

KIC 008710207

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})
008710207-01	OBS	No	3.925277	131.644068	0.0	3.066	13.9	0.0	2.34	6343	0.02	2595.77
008710207-02	OBS	No	3.925865	131.747452	0.0	25.548	11.4	0.0	2.34	6343	0.03	2595.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008710207-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008710207-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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

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

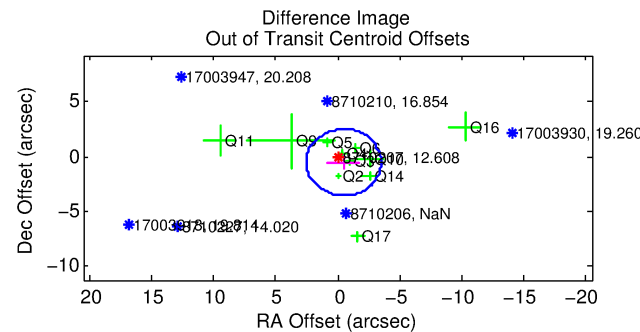
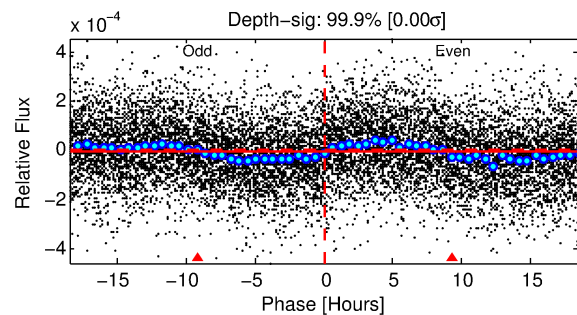
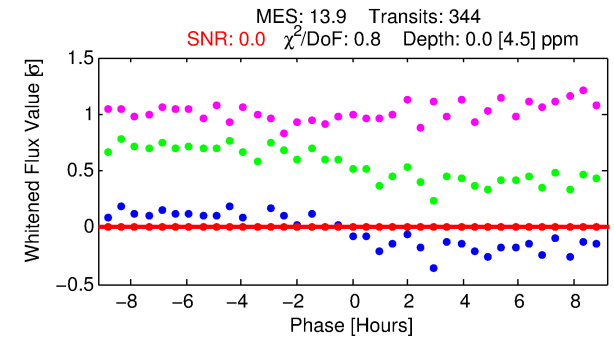
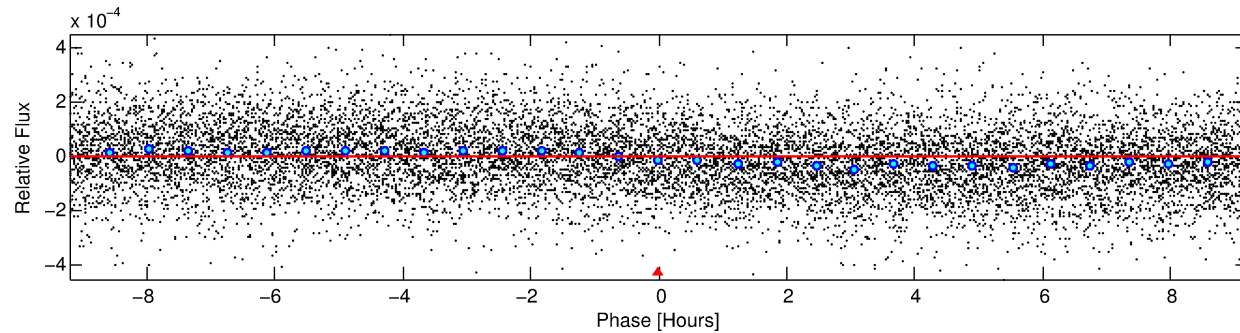
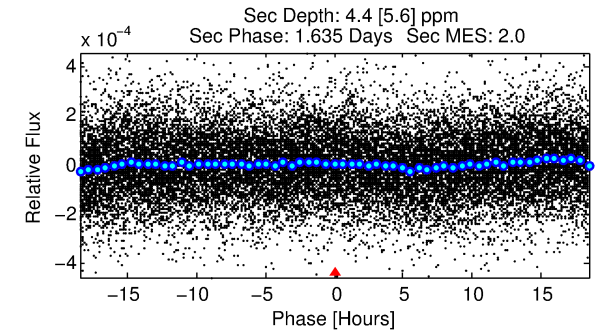
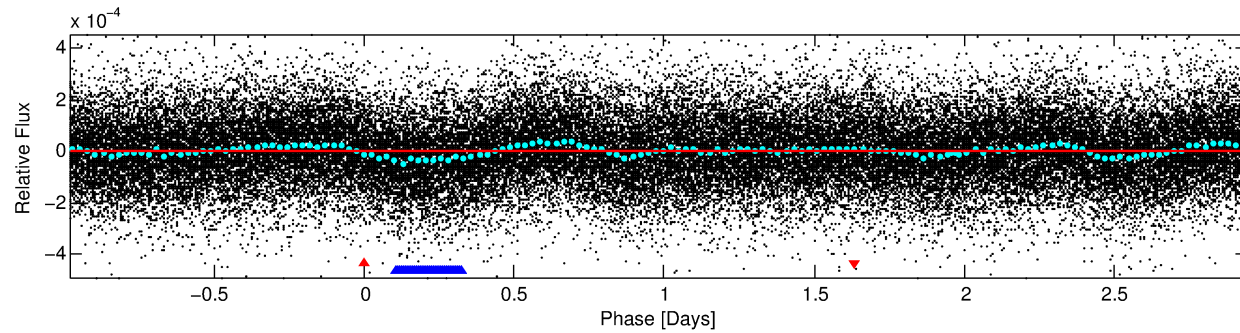
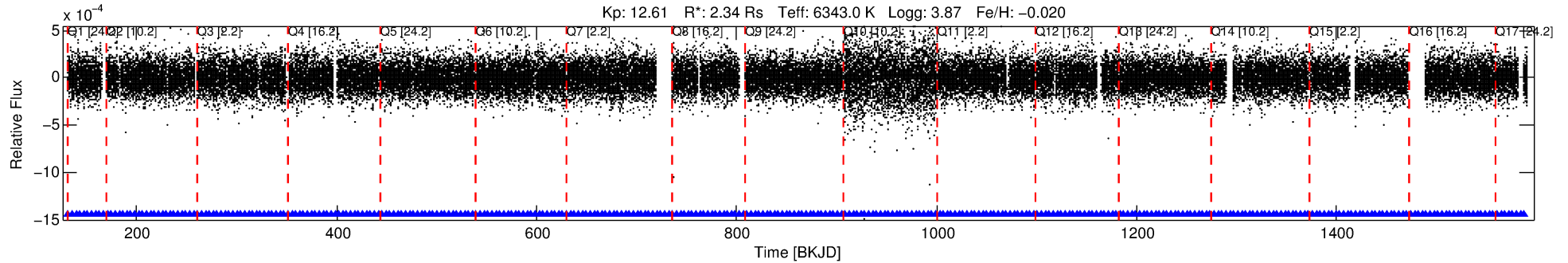
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008710207-01

No Significant Match Found

DV One-Page Summary

KIC: 8710207 Candidate: 1 of 2 Period: 3.925 d



DV Fit Results:

Period = 3.92528 [0.16551] d
Epoch = 131.6441 [25.3140] BKJD
Rp/R* = 0.0001 [0.0464]
a/R* = 1.26 [615.78]
b = 1.00 [8.16]
Seff = 2595.77 [1292.90]
Teq = 1820 [227] K
Rp = 0.02 [11.84] Re
a = 0.0553 [0.0174] AU
Ag = 12455.82 [12126264.36] [0.00σ]
Teffp = 29729 [7235679] K [0.00σ]

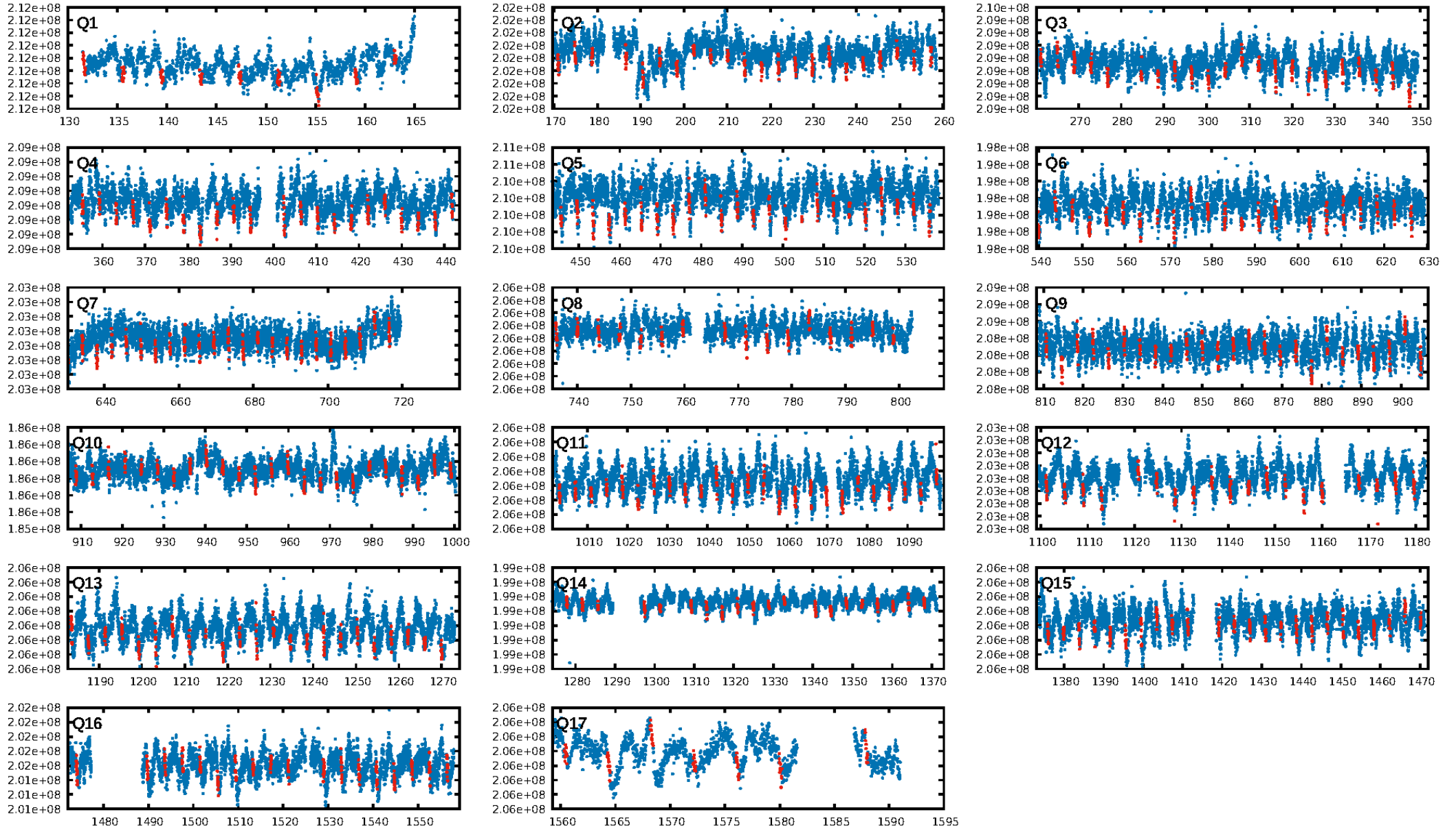
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.39e-73
RollingBand-fgt: 1.00 [328/328]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.701 arcsec [0.69σ]
KicOffset-rm: 0.744 arcsec [0.66σ]
OotOffset-st: 4/2/2/3 [11]
KicOffset-st: 4/2/2/3 [11]
DiffImageQuality-fgm: 0.45 [5/11]
DiffImageOverlap-fno: 0.00 [0/17]

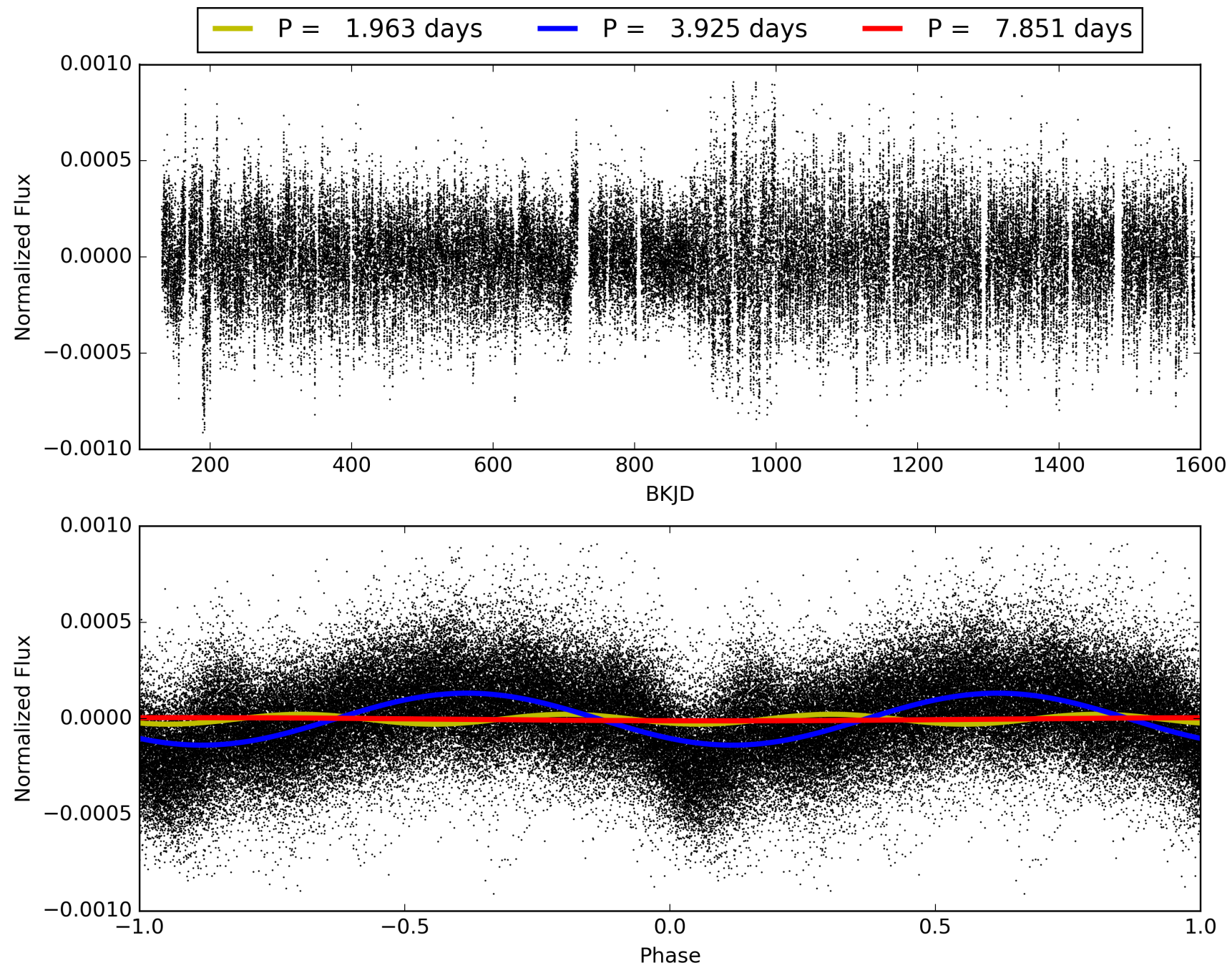
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:20:11 Z

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

TCE 008710207-01, PDC Light Curves

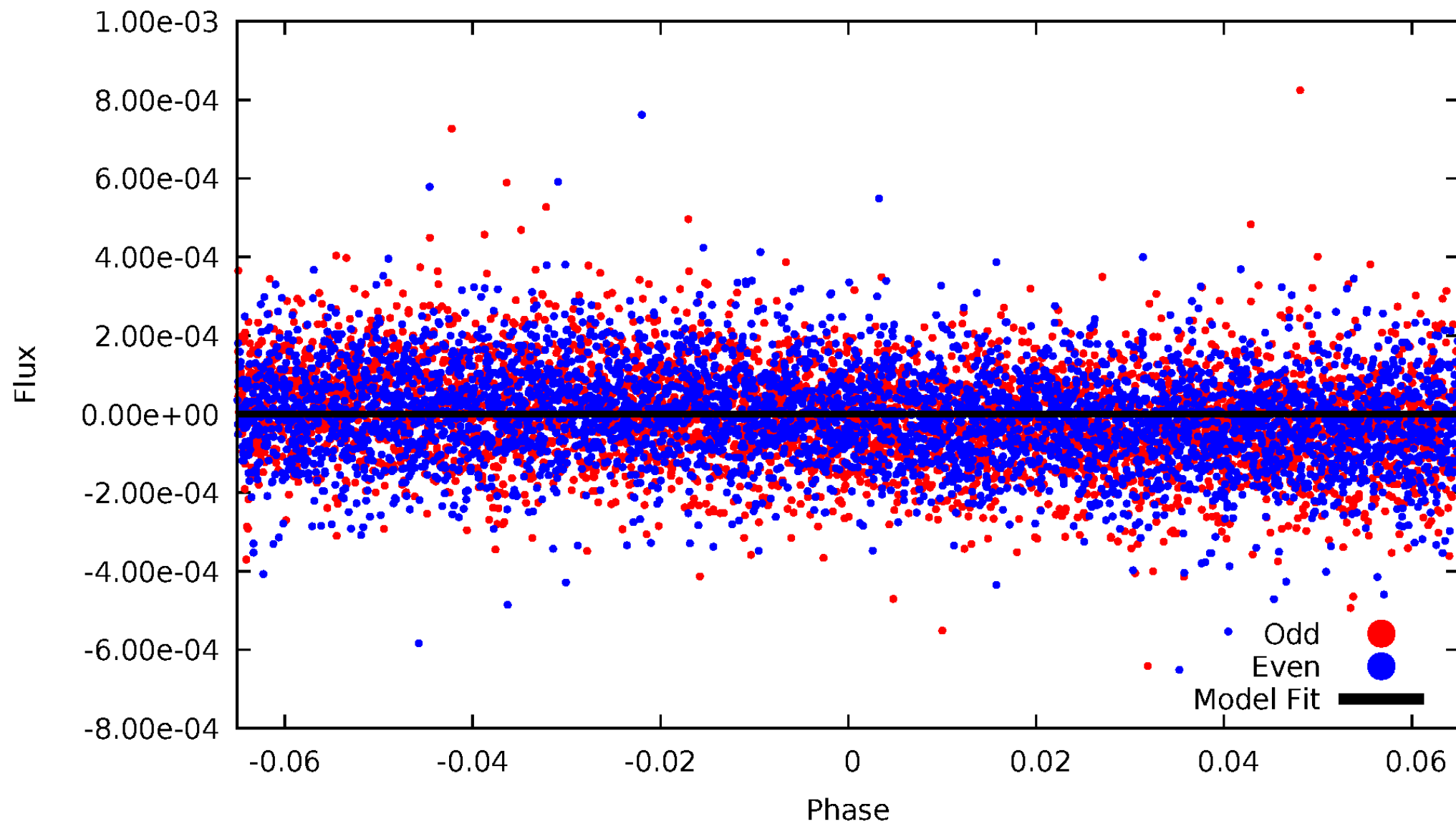


TCE 008710207-01



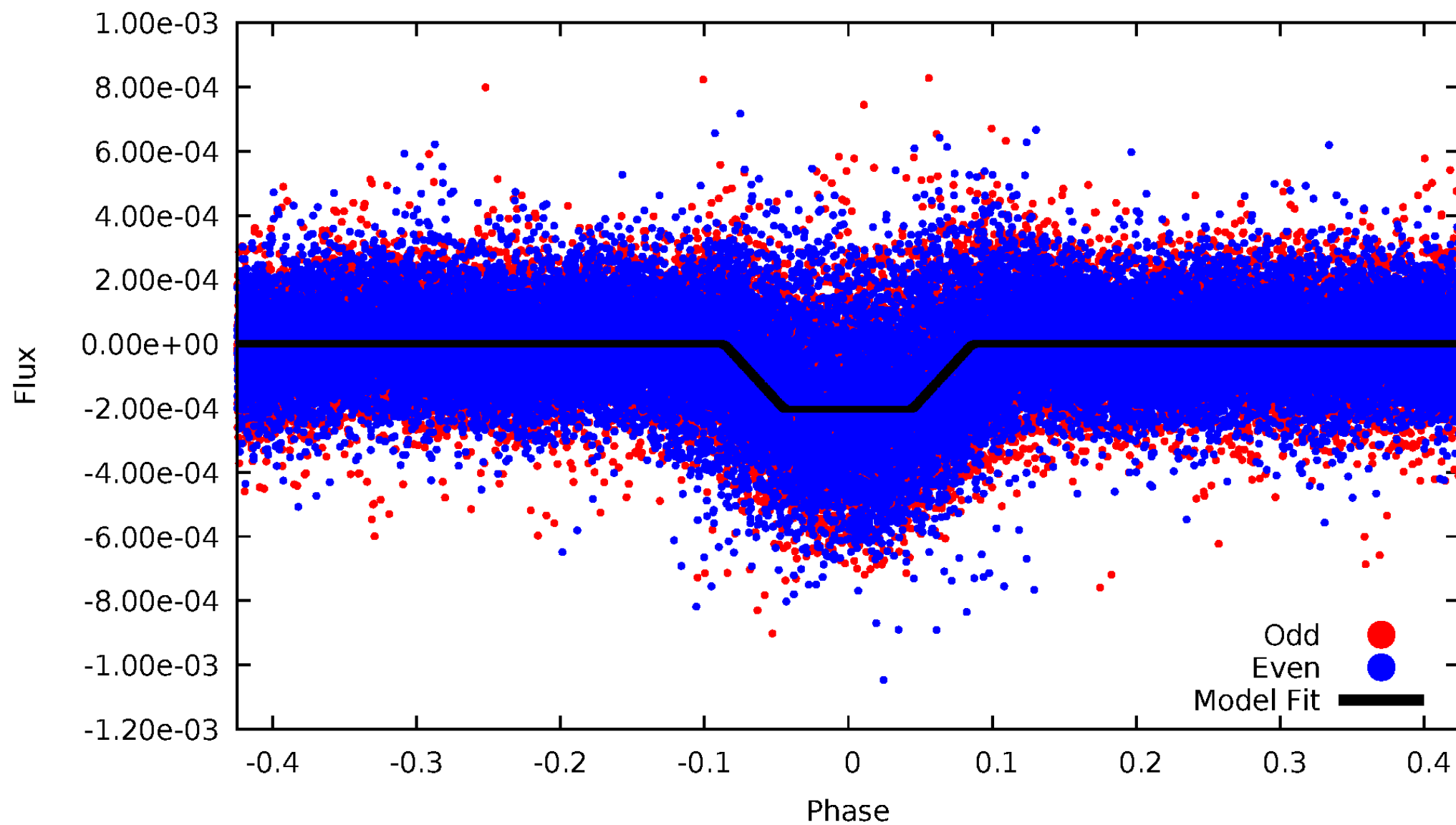
DV Odd/Even

TCE 008710207-01



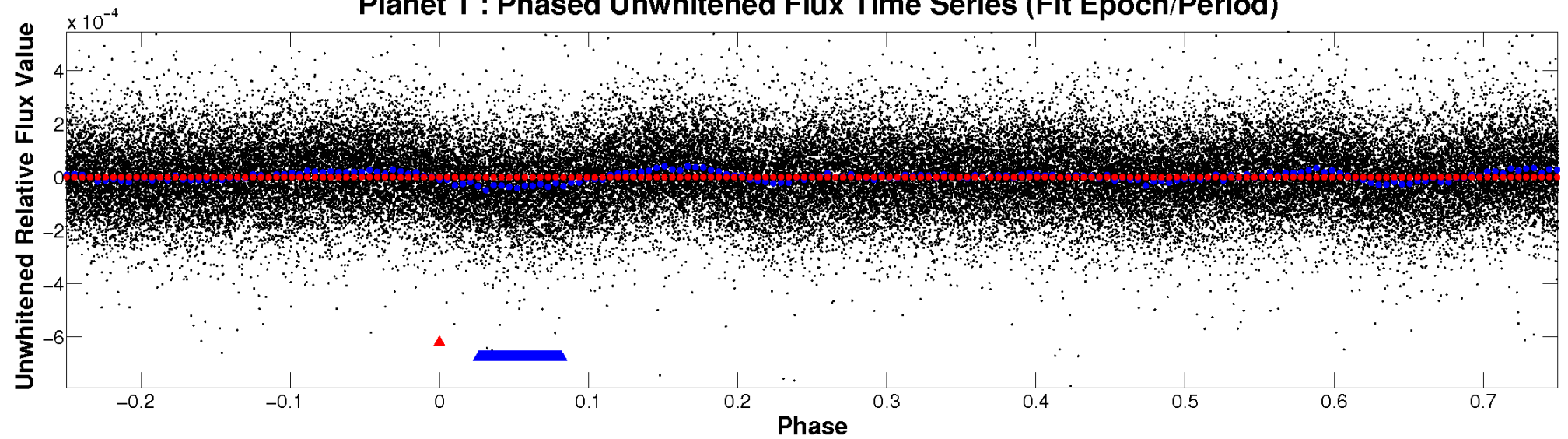
ALT Odd/Even

TCE 008710207-01

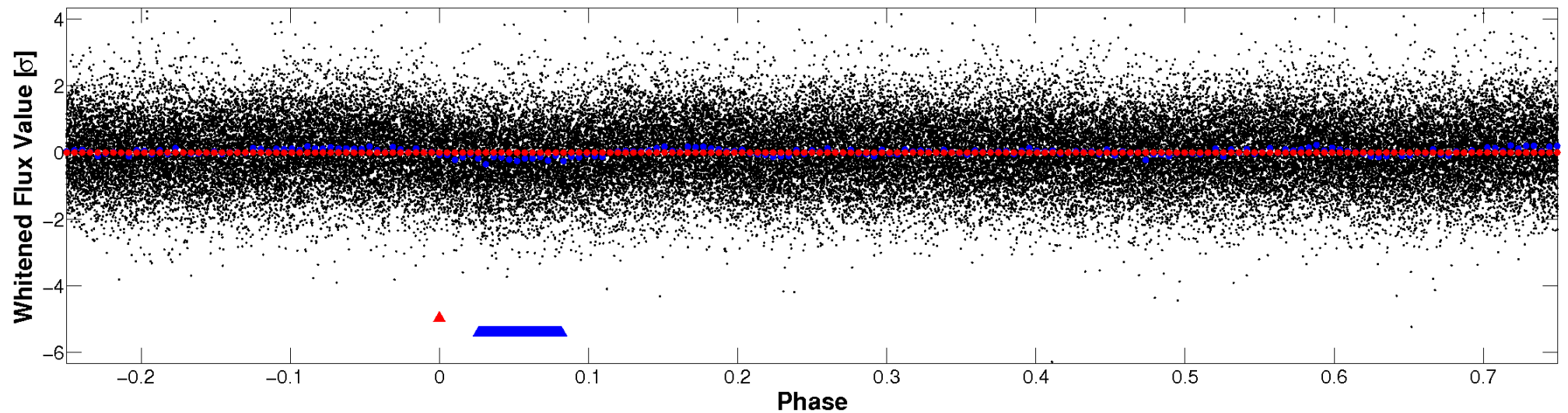


Non-Whitened Vs. Whitened Light Curve

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

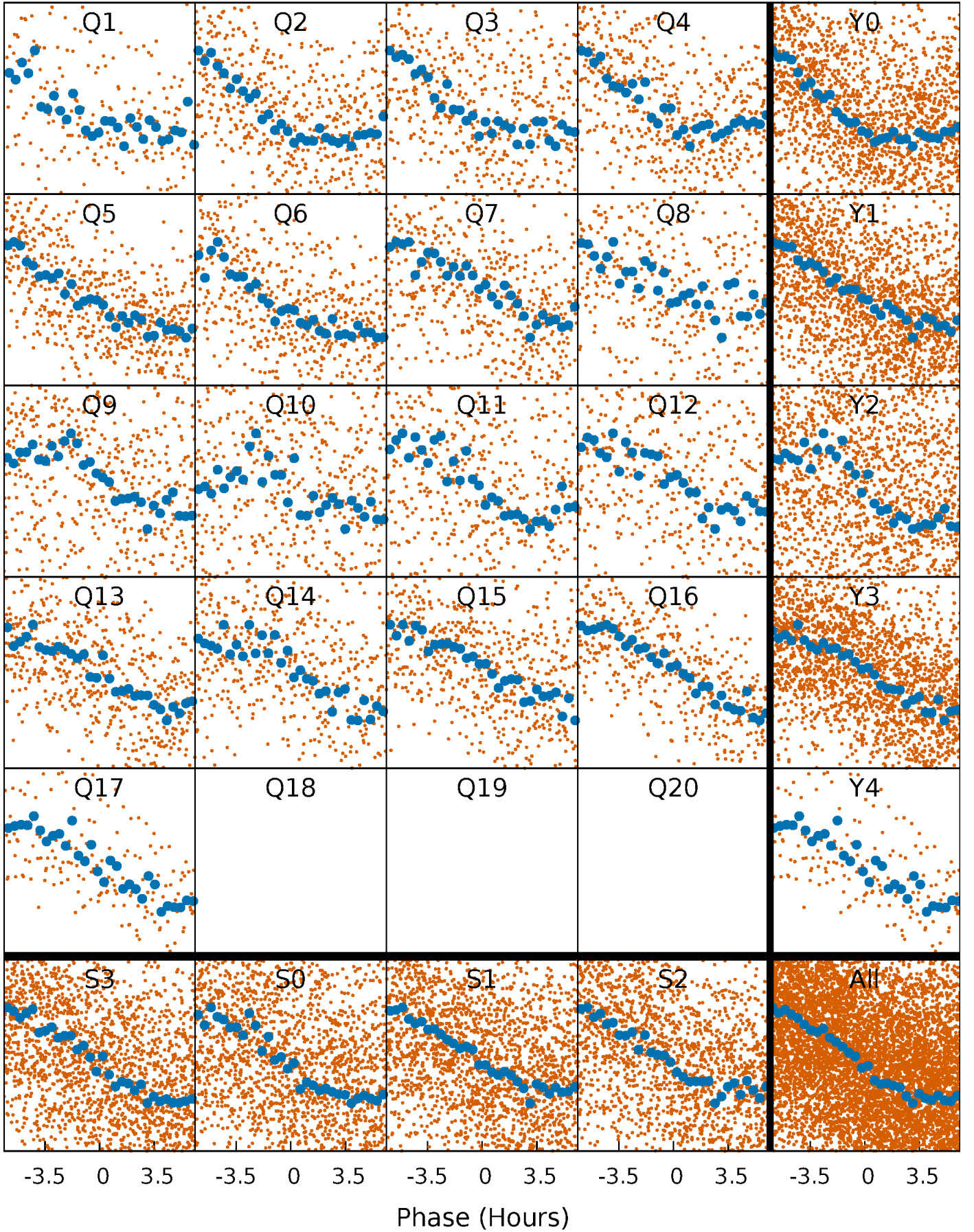


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



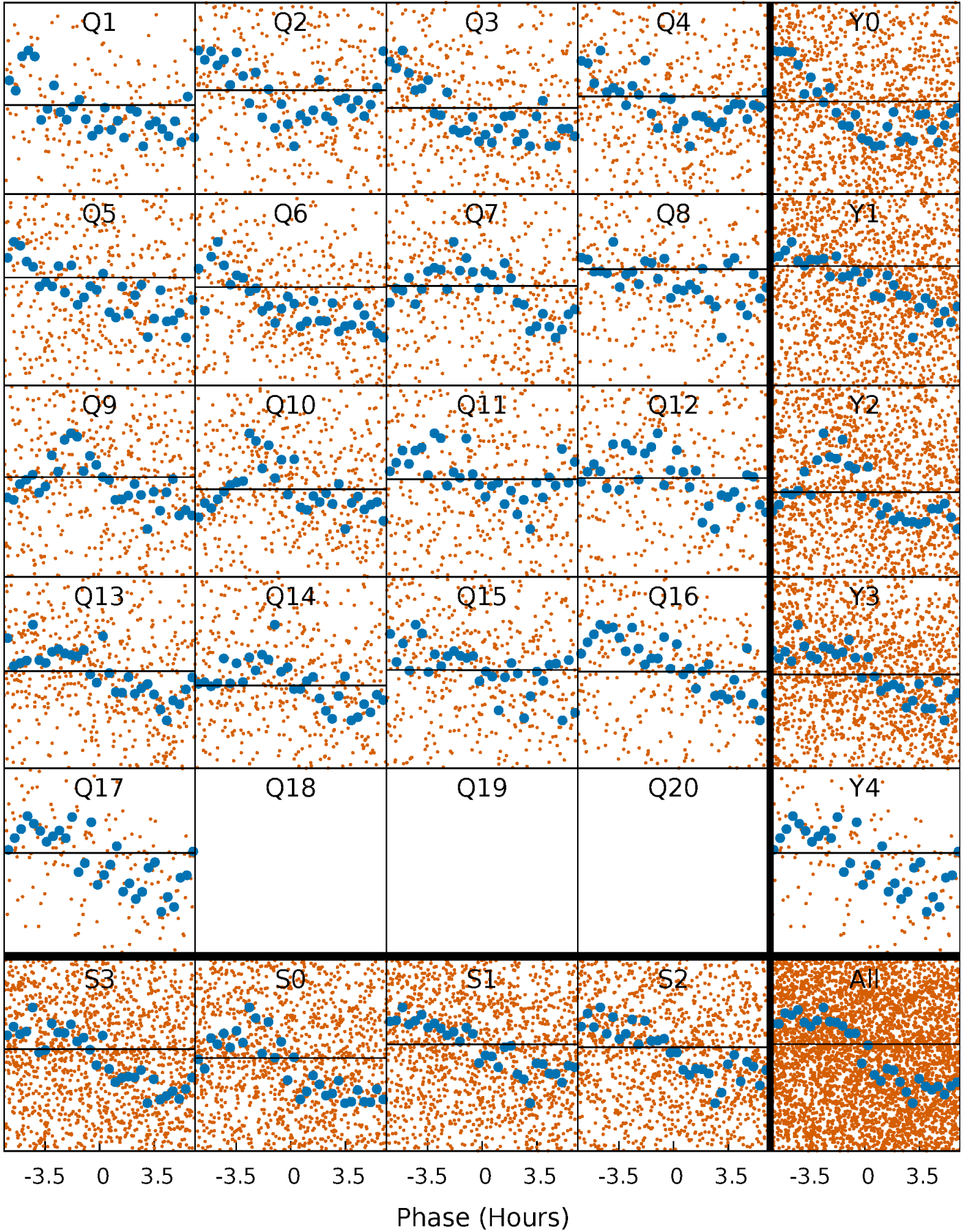
PDC Quarter-Phased Transit Curves

TCE 008710207-01 P= 3.925277 Days $T_0=131.644068$ (BKJD)



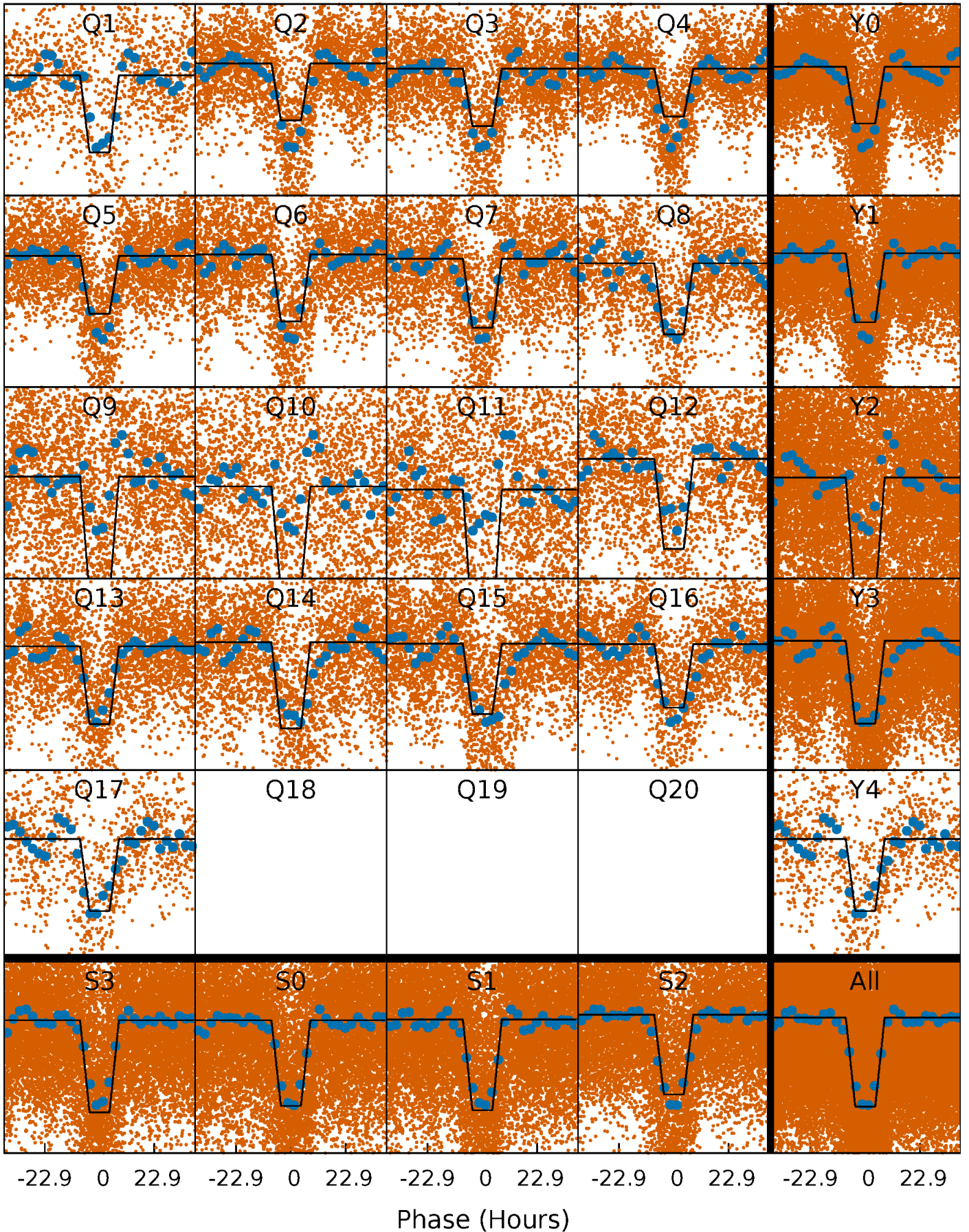
DV Quarter-Phased Transit Curves

TCE 008710207-01 P= 3.925277 Days $T_0=131.644068$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

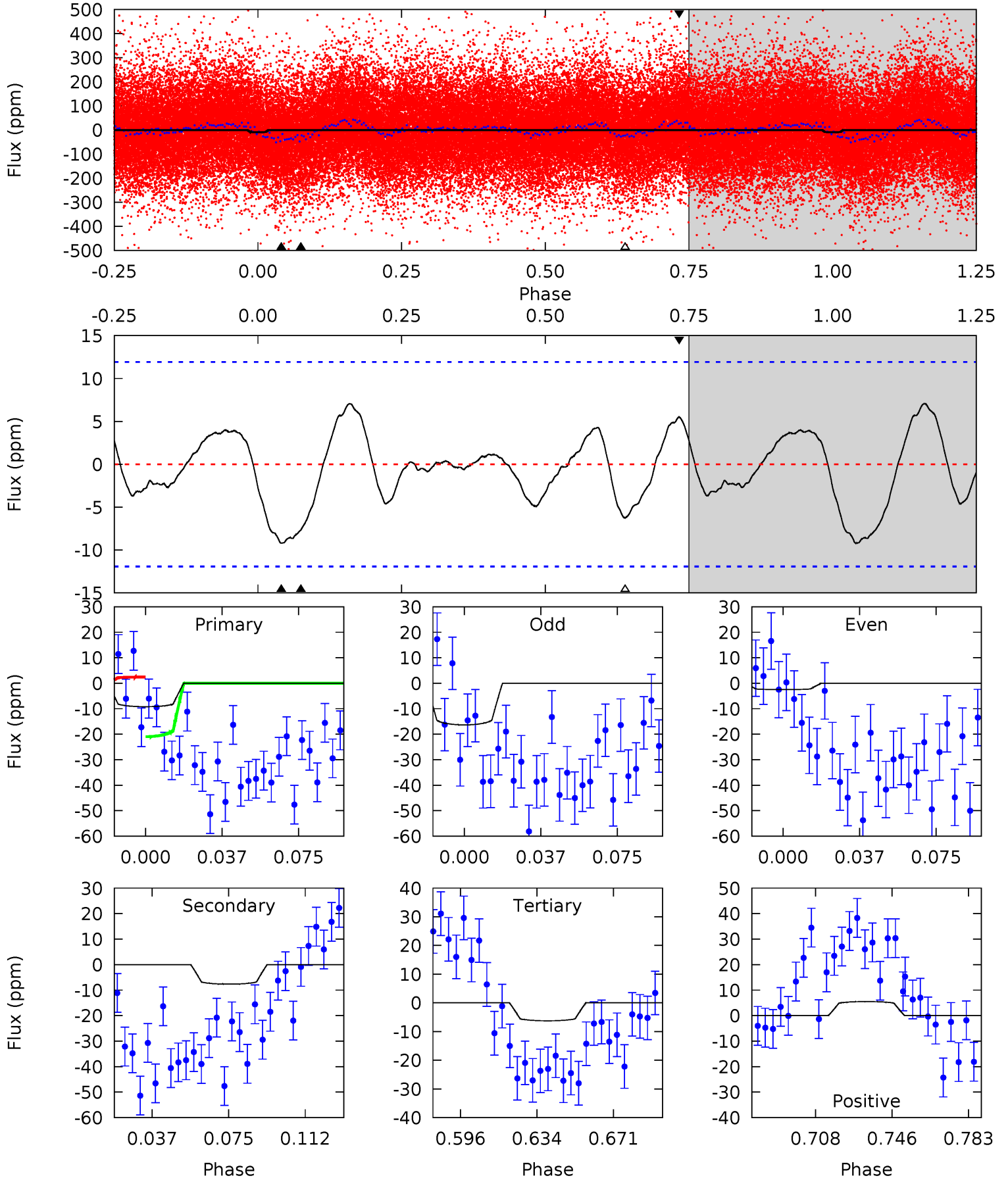
TCE 008710207-01 P= 3.926011 Days $T_0=131.706016$ (BKJD)



DV Model-Shift Uniqueness Test

008710207-01, P = 3.925277 Days, E = 127.718791 Days

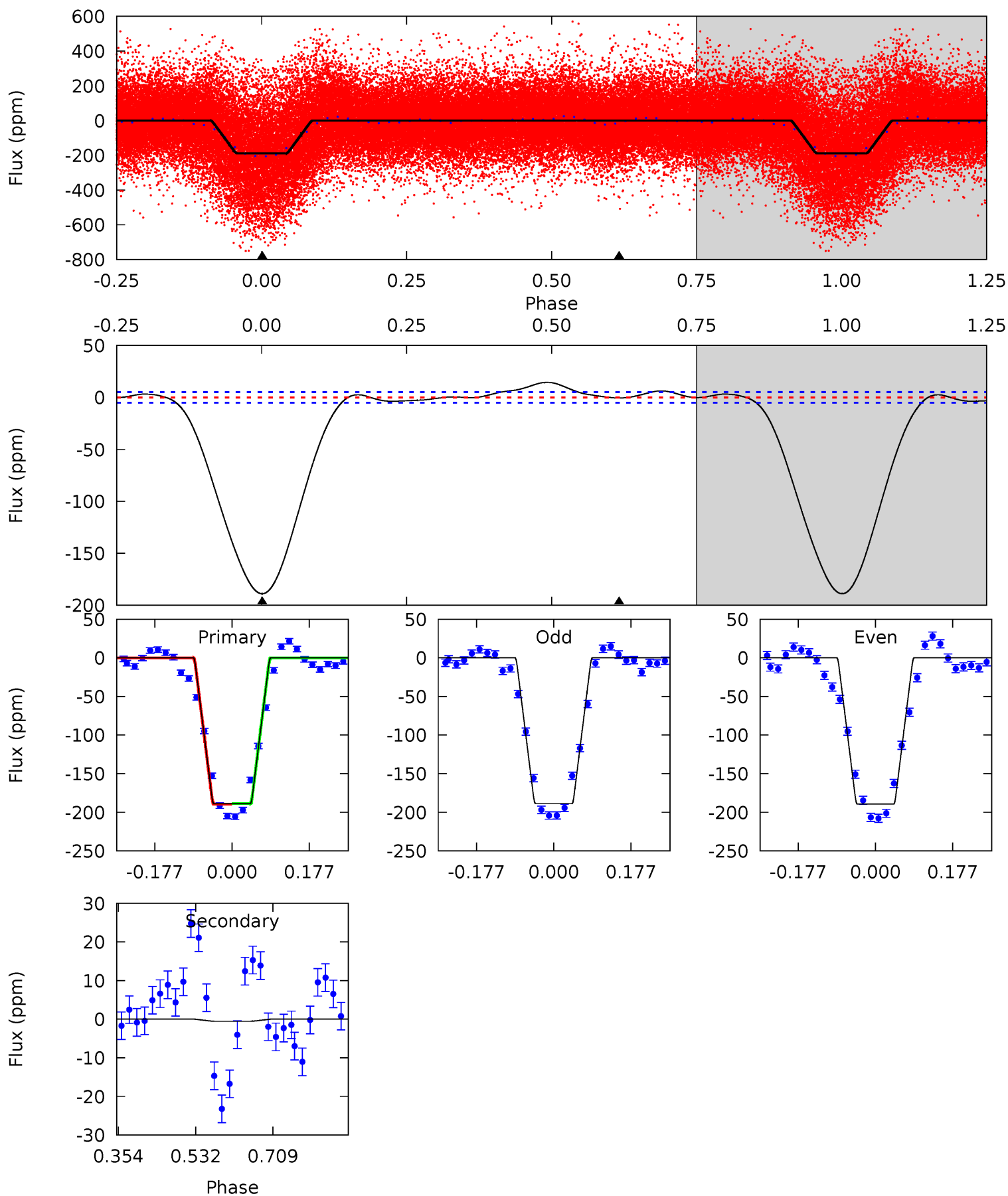
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.68	3.06	2.50	2.20	4.77	2.08	1.22	1.19	1.48	0.57	0.86	2.77	0.87	0.43	3.71



Alt Model-Shift Uniqueness Test

008710207-01, P = 3.926011 Days, E = 127.780005 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
163.0	0.48	0	0	4.44	1.35	2.53	163.0	163.0	0.48	0.48	0.23	0.96	0.07	0.29



Stellar Parameters For KIC 008710207

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6343^{+173}_{-193}	$3.865^{+0.273}_{-0.117}$	$-0.020^{+0.300}_{-0.250}$	$2.339^{+0.441}_{-0.819}$	$1.465^{+0.202}_{-0.302}$	$0.161^{+0.309}_{-0.060}$
	+3%/-3%	+7%/-3%	+1500%/-1250%	+19%/-35%	+14%/-21%	+191%/-37%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008710207-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-8 ± 2	$7.60^{+8.12}_{-5.44}$	2503^{+184}_{-208}	-2310^{+6040}_{-442}	$0.220^{+2.439}_{-0.172}$
Alt.	-1 ± 1	$9.28^{+9.43}_{-6.10}$	2517^{+171}_{-206}	-2784^{+190}_{-134}	$0.006^{+0.064}_{-0.019}$

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

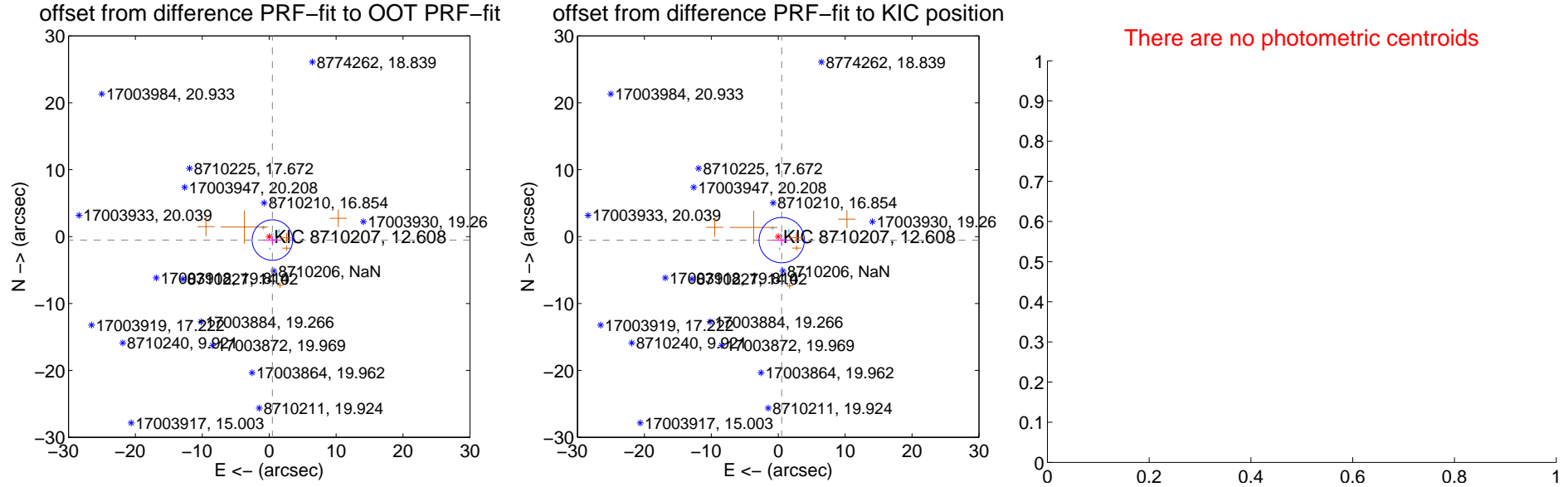
DV Centroid Data

Supplemental centroid analysis for 008710207-01. Kepler magnitude: 12.61. Transit SNR 0.00

There are 5 quarters with good PRF difference image offsets

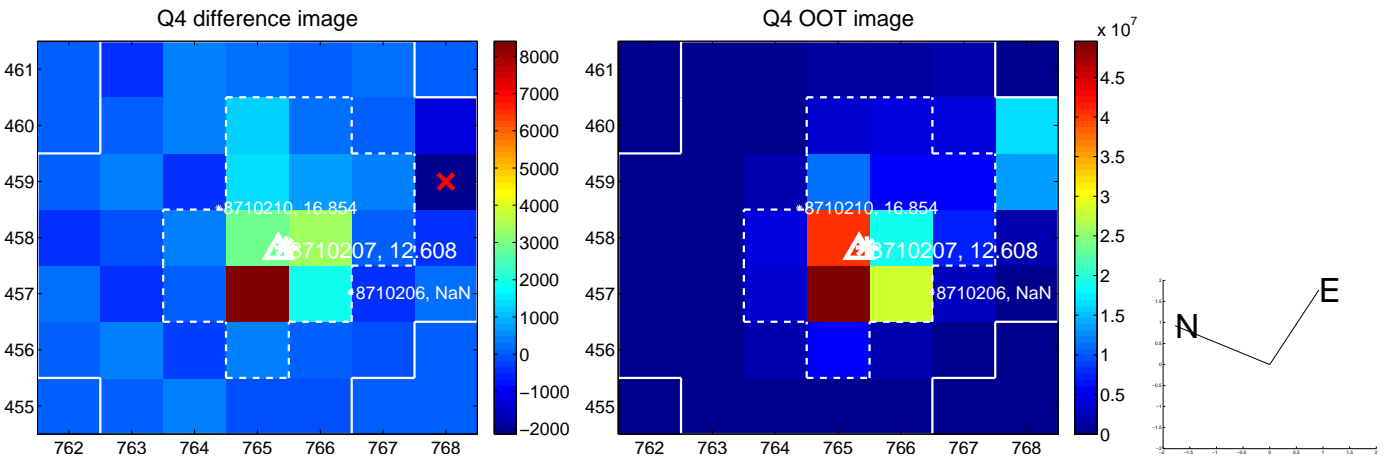
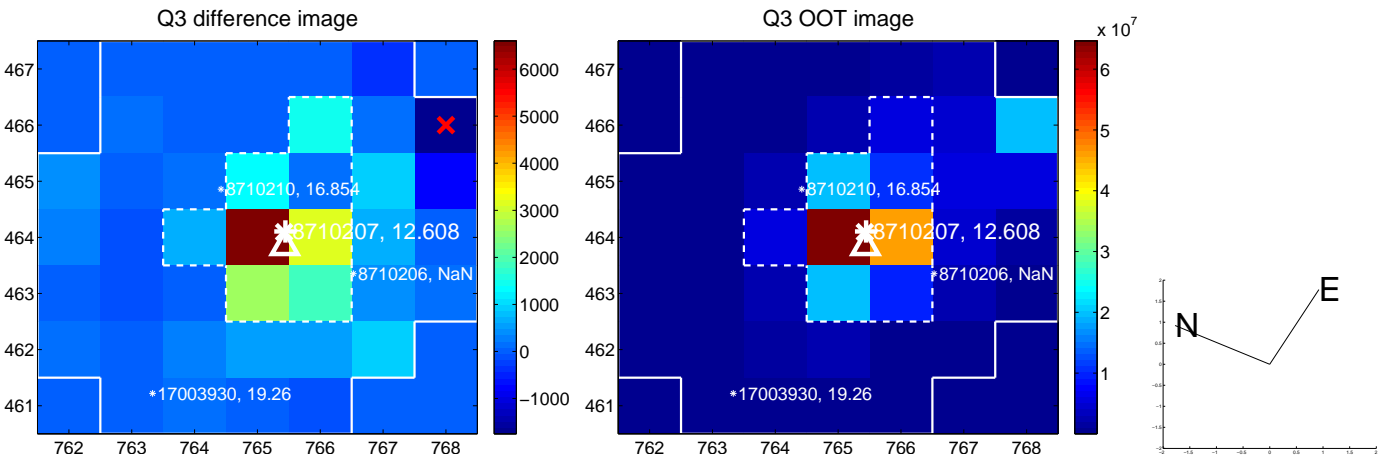
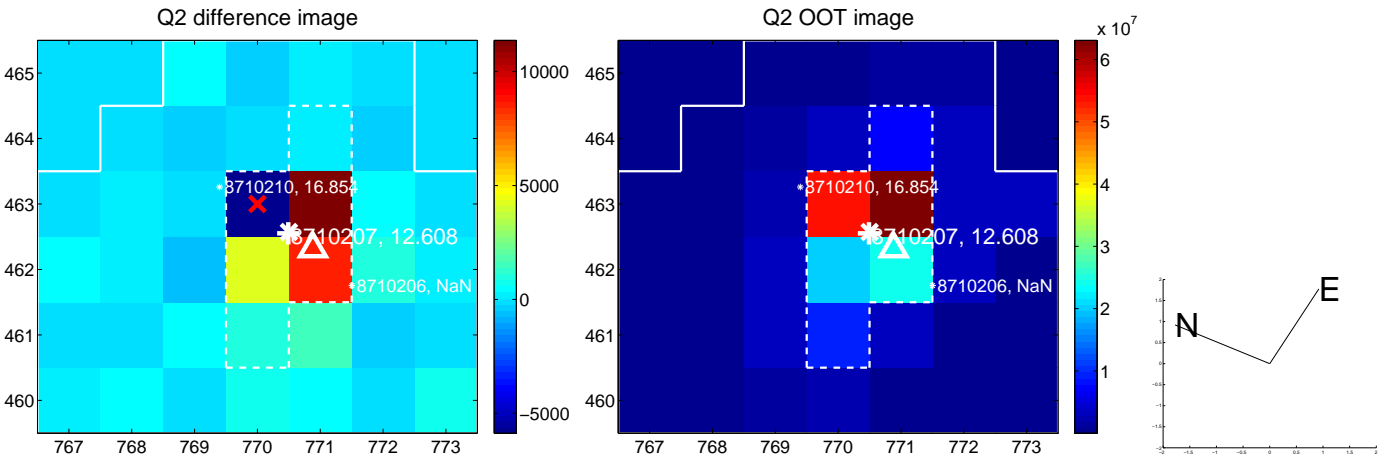
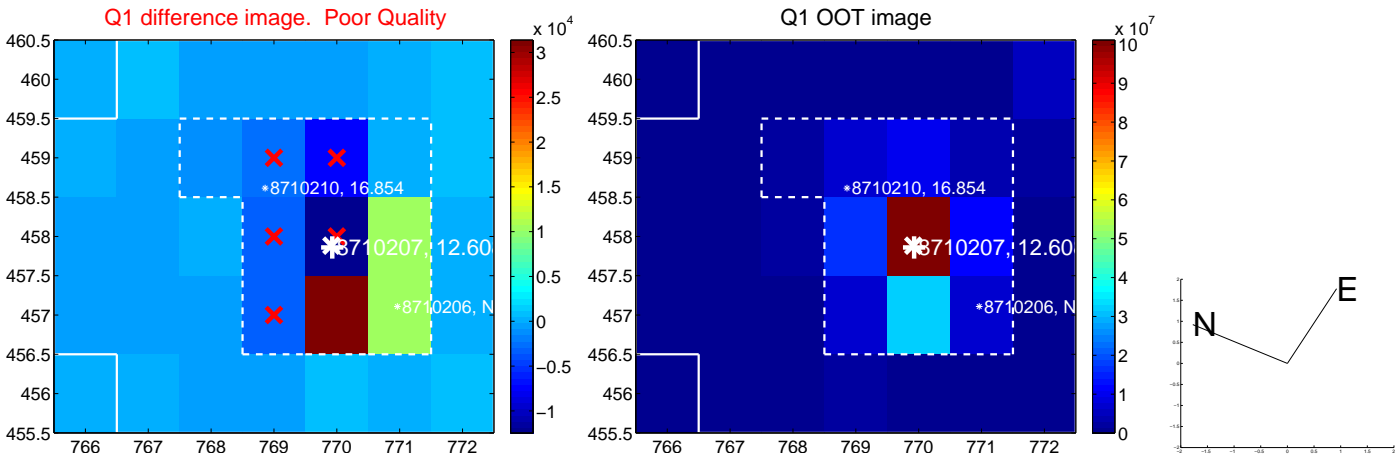
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.701 ± 1.009	0.69	-0.473 ± 1.311	-0.517 ± 0.637
PRF-fit source offset from KIC position	0.744 ± 1.129	0.66	-0.524 ± 1.307	-0.528 ± 0.803
photometric centroid source offset	—	—	—	—

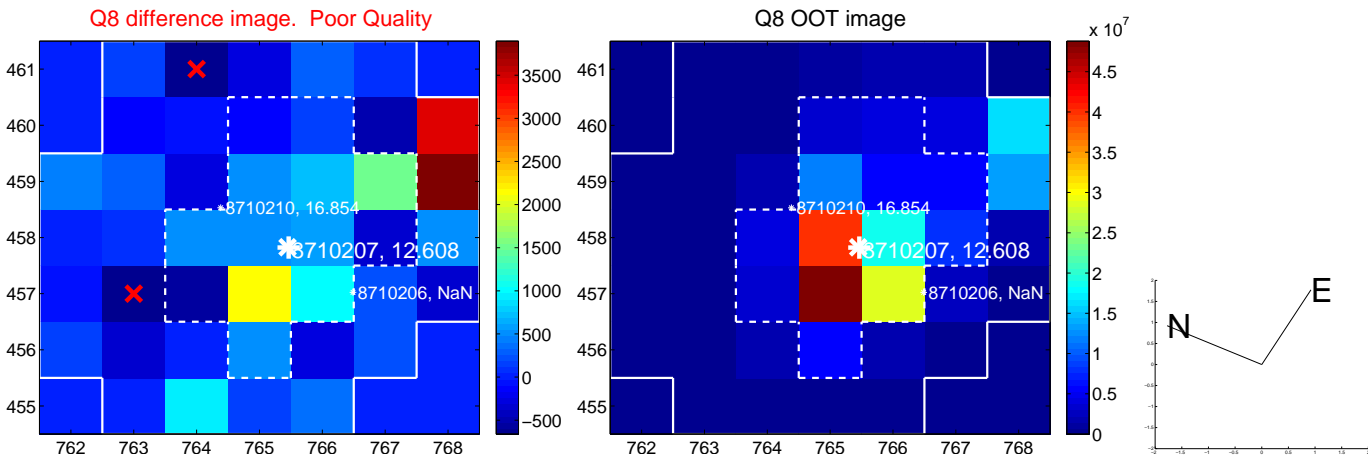
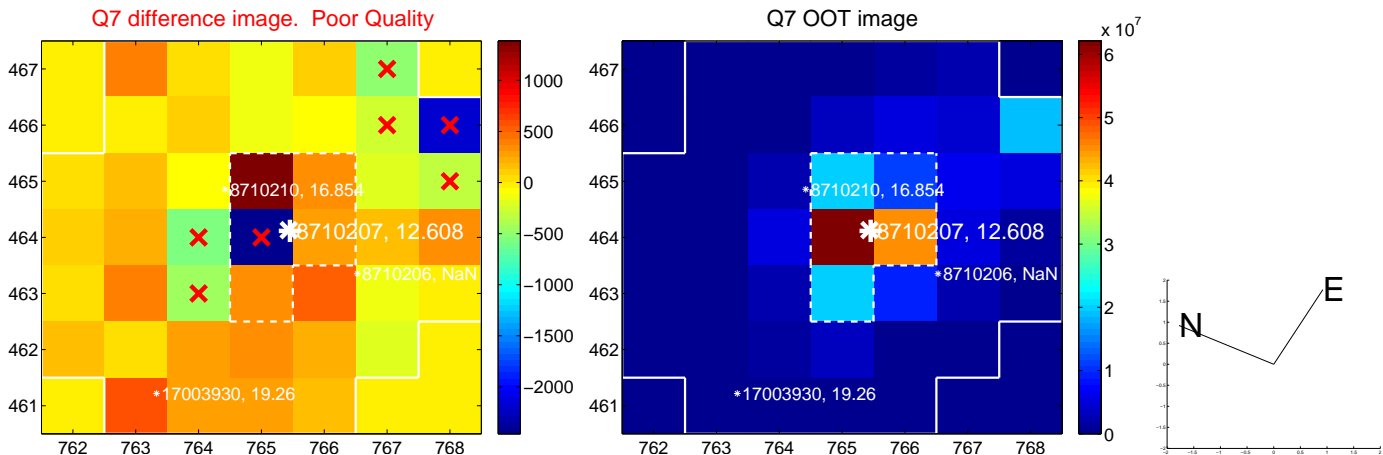
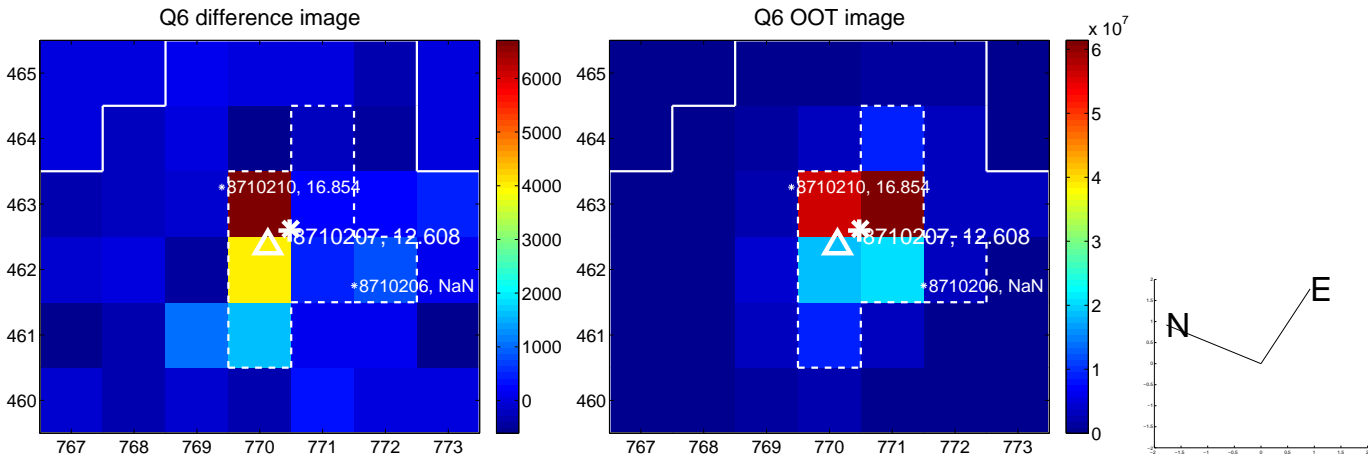
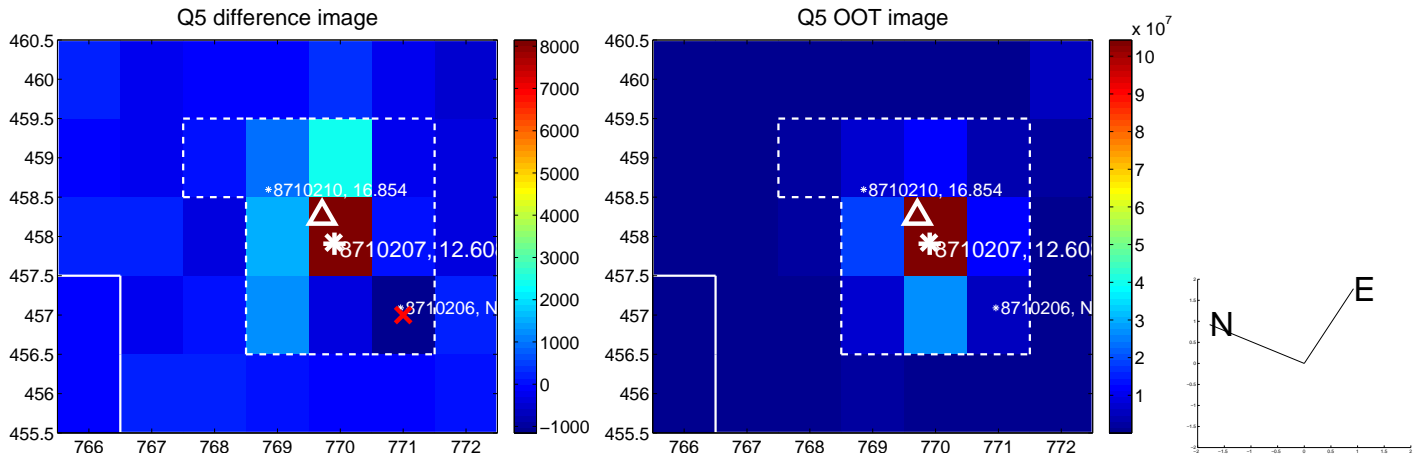


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

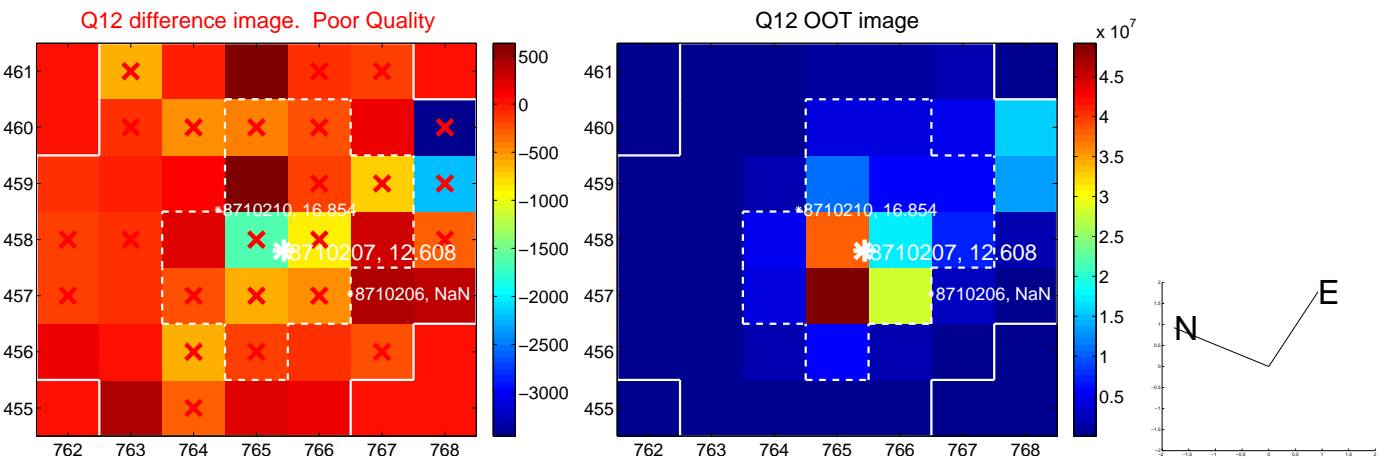
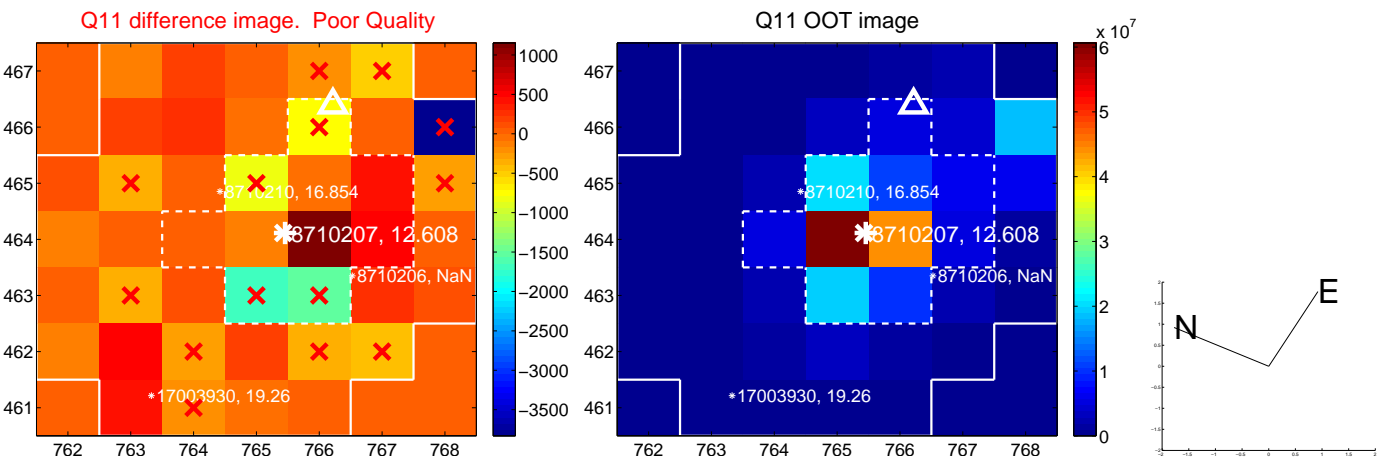
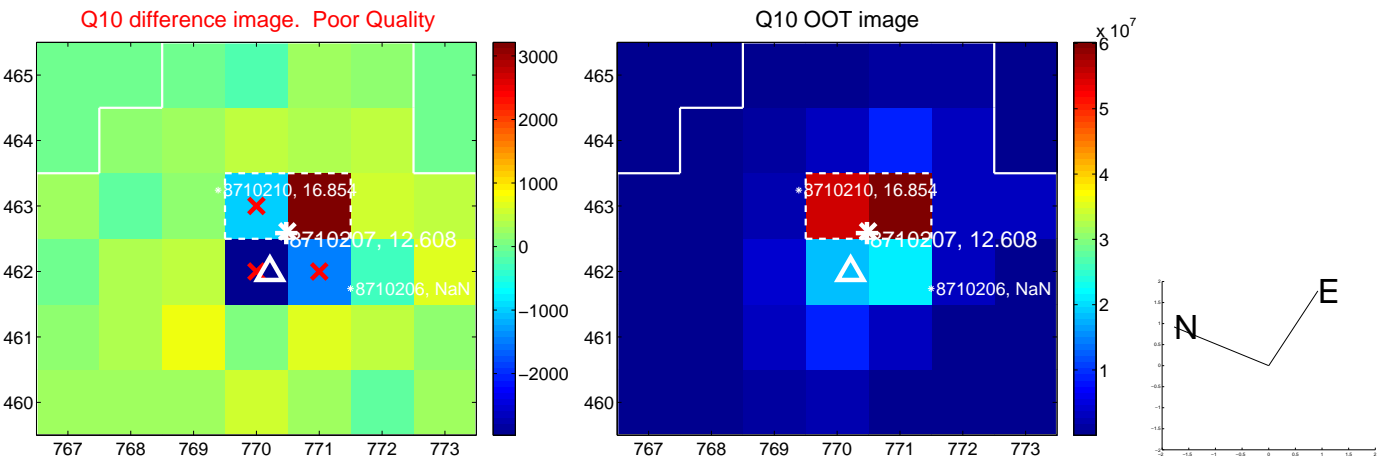
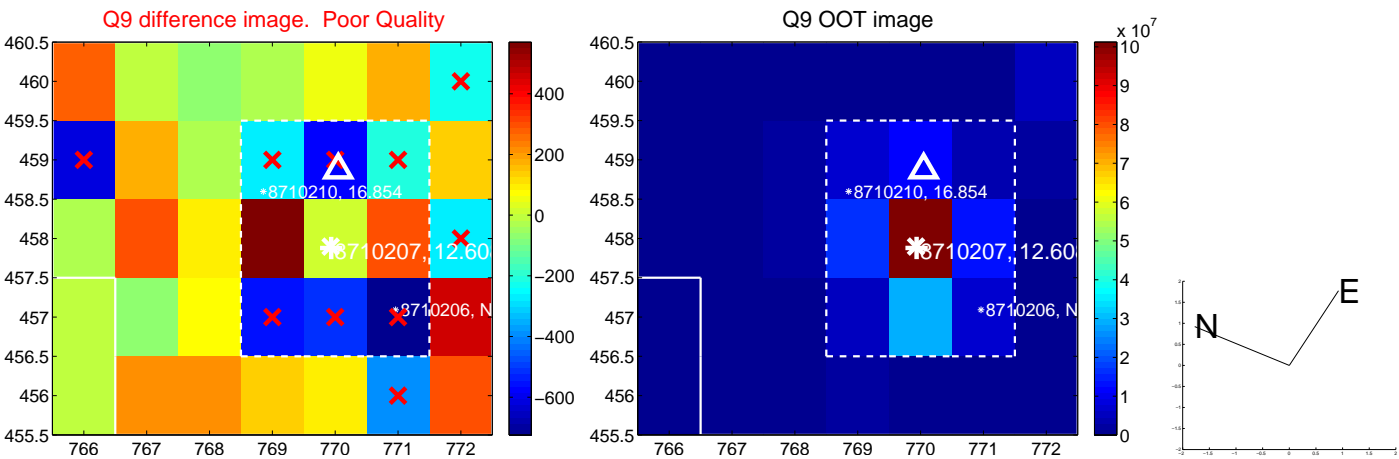
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



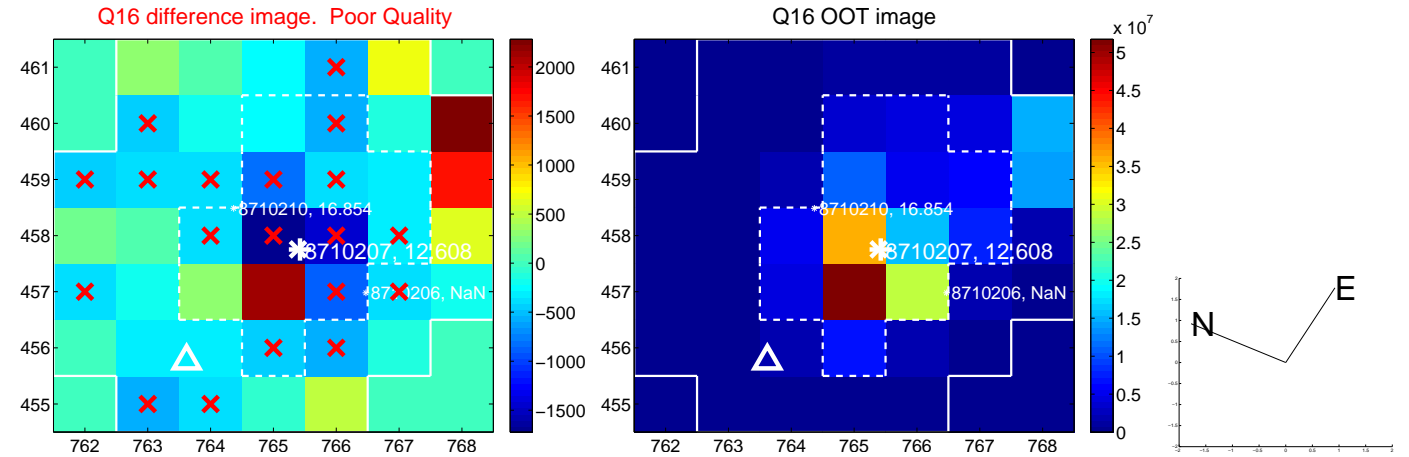
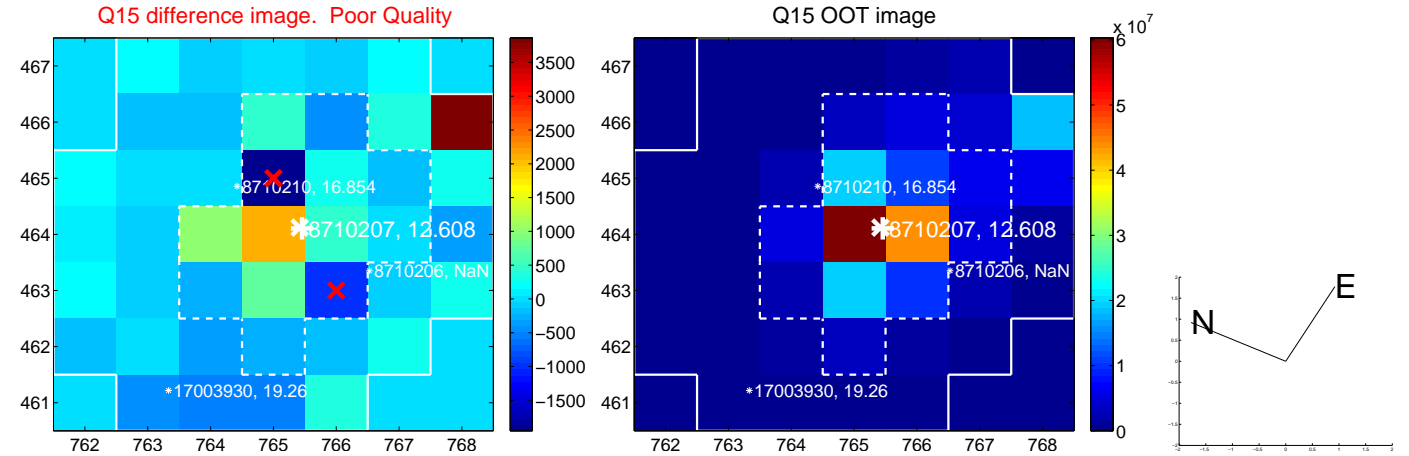
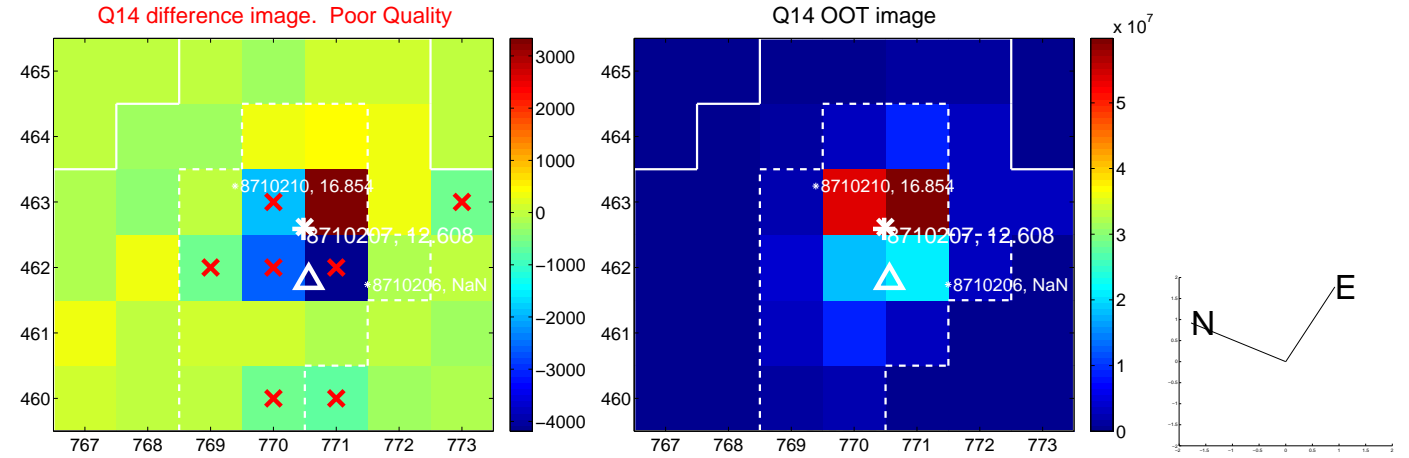
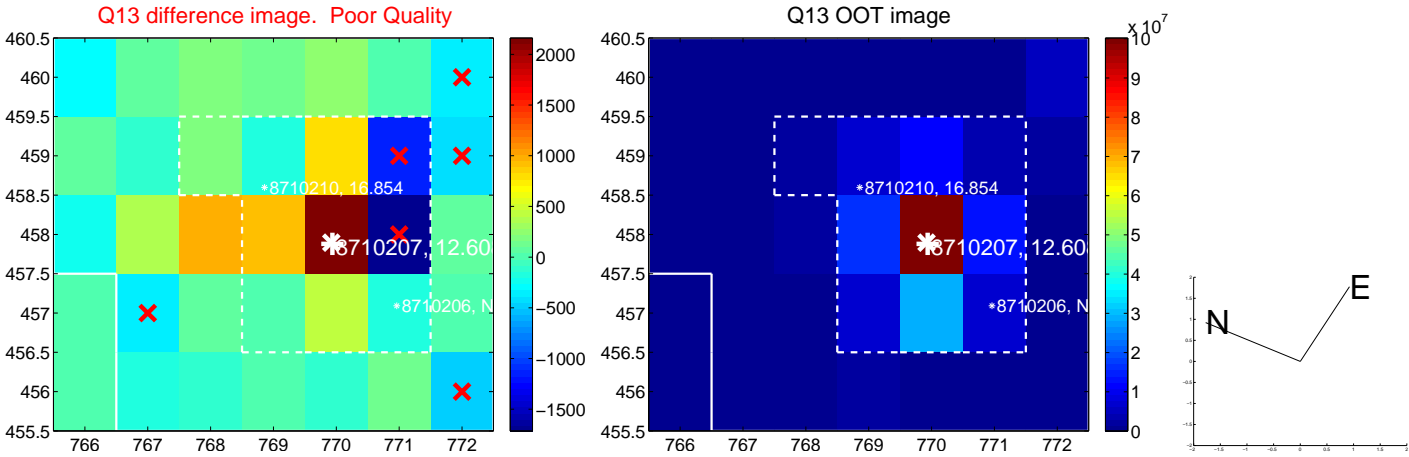
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



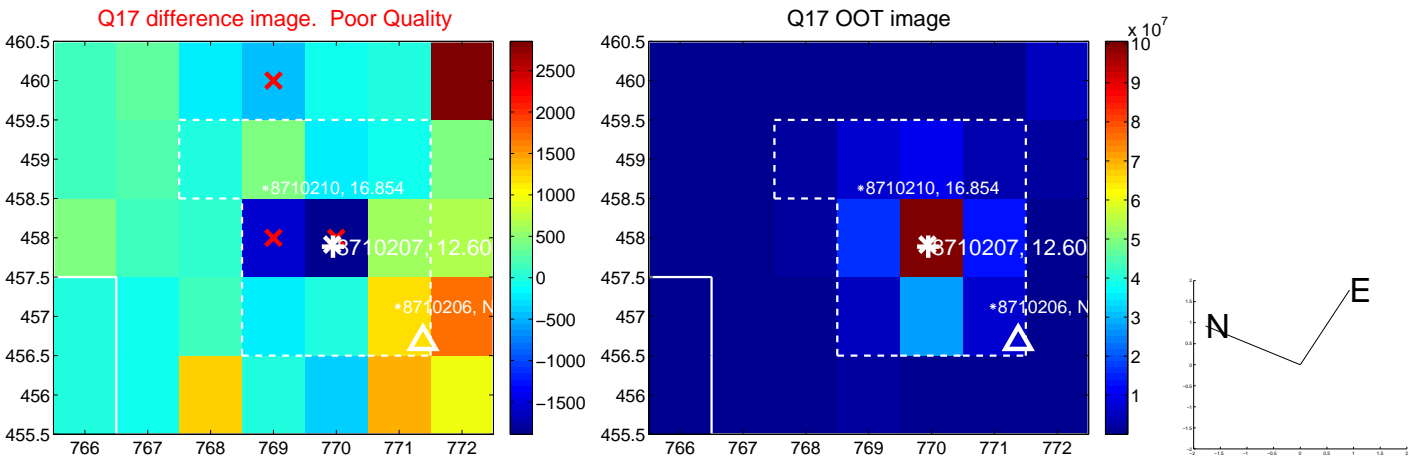
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

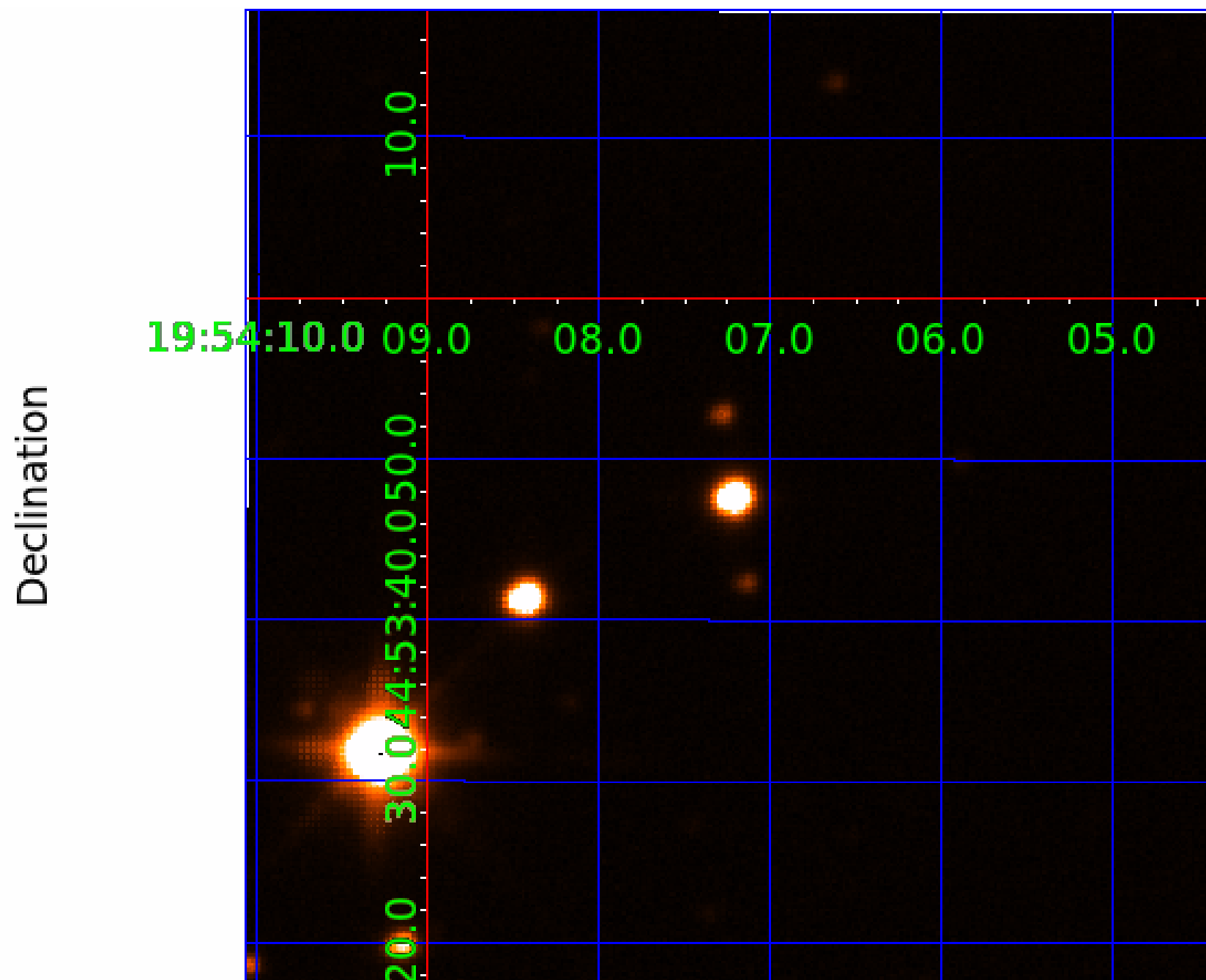


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image



KIC 008710207

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})
008710207-01	OBS	No	3.925277	131.644068	0.0	3.066	13.9	0.0	2.34	6343	0.02	2595.77
008710207-02	OBS	No	3.925865	131.747452	0.0	25.548	11.4	0.0	2.34	6343	0.03	2595.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008710207-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008710207-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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

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

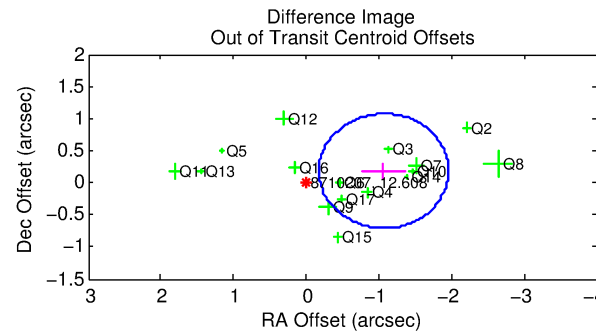
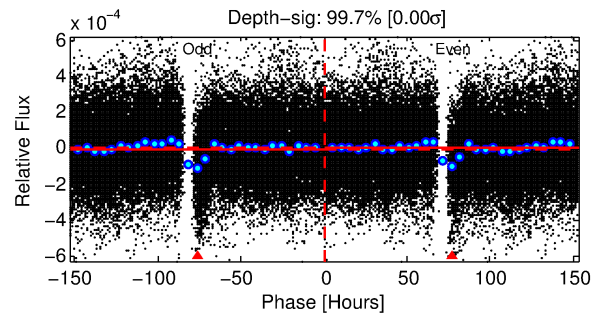
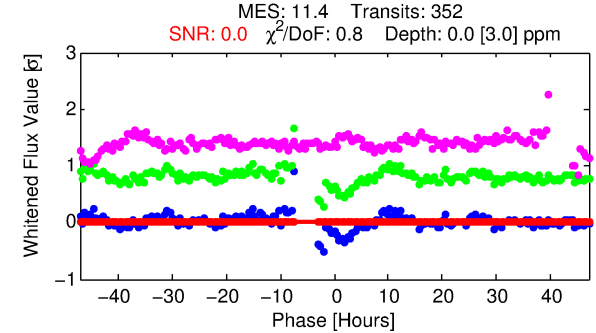
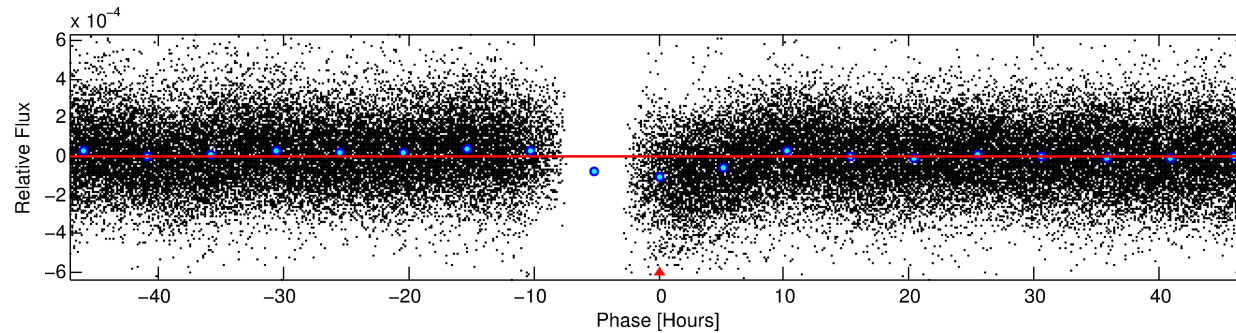
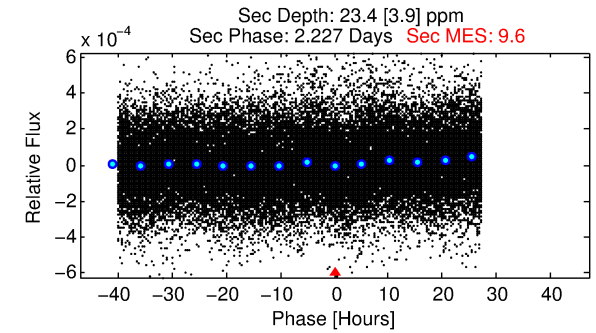
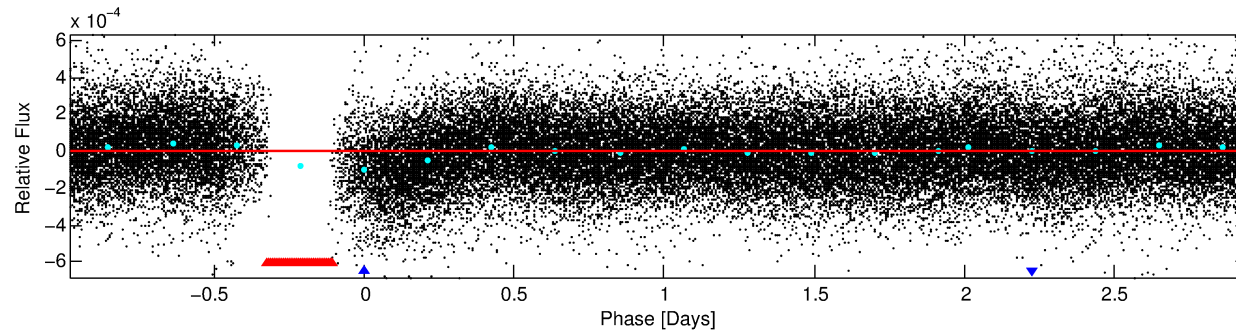
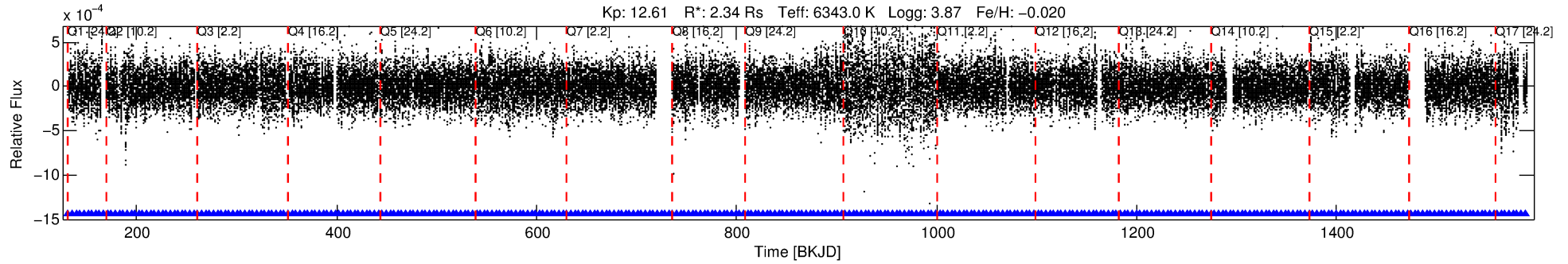
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008710207-02

No Significant Match Found

DV One-Page Summary

KIC: 8710207 Candidate: 2 of 2 Period: 3.926 d



DV Fit Results:

Period = 3.92586 [0.10221] d
Epoch = 131.7475 [15.9418] BKJD
Rp/R* = 0.0001 [0.0125]
a/R* = 1.25 [16.70]
b = 0.52 [58.21]
Seff = 2595.25 [1287.54]
Teq = 1820 [226] K
Rp = 0.03 [3.18] Re
a = 0.0553 [0.0174] AU
Ag = 51988.54 [12010075.02] [0.00σ]
Teffp = 42490 [2454007] K [0.02σ]

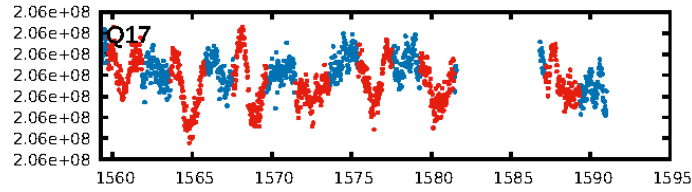
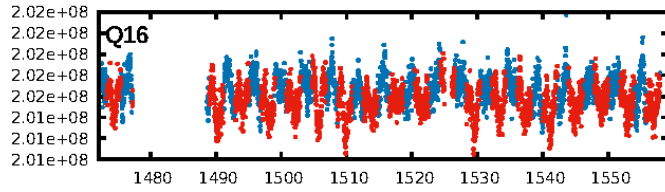
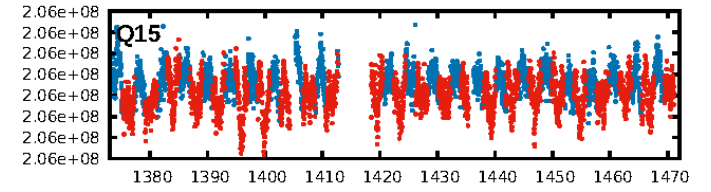
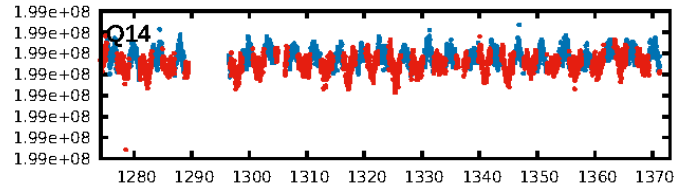
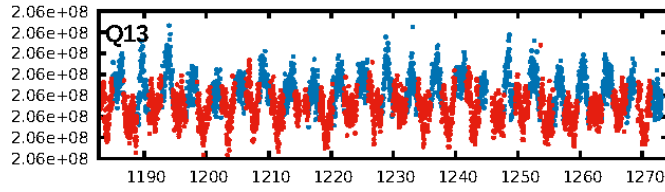
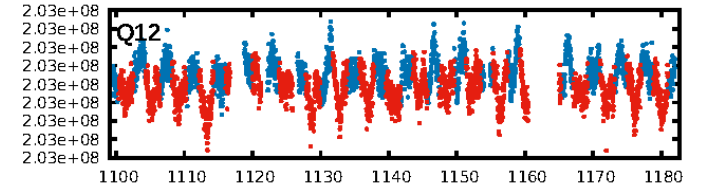
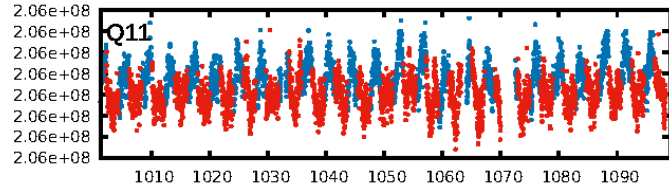
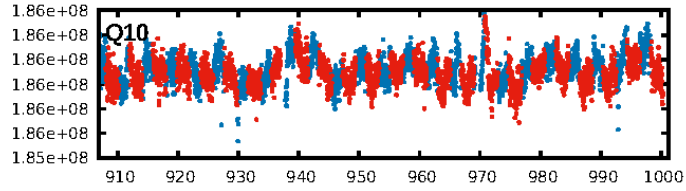
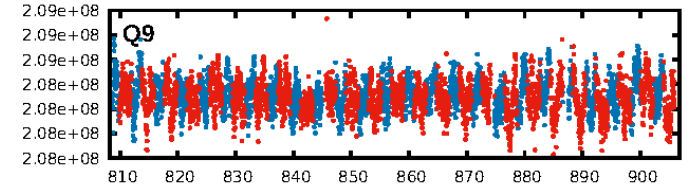
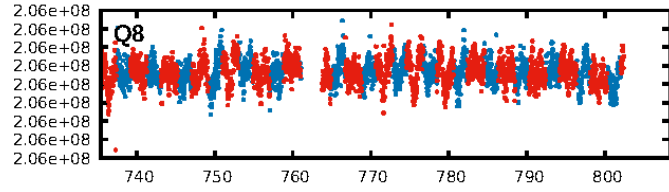
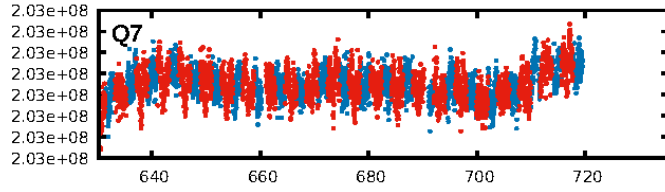
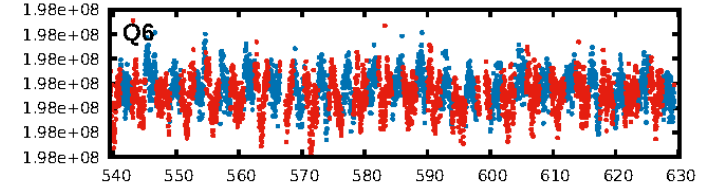
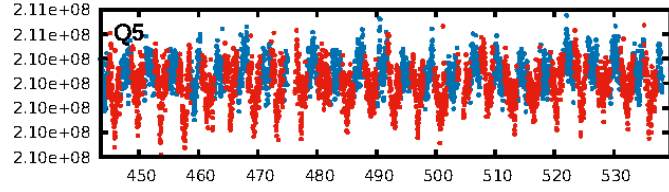
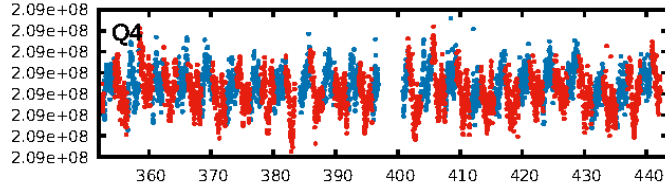
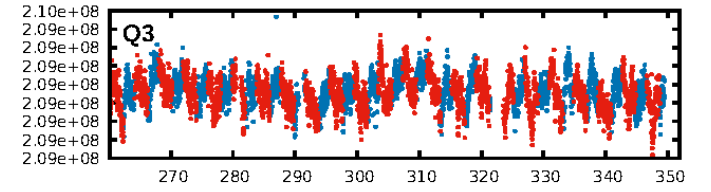
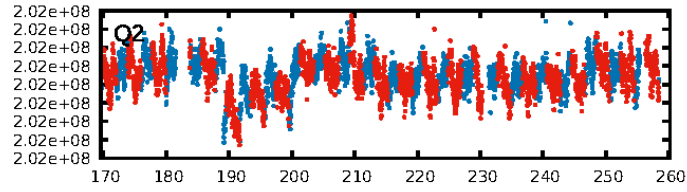
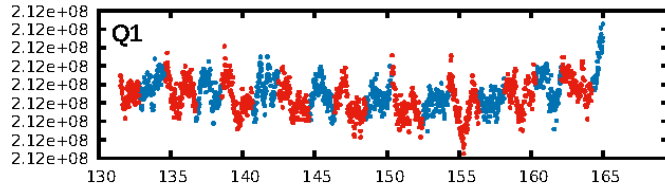
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.23e-35
RollingBand-fgt: 1.00 [336/336]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 1.080 arcsec [3.63σ]
KicOffset-rm: 1.109 arcsec [3.49σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.88 [14/16]
DiffImageOverlap-fno: 0.00 [0/17]

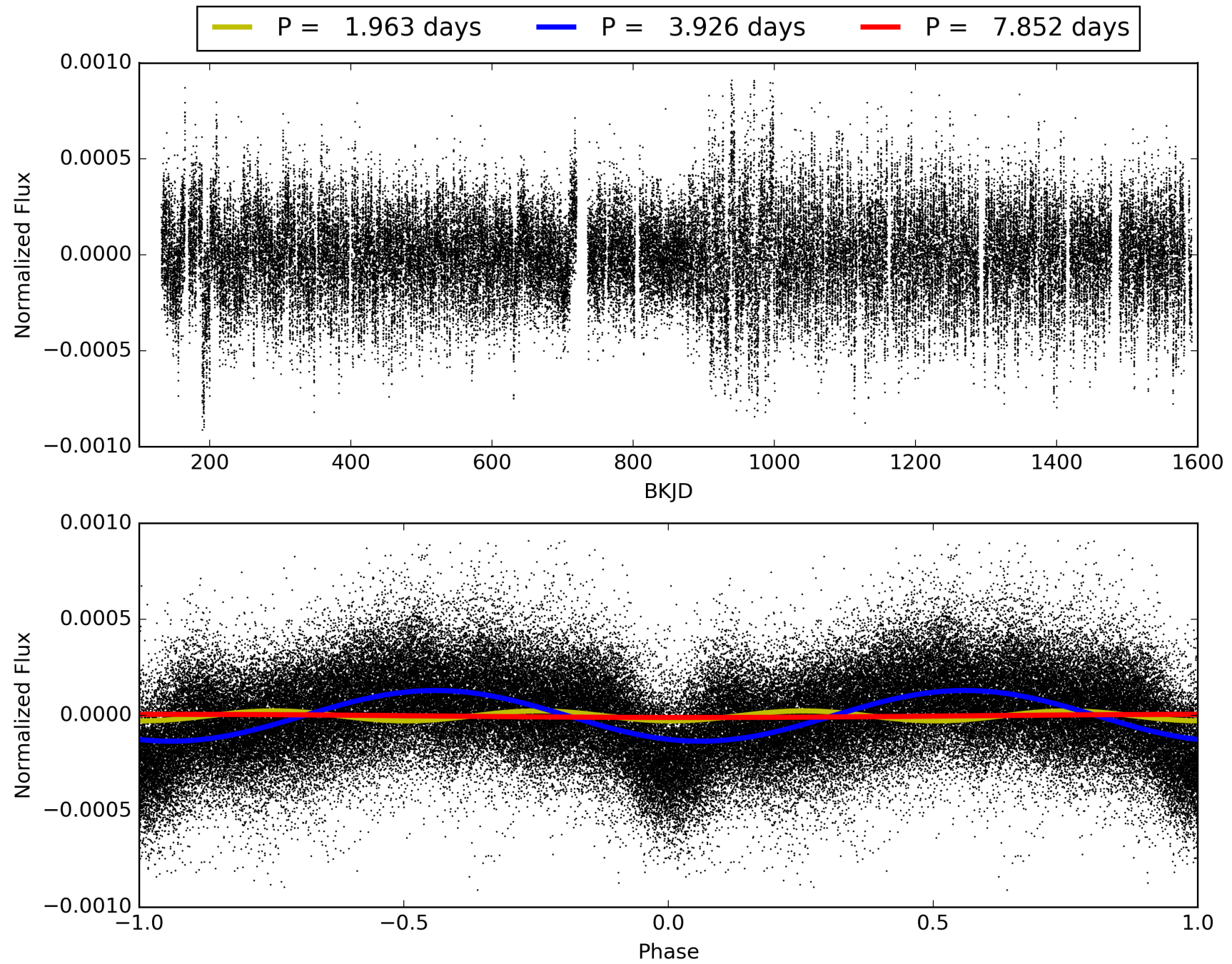
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:20:22 Z

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

TCE 008710207-02, PDC Light Curves

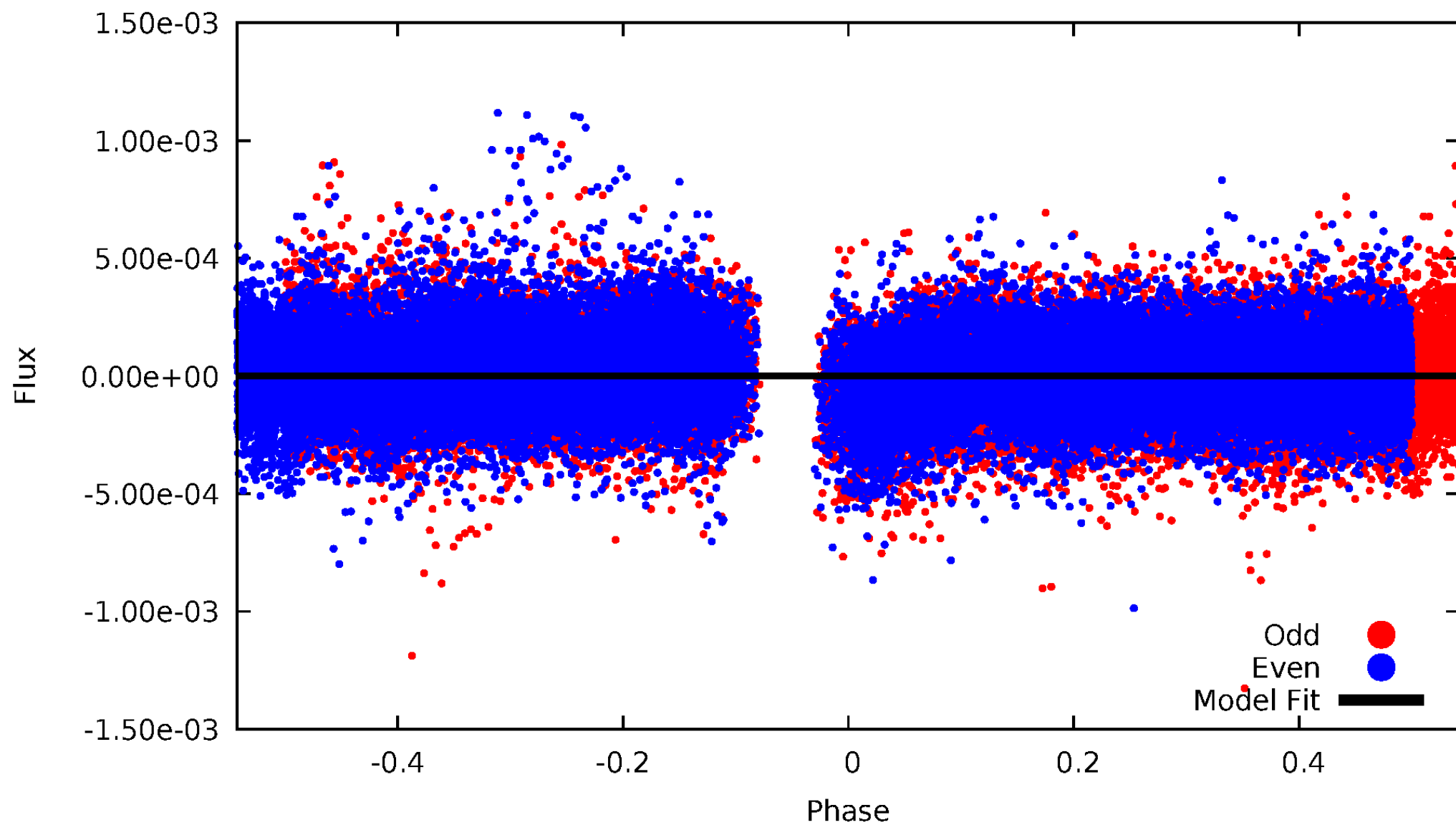


TCE 008710207-02



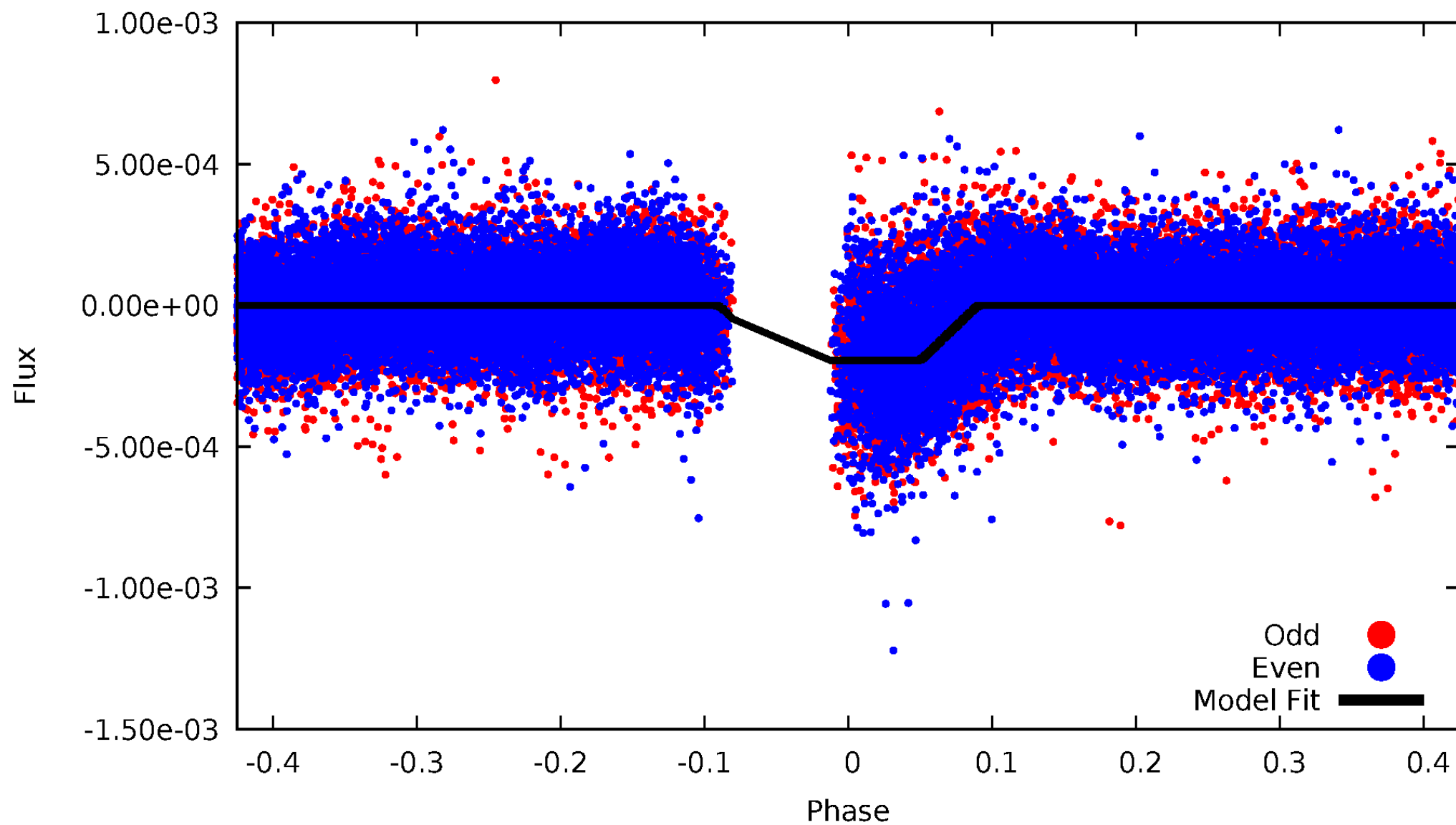
DV Odd/Even

TCE 008710207-02



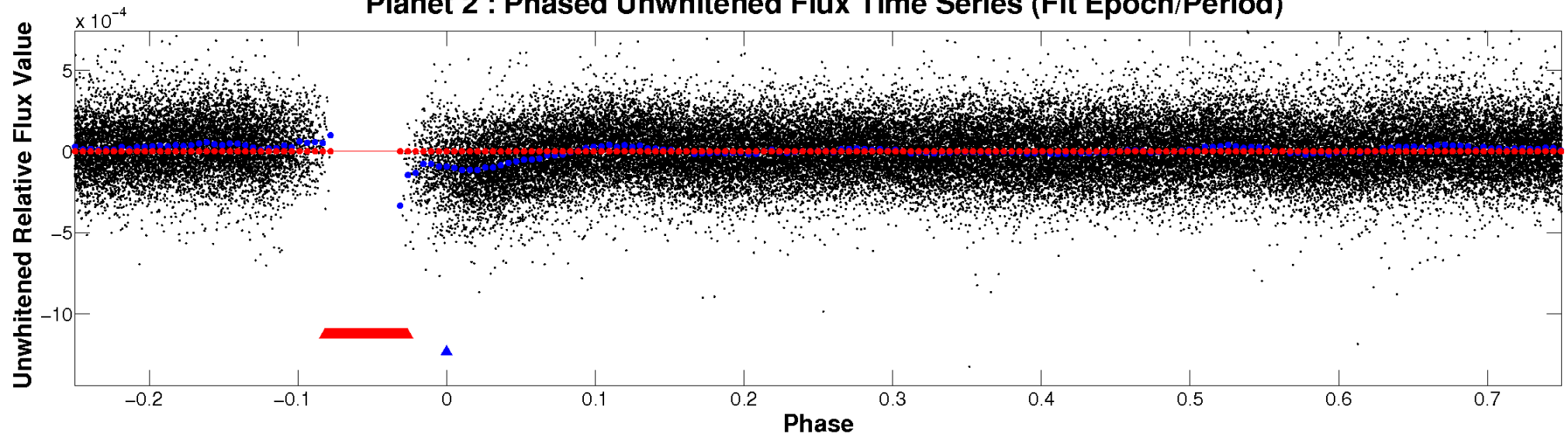
ALT Odd/Even

TCE 008710207-02

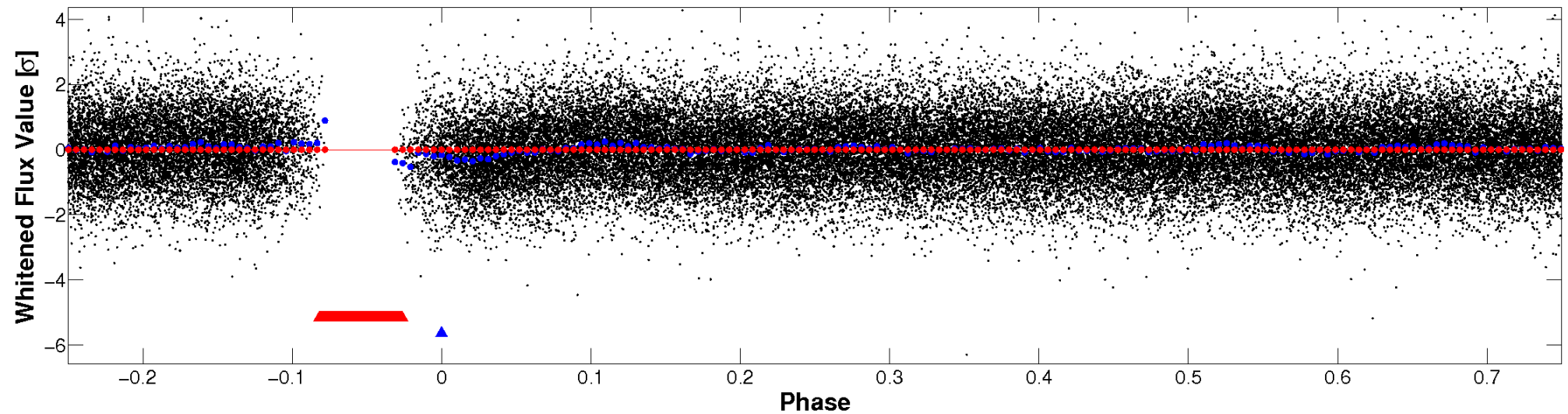


Non-Whitened Vs. Whitened Light Curve

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

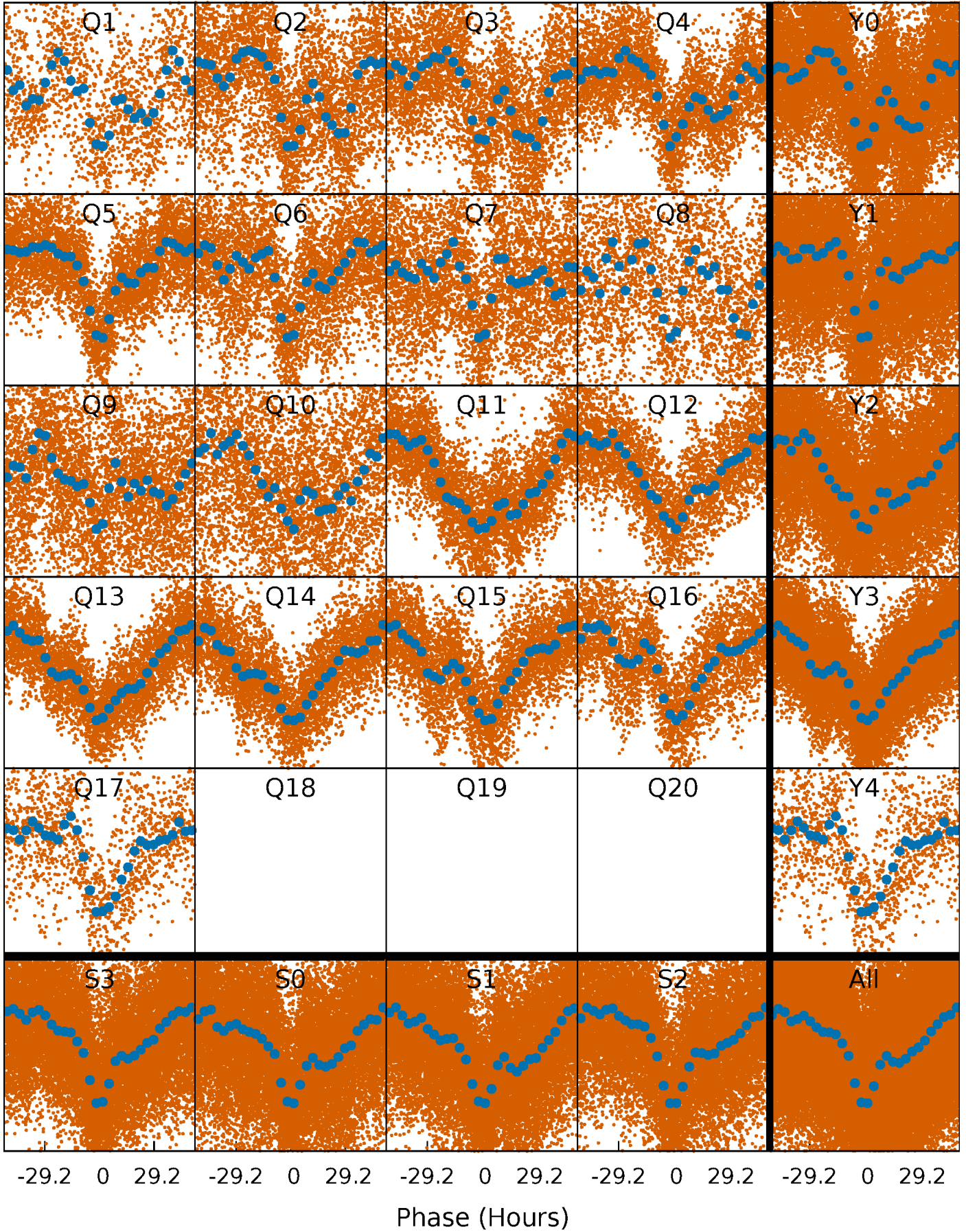


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



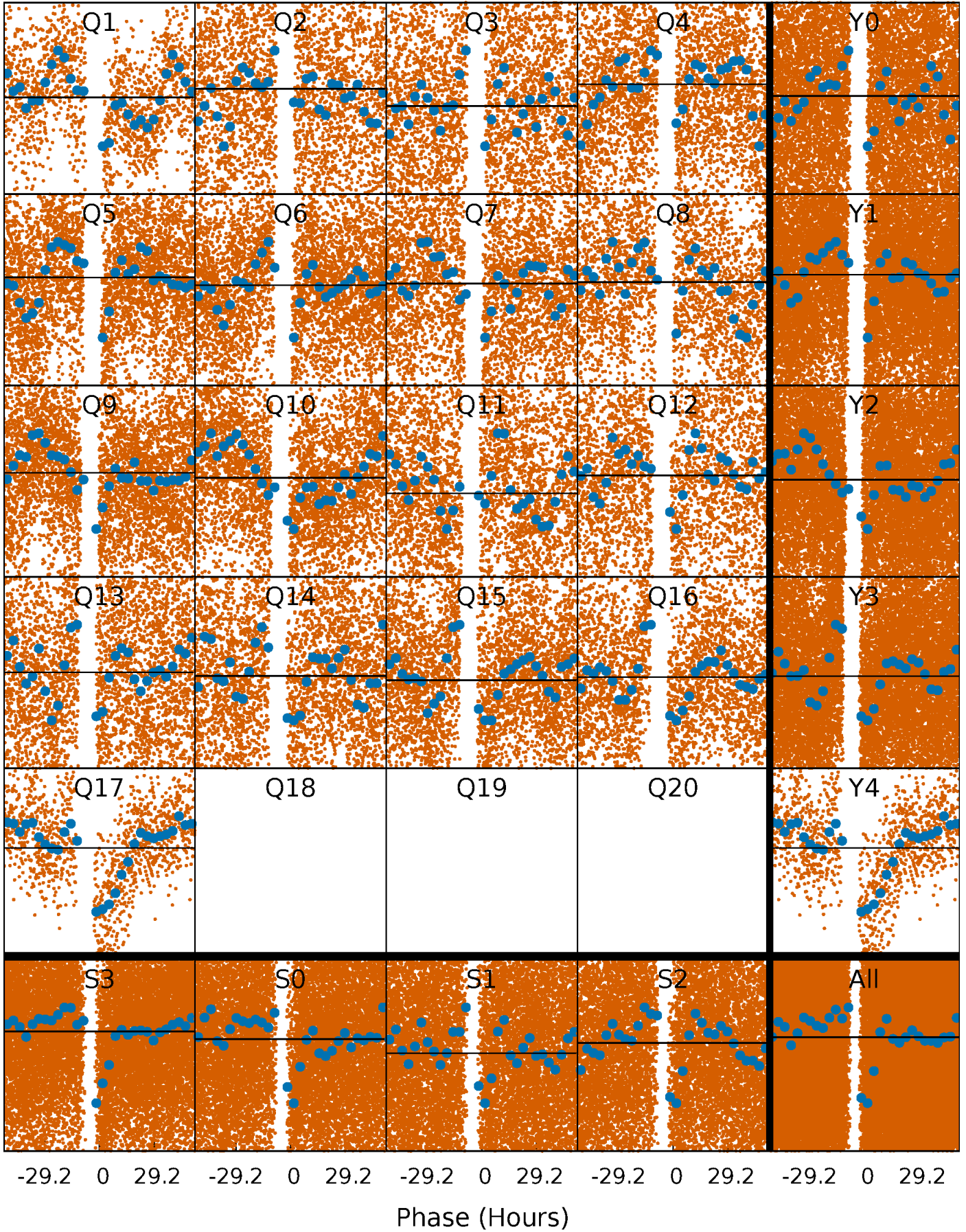
PDC Quarter-Phased Transit Curves

TCE 008710207-02 P= 3.925865 Days $T_0=131.747452$ (BKJD)



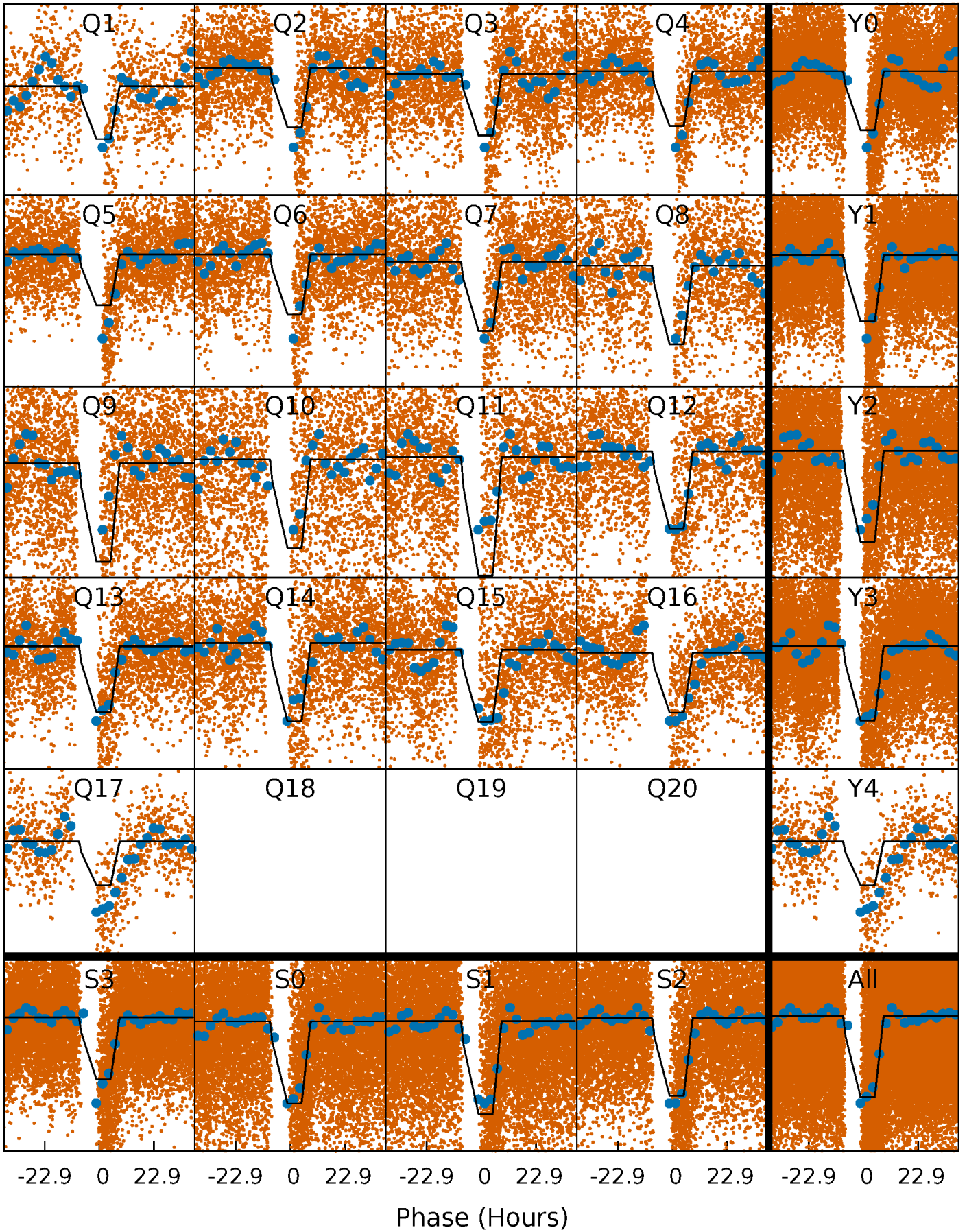
DV Quarter-Phased Transit Curves

TCE 008710207-02 P= 3.925865 Days $T_0=131.747452$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

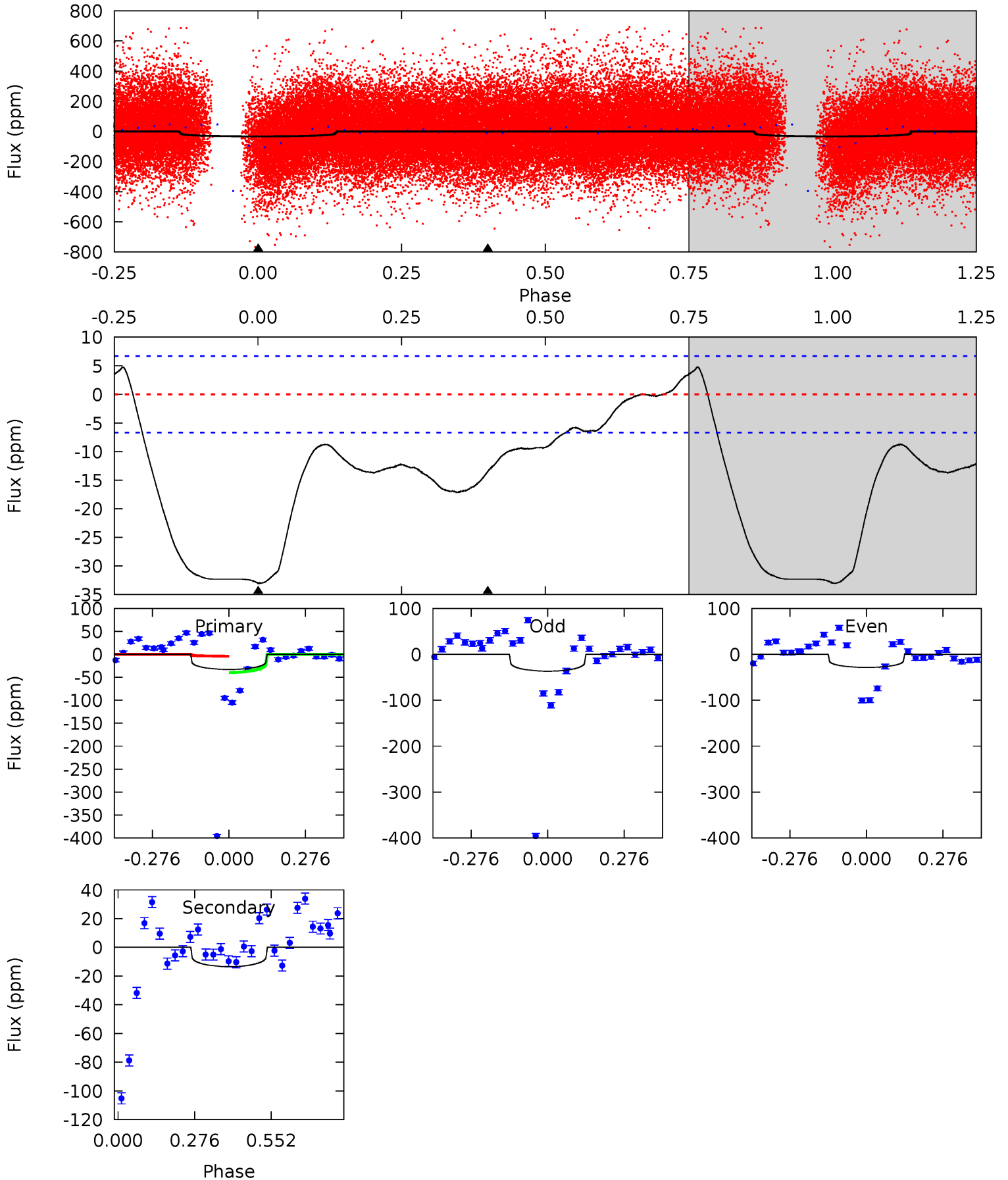
TCE 008710207-02 P= 3.925662 Days $T_0=131.754391$ (BKJD)



DV Model-Shift Uniqueness Test

008710207-02, P = 3.925865 Days, E = 131.747452 Days

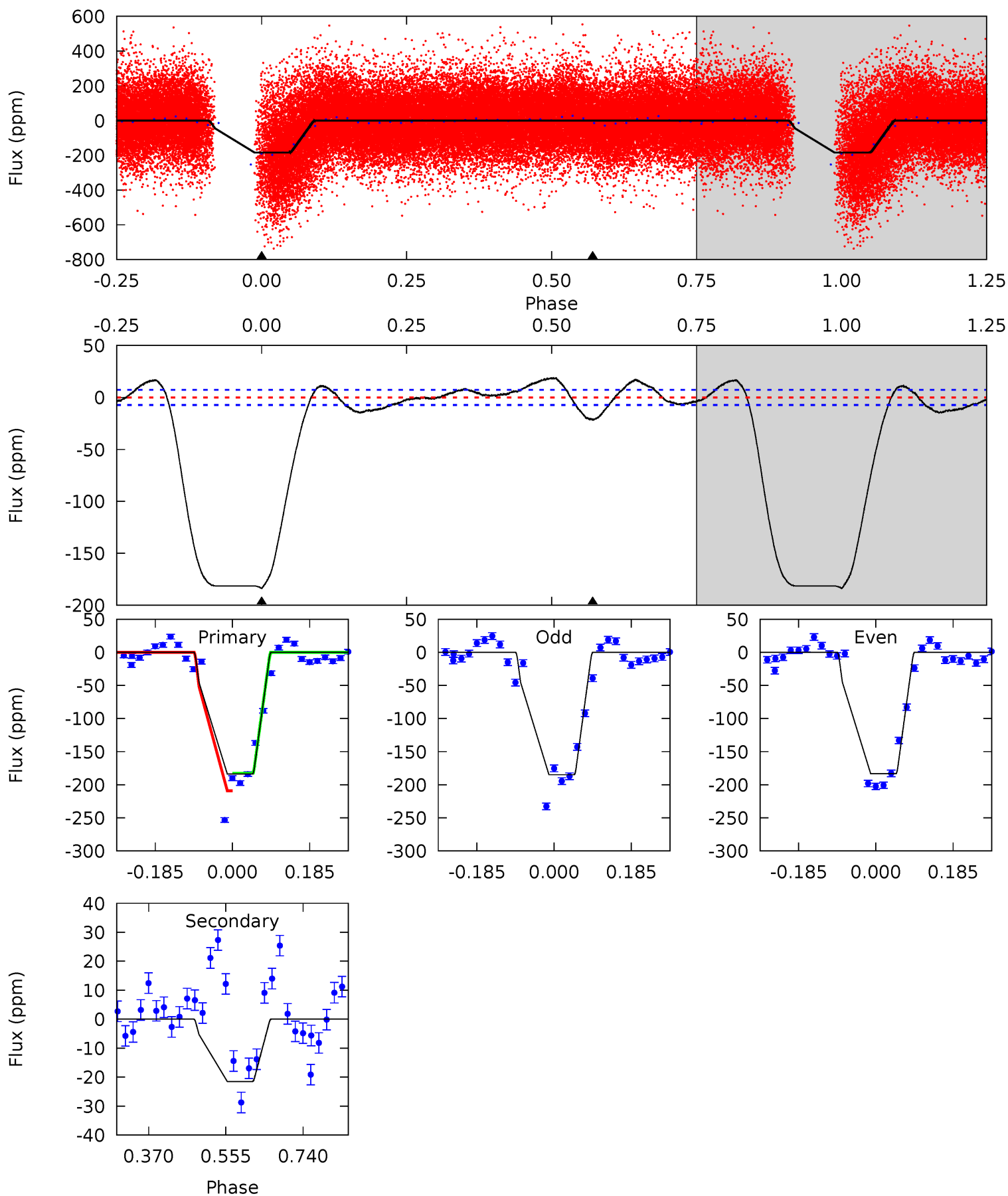
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.5	8.77	0	0	4.35	1.09	0.68	21.5	21.5	8.77	8.77	2.67	1.18	0.13	9.26



Alt Model-Shift Uniqueness Test

008710207-02, P = 3.925662 Days, E = 131.754391 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
110.8	13.0	0	0	4.43	1.33	4.32	110.8	110.8	13.0	13.0	0.45	0.97	0.09	3.56



Stellar Parameters For KIC 008710207

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6343^{+173}_{-193}	$3.865^{+0.273}_{-0.117}$	$-0.020^{+0.300}_{-0.250}$	$2.339^{+0.441}_{-0.819}$	$1.465^{+0.202}_{-0.302}$	$0.161^{+0.309}_{-0.060}$
	+3%/-3%	+7%/-3%	+1500%/-1250%	+19%/-35%	+14%/-21%	+191%/-37%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008710207-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-13 ± 2	$2.08^{+2.15}_{-1.44}$	2509^{+179}_{-216}	4316^{+3423}_{-1021}	$5.215^{+52.070}_{-3.995}$
Alt.	-22 ± 2	$3.79^{+2.92}_{-2.28}$	2516^{+168}_{-211}	3745^{+1572}_{-755}	$2.431^{+12.970}_{-1.620}$

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 $A_{obs} \gg 1.0$

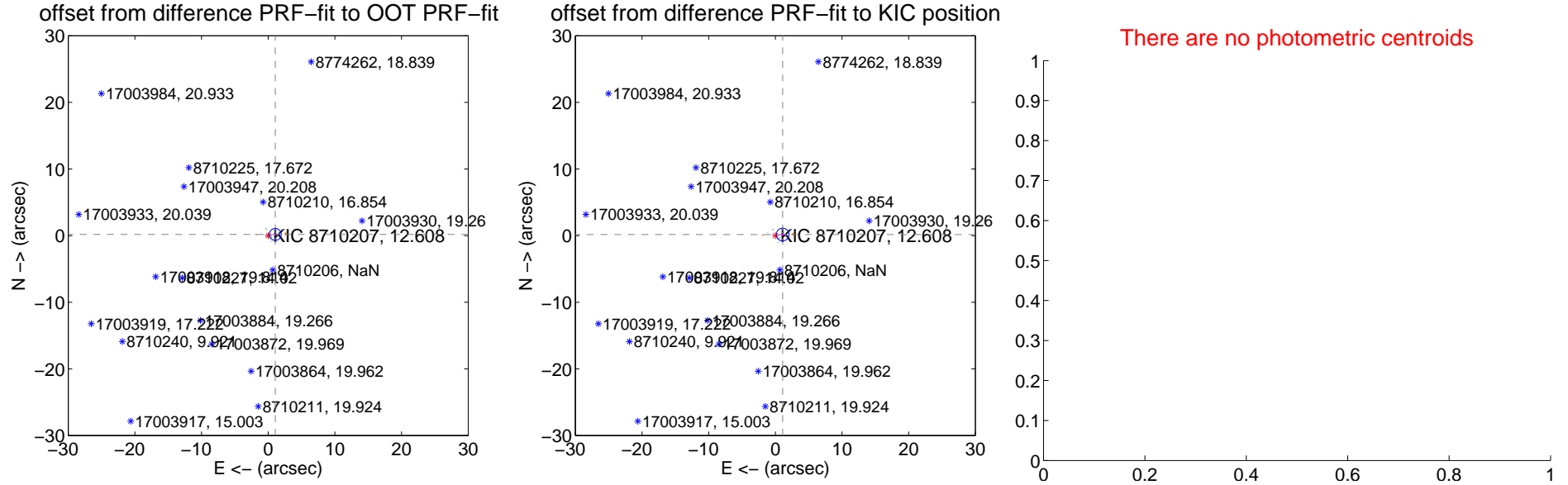
DV Centroid Data

Supplemental centroid analysis for 008710207-02. Kepler magnitude: 12.61. Transit SNR 0.00

There are 14 quarters with good PRF difference image offsets

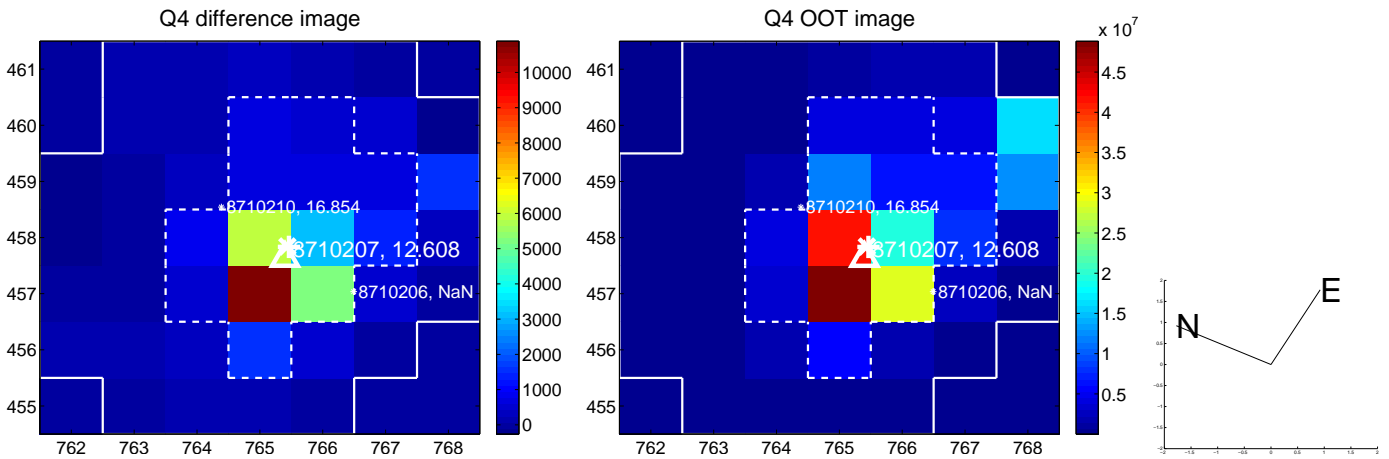
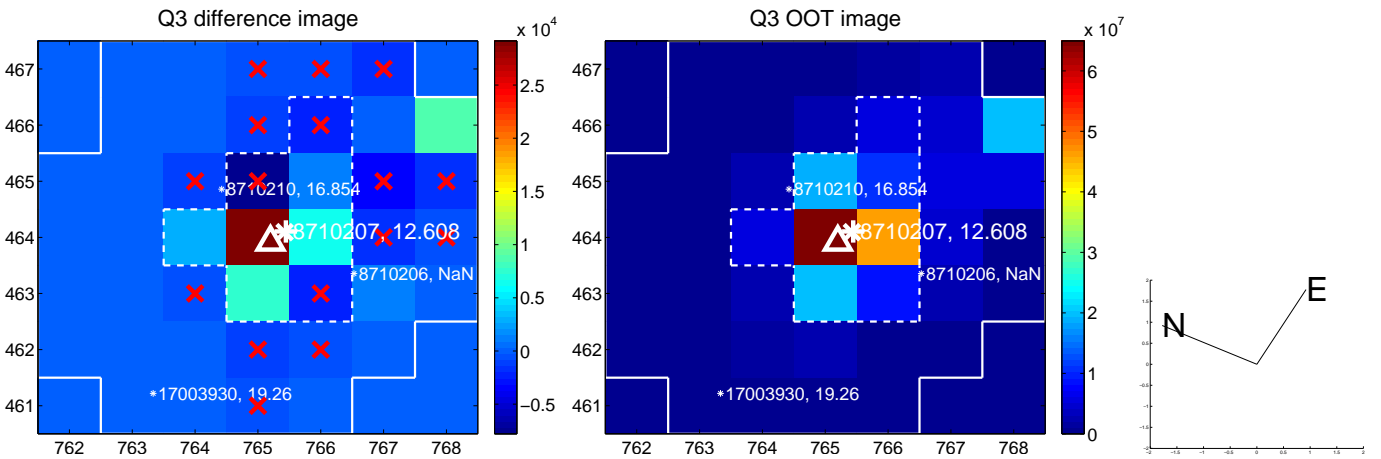
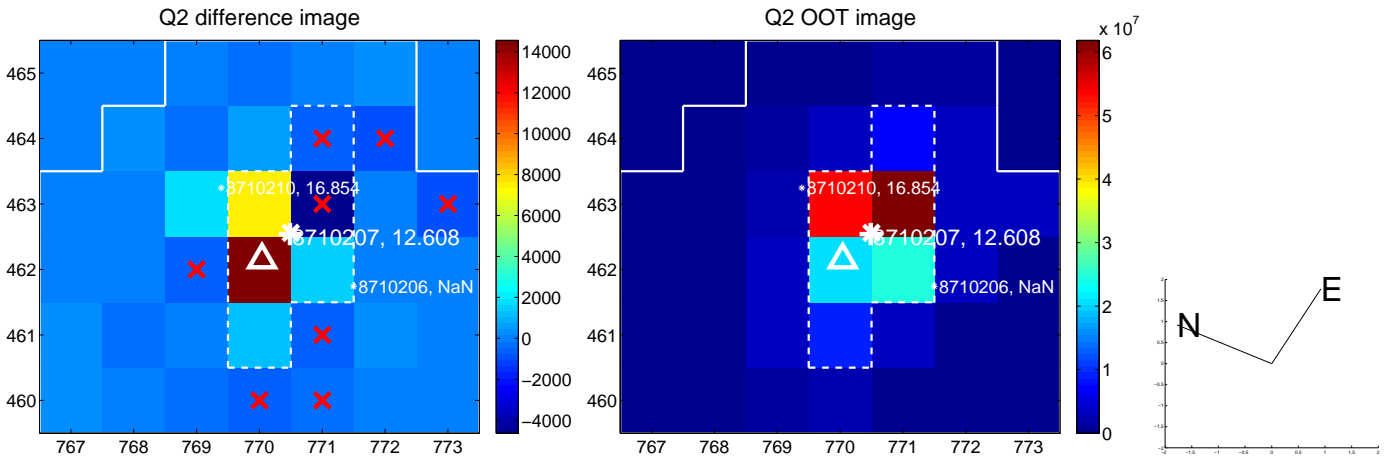
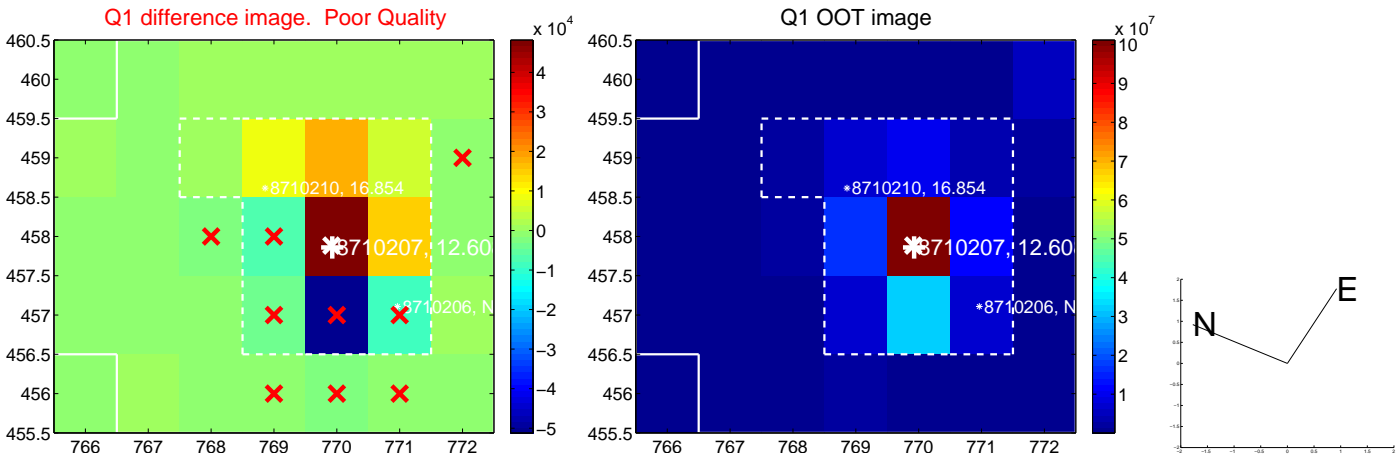
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.080 ± 0.297	3.63	-1.065 ± 0.300	0.183 ± 0.123
PRF-fit source offset from KIC position	1.109 ± 0.318	3.49	-1.097 ± 0.319	0.164 ± 0.144
photometric centroid source offset	—	—	—	—

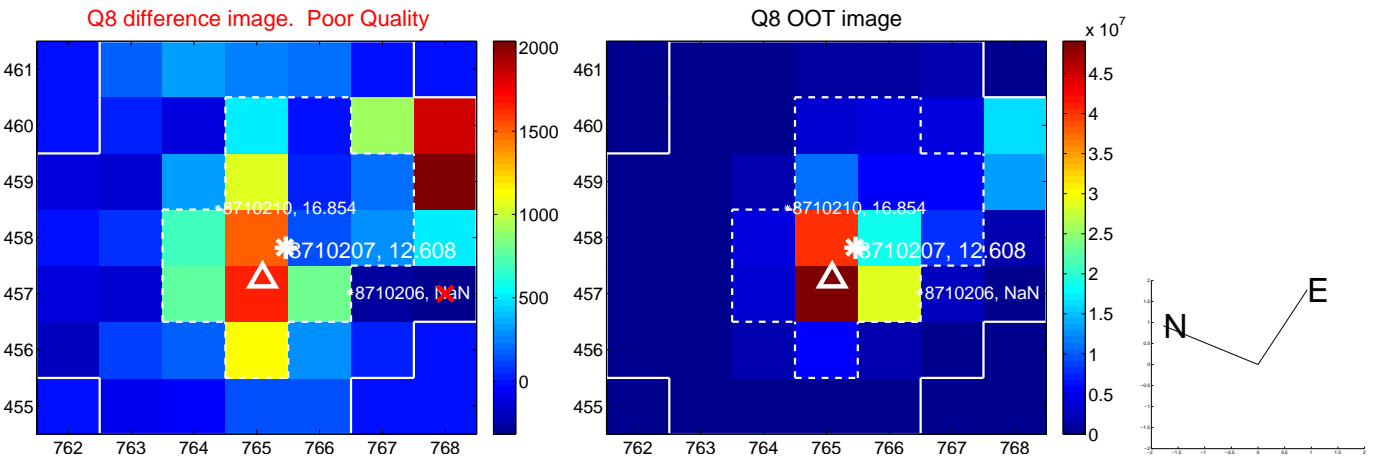
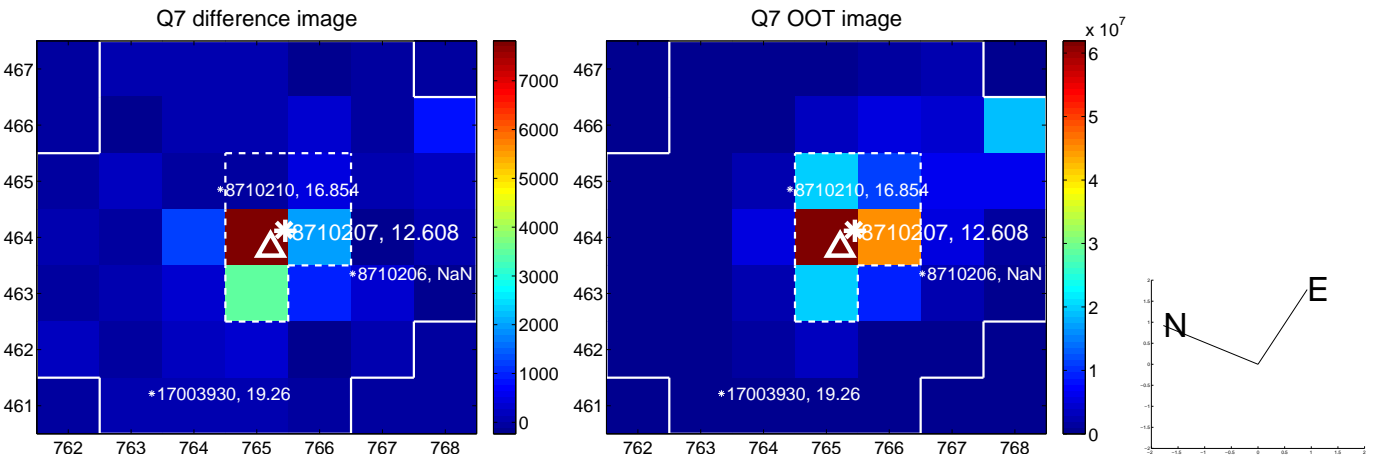
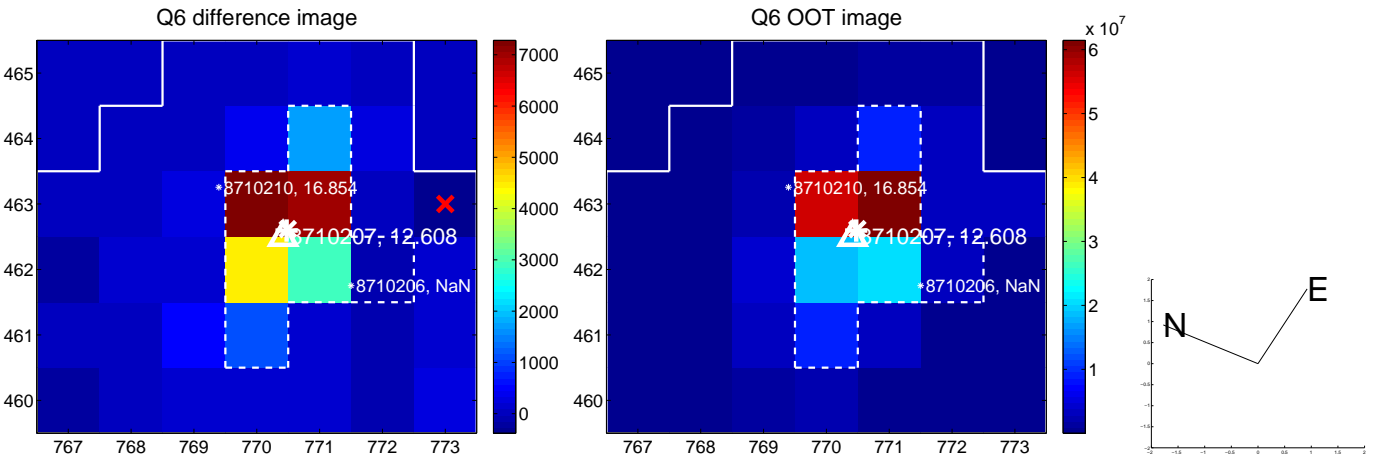
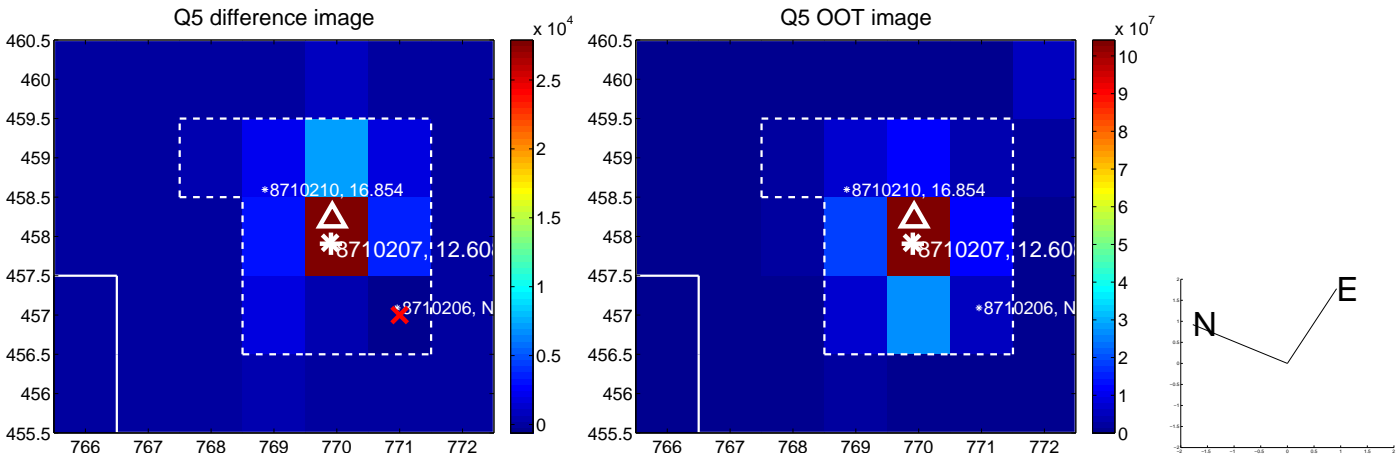


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

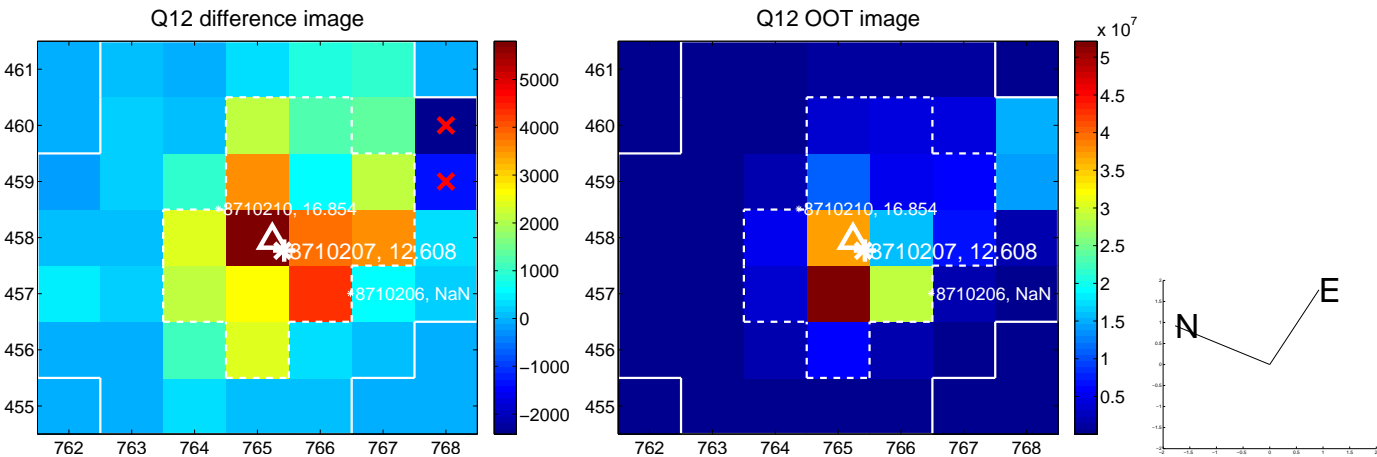
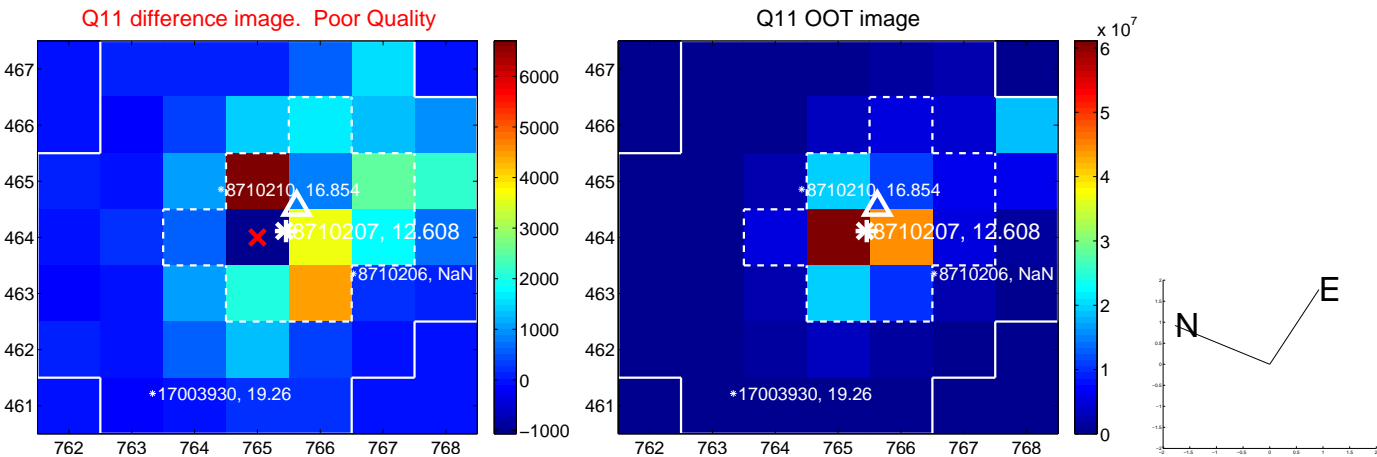
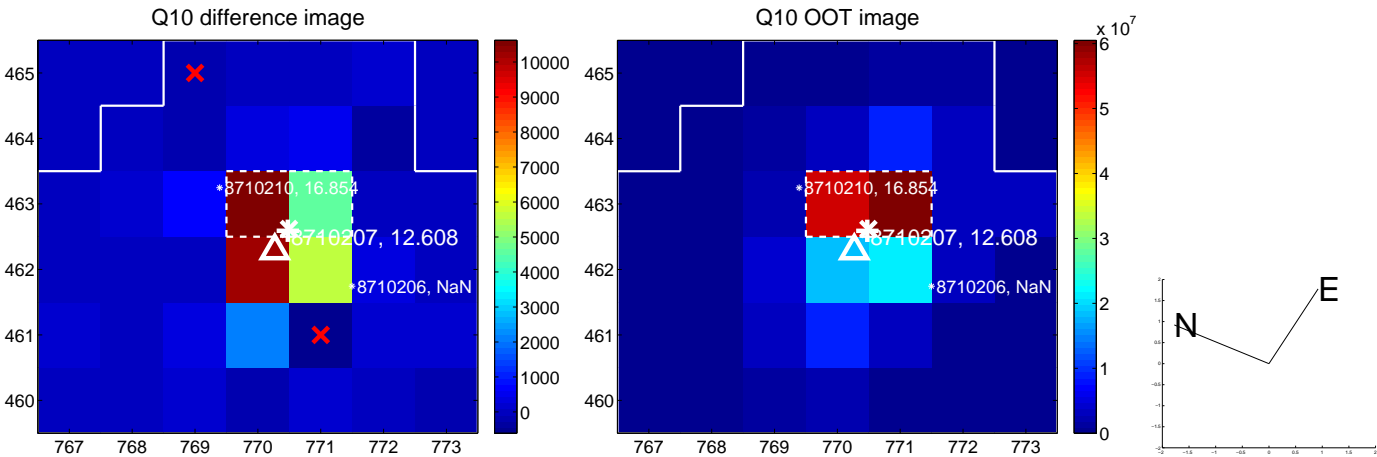
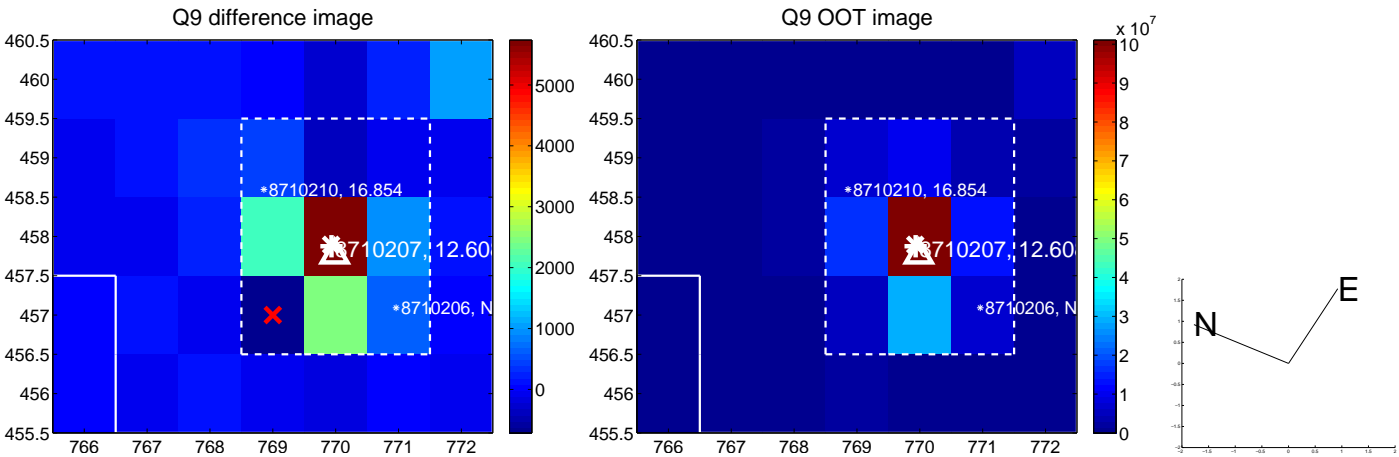
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



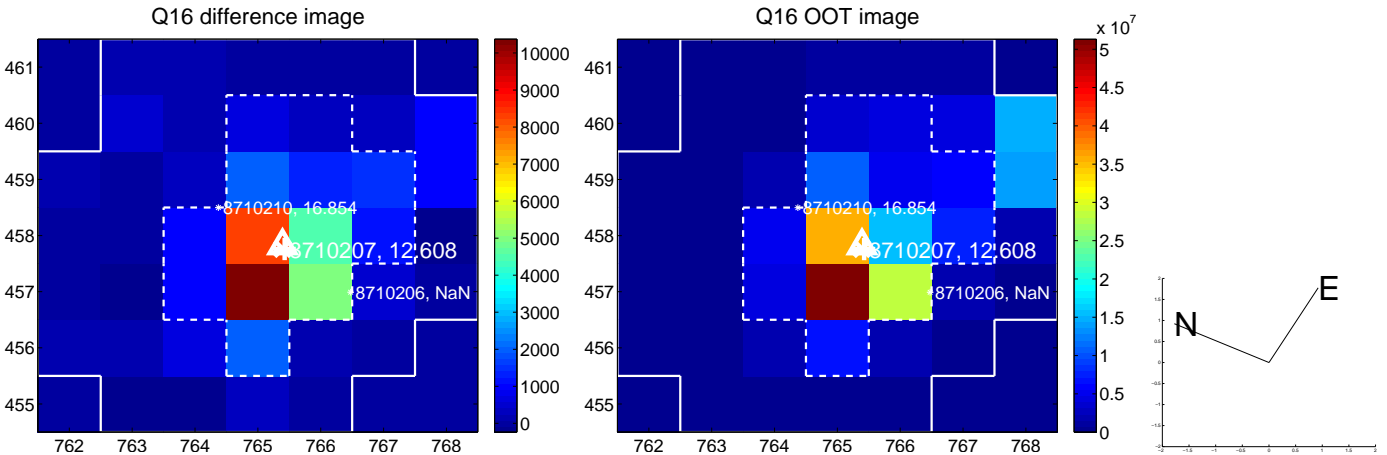
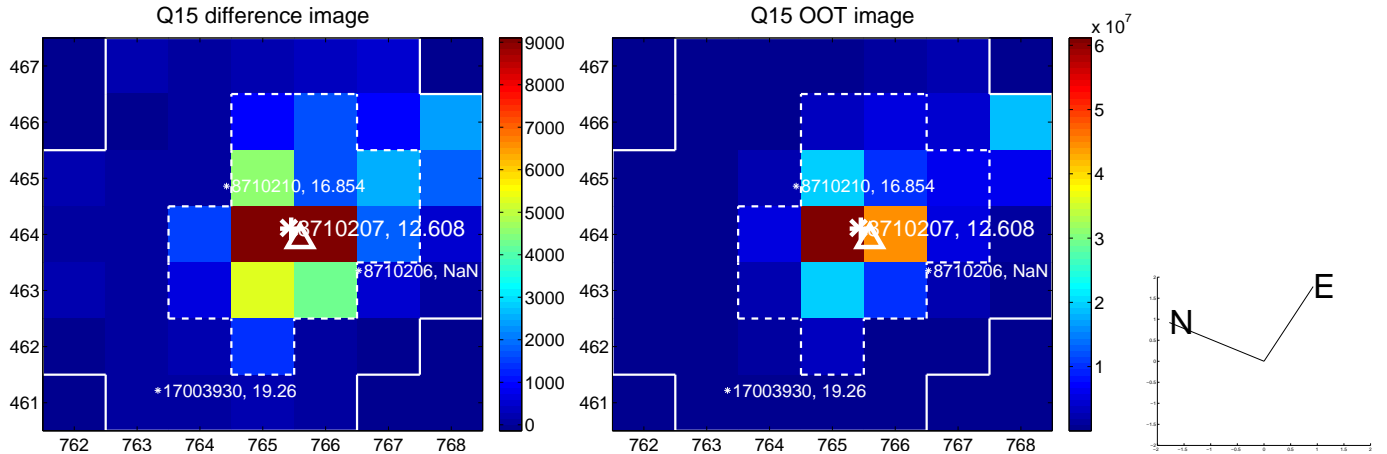
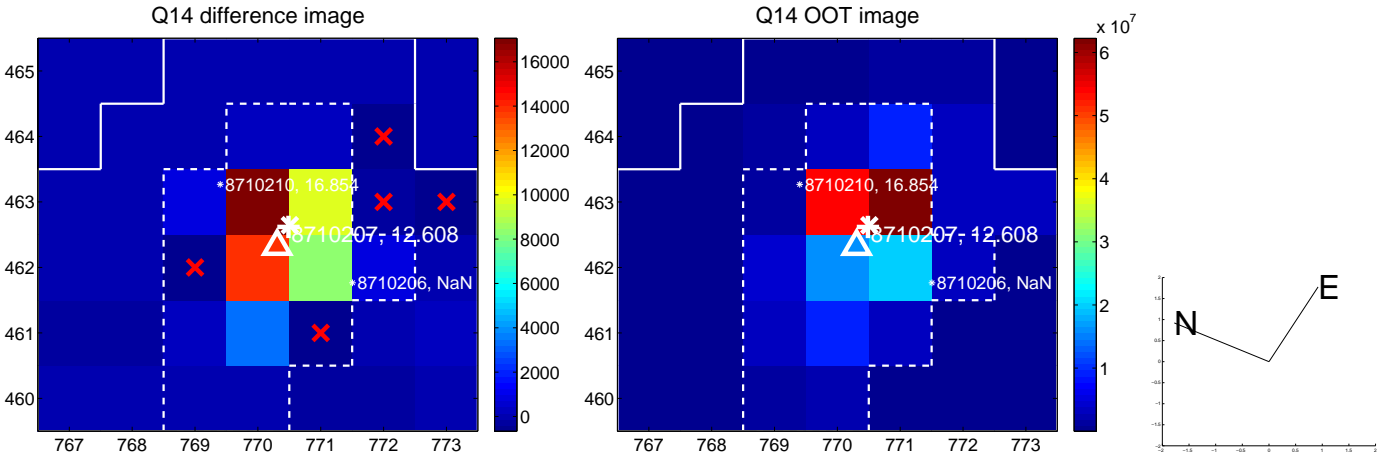
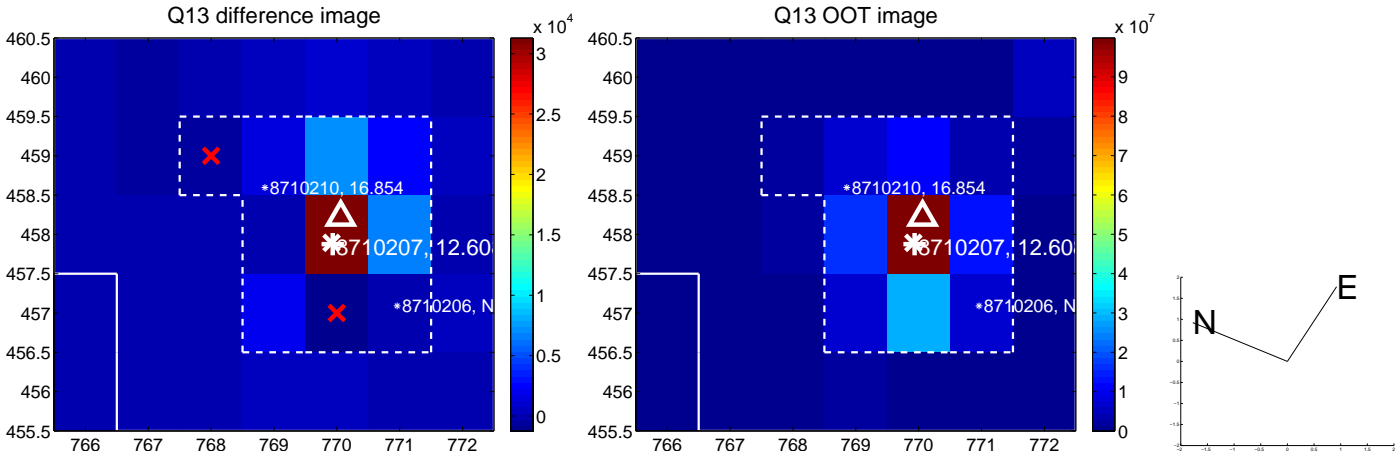
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



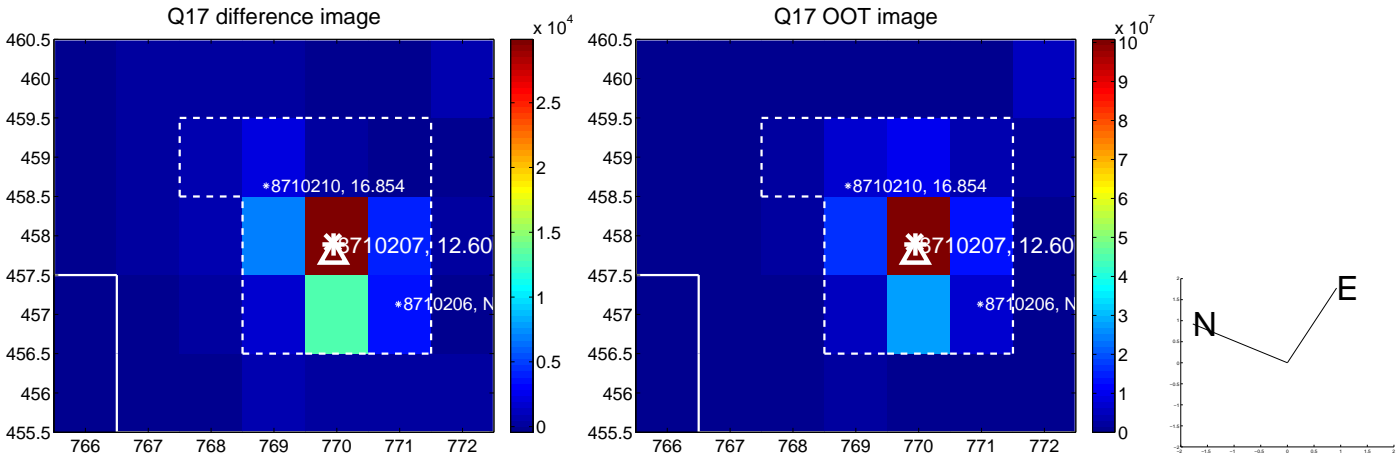
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



folded centroid time series figure for this object.

UKIRT Image

