

KIC 006720720

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})
006720720-01	OBS	No	5.463563	131.551861	62.8	15.000	13.5	-1.0	2.31	7855	1.86	3279.09
006720720-02	OBS	No	10.927122	133.399008	47.2	22.865	10.9	14.3	2.31	7855	1.65	1301.31
006720720-03	OBS	No	10.928091	138.314997	35.2	20.316	7.7	10.3	2.31	7855	1.56	1301.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006720720-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
006720720-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
006720720-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—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.

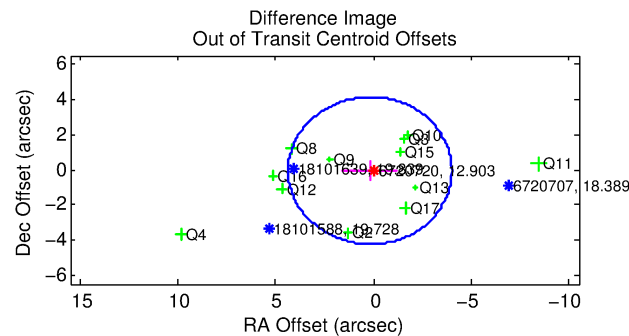
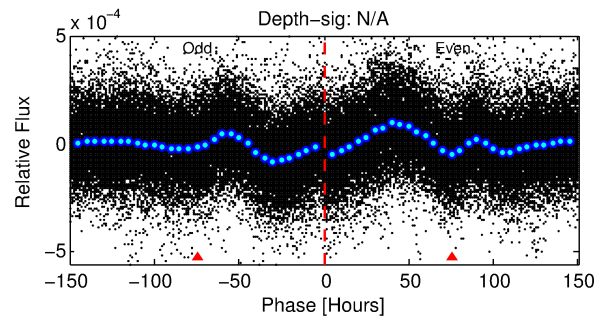
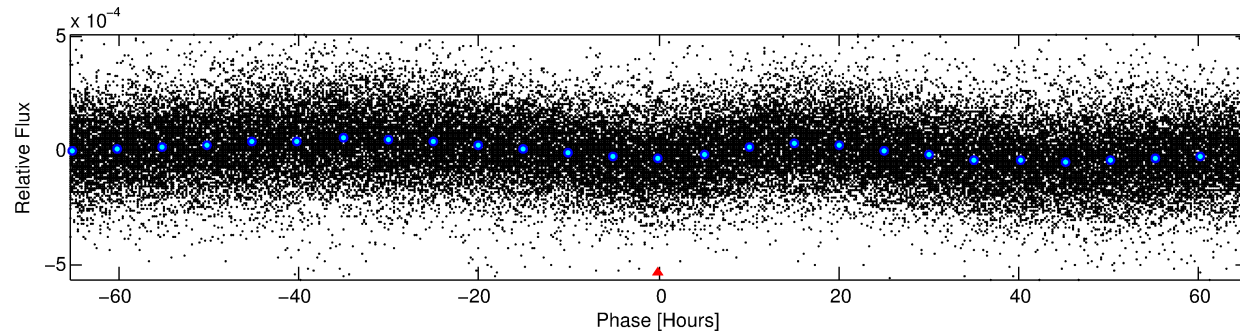
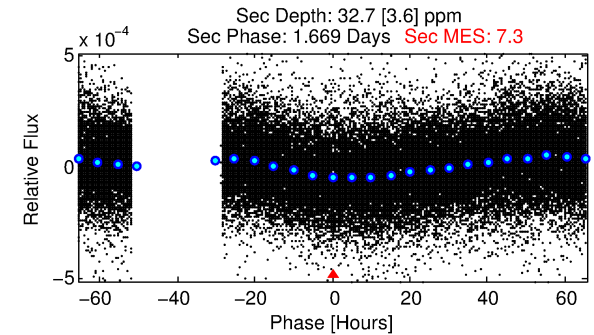
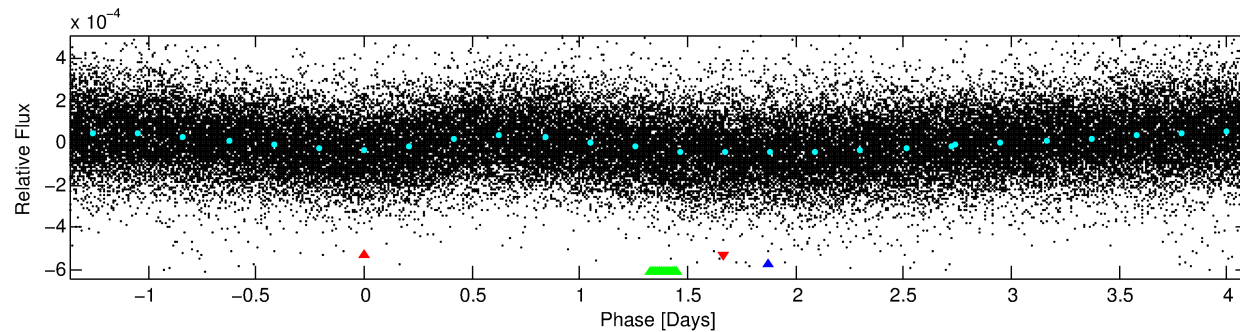
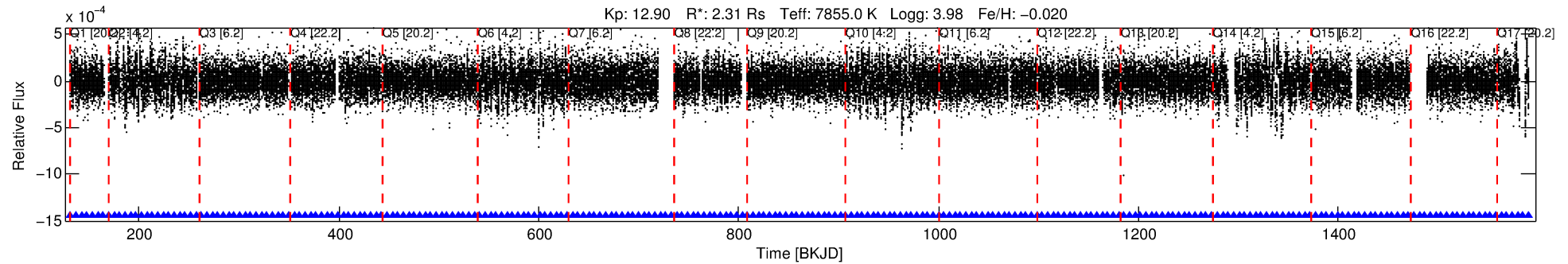
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006720720-01

No Significant Match Found

DV One-Page Summary

KIC: 6720720 Candidate: 1 of 3 Period: 5.464 d



TPS TCE Results:

Period = 5.46356 d
Epoch = 131.5519 BKJD

DV fit results are unavailable

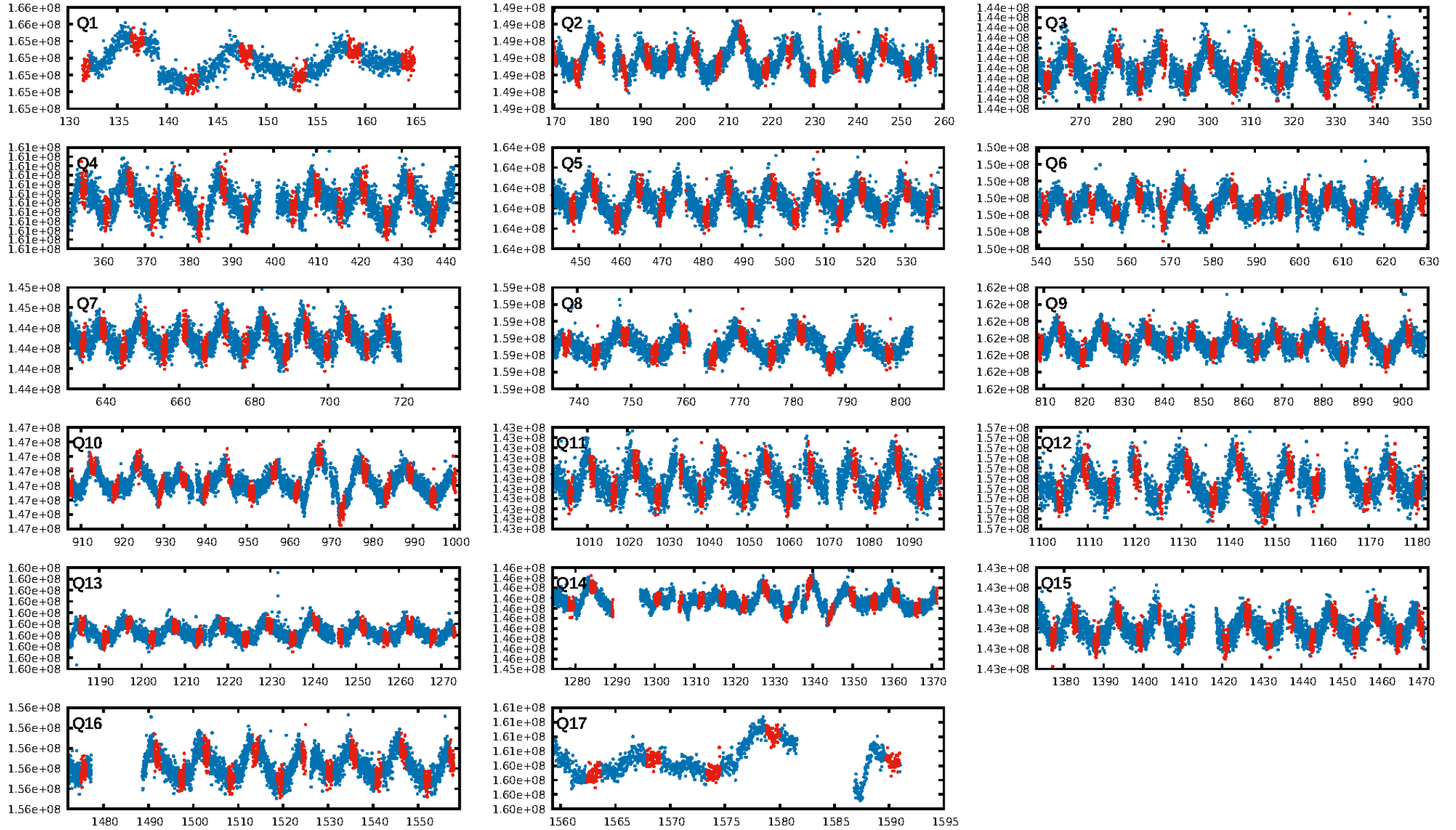
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [4.805]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.04e-43
RollingBand-fgt: 1.00 [239/239]
GhostDiagnostic-chr: 2.429
Centroid-sig: 78.2%
Centroid-so: 0.193 arcsec [0.365]
OotOffset-rm: 0.188 arcsec [0.135]
KicOffset-rm: 0.150 arcsec [0.135]
OotOffset-st: 2/3/4/3 [12]
KicOffset-st: 2/3/4/3 [12]
DiffImageQuality-fgm: 0.33 [4/12]
DiffImageOverlap-fno: 0.00 [0/17]

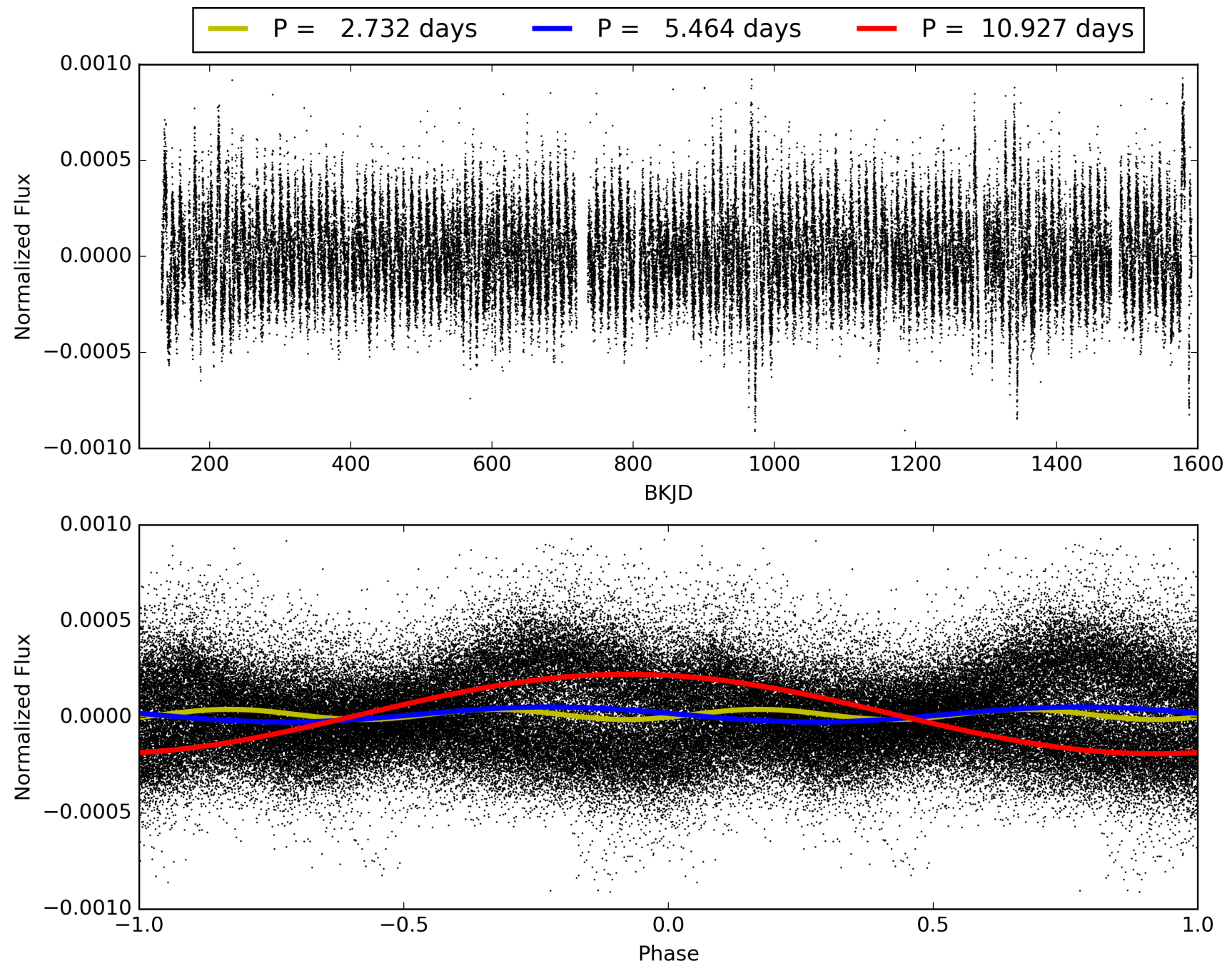
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:43:06 Z

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

TCE 006720720-01, PDC Light Curves

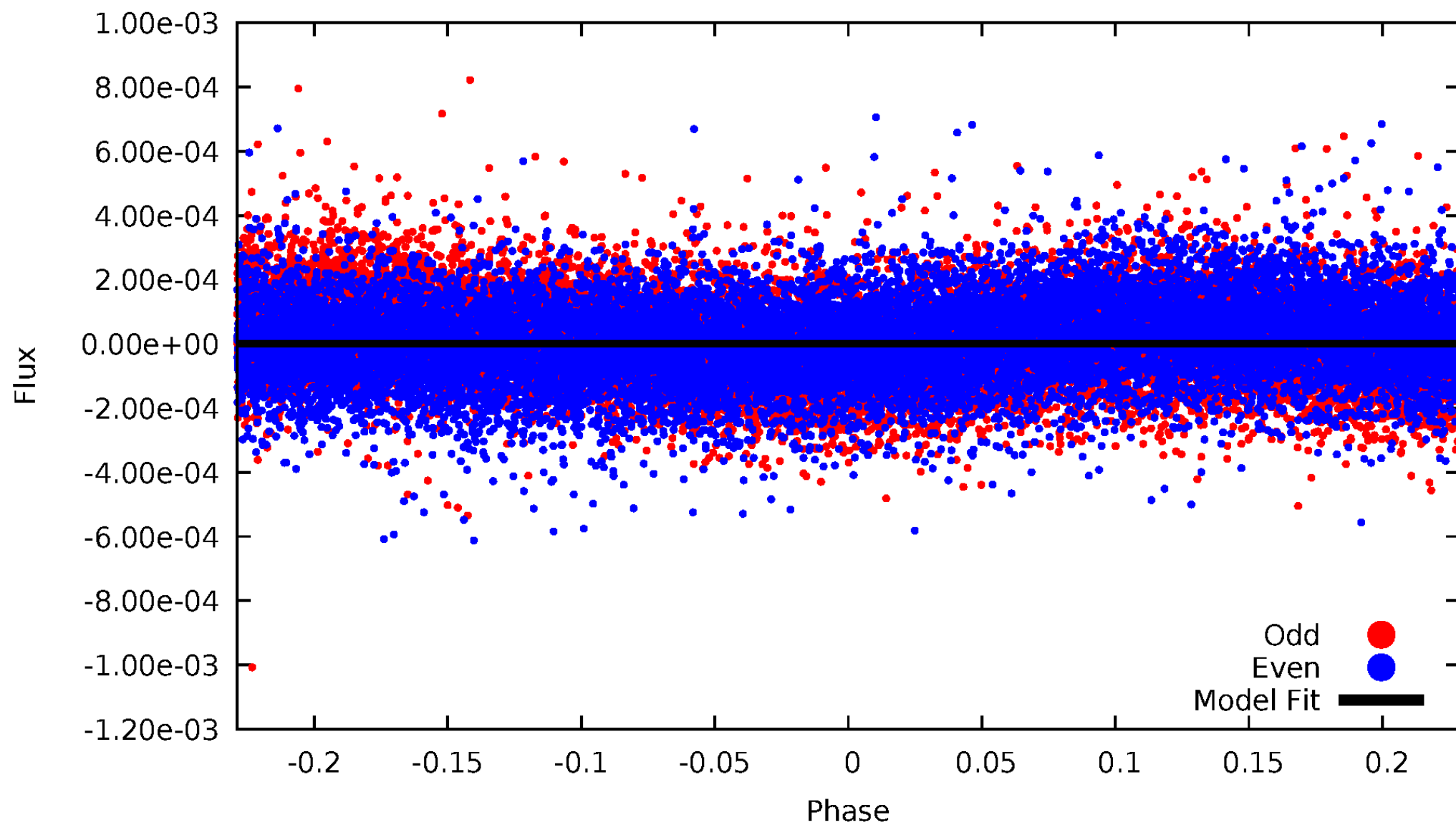


TCE 006720720-01



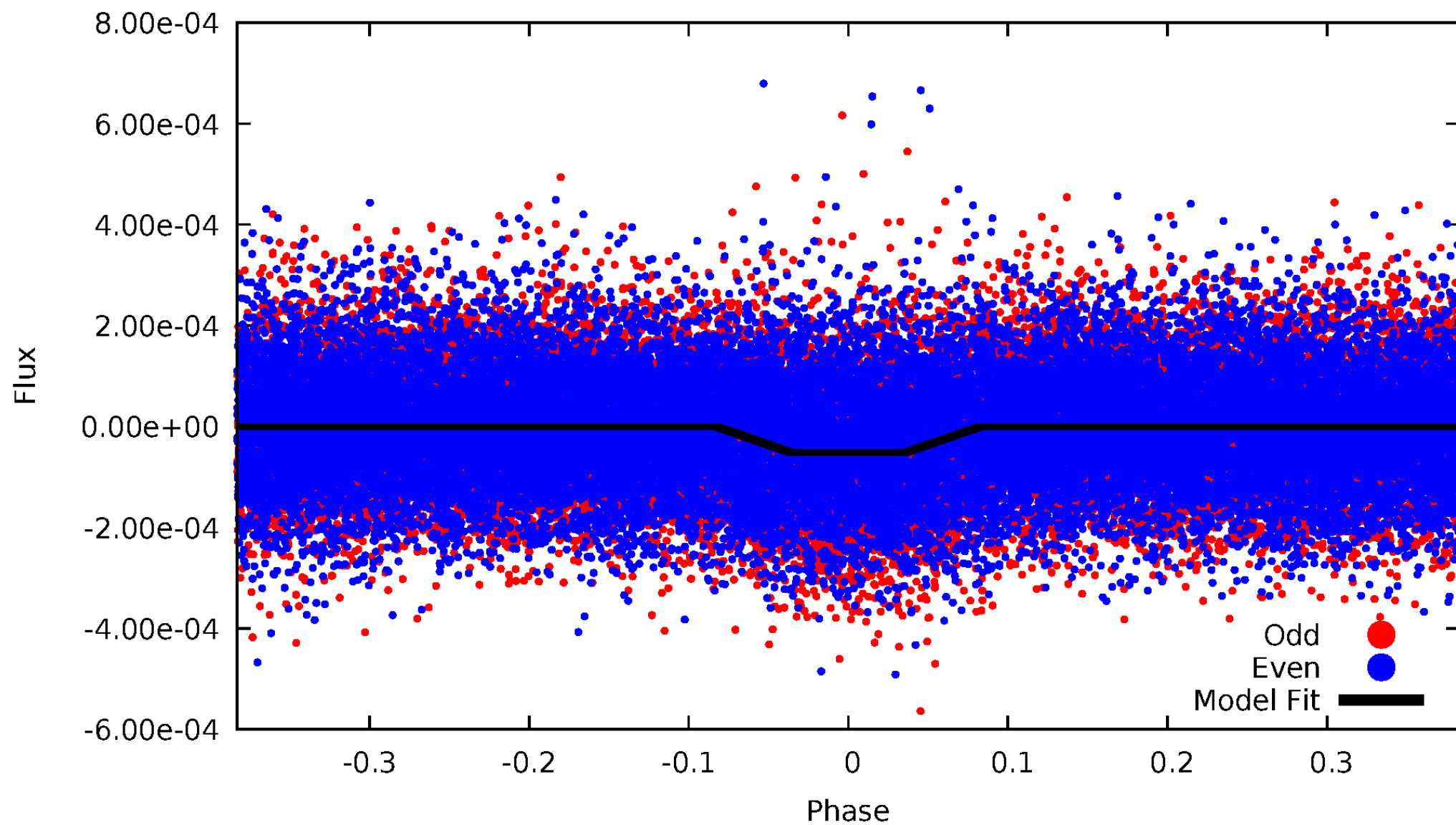
DV Odd/Even

TCE 006720720-01



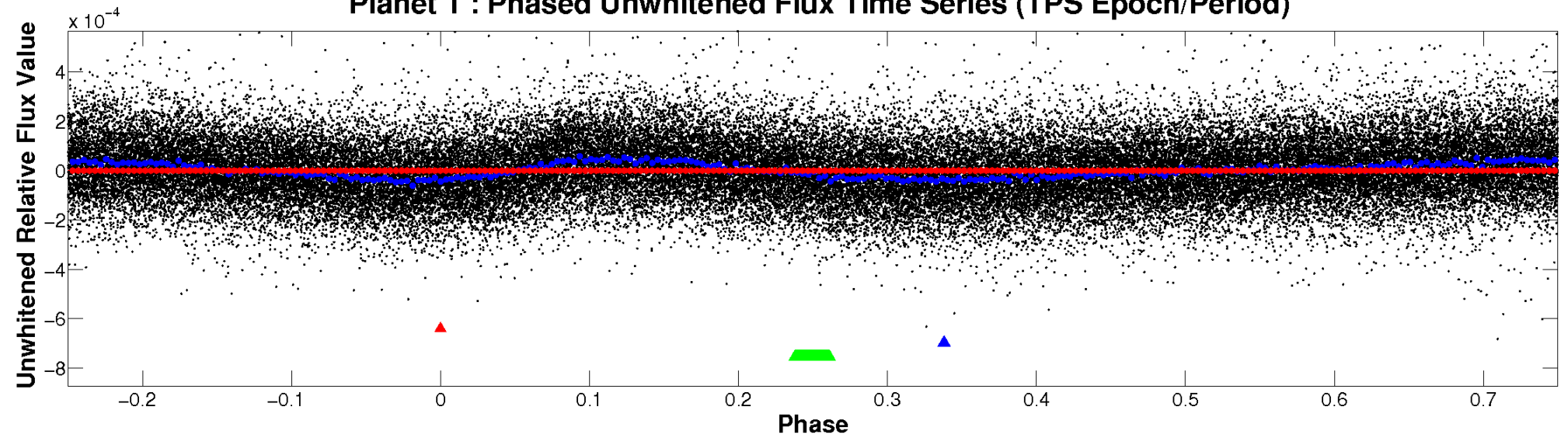
ALT Odd/Even

TCE 006720720-01

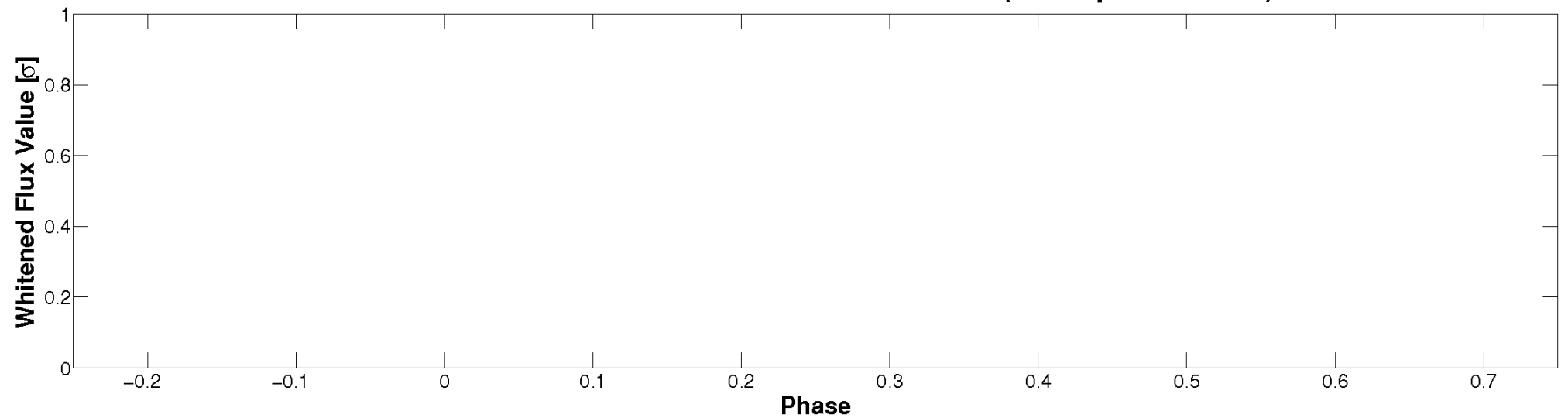


Non-Whitened Vs. Whitened Light Curve

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

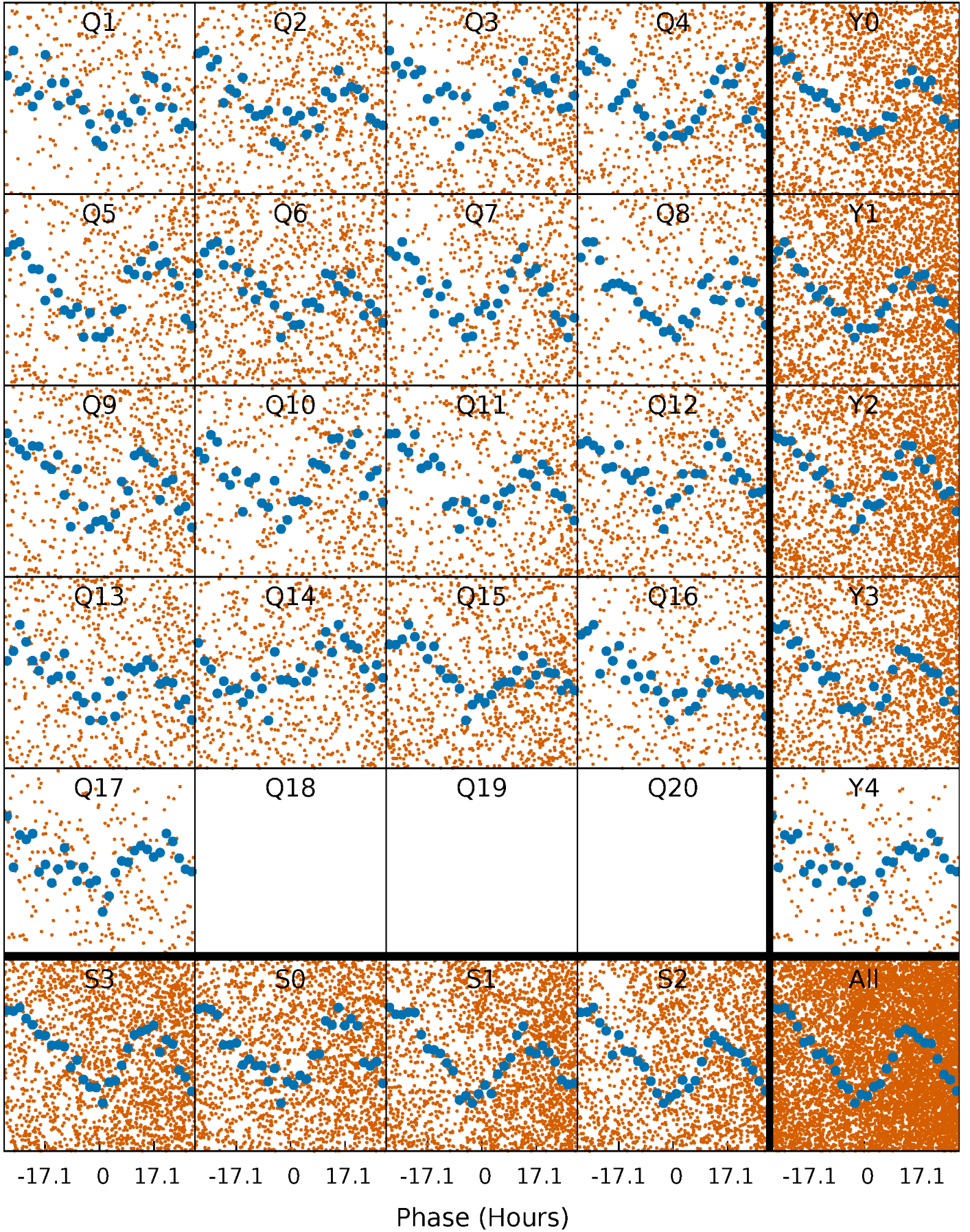


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



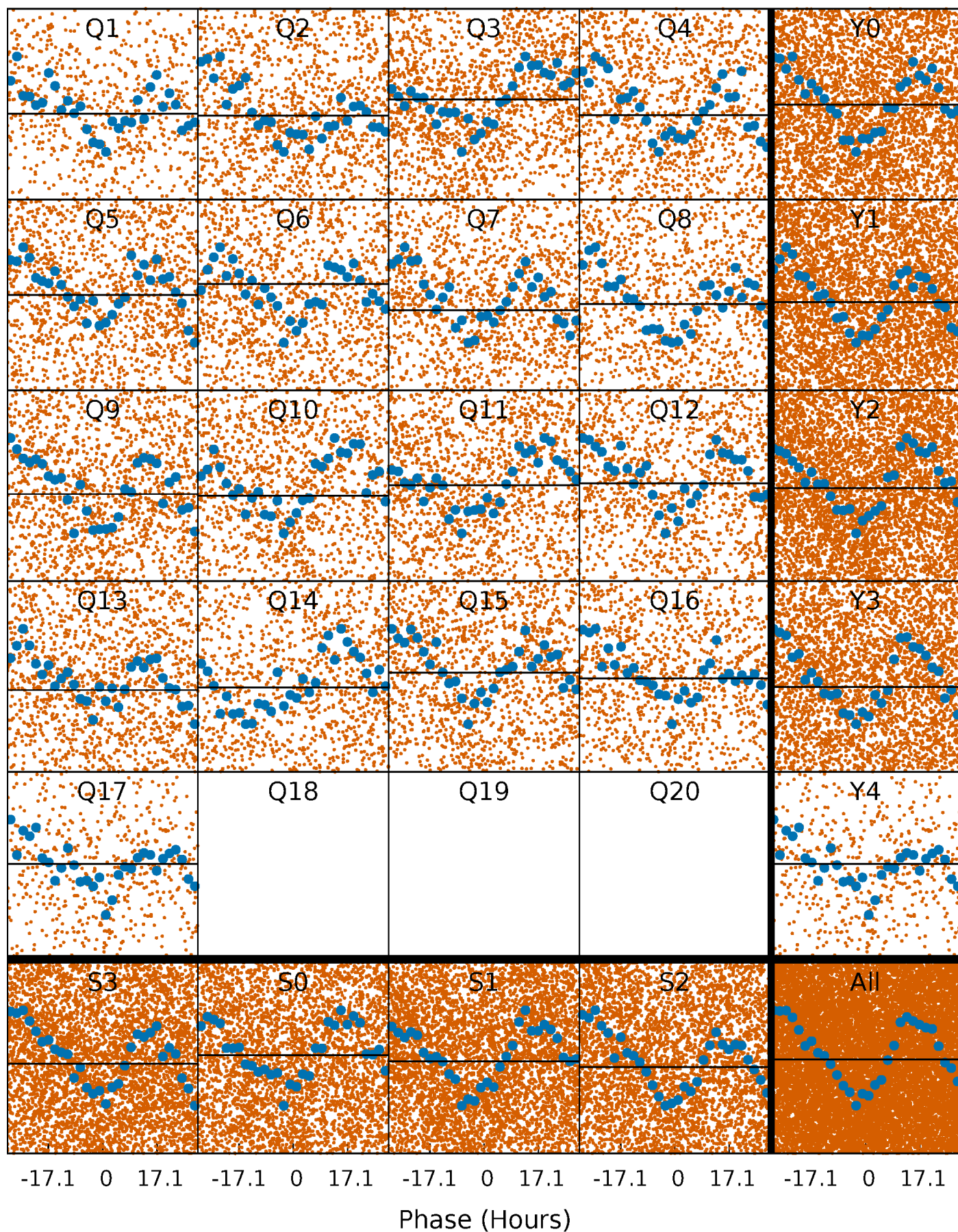
PDC Quarter-Phased Transit Curves

TCE 006720720-01 P= 5.463563 Days $T_0=131.551861$ (BKJD)



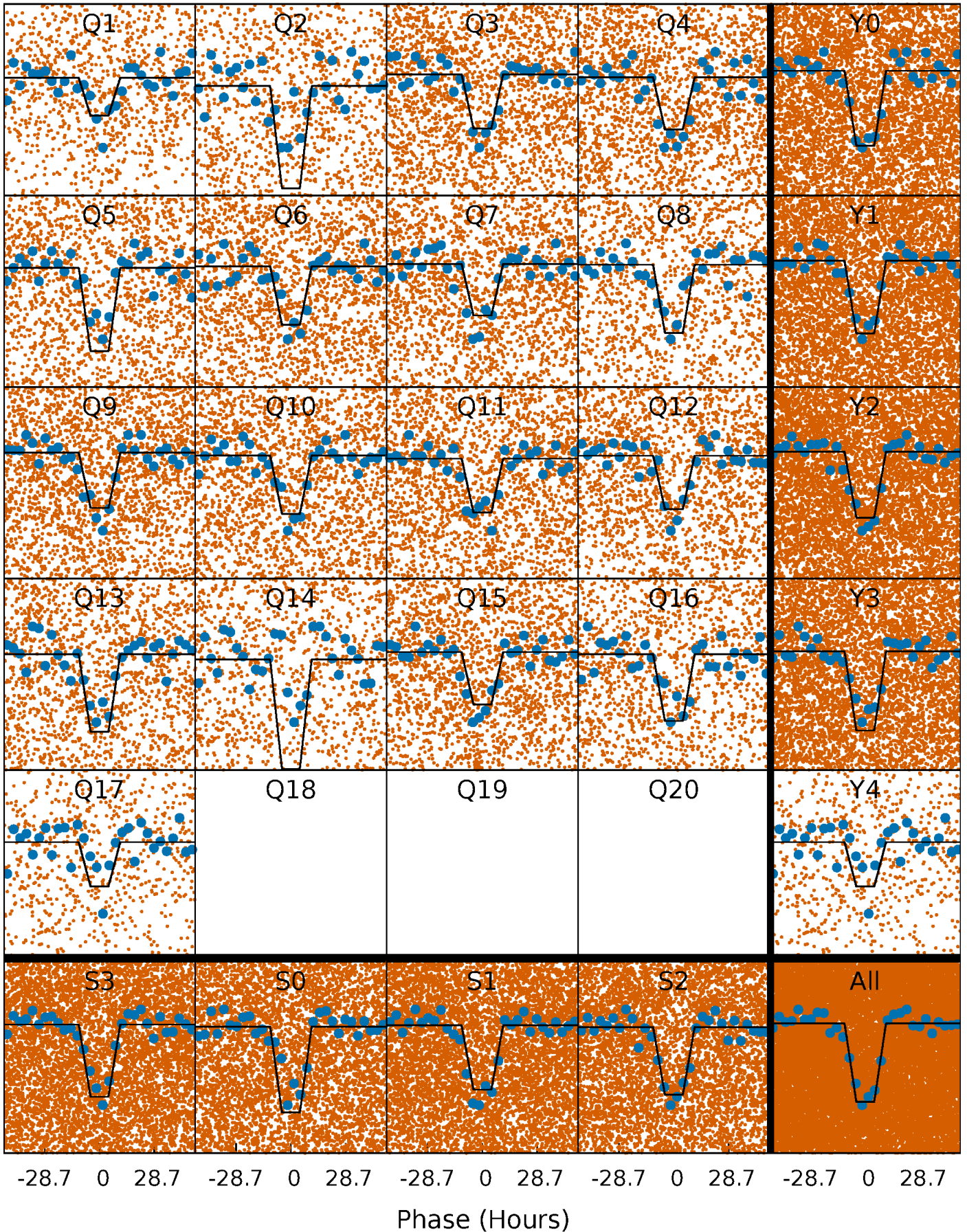
DV Quarter-Phased Transit Curves

TCE 006720720-01 P= 5.463563 Days $T_0=131.551861$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

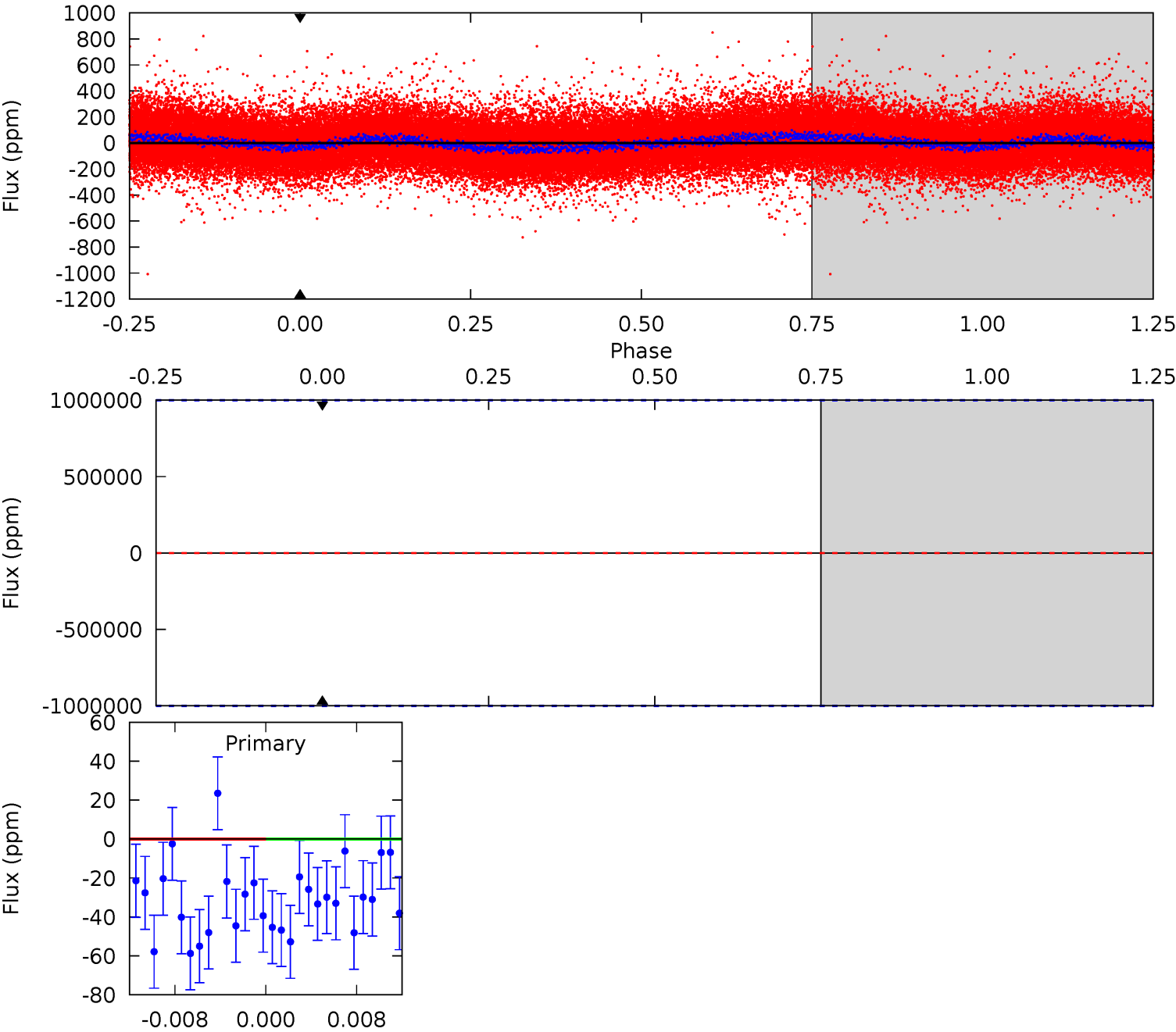
TCE 006720720-01 P= 5.463563 Days $T_0=131.526329$ (BKJD)



DV Model-Shift Uniqueness Test

006720720-01, P = 5.463563 Days, E = 126.088298 Days

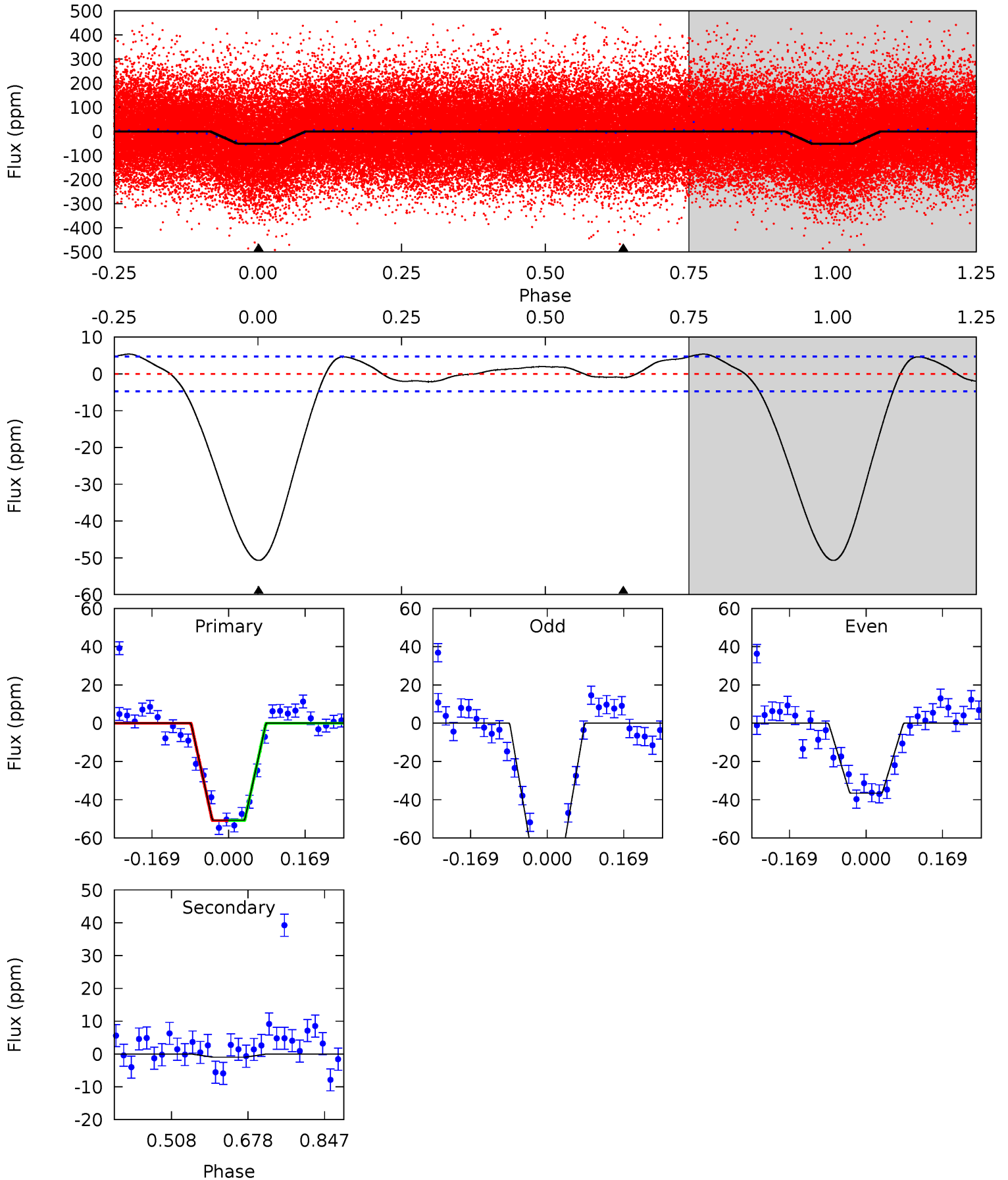
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006720720-01, P = 5.463563 Days, E = 126.062766 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
47.8	0.92	0	0	4.45	1.37	1.61	47.8	47.8	0.92	0.92	13.8	0.79	0.10	0.05



Stellar Parameters For KIC 006720720

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	7855^{+216}_{-324}	$3.978^{+0.210}_{-0.140}$	$-0.020^{+0.200}_{-0.350}$	$2.314^{+0.452}_{-0.621}$	$1.855^{+0.123}_{-0.344}$	$0.211^{+0.284}_{-0.077}$
	+3%/-4%	+5%/-4%	+1000%/-1750%	+20%/-27%	+7%/-19%	+135%/-36%
Source	KIC0	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 006720720-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$18.24^{+19.51}_{-13.20}$	2679^{+175}_{-196}	6012^{+48758}_{-44431}	19^{+2110}_{-1458}
Alt.	-1 ± 1	$16.99^{+19.12}_{-12.18}$	2677^{+172}_{-206}	-2823^{+275}_{-123}	$0.008^{+0.134}_{-0.008}$

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

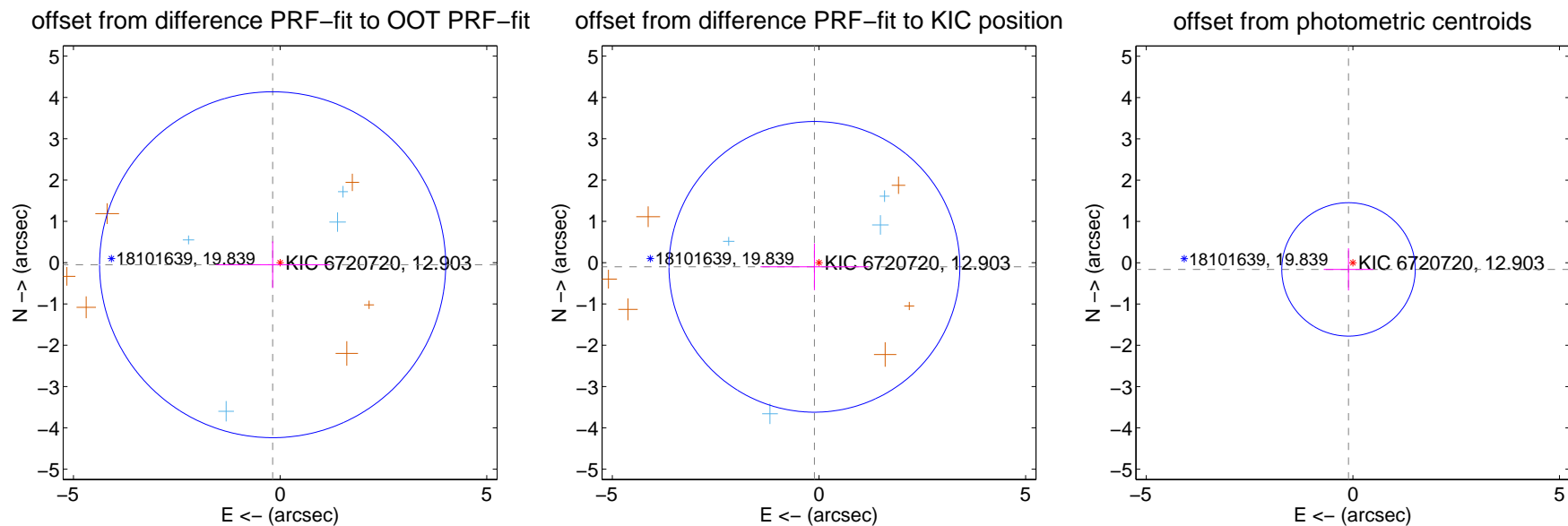
DV Centroid Data

Supplemental centroid analysis for 006720720-01. Kepler magnitude: 12.90. Transit SNR -1.00

There are 4 quarters with good PRF difference image offsets

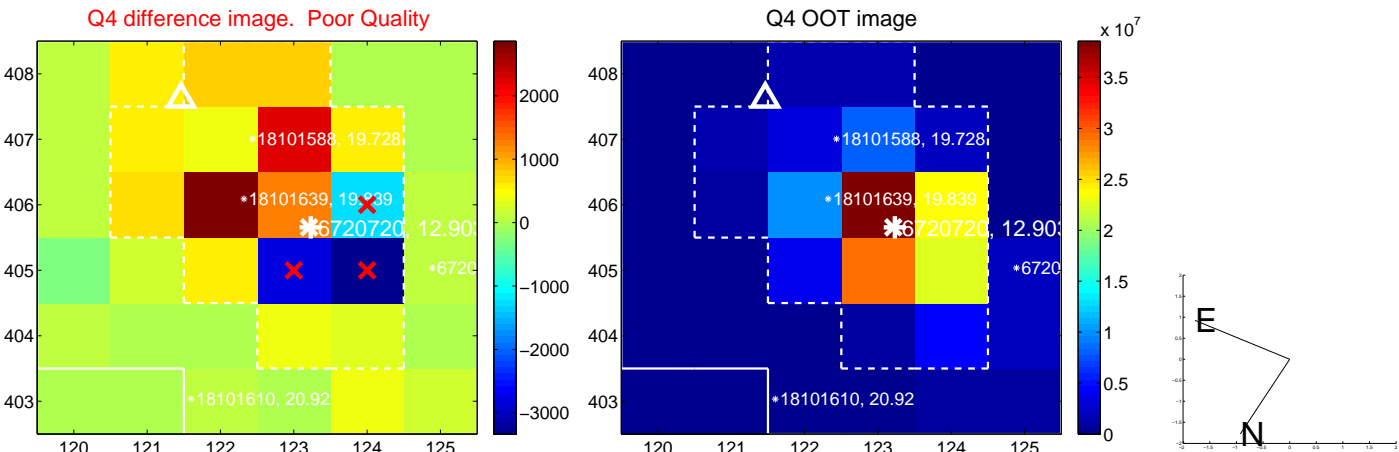
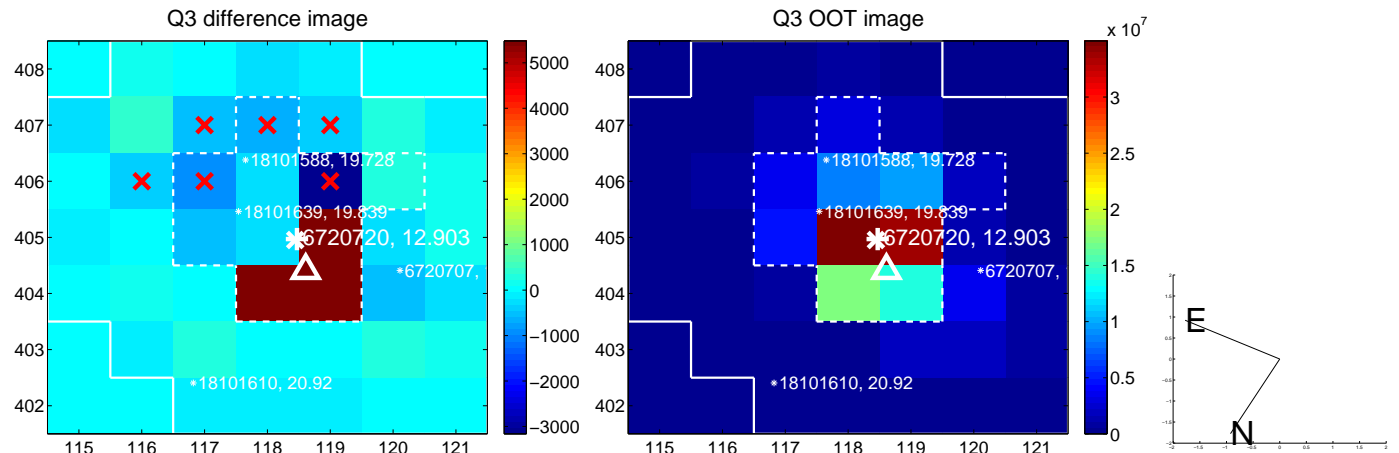
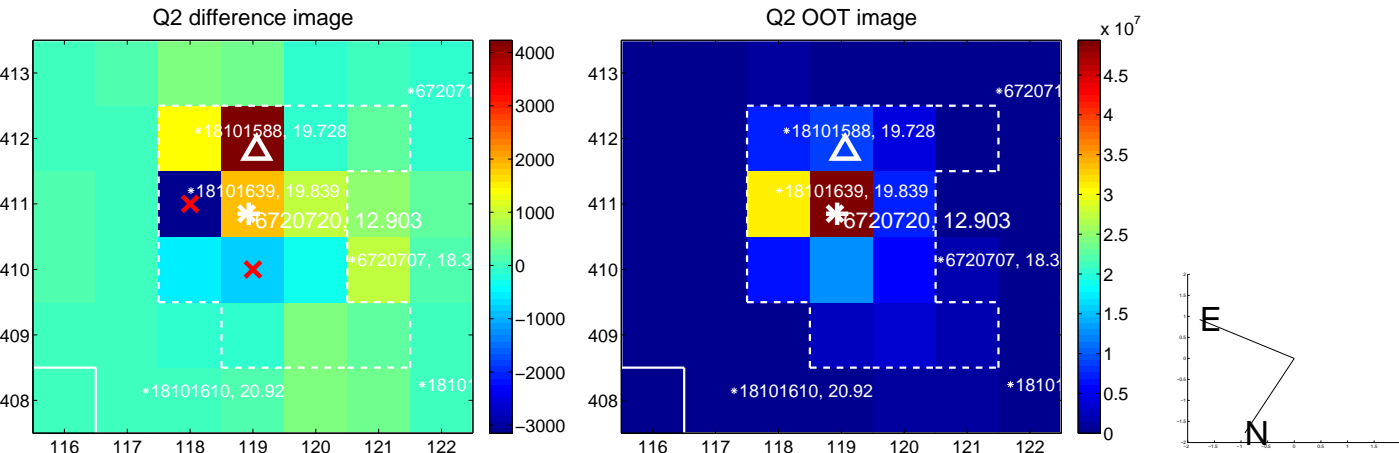
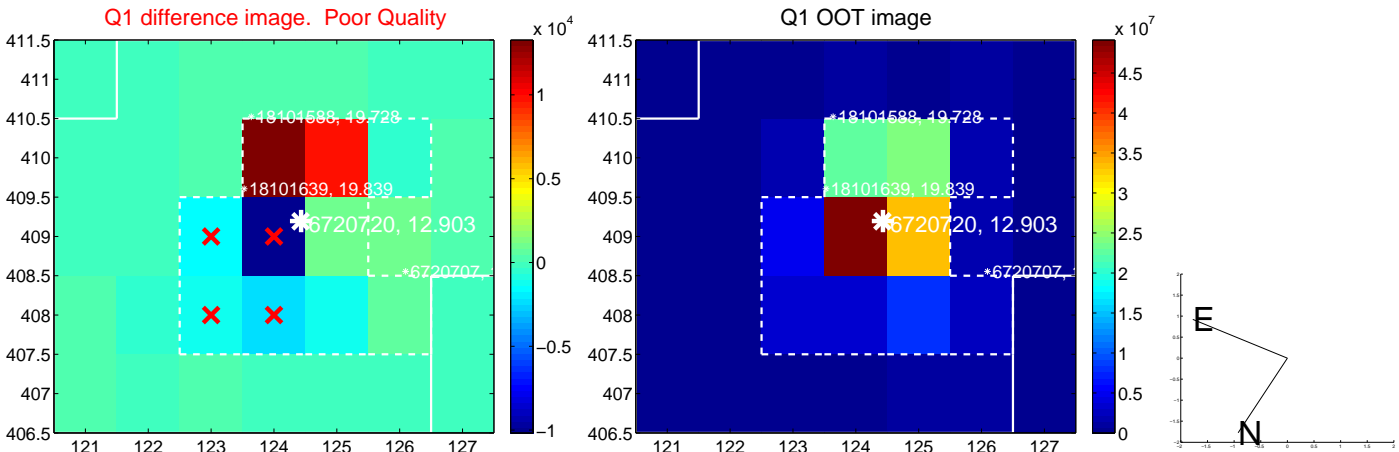
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.188 ± 1.396	0.13	0.181 ± 1.377	-0.051 ± 0.565
PRF-fit source offset from KIC position	0.150 ± 1.173	0.13	0.111 ± 1.304	-0.102 ± 0.565
photometric centroid source offset	0.19 ± 0.54	0.36	0.11 ± 0.60	-0.16 ± 0.51

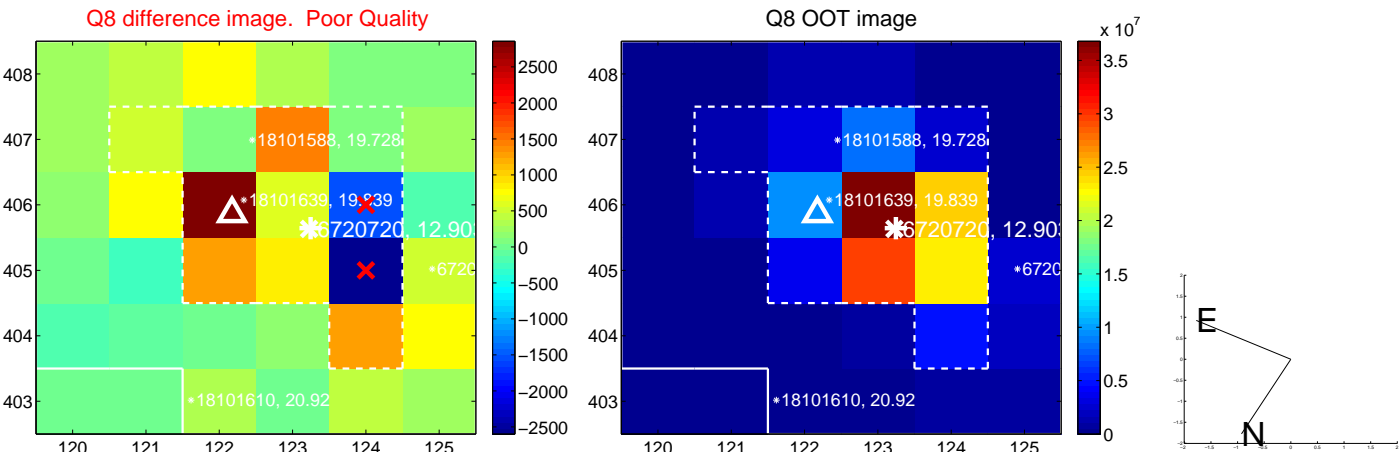
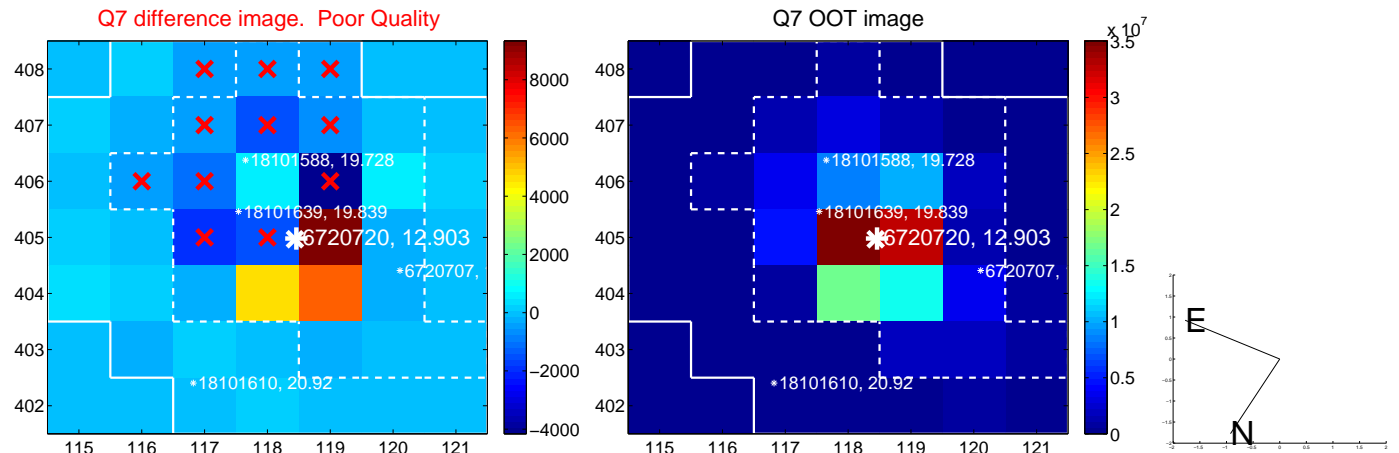
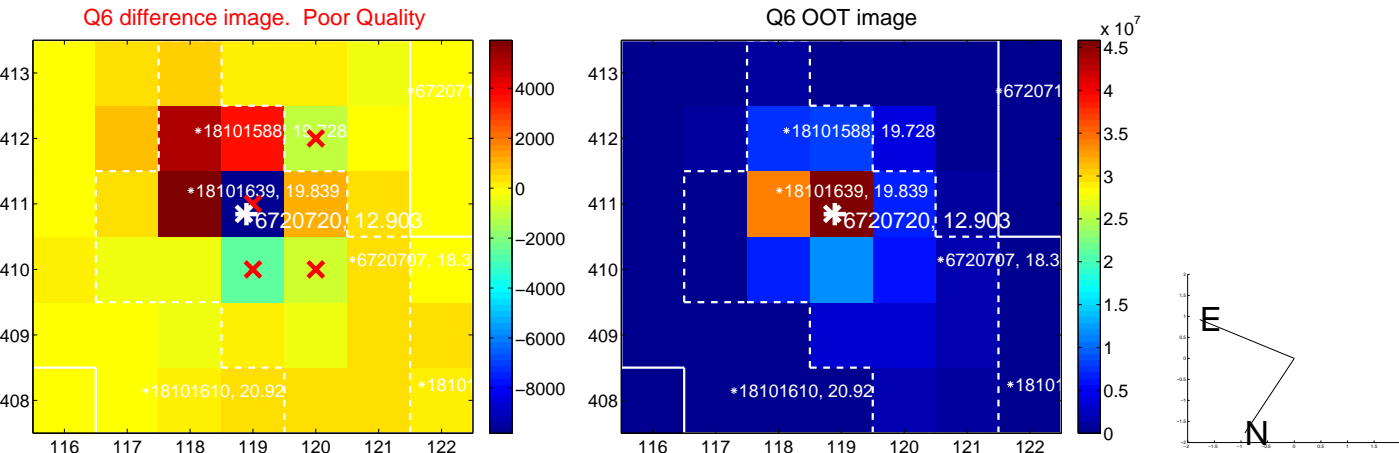
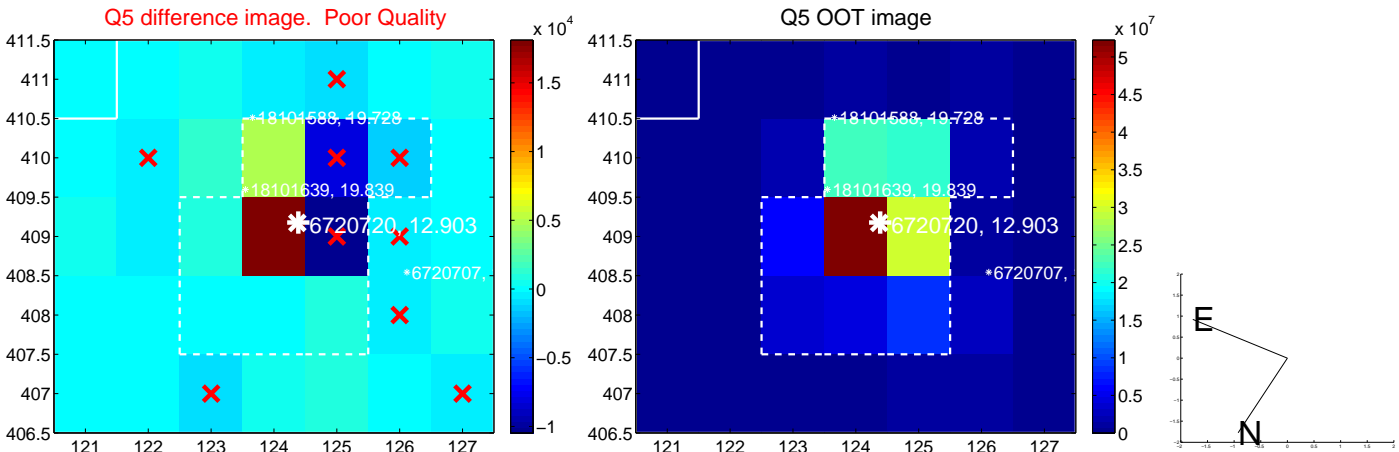


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

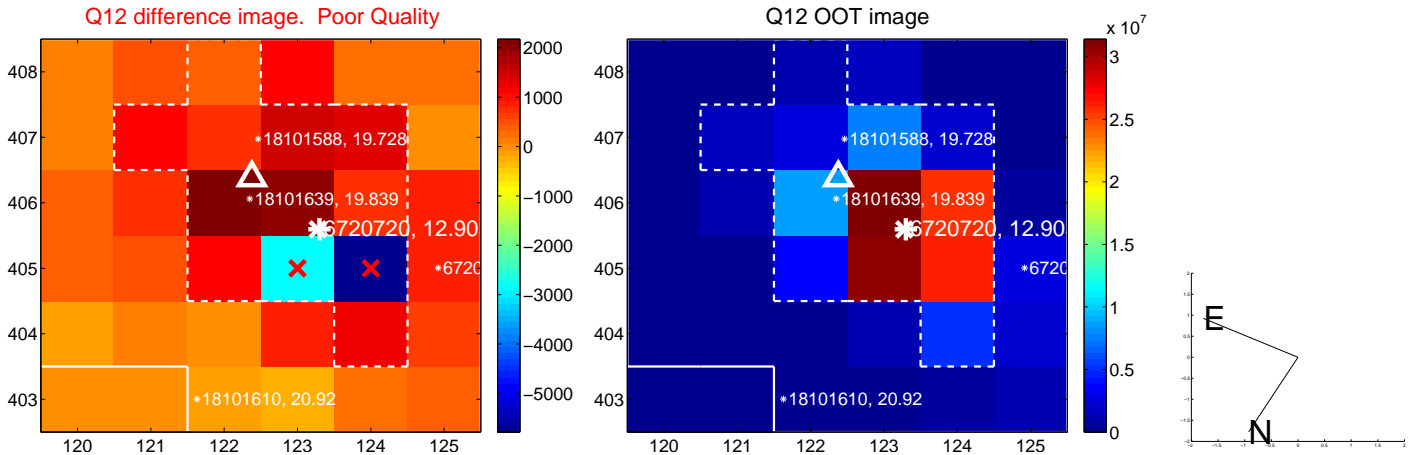
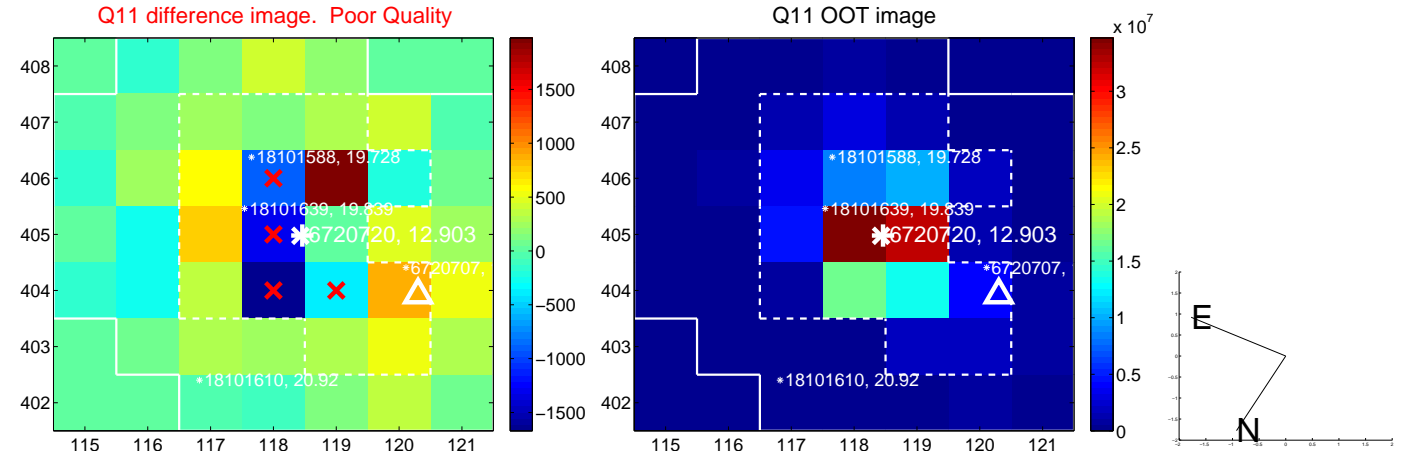
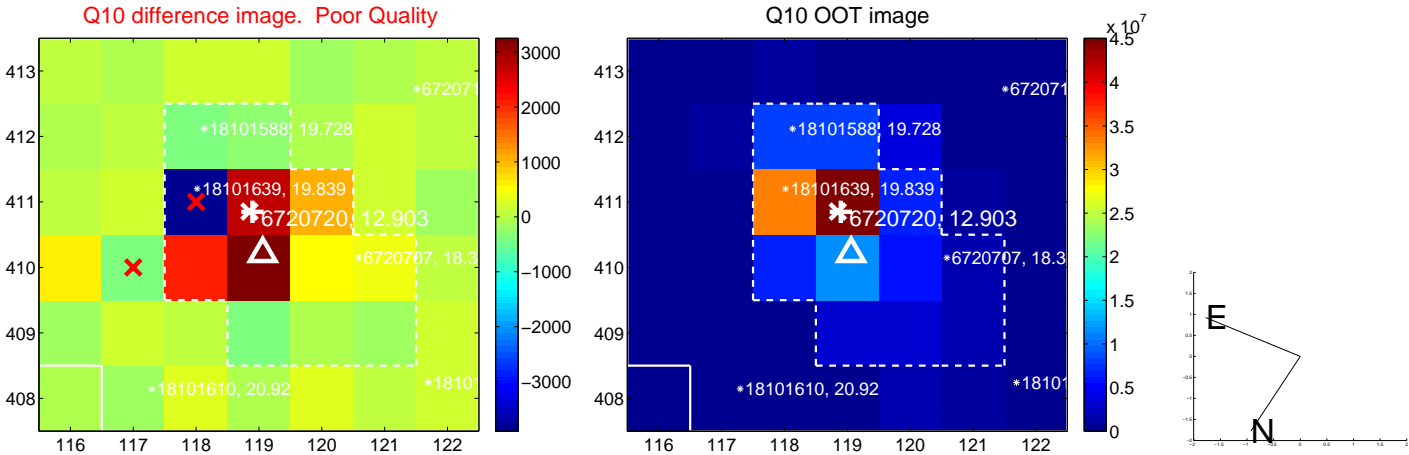
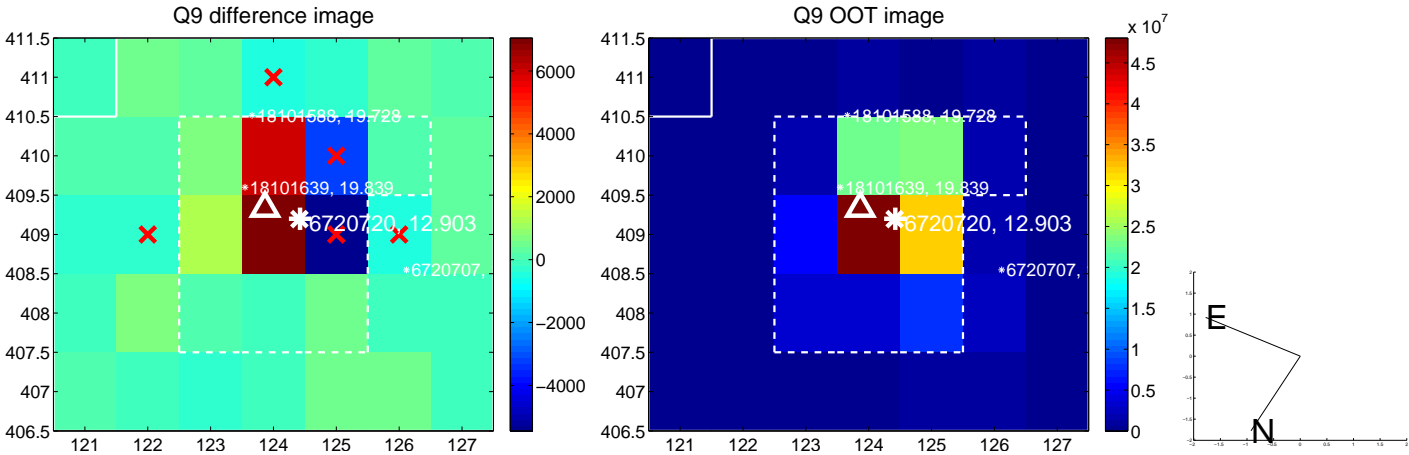
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



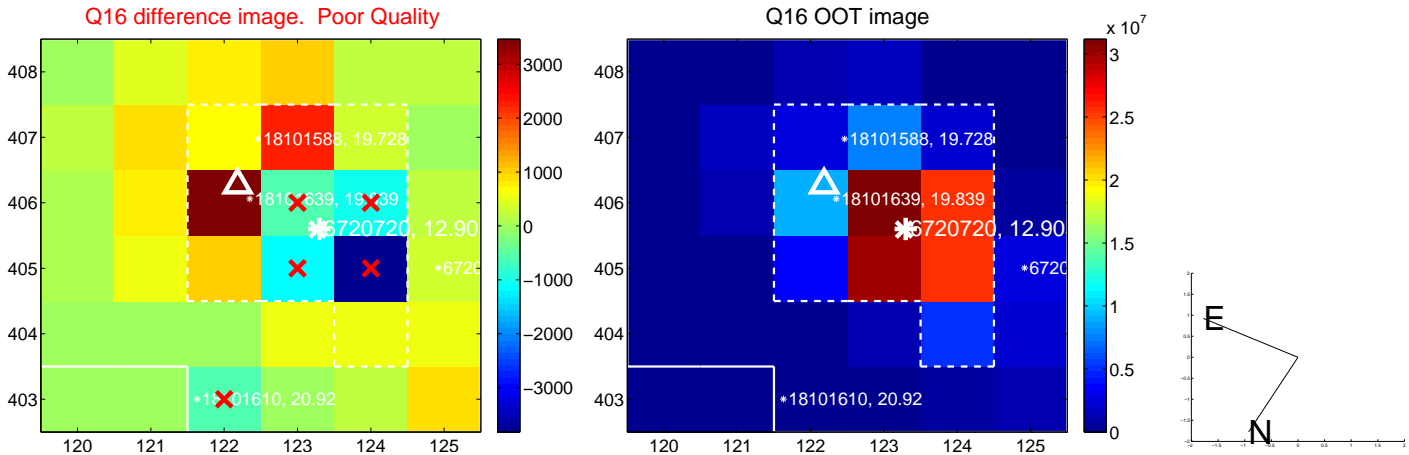
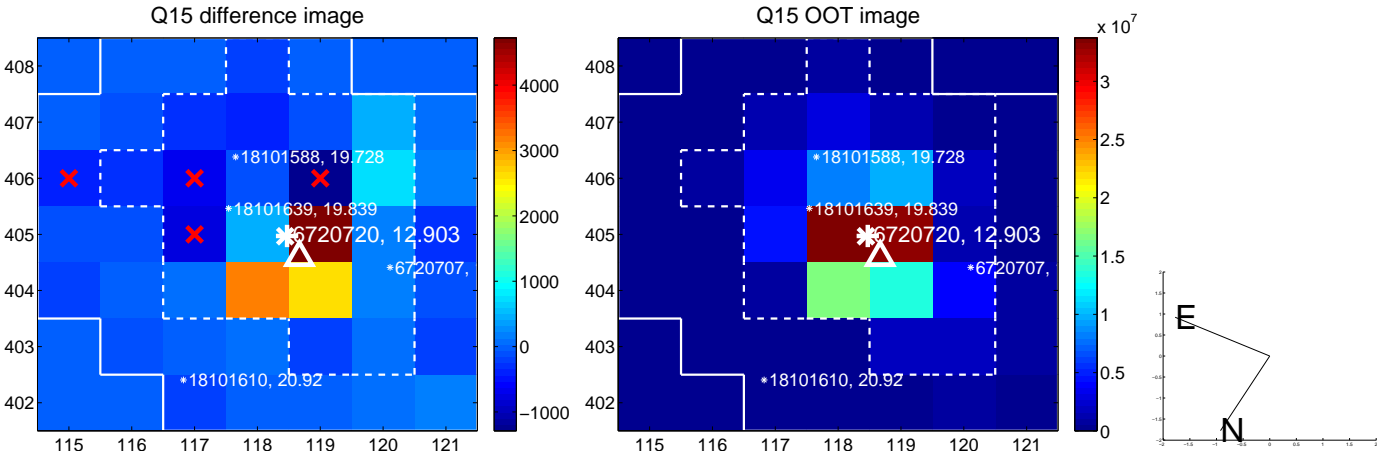
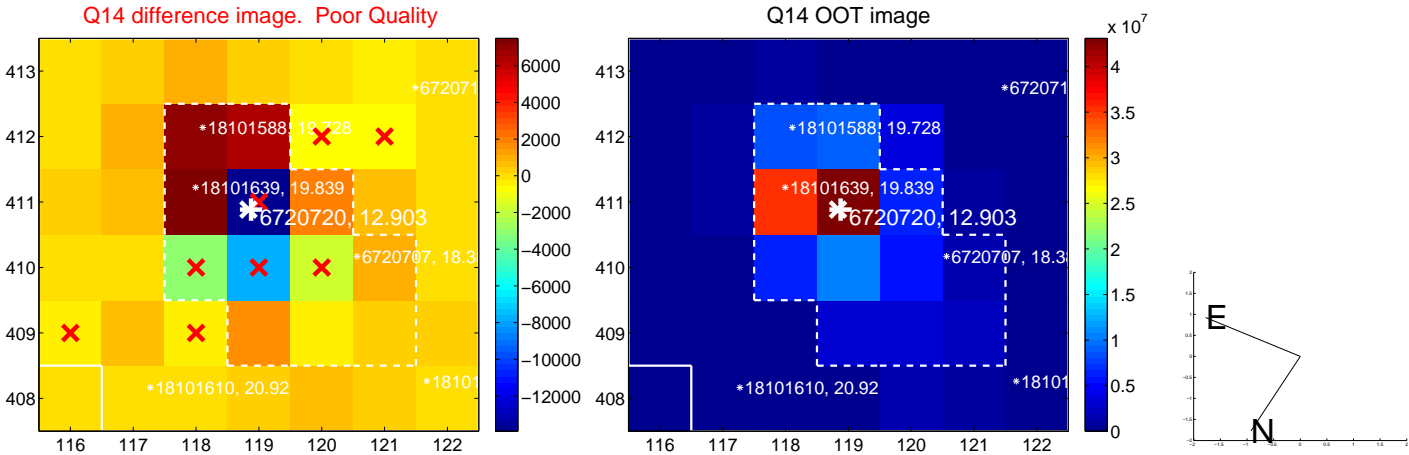
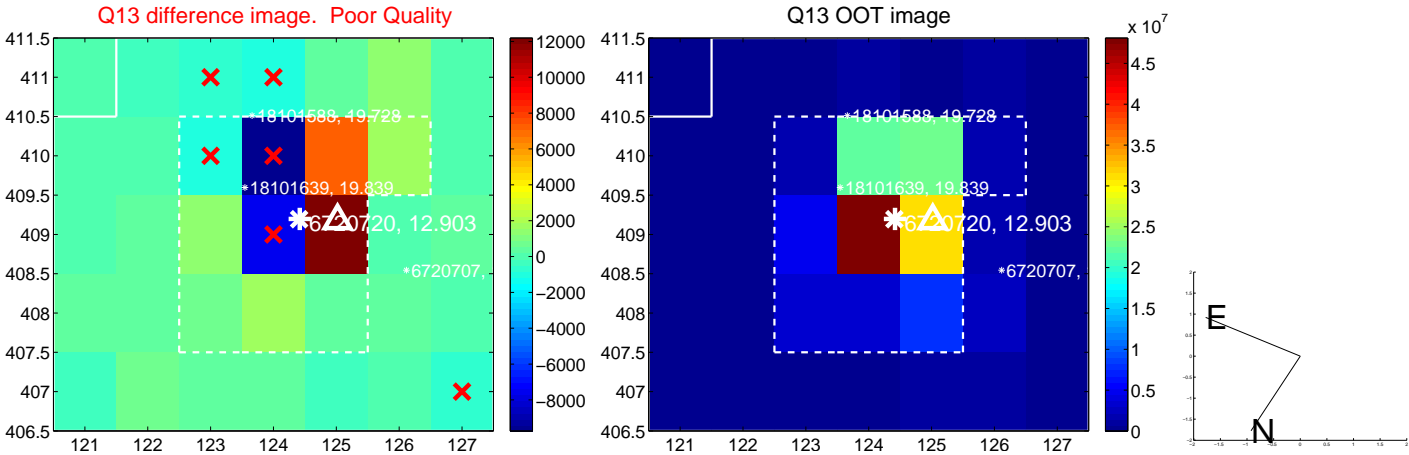
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



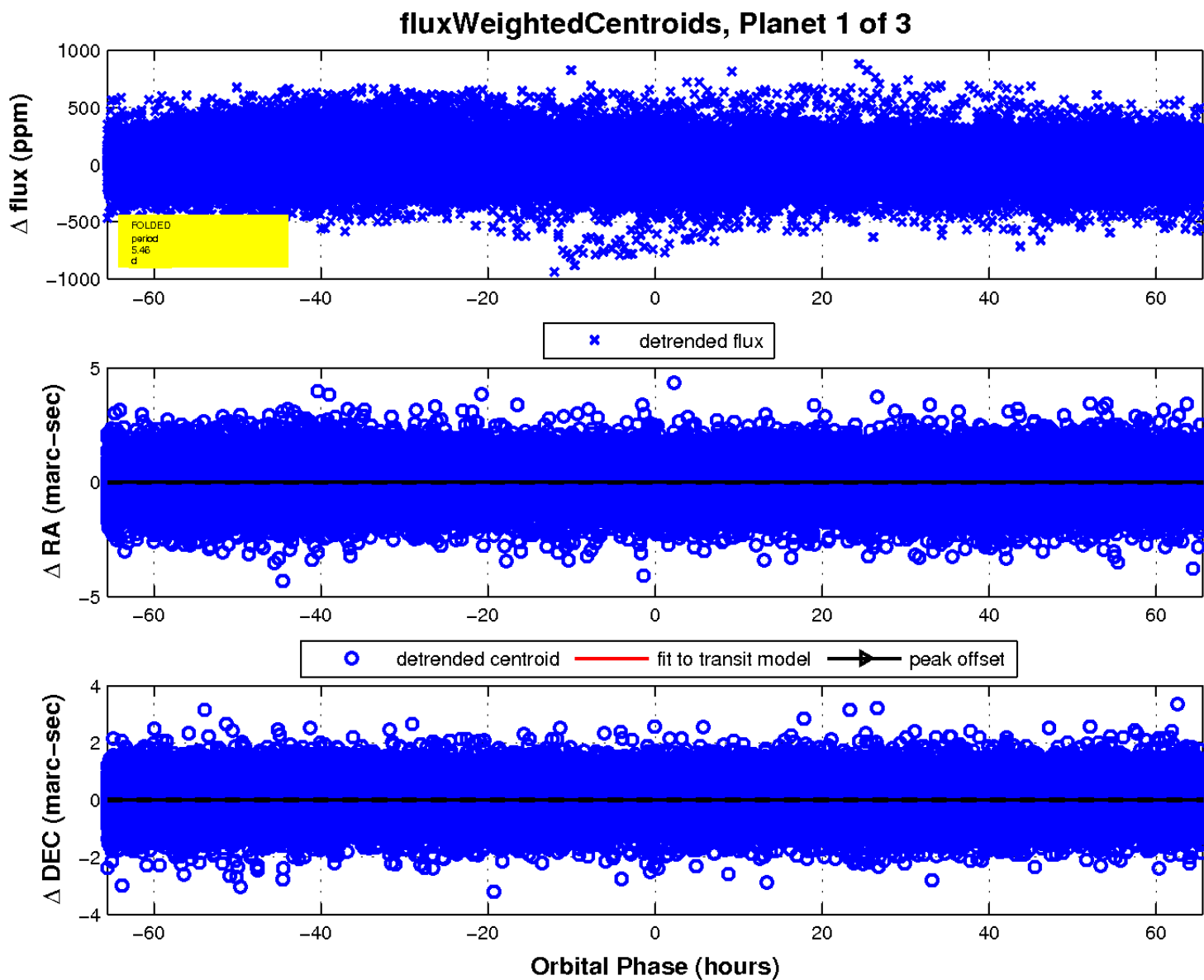
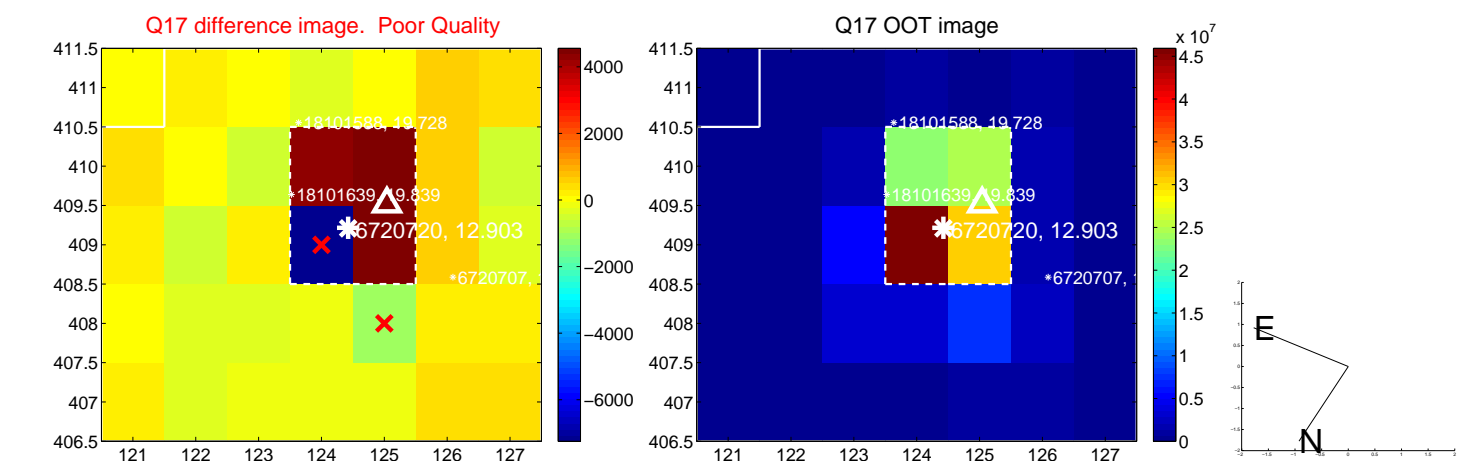
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

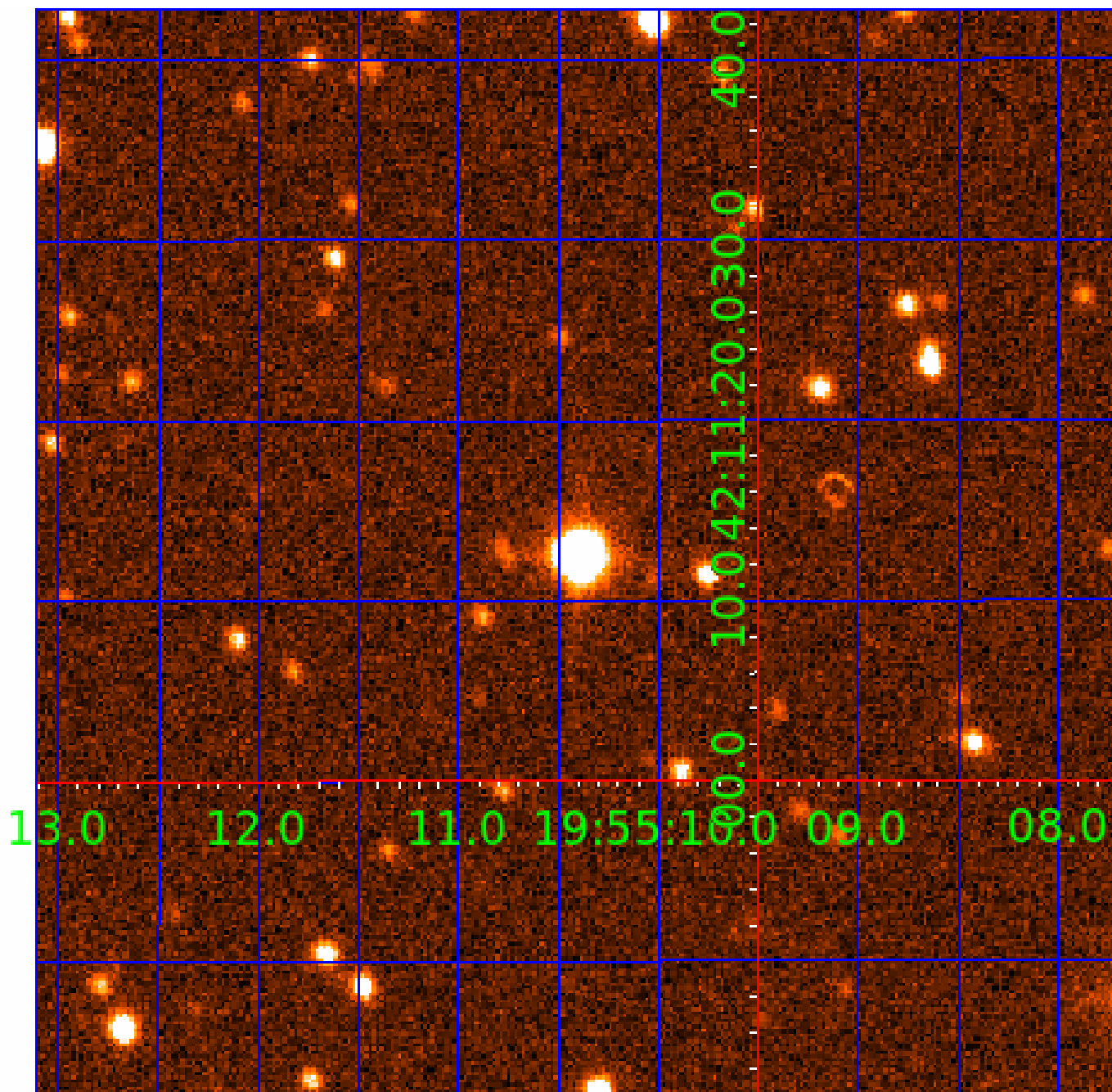


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006720720

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})
006720720-01	OBS	No	5.463563	131.551861	62.8	15.000	13.5	-1.0	2.31	7855	1.86	3279.09
006720720-02	OBS	No	10.927122	133.399008	47.2	22.865	10.9	14.3	2.31	7855	1.65	1301.31
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006720720-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
006720720-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
006720720-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—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.

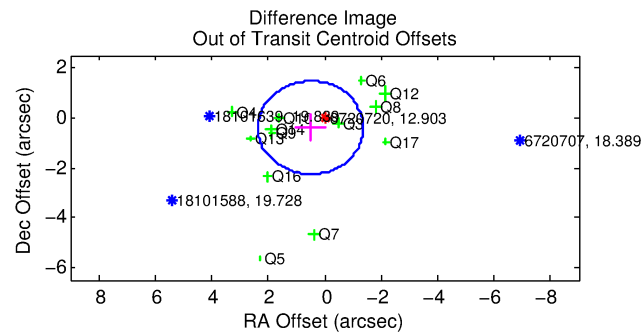
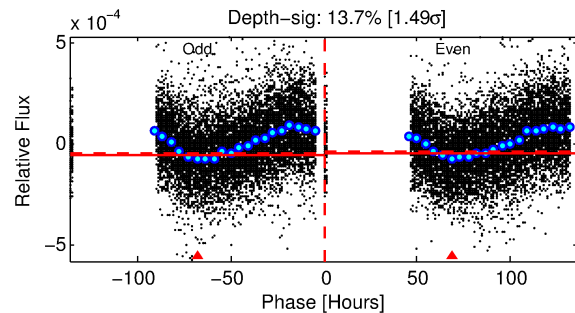
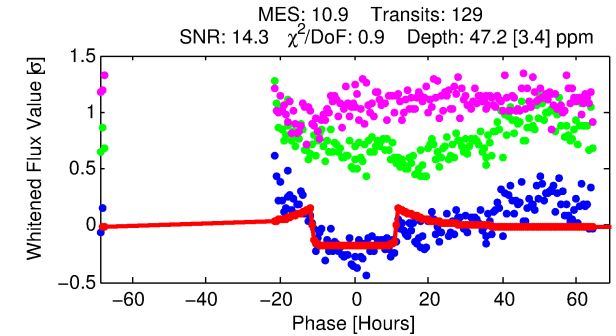
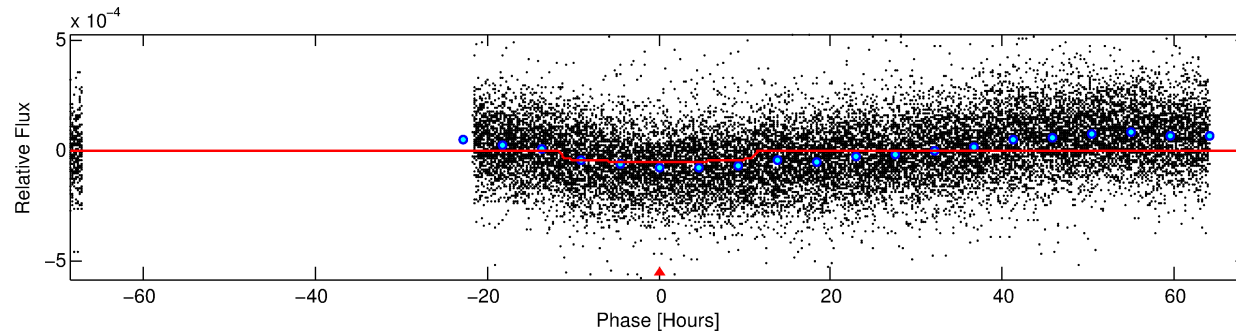
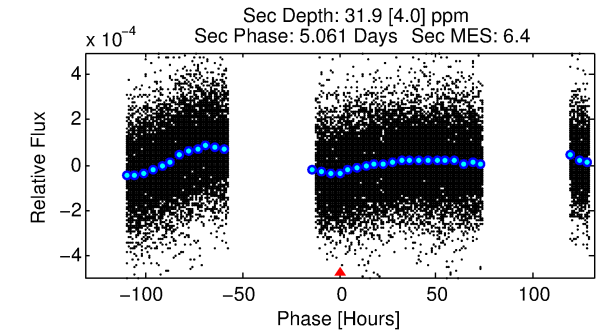
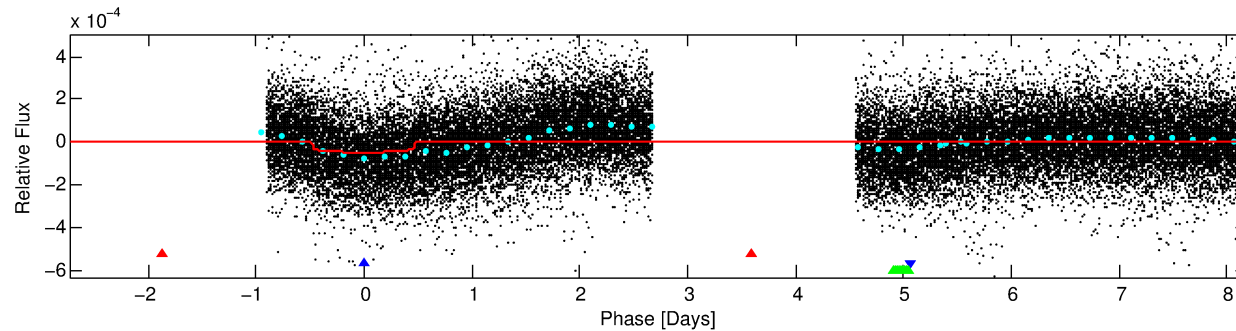
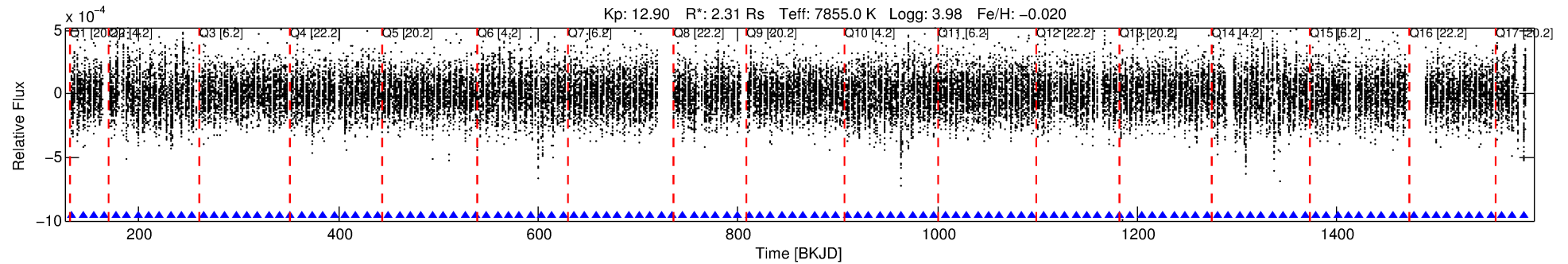
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006720720-02

No Significant Match Found

DV One-Page Summary

KIC: 6720720 Candidate: 2 of 3 Period: 10.927 d



DV Fit Results:

Period = 10.92712 [0.00014] d
Epoch = 133.3990 [0.0101] BKJD
Rp/R* = 0.0065 [0.0011]
a/R* = 3.22 [2.82]
b = 0.52 [1.35]
Seff = 1301.31 [525.62]
Teq = 1532 [155] K
Rp = 1.65 [0.52] Re
a = 0.1185 [0.0285] AU
Ag = 90.14 [46.07] [1.94σ]
Teffp = 7296 [712] K [7.91σ]

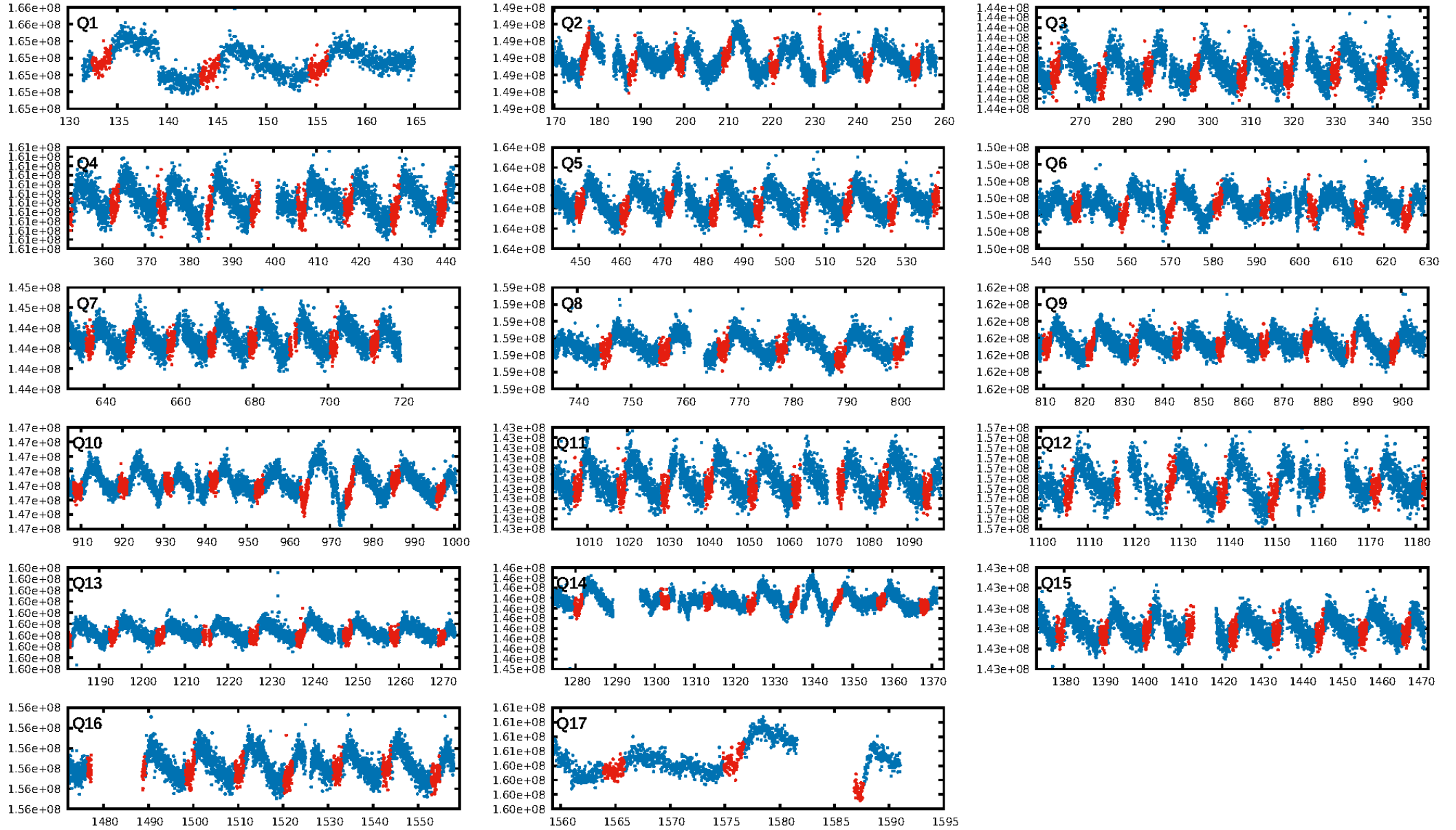
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.80σ]
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: 90.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.93e-27
RollingBand-fgt: 1.00 [123/123]
GhostDiagnostic-chr: 22.84
Centroid-sig: 1.8%
Centroid-so: 1.637 arcsec [2.01σ]
OotOffset-rm: 0.636 arcsec [1.02σ]
KicOffset-rm: 0.611 arcsec [0.97σ]
OotOffset-st: 3/2/4/4 [13]
KicOffset-st: 3/2/4/4 [13]
DiffImageQuality-fgm: 0.85 [11/13]
DiffImageOverlap-fno: 0.00 [0/17]

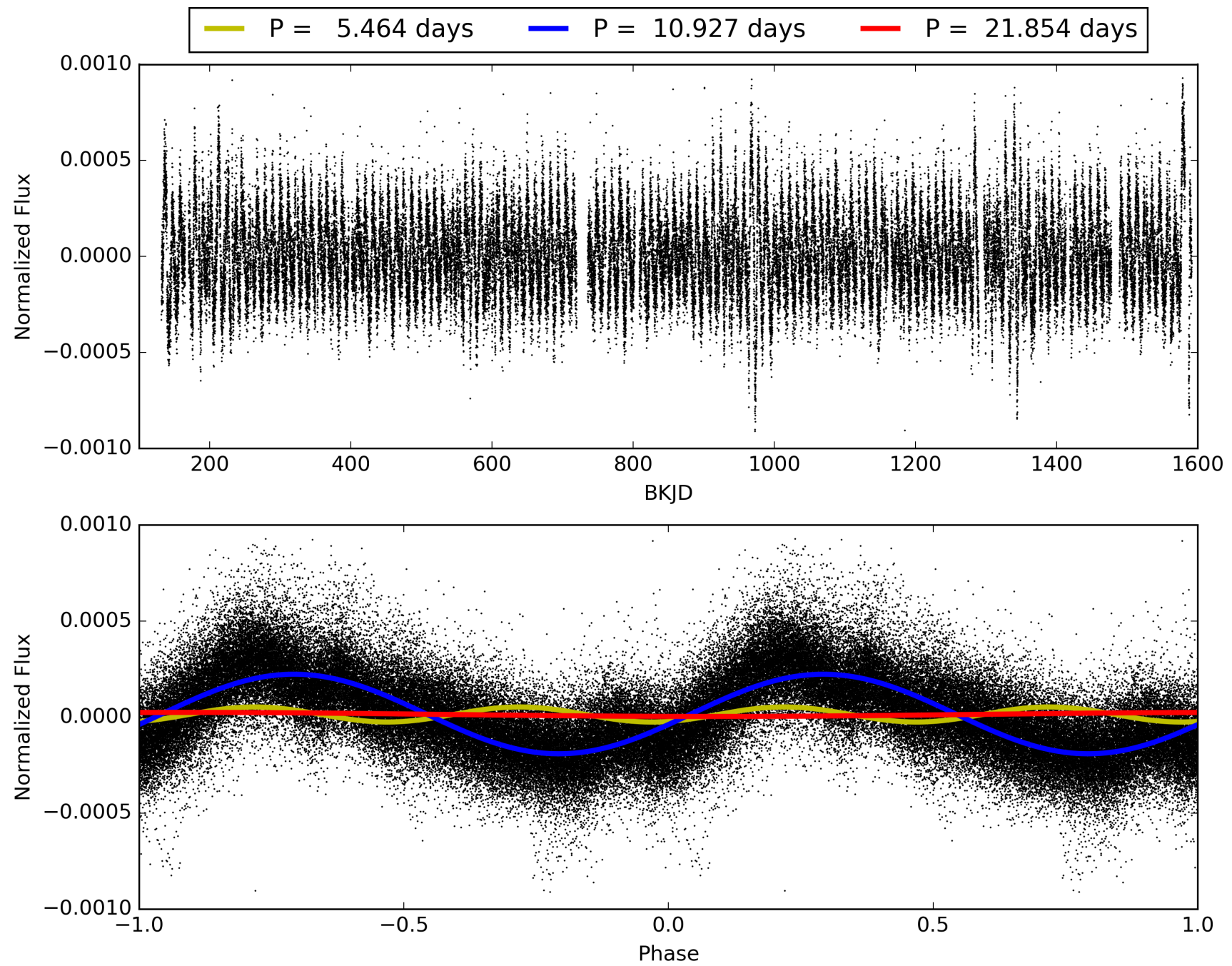
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:43:18 Z

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

TCE 006720720-02, PDC Light Curves

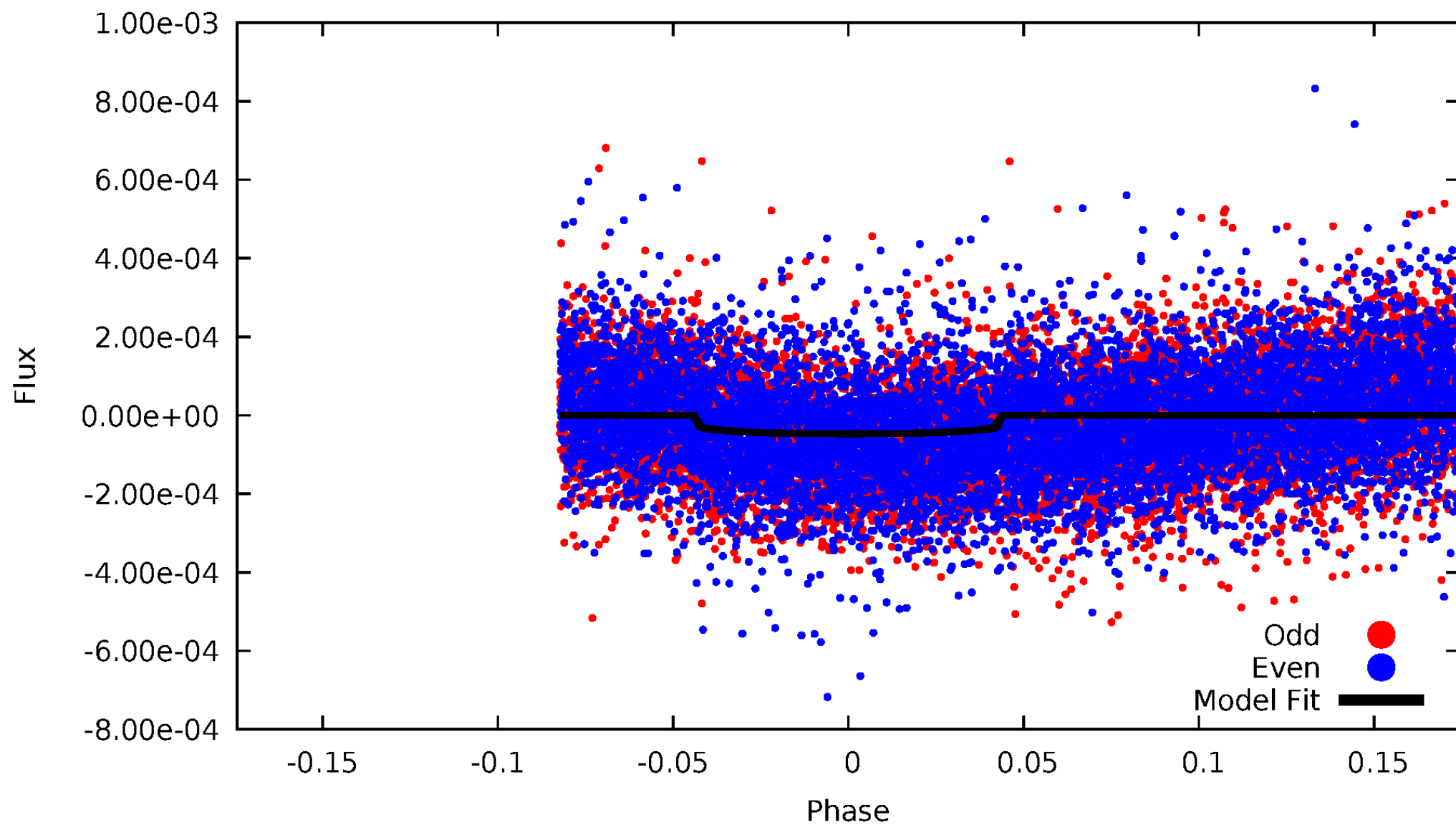


TCE 006720720-02



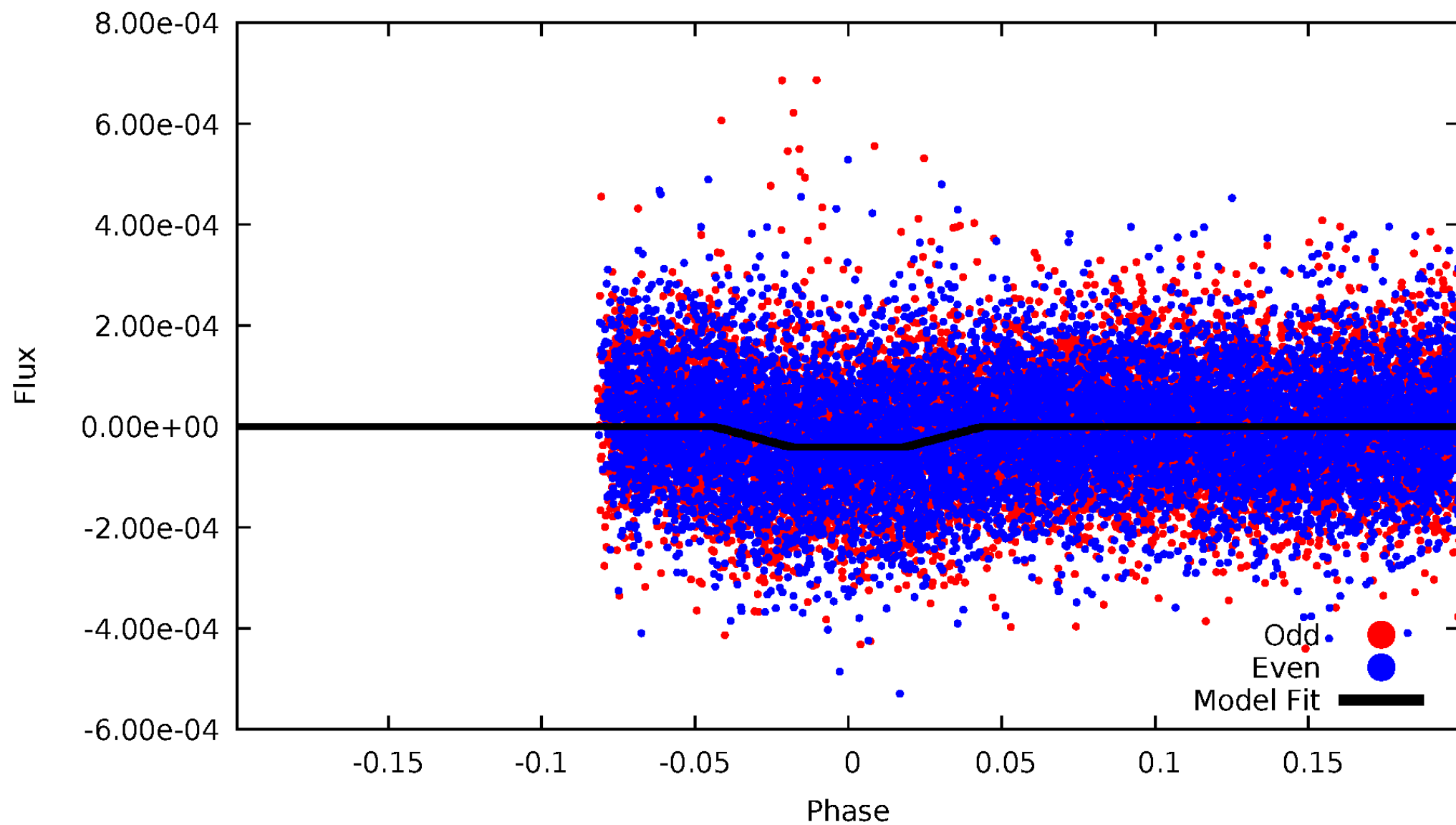
DV Odd/Even

TCE 006720720-02



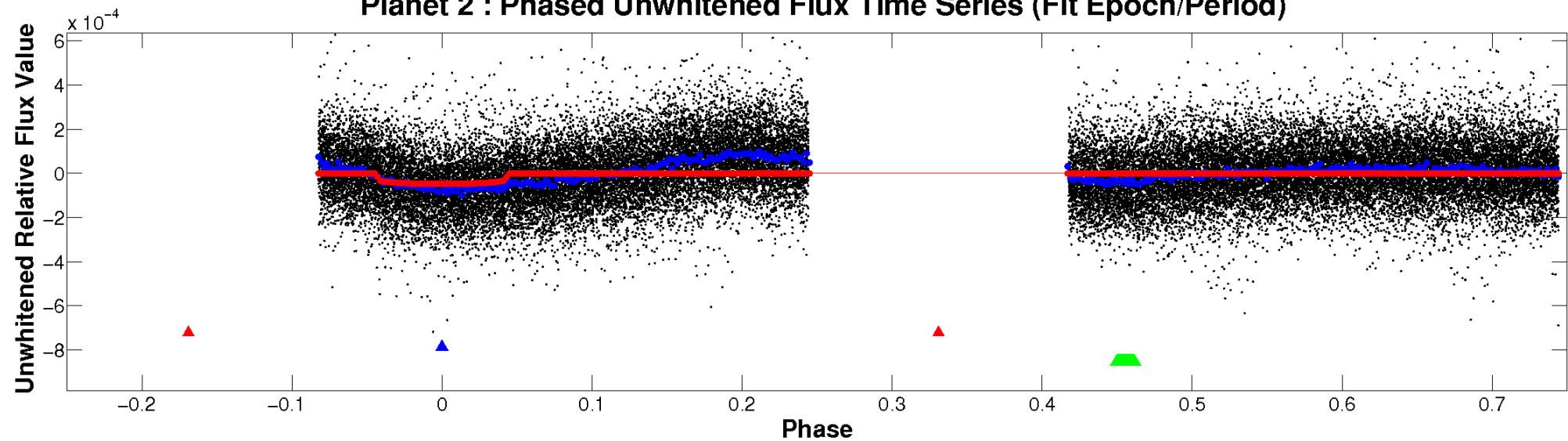
ALT Odd/Even

TCE 006720720-02

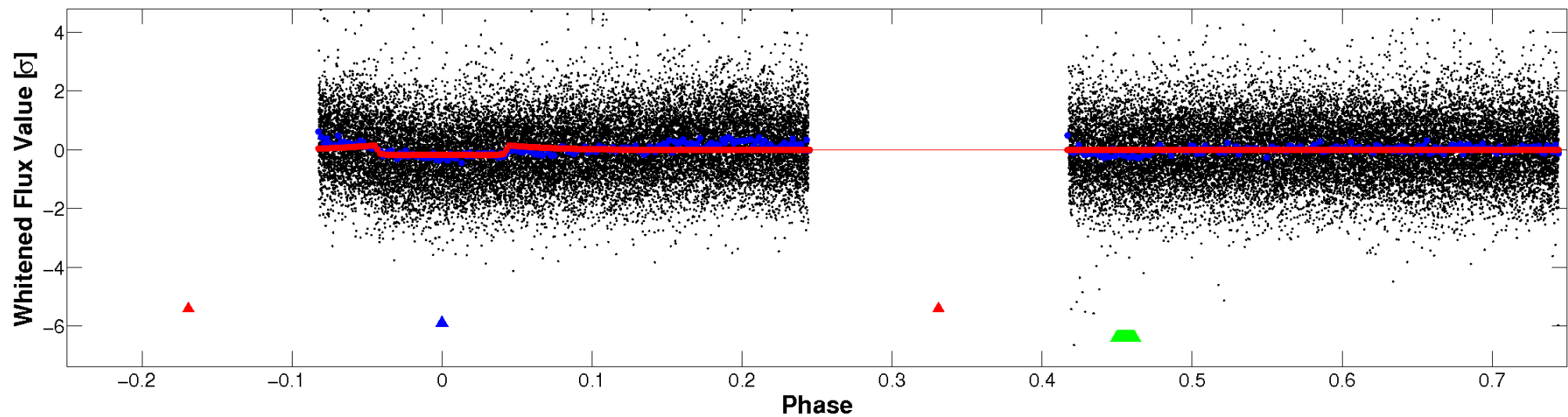


Non-Whitened Vs. Whitened Light Curve

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

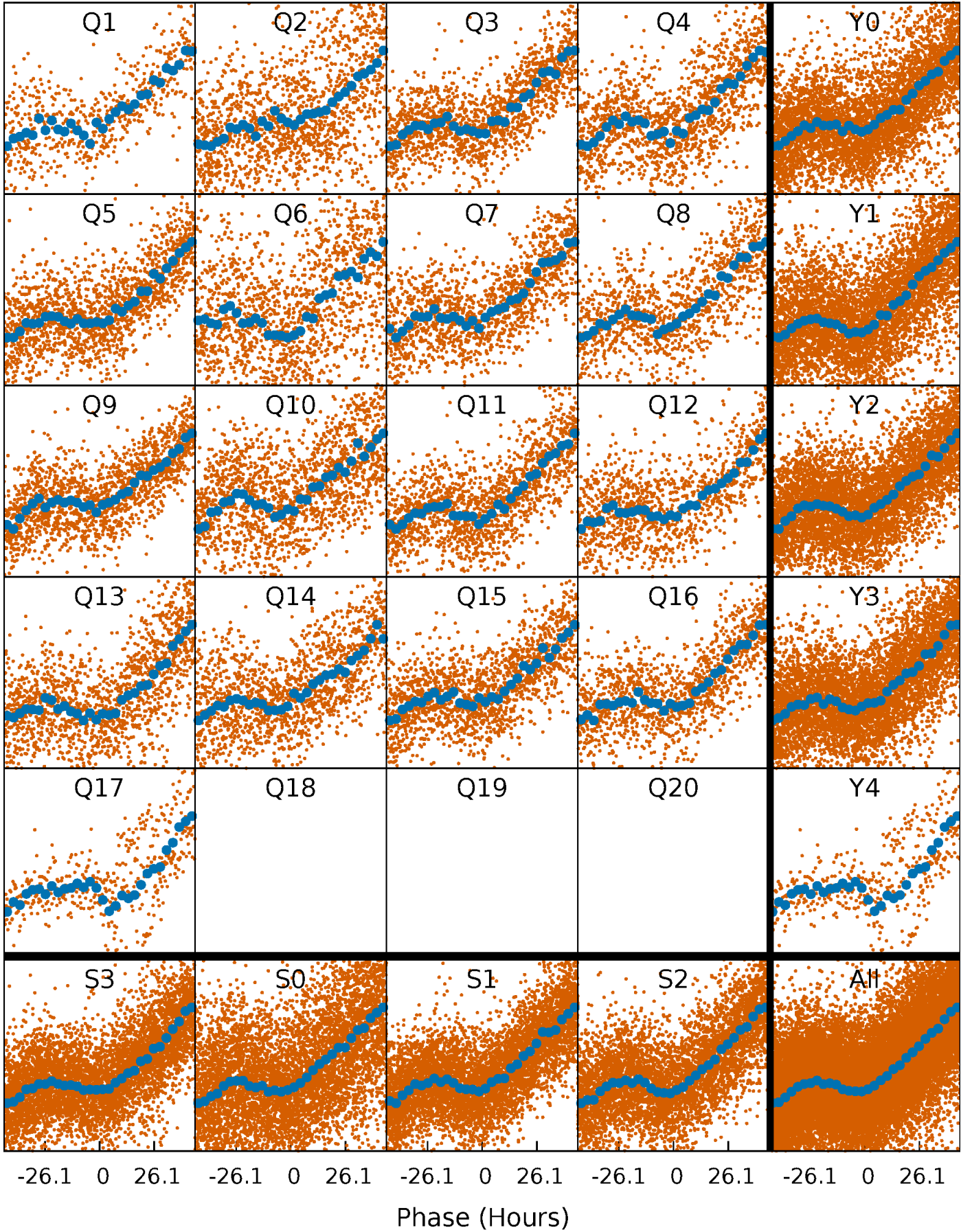


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



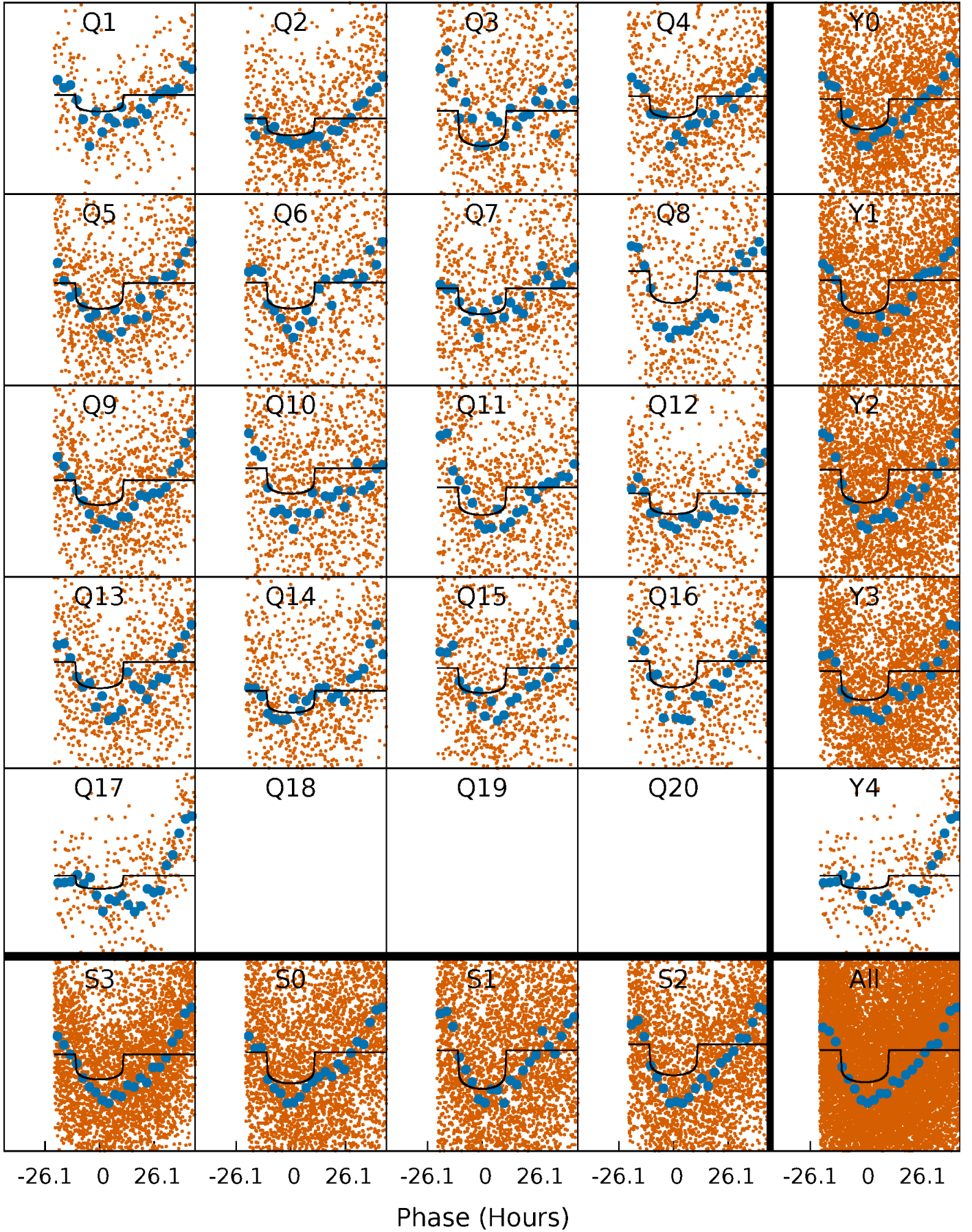
PDC Quarter-Phased Transit Curves

TCE 006720720-02 P= 10.927122 Days $T_0=133.399008$ (BKJD)



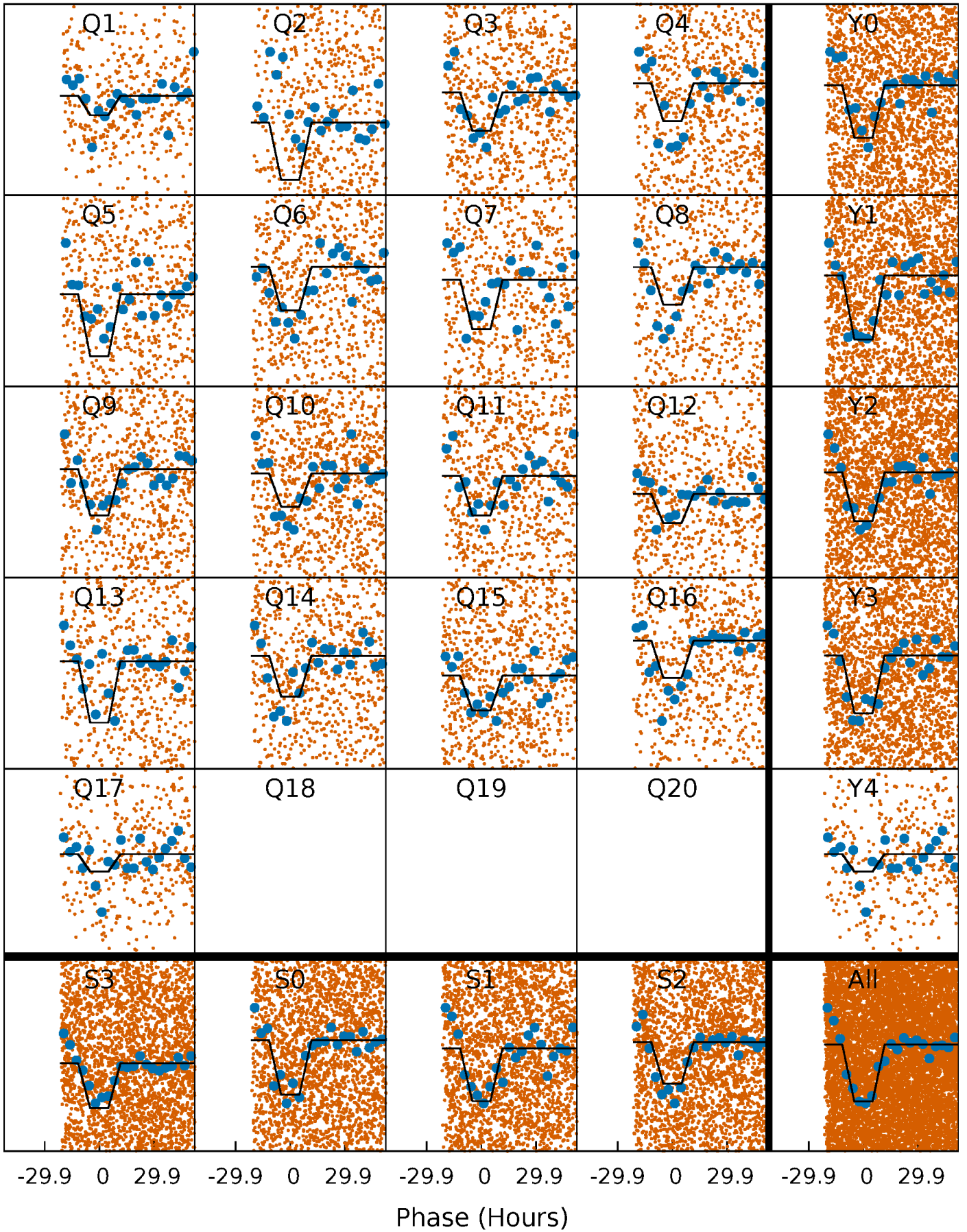
DV Quarter-Phased Transit Curves

TCE 006720720-02 P= 10.927122 Days $T_0=133.399008$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

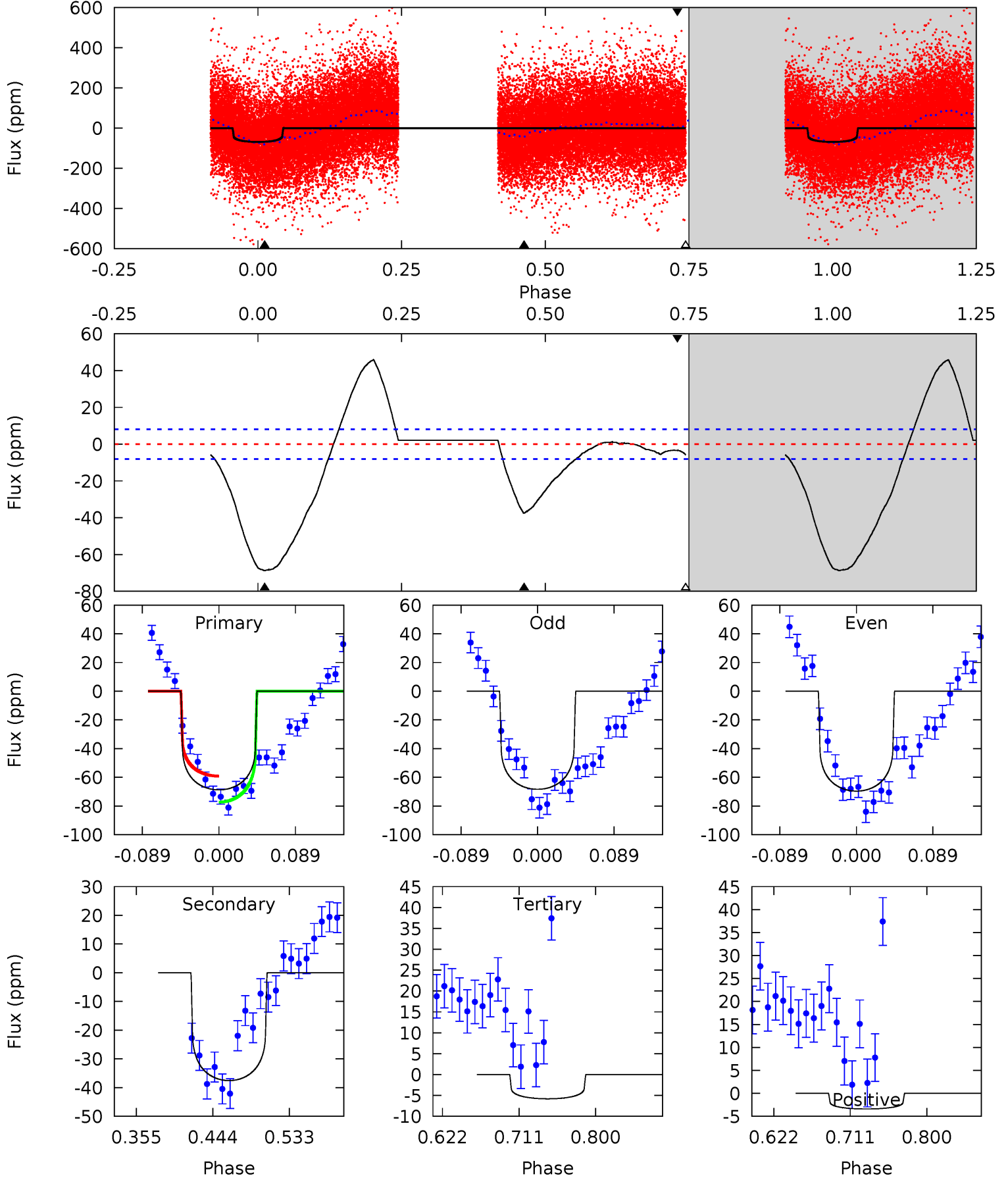
TCE 006720720-02 P= 10.927699 Days $T_0=133.321444$ (BKJD)



DV Model-Shift Uniqueness Test

006720720-02, P = 10.927122 Days, E = 122.471886 Days

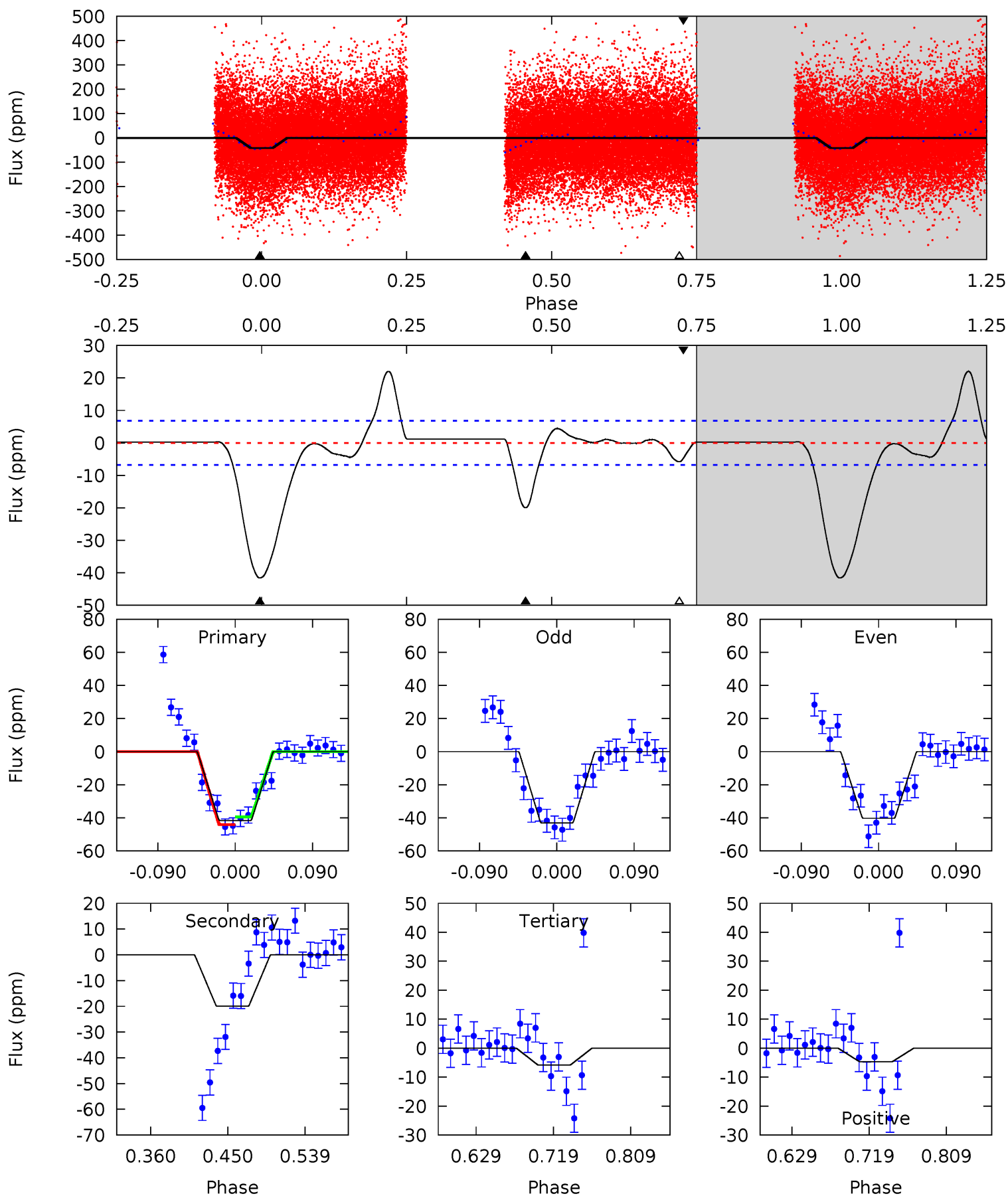
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.1	21.4	3.31	-1.93	4.59	1.70	9.83	35.8	41.1	18.1	23.3	0.36	0.94	0.40	5.12



Alt Model-Shift Uniqueness Test

006720720-02, P = 10.927699 Days, E = 122.393745 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.1	13.5	3.93	-3.18	4.59	1.70	4.27	24.1	31.2	9.55	16.7	0.94	0.89	0.35	1.56



Stellar Parameters For KIC 006720720

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7855^{+216}_{-324}	$3.978^{+0.210}_{-0.140}$	$-0.020^{+0.200}_{-0.350}$	$2.314^{+0.452}_{-0.621}$	$1.855^{+0.123}_{-0.344}$	$0.211^{+0.284}_{-0.077}$
	+3%/-4%	+5%/-4%	+1000%/-1750%	+20%/-27%	+7%/-19%	+135%/-36%
Source	KIC0	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 006720720-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-38 ± 2	$1.61^{+0.35}_{-0.32}$	2127^{+142}_{-161}	7502^{+956}_{-660}	110^{+62}_{-35}
Alt.	-20 ± 1	$1.56^{+0.35}_{-0.36}$	2126^{+135}_{-162}	6424^{+738}_{-549}	62^{+37}_{-21}

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 $A_{obs} \gg 1.0$

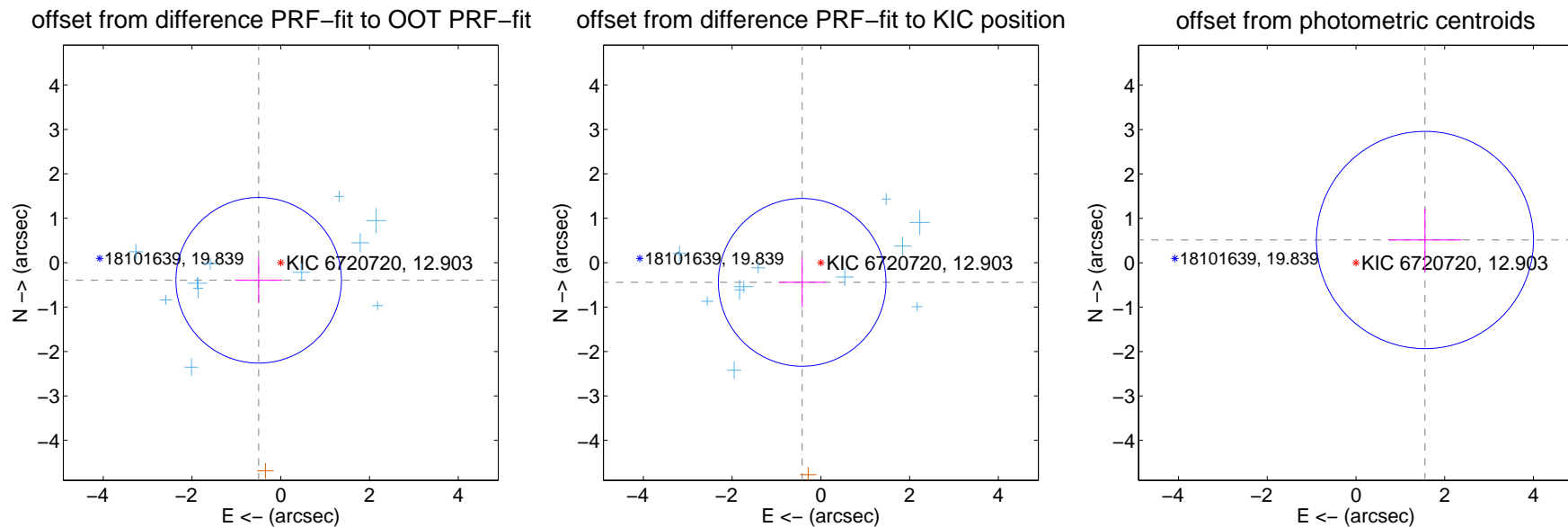
DV Centroid Data

Supplemental centroid analysis for 006720720-02. Kepler magnitude: 12.90. Transit SNR 14.30

There are 11 quarters with good PRF difference image offsets

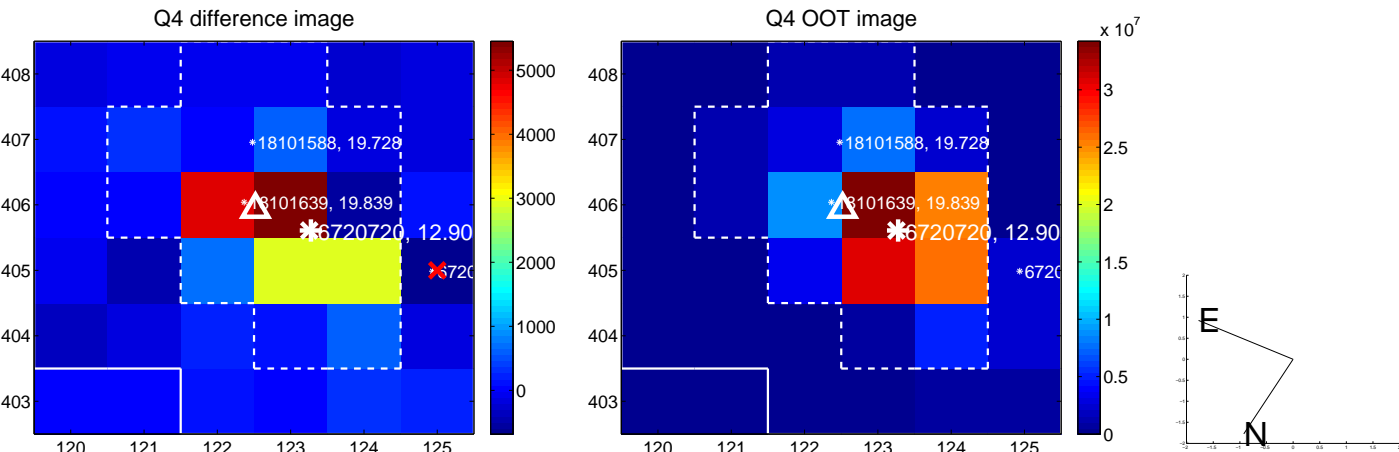
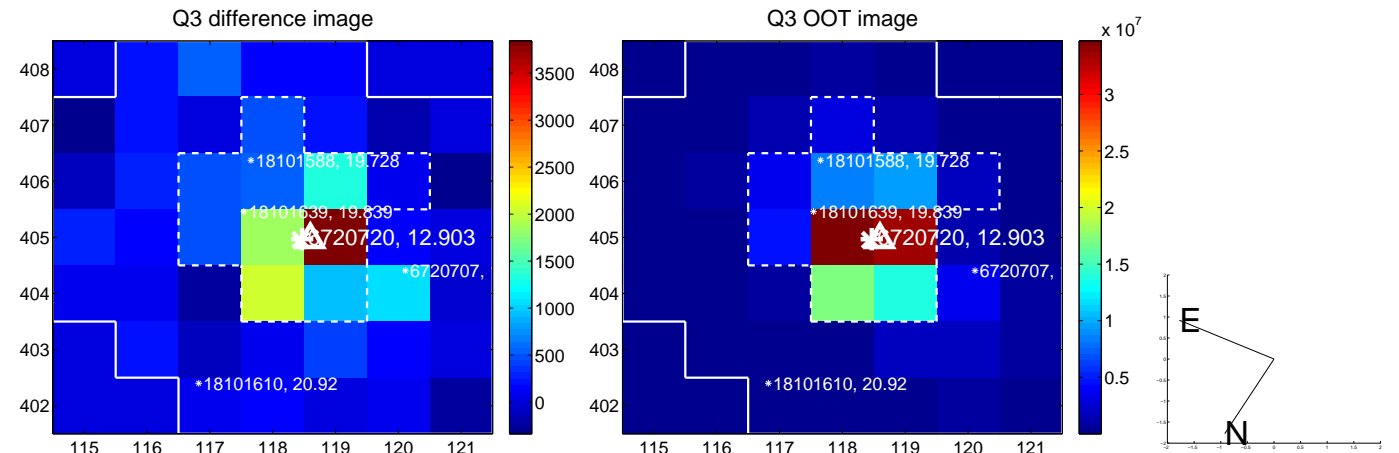
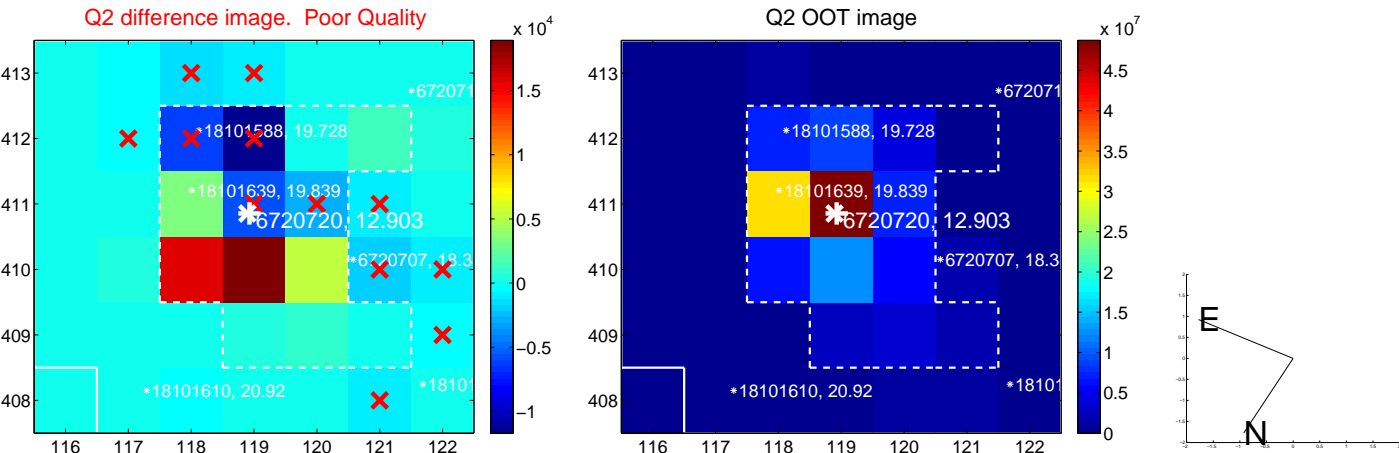
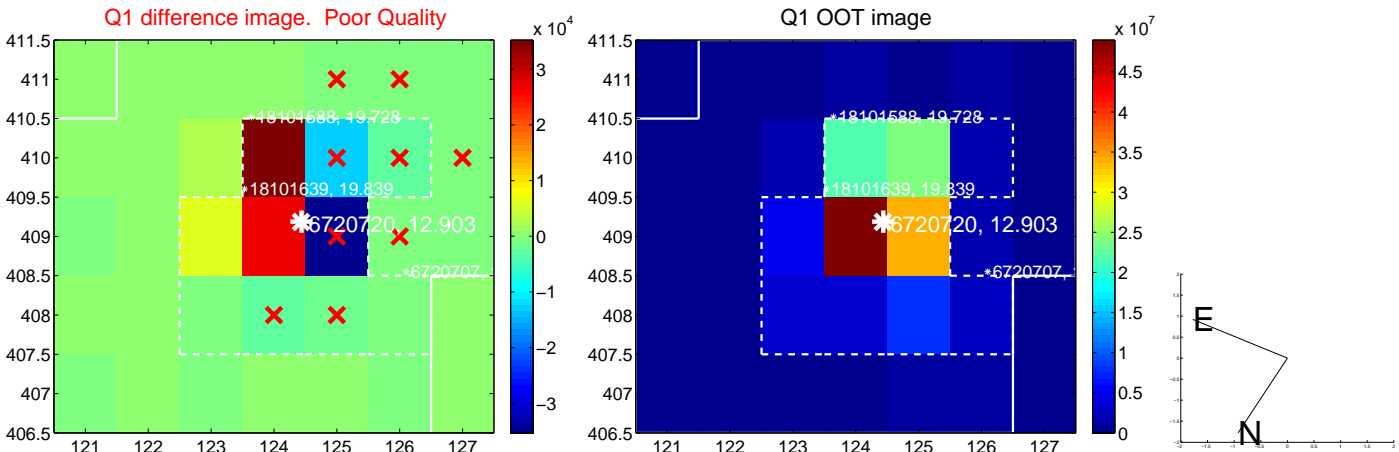
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.636 ± 0.622	1.02	0.497 ± 0.533	-0.396 ± 0.513
PRF-fit source offset from KIC position	0.611 ± 0.630	0.97	0.421 ± 0.524	-0.443 ± 0.559
photometric centroid source offset	1.64 ± 0.82	2.01	-1.55 ± 0.83	0.51 ± 0.71

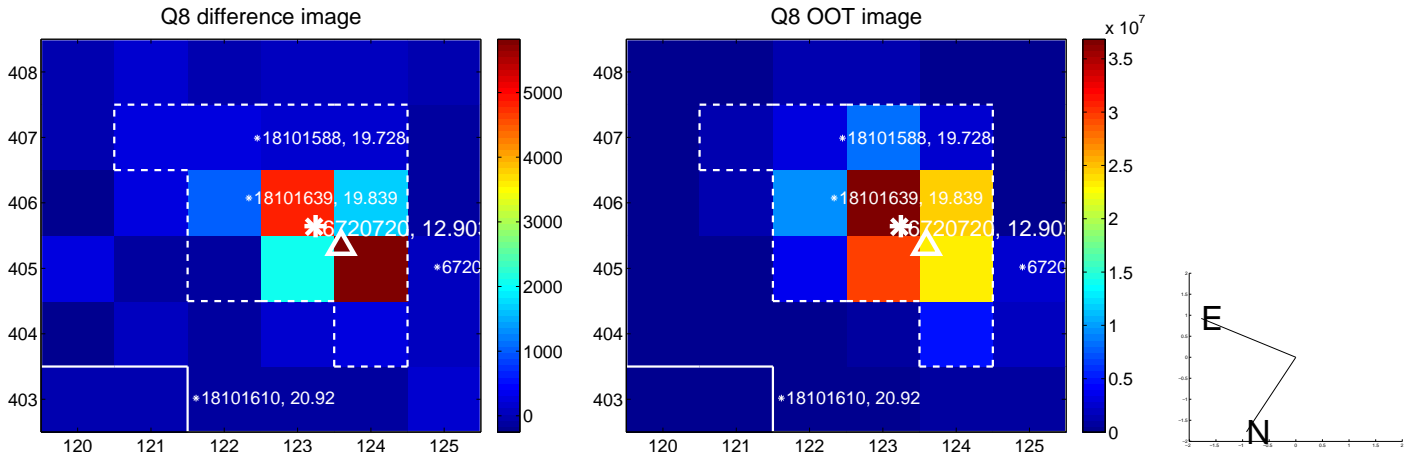
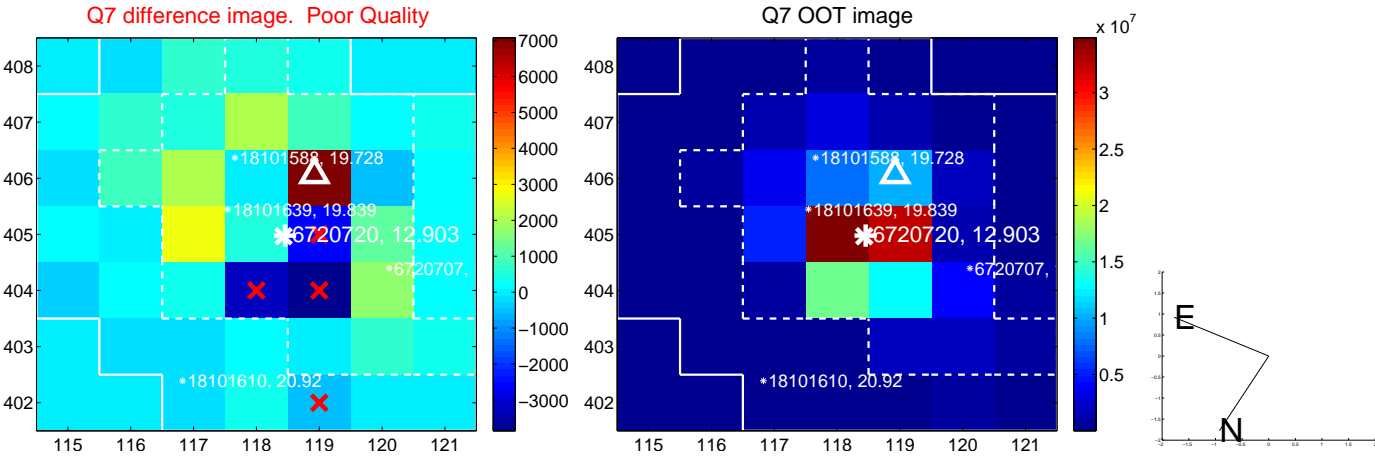
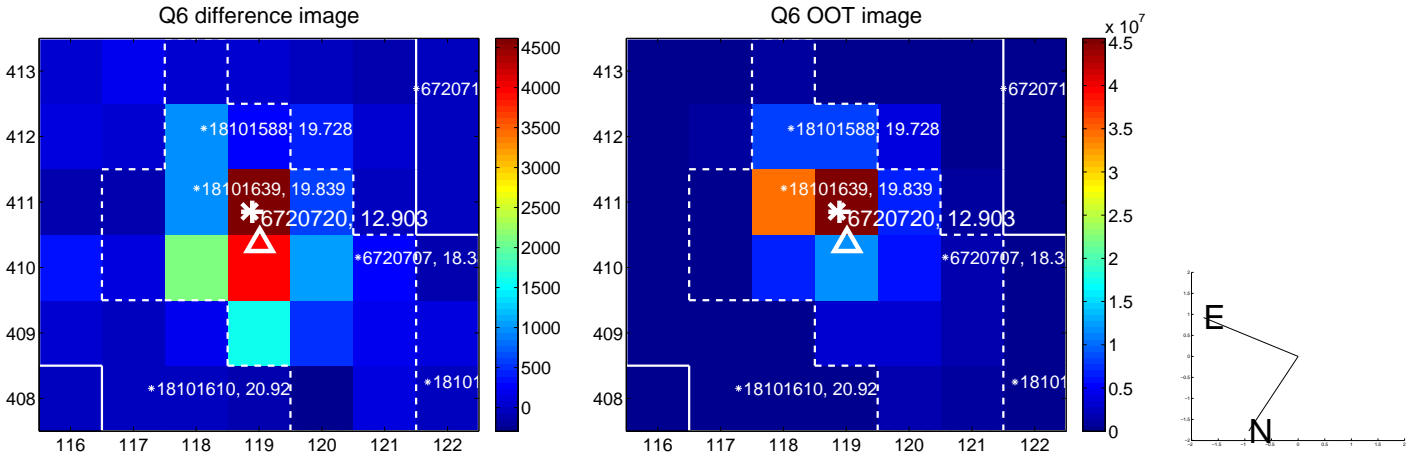
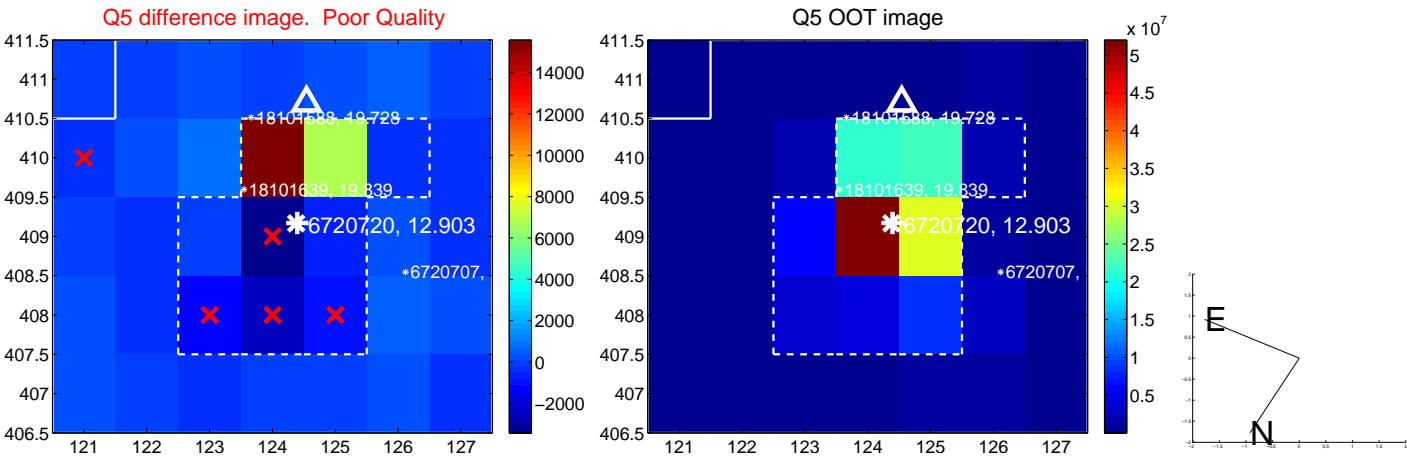


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

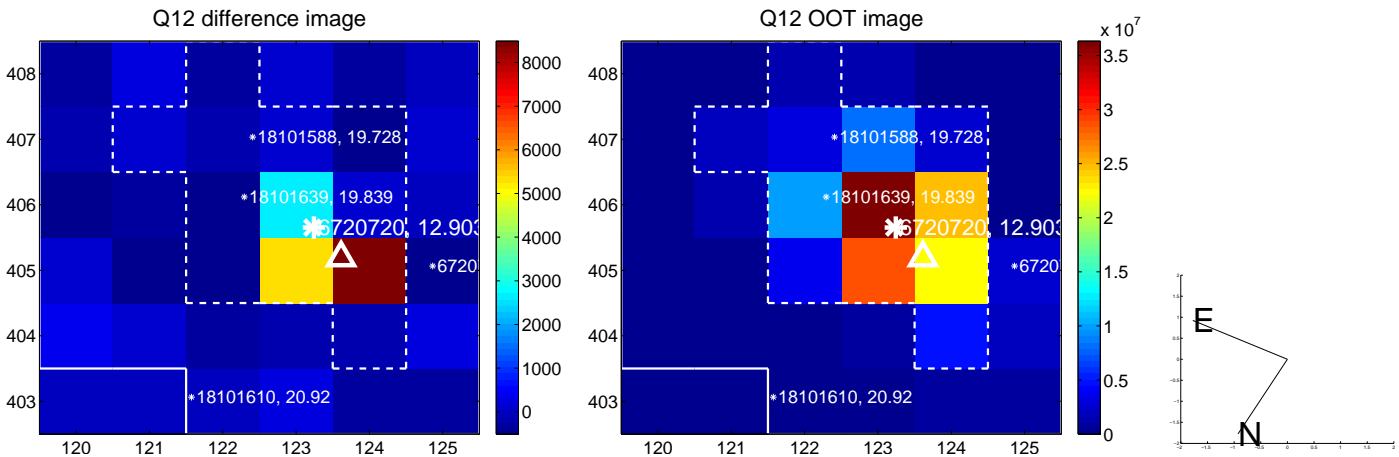
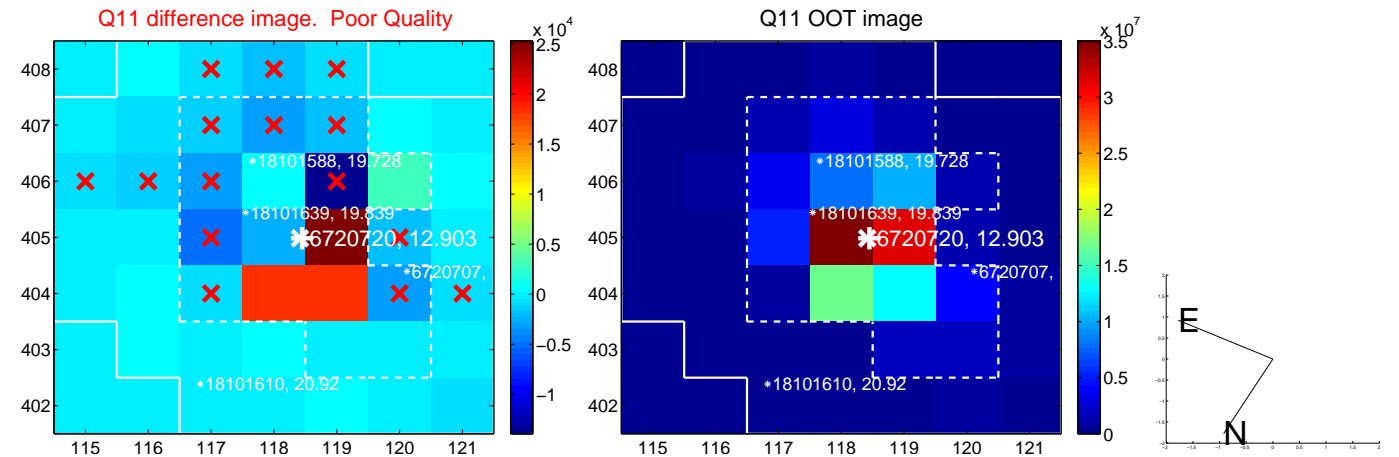
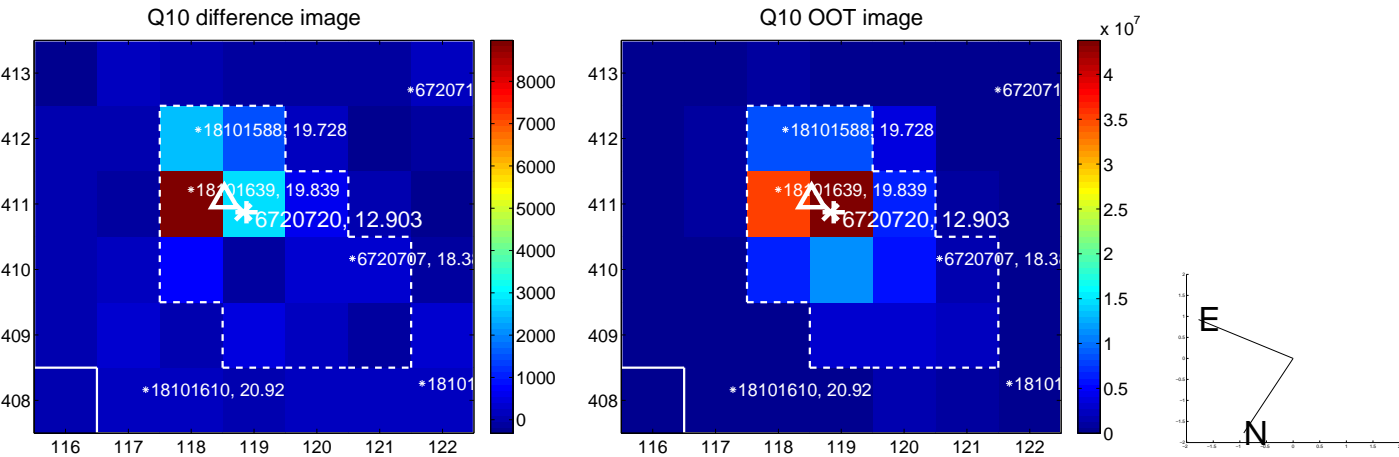
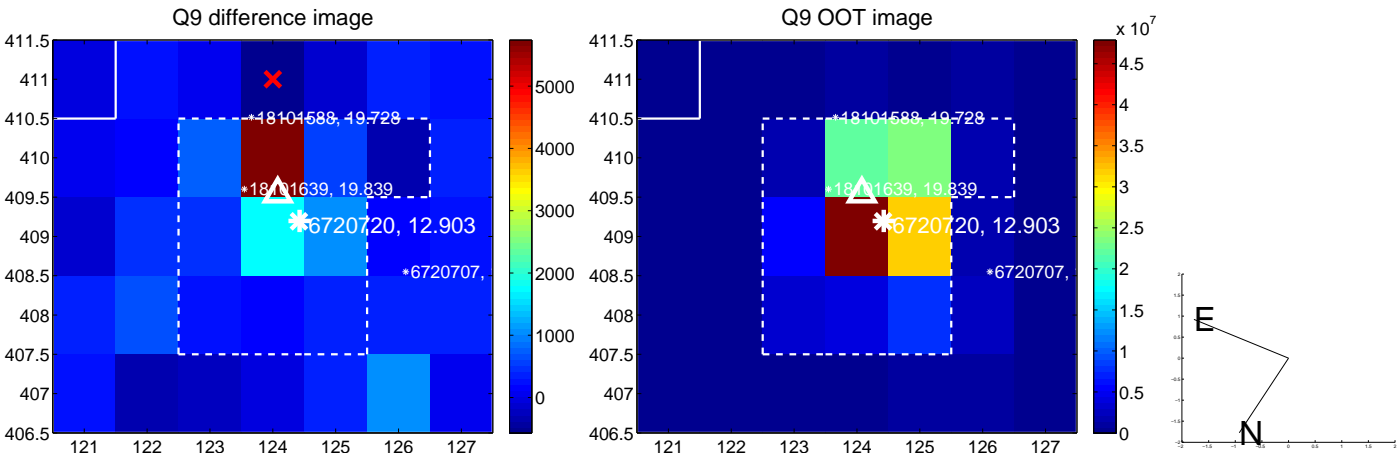
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



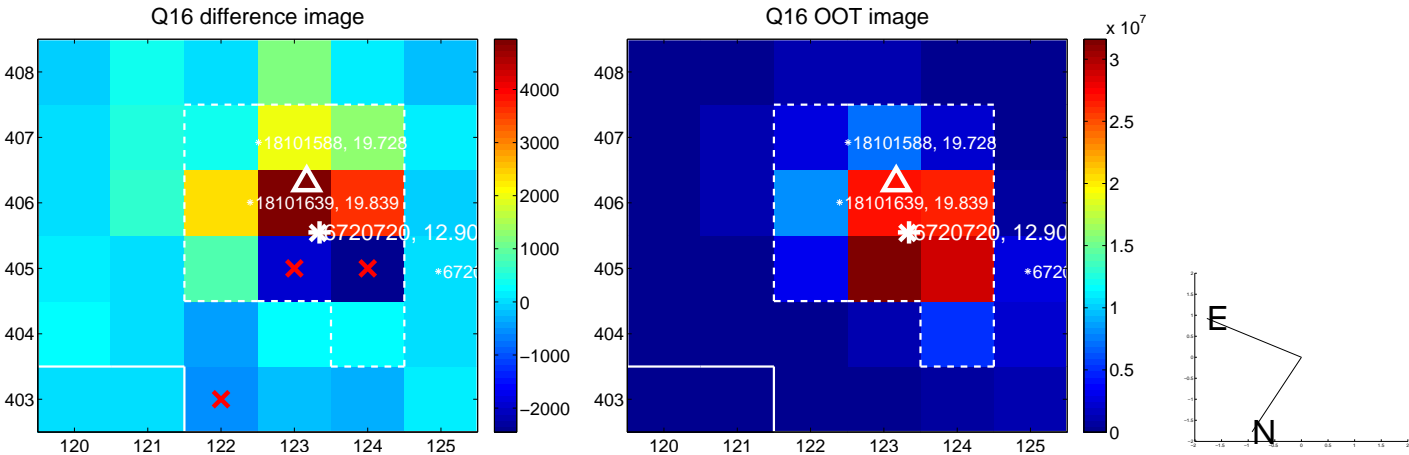
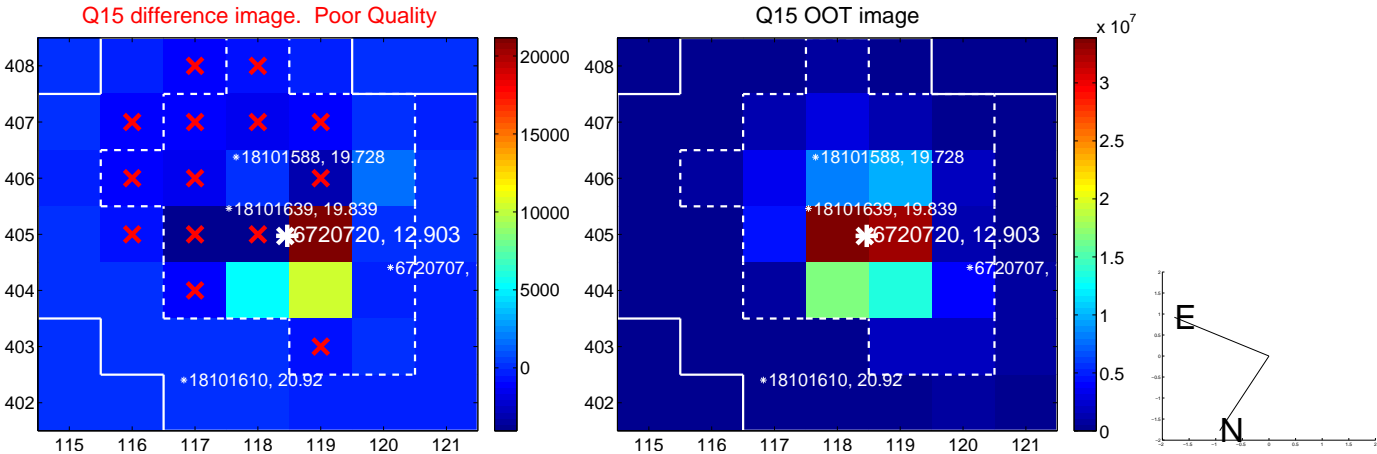
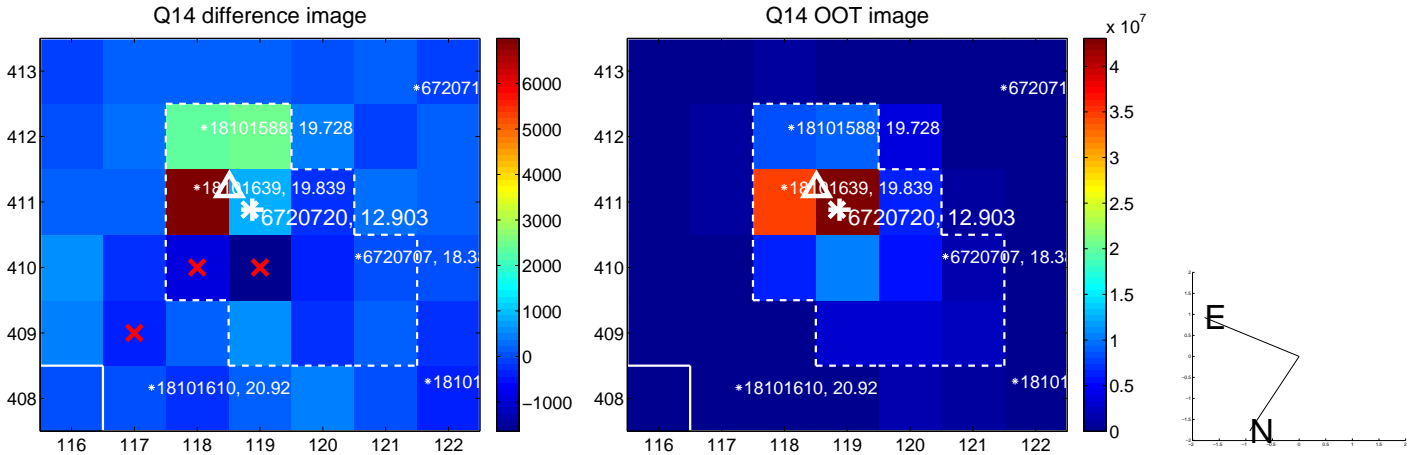
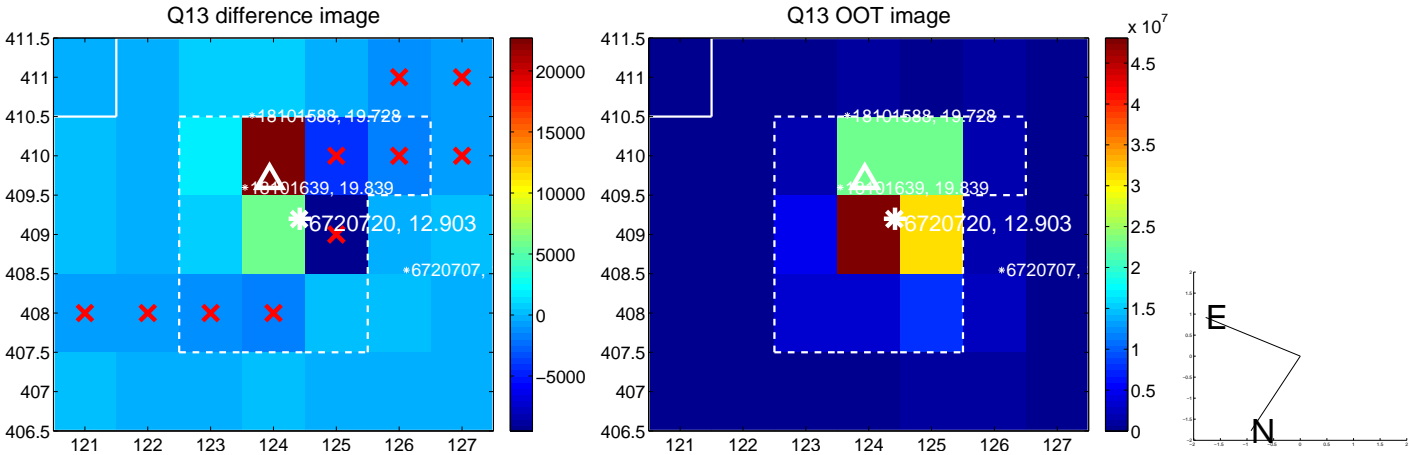
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



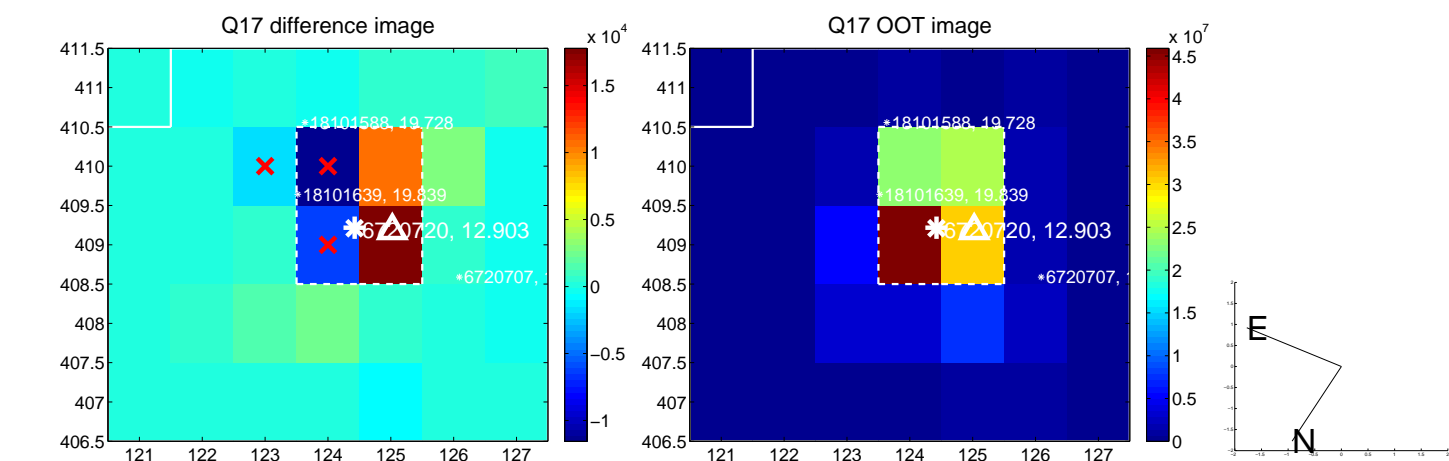
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



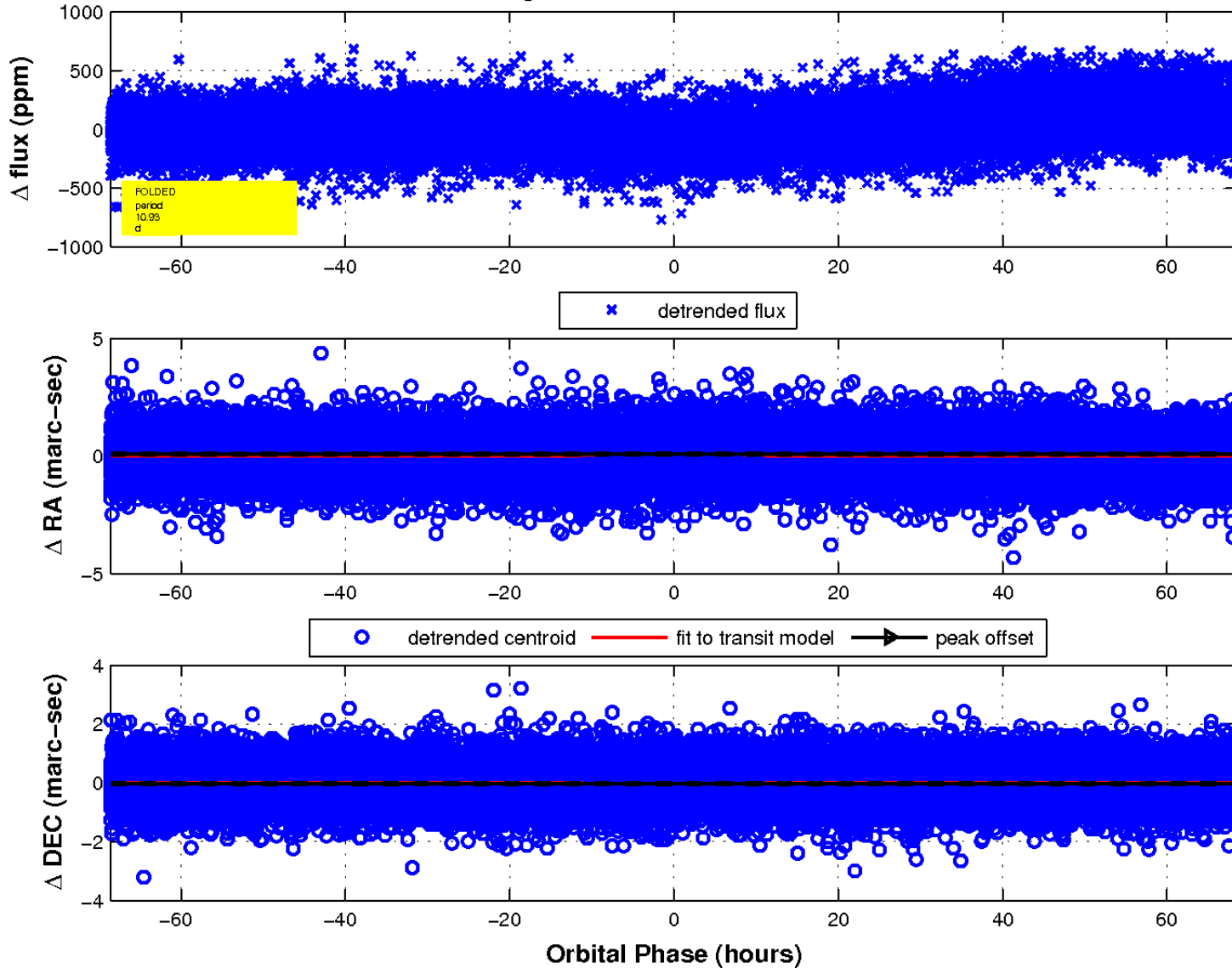
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

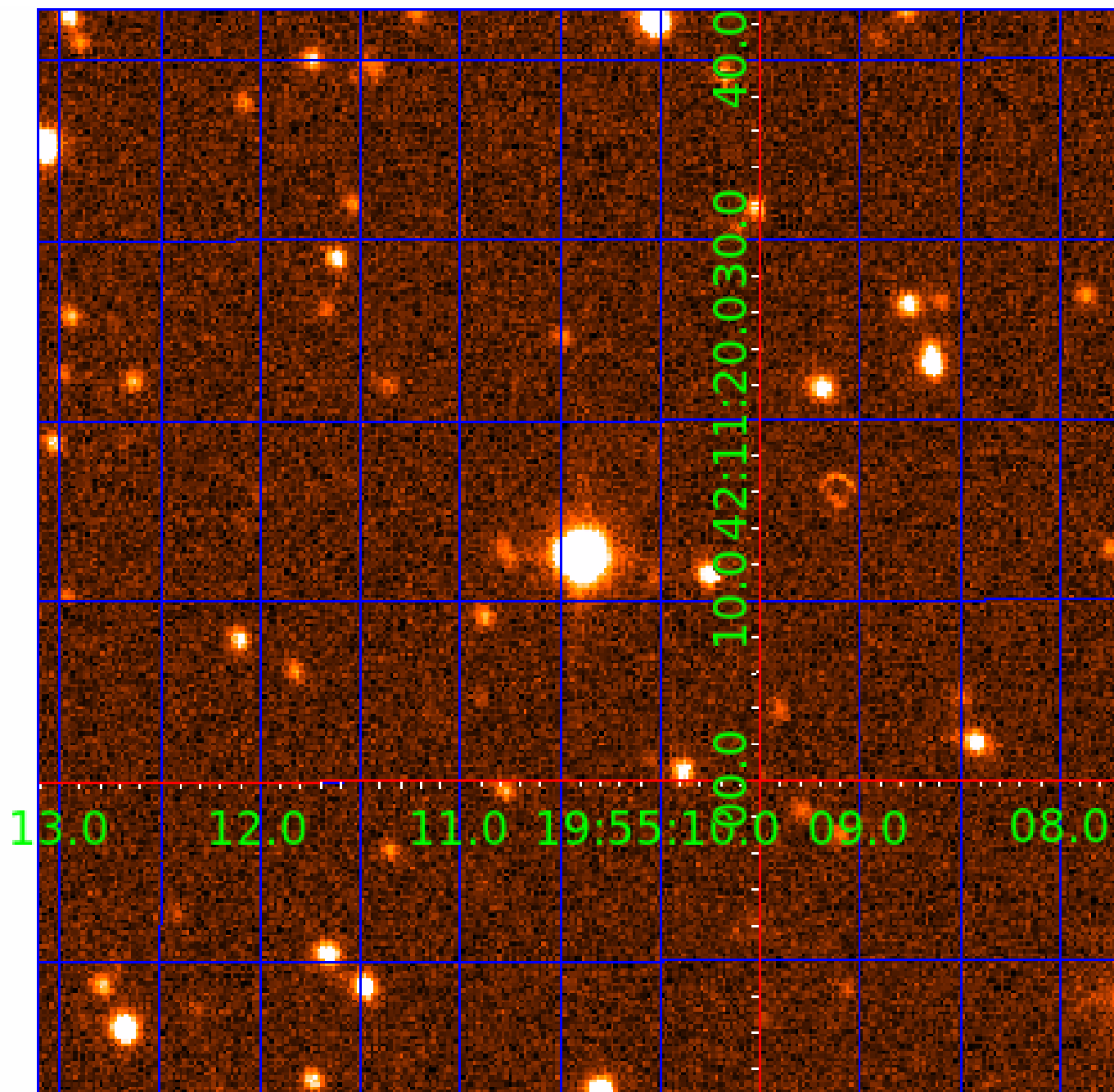


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 006720720

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})
006720720-01	OBS	No	5.463563	131.551861	62.8	15.000	13.5	-1.0	2.31	7855	1.86	3279.09
006720720-02	OBS	No	10.927122	133.399008	47.2	22.865	10.9	14.3	2.31	7855	1.65	1301.31
006720720-03	OBS	No	10.928091	138.314997	35.2	20.316	7.7	10.3	2.31	7855	1.56	1301.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006720720-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
006720720-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
006720720-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—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.

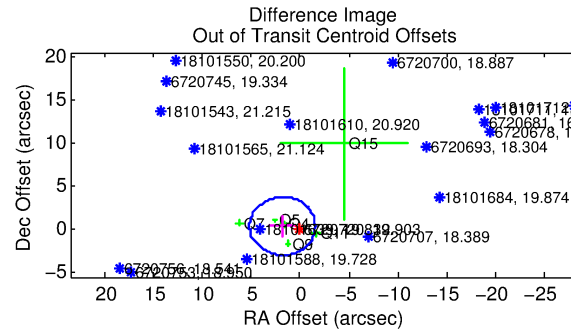
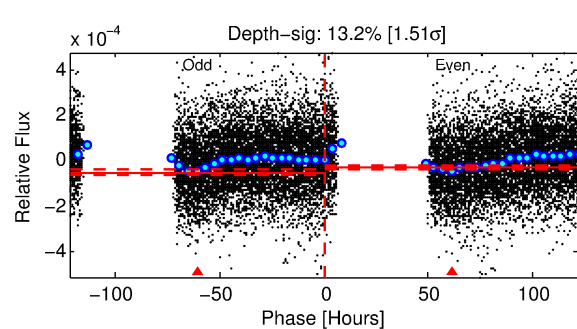
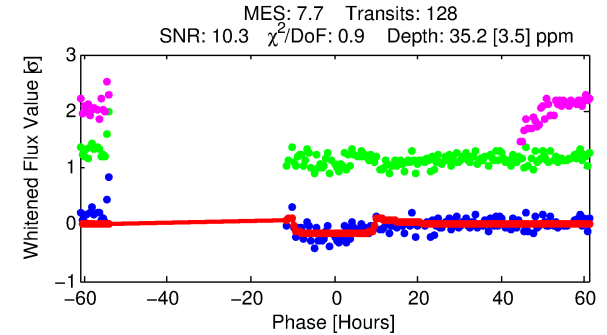
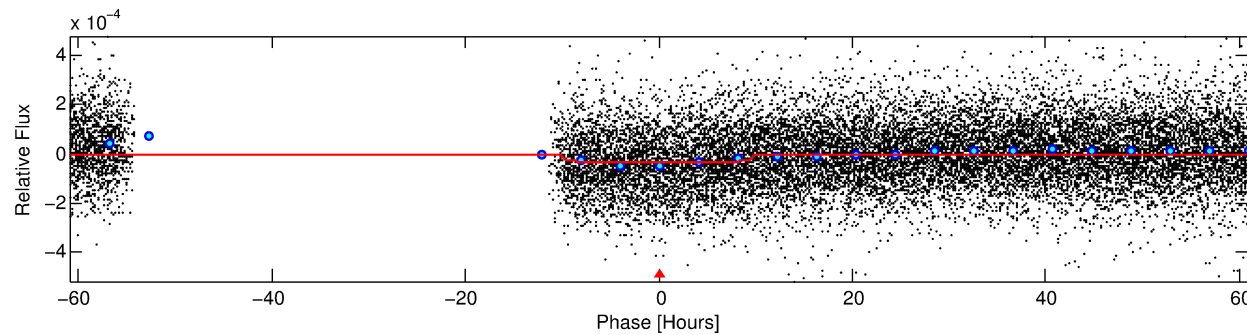
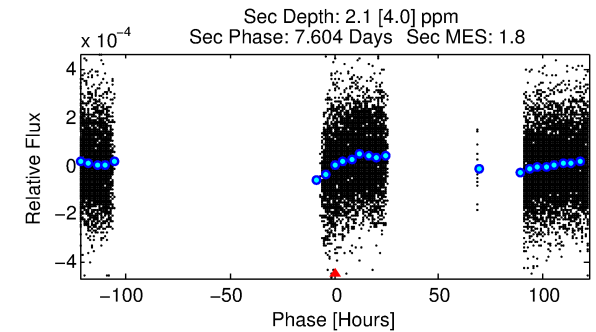
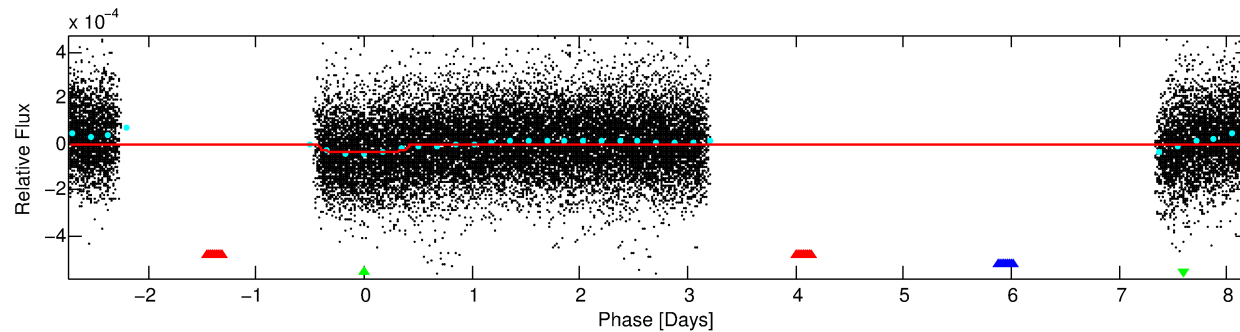
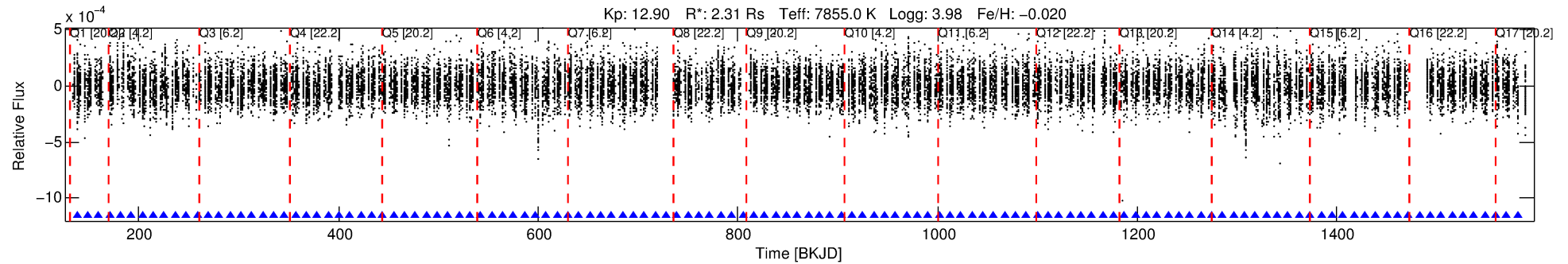
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006720720-03

No Significant Match Found

DV One-Page Summary

KIC: 6720720 Candidate: 3 of 3 Period: 10.928 d



DV Fit Results:

Period = 10.92809 [0.00025] d
Epoch = 138.3150 [0.0207] BKJD
Rp/R* = 0.0062 [0.0007]
a/R* = 2.25 [1.04]
b = 0.87 [0.16]
Seff = 1301.15 [525.56]
Teq = 1531 [155] K
Rp = 1.56 [0.45] Re
a = 0.1185 [0.0285] AU
Ag = 6.74 [13.07] [0.44σ]
Teff = 3815 [1823] K [1.25σ]

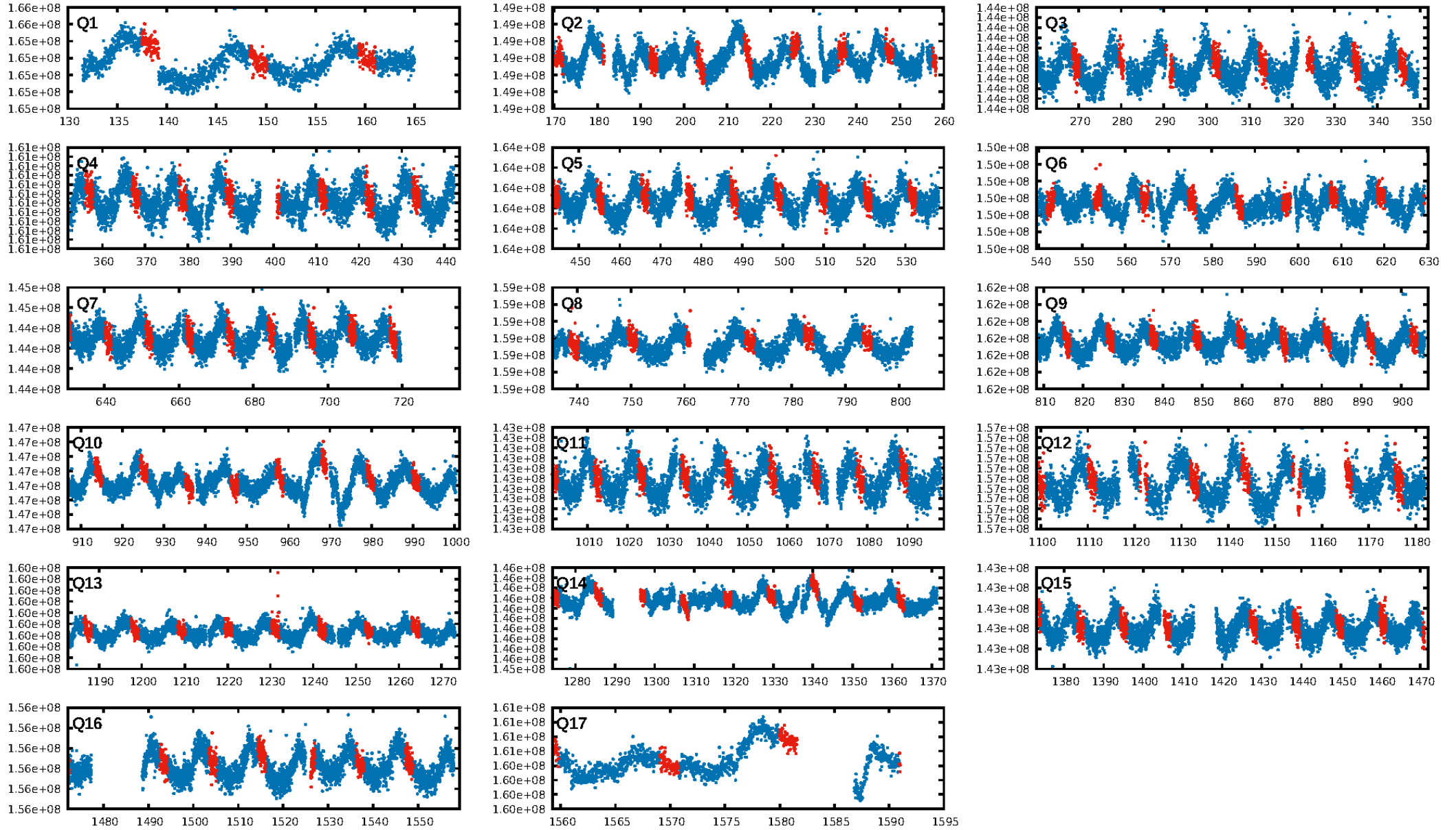
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 50.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.01e-15
RollingBand-fgt: 1.00 [122/122]
GhostDiagnostic-chr: -10.49
Centroid-sig: 45.1%
Centroid-so: 0.903 arcsec [0.79σ]
OotOffset-rm: 1.852 arcsec [1.65σ]
KicOffset-rm: 1.788 arcsec [1.44σ]
OotOffset-st: 0/3/1/2 [6]
KicOffset-st: 0/3/1/2 [6]
DiffImageQuality-fgm: 0.67 [4/6]
DiffImageOverlap-fno: 0.00 [0/17]

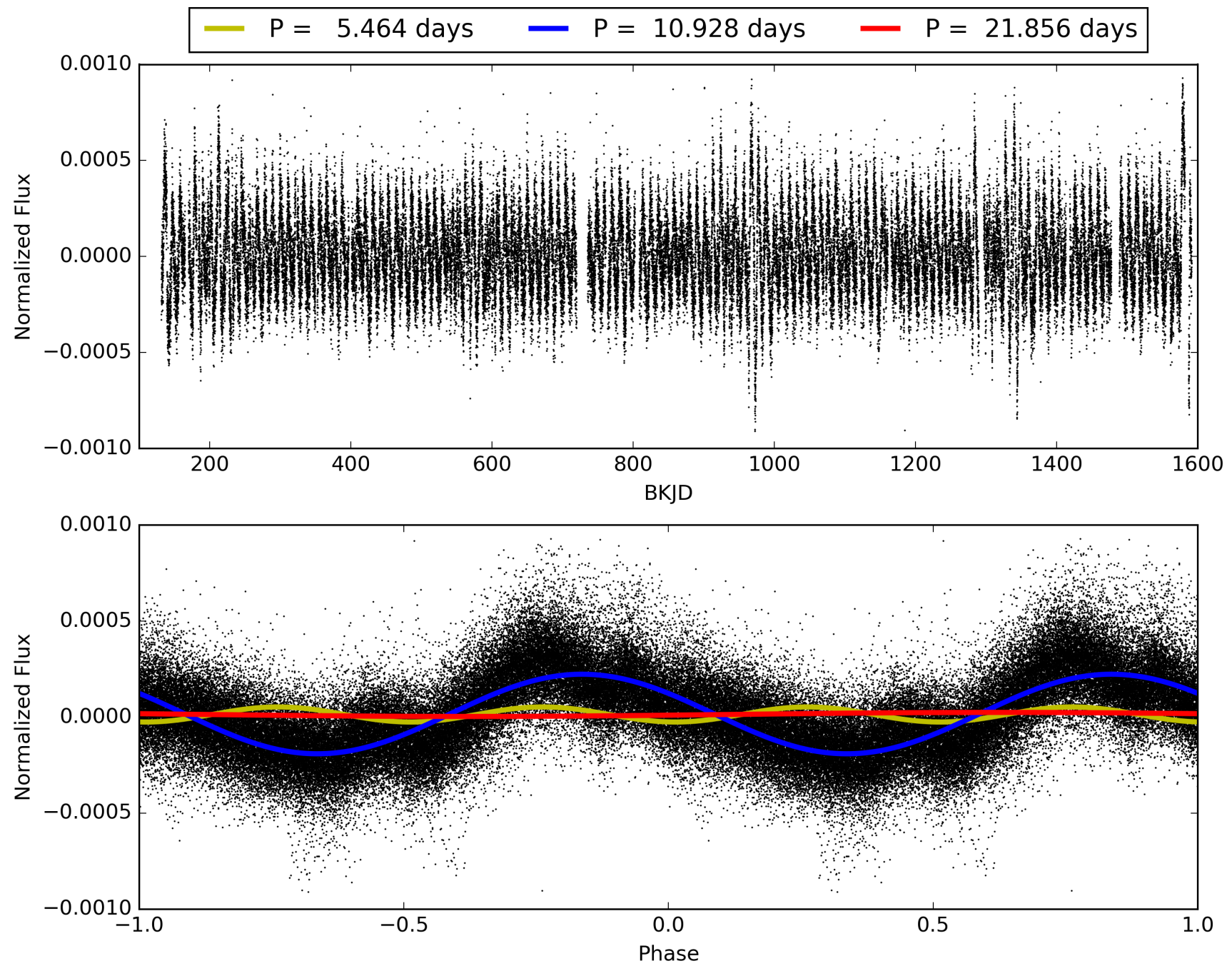
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:43:26 Z

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

TCE 006720720-03, PDC Light Curves

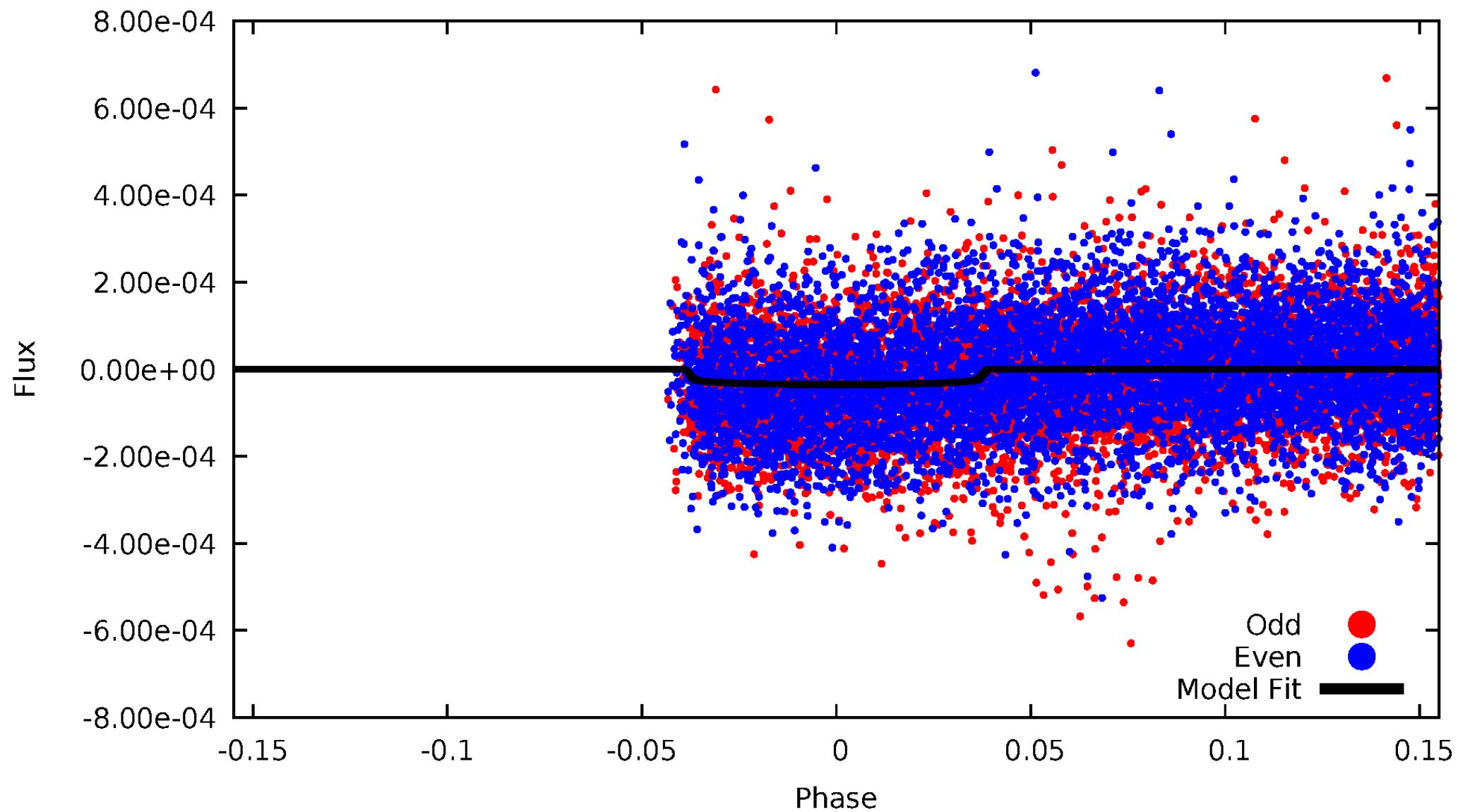


TCE 006720720-03



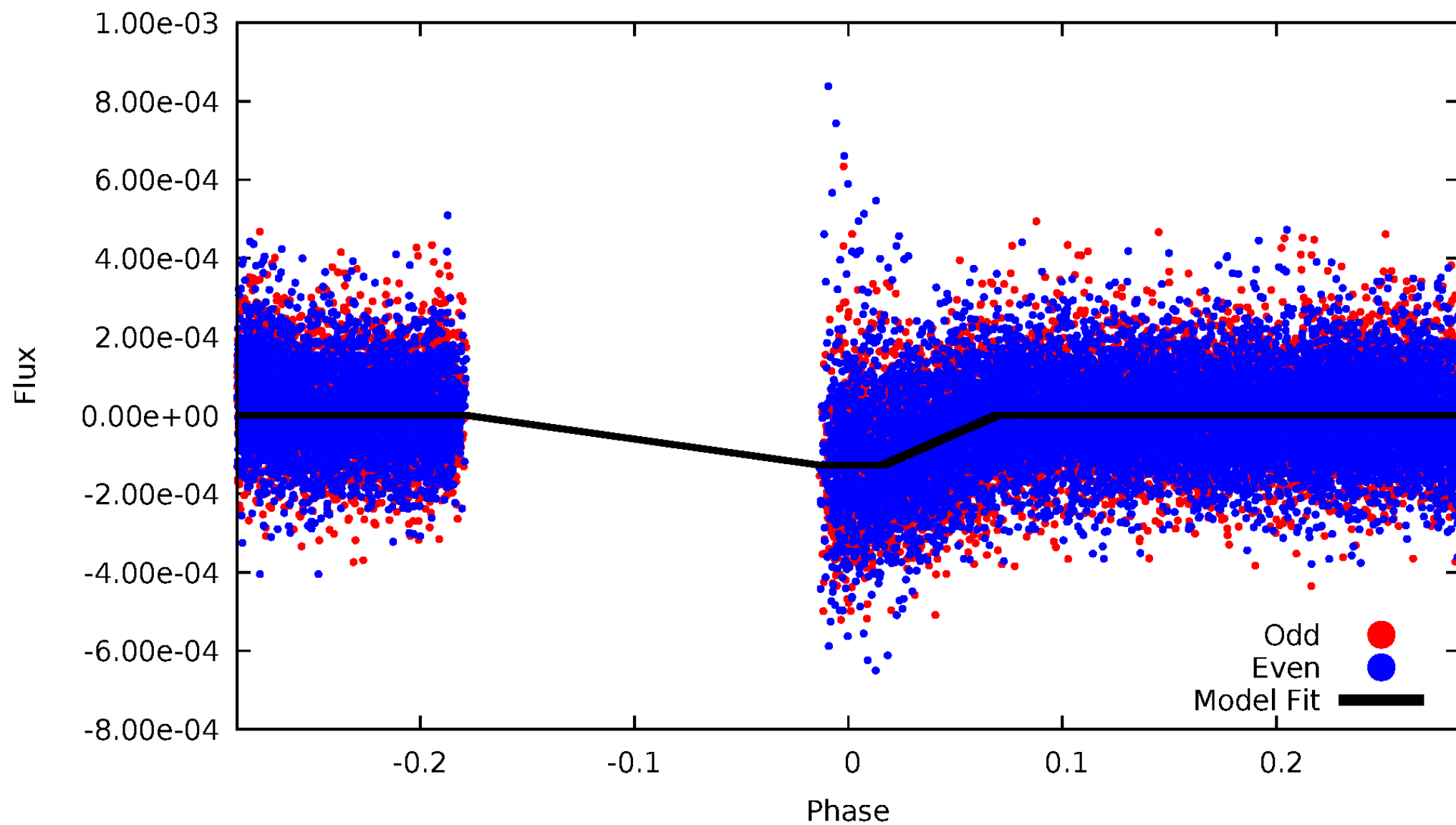
DV Odd/Even

TCE 006720720-03



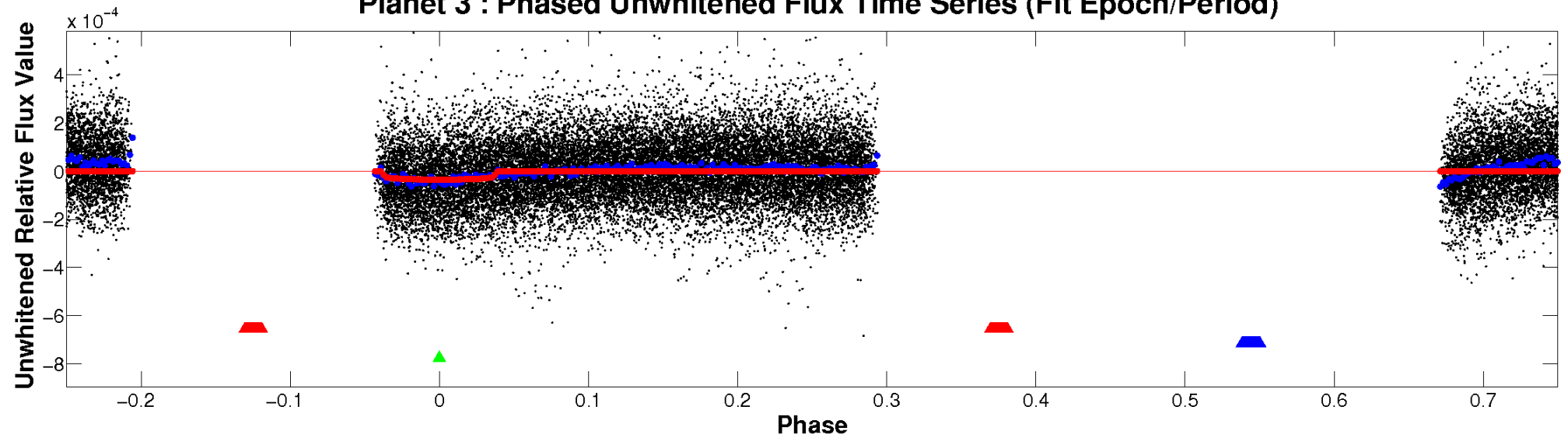
ALT Odd/Even

TCE 006720720-03

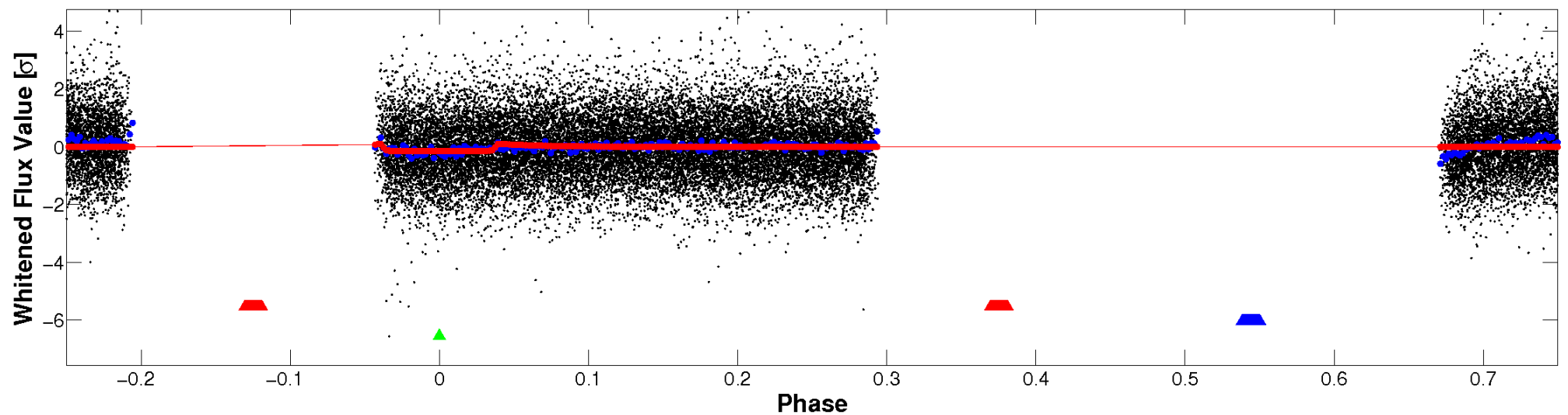


Non-Whitened Vs. Whitened Light Curve

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

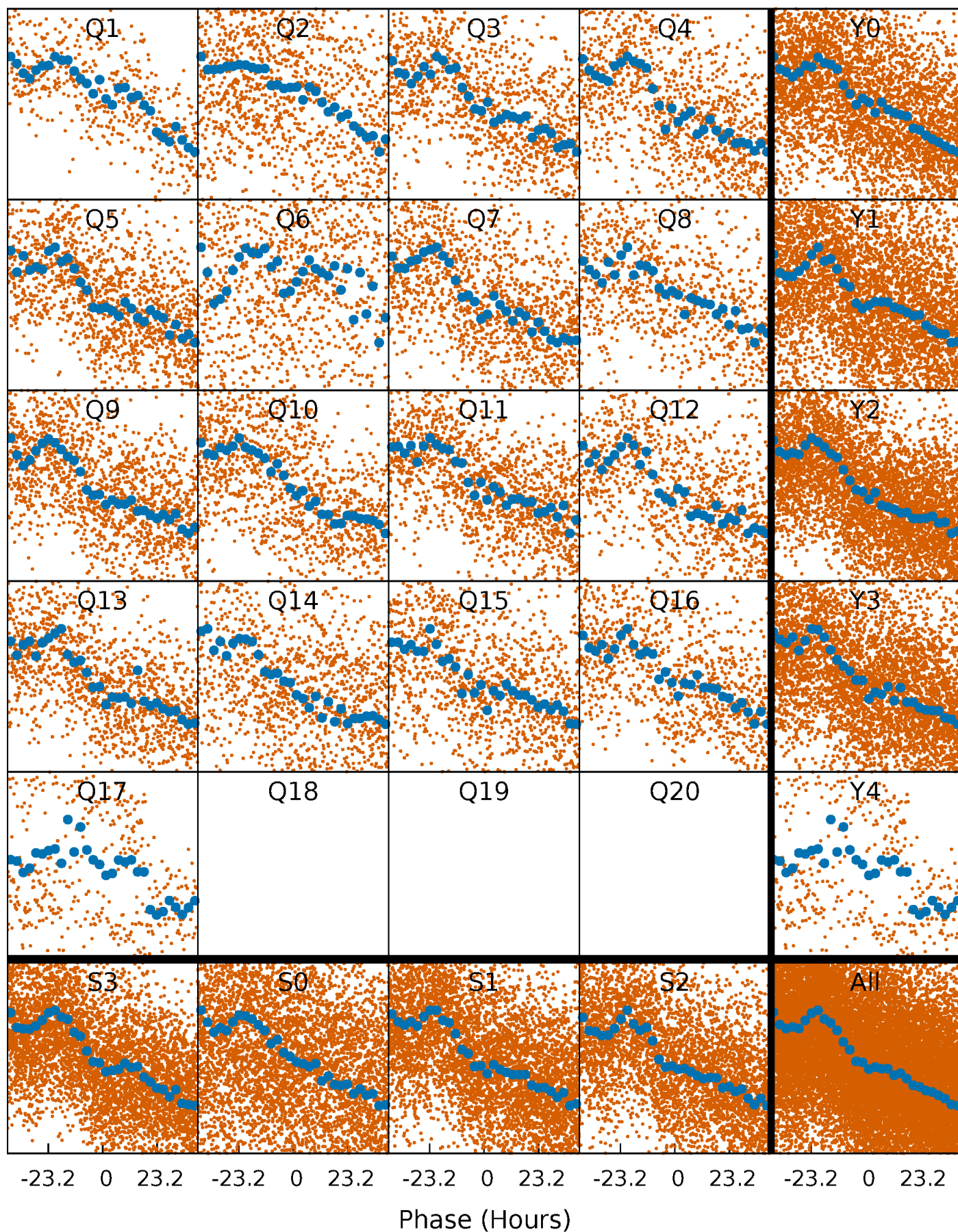


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



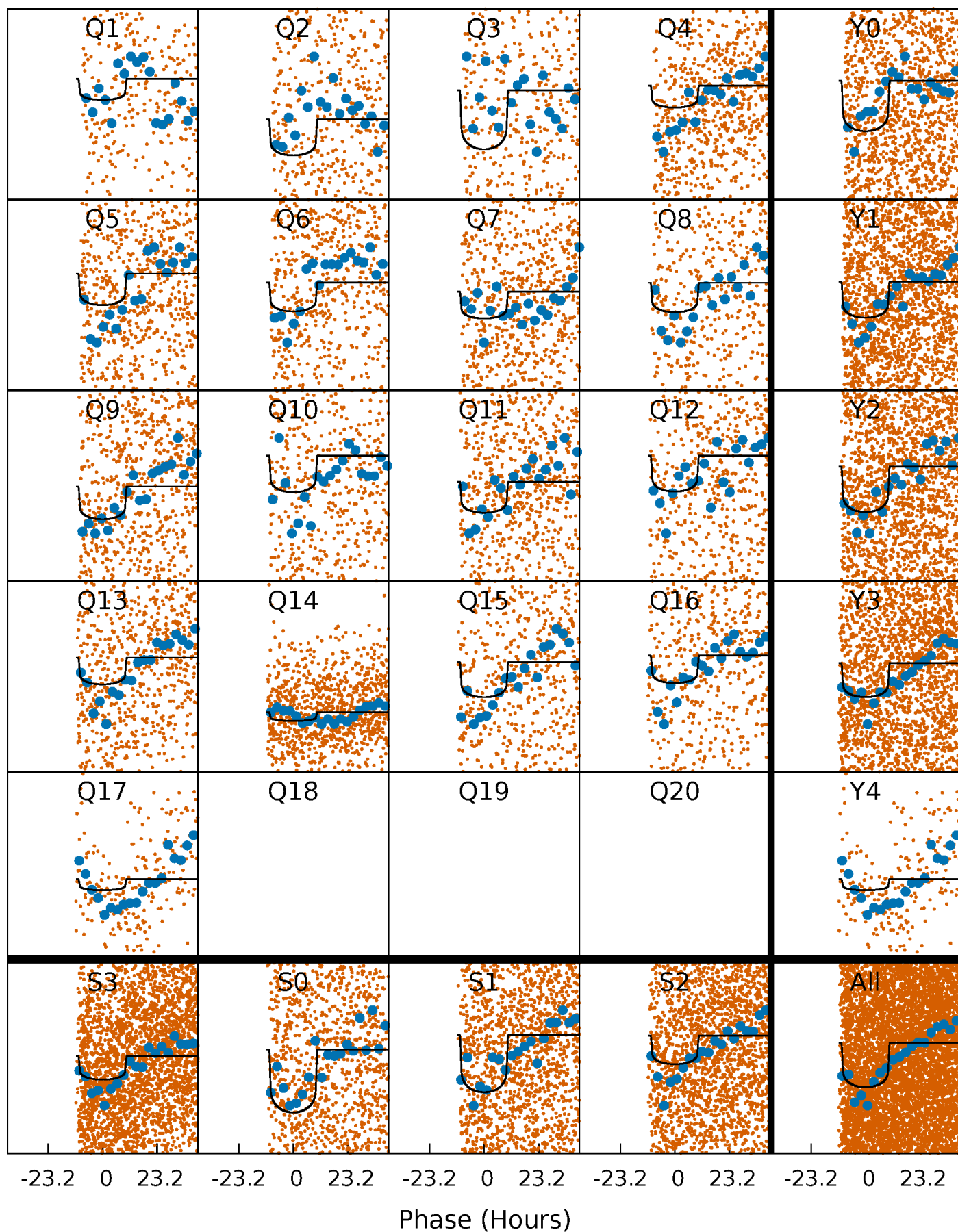
PDC Quarter-Phased Transit Curves

TCE 006720720-03 P= 10.928091 Days $T_0=138.314997$ (BKJD)



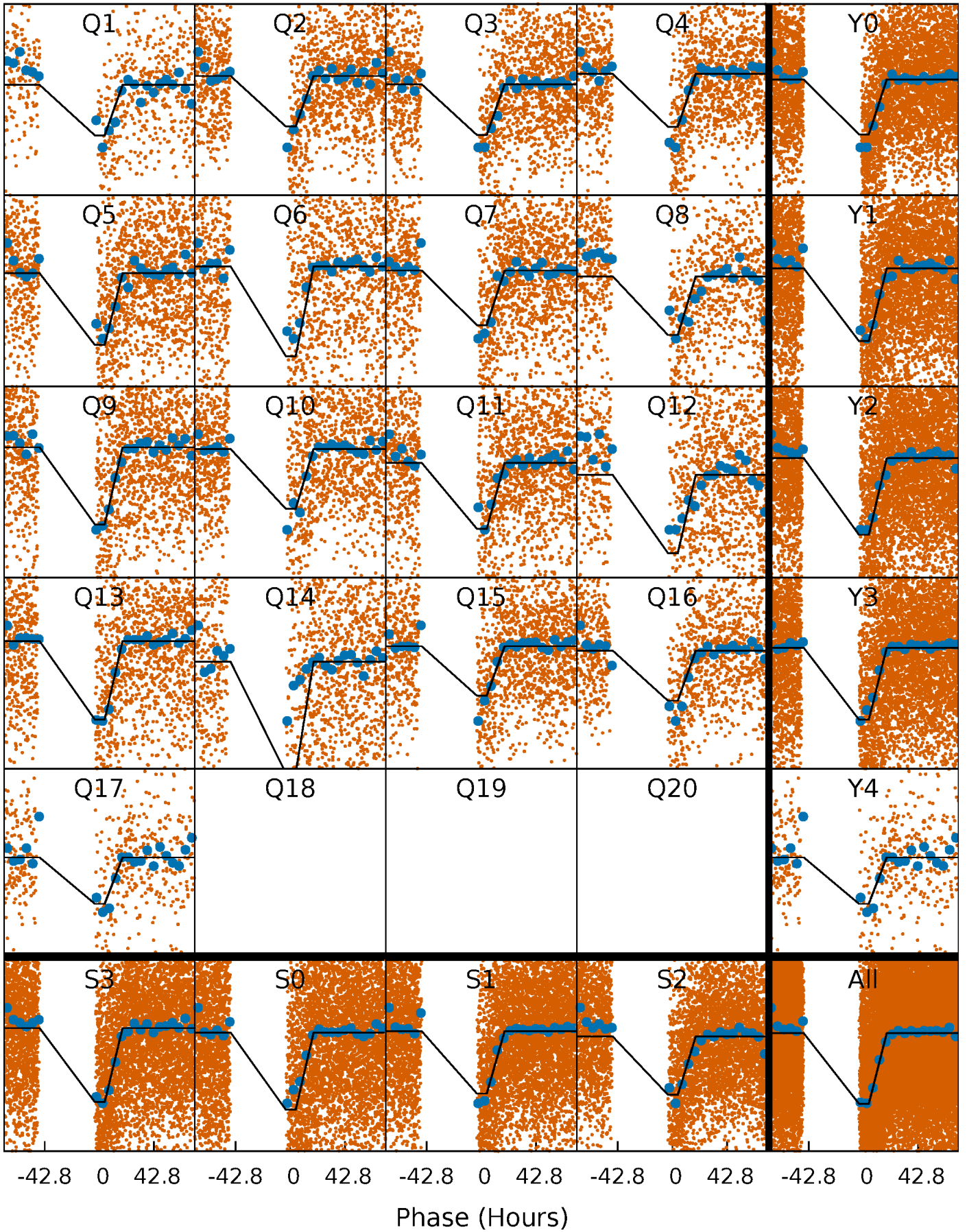
DV Quarter-Phased Transit Curves

TCE 006720720-03 P= 10.928091 Days $T_0=138.314997$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

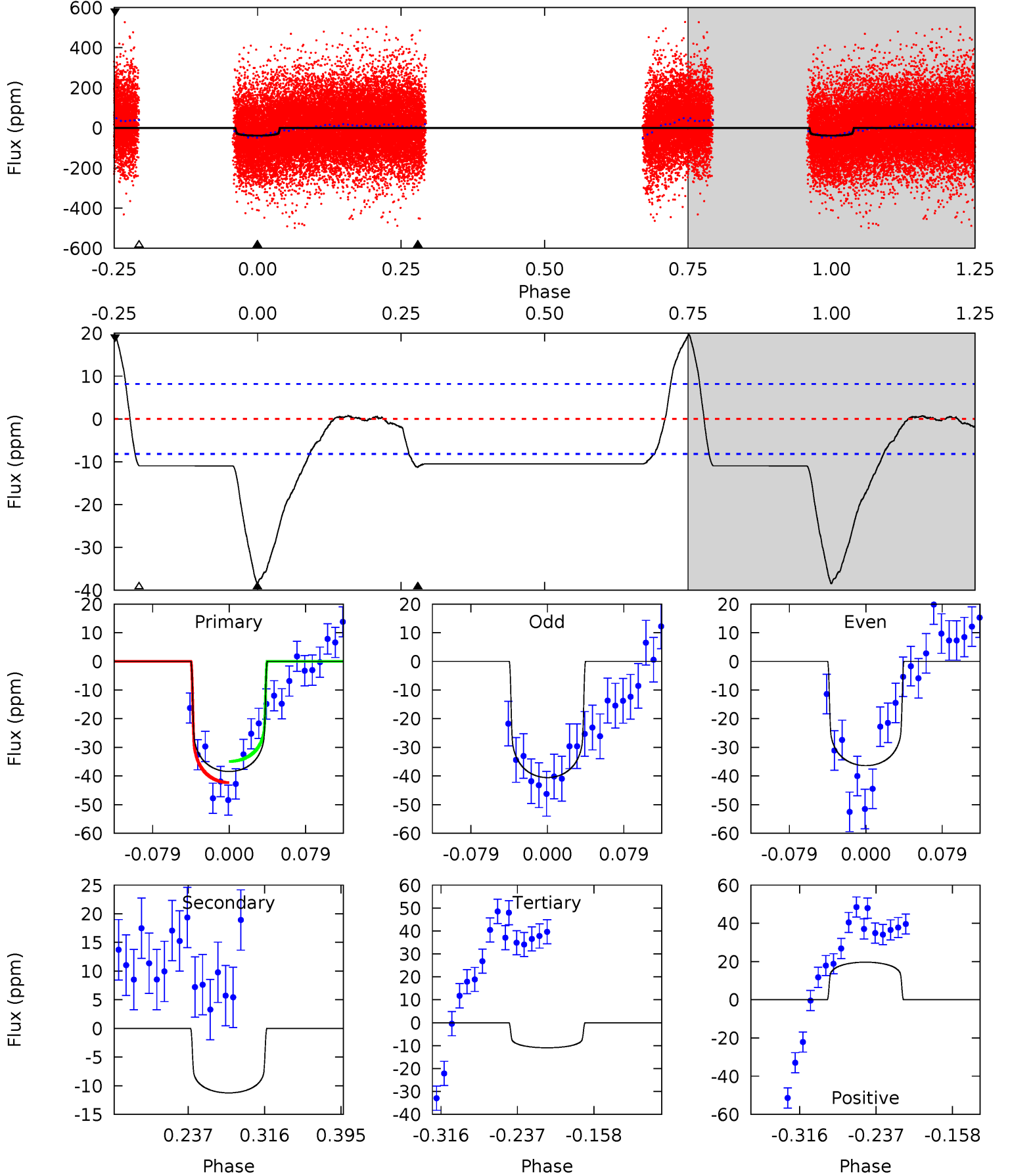
TCE 006720720-03 P= 10.927931 Days $T_0=138.008740$ (BKJD)



DV Model-Shift Uniqueness Test

006720720-03, P = 10.928091 Days, E = 127.386906 Days

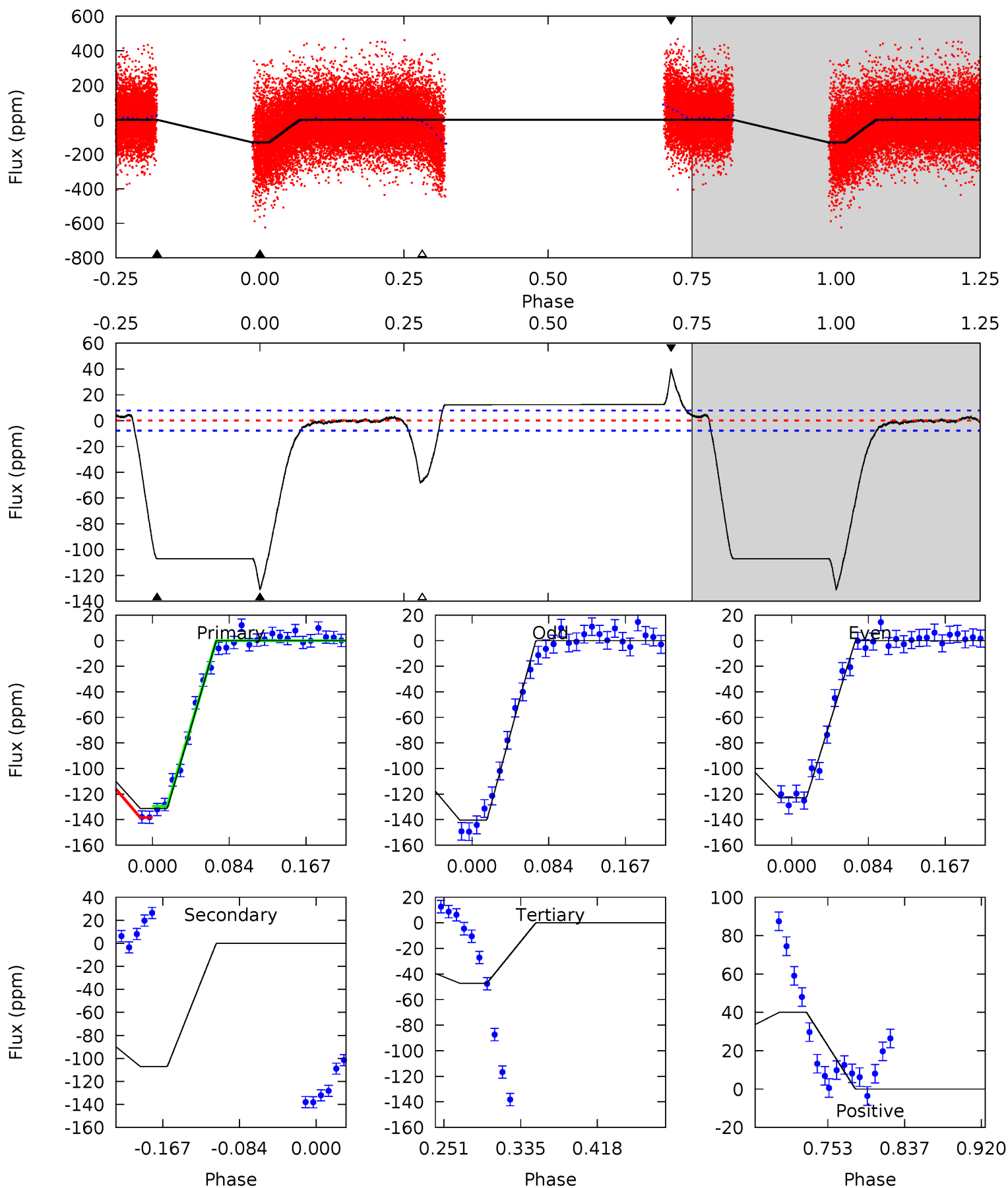
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.7	6.36	6.18	11.1	4.61	1.76	4.75	15.5	10.6	0.18	-4.76	1.17	0.95	0.34	2.10



Alt Model-Shift Uniqueness Test

006720720-03, P = 10.927931 Days, E = 127.080809 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	63.5	28.0	23.8	4.60	1.73	10.5	49.8	54.1	35.5	39.7	5.19	0.96	0.23	1.70



Stellar Parameters For KIC 006720720

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7855^{+216}_{-324}	$3.978^{+0.210}_{-0.140}$	$-0.020^{+0.200}_{-0.350}$	$2.314^{+0.452}_{-0.621}$	$1.855^{+0.123}_{-0.344}$	$0.211^{+0.284}_{-0.077}$
	+3%/-4%	+5%/-4%	+1000%/-1750%	+20%/-27%	+7%/-19%	+135%/-36%
Source	KIC0	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 006720720-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-11 ± 2	$1.53^{+0.29}_{-0.26}$	2123^{+139}_{-167}	5630^{+416}_{-377}	37^{+17}_{-12}
Alt.	-107 ± 2	$2.81^{+0.38}_{-0.42}$	2121^{+152}_{-163}	7426^{+364}_{-355}	102^{+37}_{-22}

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

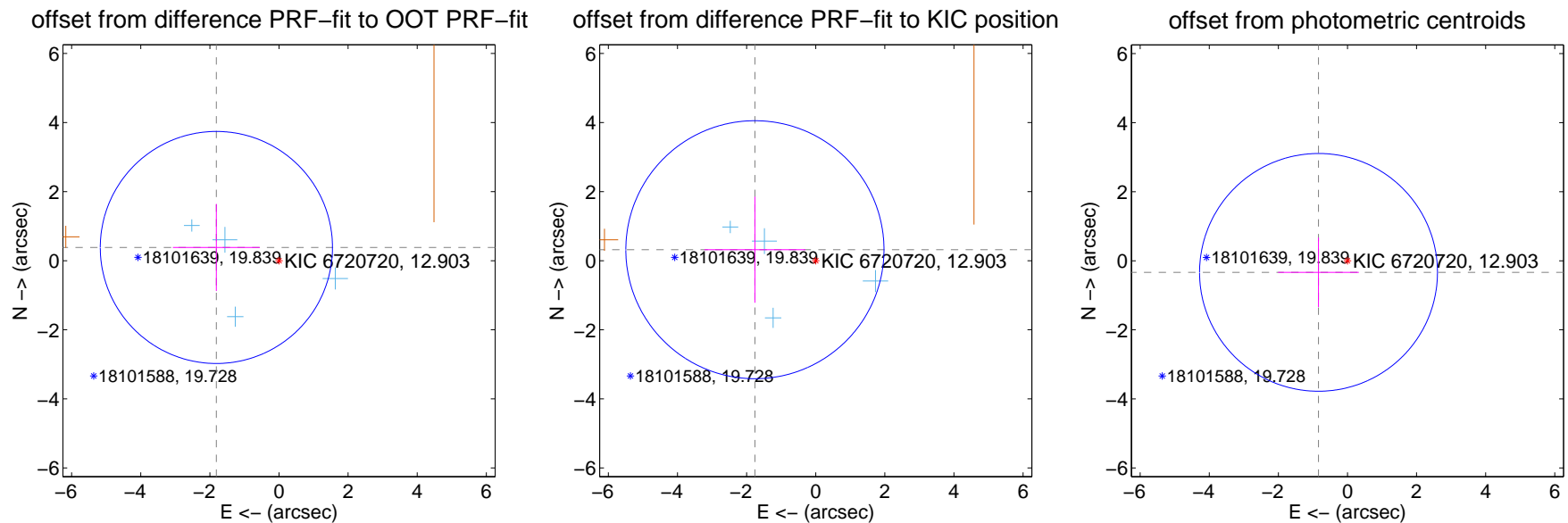
DV Centroid Data

Supplemental centroid analysis for 006720720-03. Kepler magnitude: 12.90. Transit SNR 10.28

There are 4 quarters with good PRF difference image offsets

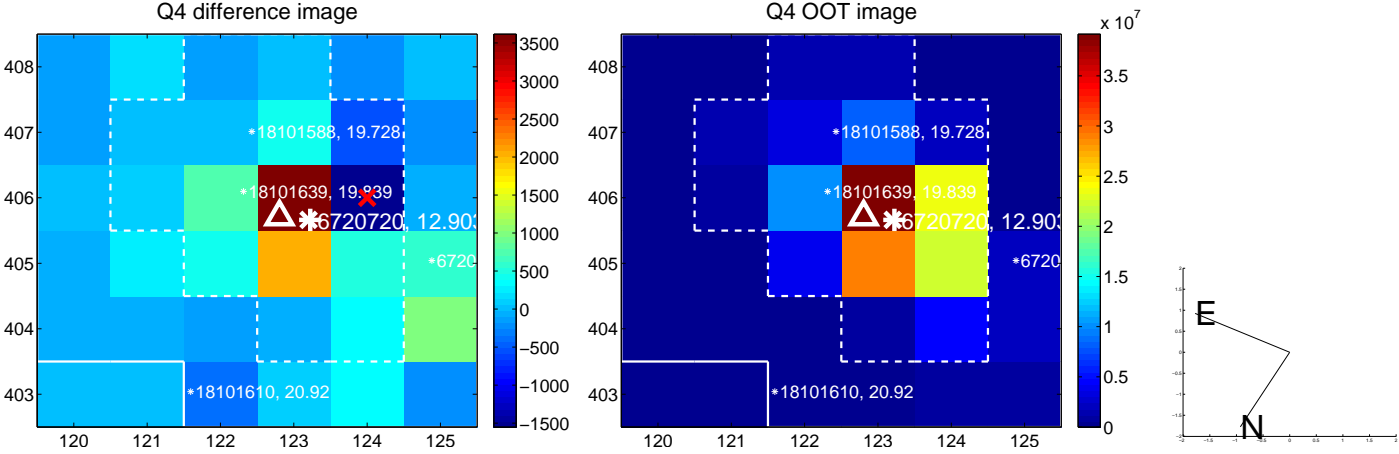
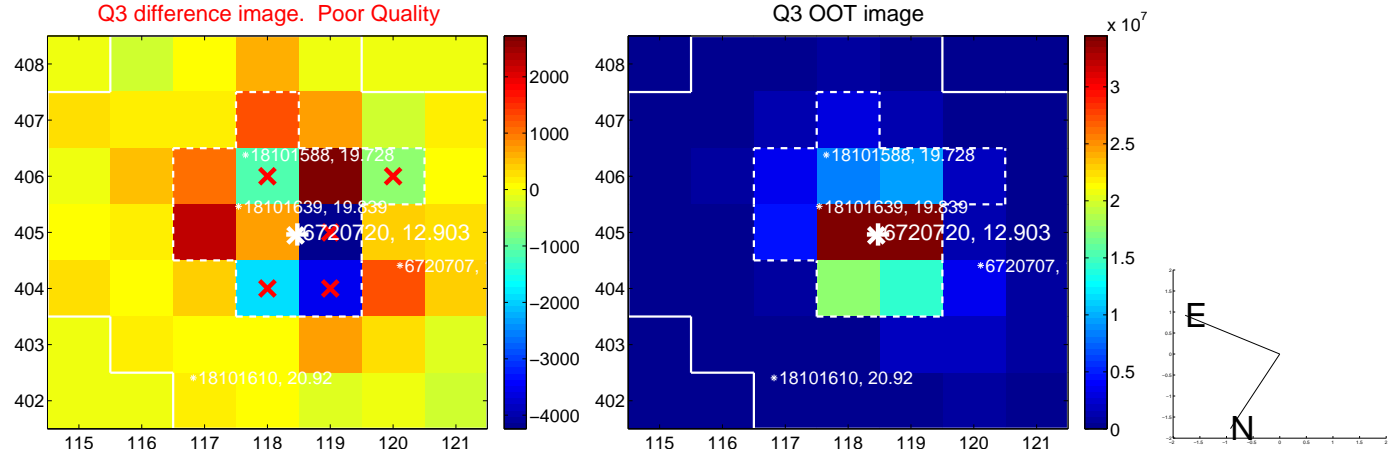
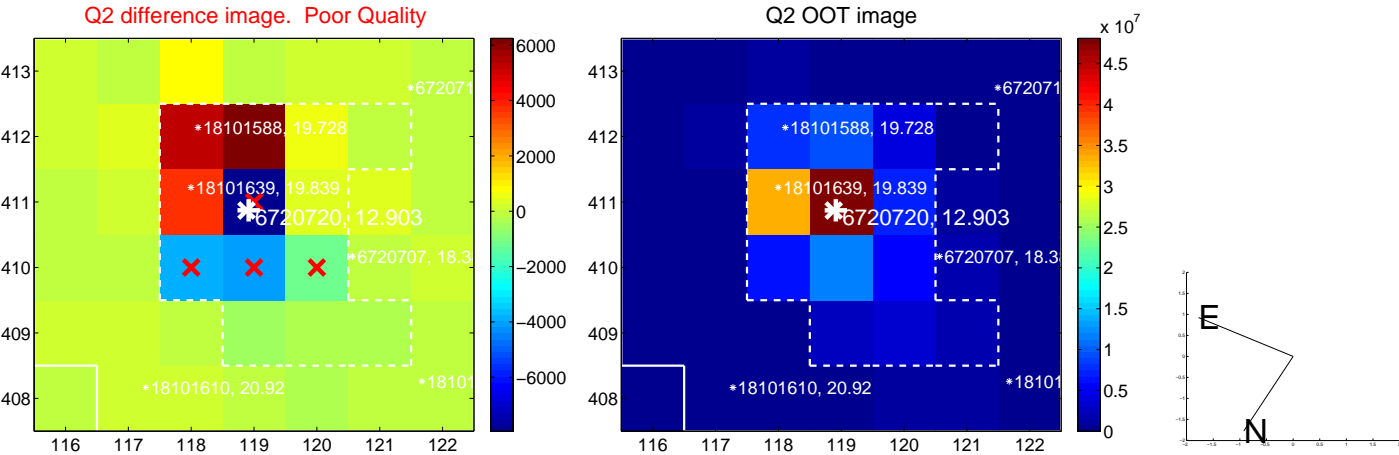
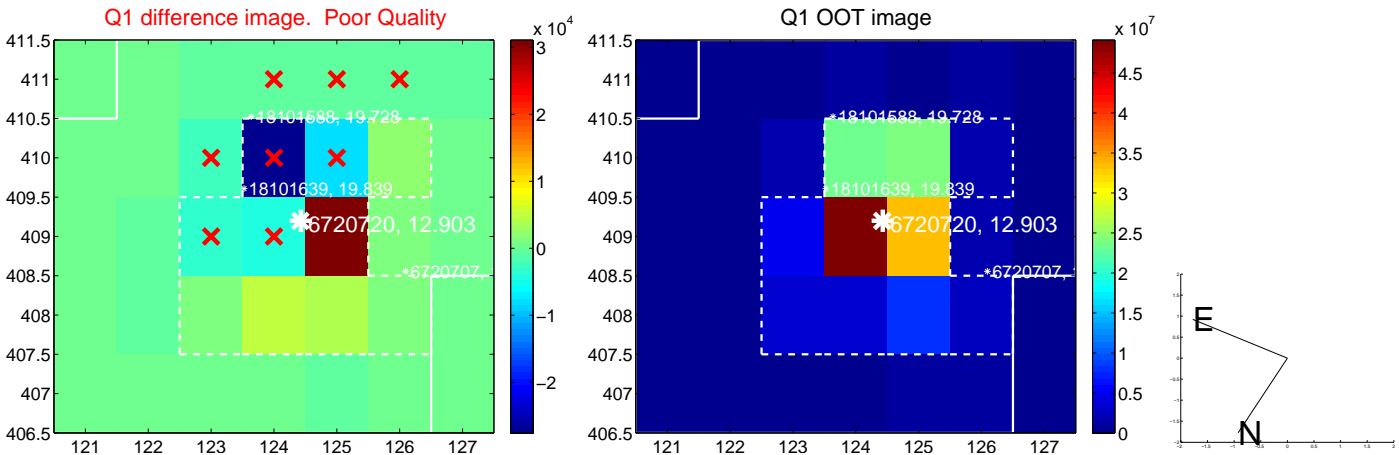
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.852 ± 1.120	1.65	1.812 ± 1.258	0.383 ± 1.261
PRF-fit source offset from KIC position	1.788 ± 1.245	1.44	1.760 ± 1.459	0.318 ± 1.535
photometric centroid source offset	0.90 ± 1.15	0.79	0.84 ± 1.17	-0.34 ± 1.01

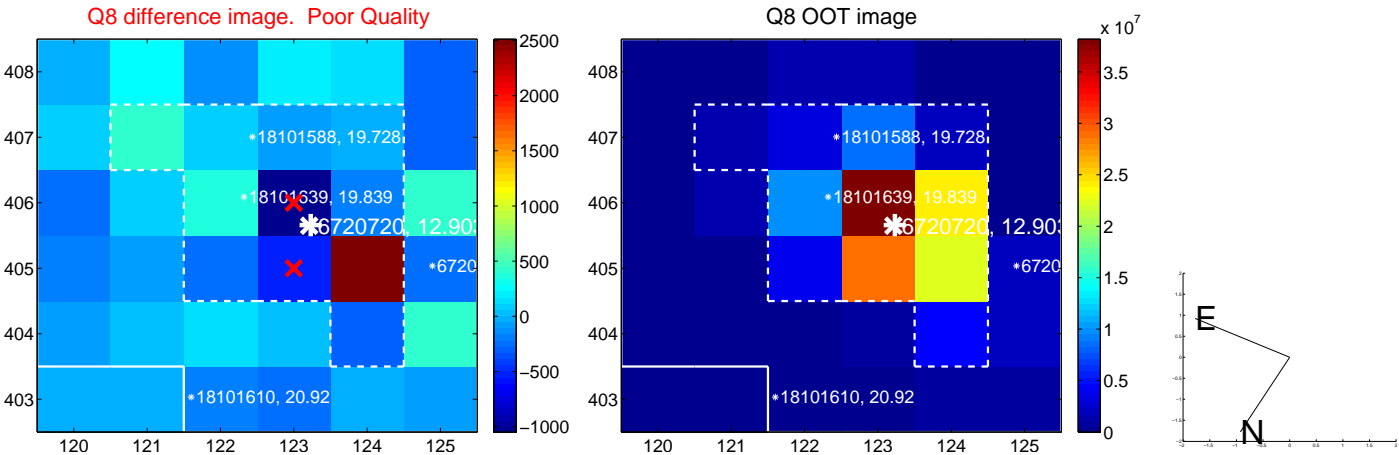
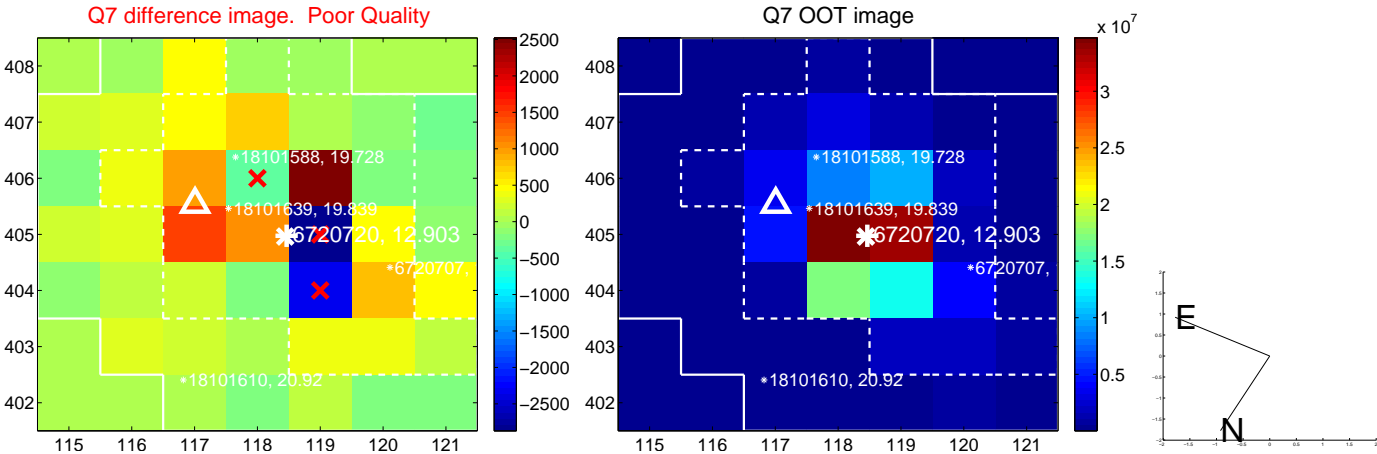
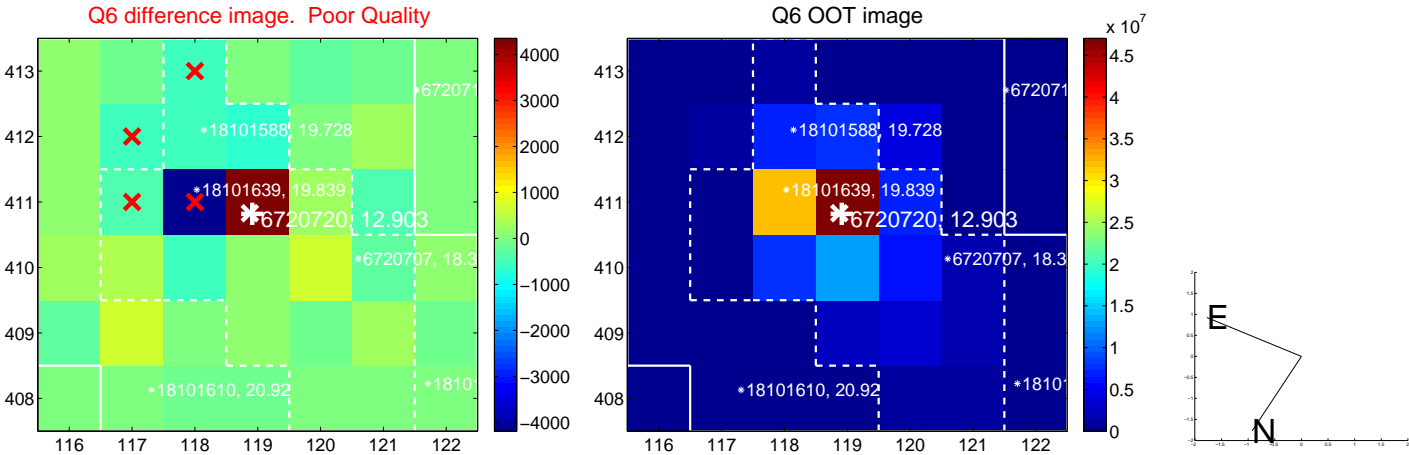
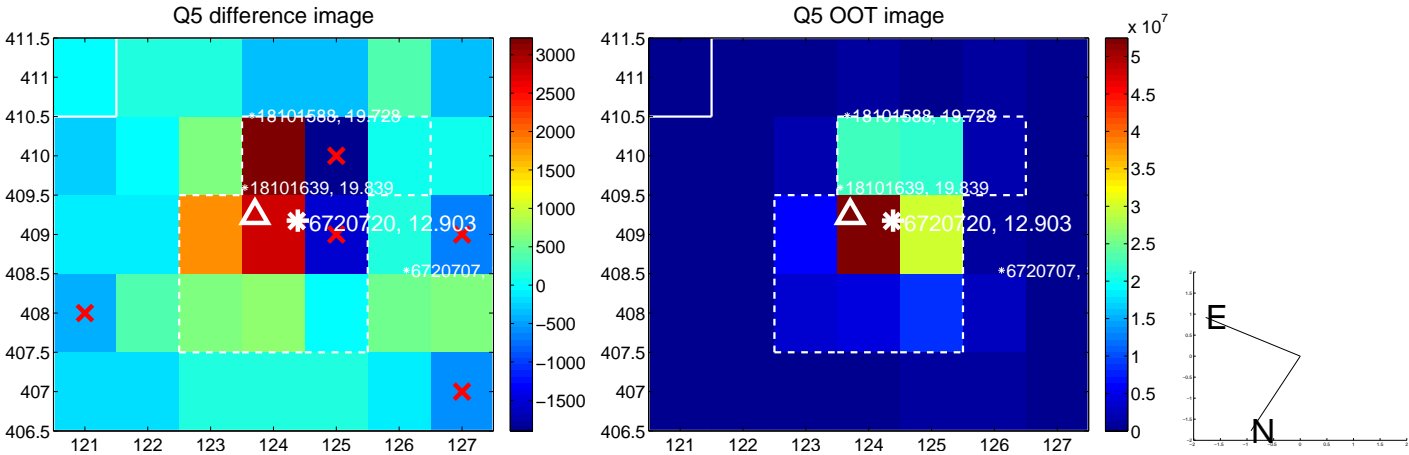


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

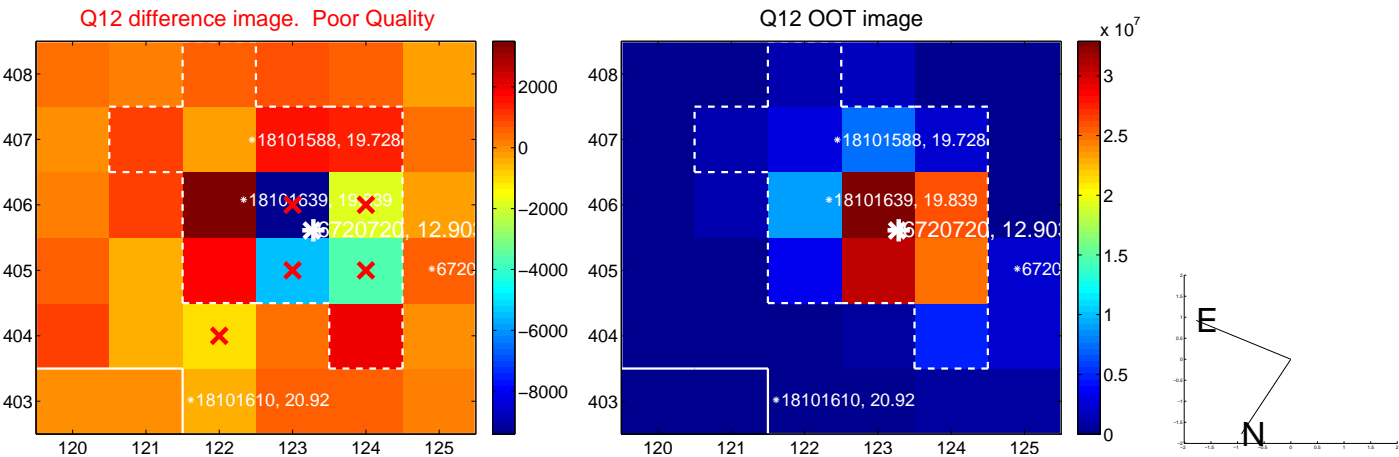
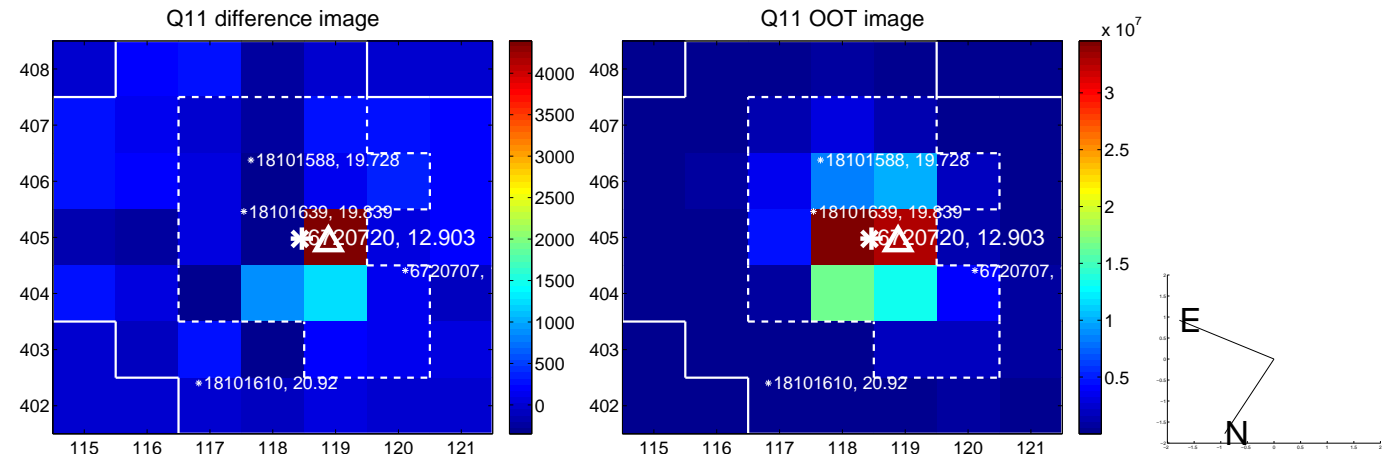
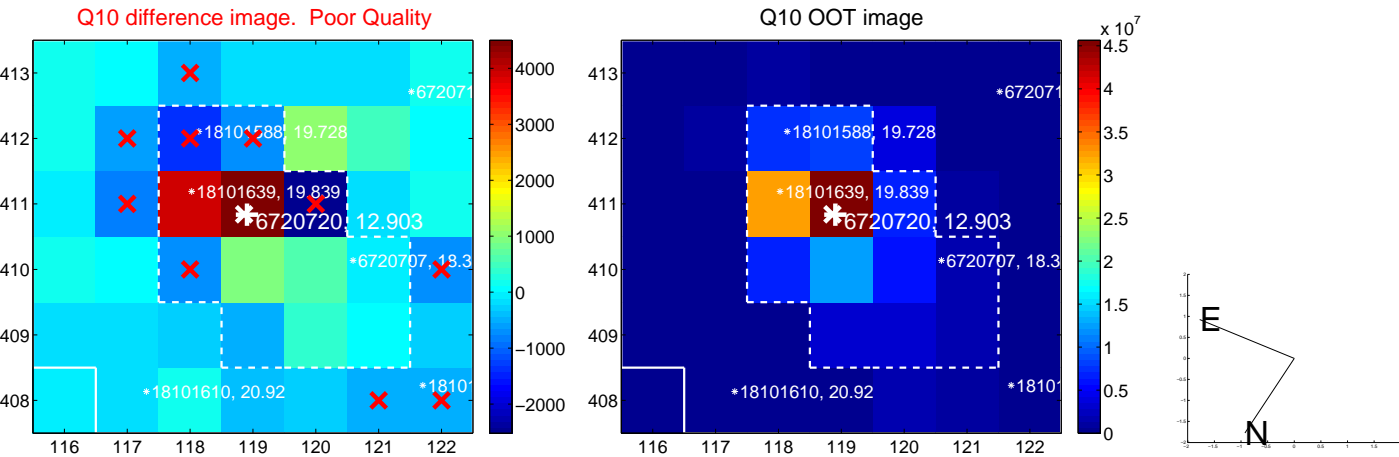
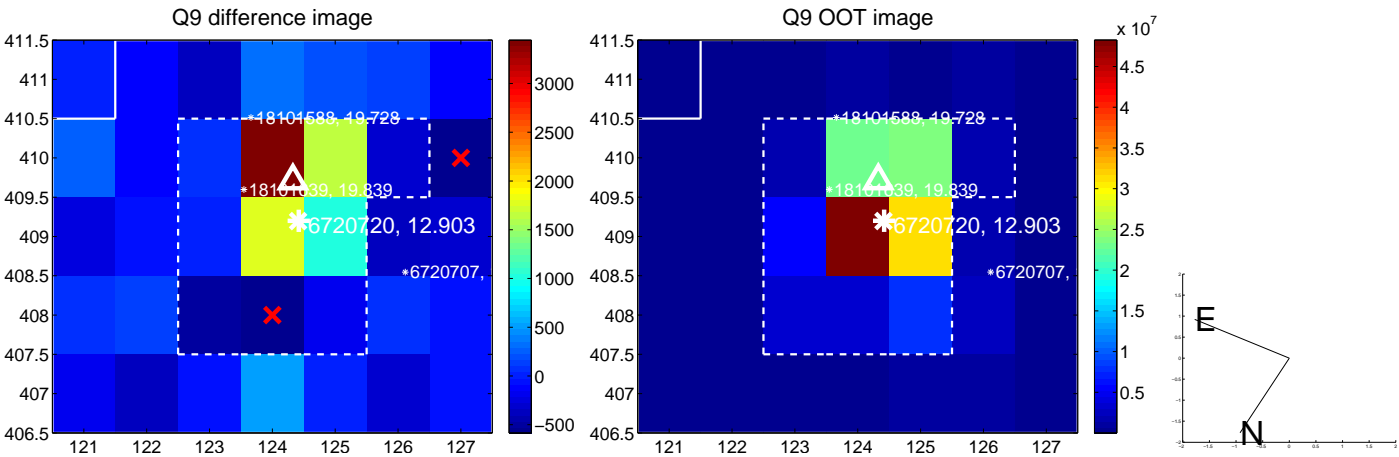
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



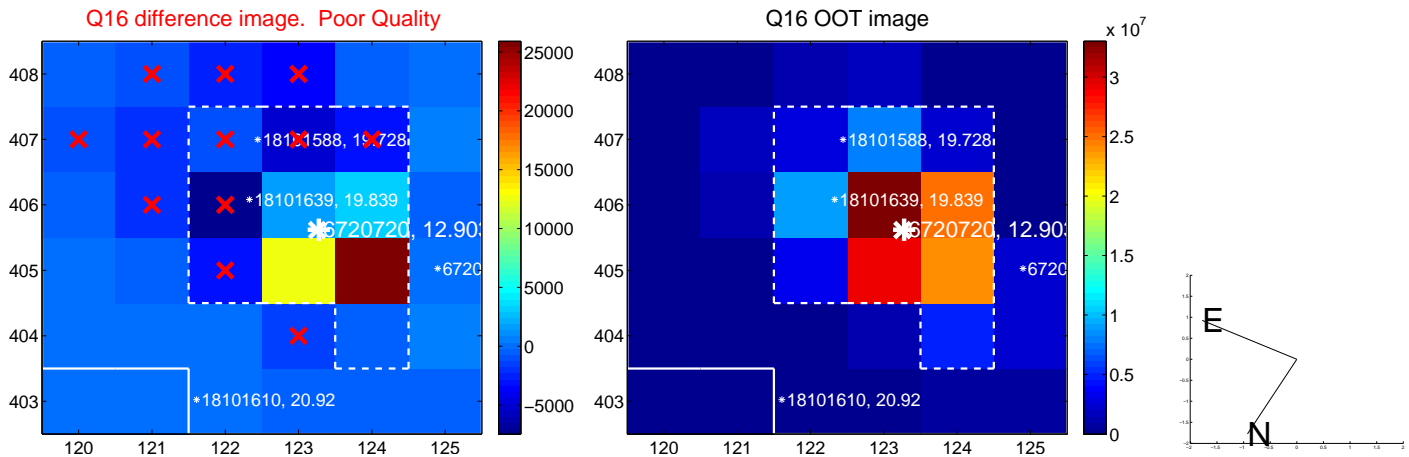
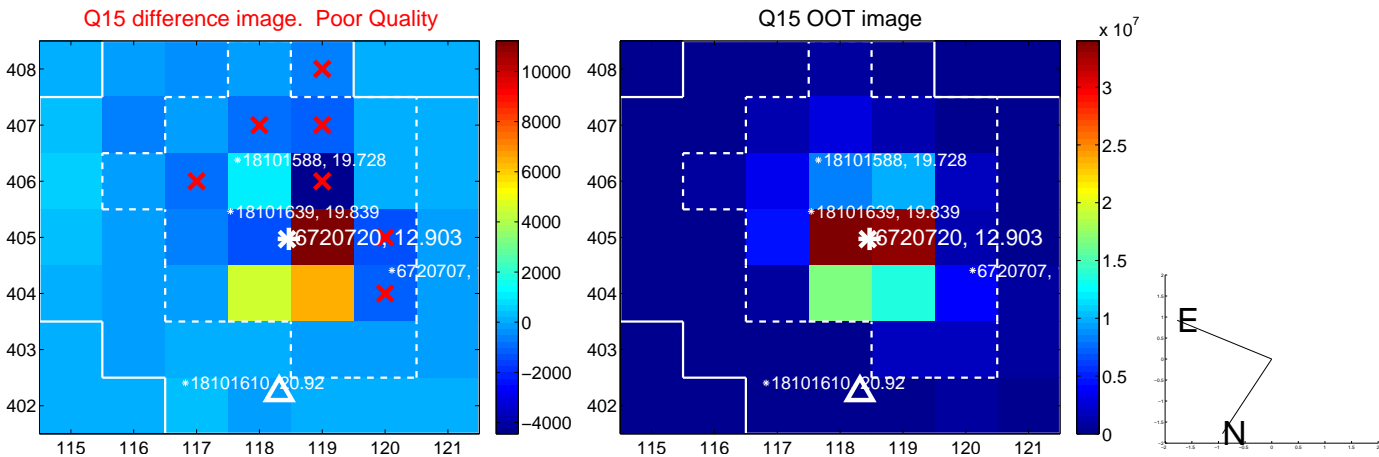
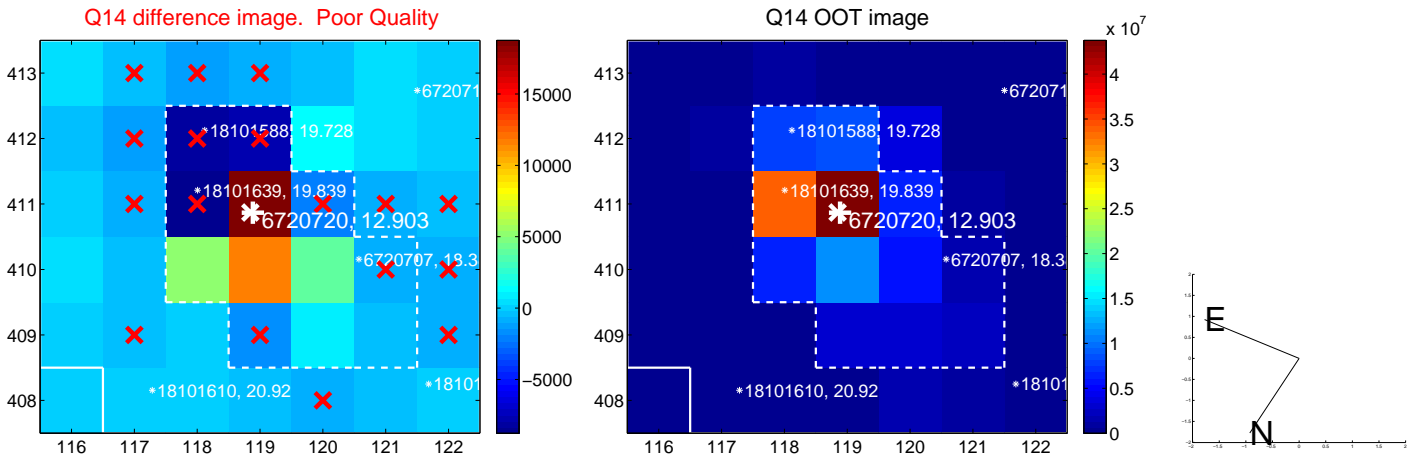
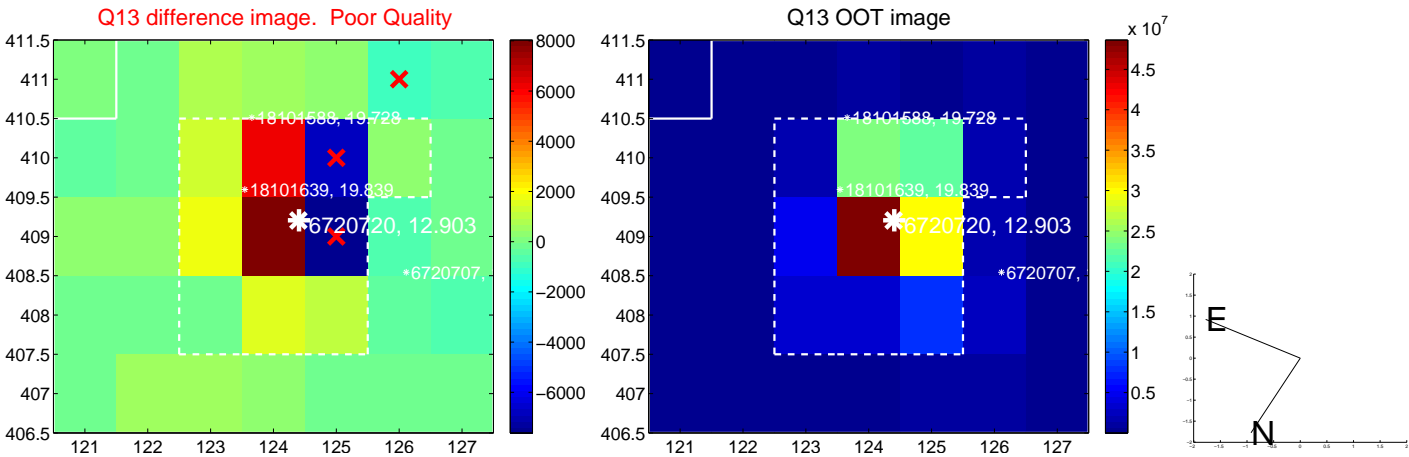
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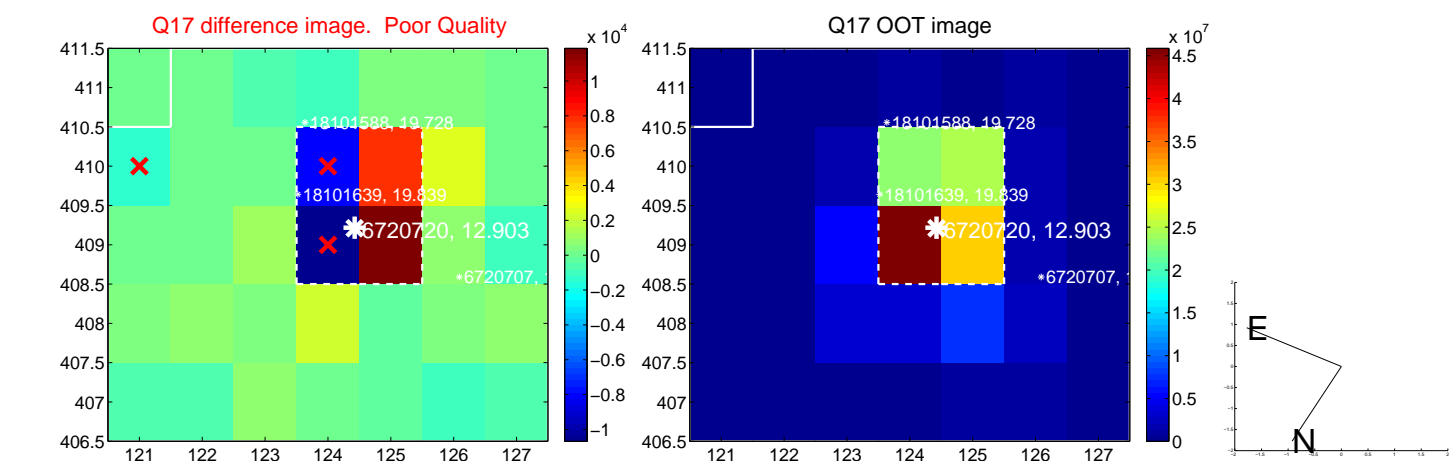
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



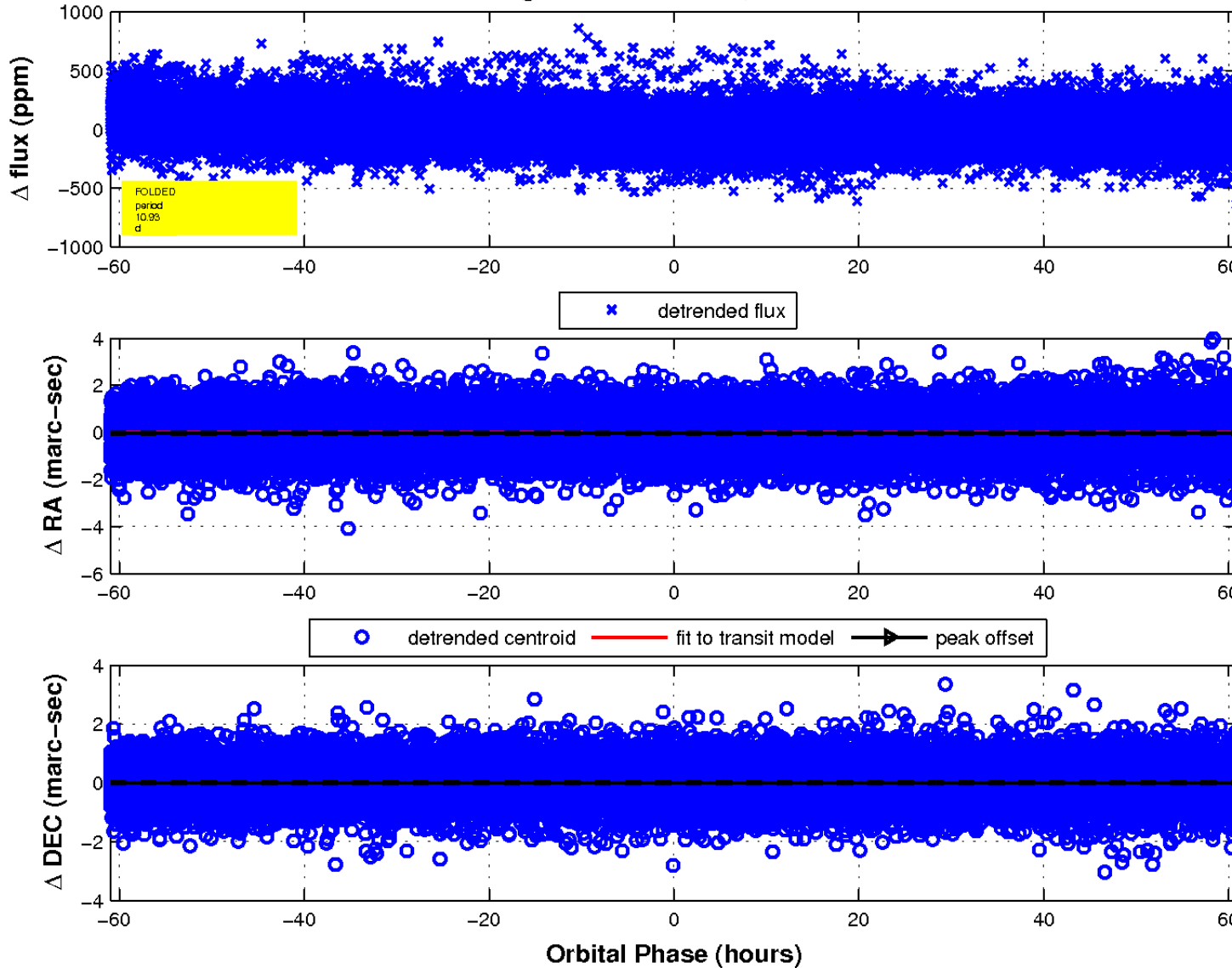
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

