

KIC 008259835

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})
008259835-01	OBS	No	463.779570	427.876428	1165.9	2.878	11.8	8.3	2.83	4902	11.85	3.25
008259835-02	OBS	No	565.997687	262.680657	545.6	4.180	15.1	3.6	2.83	4902	6.81	2.49
008259835-03	OBS	No	553.018158	345.855192	1306.8	15.032	14.6	5.2	2.83	4902	9.95	2.57
008259835-04	OBS	No	323.440043	176.213293	802.0	3.040	11.0	8.0	2.83	4902	8.18	5.26
008259835-05	OBS	No	415.639044	225.464503	505.3	4.500	13.7	-1.0	2.83	4902	6.16	3.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008259835-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008259835-02	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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008259835-03	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
008259835-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—HALO_GHOST
008259835-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

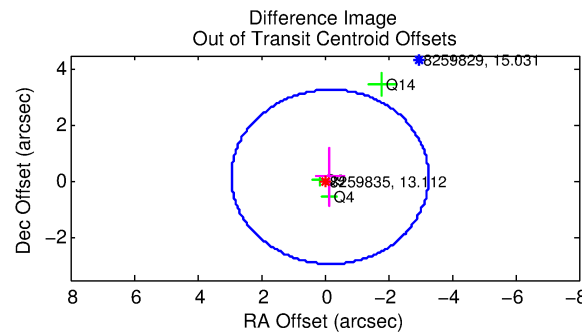
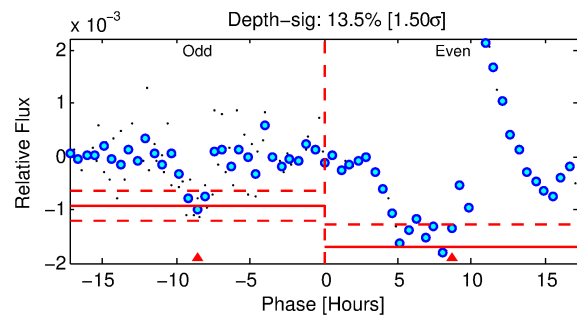
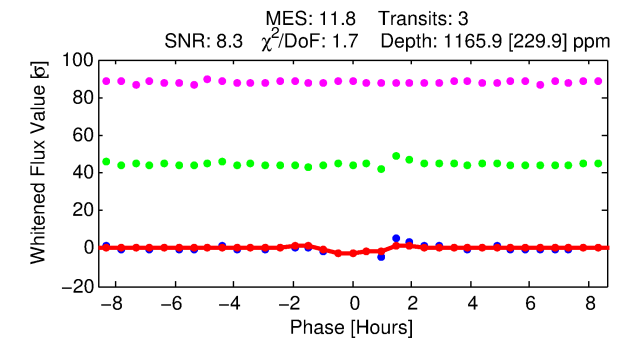
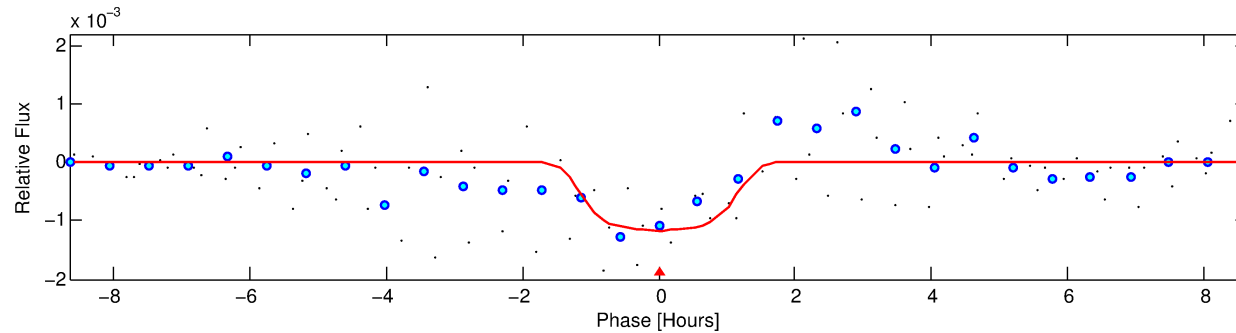
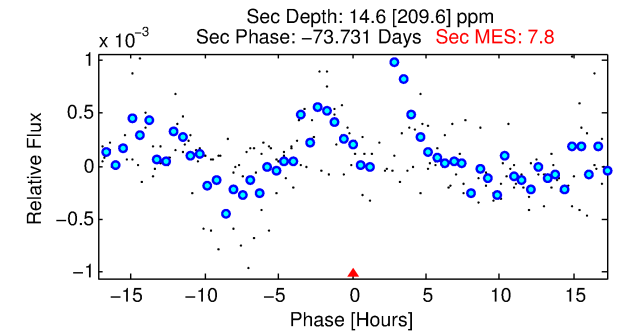
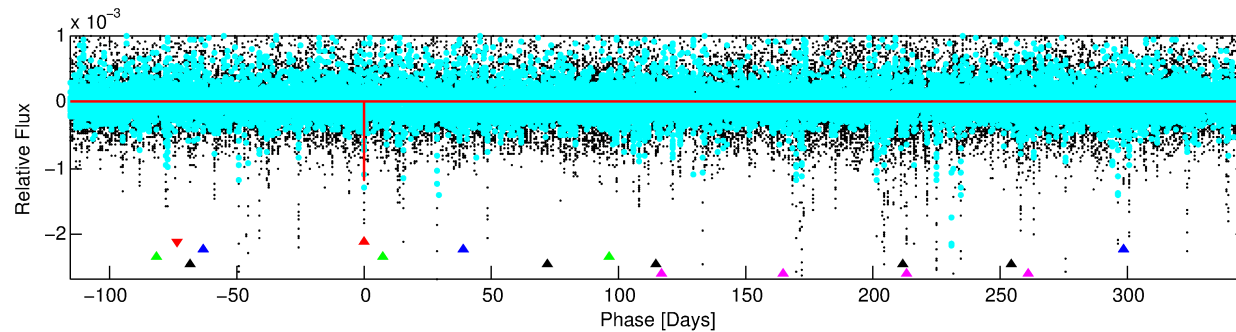
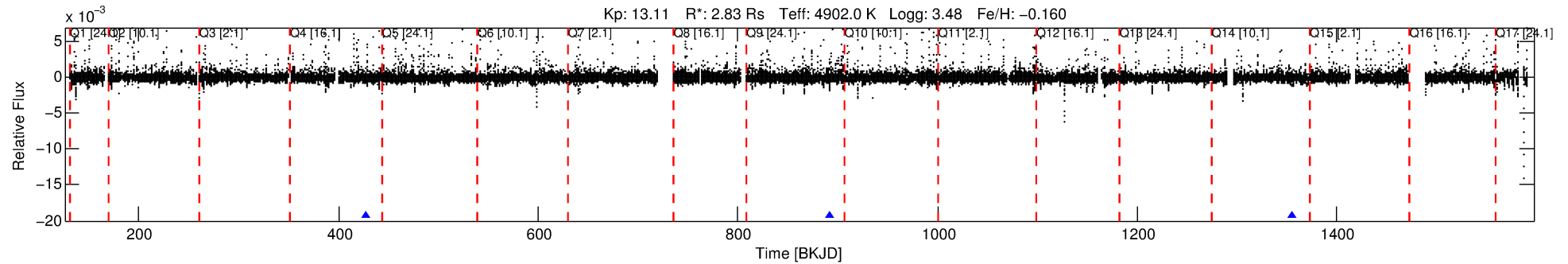
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008259835-01

No Significant Match Found

DV One-Page Summary

KIC: 8259835 Candidate: 1 of 5 Period: 463.780 d



DV Fit Results:

Period = 463.77957 [0.00493] d
Epoch = 427.8764 [0.0076] BKJD
Rp/R* = 0.0383 [0.0120]
a/R* = 632.46 [635.18]
b = 0.90 [0.22]
Seff = 3.25 [6.08]
Teq = 342 [160] K
Rp = 11.85 [10.02] Re
a = 1.1297 [1.1732] AU
Ag = 72.90 [1058.75] [0.07 σ]
Teffp = 1547 [5570] K [0.22 σ]

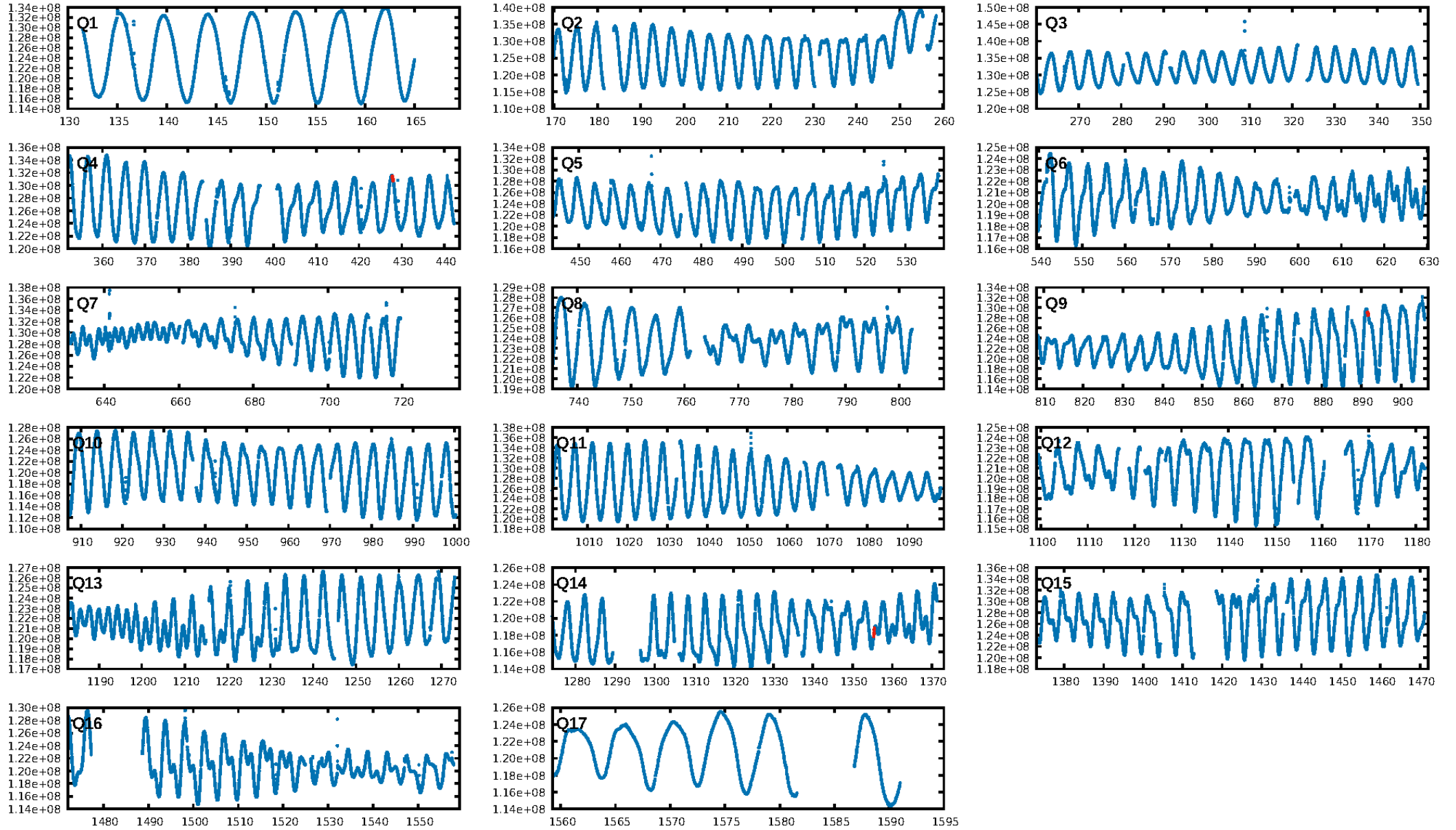
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [216.29 σ]
LongPeriod-sig: 100.0% [139.94 σ]
ModelChiSquare2-sig: 1.0%
ModelChiSquareGof-sig: 66.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.6711
Centroid-sig: 73.1%
Centroid-so: 0.267 arcsec [0.22 σ]
OotOffset-rm: 0.242 arcsec [0.23 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-rm: 0.246 arcsec [0.22 σ]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

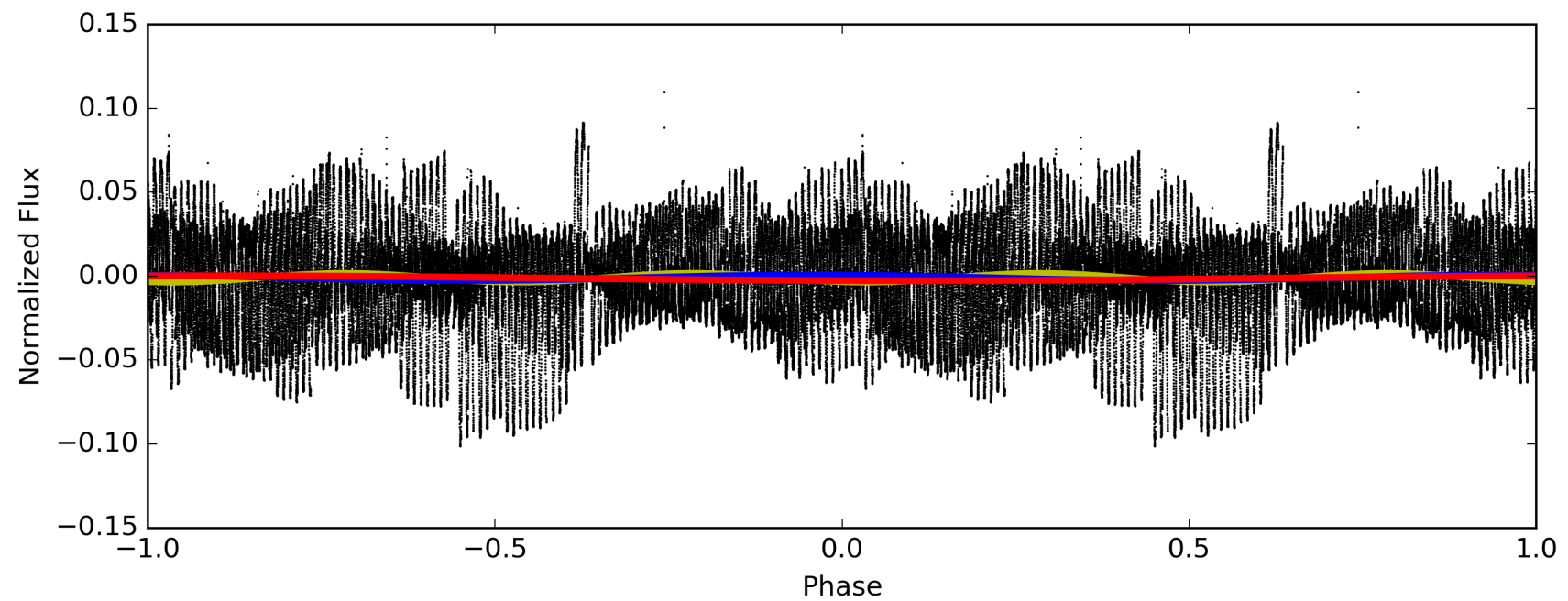
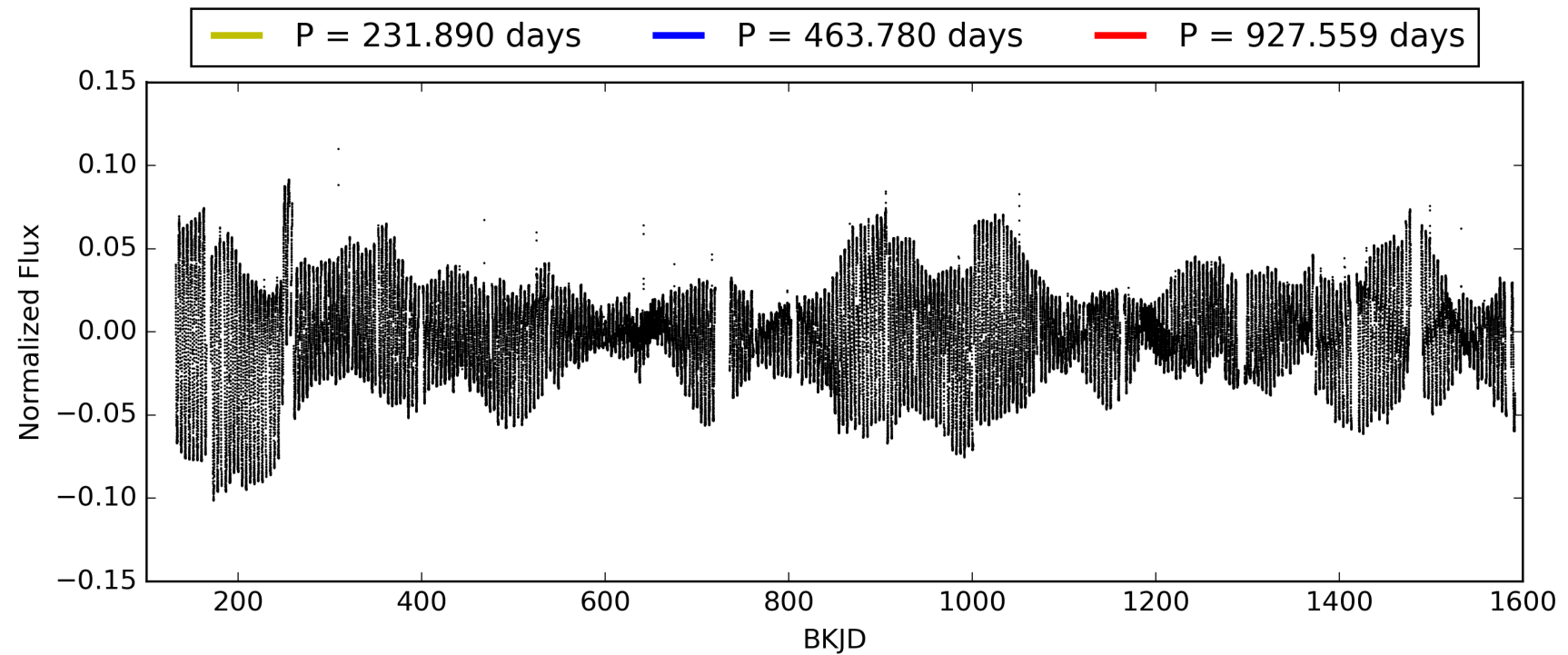
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:23:42 Z

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

TCE 008259835-01, PDC Light Curves

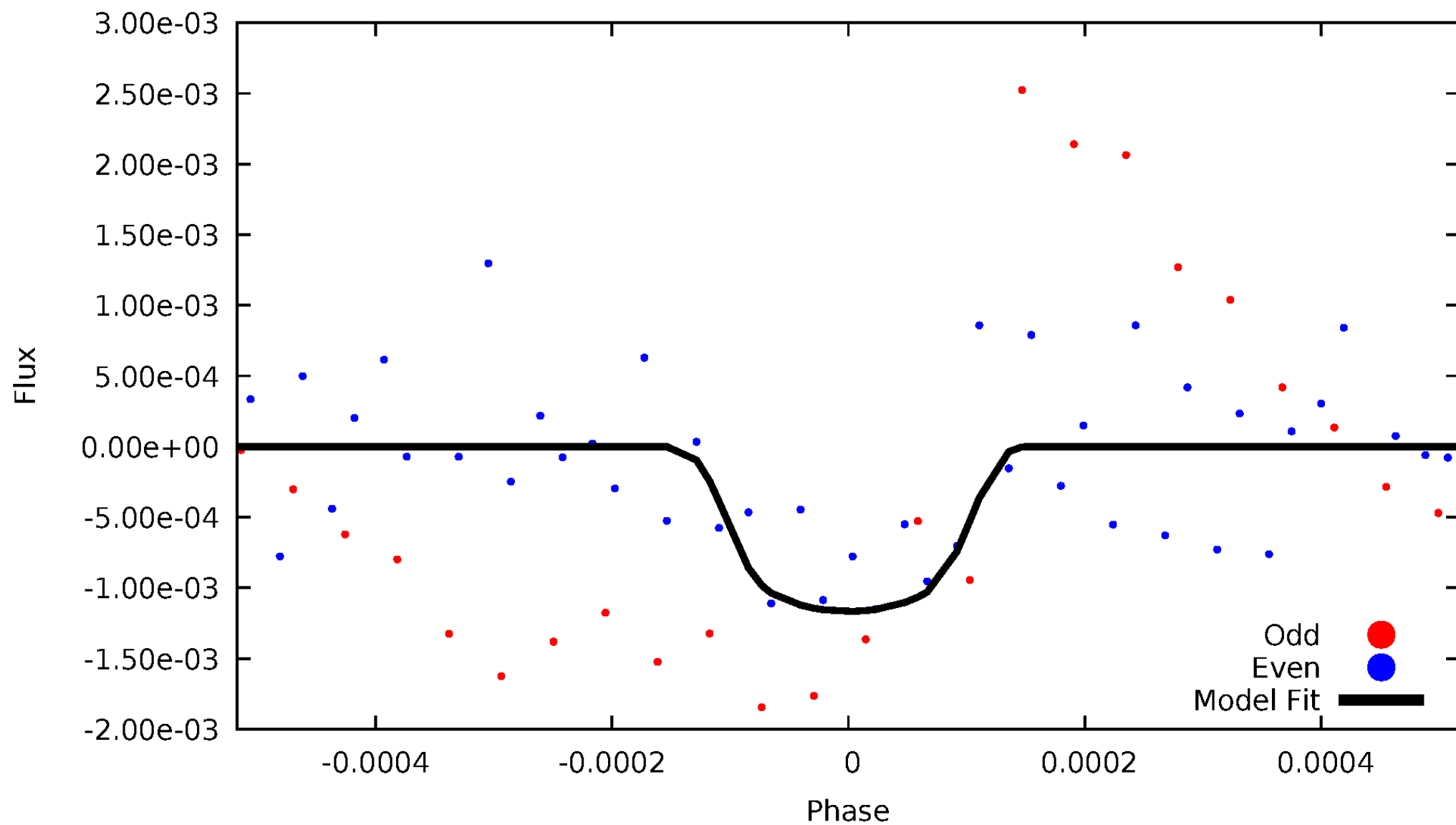


TCE 008259835-01



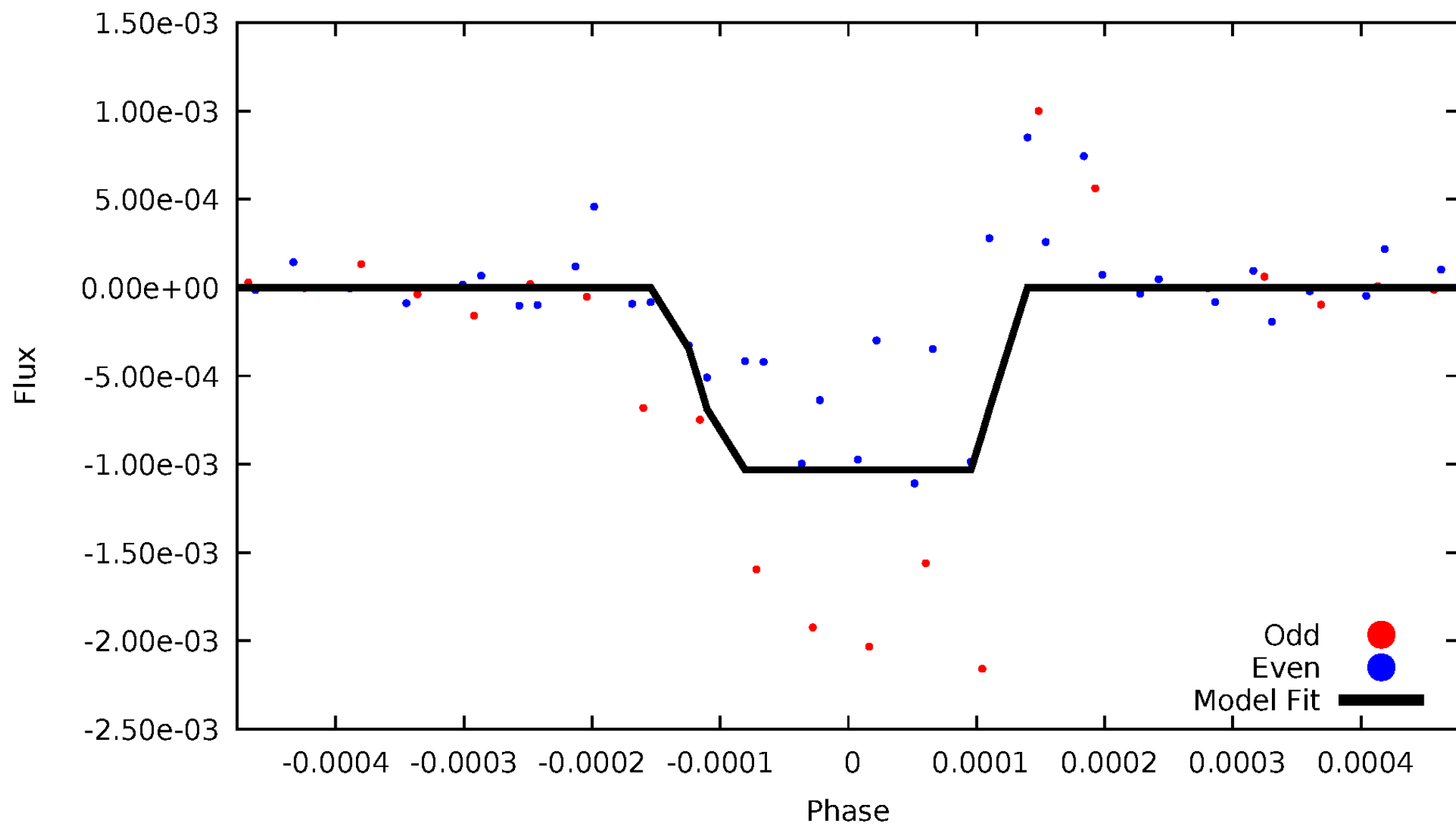
DV Odd/Even

TCE 008259835-01



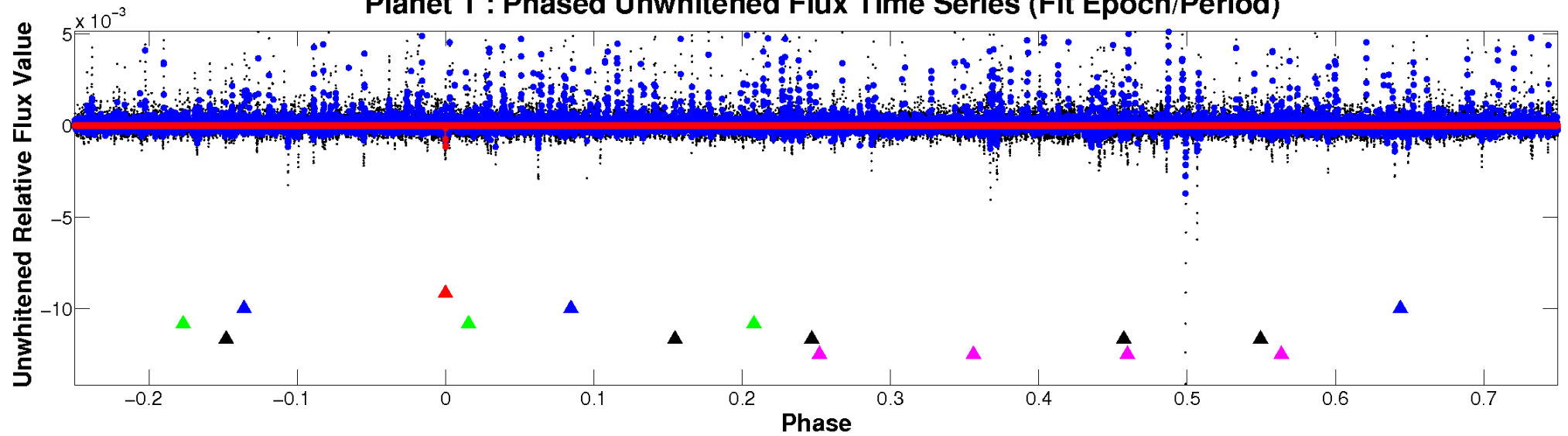
ALT Odd/Even

TCE 008259835-01

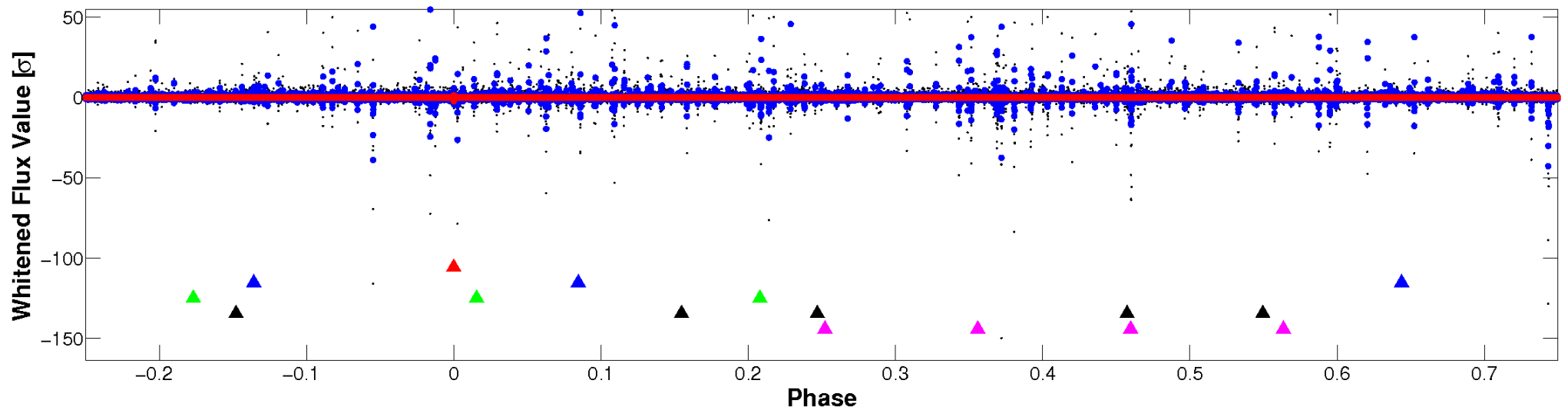


Non-Whitened Vs. Whitened Light Curve

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

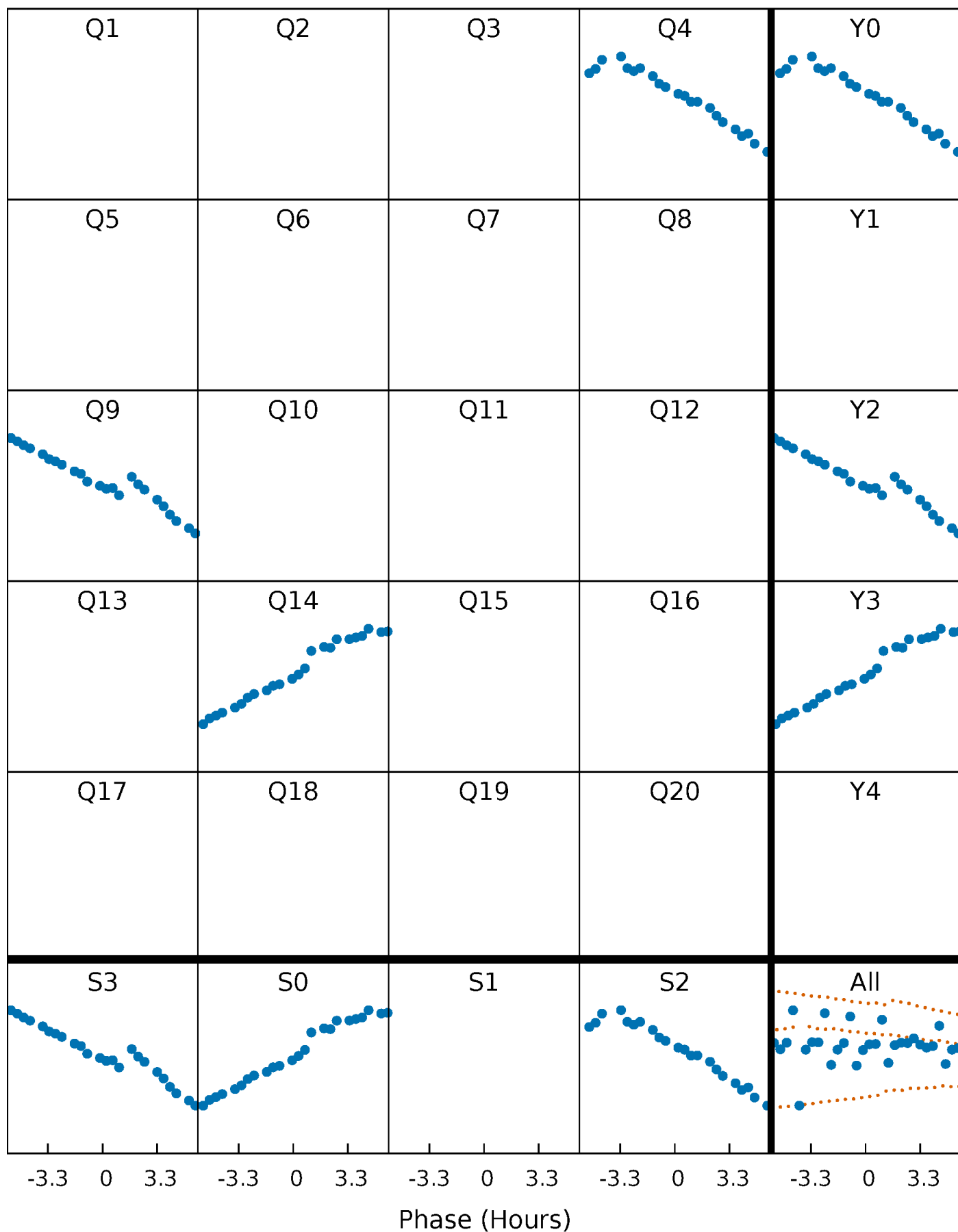


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



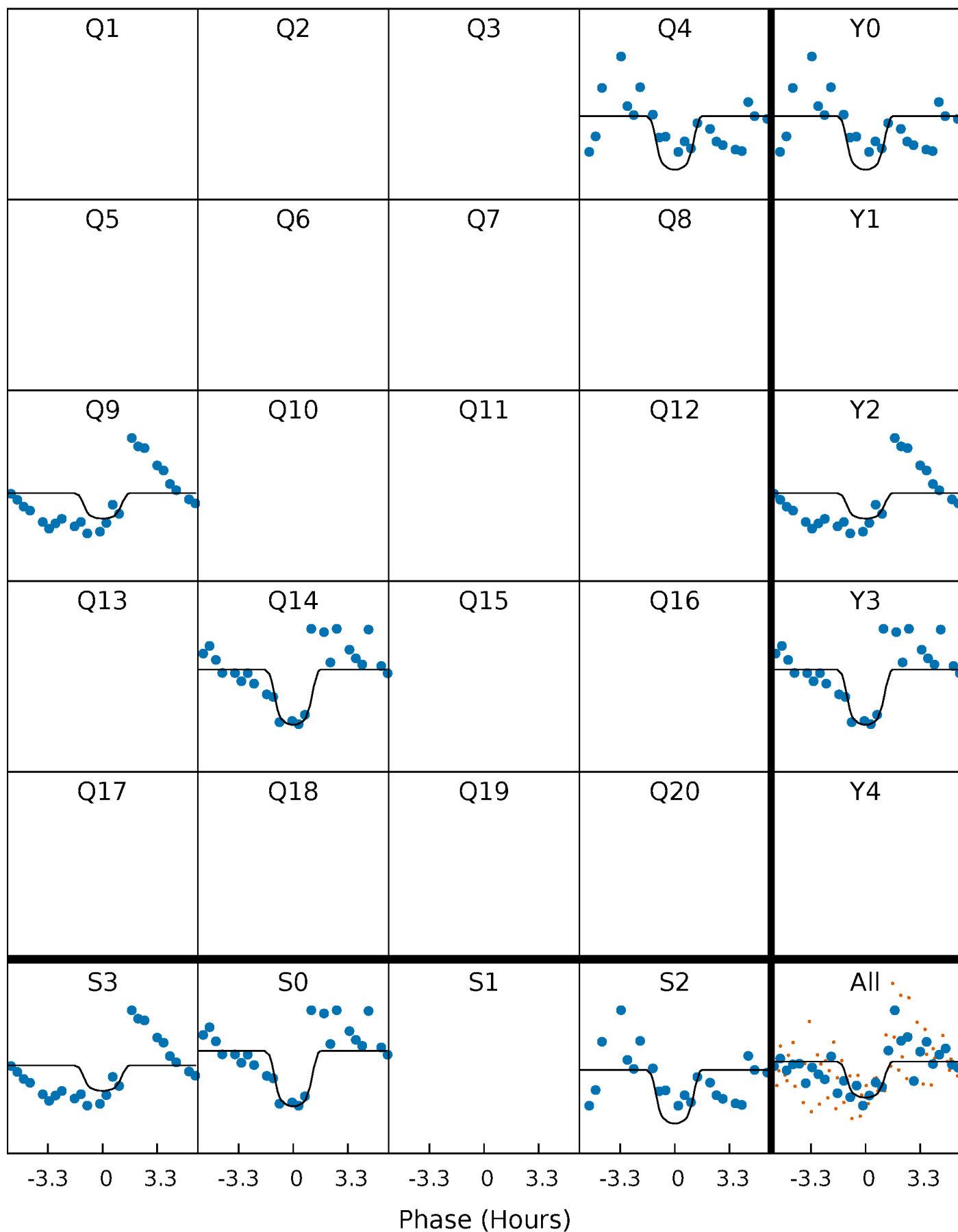
PDC Quarter-Phased Transit Curves

TCE 008259835-01 P=463.779570 Days $T_0=427.876428$ (BKJD)



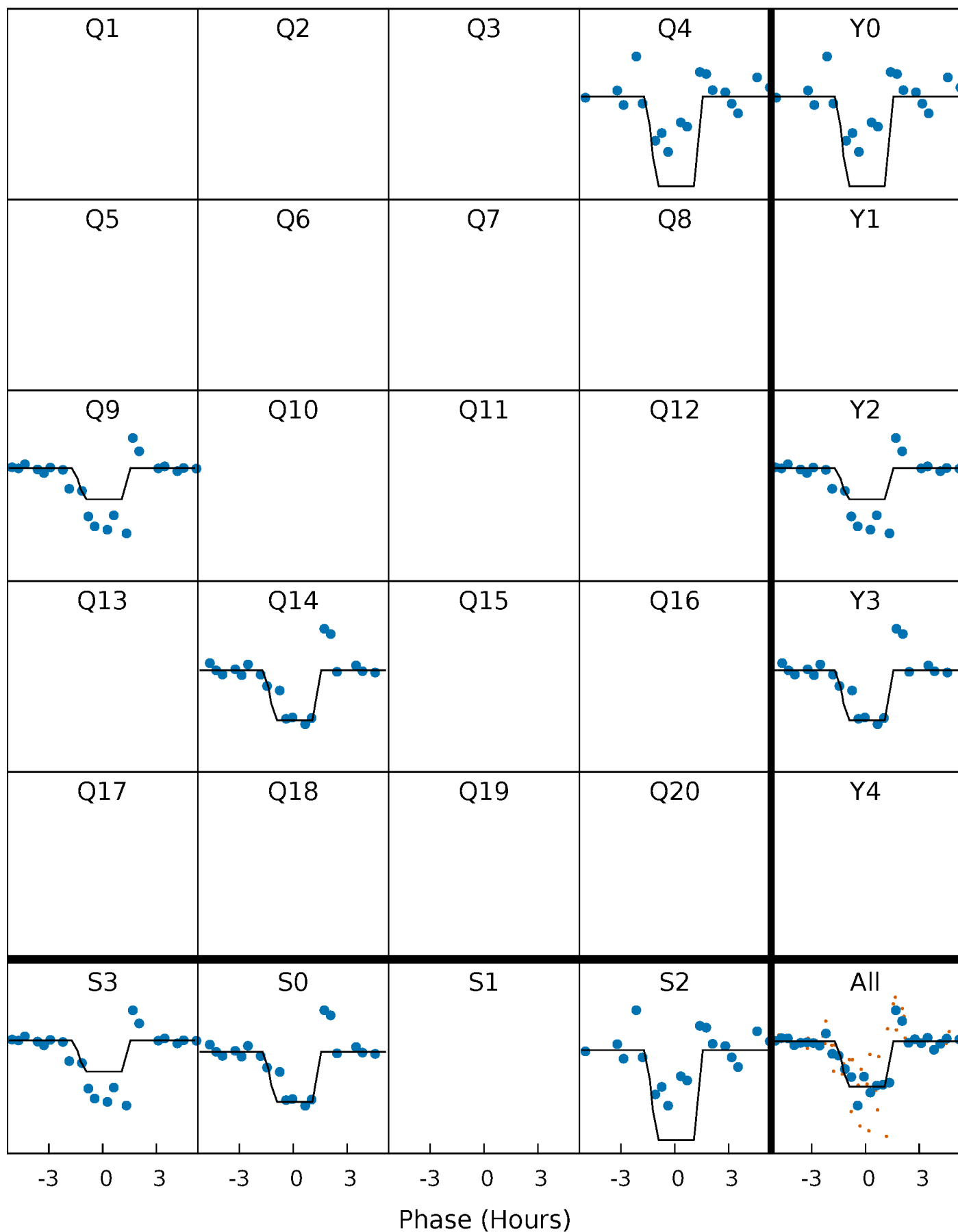
DV Quarter-Phased Transit Curves

TCE 008259835-01 P=463.779570 Days $T_0=427.876428$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

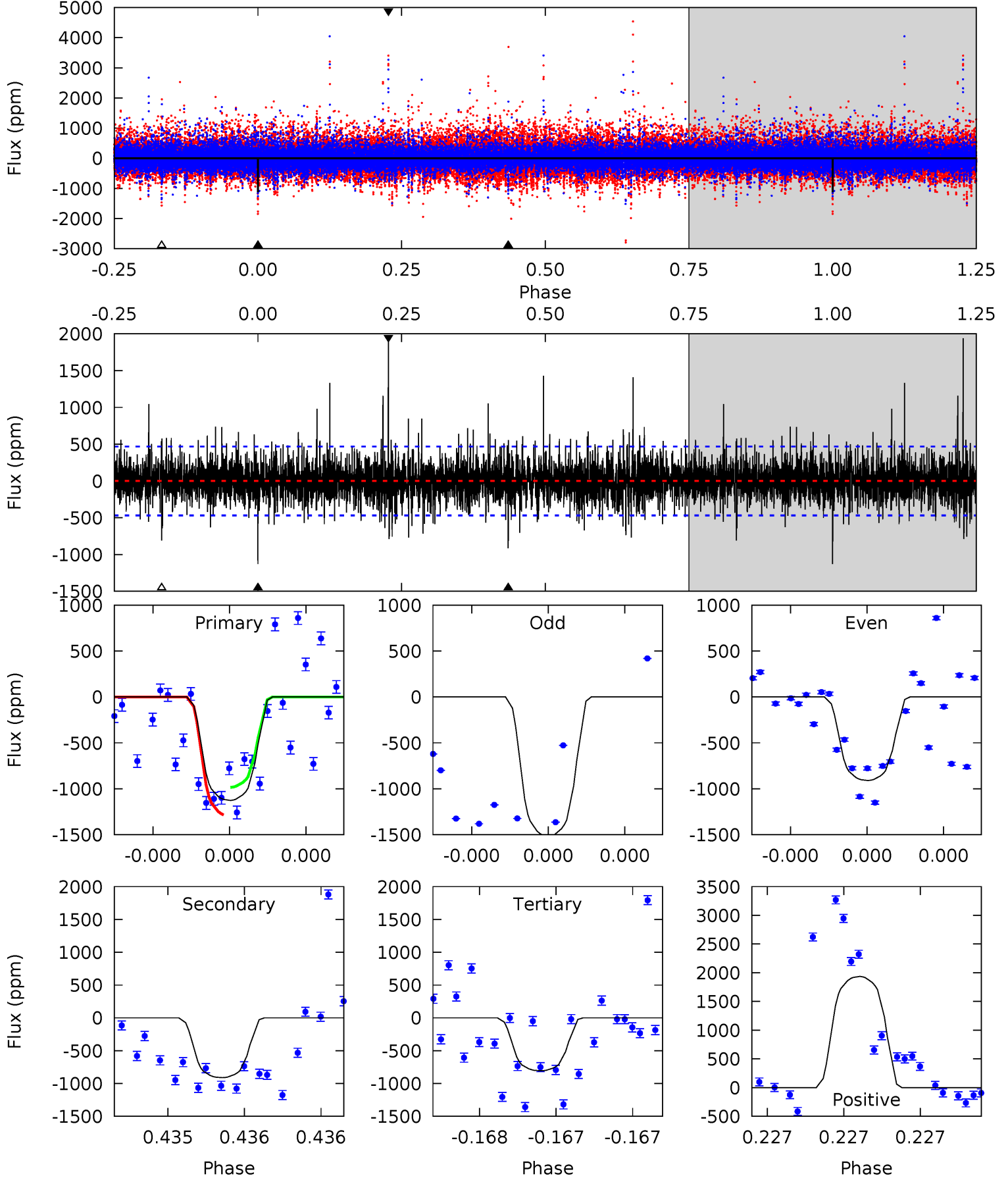
TCE 008259835-01 P=463.766889 Days $T_0=427.888390$ (BKJD)



DV Model-Shift Uniqueness Test

008259835-01, P = 463.779570 Days, E = 427.876428 Days

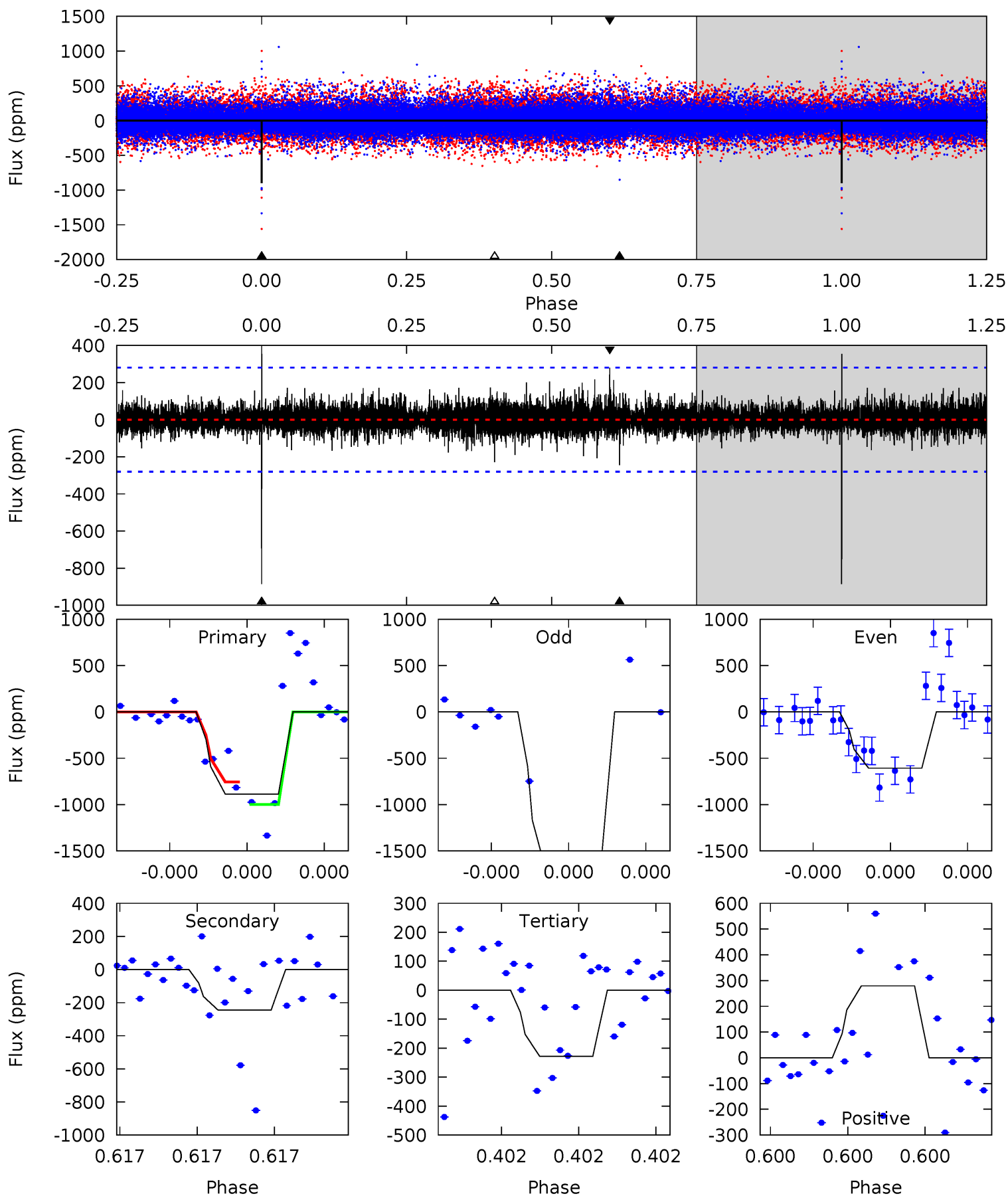
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	11.1	9.80	23.5	5.68	3.64	2.23	3.88	-9.83	1.27	-12.4	1.46	1.03	0.63	1.84



Alt Model-Shift Uniqueness Test

008259835-01, P = 463.766889 Days, E = 427.888390 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.0	4.97	4.63	5.68	5.70	3.68	0.81	13.4	12.3	0.34	-0.71	12.4	1.17	0.29	2.49



Stellar Parameters For KIC 008259835

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4902^{+117}_{-132}	$3.485^{+1.168}_{-0.292}$	$-0.160^{+0.250}_{-0.300}$	$2.832^{+1.485}_{-2.227}$	$0.895^{+0.237}_{-0.237}$	$0.055^{+3.247}_{-0.033}$
	+2%/-3%	+34%/-8%	+156%/-188%	+52%/-79%	+26%/-26%	+5853%/-60%
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 008259835-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-912 ± 82	$10.54^{+6.24}_{-5.28}$	463^{+75}_{-106}	4436^{+757}_{-423}	5718^{+15920}_{-3444}
Alt.	-244 ± 49	$8.58^{+5.77}_{-4.51}$	461^{+71}_{-111}	3700^{+695}_{-356}	2325^{+7521}_{-1480}

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 $A_{obs} \gg 1.0$

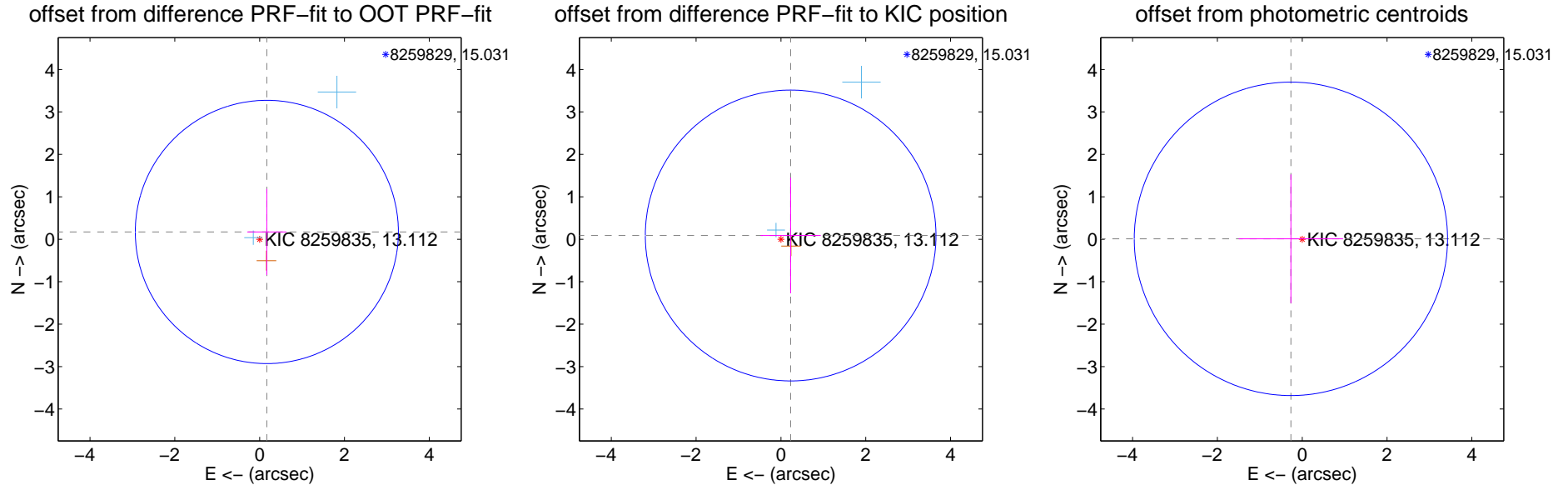
DV Centroid Data

Supplemental centroid analysis for 008259835-01. Kepler magnitude: 13.11. Transit SNR 8.26

There are 2 quarters with good PRF difference image offsets

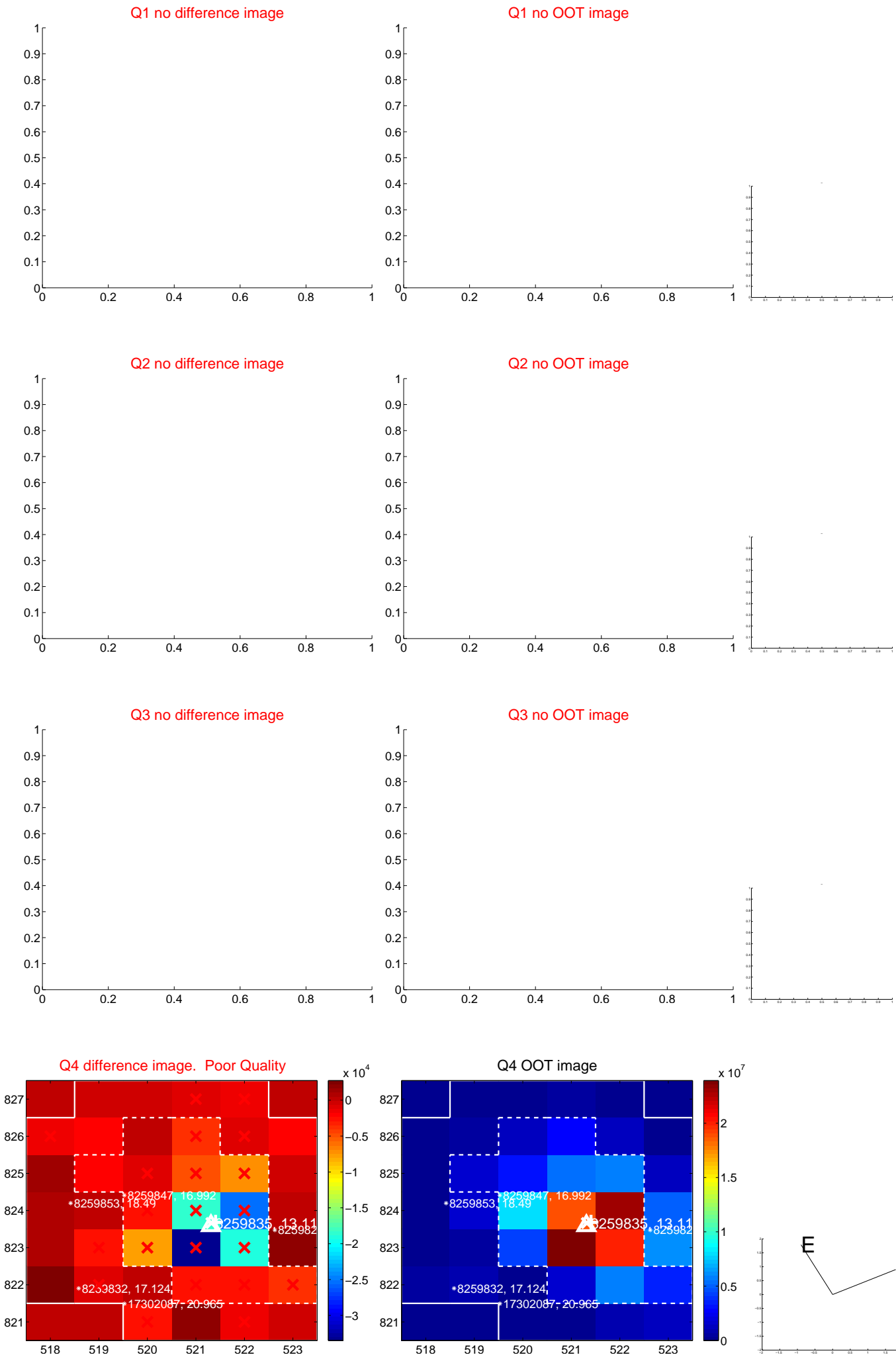
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.242 ± 1.034	0.23	-0.170 ± 0.463	0.172 ± 1.015
PRF-fit source offset from KIC position	0.246 ± 1.142	0.22	-0.229 ± 0.710	0.088 ± 1.361
photometric centroid source offset	0.27 ± 1.23	0.22	0.27 ± 1.23	0.01 ± 1.52



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.

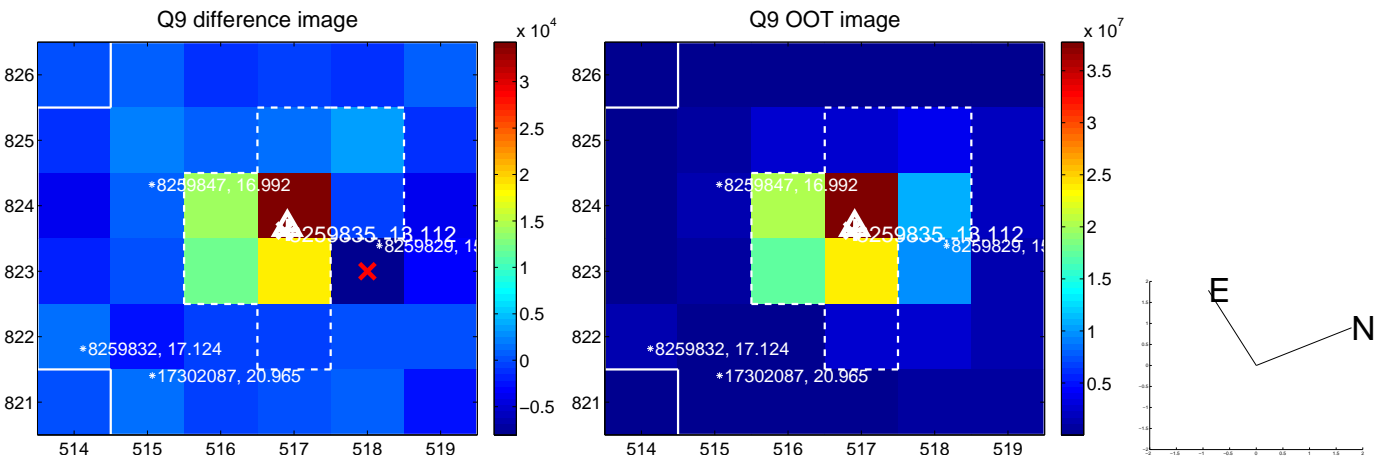
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



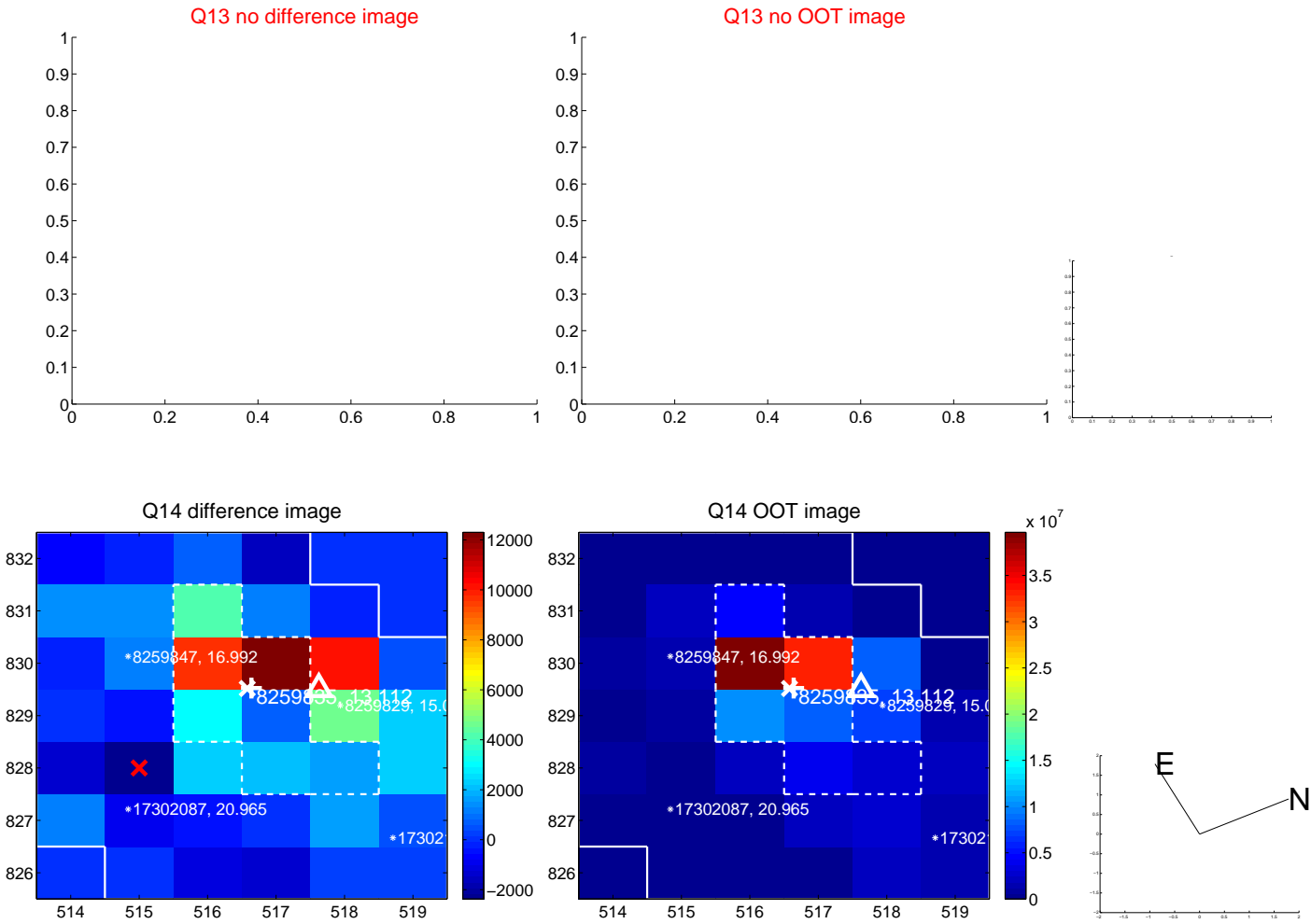
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



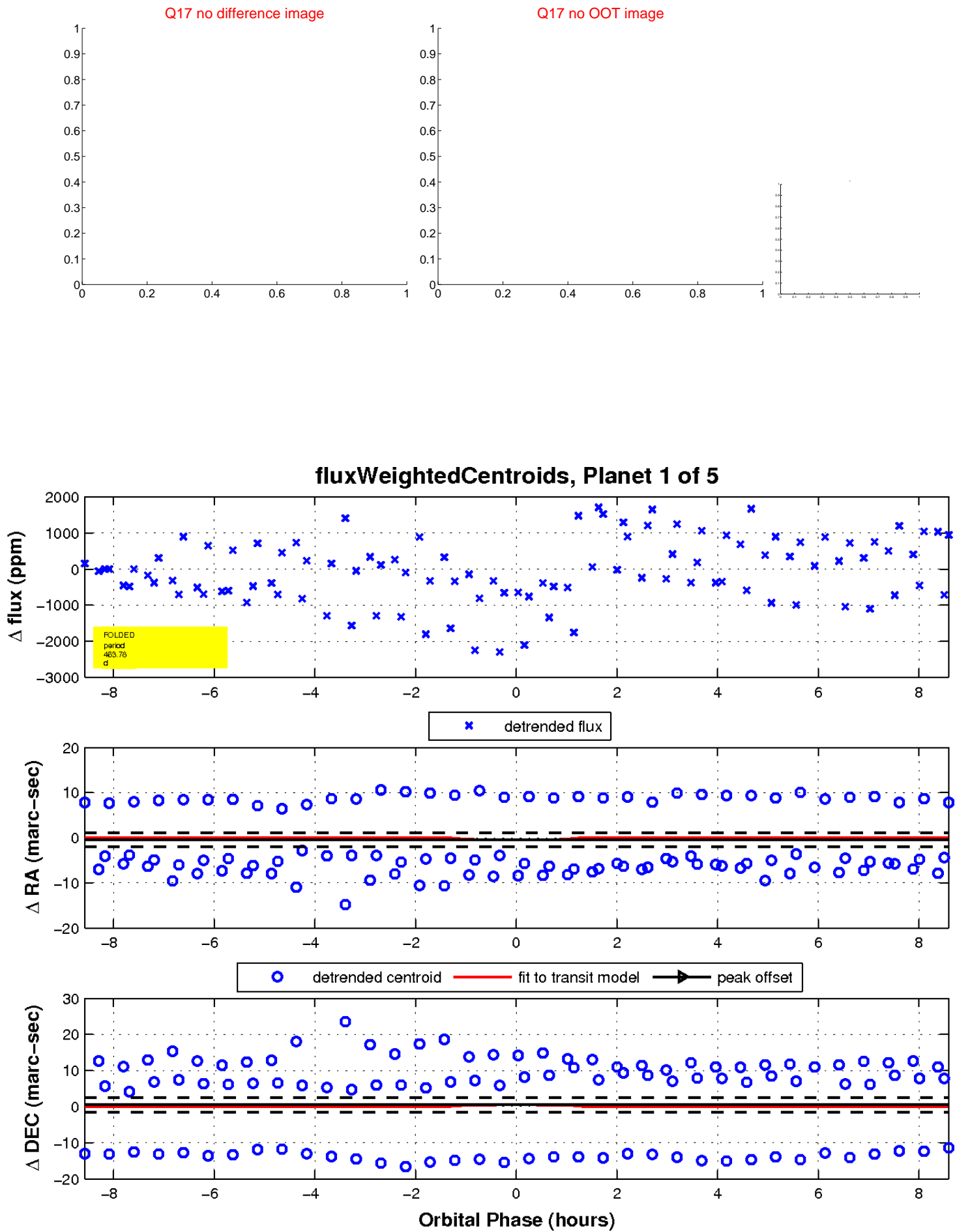
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

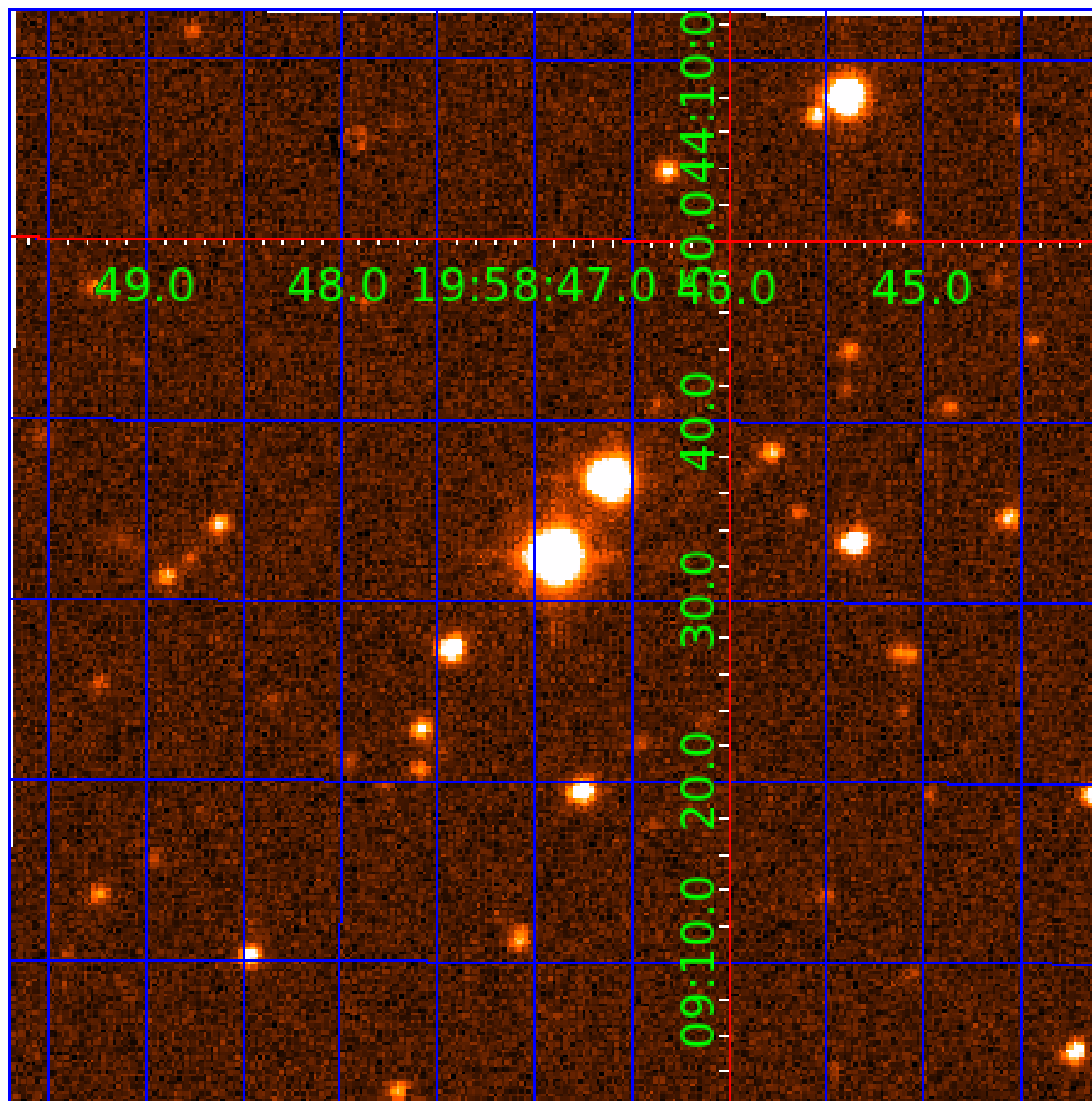


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008259835

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})
008259835-01	OBS	No	463.779570	427.876428	1165.9	2.878	11.8	8.3	2.83	4902	11.85	3.25
008259835-02	OBS	No	565.997687	262.680657	545.6	4.180	15.1	3.6	2.83	4902	6.81	2.49
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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008259835-02	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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008259835-03	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
008259835-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—HALO_GHOST
008259835-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

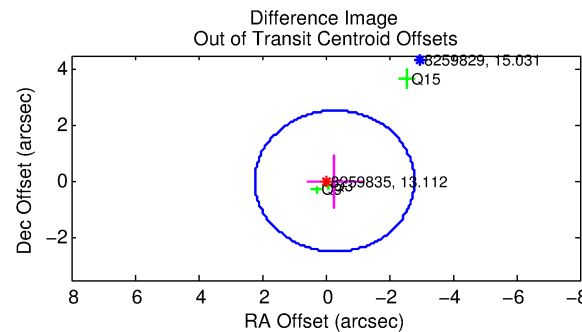
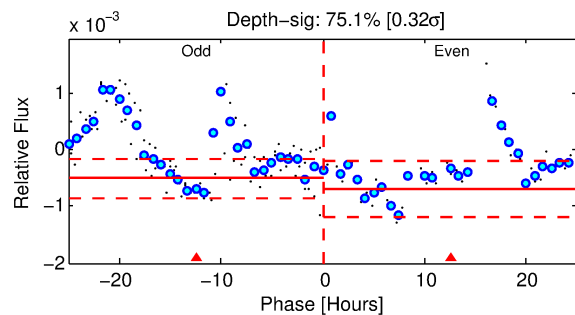
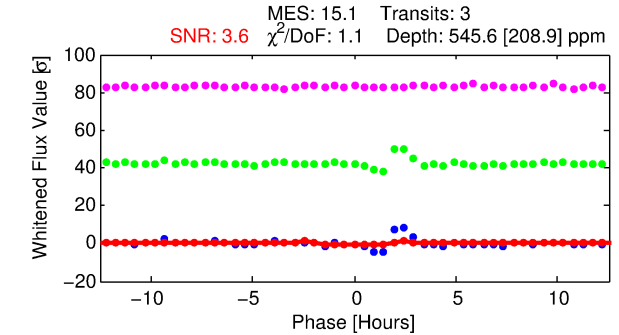
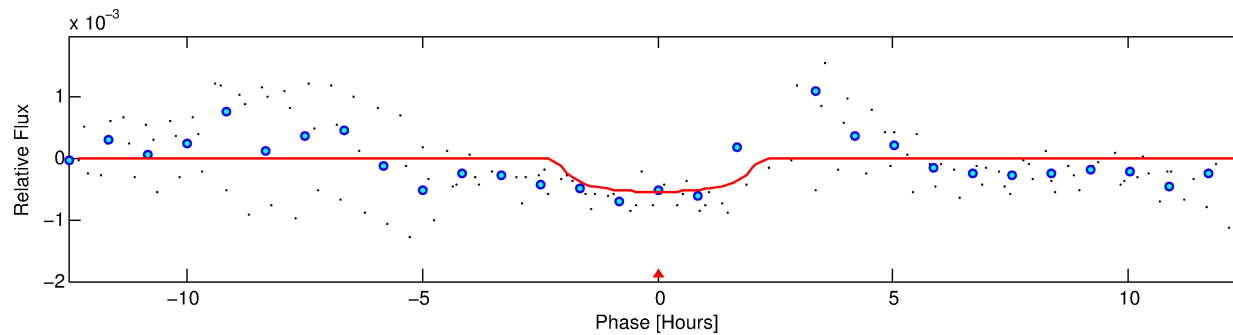
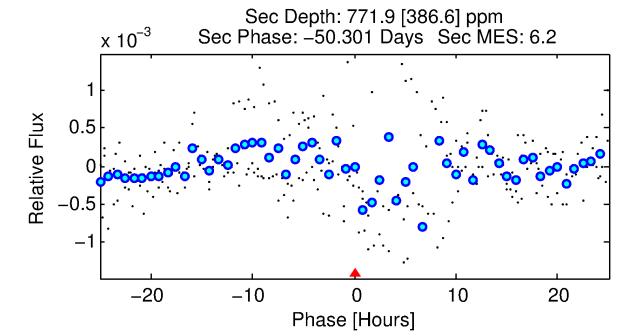
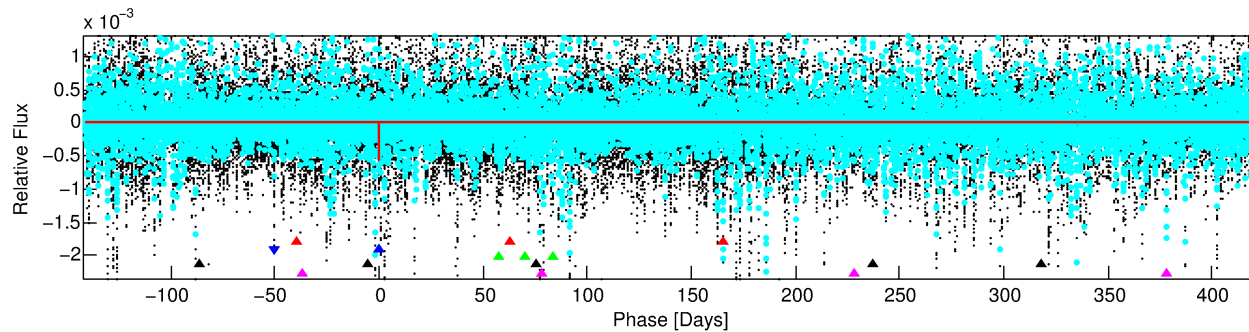
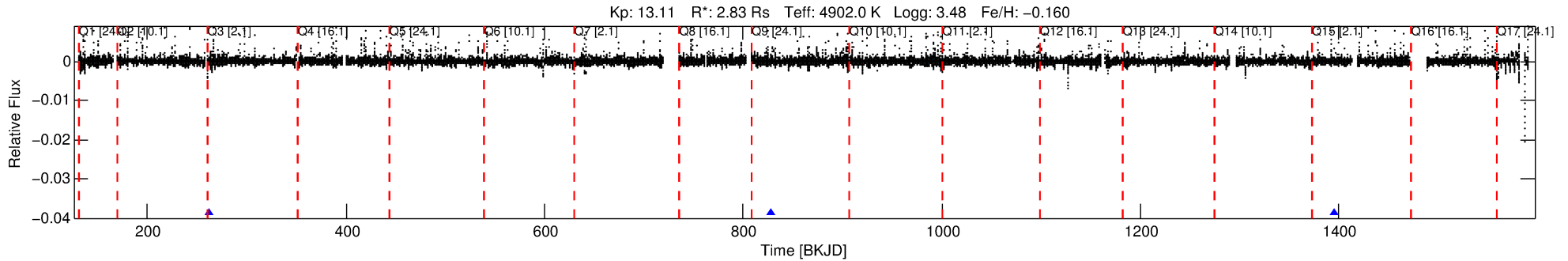
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008259835-02

No Significant Match Found

DV One-Page Summary

KIC: 8259835 Candidate: 2 of 5 Period: 565.998 d



DV Fit Results:

Period = 565.99769 [0.00911] d
Epoch = 262.6807 [0.0100] BKJD
Rp/R* = 0.0220 [0.0489]
a/R* = 863.33 [6698.65]
b = 0.59 [8.70]
Seff = 2.49 [4.66]
Teq = 320 [150] K
Rp = 6.81 [16.04] Re
a = 1.2901 [1.3398] AU
Ag = 15245.50 [73831.97] [0.21σ]
Teffp = 5505 [6151] K [0.84σ]

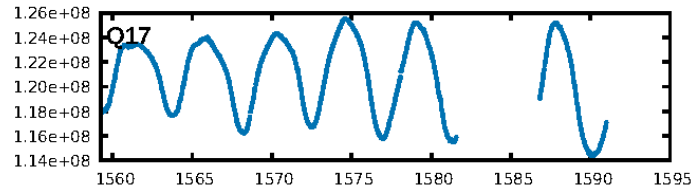
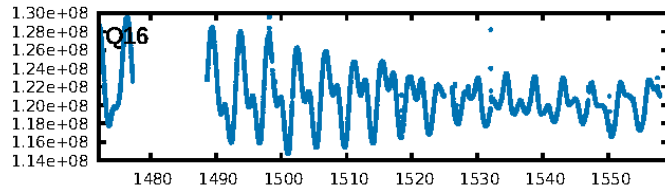
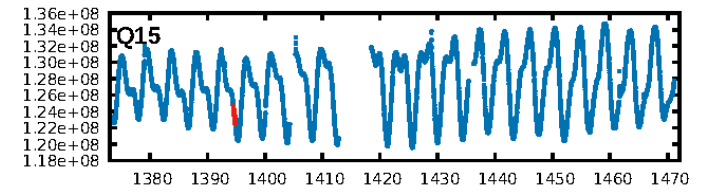
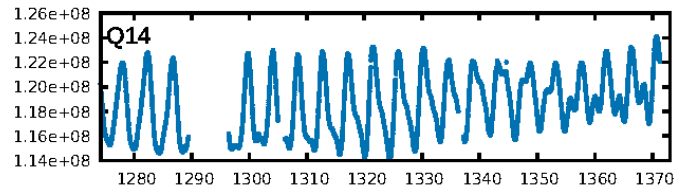
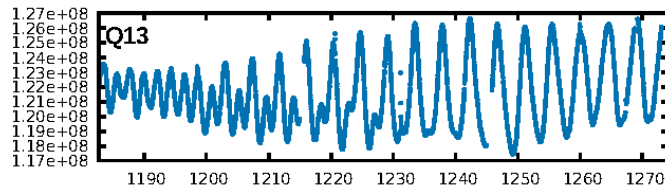
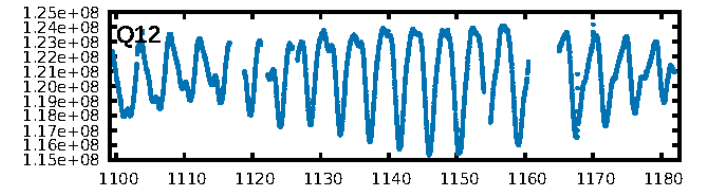
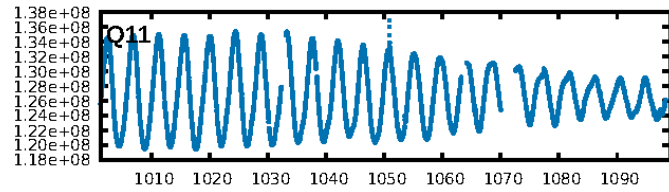
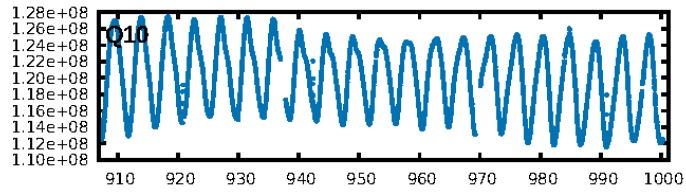
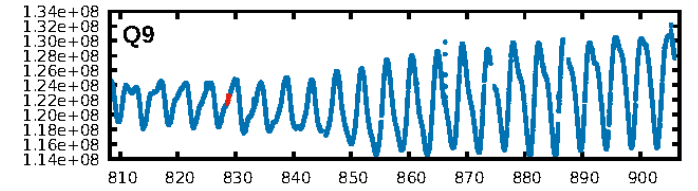
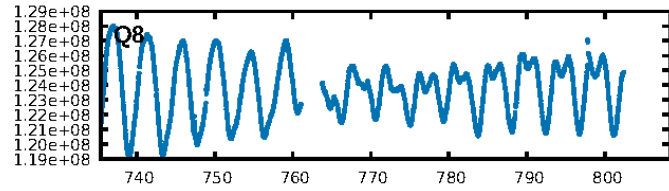
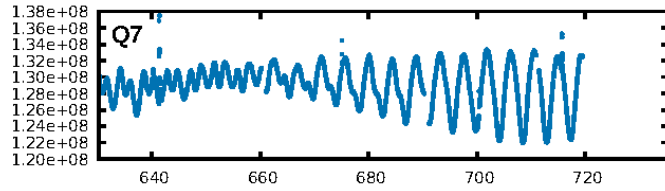
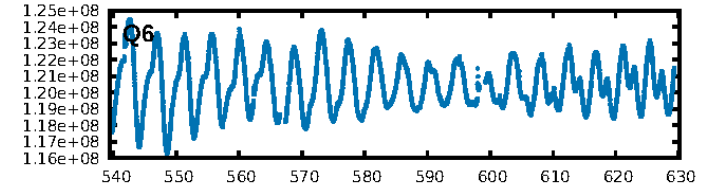
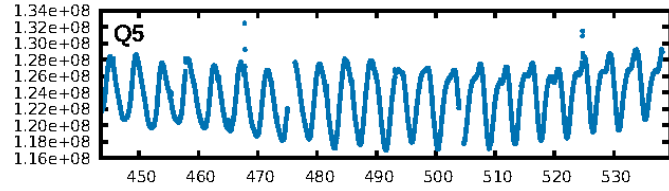
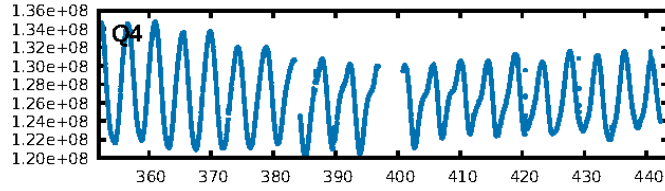
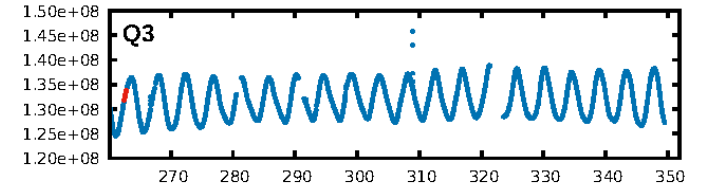
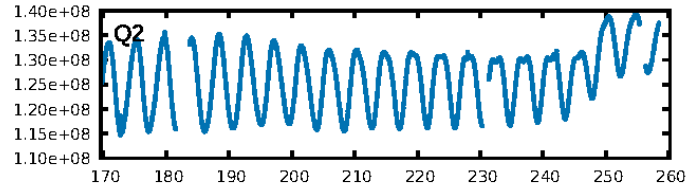
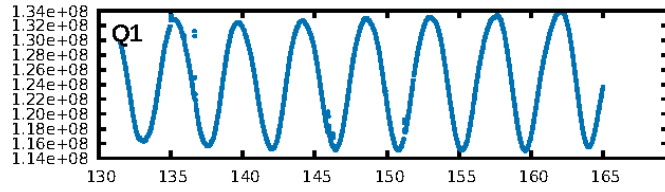
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [19.97σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 24.5%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.7848
Centroid-sig: 94.1%
Centroid-so: 0.848 arcsec [0.29σ]
OotOffset-rm: 0.284 arcsec [0.34σ]
KicOffset-rm: 0.374 arcsec [0.30σ]
OotOffset-st: 0/2/0/1 [3]
KicOffset-st: 0/2/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

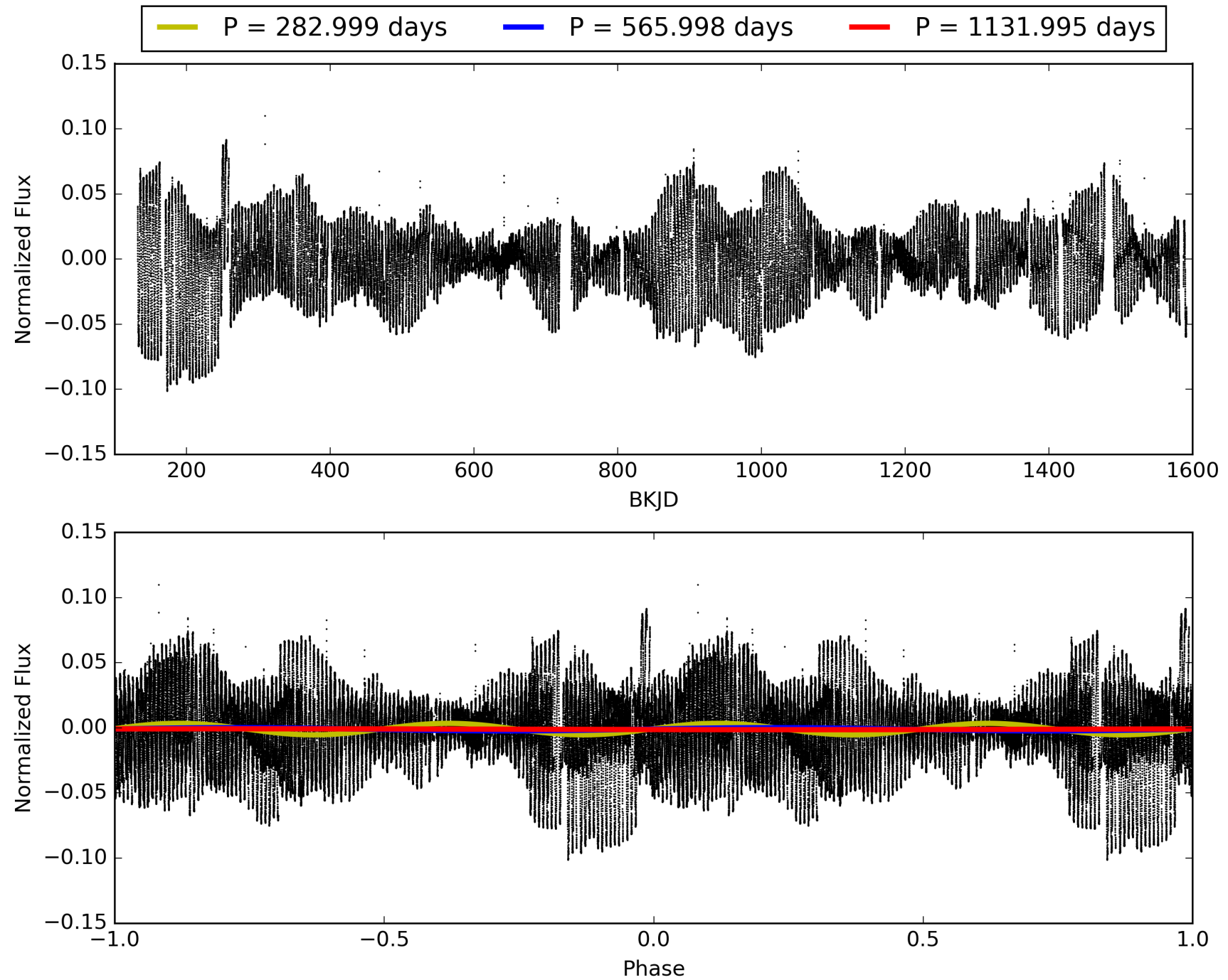
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:24:02 Z

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

TCE 008259835-02, PDC Light Curves

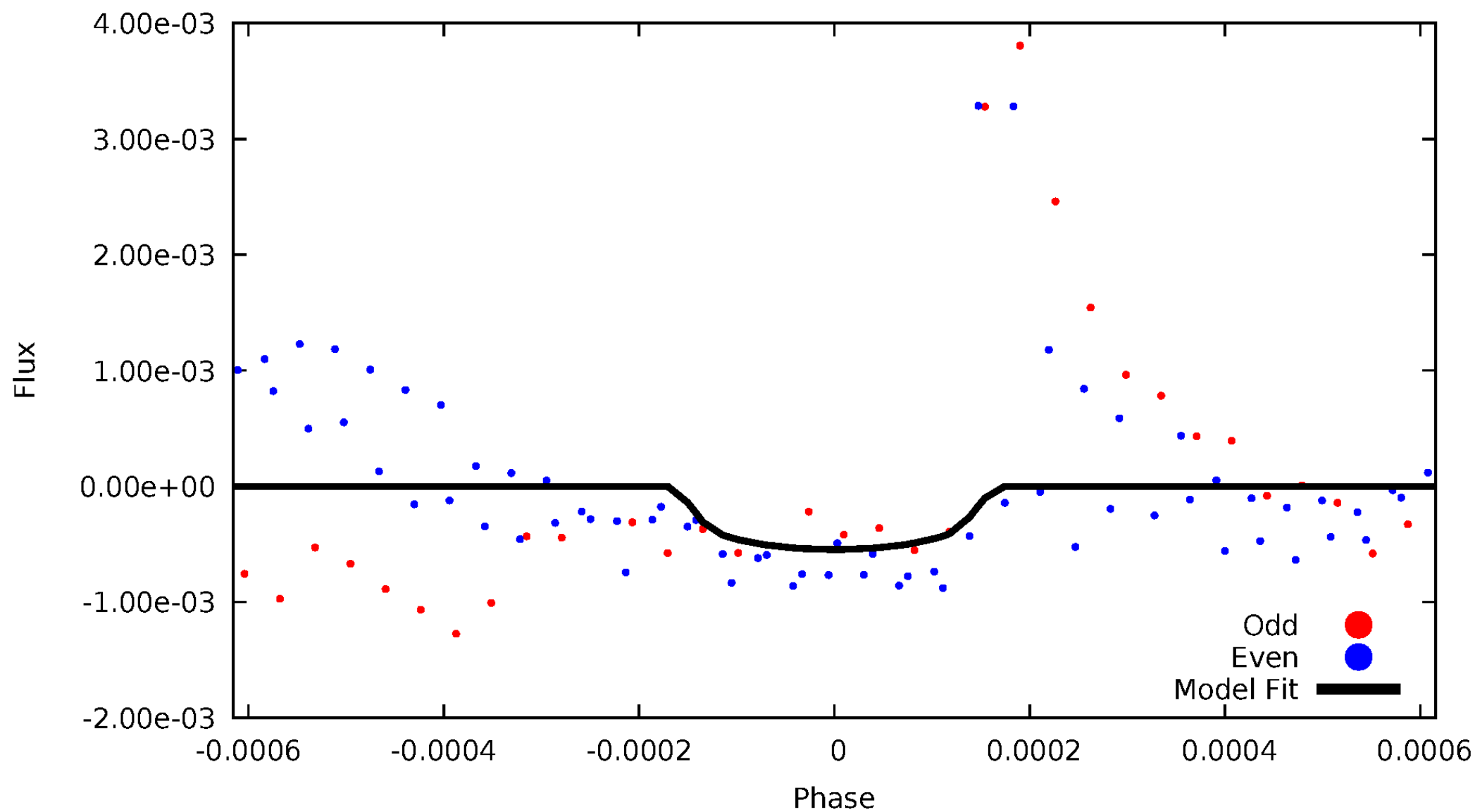


TCE 008259835-02



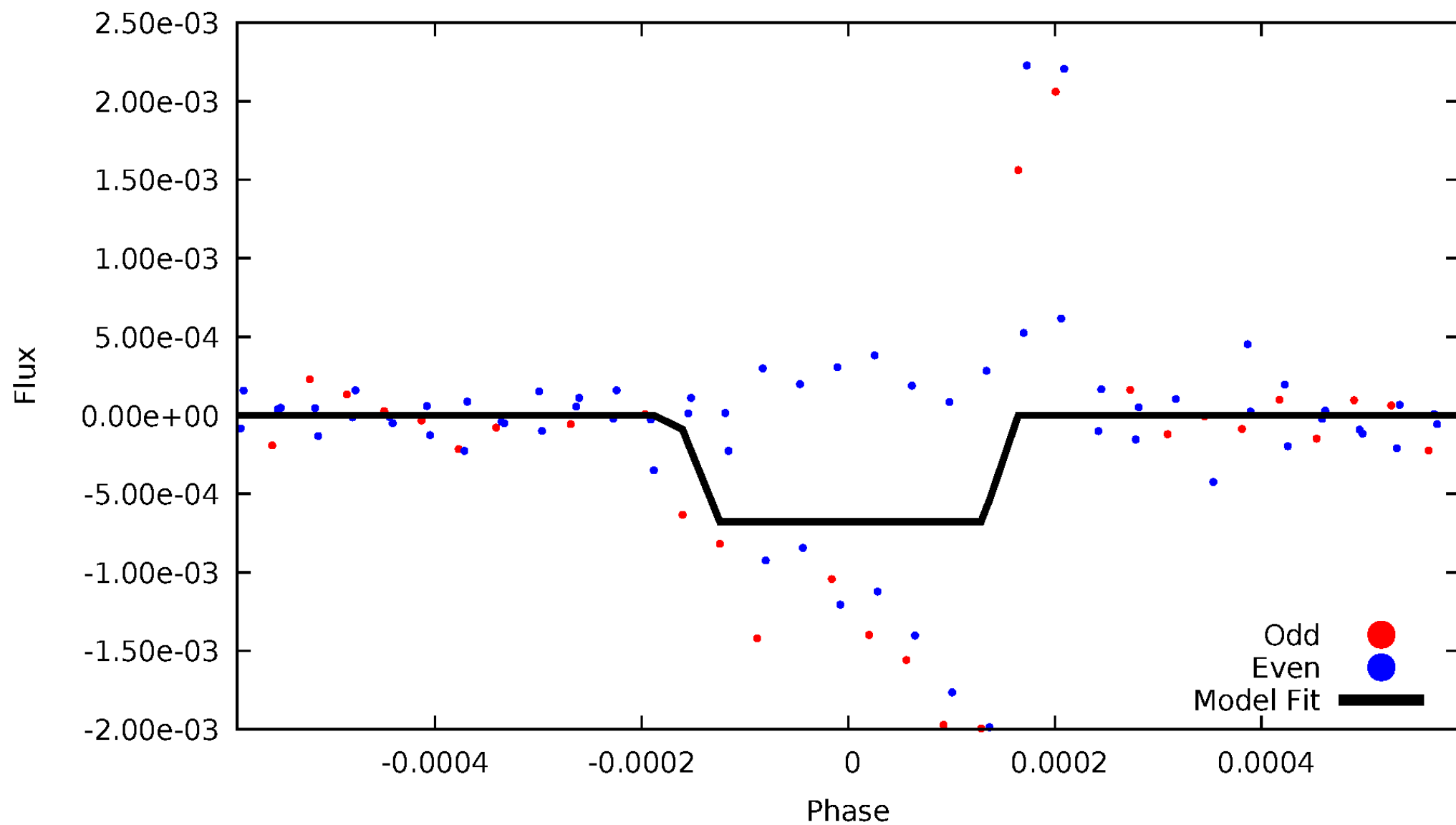
DV Odd/Even

TCE 008259835-02



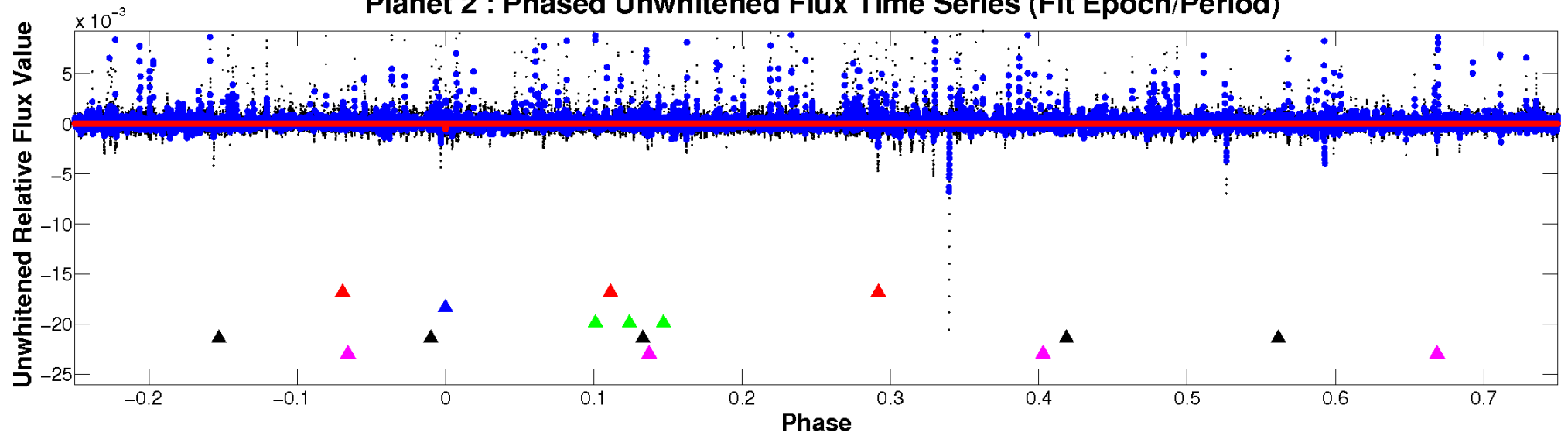
ALT Odd/Even

TCE 008259835-02

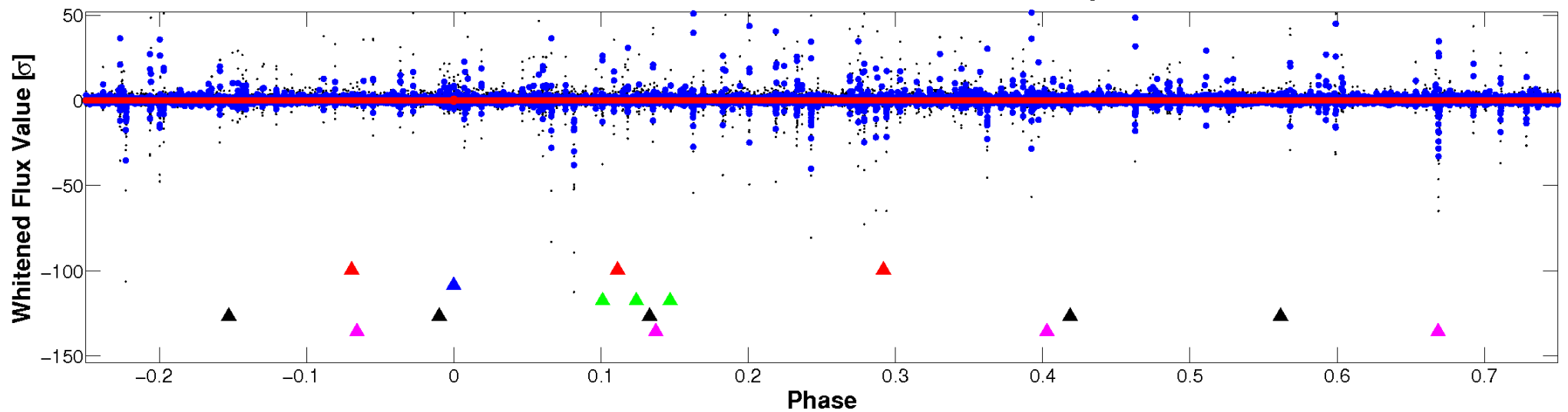


Non-Whitened Vs. Whitened Light Curve

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

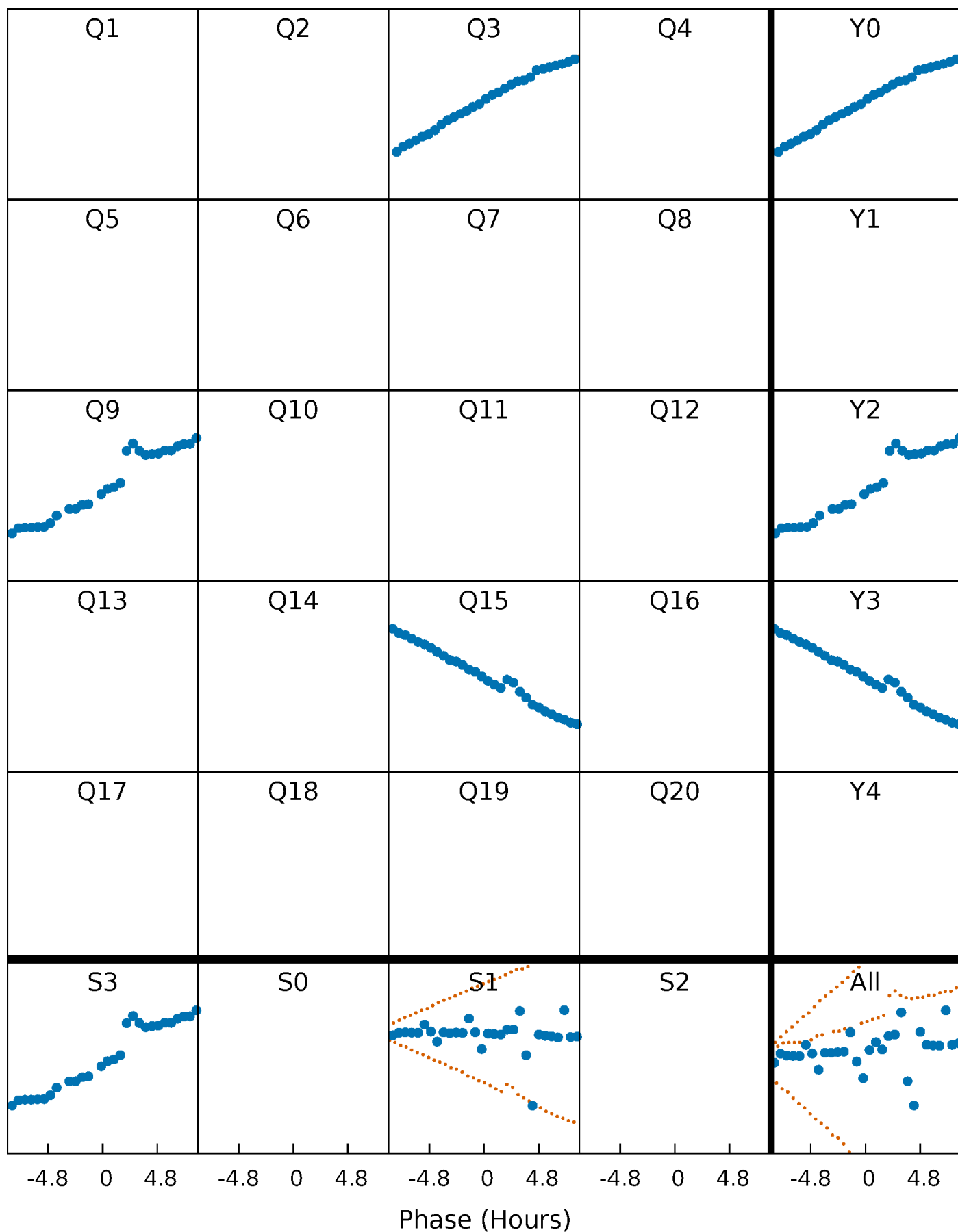


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



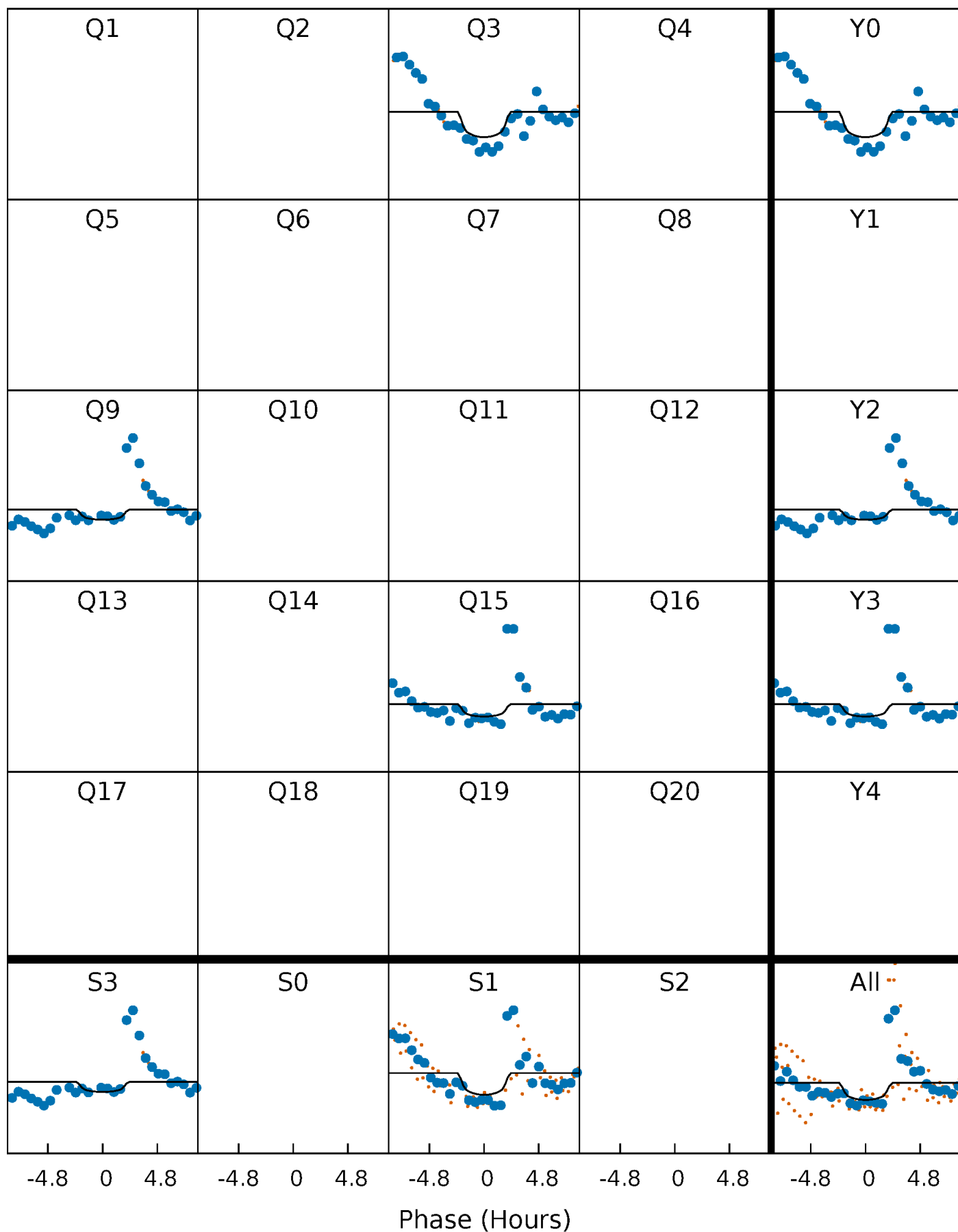
PDC Quarter-Phased Transit Curves

TCE 008259835-02 P=565.997687 Days $T_0=262.680657$ (BKJD)



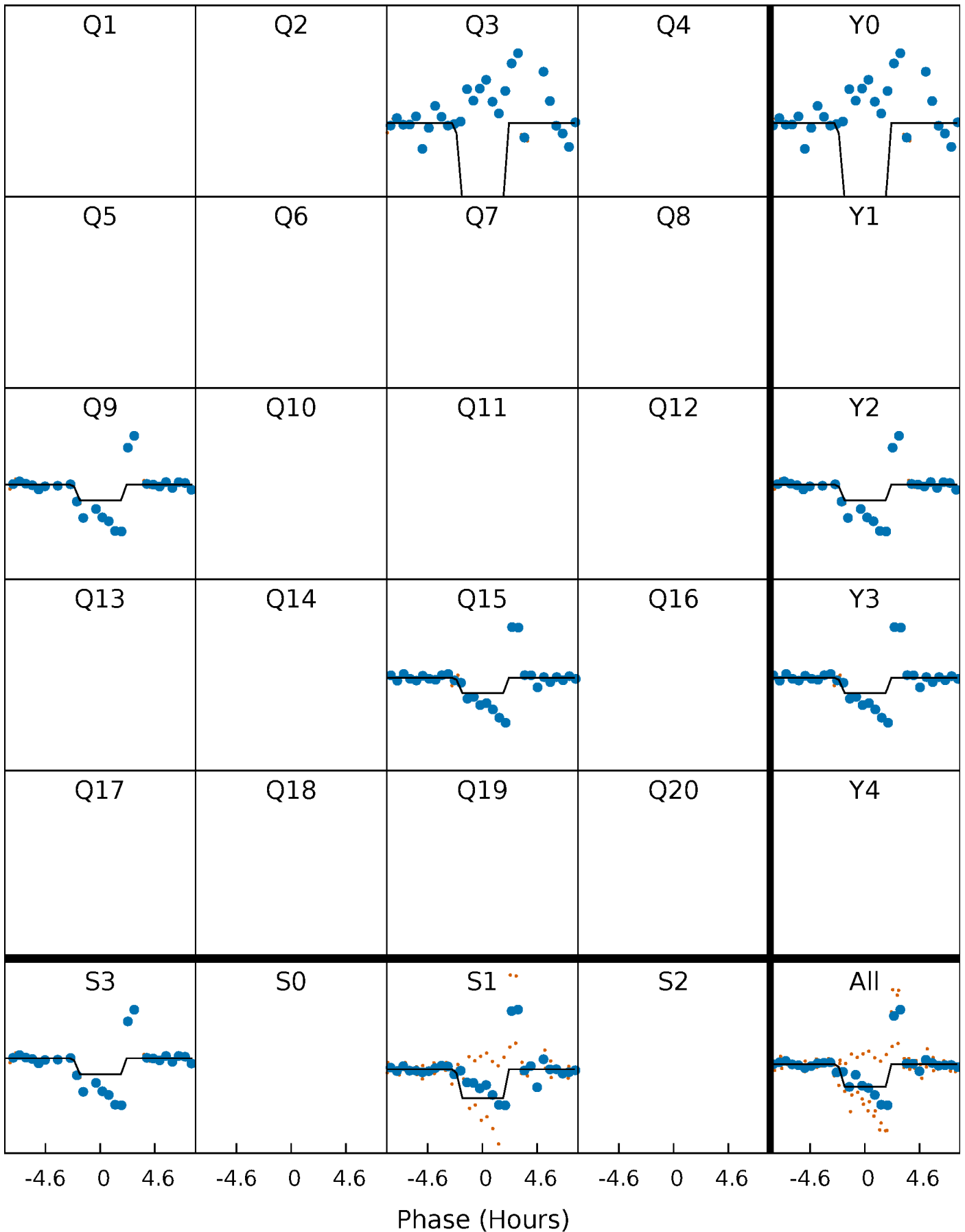
DV Quarter-Phased Transit Curves

TCE 008259835-02 P=565.997687 Days $T_0=262.680657$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

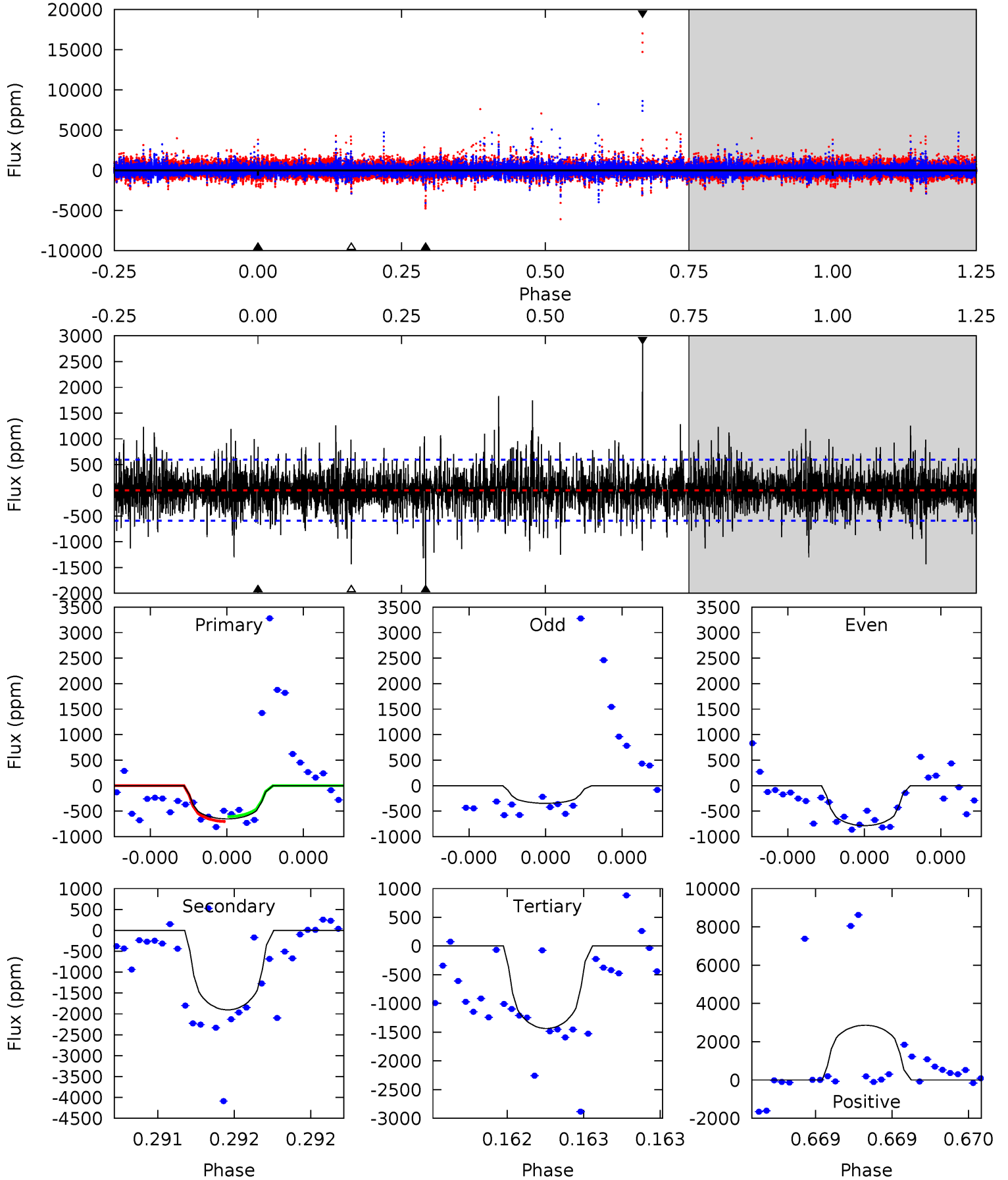
TCE 008259835-02 P=565.989178 Days $T_0=262.683325$ (BKJD)



DV Model-Shift Uniqueness Test

008259835-02, P = 565.997687 Days, E = 262.680657 Days

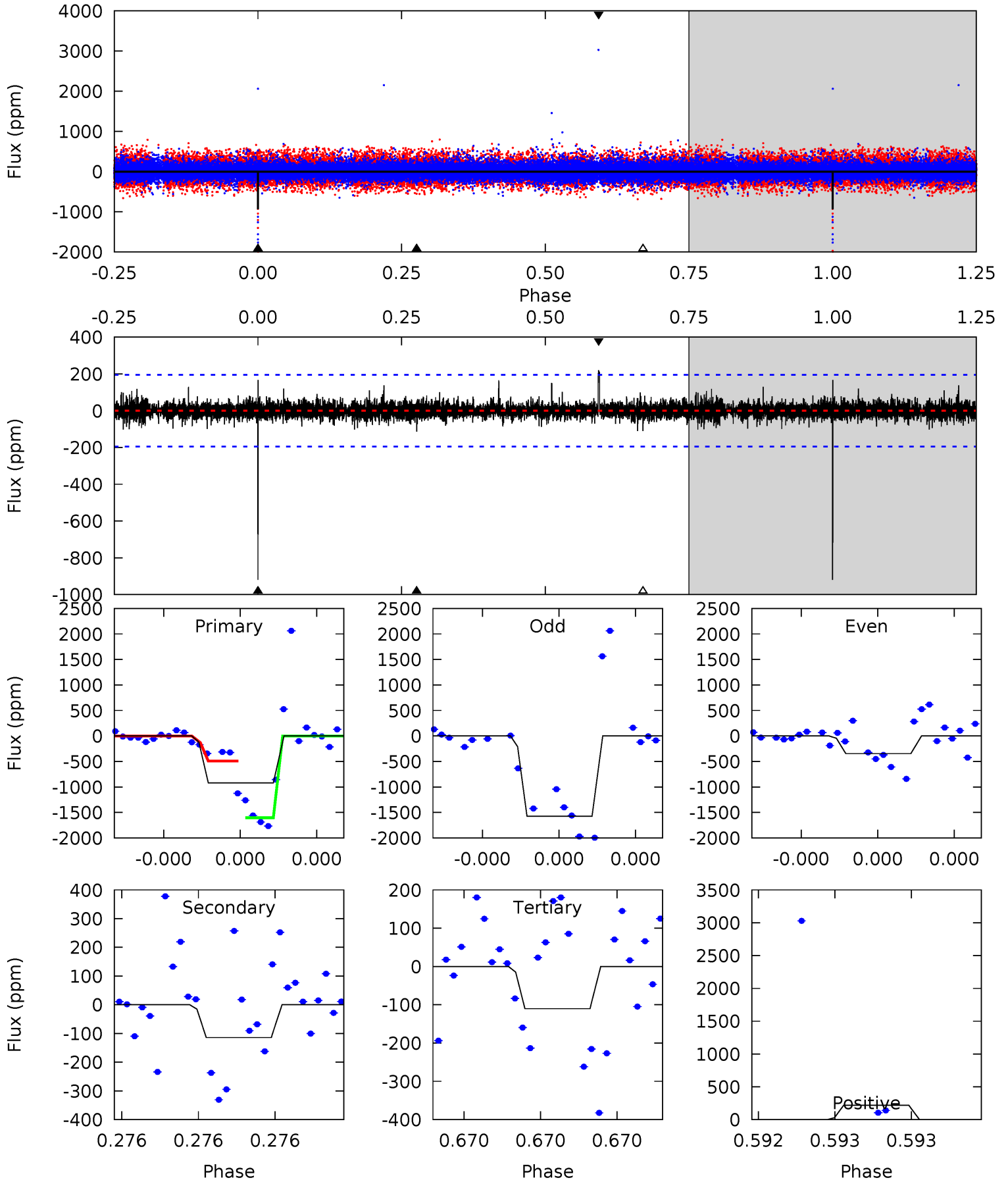
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.22	18.2	13.7	27.3	5.66	3.61	2.63	-7.49	-21.1	4.47	-9.15	1.03	1.01	0.60	0.47



Alt Model-Shift Uniqueness Test

008259835-02, P = 565.989178 Days, E = 262.683325 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.7	3.31	3.20	6.38	5.66	3.62	0.64	23.5	20.3	0.11	-3.07	12.7	0.69	0.19	15.5



Stellar Parameters For KIC 008259835

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4902^{+117}_{-132}	$3.485^{+1.168}_{-0.292}$	$-0.160^{+0.250}_{-0.300}$	$2.832^{+1.485}_{-2.227}$	$0.895^{+0.237}_{-0.237}$	$0.055^{+3.247}_{-0.033}$
	+2%/-3%	+34%/-8%	+156%/-188%	+52%/-79%	+26%/-26%	+5853%/-60%
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 008259835-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1905 ± 105	$10.63^{+14.34}_{-7.32}$	436^{+66}_{-102}	4930^{+4355}_{-1042}	$16193^{+146569}_{-13326}$
Alt.	-114 ± 34	$11.29^{+14.62}_{-8.00}$	436^{+60}_{-101}	3028^{+1409}_{-520}	803^{+8212}_{-654}

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

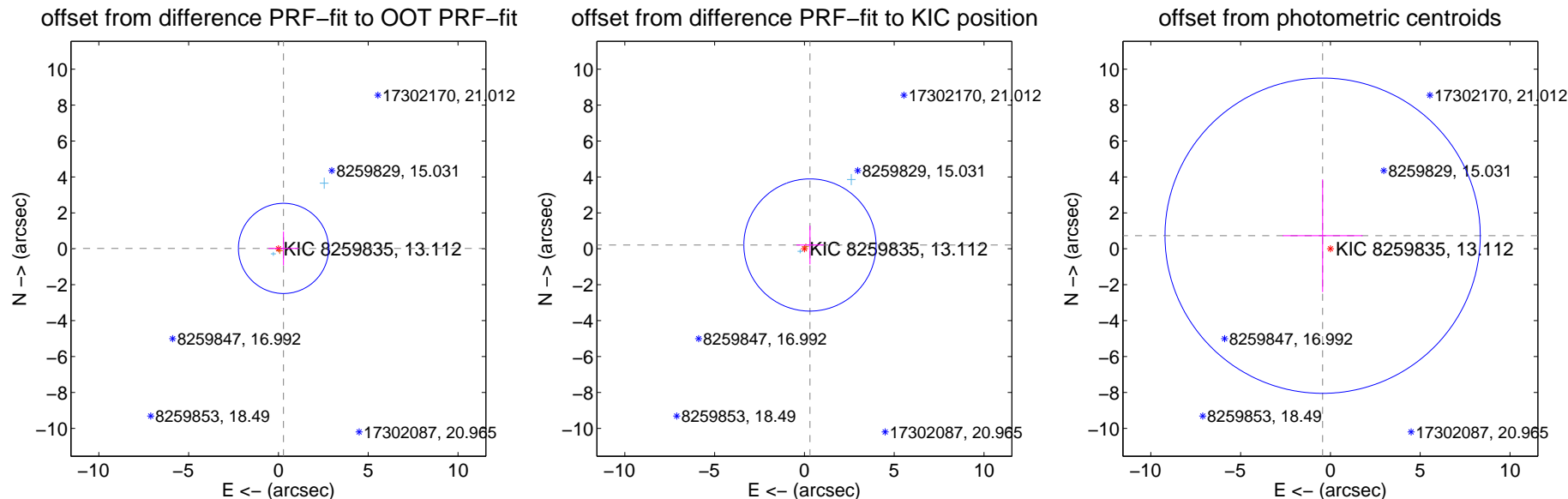
DV Centroid Data

Supplemental centroid analysis for 008259835-02. Kepler magnitude: 13.11. Transit SNR 3.61

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.284 ± 0.837	0.34	-0.283 ± 0.836	0.022 ± 0.937
PRF-fit source offset from KIC position	0.374 ± 1.227	0.30	-0.308 ± 0.752	0.211 ± 1.076
photometric centroid source offset	0.85 ± 2.93	0.29	0.43 ± 2.22	0.73 ± 3.14



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



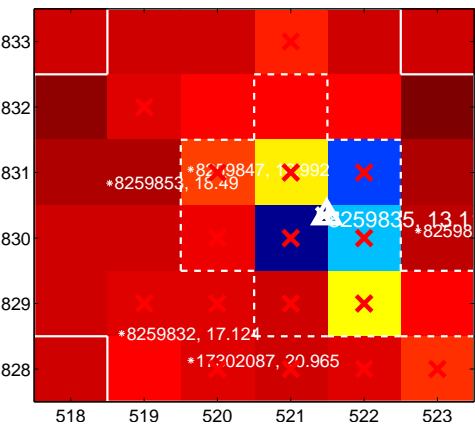
Q2 no difference image



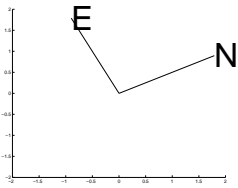
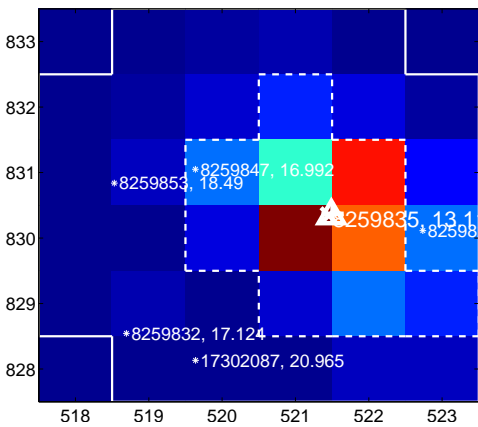
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



Q4 no difference image



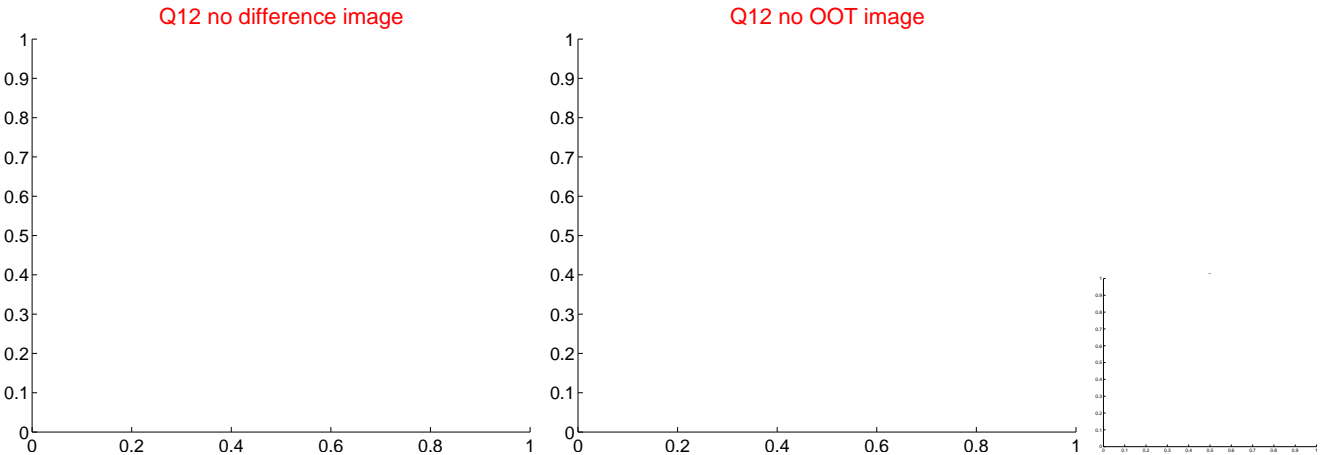
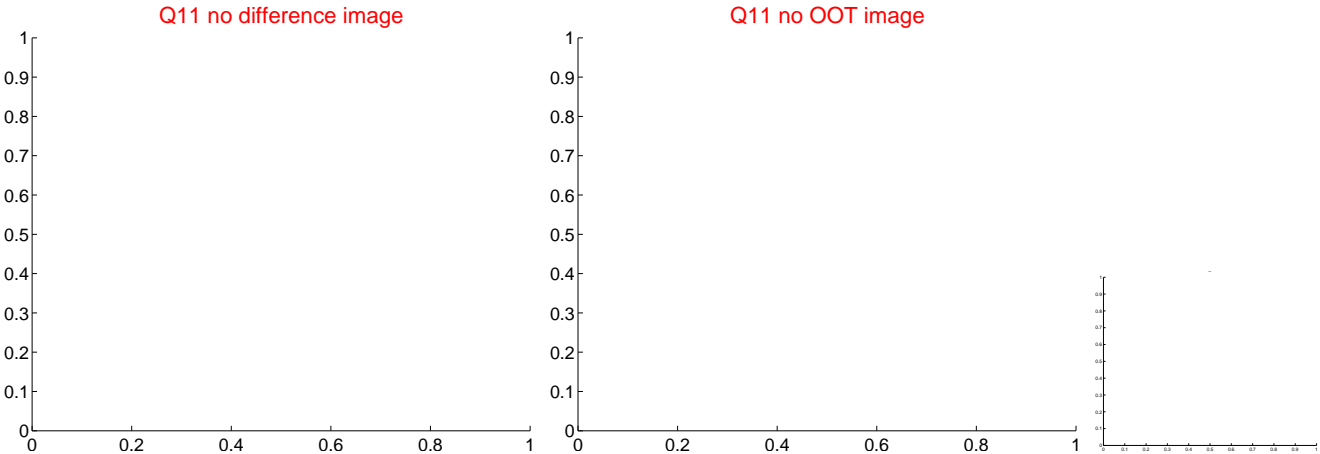
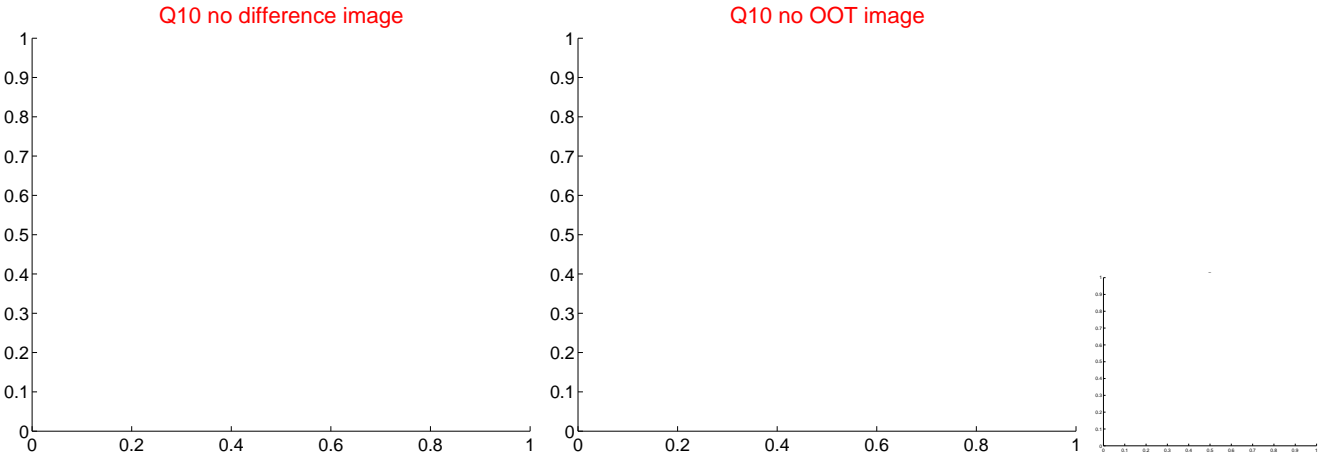
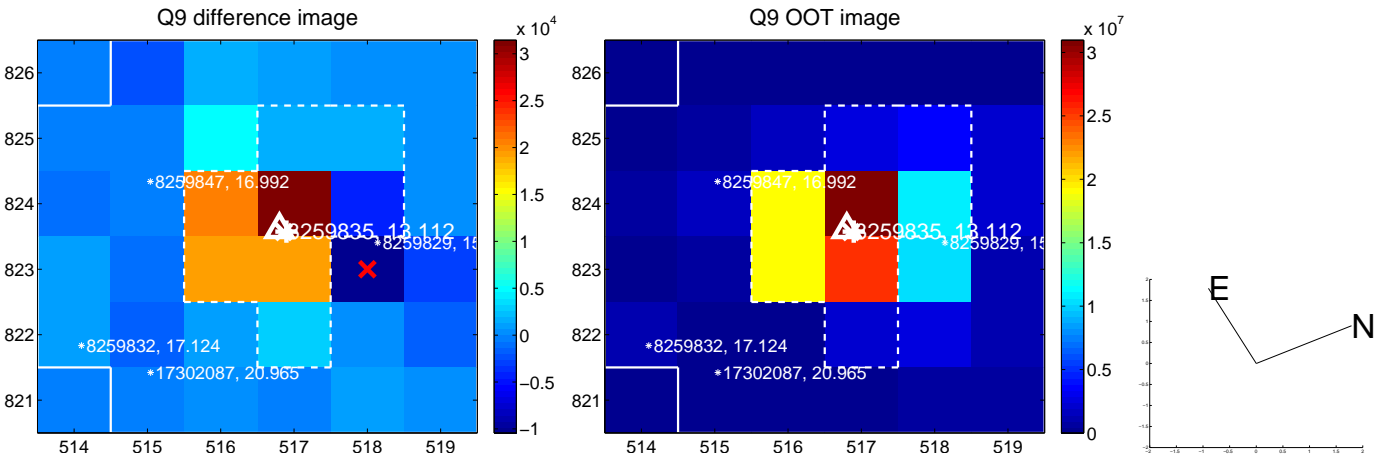
Q4 no OOT image



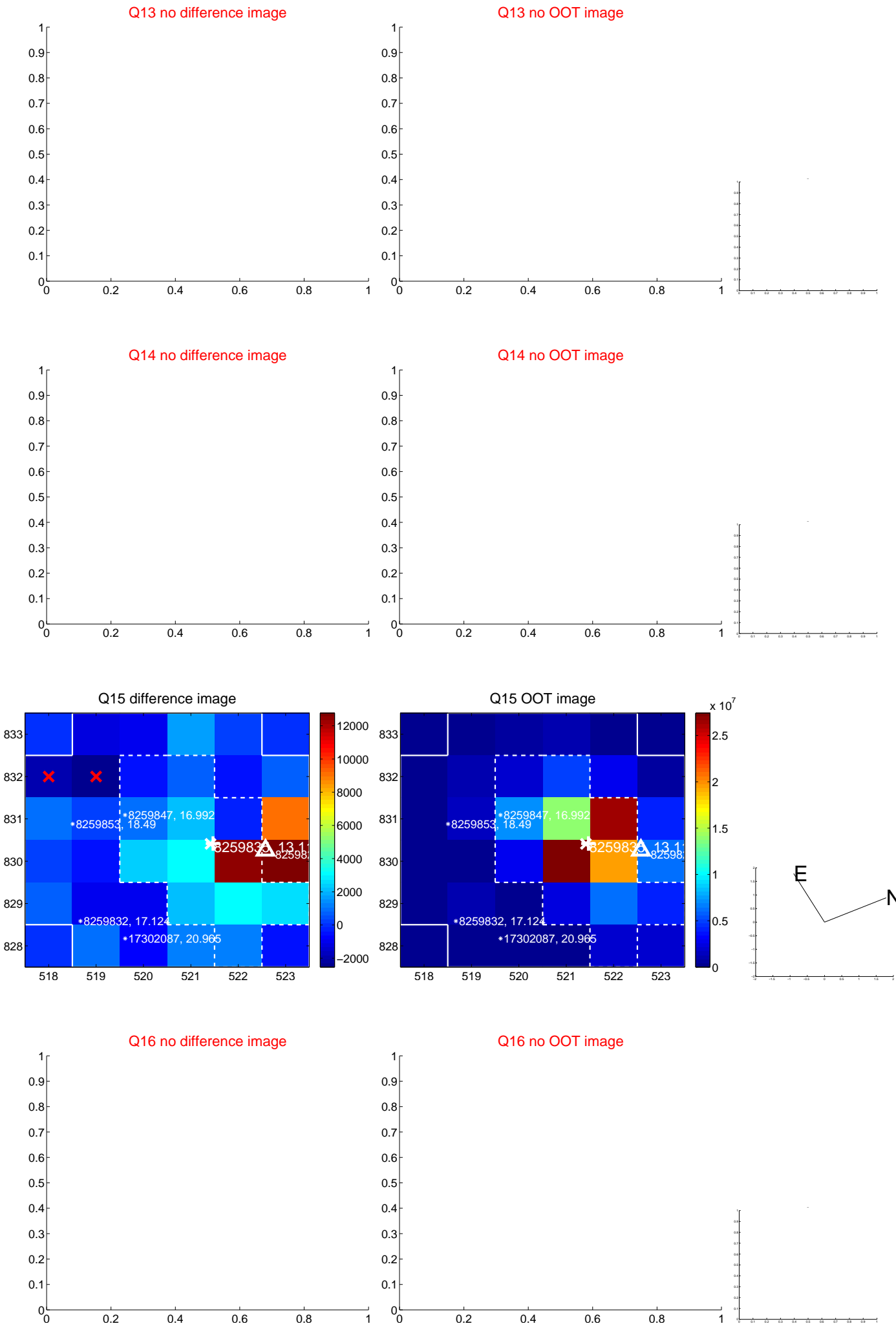
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



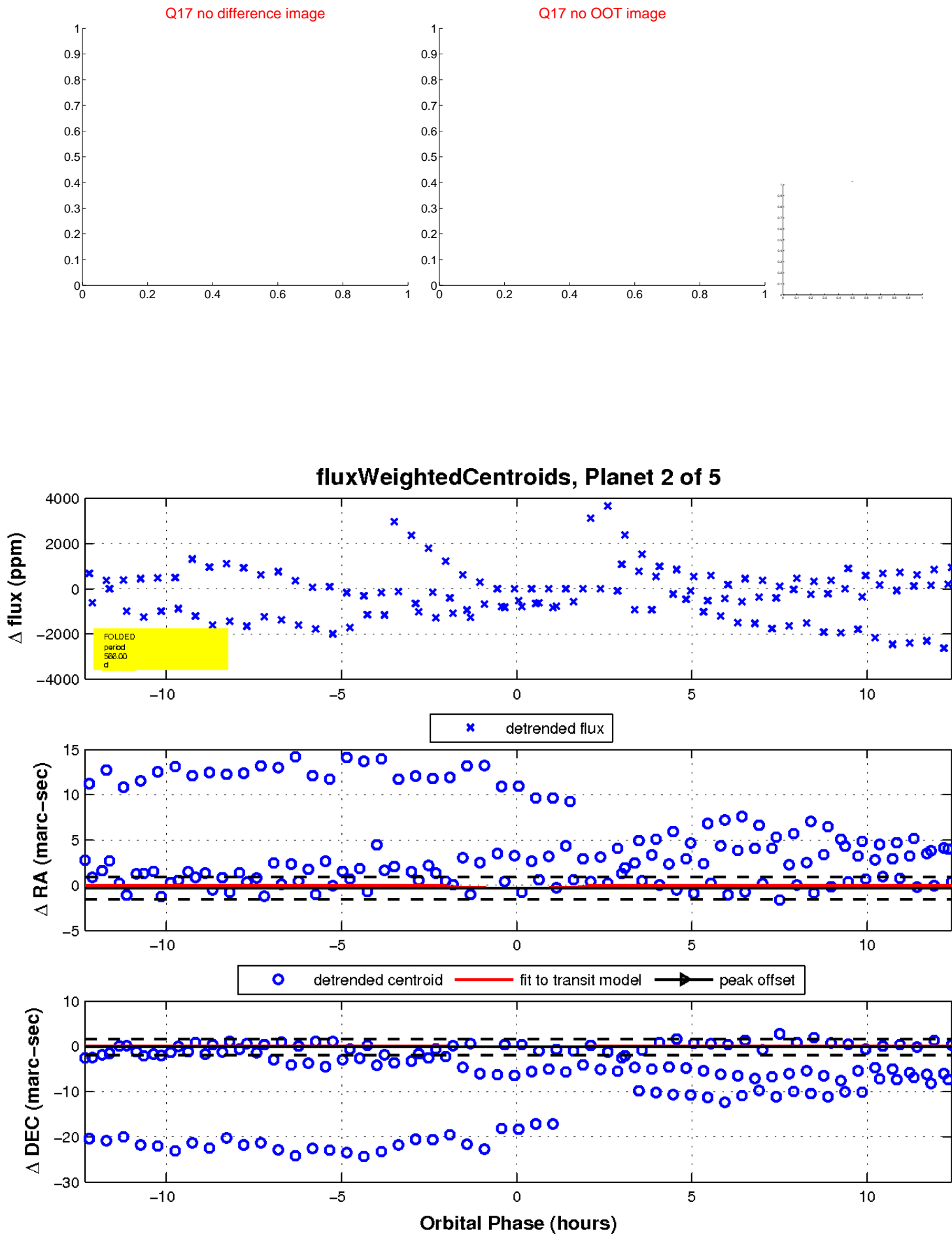
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

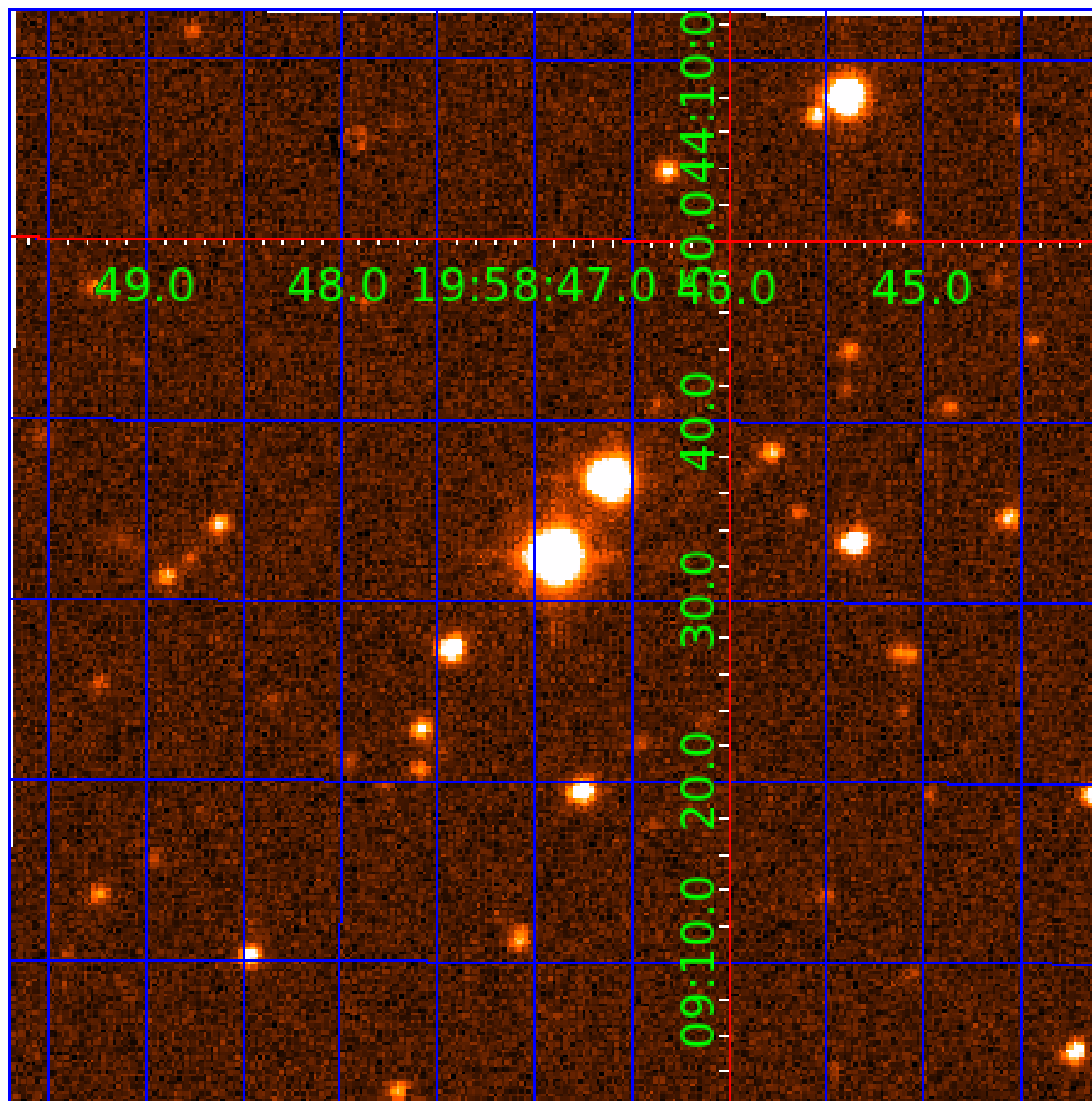


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008259835

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})
008259835-01	OBS	No	463.779570	427.876428	1165.9	2.878	11.8	8.3	2.83	4902	11.85	3.25
008259835-02	OBS	No	565.997687	262.680657	545.6	4.180	15.1	3.6	2.83	4902	6.81	2.49
008259835-03	OBS	No	553.018158	345.855192	1306.8	15.032	14.6	5.2	2.83	4902	9.95	2.57
008259835-04	OBS	No	323.440043	176.213293	802.0	3.040	11.0	8.0	2.83	4902	8.18	5.26
008259835-05	OBS	No	415.639044	225.464503	505.3	4.500	13.7	-1.0	2.83	4902	6.16	3.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008259835-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008259835-02	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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008259835-03	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
008259835-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—HALO_GHOST
008259835-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

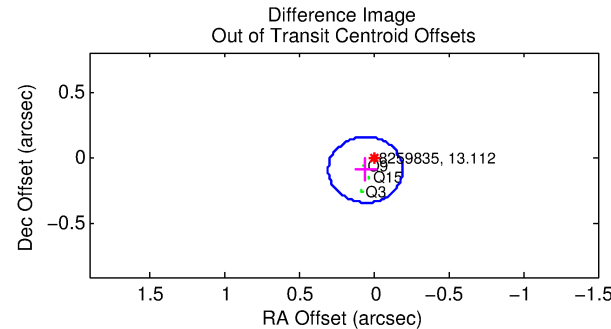
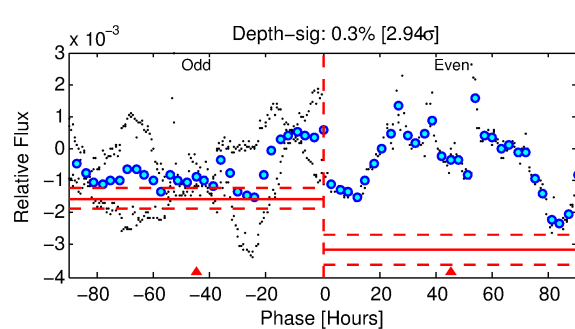
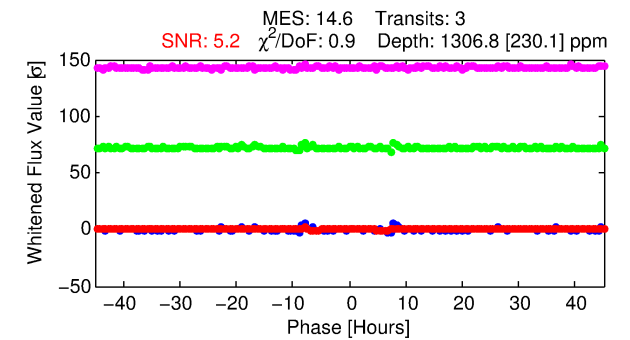
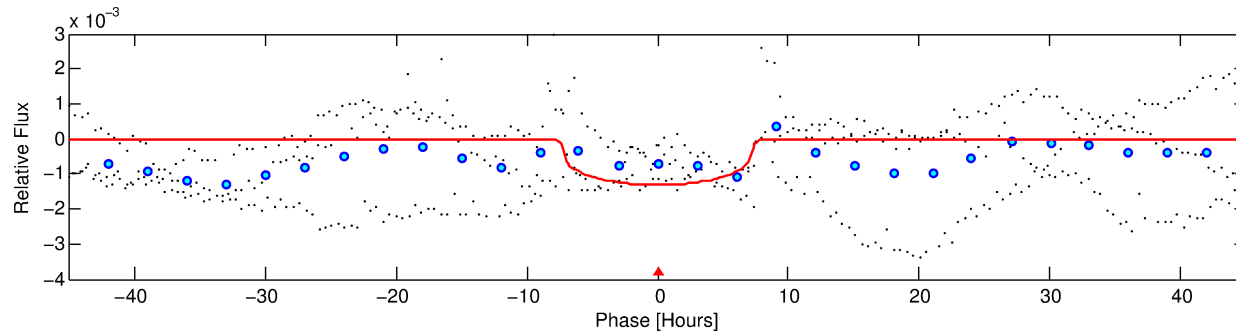
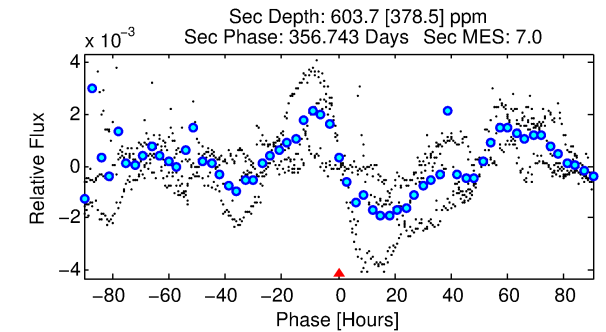
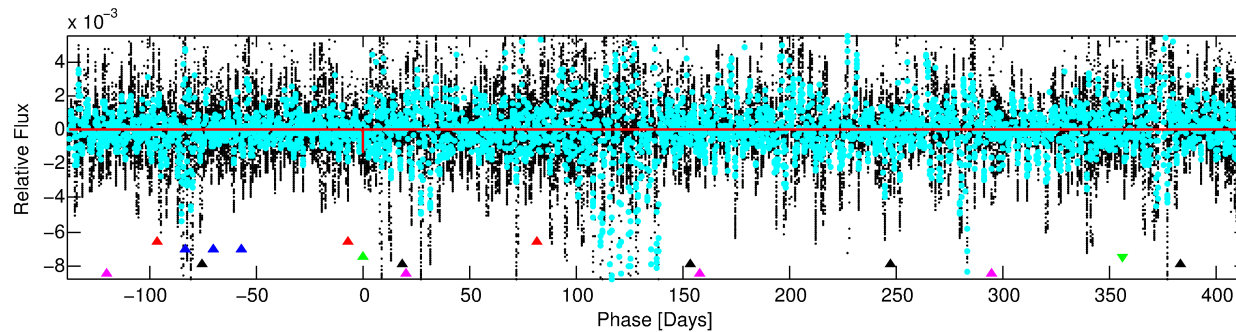
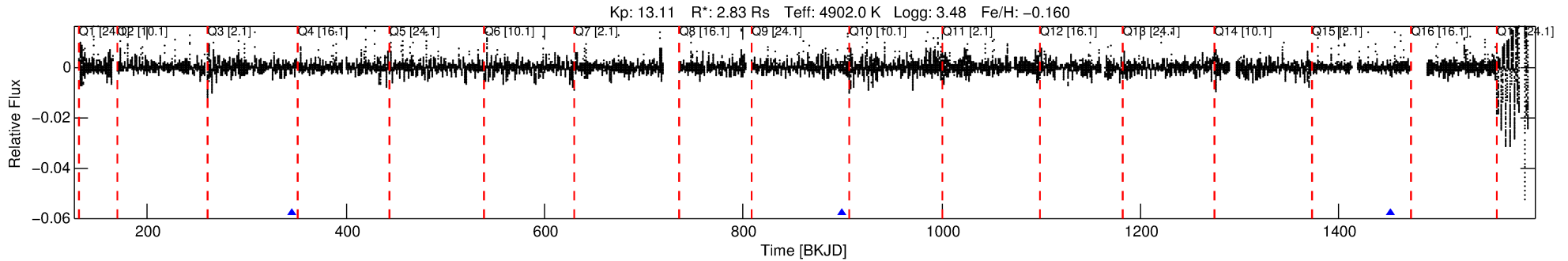
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008259835-03

No Significant Match Found

DV One-Page Summary

KIC: 8259835 Candidate: 3 of 5 Period: 553.018 d



DV Fit Results:

Period = 553.01816 [0.00464] d
Epoch = 345.8552 [0.0062] BKJD
Rp/R* = 0.0322 [0.0088]
a/R* = 284.29 [243.24]
b = 0.21 [4.03]
Seff = 2.57 [4.81]
Teq = 323 [151] K
Rp = 9.95 [8.29] Re
a = 1.2703 [1.3193] AU
Ag = 5410.12 [11064.68] [0.49σ]
Teffp = 4282 [899] K [4.34σ]

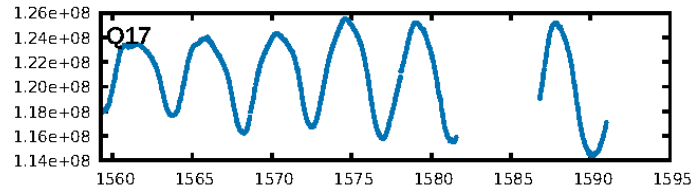
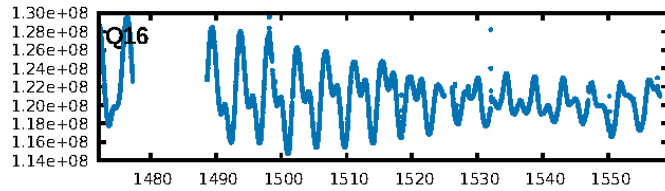
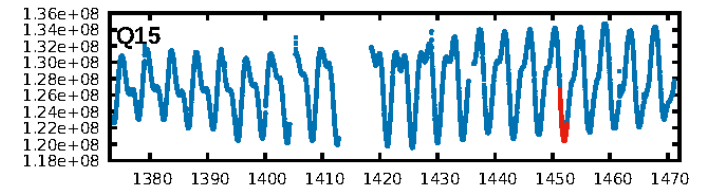
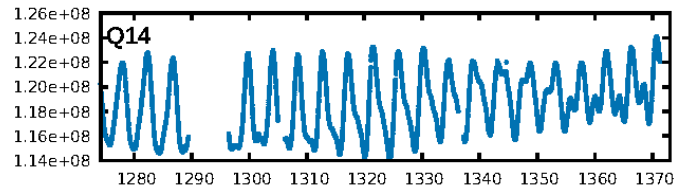
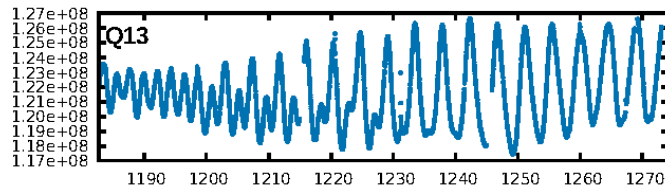
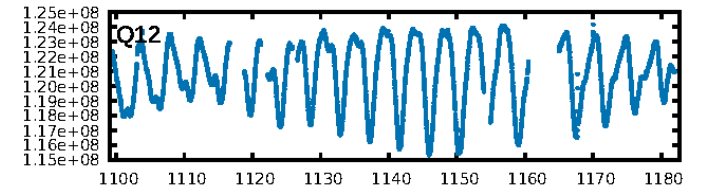
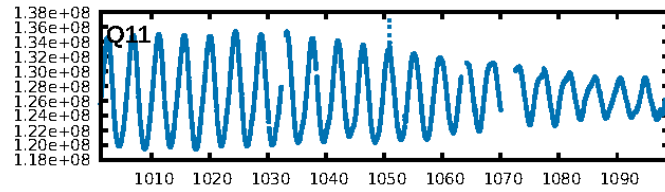
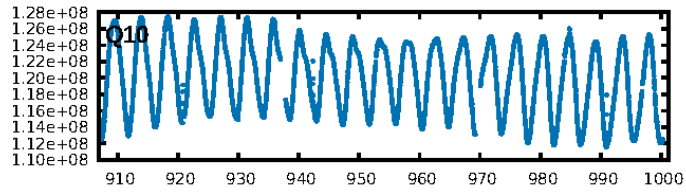
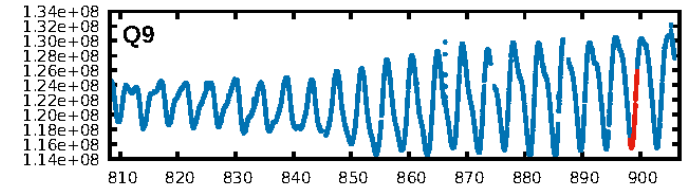
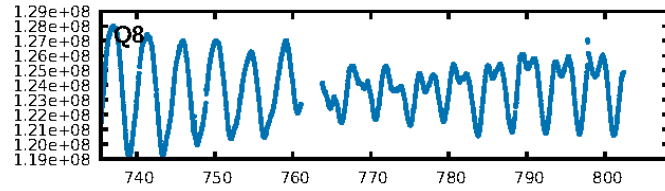
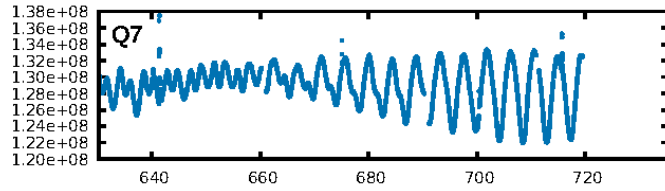
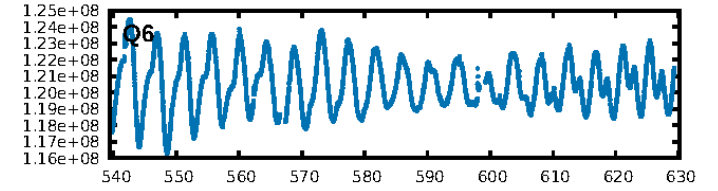
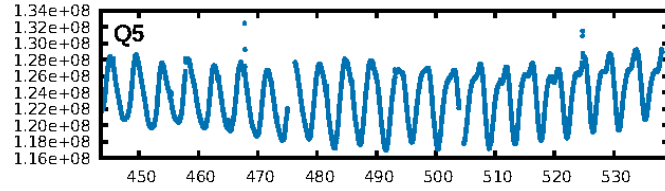
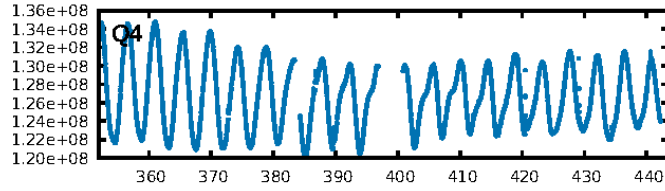
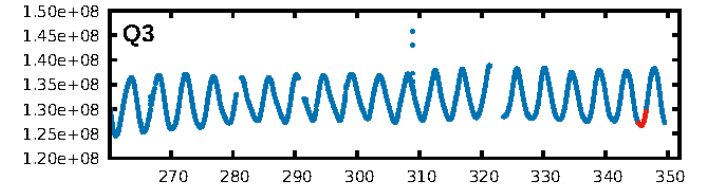
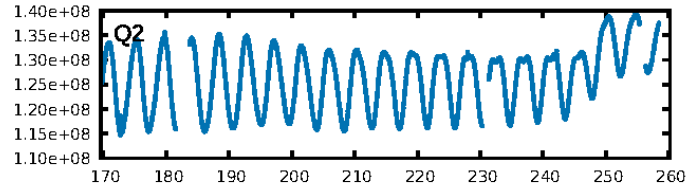
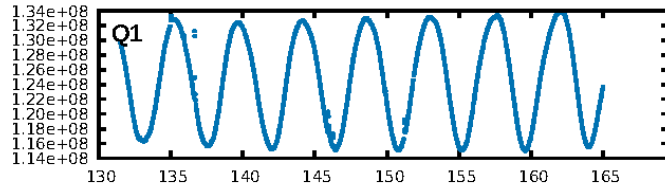
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [139.94σ]
LongPeriod-sig: 100.0% [19.97σ]
ModelChiSquare2-sig: 43.4%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.7446
Centroid-sig: 63.0%
Centroid-so: 1.357 arcsec [0.75σ]
OotOffset-rm: 0.104 arcsec [1.26σ]
KicOffset-rm: 0.111 arcsec [1.49σ]
OotOffset-st: 0/2/0/1 [3]
KicOffset-st: 0/2/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

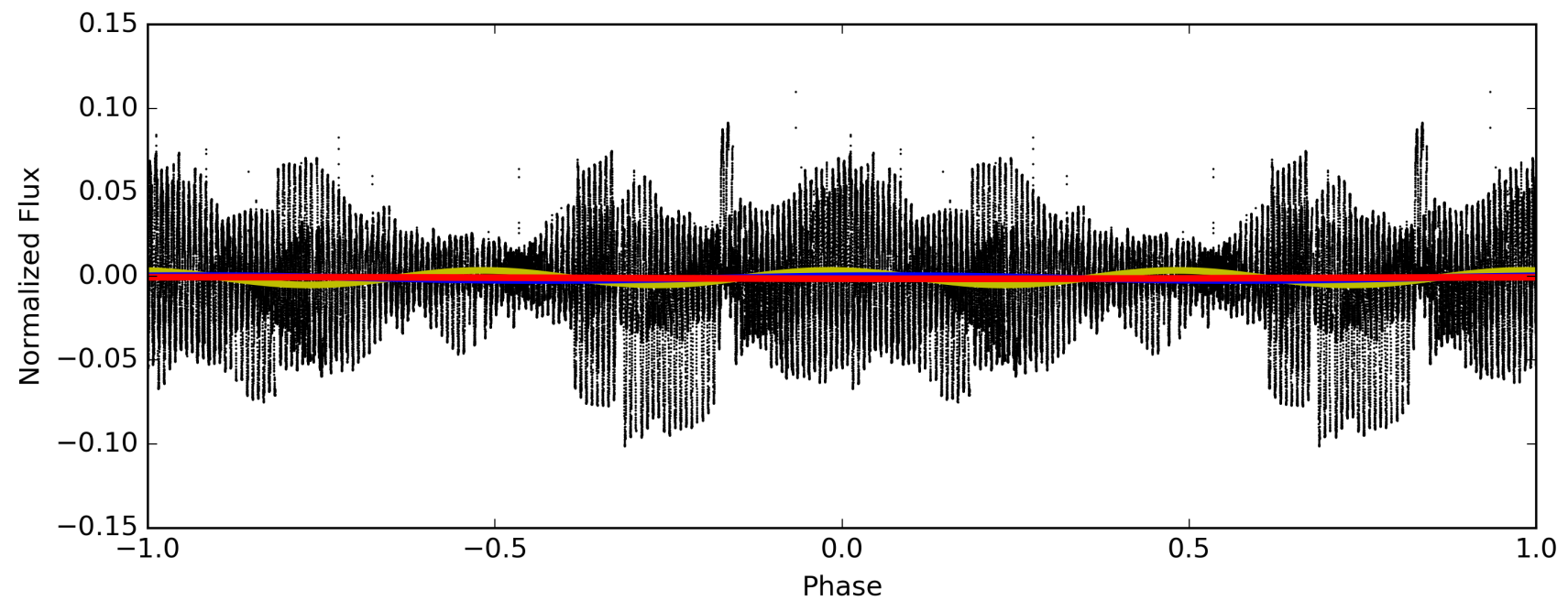
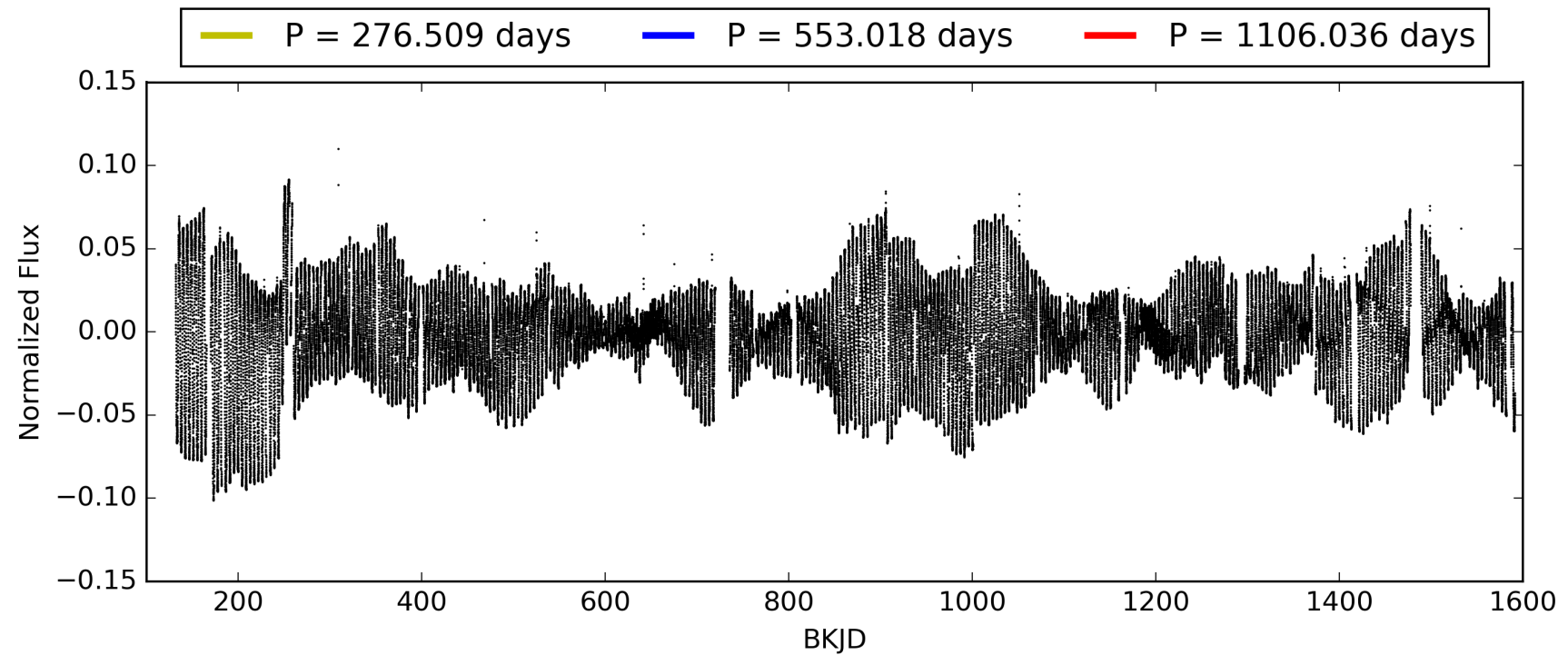
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:24:11 Z

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

TCE 008259835-03, PDC Light Curves

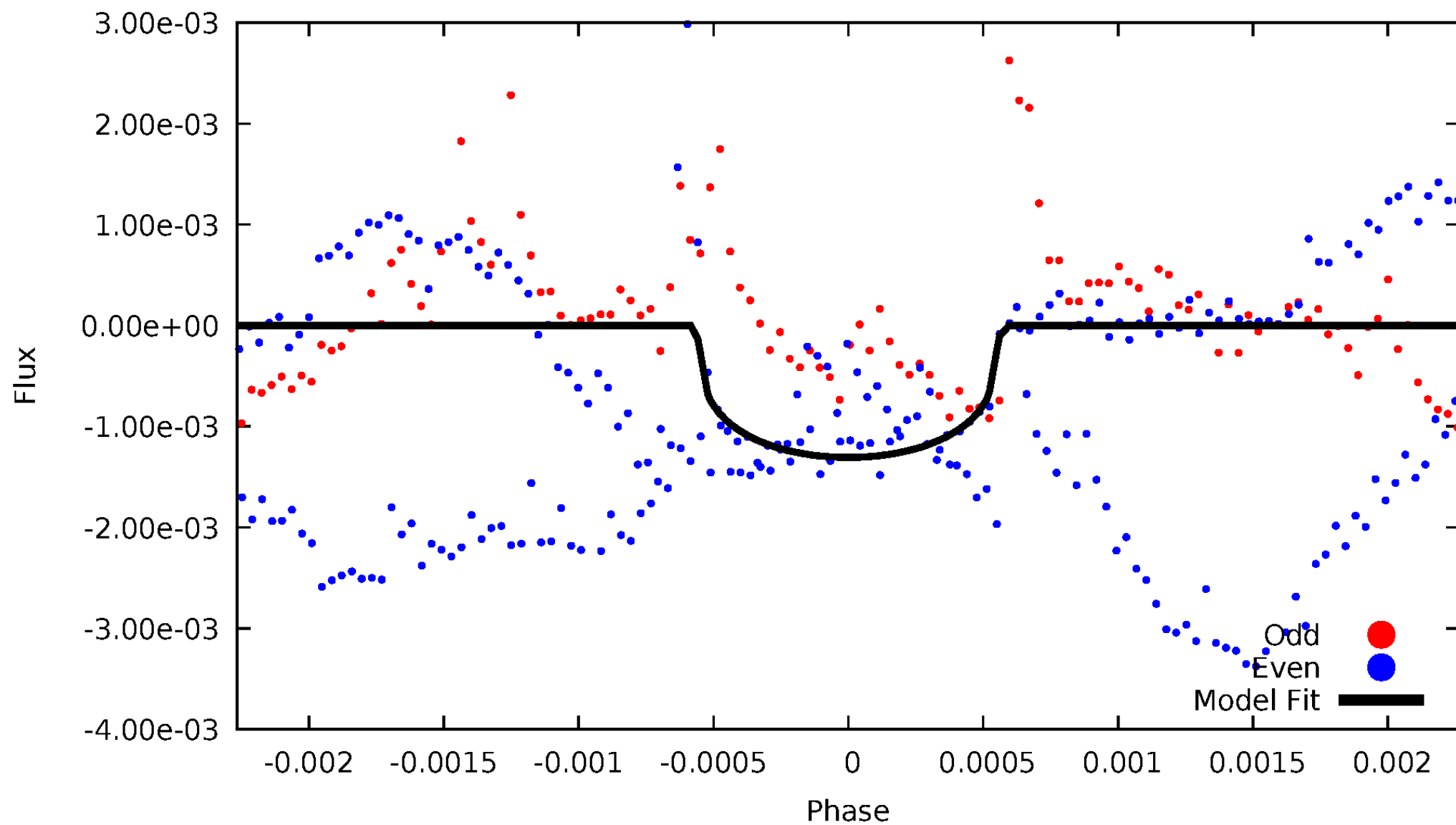


TCE 008259835-03



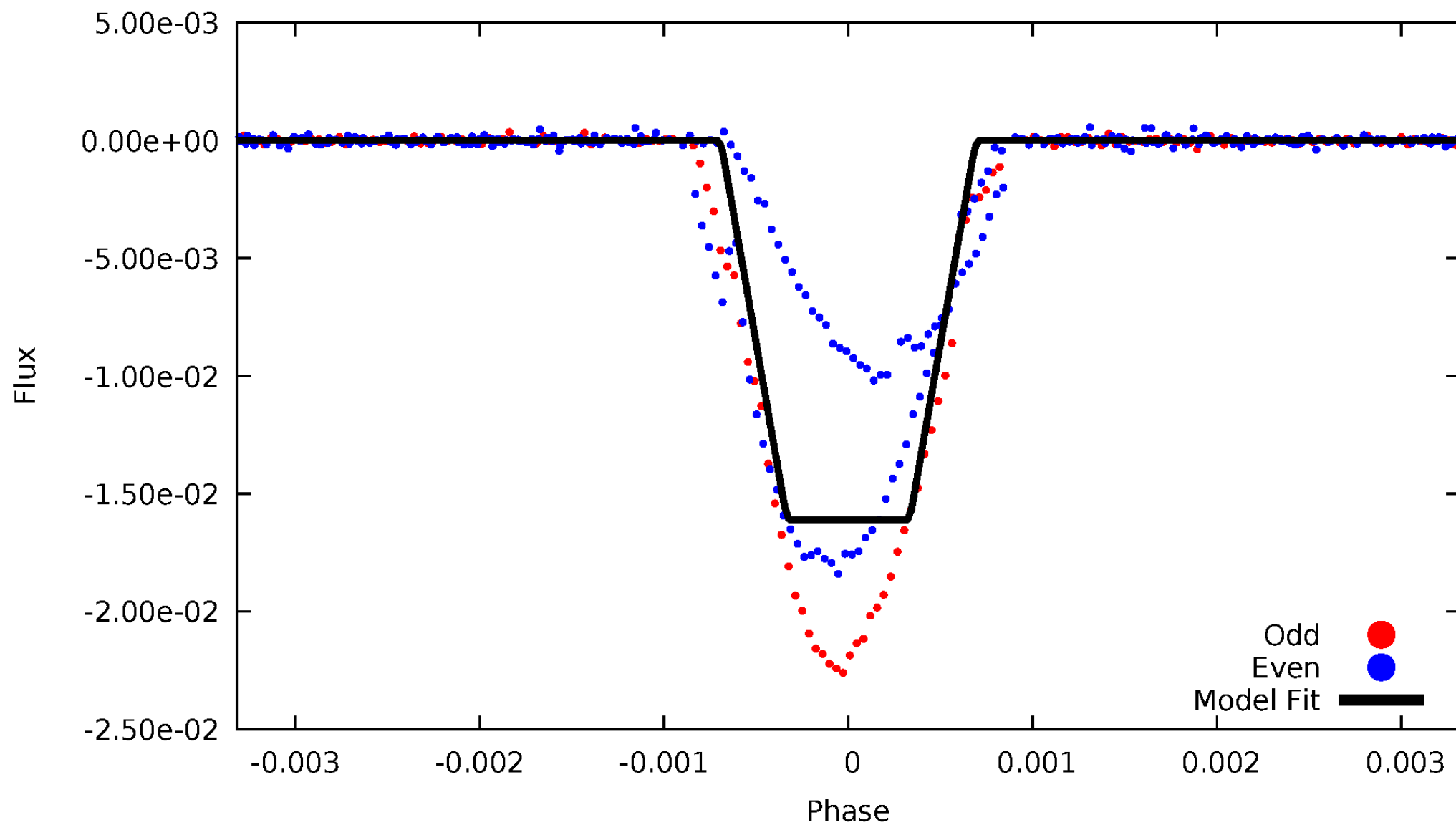
DV Odd/Even

TCE 008259835-03



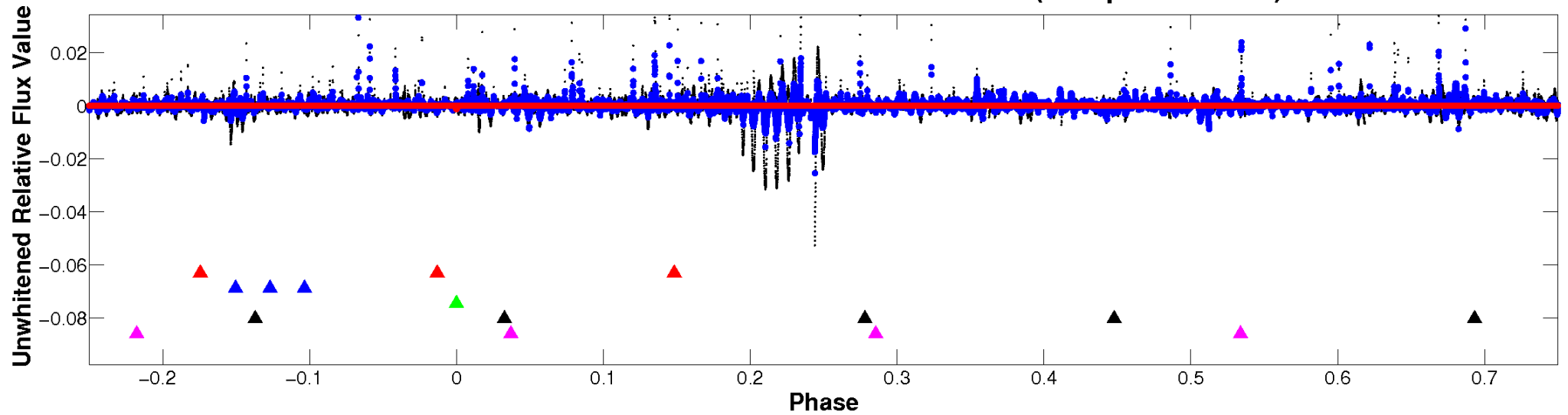
ALT Odd/Even

TCE 008259835-03

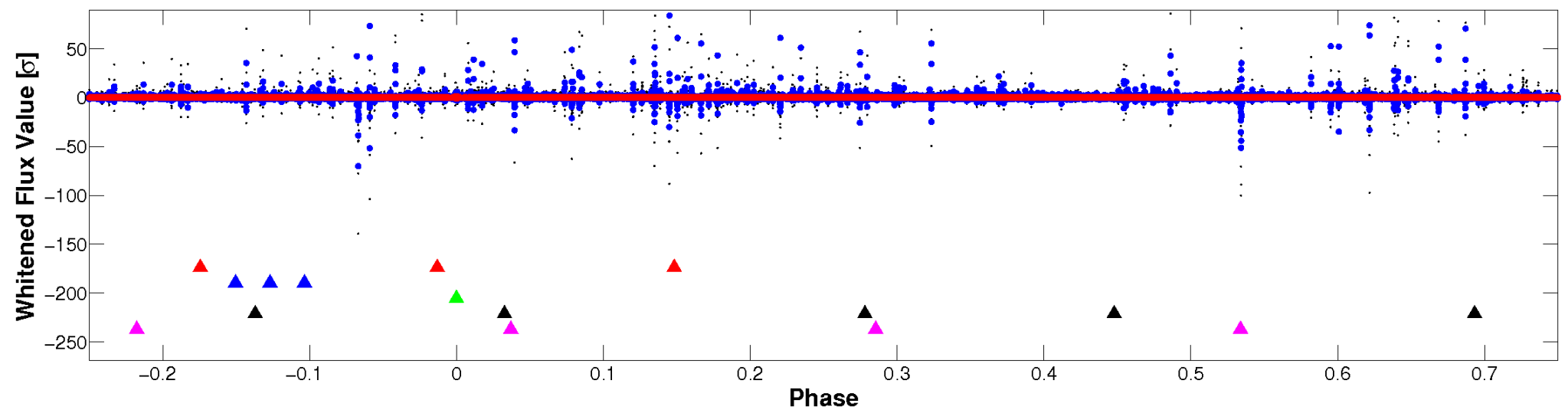


Non-Whitened Vs. Whitened Light Curve

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

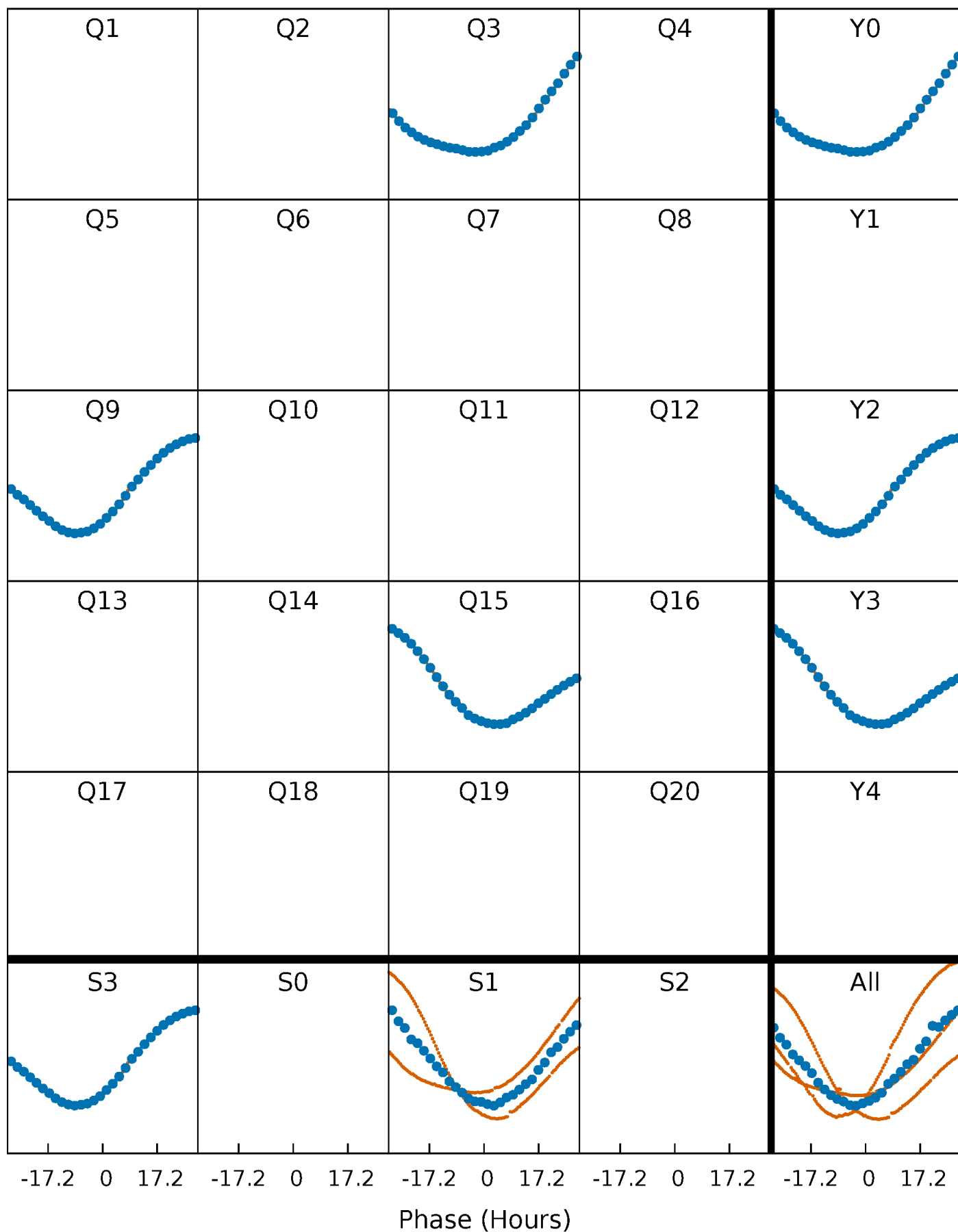


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



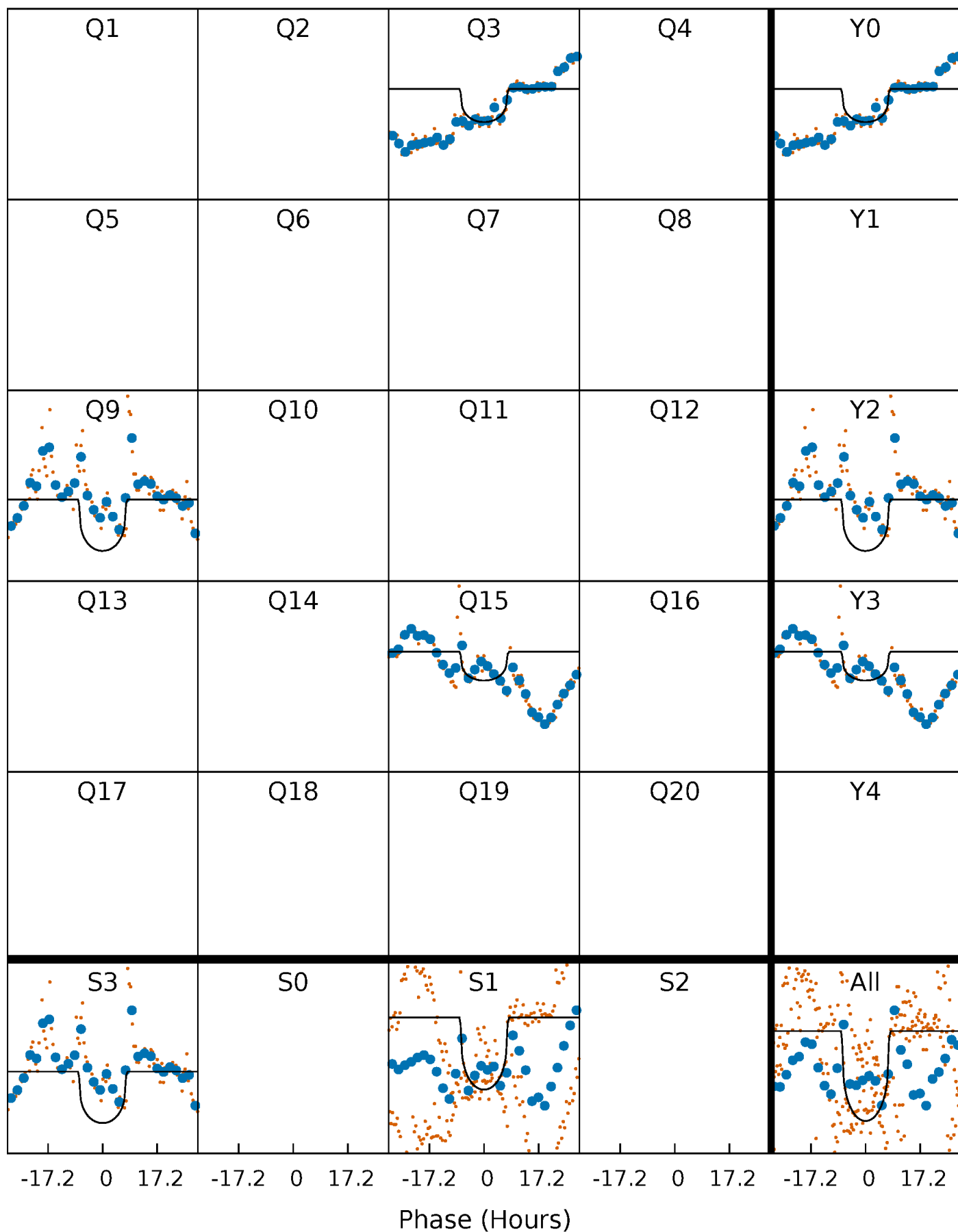
PDC Quarter-Phased Transit Curves

TCE 008259835-03 P=553.018158 Days $T_0=345.855192$ (BKJD)



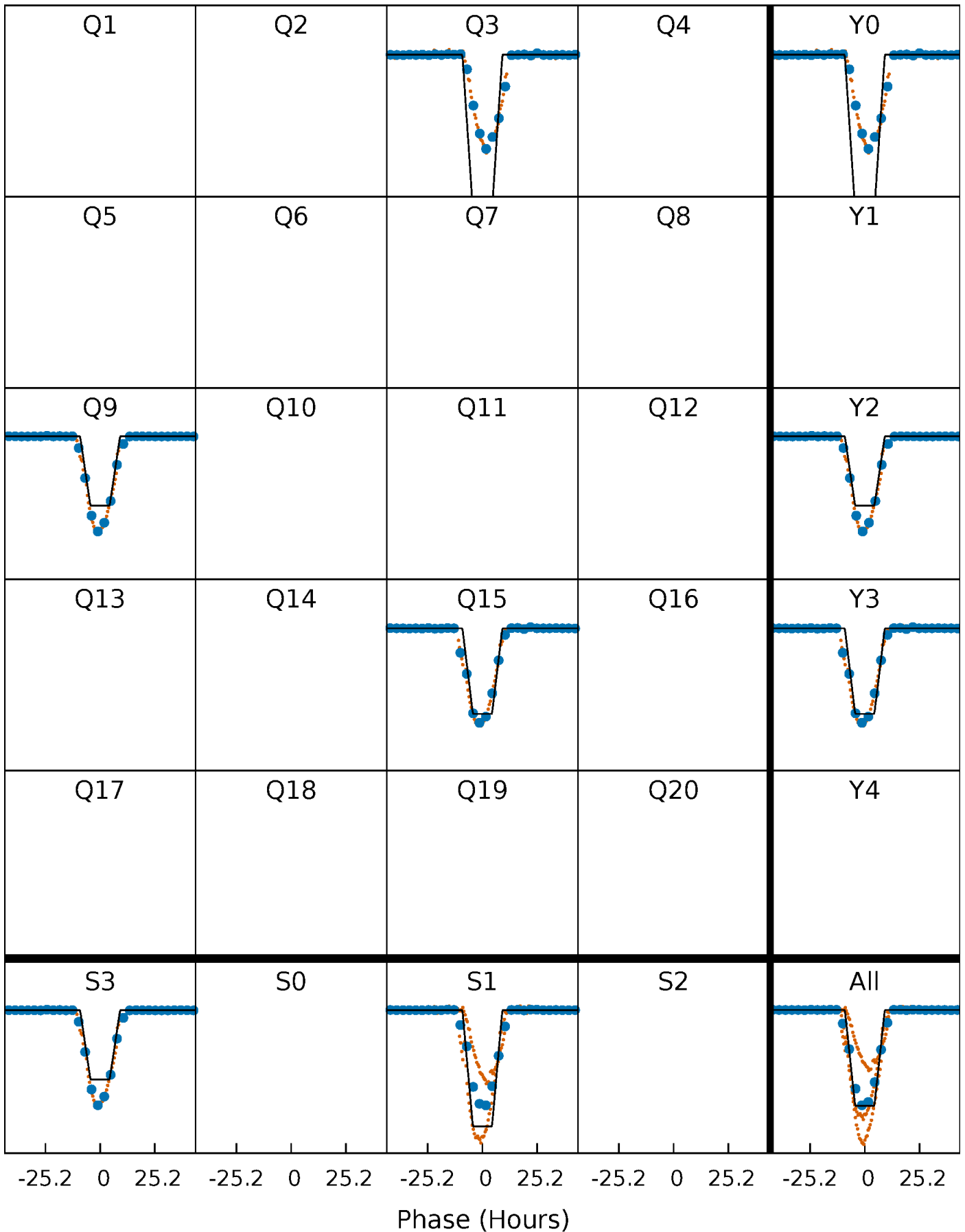
DV Quarter-Phased Transit Curves

TCE 008259835-03 $P=553.018158$ Days $T_0=345.855192$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

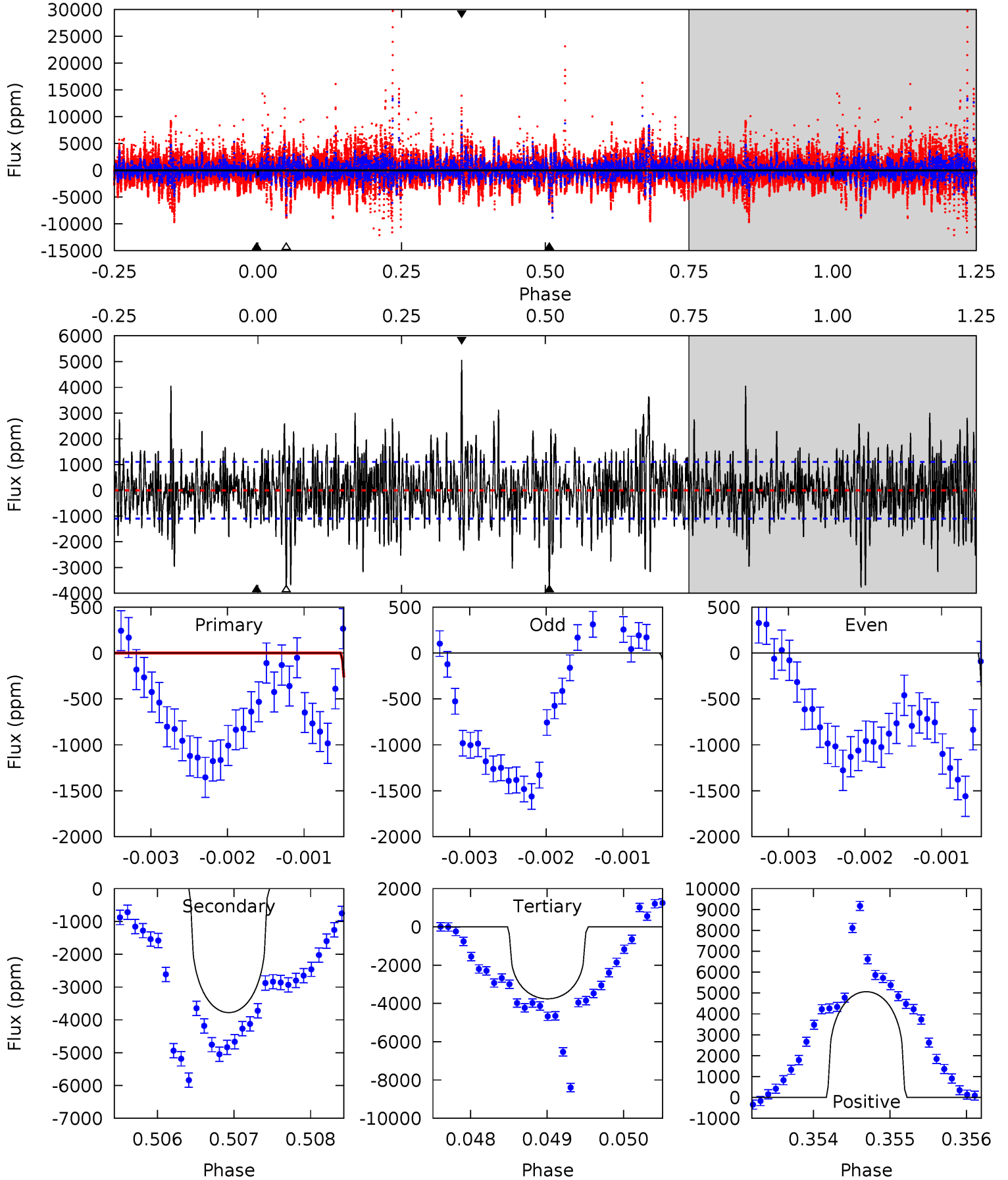
TCE 008259835-03 P=553.027490 Days $T_0=345.844133$ (BKJD)



DV Model-Shift Uniqueness Test

008259835-03, P = 553.018158 Days, E = 345.855192 Days

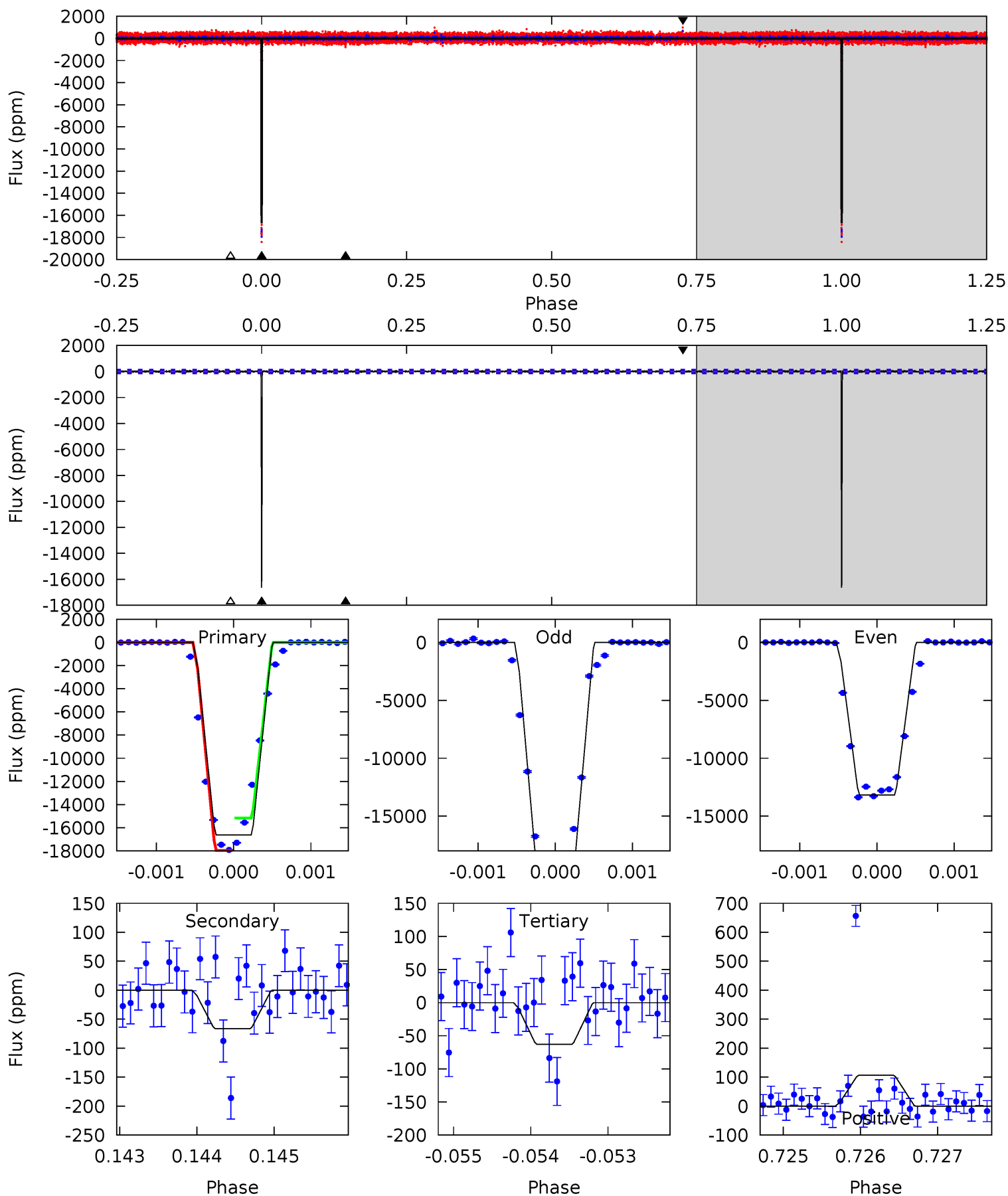
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.26	18.6	18.5	25.0	5.43	3.26	4.68	-14.3	-20.7	0.10	-6.34	1.69	0.84	0.57	0.39



Alt Model-Shift Uniqueness Test

008259835-03, P = 553.027490 Days, E = 345.844133 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
717.7	2.86	2.72	4.58	5.39	3.20	0.60	715.0	713.1	0.14	-1.72	138.1	0.90	0.01	0



Stellar Parameters For KIC 008259835

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} \text{ (g}\cdot\text{cm}^{-3}\text{)}$
	4902^{+117}_{-132}	$3.485^{+1.168}_{-0.292}$	$-0.160^{+0.250}_{-0.300}$	$2.832^{+1.485}_{-2.227}$	$0.895^{+0.237}_{-0.237}$	$0.055^{+3.247}_{-0.033}$
	+2%/-3%	+34%/-8%	+156%/-188%	+52%/-79%	+26%/-26%	+5853%/-60%
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 008259835-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-3779 ± 203	$8.98^{+4.34}_{-3.88}$	438^{+69}_{-93}	6651^{+1358}_{-798}	42077^{+86357}_{-23376}
Alt.	-66 ± 23	$37.86^{+13.76}_{-16.28}$	442^{+64}_{-104}	2164^{+92}_{-102}	41^{+85}_{-22}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

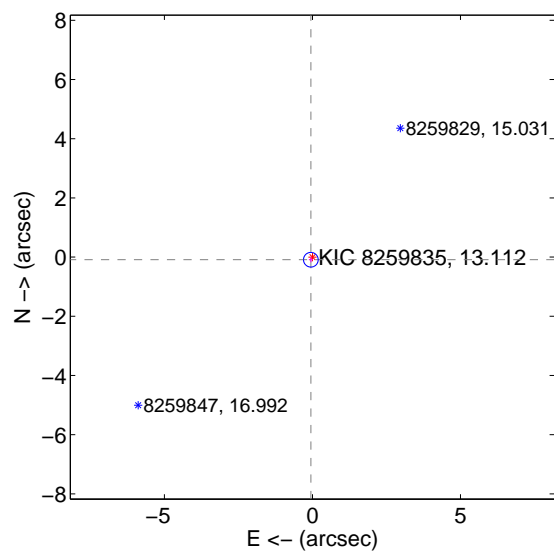
Supplemental centroid analysis for 008259835-03. Kepler magnitude: 13.11. Transit SNR 5.20

There are 3 quarters with good PRF difference image offsets

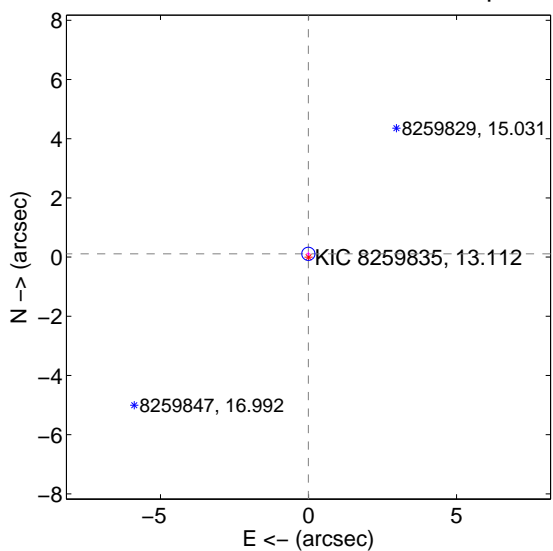
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.104 ± 0.083	1.26	0.054 ± 0.067	-0.089 ± 0.087
PRF-fit source offset from KIC position	0.111 ± 0.074	1.49	0.006 ± 0.071	0.111 ± 0.074
photometric centroid source offset	1.36 ± 1.82	0.75	-0.11 ± 1.31	1.35 ± 1.82

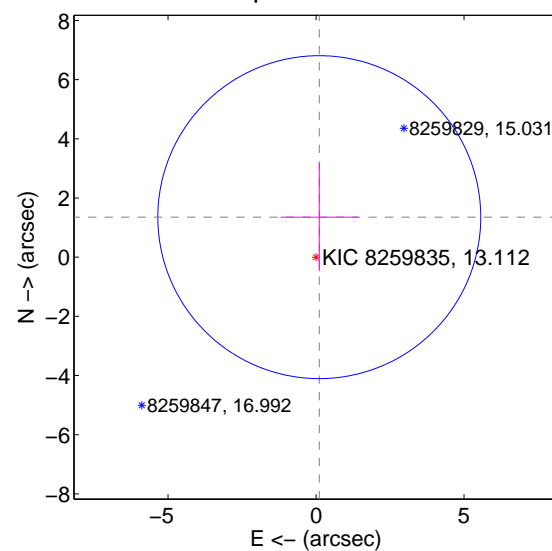
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

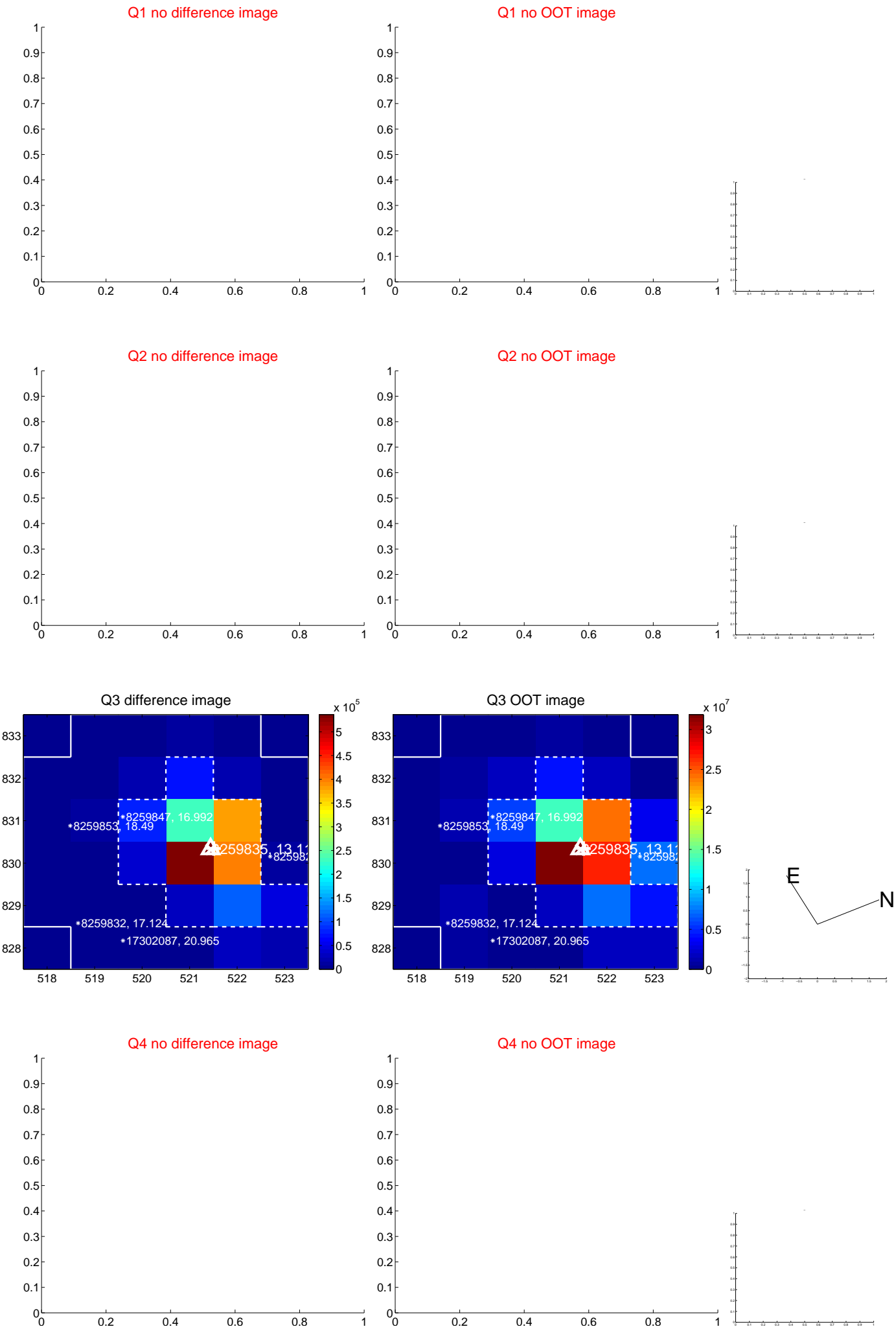


offset from photometric centroids



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.

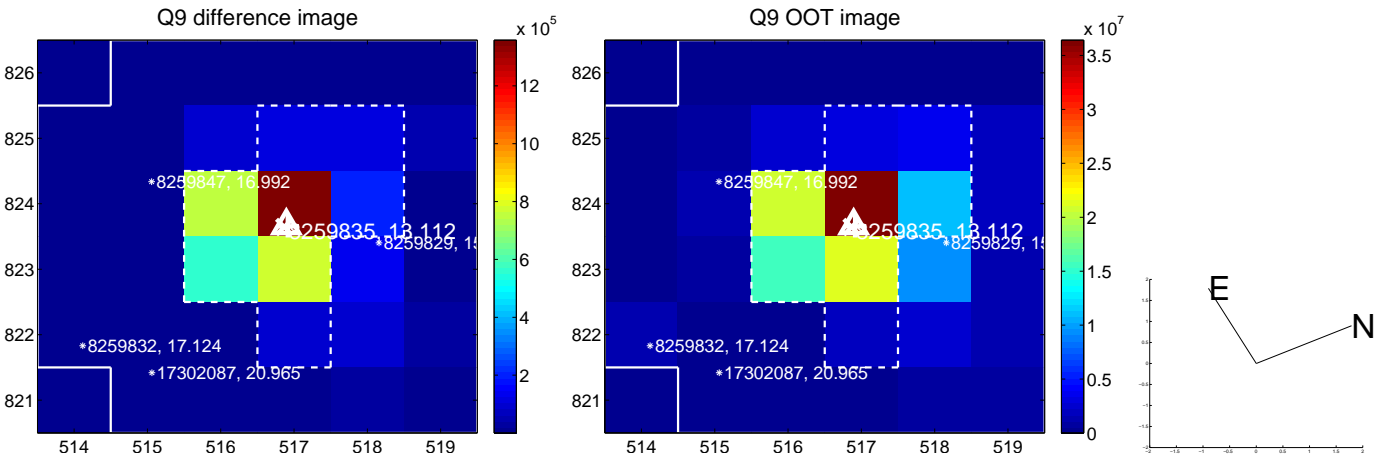
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



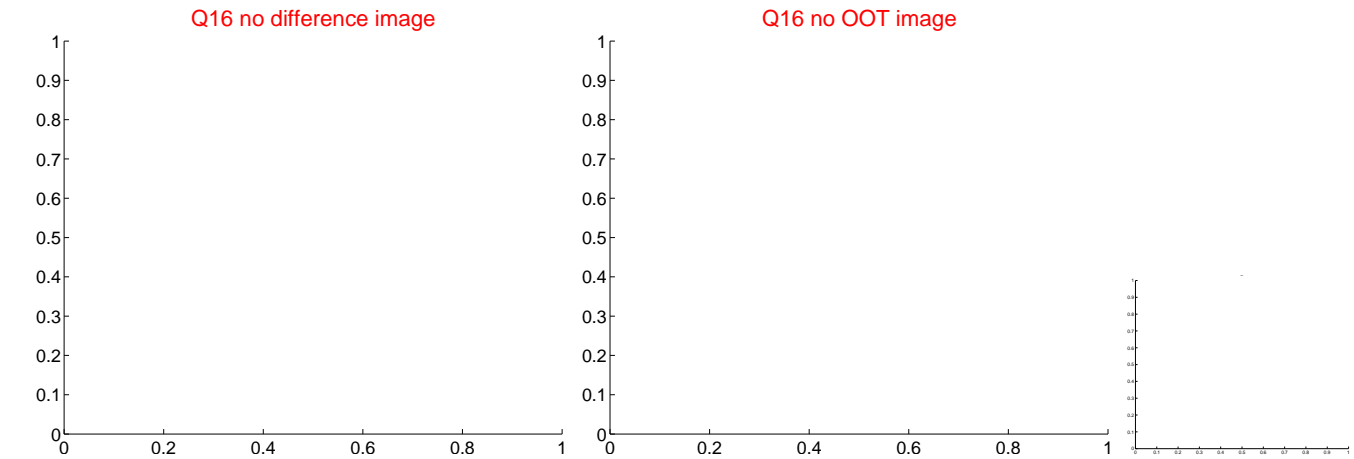
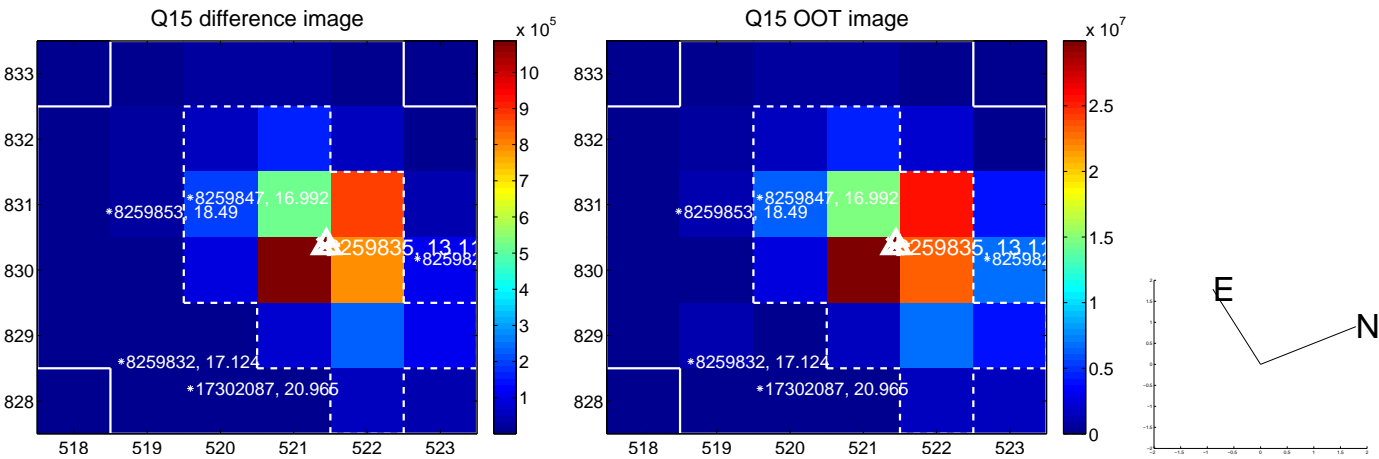
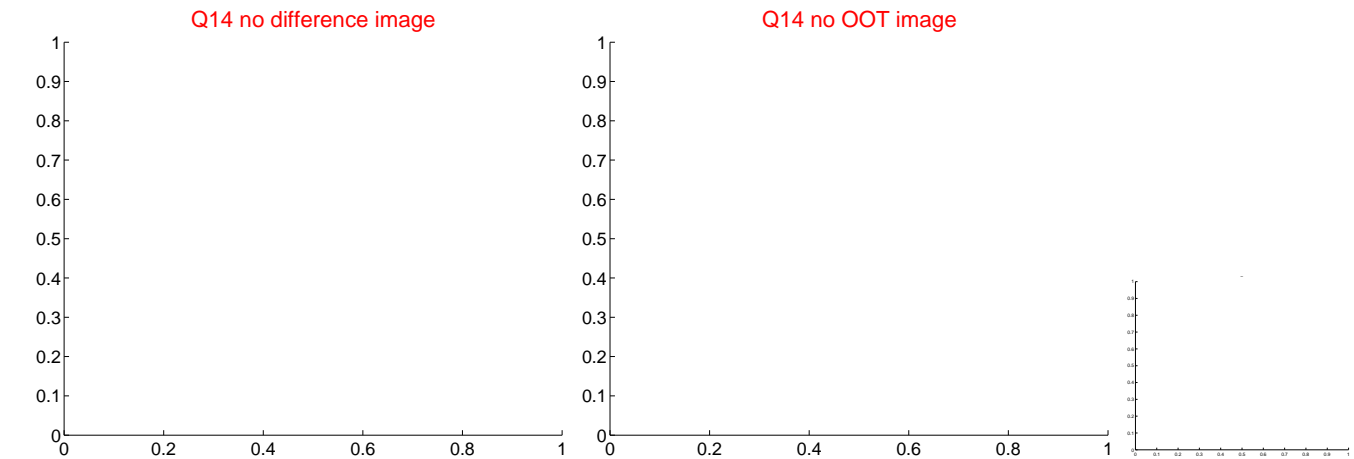
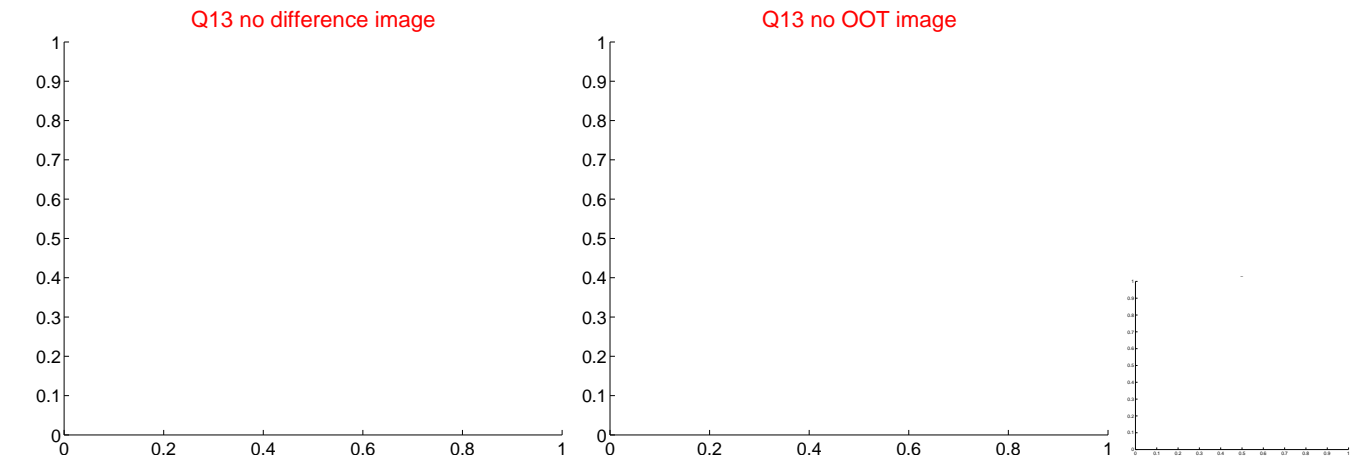
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



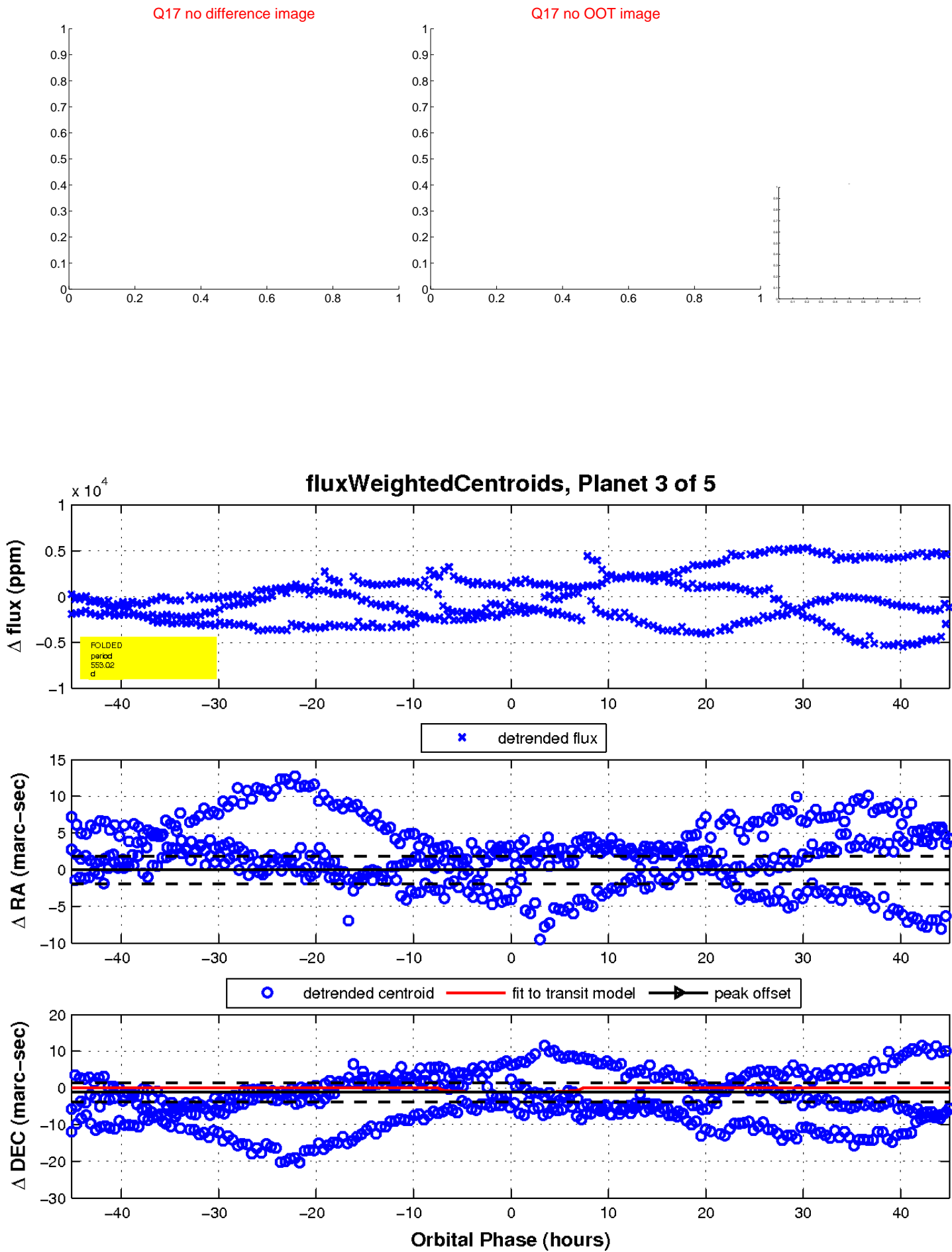
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

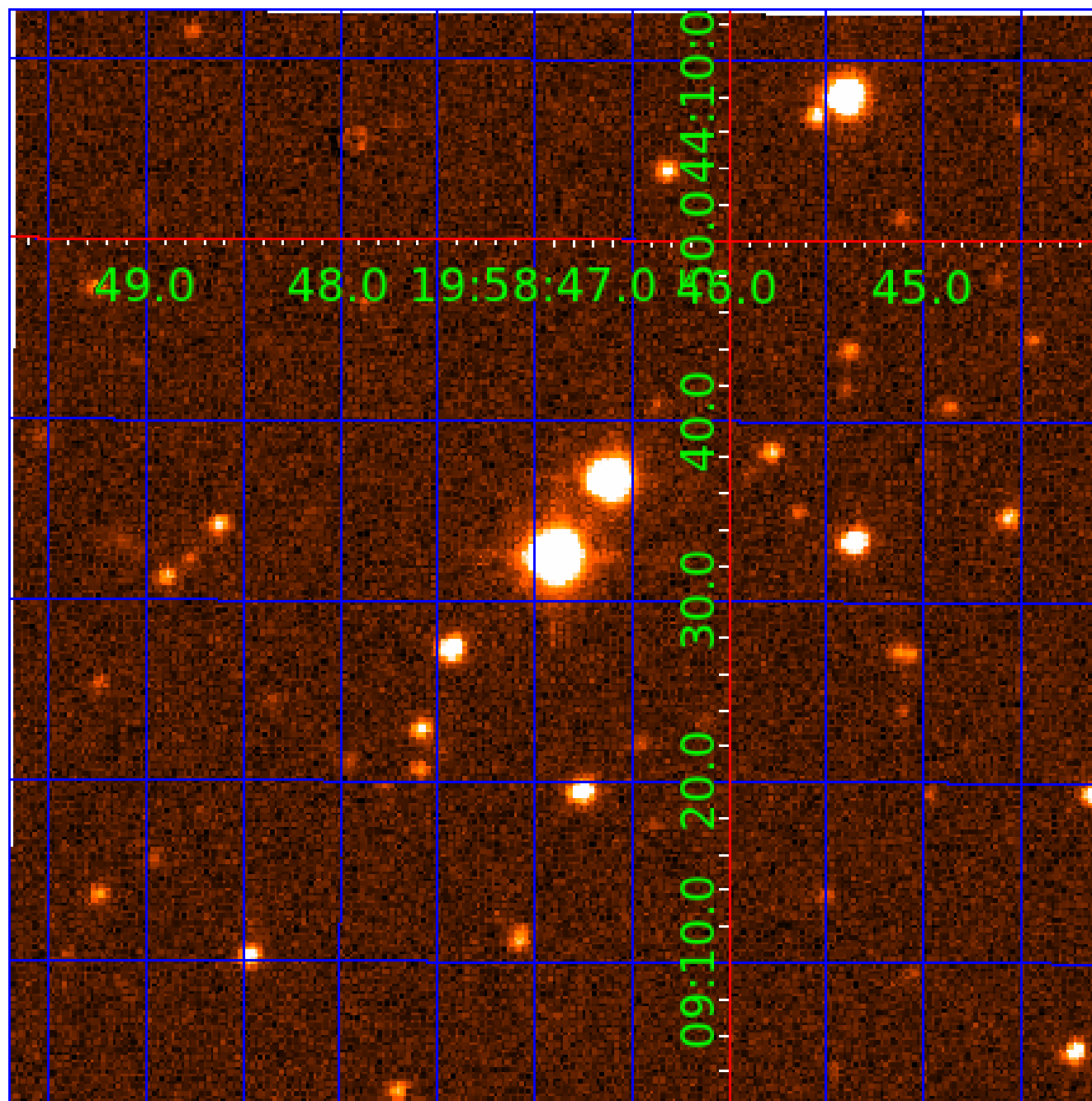


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008259835

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})
008259835-01	OBS	No	463.779570	427.876428	1165.9	2.878	11.8	8.3	2.83	4902	11.85	3.25
008259835-02	OBS	No	565.997687	262.680657	545.6	4.180	15.1	3.6	2.83	4902	6.81	2.49
008259835-03	OBS	No	553.018158	345.855192	1306.8	15.032	14.6	5.2	2.83	4902	9.95	2.57
008259835-04	OBS	No	323.440043	176.213293	802.0	3.040	11.0	8.0	2.83	4902	8.18	5.26
008259835-05	OBS	No	415.639044	225.464503	505.3	4.500	13.7	-1.0	2.83	4902	6.16	3.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008259835-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008259835-02	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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008259835-03	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
008259835-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—HALO_GHOST
008259835-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

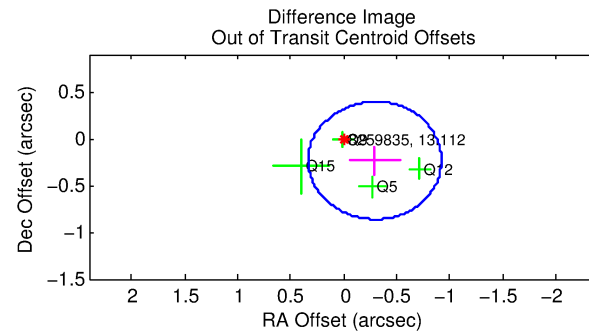
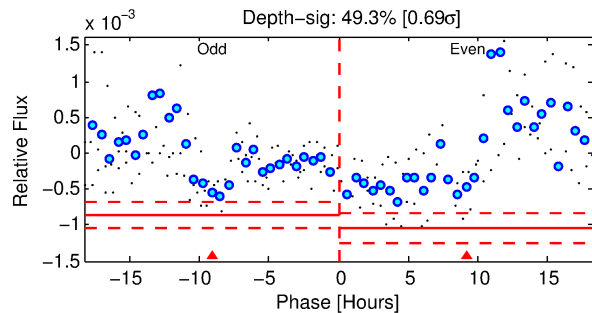
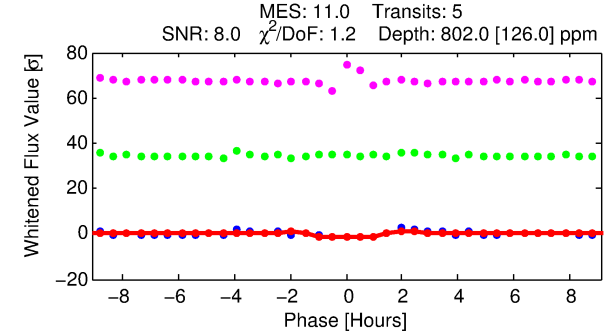
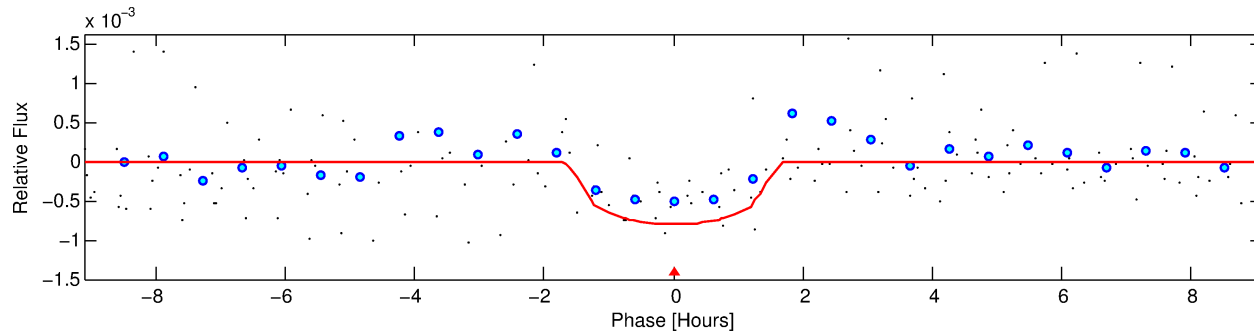
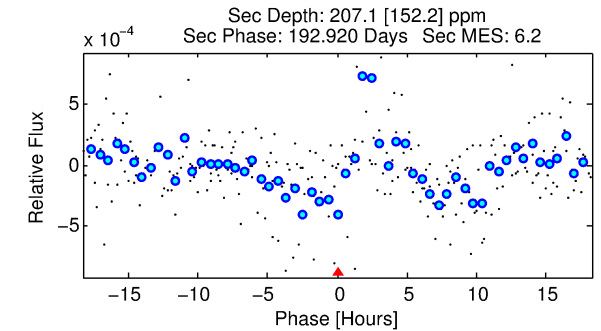
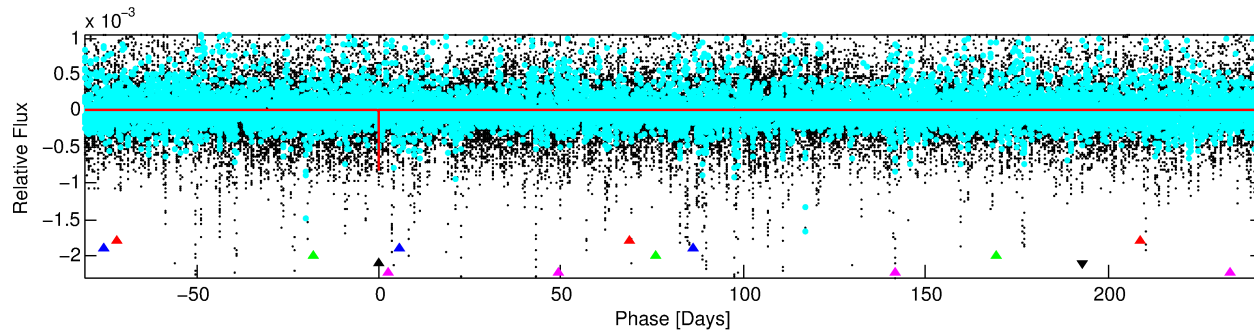
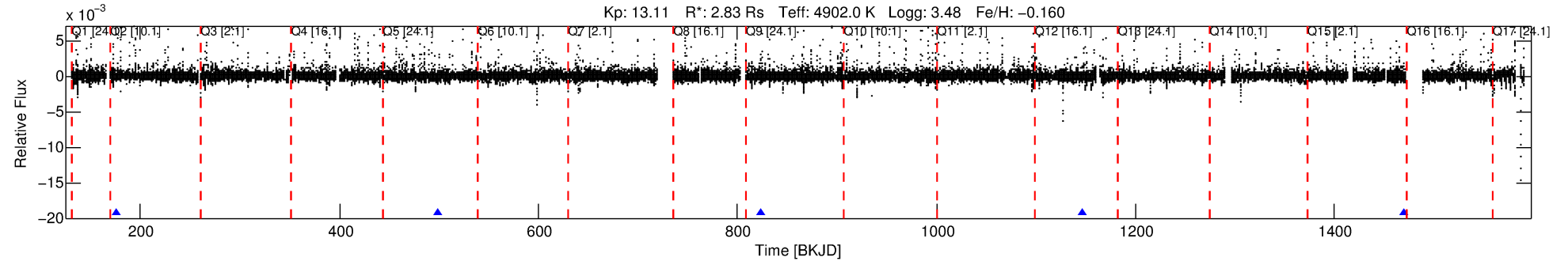
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008259835-04

No Significant Match Found

DV One-Page Summary

KIC: 8259835 Candidate: 4 of 5 Period: 323.440 d



DV Fit Results:

Period = 323.44004 [0.00235] d
Epoch = 176.2133 [0.0049] BKJD
Rp/R* = 0.0265 [0.0440]
a/R* = 705.34 [3899.84]
b = 0.55 [7.21]
Seff = 5.26 [9.84]
Teq = 386 [181] K
Rp = 8.18 [15.05] Re
a = 0.8884 [0.9226] AU
Ag = 1345.03 [5228.78] [0.26σ]
Teffp = 3615 [3083] K [1.05σ]

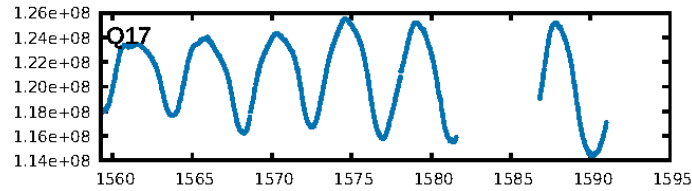
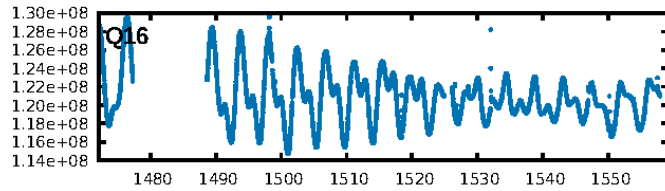
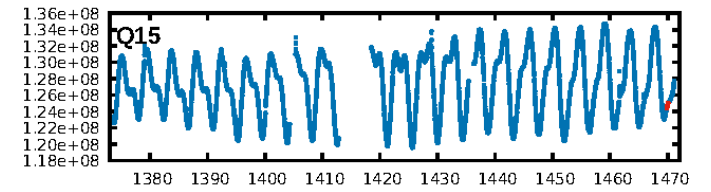
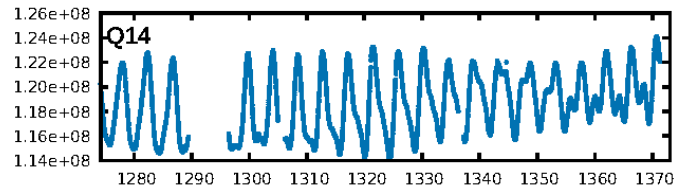
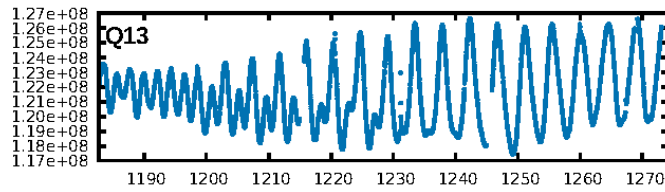
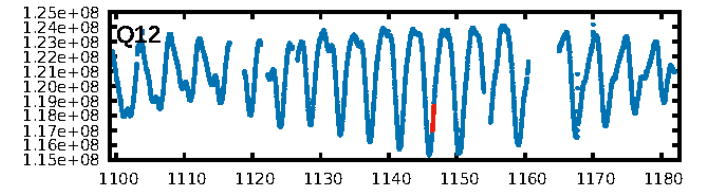
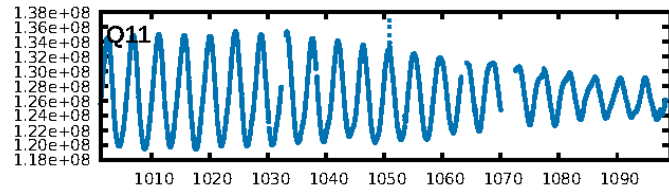
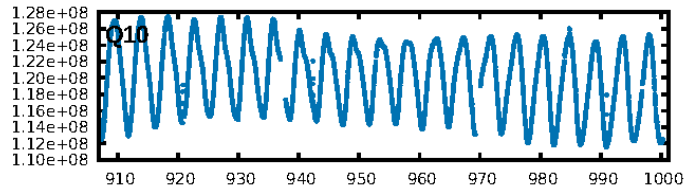
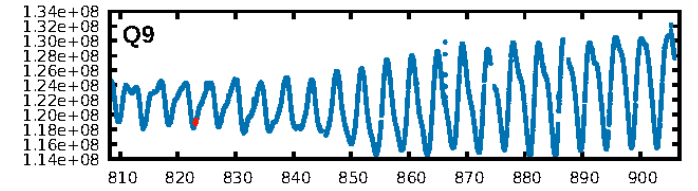
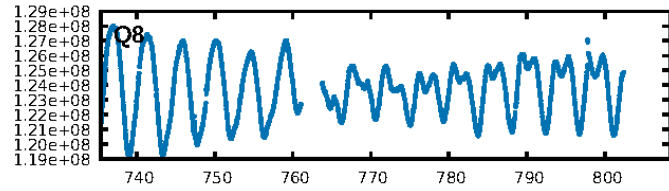
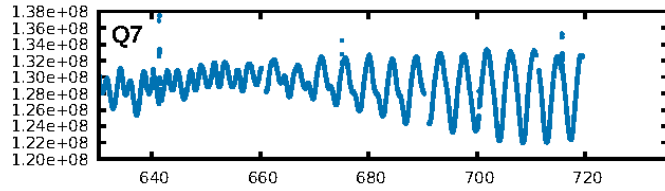
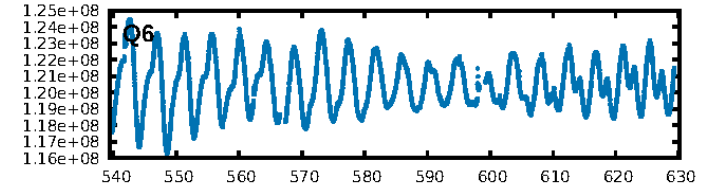
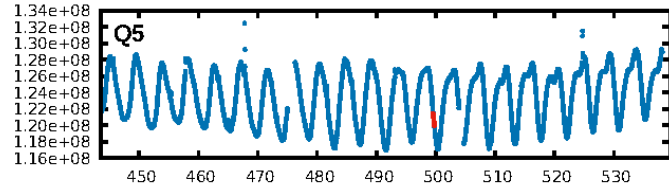
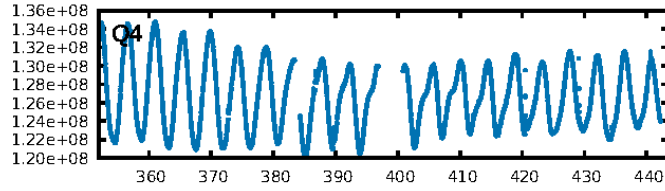
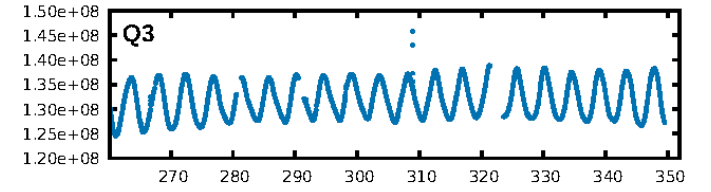
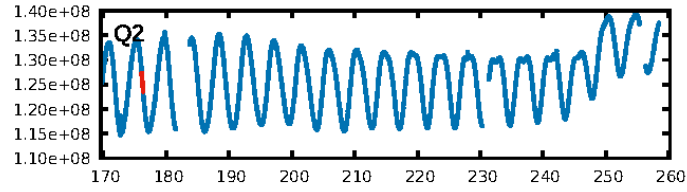
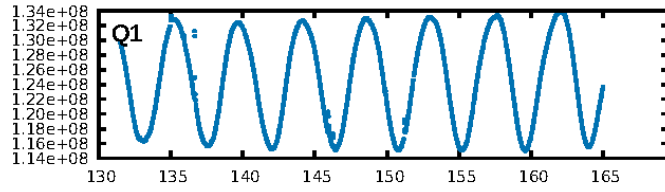
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [407.47σ]
ModelChiSquare2-sig: 1.2%
ModelChiSquareGof-sig: 58.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.03204
Centroid-sig: 18.5%
Centroid-so: 2.350 arcsec [1.62σ]
OotOffset-rm: 0.378 arcsec [1.80σ]
KicOffset-rm: 0.336 arcsec [1.54σ]
OotOffset-st: 0/1/1/2 [4]
KicOffset-st: 0/1/1/2 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 1.00 [5/5]

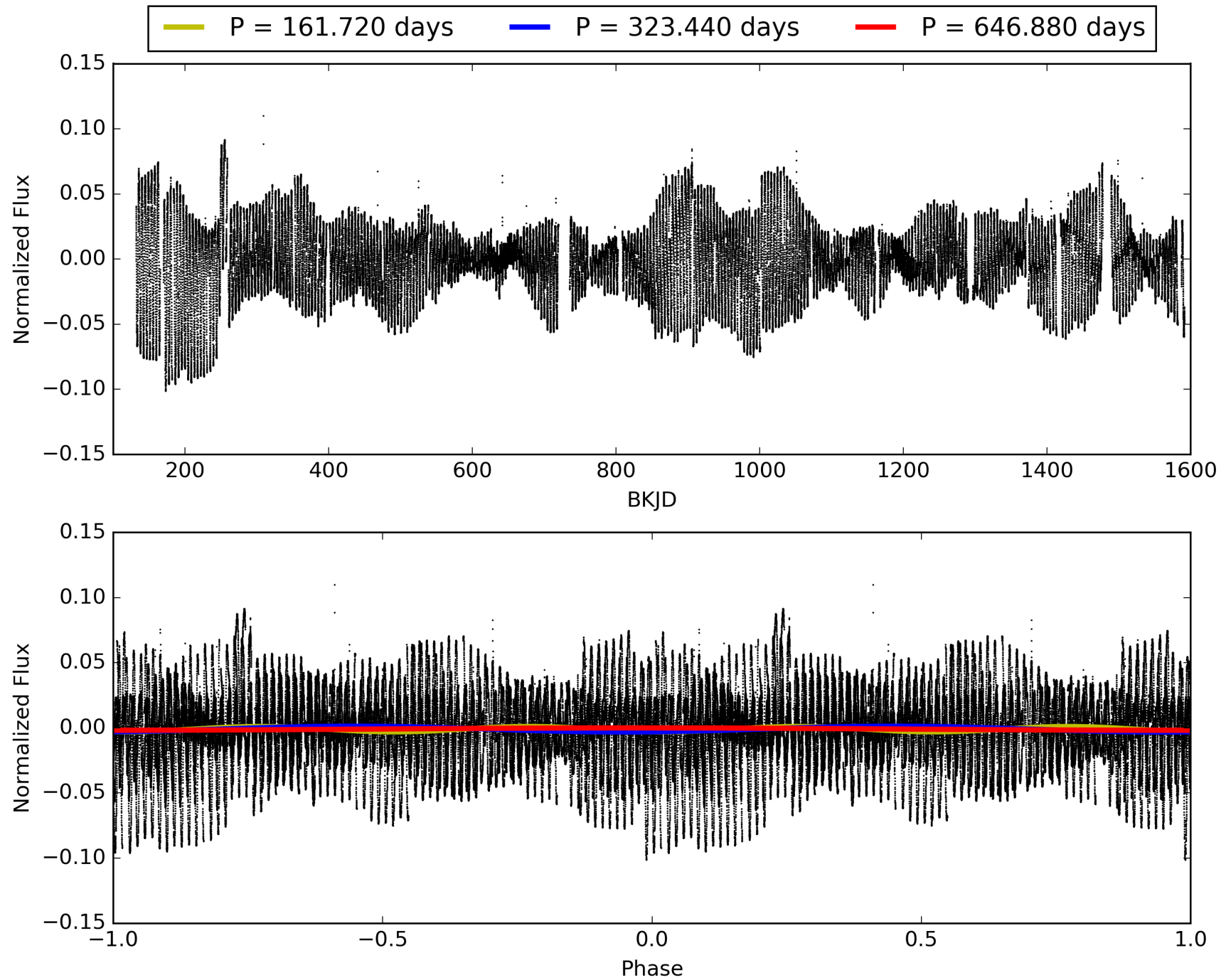
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:24:27 Z

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

TCE 008259835-04, PDC Light Curves

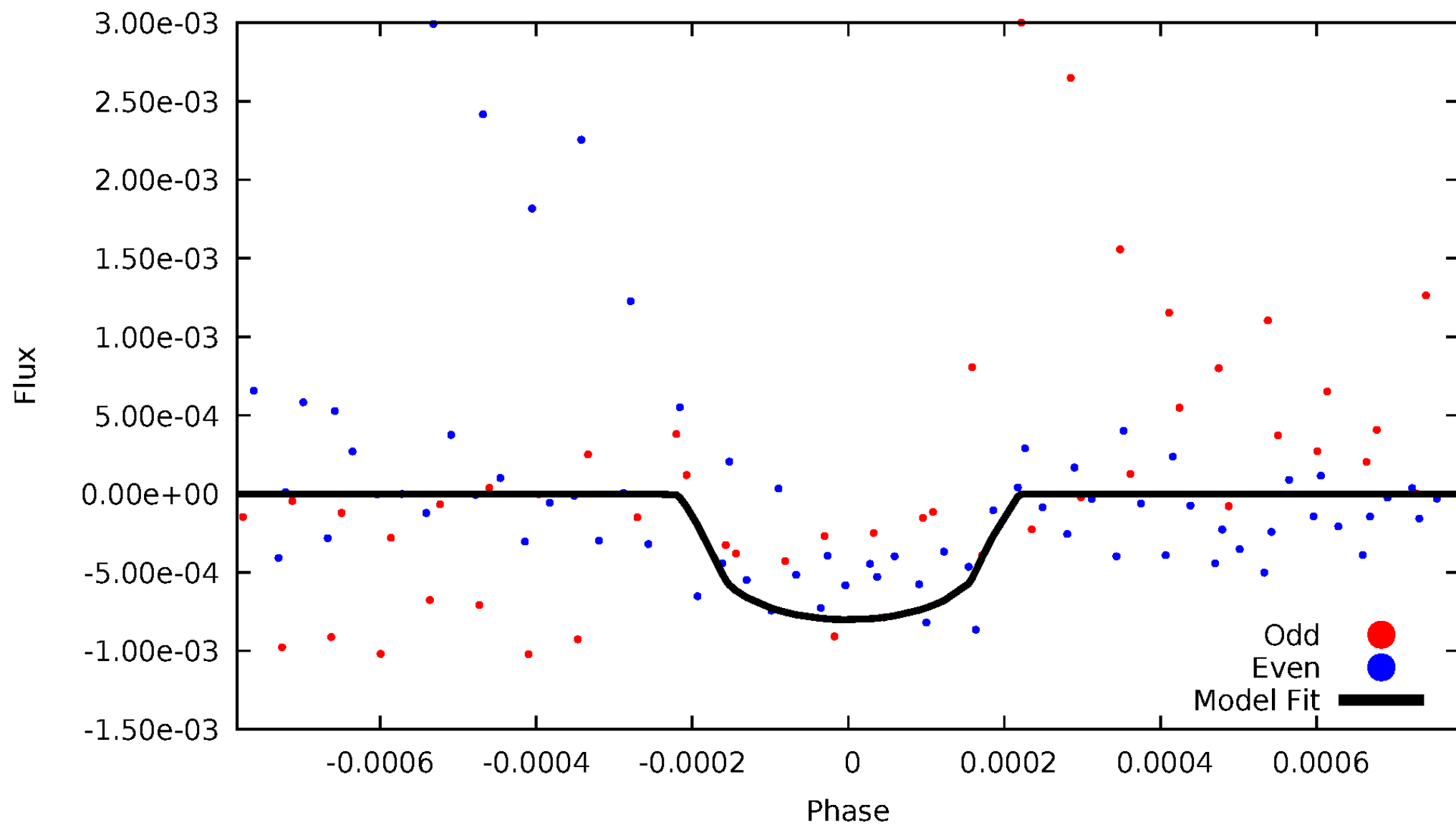


TCE 008259835-04



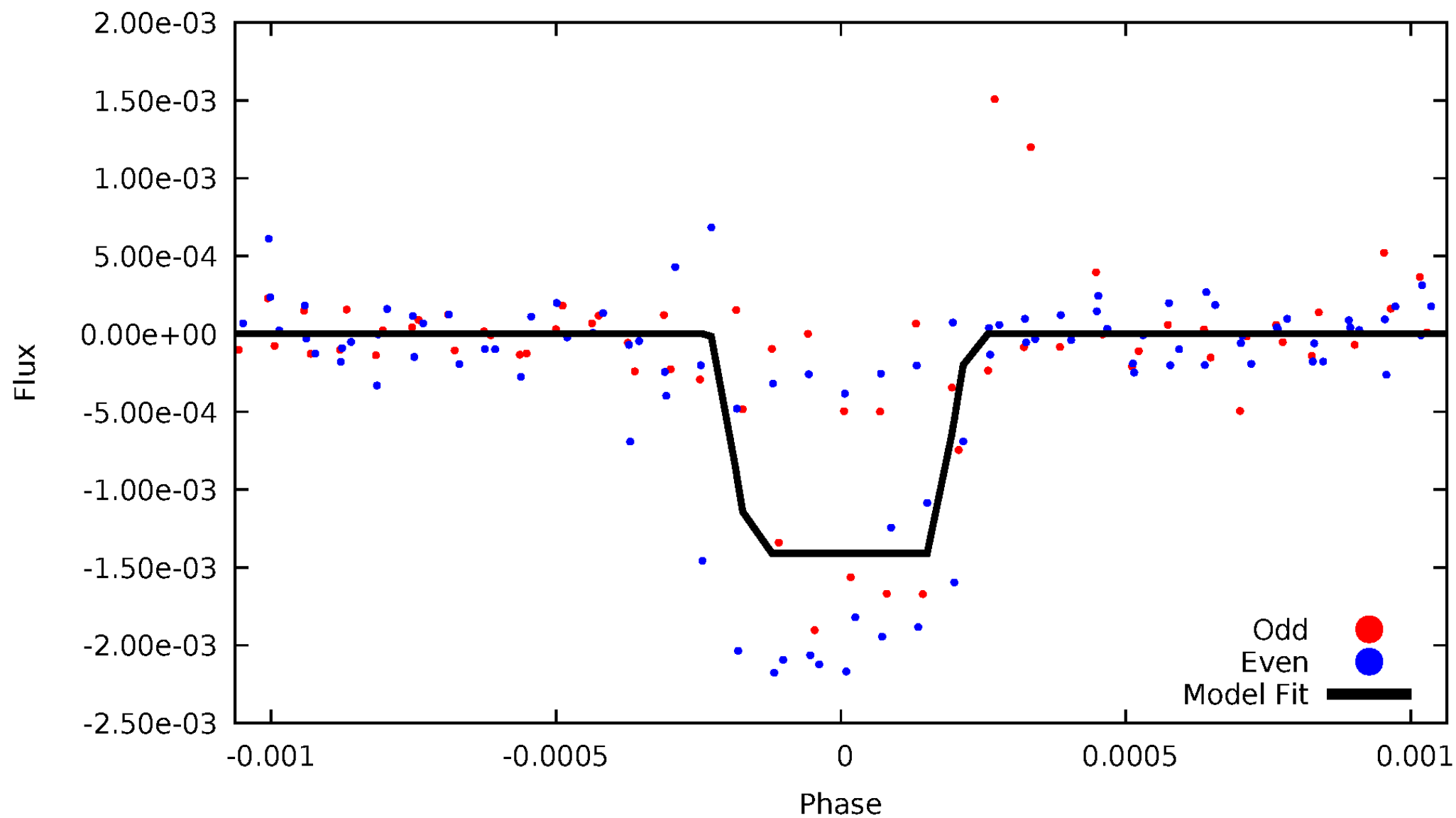
DV Odd/Even

TCE 008259835-04



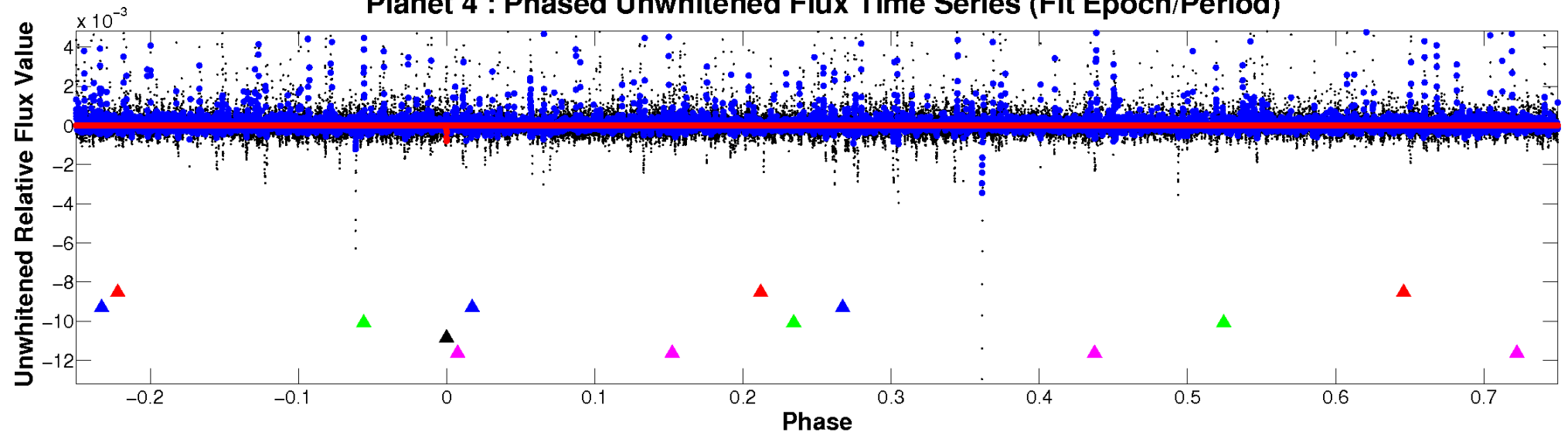
ALT Odd/Even

TCE 008259835-04

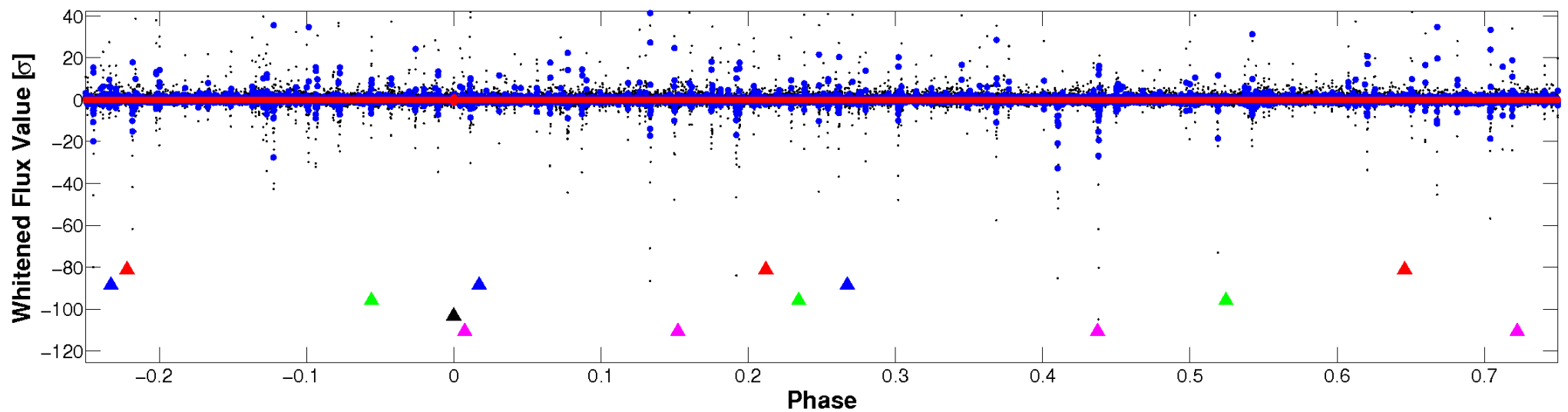


Non-Whitened Vs. Whitened Light Curve

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

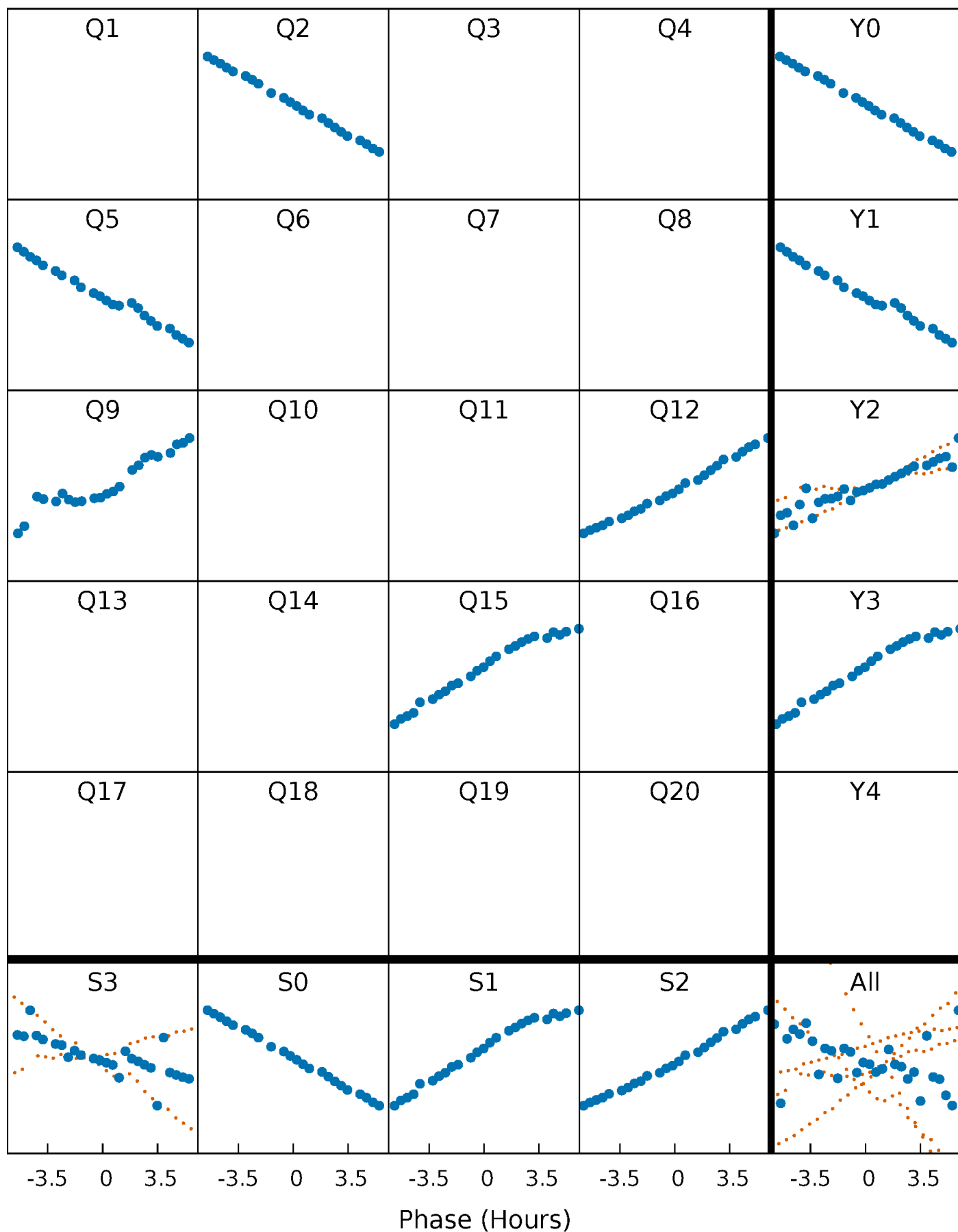


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



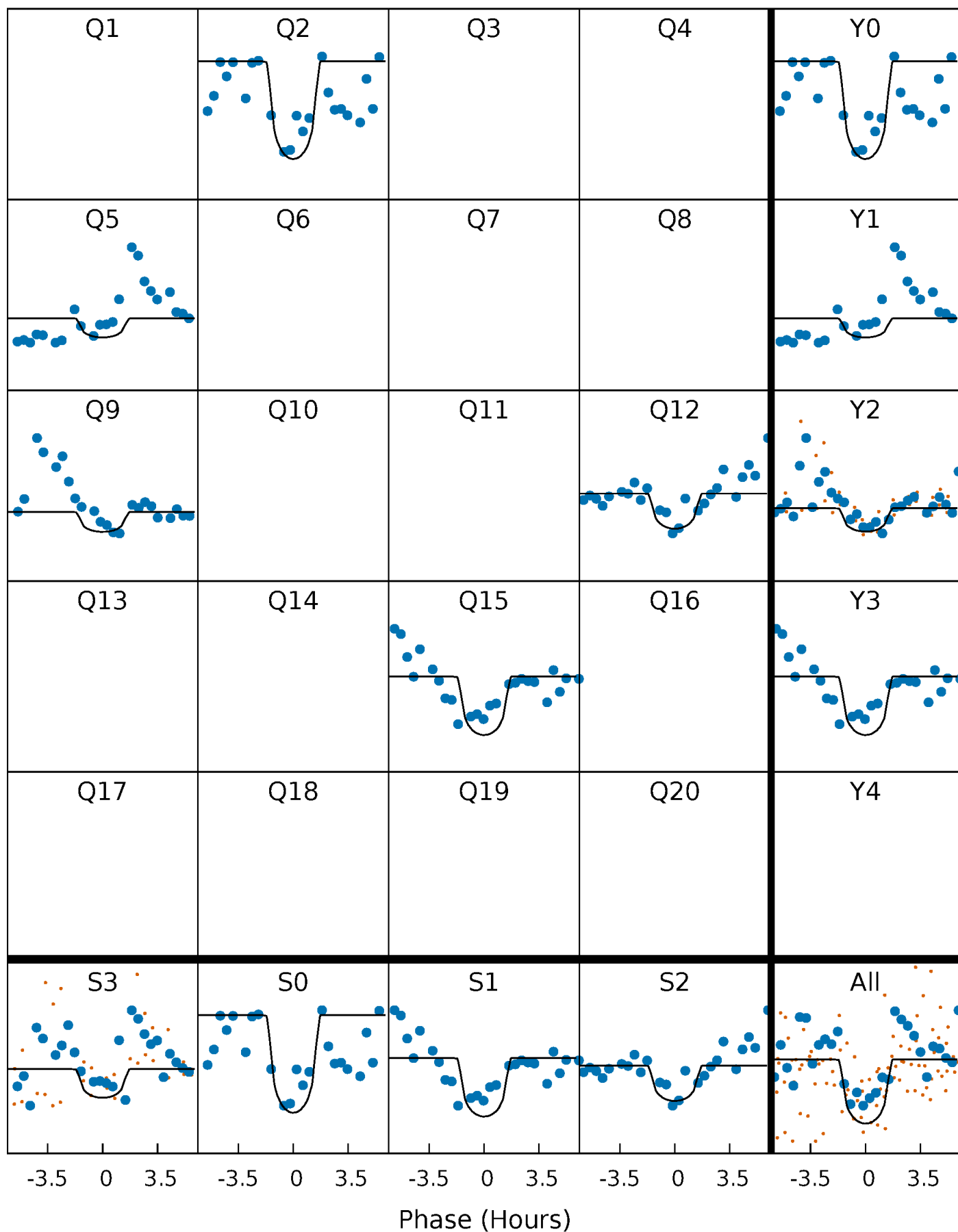
PDC Quarter-Phased Transit Curves

TCE 008259835-04 P=323.440043 Days $T_0=176.213293$ (BKJD)



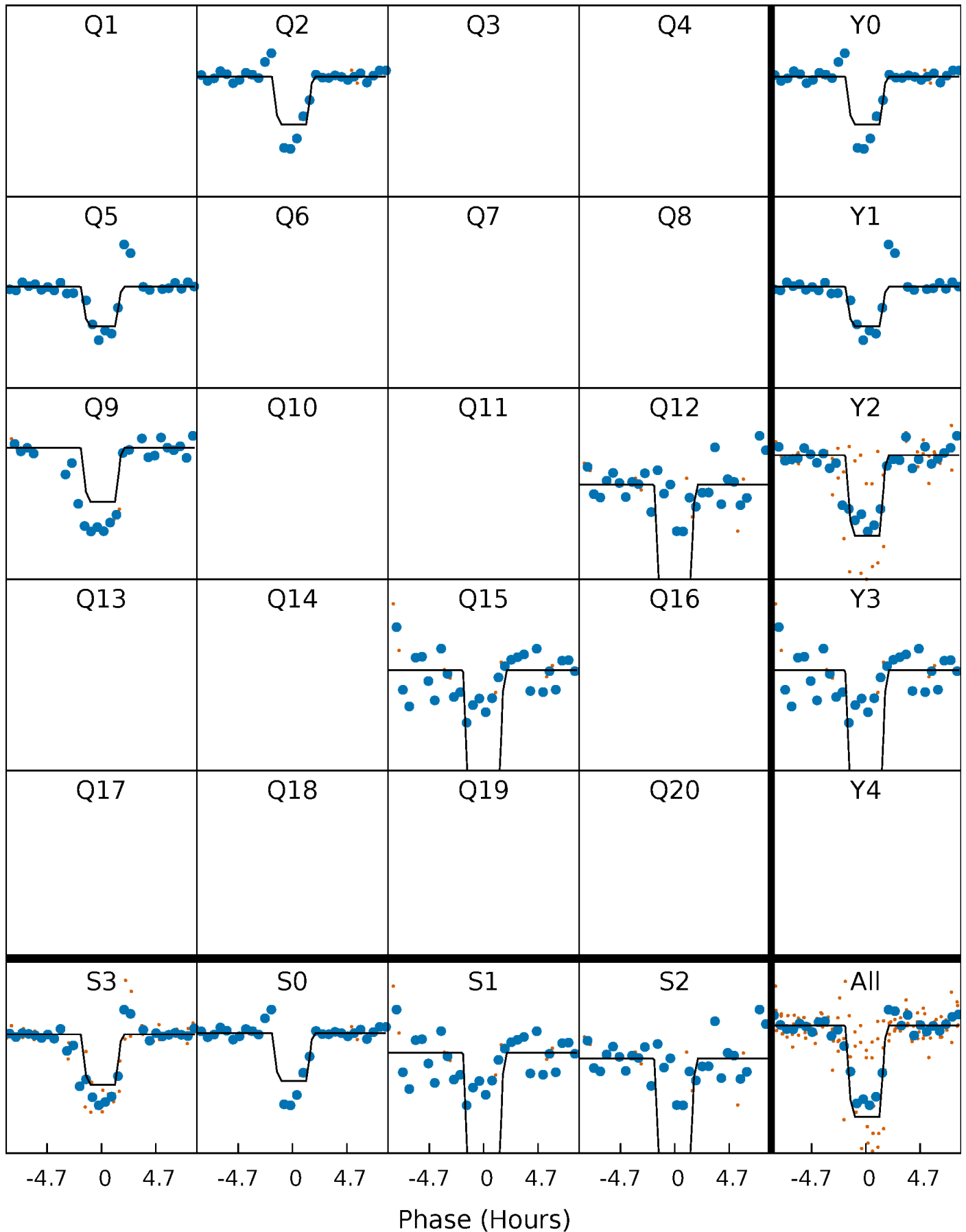
DV Quarter-Phased Transit Curves

TCE 008259835-04 P=323.440043 Days $T_0=176.213293$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

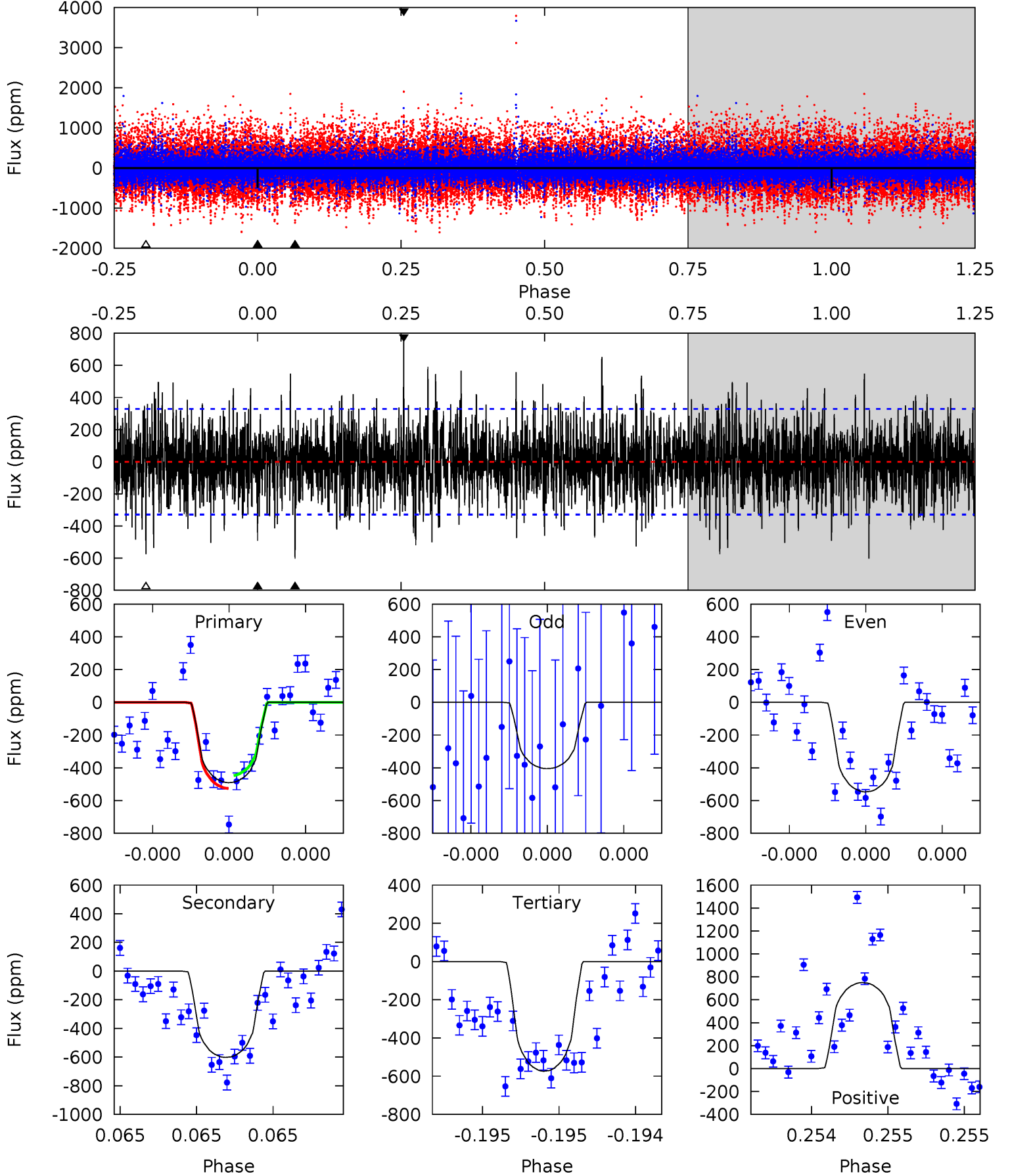
TCE 008259835-04 P=323.444070 Days $T_0=176.193720$ (BKJD)



DV Model-Shift Uniqueness Test

008259835-04, P = 323.440043 Days, E = 176.213293 Days

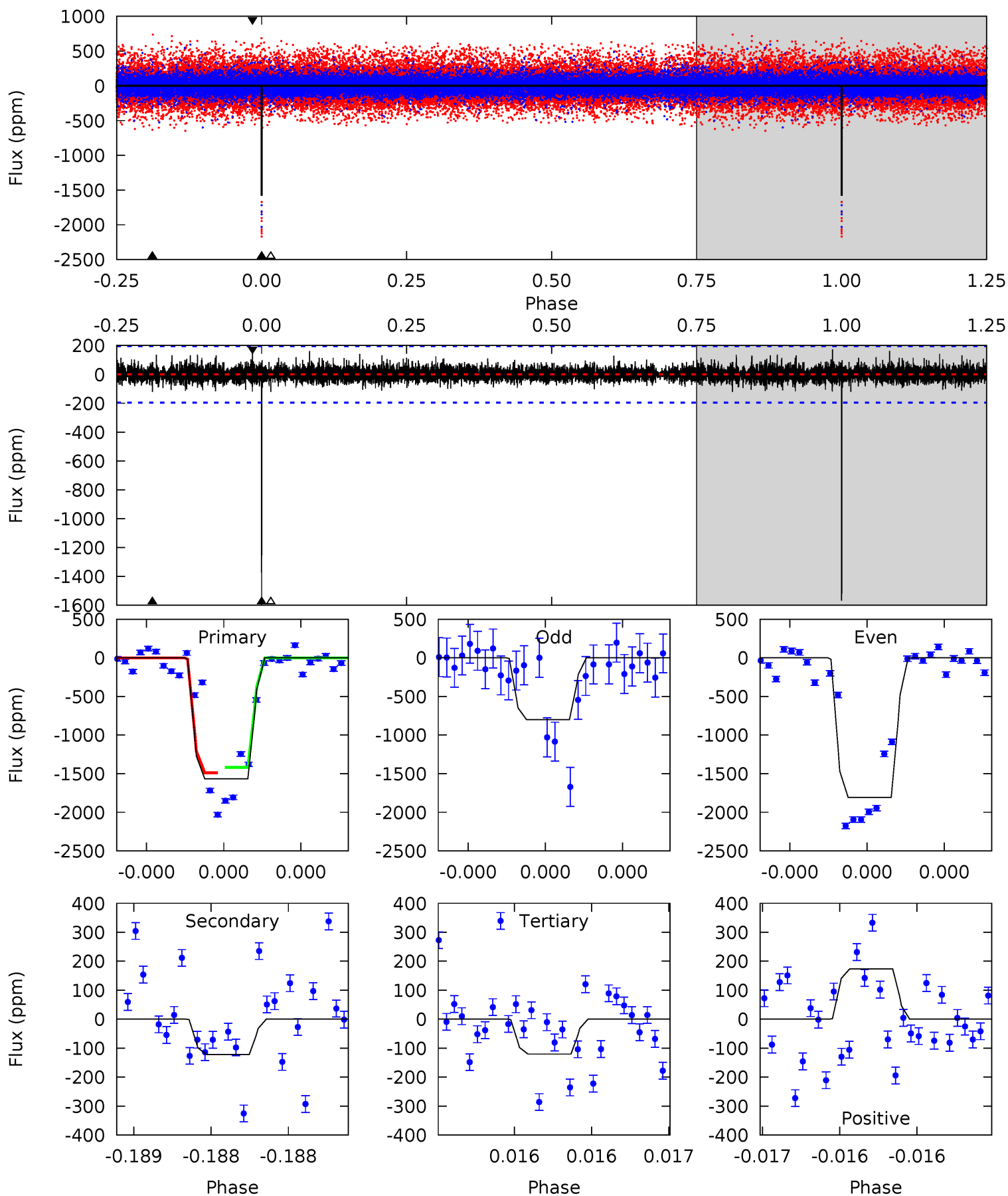
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.36	10.3	9.77	12.8	5.59	3.51	2.53	-1.42	-4.41	0.48	-2.51	0.99	0.90	0.55	0.67



Alt Model-Shift Uniqueness Test

008259835-04, P = 323.444070 Days, E = 176.193720 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.6	3.46	3.43	4.94	5.58	3.49	0.83	41.2	39.7	0.03	-1.47	15.1	0.77	0.10	1.00



Stellar Parameters For KIC 008259835

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4902^{+117}_{-132}	$3.485^{+1.168}_{-0.292}$	$-0.160^{+0.250}_{-0.300}$	$2.832^{+1.485}_{-2.227}$	$0.895^{+0.237}_{-0.237}$	$0.055^{+3.247}_{-0.033}$
	+2%/-3%	+34%/-8%	+156%/-188%	+52%/-79%	+26%/-26%	+5853%/-60%
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 008259835-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-603 ± 59	$10.69^{+12.81}_{-7.31}$	519^{+81}_{-122}	3955^{+2353}_{-717}	2271^{+21195}_{-1807}
Alt.	-122 ± 35	$12.40^{+12.76}_{-8.34}$	516^{+82}_{-114}	2952^{+1169}_{-422}	340^{+2797}_{-261}

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 $A_{obs} \gg 1.0$

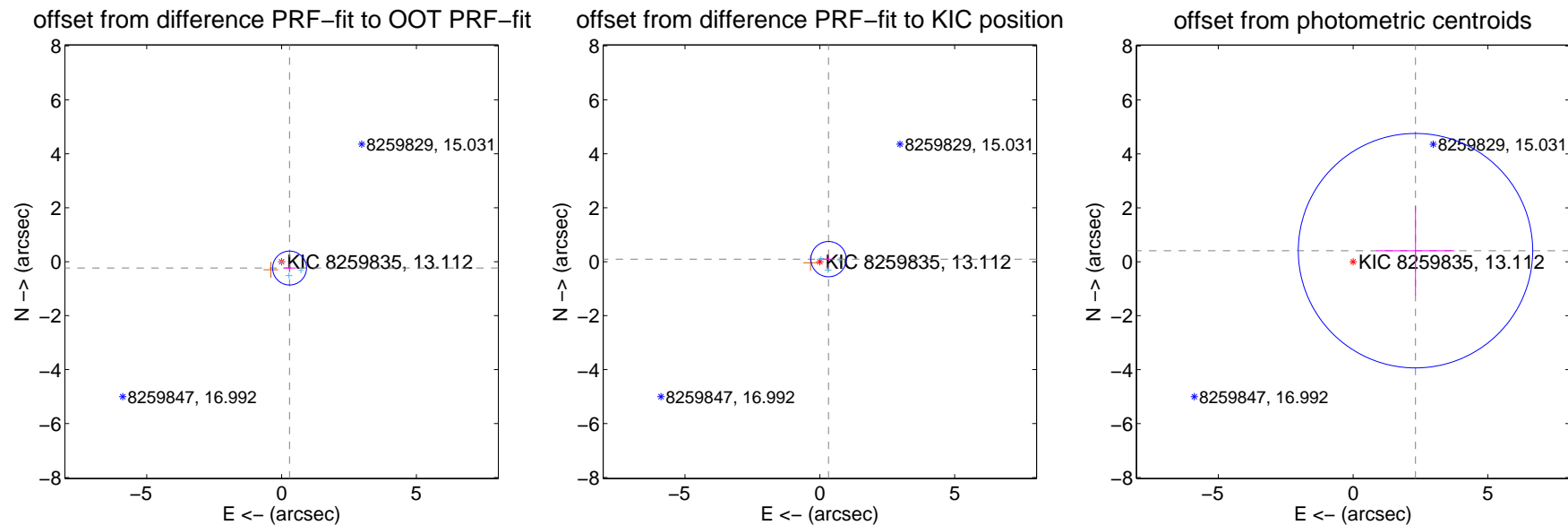
DV Centroid Data

Supplemental centroid analysis for 008259835-04. Kepler magnitude: 13.11. Transit SNR 8.01

There are 3 quarters with good PRF difference image offsets

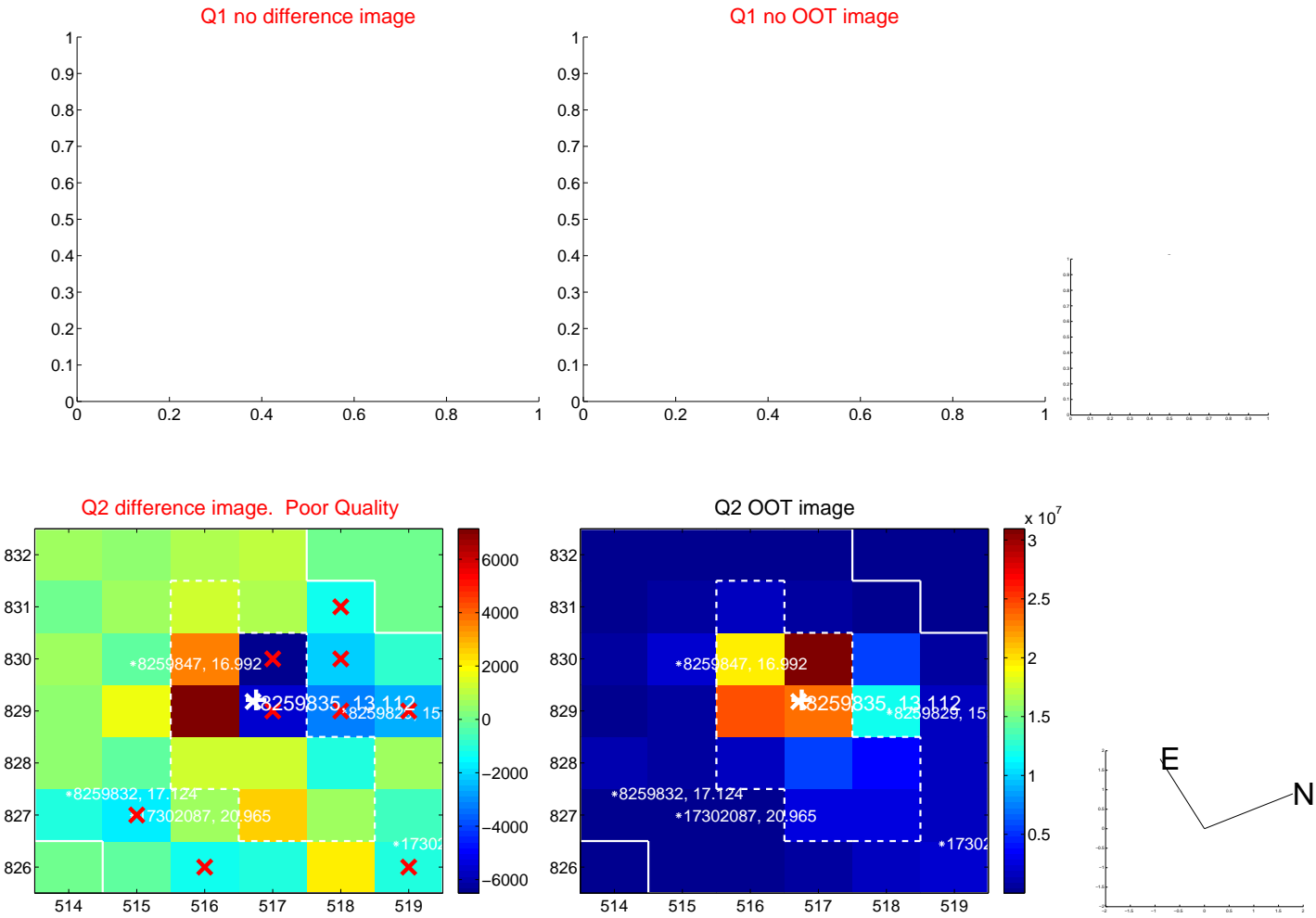
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.378 ± 0.209	1.80	-0.296 ± 0.238	-0.235 ± 0.153
PRF-fit source offset from KIC position	0.336 ± 0.218	1.54	-0.322 ± 0.226	0.095 ± 0.086
photometric centroid source offset	2.35 ± 1.45	1.62	-2.31 ± 1.44	0.41 ± 1.65

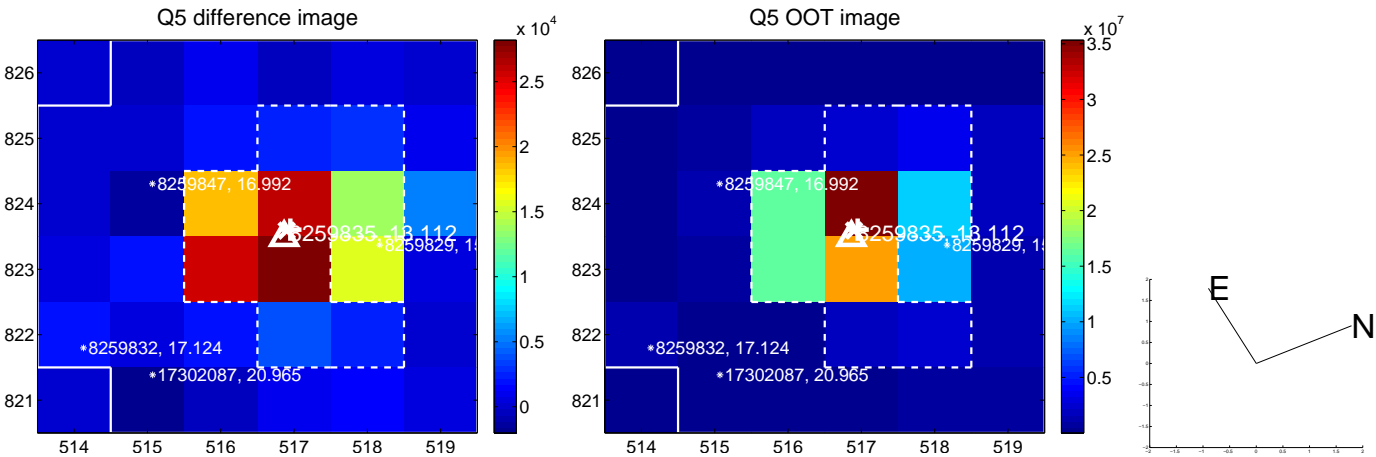


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

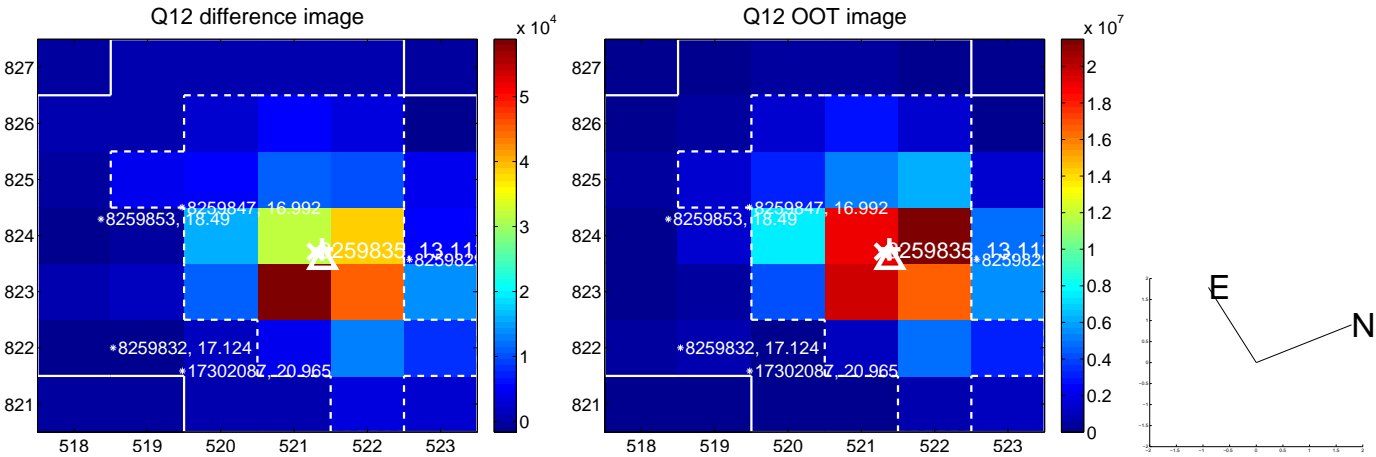
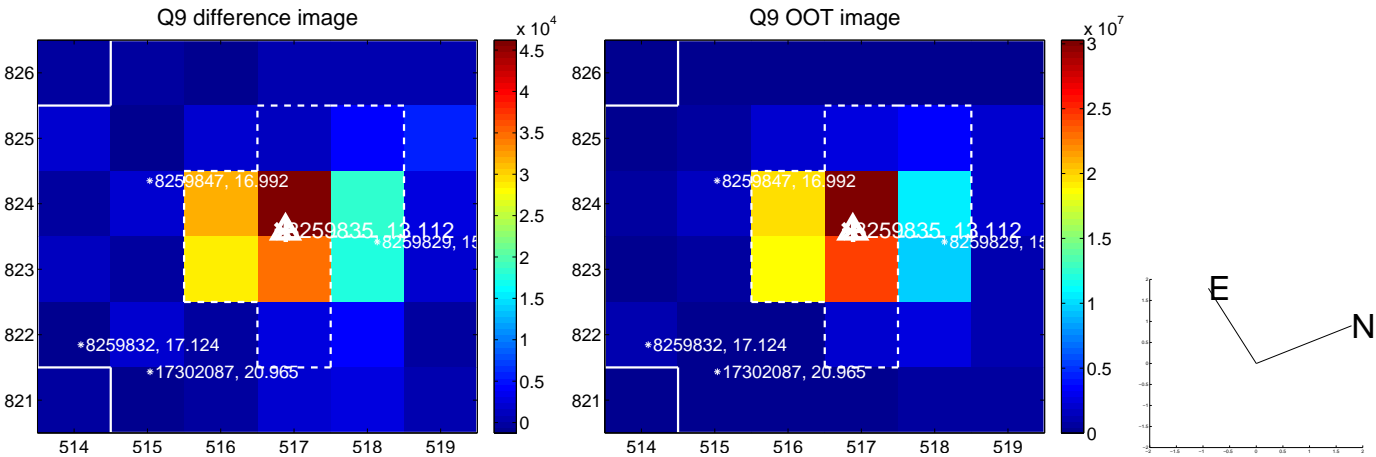
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



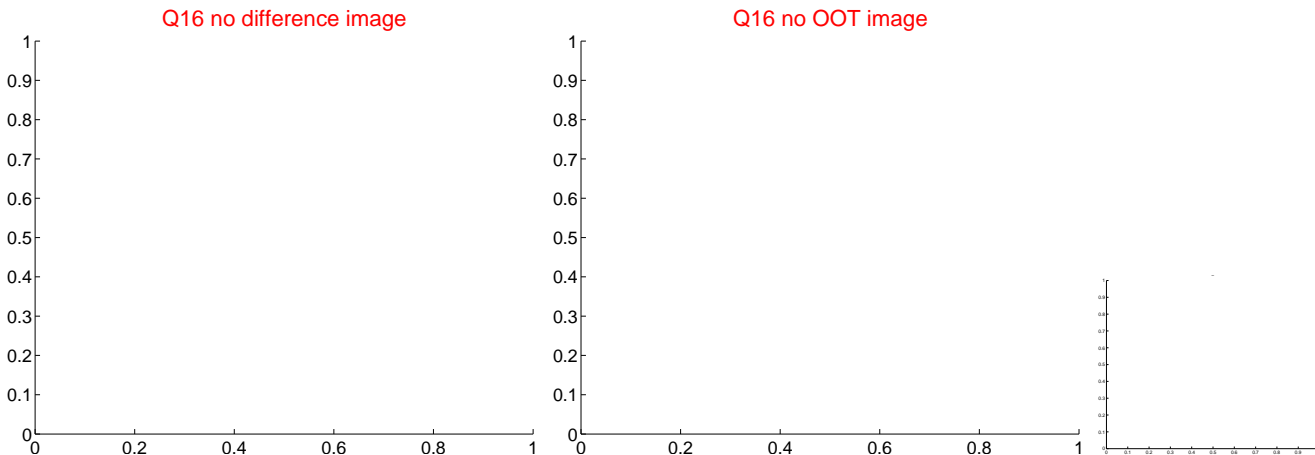
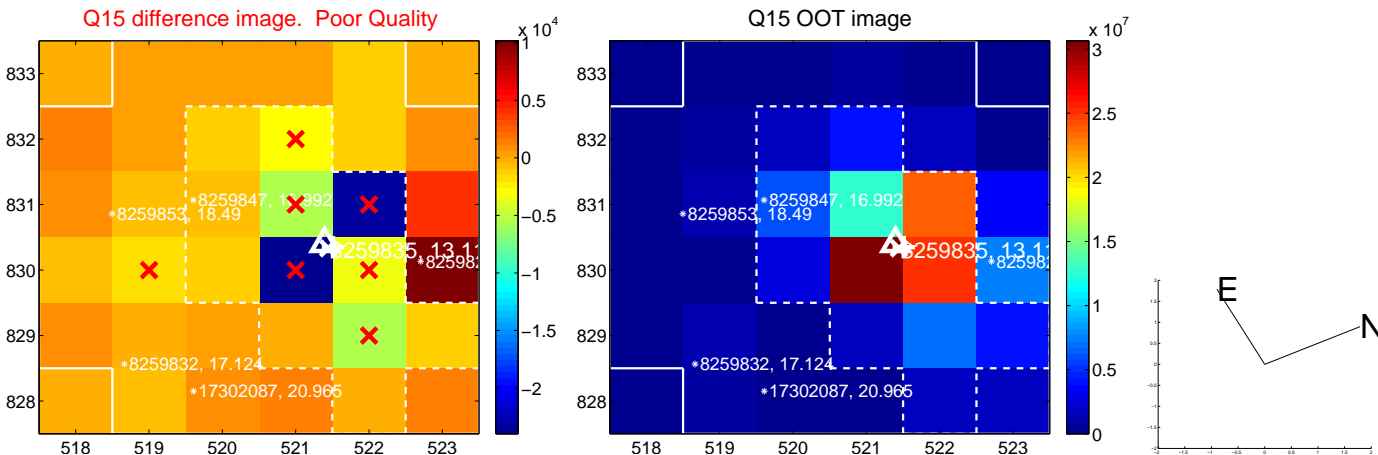
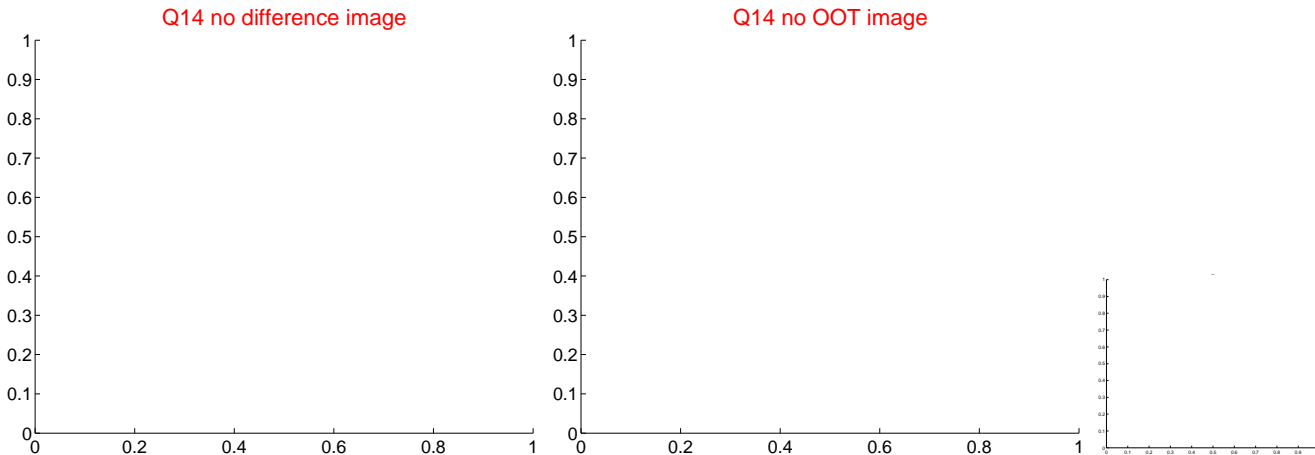
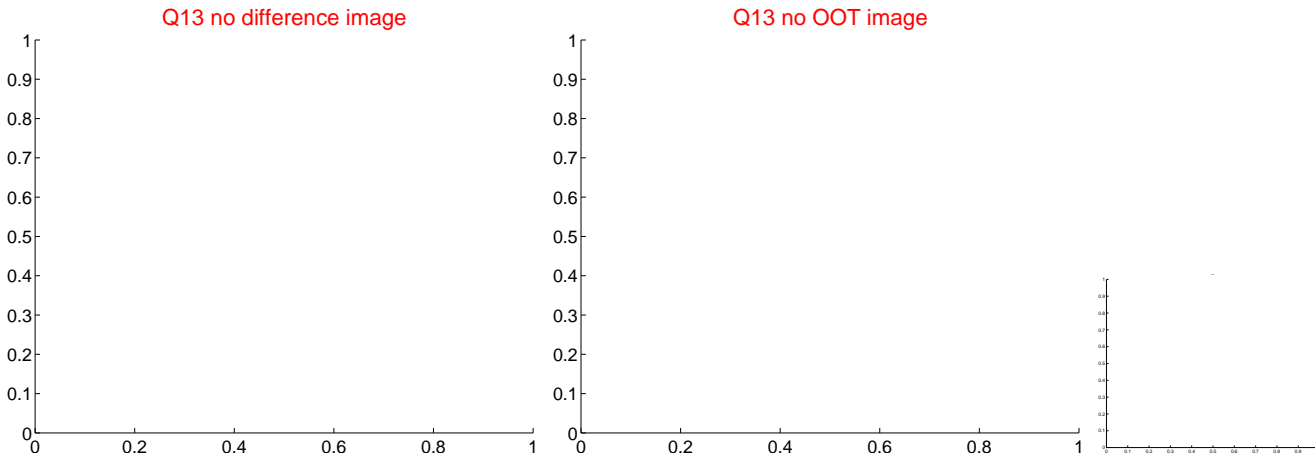
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



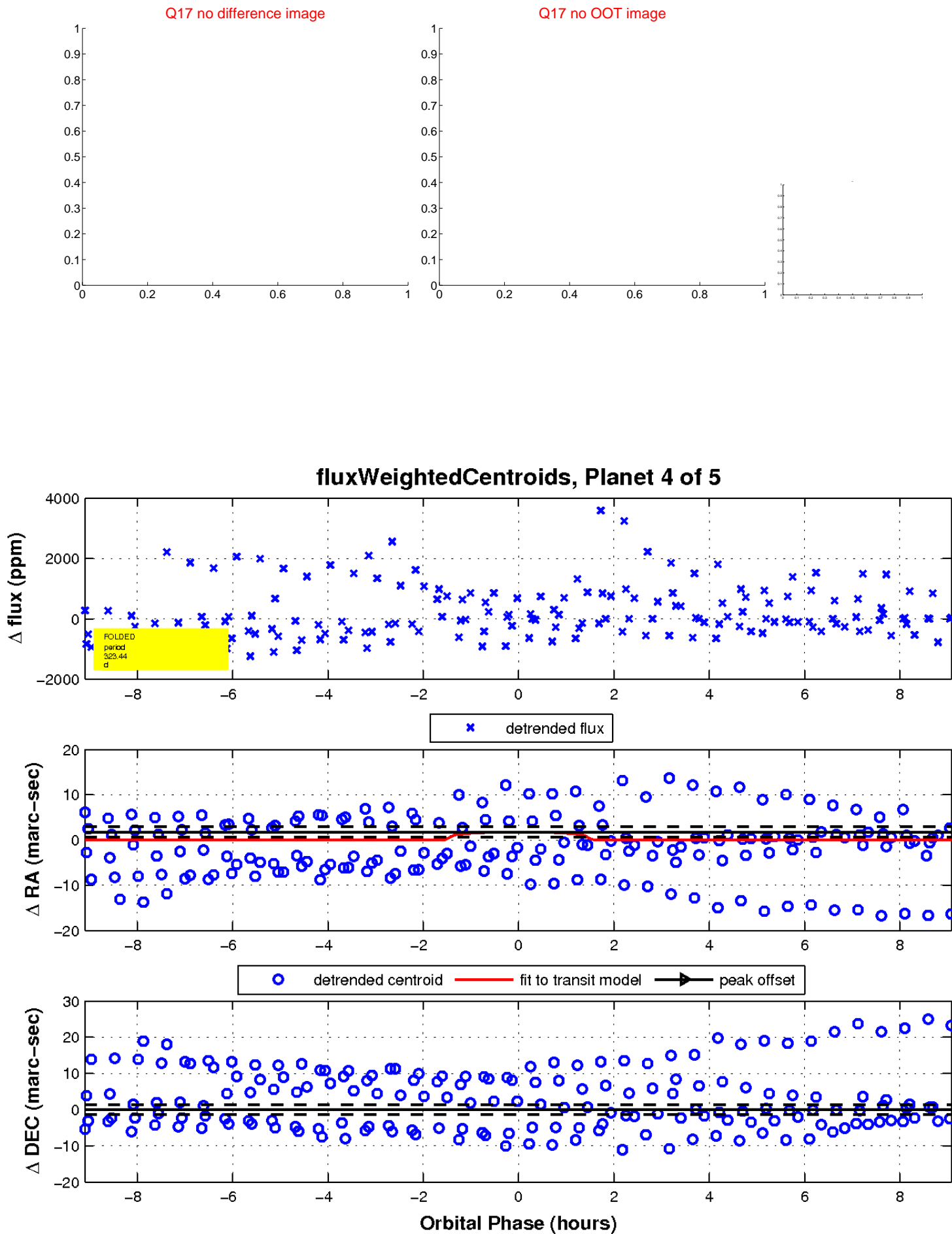
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

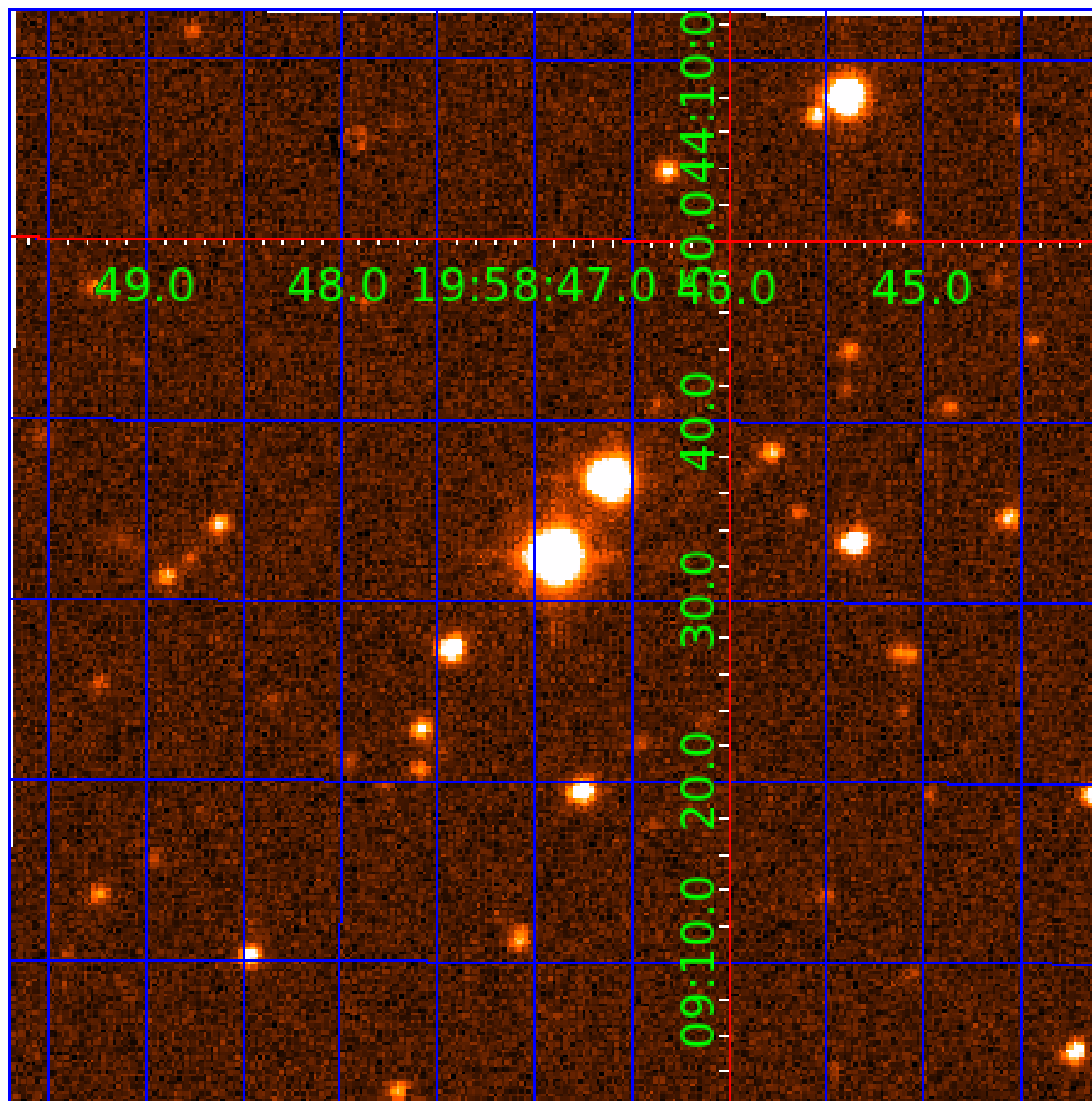


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008259835

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})
008259835-01	OBS	No	463.779570	427.876428	1165.9	2.878	11.8	8.3	2.83	4902	11.85	3.25
008259835-02	OBS	No	565.997687	262.680657	545.6	4.180	15.1	3.6	2.83	4902	6.81	2.49
008259835-03	OBS	No	553.018158	345.855192	1306.8	15.032	14.6	5.2	2.83	4902	9.95	2.57
008259835-04	OBS	No	323.440043	176.213293	802.0	3.040	11.0	8.0	2.83	4902	8.18	5.26
008259835-05	OBS	No	415.639044	225.464503	505.3	4.500	13.7	-1.0	2.83	4902	6.16	3.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008259835-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008259835-02	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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008259835-03	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
008259835-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—HALO_GHOST
008259835-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

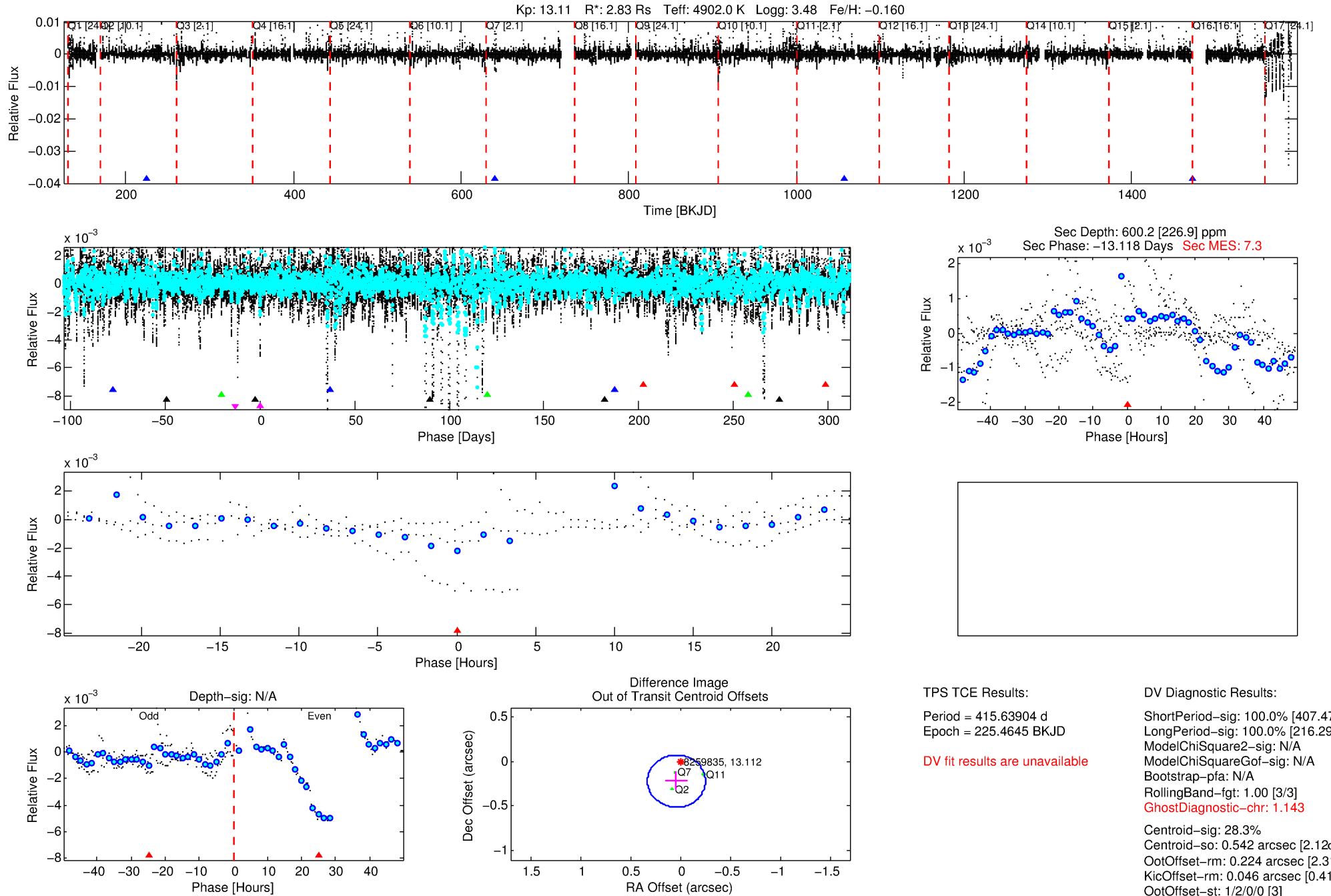
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008259835-05

No Significant Match Found

DV One-Page Summary

KIC: 8259835 Candidate: 5 of 5 Period: 415.639 d



TPS TCE Results:

Period = 415.63904 d
Epoch = 225.4645 BKJD

DV fit results are unavailable

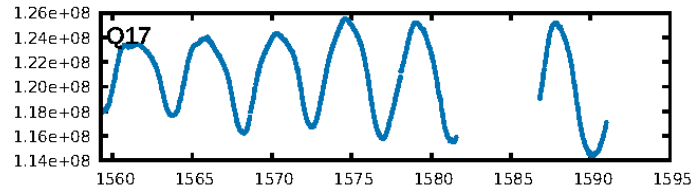
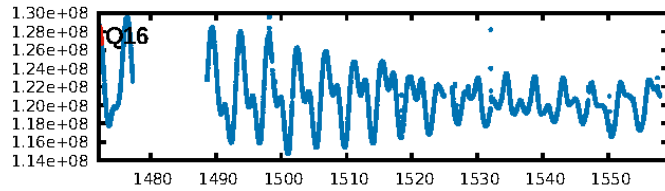
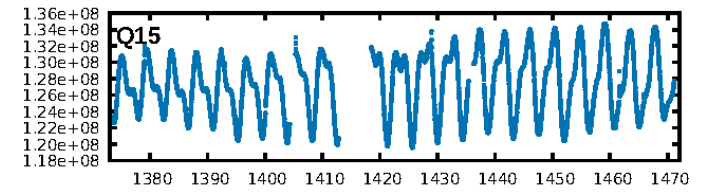
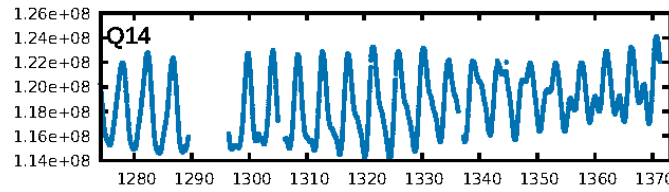
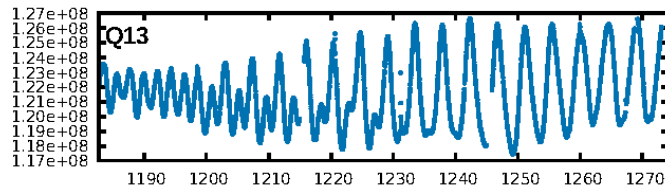
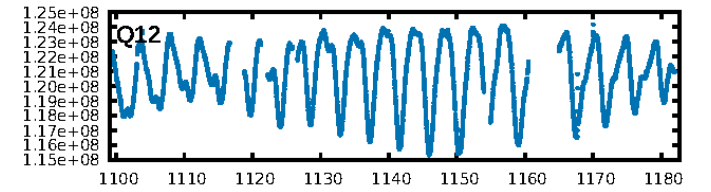
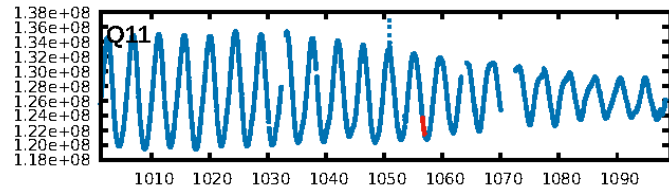
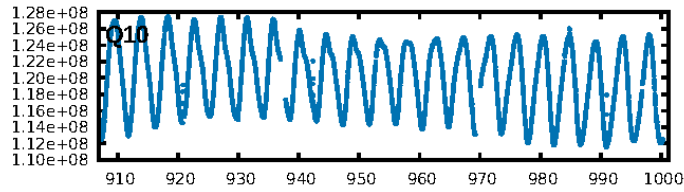
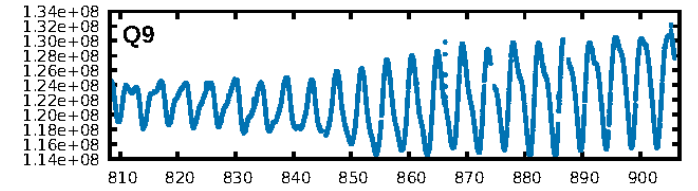
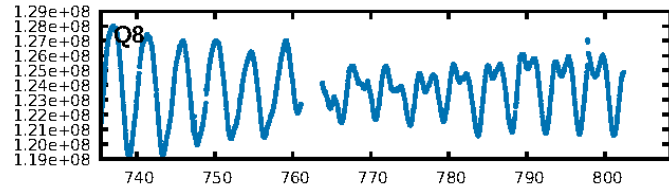
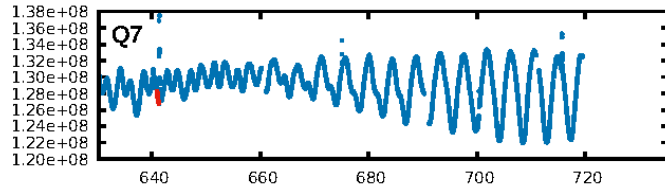
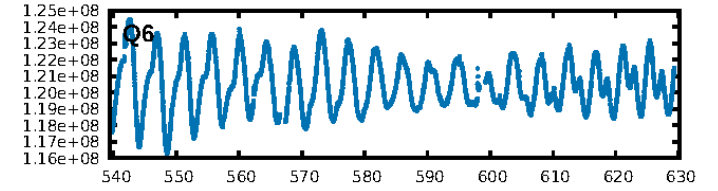
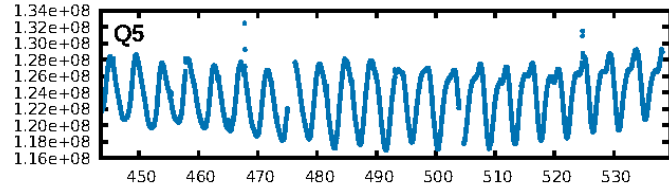
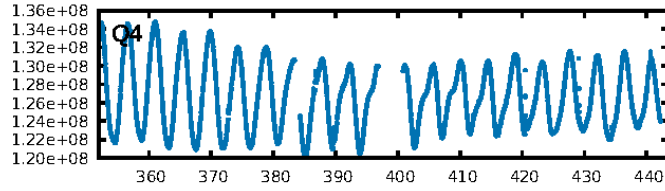
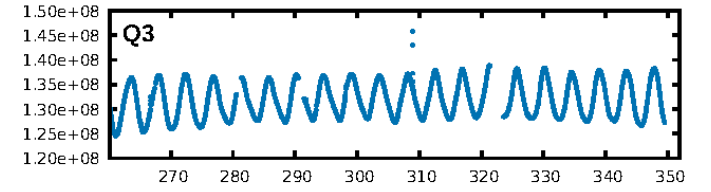
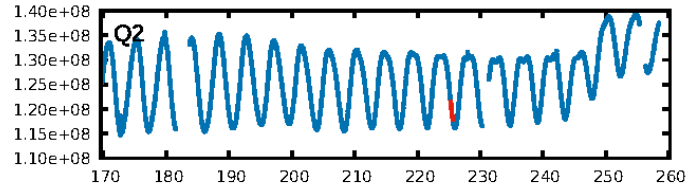
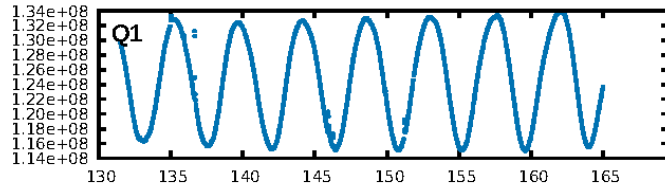
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [407.47 σ]
LongPeriod-sig: 100.0% [216.29 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.143
Centroid-sig: 28.3%
Centroid-so: 0.542 arcsec [2.12 σ]
OotOffset-rm: 0.224 arcsec [2.31 σ]
KicOffset-rm: 0.046 arcsec [0.41 σ]
OotOffset-st: 1/2/0/0 [3]
KicOffset-st: 1/2/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

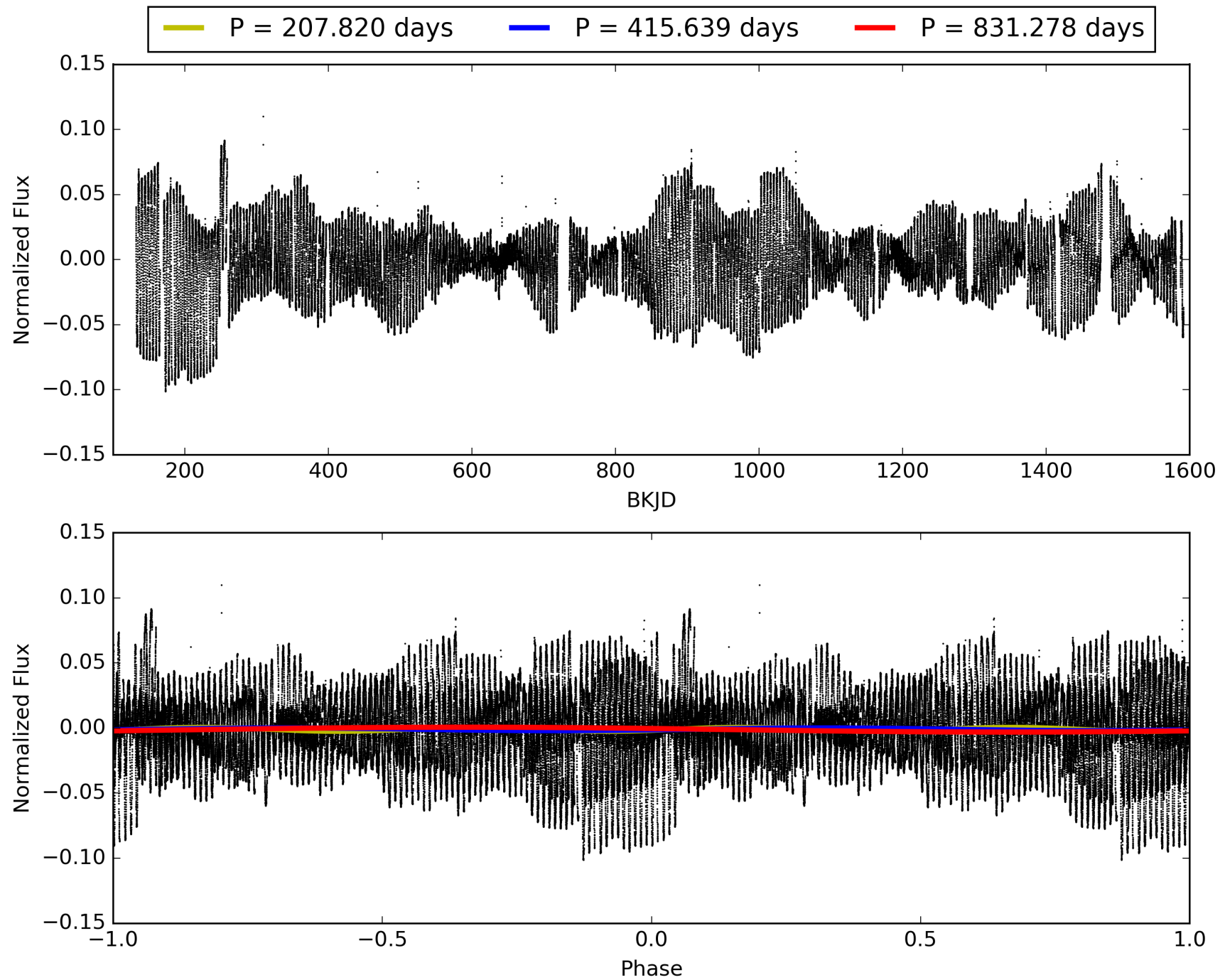
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:24:37 Z

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

TCE 008259835-05, PDC Light Curves

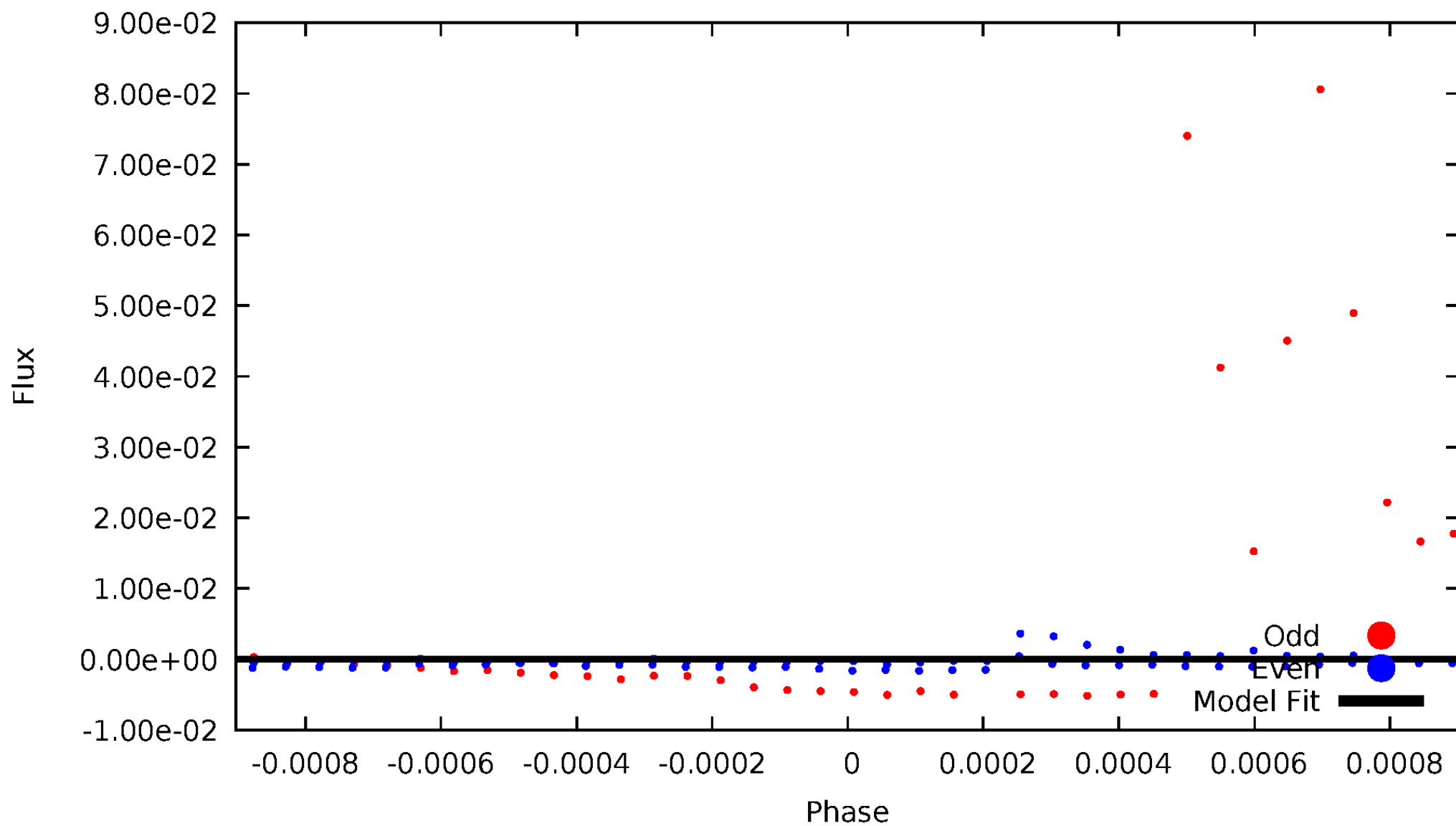


TCE 008259835-05



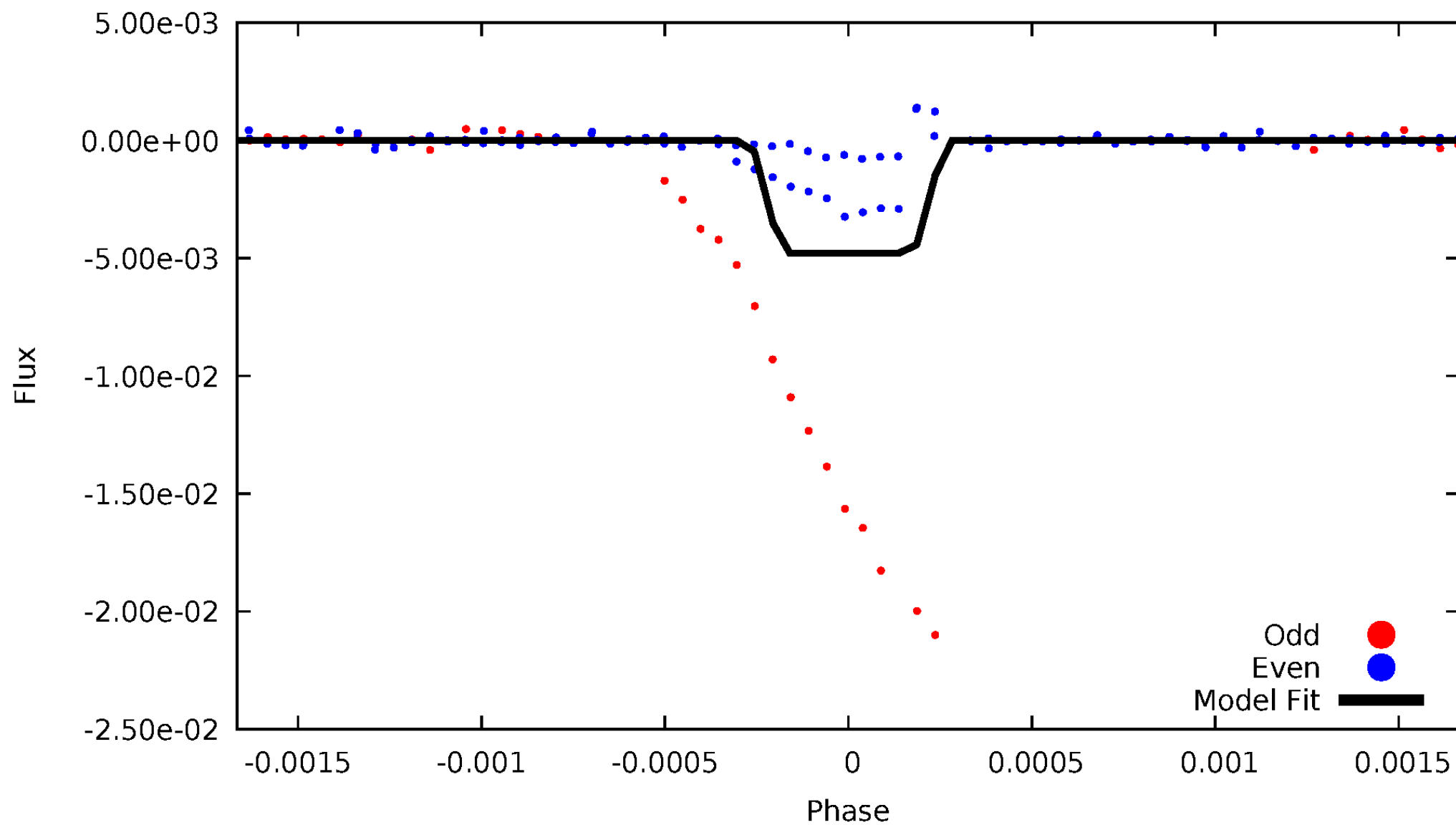
DV Odd/Even

TCE 008259835-05

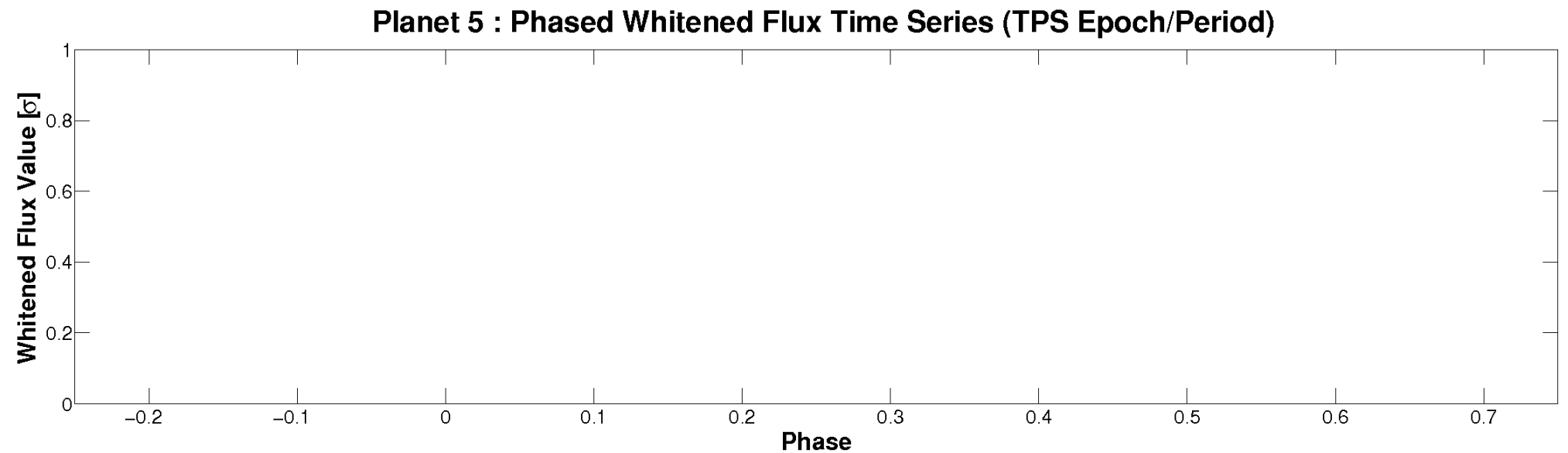
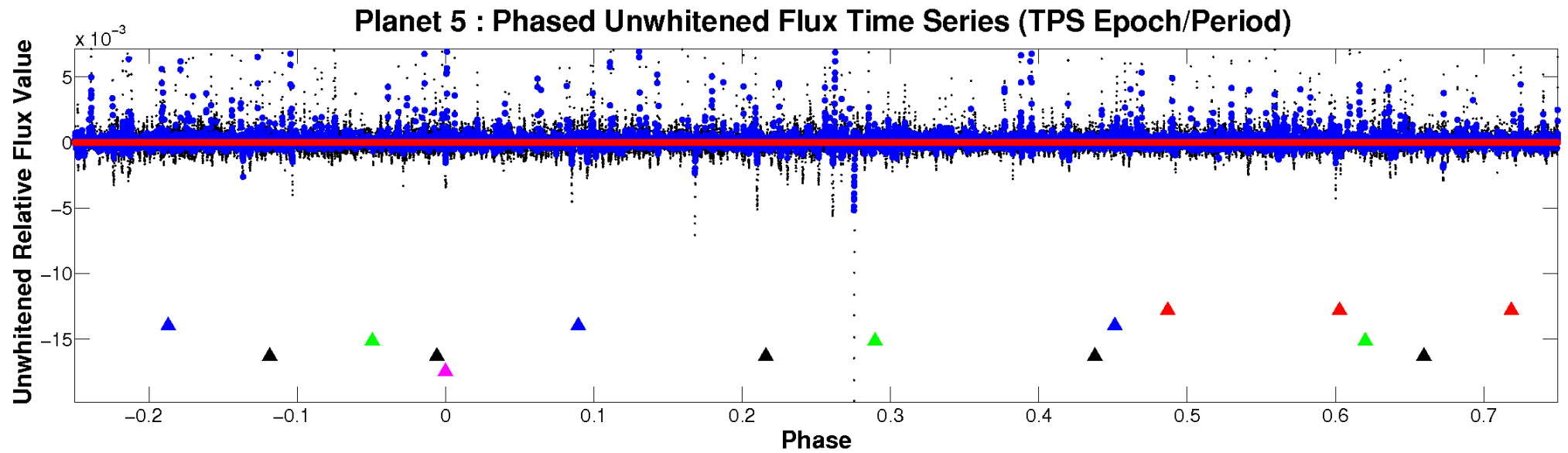


ALT Odd/Even

TCE 008259835-05

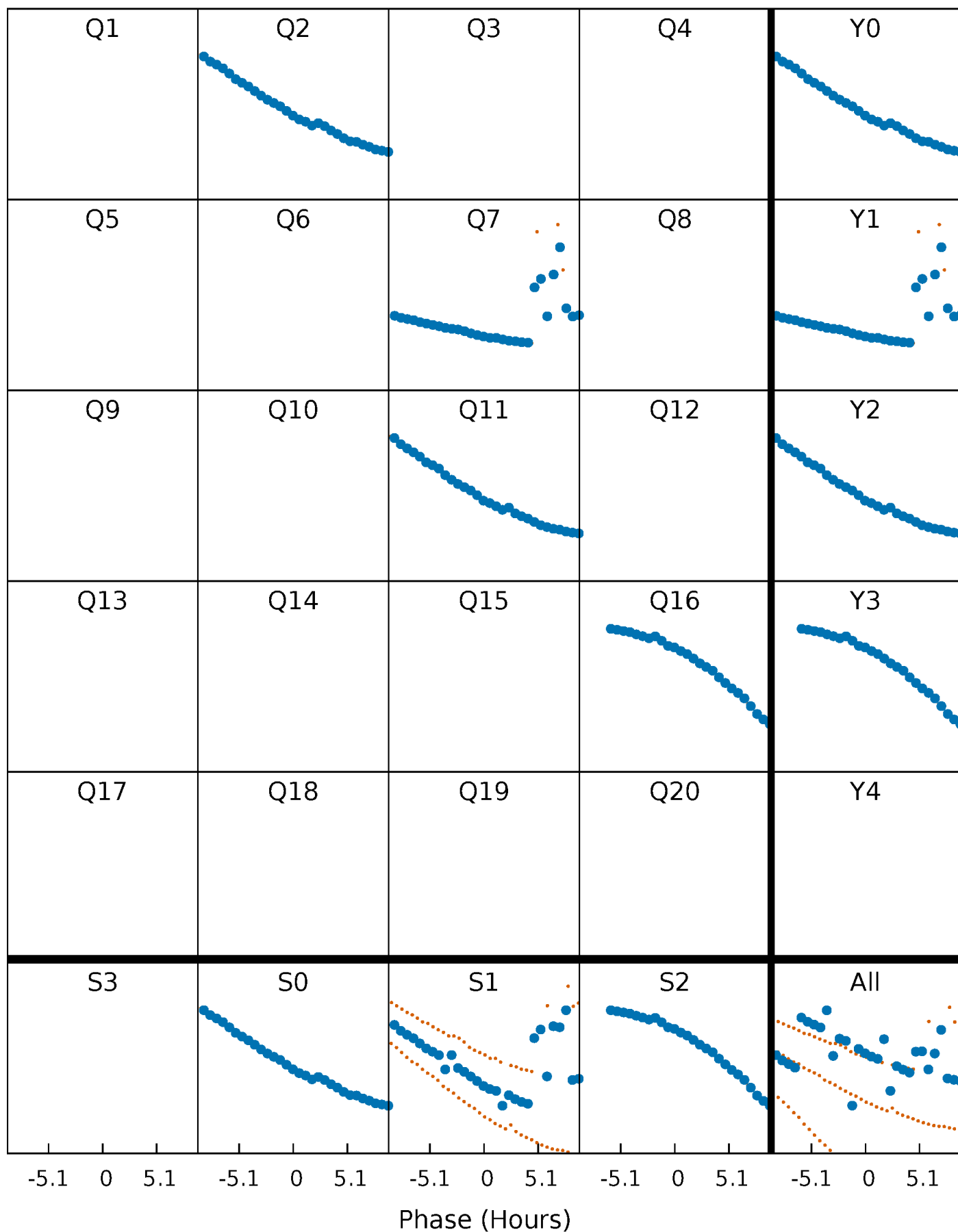


Non-Whitened Vs. Whitened Light Curve



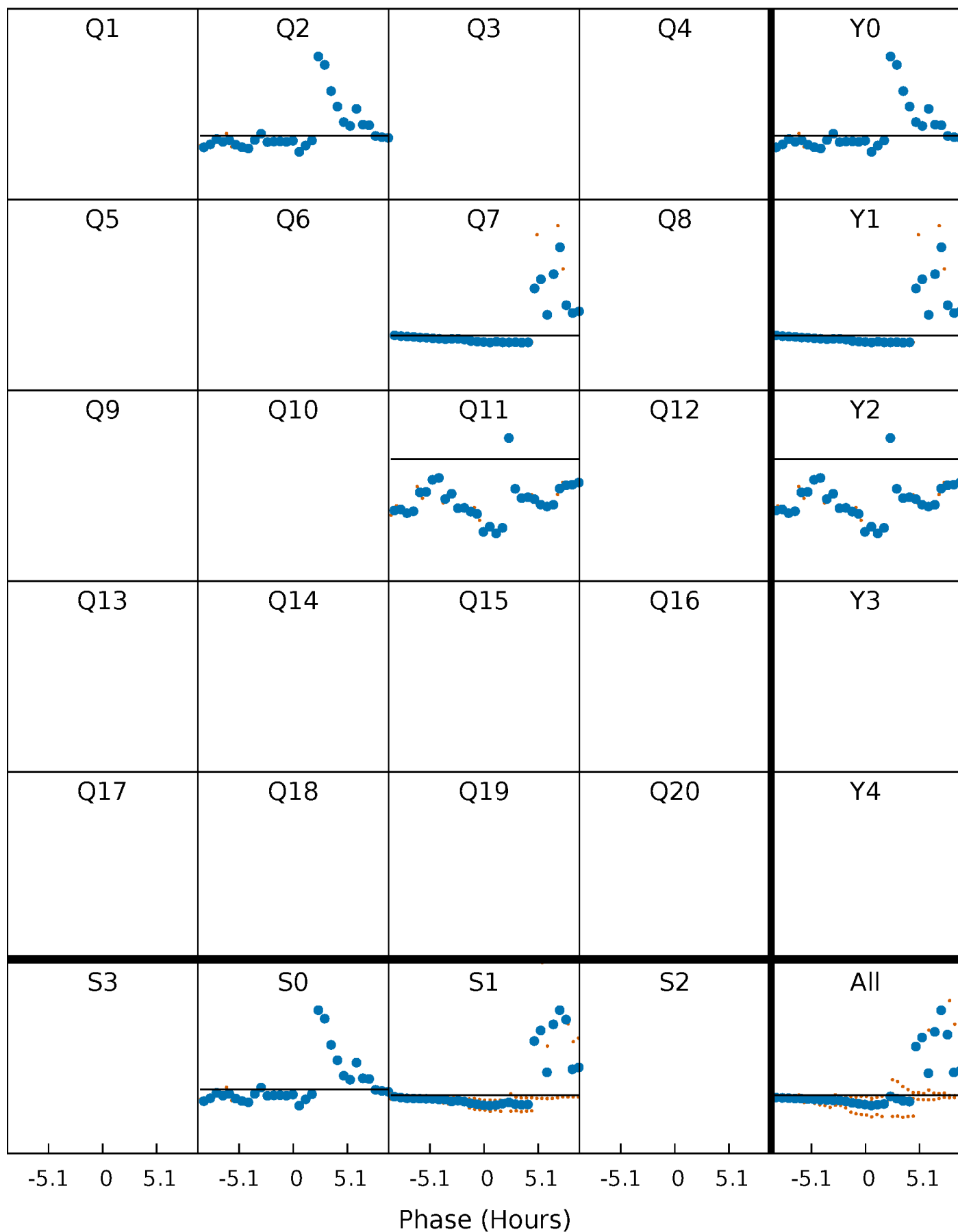
PDC Quarter-Phased Transit Curves

TCE 008259835-05 $P=415.639044$ Days $T_0=225.464503$ (BKJD)



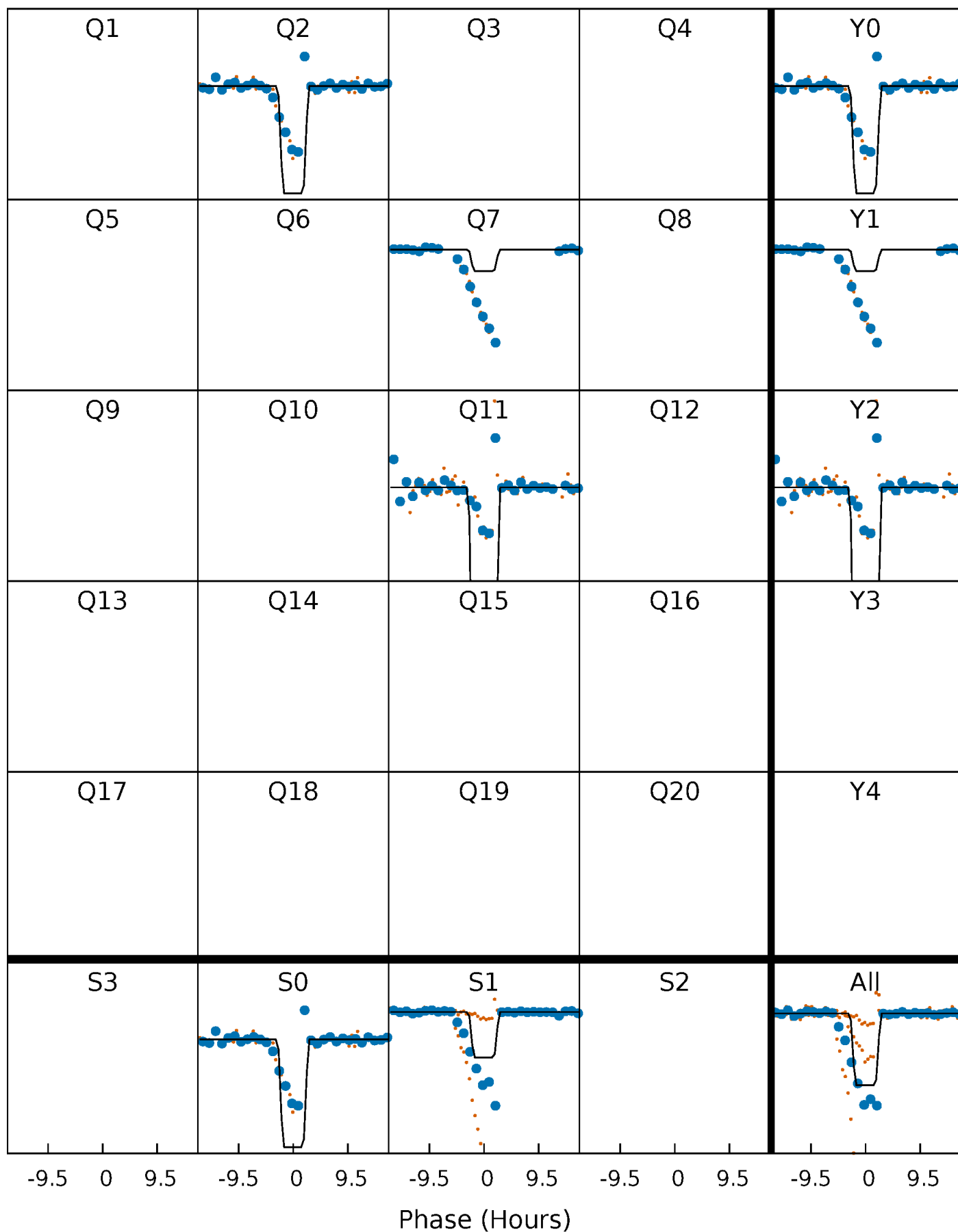
DV Quarter-Phased Transit Curves

TCE 008259835-05 $P=415.639044$ Days $T_0=225.464503$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

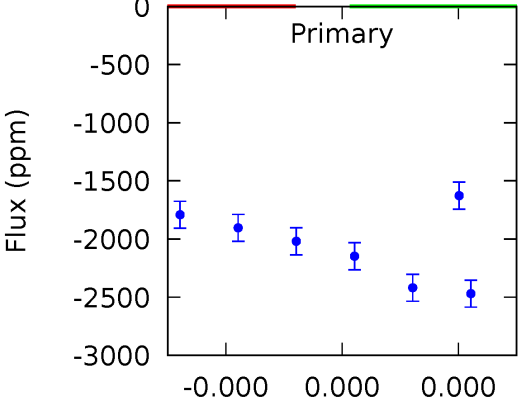
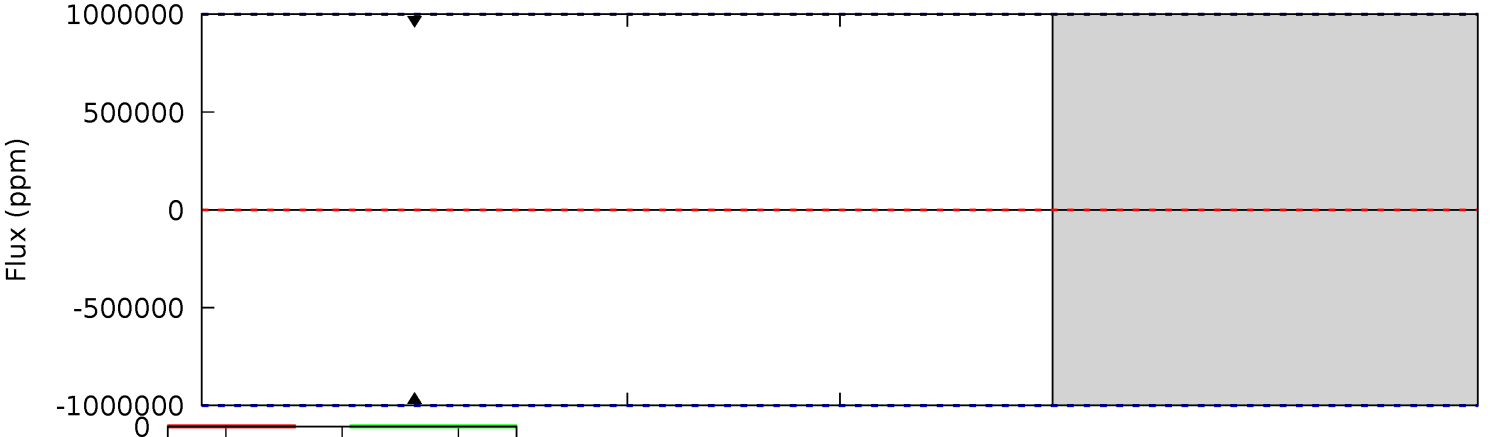
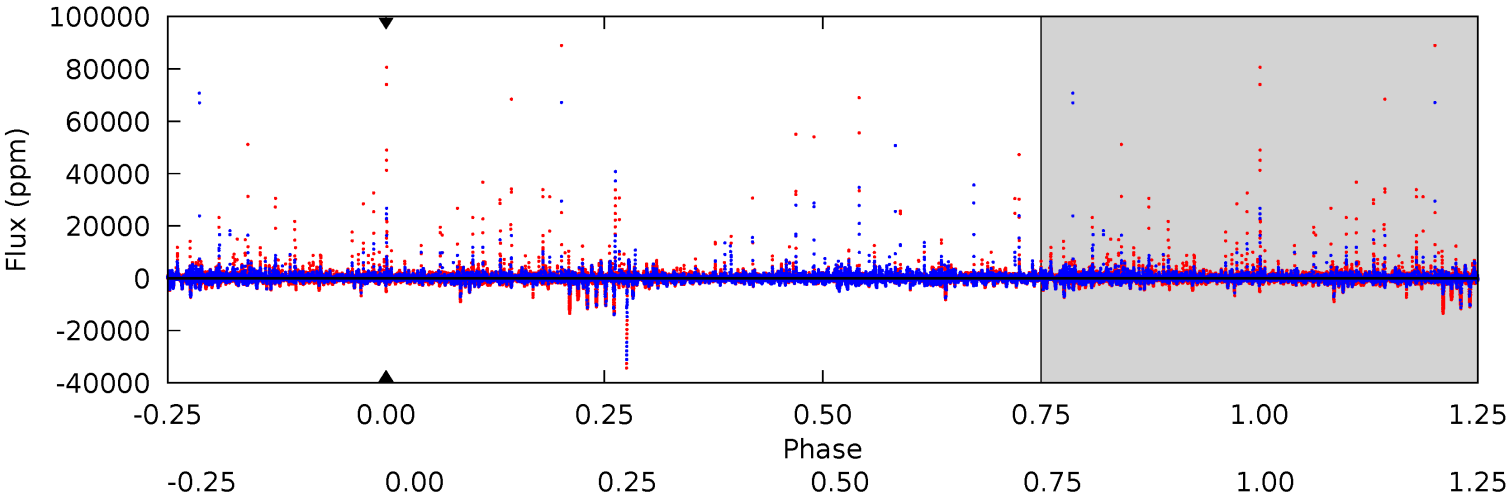
TCE 008259835-05 $P=415.639044$ Days $T_0=225.492619$ (BKJD)



DV Model-Shift Uniqueness Test

008259835-05, P = 415.639044 Days, E = 225.464503 Days

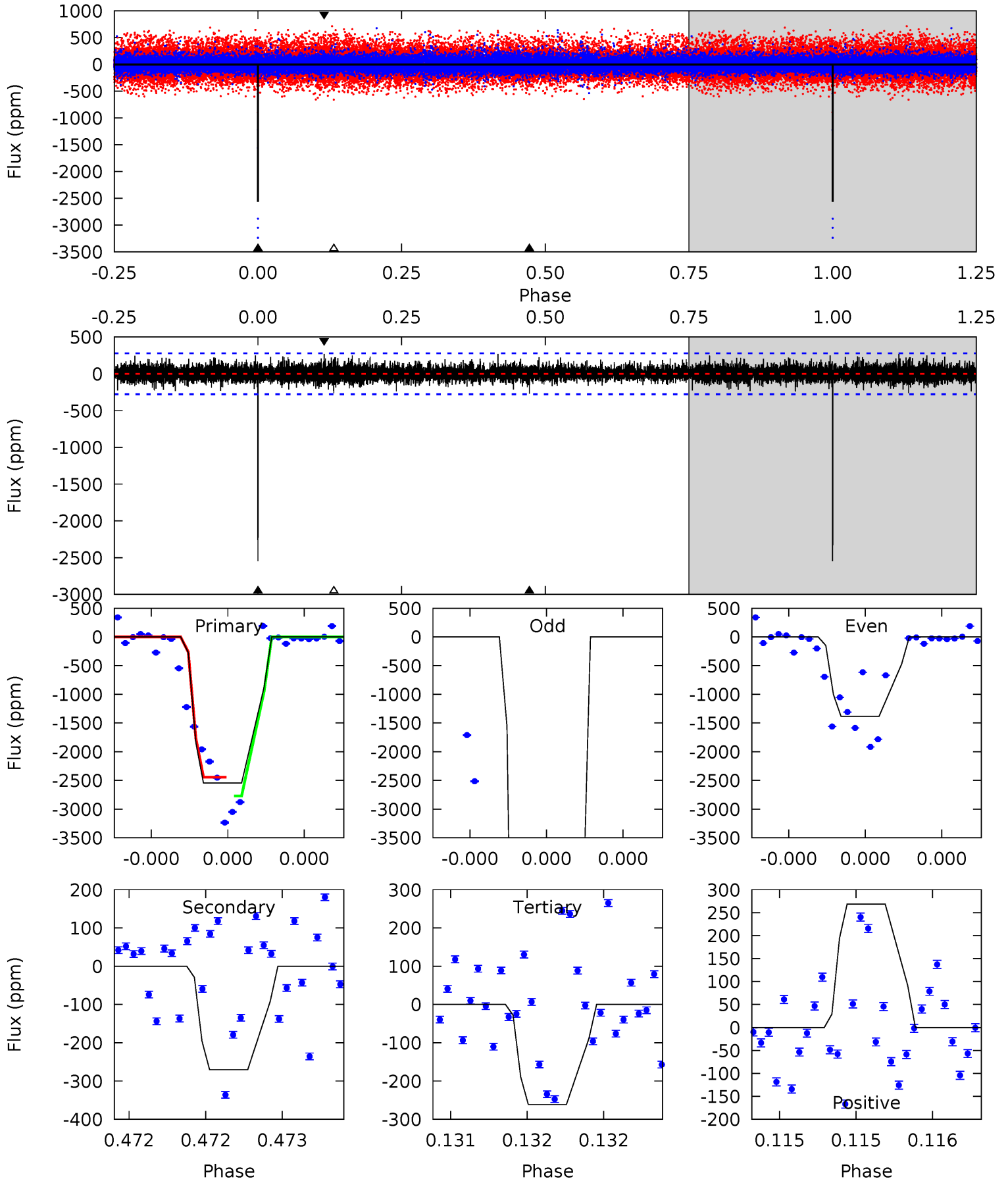
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008259835-05, P = 415.639044 Days, E = 225.492619 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
51.0	5.42	5.24	5.38	5.58	3.48	1.06	45.8	45.7	0.18	0.04	174.1	2.87	0.10	0



Stellar Parameters For KIC 008259835

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4902^{+117}_{-132}	$3.485^{+1.168}_{-0.292}$	$-0.160^{+0.250}_{-0.300}$	$2.832^{+1.485}_{-2.227}$	$0.895^{+0.237}_{-0.237}$	$0.055^{+3.247}_{-0.033}$
	+2%/-3%	+34%/-8%	+156%/-188%	+52%/-79%	+26%/-26%	+5853%/-60%
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 008259835-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$19.41^{+27.50}_{-13.40}$	486^{+72}_{-103}	3243^{+10842}_{-16527}	$626^{+294249}_{-268643}$
Alt.	-270 ± 50	$26.05^{+30.57}_{-18.15}$	484^{+72}_{-112}	2717^{+970}_{-390}	240^{+2513}_{-191}

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

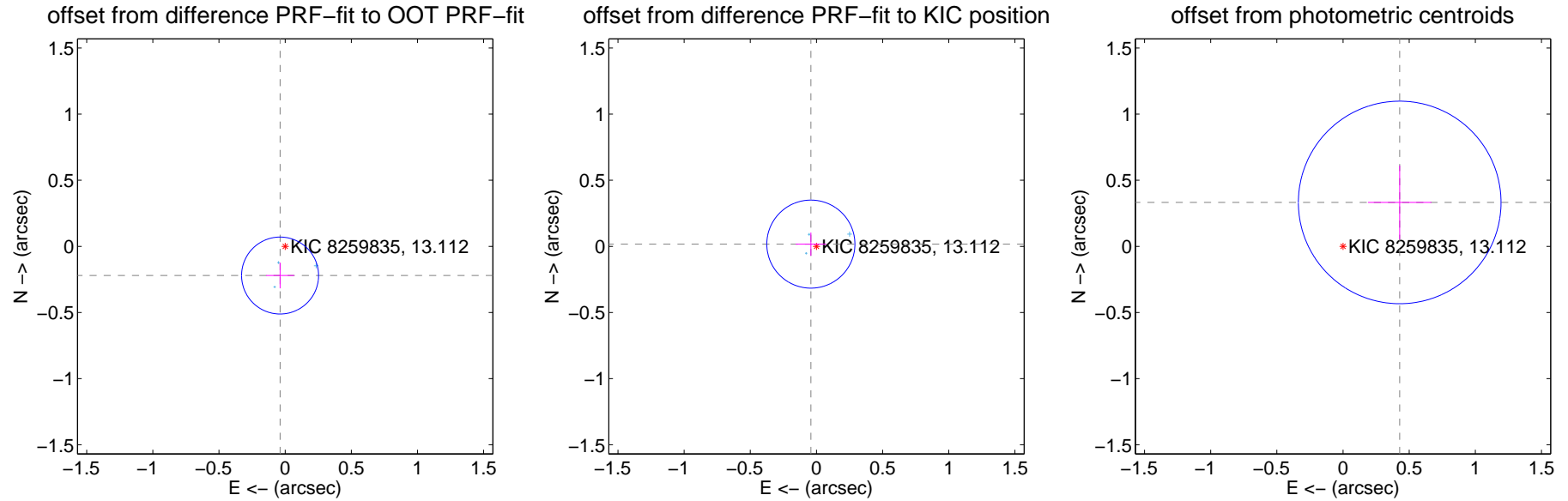
DV Centroid Data

Supplemental centroid analysis for 008259835-05. Kepler magnitude: 13.11. Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

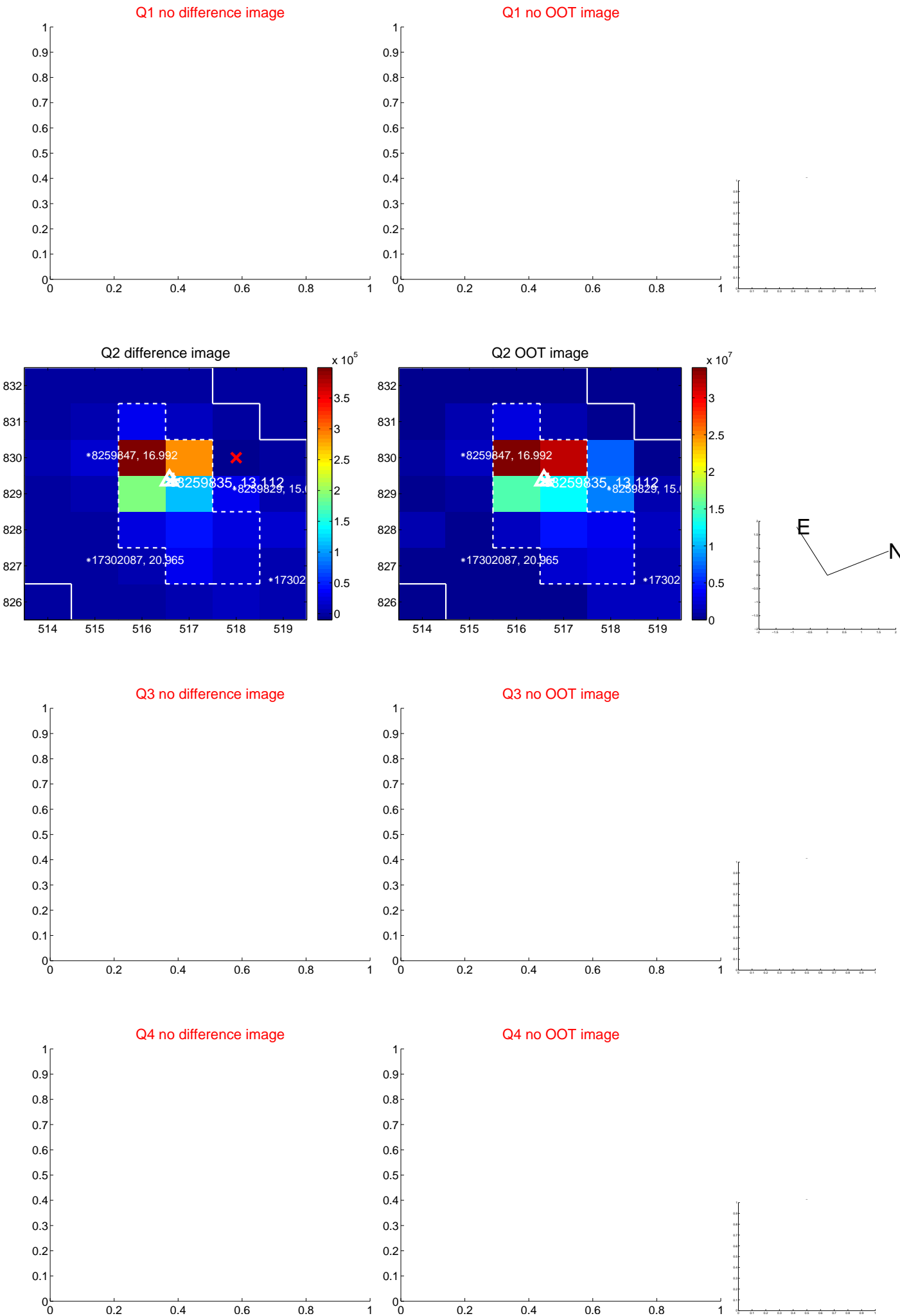
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.224 ± 0.097	2.31	0.038 ± 0.106	-0.221 ± 0.097
PRF-fit source offset from KIC position	0.046 ± 0.111	0.41	0.042 ± 0.114	0.017 ± 0.088
photometric centroid source offset	0.54 ± 0.26	2.12	-0.43 ± 0.24	0.33 ± 0.28



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



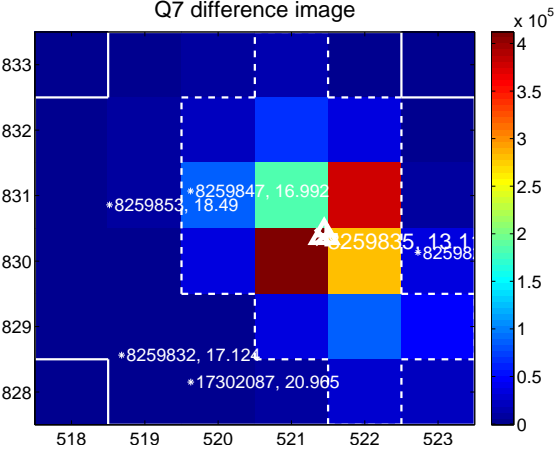
Q6 no difference image



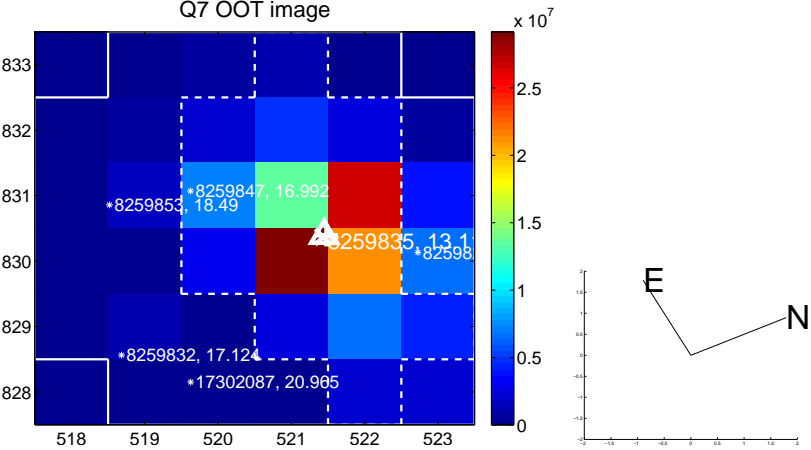
Q6 no OOT image



Q7 difference image



Q7 OOT image



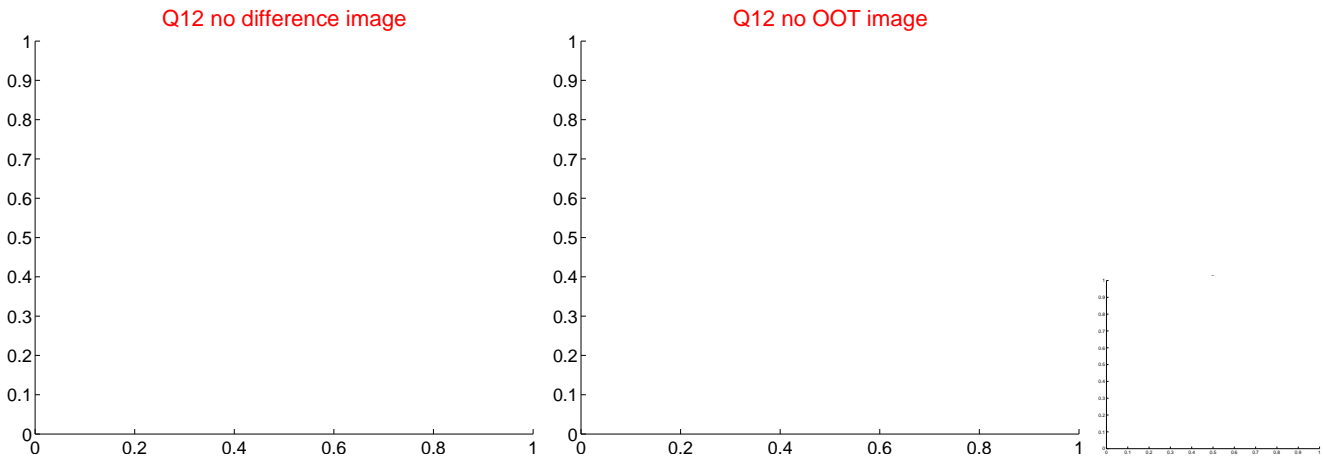
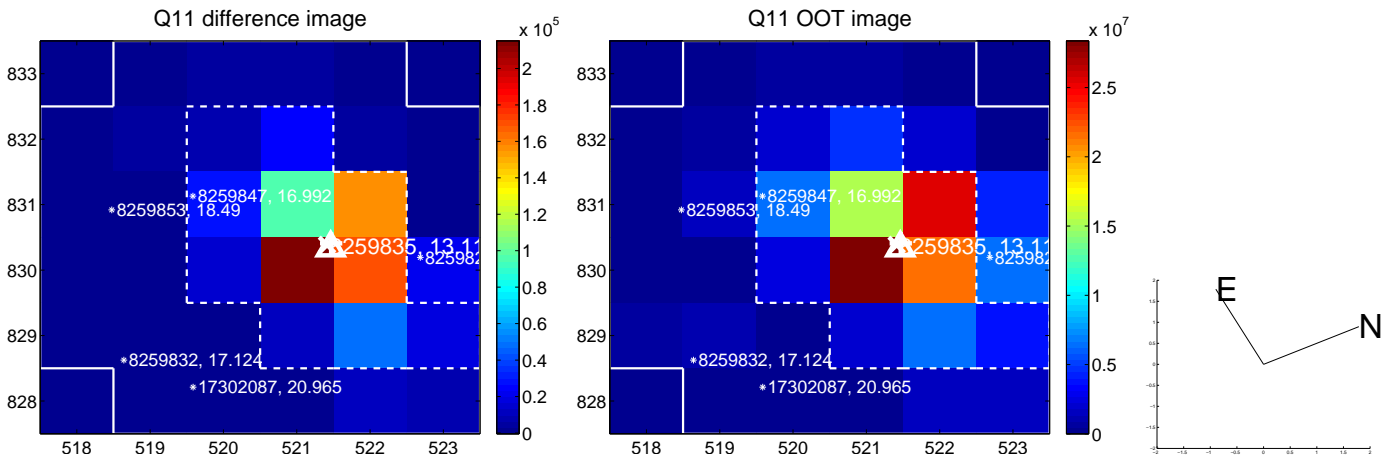
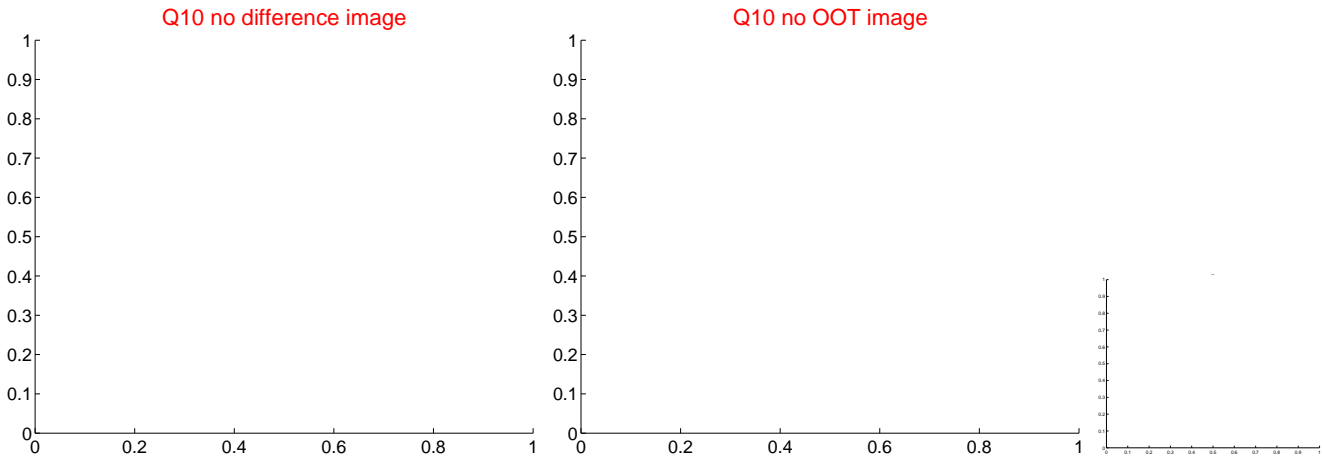
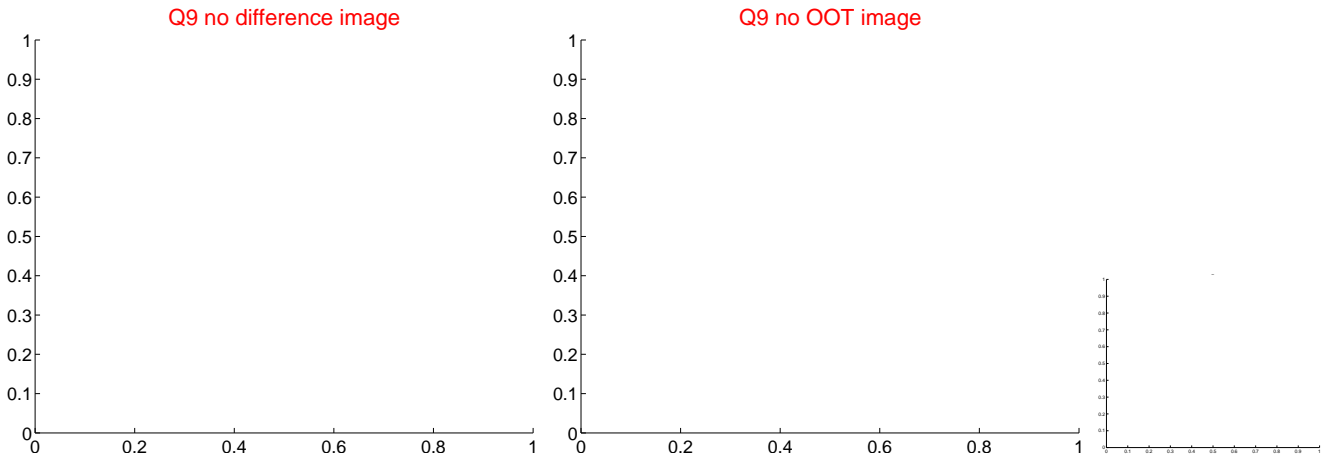
Q8 no difference image



Q8 no OOT image



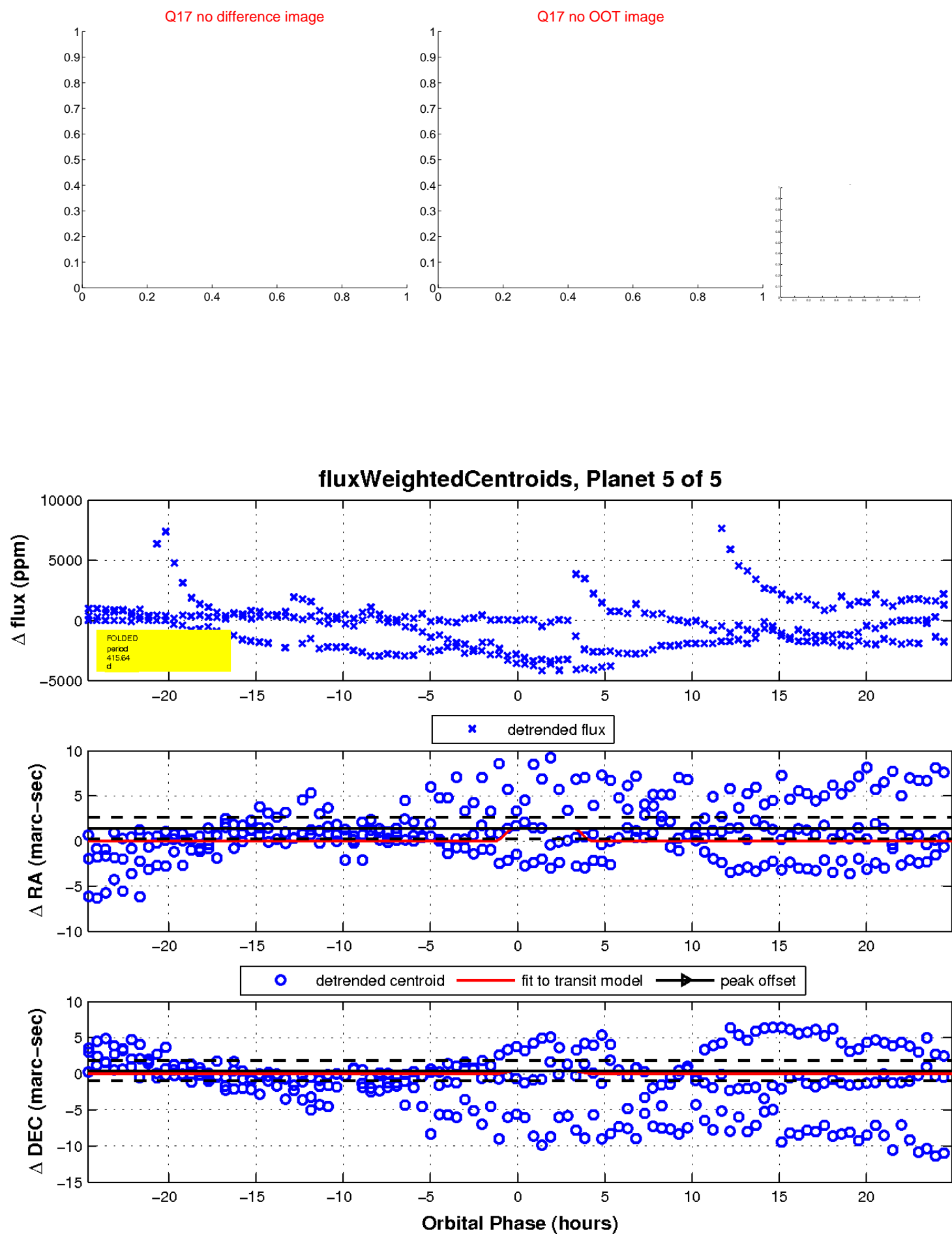
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



white \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

