

KIC 003962715

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})
003962715-01	OBS	No	648.048597	209.281007	619.2	3.777	15.1	1.5	0.74	4441	1.85	0.11
003962715-02	OBS	No	176.005238	274.802695	1844.5	2.500	13.0	-1.0	0.74	4441	3.01	0.62
003962715-03	OBS	No	4.074527	131.807493	276.5	1.763	9.3	7.8	0.74	4441	1.29	93.32
003962715-04	OBS	No	653.923318	214.850728	2800.6	12.011	12.6	7.9	0.74	4441	4.70	0.11
003962715-05	OBS	No	290.595137	246.670897	19697.2	18.996	12.1	34.4	0.74	4441	19.02	0.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003962715-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003962715-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
003962715-03	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003962715-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003962715-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

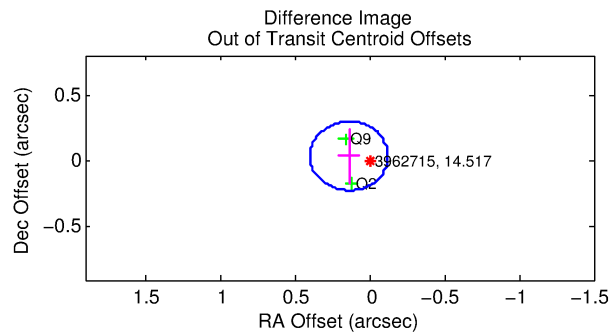
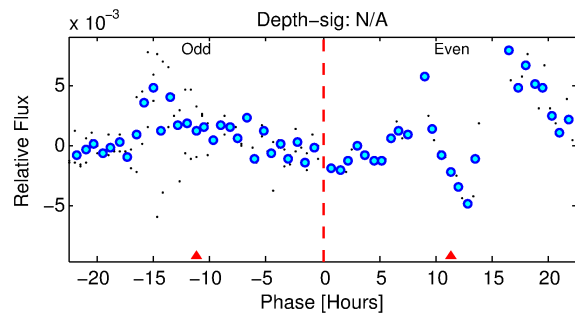
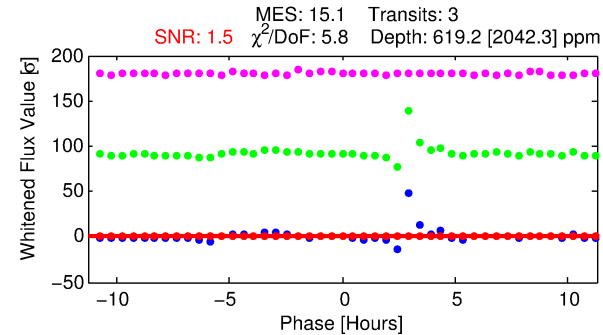
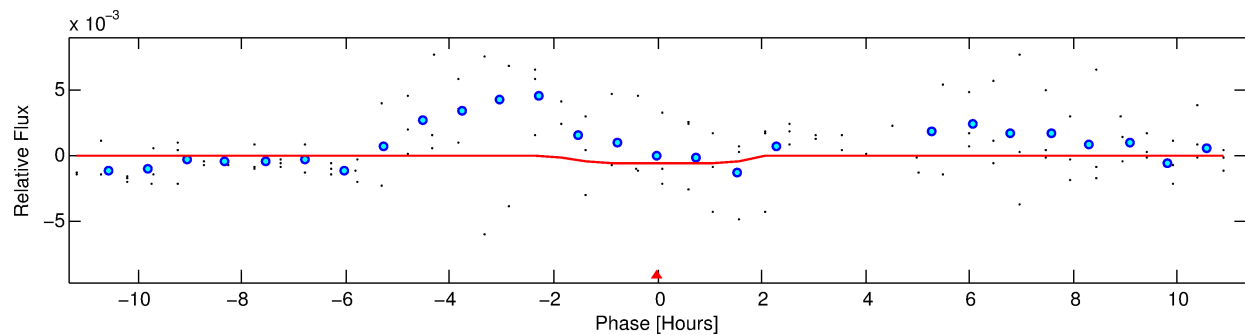
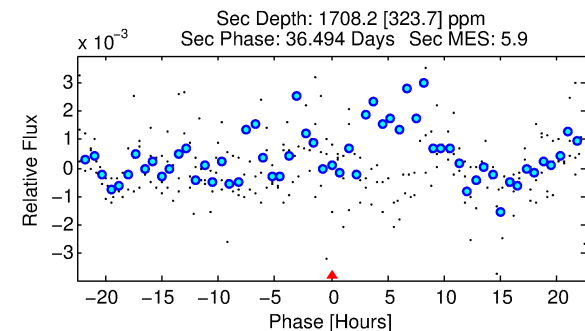
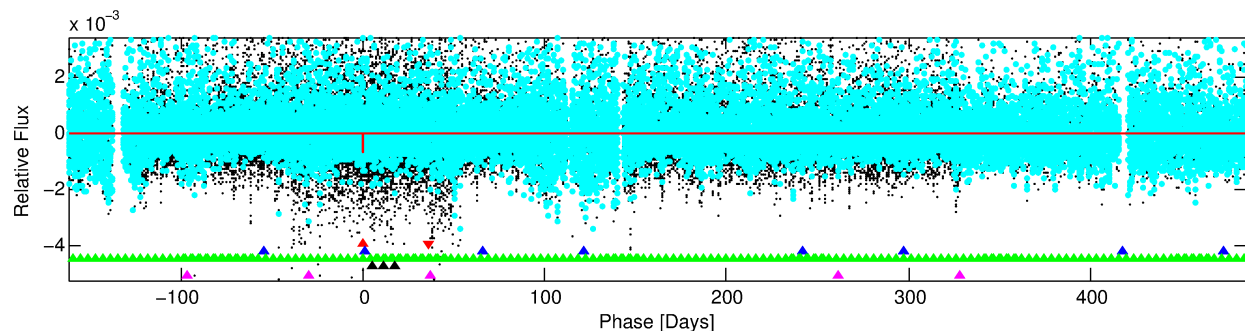
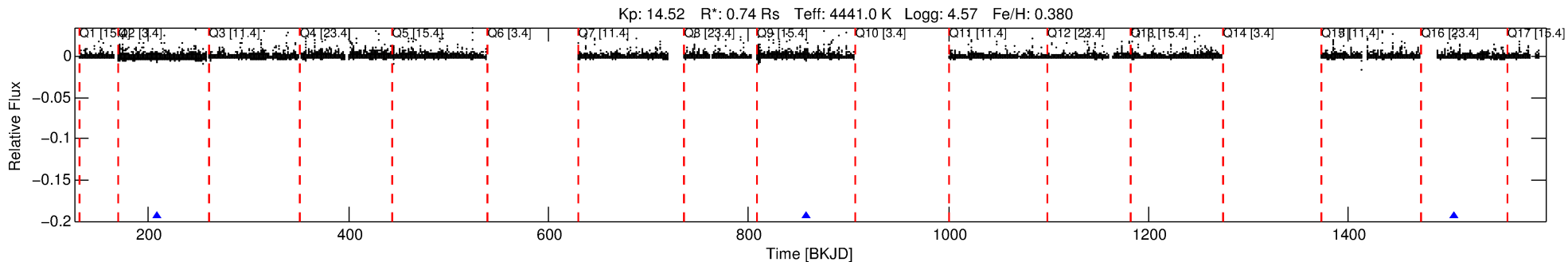
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003962715-01

No Significant Match Found

DV One-Page Summary

KIC: 3962715 Candidate: 1 of 5 Period: 648.049 d



DV Fit Results:

Period = 648.04860 [0.09896] d
Epoch = 209.2810 [0.1645] BKJD
Rp/R* = 0.0230 [0.4776]
a/R* = 1137.95 [67483.07]
b = 0.54 [79.66]
Seff = 0.11 [0.02]
Teq = 146 [7] K
Rp = 1.85 [38.36] Re
a = 1.3203 [0.0968] AU
Ag = 478832.83 [19859319.67] [0.02σ]
Teffp = 5949 [61685] K [0.09σ]

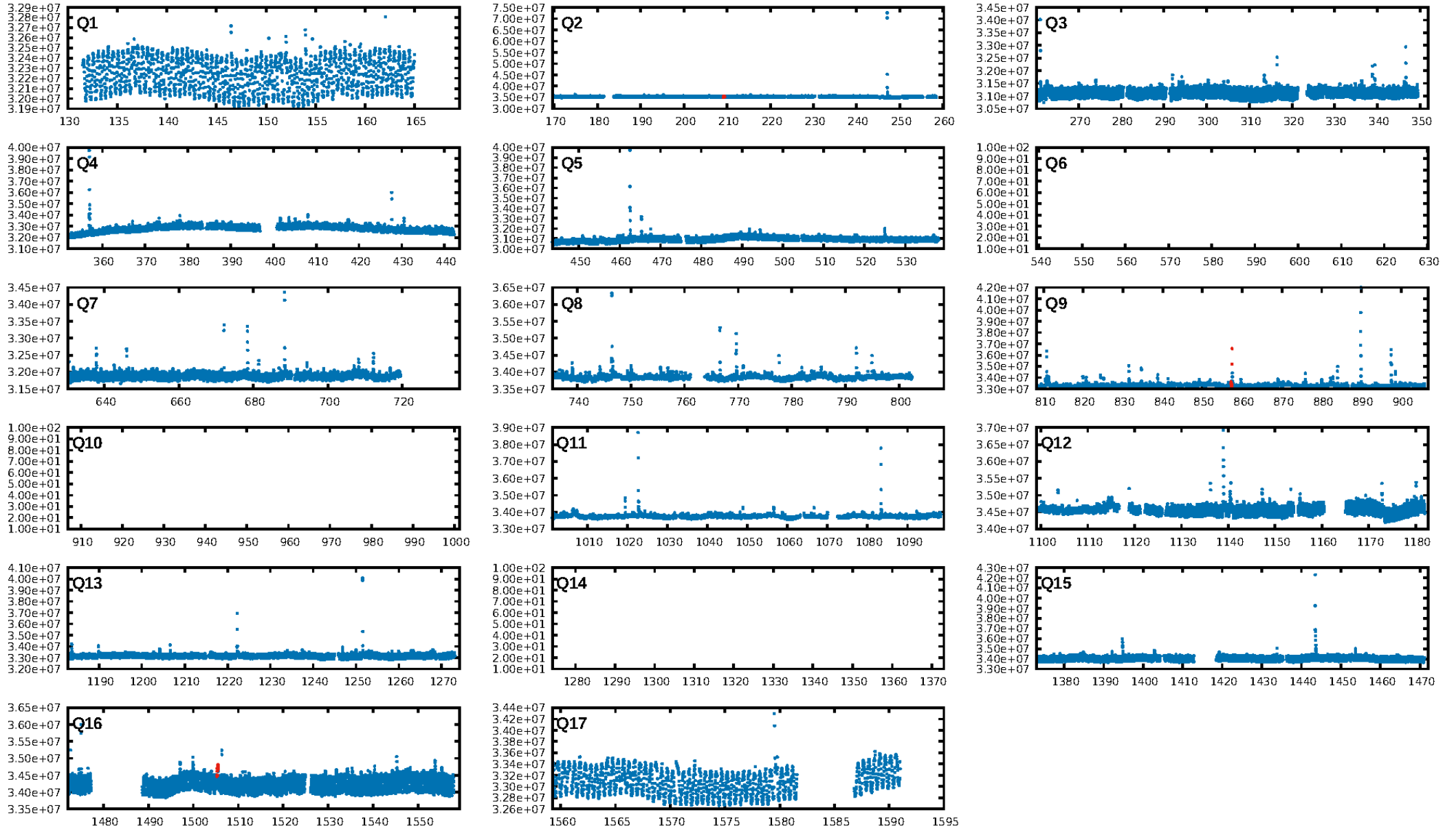
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [442.95σ]
LongPeriod-sig: 100.0% [11.20σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 4.37e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 4.161
Centroid-sig: 1.3%
Centroid-so: 5.295 arcsec [2.41σ]
OotOffset-rm: 0.142 arcsec [1.64σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-rm: 0.088 arcsec [0.42σ]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/2]

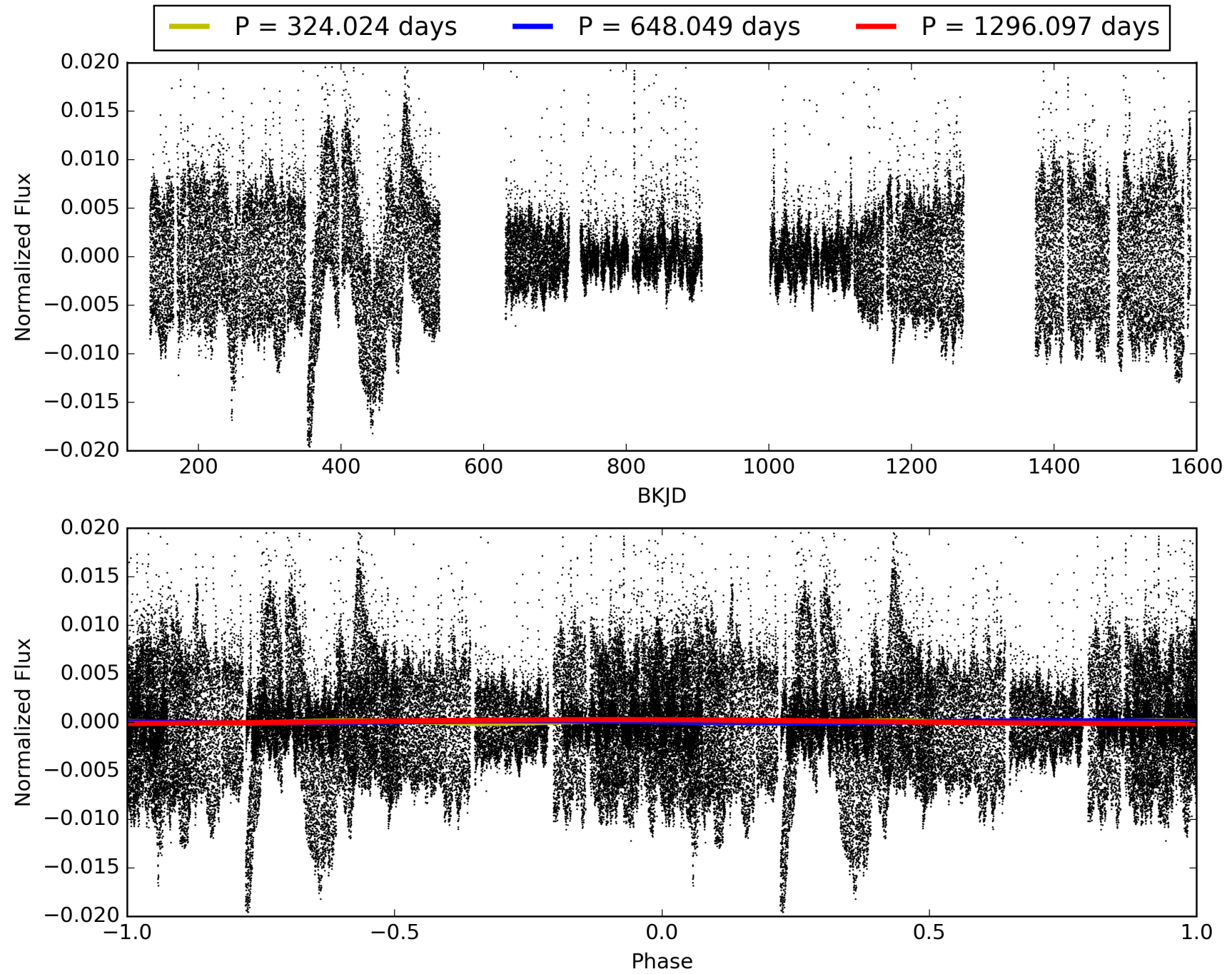
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:16:30 Z

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

TCE 003962715-01, PDC Light Curves

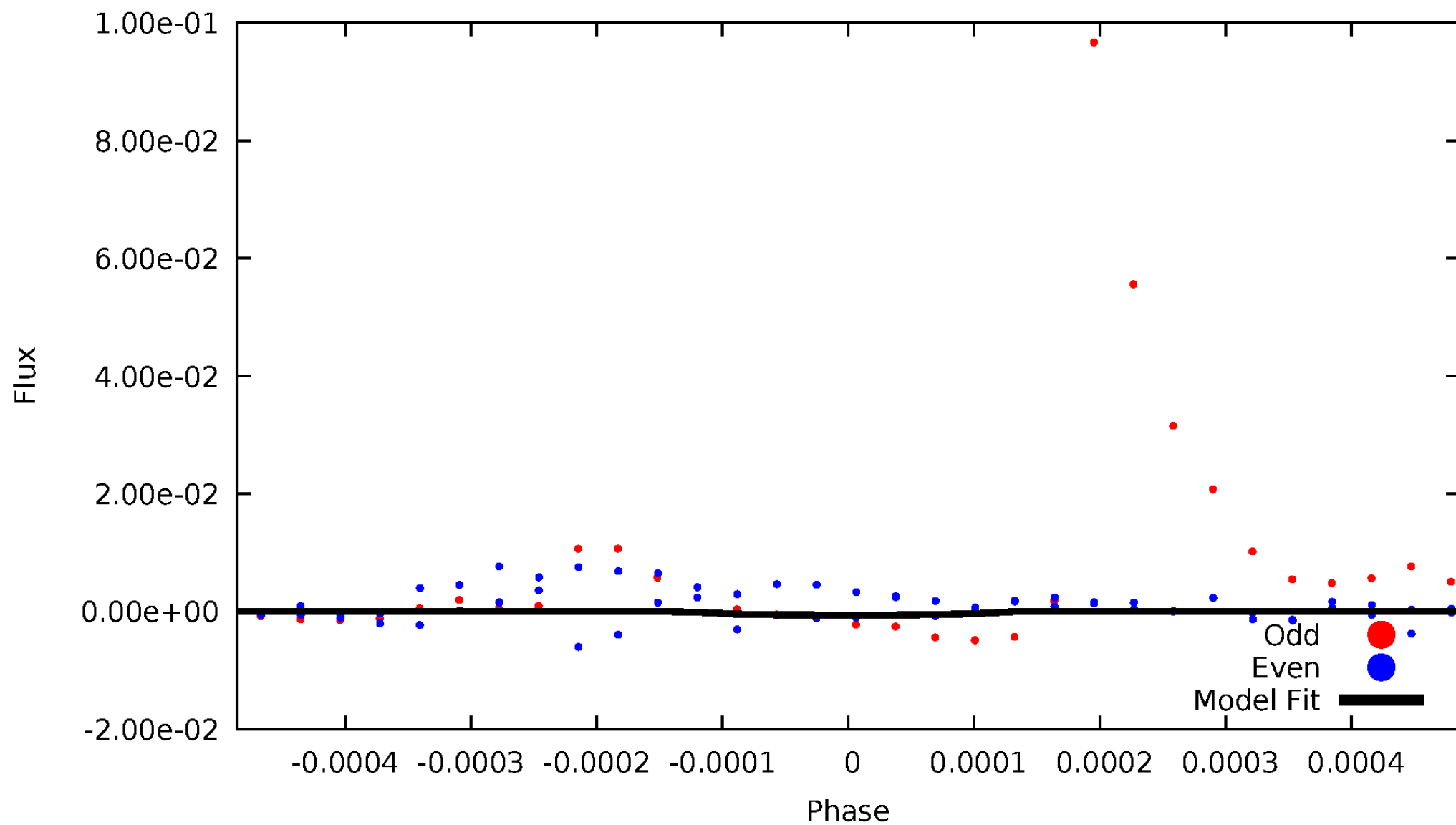


TCE 003962715-01



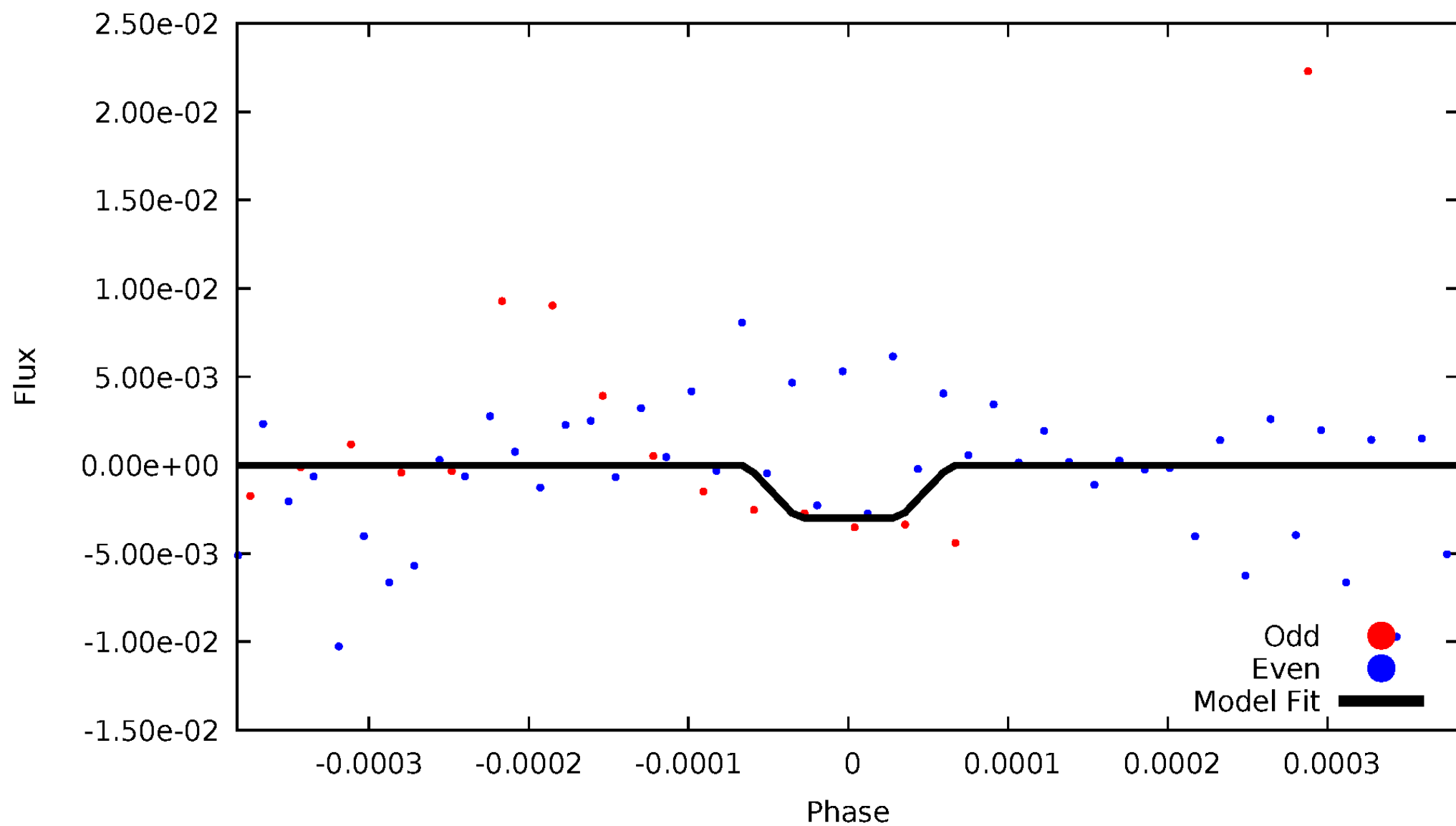
DV Odd/Even

TCE 003962715-01



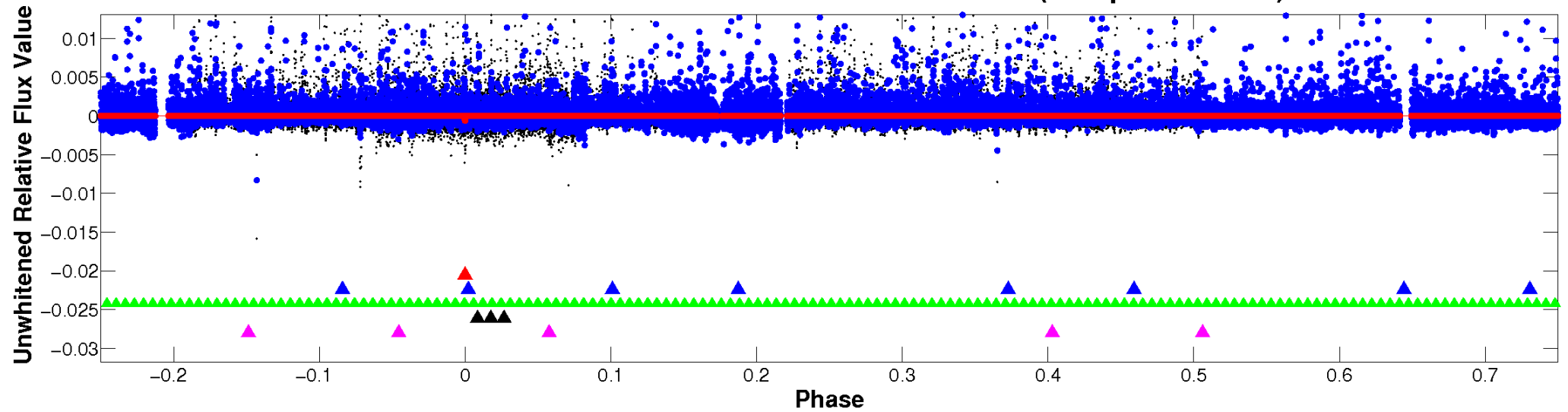
ALT Odd/Even

TCE 003962715-01

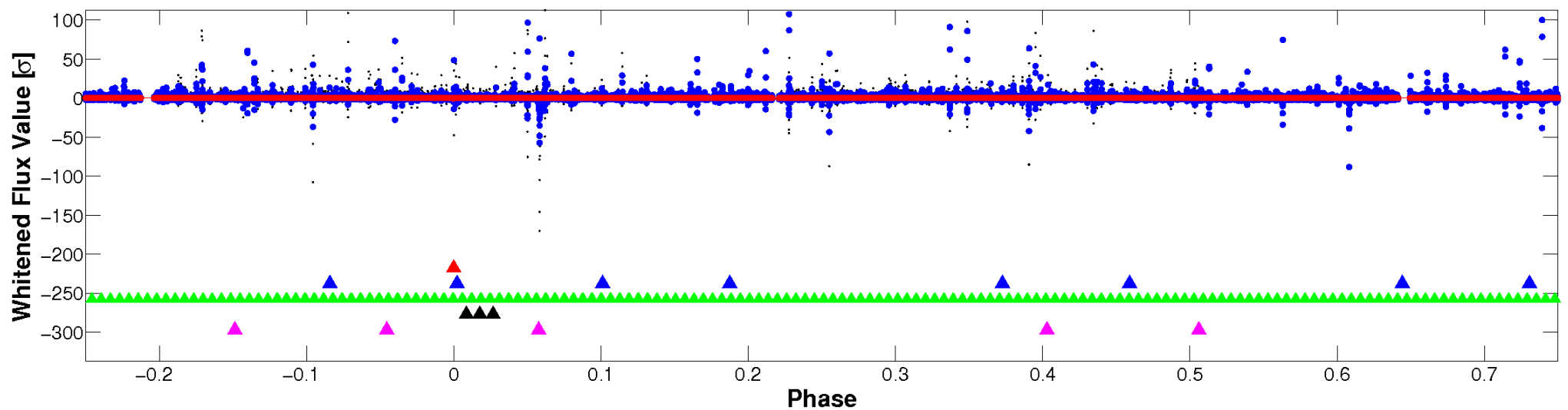


Non-Whitened Vs. Whitened Light Curve

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

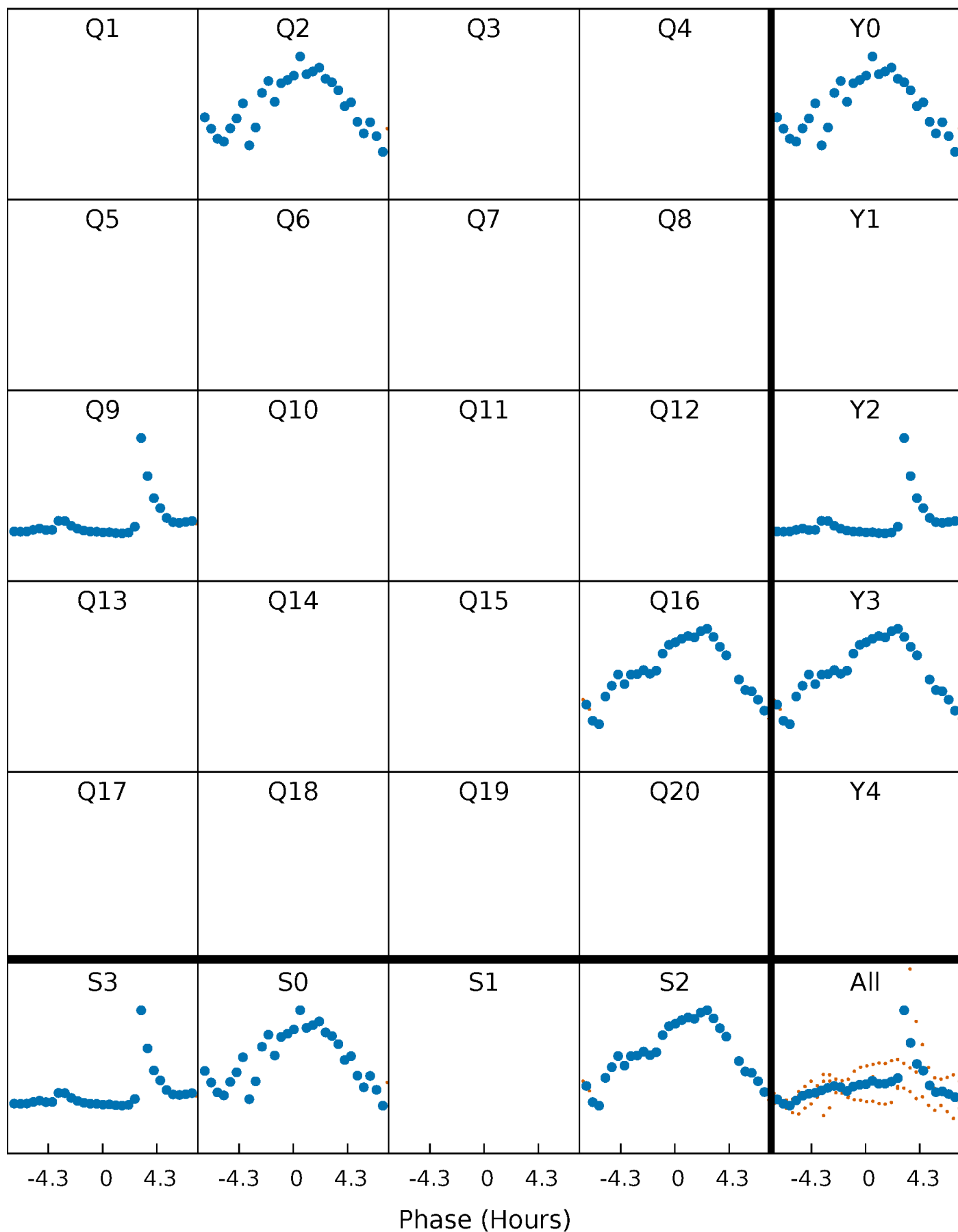


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



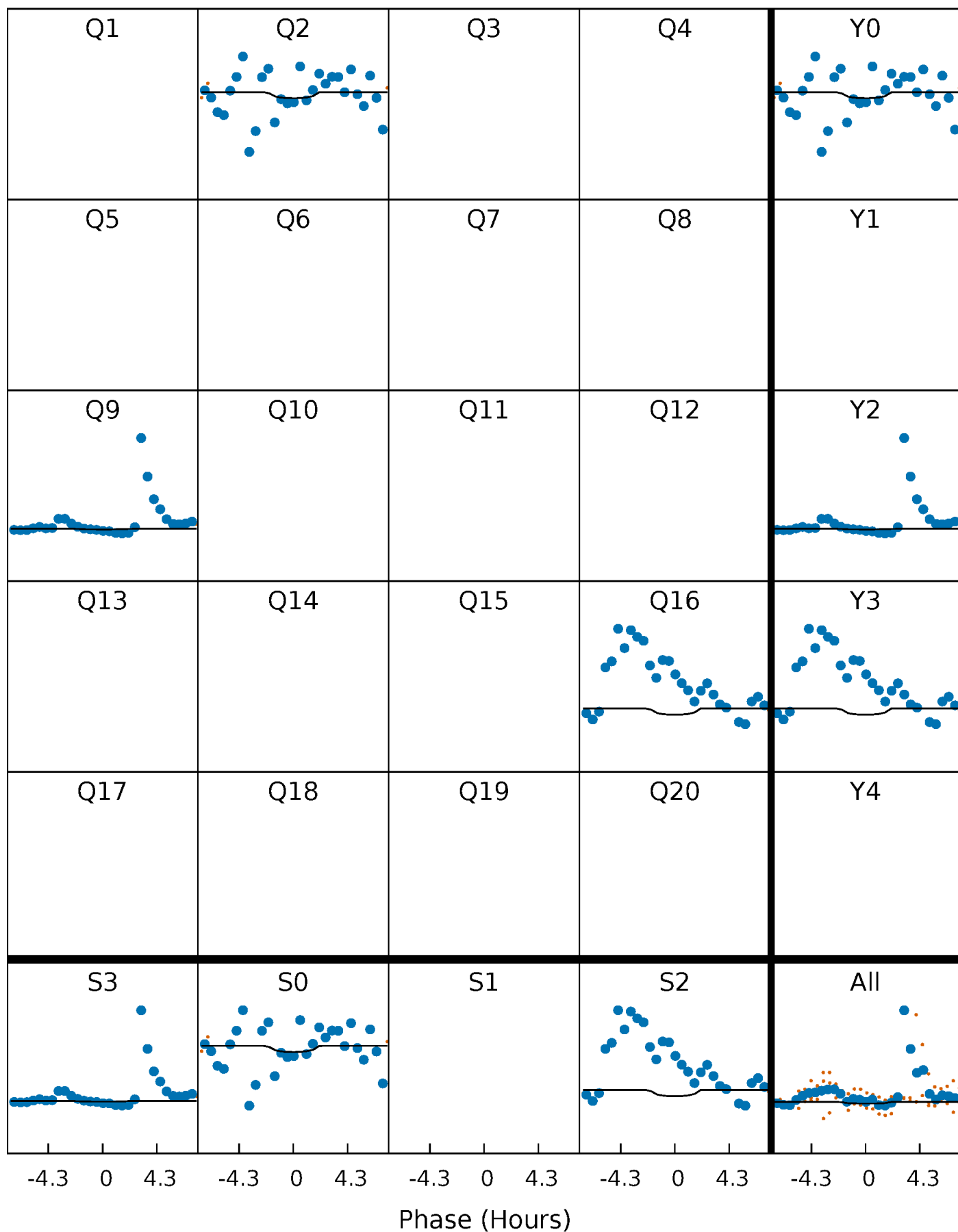
PDC Quarter-Phased Transit Curves

TCE 003962715-01 P=648.048597 Days $T_0=209.281007$ (BKJD)



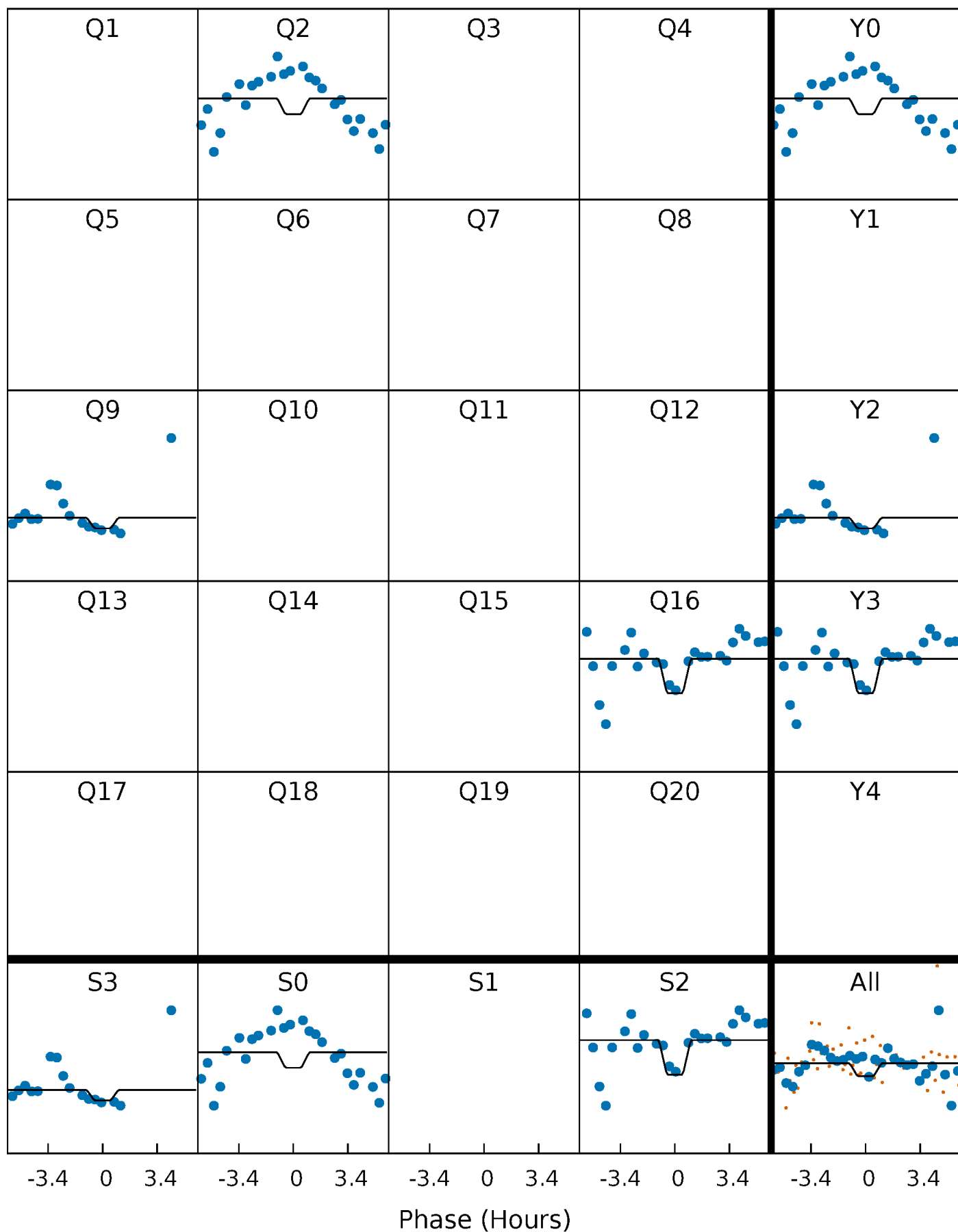
DV Quarter-Phased Transit Curves

TCE 003962715-01 P=648.048597 Days $T_0=209.281007$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

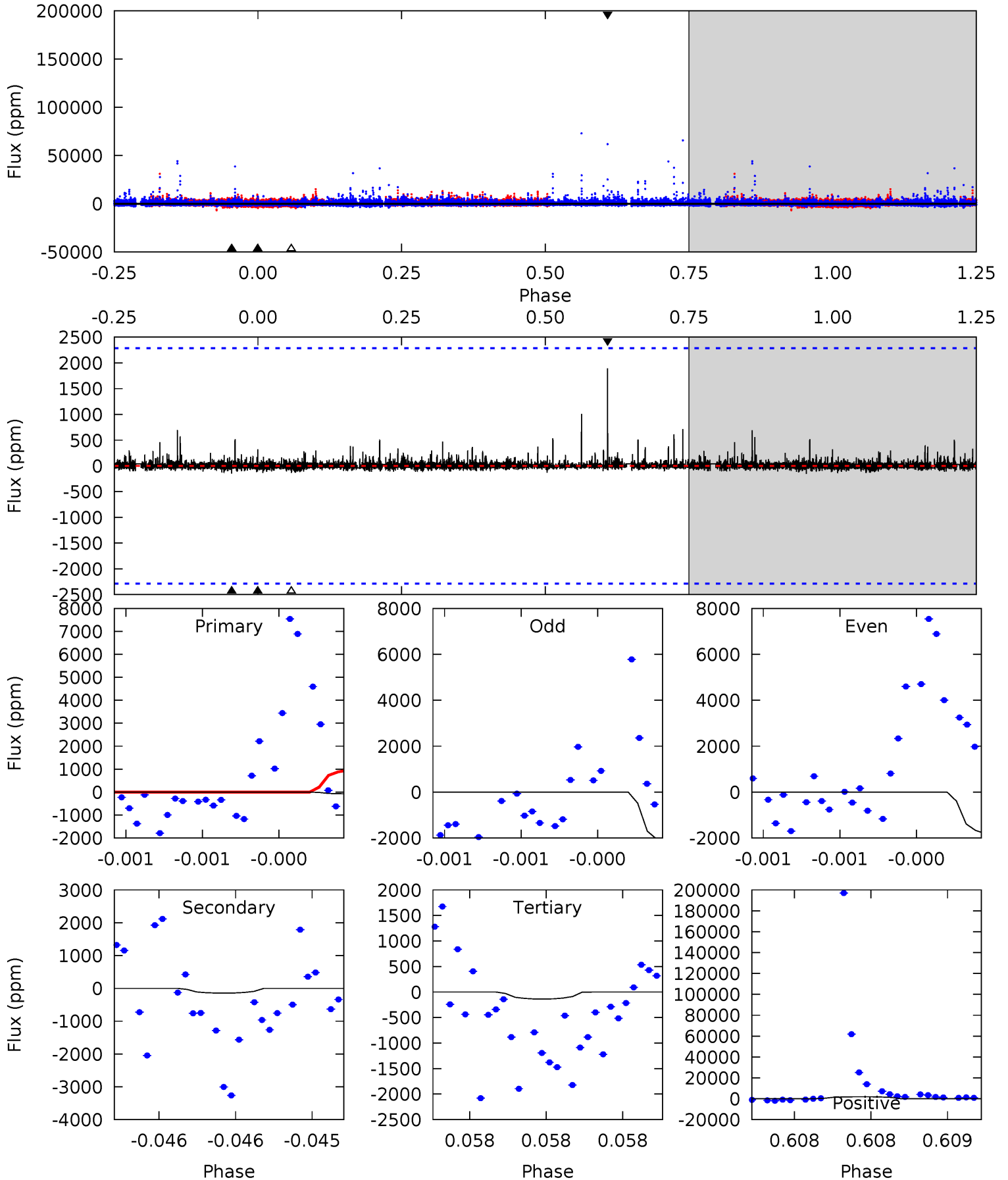
TCE 003962715-01 P=647.982243 Days $T_0=209.348662$ (BKJD)



DV Model-Shift Uniqueness Test

003962715-01, P = 648.048597 Days, E = 209.281007 Days

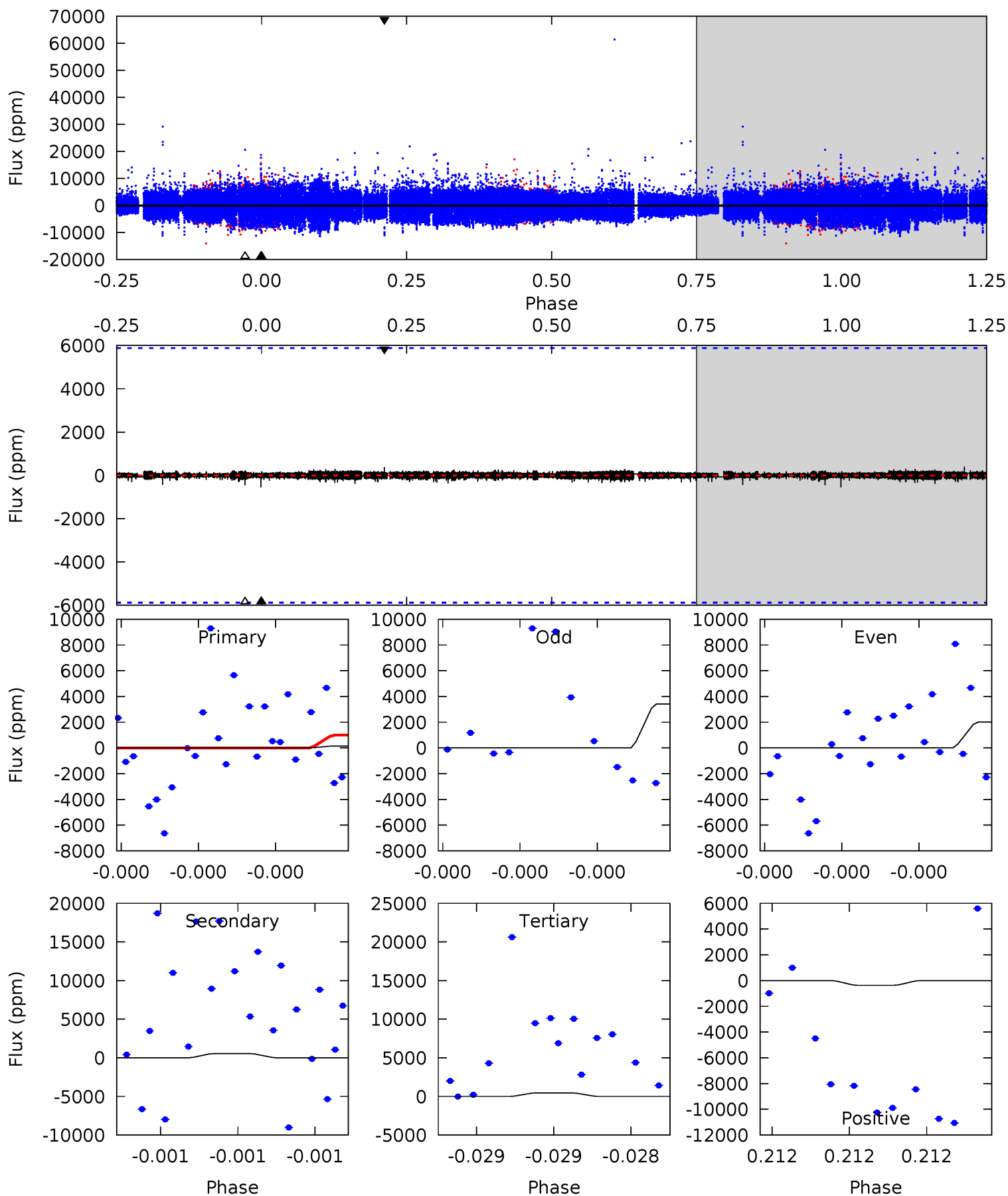
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.20	0.36	0.34	4.71	5.69	3.66	0.17	-0.15	-4.51	0.02	-4.35	0.32	-0.56	0.93	1.33



Alt Model-Shift Uniqueness Test

003962715-01, P = 647.982243 Days, E = 209.348662 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.15	0.54	0.45	0.37	5.82	3.85	0.09	-0.30	-0.21	0.09	0.17	0.79	-0.04	0.40	0.18



Stellar Parameters For KIC 003962715

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4441^{+158}_{-176}	$4.568^{+0.060}_{-0.020}$	$0.380^{+0.050}_{-0.300}$	$0.736^{+0.029}_{-0.063}$	$0.731^{+0.041}_{-0.050}$	$2.581^{+0.656}_{-0.201}$
	+4%/-4%	+1%/-0%	+13%/-79%	+4%/-9%	+6%/-7%	+25%/-8%
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 003962715-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-145 ± 402	$25.42^{+30.69}_{-18.41}$	203^{+8}_{-9}	1722^{+699}_{-3659}	109^{+2410}_{-460}
Alt.	-548 ± 1011	$27.13^{+28.85}_{-18.85}$	202^{+8}_{-9}	1991^{+682}_{-3988}	452^{+5709}_{-911}

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

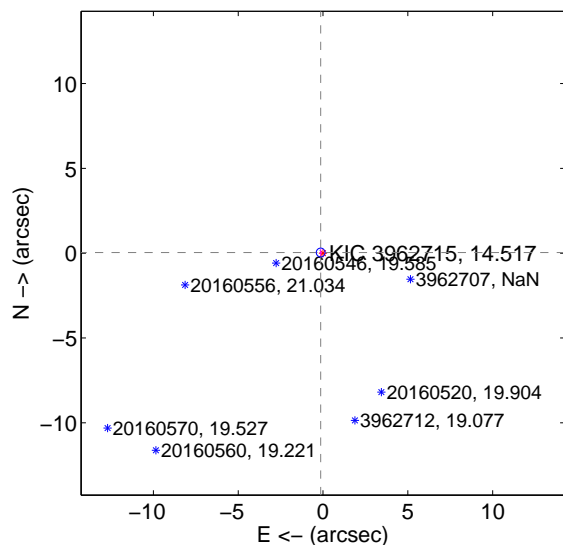
Supplemental centroid analysis for 003962715-01. Kepler magnitude: 14.52. Transit SNR 1.53

There are 1 quarters with good PRF difference image offsets

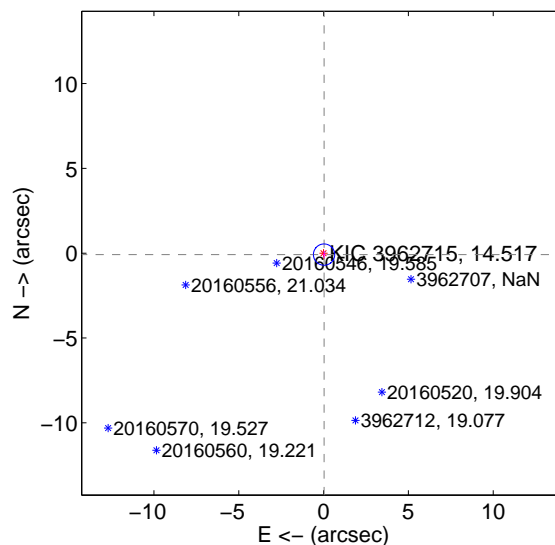
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.142 ± 0.087	1.64	0.137 ± 0.070	0.038 ± 0.204
PRF-fit source offset from KIC position	0.088 ± 0.209	0.42	-0.028 ± 0.073	-0.084 ± 0.219
photometric centroid source offset	5.29 ± 2.20	2.41	-5.23 ± 2.20	-0.85 ± 2.00

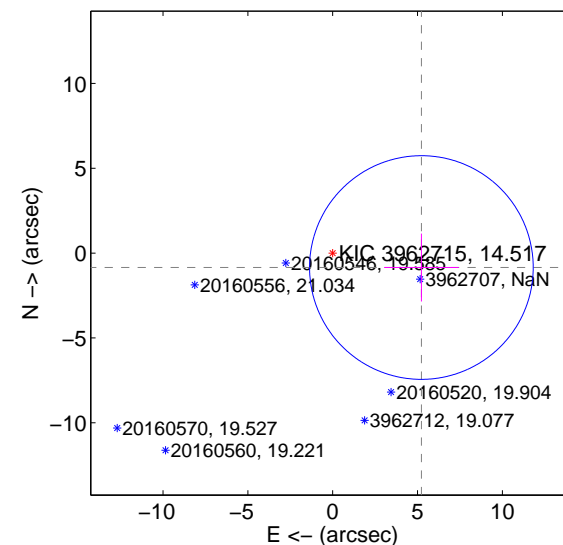
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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.

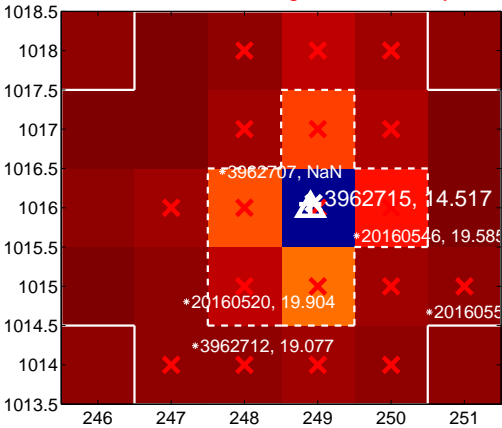
Q1 no difference image



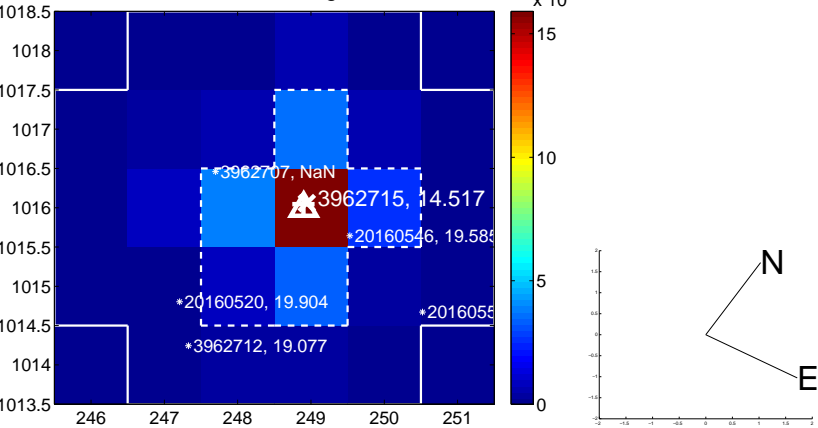
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



Q3 no difference image



Q3 no OOT image



Q4 no difference image



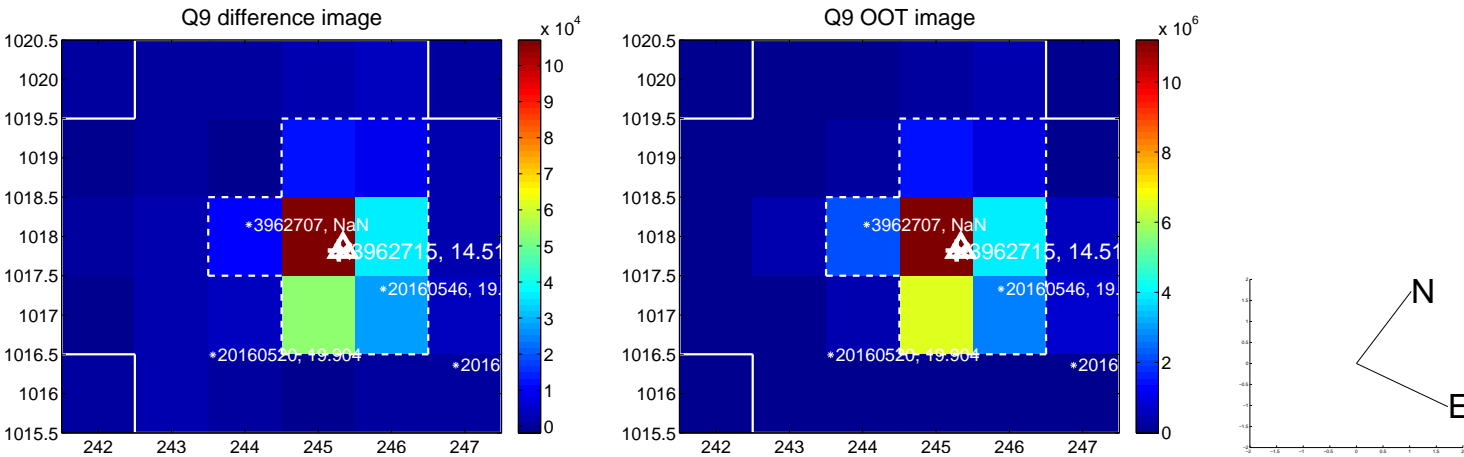
Q4 no OOT image



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



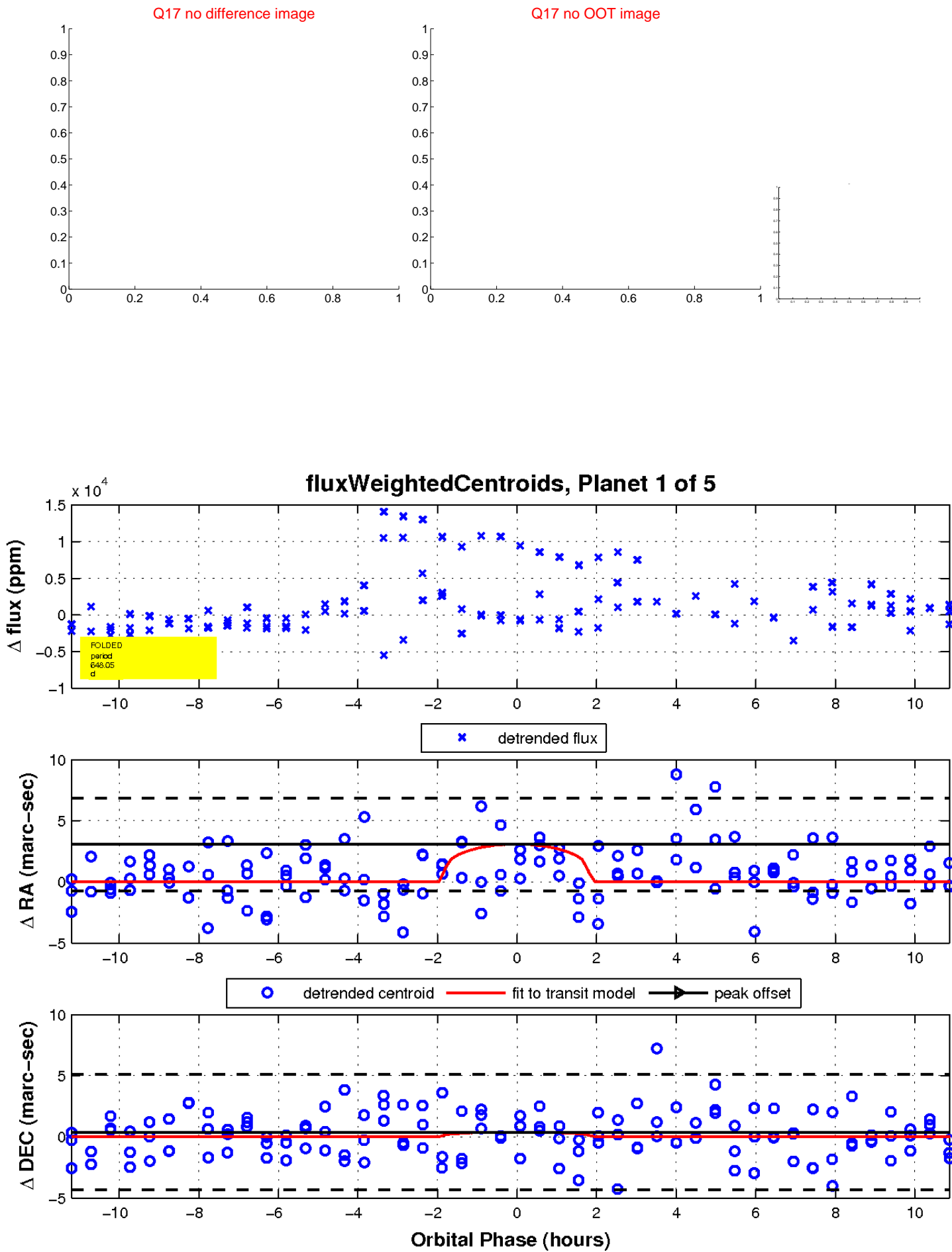
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

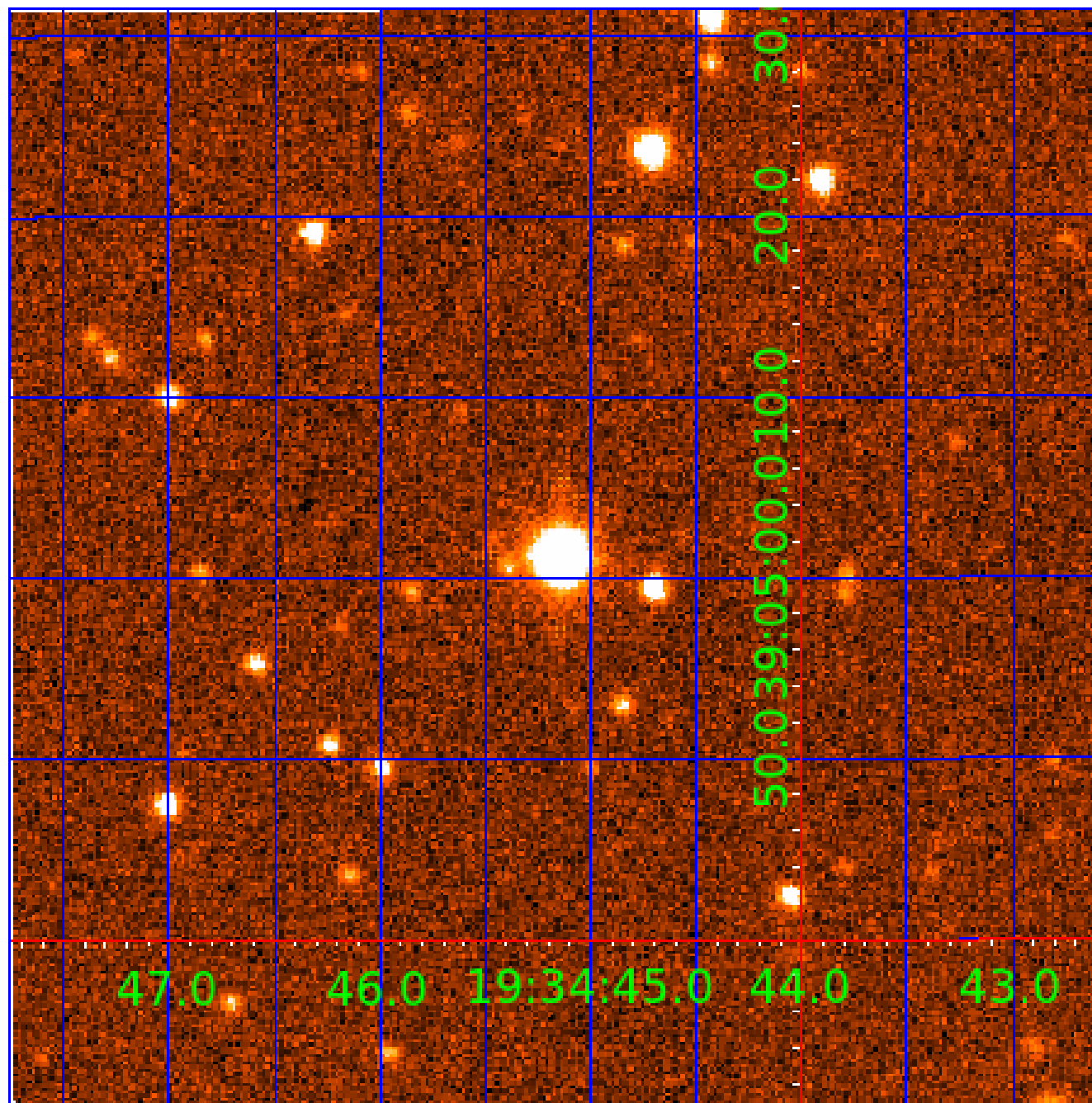


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003962715

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})
003962715-01	OBS	No	648.048597	209.281007	619.2	3.777	15.1	1.5	0.74	4441	1.85	0.11
003962715-02	OBS	No	176.005238	274.802695	1844.5	2.500	13.0	-1.0	0.74	4441	3.01	0.62
003962715-03	OBS	No	4.074527	131.807493	276.5	1.763	9.3	7.8	0.74	4441	1.29	93.32
003962715-04	OBS	No	653.923318	214.850728	2800.6	12.011	12.6	7.9	0.74	4441	4.70	0.11
003962715-05	OBS	No	290.595137	246.670897	19697.2	18.996	12.1	34.4	0.74	4441	19.02	0.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003962715-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003962715-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
003962715-03	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003962715-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003962715-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

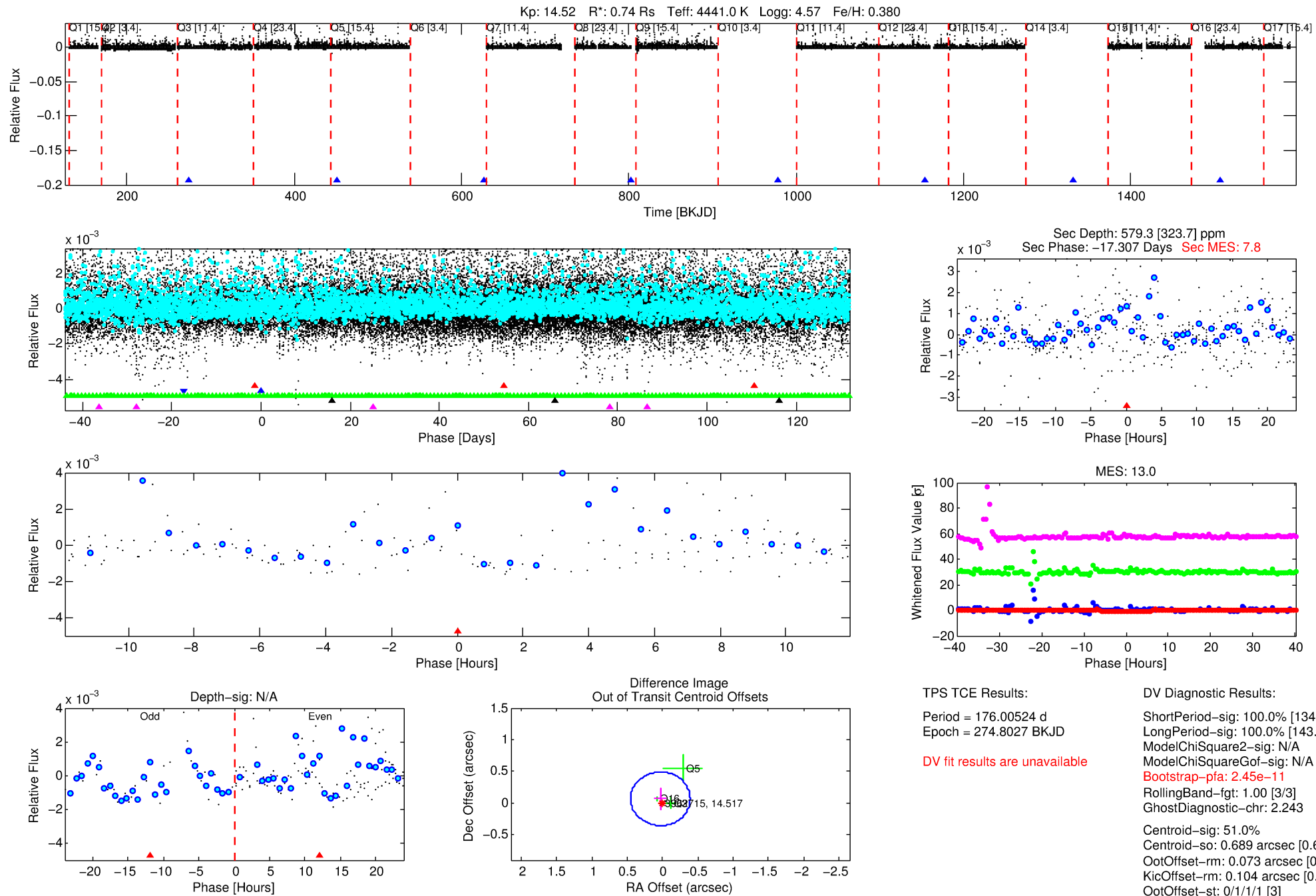
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003962715-02

No Significant Match Found

DV One-Page Summary

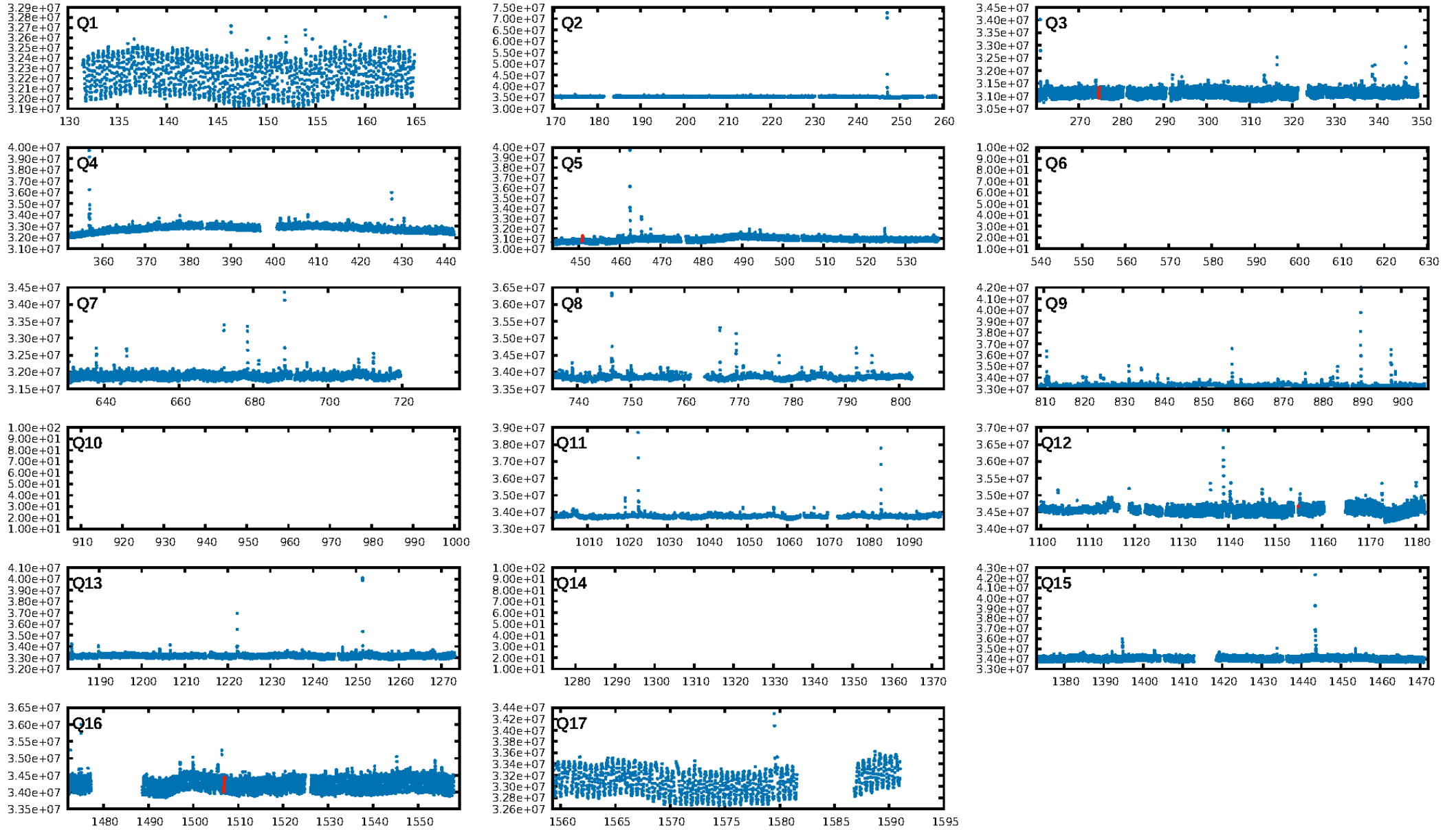
KIC: 3962715 Candidate: 2 of 5 Period: 176.005 d



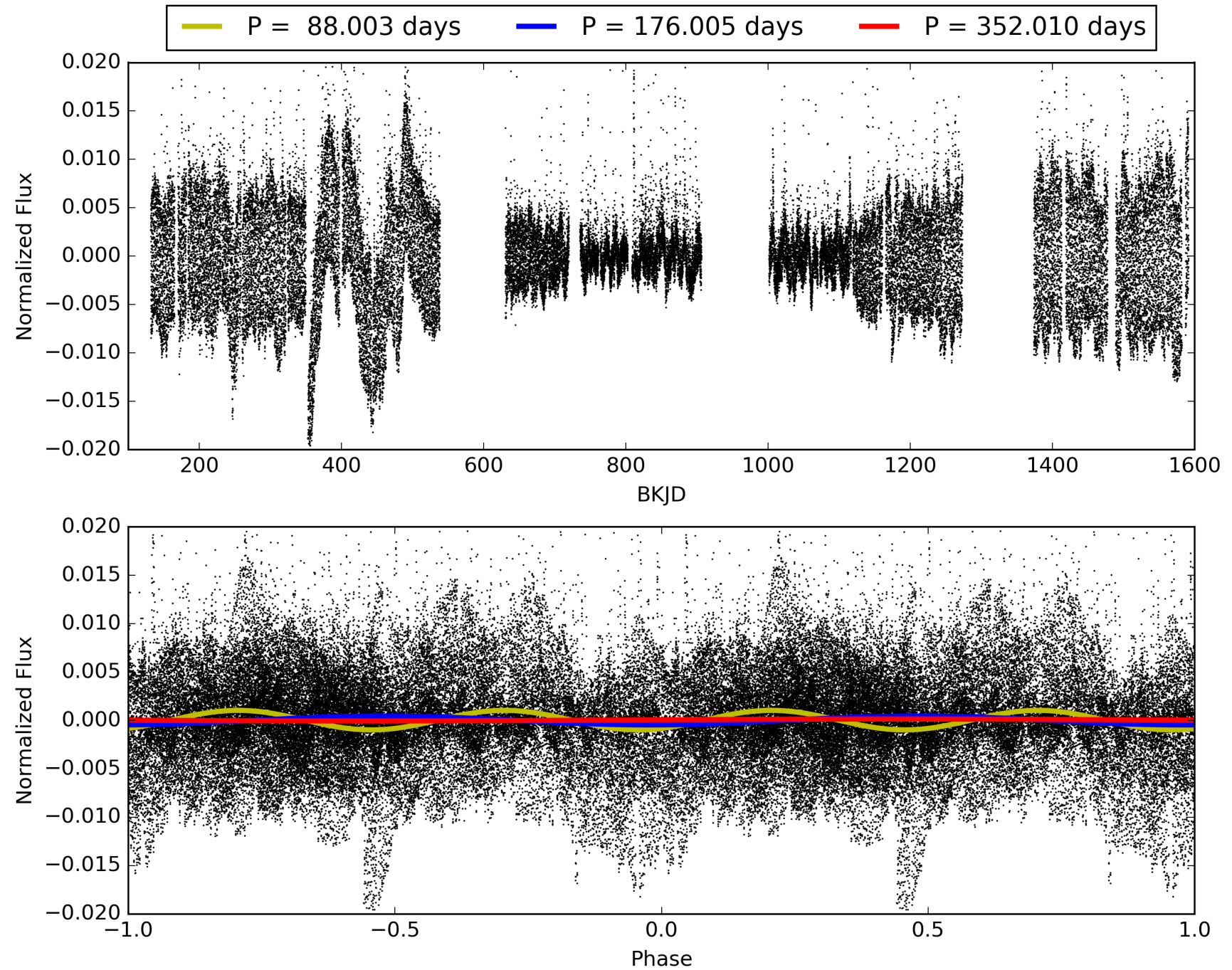
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:16:39 Z

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

TCE 003962715-02, PDC Light Curves

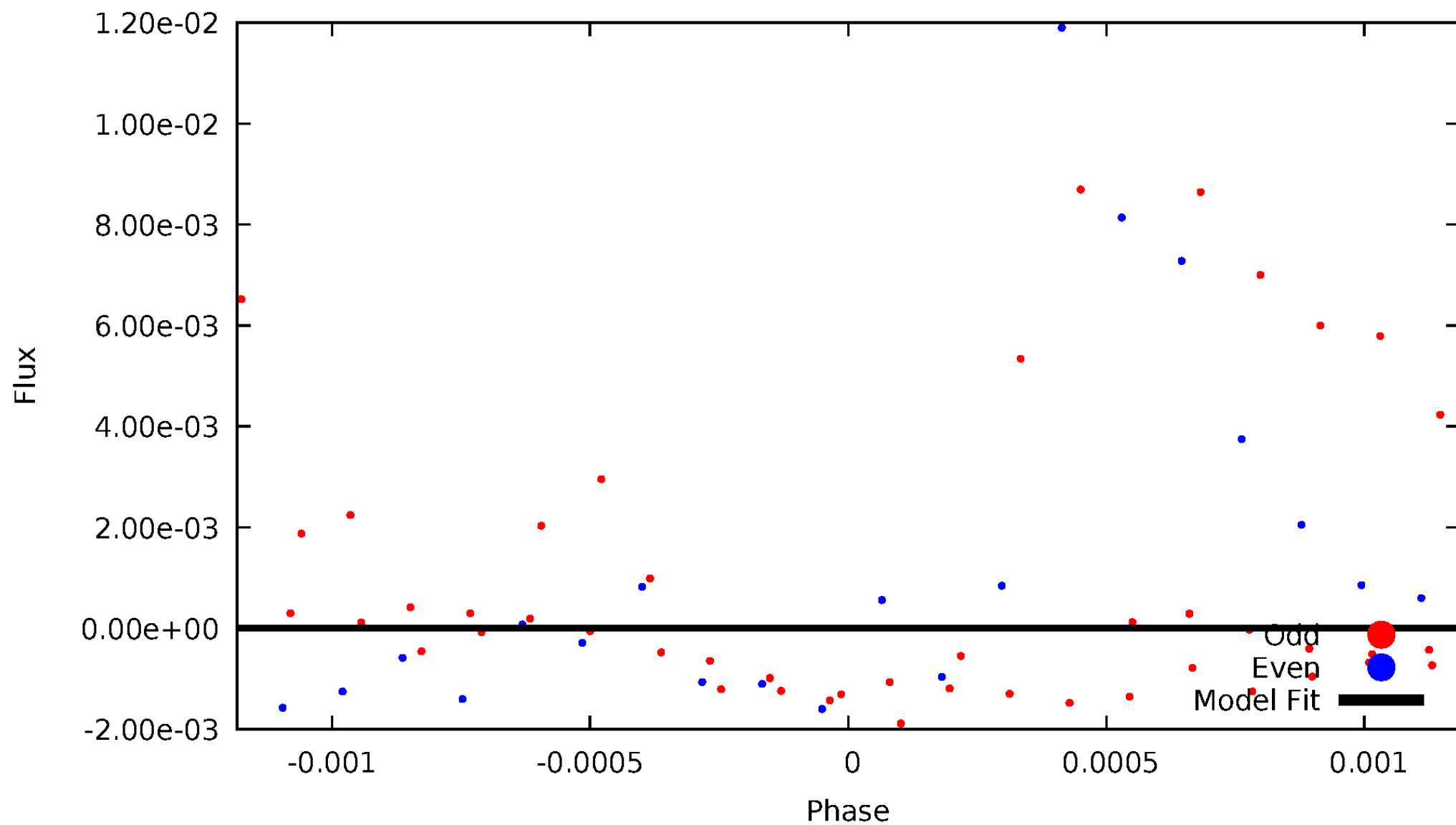


TCE 003962715-02



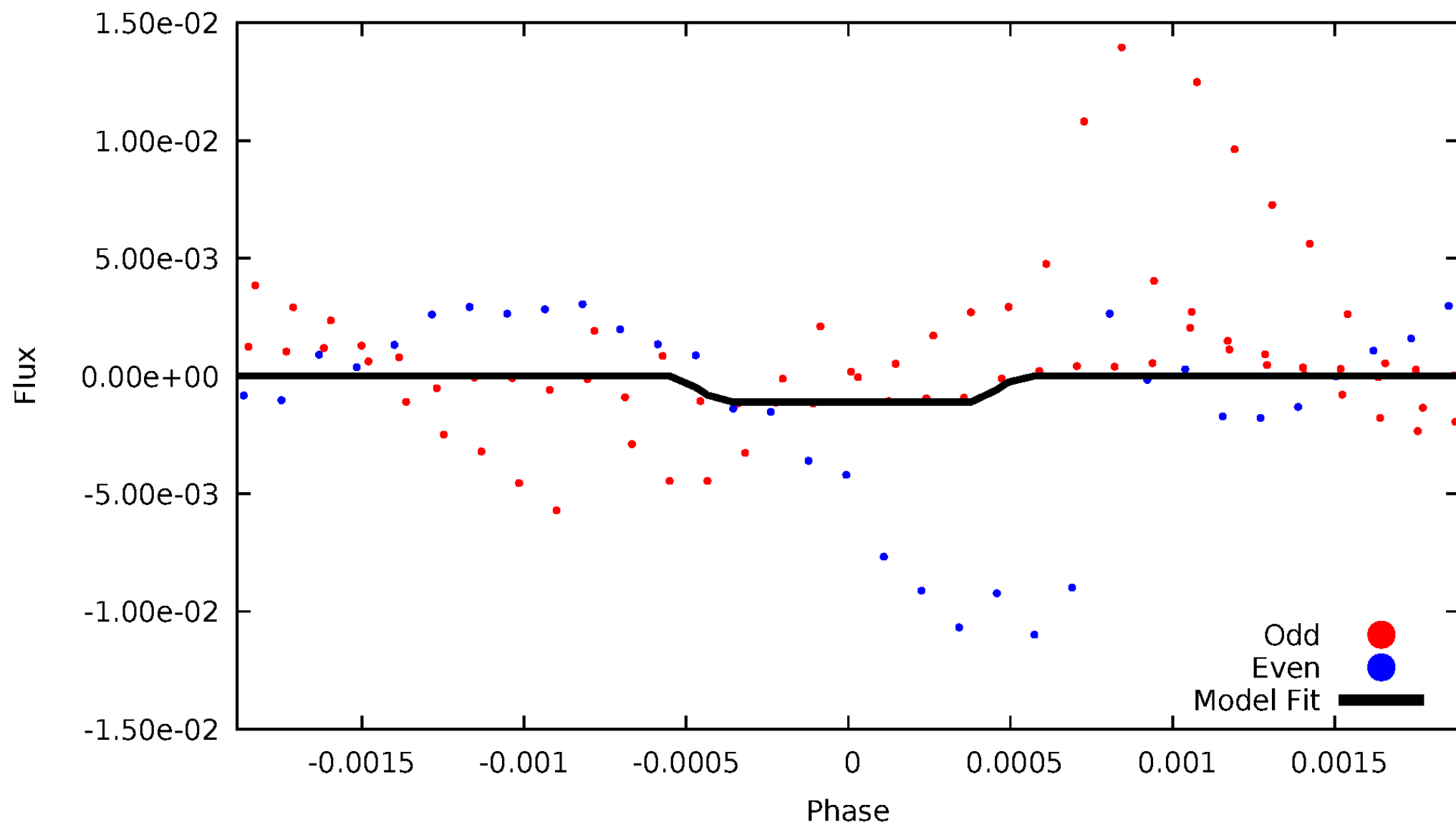
DV Odd/Even

TCE 003962715-02



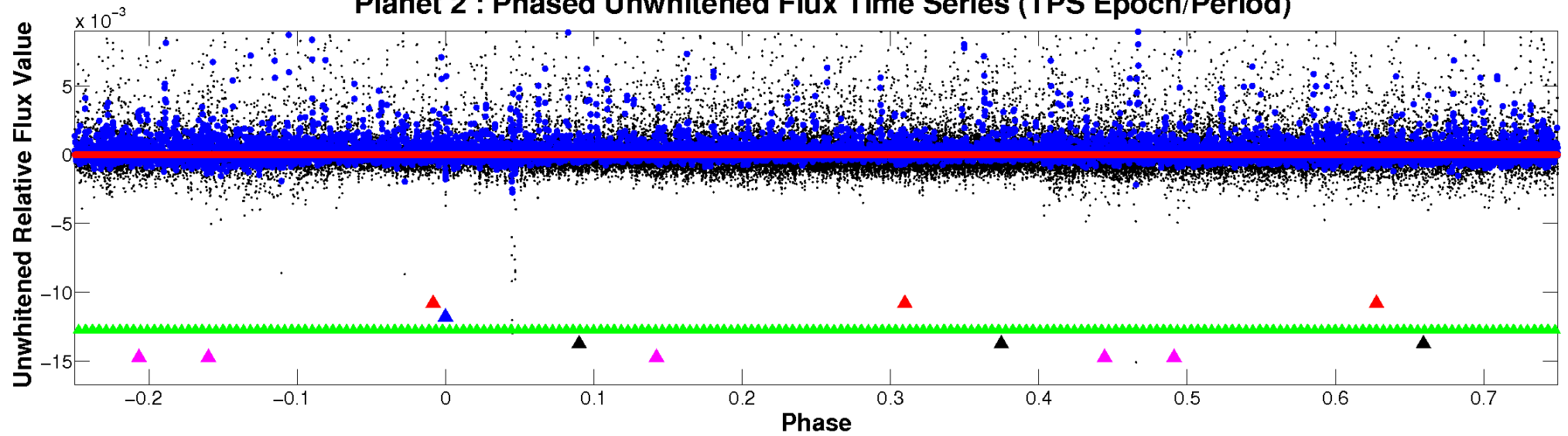
ALT Odd/Even

TCE 003962715-02



Non-Whitened Vs. Whitened Light Curve

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

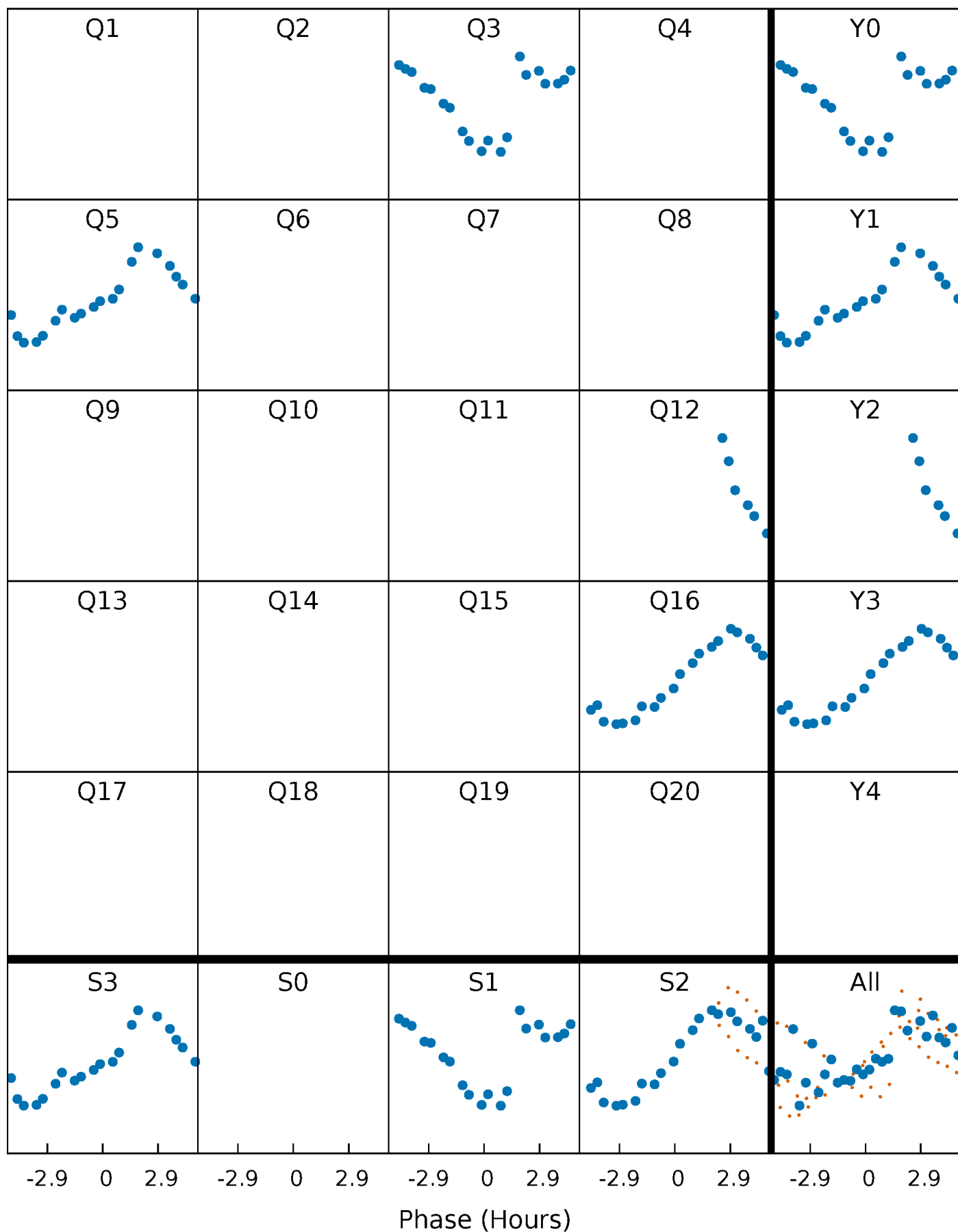


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



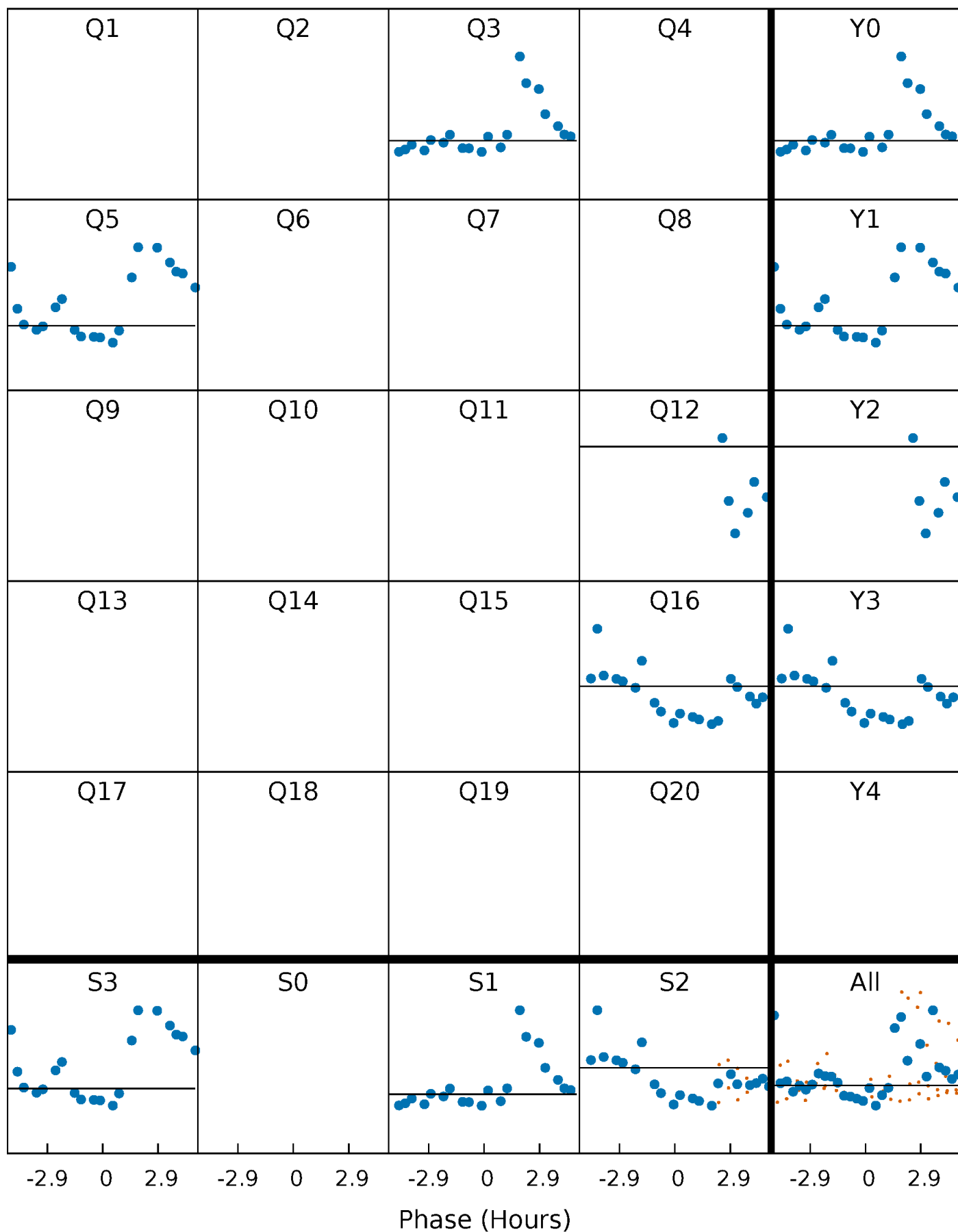
PDC Quarter-Phased Transit Curves

TCE 003962715-02 P=176.005238 Days $T_0=274.802695$ (BKJD)



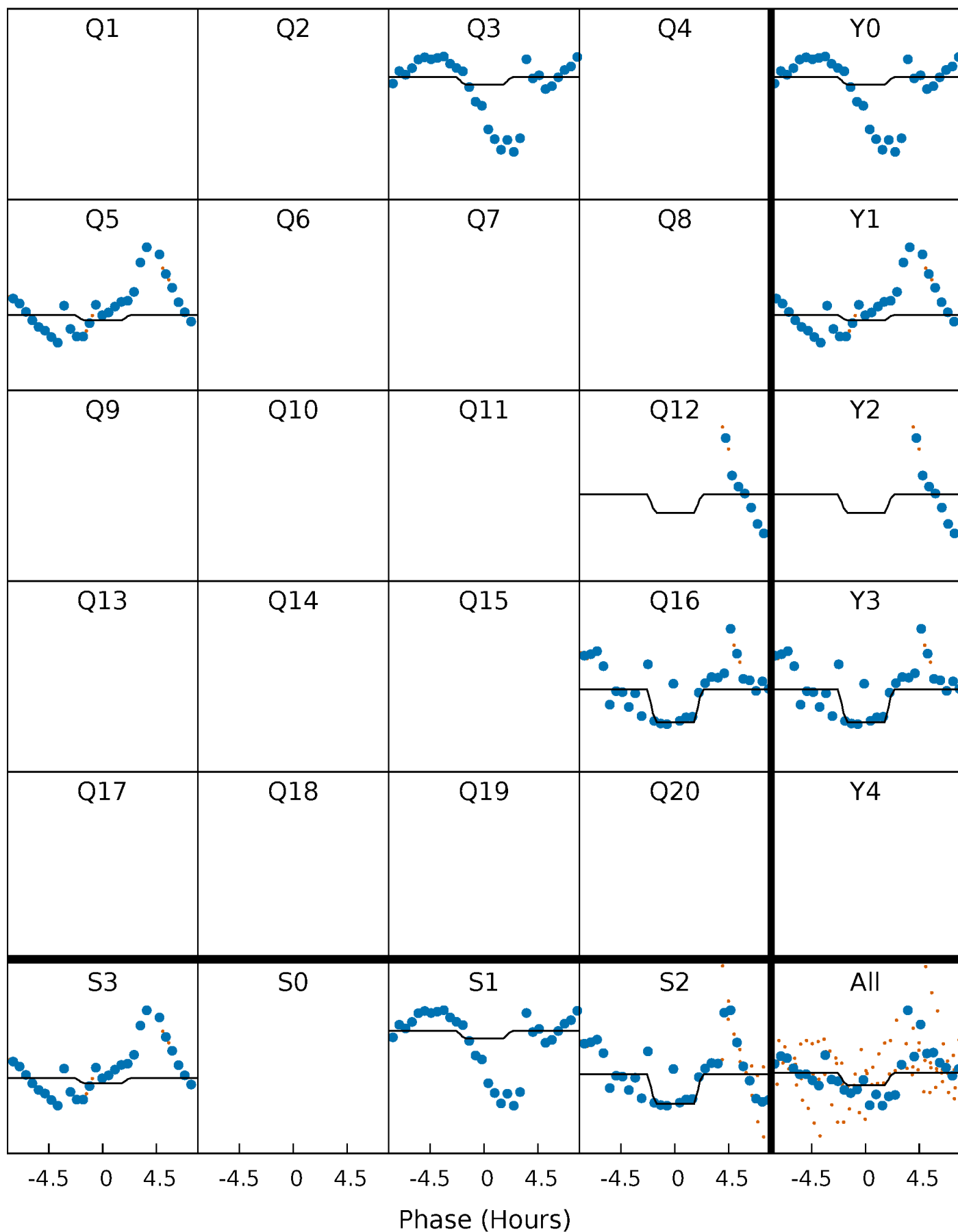
DV Quarter-Phased Transit Curves

TCE 003962715-02 $P=176.005238$ Days $T_0=274.802695$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

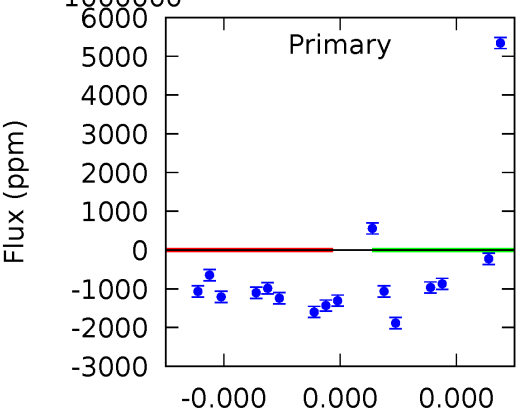
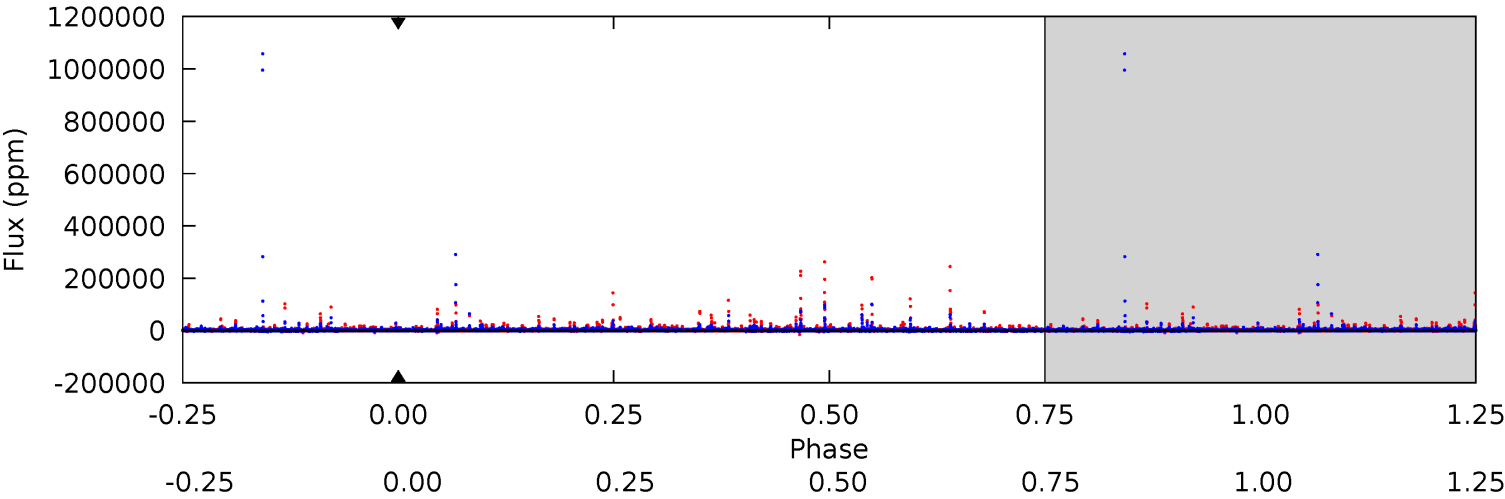
TCE 003962715-02 P=176.005238 Days $T_0=274.733623$ (BKJD)



DV Model-Shift Uniqueness Test

003962715-02, P = 176.005238 Days, E = 98.797457 Days

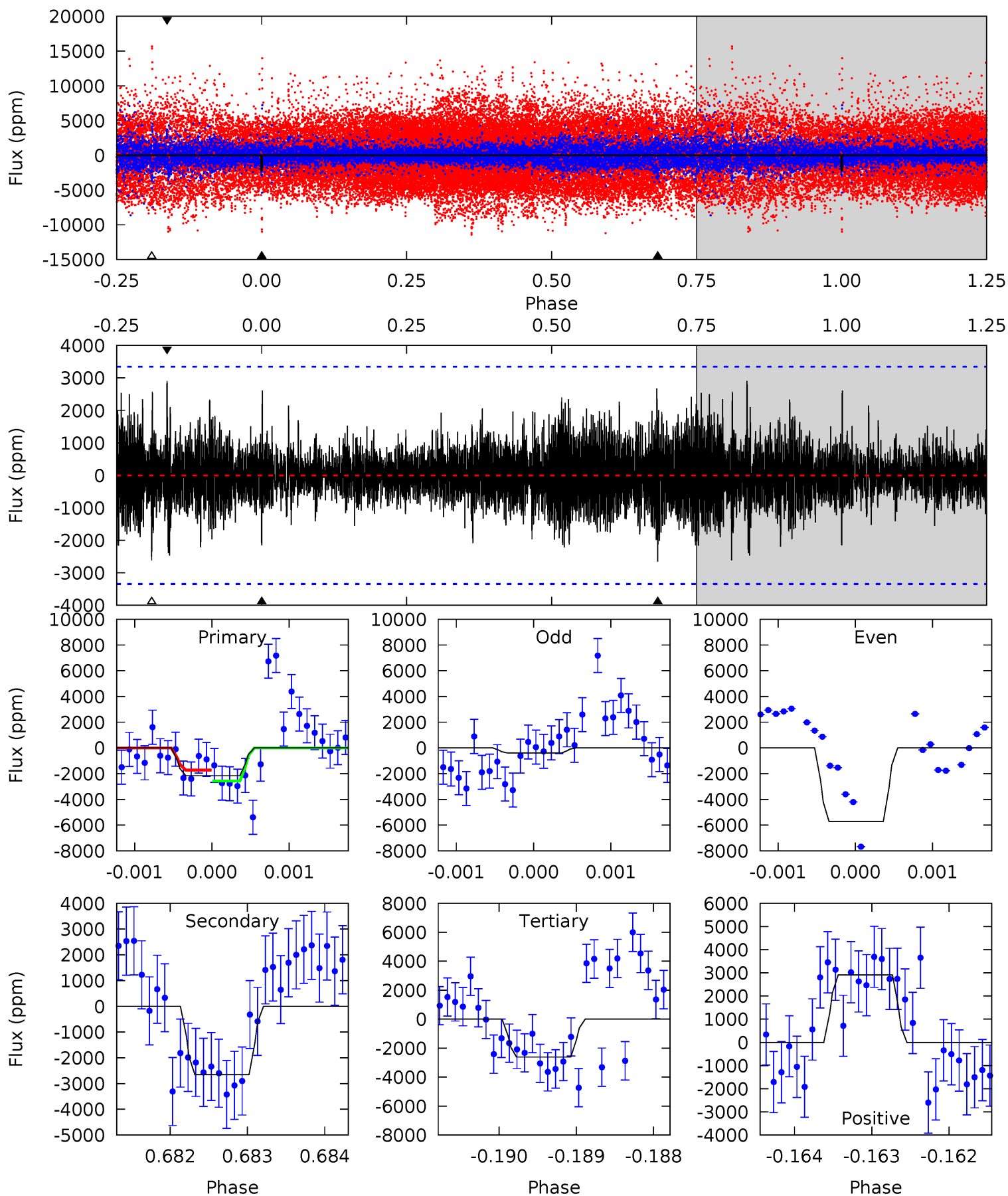
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003962715-02, $P = 176.005238$ Days, $E = 98.728385$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.51	4.31	4.25	4.73	5.44	3.28	1.20	-0.74	-1.23	0.06	-0.42	3.90	2.36	0.52	0.70



Stellar Parameters For KIC 003962715

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4441^{+158}_{-176}	$4.568^{+0.060}_{-0.020}$	$0.380^{+0.050}_{-0.300}$	$0.736^{+0.029}_{-0.063}$	$0.731^{+0.041}_{-0.050}$	$2.581^{+0.656}_{-0.201}$
	+4%/-4%	+1%/-0%	+13%/-79%	+4%/-9%	+6%/-7%	+25%/-8%
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 003962715-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$6.51^{+6.52}_{-4.54}$	313^{+12}_{-13}	-3895^{+14328}_{-6710}	$-14038.789^{+720919.062}_{-695584.601}$
Alt.	-2650 ± 614	$6.56^{+6.74}_{-4.27}$	313^{+13}_{-13}	3749^{+2040}_{-748}	10589^{+77382}_{-8148}

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

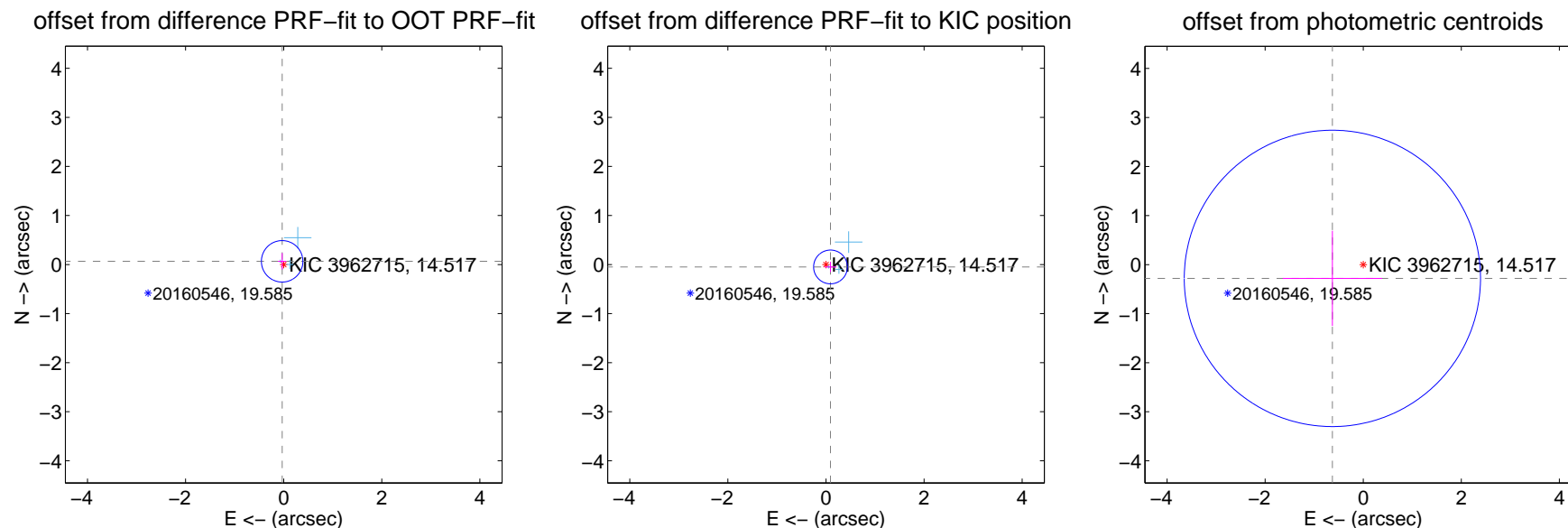
DV Centroid Data

Supplemental centroid analysis for 003962715-02. Kepler magnitude: 14.52. Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.073 ± 0.141	0.52	0.031 ± 0.083	0.066 ± 0.168
PRF-fit source offset from KIC position	0.104 ± 0.115	0.91	-0.092 ± 0.118	-0.049 ± 0.104
photometric centroid source offset	0.69 ± 1.01	0.68	0.63 ± 1.01	-0.28 ± 0.97



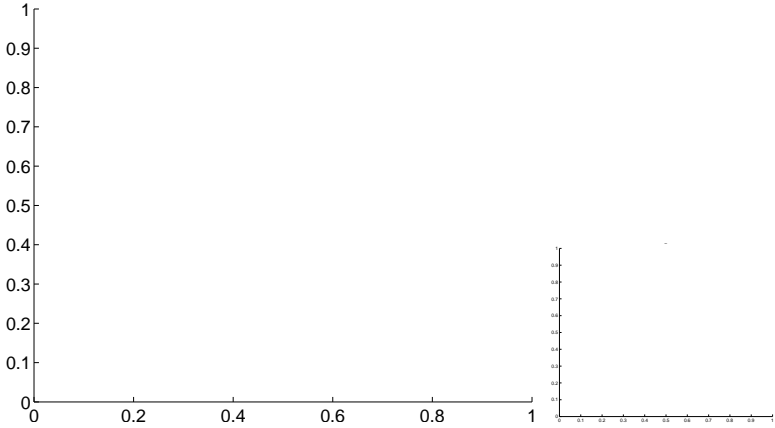
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

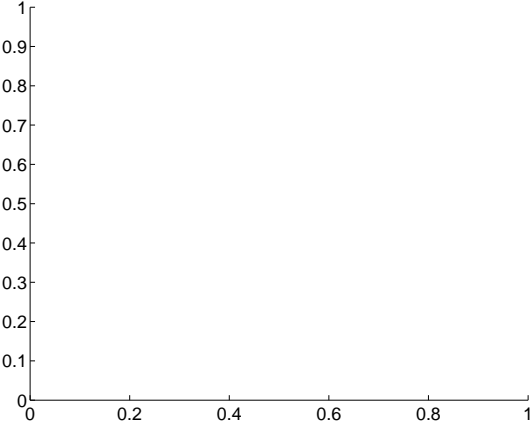
Q1 no difference image



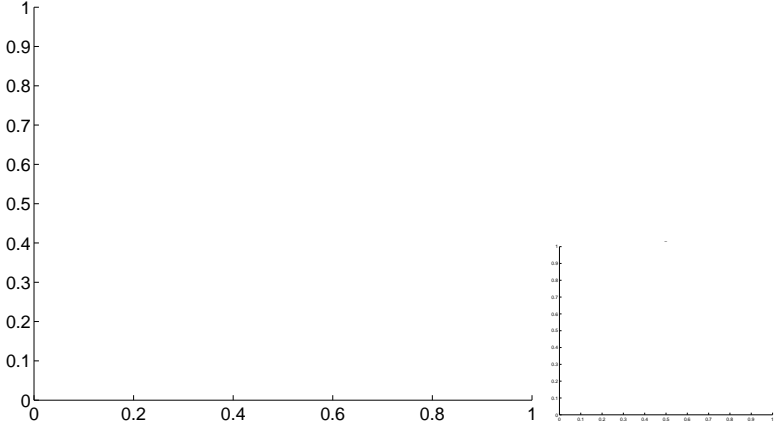
Q1 no OOT image



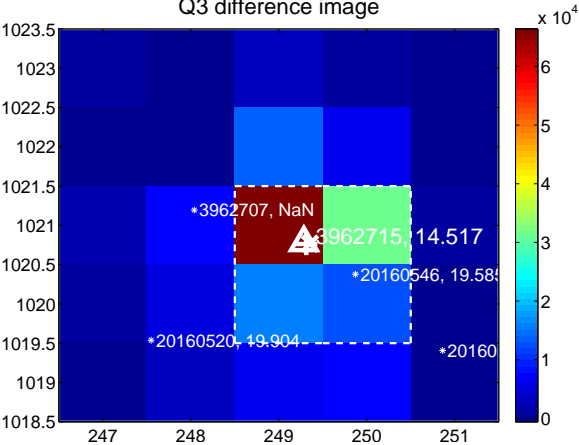
Q2 no difference image



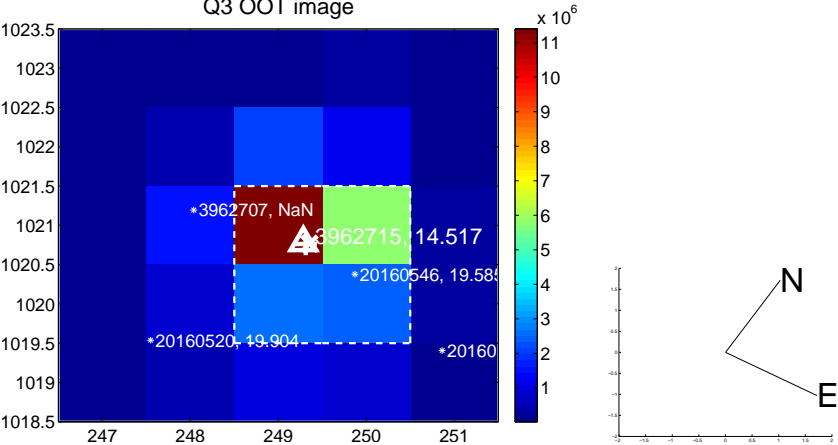
Q2 no OOT image



Q3 difference image



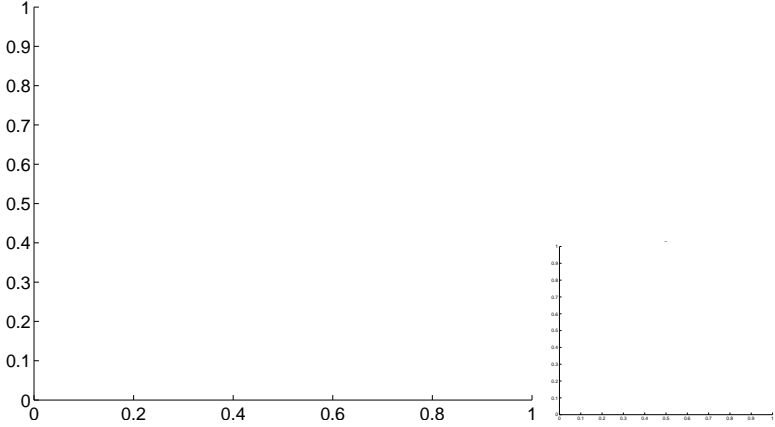
Q3 OOT image



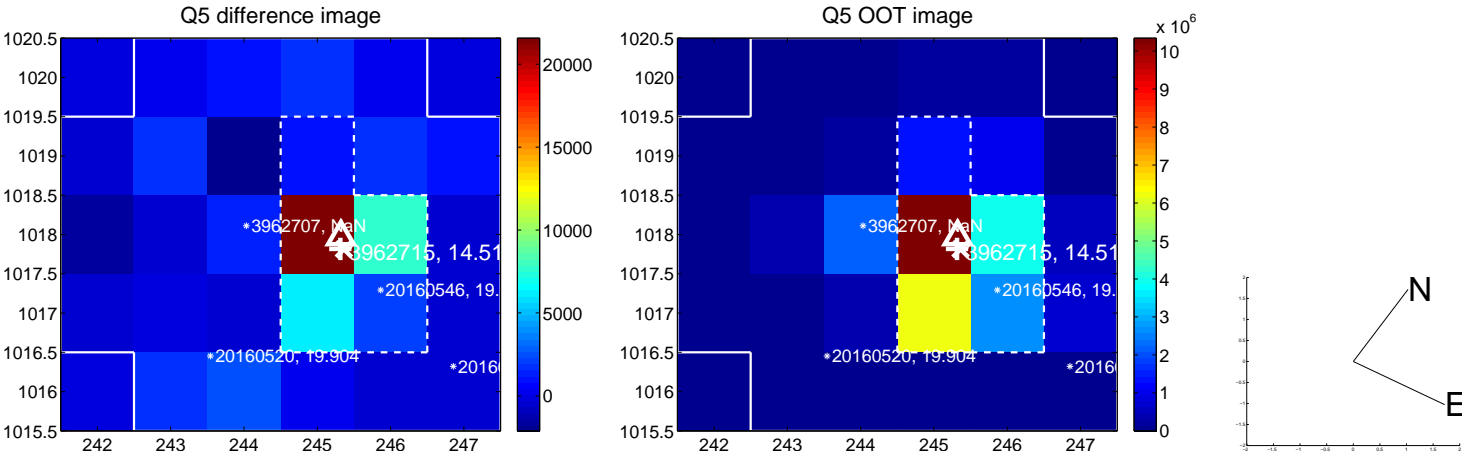
Q4 no difference image



Q4 no OOT image



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.

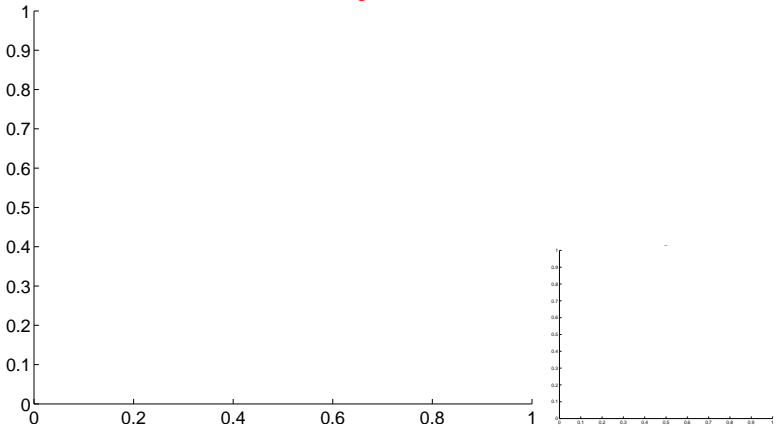


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q13 no difference image



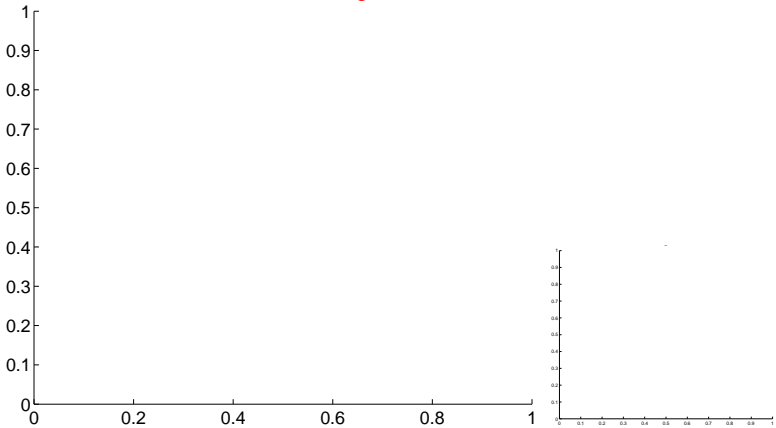
Q13 no OOT image



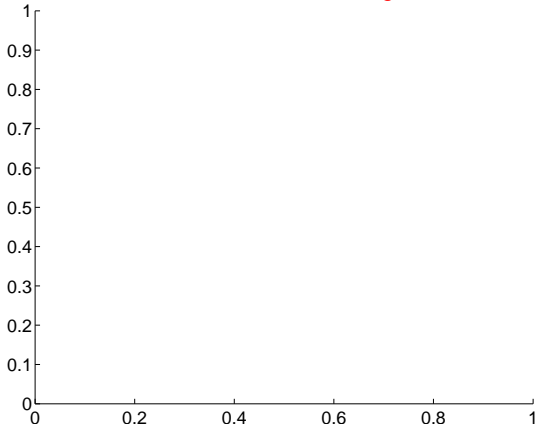
Q14 no difference image



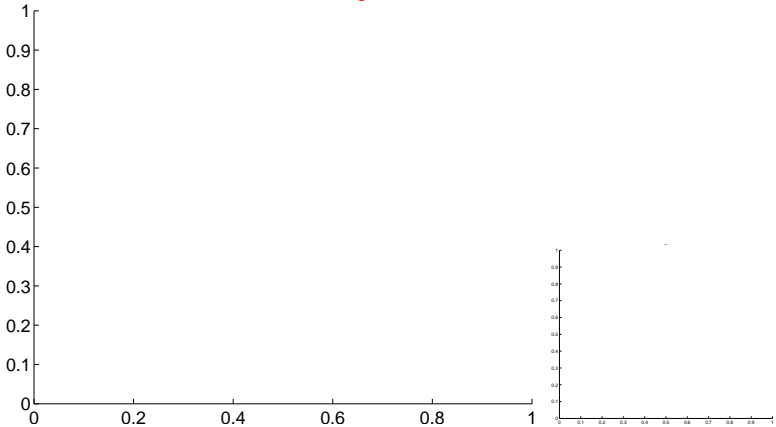
Q14 no OOT image



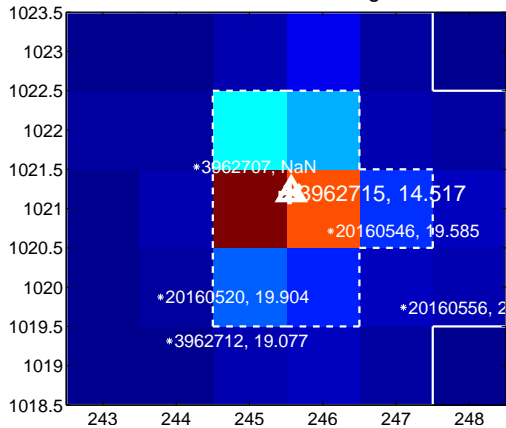
Q15 no difference image



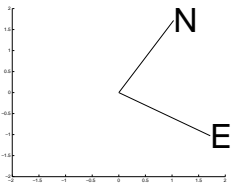
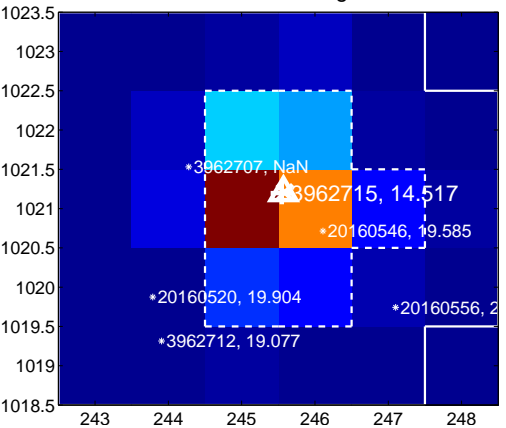
Q15 no OOT image



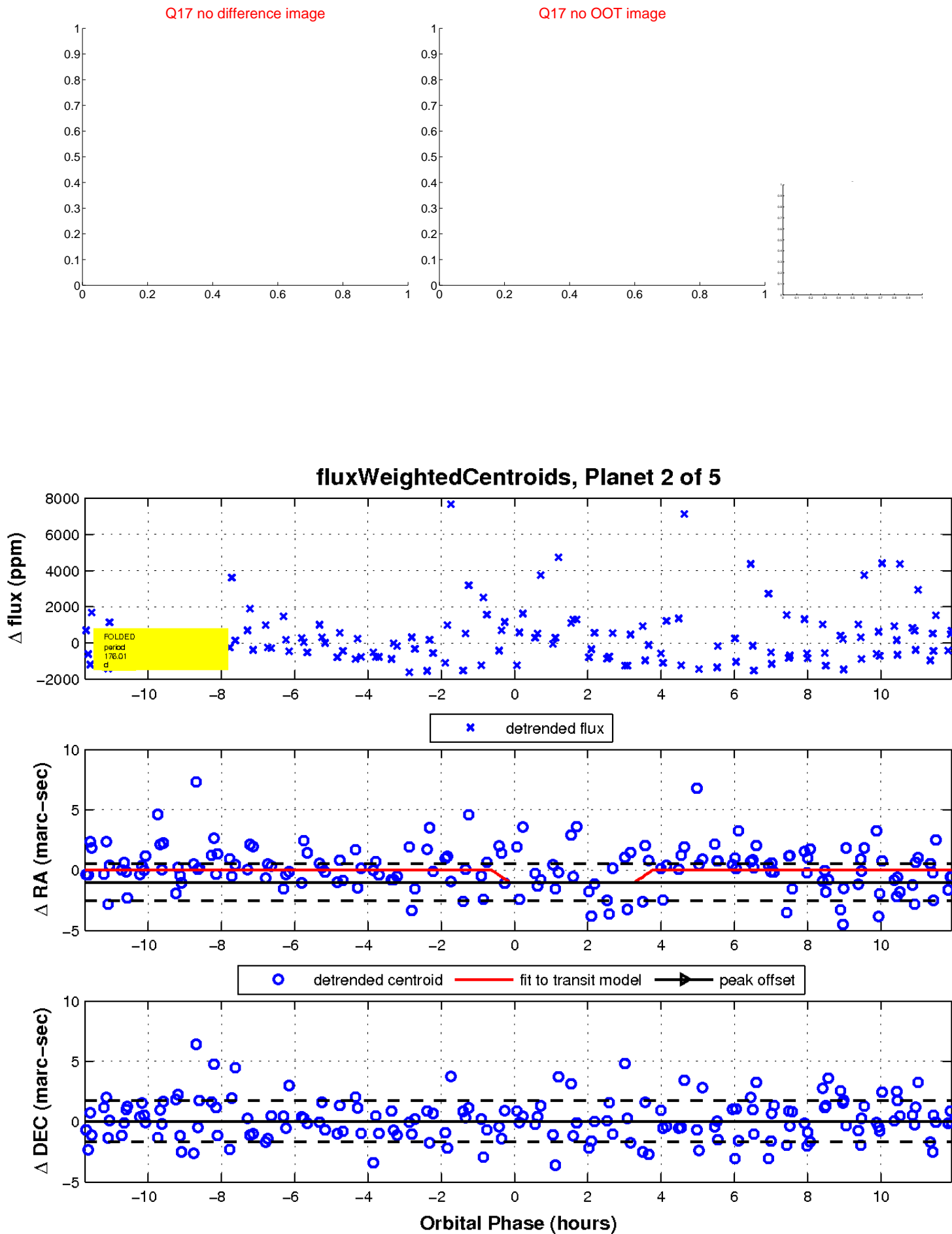
Q16 difference image



Q16 OOT image

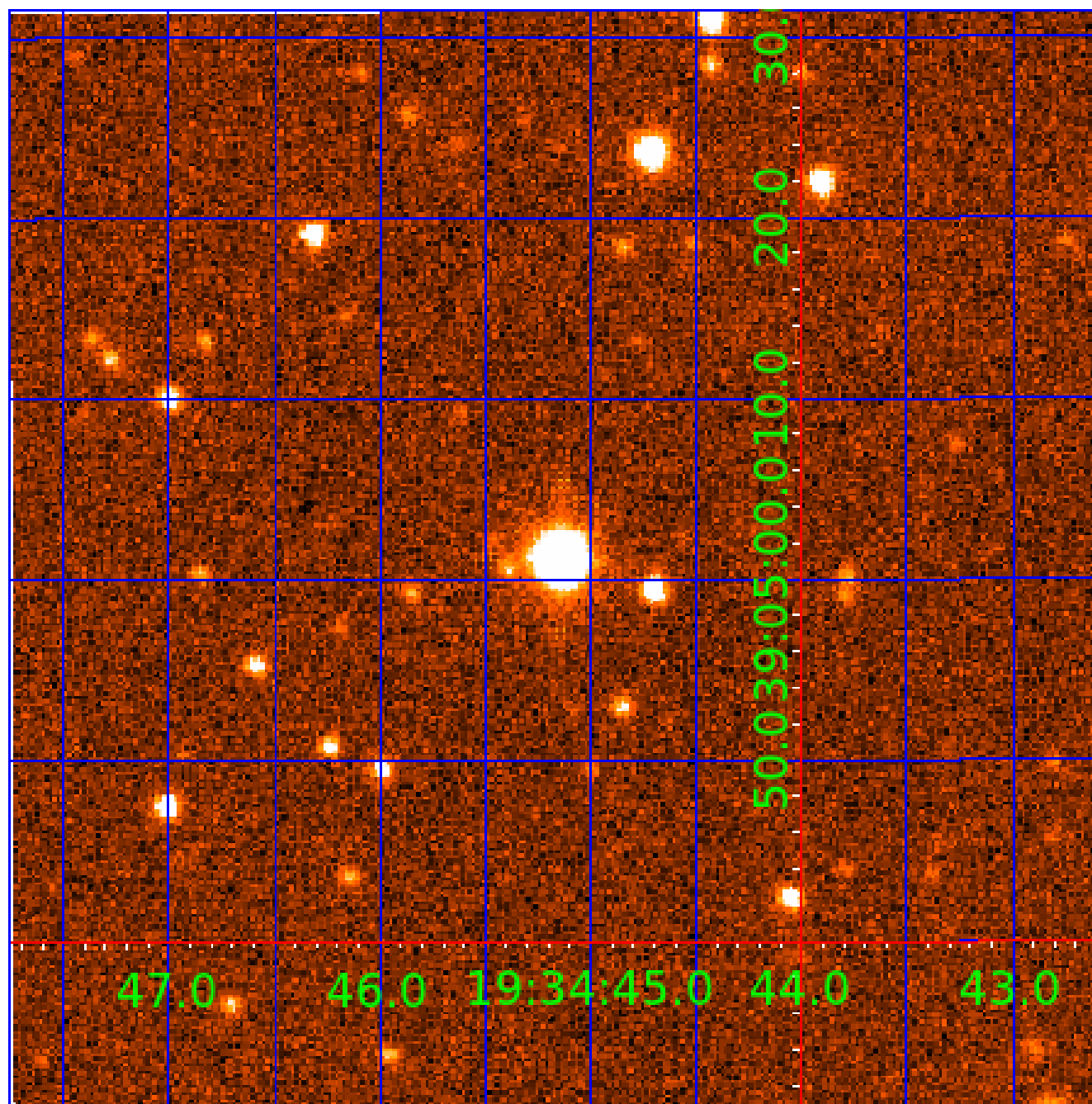


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003962715

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})
003962715-01	OBS	No	648.048597	209.281007	619.2	3.777	15.1	1.5	0.74	4441	1.85	0.11
003962715-02	OBS	No	176.005238	274.802695	1844.5	2.500	13.0	-1.0	0.74	4441	3.01	0.62
003962715-03	OBS	No	4.074527	131.807493	276.5	1.763	9.3	7.8	0.74	4441	1.29	93.32
003962715-04	OBS	No	653.923318	214.850728	2800.6	12.011	12.6	7.9	0.74	4441	4.70	0.11
003962715-05	OBS	No	290.595137	246.670897	19697.2	18.996	12.1	34.4	0.74	4441	19.02	0.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003962715-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003962715-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
003962715-03	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003962715-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003962715-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

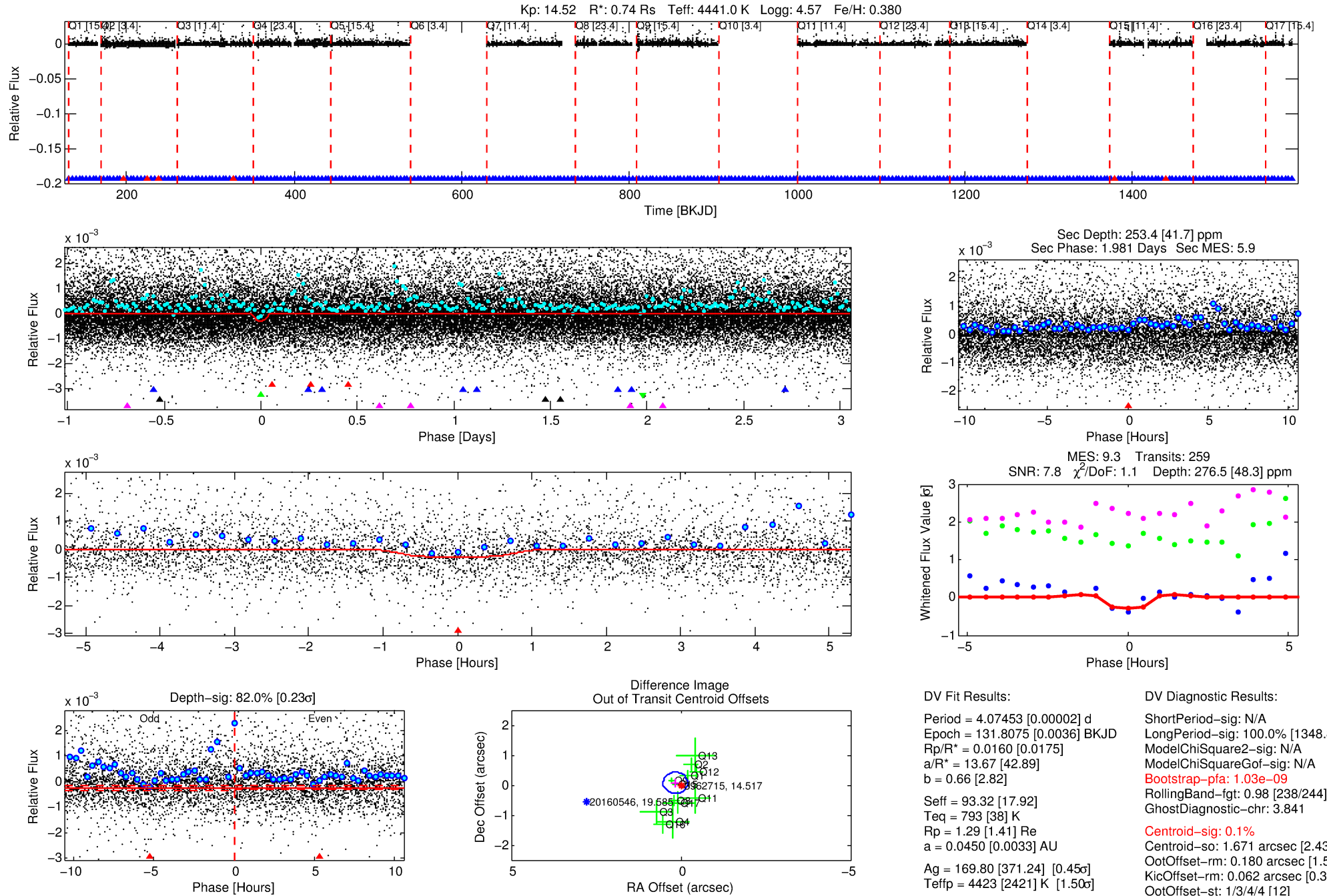
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003962715-03

No Significant Match Found

DV One-Page Summary

KIC: 3962715 Candidate: 3 of 5 Period: 4.075 d



DV Fit Results:

Period = 4.07453 [0.00002] d
Epoch = 131.8075 [0.0036] BKJD
Rp/R* = 0.0160 [0.0175]
a/R* = 13.67 [42.89]
b = 0.66 [2.82]
Seff = 93.32 [17.92]
Teq = 793 [38] K
Rp = 1.29 [1.41] Re
a = 0.0450 [0.0033] AU
Ag = 169.80 [371.24] [0.45σ]
Teffp = 4423 [2421] K [1.50σ]

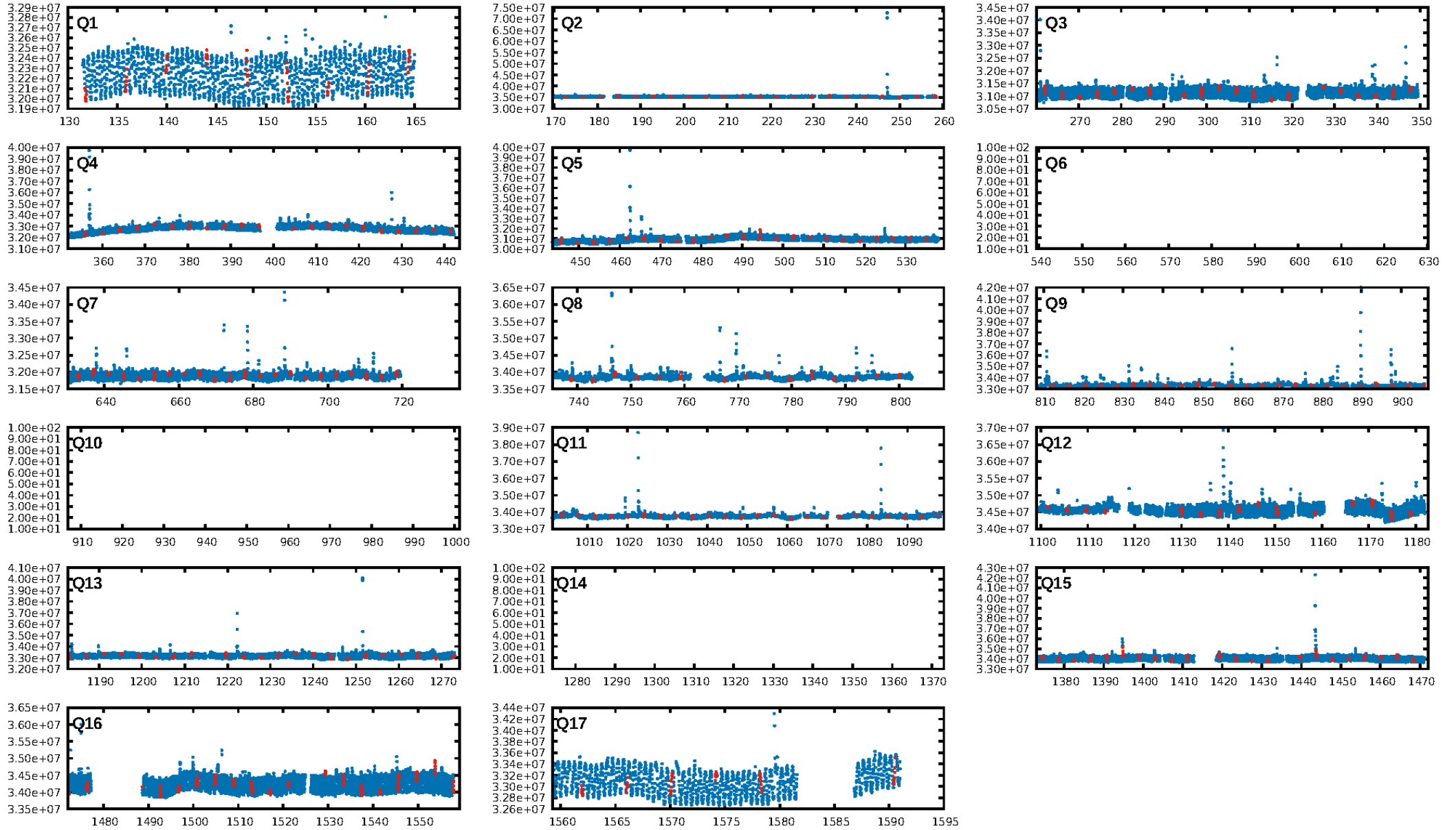
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [1348.83σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 1.03e-09
RollingBand-fgt: 0.98 [238/244]
GhostDiagnostic-chr: 3.841
Centroid-sig: 0.1%
Centroid-so: 1.671 arcsec [2.43σ]
OotOffset-rm: 0.180 arcsec [1.51σ]
KicOffset-rm: 0.062 arcsec [0.31σ]
OotOffset-st: 1/3/4/4 [12]
KicOffset-st: 1/3/4/4 [12]
DiffImageQuality-fgm: 0.92 [11/12]
DiffImageOverlap-fno: 1.00 [14/14]

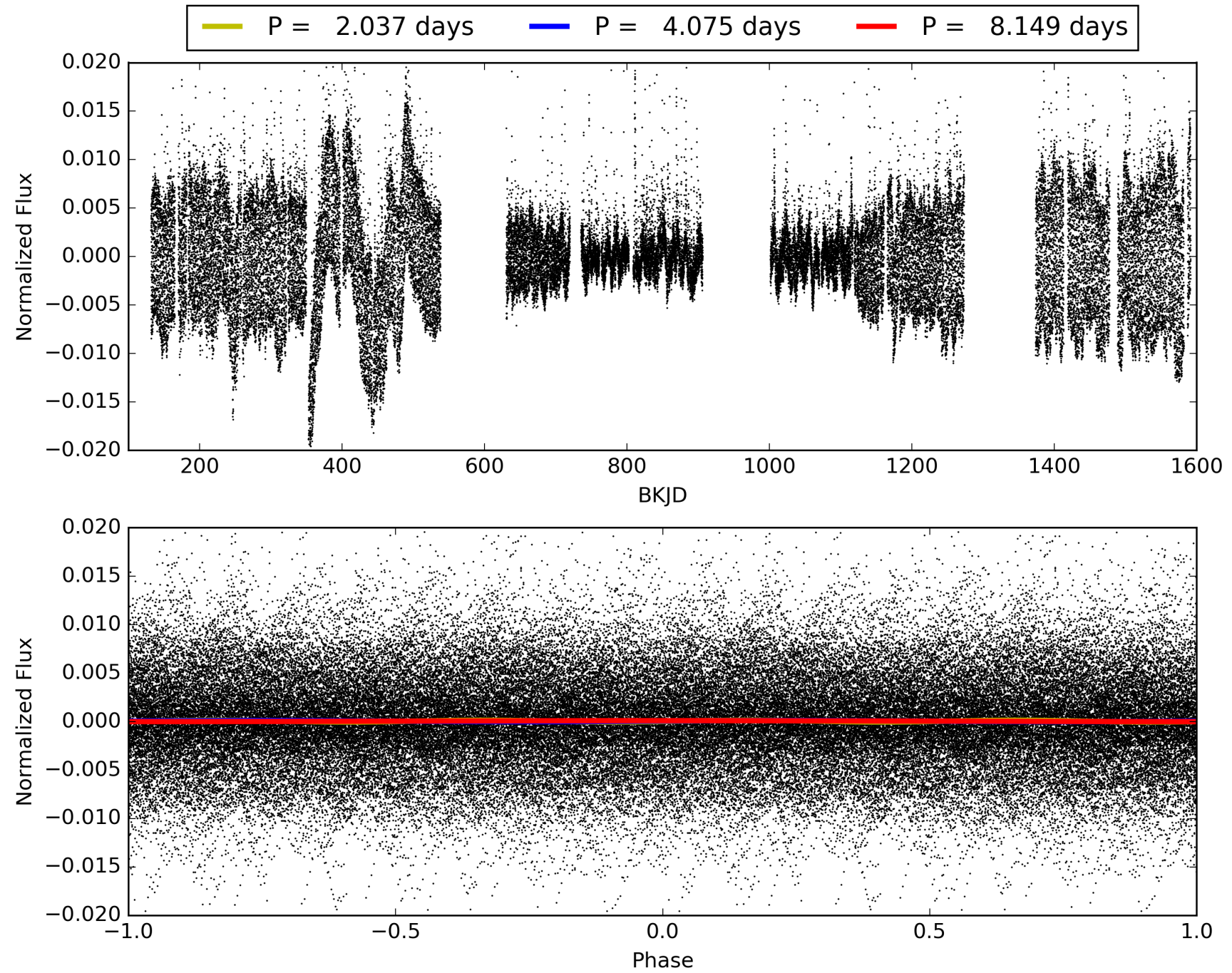
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:16:44 Z

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

TCE 003962715-03, PDC Light Curves

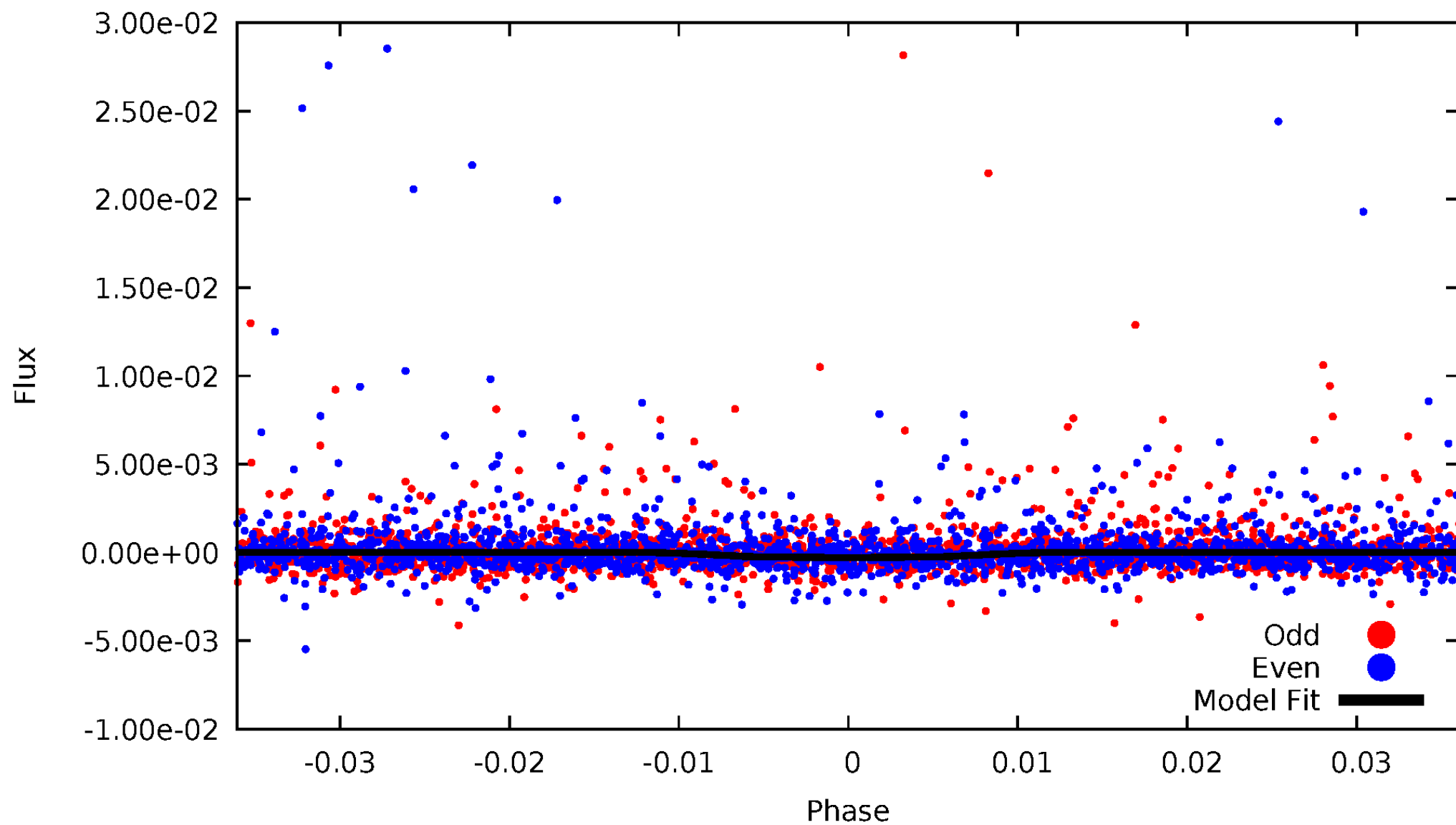


TCE 003962715-03



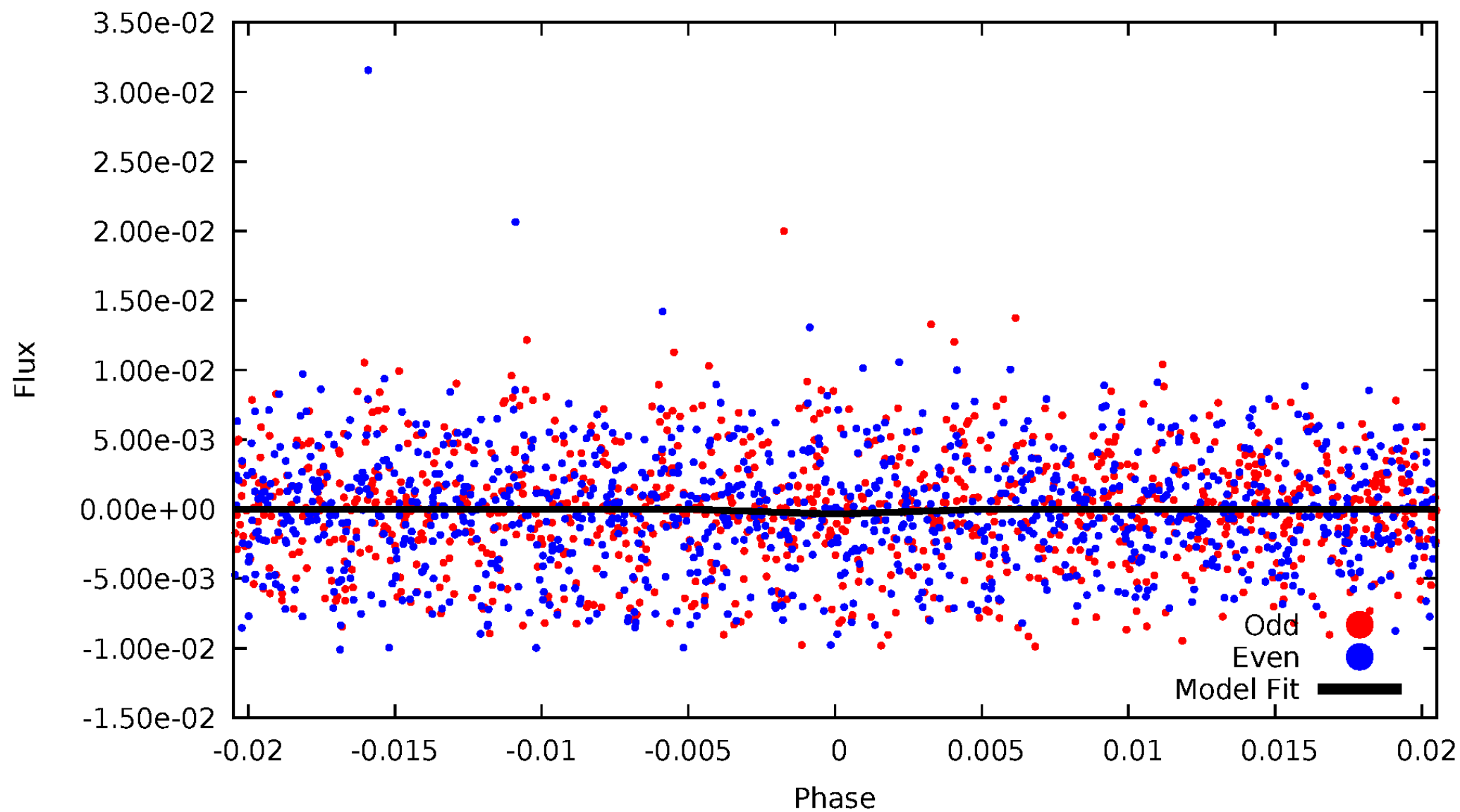
DV Odd/Even

TCE 003962715-03



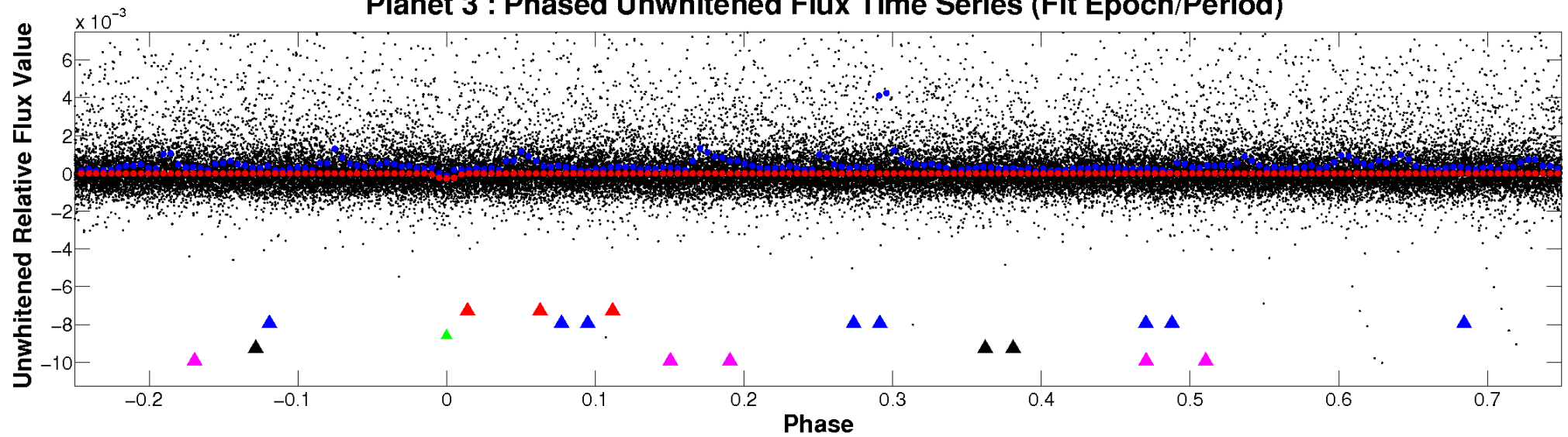
ALT Odd/Even

TCE 003962715-03

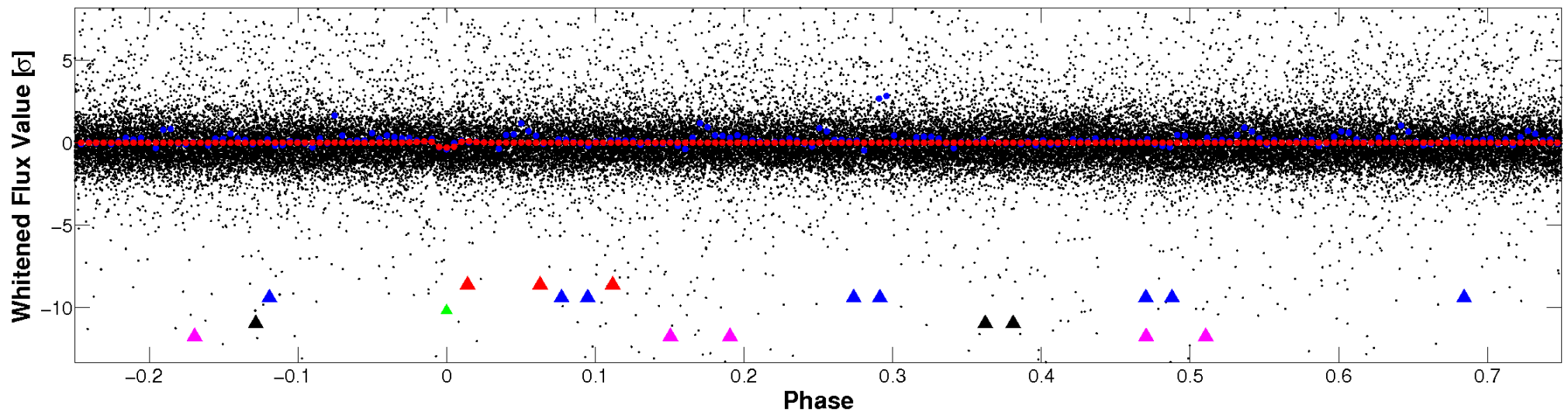


Non-Whitened Vs. Whitened Light Curve

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

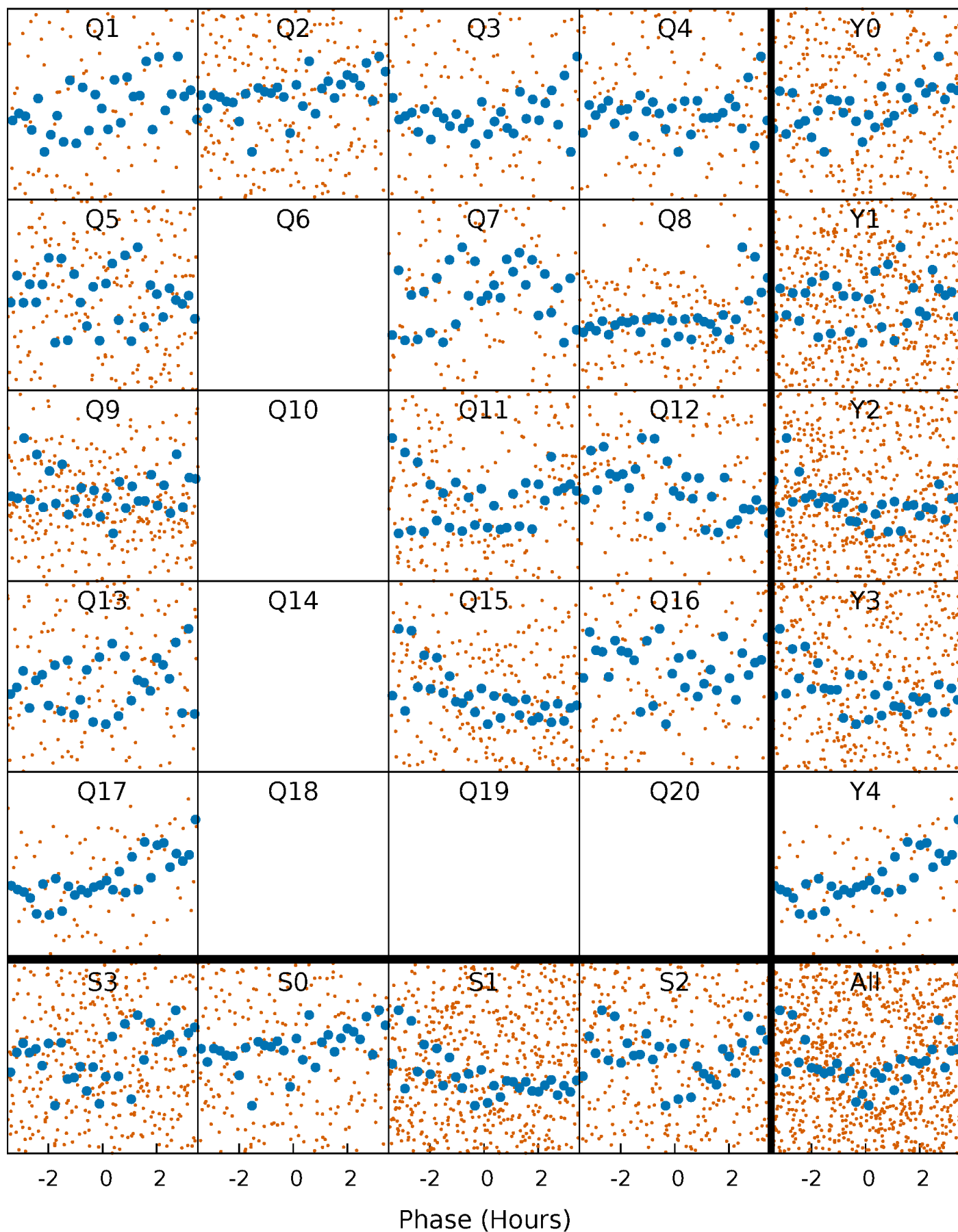


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



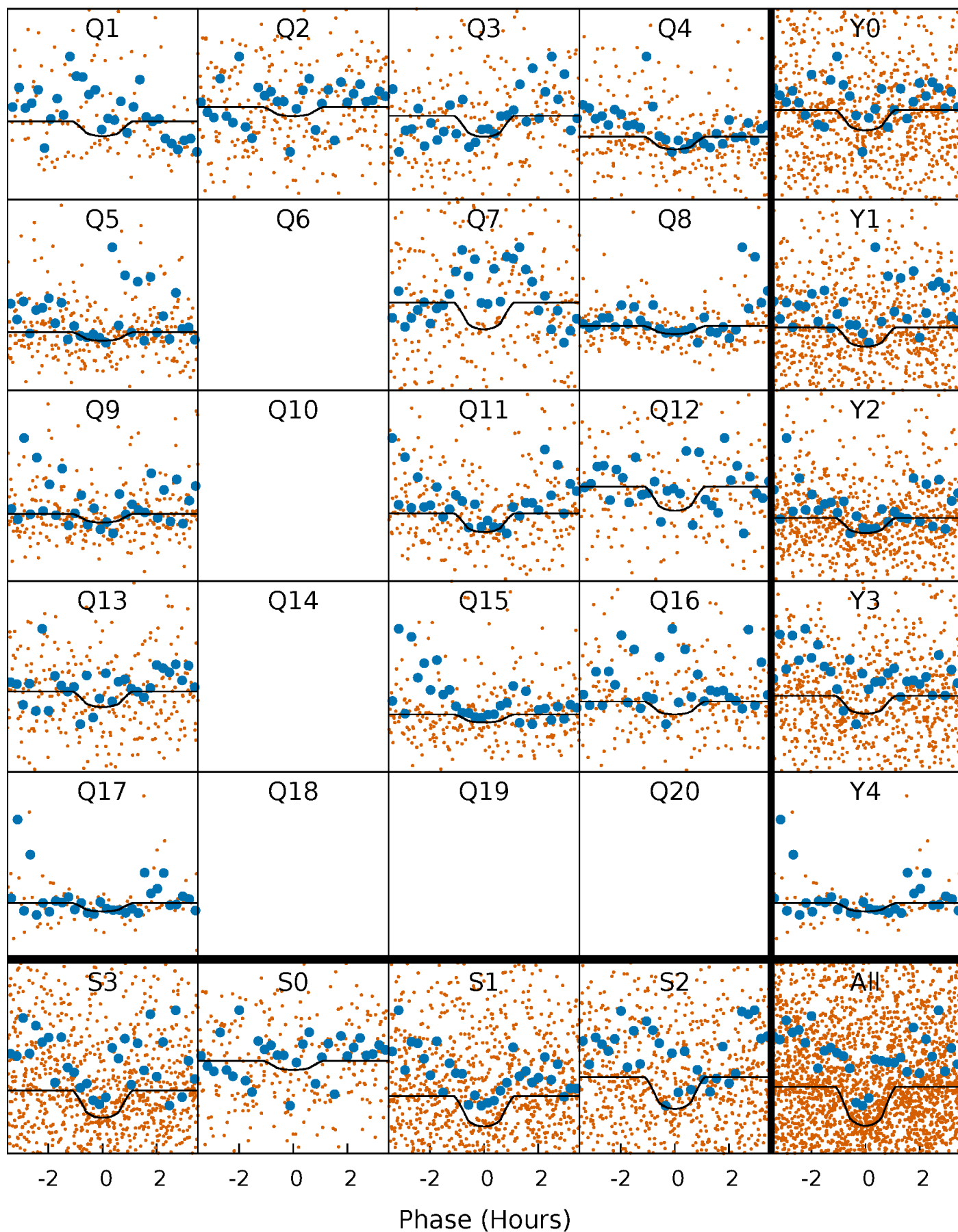
PDC Quarter-Phased Transit Curves

TCE 003962715-03 P= 4.074527 Days $T_0=131.807493$ (BKJD)



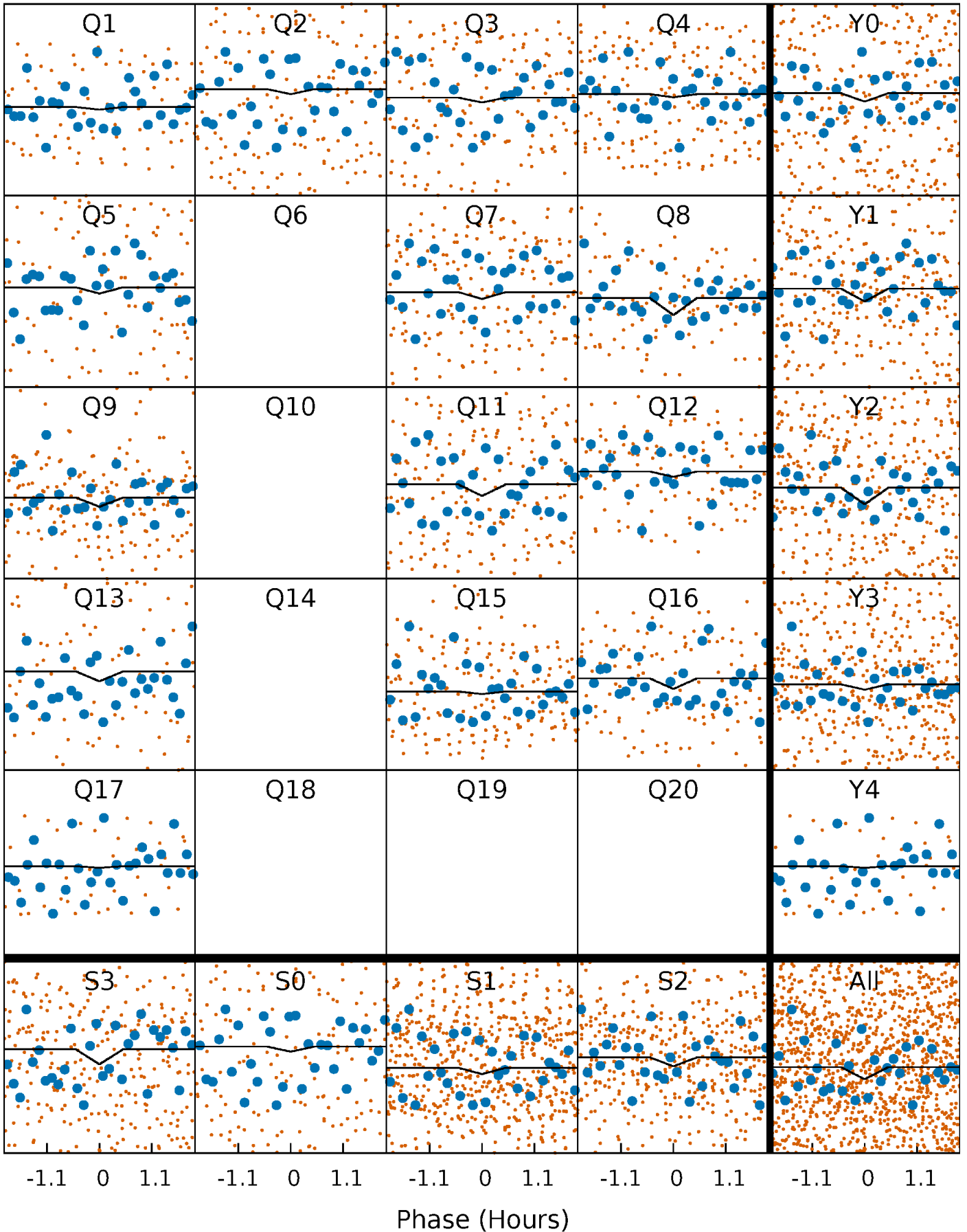
DV Quarter-Phased Transit Curves

TCE 003962715-03 P= 4.074527 Days $T_0=131.807493$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

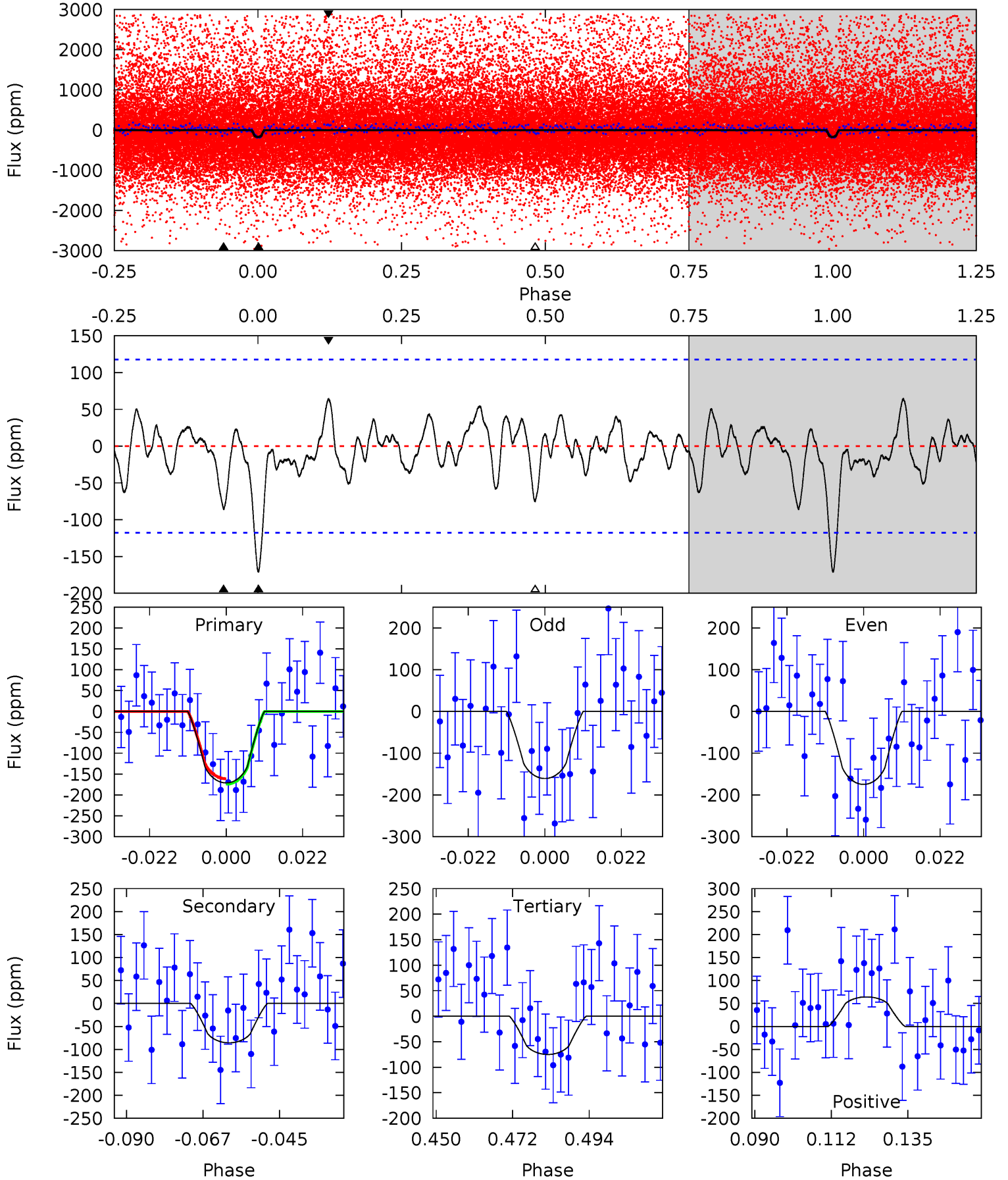
TCE 003962715-03 P= 4.074411 Days $T_0=131.838116$ (BKJD)



DV Model-Shift Uniqueness Test

003962715-03, P = 4.074527 Days, E = 127.732966 Days

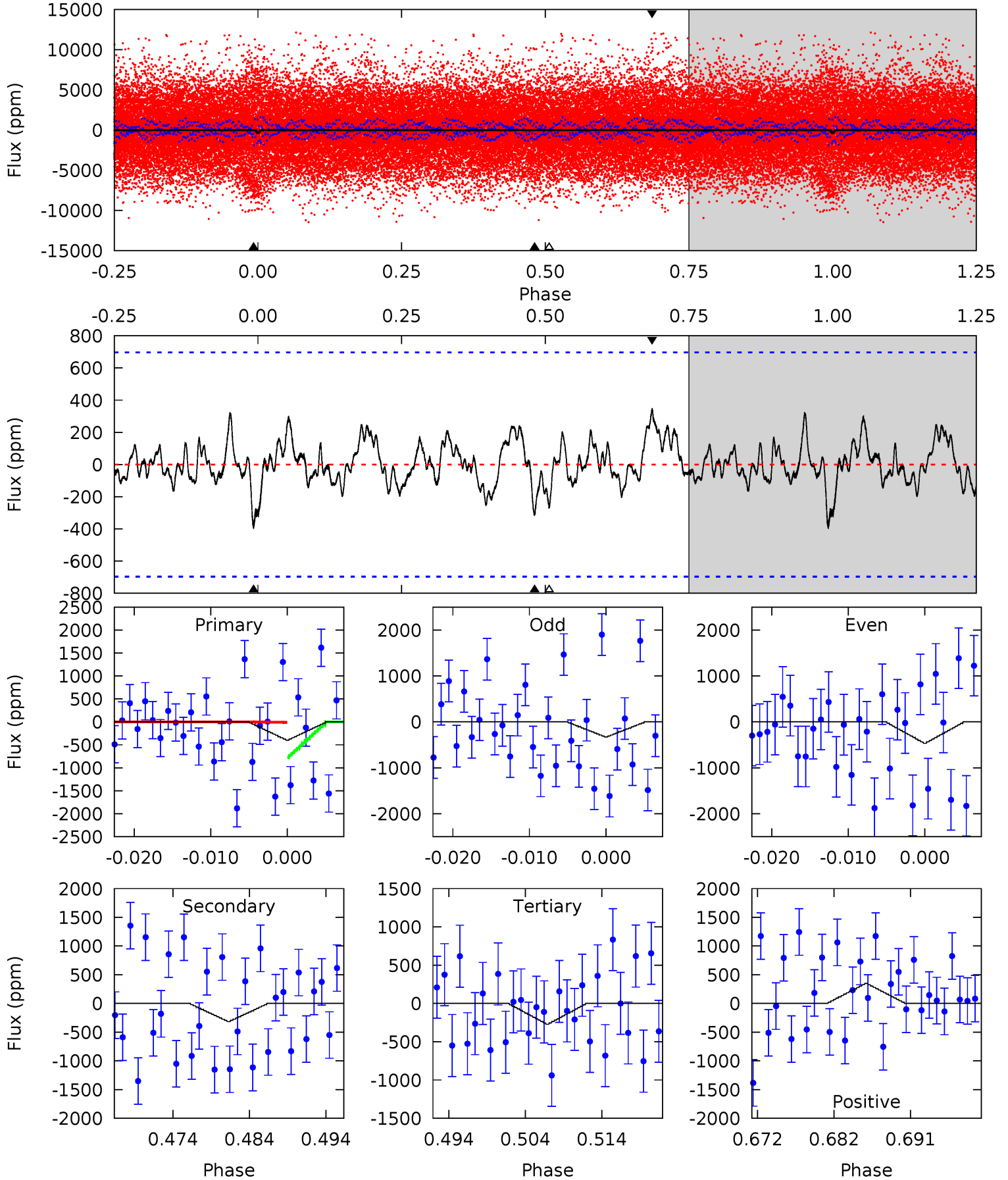
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.08	3.55	3.10	2.66	4.87	2.28	1.06	3.98	4.42	0.45	0.89	0.30	-0.23	0.27	0.28



Alt Model-Shift Uniqueness Test

003962715-03, P = 4.074411 Days, E = 127.763705 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.87	2.28	1.96	2.52	5.03	2.58	0.83	0.91	0.35	0.32	-0.23	0.50	0.88	0.47	2.78



Stellar Parameters For KIC 003962715

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4441^{+158}_{-176}	$4.568^{+0.060}_{-0.020}$	$0.380^{+0.050}_{-0.300}$	$0.736^{+0.029}_{-0.063}$	$0.731^{+0.041}_{-0.050}$	$2.581^{+0.656}_{-0.201}$
	+4%/-4%	+1%/-0%	+13%/-79%	+4%/-9%	+6%/-7%	+25%/-8%
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 003962715-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-86 ± 24	$1.55^{+1.39}_{-0.96}$	1100^{+42}_{-52}	3393^{+1426}_{-585}	38^{+224}_{-28}
Alt.	-317 ± 139	$1.65^{+1.22}_{-1.05}$	1095^{+47}_{-43}	4118^{+2232}_{-773}	122^{+786}_{-88}

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 $A_{obs} \gg 1.0$

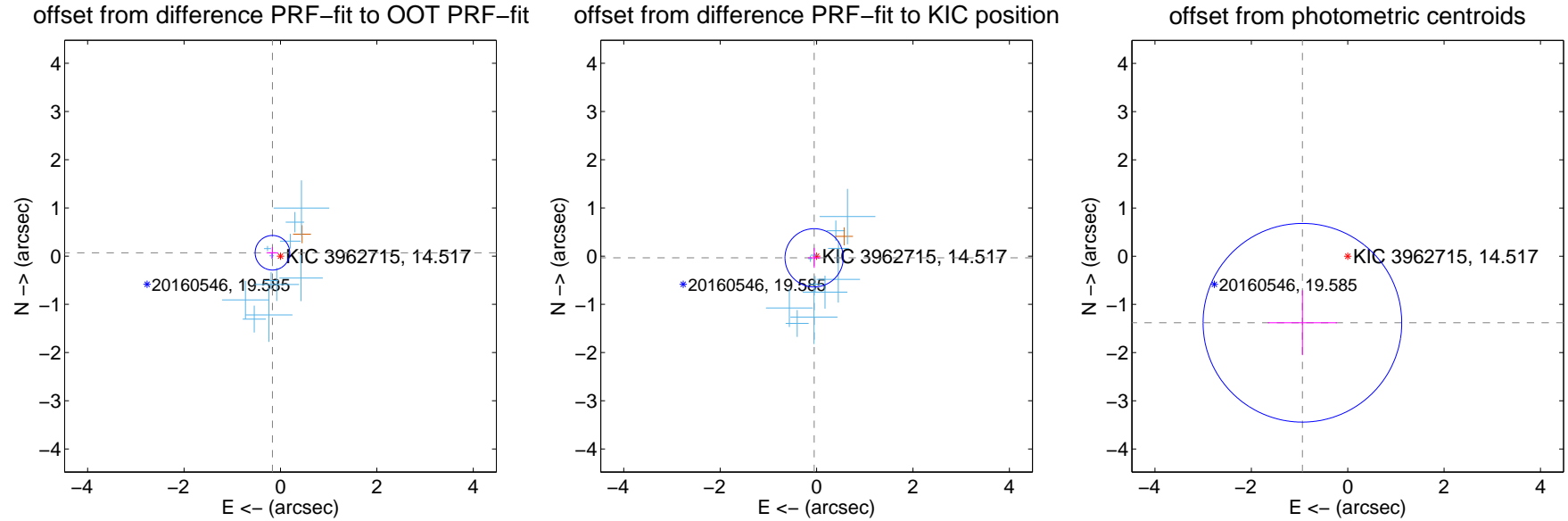
DV Centroid Data

Supplemental centroid analysis for 003962715-03. Kepler magnitude: 14.52. Transit SNR 7.76

There are 11 quarters with good PRF difference image offsets

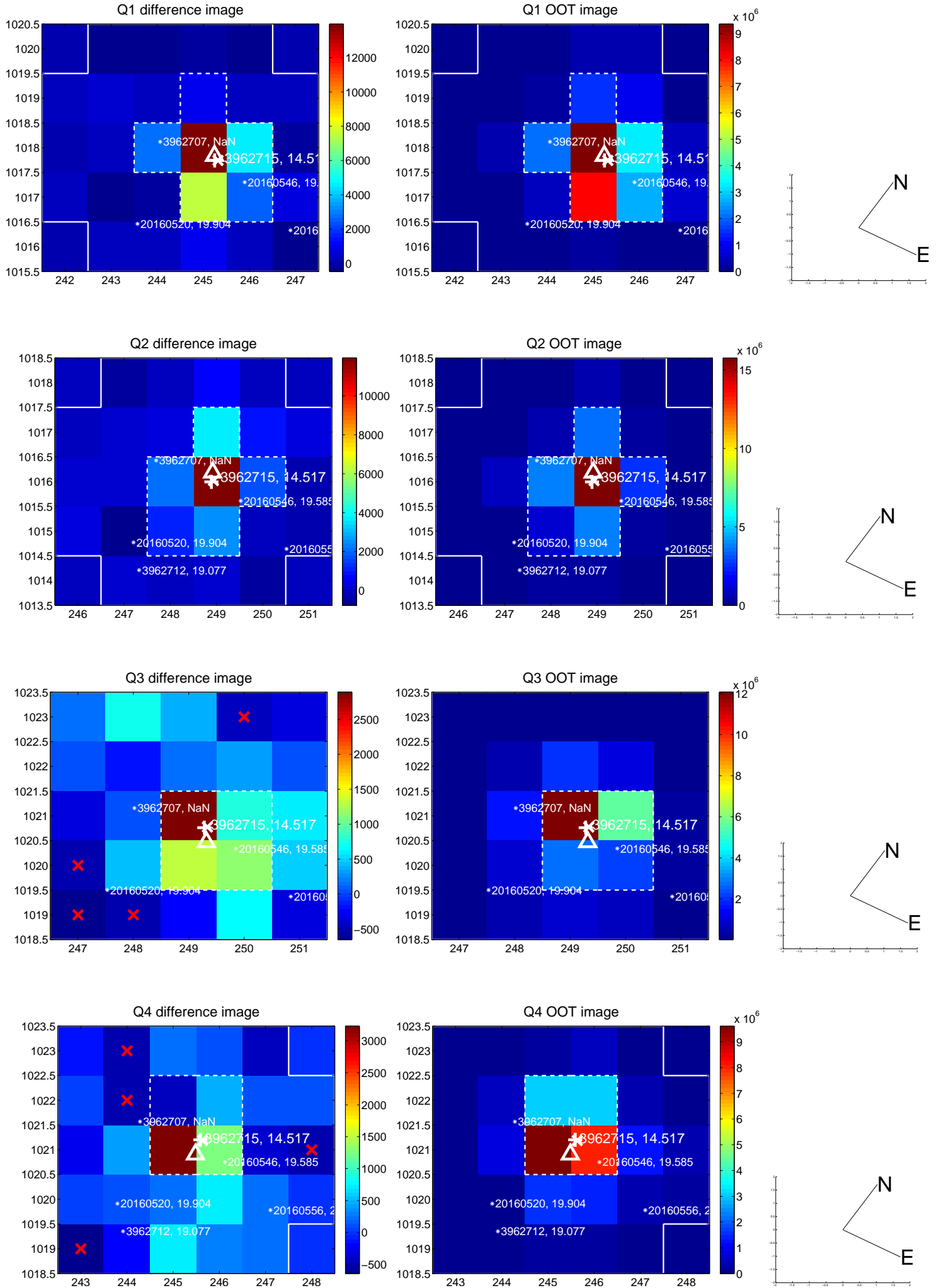
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.180 ± 0.120	1.51	0.166 ± 0.120	0.070 ± 0.118
PRF-fit source offset from KIC position	0.062 ± 0.201	0.31	0.051 ± 0.127	-0.035 ± 0.207
photometric centroid source offset	1.67 ± 0.69	2.43	0.94 ± 0.72	-1.38 ± 0.67

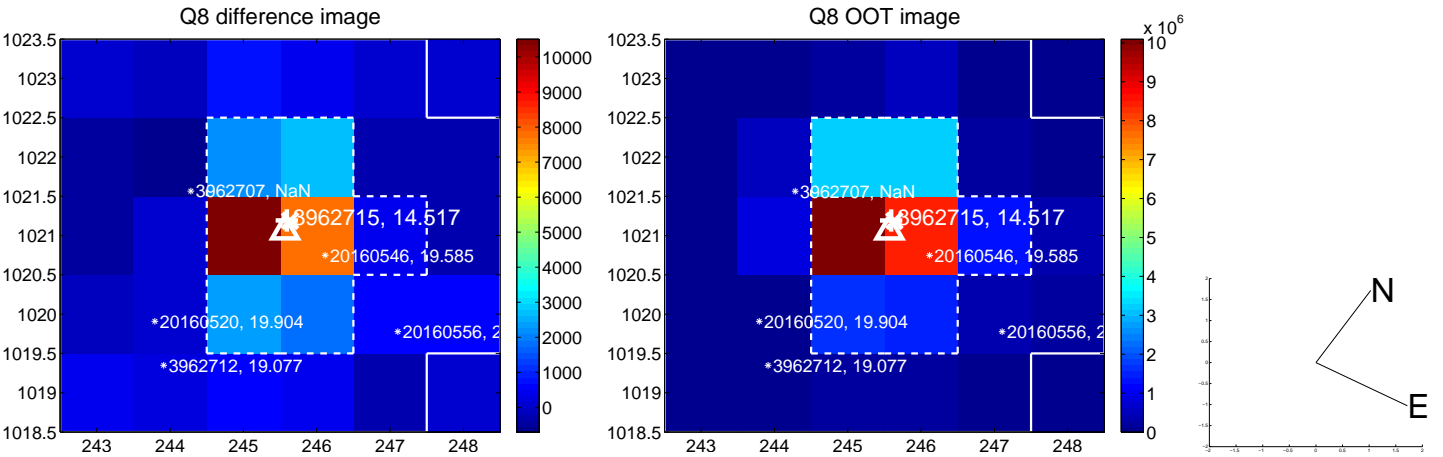
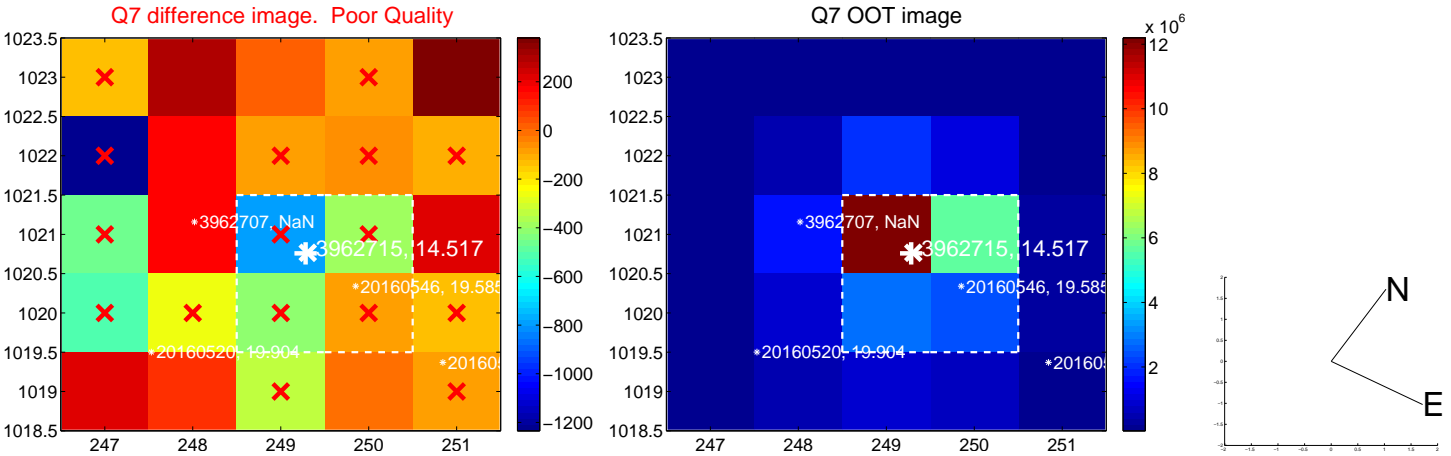
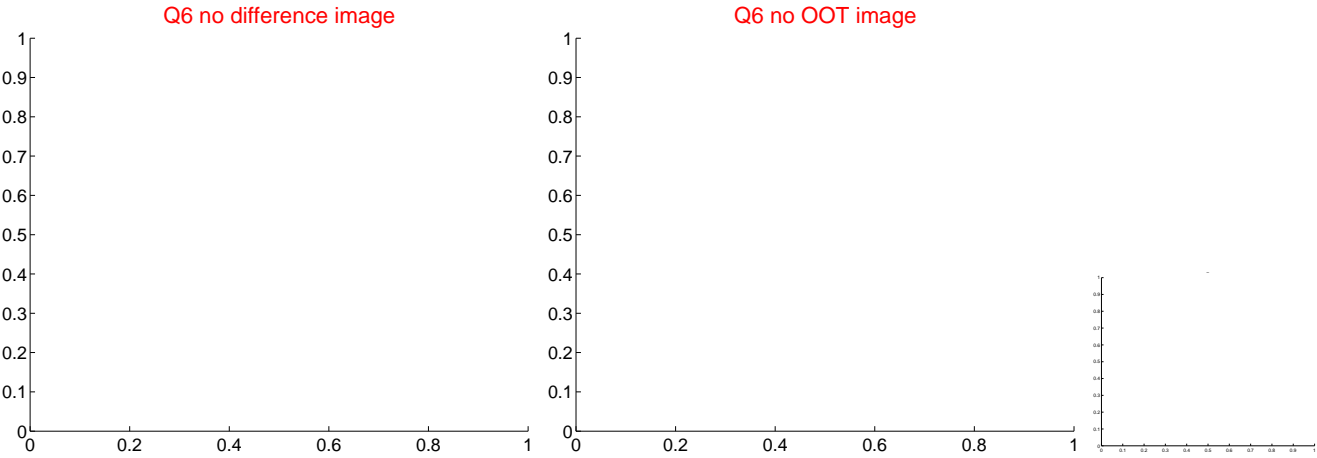
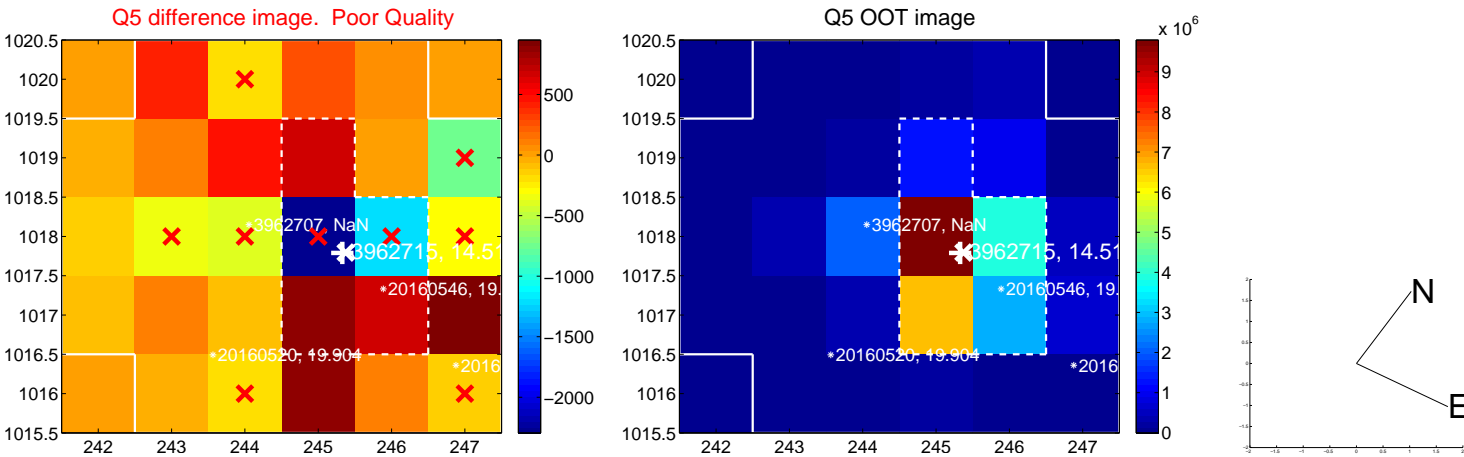


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

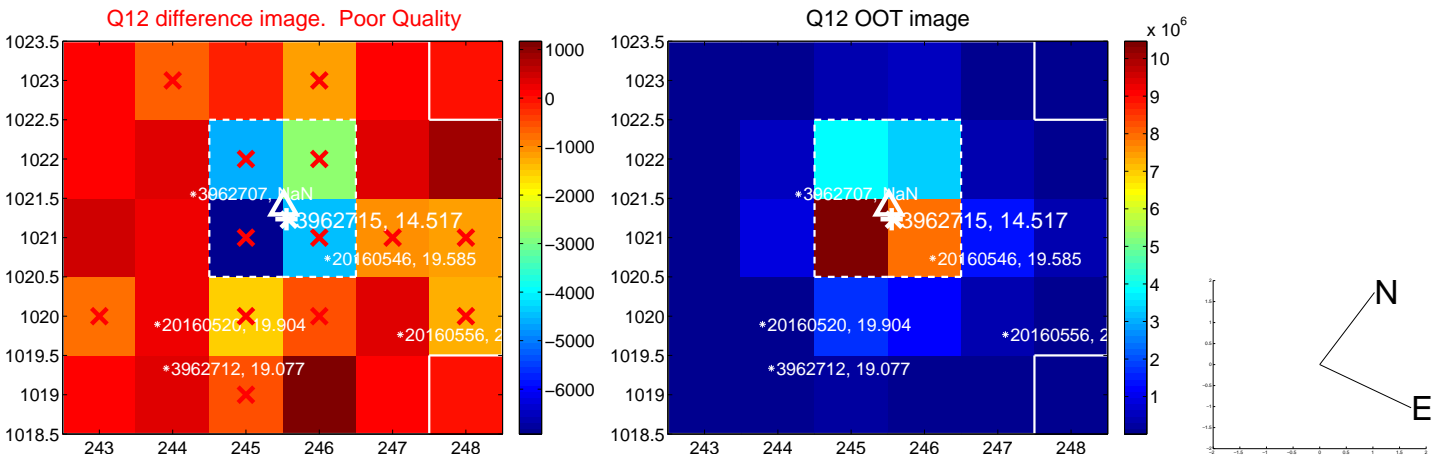
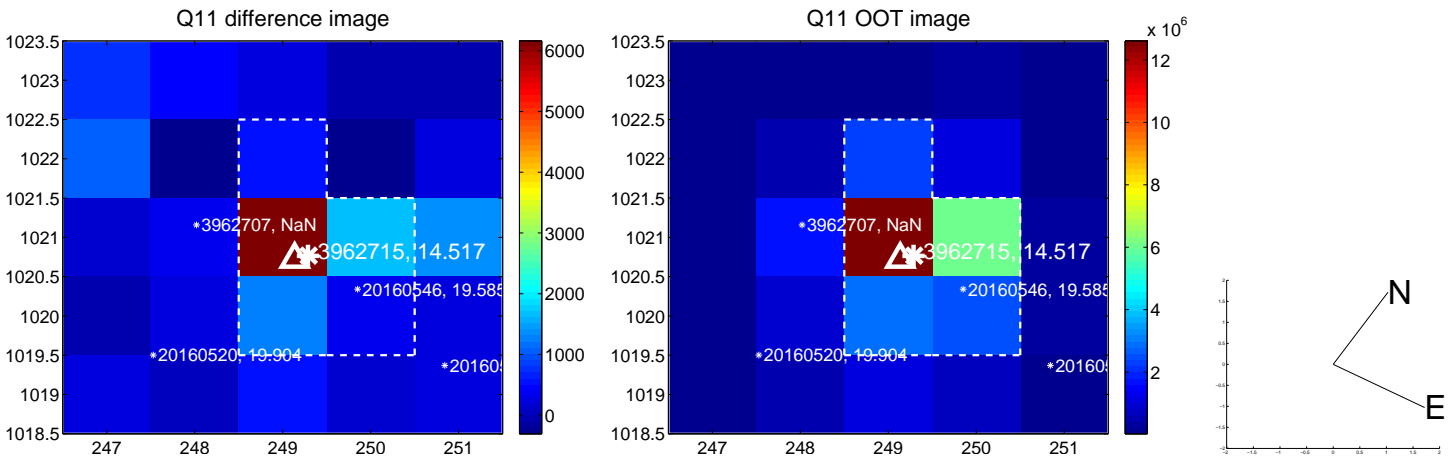
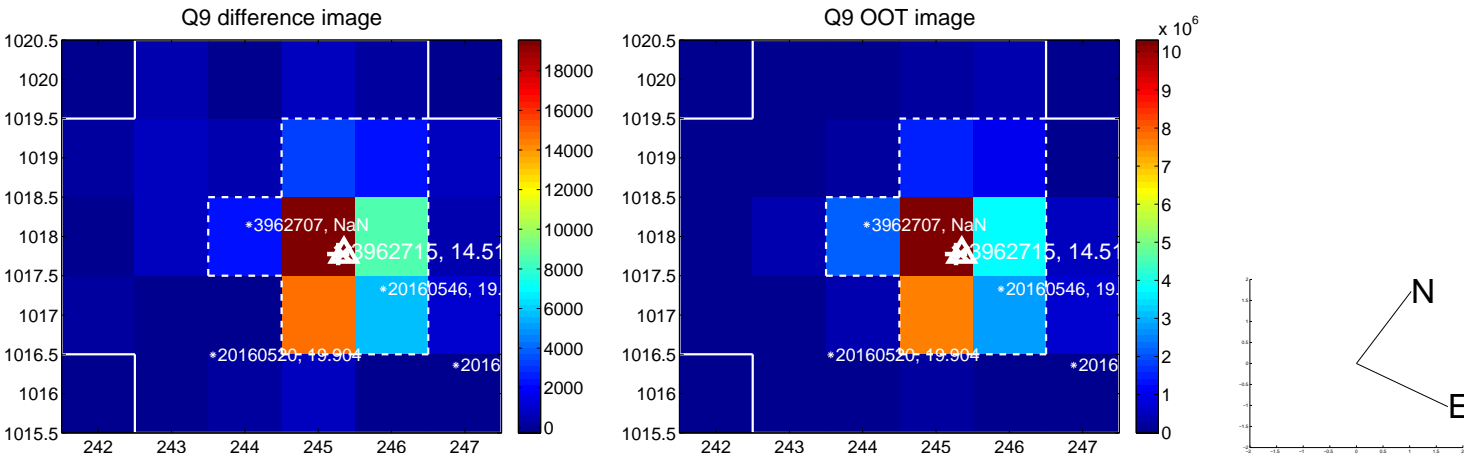
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



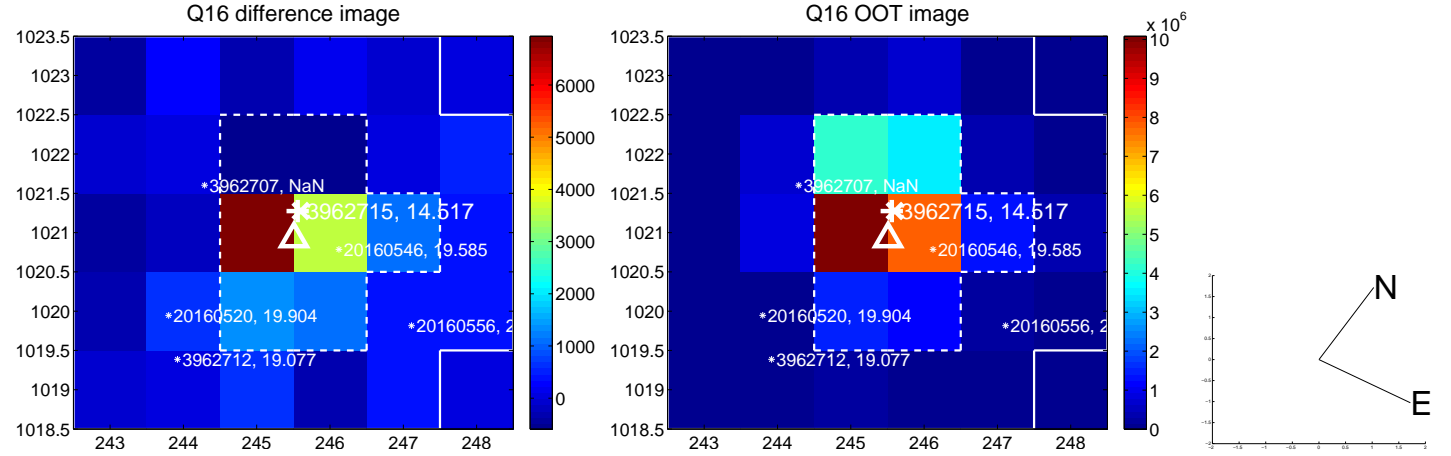
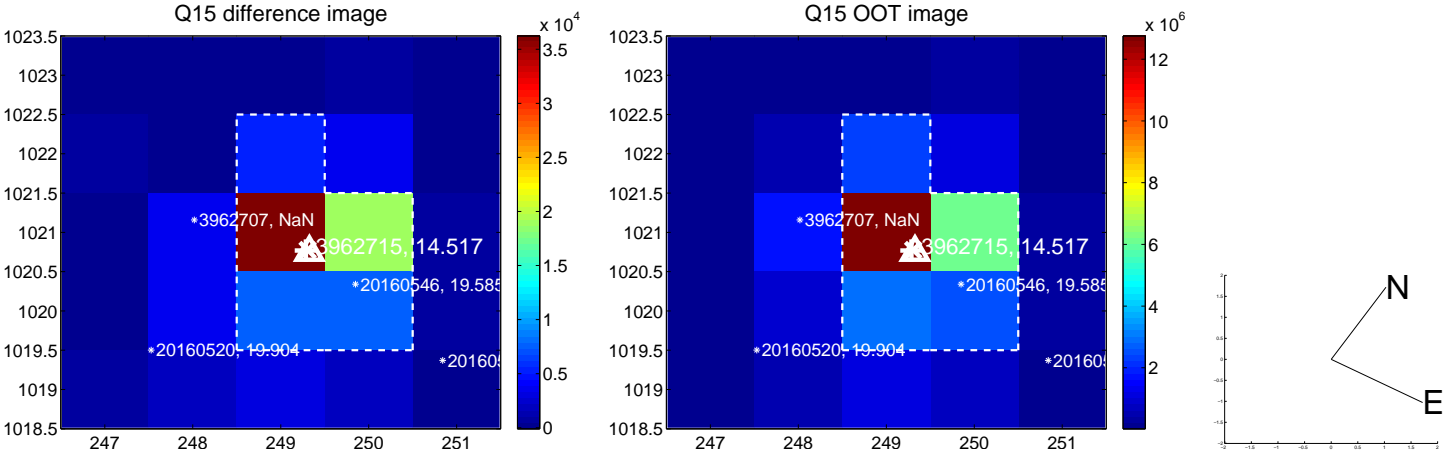
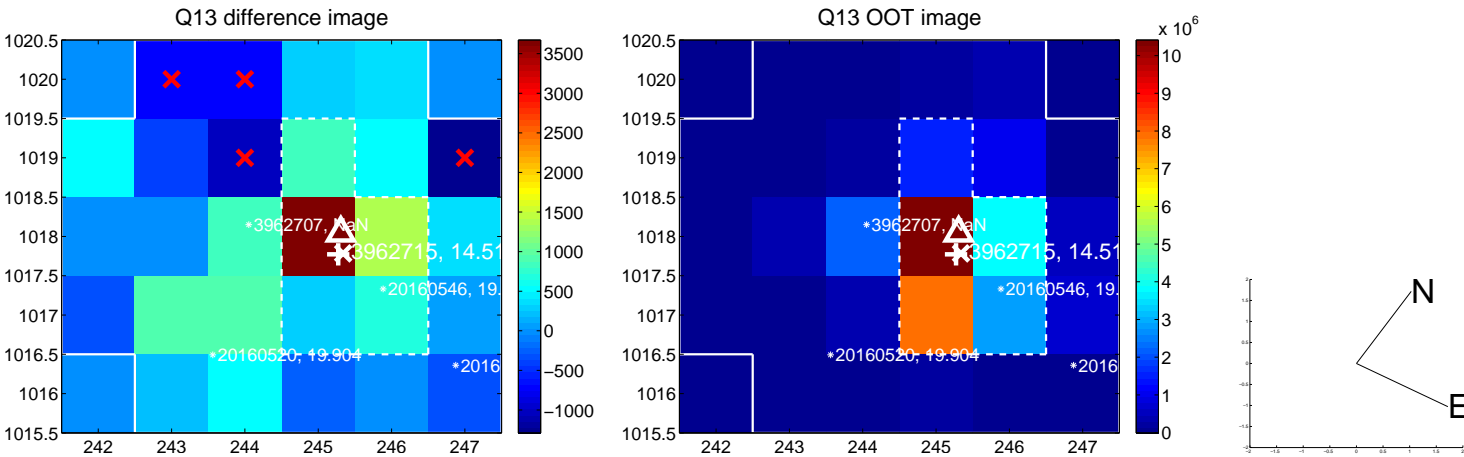
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

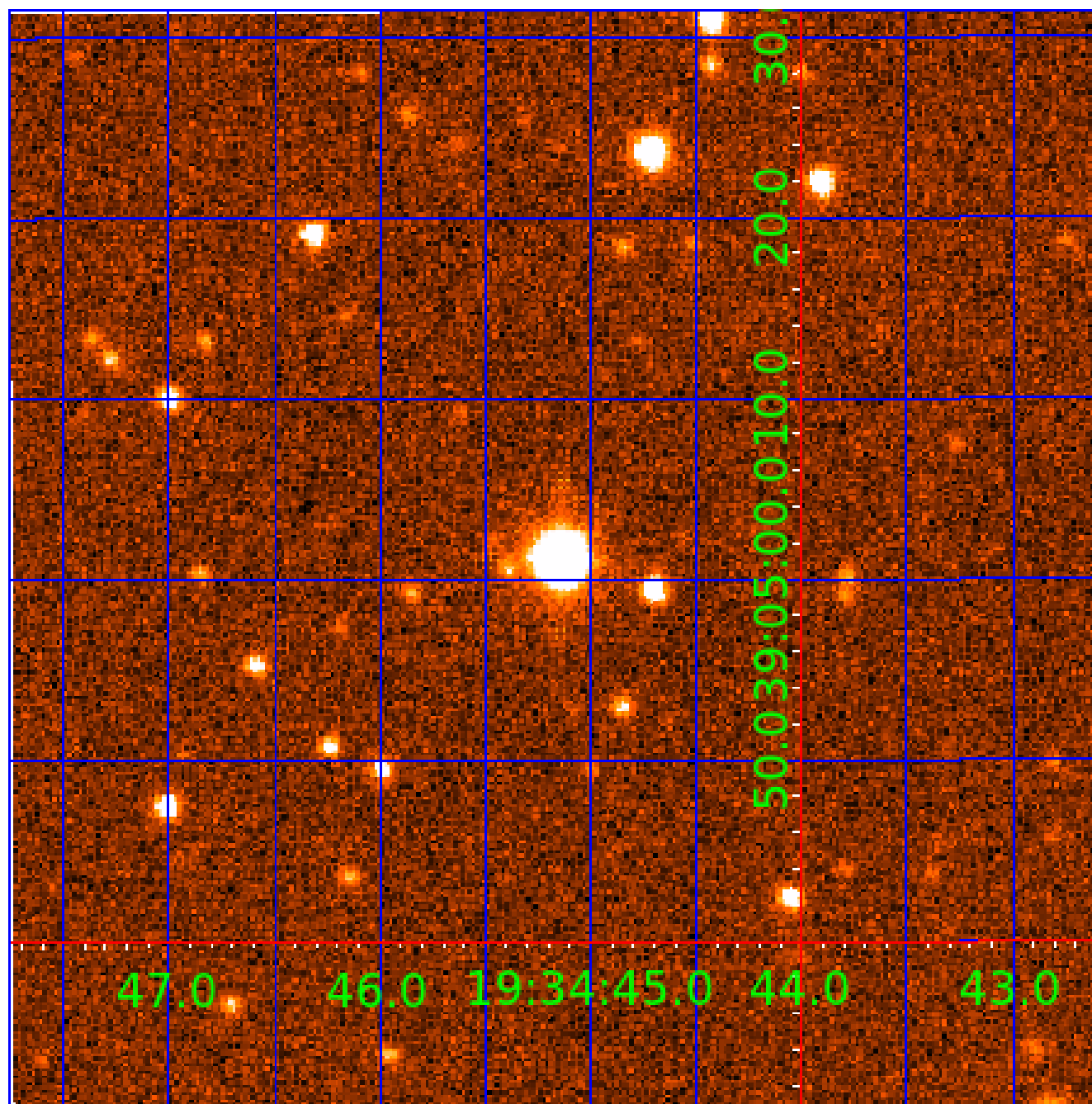


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003962715

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})
003962715-01	OBS	No	648.048597	209.281007	619.2	3.777	15.1	1.5	0.74	4441	1.85	0.11
003962715-02	OBS	No	176.005238	274.802695	1844.5	2.500	13.0	-1.0	0.74	4441	3.01	0.62
003962715-03	OBS	No	4.074527	131.807493	276.5	1.763	9.3	7.8	0.74	4441	1.29	93.32
003962715-04	OBS	No	653.923318	214.850728	2800.6	12.011	12.6	7.9	0.74	4441	4.70	0.11
003962715-05	OBS	No	290.595137	246.670897	19697.2	18.996	12.1	34.4	0.74	4441	19.02	0.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003962715-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003962715-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
003962715-03	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003962715-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003962715-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

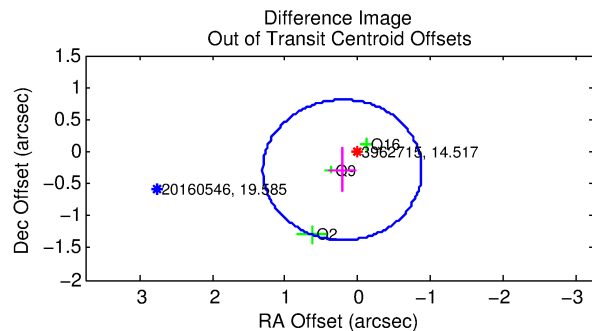
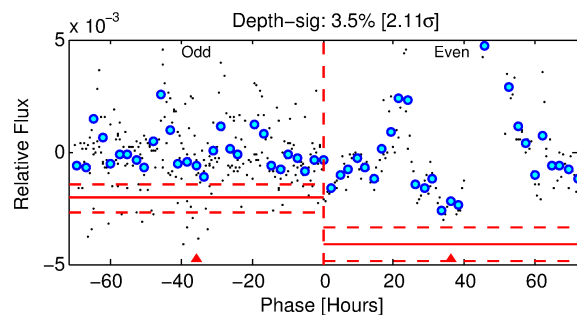
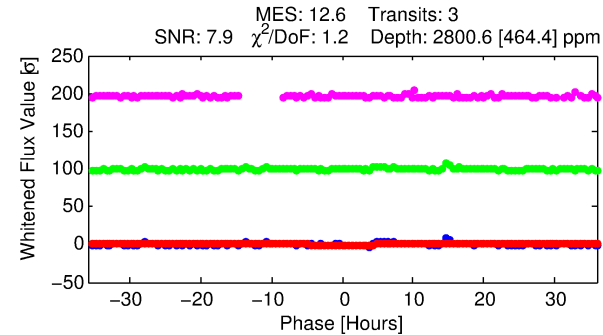
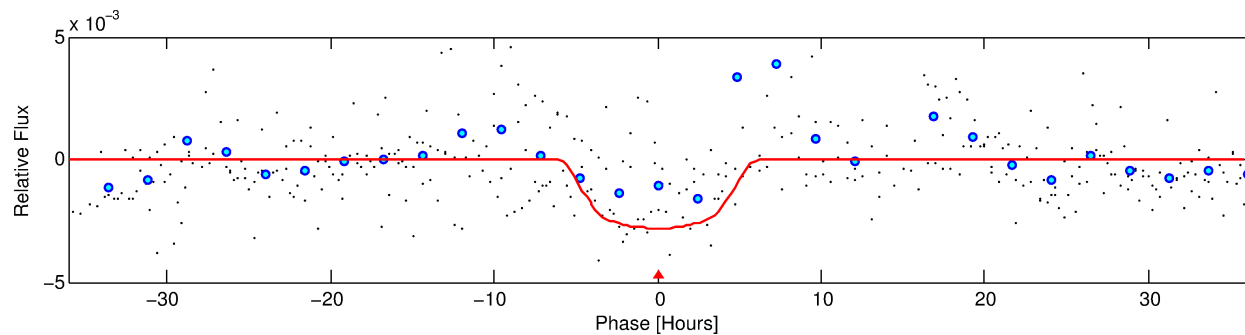
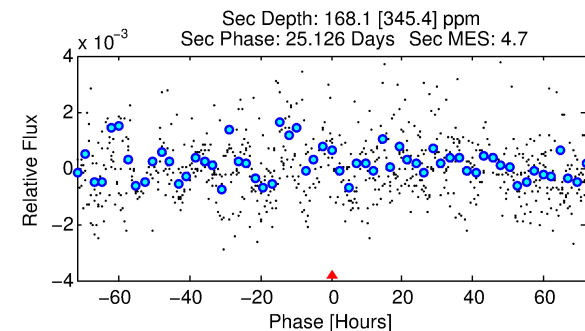
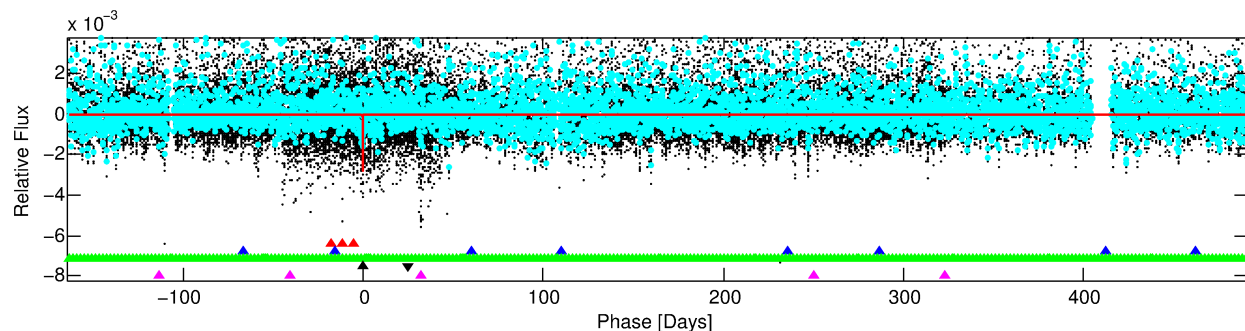
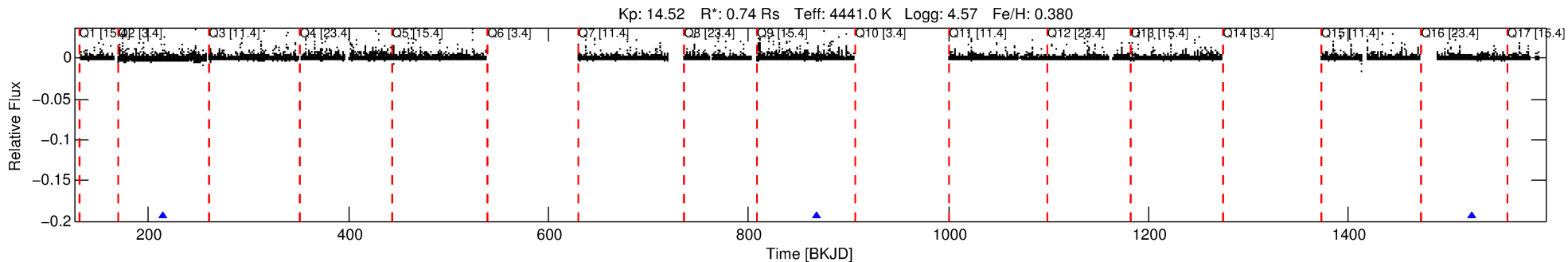
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003962715-04

No Significant Match Found

DV One-Page Summary

KIC: 3962715 Candidate: 4 of 5 Period: 653.923 d



DV Fit Results:

Period = 653.92332 [0.01810] d
Epoch = 214.8507 [0.0247] BKJD
Rp/R* = 0.0585 [0.0070]
a/R* = 248.06 [58.75]
b = 0.87 [0.07]
Seff = 0.11 [0.02]
Teq = 146 [7] K
Rp = 4.70 [0.69] Re
a = 1.3283 [0.0974] AU
Ag = 7386.41 [15303.28] [0.48σ]
Teffp = 2090 [1084] K [1.79σ]

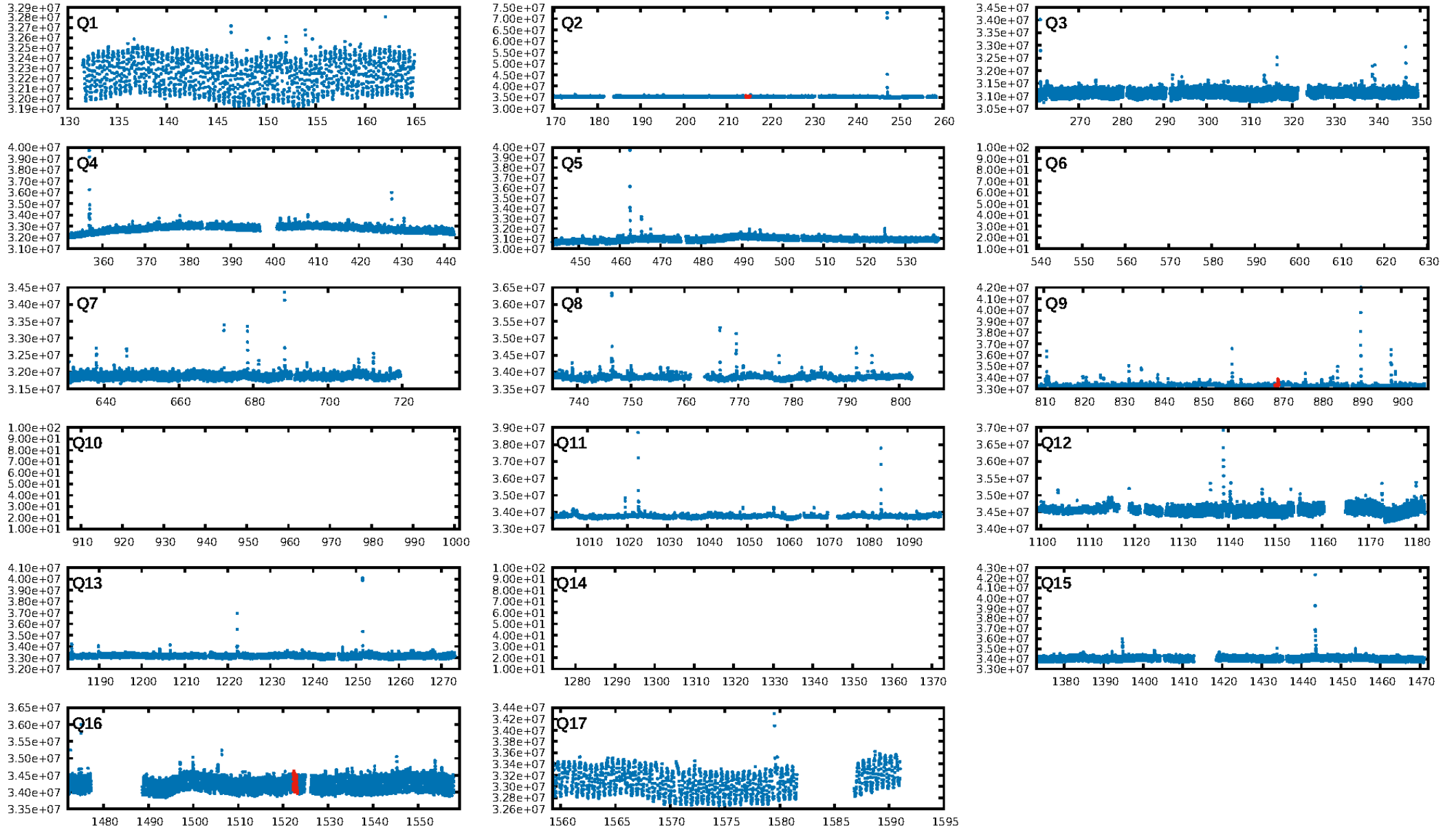
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [11.20σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.1%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 2.32e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.887
Centroid-sig: 89.2%
Centroid-so: 0.455 arcsec [1.52σ]
OotOffset-rm: 0.355 arcsec [0.97σ]
KicOffset-rm: 0.402 arcsec [1.28σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.67 [2/3]

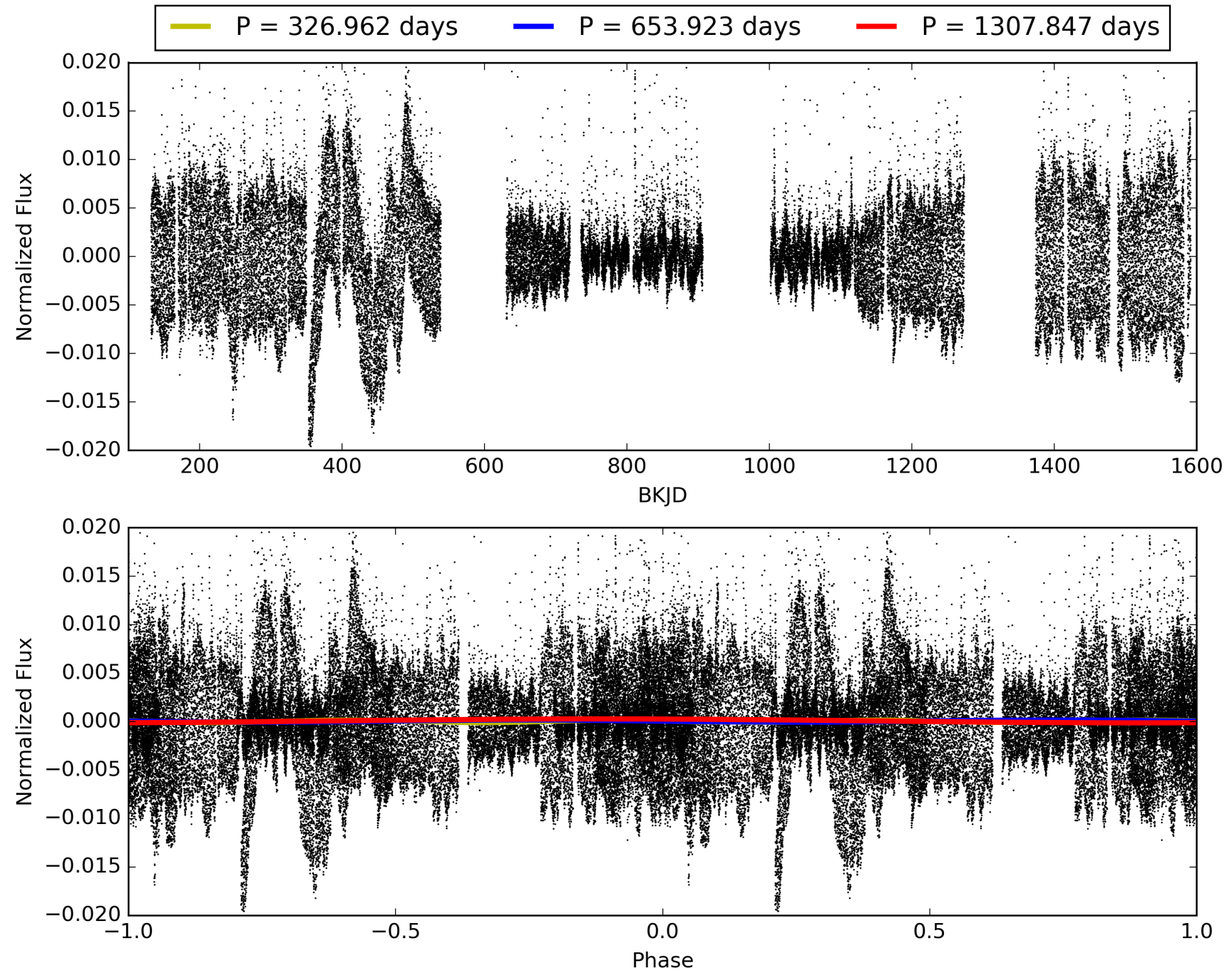
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:16:53 Z

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

TCE 003962715-04, PDC Light Curves

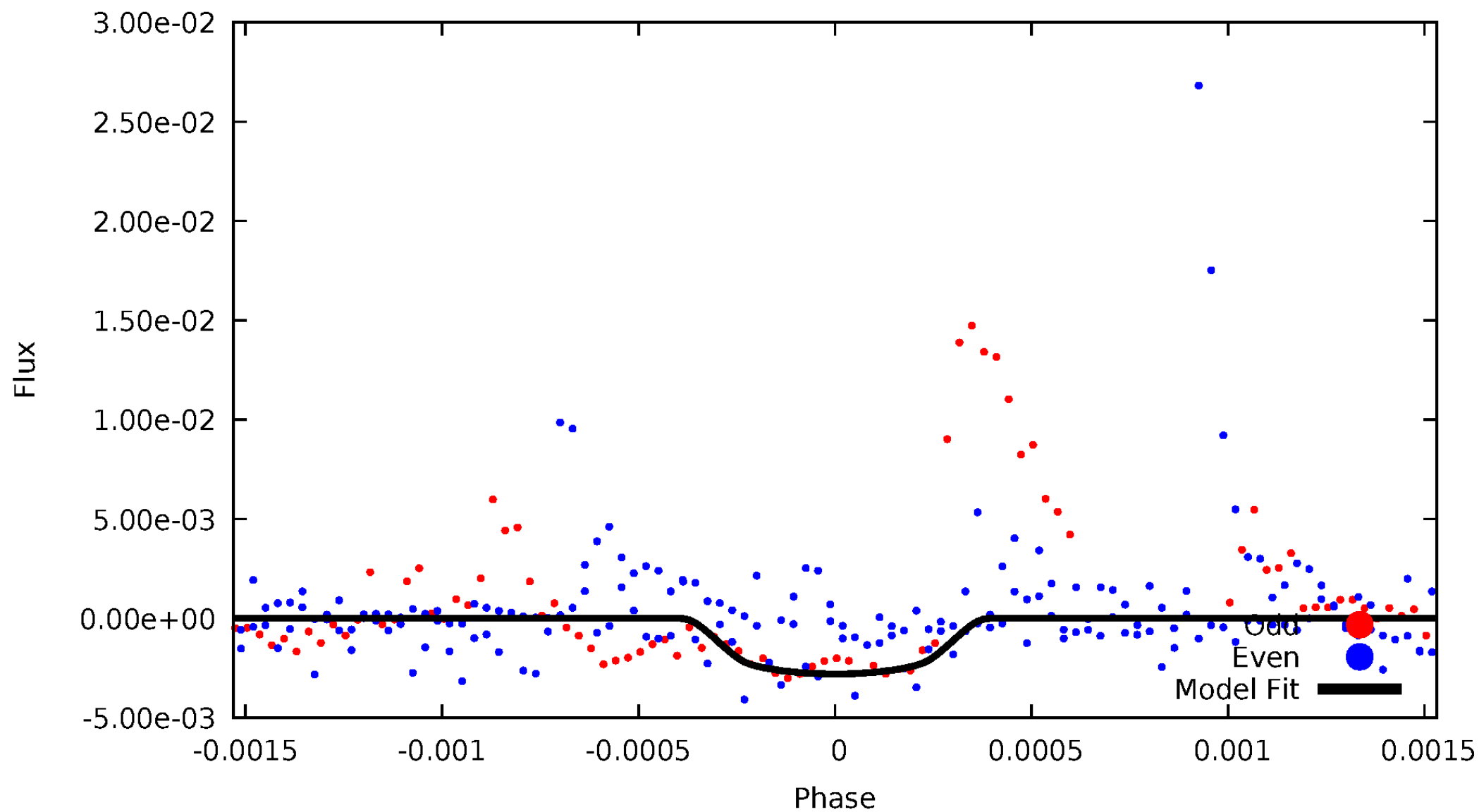


TCE 003962715-04



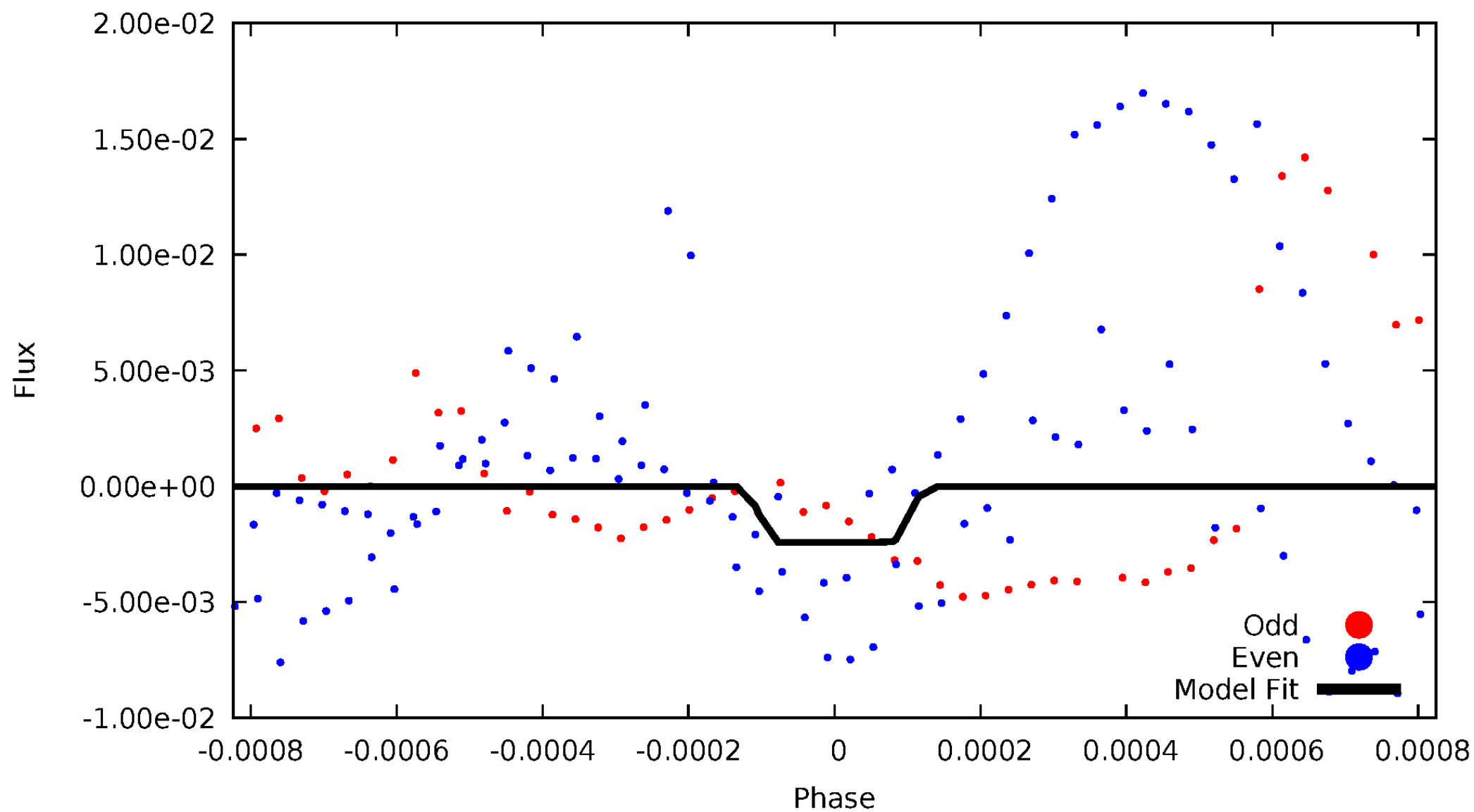
DV Odd/Even

TCE 003962715-04



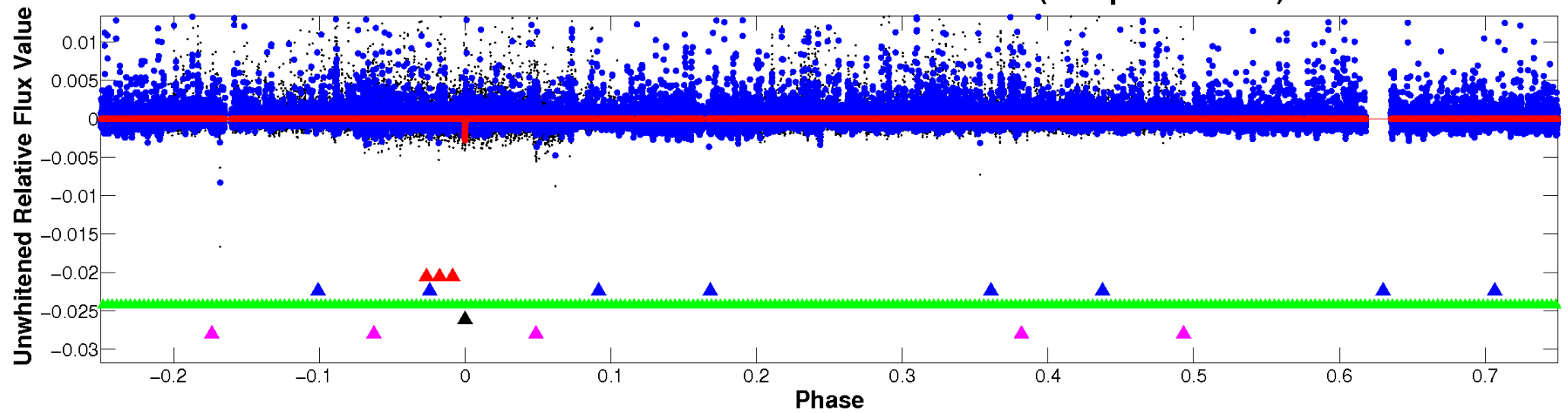
ALT Odd/Even

TCE 003962715-04

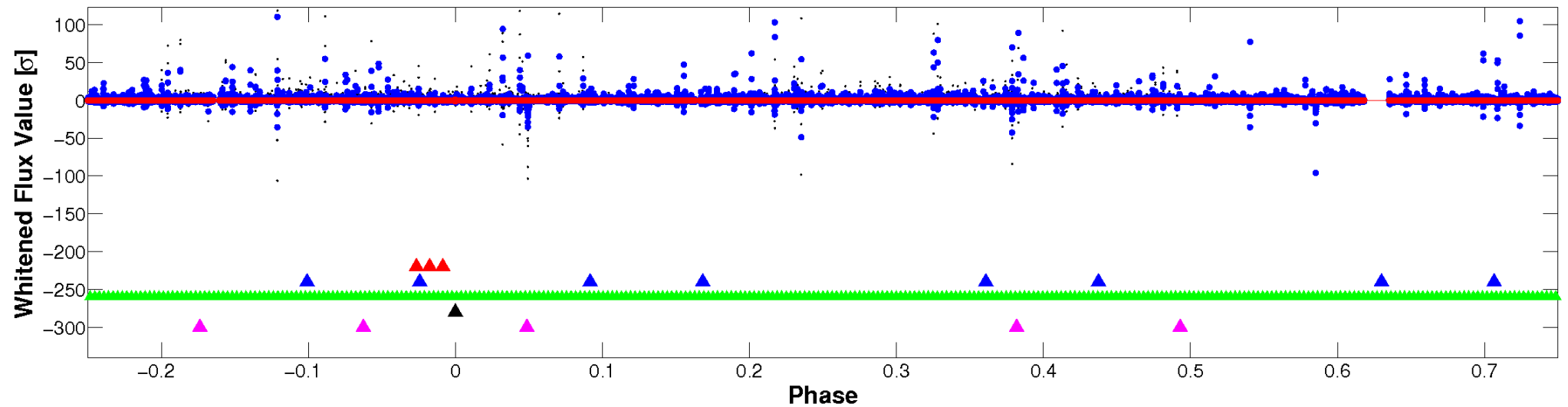


Non-Whitened Vs. Whitened Light Curve

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

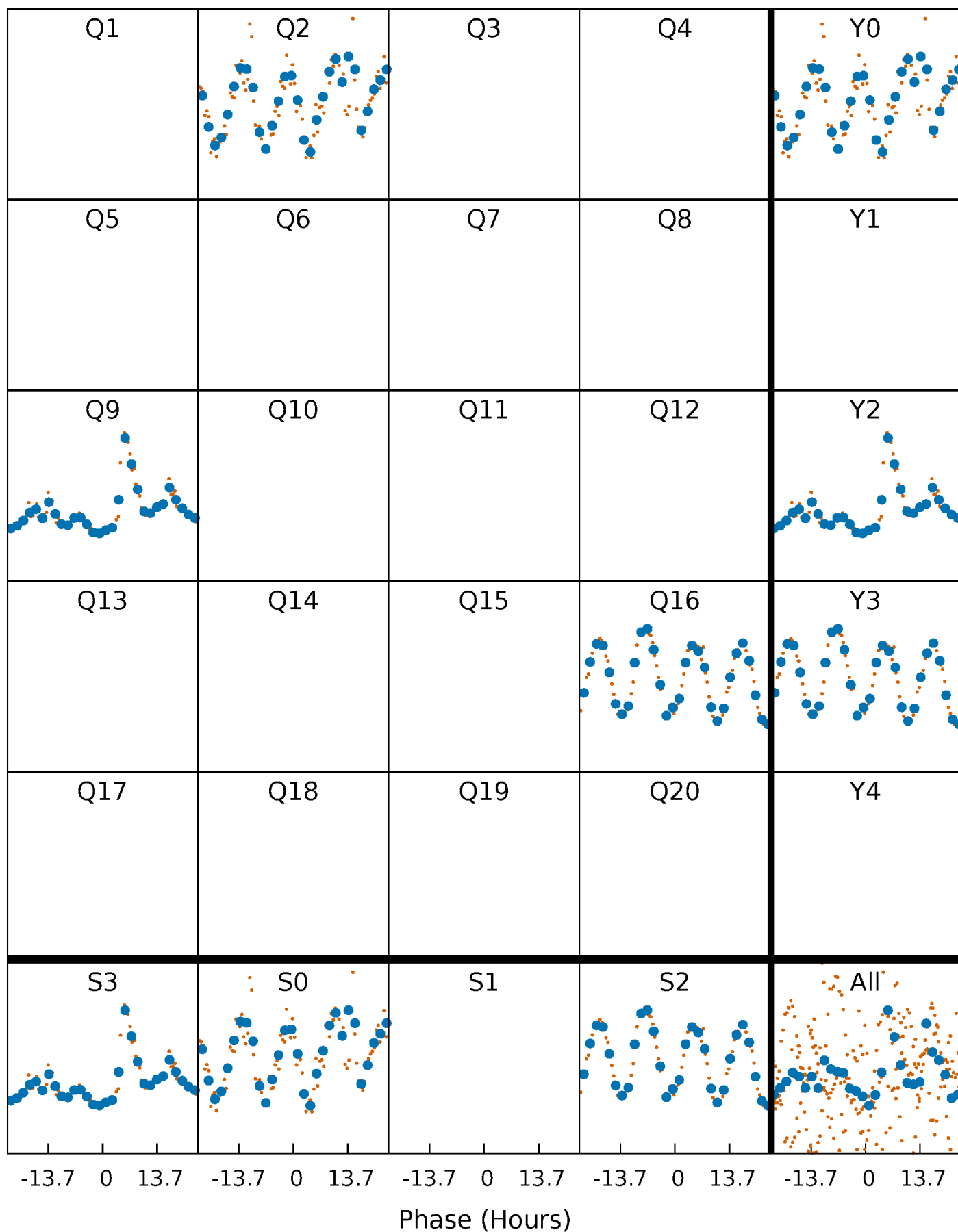


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



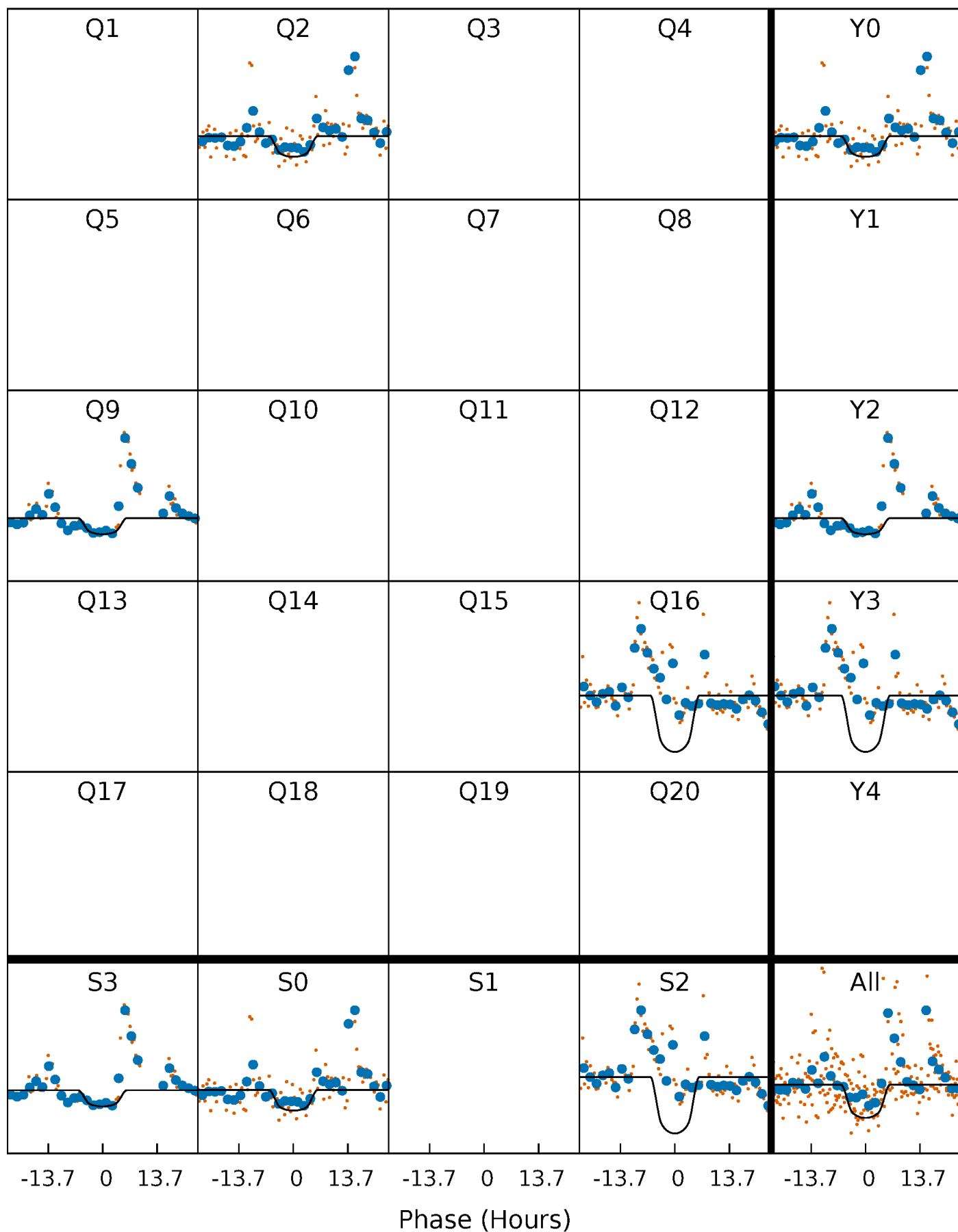
PDC Quarter-Phased Transit Curves

TCE 003962715-04 P=653.923318 Days $T_0=214.850728$ (BKJD)



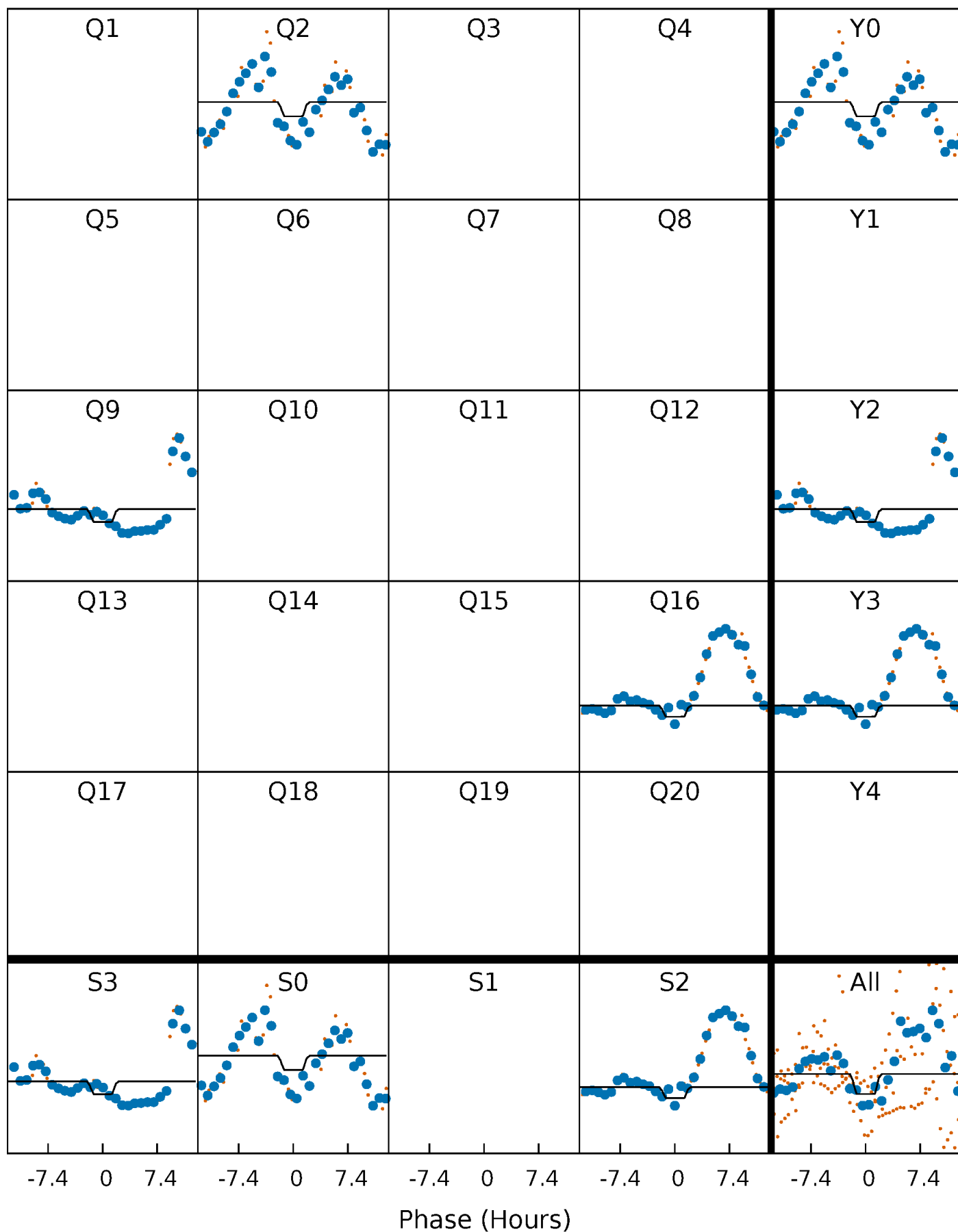
DV Quarter-Phased Transit Curves

TCE 003962715-04 P=653.923318 Days $T_0=214.850728$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

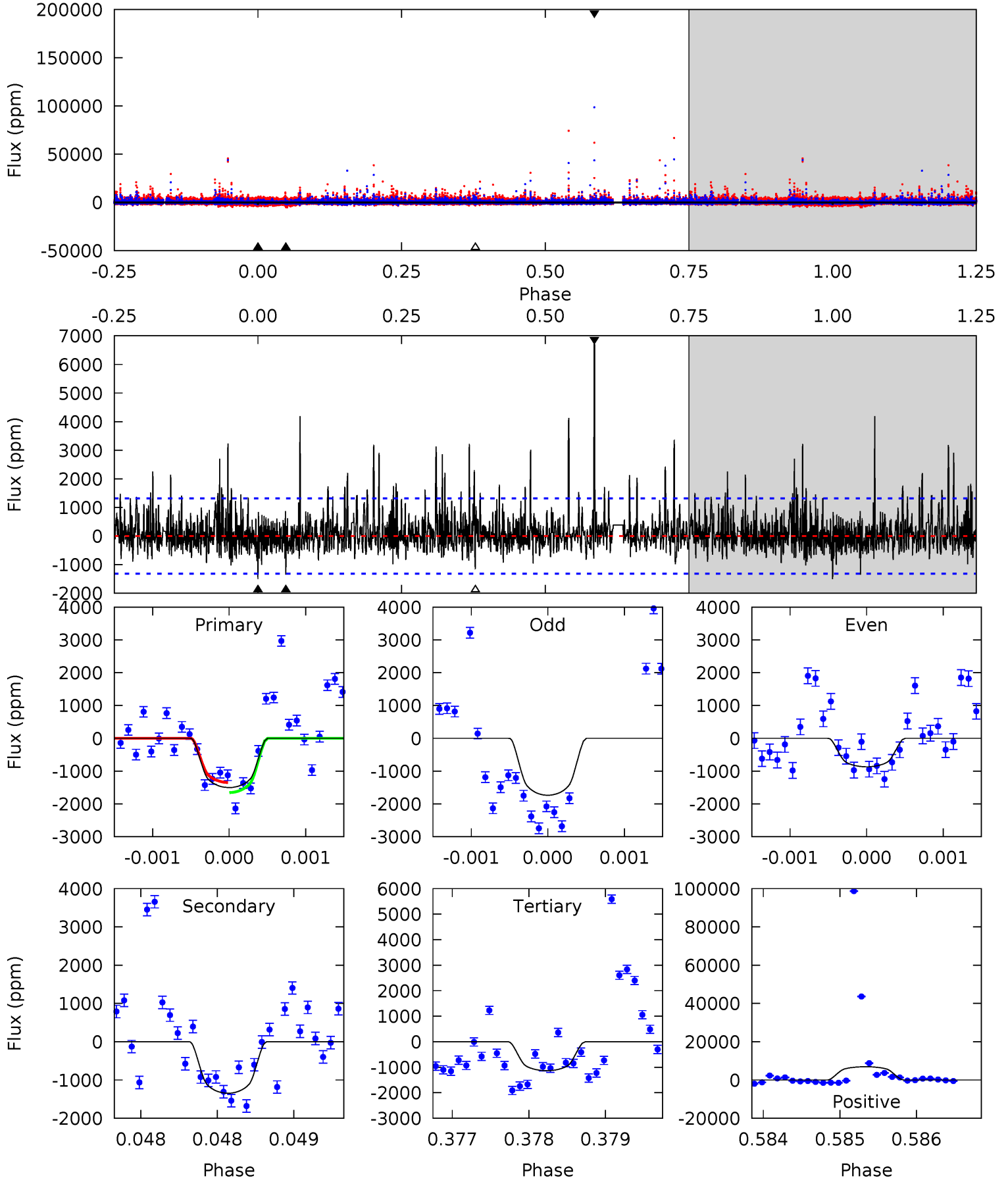
TCE 003962715-04 P=654.037389 Days $T_0=214.542745$ (BKJD)



DV Model-Shift Uniqueness Test

003962715-04, P = 653.923318 Days, E = 214.850728 Days

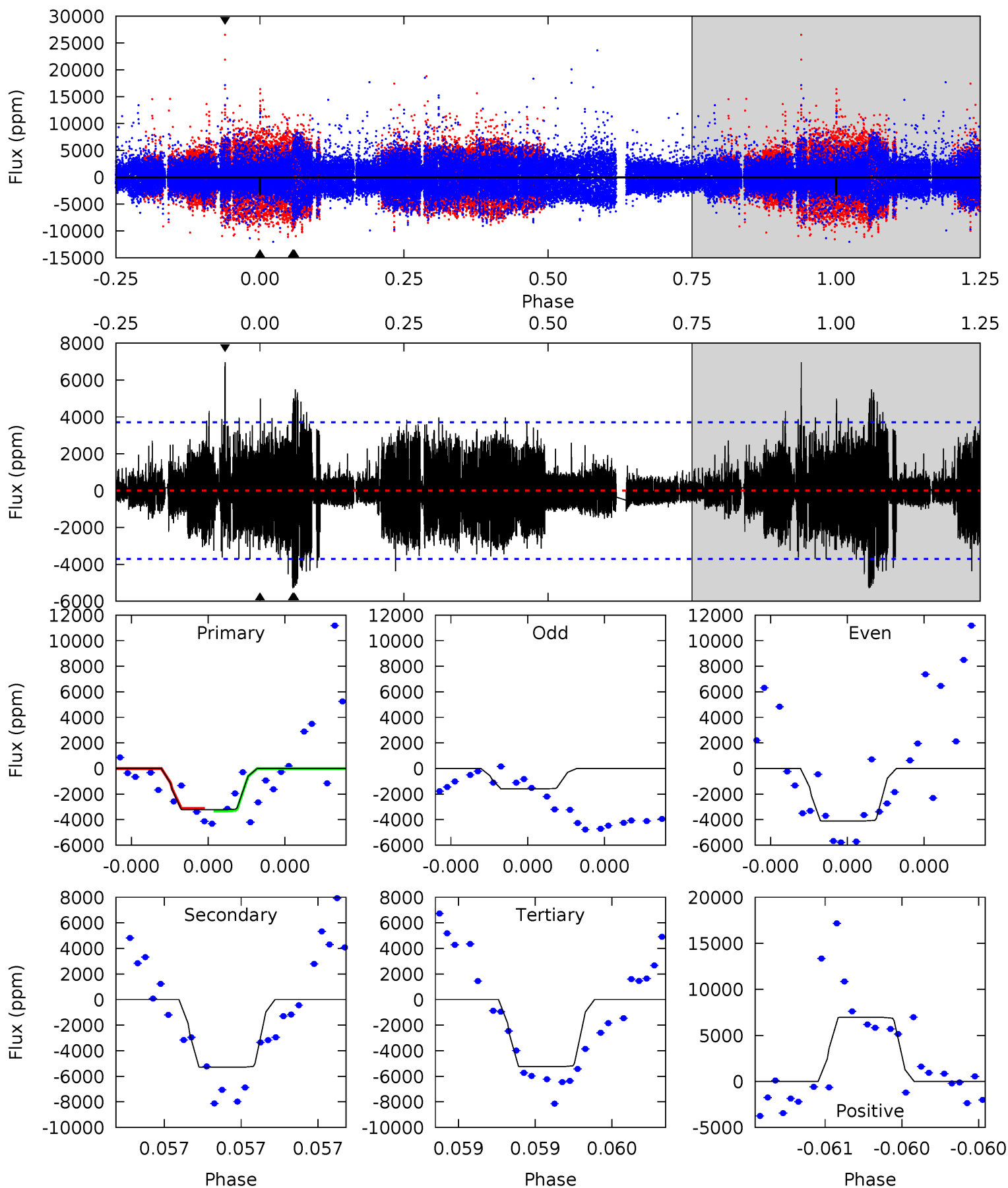
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.28	5.63	4.74	29.1	5.50	3.36	2.43	1.54	-22.8	0.88	-23.5	1.01	0.67	0.82	0.64



Alt Model-Shift Uniqueness Test

003962715-04, P = 654.037389 Days, E = 214.542745 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.95	8.15	8.08	10.7	5.71	3.69	2.25	-3.12	-5.76	0.07	-2.57	2.11	1.81	0.57	0.16



Stellar Parameters For KIC 003962715

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4441^{+158}_{-176}	$4.568^{+0.060}_{-0.020}$	$0.380^{+0.050}_{-0.300}$	$0.736^{+0.029}_{-0.063}$	$0.731^{+0.041}_{-0.050}$	$2.581^{+0.656}_{-0.201}$
	+4%/-4%	+1%/-0%	+13%/-79%	+4%/-9%	+6%/-7%	+25%/-8%
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 003962715-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1345 ± 239	$4.62^{+0.59}_{-0.56}$	202^{+8}_{-9}	3759^{+235}_{-234}	61510^{+23460}_{-16298}
Alt.	-5288 ± 649	$3.92^{+0.57}_{-0.62}$	202^{+8}_{-8}	5212^{+493}_{-404}	$340689^{+144495}_{-93718}$

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

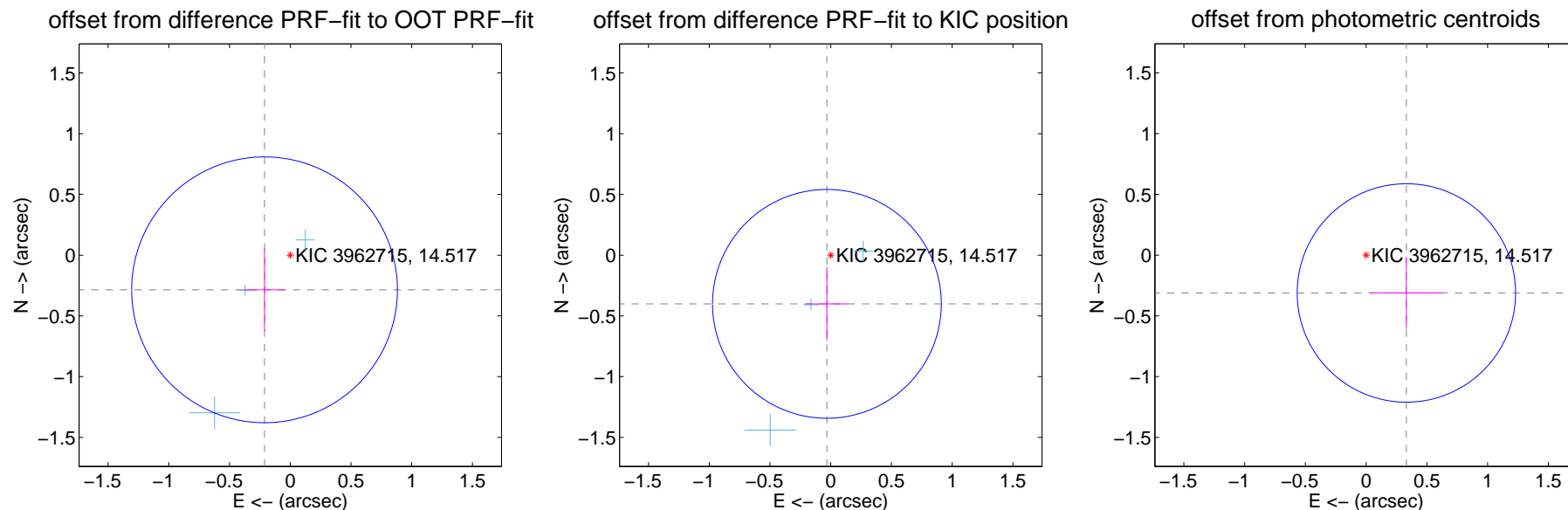
DV Centroid Data

Supplemental centroid analysis for 003962715-04. Kepler magnitude: 14.52. Transit SNR 7.94

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.355 ± 0.365	0.97	0.212 ± 0.175	-0.285 ± 0.338
PRF-fit source offset from KIC position	0.402 ± 0.314	1.28	0.031 ± 0.173	-0.401 ± 0.303
photometric centroid source offset	0.45 ± 0.30	1.52	-0.33 ± 0.30	-0.31 ± 0.30



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.

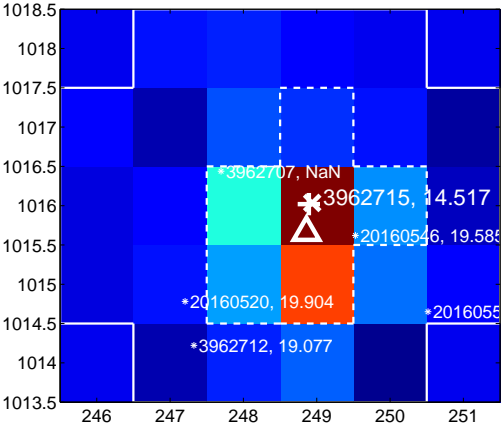
Q1 no difference image



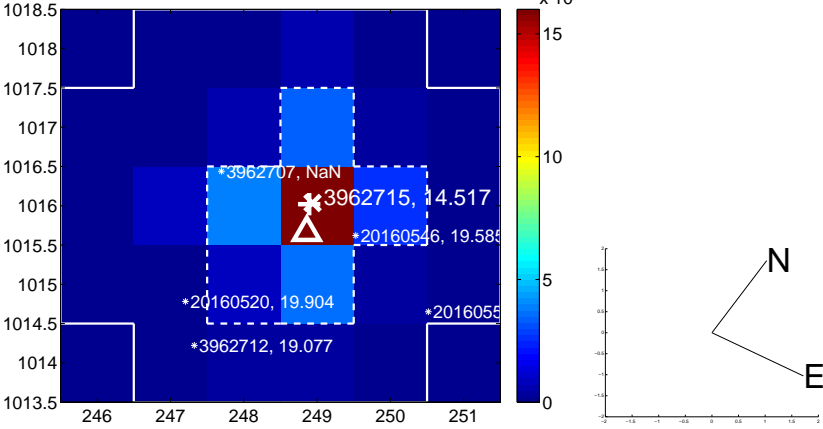
Q1 no OOT image



Q2 difference image



Q2 OOT image



Q3 no difference image



Q3 no OOT image



Q4 no difference image



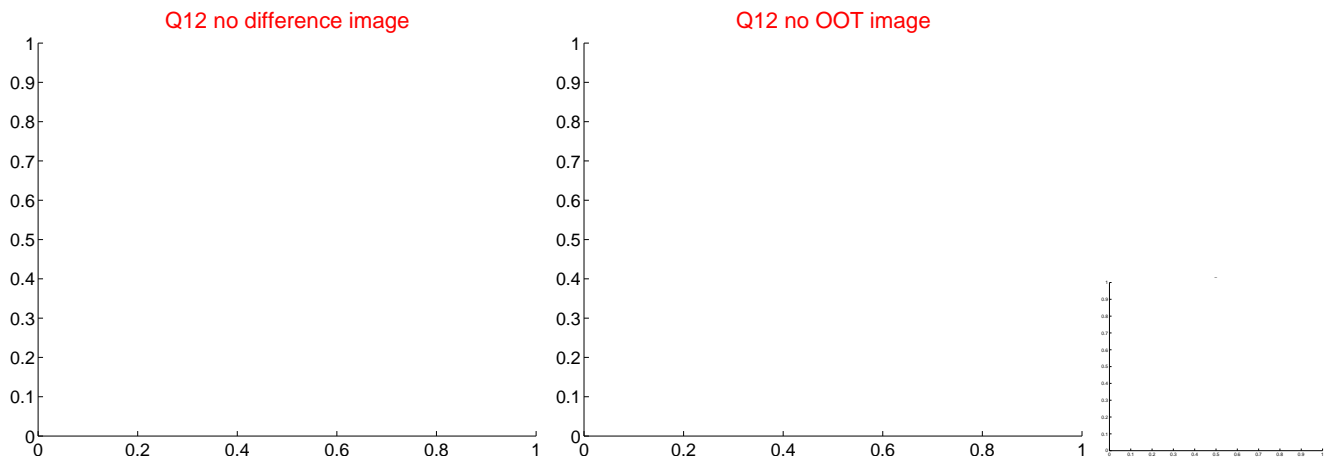
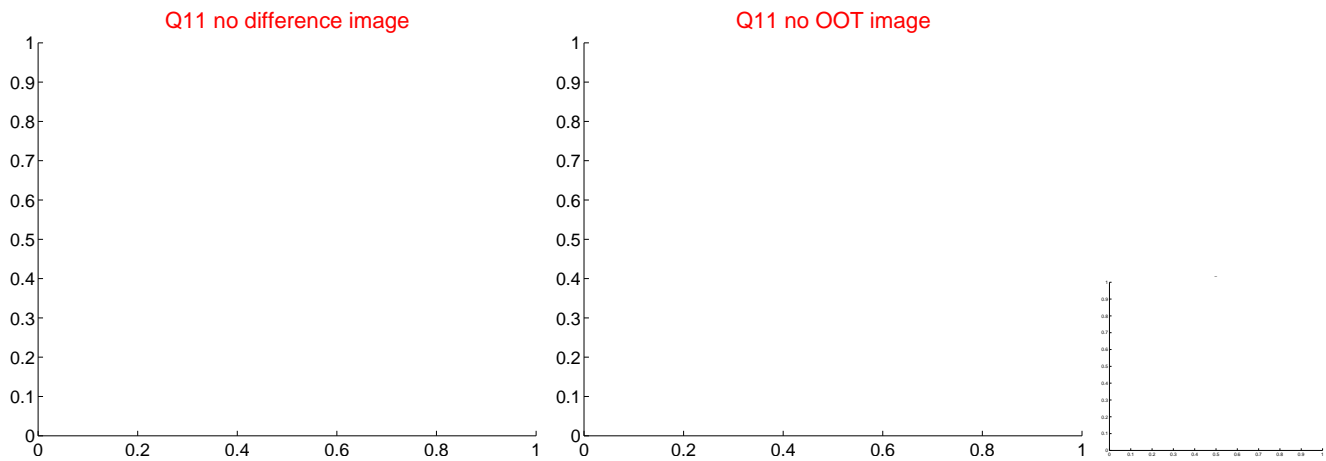
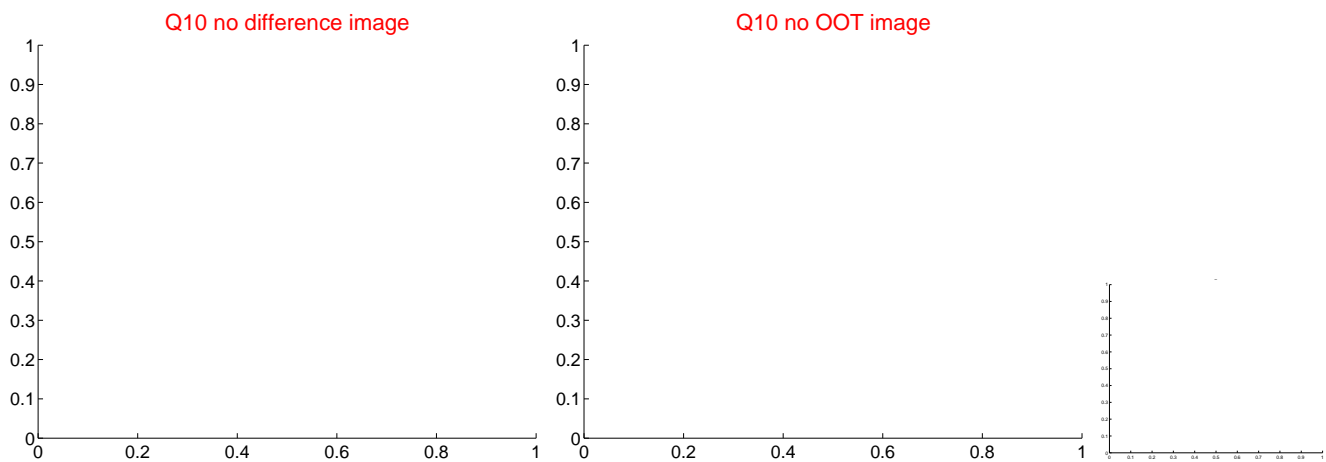
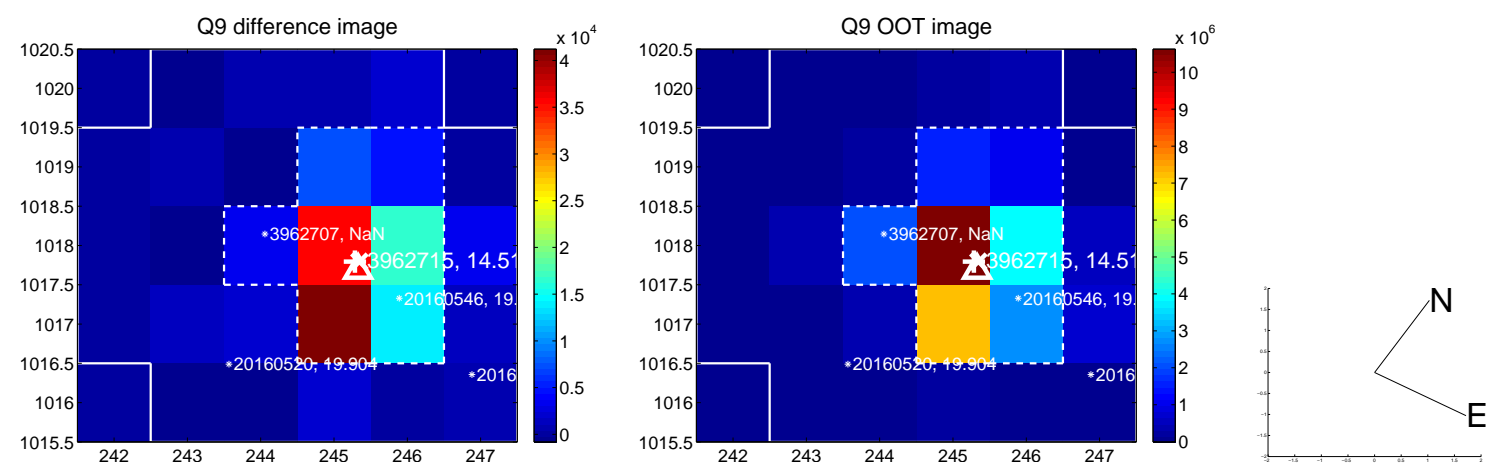
Q4 no OOT image



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.

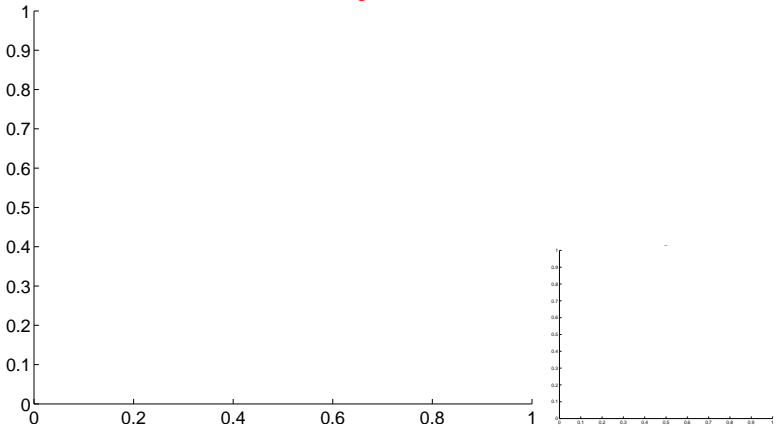


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q13 no difference image



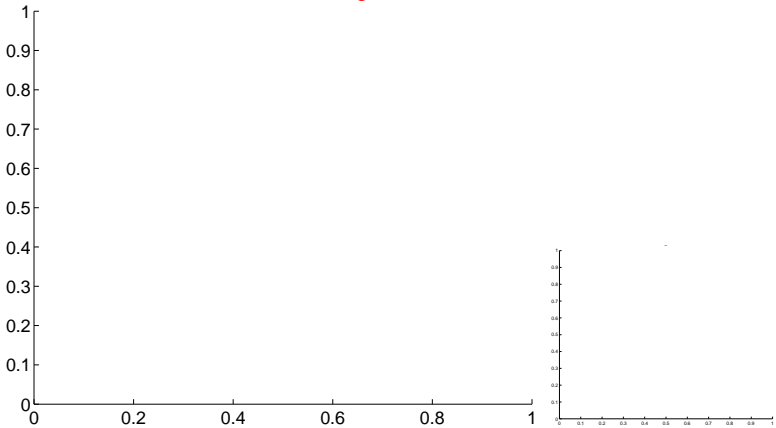
Q13 no OOT image



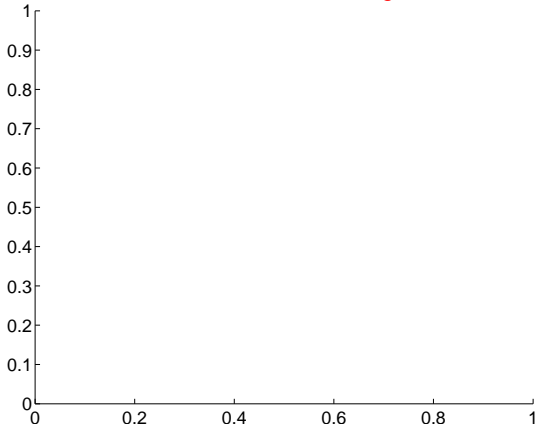
Q14 no difference image



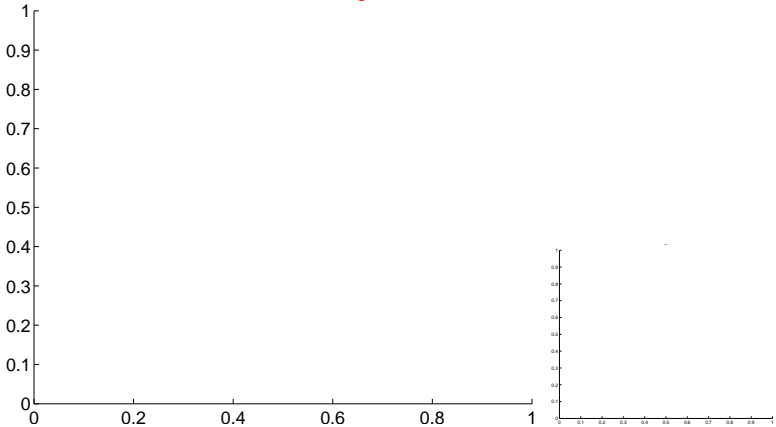
Q14 no OOT image



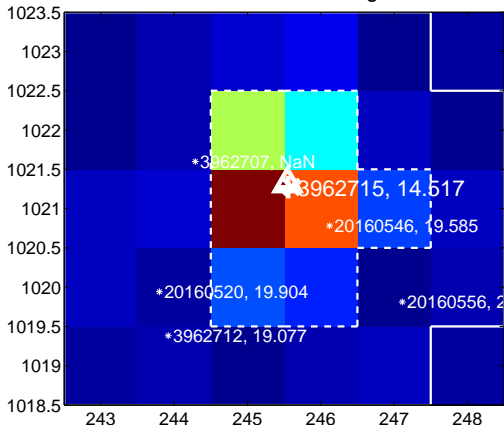
Q15 no difference image



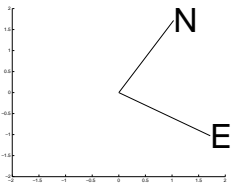
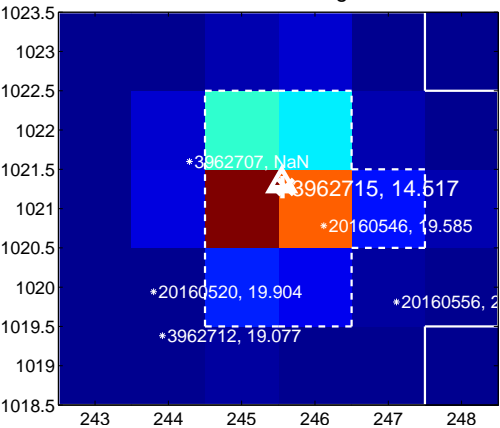
Q15 no OOT image



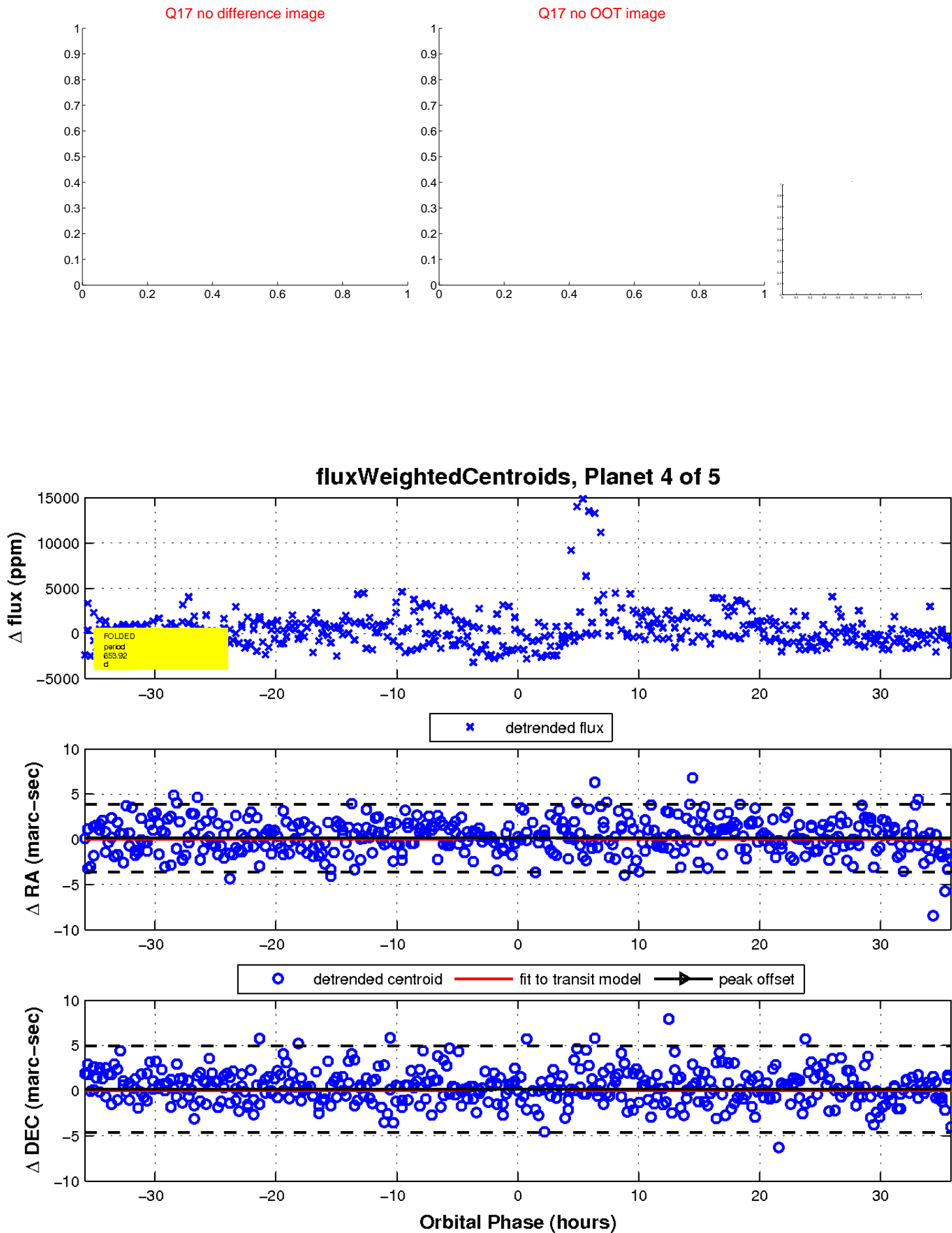
Q16 difference image



Q16 OOT image

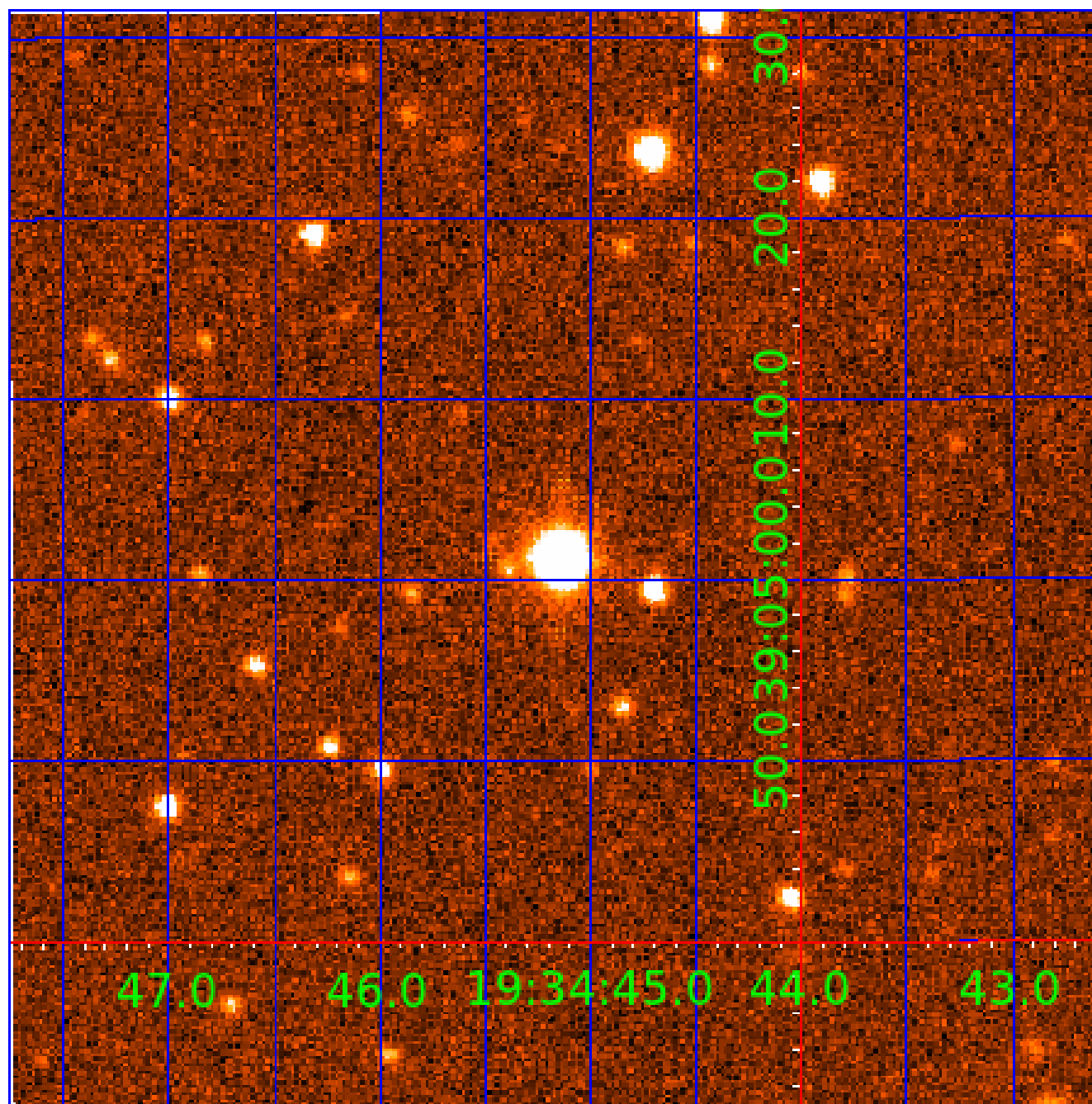


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003962715

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})
003962715-01	OBS	No	648.048597	209.281007	619.2	3.777	15.1	1.5	0.74	4441	1.85	0.11
003962715-02	OBS	No	176.005238	274.802695	1844.5	2.500	13.0	-1.0	0.74	4441	3.01	0.62
003962715-03	OBS	No	4.074527	131.807493	276.5	1.763	9.3	7.8	0.74	4441	1.29	93.32
003962715-04	OBS	No	653.923318	214.850728	2800.6	12.011	12.6	7.9	0.74	4441	4.70	0.11
003962715-05	OBS	No	290.595137	246.670897	19697.2	18.996	12.1	34.4	0.74	4441	19.02	0.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003962715-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003962715-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
003962715-03	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003962715-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003962715-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

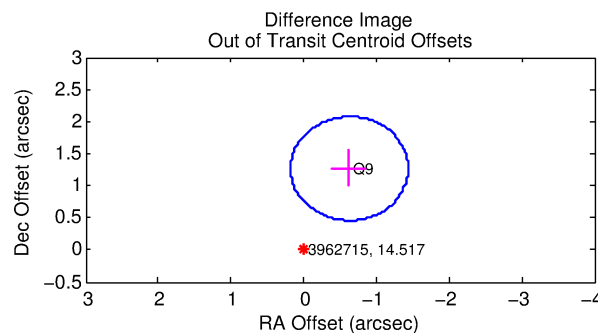
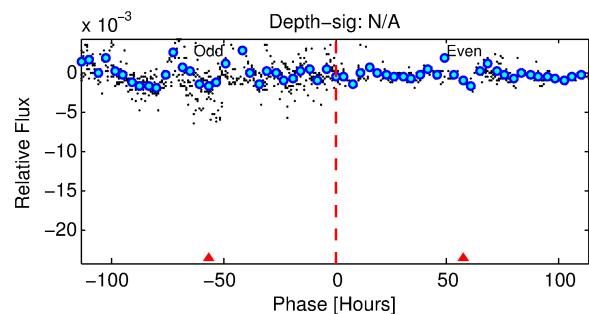
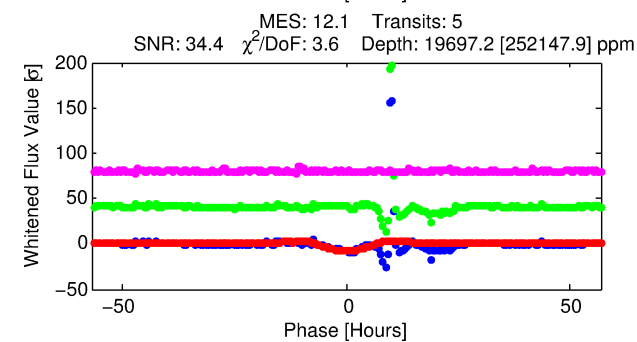
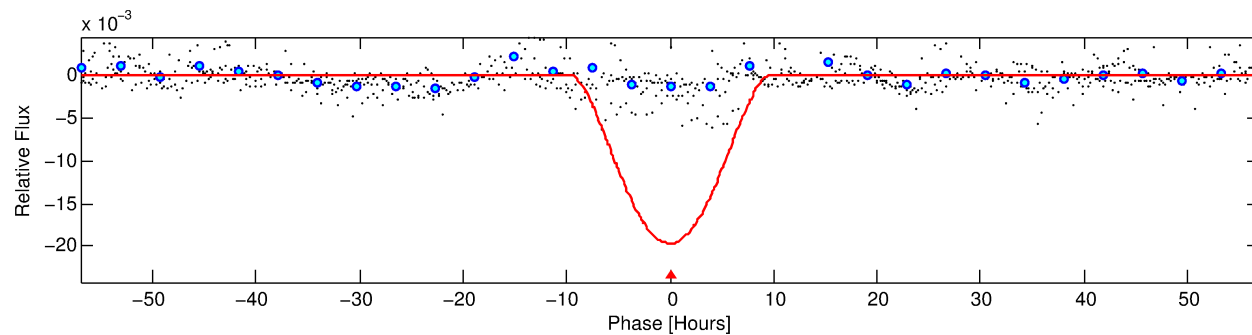
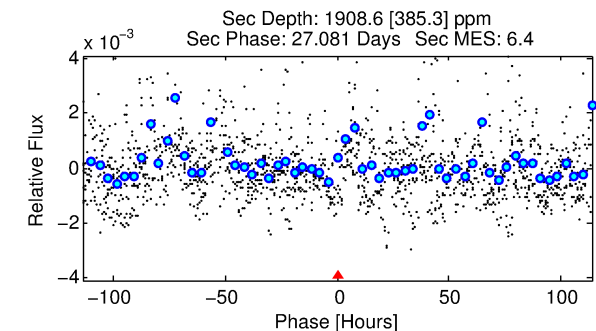
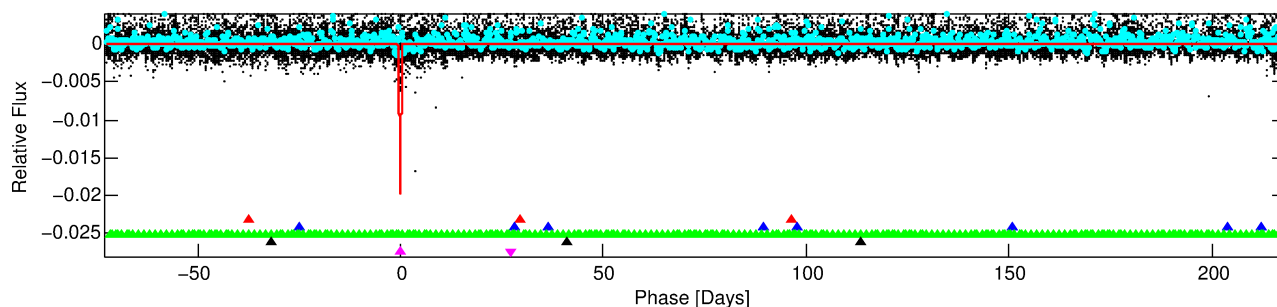
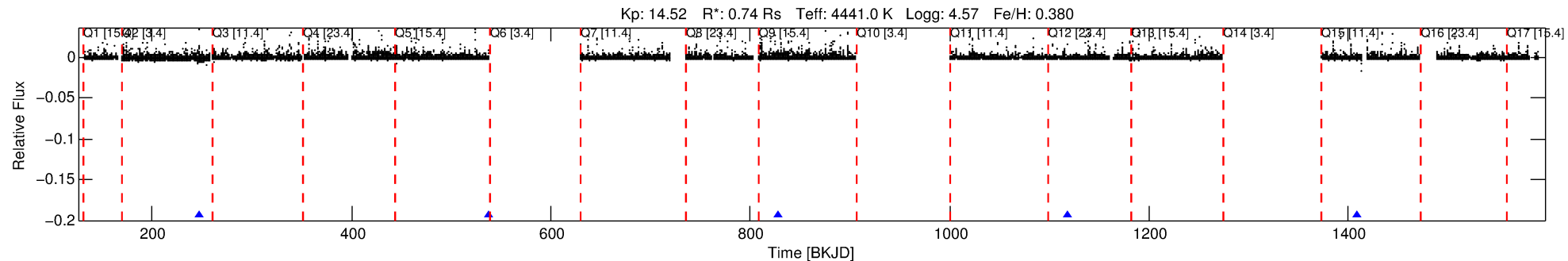
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003962715-05

No Significant Match Found

DV One-Page Summary

KIC: 3962715 Candidate: 5 of 5 Period: 290.595 d



DV Fit Results:

Period = 290.59514 [0.01483] d
Epoch = 246.6709 [0.0324] BKJD
Rp/R* = 0.2368 [1.4721]
a/R* = 85.06 [39.84]
b = 1.00 [3.86]
Seff = 0.32 [0.06]
Teq = 191 [9] K
Rp = 19.02 [118.24] Re
a = 0.7735 [0.0567] AU
Ag = 1737.05 [21601.62] [0.08] σ
Teff = 1908 [5931] K [0.29] σ

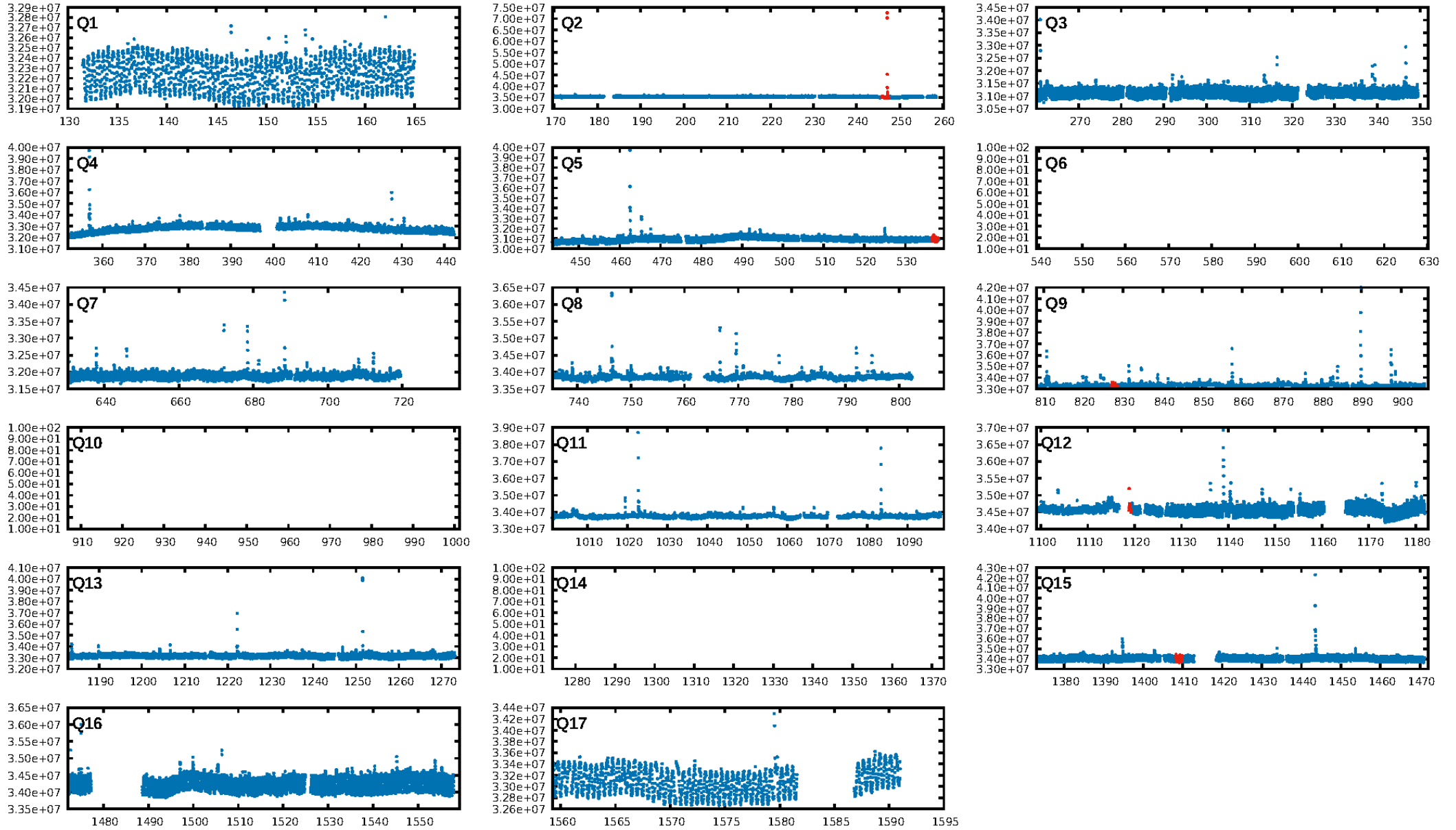
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [143.54] σ
LongPeriod-sig: 100.0% [442.95] σ
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 3.0%
Bootstrap-pfa: 7.58e-11
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 5.902
Centroid-sig: 14.1%
Centroid-so: 0.410 arcsec [11.28] σ
OotOffset-rm: 1.413 arcsec [5.24] σ
KicOffset-rm: 1.429 arcsec [5.45] σ
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 0.00 [0/1]

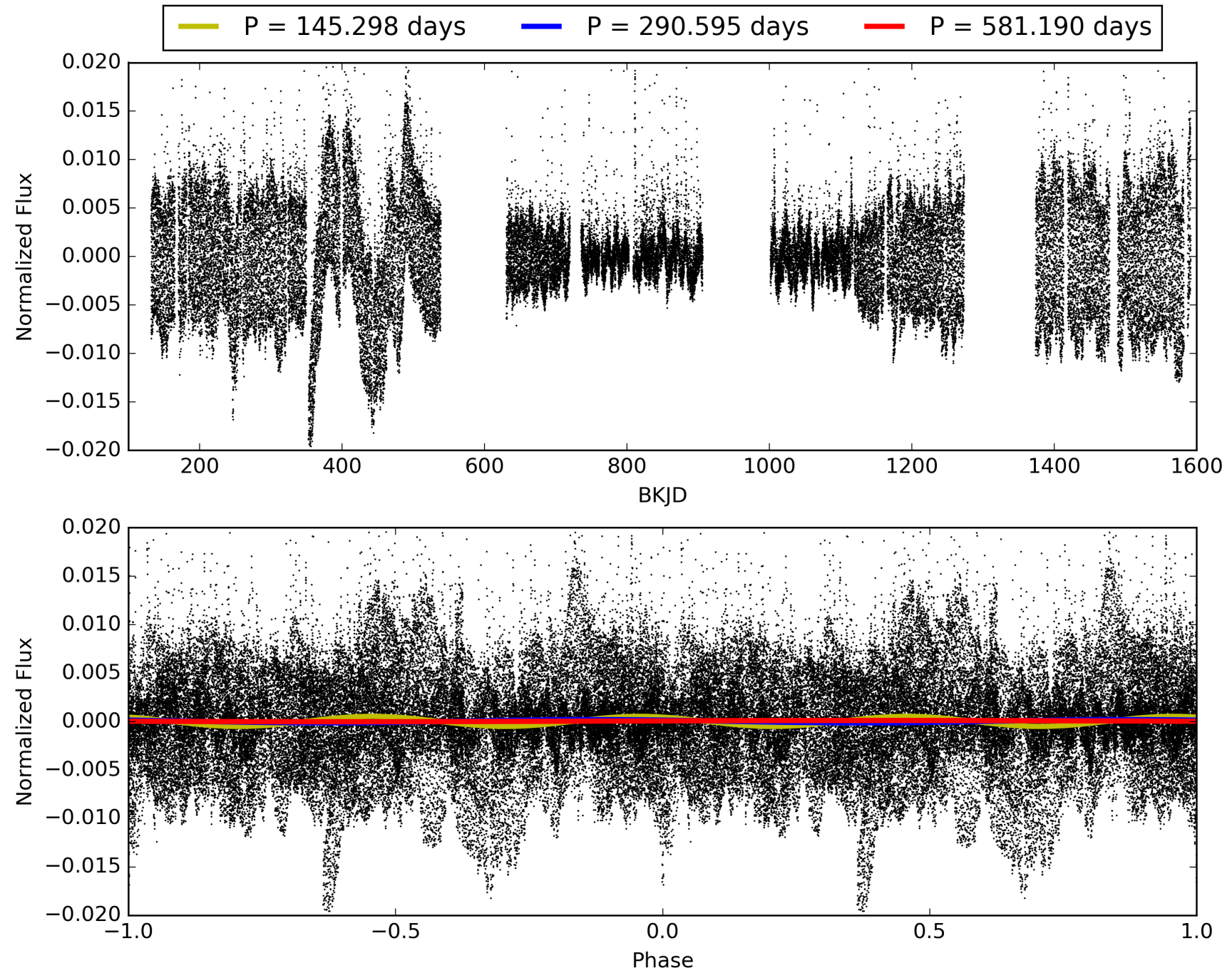
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:16:59 Z

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

TCE 003962715-05, PDC Light Curves

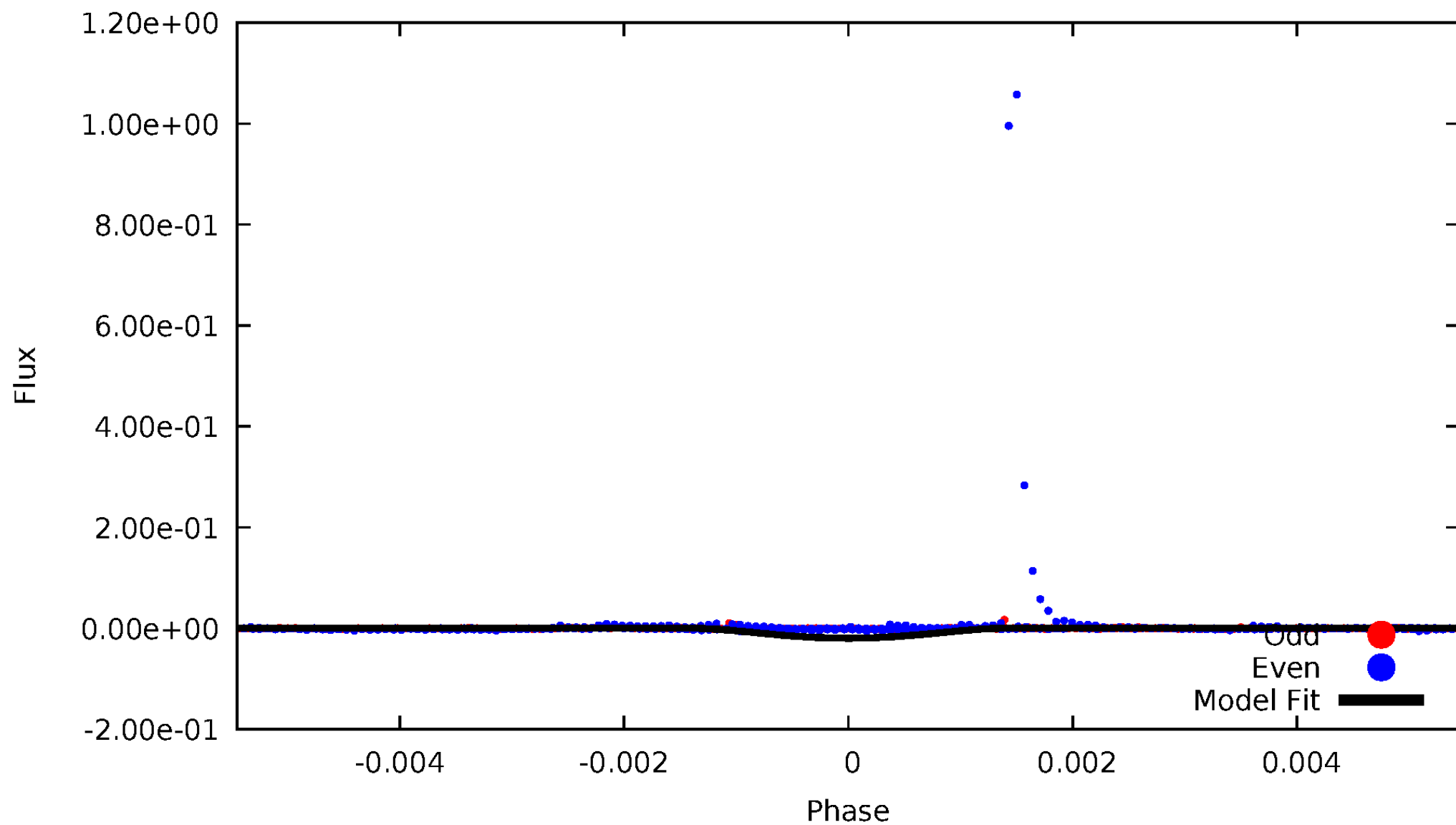


TCE 003962715-05



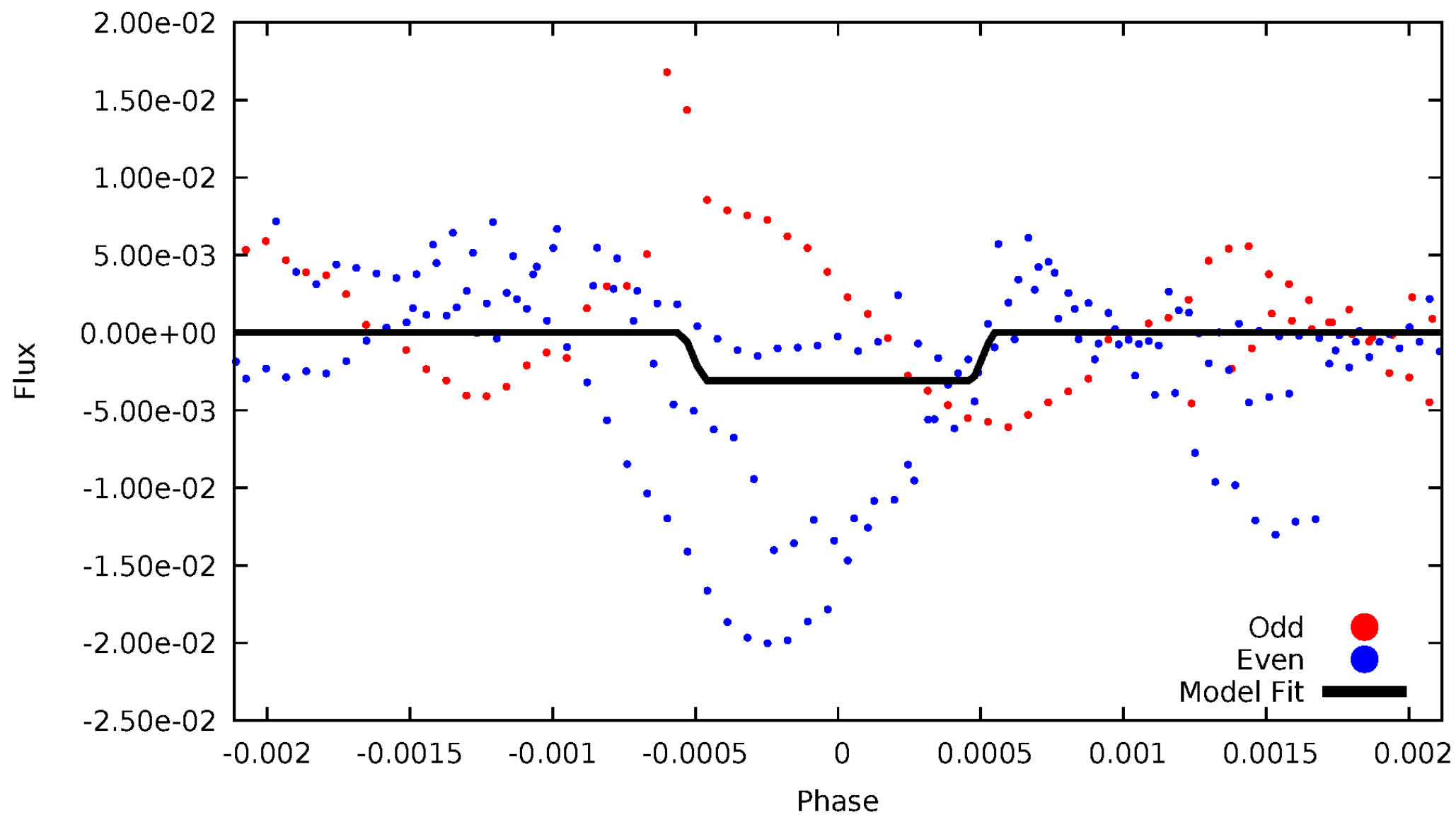
DV Odd/Even

TCE 003962715-05



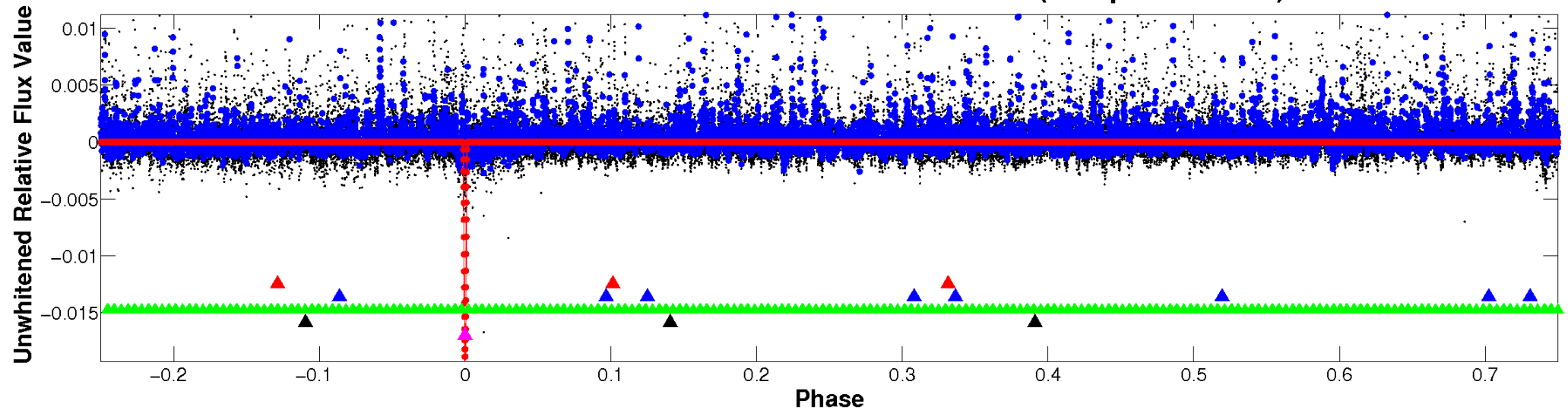
ALT Odd/Even

TCE 003962715-05

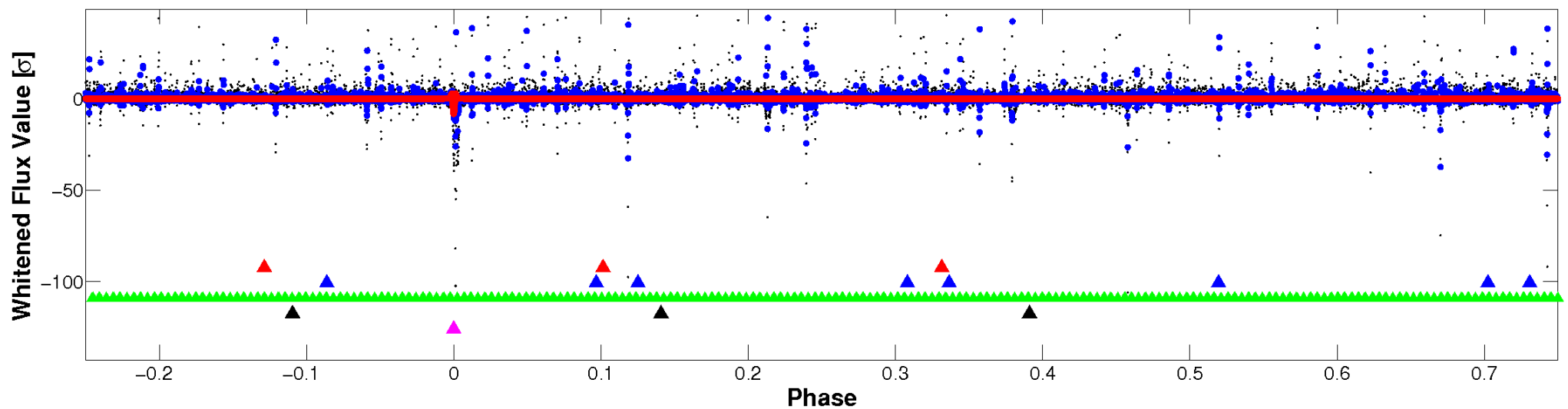


Non-Whitened Vs. Whitened Light Curve

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

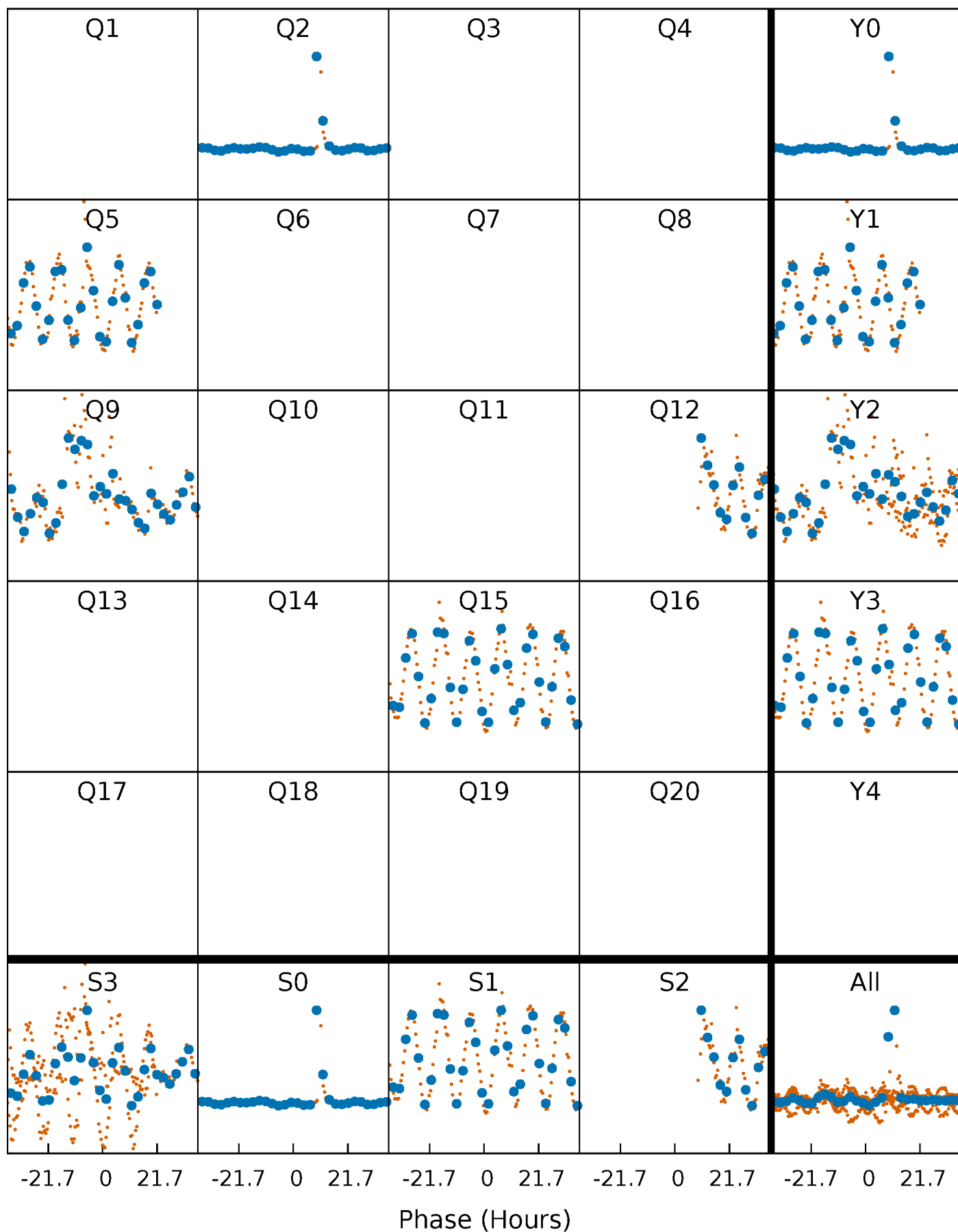


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



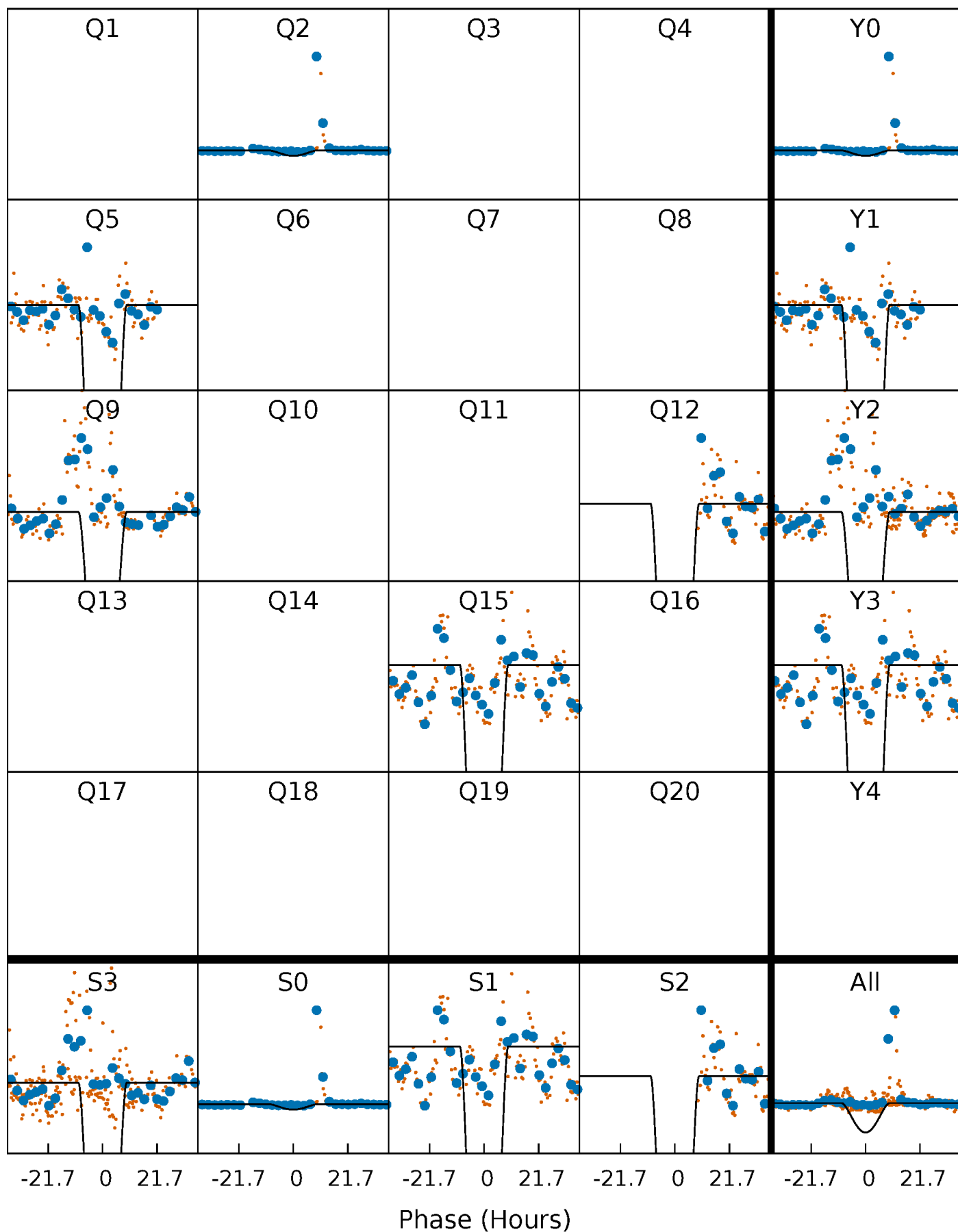
PDC Quarter-Phased Transit Curves

TCE 003962715-05 $P=290.595137$ Days $T_0=246.670897$ (BKJD)



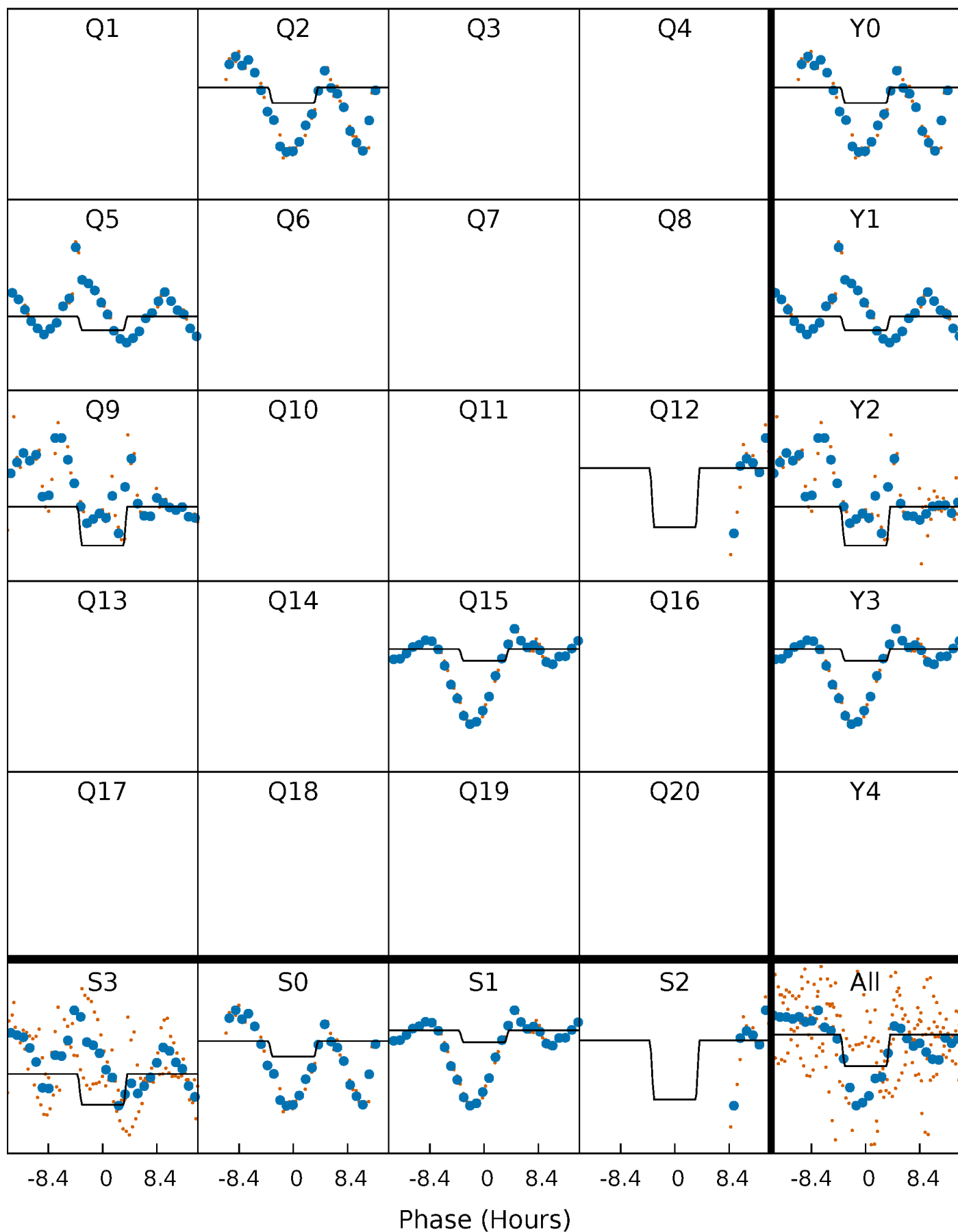
DV Quarter-Phased Transit Curves

TCE 003962715-05 $P=290.595137$ Days $T_0=246.670897$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

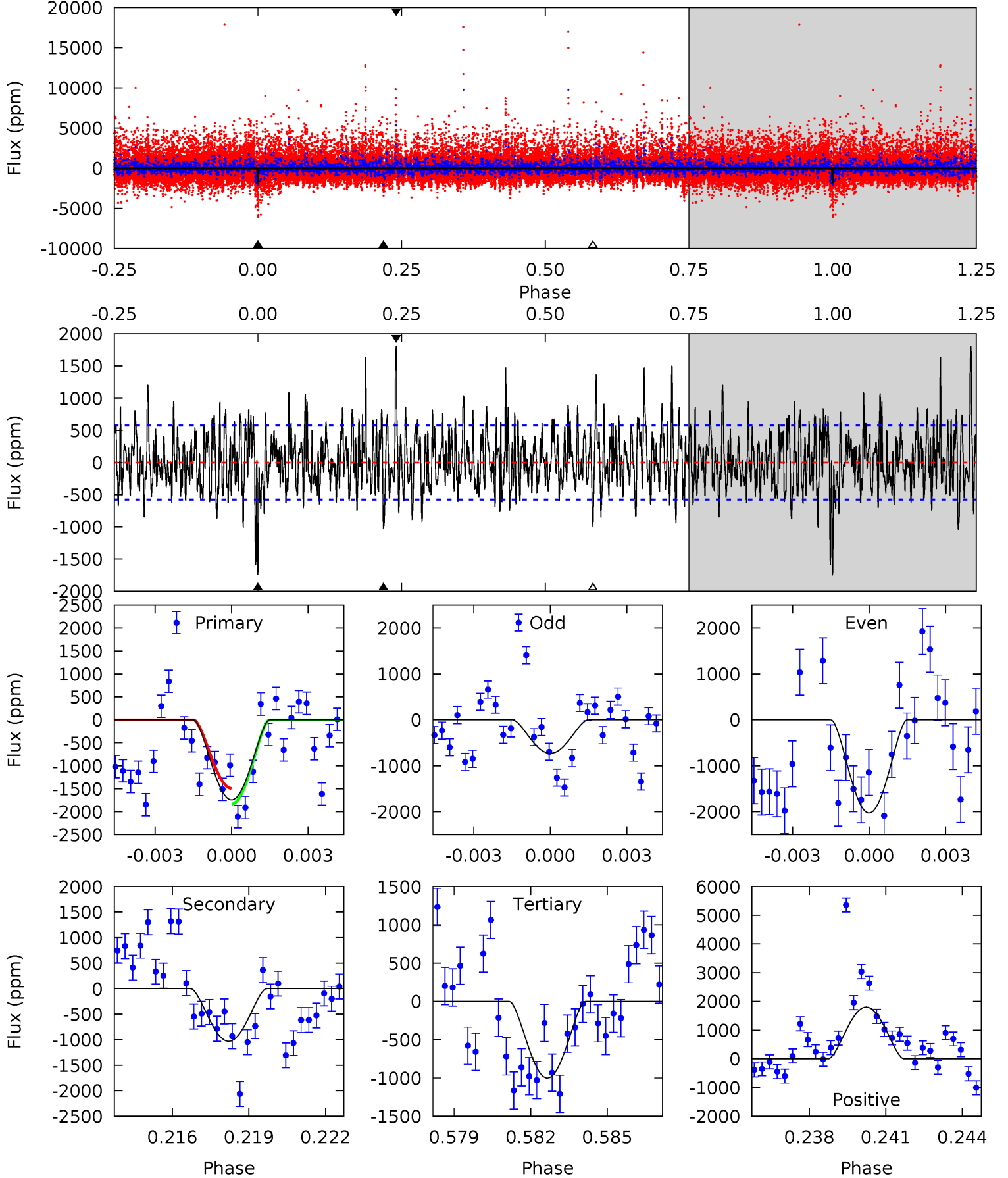
TCE 003962715-05 $P=290.674202$ Days $T_0=246.457342$ (BKJD)



DV Model-Shift Uniqueness Test

003962715-05, P = 290.595137 Days, E = 246.670897 Days

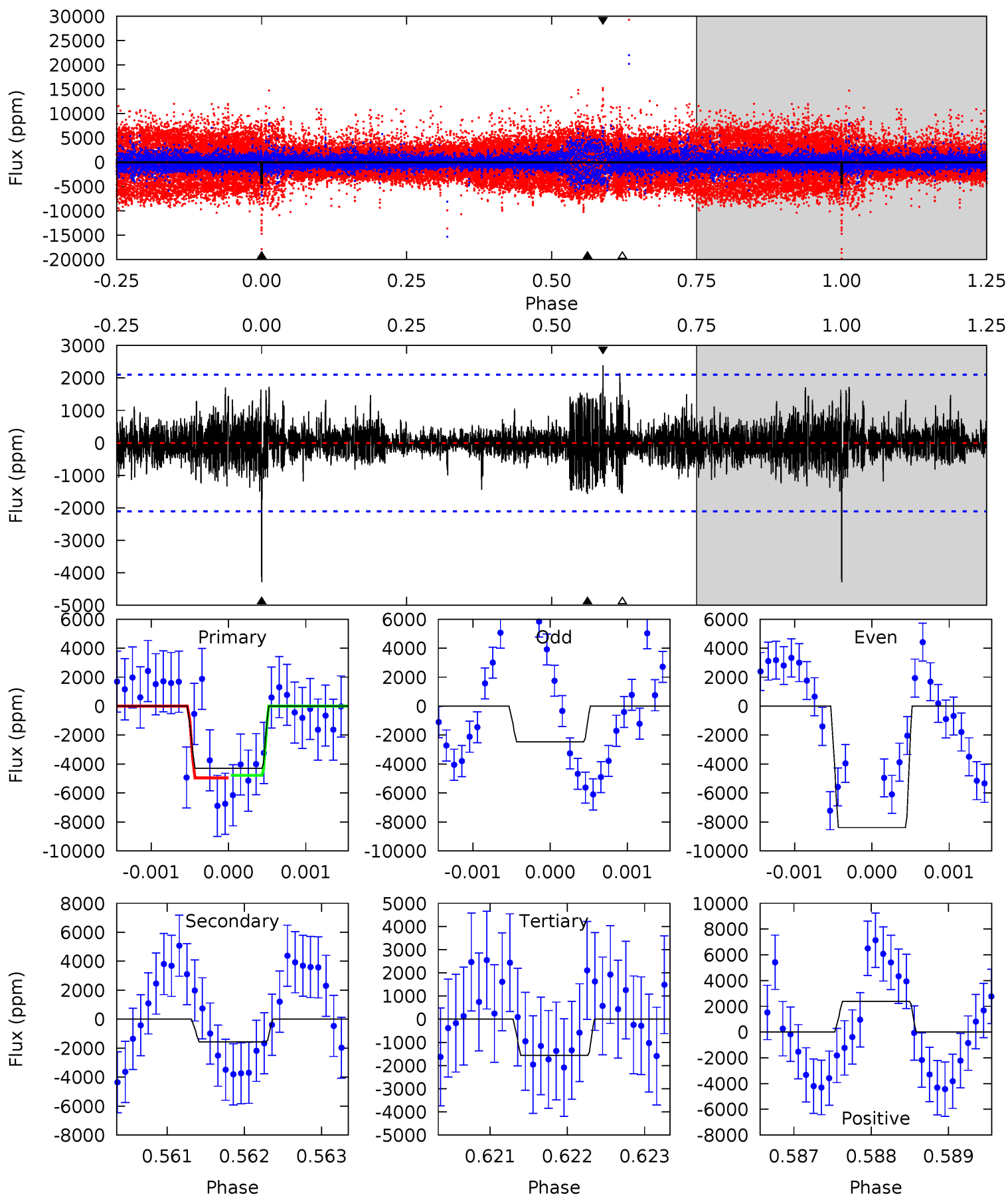
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.9	9.42	9.15	16.5	5.27	2.99	3.62	6.77	-0.58	0.27	-7.08	3.70	15.6	0.51	1.56



Alt Model-Shift Uniqueness Test

003962715-05, P = 290.674202 Days, E = 246.457342 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	4.05	4.03	6.16	5.44	3.28	1.14	7.07	4.94	0.02	-2.11	6.51	1.04	0.36	0.24



Stellar Parameters For KIC 003962715

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4441^{+158}_{-176}	$4.568^{+0.060}_{-0.020}$	$0.380^{+0.050}_{-0.300}$	$0.736^{+0.029}_{-0.063}$	$0.731^{+0.041}_{-0.050}$	$2.581^{+0.656}_{-0.201}$
	+4%/-4%	+1%/-0%	+13%/-79%	+4%/-9%	+6%/-7%	+25%/-8%
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 003962715-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1030 ± 109	$83.91^{+95.48}_{-58.68}$	266^{+10}_{-11}	1779^{+482}_{-230}	48^{+497}_{-38}
Alt.	-1567 ± 387	$80.13^{+85.92}_{-58.30}$	264^{+10}_{-11}	1873^{+570}_{-252}	87^{+1019}_{-69}

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

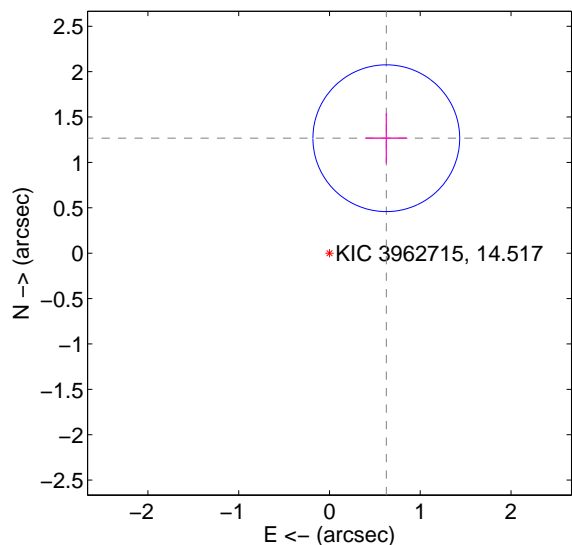
Supplemental centroid analysis for 003962715-05. Kepler magnitude: 14.52. Transit SNR 34.42

There are 0 quarters with good PRF difference image offsets

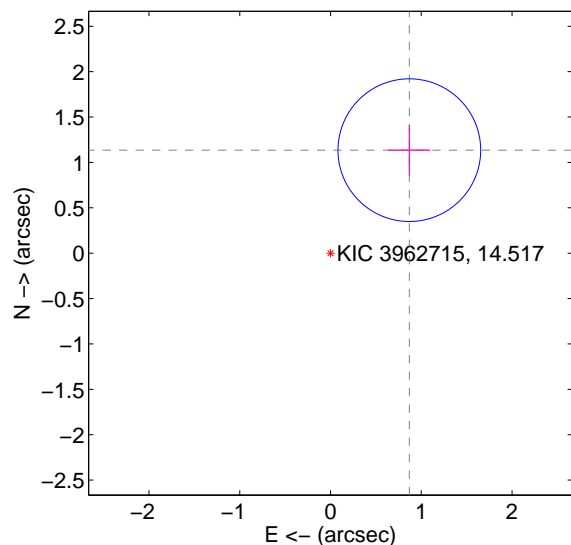
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.413 ± 0.269	5.24	-0.626 ± 0.233	1.267 ± 0.278
PRF-fit source offset from KIC position	1.429 ± 0.262	5.45	-0.868 ± 0.233	1.135 ± 0.278
photometric centroid source offset	0.41 ± 0.04	11.28	-0.29 ± 0.04	-0.29 ± 0.04

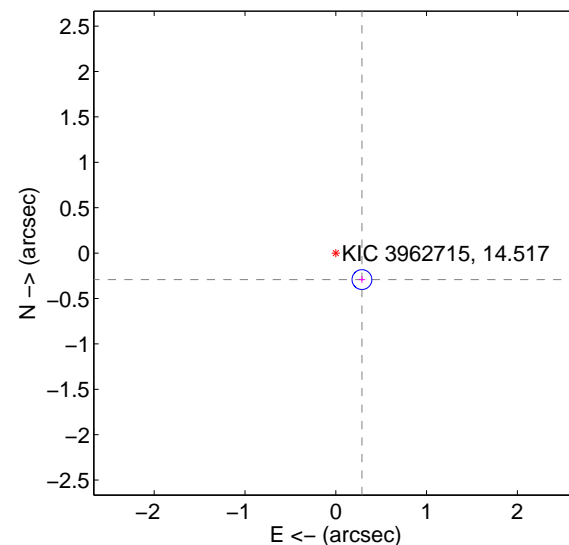
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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.

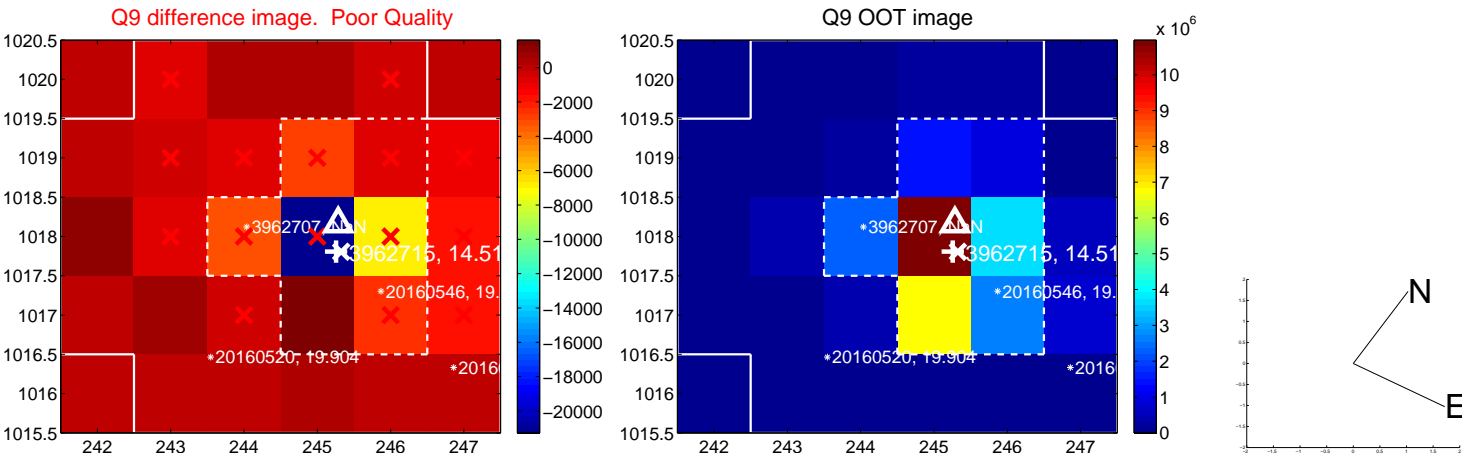
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



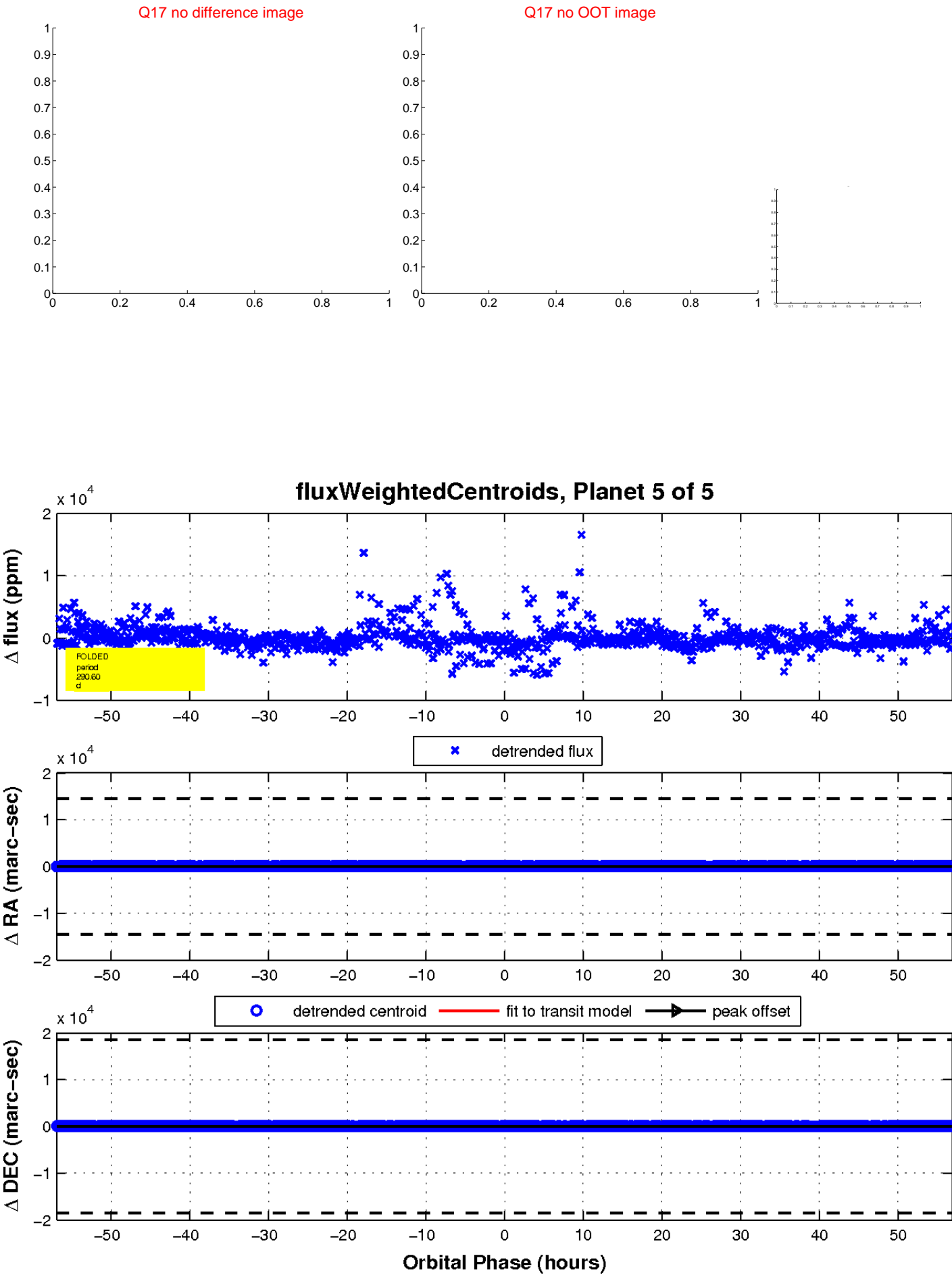
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

