

KIC 008580320

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})
008580320-01	OBS	No	401.735685	389.131885	1593.5	5.230	14.8	4.2	0.63	5168	2.55	0.31
008580320-03	OBS	No	416.960283	408.897310	2177.0	4.458	11.1	6.7	0.63	5168	2.94	0.29
008580320-04	OBS	No	591.197344	272.051353	728.6	1.491	13.5	2.3	0.63	5168	1.83	0.18
008580320-05	OBS	No	609.645185	281.652004	2459.4	2.773	10.9	7.4	0.63	5168	3.21	0.18
008580320-06	OBS	No	410.878024	296.992179	1271.5	6.000	10.8	-1.0	0.63	5168	2.22	0.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008580320-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008580320-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
008580320-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
008580320-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
008580320-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

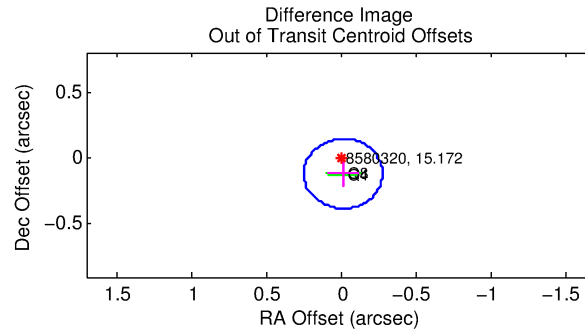
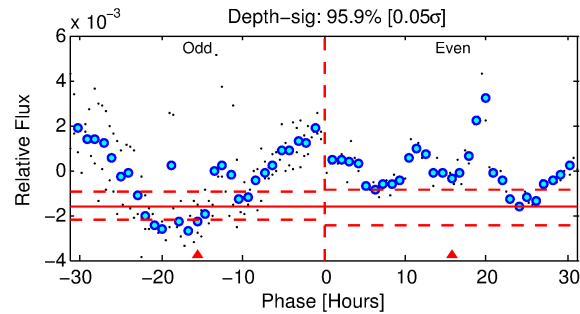
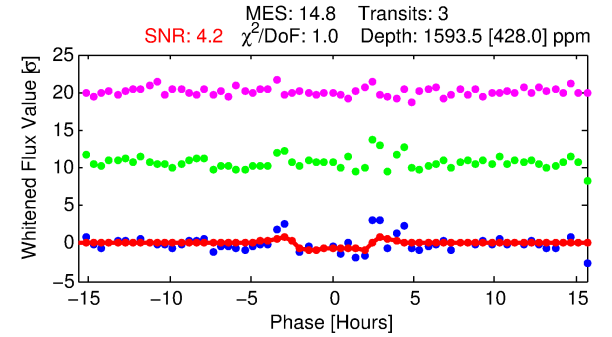
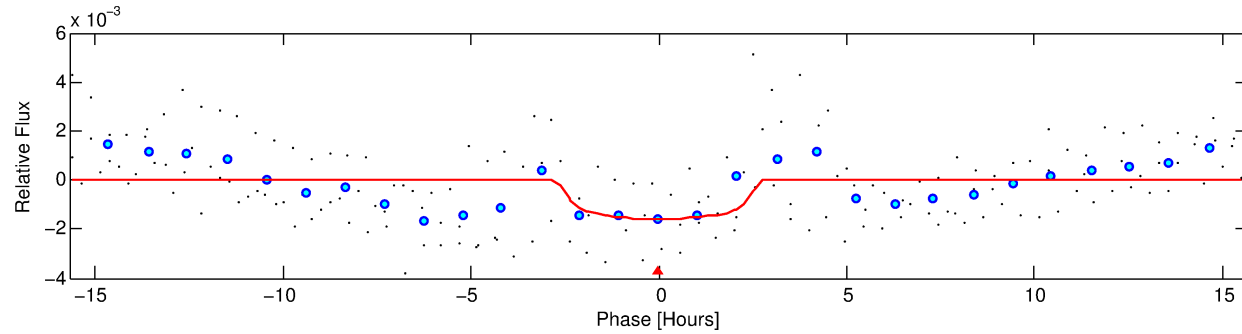
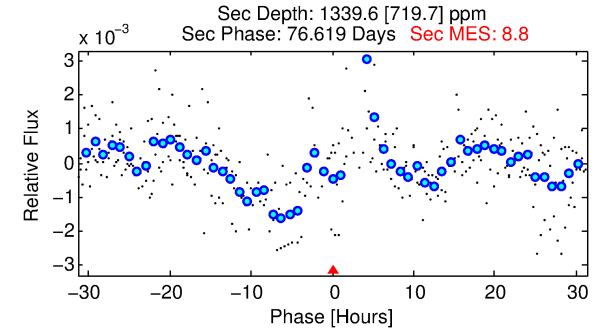
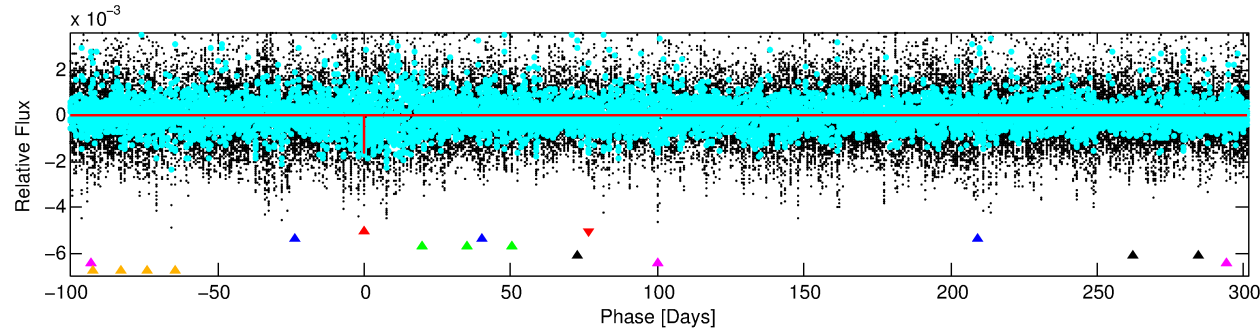
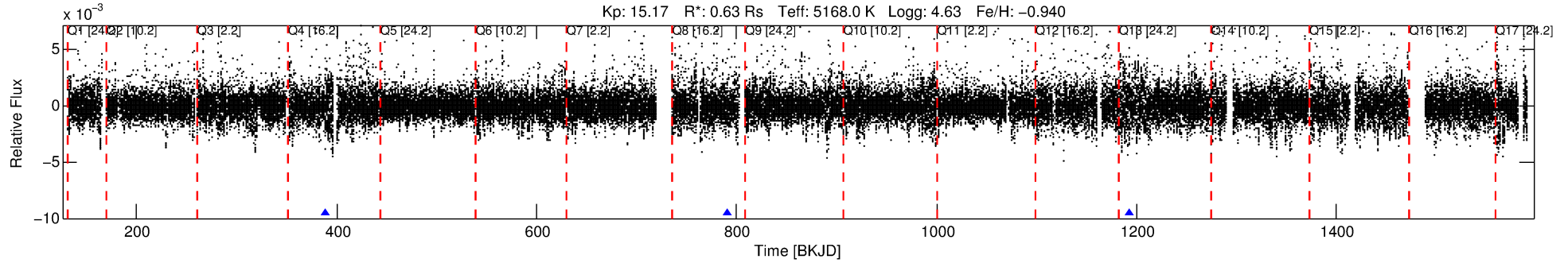
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008580320-01

No Significant Match Found

DV One-Page Summary

KIC: 8580320 Candidate: 1 of 6 Period: 401.736 d



DV Fit Results:

Period = 401.73568 [0.00934] d
Epoch = 389.1319 [0.0150] BKJD
Rp/R* = 0.0371 [0.0586]
a/R* = 546.57 [3588.63]
b = 0.46 [11.48]
Seff = 0.31 [0.05]
Teq = 190 [8] K
Rp = 2.55 [4.03] Re
a = 0.9090 [0.0694] AU
Ag = 93756.40 [300817.05] [0.31σ]
Teffp = 5135 [4120] K [1.20σ]

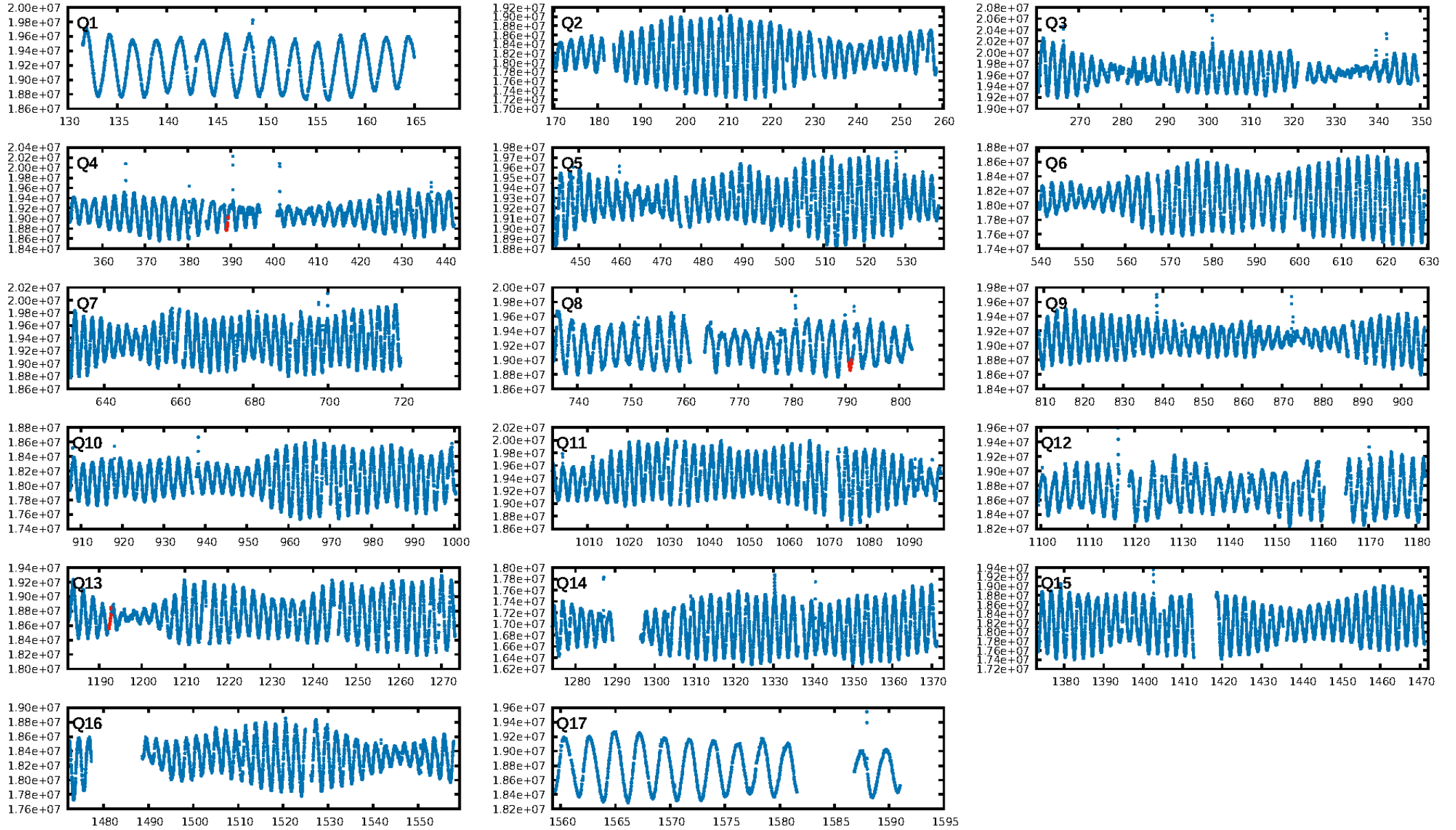
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [27.57σ]
ModelChiSquare2-sig: 12.4%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.1697
Centroid-sig: 79.0%
Centroid-so: 0.460 arcsec [0.43σ]
OotOffset-rm: 0.120 arcsec [1.36σ]
OotOffset-st: 0/0/2/0 [2]
KicOffset-rm: 0.156 arcsec [1.76σ]
KicOffset-st: 0/0/2/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

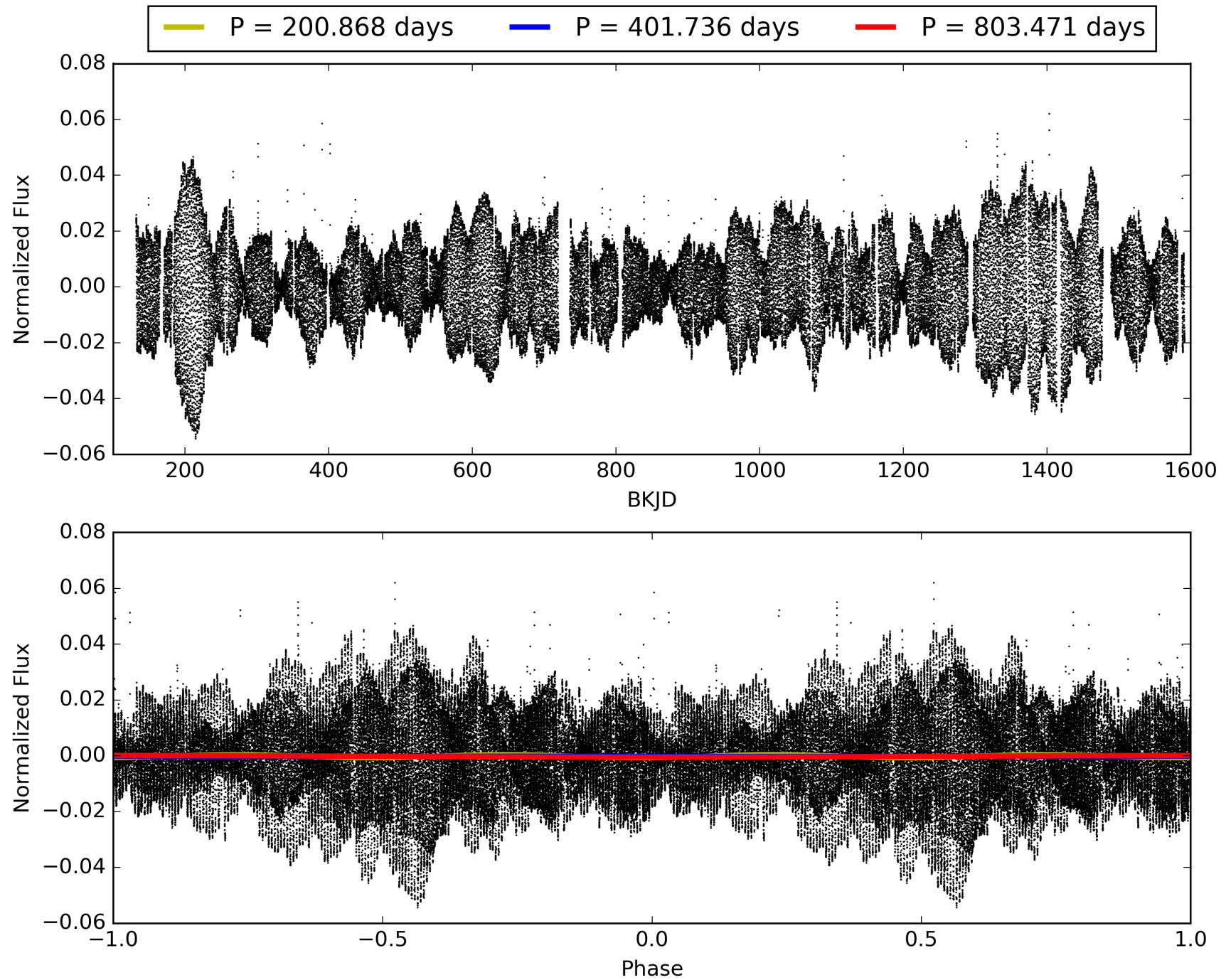
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:21:31 Z

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

TCE 00580320-01, PDC Light Curves

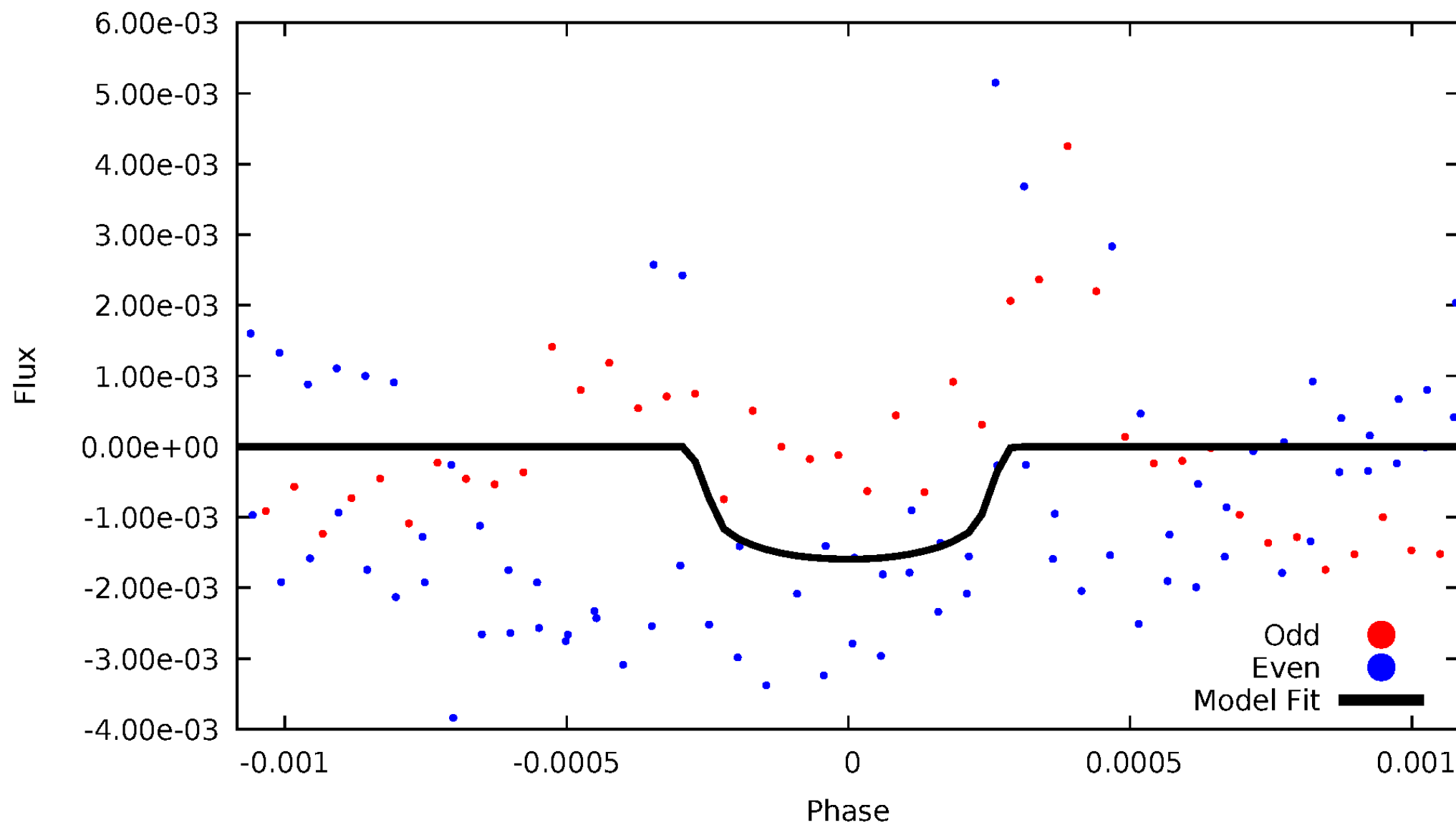


TCE 008580320-01



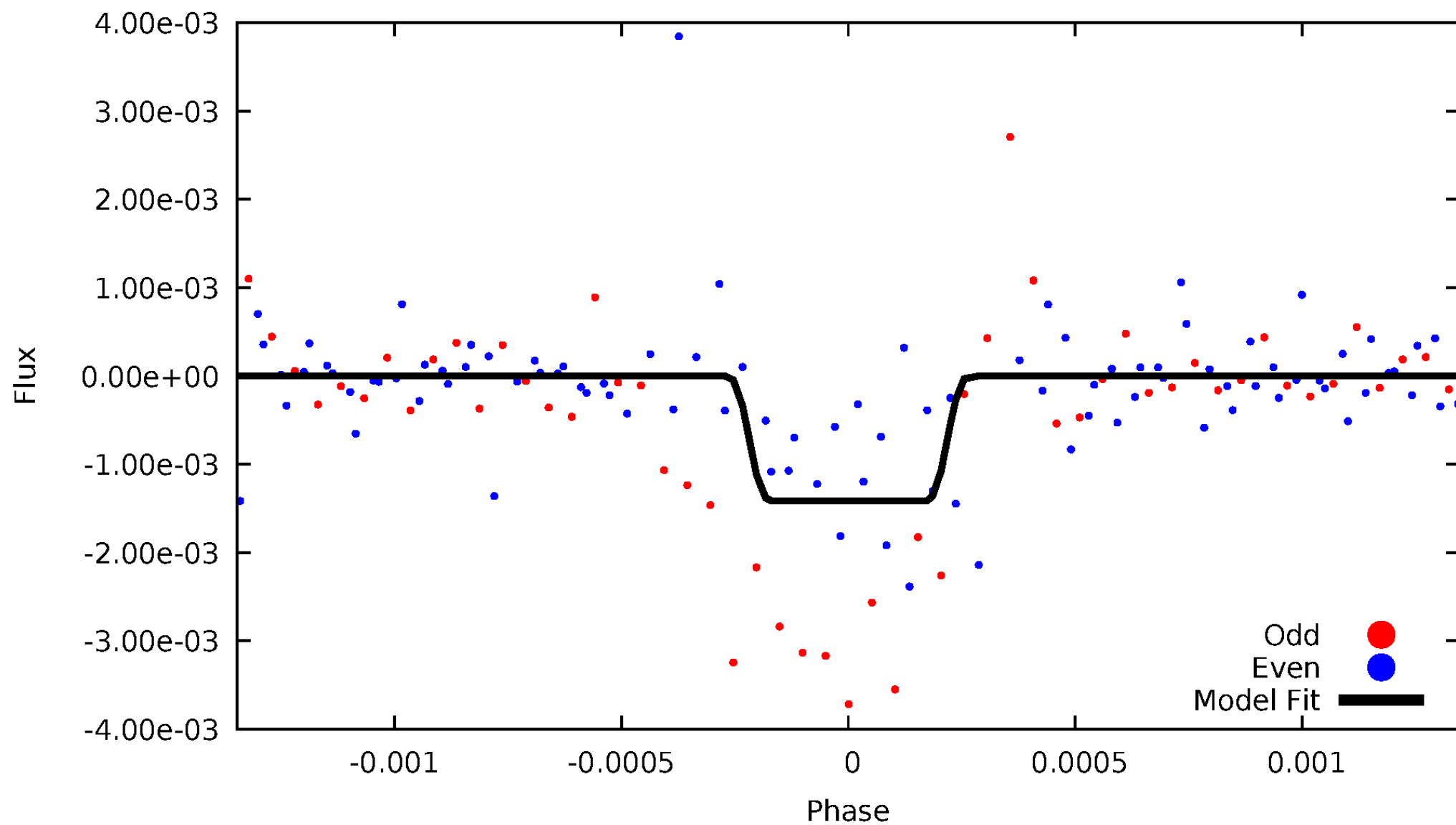
DV Odd/Even

TCE 008580320-01

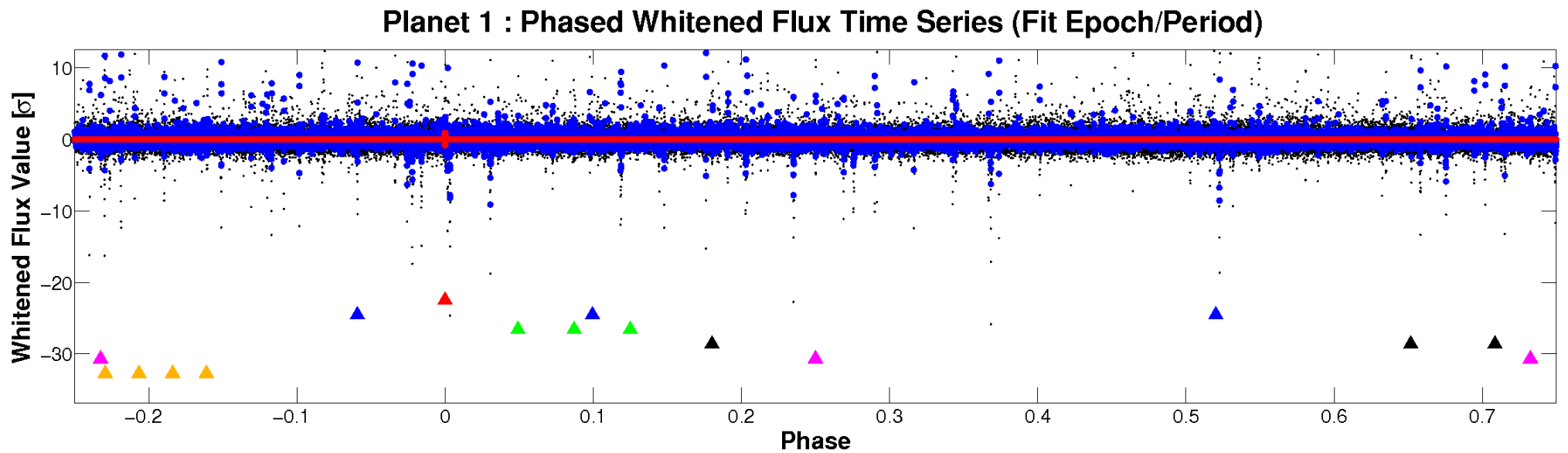
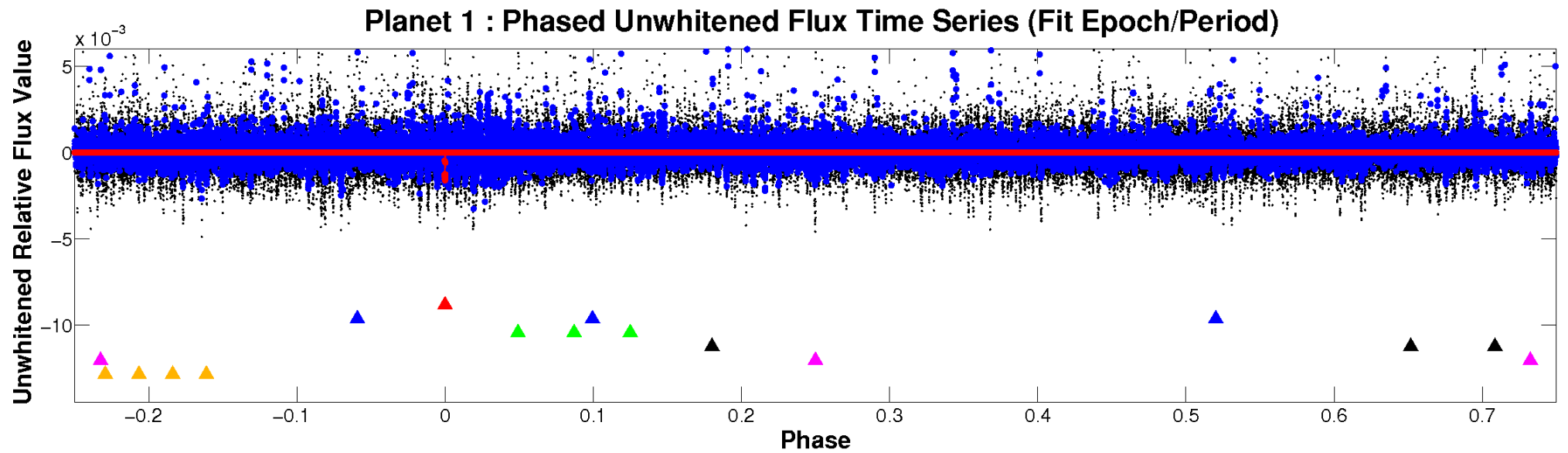


ALT Odd/Even

TCE 008580320-01

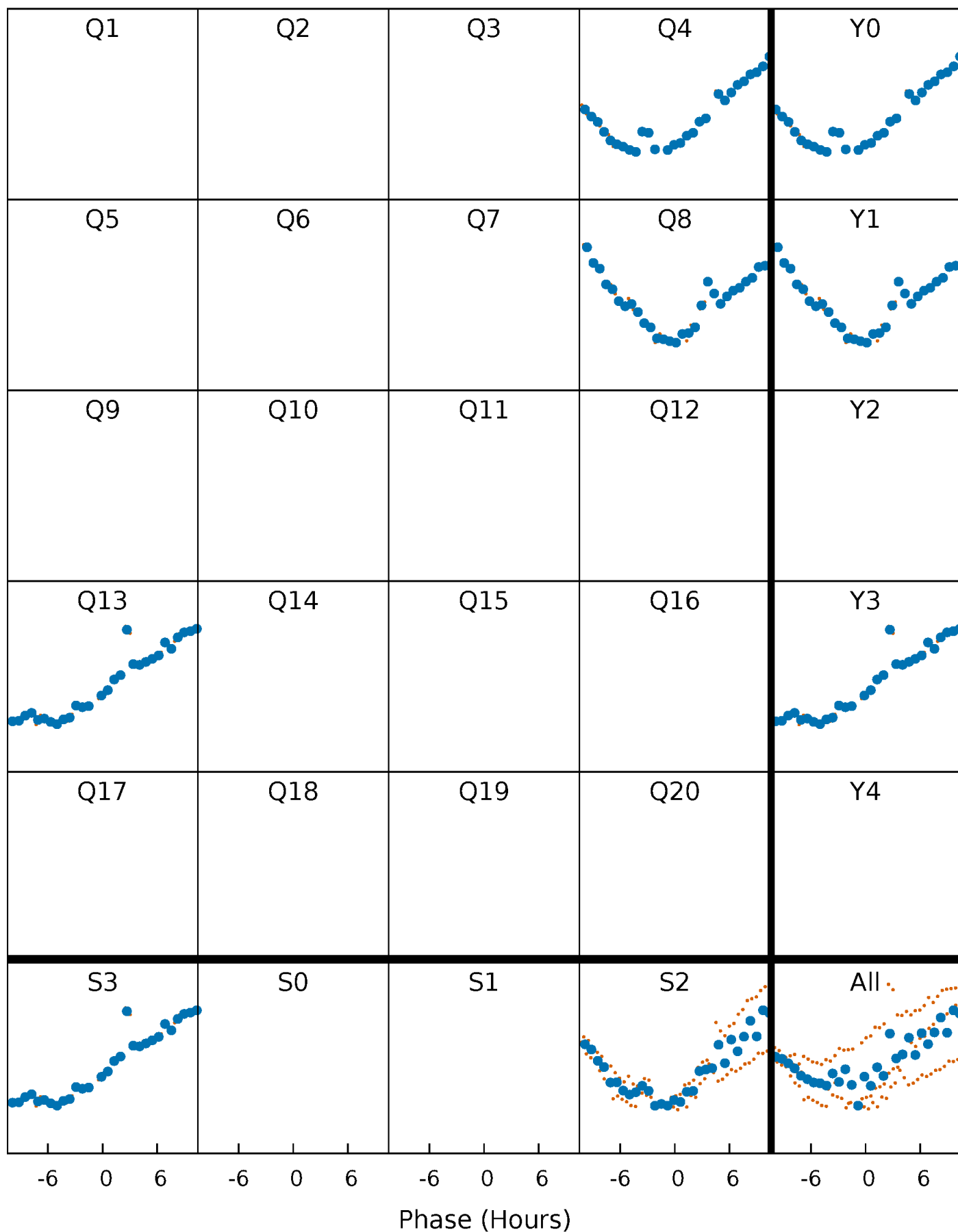


Non-Whitened Vs. Whitened Light Curve



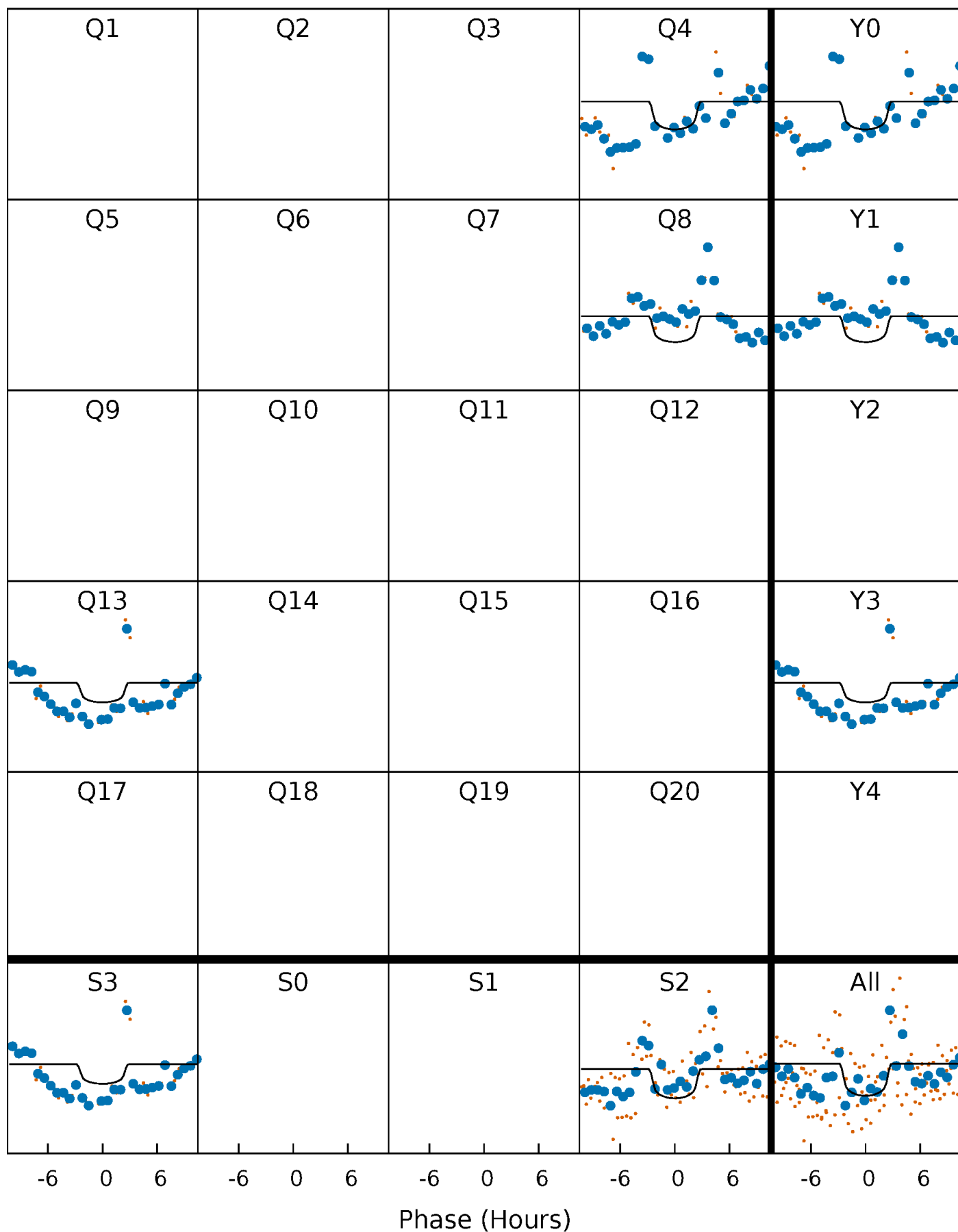
PDC Quarter-Phased Transit Curves

TCE 008580320-01 P=401.735685 Days $T_0=389.131885$ (BKJD)



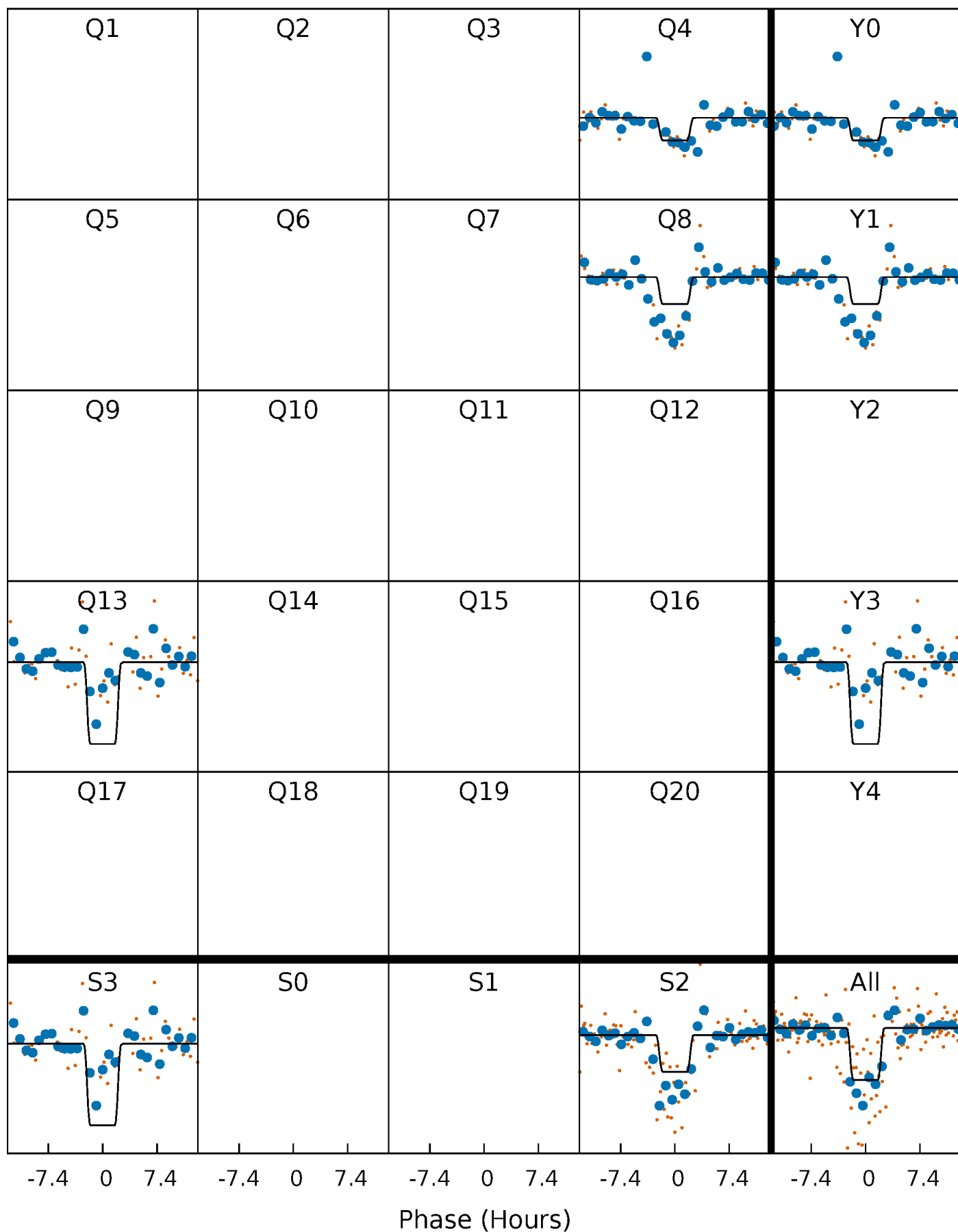
DV Quarter-Phased Transit Curves

TCE 008580320-01 P=401.735685 Days $T_0=389.131885$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

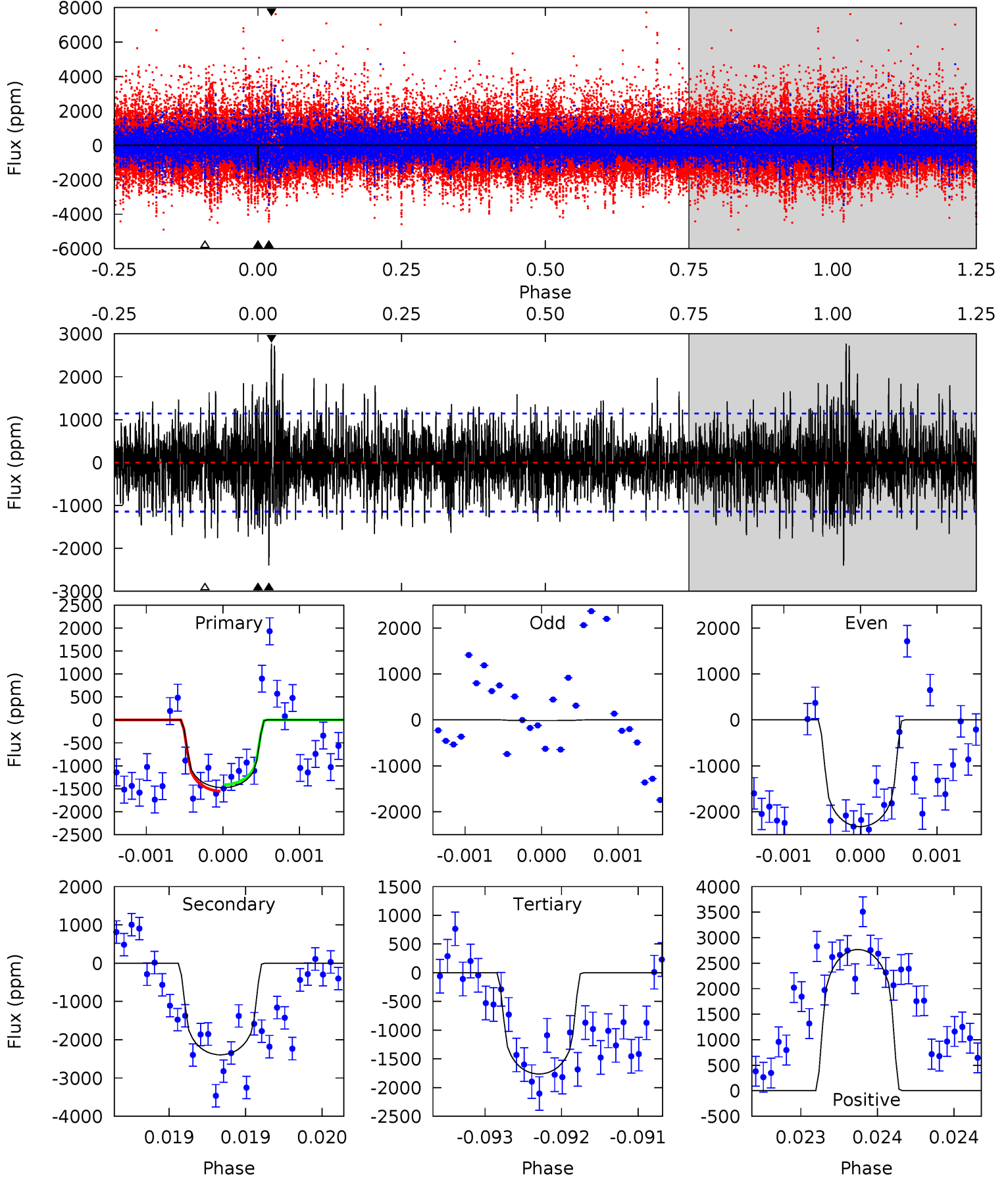
TCE 008580320-01 P=401.716978 Days $T_0=389.163634$ (BKJD)



DV Model-Shift Uniqueness Test

008580320-01, P = 401.735685 Days, E = 389.131885 Days

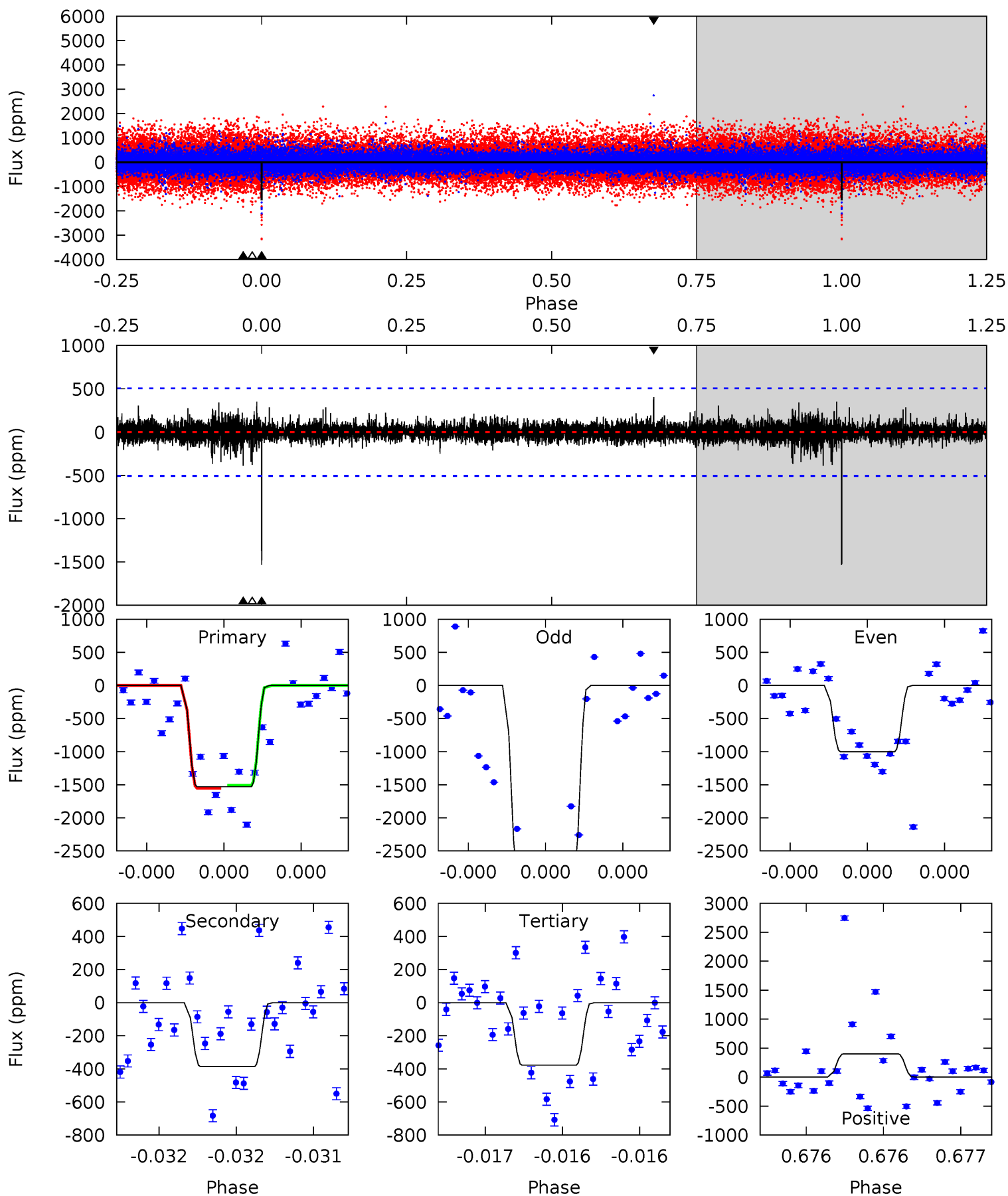
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.19	11.7	8.59	13.5	5.56	3.46	2.58	-1.40	-6.30	3.08	-1.82	4.87	0.91	0.54	0.34



Alt Model-Shift Uniqueness Test

008580320-01, P = 401.716978 Days, E = 389.163634 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.9	4.26	4.17	4.45	5.58	3.49	0.67	12.7	12.5	0.10	-0.18	10.9	1.10	0.21	0.22



Stellar Parameters For KIC 008580320

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5168^{+170}_{-154}	$4.632^{+0.066}_{-0.044}$	$-0.940^{+0.300}_{-0.300}$	$0.630^{+0.054}_{-0.049}$	$0.621^{+0.059}_{-0.023}$	$3.491^{+0.903}_{-0.600}$
	+3%/-3%	+1%/-1%	+32%/-32%	+9%/-8%	+10%/-4%	+26%/-17%
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 008580320-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2394 ± 205	$4.03^{+3.47}_{-2.73}$	265^{+10}_{-10}	4847^{+3608}_{-1053}	$67646^{+590634}_{-47739}$
Alt.	-386 ± 91	$3.79^{+3.48}_{-2.39}$	264^{+10}_{-9}	3494^{+1560}_{-623}	11896^{+77626}_{-8765}

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

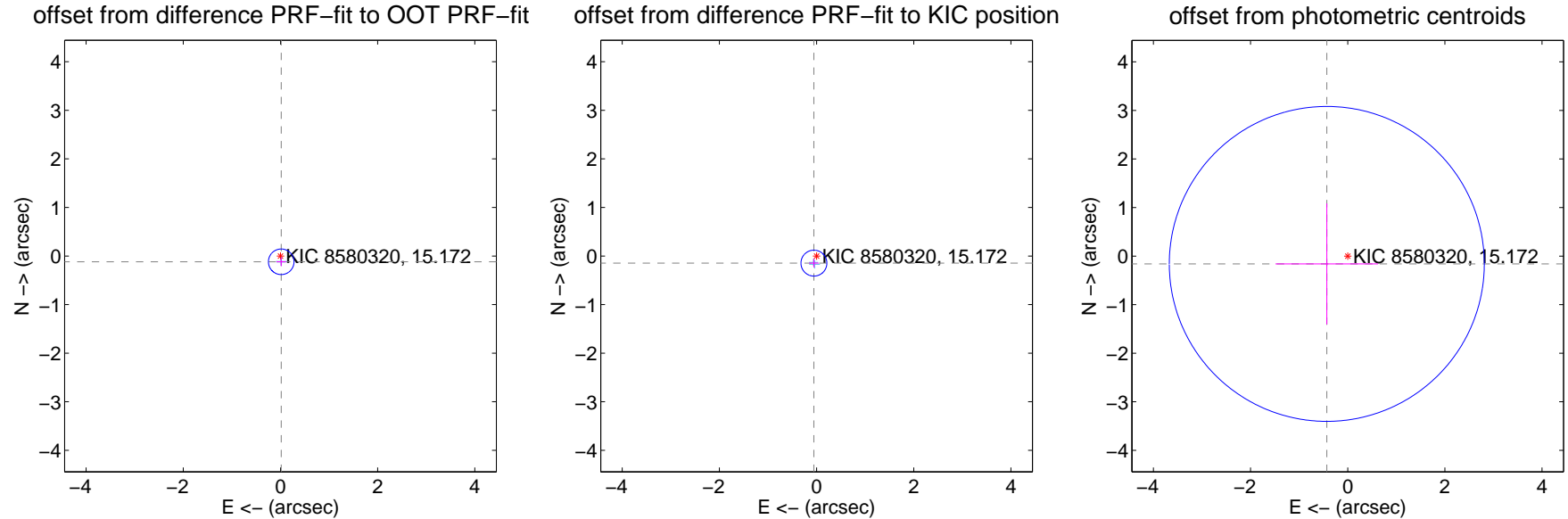
DV Centroid Data

Supplemental centroid analysis for 008580320-01. Kepler magnitude: 15.17. Transit SNR 4.21

There are 2 quarters with good PRF difference image offsets

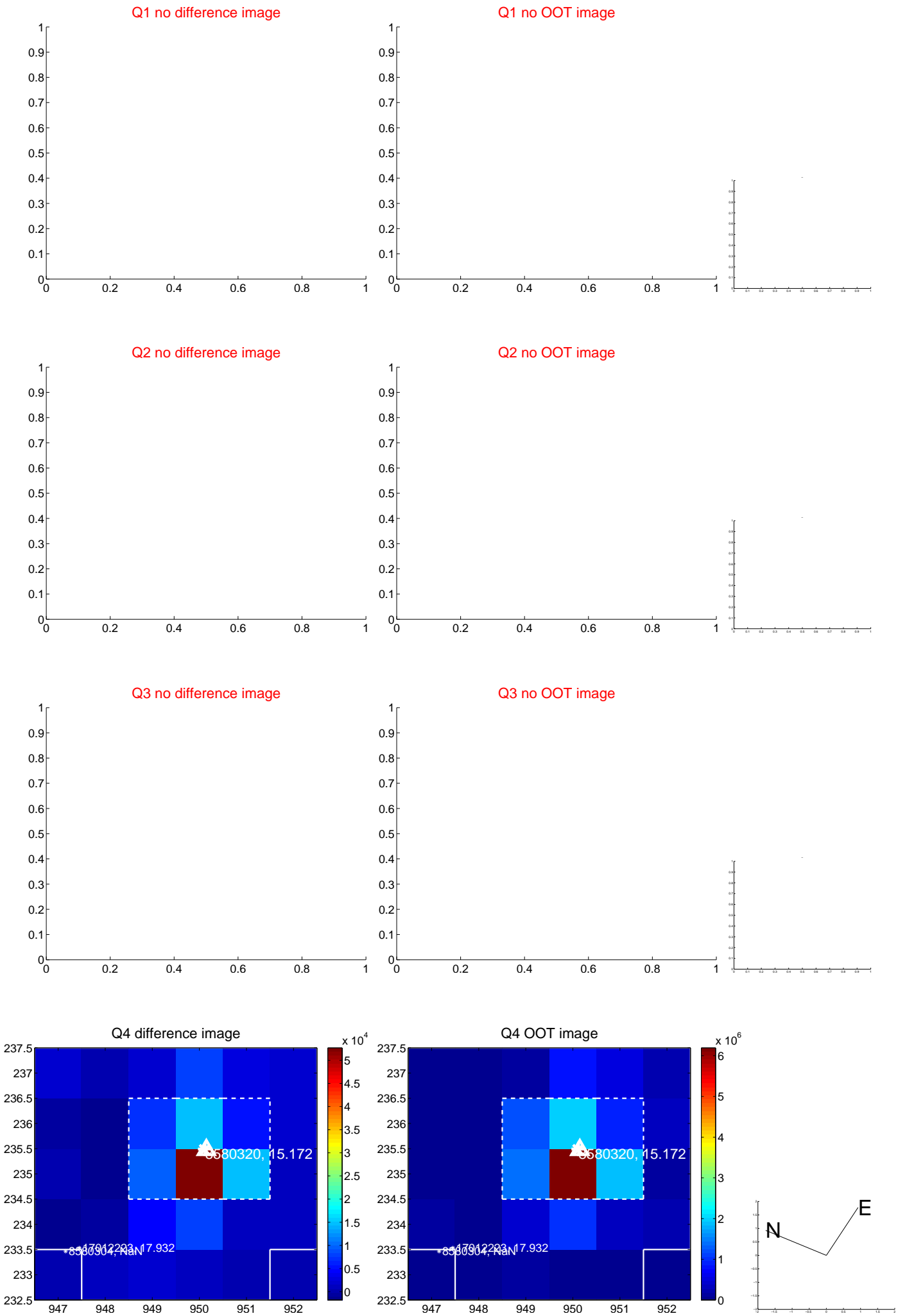
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.120 ± 0.088	1.36	-0.016 ± 0.098	-0.119 ± 0.088
PRF-fit source offset from KIC position	0.156 ± 0.089	1.76	0.055 ± 0.098	-0.146 ± 0.088
photometric centroid source offset	0.46 ± 1.08	0.43	0.43 ± 1.06	-0.16 ± 1.25

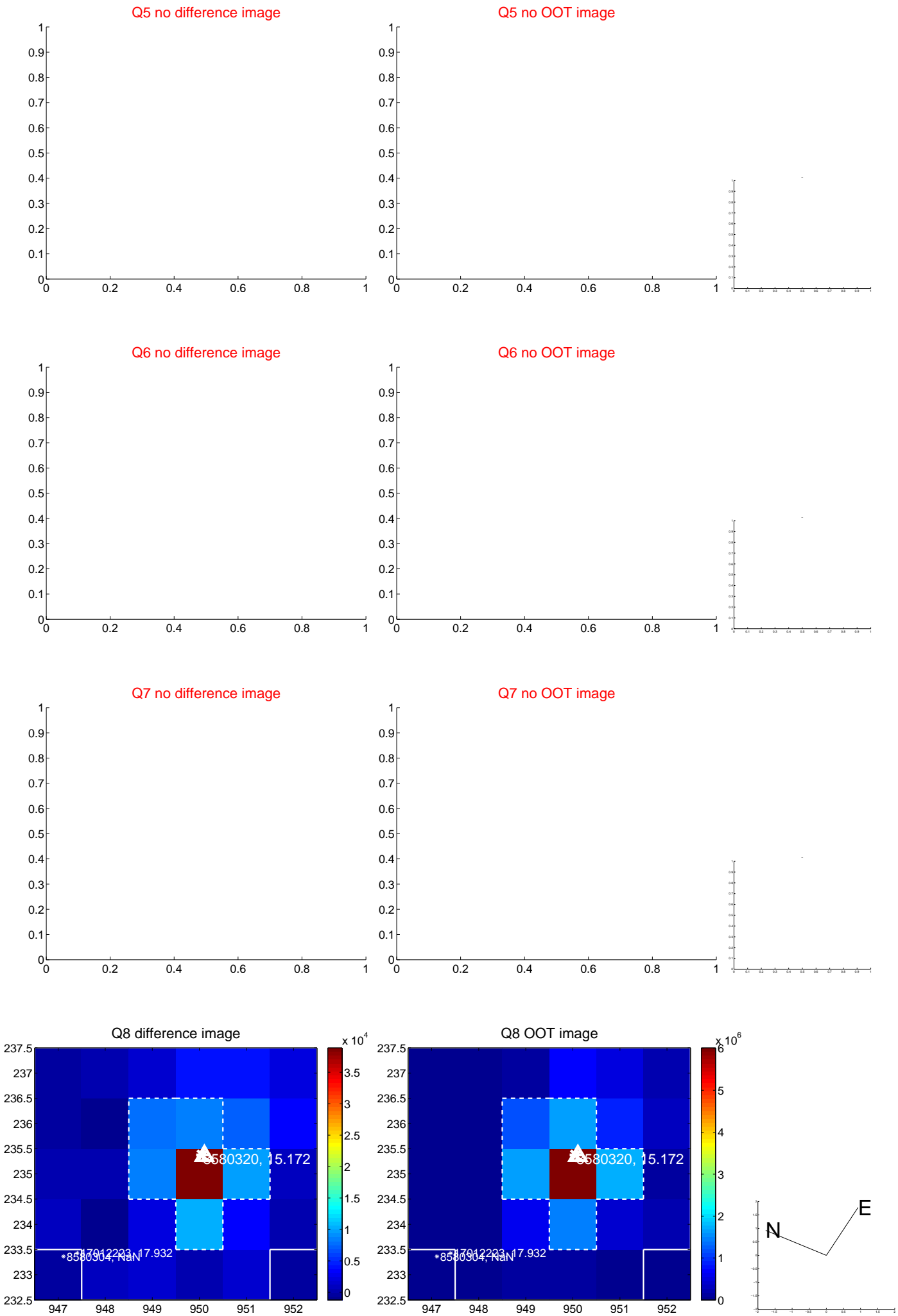


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



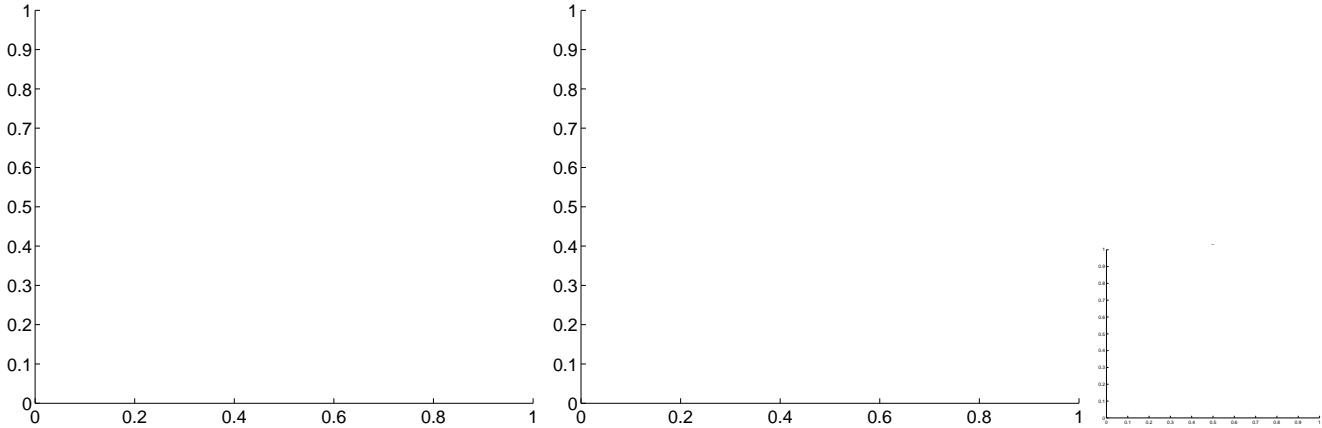
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



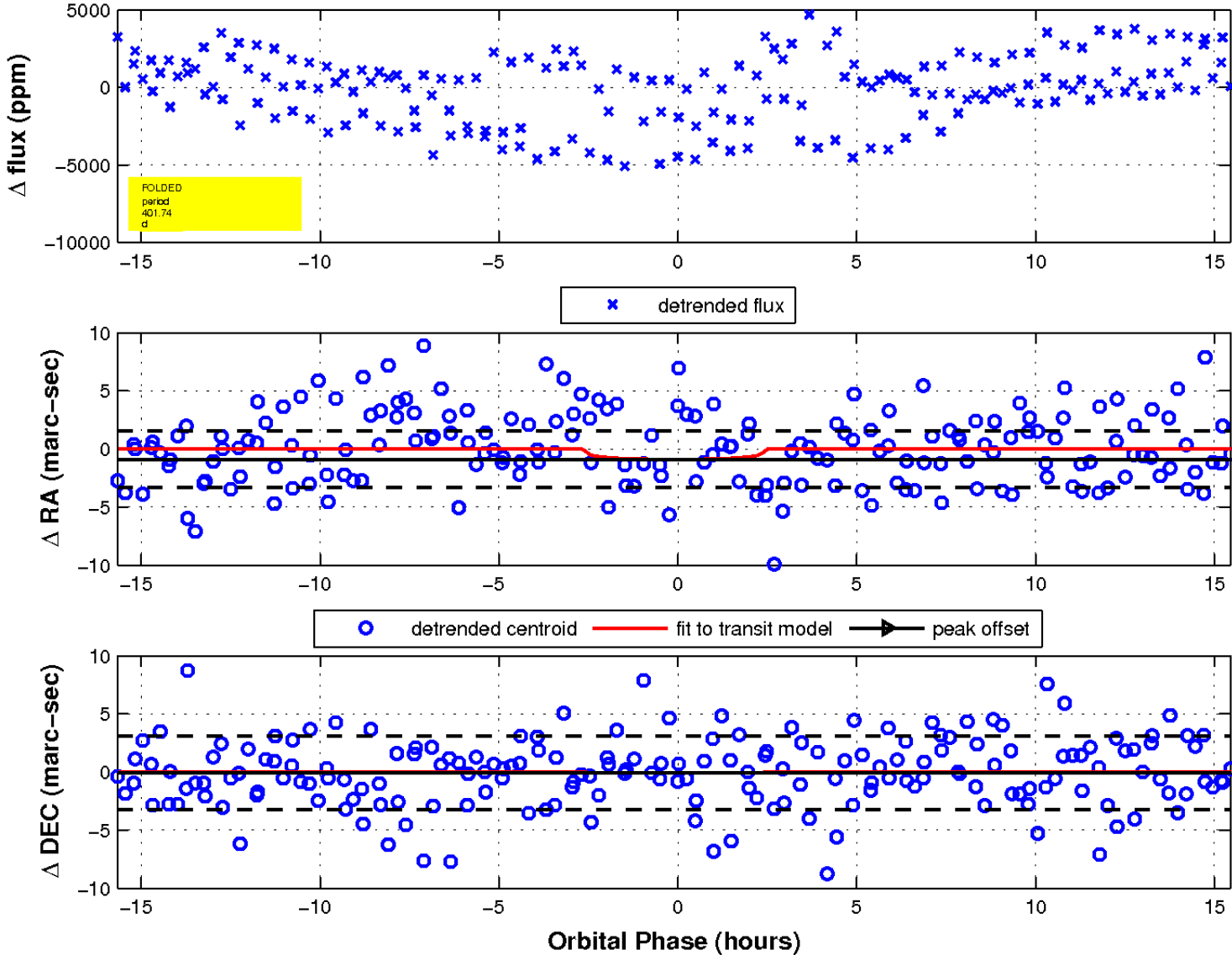
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q17 no difference image

Q17 no OOT image

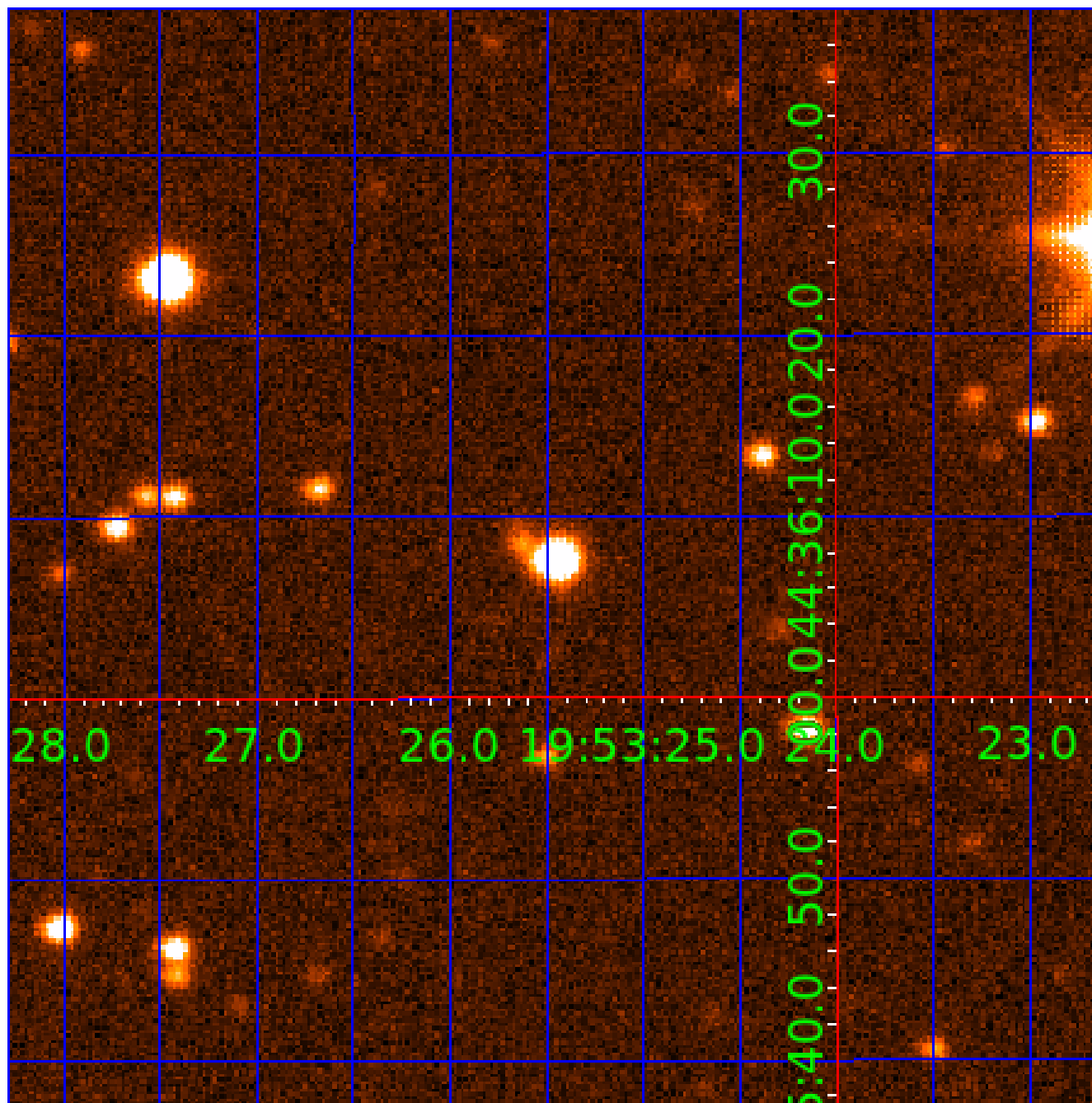


fluxWeightedCentroids, Planet 1 of 6



UKIRT Image

Declination



KIC 008580320

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})
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Robovetter Results

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008580320-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
008580320-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
008580320-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
008580320-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

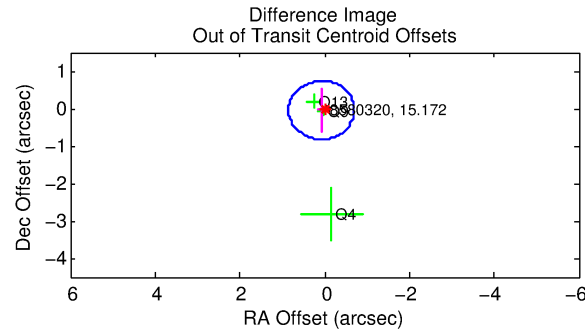
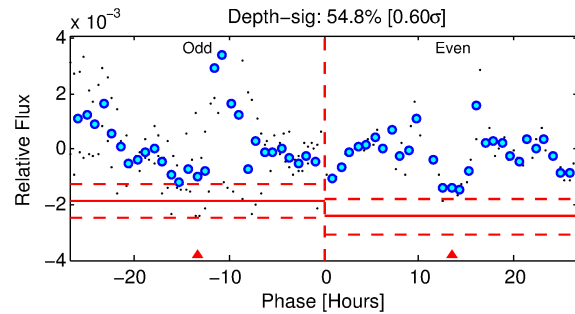
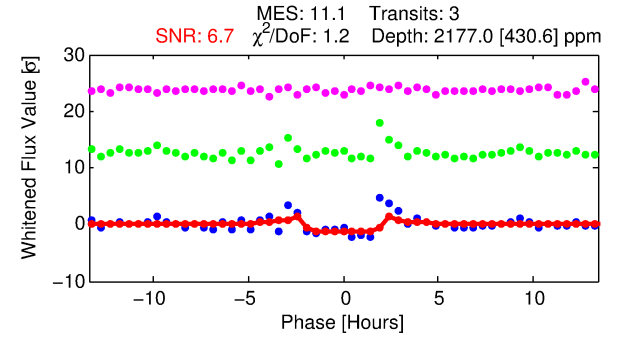
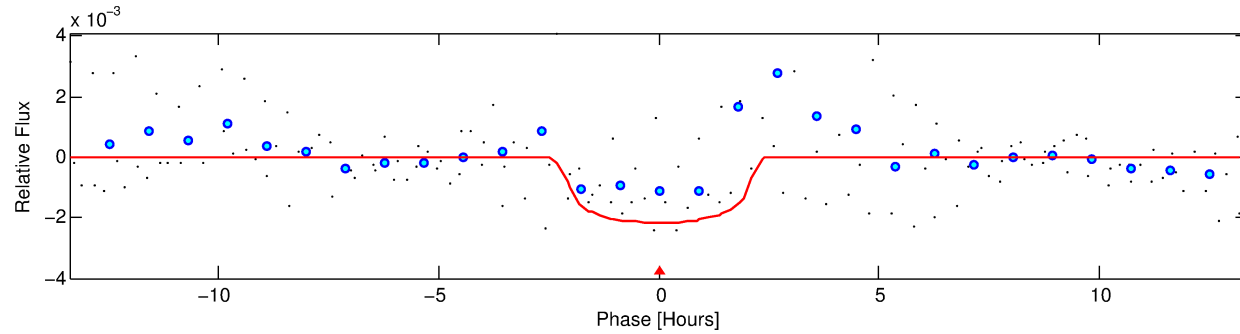
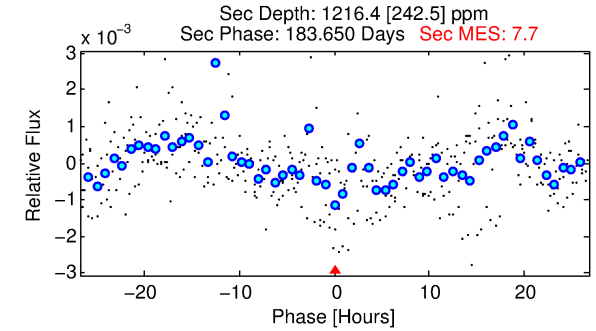
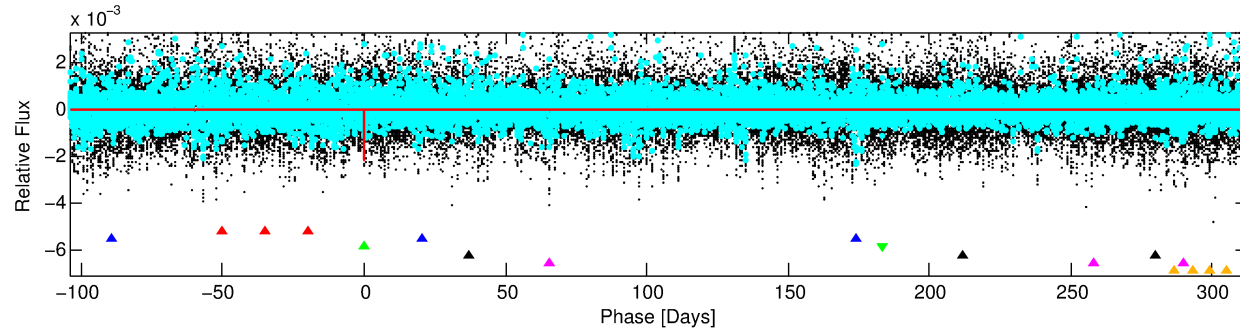
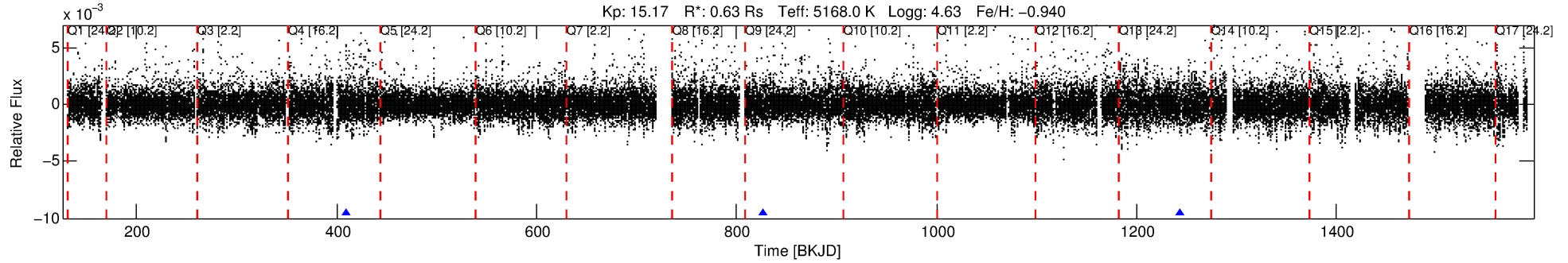
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008580320-03

No Significant Match Found

DV One-Page Summary

KIC: 8580320 Candidate: 3 of 6 Period: 416.960 d



DV Fit Results:

Period = 416.96028 [0.00600] d
Epoch = 408.8973 [0.0075] BKJD
Rp/R* = 0.0428 [0.0350]
a/R* = 701.14 [2321.69]
b = 0.35 [8.28]
Seff = 0.29 [0.05]
Teq = 187 [8] K
Rp = 2.94 [2.42] Re
a = 0.9318 [0.0712] AU
Ag = 67011.25 [110564.17] [0.61 σ]
Teffp = 4663 [1925] K [2.33 σ]

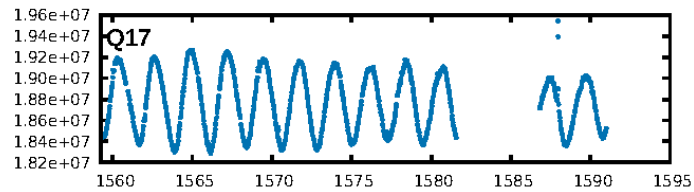
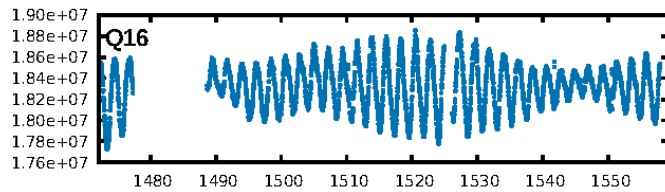
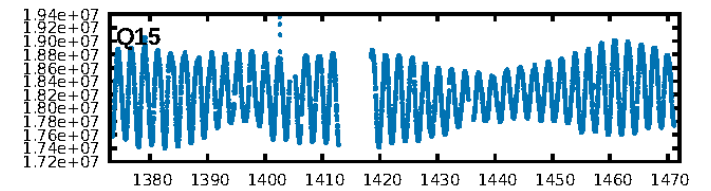
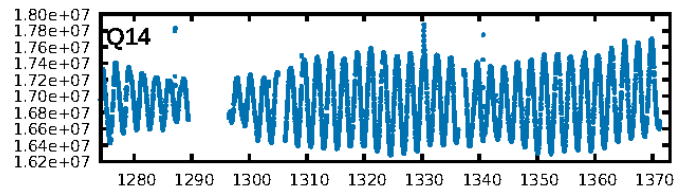
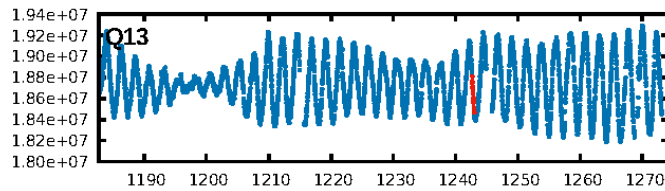
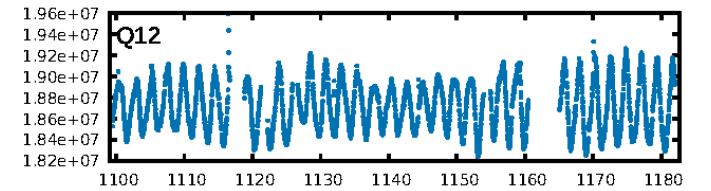
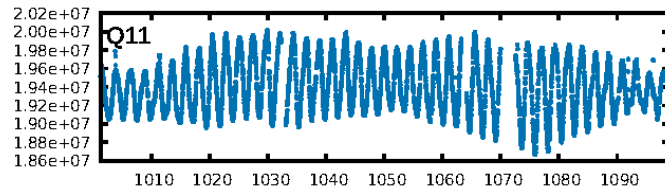
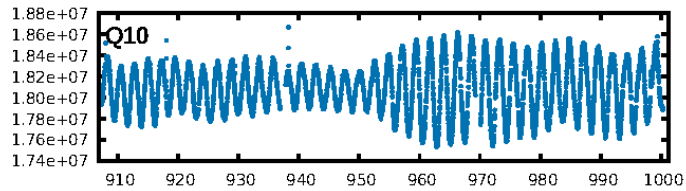
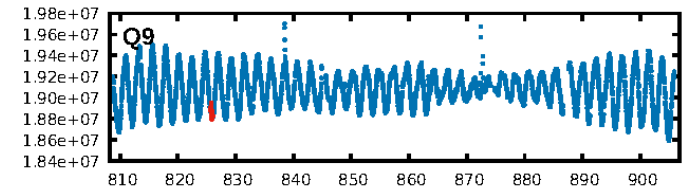
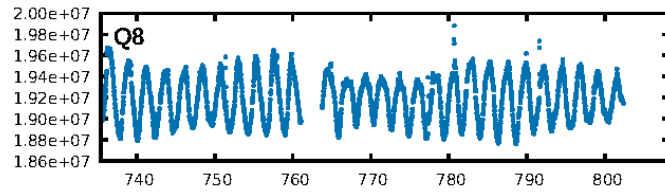
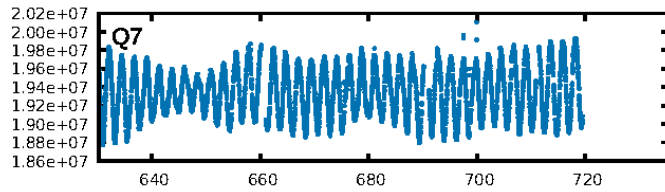
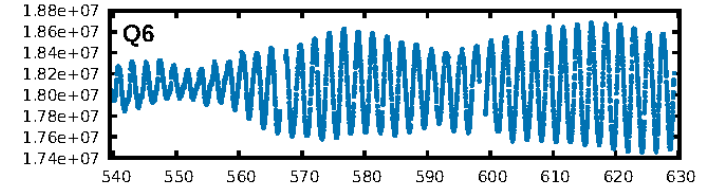
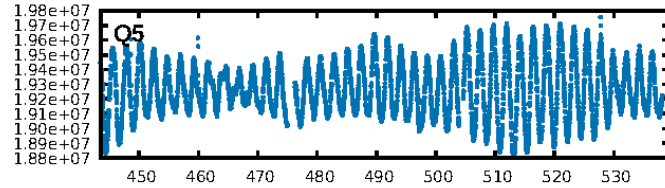
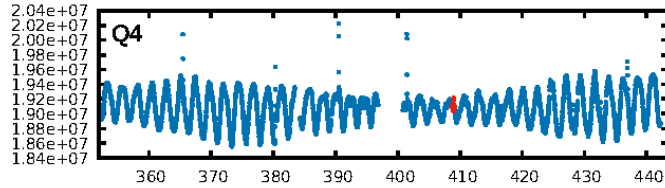
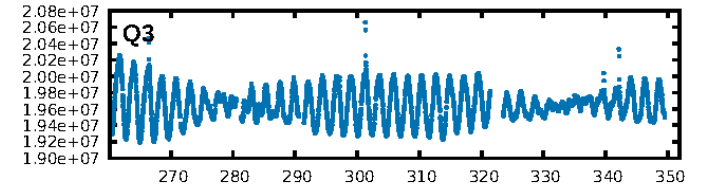
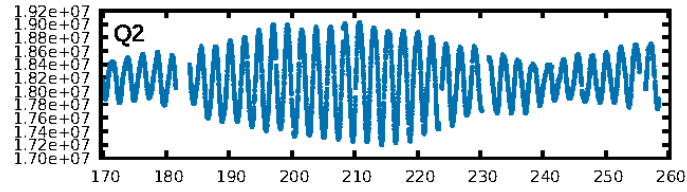
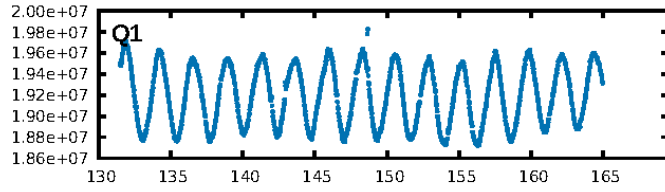
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [19.53 σ]
LongPeriod-sig: 100.0% [399.08 σ]
ModelChiSquare2-sig: 71.3%
ModelChiSquareGof-sig: 79.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.5029
Centroid-sig: 92.9%
Centroid-so: 0.420 arcsec [0.55 σ]
OotOffset-rm: 0.089 arcsec [0.34 σ]
OotOffset-st: 0/0/1/2 [3]
KicOffset-rm: 0.170 arcsec [0.26 σ]
KicOffset-st: 0/0/1/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

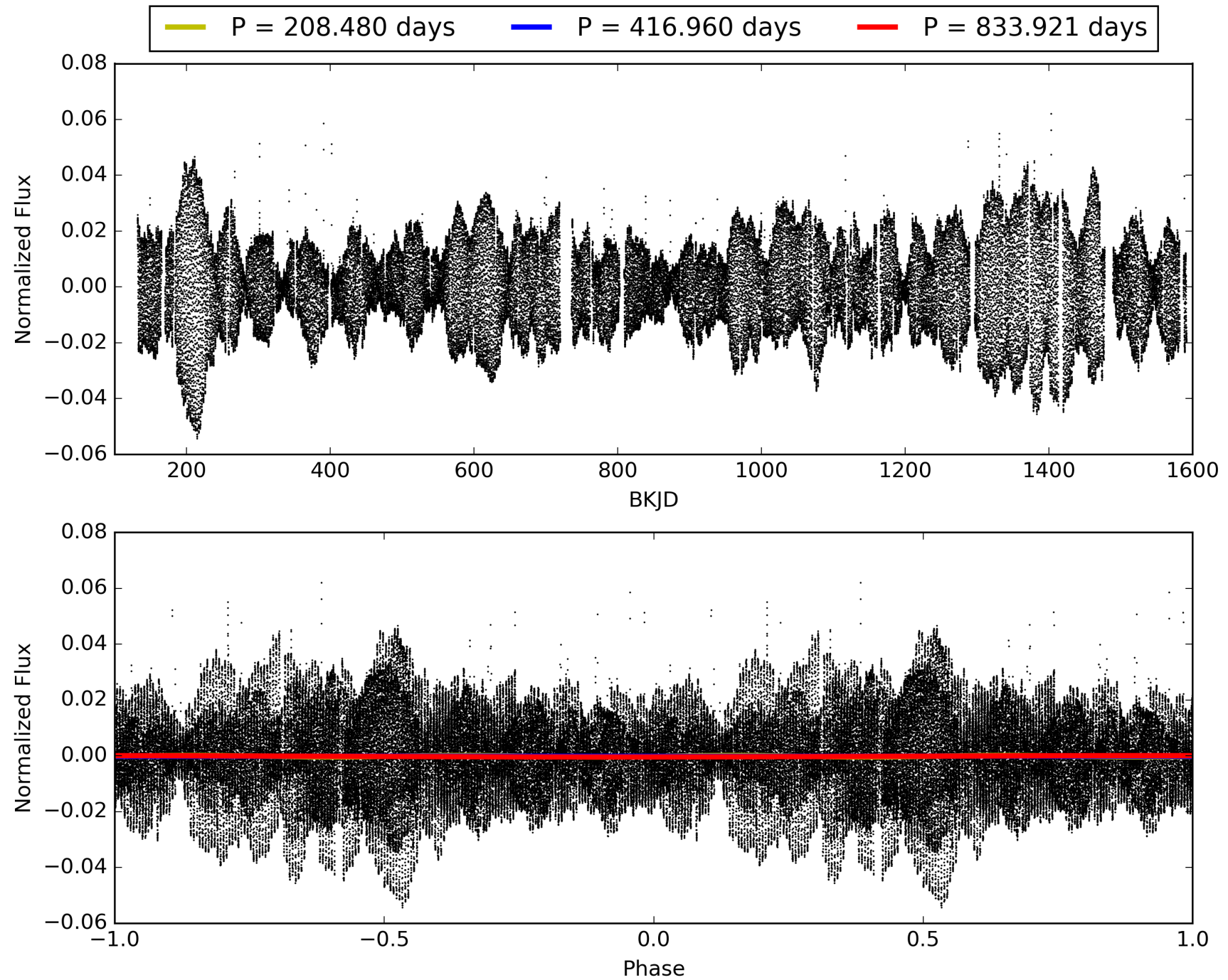
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:21:59 Z

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

TCE 00580320-03, PDC Light Curves

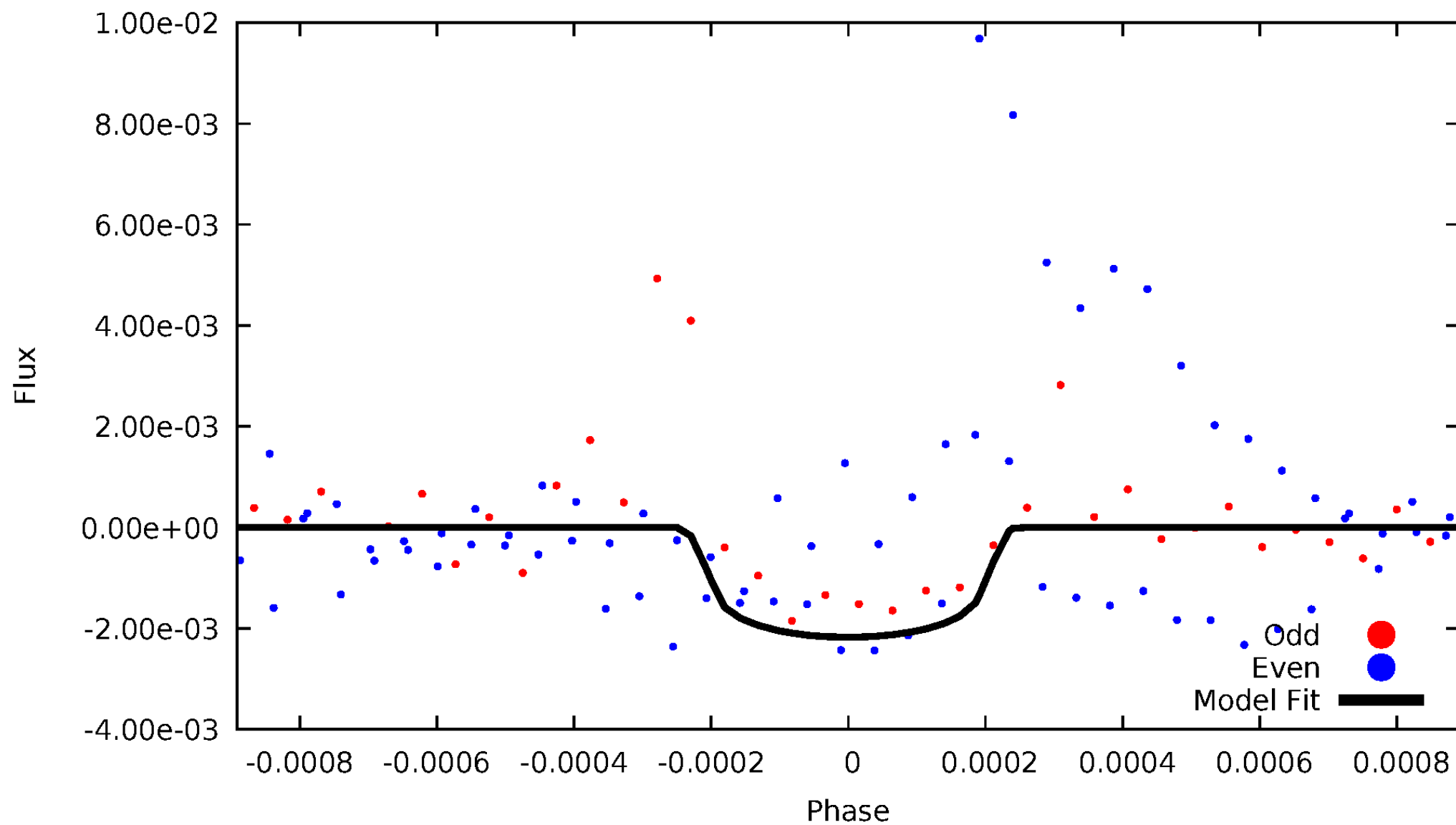


TCE 008580320-03



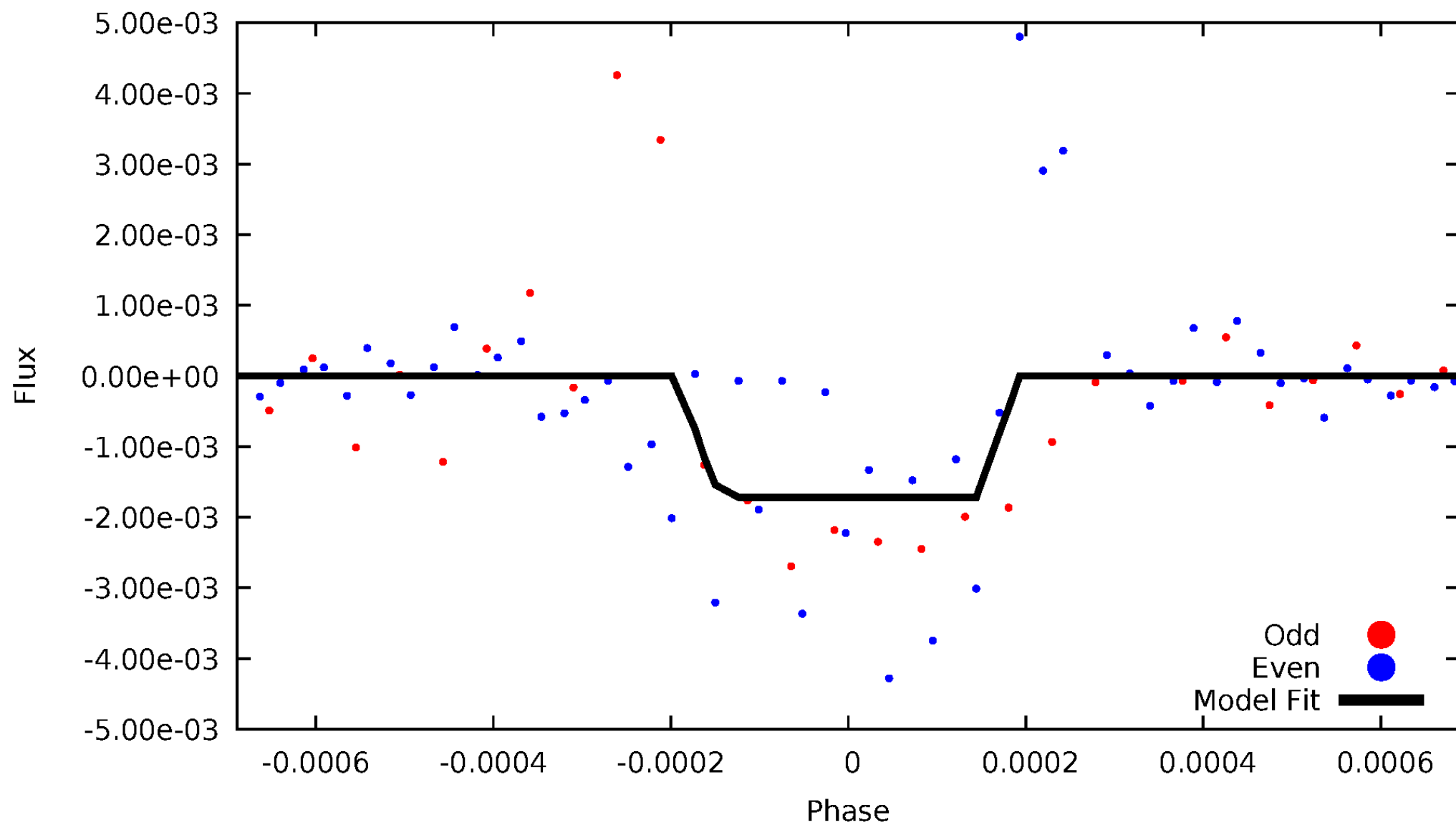
DV Odd/Even

TCE 008580320-03



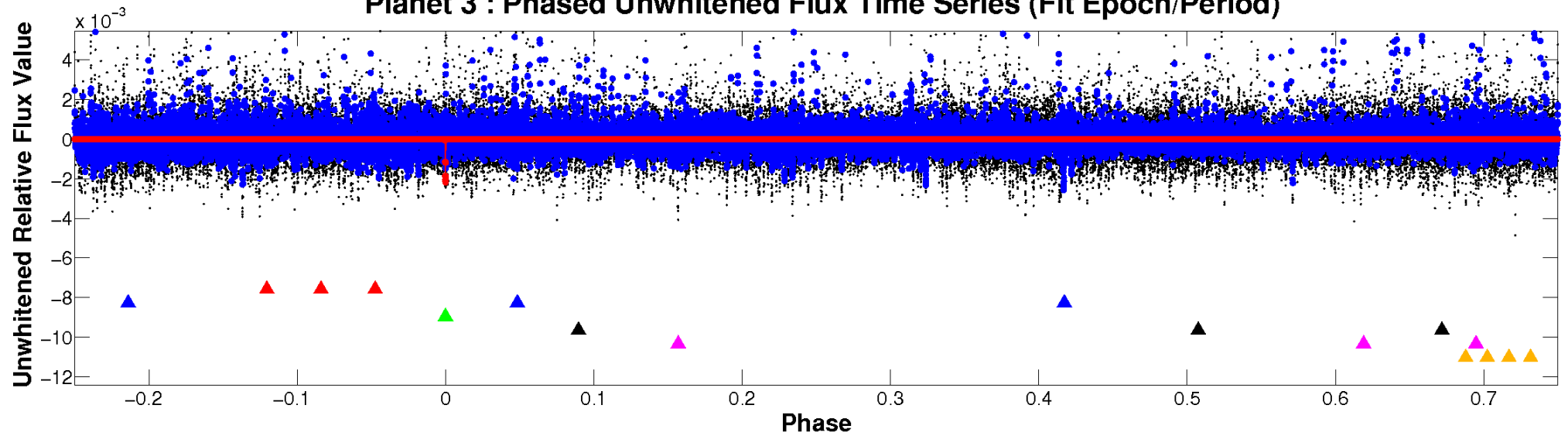
ALT Odd/Even

TCE 008580320-03

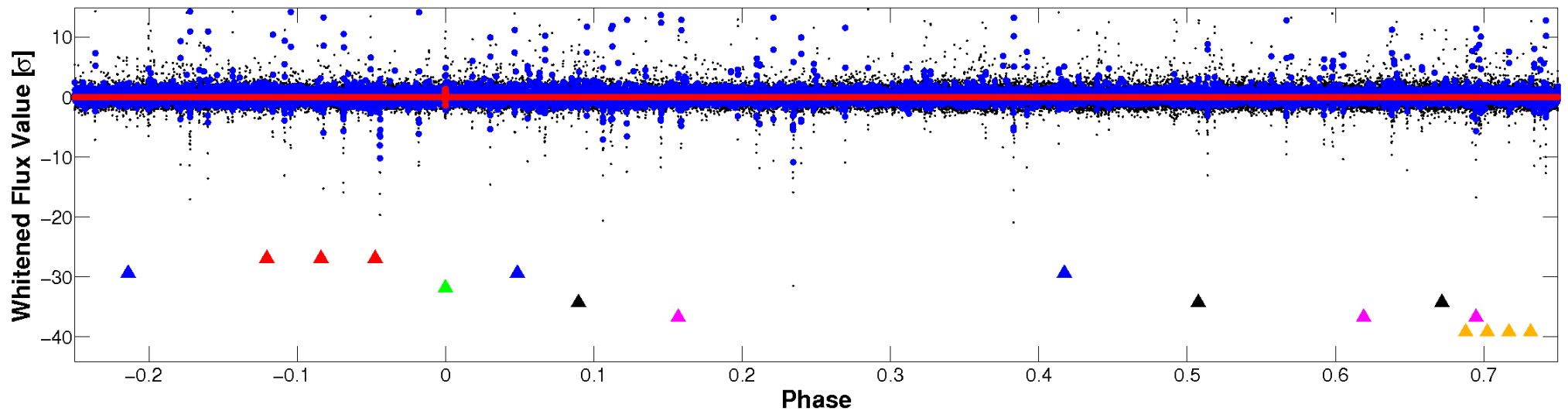


Non-Whitened Vs. Whitened Light Curve

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

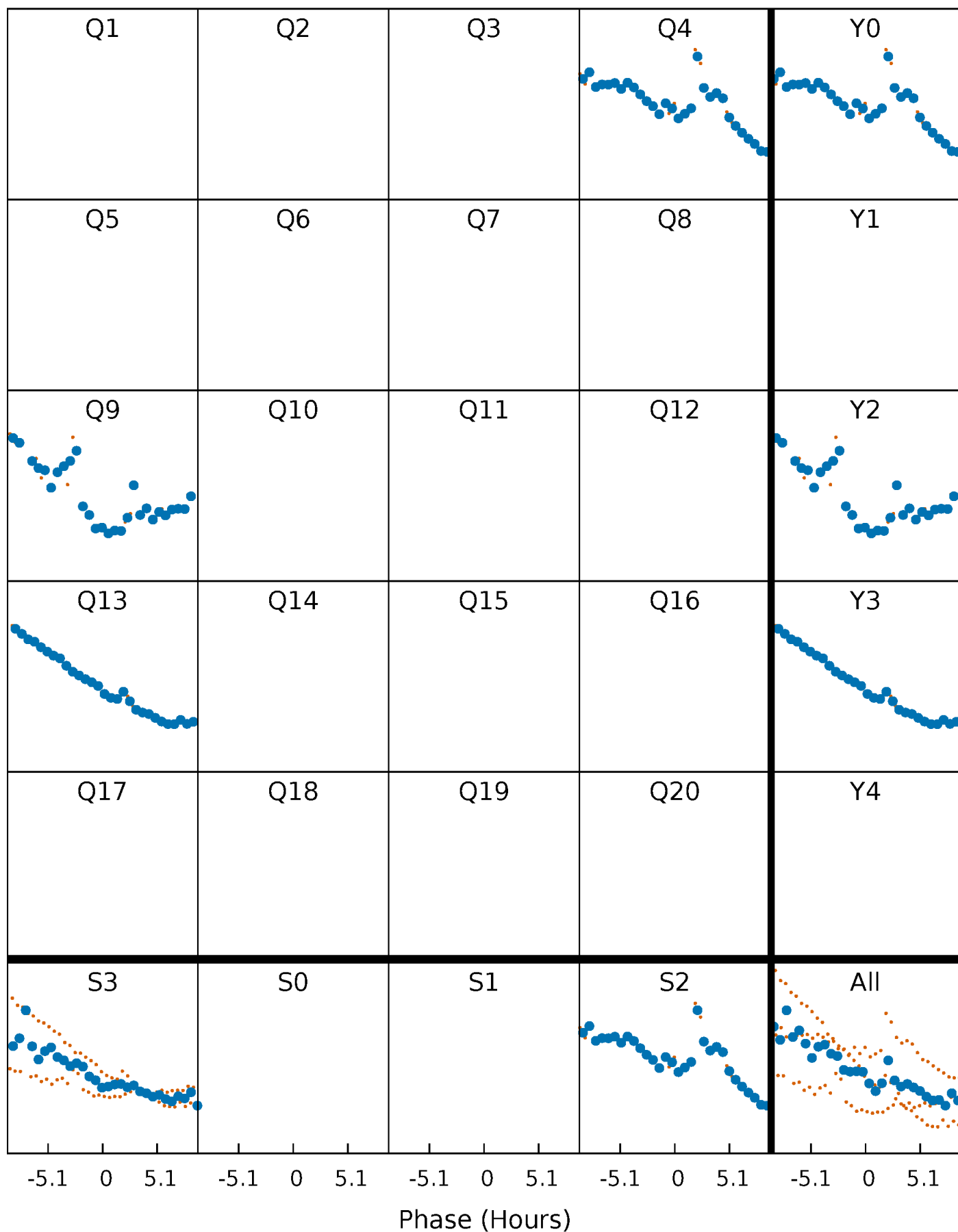


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



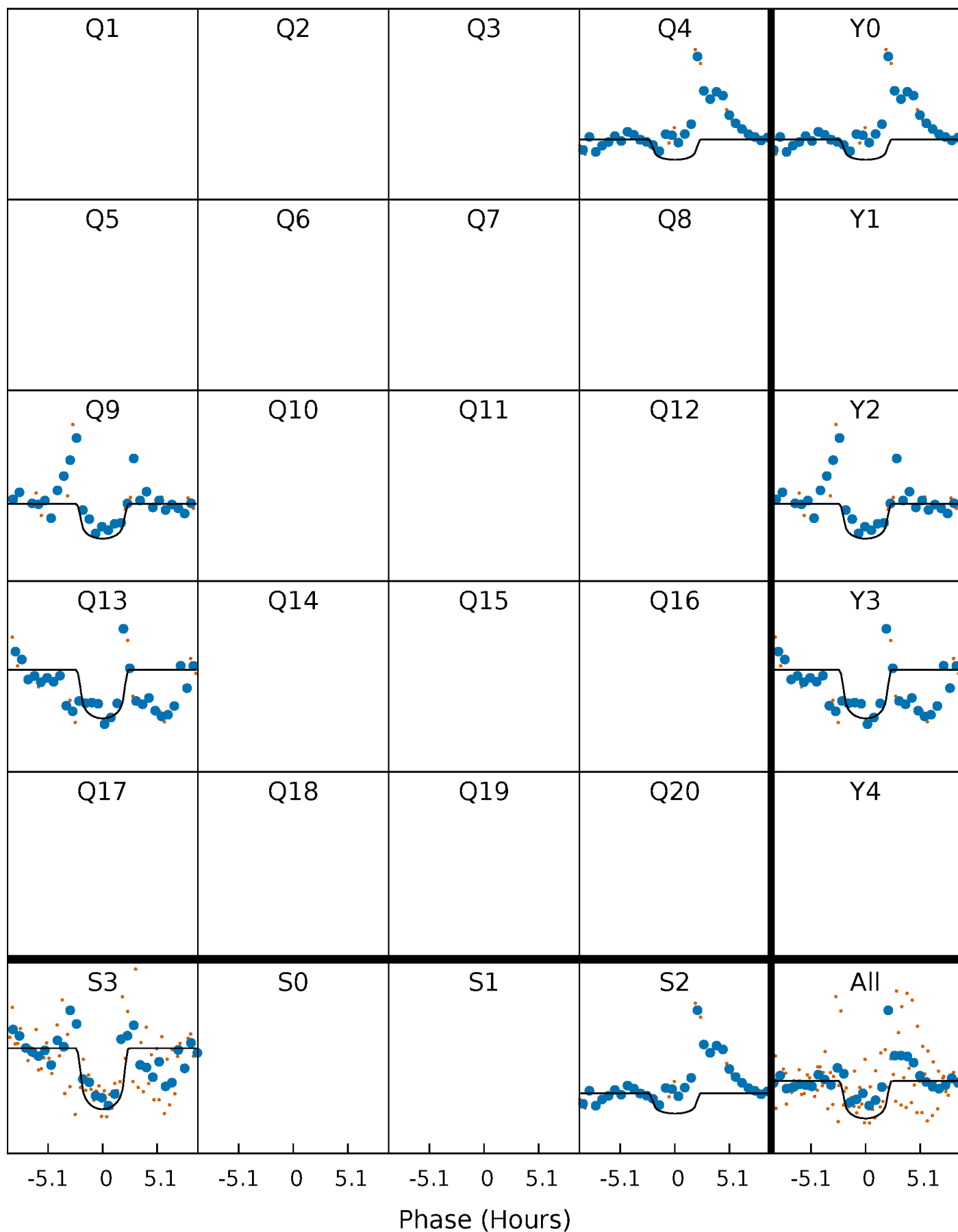
PDC Quarter-Phased Transit Curves

TCE 008580320-03 $P=416.960283$ Days $T_0=408.897310$ (BKJD)



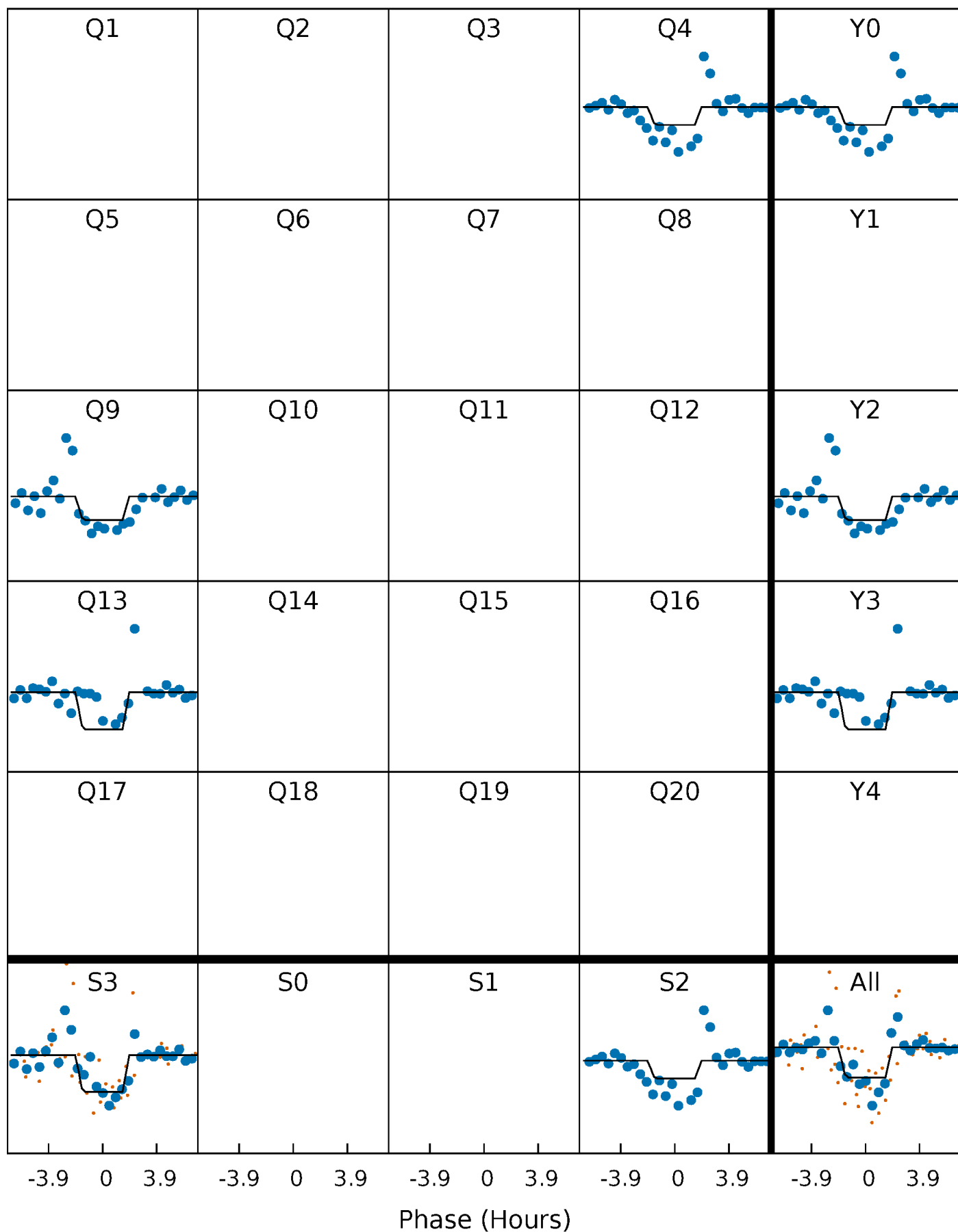
DV Quarter-Phased Transit Curves

TCE 008580320-03 $P=416.960283$ Days $T_0=408.897310$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

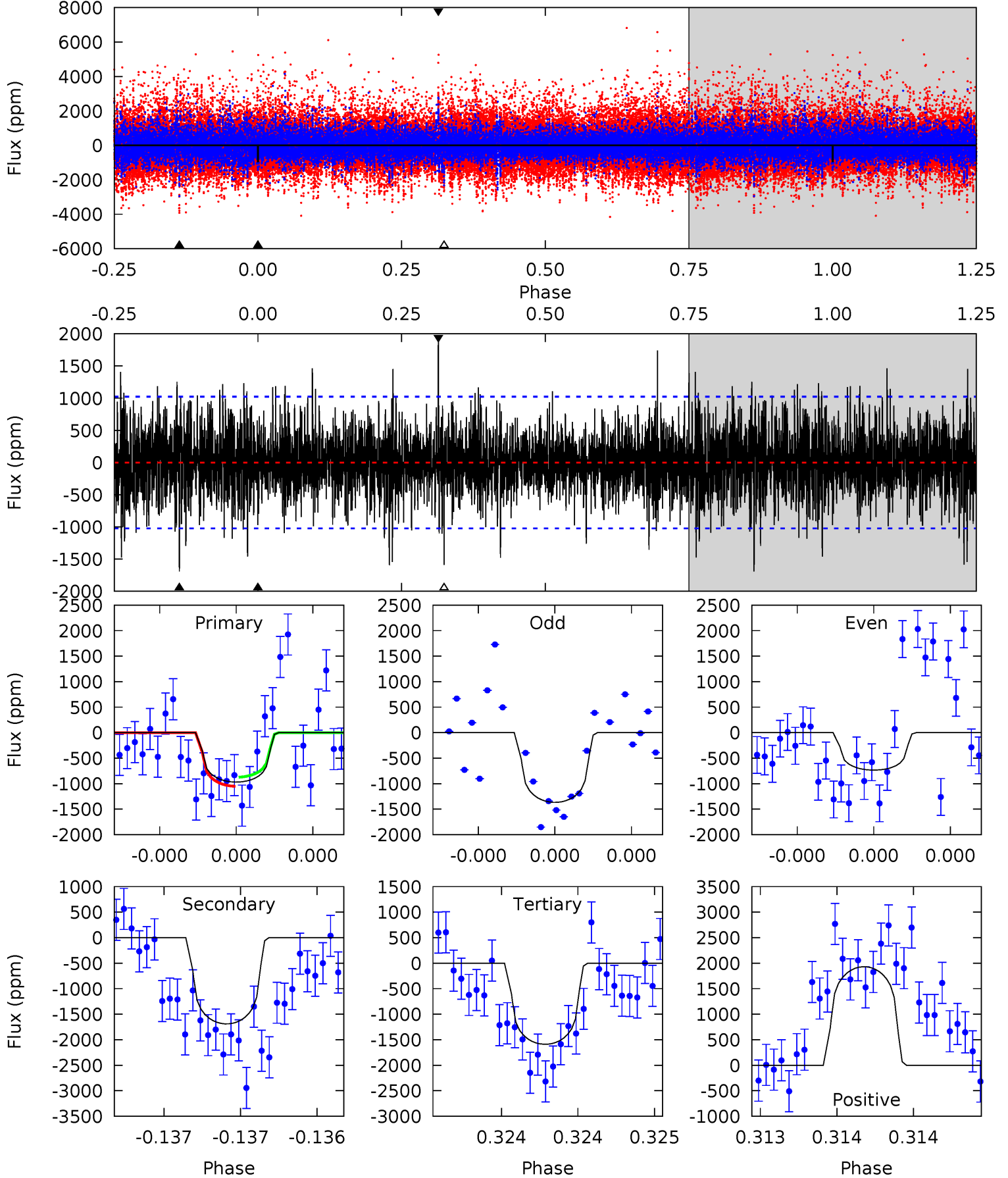
TCE 008580320-03 P=416.953603 Days $T_0=408.896478$ (BKJD)



DV Model-Shift Uniqueness Test

008580320-03, P = 416.960283 Days, E = 408.897310 Days

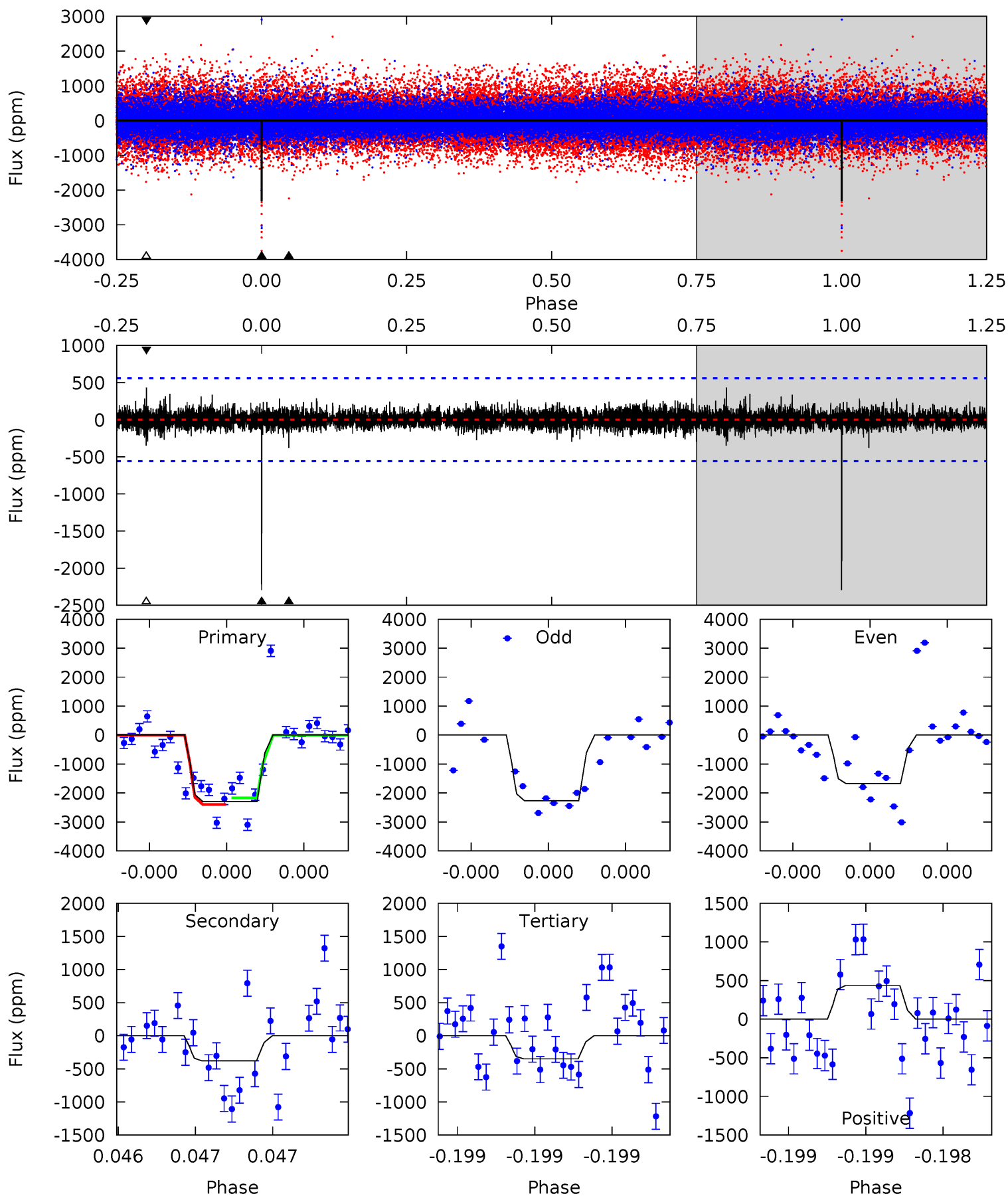
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.29	9.23	8.68	10.5	5.58	3.50	2.09	-3.39	-5.25	0.55	-1.32	1.45	0.47	0.53	0.49



Alt Model-Shift Uniqueness Test

008580320-03, P = 416.953603 Days, E = 408.896478 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.1	3.83	3.52	4.37	5.63	3.56	0.67	19.6	18.7	0.31	-0.55	2.98	0.90	0.16	1.13



Stellar Parameters For KIC 008580320

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5168^{+170}_{-154}	$4.632^{+0.066}_{-0.044}$	$-0.940^{+0.300}_{-0.300}$	$0.630^{+0.054}_{-0.049}$	$0.621^{+0.059}_{-0.023}$	$3.491^{+0.903}_{-0.600}$
	+3%/-3%	+1%/-1%	+32%/-32%	+9%/-8%	+10%/-4%	+26%/-17%
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 008580320-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1689 ± 183	$3.46^{+2.14}_{-2.10}$	261^{+10}_{-11}	4781^{+2781}_{-819}	$69516^{+362129}_{-43556}$
Alt.	-380 ± 99	$3.32^{+2.27}_{-1.95}$	262^{+10}_{-10}	3653^{+1466}_{-547}	16646^{+81516}_{-11189}

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

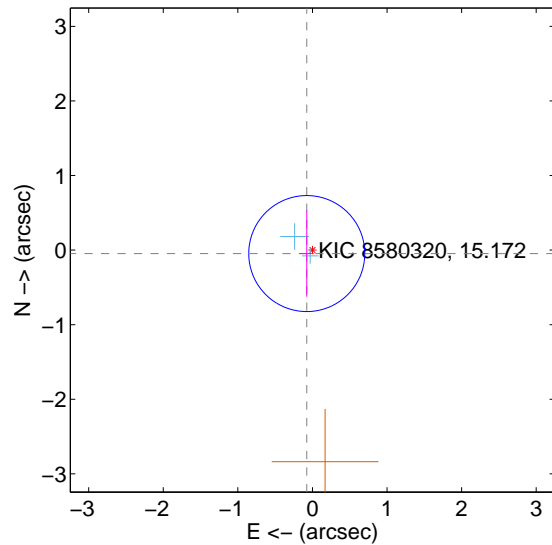
Supplemental centroid analysis for 008580320-03. Kepler magnitude: 15.17. Transit SNR 6.74

There are 2 quarters with good PRF difference image offsets

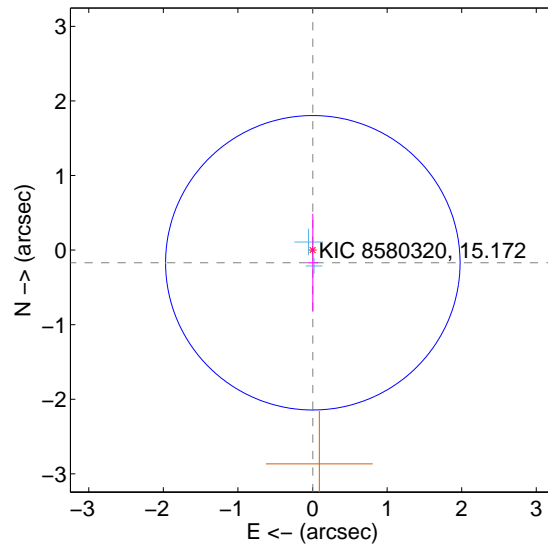
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.089 ± 0.259	0.34	0.076 ± 0.095	-0.046 ± 0.579
PRF-fit source offset from KIC position	0.170 ± 0.658	0.26	-0.004 ± 0.072	-0.170 ± 0.658
photometric centroid source offset	0.42 ± 0.76	0.55	-0.13 ± 0.75	-0.40 ± 0.76

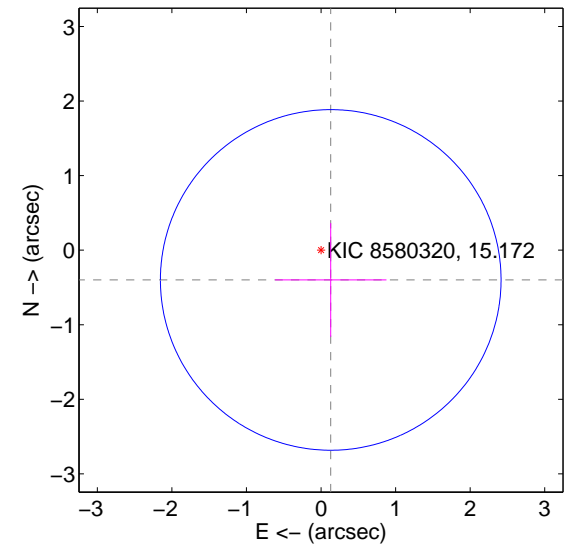
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

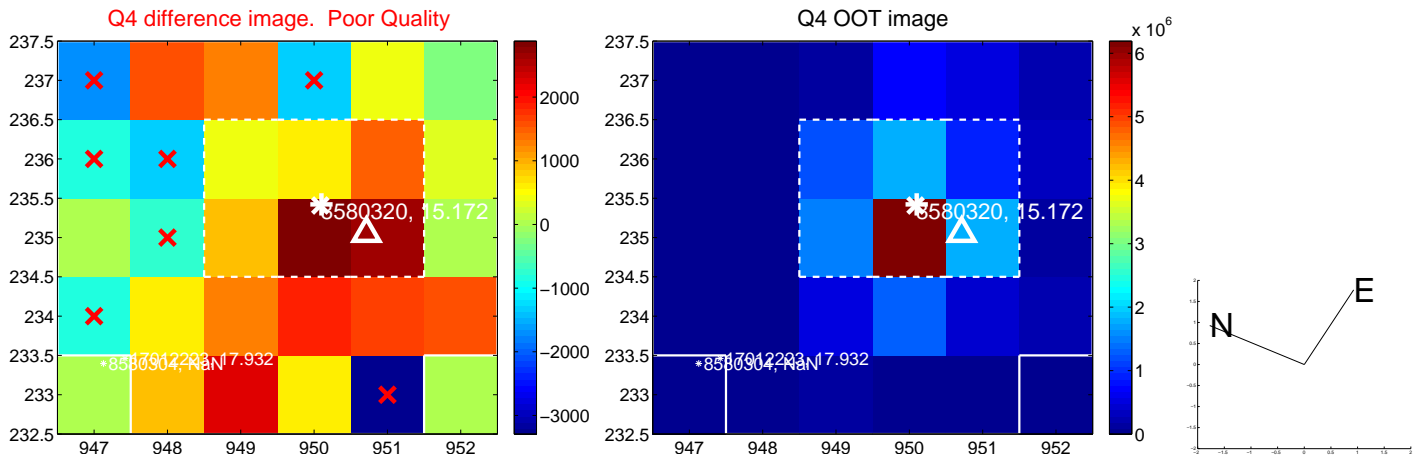
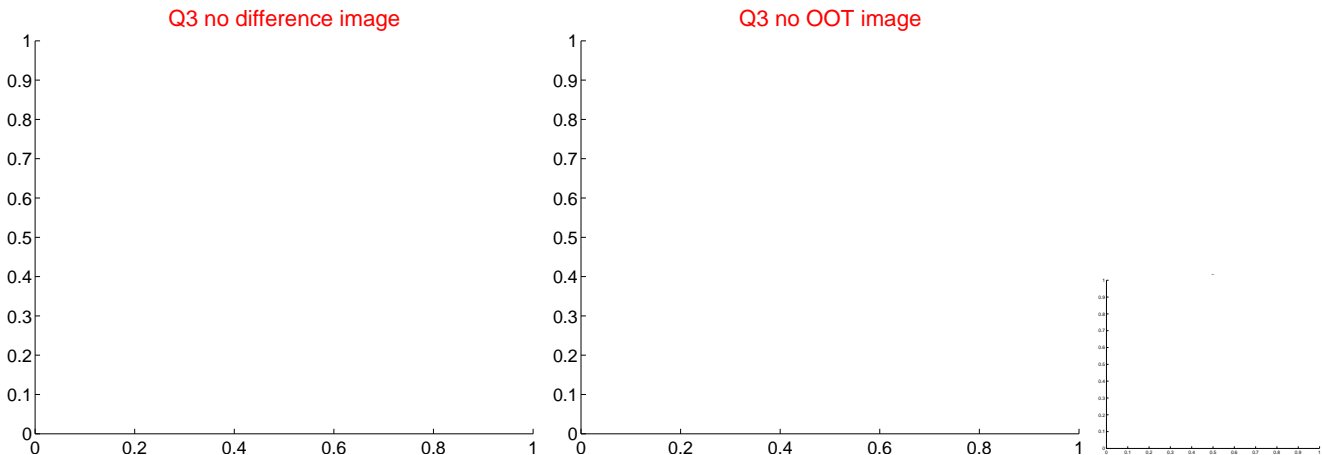
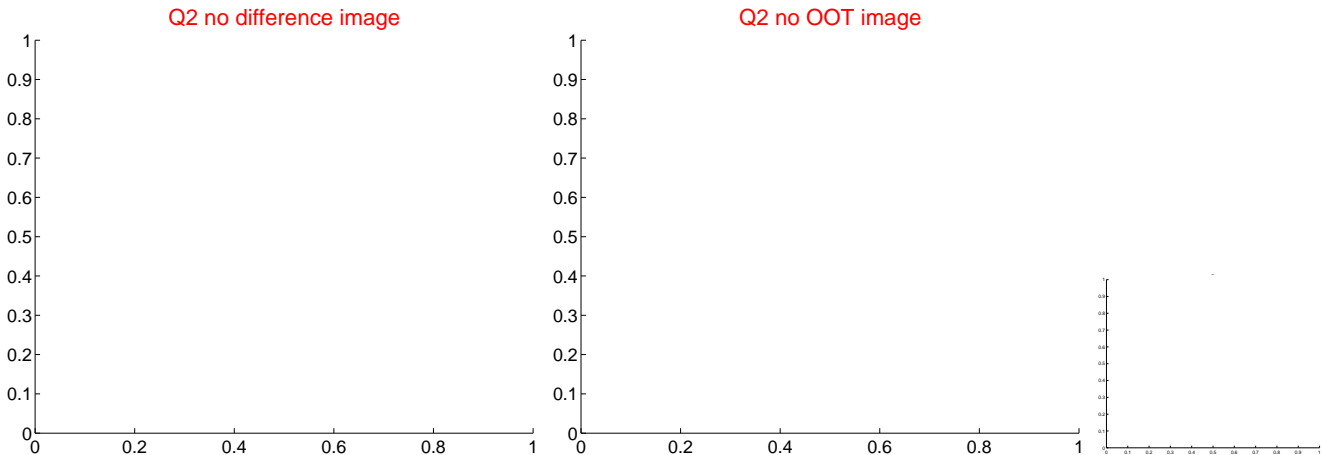
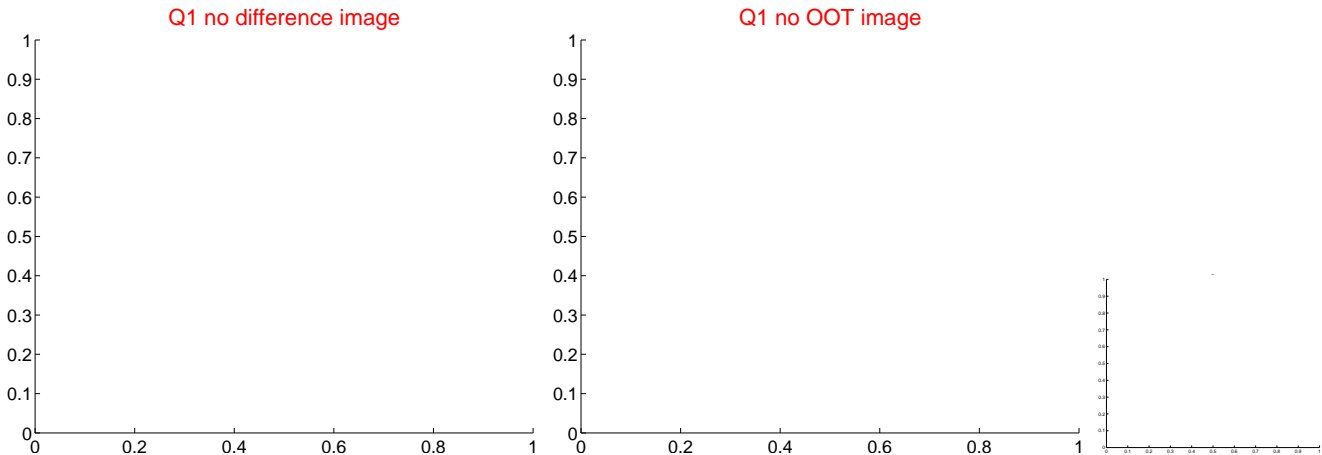


offset from photometric centroids



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.

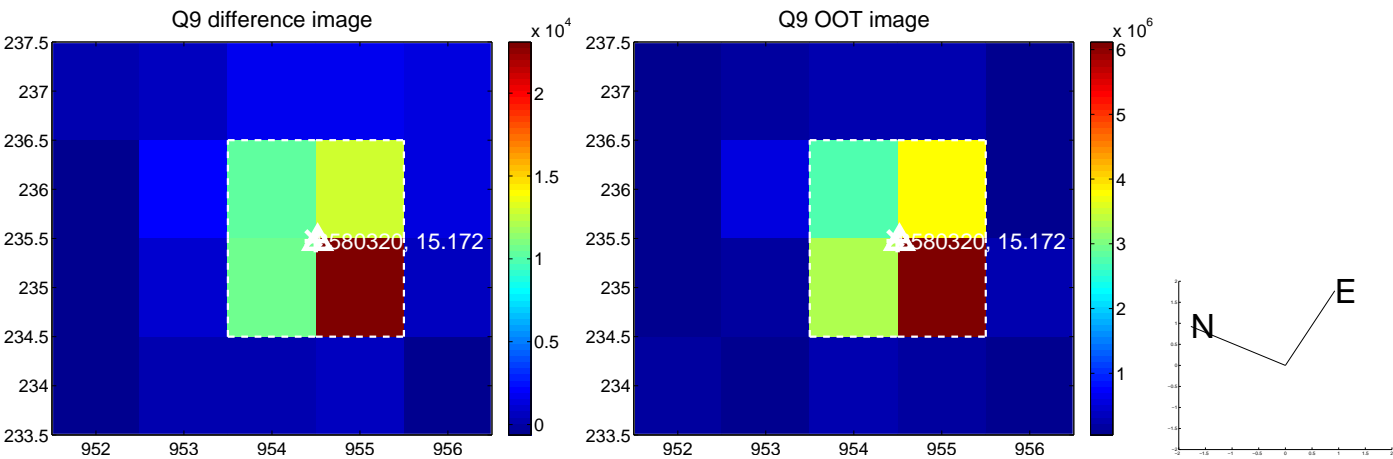
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



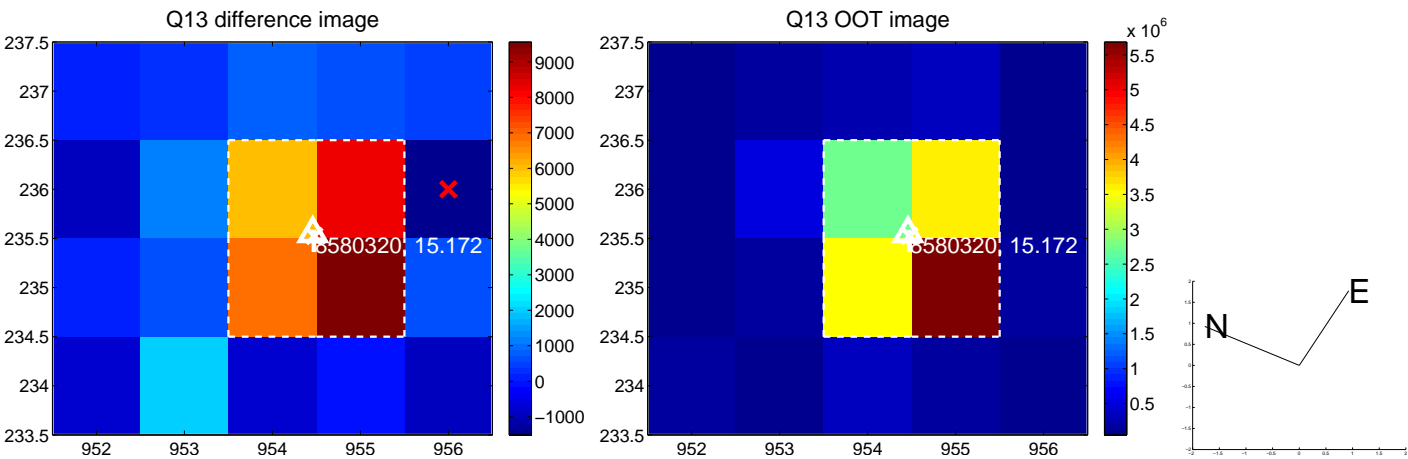
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



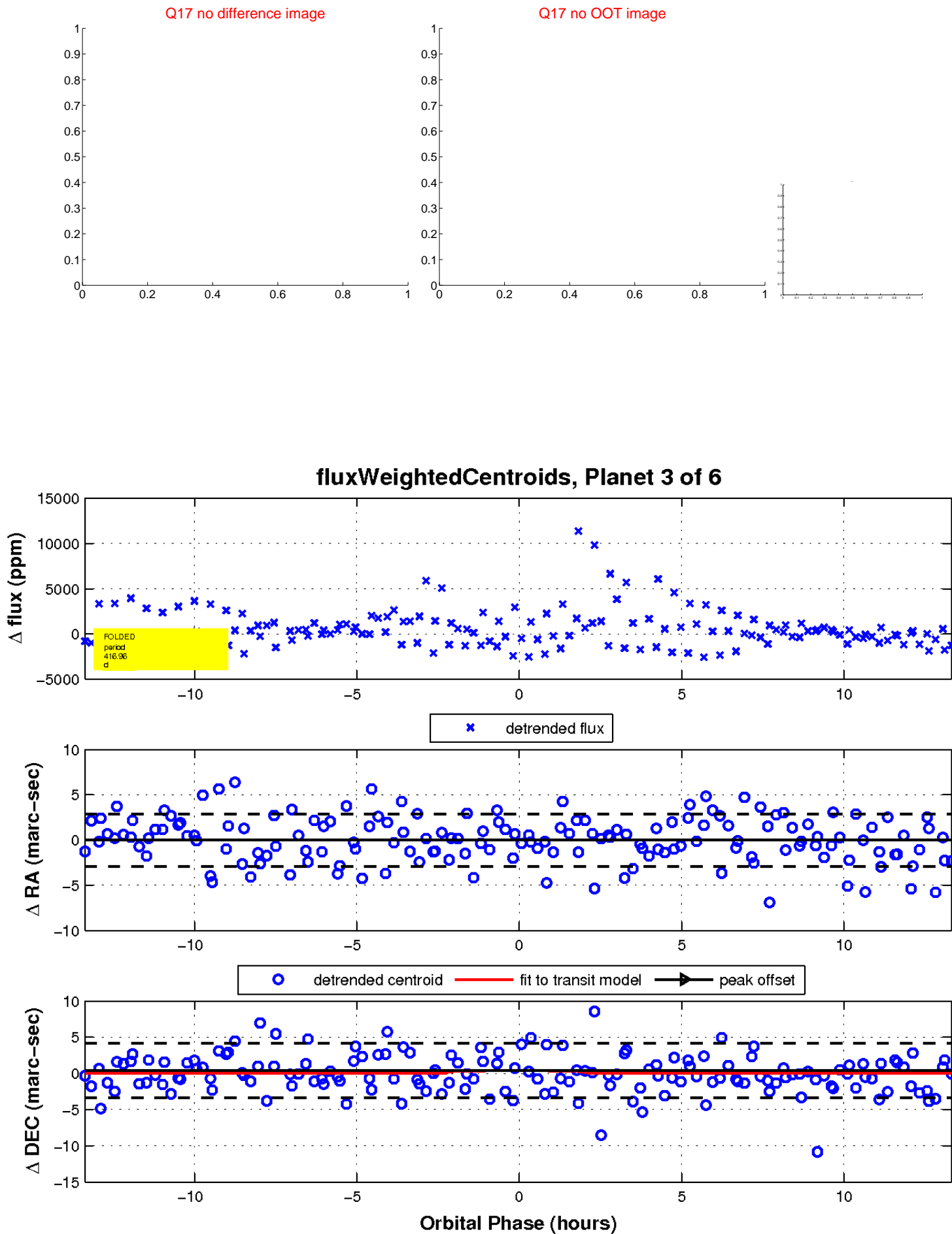
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

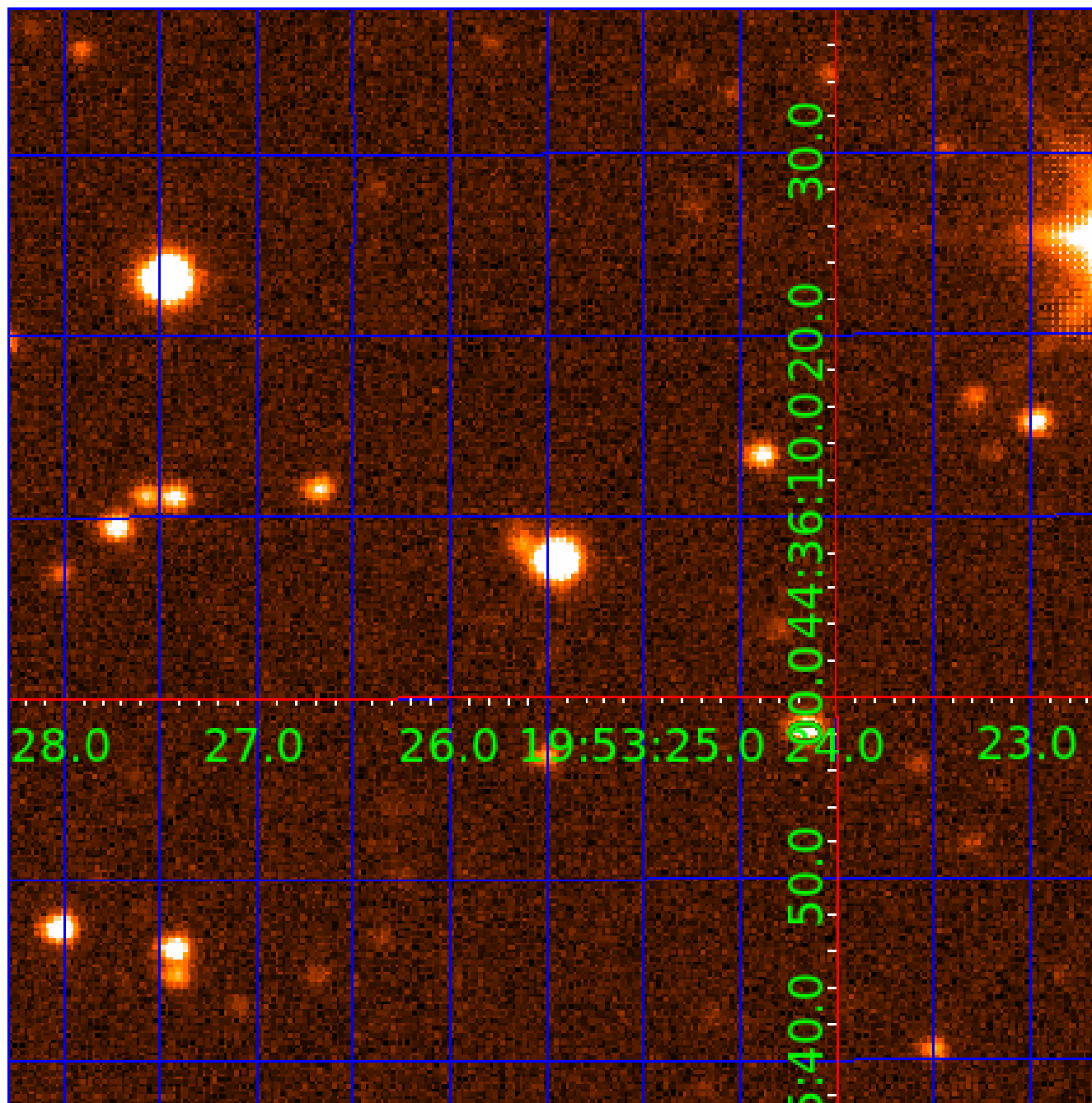


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008580320

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})
008580320-01	OBS	No	401.735685	389.131885	1593.5	5.230	14.8	4.2	0.63	5168	2.55	0.31
008580320-03	OBS	No	416.960283	408.897310	2177.0	4.458	11.1	6.7	0.63	5168	2.94	0.29
008580320-04	OBS	No	591.197344	272.051353	728.6	1.491	13.5	2.3	0.63	5168	1.83	0.18
008580320-05	OBS	No	609.645185	281.652004	2459.4	2.773	10.9	7.4	0.63	5168	3.21	0.18
008580320-06	OBS	No	410.878024	296.992179	1271.5	6.000	10.8	-1.0	0.63	5168	2.22	0.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008580320-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008580320-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
008580320-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
008580320-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
008580320-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

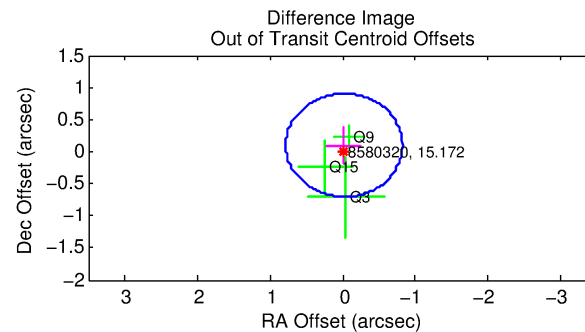
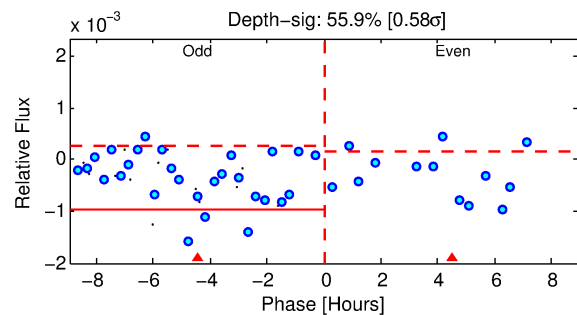
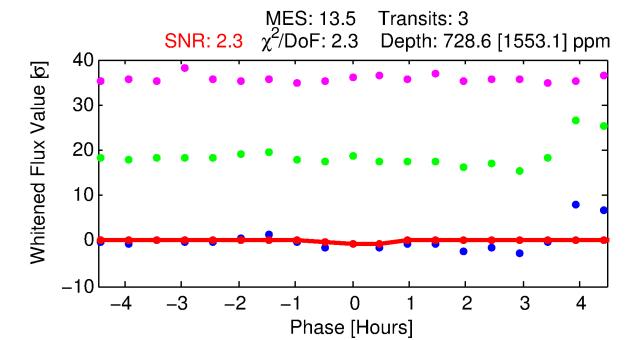
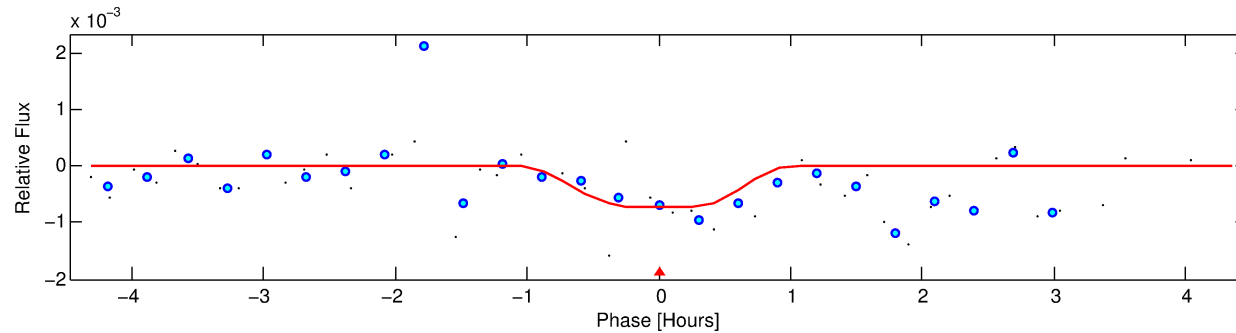
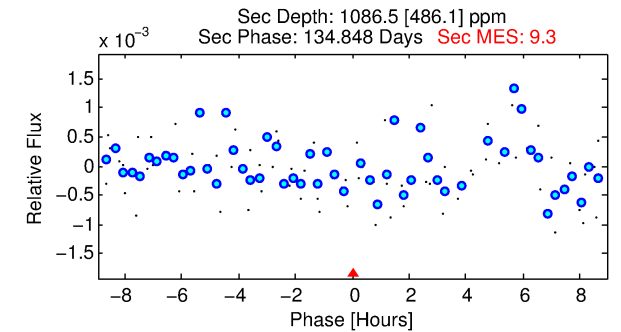
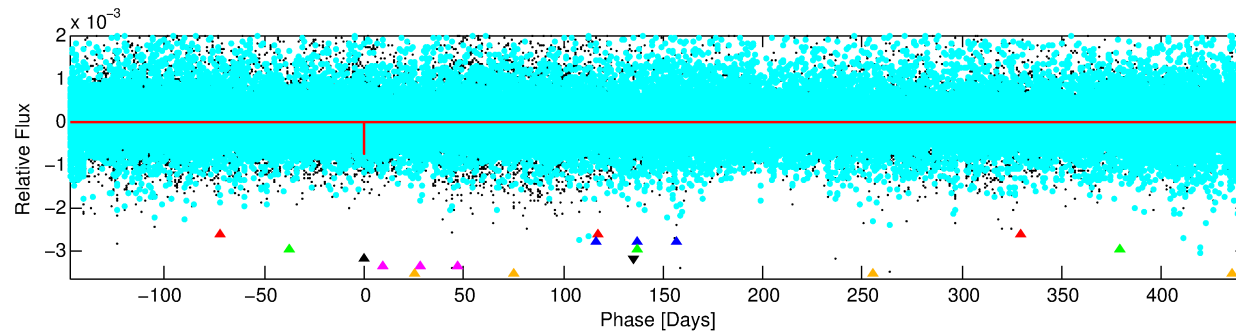
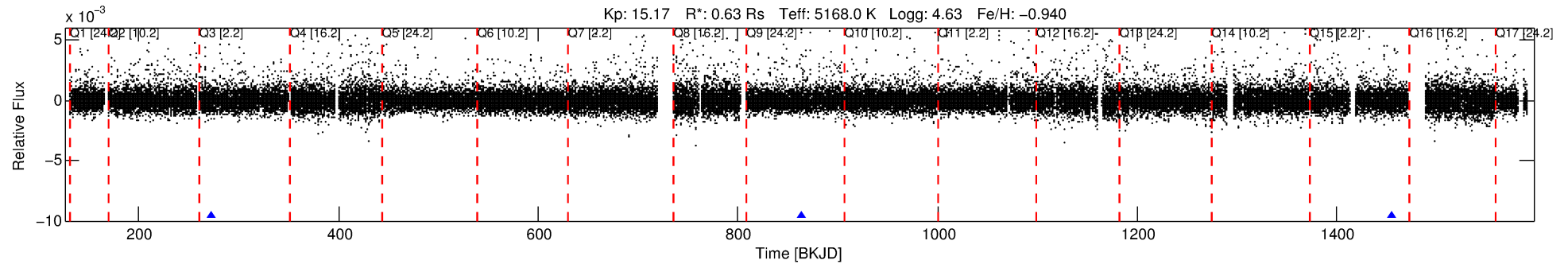
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008580320-04

No Significant Match Found

DV One-Page Summary

KIC: 8580320 Candidate: 4 of 6 Period: 591.197 d



DV Fit Results:

Period = 591.19734 [0.02990] d
Epoch = 272.0514 [0.0356] BKJD
Rp/R* = 0.0267 [3.4335]
a/R* = 2228.20 [1201067.95]
b = 0.72 [375.80]
Seff = 0.18 [0.03]
Teq = 167 [7] K
Rp = 1.83 [236.04] Re
a = 1.1760 [0.0898] AU
Ag = 245811.31 [63279926.35] [0.00 σ]
Teffp = 5745 [369726] K [0.02 σ]

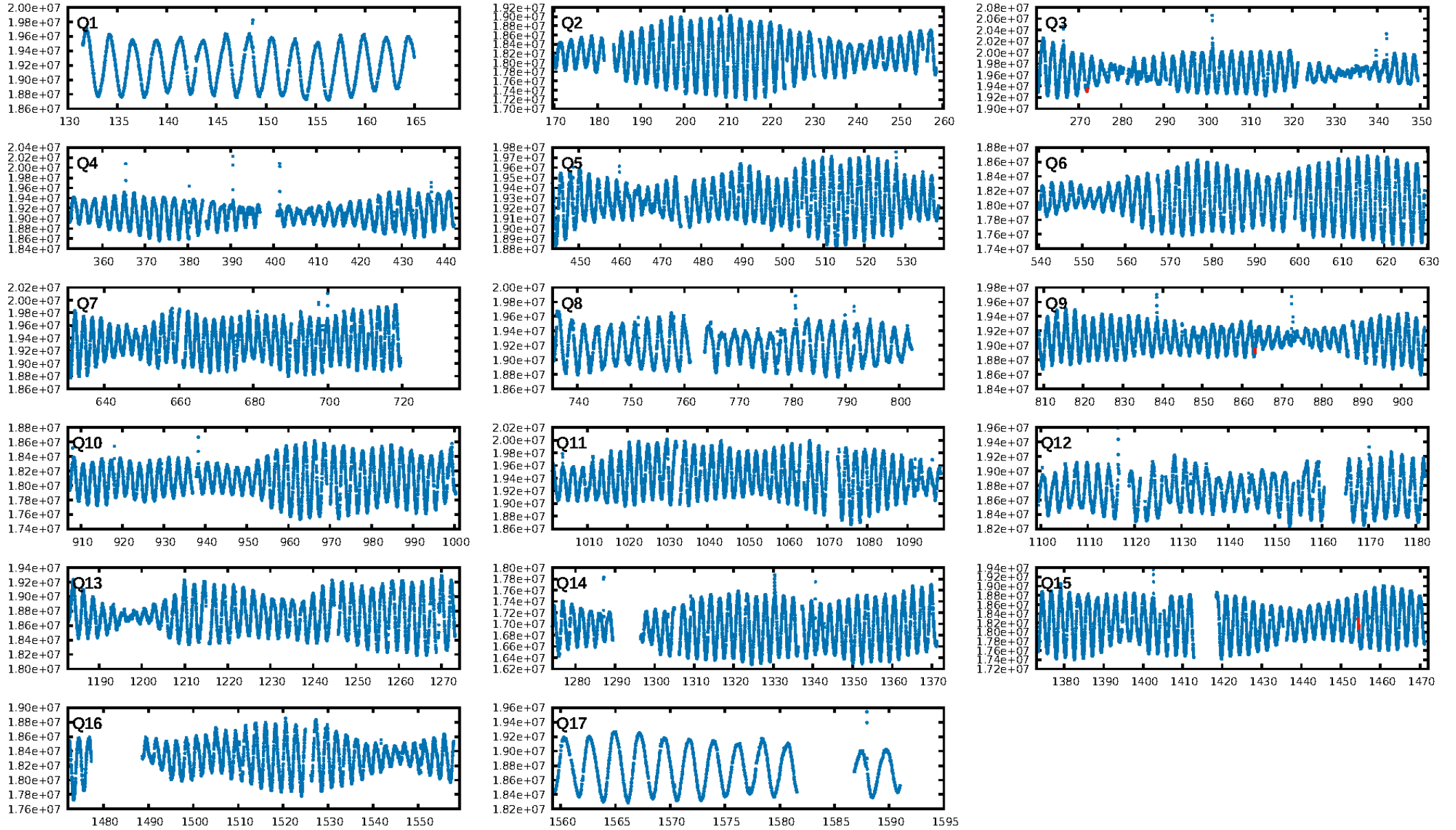
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [59.63 σ]
LongPeriod-sig: 100.0% [140.62 σ]
ModelChiSquare2-sig: 87.8%
ModelChiSquareGof-sig: 66.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.088
Centroid-sig: 59.0%
Centroid-so: 3.065 arcsec [0.71 σ]
OotOffset-rm: 0.101 arcsec [0.38 σ]
OotOffset-st: 0/2/0/1 [3]
KicOffset-rm: 0.088 arcsec [0.37 σ]
KicOffset-st: 0/2/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

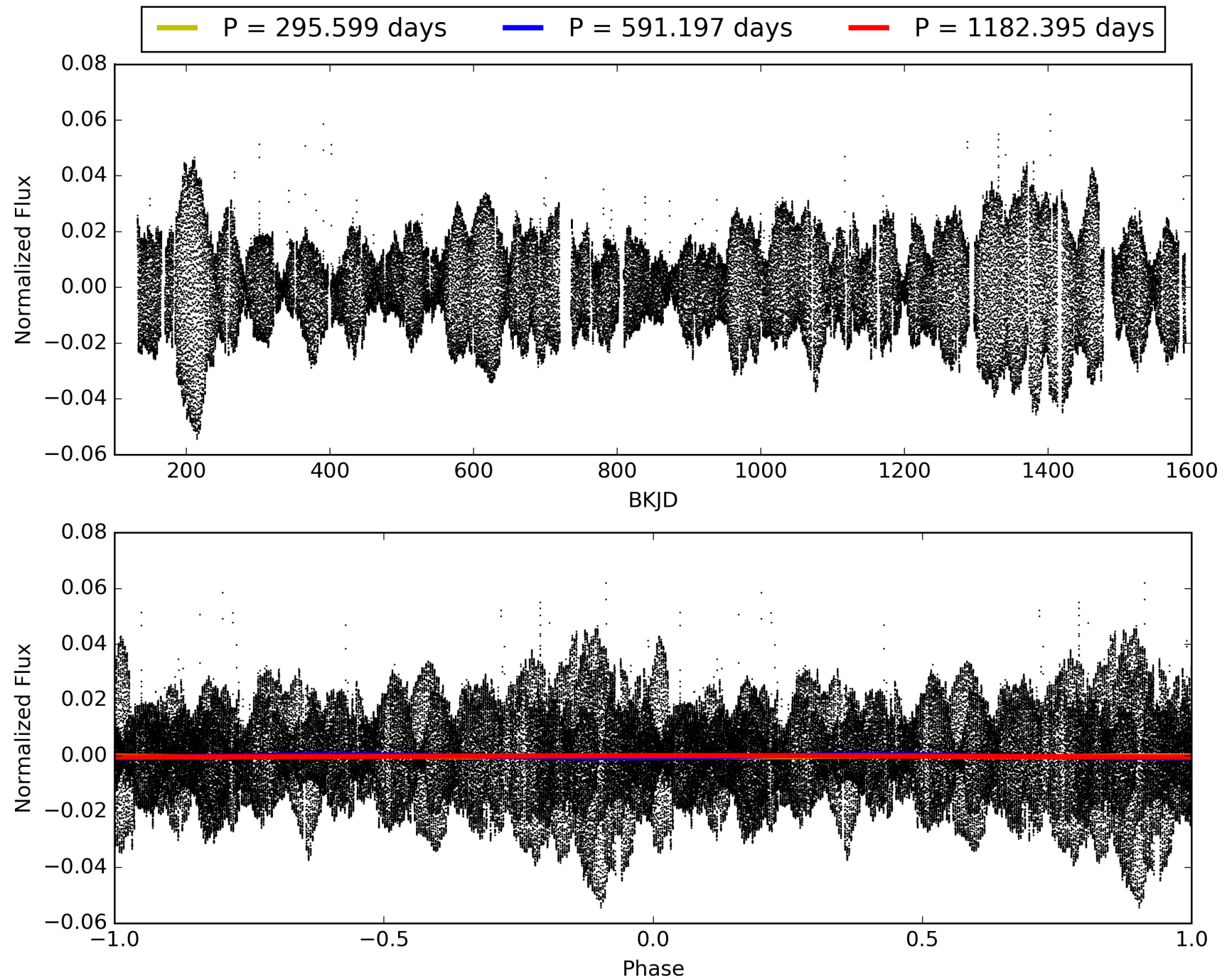
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:22:44 Z

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

TCE 00580320-04, PDC Light Curves

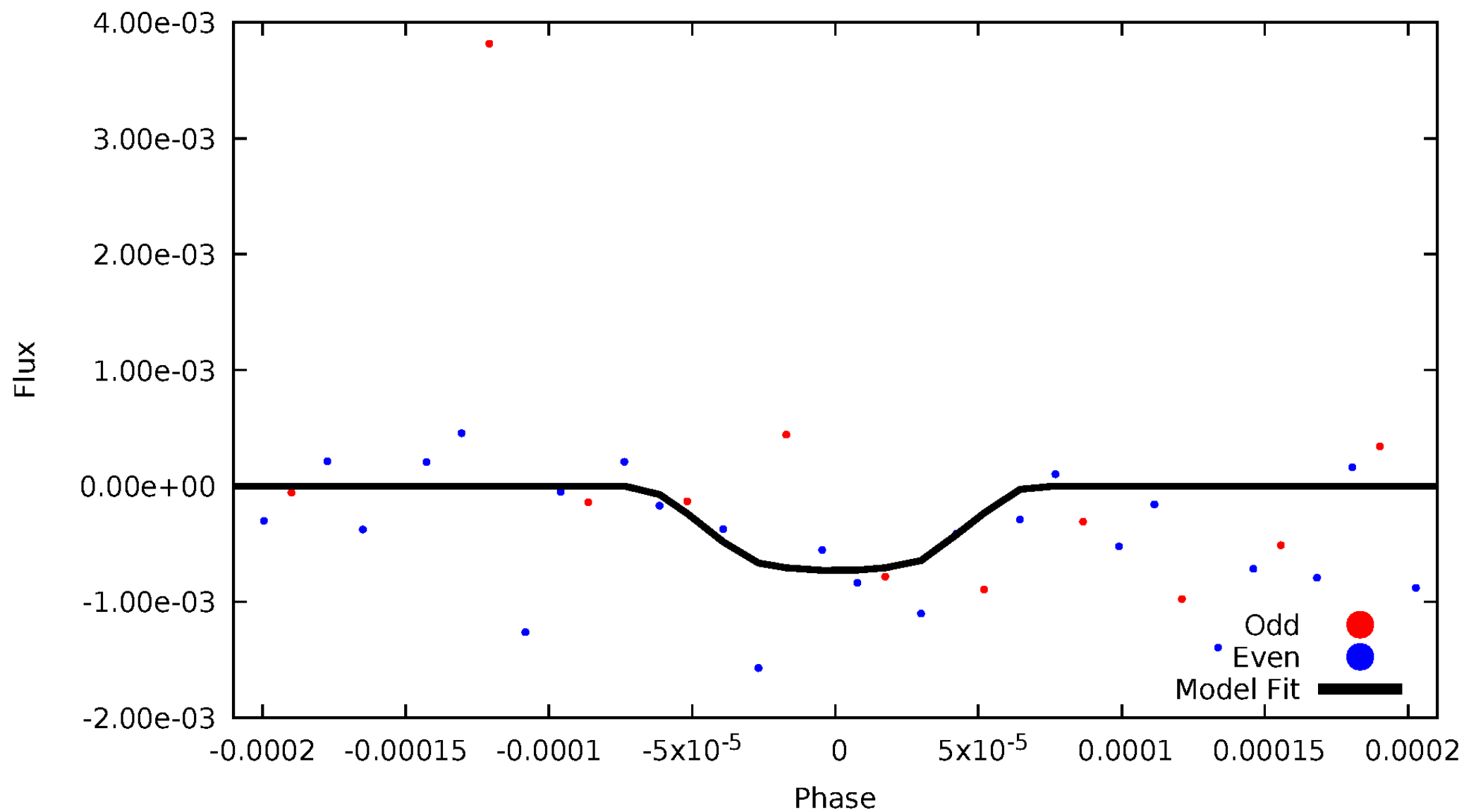


TCE 008580320-04



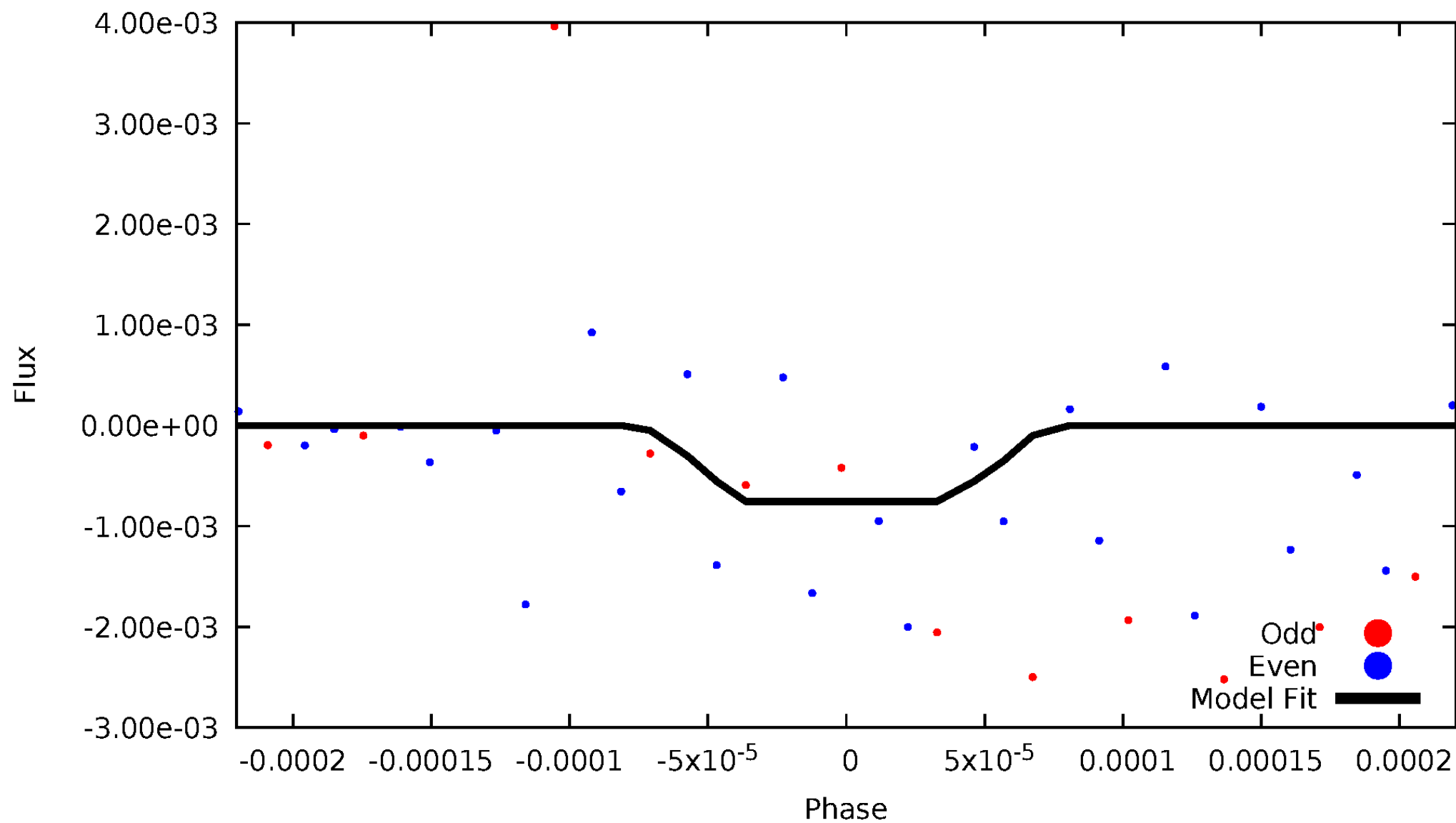
DV Odd/Even

TCE 008580320-04



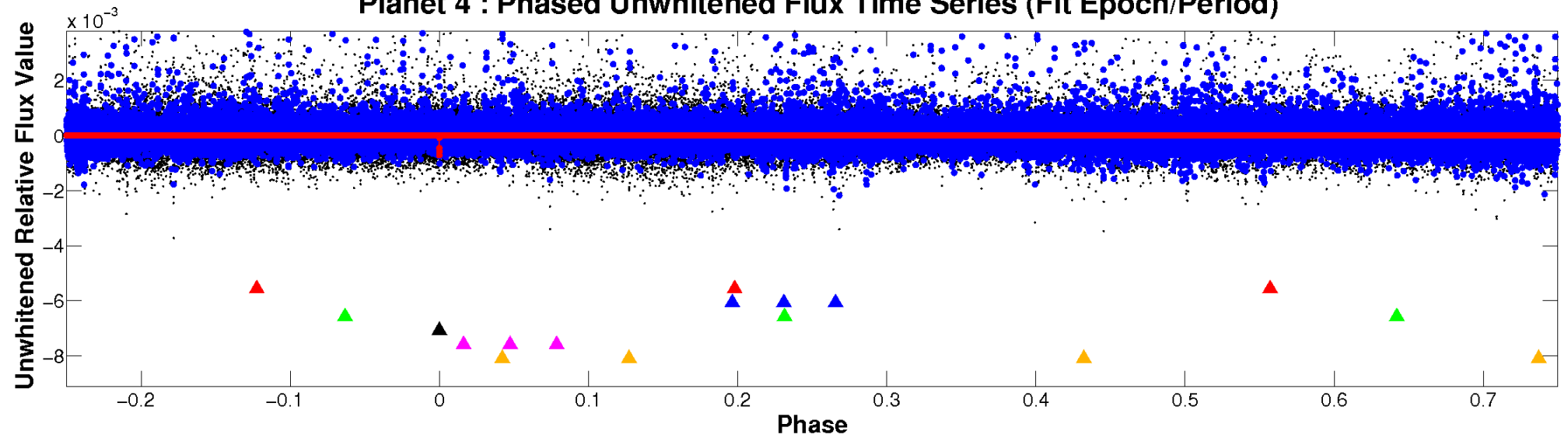
ALT Odd/Even

TCE 008580320-04

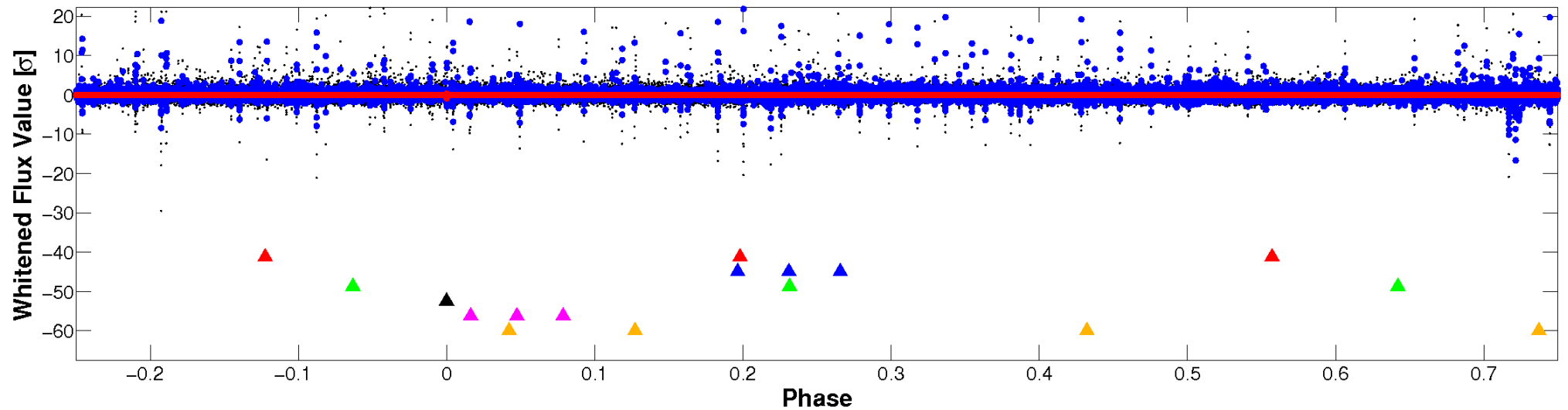


Non-Whitened Vs. Whitened Light Curve

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

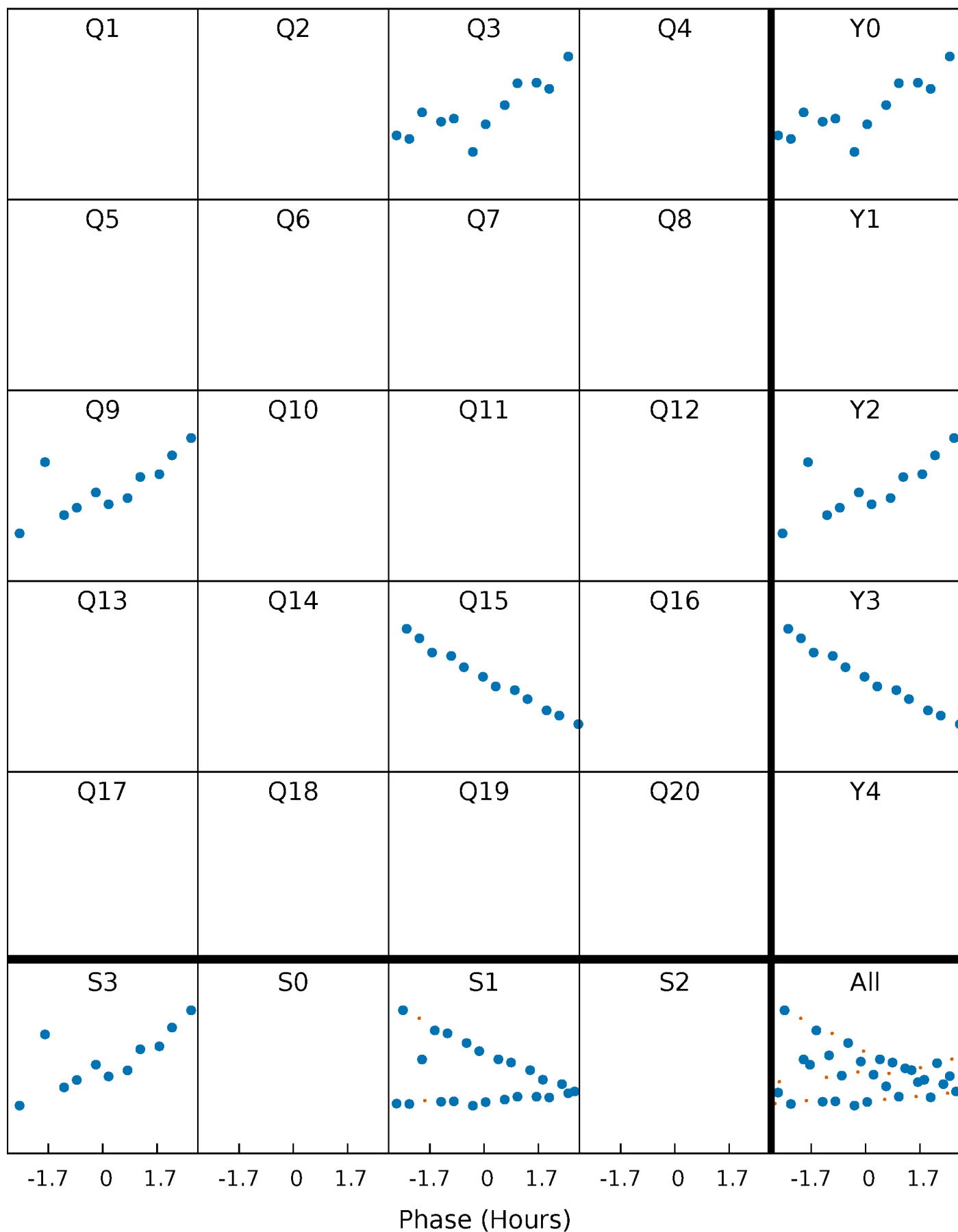


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 008580320-04 P=591.197344 Days $T_0=272.051353$ (BKJD)



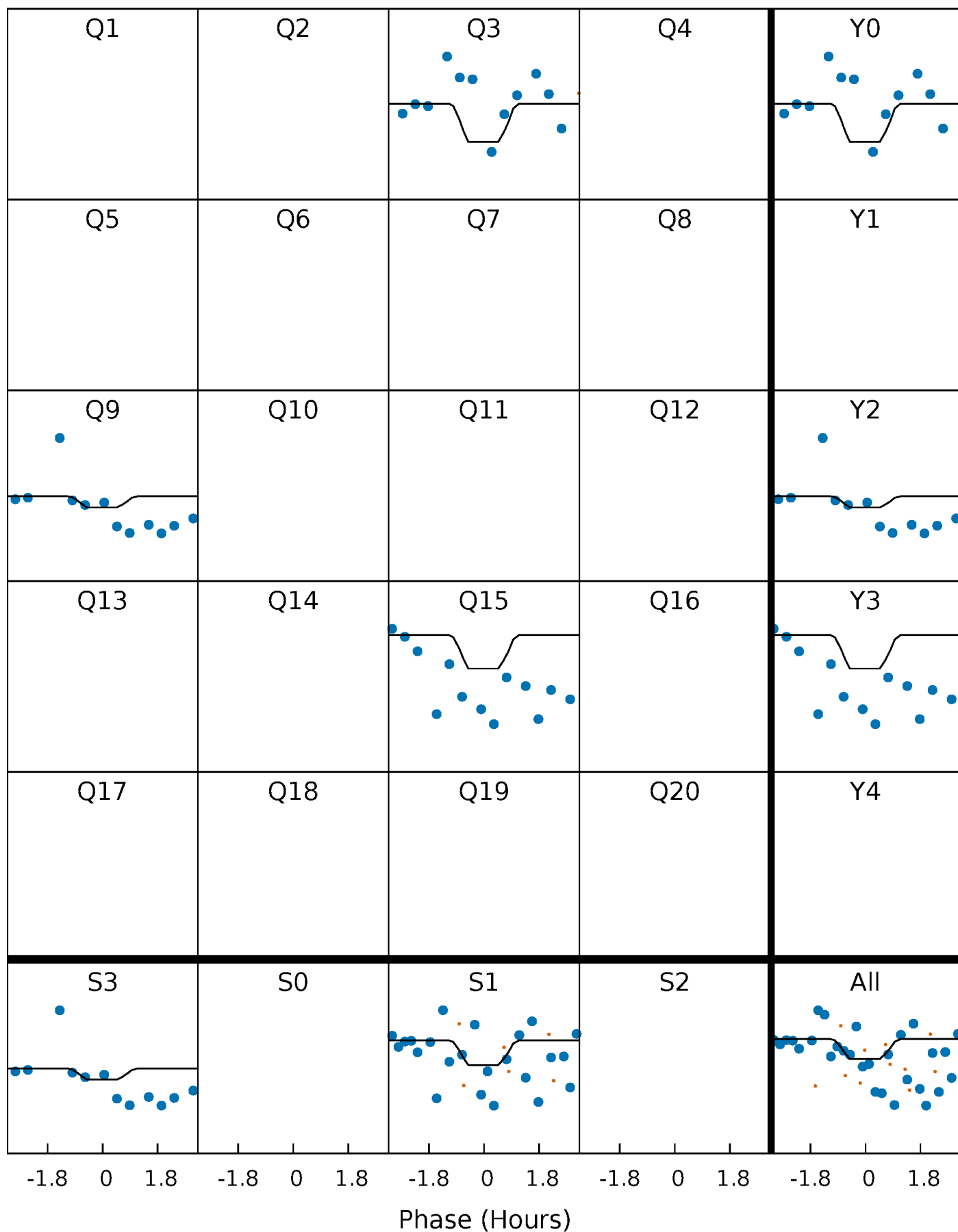
DV Quarter-Phased Transit Curves

TCE 008580320-04 P=591.197344 Days $T_0=272.051353$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

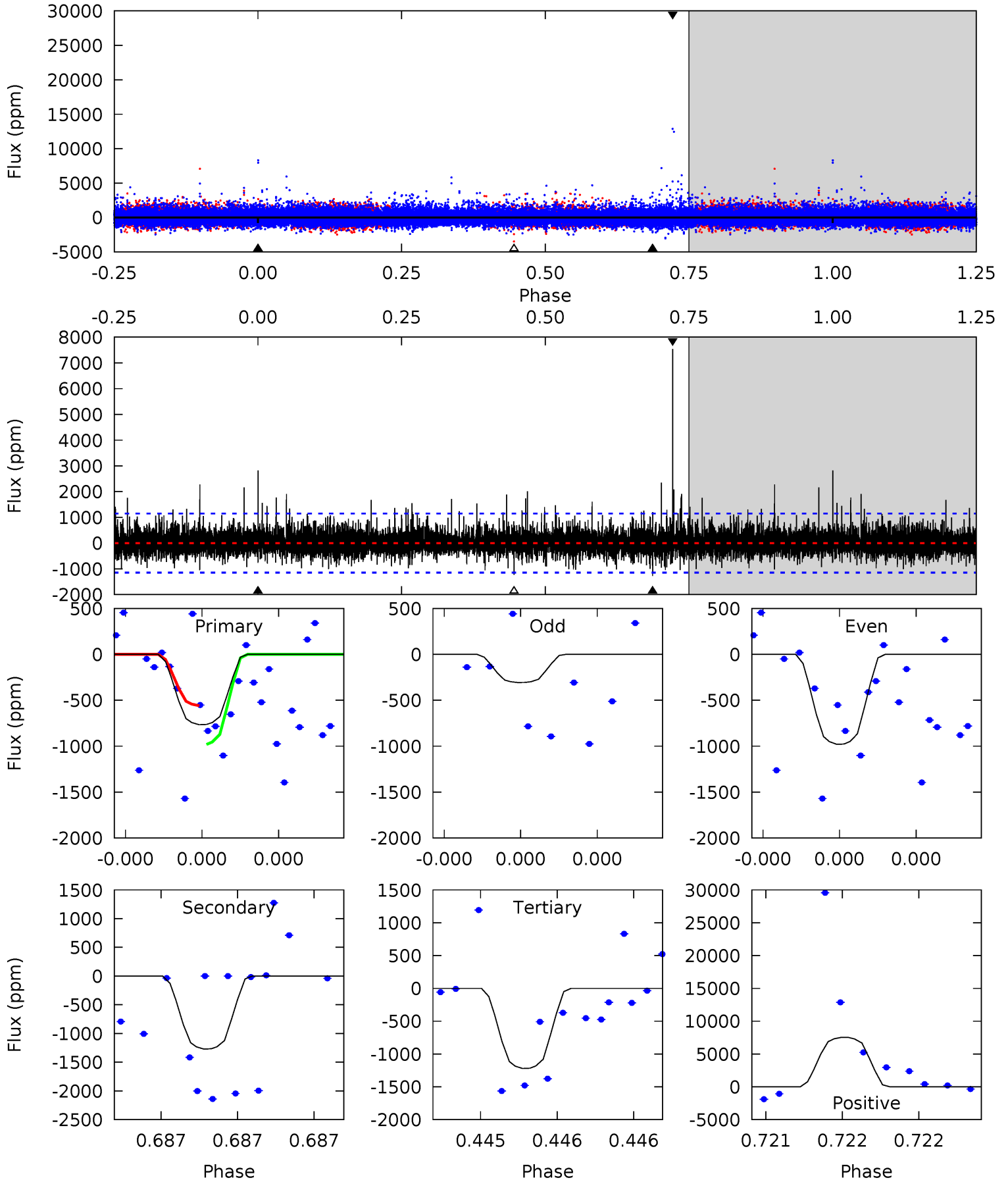
TCE 008580320-04 P=591.211003 Days $T_0=272.028570$ (BKJD)



DV Model-Shift Uniqueness Test

008580320-04, P = 591.197344 Days, E = 272.051353 Days

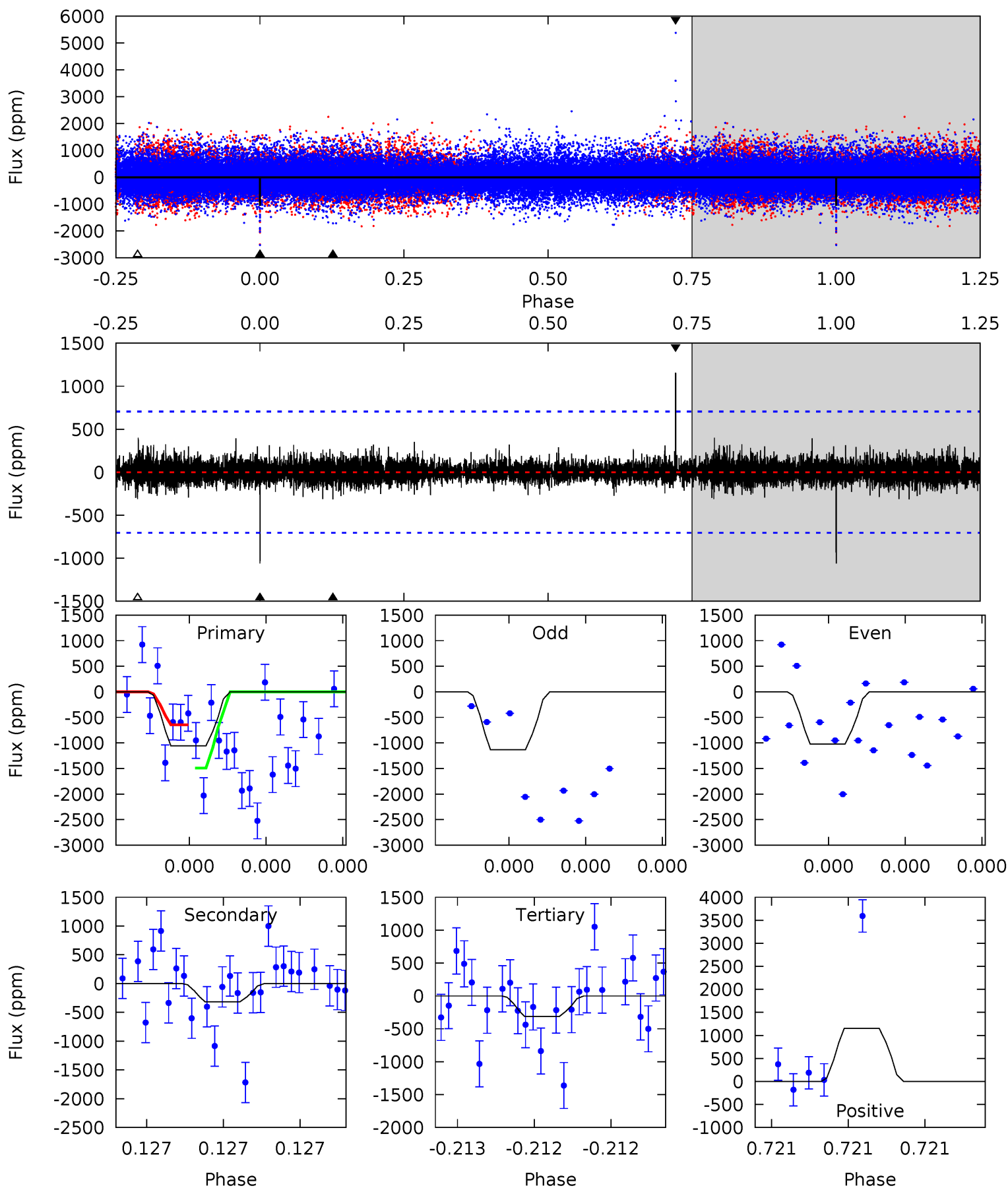
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.87	6.42	6.17	38.0	5.81	3.83	1.52	-2.30	-34.2	0.25	-31.6	1.05	0.95	0.86	1.04



Alt Model-Shift Uniqueness Test

008580320-04, P = 591.211003 Days, E = 272.028570 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.68	2.59	2.54	9.47	5.78	3.79	0.56	6.14	-0.78	0.05	-6.88	0.42	0.93	0.52	3.34



Stellar Parameters For KIC 008580320

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5168^{+170}_{-154}	$4.632^{+0.066}_{-0.044}$	$-0.940^{+0.300}_{-0.300}$	$0.630^{+0.054}_{-0.049}$	$0.621^{+0.059}_{-0.023}$	$3.491^{+0.903}_{-0.600}$
	+3%/-3%	+1%/-1%	+32%/-32%	+9%/-8%	+10%/-4%	+26%/-17%
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 008580320-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1271 ± 198	$160.86^{+166.40}_{-110.22}$	233^{+9}_{-9}	1675^{+414}_{-185}	38^{+339}_{-28}
Alt.	-316 ± 122	$154.28^{+176.36}_{-111.69}$	232^{+9}_{-8}	1489^{+378}_{-184}	$9.708^{+114.756}_{-7.835}$

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 $A_{obs} \gg 1.0$

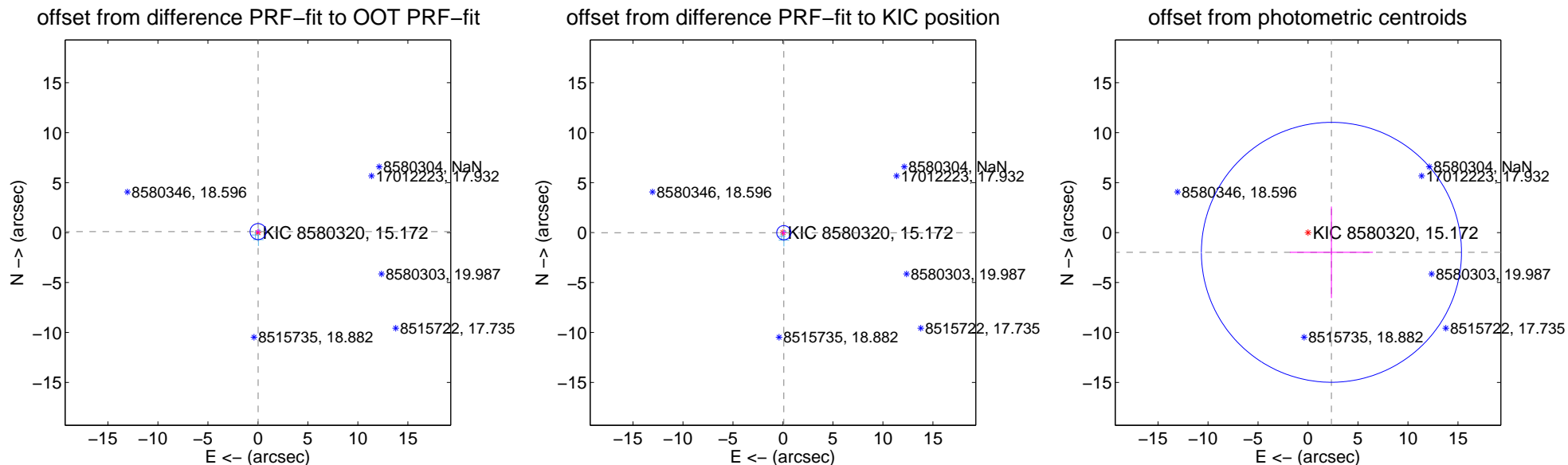
DV Centroid Data

Supplemental centroid analysis for 008580320-04. Kepler magnitude: 15.17. Transit SNR 2.34

There are 3 quarters with good PRF difference image offsets

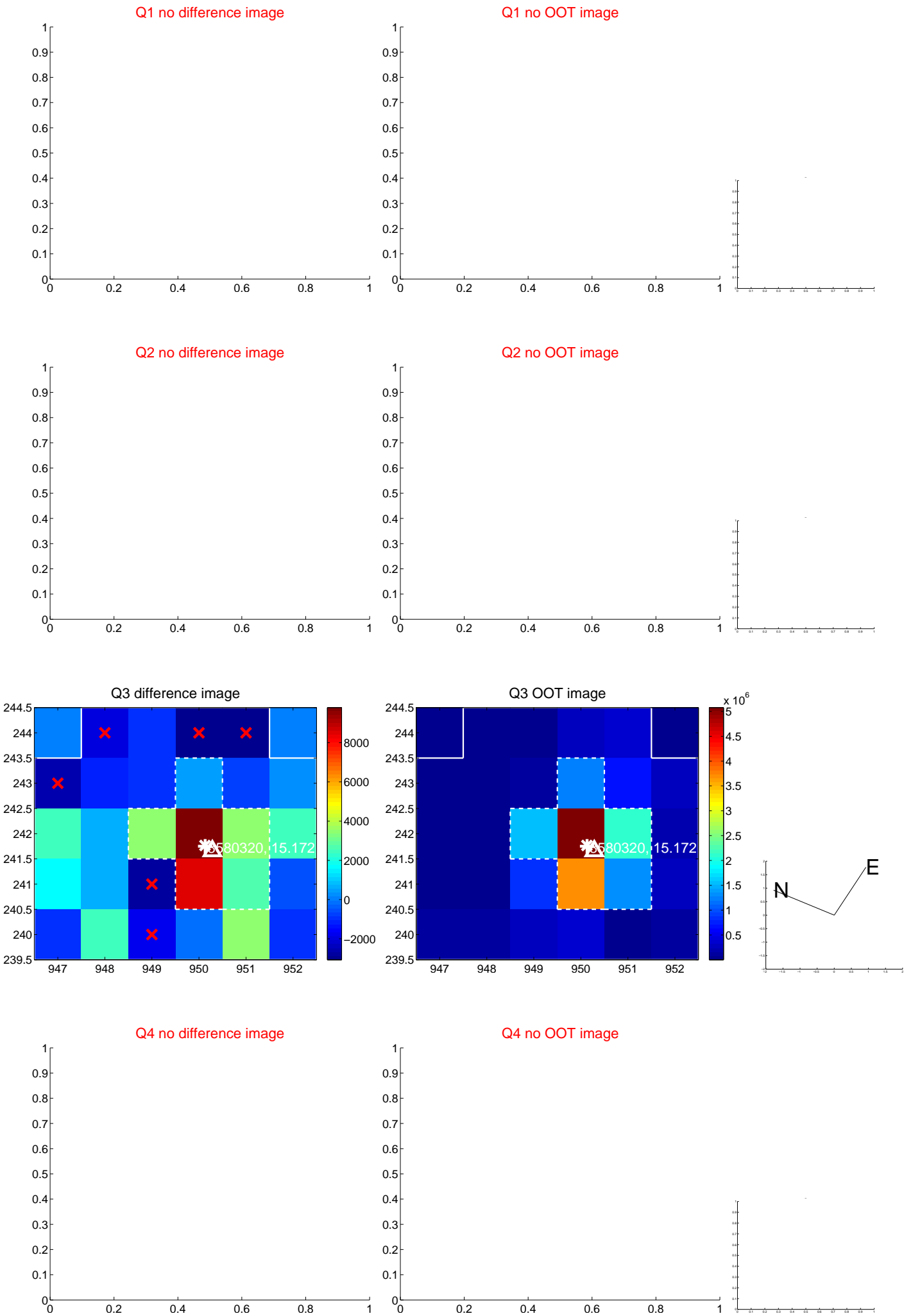
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.101 ± 0.268	0.38	-0.021 ± 0.236	0.099 ± 0.269
PRF-fit source offset from KIC position	0.088 ± 0.236	0.37	-0.086 ± 0.236	-0.013 ± 0.269
photometric centroid source offset	3.06 ± 4.34	0.71	-2.34 ± 4.15	-1.97 ± 4.58



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.

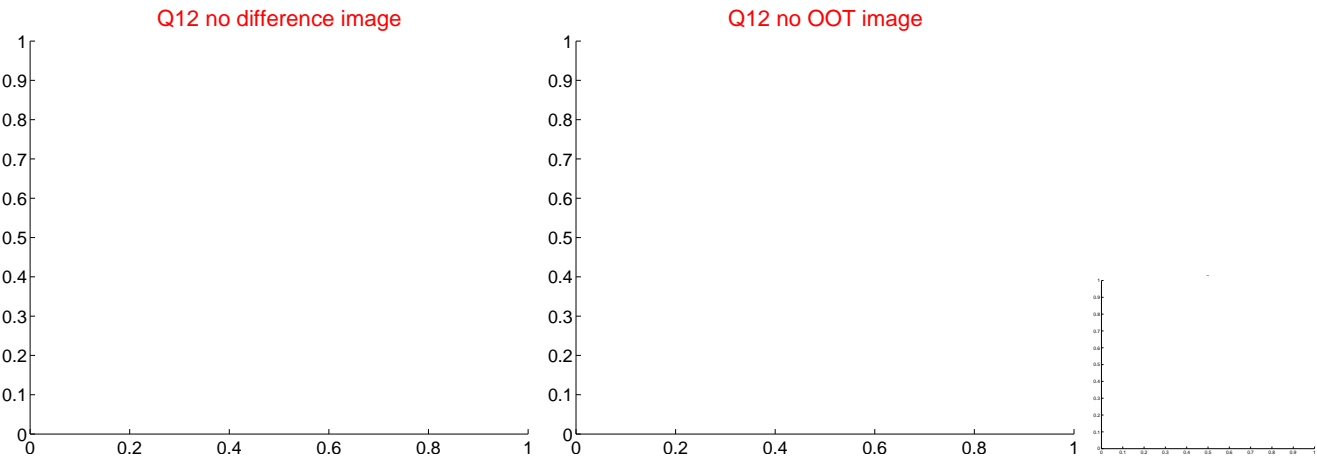
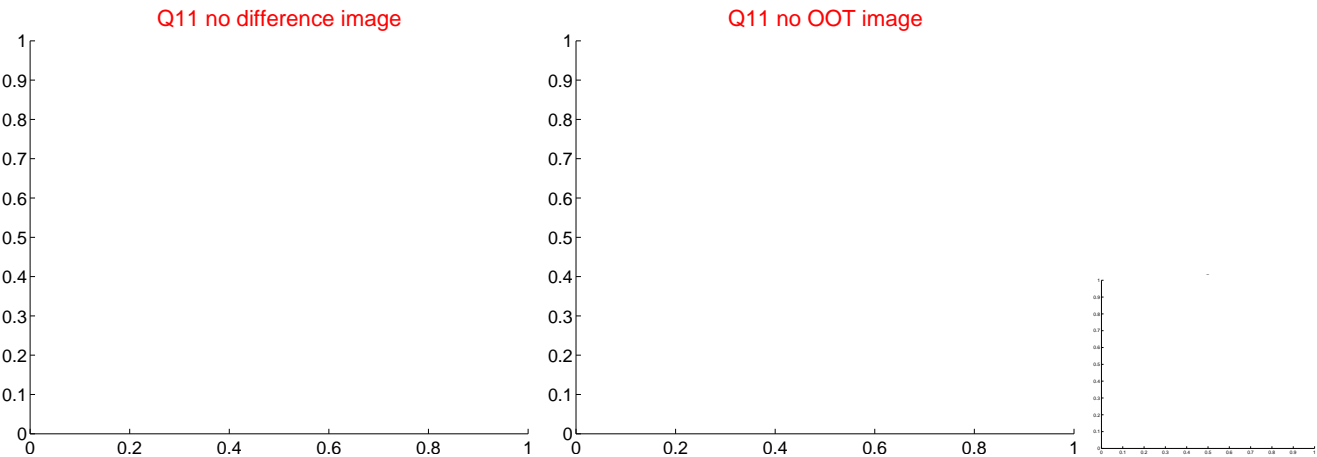
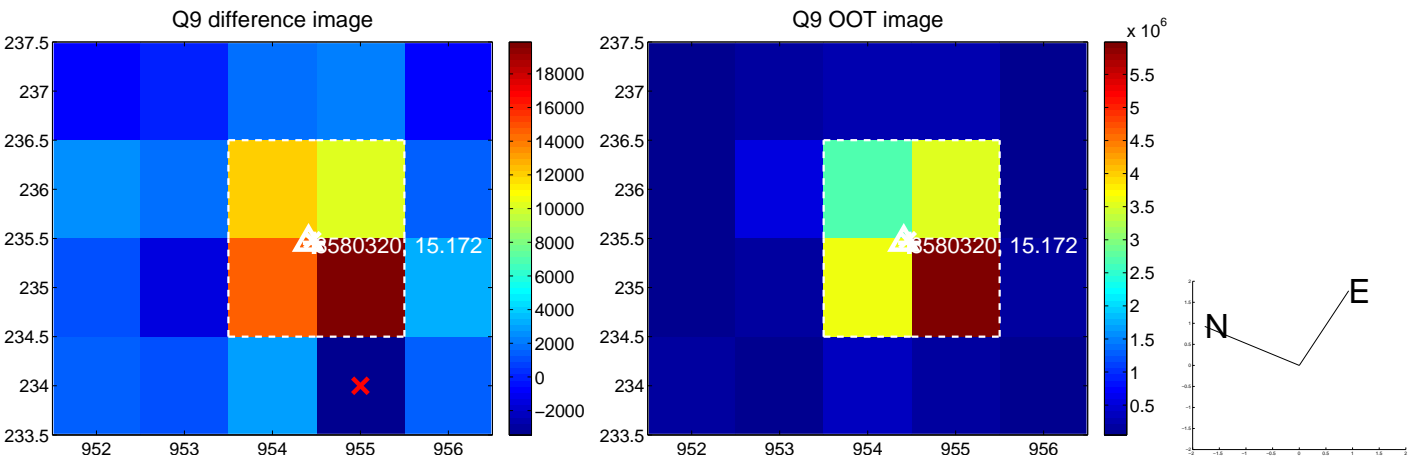
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



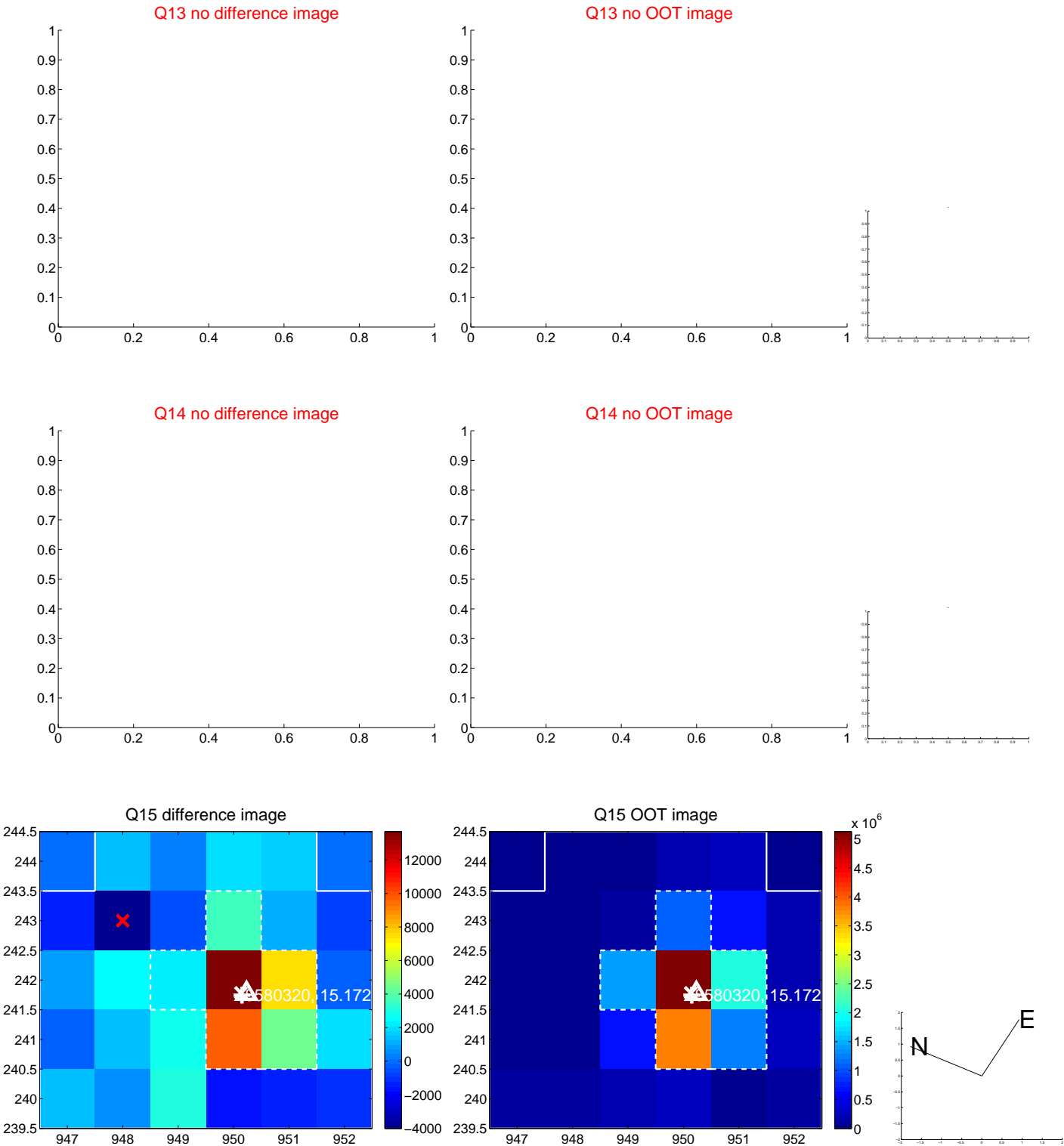
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



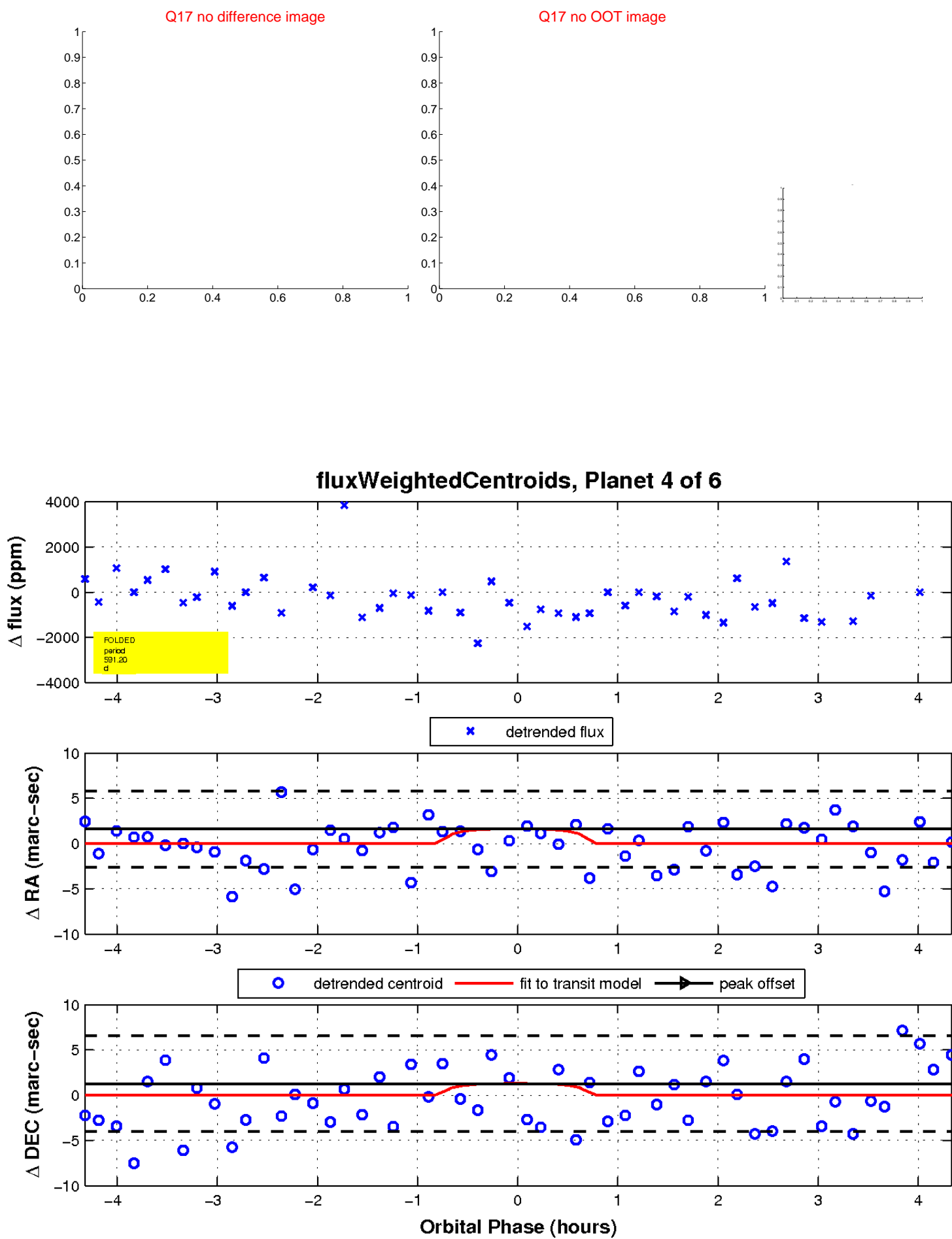
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

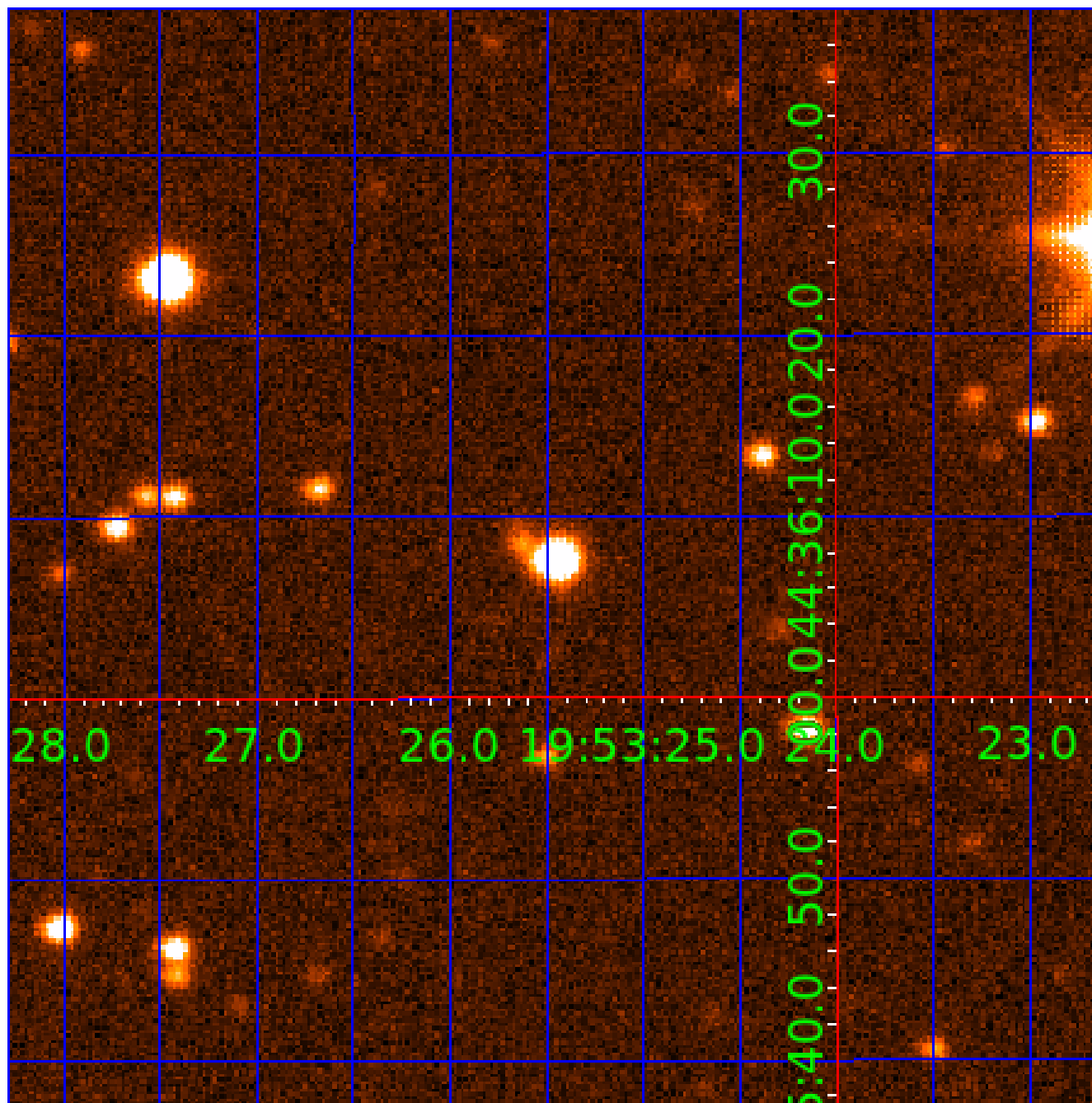


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008580320

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})
008580320-01	OBS	No	401.735685	389.131885	1593.5	5.230	14.8	4.2	0.63	5168	2.55	0.31
008580320-03	OBS	No	416.960283	408.897310	2177.0	4.458	11.1	6.7	0.63	5168	2.94	0.29
008580320-04	OBS	No	591.197344	272.051353	728.6	1.491	13.5	2.3	0.63	5168	1.83	0.18
008580320-05	OBS	No	609.645185	281.652004	2459.4	2.773	10.9	7.4	0.63	5168	3.21	0.18
008580320-06	OBS	No	410.878024	296.992179	1271.5	6.000	10.8	-1.0	0.63	5168	2.22	0.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008580320-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008580320-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
008580320-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
008580320-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
008580320-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

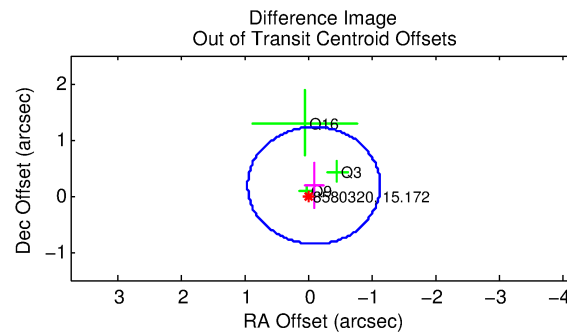
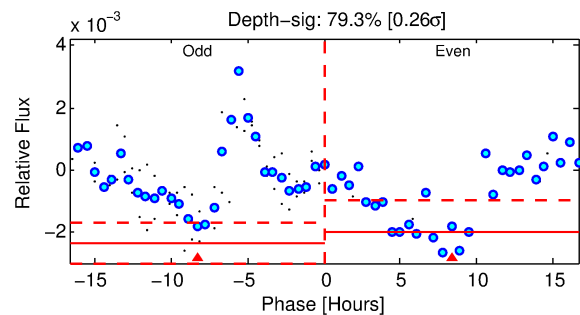
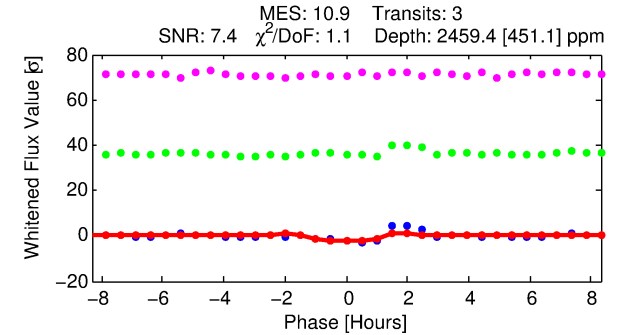
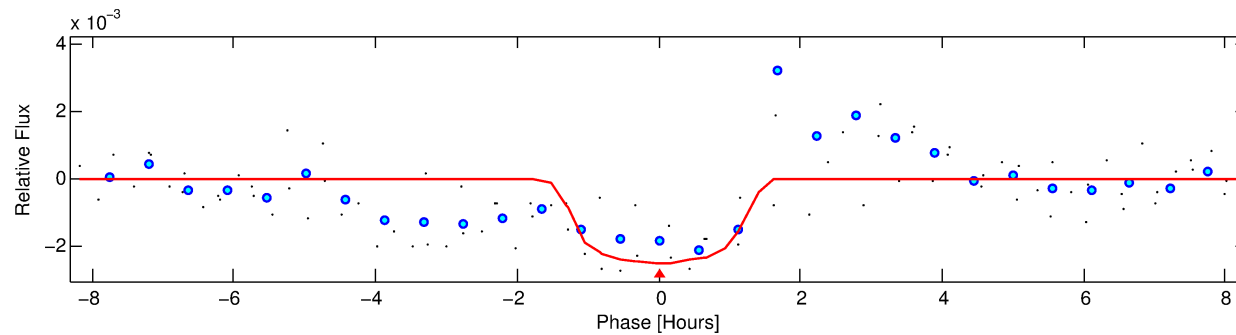
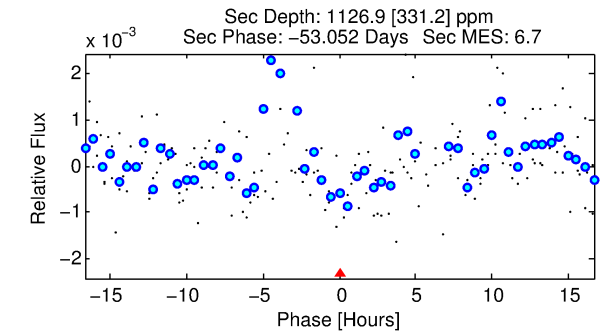
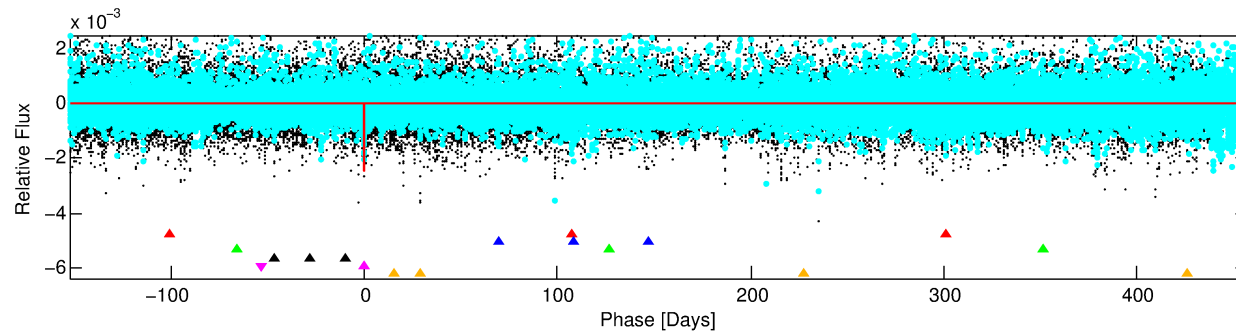
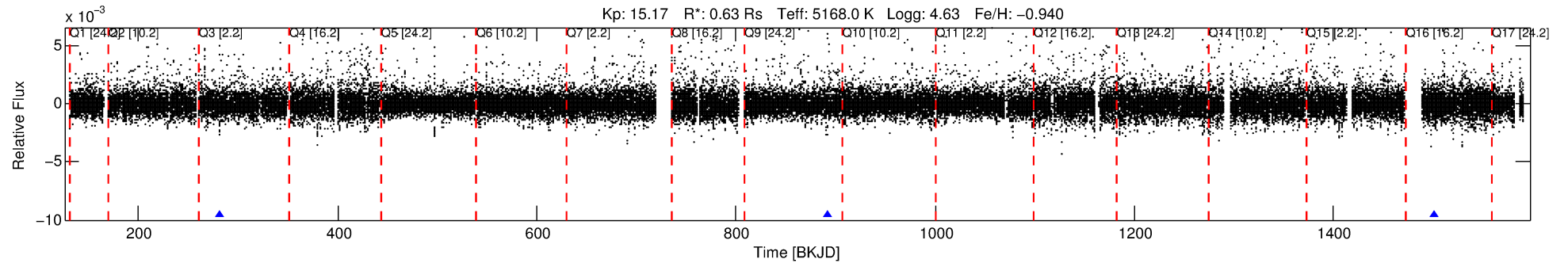
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008580320-05

No Significant Match Found

DV One-Page Summary

KIC: 8580320 Candidate: 5 of 6 Period: 609.645 d



DV Fit Results:

Period = 609.64518 [0.00345] d
Epoch = 281.6520 [0.0051] BKJD
Rp/R* = 0.0467 [0.0787]
a/R* = 1510.54 [10539.88]
b = 0.54 [9.42]
Seff = 0.18 [0.03]
Teq = 165 [7] K
Rp = 3.21 [5.42] Re
a = 1.2004 [0.0917] AU
Ag = 86756.76 [293964.67] [0.30 σ]
Teffp = 4383 [3713] K [1.14 σ]

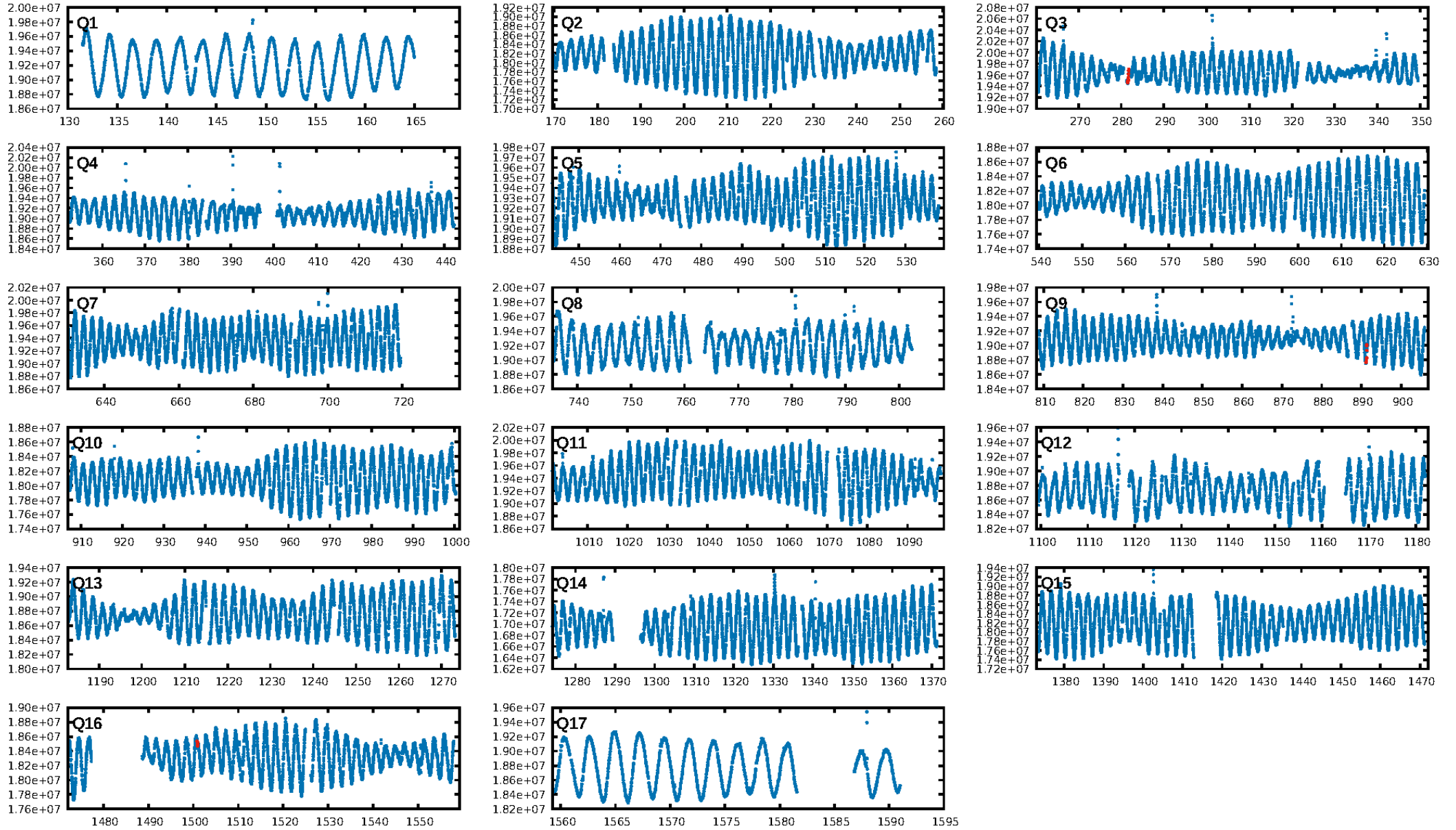
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [140.62 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.4%
ModelChiSquareGof-sig: 92.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.301
Centroid-sig: 88.0%
Centroid-so: 0.422 arcsec [0.43 σ]
OotOffset-rm: 0.198 arcsec [0.57 σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-rm: 0.195 arcsec [0.75 σ]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

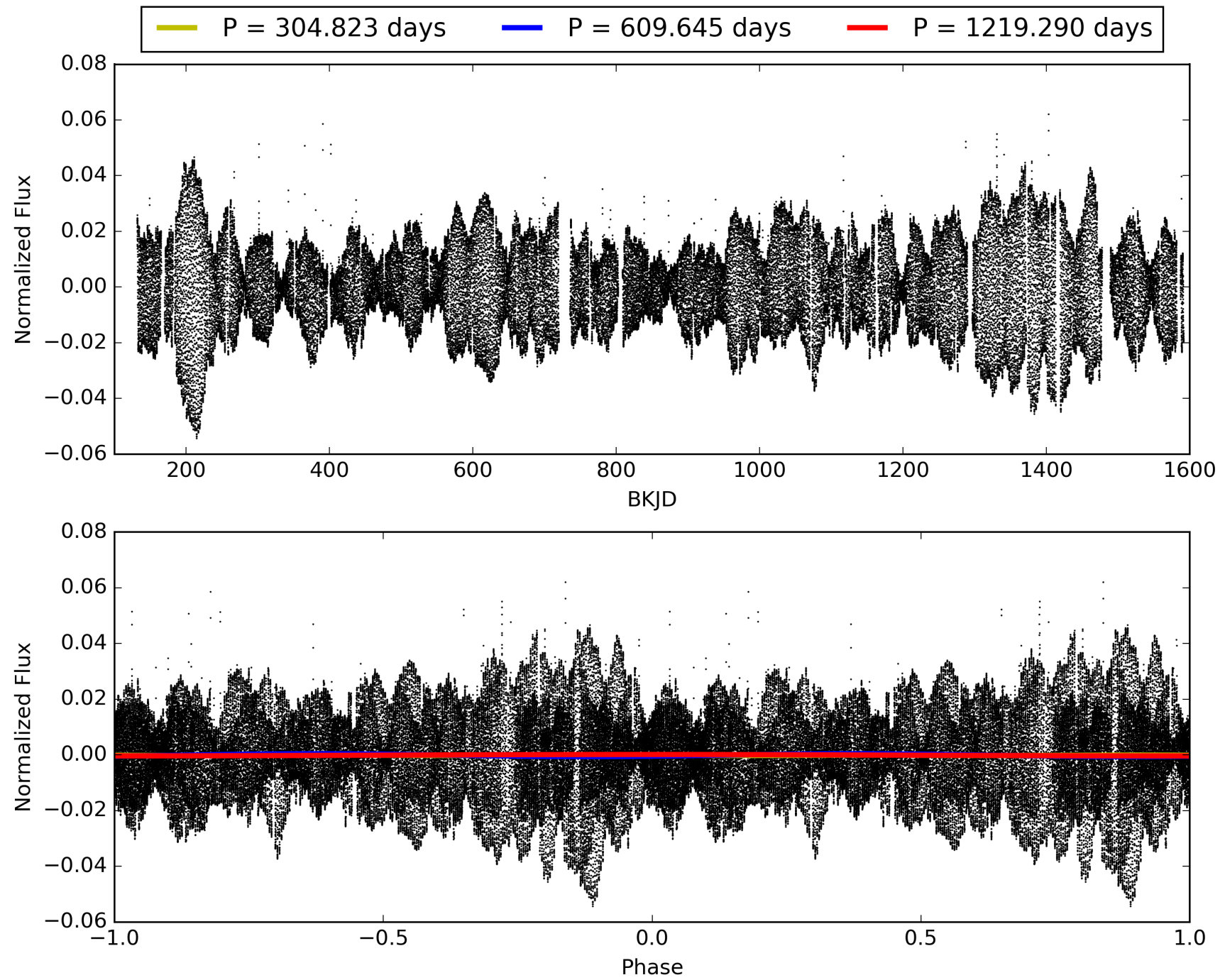
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:23:13 Z

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

TCE 00580320-05, PDC Light Curves

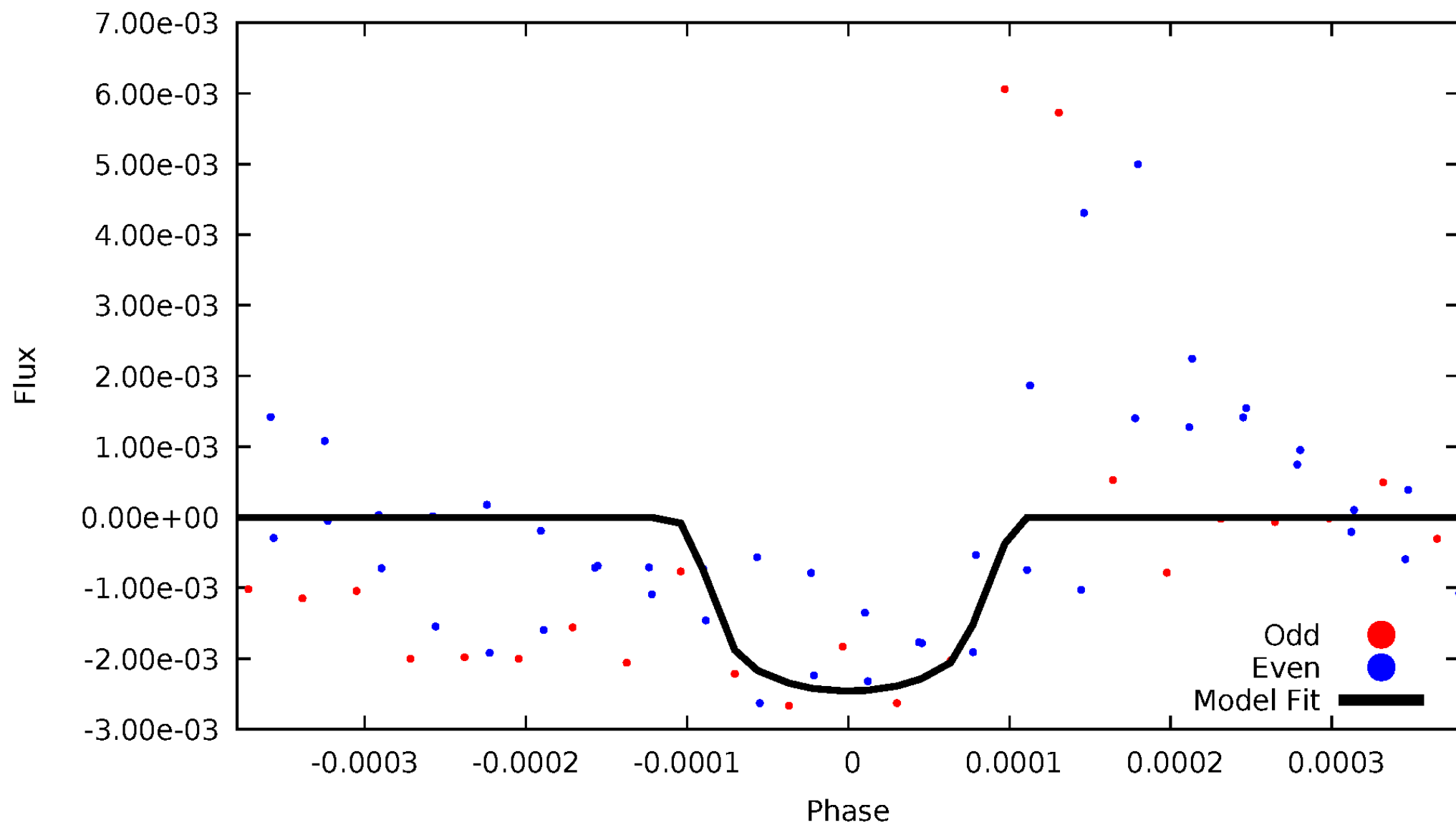


TCE 008580320-05



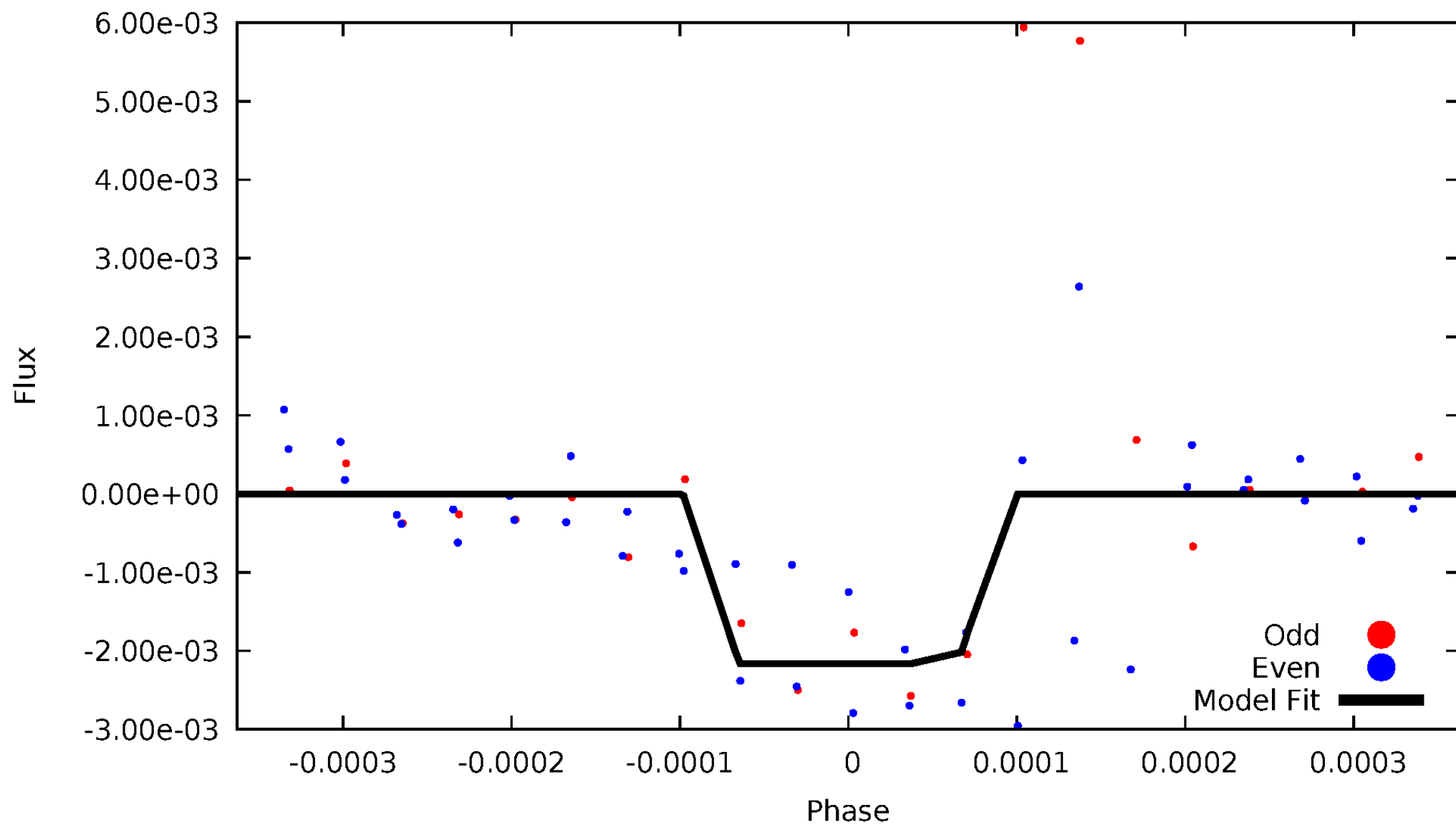
DV Odd/Even

TCE 008580320-05



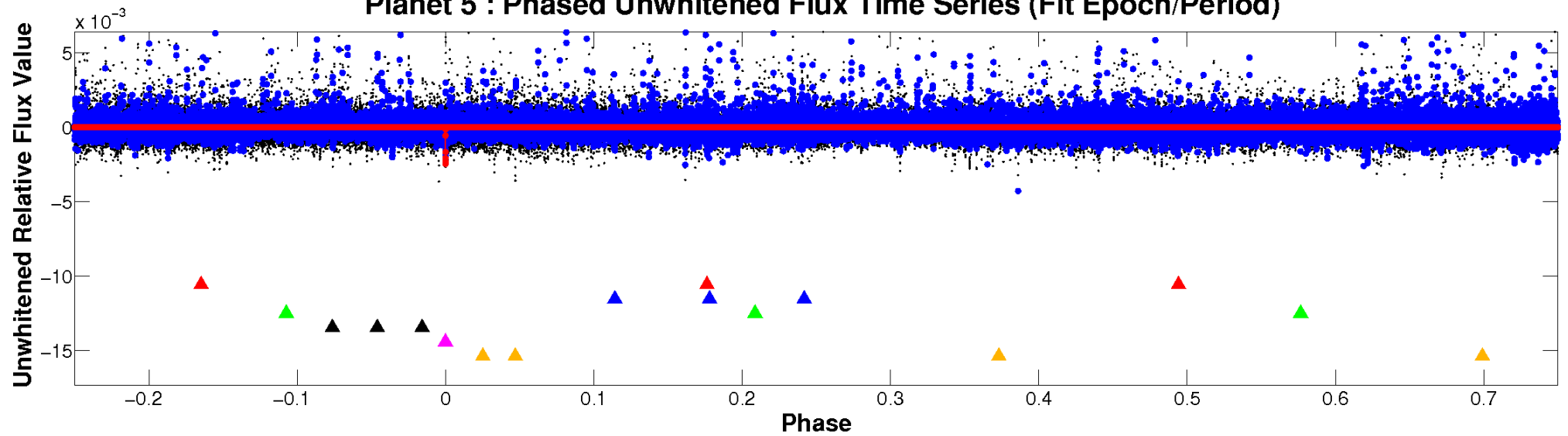
ALT Odd/Even

TCE 008580320-05

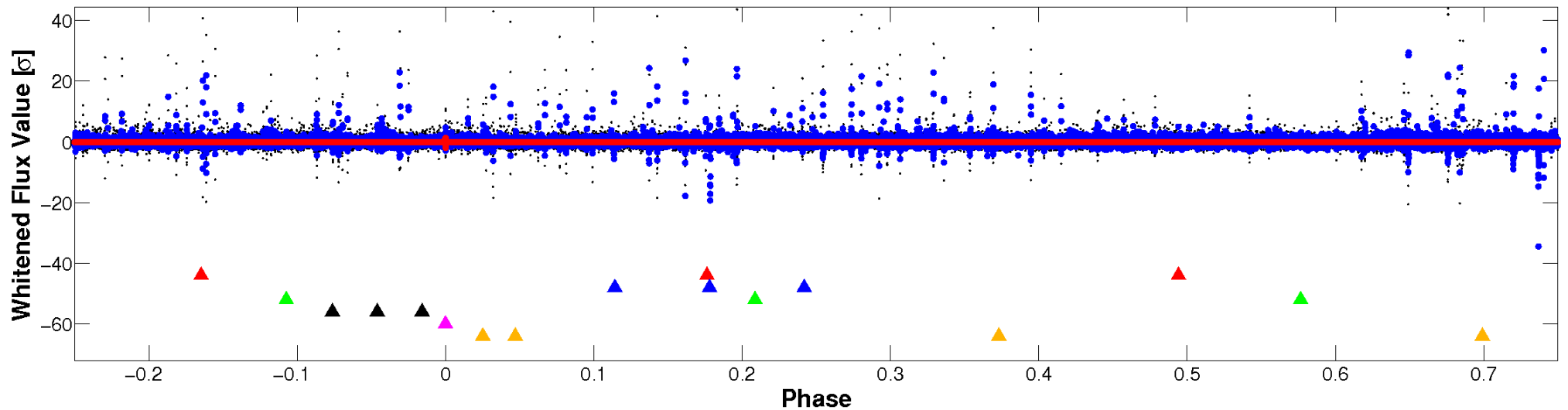


Non-Whitened Vs. Whitened Light Curve

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

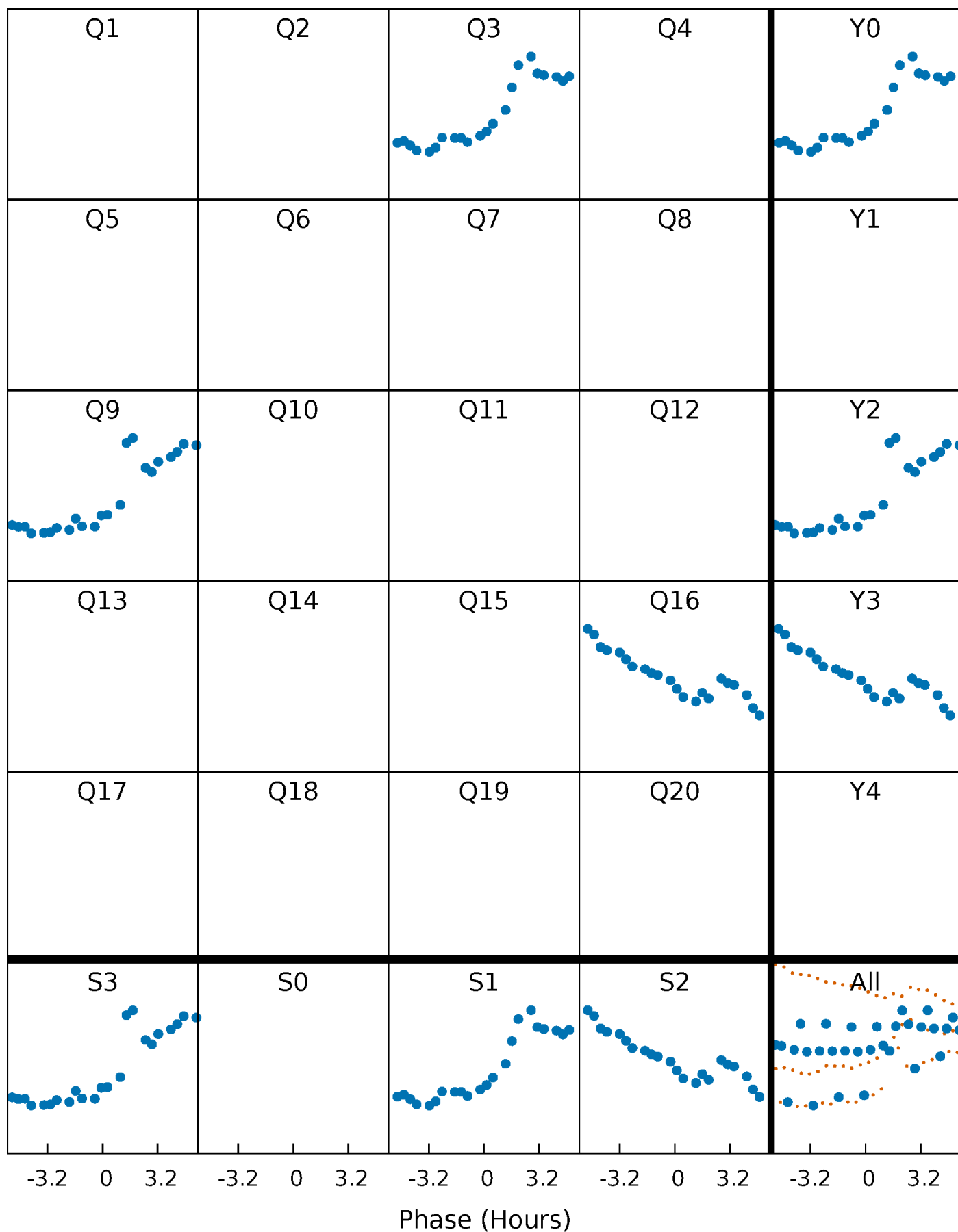


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



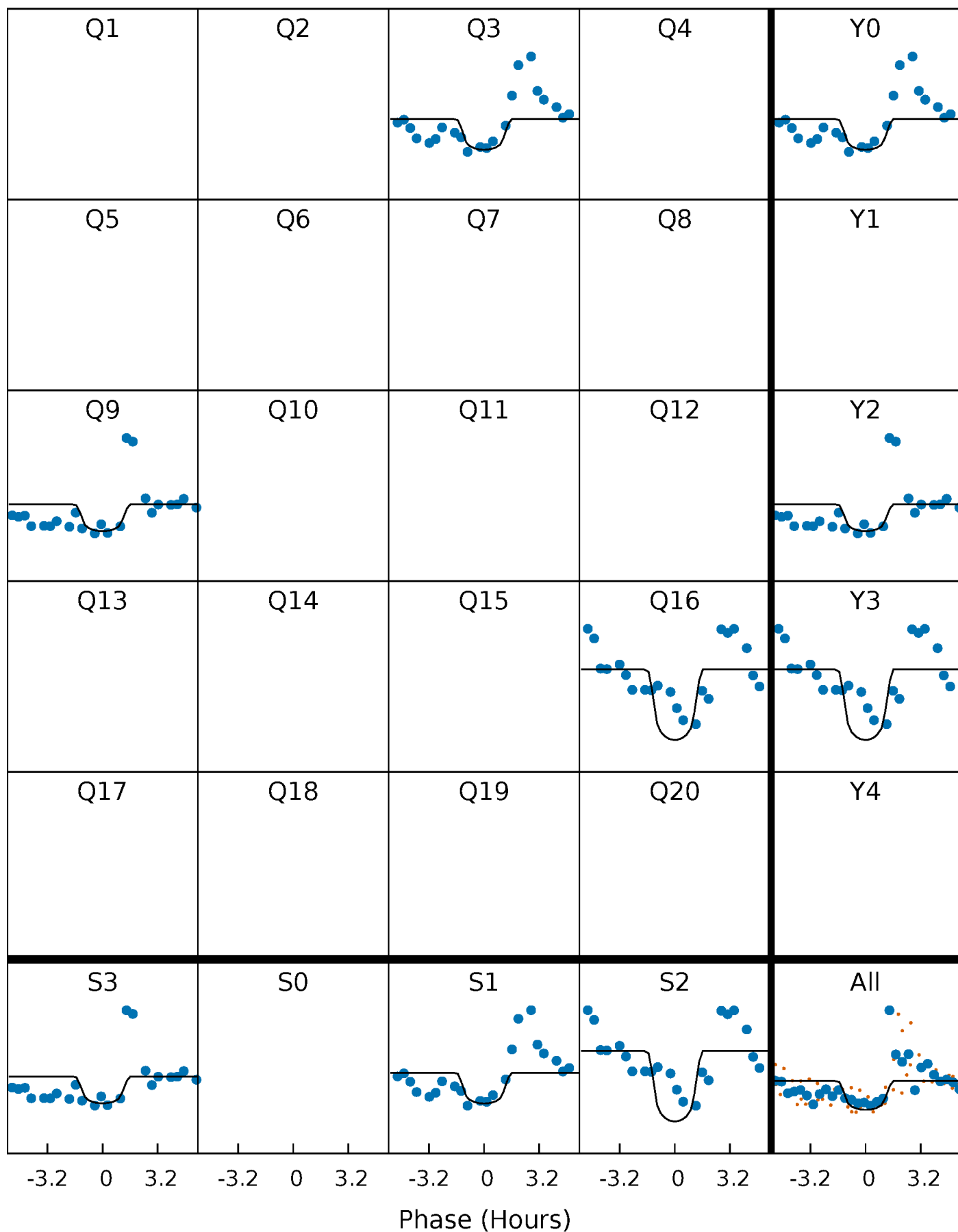
PDC Quarter-Phased Transit Curves

TCE 008580320-05 $P=609.645185$ Days $T_0=281.652004$ (BKJD)



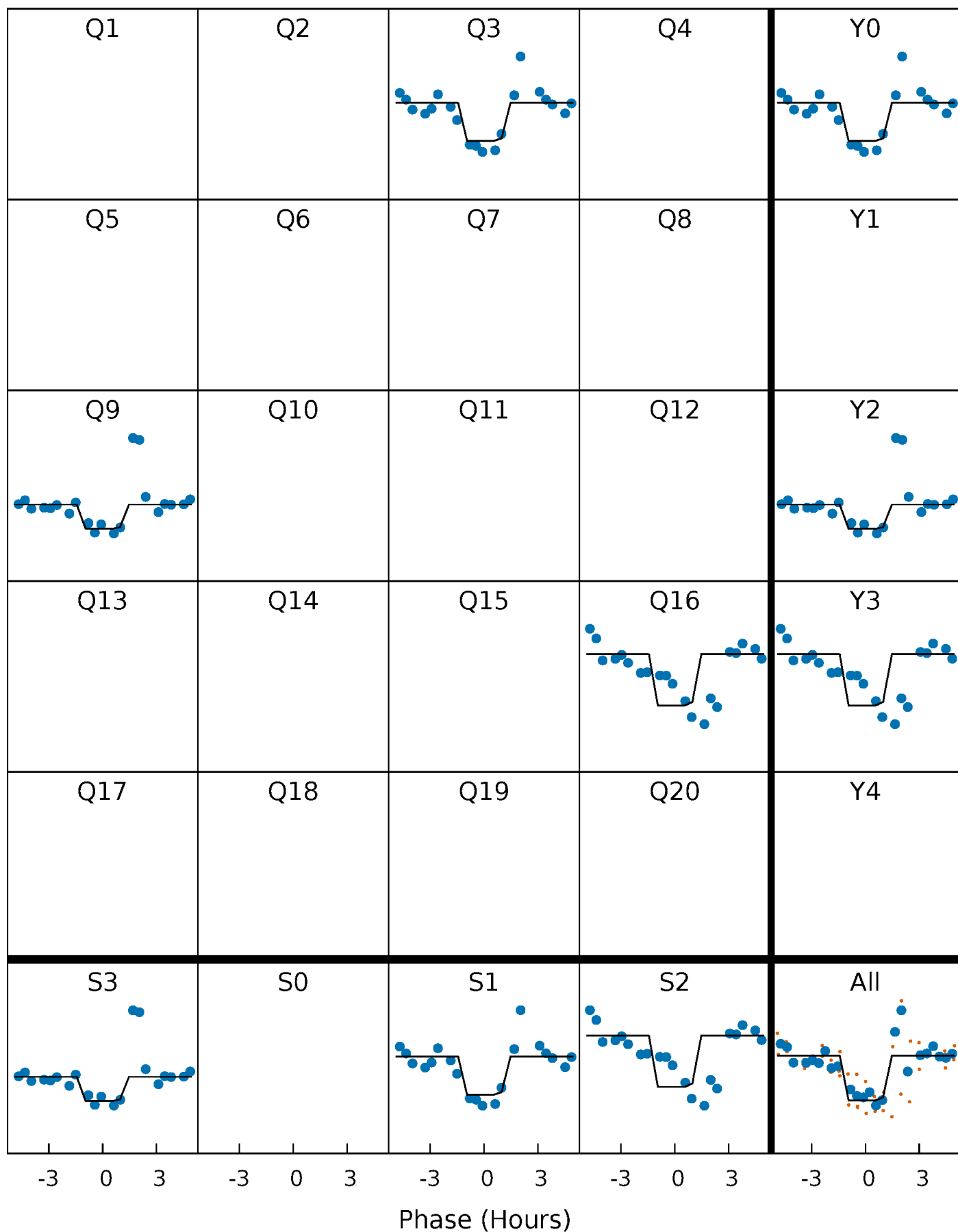
DV Quarter-Phased Transit Curves

TCE 008580320-05 $P=609.645185$ Days $T_0=281.652004$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

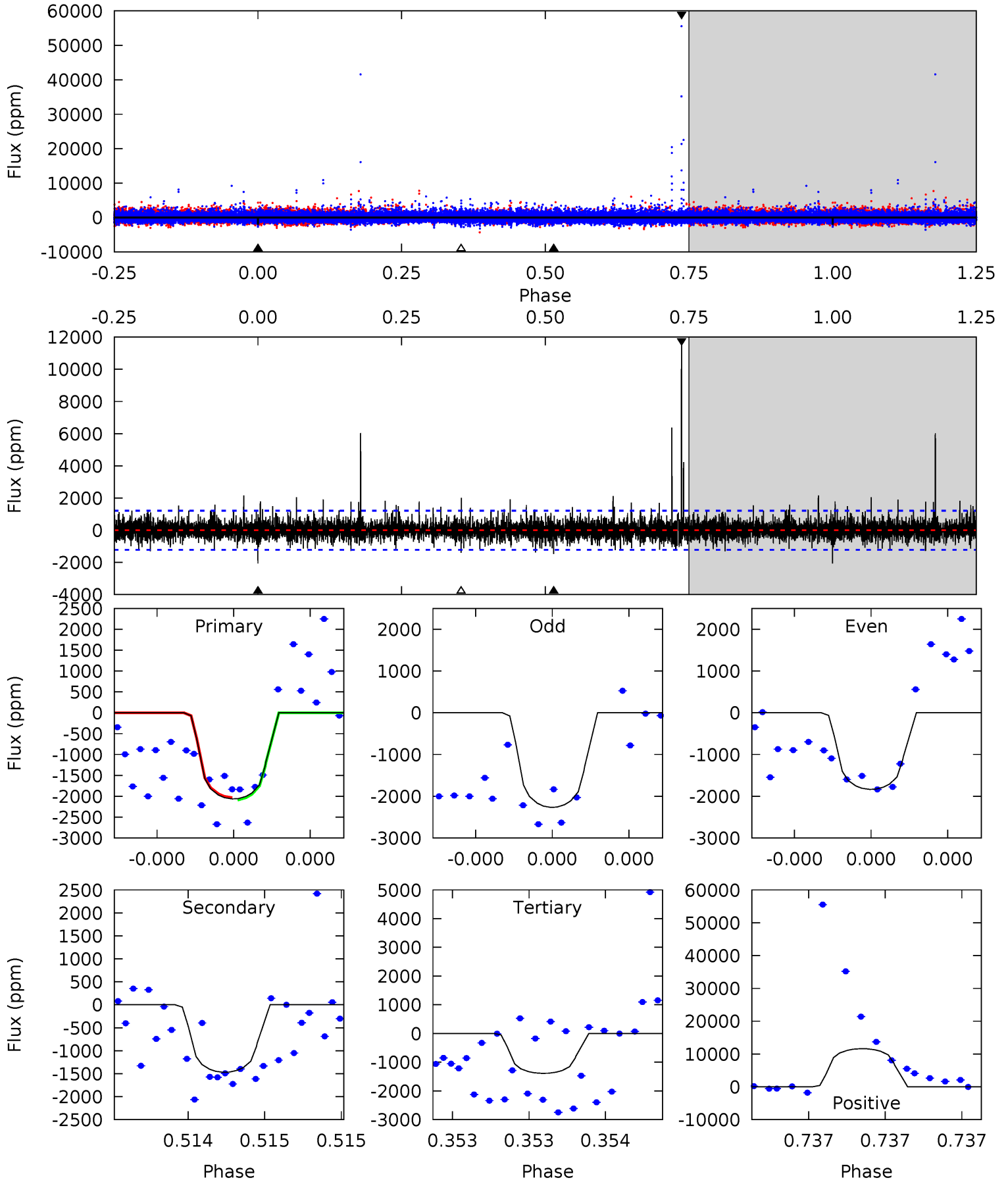
TCE 008580320-05 $P=609.635263$ Days $T_0=281.657663$ (BKJD)



DV Model-Shift Uniqueness Test

008580320-05, P = 609.645185 Days, E = 281.652004 Days

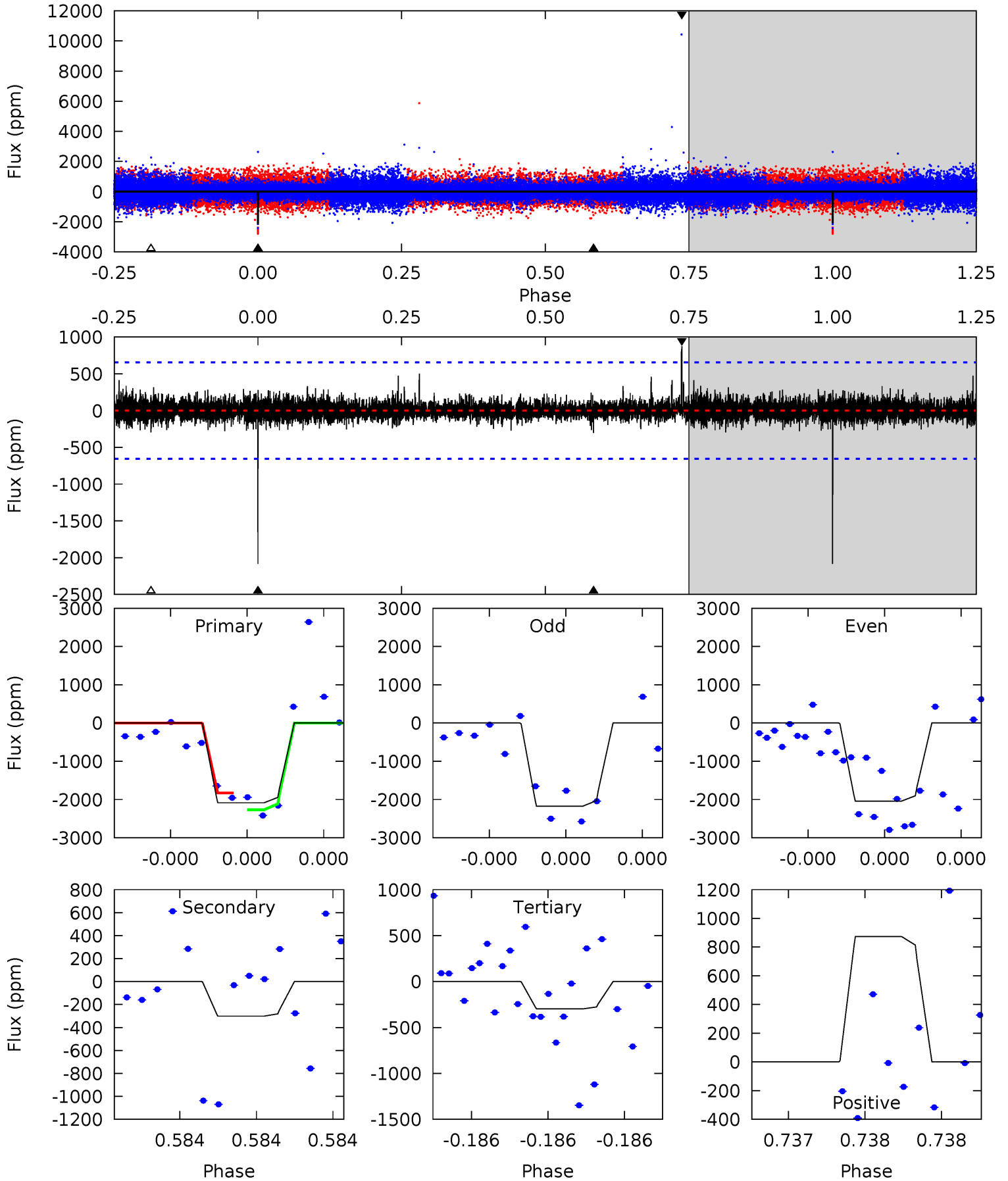
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.74	6.94	6.56	54.9	5.74	3.74	1.96	3.18	-45.1	0.38	-47.9	0.72	0.88	0.85	0.12



Alt Model-Shift Uniqueness Test

008580320-05, P = 609.635263 Days, E = 281.657663 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.3	2.65	2.62	7.68	5.76	3.76	0.61	15.7	10.7	0.04	-5.03	0.52	0.96	0.30	1.92



Stellar Parameters For KIC 008580320

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5168^{+170}_{-154}	$4.632^{+0.066}_{-0.044}$	$-0.940^{+0.300}_{-0.300}$	$0.630^{+0.054}_{-0.049}$	$0.621^{+0.059}_{-0.023}$	$3.491^{+0.903}_{-0.600}$
	+3%/-3%	+1%/-1%	+32%/-32%	+9%/-8%	+10%/-4%	+26%/-17%
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 008580320-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1470 ± 212	$5.06^{+4.71}_{-3.40}$	230^{+9}_{-8}	3993^{+2552}_{-777}	$47318^{+383399}_{-35442}$
Alt.	-302 ± 114	$4.87^{+4.70}_{-3.41}$	230^{+9}_{-8}	3096^{+1576}_{-507}	$9198^{+103279}_{-6834}$

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

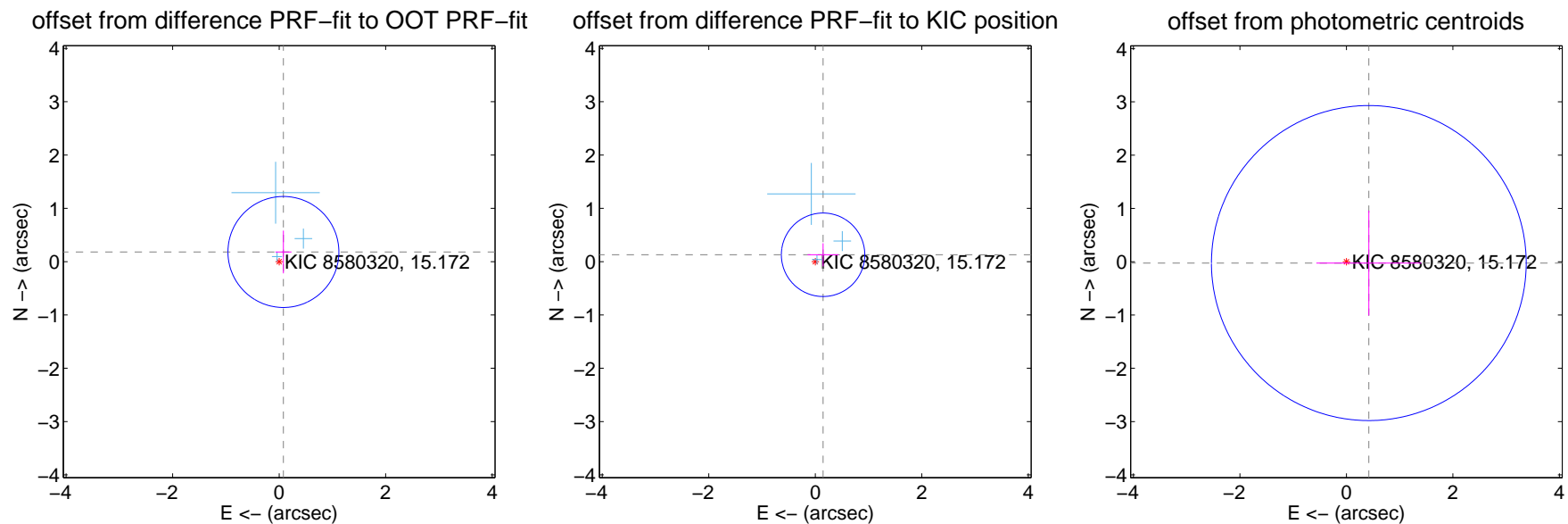
DV Centroid Data

Supplemental centroid analysis for 008580320-05. Kepler magnitude: 15.17. Transit SNR 7.44

There are 3 quarters with good PRF difference image offsets

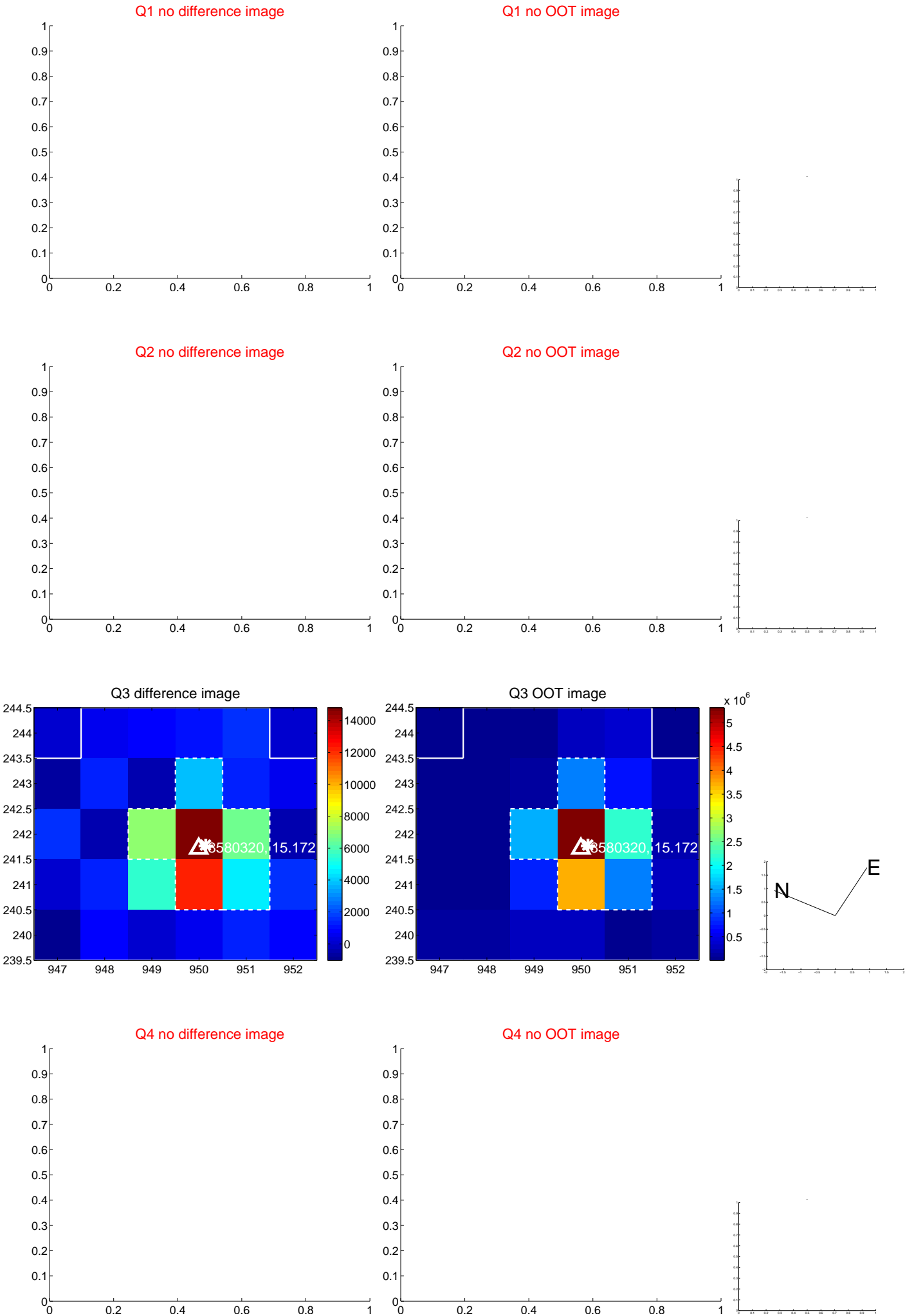
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.198 ± 0.347	0.57	-0.080 ± 0.150	0.181 ± 0.400
PRF-fit source offset from KIC position	0.195 ± 0.261	0.75	-0.146 ± 0.291	0.129 ± 0.216
photometric centroid source offset	0.42 ± 0.99	0.43	-0.42 ± 0.99	-0.03 ± 0.98



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.

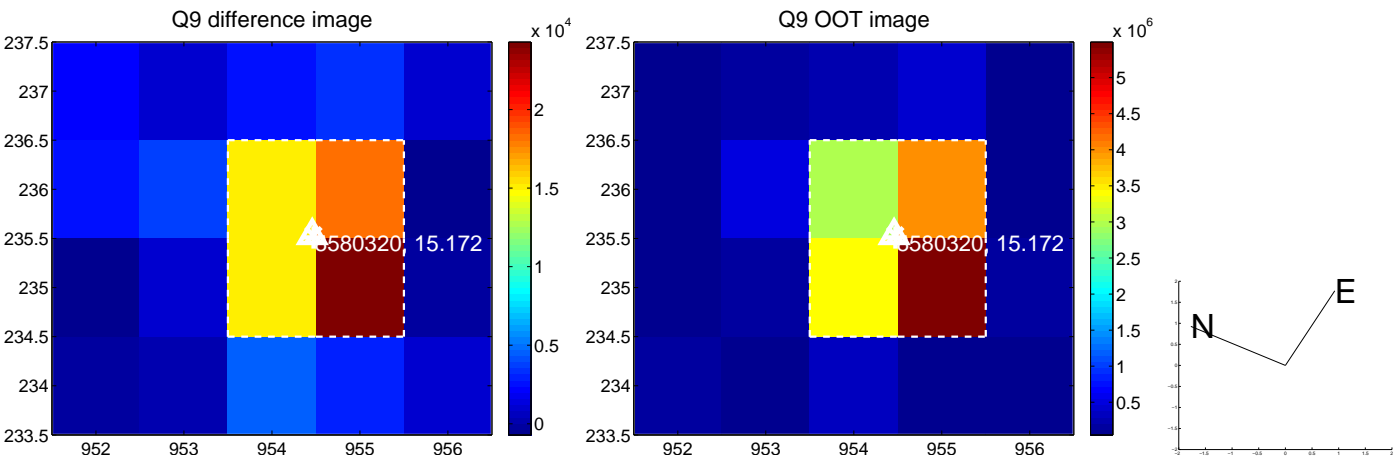
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



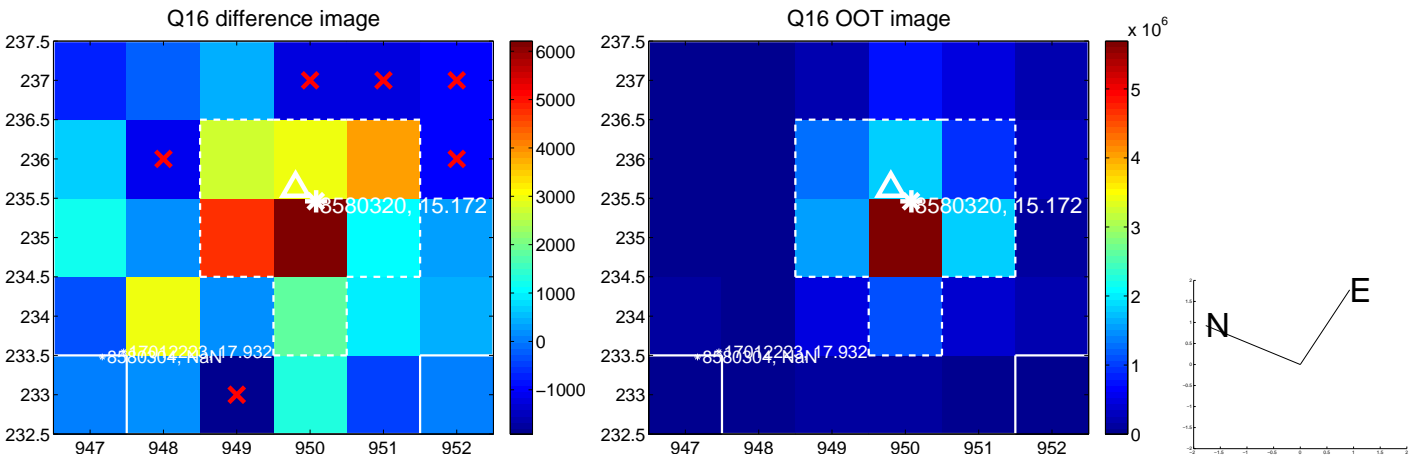
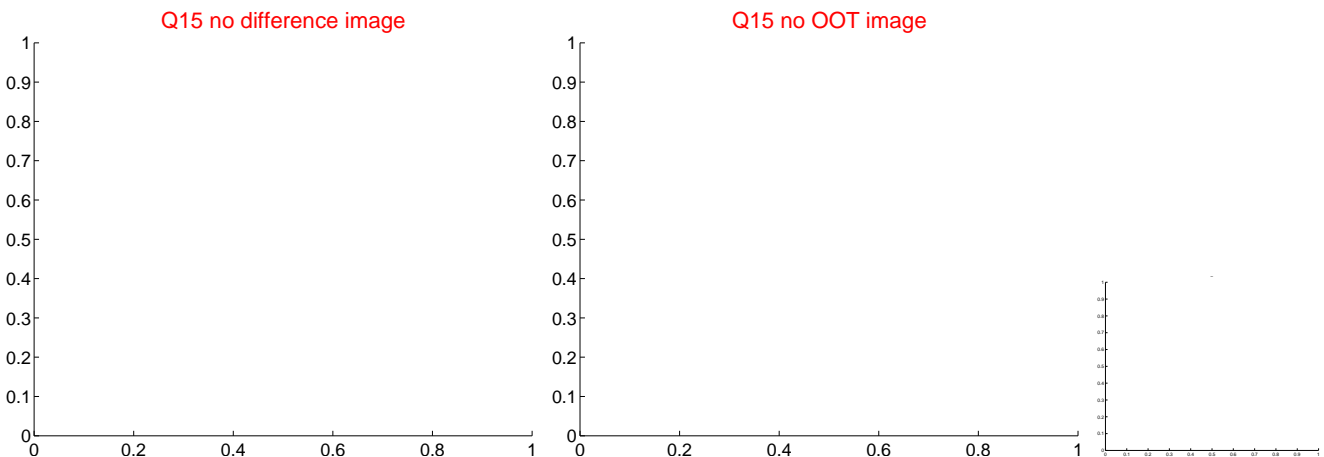
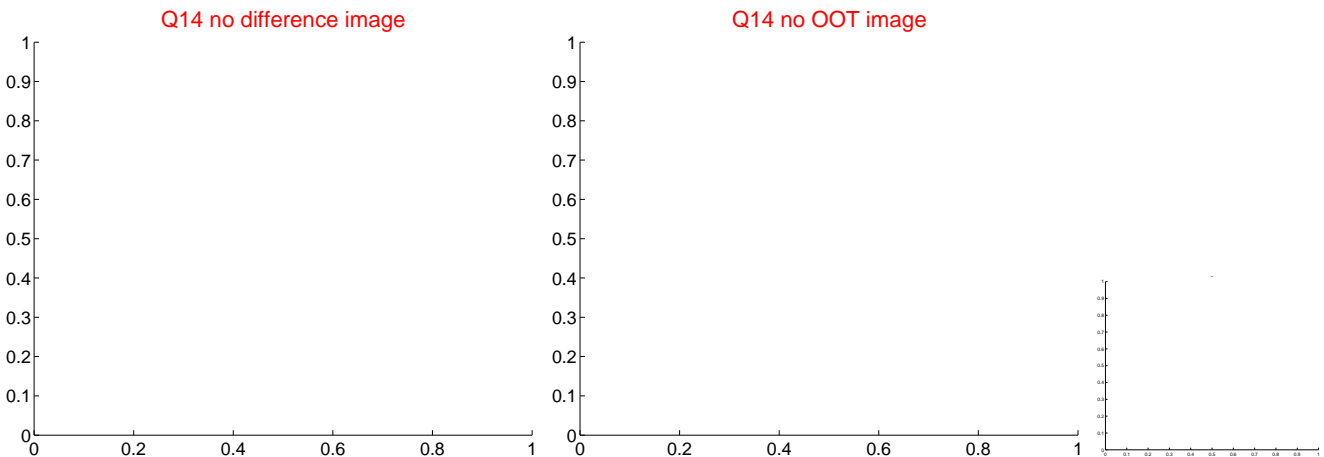
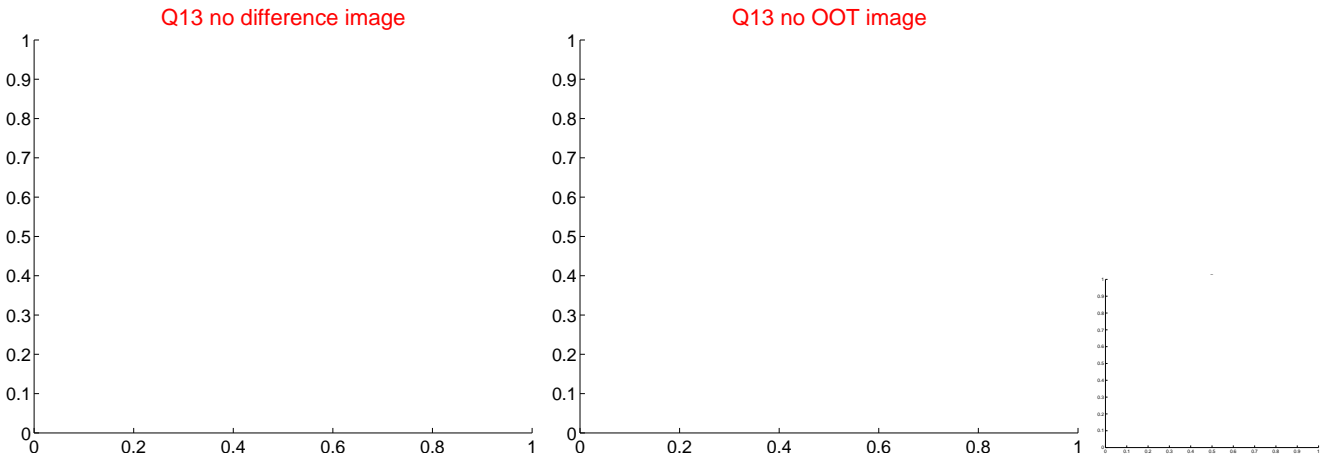
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



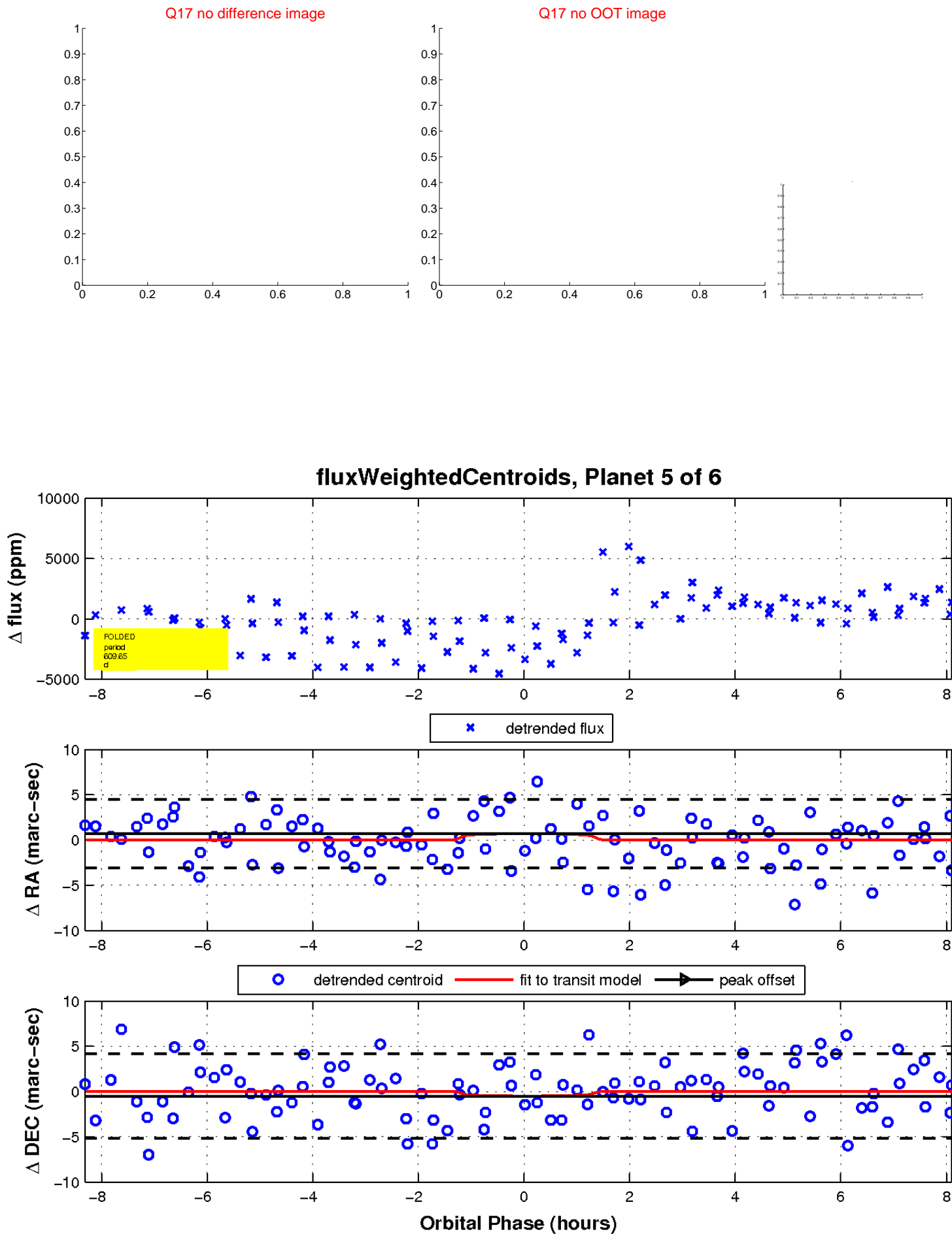
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

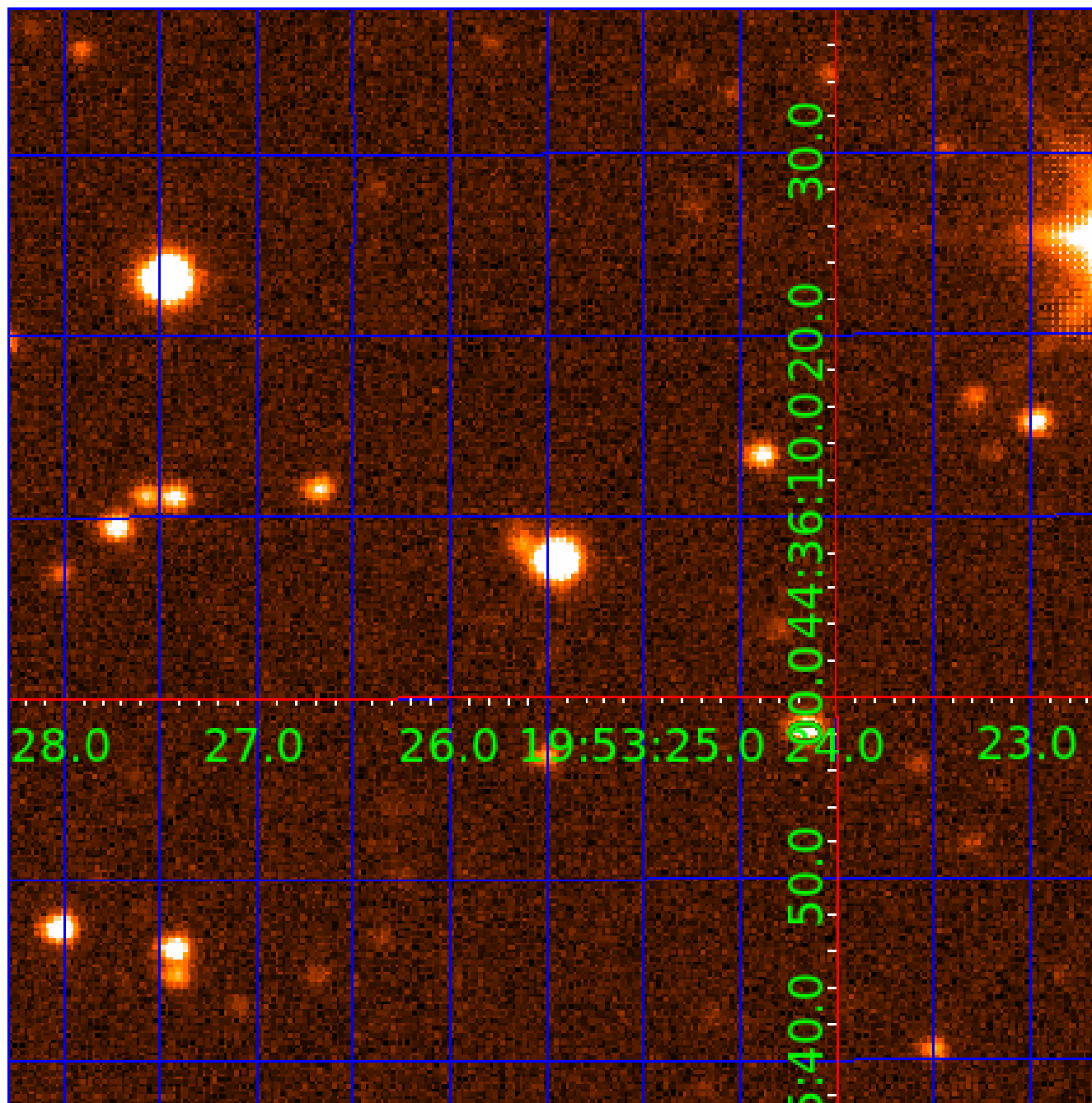


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008580320

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})
008580320-01	OBS	No	401.735685	389.131885	1593.5	5.230	14.8	4.2	0.63	5168	2.55	0.31
008580320-03	OBS	No	416.960283	408.897310	2177.0	4.458	11.1	6.7	0.63	5168	2.94	0.29
008580320-04	OBS	No	591.197344	272.051353	728.6	1.491	13.5	2.3	0.63	5168	1.83	0.18
008580320-05	OBS	No	609.645185	281.652004	2459.4	2.773	10.9	7.4	0.63	5168	3.21	0.18
008580320-06	OBS	No	410.878024	296.992179	1271.5	6.000	10.8	-1.0	0.63	5168	2.22	0.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008580320-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008580320-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
008580320-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS
008580320-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
008580320-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

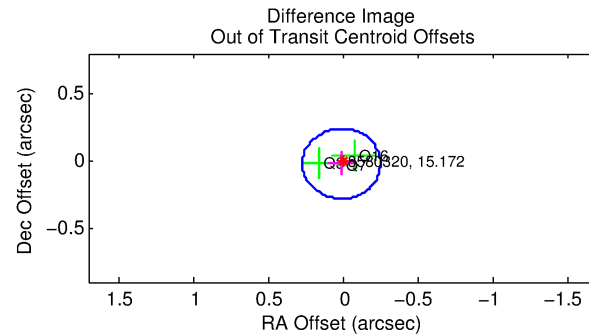
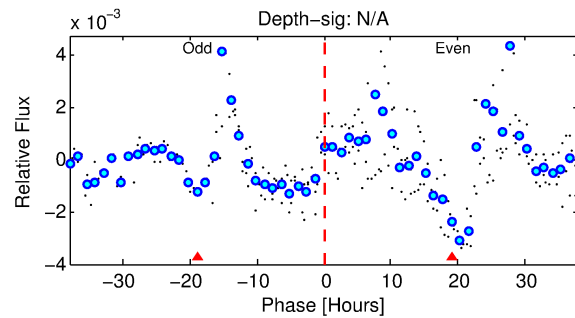
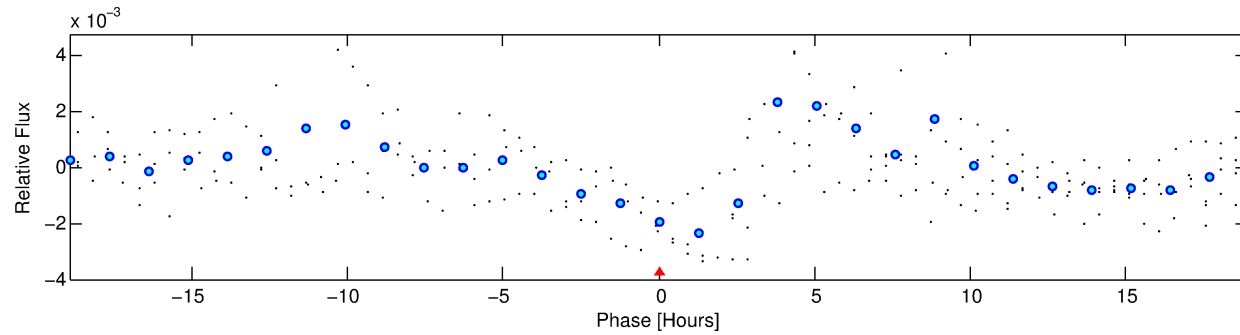
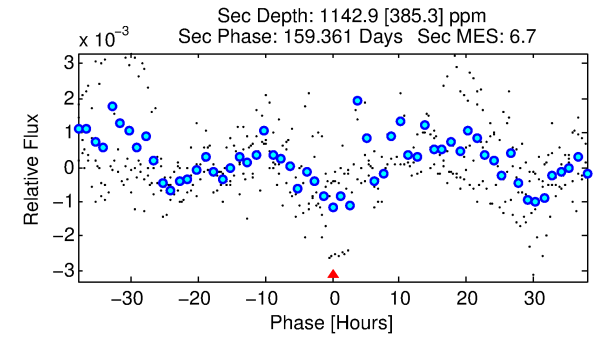
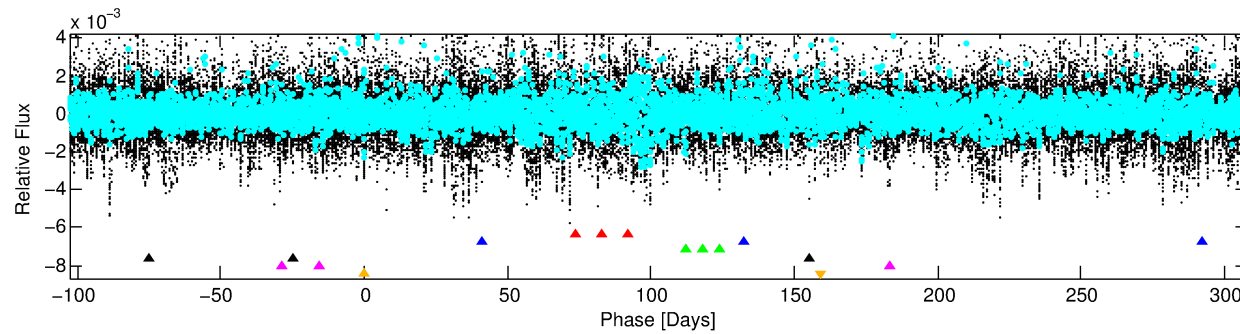
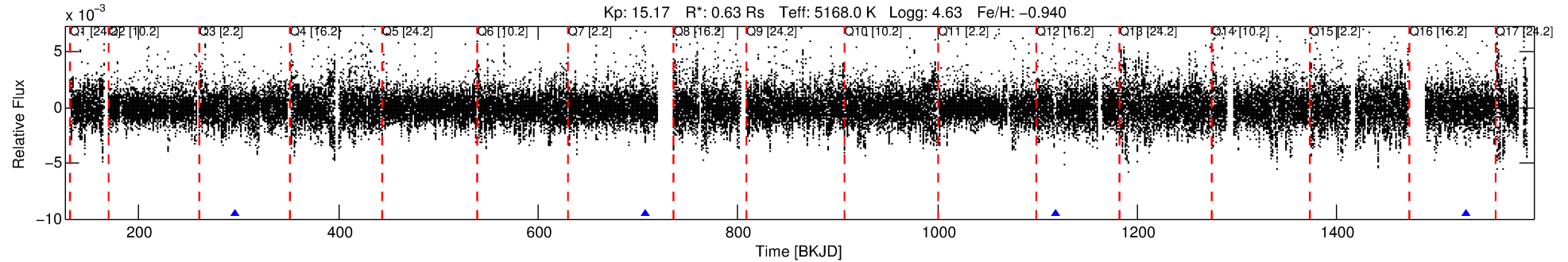
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008580320-06

No Significant Match Found

DV One-Page Summary

KIC: 8580320 Candidate: 6 of 6 Period: 410.878 d



TPS TCE Results:

Period = 410.87802 d
Epoch = 296.9922 BKJD

DV fit results are unavailable

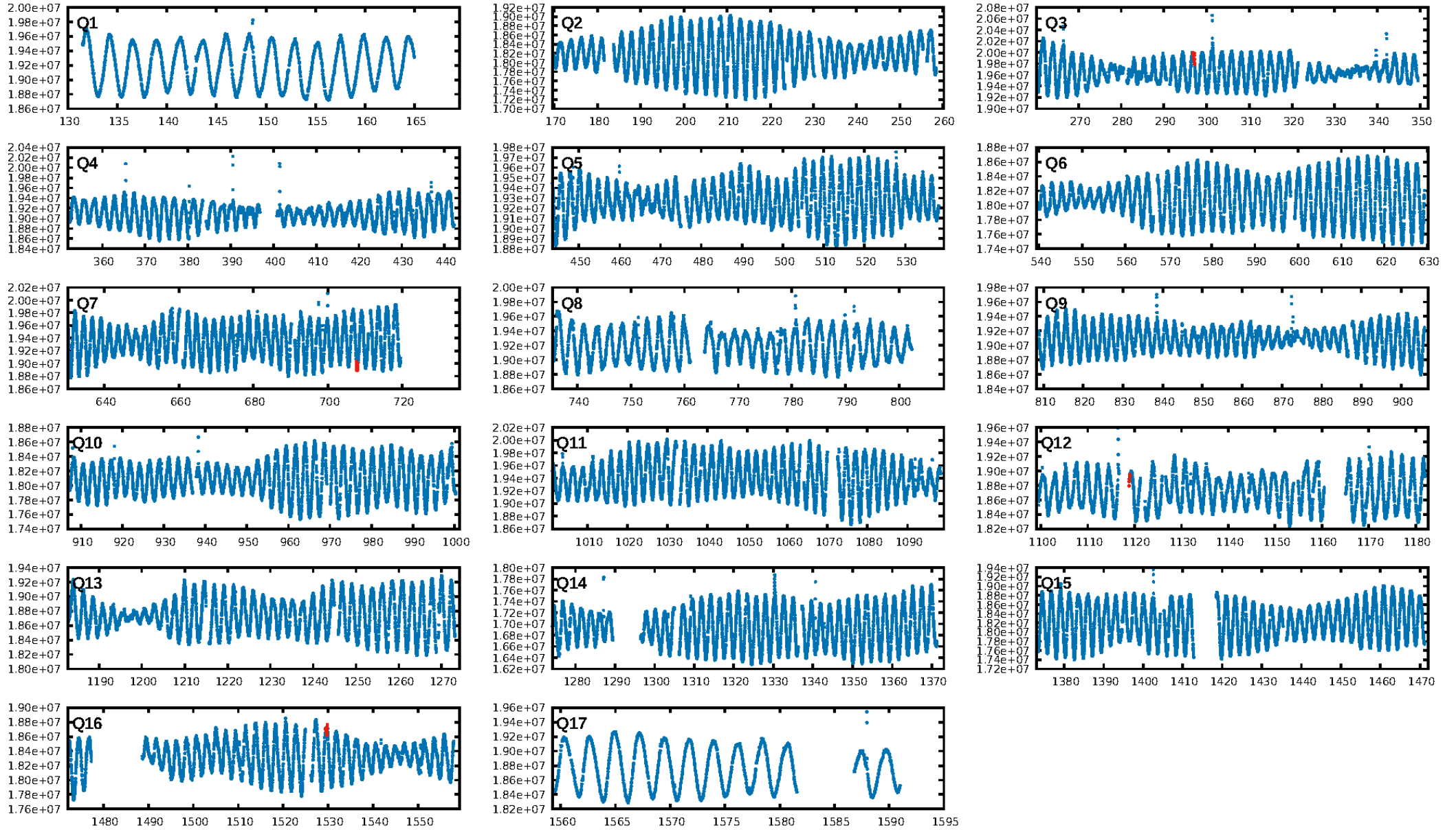
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [27.57 σ]
LongPeriod-sig: 100.0% [19.53 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -10.31
Centroid-sig: 64.5%
Centroid-so: 0.191 arcsec [0.29 σ]
OotOffset-rm: 0.021 arcsec [0.24 σ]
KicOffset-rm: 0.130 arcsec [1.47 σ]
OotOffset-st: 0/2/1/0 [3]
KicOffset-st: 0/2/1/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

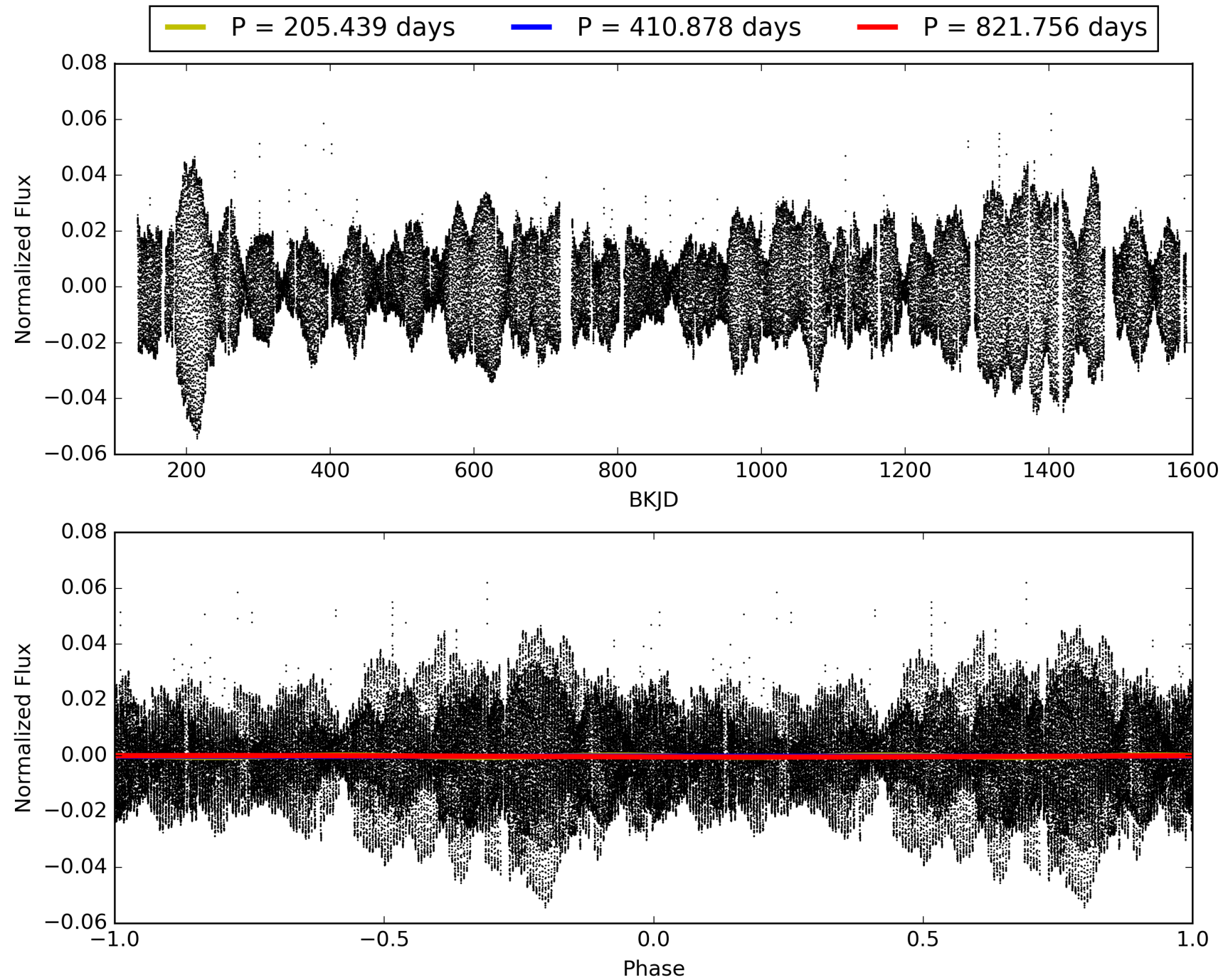
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:23:26 Z

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

TCE 00580320-06, PDC Light Curves

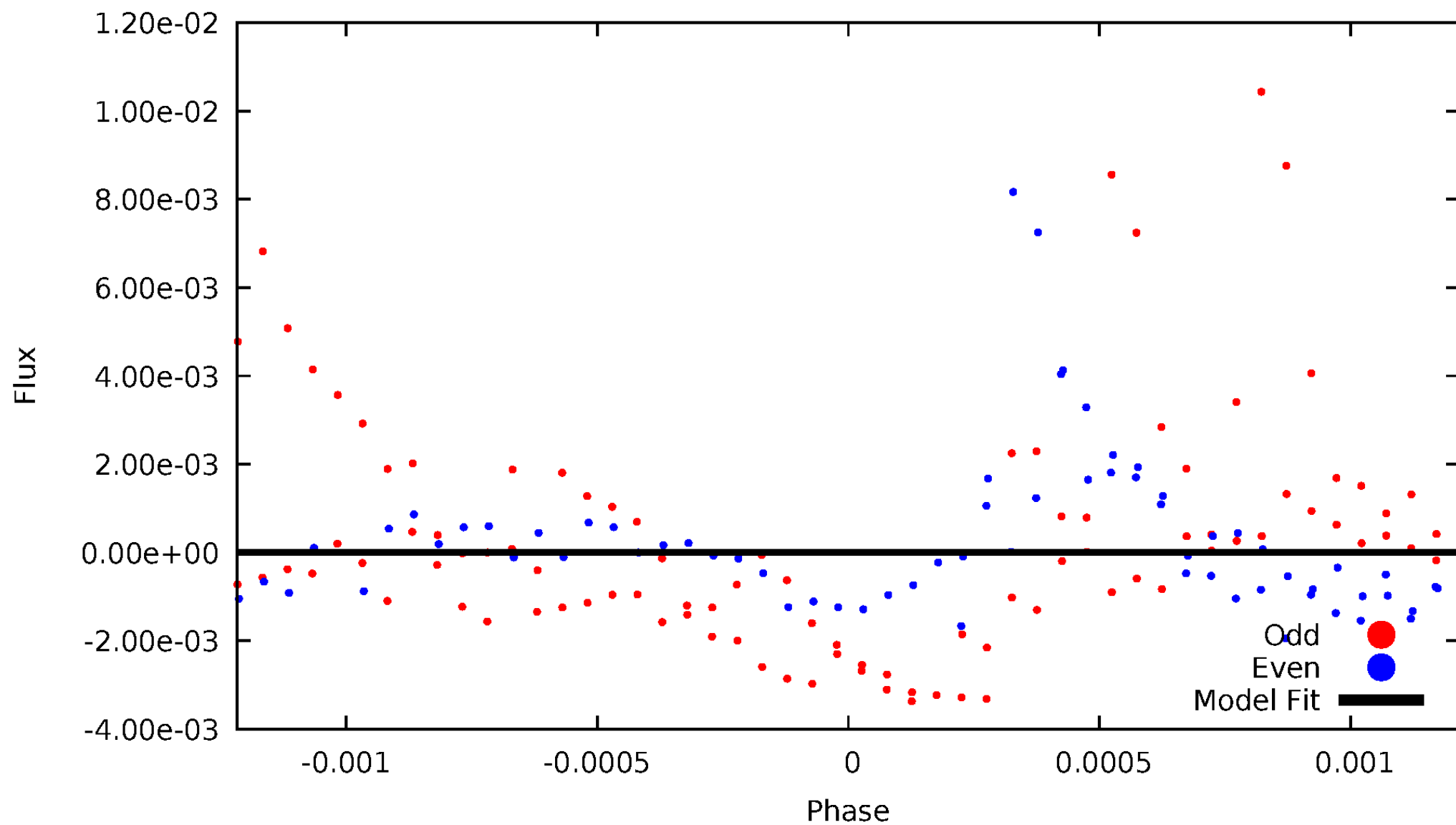


TCE 008580320-06



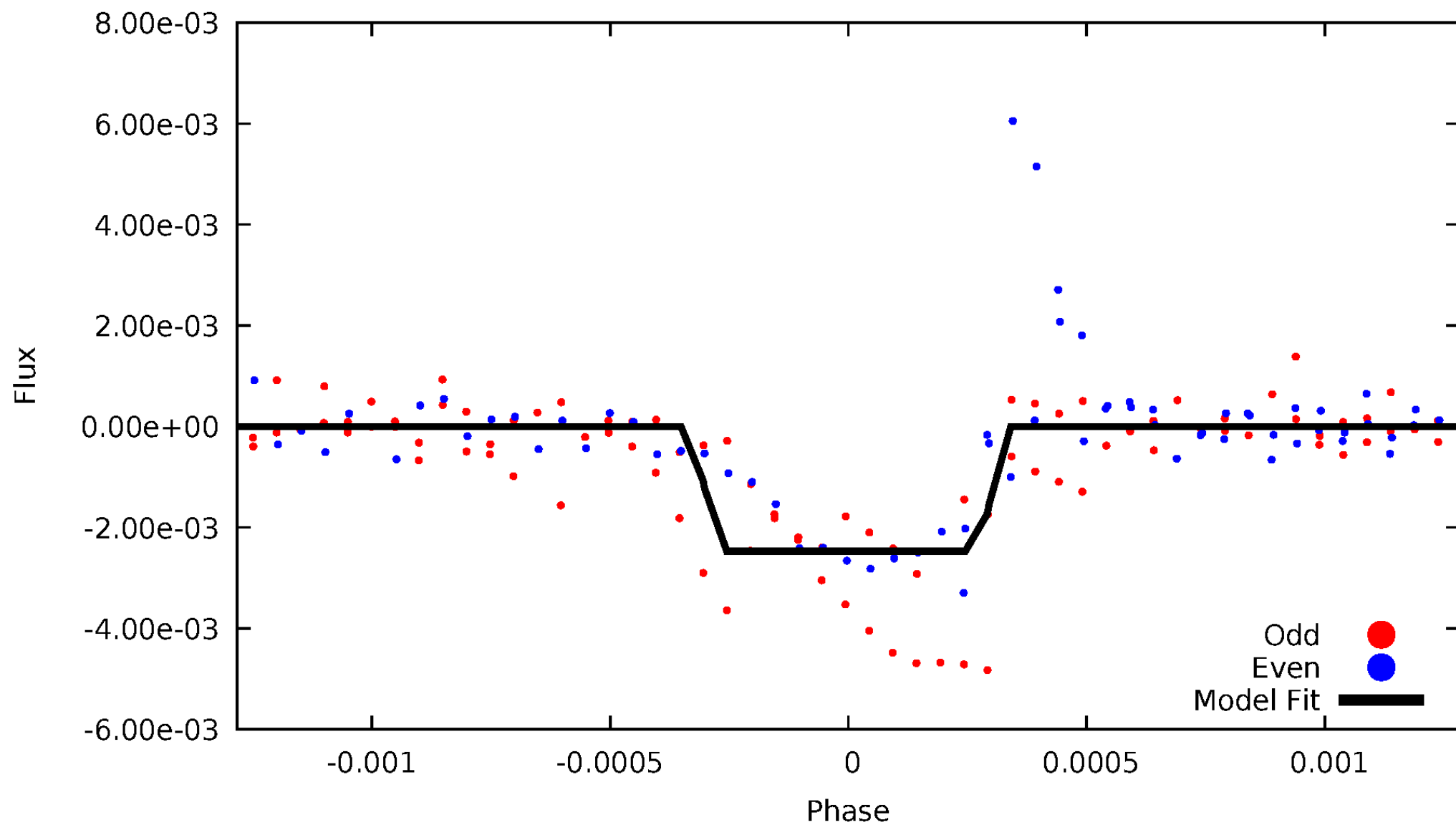
DV Odd/Even

TCE 008580320-06

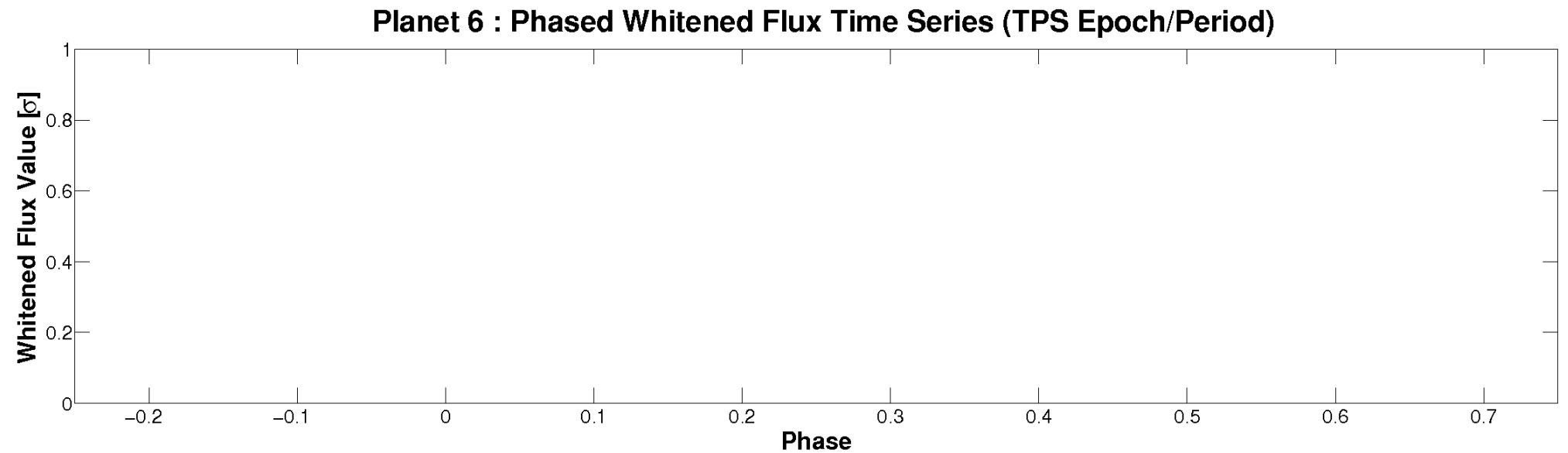
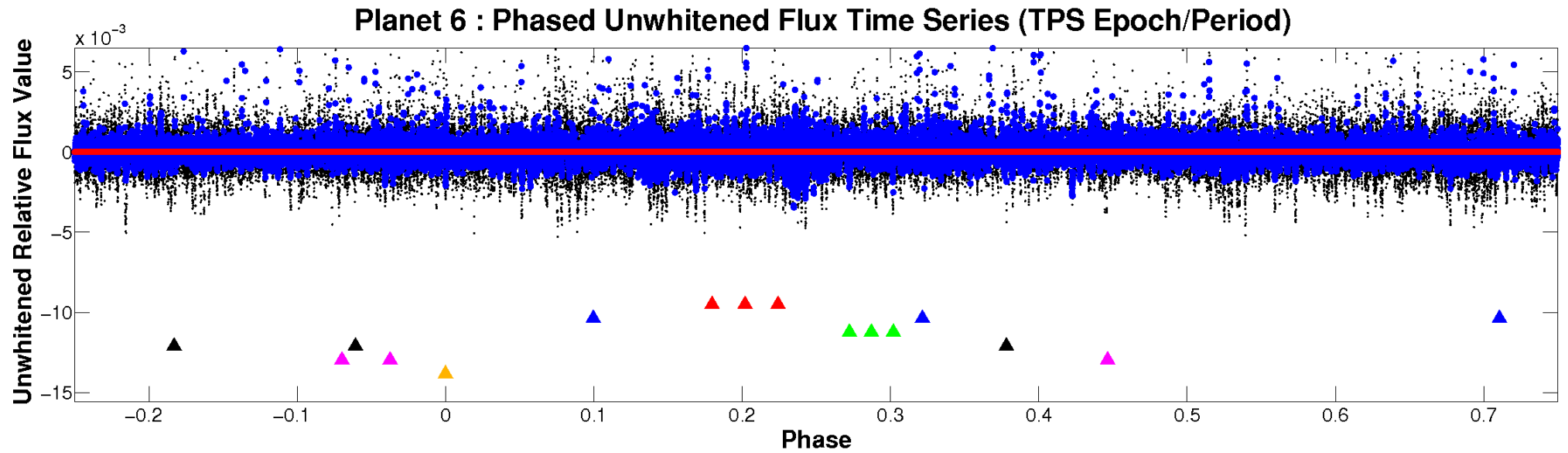


ALT Odd/Even

TCE 008580320-06

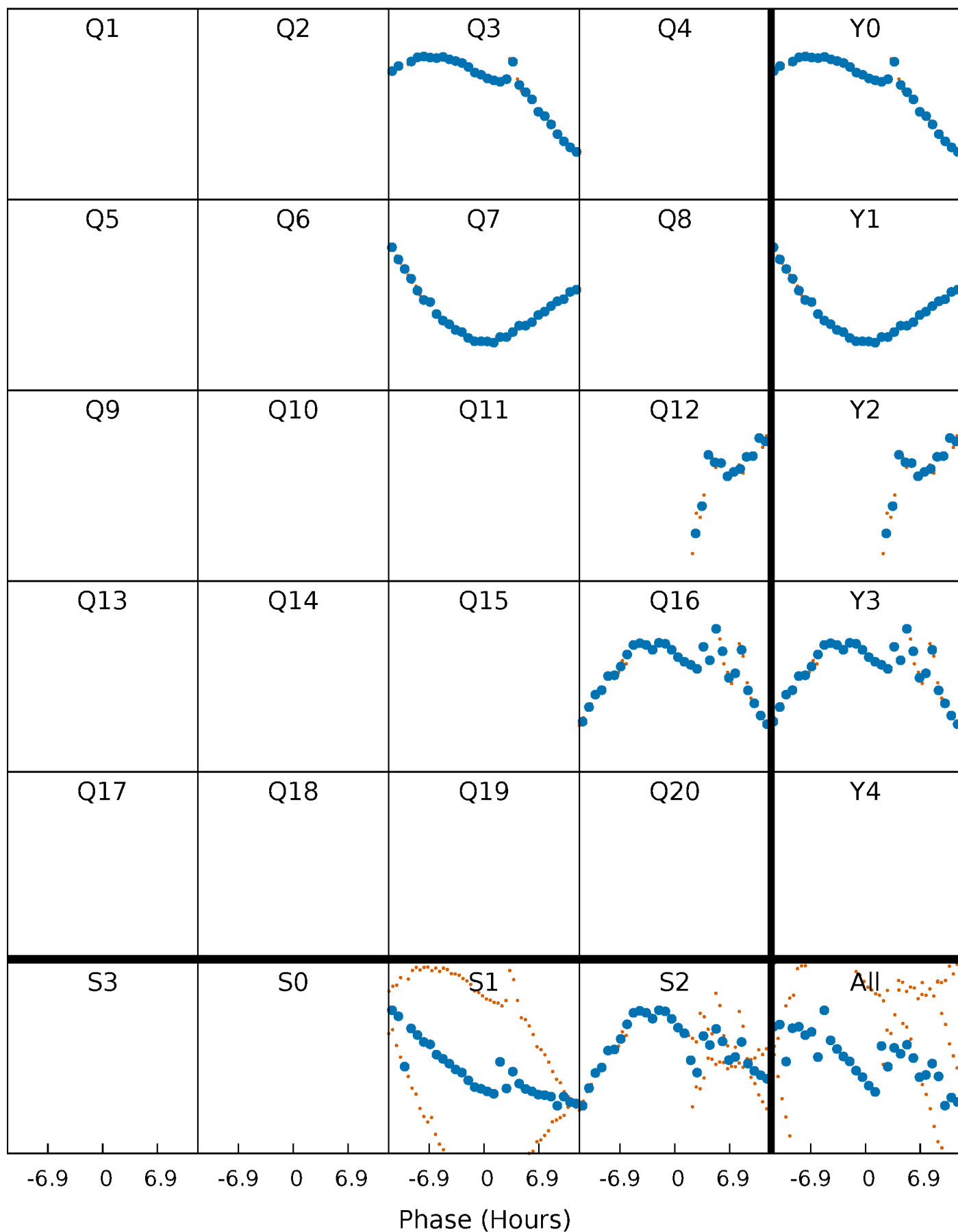


Non-Whitened Vs. Whitened Light Curve



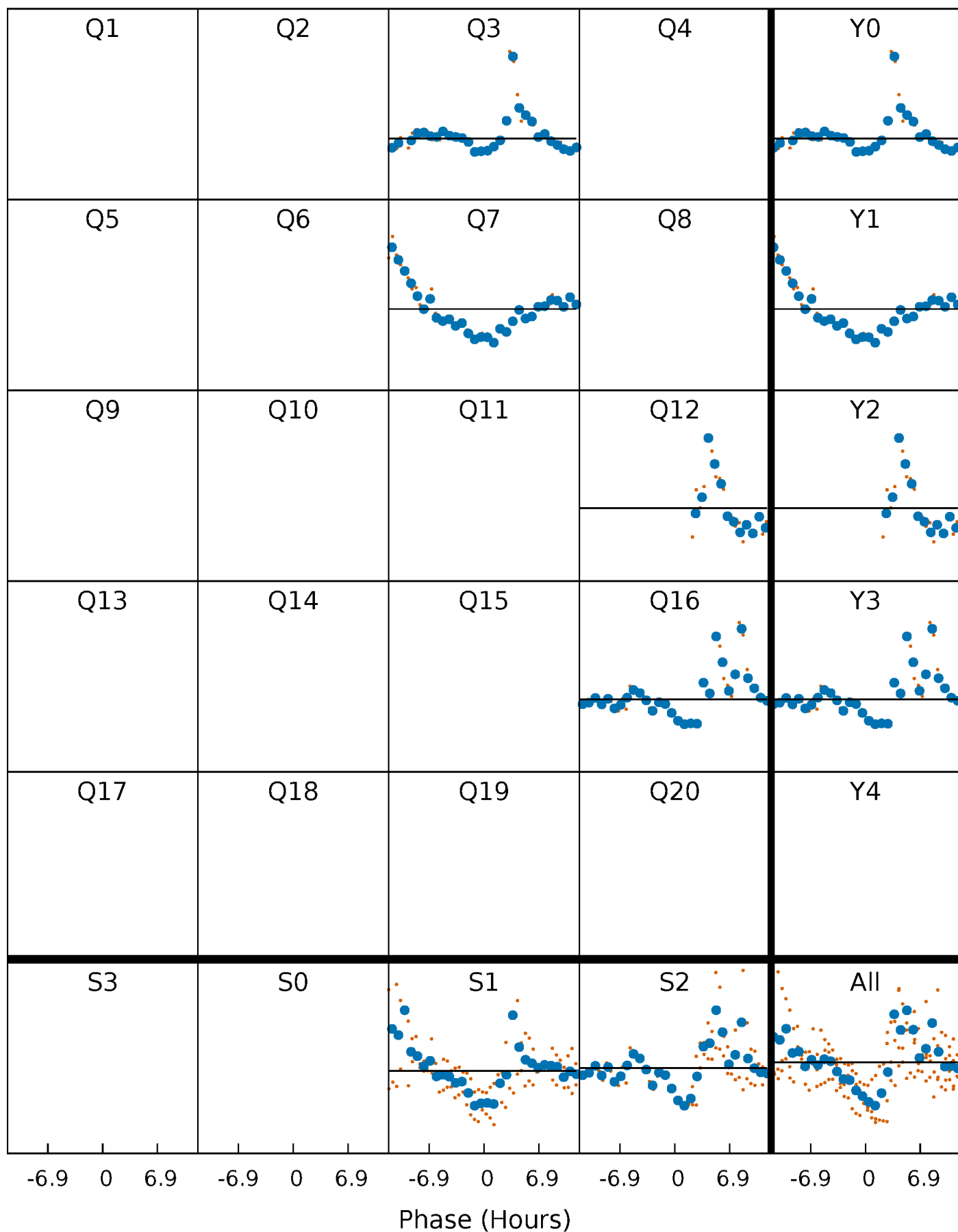
PDC Quarter-Phased Transit Curves

TCE 008580320-06 $P=410.878024$ Days $T_0=296.992180$ (BKJD)



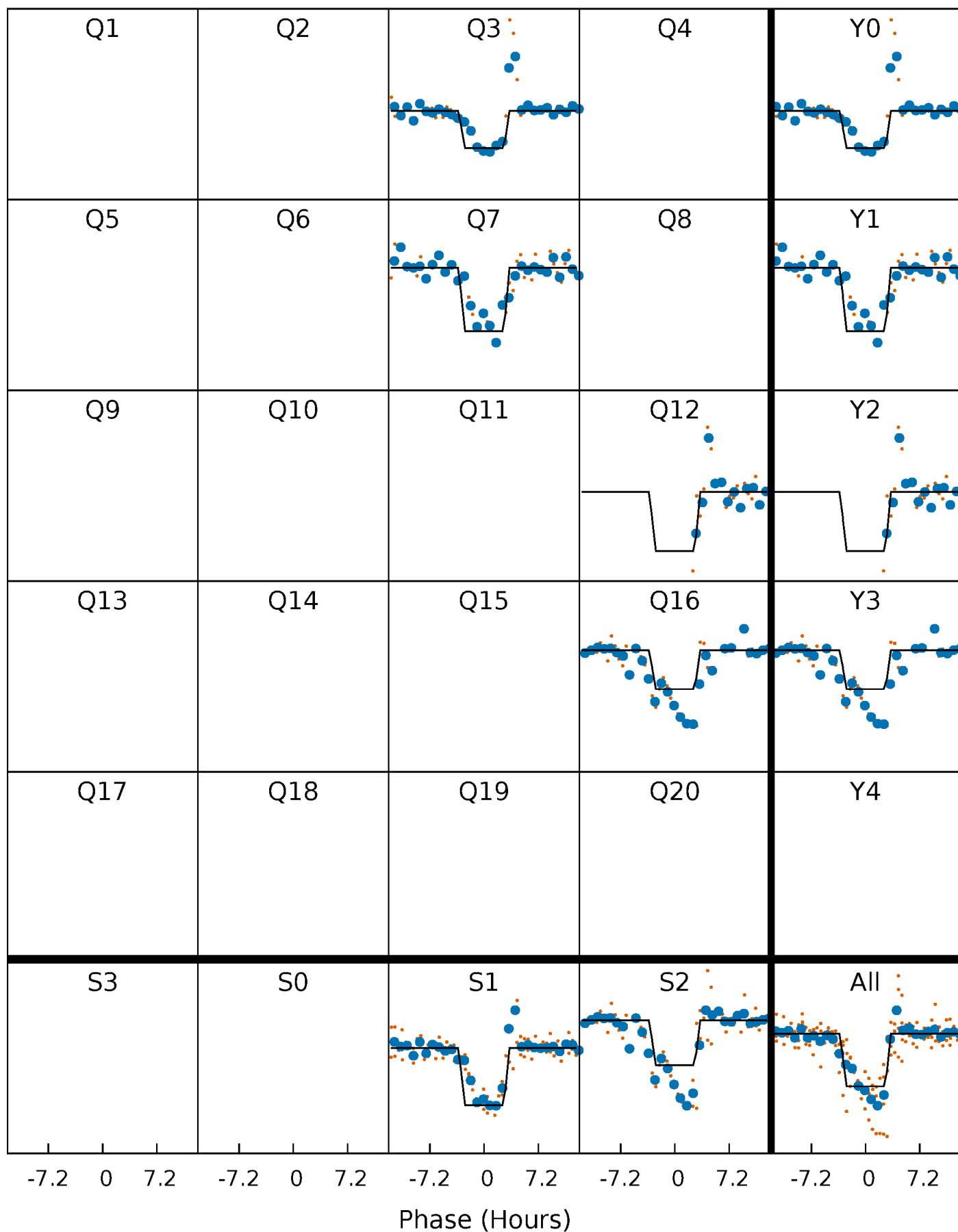
DV Quarter-Phased Transit Curves

TCE 008580320-06 $P=410.878024$ Days $T_0=296.992180$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

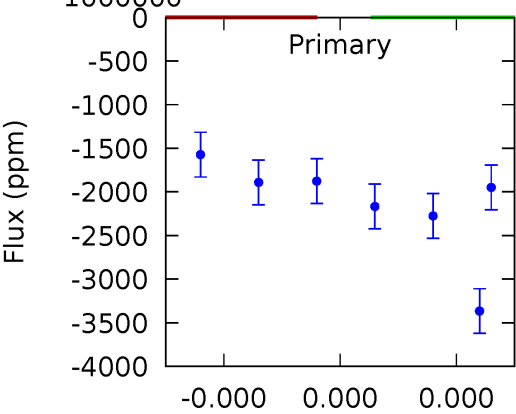
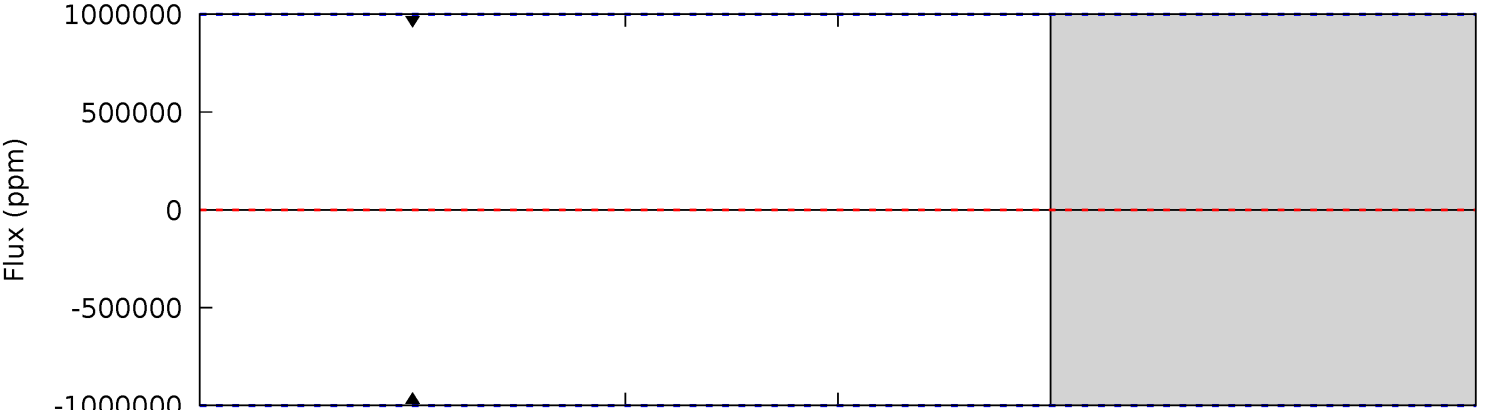
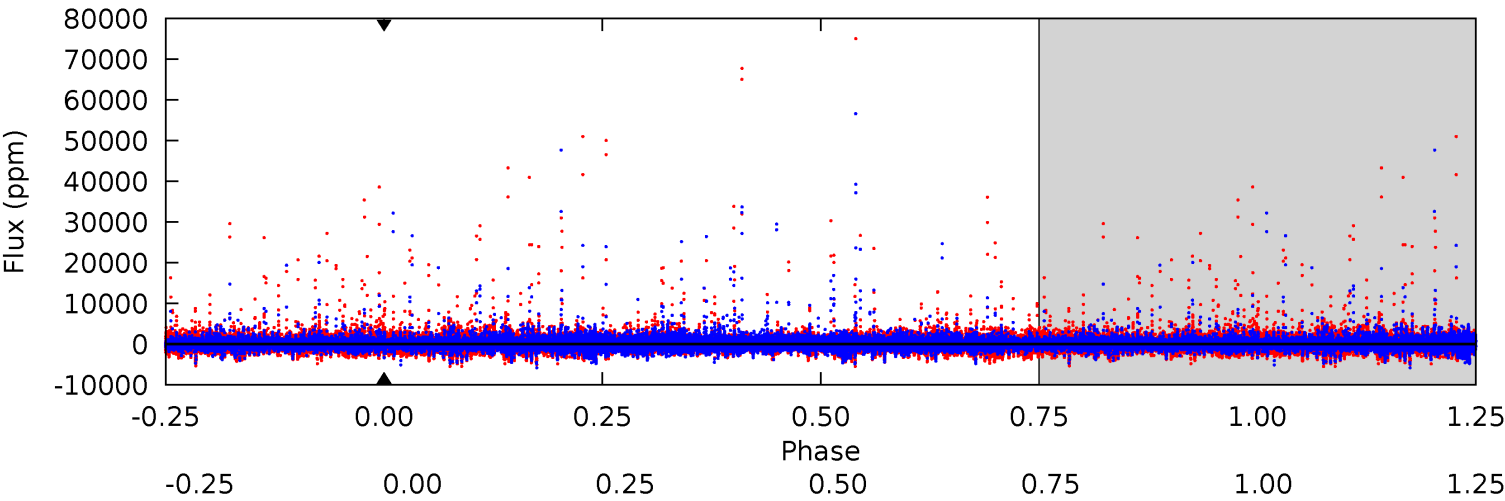
TCE 008580320-06 $P=410.878024$ Days $T_0=296.985306$ (BKJD)



DV Model-Shift Uniqueness Test

008580320-06, P = 410.878024 Days, E = 296.992180 Days

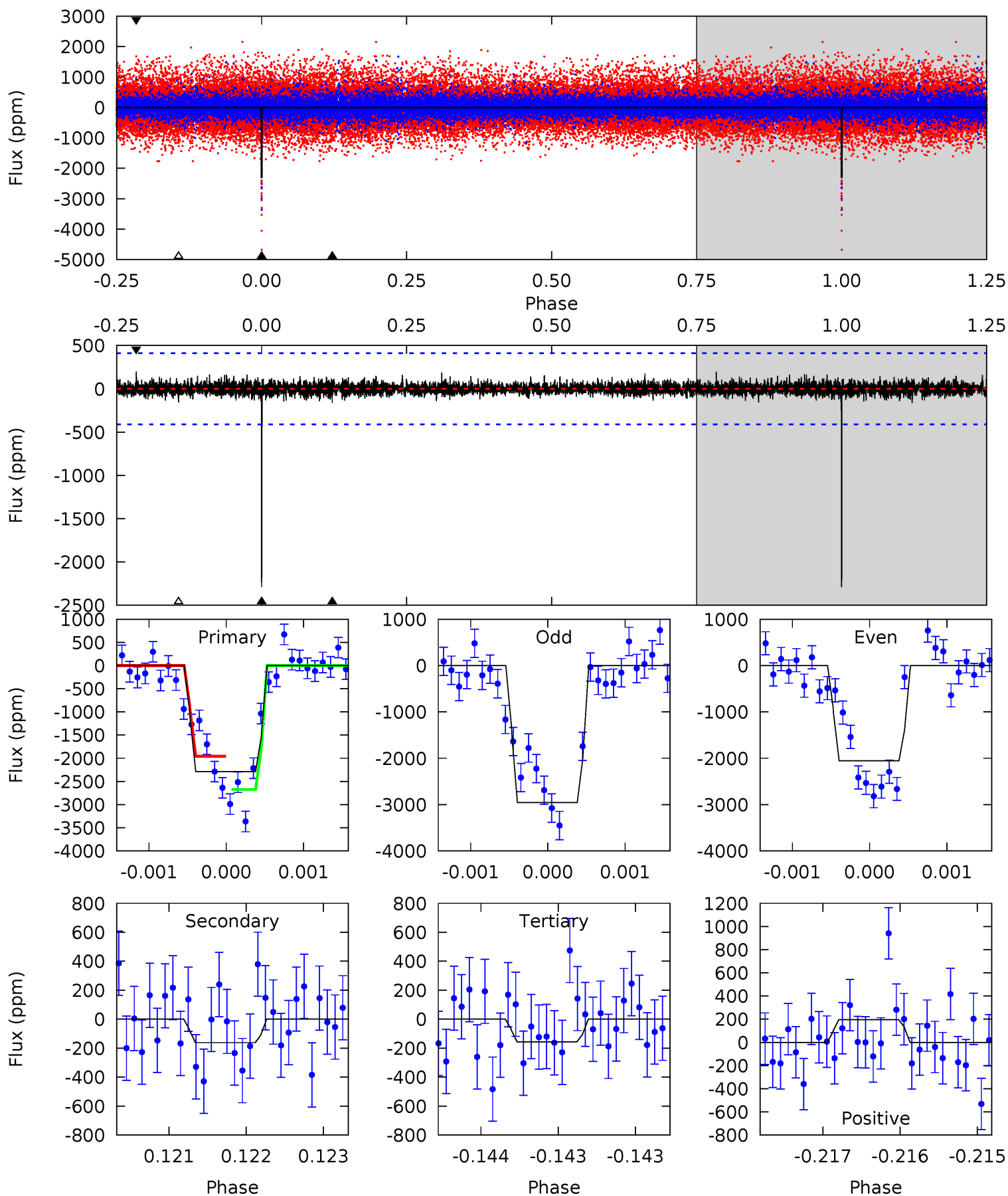
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008580320-06, P = 410.878024 Days, E = 296.985306 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.8	2.17	2.09	2.64	5.53	3.41	0.52	28.7	28.1	0.08	-0.47	6.18	1.15	0.08	4.76



Stellar Parameters For KIC 008580320

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5168^{+170}_{-154}	$4.632^{+0.066}_{-0.044}$	$-0.940^{+0.300}_{-0.300}$	$0.630^{+0.054}_{-0.049}$	$0.621^{+0.059}_{-0.023}$	$3.491^{+0.903}_{-0.600}$
	+3%/-3%	+1%/-1%	+32%/-32%	+9%/-8%	+10%/-4%	+26%/-17%
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 008580320-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$5.87^{+5.49}_{-4.15}$	262^{+10}_{-10}	4493^{+10895}_{-16666}	$47583^{+2898919}_{-2094985}$
Alt.	-162 ± 74	$6.13^{+5.62}_{-4.22}$	262^{+10}_{-10}	2679^{+1150}_{-448}	1912^{+18450}_{-1507}

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

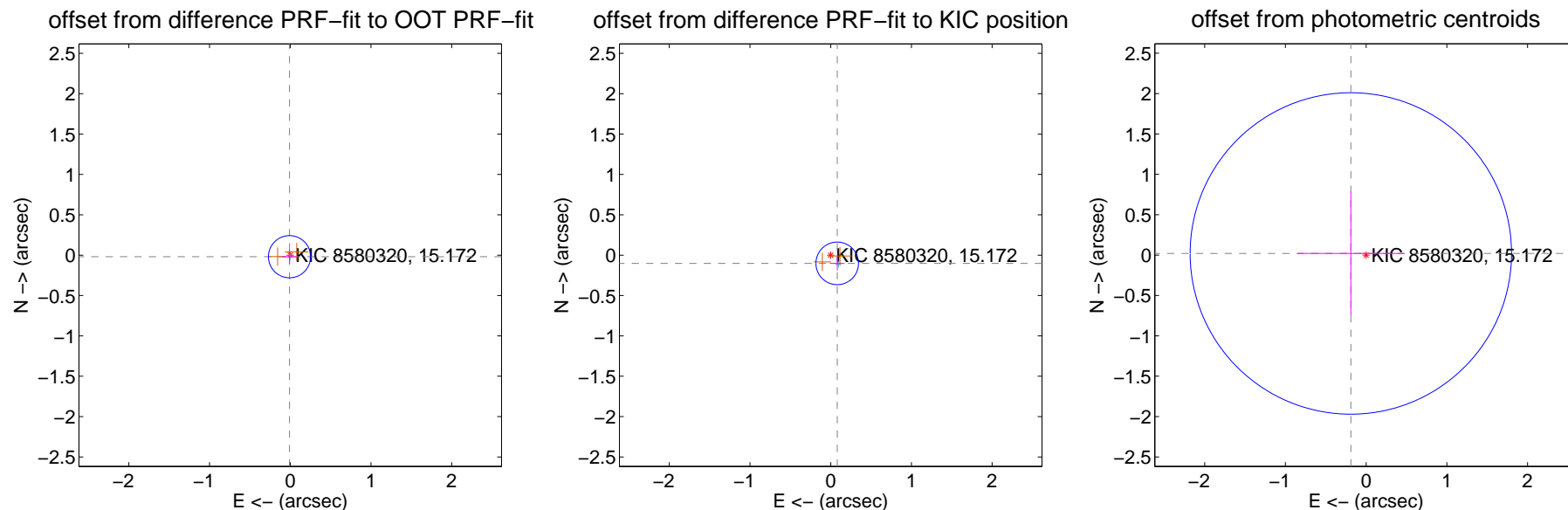
DV Centroid Data

Supplemental centroid analysis for 008580320-06. Kepler magnitude: 15.17. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

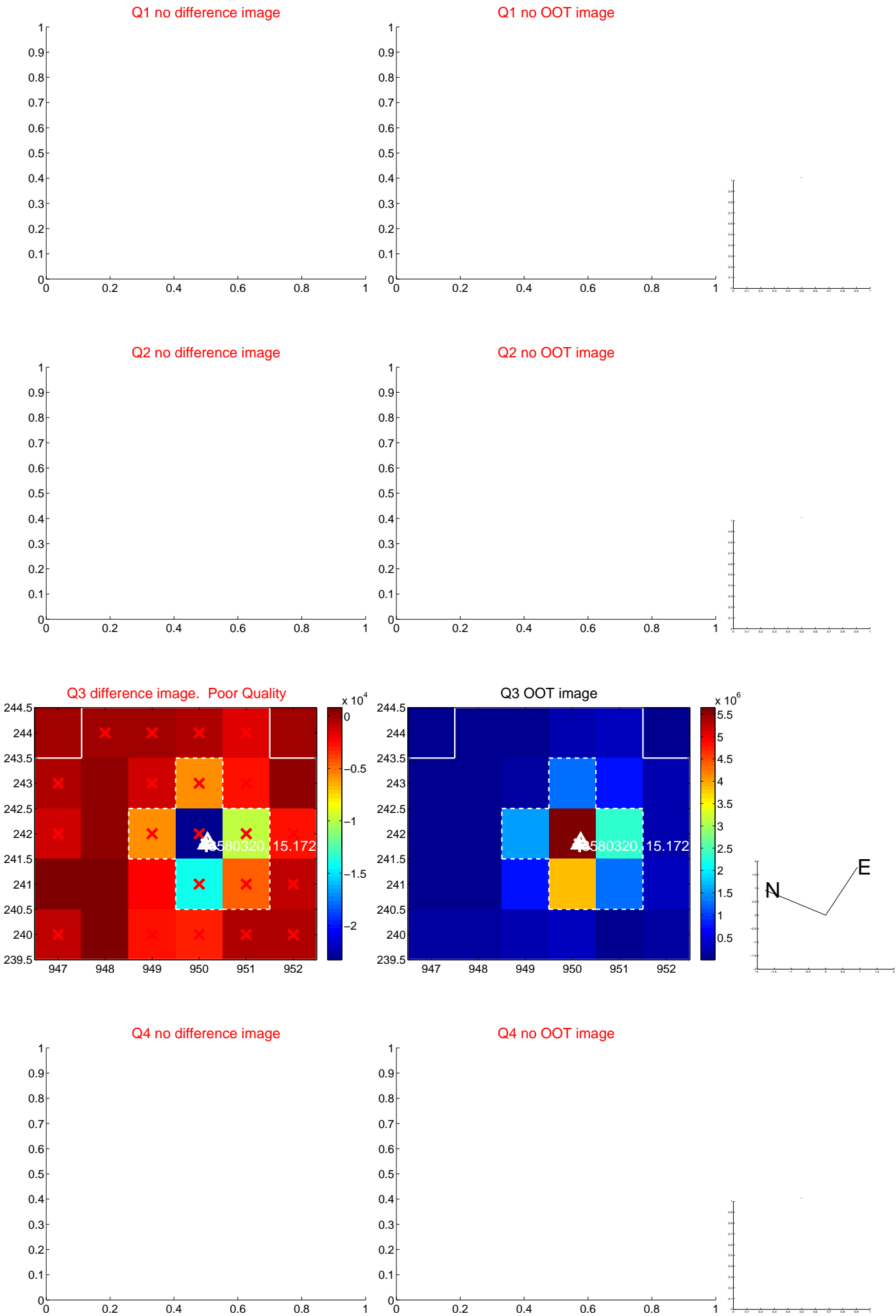
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.021 ± 0.087	0.24	0.009 ± 0.091	-0.019 ± 0.086
PRF-fit source offset from KIC position	0.130 ± 0.088	1.47	-0.081 ± 0.091	-0.102 ± 0.086
photometric centroid source offset	0.19 ± 0.66	0.29	0.19 ± 0.66	0.02 ± 0.77



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.

Q5 no difference image



Q5 no OOT image



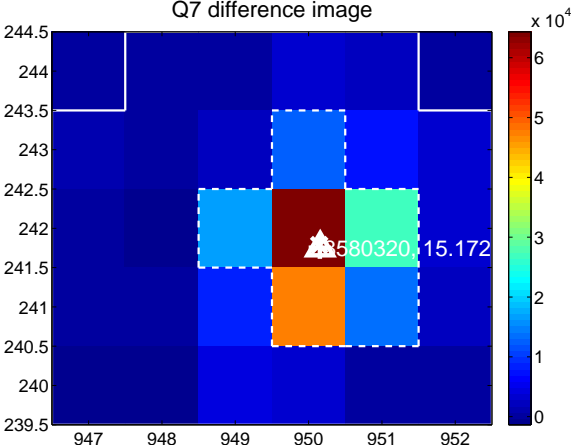
Q6 no difference image



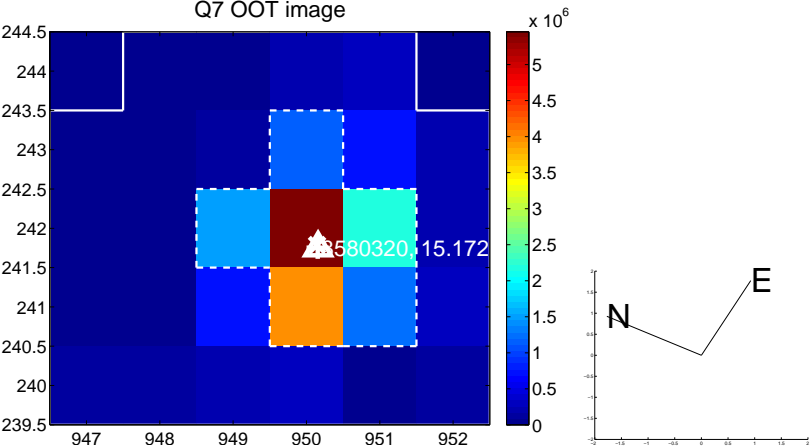
Q6 no OOT image



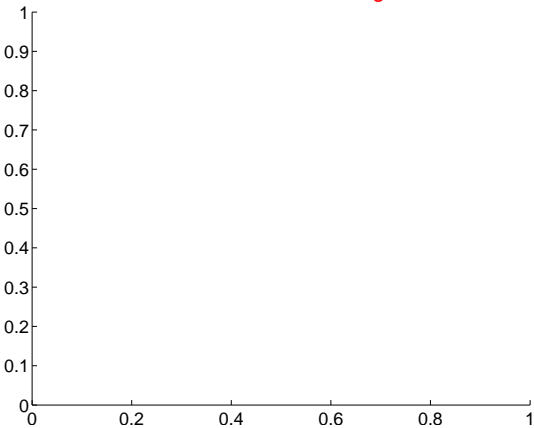
Q7 difference image



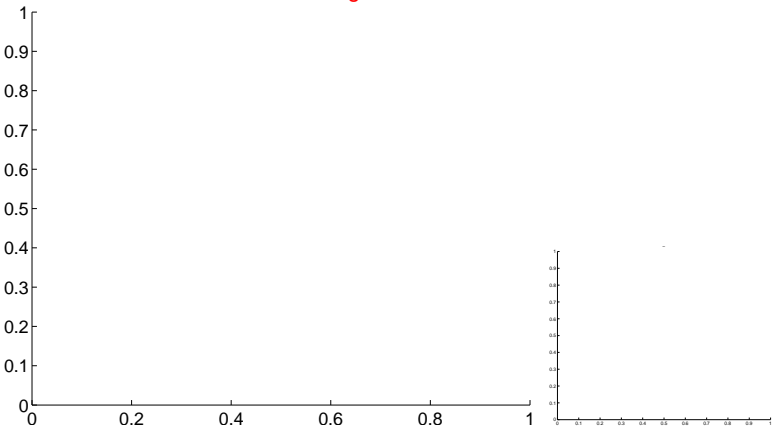
Q7 OOT image



Q8 no difference image



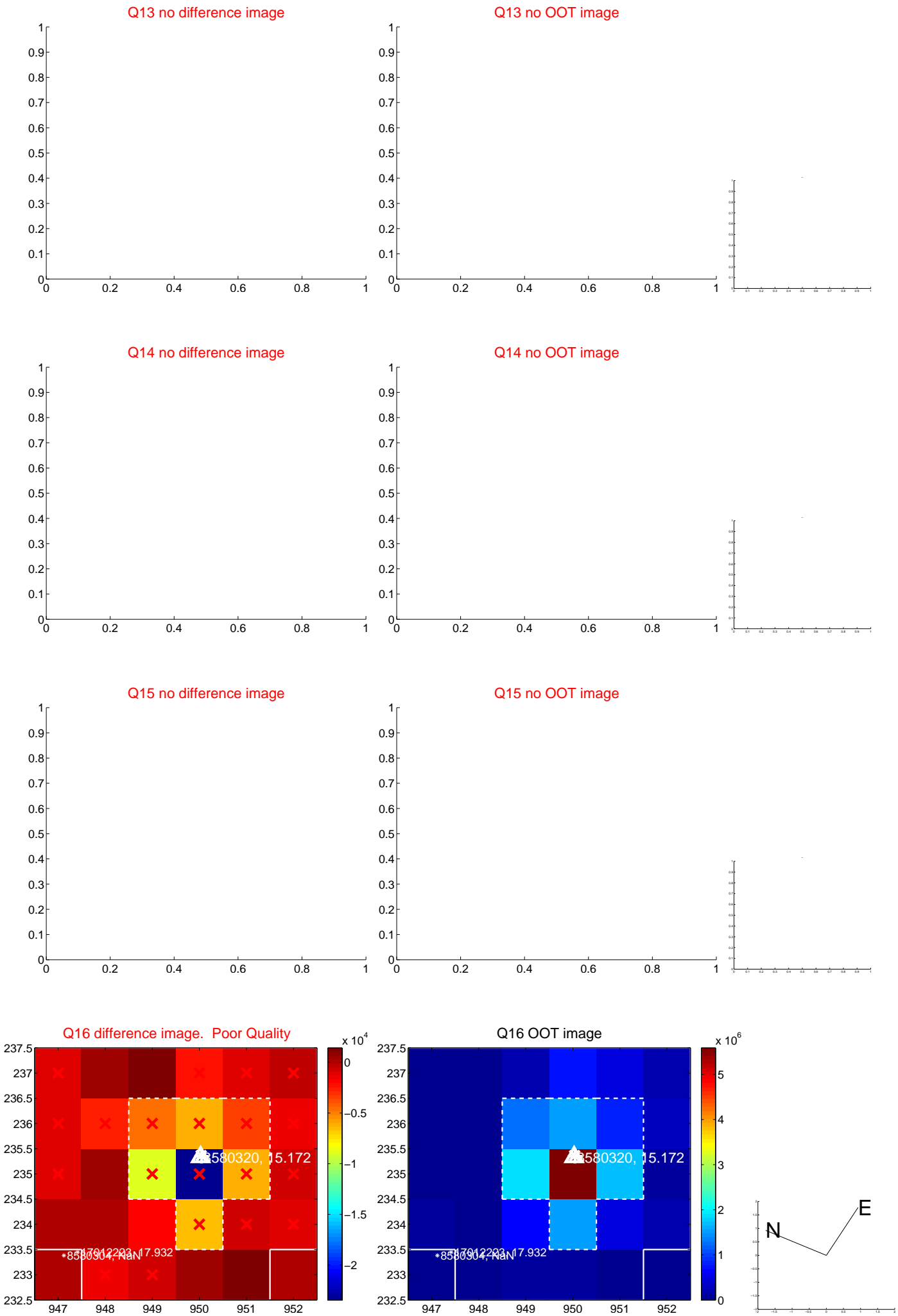
Q8 no OOT image



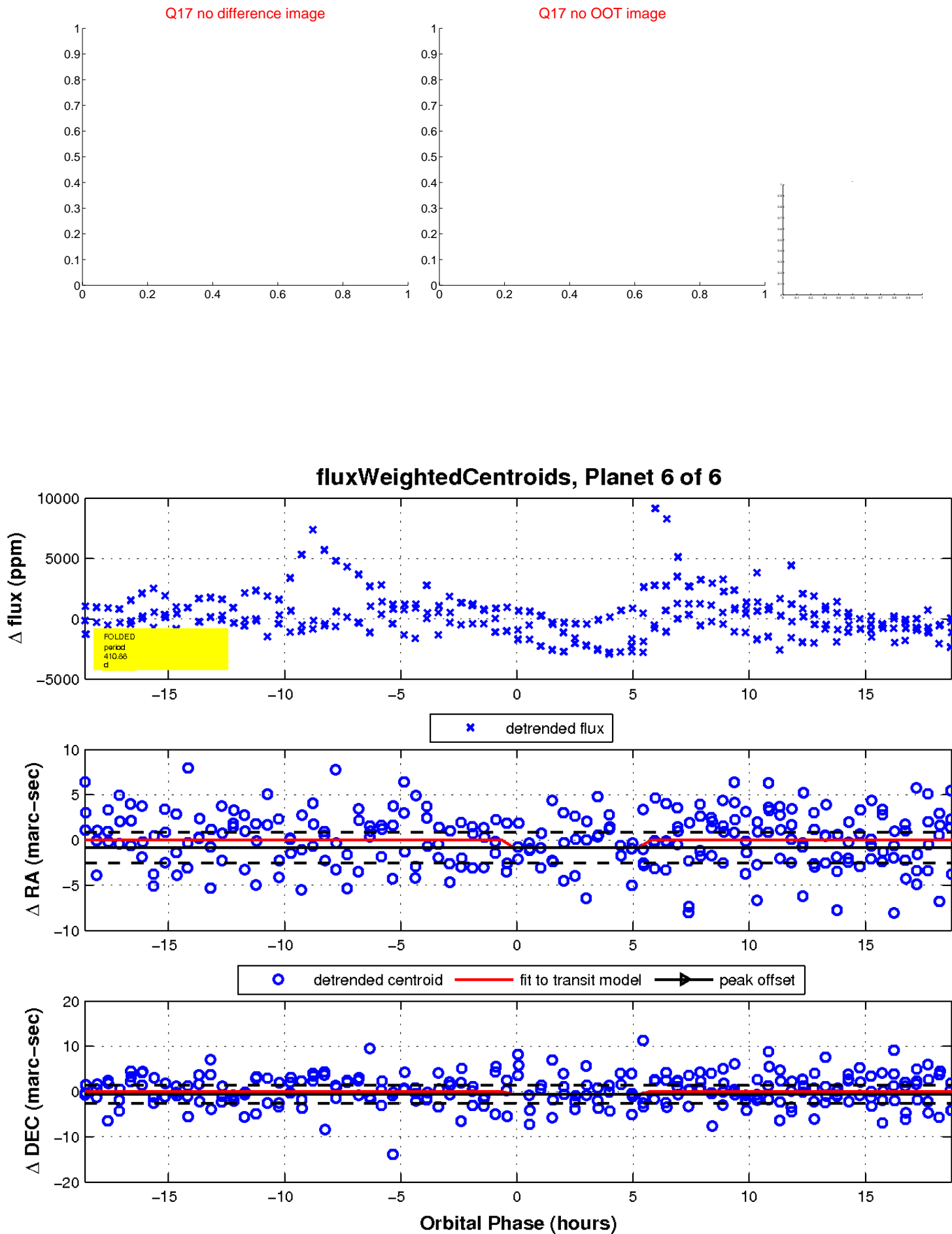
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



UKIRT Image

Declination

