

KIC 010139305

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})
010139305-01	OBS	6077.01	2.173518	132.322411	604.2	1.155	28.4	33.6	0.59	5008	1.77	261.33
010139305-02	OBS	No	2.173576	133.130612	1301.0	0.705	30.0	62.7	0.59	5008	2.69	261.32
010139305-03	OBS	No	2.173543	131.713297	1.6	1.302	21.1	0.1	0.59	5008	0.08	261.33
010139305-04	OBS	No	2.173476	133.531715	165.9	6.528	13.0	11.1	0.59	5008	0.84	261.34
010139305-05	OBS	No	164.269813	183.095527	533.7	10.550	21.0	3.2	0.59	5008	1.48	0.82
010139305-06	OBS	No	2.173542	132.835994	1014.7	1.500	12.0	-1.0	0.59	5008	1.87	261.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010139305-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010139305-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
010139305-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
010139305-04	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
010139305-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010139305-06	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

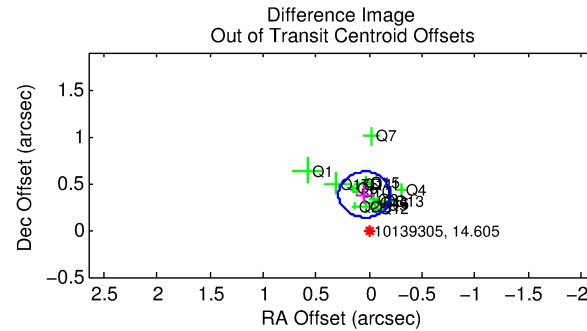
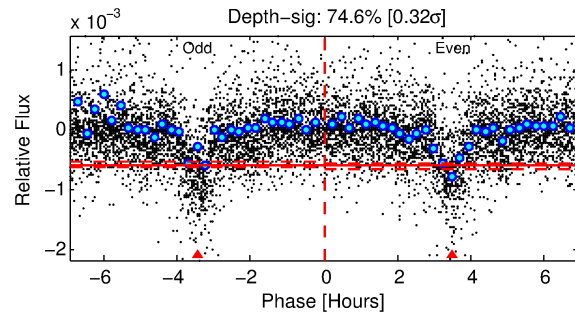
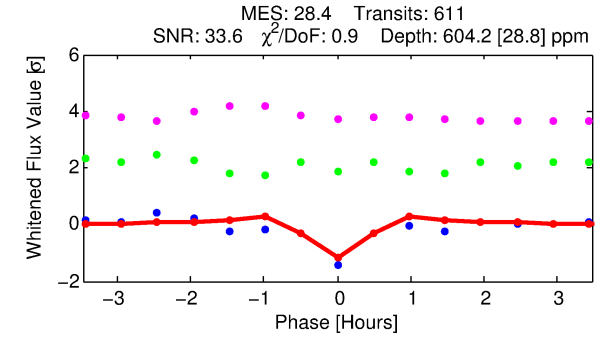
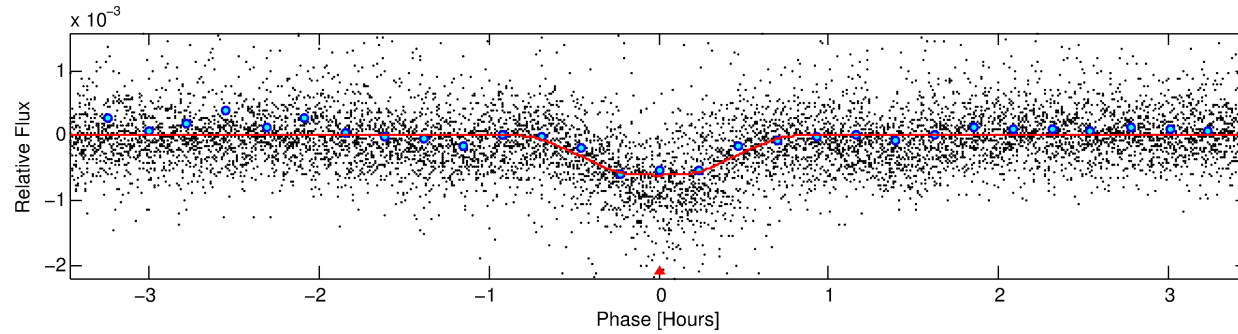
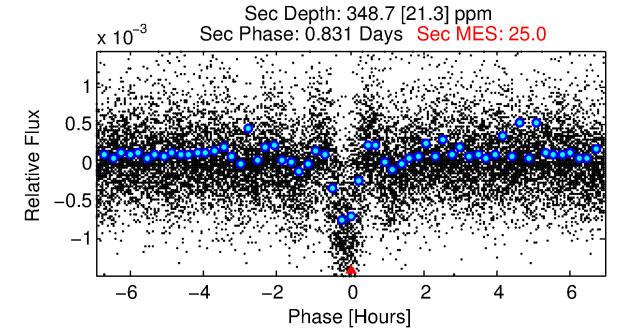
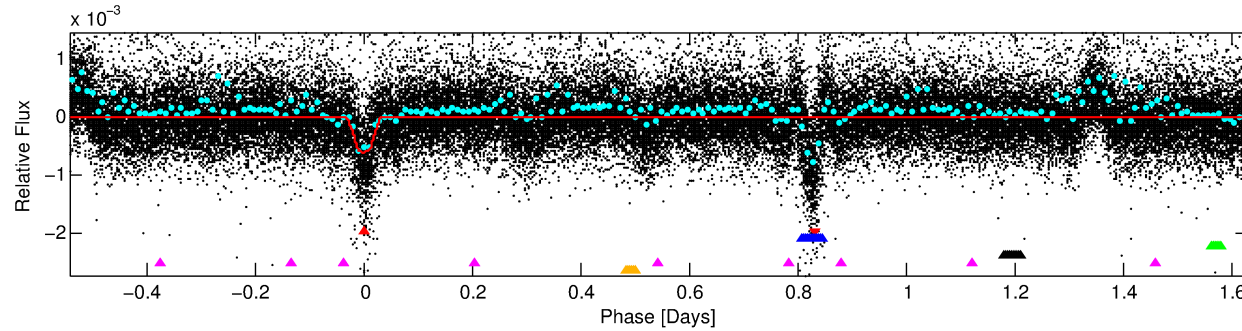
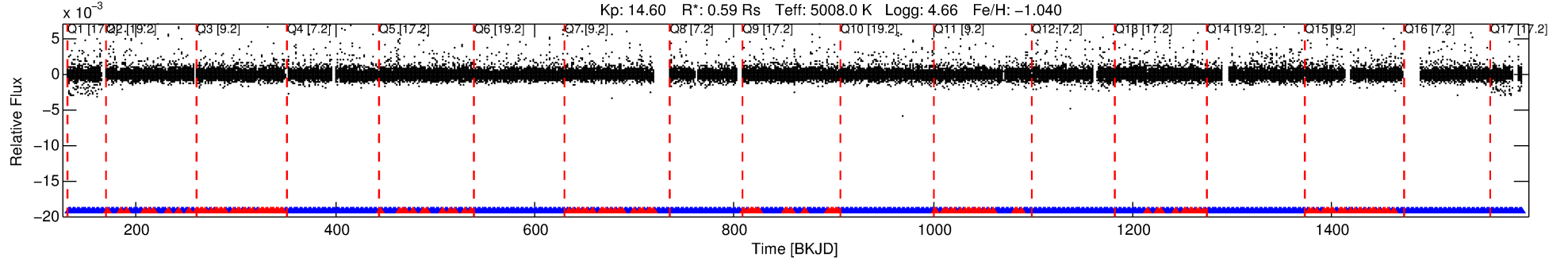
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010139305-01

No Significant Match Found

DV One-Page Summary

KIC: 10139305 Candidate: 1 of 6 Period: 2.174 d
KOI: K06077.01 Corr: 0.871



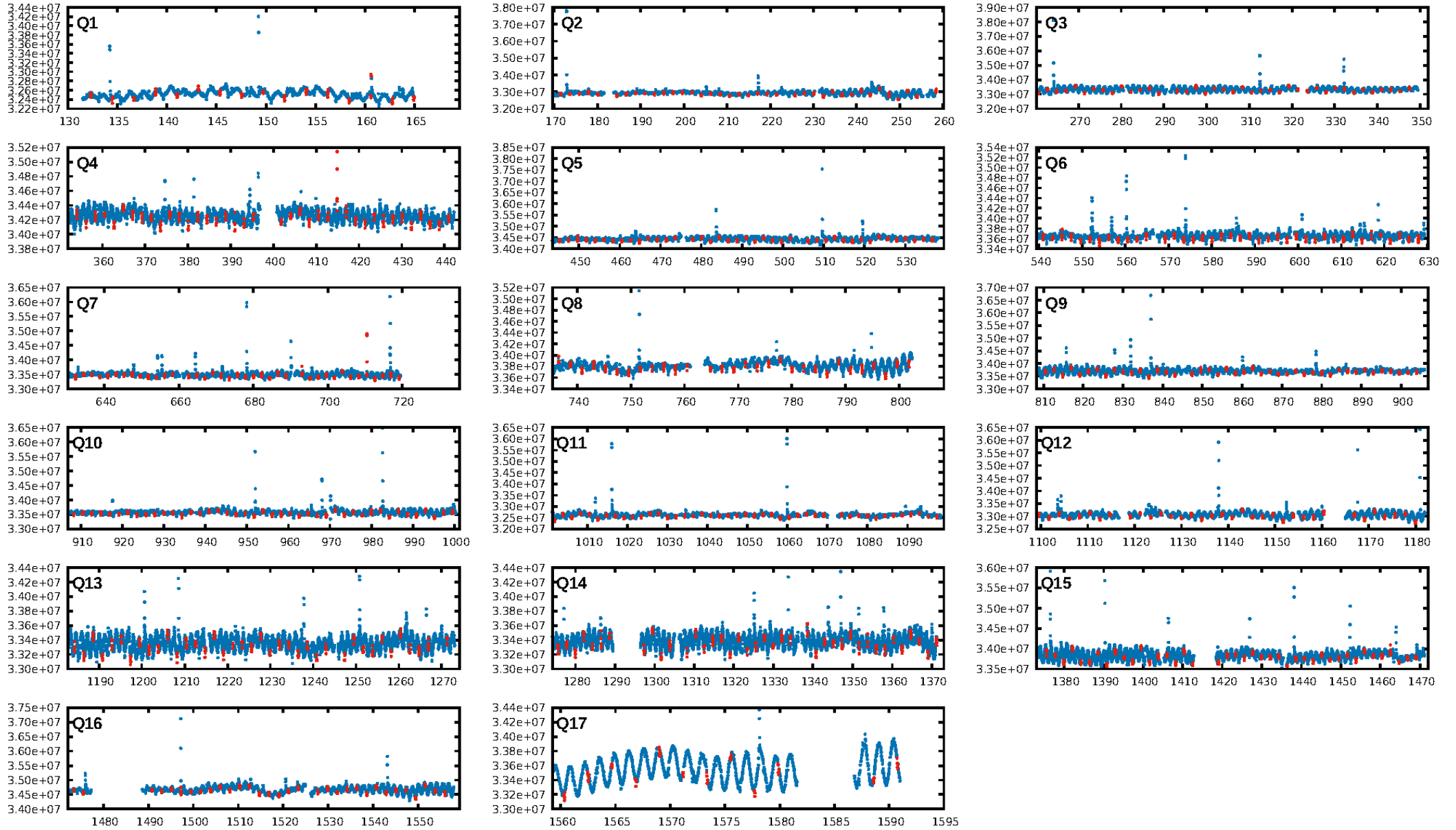
DV Fit Results:

Period = 2.17352 [0.00000] d
Epoch = 132.3224 [0.0005] BKJD
Rp/R* = 0.0273 [0.0050]
a/R* = 7.17 [5.27]
b = 0.90 [0.16]
Seff = 261.33 [43.52]
Teq = 1025 [43] K
Rp = 1.77 [0.34] Re
a = 0.0276 [0.0018] AU
Ag = 46.78 [17.90] [2.56σ]
Teffp = 4145 [407] K [7.63σ]

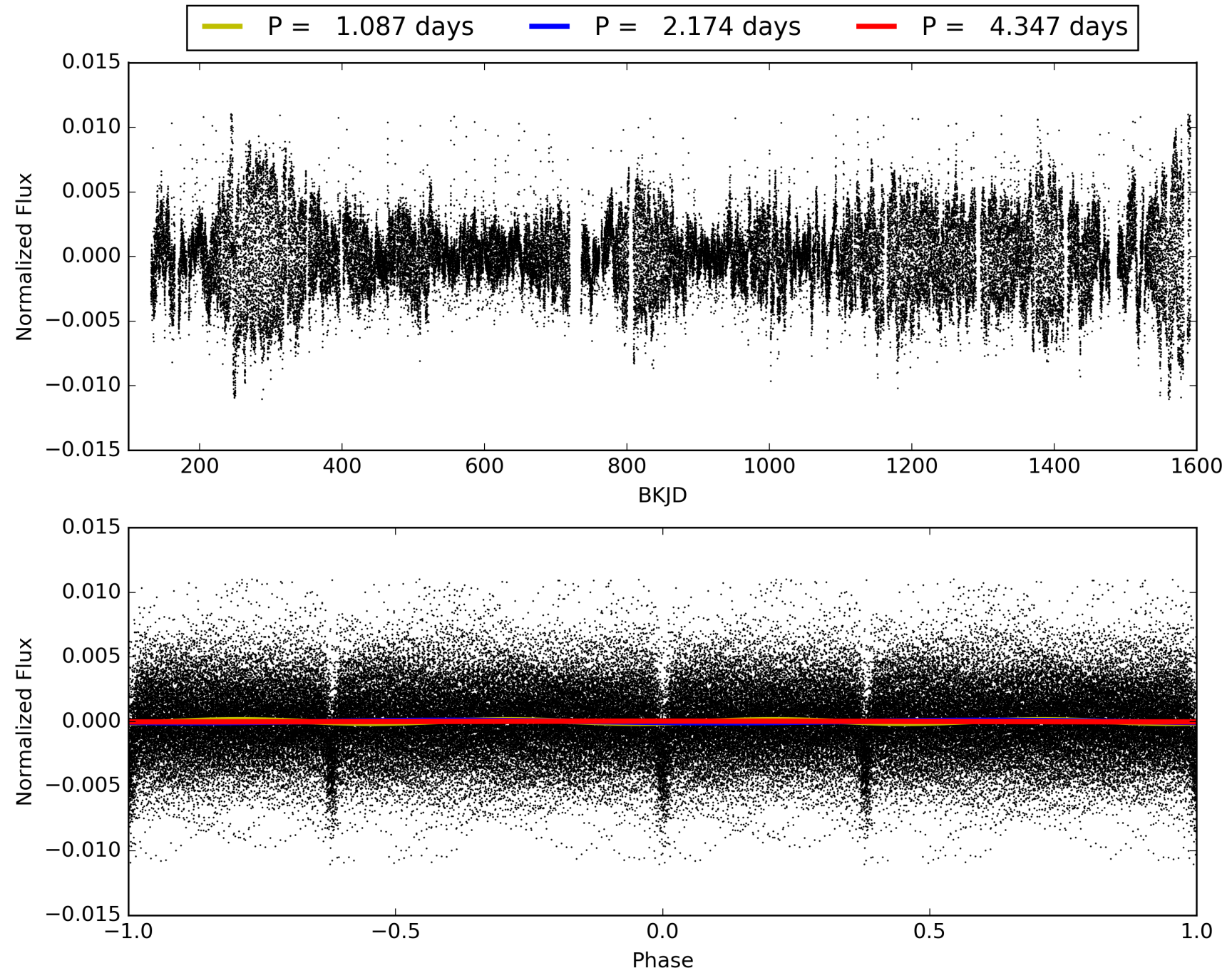
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.76 [443/583]
GhostDiagnostic-chr: 0.9128
Centroid-sig: 0.0%
Centroid-so: 1.717 arcsec [7.31σ]
OotOffset-rm: 0.382 arcsec [4.70σ]
KicOffset-rm: 0.443 arcsec [5.24σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 010139305-01, PDC Light Curves

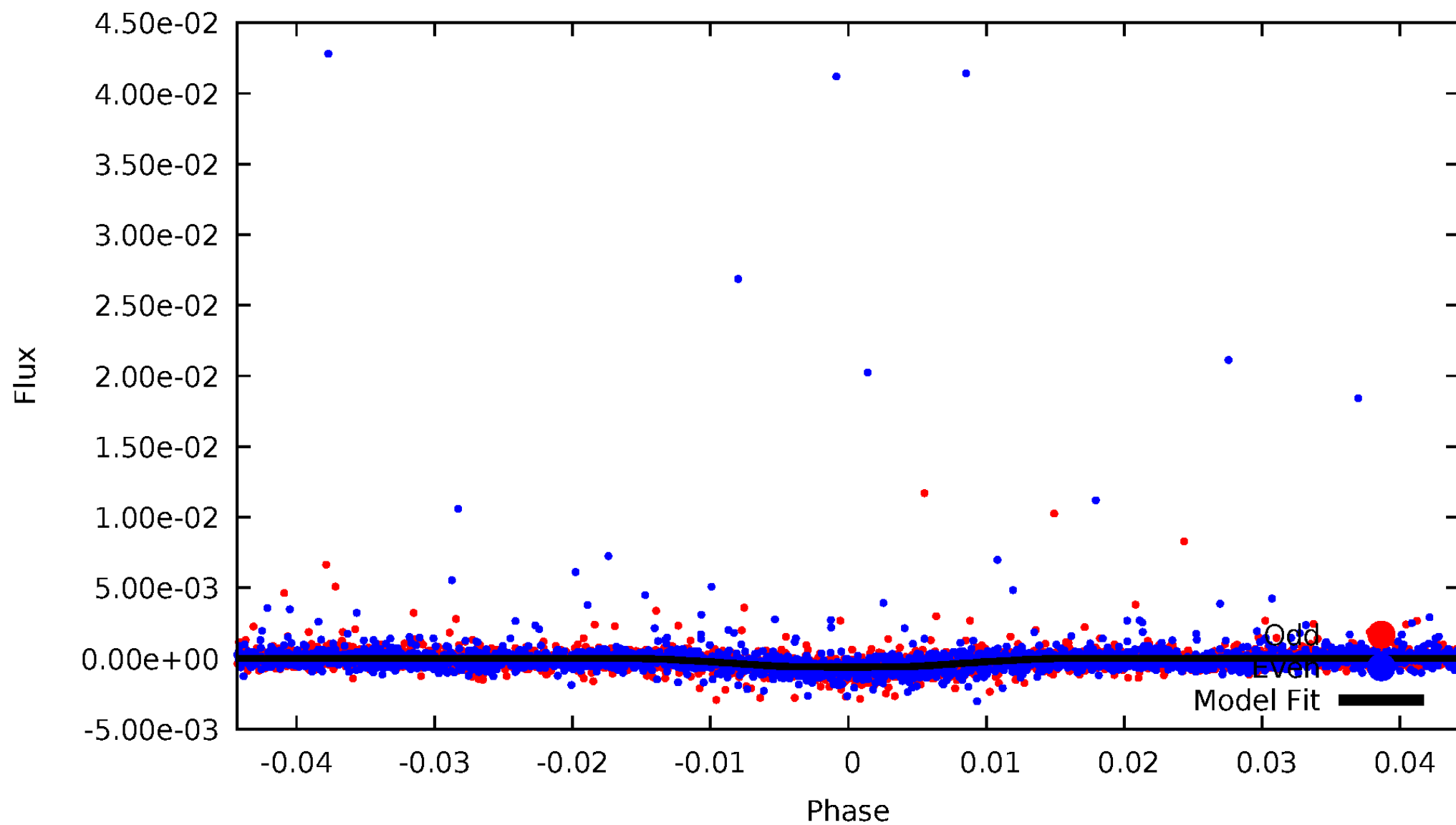


TCE 010139305-01



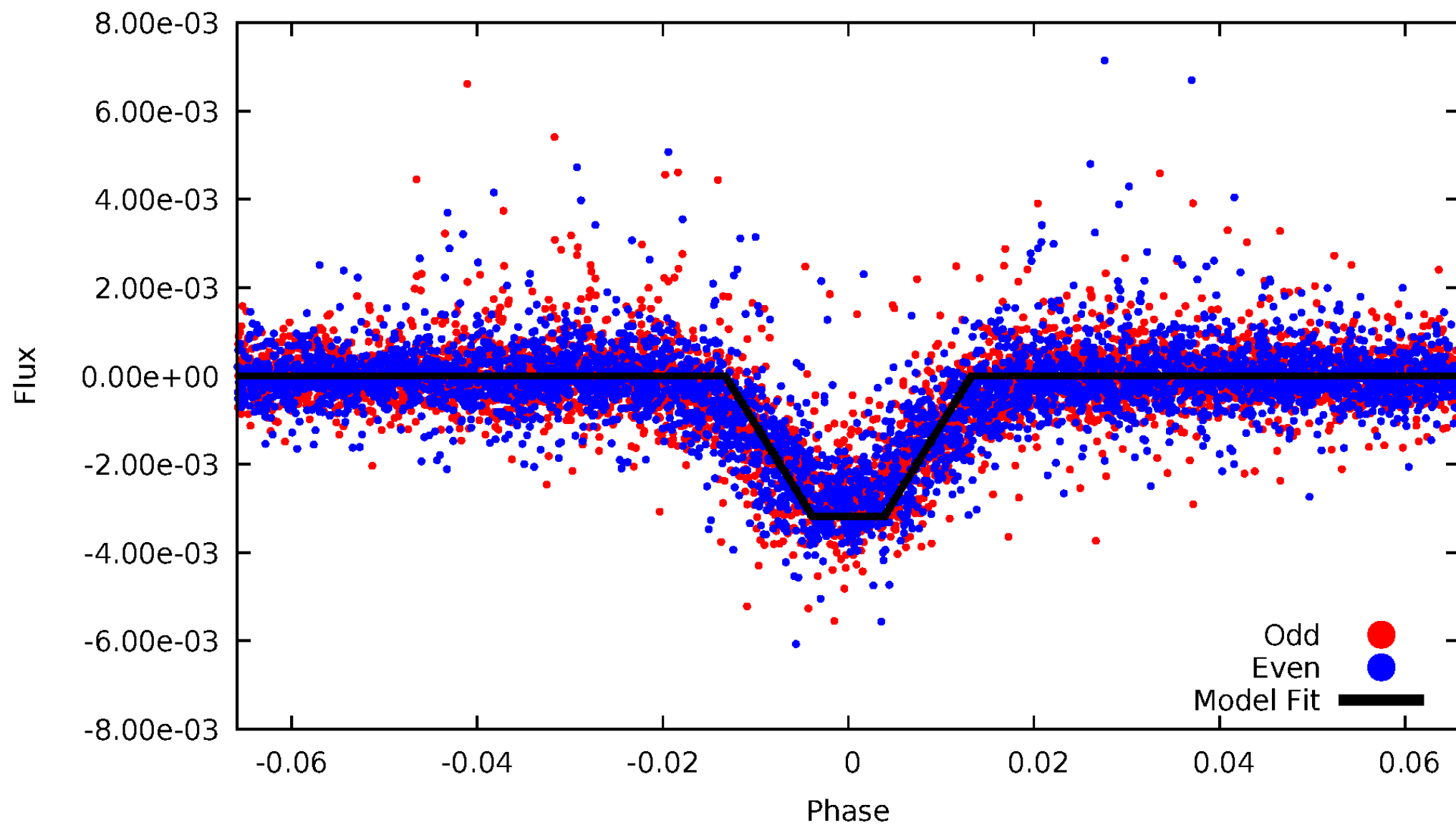
DV Odd/Even

TCE 010139305-01



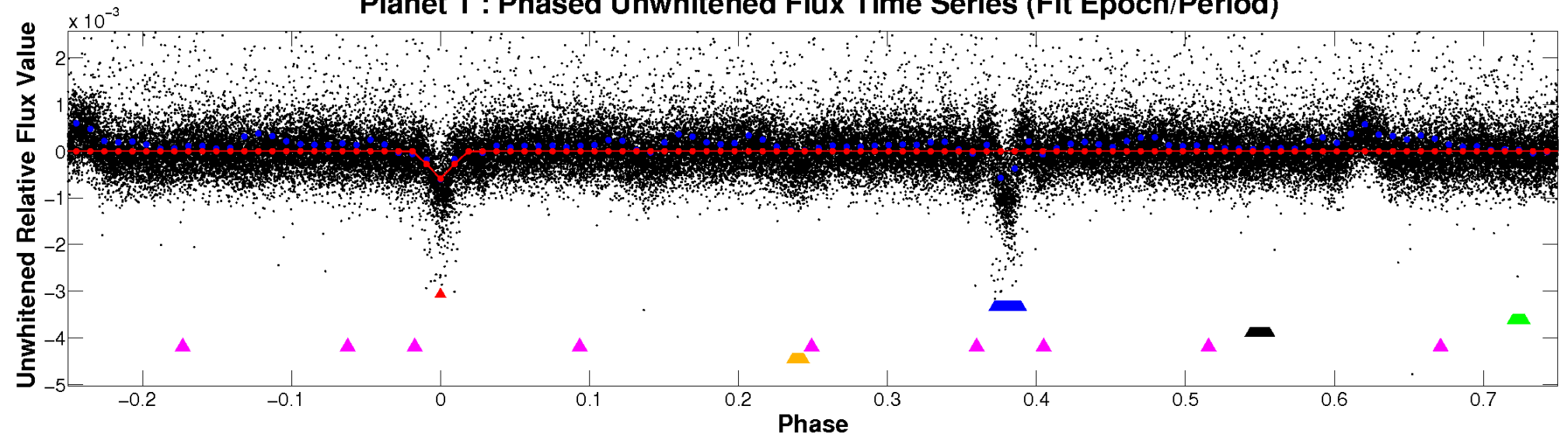
ALT Odd/Even

TCE 010139305-01

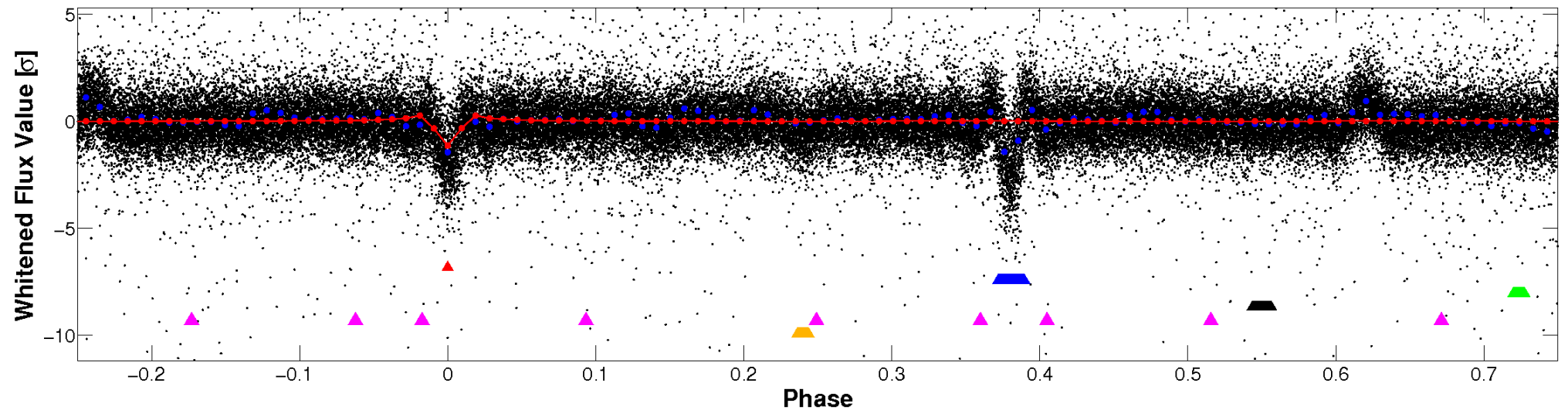


Non-Whitened Vs. Whitened Light Curve

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

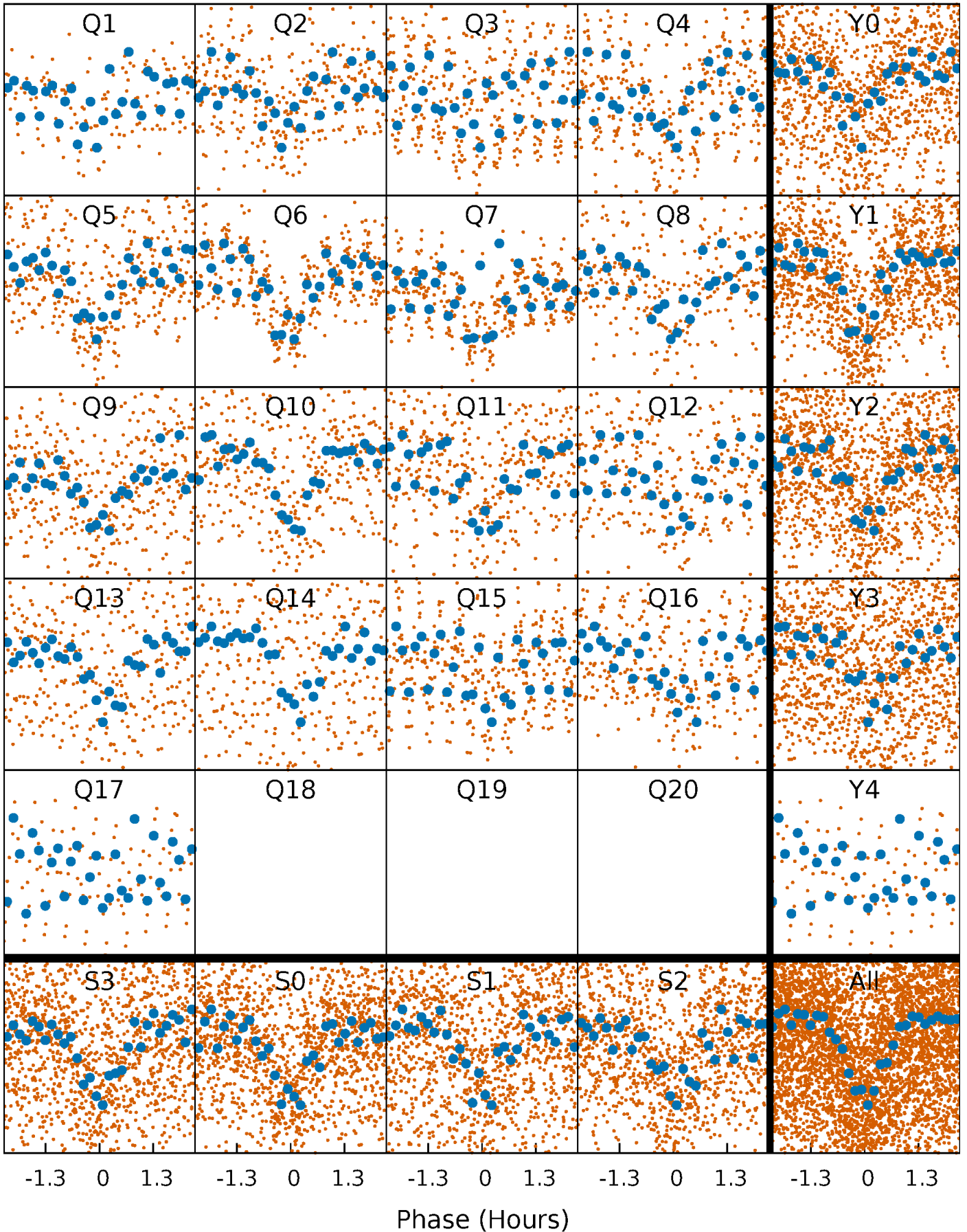


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



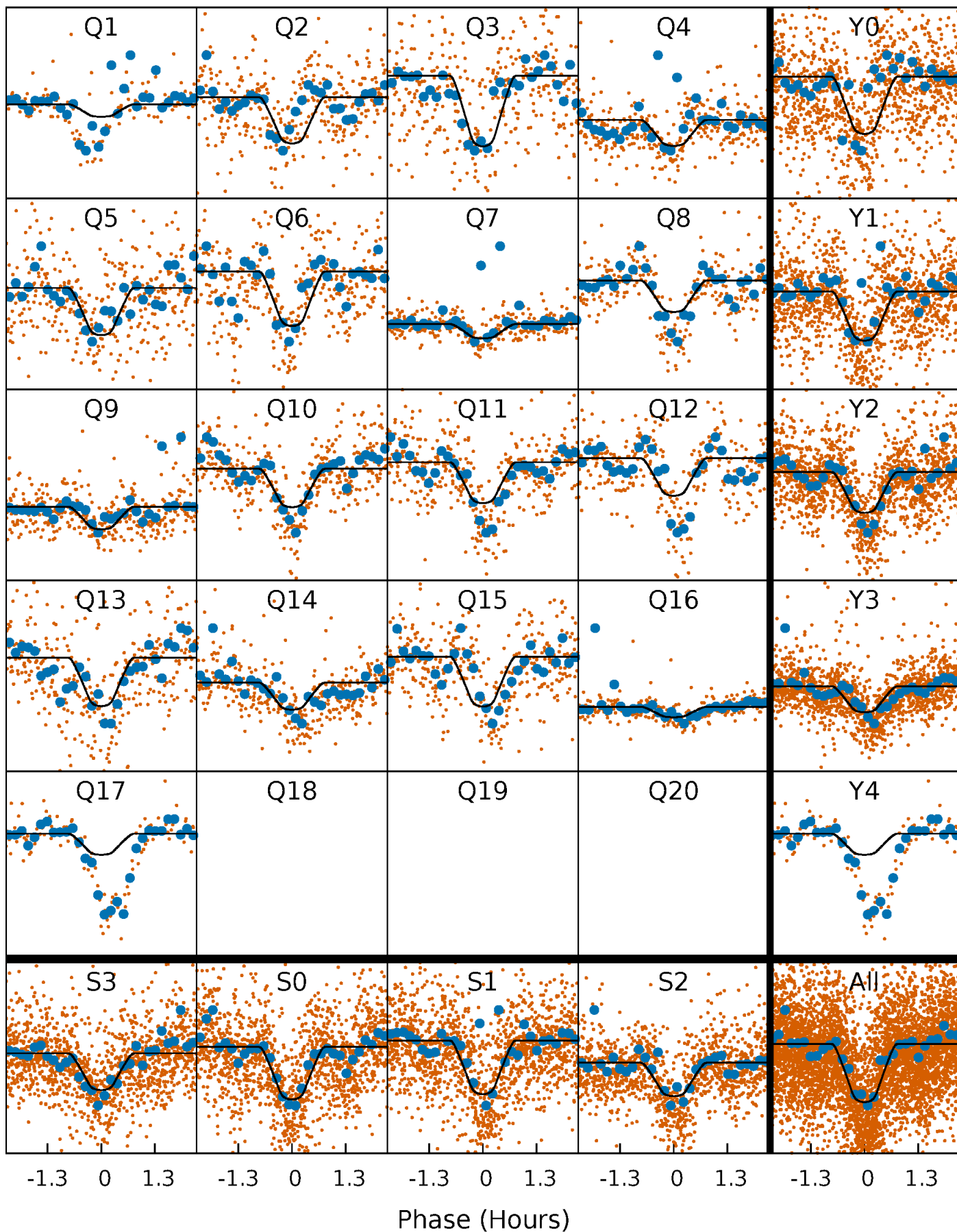
PDC Quarter-Phased Transit Curves

TCE 010139305-01 P= 2.173518 Days $T_0=132.322411$ (BKJD)



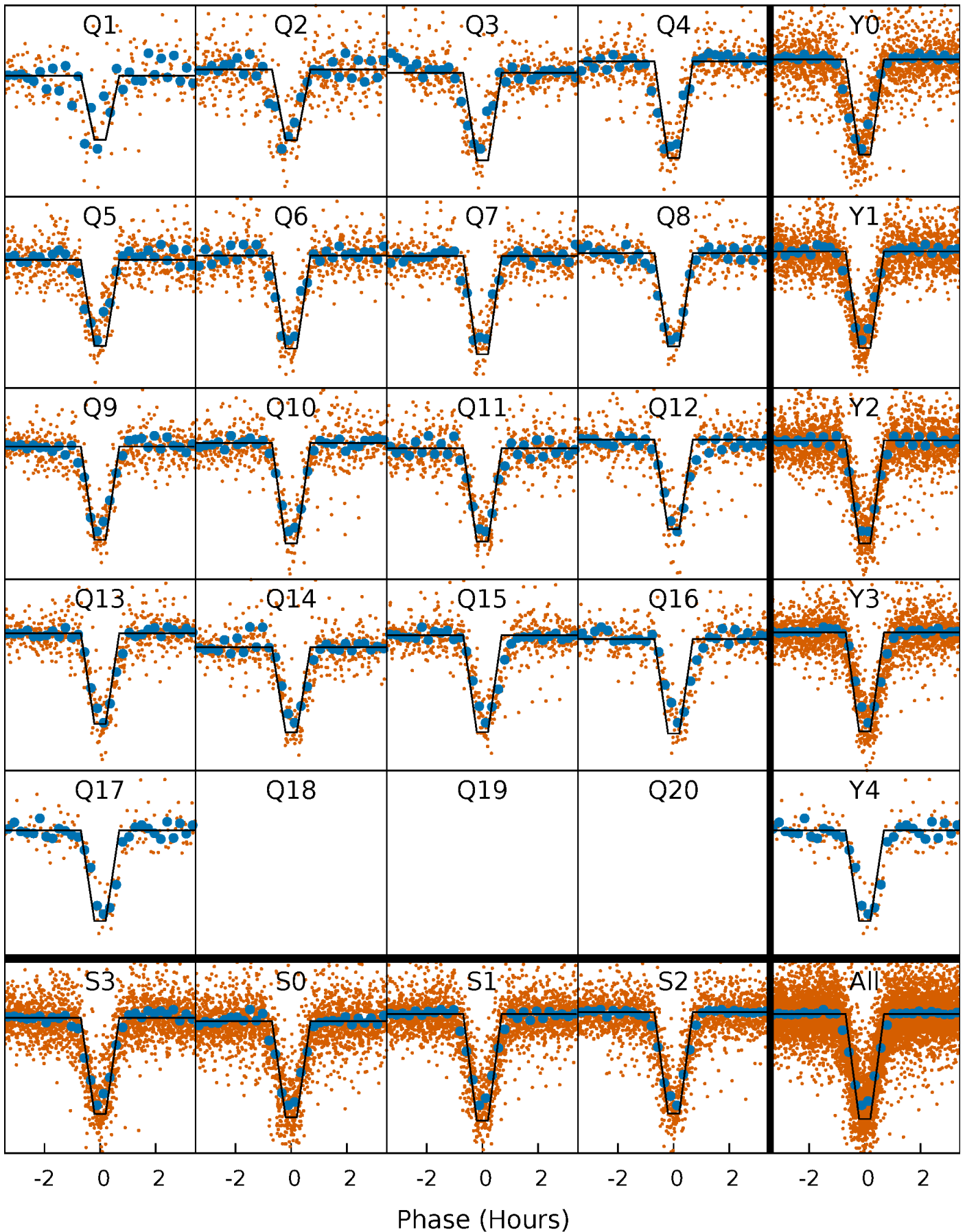
DV Quarter-Phased Transit Curves

TCE 010139305-01 P= 2.173518 Days $T_0=132.322411$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

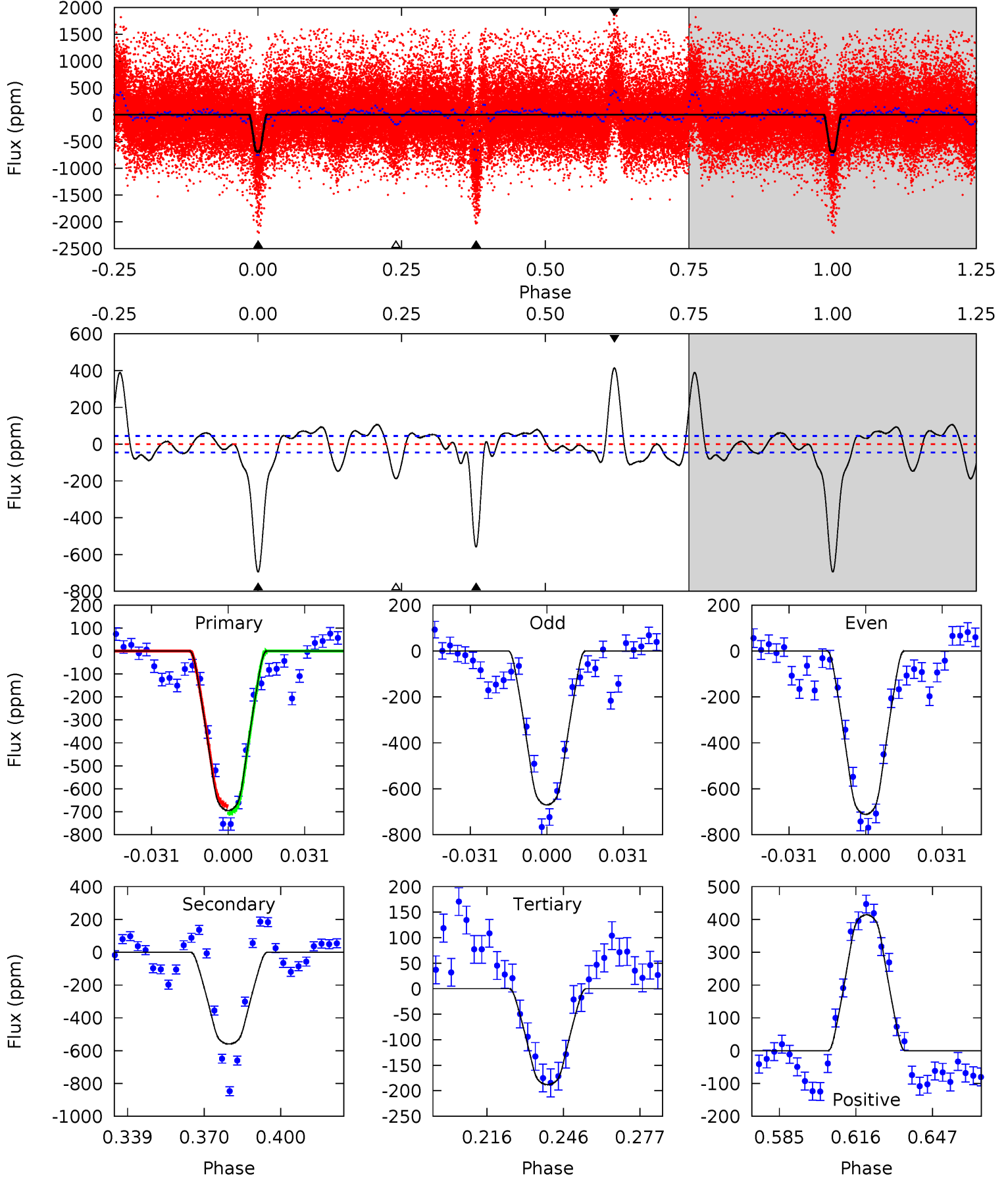
TCE 010139305-01 P= 2.173523 Days $T_0=132.322654$ (BKJD)



DV Model-Shift Uniqueness Test

010139305-01, P = 2.173518 Days, E = 130.148893 Days

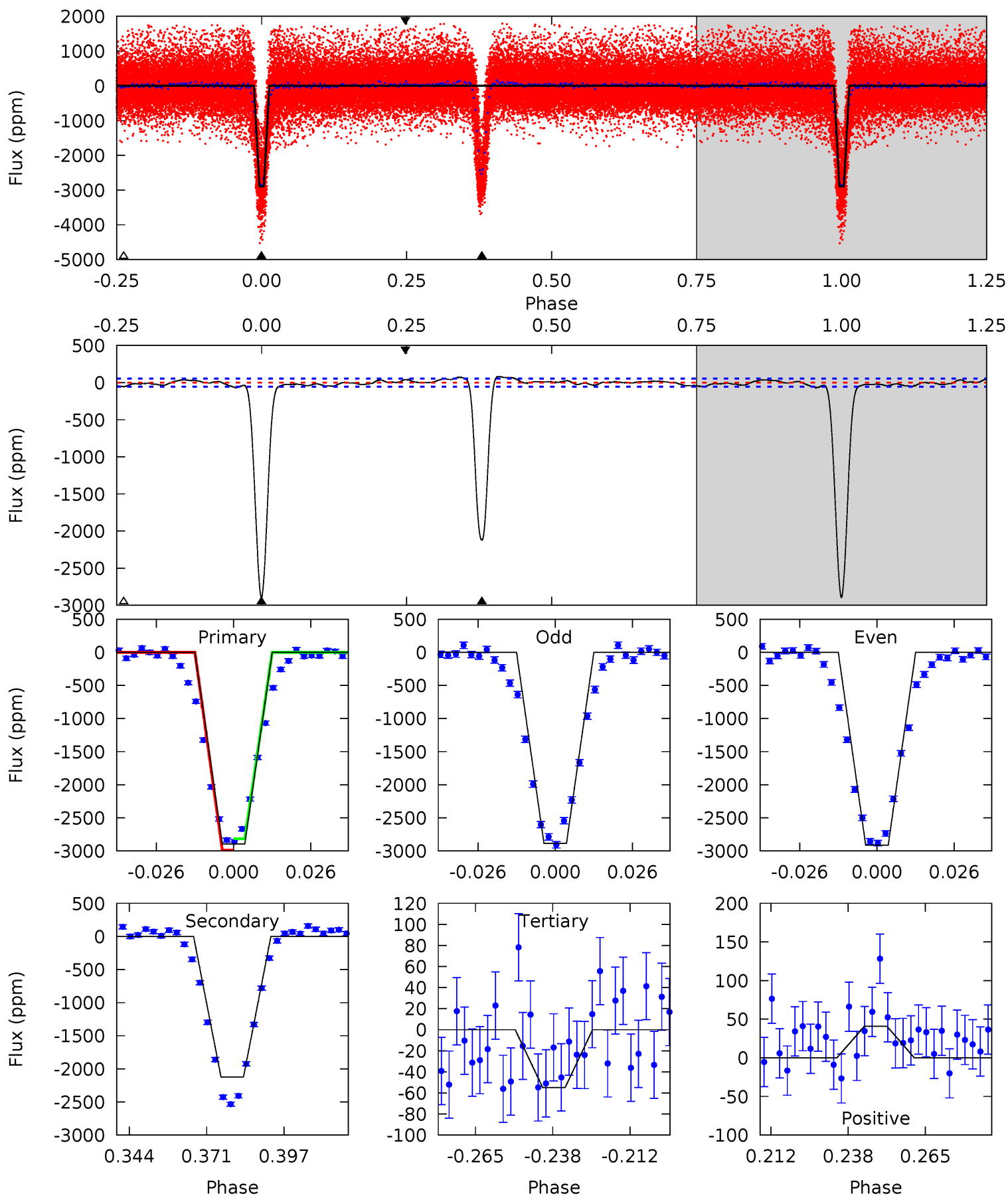
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
74.3	59.8	20.1	44.3	4.81	2.16	10.2	54.2	30.0	39.7	15.5	2.21	0.79	0.37	1.73



Alt Model-Shift Uniqueness Test

010139305-01, P = 2.173523 Days, E = 130.149131 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
259.9	190.6	4.93	3.67	4.84	2.22	2.68	255.0	256.3	185.7	186.9	1.30	0.98	0.03	6.60



Stellar Parameters For KIC 010139305

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5008^{+166}_{-151}	$4.663^{+0.058}_{-0.036}$	$-1.040^{+0.300}_{-0.300}$	$0.594^{+0.042}_{-0.038}$	$0.592^{+0.052}_{-0.022}$	$3.983^{+0.856}_{-0.542}$
	+3%/-3%	+1%/-1%	+29%/-29%	+7%/-6%	+9%/-4%	+21%/-14%
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 010139305-01 / KOI 6077.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-559 ± 9	$1.77^{+0.33}_{-0.32}$	1430^{+49}_{-51}	4721^{+415}_{-325}	76^{+37}_{-22}
Alt.	-2122 ± 11	$3.64^{+0.34}_{-0.34}$	1430^{+57}_{-51}	4622^{+220}_{-188}	68^{+15}_{-11}

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

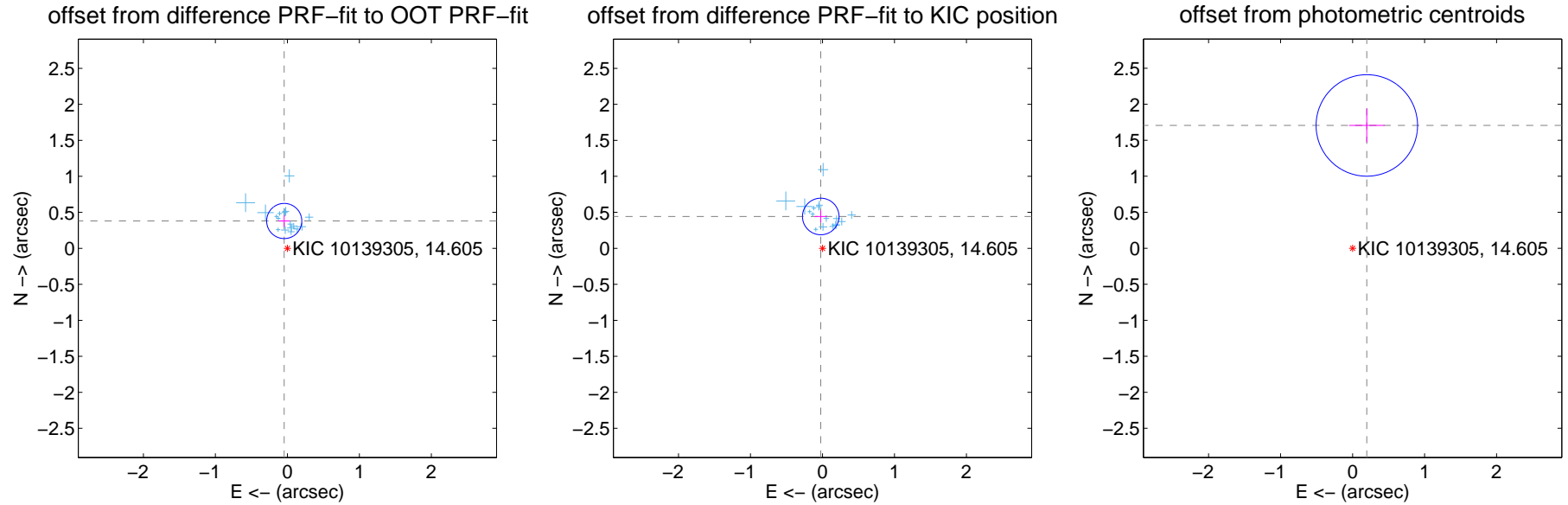
DV Centroid Data

Supplemental centroid analysis for 010139305-01. Kepler magnitude: 14.61. Transit SNR 33.56

There are 17 quarters with good PRF difference image offsets

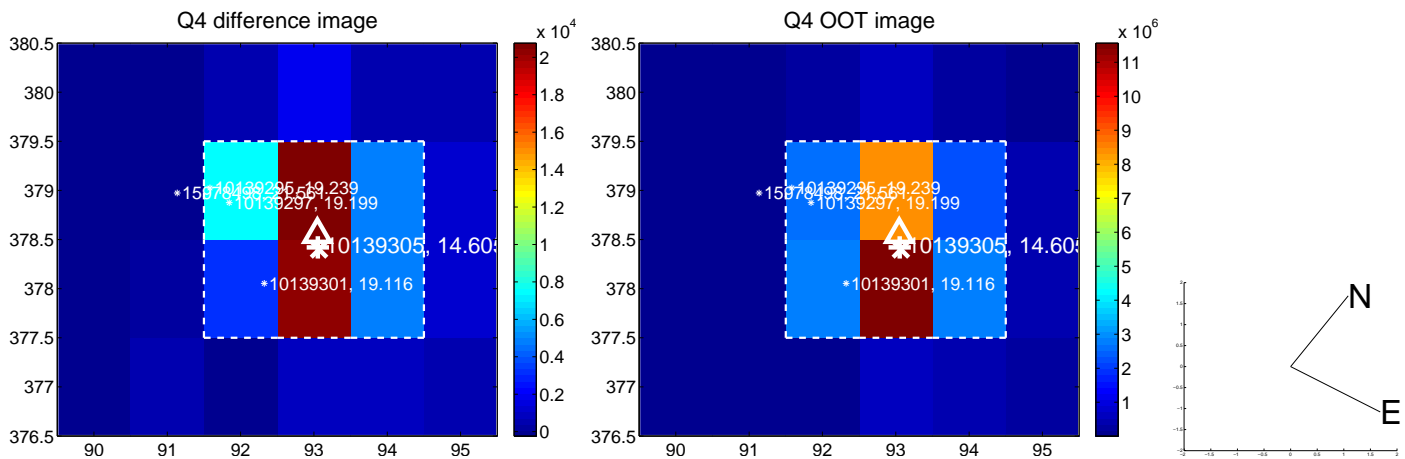
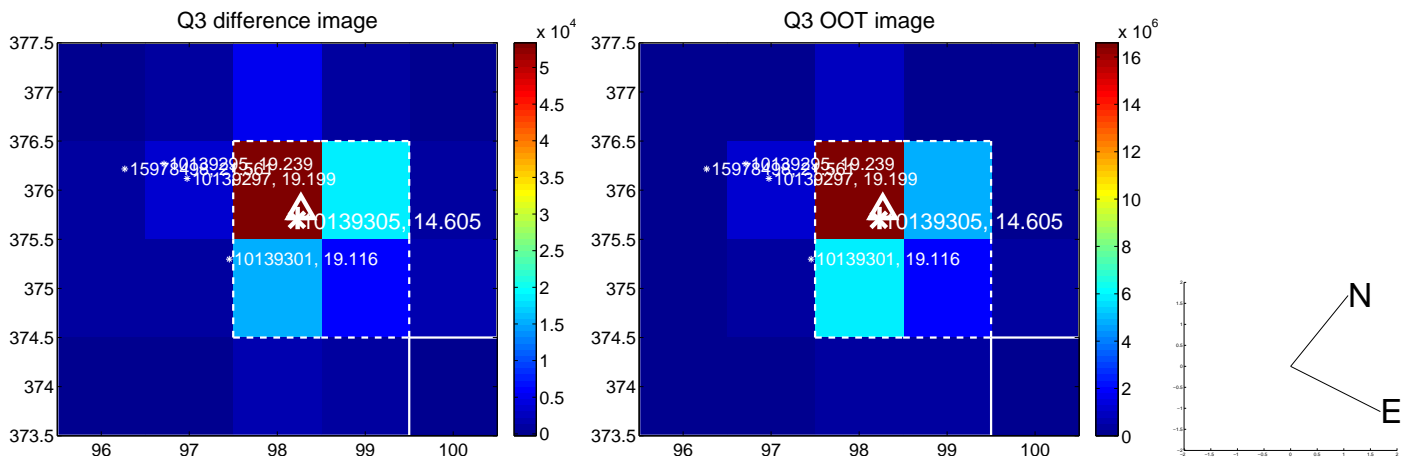
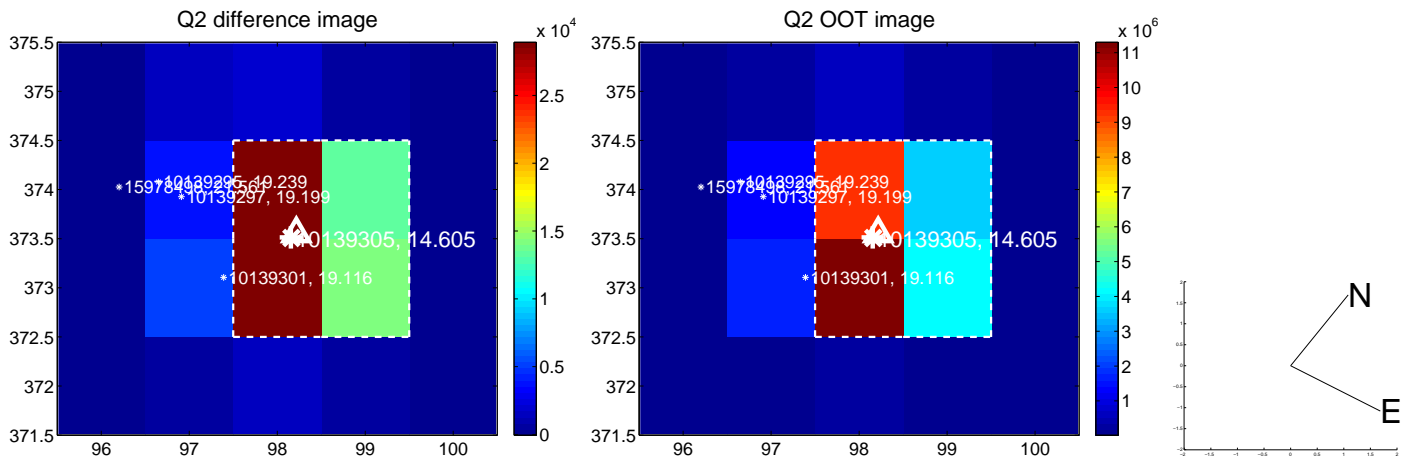
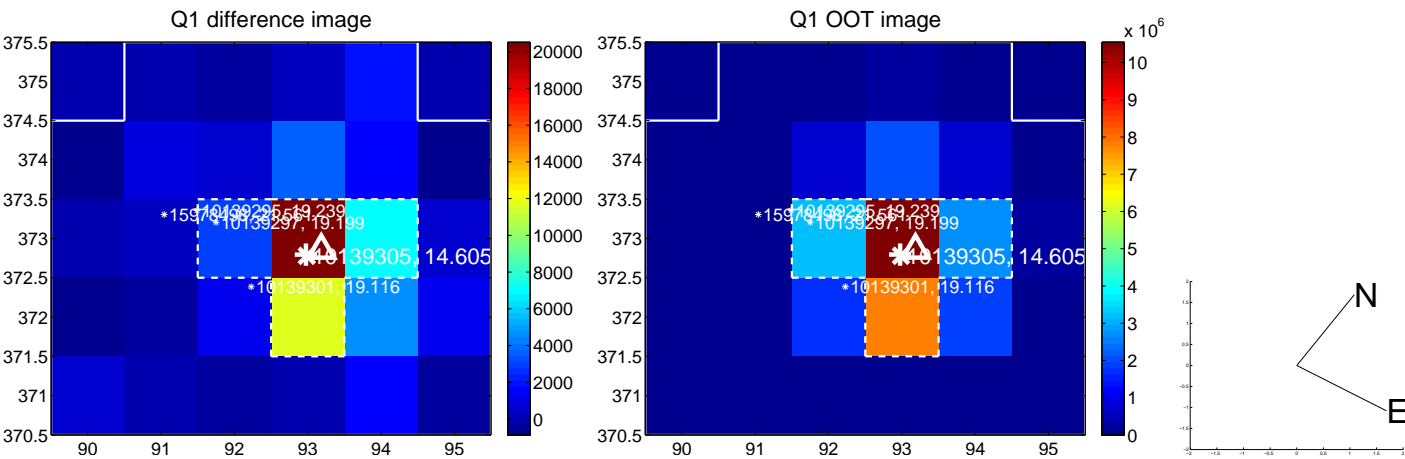
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.382 ± 0.081	4.70	0.044 ± 0.081	0.380 ± 0.081
PRF-fit source offset from KIC position	0.443 ± 0.085	5.24	0.024 ± 0.085	0.443 ± 0.084
photometric centroid source offset	1.72 ± 0.23	7.31	-0.20 ± 0.25	1.71 ± 0.23

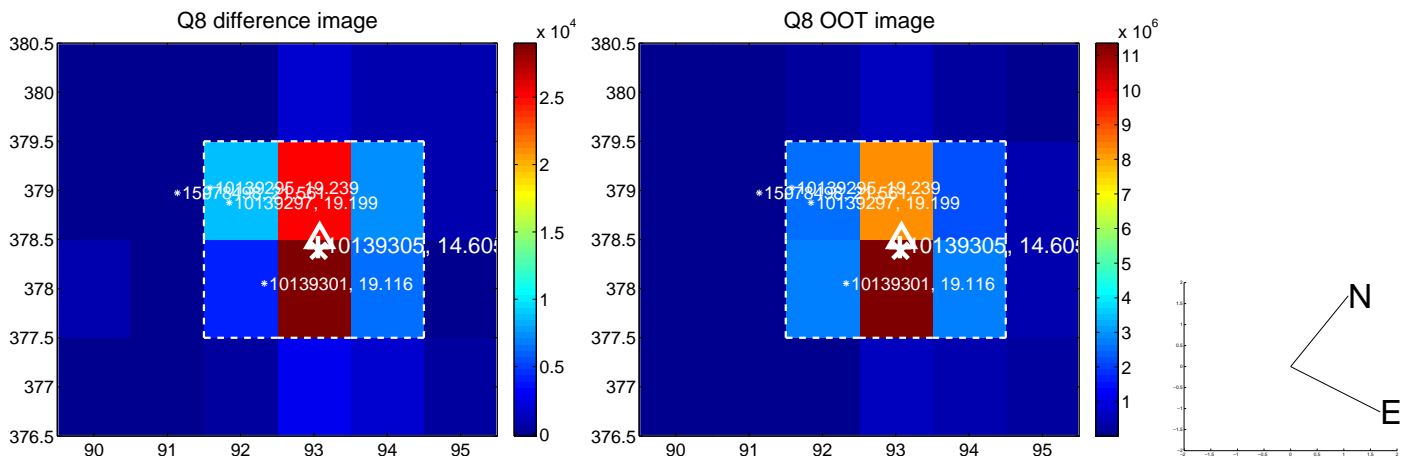
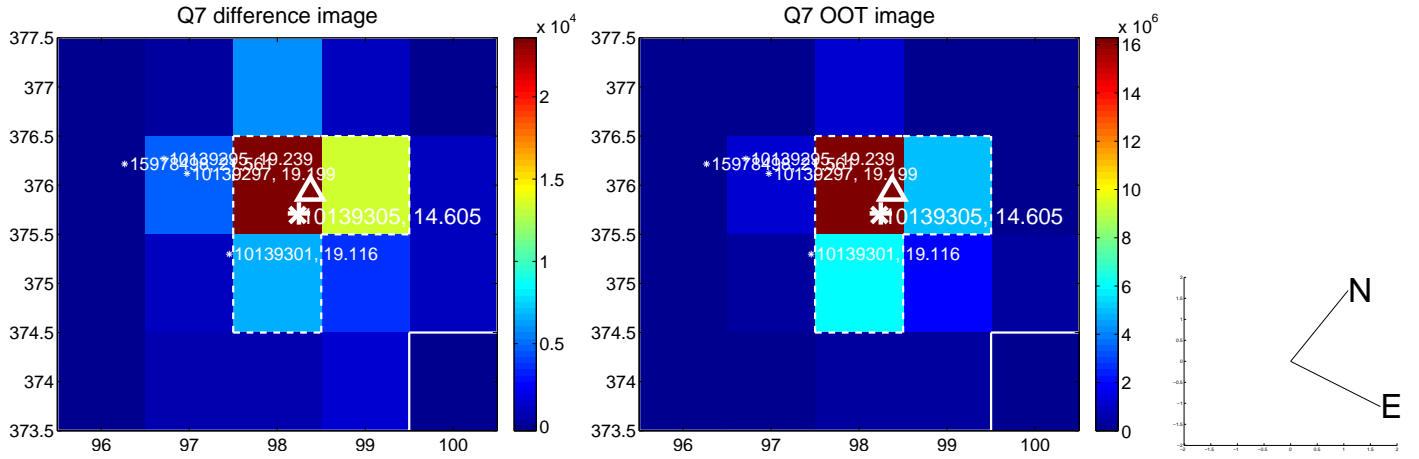
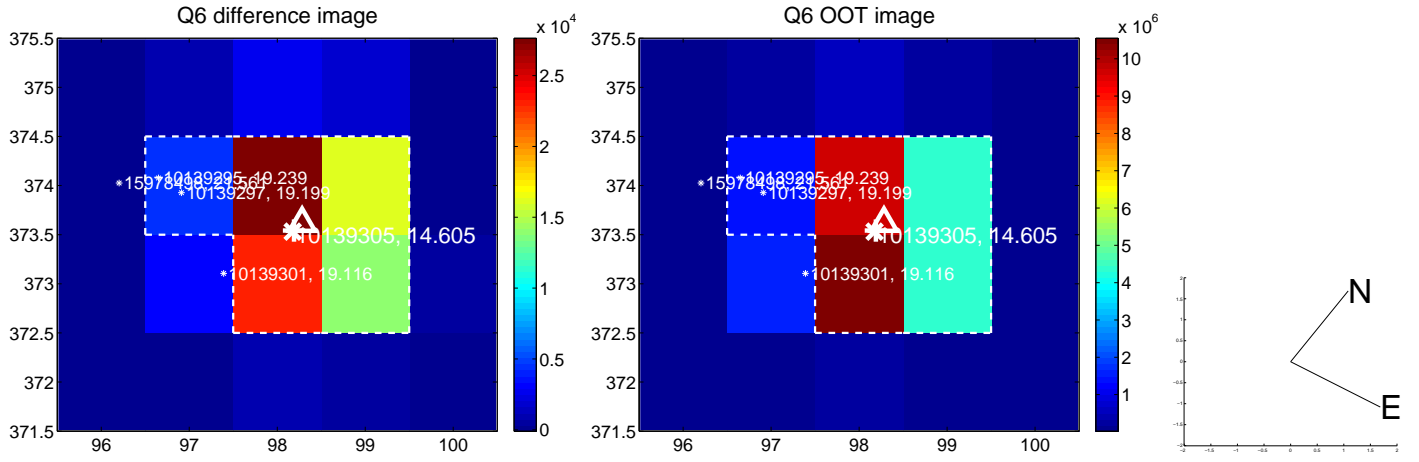
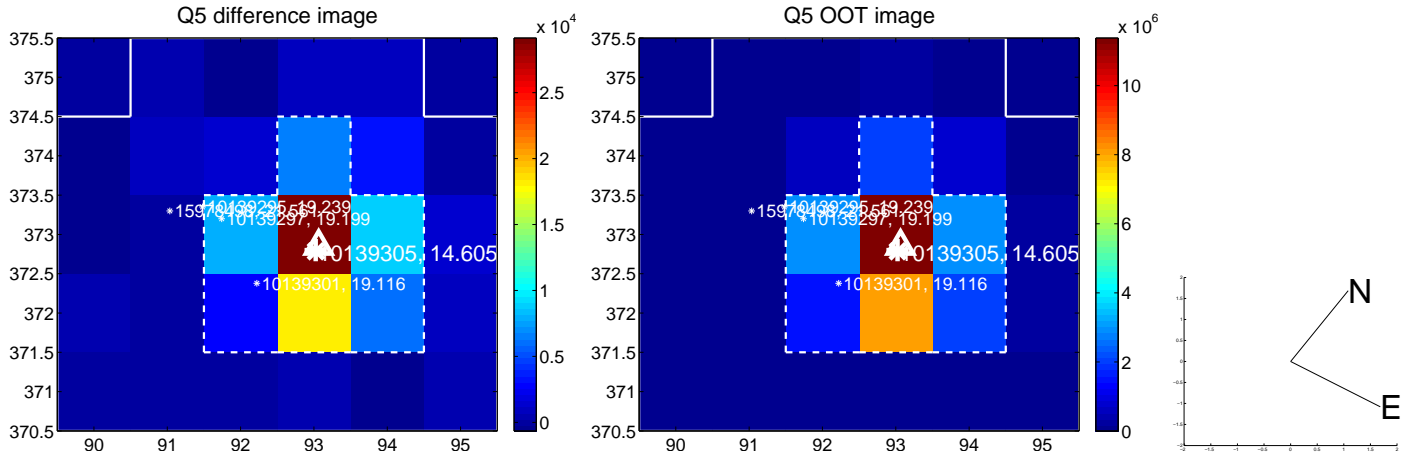


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

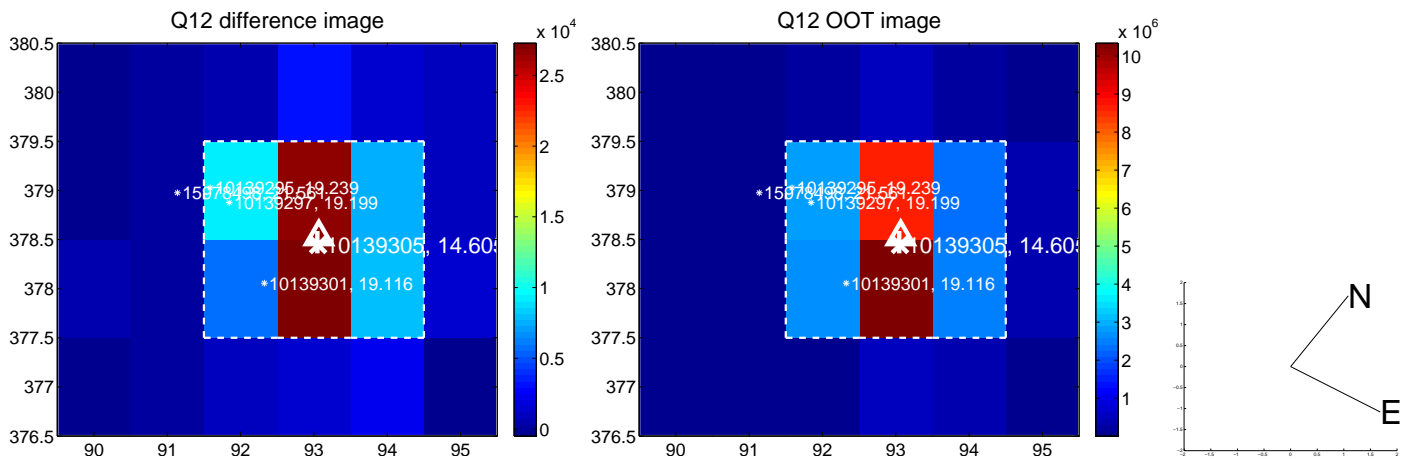
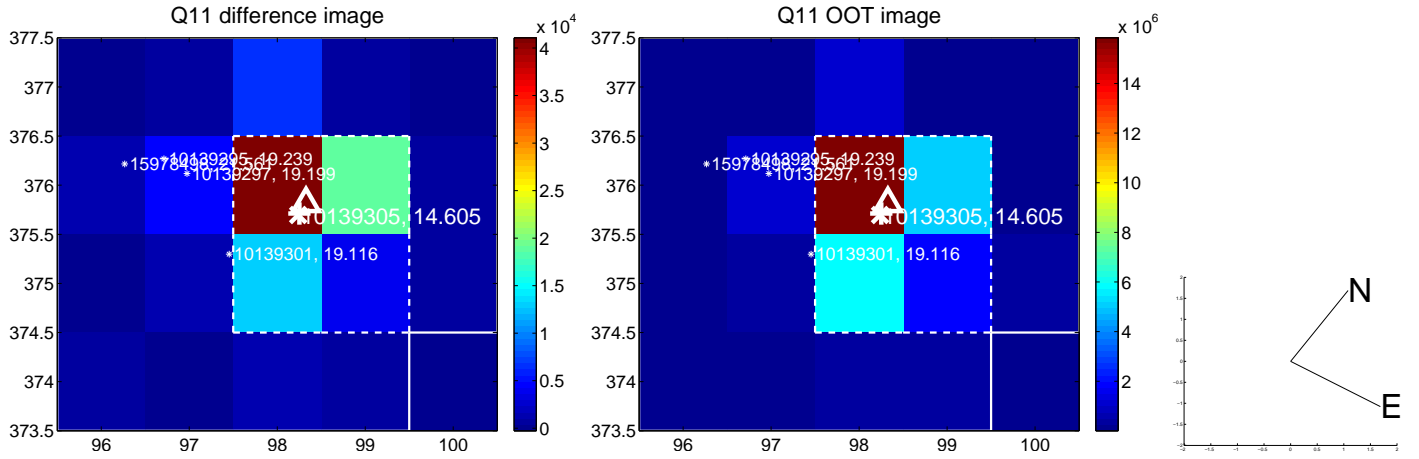
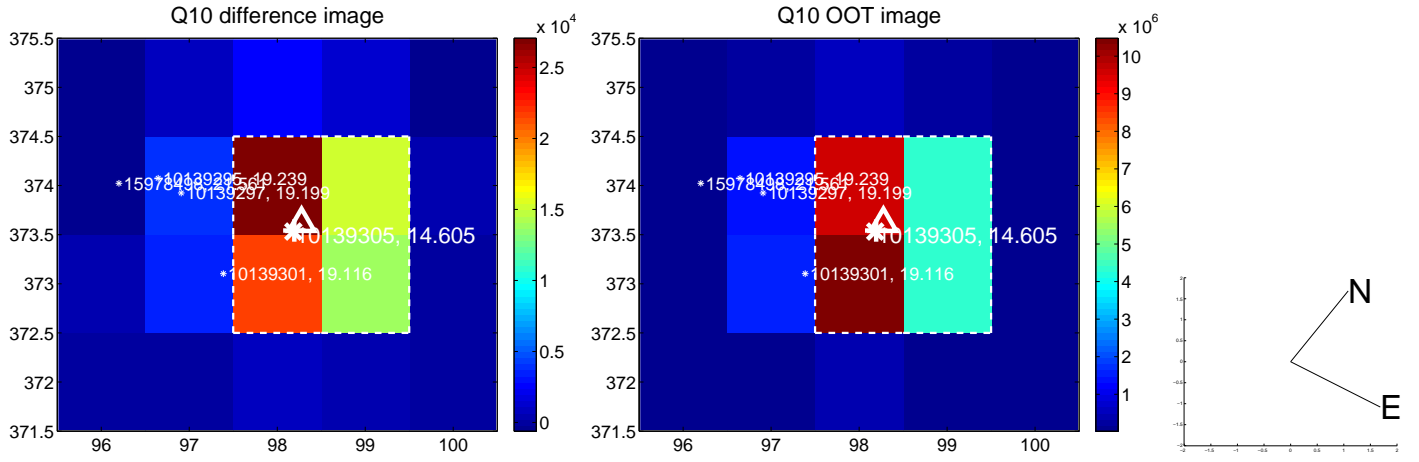
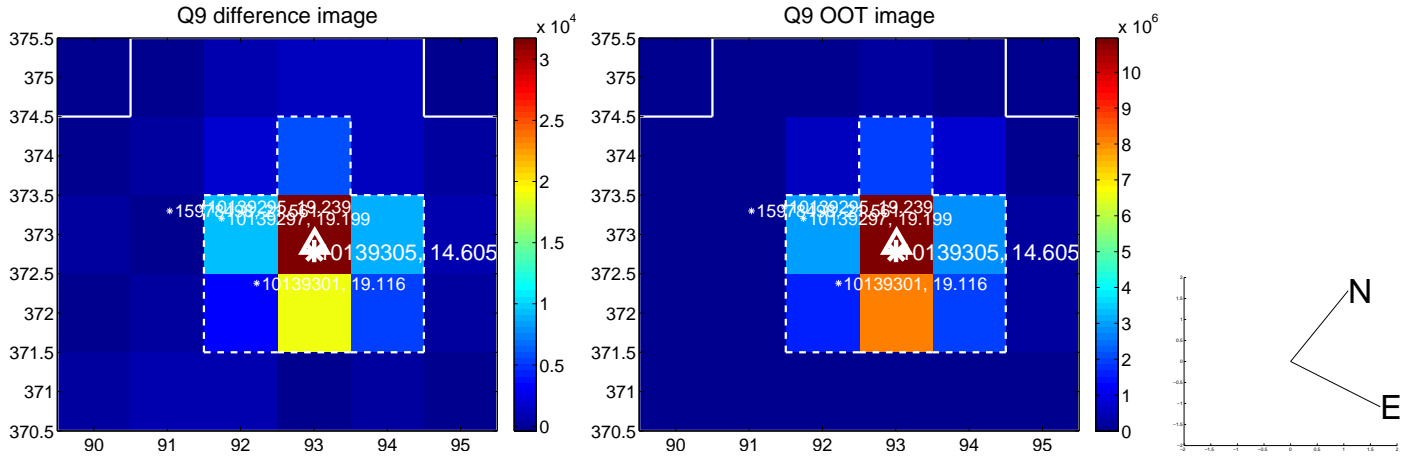
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



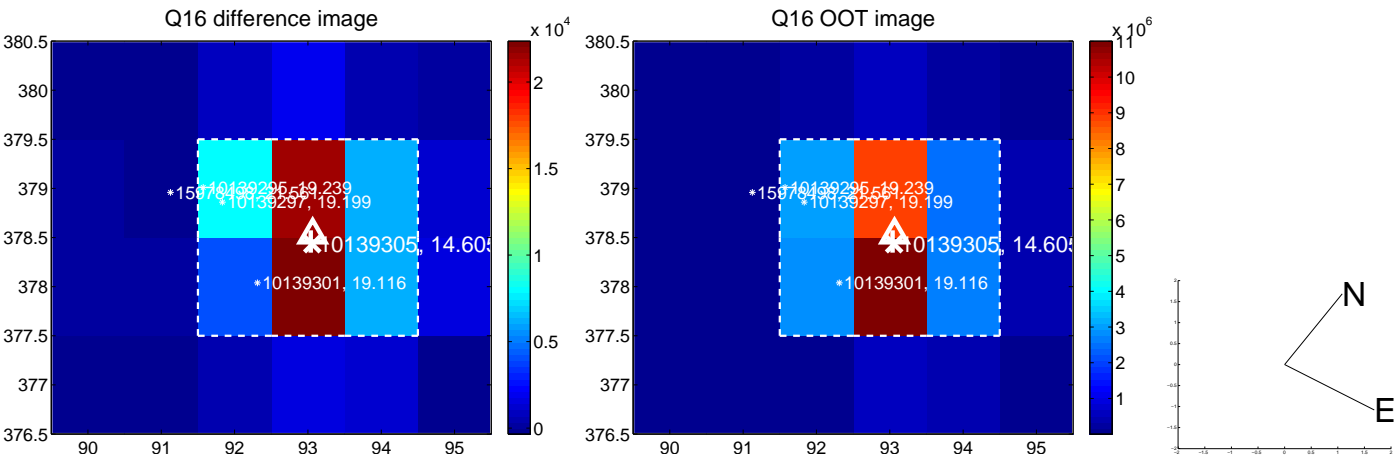
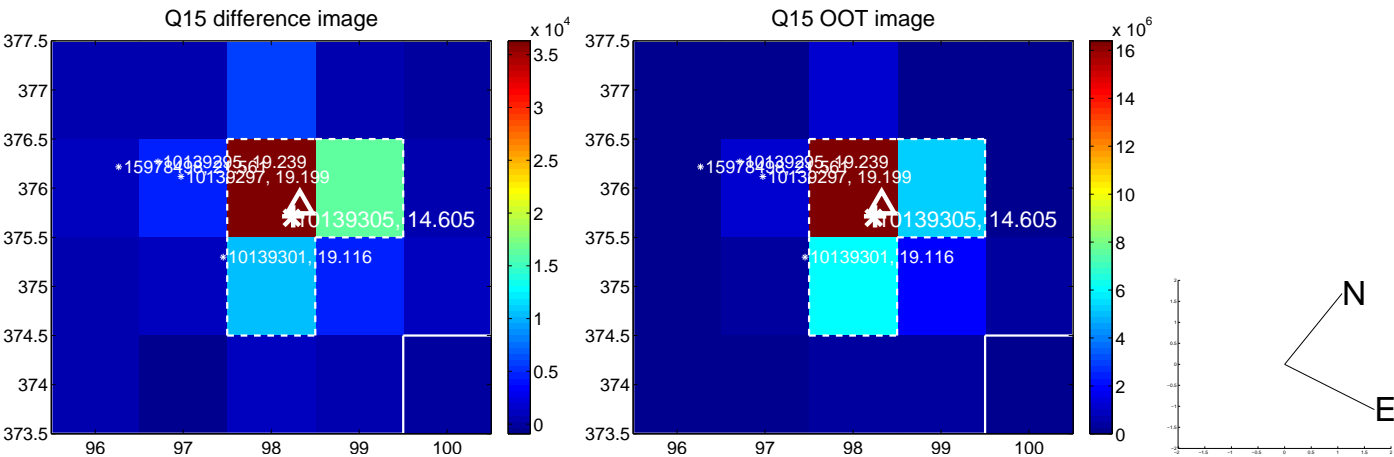
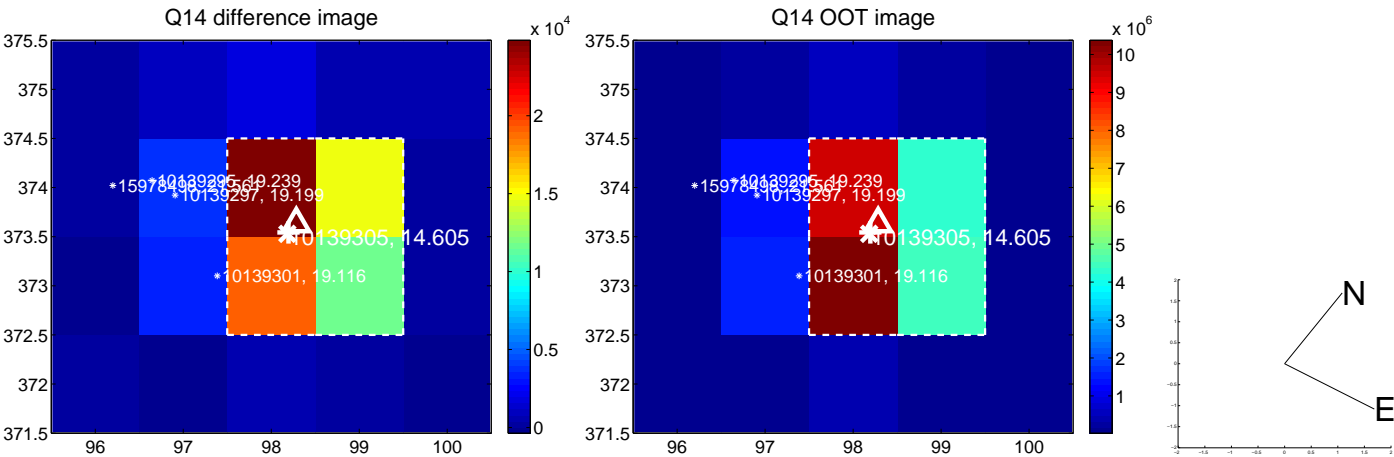
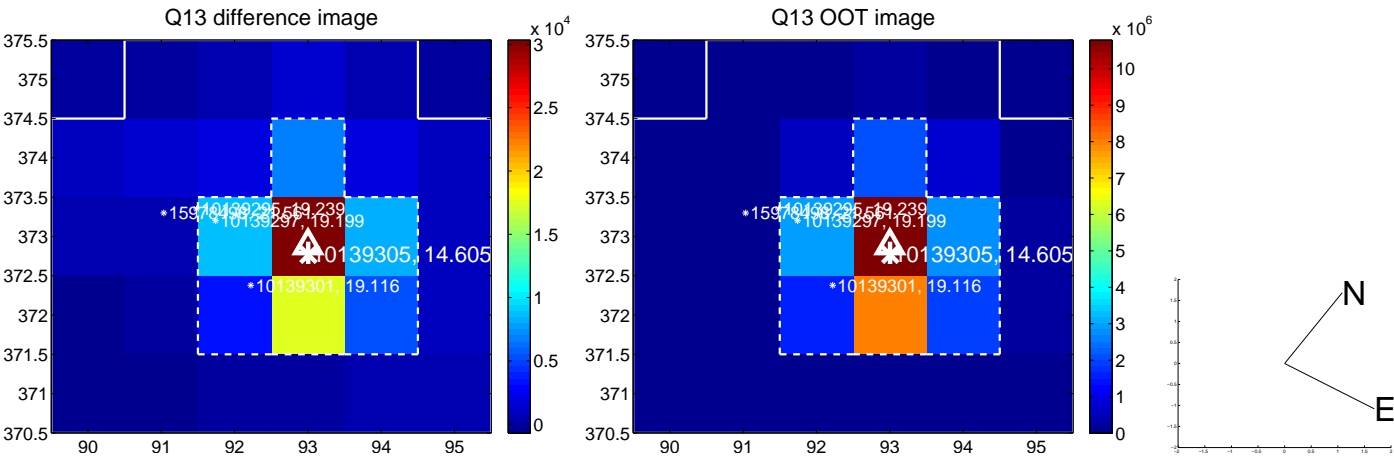
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



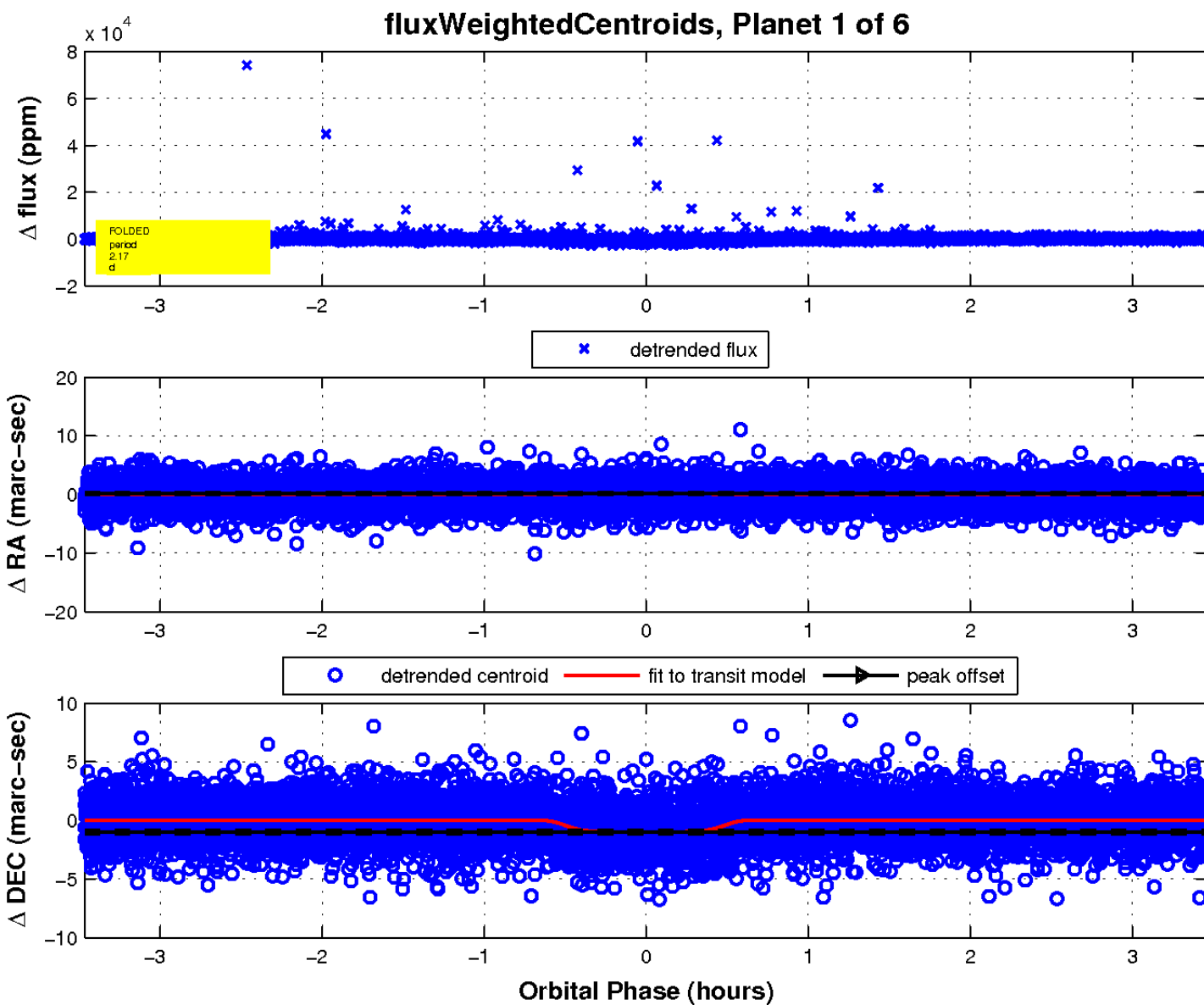
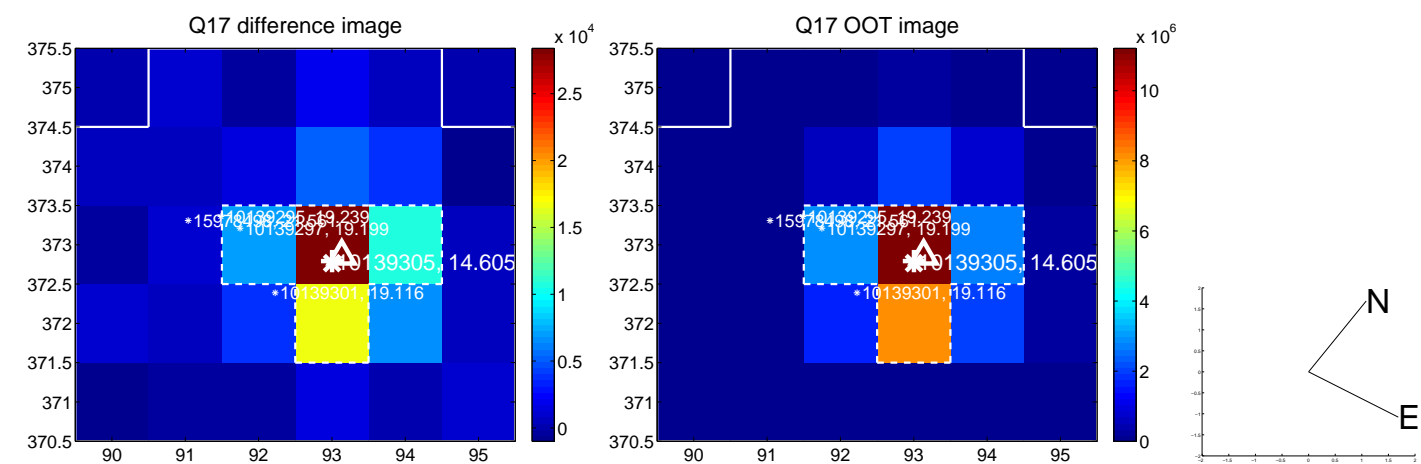
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

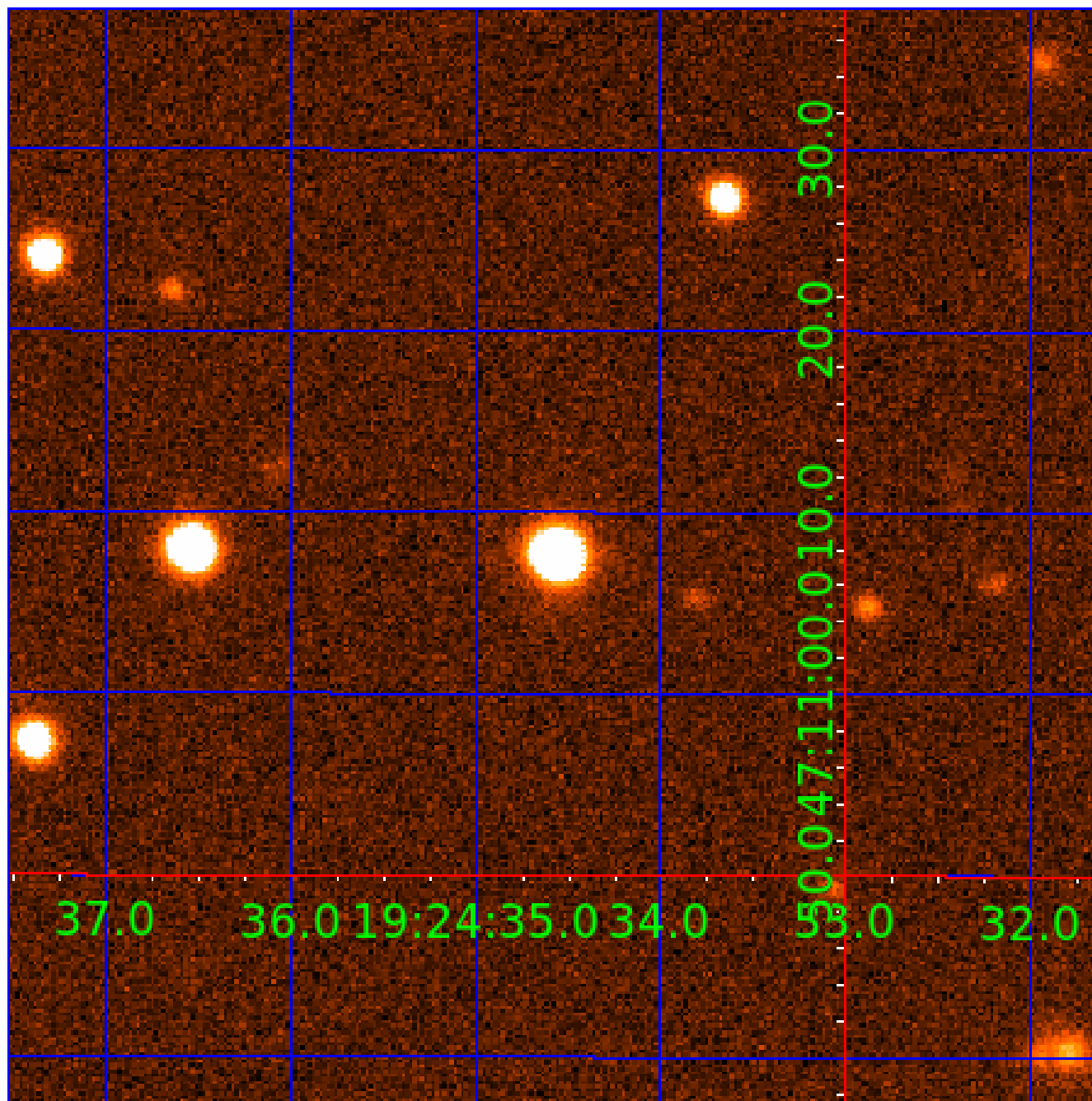


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010139305

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})
010139305-01	OBS	6077.01	2.173518	132.322411	604.2	1.155	28.4	33.6	0.59	5008	1.77	261.33
010139305-02	OBS	No	2.173576	133.130612	1301.0	0.705	30.0	62.7	0.59	5008	2.69	261.32
010139305-03	OBS	No	2.173543	131.713297	1.6	1.302	21.1	0.1	0.59	5008	0.08	261.33
010139305-04	OBS	No	2.173476	133.531715	165.9	6.528	13.0	11.1	0.59	5008	0.84	261.34
010139305-05	OBS	No	164.269813	183.095527	533.7	10.550	21.0	3.2	0.59	5008	1.48	0.82
010139305-06	OBS	No	2.173542	132.835994	1014.7	1.500	12.0	-1.0	0.59	5008	1.87	261.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010139305-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010139305-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
010139305-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
010139305-04	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
010139305-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010139305-06	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

Ephemeris Match Information For 010139305-02

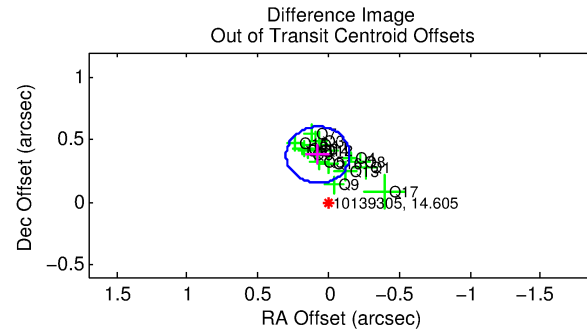
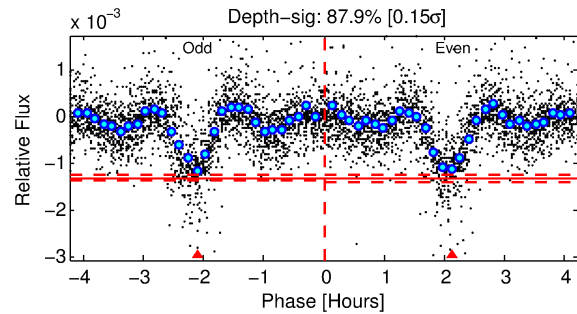
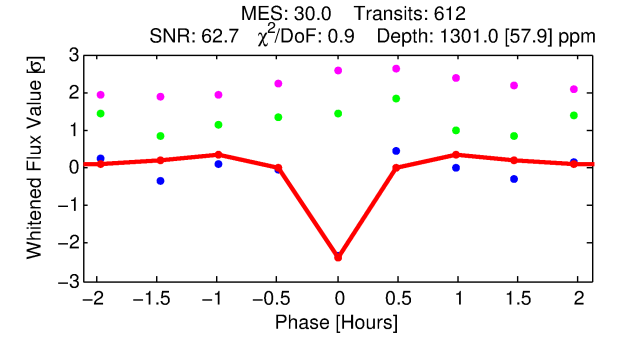
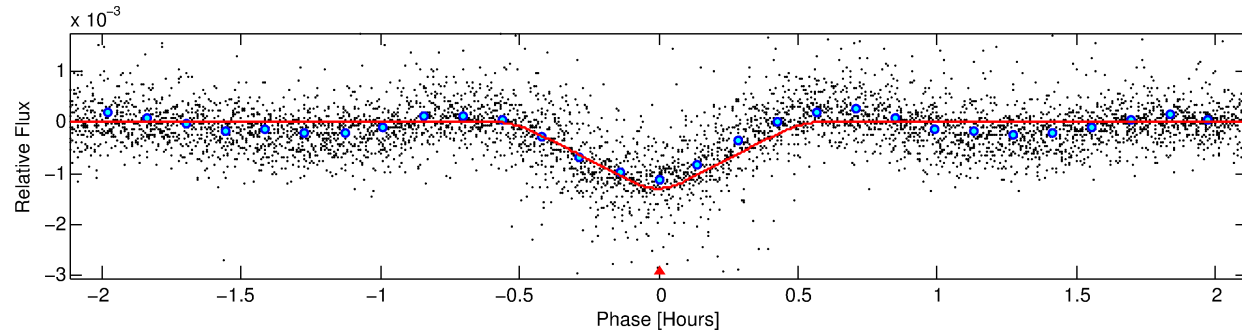
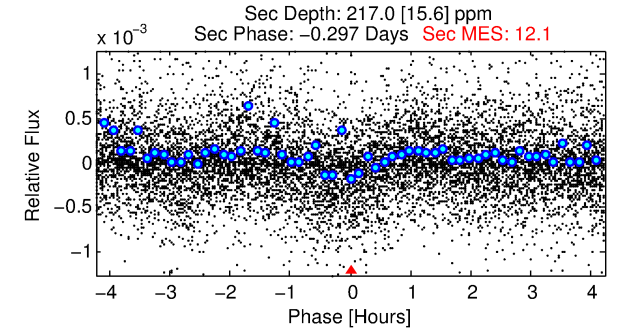
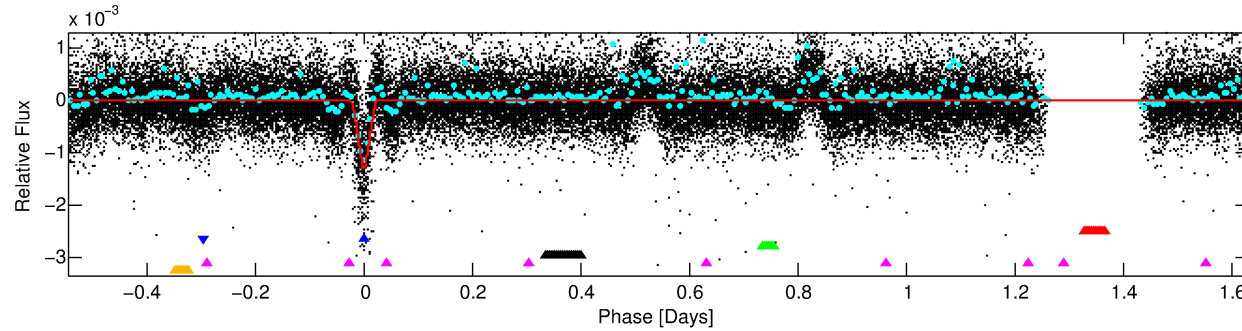
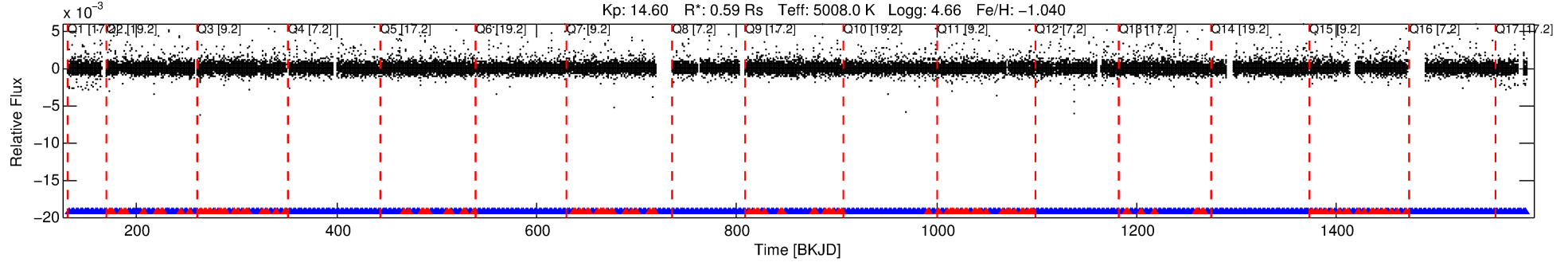
No Significant Match Found

DV One-Page Summary

KIC: 10139305 Candidate: 2 of 6 Period: 2.174 d

KOI: K06077 Corr: No Ephemeris Match

Kp: 14.60 R*: 0.59 Rs Teff: 5008.0 K Logg: 4.66 Fe/H: -1.040



DV Fit Results:

Period = 2.17358 [0.00000] d
Epoch = 133.1306 [0.0002] BKJD
Rp/R* = 0.0415 [0.0045]
a/R* = 12.09 [4.55]
b = 0.91 [0.08]
Seff = 261.32 [43.52]
Teq = 1025 [43] K
Rp = 2.69 [0.35] Re
a = 0.0276 [0.0018] AU
Ag = 12.58 [3.16] [3.67σ]
Teffp = 2986 [198] K [9.67σ]

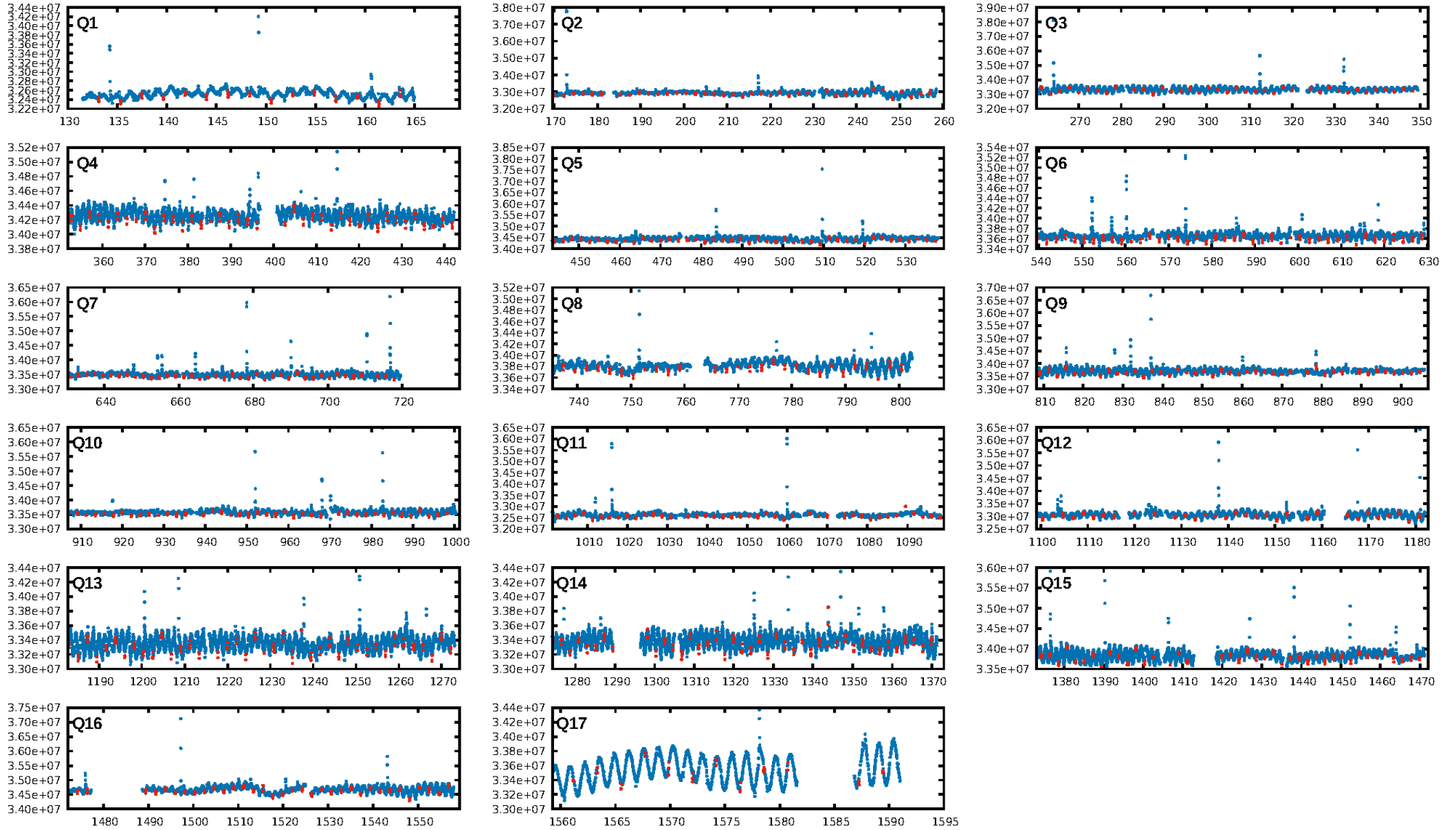
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [367.91σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.78 [457/585]
GhostDiagnostic-chr: 1.379
Centroid-sig: 0.0%
Centroid-so: 0.910 arcsec [6.20σ]
OotOffset-rm: 0.386 arcsec [5.13σ]
KicOffset-rm: 0.438 arcsec [5.82σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.71 [12/17]

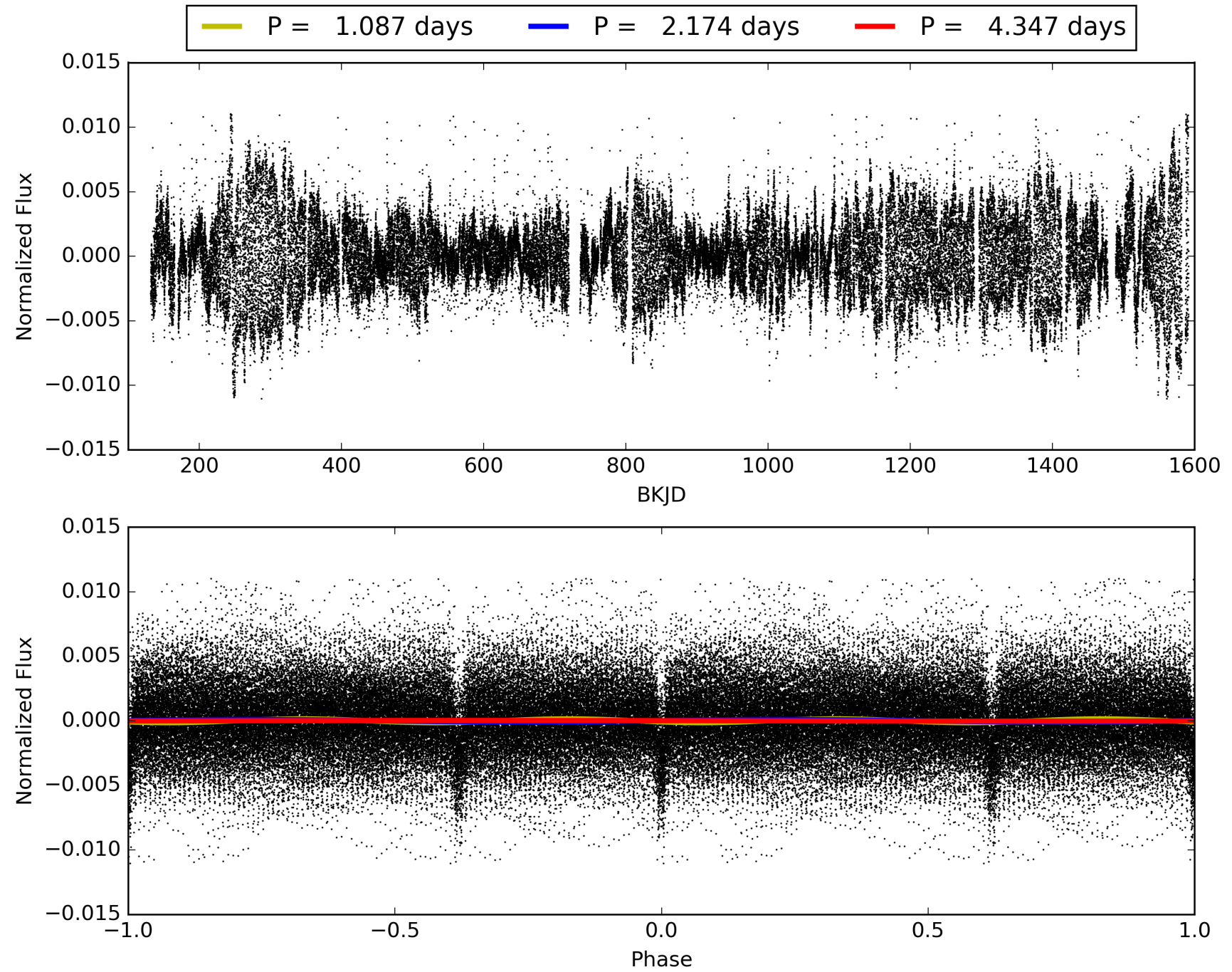
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:56:51 Z

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

TCE 010139305-02, PDC Light Curves

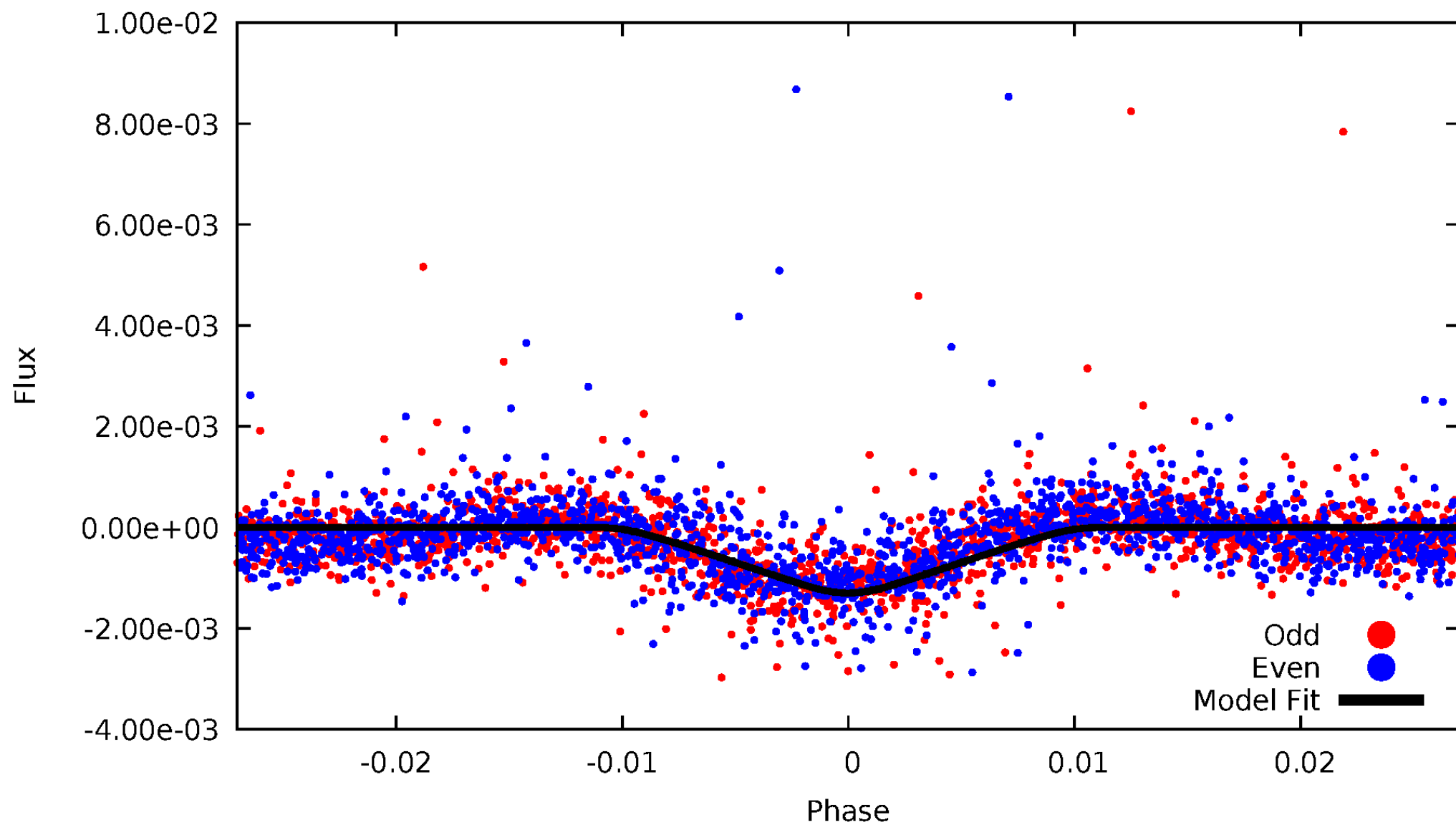


TCE 010139305-02



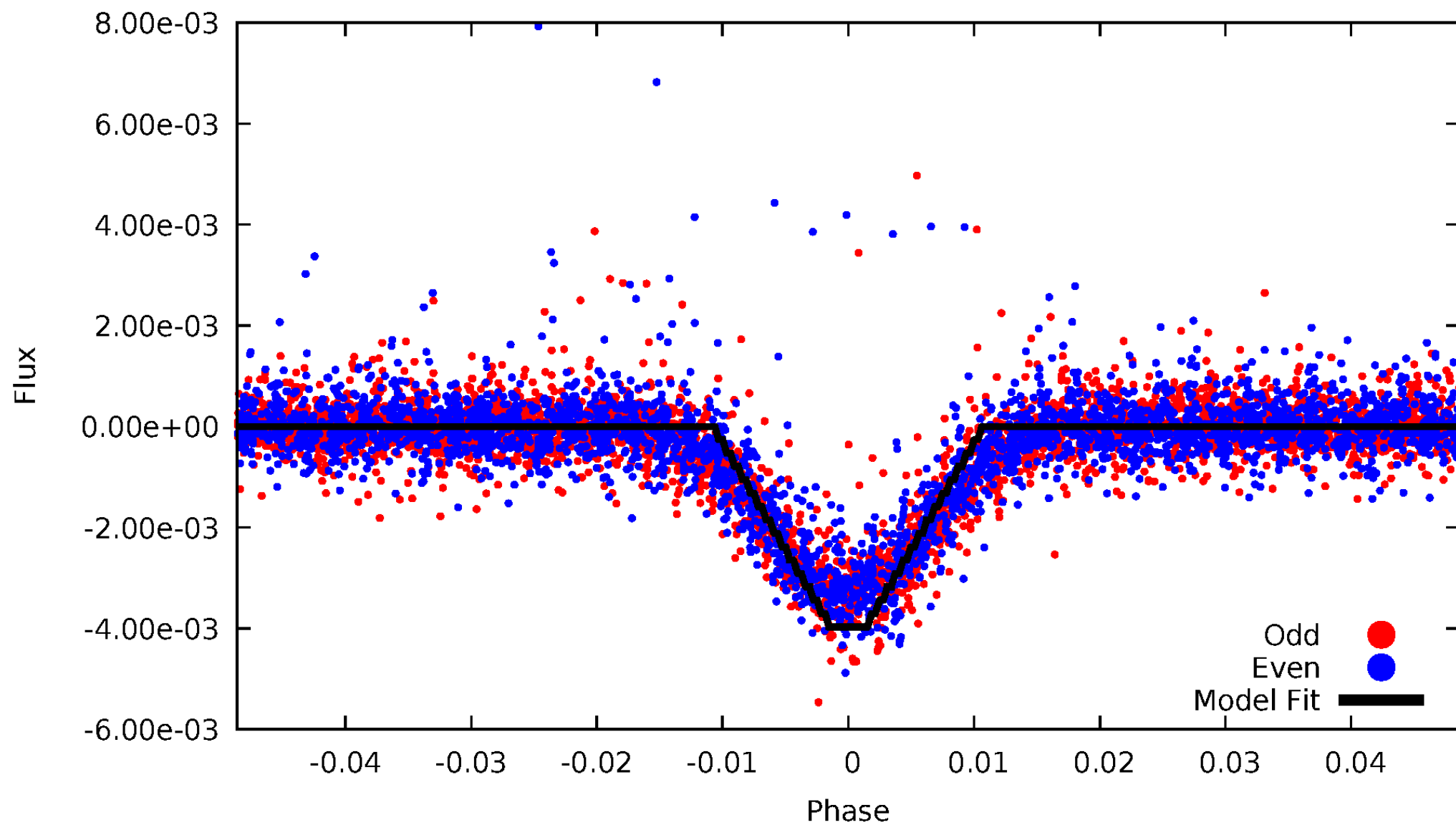
DV Odd/Even

TCE 010139305-02



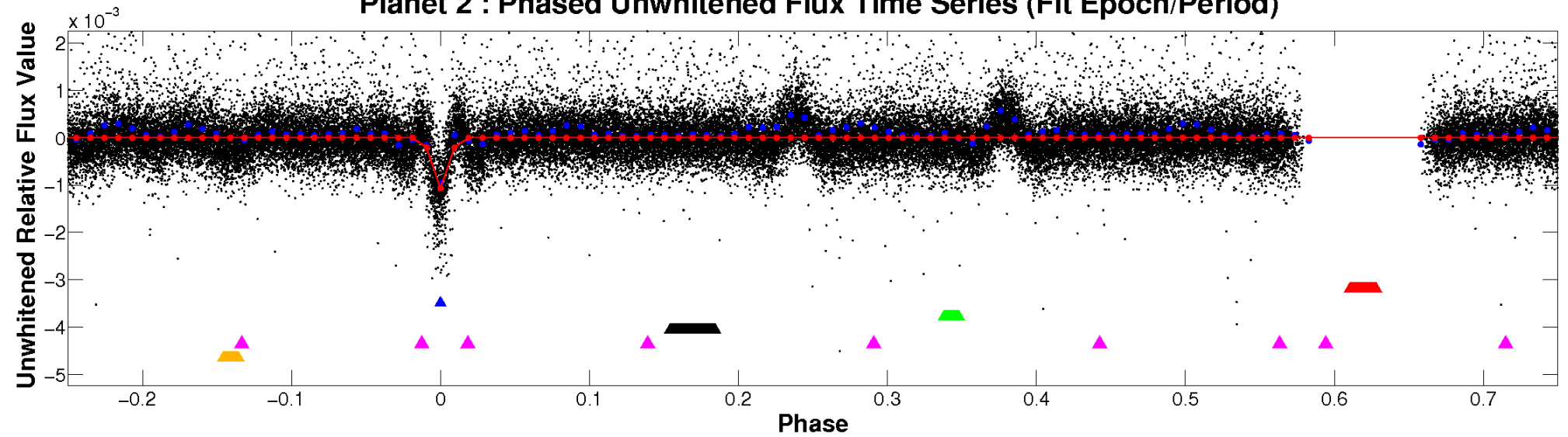
ALT Odd/Even

TCE 010139305-02

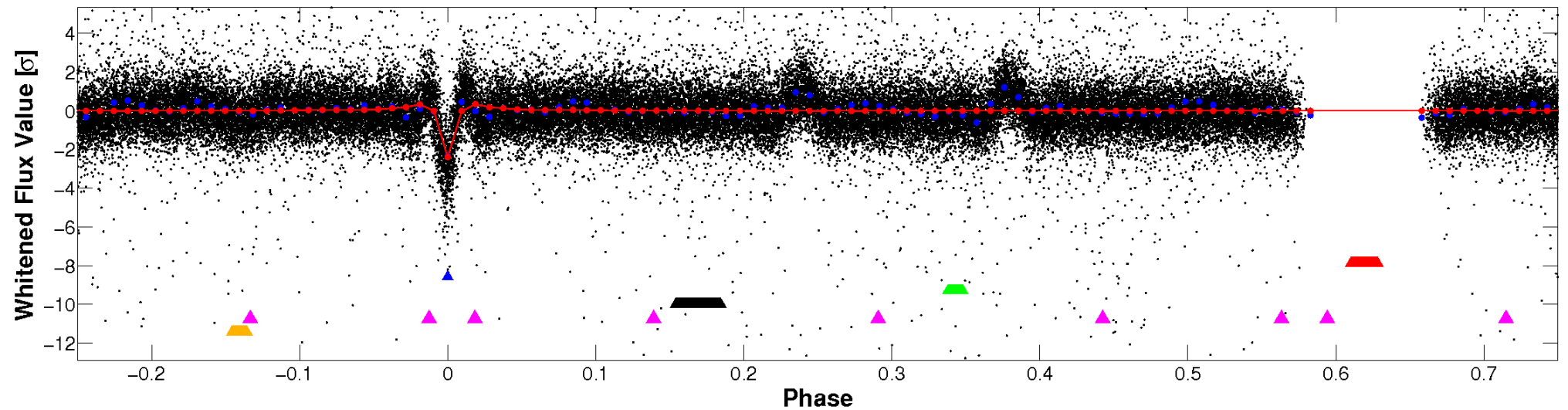


Non-Whitened Vs. Whitened Light Curve

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

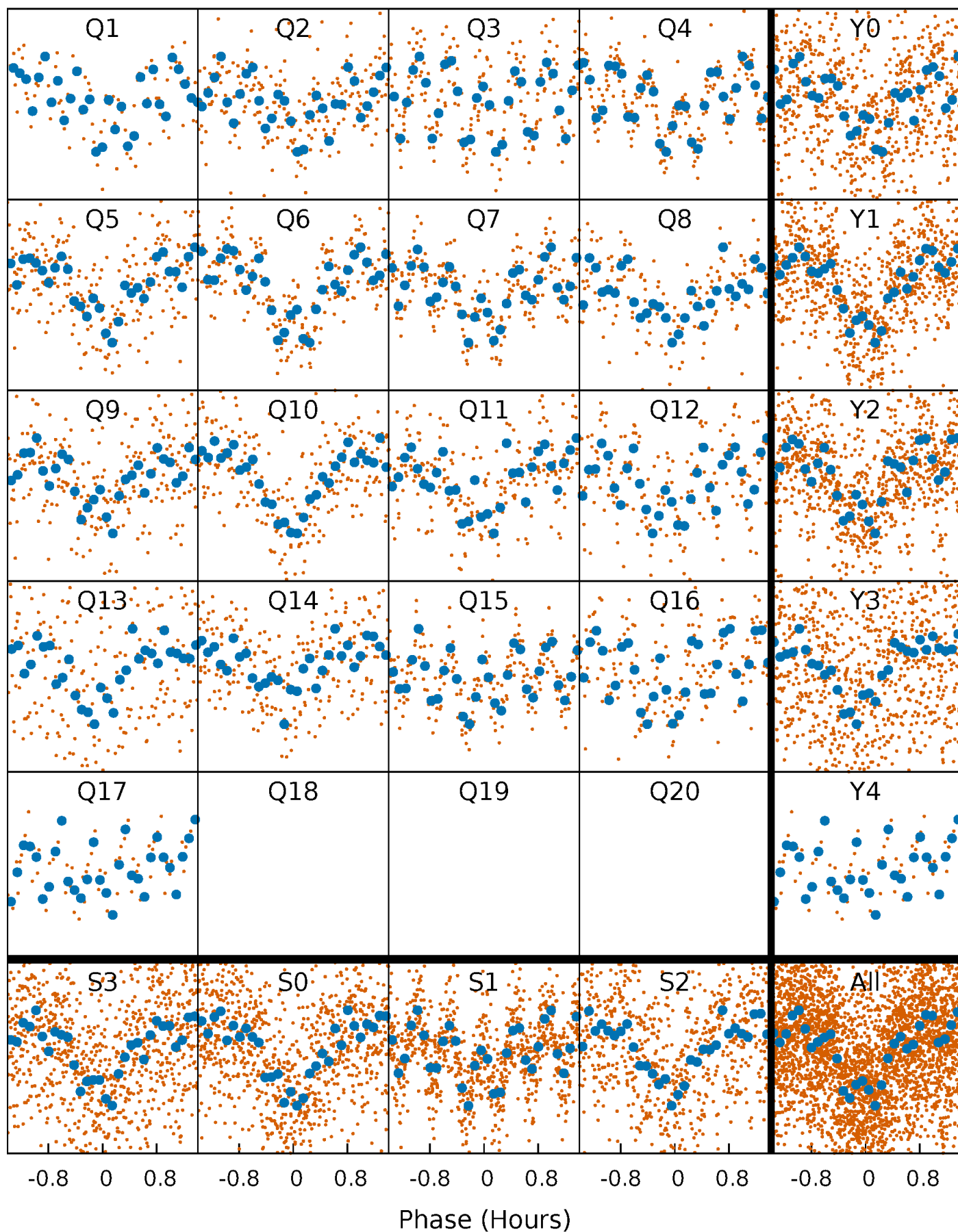


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



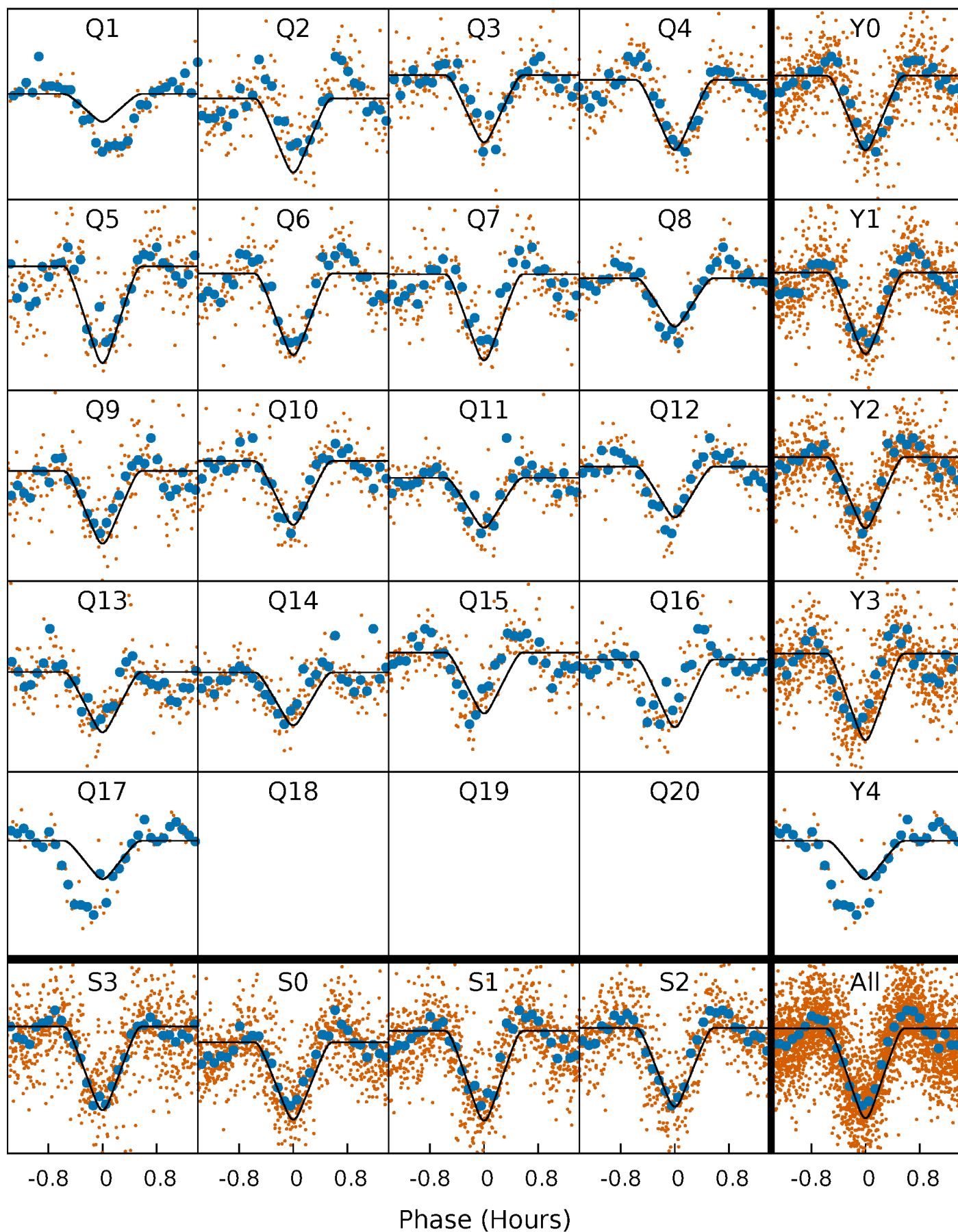
PDC Quarter-Phased Transit Curves

TCE 010139305-02 P= 2.173576 Days $T_0=133.130612$ (BKJD)



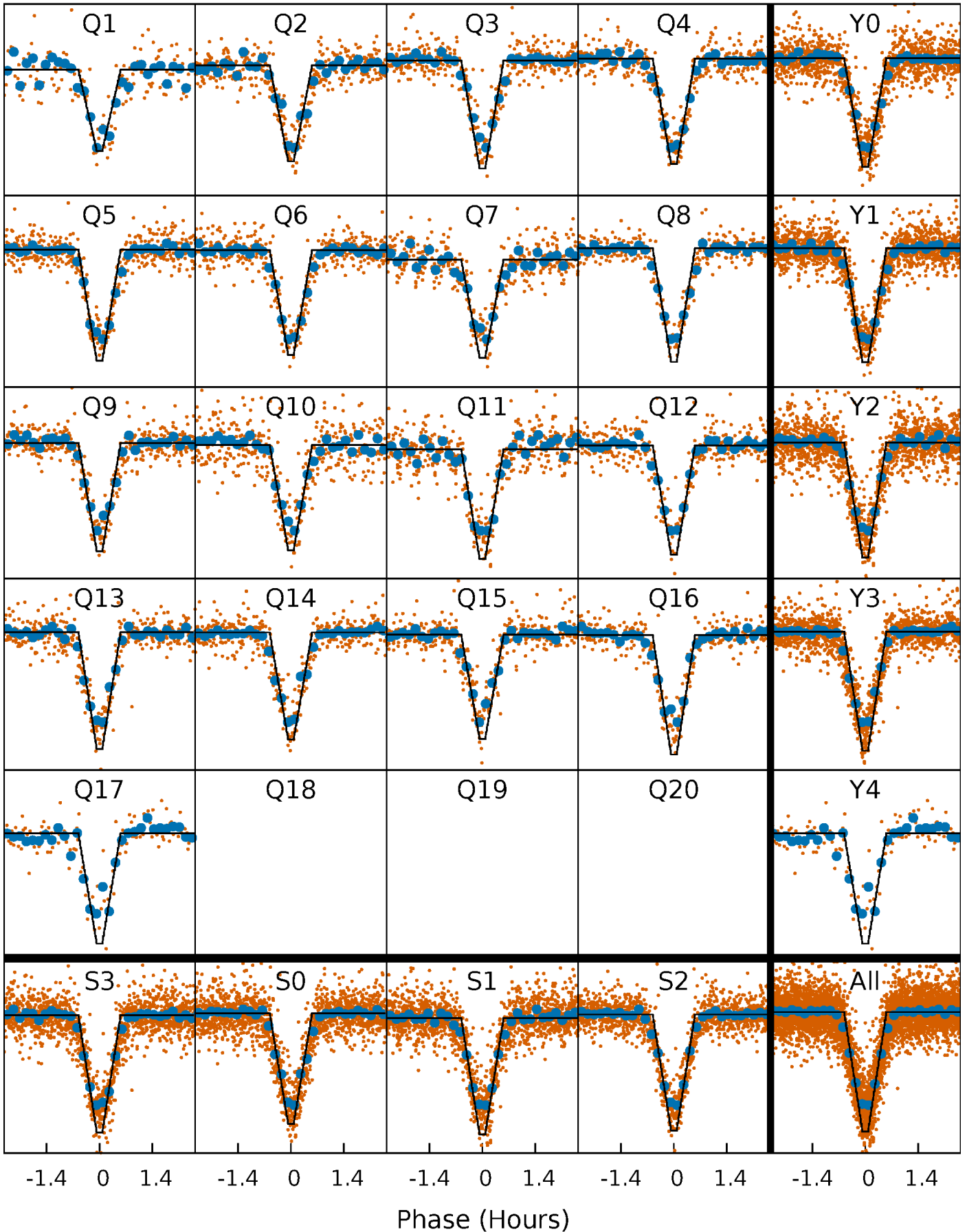
DV Quarter-Phased Transit Curves

TCE 010139305-02 $P = 2.173576$ Days $T_0 = 133.130612$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

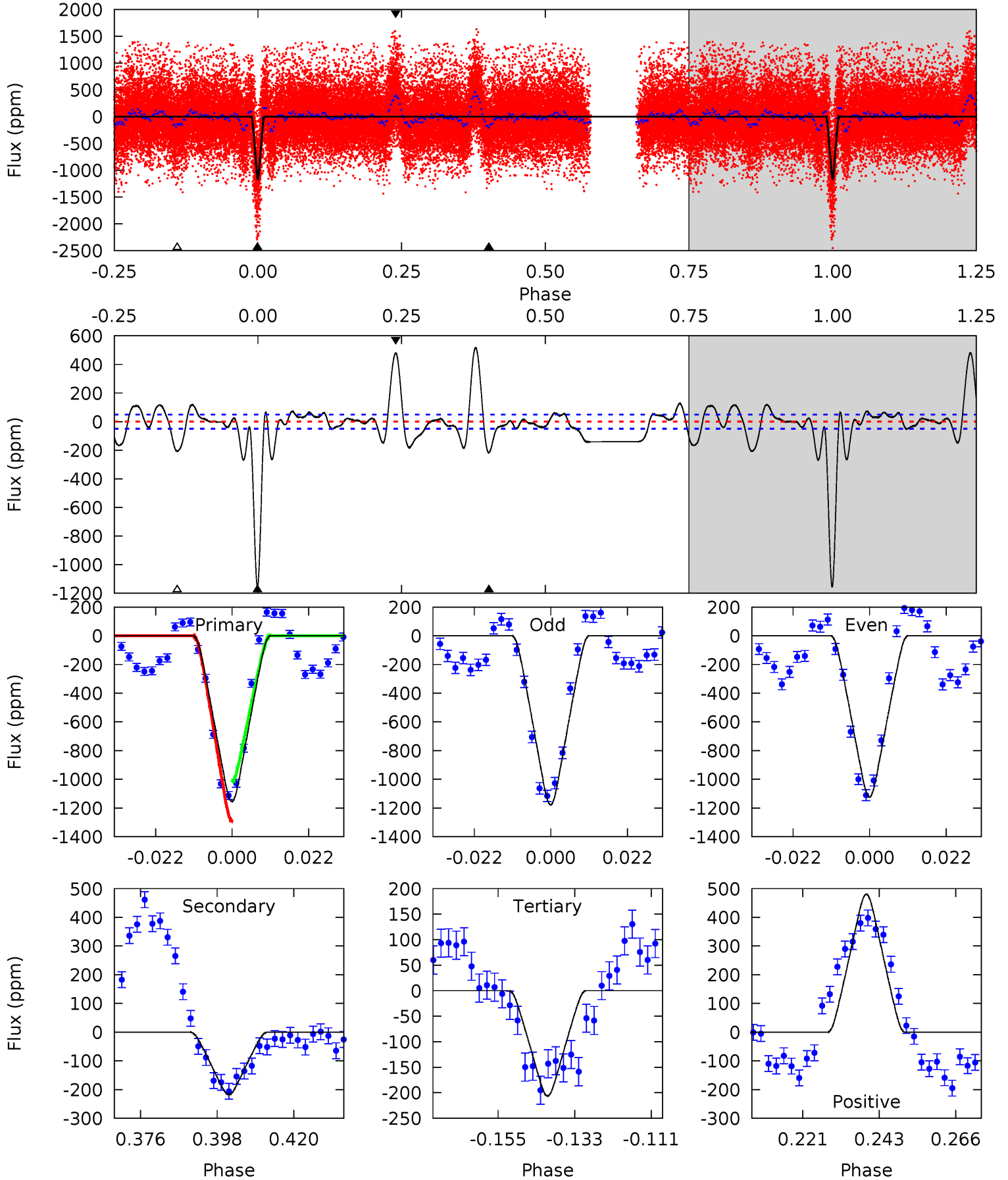
TCE 010139305-02 P= 2.173561 Days $T_0=133.133770$ (BKJD)



DV Model-Shift Uniqueness Test

010139305-02, P = 2.173576 Days, E = 130.957036 Days

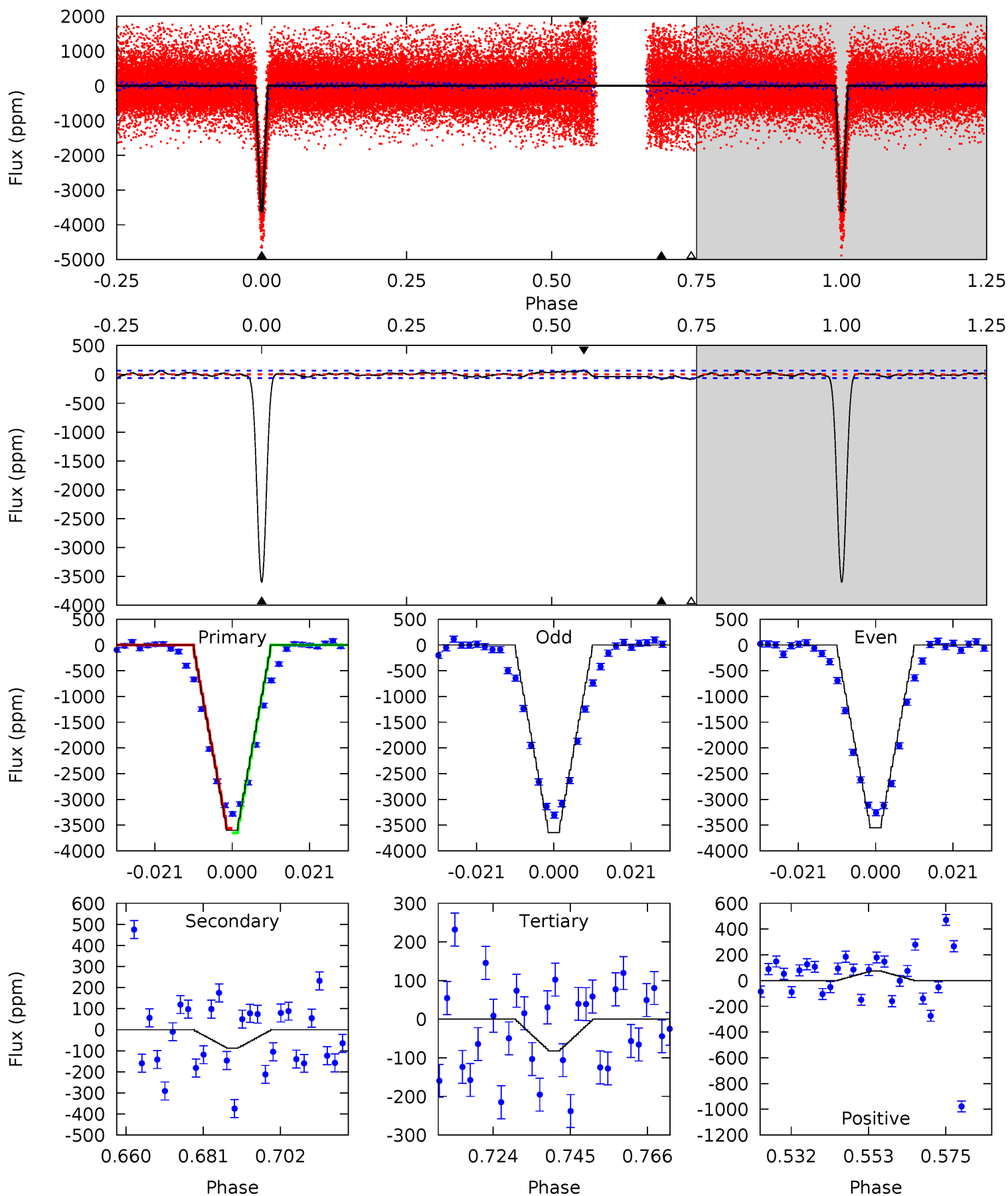
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
114.1	21.5	20.4	47.5	4.87	2.29	10.8	93.7	66.6	1.12	-26.0	2.66	0.94	0.31	13.4



Alt Model-Shift Uniqueness Test

010139305-02, P = 2.173561 Days, E = 130.960209 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
272.9	6.68	6.24	5.54	4.88	2.30	2.10	266.6	267.3	0.44	1.14	3.58	0.98	0.02	0



Stellar Parameters For KIC 010139305

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5008^{+166}_{-151}	$4.663^{+0.058}_{-0.036}$	$-1.040^{+0.300}_{-0.300}$	$0.594^{+0.042}_{-0.038}$	$0.592^{+0.052}_{-0.022}$	$3.983^{+0.856}_{-0.542}$
	+3%/-3%	+1%/-1%	+29%/-29%	+7%/-6%	+9%/-4%	+21%/-14%
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 010139305-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-218 ± 10	$2.67^{+0.33}_{-0.31}$	1427^{+49}_{-46}	3433^{+159}_{-138}	13^{+4}_{-3}
Alt.	-88 ± 13	$4.06^{+0.34}_{-0.32}$	1428^{+54}_{-52}	2643^{+96}_{-95}	$2.239^{+0.586}_{-0.463}$

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

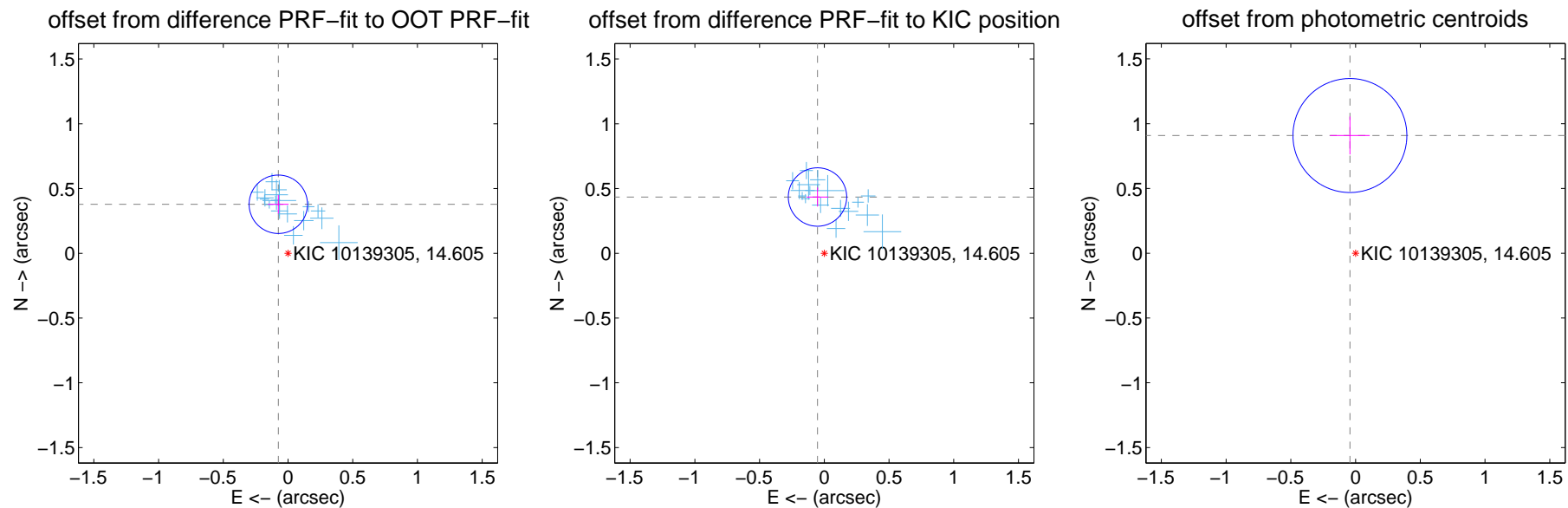
DV Centroid Data

Supplemental centroid analysis for 010139305-02. Kepler magnitude: 14.61. Transit SNR 62.68

There are 17 quarters with good PRF difference image offsets

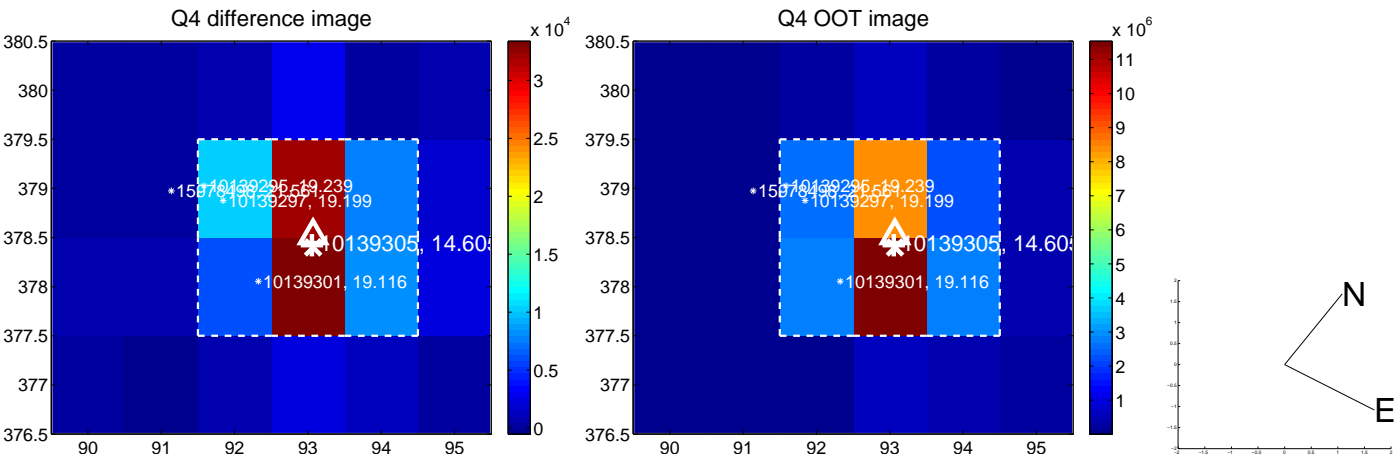
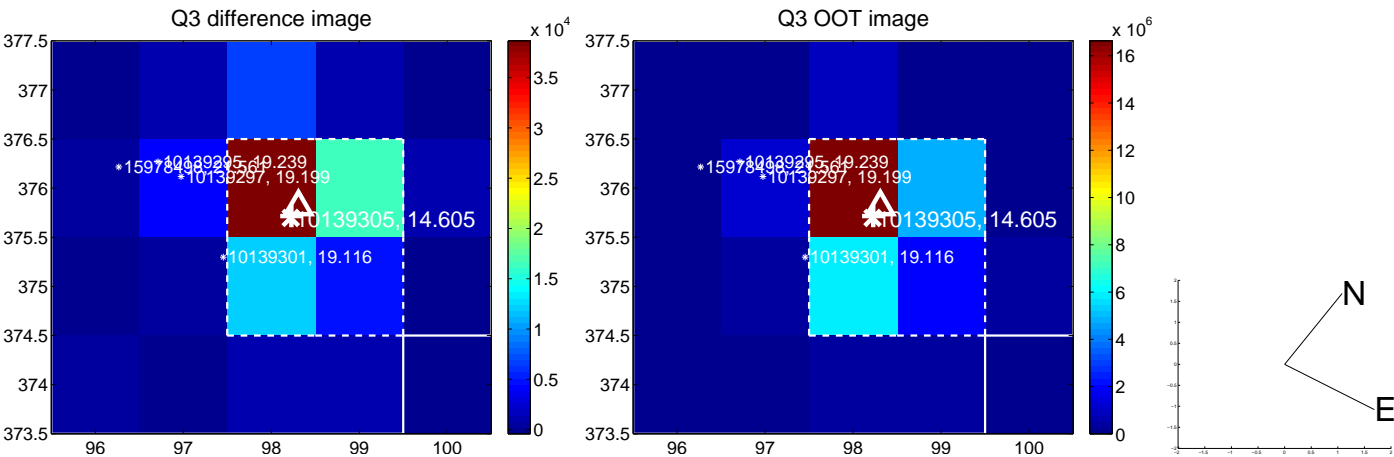
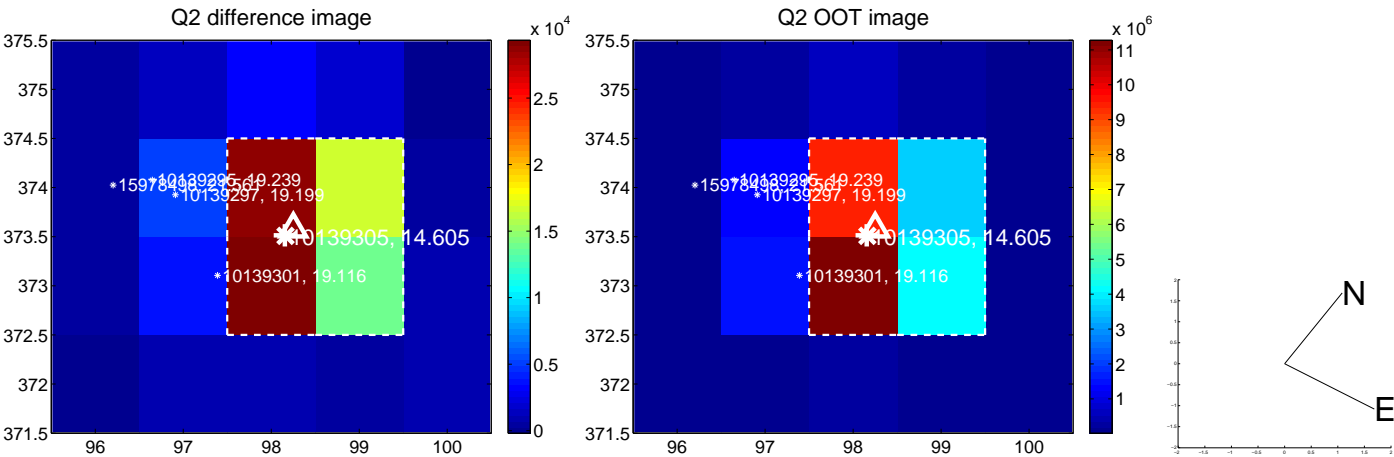
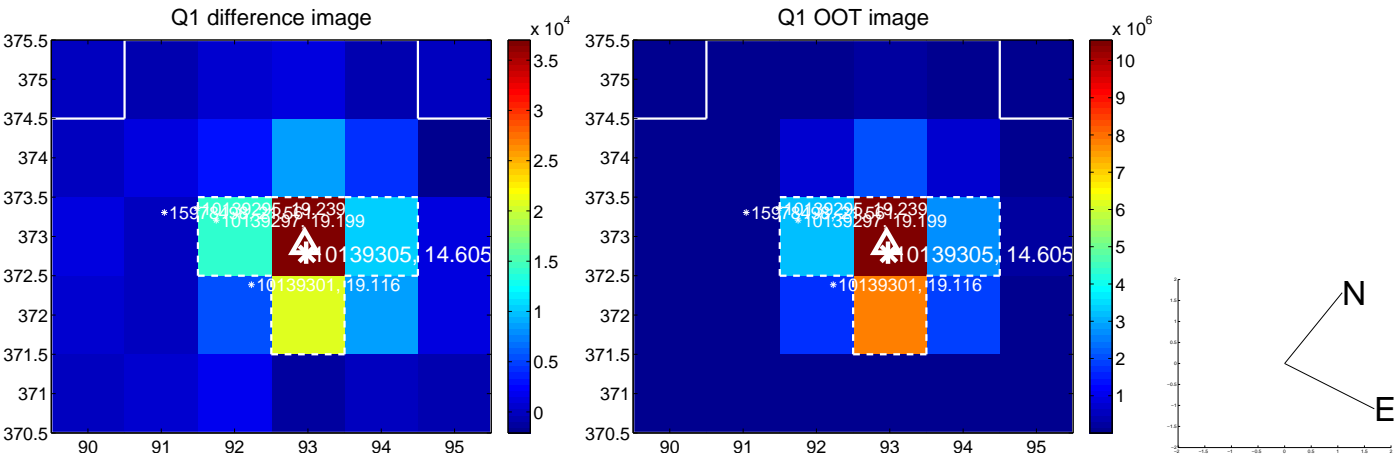
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.386 ± 0.075	5.13	0.075 ± 0.079	0.378 ± 0.073
PRF-fit source offset from KIC position	0.438 ± 0.075	5.82	0.053 ± 0.083	0.434 ± 0.073
photometric centroid source offset	0.91 ± 0.15	6.20	0.04 ± 0.15	0.91 ± 0.15

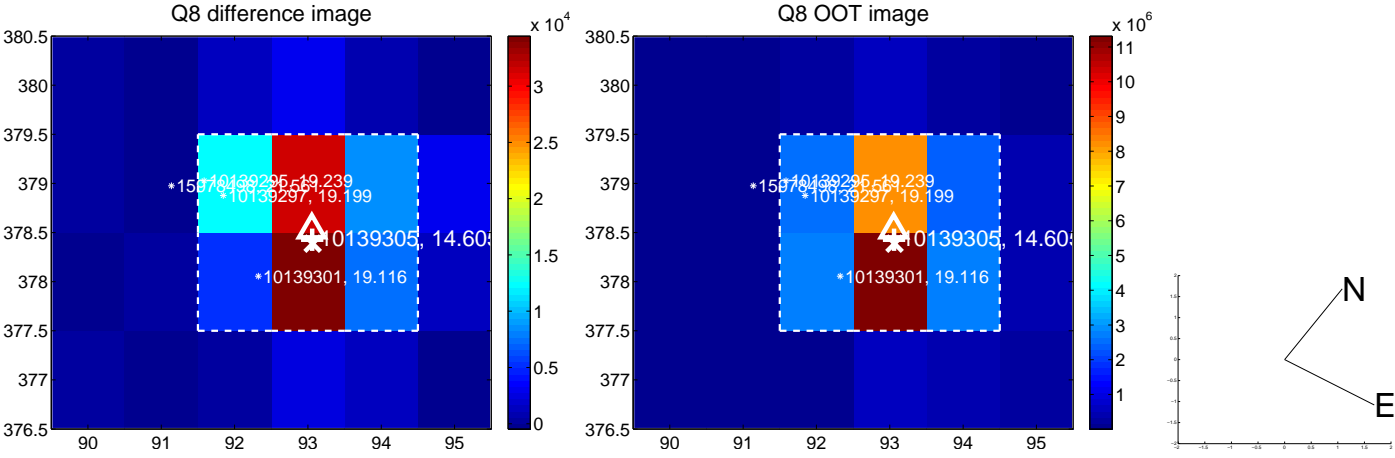
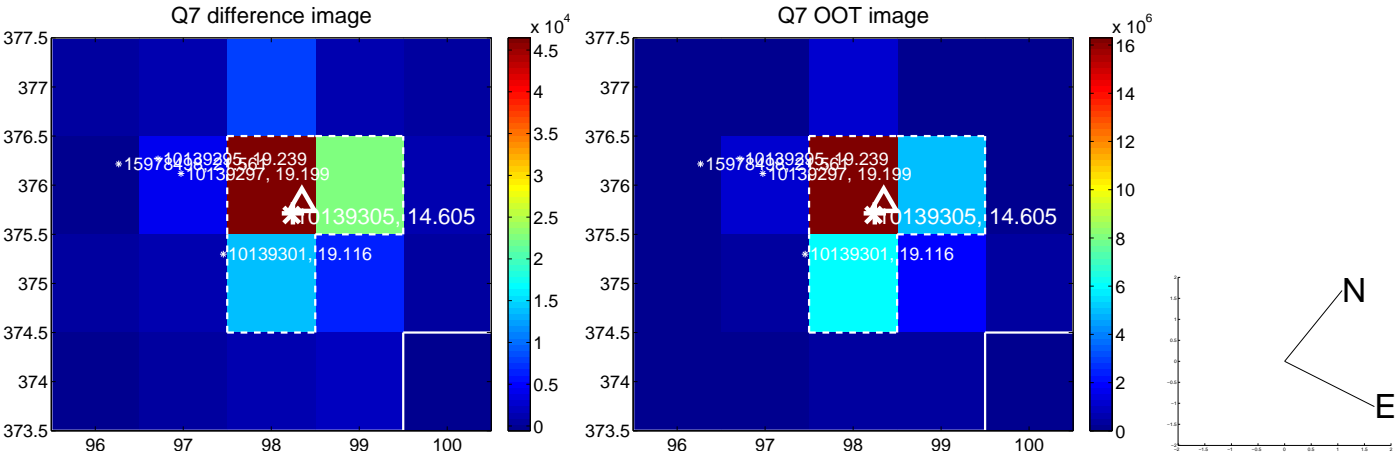
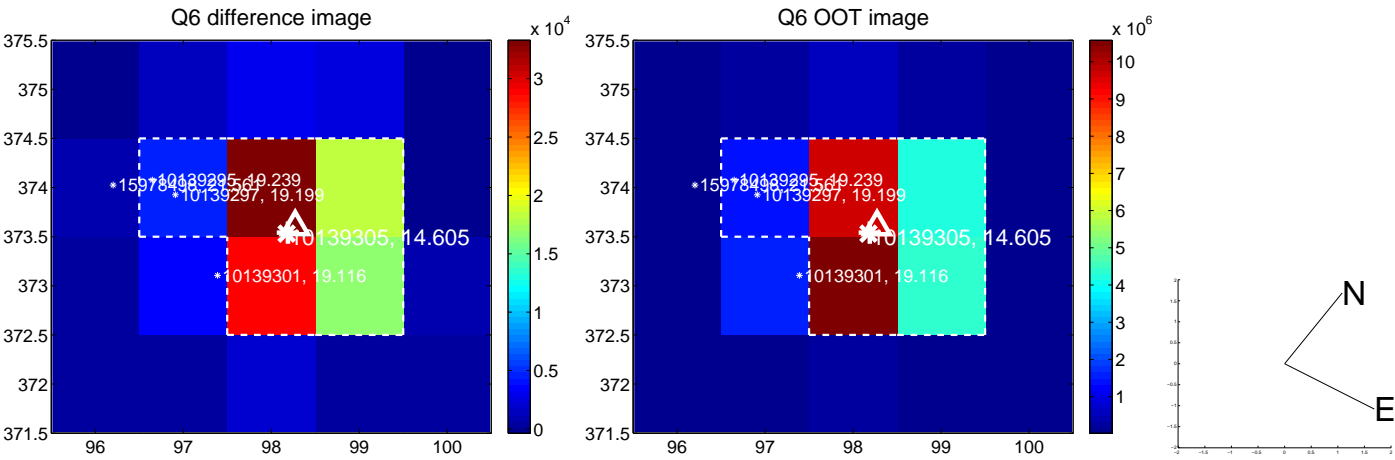
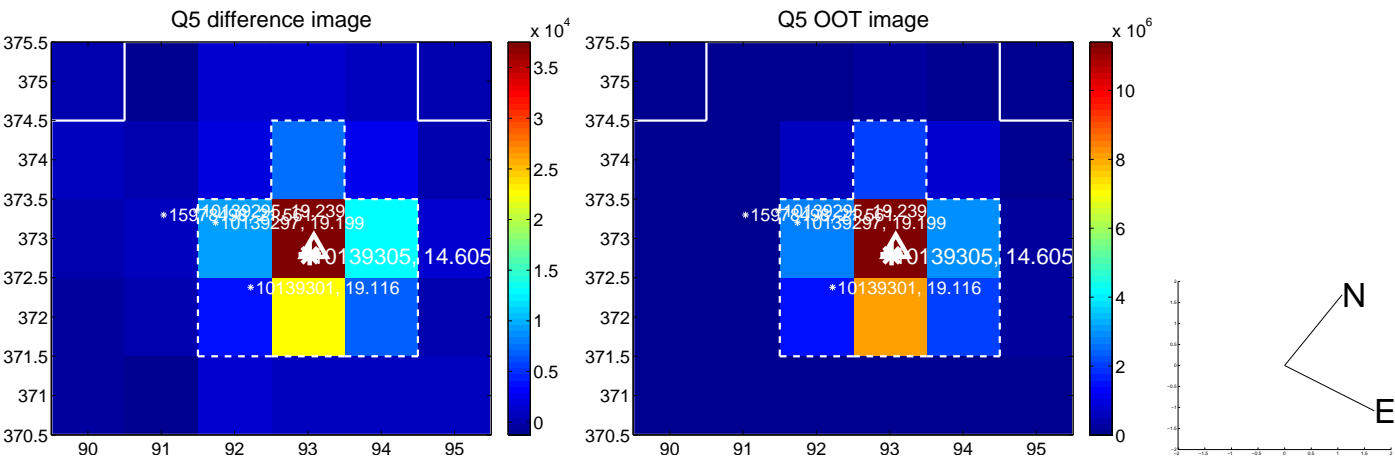


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

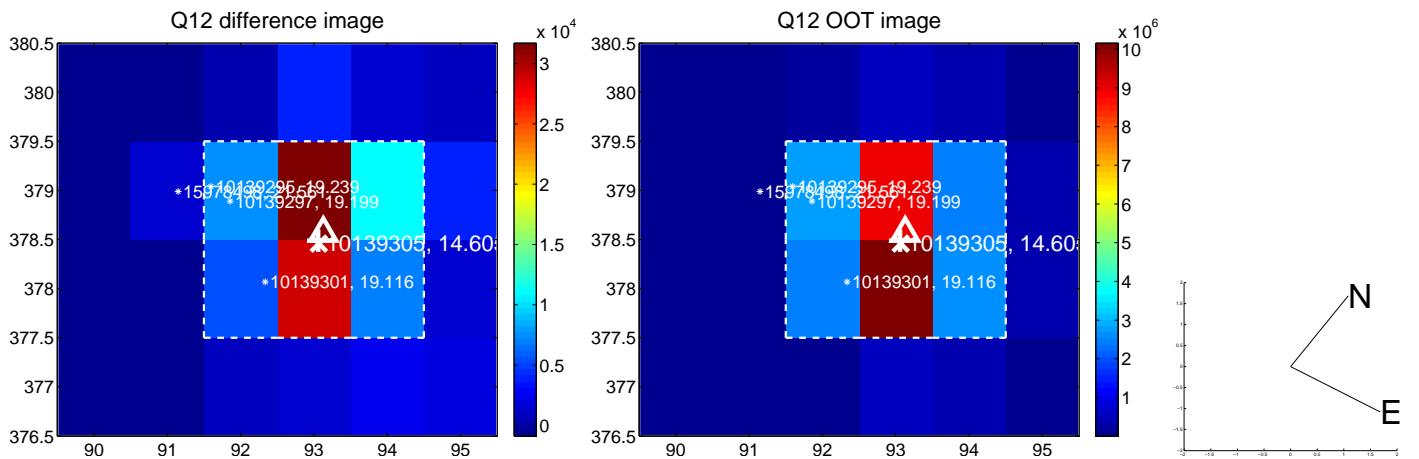
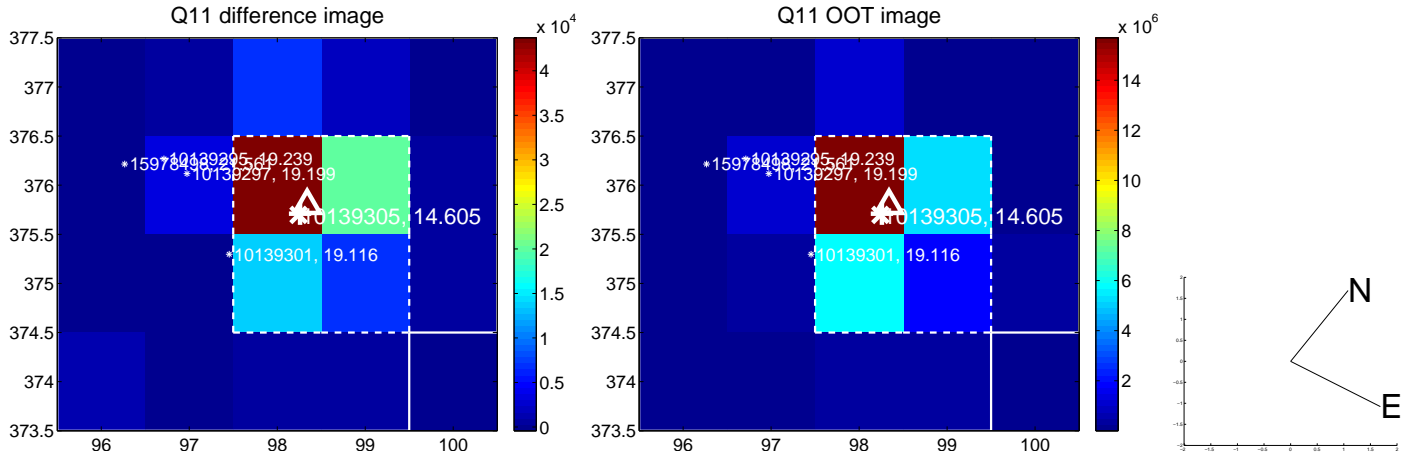
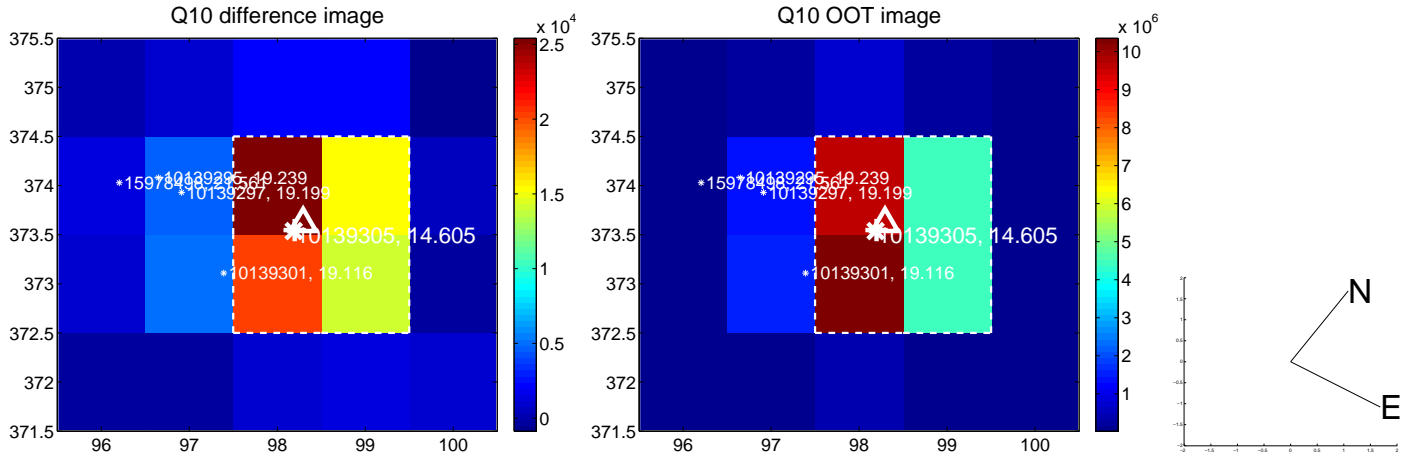
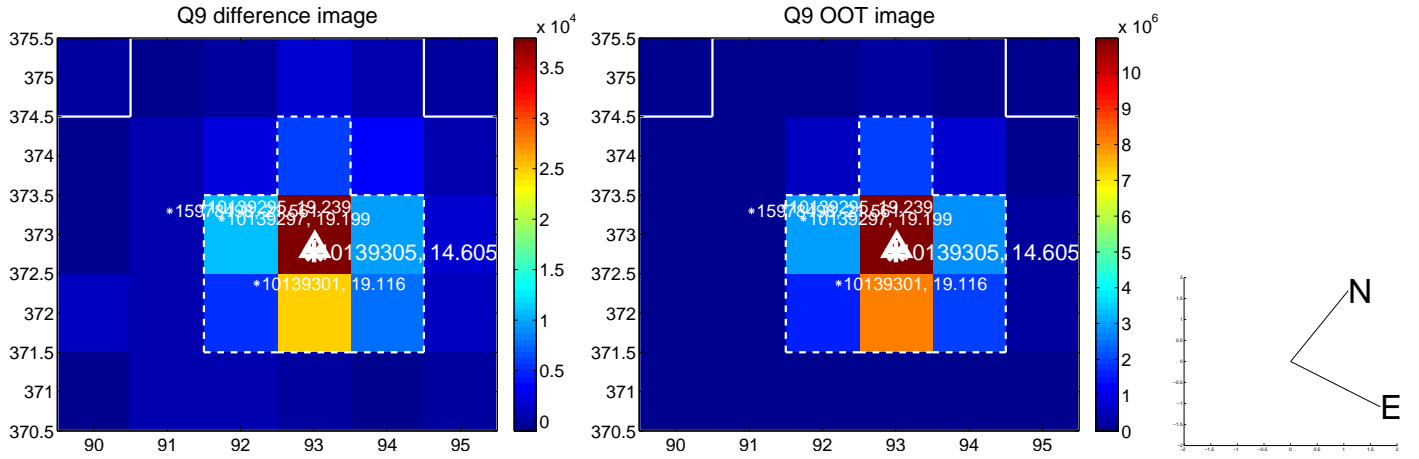
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



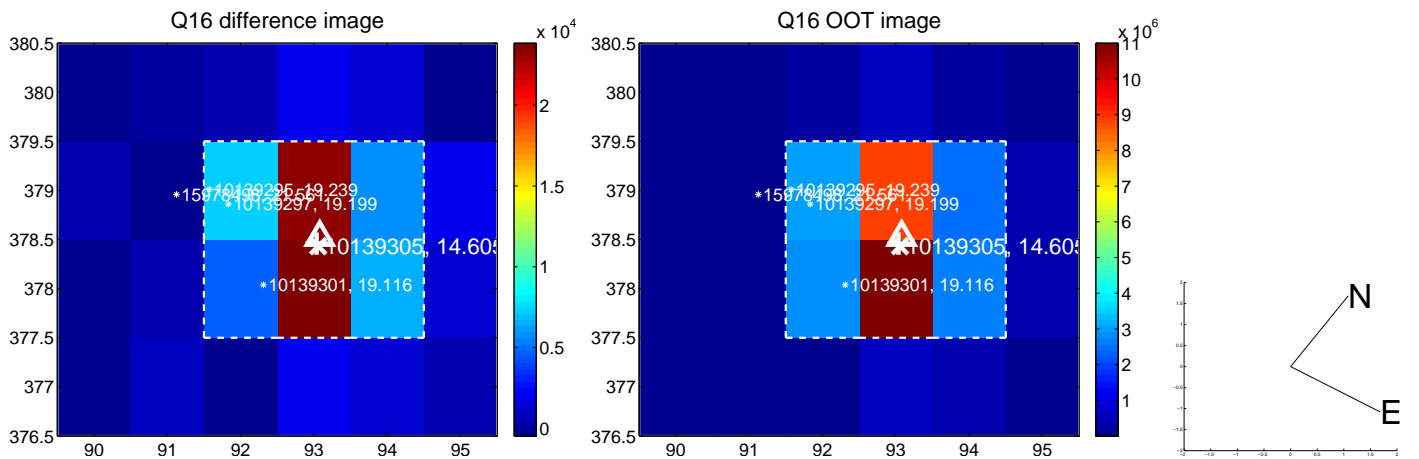
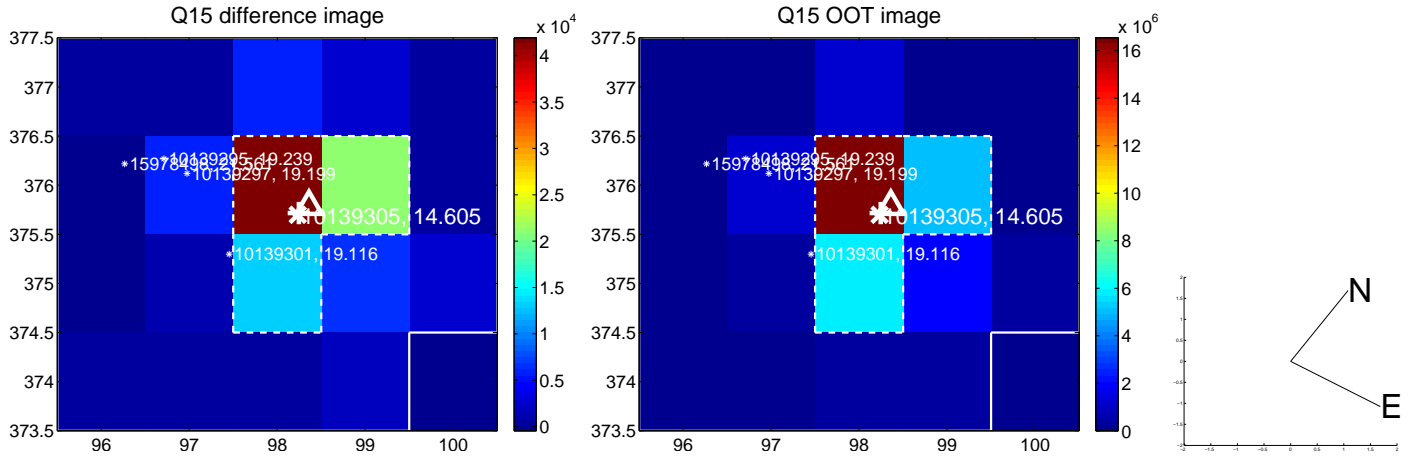
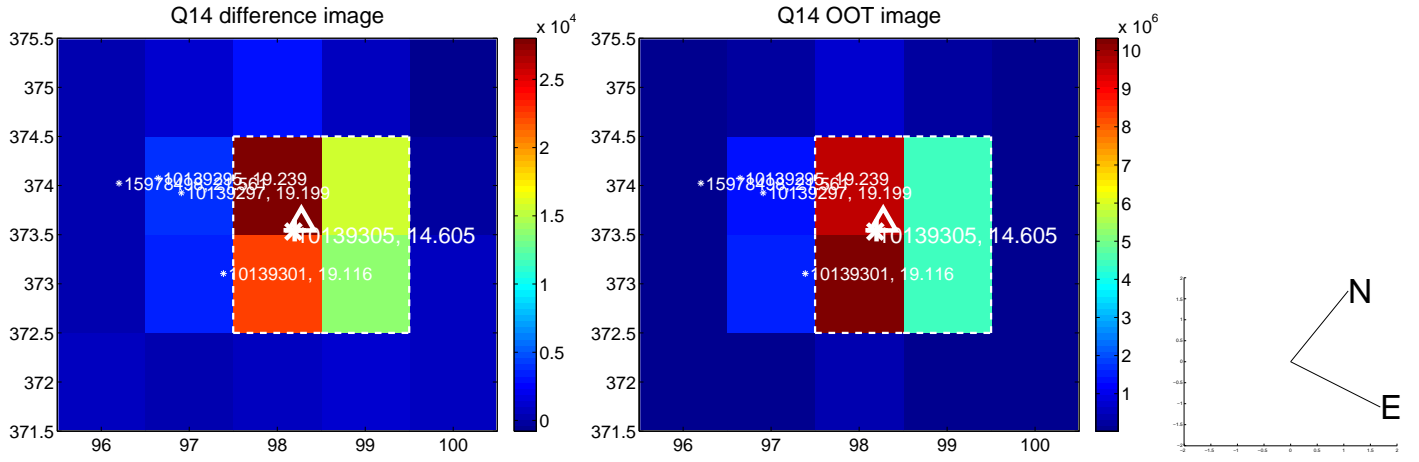
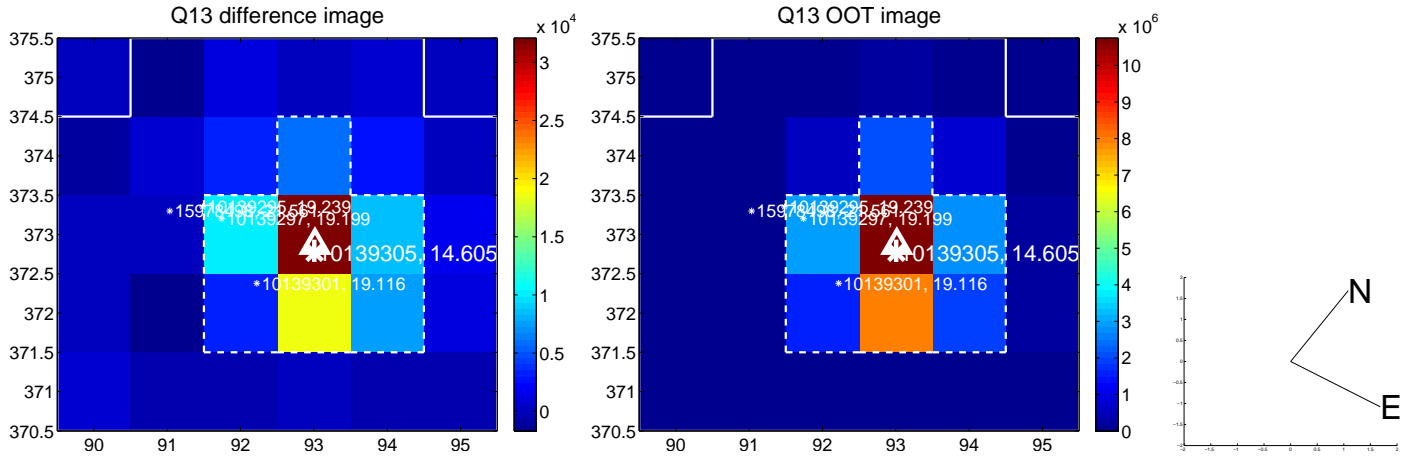
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



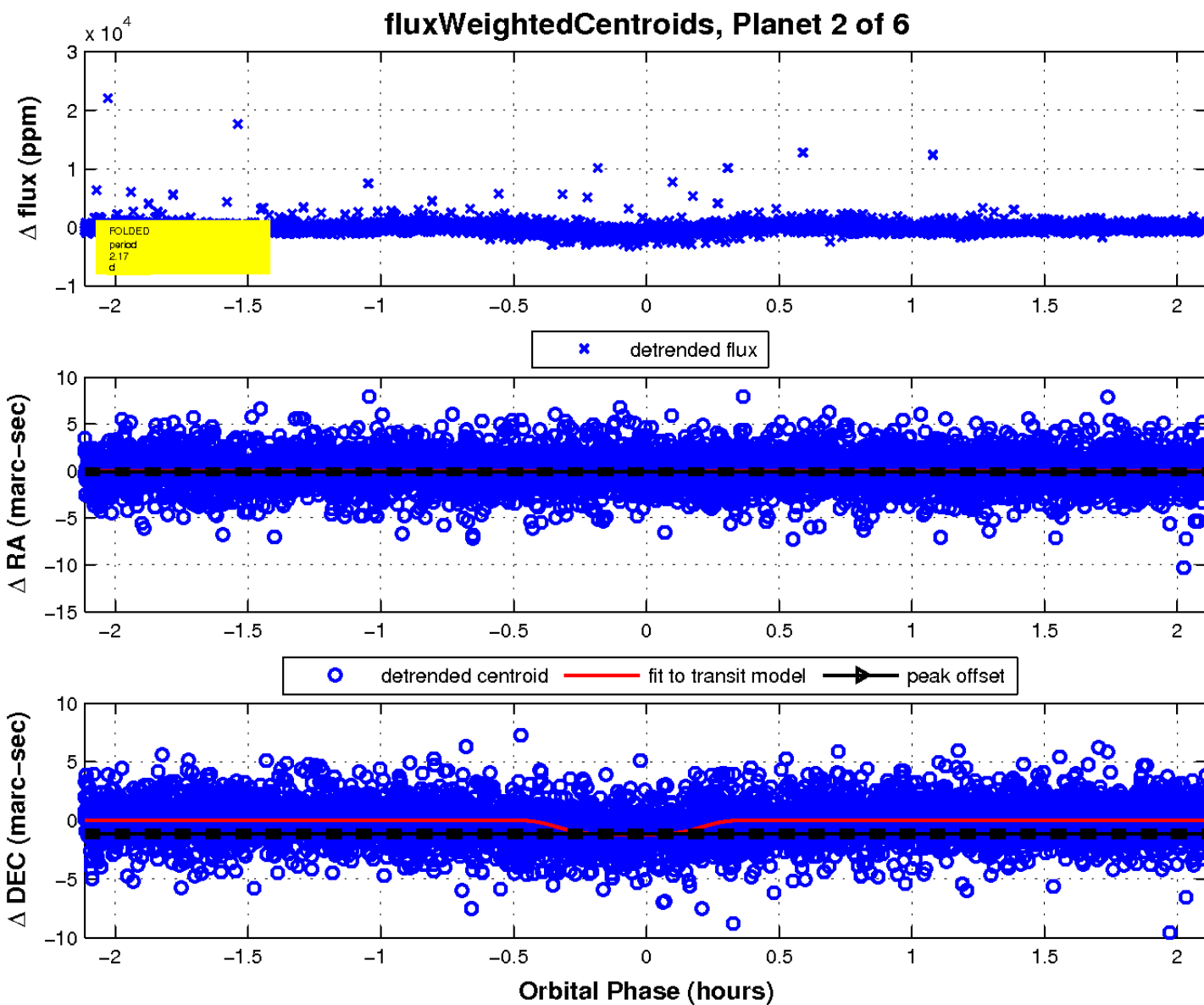
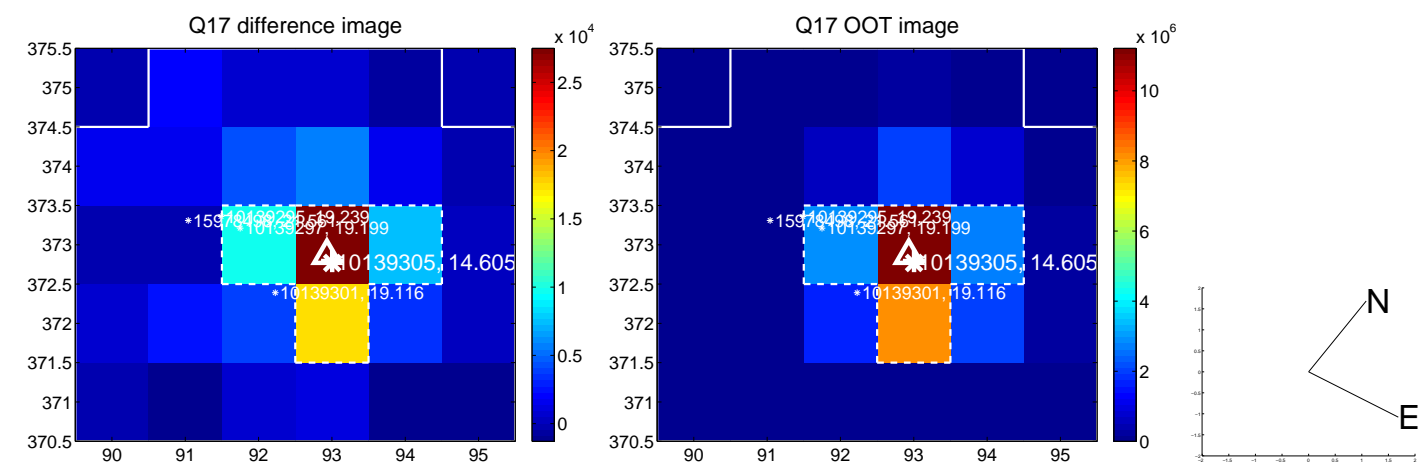
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

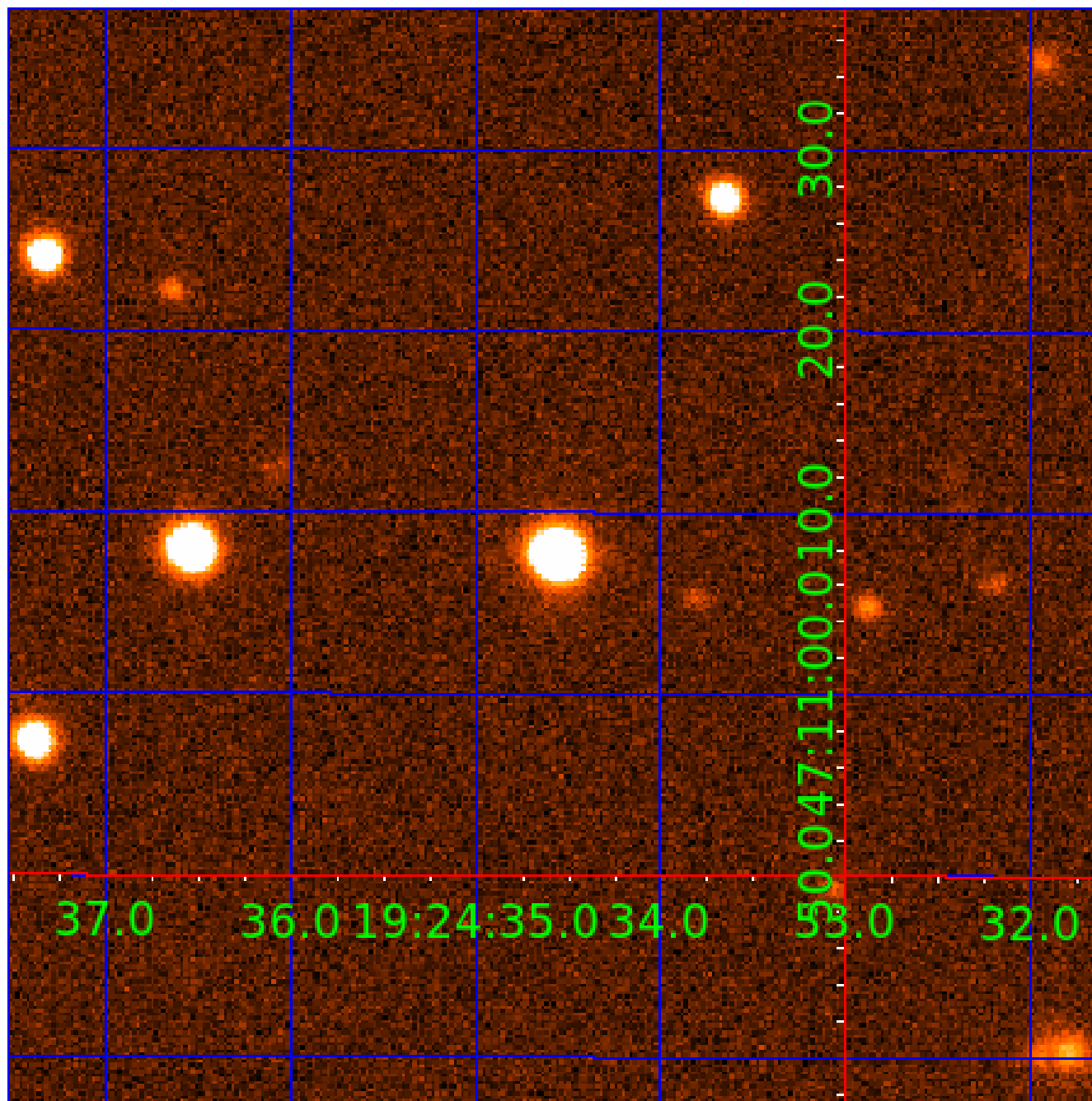


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010139305

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})
010139305-01	OBS	6077.01	2.173518	132.322411	604.2	1.155	28.4	33.6	0.59	5008	1.77	261.33
010139305-02	OBS	No	2.173576	133.130612	1301.0	0.705	30.0	62.7	0.59	5008	2.69	261.32
010139305-03	OBS	No	2.173543	131.713297	1.6	1.302	21.1	0.1	0.59	5008	0.08	261.33
010139305-04	OBS	No	2.173476	133.531715	165.9	6.528	13.0	11.1	0.59	5008	0.84	261.34
010139305-05	OBS	No	164.269813	183.095527	533.7	10.550	21.0	3.2	0.59	5008	1.48	0.82
010139305-06	OBS	No	2.173542	132.835994	1014.7	1.500	12.0	-1.0	0.59	5008	1.87	261.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010139305-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010139305-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
010139305-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
010139305-04	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
010139305-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010139305-06	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

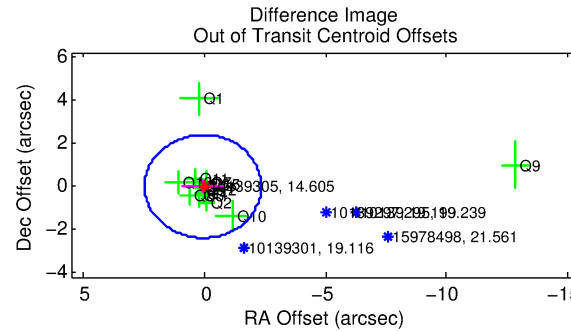
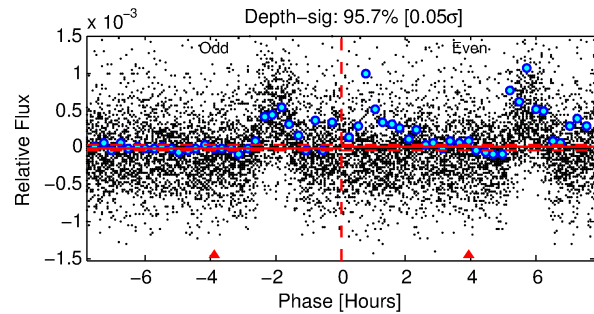
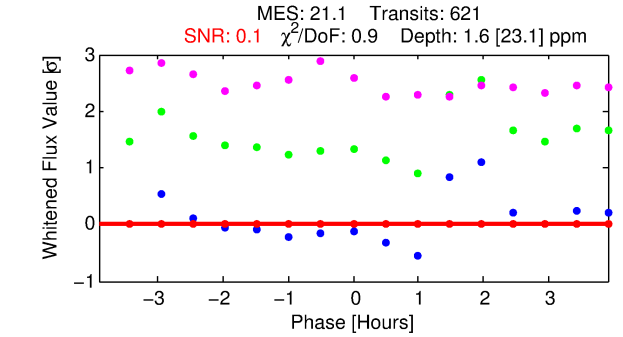
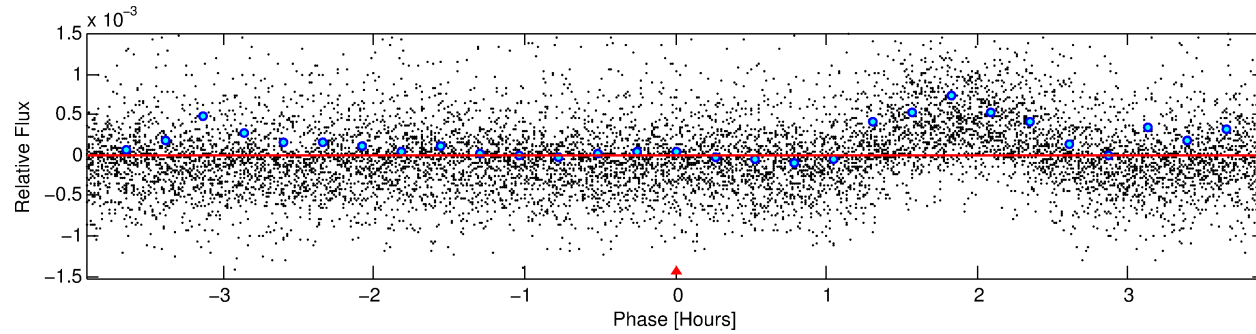
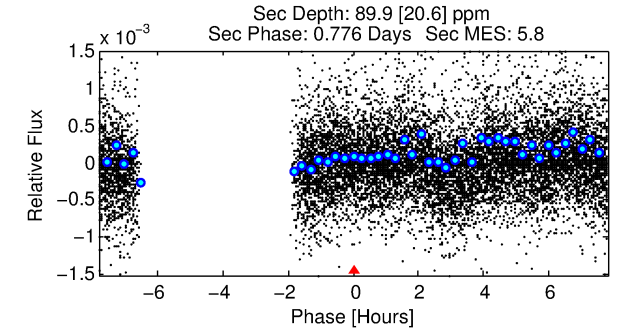
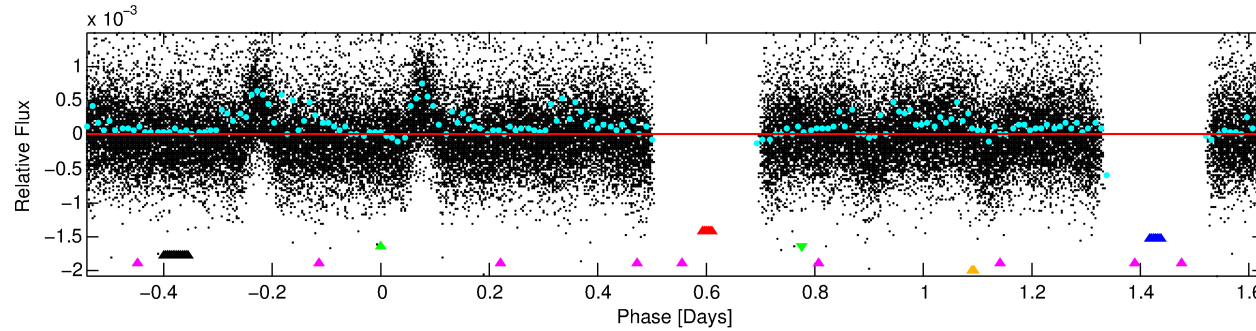
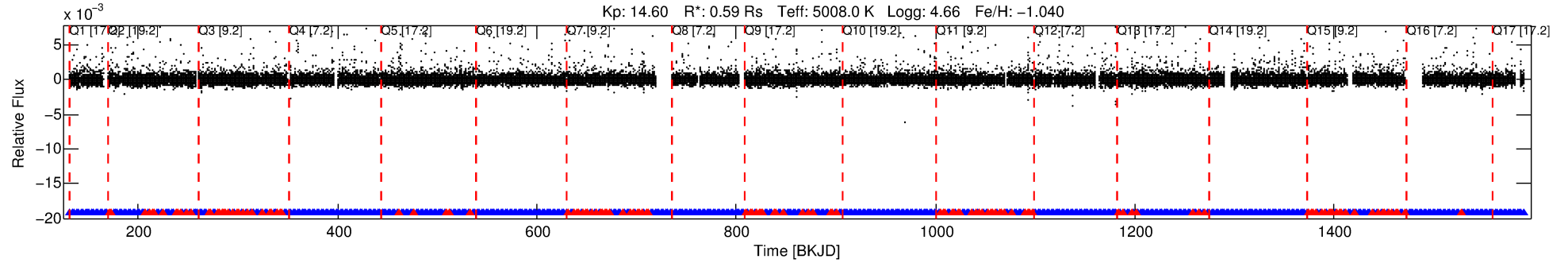
Ephemeris Match Information For 010139305-03

No Significant Match Found

DV One-Page Summary

KIC: 10139305 Candidate: 3 of 6 Period: 2.174 d

KOI: K06077 Corr: No Ephemeris Match



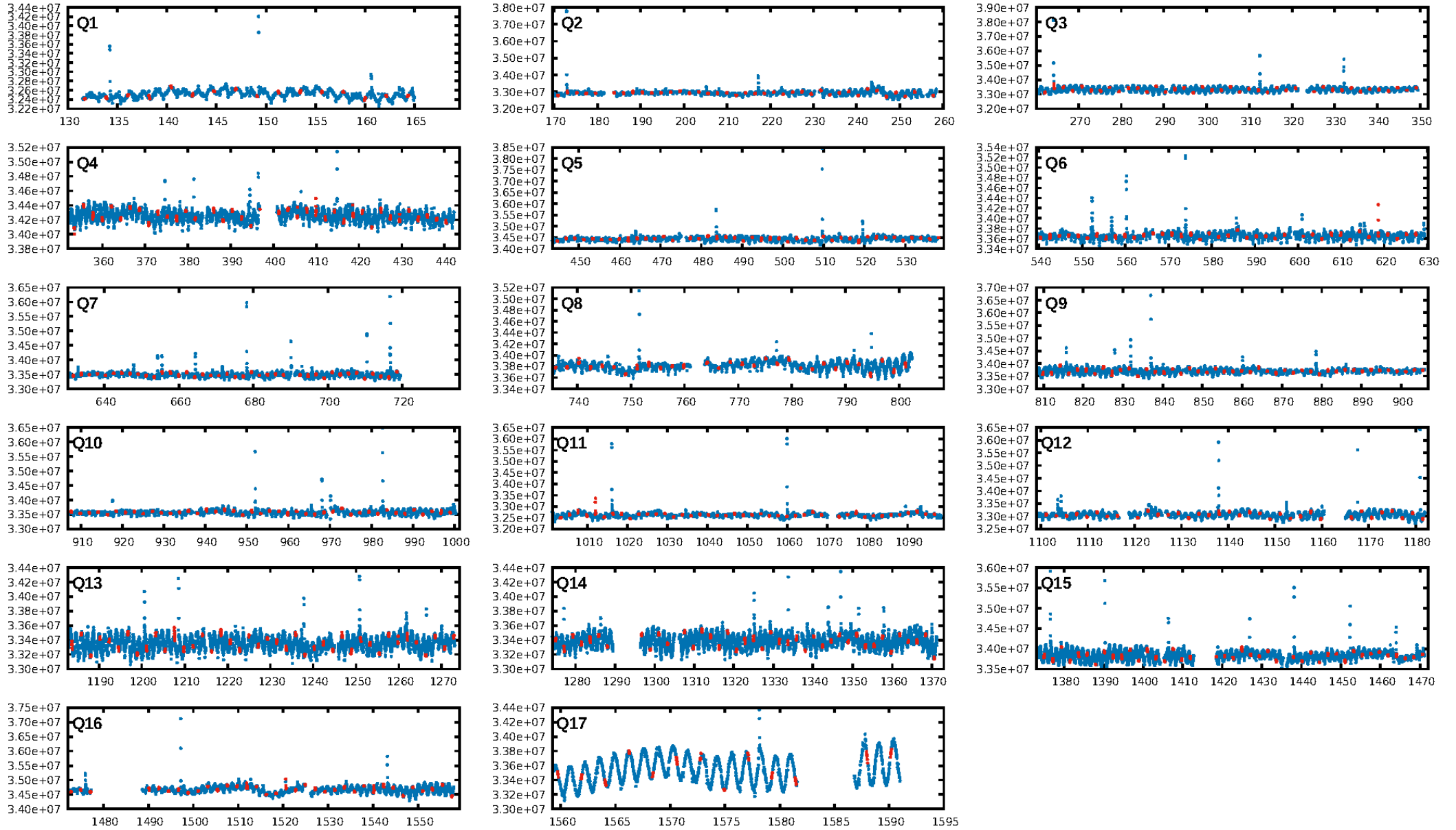
DV Fit Results:

Period = 2.17354 [0.00117] d
Epoch = 131.7133 [0.2003] BKJD
Rp/R* = 0.0013 [0.0105]
a/R* = 8.94 [154.50]
b = 0.72 [11.95]
Seff = 261.33 [43.52]
Teff = 1025 [43] K
Rp = 0.08 [0.68] Re
a = 0.0276 [0.0018] AU
Ag = 5664.35 [94605.31] [0.06σ]
Teffp = 13752 [57421] K [0.22σ]

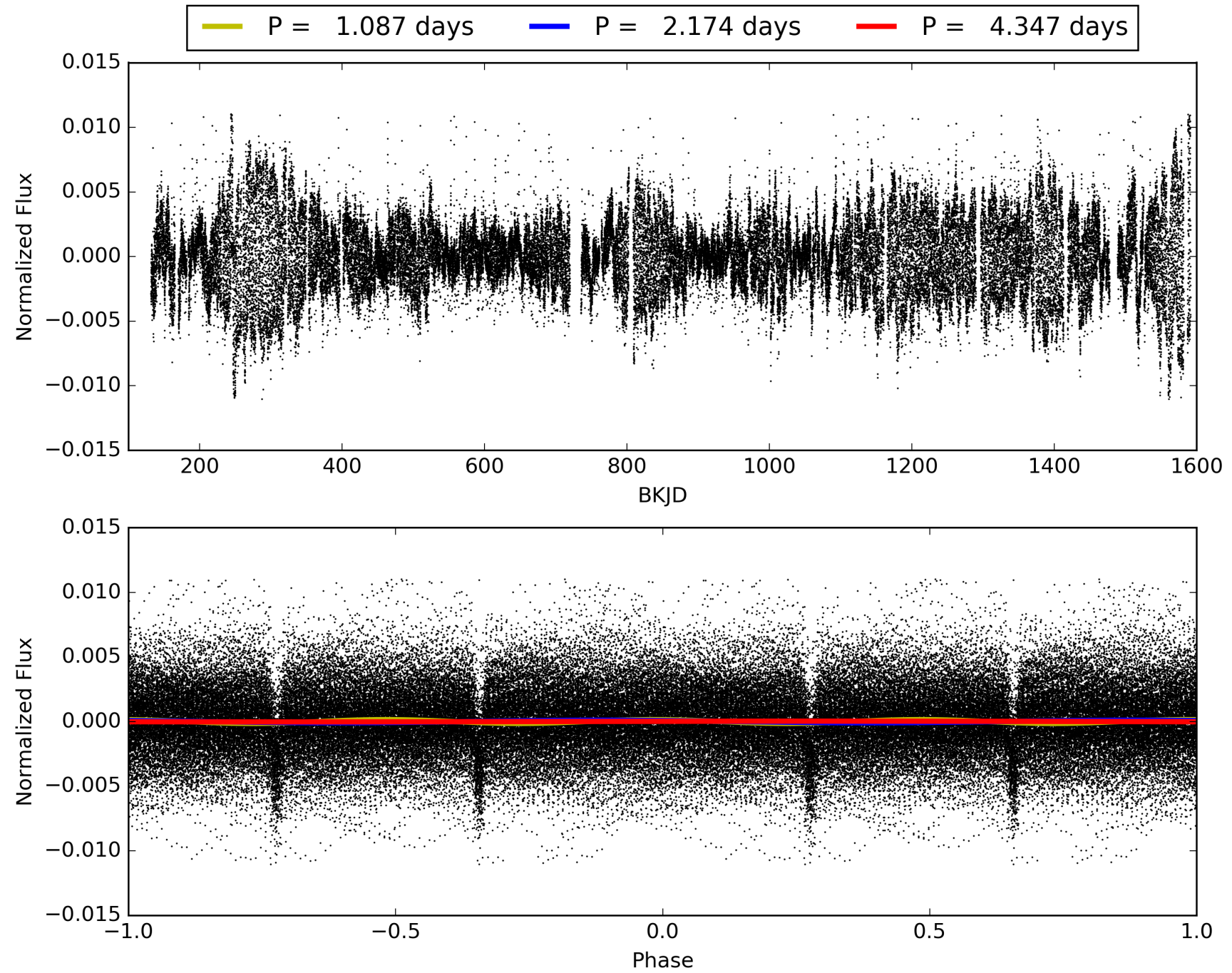
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.78 [463/592]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.065 arcsec [0.08σ]
KicOffset-rm: 0.065 arcsec [0.13σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 010139305-03, PDC Light Curves

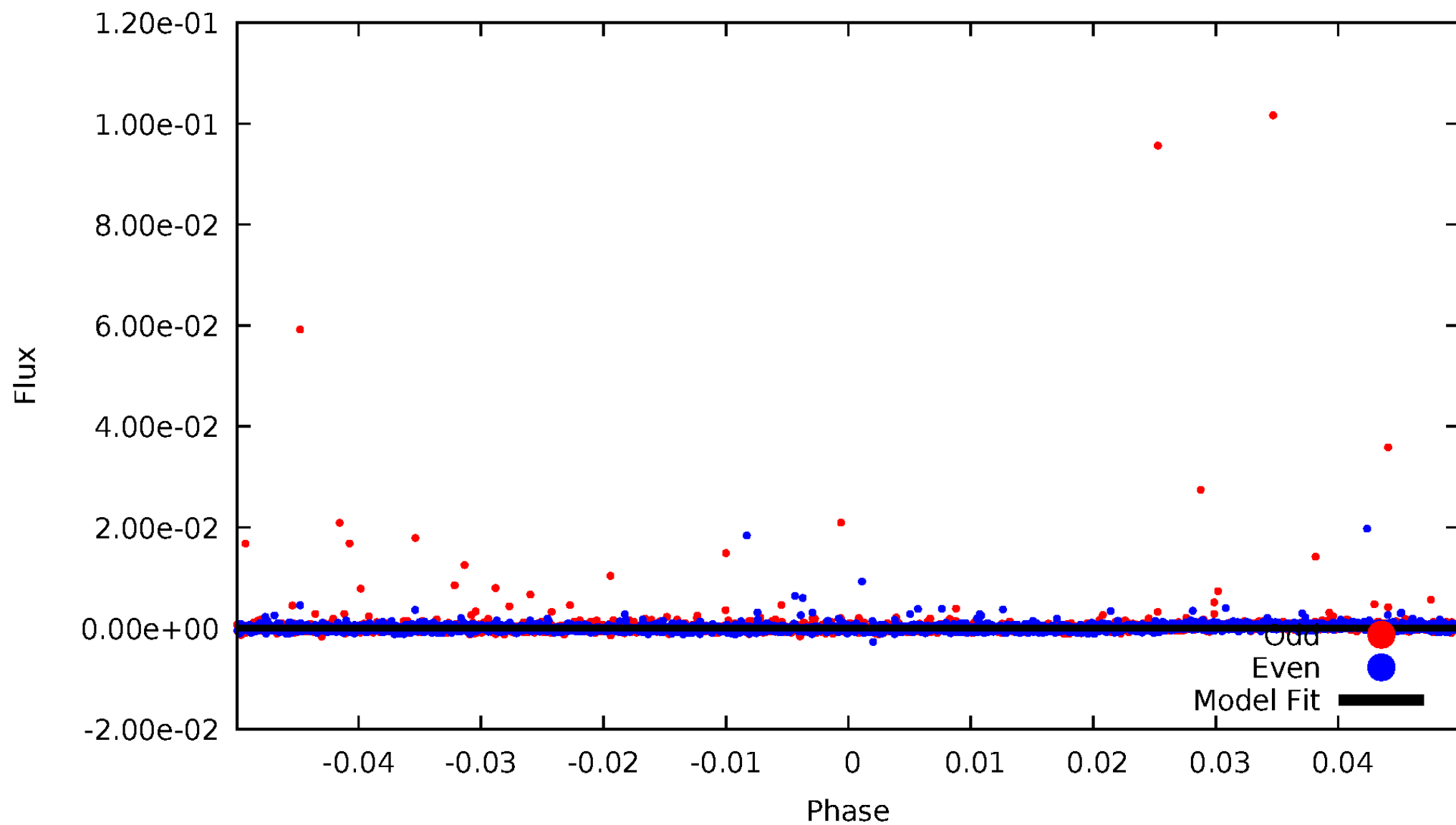


TCE 010139305-03



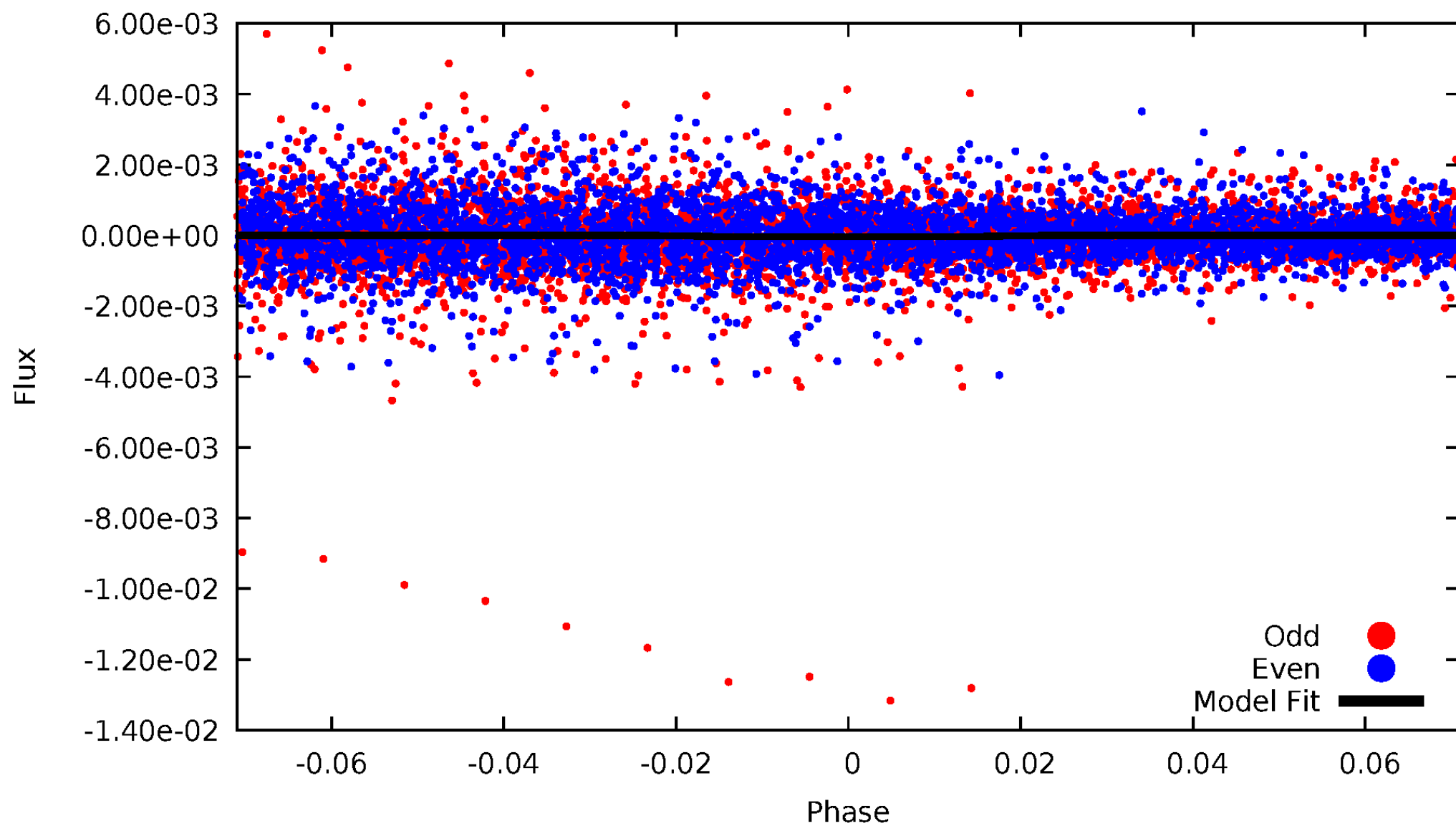
DV Odd/Even

TCE 010139305-03



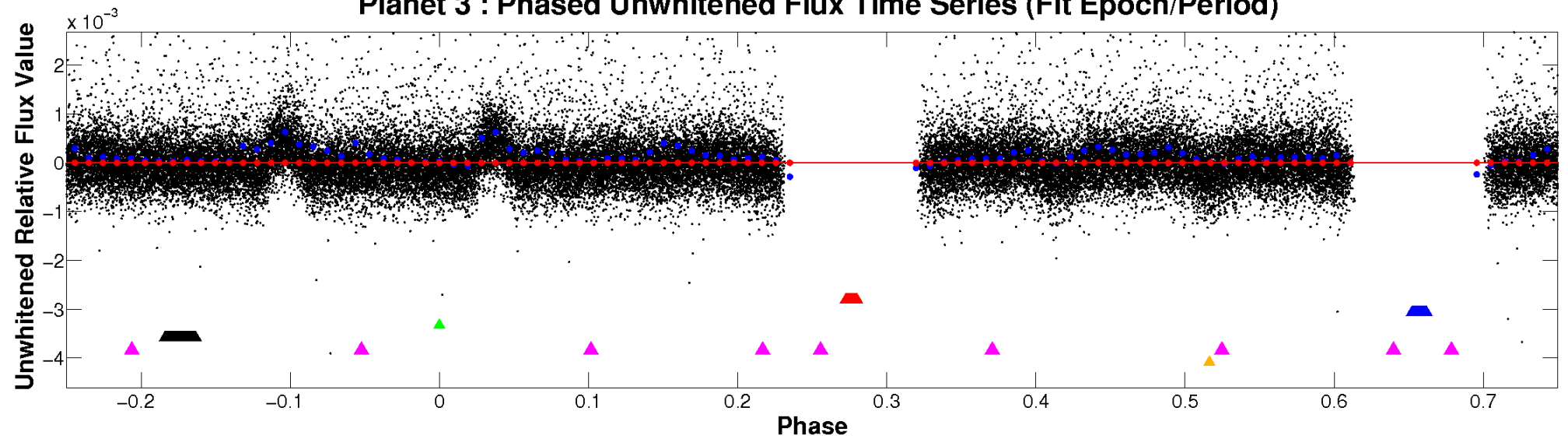
ALT Odd/Even

TCE 010139305-03

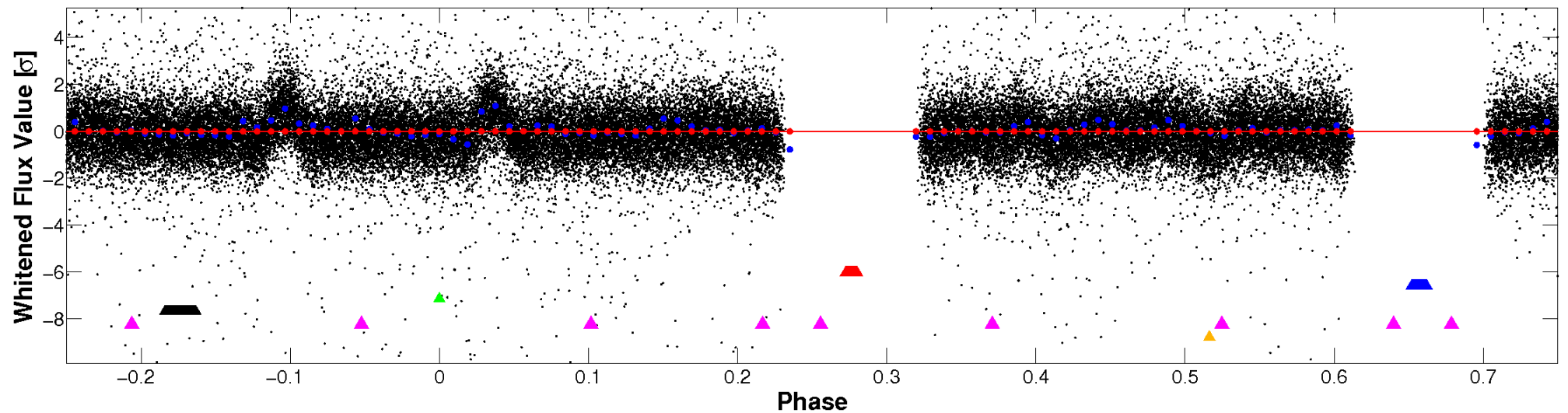


Non-Whitened Vs. Whitened Light Curve

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

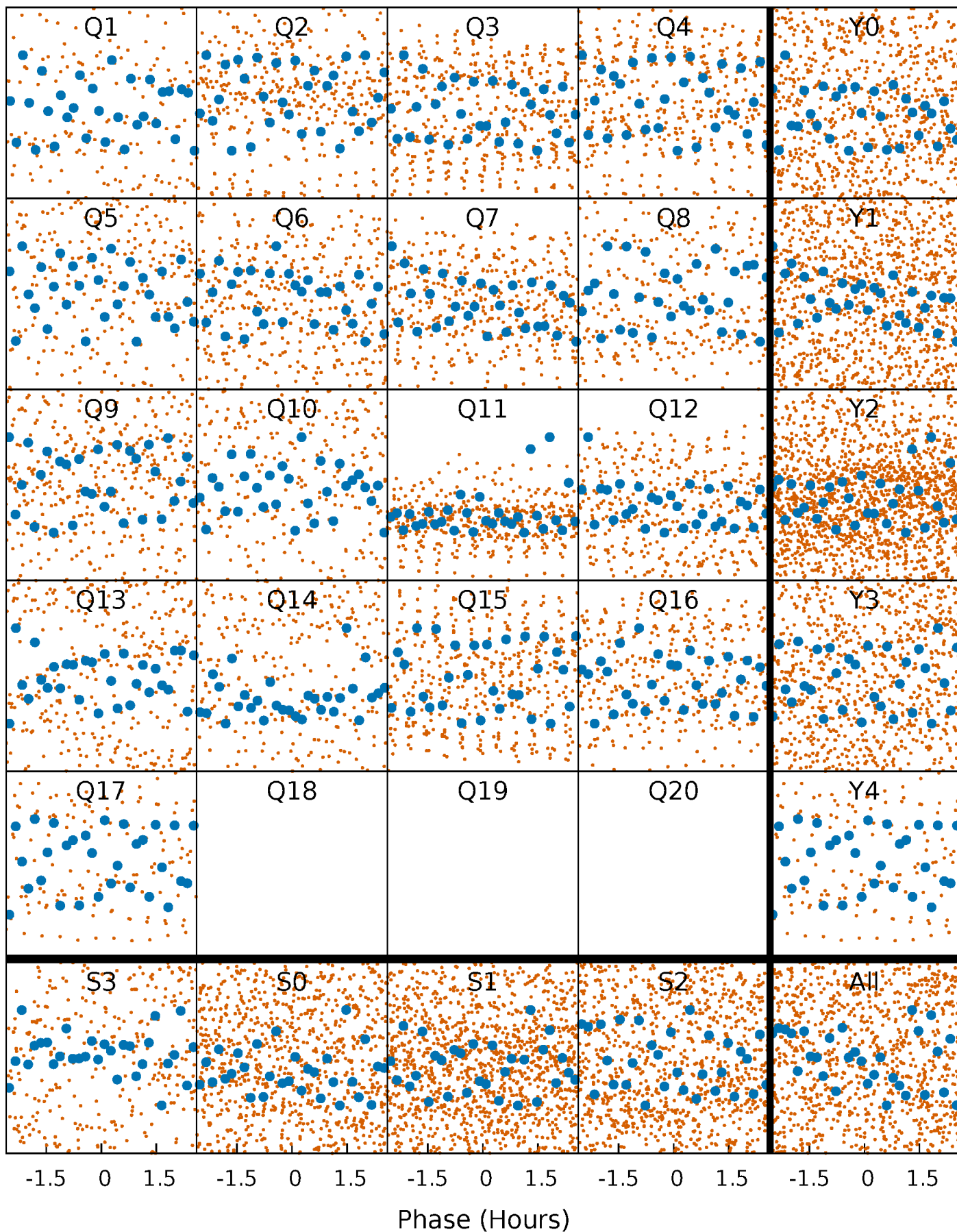


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



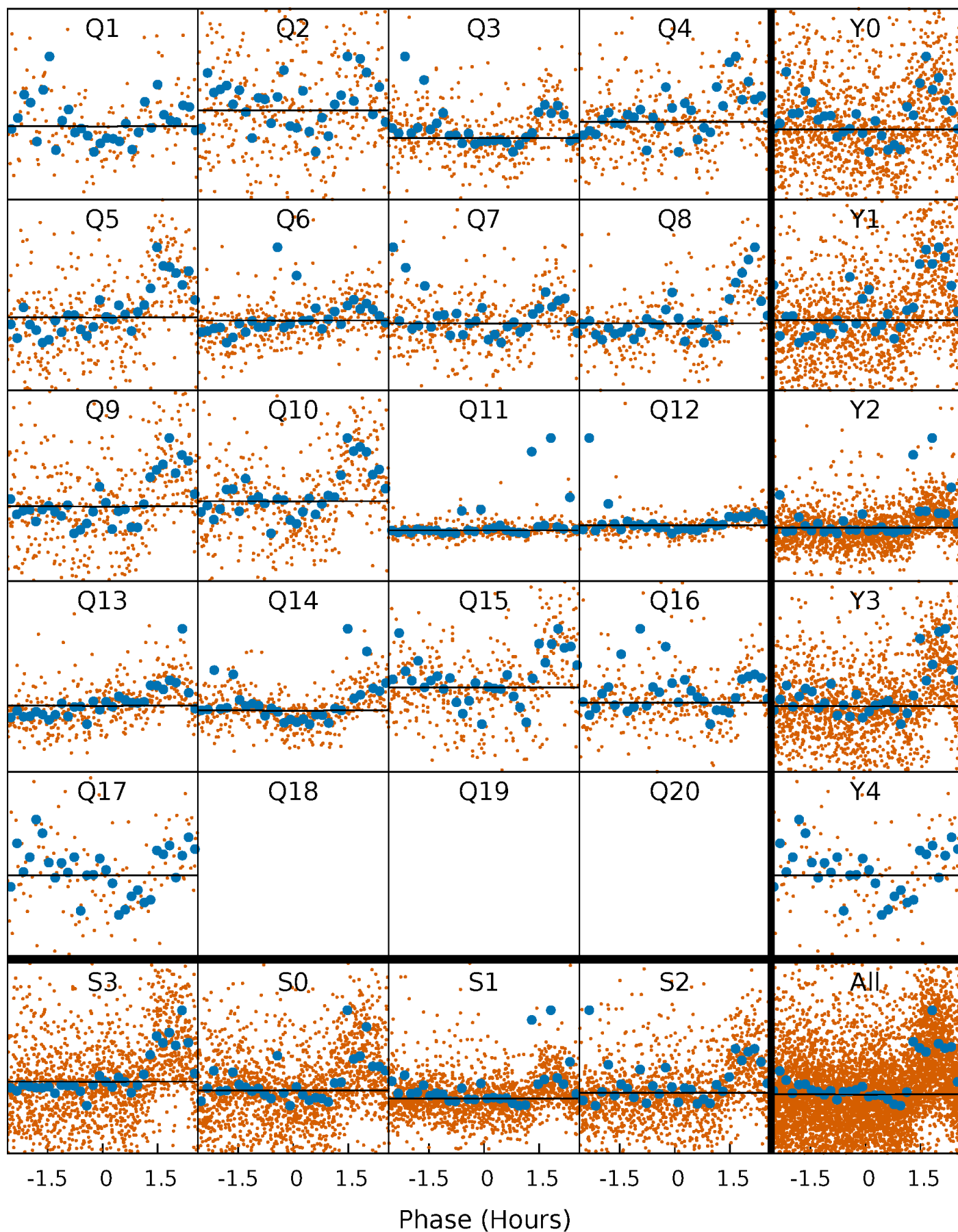
PDC Quarter-Phased Transit Curves

TCE 010139305-03 P= 2.173543 Days $T_0=131.713297$ (BKJD)



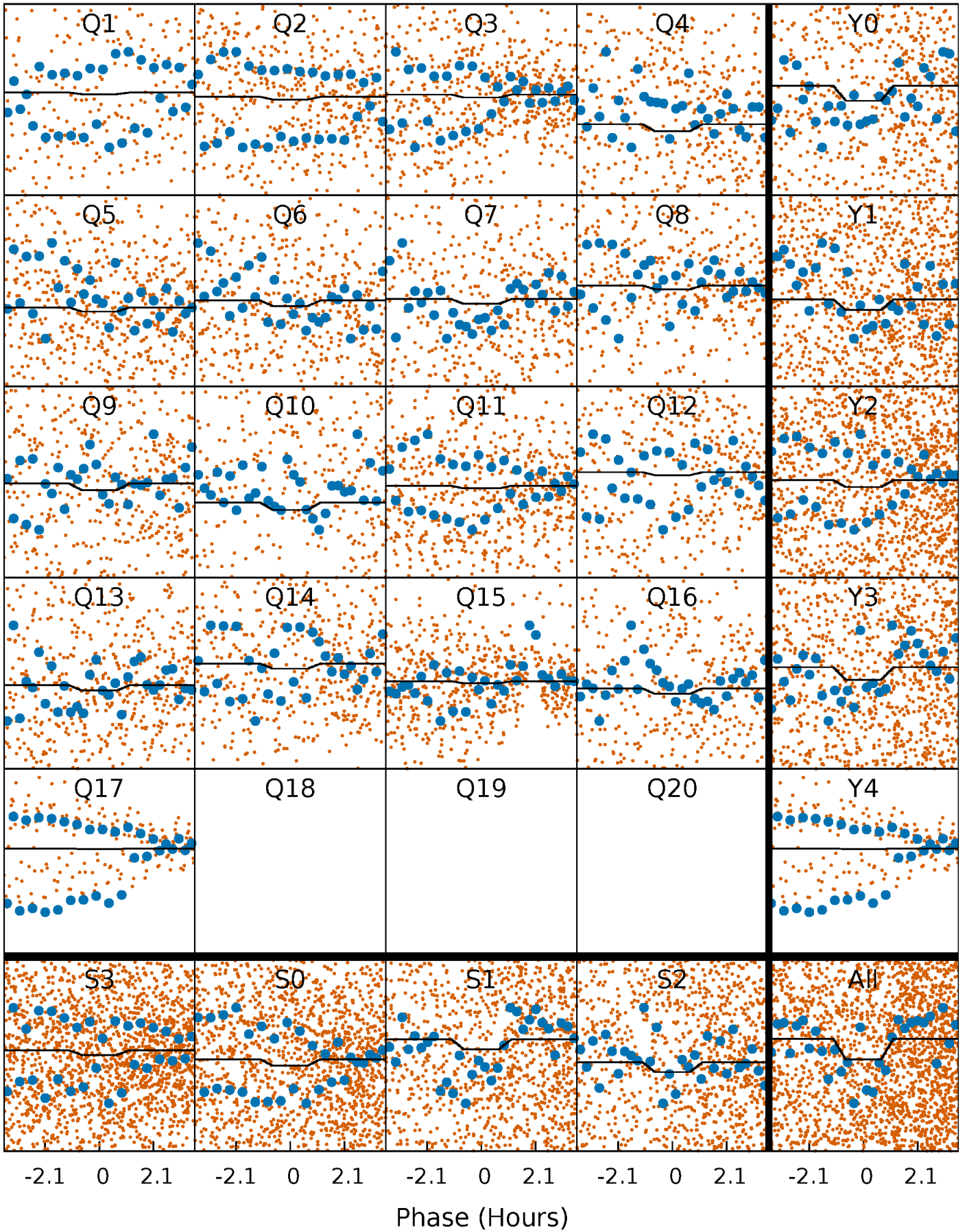
DV Quarter-Phased Transit Curves

TCE 010139305-03 $P = 2.173543$ Days $T_0 = 131.713297$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

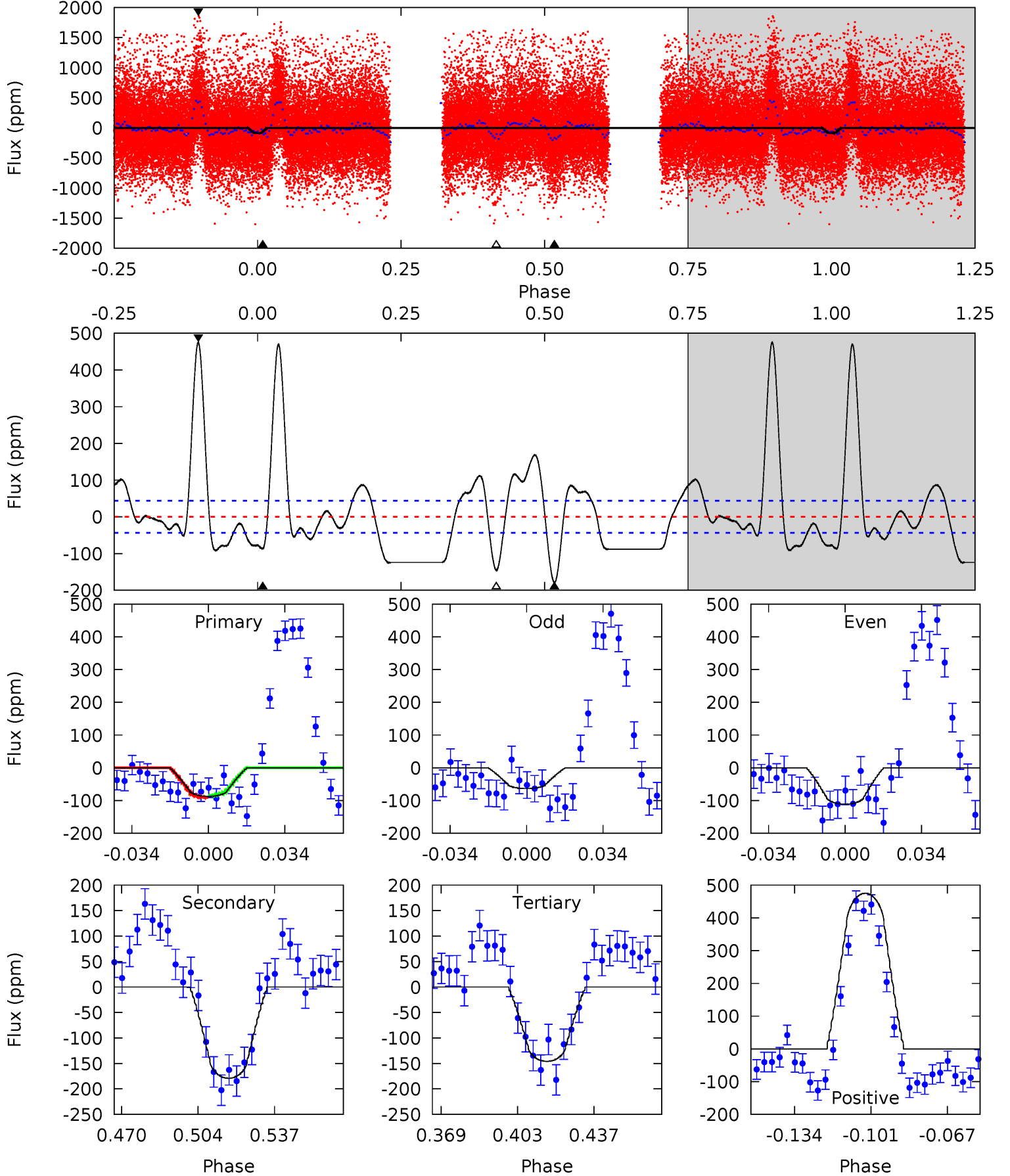
TCE 010139305-03 P= 2.173535 Days $T_0=131.781930$ (BKJD)



DV Model-Shift Uniqueness Test

010139305-03, P = 2.173543 Days, E = 129.539754 Days

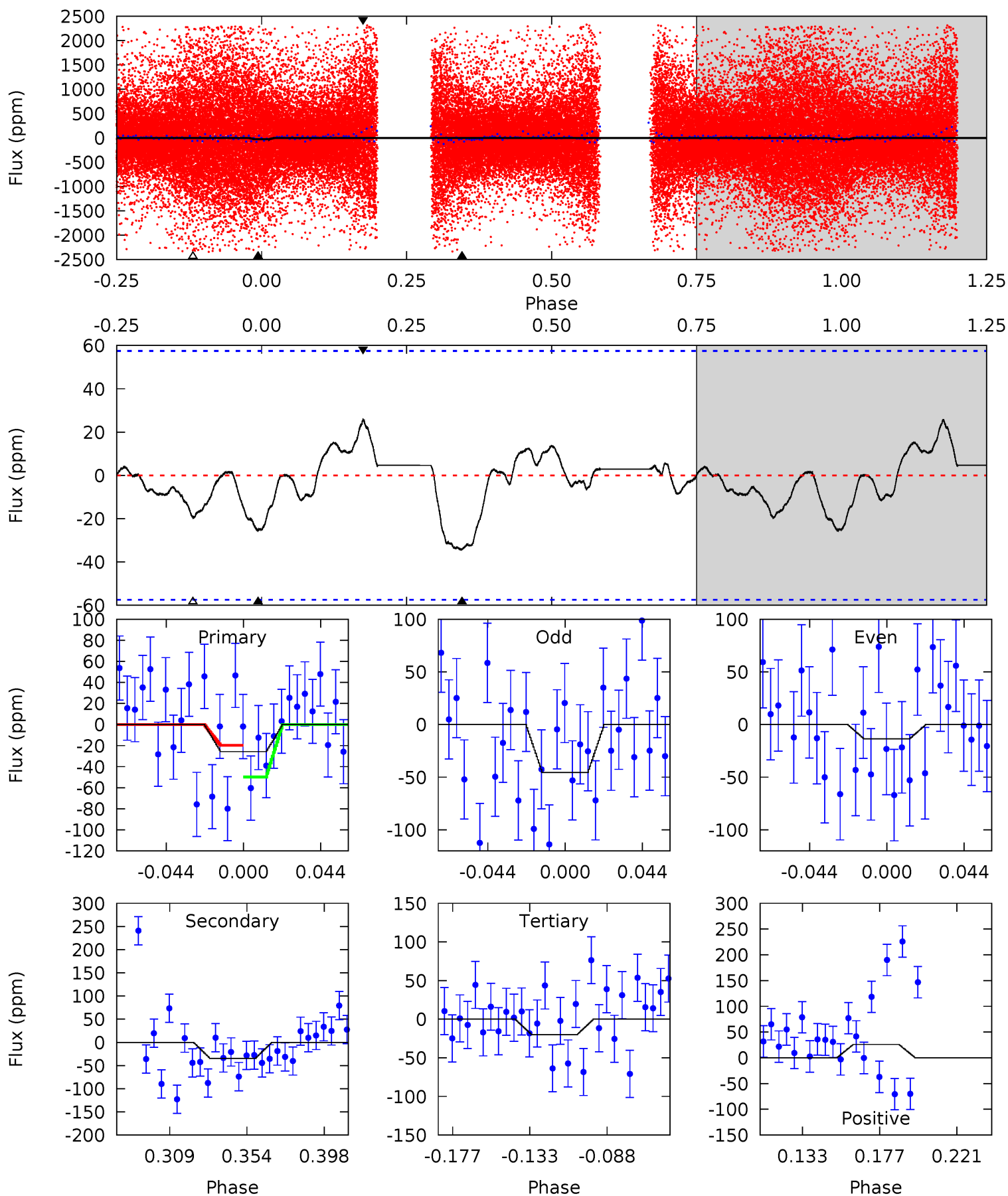
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.58	19.7	16.0	52.2	4.79	2.13	11.0	-6.46	-42.6	3.65	-32.5	2.62	-0.14	0.73	0.35



Alt Model-Shift Uniqueness Test

010139305-03, P = 2.173535 Days, E = 129.608395 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.12	2.83	1.65	2.14	4.73	2.01	0.75	0.47	-0.02	1.18	0.70	1.35	-4.96	0.43	1.29



Stellar Parameters For KIC 010139305

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5008^{+166}_{-151}	$4.663^{+0.058}_{-0.036}$	$-1.040^{+0.300}_{-0.300}$	$0.594^{+0.042}_{-0.038}$	$0.592^{+0.052}_{-0.022}$	$3.983^{+0.856}_{-0.542}$
	+3%/-3%	+1%/-1%	+29%/-29%	+7%/-6%	+9%/-4%	+21%/-14%
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 010139305-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-179 ± 9	$0.51^{+0.54}_{-0.38}$	1427^{+53}_{-48}	6371^{+11186}_{-1708}	294^{+4324}_{-225}
Alt.	-34 ± 12	$0.62^{+0.55}_{-0.41}$	1427^{+50}_{-50}	4080^{+2487}_{-836}	36^{+284}_{-27}

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

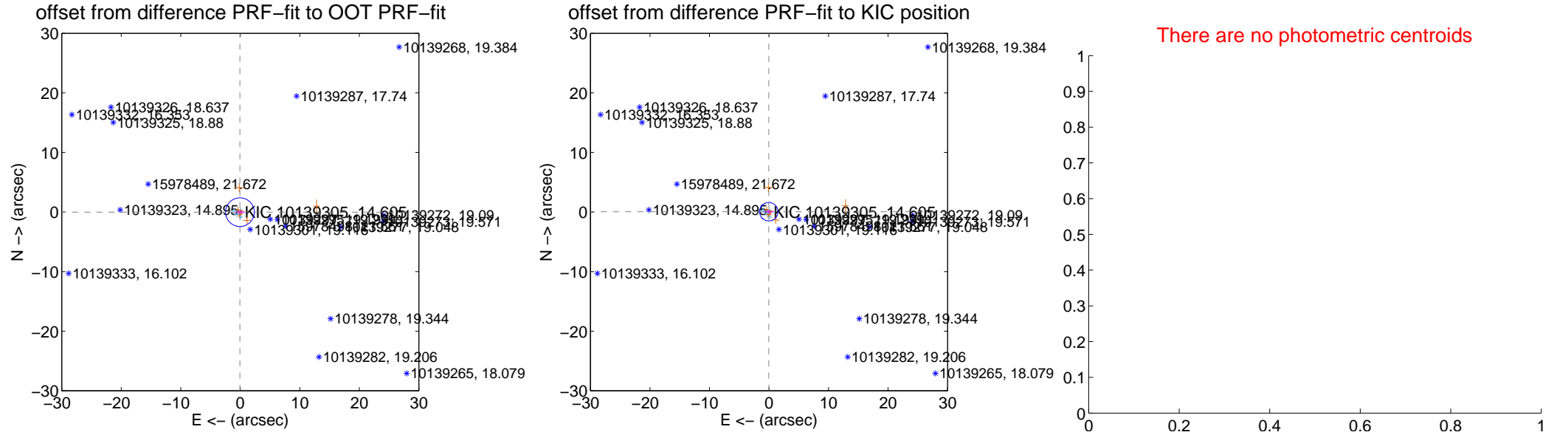
DV Centroid Data

Supplemental centroid analysis for 010139305-03. Kepler magnitude: 14.61. Transit SNR 0.10

There are 8 quarters with good PRF difference image offsets

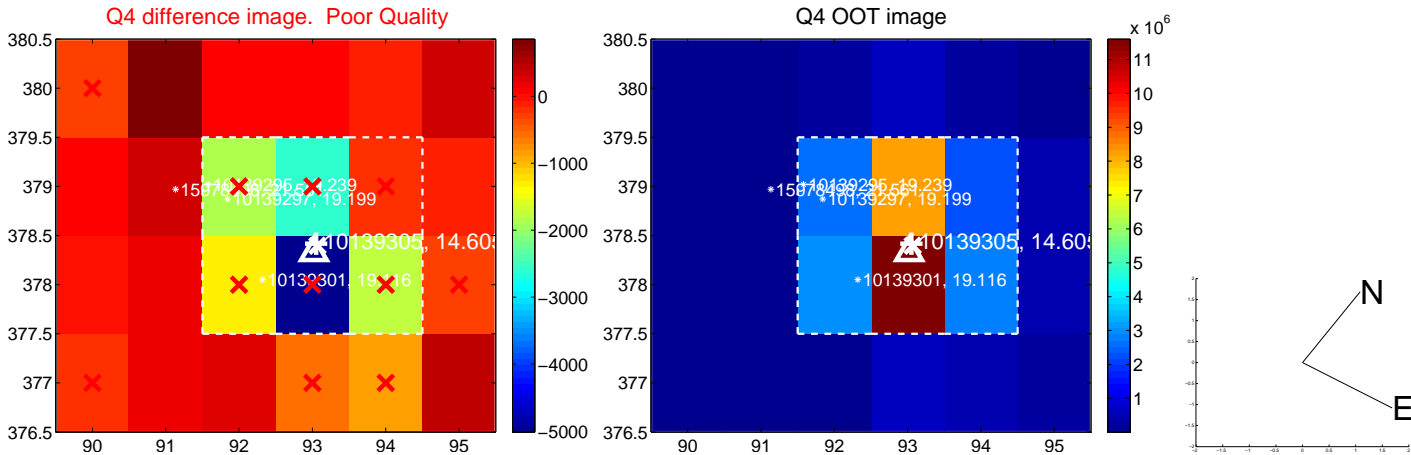
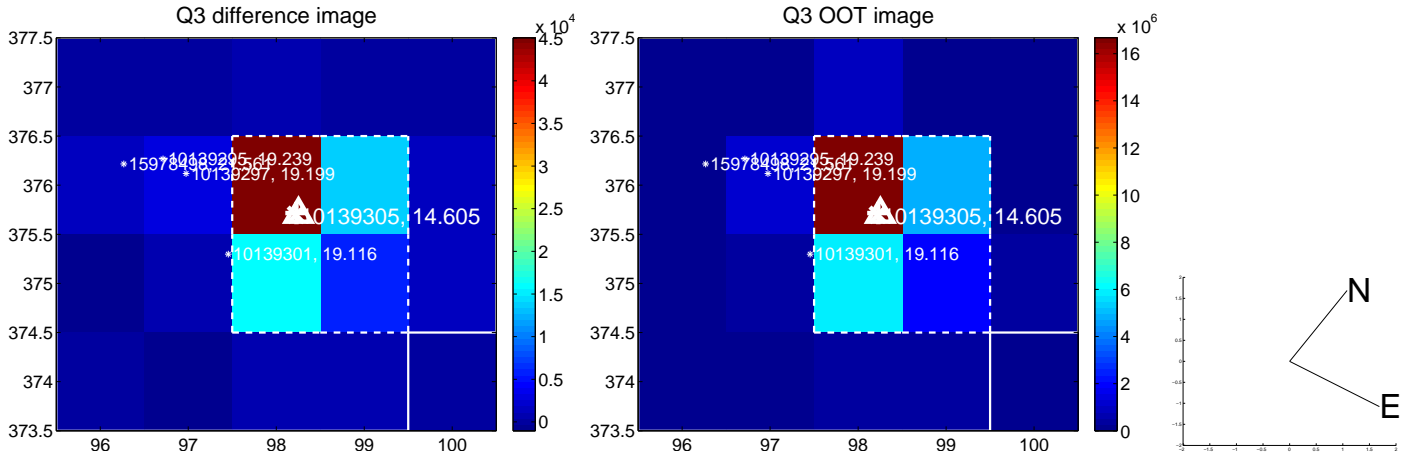
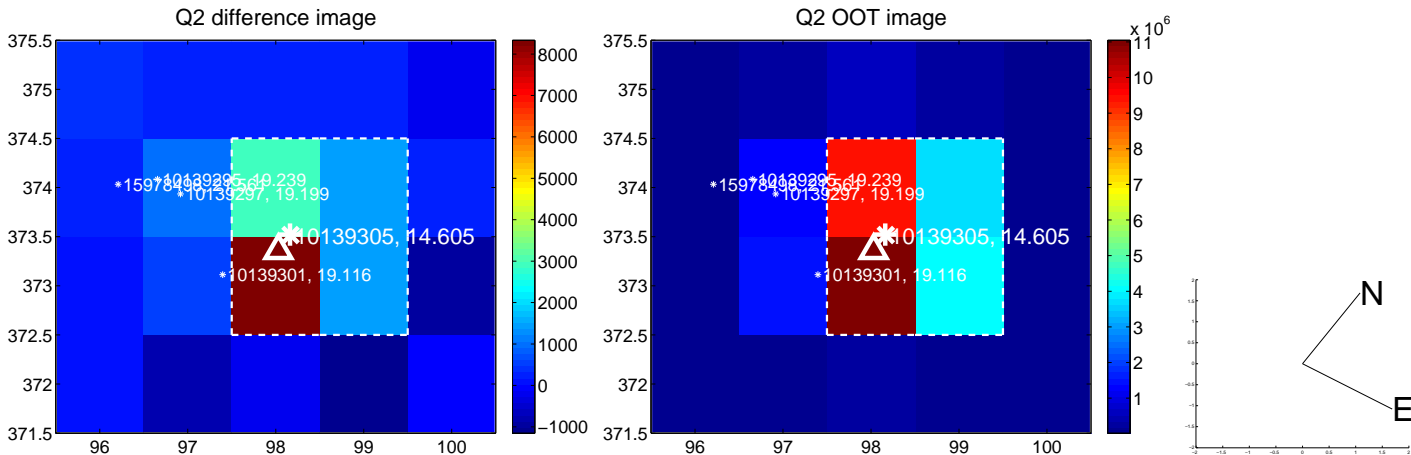
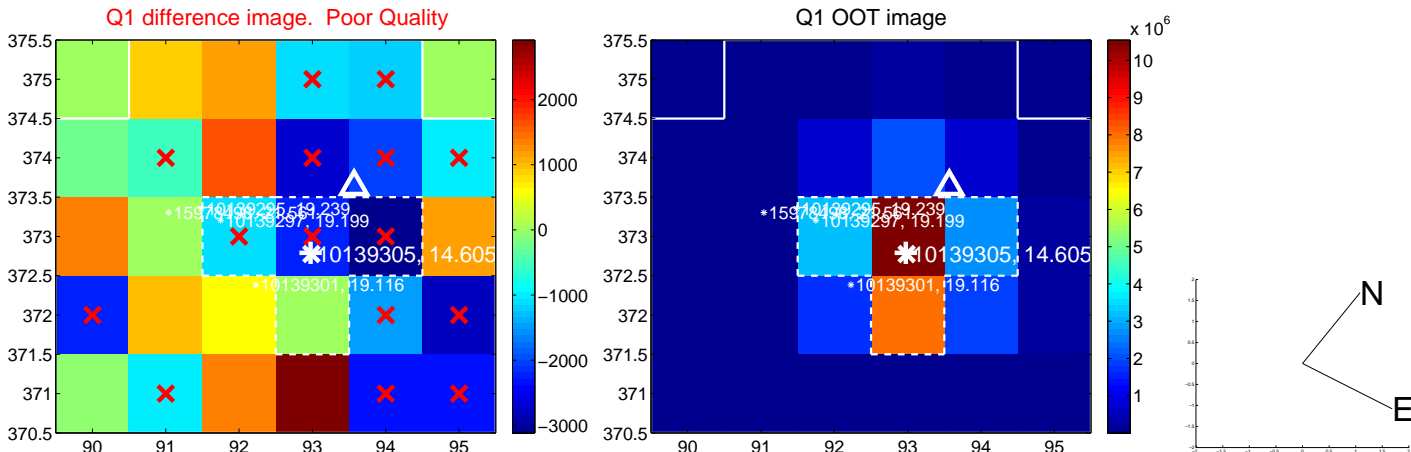
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.065 ± 0.802	0.08	0.062 ± 0.818	-0.021 ± 0.290
PRF-fit source offset from KIC position	0.065 ± 0.515	0.13	0.036 ± 0.838	0.054 ± 0.309
photometric centroid source offset	—	—	—	—

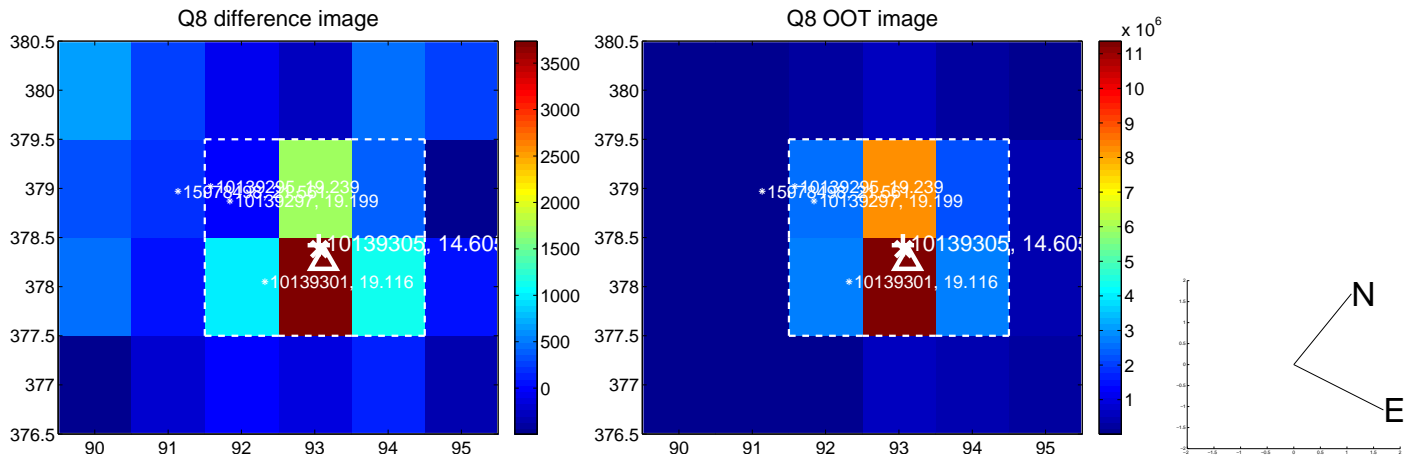
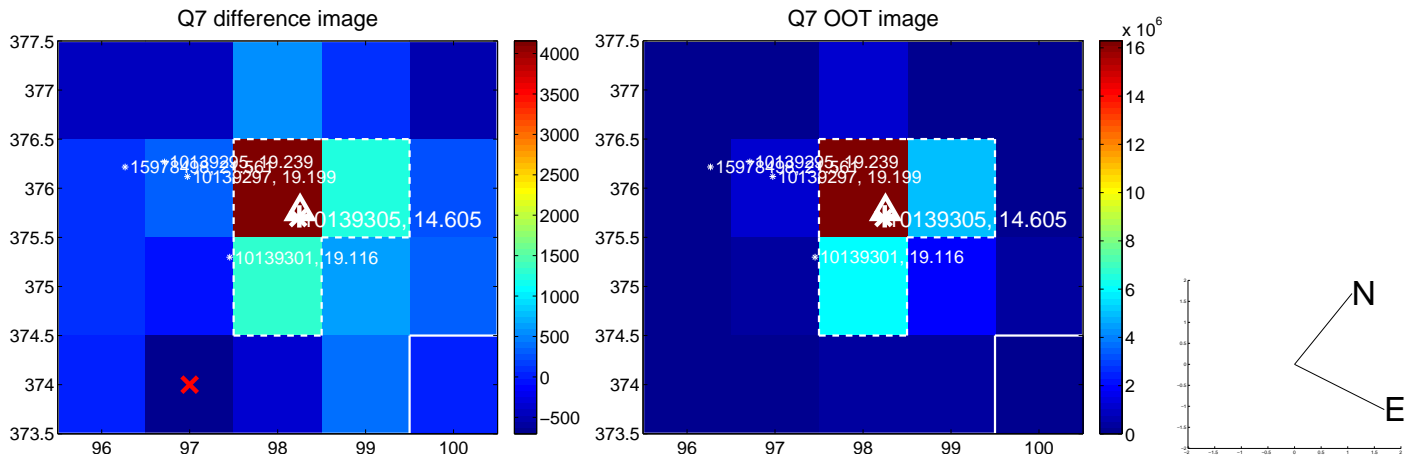
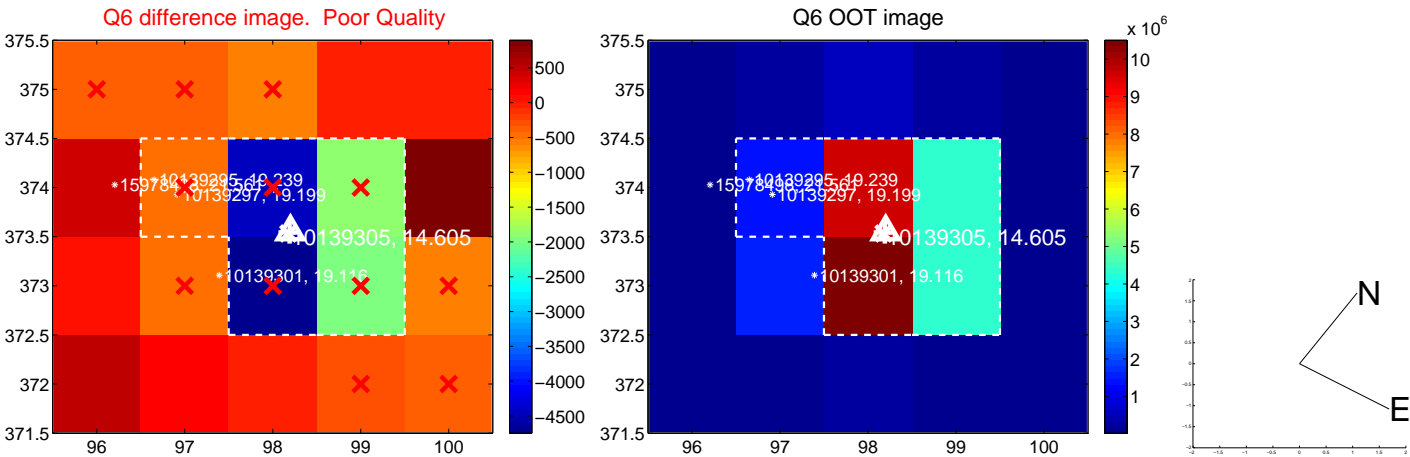
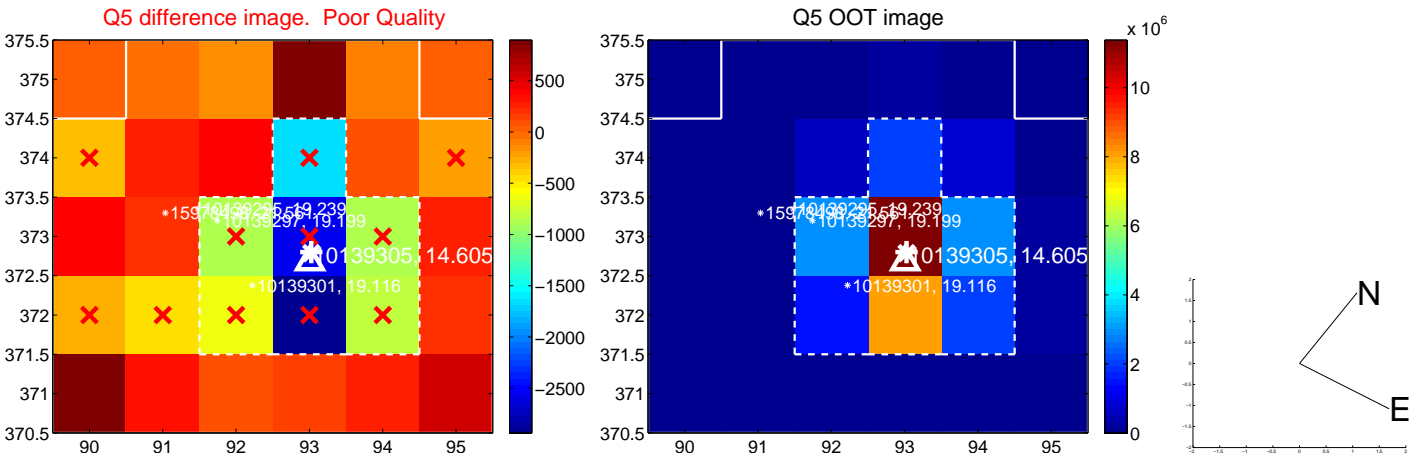


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

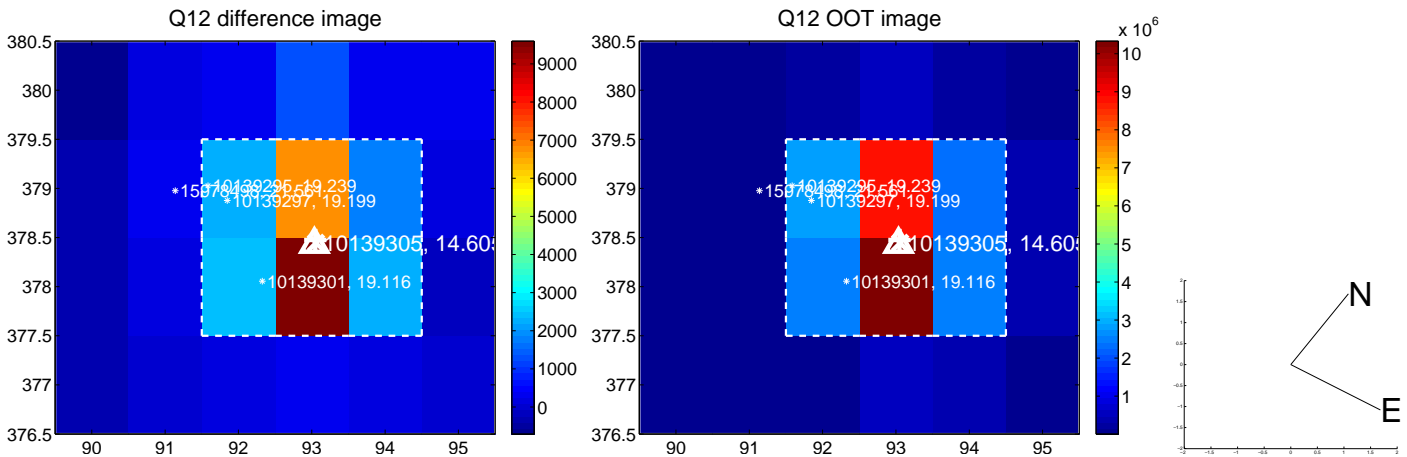
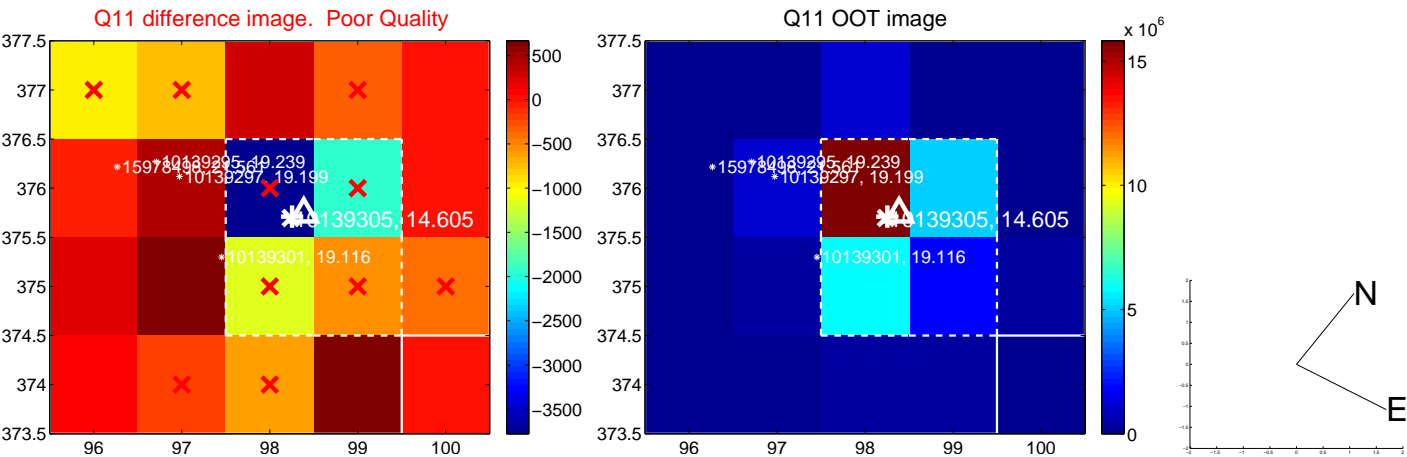
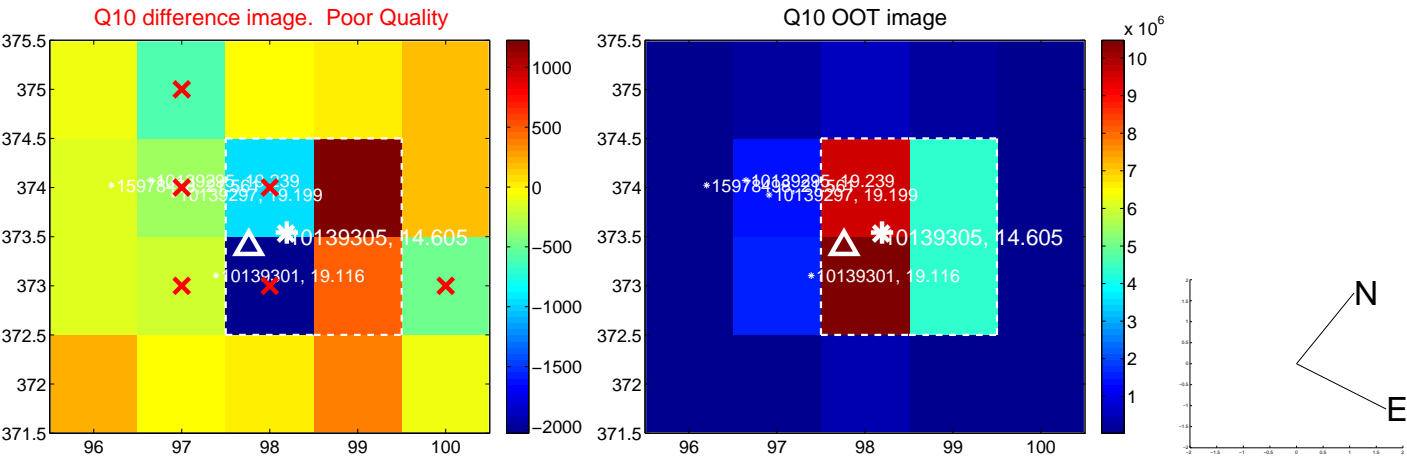
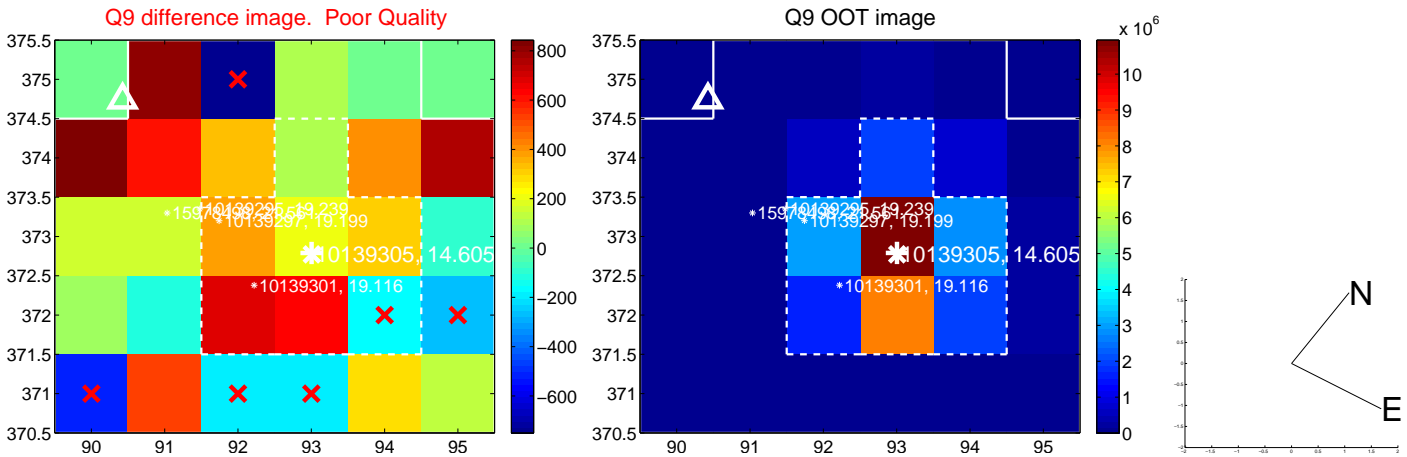
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



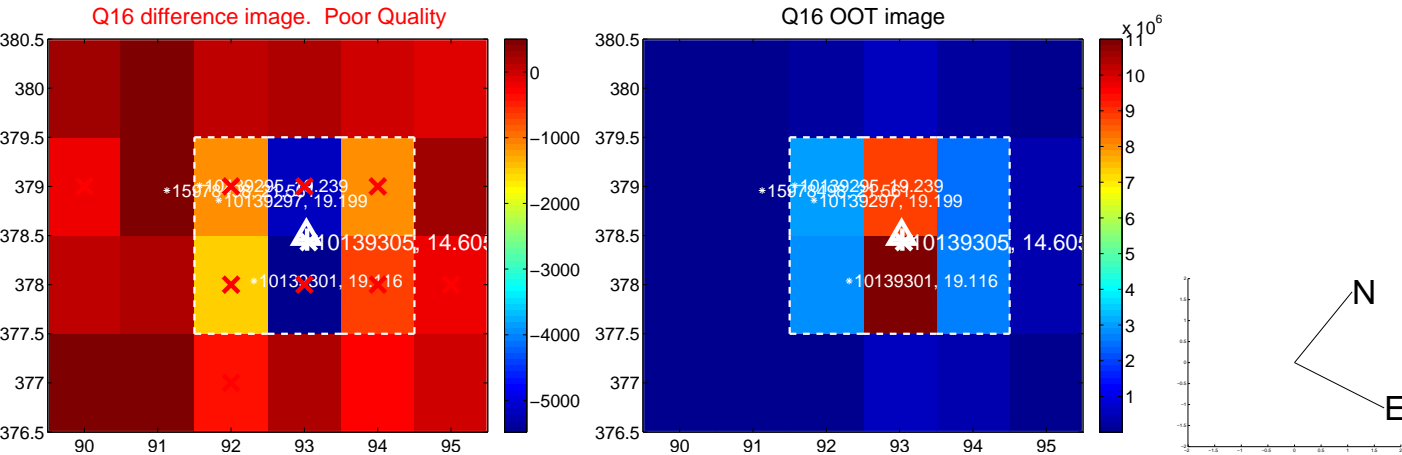
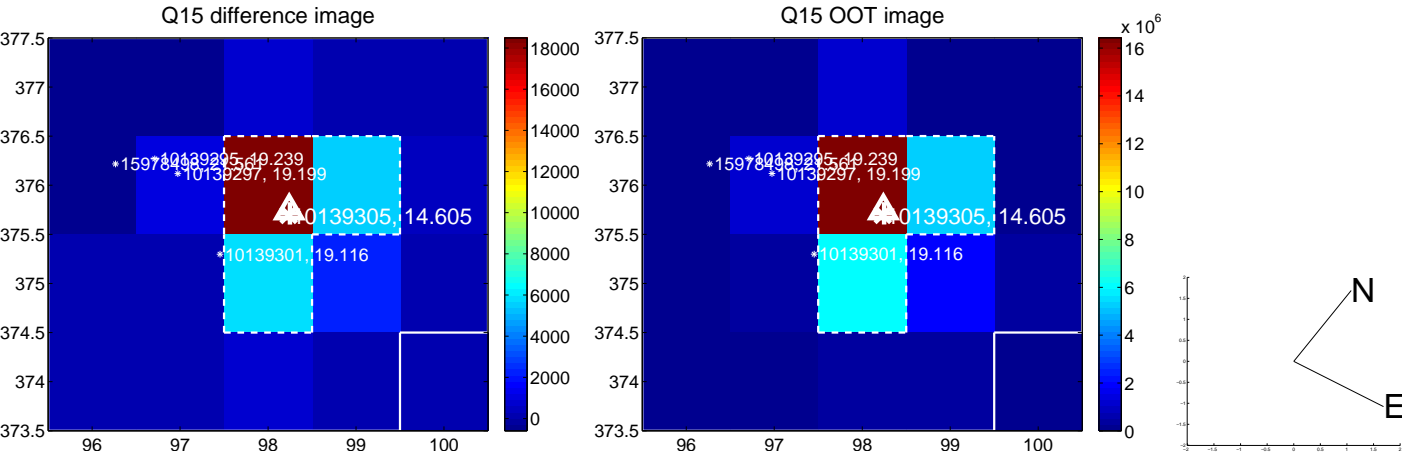
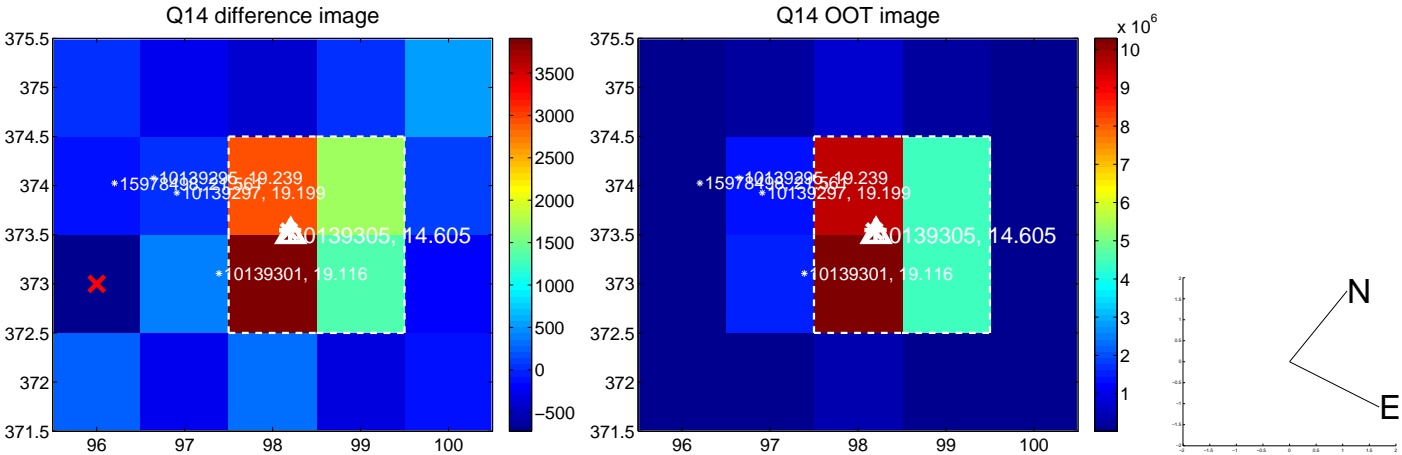
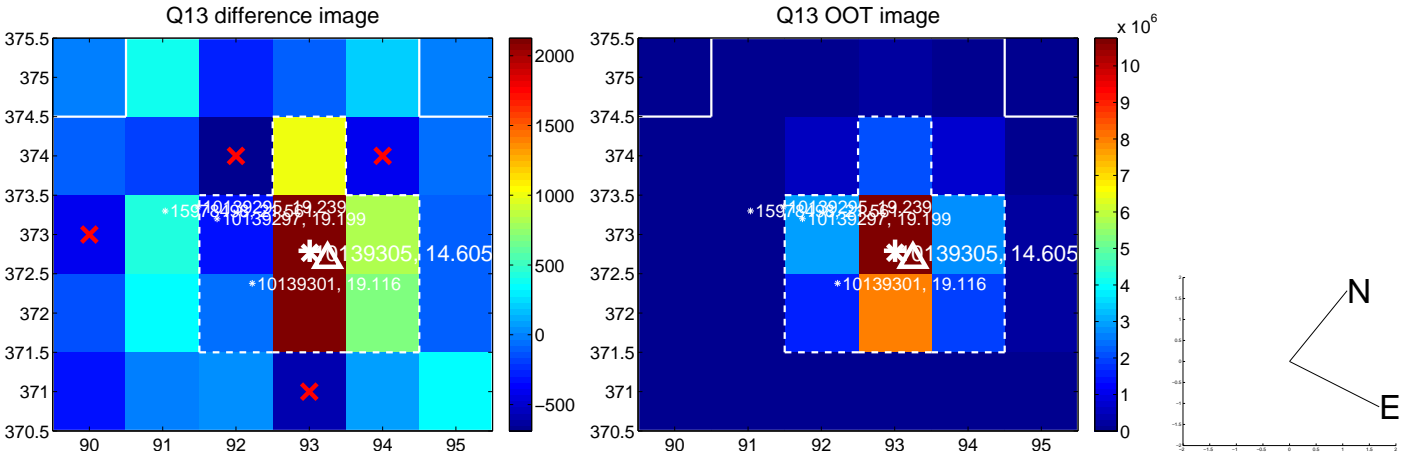
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



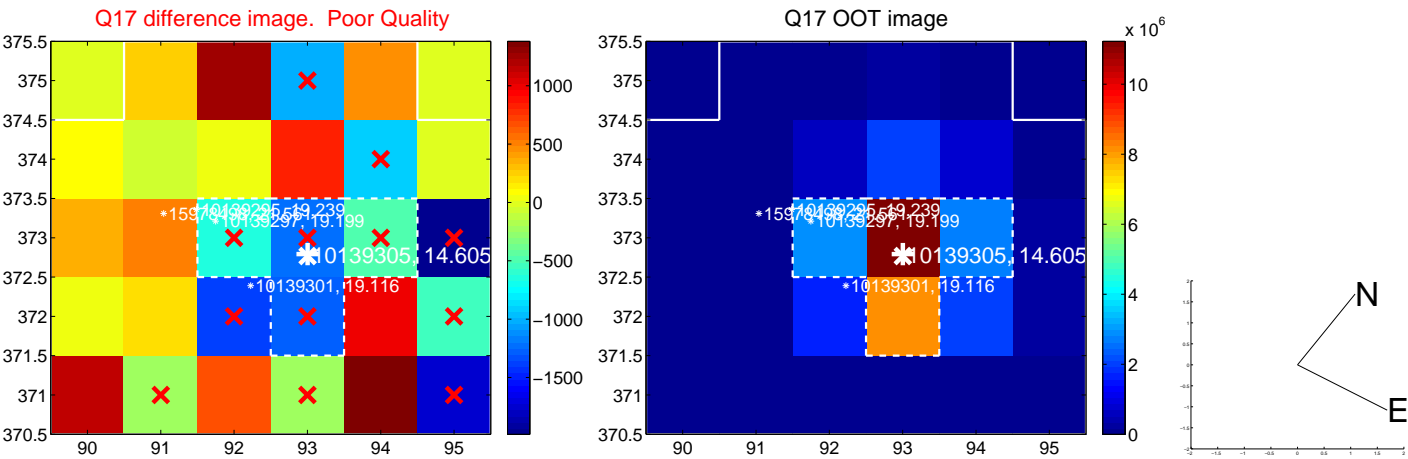
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



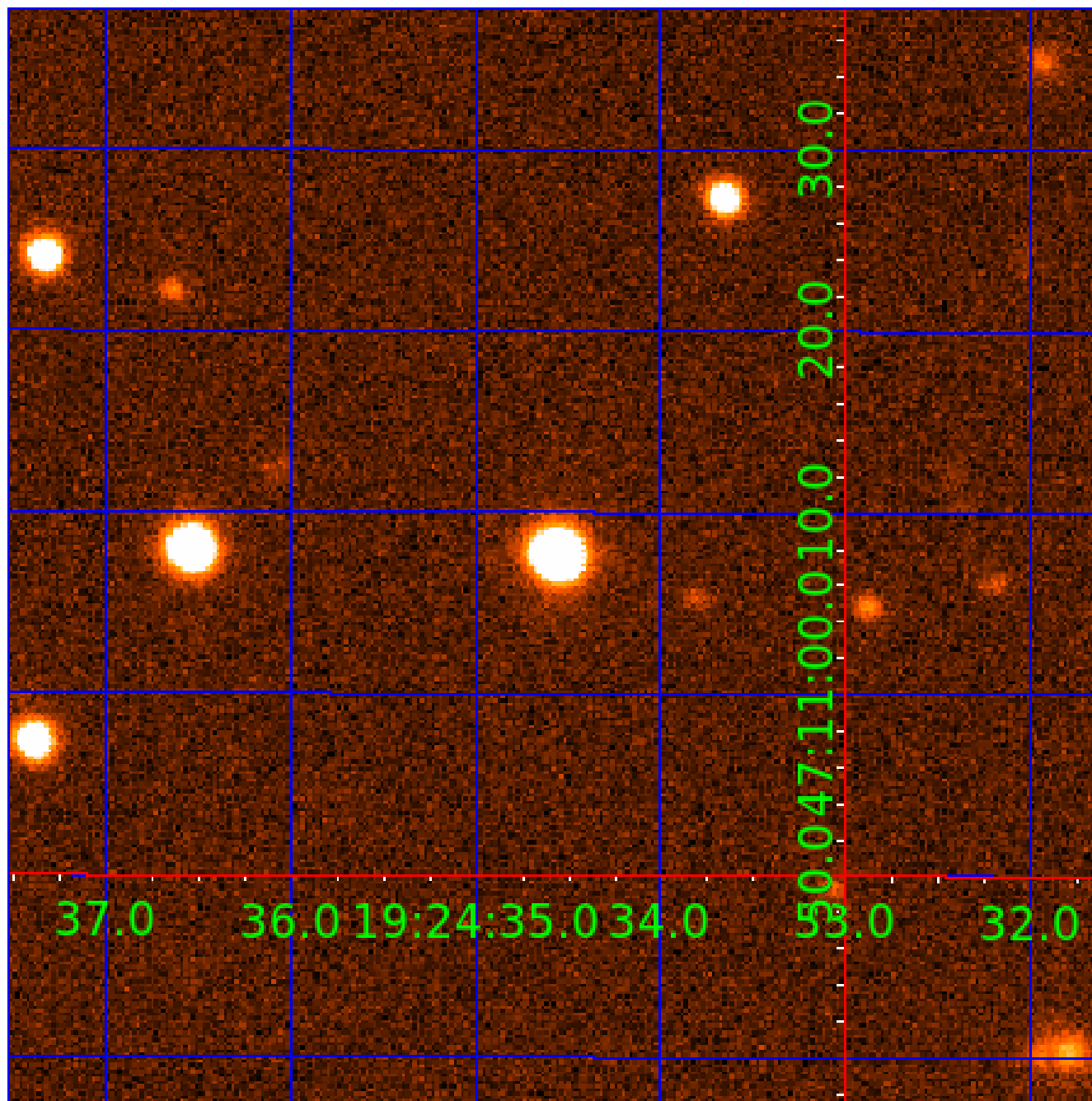
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 010139305

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})
010139305-01	OBS	6077.01	2.173518	132.322411	604.2	1.155	28.4	33.6	0.59	5008	1.77	261.33
010139305-02	OBS	No	2.173576	133.130612	1301.0	0.705	30.0	62.7	0.59	5008	2.69	261.32
010139305-03	OBS	No	2.173543	131.713297	1.6	1.302	21.1	0.1	0.59	5008	0.08	261.33
010139305-04	OBS	No	2.173476	133.531715	165.9	6.528	13.0	11.1	0.59	5008	0.84	261.34
010139305-05	OBS	No	164.269813	183.095527	533.7	10.550	21.0	3.2	0.59	5008	1.48	0.82
010139305-06	OBS	No	2.173542	132.835994	1014.7	1.500	12.0	-1.0	0.59	5008	1.87	261.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010139305-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010139305-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
010139305-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
010139305-04	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
010139305-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010139305-06	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

Ephemeris Match Information For 010139305-04

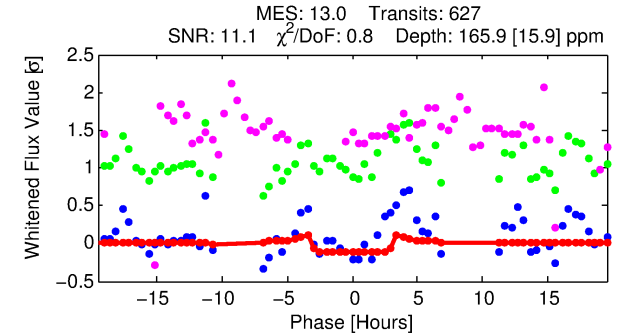
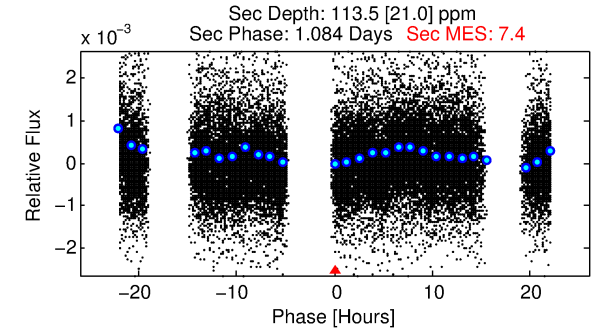
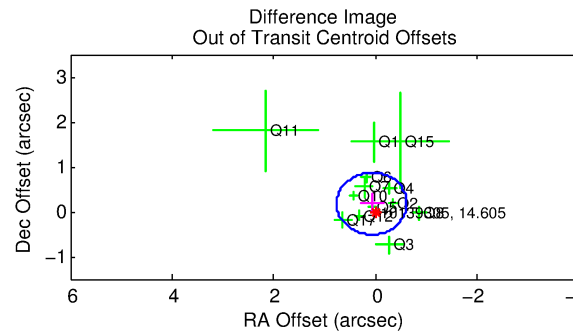
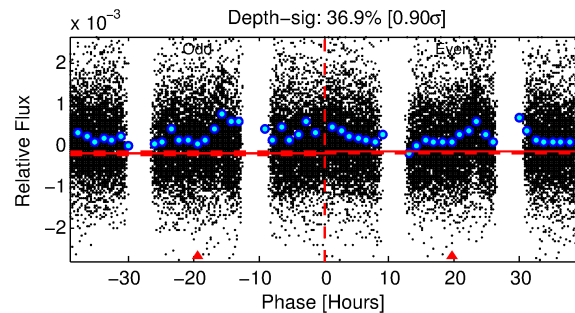
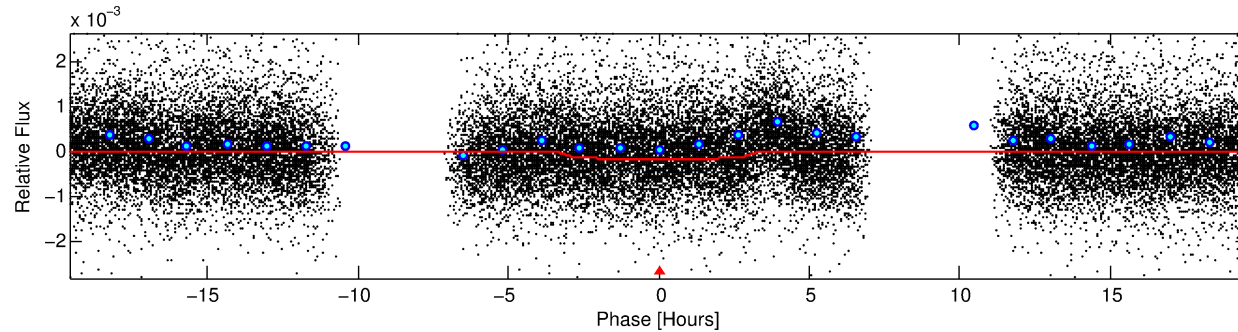
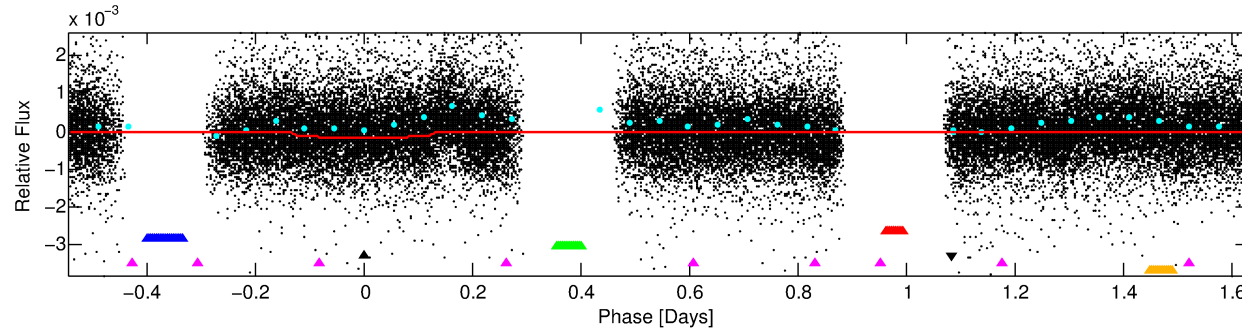
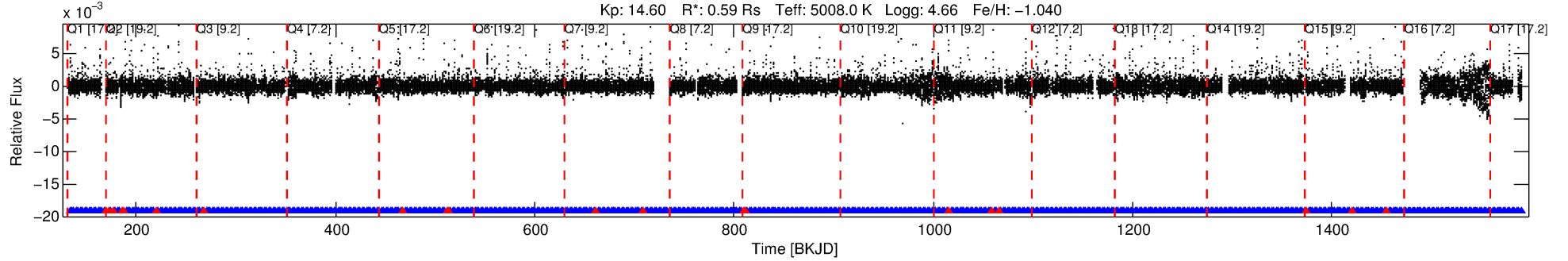
No Significant Match Found

DV One-Page Summary

KIC: 10139305 Candidate: 4 of 6 Period: 2.173 d

KOI: K06077 Corr: No Ephemeris Match

Kp: 14.60 R*: 0.59 Rs Teff: 5008.0 K Logg: 4.66 Fe/H: -1.040



DV Fit Results:

Period = 2.17348 [0.00001] d
Epoch = 133.5317 [0.0030] BKJD
Rp/R* = 0.0130 [0.0041]
a/R* = 1.85 [1.70]
b = 0.78 [0.65]
Seff = 261.34 [43.52]
Teq = 1025 [43] K
Rp = 0.84 [0.28] Re
a = 0.0276 [0.0018] AU
Ag = 66.79 [44.81] [1.47σ]
Teffp = 4531 [766] K [4.57σ]

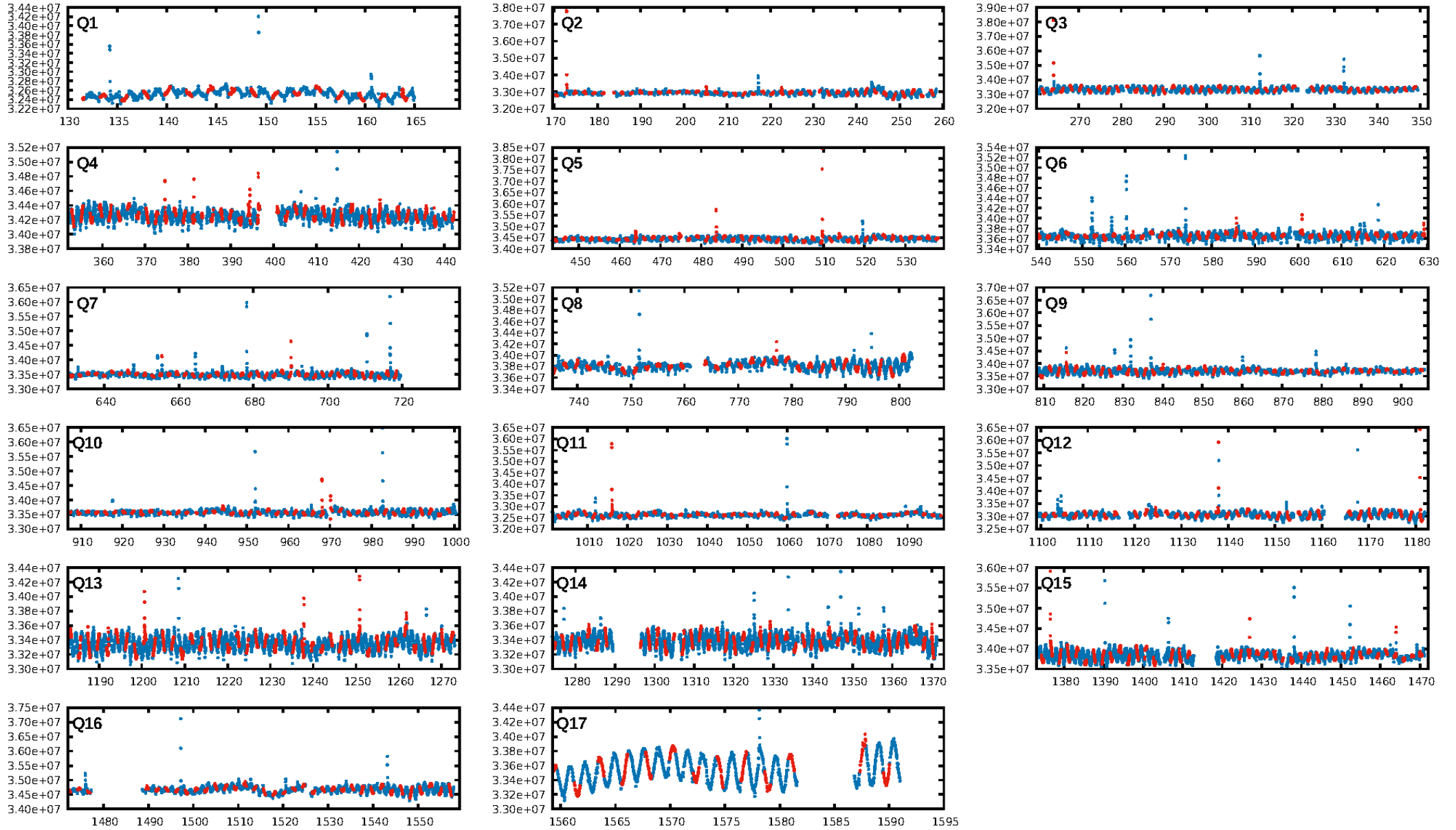
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.97 [579/599]
GhostDiagnostic-chr: 2.195
Centroid-sig: 0.9%
Centroid-so: 0.801 arcsec [2.05σ]
OotOffset-rm: 0.193 arcsec [0.84σ]
OotOffset-st: 3/4/3/3 [13]
KicOffset-rm: 0.244 arcsec [0.95σ]
KicOffset-st: 3/4/3/3 [13]
DiffImageQuality-fgm: 0.23 [3/13]
DiffImageOverlap-fno: 0.00 [0/17]

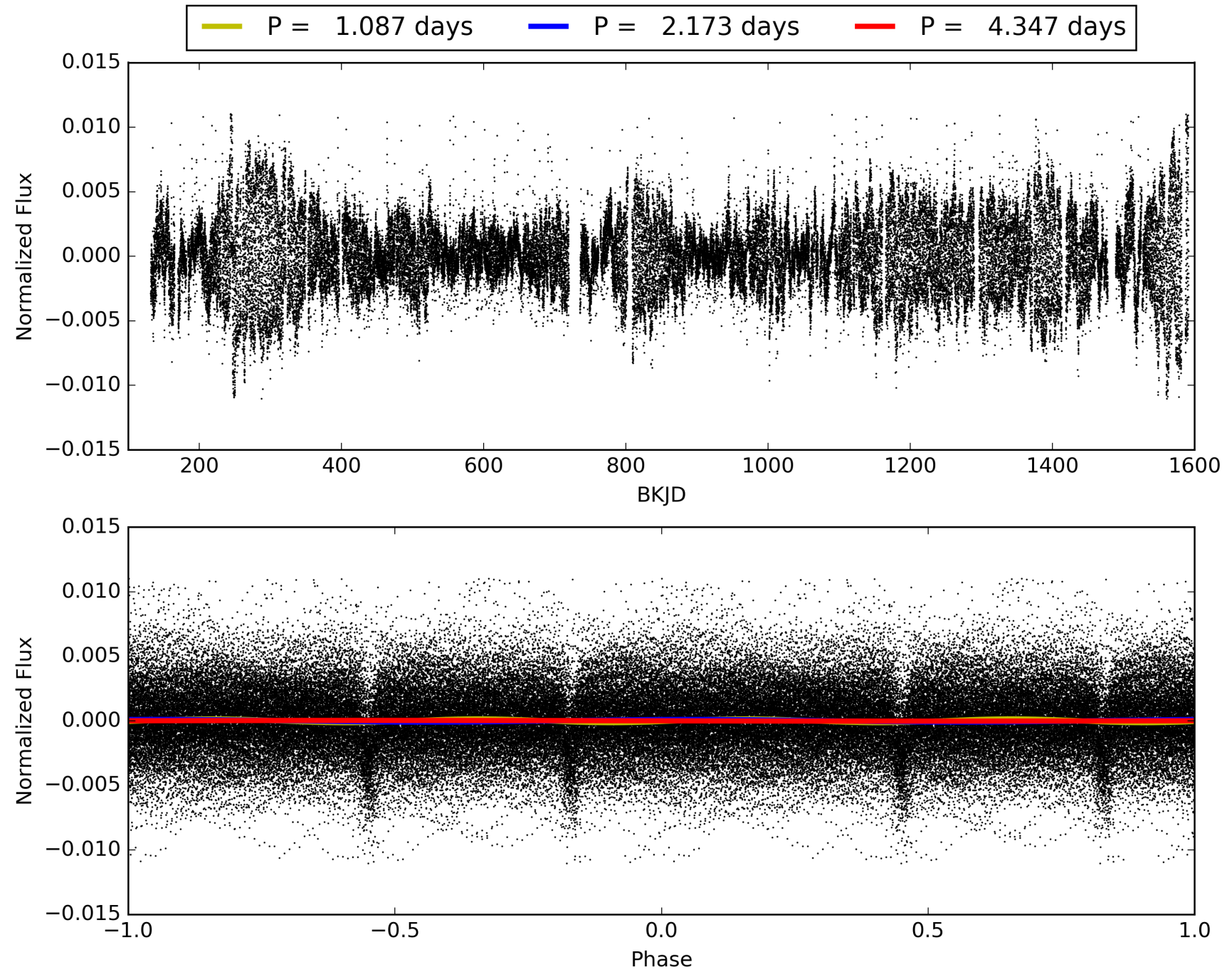
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:57:05 Z

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

TCE 010139305-04, PDC Light Curves

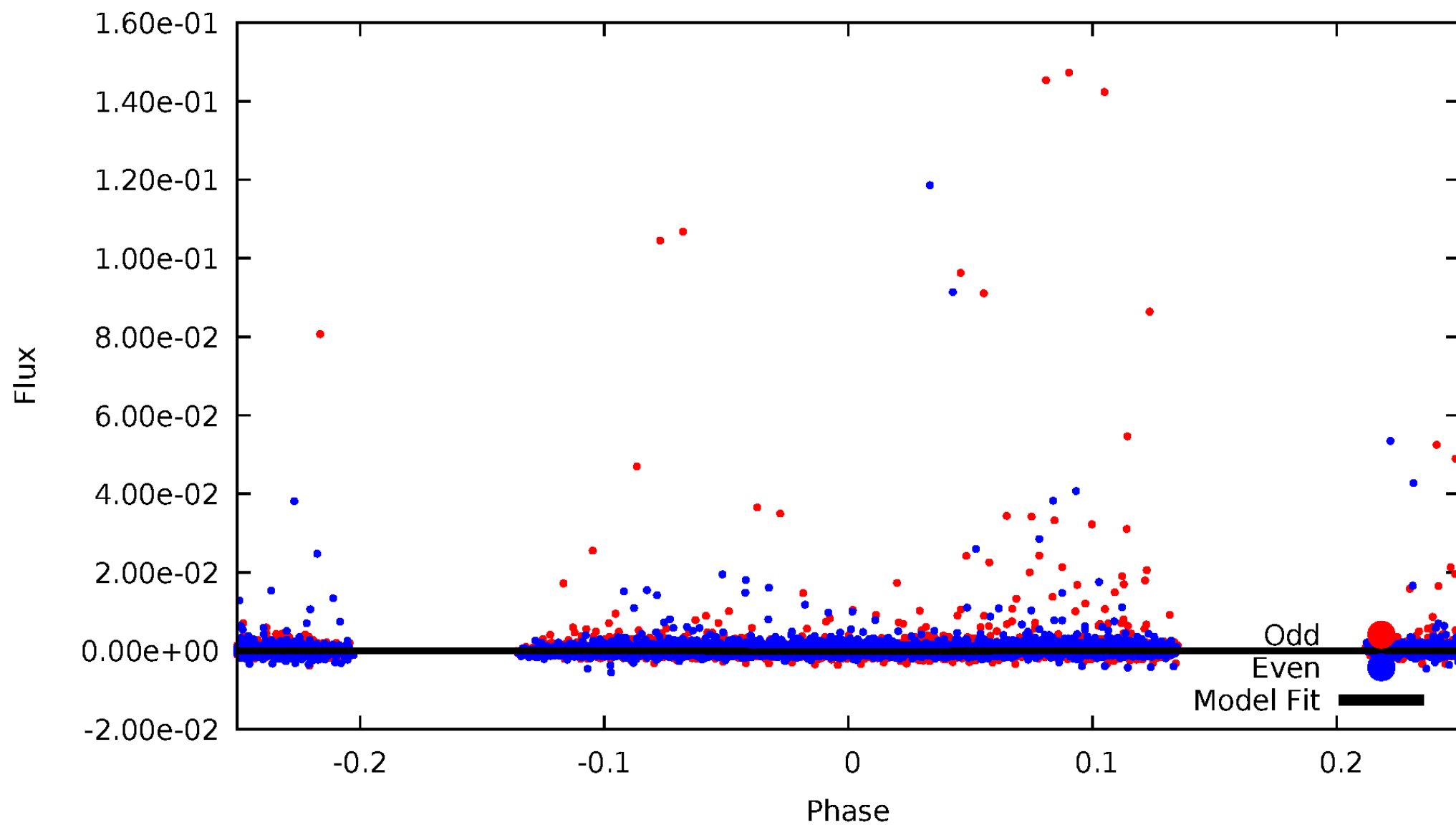


TCE 010139305-04



DV Odd/Even

TCE 010139305-04

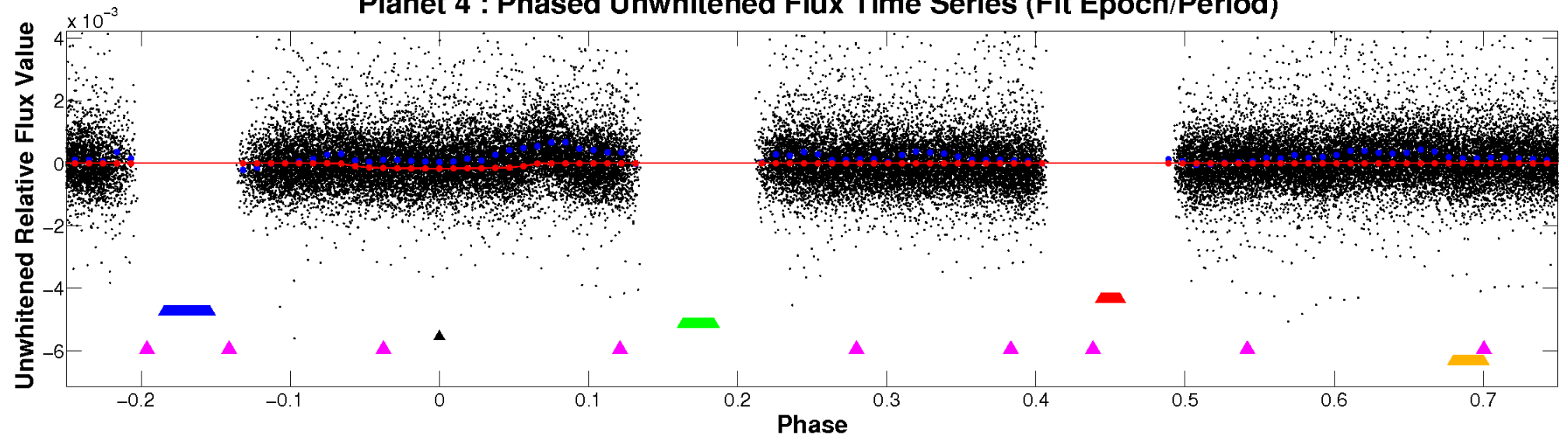


ALT Odd/Even

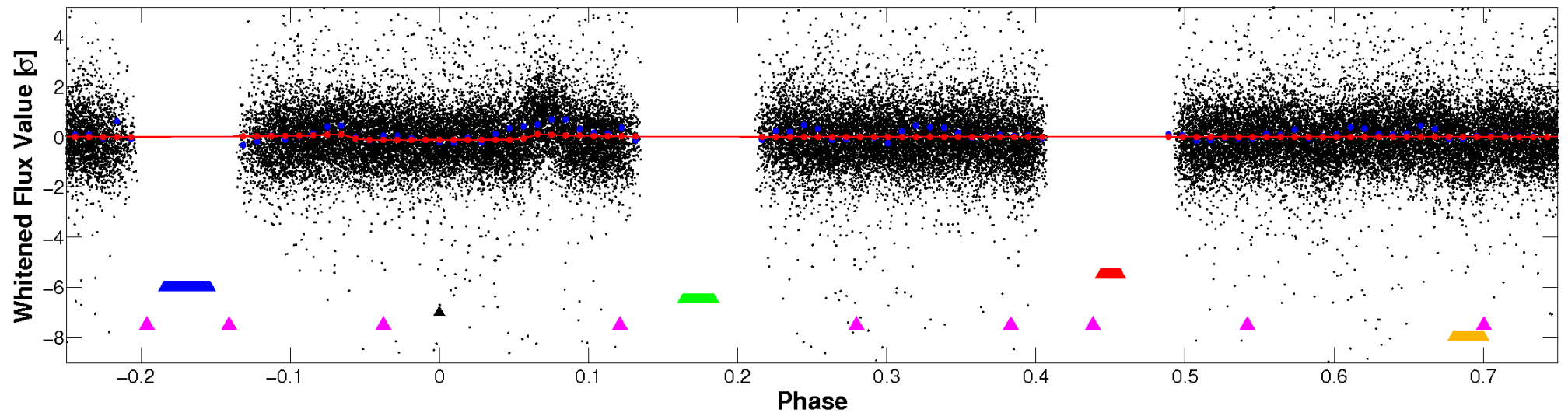
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

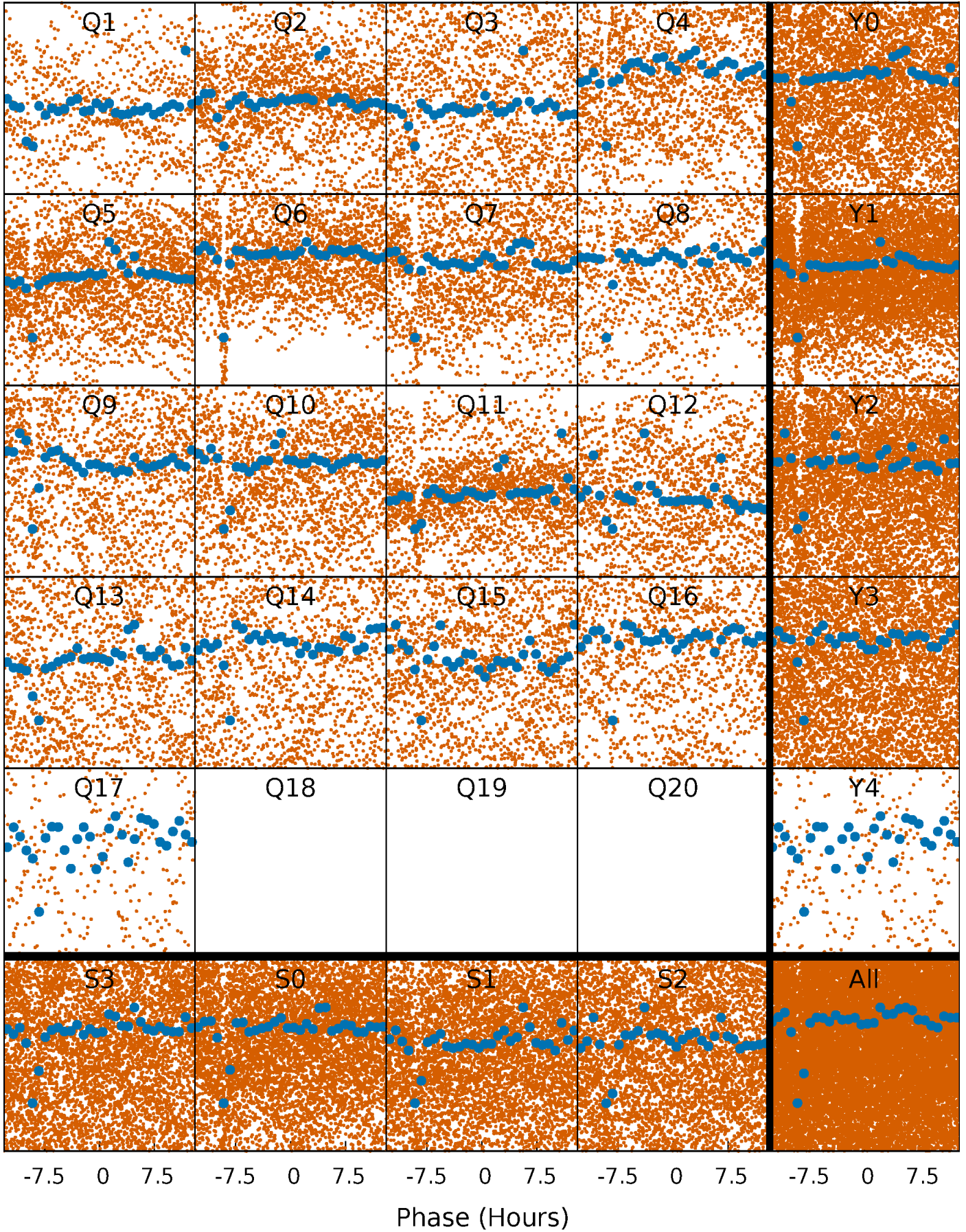


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



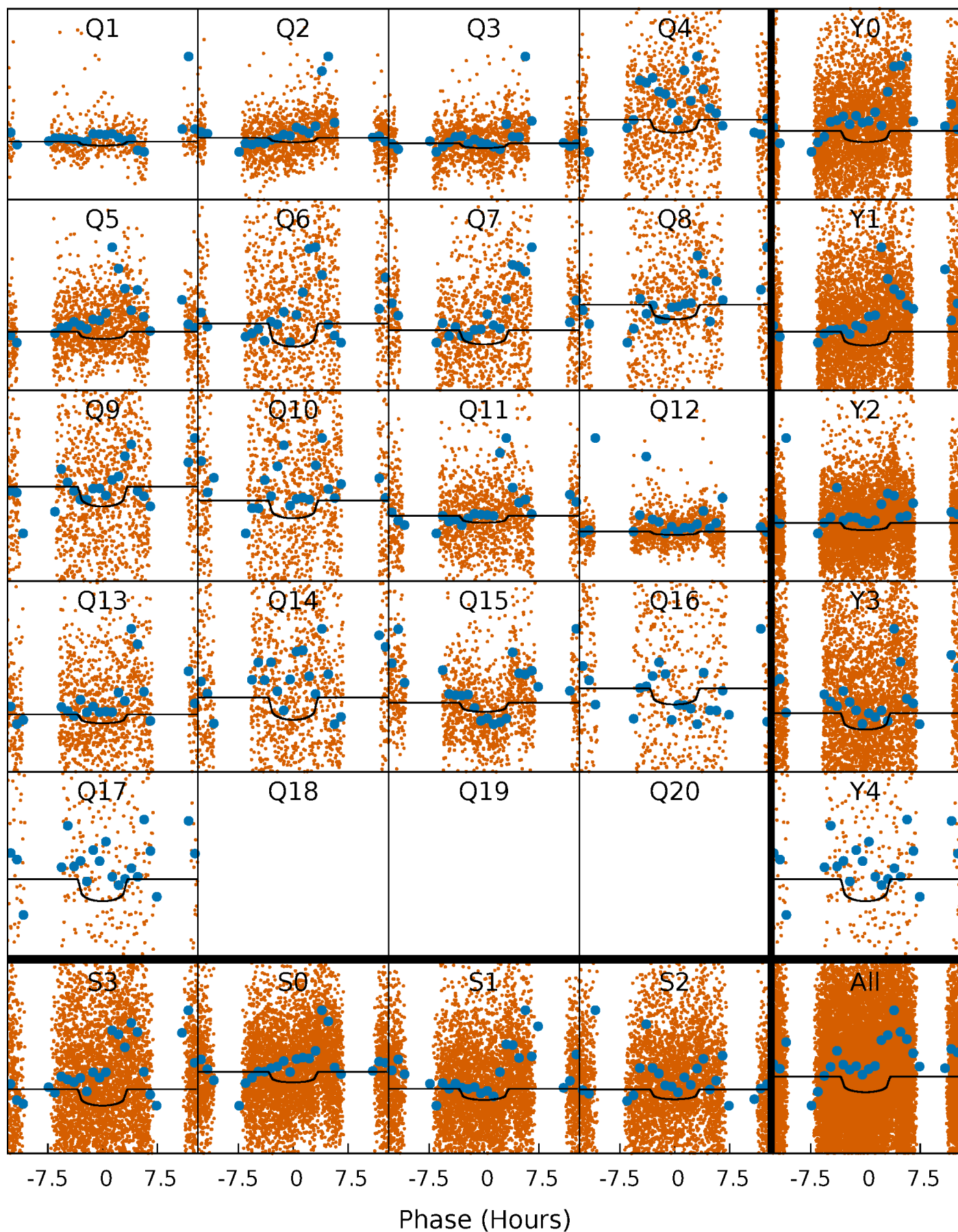
PDC Quarter-Phased Transit Curves

TCE 010139305-04 P= 2.173476 Days $T_0=133.531715$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 010139305-04 $P = 2.173476$ Days $T_0 = 133.531715$ (BKJD)

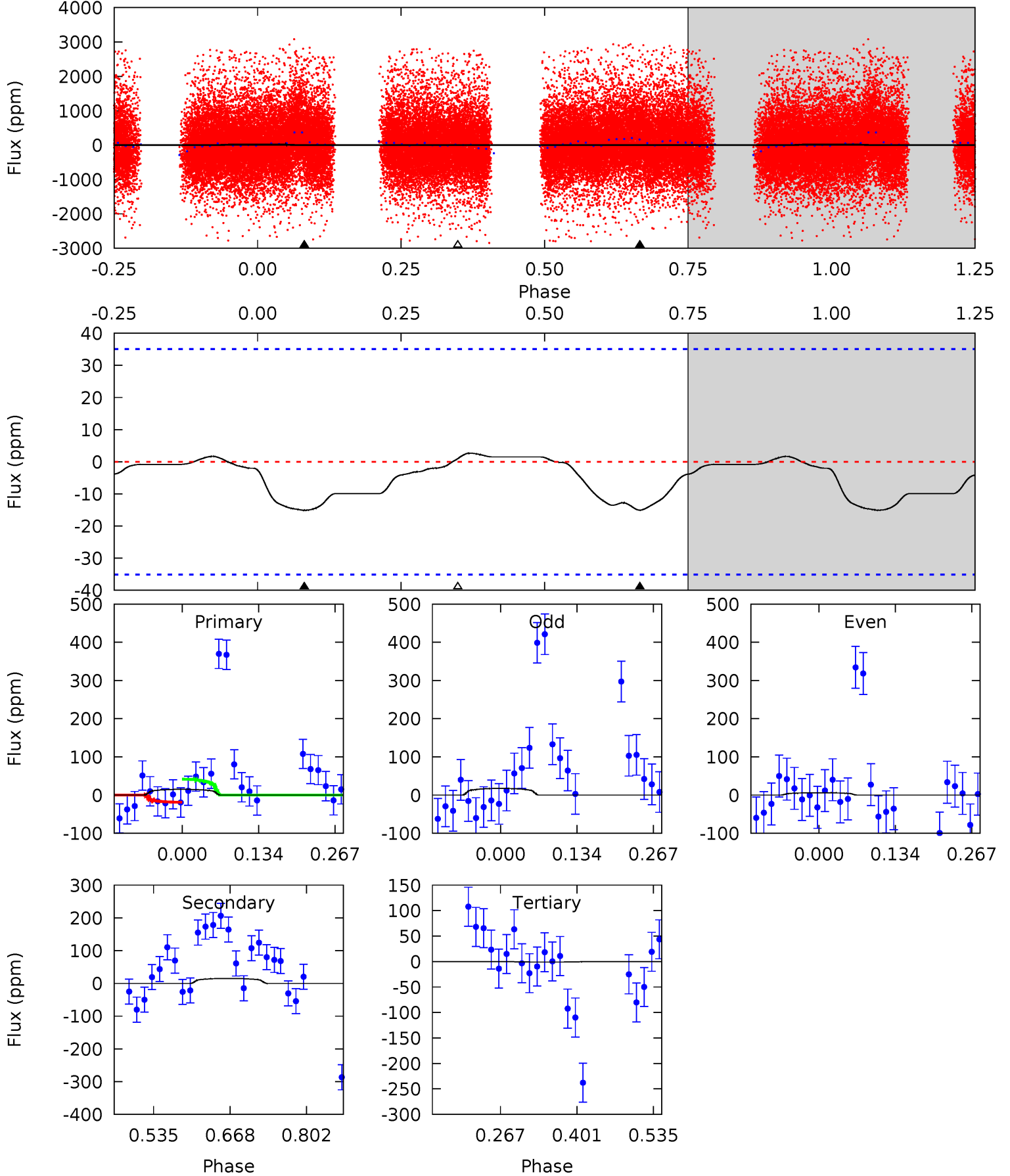


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

010139305-04, P = 2.173476 Days, E = 131.358239 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.93	1.93	-0.12	0	4.50	1.50	0.34	2.06	1.93	2.06	1.93	0.74	6.92	0.15	1.46



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 010139305

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5008^{+166}_{-151}	$4.663^{+0.058}_{-0.036}$	$-1.040^{+0.300}_{-0.300}$	$0.594^{+0.042}_{-0.038}$	$0.592^{+0.052}_{-0.022}$	$3.983^{+0.856}_{-0.542}$
	+3%/-3%	+1%/-1%	+29%/-29%	+7%/-6%	+9%/-4%	+21%/-14%
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 010139305-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-15 ± 8	$0.84^{+0.29}_{-0.27}$	1431^{+52}_{-50}	3224^{+515}_{-398}	$8.733^{+12.148}_{-5.182}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

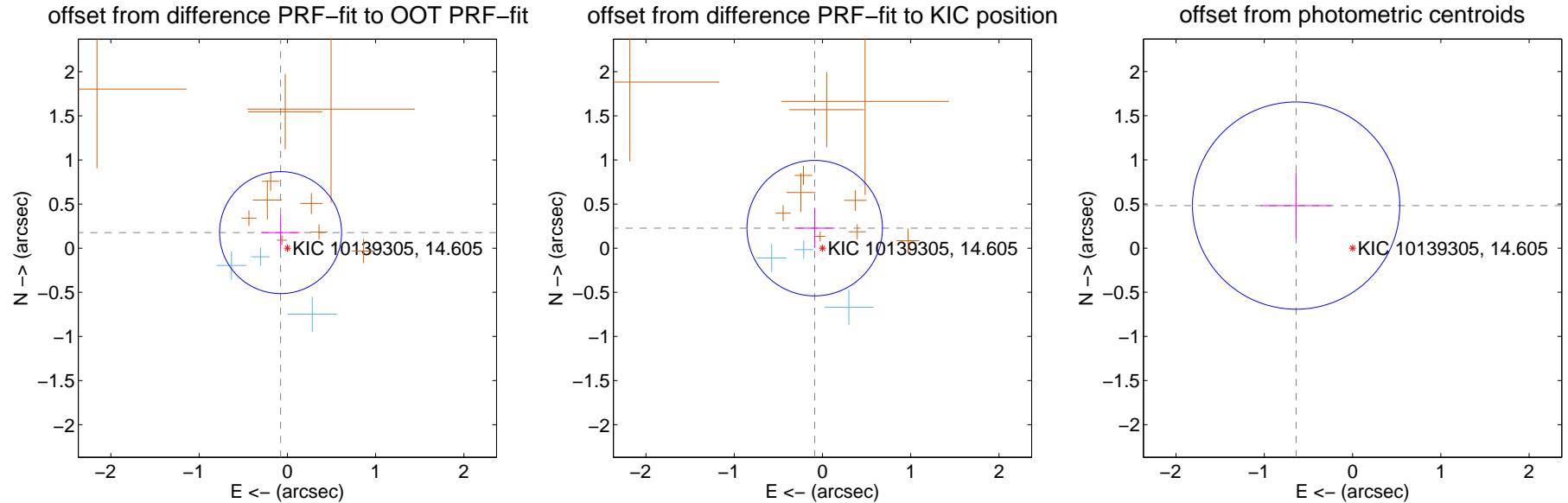
DV Centroid Data

Supplemental centroid analysis for 010139305-04. Kepler magnitude: 14.61. Transit SNR 11.10

There are 3 quarters with good PRF difference image offsets

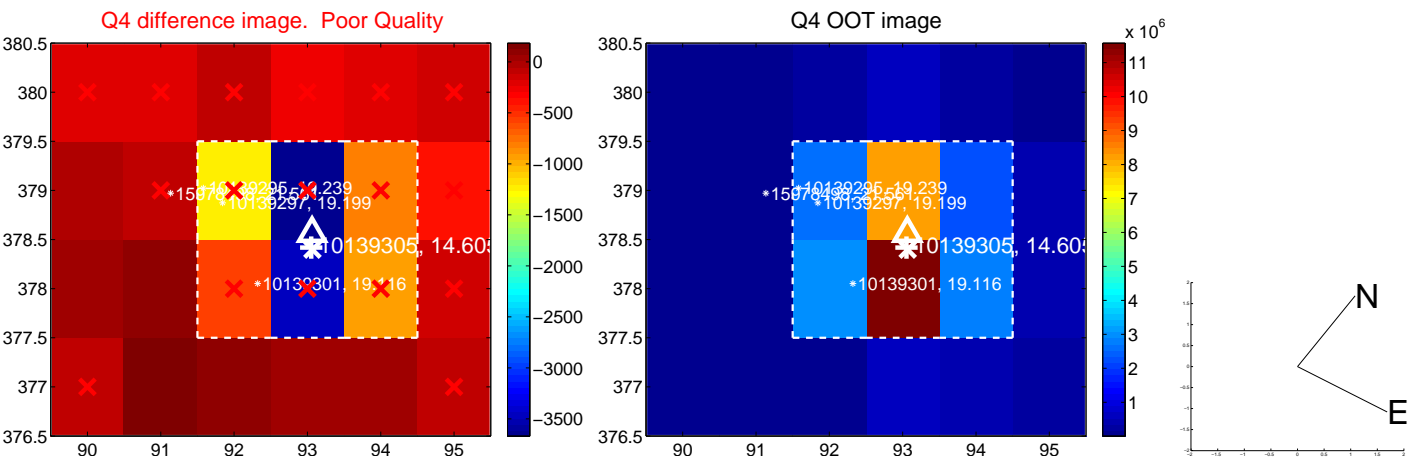
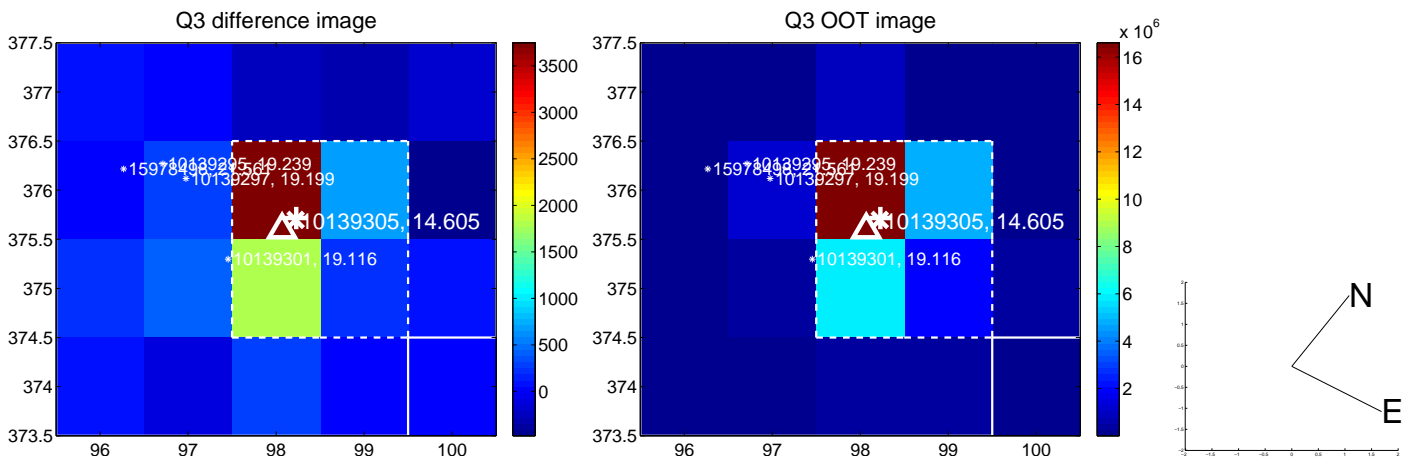
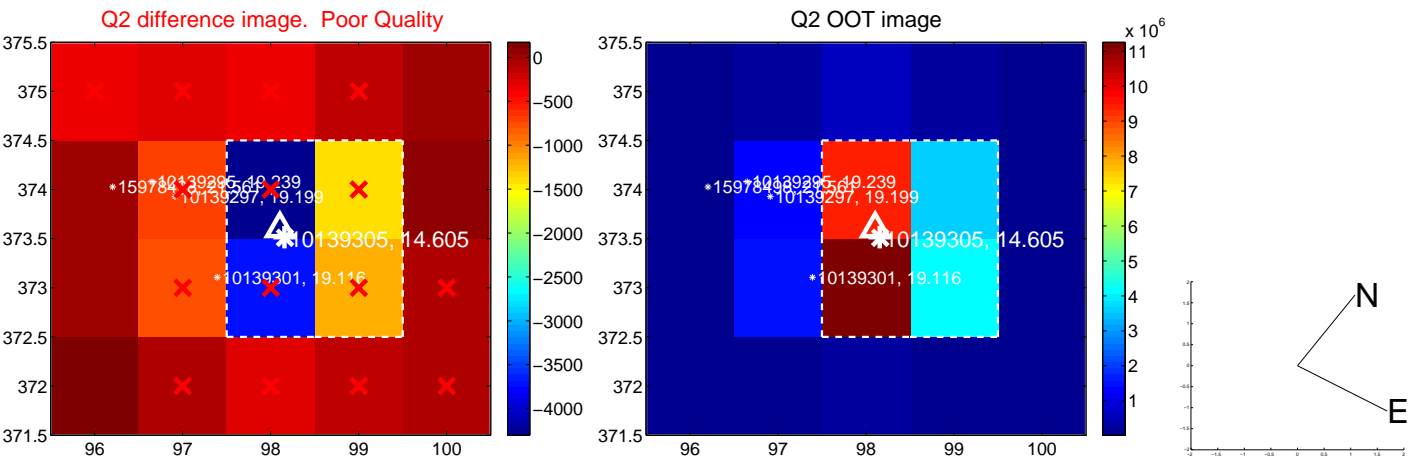
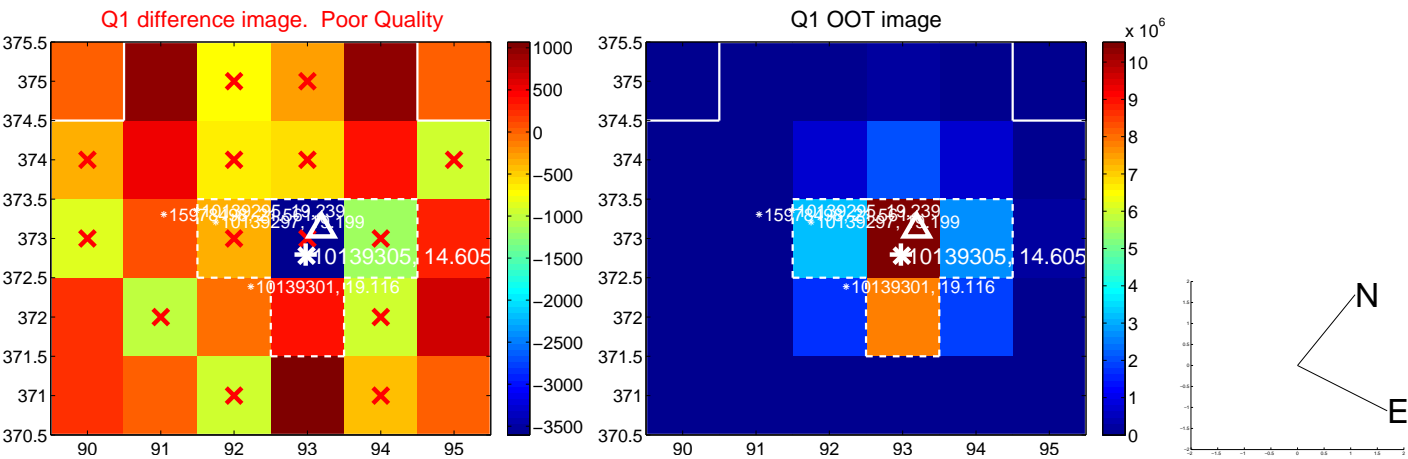
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.193 ± 0.230	0.84	0.077 ± 0.217	0.177 ± 0.205
PRF-fit source offset from KIC position	0.244 ± 0.256	0.95	0.088 ± 0.228	0.227 ± 0.227
photometric centroid source offset	0.80 ± 0.39	2.05	0.64 ± 0.40	0.48 ± 0.37

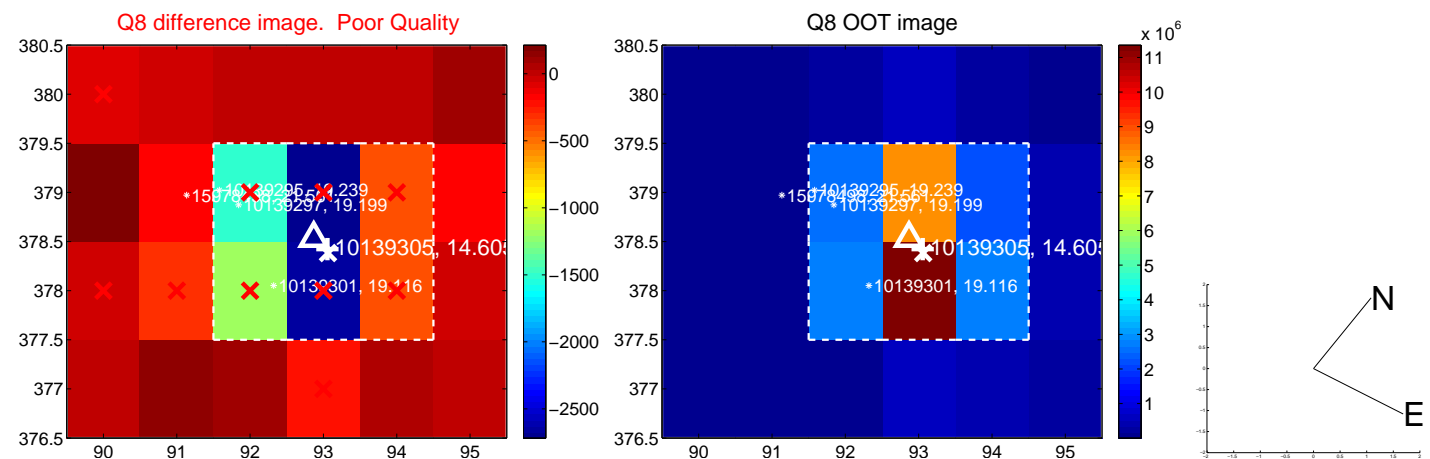
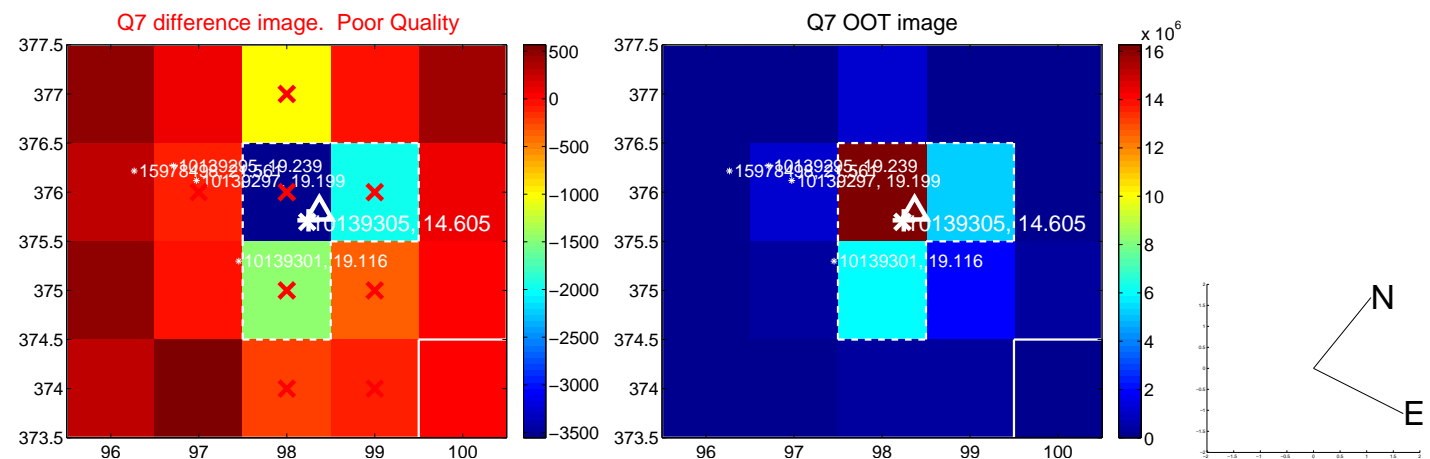
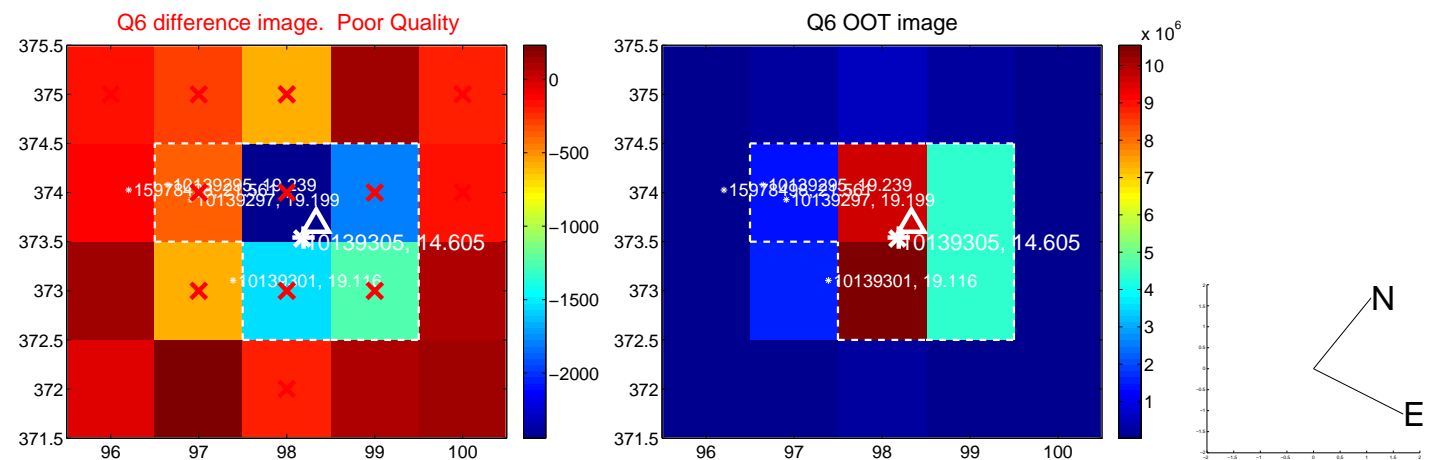
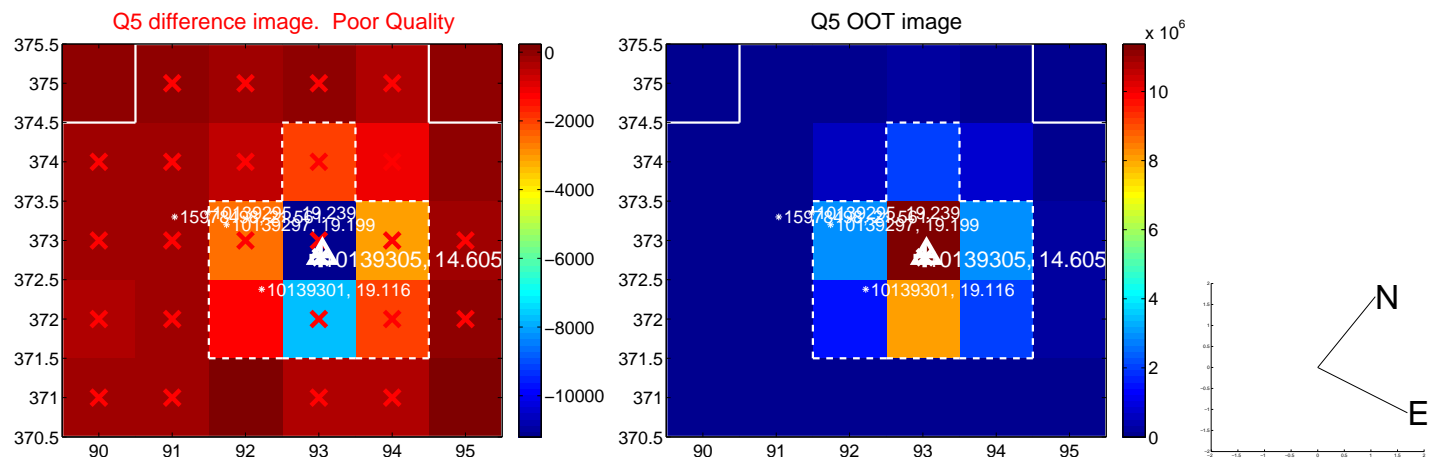


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

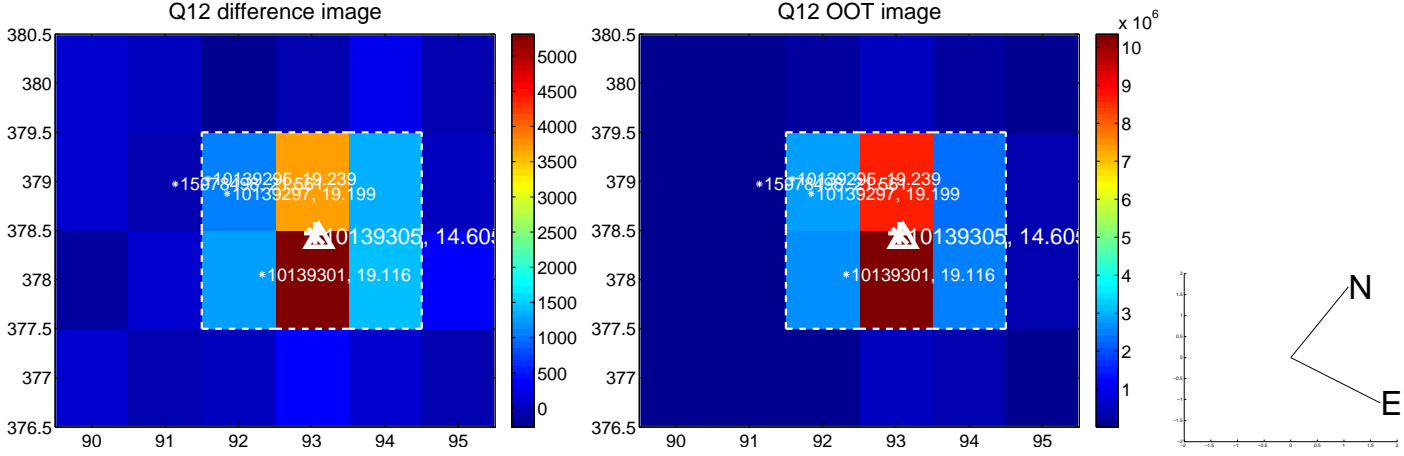
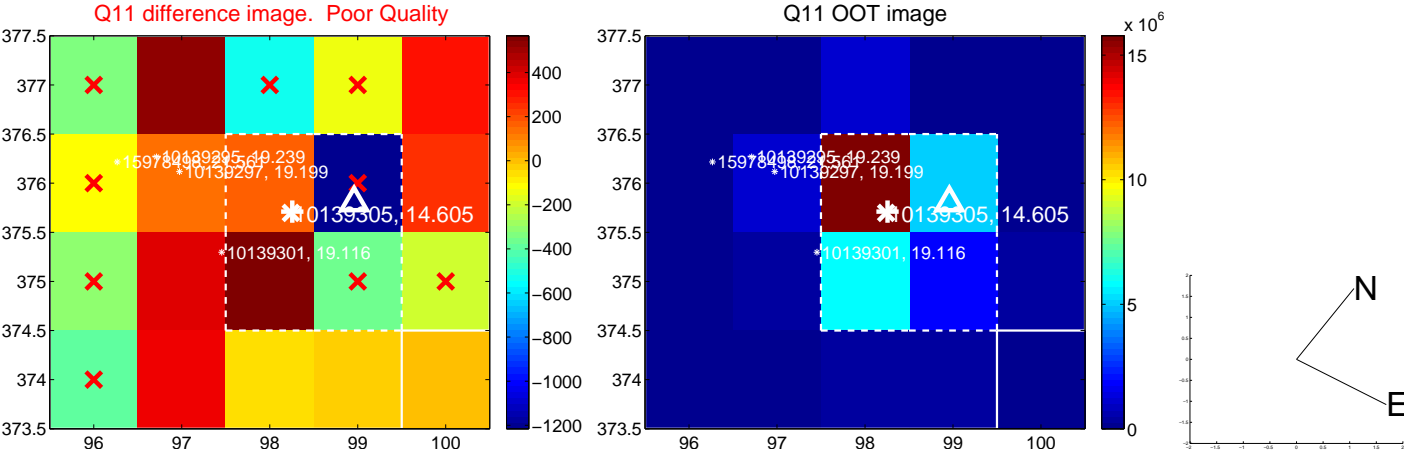
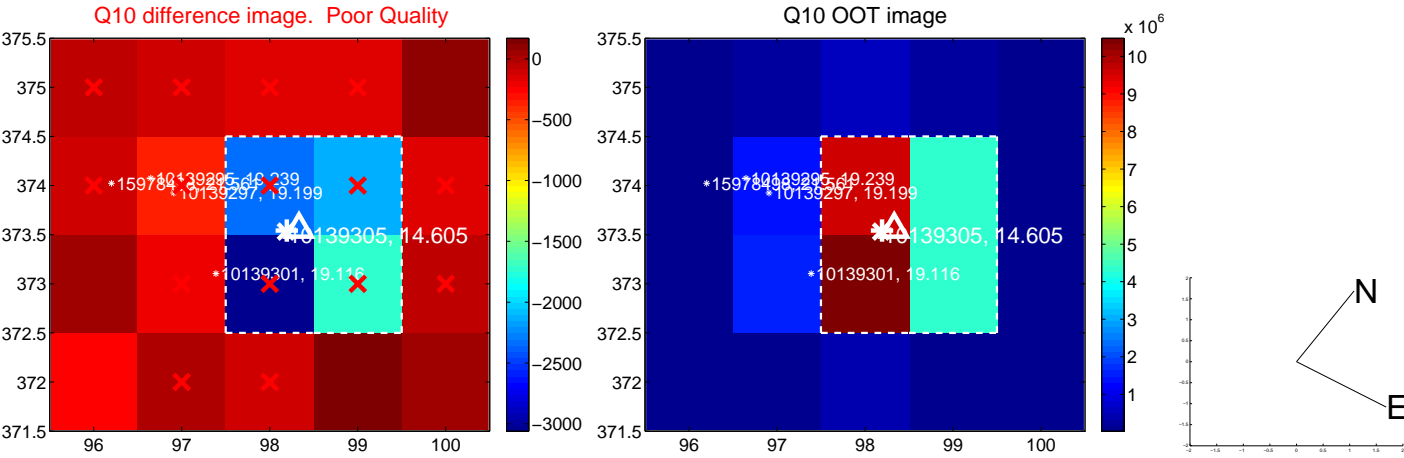
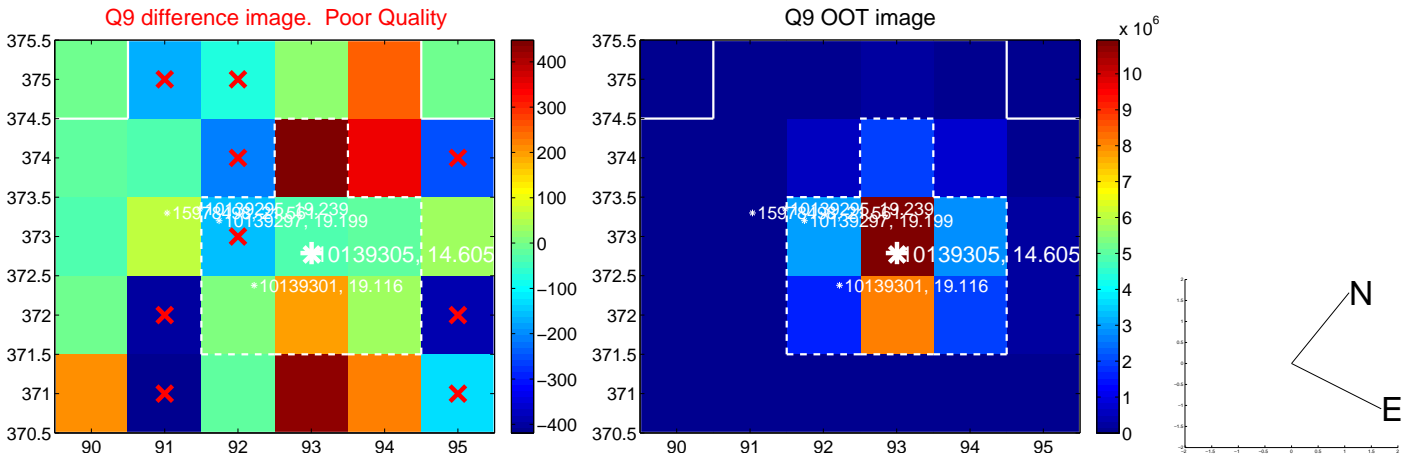
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



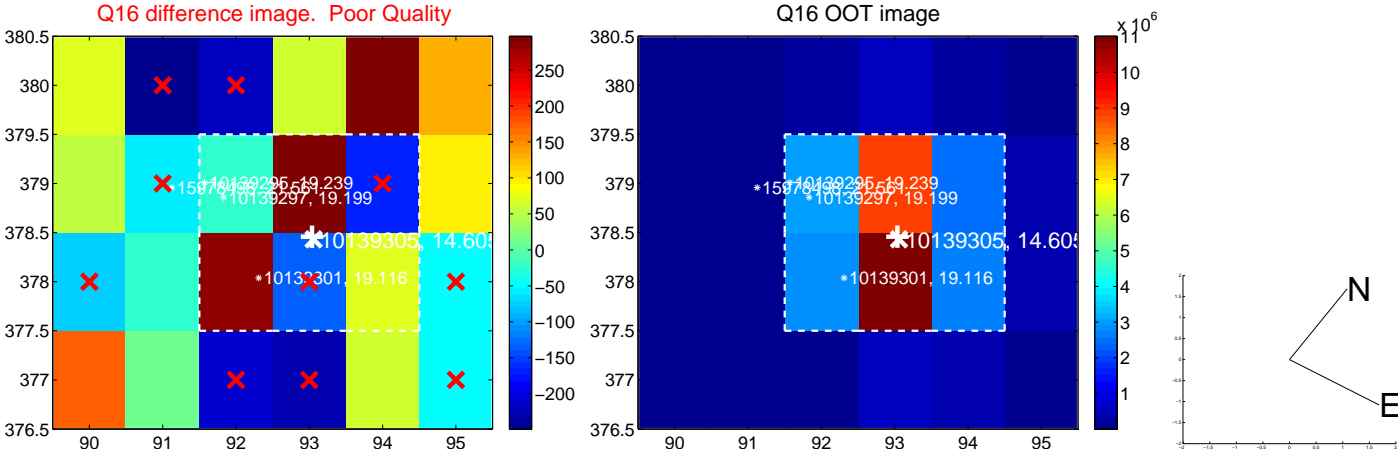
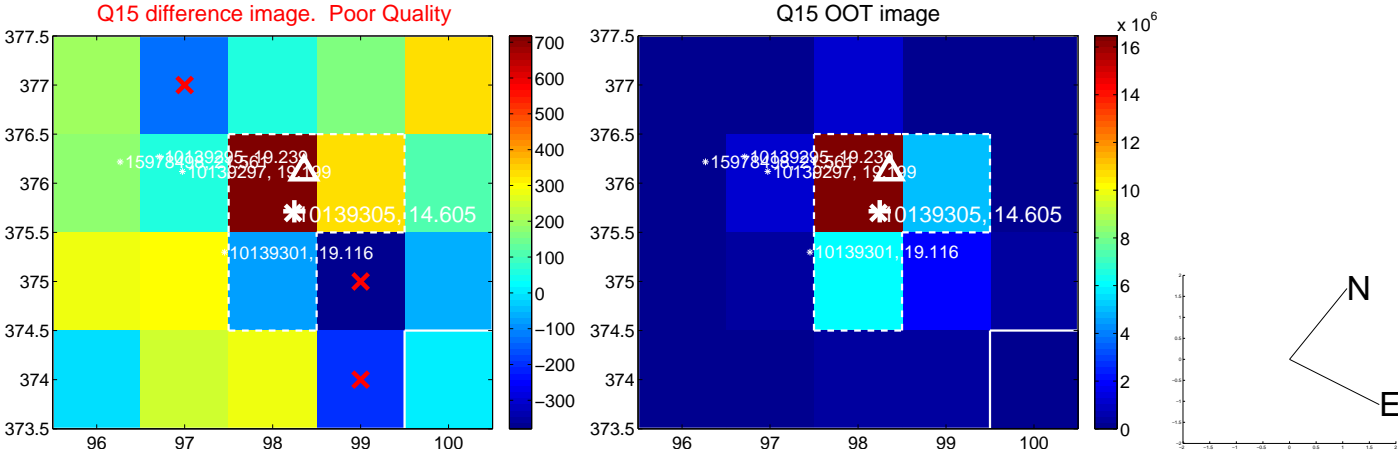
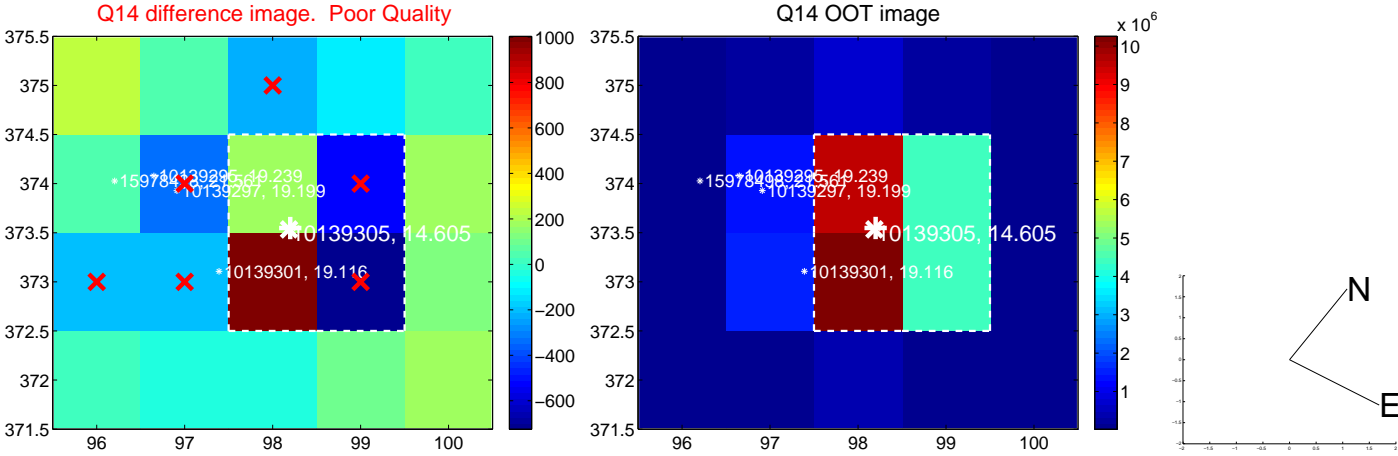
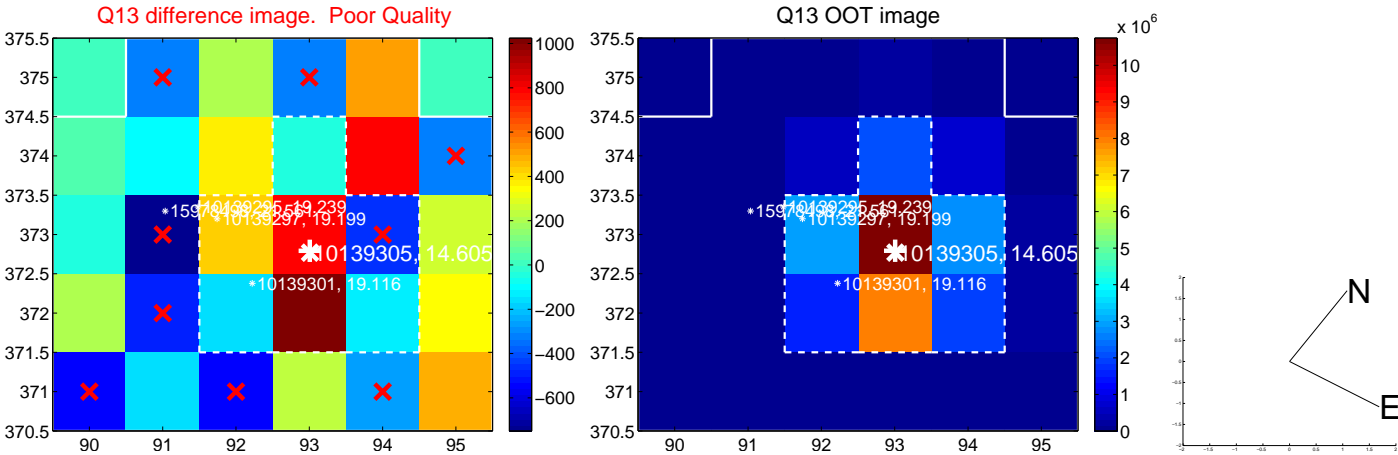
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



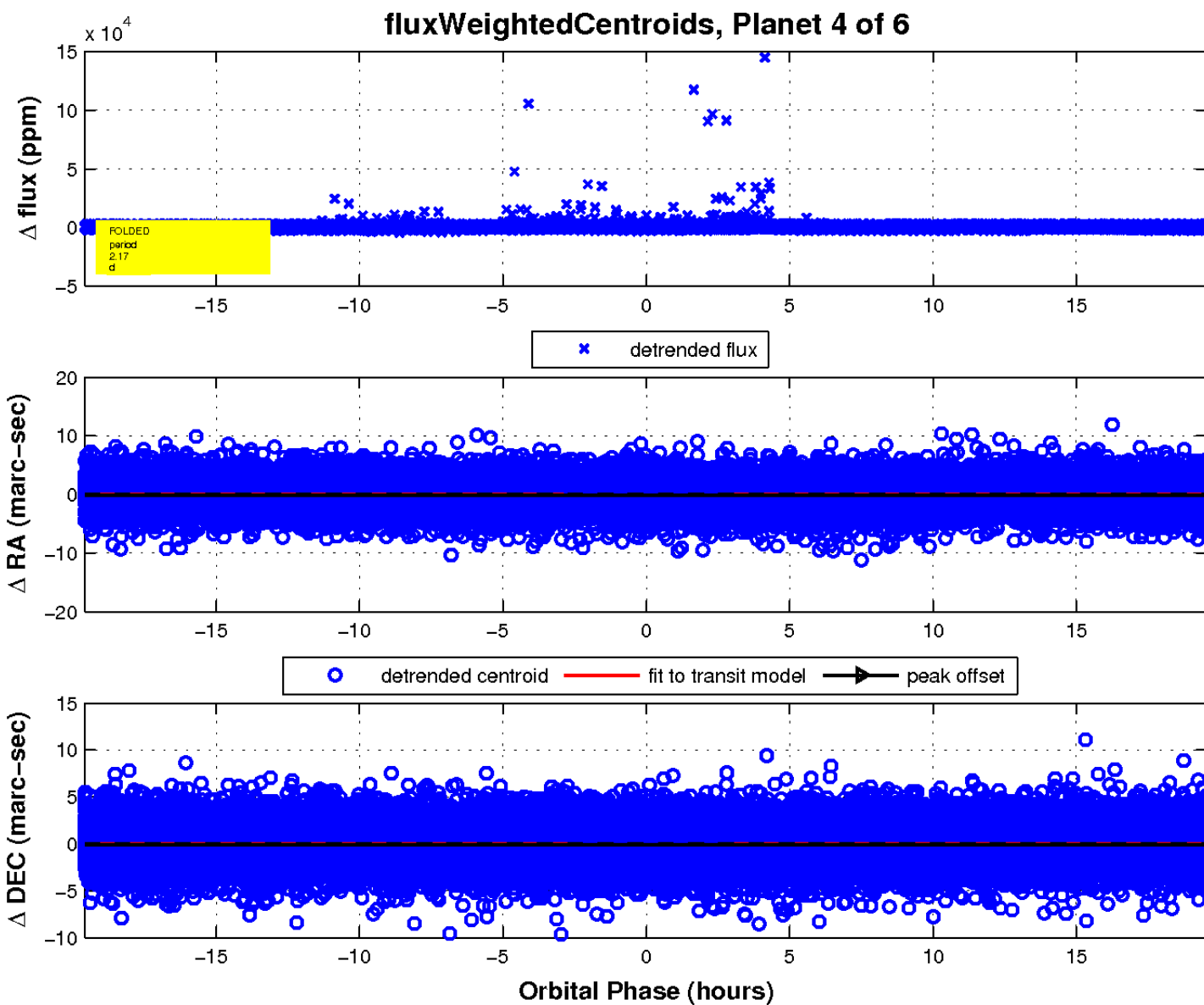
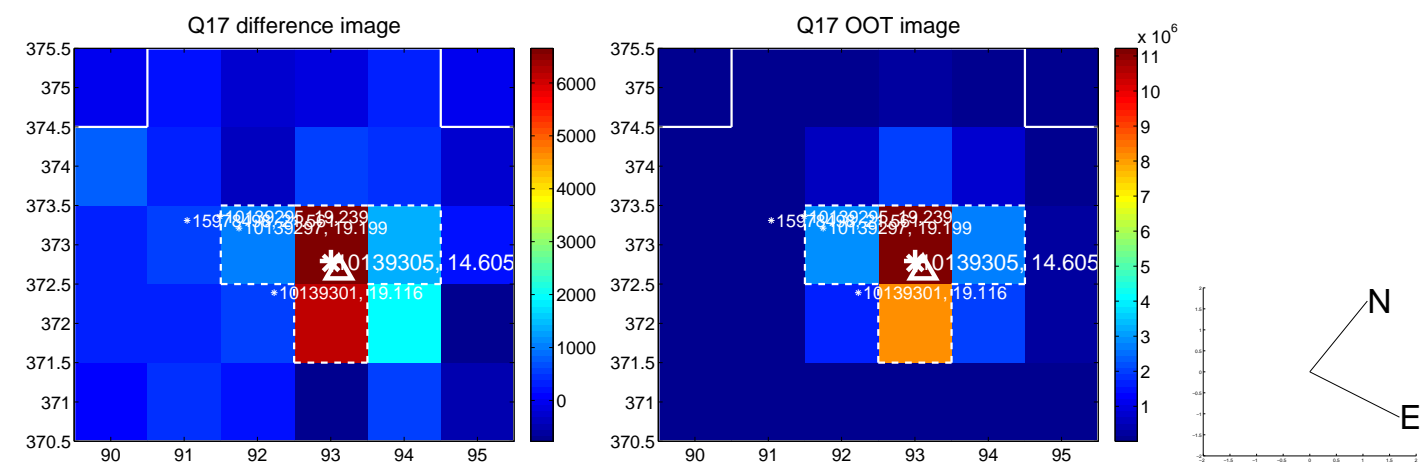
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

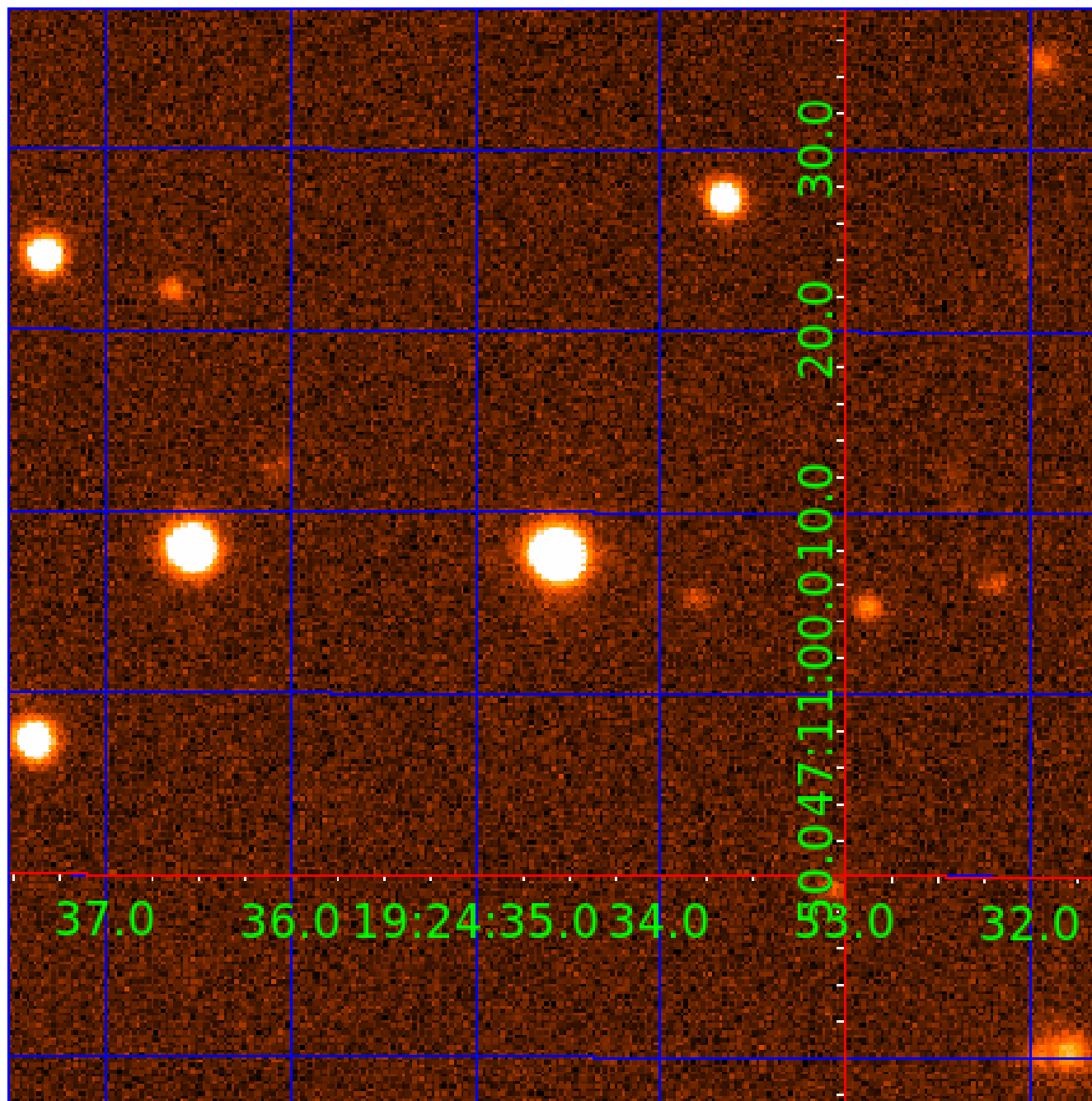


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010139305

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})
010139305-01	OBS	6077.01	2.173518	132.322411	604.2	1.155	28.4	33.6	0.59	5008	1.77	261.33
010139305-02	OBS	No	2.173576	133.130612	1301.0	0.705	30.0	62.7	0.59	5008	2.69	261.32
010139305-03	OBS	No	2.173543	131.713297	1.6	1.302	21.1	0.1	0.59	5008	0.08	261.33
010139305-04	OBS	No	2.173476	133.531715	165.9	6.528	13.0	11.1	0.59	5008	0.84	261.34
010139305-05	OBS	No	164.269813	183.095527	533.7	10.550	21.0	3.2	0.59	5008	1.48	0.82
010139305-06	OBS	No	2.173542	132.835994	1014.7	1.500	12.0	-1.0	0.59	5008	1.87	261.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010139305-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010139305-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
010139305-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
010139305-04	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
010139305-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010139305-06	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

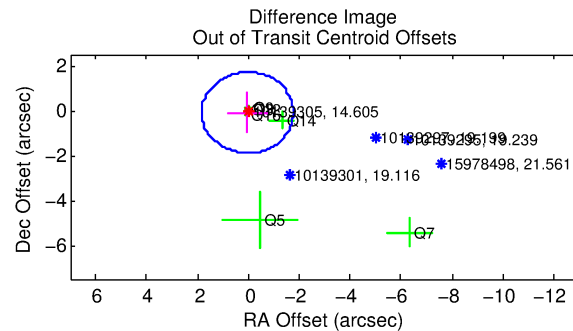
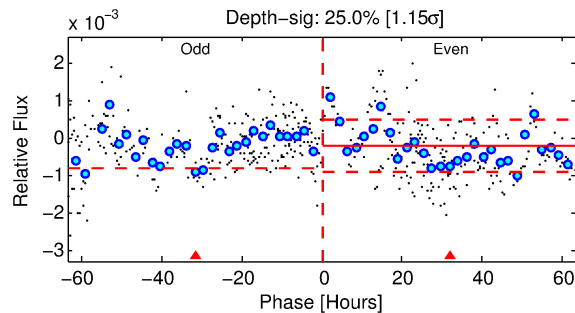
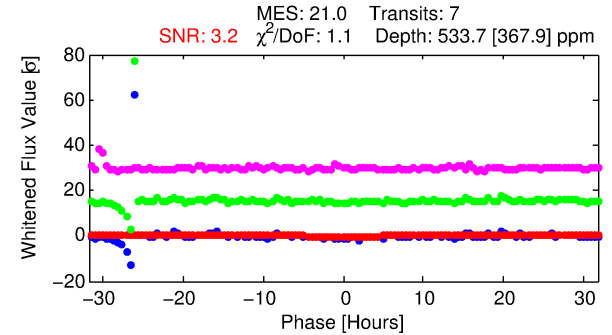
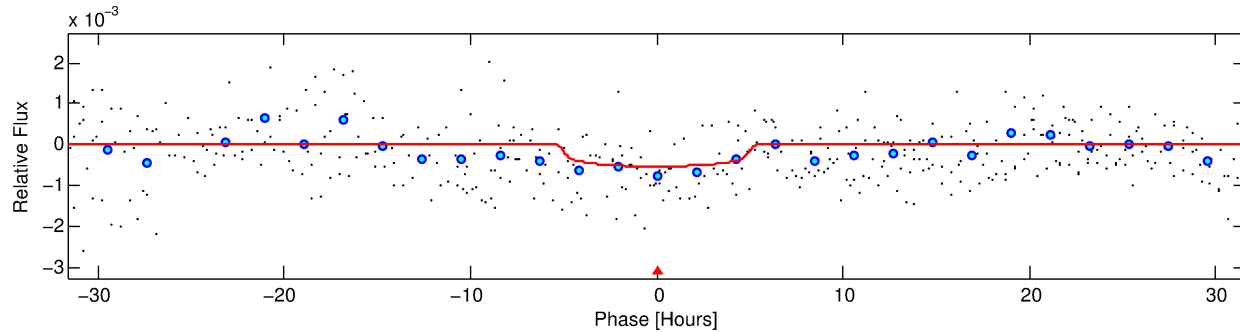
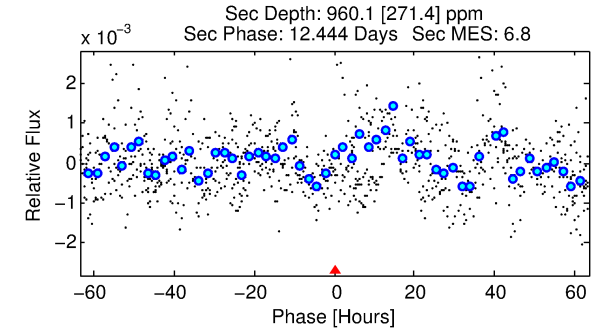
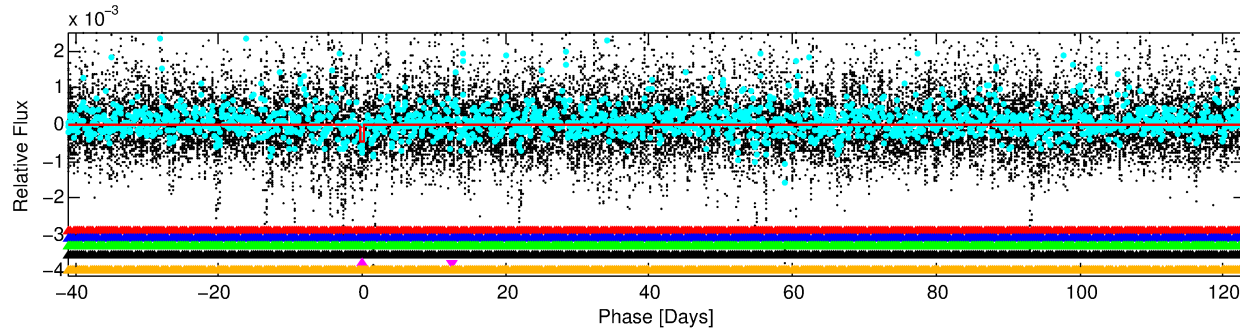
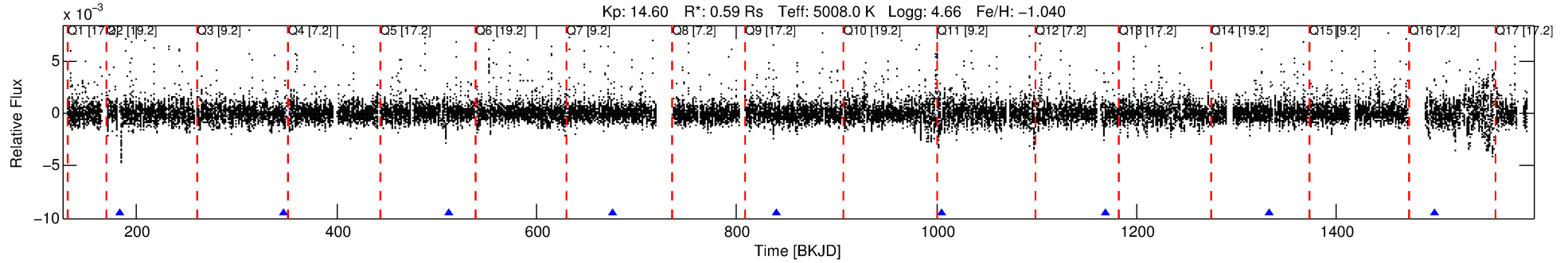
Ephemeris Match Information For 010139305-05

No Significant Match Found

DV One-Page Summary

KIC: 10139305 Candidate: 5 of 6 Period: 164.270 d
KOI: K06077 Corr: No Ephemeris Match

Kp: 14.60 R*: 0.59 Rs Teff: 5008.0 K Logg: 4.66 Fe/H: -1.040



DV Fit Results:

Period = 164.26981 [0.01227] d
Epoch = 183.0955 [0.0735] BKJD
Rp/R* = 0.0229 [0.0279]
a/R* = 84.42 [388.83]
b = 0.74 [2.88]
Seff = 0.82 [0.14]
Teq = 242 [10] K
Rp = 1.48 [1.81] Re
a = 0.4931 [0.0320] AU
Ag = 58479.57 [143588.59] [0.41 sigma]
Teffp = 5830 [3581] K [1.56 sigma]

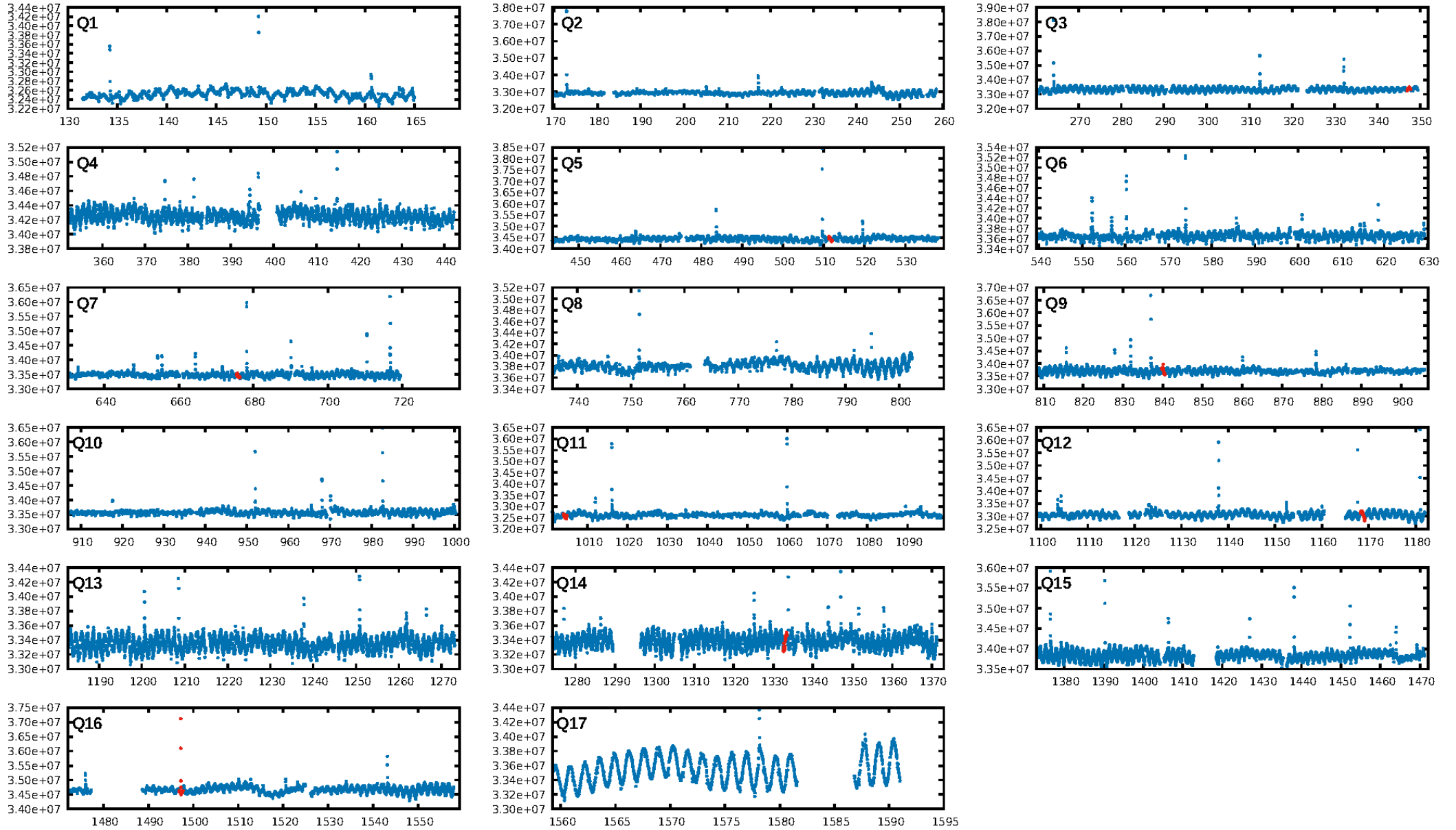
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [367.91 sigma]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: -0.2603
Centroid-sig: 13.6%
Centroid-so: 1.184 arcsec [1.34 sigma]
OotOffset-rm: 0.099 arcsec [0.17 sigma]
OotOffset-st: 1/2/2/2 [7]
KicOffset-rm: 0.077 arcsec [0.07 sigma]
KicOffset-st: 1/2/2/2 [7]
DiffImageQuality-fgm: 0.14 [1/7]
DiffImageOverlap-fno: 0.00 [0/7]

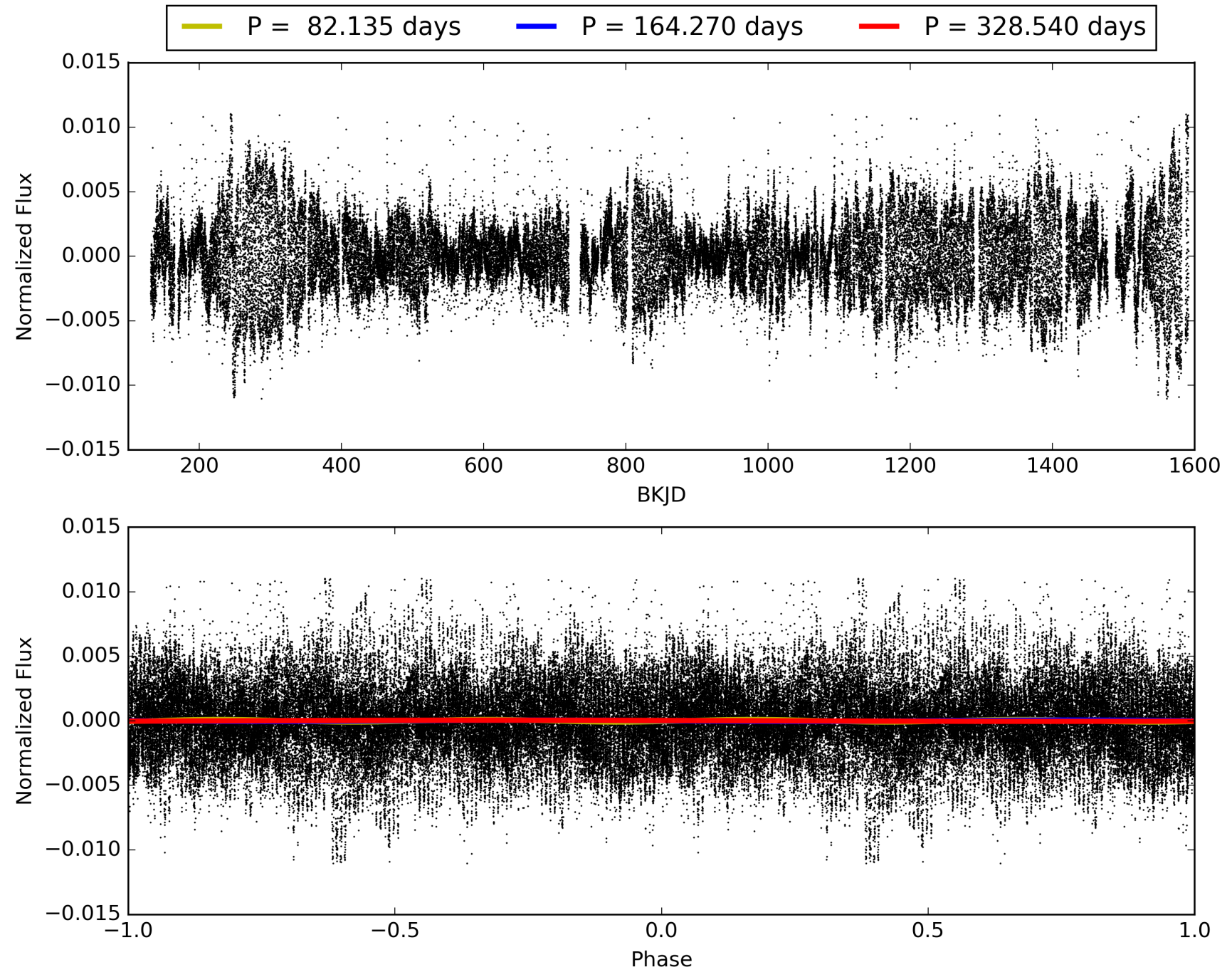
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:57:14 Z

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

TCE 010139305-05, PDC Light Curves

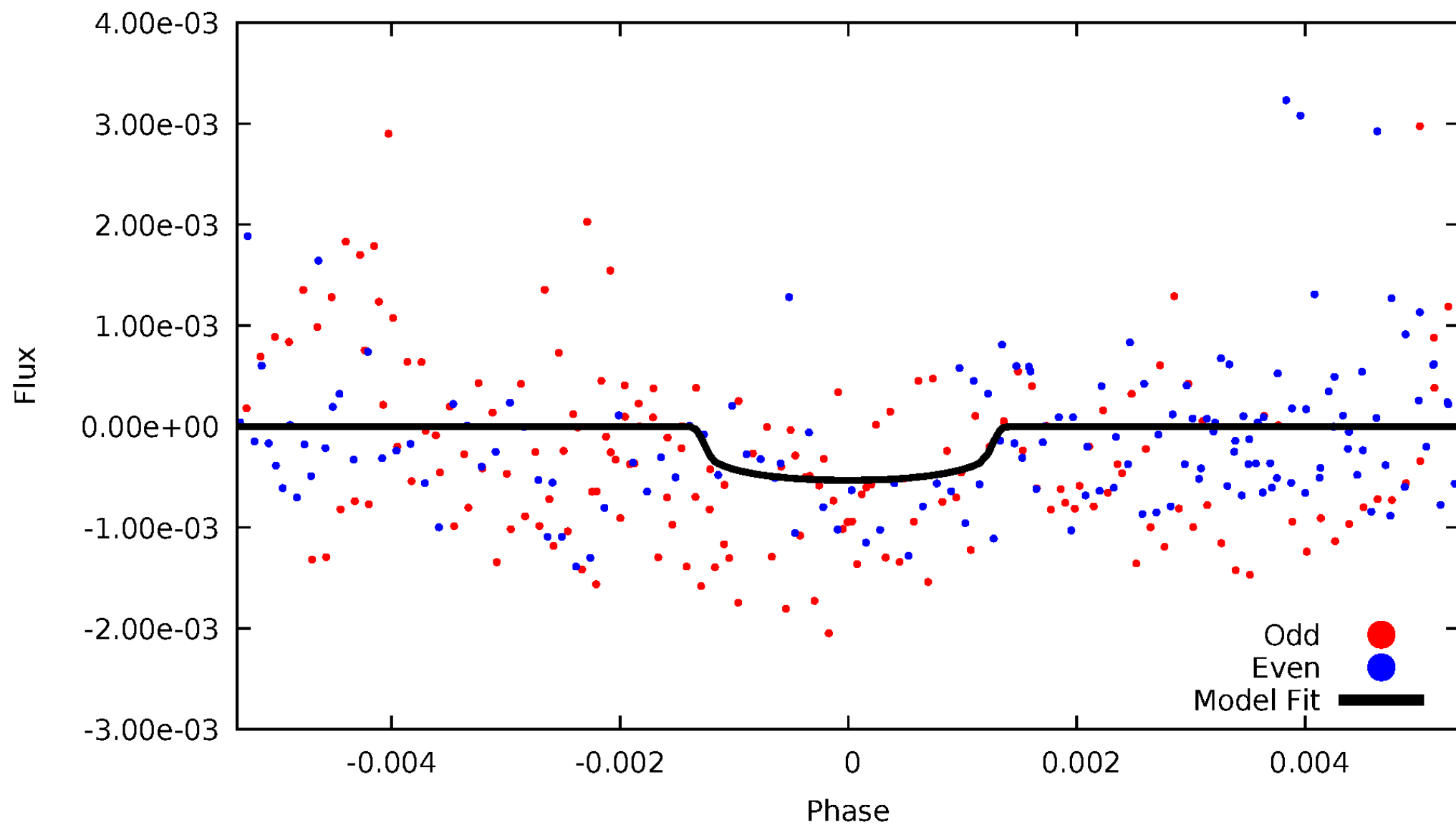


TCE 010139305-05



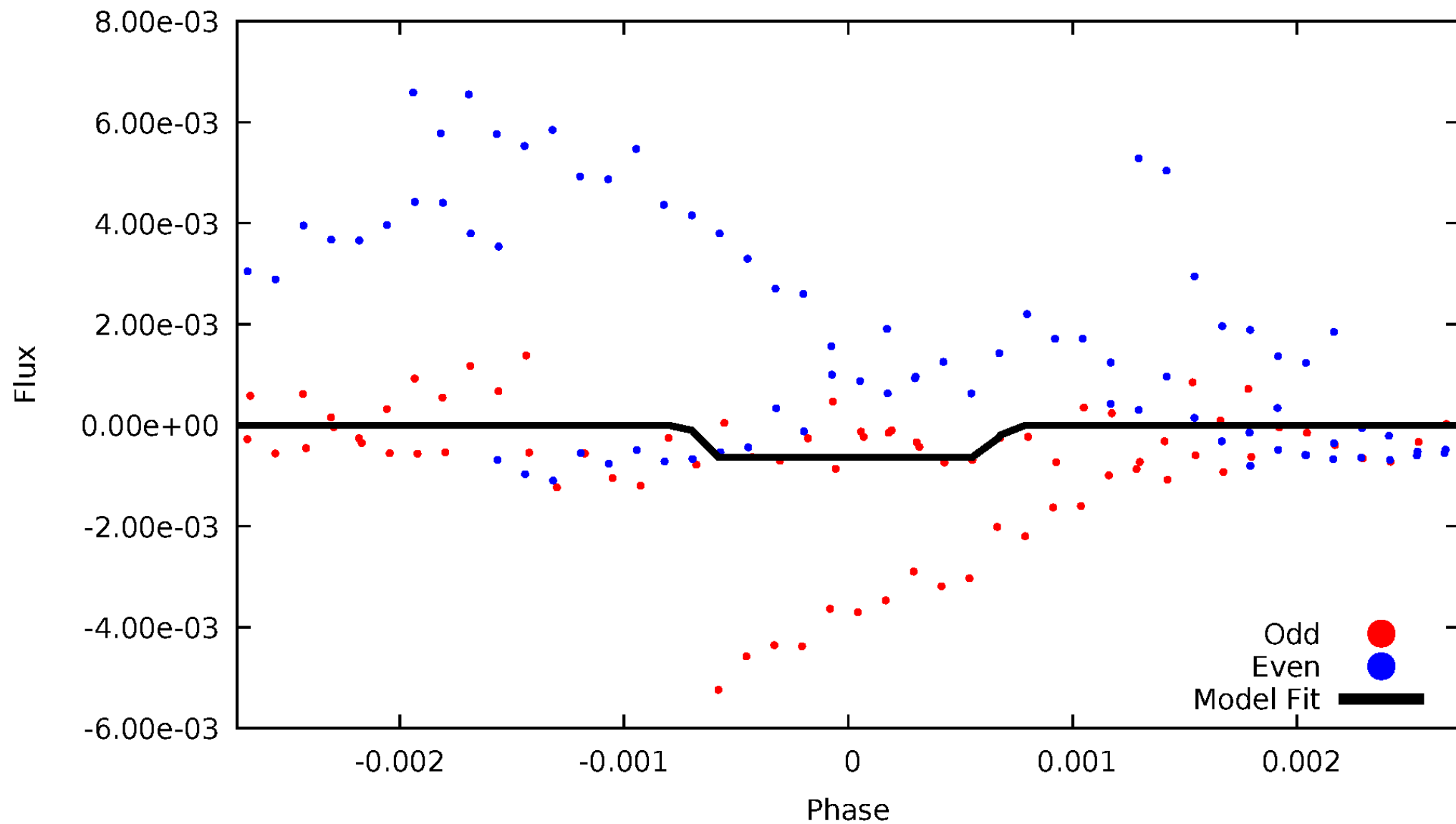
DV Odd/Even

TCE 010139305-05



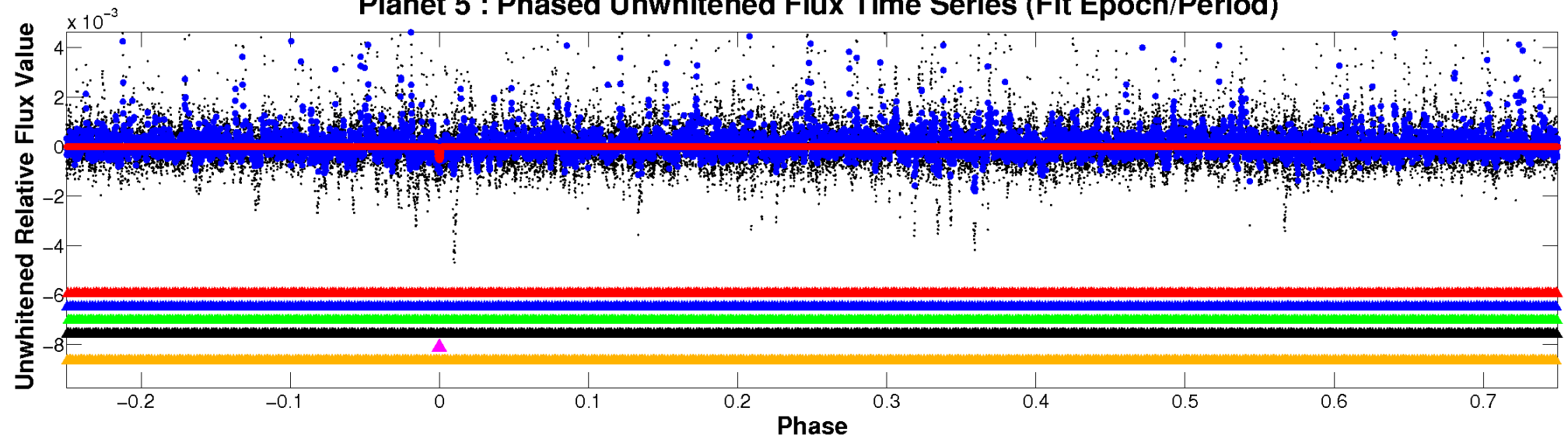
ALT Odd/Even

TCE 010139305-05

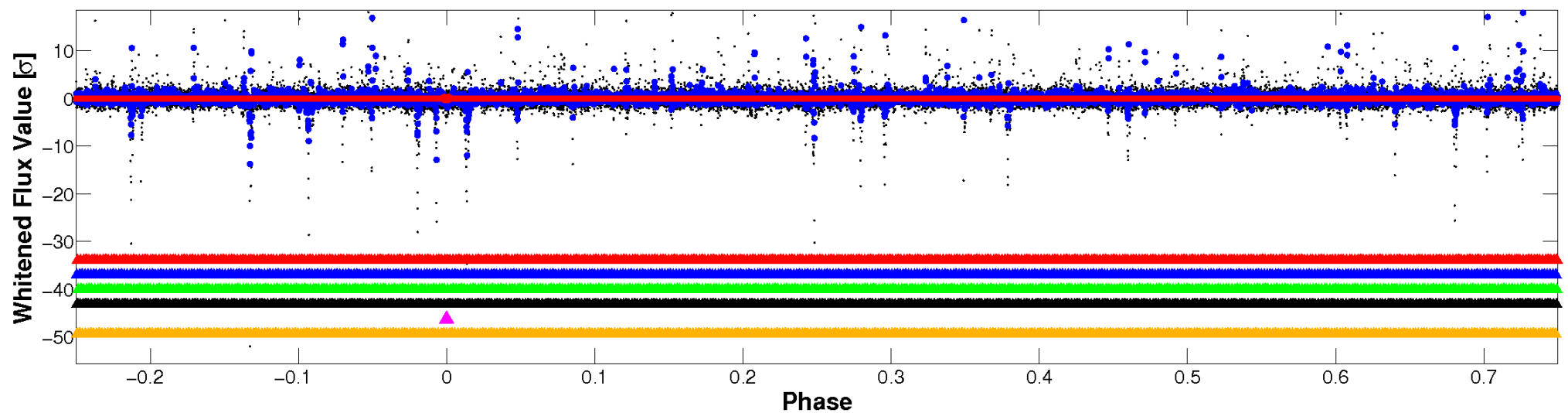


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

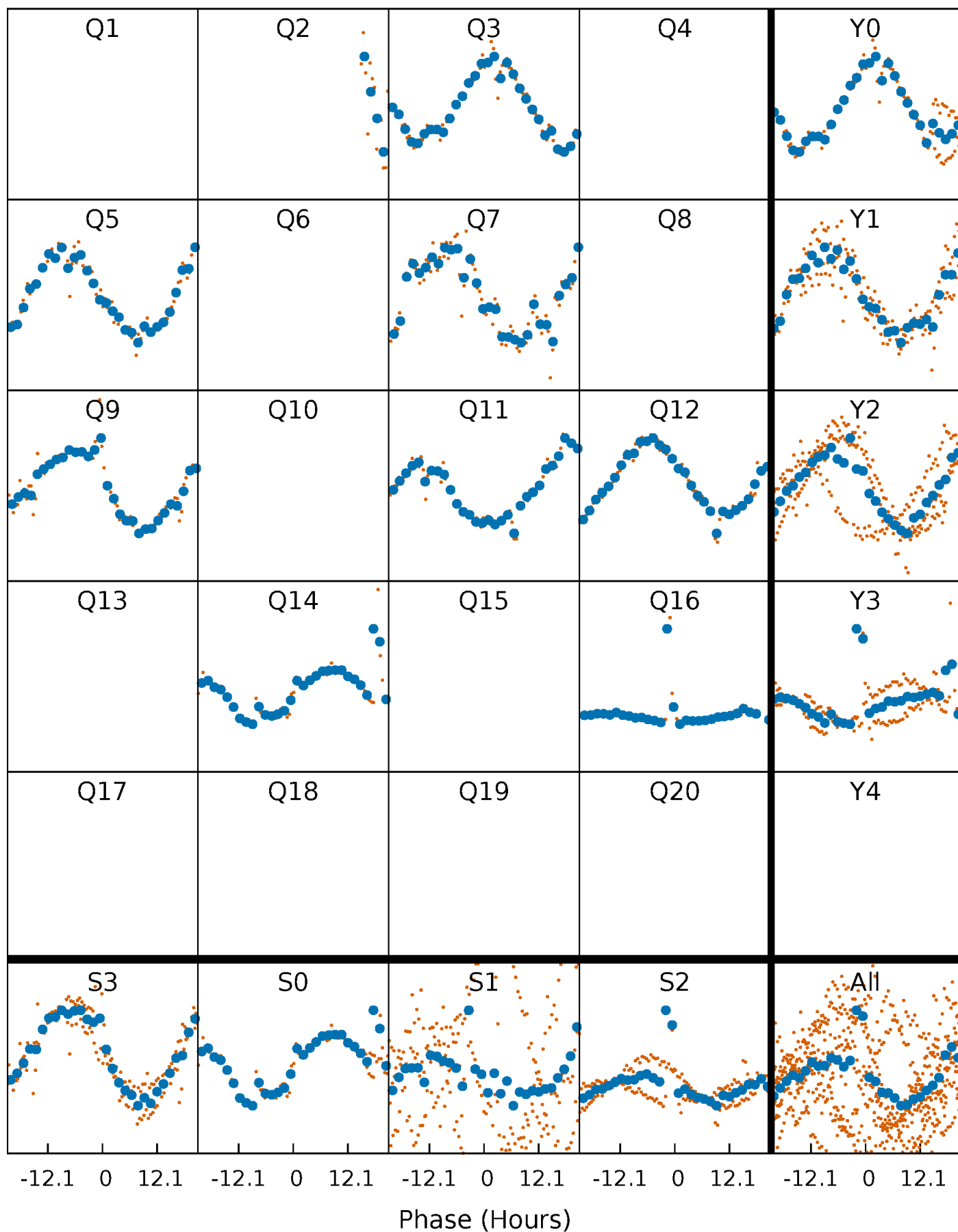


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



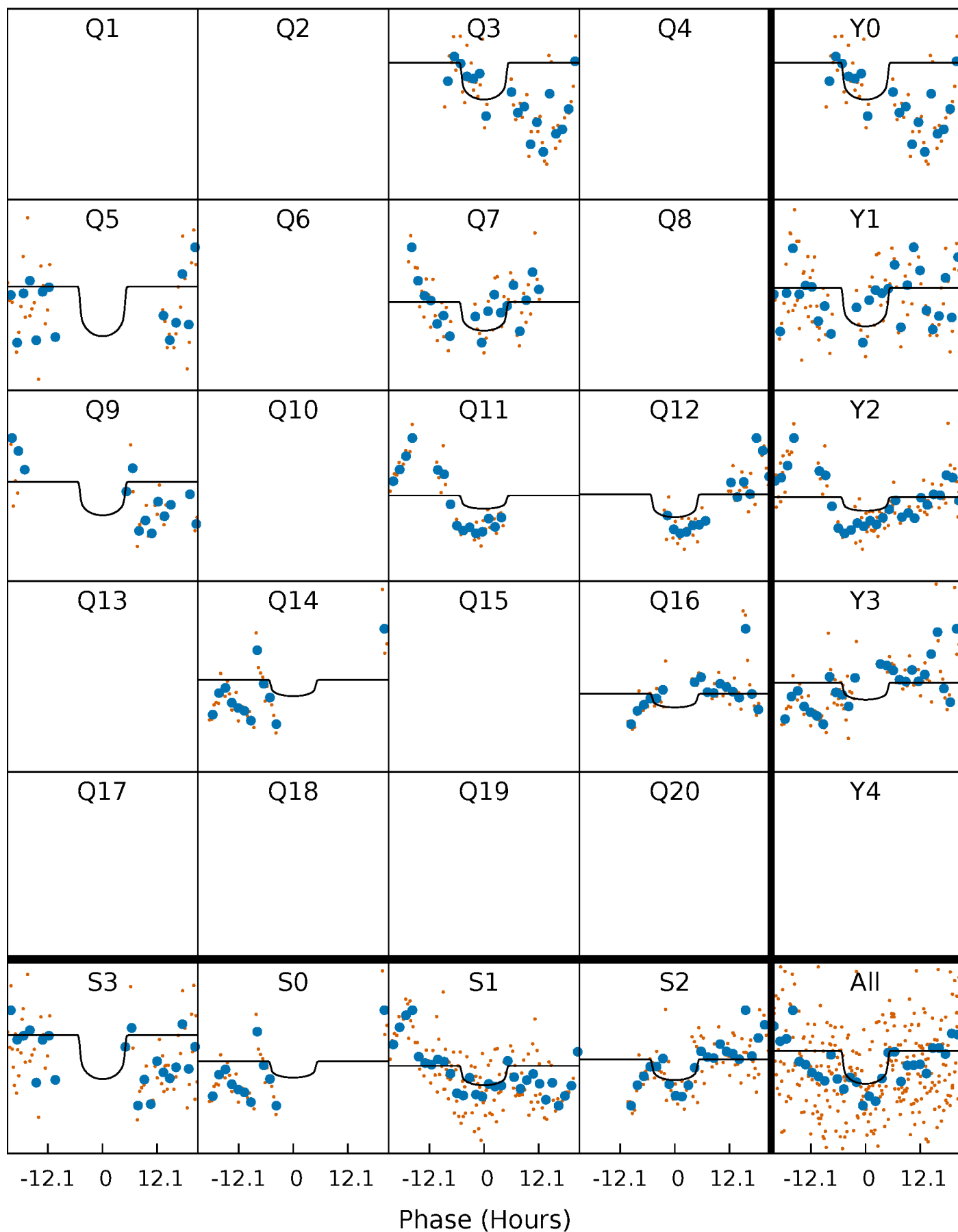
PDC Quarter-Phased Transit Curves

TCE 010139305-05 $P=164.269813$ Days $T_0=183.095527$ (BKJD)



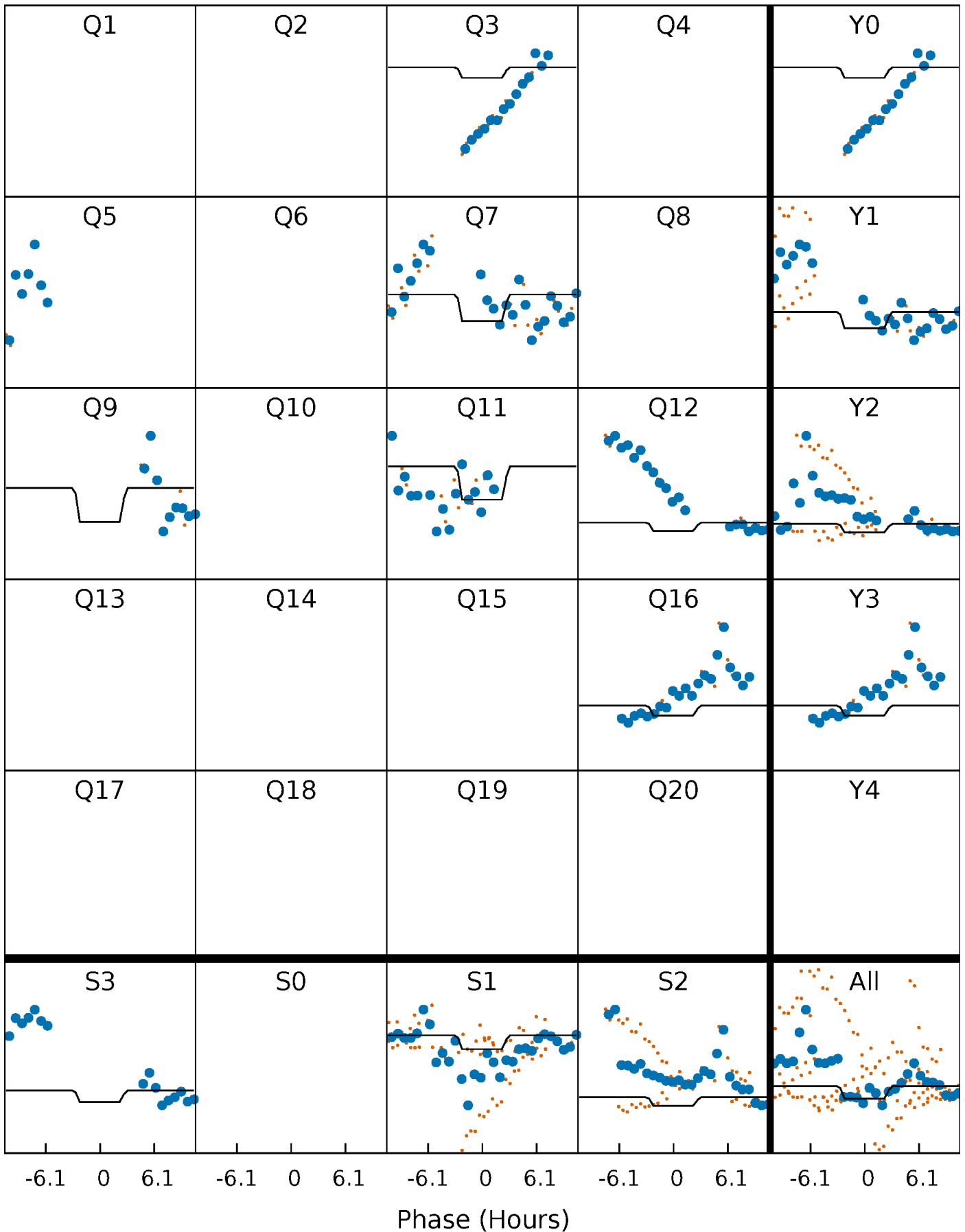
DV Quarter-Phased Transit Curves

TCE 010139305-05 $P=164.269813$ Days $T_0=183.095527$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

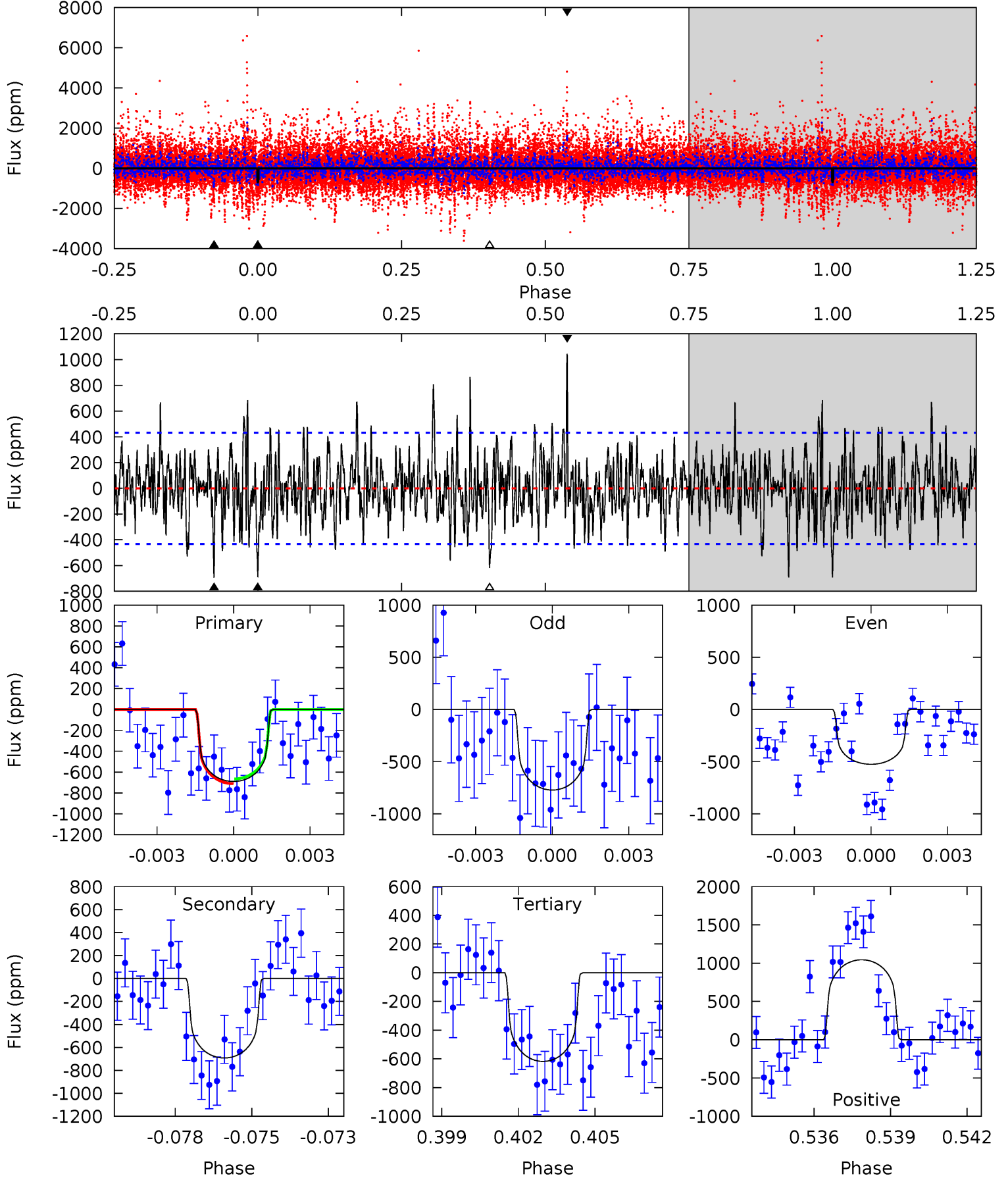
TCE 010139305-05 $P=164.367557$ Days $T_0=182.730754$ (BKJD)



DV Model-Shift Uniqueness Test

010139305-05, $P = 164.269813$ Days, $E = 18.825714$ Days

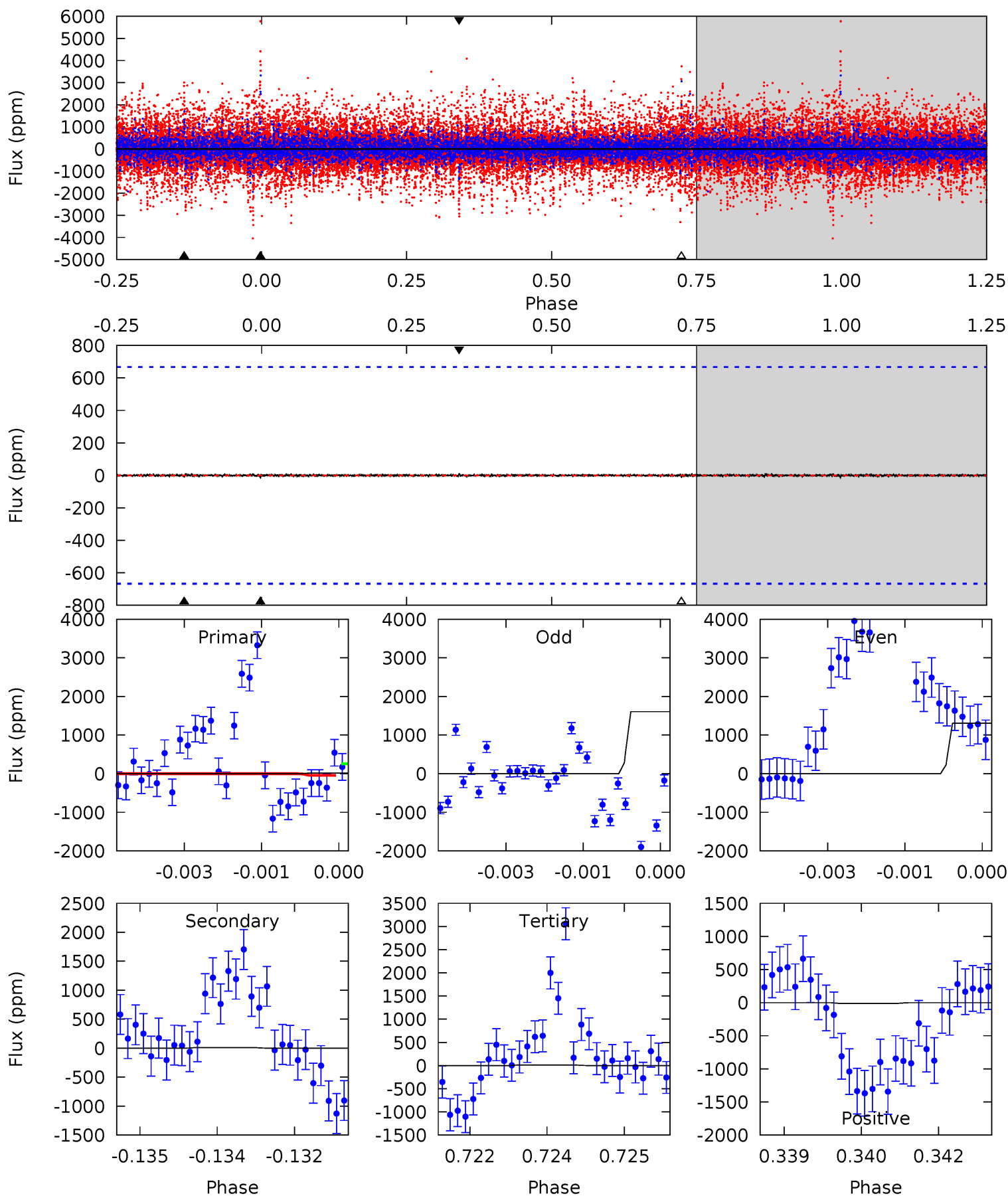
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.40	8.43	7.52	12.7	5.27	2.99	2.43	0.88	-4.31	0.91	-4.28	1.07	1.28	0.60	0.27



Alt Model-Shift Uniqueness Test

010139305-05, P = 164.367557 Days, E = 18.363197 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.13	0.08	0.08	0.10	5.38	3.18	0.02	0.04	0.03	0.00	-0.01	1.26	1.17	0.44	0.86



Stellar Parameters For KIC 010139305

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5008^{+166}_{-151}	$4.663^{+0.058}_{-0.036}$	$-1.040^{+0.300}_{-0.300}$	$0.594^{+0.042}_{-0.038}$	$0.592^{+0.052}_{-0.022}$	$3.983^{+0.856}_{-0.542}$
	+3%/-3%	+1%/-1%	+29%/-29%	+7%/-6%	+9%/-4%	+21%/-14%
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 010139305-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-692 ± 82	$2.00^{+1.64}_{-1.26}$	337^{+12}_{-11}	4657^{+2921}_{-909}	$23048^{+149405}_{-15821}$
Alt.	-10 ± 124	$2.00^{+1.62}_{-1.14}$	337^{+13}_{-11}	2384^{+1441}_{-5881}	287^{+7489}_{-4880}

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

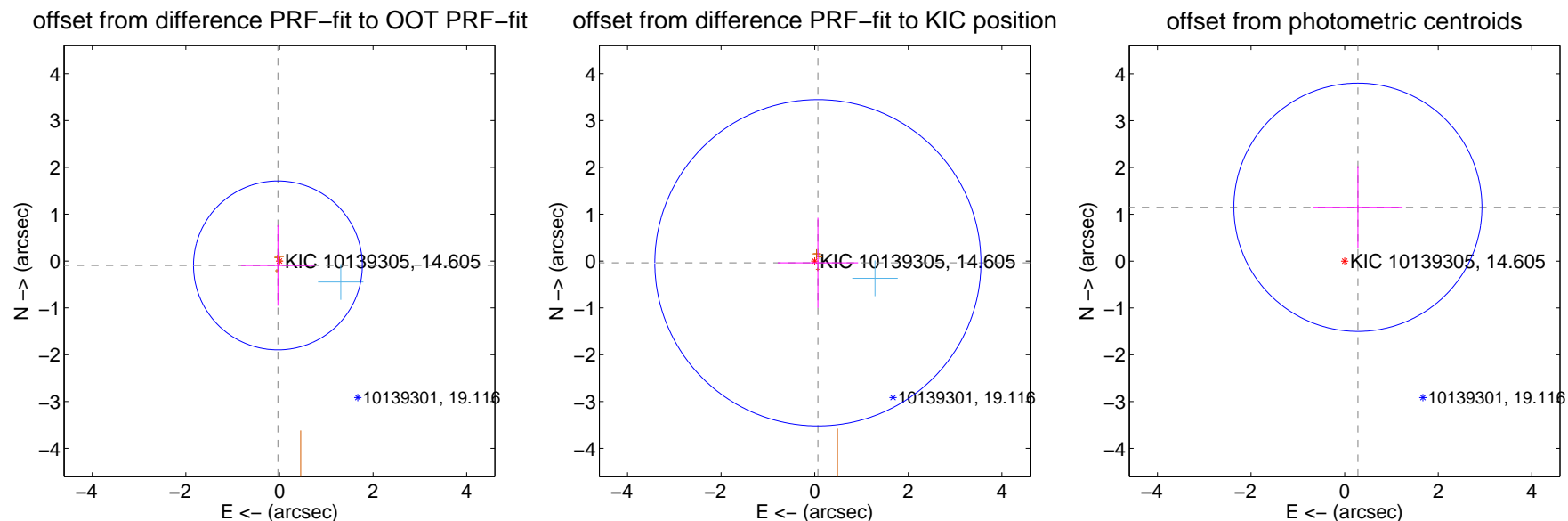
DV Centroid Data

Supplemental centroid analysis for 010139305-05. Kepler magnitude: 14.61. Transit SNR 3.22

There are 1 quarters with good PRF difference image offsets

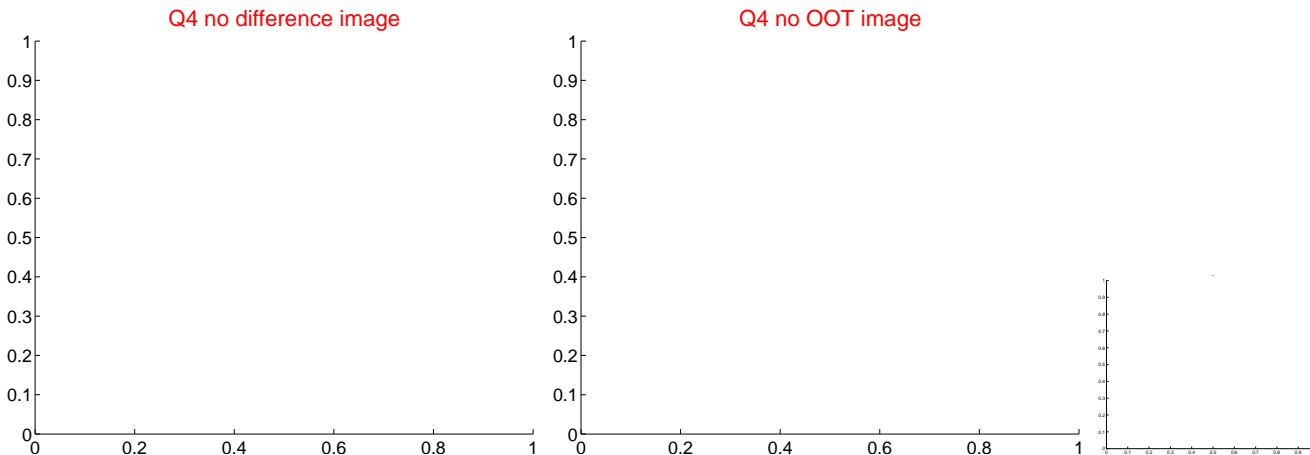
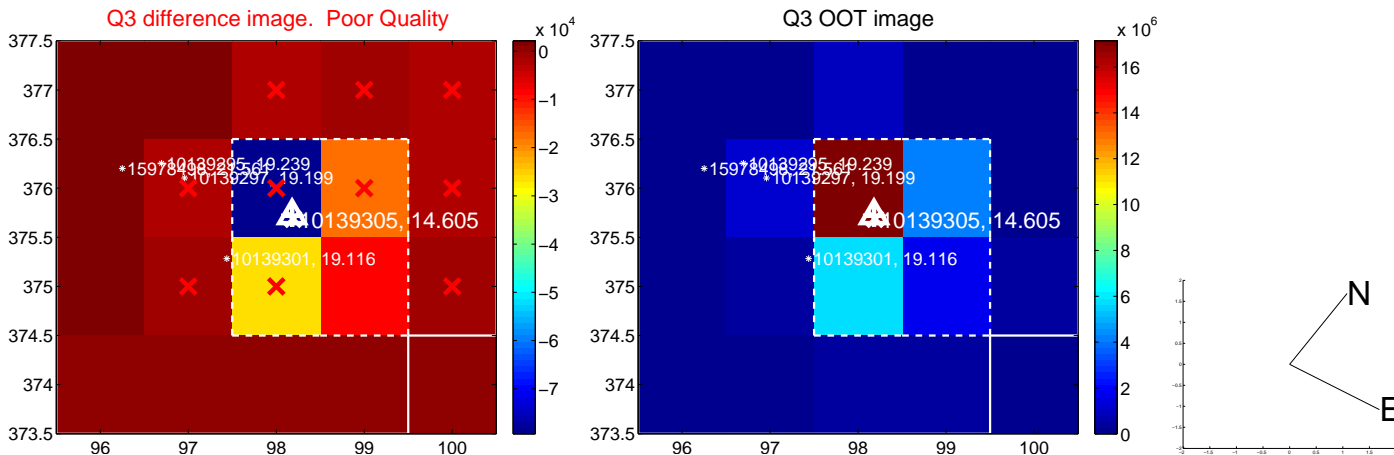
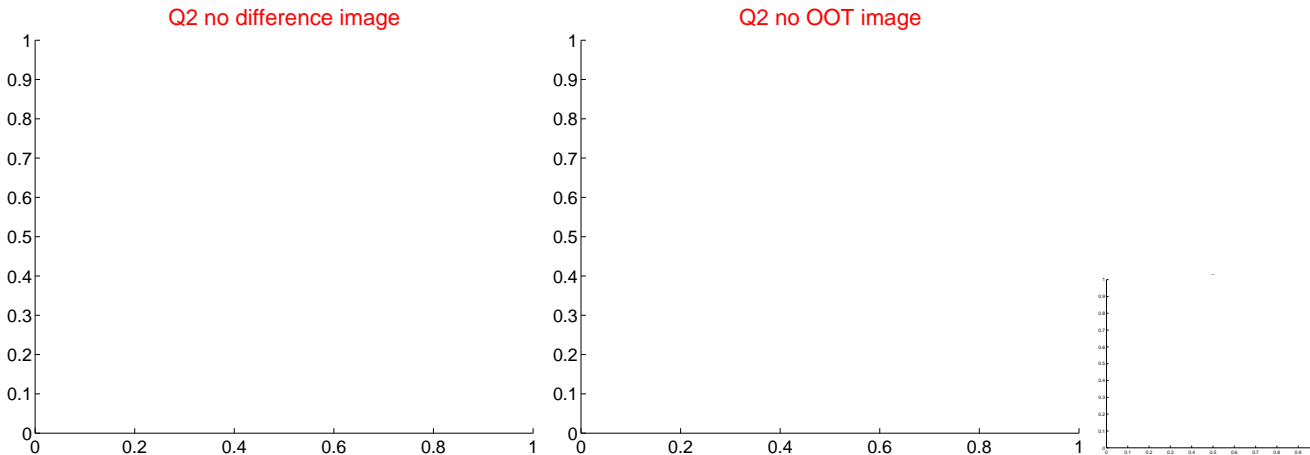
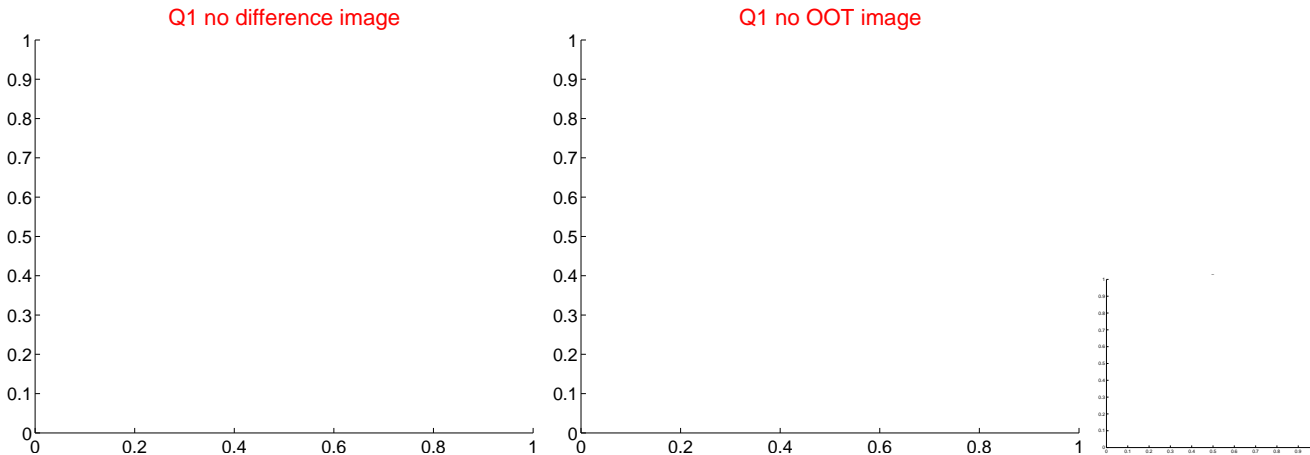
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.099 ± 0.601	0.17	0.033 ± 0.785	-0.094 ± 0.860
PRF-fit source offset from KIC position	0.077 ± 1.161	0.07	-0.068 ± 0.858	-0.037 ± 0.962
photometric centroid source offset	1.18 ± 0.88	1.34	-0.28 ± 0.95	1.15 ± 0.88

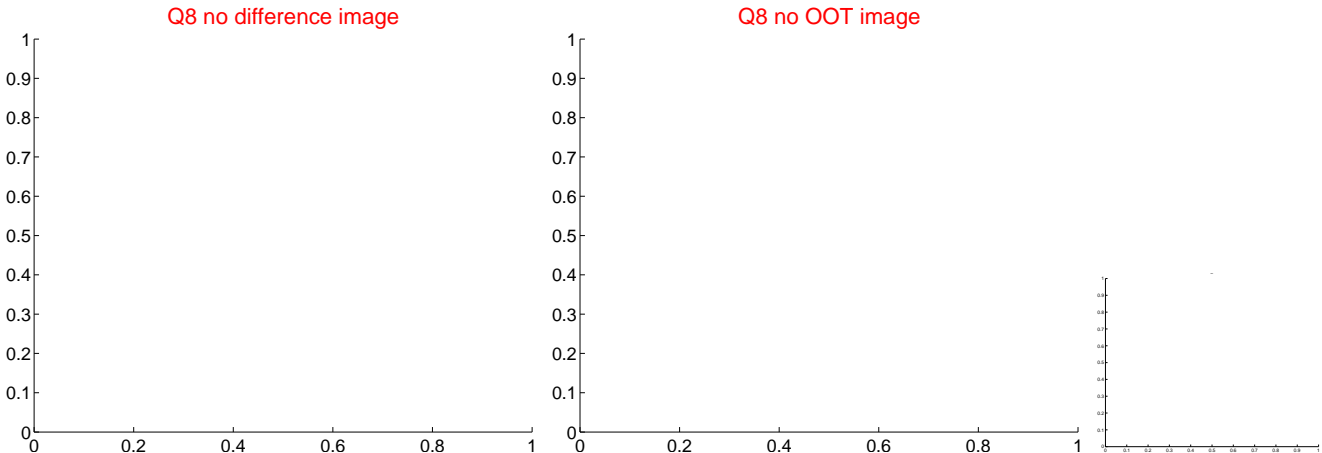
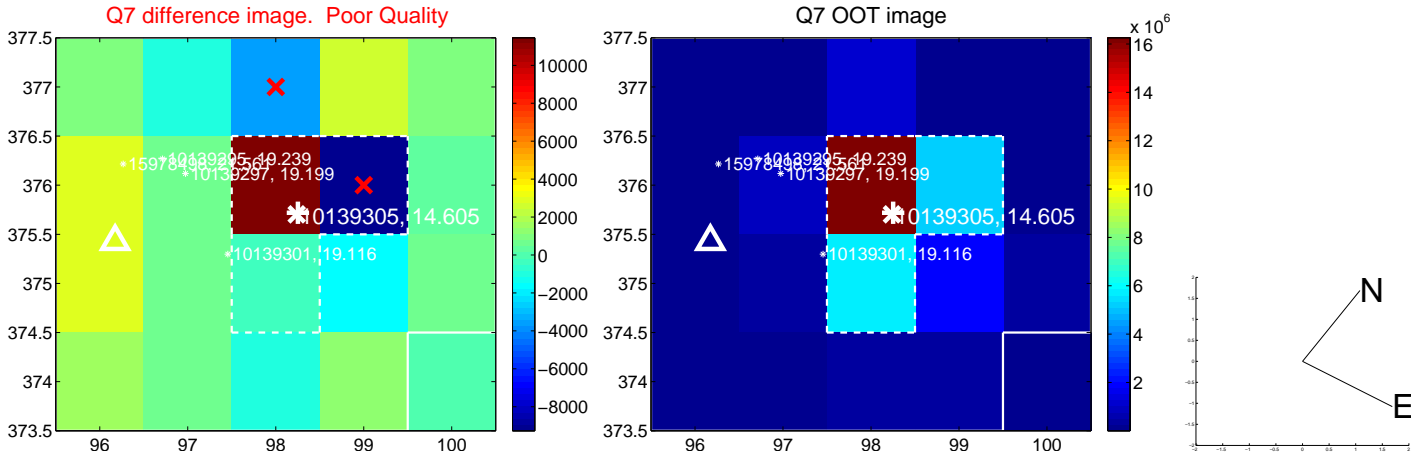
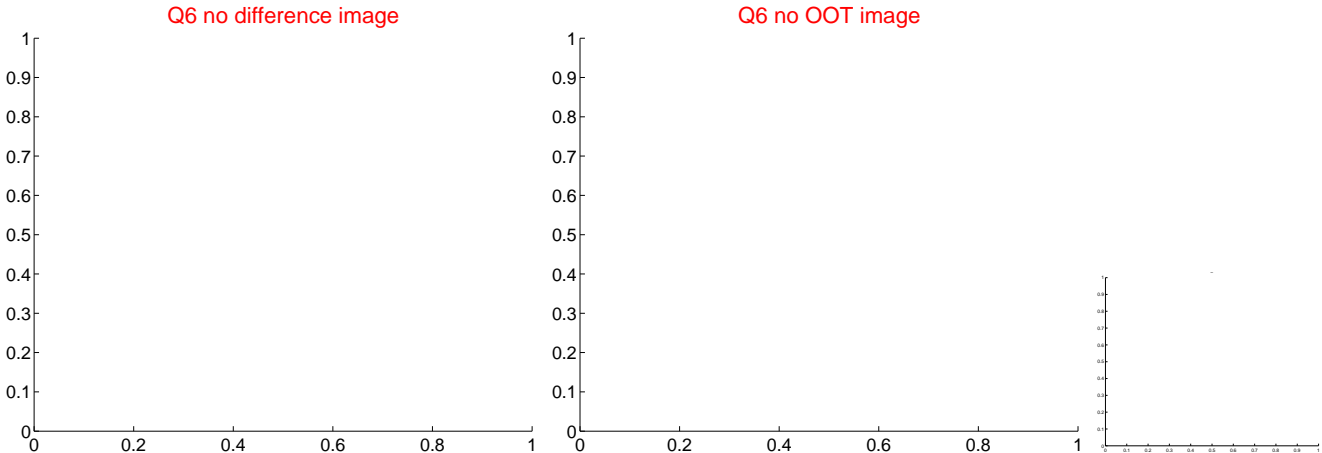
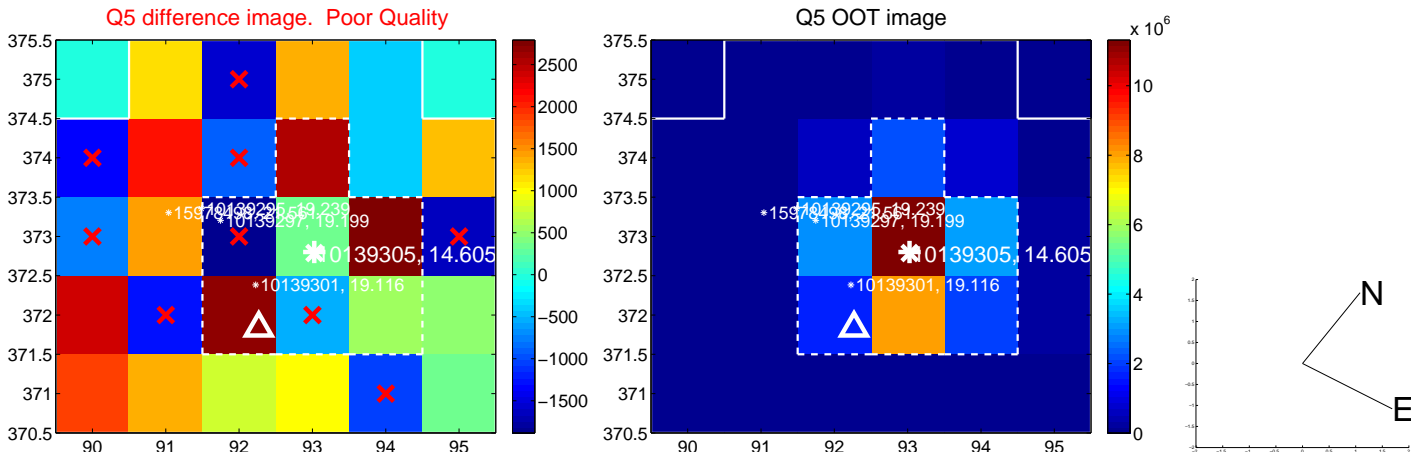


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

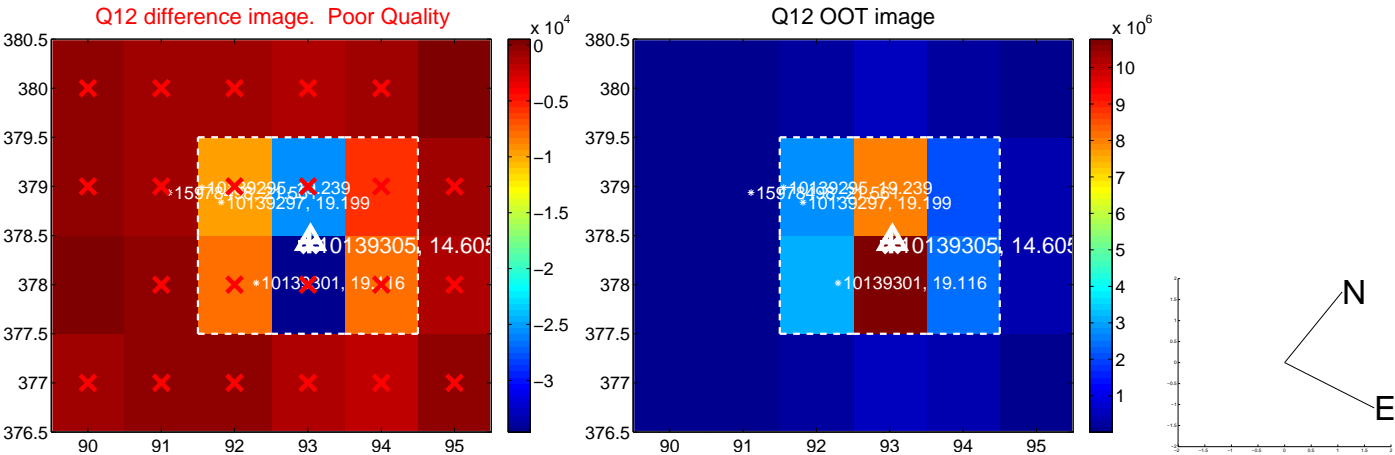
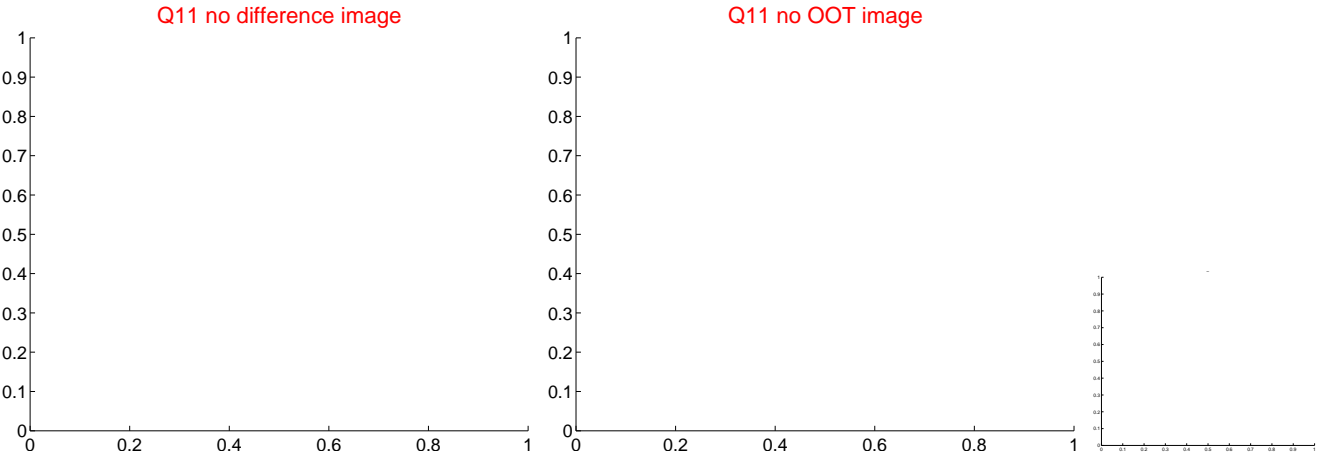
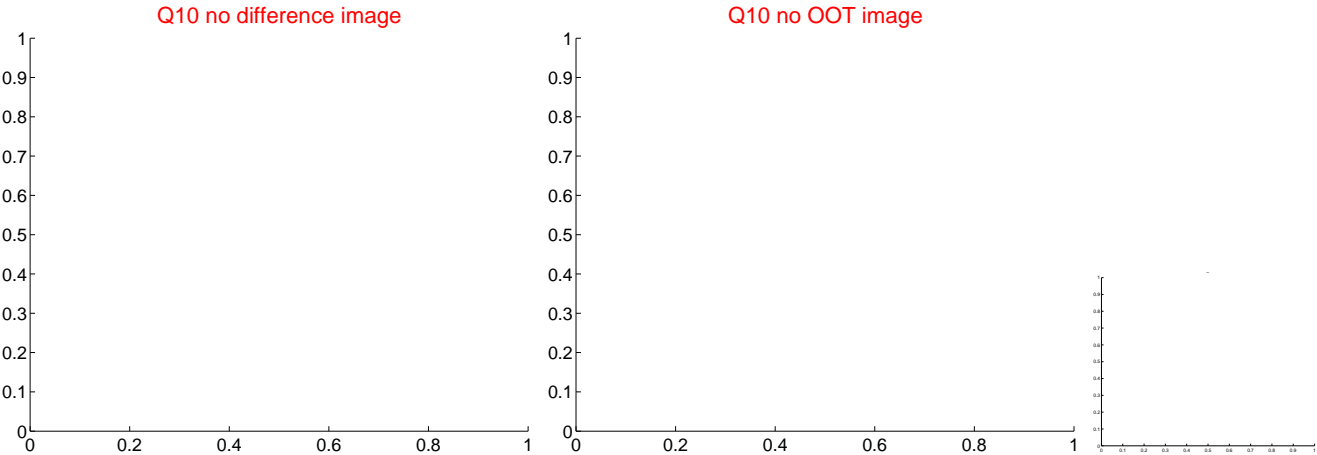
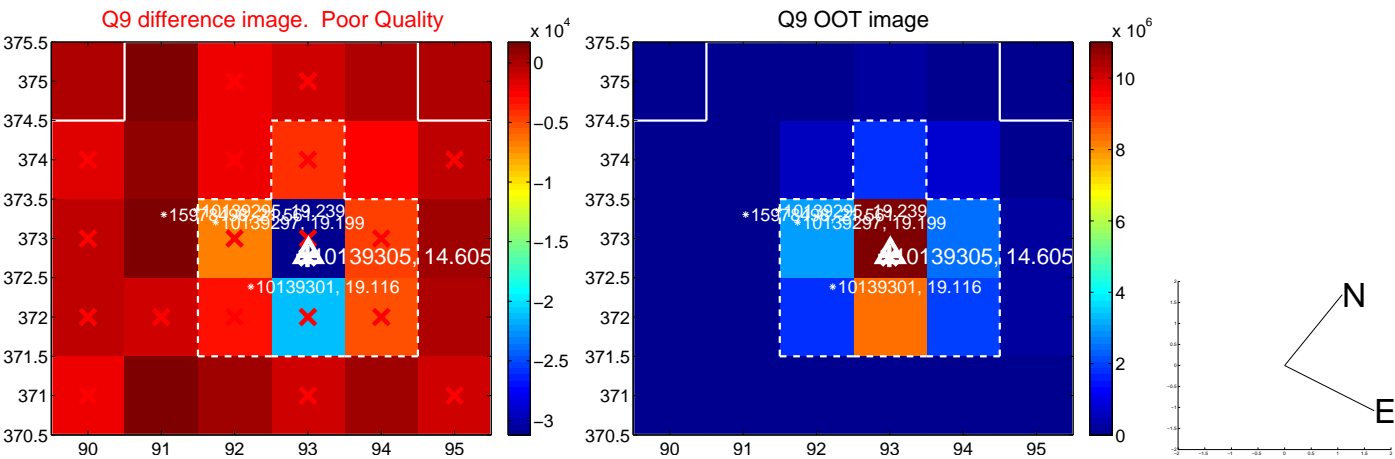
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



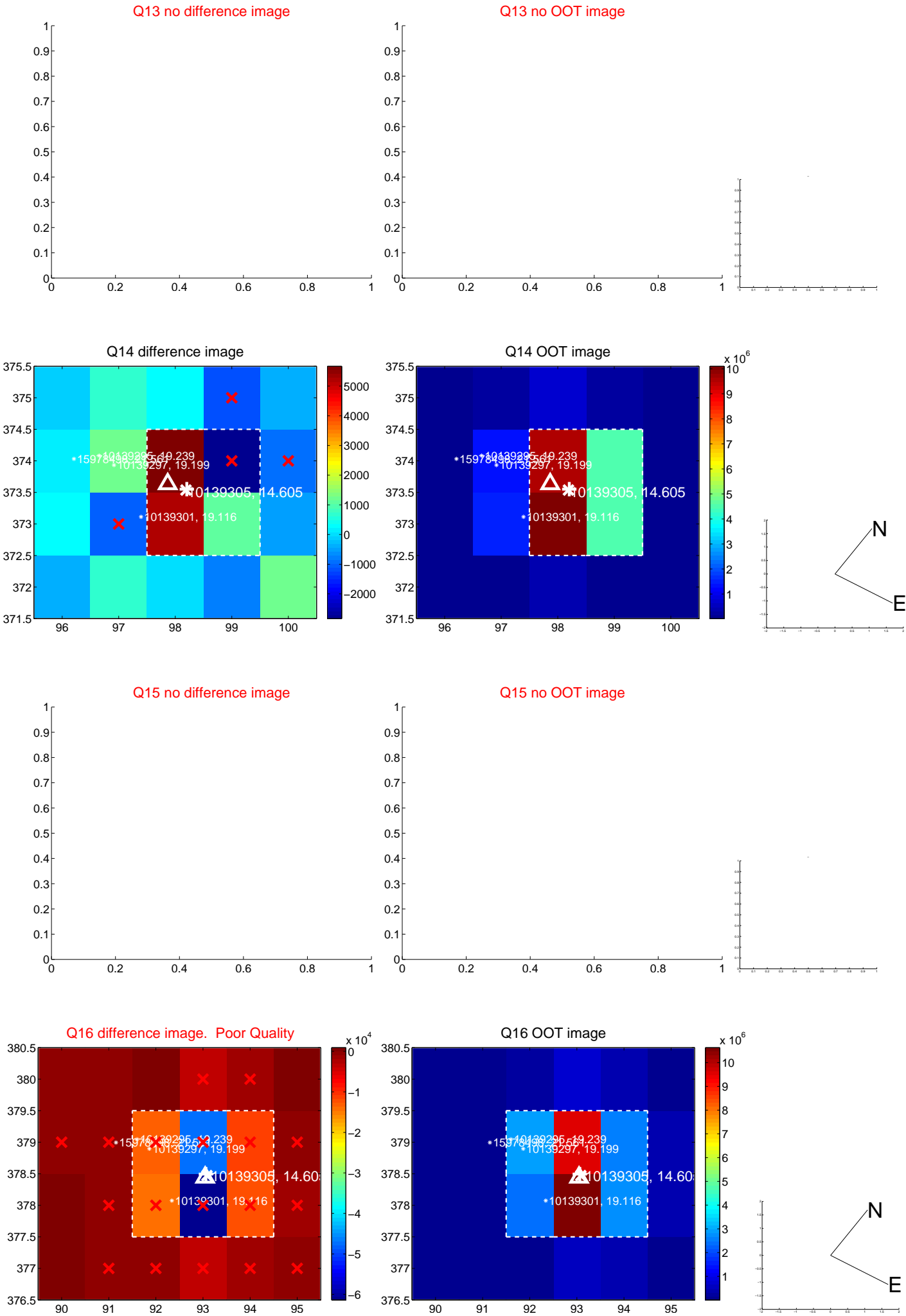
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



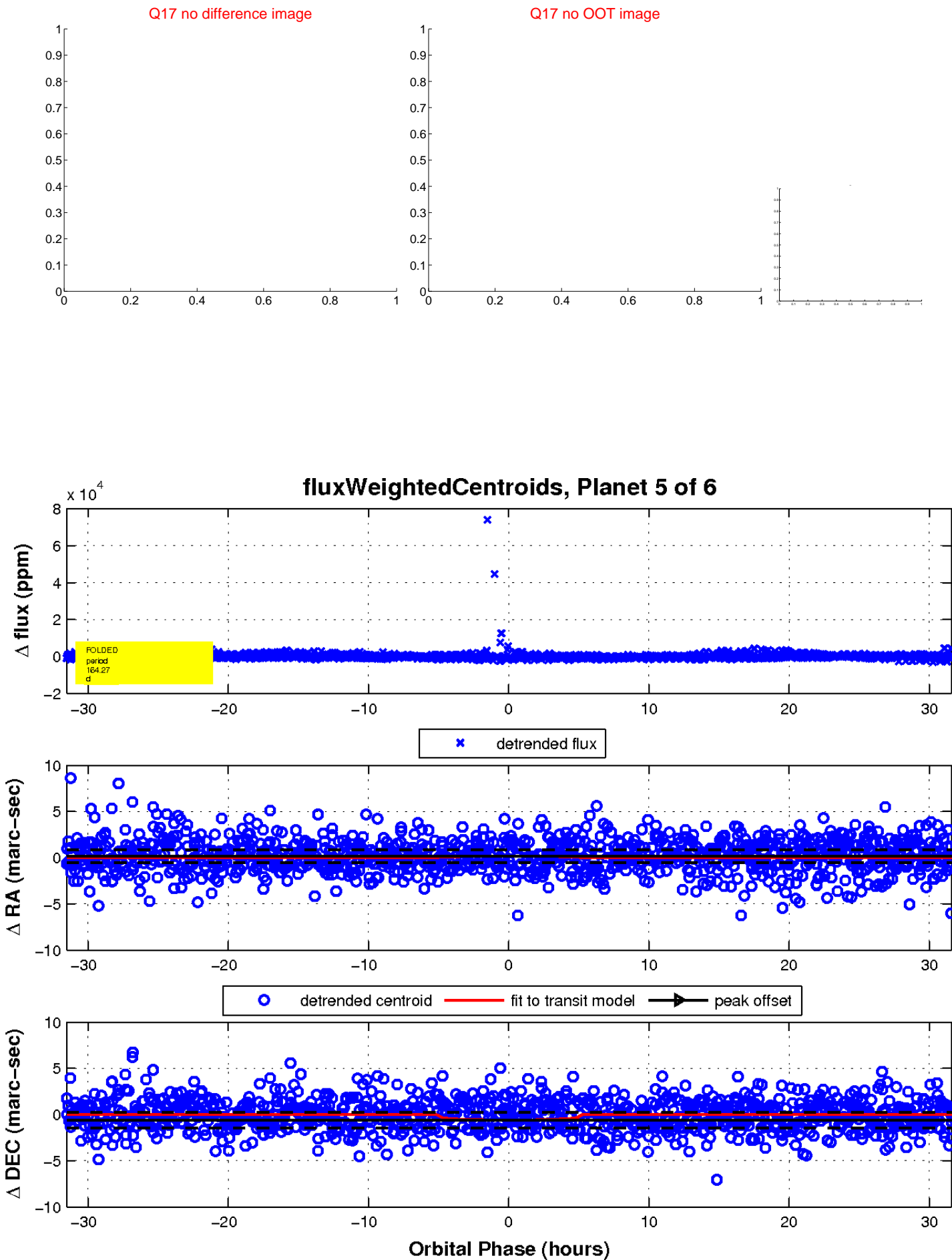
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

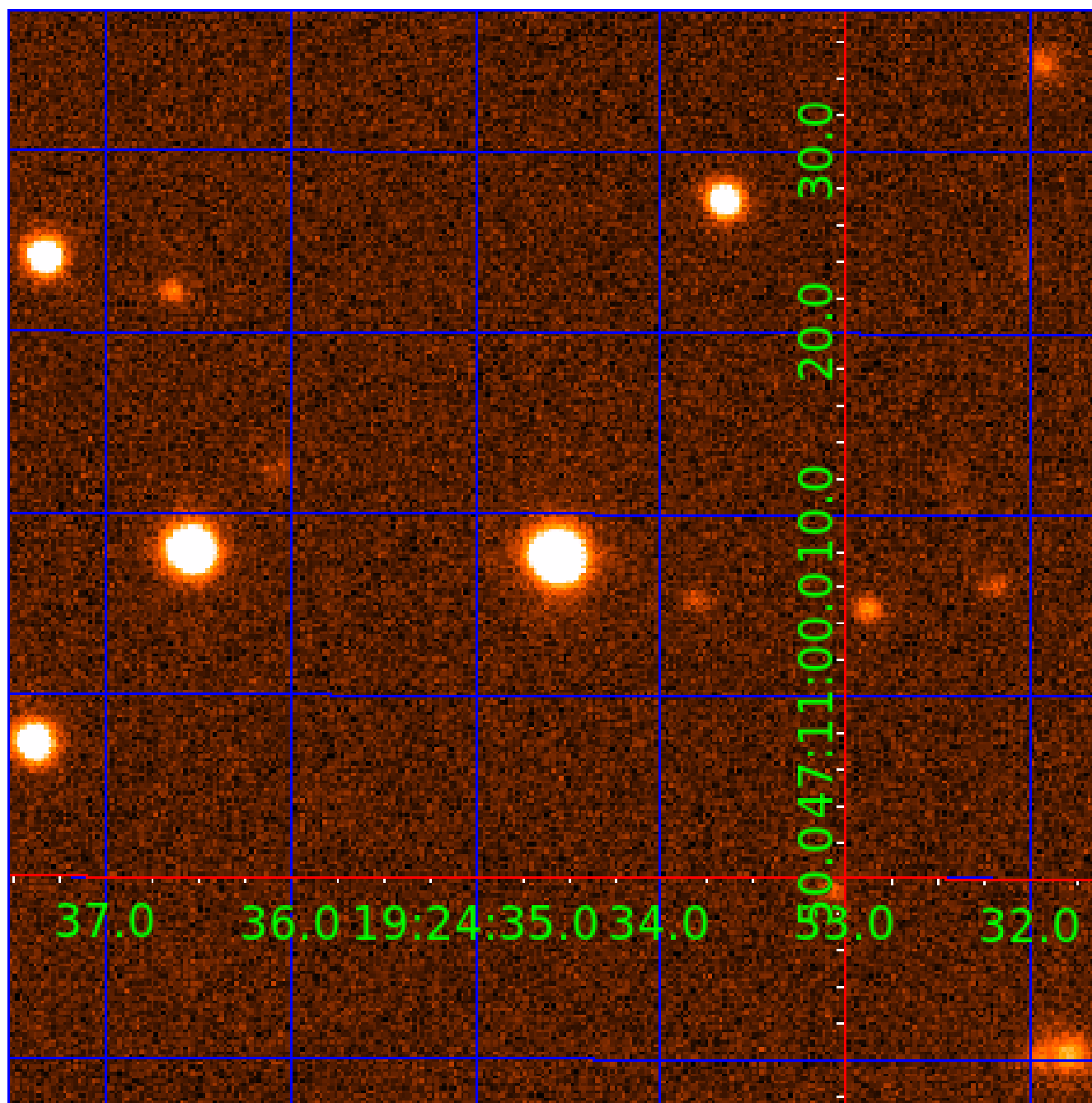


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010139305

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})
010139305-01	OBS	6077.01	2.173518	132.322411	604.2	1.155	28.4	33.6	0.59	5008	1.77	261.33
010139305-02	OBS	No	2.173576	133.130612	1301.0	0.705	30.0	62.7	0.59	5008	2.69	261.32
010139305-03	OBS	No	2.173543	131.713297	1.6	1.302	21.1	0.1	0.59	5008	0.08	261.33
010139305-04	OBS	No	2.173476	133.531715	165.9	6.528	13.0	11.1	0.59	5008	0.84	261.34
010139305-05	OBS	No	164.269813	183.095527	533.7	10.550	21.0	3.2	0.59	5008	1.48	0.82
010139305-06	OBS	No	2.173542	132.835994	1014.7	1.500	12.0	-1.0	0.59	5008	1.87	261.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010139305-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010139305-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
010139305-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
010139305-04	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
010139305-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010139305-06	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

Ephemeris Match Information For 010139305-06

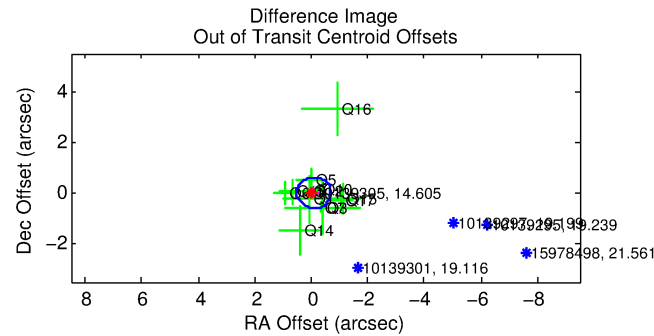
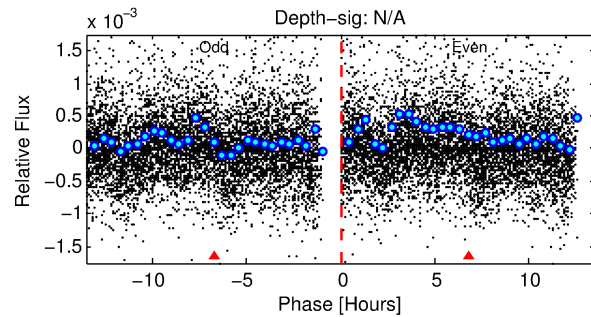
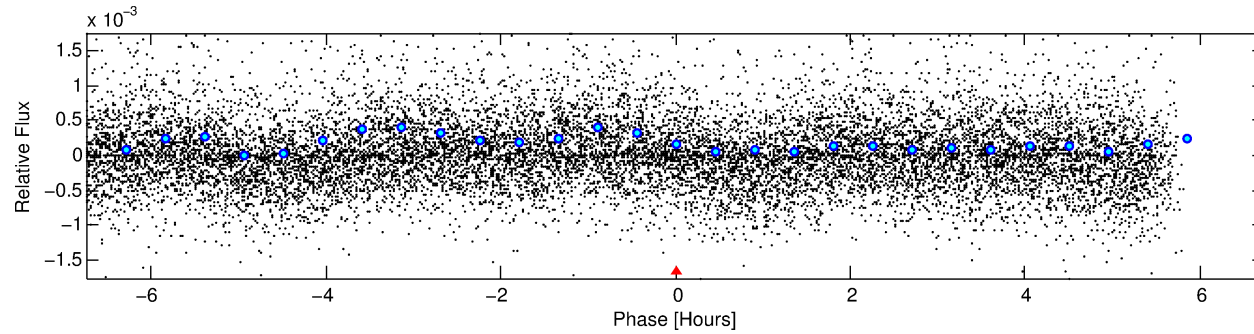
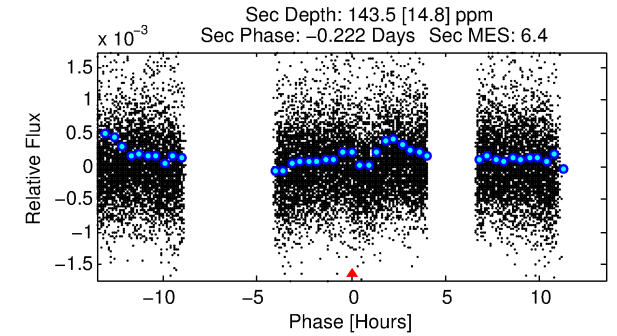
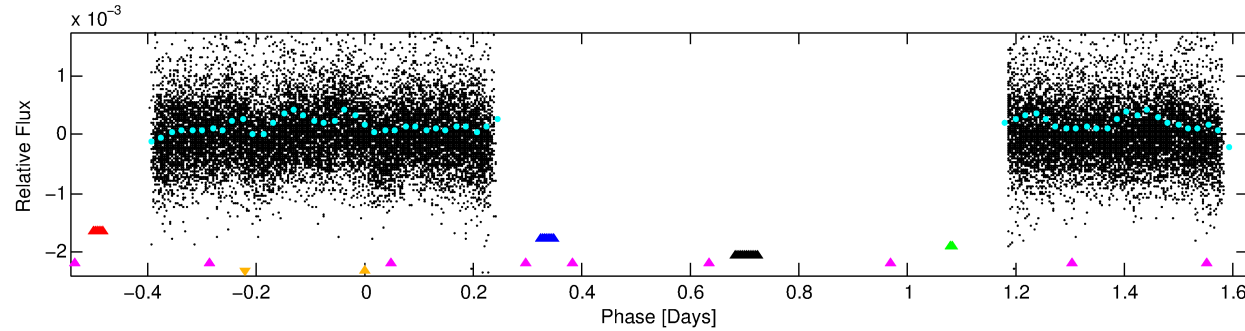
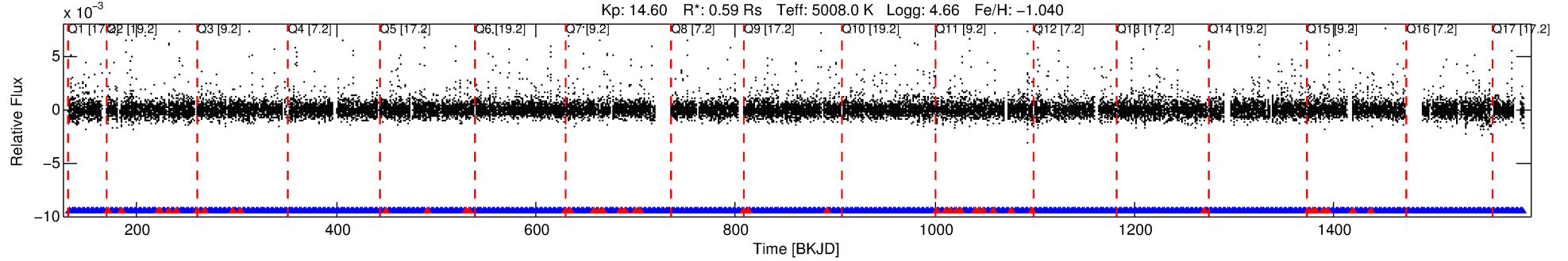
No Significant Match Found

DV One-Page Summary

KIC: 10139305 Candidate: 6 of 6 Period: 2.174 d

KOI: K06077 Corr: No Ephemeris Match

Kp: 14.60 R*: 0.59 Rs Teff: 5008.0 K Logg: 4.66 Fe/H: -1.040



TPS TCE Results:

Period = 2.17354 d
Epoch = 132.8360 BKJD

DV fit results are unavailable

DV Diagnostic Results:

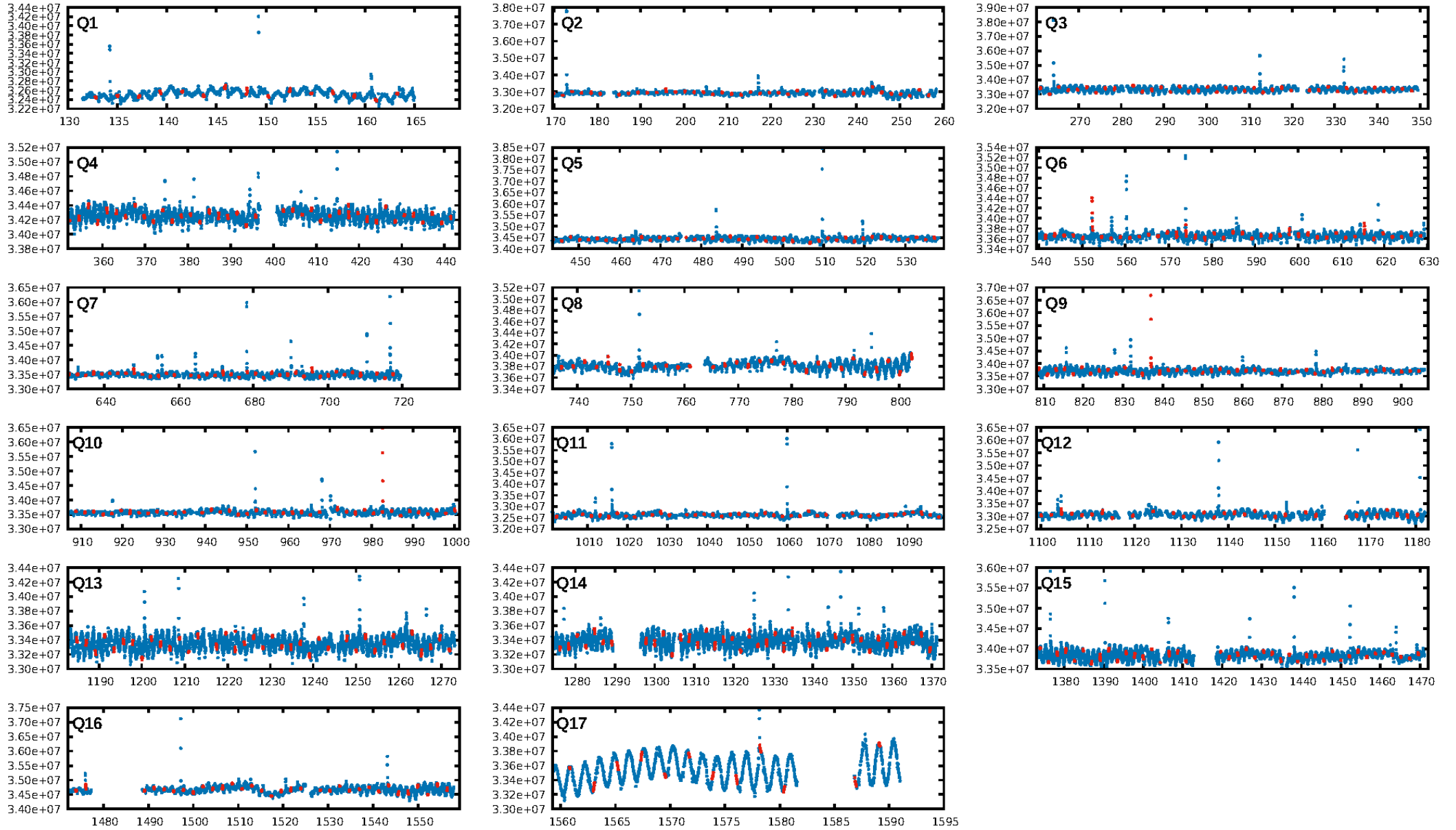
ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.92 [530/575]
GhostDiagnostic-chr: N/A

Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.087 arcsec [0.43σ]
KicOffset-rm: 0.124 arcsec [0.50σ]
OotOffset-st: 3/3/2/5 [13]
KicOffset-st: 3/3/2/5 [13]
DiffImageQuality-fgm: 0.38 [5/13]
DiffImageOverlap-fno: 1.00 [17/17]

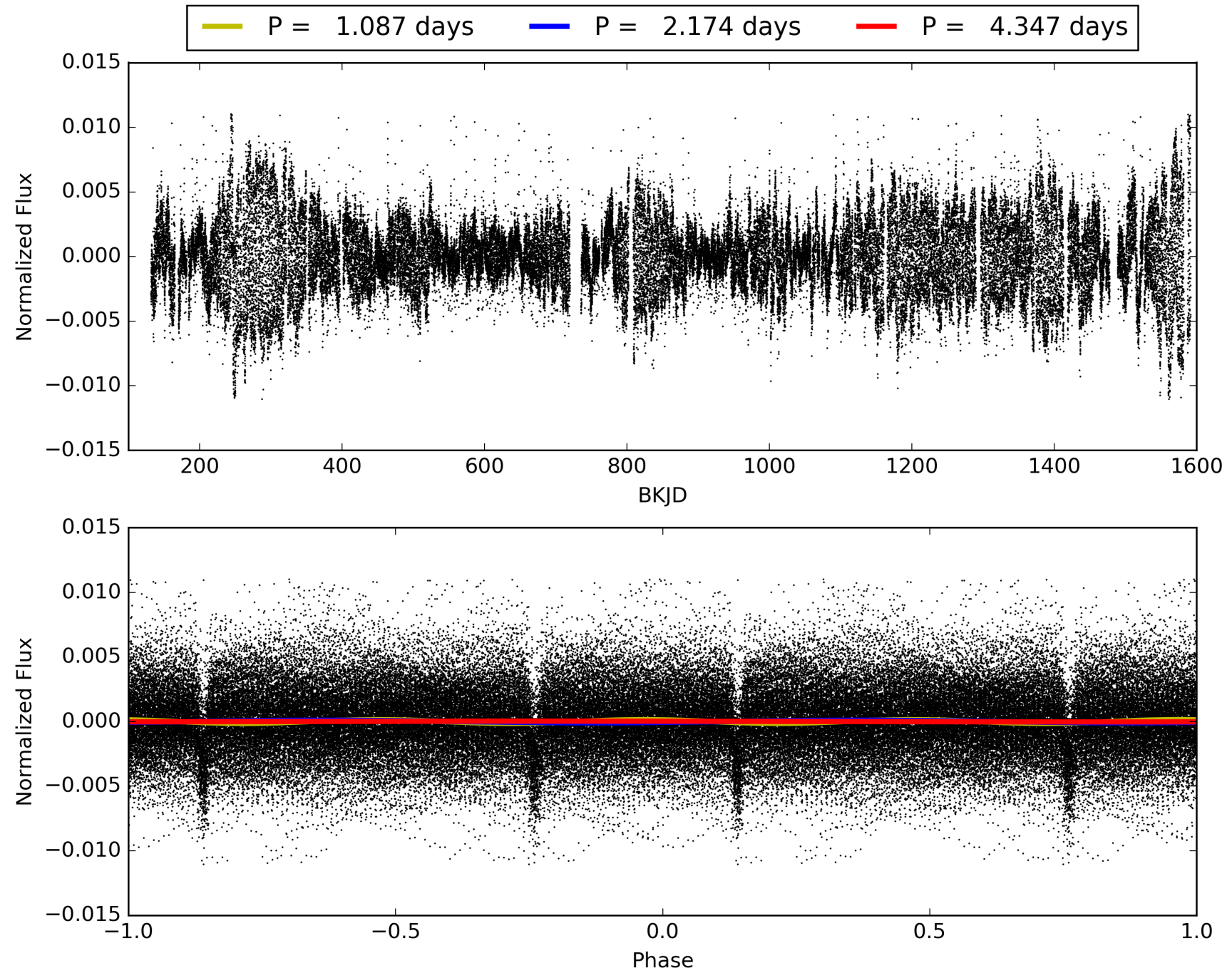
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:57:19 Z

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

TCE 010139305-06, PDC Light Curves

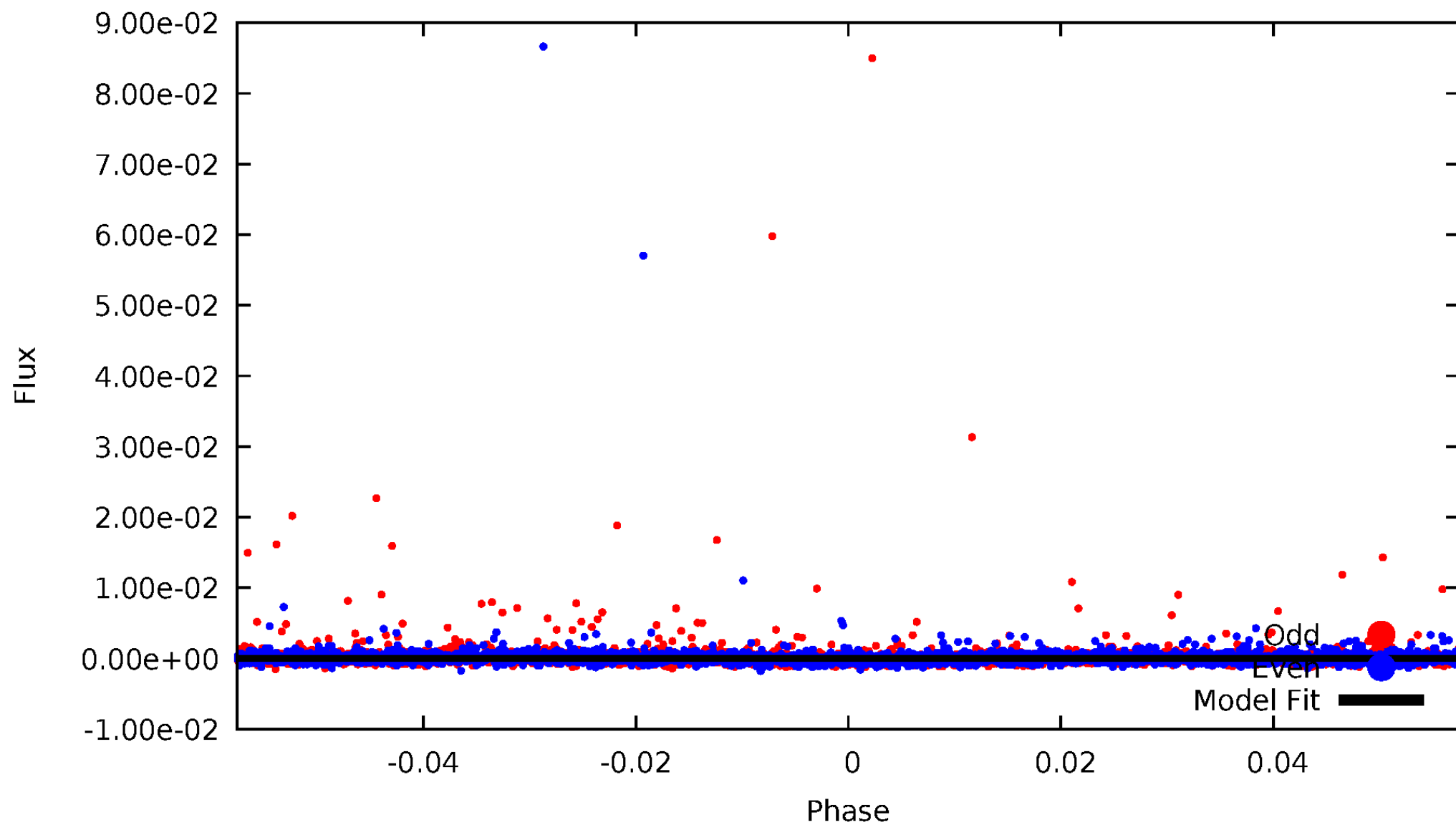


TCE 010139305-06



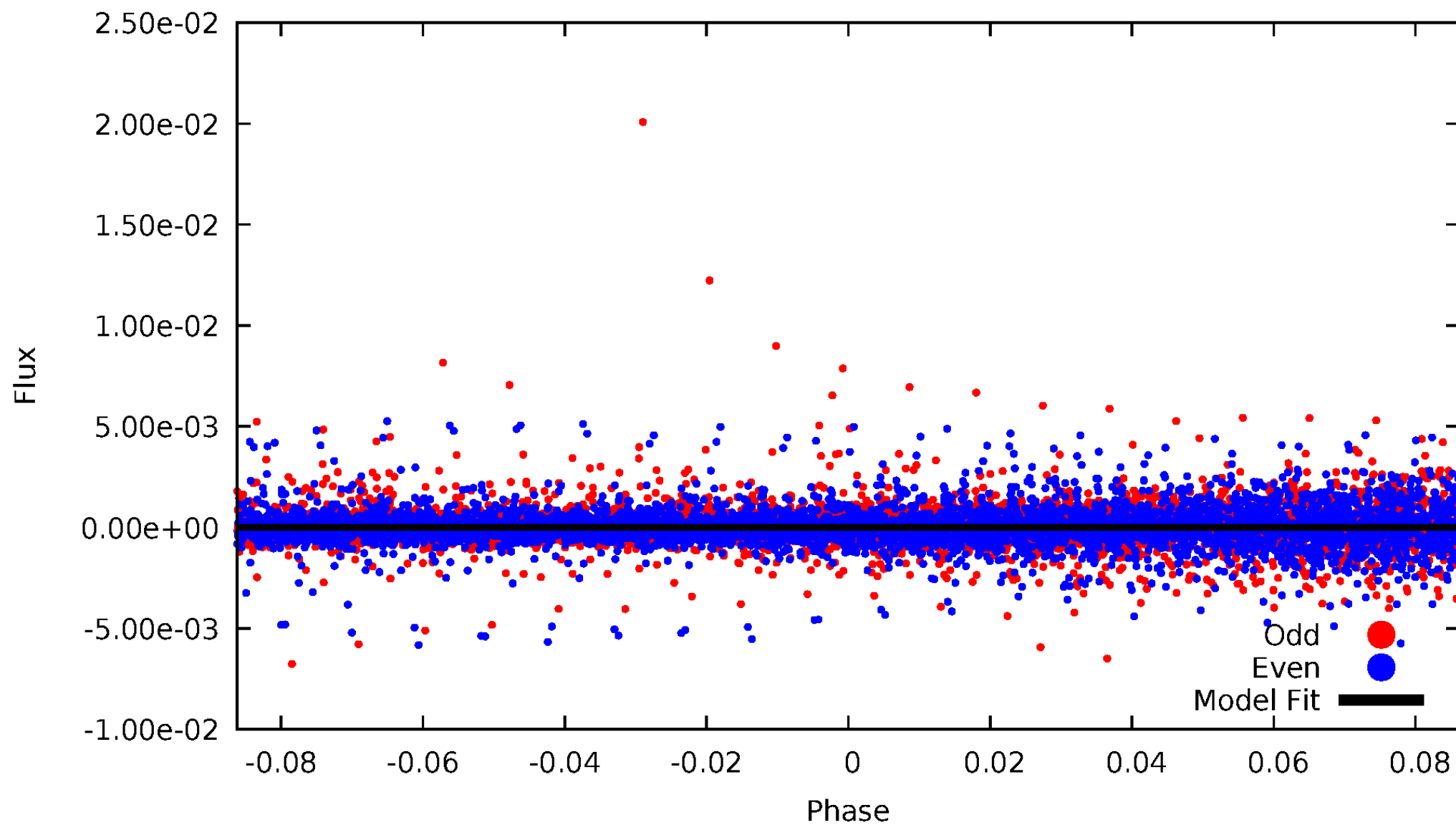
DV Odd/Even

TCE 010139305-06



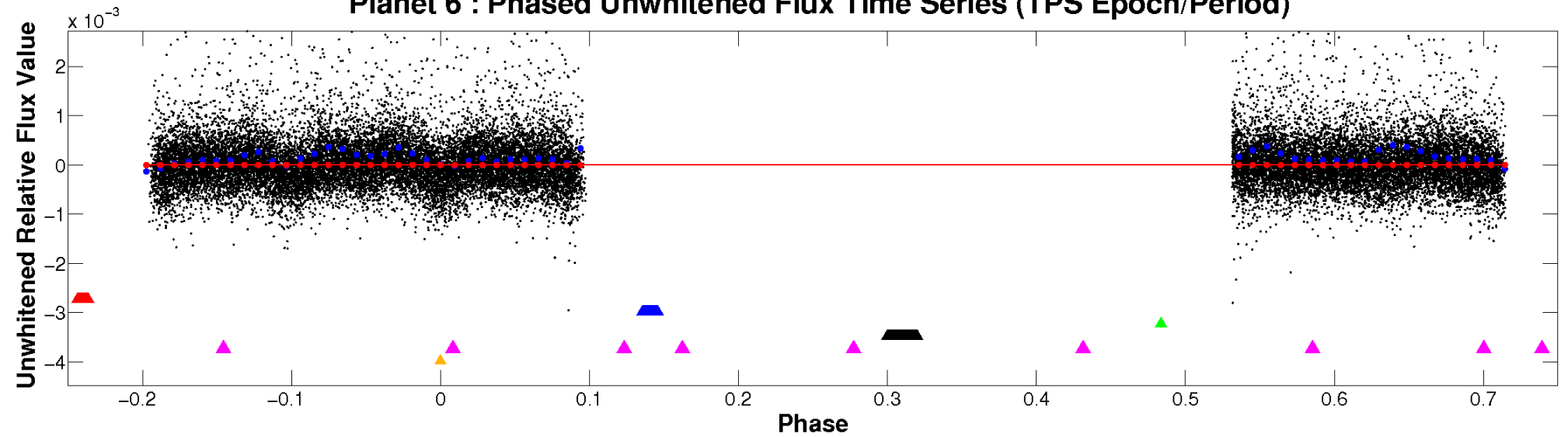
ALT Odd/Even

TCE 010139305-06

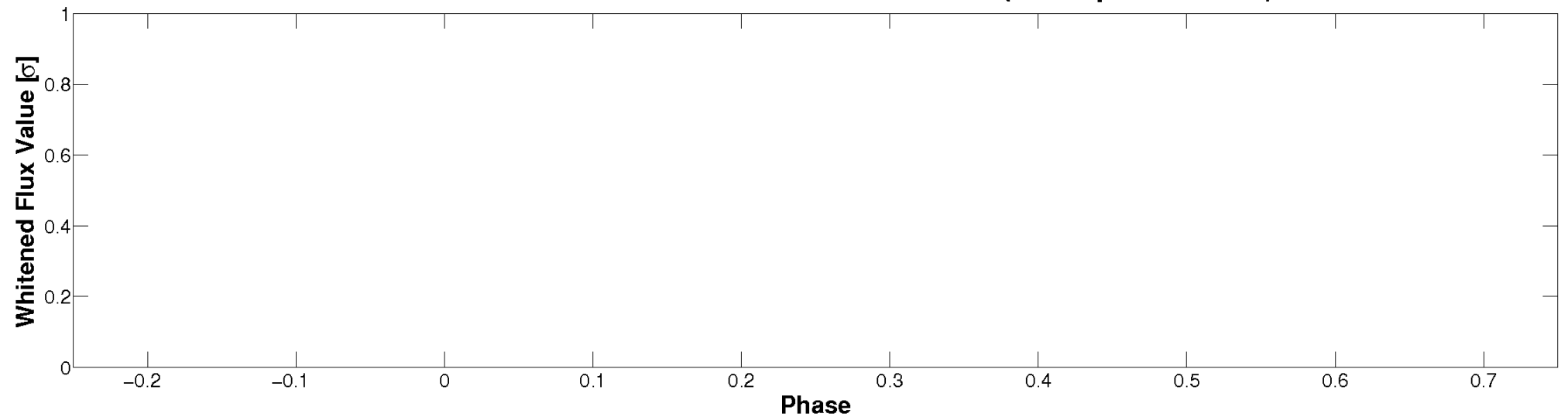


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

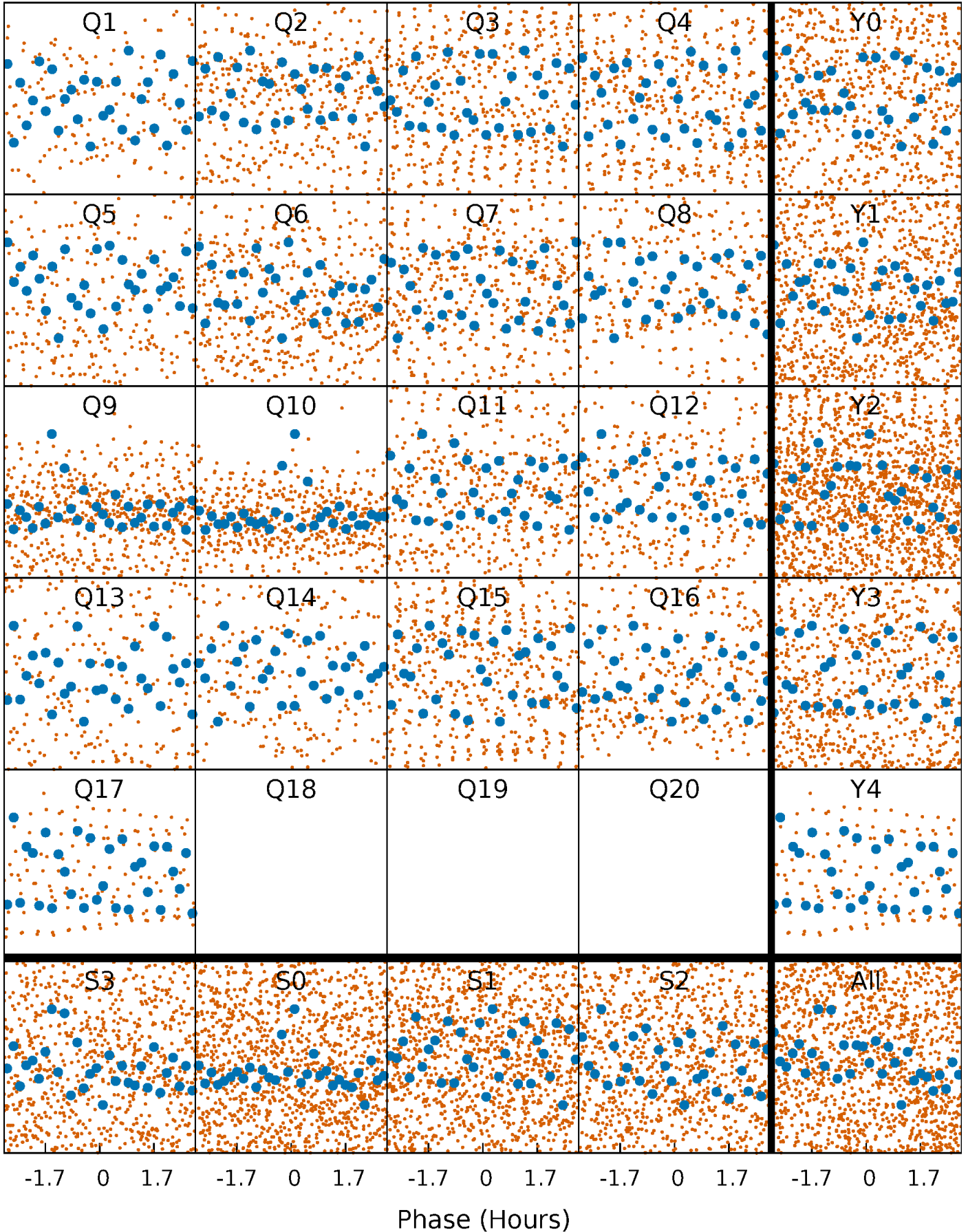


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



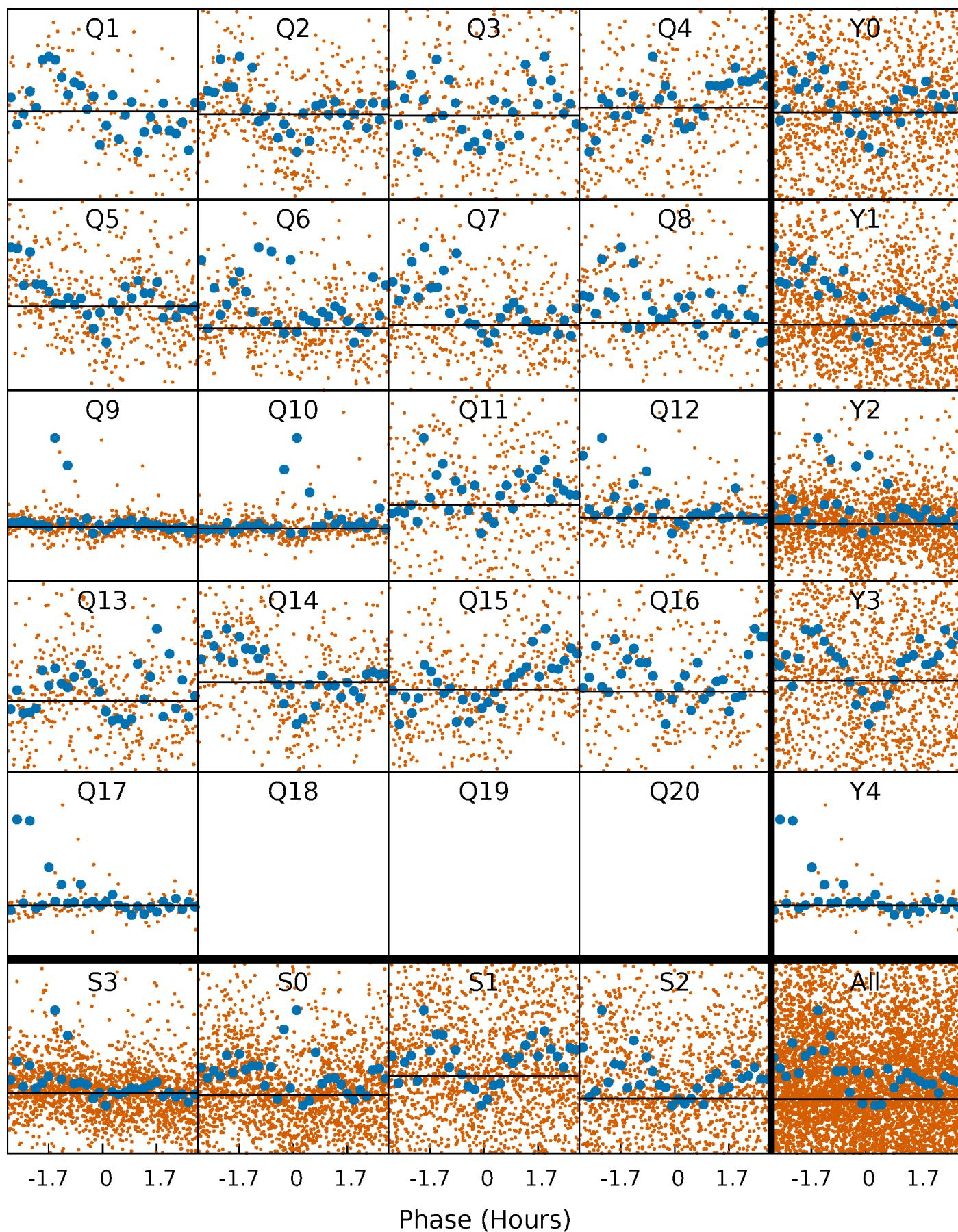
PDC Quarter-Phased Transit Curves

TCE 010139305-06 $P = 2.173542$ Days $T_0 = 132.835994$ (BKJD)



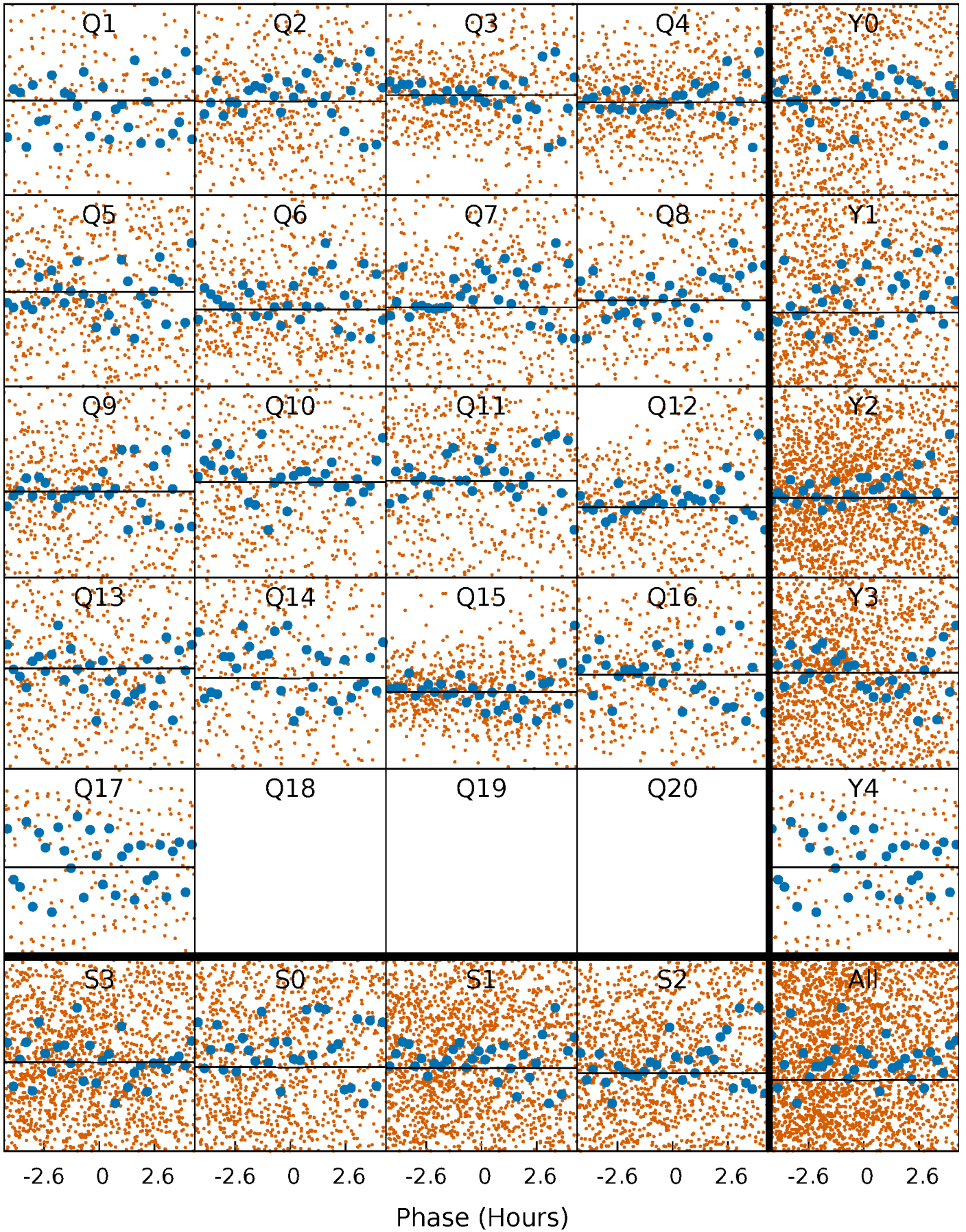
DV Quarter-Phased Transit Curves

TCE 010139305-06 P= 2.173542 Days $T_0=132.835994$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

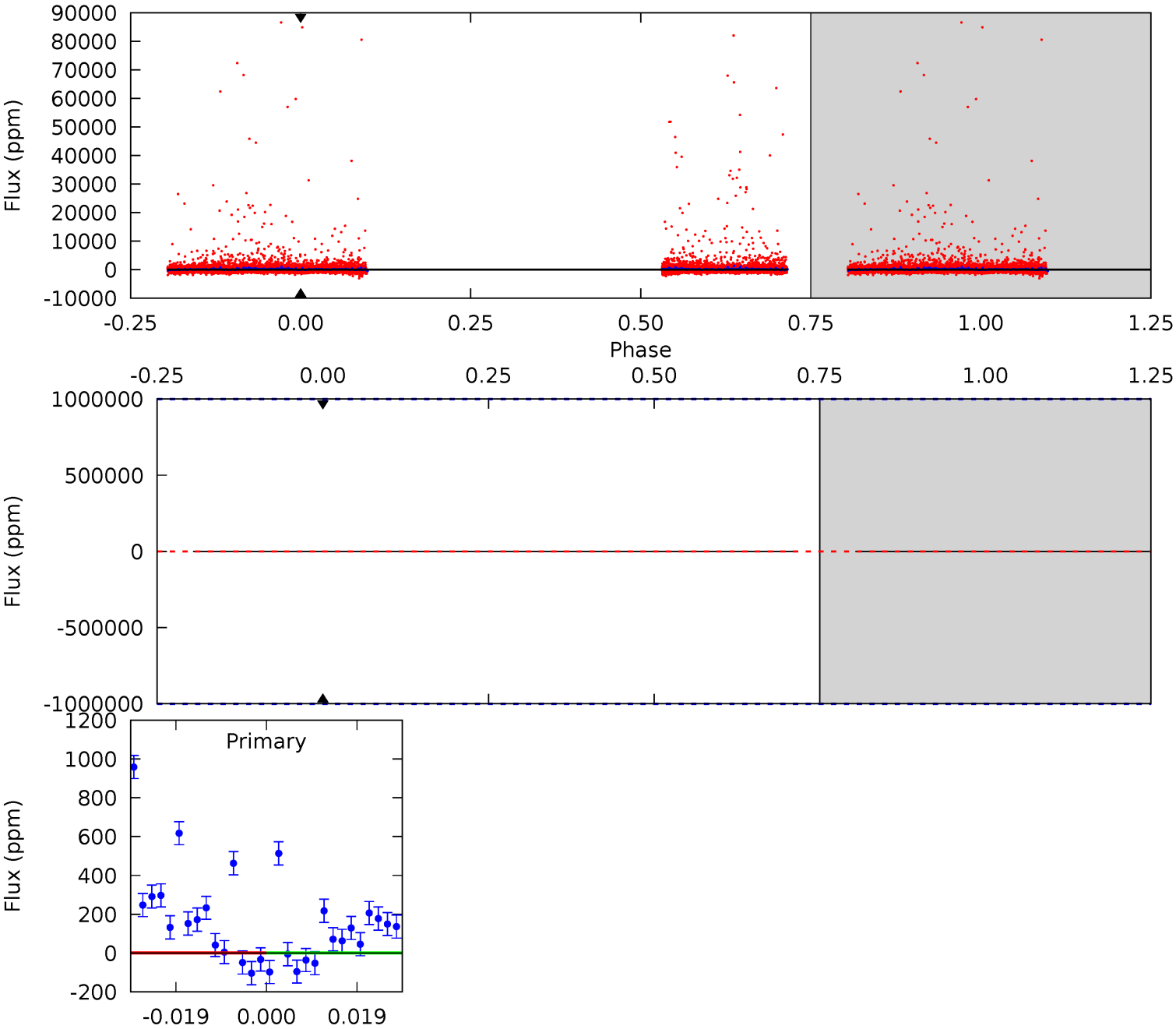
TCE 010139305-06 P= 2.173542 Days $T_0=132.805637$ (BKJD)



DV Model-Shift Uniqueness Test

010139305-06, P = 2.173542 Days, E = 130.662452 Days

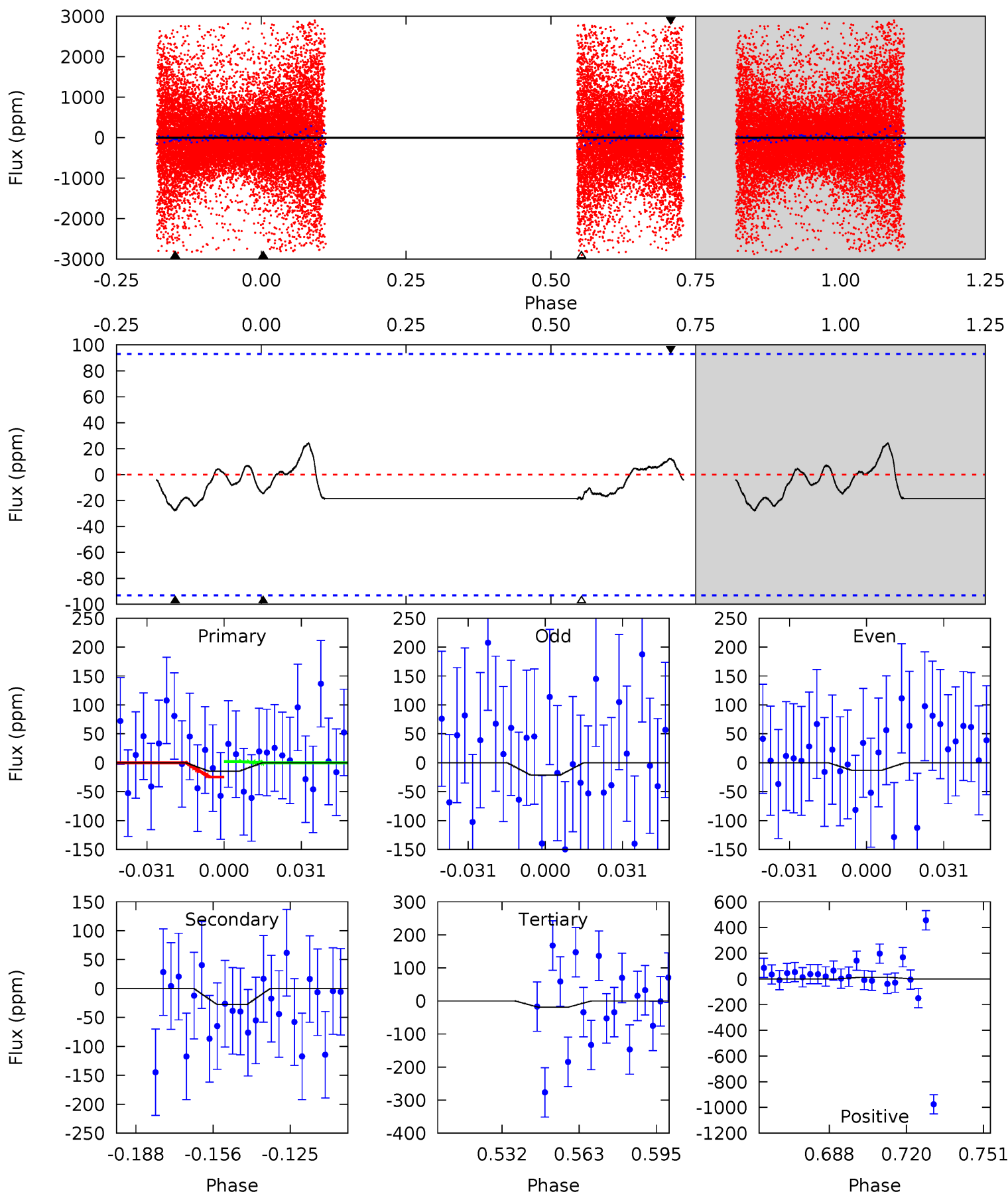
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

010139305-06, P = 2.173542 Days, E = 130.632095 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.76	1.42	0.98	0.63	4.80	2.15	0.57	-0.22	0.13	0.45	0.79	0.21	-117.9	0.47	0.63



Stellar Parameters For KIC 010139305

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5008^{+166}_{-151}	$4.663^{+0.058}_{-0.036}$	$-1.040^{+0.300}_{-0.300}$	$0.594^{+0.042}_{-0.038}$	$0.592^{+0.052}_{-0.022}$	$3.983^{+0.856}_{-0.542}$
	+3%/-3%	+1%/-1%	+29%/-29%	+7%/-6%	+9%/-4%	+21%/-14%
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 010139305-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$4.97^{+5.27}_{-3.48}$	1427^{+50}_{-51}	-3301^{+18957}_{-10371}	$-9.347^{+3657.960}_{-2647.216}$
Alt.	-28 ± 19	$4.51^{+4.74}_{-3.14}$	1427^{+52}_{-53}	1993^{+975}_{-4062}	$0.460^{+4.413}_{-0.394}$

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

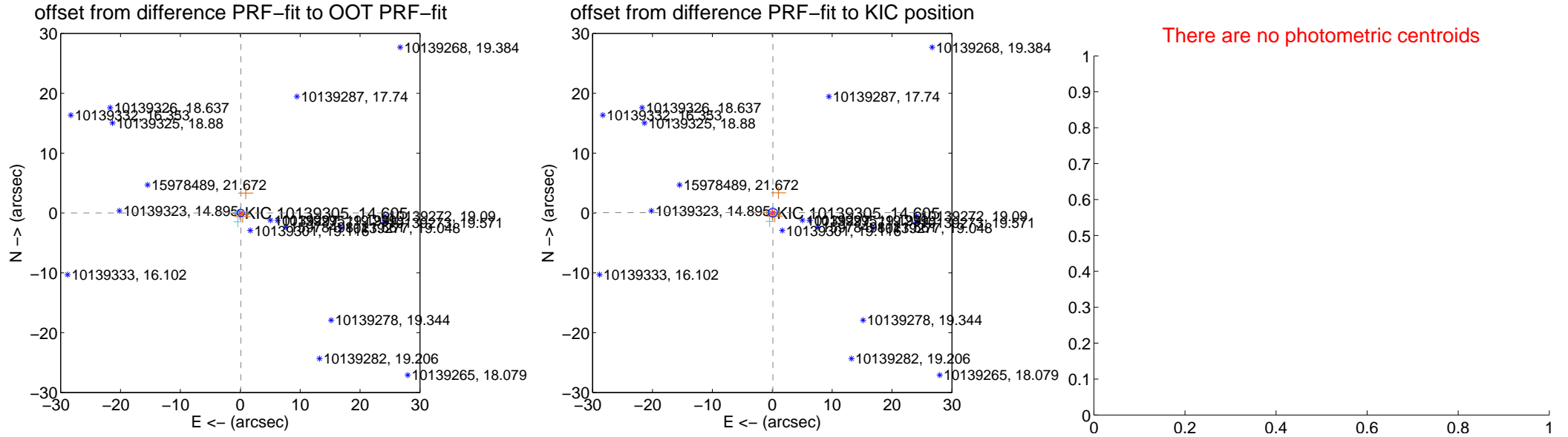
DV Centroid Data

Supplemental centroid analysis for 010139305-06. Kepler magnitude: 14.61. Transit SNR -1.00

There are 5 quarters with good PRF difference image offsets

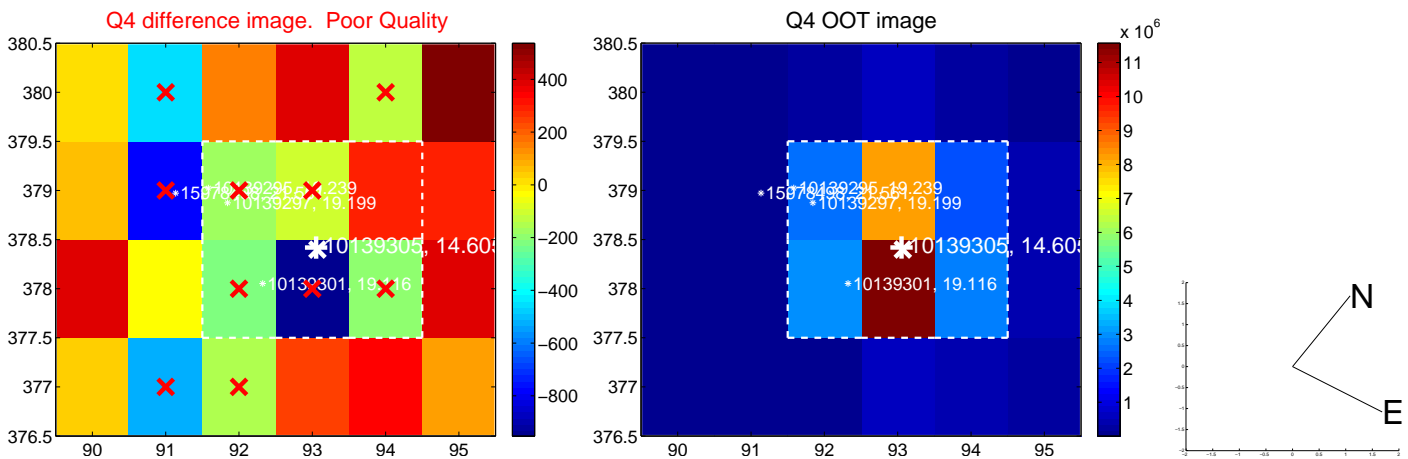
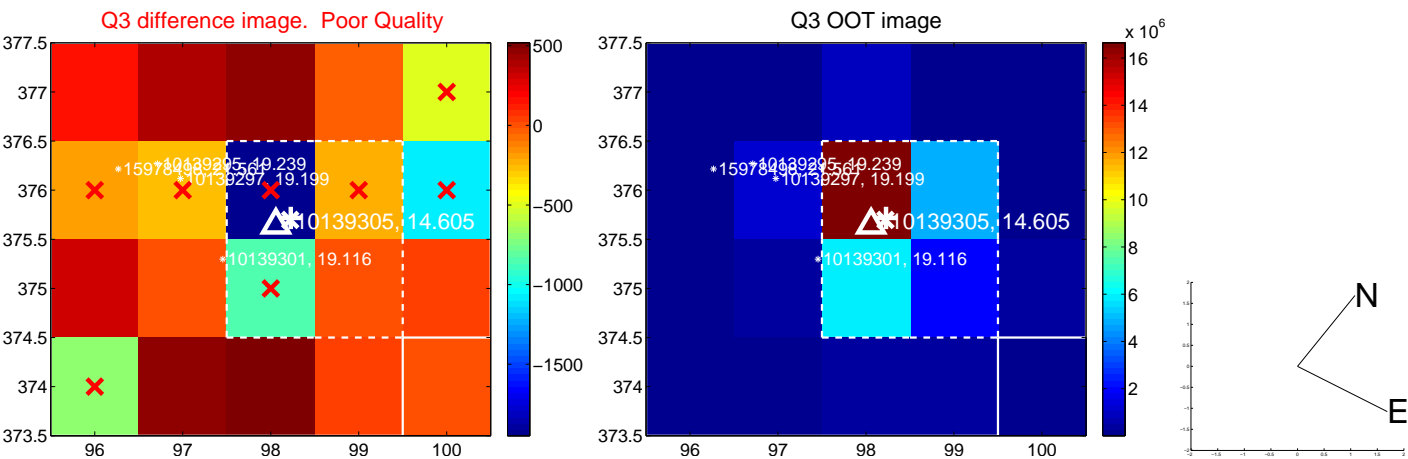
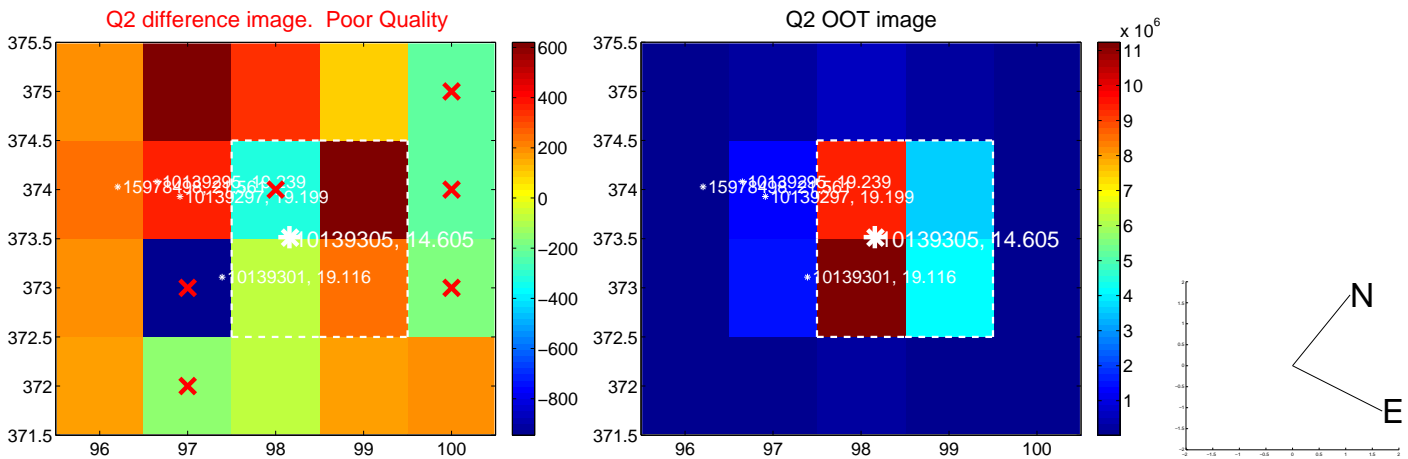
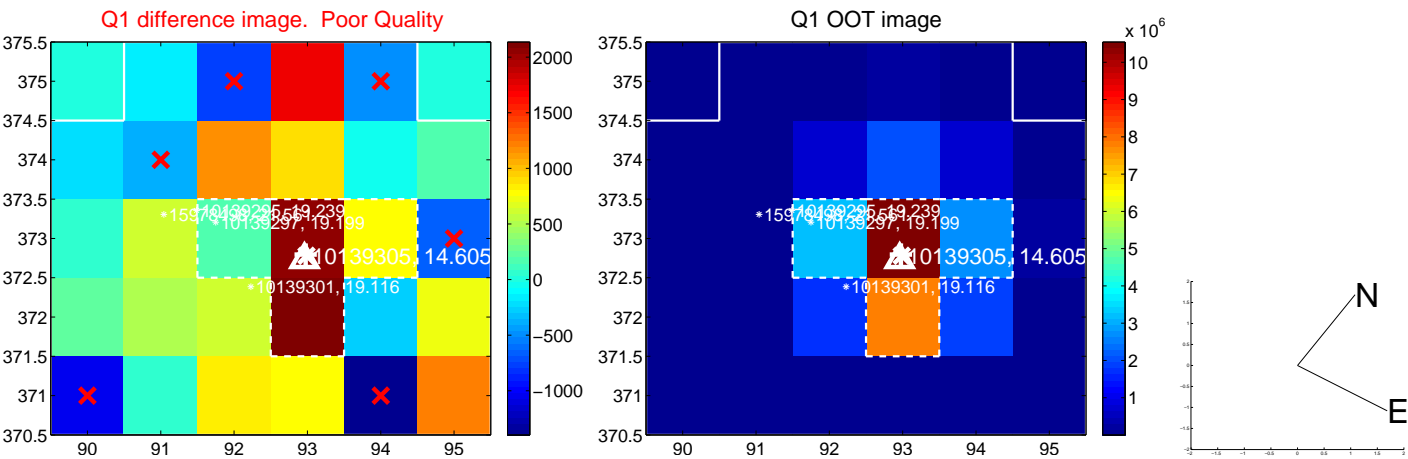
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.087 ± 0.202	0.43	-0.086 ± 0.202	0.014 ± 0.188
PRF-fit source offset from KIC position	0.124 ± 0.247	0.50	-0.103 ± 0.177	0.069 ± 0.298
photometric centroid source offset	—	—	—	—

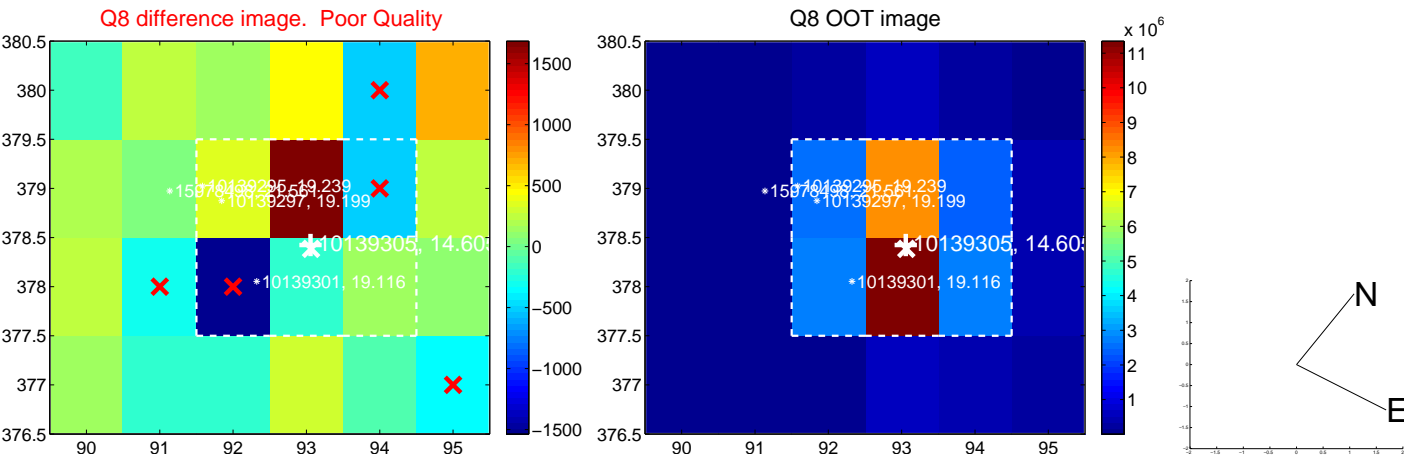
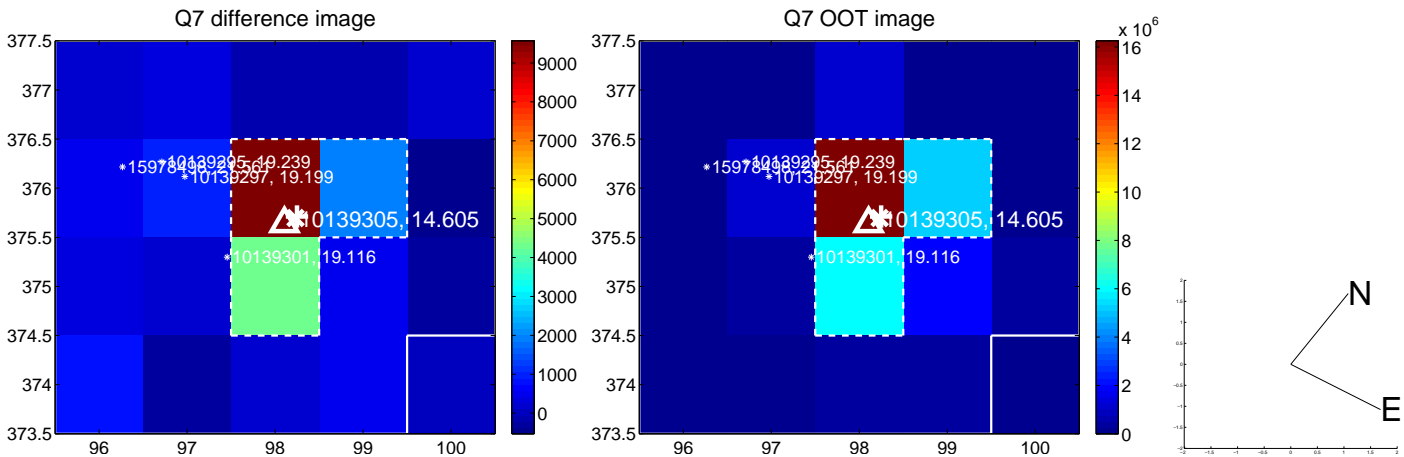
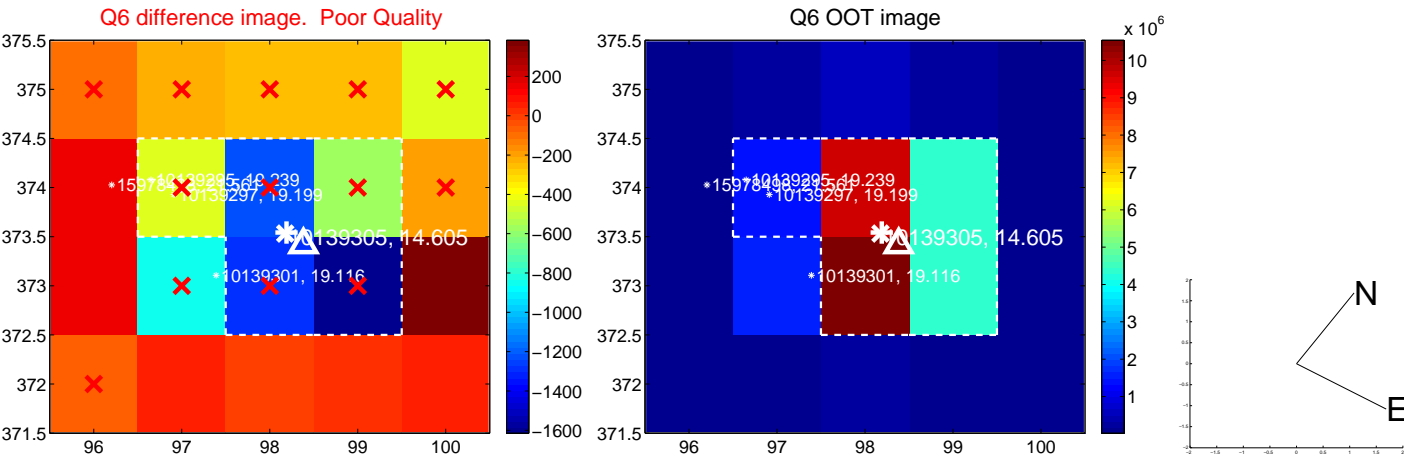
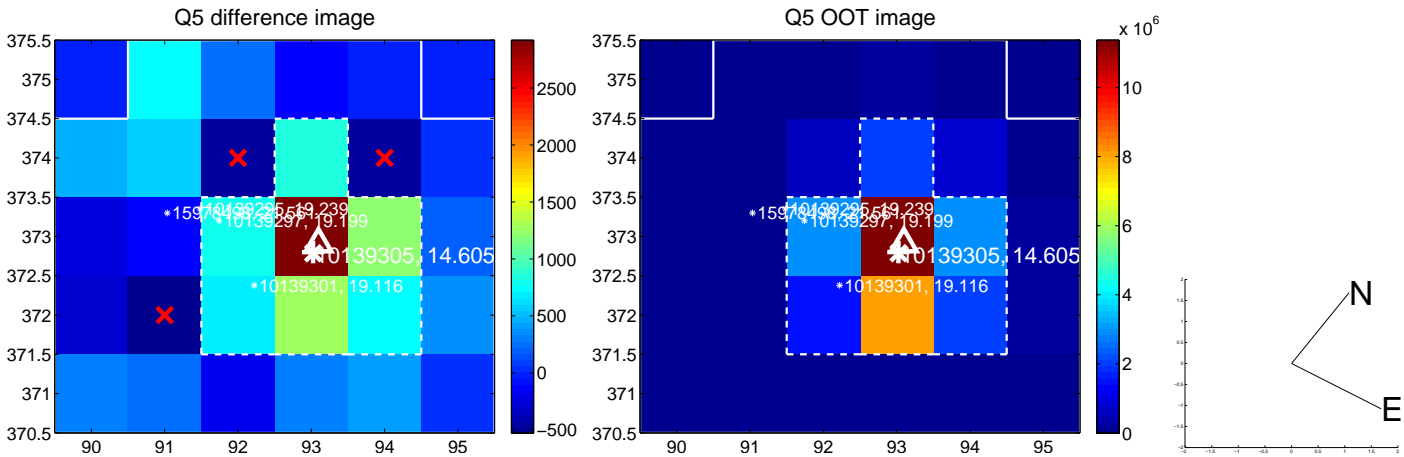


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

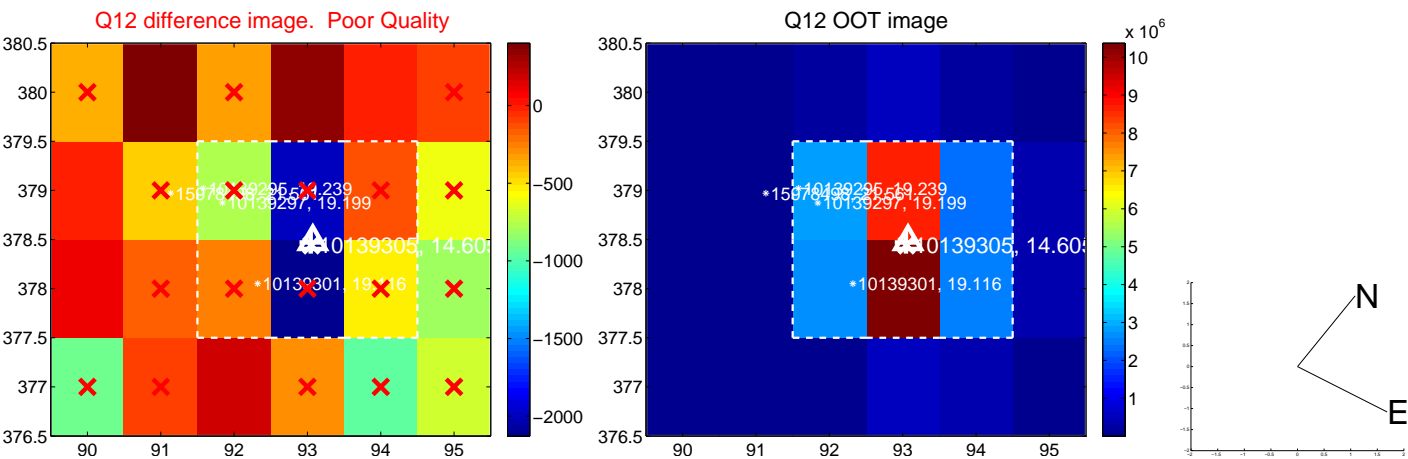
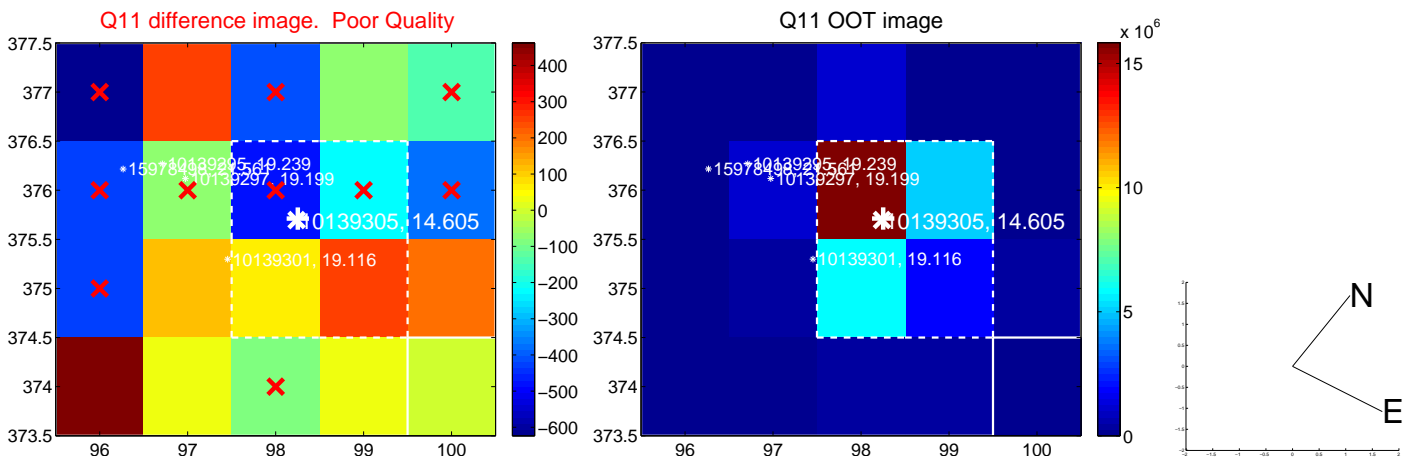
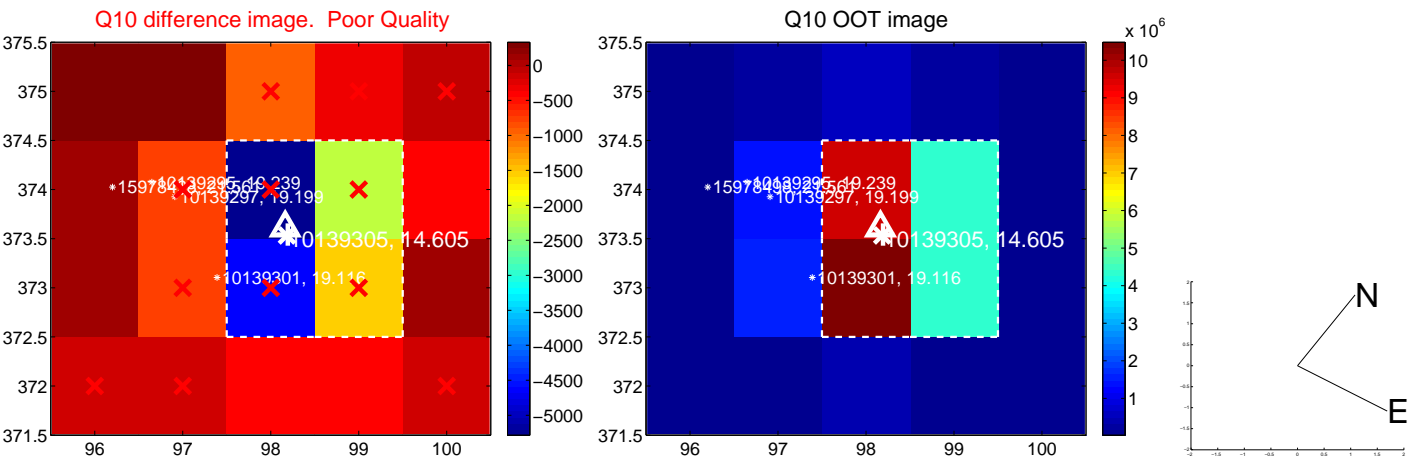
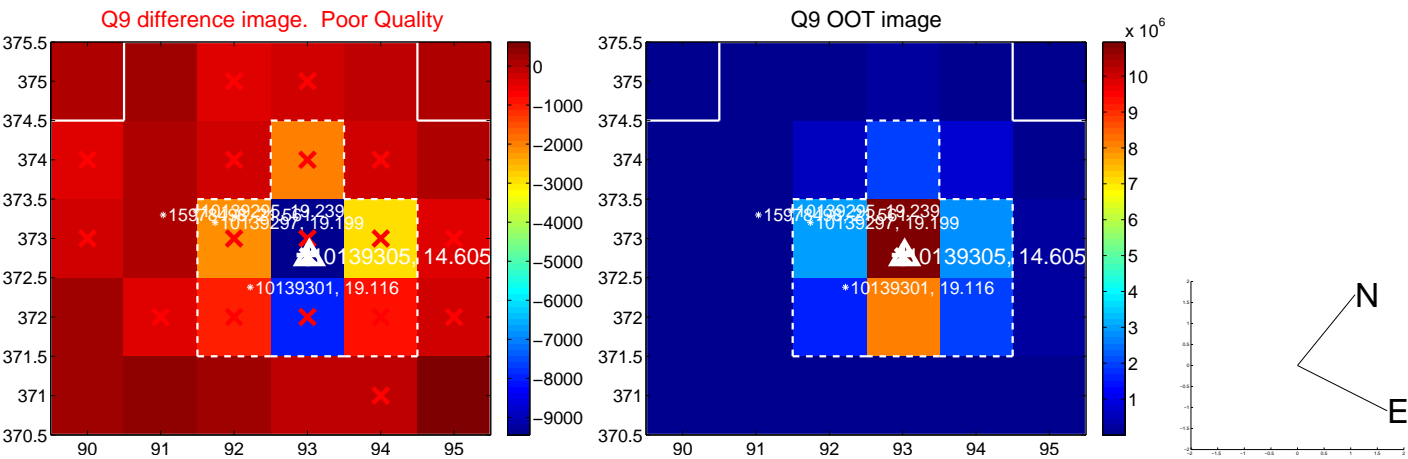
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



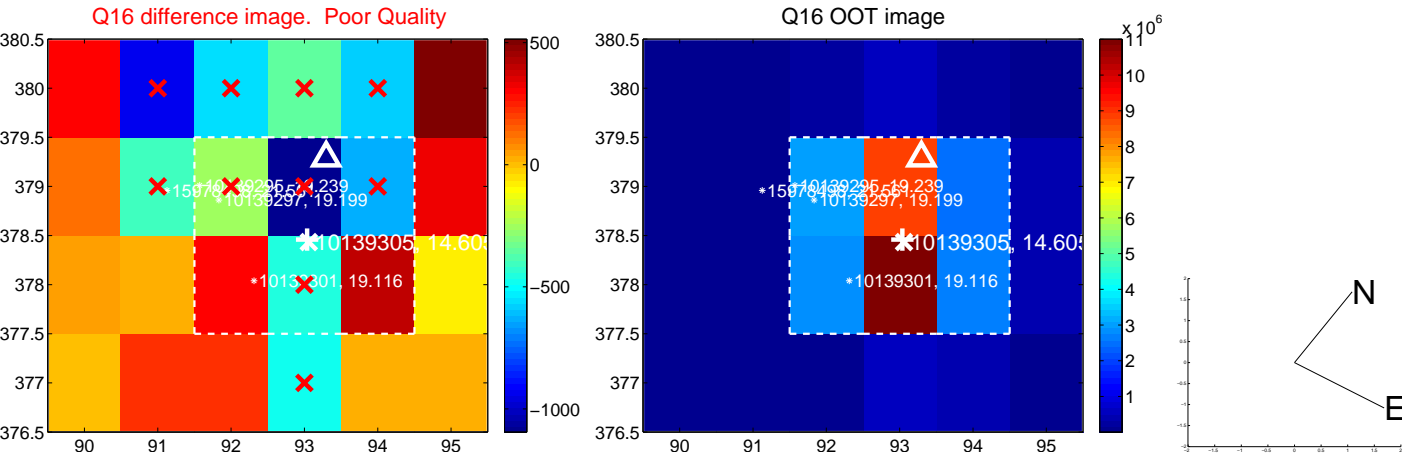
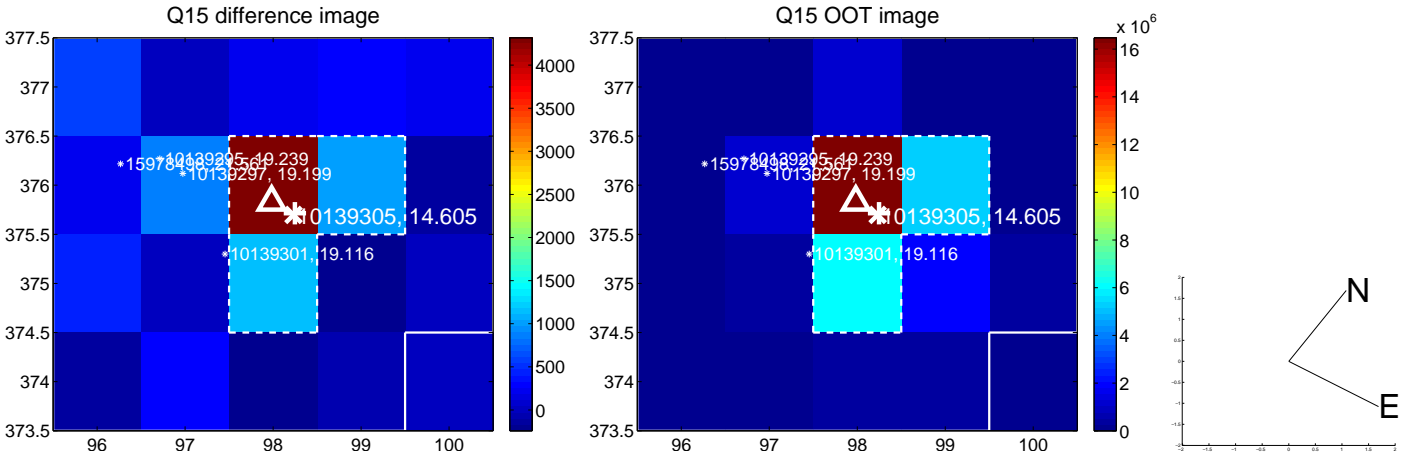
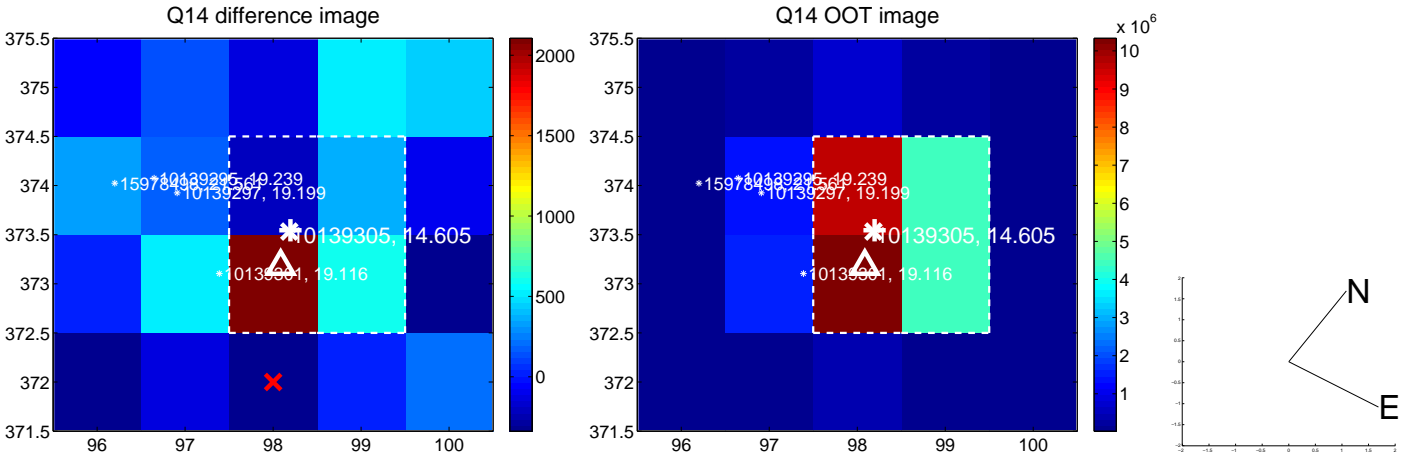
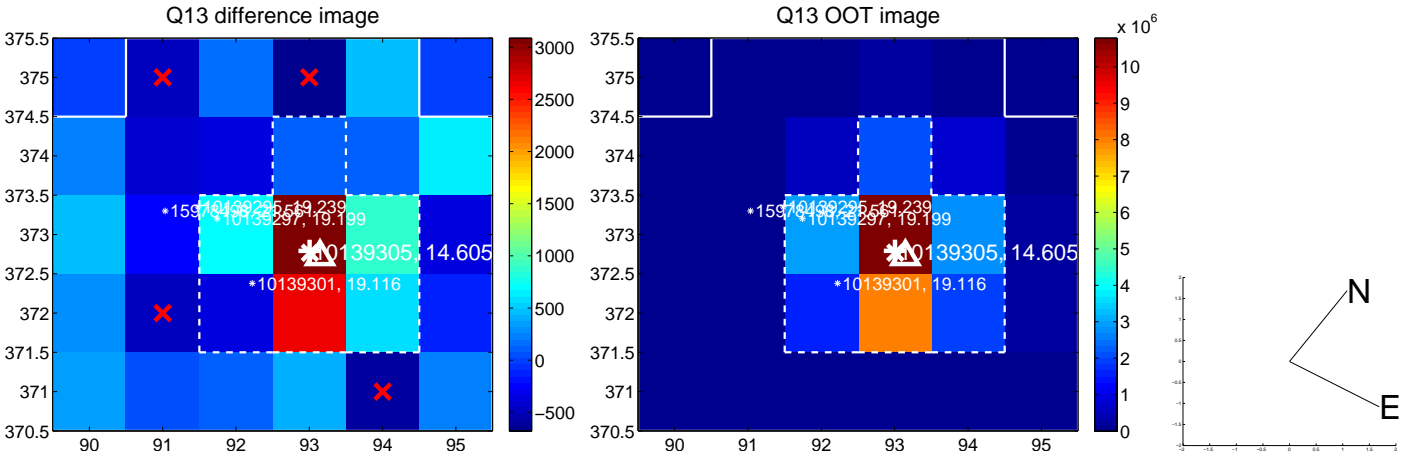
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



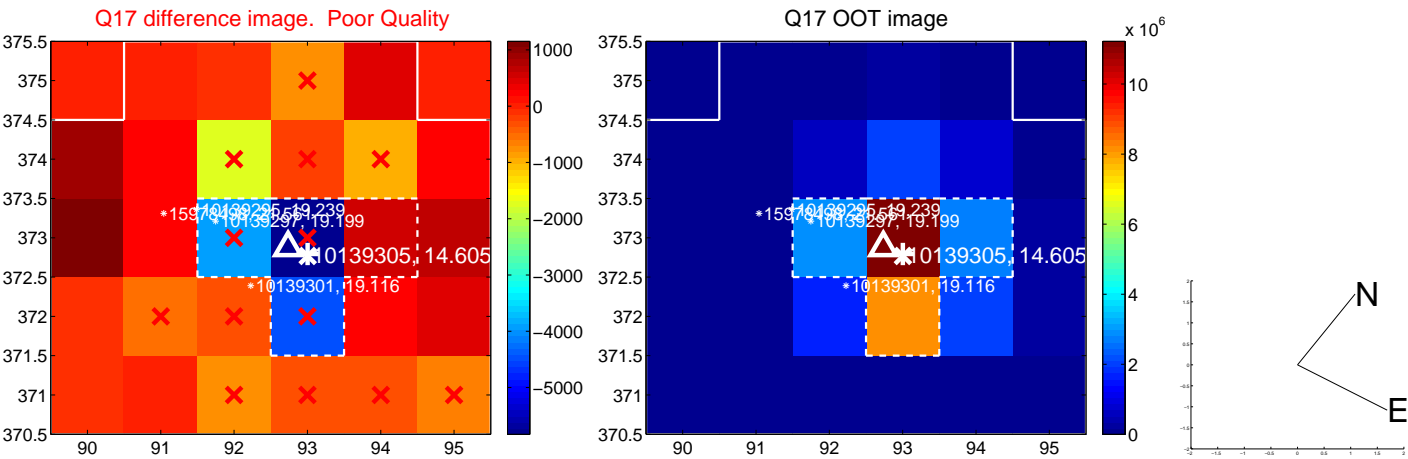
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

