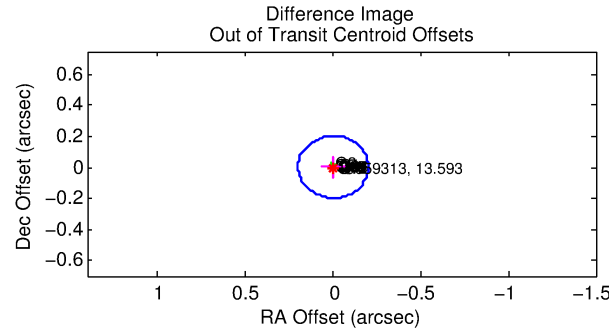
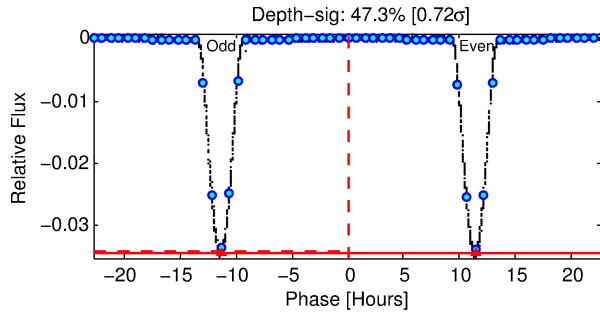
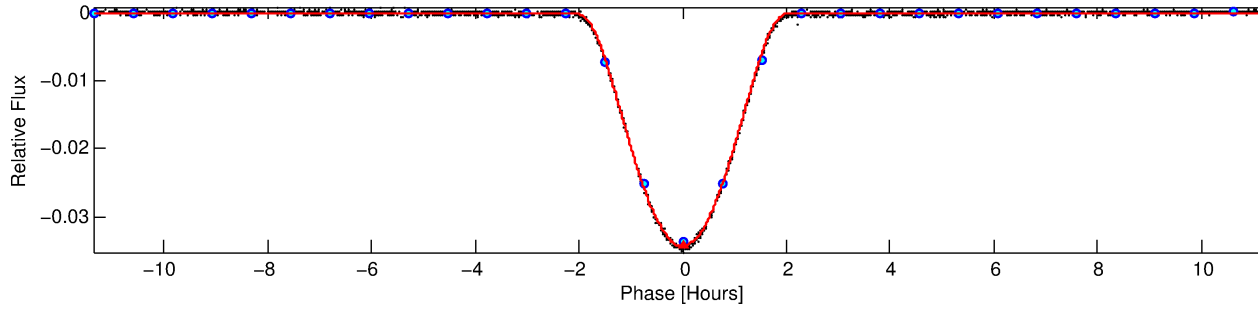
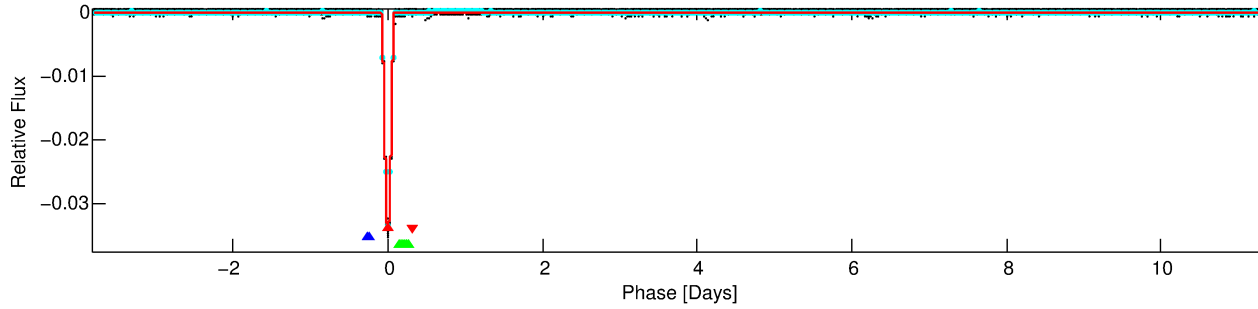
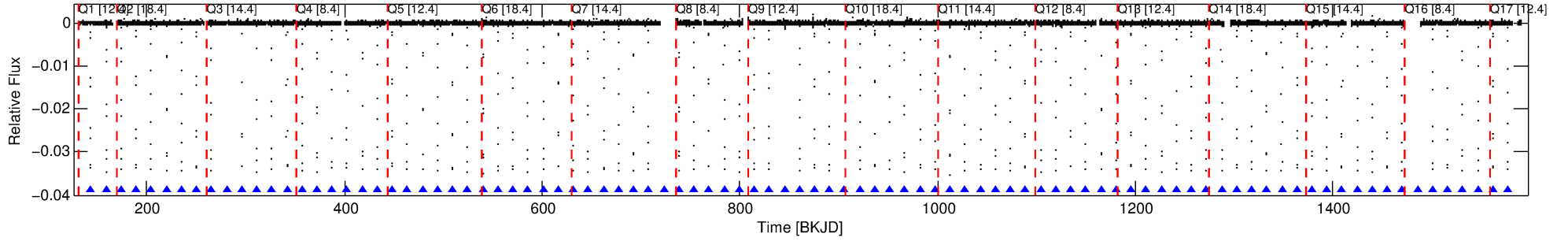
Ephemeris Match Information For 010659313-01

No Significant Match Found

DV One-Page Summary

KIC: 10659313 Candidate: 1 of 3 Period: 15.249 d
KOI: K06079.01 Corr: 0.998

Kp: 13.59 R*: 1.19 Rs Teff: 6385.0 K Logg: 4.32 Fe/H: -0.200



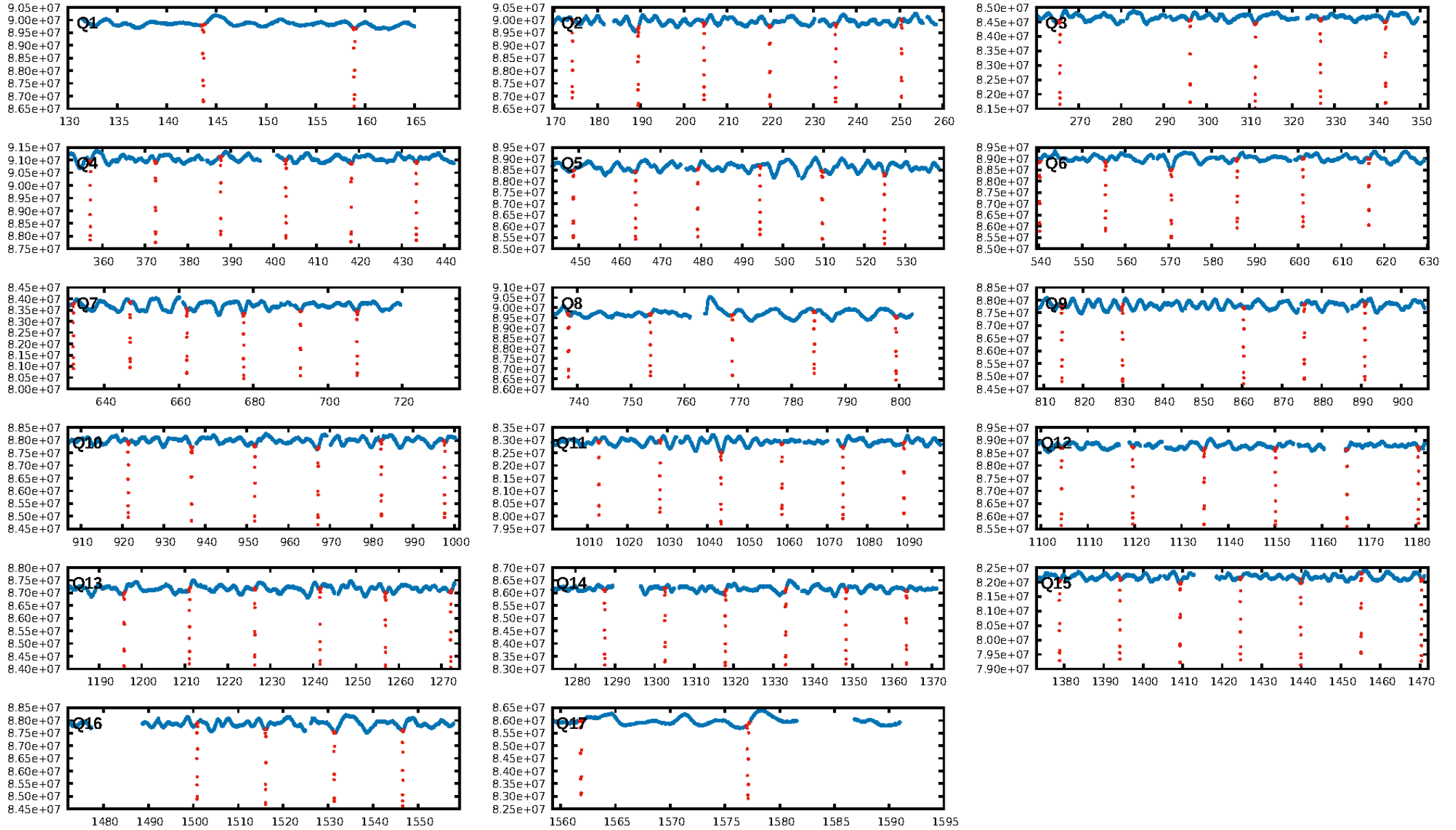
DV Fit Results:

Period = 15.24934 [0.00000] d
Epoch = 143.6626 [0.0000] BKJD
Rp/R* = 0.2868 [0.0070]
a/R* = 25.23 [0.04]
b = 0.99 [0.01]
Seff = 139.10 [53.78]
Teff = 876 [85] K
Rp = 37.21 [11.93] Re
a = 0.1230 [0.0320] AU
Ag = 0.90 [0.34] [-0.28σ]
Teffp = 1320 [51] K [4.50σ]

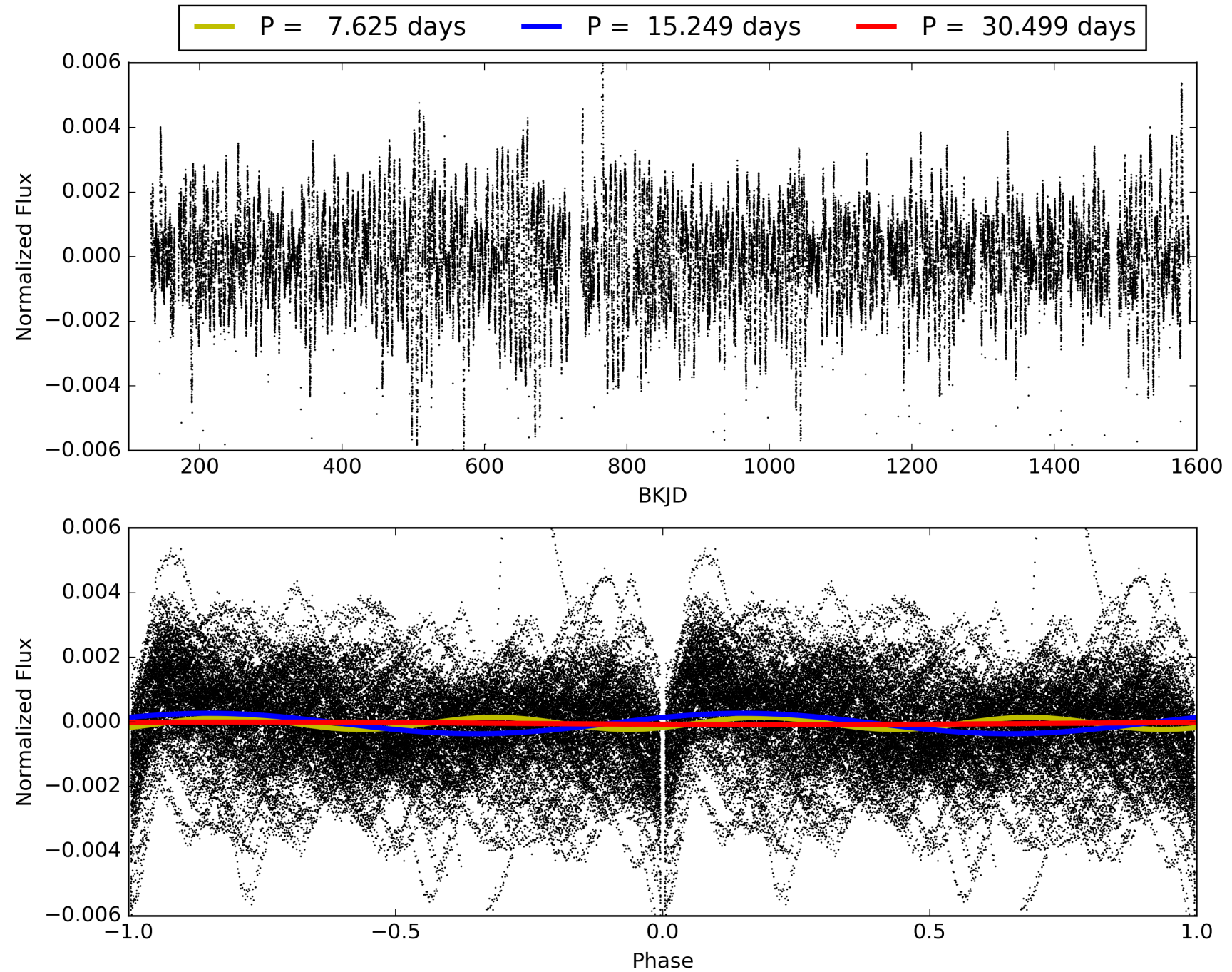
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: 14.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [86/86]
GhostDiagnostic-chr: 4.506
Centroid-sig: 0.0%
Centroid-so: 0.202 arcsec [53.38σ]
OotOffset-rm: 0.004 arcsec [0.06σ]
KicOffset-rm: 0.085 arcsec [1.26σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 010659313-01, PDC Light Curves

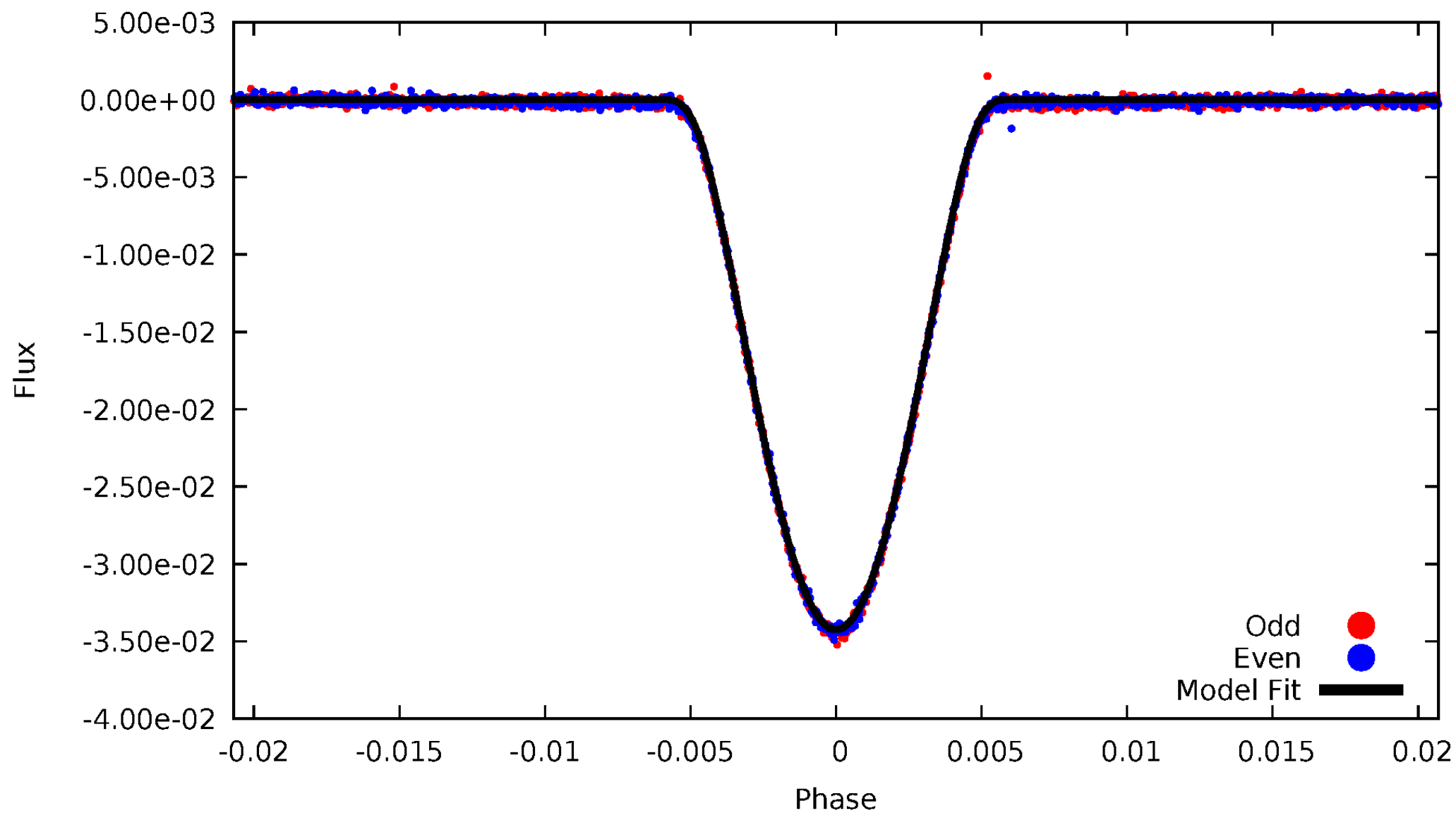


TCE 010659313-01



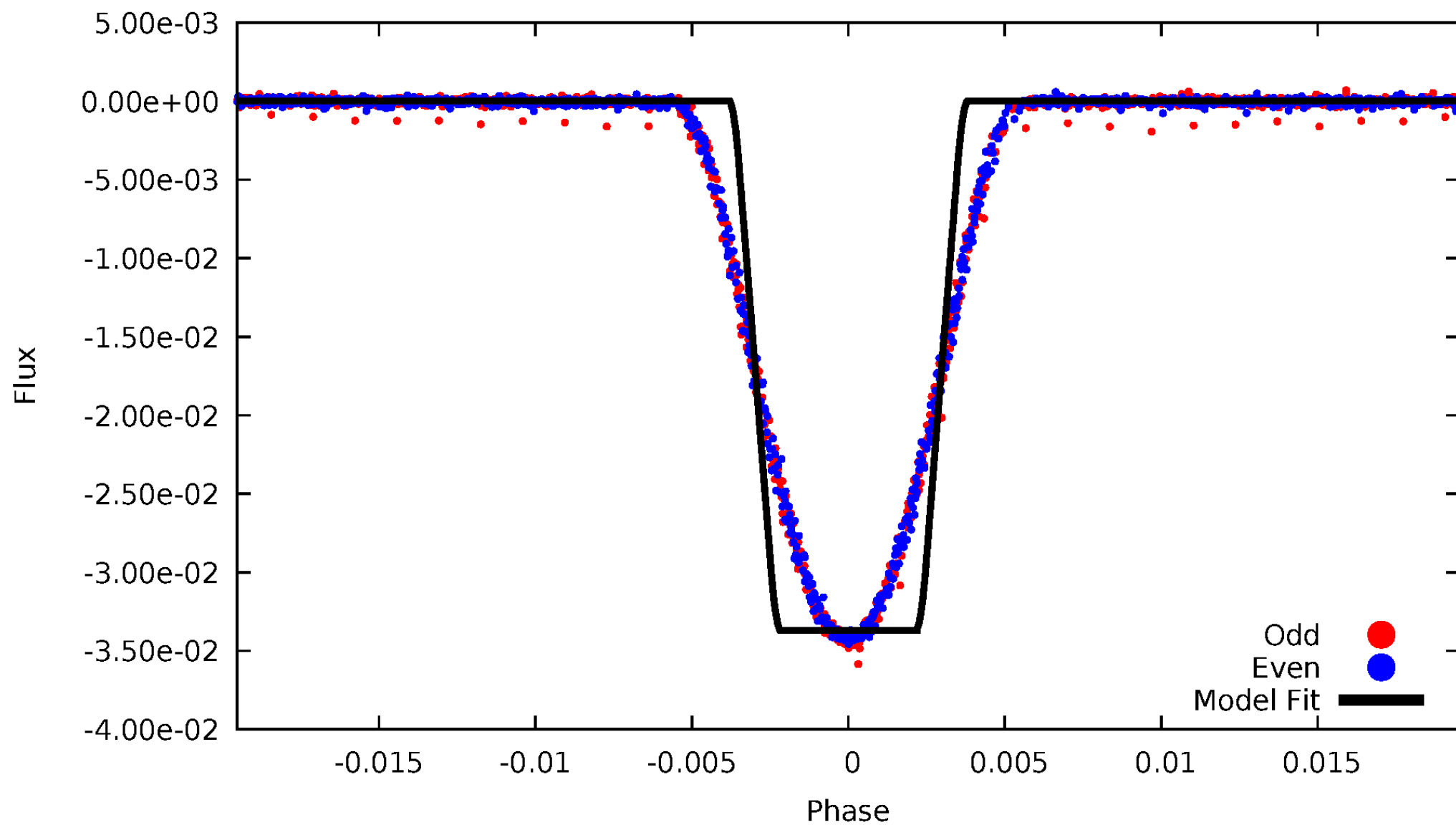
DV Odd/Even

TCE 010659313-01



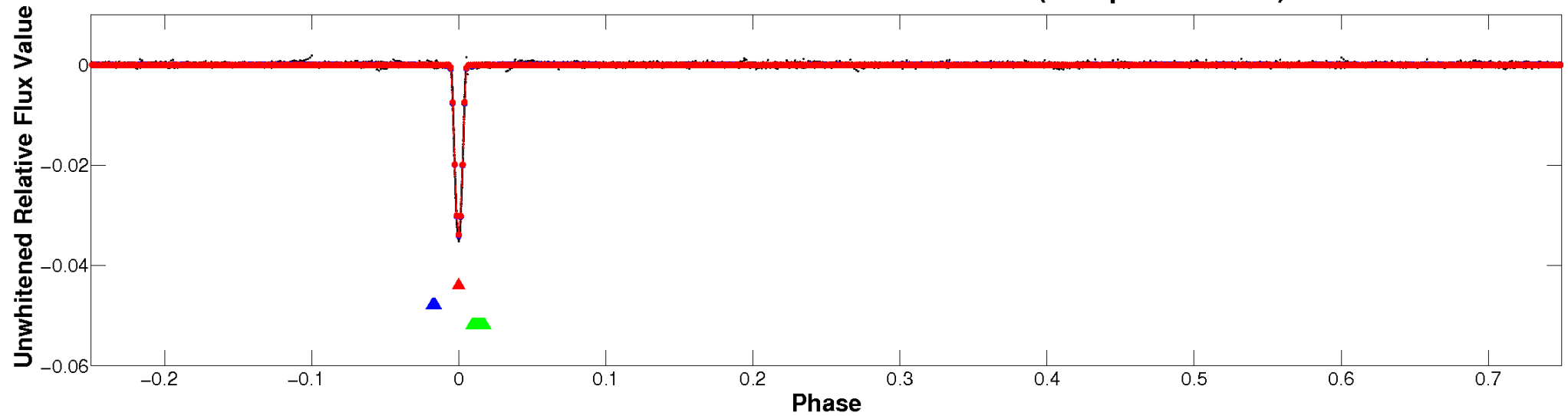
ALT Odd/Even

TCE 010659313-01

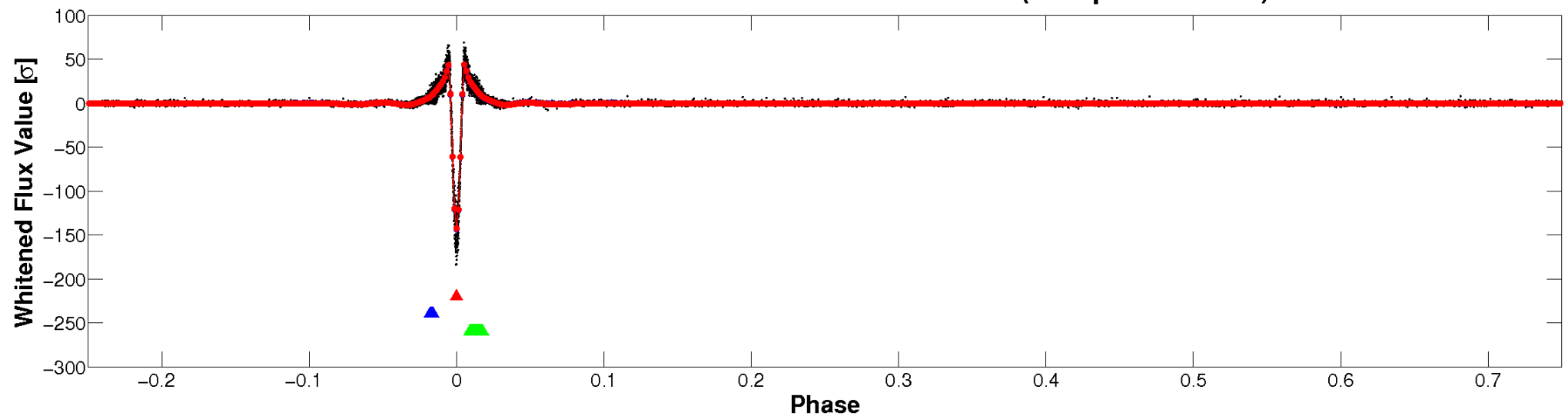


Non-Whitened Vs. Whitened Light Curve

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

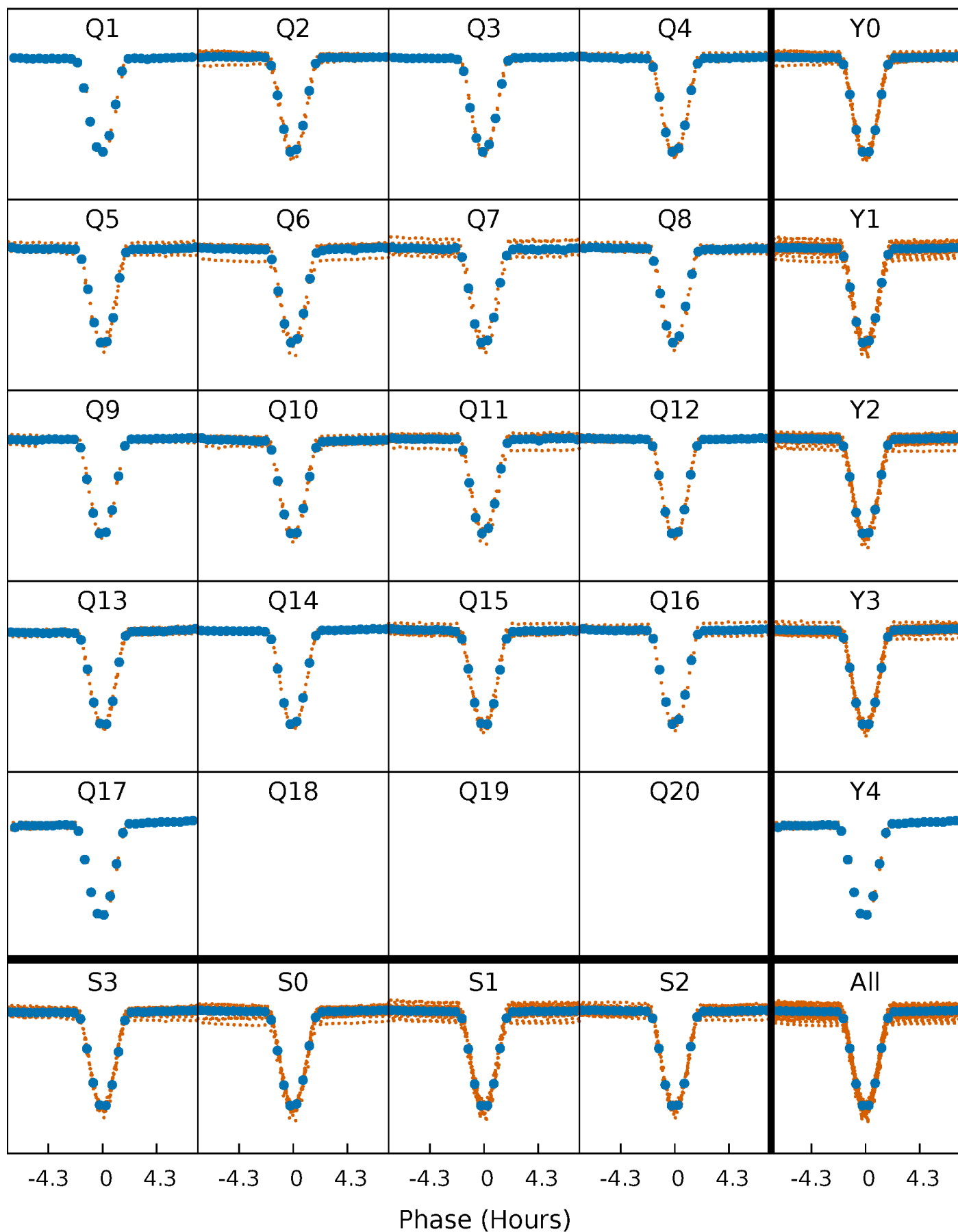


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



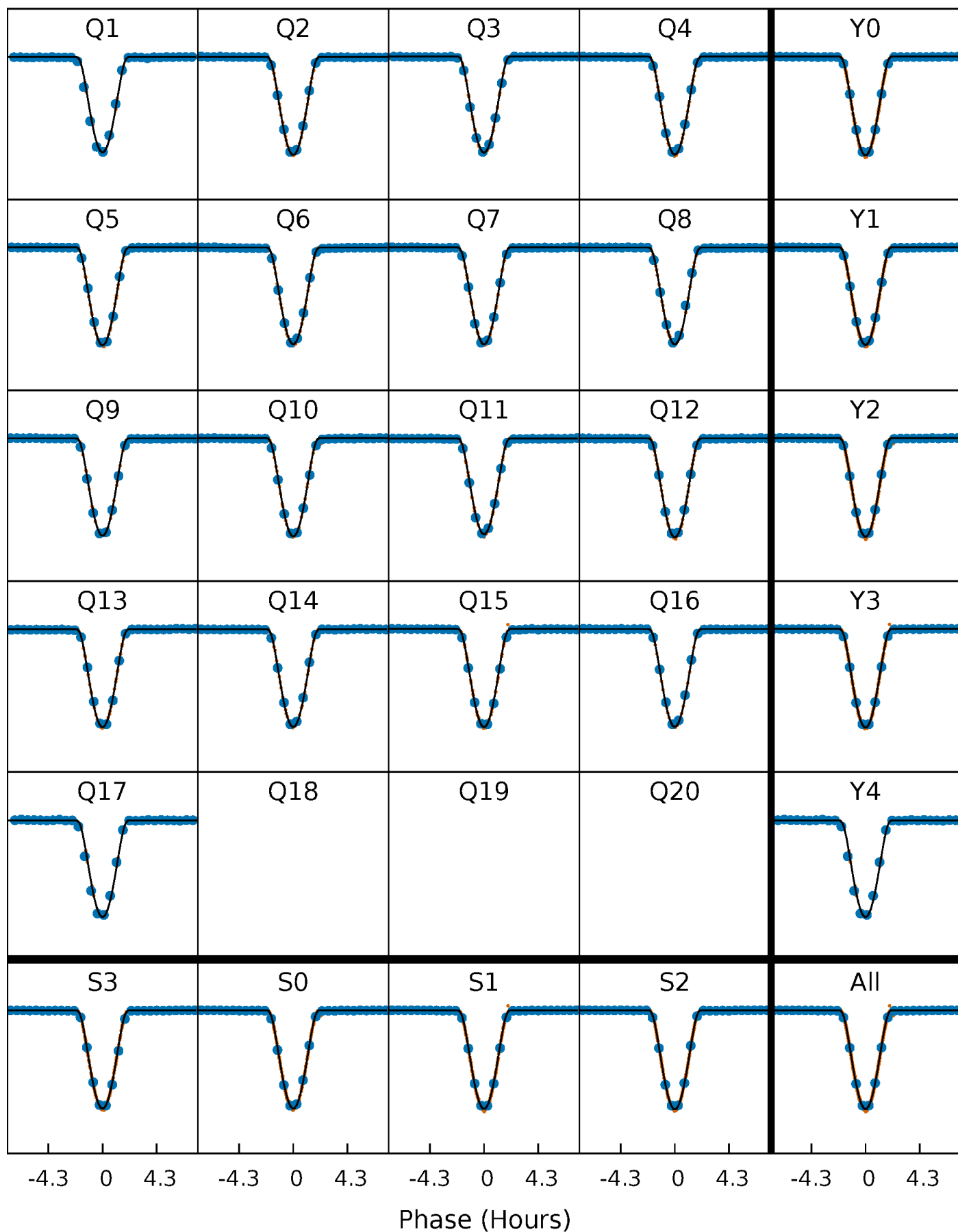
PDC Quarter-Phased Transit Curves

TCE 010659313-01 P= 15.249338 Days $T_0=143.662590$ (BKJD)



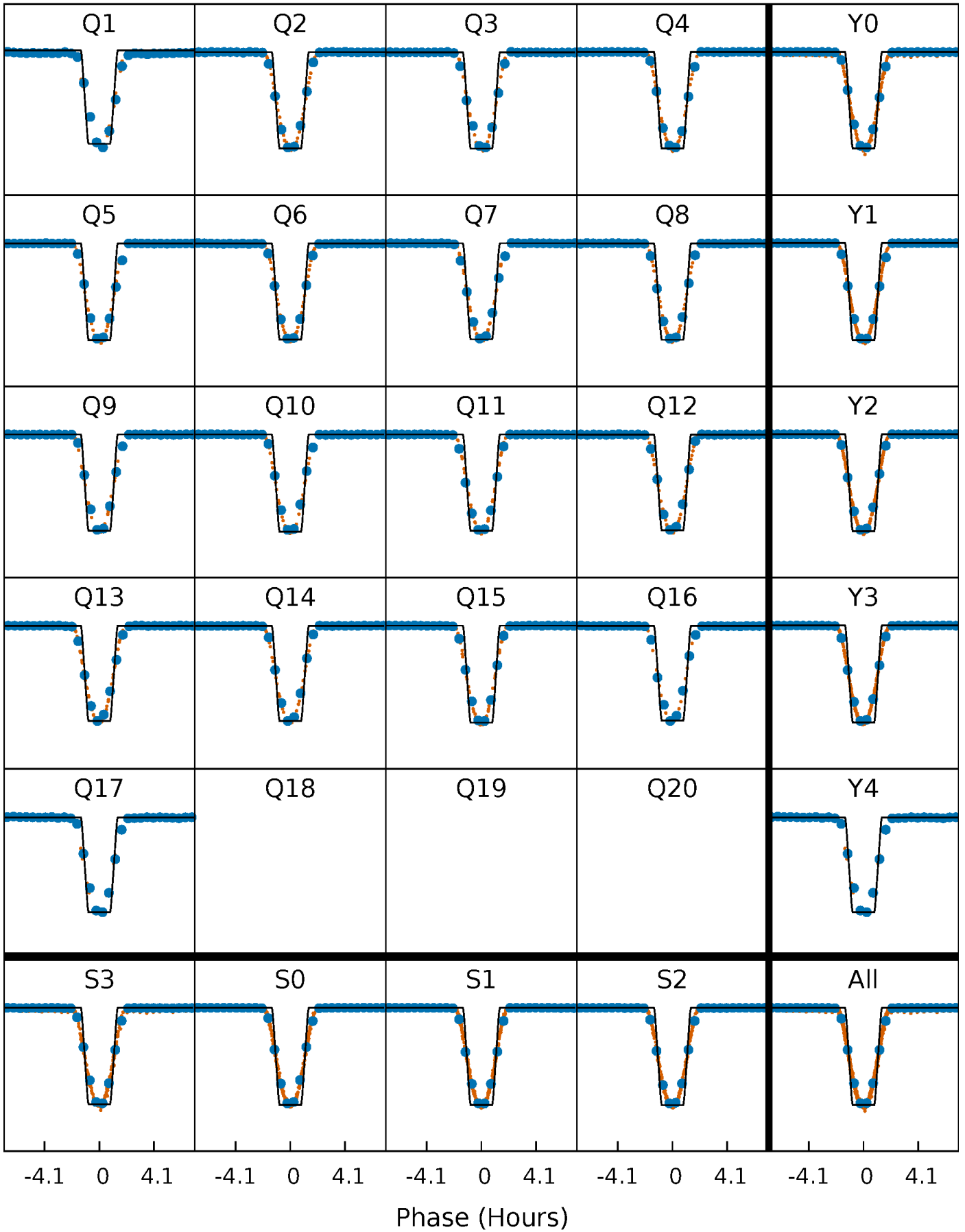
DV Quarter-Phased Transit Curves

TCE 010659313-01 P= 15.249338 Days $T_0=143.662590$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

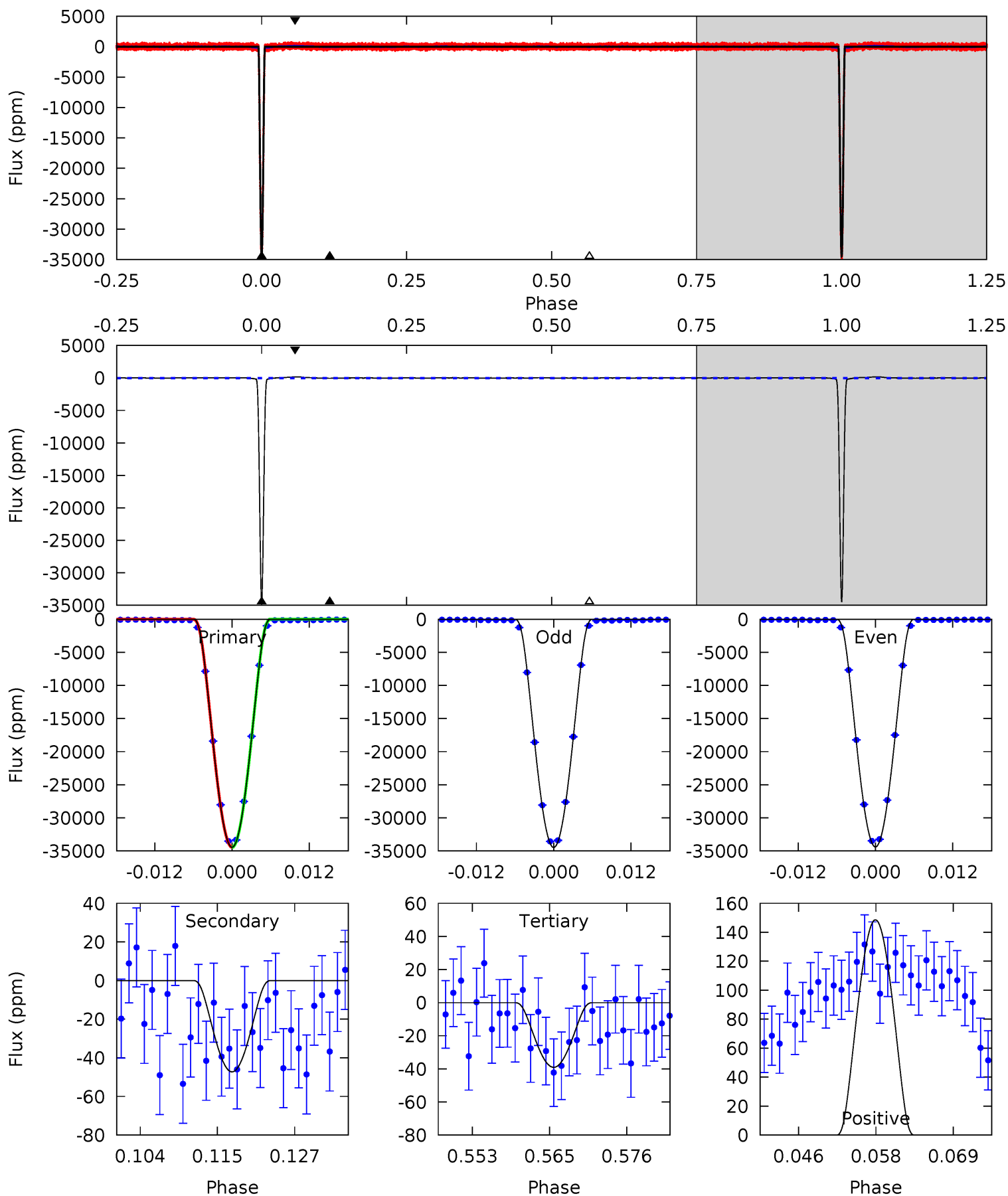
TCE 010659313-01 P= 15.249386 Days $T_0=143.660363$ (BKJD)



DV Model-Shift Uniqueness Test

010659313-01, P = 15.249338 Days, E = 128.413252 Days

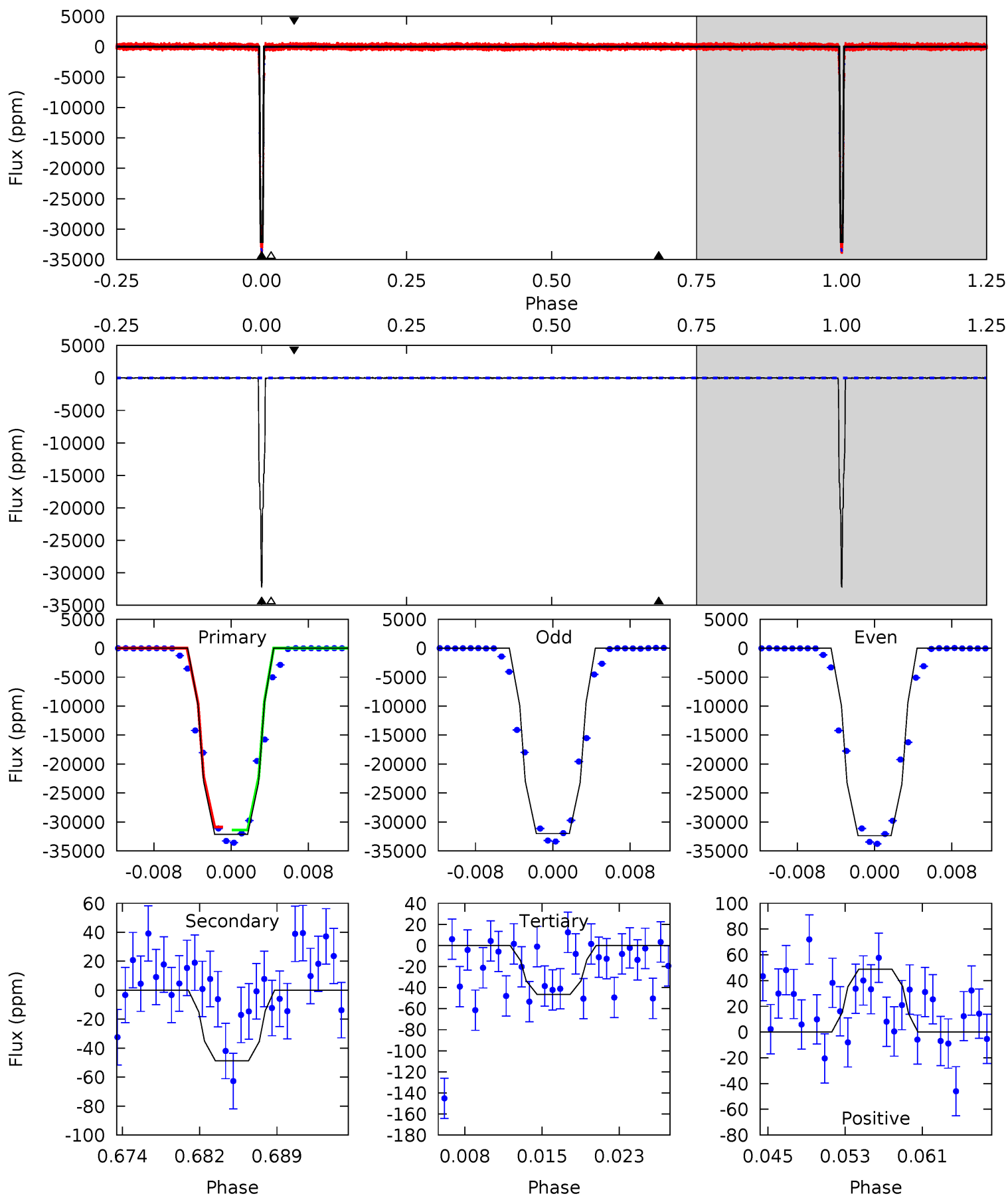
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5495	7.54	6.24	23.7	5.00	2.53	5.21	5489	5472	1.31	-16.2	6.62	1.00	0.00	1.04



Alt Model-Shift Uniqueness Test

010659313-01, P = 15.249386 Days, E = 128.410977 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2724	4.14	3.94	4.14	5.08	2.67	1.21	2720	2720	0.20	-0.01	15.7	1.00	0.00	0



Stellar Parameters For KIC 010659313

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6385^{+160}_{-192}	$4.316^{+0.105}_{-0.195}$	$-0.200^{+0.250}_{-0.300}$	$1.189^{+0.380}_{-0.190}$	$1.062^{+0.180}_{-0.120}$	$0.890^{+0.442}_{-0.474}$
	+3%/-3%	+2%/-5%	+125%/-150%	+32%/-16%	+17%/-11%	+50%/-53%
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 010659313-01 / KOI 6079.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-47 ± 6	$37.88^{+6.44}_{-3.64}$	1234^{+93}_{-65}	-1636^{+3287}_{-216}	$0.266^{+0.078}_{-0.069}$
Alt.	-49 ± 12	$24.24^{+3.89}_{-2.60}$	1237^{+93}_{-69}	2065^{+90}_{-154}	$0.676^{+0.262}_{-0.219}$

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

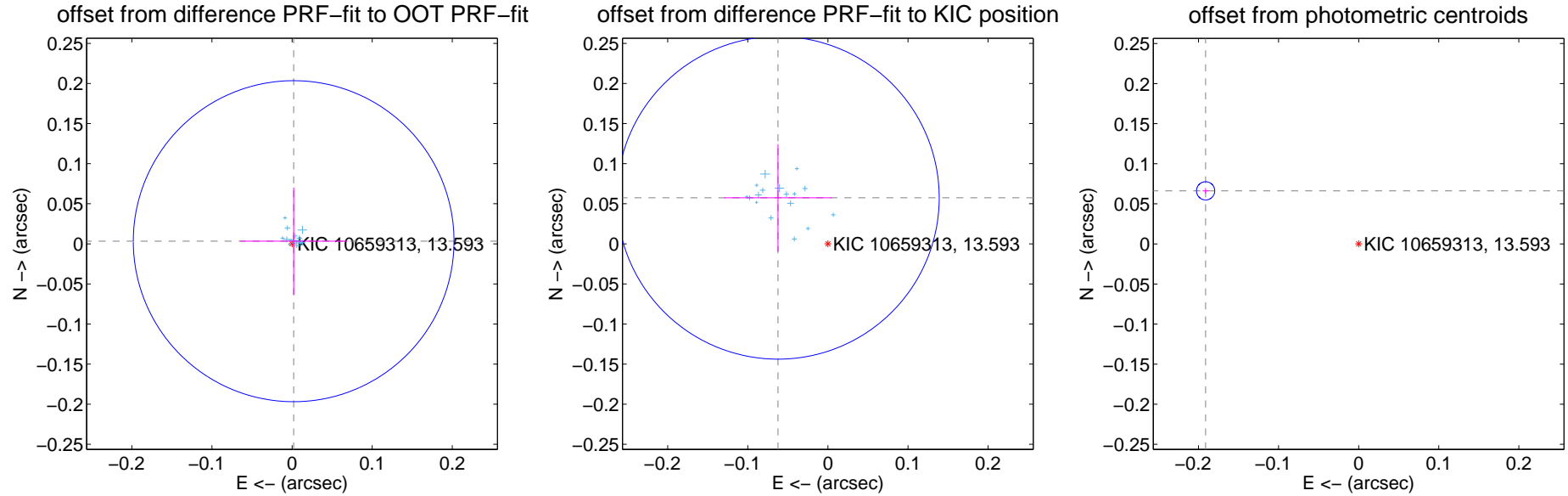
DV Centroid Data

Supplemental centroid analysis for 010659313-01. Kepler magnitude: 13.59. Transit SNR 2364.06

There are 17 quarters with good PRF difference image offsets

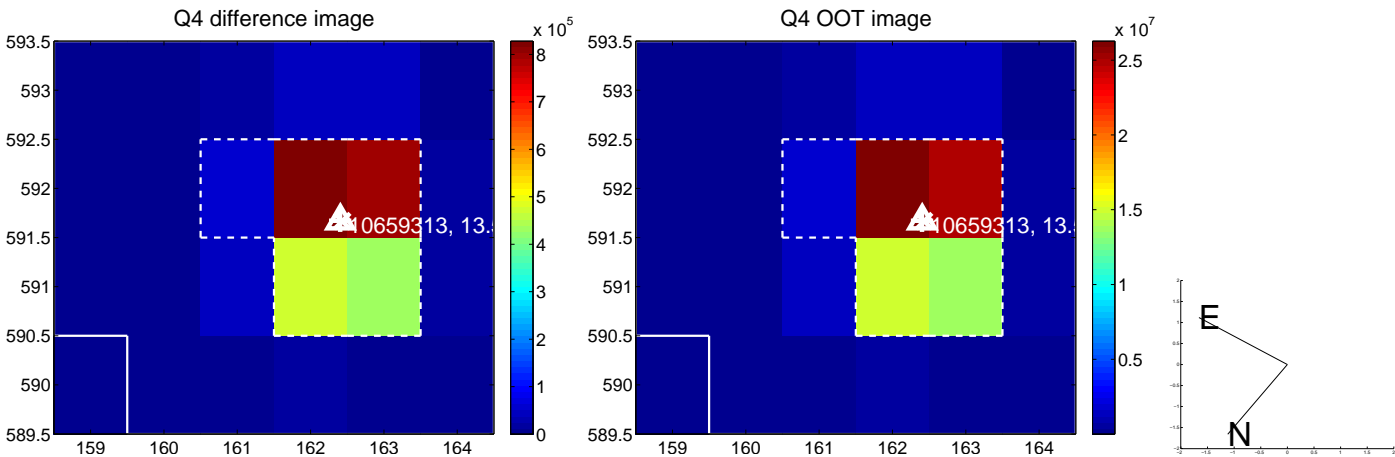
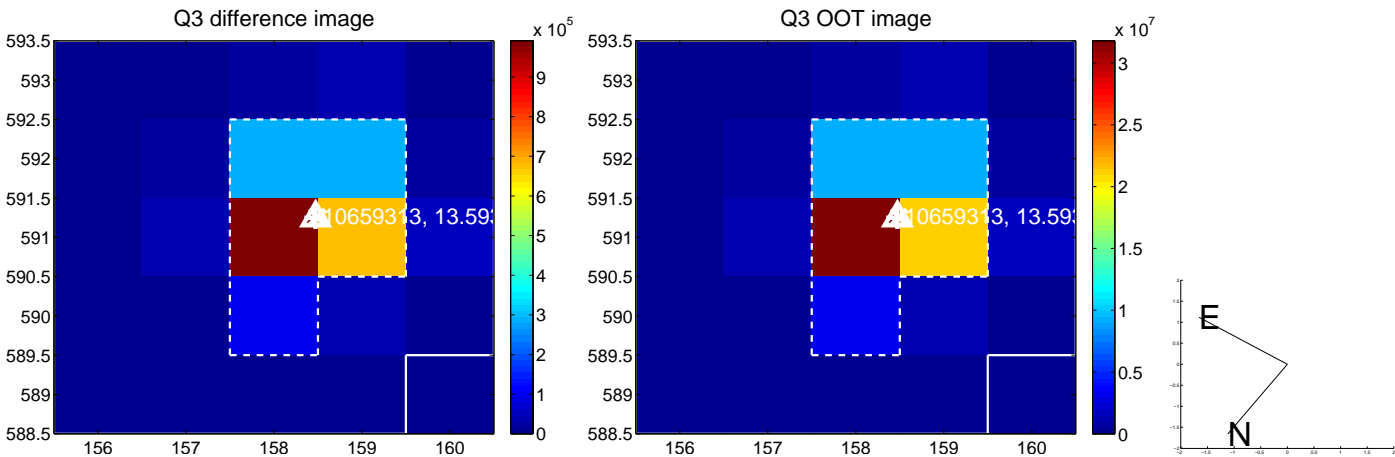
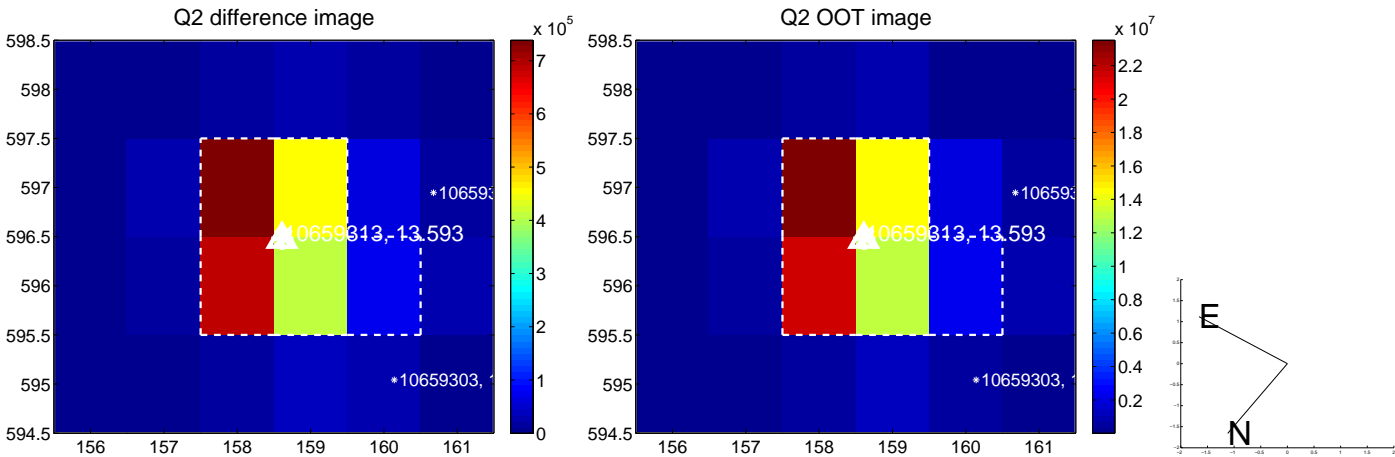
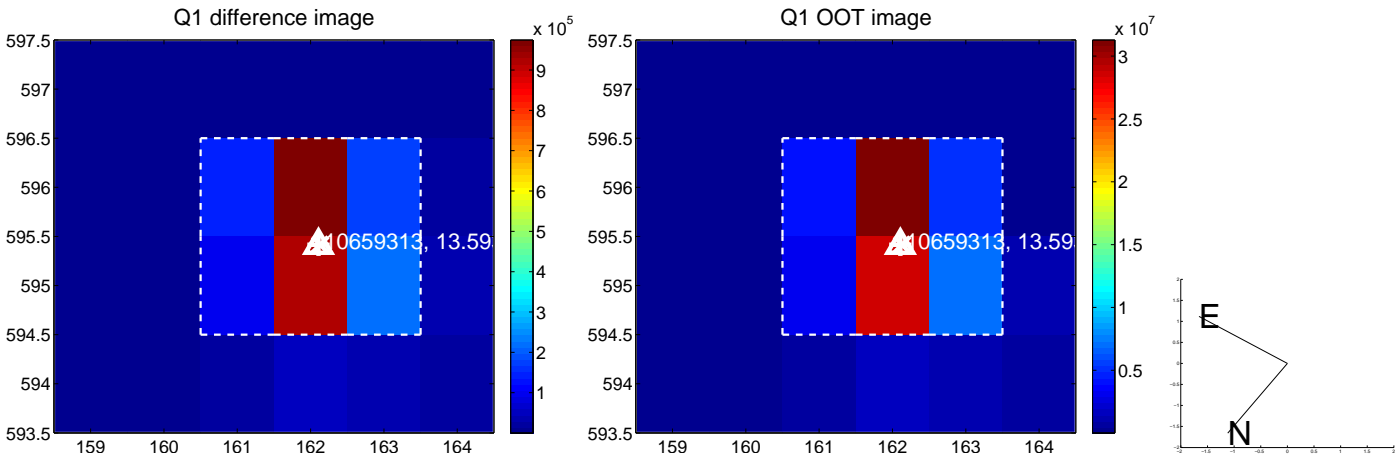
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.004 ± 0.067	0.06	-0.002 ± 0.067	0.003 ± 0.067
PRF-fit source offset from KIC position	0.085 ± 0.067	1.26	0.062 ± 0.067	0.057 ± 0.067
photometric centroid source offset	0.20 ± 0.00	53.38	0.19 ± 0.00	0.07 ± 0.00

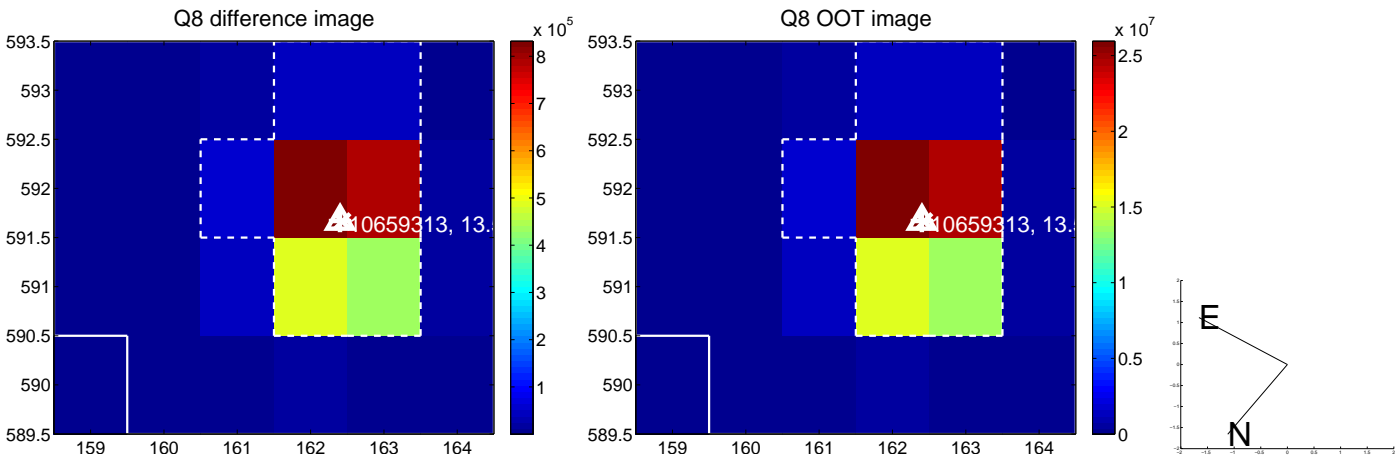
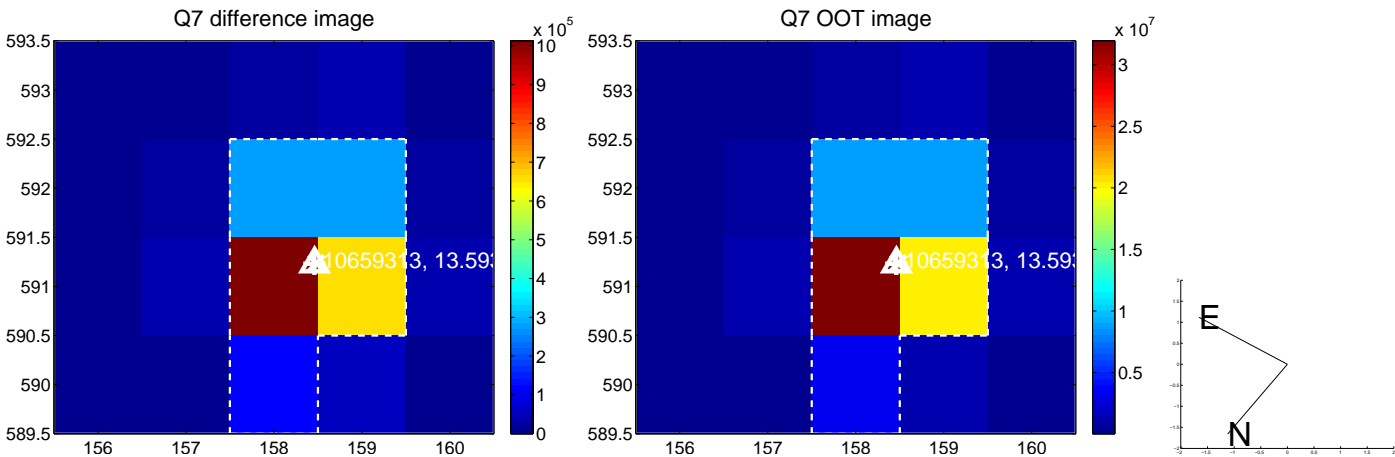
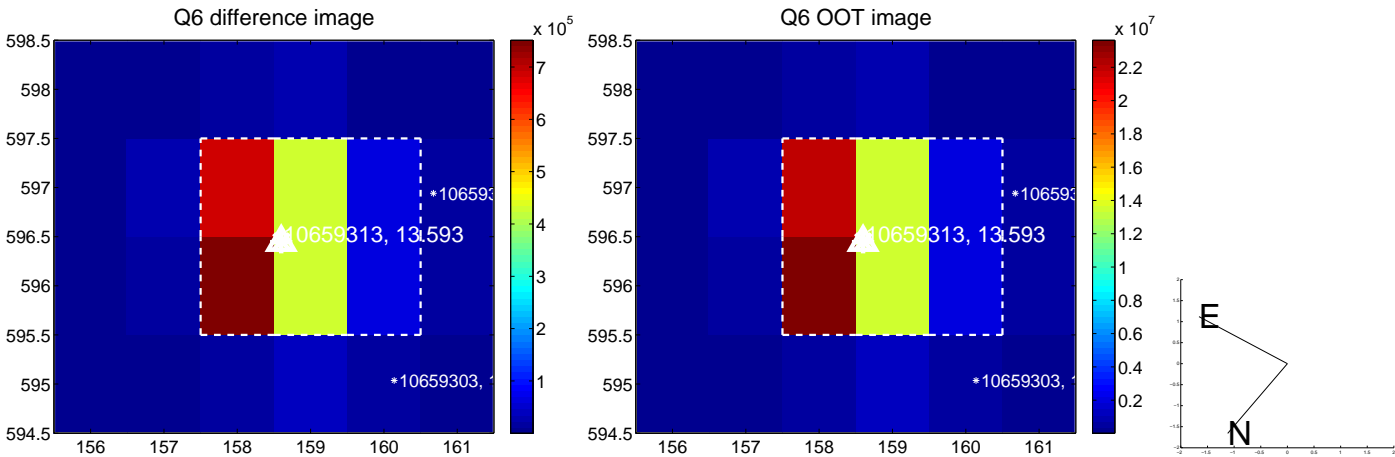
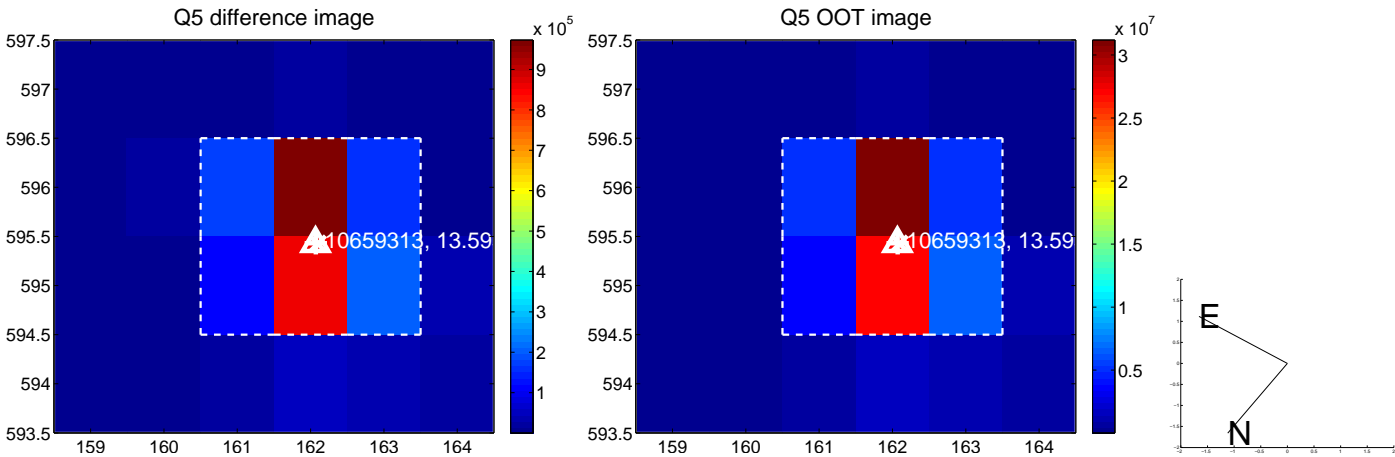


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

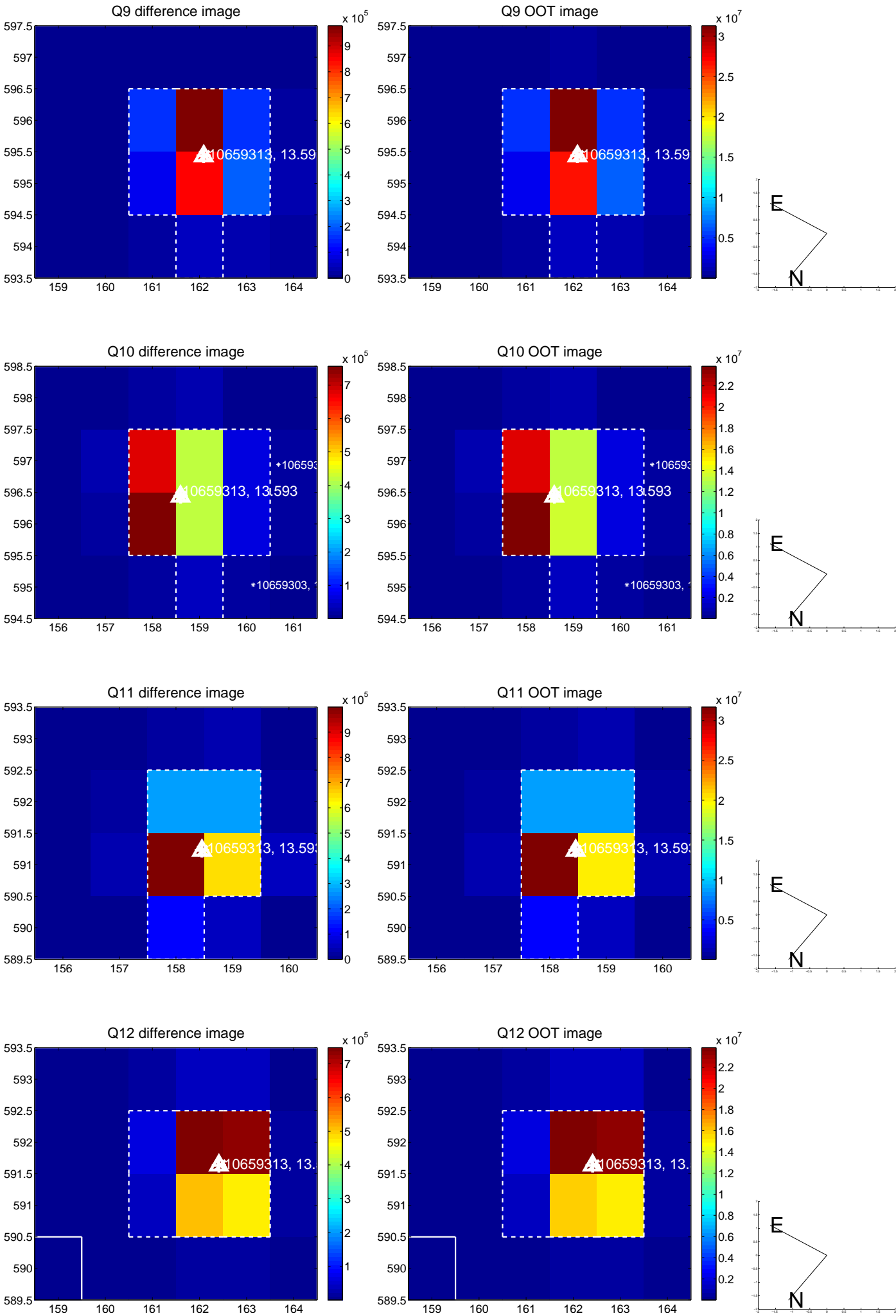
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



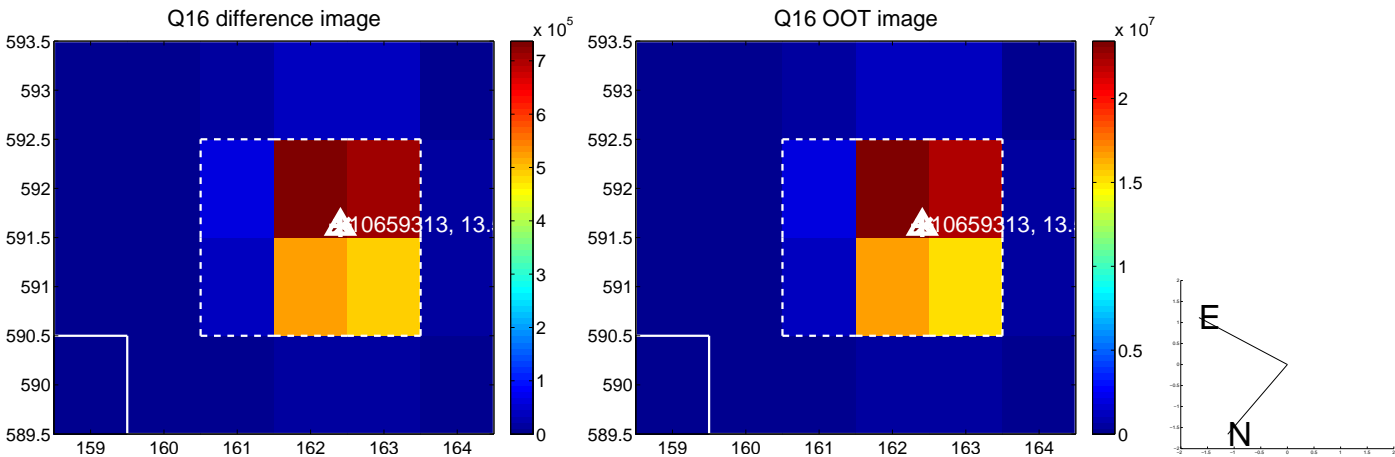
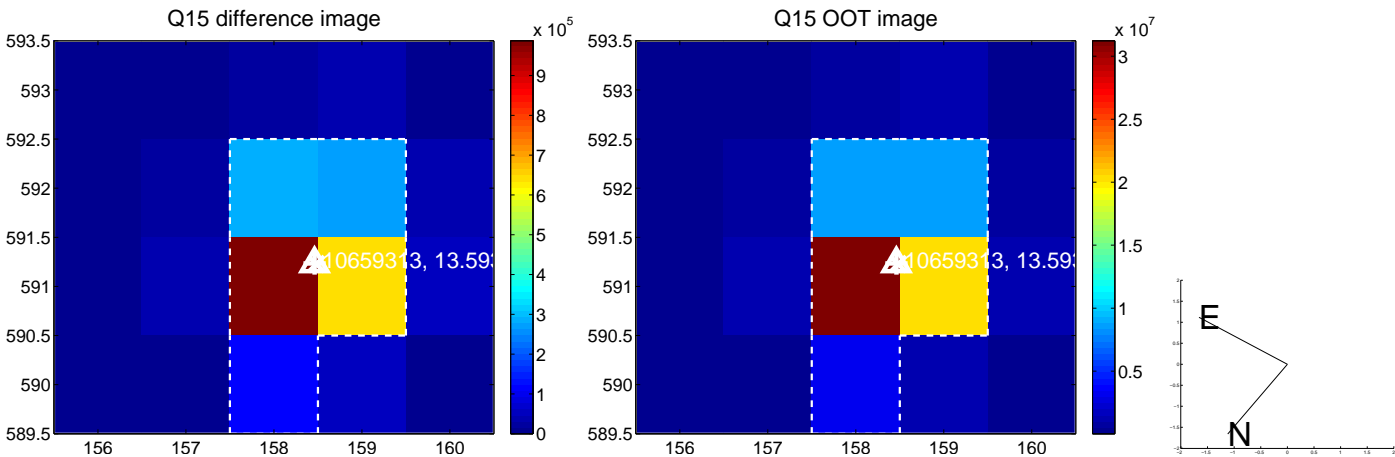
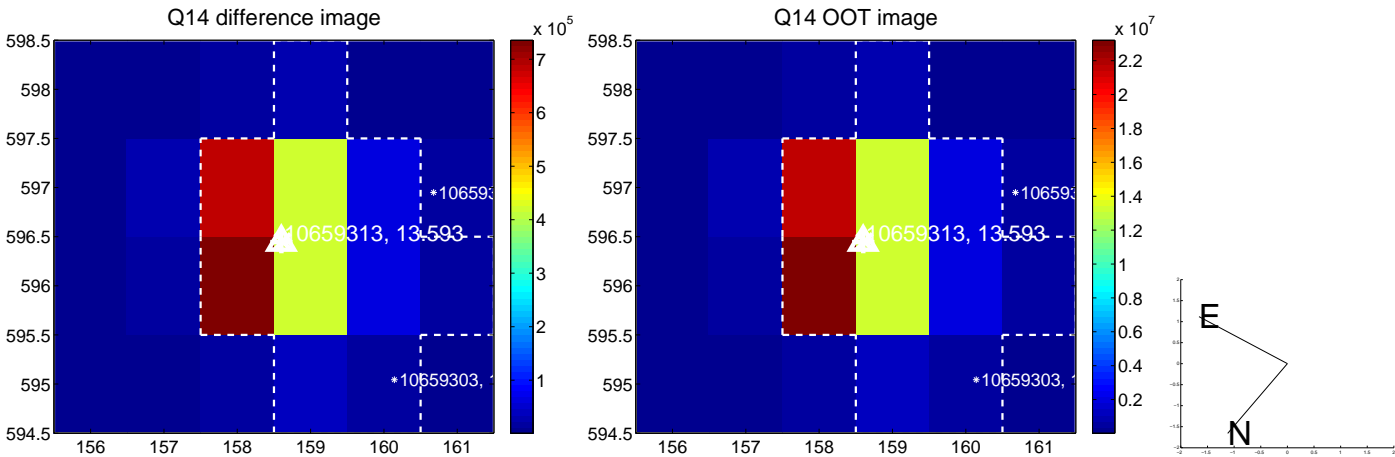
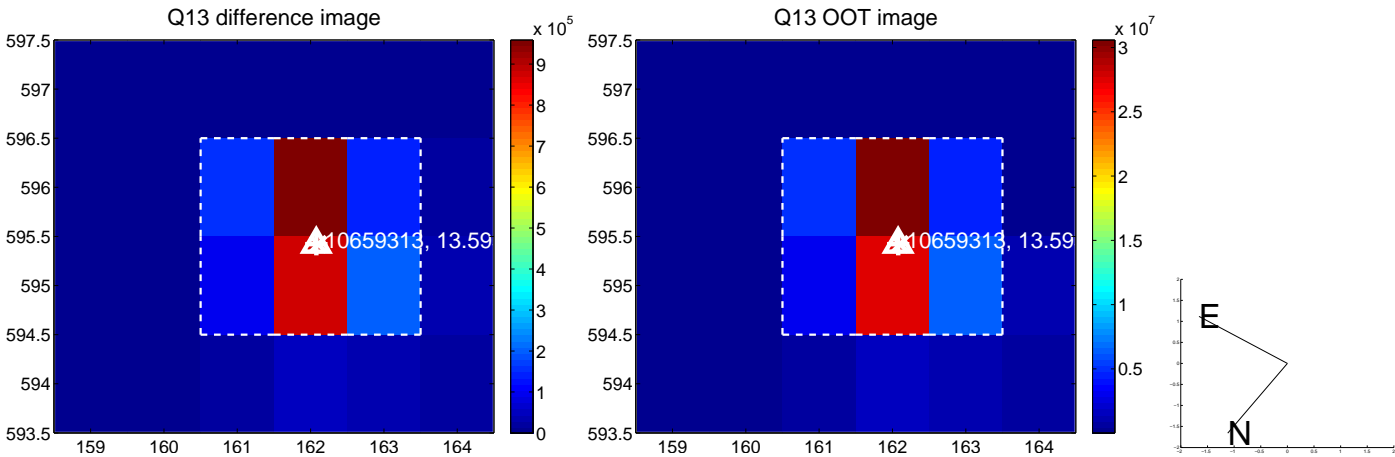
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



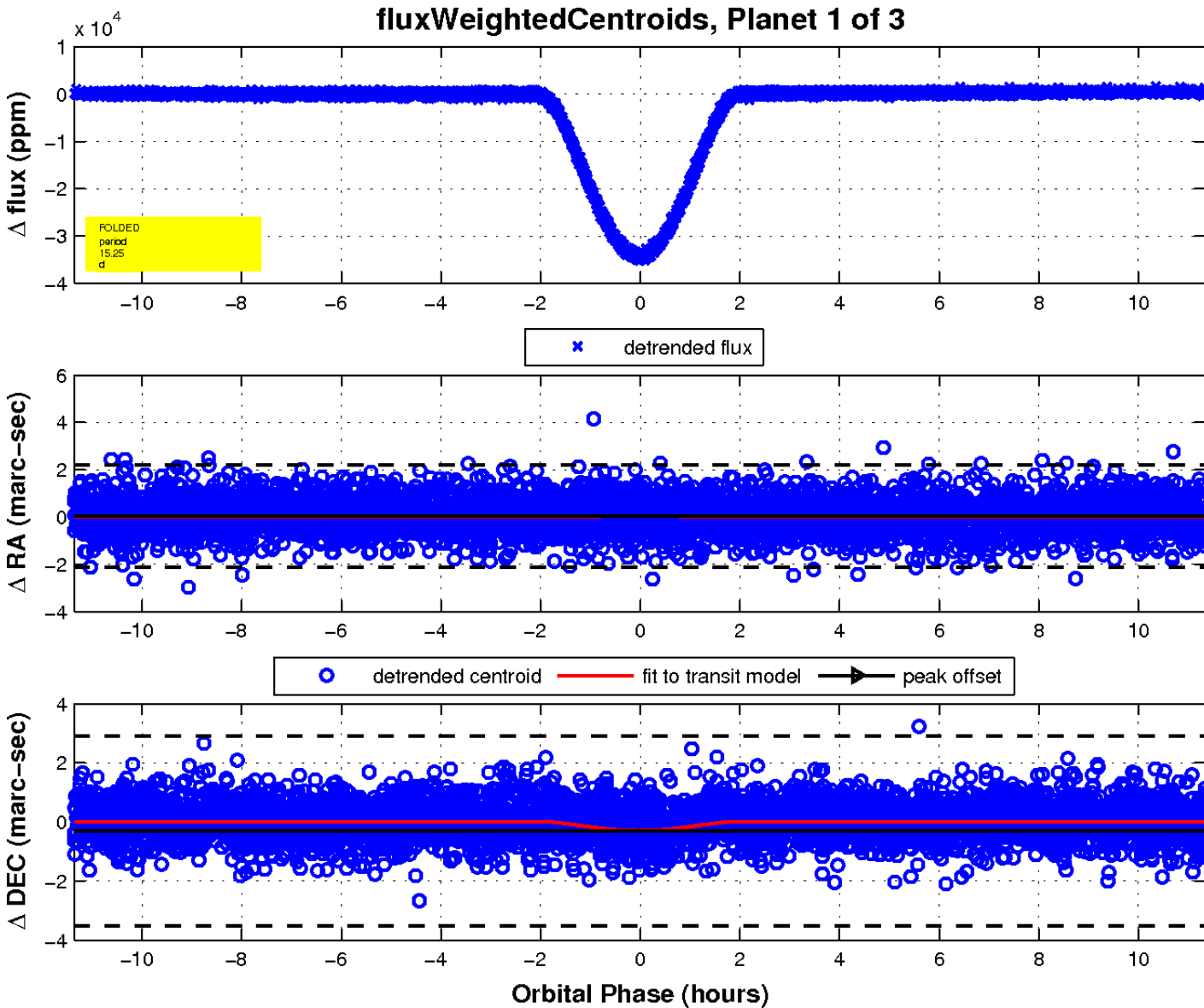
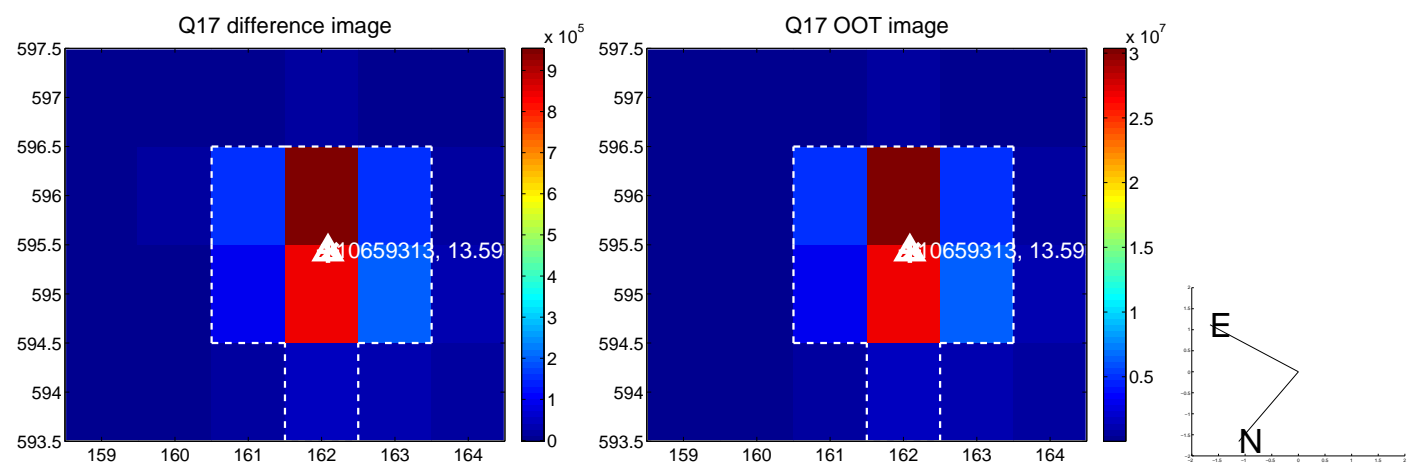
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



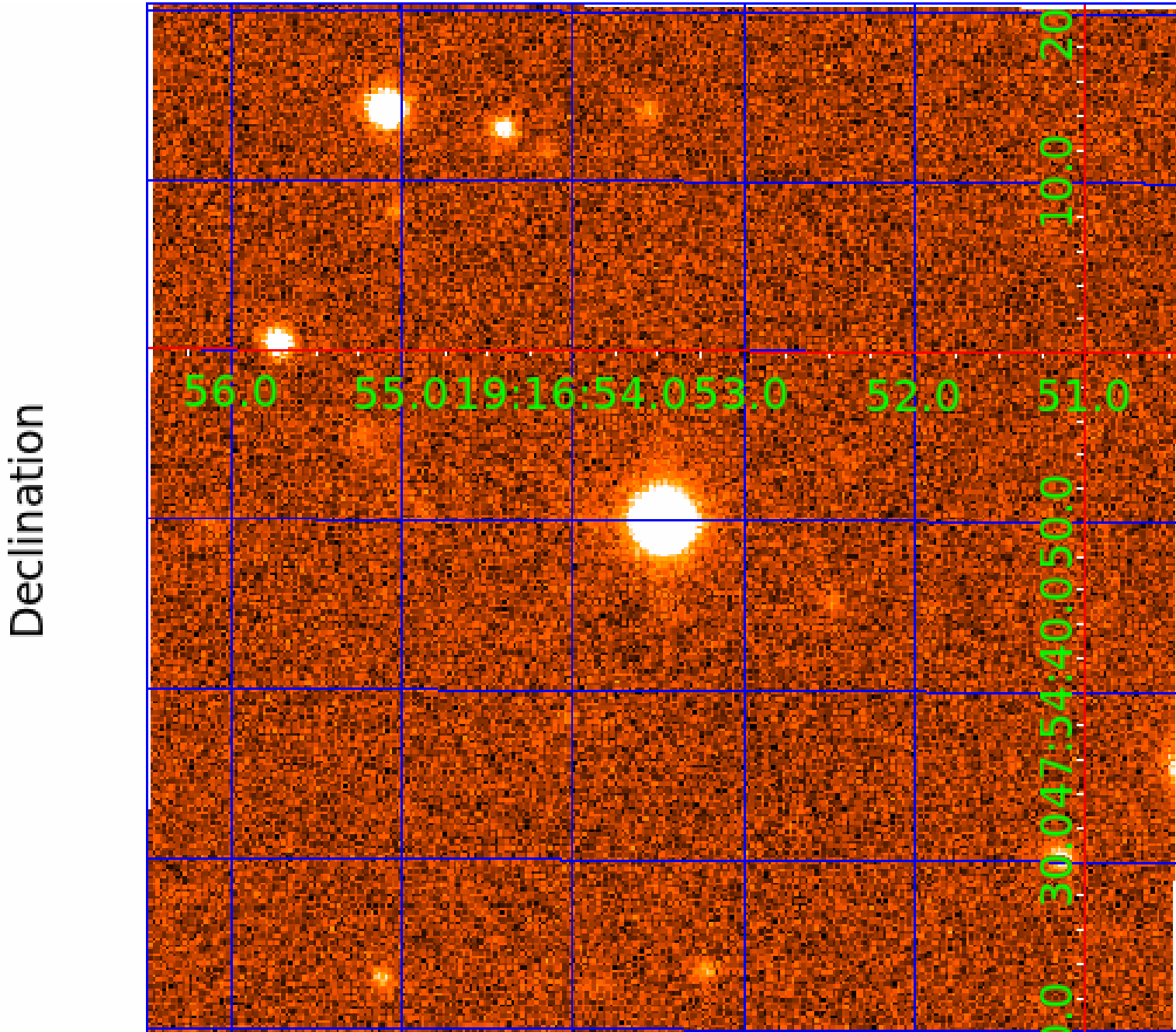
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 010659313

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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010659313-02	OBS	No	15.249008	143.420335	55.7	4.250	9.0	3.6	1.19	6385	1.04	139.10
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010659313-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED
010659313-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—RESIDUAL_TCE—CENT_FEW_DIFFS
010659313-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_DV—RESIDUAL_TCE

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.

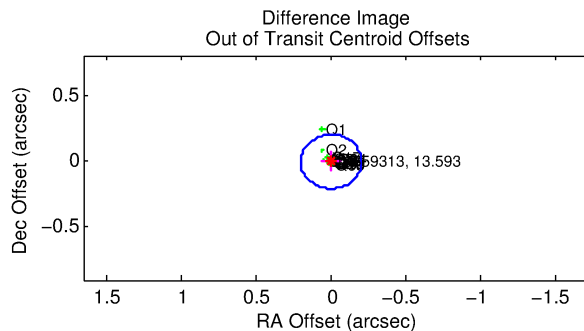
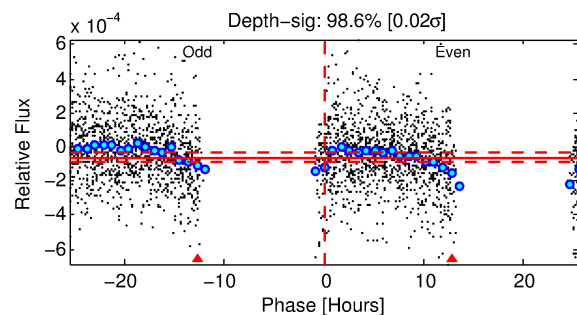
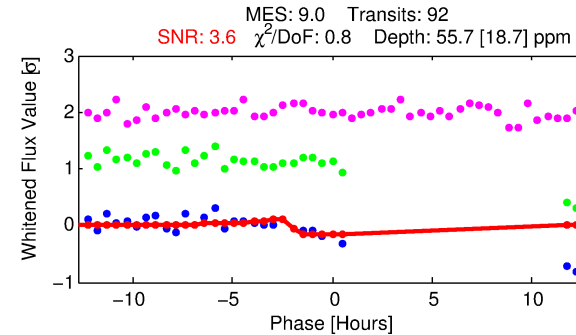
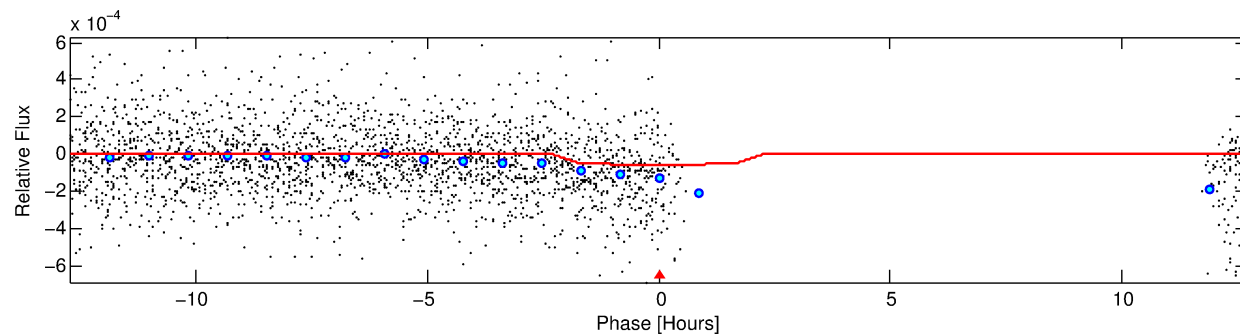
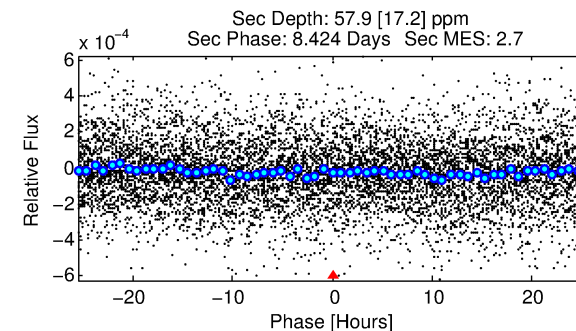
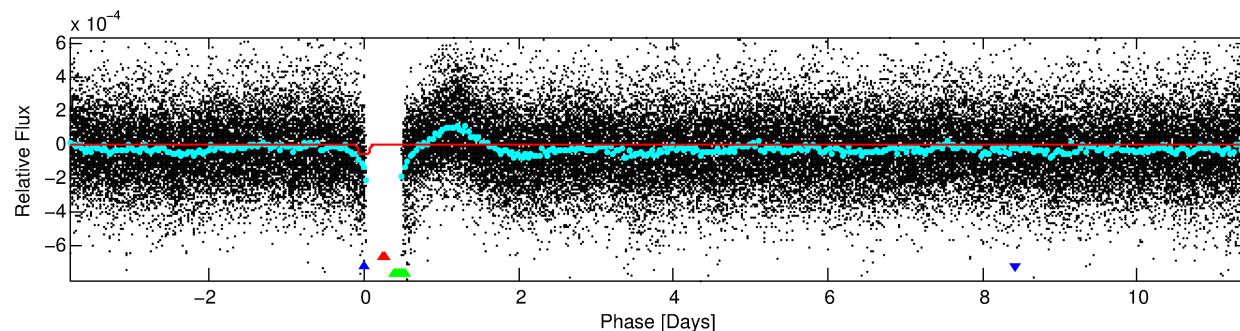
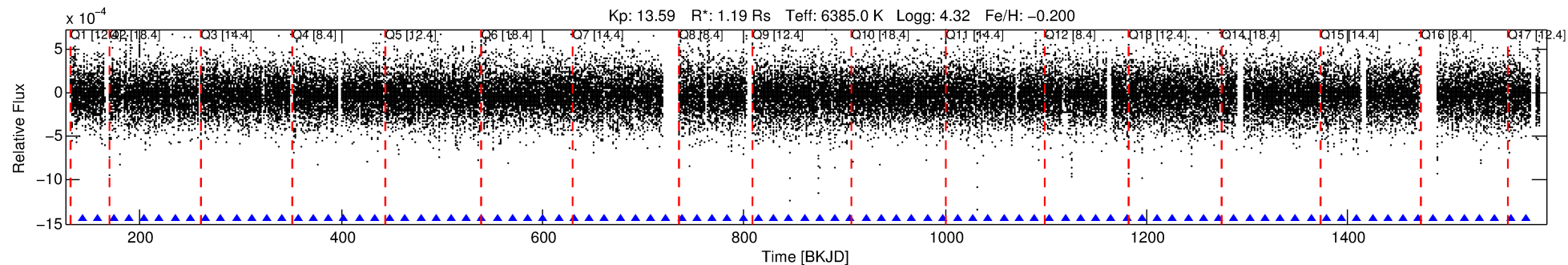
Ephemeris Match Information For 010659313-02

No Significant Match Found

DV One-Page Summary

KIC: 10659313 Candidate: 2 of 3 Period: 15.249 d

KOI: K06079 Corr: No Ephemeris Match



DV Fit Results:

Period = 15.24901 [0.00031] d
Epoch = 143.4203 [0.0376] BKJD
Rp/R* = 0.0080 [0.0070]
a/R* = 12.53 [60.83]
b = 0.90 [1.09]
Seff = 139.10 [53.78]
Teq = 876 [85] K
Rp = 1.04 [0.96] Re
a = 0.1230 [0.0320] AU
Ag = 447.42 [807.05] [0.55σ]
Teffp = 6227 [2756] K [1.94σ]

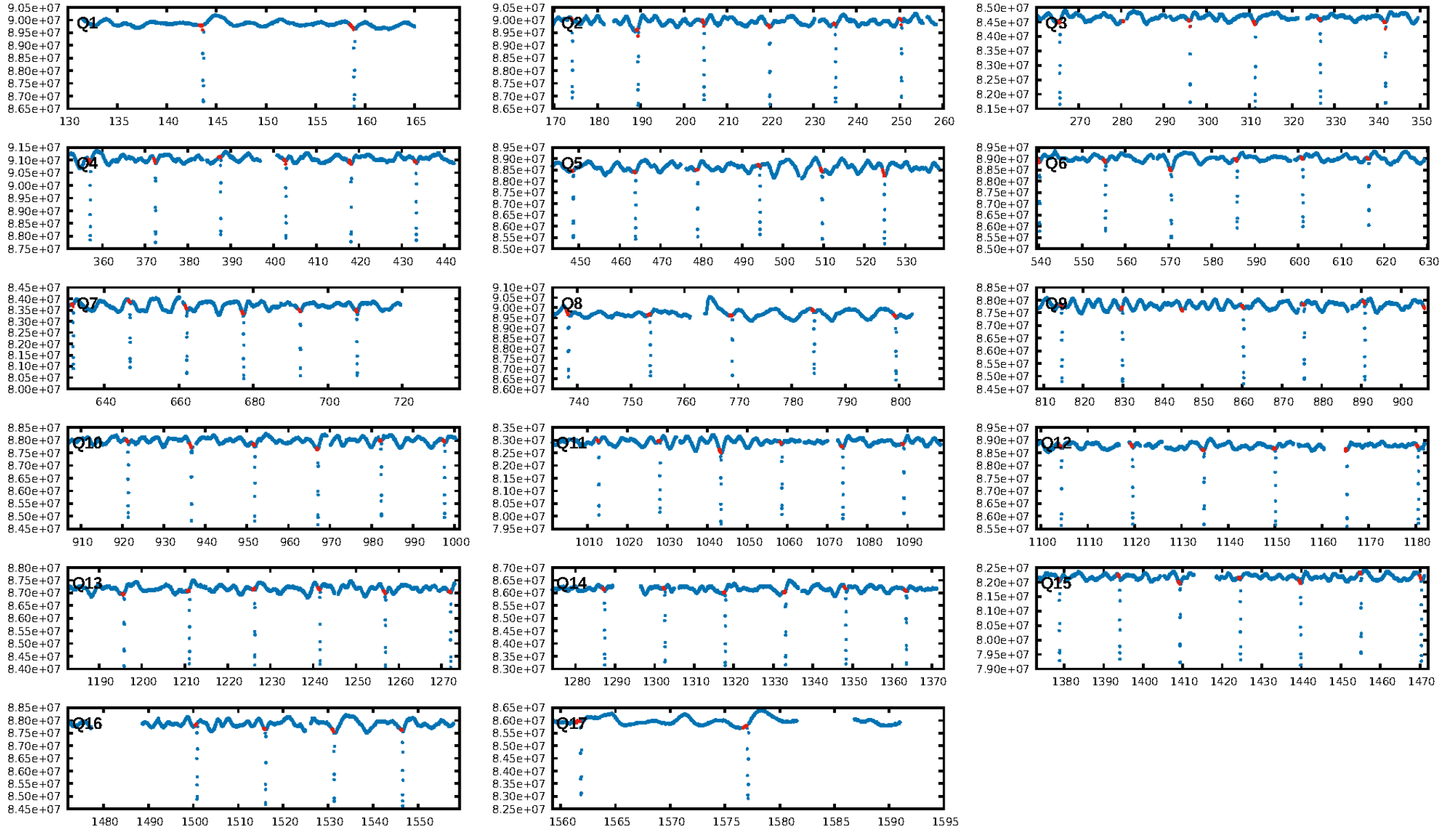
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: 18.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.84e-20
RollingBand-fgt: 1.00 [88/88]
GhostDiagnostic-chr: -0.2975
Centroid-sig: 6.5%
Centroid-so: 2.576 arcsec [1.65σ]
OotOffset-rm: 0.007 arcsec [0.10σ]
KicOffset-rm: 0.085 arcsec [1.26σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 0.00 [0/17]

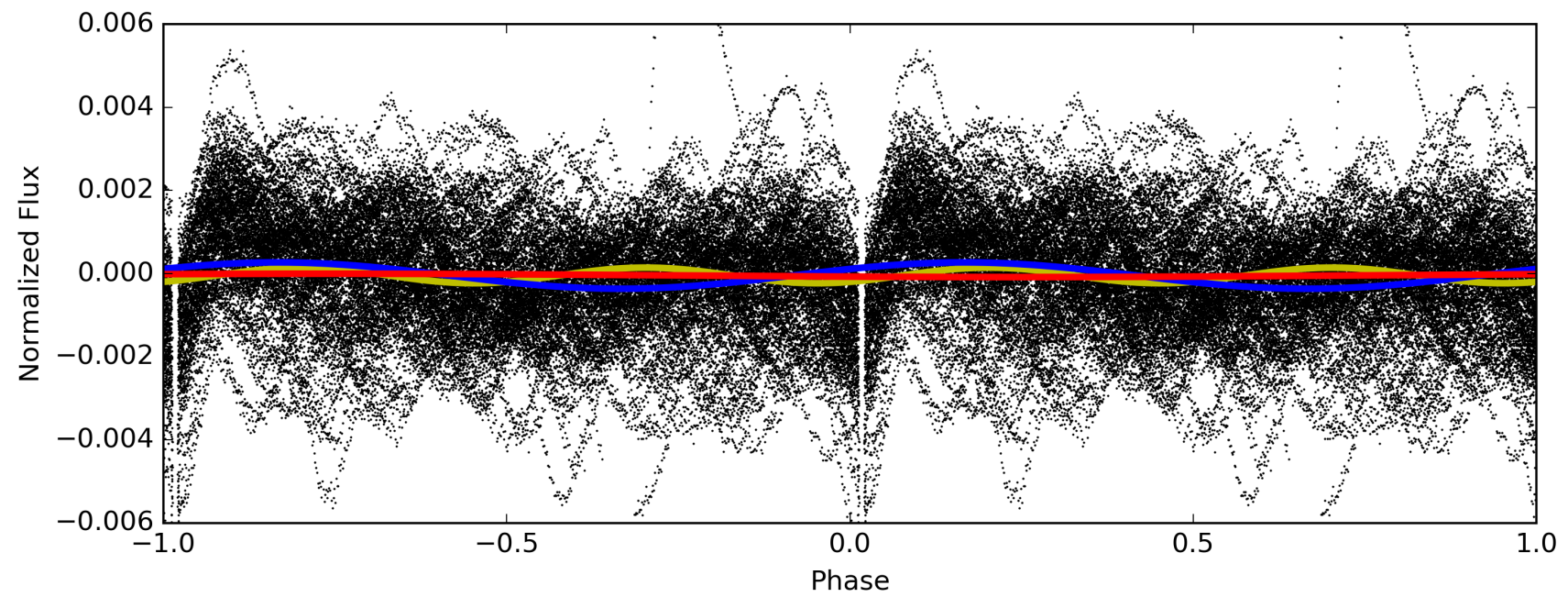
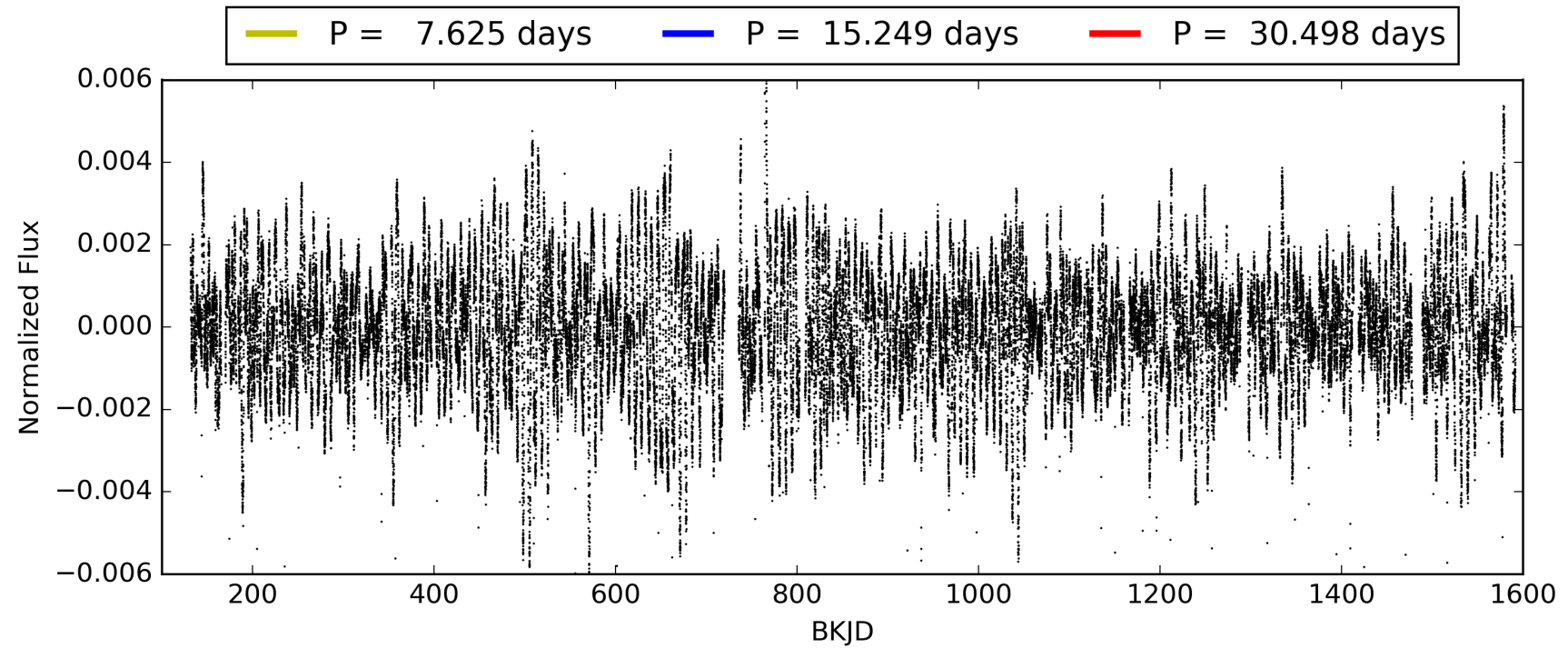
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 14:33:06 Z

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

TCE 010659313-02, PDC Light Curves

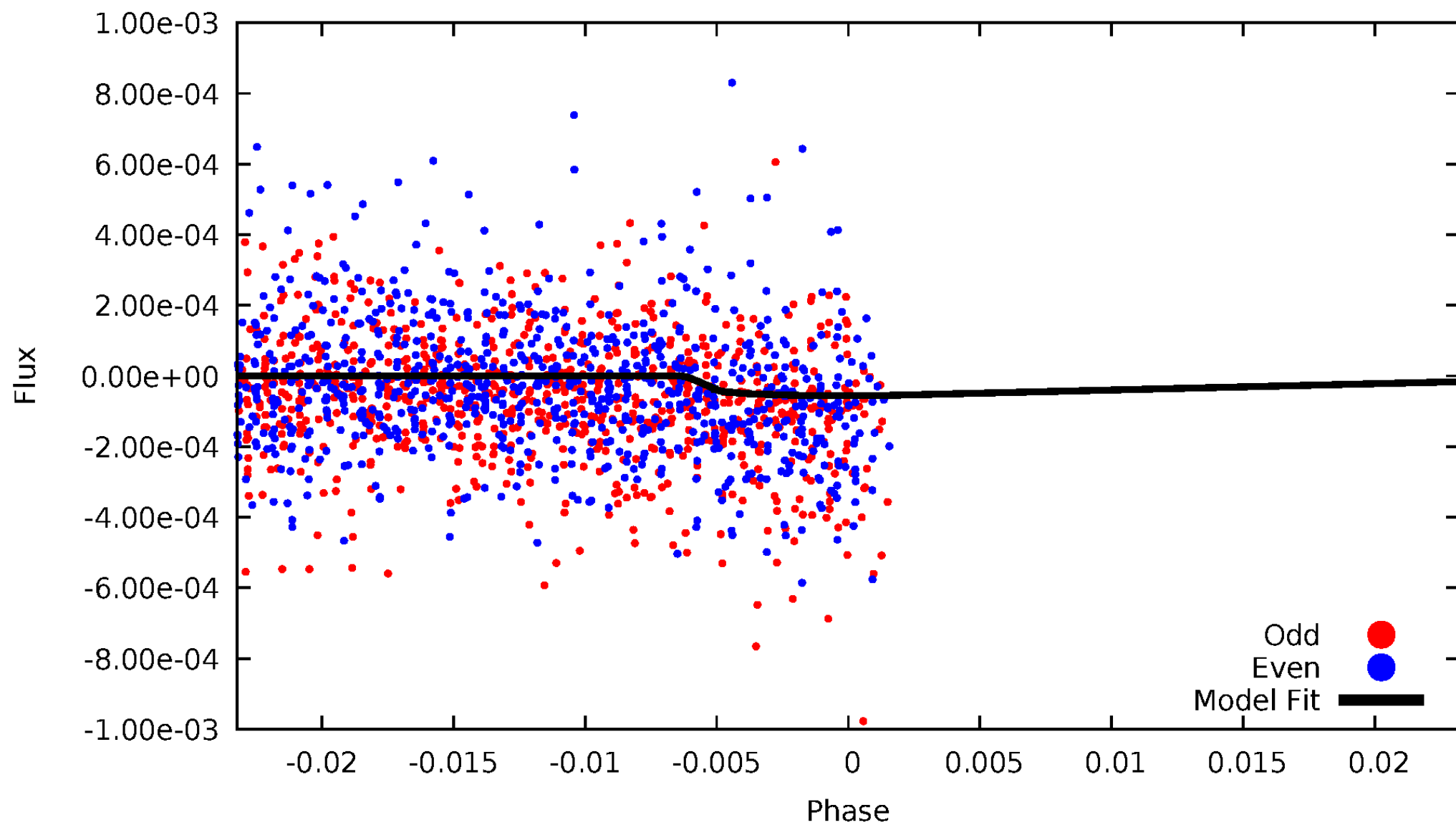


TCE 010659313-02



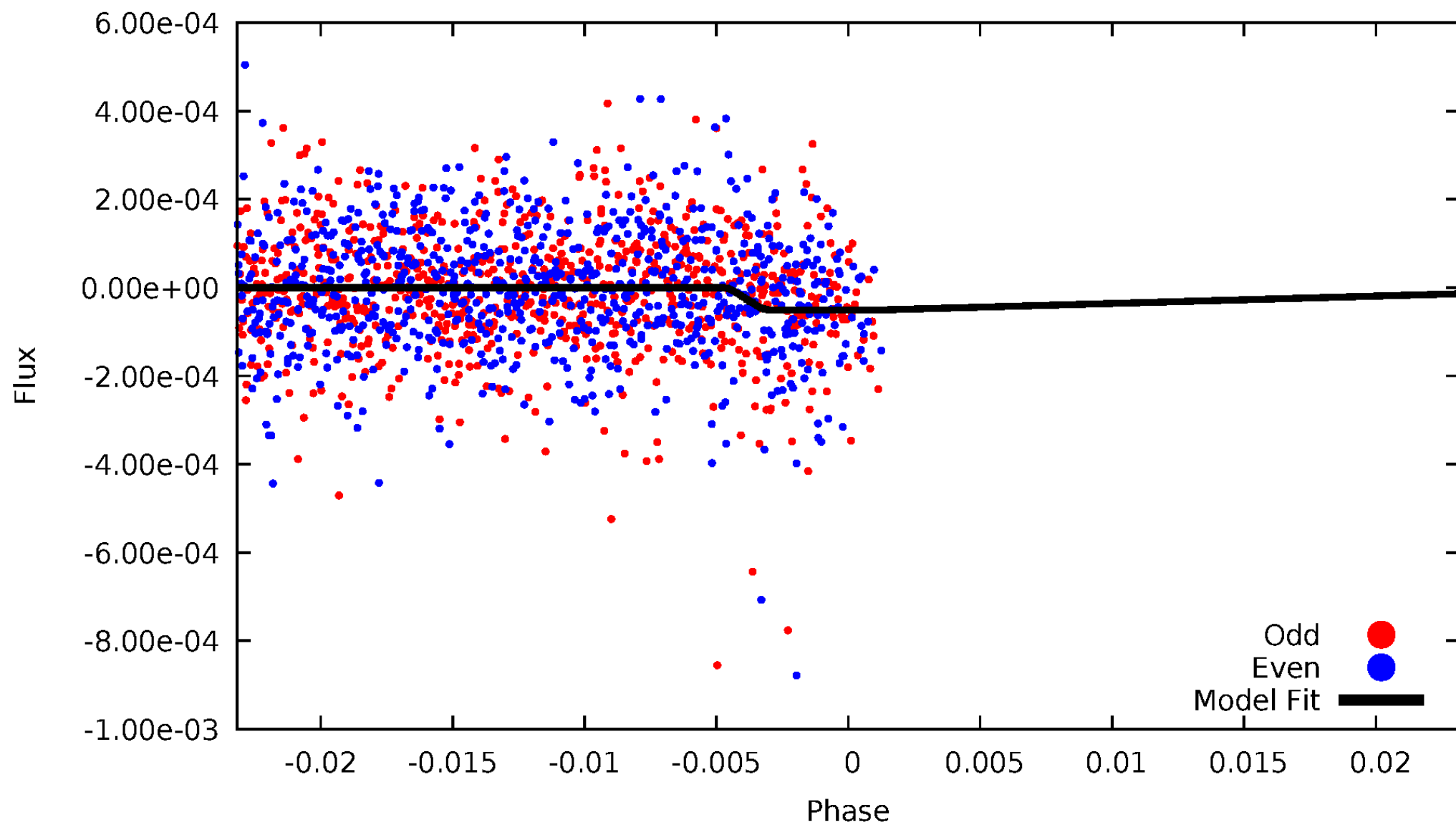
DV Odd/Even

TCE 010659313-02



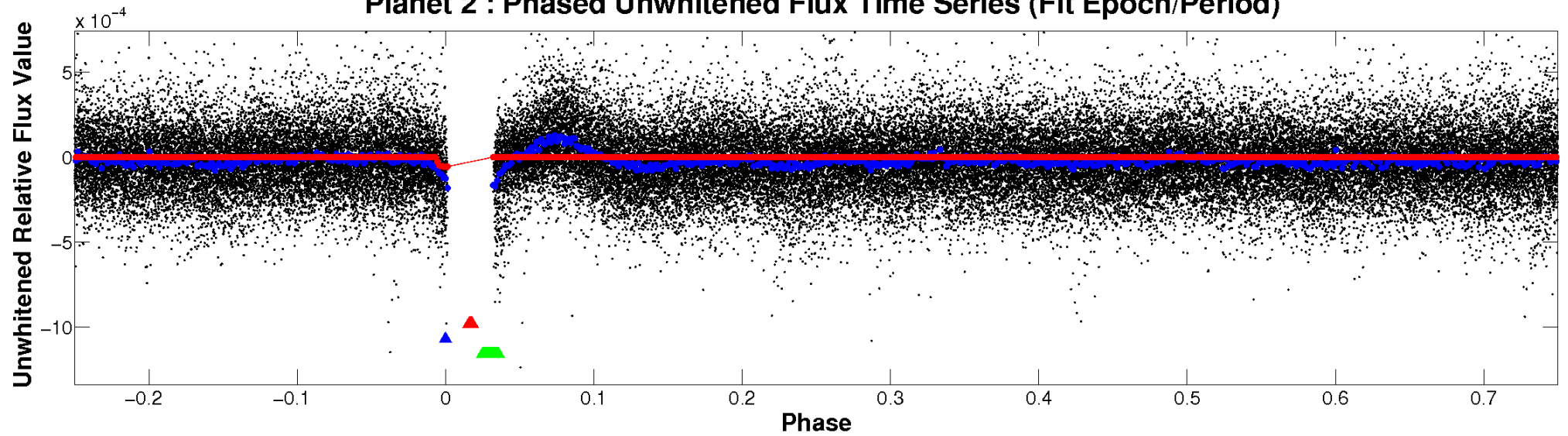
ALT Odd/Even

TCE 010659313-02

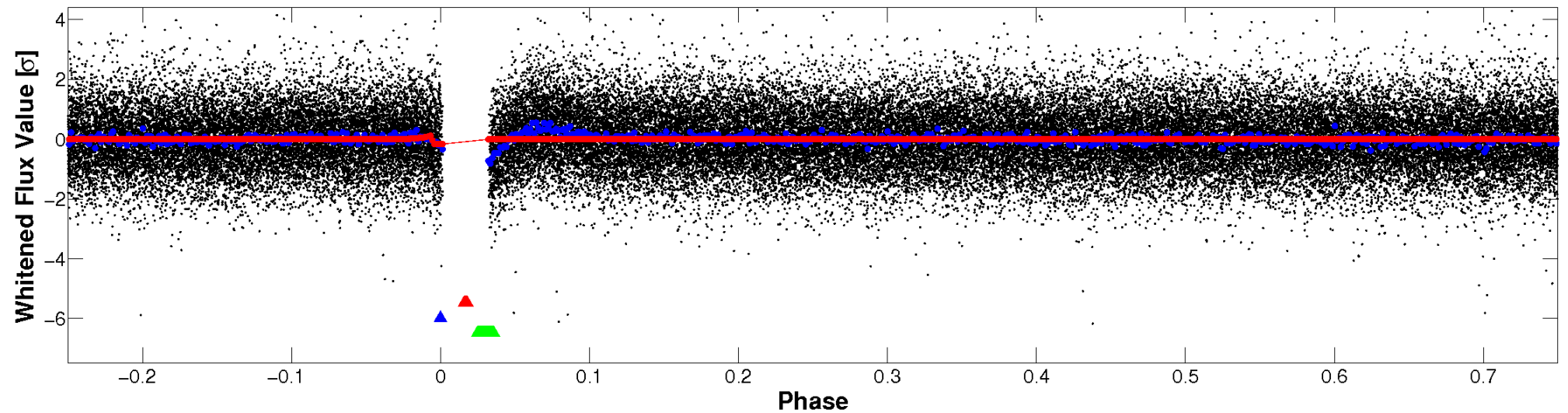


Non-Whitened Vs. Whitened Light Curve

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

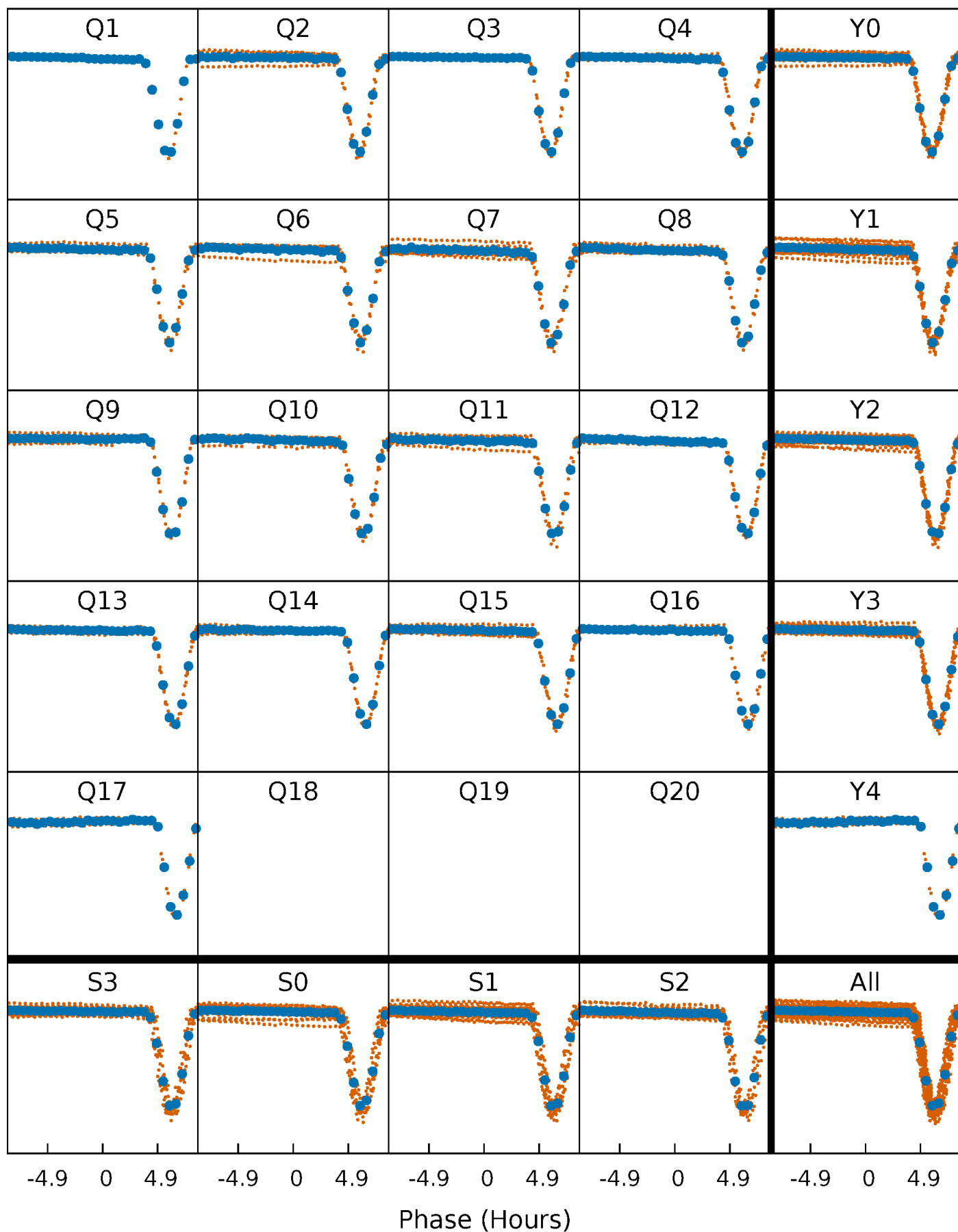


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



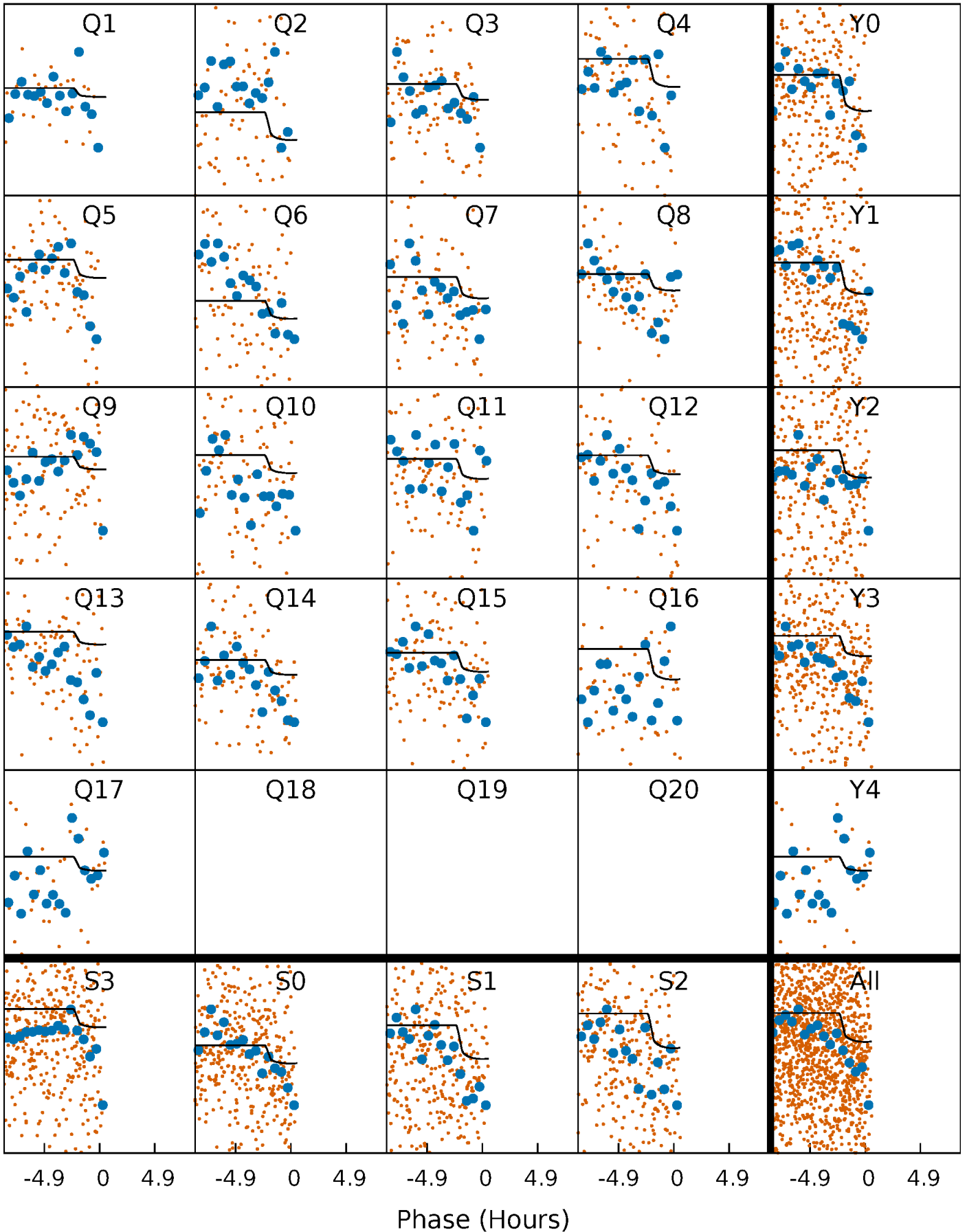
PDC Quarter-Phased Transit Curves

TCE 010659313-02 P= 15.249008 Days $T_0=143.420334$ (BKJD)



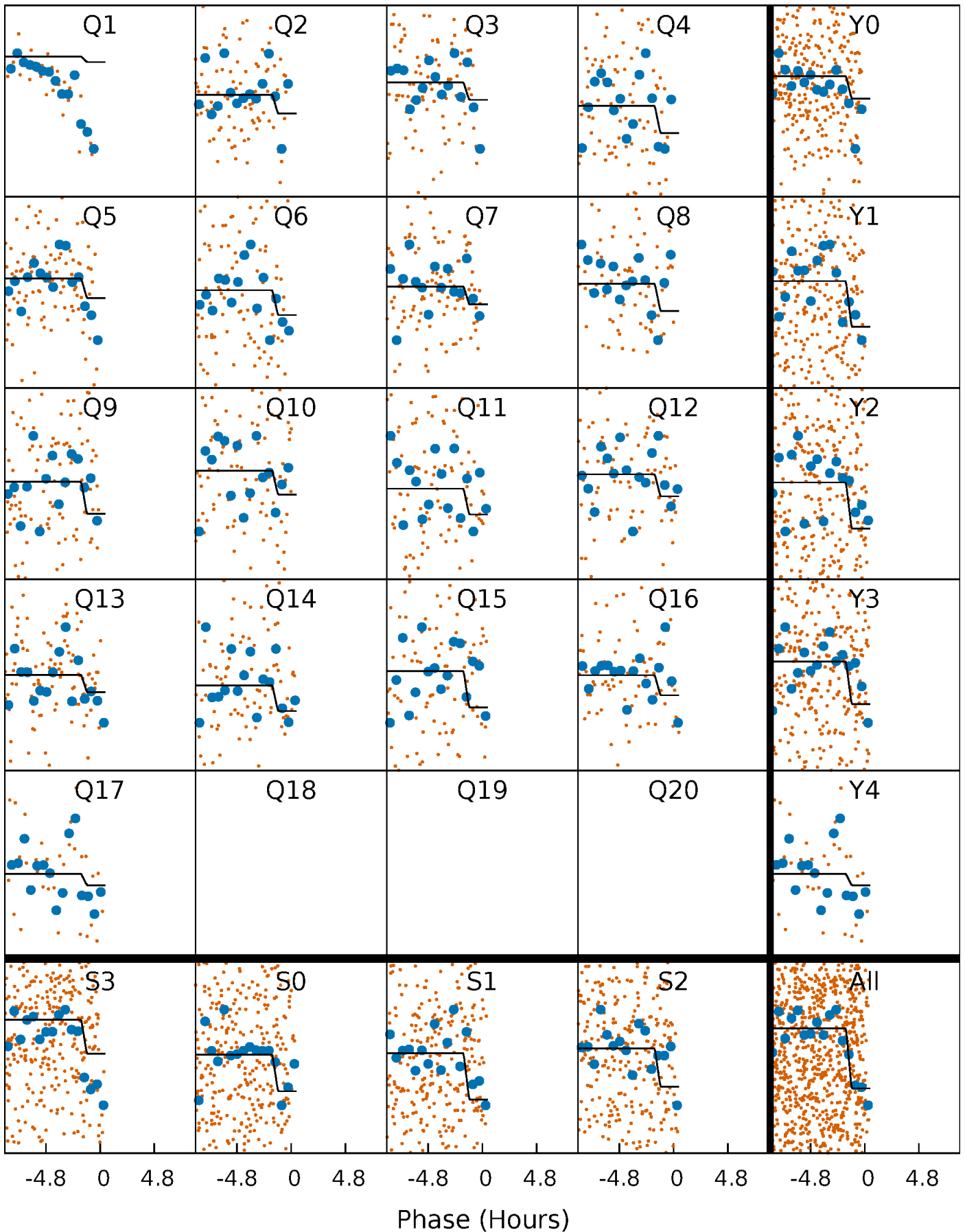
DV Quarter-Phased Transit Curves

TCE 010659313-02 $P = 15.249008$ Days $T_0 = 143.420334$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

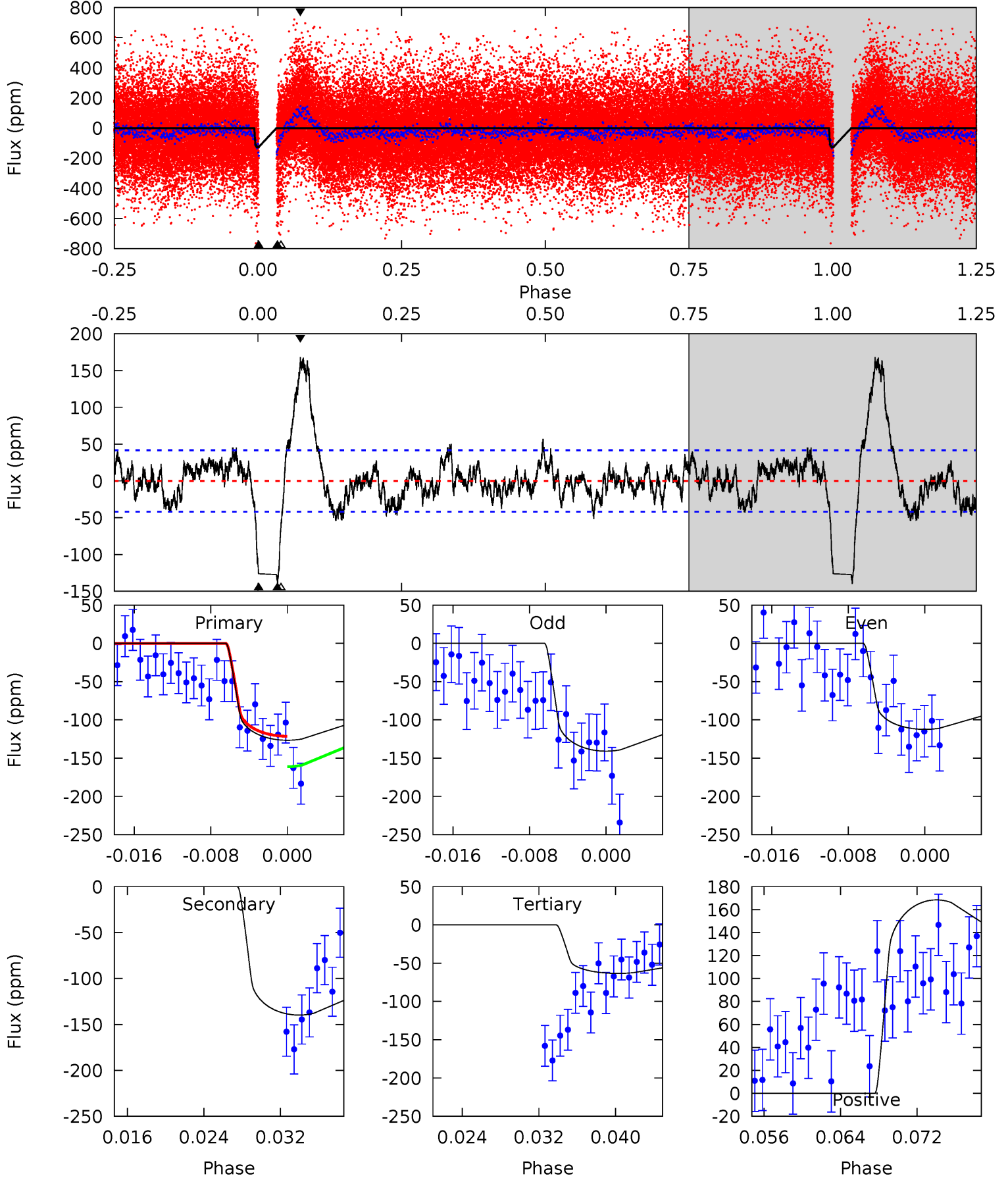
TCE 010659313-02 P= 15.248902 Days $T_0=143.434814$ (BKJD)



DV Model-Shift Uniqueness Test

010659313-02, $P = 15.249008$ Days, $E = 128.171326$ Days

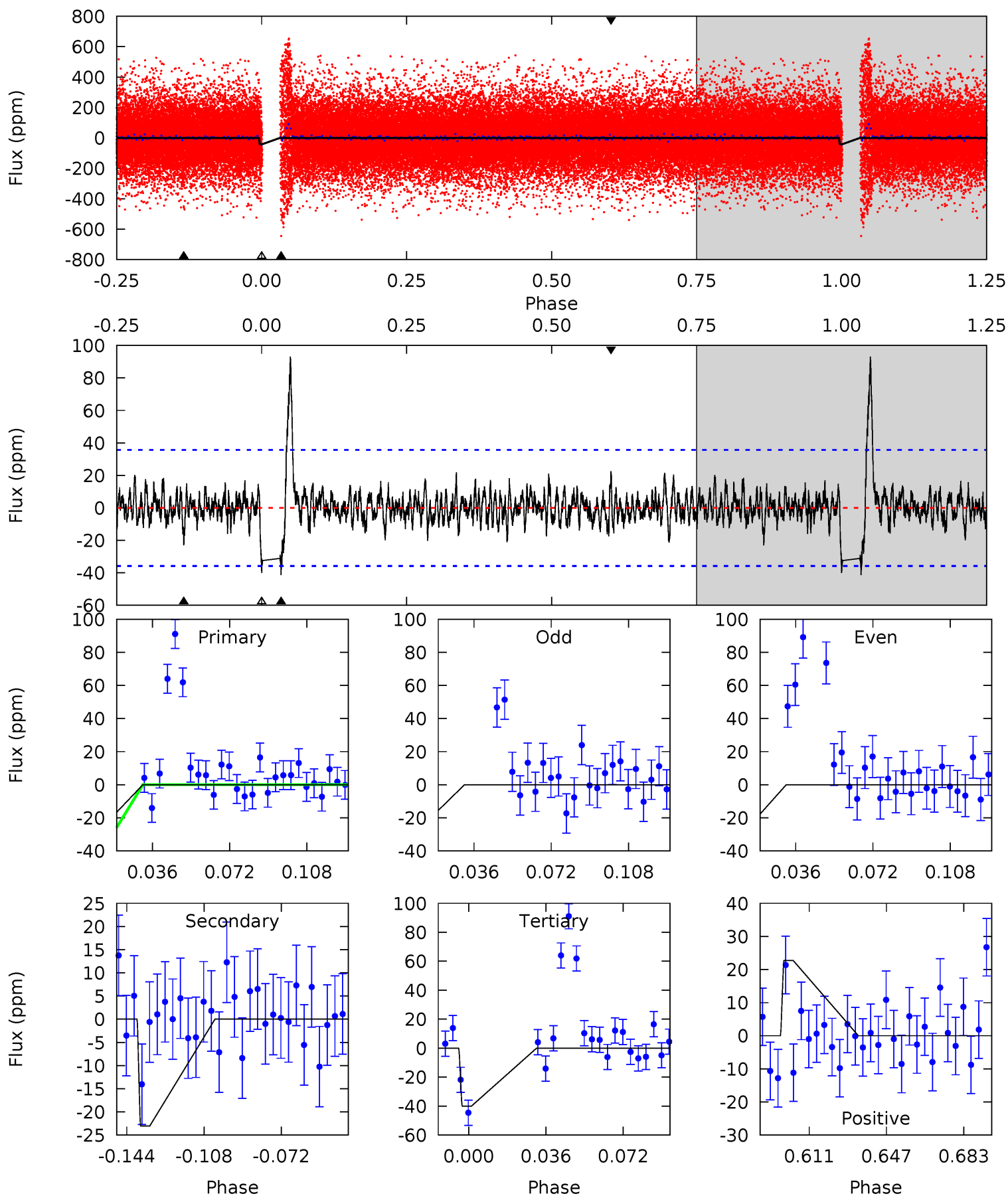
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	17.0	7.69	20.4	5.07	2.65	4.05	7.67	-5.07	9.27	-3.47	1.73	1.06	0.55	1.42



Alt Model-Shift Uniqueness Test

010659313-02, P = 15.248902 Days, E = 128.185912 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.52	3.08	5.34	3.04	4.77	2.10	0.94	0.17	2.48	-2.27	0.04	0.37	1.93	0.69	0.95



Stellar Parameters For KIC 010659313

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6385^{+160}_{-192}	$4.316^{+0.105}_{-0.195}$	$-0.200^{+0.250}_{-0.300}$	$1.189^{+0.380}_{-0.190}$	$1.062^{+0.180}_{-0.120}$	$0.890^{+0.442}_{-0.474}$
	+3%/-3%	+2%/-5%	+125%/-150%	+32%/-16%	+17%/-11%	+50%/-53%
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 010659313-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-140 ± 8	$1.27^{+0.86}_{-0.80}$	1234^{+91}_{-66}	7169^{+7529}_{-1643}	739^{+4380}_{-478}
Alt.	-23 ± 7	$1.15^{+0.83}_{-0.72}$	1230^{+91}_{-67}	4795^{+2994}_{-928}	139^{+800}_{-97}

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

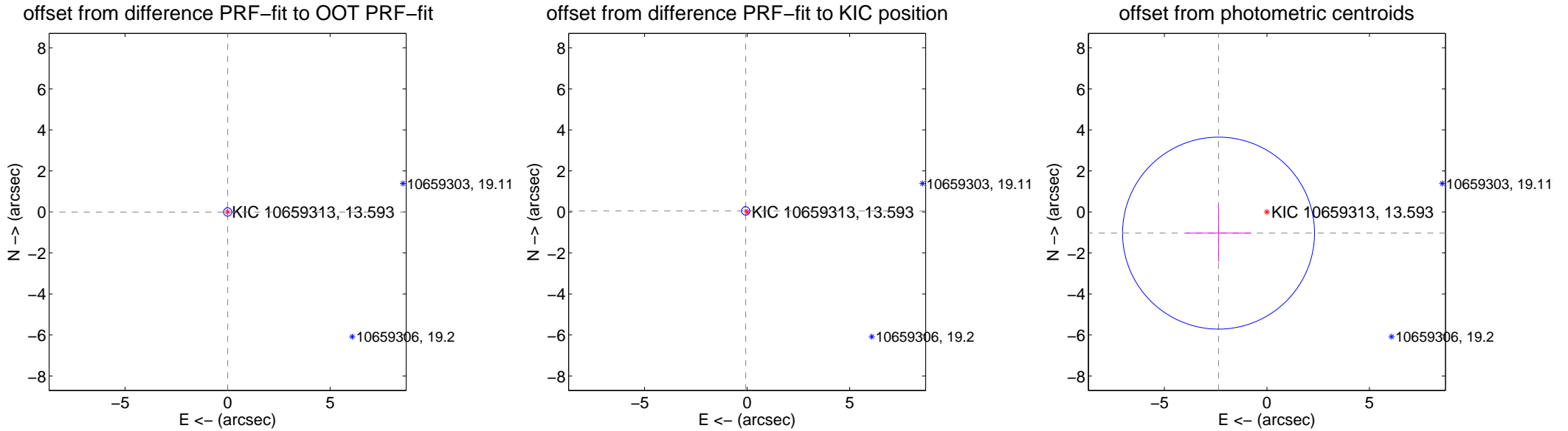
DV Centroid Data

Supplemental centroid analysis for 010659313-02. Kepler magnitude: 13.59. Transit SNR 3.60

There are 0 quarters with good PRF difference image offsets

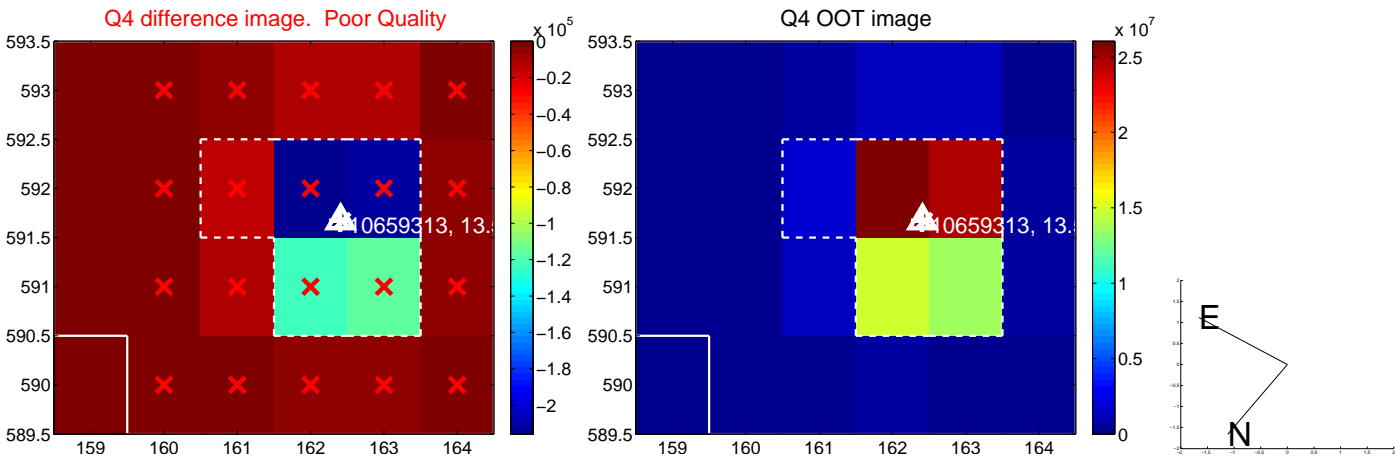
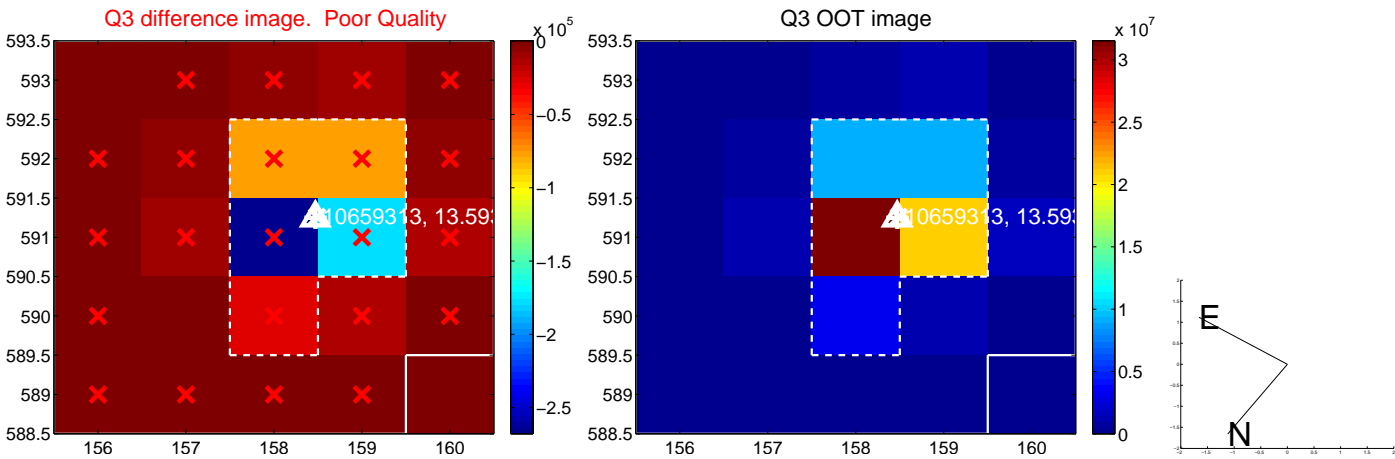
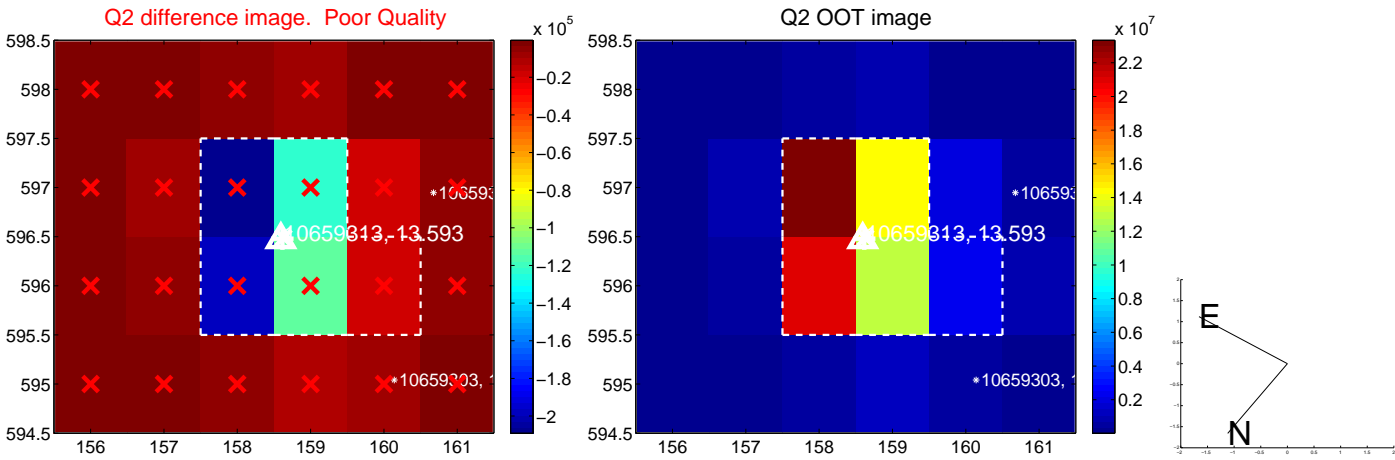
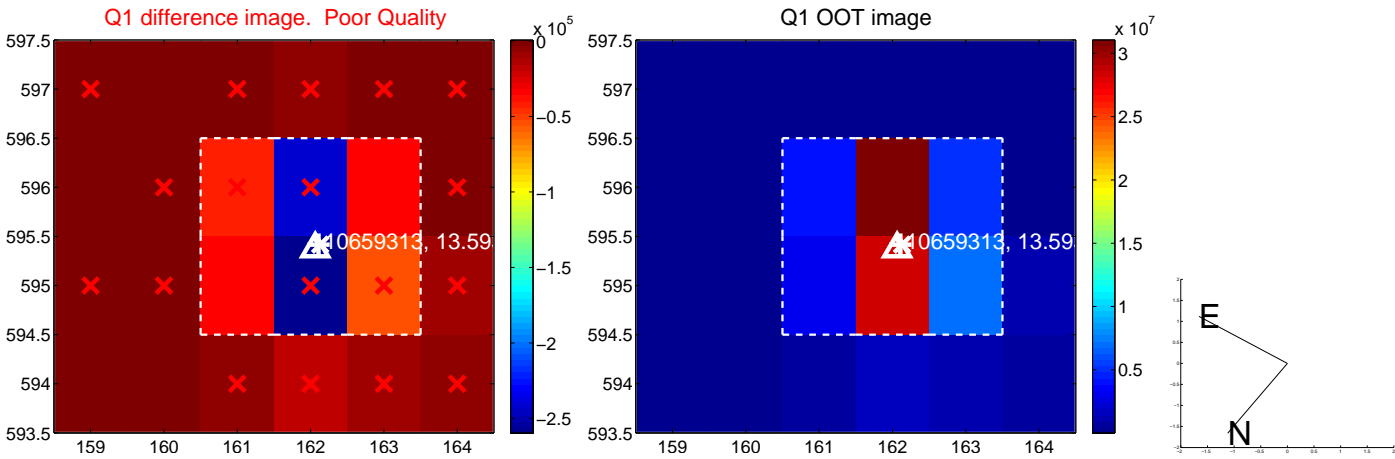
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.007 ± 0.068	0.10	-0.005 ± 0.067	-0.004 ± 0.068
PRF-fit source offset from KIC position	0.085 ± 0.068	1.26	0.070 ± 0.067	0.049 ± 0.068
photometric centroid source offset	2.58 ± 1.56	1.65	2.36 ± 1.59	-1.03 ± 1.40

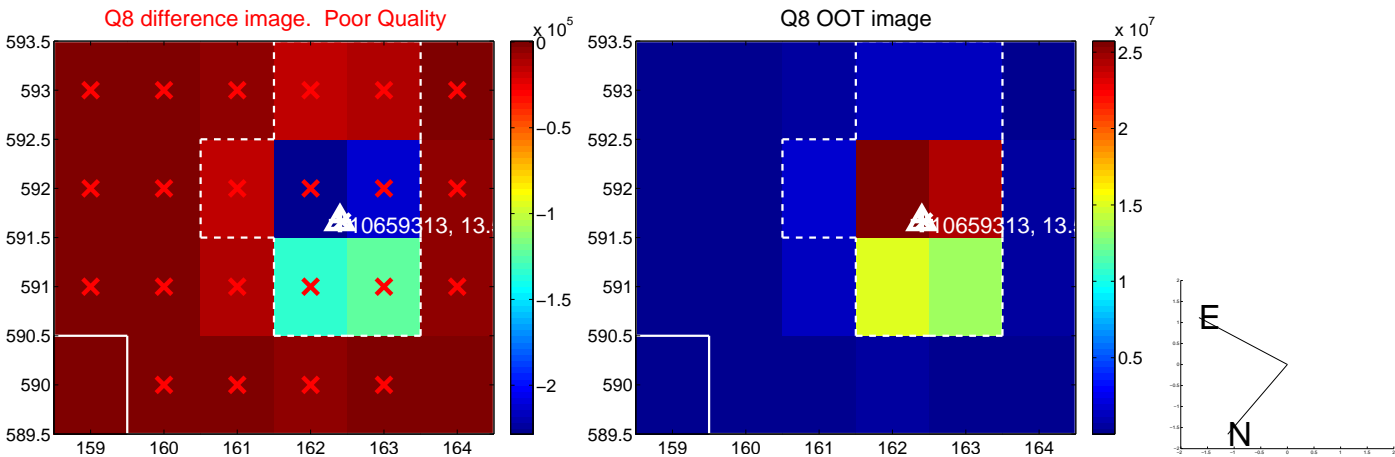
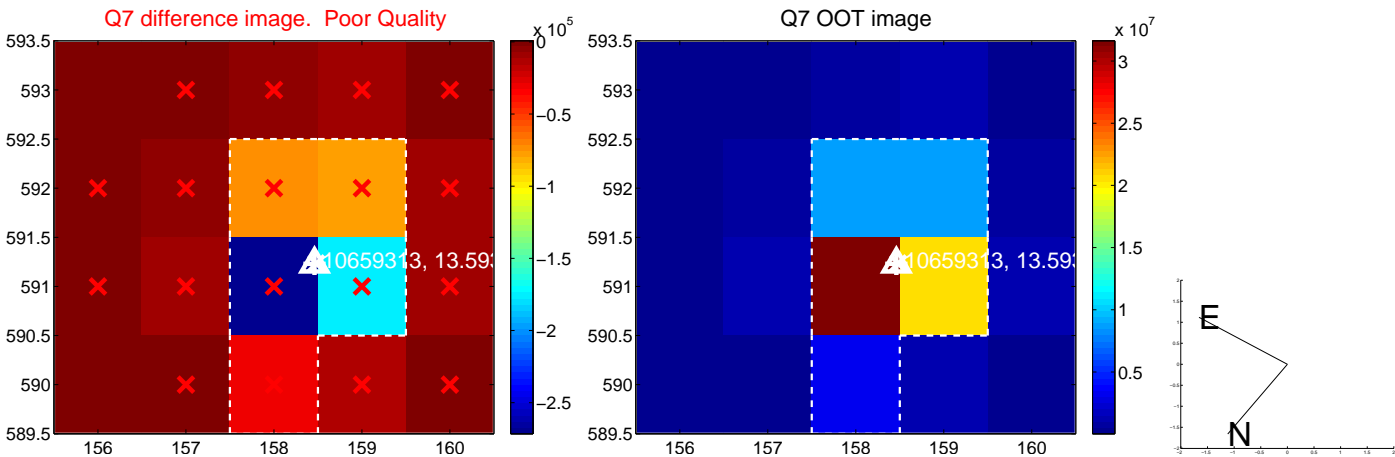
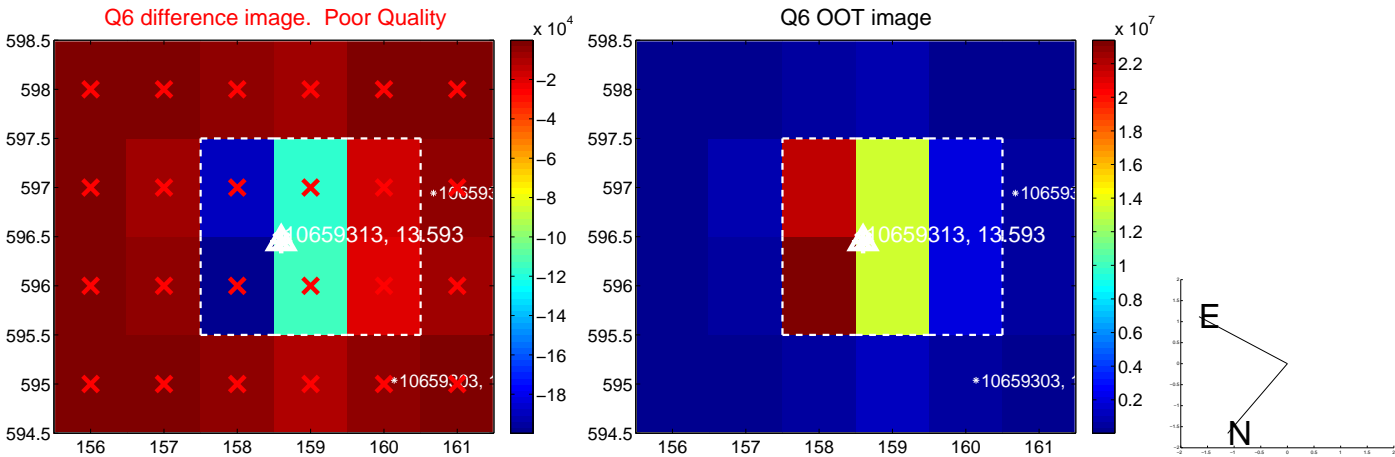
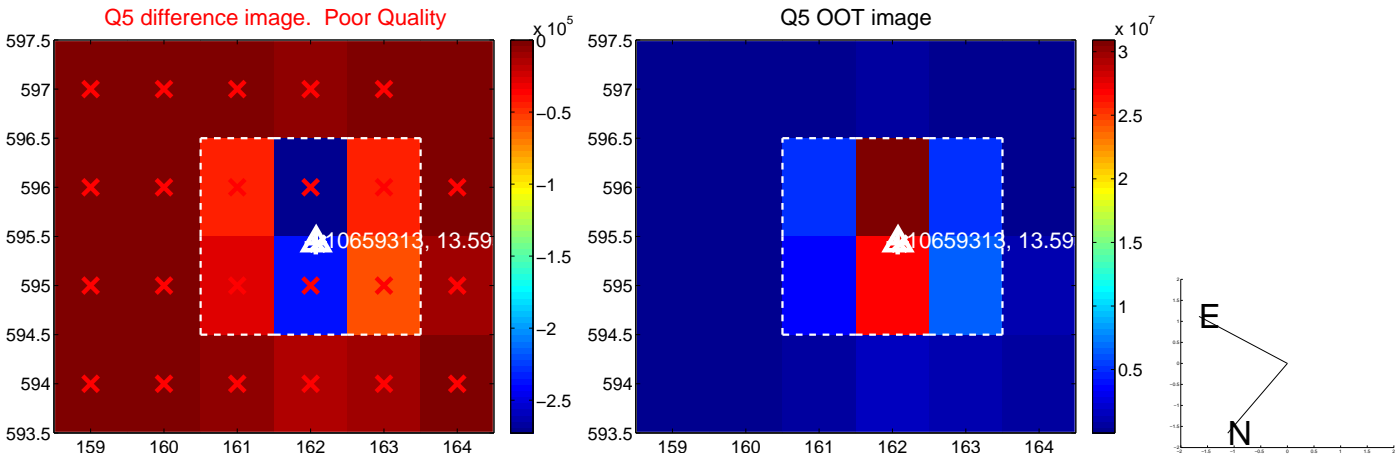


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

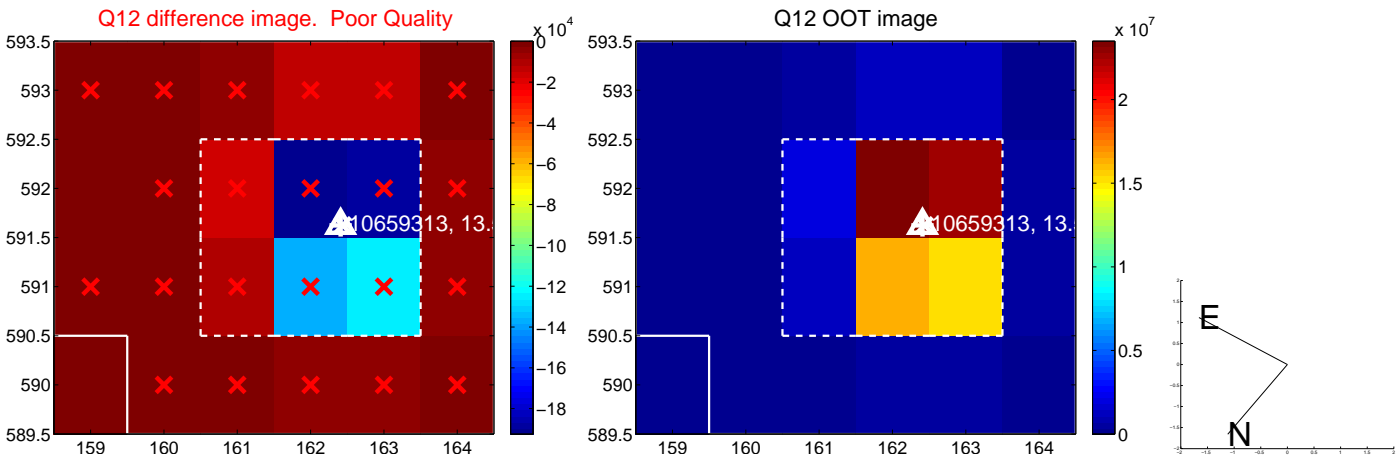
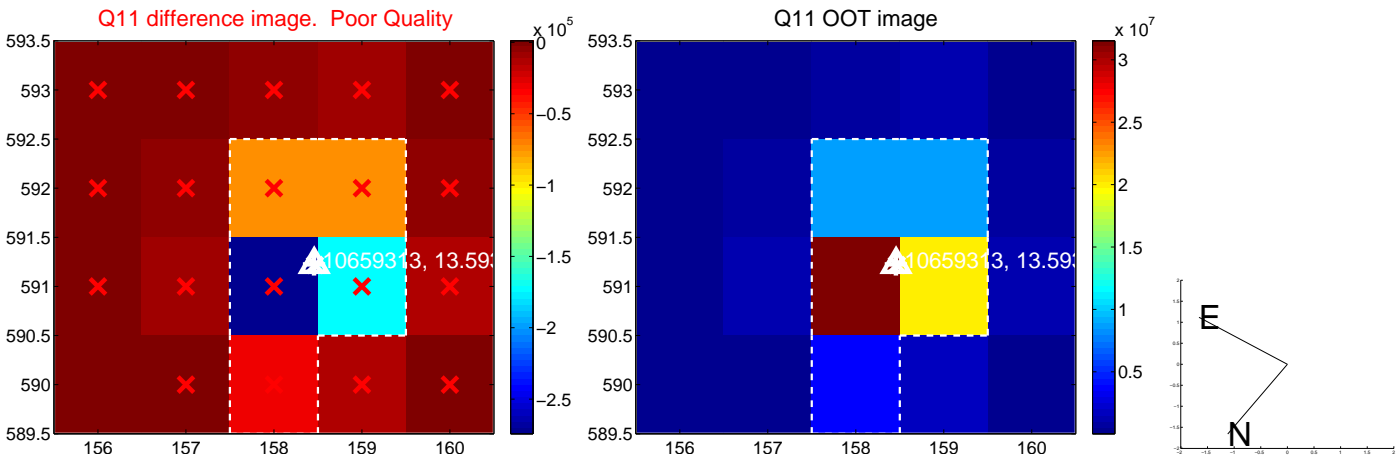
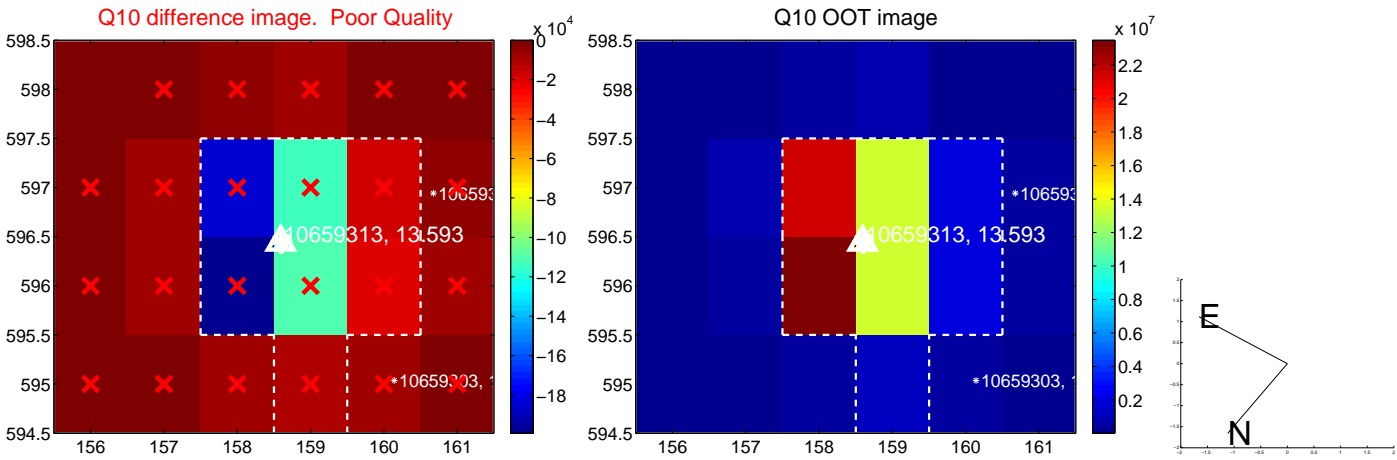
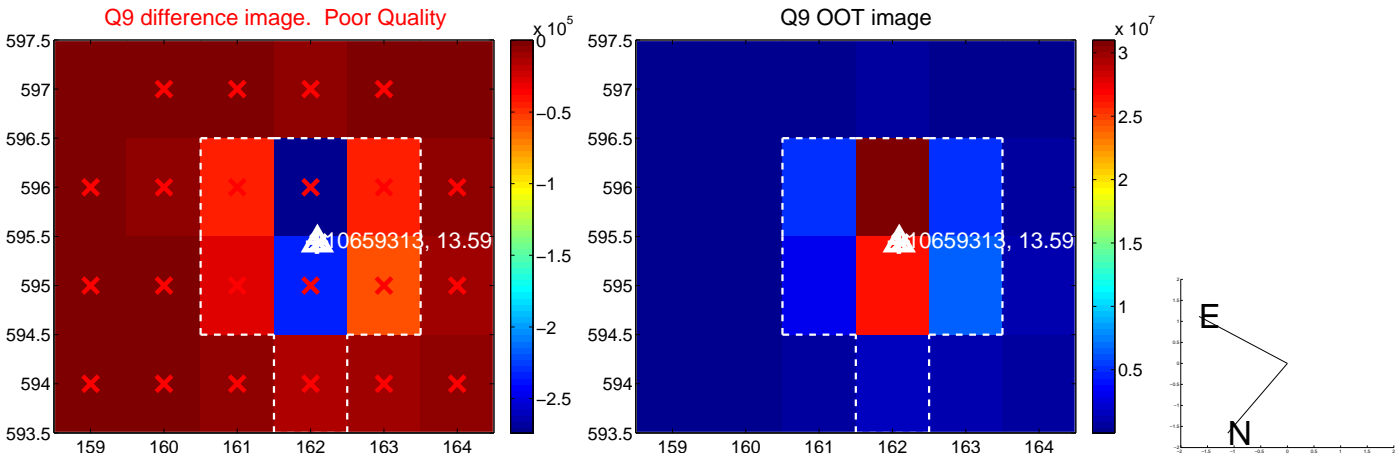
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



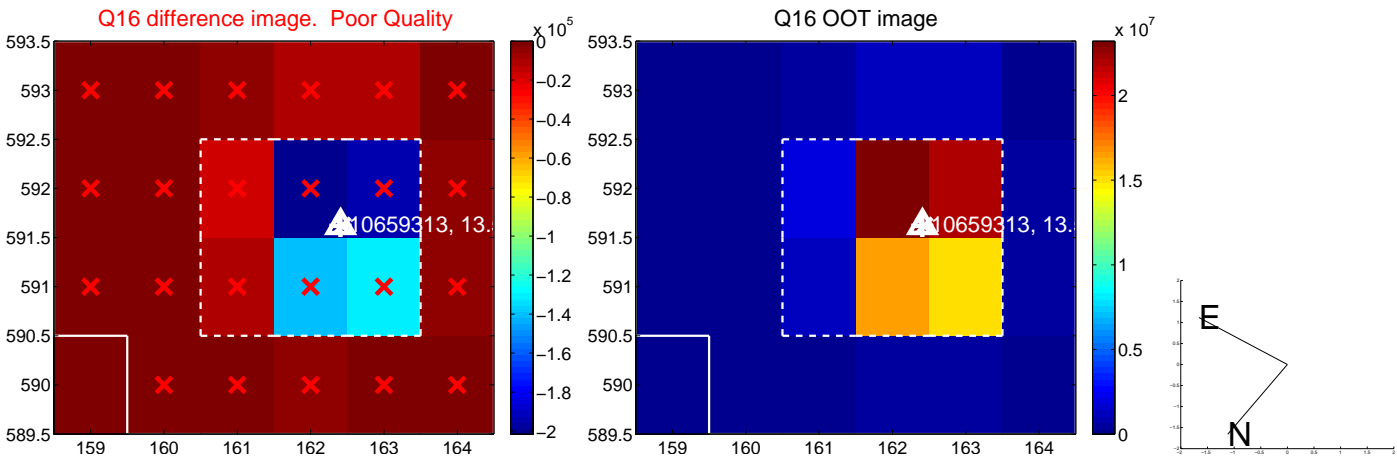
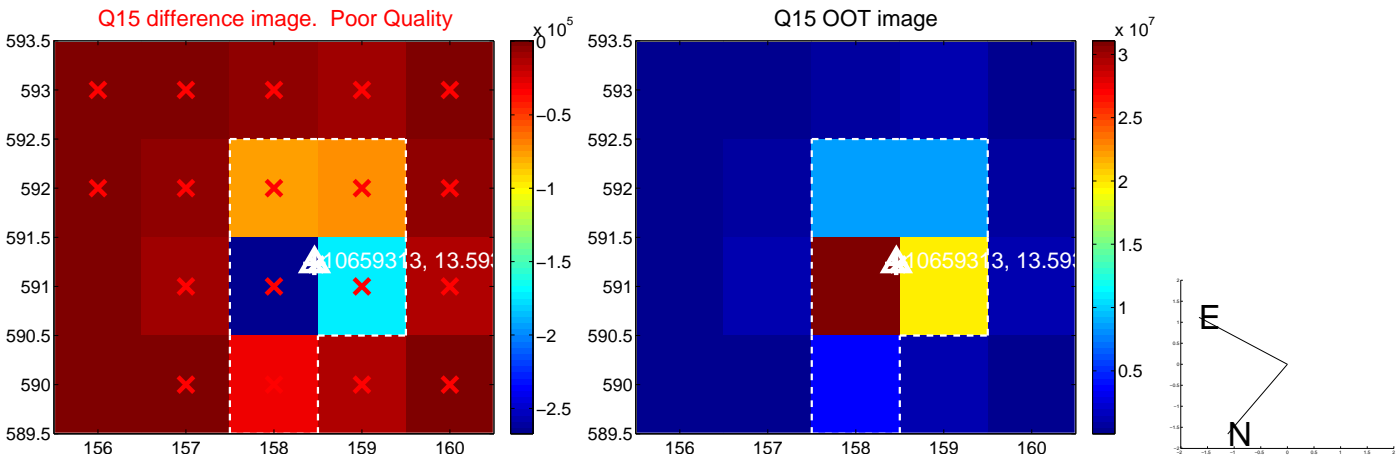
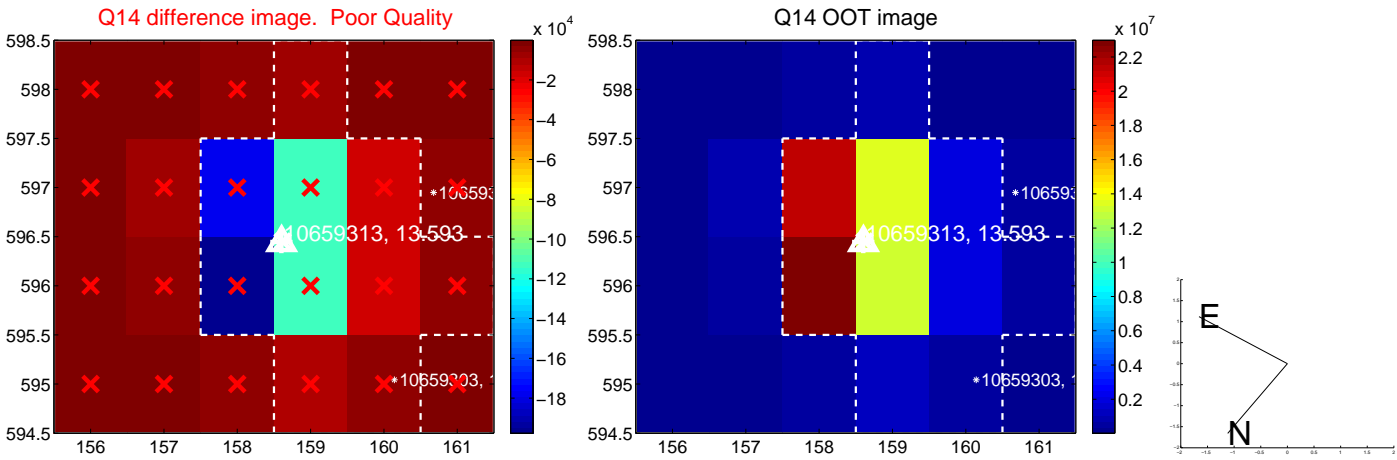
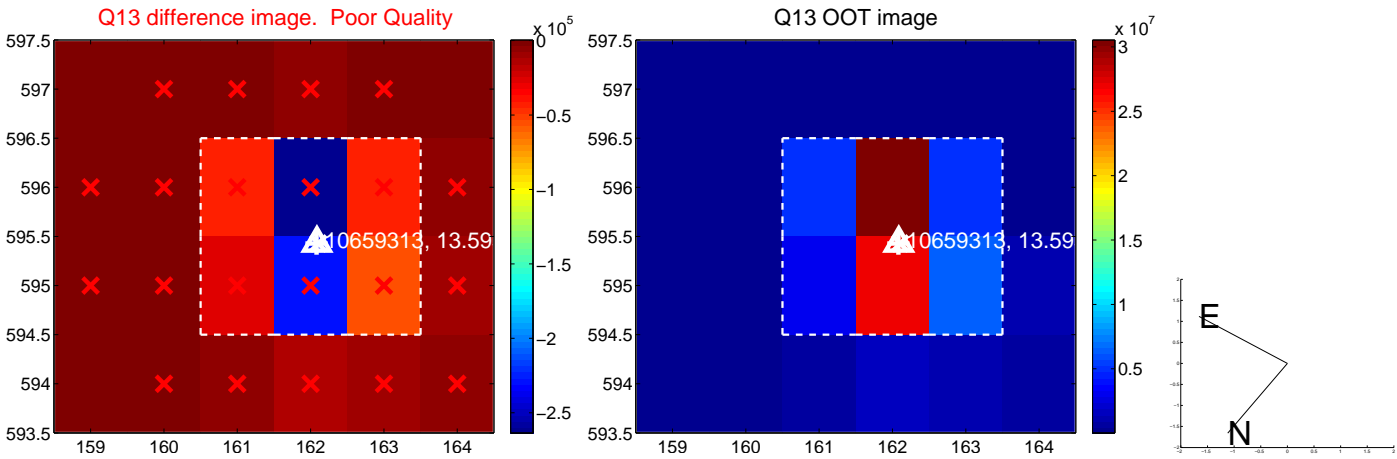
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



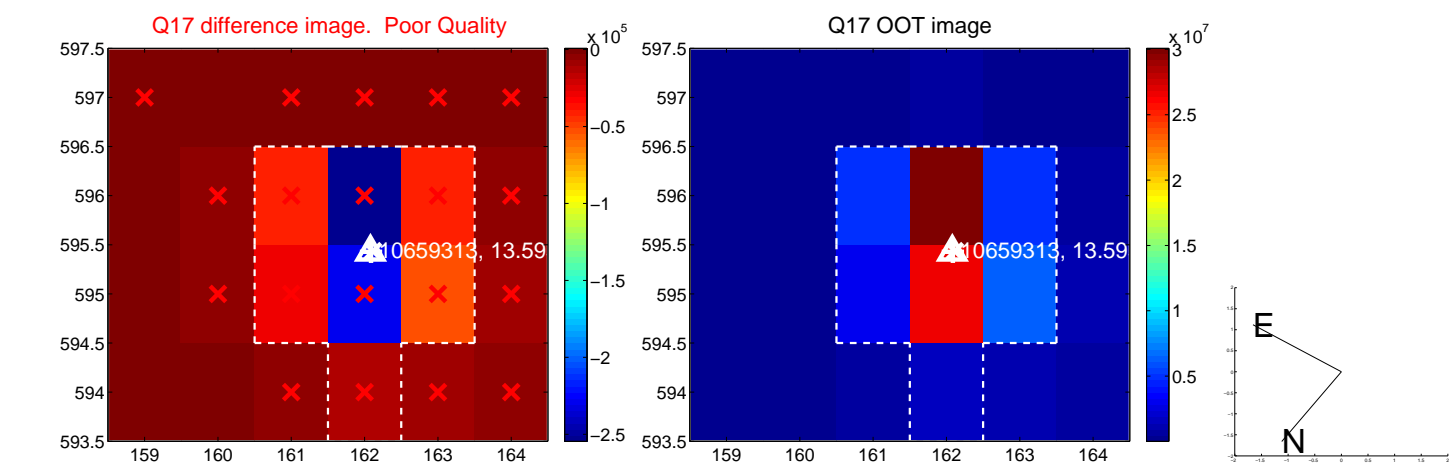
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



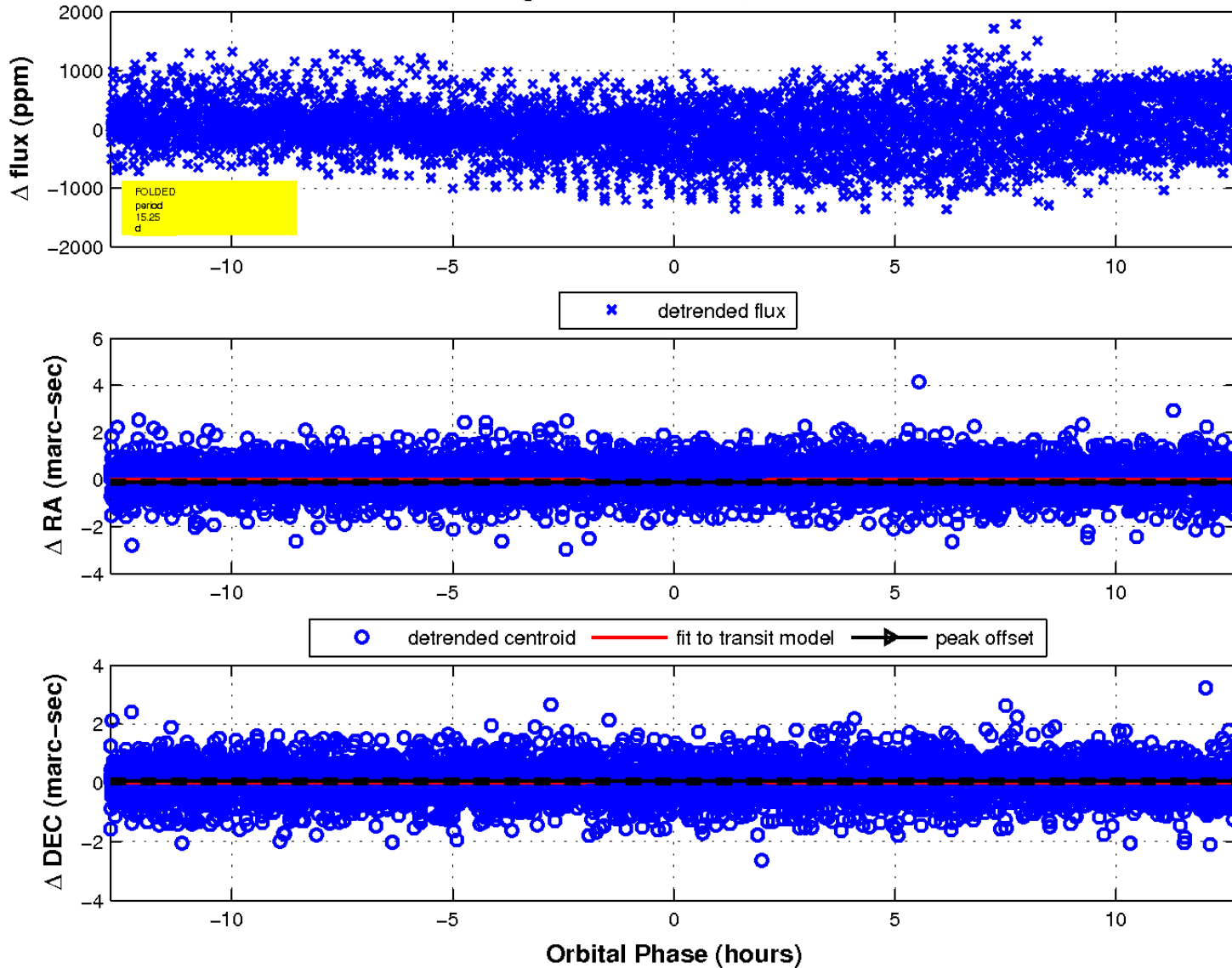
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

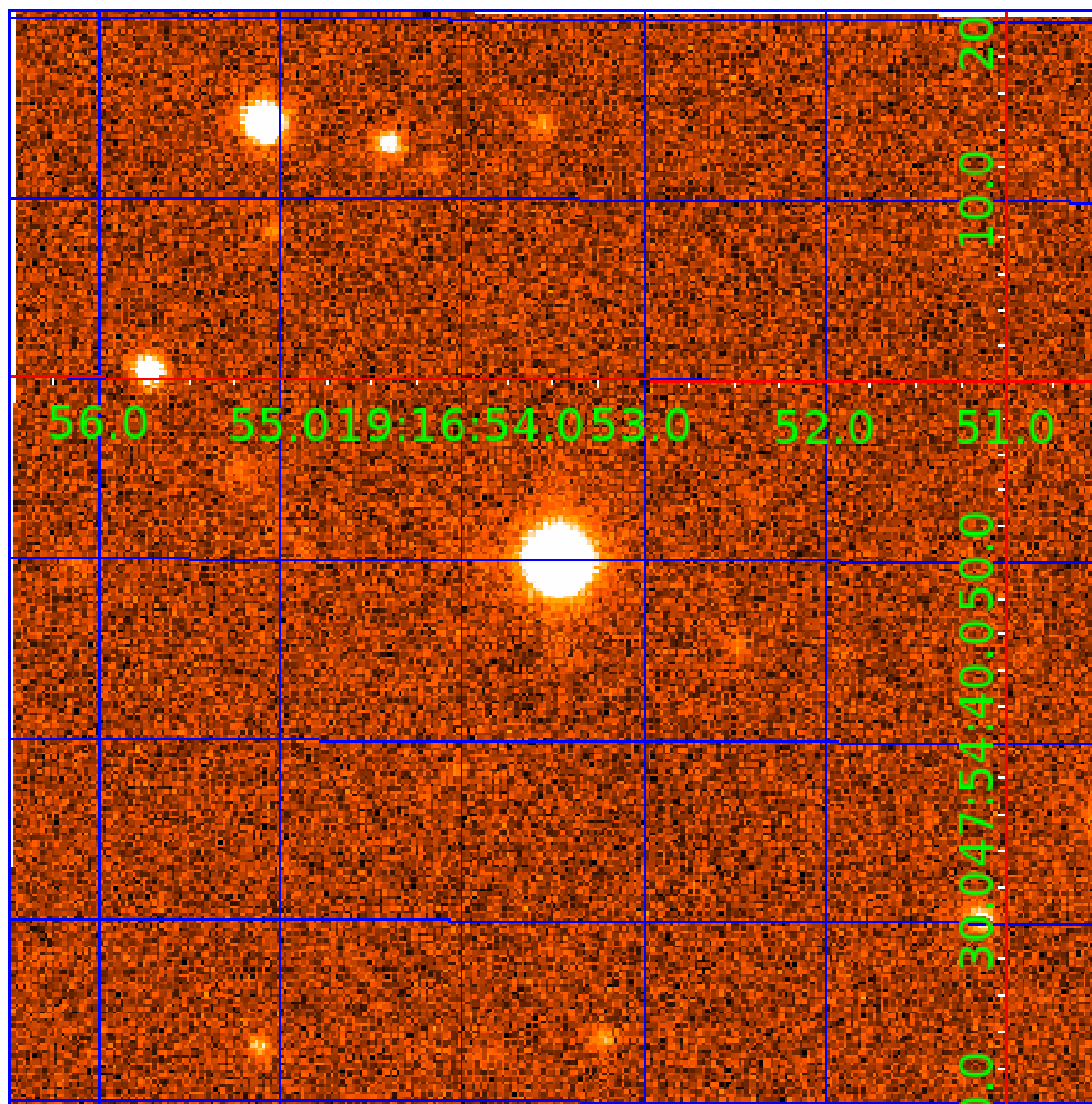


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 010659313

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})
010659313-01	OBS	6079.01	15.249338	143.662590	34246.1	3.787	2449.7	2364.1	1.19	6385	37.21	139.10
010659313-02	OBS	No	15.249008	143.420335	55.7	4.250	9.0	3.6	1.19	6385	1.04	139.10
010659313-03	OBS	No	15.250751	143.800546	725.6	27.707	8.9	13.2	1.19	6385	6.12	139.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010659313-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED
010659313-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—RESIDUAL_TCE—CENT_FEW_DIFFS
010659313-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_DV—RESIDUAL_TCE

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.

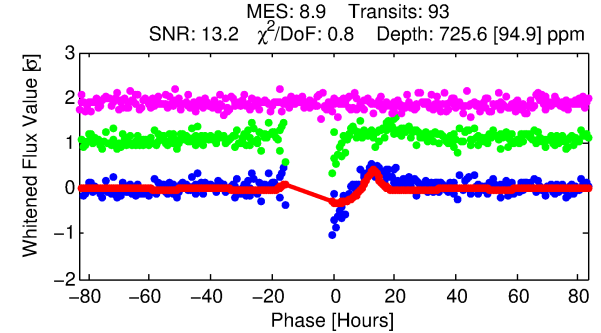
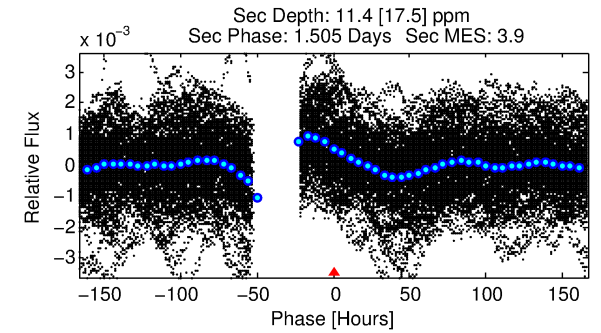
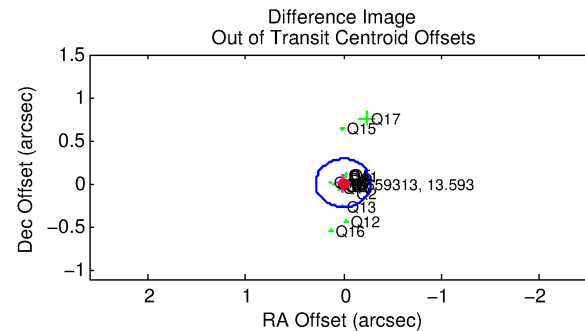
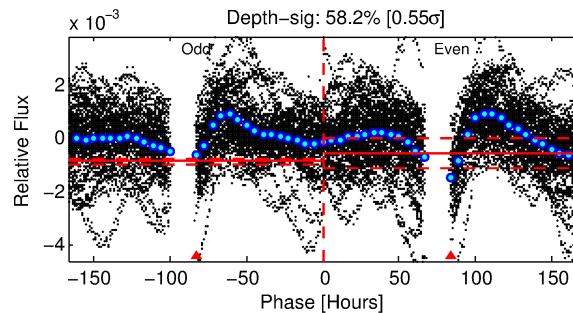
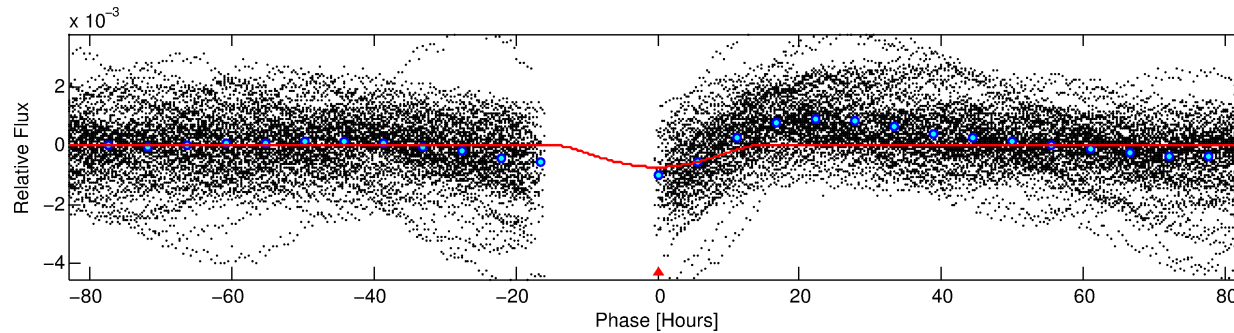
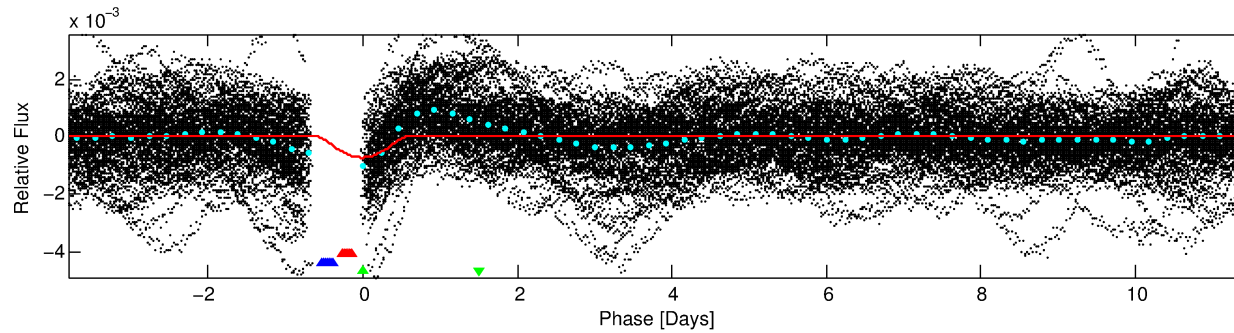
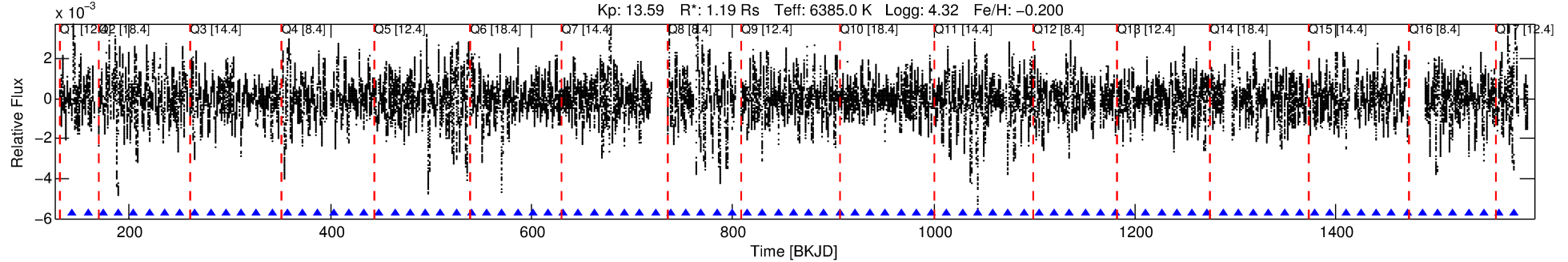
Ephemeris Match Information For 010659313-03

No Significant Match Found

DV One-Page Summary

KIC: 10659313 Candidate: 3 of 3 Period: 15.251 d
KOI: K06079 Corr: No Ephemeris Match

Kp: 13.59 R*: 1.19 Rs Teff: 6385.0 K Logg: 4.32 Fe/H: -0.200



DV Fit Results:

Period = 15.25075 [0.00034] d
Epoch = 143.8005 [0.0286] BKJD
Rp/R* = 0.0472 [0.0238]
a/R* = 1.66 [0.10]
b = 1.00 [0.03]
Seff = 139.08 [53.77]
Teq = 876 [85] K
Rp = 6.12 [3.66] Re
a = 0.1230 [0.0320] AU
Ag = 2.54 [4.76] [0.32σ]
Teffp = 1710 [785] K [1.06σ]

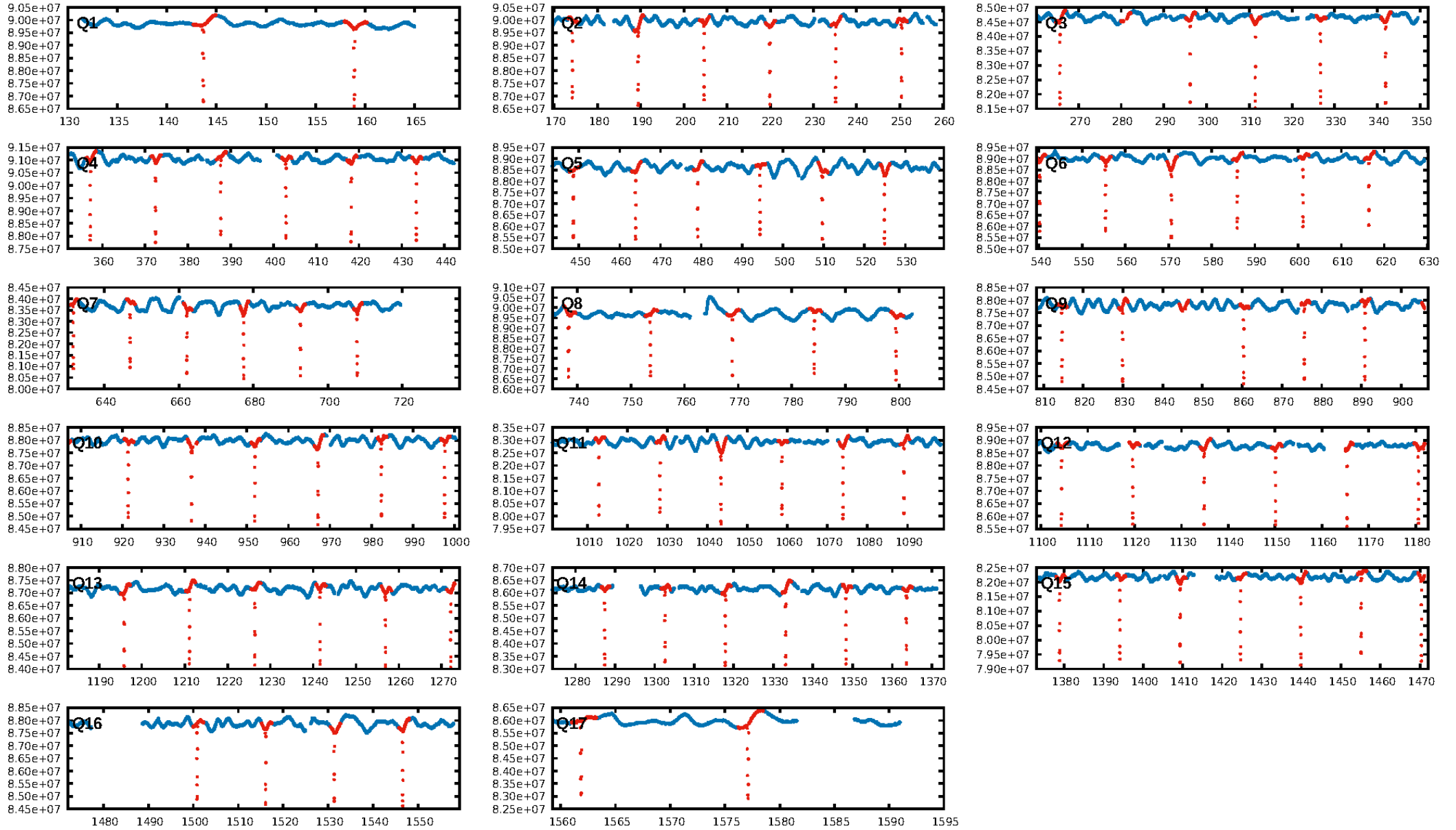
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.70e-20
RollingBand-fgt: 1.00 [89/89]
GhostDiagnostic-chr: 0.7371
Centroid-sig: 1.5%
Centroid-so: 0.259 arcsec [3.39σ]
OotOffset-rm: 0.013 arcsec [0.14σ]
KicOffset-rm: 0.092 arcsec [1.18σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

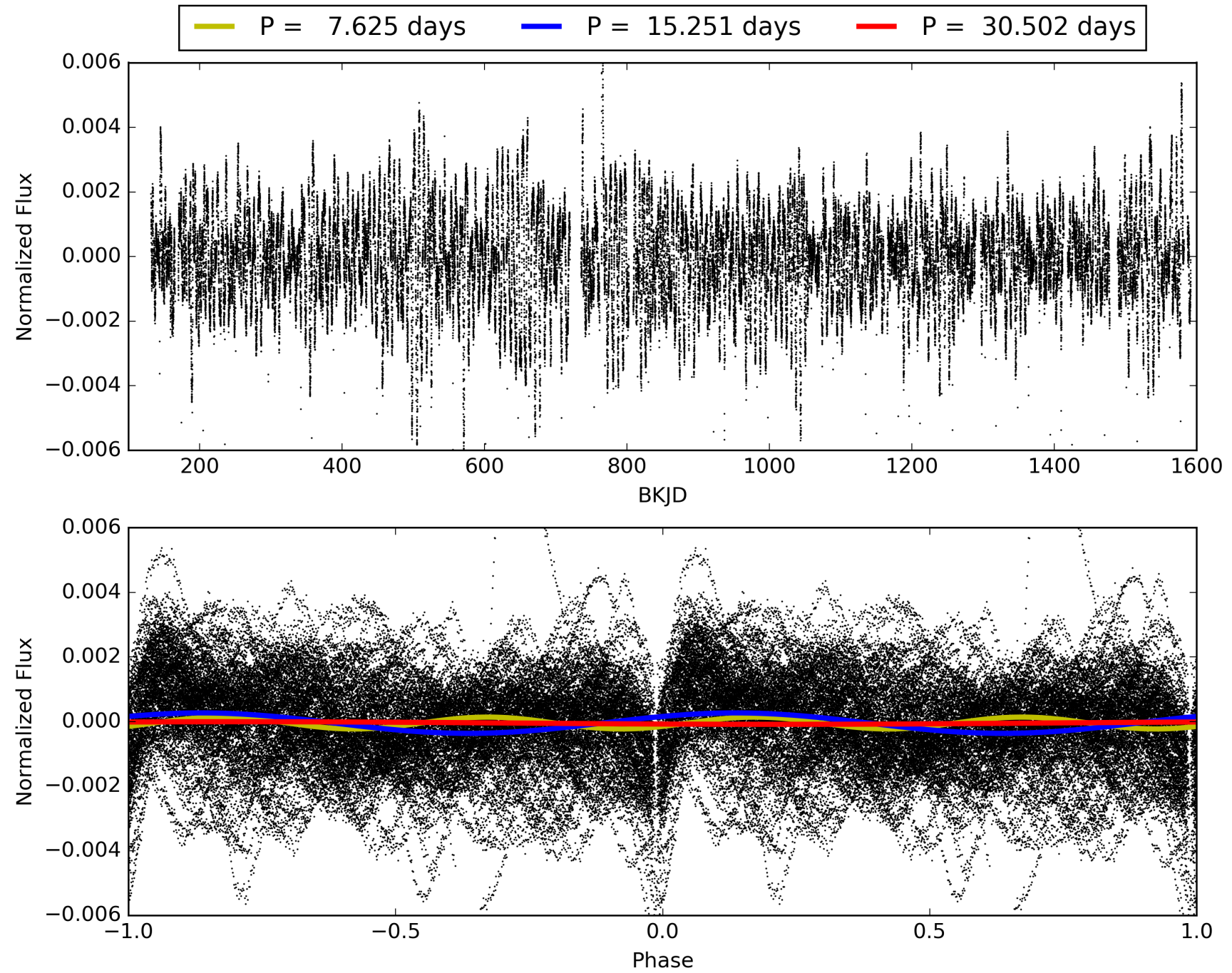
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 14:33:13 Z

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

TCE 010659313-03, PDC Light Curves

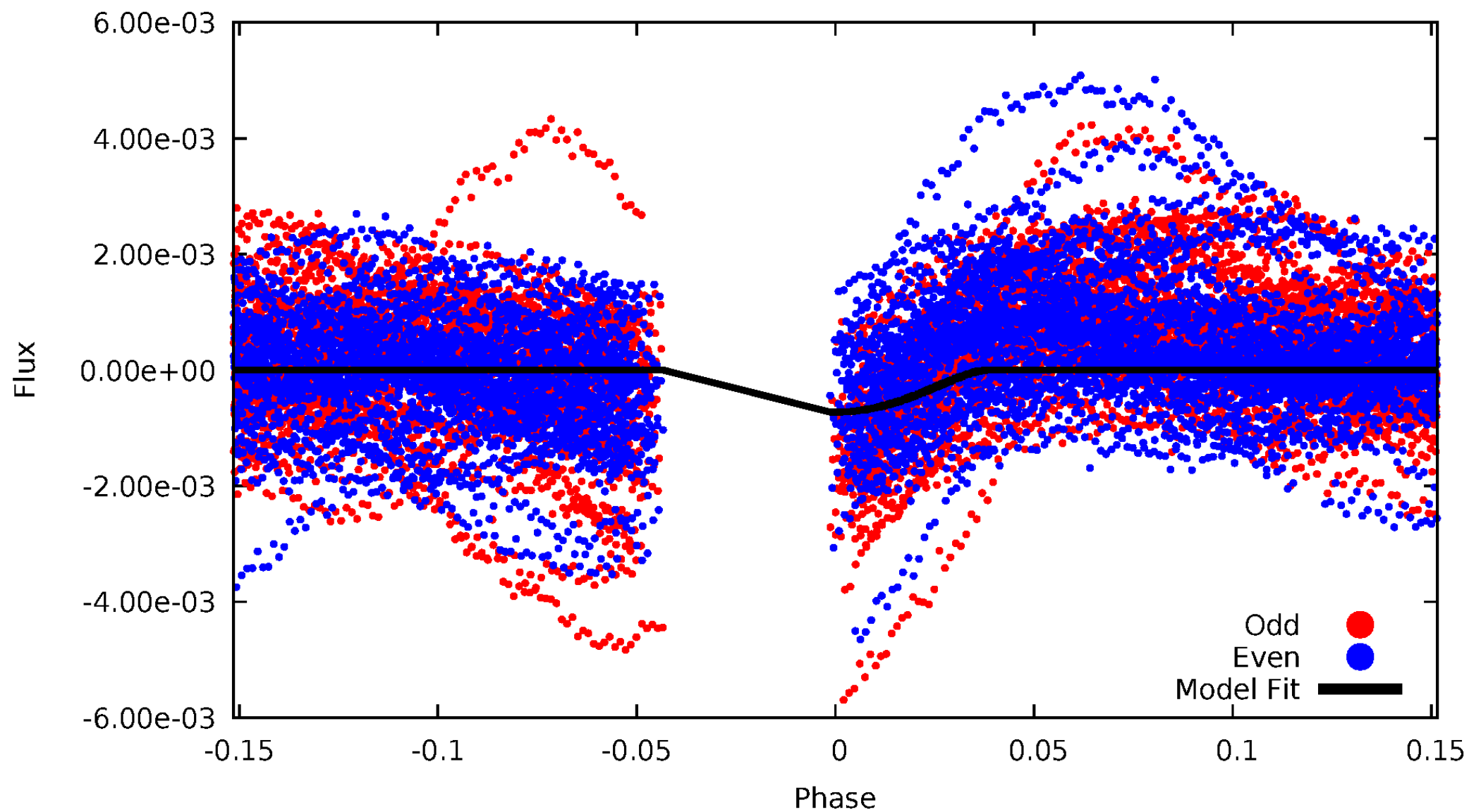


TCE 010659313-03



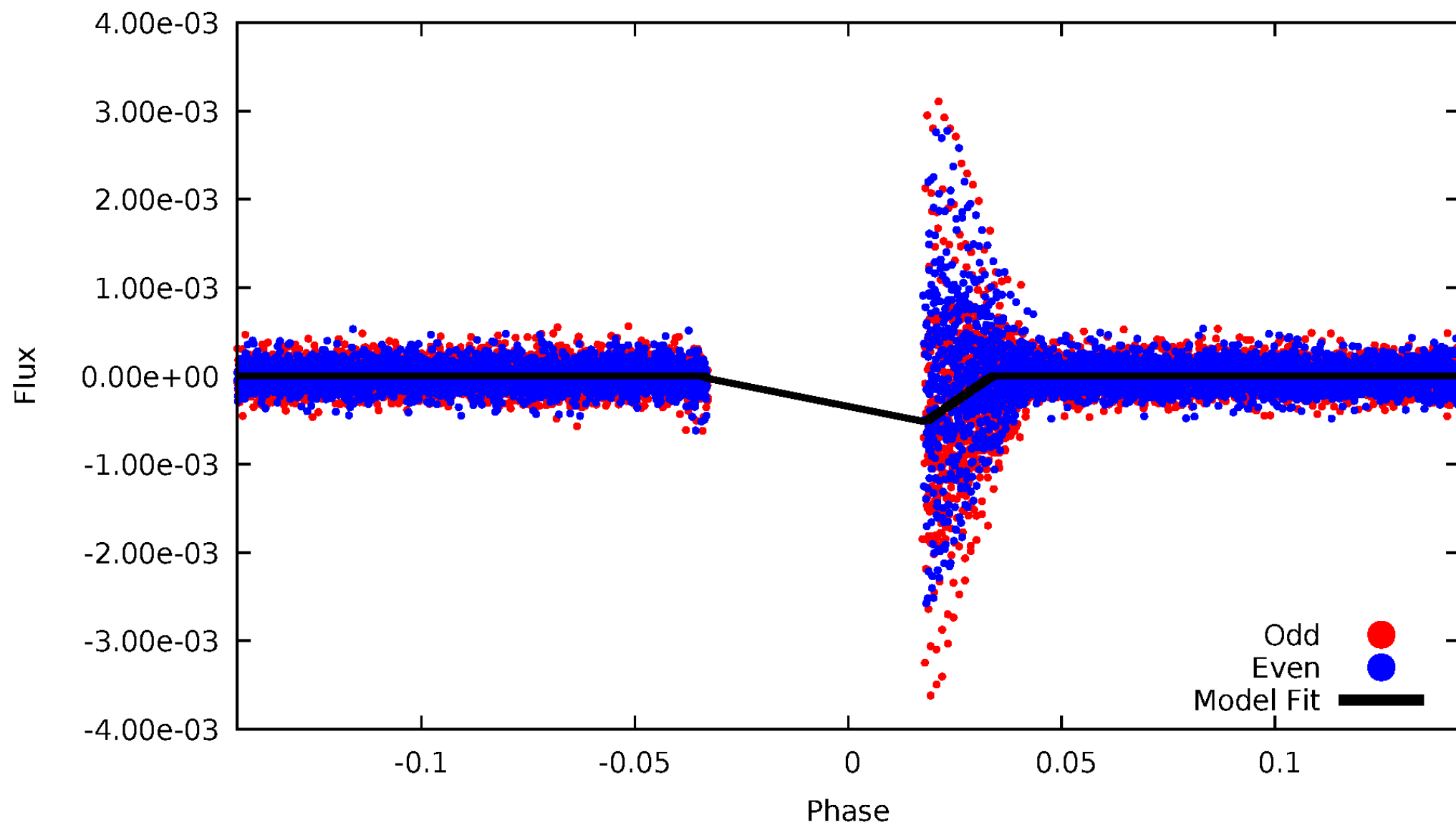
DV Odd/Even

TCE 010659313-03

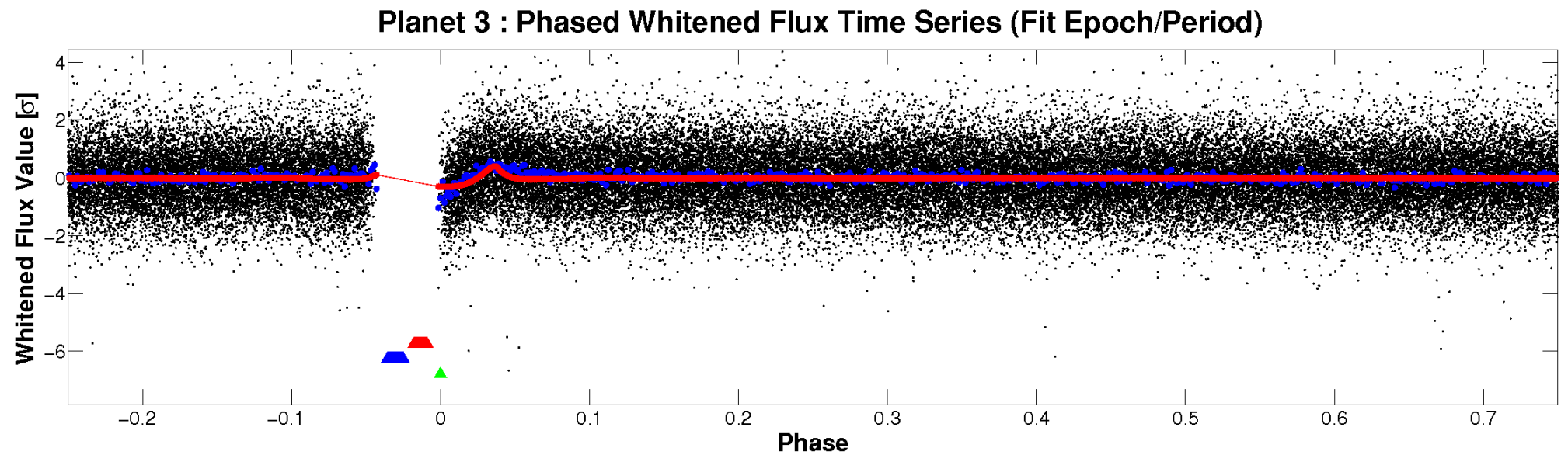
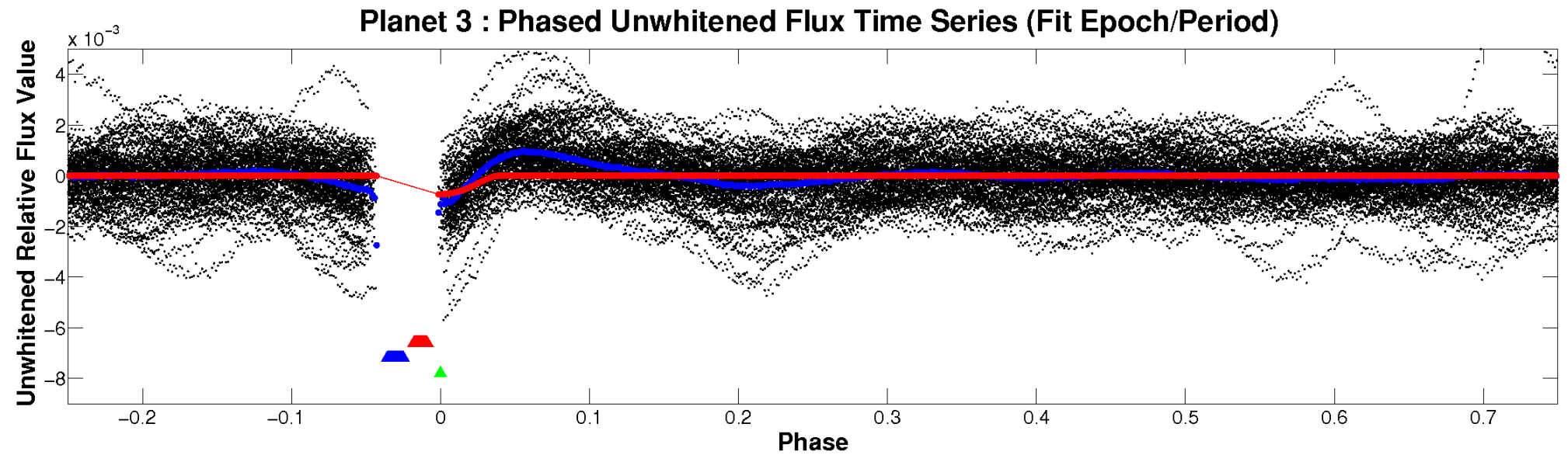


ALT Odd/Even

TCE 010659313-03

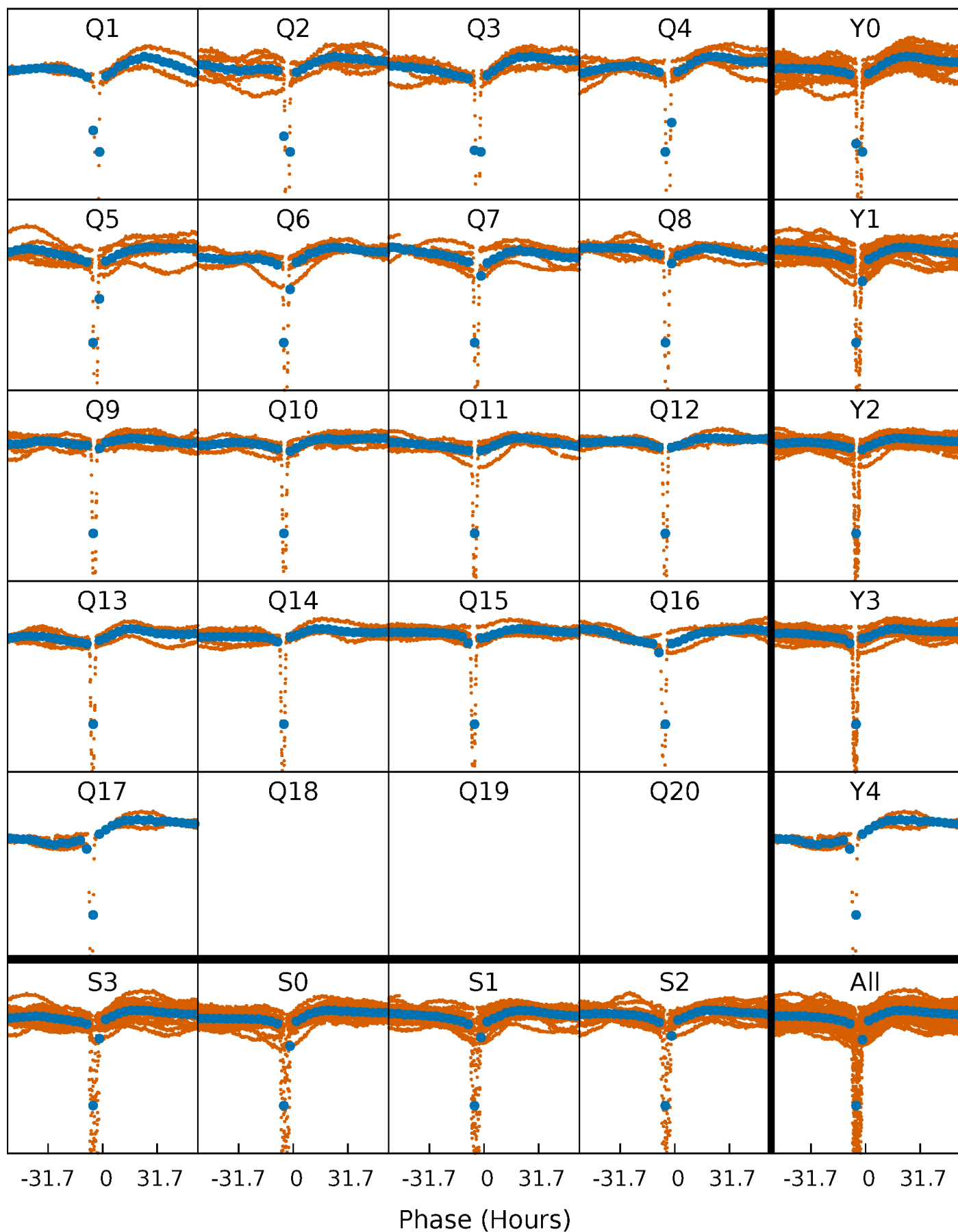


Non-Whitened Vs. Whitened Light Curve



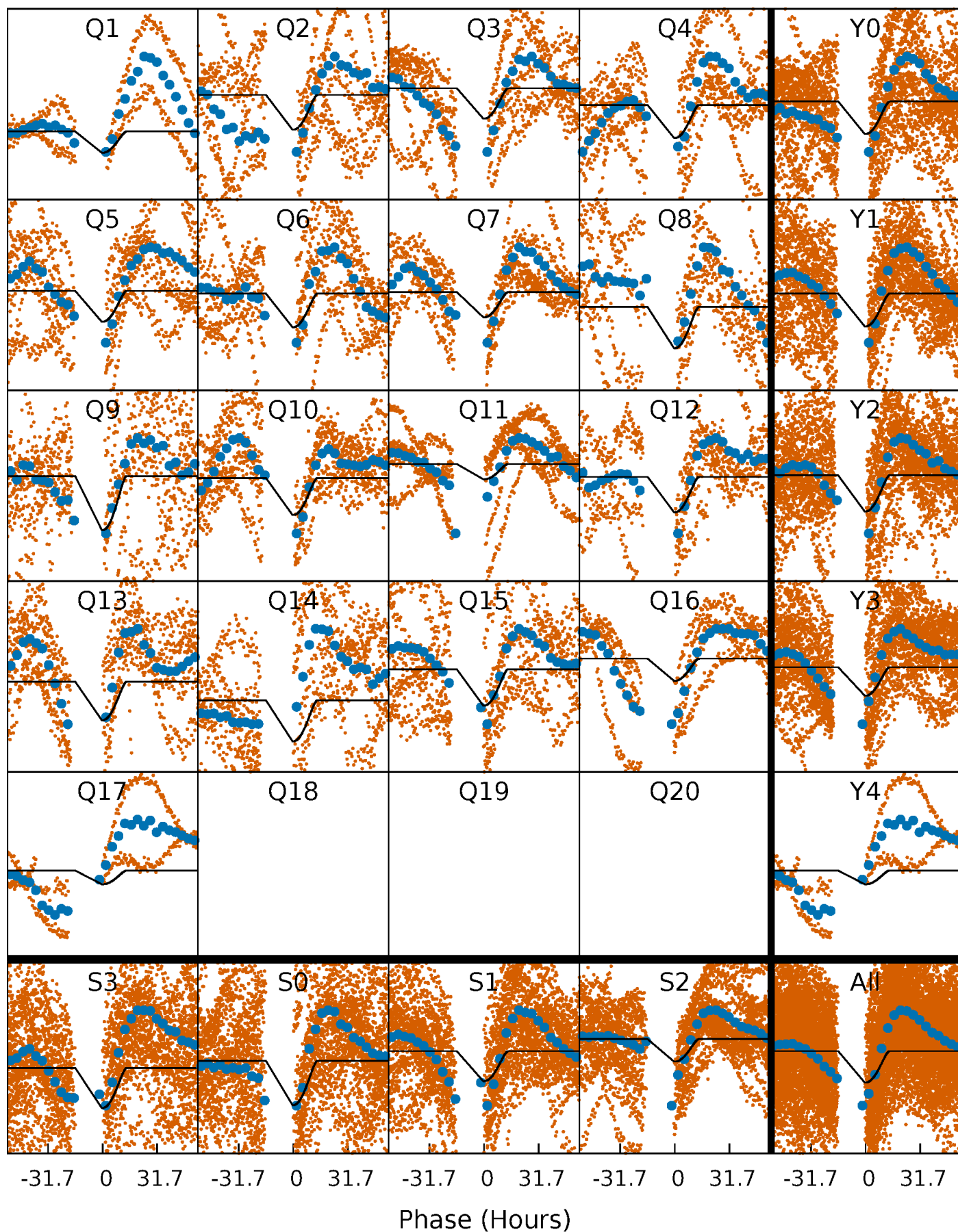
PDC Quarter-Phased Transit Curves

TCE 010659313-03 P= 15.250751 Days $T_0=143.800546$ (BKJD)



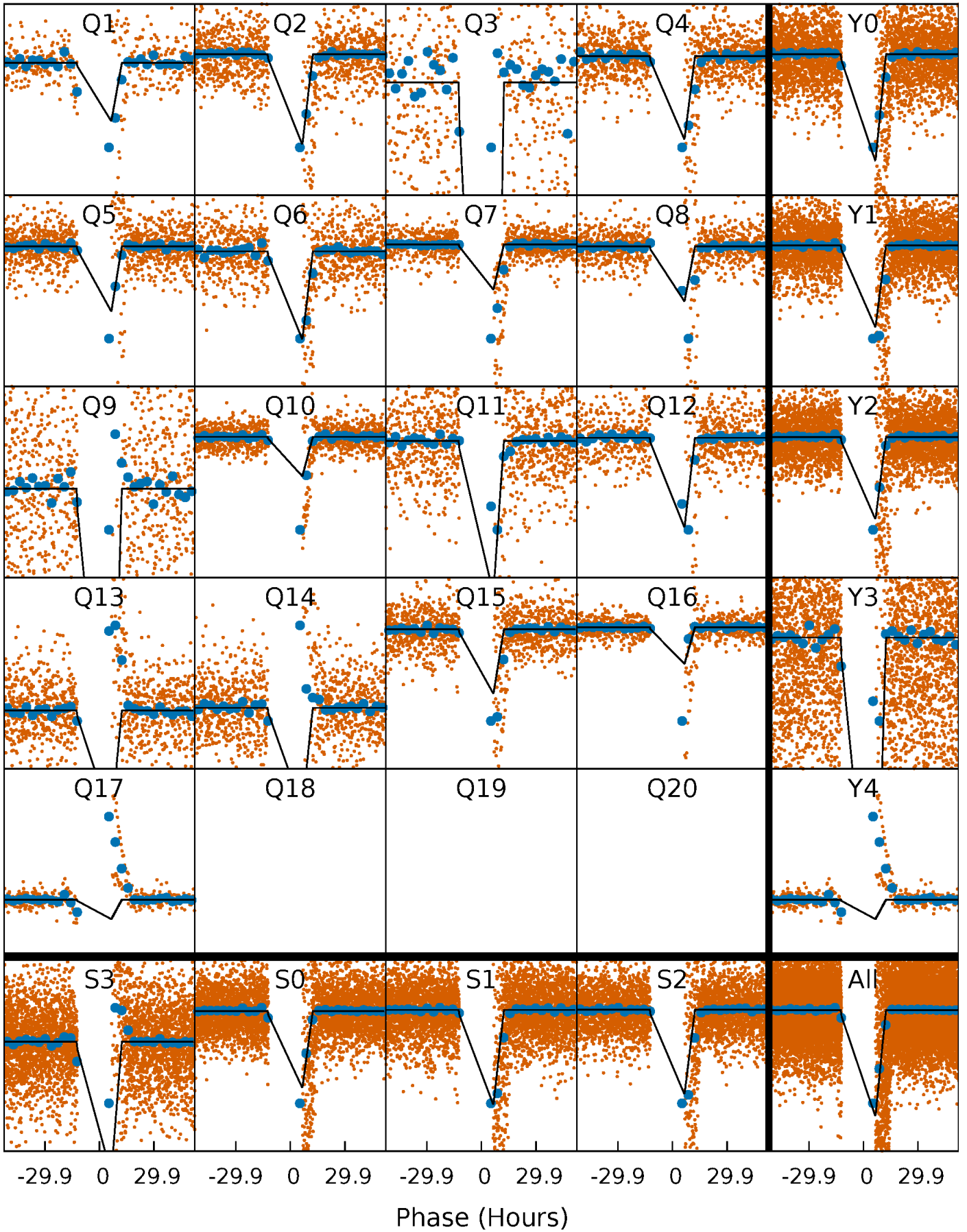
DV Quarter-Phased Transit Curves

TCE 010659313-03 P= 15.250751 Days $T_0=143.800546$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

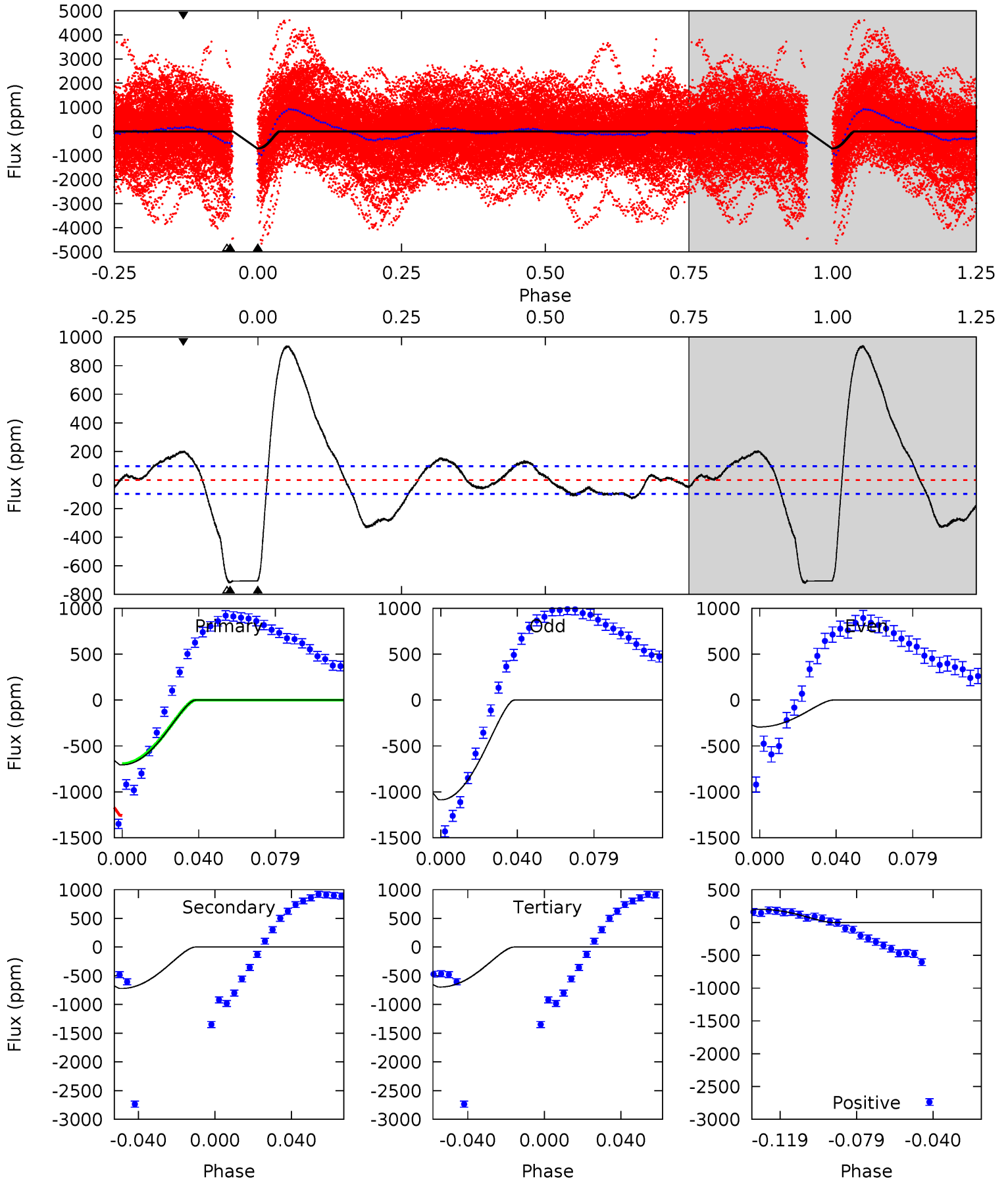
TCE 010659313-03 P= 15.249078 Days $T_0=143.645351$ (BKJD)



DV Model-Shift Uniqueness Test

010659313-03, P = 15.250751 Days, E = 128.549795 Days

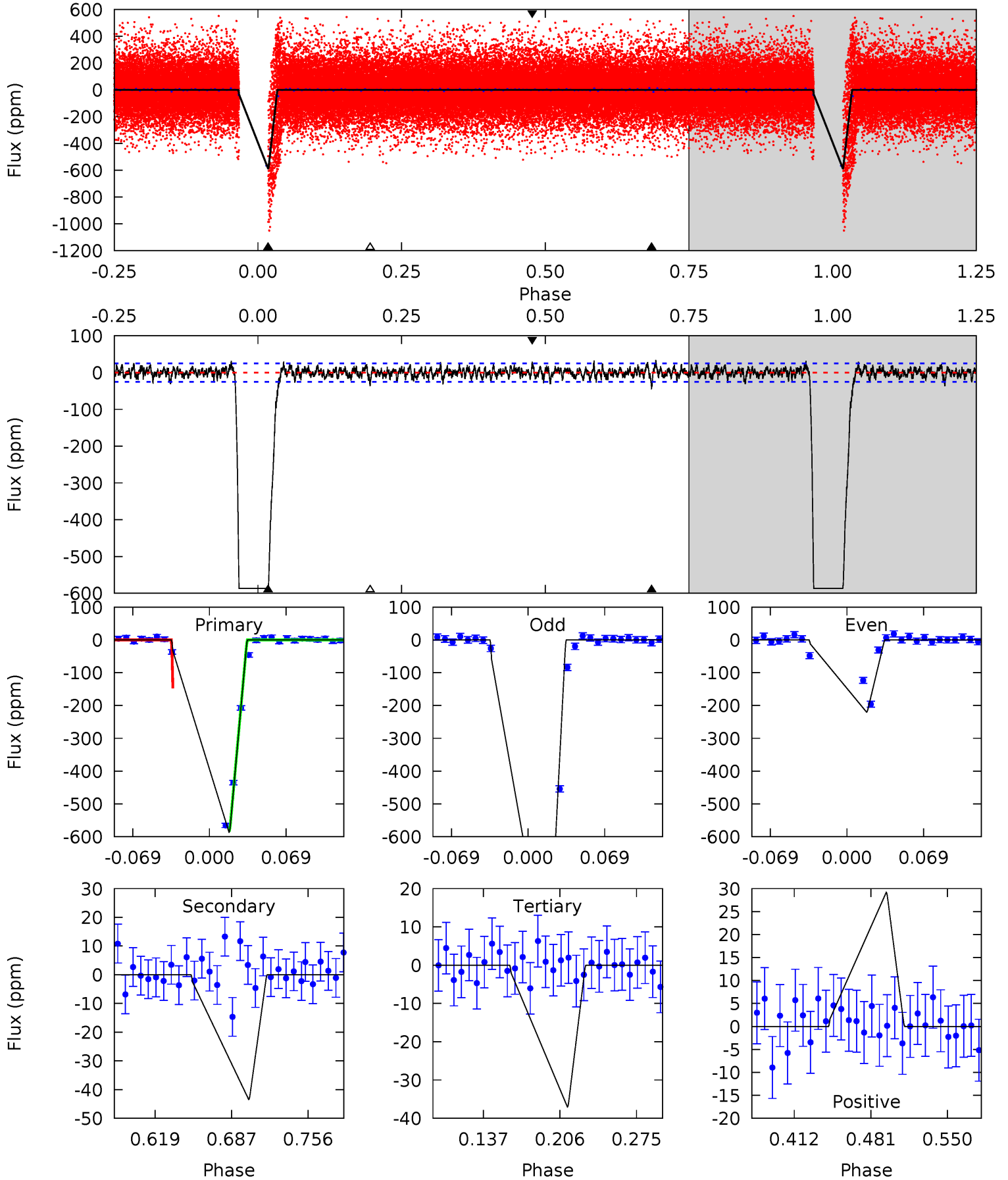
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.5	35.2	34.0	9.83	4.75	2.06	9.15	0.51	24.6	1.23	25.4	19.5	0.95	0.57	1.62



Alt Model-Shift Uniqueness Test

010659313-03, P = 15.249078 Days, E = 128.396273 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
107.9	8.00	6.81	5.36	4.64	1.82	1.72	101.1	102.6	1.18	2.63	76.7	5.34	0.06	28.7



Stellar Parameters For KIC 010659313

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6385^{+160}_{-192}	$4.316^{+0.105}_{-0.195}$	$-0.200^{+0.250}_{-0.300}$	$1.189^{+0.380}_{-0.190}$	$1.062^{+0.180}_{-0.120}$	$0.890^{+0.442}_{-0.474}$
	+3%/-3%	+2%/-5%	+125%/-150%	+32%/-16%	+17%/-11%	+50%/-53%
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 010659313-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-721 ± 20	$6.63^{+3.53}_{-3.21}$	1240^{+88}_{-67}	4843^{+1710}_{-702}	137^{+383}_{-78}
Alt.	-43 ± 5	$3.71^{+2.93}_{-2.34}$	1235^{+92}_{-72}	3573^{+1625}_{-576}	27^{+175}_{-19}

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 $A_{obs} \gg 1.0$

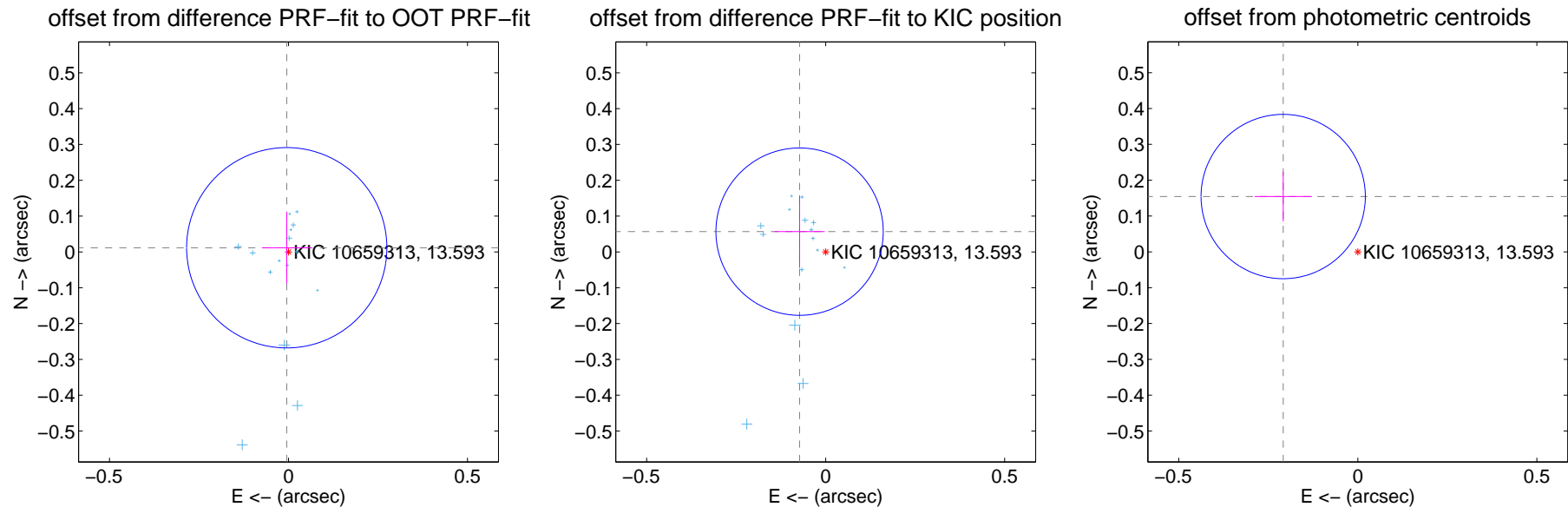
DV Centroid Data

Supplemental centroid analysis for 010659313-03. Kepler magnitude: 13.59. Transit SNR 13.18

There are 17 quarters with good PRF difference image offsets

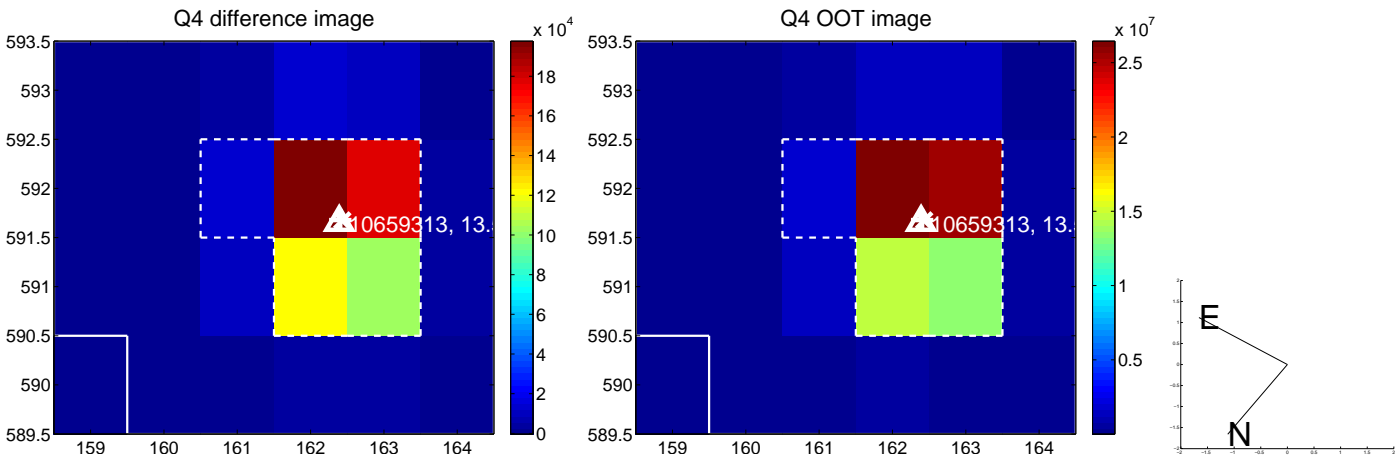
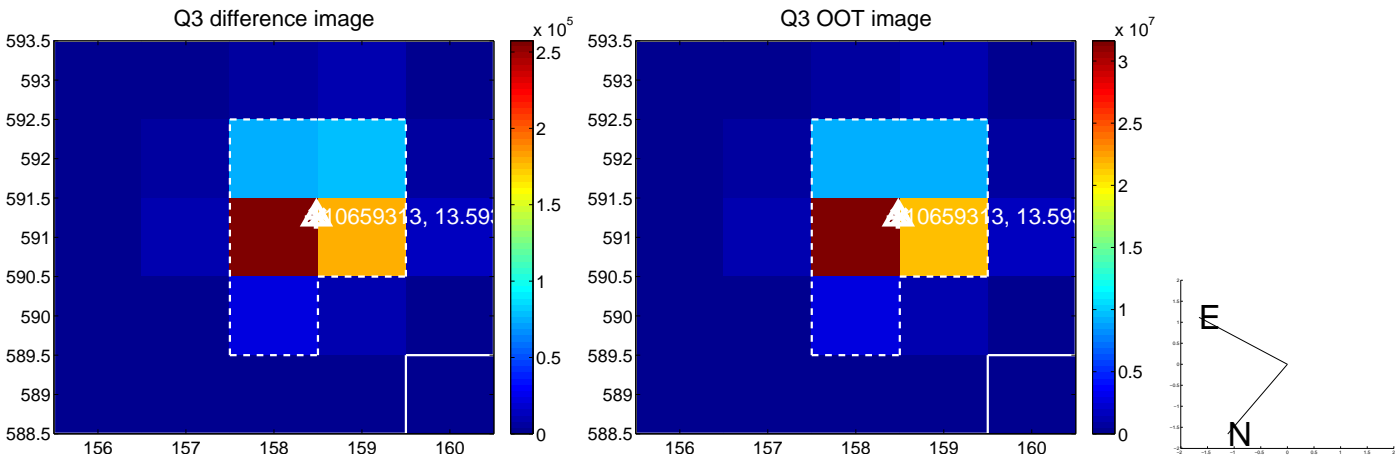
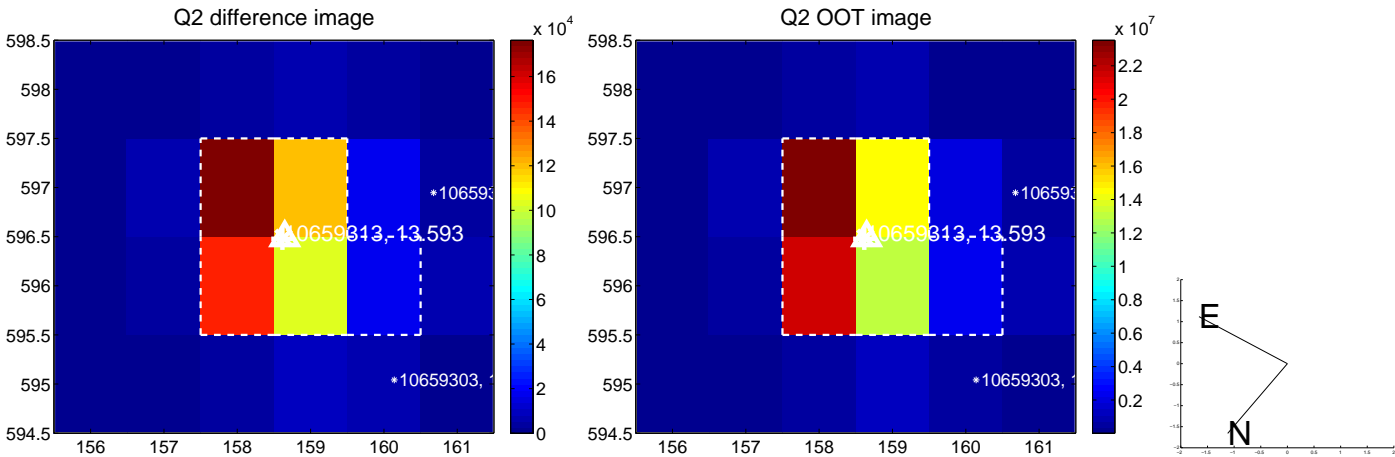
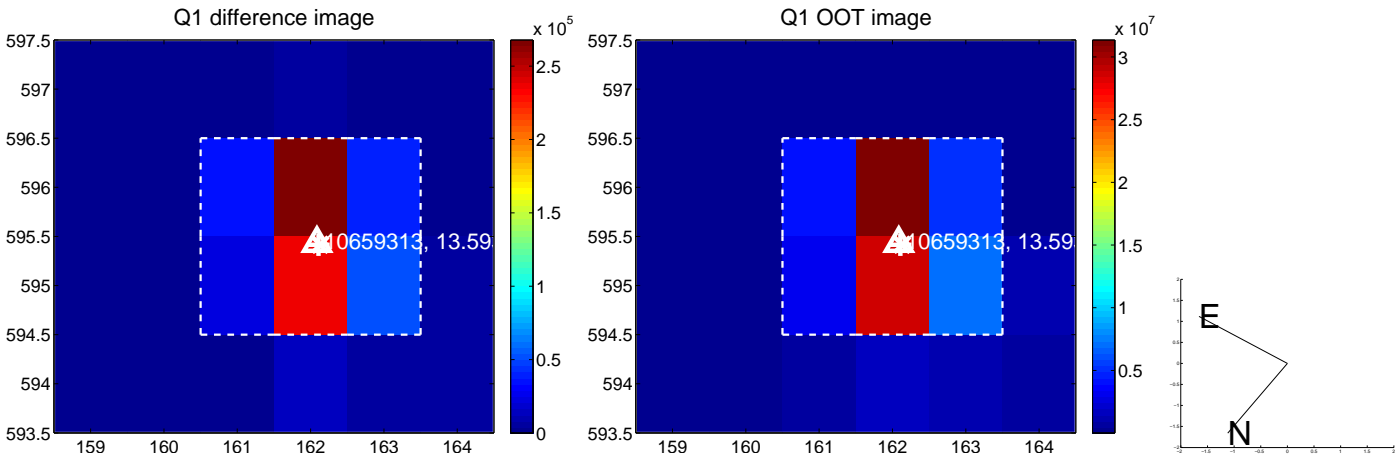
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.013 ± 0.093	0.14	0.005 ± 0.069	0.012 ± 0.100
PRF-fit source offset from KIC position	0.092 ± 0.078	1.18	0.073 ± 0.070	0.057 ± 0.101
photometric centroid source offset	0.26 ± 0.08	3.39	0.21 ± 0.08	0.15 ± 0.07

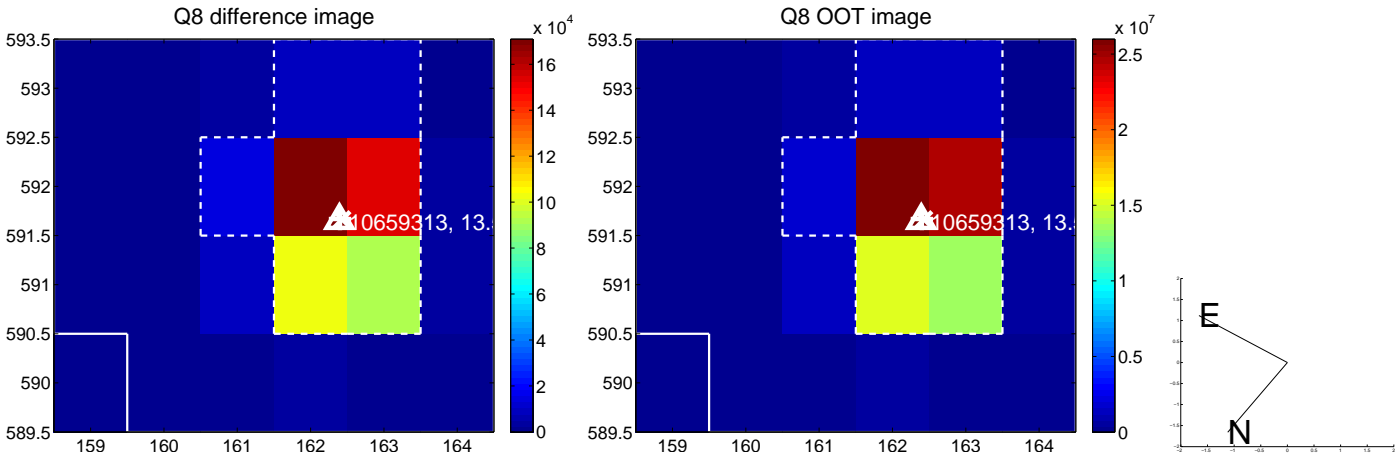
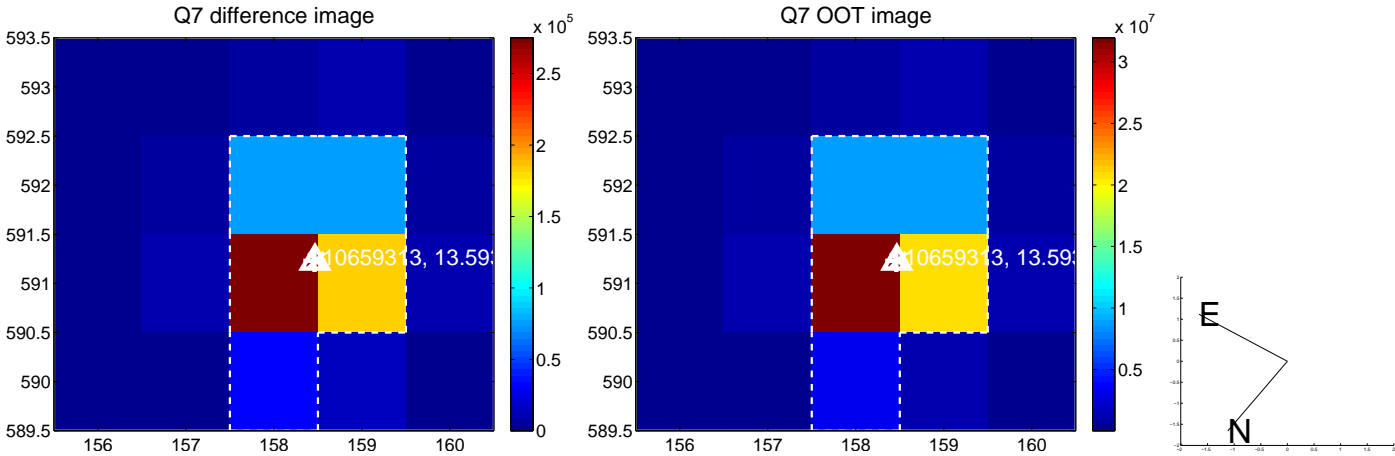
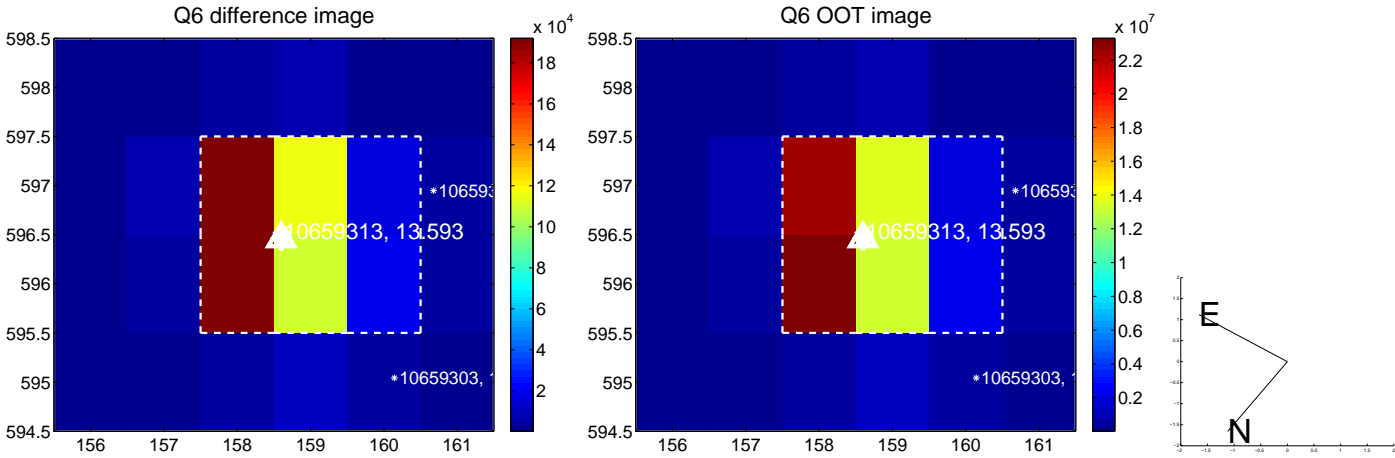
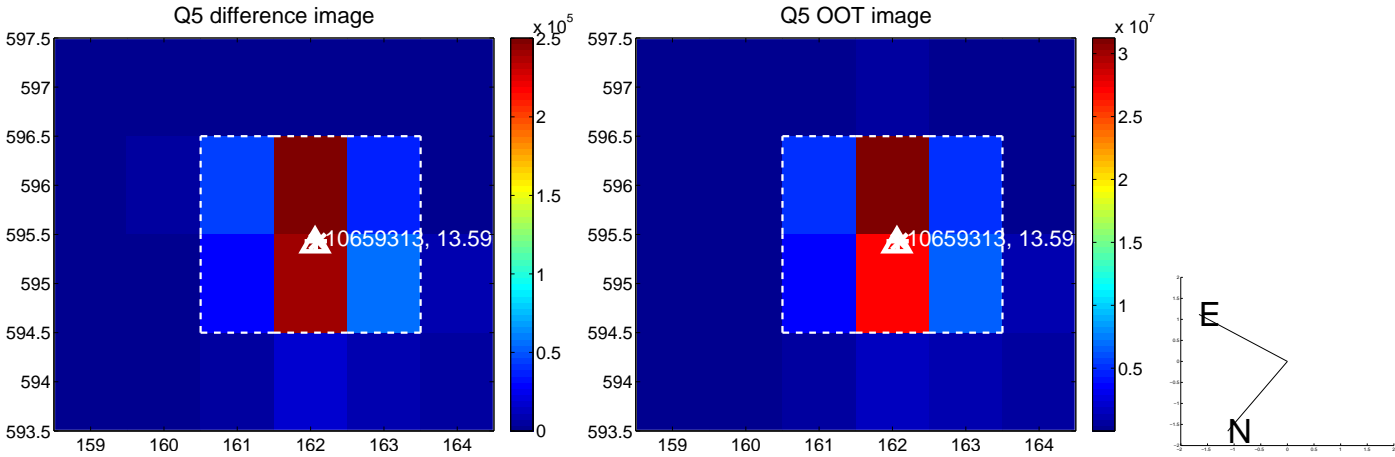


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

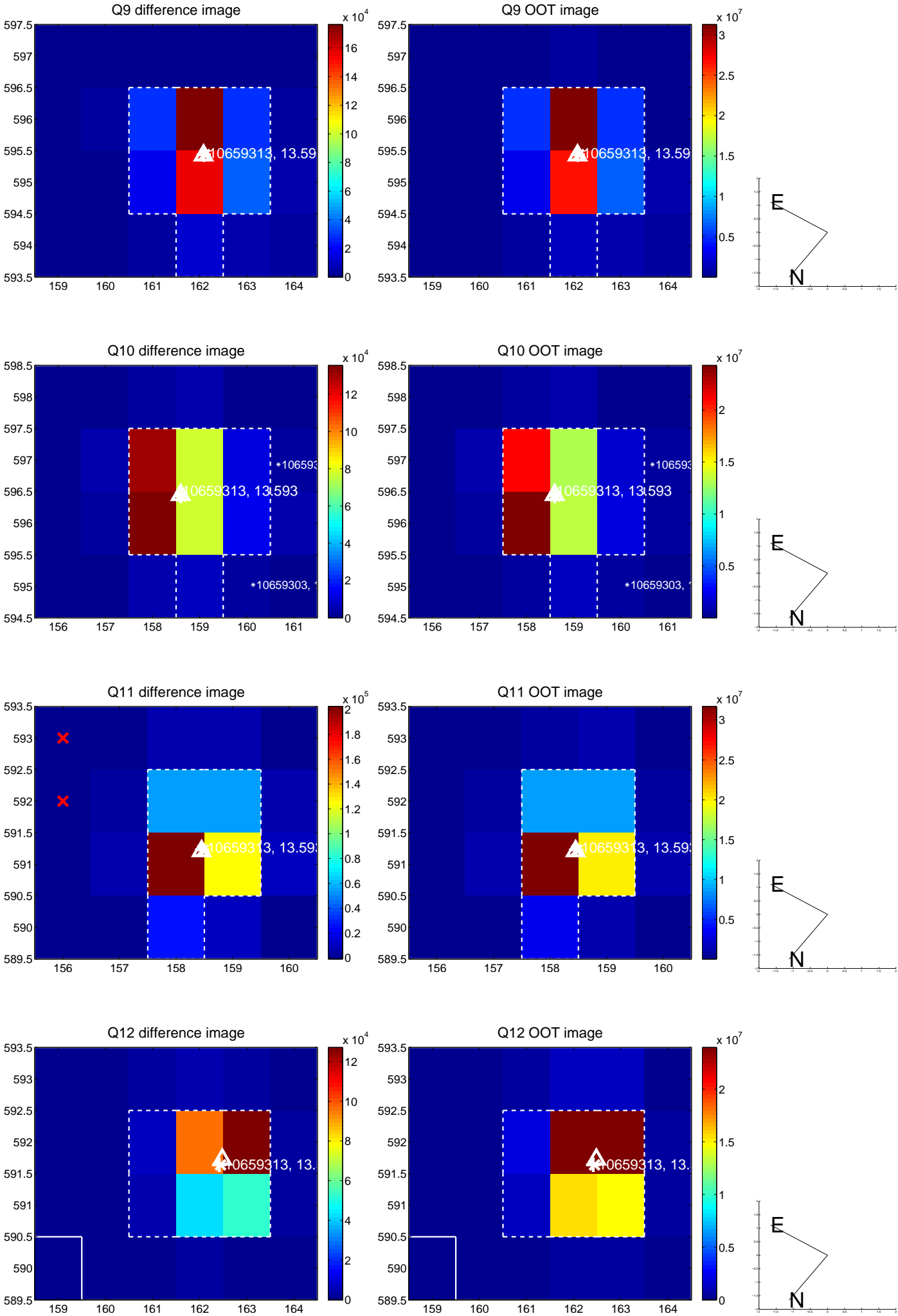
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



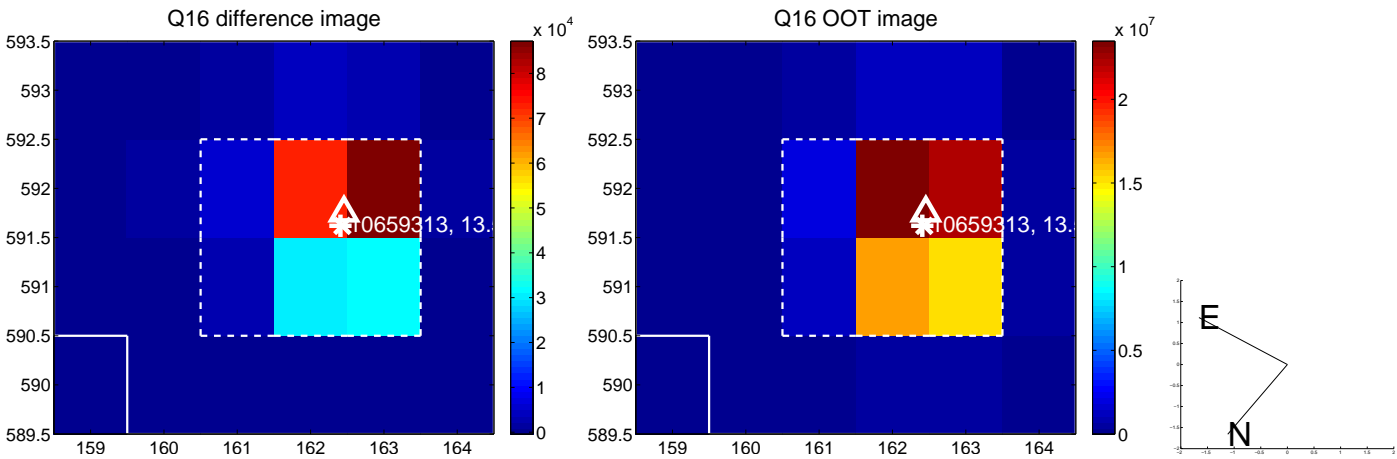
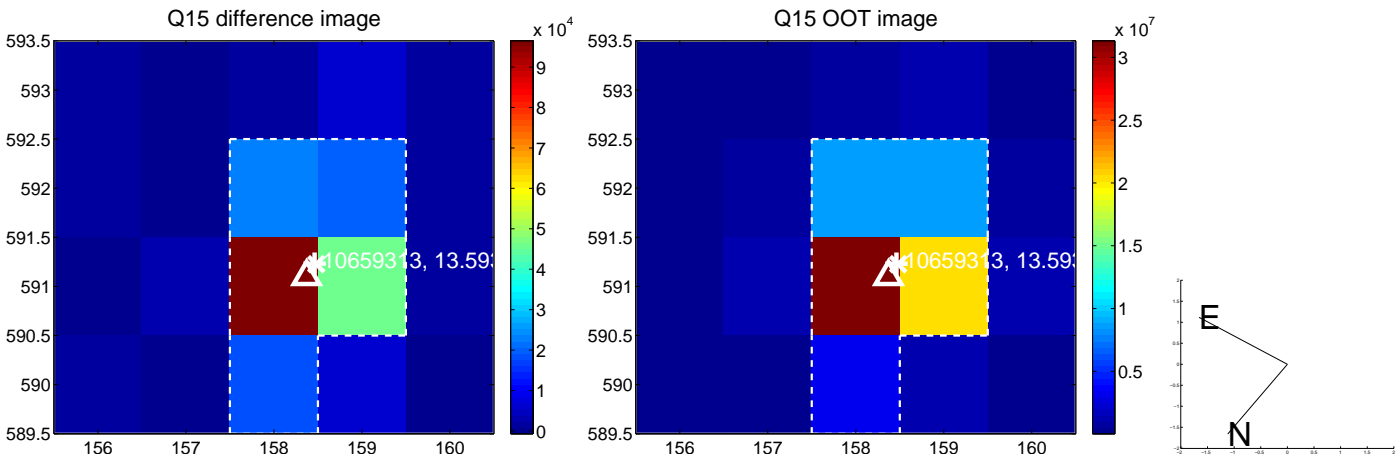
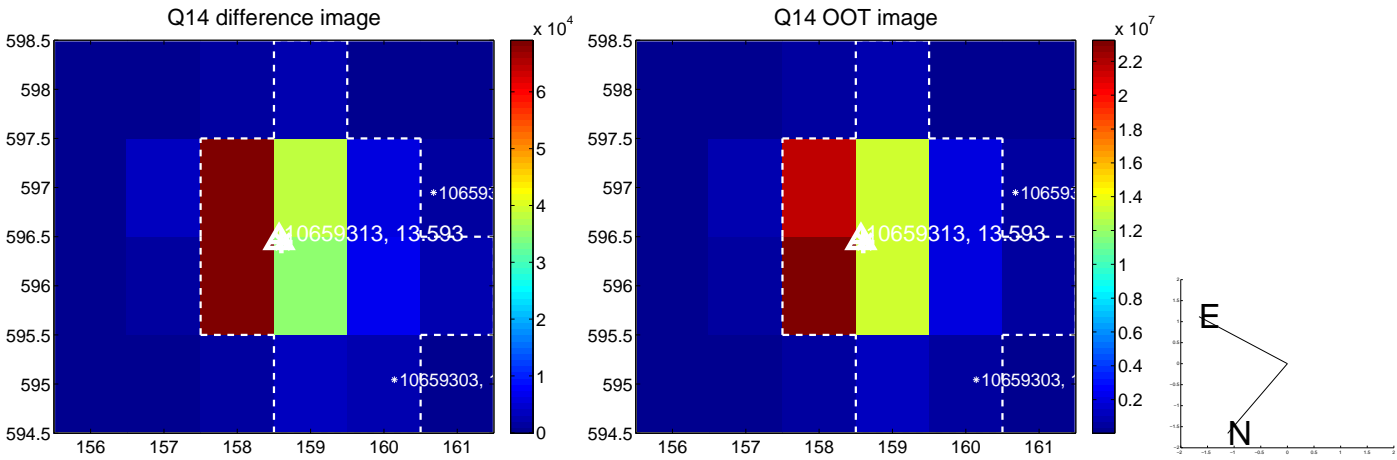
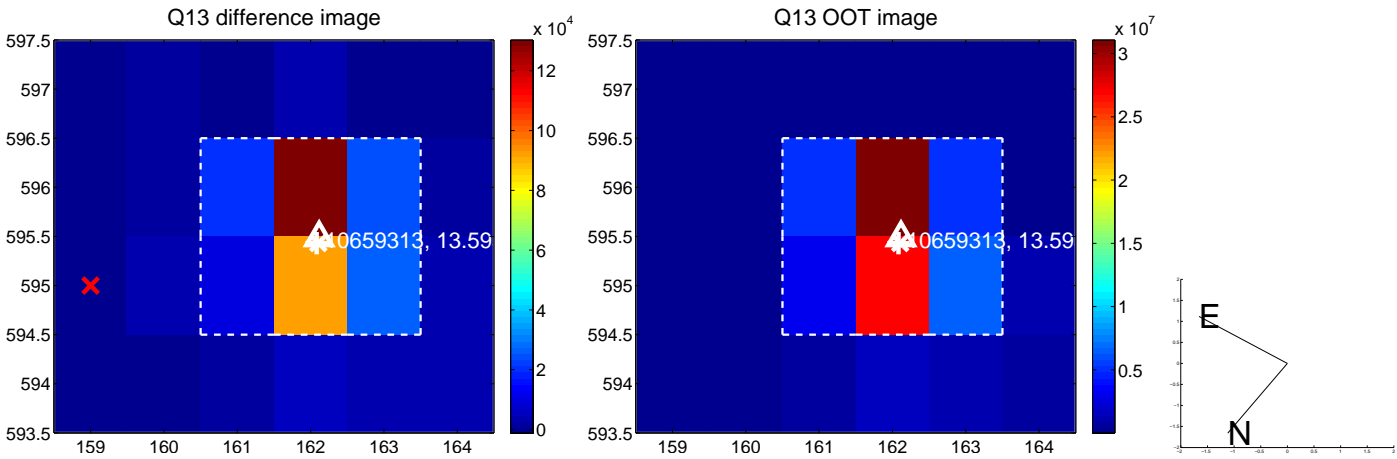
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



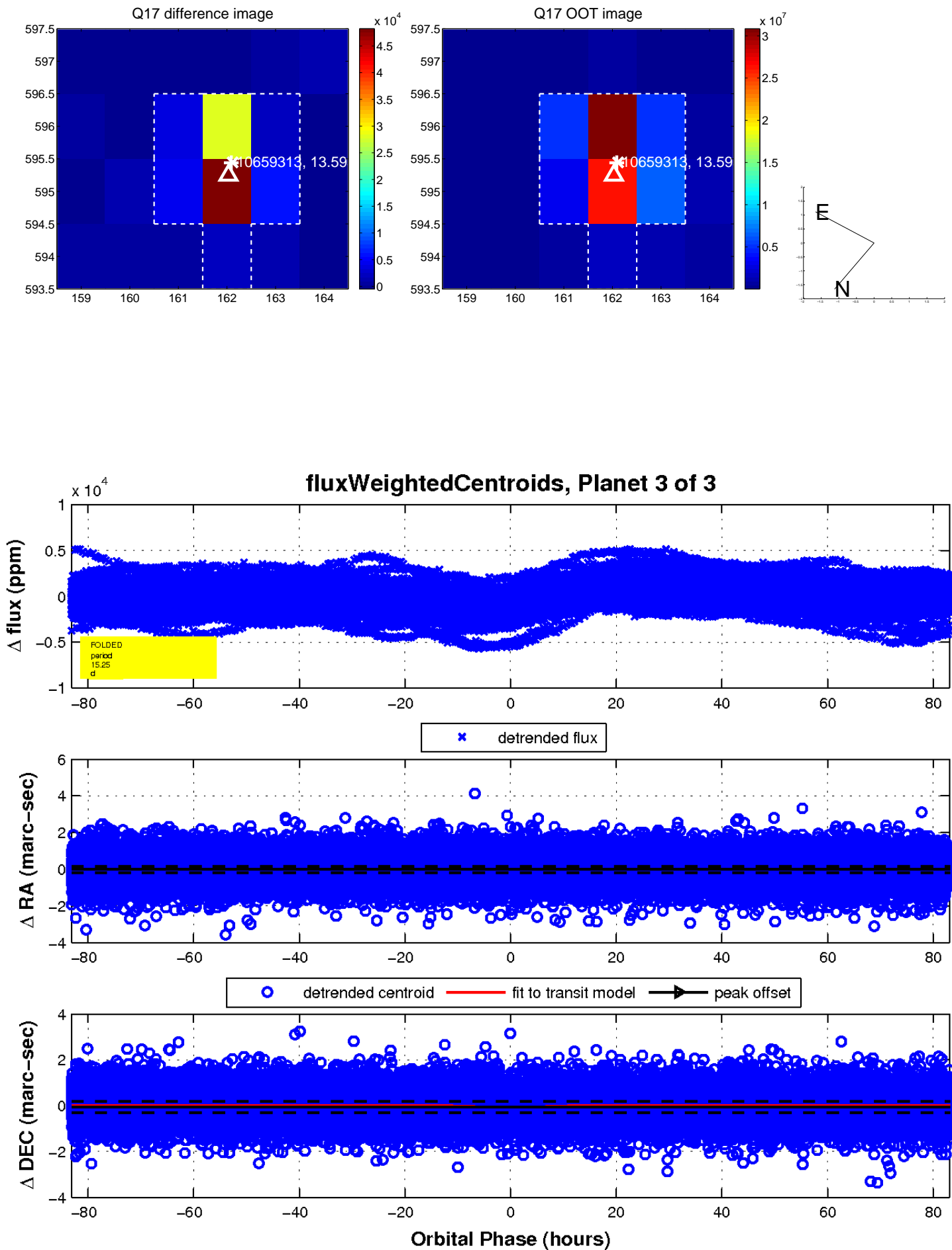
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

