

KIC 008095028

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})
008095028-01	OBS	No	0.727392	132.239006	0.1	2.108	12.2	0.0	0.54	4599	0.02	694.11
008095028-02	OBS	No	0.727649	131.589104	544.3	0.959	10.8	21.6	0.54	4599	1.23	693.78
008095028-03	OBS	No	0.727486	132.232869	218.4	1.500	9.0	-1.0	0.54	4599	0.77	693.99
008095028-04	OBS	No	119.211185	144.780929	4501.5	4.703	11.9	6.5	0.54	4599	3.50	0.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008095028-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008095028-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
008095028-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS
008095028-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

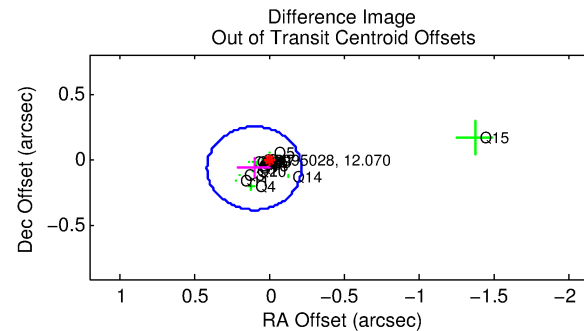
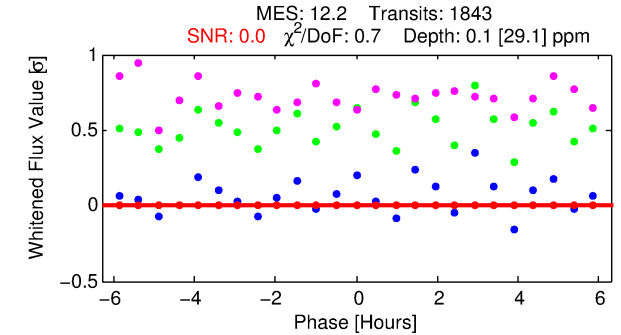
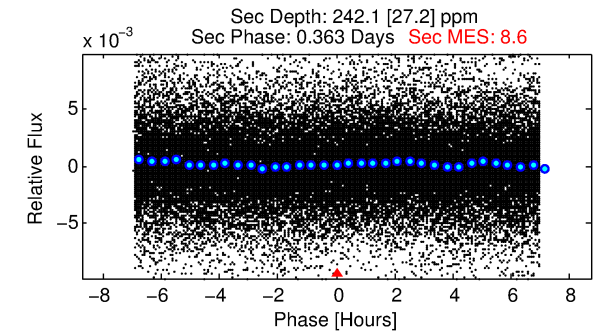
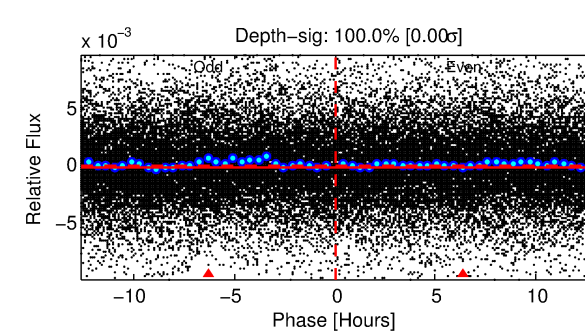
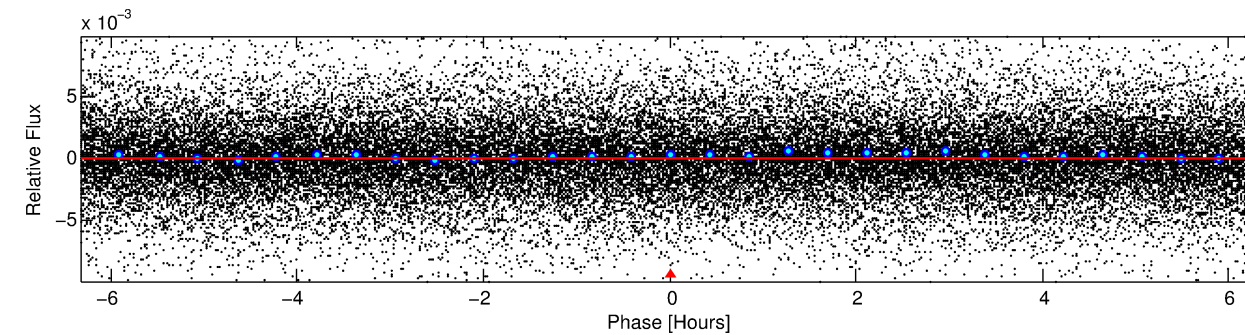
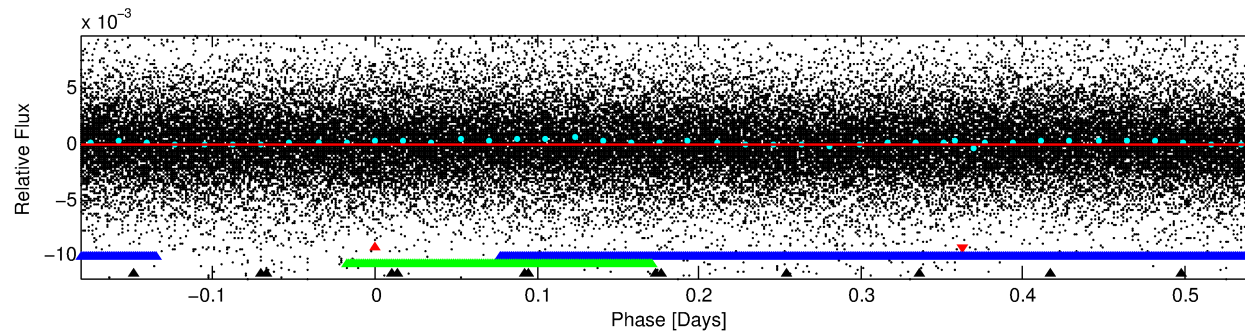
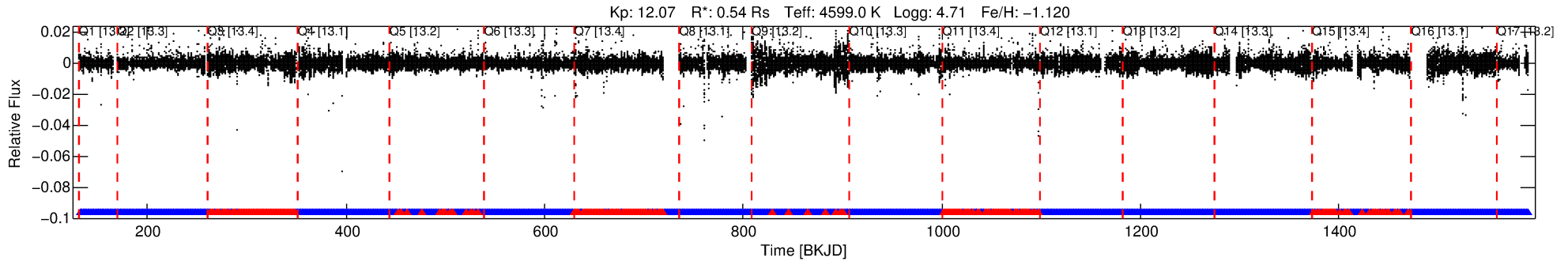
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008095028-01

No Significant Match Found

DV One-Page Summary

KIC: 8095028 Candidate: 1 of 4 Period: 0.727 d



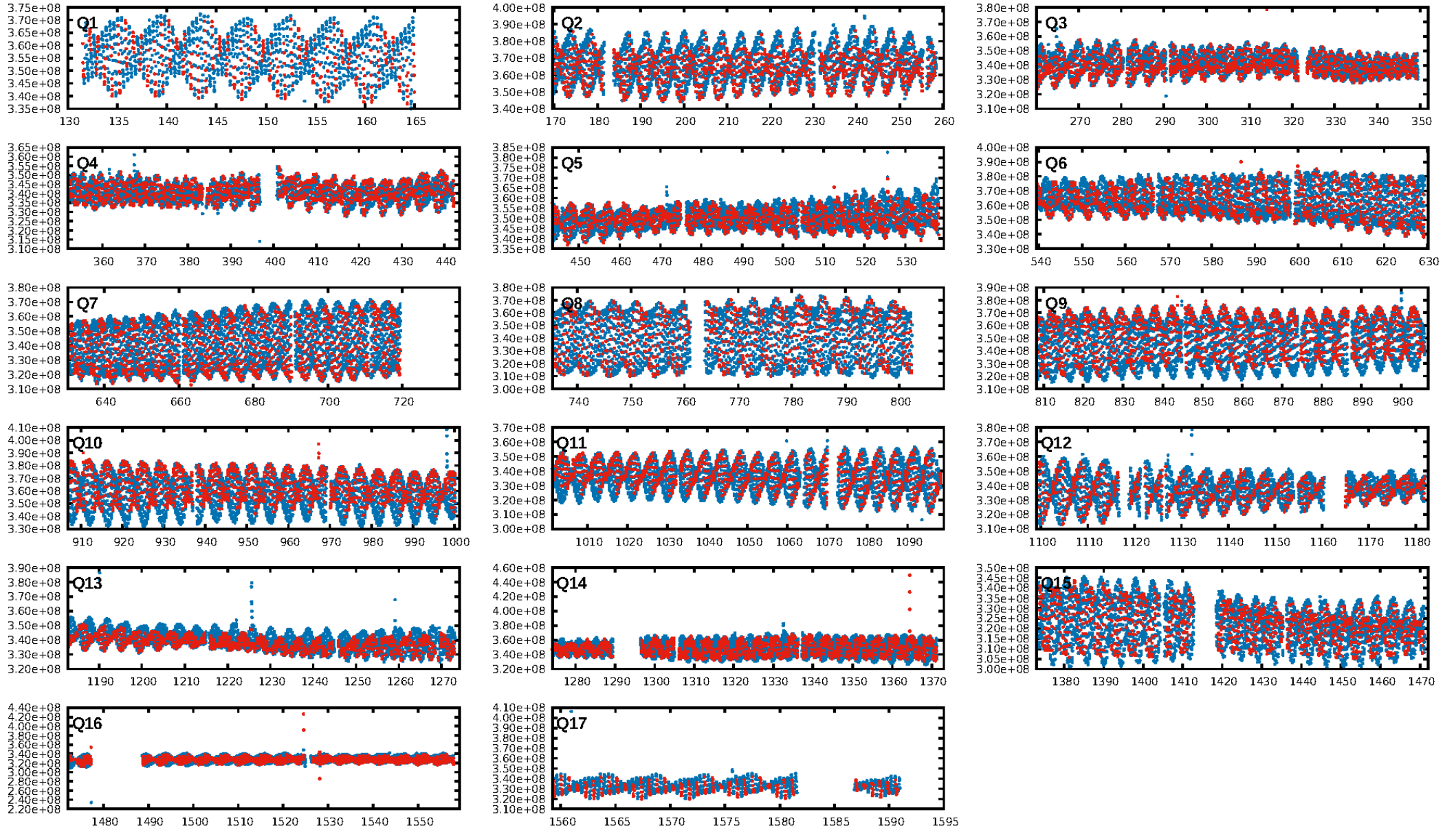
DV Fit Results:

Period = 0.72739 [0.02471] d
Epoch = 132.2390 [3.0322] BKJD
Rp/R* = 0.0003 [0.0559]
a/R* = 1.38 [42.75]
b = 0.93 [10.45]
Seff = 694.11 [119.74]
Teq = 1309 [56] K
Rp = 0.02 [3.27] Re
a = 0.0129 [0.0009] AU
Ag = 54148.11 [17537581.79] [0.00σ]
Teffp = 30869 [2499680] K [0.01σ]

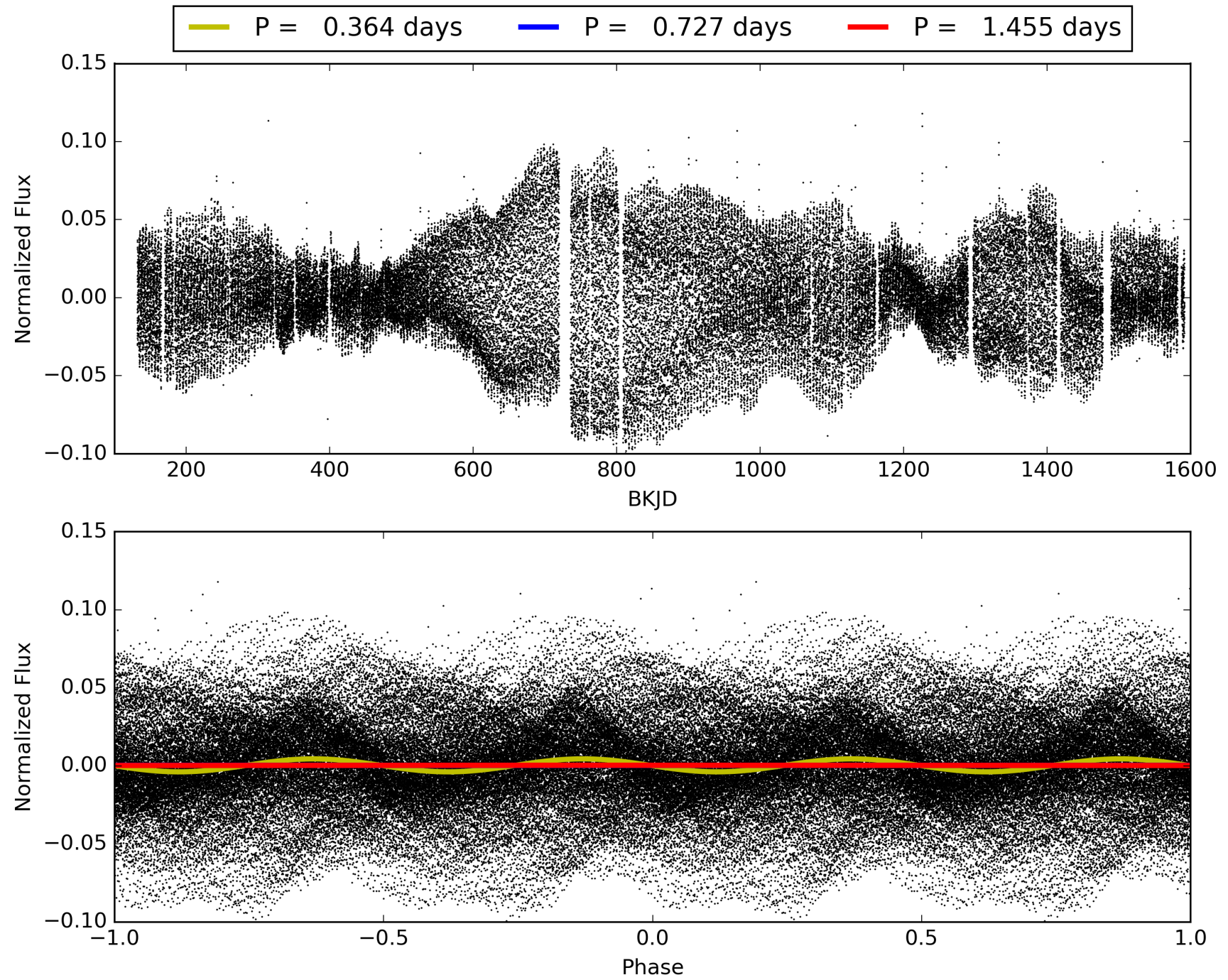
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.05e-39
RollingBand-fgt: 0.83 [1459/1759]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.117 arcsec [1.11σ]
KicOffset-rm: 0.159 arcsec [1.49σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.59 [10/17]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 008095028-01, PDC Light Curves

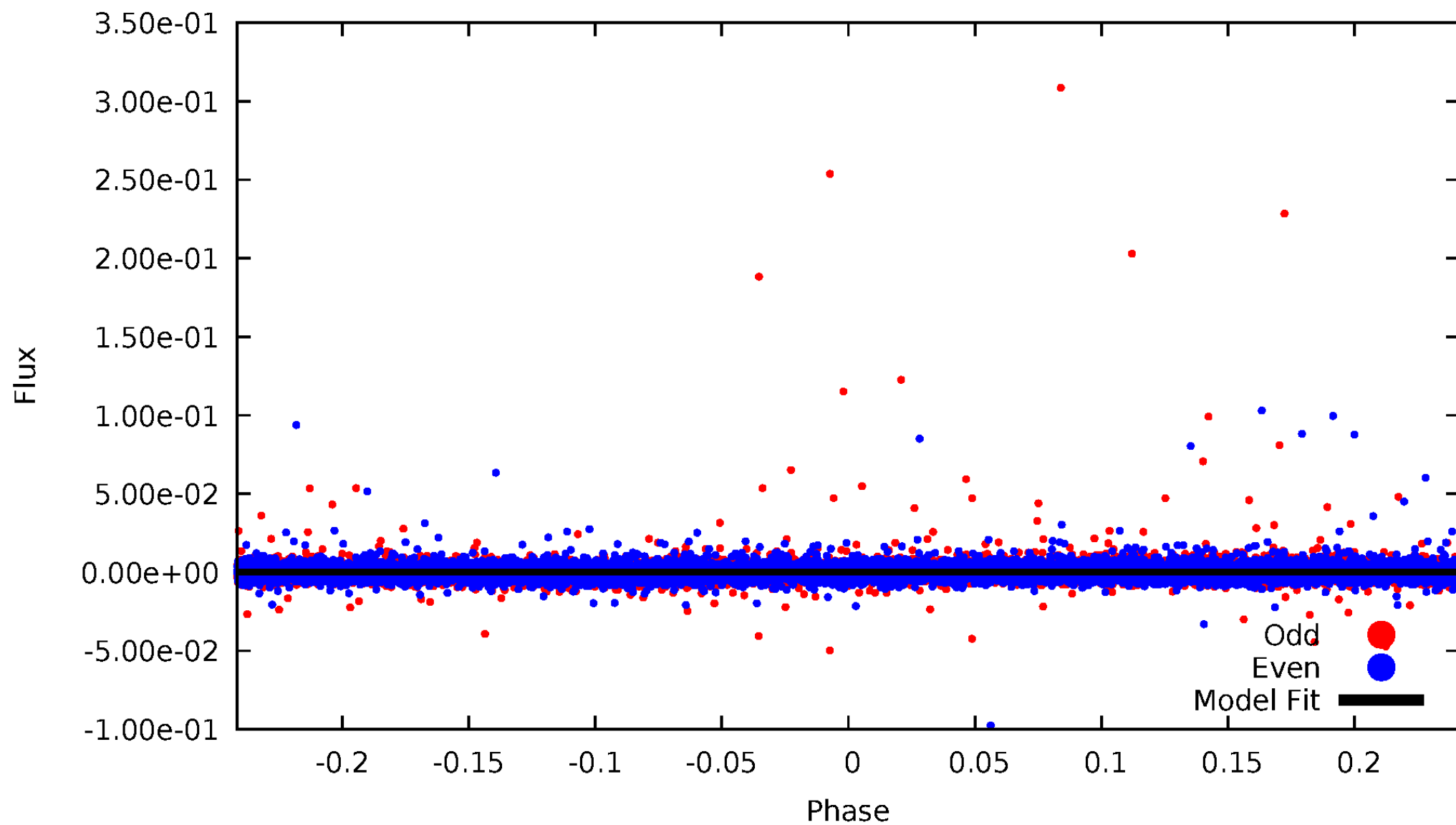


TCE 008095028-01



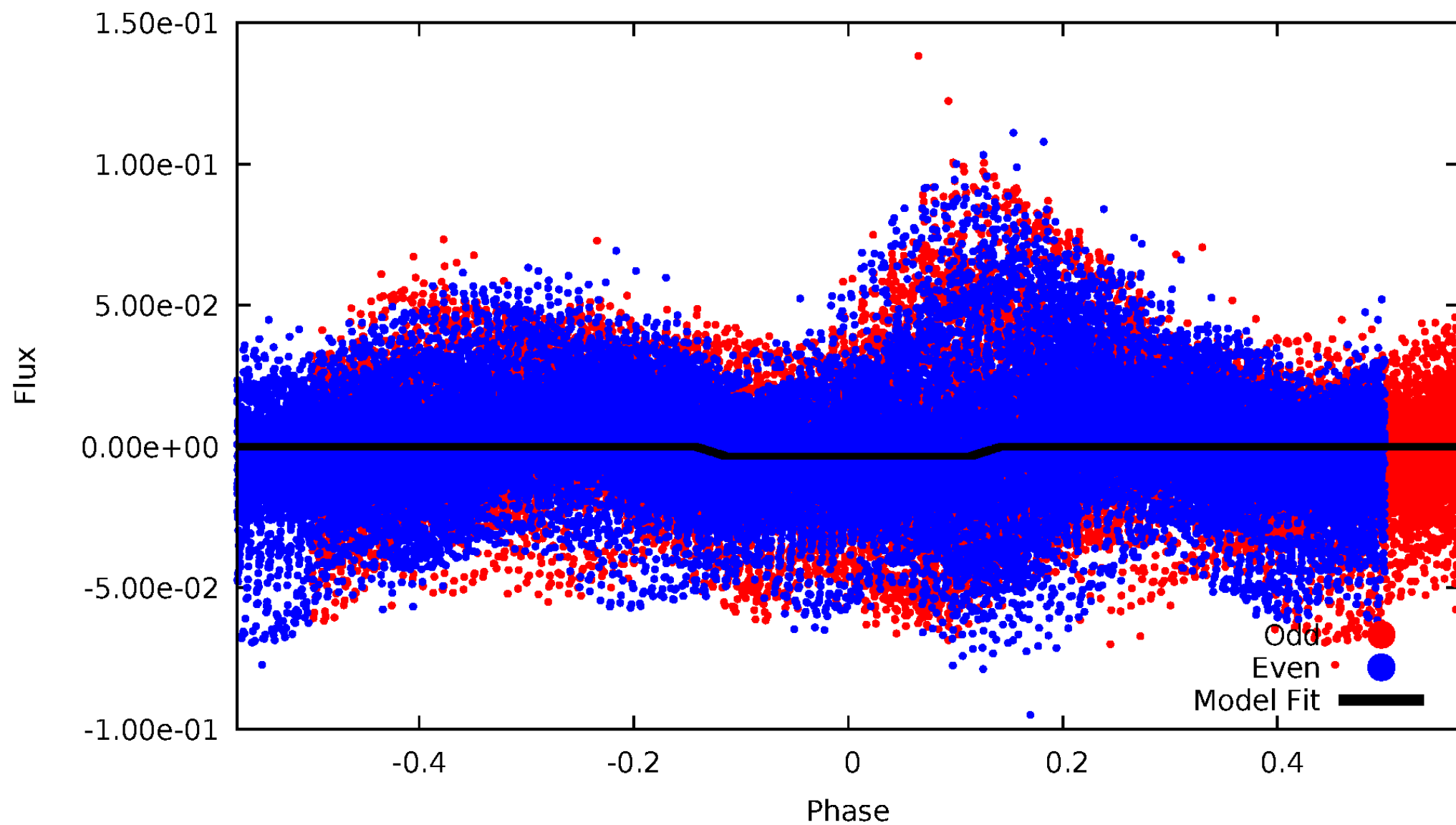
DV Odd/Even

TCE 008095028-01



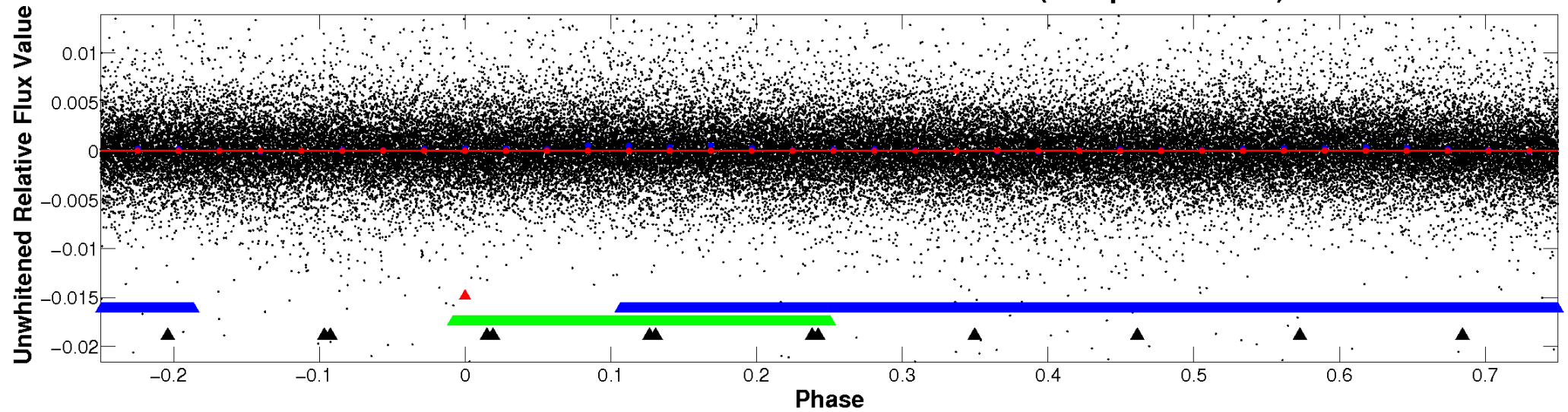
ALT Odd/Even

TCE 008095028-01

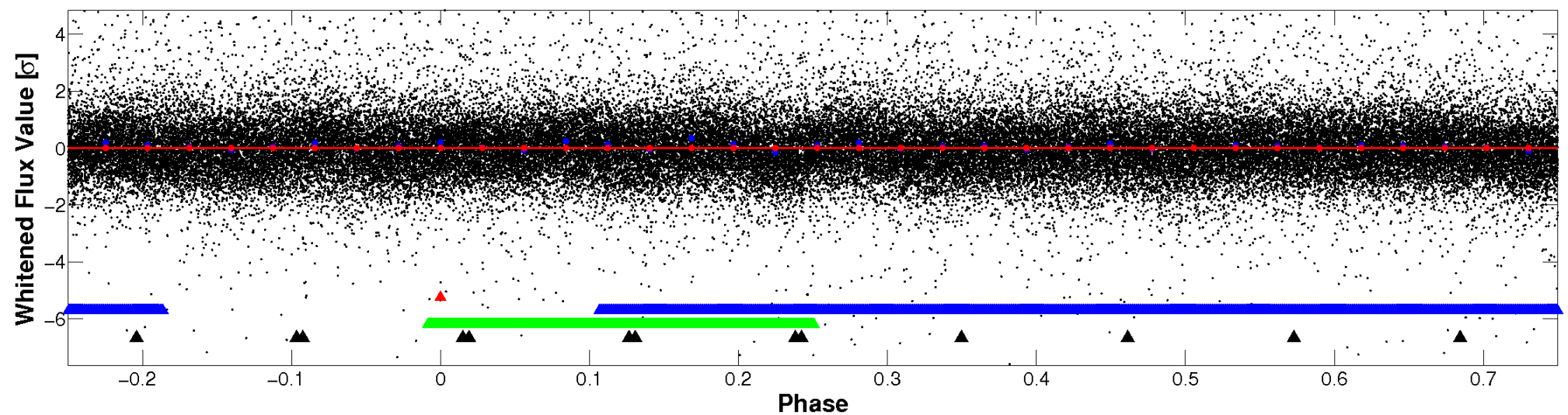


Non-Whitened Vs. Whitened Light Curve

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

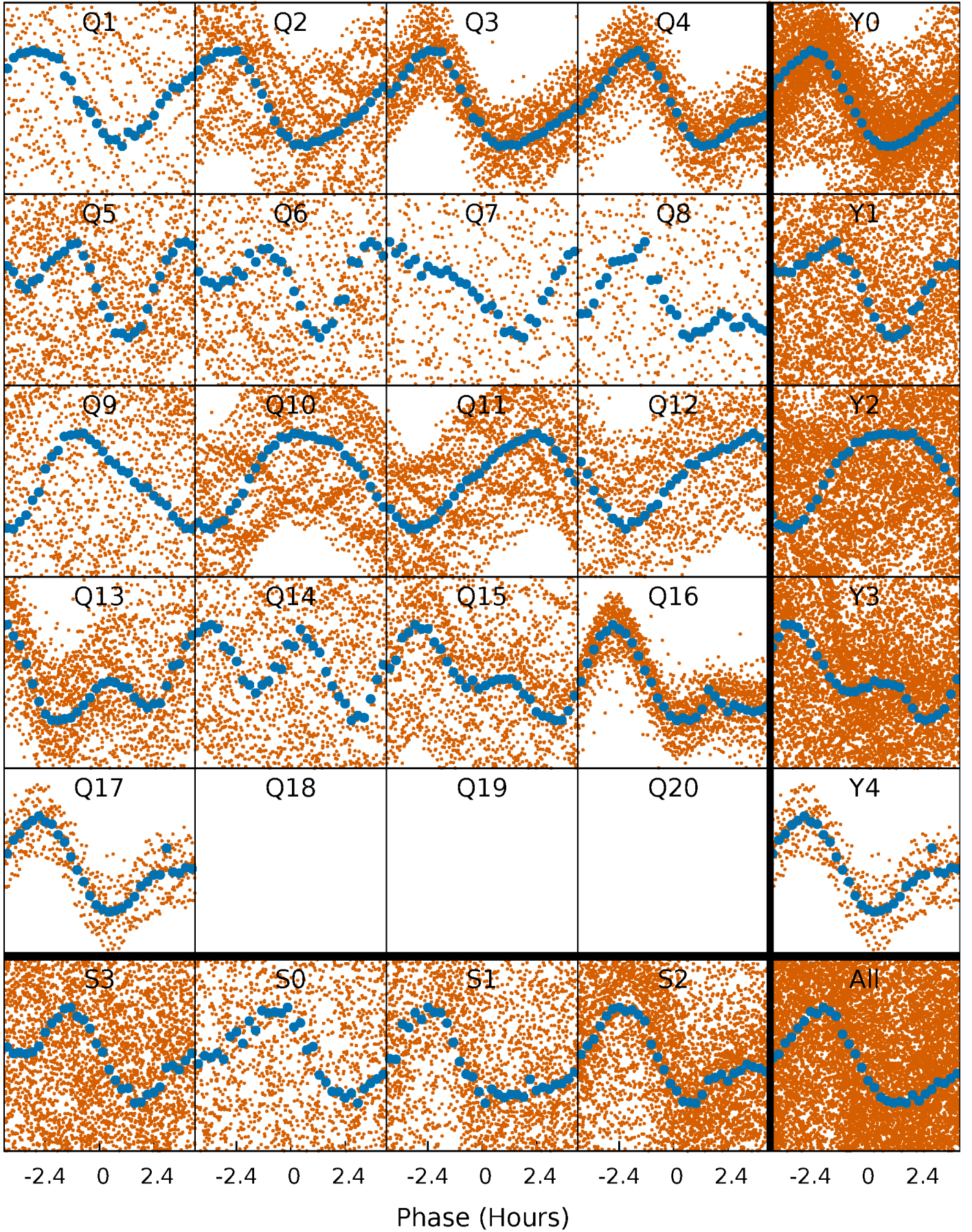


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



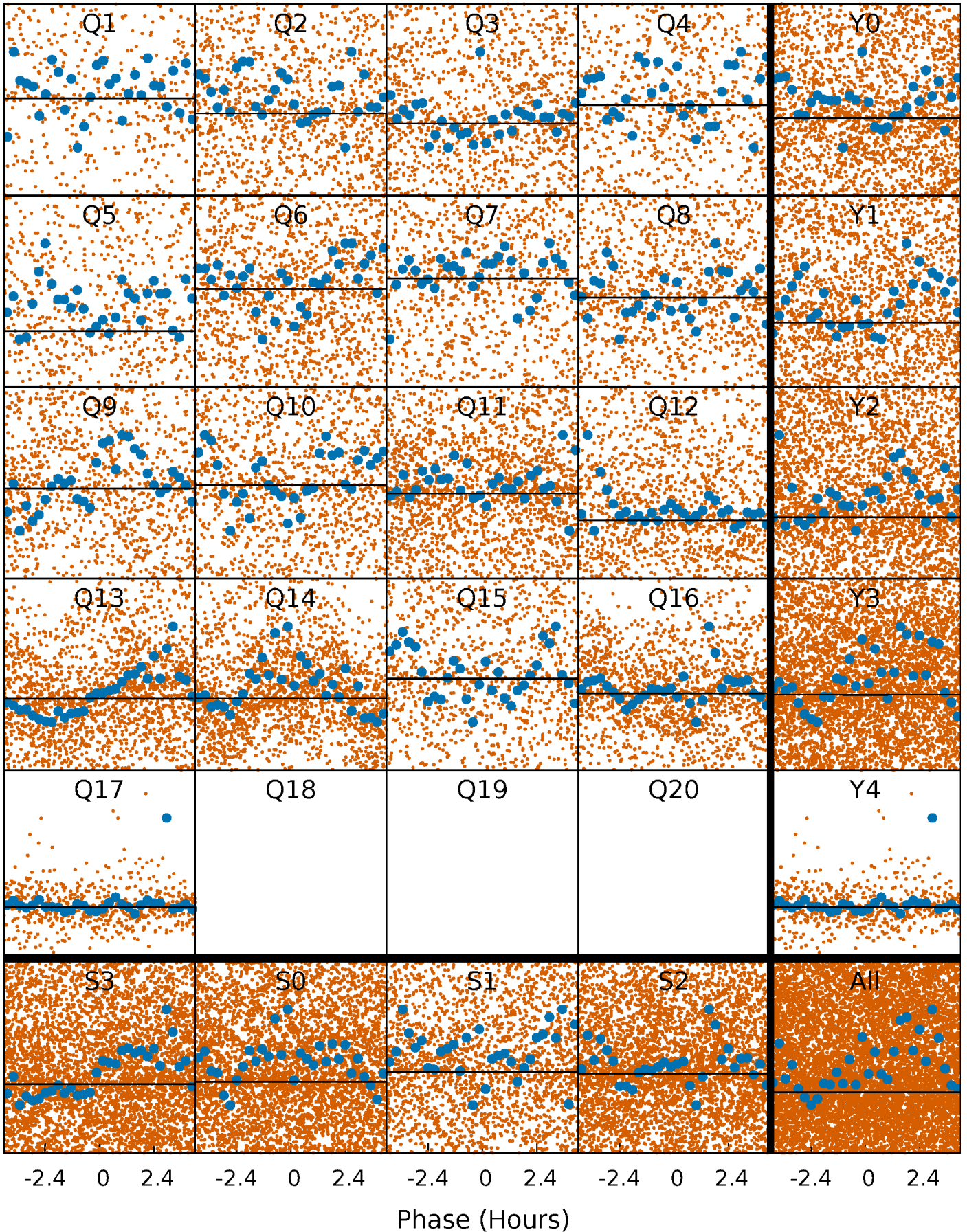
PDC Quarter-Phased Transit Curves

TCE 008095028-01 P= 0.727392 Days $T_0=132.239006$ (BKJD)



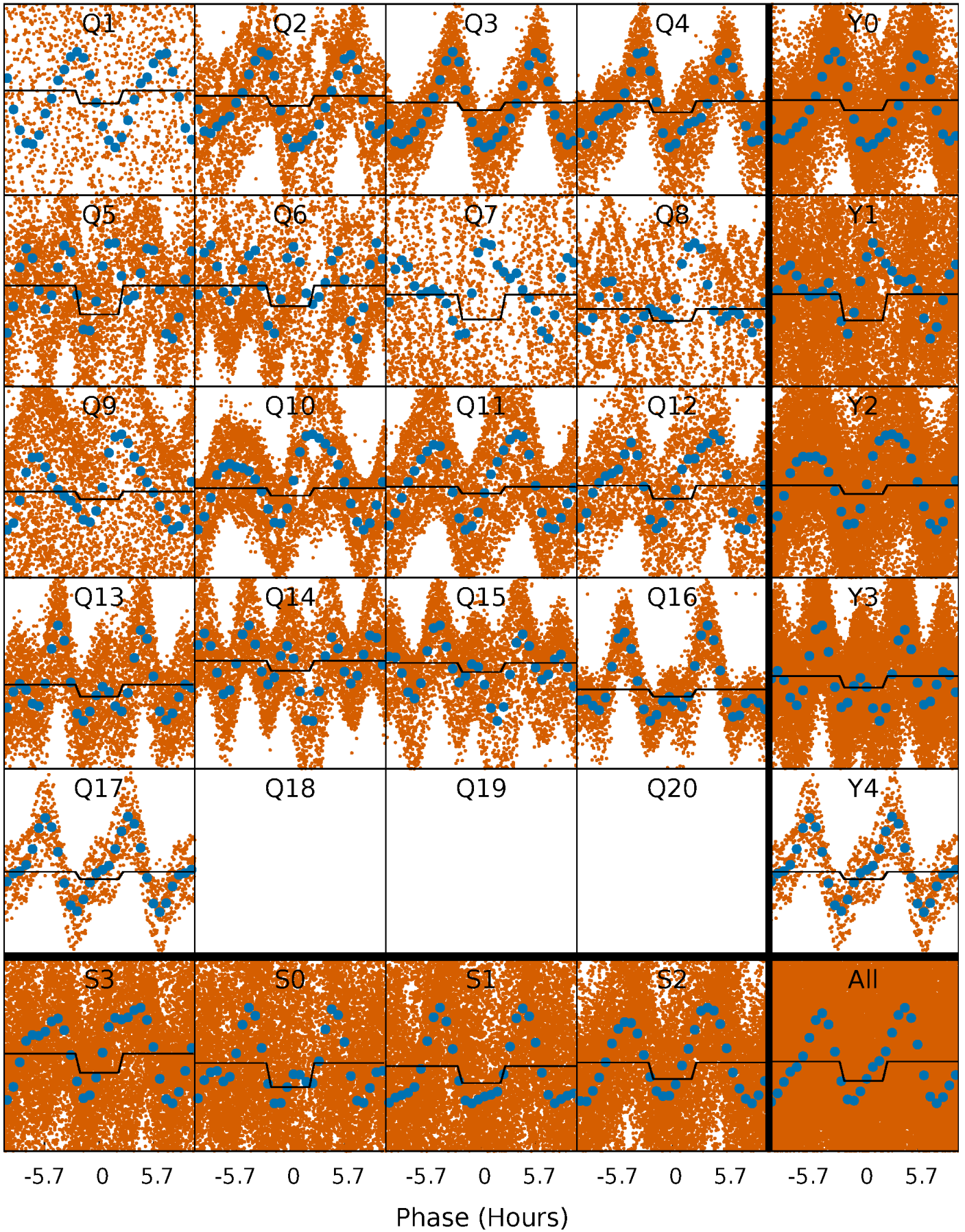
DV Quarter-Phased Transit Curves

TCE 008095028-01 P= 0.727392 Days $T_0=132.239006$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

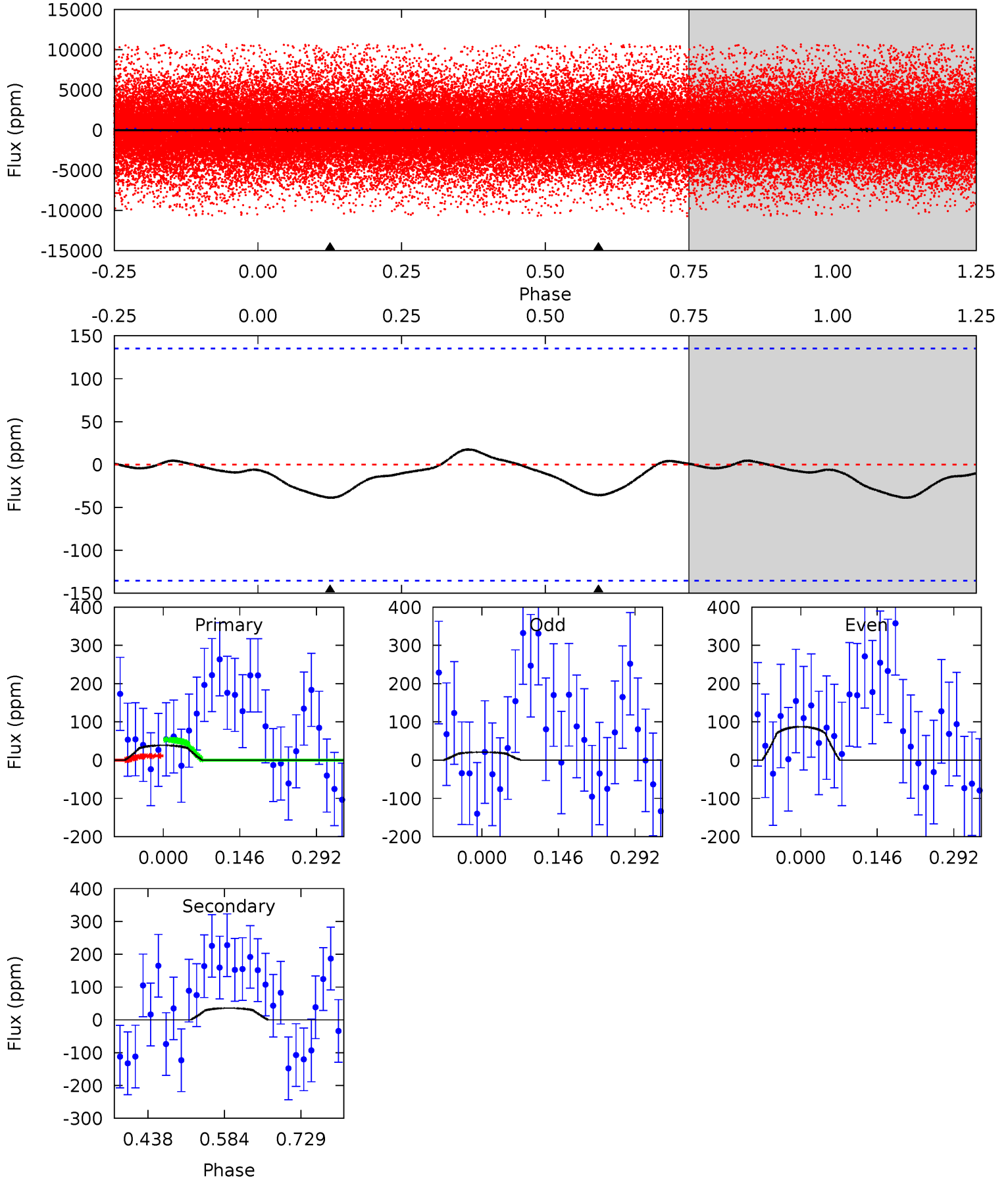
TCE 008095028-01 P= 0.727655 Days $T_0=132.207644$ (BKJD)



DV Model-Shift Uniqueness Test

008095028-01, P = 0.727392 Days, E = 131.511614 Days

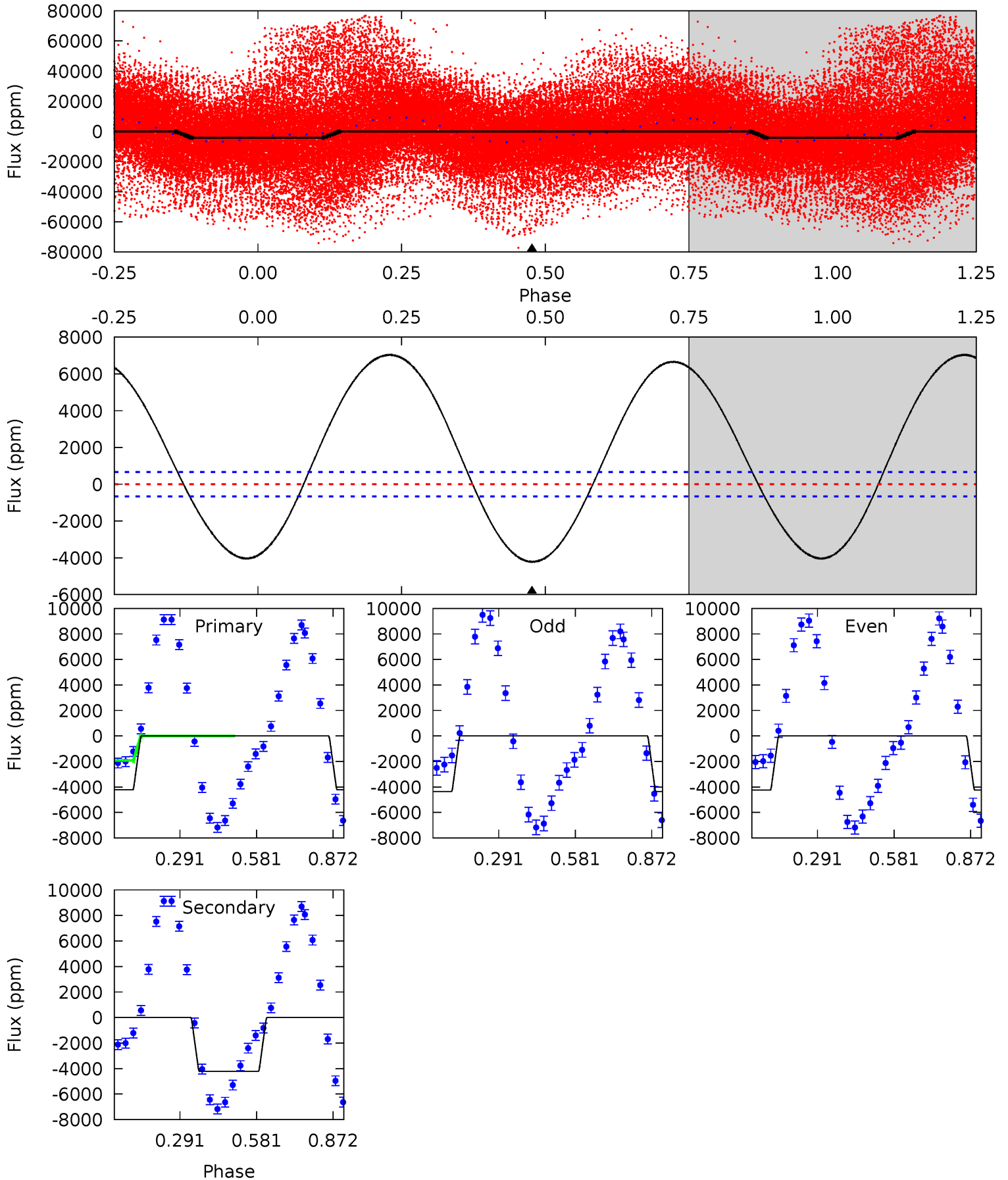
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.29	1.19	0	0	4.48	1.45	0.24	1.29	1.29	1.19	1.19	1.10	-174.9	0.31	0.70



Alt Model-Shift Uniqueness Test

008095028-01, P = 0.727655 Days, E = 131.479989 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.5	27.5	0	0	4.34	1.06	22.1	27.5	27.5	27.5	27.5	0.39	0.77	0.63	14.3



Stellar Parameters For KIC 008095028

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4599^{+125}_{-153}	$4.710^{+0.056}_{-0.028}$	$-1.120^{+0.300}_{-0.300}$	$0.535^{+0.034}_{-0.041}$	$0.536^{+0.039}_{-0.028}$	$4.921^{+1.058}_{-0.600}$
	+3%/-3%	+1%/-1%	+27%/-27%	+6%/-8%	+7%/-5%	+21%/-12%
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 008095028-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-36 ± 30	$2.21^{+2.44}_{-1.52}$	1818^{+63}_{-71}	2238^{+1243}_{-4536}	$0.502^{+5.596}_{-0.454}$
Alt.	-4219 ± 153	$4.04^{+2.62}_{-2.50}$	1819^{+61}_{-65}	4445^{+2400}_{-721}	24^{+136}_{-15}

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

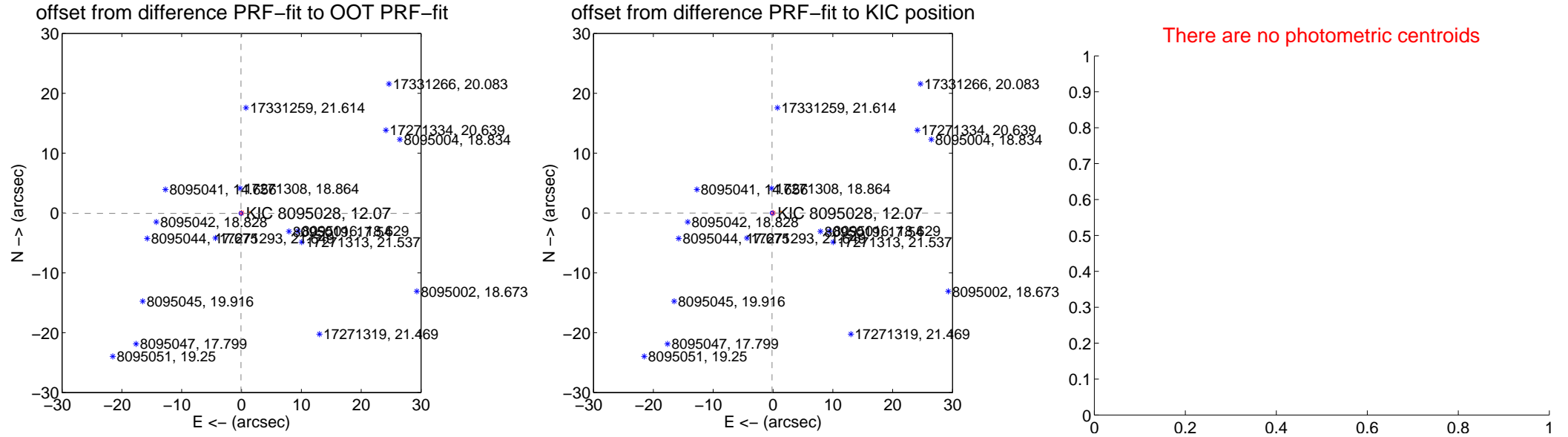
DV Centroid Data

Supplemental centroid analysis for 008095028-01. Kepler magnitude: 12.07. Transit SNR 0.00

There are 10 quarters with good PRF difference image offsets

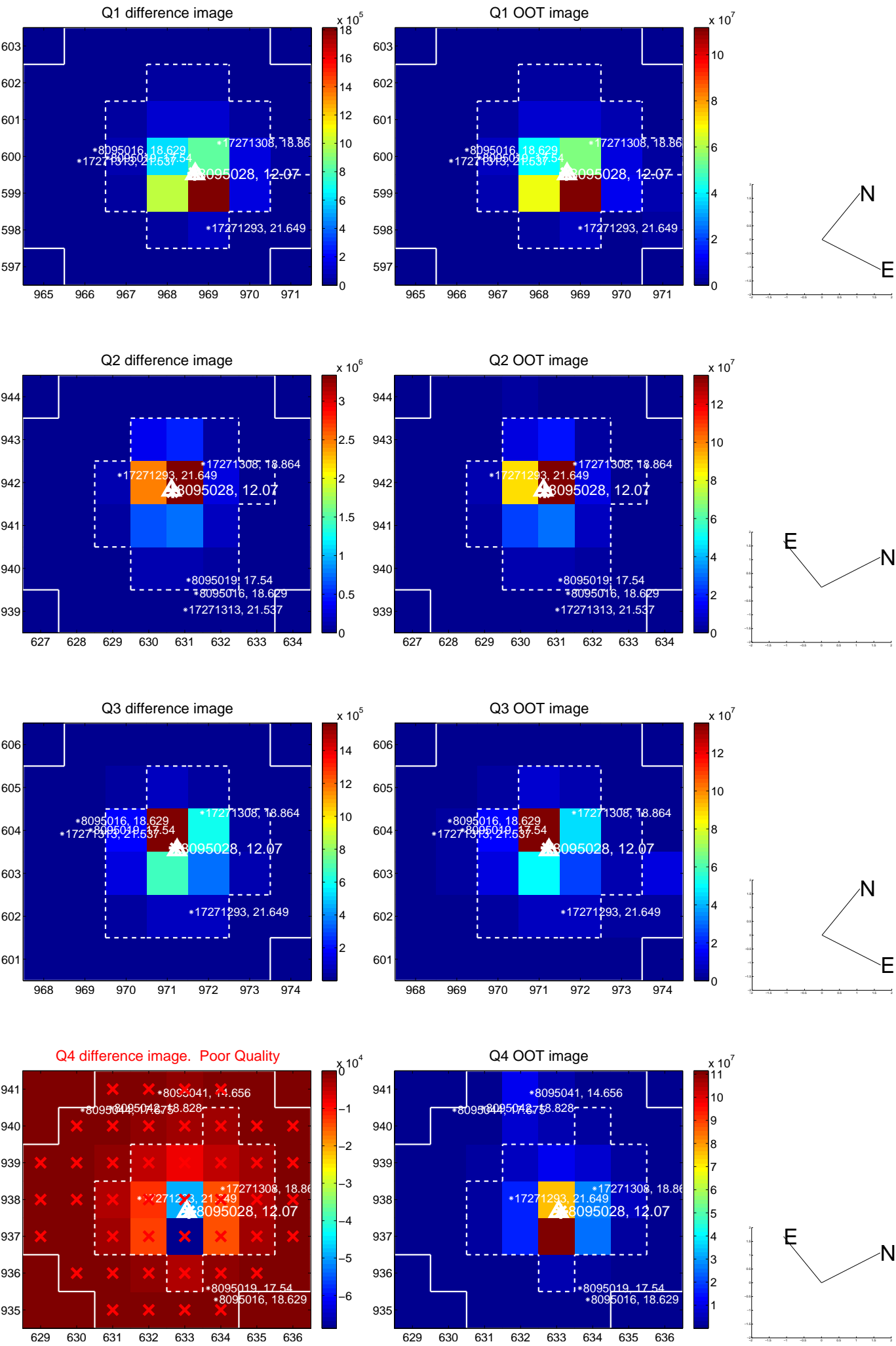
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.117 ± 0.105	1.11	0.099 ± 0.109	-0.063 ± 0.070
PRF-fit source offset from KIC position	0.159 ± 0.107	1.49	0.158 ± 0.106	-0.011 ± 0.070
photometric centroid source offset	—	—	—	—

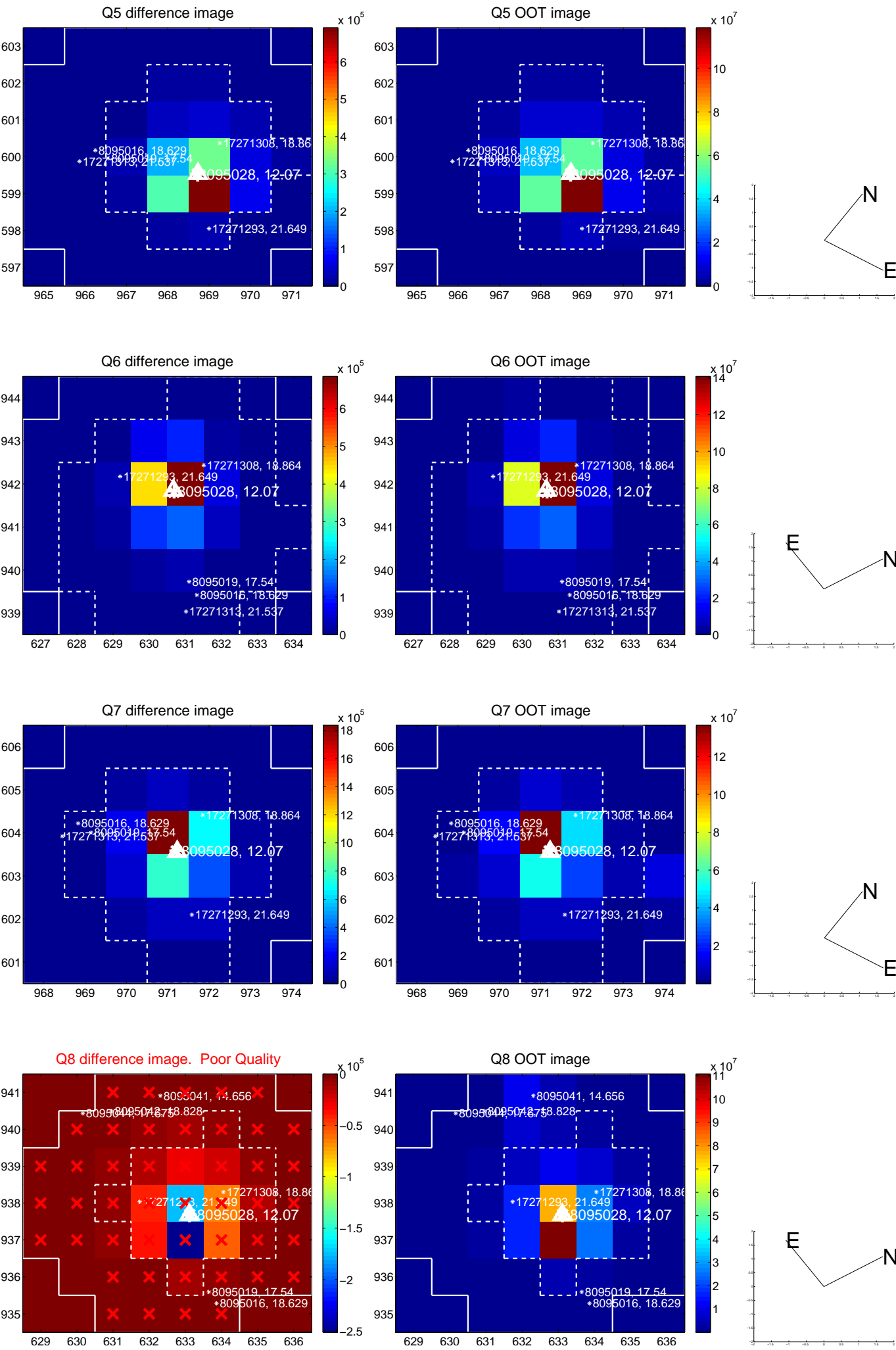


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

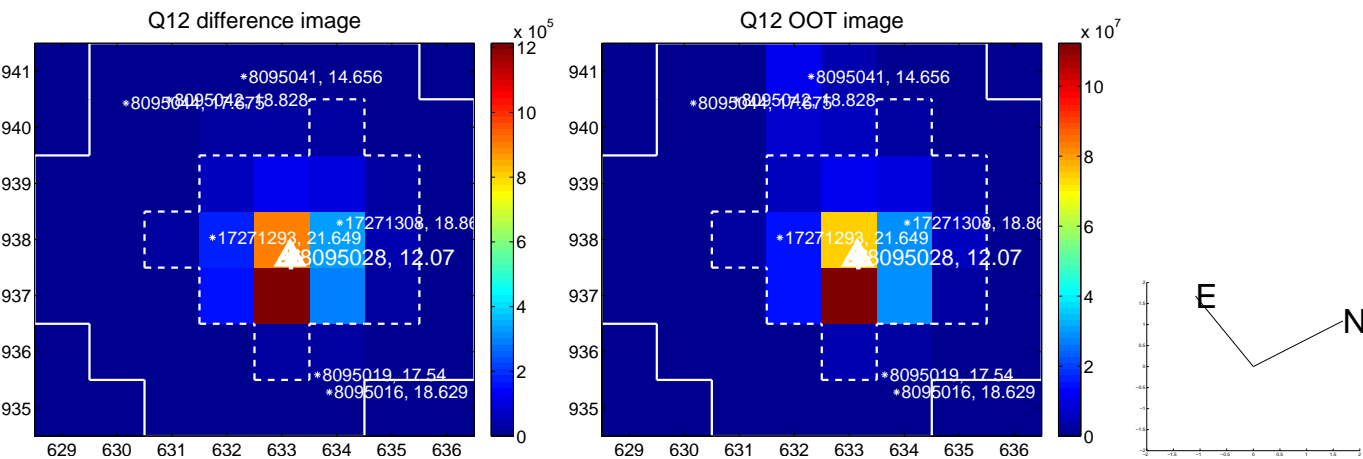
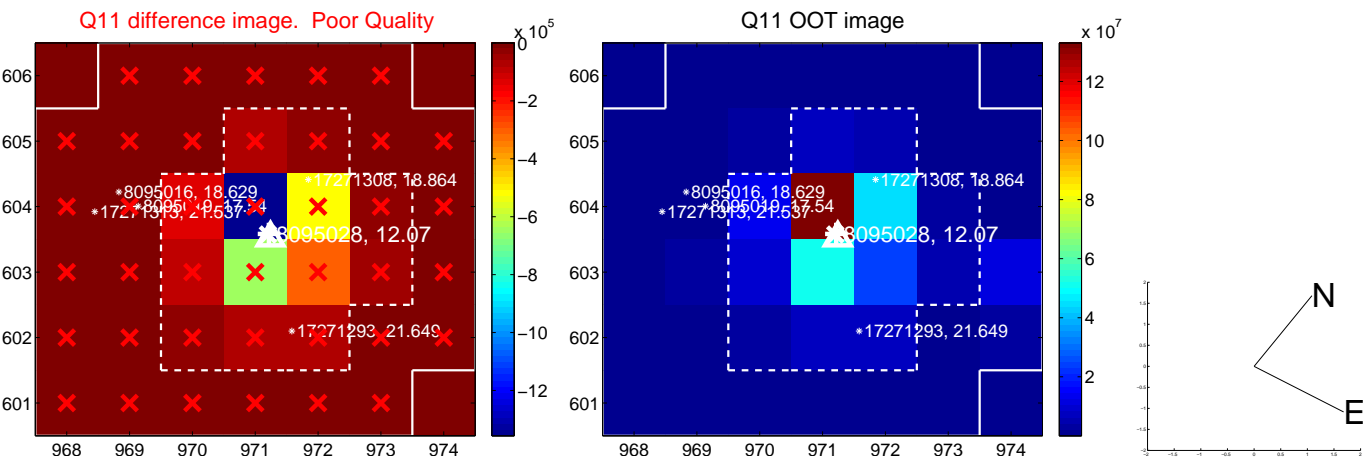
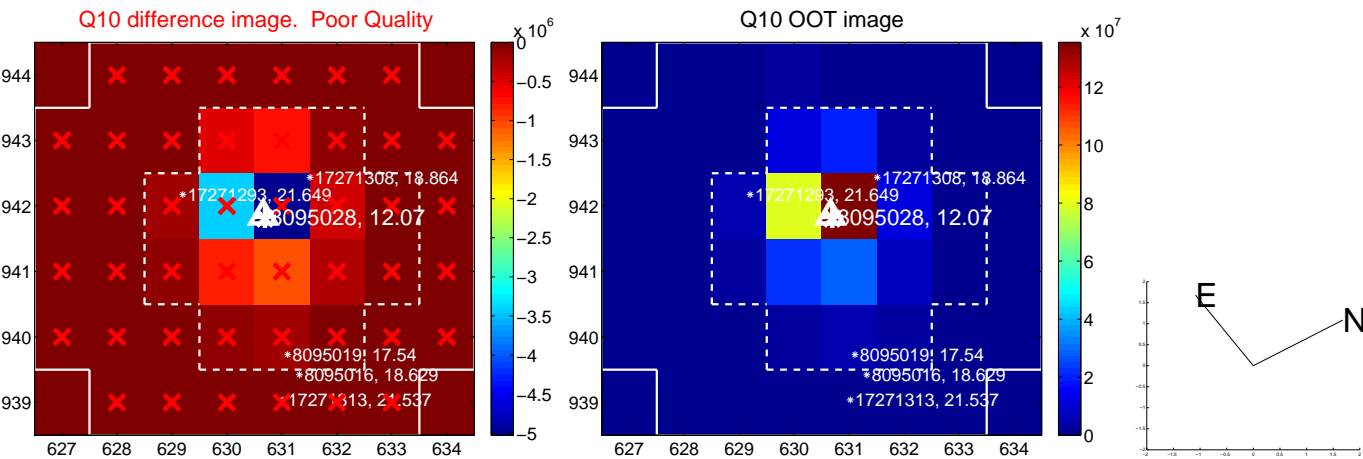
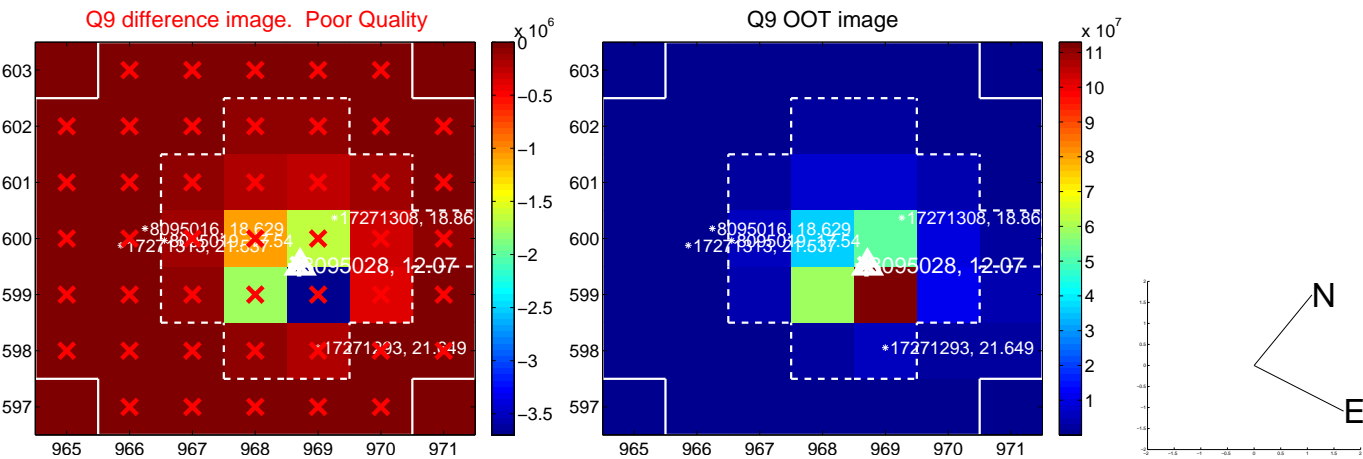
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



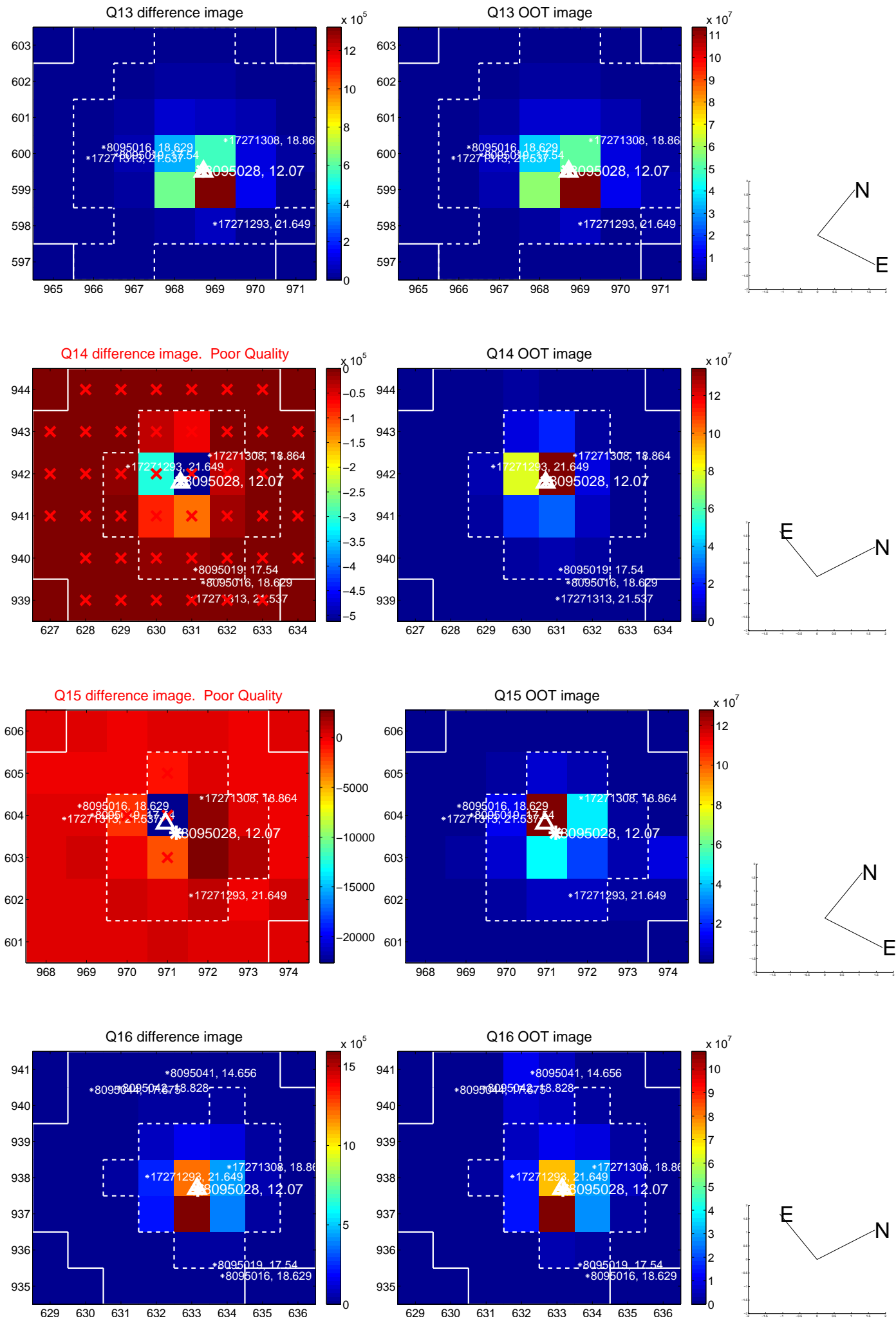
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



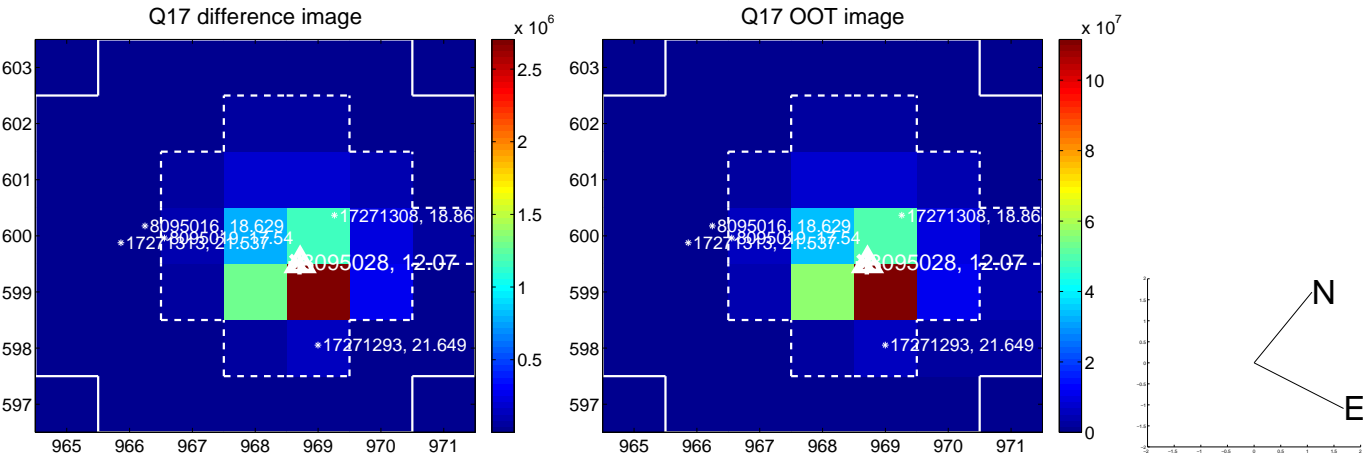
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



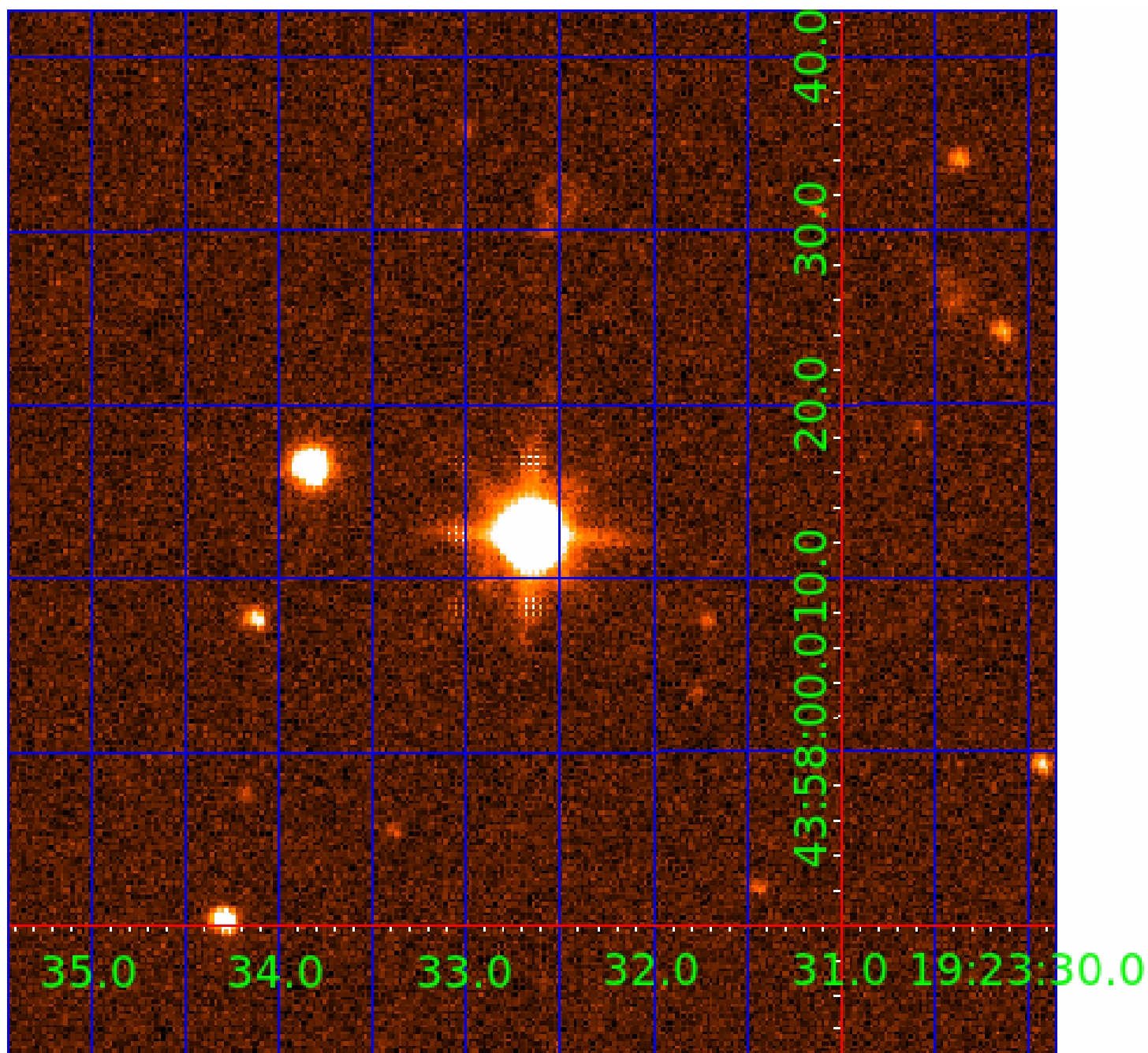
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 008095028

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})
008095028-01	OBS	No	0.727392	132.239006	0.1	2.108	12.2	0.0	0.54	4599	0.02	694.11
008095028-02	OBS	No	0.727649	131.589104	544.3	0.959	10.8	21.6	0.54	4599	1.23	693.78
008095028-03	OBS	No	0.727486	132.232869	218.4	1.500	9.0	-1.0	0.54	4599	0.77	693.99
008095028-04	OBS	No	119.211185	144.780929	4501.5	4.703	11.9	6.5	0.54	4599	3.50	0.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008095028-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008095028-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
008095028-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS
008095028-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

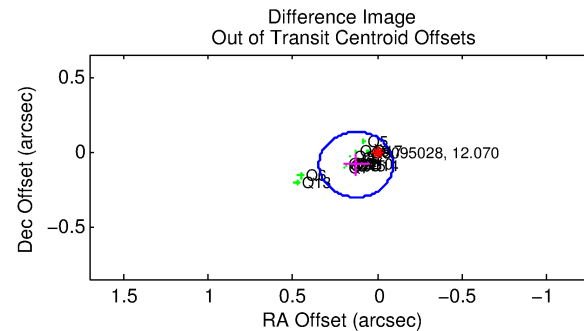
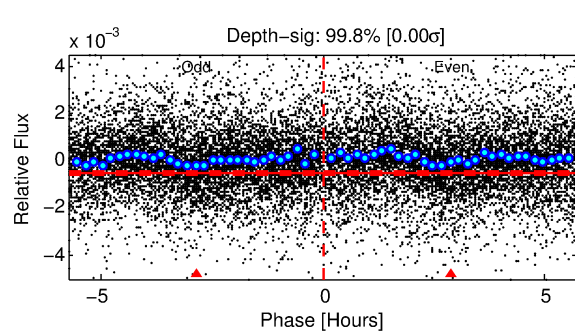
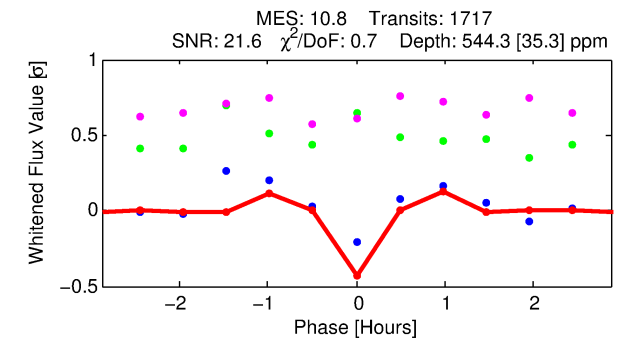
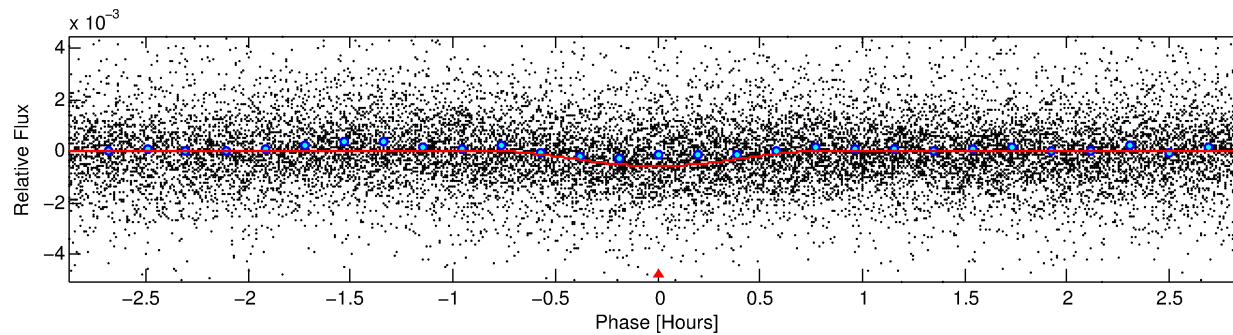
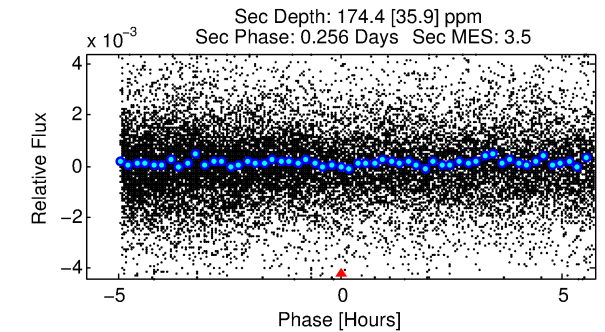
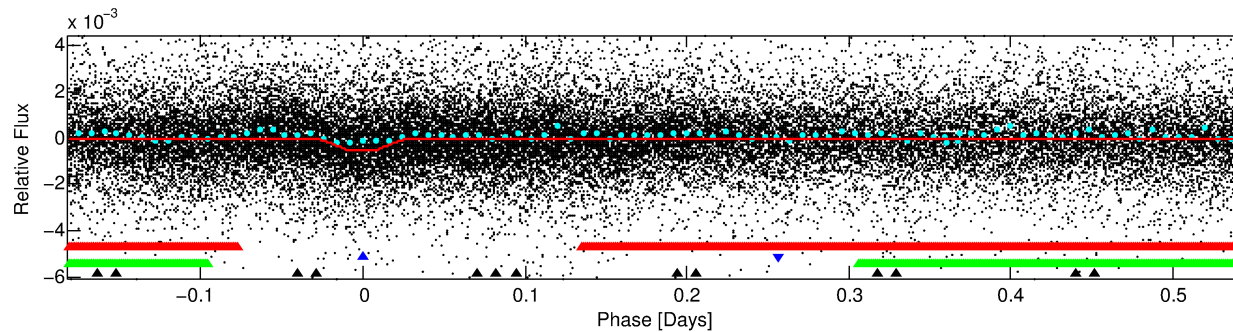
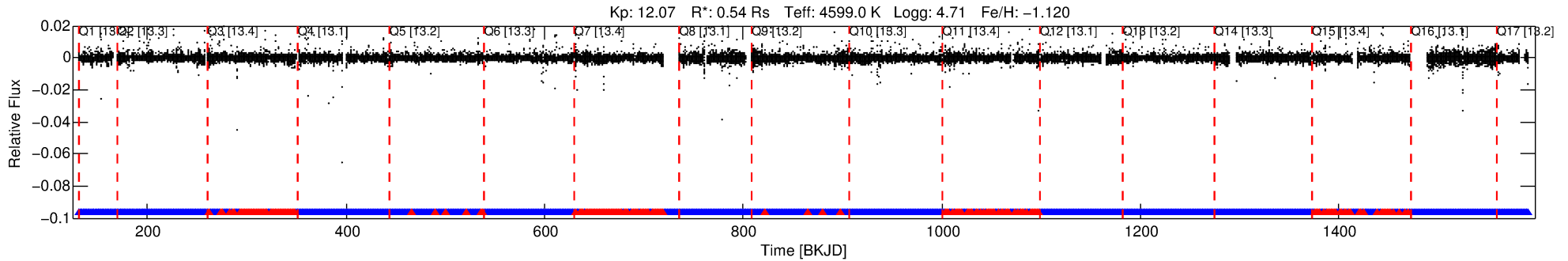
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008095028-02

No Significant Match Found

DV One-Page Summary

KIC: 8095028 Candidate: 2 of 4 Period: 0.728 d



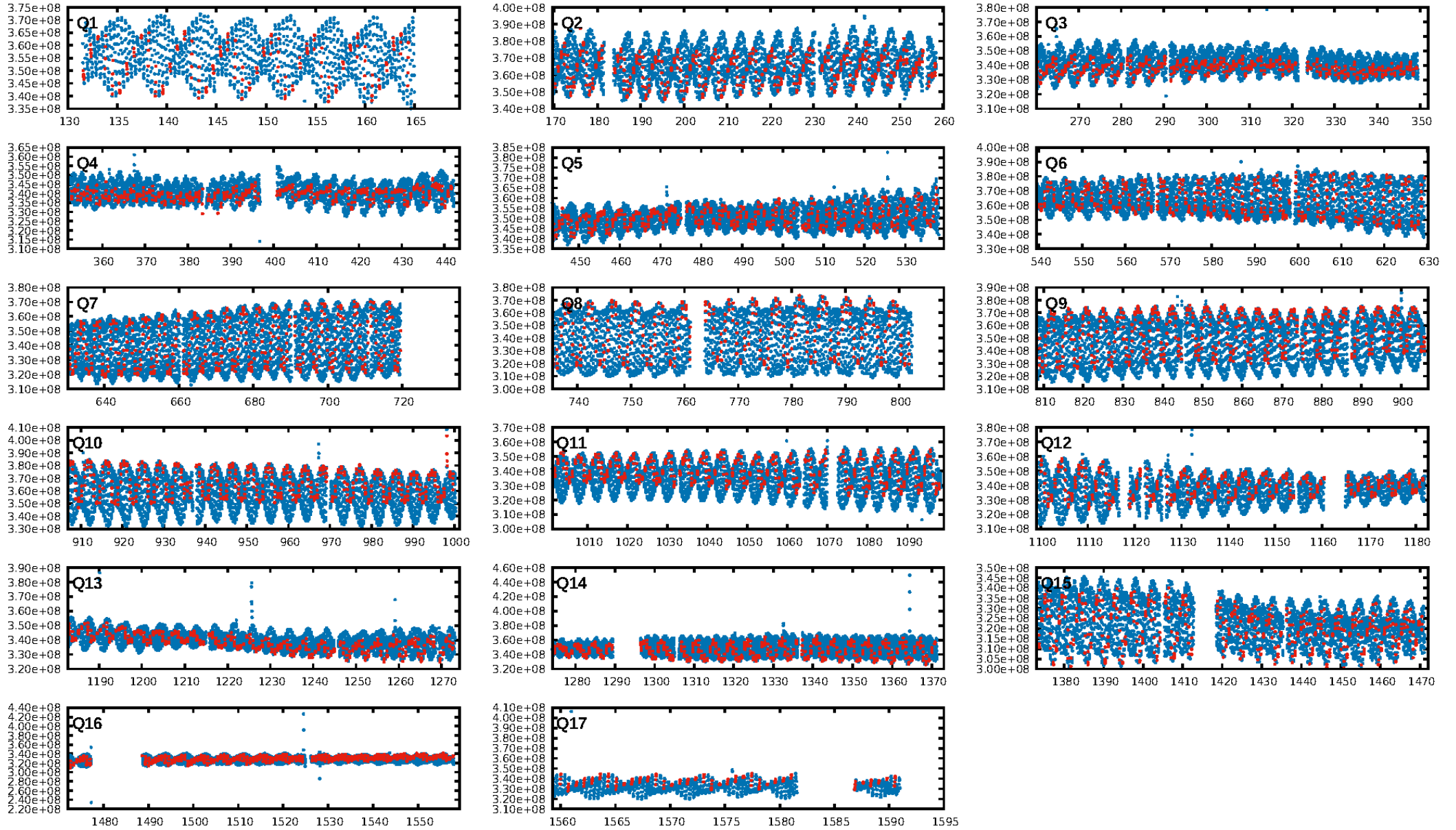
DV Fit Results:

Period = 0.72765 [0.00000] d
Epoch = 131.5891 [0.0005] BKJD
Rp/R* = 0.0211 [0.0098]
a/R* = 5.92 [9.88]
b = 0.11 [16.27]
Seff = 693.78 [115.48]
Teff = 1309 [54] K
Rp = 1.23 [0.58] Re
a = 0.0129 [0.0009] AU
Ag = 10.44 [10.01] [0.94σ]
Teffp = 3637 [875] K [2.66σ]

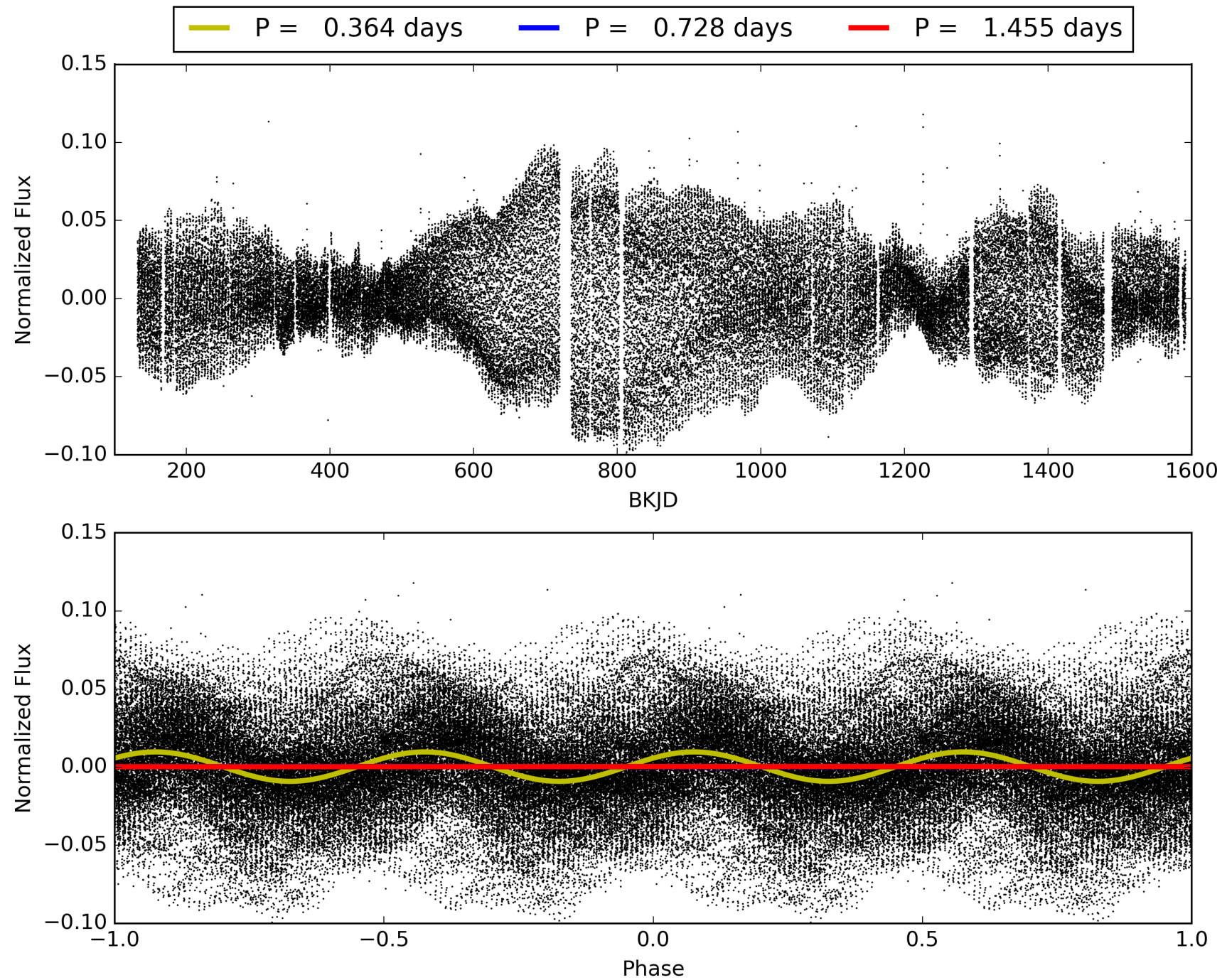
DV Diagnostic Results:

ShortPeriod-sig: 0.2% [0.00σ]
LongPeriod-sig: 100.0% [592.41σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.60e-32
RollingBand-fgt: 0.84 [1419/1681]
GhostDiagnostic-chr: 2.635
Centroid-sig: 12.0%
Centroid-so: 0.317 arcsec [4.23σ]
OotOffset-rm: 0.153 arcsec [2.10σ]
KicOffset-rm: 0.184 arcsec [2.52σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.35 [6/17]
DiffImageOverlap-fno: 0.29 [5/17]

TCE 008095028-02, PDC Light Curves

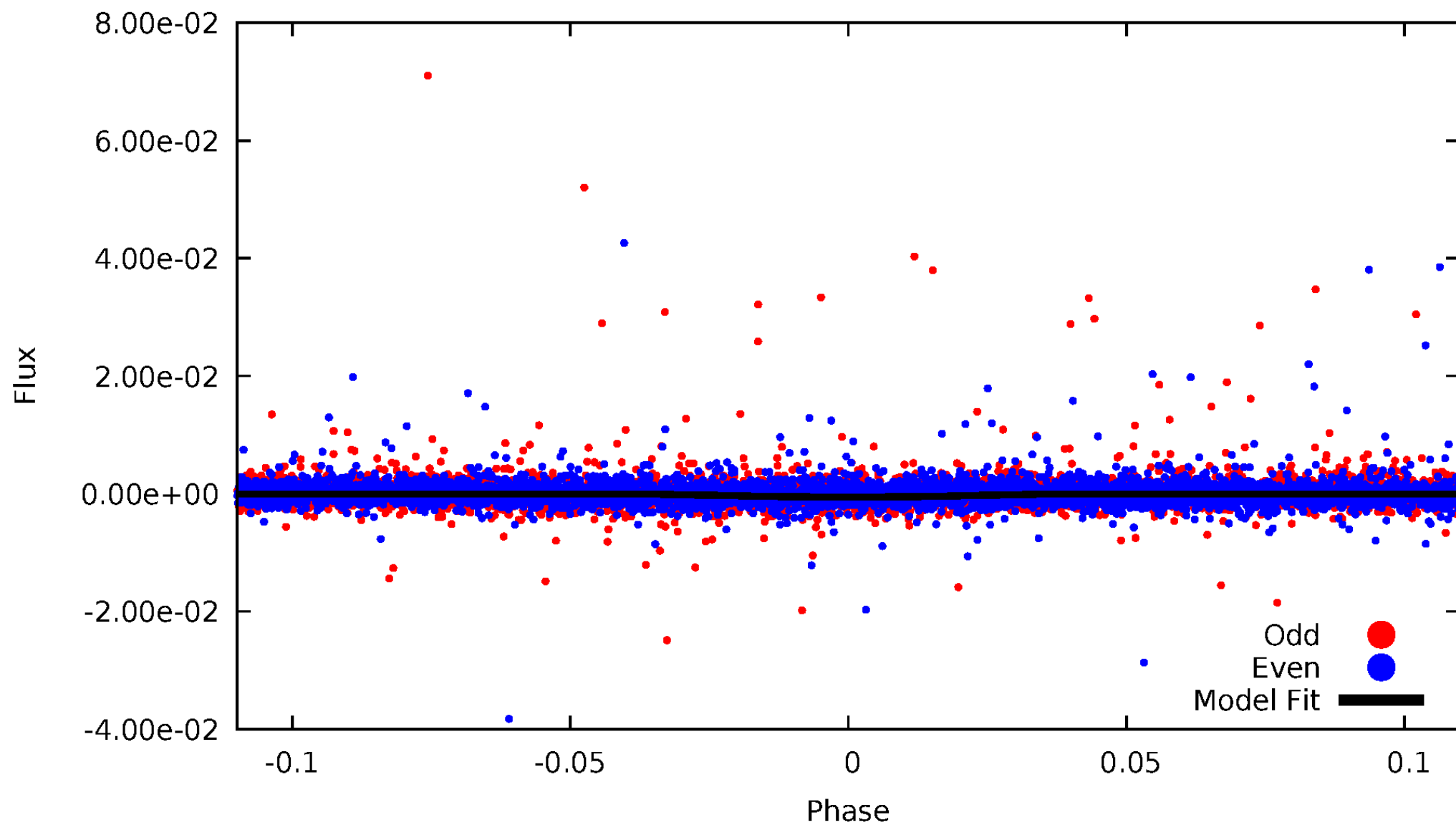


TCE 008095028-02



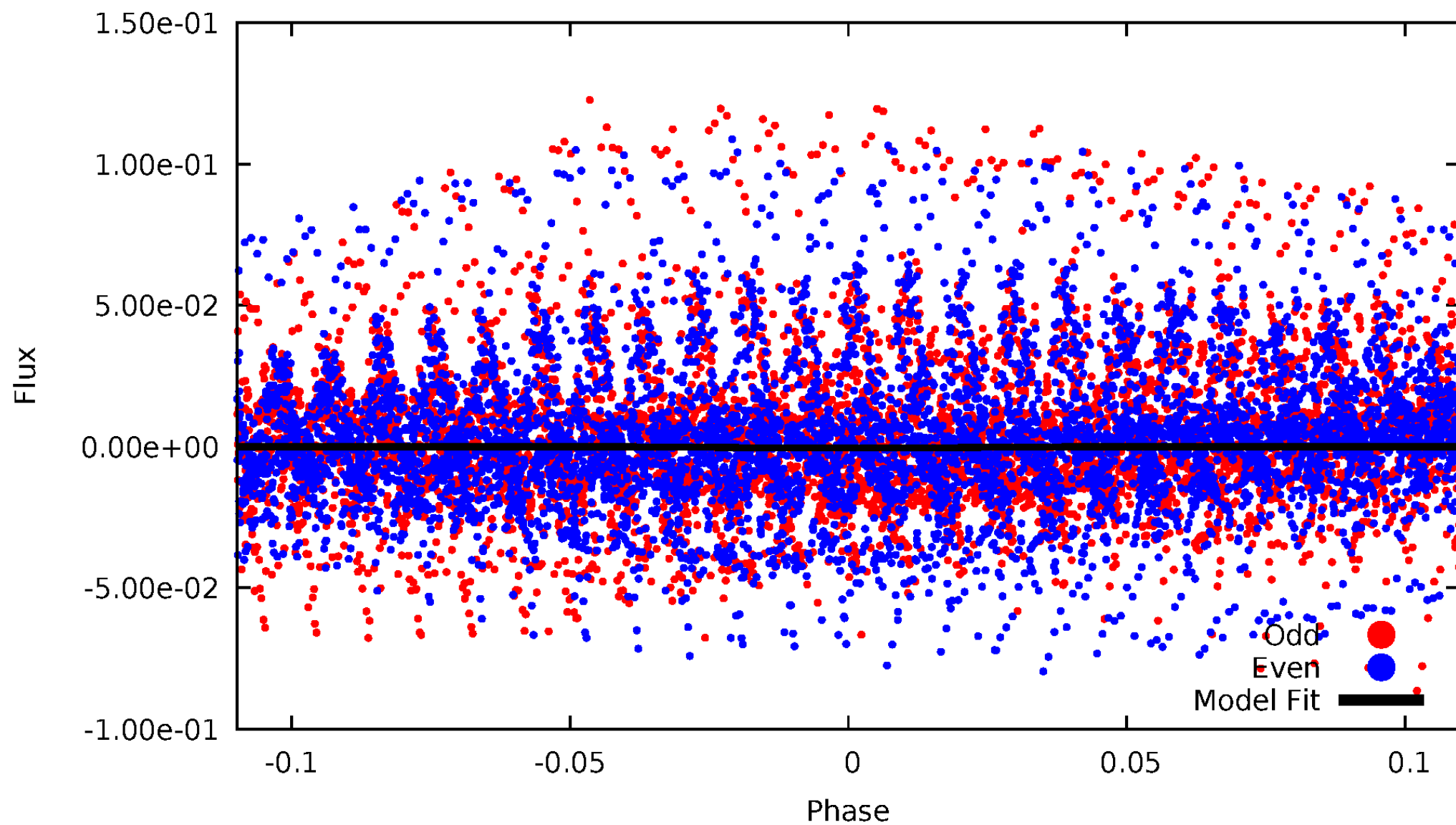
DV Odd/Even

TCE 008095028-02



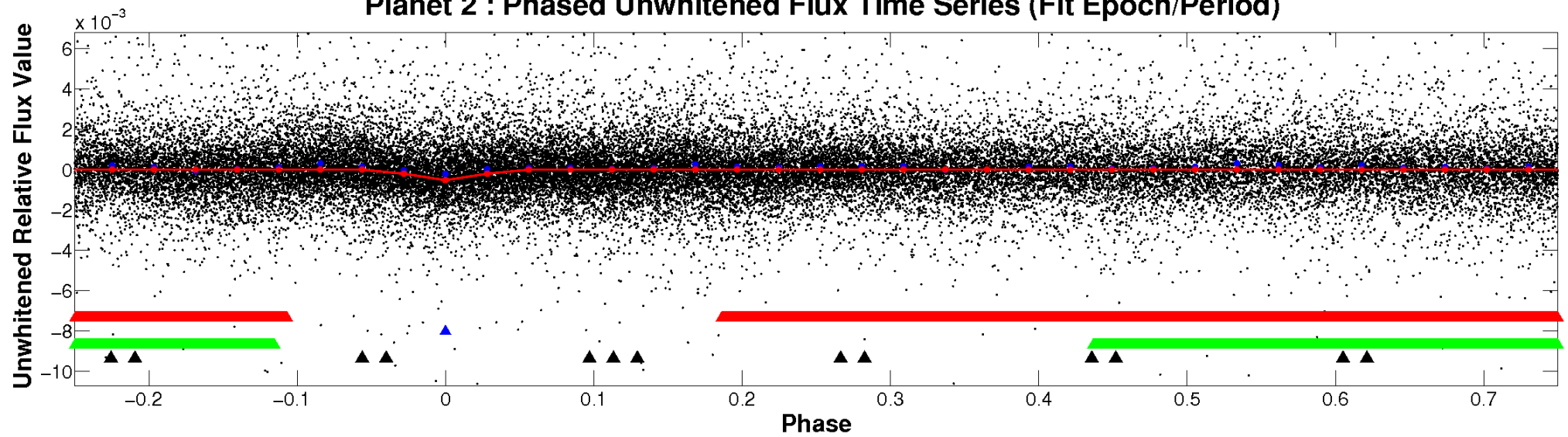
ALT Odd/Even

TCE 008095028-02

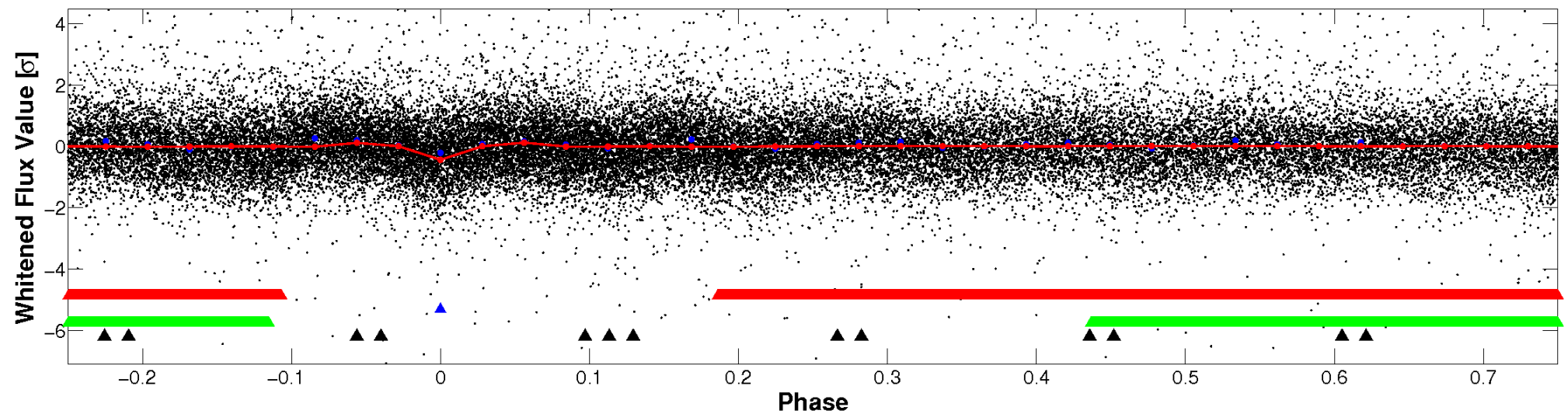


Non-Whitened Vs. Whitened Light Curve

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

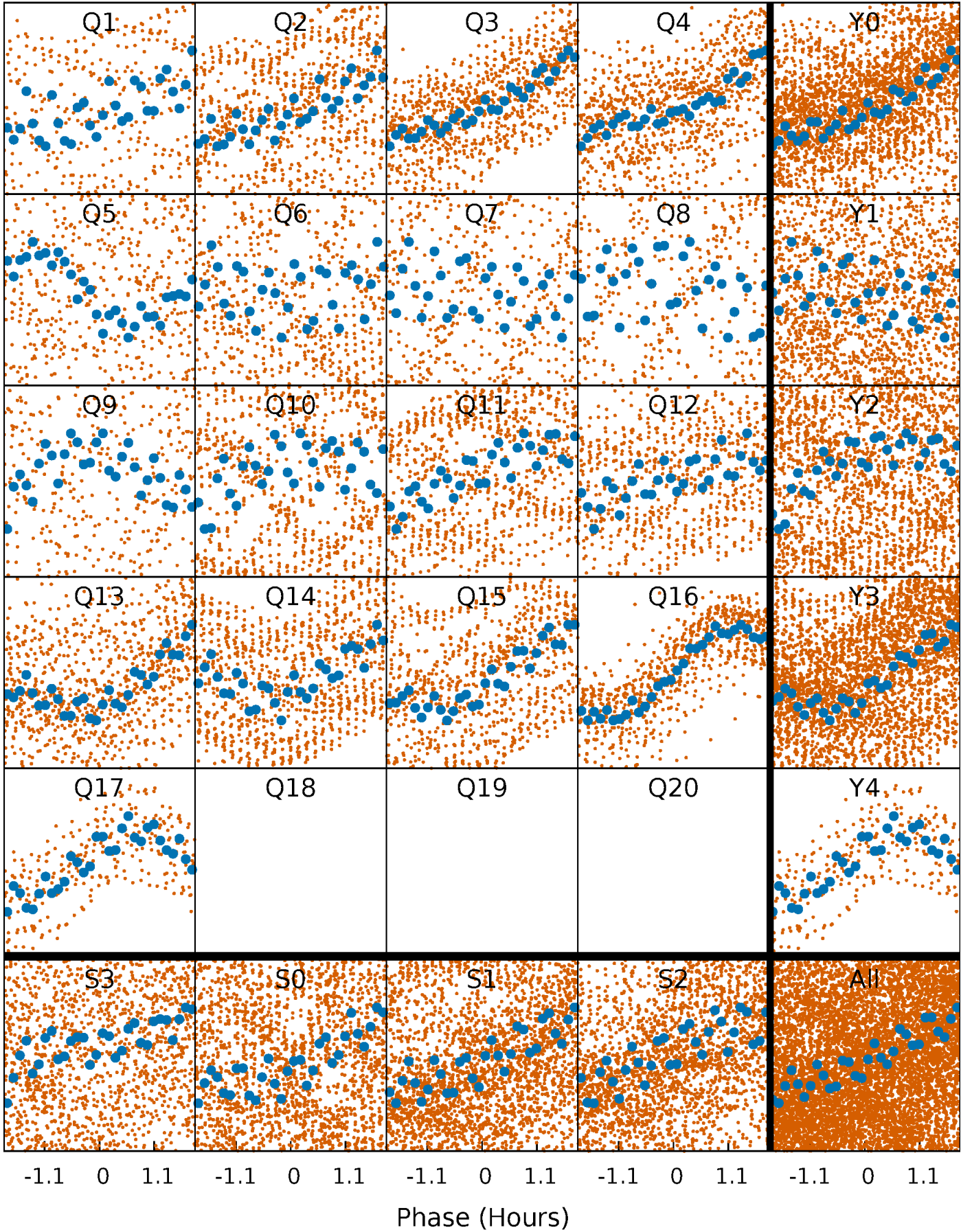


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



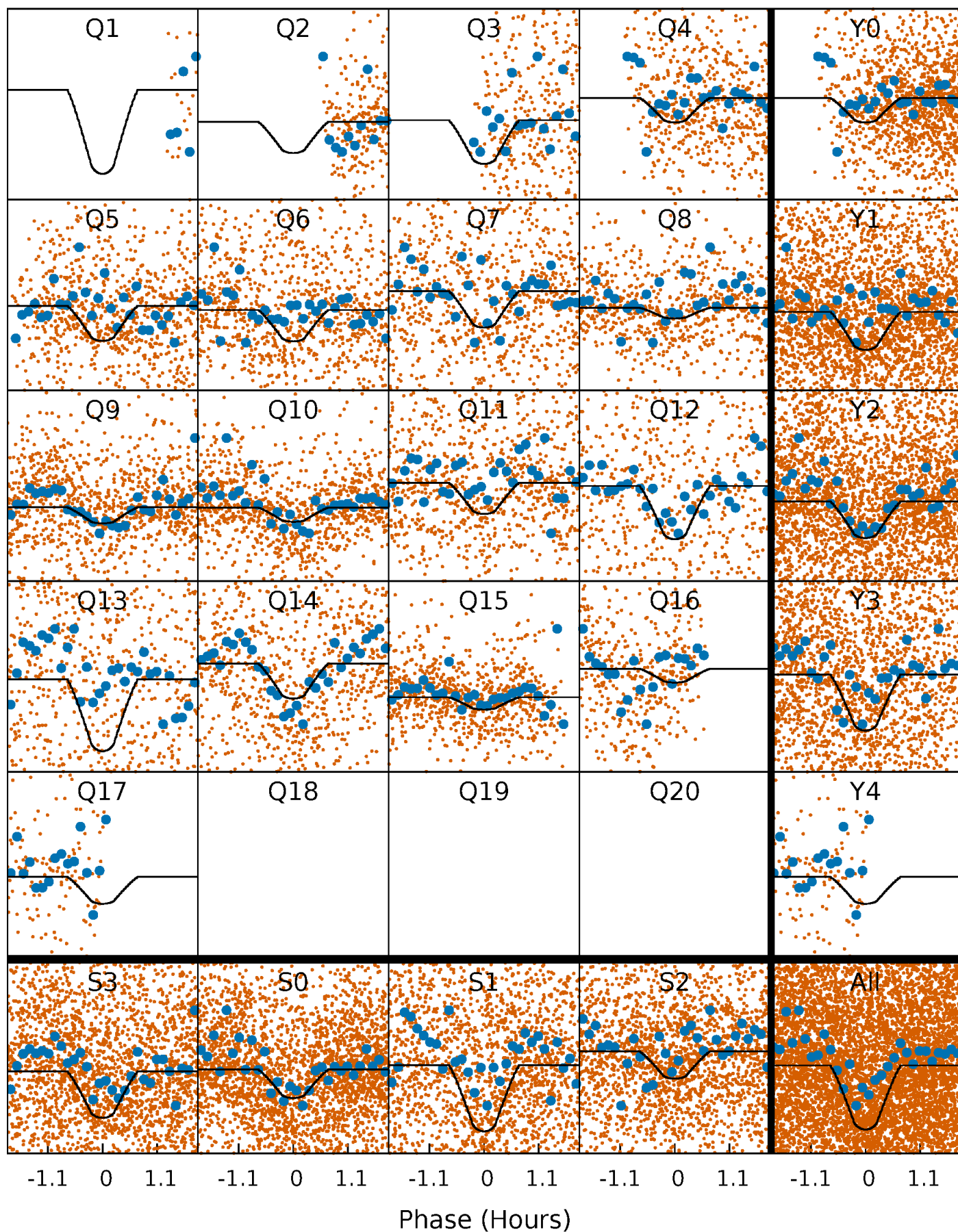
PDC Quarter-Phased Transit Curves

TCE 008095028-02 $P = 0.727649$ Days $T_0 = 131.589104$ (BKJD)



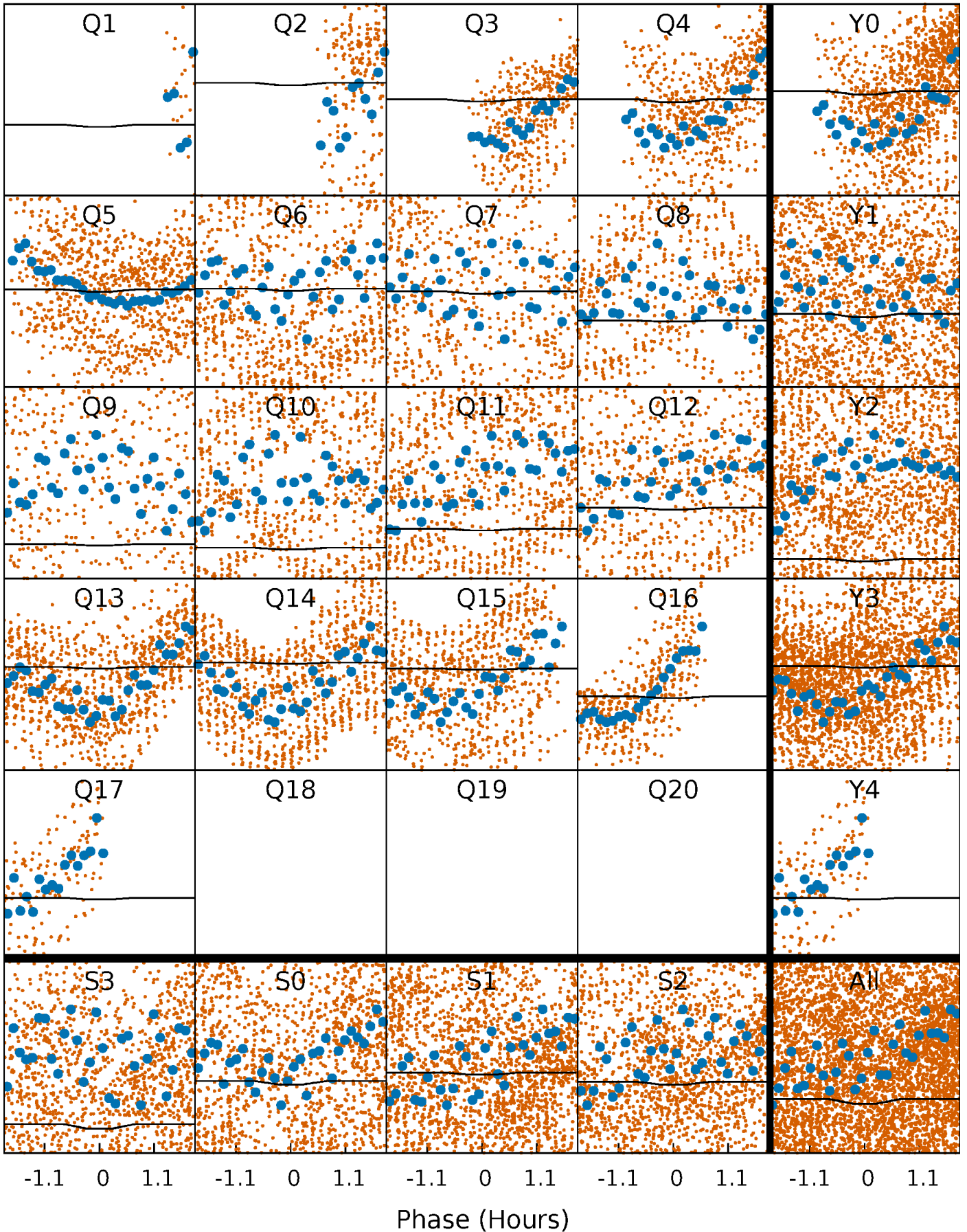
DV Quarter-Phased Transit Curves

TCE 008095028-02 P= 0.727649 Days $T_0=131.589104$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

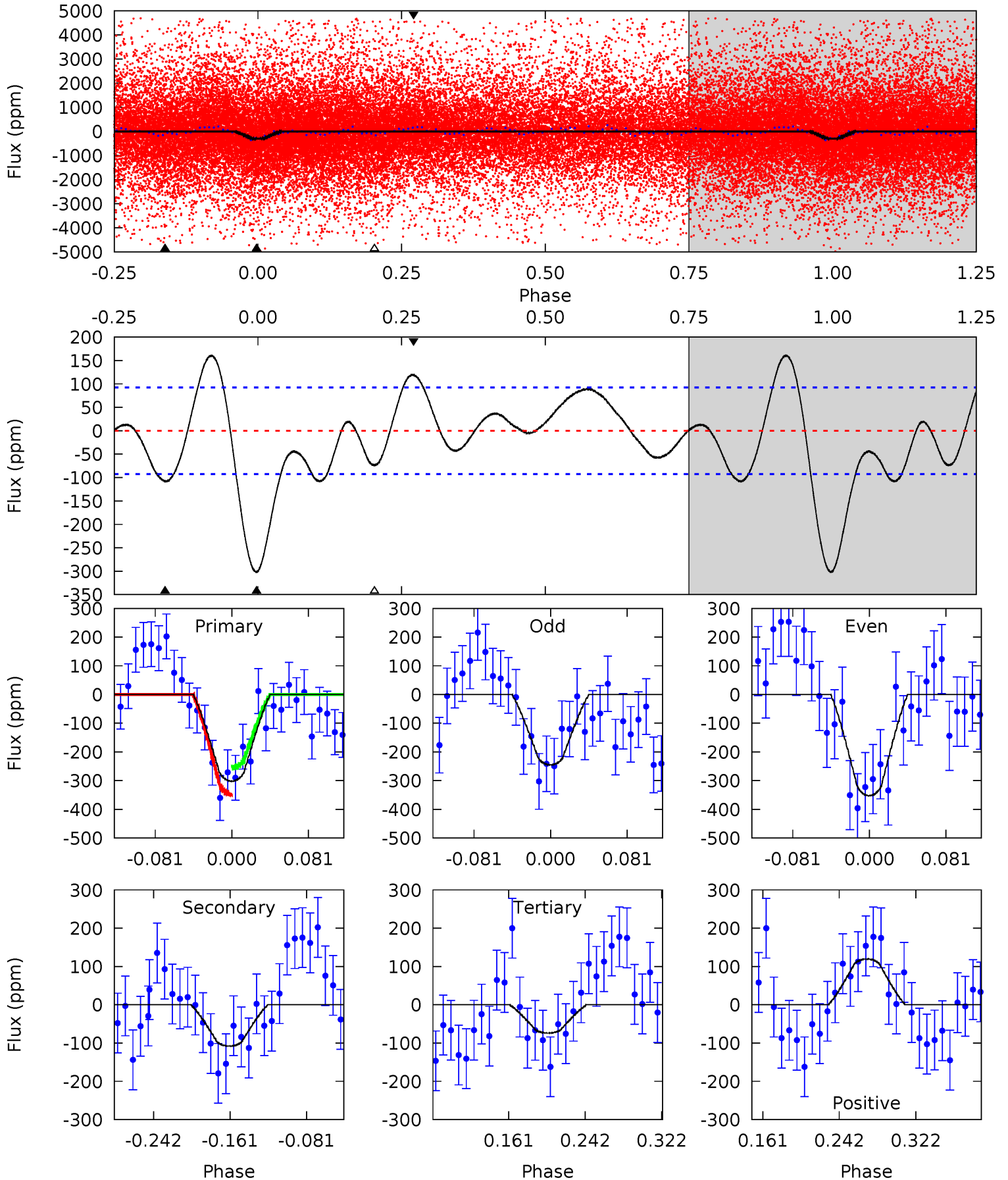
TCE 008095028-02 $P = 0.727648$ Days $T_0 = 131.589092$ (BKJD)



DV Model-Shift Uniqueness Test

008095028-02, P = 0.727649 Days, E = 131.589104 Days

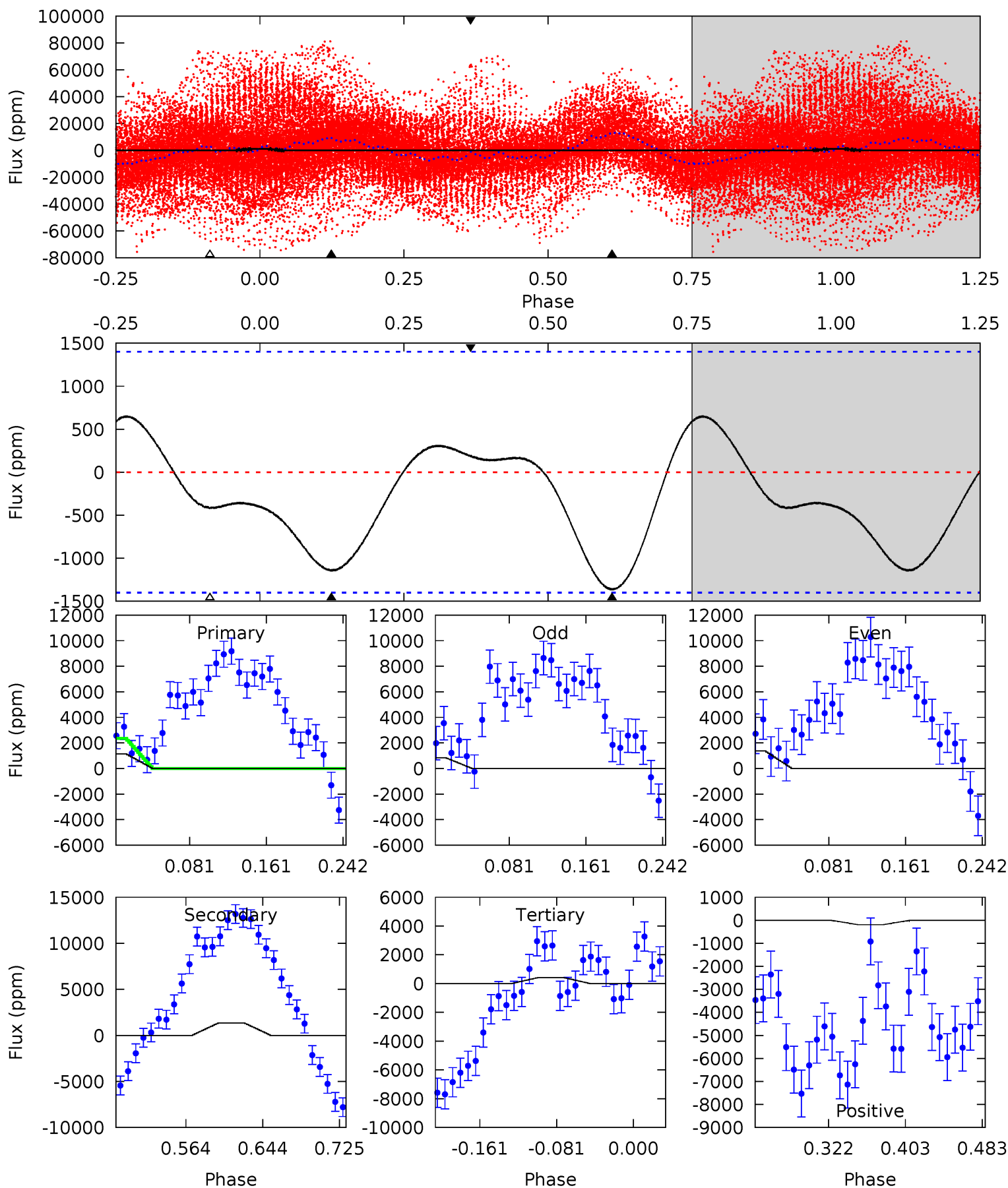
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.0	5.37	3.68	5.95	4.61	1.75	2.85	11.3	9.06	1.70	-0.58	2.71	0.55	0.35	2.33



Alt Model-Shift Uniqueness Test

008095028-02, P = 0.727648 Days, E = 131.589092 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.76	4.48	1.38	0.63	4.61	1.75	1.12	2.39	3.14	3.11	3.86	0.87	-10.2	0.32	3.60



Stellar Parameters For KIC 008095028

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4599^{+125}_{-153}	$4.710^{+0.056}_{-0.028}$	$-1.120^{+0.300}_{-0.300}$	$0.535^{+0.034}_{-0.041}$	$0.536^{+0.039}_{-0.028}$	$4.921^{+1.058}_{-0.600}$
	+3%/-3%	+1%/-1%	+27%/-27%	+6%/-8%	+7%/-5%	+21%/-12%
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 008095028-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-108 ± 20	$1.24^{+0.57}_{-0.52}$	1817^{+65}_{-63}	3516^{+784}_{-445}	$6.338^{+13.081}_{-3.451}$
Alt.	-1361 ± 304	$1.22^{+0.60}_{-0.54}$	1816^{+60}_{-68}	5773^{+2207}_{-964}	80^{+185}_{-44}

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

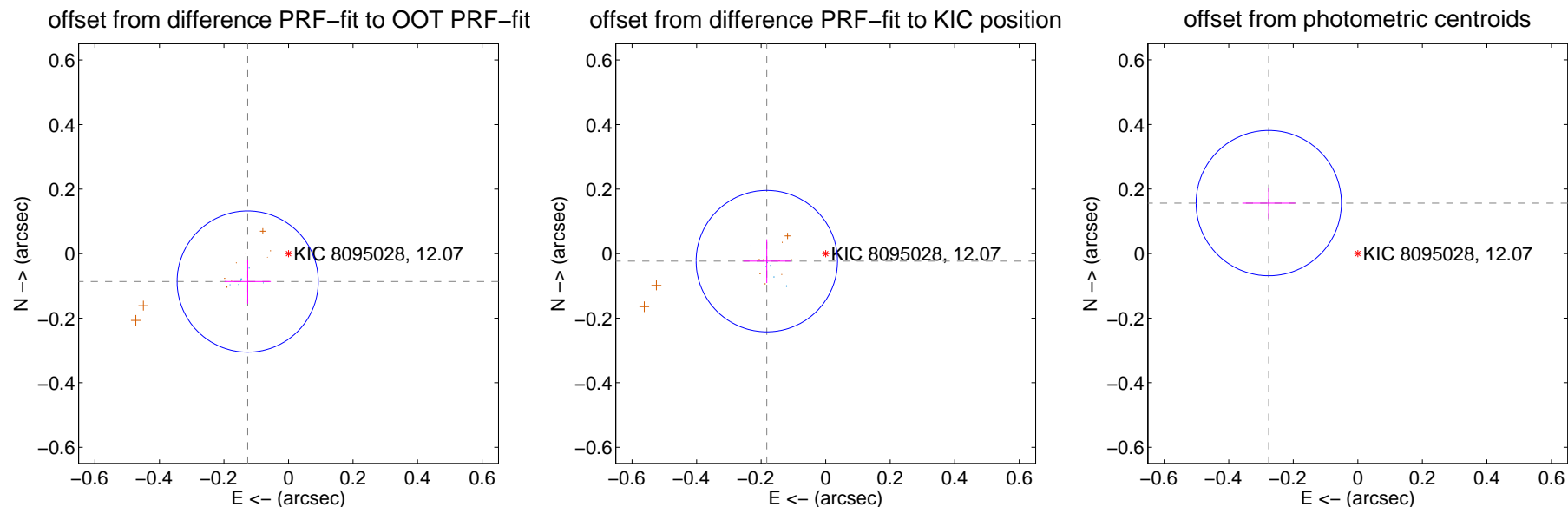
DV Centroid Data

Supplemental centroid analysis for 008095028-02. Kepler magnitude: 12.07. Transit SNR 21.60

There are 6 quarters with good PRF difference image offsets

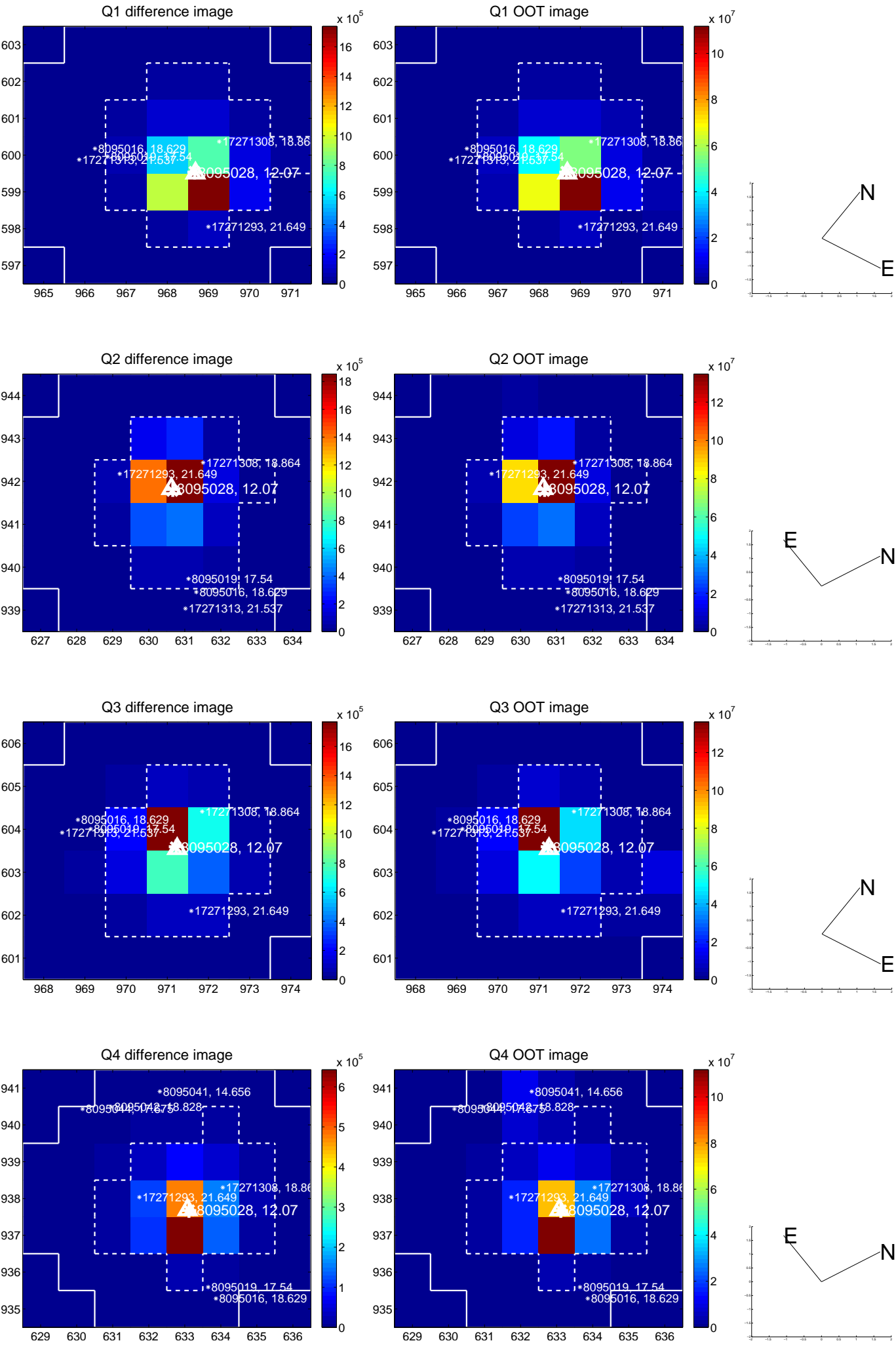
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.153 ± 0.073	2.10	0.126 ± 0.072	-0.086 ± 0.068
PRF-fit source offset from KIC position	0.184 ± 0.073	2.52	0.182 ± 0.073	-0.023 ± 0.068
photometric centroid source offset	0.32 ± 0.08	4.23	0.28 ± 0.08	0.16 ± 0.05

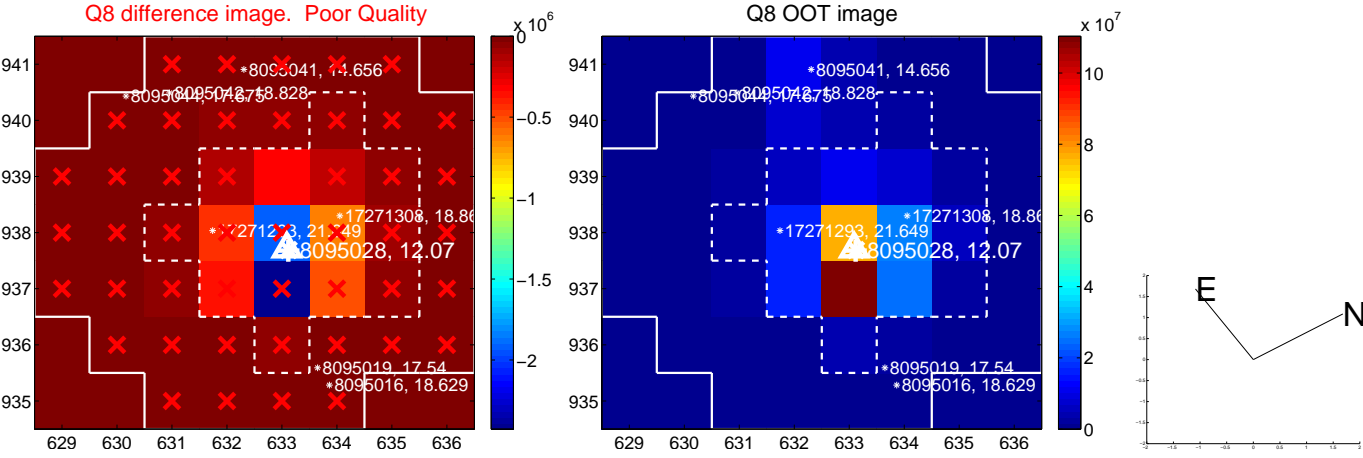
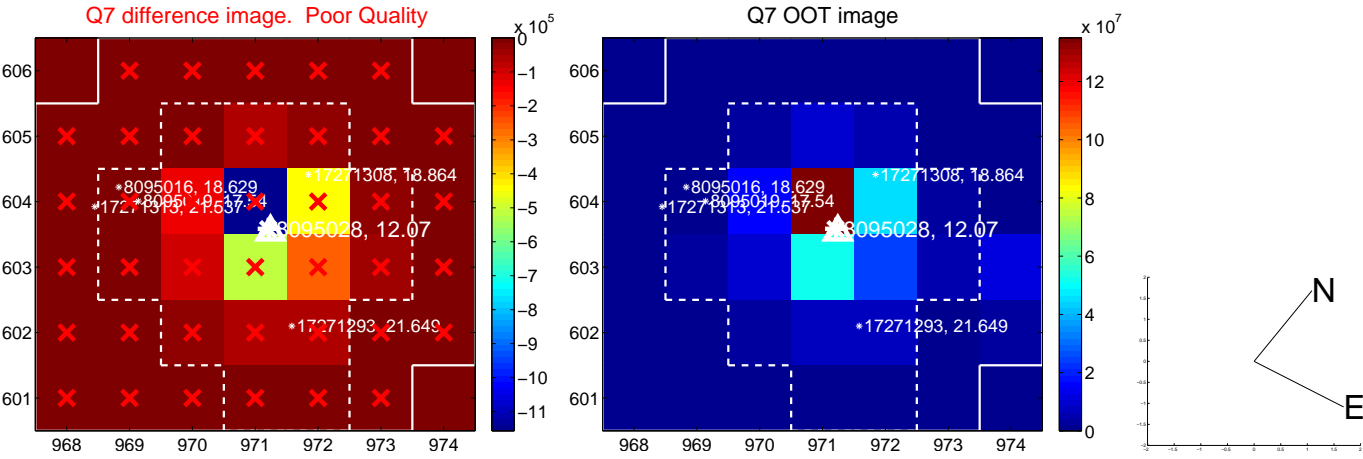
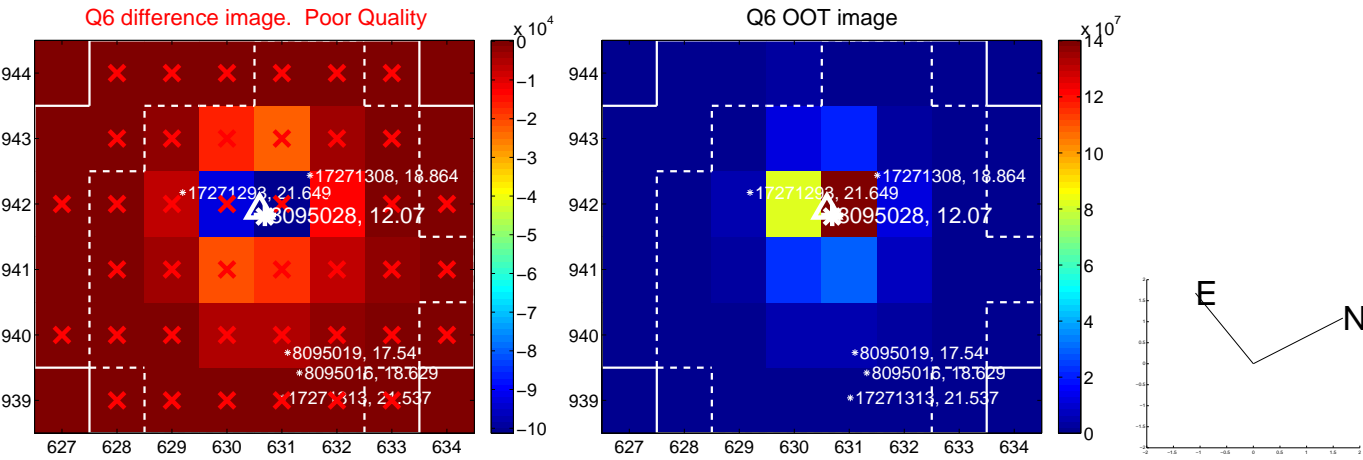
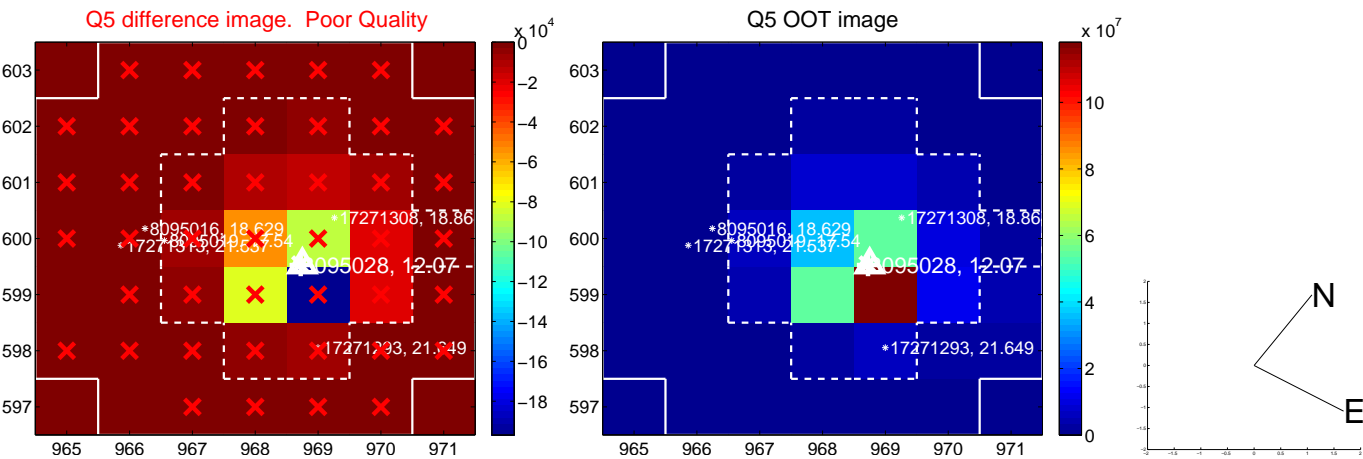


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

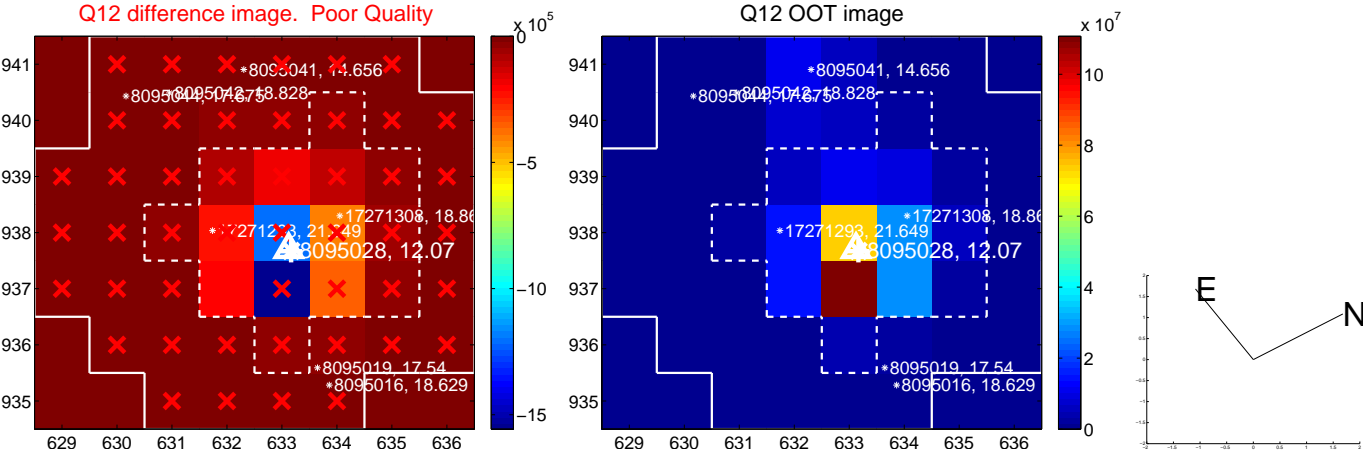
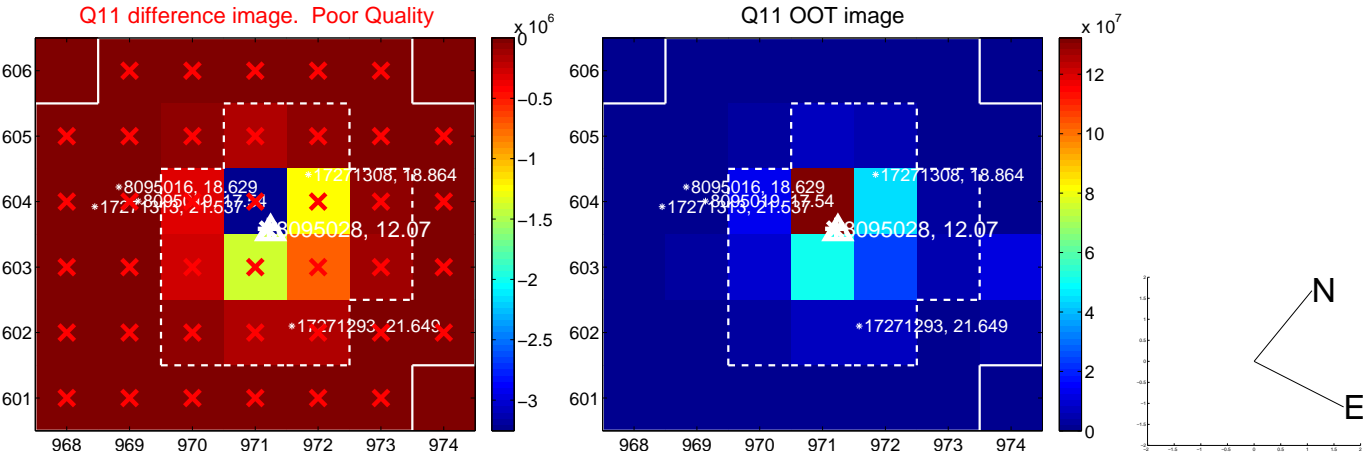
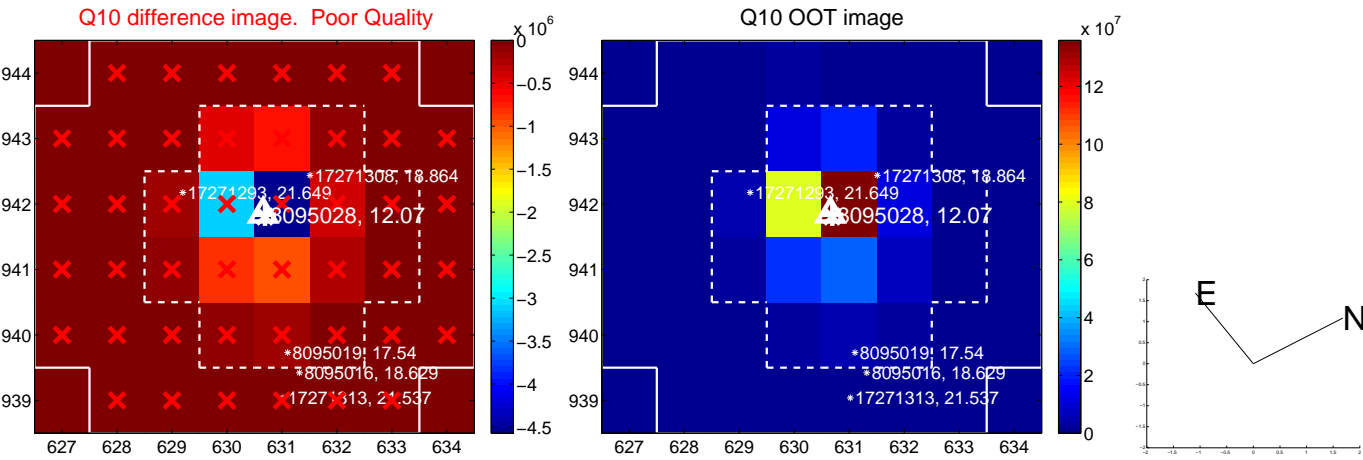
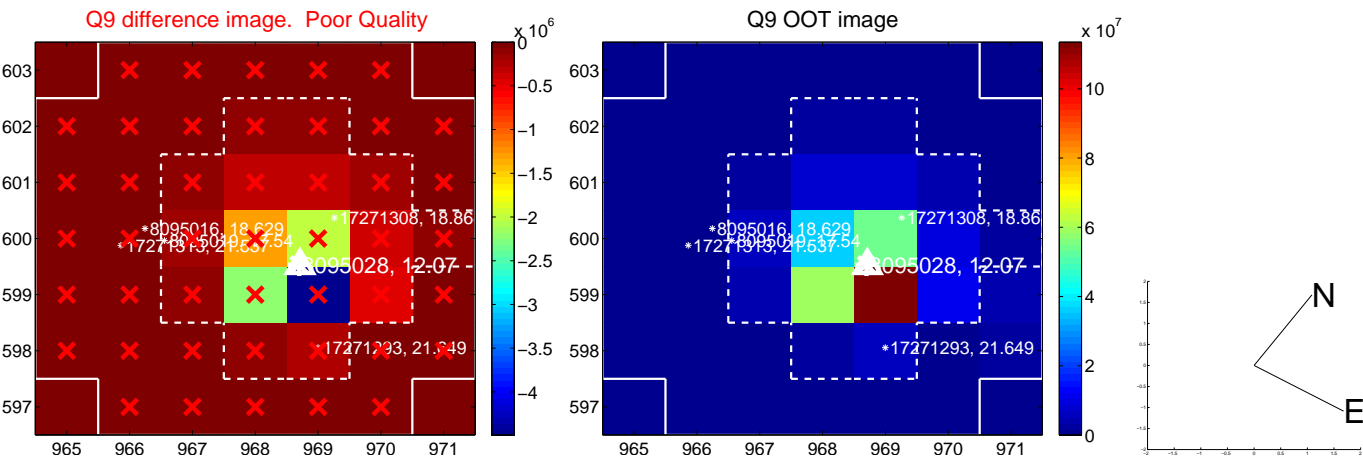
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



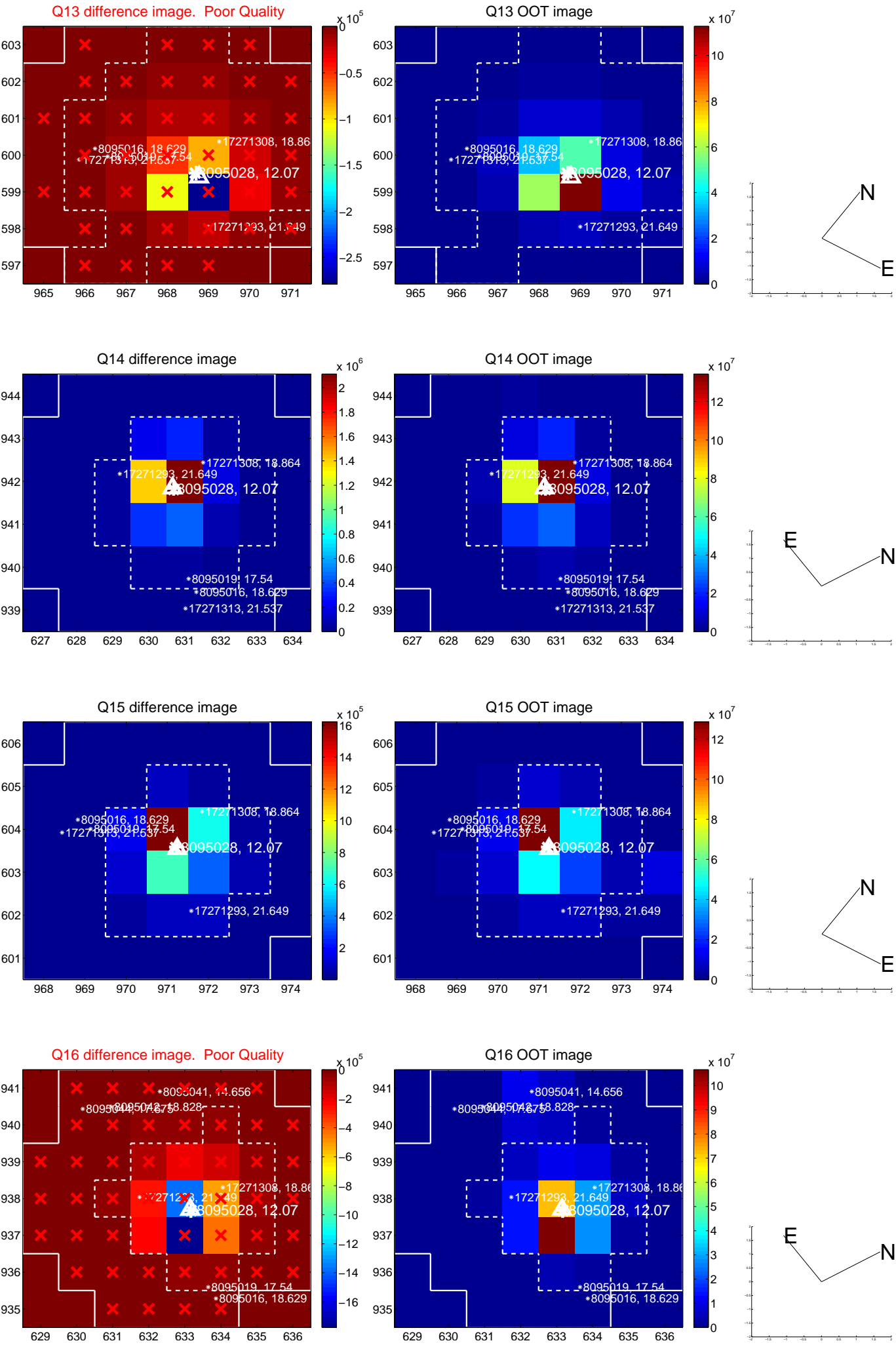
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



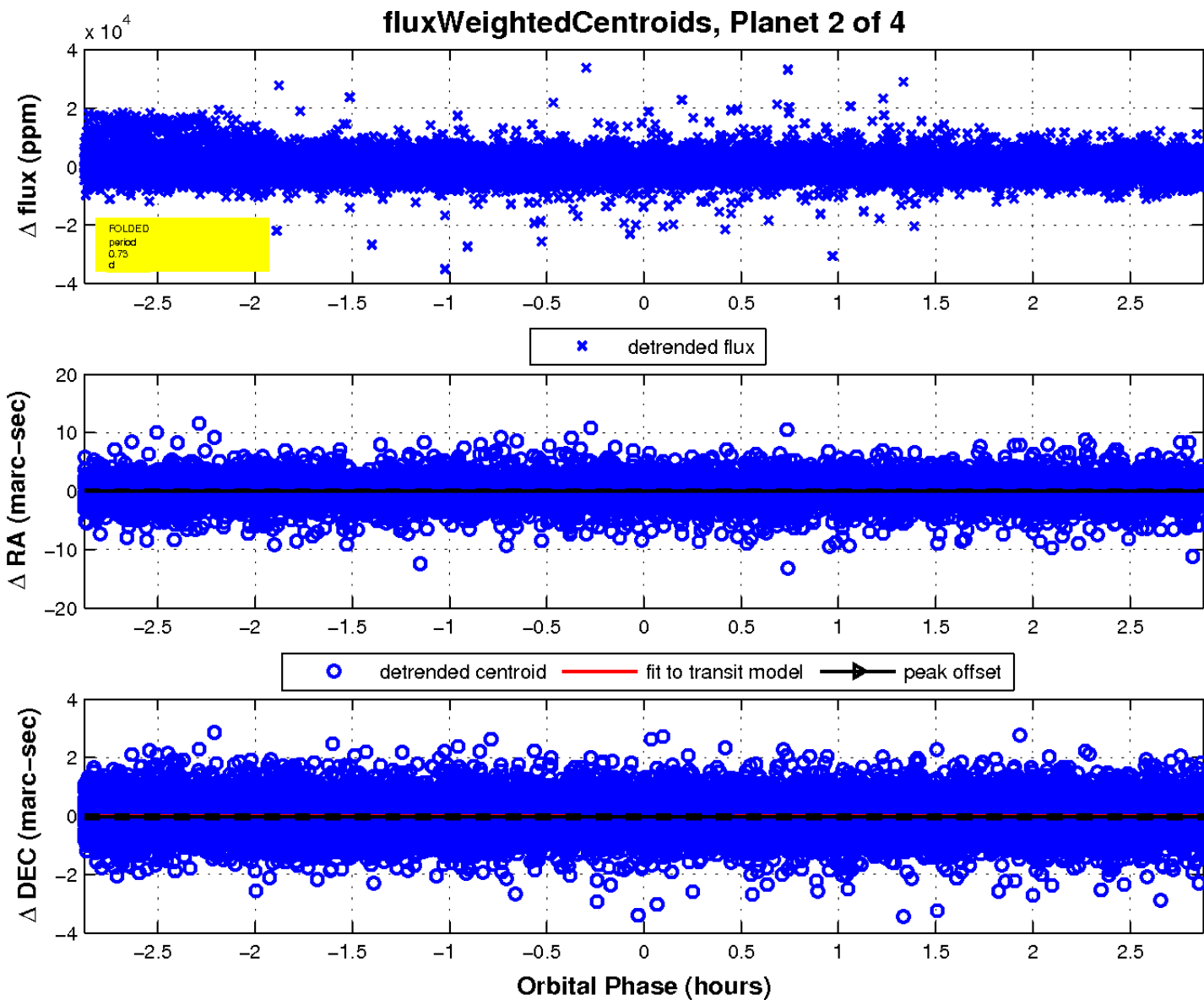
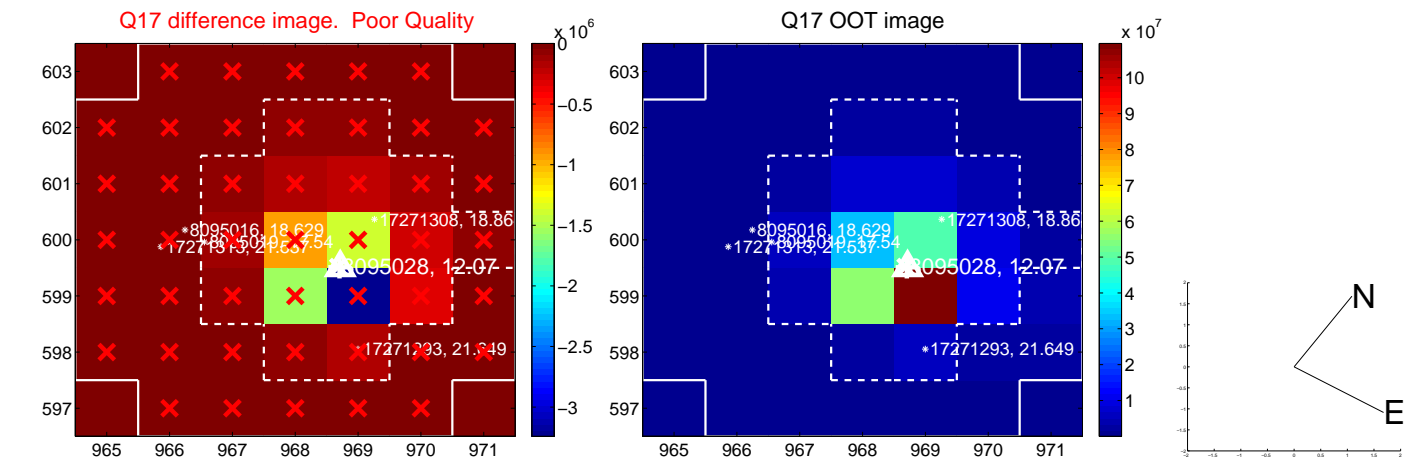
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

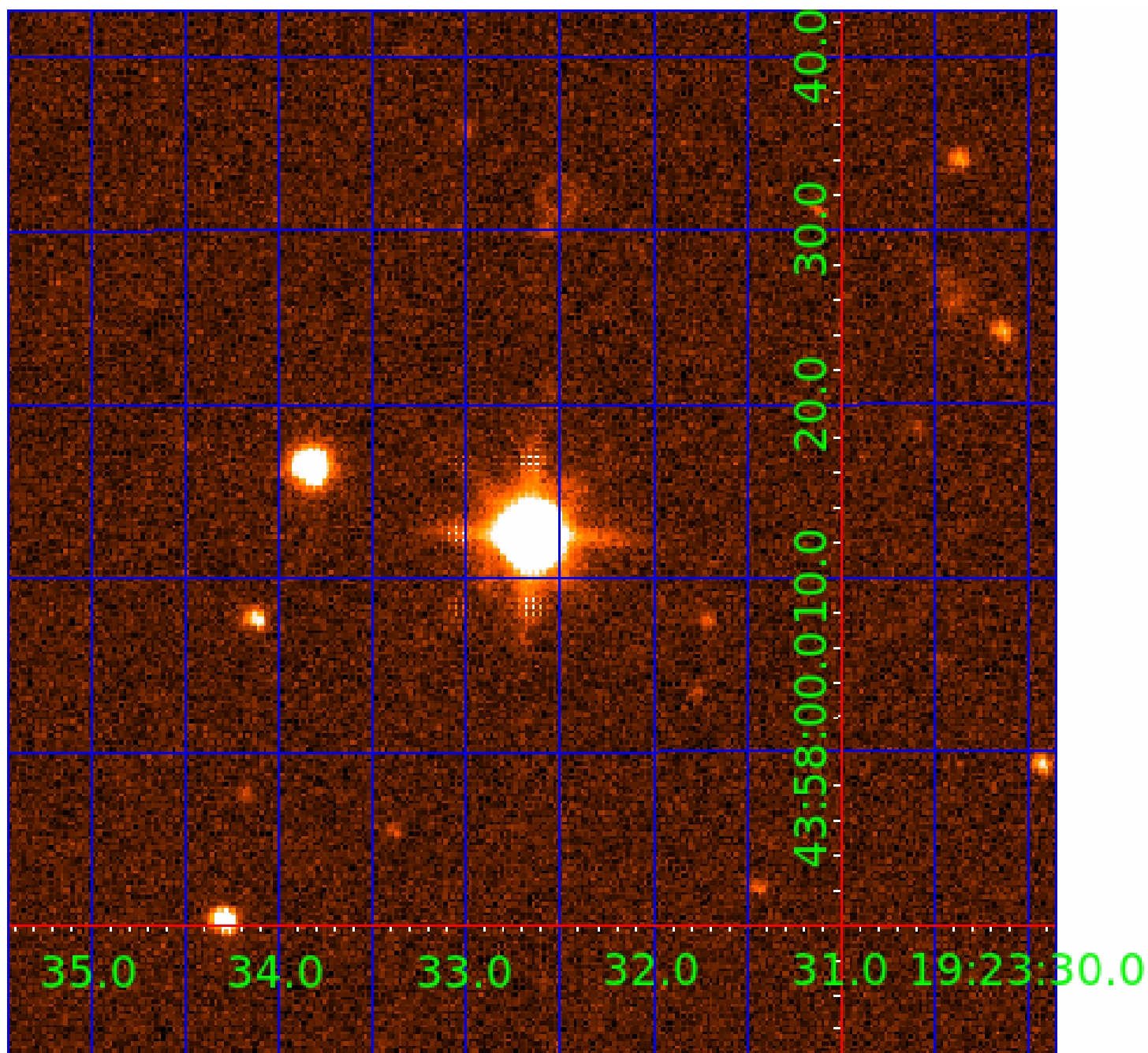


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008095028

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})
008095028-01	OBS	No	0.727392	132.239006	0.1	2.108	12.2	0.0	0.54	4599	0.02	694.11
008095028-02	OBS	No	0.727649	131.589104	544.3	0.959	10.8	21.6	0.54	4599	1.23	693.78
008095028-03	OBS	No	0.727486	132.232869	218.4	1.500	9.0	-1.0	0.54	4599	0.77	693.99
008095028-04	OBS	No	119.211185	144.780929	4501.5	4.703	11.9	6.5	0.54	4599	3.50	0.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008095028-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008095028-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
008095028-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS
008095028-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

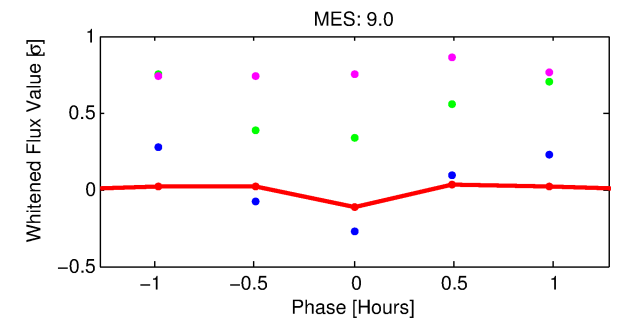
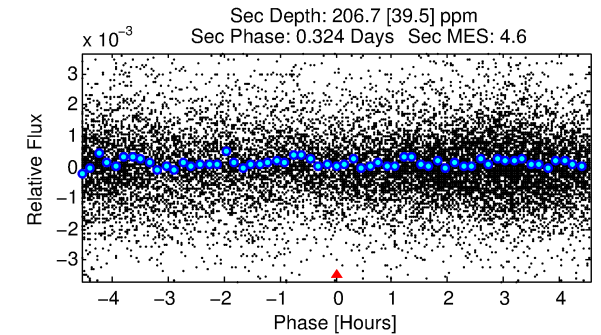
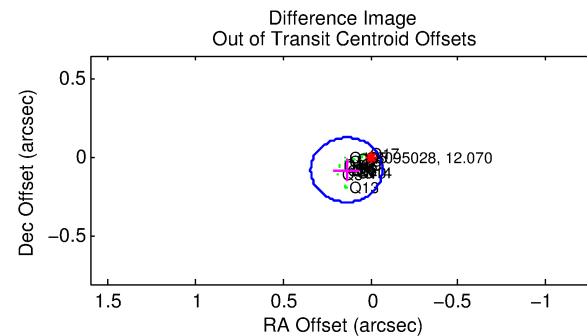
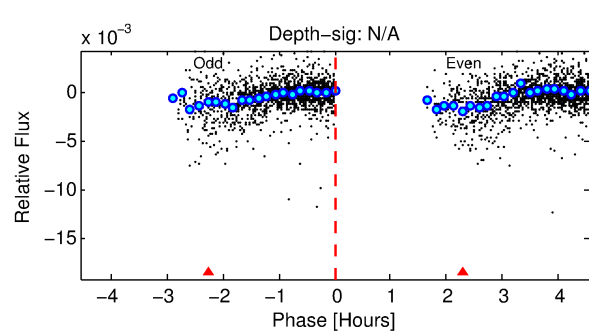
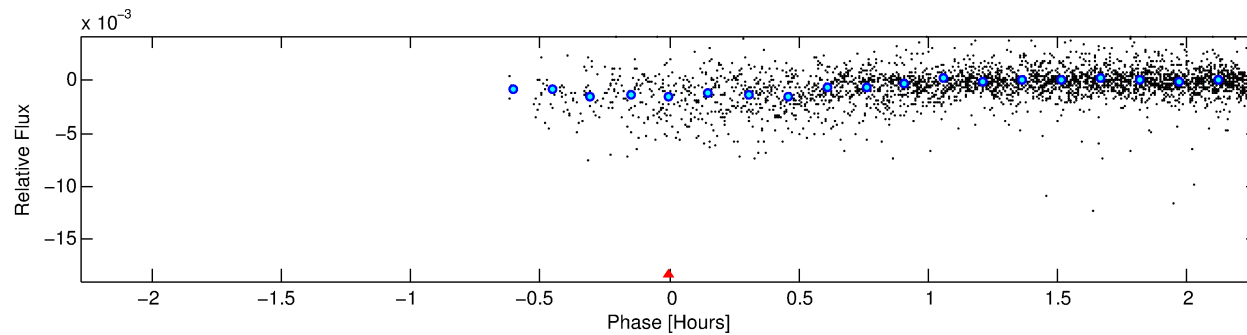
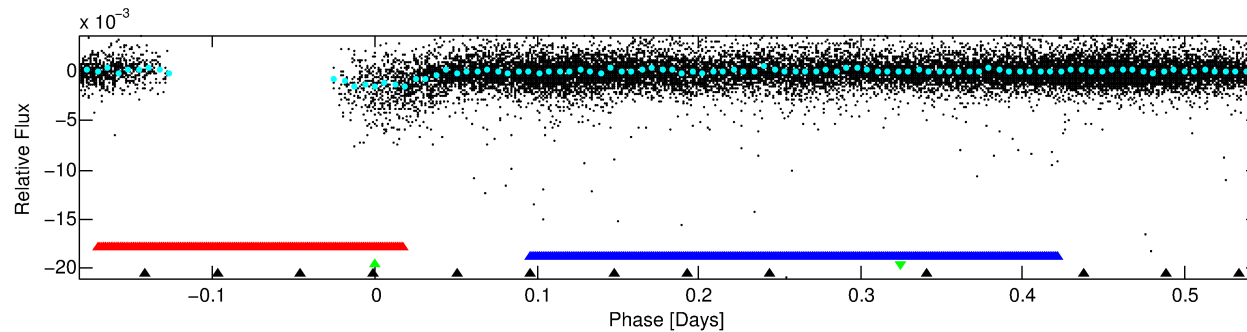
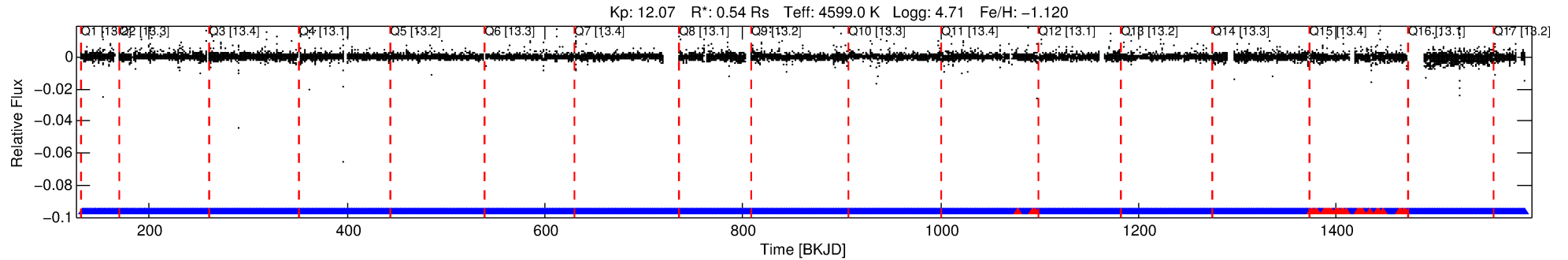
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008095028-03

No Significant Match Found

DV One-Page Summary

KIC: 8095028 Candidate: 3 of 4 Period: 0.727 d



TPS TCE Results:

Period = 0.72749 d
Epoch = 132.2329 BKJD

DV fit results are unavailable

DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00 σ]

LongPeriod-sig: 0.2% [0.00 σ]

ModelChiSquare2-sig: N/A

ModelChiSquareGof-sig: N/A

Bootstrap-pfa: 1.33e-23

RollingBand-fgt: 0.93 [486/525]

GhostDiagnostic-chr: 4.47

Centroid-sig: 18.0%

Centroid-so: 0.315 arcsec [105.66 σ]

OotOffset-rm: 0.157 arcsec [2.31 σ]

KicOffset-rm: 0.177 arcsec [2.64 σ]

OotOffset-st: 4/4/4/5 [17]

KicOffset-st: 4/4/4/5 [17]

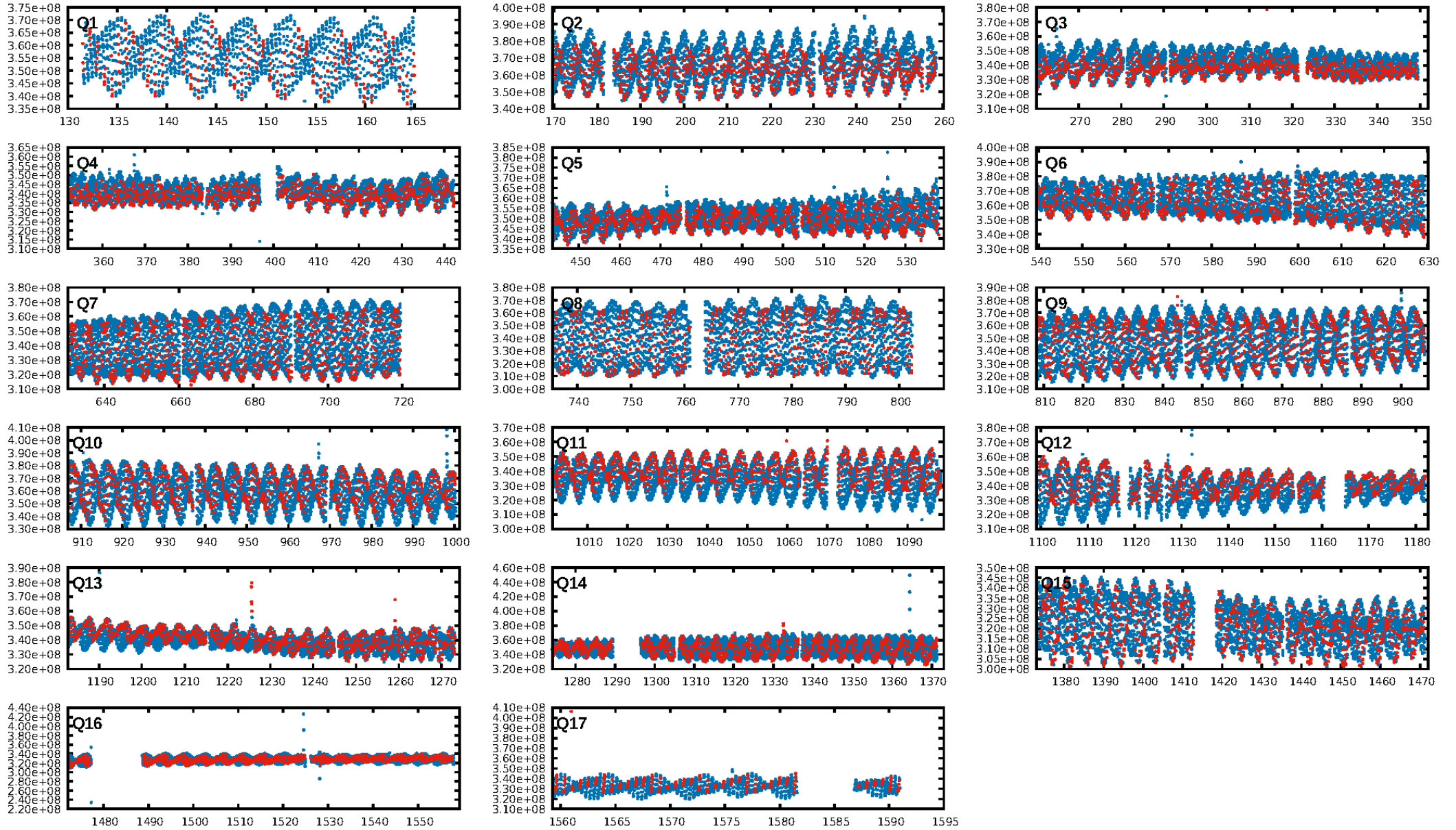
DiffImageQuality-fgm: 0.71 [12/17]

DiffImageOverlap-fno: 0.00 [0/17]

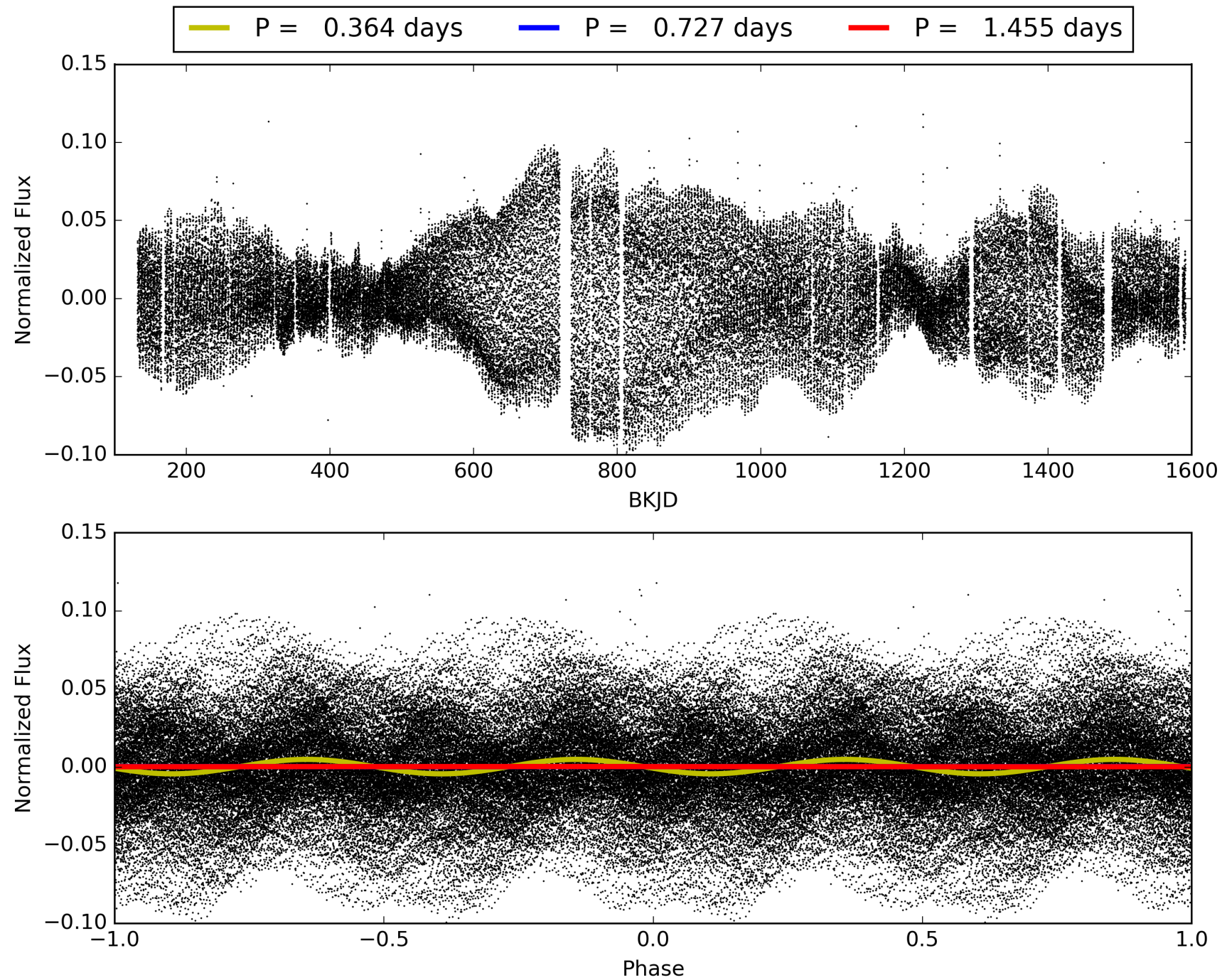
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:57:22 Z

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

TCE 008095028-03, PDC Light Curves

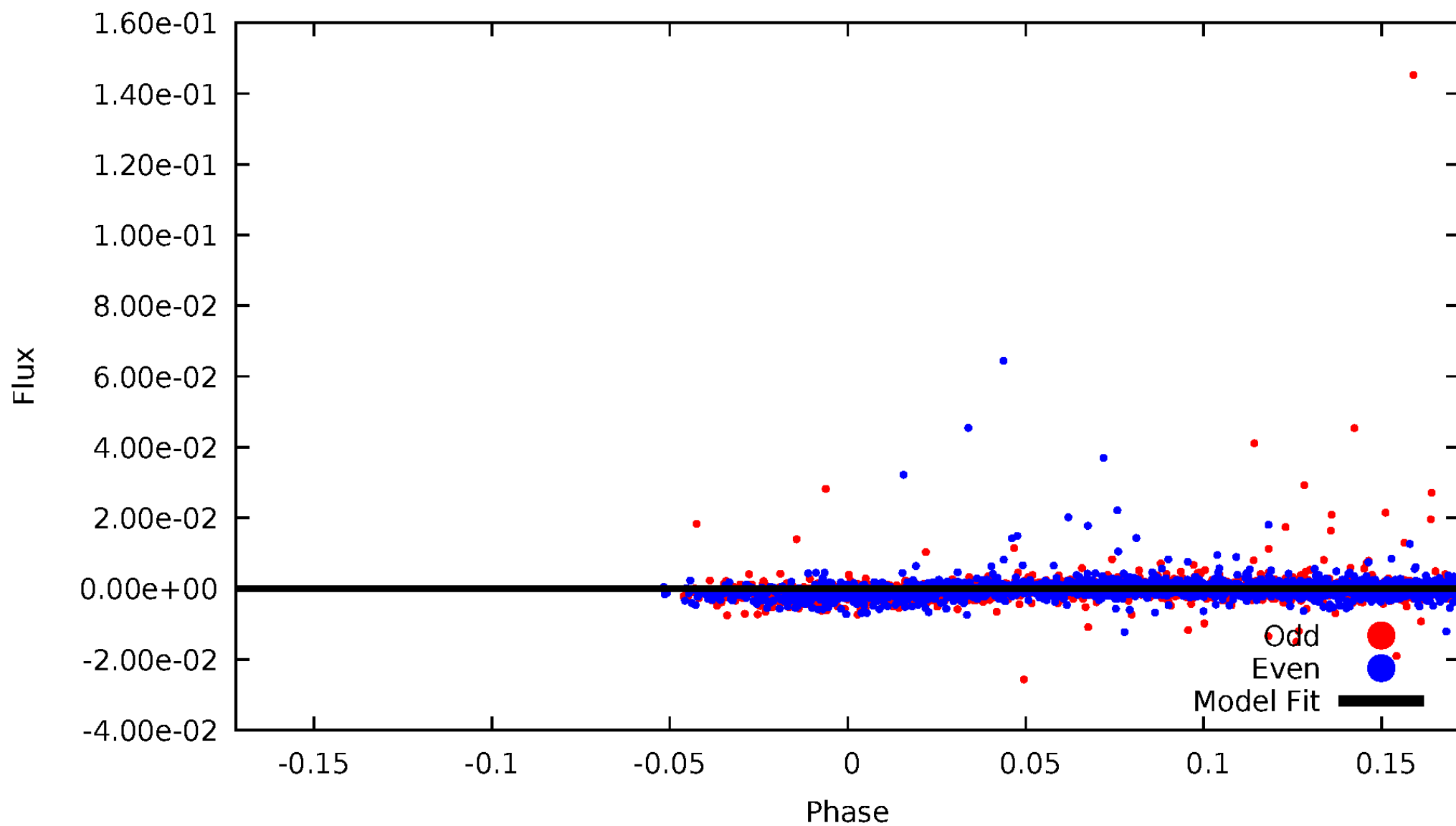


TCE 008095028-03



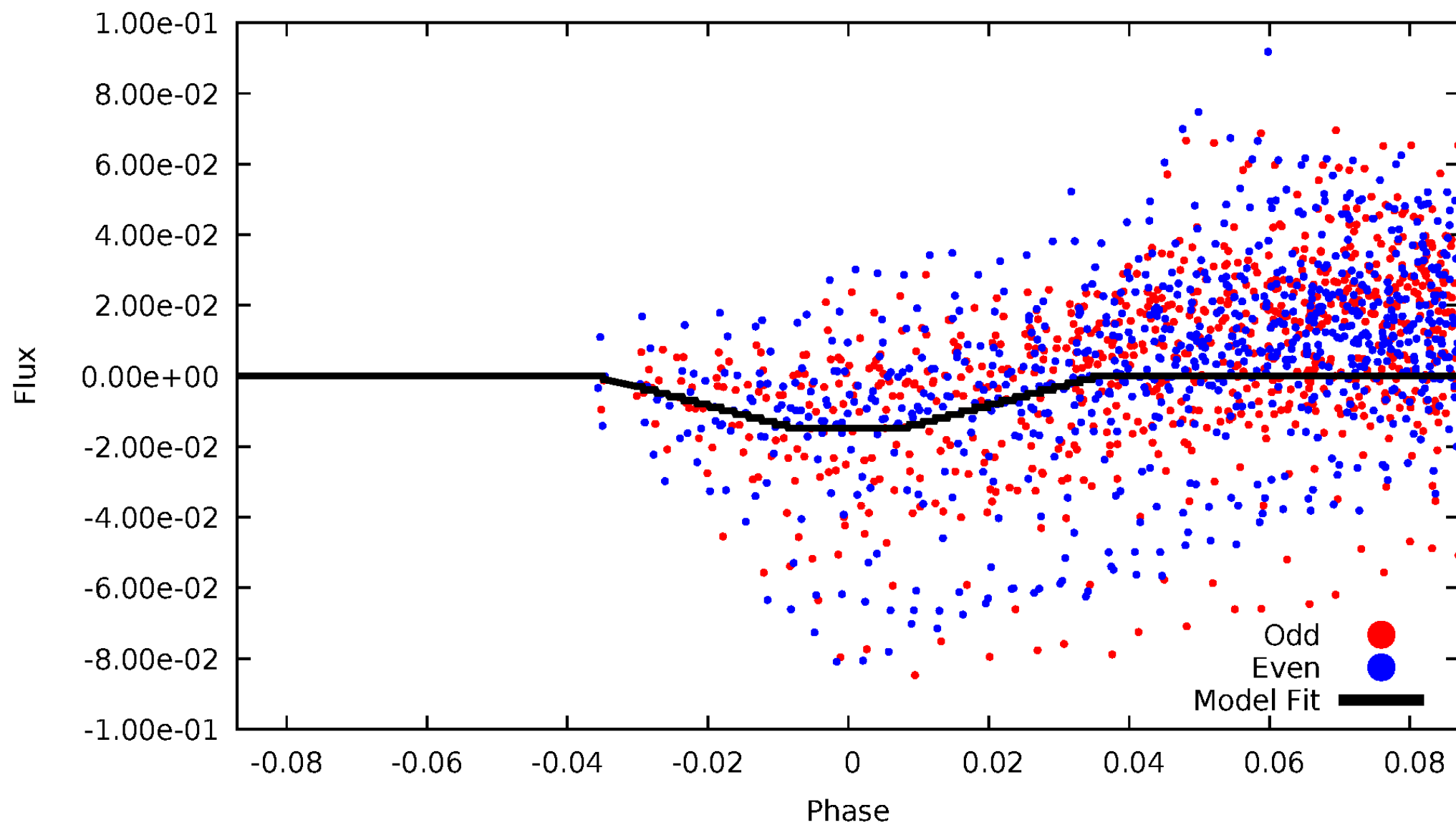
DV Odd/Even

TCE 008095028-03



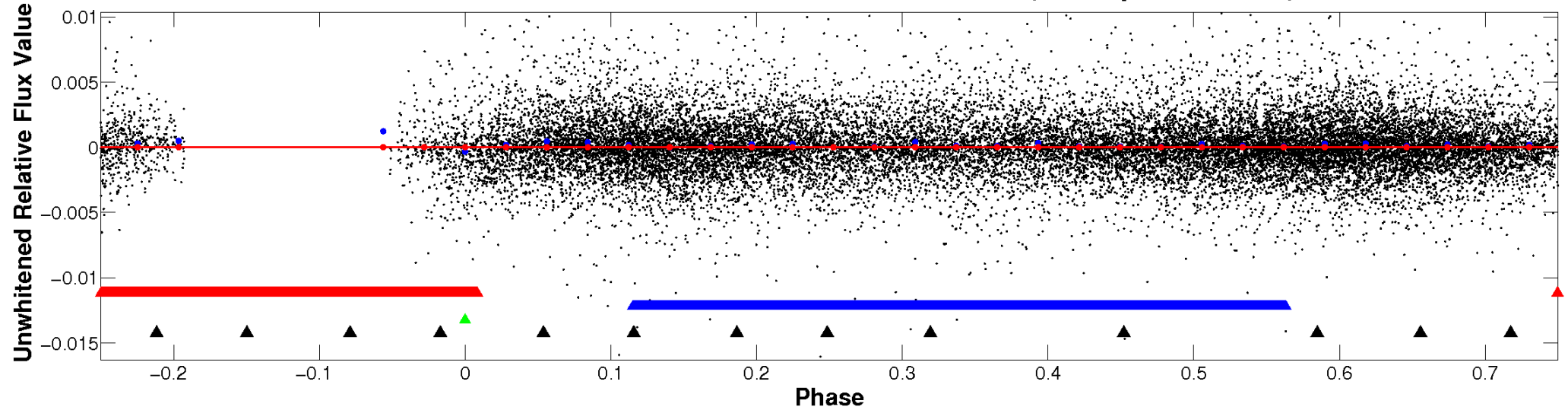
ALT Odd/Even

TCE 008095028-03

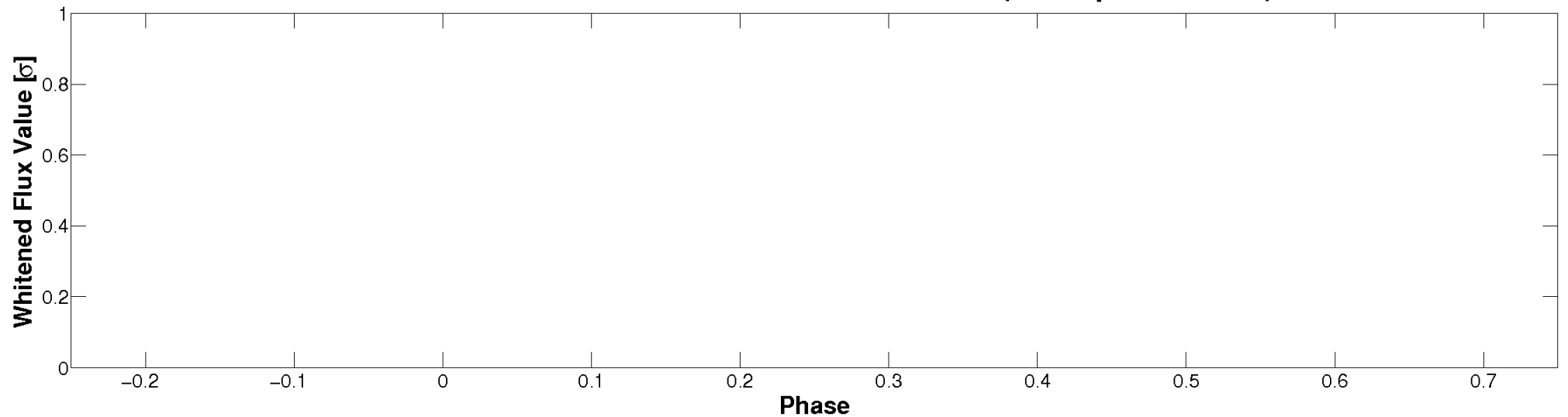


Non-Whitened Vs. Whitened Light Curve

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

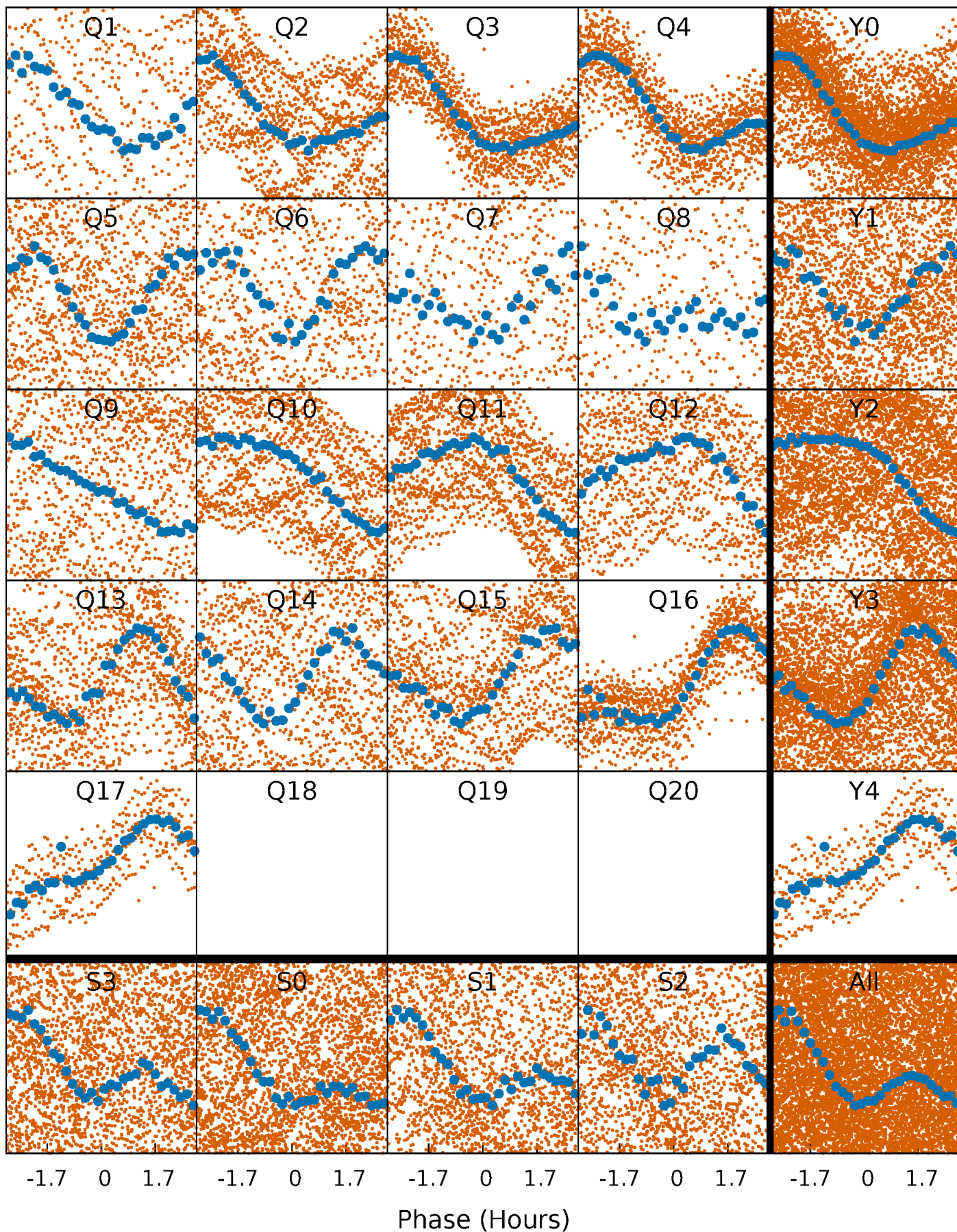


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



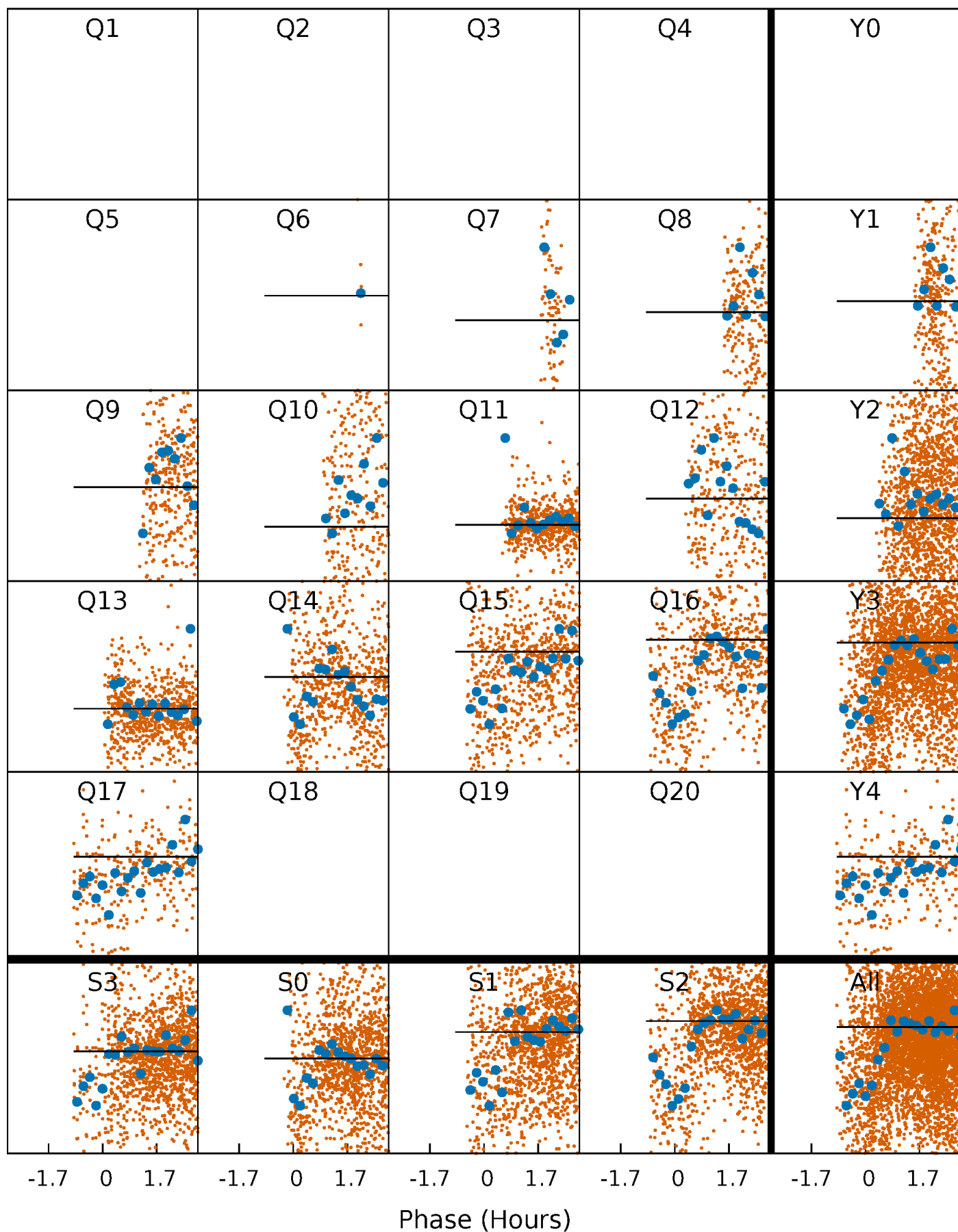
PDC Quarter-Phased Transit Curves

TCE 008095028-03 P= 0.727486 Days $T_0=132.232869$ (BKJD)



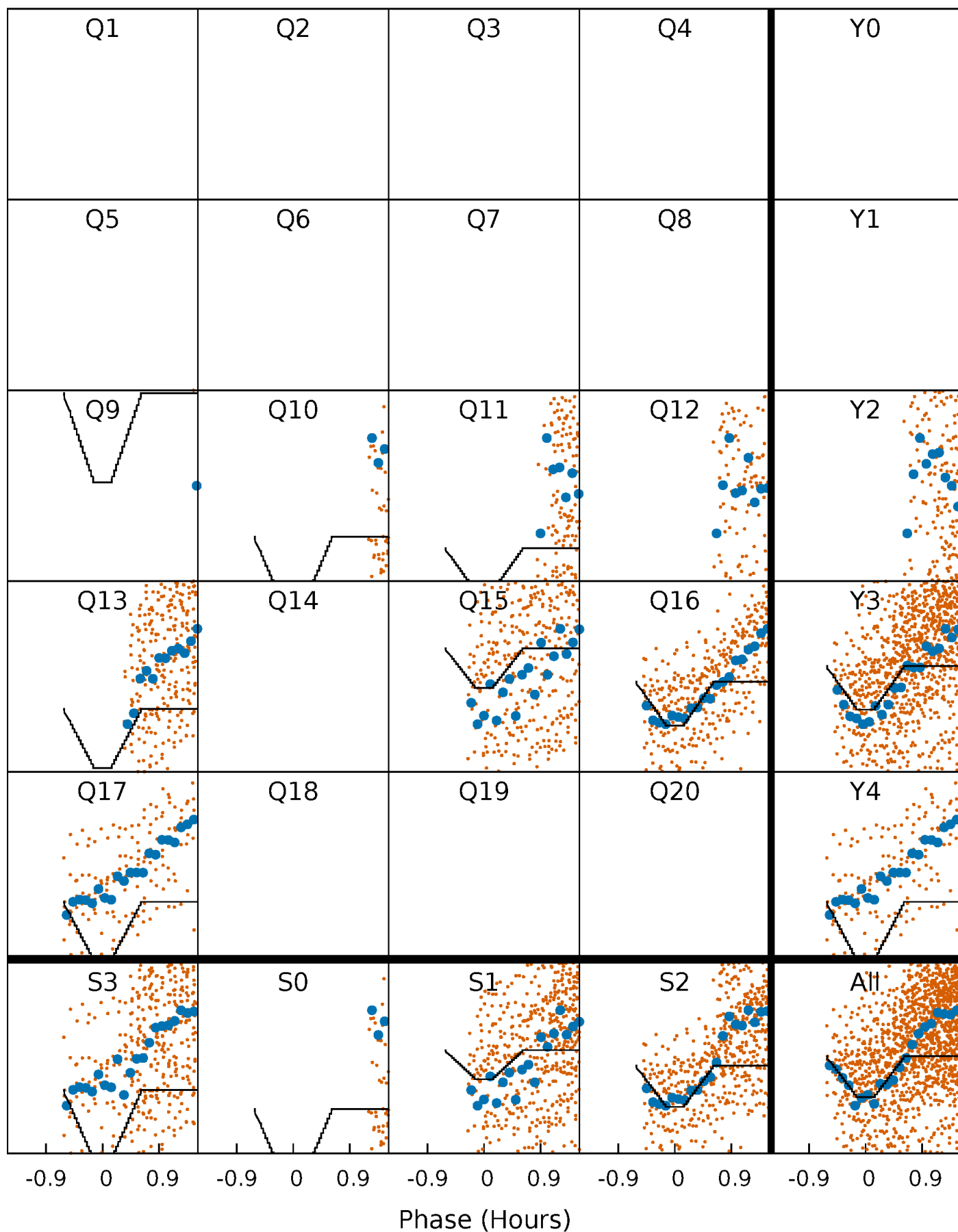
DV Quarter-Phased Transit Curves

TCE 008095028-03 $P = 0.727486$ Days $T_0 = 132.232869$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

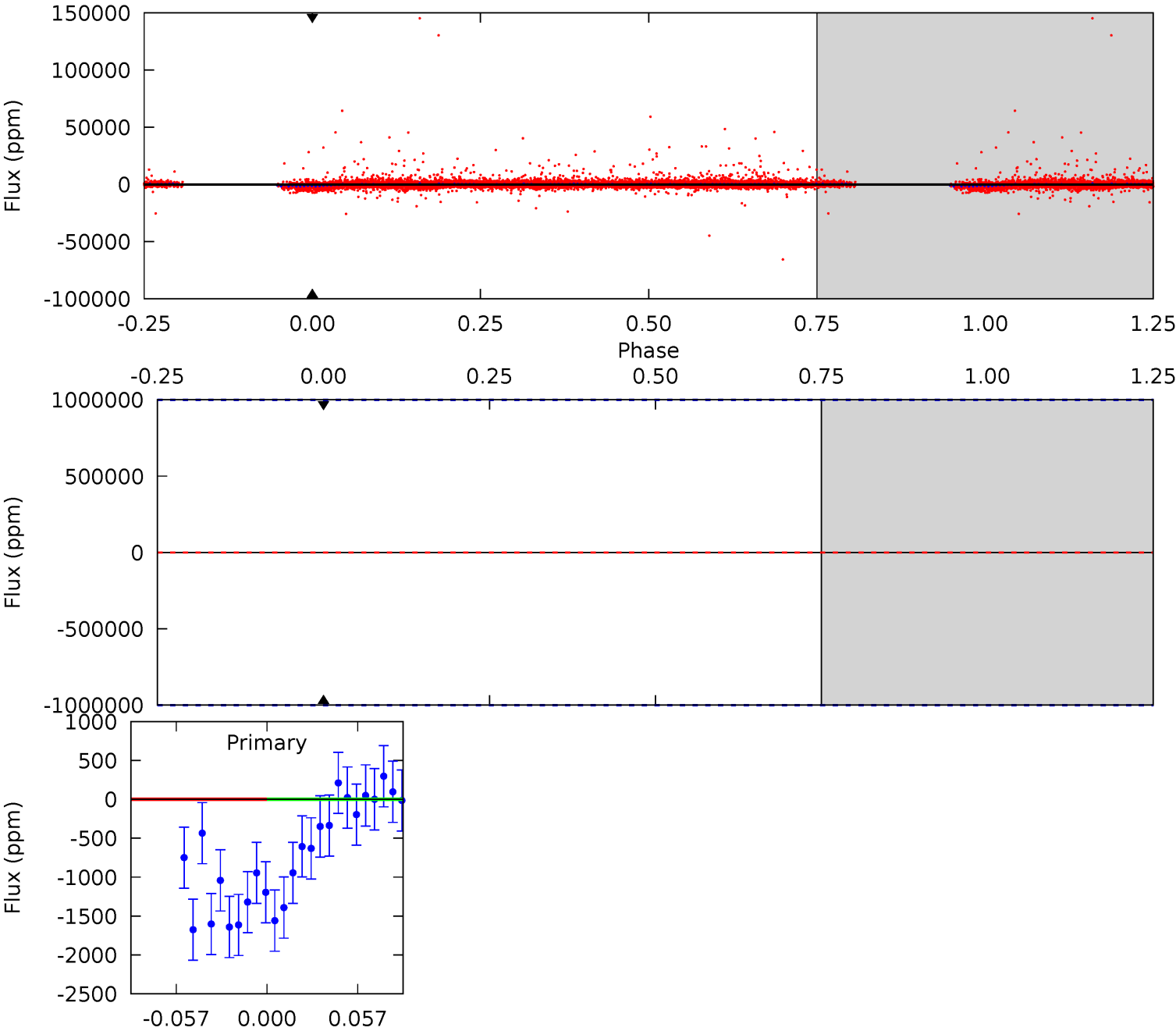
TCE 008095028-03 P= 0.727486 Days $T_0=132.221205$ (BKJD)



DV Model-Shift Uniqueness Test

008095028-03, P = 0.727486 Days, E = 131.505383 Days

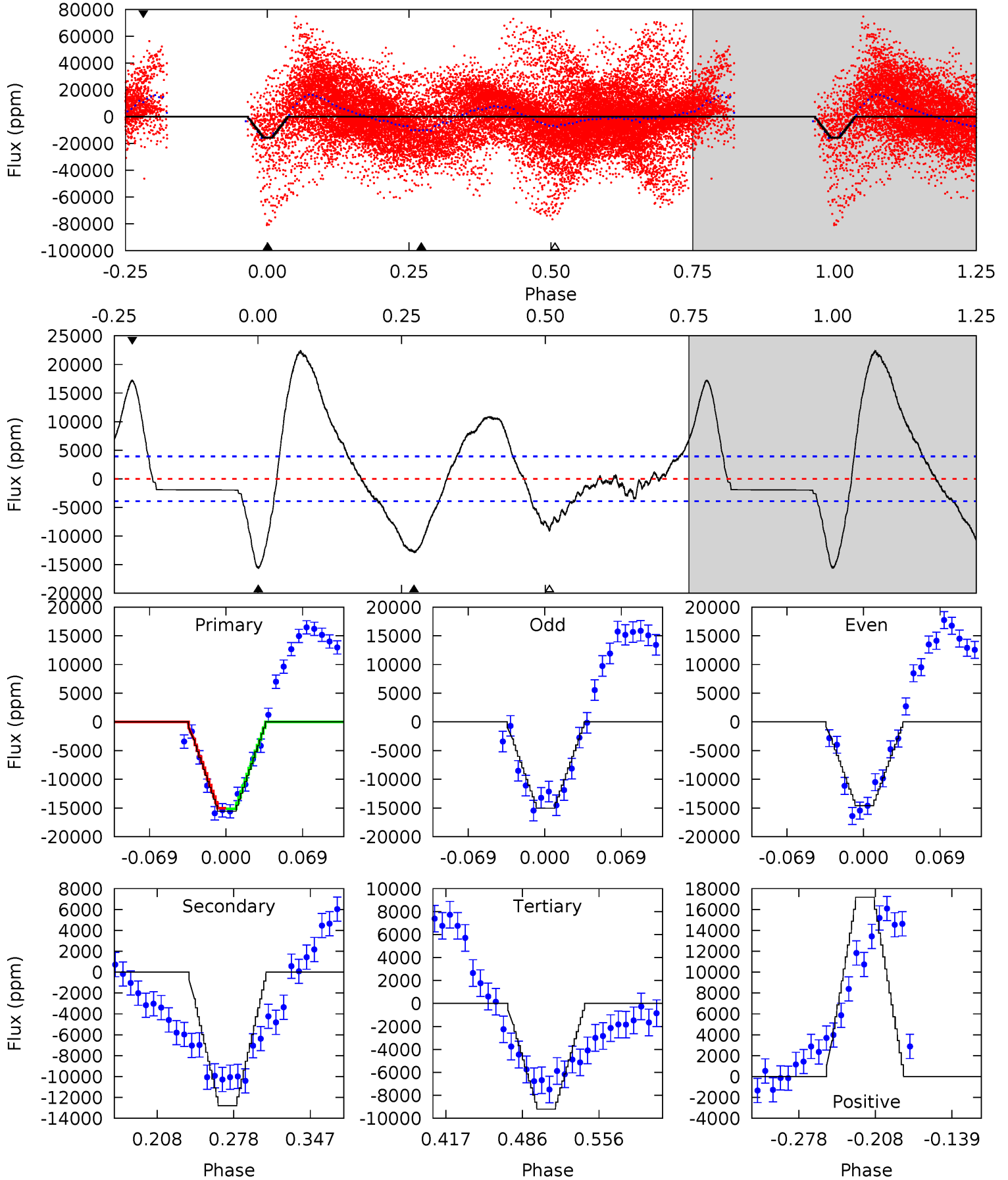
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008095028-03, P = 0.727486 Days, E = 131.493719 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.4	15.2	10.9	20.4	4.64	1.82	8.16	7.54	-1.91	4.27	-5.18	0.26	1.54	0.59	0.06



Stellar Parameters For KIC 008095028

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4599^{+125}_{-153}	$4.710^{+0.056}_{-0.028}$	$-1.120^{+0.300}_{-0.300}$	$0.535^{+0.034}_{-0.041}$	$0.536^{+0.039}_{-0.028}$	$4.921^{+1.058}_{-0.600}$
	+3%/-3%	+1%/-1%	+27%/-27%	+6%/-8%	+7%/-5%	+21%/-12%
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 008095028-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$4.24^{+4.26}_{-3.01}$	1816^{+64}_{-63}	-3471^{+15357}_{-9014}	$-3.827^{+816.613}_{-906.664}$
Alt.	-12805 ± 844	$8.04^{+5.77}_{-4.66}$	1818^{+57}_{-73}	4278^{+1787}_{-767}	19^{+85}_{-12}

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 $A_{obs} \gg 1.0$

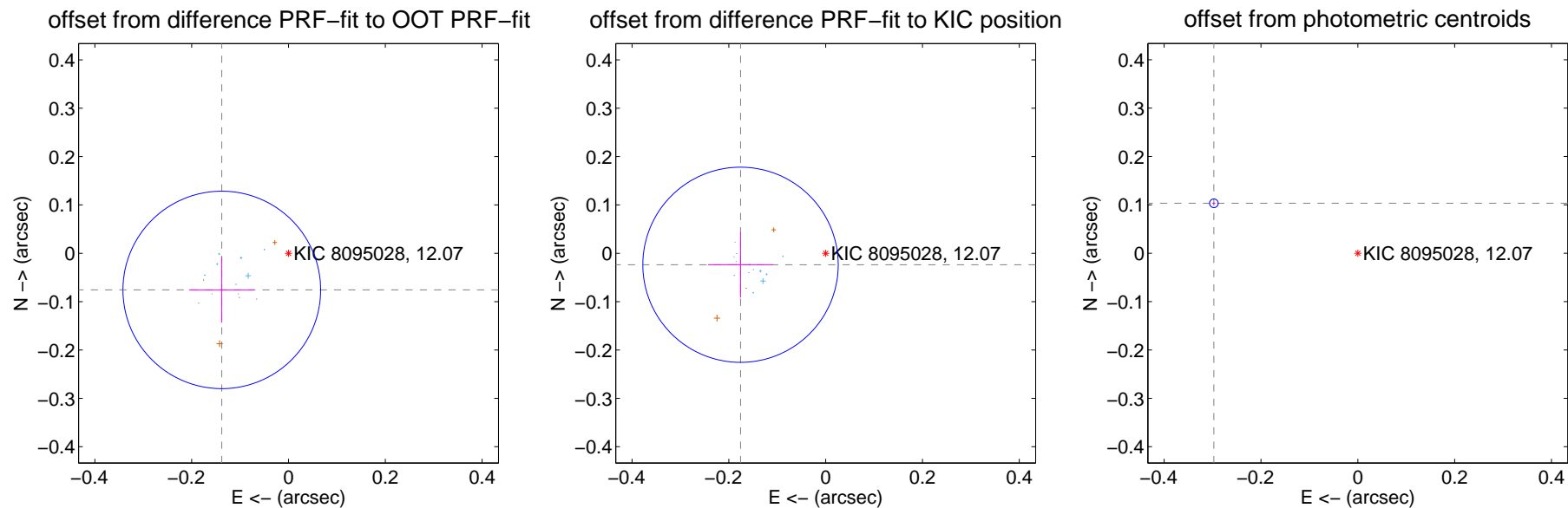
DV Centroid Data

Supplemental centroid analysis for 008095028-03. Kepler magnitude: 12.07. Transit SNR -1.00

There are 12 quarters with good PRF difference image offsets

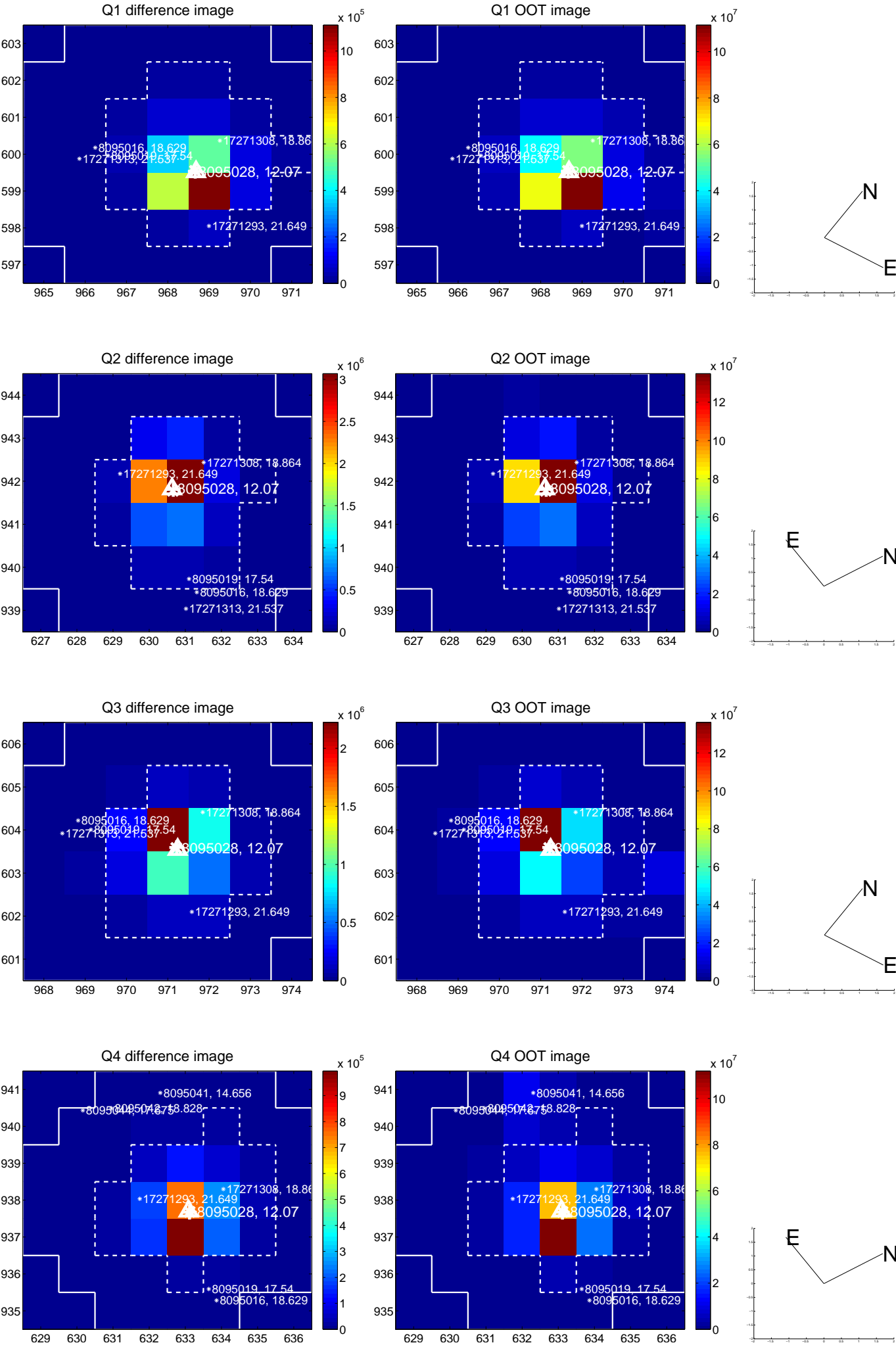
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.157 ± 0.068	2.31	0.138 ± 0.068	-0.076 ± 0.068
PRF-fit source offset from KIC position	0.177 ± 0.067	2.64	0.176 ± 0.067	-0.024 ± 0.067
photometric centroid source offset	0.31 ± 0.00	105.66	0.30 ± 0.00	0.10 ± 0.00

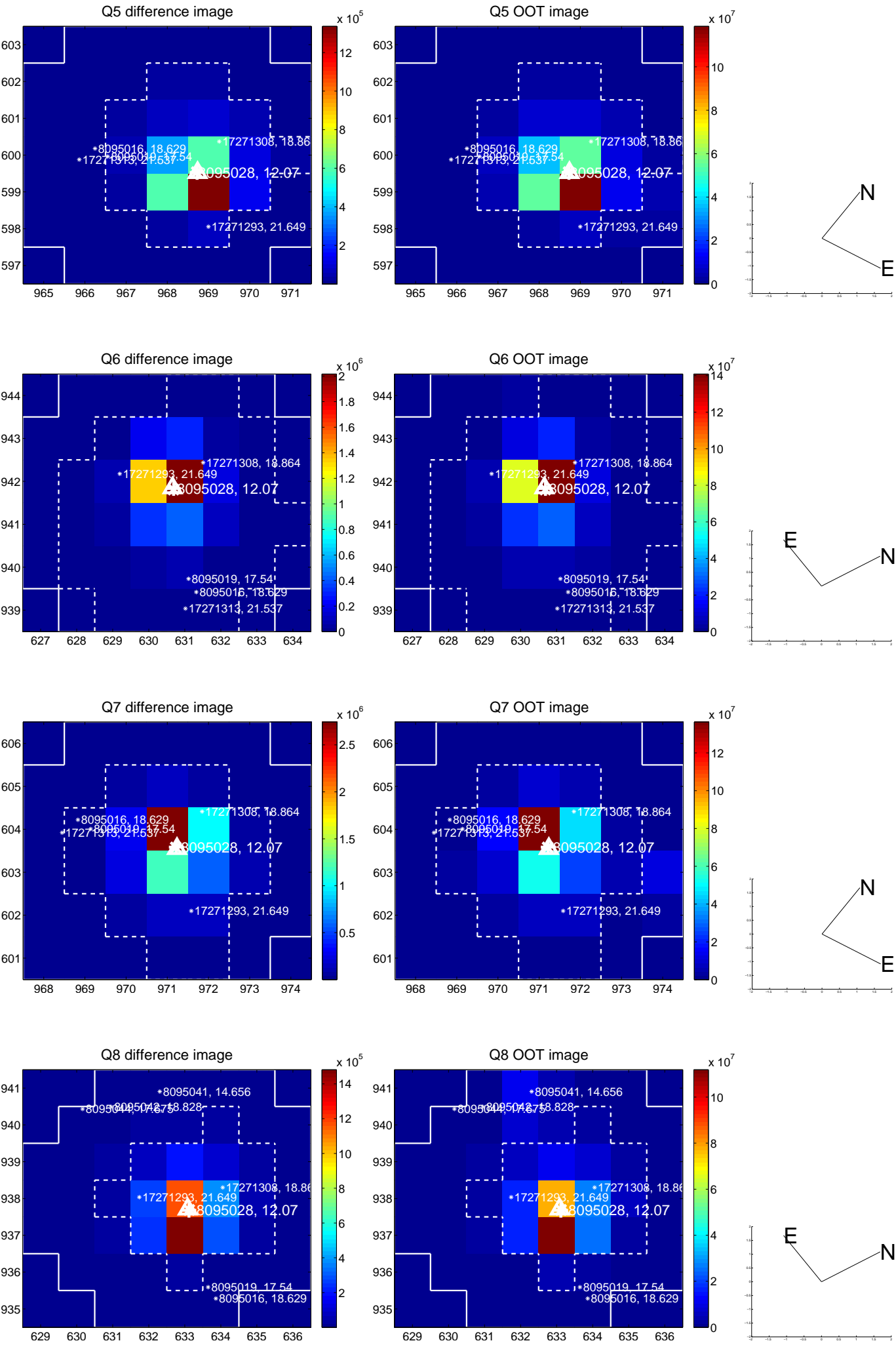


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

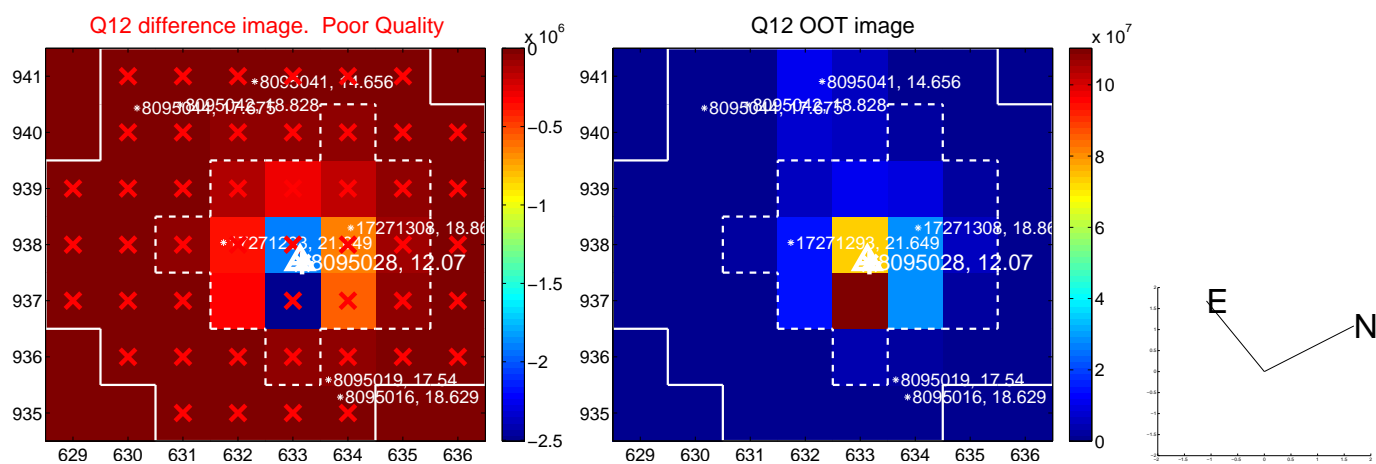
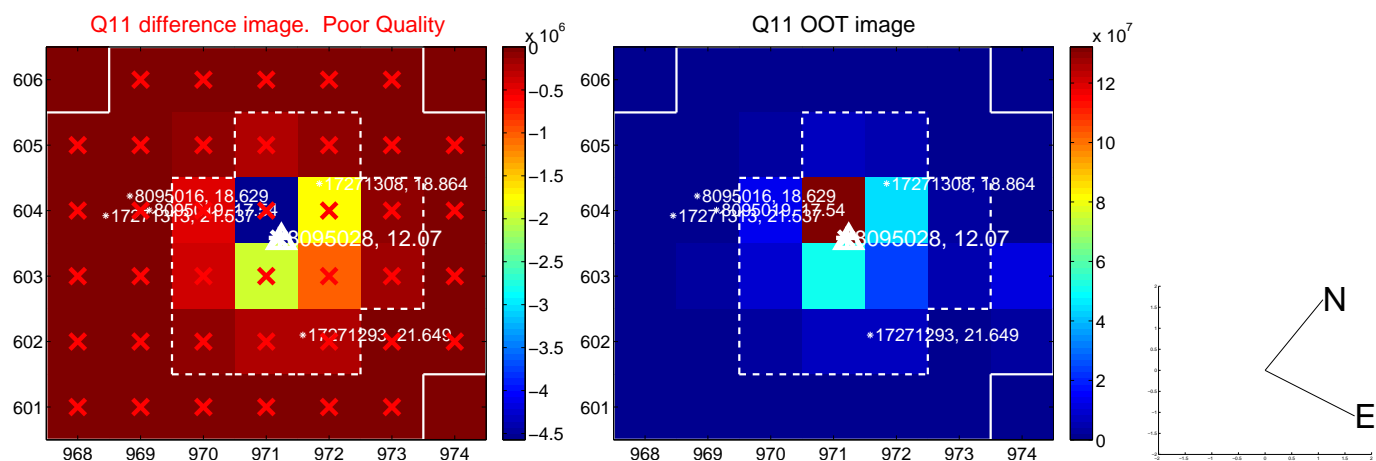
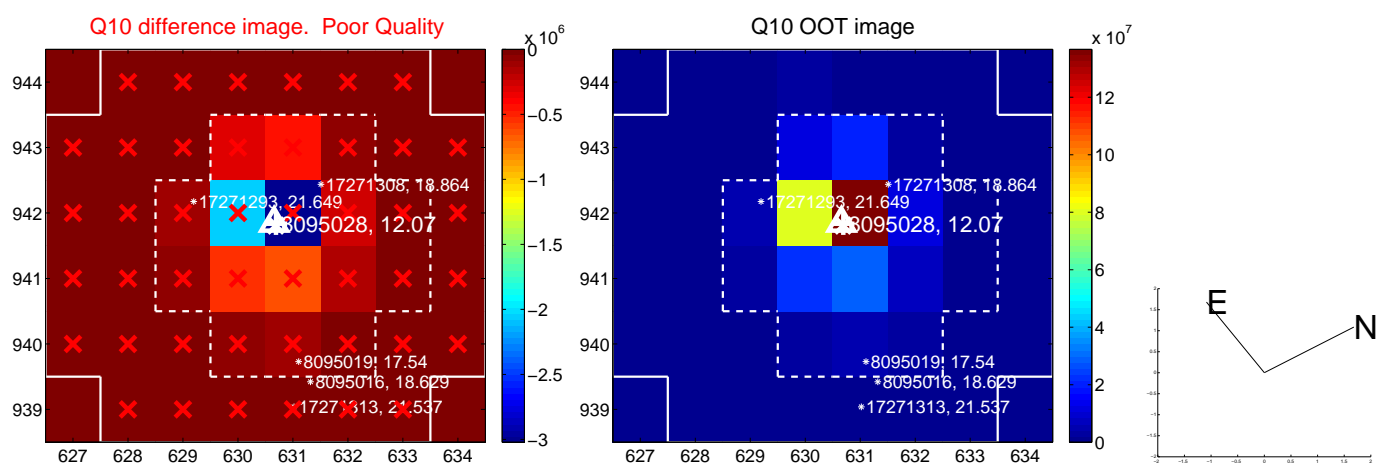
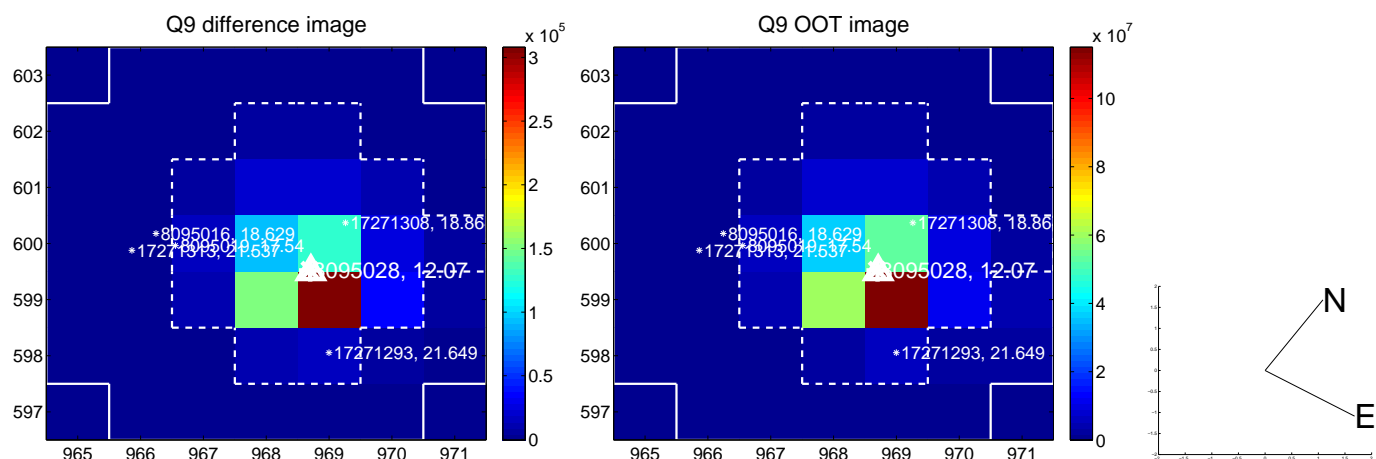
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



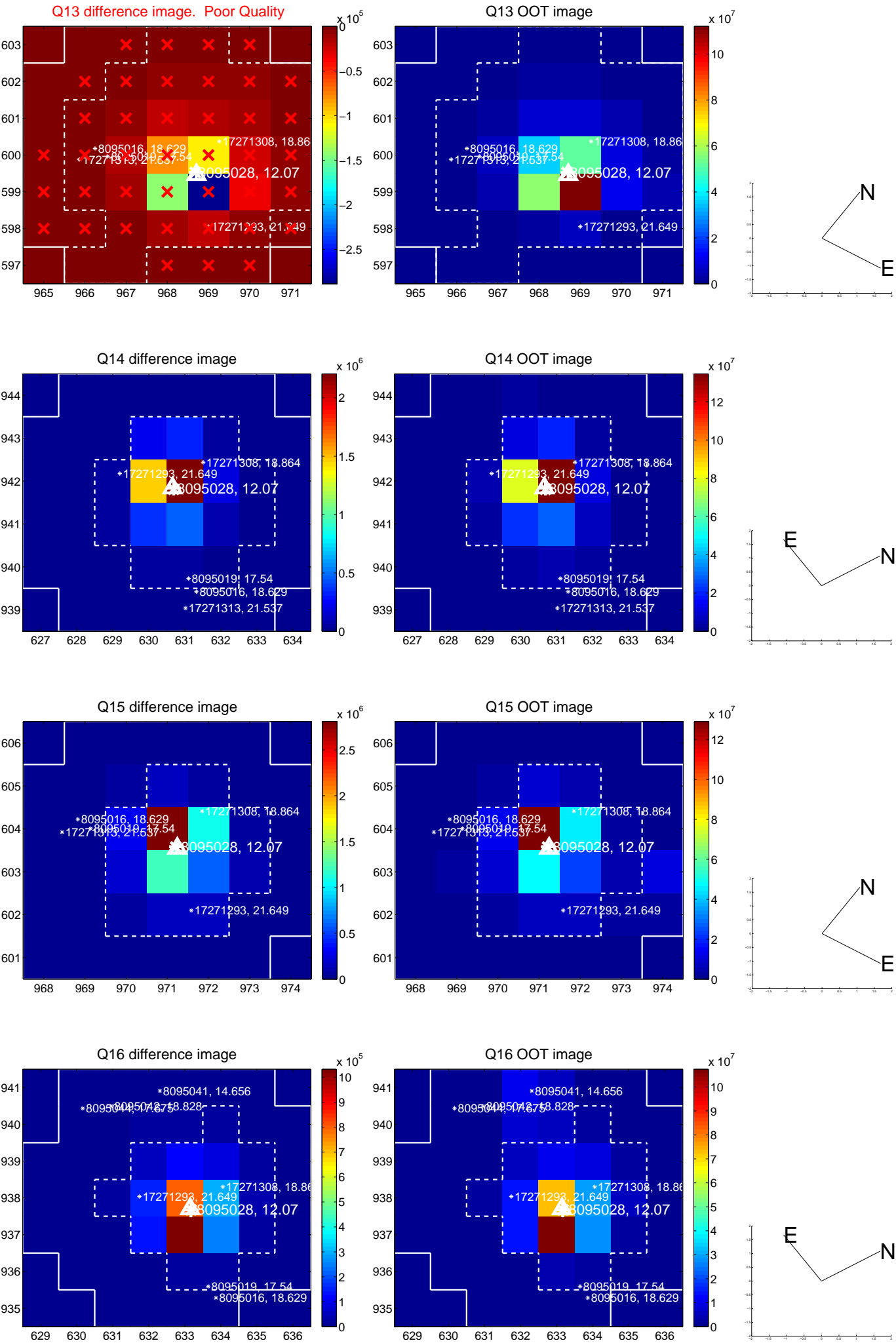
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

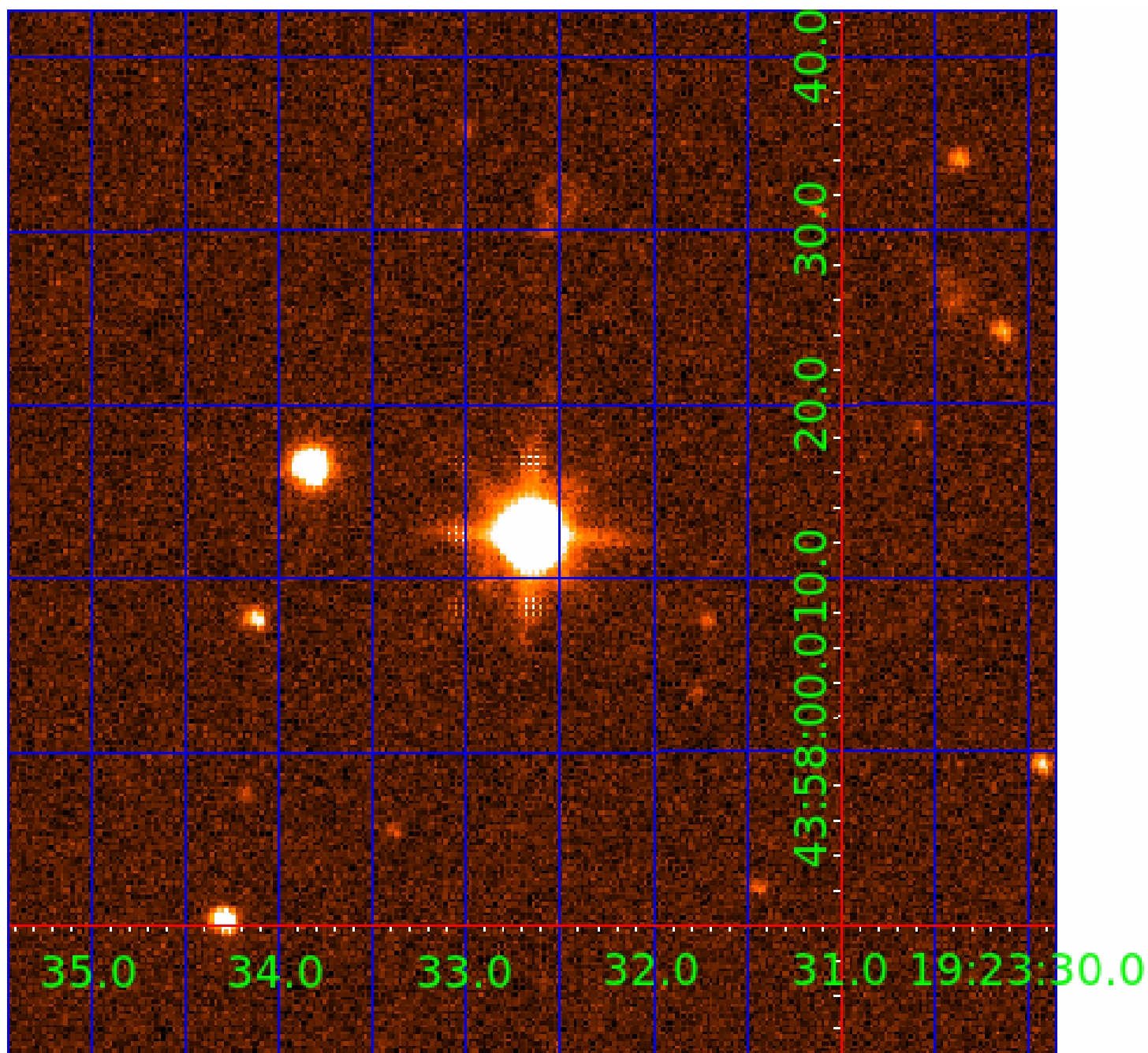


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008095028

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})
008095028-01	OBS	No	0.727392	132.239006	0.1	2.108	12.2	0.0	0.54	4599	0.02	694.11
008095028-02	OBS	No	0.727649	131.589104	544.3	0.959	10.8	21.6	0.54	4599	1.23	693.78
008095028-03	OBS	No	0.727486	132.232869	218.4	1.500	9.0	-1.0	0.54	4599	0.77	693.99
008095028-04	OBS	No	119.211185	144.780929	4501.5	4.703	11.9	6.5	0.54	4599	3.50	0.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008095028-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008095028-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
008095028-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS
008095028-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

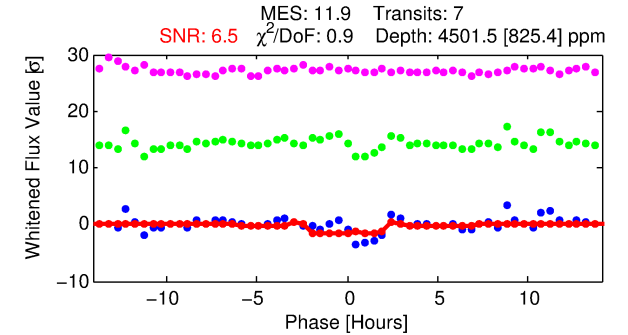
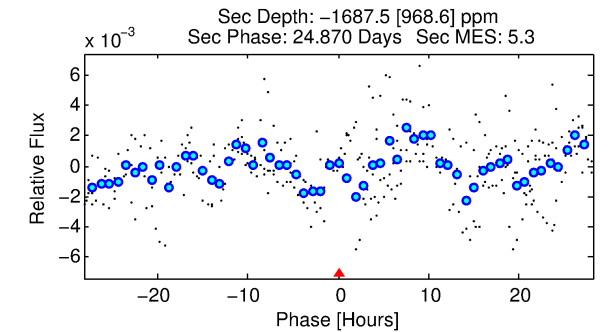
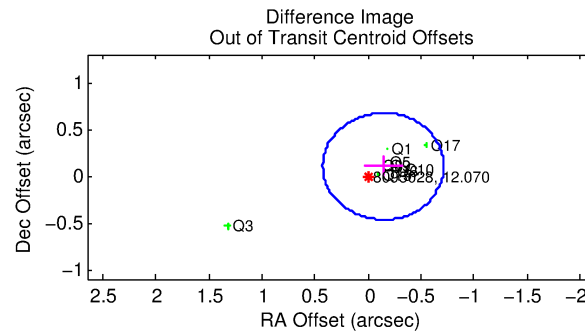
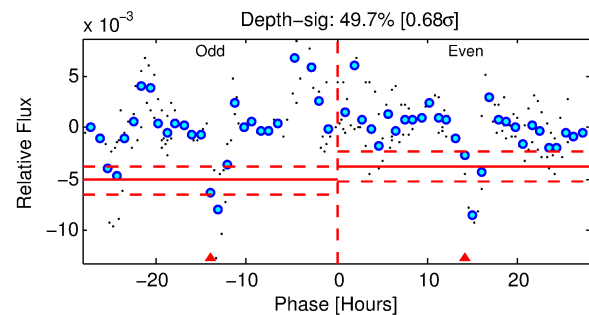
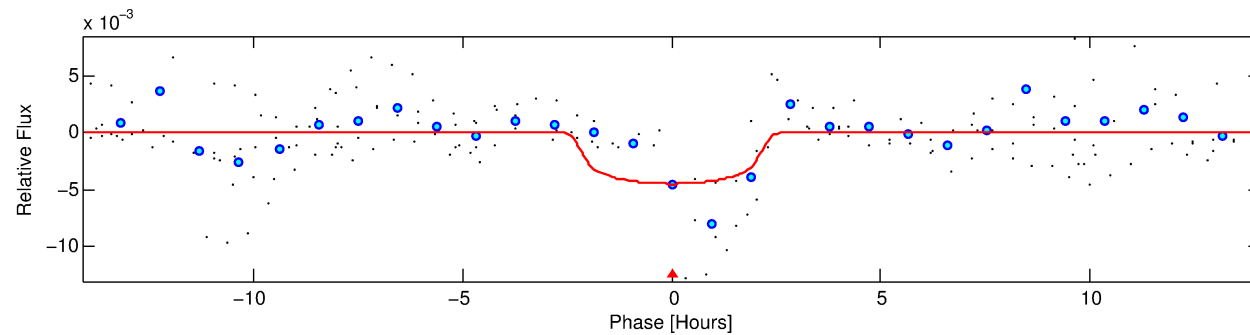
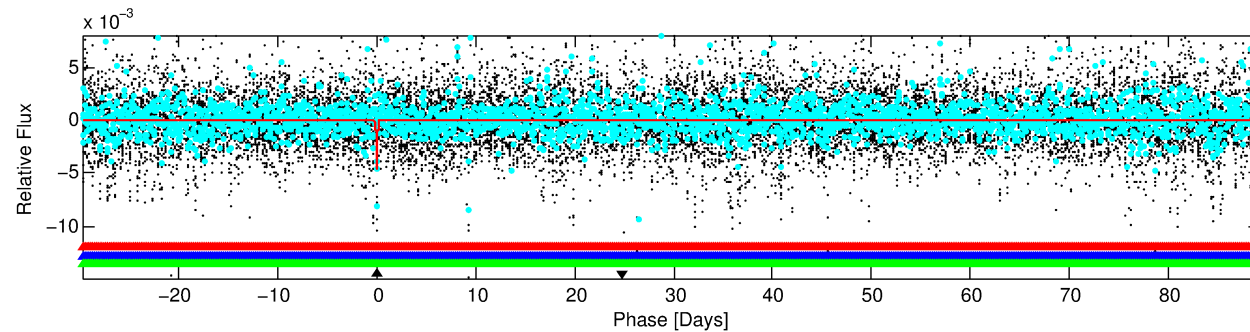
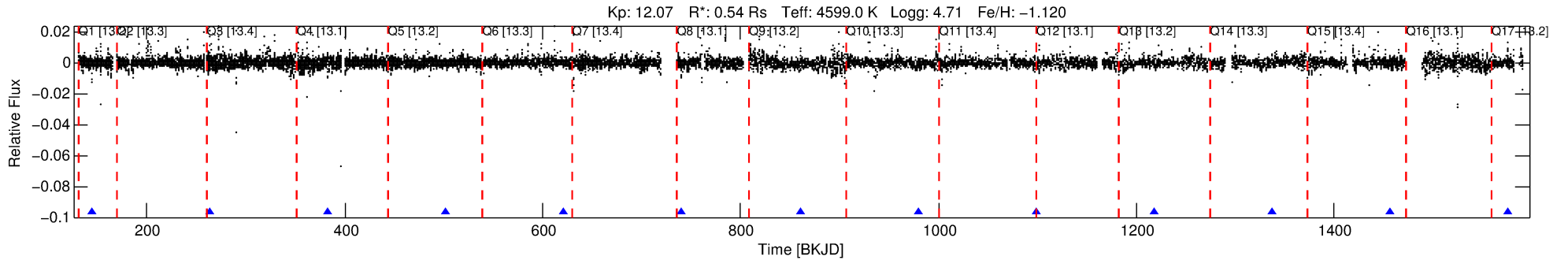
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008095028-04

No Significant Match Found

DV One-Page Summary

KIC: 8095028 Candidate: 4 of 4 Period: 119.211 d



DV Fit Results:

Period = 119.21118 [0.00198] d
Epoch = 144.7809 [0.0089] BKJD
Rp/R* = 0.0599 [0.0547]
a/R* = 205.20 [665.43]
b = 0.02 [185.97]
Seff = 0.77 [0.13]
Teq = 239 [10] K
Rp = 3.50 [3.21] Re
a = 0.3850 [0.0257] AU
Ag = N/A
Teffp = N/A

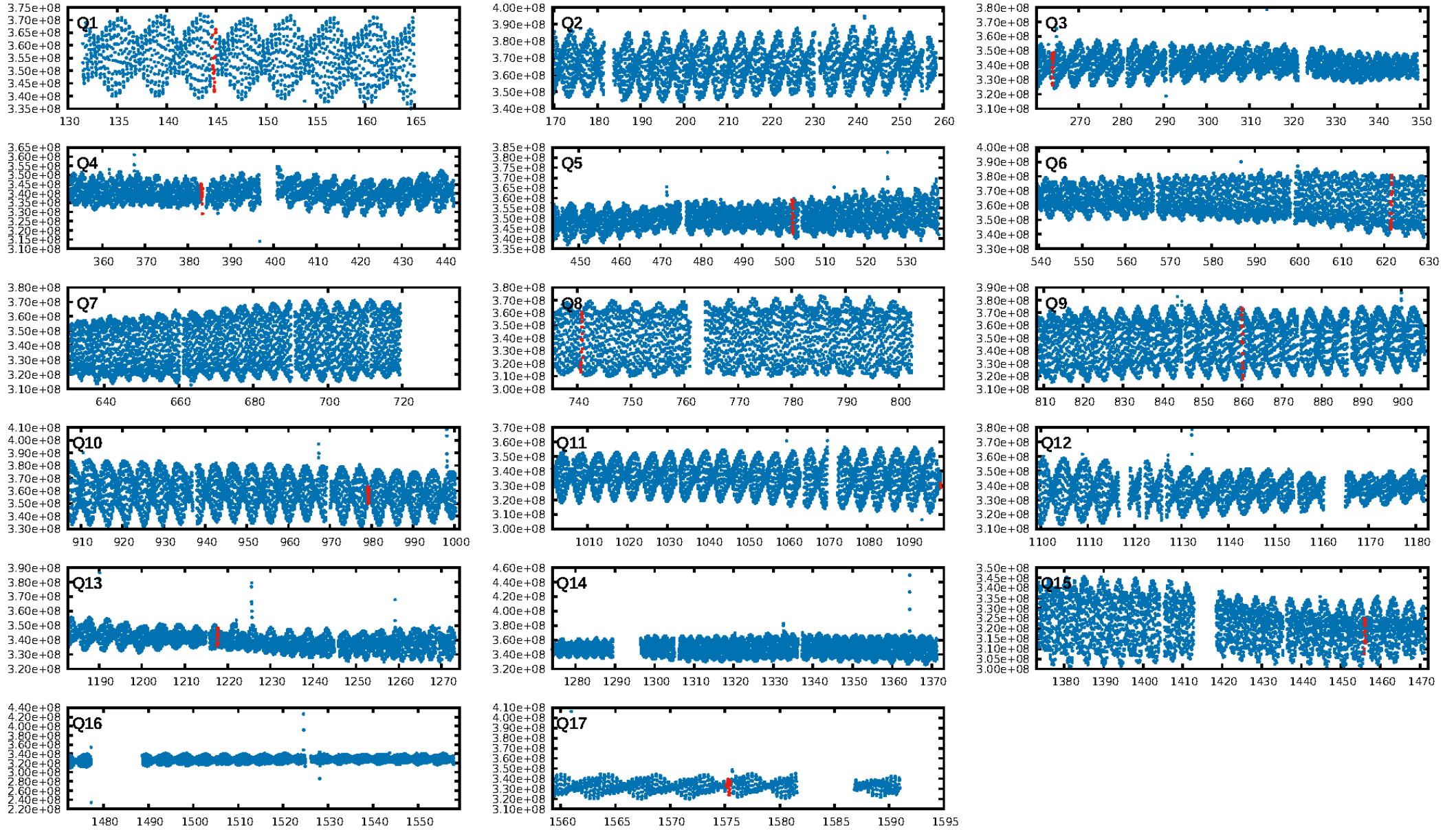
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [592.41 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.72e-20
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 1.525
Centroid-sig: 0.1%
Centroid-so: 0.186 arcsec [2.27 σ]
OotOffset-rm: 0.176 arcsec [0.93 σ]
KicOffset-rm: 0.154 arcsec [0.81 σ]
OotOffset-st: 2/2/1/4 [9]
KicOffset-st: 2/2/1/4 [9]
DiffImageQuality-fgm: 0.67 [6/9]
DiffImageOverlap-fno: 0.00 [0/9]

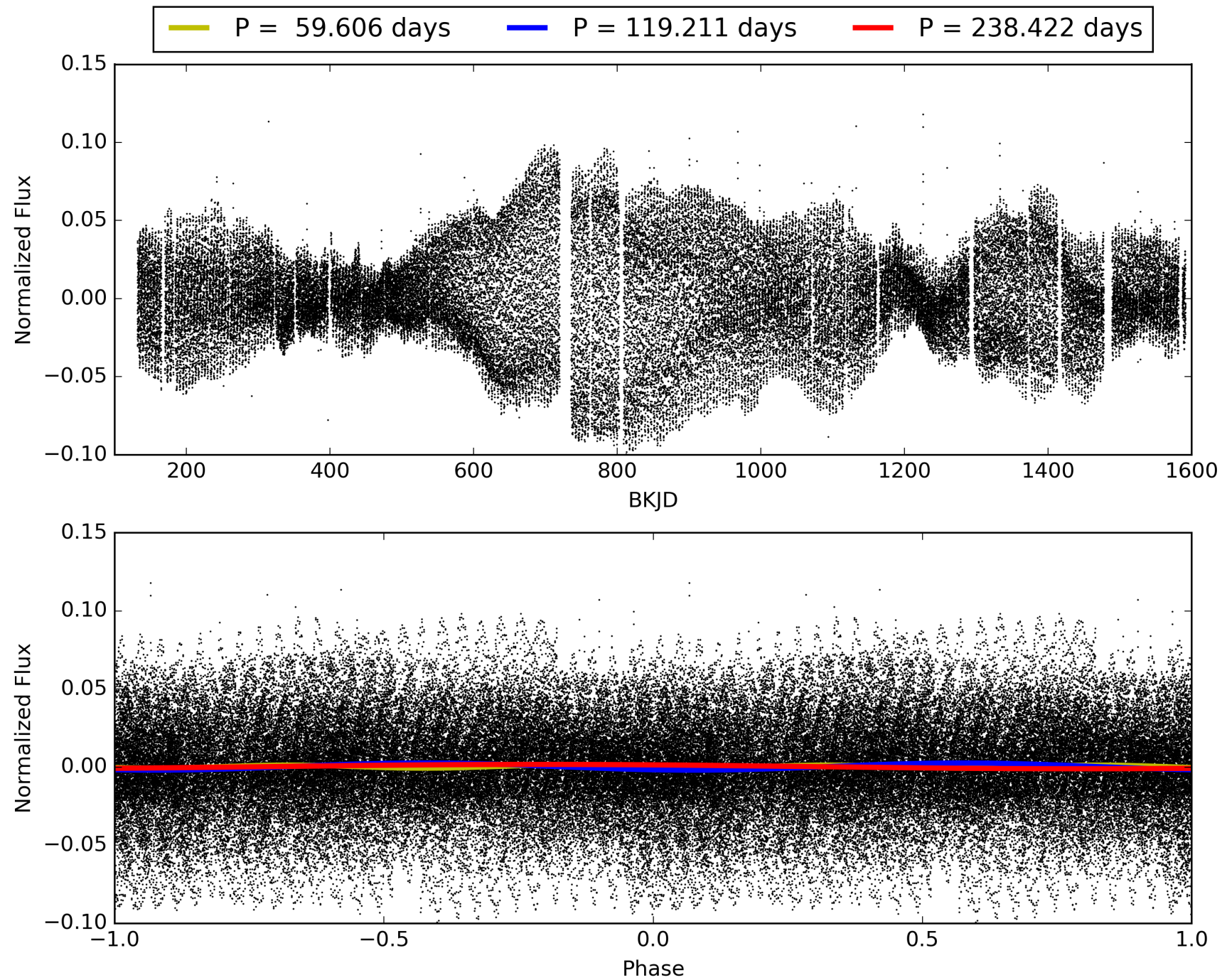
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:57:27 Z

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

TCE 008095028-04, PDC Light Curves

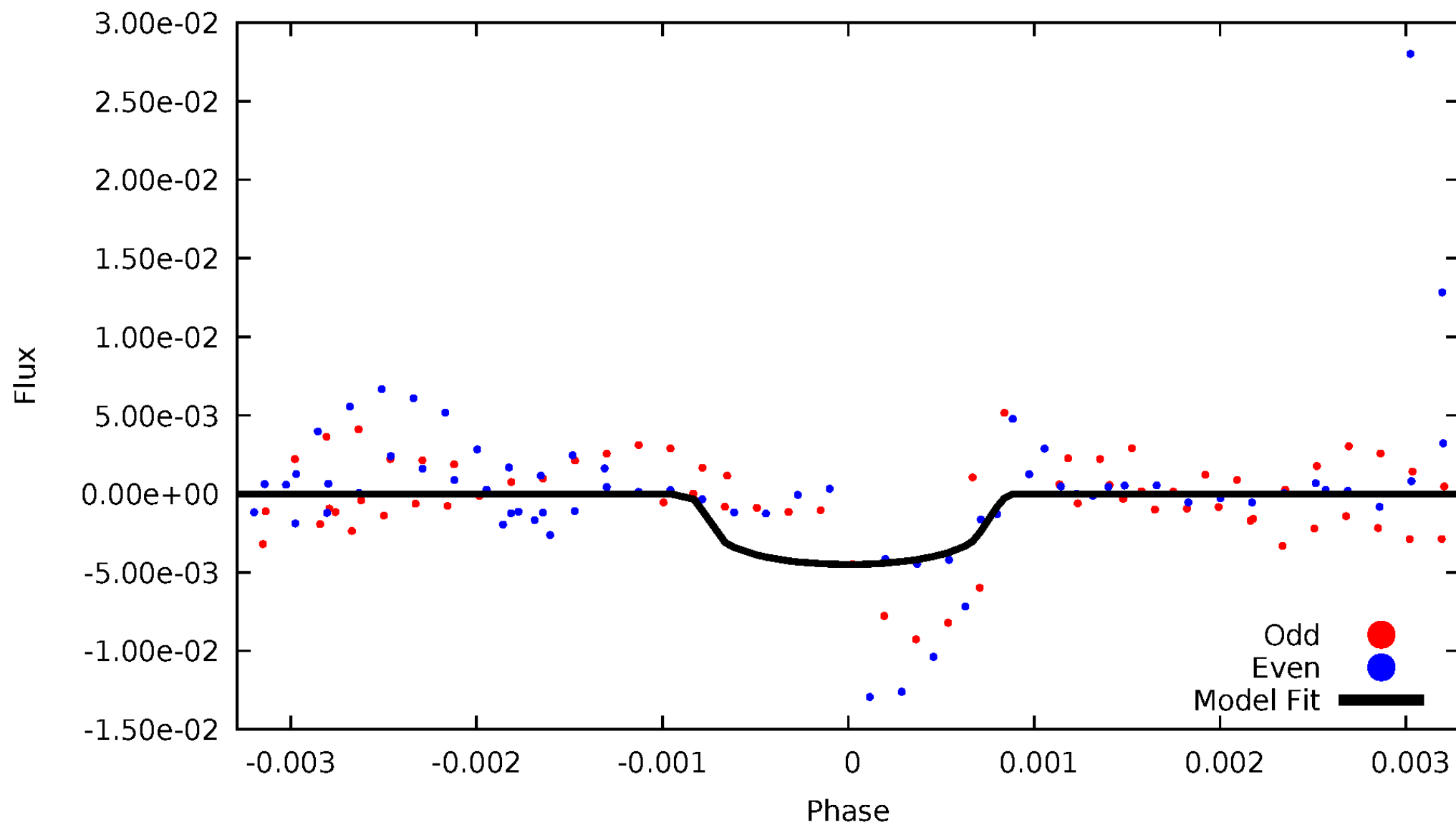


TCE 008095028-04



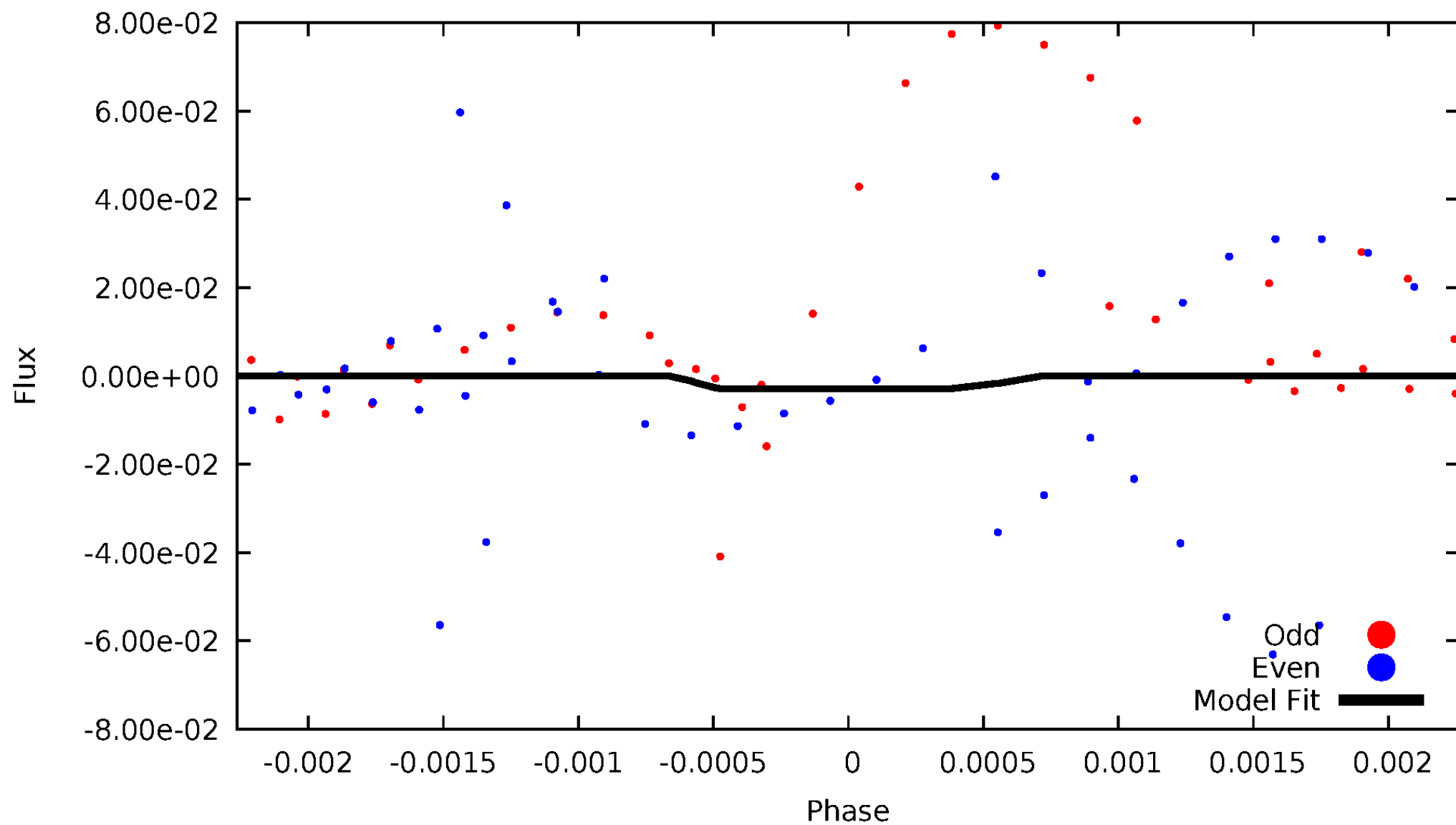
DV Odd/Even

TCE 008095028-04



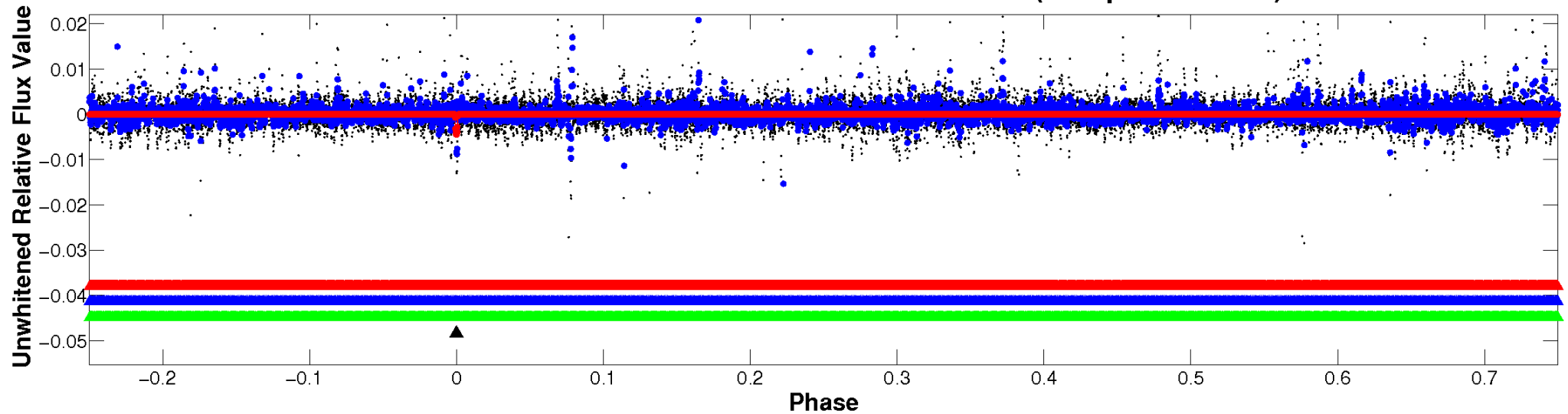
ALT Odd/Even

TCE 008095028-04

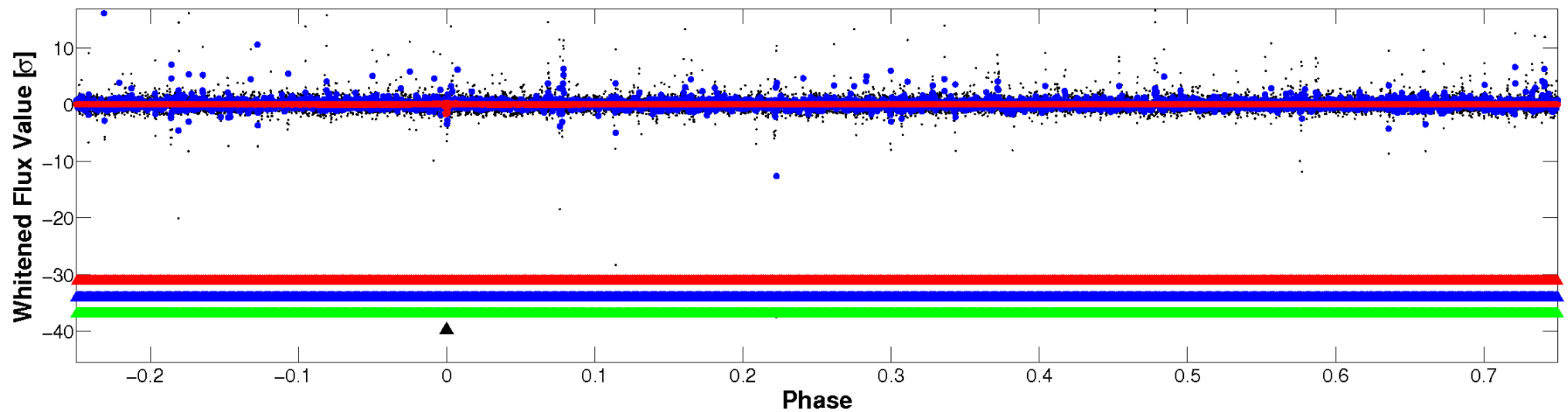


Non-Whitened Vs. Whitened Light Curve

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

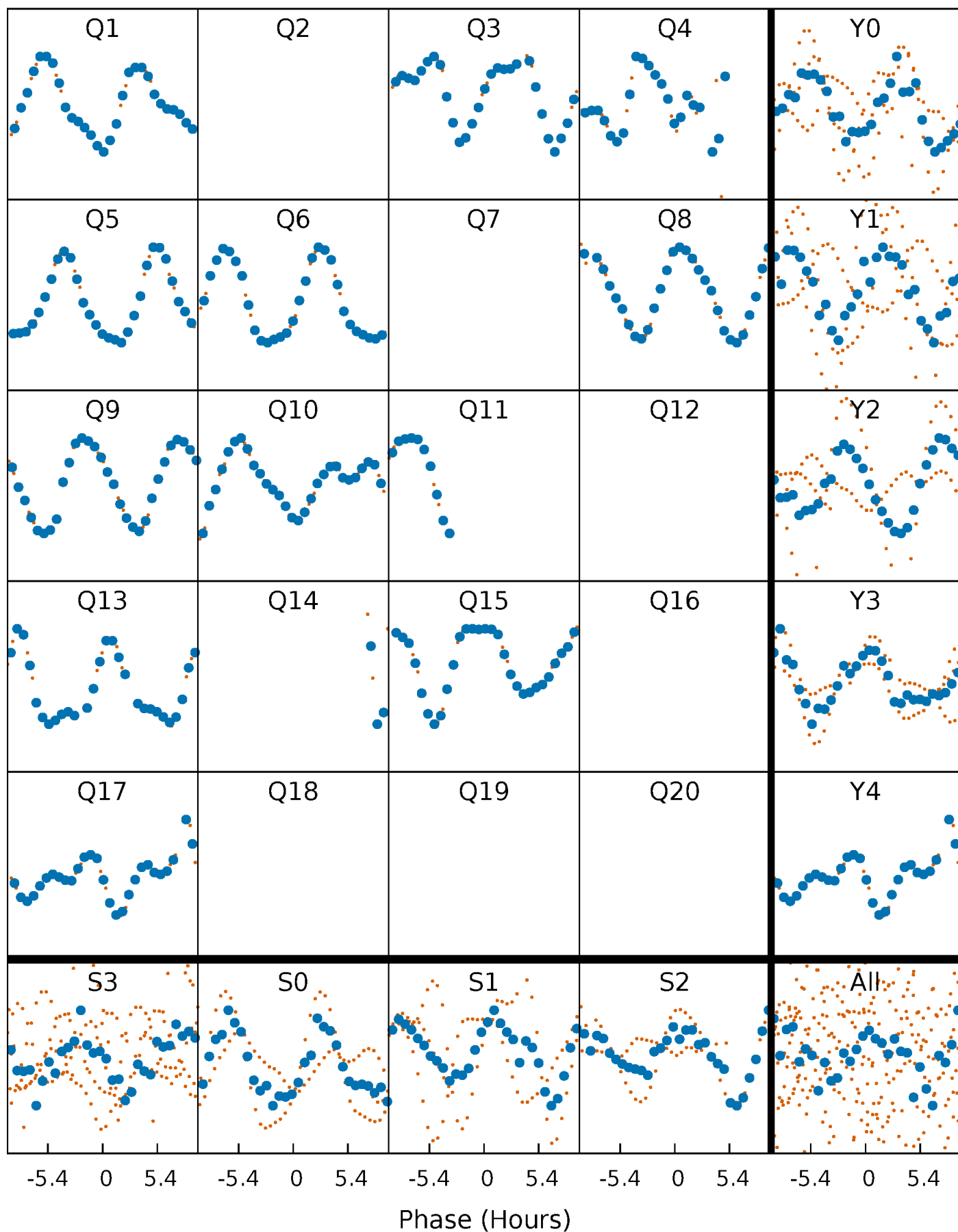


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



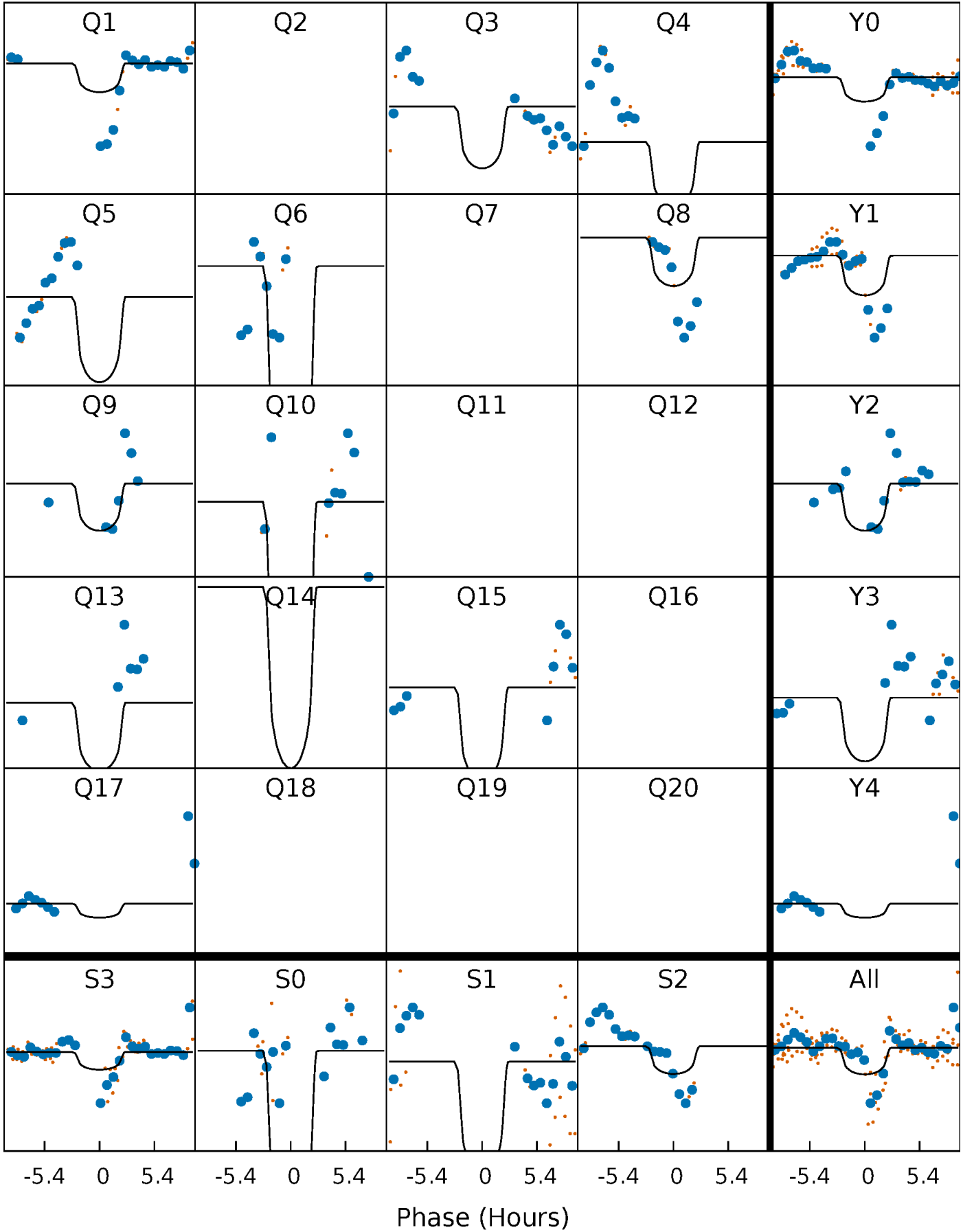
PDC Quarter-Phased Transit Curves

TCE 008095028-04 P=119.211185 Days $T_0=144.780929$ (BKJD)



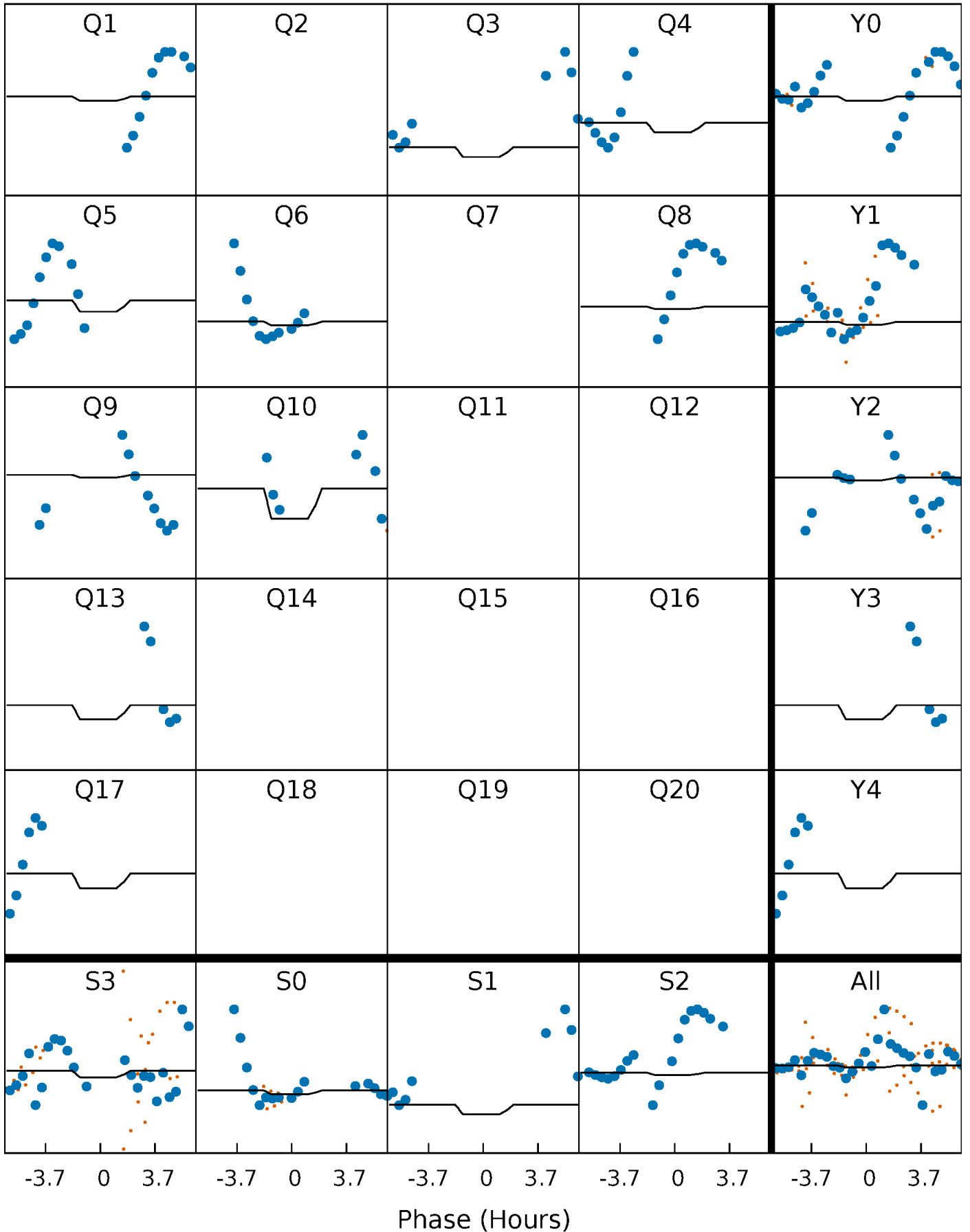
DV Quarter-Phased Transit Curves

TCE 008095028-04 $P=119.211185$ Days $T_0=144.780929$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

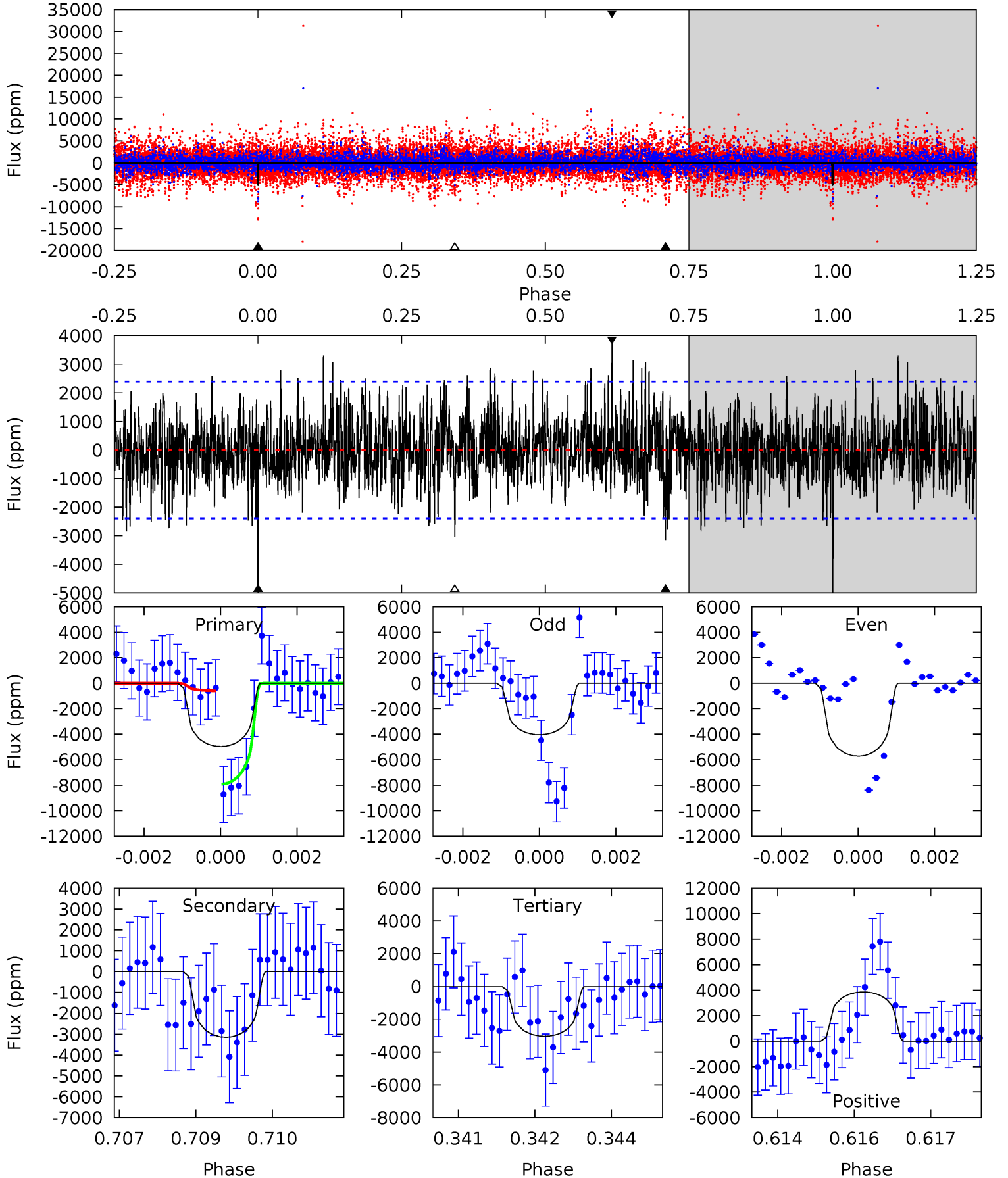
TCE 008095028-04 P=119.213028 Days $T_0=144.728690$ (BKJD)



DV Model-Shift Uniqueness Test

008095028-04, P = 119.211185 Days, E = 25.569744 Days

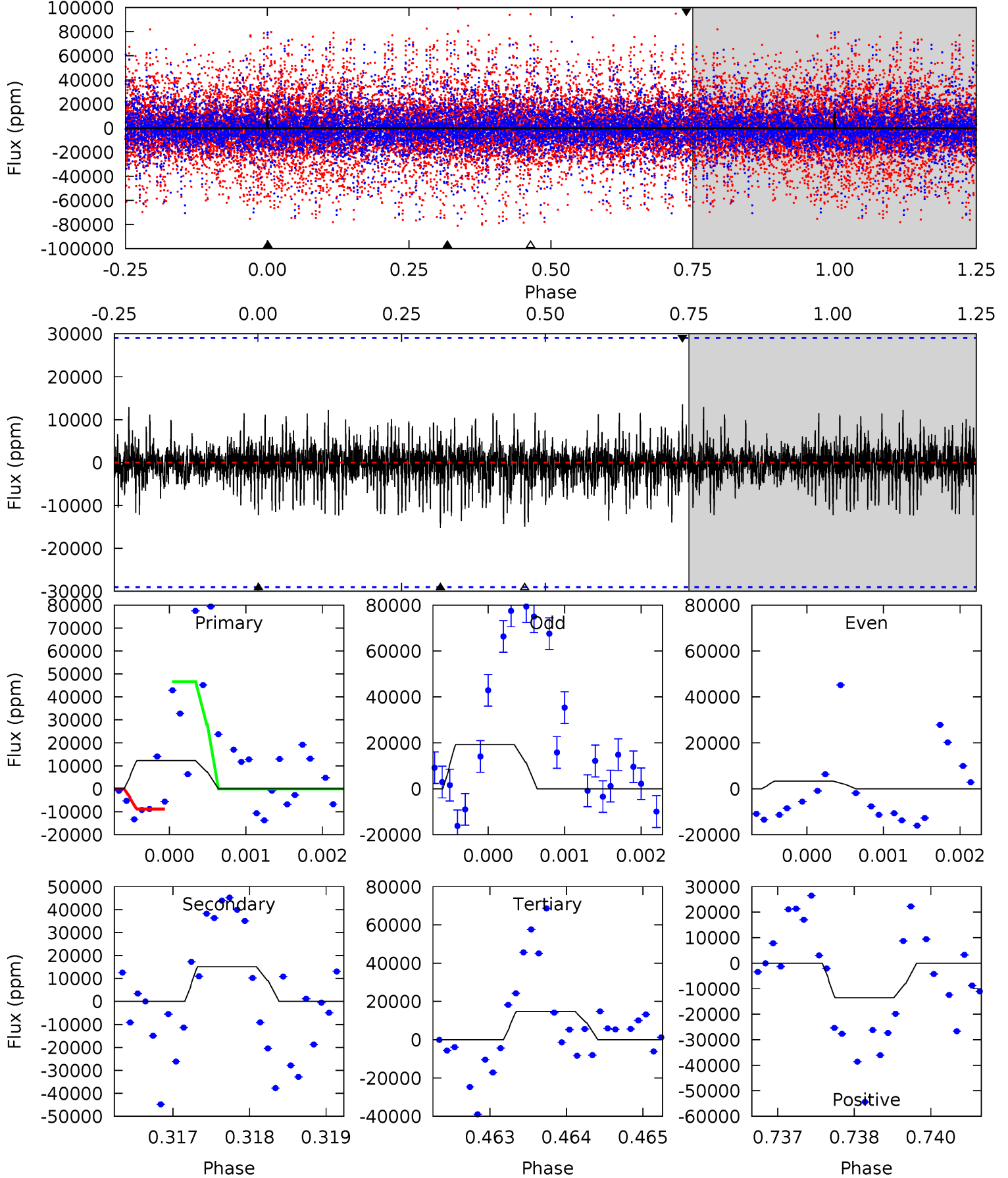
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	7.05	6.80	8.64	5.35	3.13	2.09	4.32	2.49	0.25	-1.58	1.79	1.21	0.44	8.22



Alt Model-Shift Uniqueness Test

008095028-04, P = 119.213028 Days, E = 25.515662 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.30	2.84	2.77	2.53	5.43	3.26	0.61	-0.48	-0.24	0.06	0.30	1.51	-1.53	0.47	3.45



Stellar Parameters For KIC 008095028

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4599^{+125}_{-153}	$4.710^{+0.056}_{-0.028}$	$-1.120^{+0.300}_{-0.300}$	$0.535^{+0.034}_{-0.041}$	$0.536^{+0.039}_{-0.028}$	$4.921^{+1.058}_{-0.600}$
	+3%/-3%	+1%/-1%	+27%/-27%	+6%/-8%	+7%/-5%	+21%/-12%
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 008095028-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-3148 ± 446	$4.04^{+2.74}_{-2.46}$	332^{+11}_{-12}	4234^{+2131}_{-743}	16100^{+83005}_{-10705}
Alt.	-15171 ± 5346	$3.64^{+2.86}_{-2.32}$	332^{+11}_{-13}	6179^{+5900}_{-1517}	$94129^{+662428}_{-67059}$

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

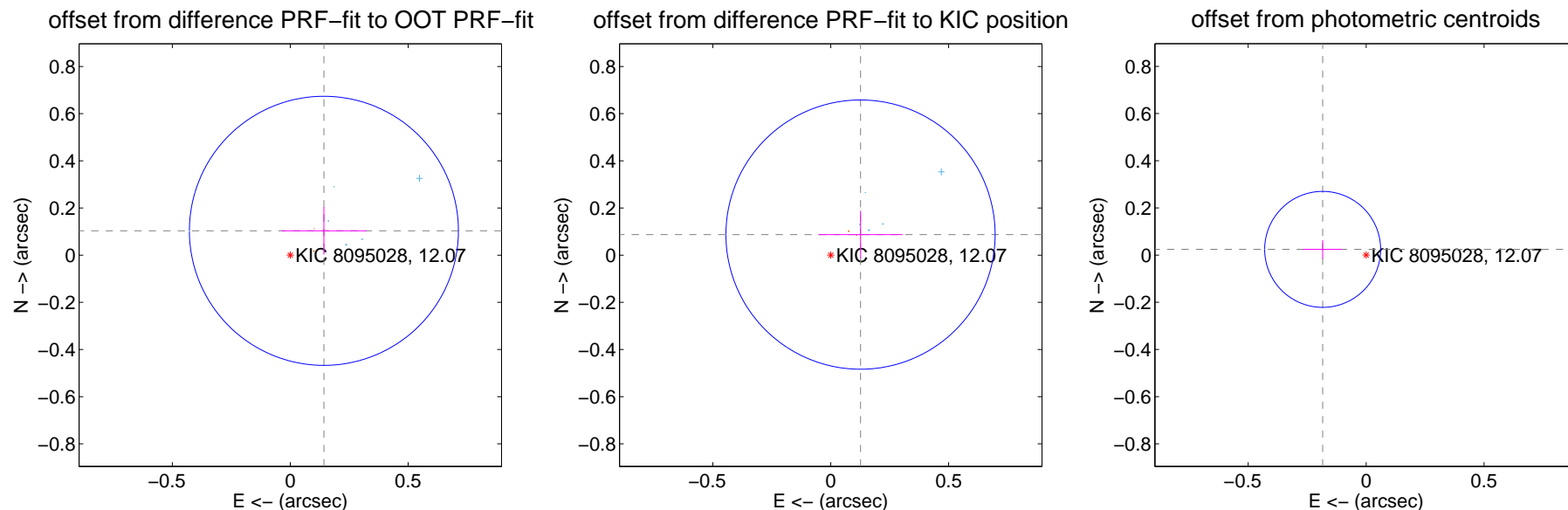
DV Centroid Data

Supplemental centroid analysis for 008095028-04. Kepler magnitude: 12.07. Transit SNR 6.46

There are 6 quarters with good PRF difference image offsets

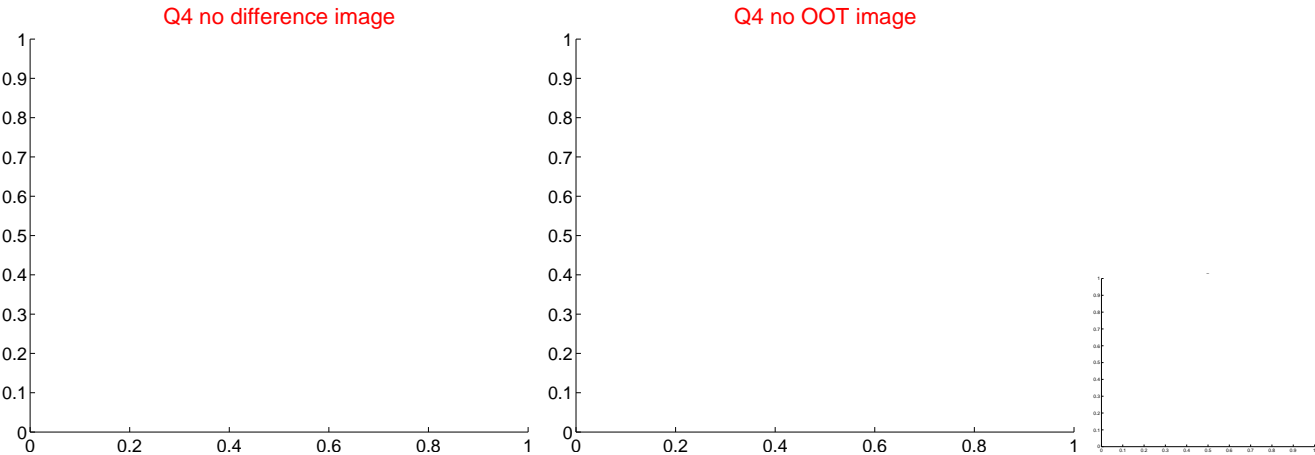
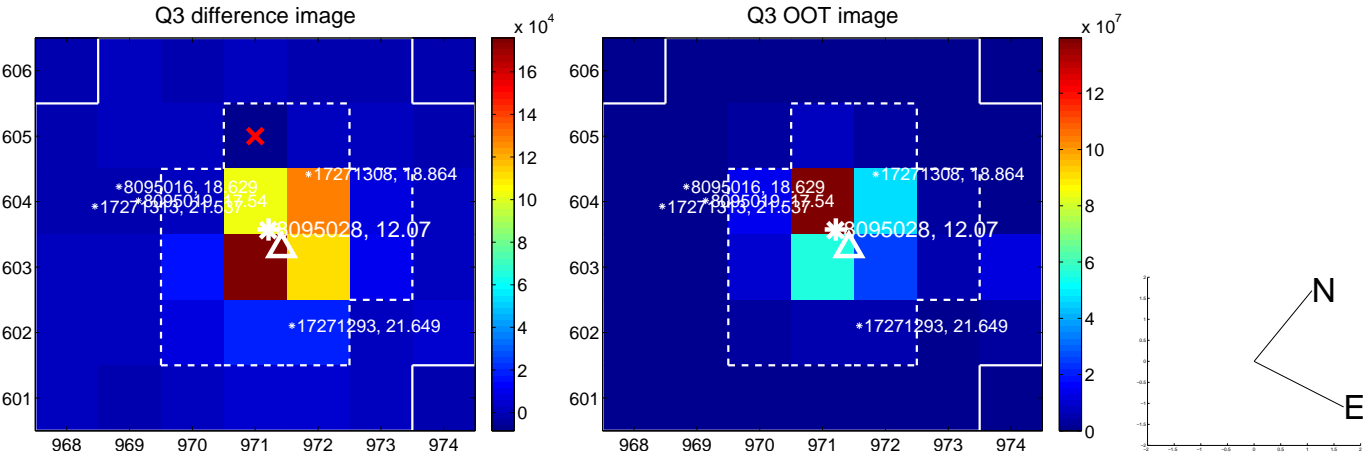
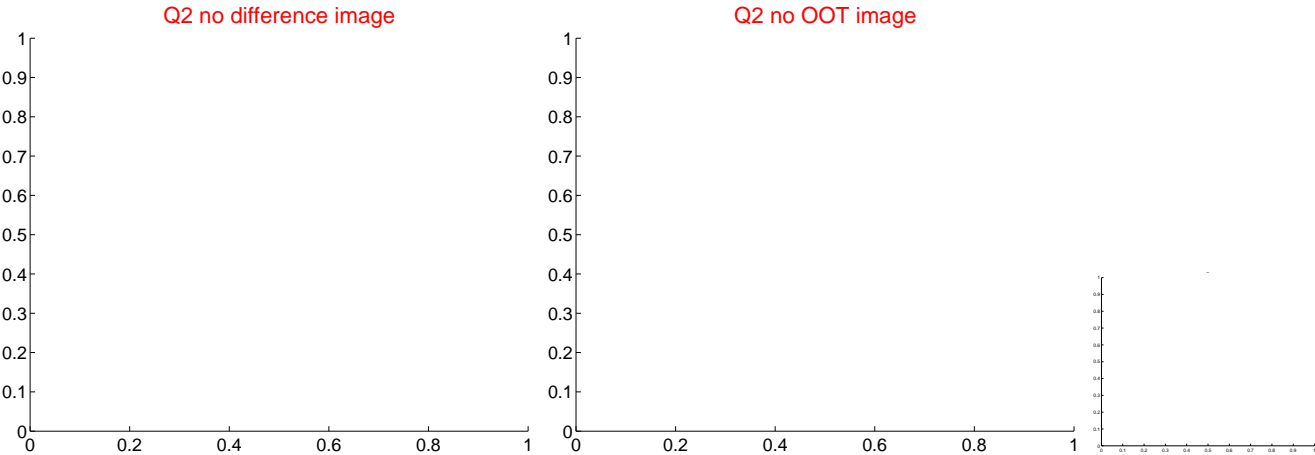
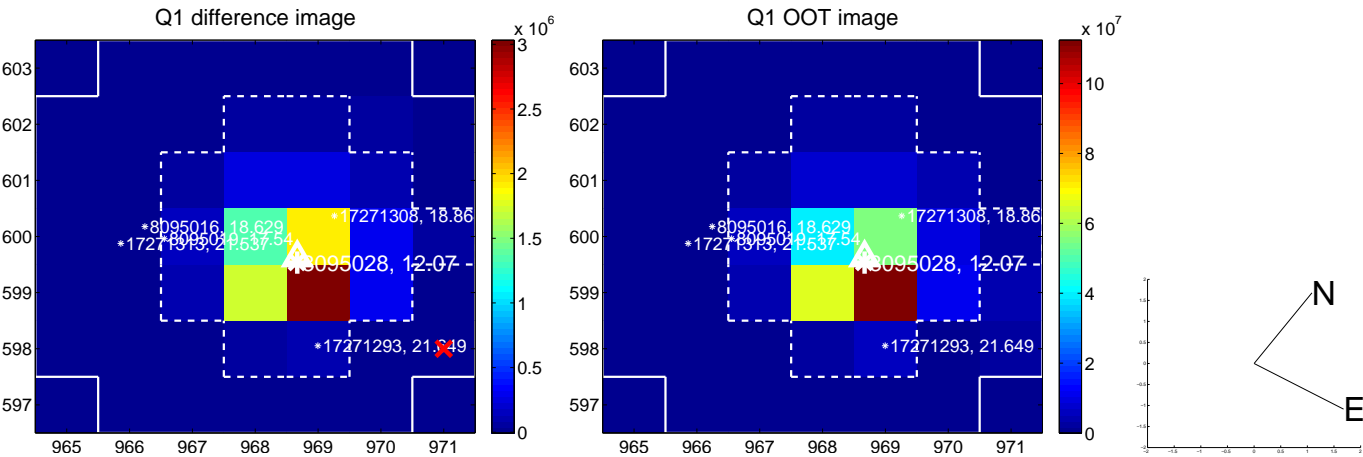
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.176 ± 0.190	0.93	-0.143 ± 0.179	0.103 ± 0.101
PRF-fit source offset from KIC position	0.154 ± 0.190	0.81	-0.126 ± 0.179	0.087 ± 0.101
photometric centroid source offset	0.19 ± 0.08	2.27	0.18 ± 0.08	0.02 ± 0.04

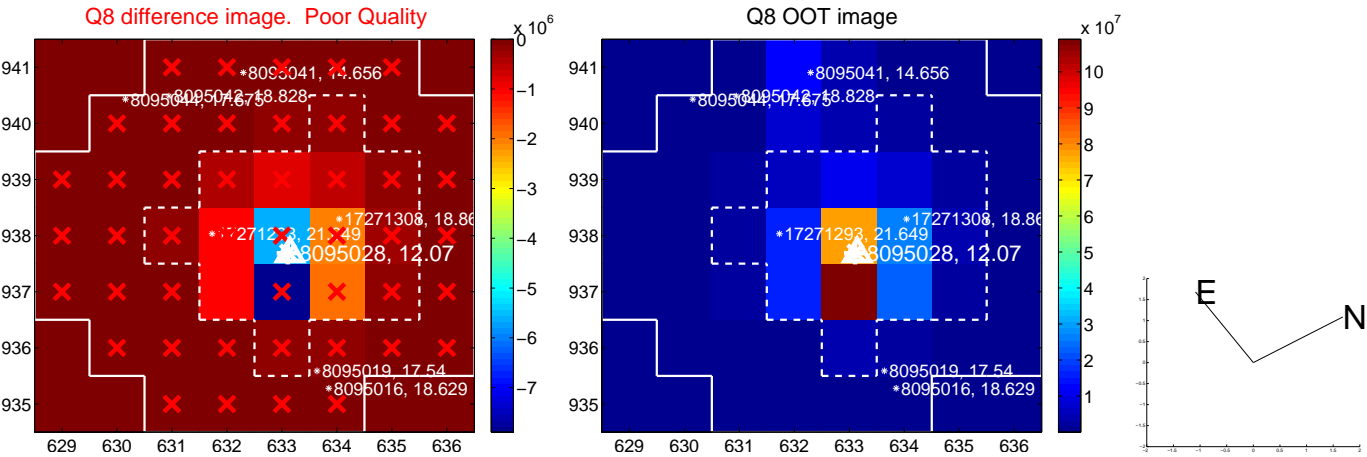
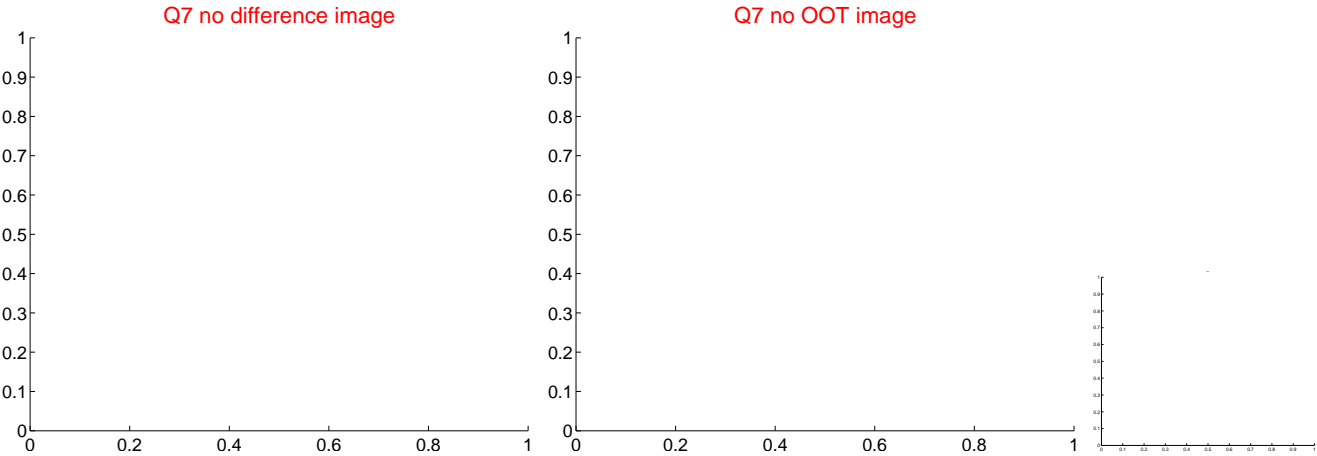
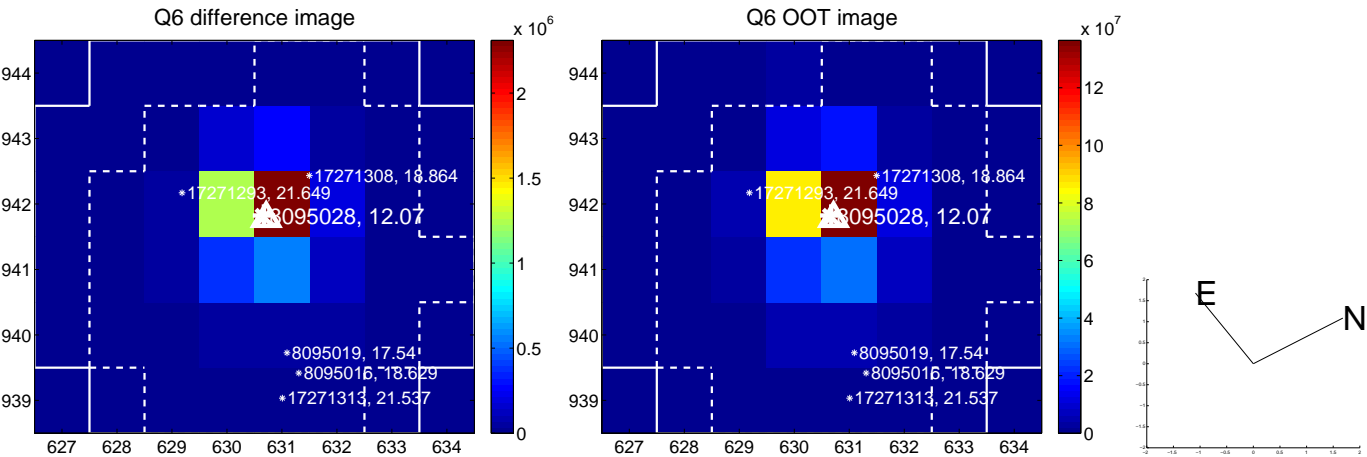
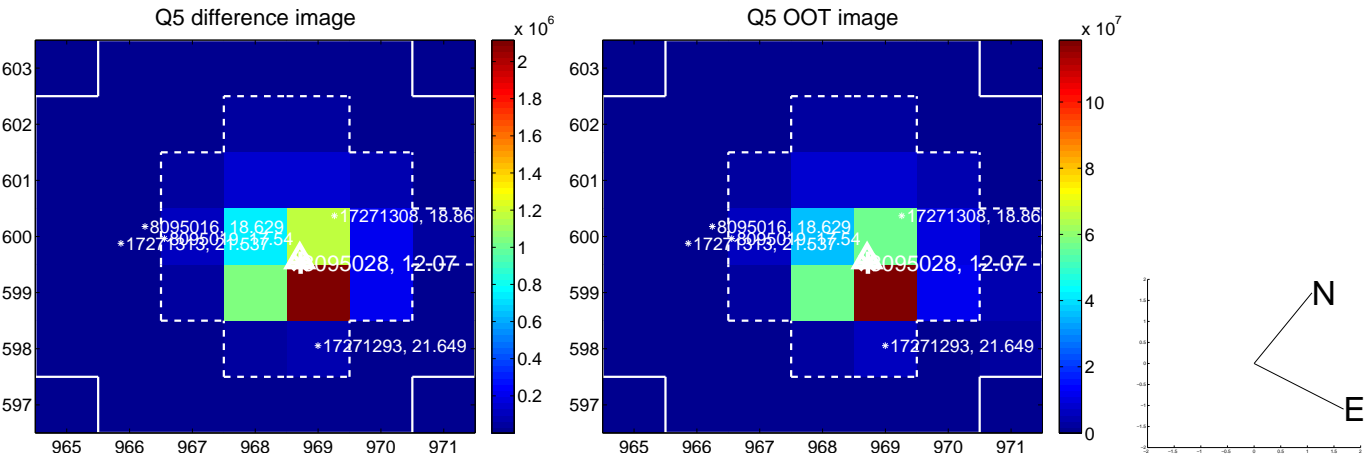


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

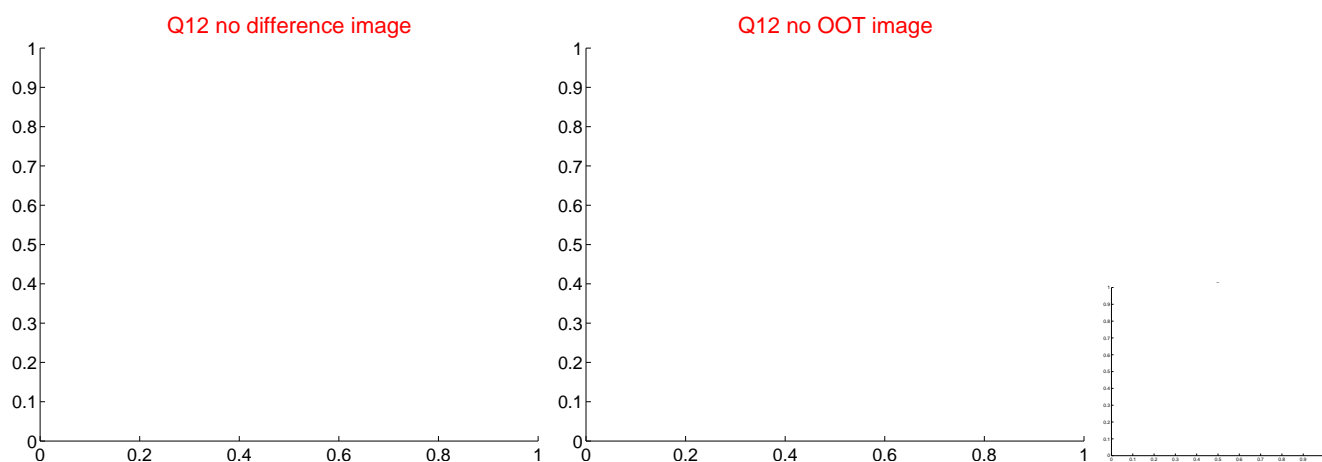
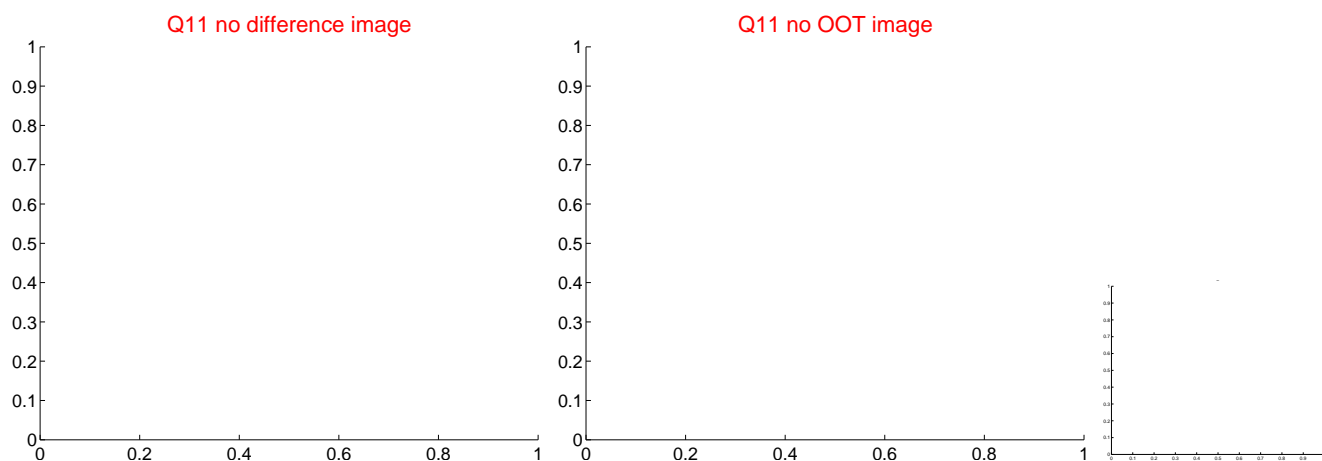
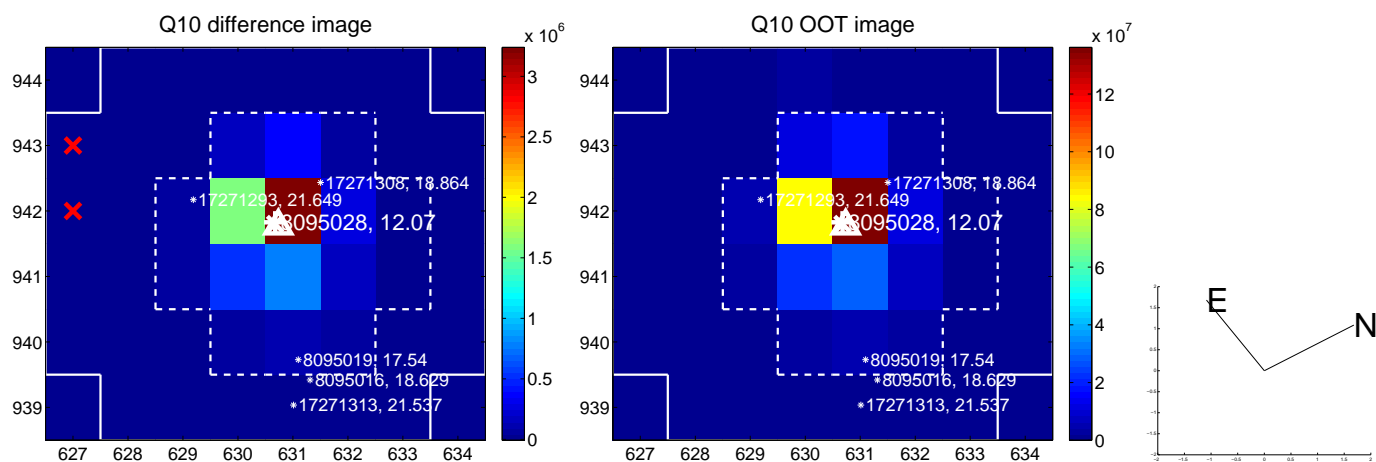
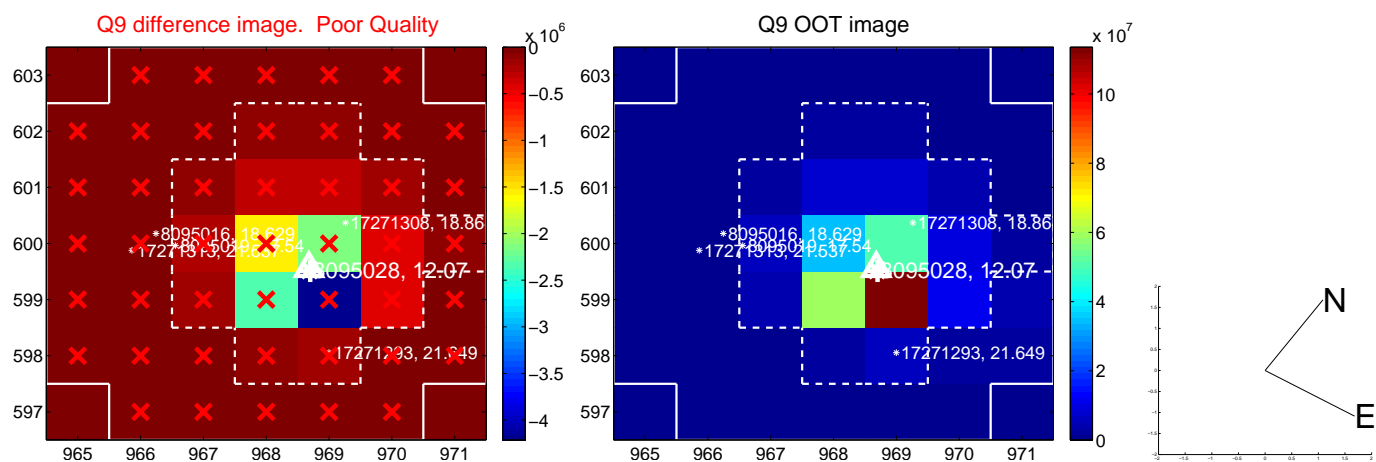
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



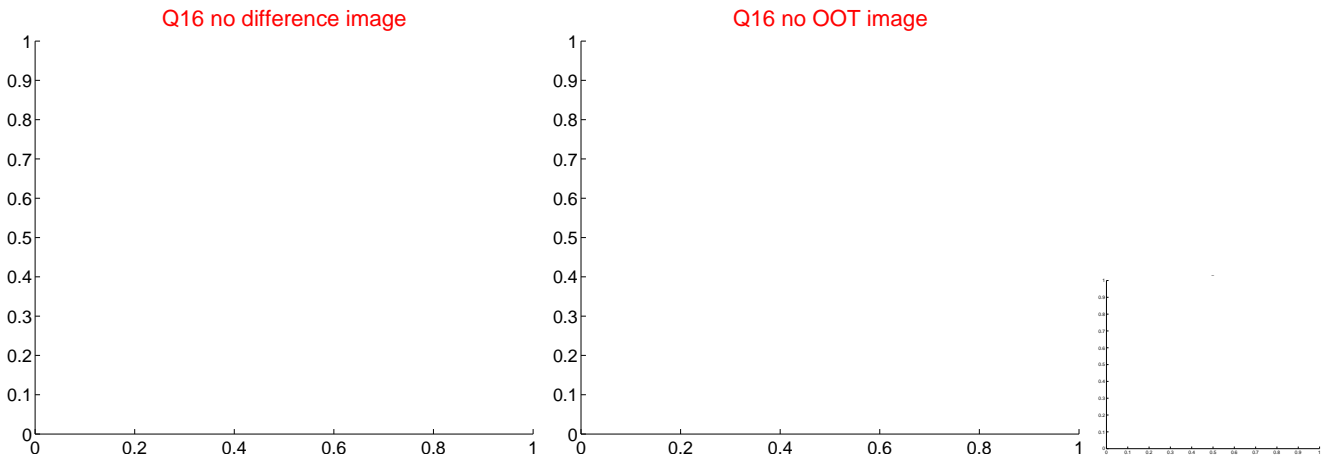
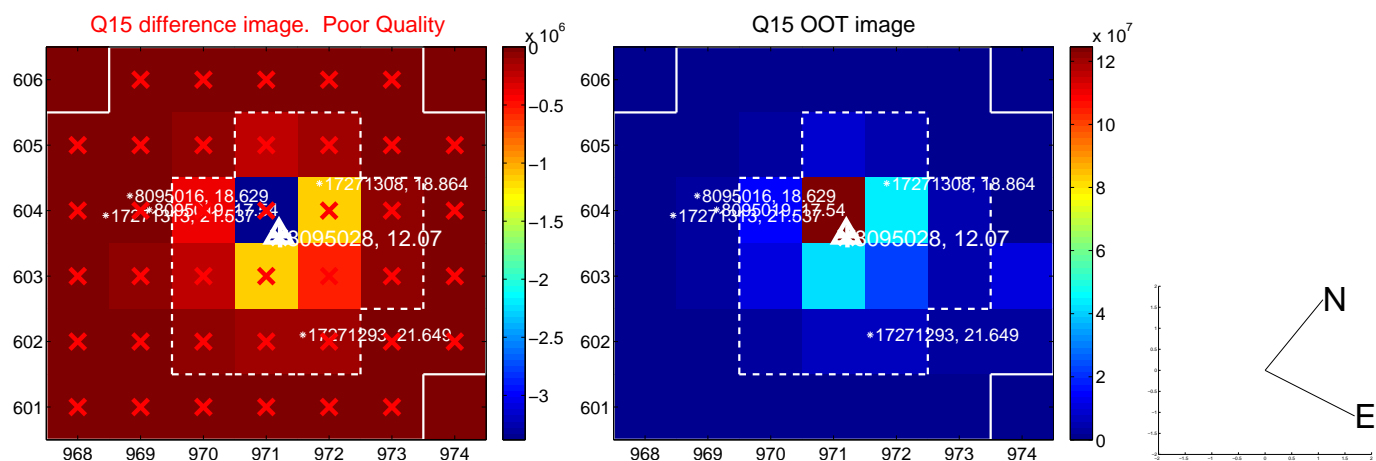
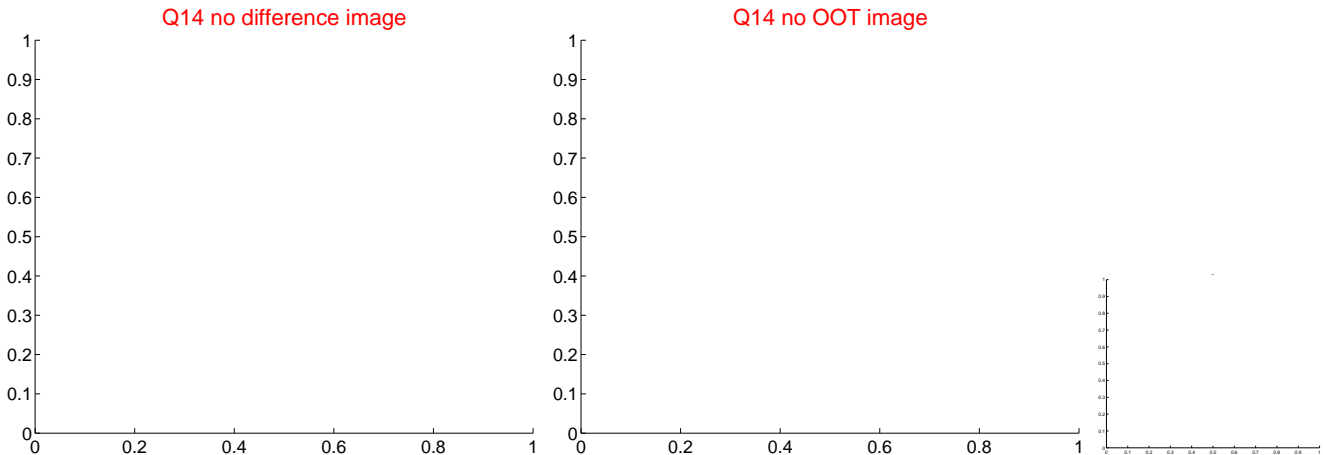
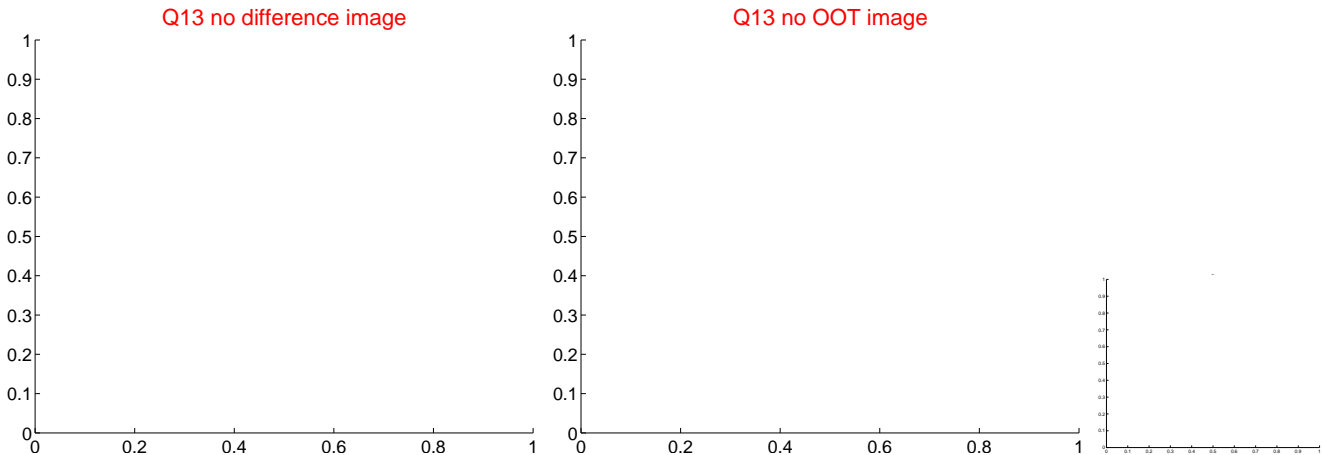
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



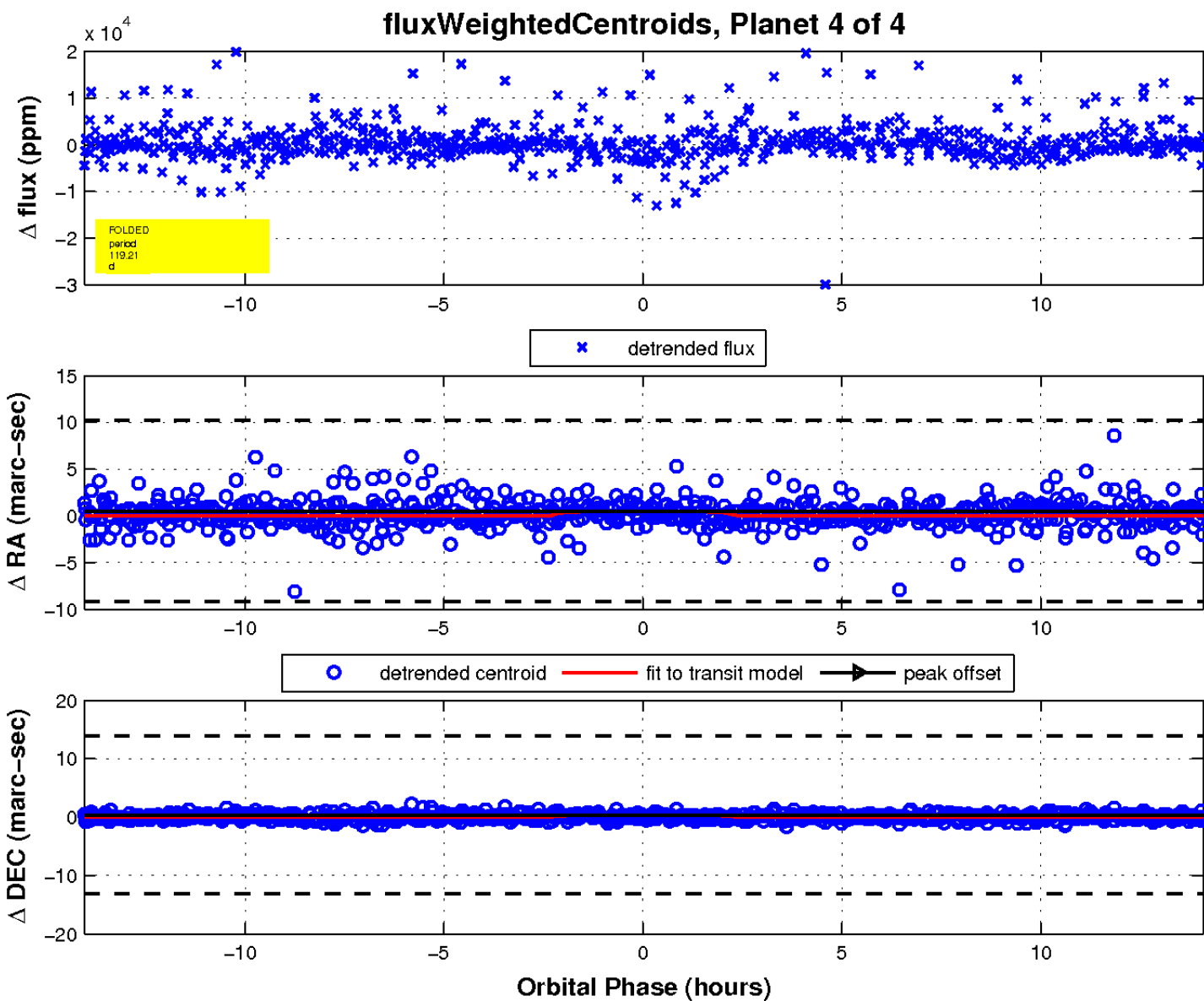
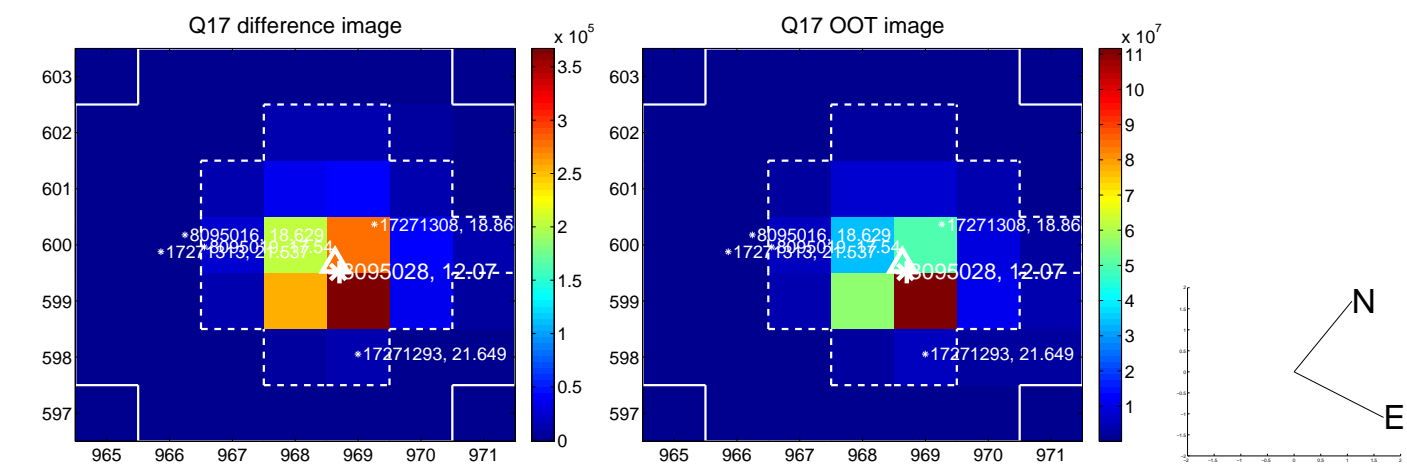
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

