

KIC 008259829

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})
008259829-01	OBS	No	317.023736	198.705401	2797.5	5.057	14.0	6.4	0.58	3848	6.05	0.12
008259829-02	OBS	No	519.695783	421.170310	3948.0	7.372	17.0	6.6	0.58	3848	4.58	0.06
008259829-03	OBS	No	273.325094	377.035613	2944.4	3.570	13.2	7.3	0.58	3848	3.60	0.14
008259829-04	OBS	No	449.688304	439.994392	4821.5	4.494	12.7	8.9	0.58	3848	3.92	0.07
008259829-05	OBS	No	445.959203	212.260391	3236.8	3.919	12.2	7.2	0.58	3848	3.53	0.07
008259829-06	OBS	No	518.310872	527.193261	2394.7	3.500	12.9	-1.0	0.58	3848	2.77	0.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008259829-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
008259829-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008259829-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_KIC_POS
008259829-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS
008259829-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008259829-06	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.

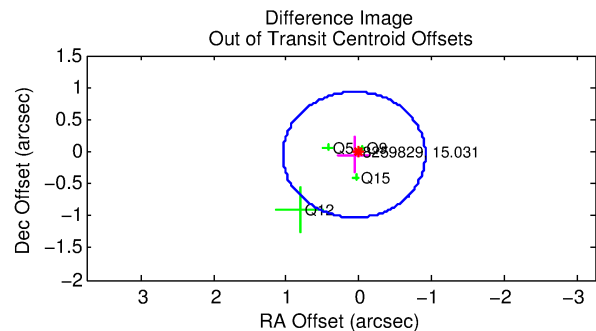
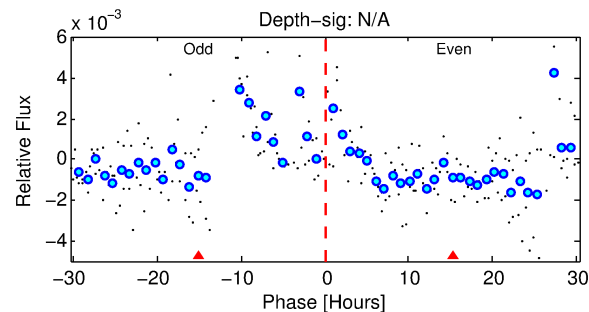
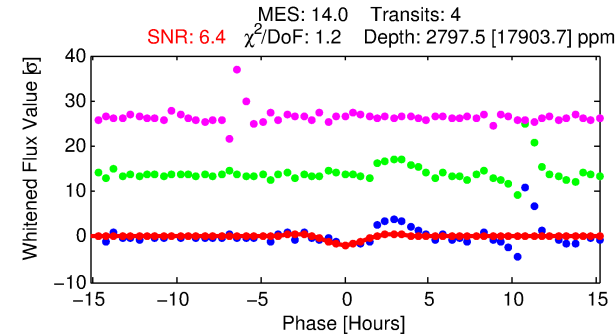
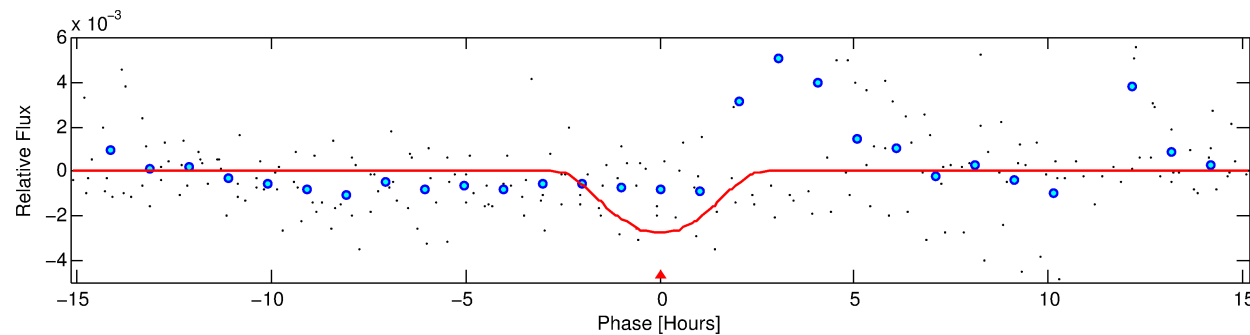
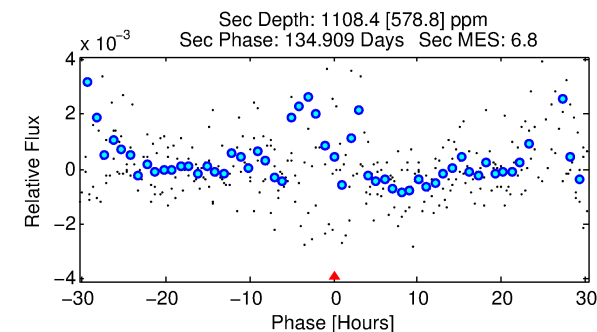
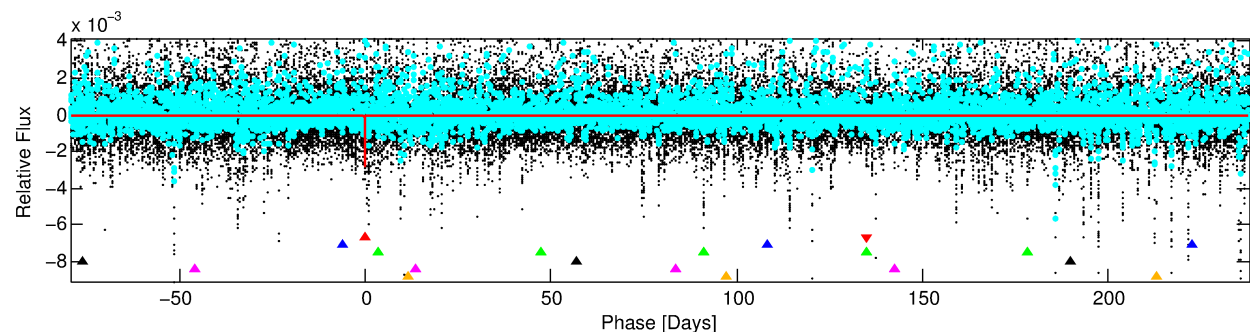
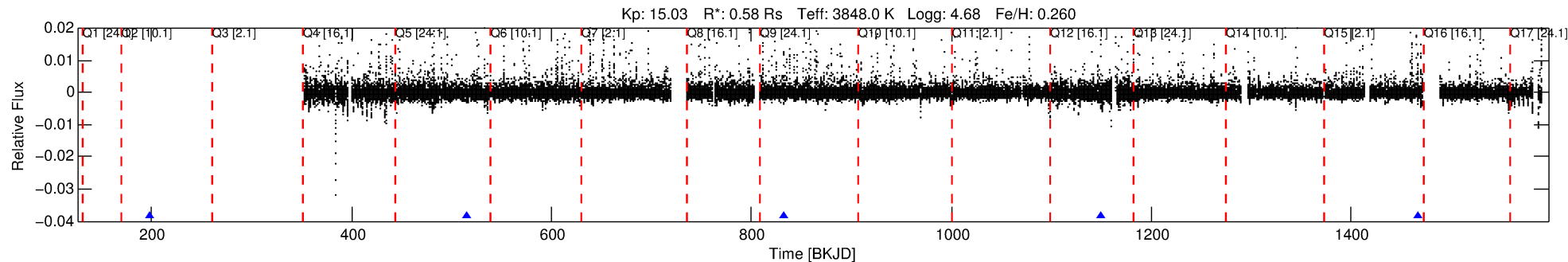
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008259829-01

No Significant Match Found

DV One-Page Summary

KIC: 8259829 Candidate: 1 of 6 Period: 317.024 d



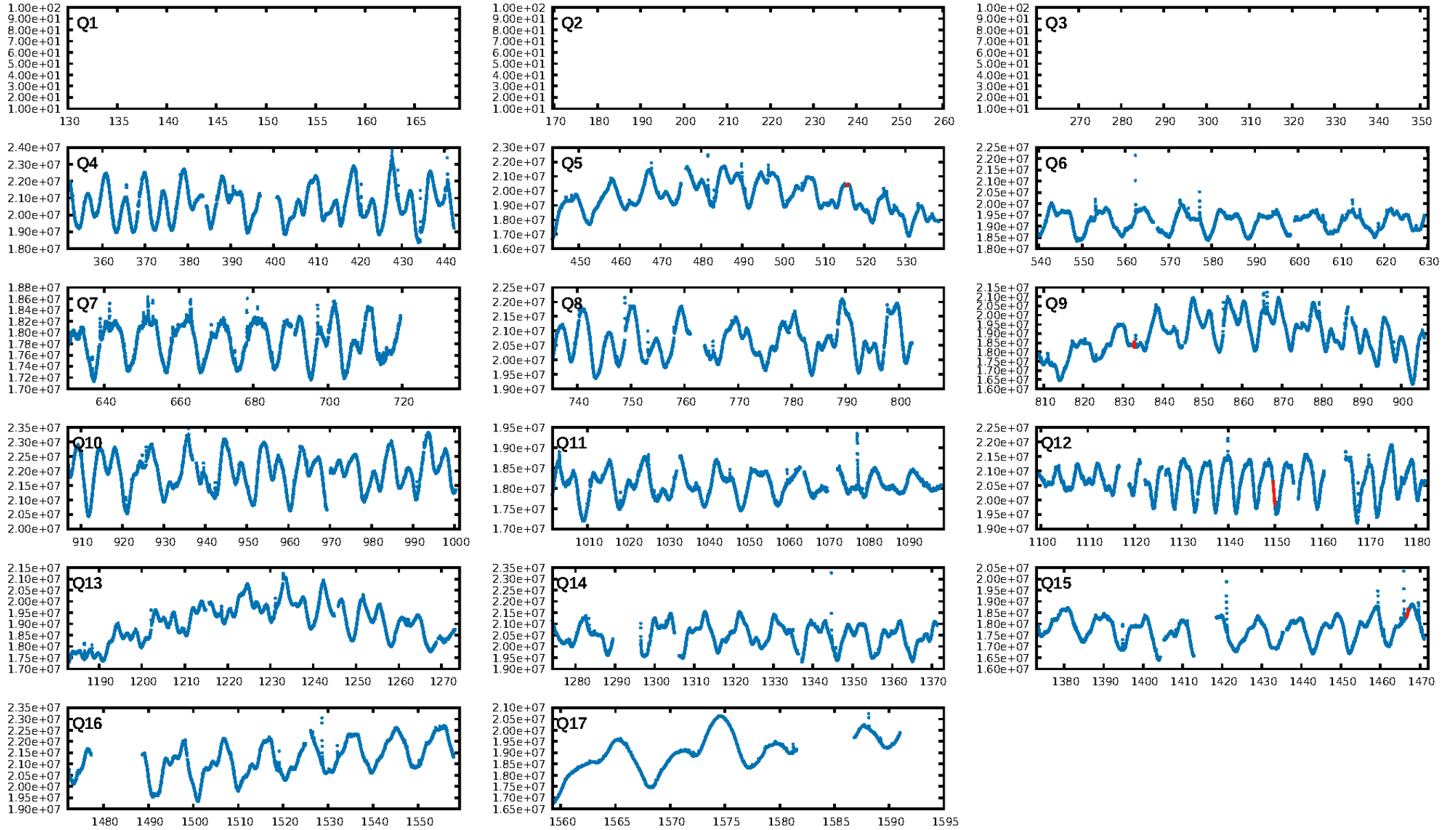
DV Fit Results:

Period = 317.02374 [0.00892] d
Epoch = 198.7054 [0.0269] BKJD
Rp/R* = 0.0950 [0.7342]
a/R* = 213.71 [319.49]
b = 1.00 [0.64]
Seff = 0.11 [0.02]
Teq = 148 [7] K
Rp = 6.05 [46.72] Re
a = 0.7624 [0.0743] AU
Ag = 9697.57 [149939.09] [0.06σ]
Teffp = 2278 [8804] K [0.24σ]

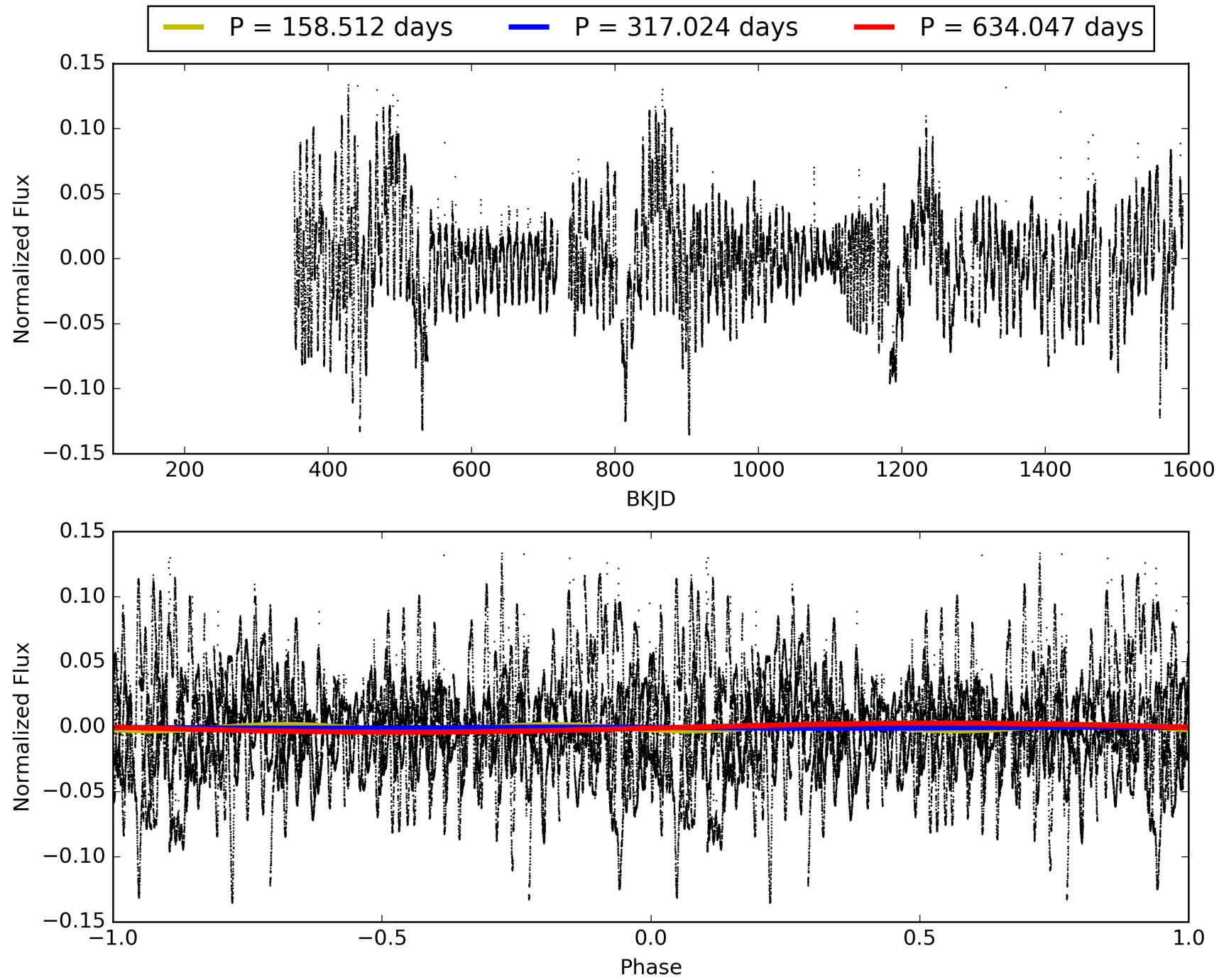
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [169.44σ]
LongPeriod-sig: 100.0% [483.72σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 93.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 8.294
Centroid-sig: 24.0%
Centroid-so: 1.874 arcsec [2.38σ]
OotOffset-rm: 0.082 arcsec [0.25σ]
OotOffset-st: 0/1/1/2 [4]
KicOffset-rm: 5.139 arcsec [26.94σ]
KicOffset-st: 0/1/1/2 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [4/4]

TCE 008259829-01, PDC Light Curves

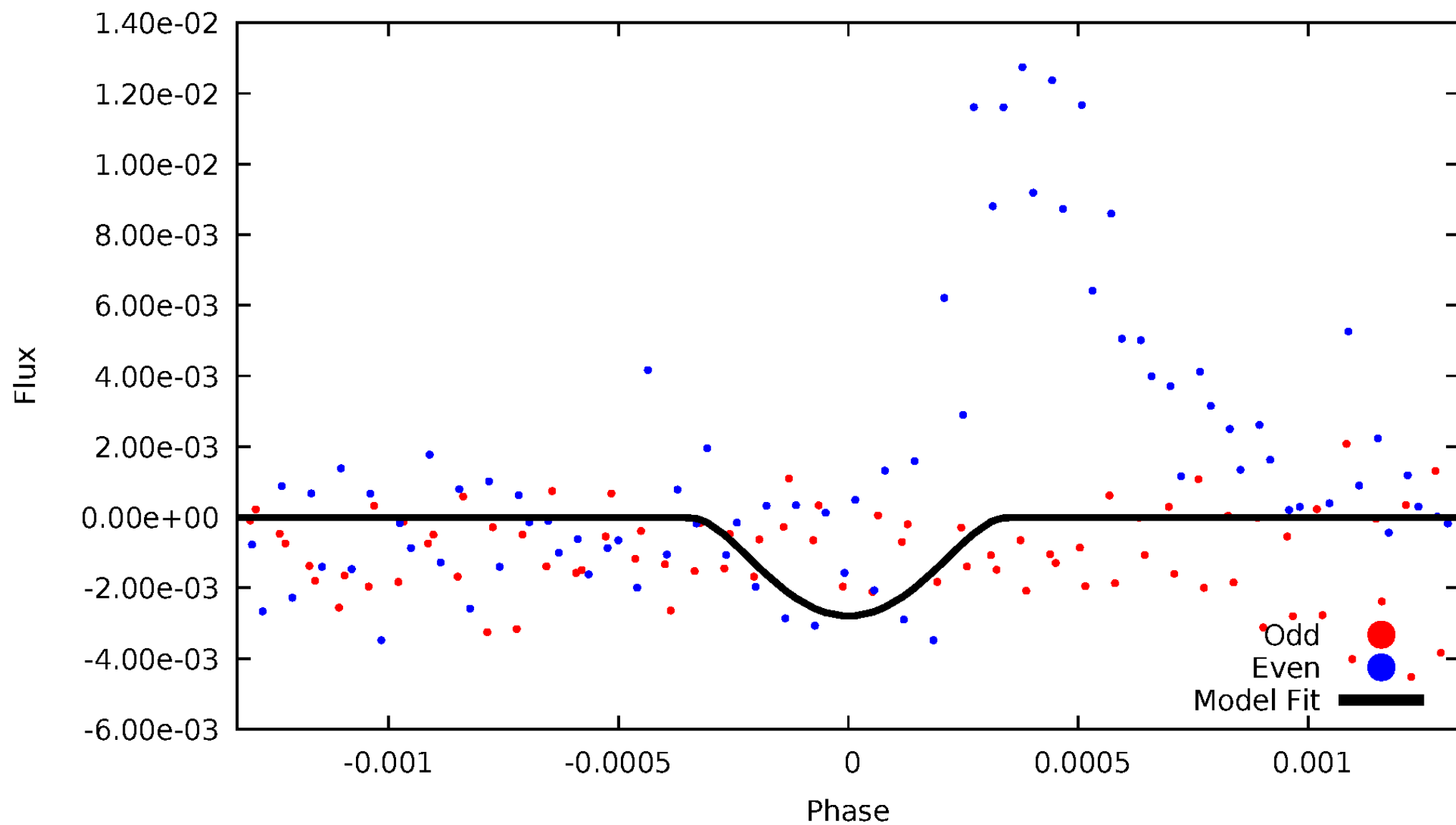


TCE 008259829-01



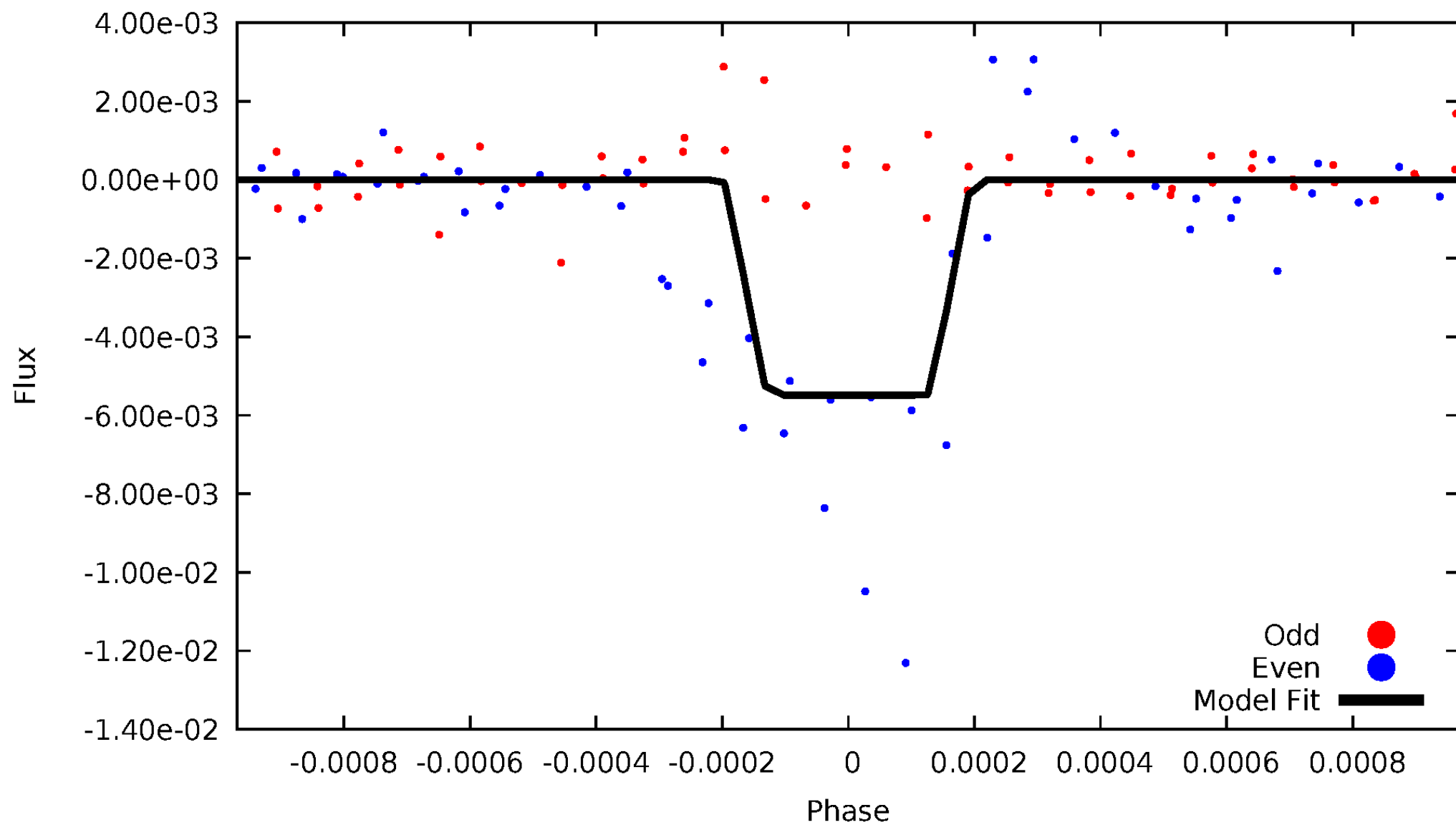
DV Odd/Even

TCE 008259829-01



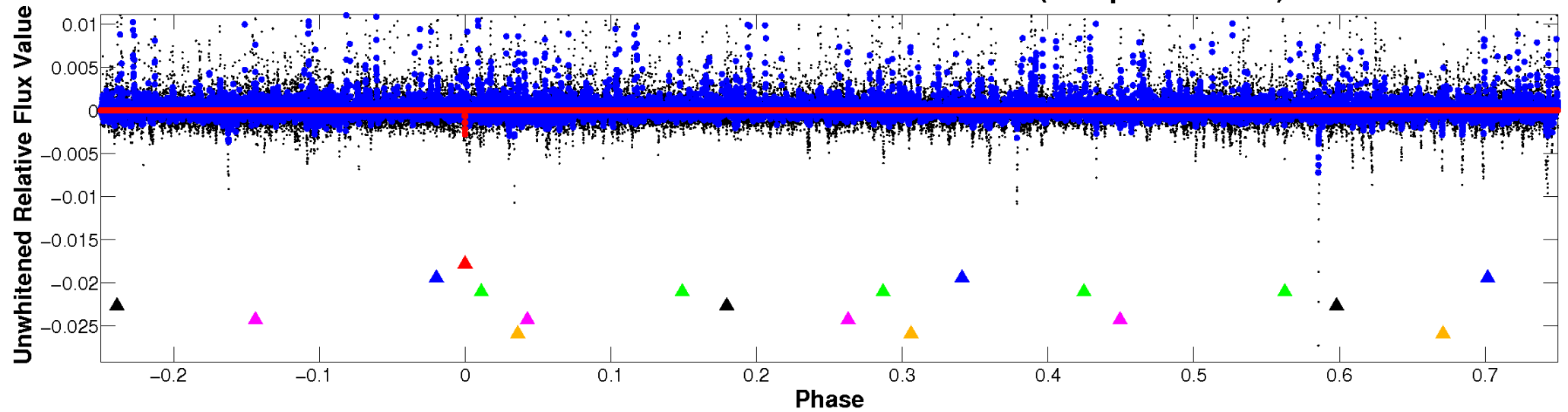
ALT Odd/Even

TCE 008259829-01

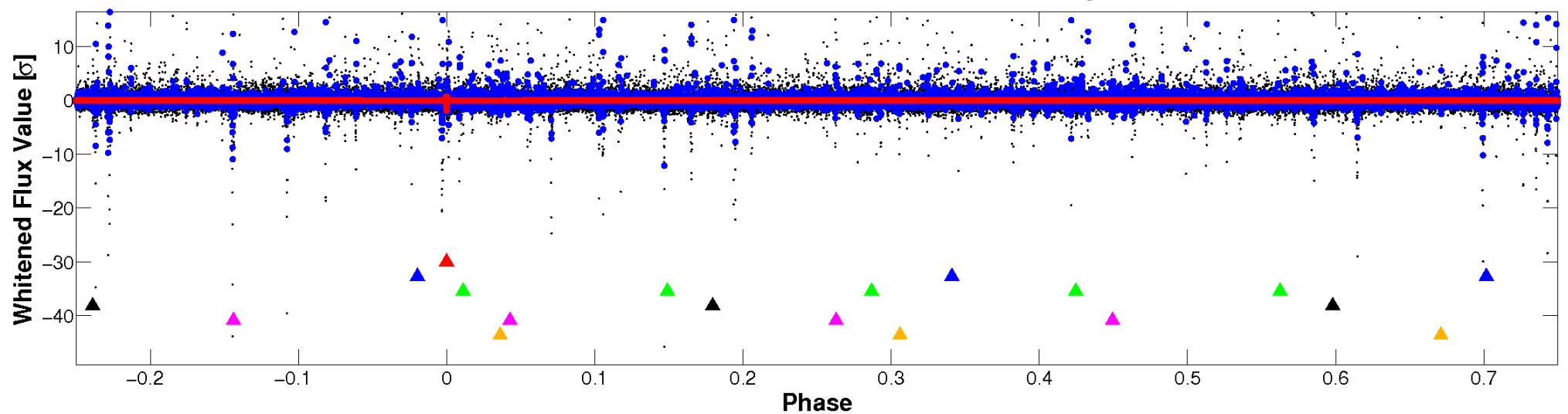


Non-Whitened Vs. Whitened Light Curve

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

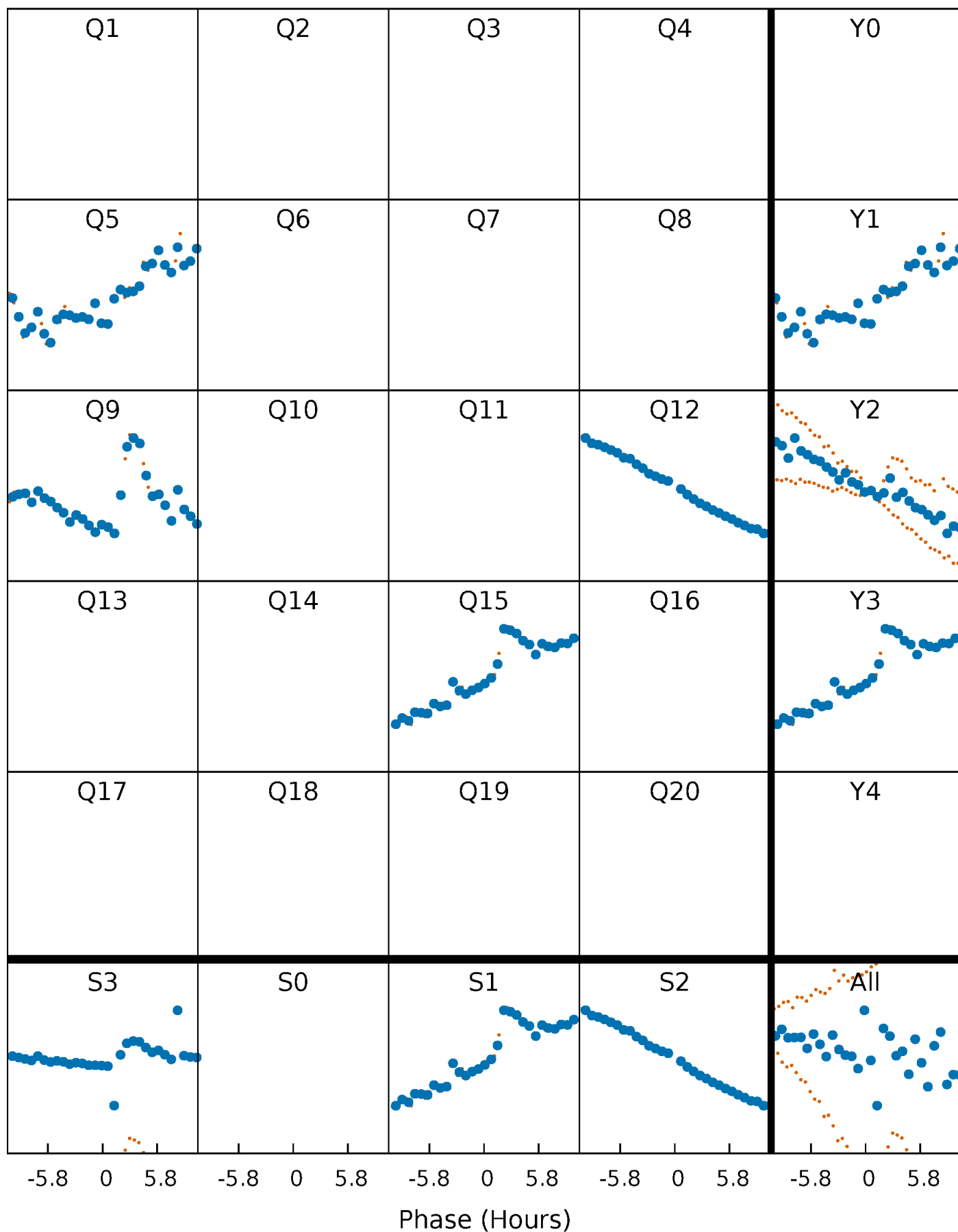


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



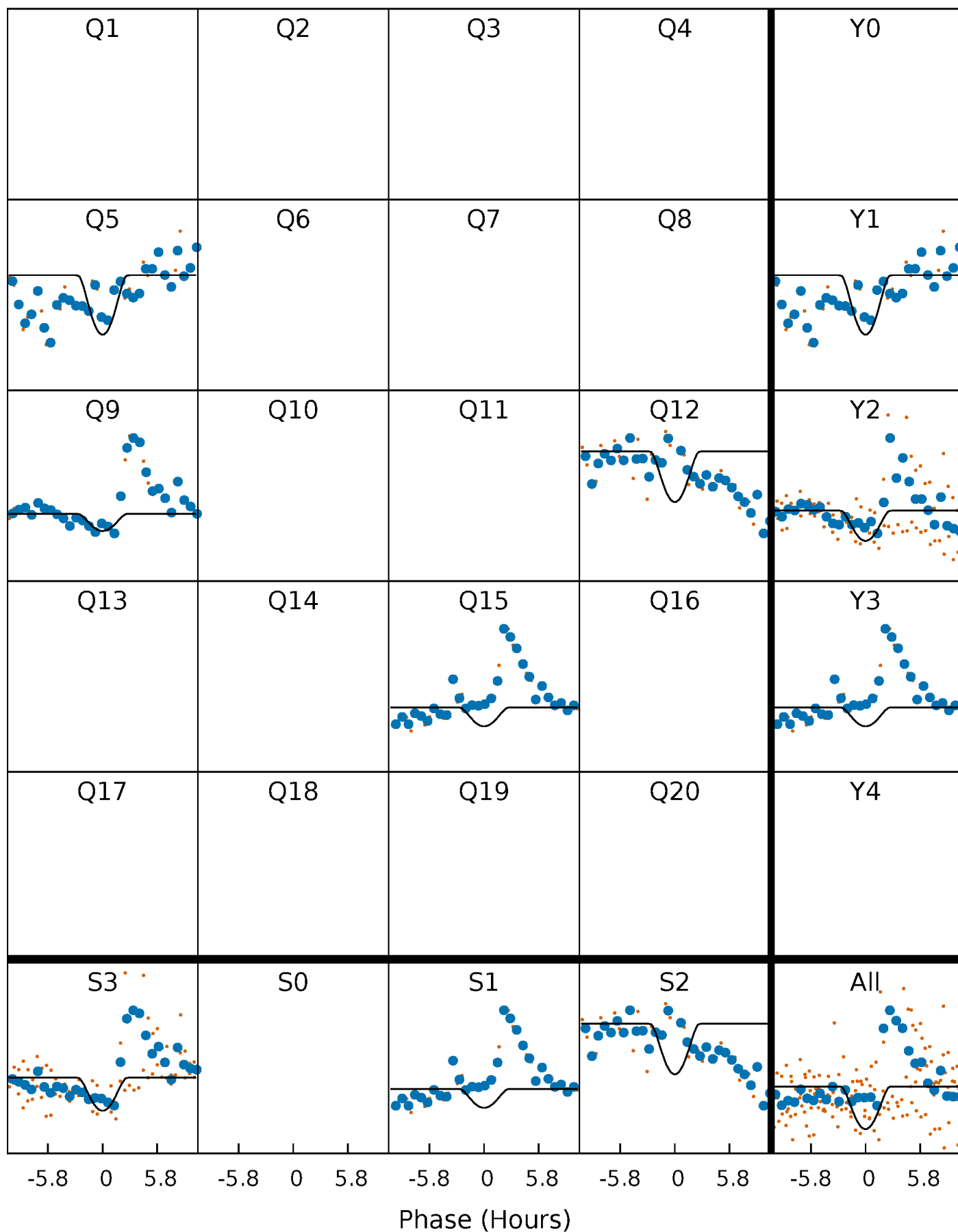
PDC Quarter-Phased Transit Curves

TCE 008259829-01 P=317.023736 Days $T_0=198.705401$ (BKJD)



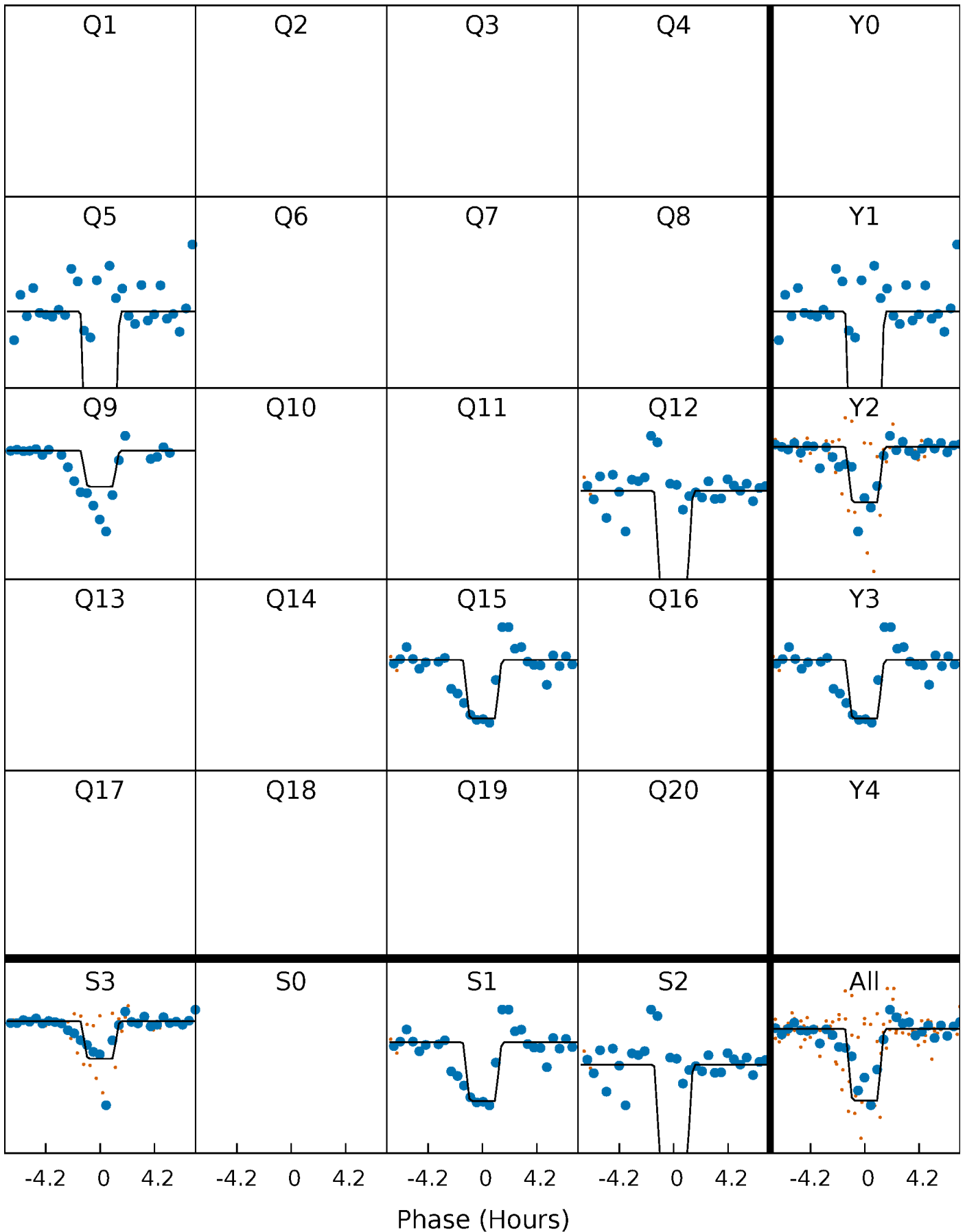
DV Quarter-Phased Transit Curves

TCE 008259829-01 P=317.023736 Days $T_0=198.705401$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

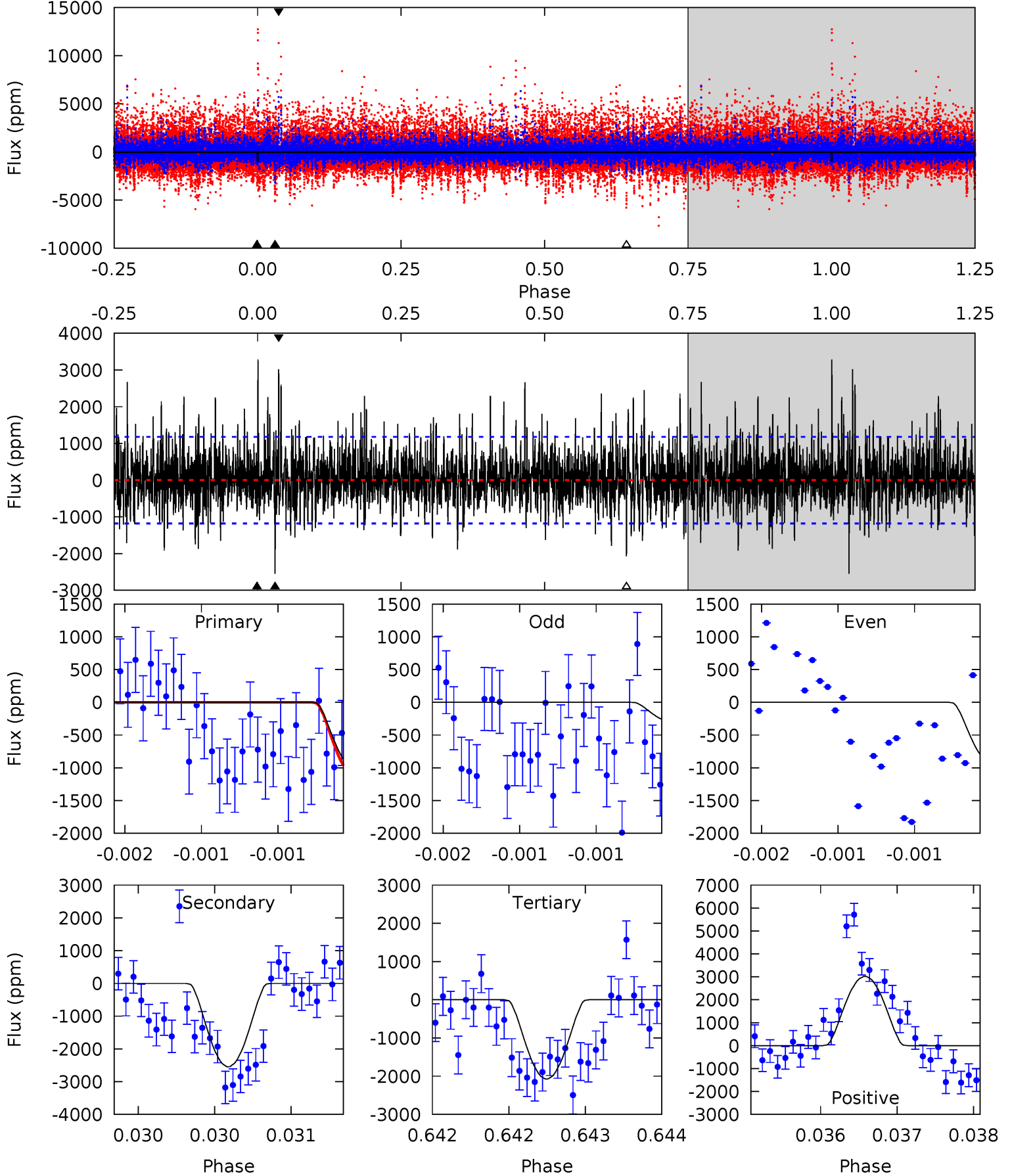
TCE 008259829-01 P=317.015735 Days $T_0=198.751228$ (BKJD)



DV Model-Shift Uniqueness Test

008259829-01, P = 317.023736 Days, E = 198.705401 Days

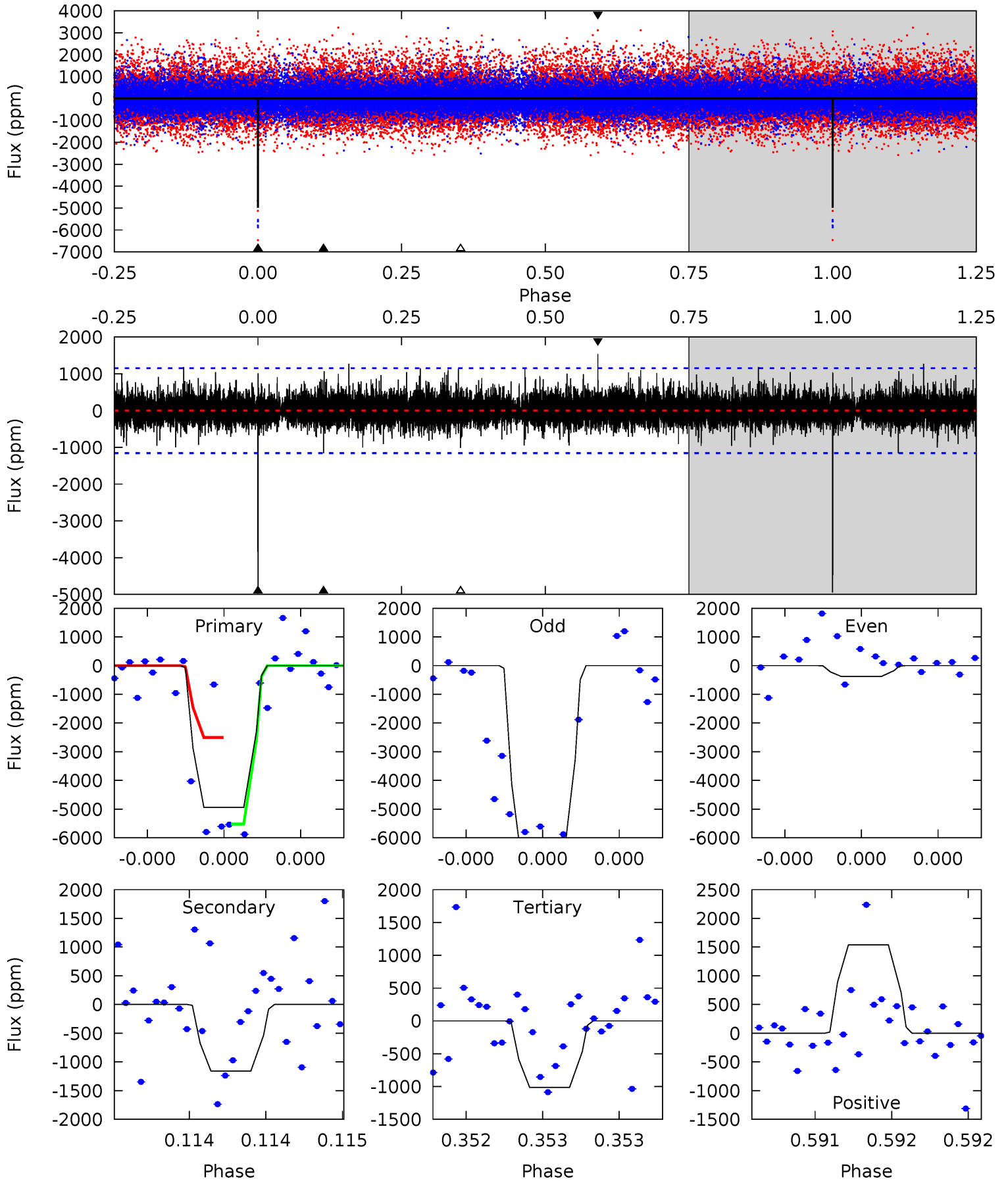
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.66	11.9	9.71	14.1	5.52	3.40	2.70	-5.04	-9.47	2.21	-2.22	1.12	0.79	0.56	0.59



Alt Model-Shift Uniqueness Test

008259829-01, P = 317.015735 Days, E = 198.751228 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.0	5.64	4.93	7.48	5.62	3.55	1.17	19.1	16.6	0.71	-1.84	23.3	1.36	0.24	7.44



Stellar Parameters For KIC 008259829

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3848^{+120}_{-147}	$4.676^{+0.063}_{-0.023}$	$0.260^{+0.200}_{-0.300}$	$0.583^{+0.037}_{-0.074}$	$0.588^{+0.045}_{-0.067}$	$4.181^{+1.321}_{-0.464}$
	+3%/-4%	+1%/-0%	+77%/-115%	+6%/-13%	+8%/-11%	+32%/-11%
Source	KIC0	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 008259829-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2547 ± 214	$32.60^{+36.33}_{-23.36}$	205^{+8}_{-8}	2067^{+697}_{-287}	805^{+8855}_{-635}
Alt.	-1159 ± 206	$32.63^{+36.07}_{-22.86}$	205^{+8}_{-9}	1913^{+565}_{-251}	357^{+3777}_{-281}

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

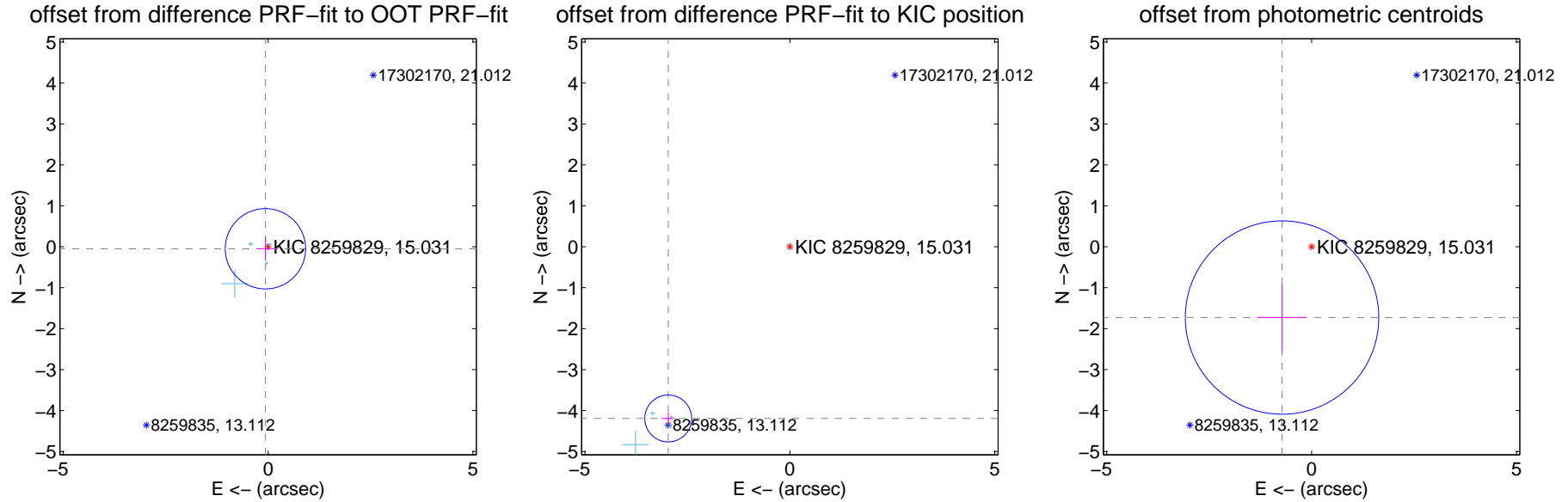
DV Centroid Data

Supplemental centroid analysis for 008259829-01. Kepler magnitude: 15.03. Transit SNR 6.45

There are 4 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 4.92 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.082 ± 0.327	0.25	0.067 ± 0.220	-0.049 ± 0.284
PRF-fit source offset from KIC position	5.139 ± 0.191	26.94	2.970 ± 0.167	-4.194 ± 0.145
photometric centroid source offset	1.87 ± 0.79	2.38	0.72 ± 0.59	-1.73 ± 0.82

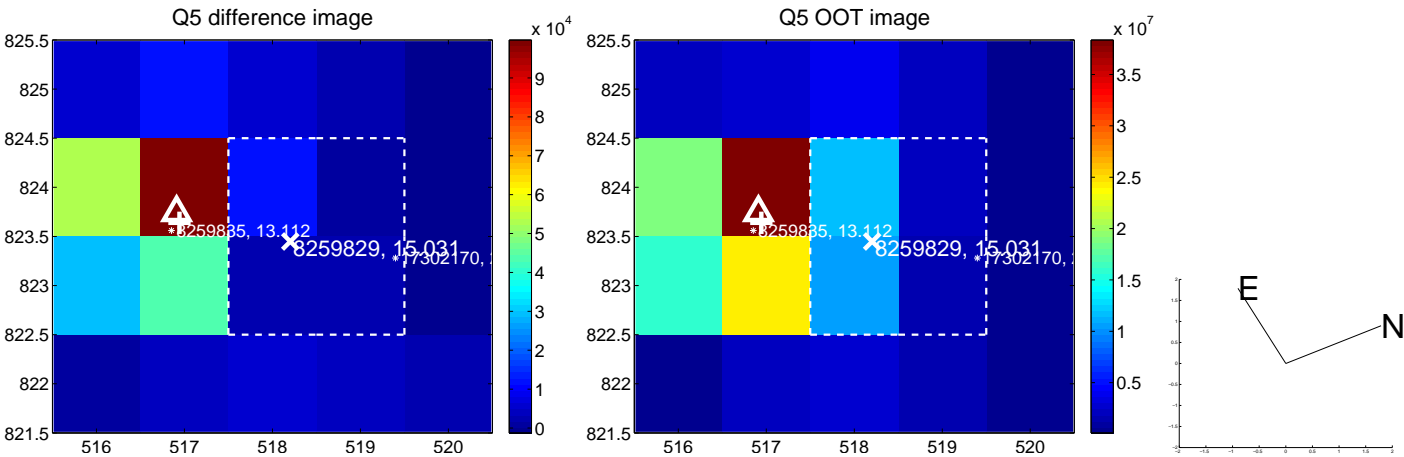


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

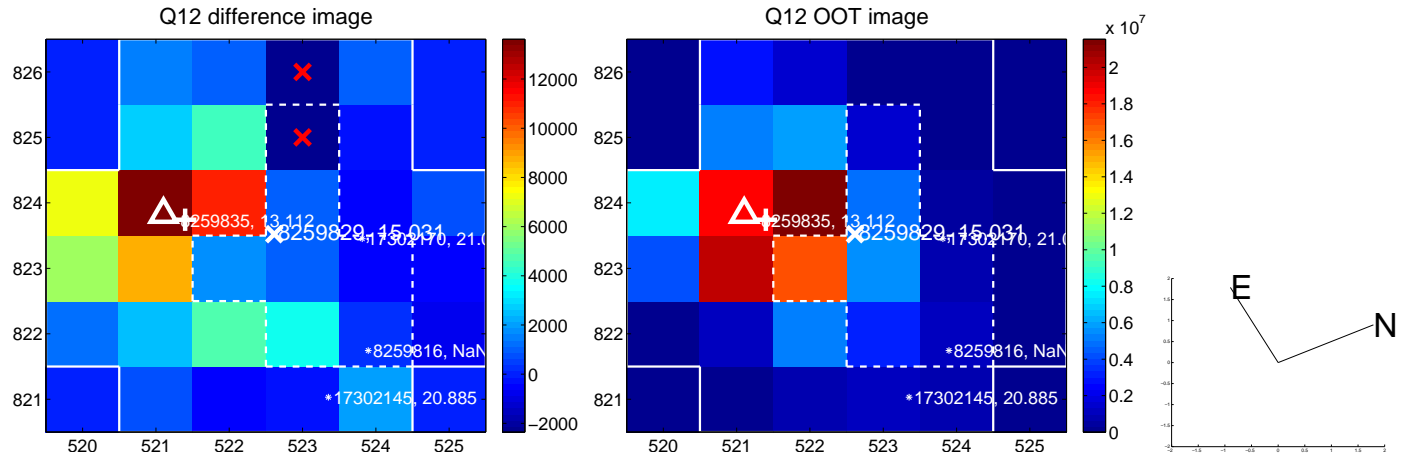
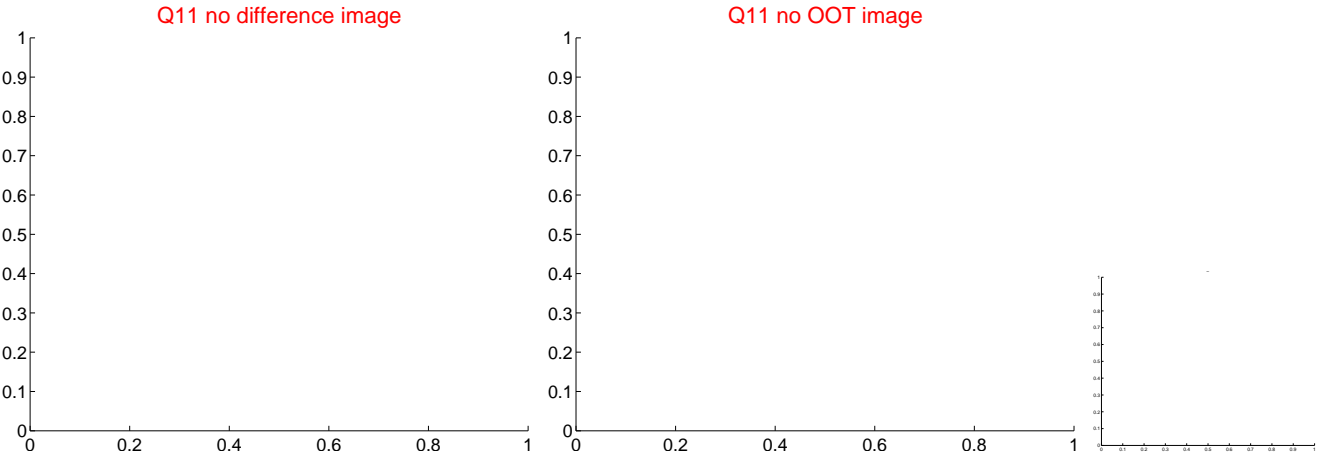
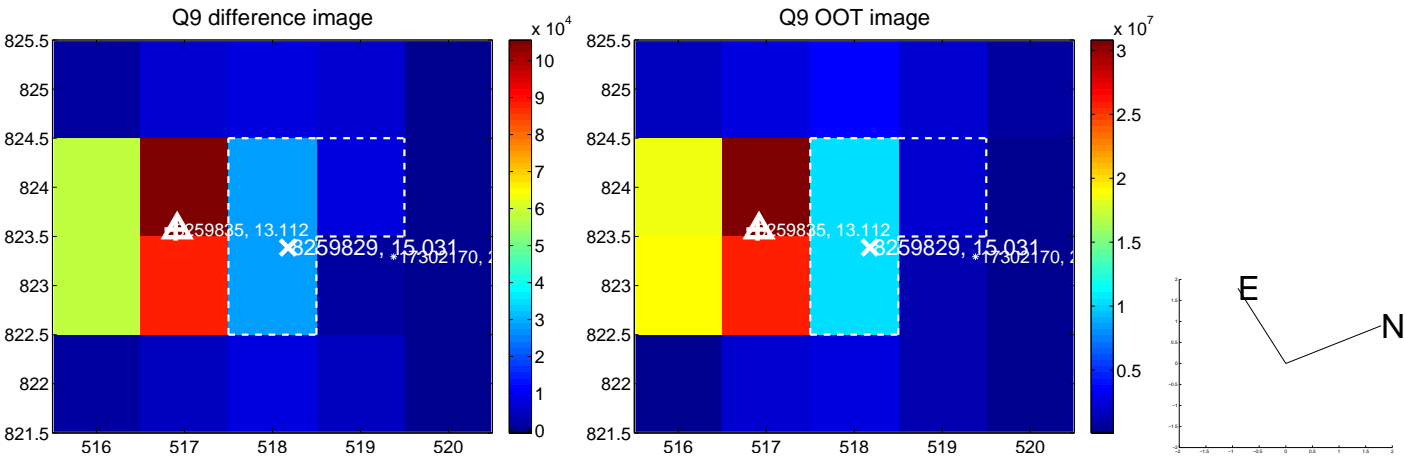
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

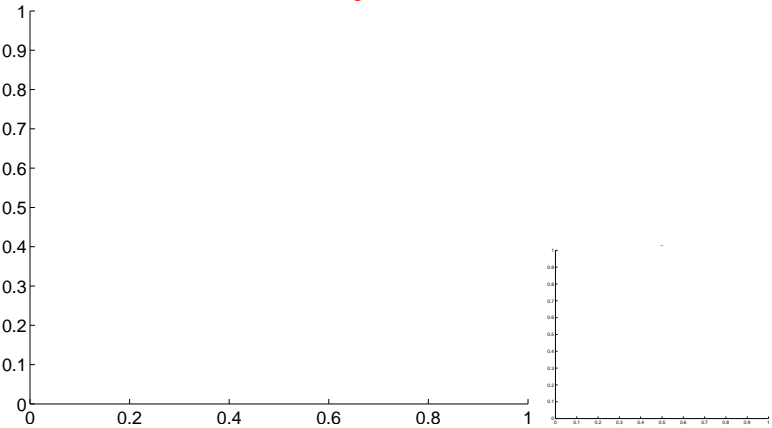


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

Q13 no difference image



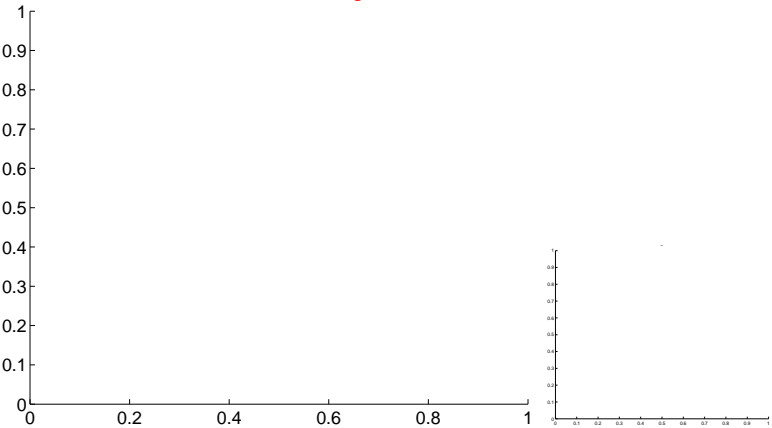
Q13 no OOT image



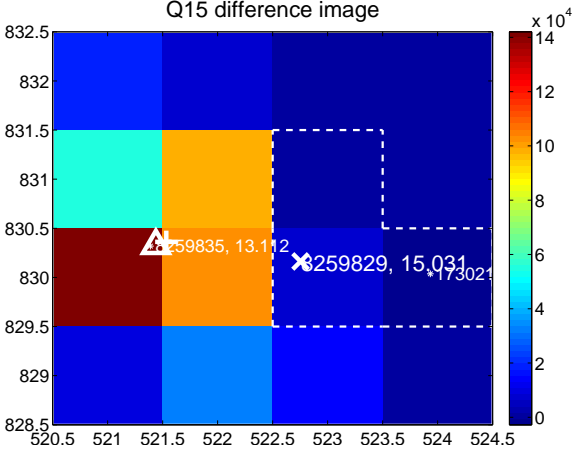
Q14 no difference image



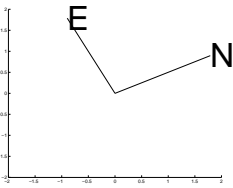
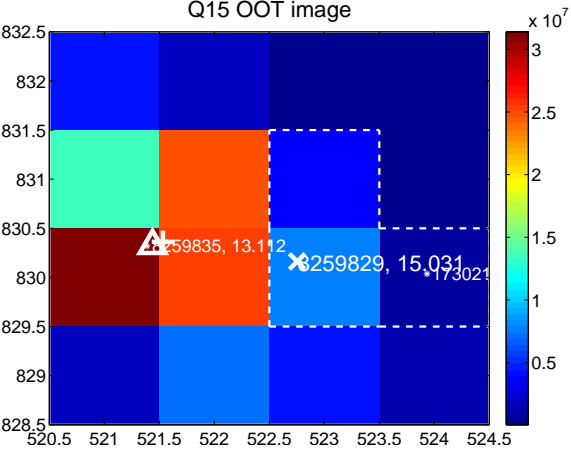
Q14 no OOT image



Q15 difference image



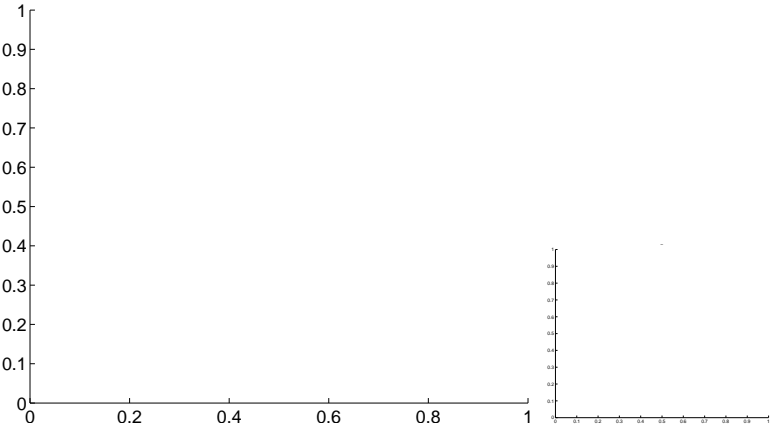
Q15 OOT image



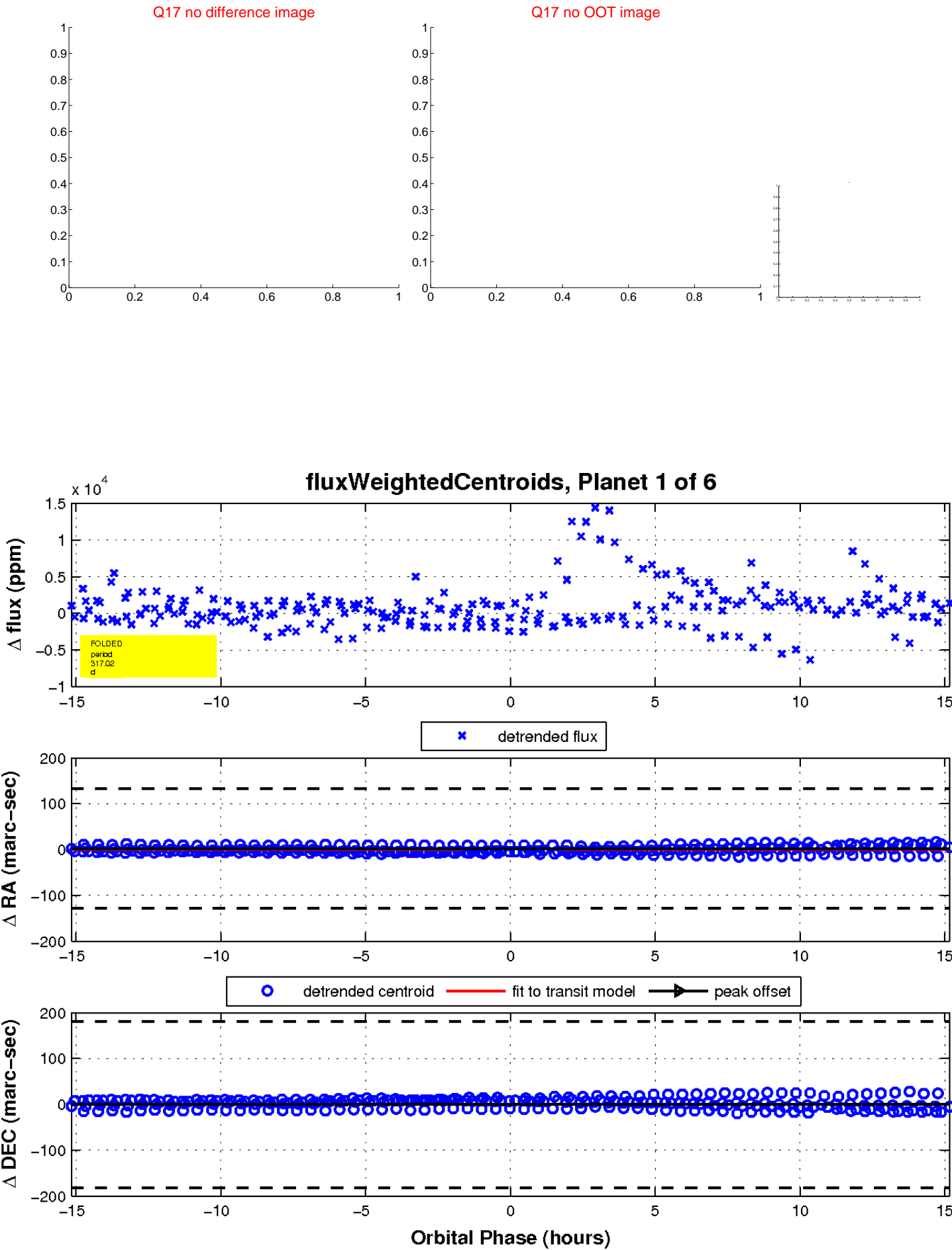
Q16 no difference image



Q16 no OOT image

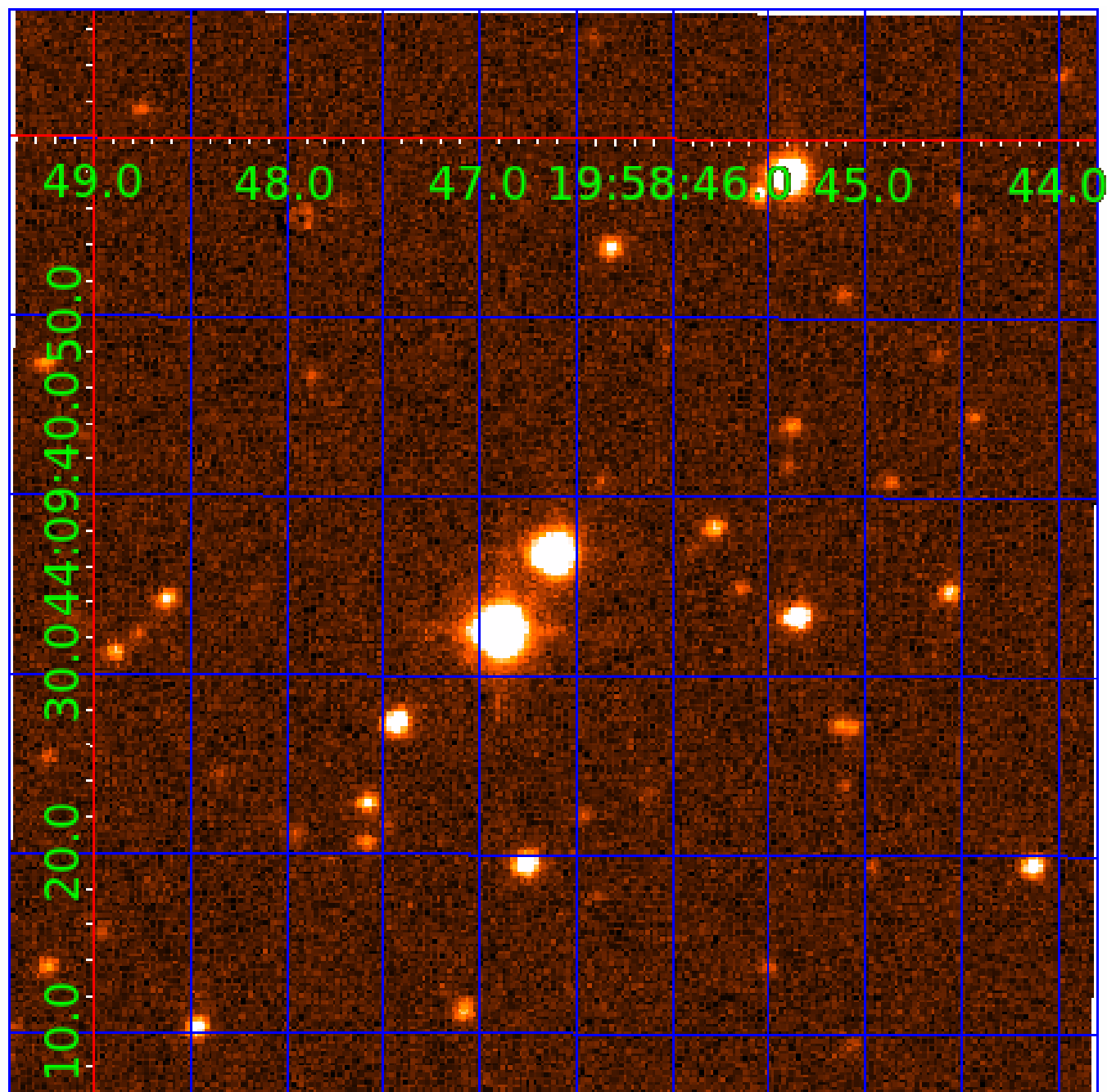


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008259829

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})
008259829-01	OBS	No	317.023736	198.705401	2797.5	5.057	14.0	6.4	0.58	3848	6.05	0.12
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008259829-06	OBS	No	518.310872	527.193261	2394.7	3.500	12.9	-1.0	0.58	3848	2.77	0.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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008259829-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008259829-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_KIC_POS
008259829-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS
008259829-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008259829-06	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.

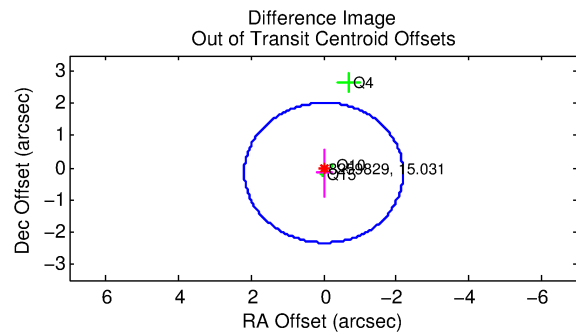
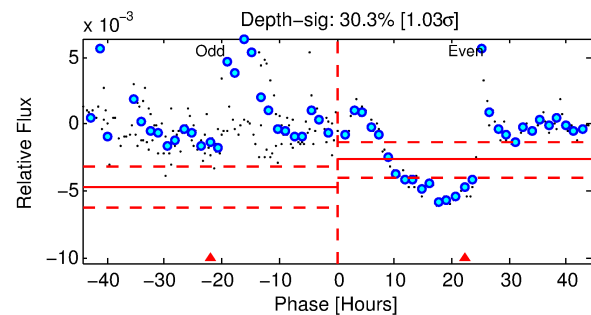
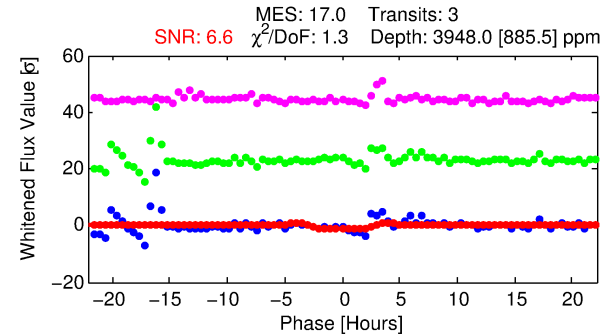
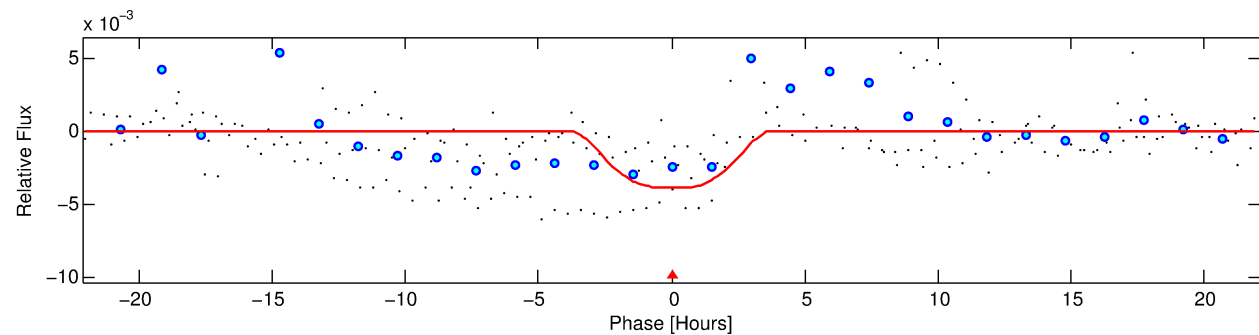
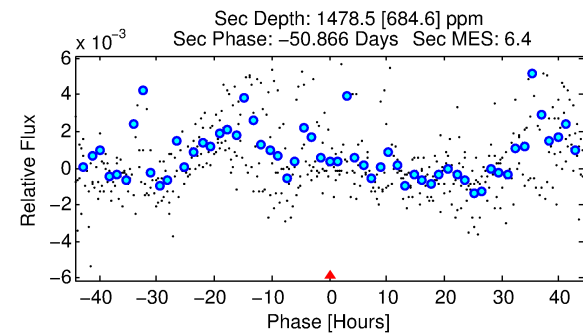
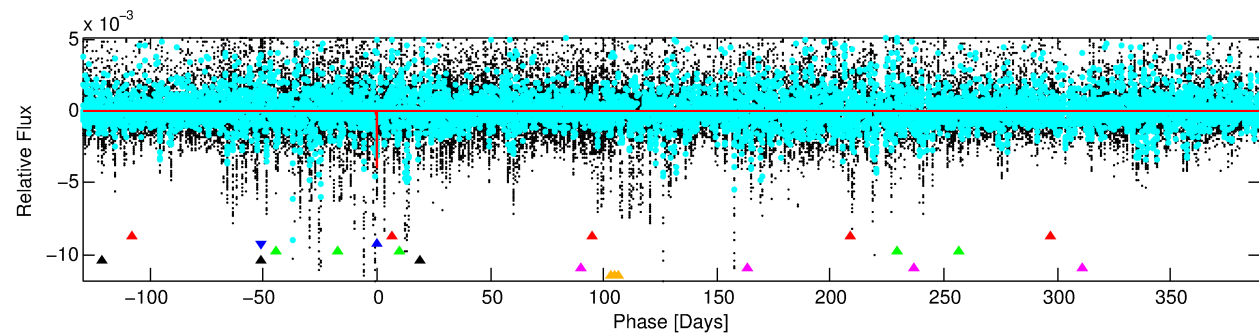
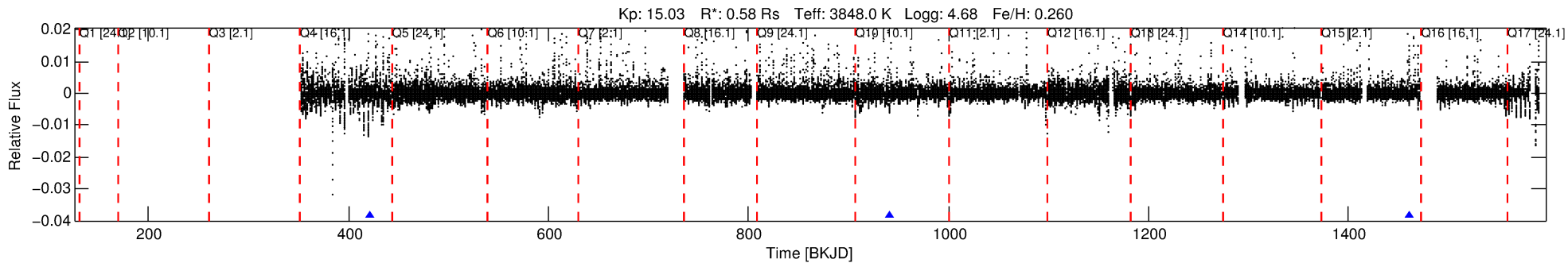
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008259829-02

No Significant Match Found

DV One-Page Summary

KIC: 8259829 Candidate: 2 of 6 Period: 519.696 d



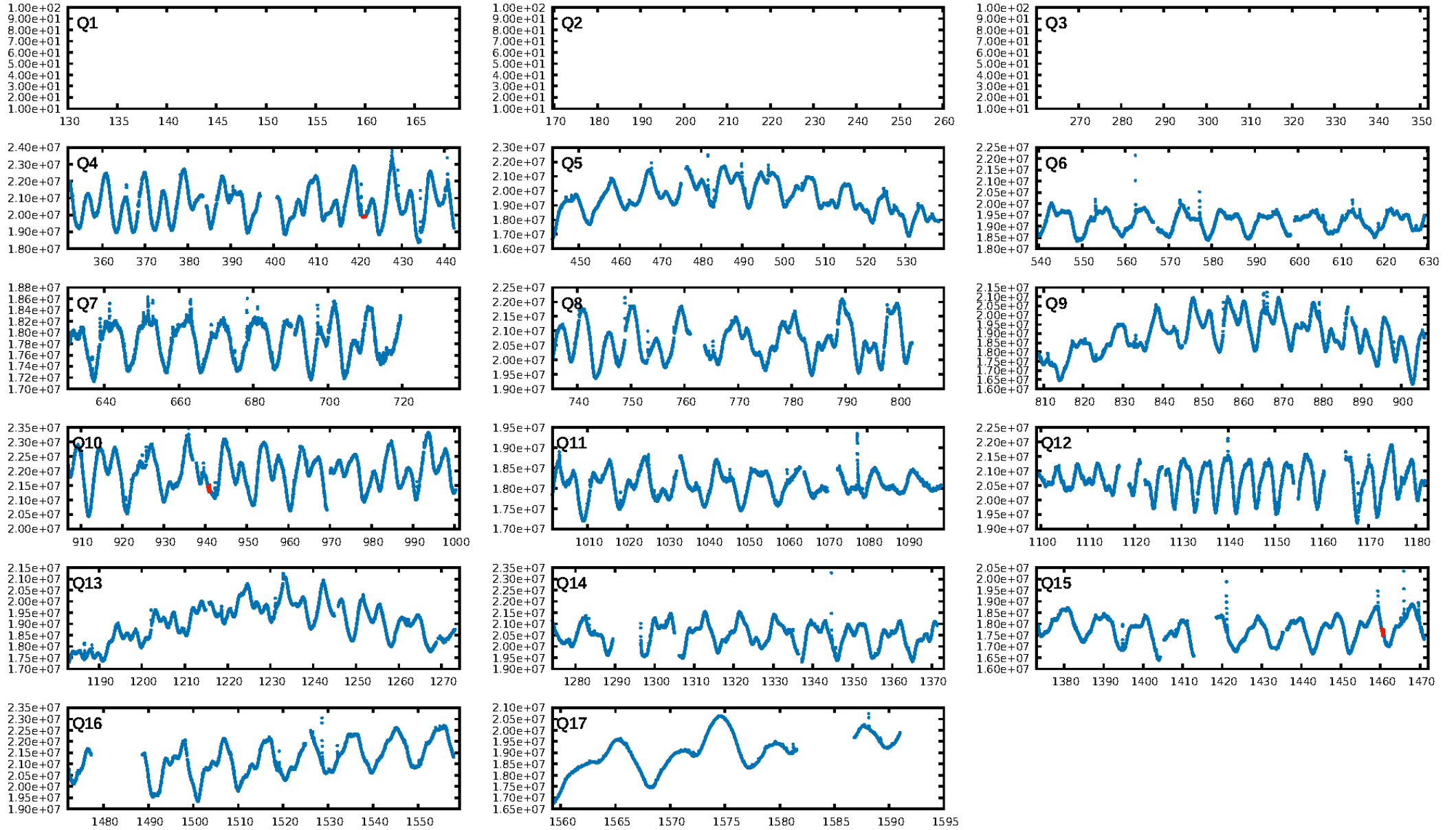
DV Fit Results:

Period = 519.69578 [0.01451] d
Epoch = 421.1703 [0.0212] BKJD
Rp/R* = 0.0719 [0.0101]
a/R* = 300.37 [50.25]
b = 0.92 [0.04]
Seff = 0.06 [0.01]
Teq = 126 [6] K
Rp = 4.58 [0.87] Re
a = 1.0600 [0.1033] AU
Ag = 43620.79 [24271.61] [1.80σ]
Teffp = 2813 [396] K [6.79σ]

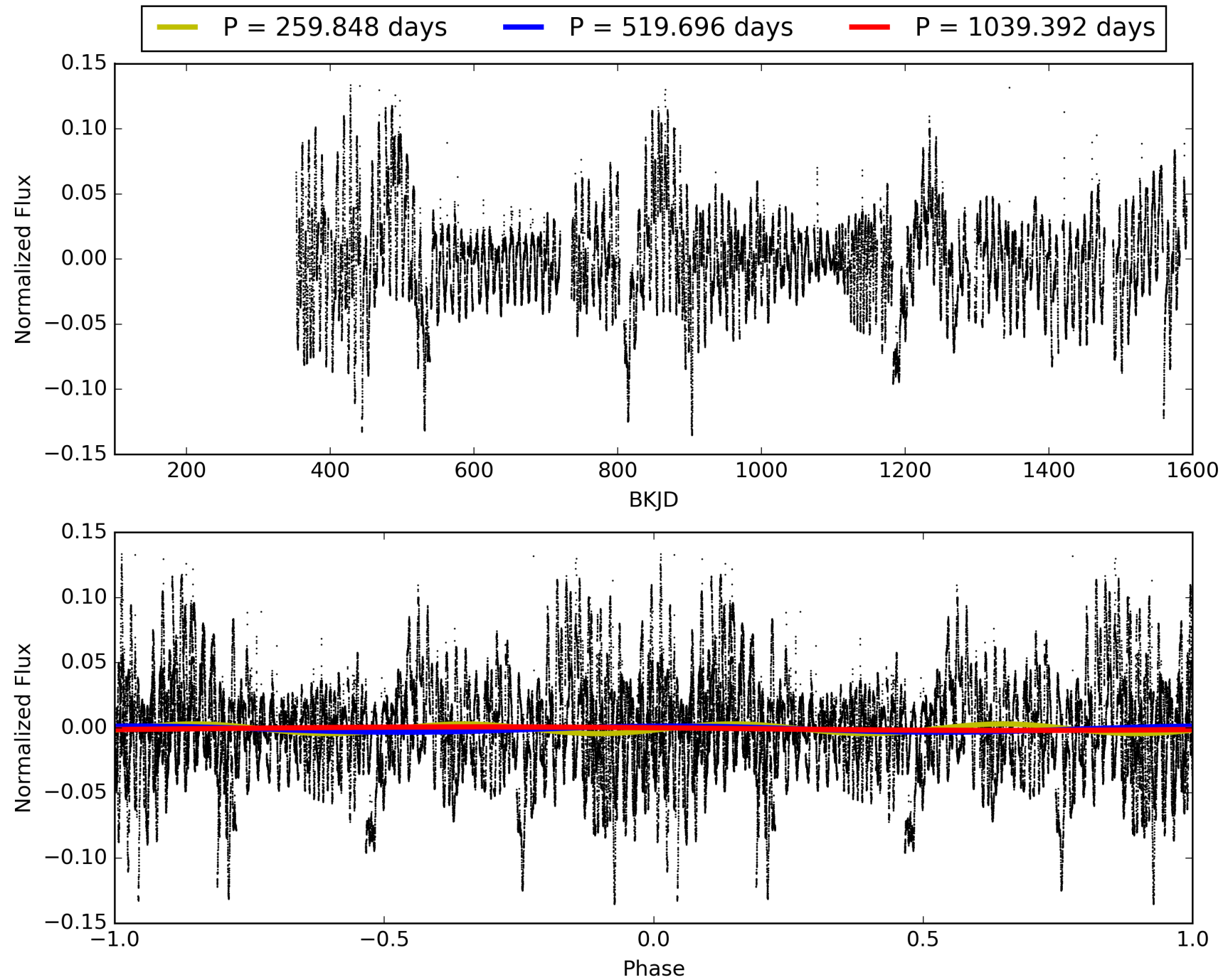
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.07σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 40.1%
ModelChiSquareGof-sig: 97.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.1307
Centroid-sig: 65.3%
Centroid-so: 2.145 arcsec [2.99σ]
OotOffset-rm: 0.159 arcsec [0.22σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-rm: 5.070 arcsec [6.64σ]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 008259829-02, PDC Light Curves

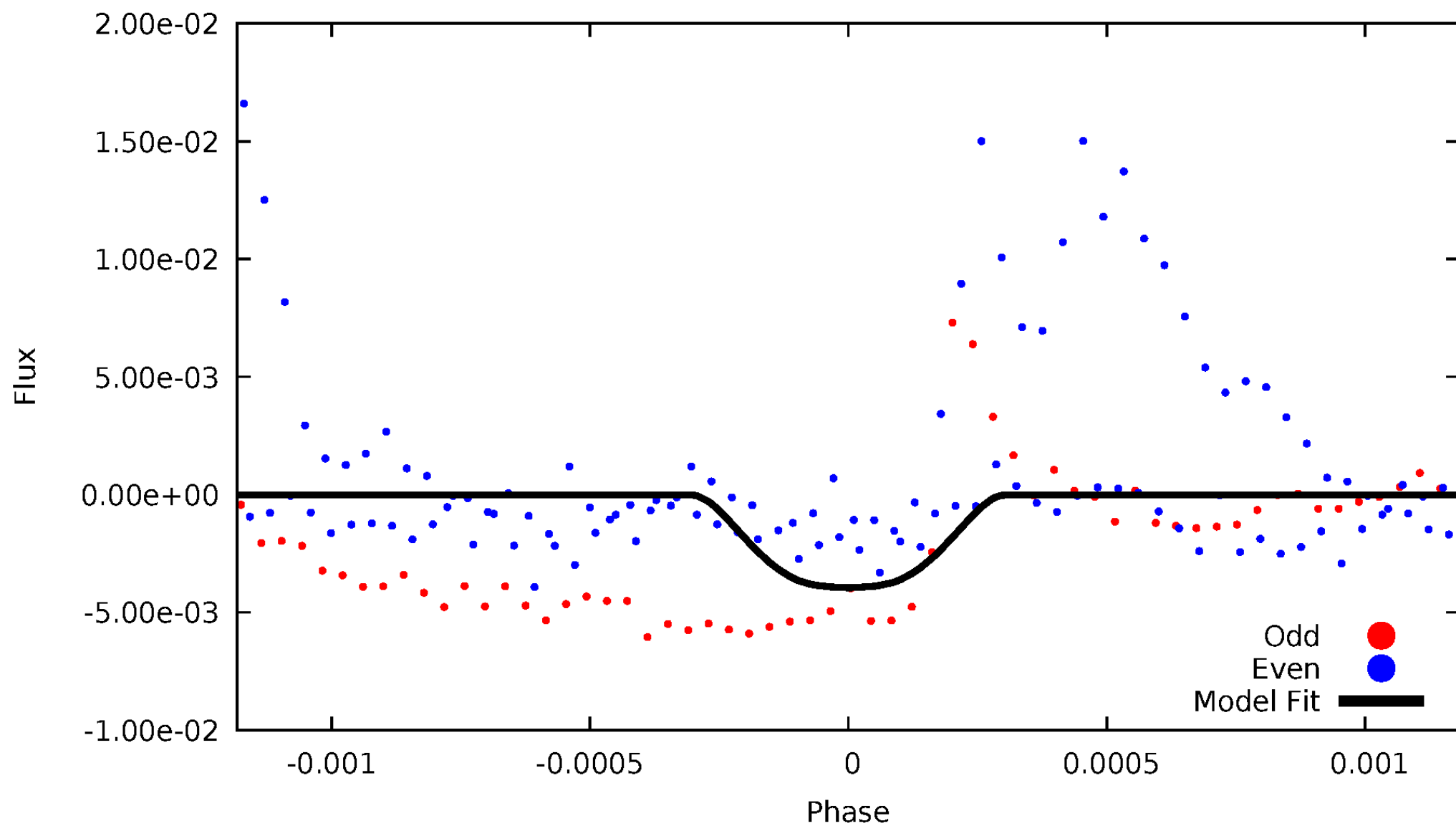


TCE 008259829-02



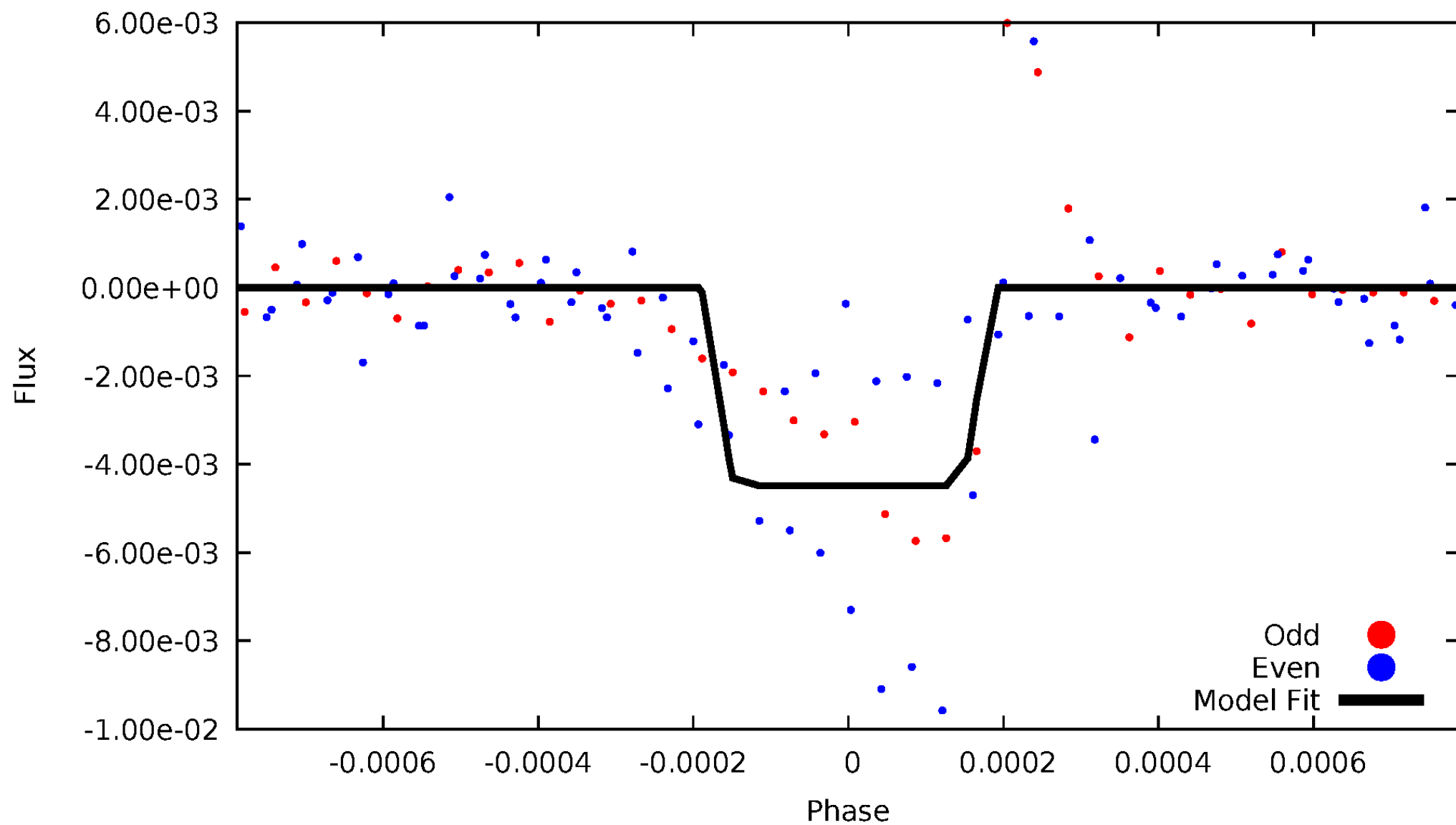
DV Odd/Even

TCE 008259829-02



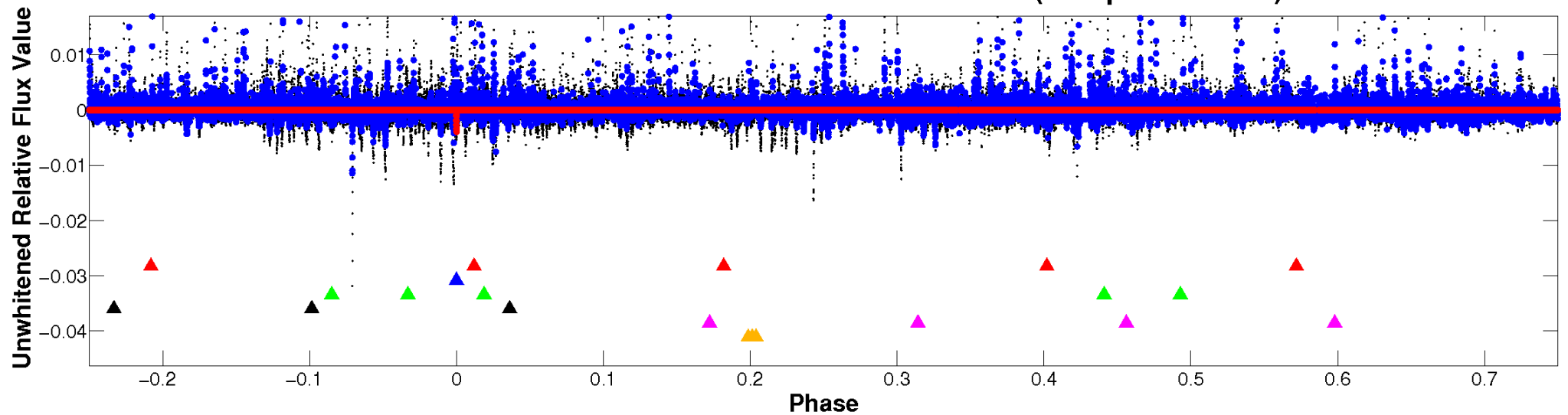
ALT Odd/Even

TCE 008259829-02

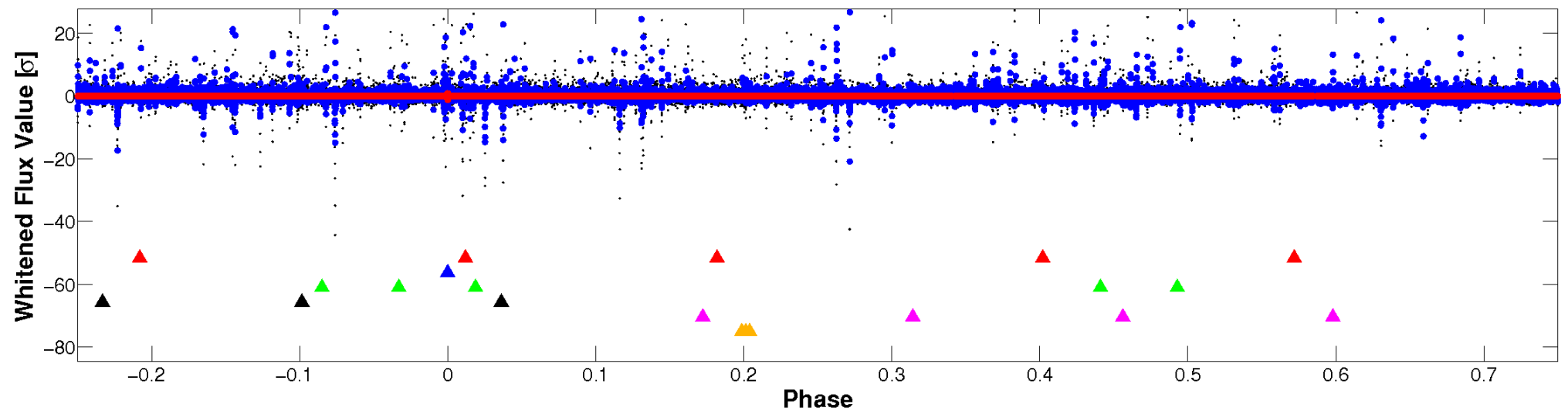


Non-Whitened Vs. Whitened Light Curve

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

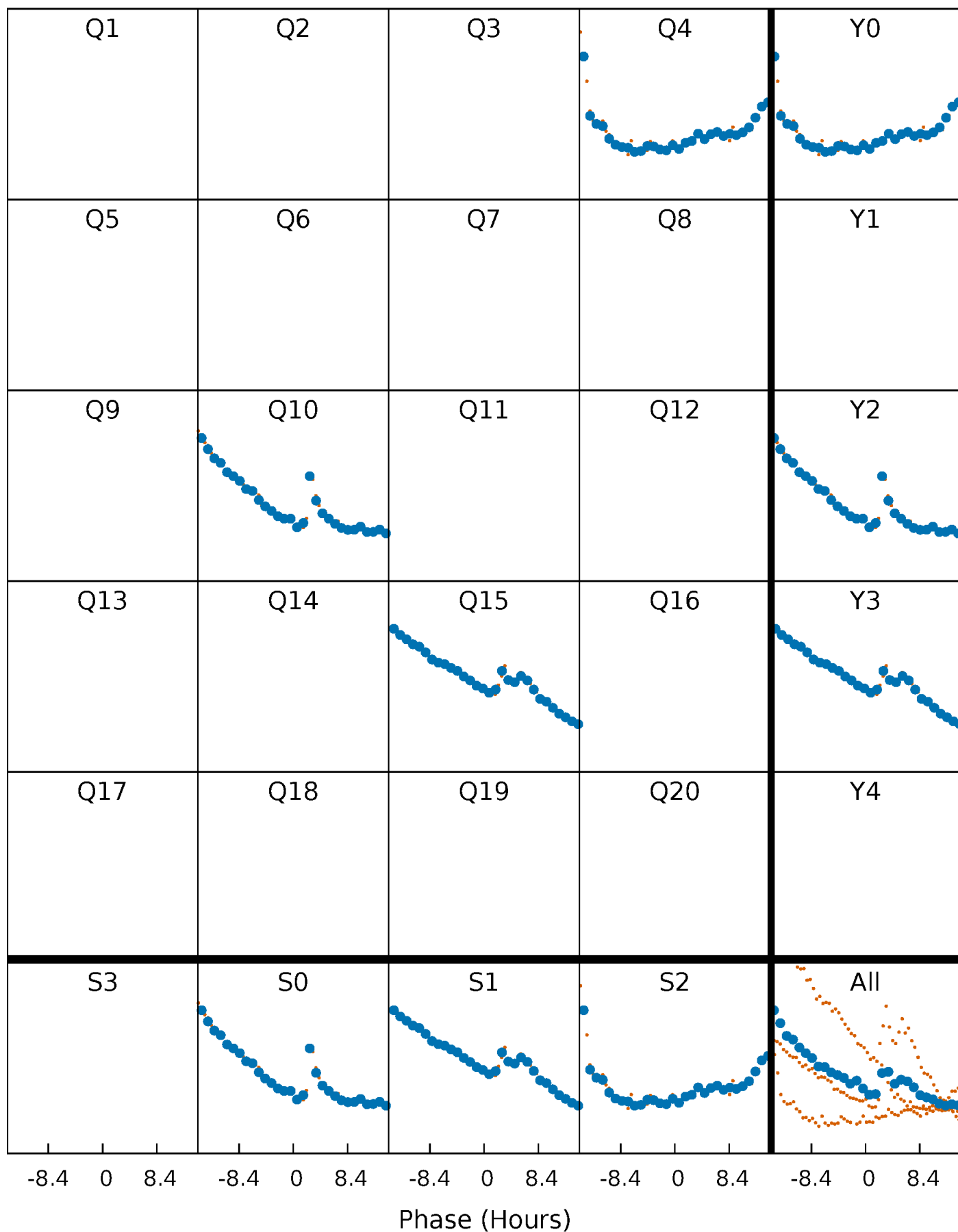


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



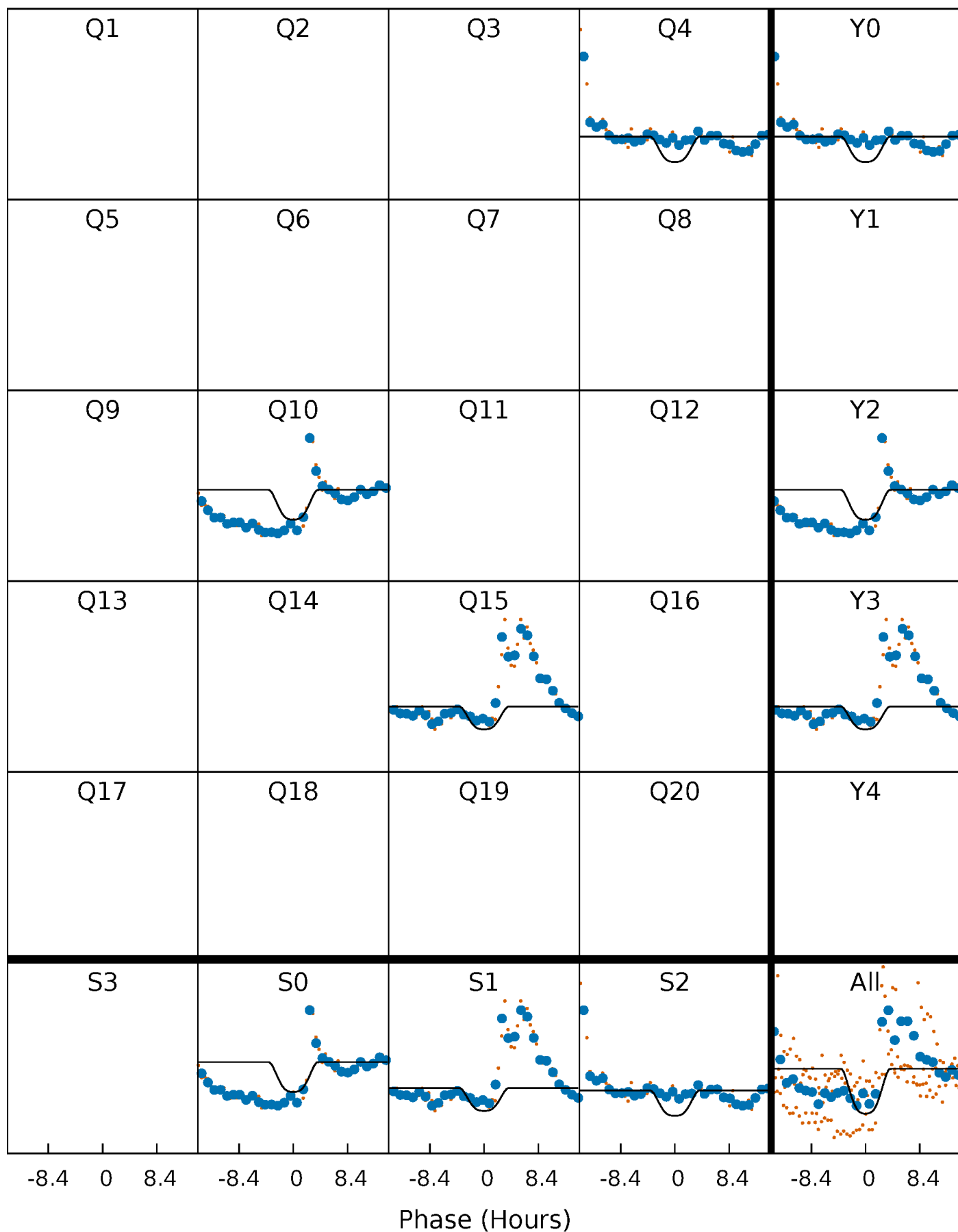
PDC Quarter-Phased Transit Curves

TCE 008259829-02 P=519.695783 Days $T_0=421.170310$ (BKJD)



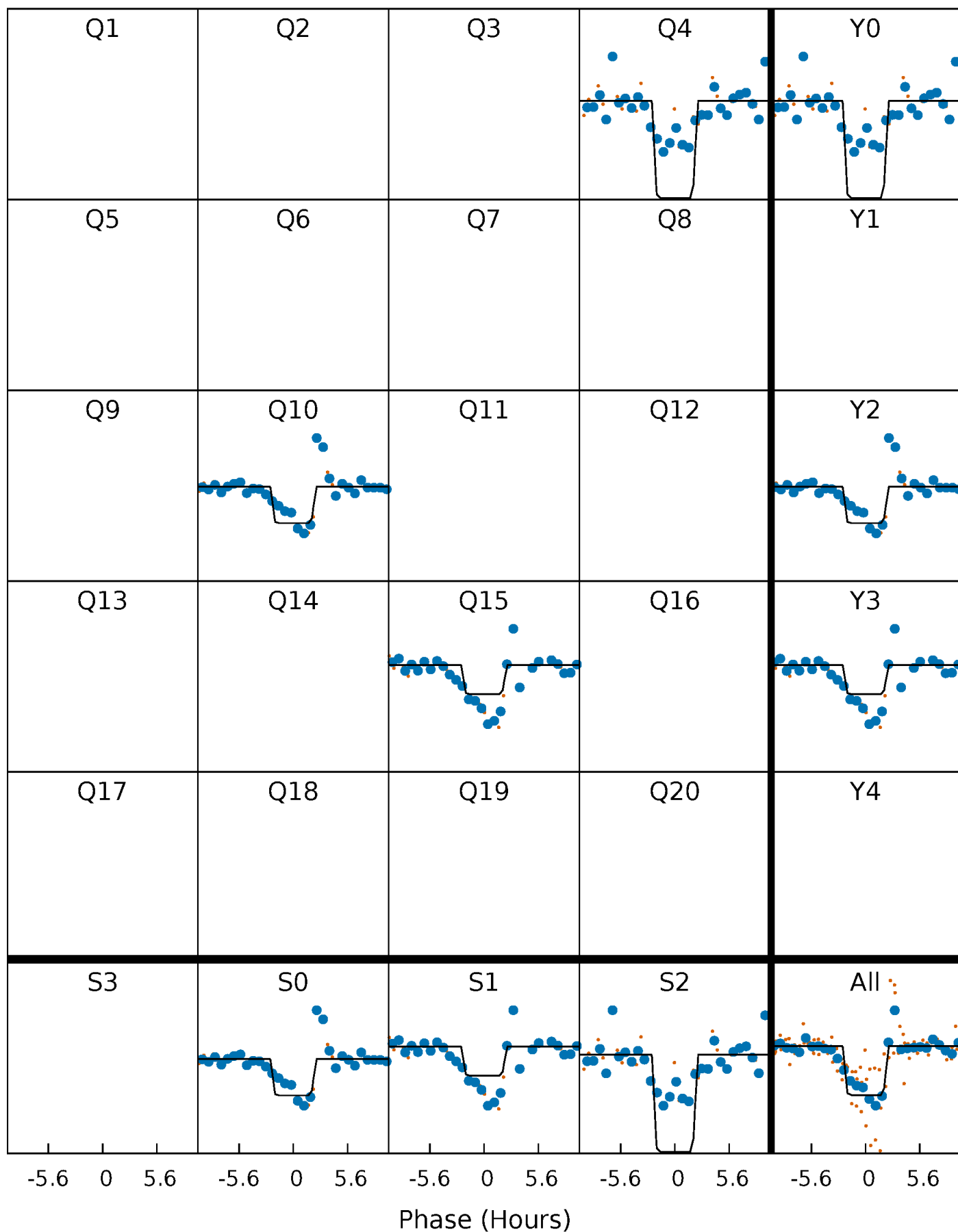
DV Quarter-Phased Transit Curves

TCE 008259829-02 P=519.695783 Days $T_0=421.170310$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

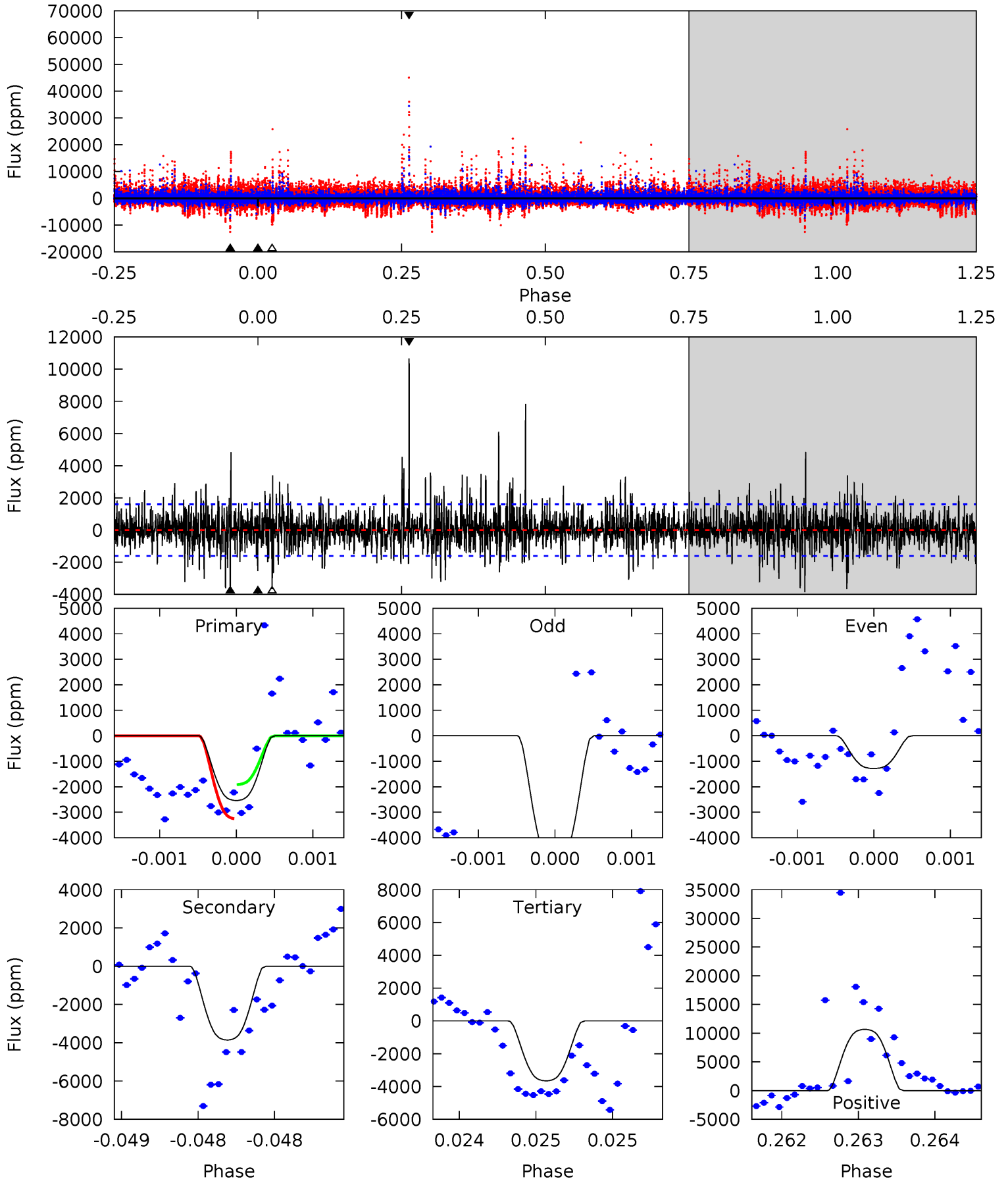
TCE 008259829-02 P=519.707165 Days $T_0=421.157117$ (BKJD)



DV Model-Shift Uniqueness Test

008259829-02, P = 519.695783 Days, E = 421.170310 Days

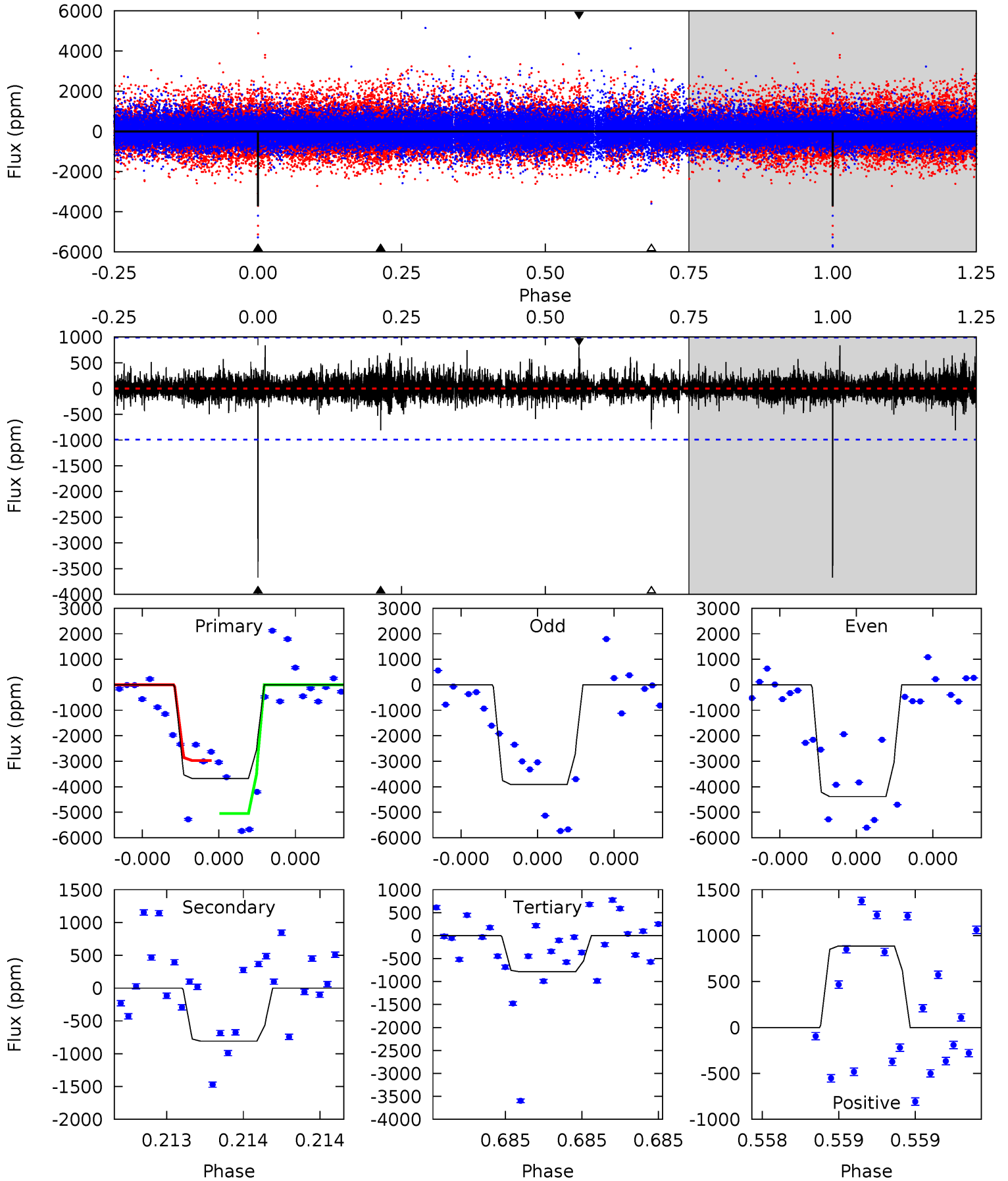
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.76	13.3	12.6	36.8	5.53	3.42	3.10	-3.85	-28.1	0.69	-23.5	4.48	1.66	0.73	2.34



Alt Model-Shift Uniqueness Test

008259829-02, P = 519.707165 Days, E = 421.157117 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.9	4.60	4.47	5.04	5.65	3.59	0.69	16.4	15.9	0.13	-0.44	1.60	1.08	0.19	0



Stellar Parameters For KIC 008259829

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3848^{+120}_{-147}	$4.676^{+0.063}_{-0.023}$	$0.260^{+0.200}_{-0.300}$	$0.583^{+0.037}_{-0.074}$	$0.588^{+0.045}_{-0.067}$	$4.181^{+1.321}_{-0.464}$
	+3%/-4%	+1%/-0%	+77%/-115%	+6%/-13%	+8%/-11%	+32%/-11%
Source	KIC0	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 008259829-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-3855 ± 290	$4.47^{+0.73}_{-0.64}$	174^{+6}_{-7}	3657^{+235}_{-194}	119902^{+45601}_{-30563}
Alt.	-808 ± 176	$4.24^{+0.65}_{-0.64}$	174^{+6}_{-7}	2921^{+212}_{-154}	27393^{+14098}_{-9169}

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 $A_{obs} \gg 1.0$

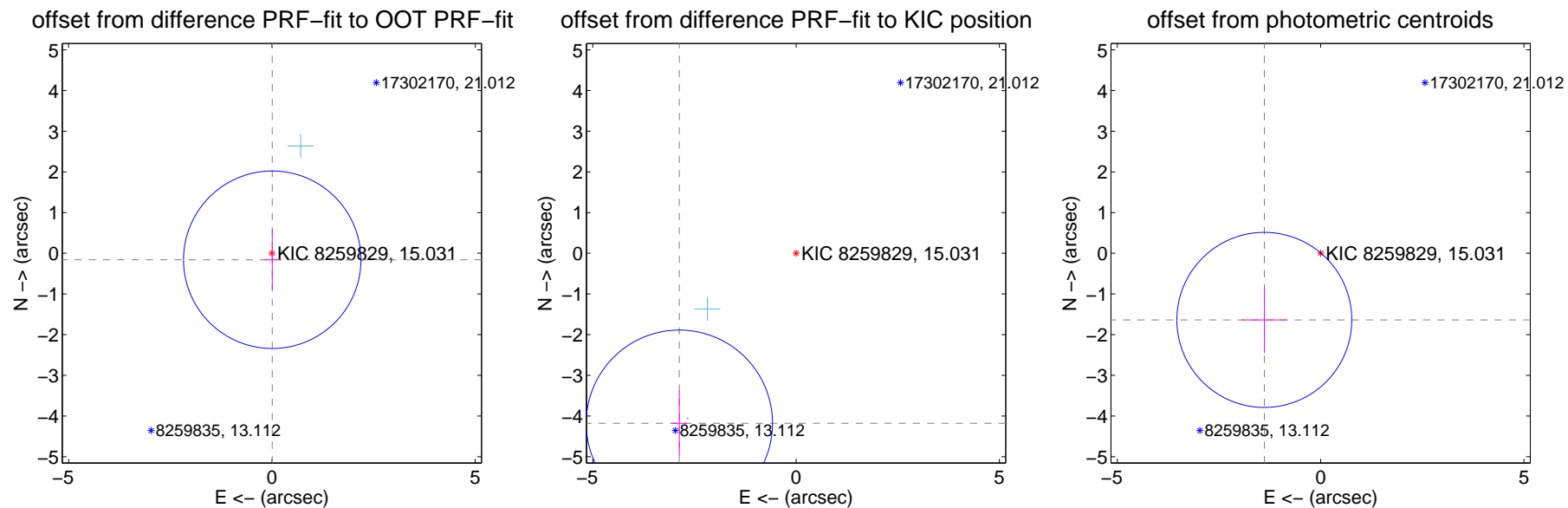
DV Centroid Data

Supplemental centroid analysis for 008259829-02. Kepler magnitude: 15.03. Transit SNR 6.59

There are 3 quarters with good PRF difference image offsets

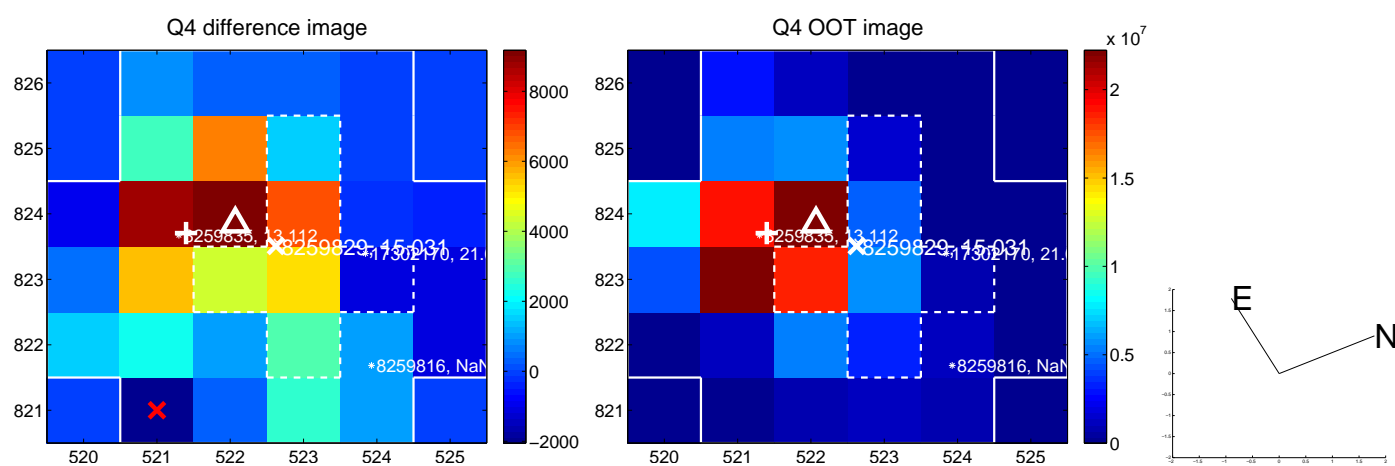
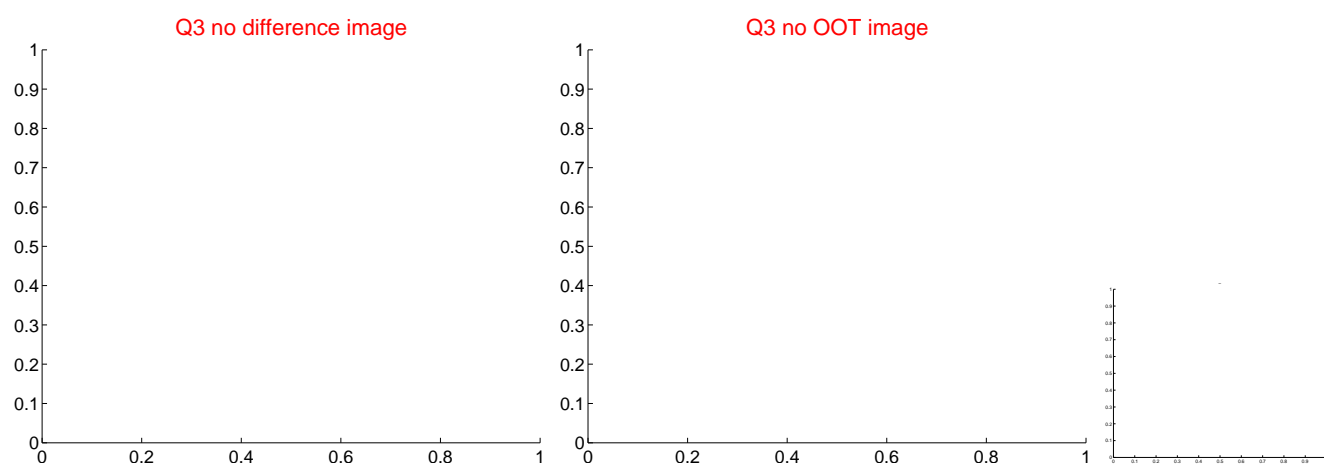
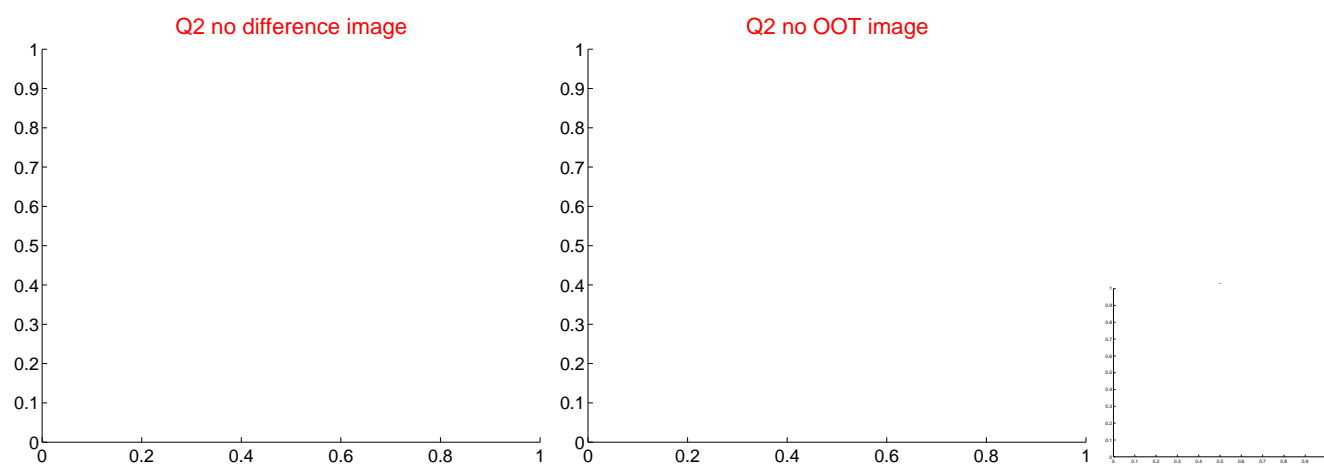
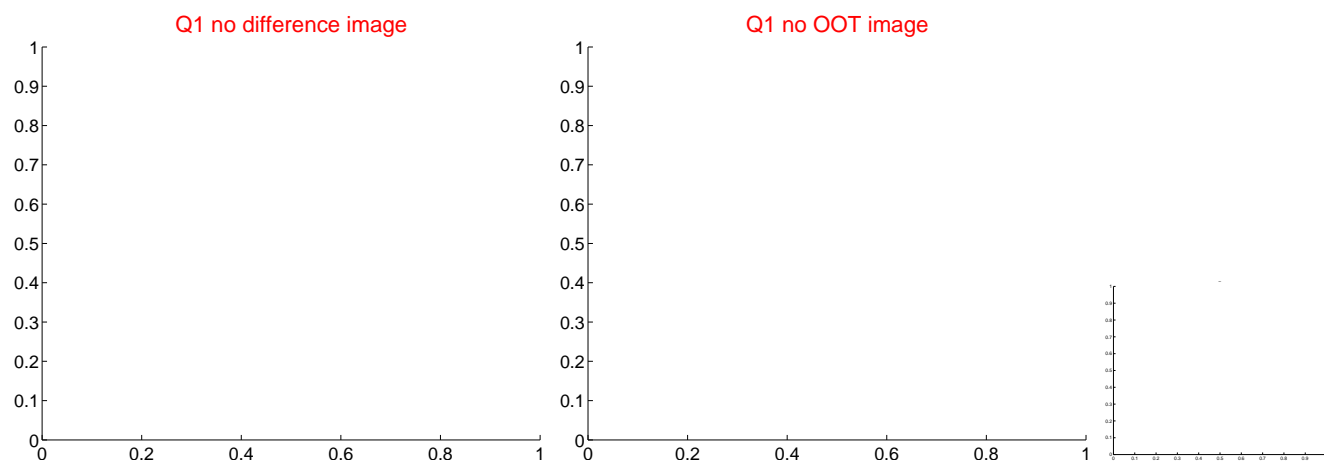
The OOT PRF centroid is offset from the target star catalog position by about 4.92 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.159 ± 0.727	0.22	-0.008 ± 0.201	-0.159 ± 0.738
PRF-fit source offset from KIC position	5.070 ± 0.764	6.64	2.872 ± 0.195	-4.178 ± 0.803
photometric centroid source offset	2.15 ± 0.72	2.99	1.39 ± 0.56	-1.64 ± 0.81



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.

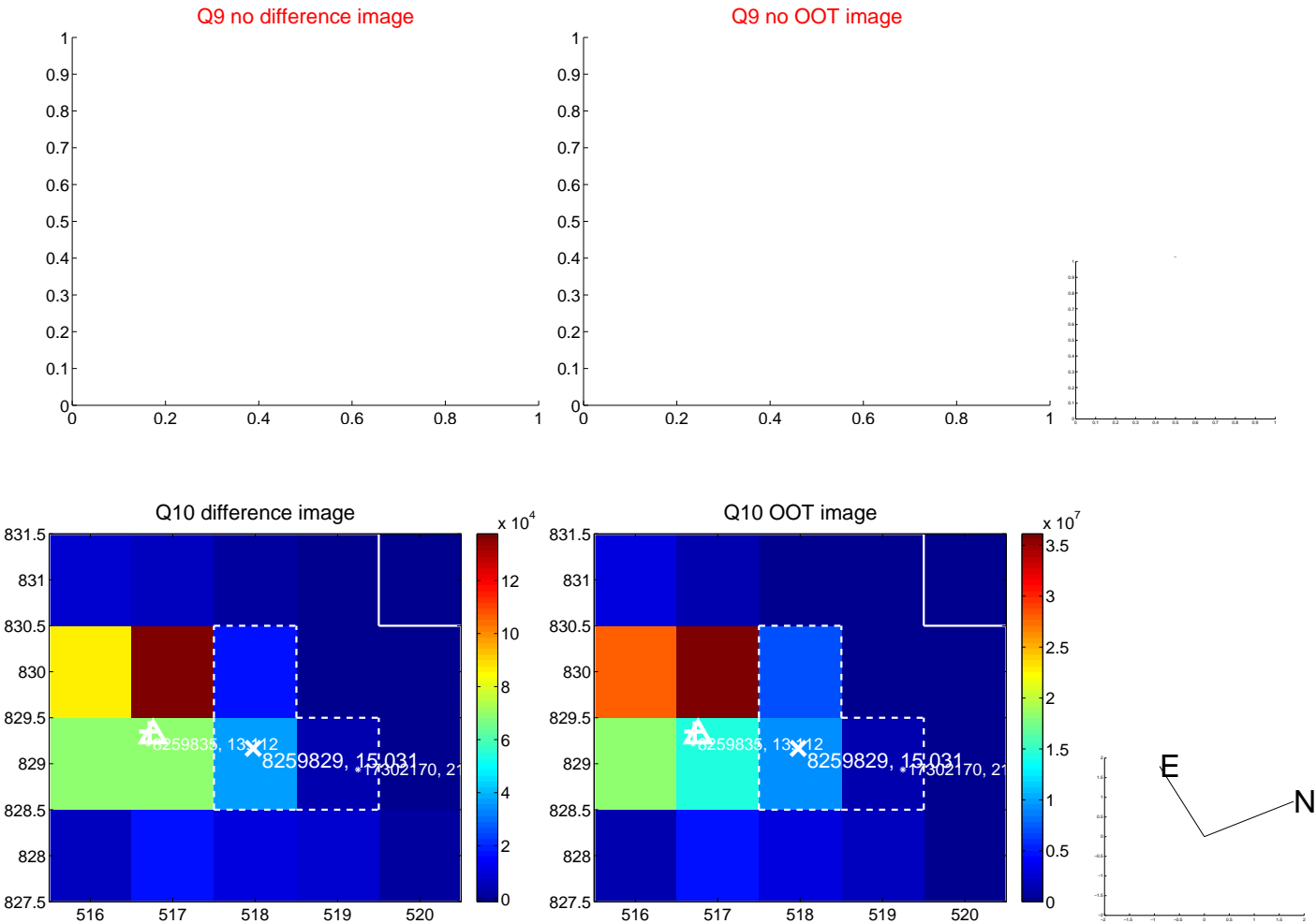
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

Q13 no difference image



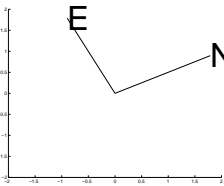
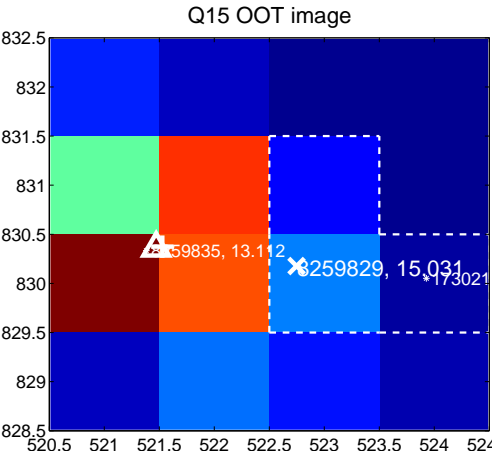
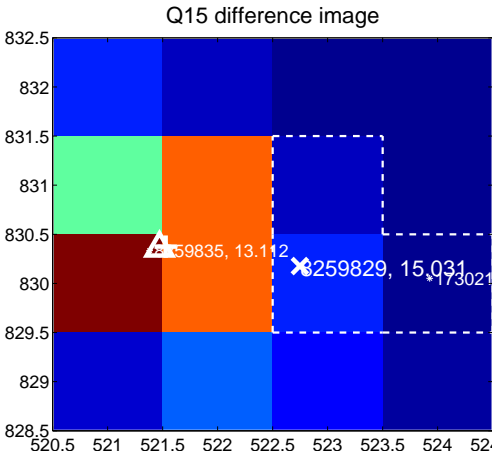
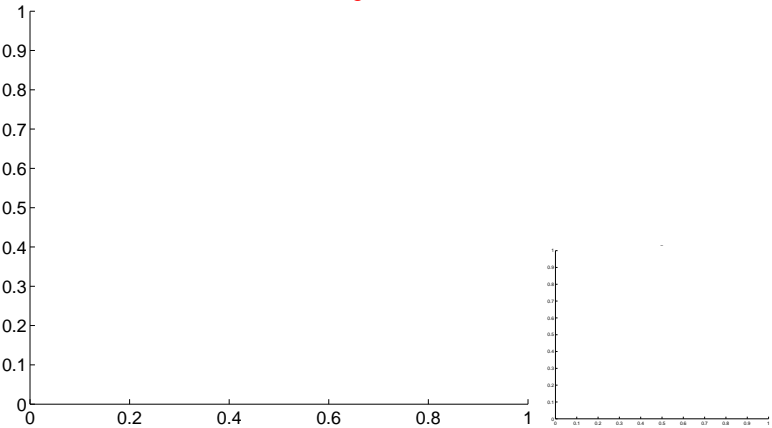
Q13 no OOT image



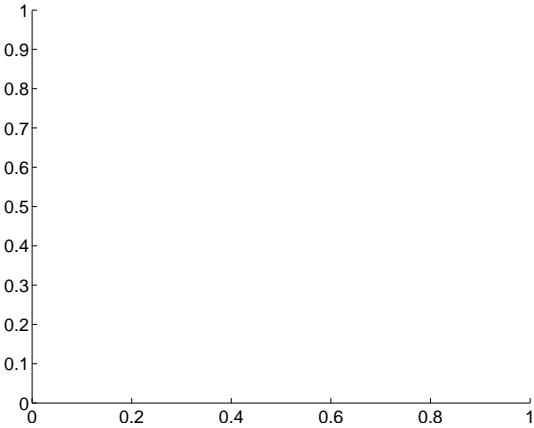
Q14 no difference image



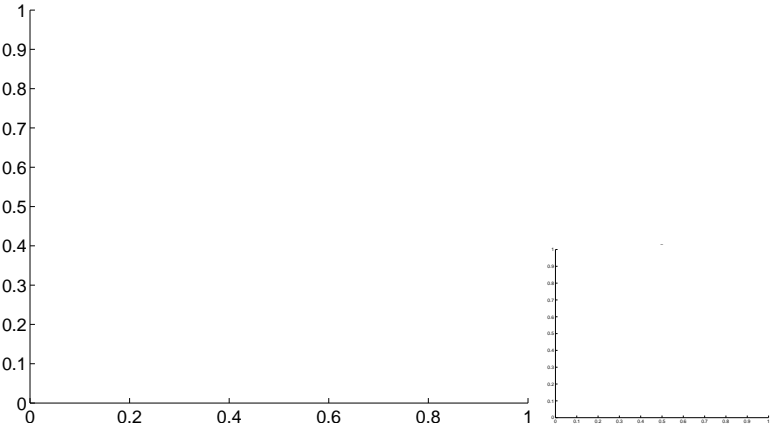
Q14 no OOT image



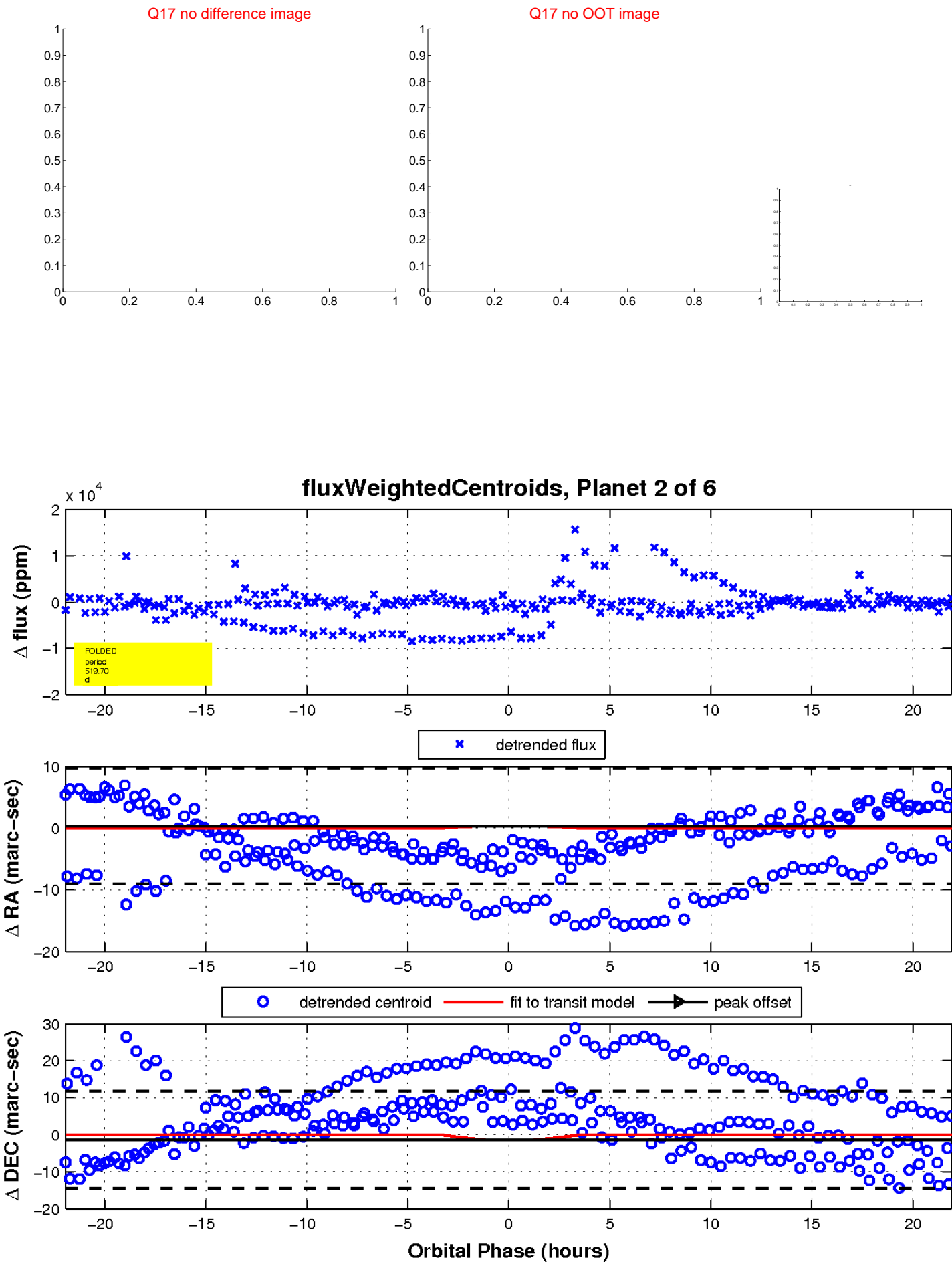
Q16 no difference image



Q16 no OOT image

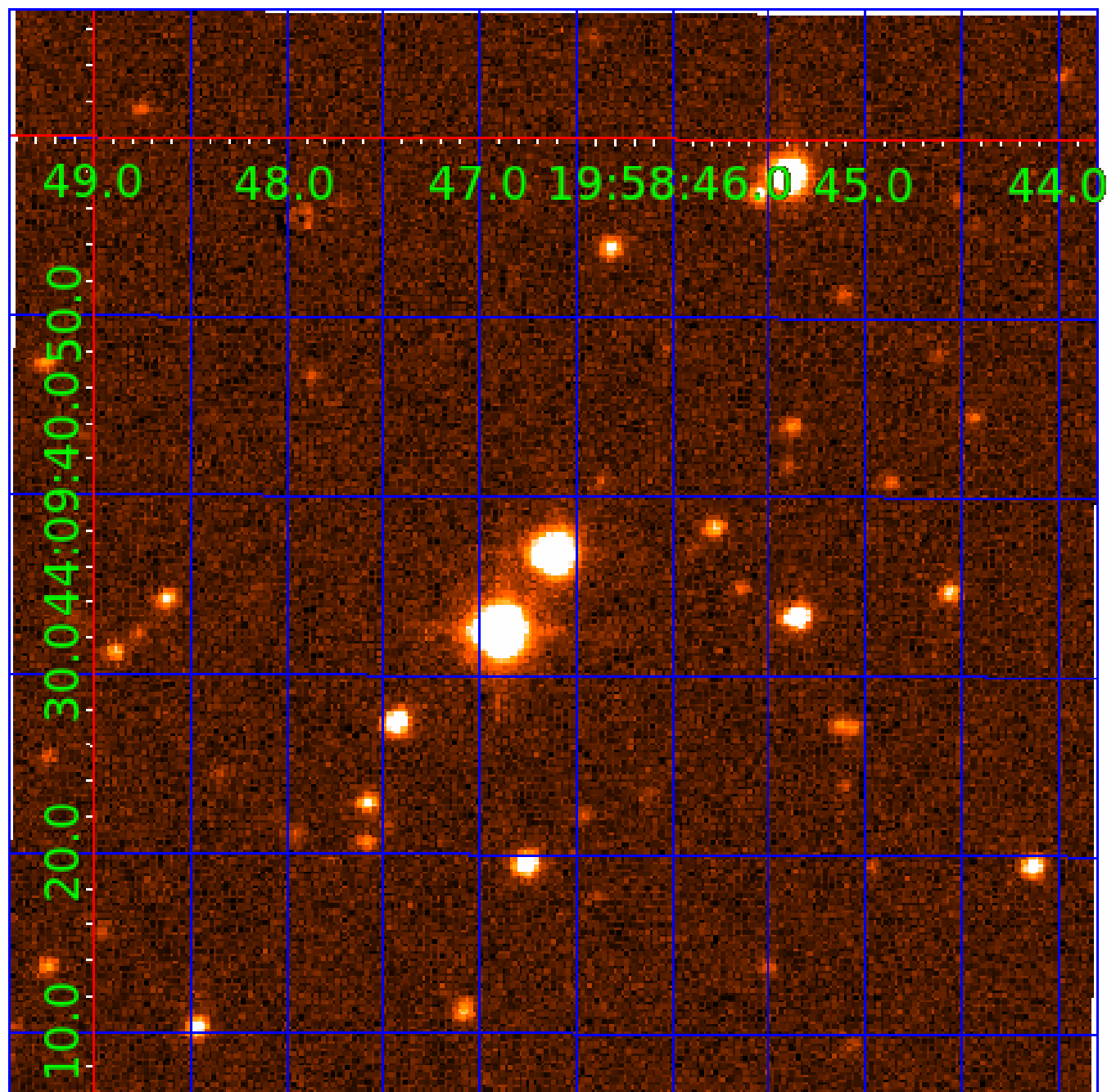


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008259829

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})
008259829-01	OBS	No	317.023736	198.705401	2797.5	5.057	14.0	6.4	0.58	3848	6.05	0.12
008259829-02	OBS	No	519.695783	421.170310	3948.0	7.372	17.0	6.6	0.58	3848	4.58	0.06
008259829-03	OBS	No	273.325094	377.035613	2944.4	3.570	13.2	7.3	0.58	3848	3.60	0.14
008259829-04	OBS	No	449.688304	439.994392	4821.5	4.494	12.7	8.9	0.58	3848	3.92	0.07
008259829-05	OBS	No	445.959203	212.260391	3236.8	3.919	12.2	7.2	0.58	3848	3.53	0.07
008259829-06	OBS	No	518.310872	527.193261	2394.7	3.500	12.9	-1.0	0.58	3848	2.77	0.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008259829-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
008259829-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008259829-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_KIC_POS
008259829-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS
008259829-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008259829-06	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.

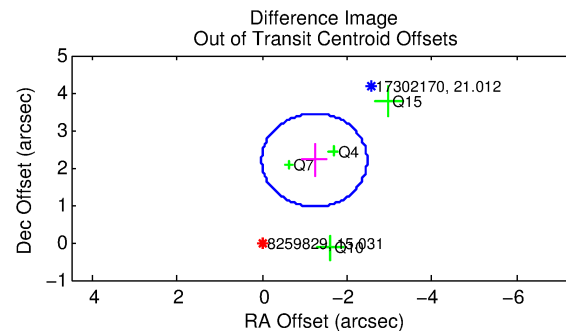
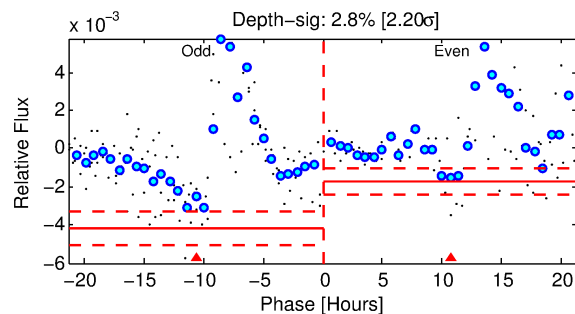
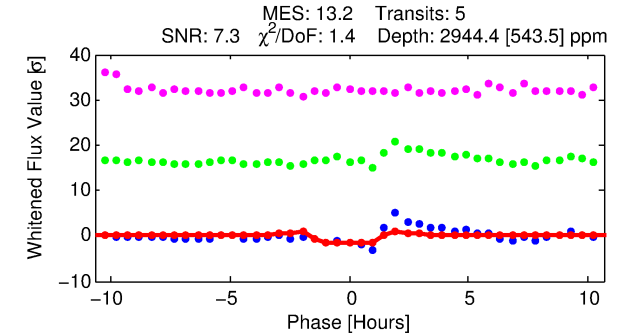
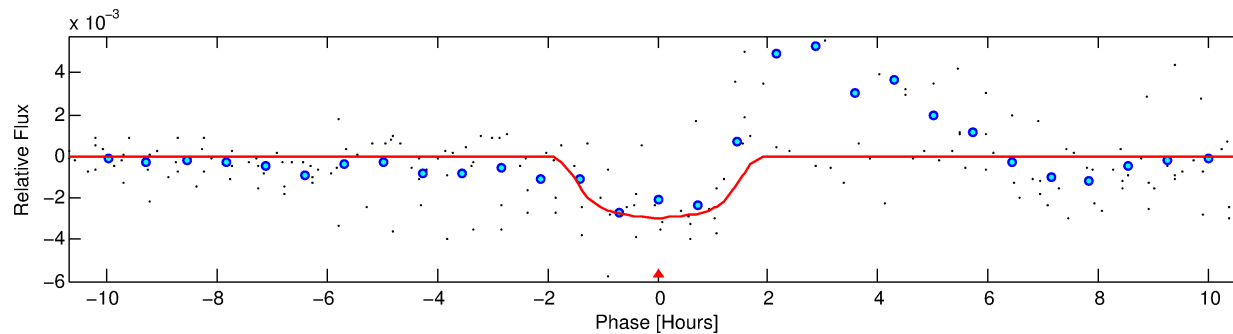
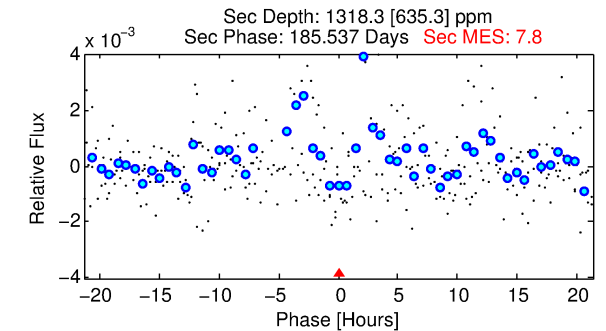
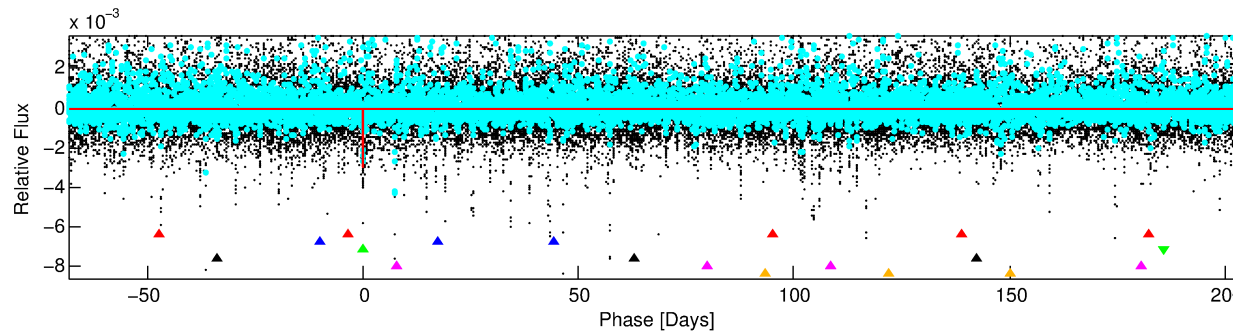
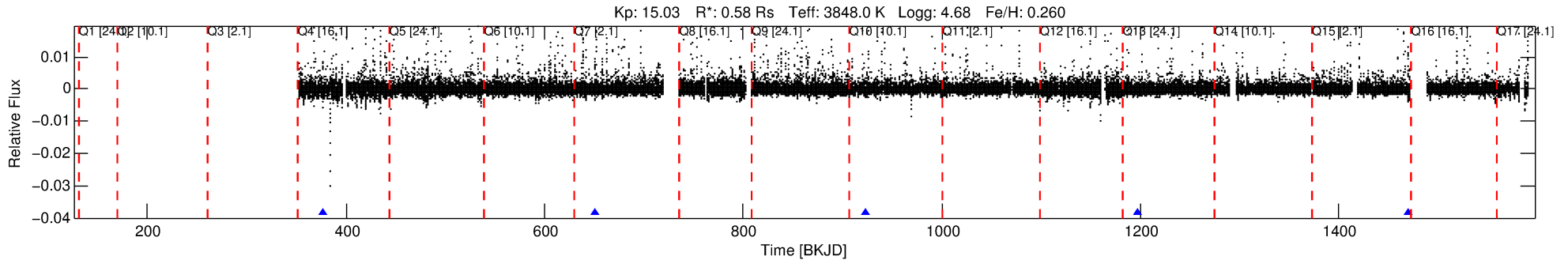
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008259829-03

No Significant Match Found

DV One-Page Summary

KIC: 8259829 Candidate: 3 of 6 Period: 273.325 d



DV Fit Results:

Period = 273.32509 [0.00332] d
Epoch = 377.0356 [0.0080] BKJD
Rp/R* = 0.0566 [0.0169]
a/R* = 386.68 [359.18]
b = 0.82 [0.37]
Seff = 0.14 [0.03]
Teq = 156 [8] K
Rp = 3.60 [1.17] Re
a = 0.6907 [0.0673] AU
Ag = 26656.47 [20757.81] [1.28σ]
Teffp = 3081 [603] K [4.85σ]

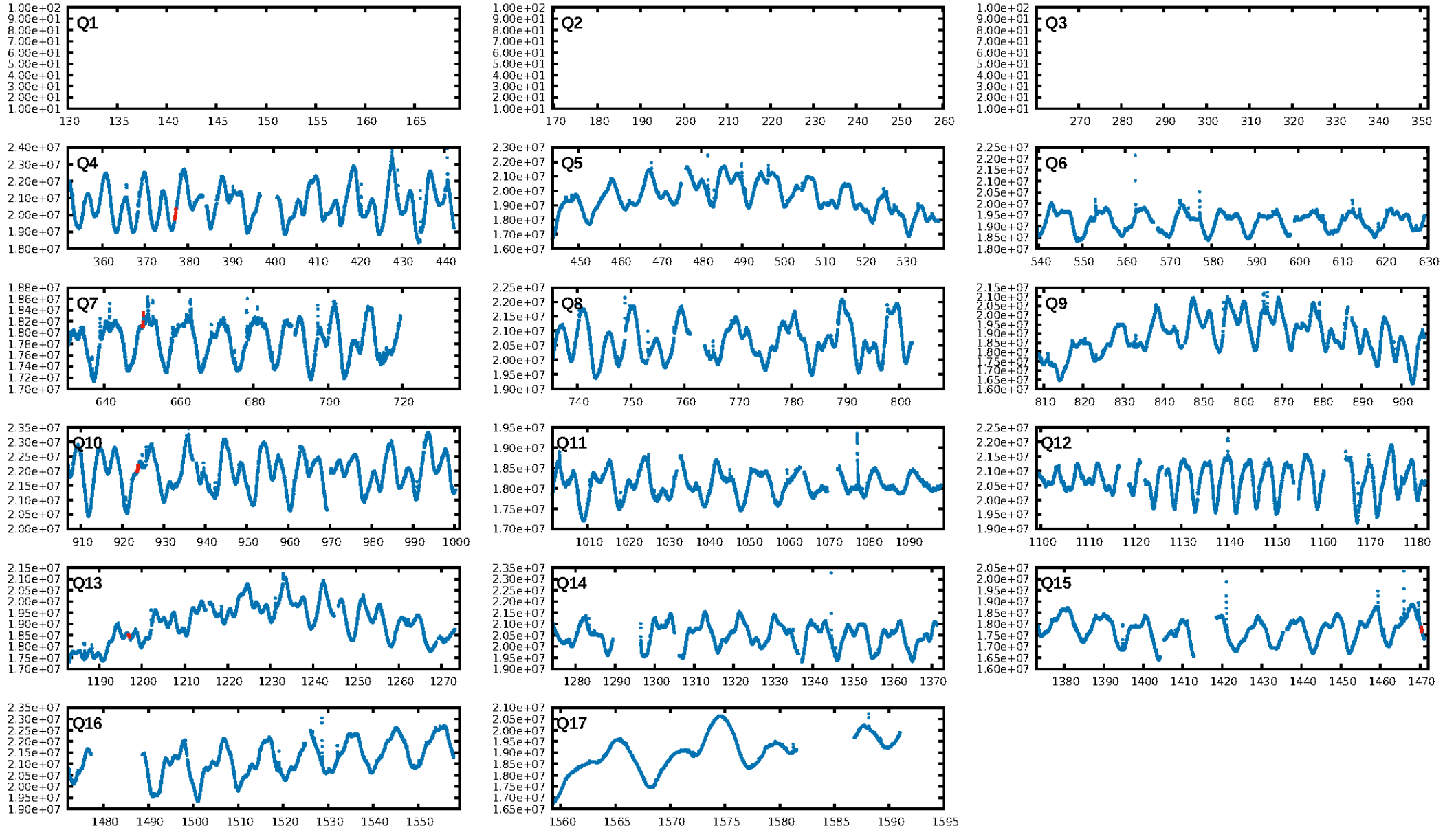
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [169.44σ]
ModelChiSquare2-sig: 4.5%
ModelChiSquareGof-sig: 61.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -1.788
Centroid-sig: 0.0%
Centroid-so: 1.400 arcsec [3.15σ]
OotOffset-rm: 2.524 arcsec [6.09σ]
KicOffset-rm: 2.461 arcsec [2.88σ]
OotOffset-st: 1/2/1/0 [4]
KicOffset-st: 1/2/1/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [4/4]

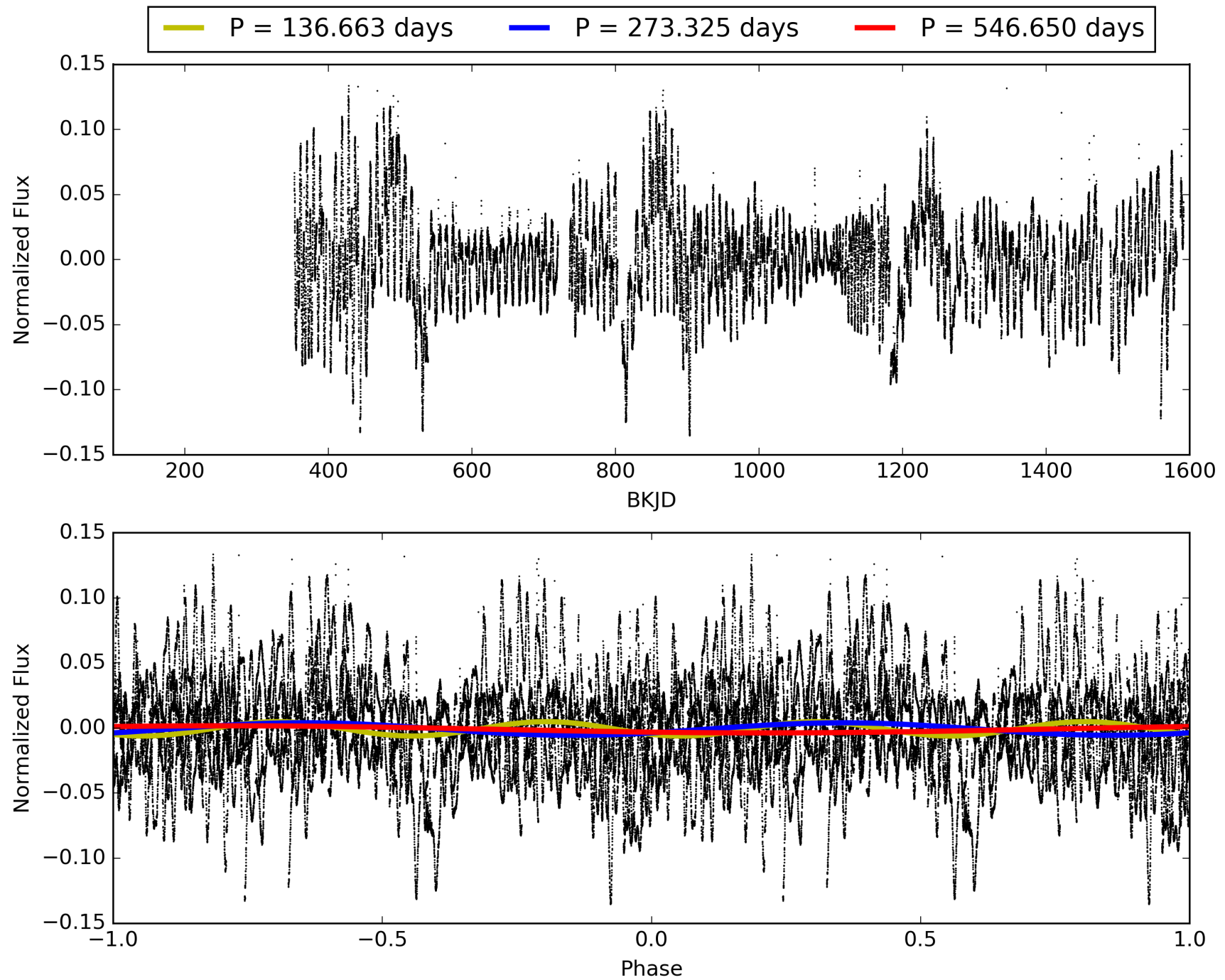
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:19:07 Z

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

TCE 008259829-03, PDC Light Curves

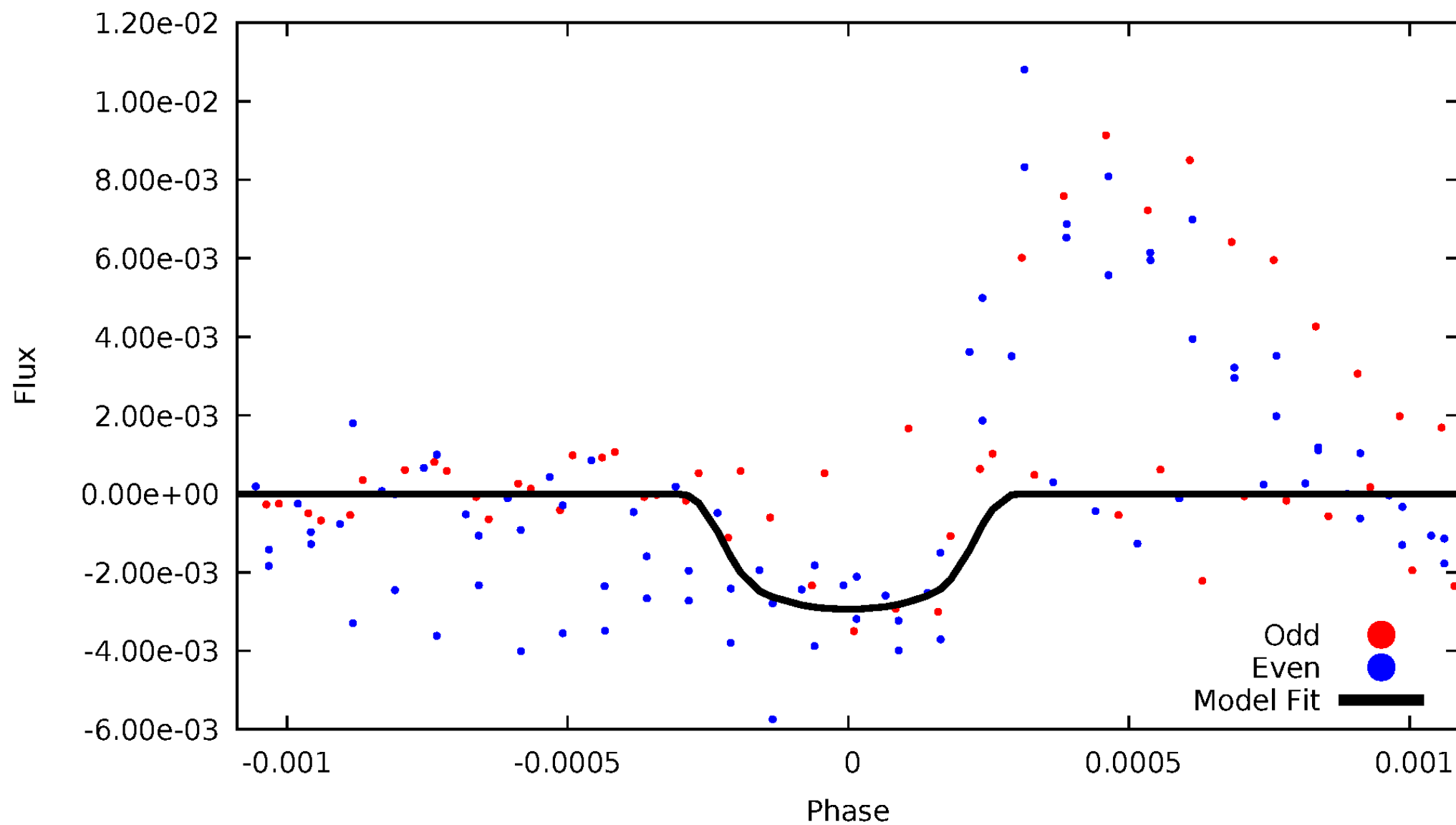


TCE 008259829-03



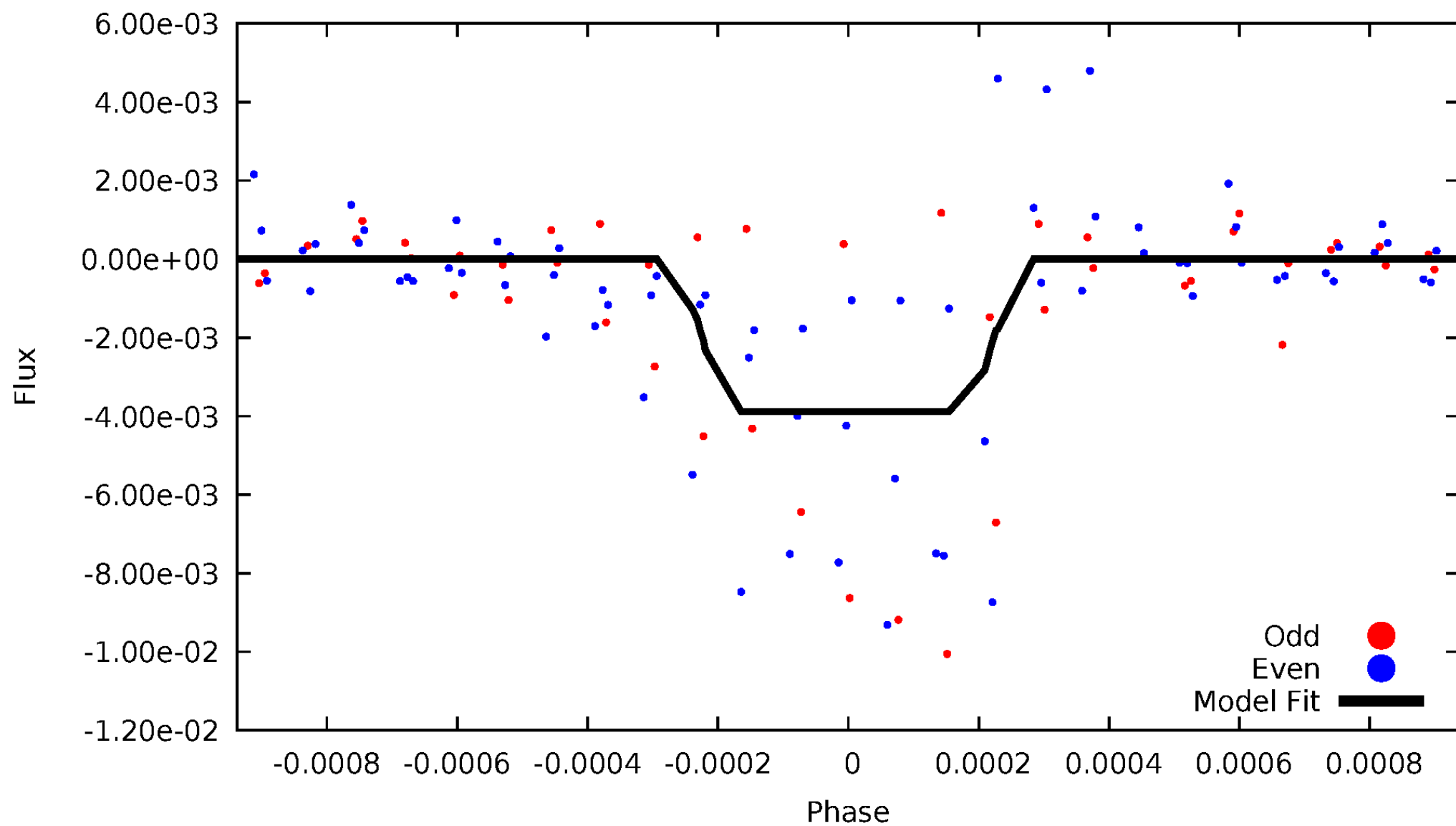
DV Odd/Even

TCE 008259829-03



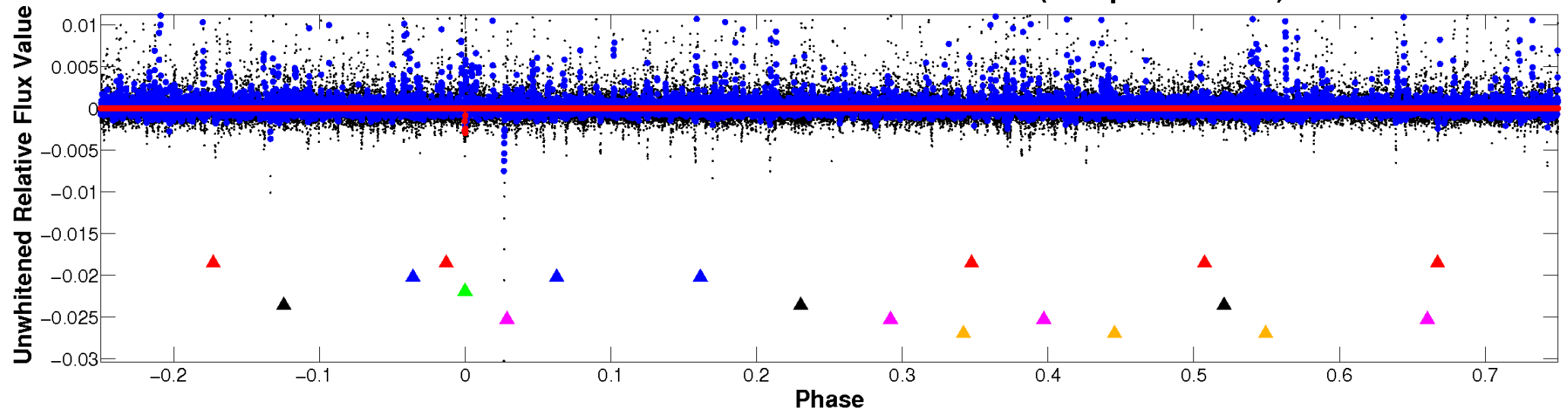
ALT Odd/Even

TCE 008259829-03

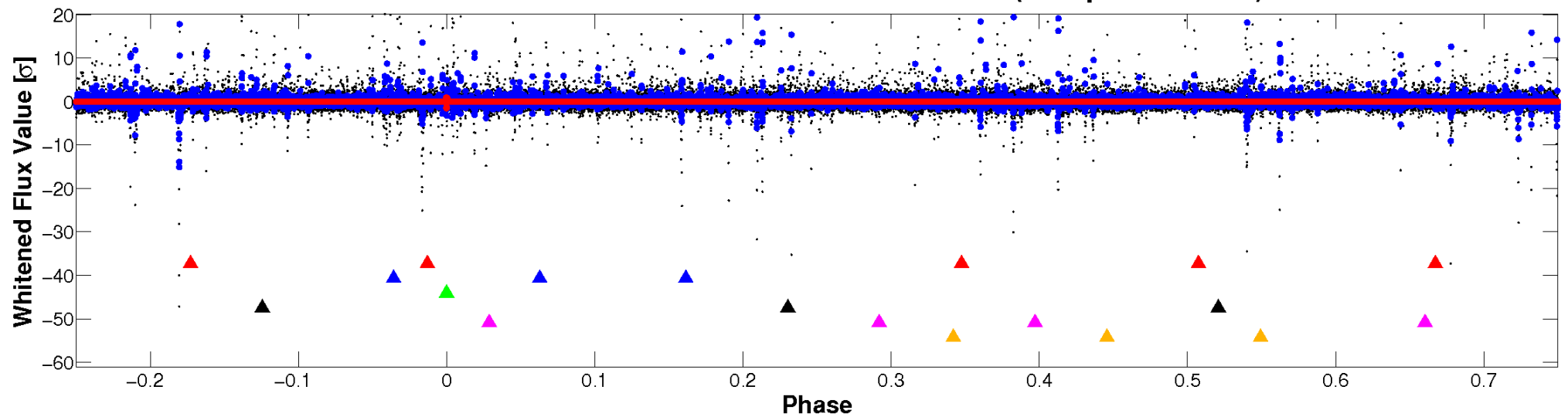


Non-Whitened Vs. Whitened Light Curve

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

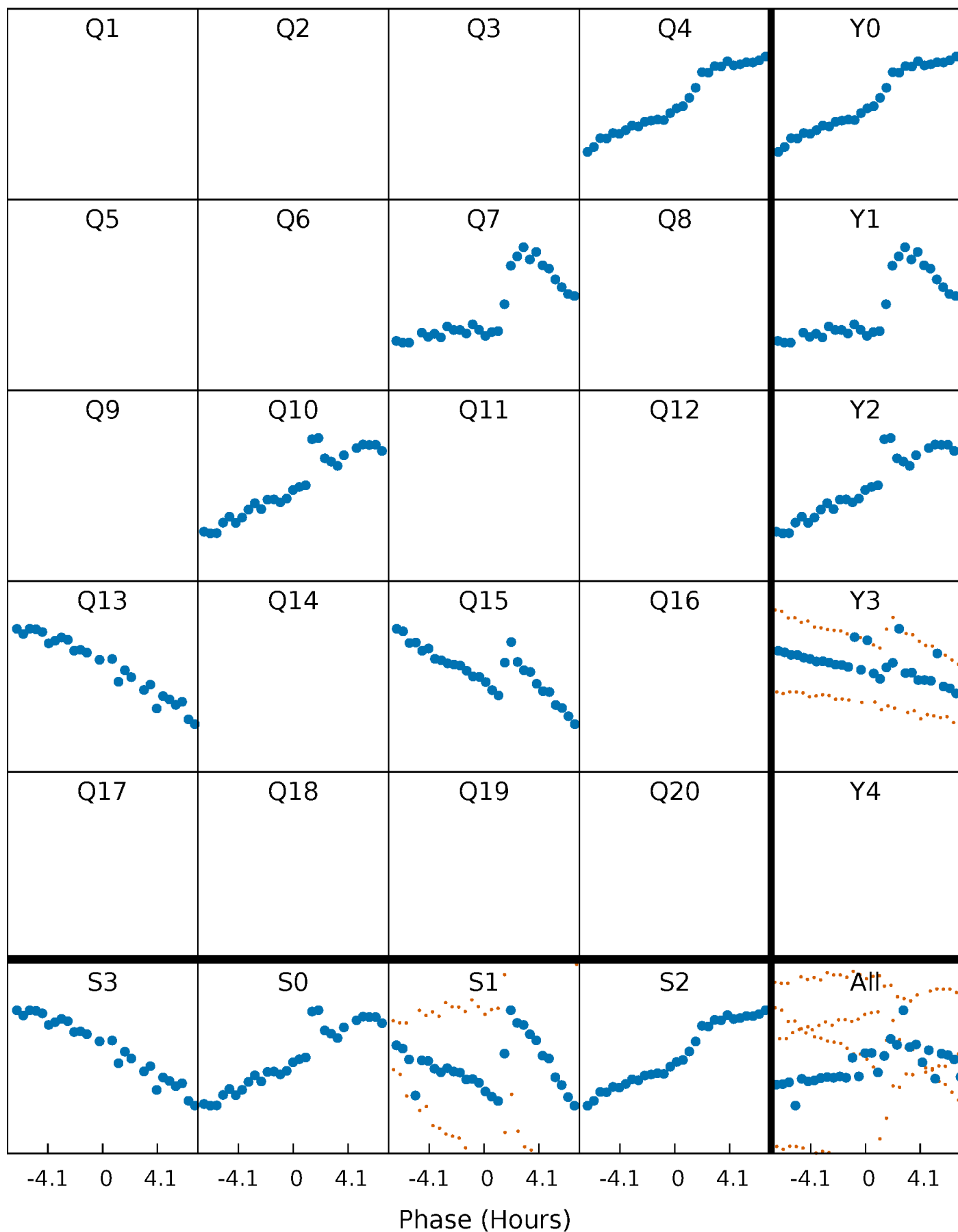


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



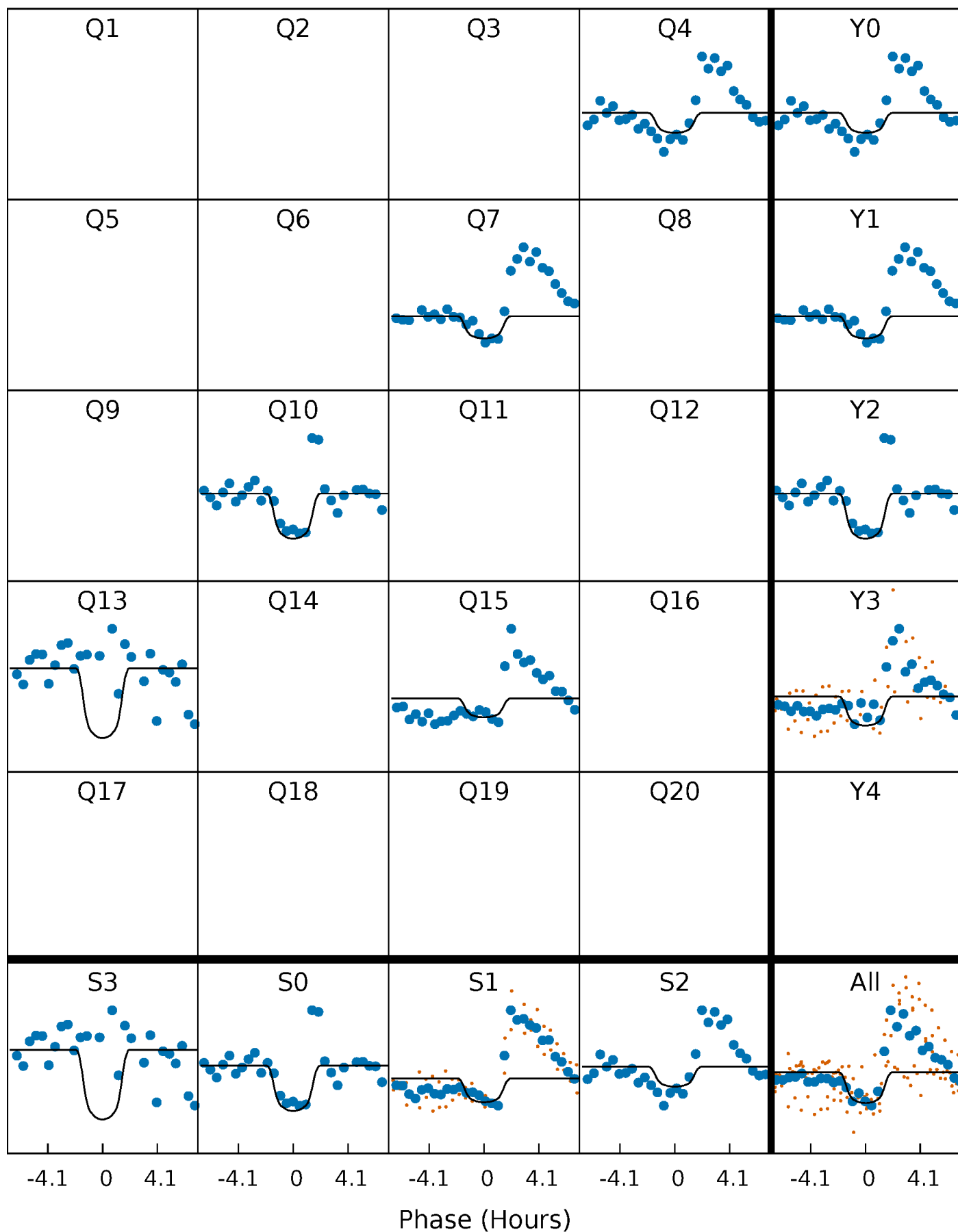
PDC Quarter-Phased Transit Curves

TCE 008259829-03 $P=273.325094$ Days $T_0=377.035613$ (BKJD)



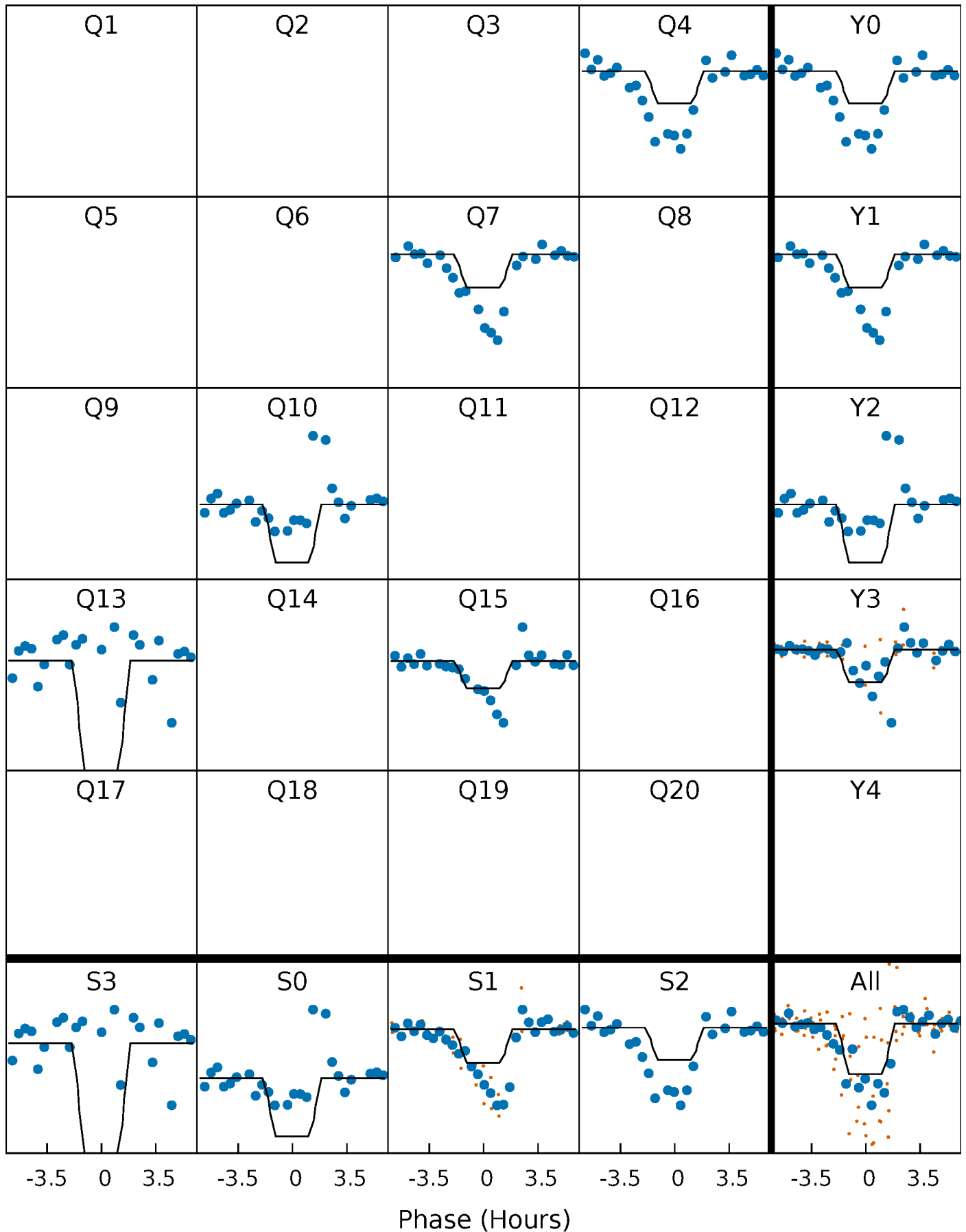
DV Quarter-Phased Transit Curves

TCE 008259829-03 $P=273.325094$ Days $T_0=377.035613$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

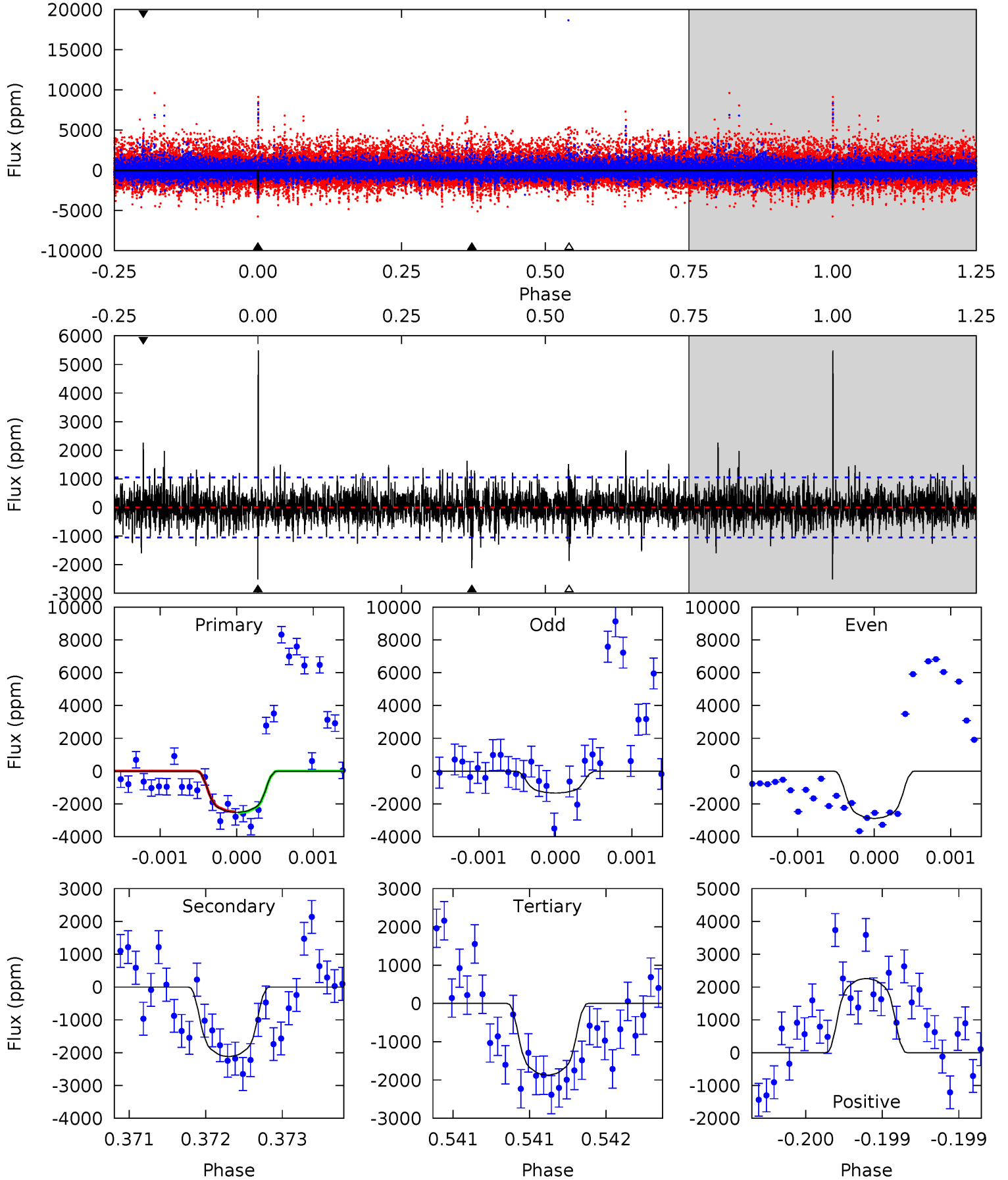
TCE 008259829-03 P=273.319197 Days $T_0=377.043686$ (BKJD)



DV Model-Shift Uniqueness Test

008259829-03, P = 273.325094 Days, E = 103.710519 Days

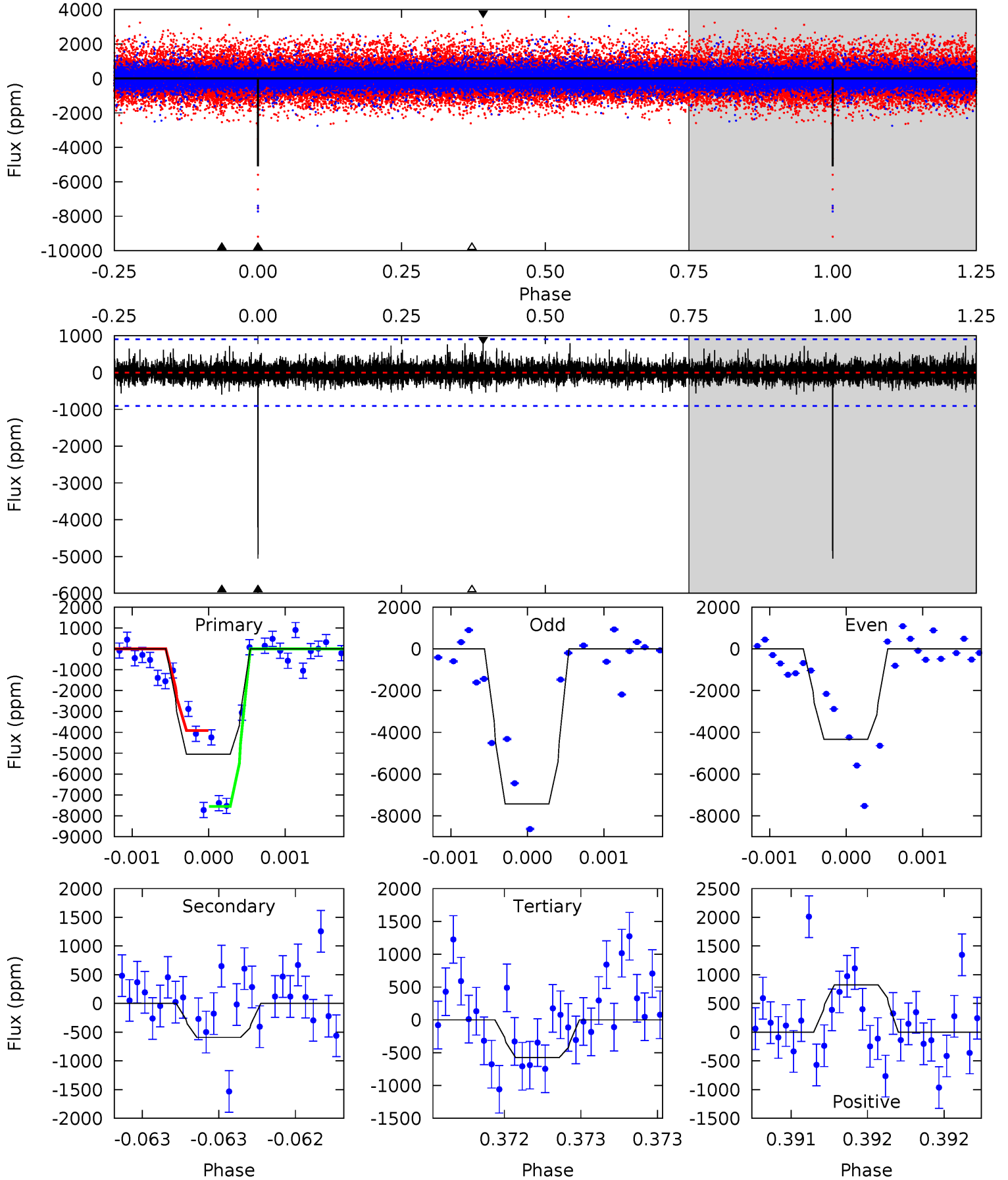
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	11.2	9.88	11.9	5.55	3.44	2.13	3.41	1.36	1.31	-0.74	2.94	0.83	0.69	0.15



Alt Model-Shift Uniqueness Test

008259829-03, P = 273.319197 Days, E = 103.724489 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.0	3.63	3.52	5.06	5.57	3.47	0.94	27.5	26.0	0.11	-1.43	9.68	0.83	0.14	11.6



Stellar Parameters For KIC 008259829

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3848^{+120}_{-147}	$4.676^{+0.063}_{-0.023}$	$0.260^{+0.200}_{-0.300}$	$0.583^{+0.037}_{-0.074}$	$0.588^{+0.045}_{-0.067}$	$4.181^{+1.321}_{-0.464}$
	+3%/-4%	+1%/-0%	+77%/-115%	+6%/-13%	+8%/-11%	+32%/-11%
Source	KIC0	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 008259829-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2118 \pm 189	$3.53^{+1.08}_{-1.04}$	216^{+8}_{-9}	3603^{+493}_{-327}	45407^{+43283}_{-19229}
Alt.	-592 \pm 163	$3.89^{+1.08}_{-1.06}$	216^{+8}_{-9}	2890^{+290}_{-236}	10242^{+9689}_{-4494}

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

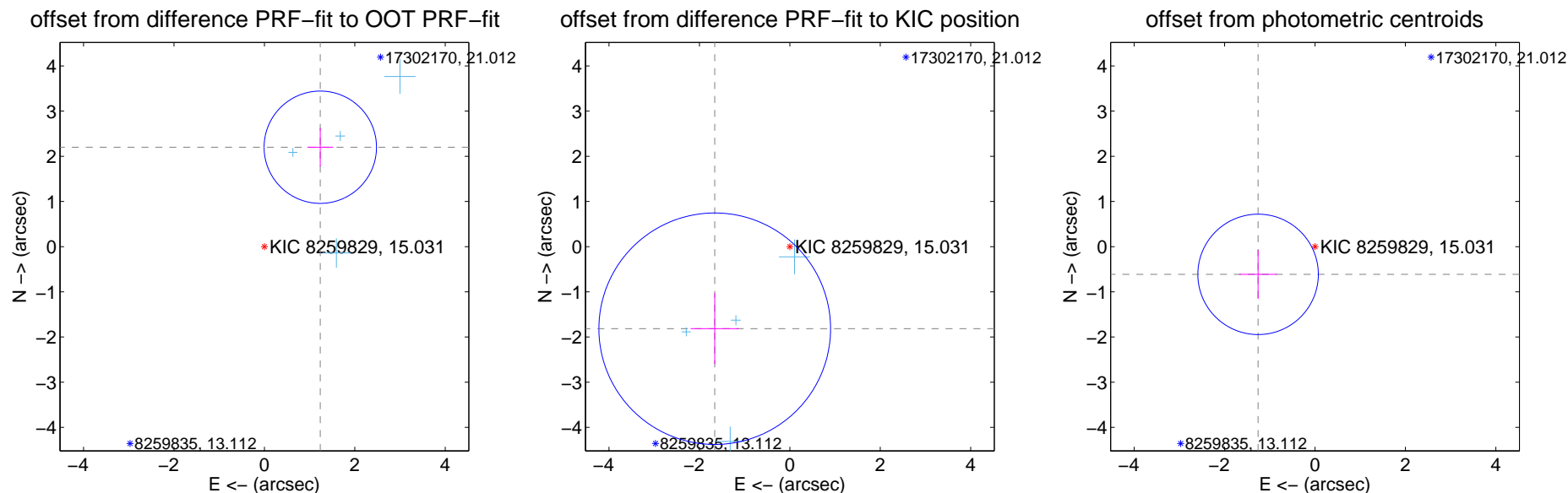
DV Centroid Data

Supplemental centroid analysis for 008259829-03. Kepler magnitude: 15.03. Transit SNR 7.31

There are 4 quarters with good PRF difference image offsets

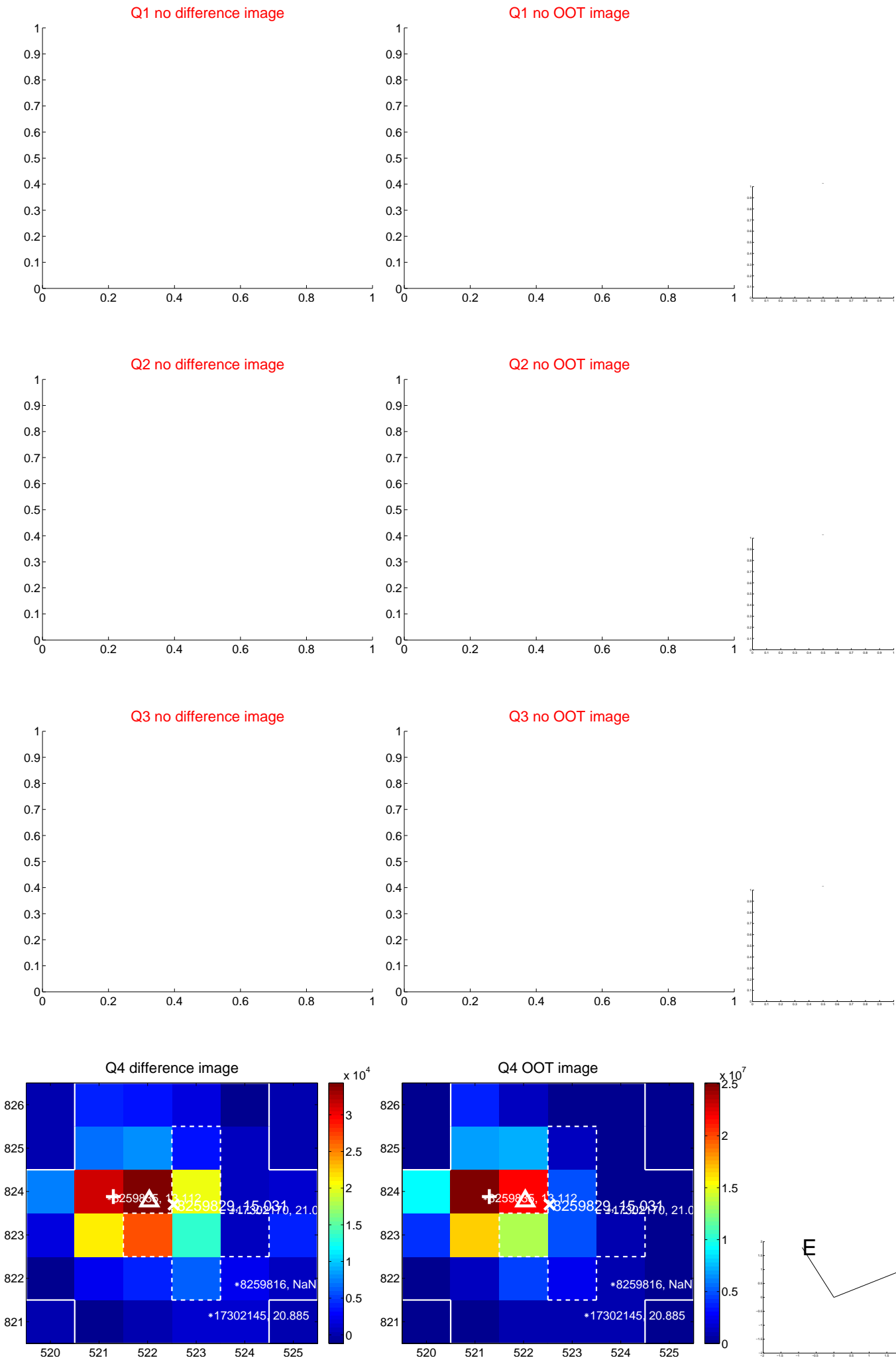
The OOT PRF centroid is offset from the target star catalog position by about 4.93 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.524 ± 0.414	6.09	-1.236 ± 0.286	2.201 ± 0.427
PRF-fit source offset from KIC position	2.461 ± 0.854	2.88	1.661 ± 0.535	-1.816 ± 0.784
photometric centroid source offset	1.40 ± 0.44	3.15	1.26 ± 0.42	-0.61 ± 0.54



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.

Q5 no difference image



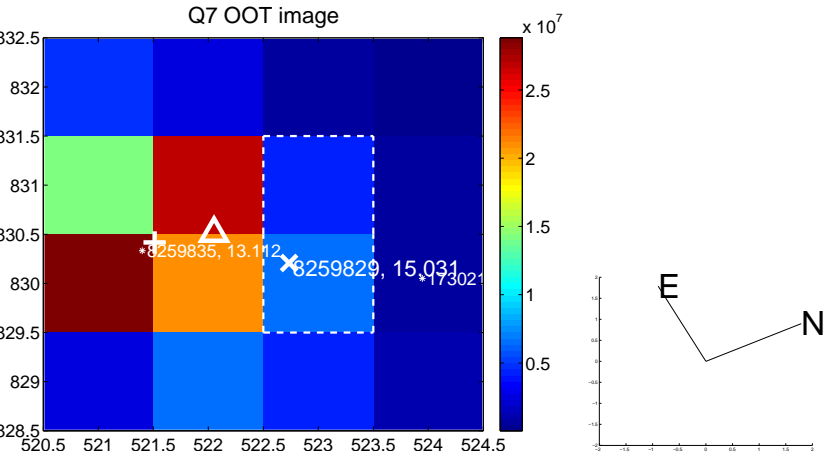
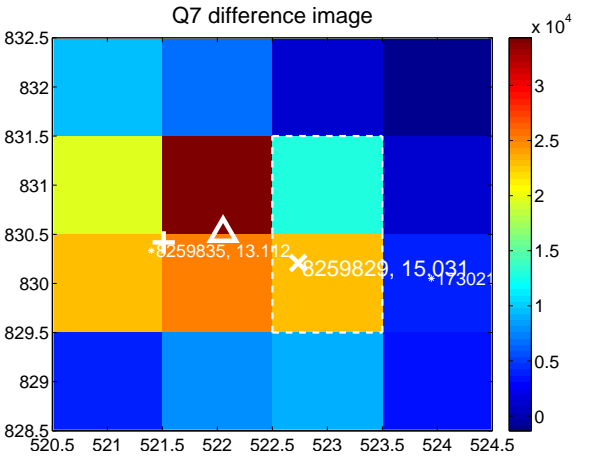
Q5 no OOT image



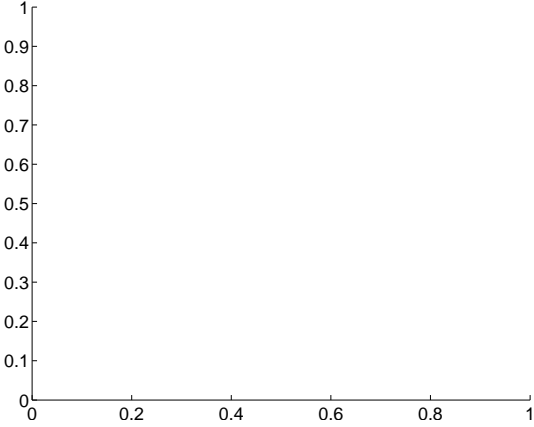
Q6 no difference image



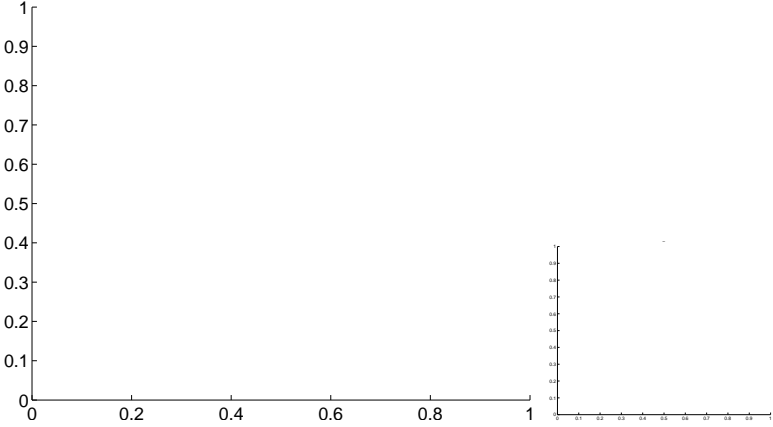
Q6 no OOT image



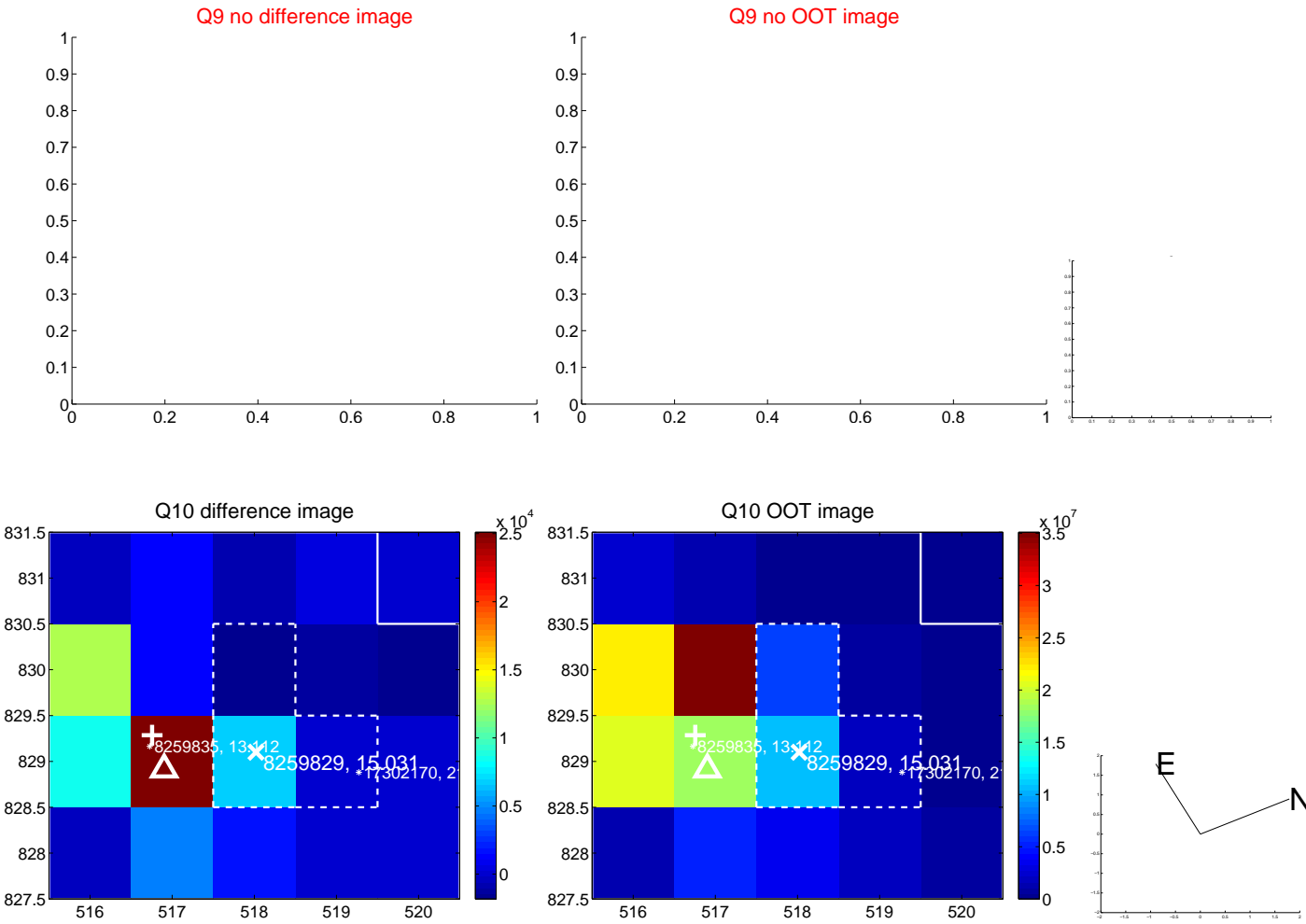
Q8 no difference image



Q8 no OOT image



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.

Q13 no difference image



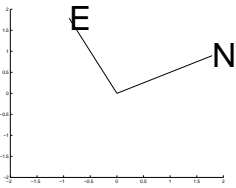
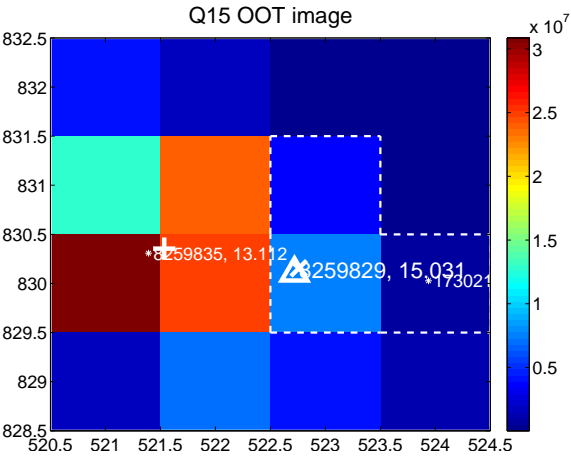
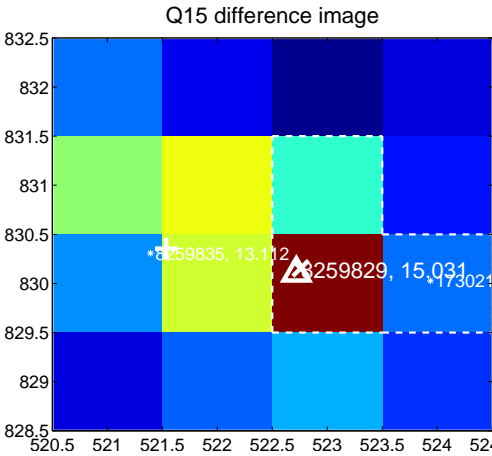
Q13 no OOT image



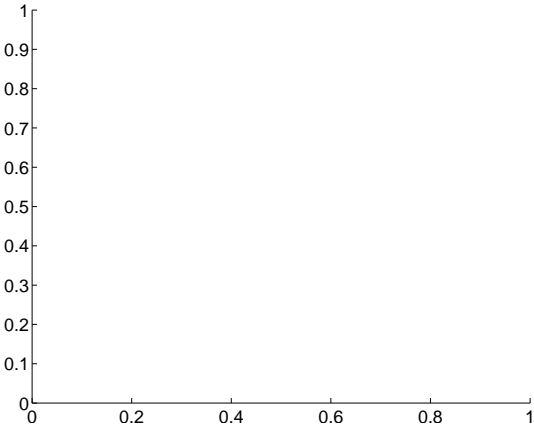
Q14 no difference image



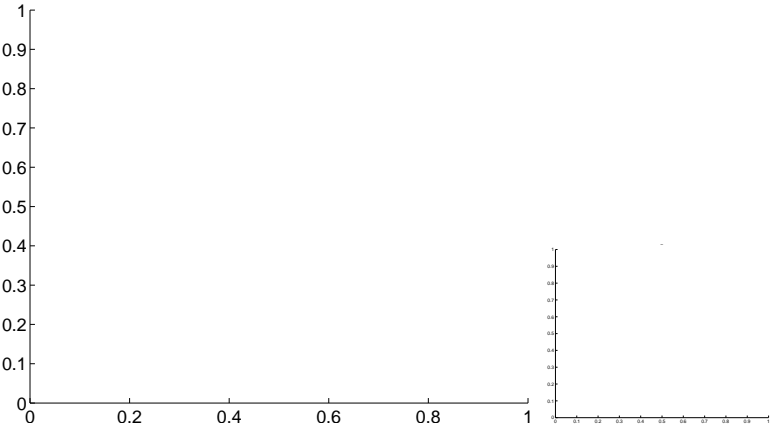
Q14 no OOT image



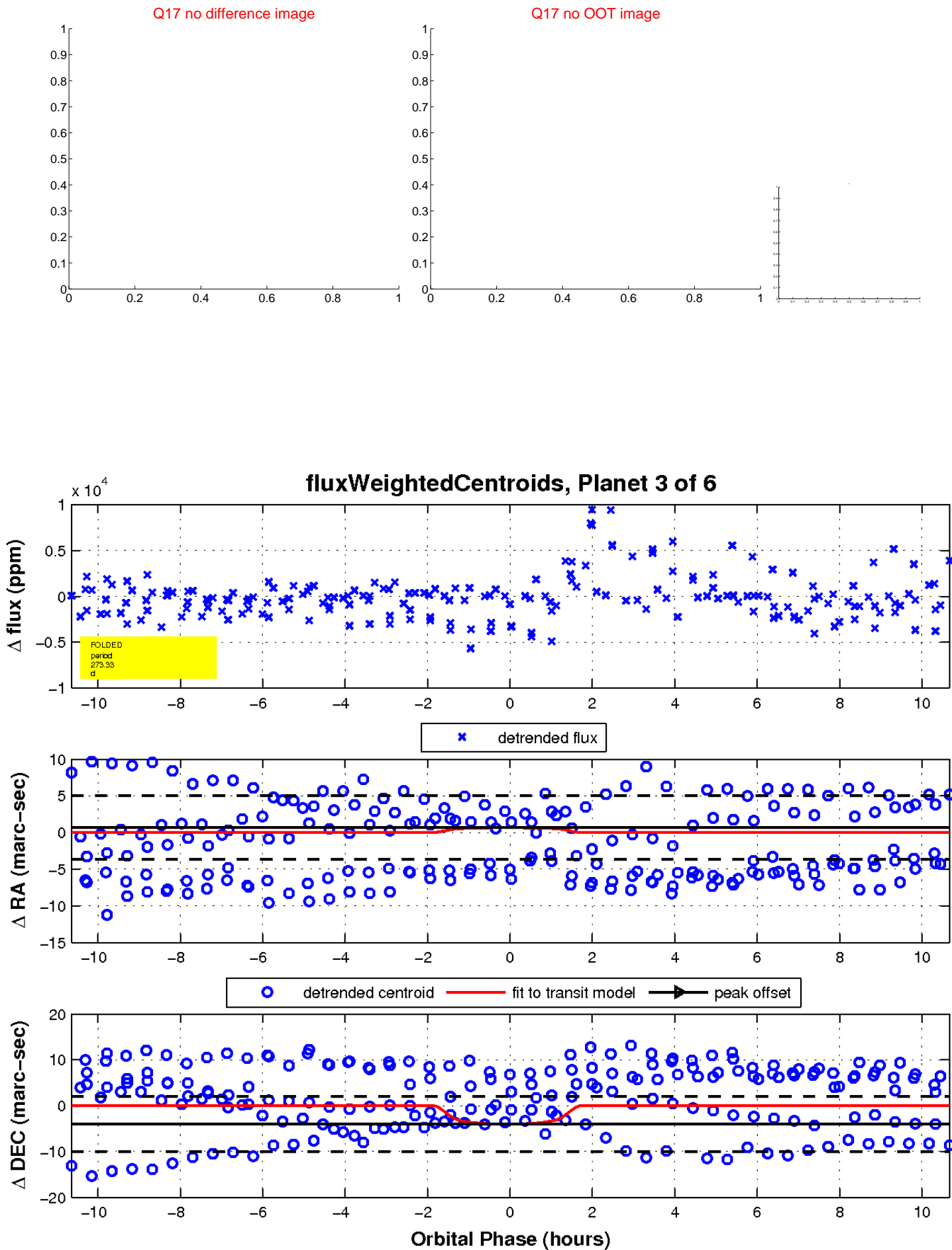
Q16 no difference image



Q16 no OOT image

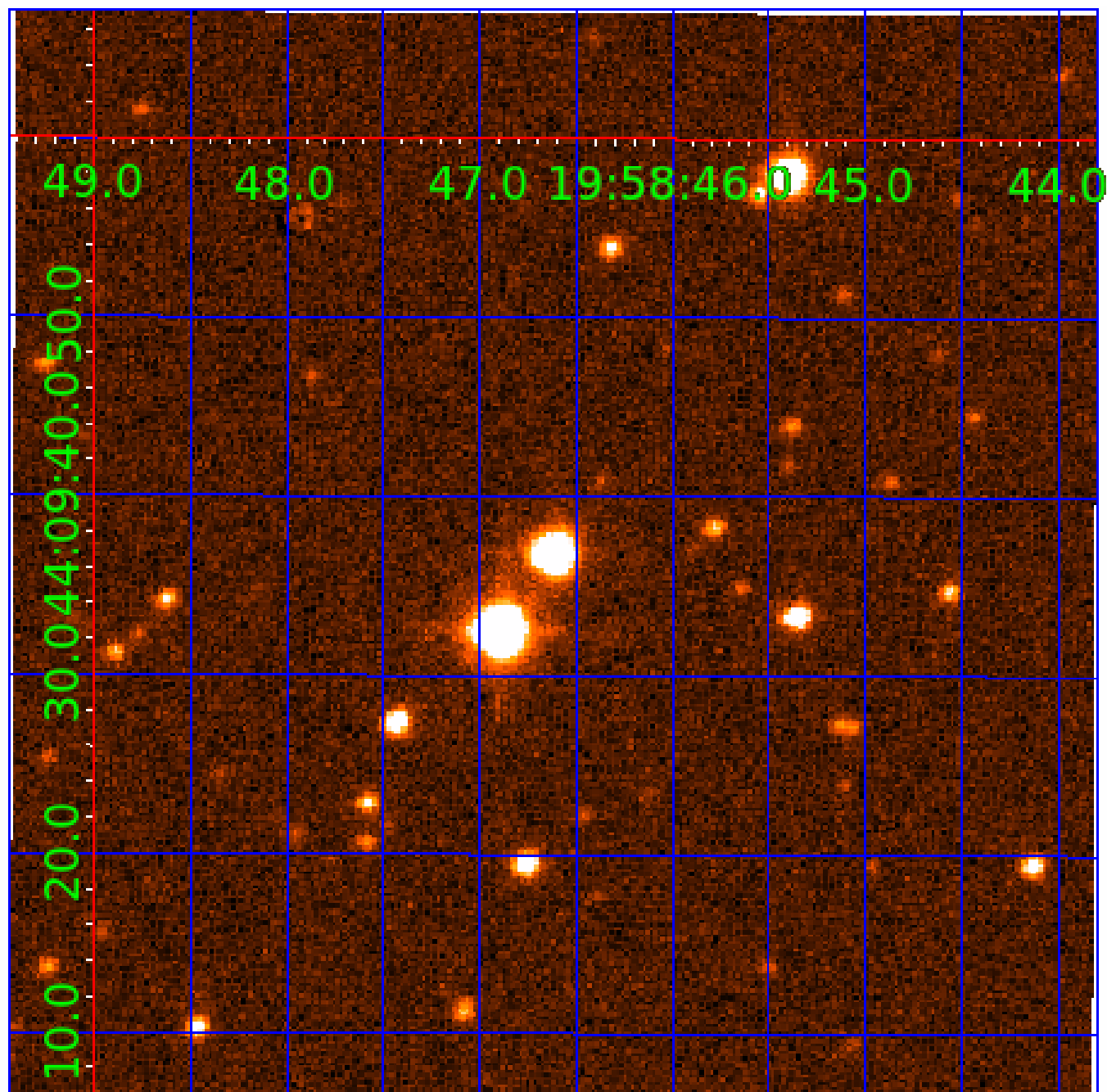


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008259829

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})
008259829-01	OBS	No	317.023736	198.705401	2797.5	5.057	14.0	6.4	0.58	3848	6.05	0.12
008259829-02	OBS	No	519.695783	421.170310	3948.0	7.372	17.0	6.6	0.58	3848	4.58	0.06
008259829-03	OBS	No	273.325094	377.035613	2944.4	3.570	13.2	7.3	0.58	3848	3.60	0.14
008259829-04	OBS	No	449.688304	439.994392	4821.5	4.494	12.7	8.9	0.58	3848	3.92	0.07
008259829-05	OBS	No	445.959203	212.260391	3236.8	3.919	12.2	7.2	0.58	3848	3.53	0.07
008259829-06	OBS	No	518.310872	527.193261	2394.7	3.500	12.9	-1.0	0.58	3848	2.77	0.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008259829-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
008259829-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008259829-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_KIC_POS
008259829-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS
008259829-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008259829-06	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.

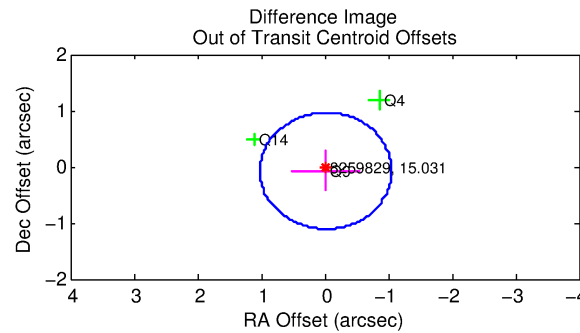
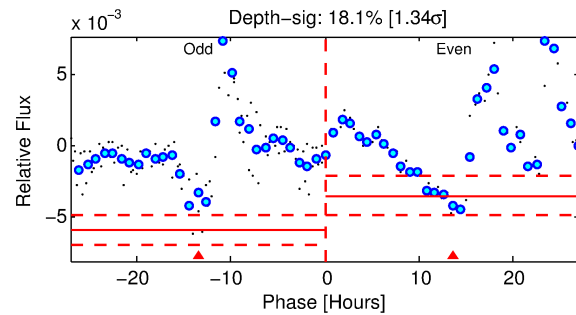
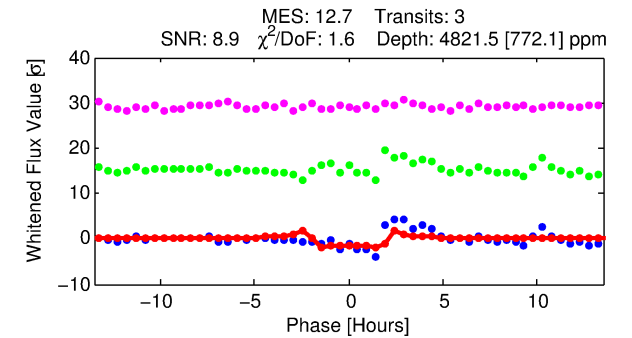
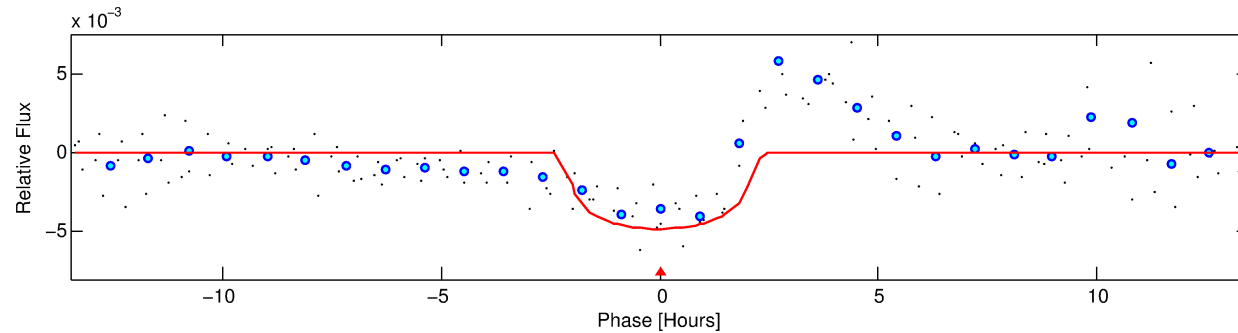
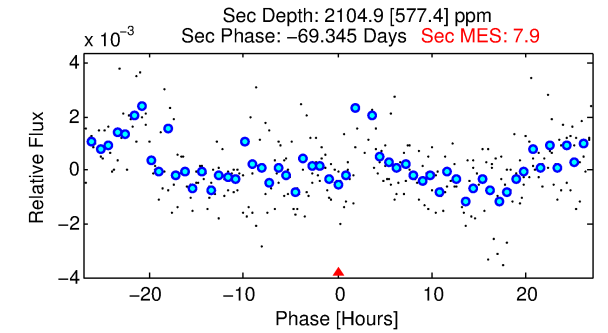
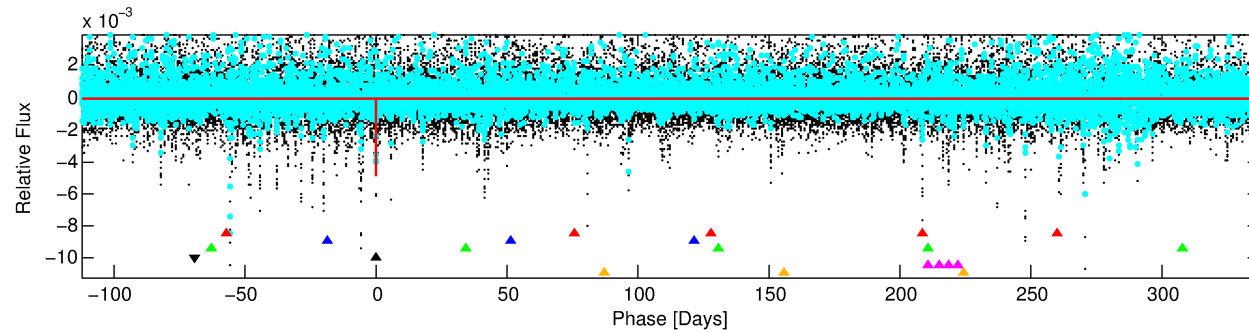
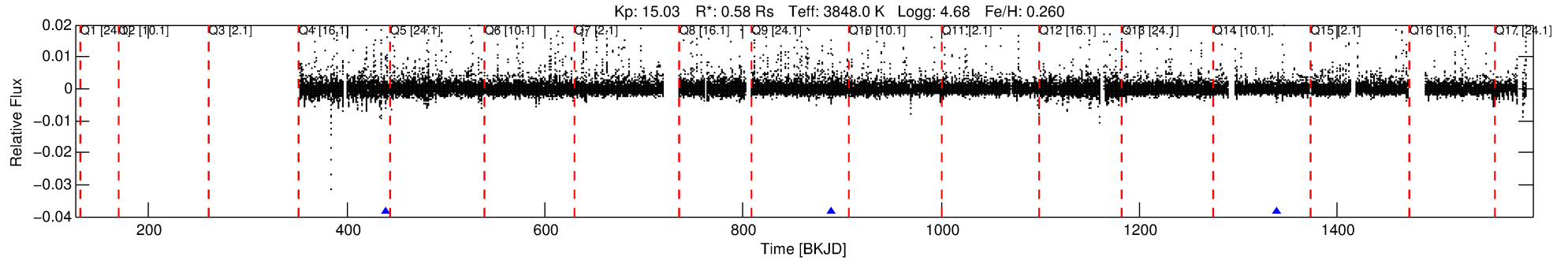
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008259829-04

No Significant Match Found

DV One-Page Summary

KIC: 8259829 Candidate: 4 of 6 Period: 449.688 d



DV Fit Results:

Period = 449.68830 [0.00442] d
Epoch = 439.9944 [0.0064] BKJD
Rp/R* = 0.0616 [0.0453]
a/R* = 810.84 [1934.59]
b = 0.04 [55.56]
Seff = 0.07 [0.01]
Teq = 132 [7] K
Rp = 3.92 [2.93] Re
a = 0.9625 [0.0938] AU
Ag = 69883.10 [104987.73] [0.67σ]
Teffp = 3321 [1249] K [2.55σ]

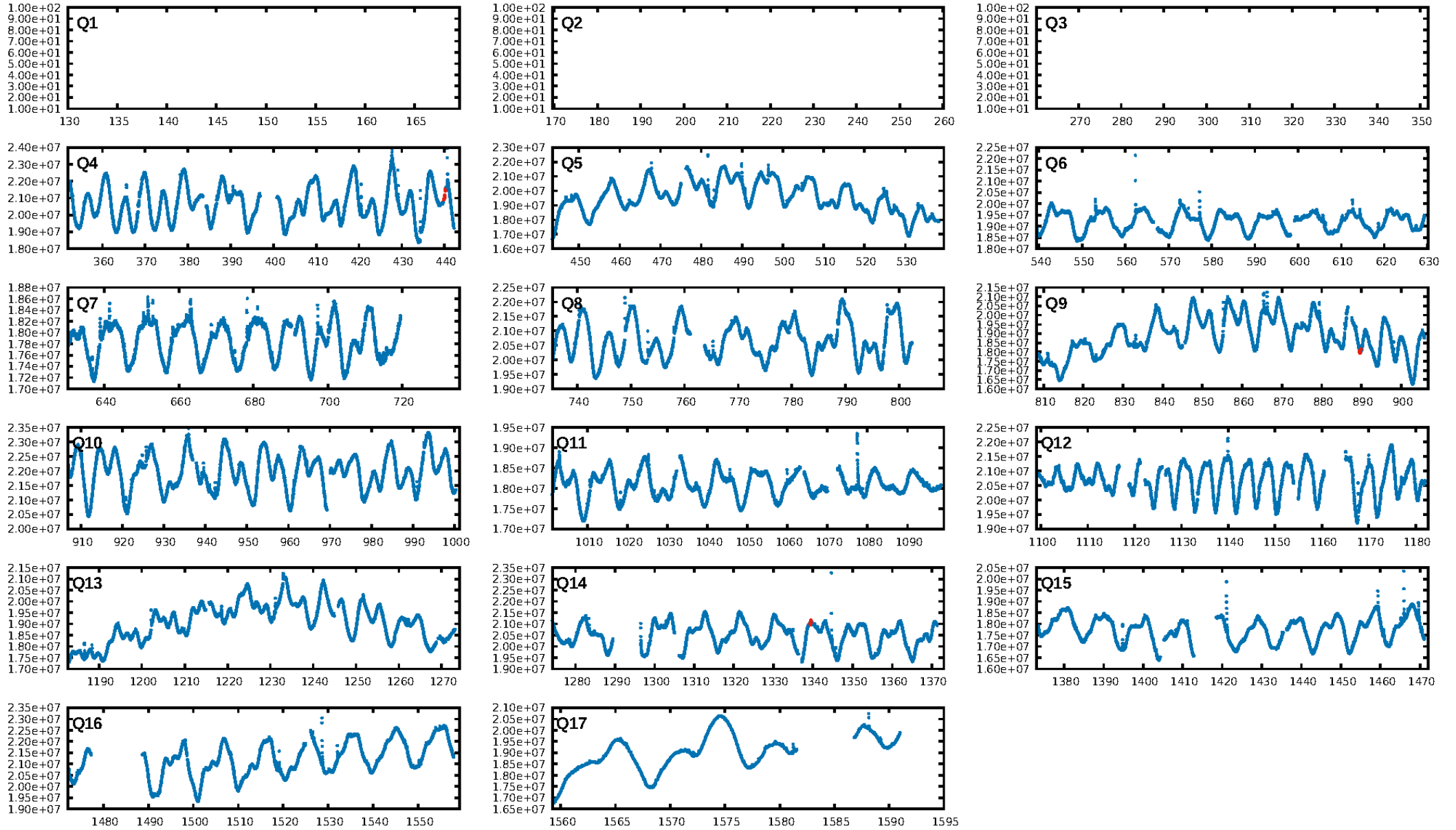
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [15.01σ]
LongPeriod-sig: 100.0% [289.13σ]
ModelChiSquare2-sig: 65.0%
ModelChiSquareGoF-sig: 44.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 8.739
Centroid-sig: 0.3%
Centroid-so: 1.660 arcsec [3.72σ]
OotOffset-rm: 0.075 arcsec [0.22σ]
KicOffset-rm: 5.148 arcsec [14.22σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

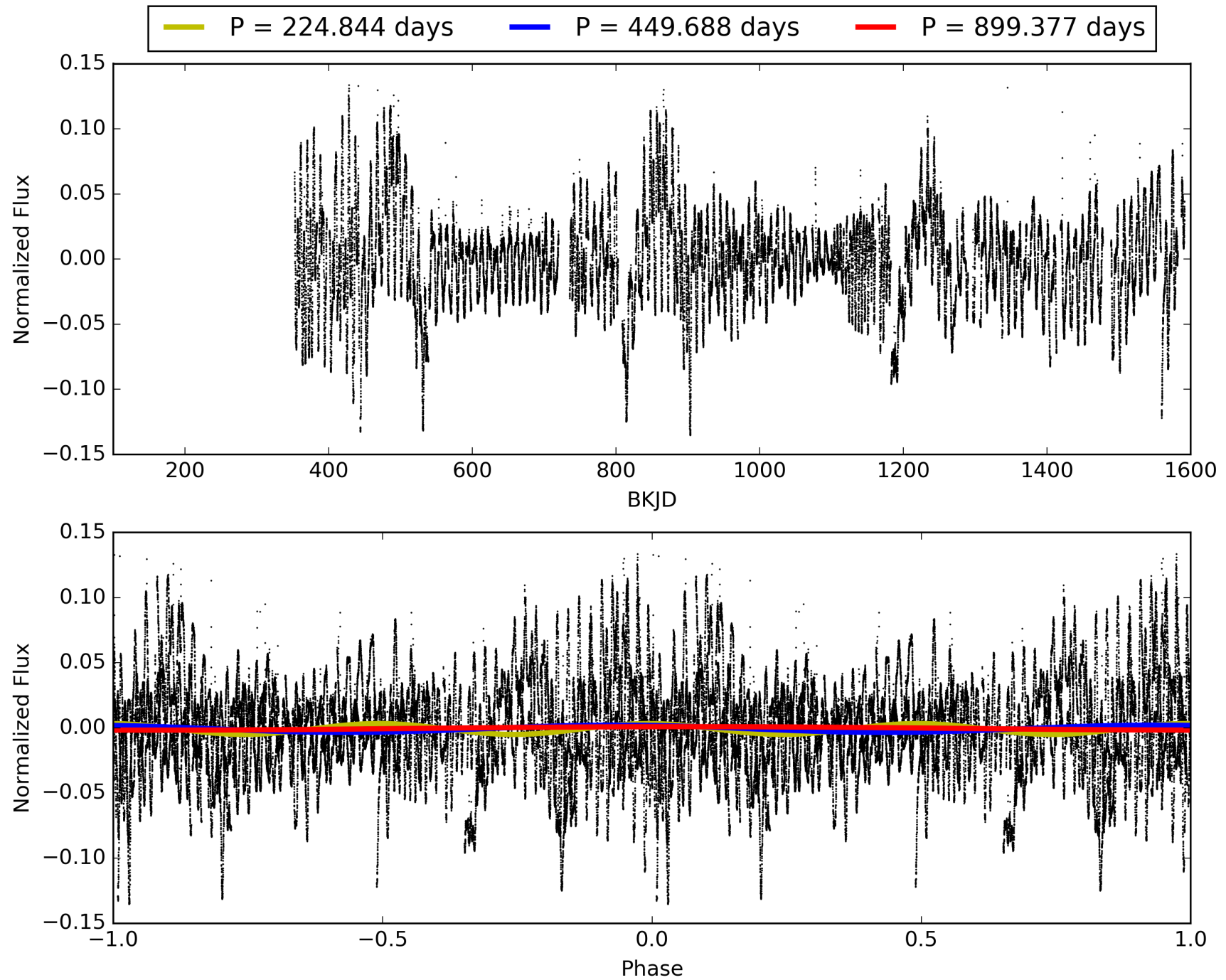
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:19:20 Z

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

TCE 008259829-04, PDC Light Curves

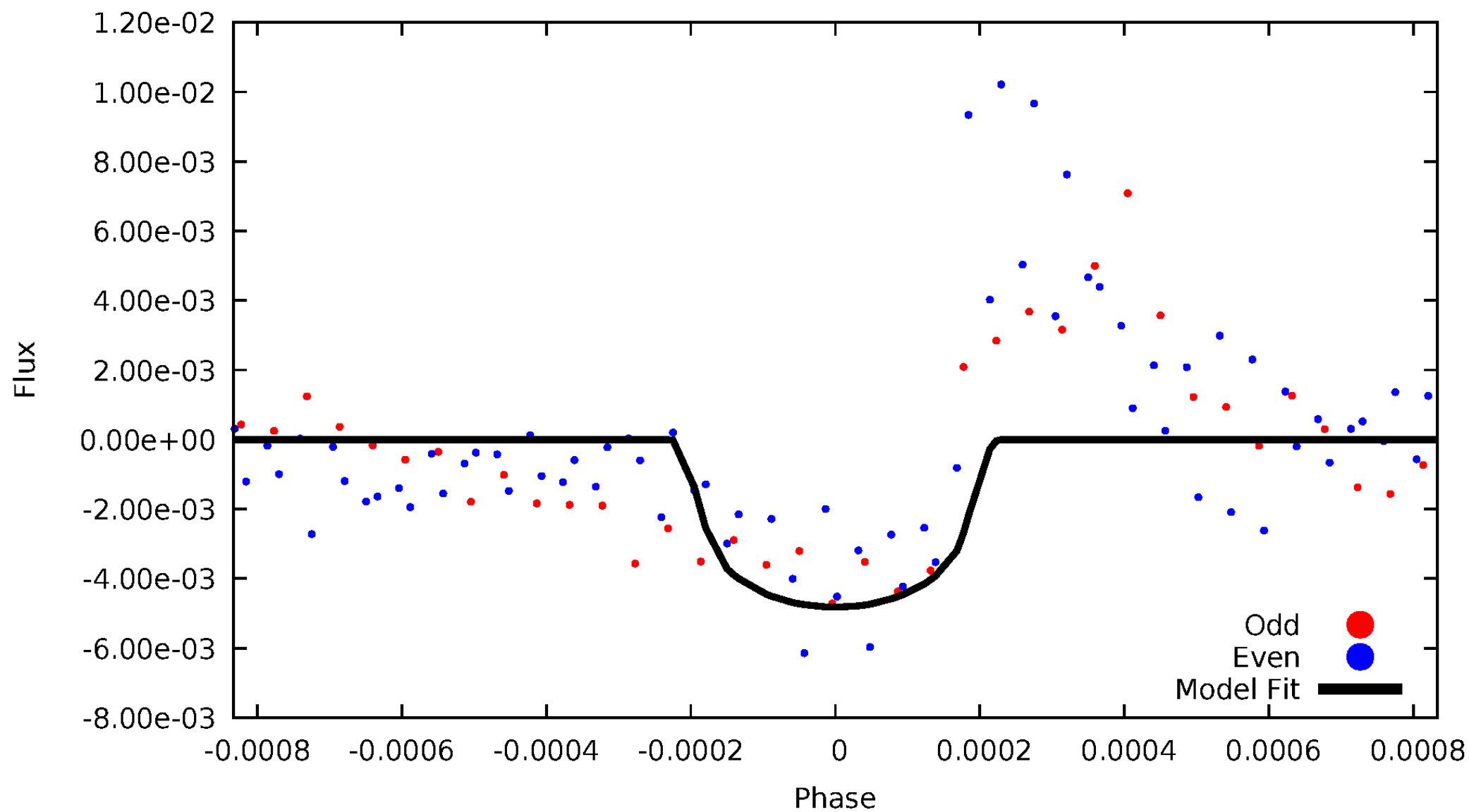


TCE 008259829-04



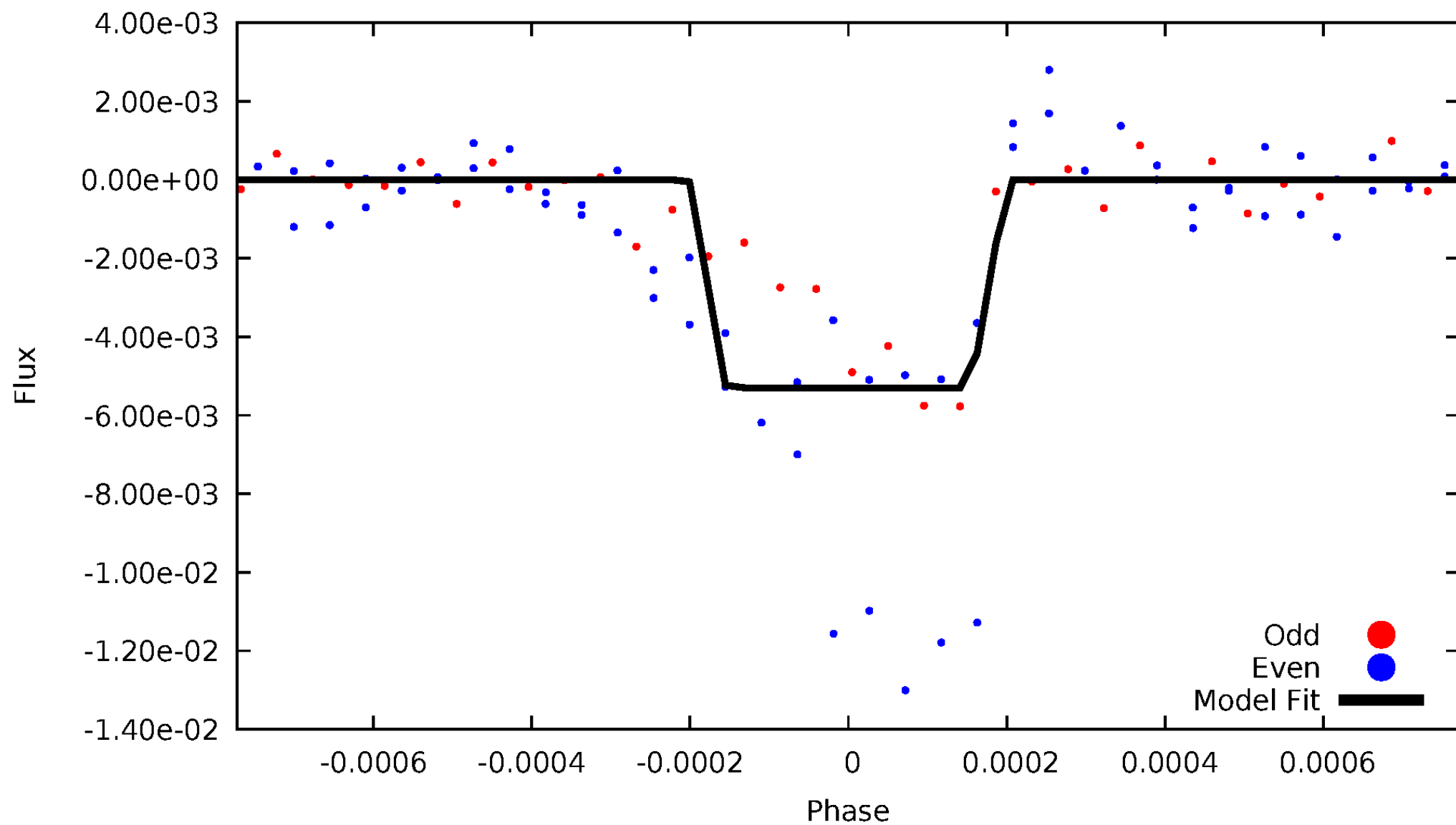
DV Odd/Even

TCE 008259829-04



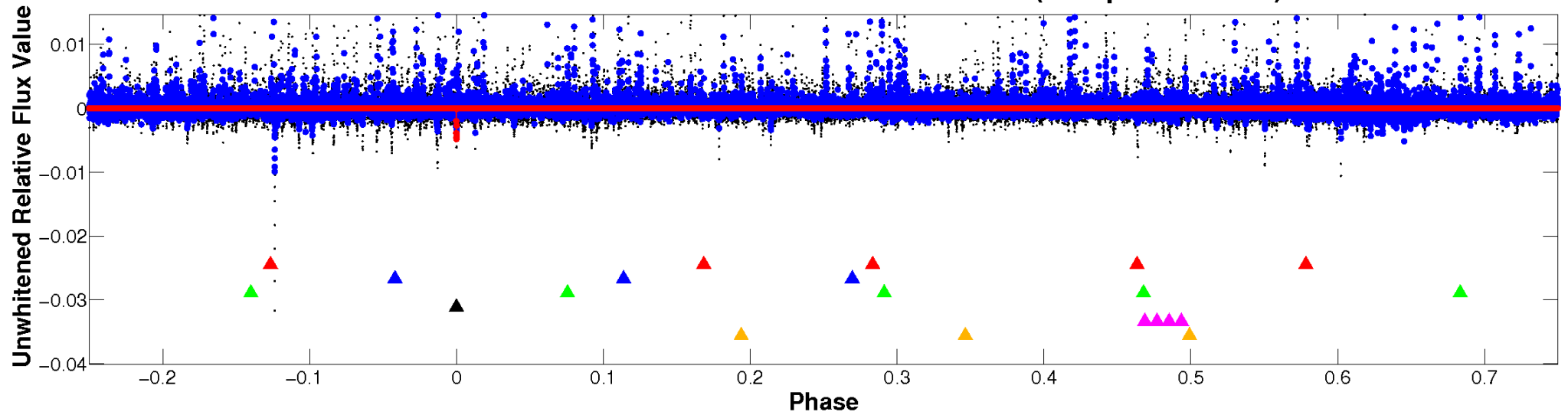
ALT Odd/Even

TCE 008259829-04

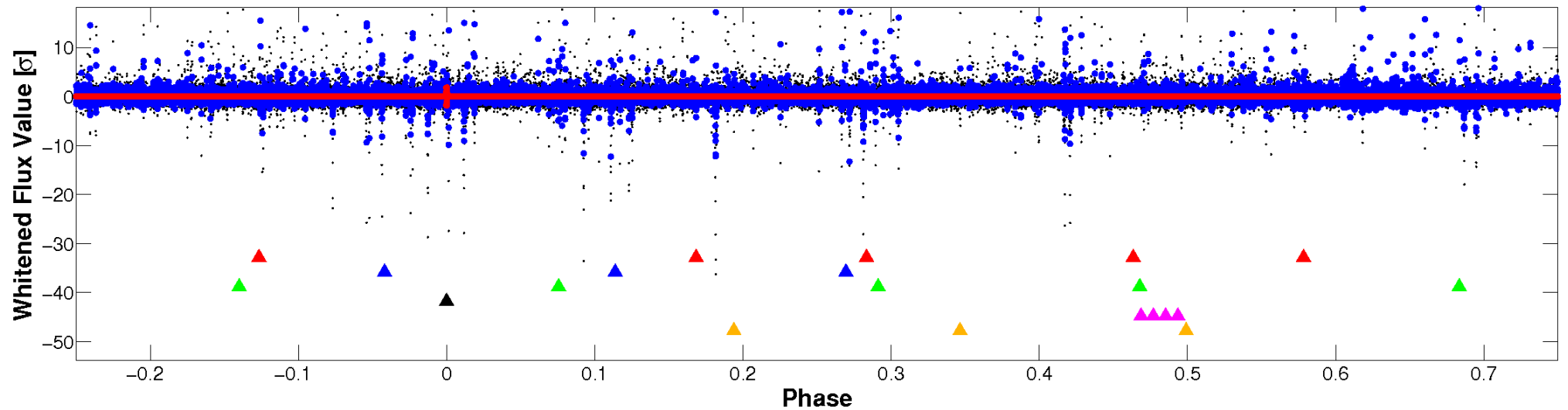


Non-Whitened Vs. Whitened Light Curve

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

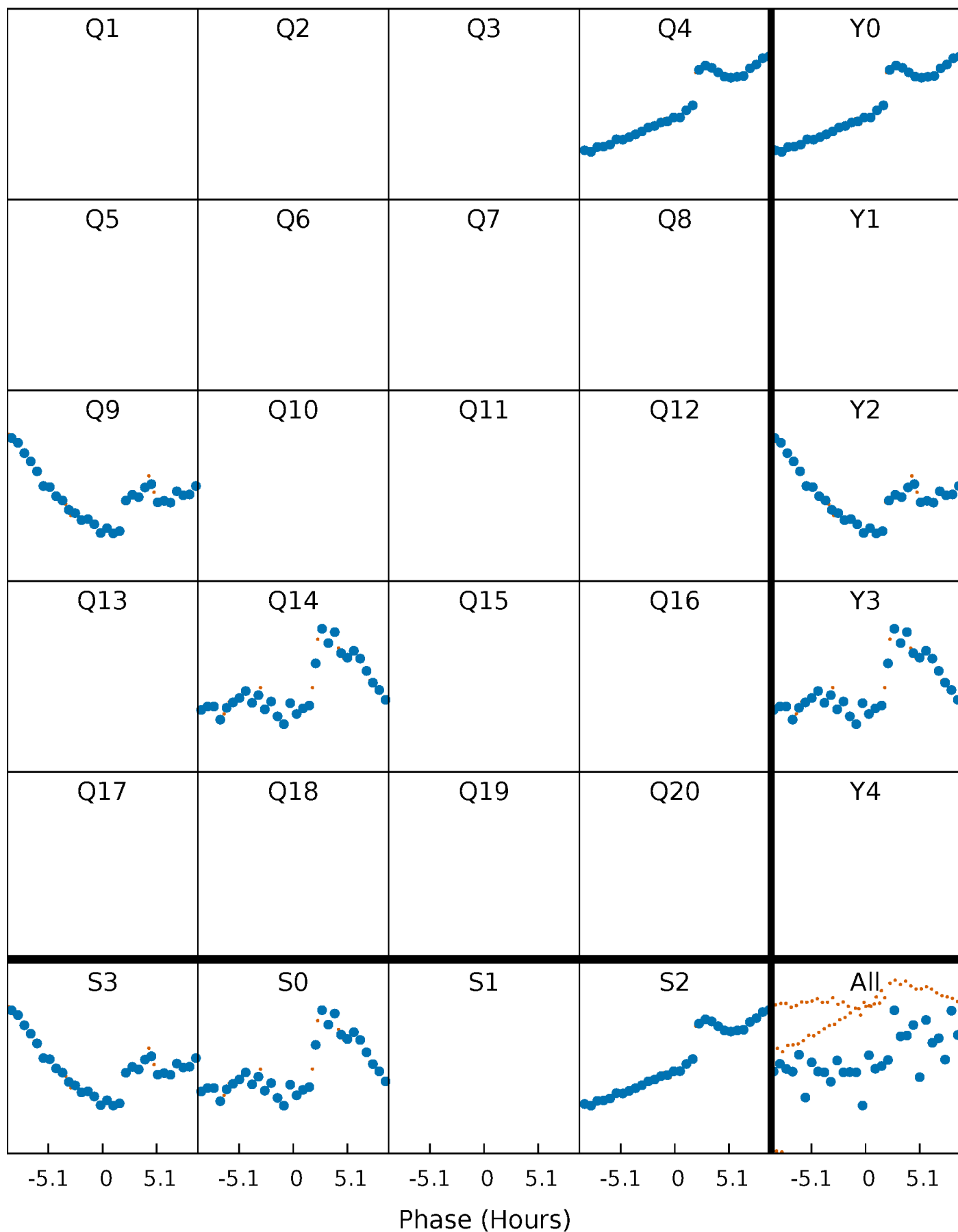


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



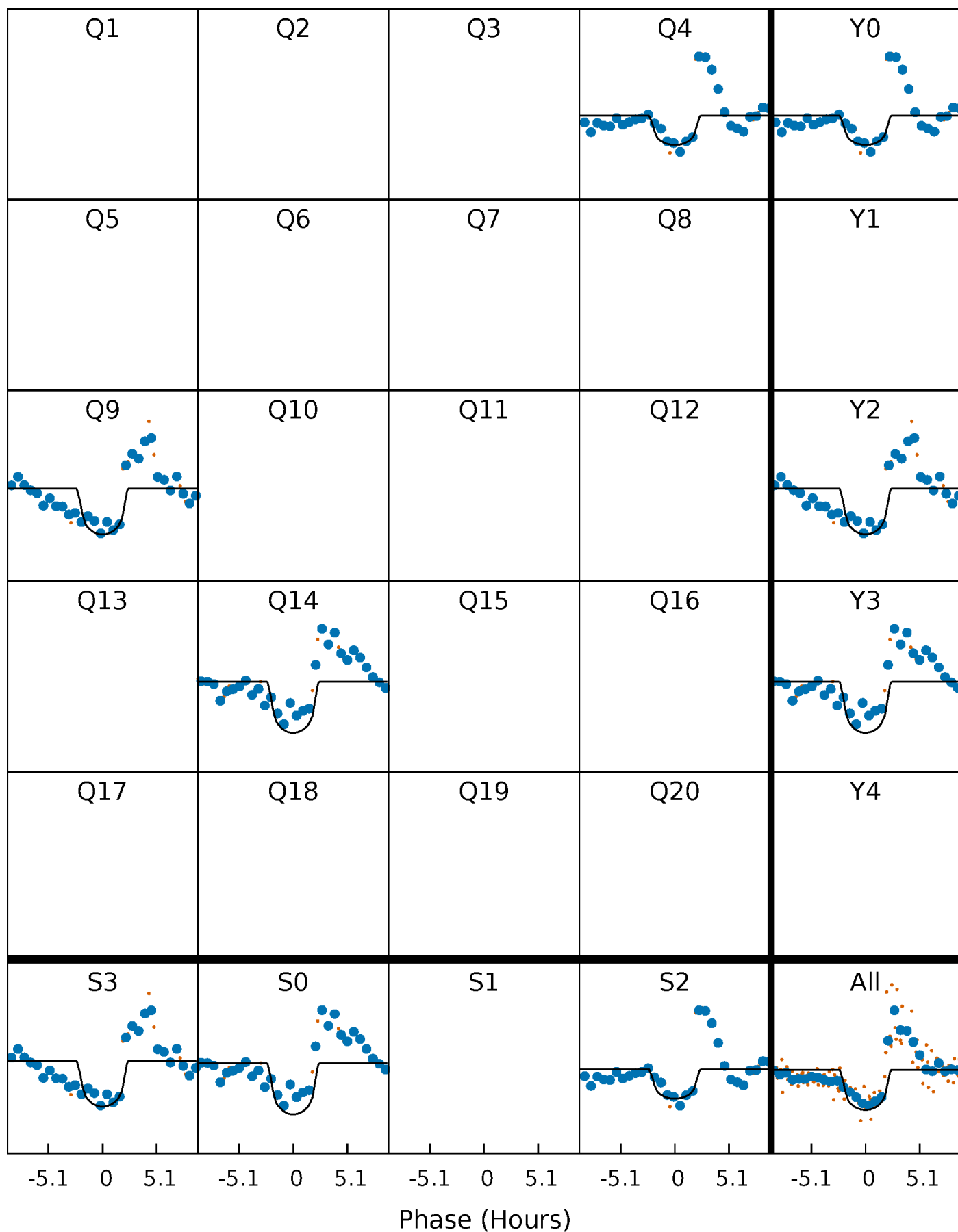
PDC Quarter-Phased Transit Curves

TCE 008259829-04 $P=449.688304$ Days $T_0=439.994392$ (BKJD)



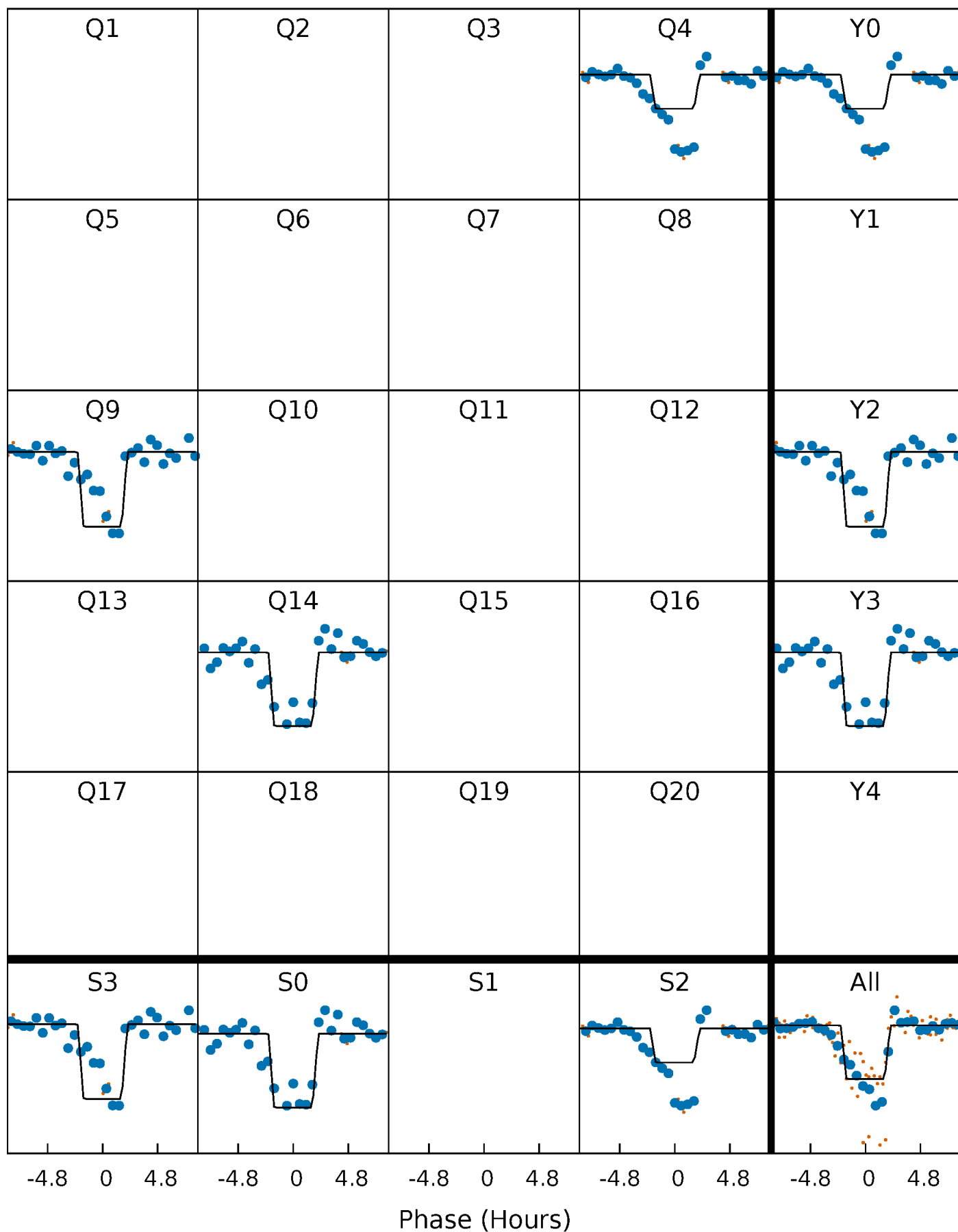
DV Quarter-Phased Transit Curves

TCE 008259829-04 P=449.688304 Days $T_0=439.994392$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

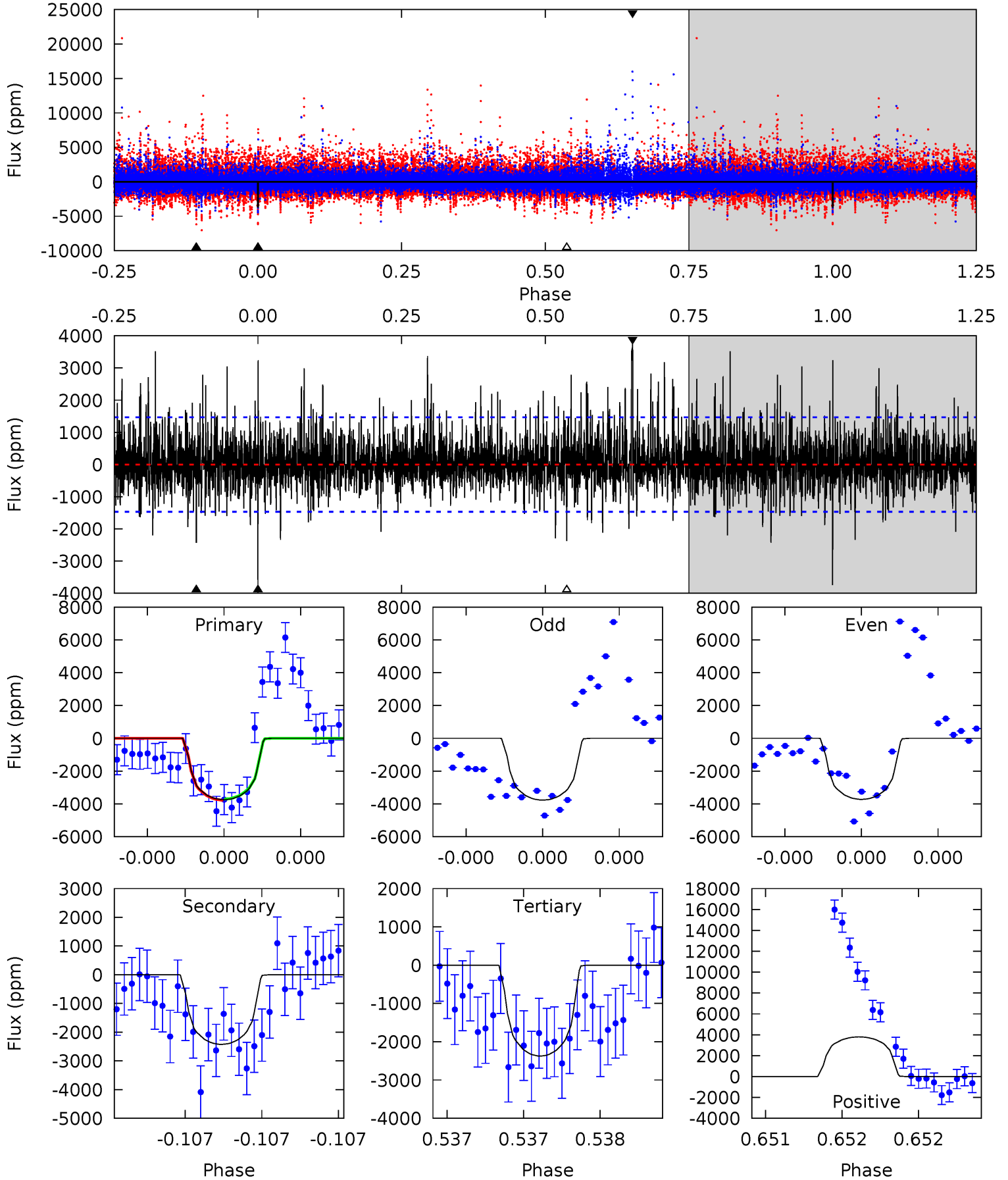
TCE 008259829-04 P=449.694977 Days $T_0=439.983554$ (BKJD)



DV Model-Shift Uniqueness Test

008259829-04, P = 449.688304 Days, E = 439.994392 Days

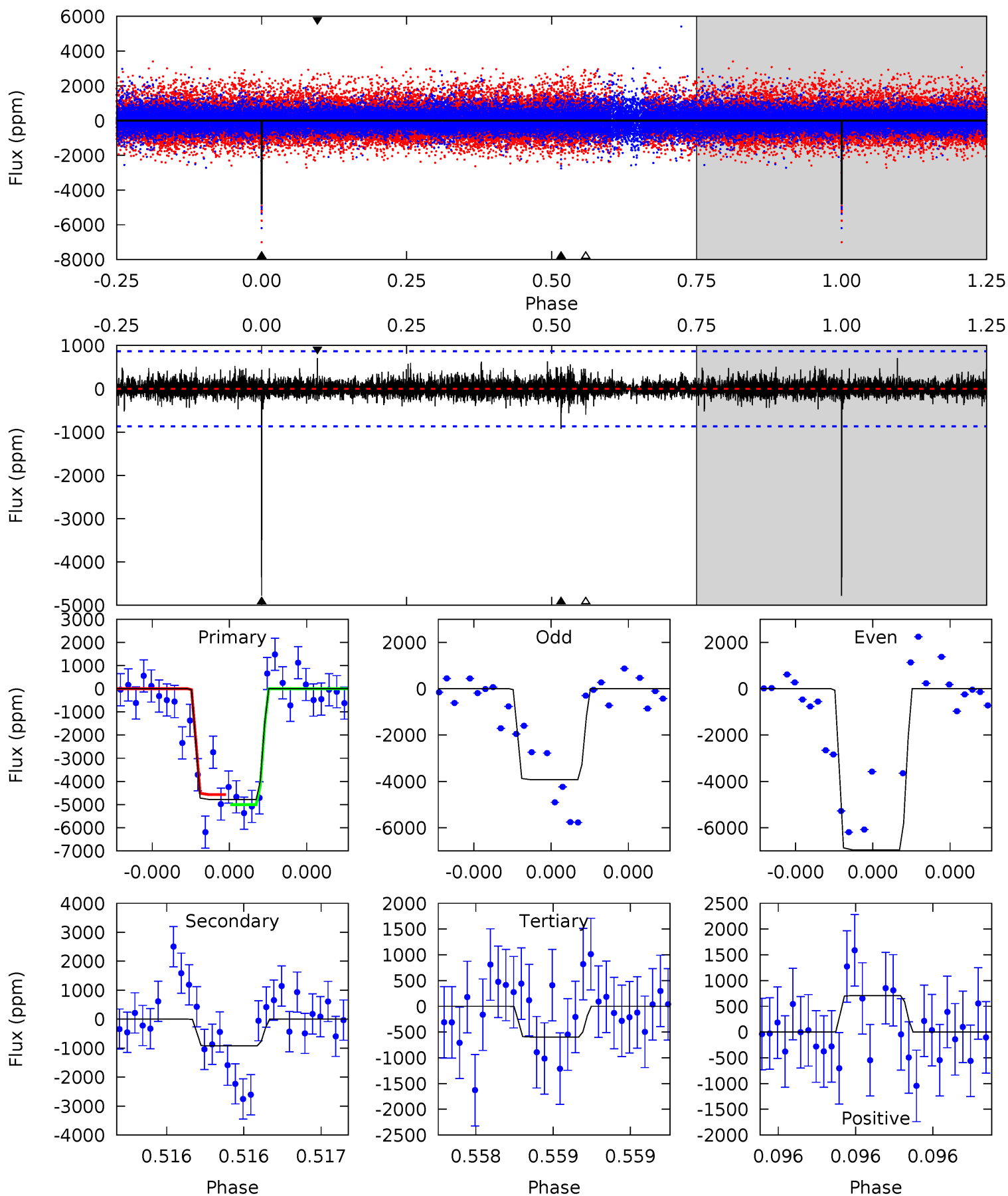
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	9.27	9.08	14.5	5.60	3.53	2.31	5.23	-0.21	0.20	-5.24	0.05	0.95	0.50	0.12



Alt Model-Shift Uniqueness Test

008259829-04, P = 449.694977 Days, E = 439.983554 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	5.94	3.85	4.57	5.61	3.53	0.74	27.0	26.3	2.09	1.37	10.3	1.32	0.13	0



Stellar Parameters For KIC 008259829

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3848^{+120}_{-147}	$4.676^{+0.063}_{-0.023}$	$0.260^{+0.200}_{-0.300}$	$0.583^{+0.037}_{-0.074}$	$0.588^{+0.045}_{-0.067}$	$4.181^{+1.321}_{-0.464}$
	+3%/-4%	+1%/-0%	+77%/-115%	+6%/-13%	+8%/-11%	+32%/-11%
Source	KIC0	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 008259829-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2426 ± 262	$4.25^{+2.81}_{-2.57}$	183^{+7}_{-8}	3477^{+1342}_{-525}	$68907^{+385895}_{-44451}$
Alt.	-921 ± 155	$4.78^{+2.72}_{-2.51}$	183^{+7}_{-8}	2893^{+728}_{-330}	20403^{+73468}_{-12194}

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 $A_{obs} \gg 1.0$

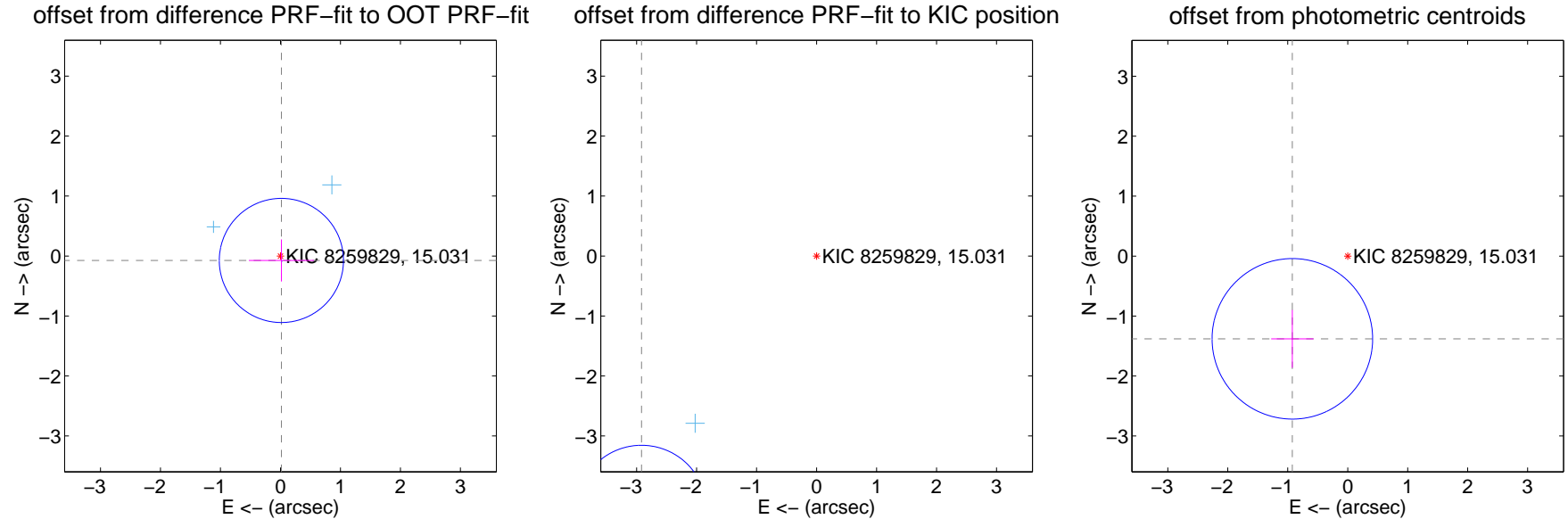
DV Centroid Data

Supplemental centroid analysis for 008259829-04. Kepler magnitude: 15.03. Transit SNR 8.94

There are 3 quarters with good PRF difference image offsets

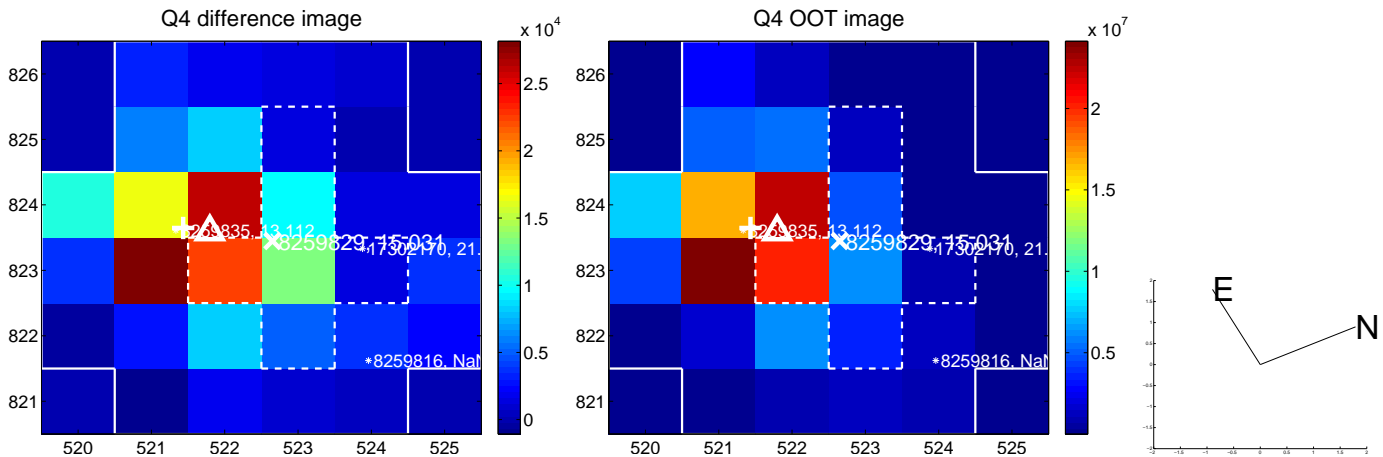
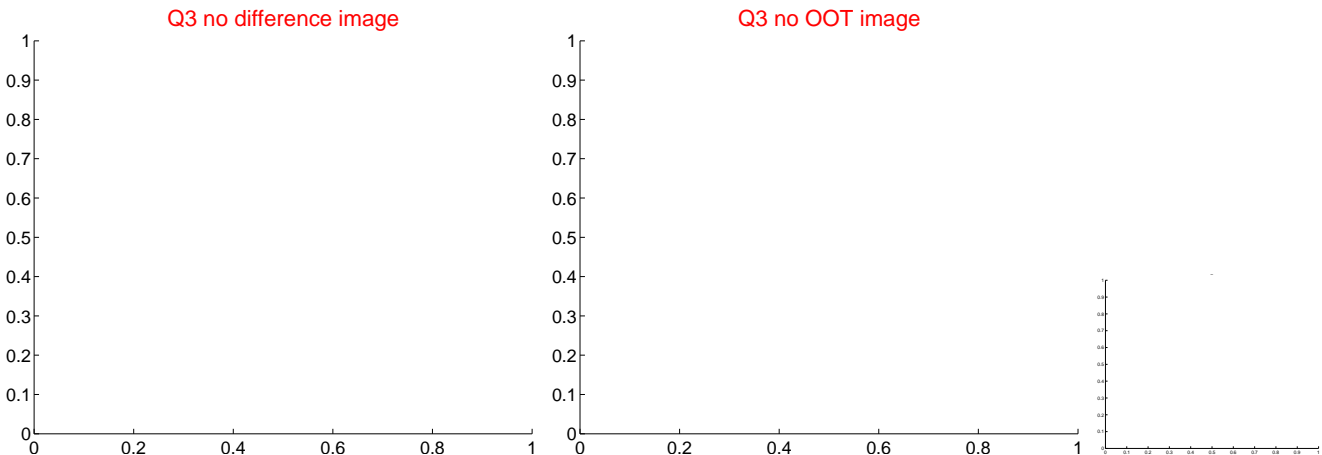
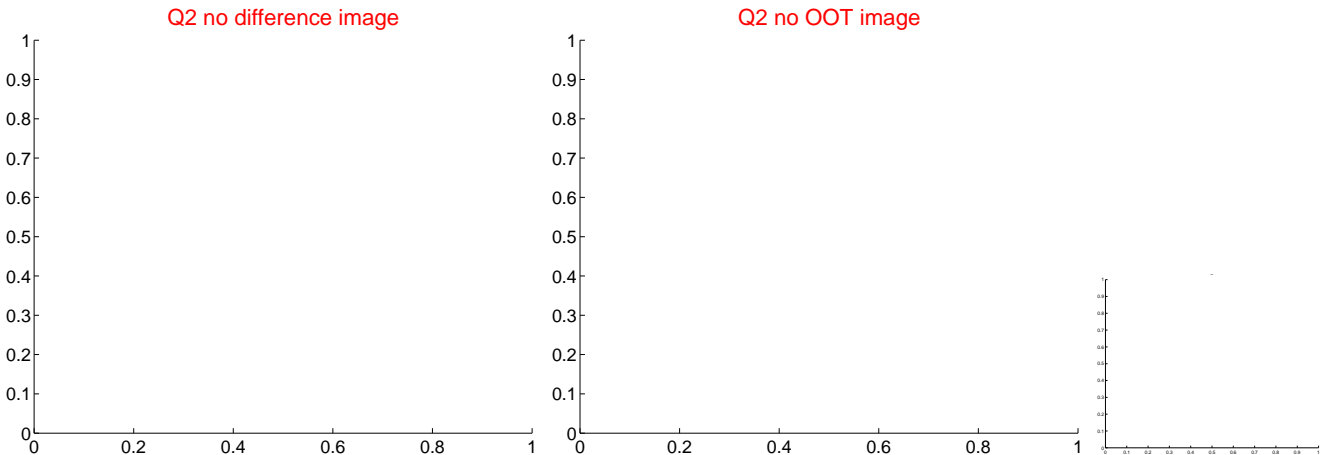
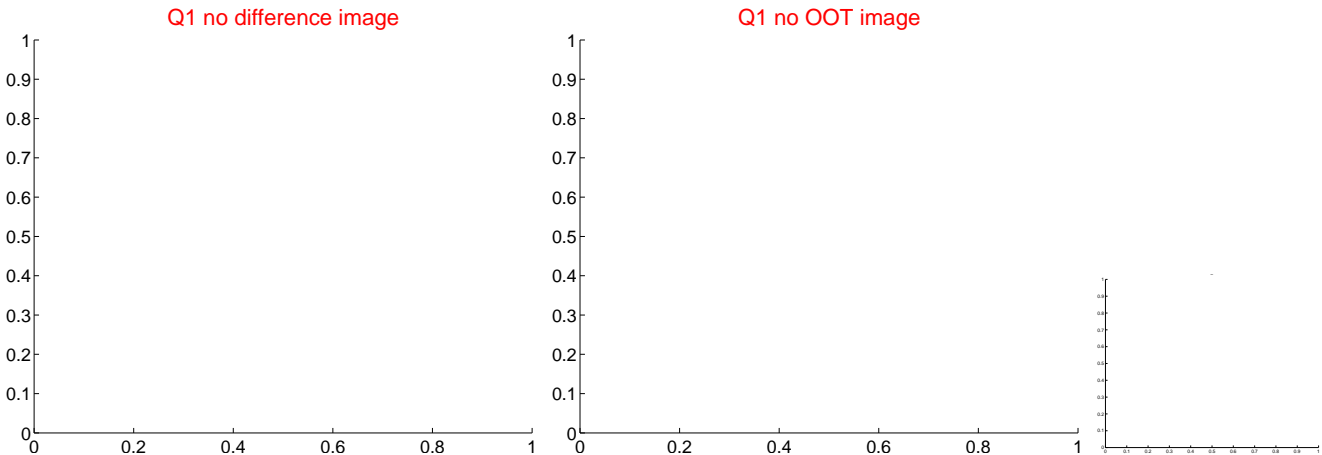
The OOT PRF centroid is offset from the target star catalog position by about 5.05 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.075 ± 0.345	0.22	-0.015 ± 0.543	-0.074 ± 0.351
PRF-fit source offset from KIC position	5.148 ± 0.362	14.22	2.918 ± 0.336	-4.241 ± 0.258
photometric centroid source offset	1.66 ± 0.45	3.72	0.92 ± 0.35	-1.38 ± 0.48



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.

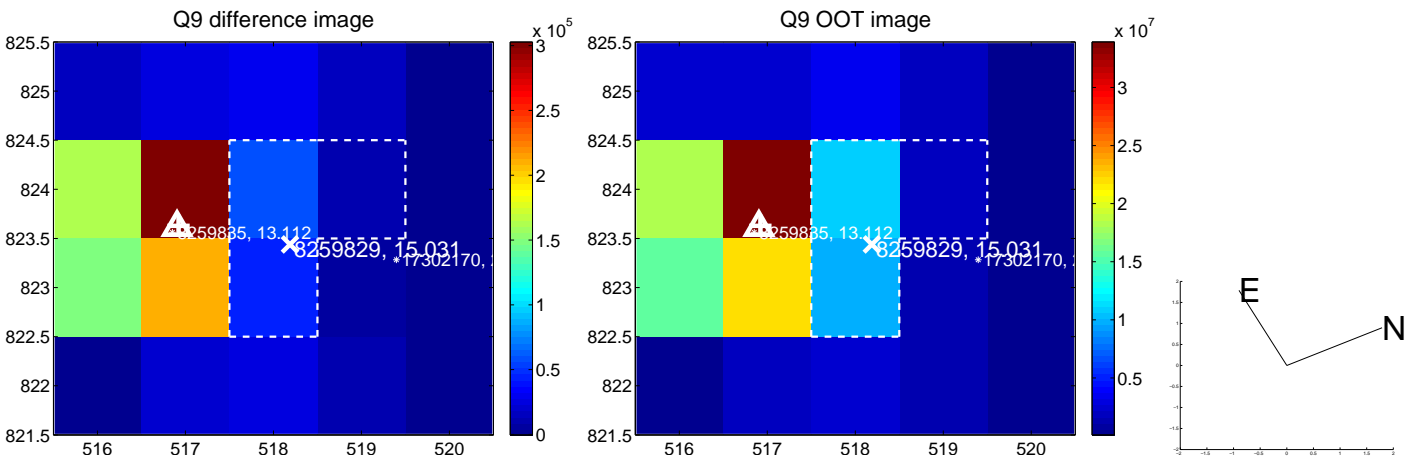
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



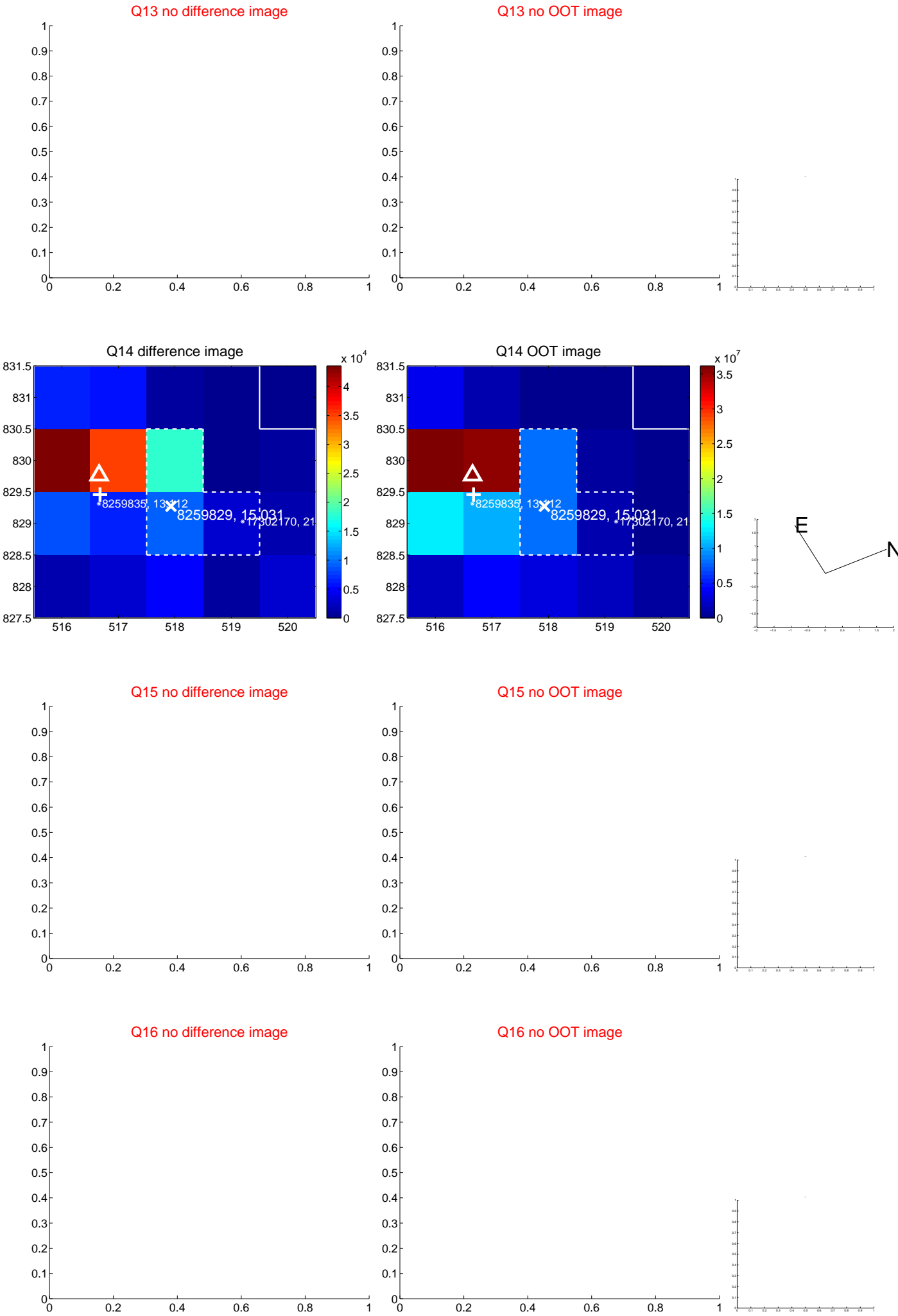
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



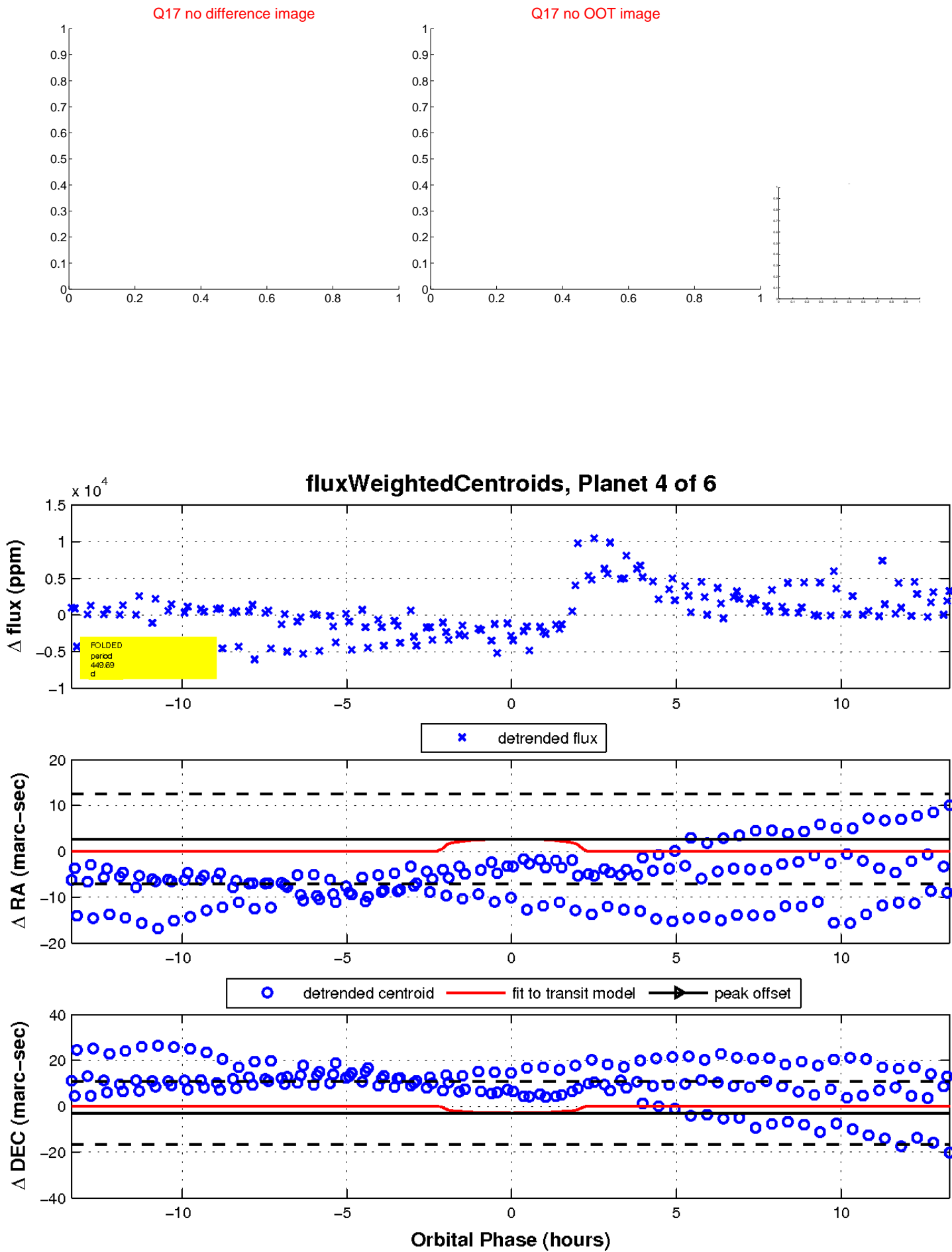
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

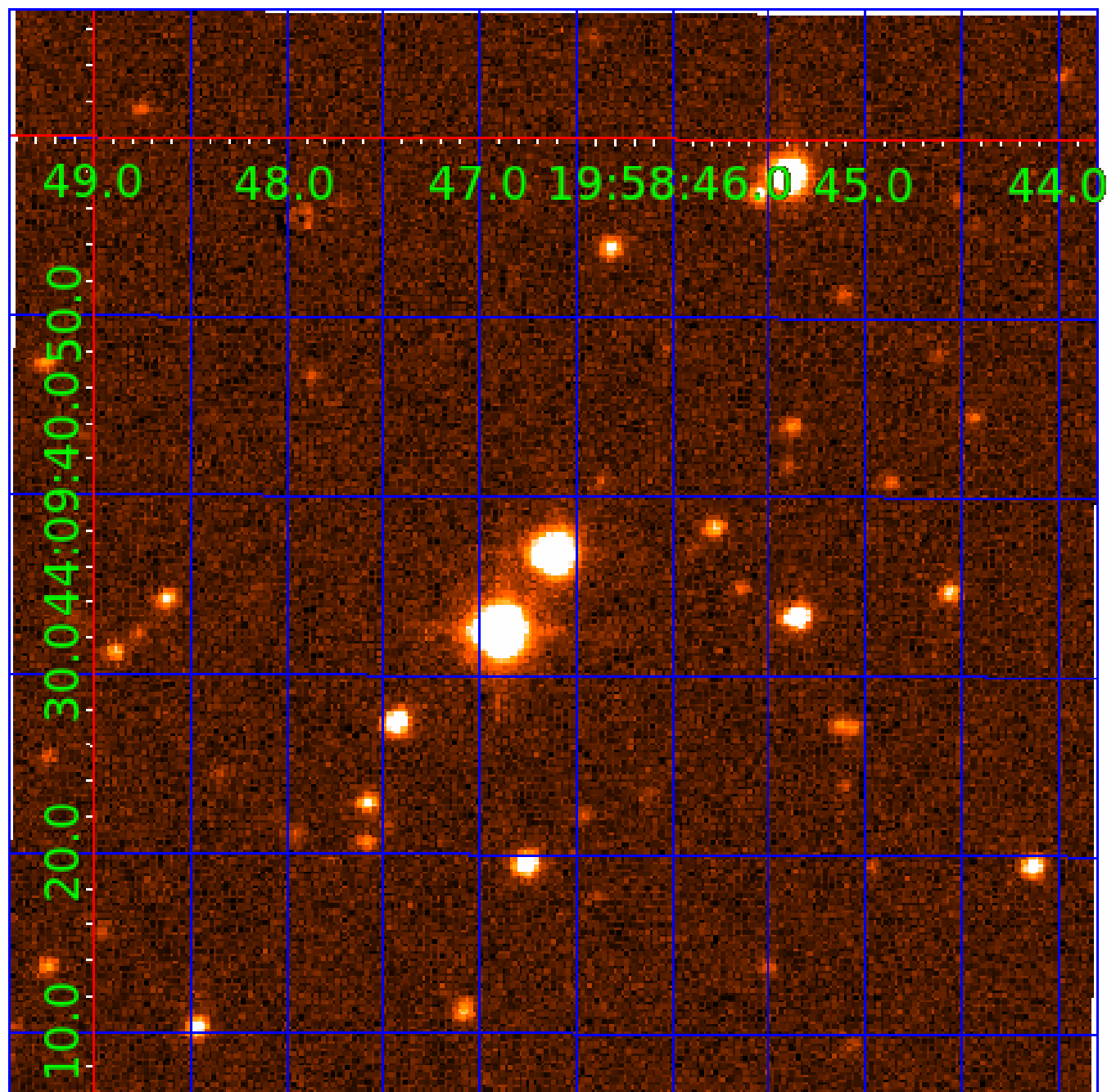


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008259829

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})
008259829-01	OBS	No	317.023736	198.705401	2797.5	5.057	14.0	6.4	0.58	3848	6.05	0.12
008259829-02	OBS	No	519.695783	421.170310	3948.0	7.372	17.0	6.6	0.58	3848	4.58	0.06
008259829-03	OBS	No	273.325094	377.035613	2944.4	3.570	13.2	7.3	0.58	3848	3.60	0.14
008259829-04	OBS	No	449.688304	439.994392	4821.5	4.494	12.7	8.9	0.58	3848	3.92	0.07
008259829-05	OBS	No	445.959203	212.260391	3236.8	3.919	12.2	7.2	0.58	3848	3.53	0.07
008259829-06	OBS	No	518.310872	527.193261	2394.7	3.500	12.9	-1.0	0.58	3848	2.77	0.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008259829-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
008259829-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008259829-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_KIC_POS
008259829-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS
008259829-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008259829-06	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.

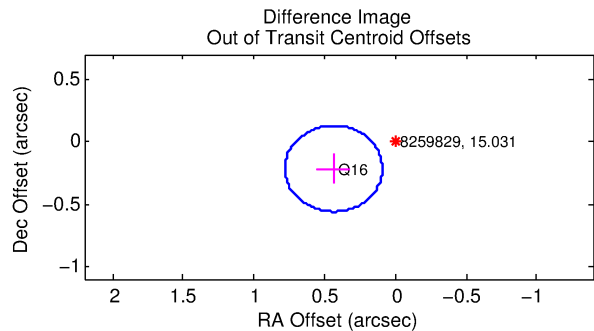
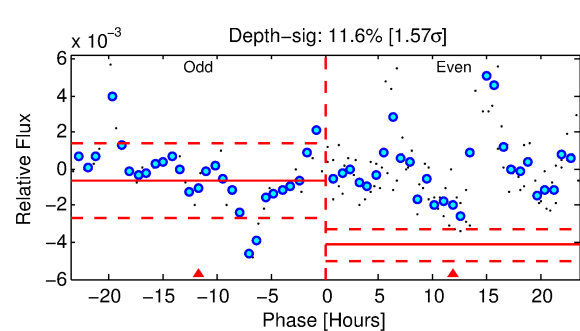
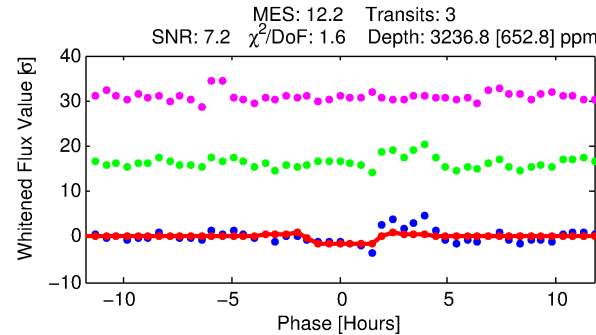
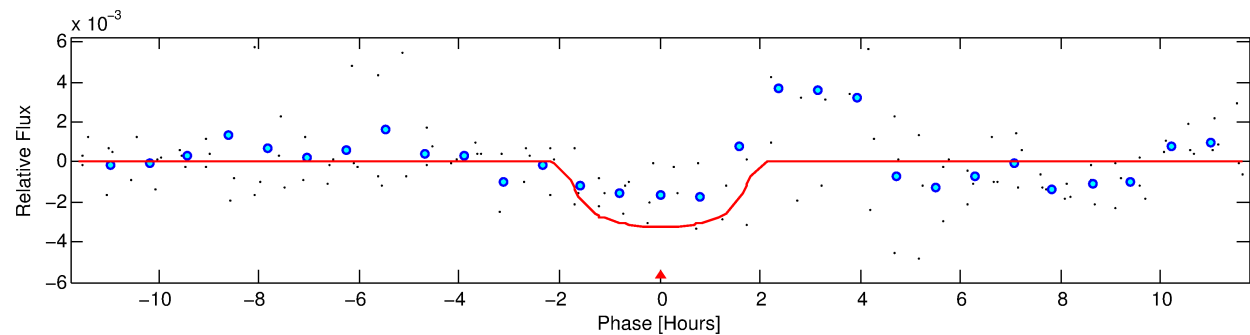
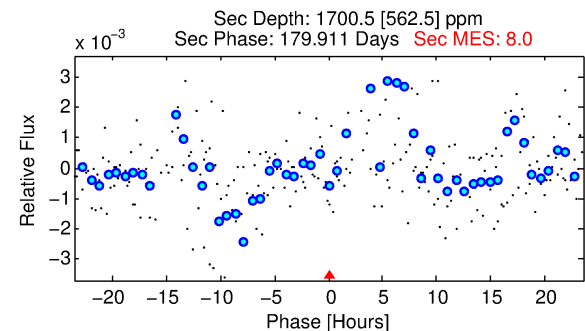
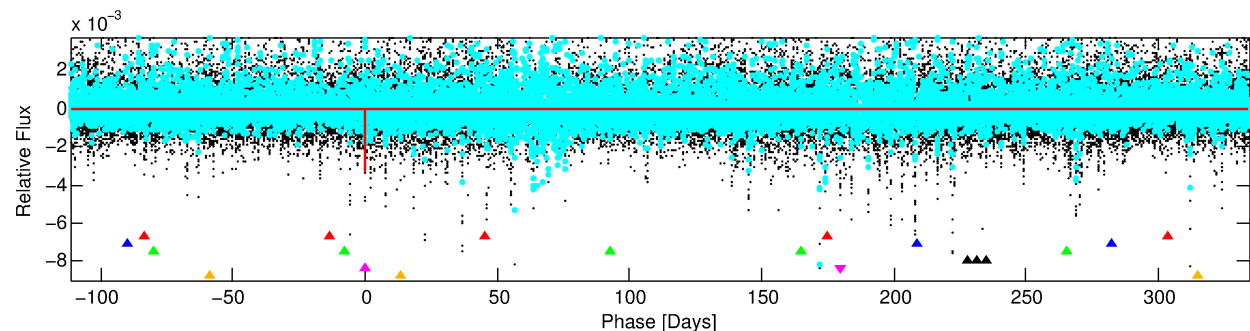
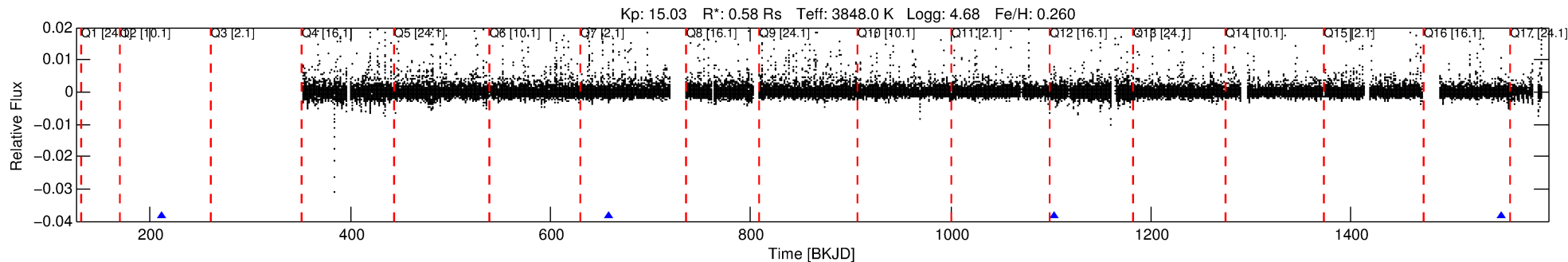
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008259829-05

No Significant Match Found

DV One-Page Summary

KIC: 8259829 Candidate: 5 of 6 Period: 445.959 d



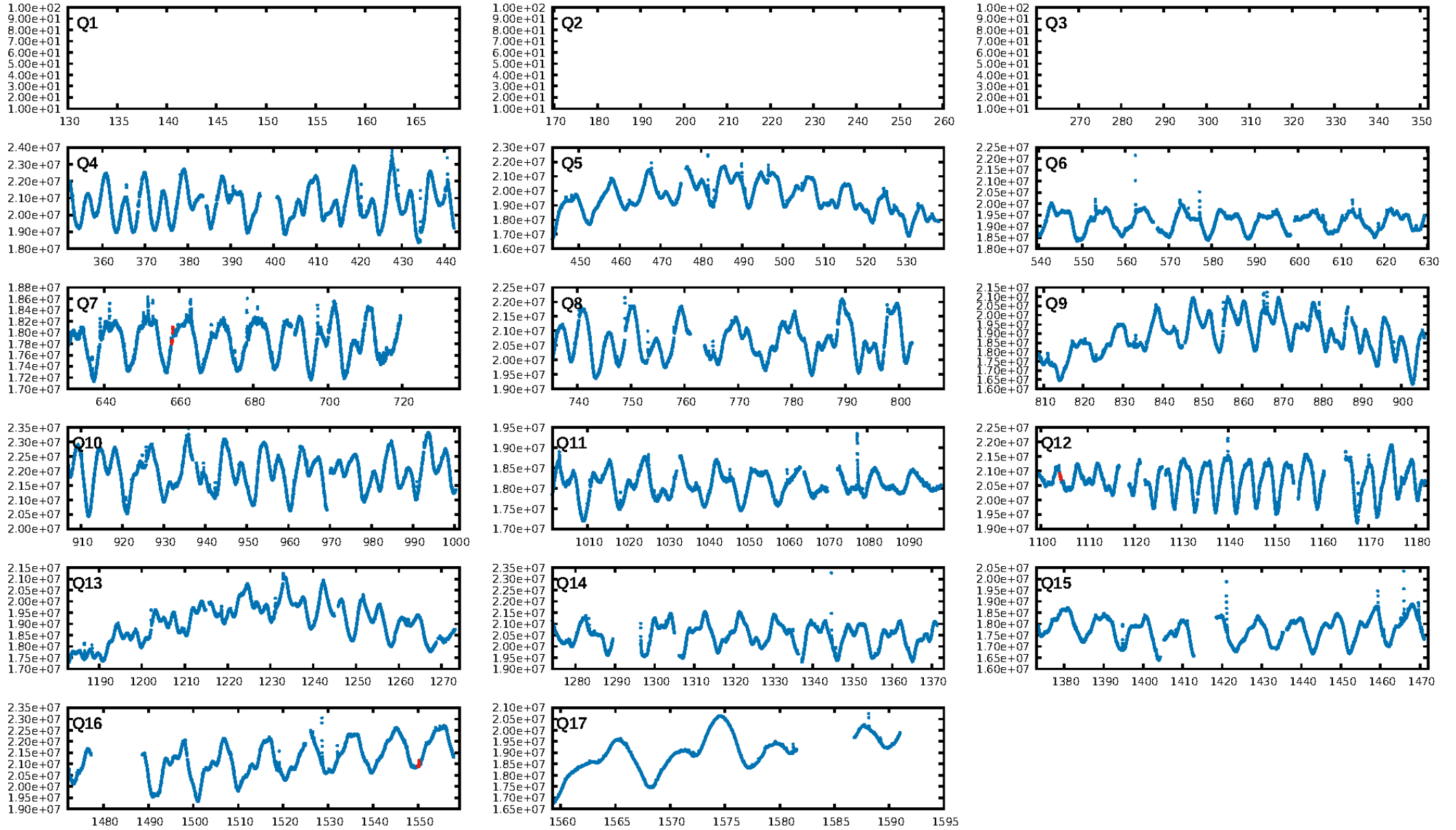
DV Fit Results:

Period = 445.95920 [0.00704] d
Epoch = 212.2604 [0.0145] BKJD
Rp/R* = 0.0555 [0.0787]
a/R* = 693.20 [3404.89]
b = 0.69 [3.78]
Seff = 0.07 [0.01]
Teq = 132 [7] K
Rp = 3.53 [5.03] Re
a = 0.9572 [0.0933] AU
Ag = 68695.23 [196241.95] [0.35σ]
Teffp = 3316 [2369] K [1.34σ]

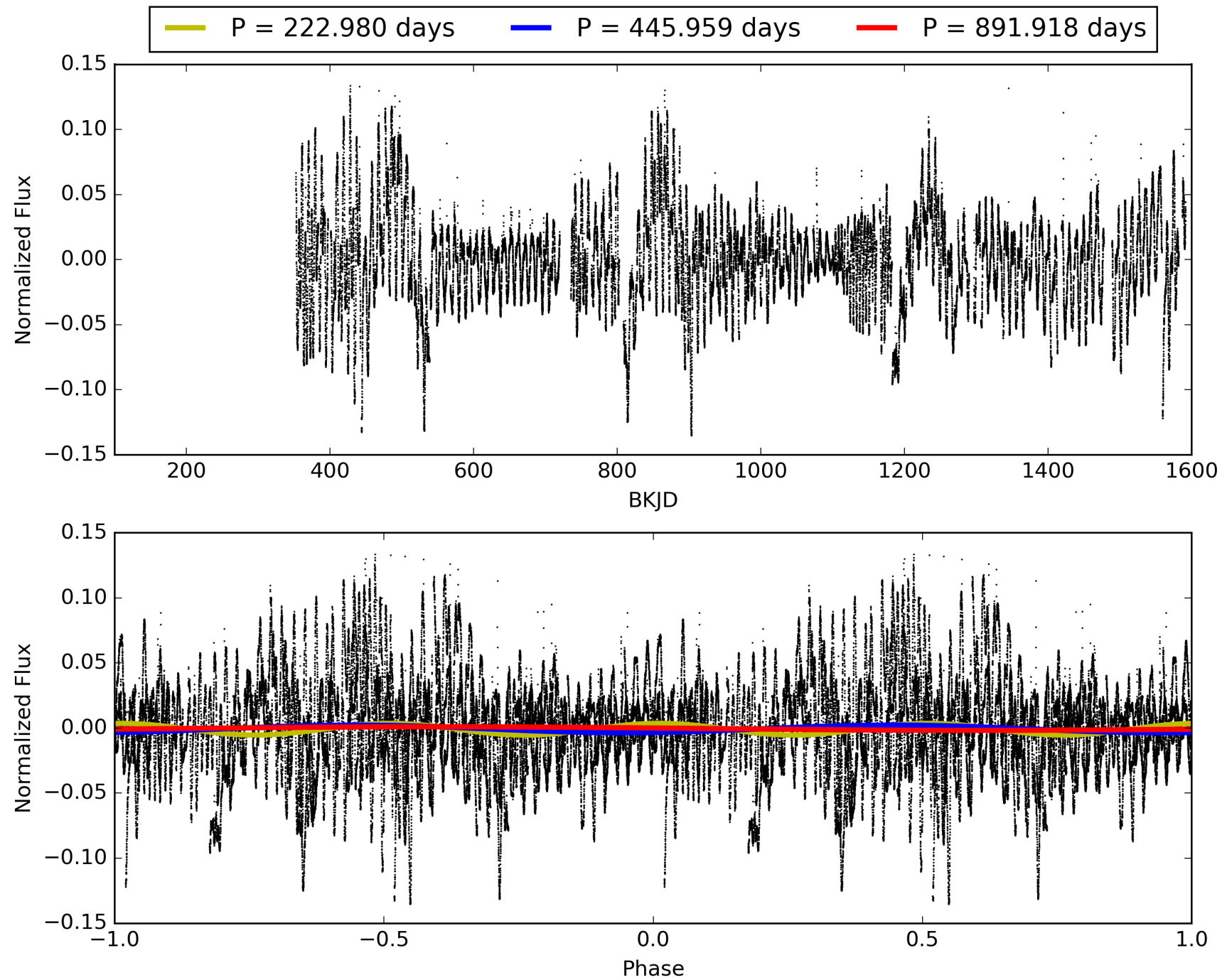
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [483.72σ]
LongPeriod-sig: 100.0% [15.01σ]
ModelChiSquare2-sig: 5.7%
ModelChiSquareGof-sig: 62.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.6072
Centroid-sig: 37.7%
Centroid-so: 2.205 arcsec [4.38σ]
OotOffset-rm: 0.487 arcsec [4.24σ]
KicOffset-rm: 5.310 arcsec [45.54σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 008259829-05, PDC Light Curves

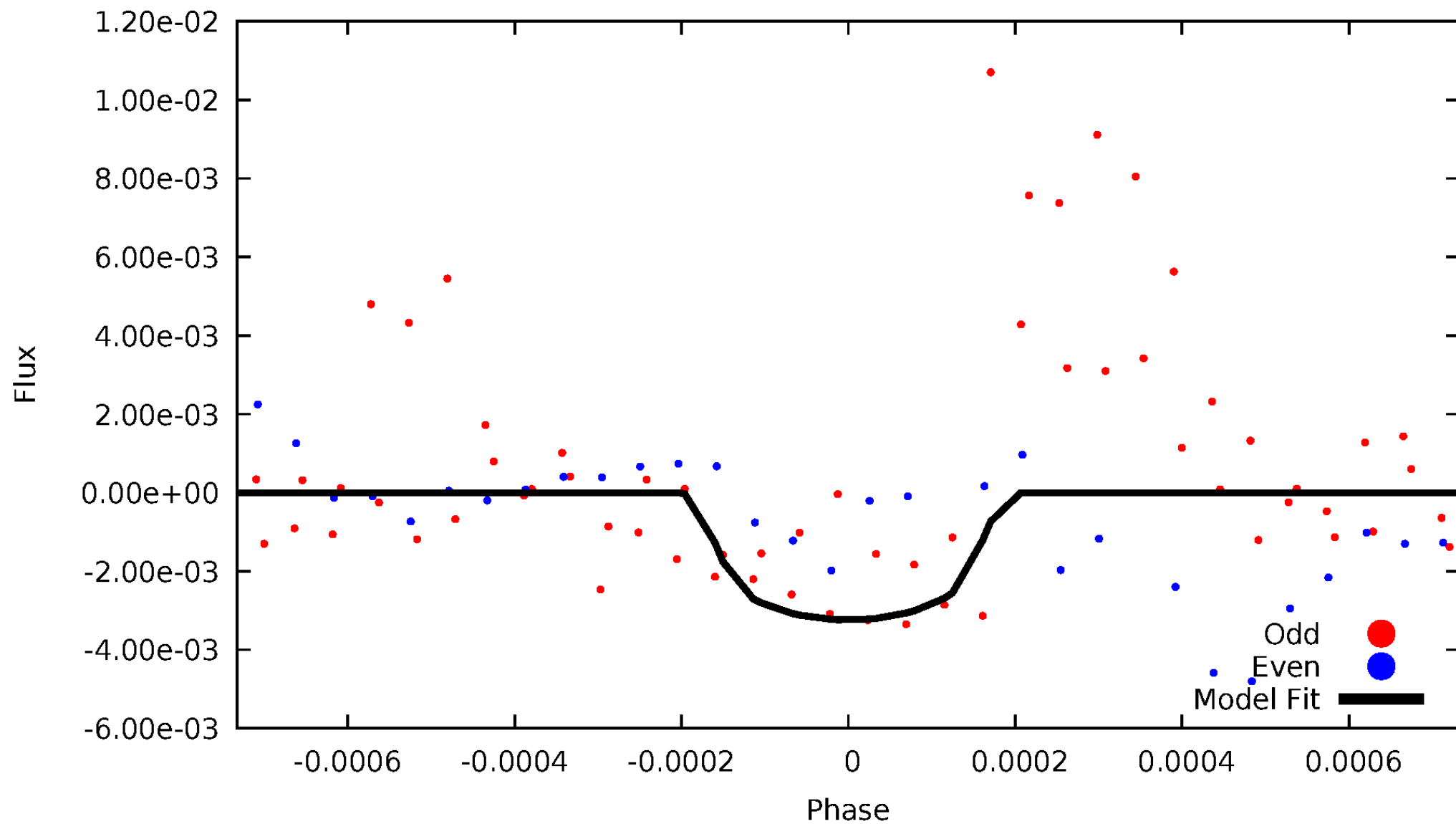


TCE 008259829-05



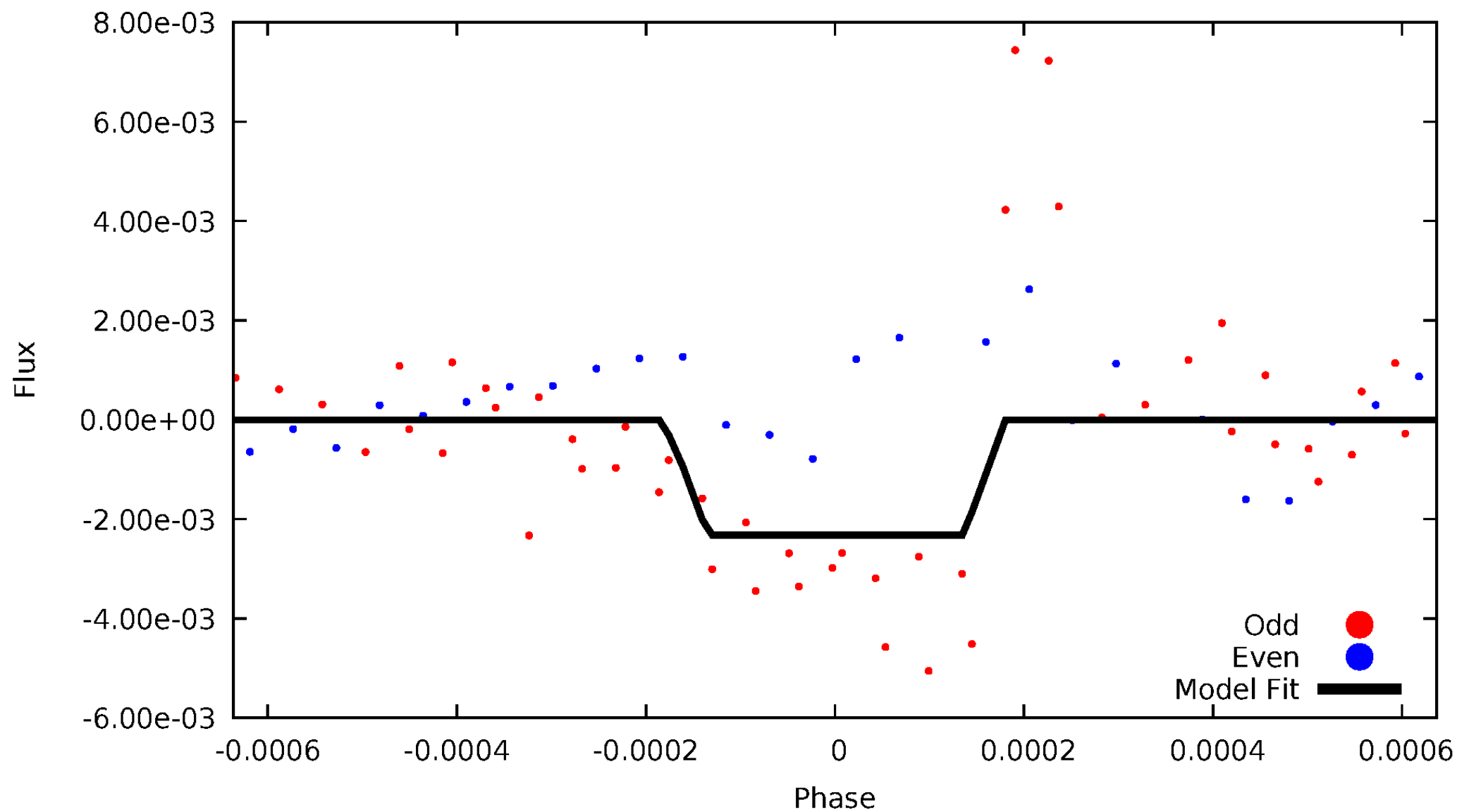
DV Odd/Even

TCE 008259829-05



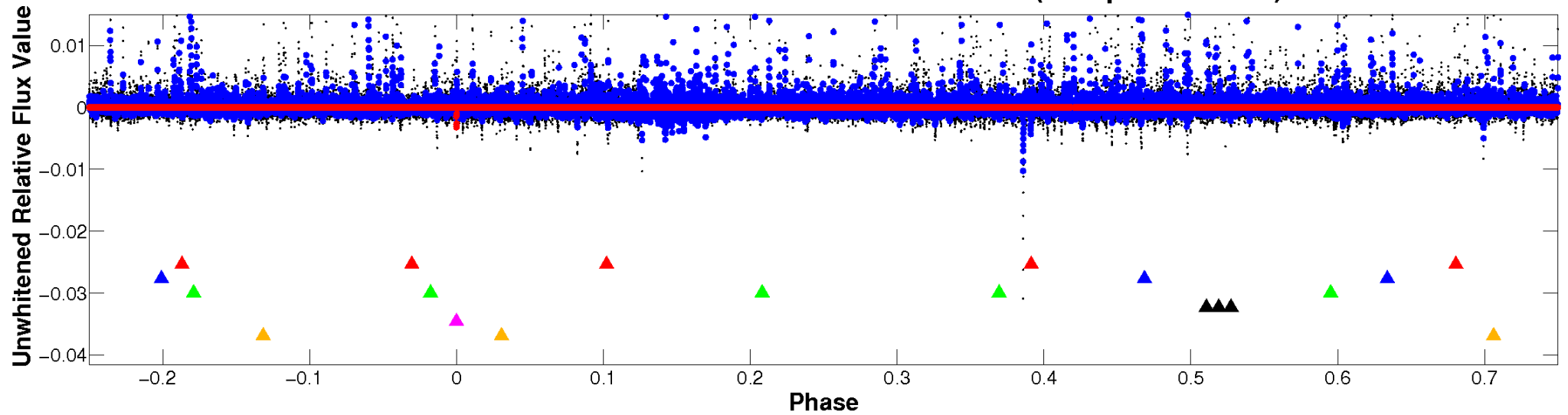
ALT Odd/Even

TCE 008259829-05

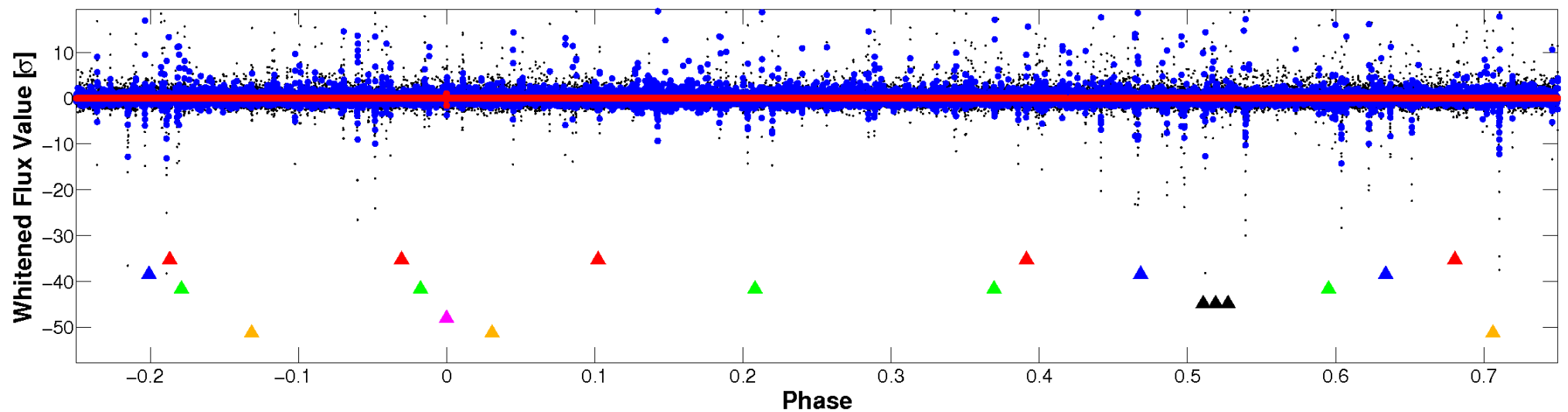


Non-Whitened Vs. Whitened Light Curve

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

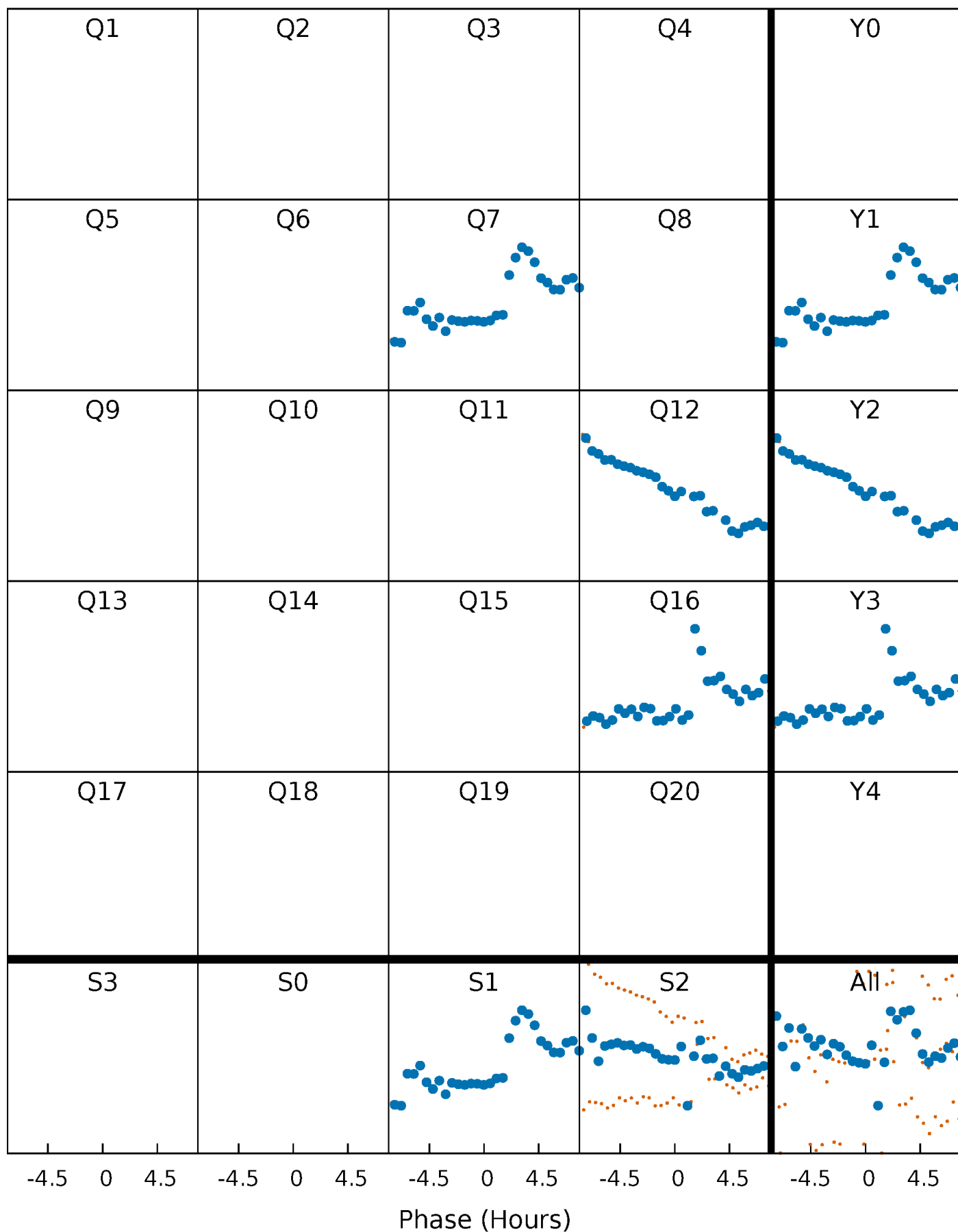


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



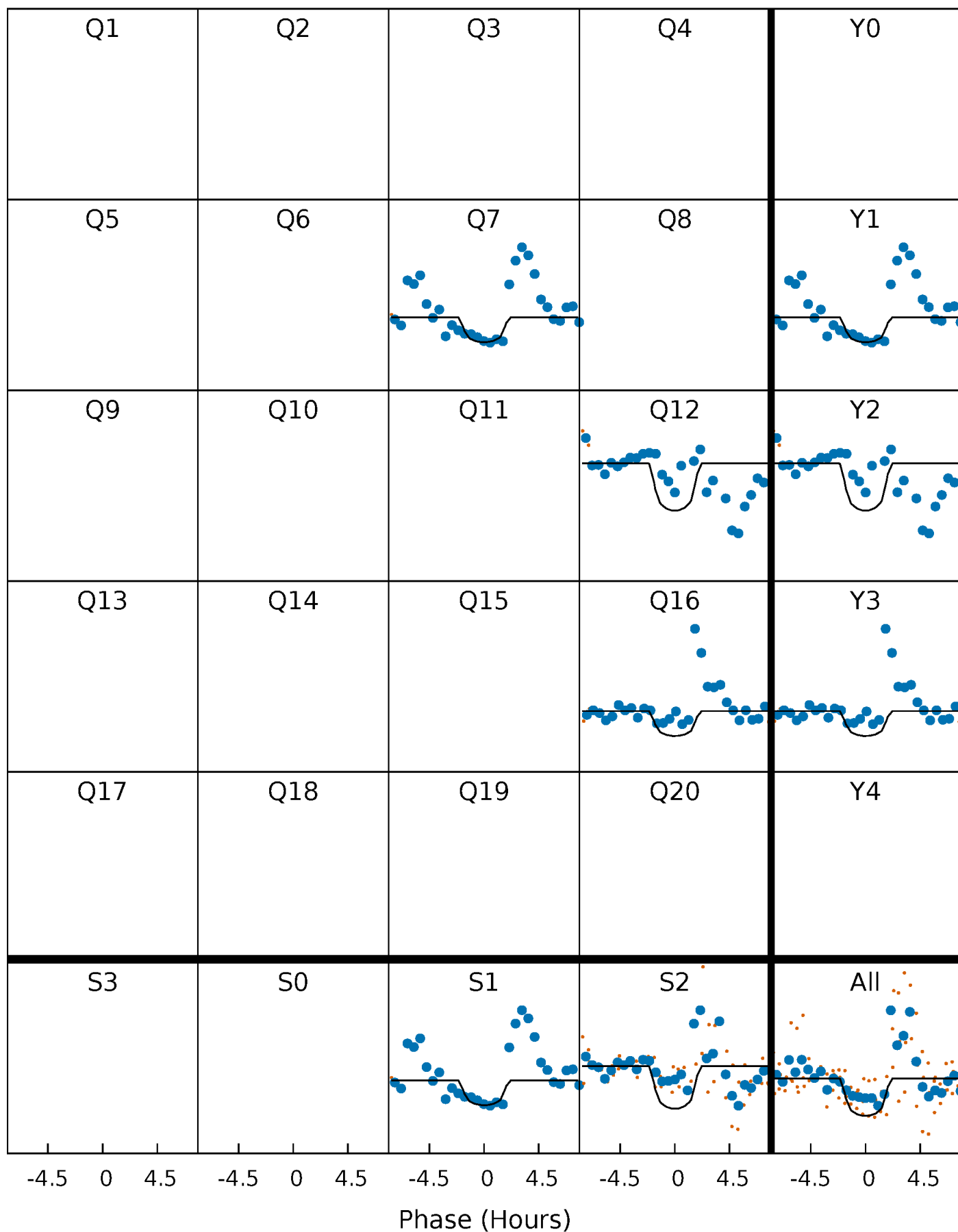
PDC Quarter-Phased Transit Curves

TCE 008259829-05 $P=445.959203$ Days $T_0=212.260391$ (BKJD)



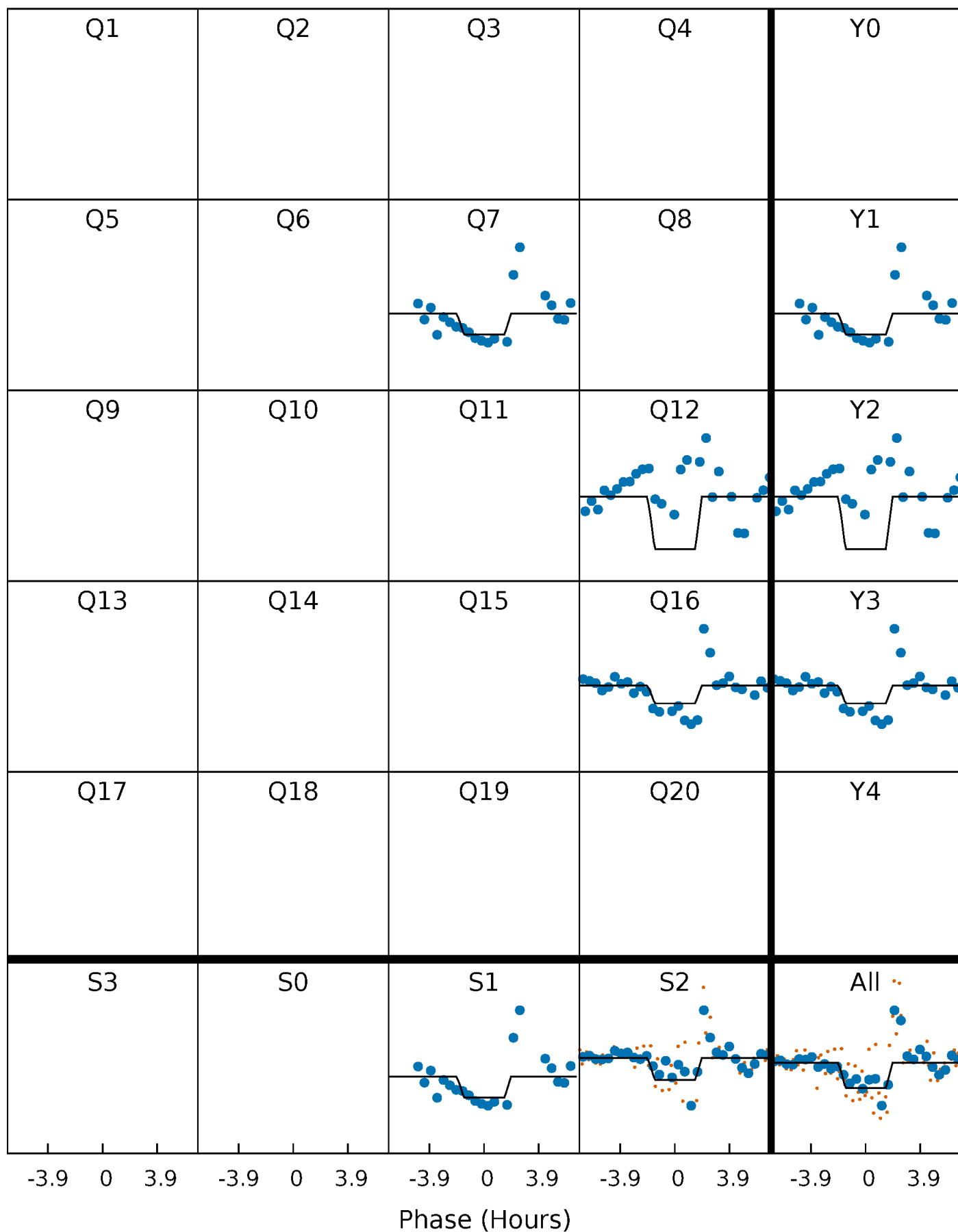
DV Quarter-Phased Transit Curves

TCE 008259829-05 $P=445.959203$ Days $T_0=212.260391$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

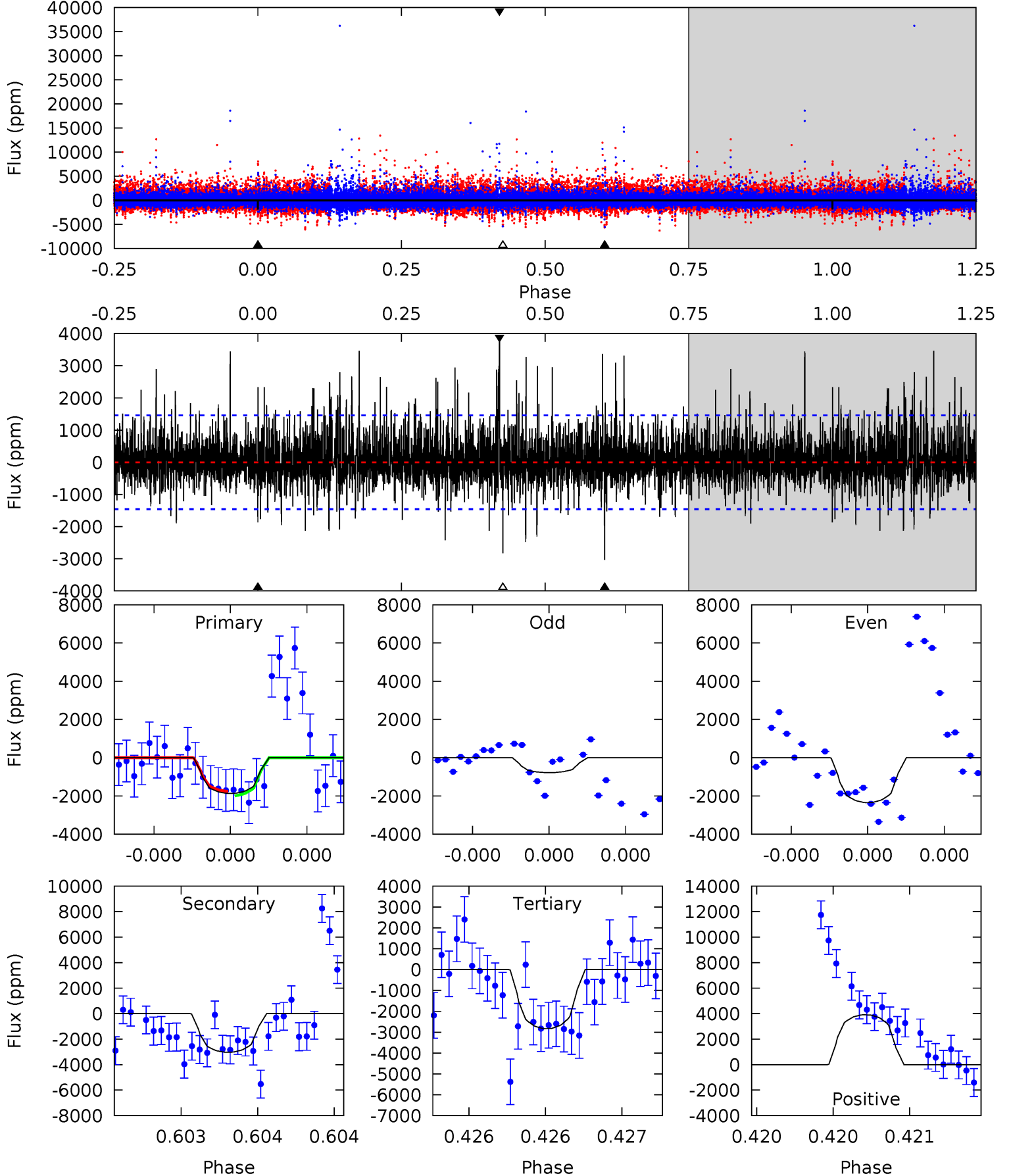
TCE 008259829-05 $P=445.948825$ Days $T_0=212.282523$ (BKJD)



DV Model-Shift Uniqueness Test

008259829-05, P = 445.959203 Days, E = 212.260391 Days

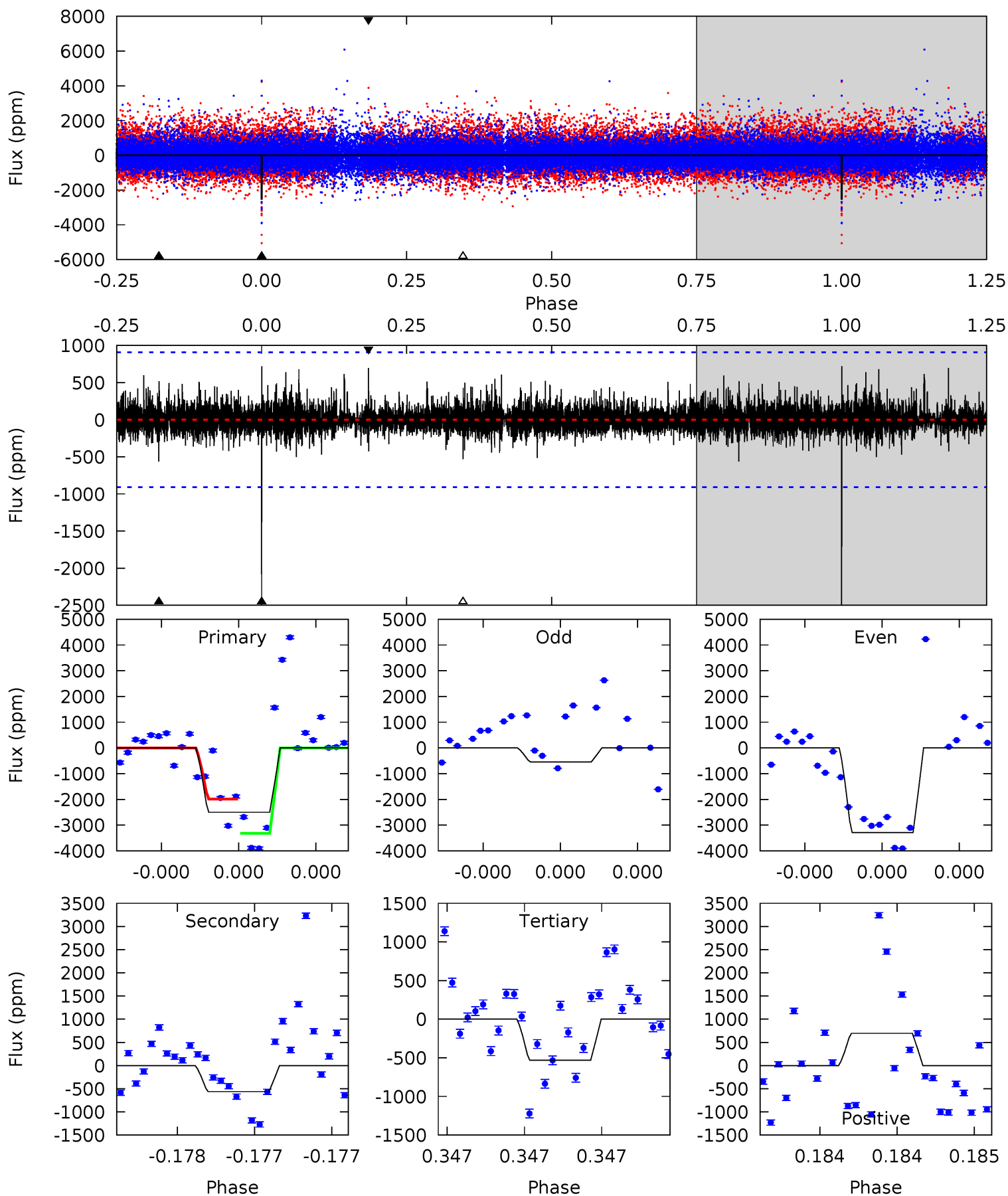
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.17	11.6	10.9	15.0	5.61	3.53	2.23	-3.71	-7.85	0.76	-3.39	1.86	1.85	0.56	0.44



Alt Model-Shift Uniqueness Test

008259829-05, P = 445.948825 Days, E = 212.282523 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.5	3.49	3.30	4.32	5.64	3.59	0.71	12.2	11.2	0.20	-0.82	8.26	0.75	0.22	3.90



Stellar Parameters For KIC 008259829

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3848^{+120}_{-147}	$4.676^{+0.063}_{-0.023}$	$0.260^{+0.200}_{-0.300}$	$0.583^{+0.037}_{-0.074}$	$0.588^{+0.045}_{-0.067}$	$4.181^{+1.321}_{-0.464}$
	+3%/-4%	+1%/-0%	+77%/-115%	+6%/-13%	+8%/-11%	+32%/-11%
Source	KIC0	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 008259829-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-3030 ± 260	$4.92^{+4.23}_{-3.28}$	183^{+7}_{-7}	3416^{+1797}_{-567}	$61997^{+500568}_{-43595}$
Alt.	-563 ± 161	$4.77^{+4.12}_{-3.15}$	183^{+7}_{-8}	2718^{+985}_{-416}	12039^{+94577}_{-8641}

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 $A_{obs} \gg 1.0$

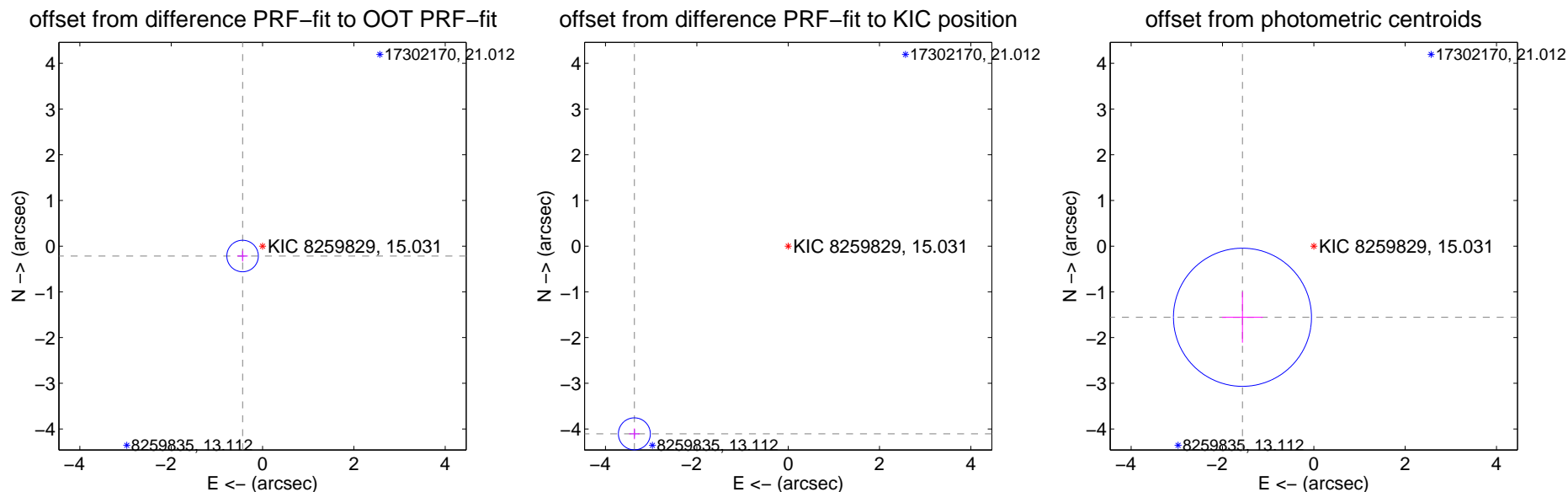
DV Centroid Data

Supplemental centroid analysis for 008259829-05. Kepler magnitude: 15.03. Transit SNR 7.23

There are 1 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 4.87 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.487 ± 0.115	4.24	0.437 ± 0.114	-0.216 ± 0.118
PRF-fit source offset from KIC position	5.310 ± 0.117	45.54	3.368 ± 0.114	-4.106 ± 0.118
photometric centroid source offset	2.20 ± 0.50	4.38	1.56 ± 0.45	-1.56 ± 0.56



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.

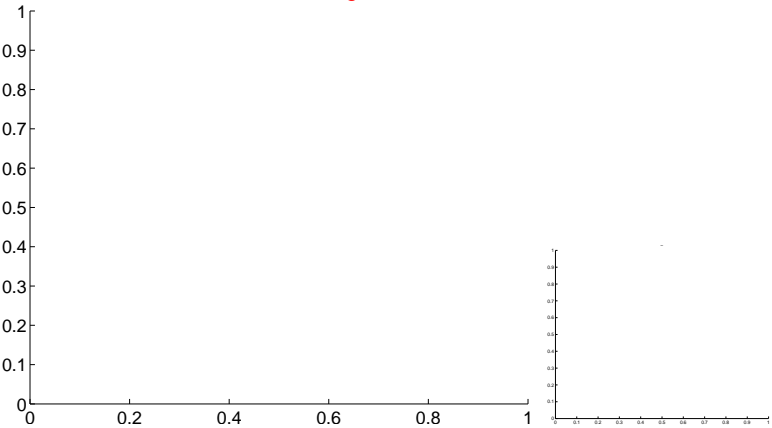


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q5 no difference image



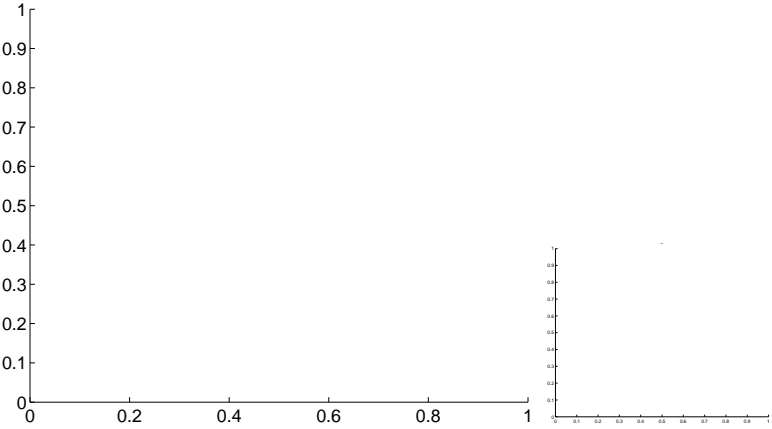
Q5 no OOT image



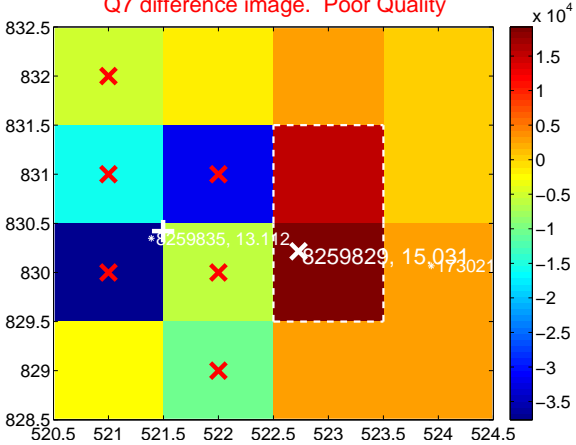
Q6 no difference image



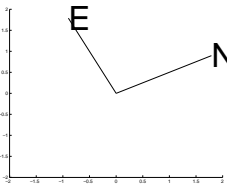
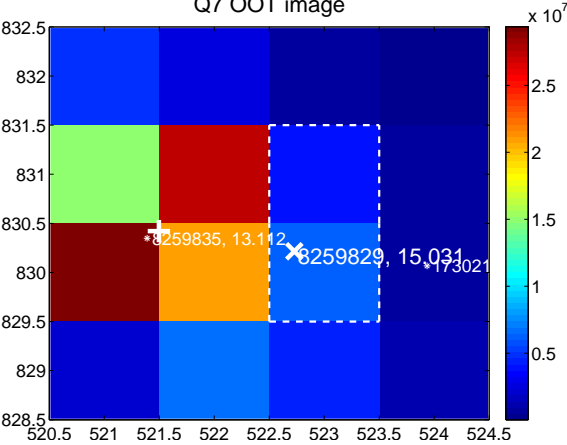
Q6 no OOT image



Q7 difference image. Poor Quality



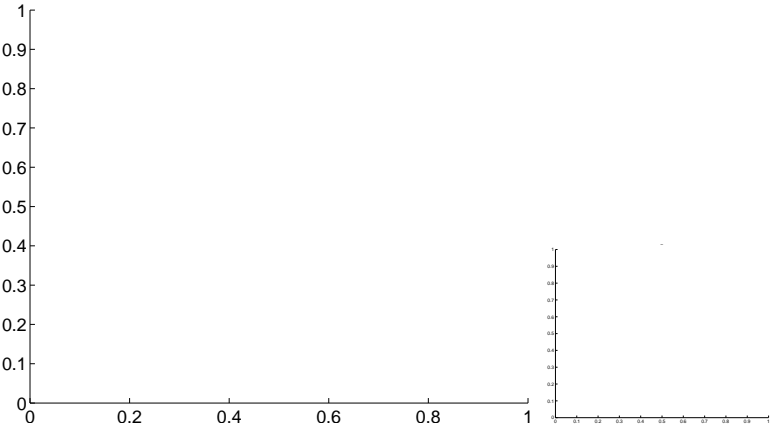
Q7 OOT image



Q8 no difference image



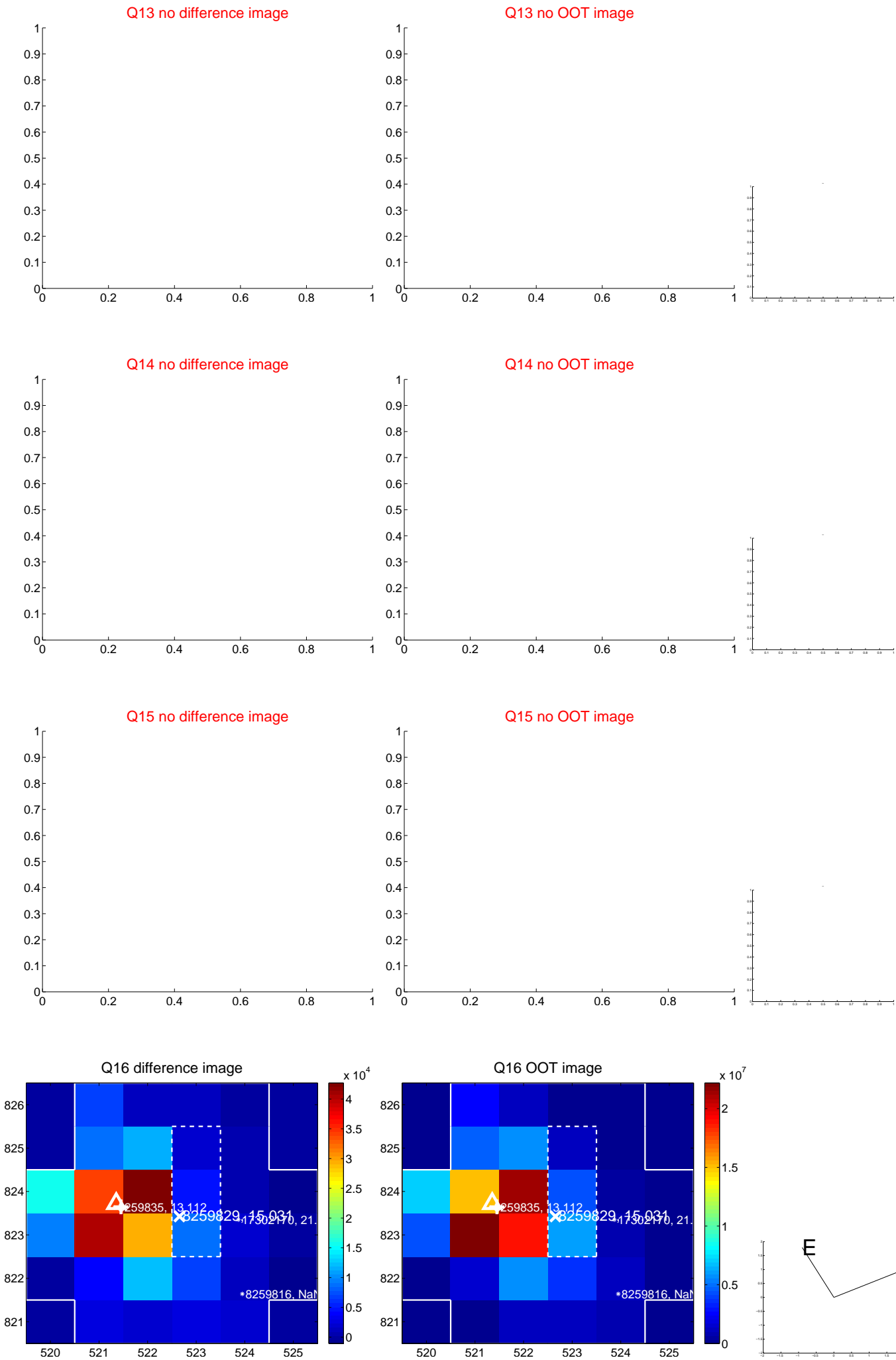
Q8 no OOT image



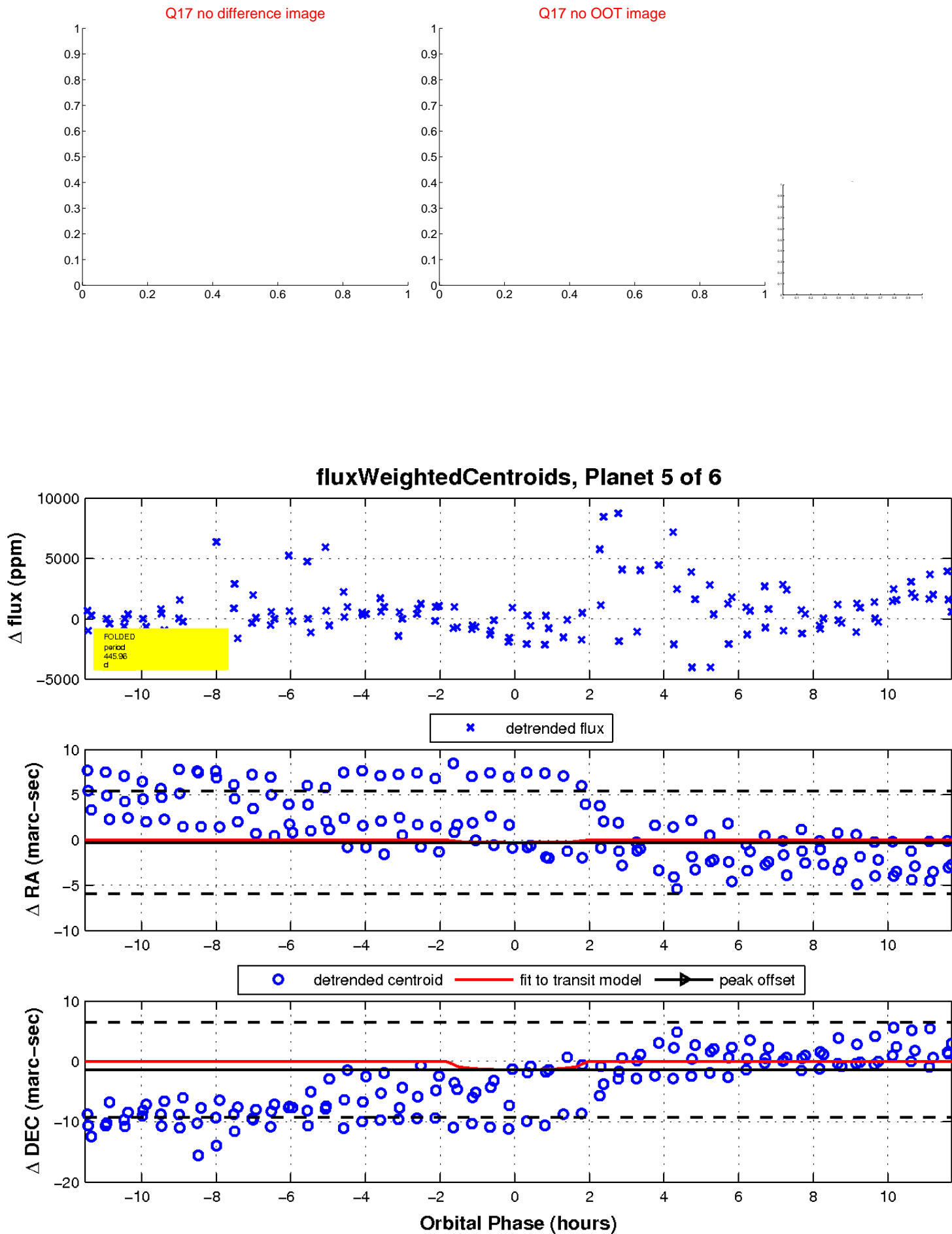
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

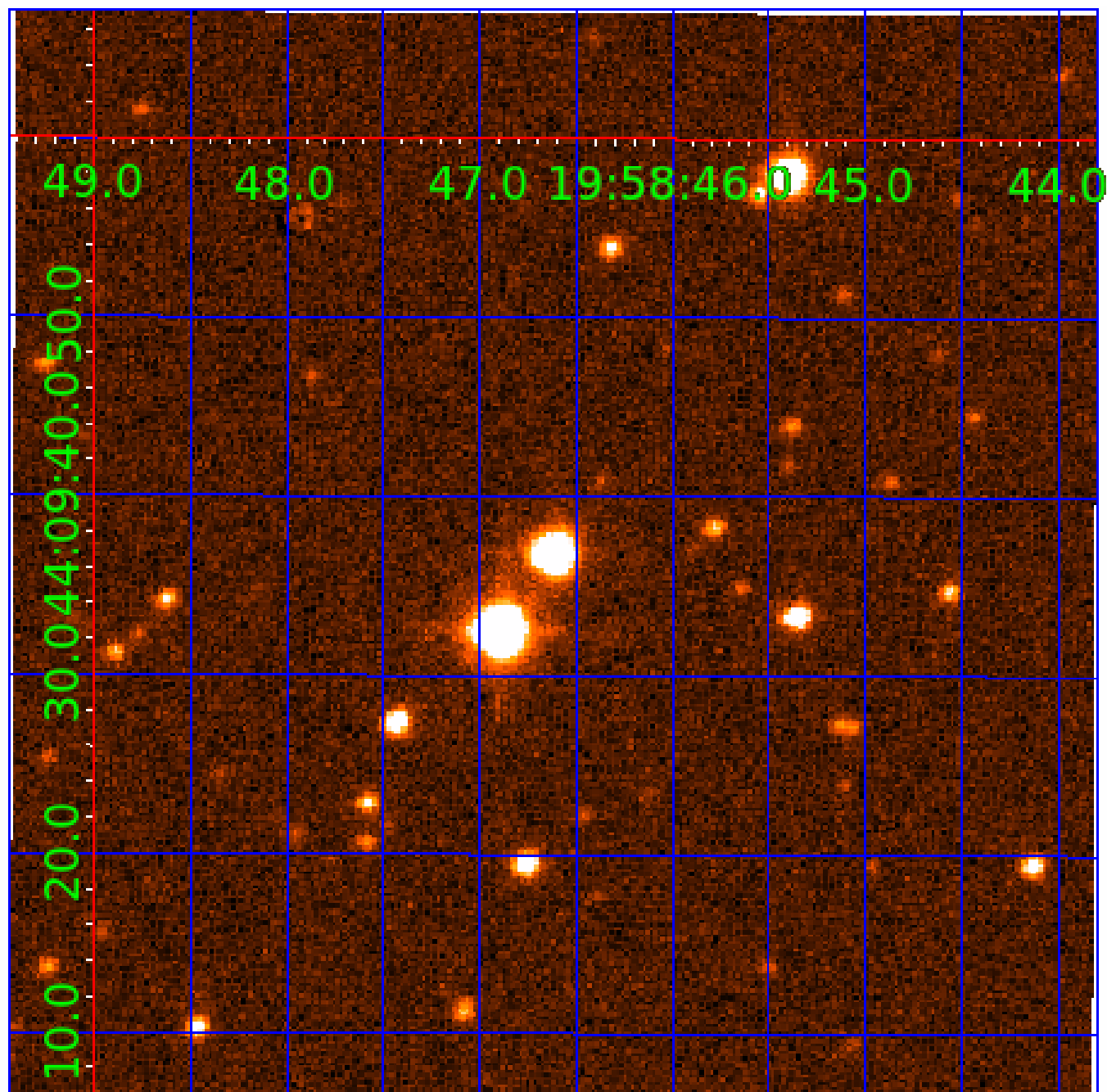


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008259829

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})
008259829-01	OBS	No	317.023736	198.705401	2797.5	5.057	14.0	6.4	0.58	3848	6.05	0.12
008259829-02	OBS	No	519.695783	421.170310	3948.0	7.372	17.0	6.6	0.58	3848	4.58	0.06
008259829-03	OBS	No	273.325094	377.035613	2944.4	3.570	13.2	7.3	0.58	3848	3.60	0.14
008259829-04	OBS	No	449.688304	439.994392	4821.5	4.494	12.7	8.9	0.58	3848	3.92	0.07
008259829-05	OBS	No	445.959203	212.260391	3236.8	3.919	12.2	7.2	0.58	3848	3.53	0.07
008259829-06	OBS	No	518.310872	527.193261	2394.7	3.500	12.9	-1.0	0.58	3848	2.77	0.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008259829-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
008259829-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008259829-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_KIC_POS
008259829-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS
008259829-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008259829-06	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.

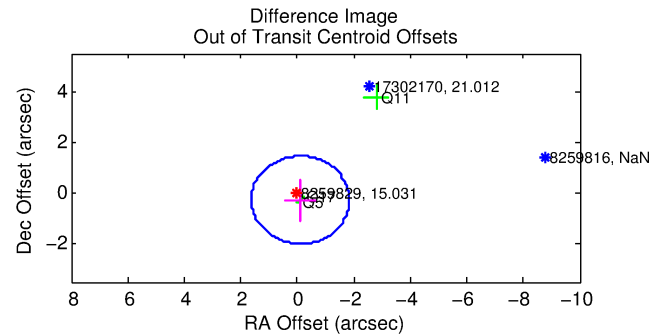
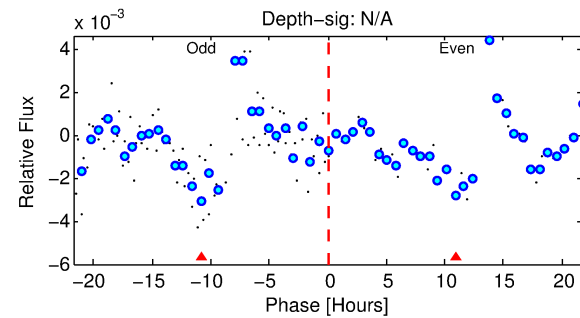
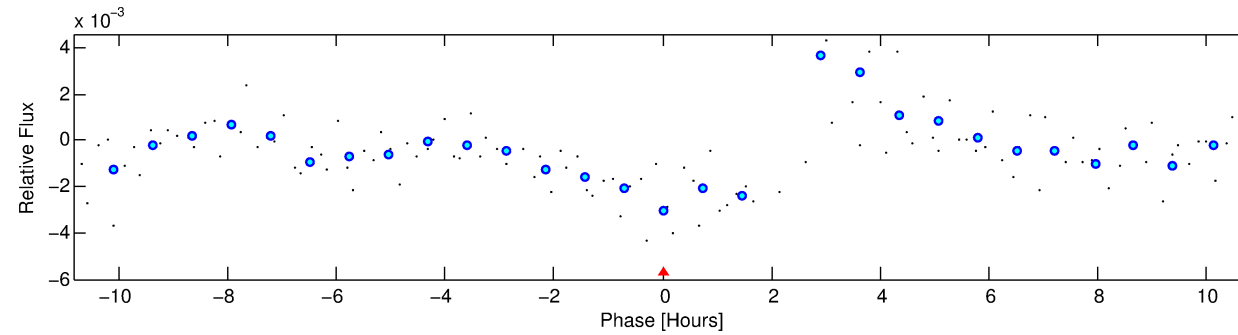
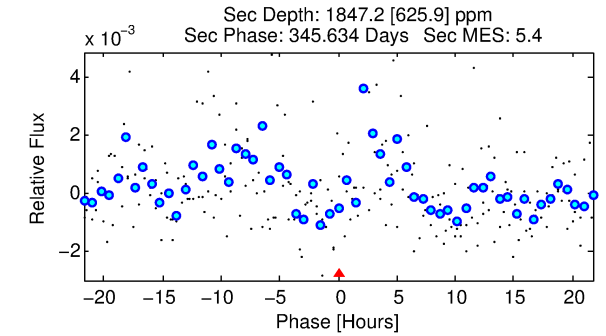
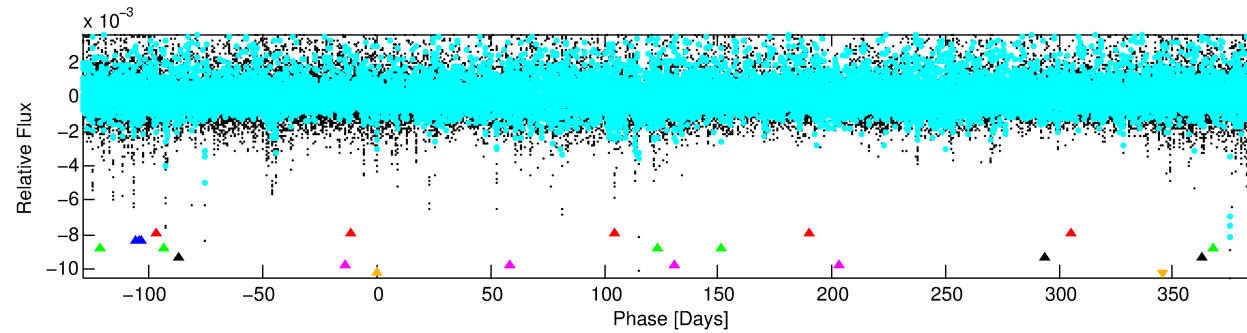
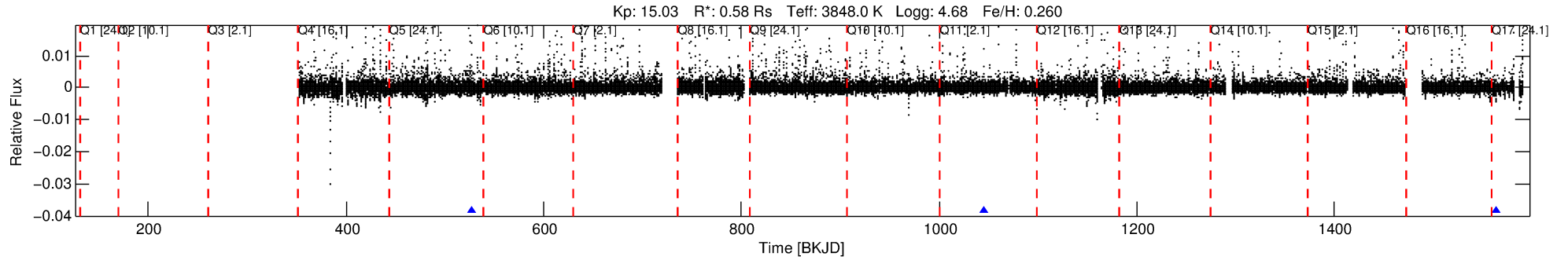
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008259829-06

No Significant Match Found

DV One-Page Summary

KIC: 8259829 Candidate: 6 of 6 Period: 518.311 d



TPS TCE Results:

Period = 518.31087 d
Epoch = 527.1933 BKJD

DV fit results are unavailable

DV Diagnostic Results:

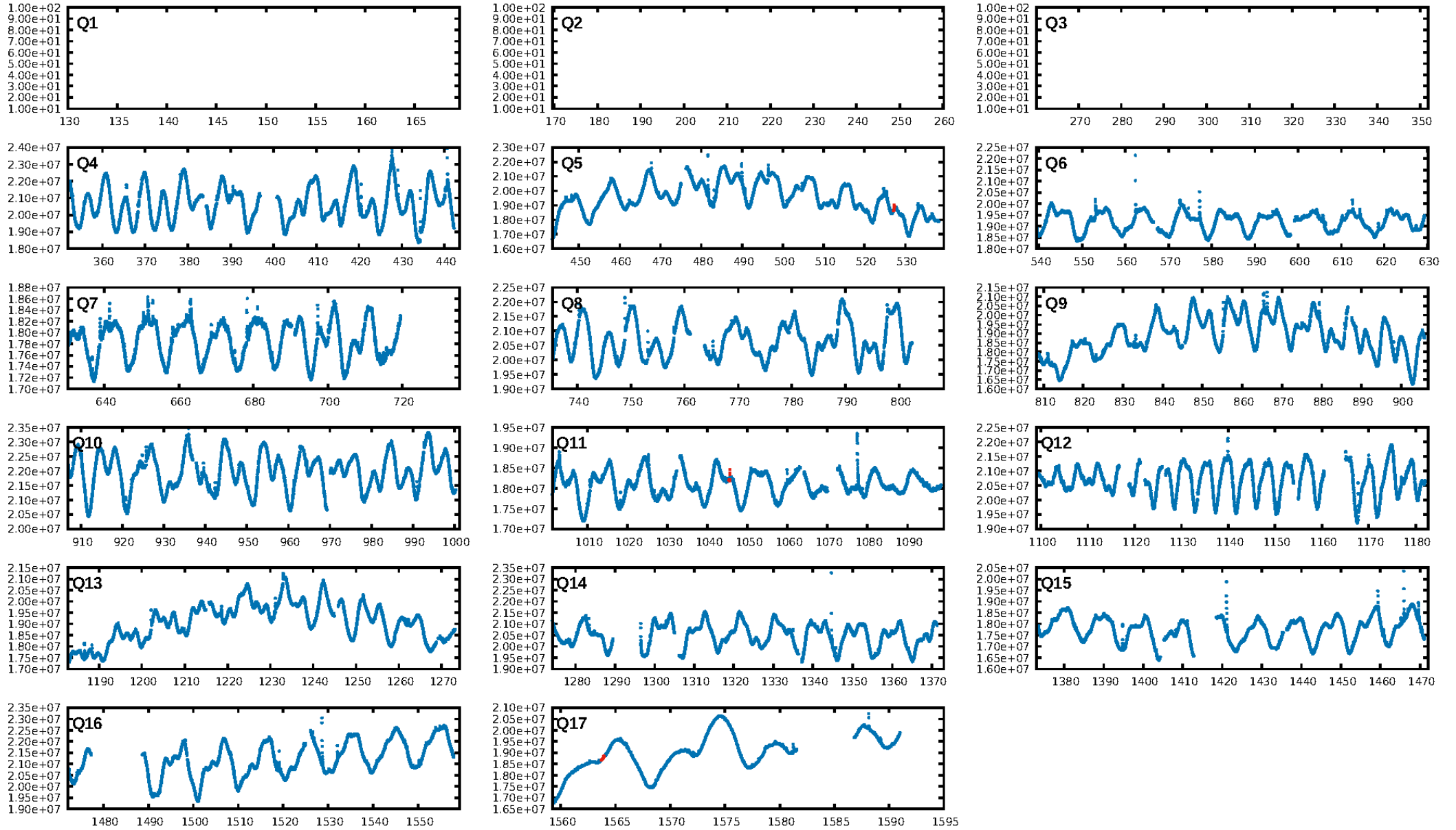
ShortPeriod-sig: 100.0% [289.13 σ]
LongPeriod-sig: 100.0% [4.07 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 1.178

Centroid-sig: 0.0%
Centroid-so: 1.540 arcsec [4.79 σ]
OotOffset-rm: 0.289 arcsec [0.50 σ]
KicOffset-rm: 5.243 arcsec [6.86 σ]
OotOffset-st: 0/1/0/2 [3]
KicOffset-st: 0/1/0/2 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

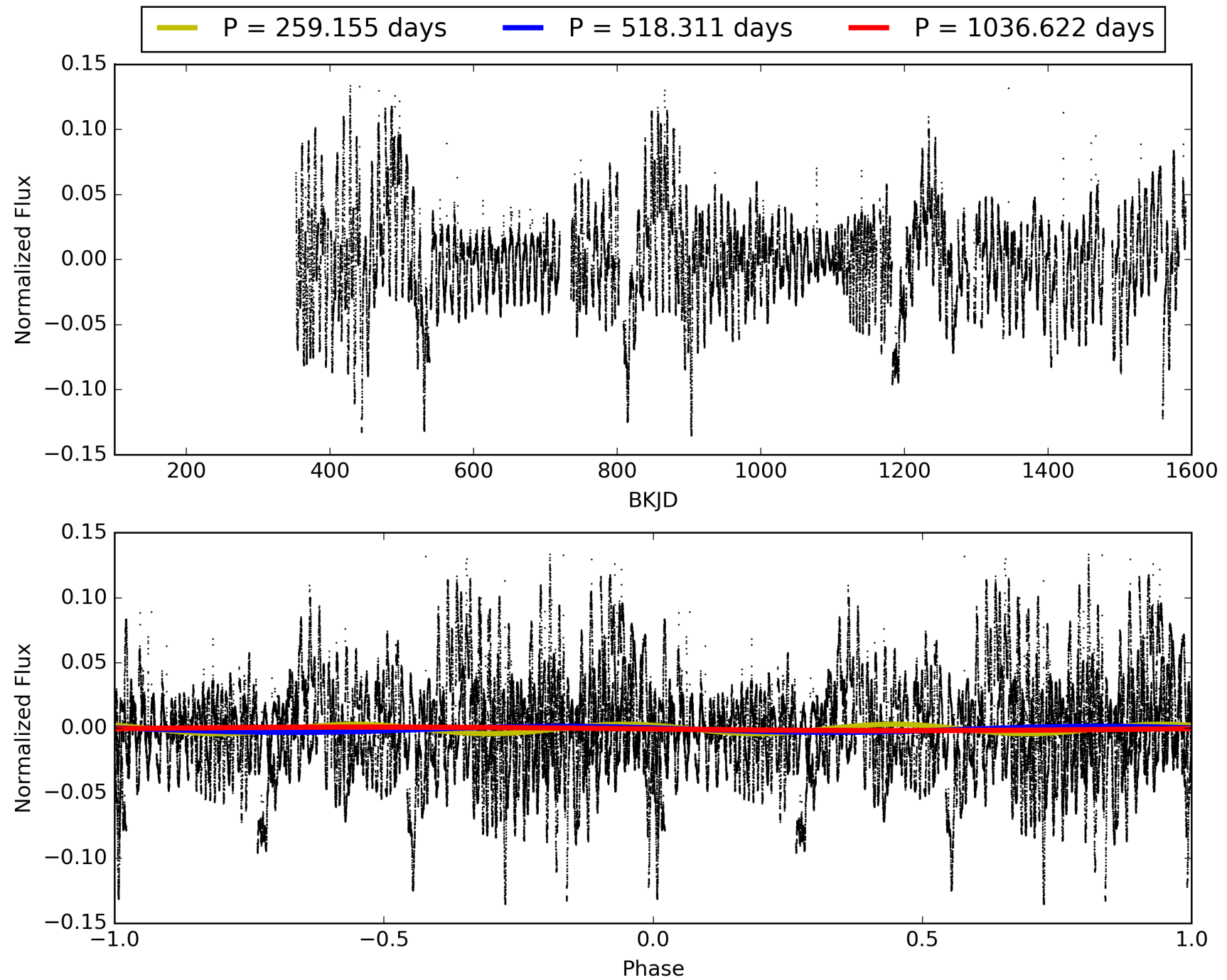
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:19:53 Z

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

TCE 008259829-06, PDC Light Curves

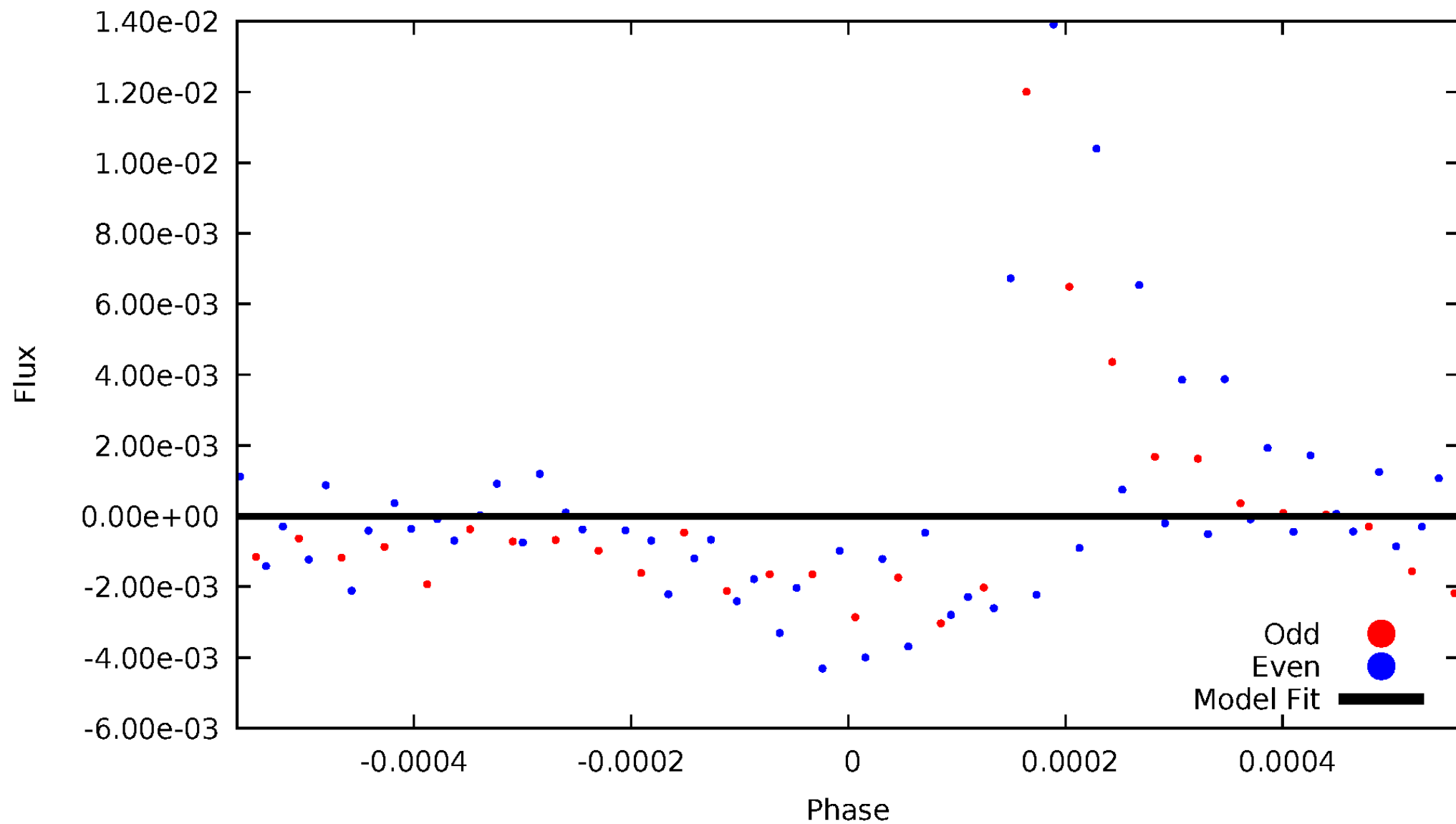


TCE 008259829-06



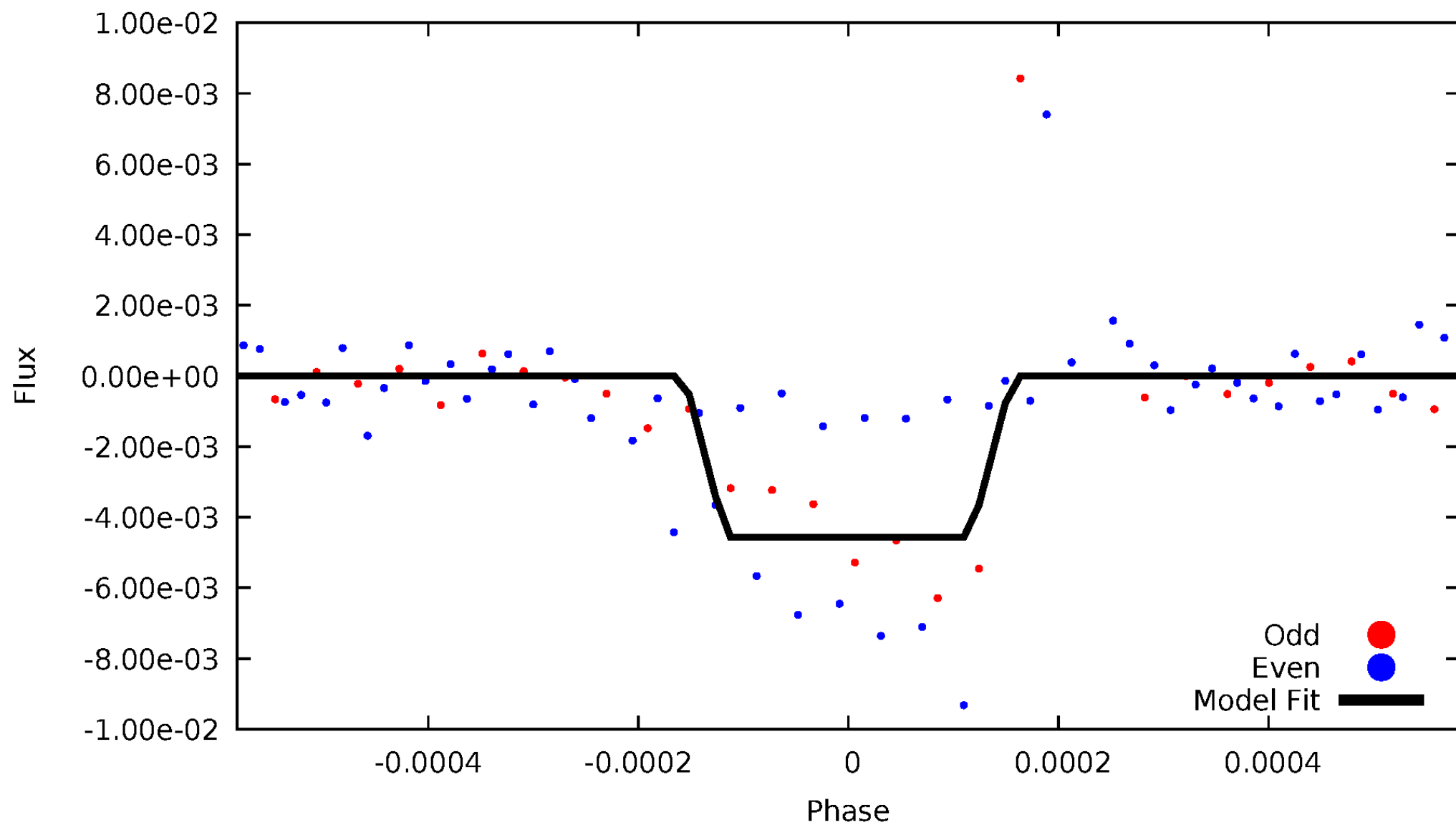
DV Odd/Even

TCE 008259829-06



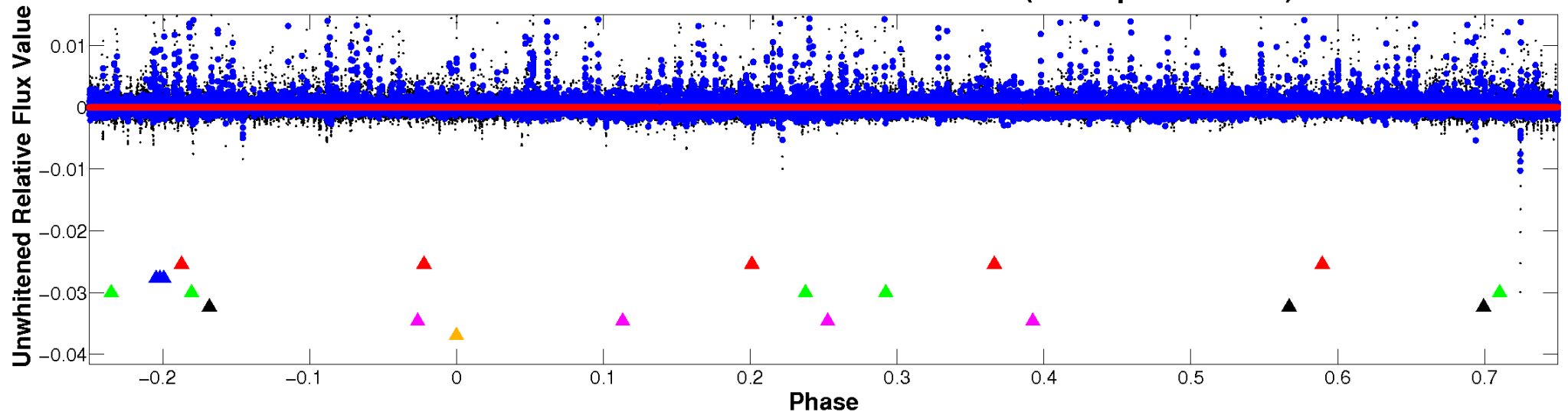
ALT Odd/Even

TCE 008259829-06



Non-Whitened Vs. Whitened Light Curve

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

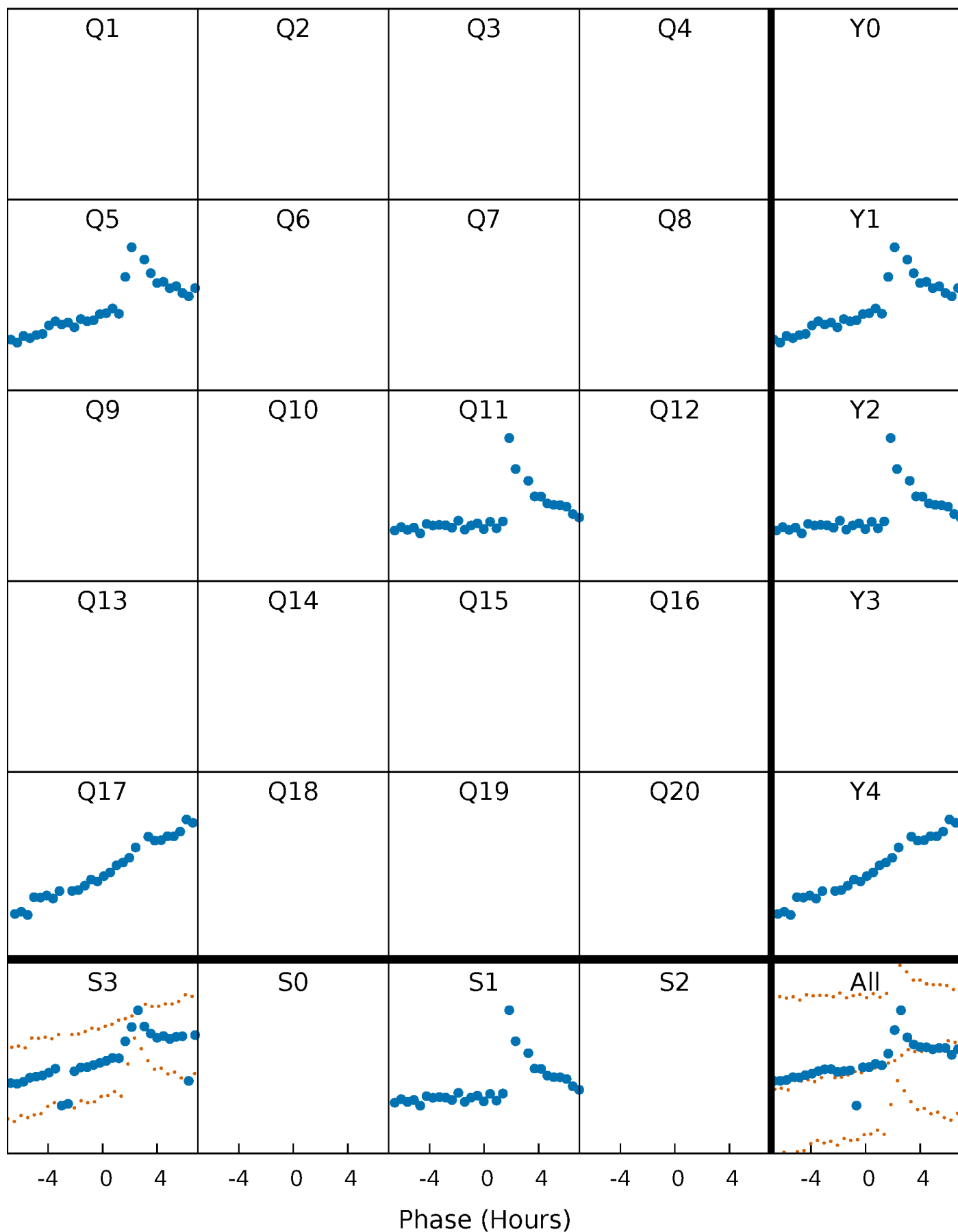


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



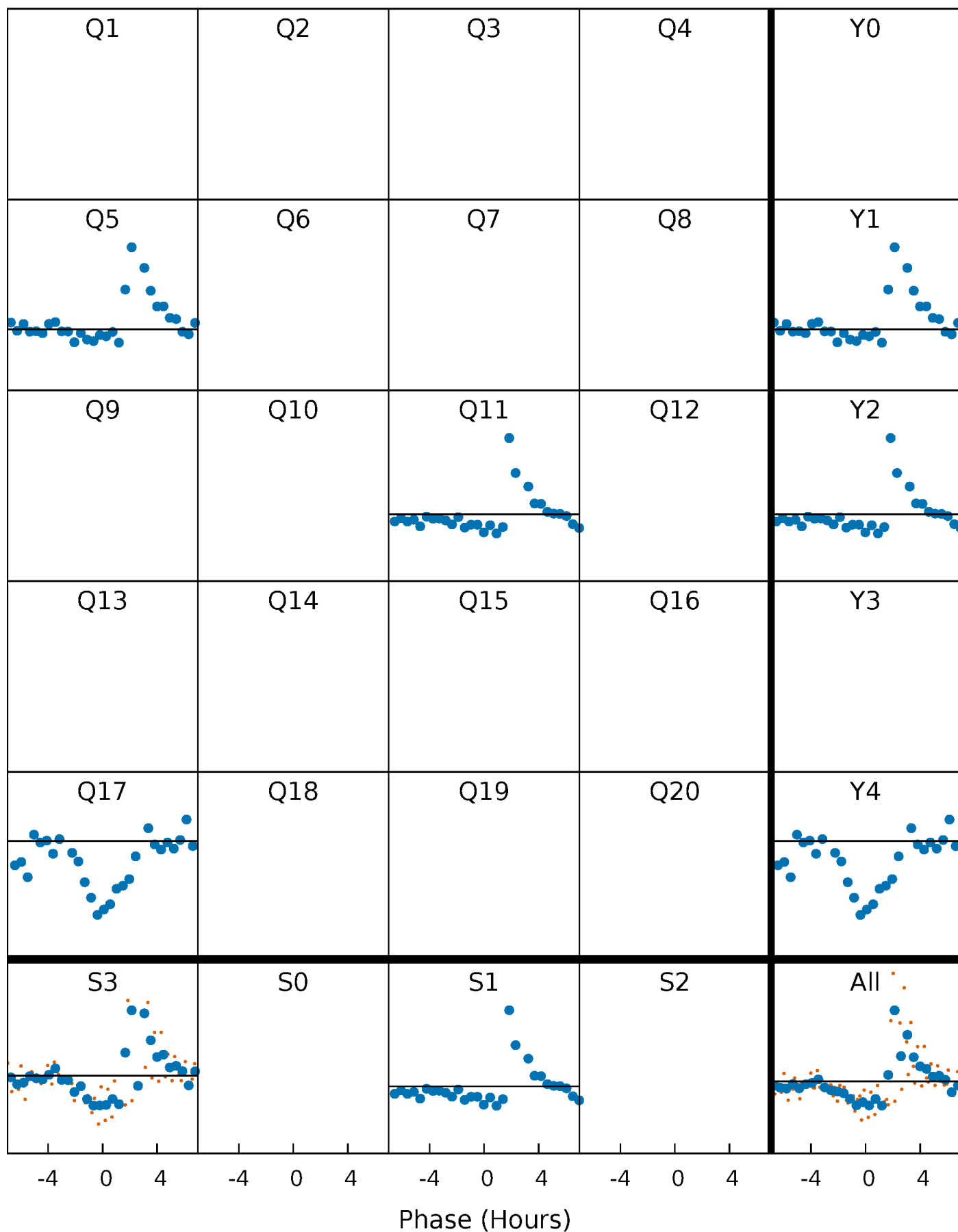
PDC Quarter-Phased Transit Curves

TCE 008259829-06 $P=518.310872$ Days $T_0=527.193261$ (BKJD)



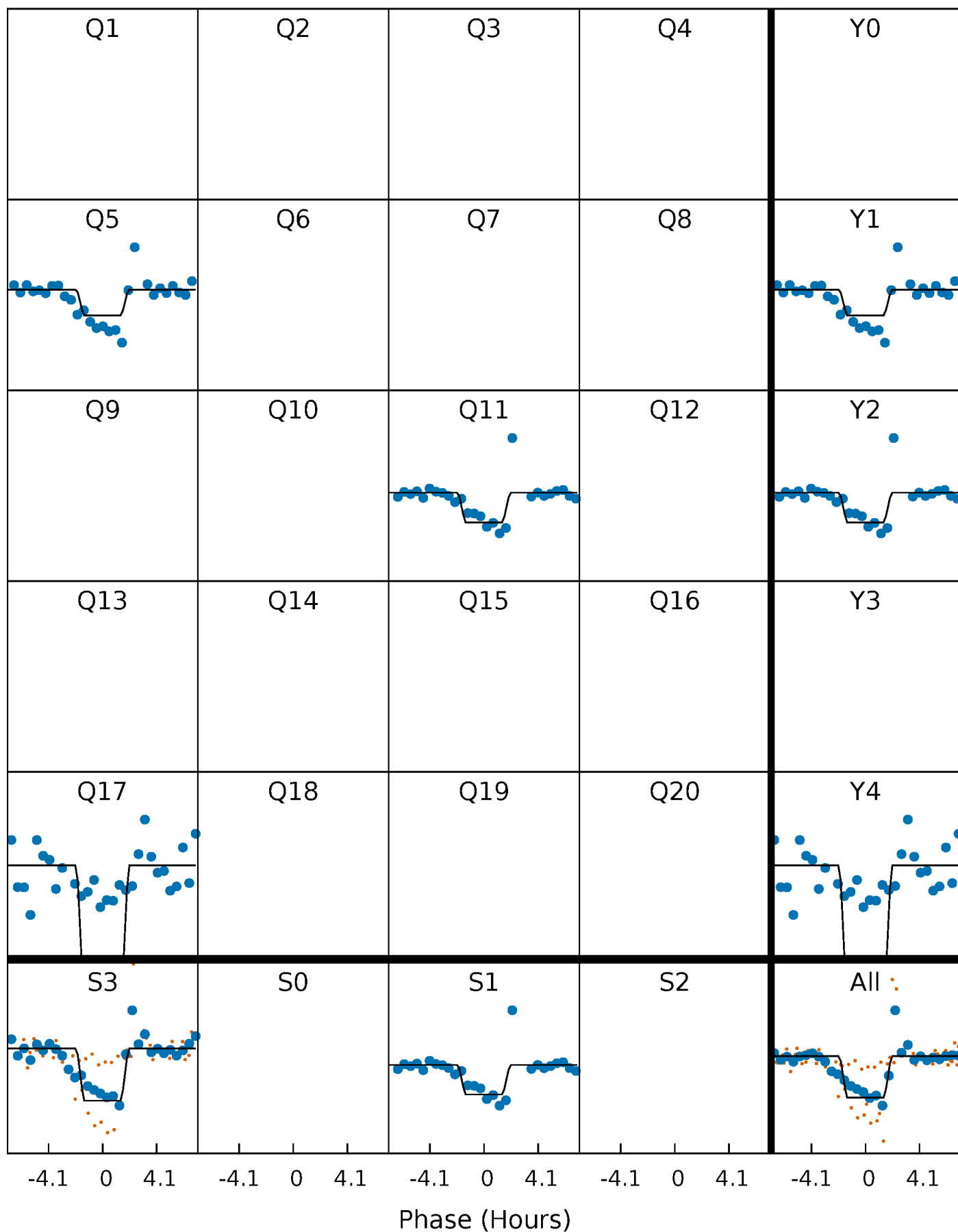
DV Quarter-Phased Transit Curves

TCE 008259829-06 $P=518.310872$ Days $T_0=527.193261$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

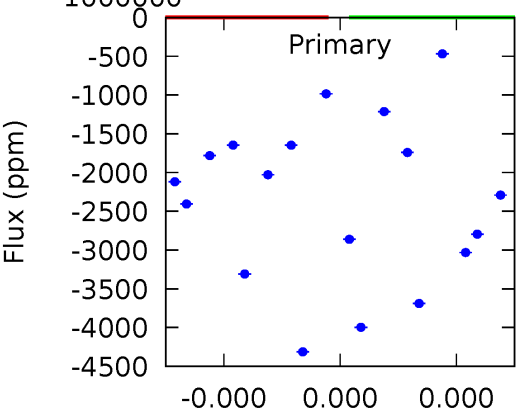
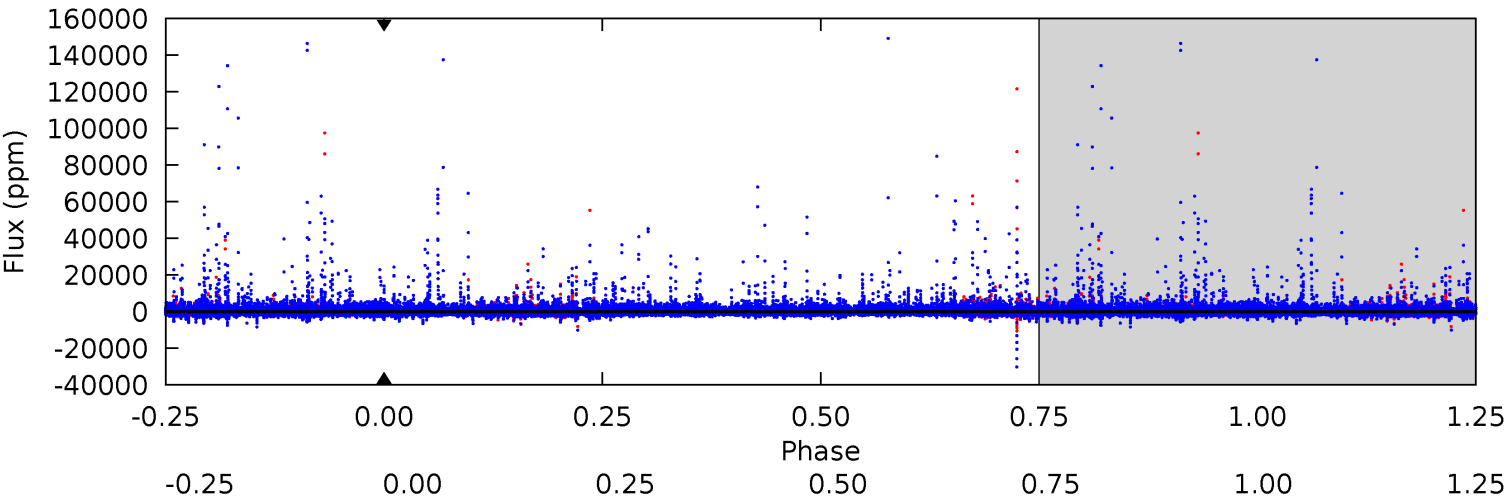
TCE 008259829-06 P=518.310872 Days $T_0=527.193384$ (BKJD)



DV Model-Shift Uniqueness Test

008259829-06, P = 518.310872 Days, E = 8.882389 Days

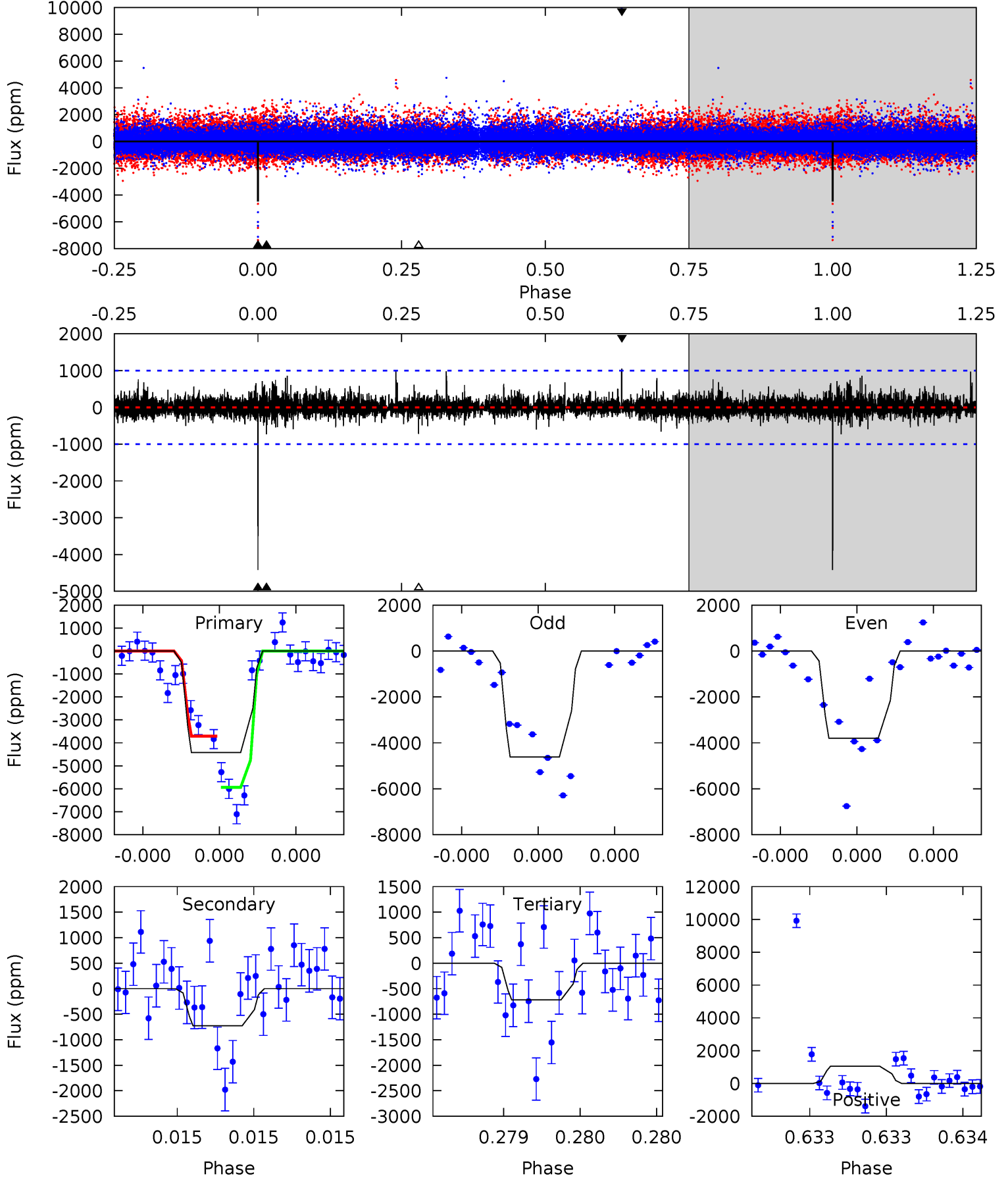
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008259829-06, P = 518.310872 Days, E = 8.882512 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.0	4.10	4.07	5.92	5.66	3.61	0.77	20.9	19.1	0.03	-1.82	2.54	0.91	0.19	6.27



Stellar Parameters For KIC 008259829

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3848^{+120}_{-147}	$4.676^{+0.063}_{-0.023}$	$0.260^{+0.200}_{-0.300}$	$0.583^{+0.037}_{-0.074}$	$0.588^{+0.045}_{-0.067}$	$4.181^{+1.321}_{-0.464}$
	+3%/-4%	+1%/-0%	+77%/-115%	+6%/-13%	+8%/-11%	+32%/-11%
Source	KIC0	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 008259829-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$5.39^{+4.94}_{-3.44}$	174^{+6}_{-7}	-2921^{+11122}_{-4154}	$-24020.806^{+4656930.467}_{-2724208.618}$
Alt.	-724 ± 177	$6.45^{+5.26}_{-4.24}$	174^{+7}_{-7}	2579^{+947}_{-335}	10629^{+81164}_{-7461}

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 $A_{obs} \gg 1.0$

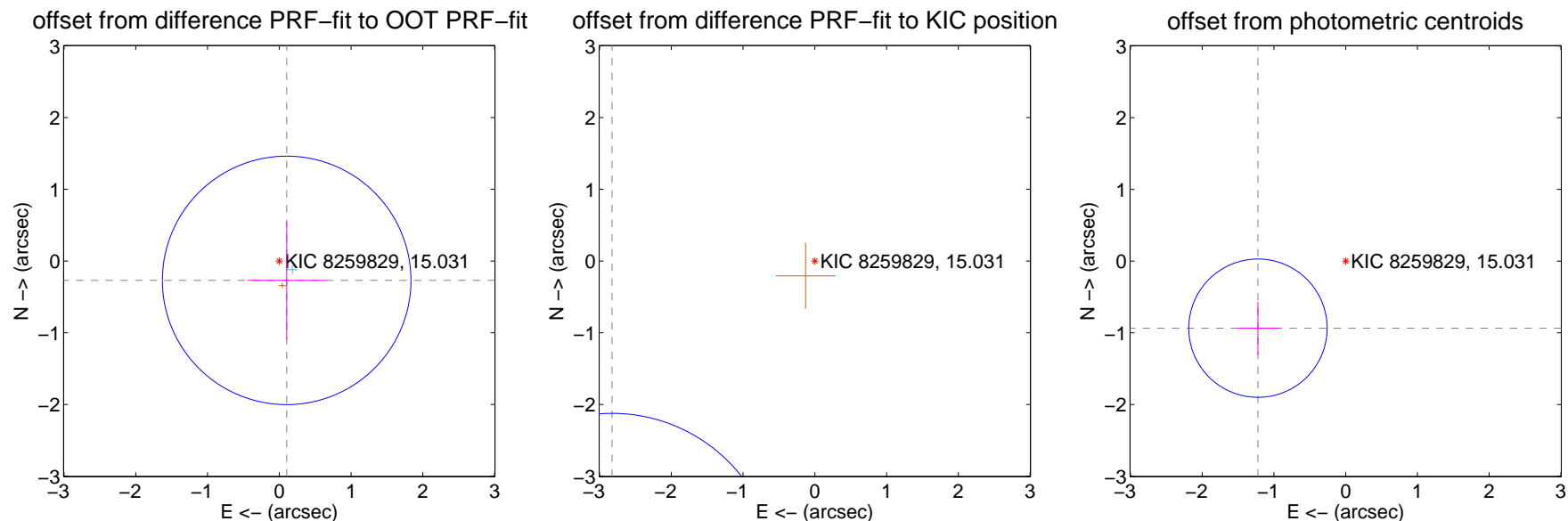
DV Centroid Data

Supplemental centroid analysis for 008259829-06. Kepler magnitude: 15.03. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 5.12 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.289 ± 0.577	0.50	-0.103 ± 0.549	-0.270 ± 0.823
PRF-fit source offset from KIC position	5.243 ± 0.764	6.86	2.826 ± 0.418	-4.417 ± 0.644
photometric centroid source offset	1.54 ± 0.32	4.79	1.22 ± 0.29	-0.94 ± 0.37

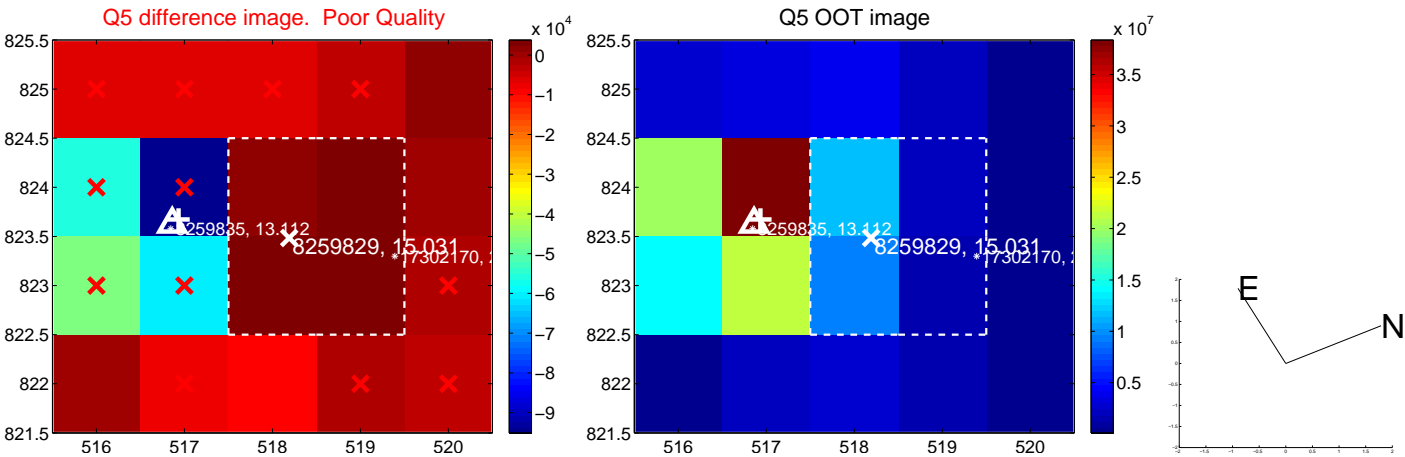


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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



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



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

Q9 no difference image



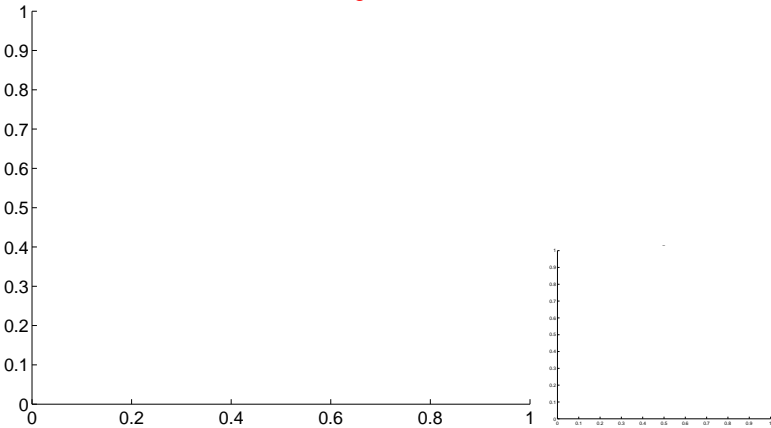
Q9 no OOT image



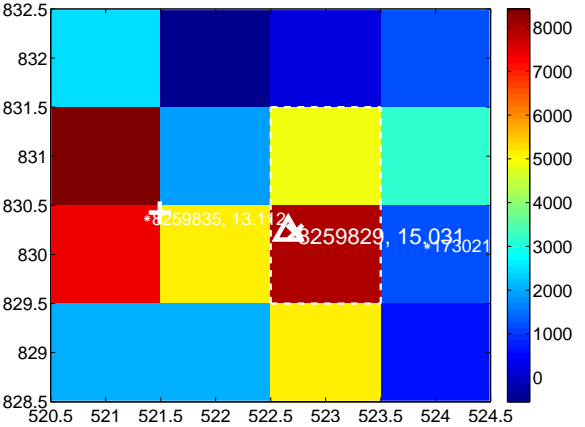
Q10 no difference image



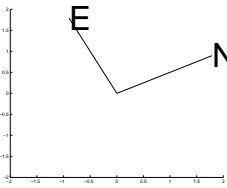
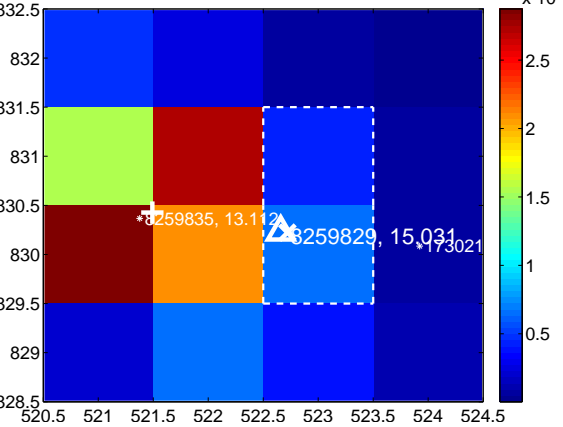
Q10 no OOT image



Q11 difference image. Poor Quality



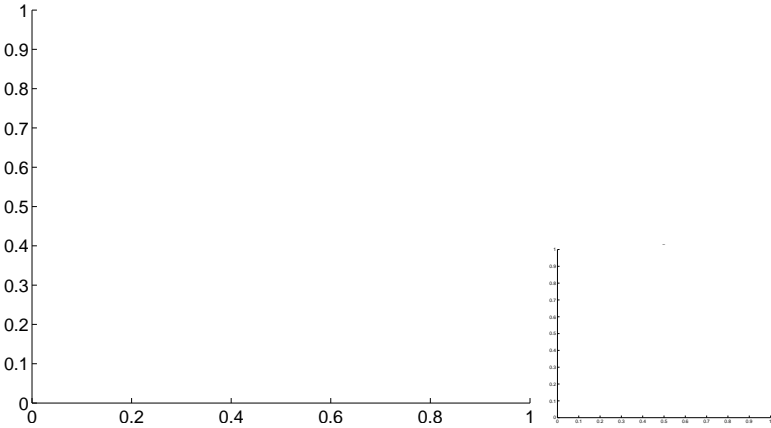
Q11 OOT image



Q12 no difference image



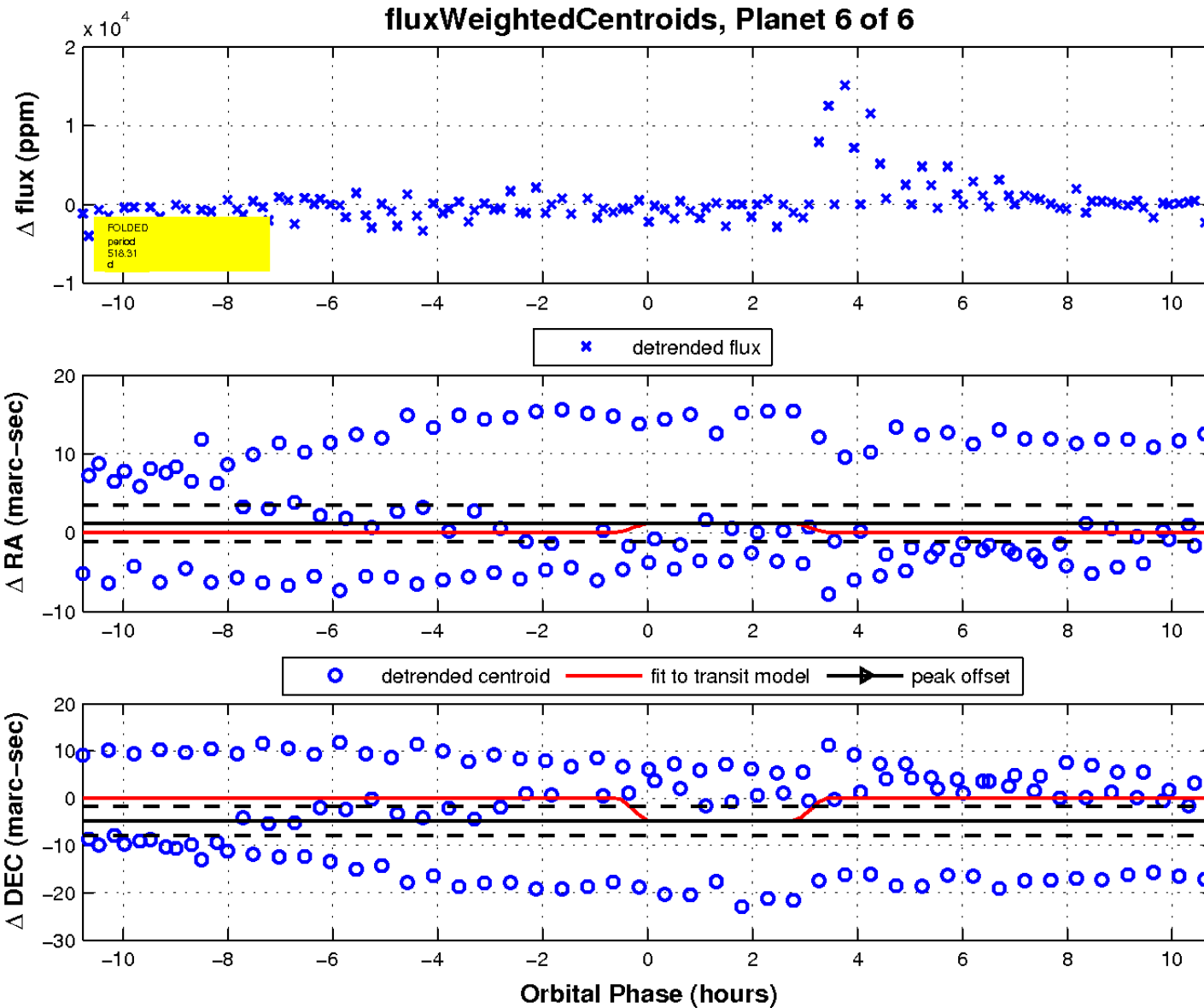
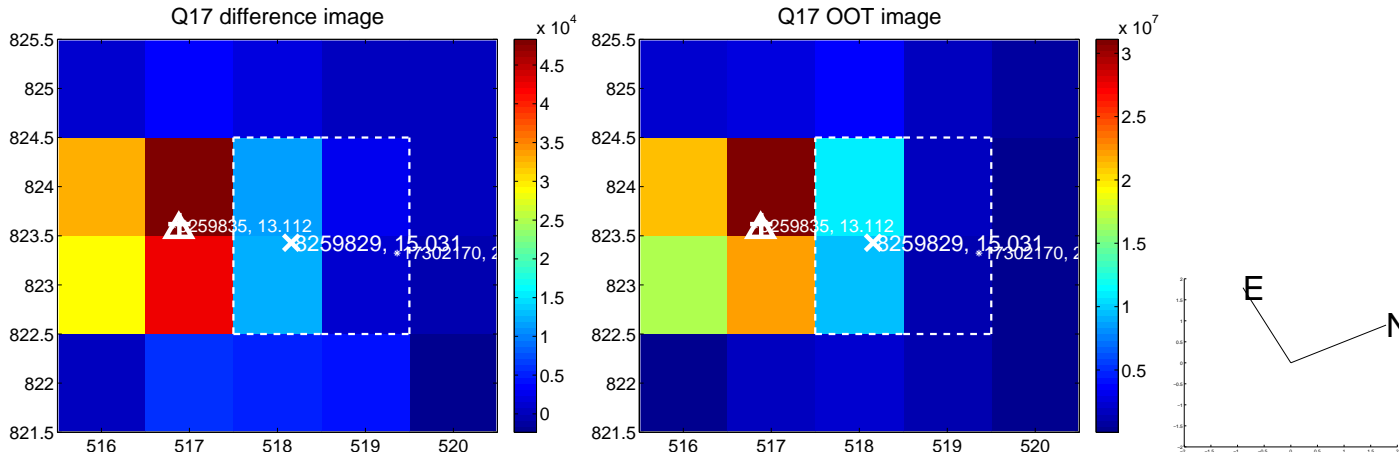
Q12 no OOT image



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



UKIRT Image

Declination

