

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})
006843185-01	OBS	No	612.067201	328.000622	3086.6	13.627	15.2	10.9	0.70	4331	4.35	0.10
006843185-02	OBS	No	214.565578	196.030052	1975.0	9.585	13.9	7.1	0.70	4331	3.06	0.40
006843185-03	OBS	No	211.494807	168.060866	2874.5	17.193	13.1	12.6	0.70	4331	4.10	0.41
006843185-04	OBS	No	480.464997	317.440449	1747.0	22.354	14.9	5.0	0.70	4331	2.80	0.14
006843185-05	OBS	No	407.362166	222.635926	3522.6	15.164	12.9	10.8	0.70	4331	5.25	0.17
006843185-06	OBS	No	419.620189	171.880141	2311.0	10.794	14.4	8.0	0.70	4331	3.36	0.16
006843185-07	OBS	No	281.377772	214.045871	2059.1	5.569	13.0	9.2	0.70	4331	3.03	0.28
006843185-08	OBS	No	474.926569	188.740311	1305.4	4.181	12.8	4.6	0.70	4331	2.48	0.14
006843185-09	OBS	No	254.929310	229.253445	2118.2	11.457	12.6	8.8	0.70	4331	4.02	0.32
006843185-10	OBS	No	390.800507	158.970898	17.4	0.893	12.2	0.0	0.70	4331	0.29	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006843185-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-03	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
006843185-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-08	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—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-09	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
006843185-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

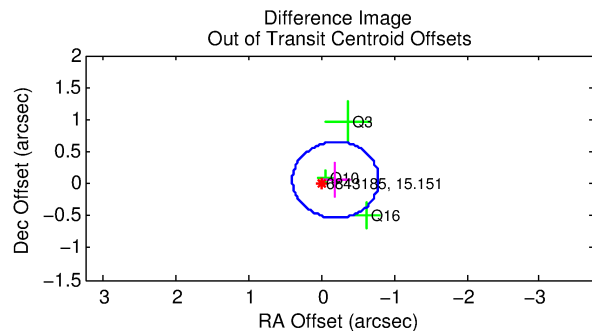
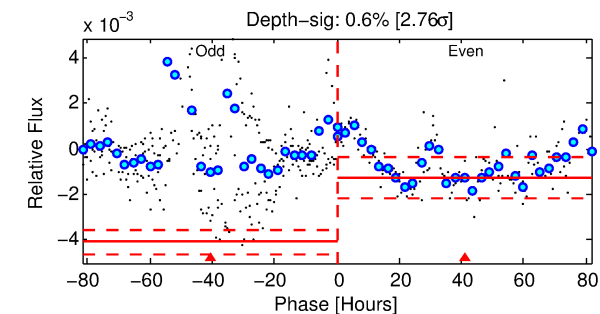
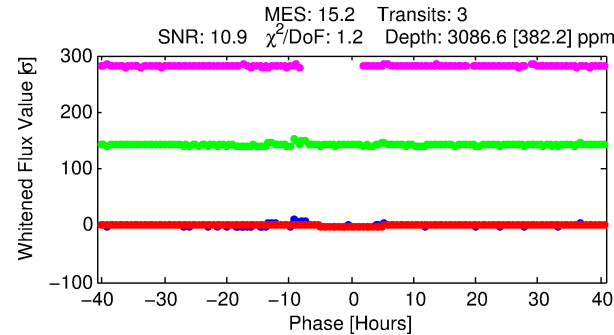
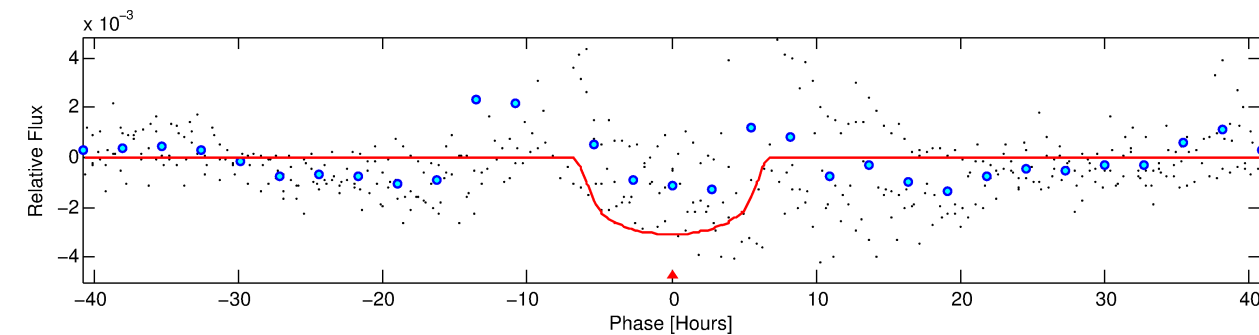
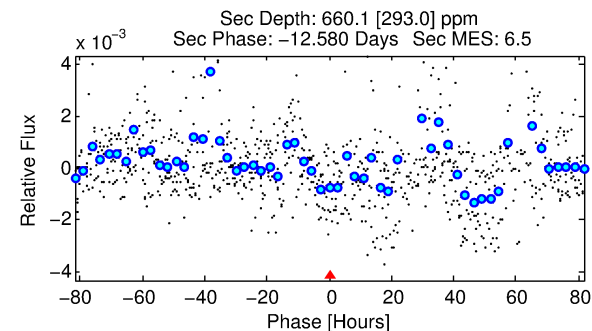
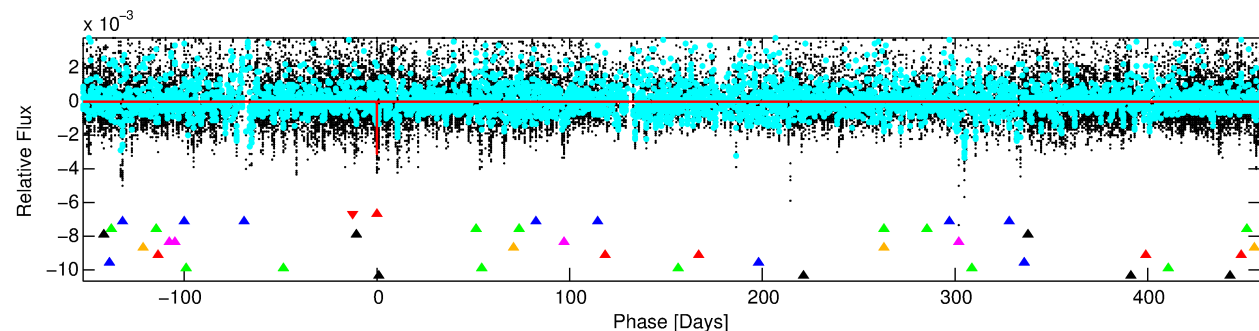
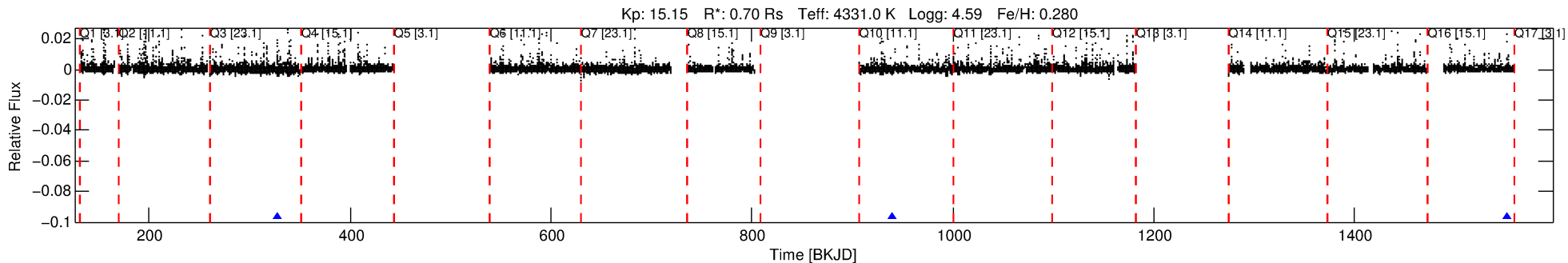
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006843185-01

No Significant Match Found

DV One-Page Summary

KIC: 6843185 Candidate: 1 of 10 Period: 612.067 d



DV Fit Results:

Period = 612.06720 [0.01122] d
Epoch = 328.0006 [0.0166] BKJD
Rp/R* = 0.0567 [0.0063]
a/R* = 245.15 [63.67]
b = 0.78 [0.13]
Seff = 0.10 [0.02]
Teq = 143 [6] K
Rp = 4.35 [0.60] Re
a = 1.2518 [0.0864] AU
Ag = 30087.31 [15233.09] [1.98 σ]
Teffp = 2916 [374] K [7.41 σ]

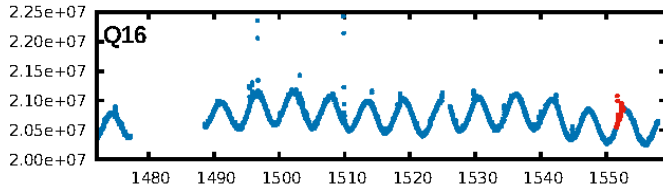
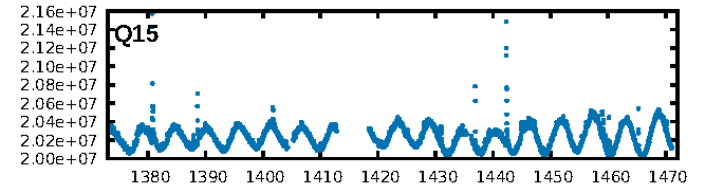
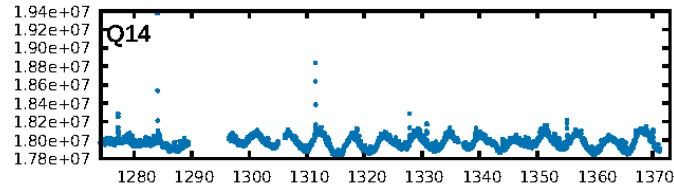
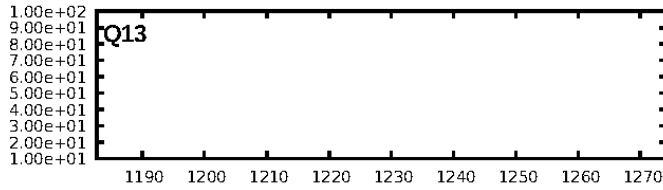
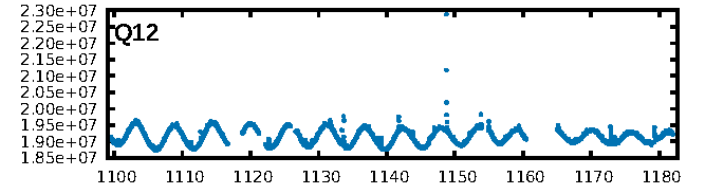
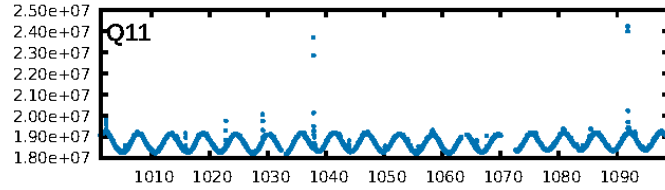
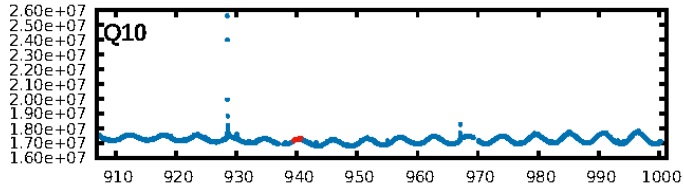
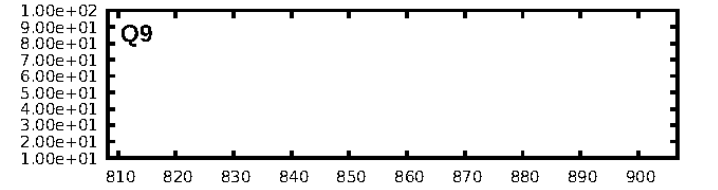
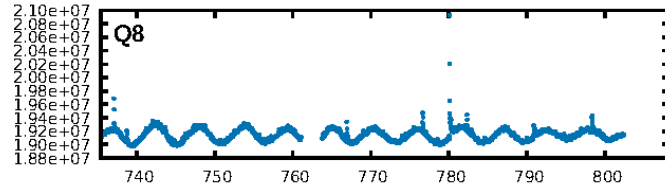
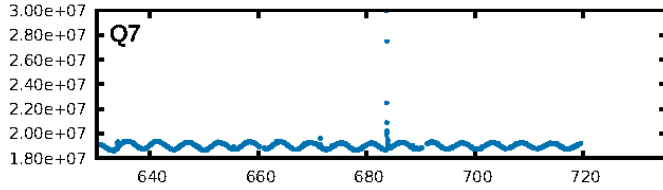
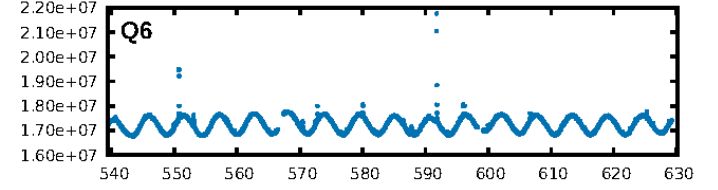
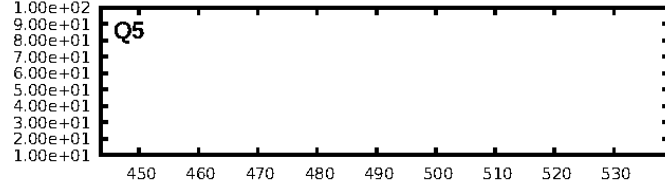
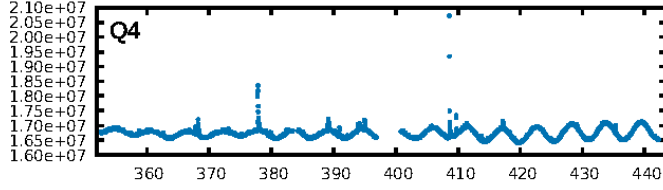
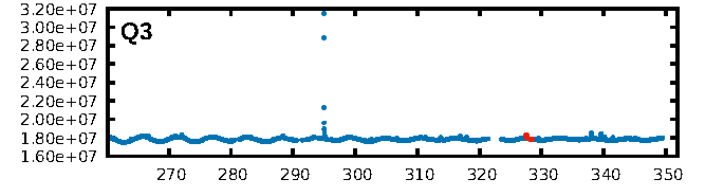
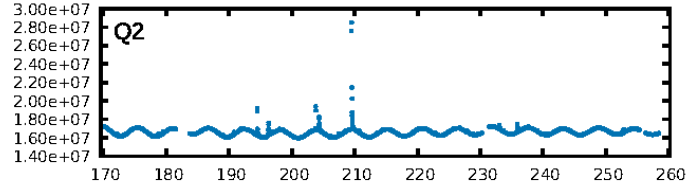
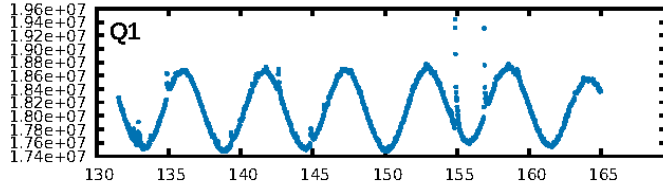
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [120.64 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 68.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.693
Centroid-sig: 89.8%
Centroid-so: 0.334 arcsec [0.89 σ]
OotOffset-rm: 0.204 arcsec [1.03 σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-rm: 0.411 arcsec [1.73 σ]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.67 [2/3]

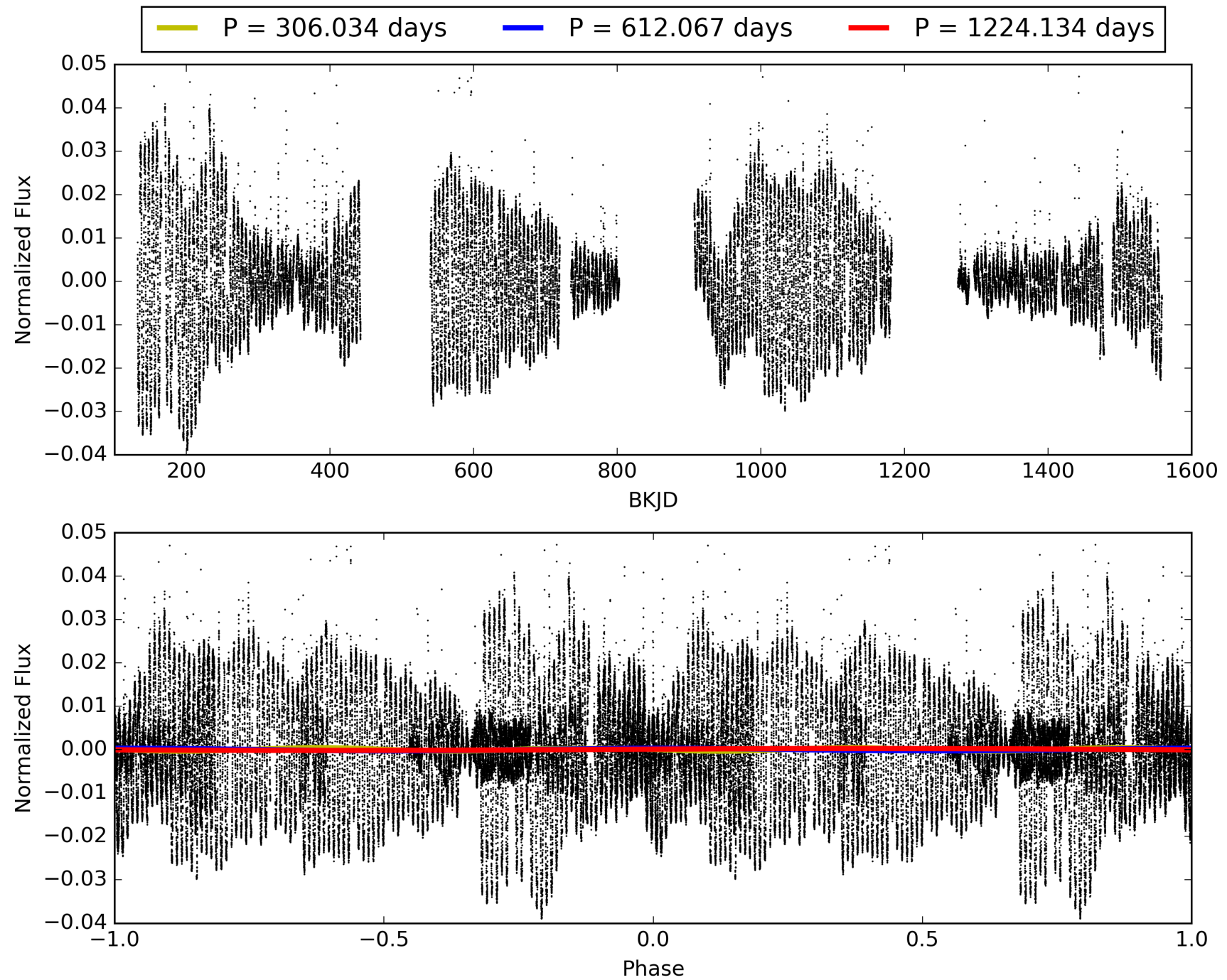
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:45:21 Z

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

TCE 006843185-01, PDC Light Curves

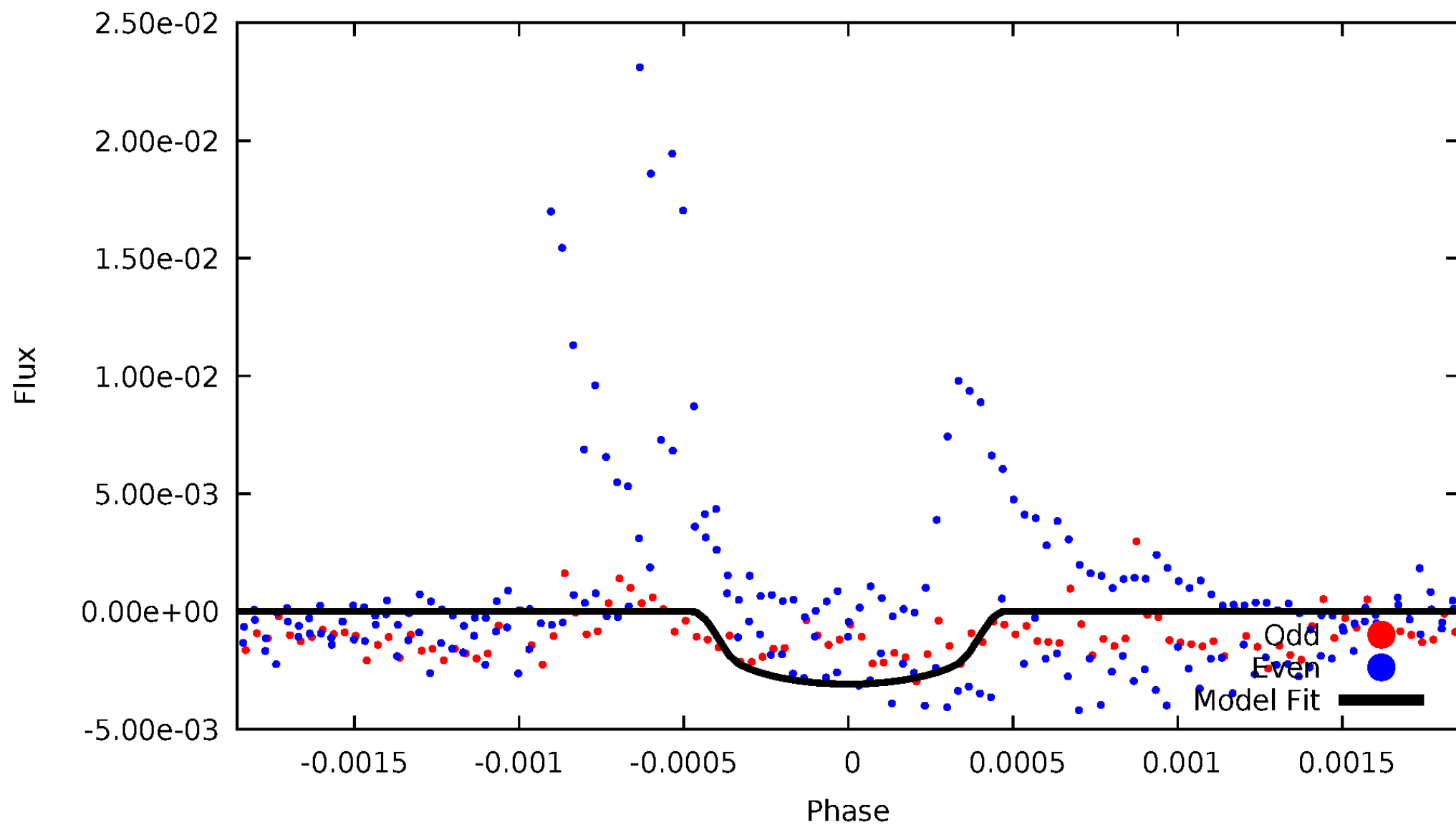


TCE 006843185-01



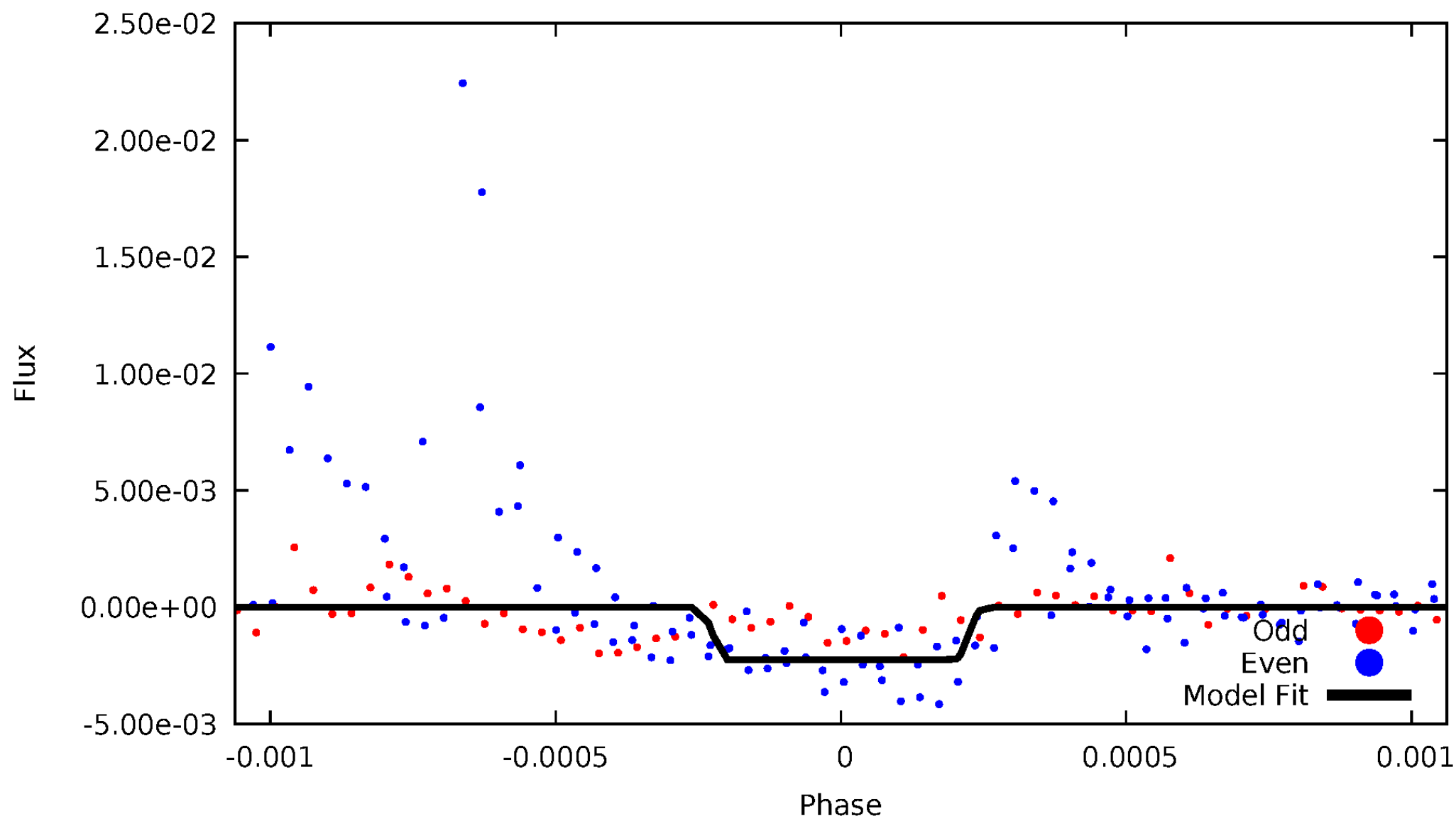
DV Odd/Even

TCE 006843185-01



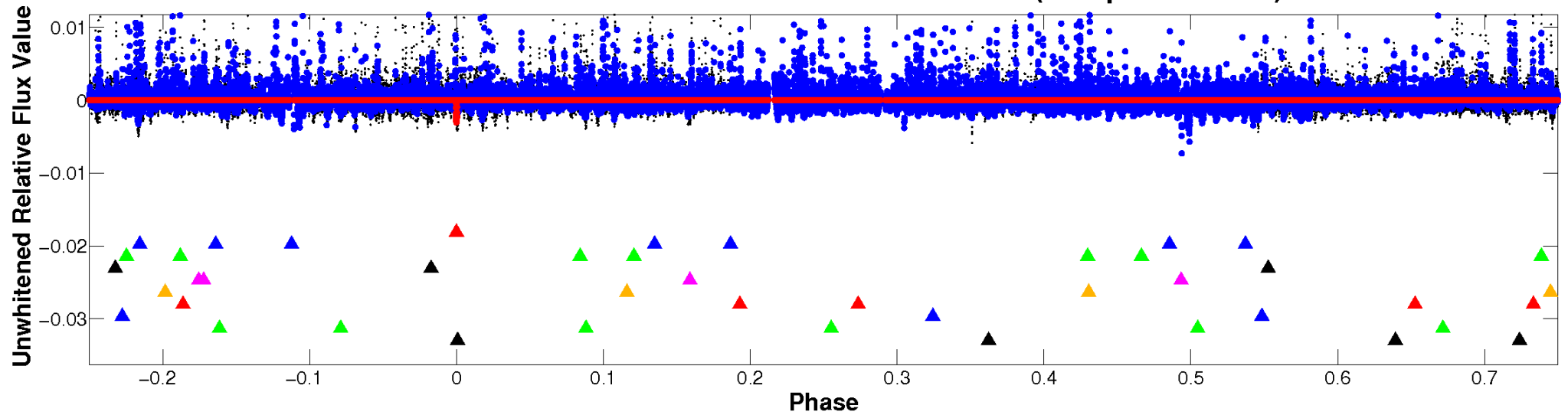
ALT Odd/Even

TCE 006843185-01

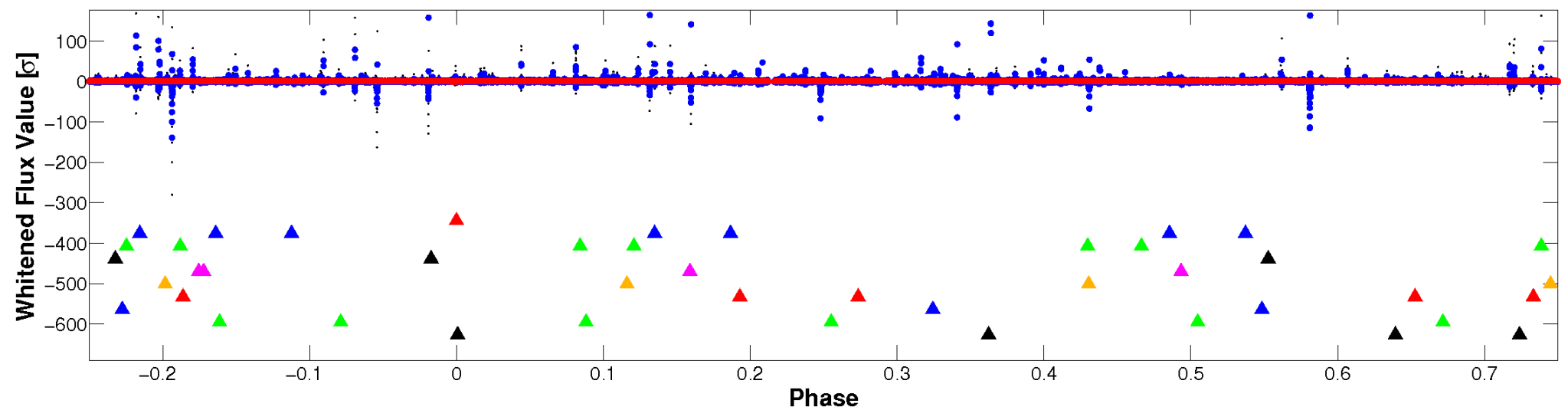


Non-Whitened Vs. Whitened Light Curve

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

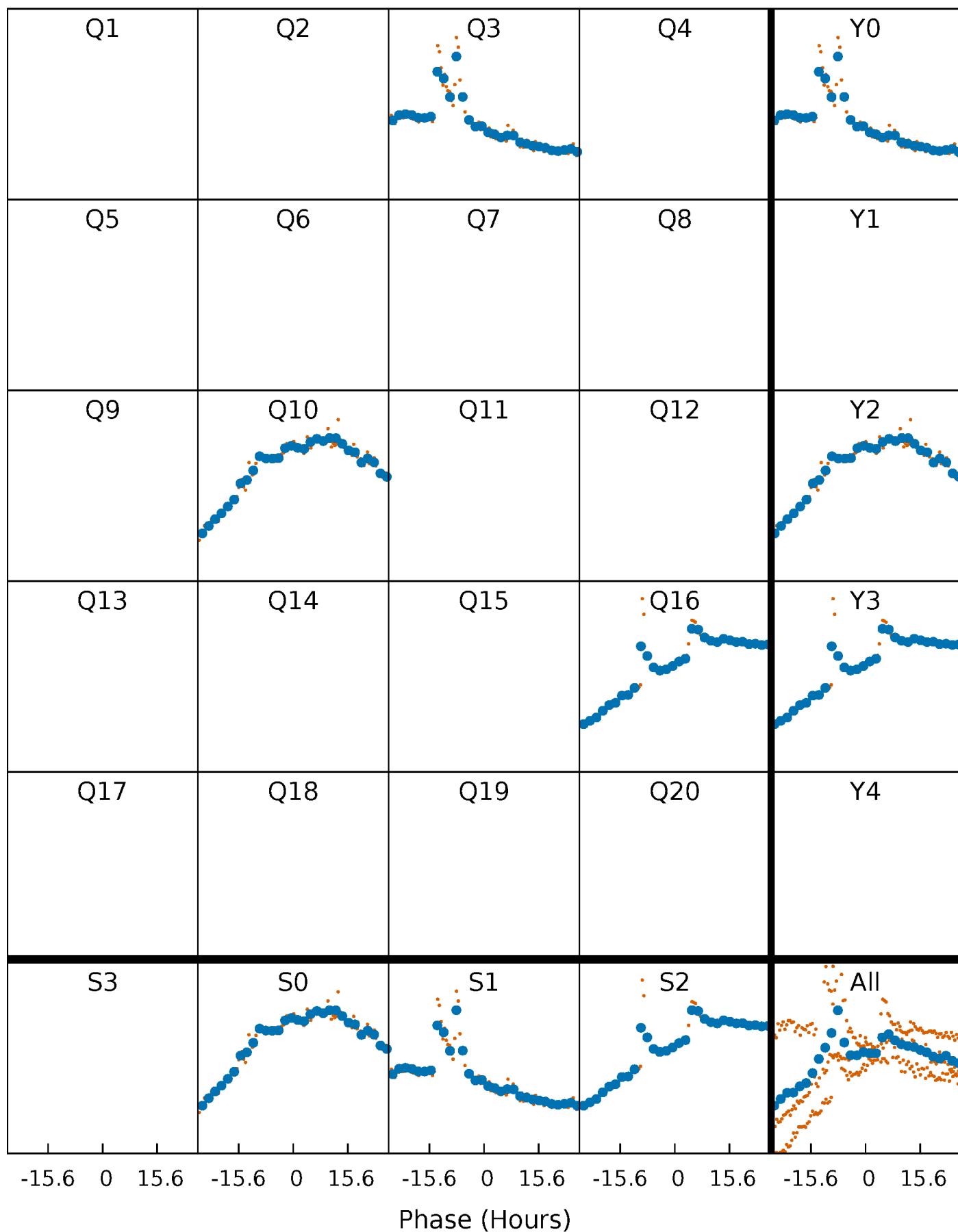


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



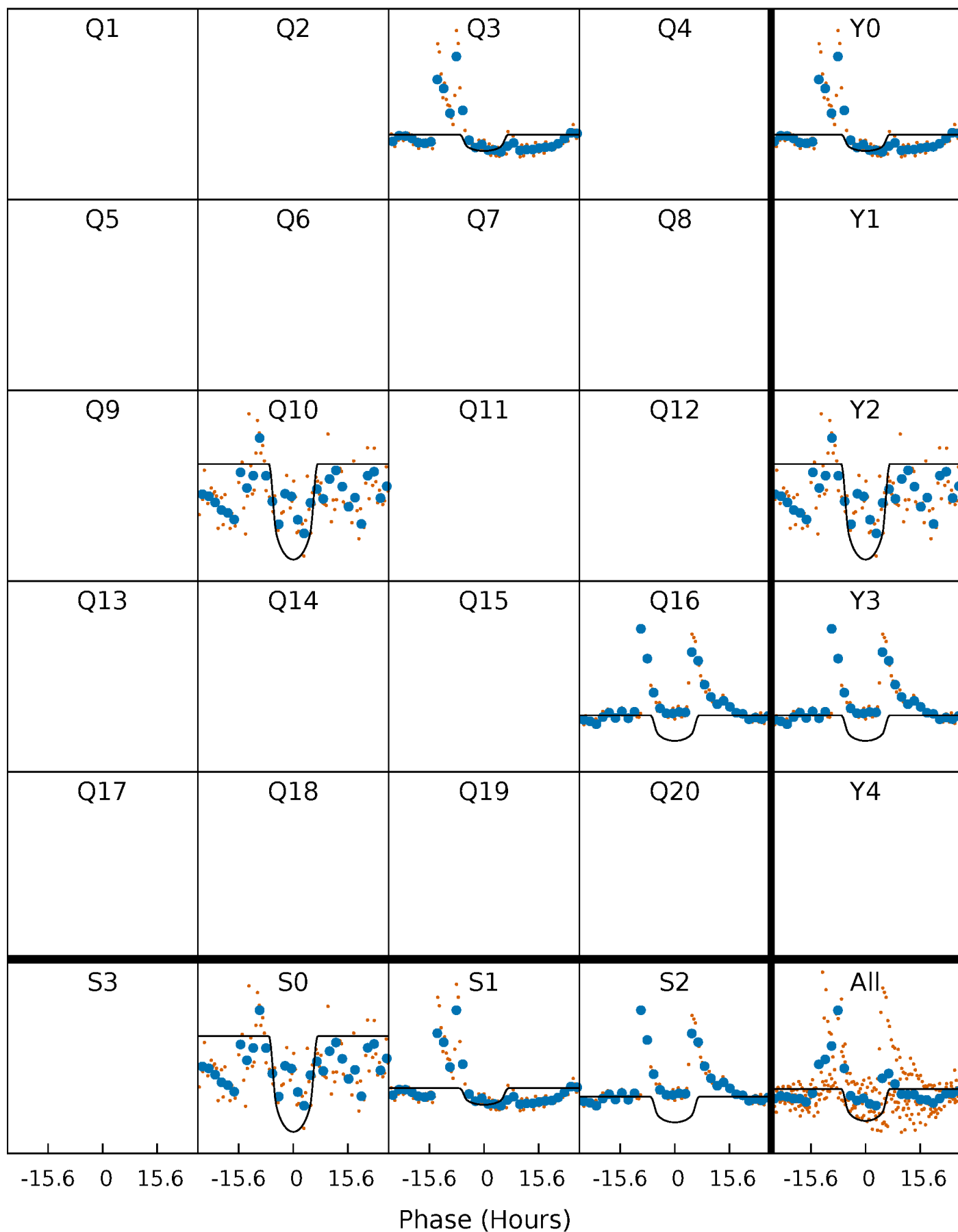
PDC Quarter-Phased Transit Curves

TCE 006843185-01 P=612.067201 Days $T_0=328.000622$ (BKJD)



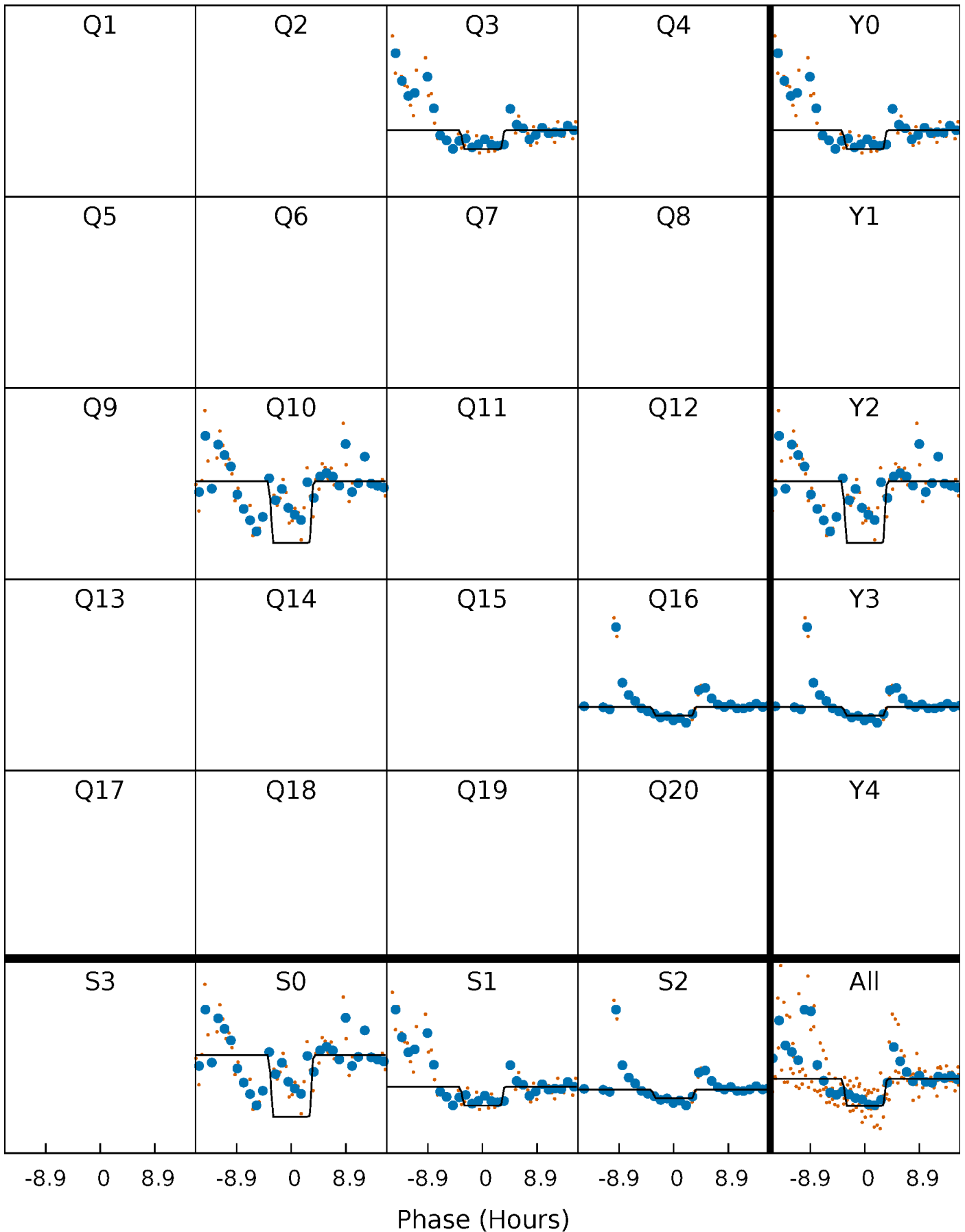
DV Quarter-Phased Transit Curves

TCE 006843185-01 P=612.067201 Days $T_0=328.000622$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

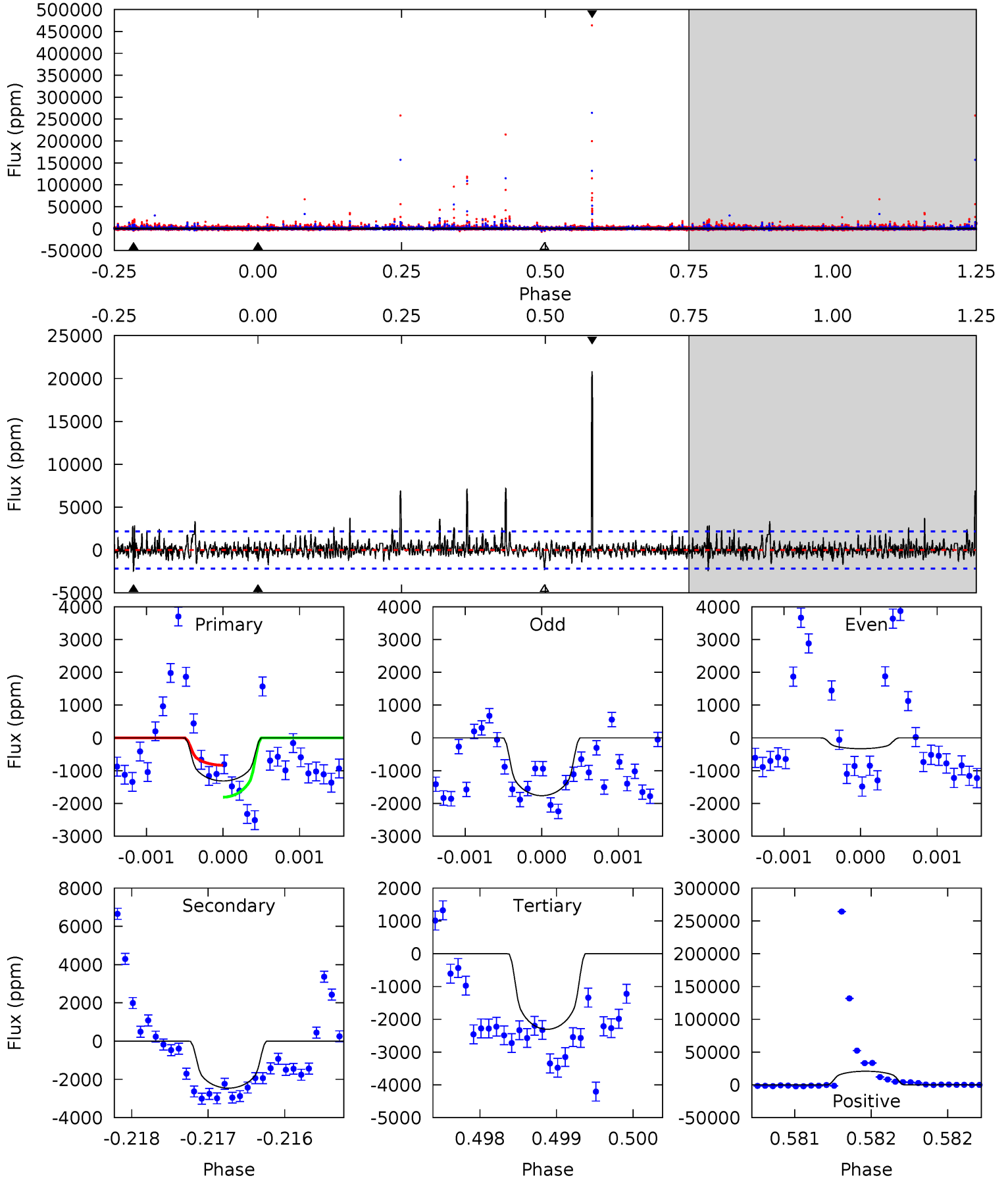
TCE 006843185-01 P=612.025989 Days $T_0=328.101075$ (BKJD)



DV Model-Shift Uniqueness Test

006843185-01, P = 612.067201 Days, E = 328.000622 Days

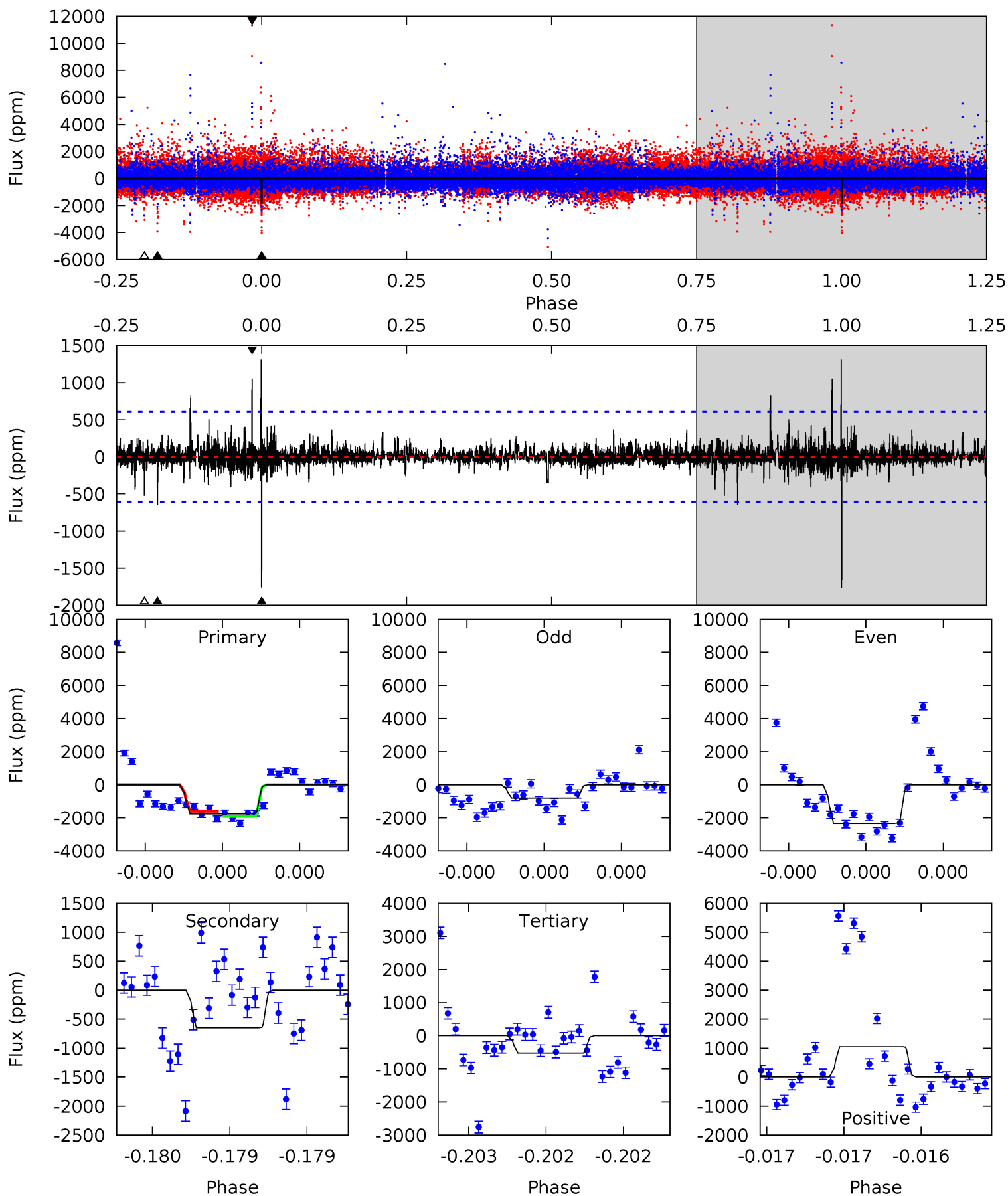
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.31	6.19	5.81	52.4	5.46	3.31	2.41	-2.50	-49.1	0.38	-46.2	1.18	0.46	0.89	1.23



Alt Model-Shift Uniqueness Test

006843185-01, P = 612.025989 Days, E = 328.101075 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.3	6.00	4.84	9.75	5.58	3.50	0.85	11.5	6.59	1.16	-3.75	6.30	1.12	0.43	1.48



Stellar Parameters For KIC 006843185

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4331^{+142}_{-142}	$4.588^{+0.056}_{-0.017}$	$0.280^{+0.150}_{-0.300}$	$0.703^{+0.028}_{-0.057}$	$0.698^{+0.044}_{-0.049}$	$2.829^{+0.655}_{-0.190}$
	+3%/-3%	+1%/-0%	+54%/-107%	+4%/-8%	+6%/-7%	+23%/-7%
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 006843185-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2457 ± 397	$4.30^{+0.50}_{-0.53}$	198^{+7}_{-7}	4108^{+273}_{-220}	114168^{+41479}_{-25985}
Alt.	-649 ± 108	$3.55^{+0.52}_{-0.44}$	199^{+7}_{-7}	3500^{+215}_{-185}	44186^{+15980}_{-11796}

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

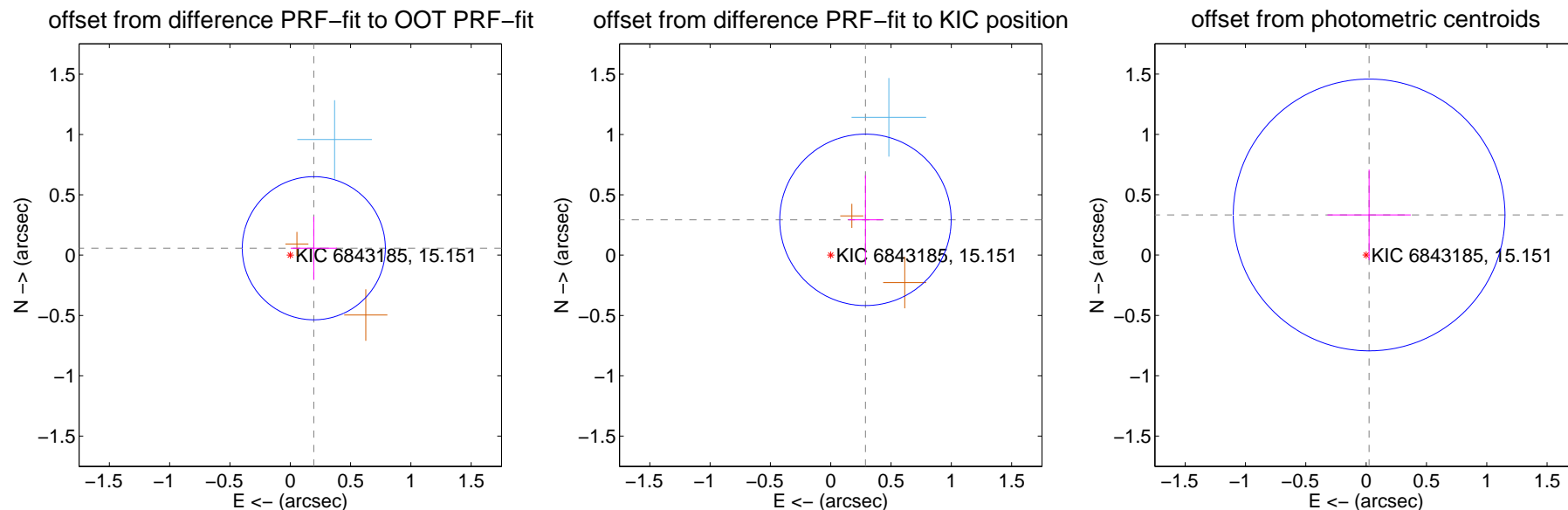
DV Centroid Data

Supplemental centroid analysis for 006843185-01. Kepler magnitude: 15.15. Transit SNR 10.86

There are 1 quarters with good PRF difference image offsets

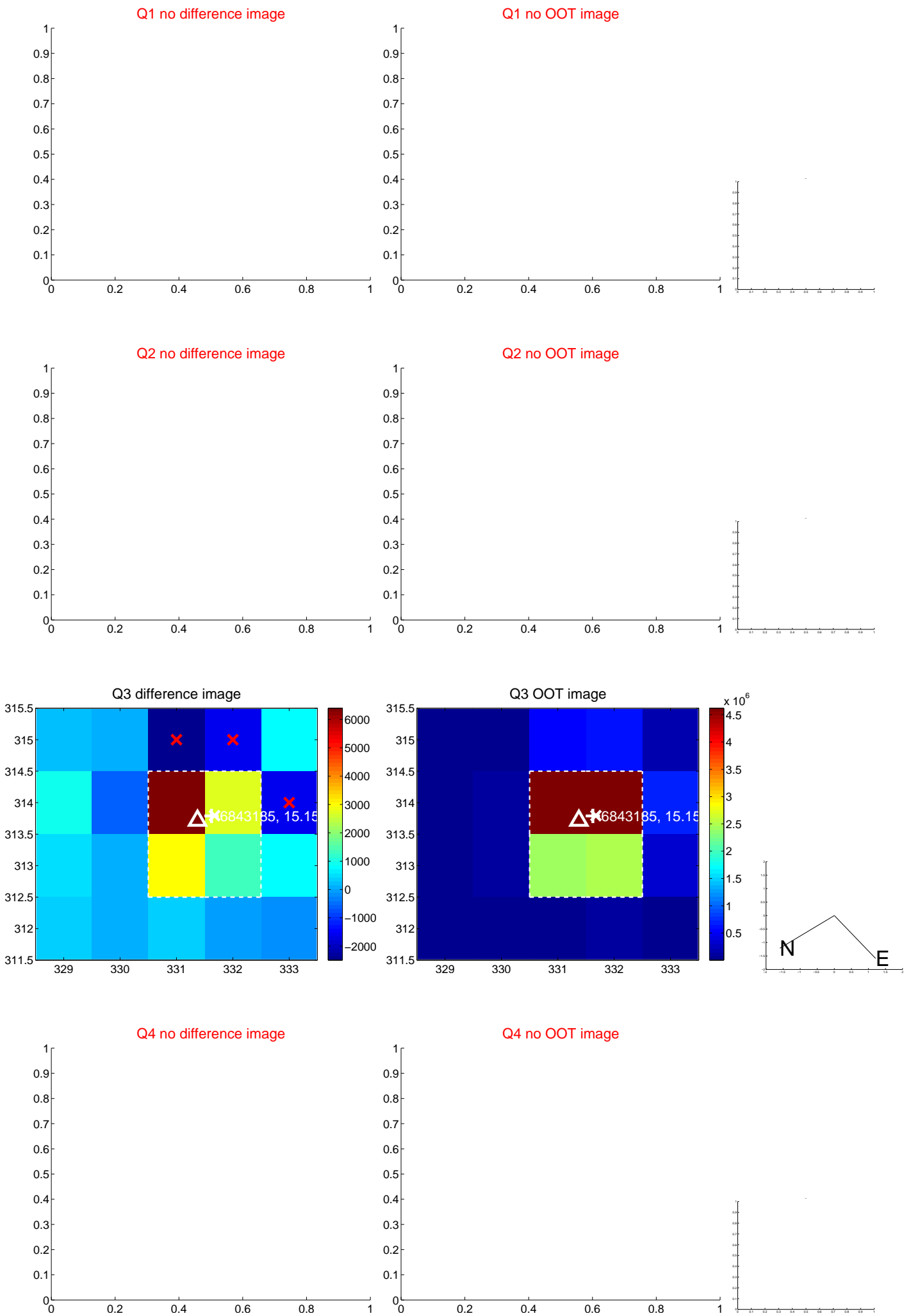
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.204 ± 0.198	1.03	-0.195 ± 0.191	0.057 ± 0.263
PRF-fit source offset from KIC position	0.411 ± 0.237	1.73	-0.288 ± 0.142	0.293 ± 0.369
photometric centroid source offset	0.33 ± 0.38	0.89	-0.02 ± 0.35	0.33 ± 0.38



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

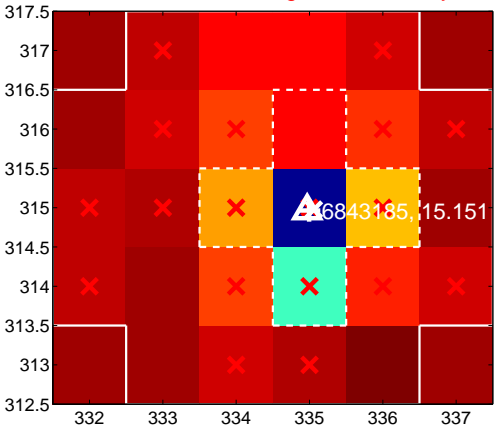
Q9 no difference image



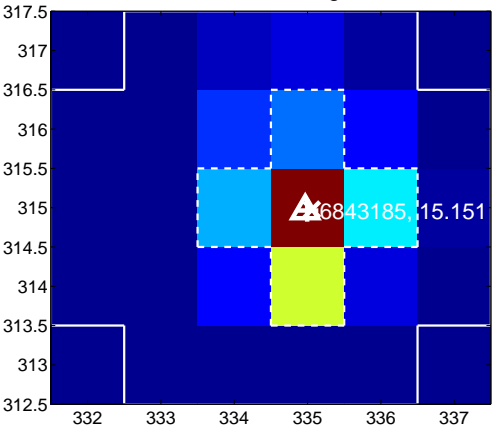
Q9 no OOT image



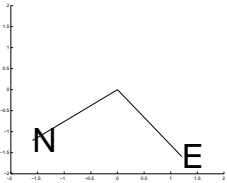
Q10 difference image. Poor Quality



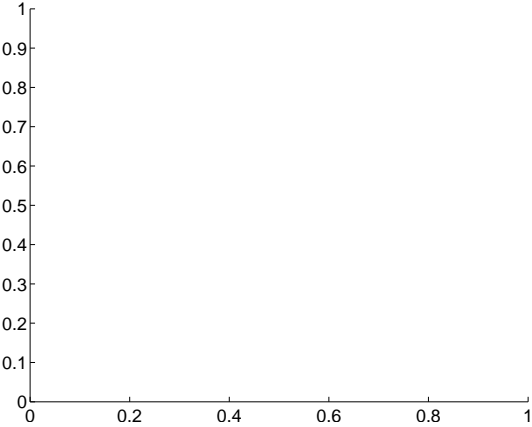
Q10 OOT image



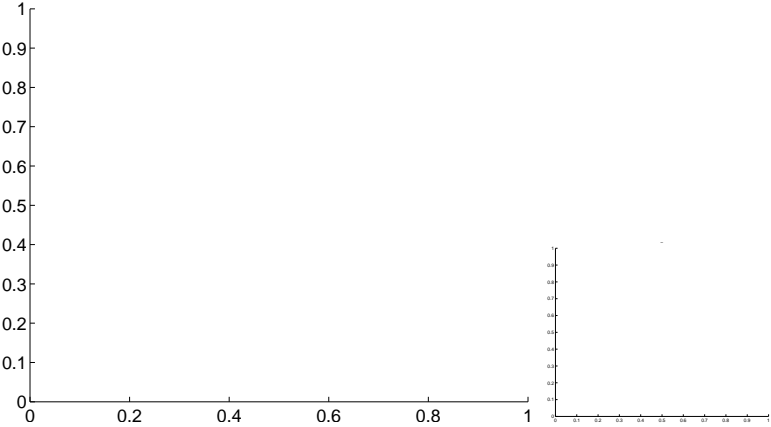
x 10⁶



Q11 no difference image



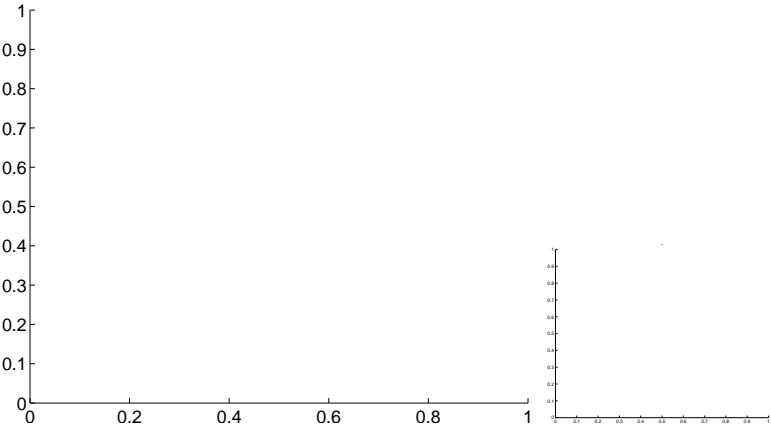
Q11 no OOT image



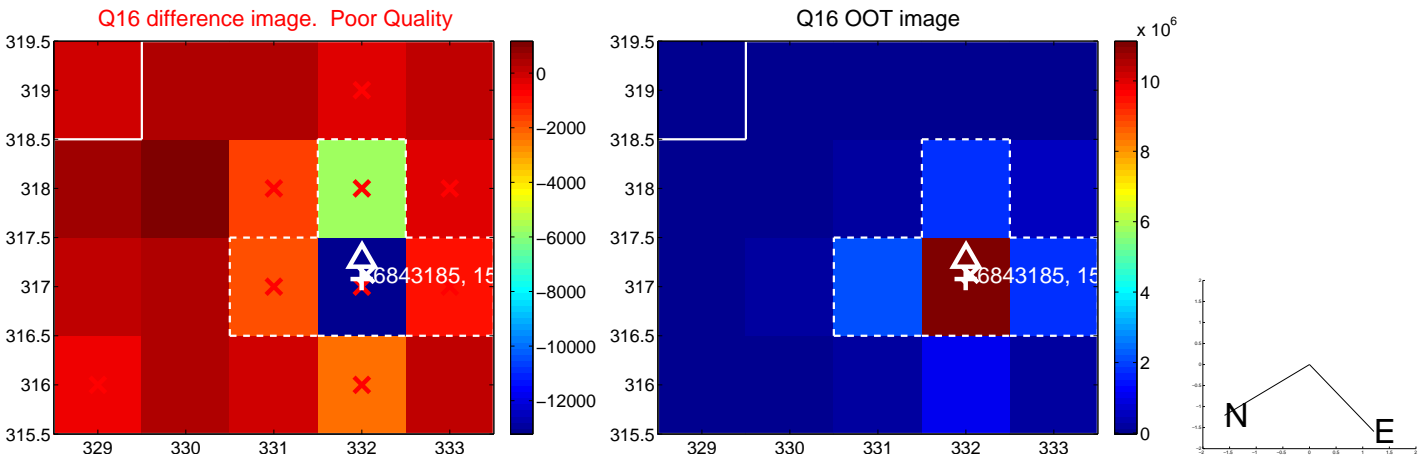
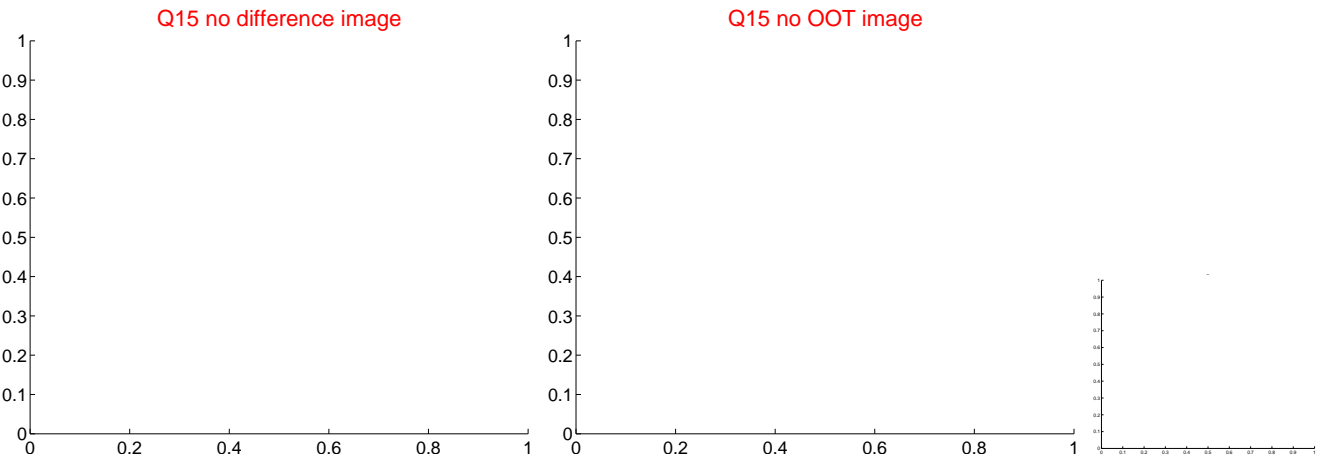
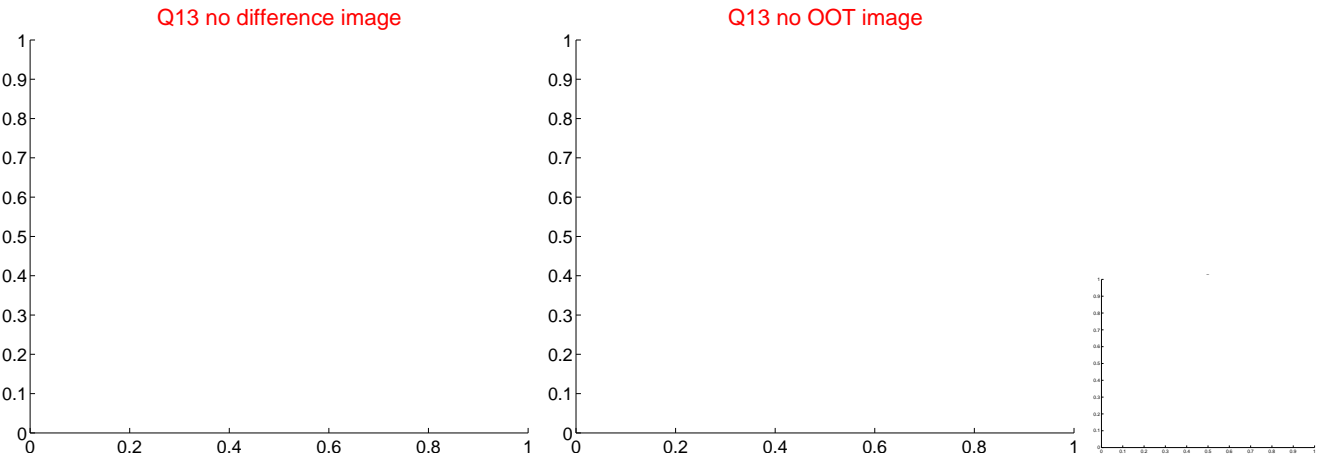
Q12 no difference image



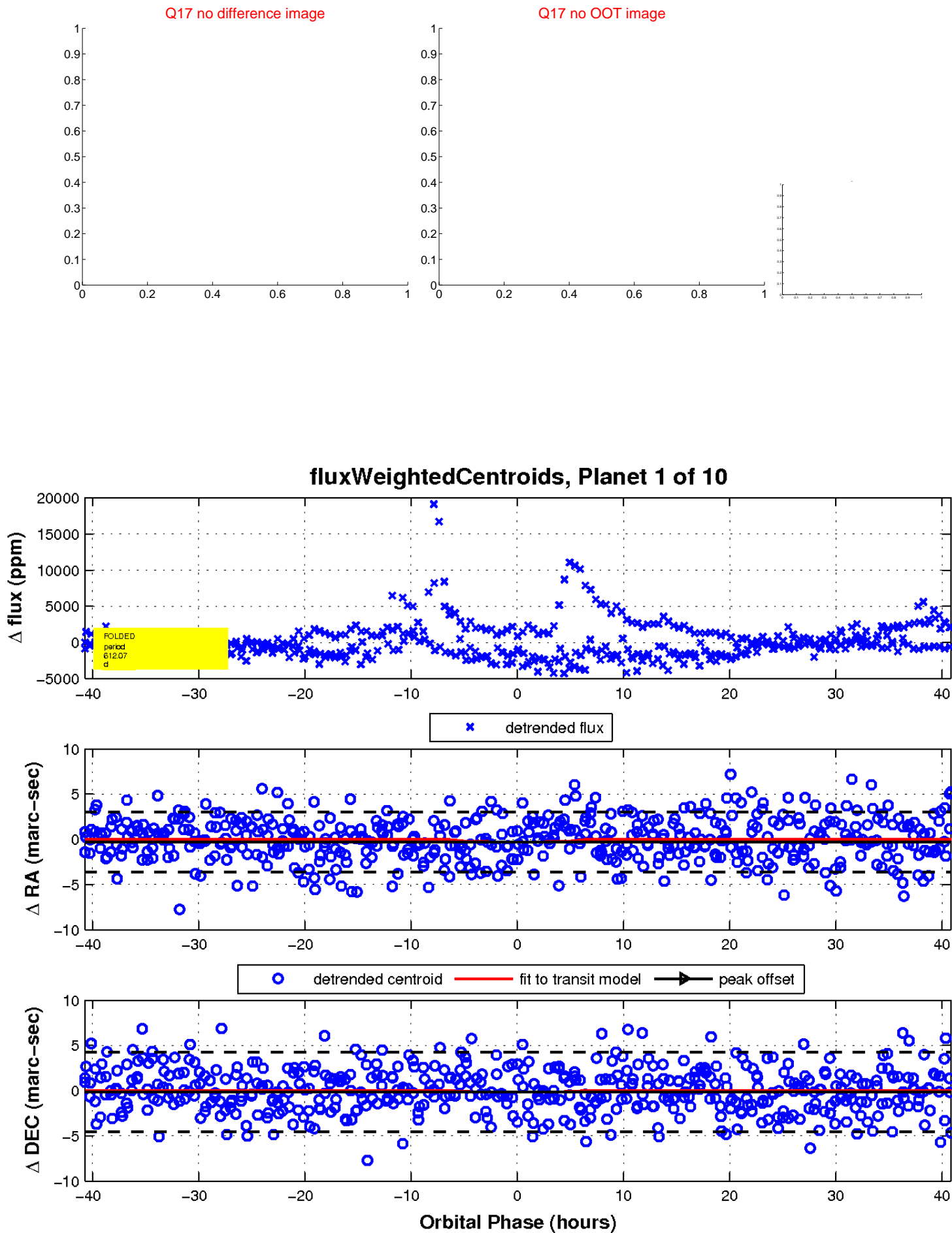
Q12 no OOT image



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

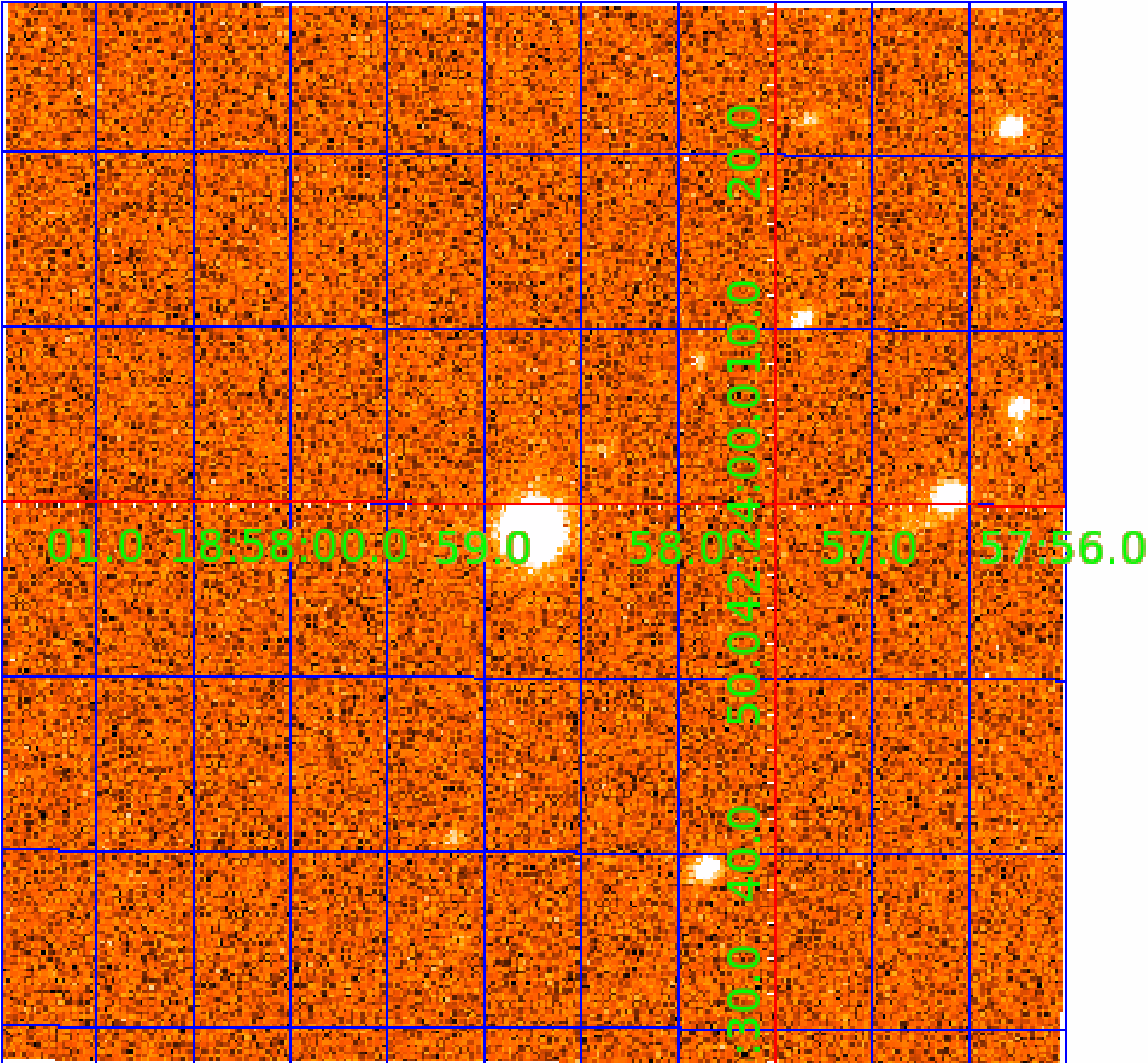


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



Q1-17 DR25 TCE Parameters

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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006843185-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-03	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
006843185-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-08	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—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-09	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
006843185-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

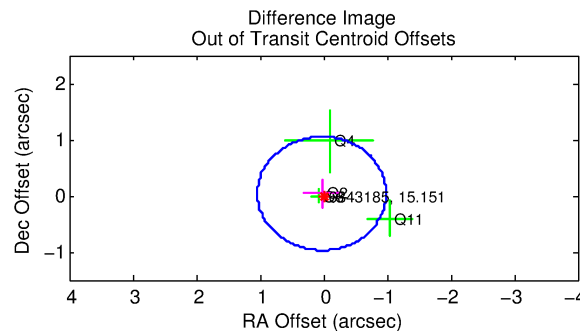
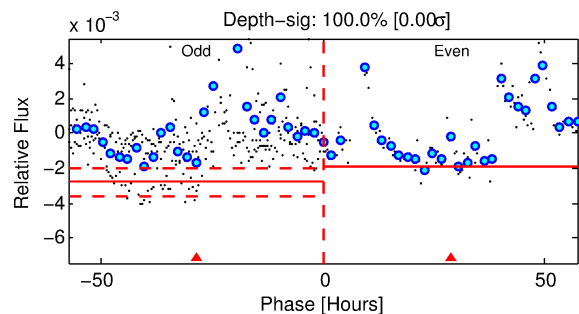
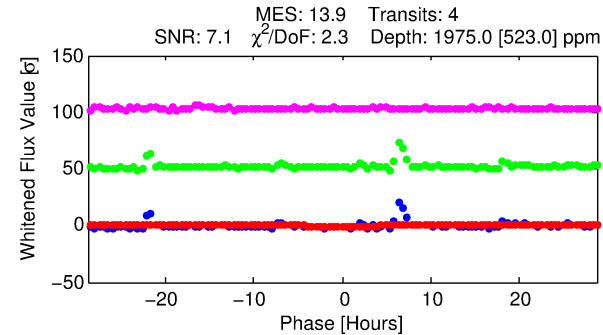
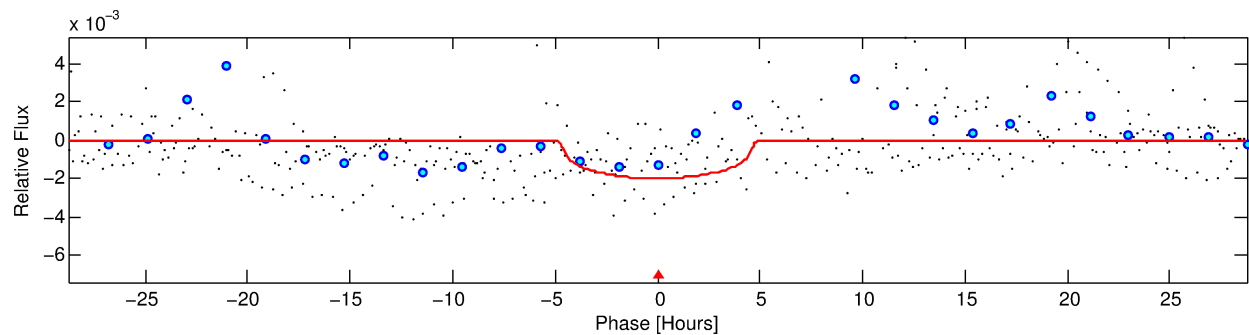
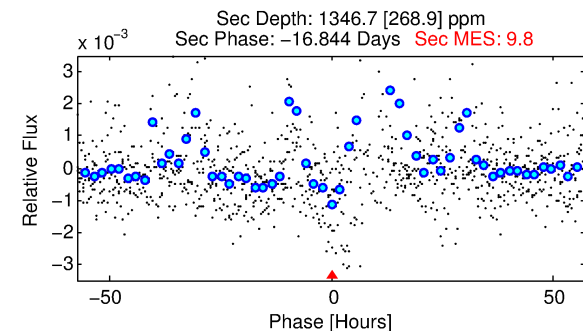
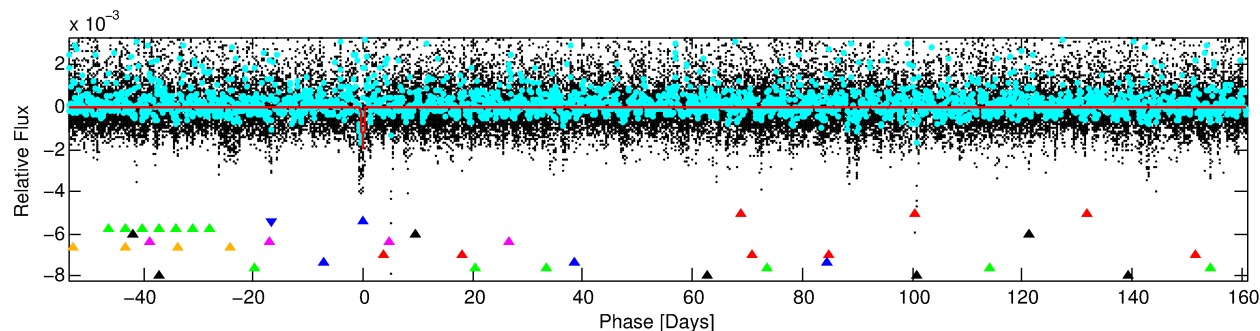
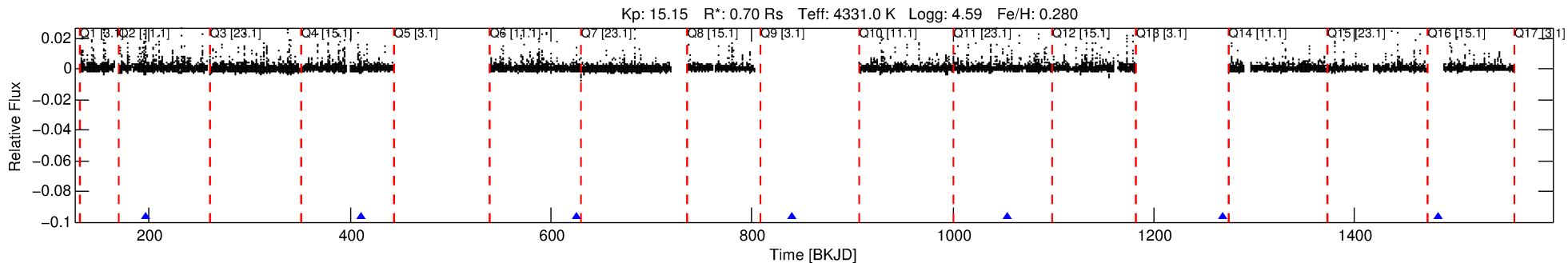
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006843185-02

No Significant Match Found

DV One-Page Summary

KIC: 6843185 Candidate: 2 of 10 Period: 214.566 d



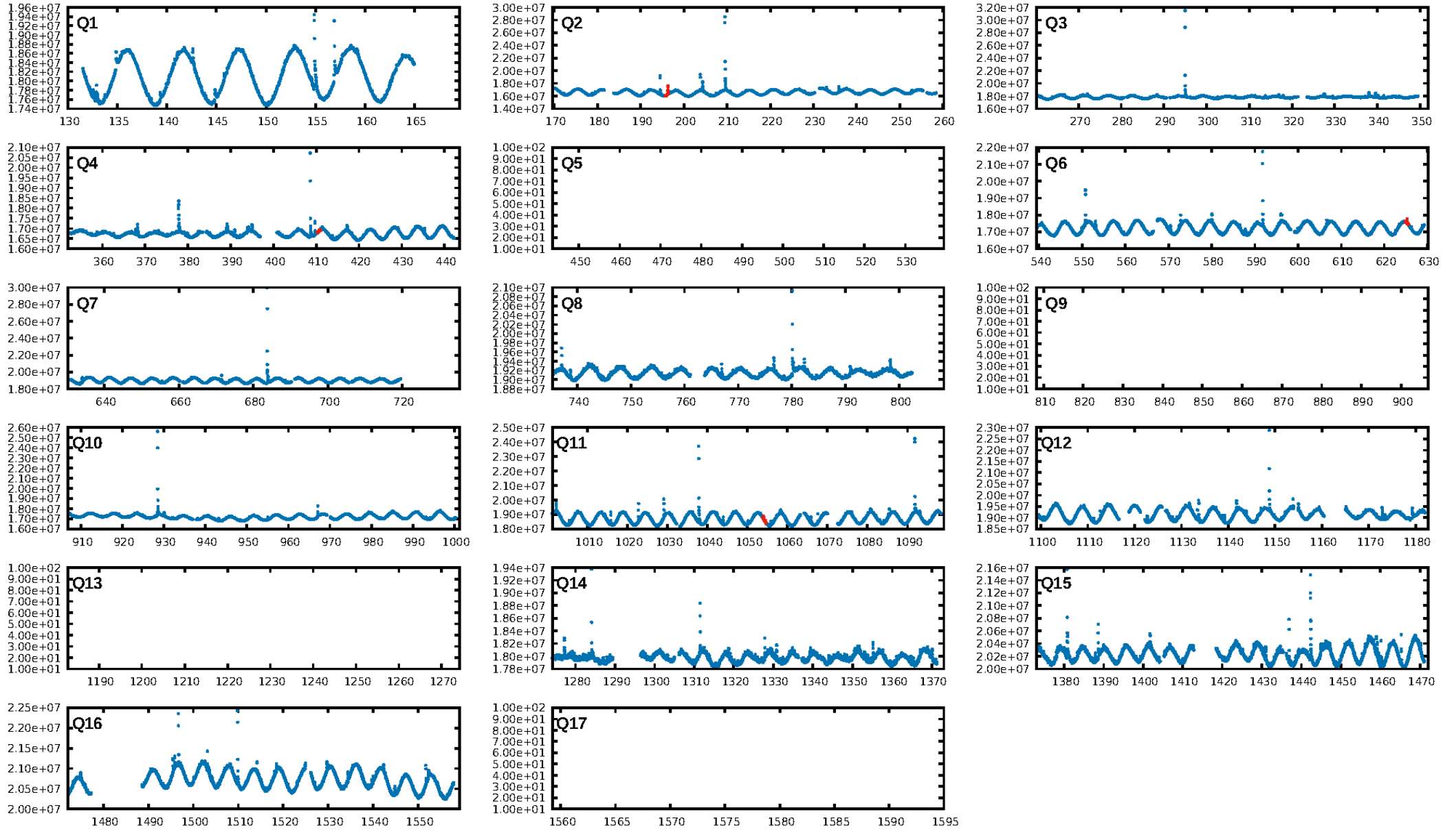
DV Fit Results:

Period = 214.56558 [0.00760] d
Epoch = 196.0301 [0.0198] BKJD
Rp/R* = 0.0399 [0.0390]
a/R* = 163.49 [449.72]
b = 0.41 [5.69]
Seff = 0.40 [0.07]
Teq = 203 [8] K
Rp = 3.06 [3.00] Re
a = 0.6224 [0.0430] AU
Ag = 30570.44 [60080.23] [0.51σ]
Teffp = 4152 [2042] K [1.93σ]

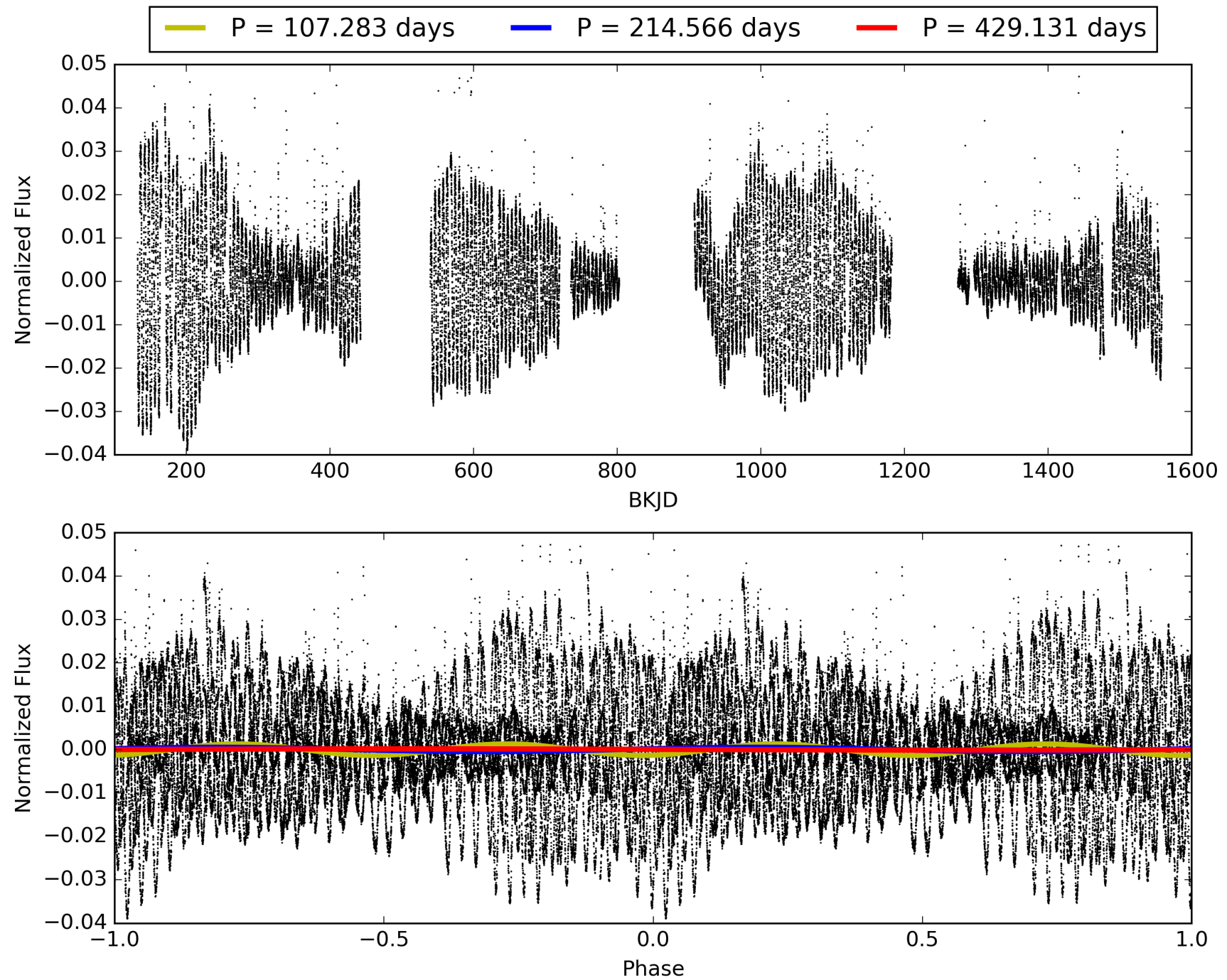
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [3.74σ]
LongPeriod-sig: 100.0% [64.85σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 16.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.484
Centroid-sig: 63.6%
Centroid-so: 0.567 arcsec [0.94σ]
OotOffset-rm: 0.048 arcsec [0.14σ]
KicOffset-rm: 0.236 arcsec [1.20σ]
OotOffset-st: 2/1/1/0 [4]
KicOffset-st: 2/1/1/0 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [4/4]

TCE 006843185-02, PDC Light Curves

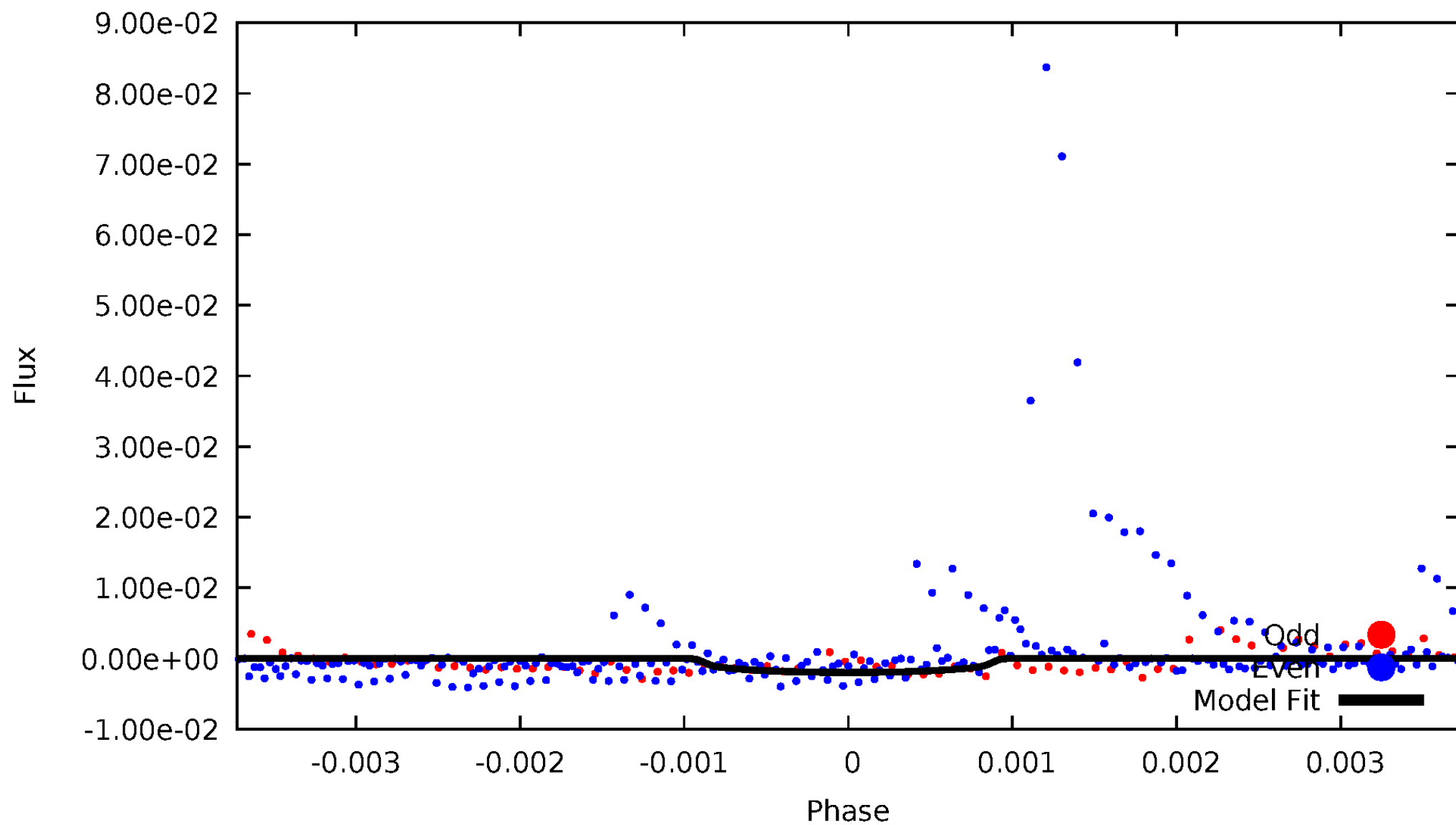


TCE 006843185-02



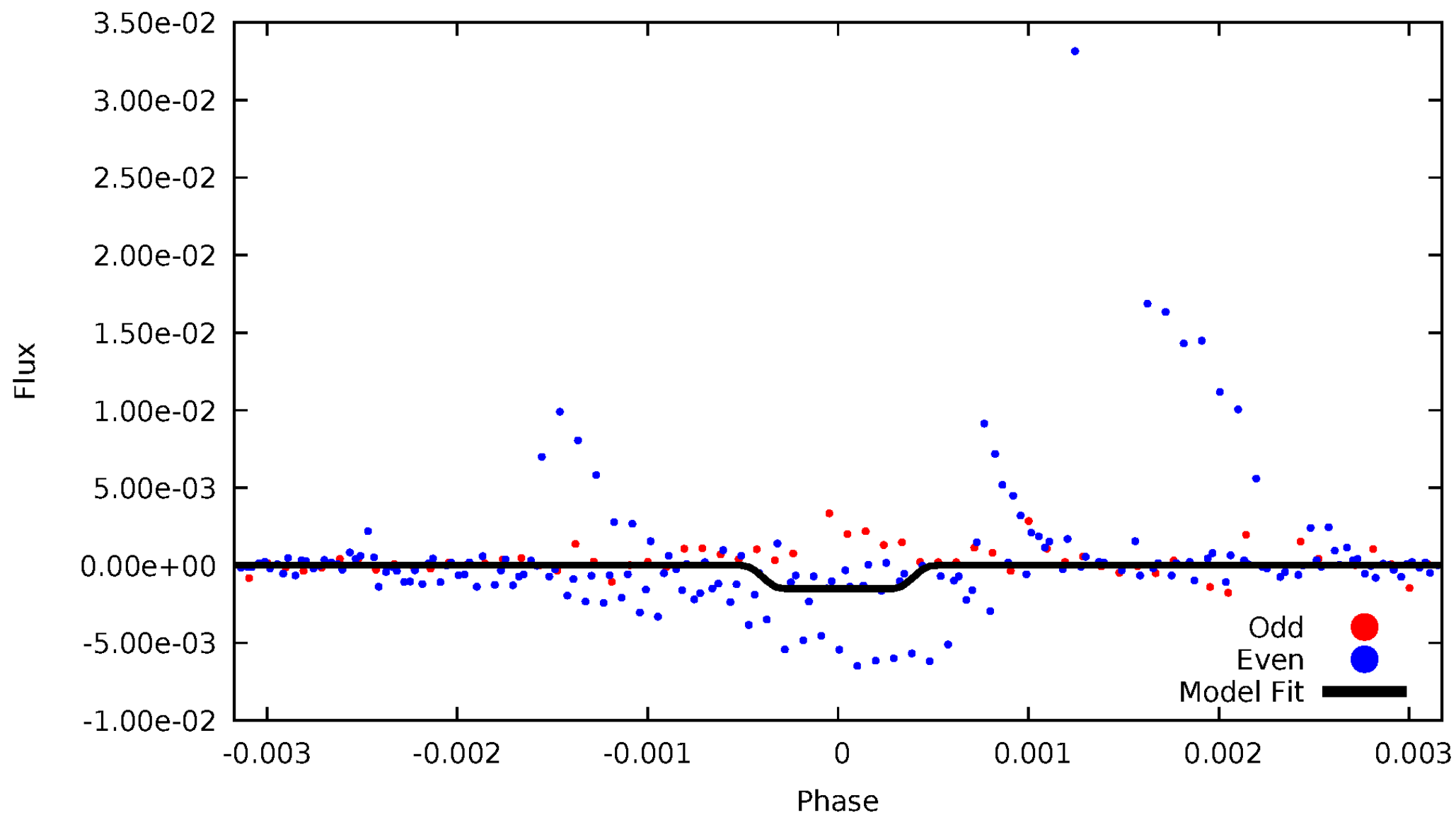
DV Odd/Even

TCE 006843185-02



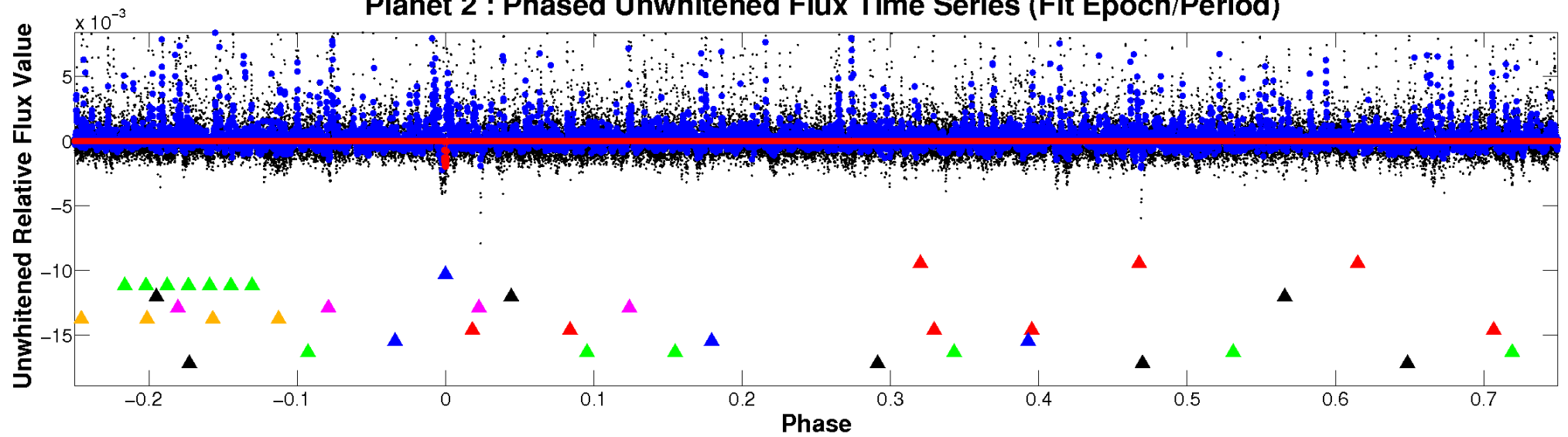
ALT Odd/Even

TCE 006843185-02

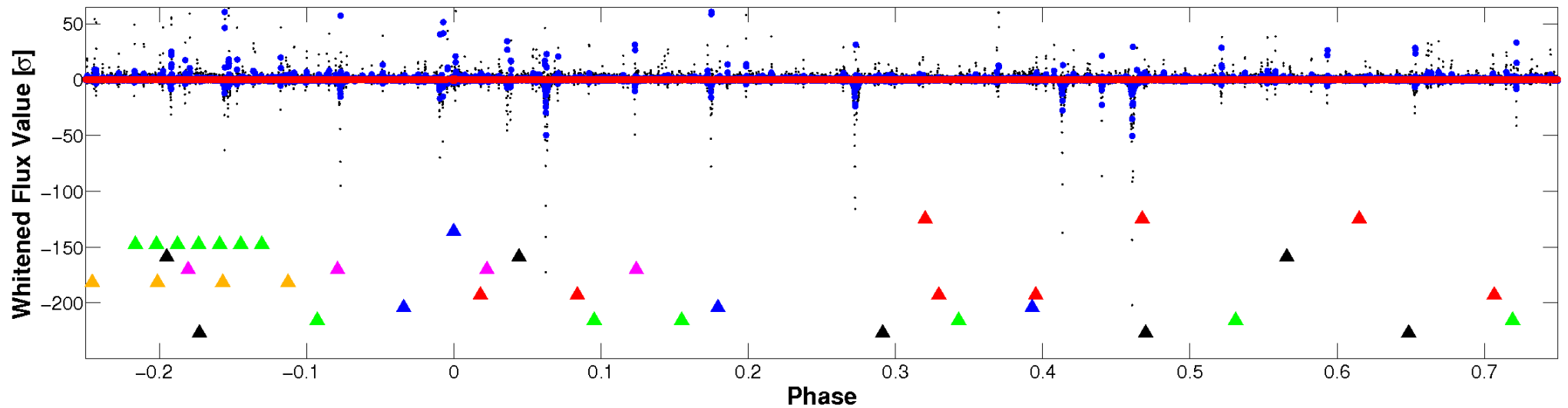


Non-Whitened Vs. Whitened Light Curve

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

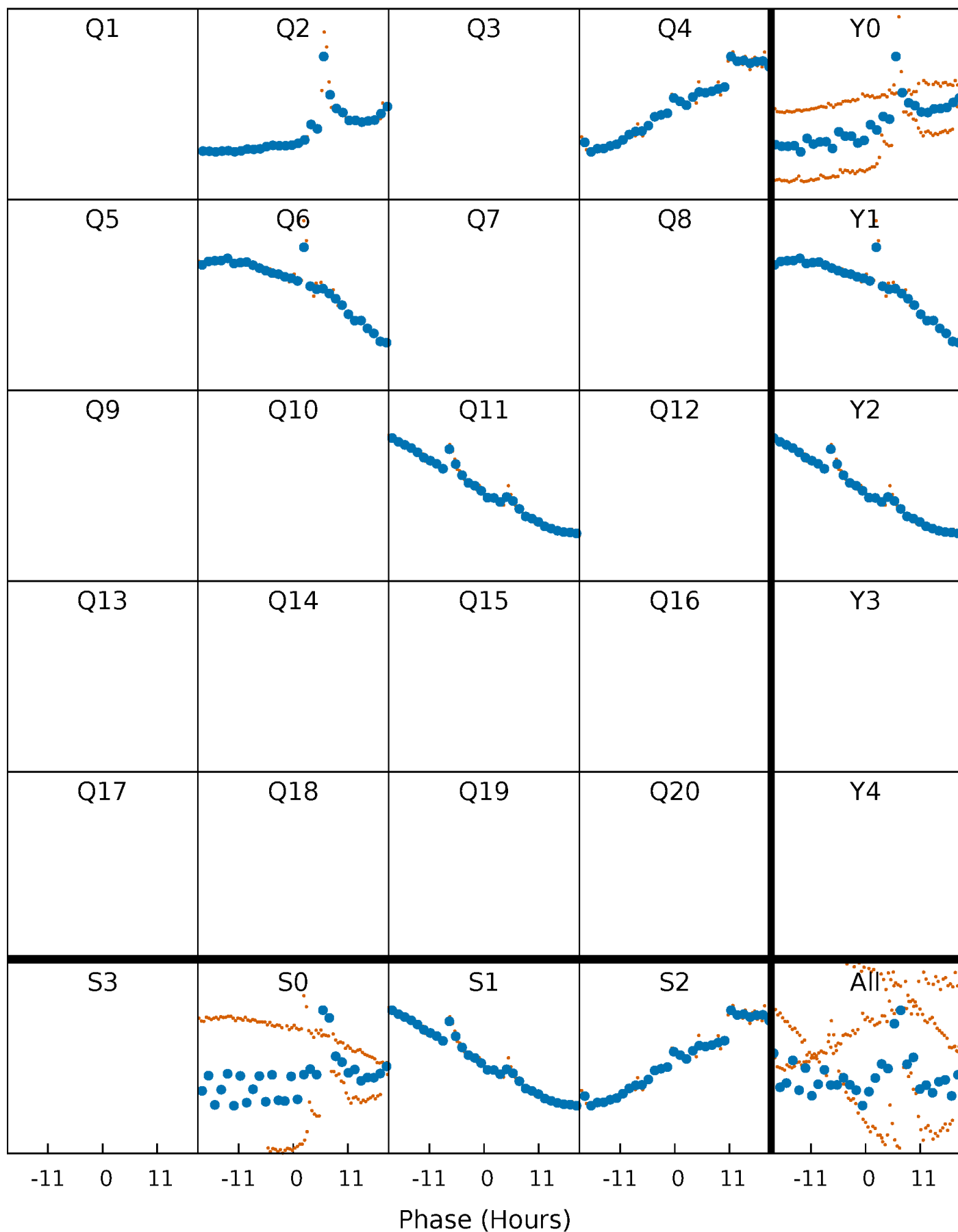


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



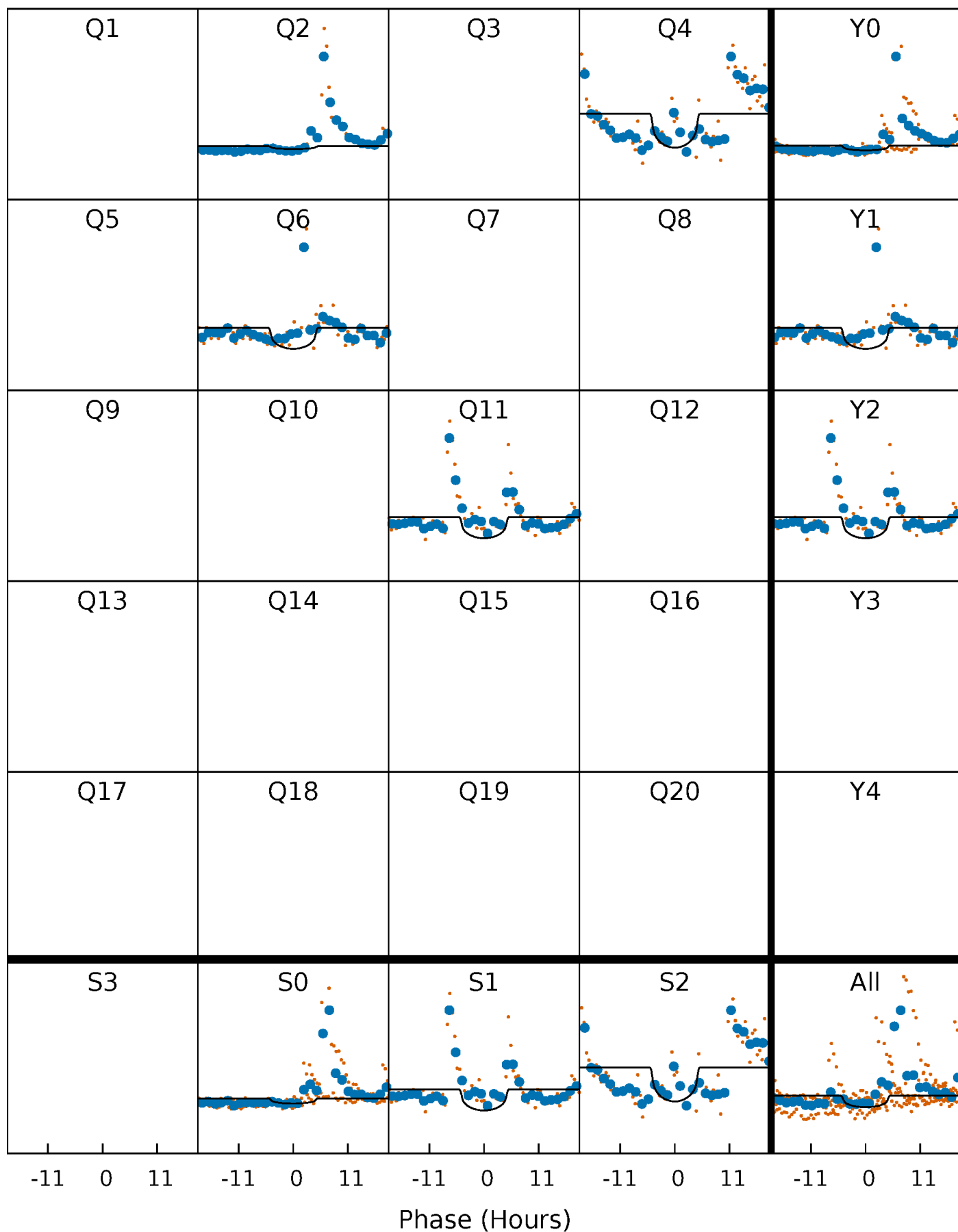
PDC Quarter-Phased Transit Curves

TCE 006843185-02 P=214.565578 Days $T_0=196.030052$ (BKJD)



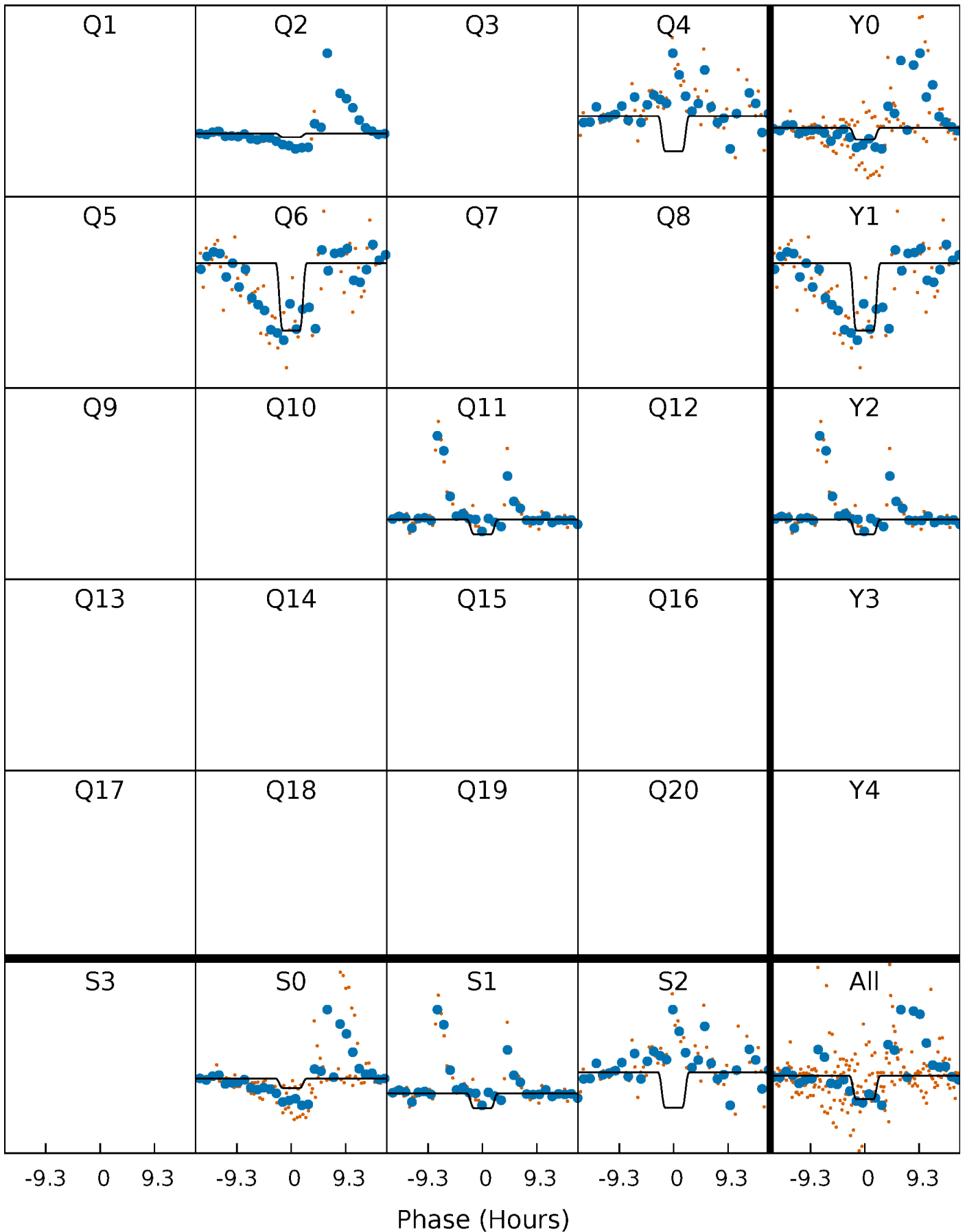
DV Quarter-Phased Transit Curves

TCE 006843185-02 P=214.565578 Days $T_0=196.030052$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

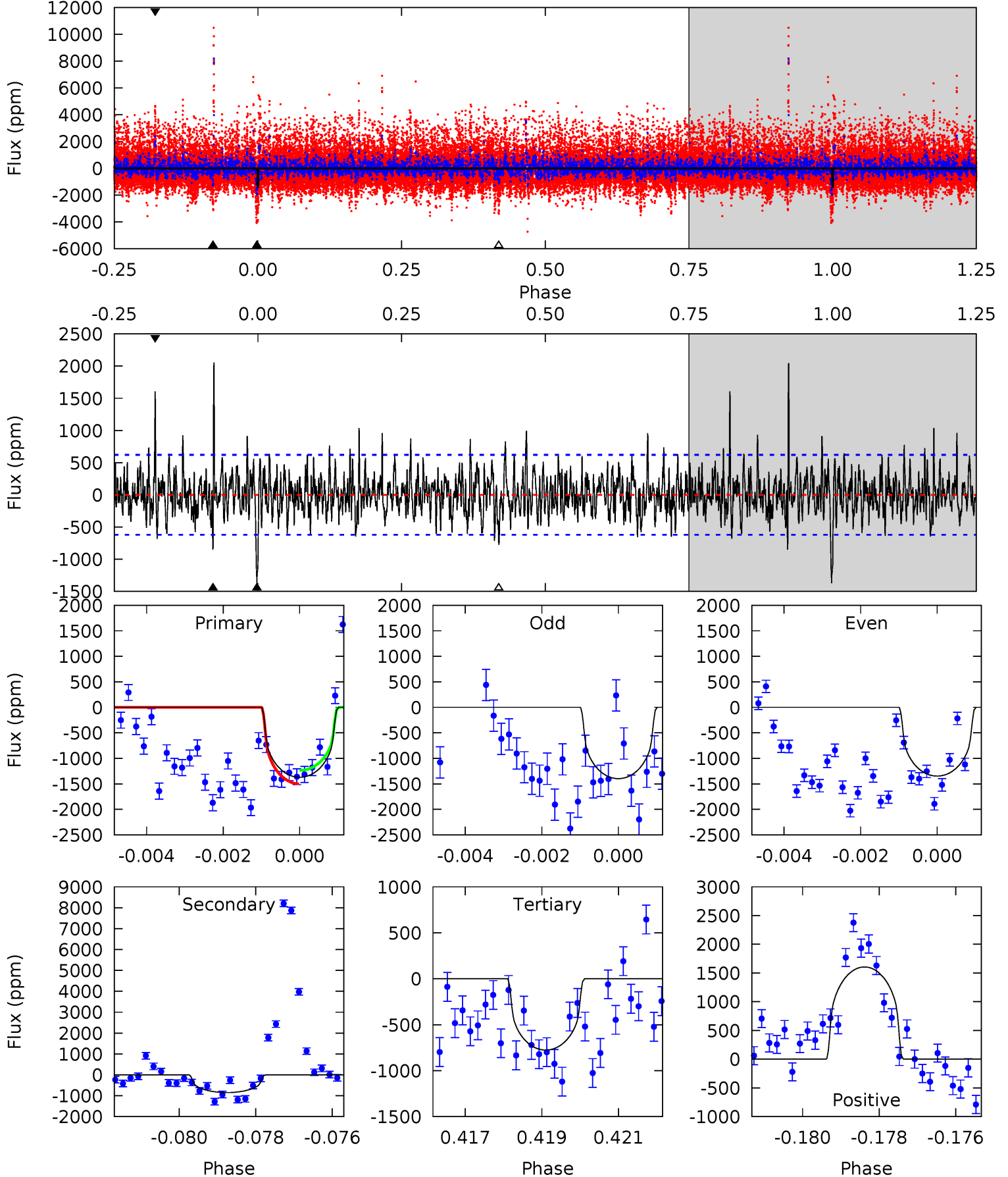
TCE 006843185-02 P=214.579625 Days $T_0=196.001341$ (BKJD)



DV Model-Shift Uniqueness Test

006843185-02, P = 214.565578 Days, E = 196.030052 Days

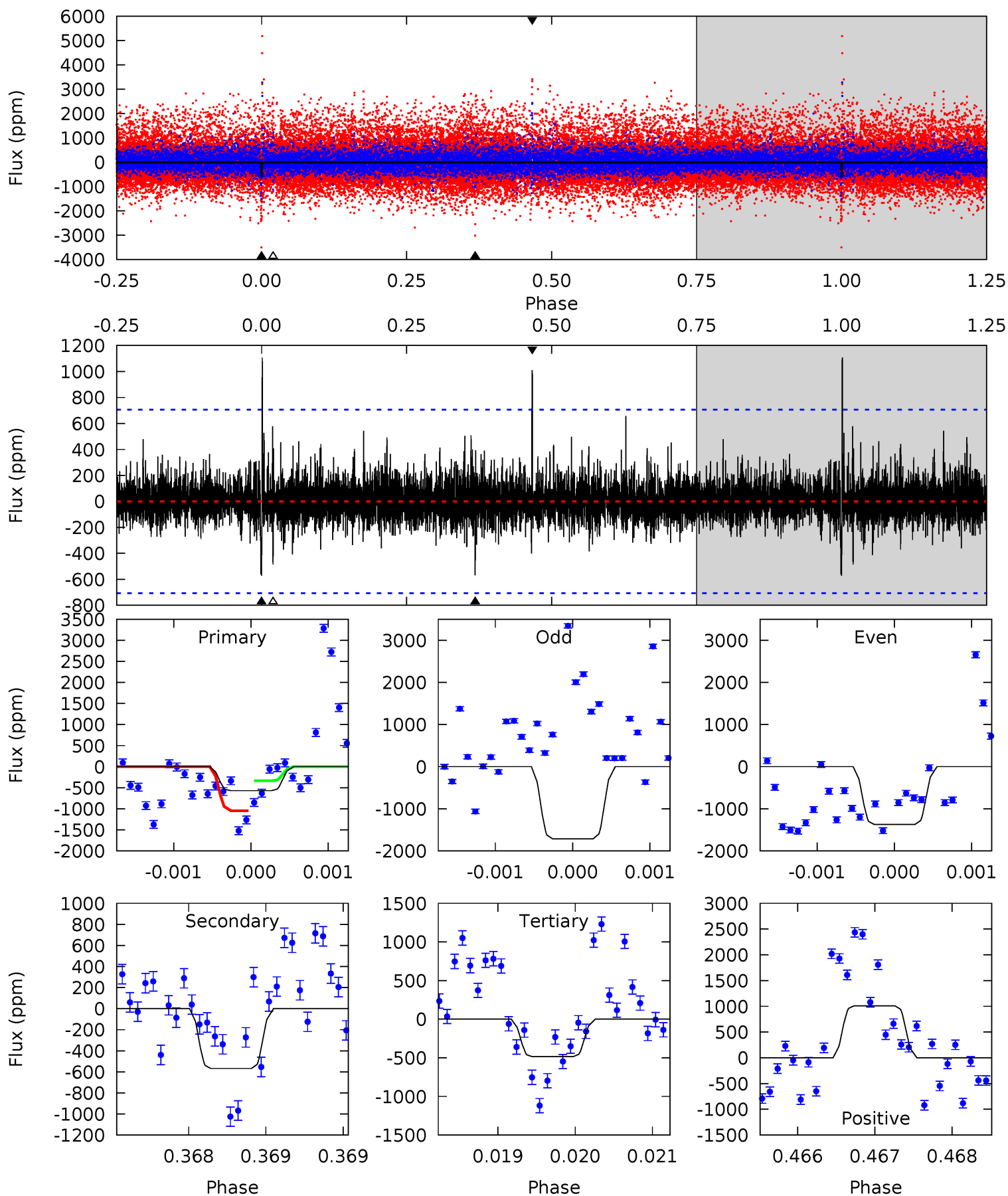
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	7.30	6.67	13.8	5.33	3.10	2.31	5.11	-2.02	0.63	-6.50	0.09	0.68	0.60	1.13



Alt Model-Shift Uniqueness Test

006843185-02, P = 214.579625 Days, E = 196.001341 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.41	4.39	3.76	7.82	5.46	3.30	0.93	0.65	-3.41	0.63	-3.42	1.25	1.66	0.66	2.71



Stellar Parameters For KIC 006843185

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4331^{+142}_{-142}	$4.588^{+0.056}_{-0.017}$	$0.280^{+0.150}_{-0.300}$	$0.703^{+0.028}_{-0.057}$	$0.698^{+0.044}_{-0.049}$	$2.829^{+0.655}_{-0.190}$
	$+3\%/-3\%$	$+1\%/-0\%$	$+54\%/-107\%$	$+4\%/-8\%$	$+6\%/-7\%$	$+23\%/-7\%$
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 006843185-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-849 ± 116	$3.58^{+2.67}_{-2.00}$	282^{+10}_{-11}	3648^{+1306}_{-585}	14150^{+60546}_{-9735}
Alt.	-568 ± 129	$3.52^{+2.70}_{-2.27}$	282^{+9}_{-11}	3442^{+1591}_{-535}	9746^{+71337}_{-6698}

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

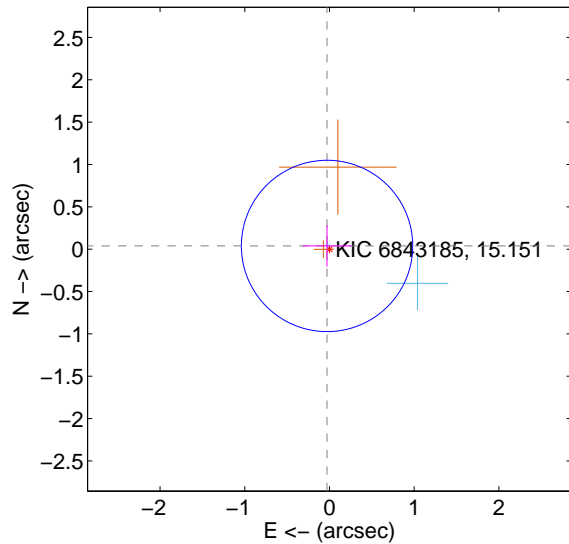
Supplemental centroid analysis for 006843185-02. Kepler magnitude: 15.15. Transit SNR 7.11

There are 2 quarters with good PRF difference image offsets

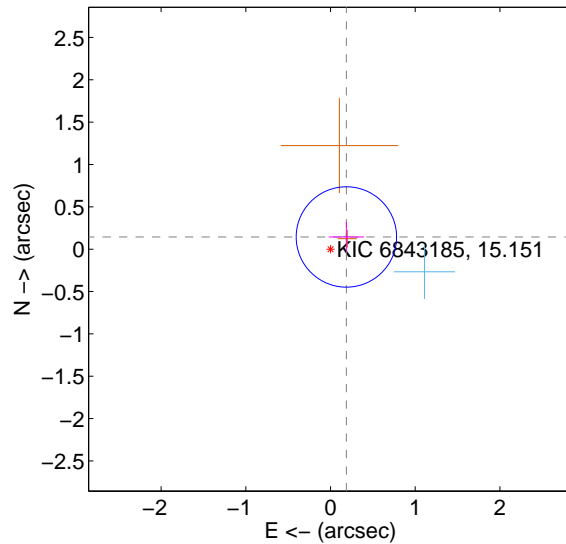
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.048 ± 0.337	0.14	0.029 ± 0.286	0.038 ± 0.244
PRF-fit source offset from KIC position	0.236 ± 0.198	1.20	-0.187 ± 0.209	0.144 ± 0.177
photometric centroid source offset	0.57 ± 0.60	0.94	-0.09 ± 0.59	0.56 ± 0.61

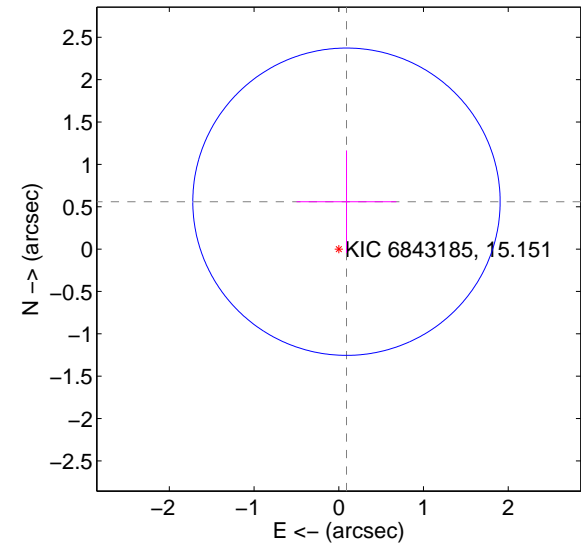
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

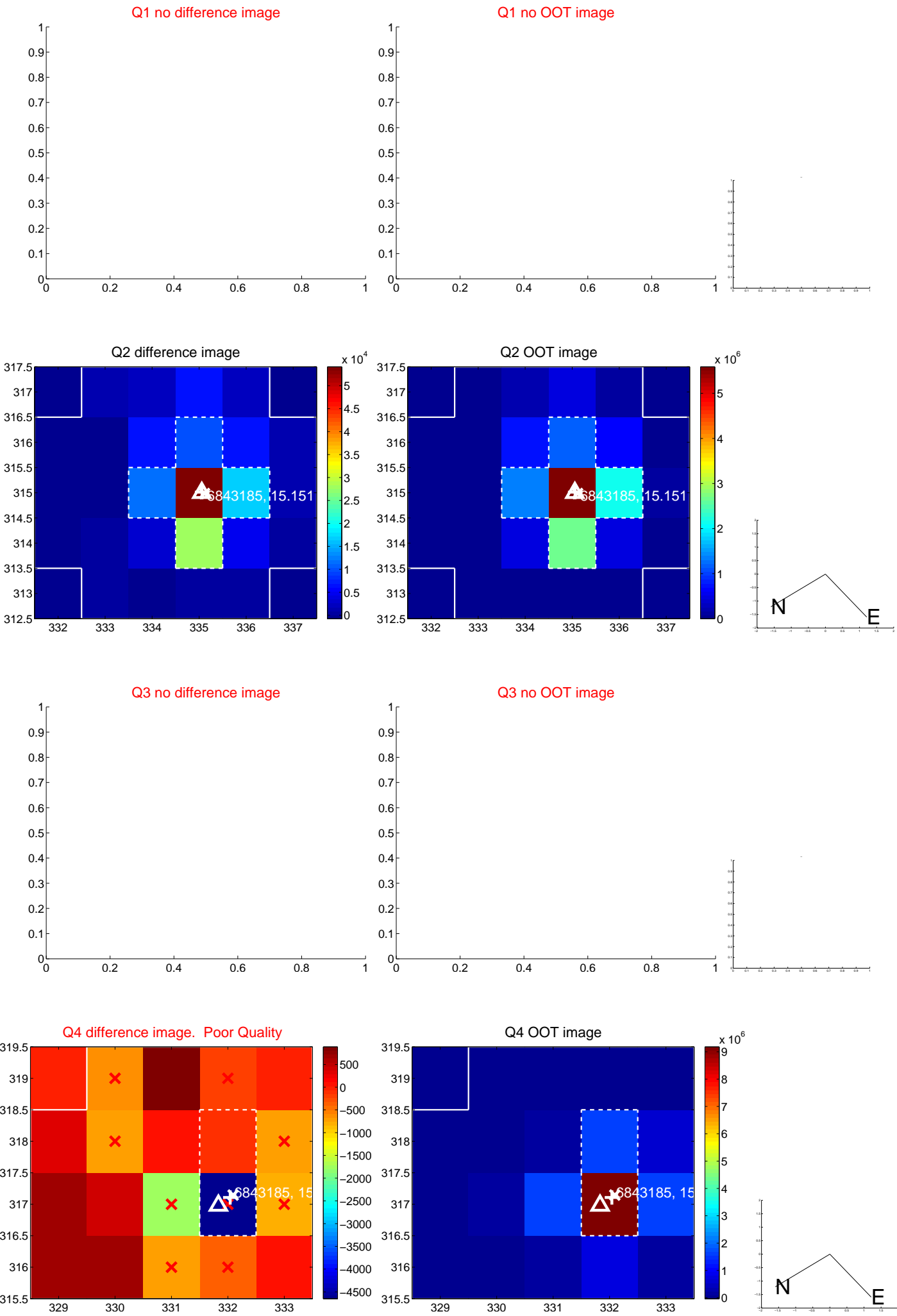


offset from photometric centroids

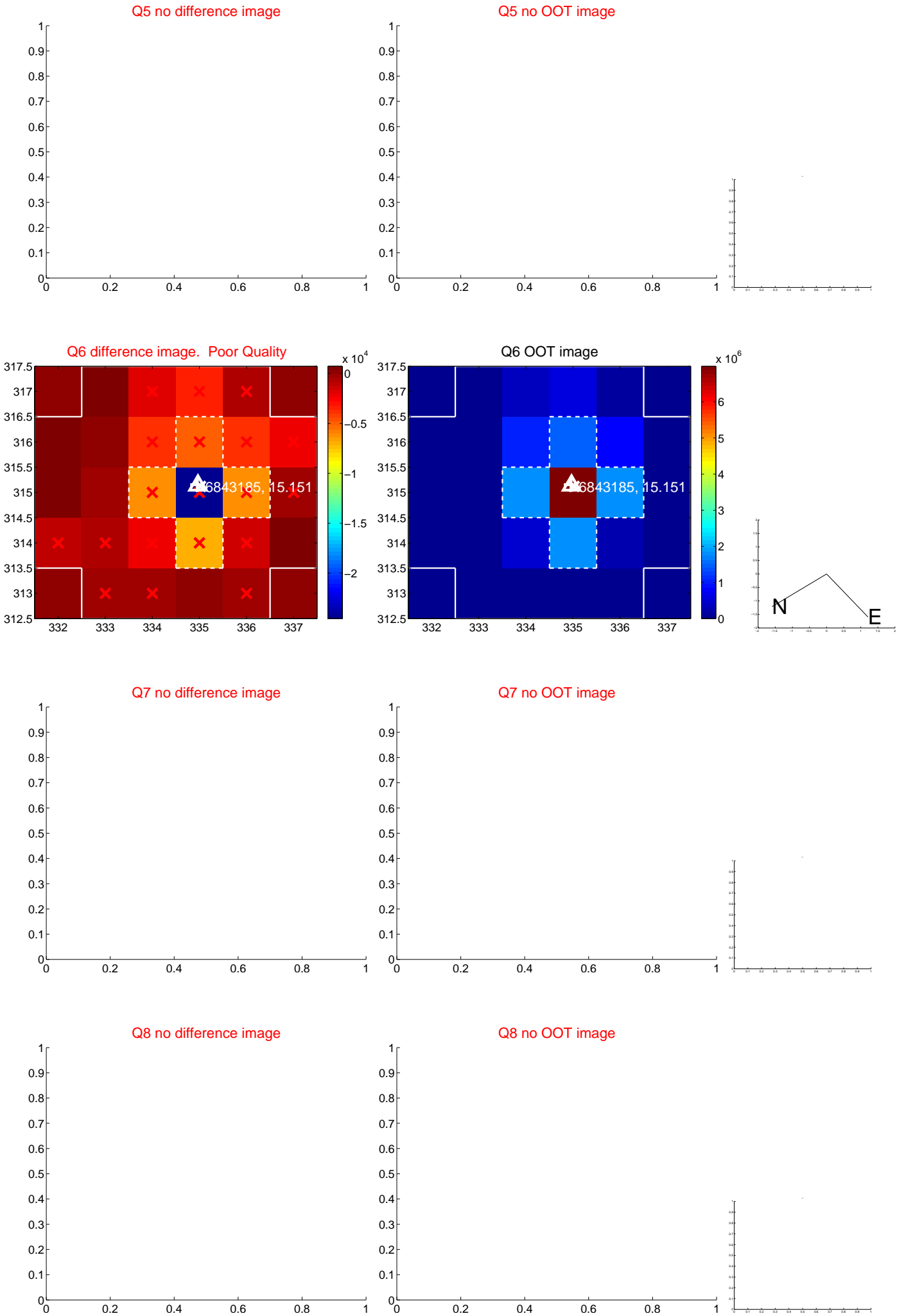


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

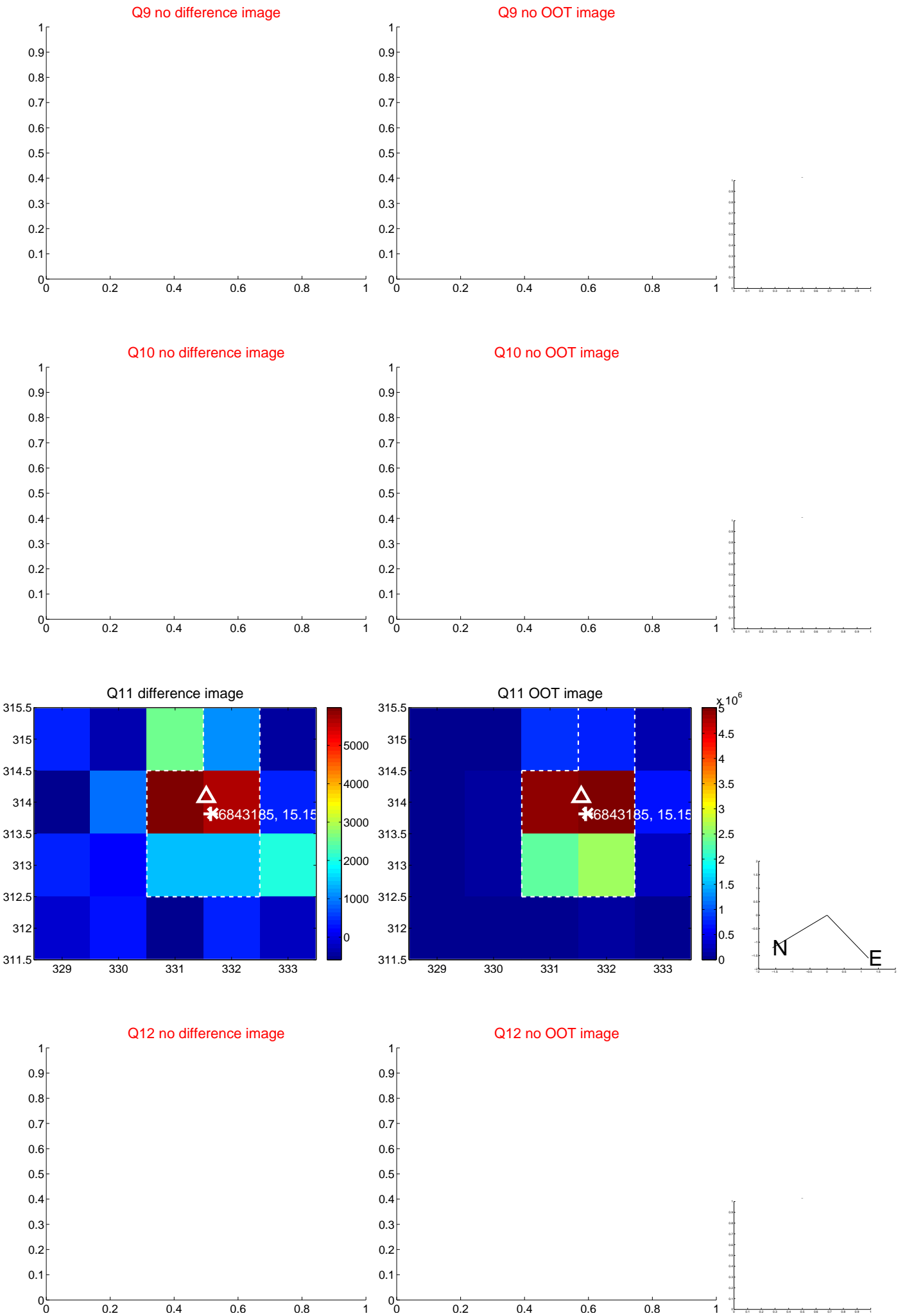
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



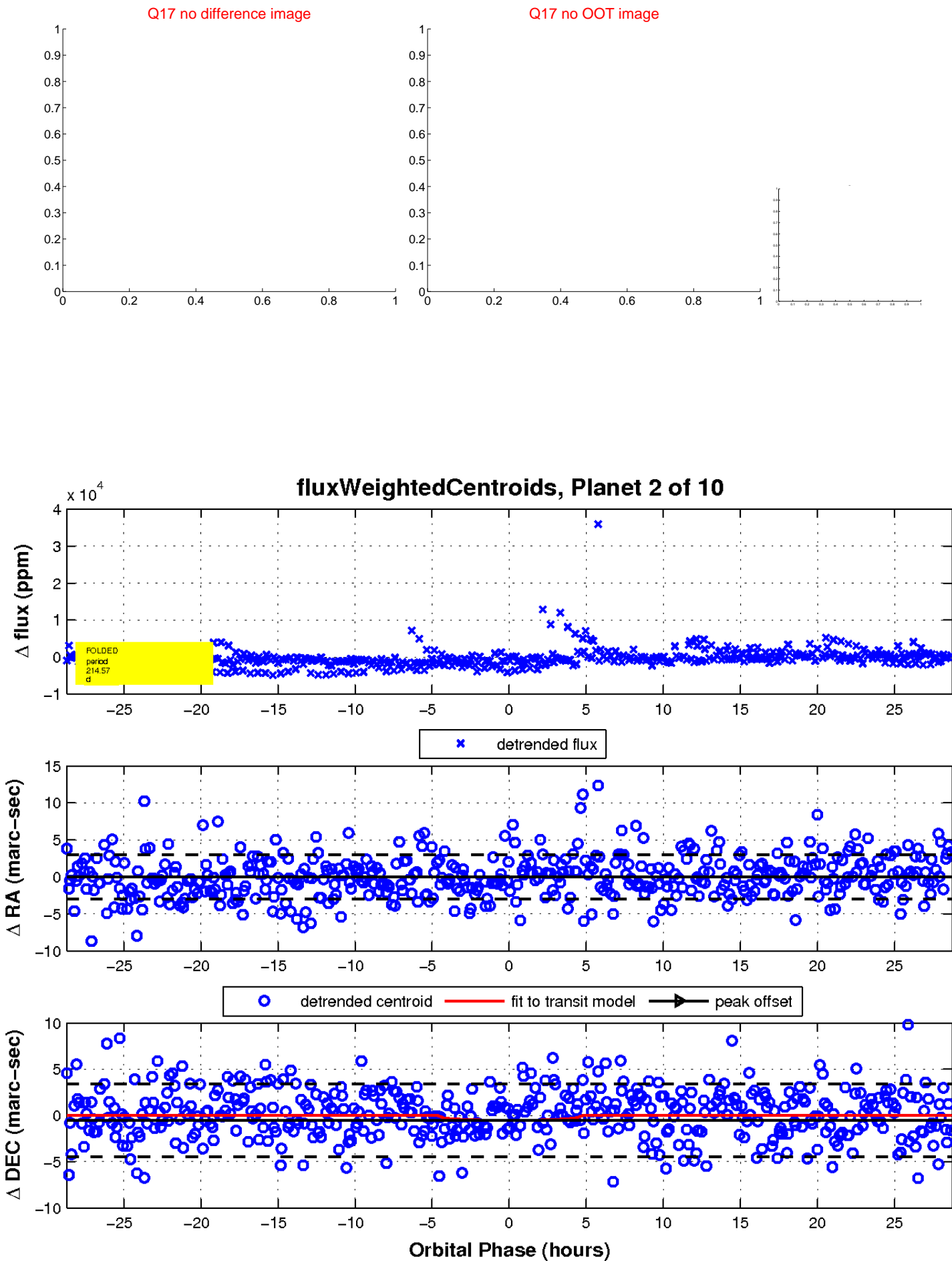
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

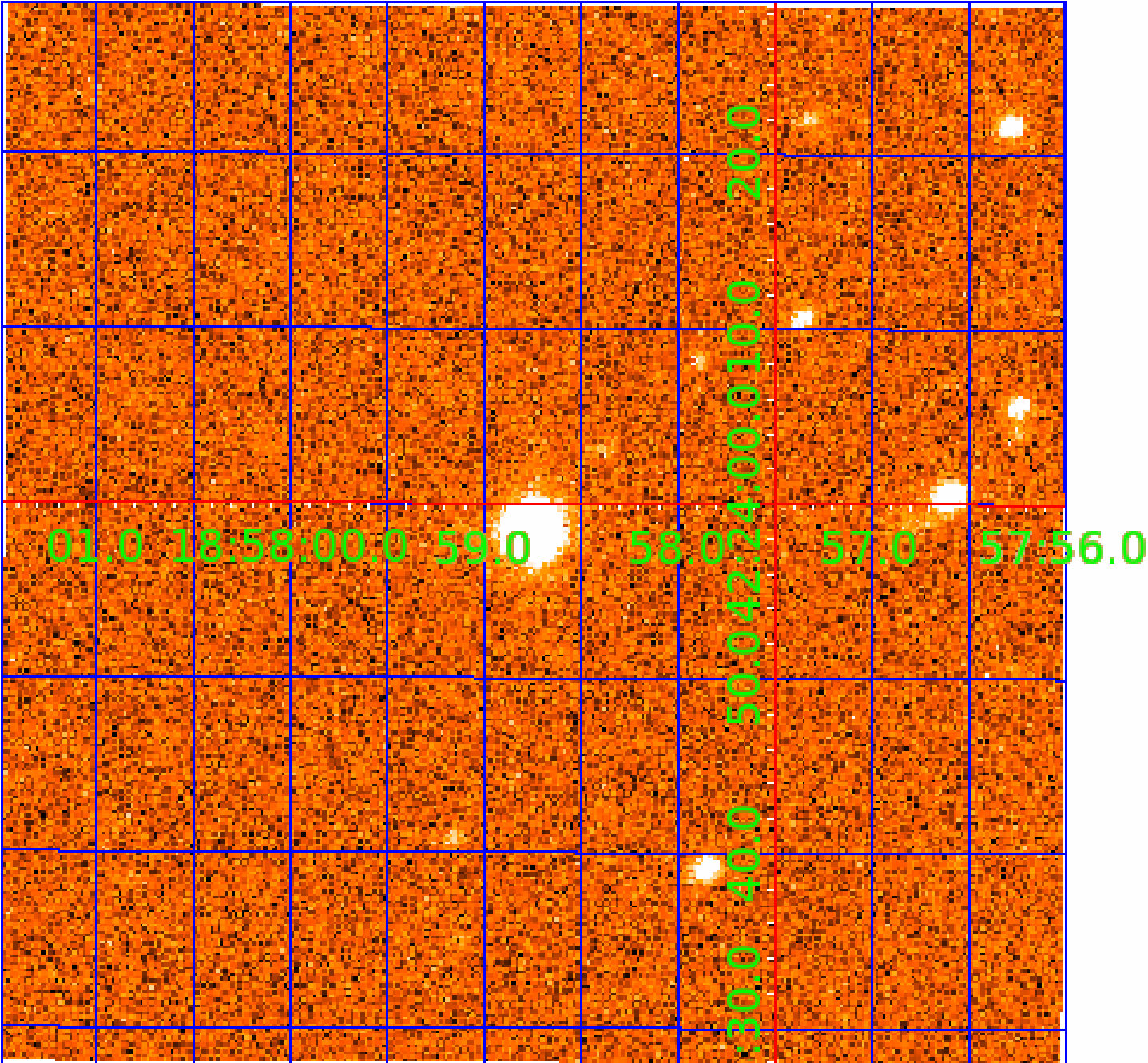


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
006843185-01	OBS	No	612.067201	328.000622	3086.6	13.627	15.2	10.9	0.70	4331	4.35	0.10
006843185-02	OBS	No	214.565578	196.030052	1975.0	9.585	13.9	7.1	0.70	4331	3.06	0.40
006843185-03	OBS	No	211.494807	168.060866	2874.5	17.193	13.1	12.6	0.70	4331	4.10	0.41
006843185-04	OBS	No	480.464997	317.440449	1747.0	22.354	14.9	5.0	0.70	4331	2.80	0.14
006843185-05	OBS	No	407.362166	222.635926	3522.6	15.164	12.9	10.8	0.70	4331	5.25	0.17
006843185-06	OBS	No	419.620189	171.880141	2311.0	10.794	14.4	8.0	0.70	4331	3.36	0.16
006843185-07	OBS	No	281.377772	214.045871	2059.1	5.569	13.0	9.2	0.70	4331	3.03	0.28
006843185-08	OBS	No	474.926569	188.740311	1305.4	4.181	12.8	4.6	0.70	4331	2.48	0.14
006843185-09	OBS	No	254.929310	229.253445	2118.2	11.457	12.6	8.8	0.70	4331	4.02	0.32
006843185-10	OBS	No	390.800507	158.970898	17.4	0.893	12.2	0.0	0.70	4331	0.29	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006843185-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-03	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
006843185-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-08	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—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-09	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
006843185-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

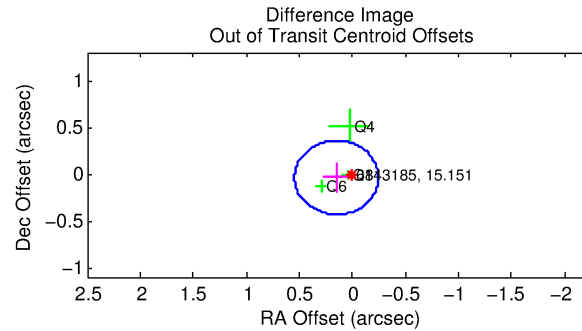
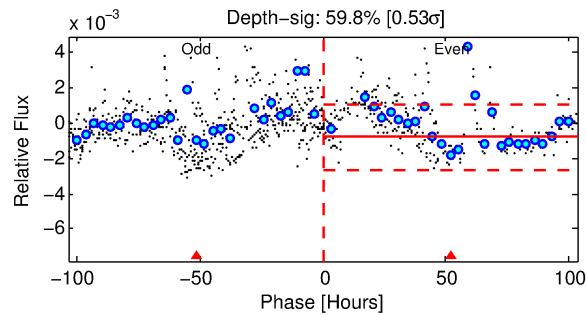
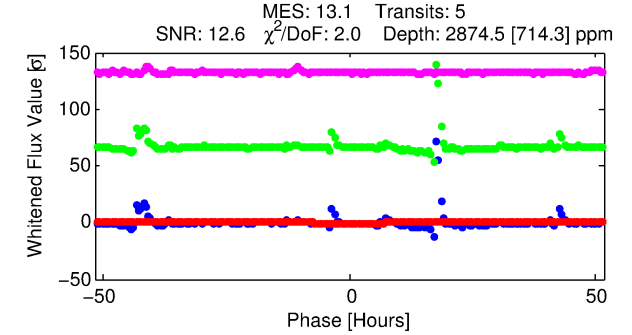
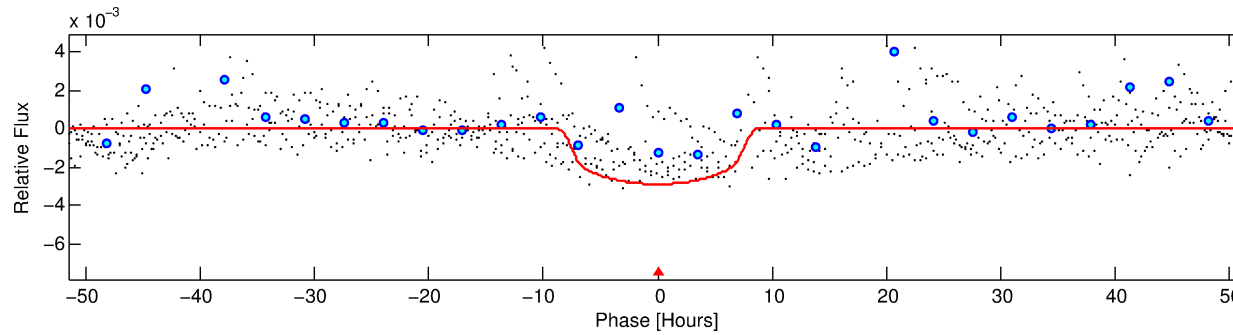
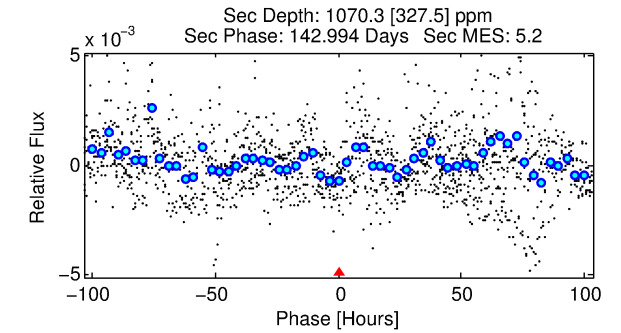
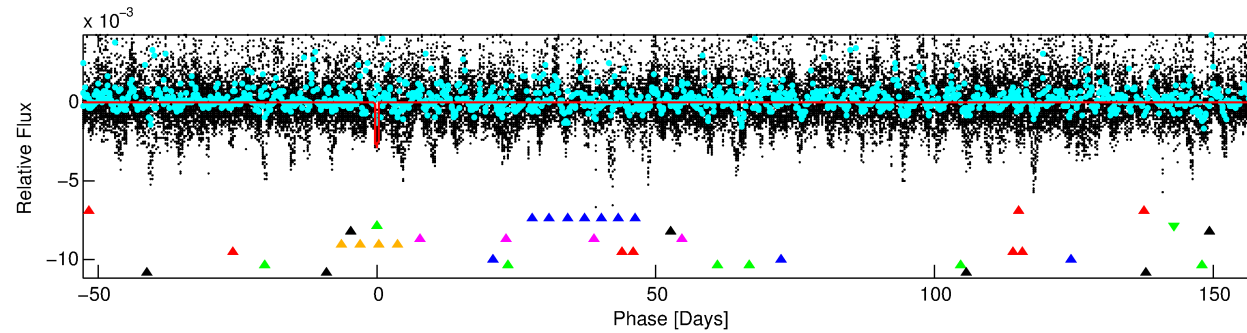
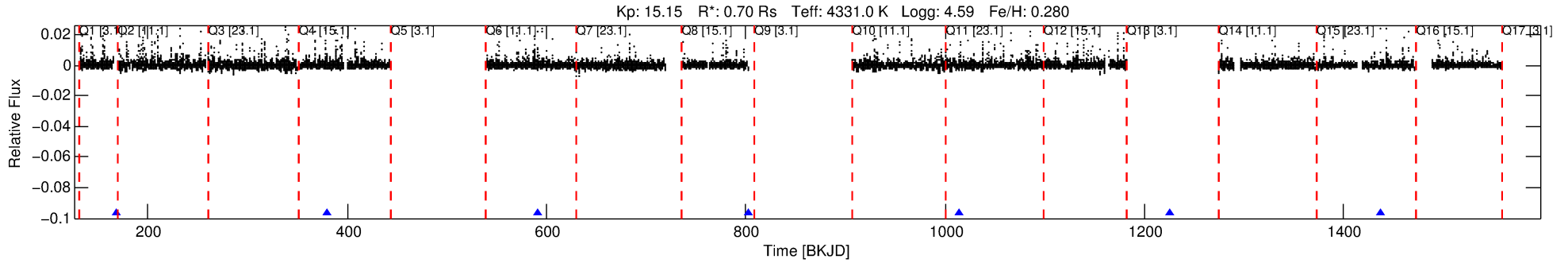
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006843185-03

No Significant Match Found

DV One-Page Summary

KIC: 6843185 Candidate: 3 of 10 Period: 211.495 d



DV Fit Results:

Period = 211.49481 [0.01114] d
Epoch = 168.0609 [0.0444] BKJD
Rp/R* = 0.0534 [0.0123]
a/R* = 70.74 [39.09]
b = 0.74 [0.35]
Seff = 0.41 [0.07]
Teq = 204 [8] K
Rp = 4.10 [1.00] Re
a = 0.6164 [0.0426] AU
Ag = 13332.03 [7475.65] [1.78σ]
Teffp = 3390 [480] K [6.63σ]

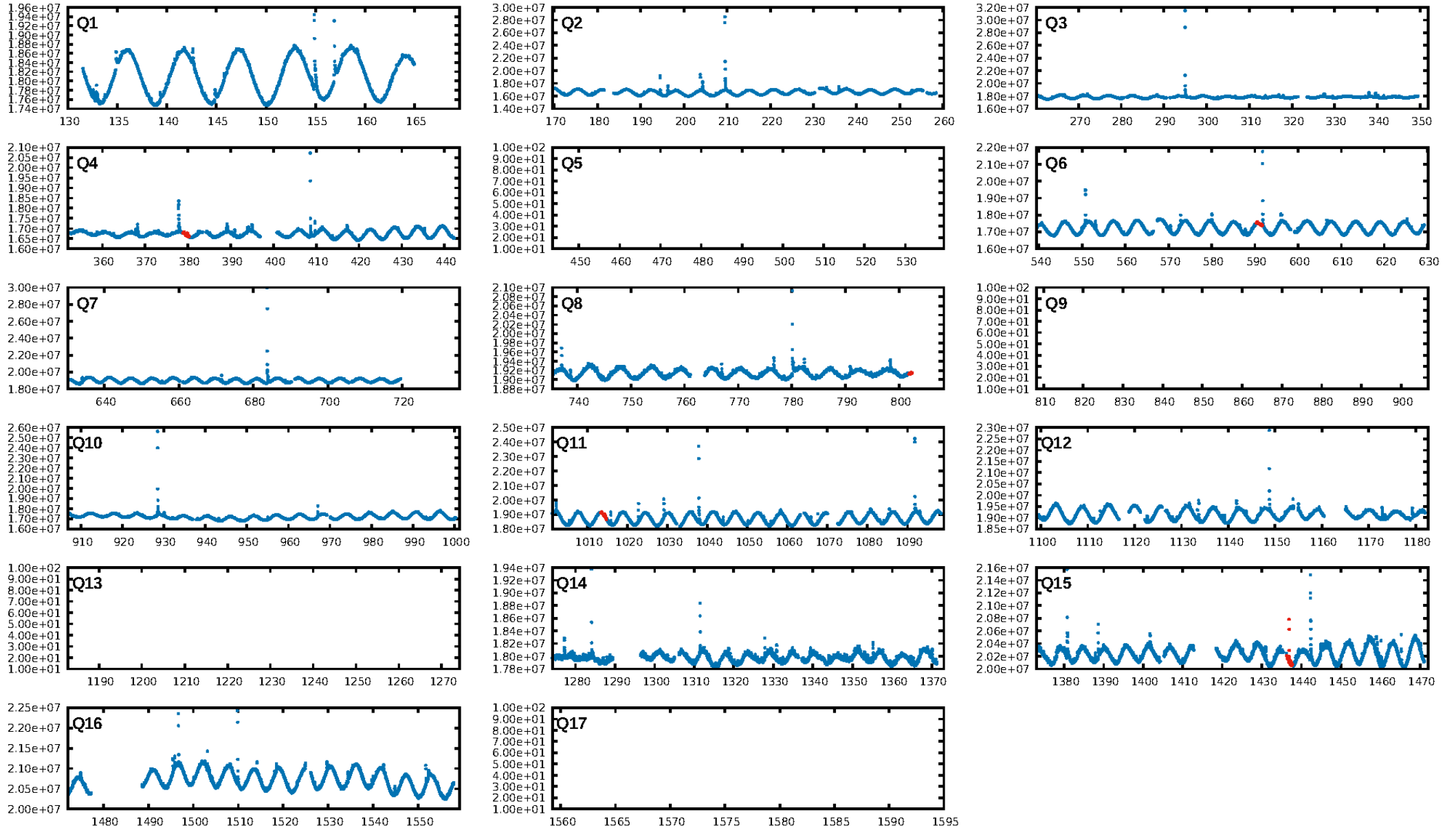
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [3.74σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 47.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.2159
Centroid-sig: 44.8%
Centroid-so: 0.270 arcsec [0.96σ]
OotOffset-rm: 0.154 arcsec [1.17σ]
KicOffset-rm: 0.099 arcsec [0.80σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.67 [2/3]

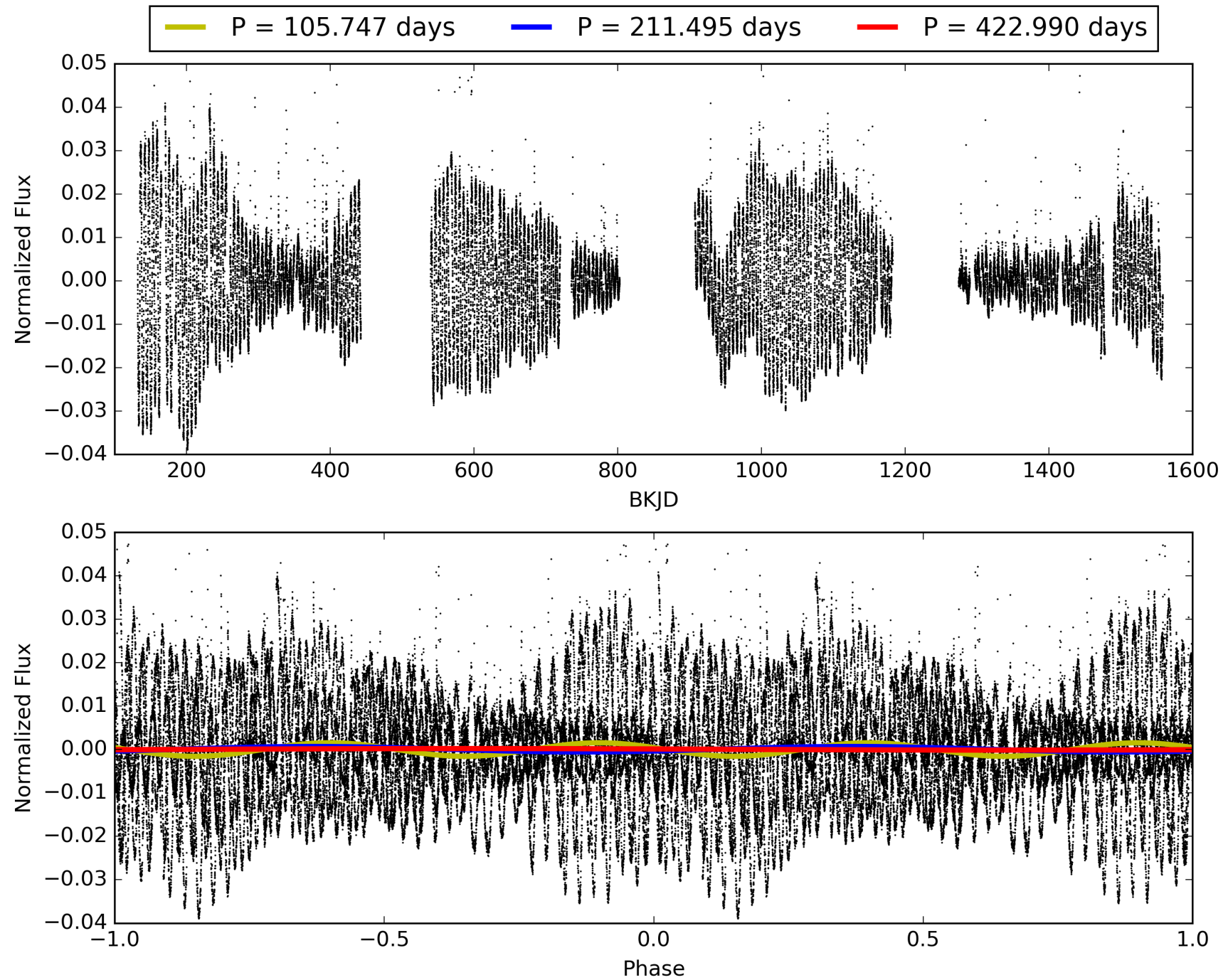
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:45:33 Z

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

TCE 006843185-03, PDC Light Curves

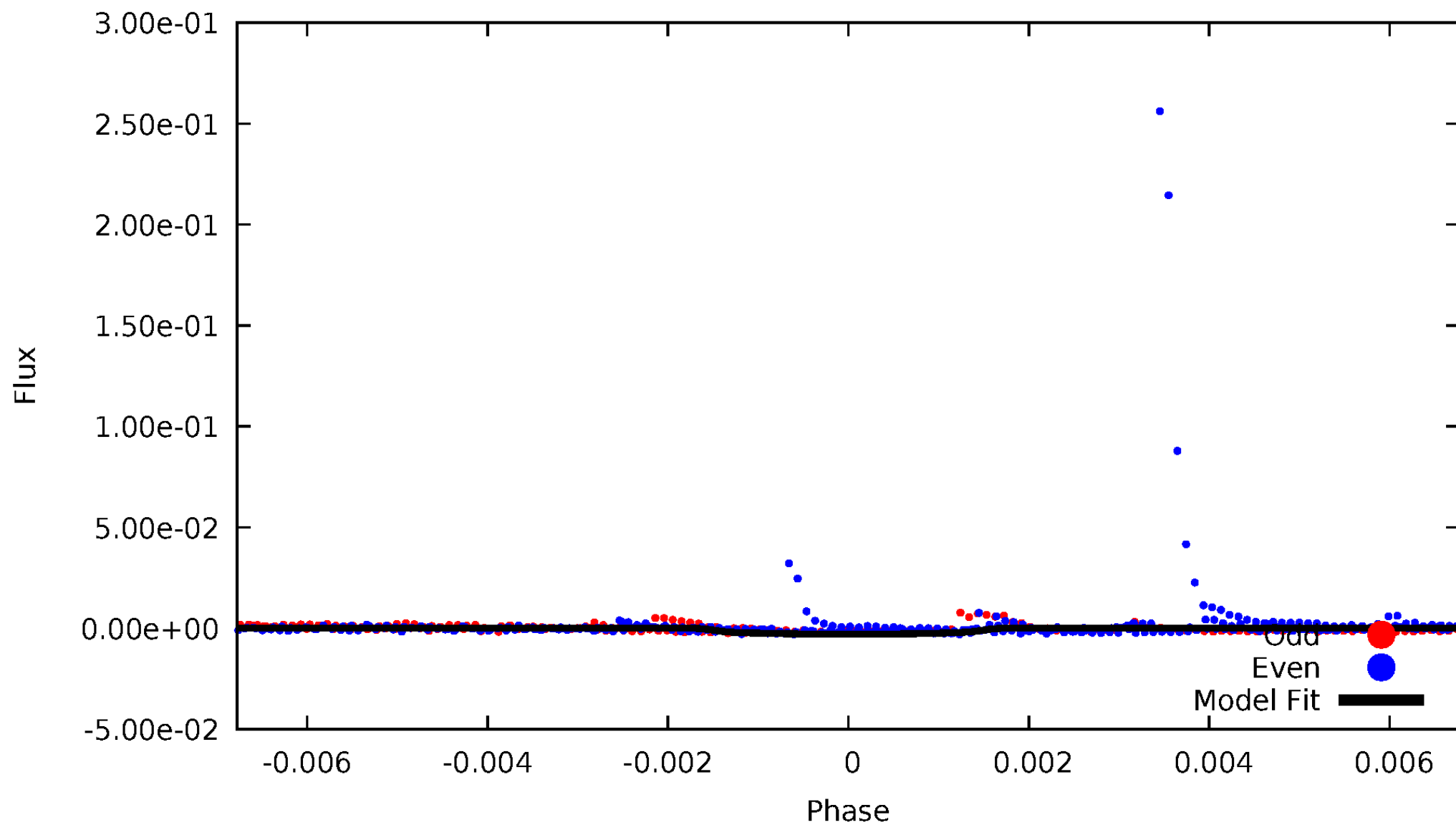


TCE 006843185-03



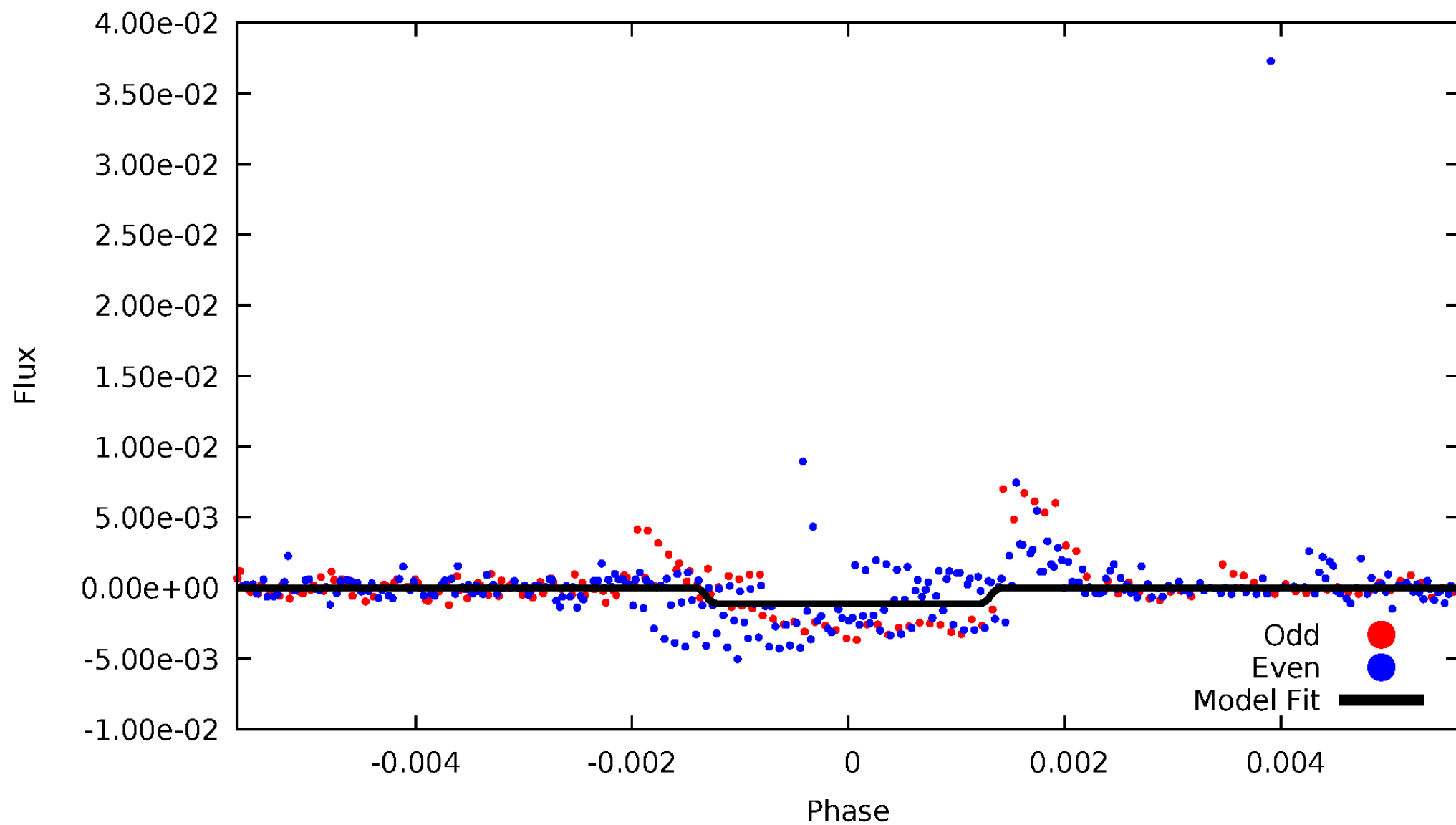
DV Odd/Even

TCE 006843185-03



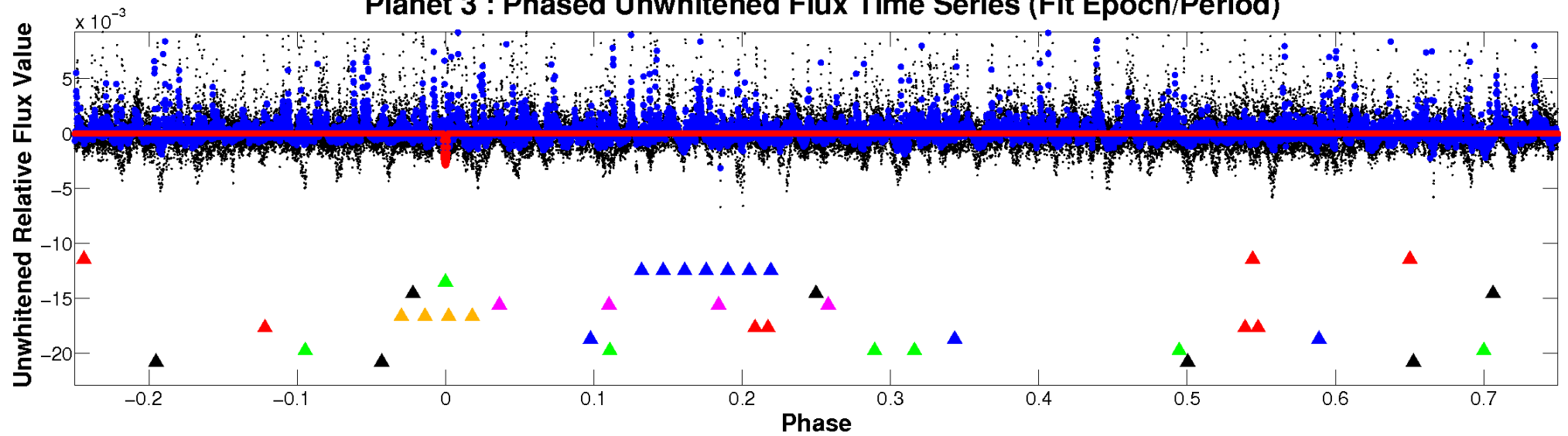
ALT Odd/Even

TCE 006843185-03

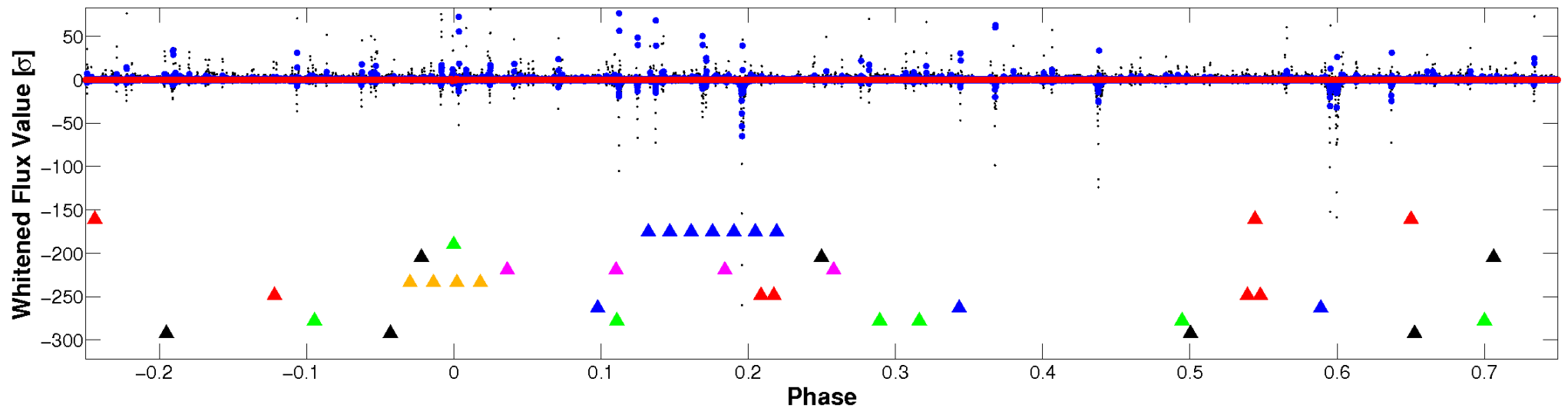


Non-Whitened Vs. Whitened Light Curve

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

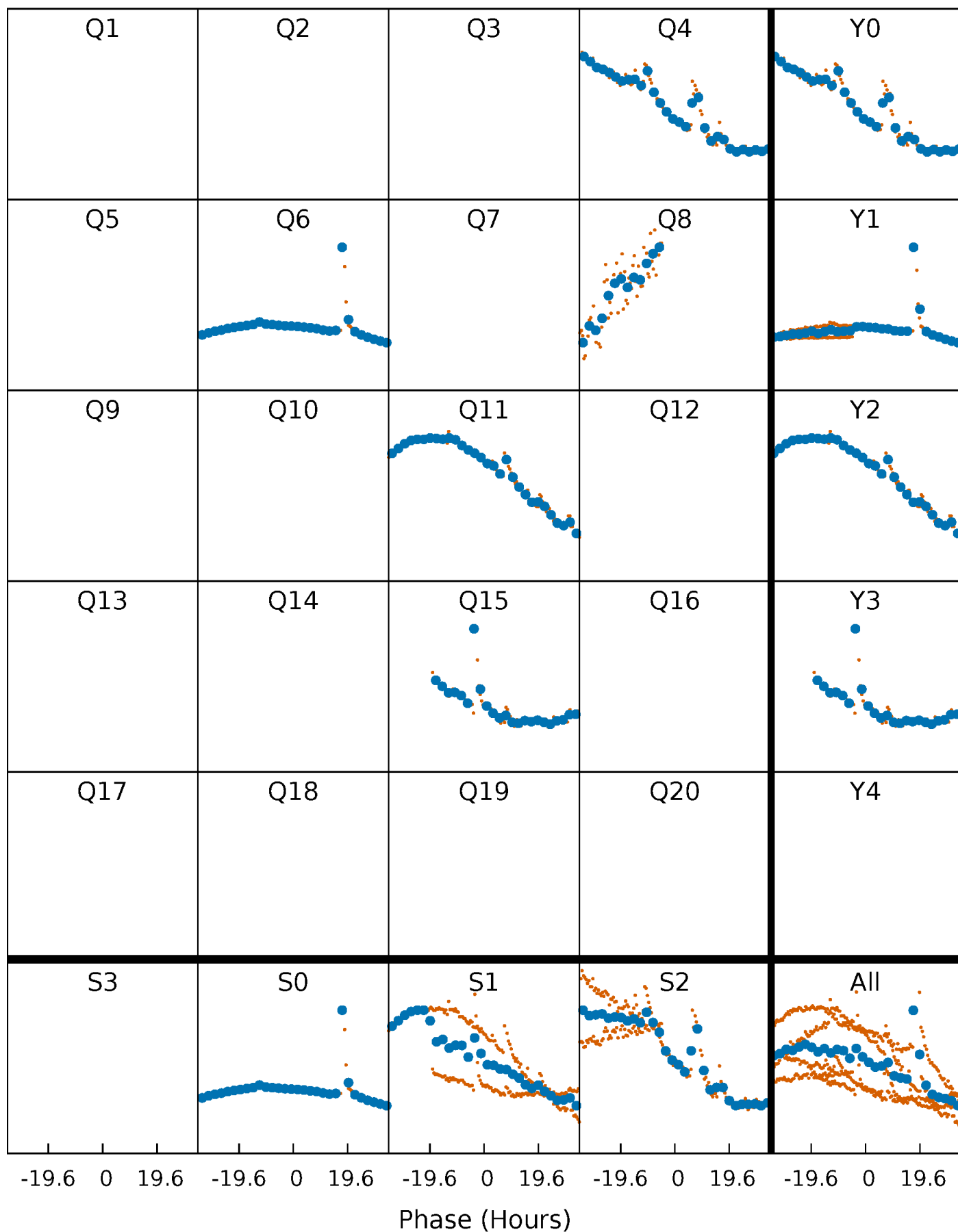


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



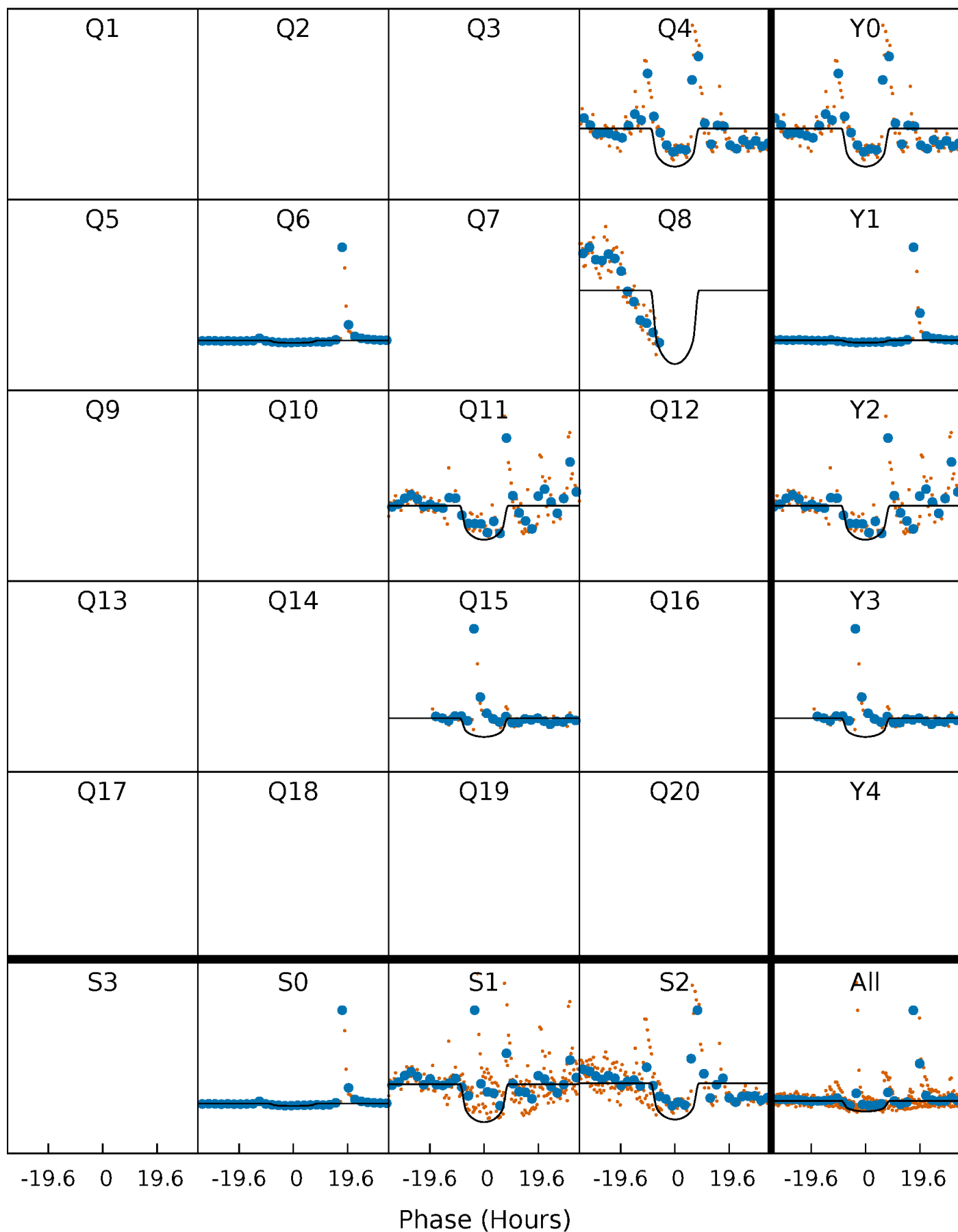
PDC Quarter-Phased Transit Curves

TCE 006843185-03 P=211.494807 Days $T_0=168.060866$ (BKJD)



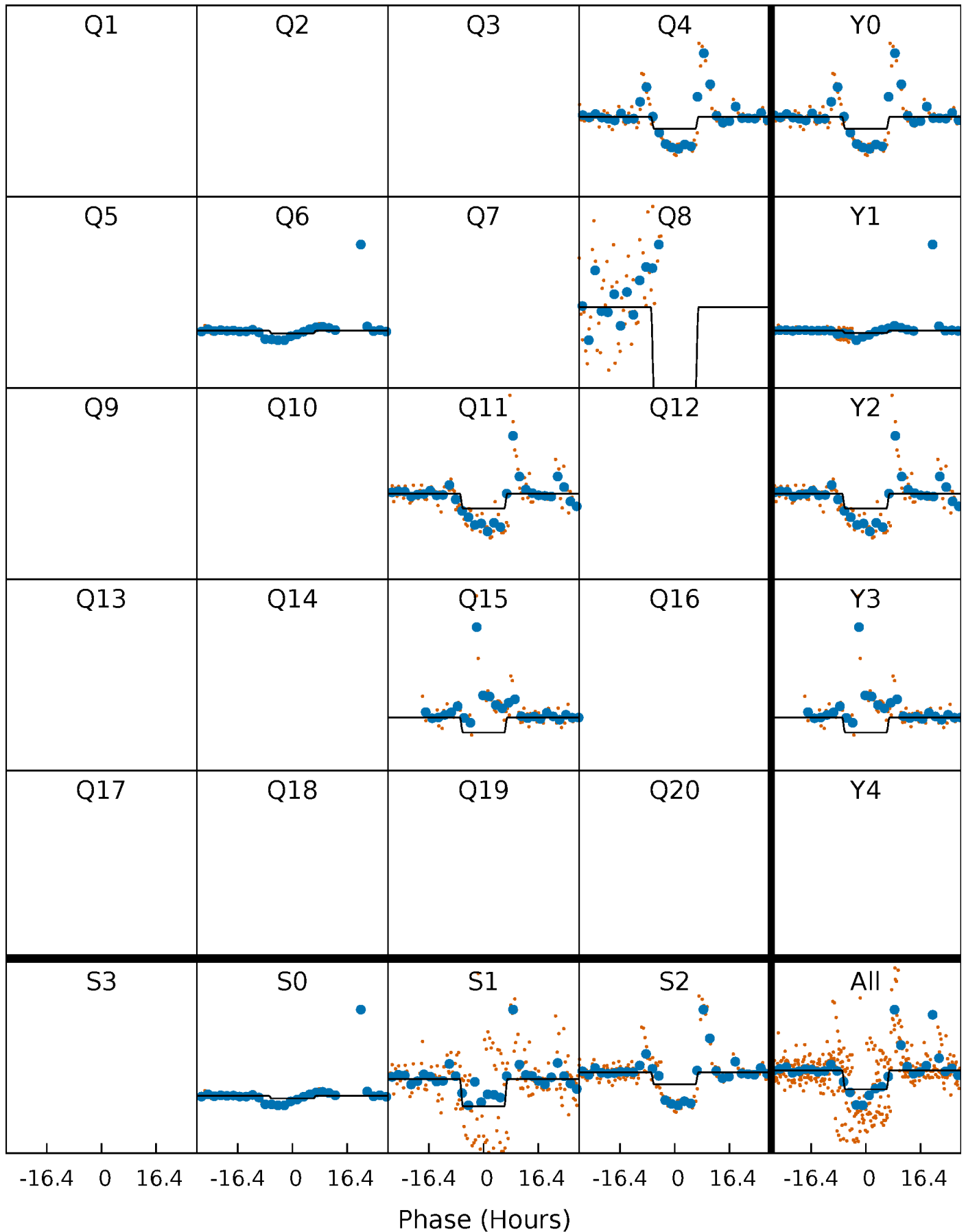
DV Quarter-Phased Transit Curves

TCE 006843185-03 $P=211.494807$ Days $T_0=168.060866$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

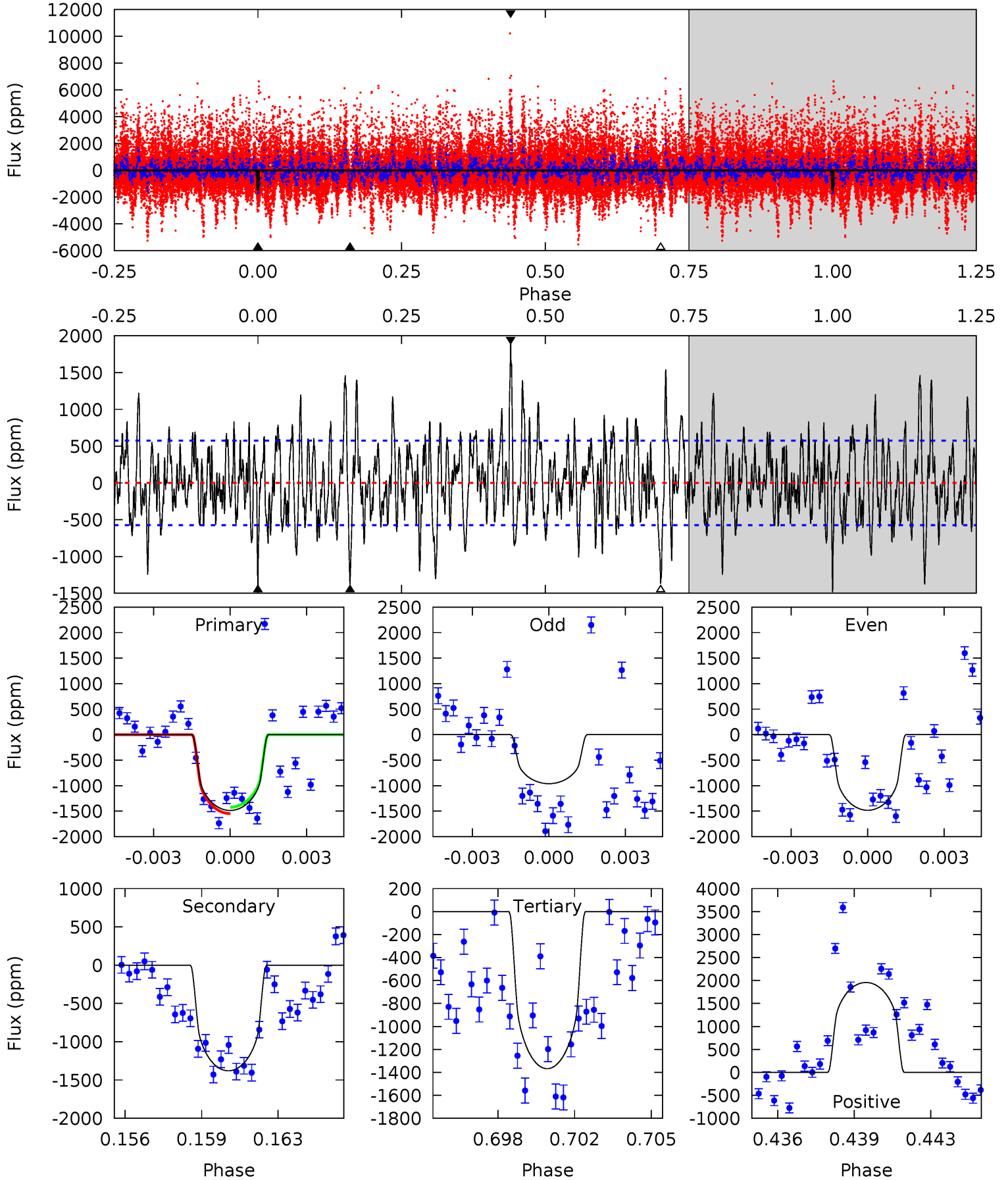
TCE 006843185-03 P=211.500968 Days $T_0=168.014662$ (BKJD)



DV Model-Shift Uniqueness Test

006843185-03, P = 211.494807 Days, E = 168.060866 Days

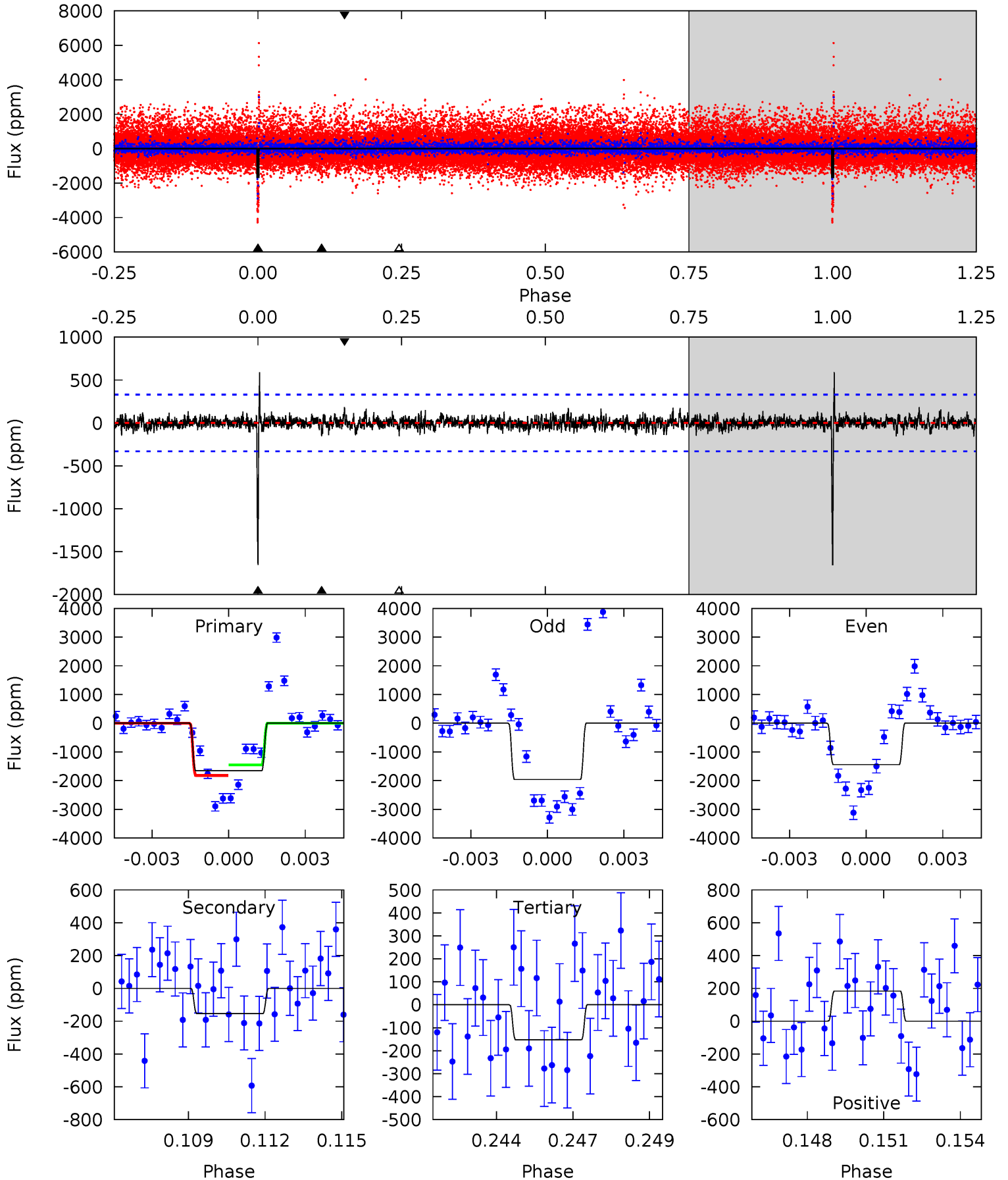
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	12.5	12.4	17.8	5.23	2.92	4.17	1.07	-4.28	0.10	-5.24	1.48	0.56	0.57	0.57



Alt Model-Shift Uniqueness Test

006843185-03, P = 211.500968 Days, E = 168.014662 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.3	2.45	2.42	2.92	5.27	2.99	0.70	23.9	23.4	0.03	-0.47	3.57	0.47	0.26	2.93



Stellar Parameters For KIC 006843185

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4331^{+142}_{-142}	$4.588^{+0.056}_{-0.017}$	$0.280^{+0.150}_{-0.300}$	$0.703^{+0.028}_{-0.057}$	$0.698^{+0.044}_{-0.049}$	$2.829^{+0.655}_{-0.190}$
	+3%/-3%	+1%/-0%	+54%/-107%	+4%/-8%	+6%/-7%	+23%/-7%
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 006843185-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1380 ± 110	$4.03^{+0.89}_{-0.93}$	283^{+10}_{-10}	3812^{+383}_{-261}	17735^{+12456}_{-5756}
Alt.	-154 ± 63	$2.58^{+0.91}_{-0.94}$	283^{+10}_{-10}	3084^{+524}_{-325}	4735^{+8446}_{-2645}

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 $A_{obs} \gg 1.0$

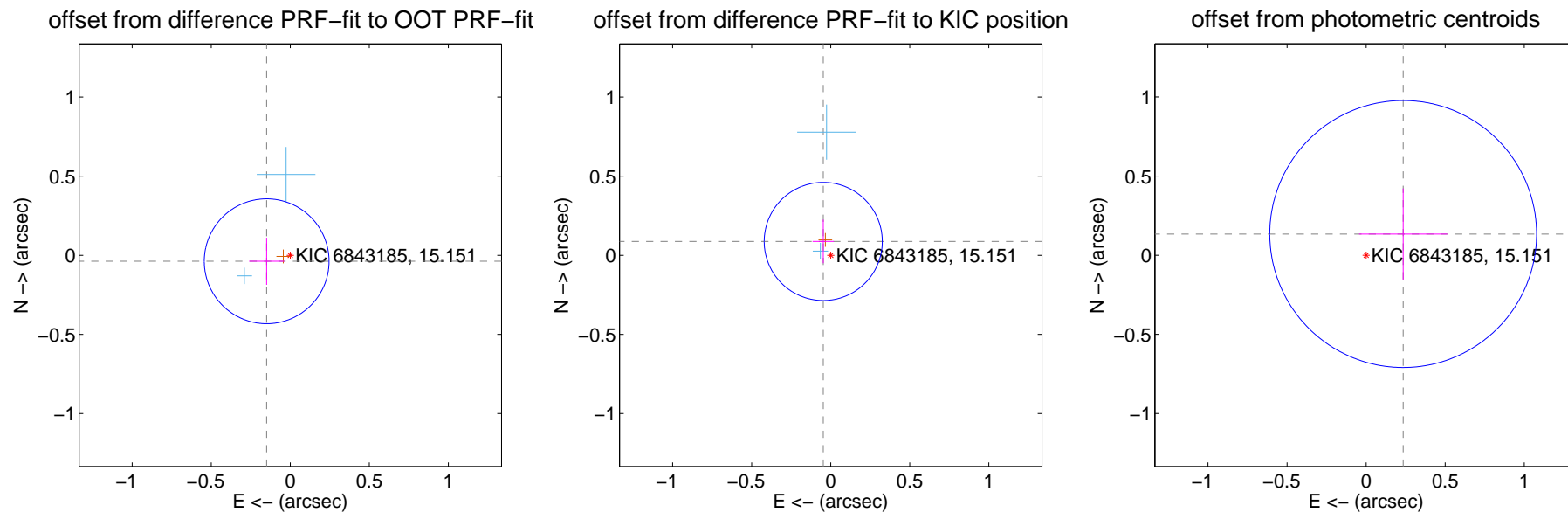
DV Centroid Data

Supplemental centroid analysis for 006843185-03. Kepler magnitude: 15.15. Transit SNR 12.58

There are 2 quarters with good PRF difference image offsets

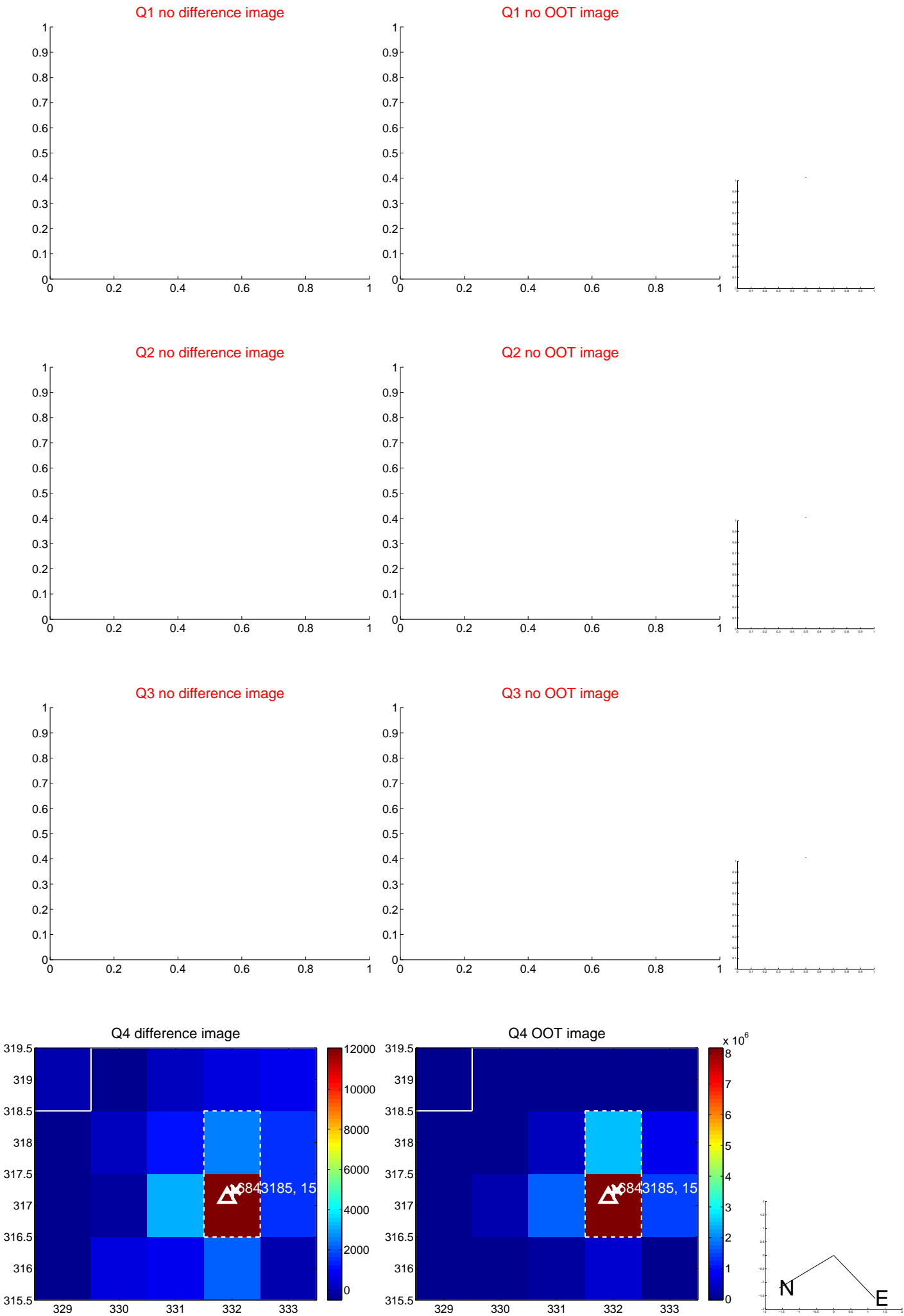
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.154 ± 0.132	1.17	0.149 ± 0.111	-0.038 ± 0.149
PRF-fit source offset from KIC position	0.099 ± 0.124	0.80	0.047 ± 0.067	0.087 ± 0.138
photometric centroid source offset	0.27 ± 0.28	0.96	-0.23 ± 0.28	0.13 ± 0.29



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.

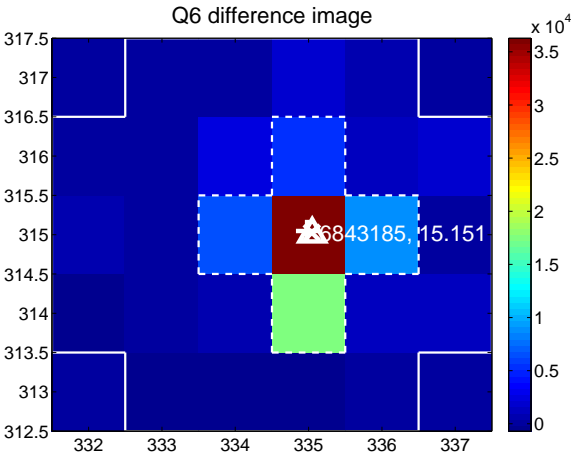
Q5 no difference image



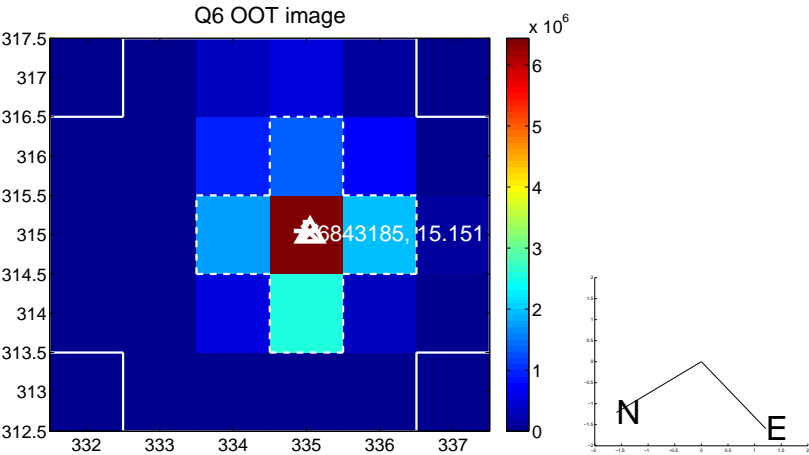
Q5 no OOT image



Q6 difference image



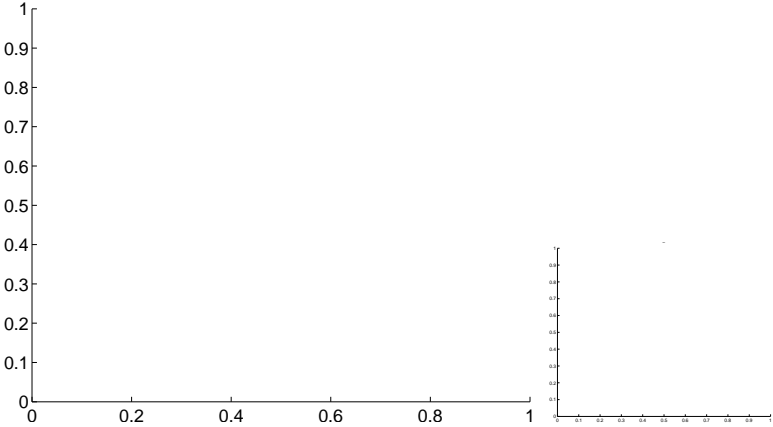
Q6 OOT image



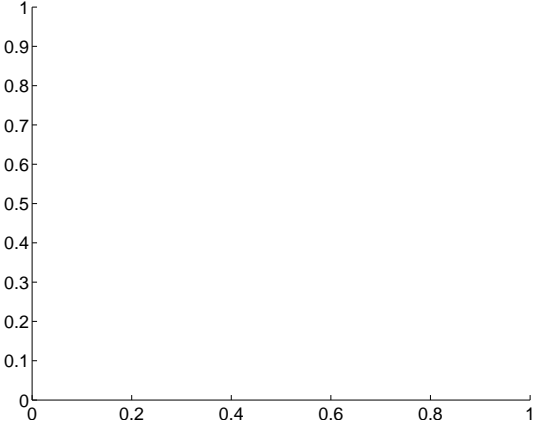
Q7 no difference image



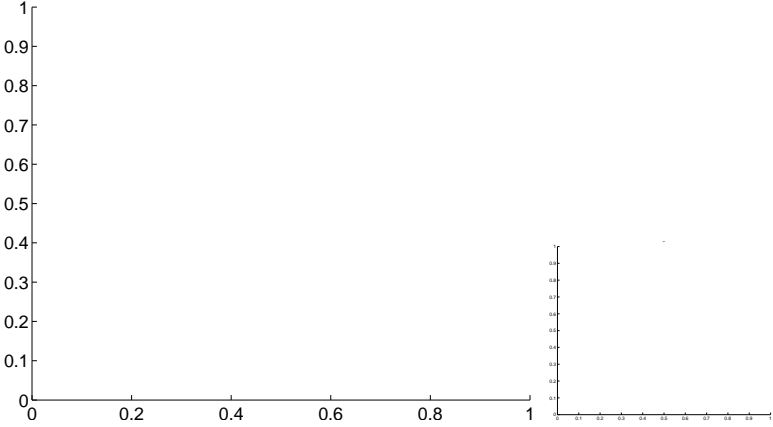
Q7 no OOT image



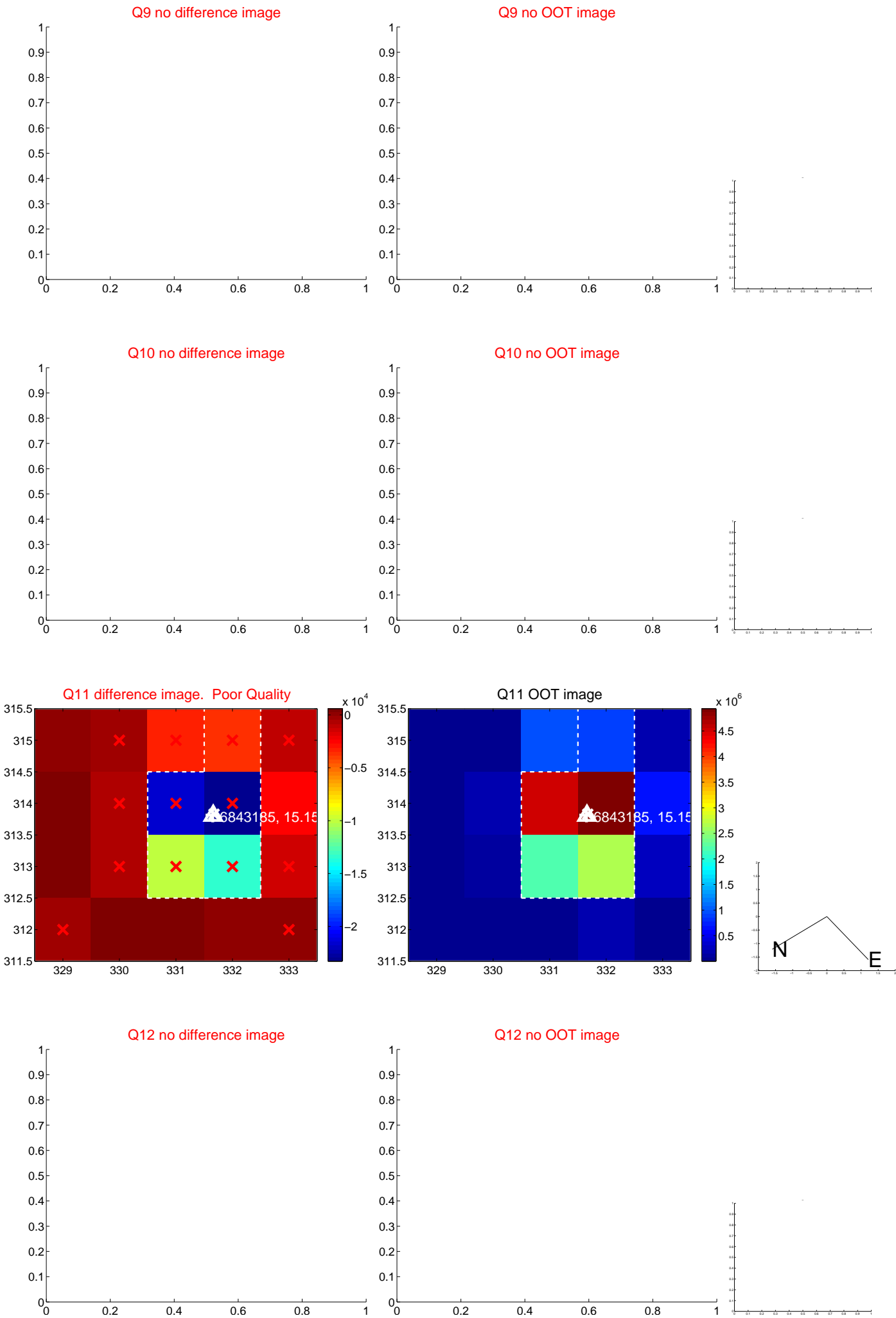
Q8 no difference image



Q8 no OOT image



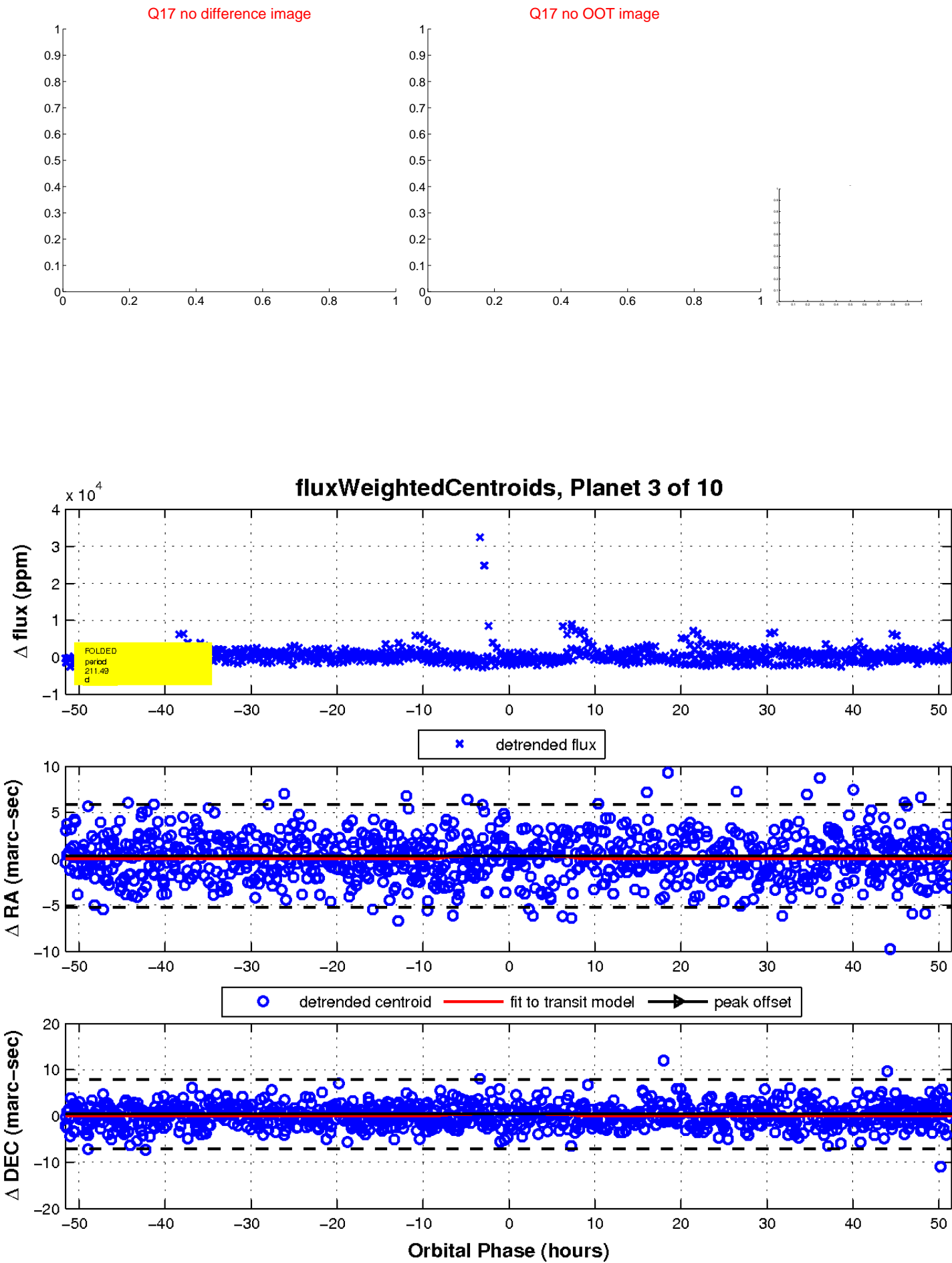
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

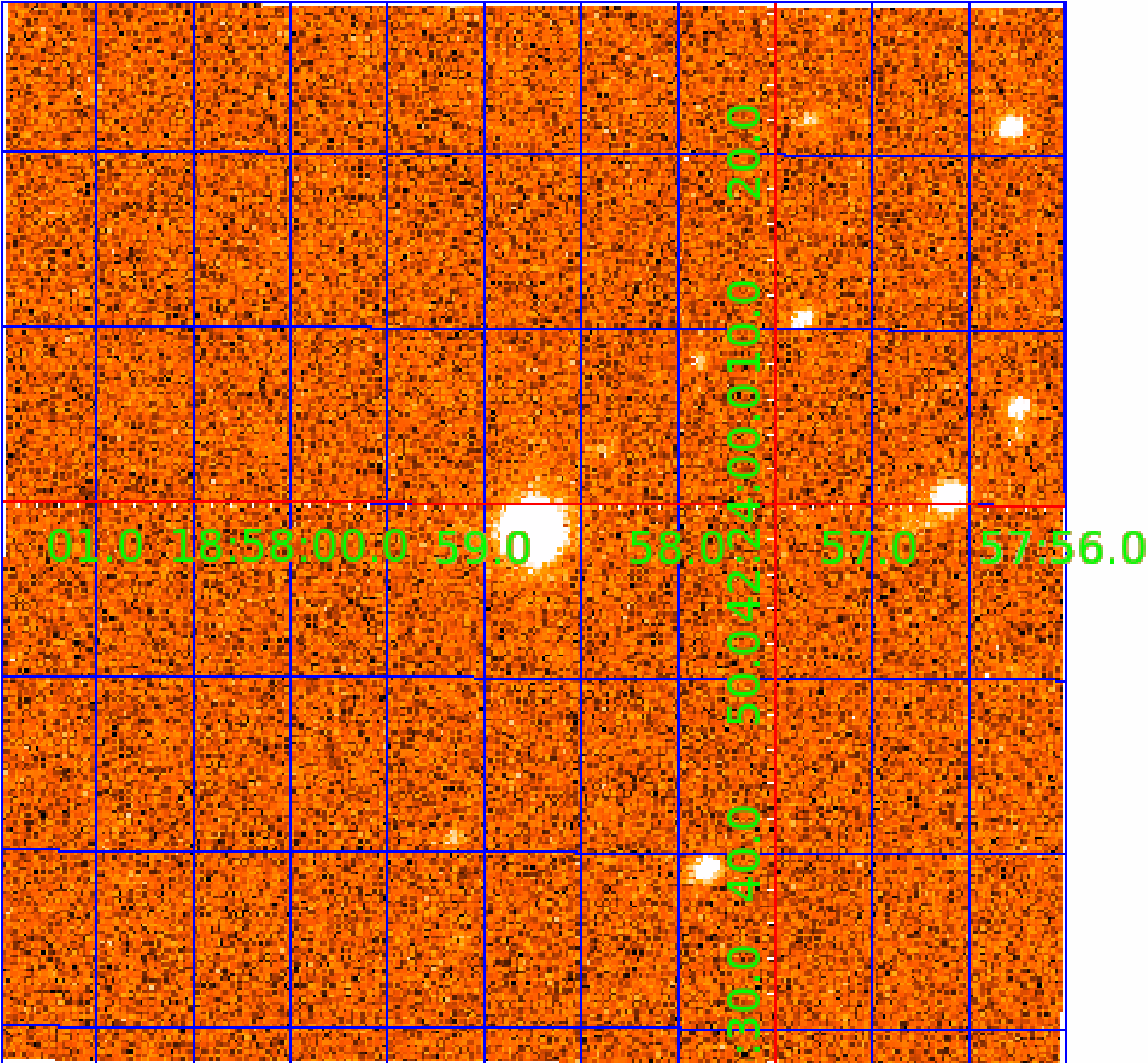


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
006843185-01	OBS	No	612.067201	328.000622	3086.6	13.627	15.2	10.9	0.70	4331	4.35	0.10
006843185-02	OBS	No	214.565578	196.030052	1975.0	9.585	13.9	7.1	0.70	4331	3.06	0.40
006843185-03	OBS	No	211.494807	168.060866	2874.5	17.193	13.1	12.6	0.70	4331	4.10	0.41
006843185-04	OBS	No	480.464997	317.440449	1747.0	22.354	14.9	5.0	0.70	4331	2.80	0.14
006843185-05	OBS	No	407.362166	222.635926	3522.6	15.164	12.9	10.8	0.70	4331	5.25	0.17
006843185-06	OBS	No	419.620189	171.880141	2311.0	10.794	14.4	8.0	0.70	4331	3.36	0.16
006843185-07	OBS	No	281.377772	214.045871	2059.1	5.569	13.0	9.2	0.70	4331	3.03	0.28
006843185-08	OBS	No	474.926569	188.740311	1305.4	4.181	12.8	4.6	0.70	4331	2.48	0.14
006843185-09	OBS	No	254.929310	229.253445	2118.2	11.457	12.6	8.8	0.70	4331	4.02	0.32
006843185-10	OBS	No	390.800507	158.970898	17.4	0.893	12.2	0.0	0.70	4331	0.29	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006843185-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-03	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
006843185-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-08	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—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-09	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
006843185-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

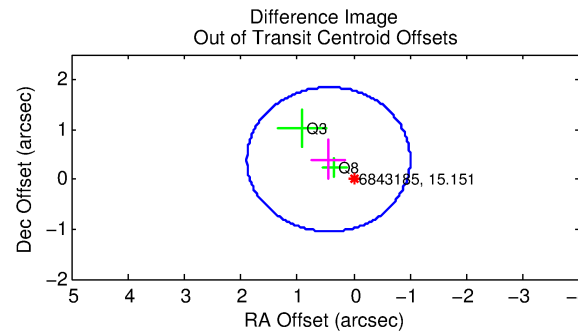
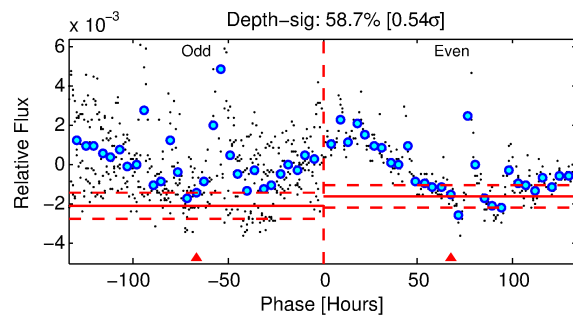
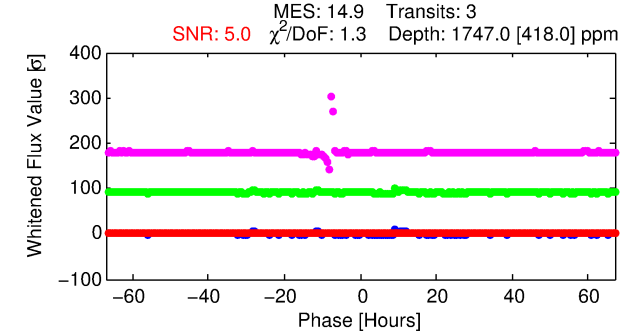
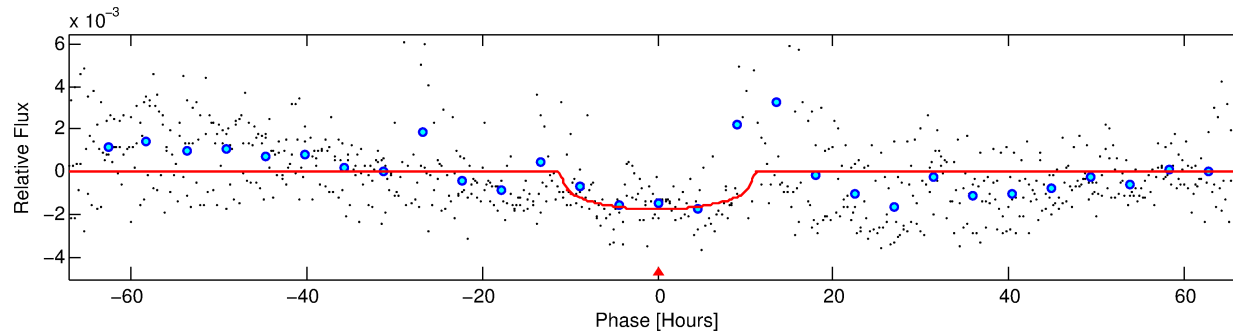
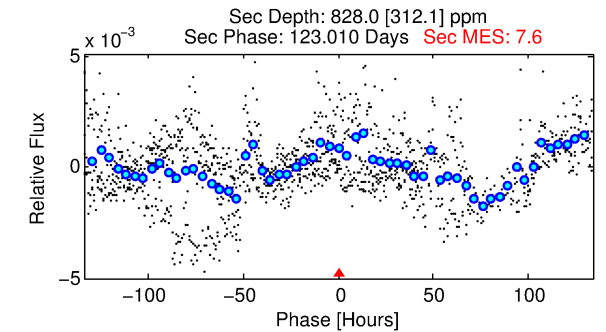
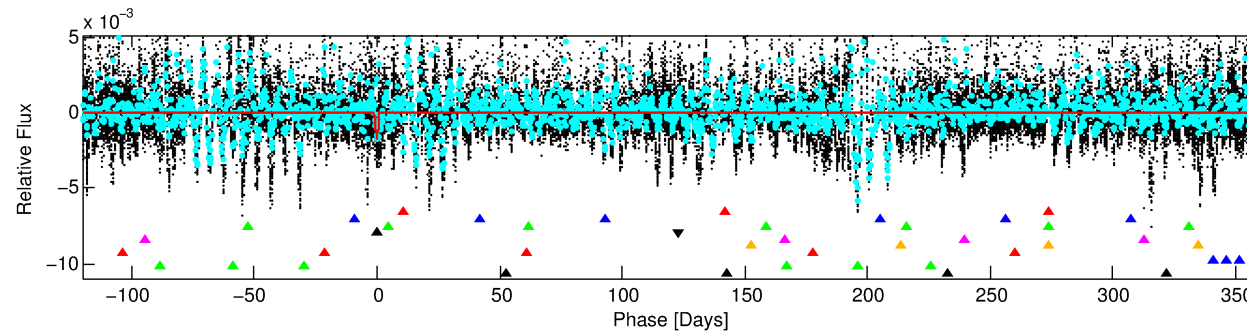
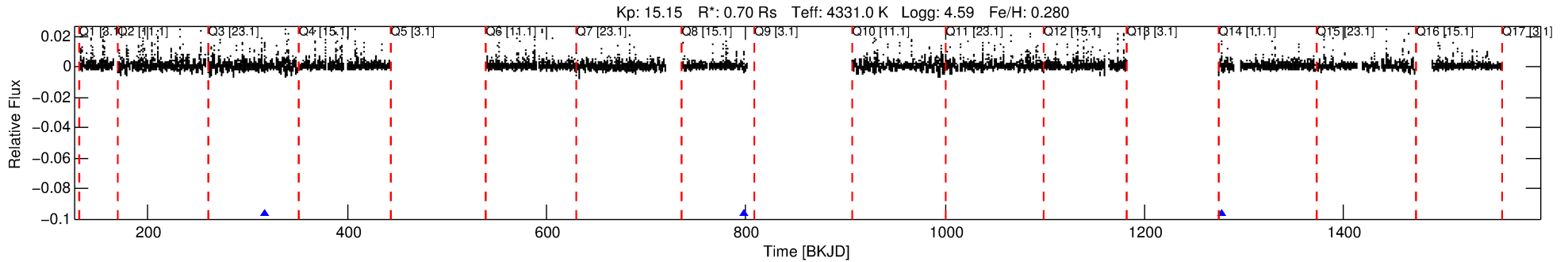
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006843185-04

No Significant Match Found

DV One-Page Summary

KIC: 6843185 Candidate: 4 of 10 Period: 480.465 d



DV Fit Results:

Period = 480.46500 [0.01846] d
Epoch = 317.4404 [0.0241] BKJD
Rp/R* = 0.0365 [0.0166]
a/R* = 168.10 [208.43]
b = 0.16 [7.52]
Seff = 0.14 [0.02]
Teq = 155 [6] K
Rp = 2.80 [1.30] Re
a = 1.0652 [0.0736] AU
Ag = 65859.79 [65278.01] [1.01 σ]
Teffp = 3844 [956] K [3.86 σ]

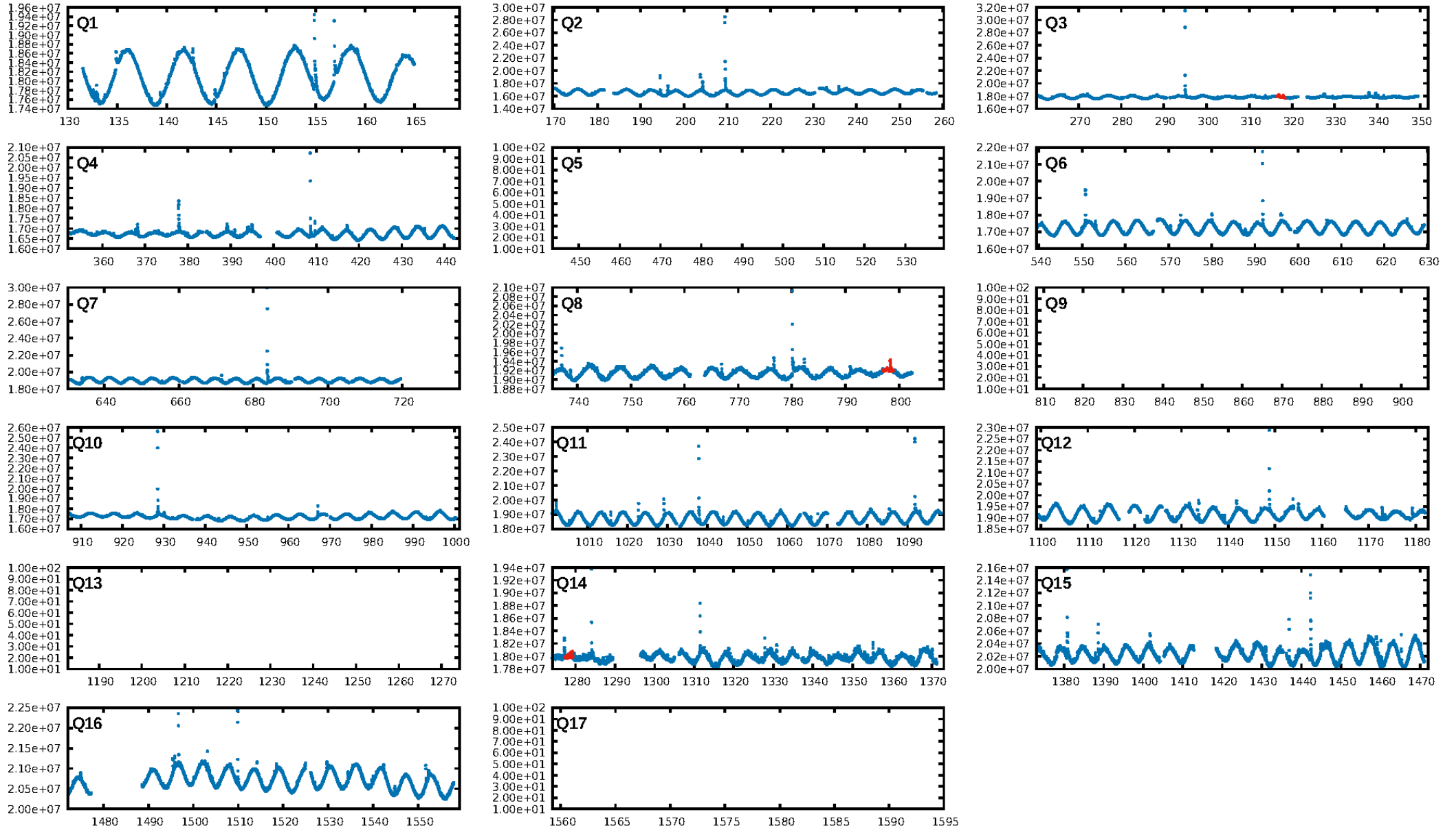
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.85 σ]
LongPeriod-sig: 100.0% [120.64 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 98.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 14.84
Centroid-sig: 0.0%
Centroid-so: 0.908 arcsec [1.72 σ]
OotOffset-rm: 0.597 arcsec [1.24 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-rm: 0.756 arcsec [1.81 σ]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

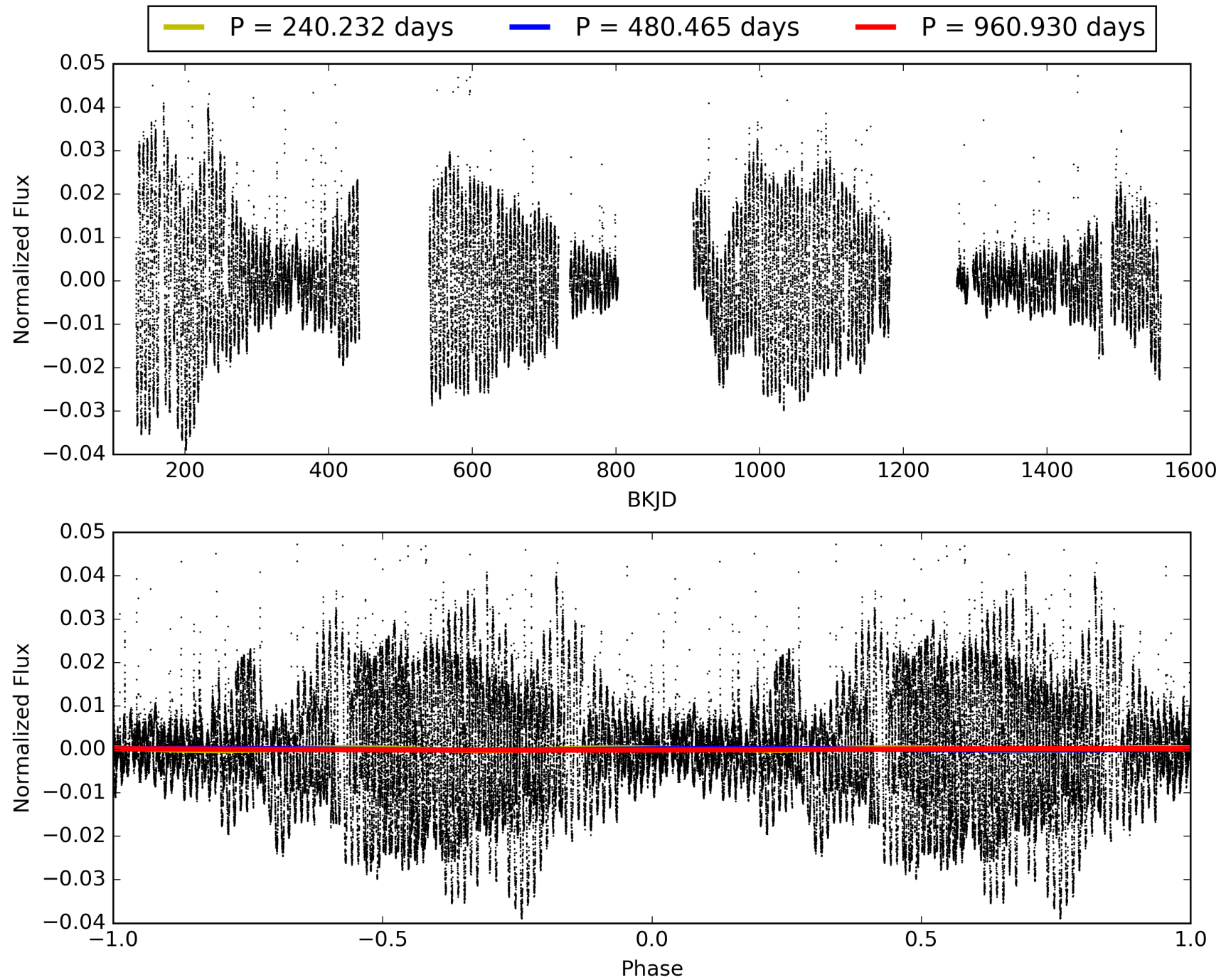
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:45:40 Z

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

TCE 006843185-04, PDC Light Curves

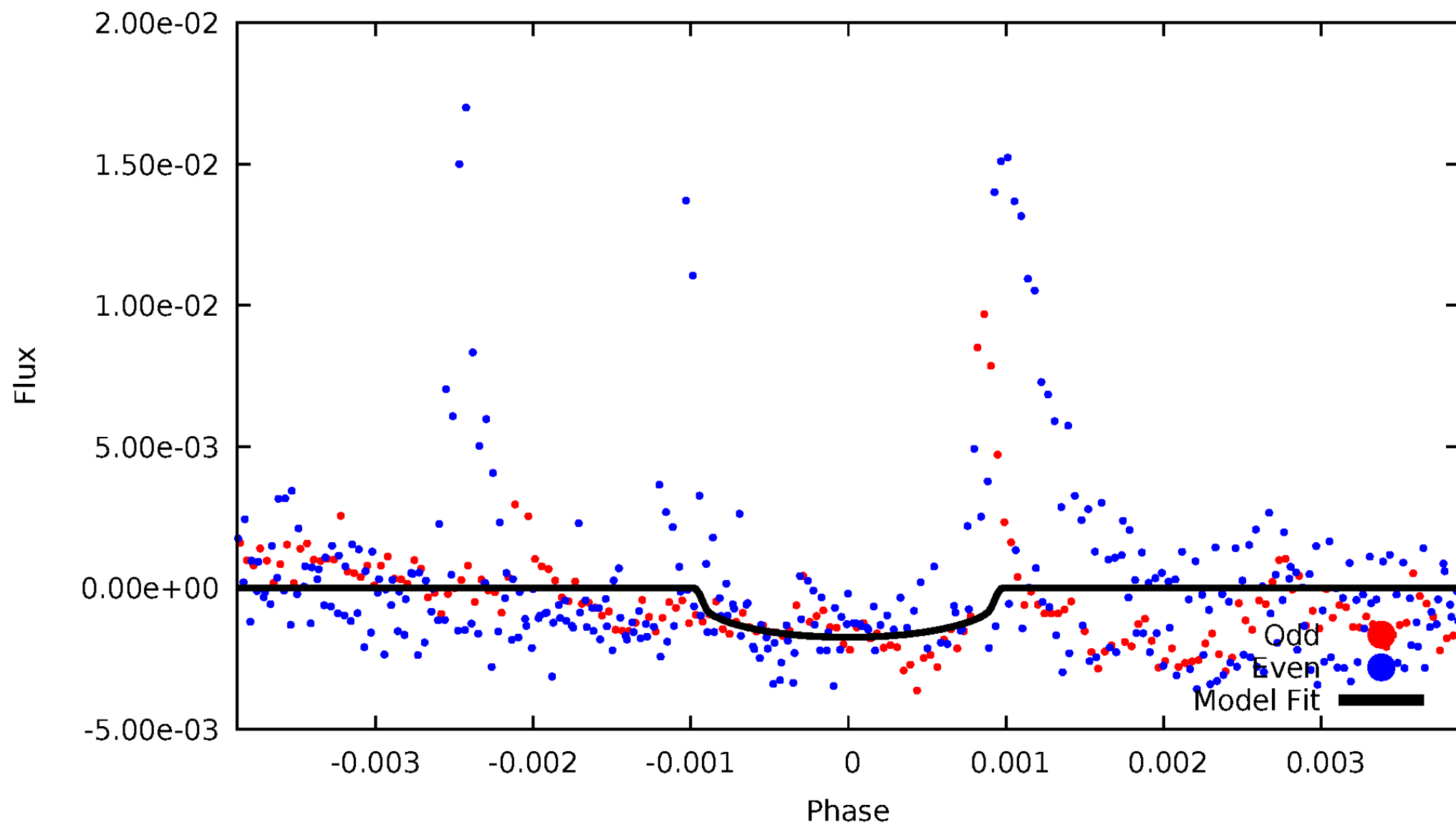


TCE 006843185-04



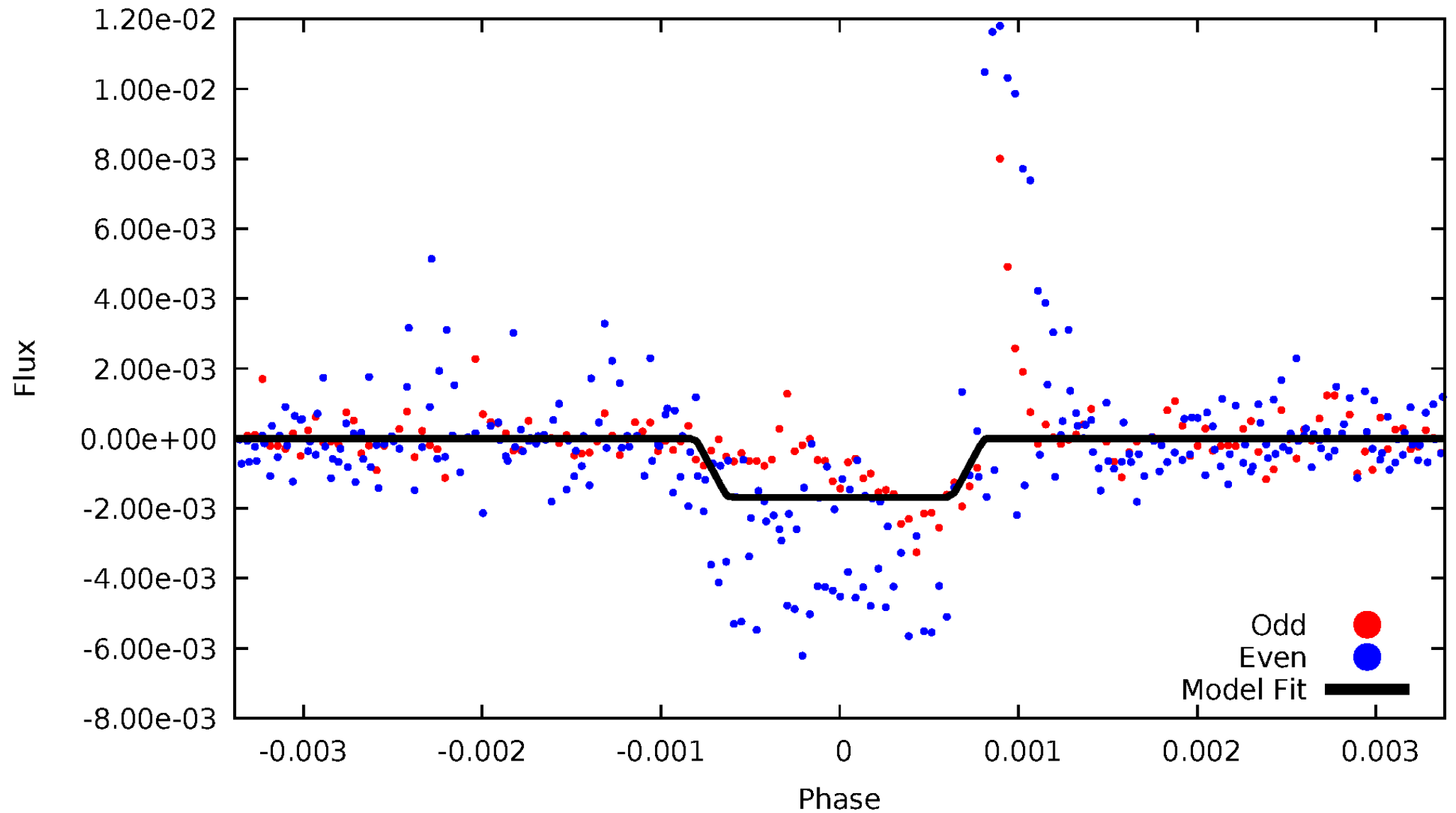
DV Odd/Even

TCE 006843185-04



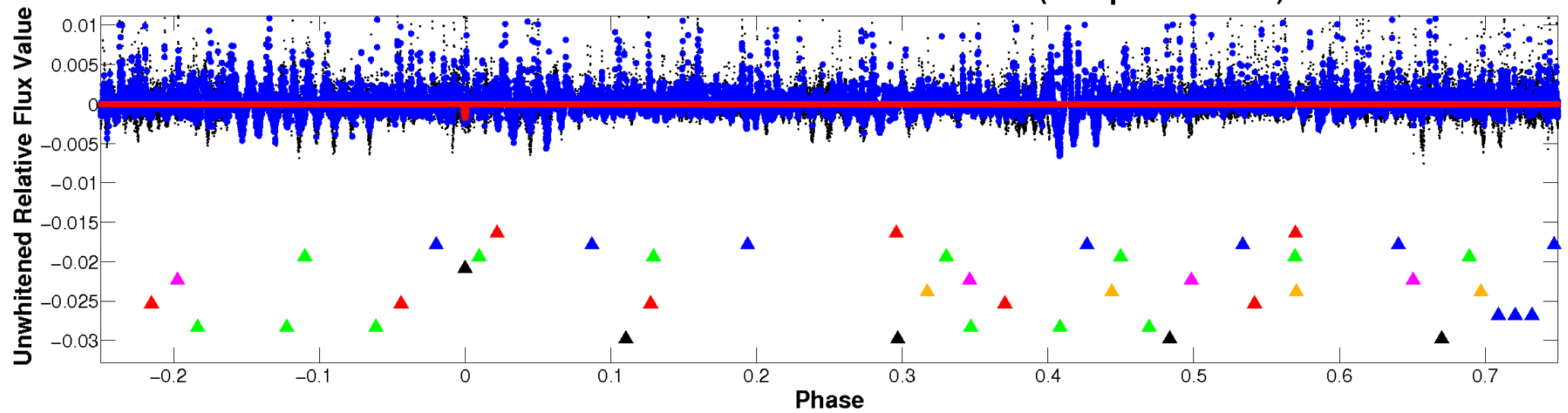
ALT Odd/Even

TCE 006843185-04

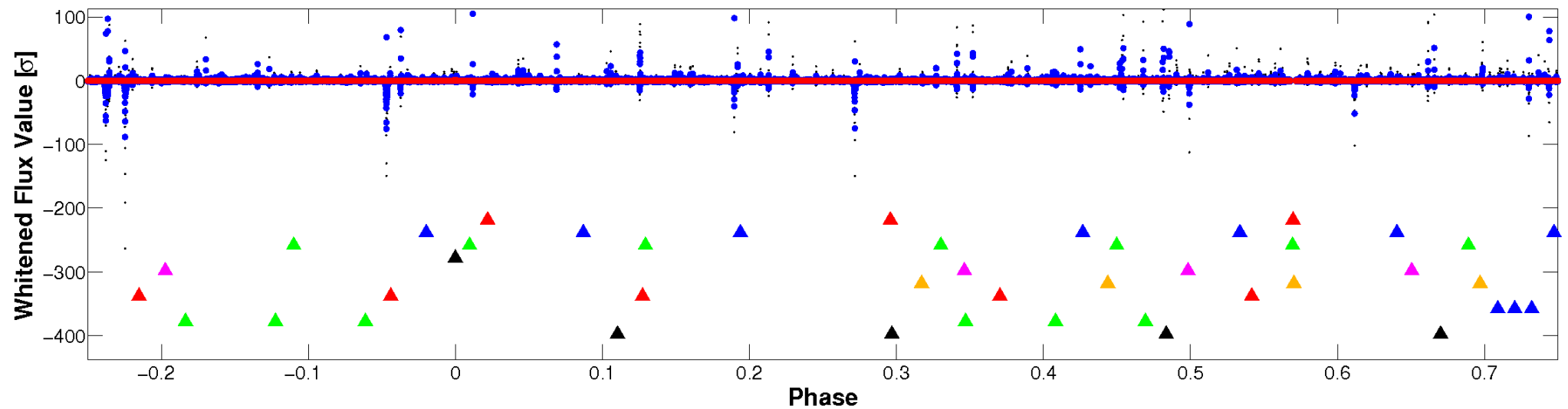


Non-Whitened Vs. Whitened Light Curve

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

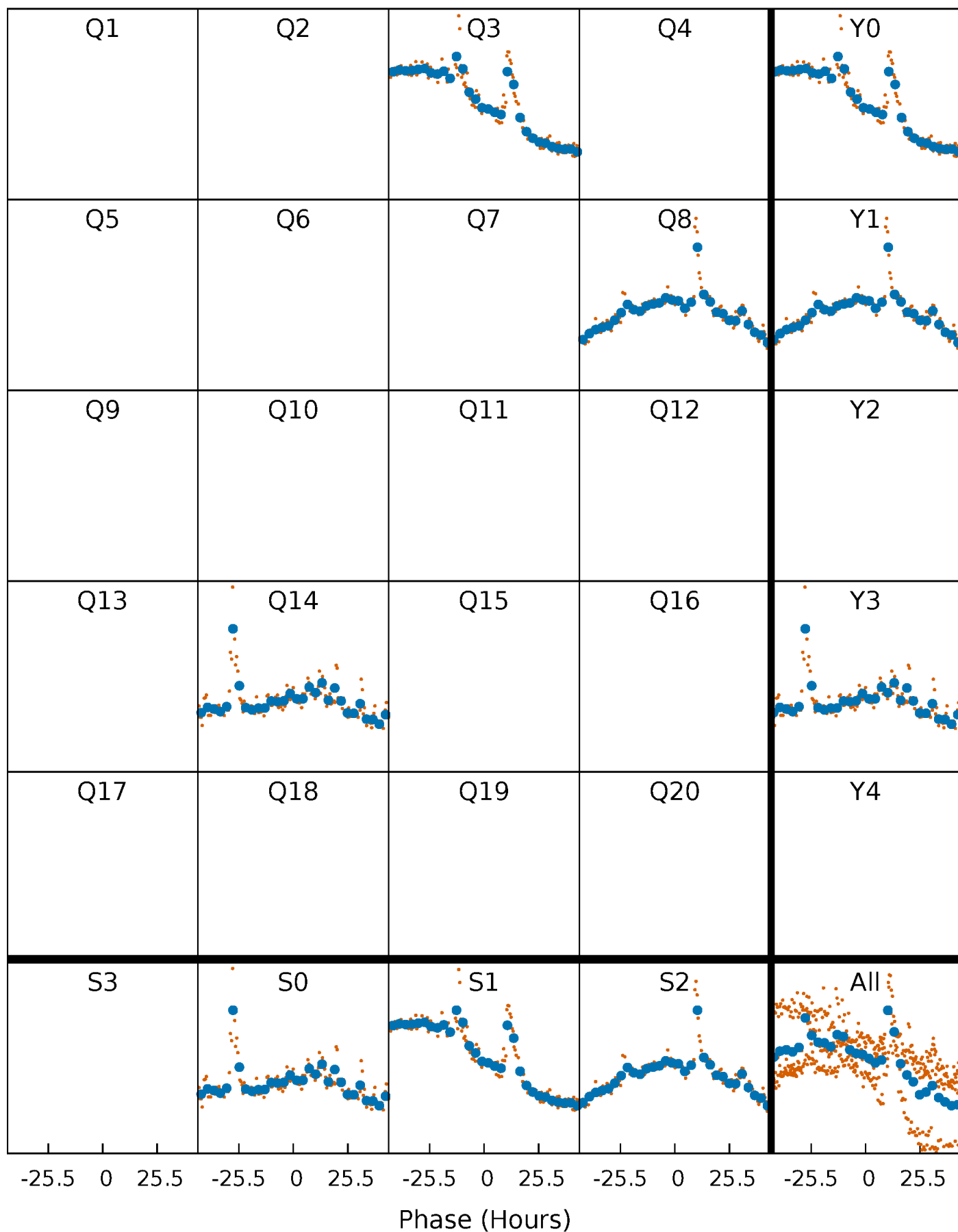


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



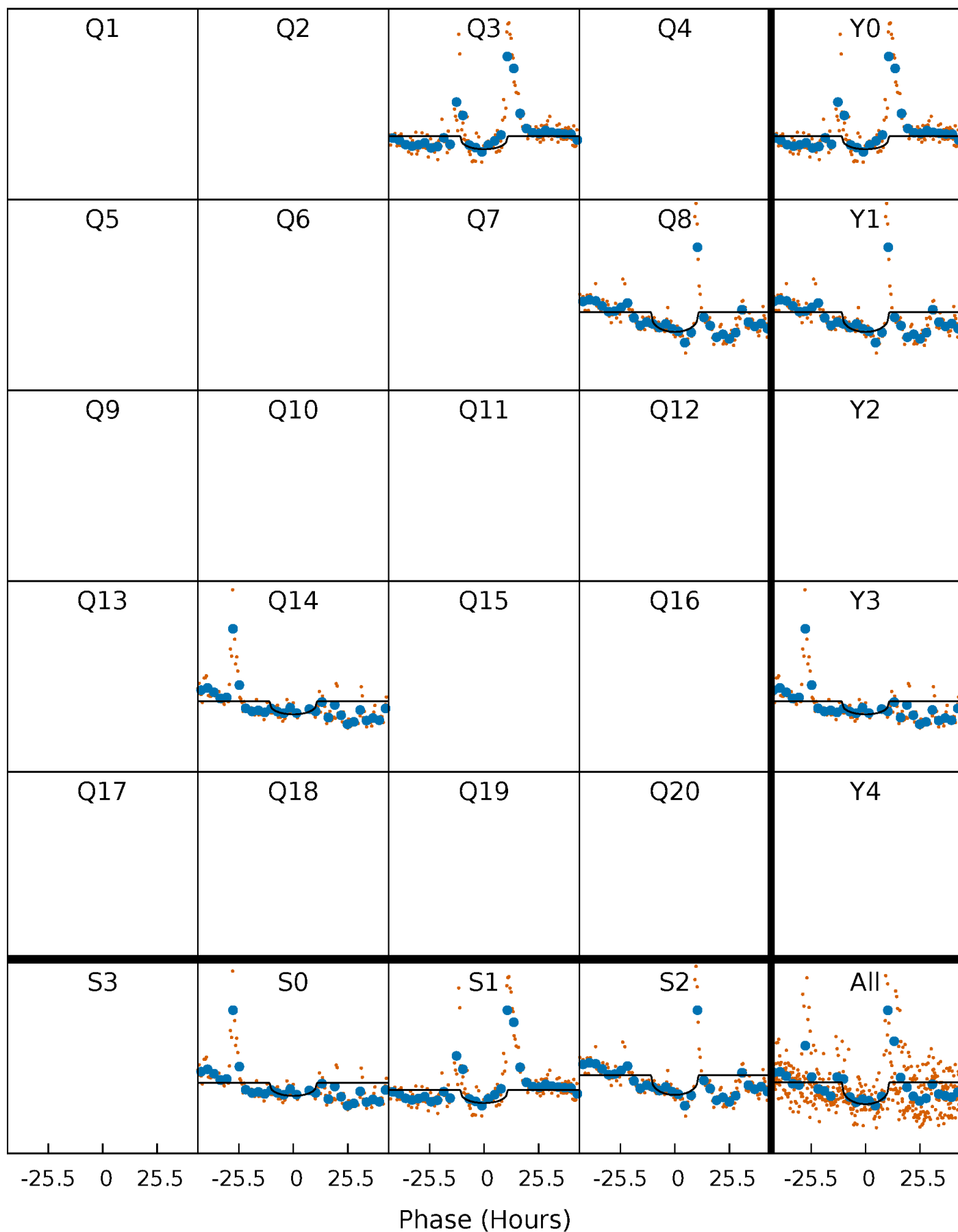
PDC Quarter-Phased Transit Curves

TCE 006843185-04 $P=480.464997$ Days $T_0=317.440449$ (BKJD)



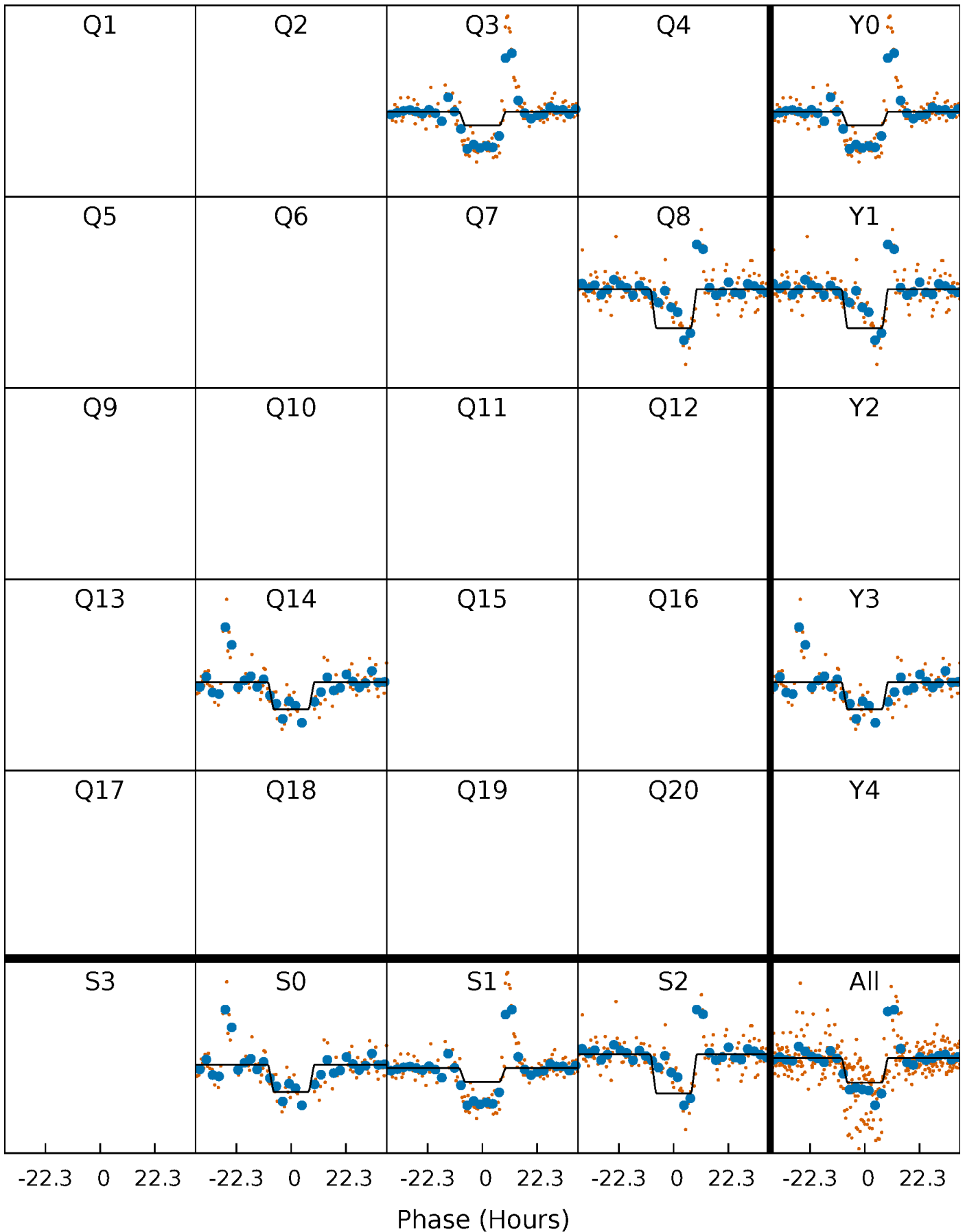
DV Quarter-Phased Transit Curves

TCE 006843185-04 $P=480.464997$ Days $T_0=317.440449$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

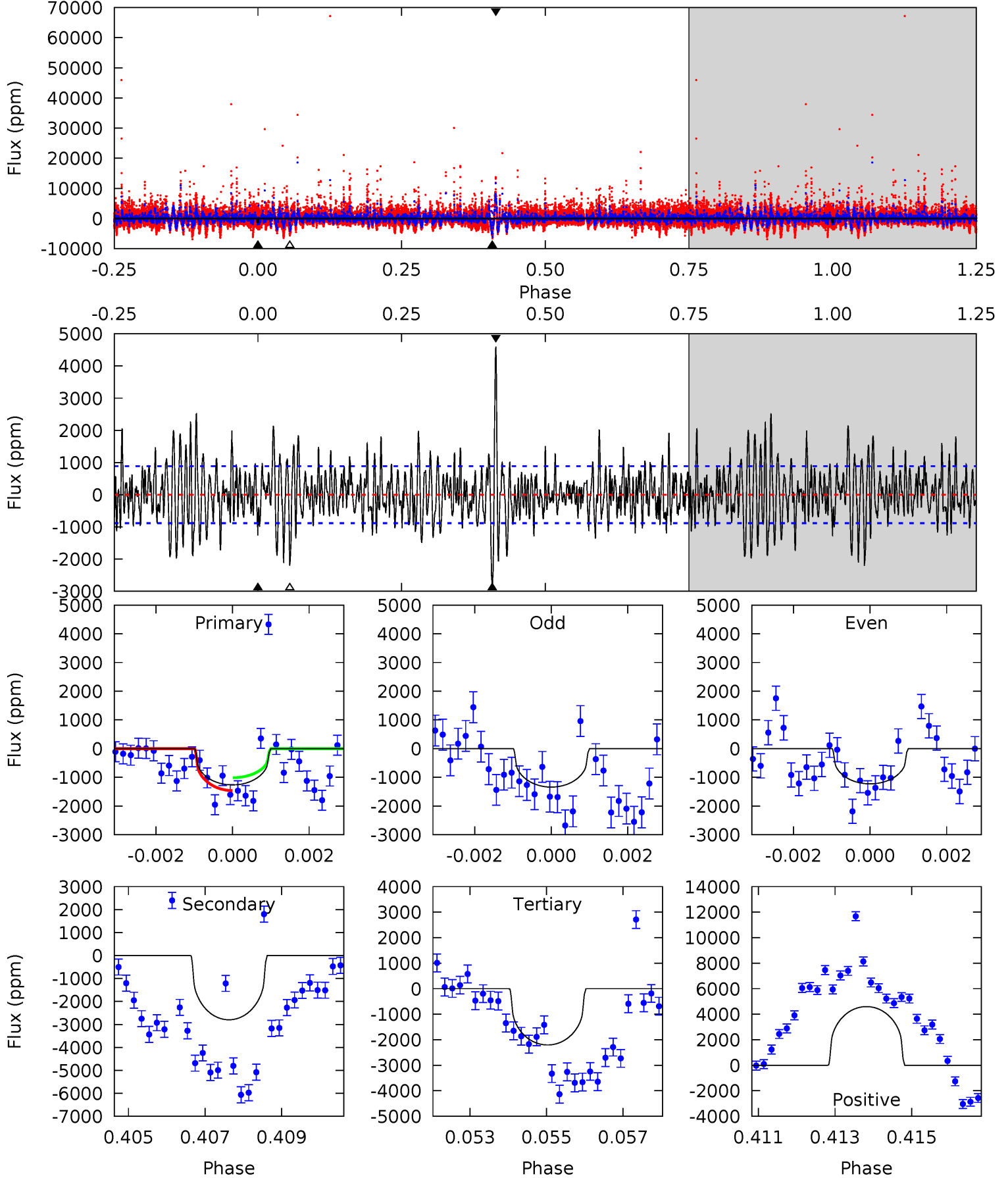
TCE 006843185-04 $P=480.413429$ Days $T_0=317.495615$ (BKJD)



DV Model-Shift Uniqueness Test

006843185-04, P = 480.464997 Days, E = 317.440449 Days

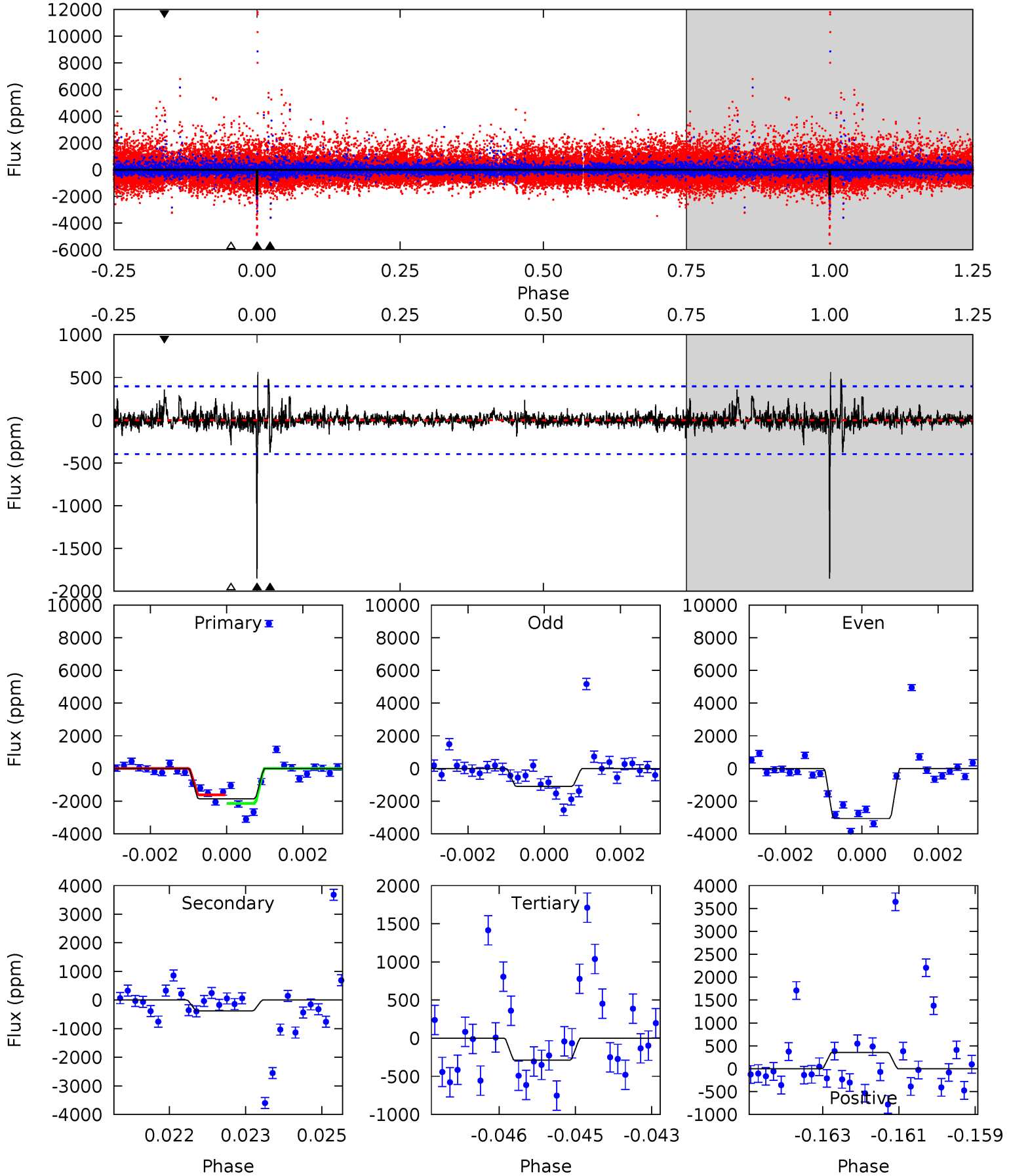
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.61	16.8	13.3	27.7	5.33	3.09	4.01	-5.65	-20.0	3.57	-10.8	0.11	0.94	0.62	1.33



Alt Model-Shift Uniqueness Test

006843185-04, P = 480.413429 Days, E = 317.495615 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.1	5.10	3.91	4.82	5.36	3.15	0.72	21.1	20.2	1.20	0.28	12.9	1.43	0.23	3.57



Stellar Parameters For KIC 006843185

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4331^{+142}_{-142}	$4.588^{+0.056}_{-0.017}$	$0.280^{+0.150}_{-0.300}$	$0.703^{+0.028}_{-0.057}$	$0.698^{+0.044}_{-0.049}$	$2.829^{+0.655}_{-0.190}$
	+3%/-3%	+1%/-0%	+54%/-107%	+4%/-8%	+6%/-7%	+23%/-7%
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 006843185-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2798 ± 166	$2.73^{+1.26}_{-1.21}$	215^{+8}_{-8}	5072^{+1606}_{-733}	$235125^{+514366}_{-123393}$
Alt.	-377 ± 74	$3.13^{+1.19}_{-1.32}$	216^{+8}_{-8}	3373^{+627}_{-350}	24930^{+44835}_{-12720}

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

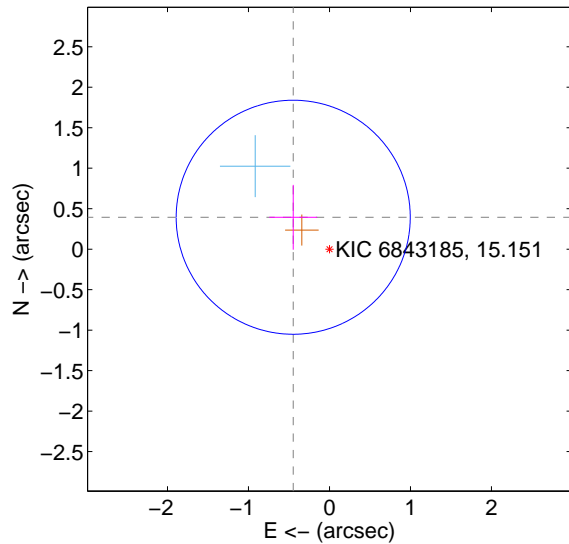
Supplemental centroid analysis for 006843185-04. Kepler magnitude: 15.15. Transit SNR 5.03

There are 1 quarters with good PRF difference image offsets

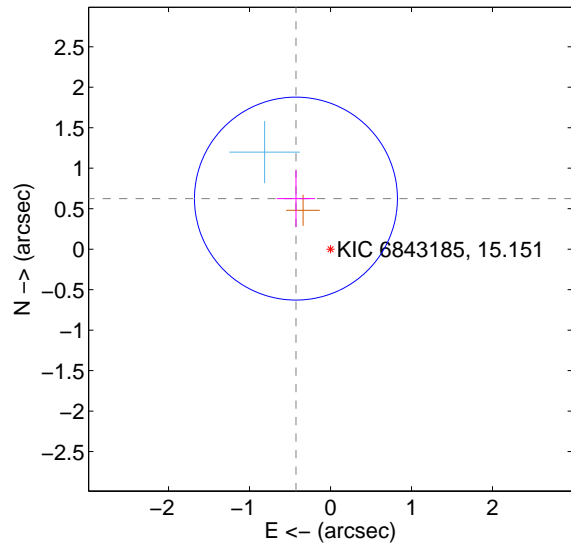
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.597 ± 0.482	1.24	0.448 ± 0.296	0.394 ± 0.400
PRF-fit source offset from KIC position	0.756 ± 0.418	1.81	0.427 ± 0.237	0.625 ± 0.350
photometric centroid source offset	0.91 ± 0.53	1.72	0.03 ± 0.50	-0.91 ± 0.53

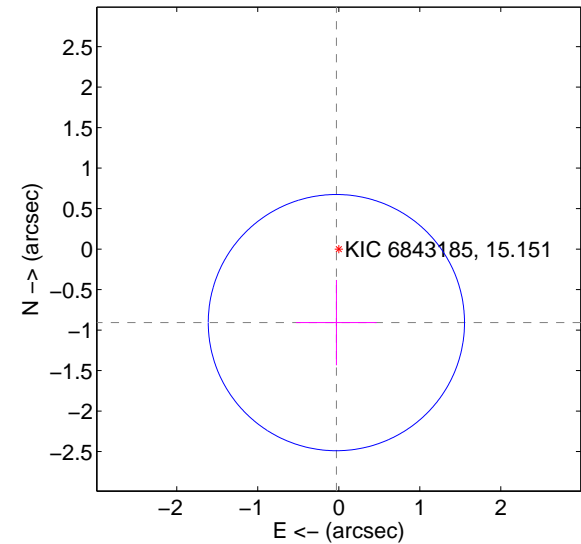
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

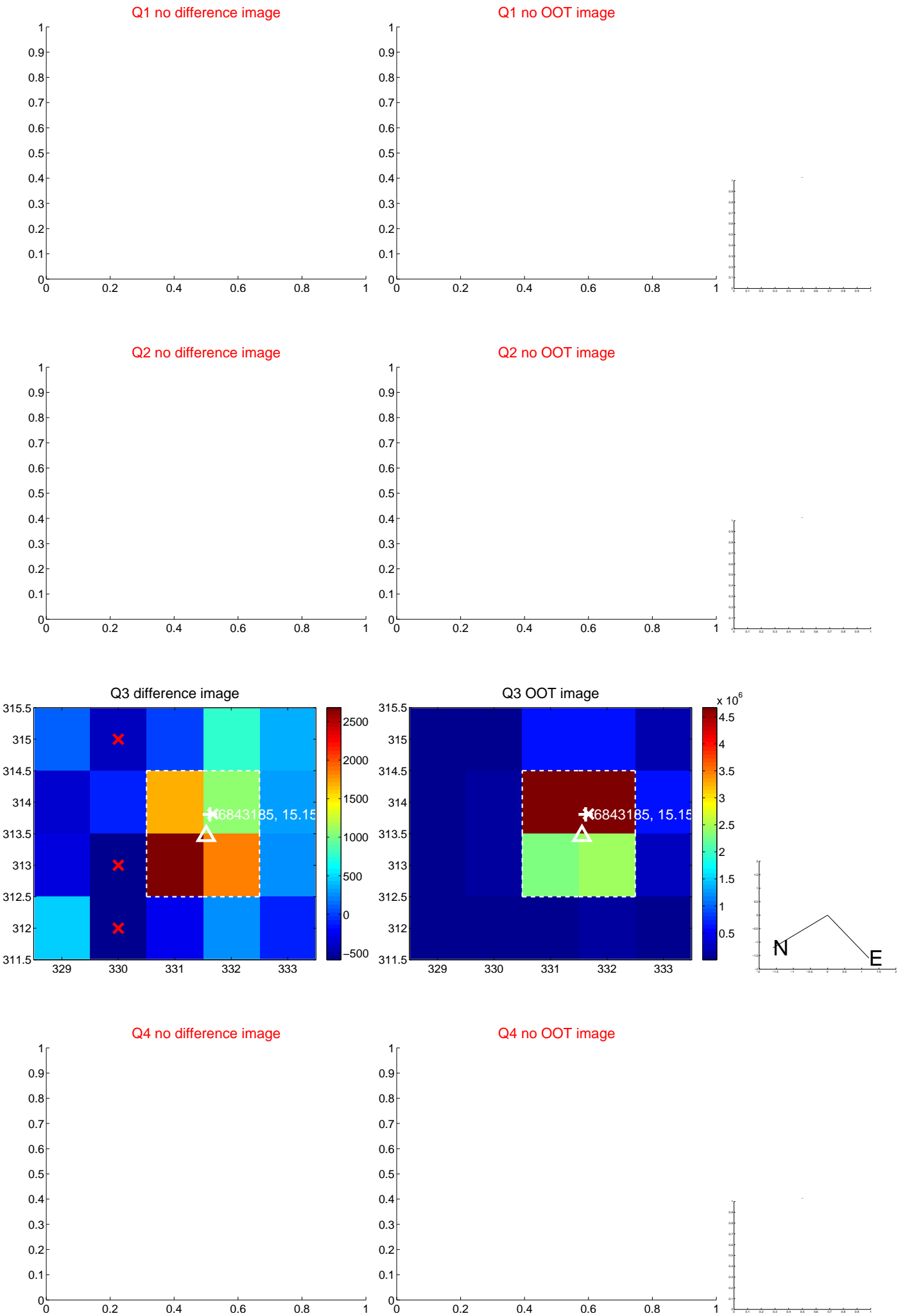


offset from photometric centroids

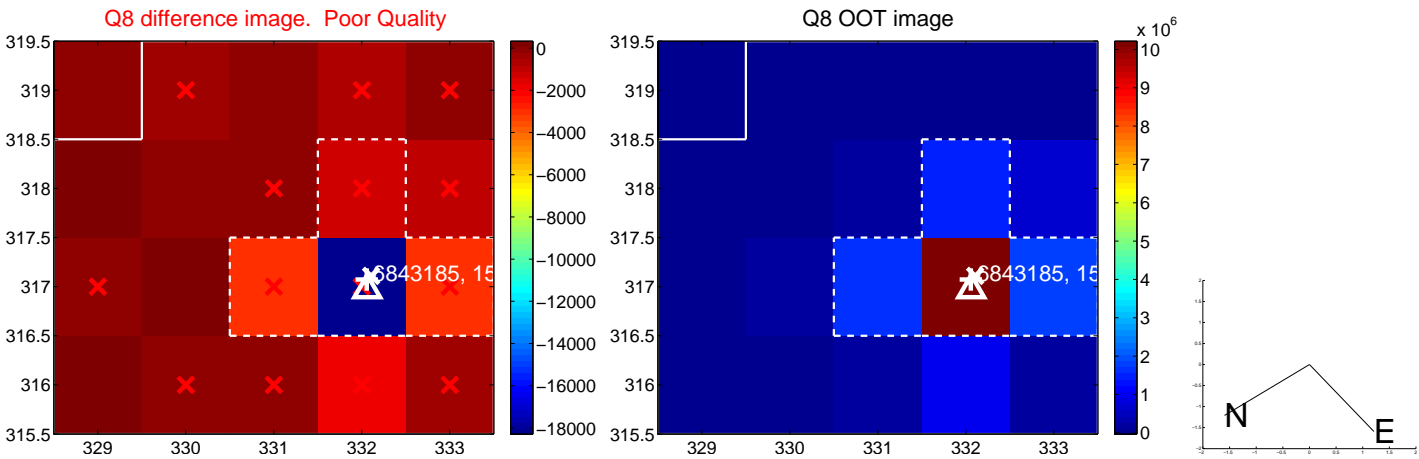


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



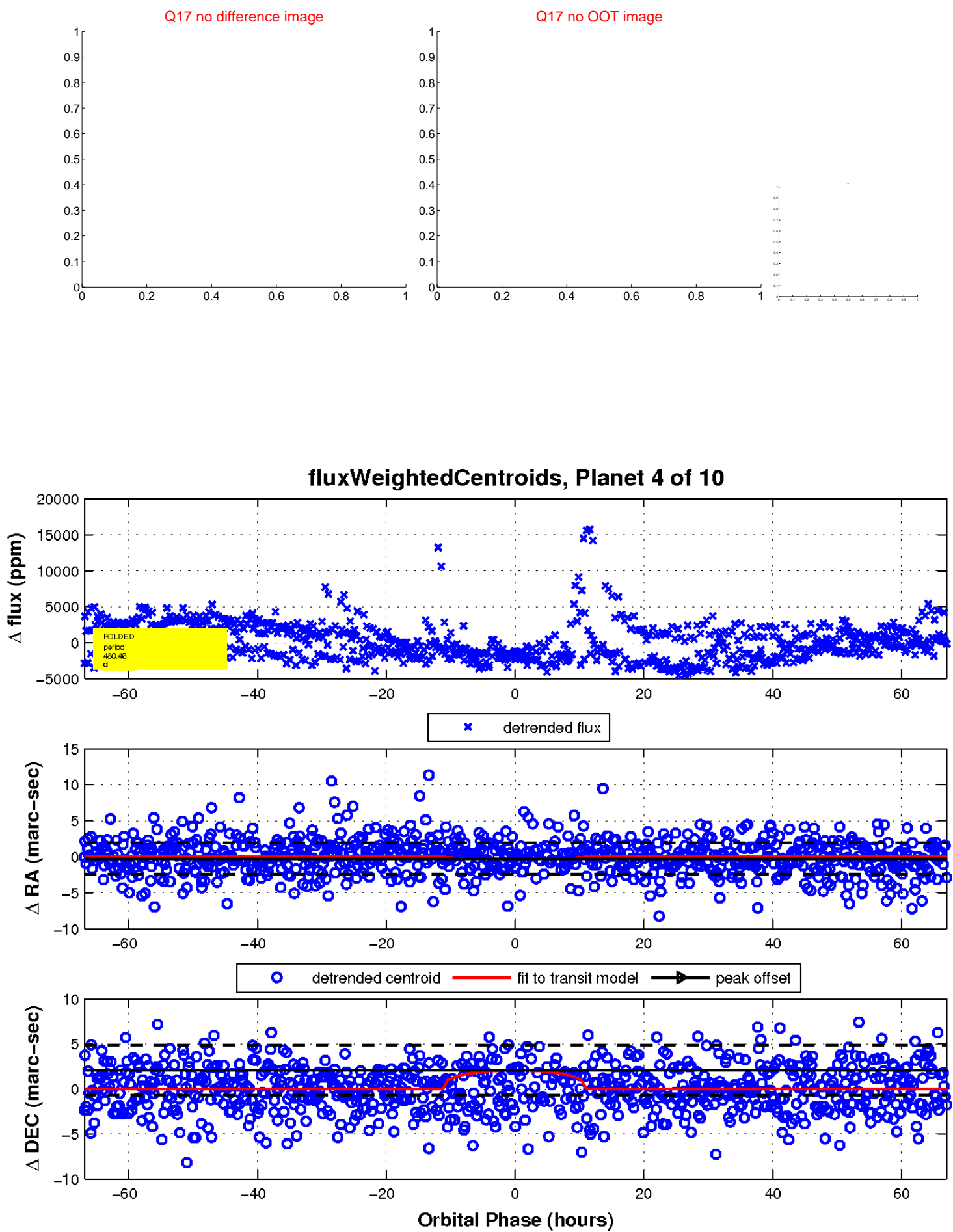
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

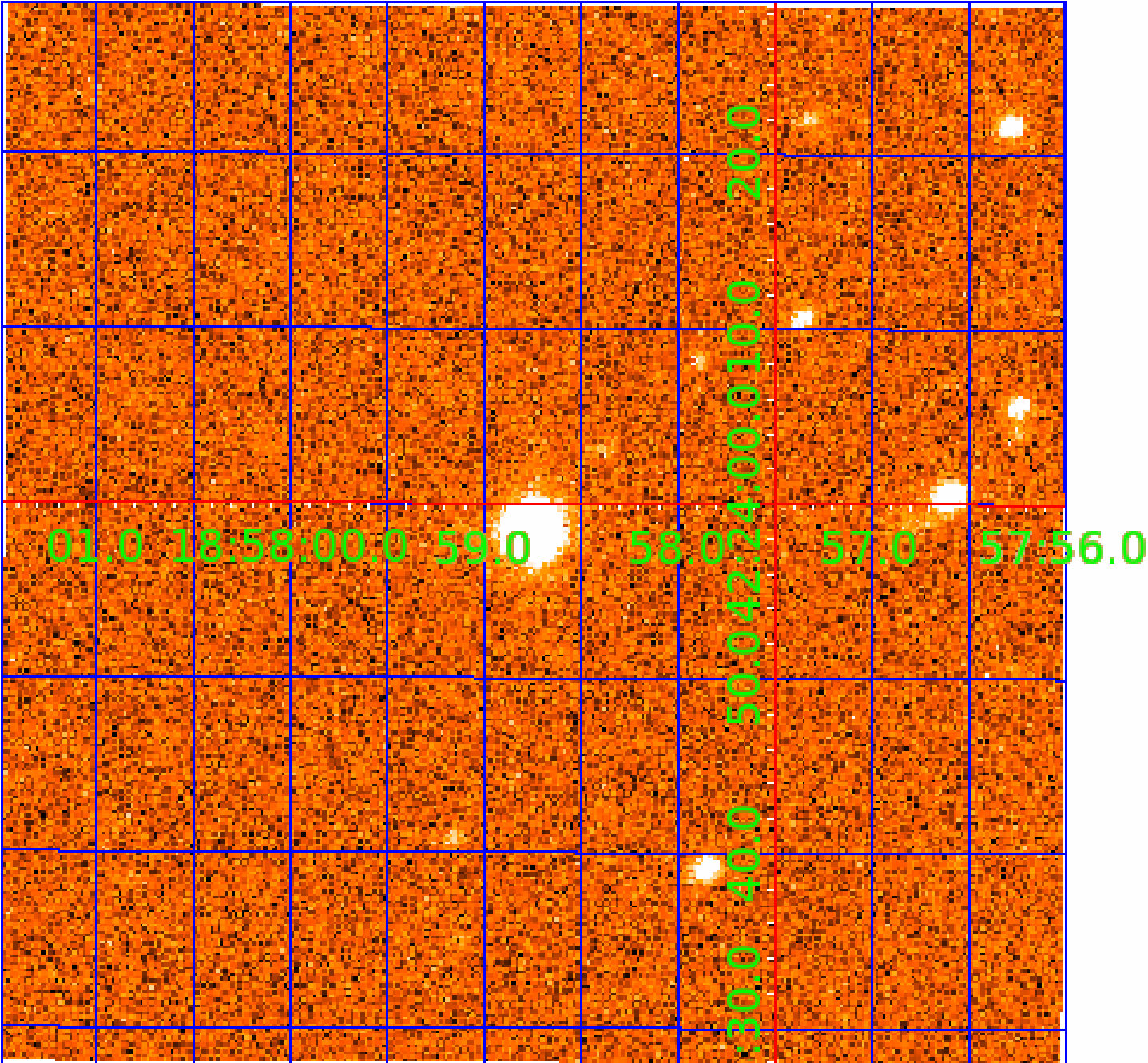


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
006843185-01	OBS	No	612.067201	328.000622	3086.6	13.627	15.2	10.9	0.70	4331	4.35	0.10
006843185-02	OBS	No	214.565578	196.030052	1975.0	9.585	13.9	7.1	0.70	4331	3.06	0.40
006843185-03	OBS	No	211.494807	168.060866	2874.5	17.193	13.1	12.6	0.70	4331	4.10	0.41
006843185-04	OBS	No	480.464997	317.440449	1747.0	22.354	14.9	5.0	0.70	4331	2.80	0.14
006843185-05	OBS	No	407.362166	222.635926	3522.6	15.164	12.9	10.8	0.70	4331	5.25	0.17
006843185-06	OBS	No	419.620189	171.880141	2311.0	10.794	14.4	8.0	0.70	4331	3.36	0.16
006843185-07	OBS	No	281.377772	214.045871	2059.1	5.569	13.0	9.2	0.70	4331	3.03	0.28
006843185-08	OBS	No	474.926569	188.740311	1305.4	4.181	12.8	4.6	0.70	4331	2.48	0.14
006843185-09	OBS	No	254.929310	229.253445	2118.2	11.457	12.6	8.8	0.70	4331	4.02	0.32
006843185-10	OBS	No	390.800507	158.970898	17.4	0.893	12.2	0.0	0.70	4331	0.29	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006843185-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-03	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
006843185-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-08	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—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-09	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
006843185-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

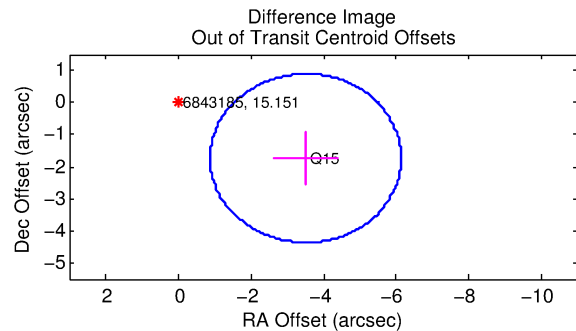
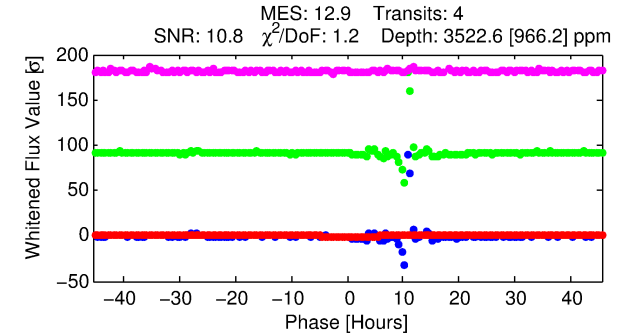
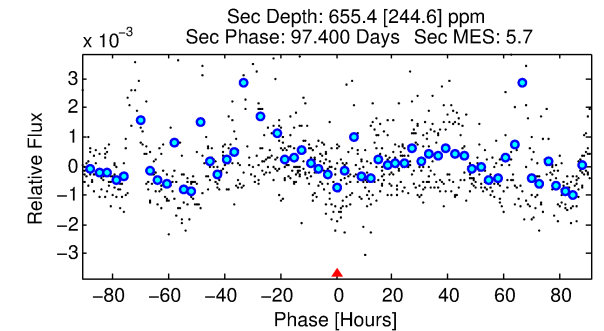
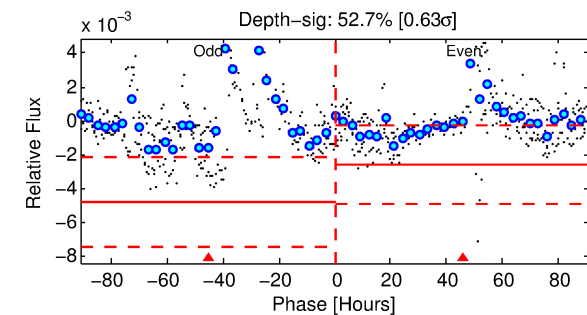
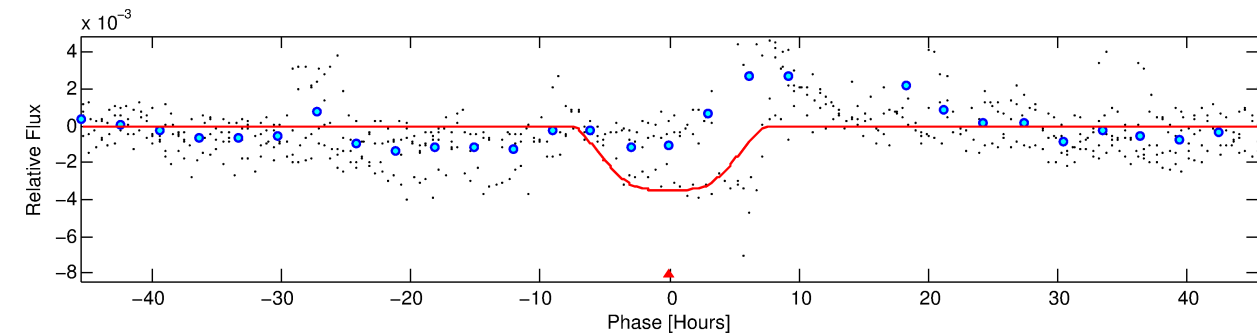
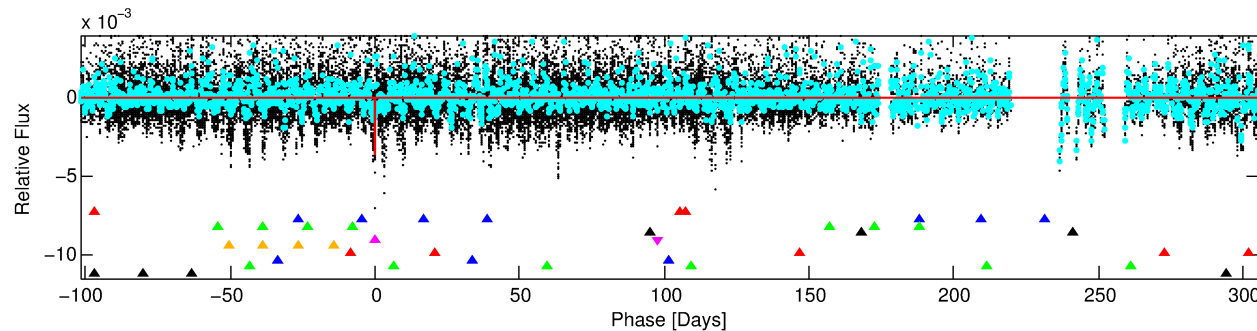
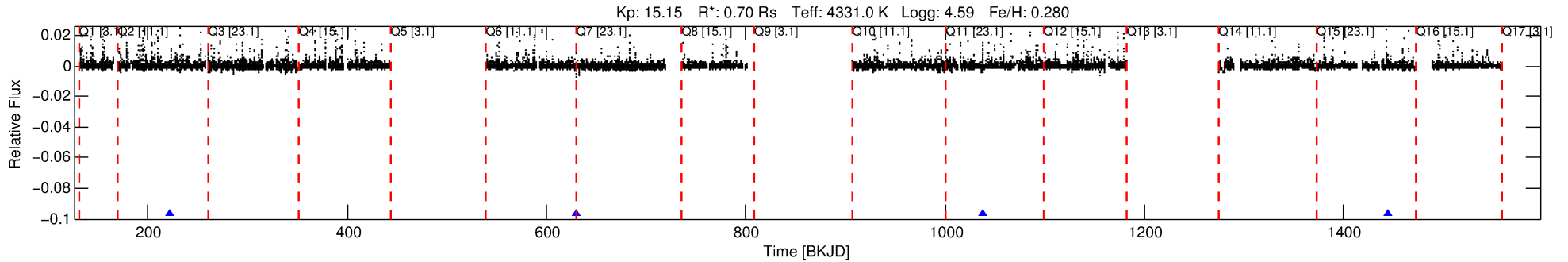
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006843185-05

No Significant Match Found

DV One-Page Summary

KIC: 6843185 Candidate: 5 of 10 Period: 407.362 d



DV Fit Results:

Period = 407.36217 [0.02330] d
Epoch = 222.6359 [0.0507] BKJD
Rp/R* = 0.0685 [0.0128]
a/R* = 115.75 [32.21]
b = 0.91 [0.06]
Seff = 0.17 [0.03]
Teq = 164 [7] K
Rp = 5.25 [1.07] Re
a = 0.9542 [0.0659] AU
Ag = 11892.88 [6394.75] [1.86 σ]
Teffp = 2648 [360] K [6.90 σ]

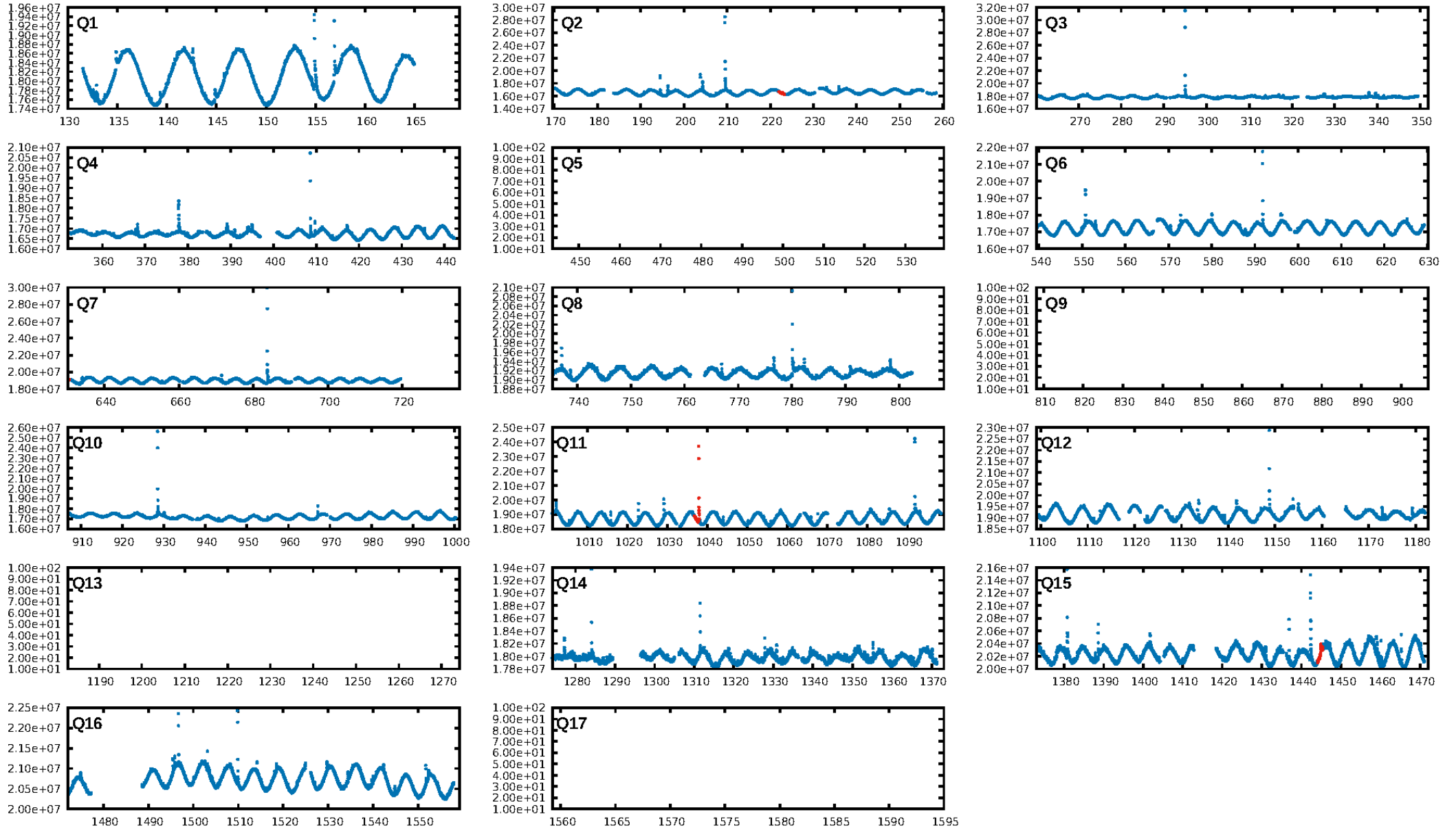
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [26.17 σ]
LongPeriod-sig: 100.0% [15.81 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.474
Centroid-sig: 16.8%
Centroid-so: 0.413 arcsec [1.25 σ]
OotOffset-rm: 3.914 arcsec [4.46 σ]
KicOffset-rm: 3.973 arcsec [4.51 σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [1/1]

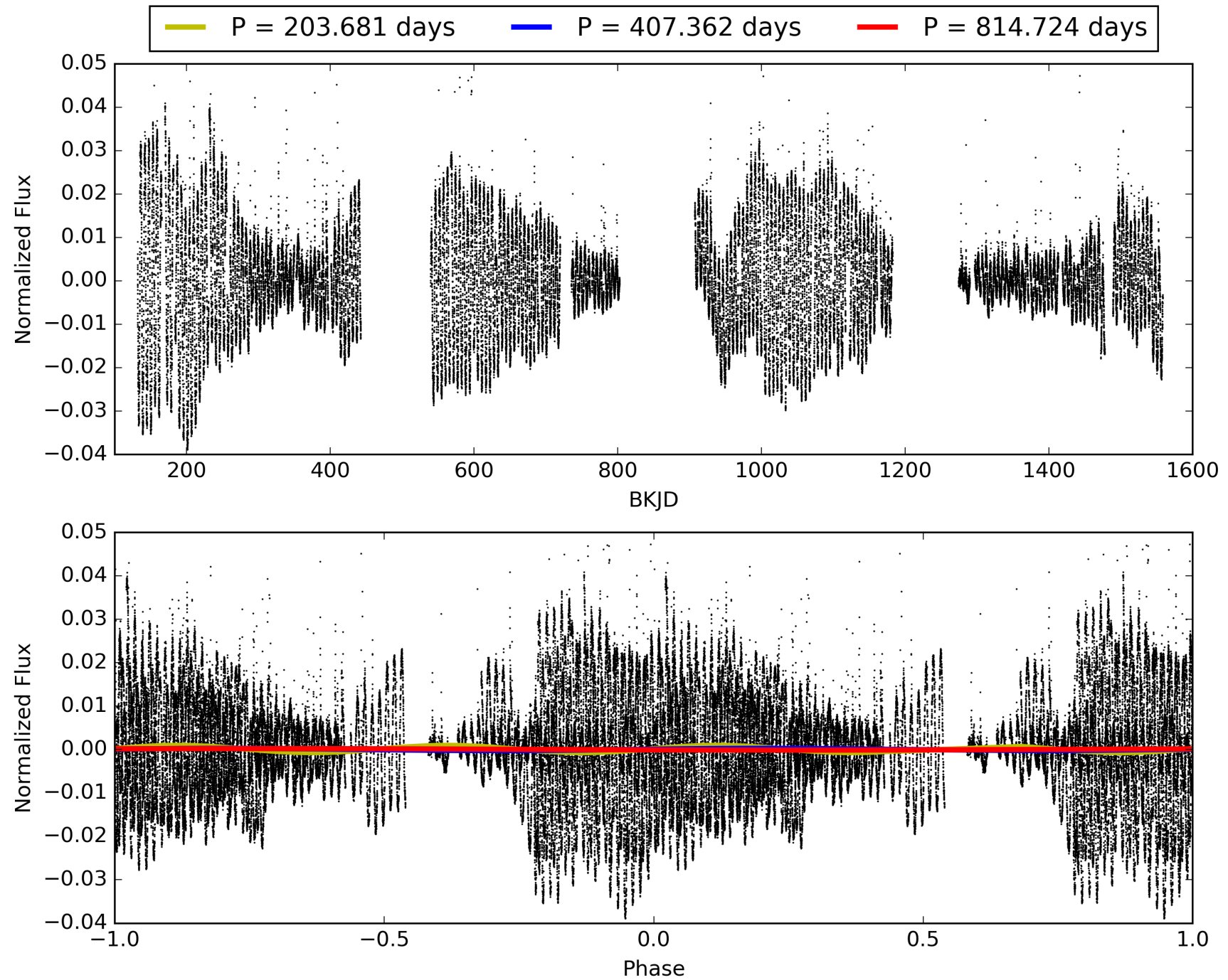
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:45:47 Z

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

TCE 006843185-05, PDC Light Curves

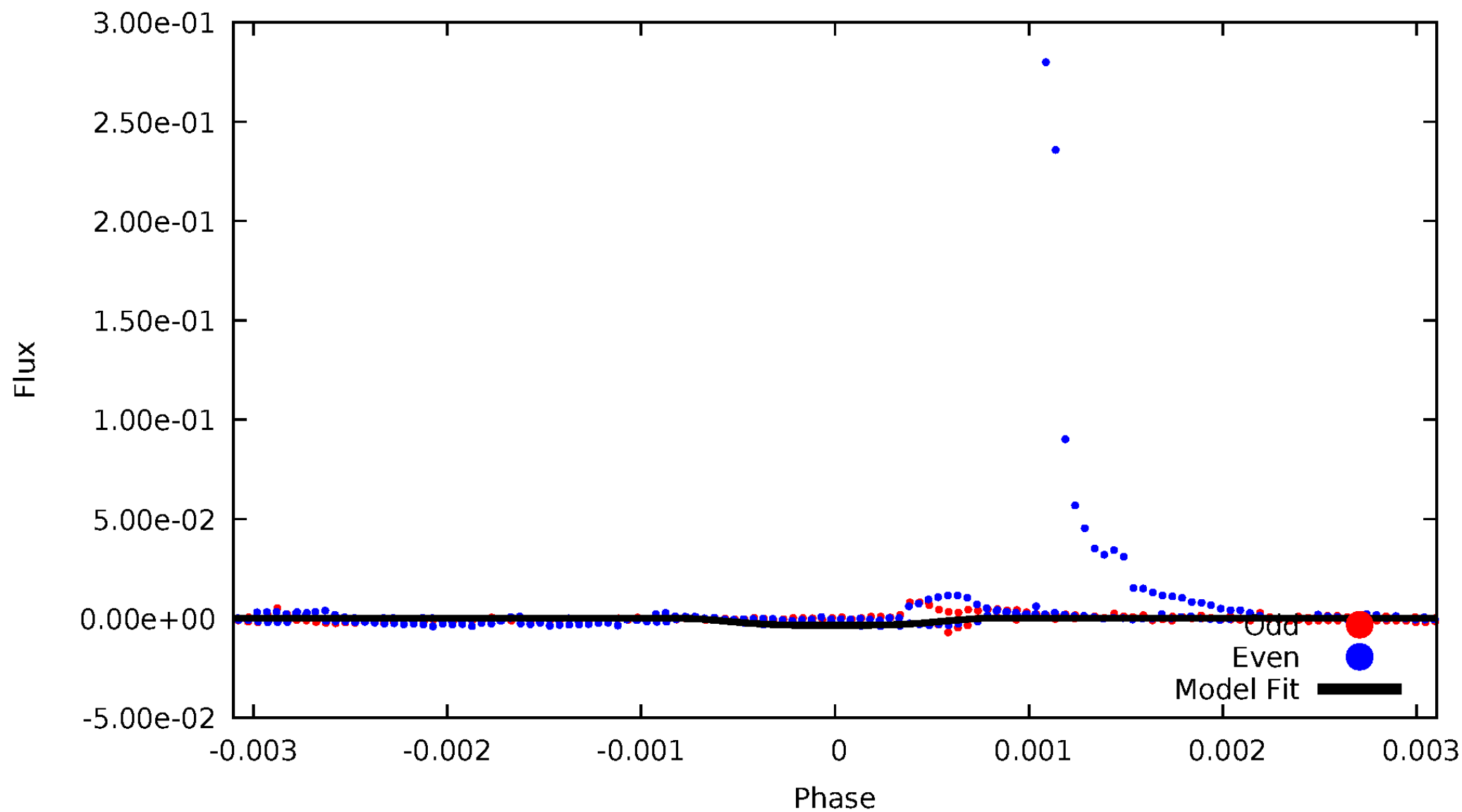


TCE 006843185-05



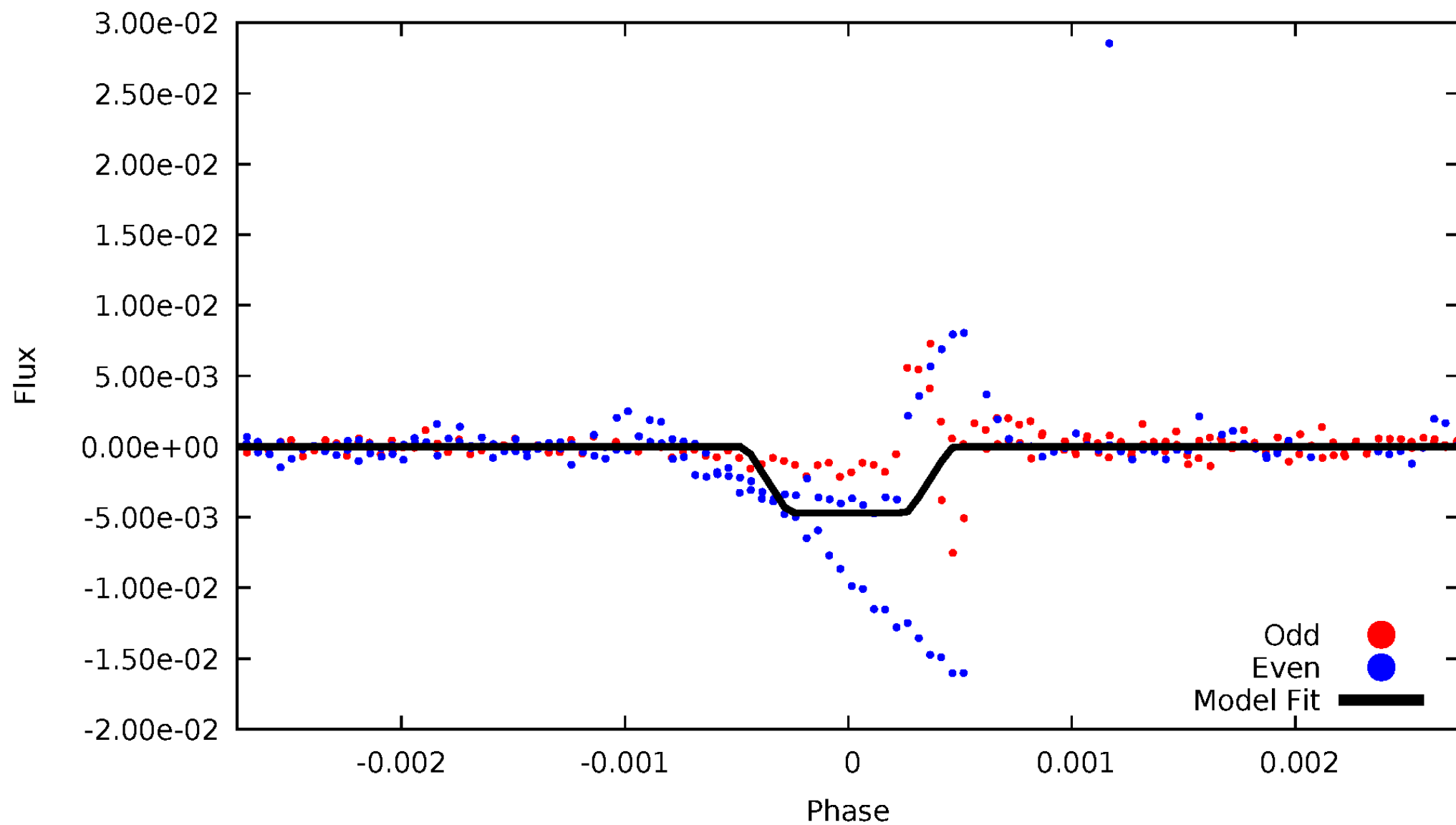
DV Odd/Even

TCE 006843185-05



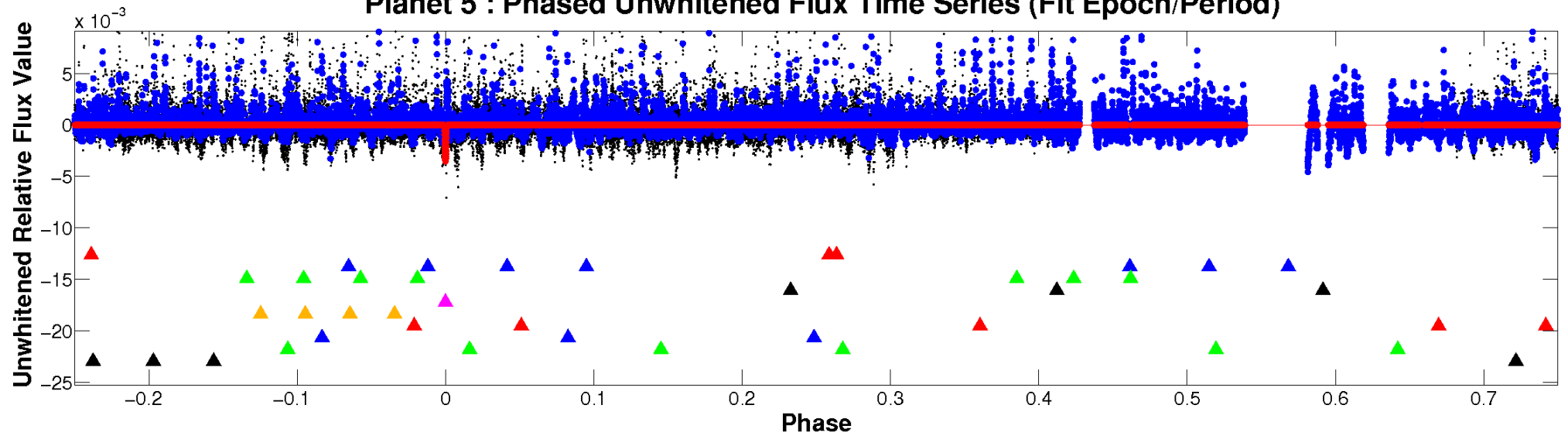
ALT Odd/Even

TCE 006843185-05

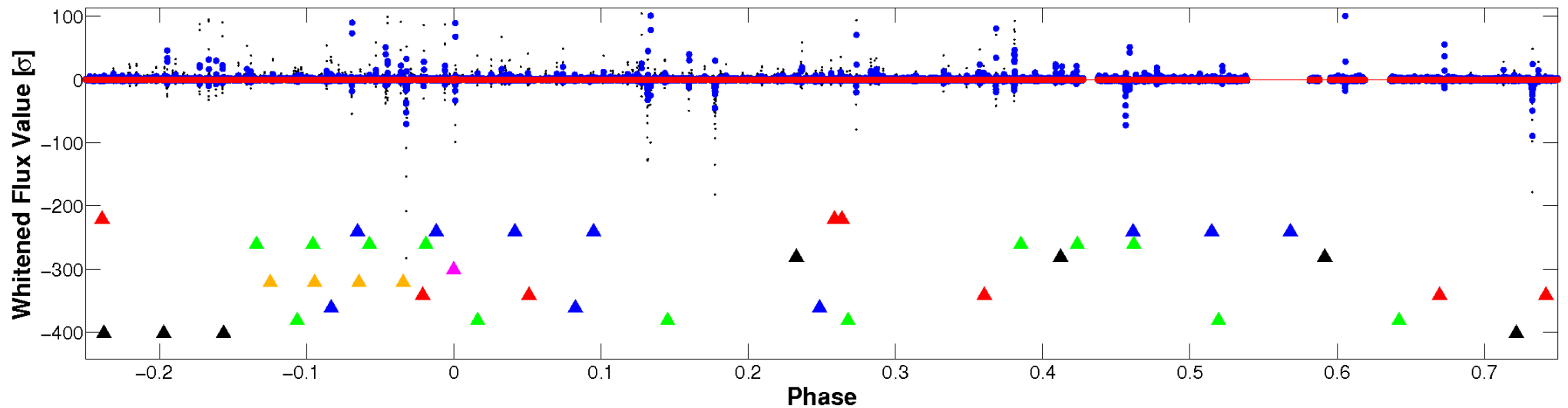


Non-Whitened Vs. Whitened Light Curve

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



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



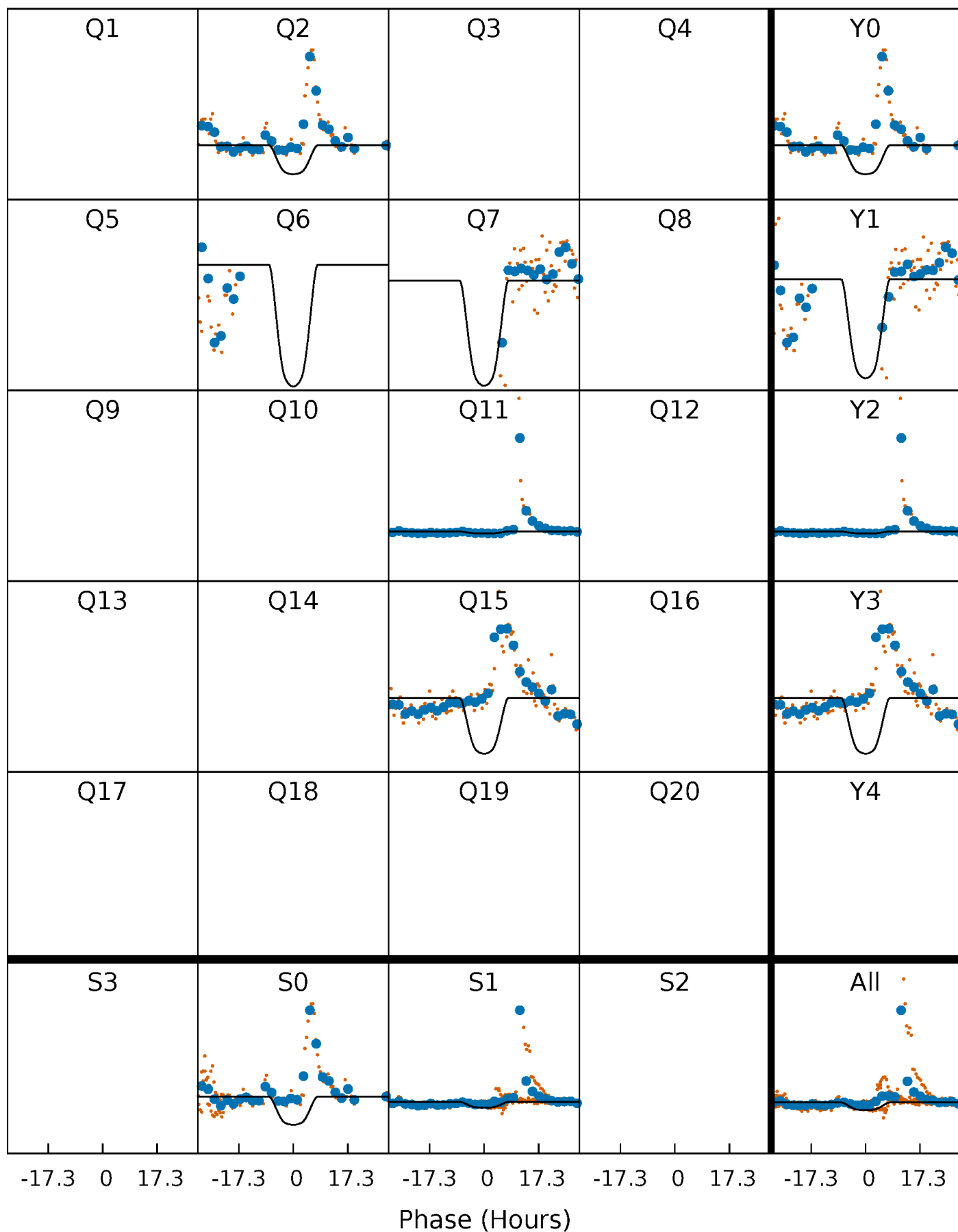
PDC Quarter-Phased Transit Curves

TCE 006843185-05 $P=407.362166$ Days $T_0=222.635926$ (BKJD)



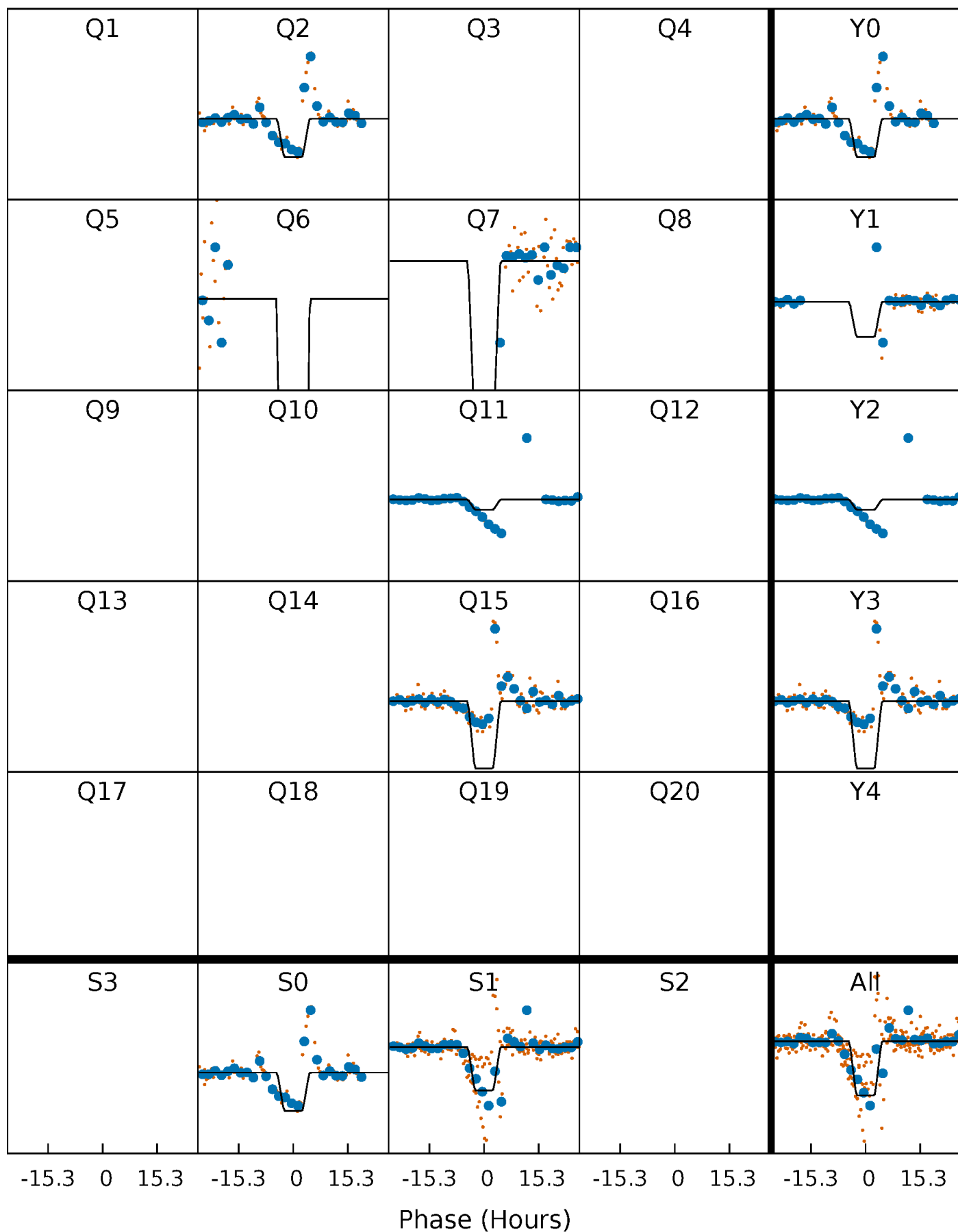
DV Quarter-Phased Transit Curves

TCE 006843185-05 $P=407.362166$ Days $T_0=222.635926$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

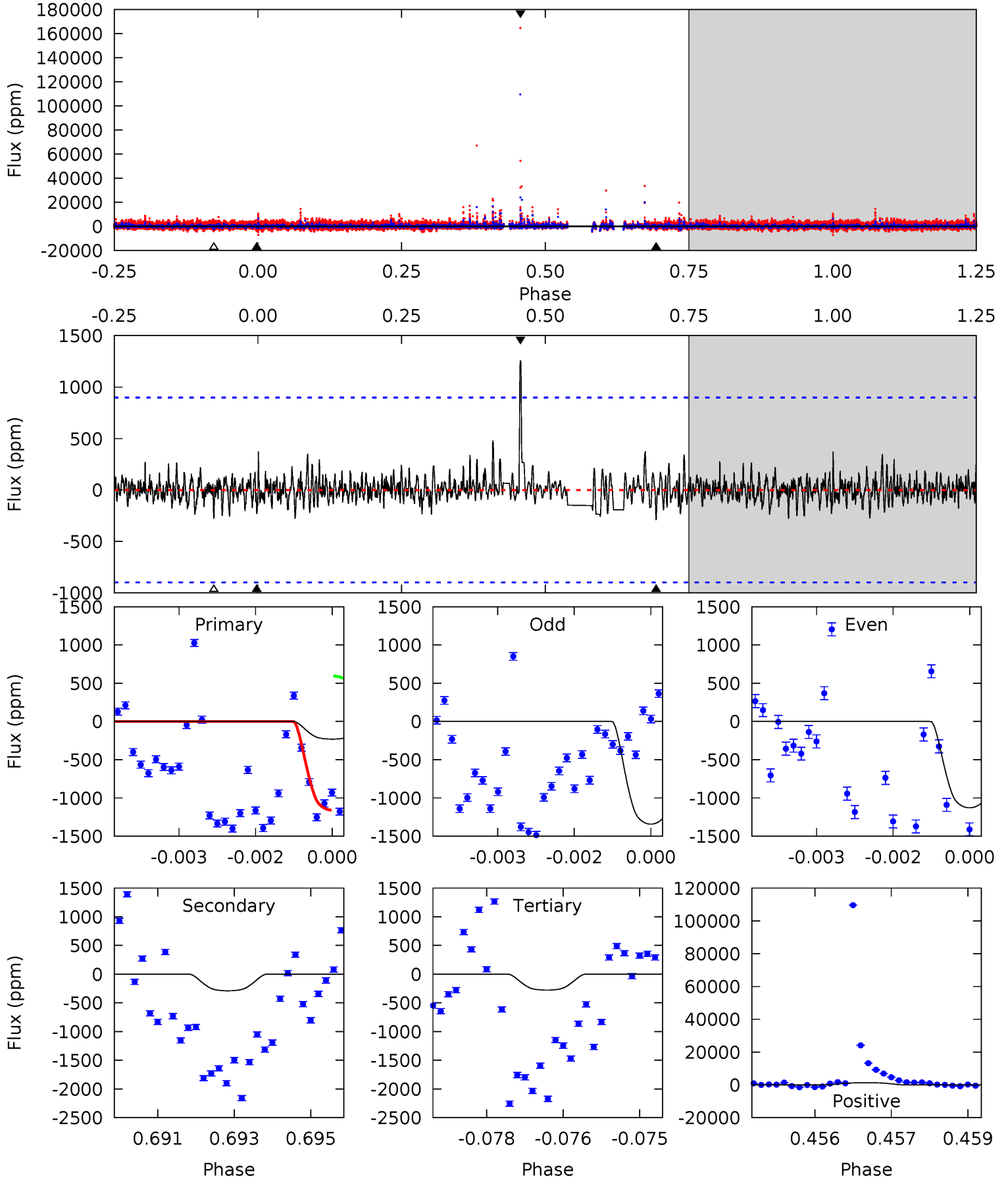
TCE 006843185-05 $P=407.363452$ Days $T_0=222.682130$ (BKJD)



DV Model-Shift Uniqueness Test

006843185-05, P = 407.362166 Days, E = 222.635926 Days

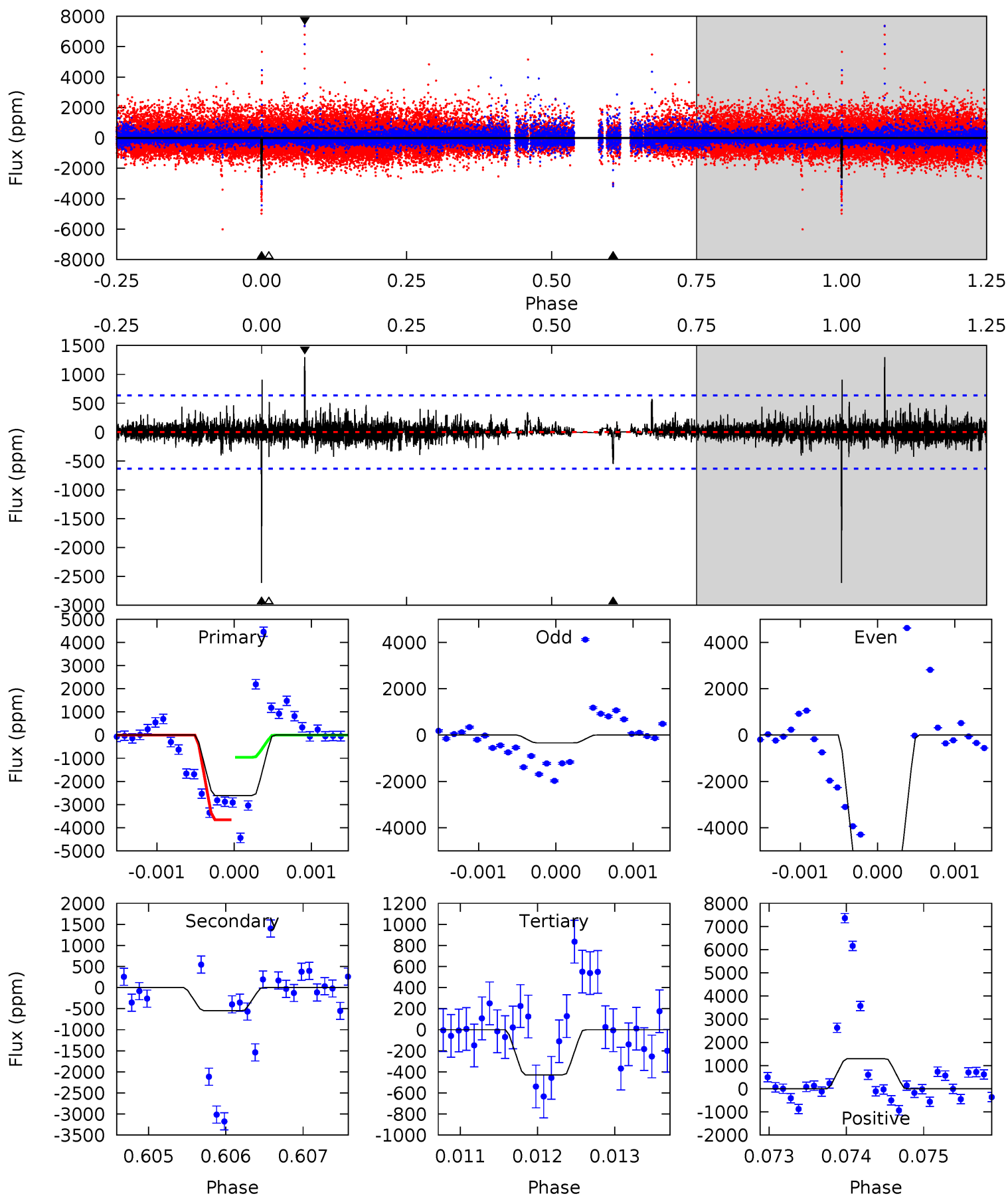
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.38	1.73	1.66	7.53	5.37	3.16	0.60	-0.28	-6.15	0.07	-5.80	0.41	-1.79	0.81	1.99



Alt Model-Shift Uniqueness Test

006843185-05, P = 407.363452 Days, E = 222.682130 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.4	4.73	3.69	11.1	5.46	3.30	0.88	18.7	11.3	1.04	-6.42	28.9	0.63	0.33	11.4



Stellar Parameters For KIC 006843185

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4331^{+142}_{-142}	$4.588^{+0.056}_{-0.017}$	$0.280^{+0.150}_{-0.300}$	$0.703^{+0.028}_{-0.057}$	$0.698^{+0.044}_{-0.049}$	$2.829^{+0.655}_{-0.190}$
	+3%/-3%	+1%/-0%	+54%/-107%	+4%/-8%	+6%/-7%	+23%/-7%
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 006843185-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-289 ± 167	$5.18^{+0.96}_{-1.02}$	228^{+8}_{-8}	2782^{+280}_{-330}	5296^{+5071}_{-3246}
Alt.	-550 ± 116	$5.23^{+0.94}_{-0.92}$	227^{+8}_{-8}	3040^{+227}_{-181}	9844^{+5936}_{-3199}

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 $A_{obs} \gg 1.0$

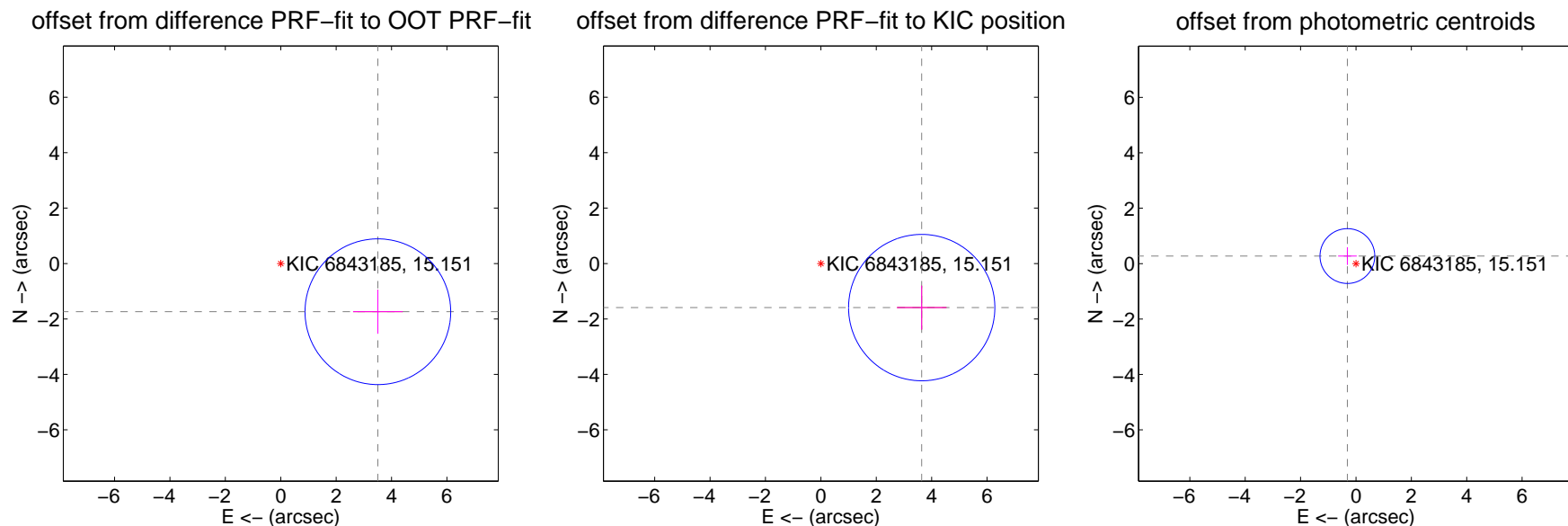
DV Centroid Data

Supplemental centroid analysis for 006843185-05. Kepler magnitude: 15.15. Transit SNR 10.81

There are 0 quarters with good PRF difference image offsets

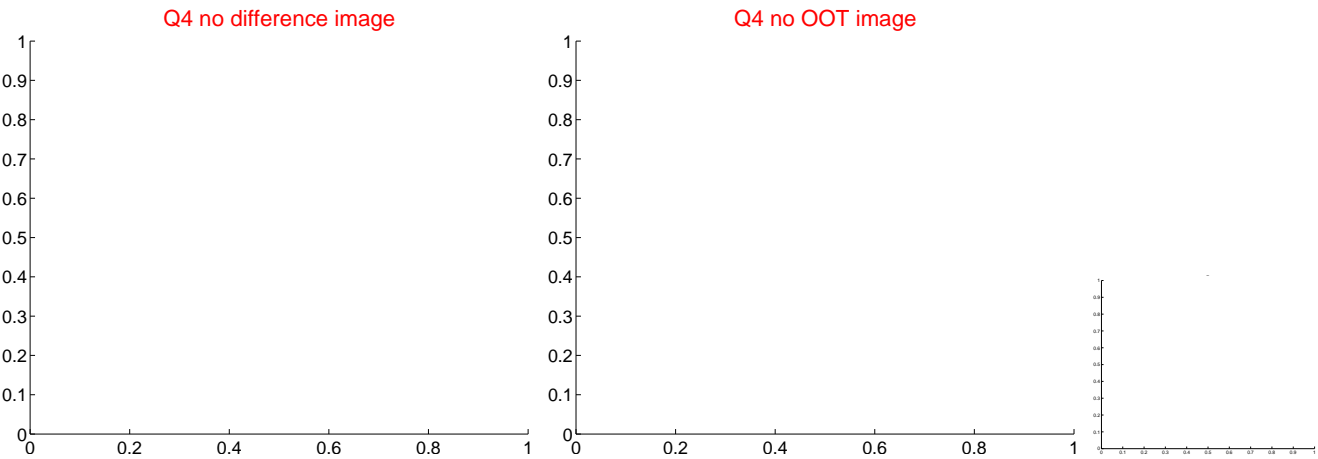
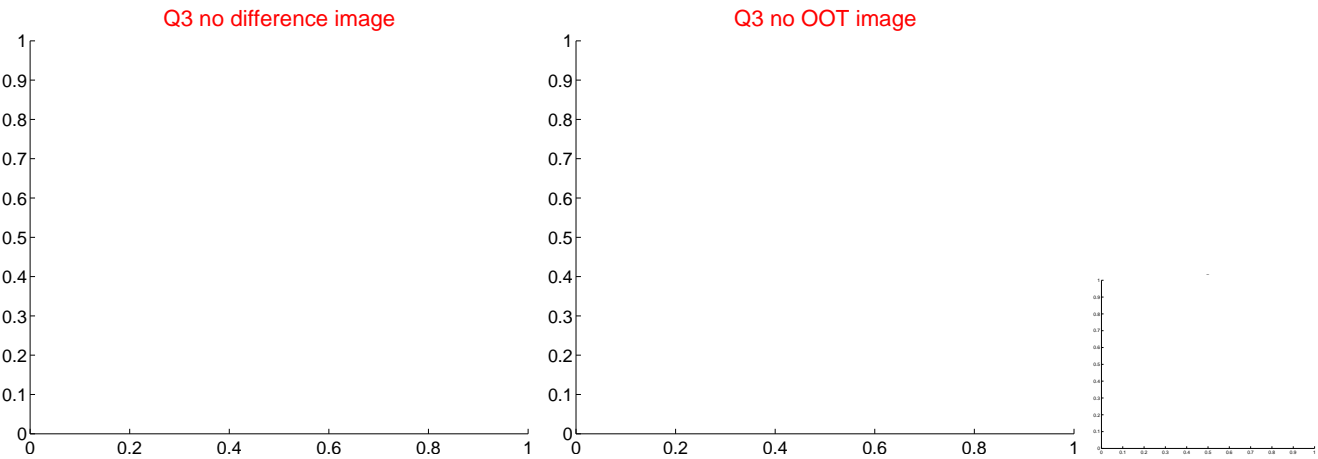
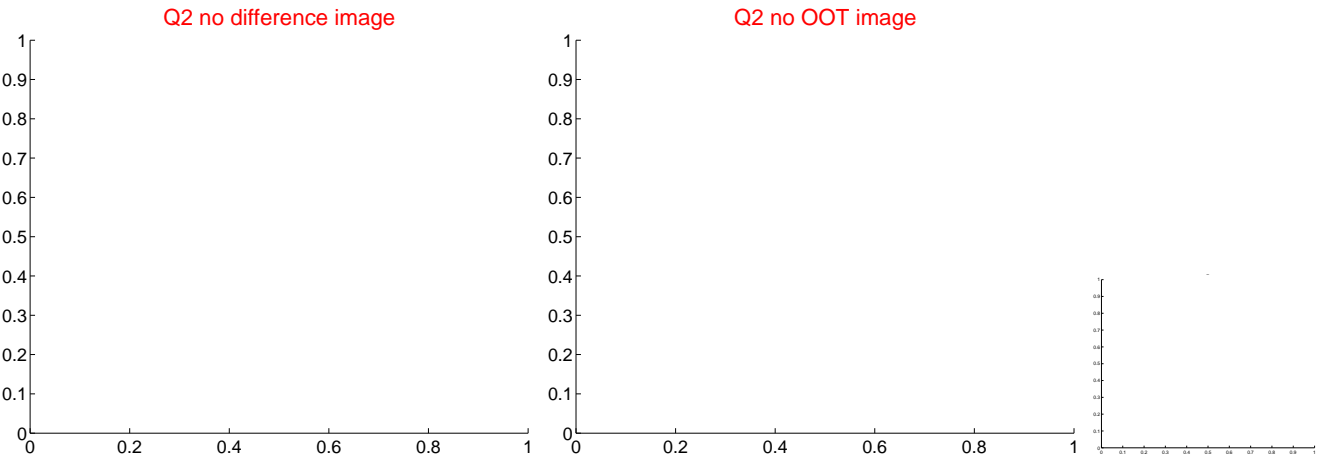
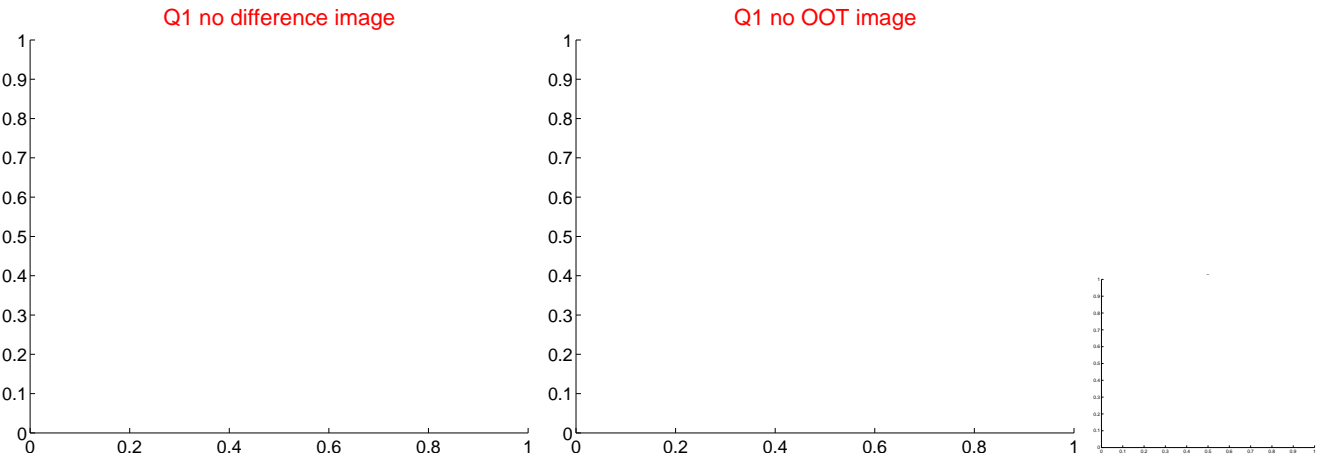
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.914 ± 0.877	4.46	-3.506 ± 0.896	-1.739 ± 0.793
PRF-fit source offset from KIC position	3.973 ± 0.880	4.51	-3.641 ± 0.896	-1.590 ± 0.793
photometric centroid source offset	0.41 ± 0.33	1.25	0.31 ± 0.34	0.27 ± 0.32

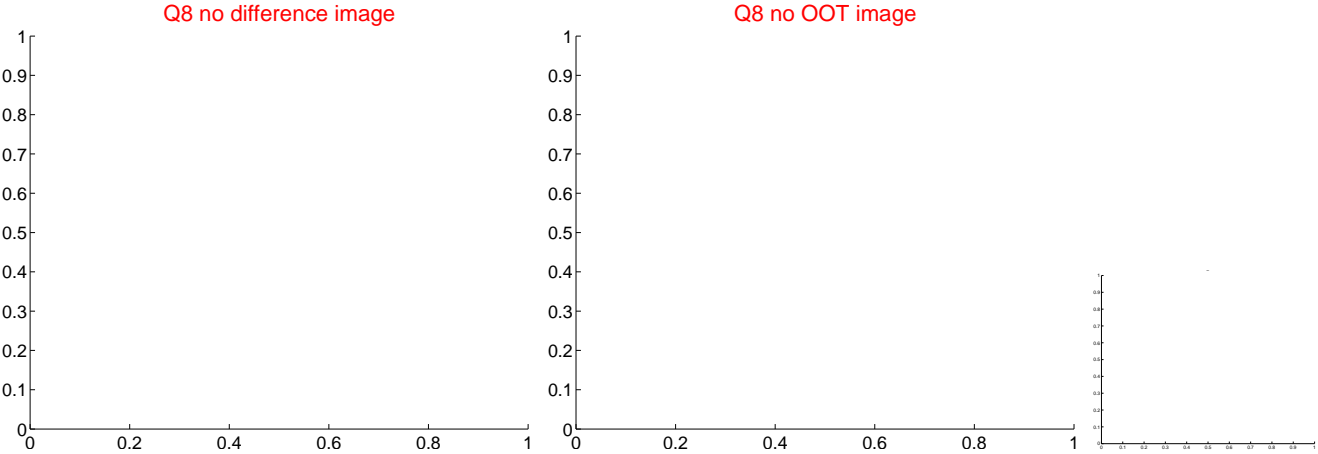
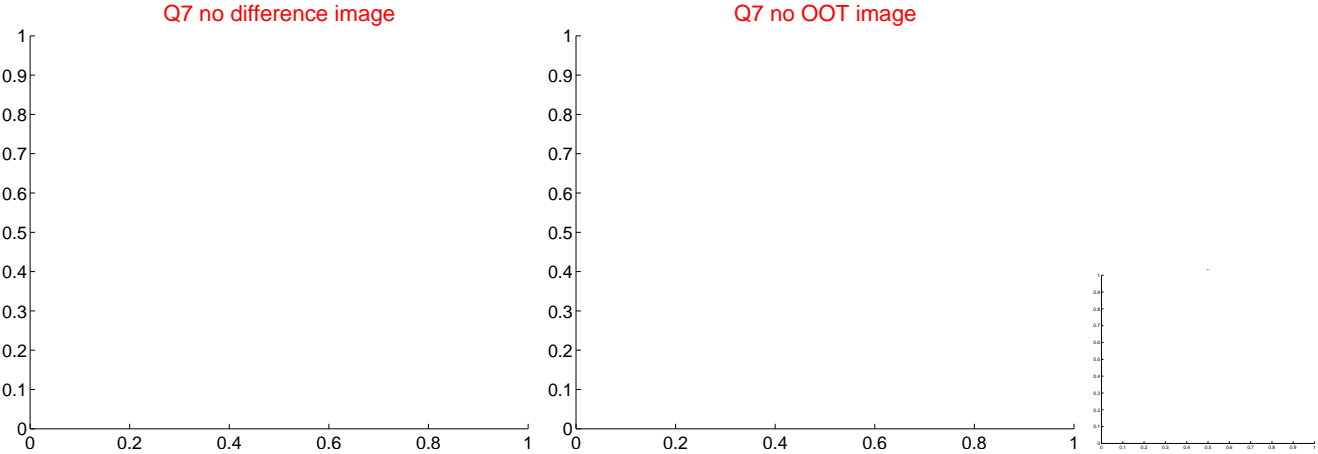
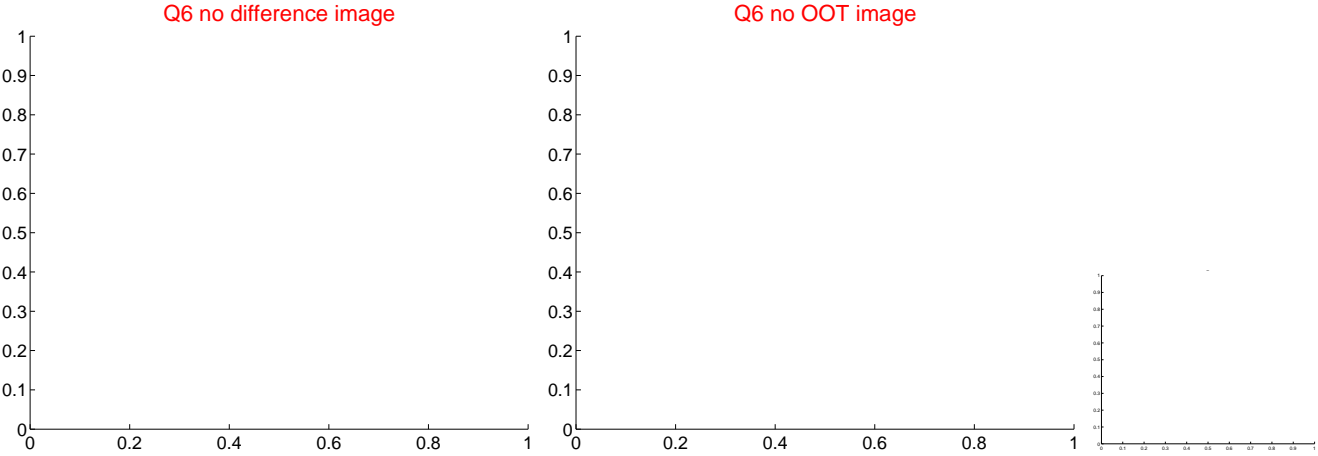
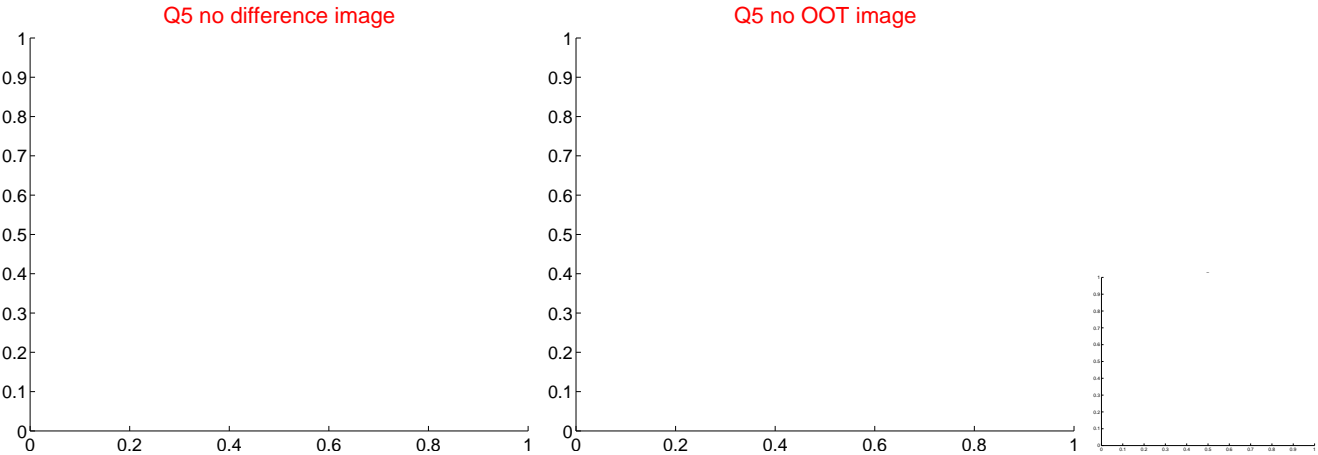


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



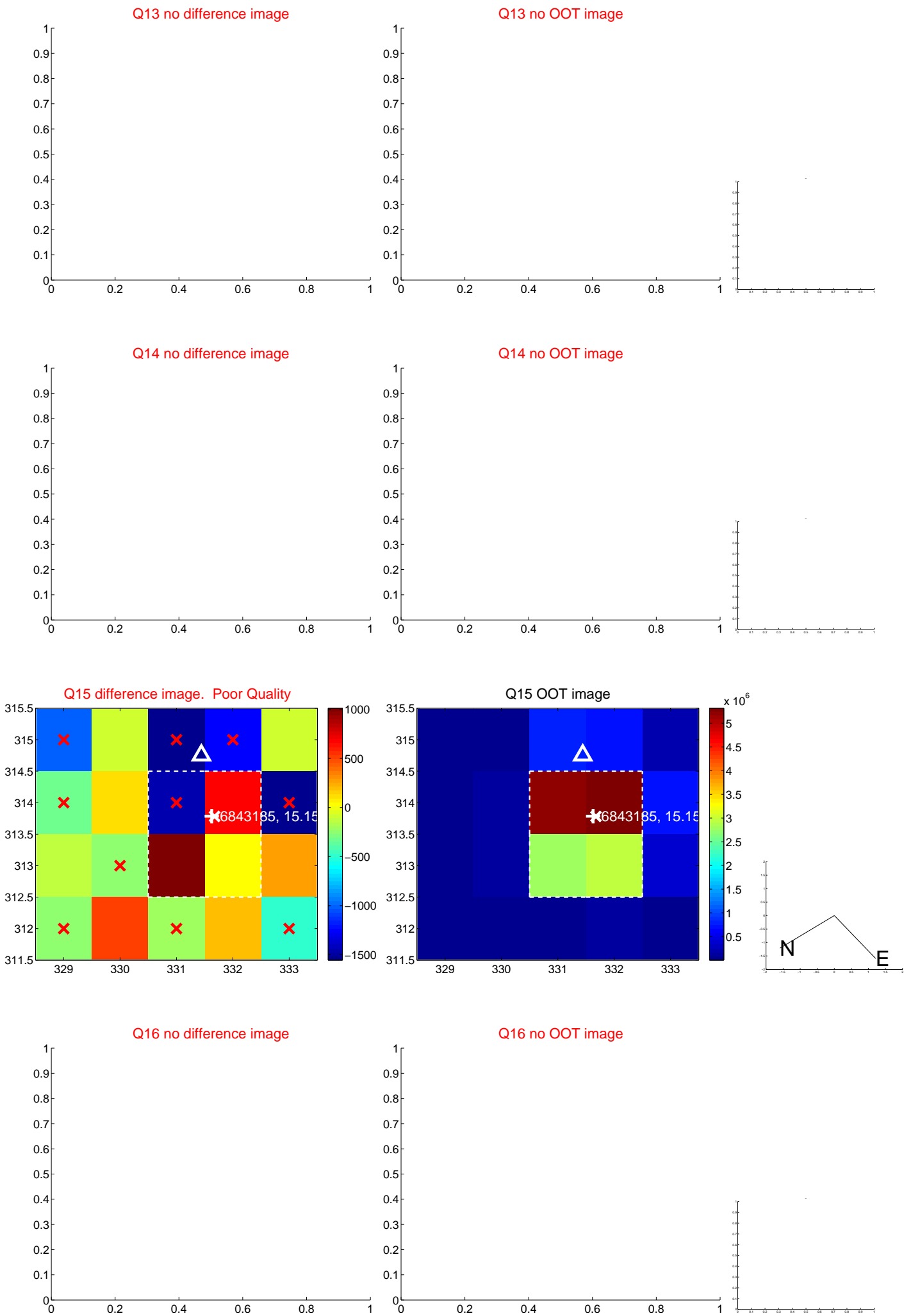
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



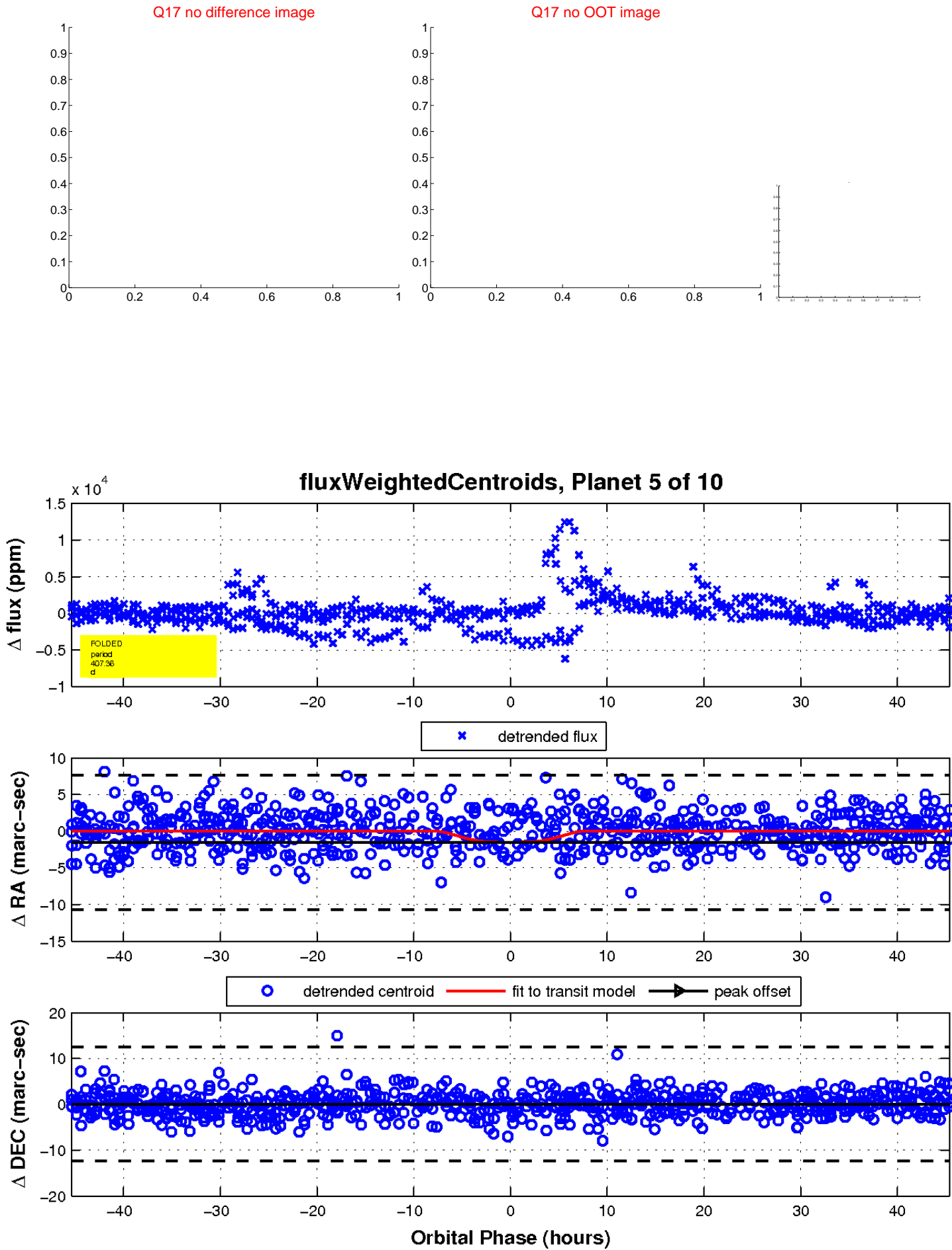
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

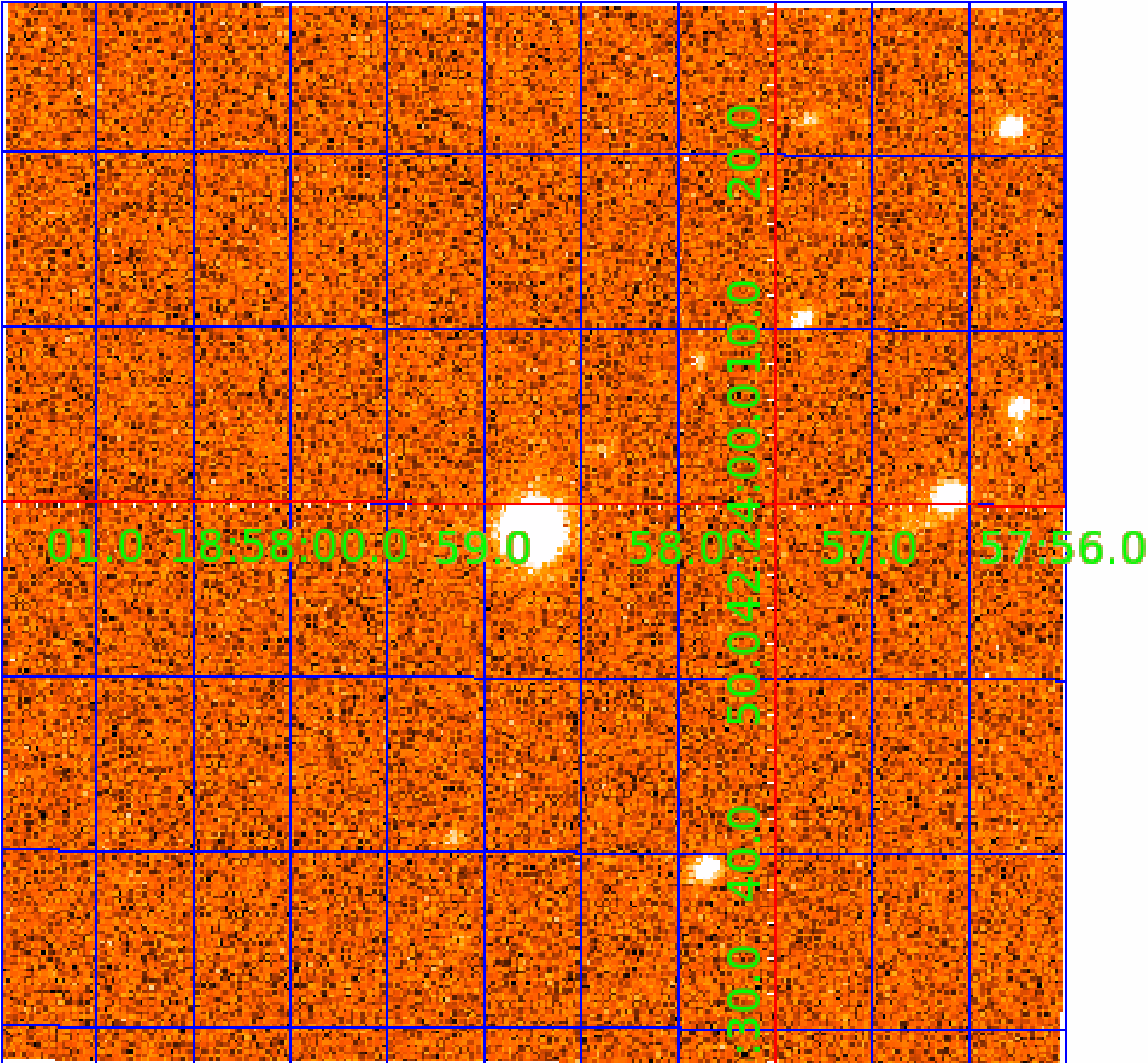


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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006843185-03	OBS	No	211.494807	168.060866	2874.5	17.193	13.1	12.6	0.70	4331	4.10	0.41
006843185-04	OBS	No	480.464997	317.440449	1747.0	22.354	14.9	5.0	0.70	4331	2.80	0.14
006843185-05	OBS	No	407.362166	222.635926	3522.6	15.164	12.9	10.8	0.70	4331	5.25	0.17
006843185-06	OBS	No	419.620189	171.880141	2311.0	10.794	14.4	8.0	0.70	4331	3.36	0.16
006843185-07	OBS	No	281.377772	214.045871	2059.1	5.569	13.0	9.2	0.70	4331	3.03	0.28
006843185-08	OBS	No	474.926569	188.740311	1305.4	4.181	12.8	4.6	0.70	4331	2.48	0.14
006843185-09	OBS	No	254.929310	229.253445	2118.2	11.457	12.6	8.8	0.70	4331	4.02	0.32
006843185-10	OBS	No	390.800507	158.970898	17.4	0.893	12.2	0.0	0.70	4331	0.29	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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006843185-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-03	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
006843185-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-08	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—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-09	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
006843185-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

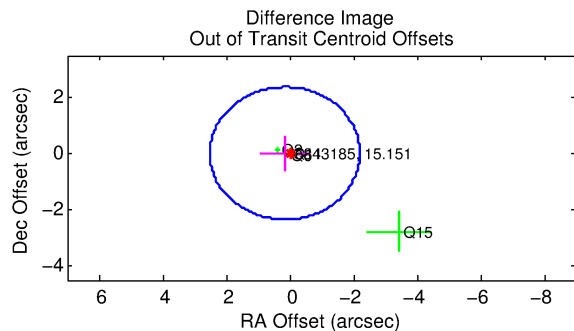
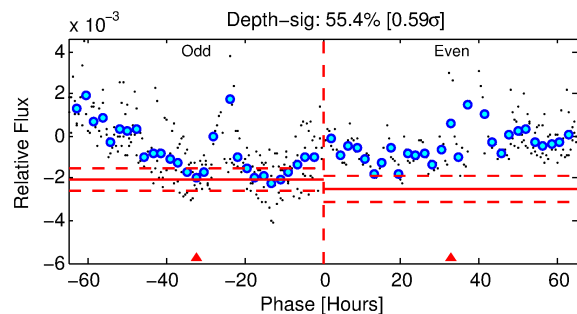
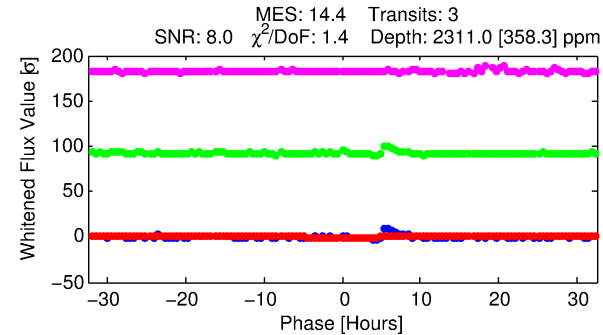
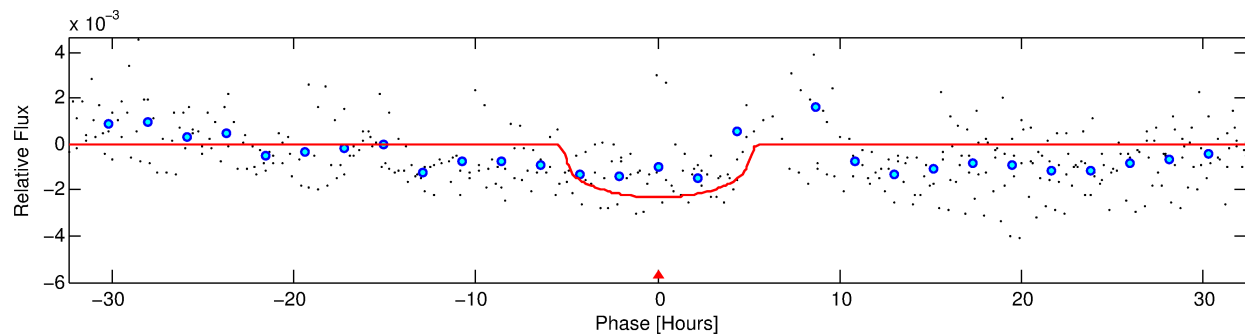
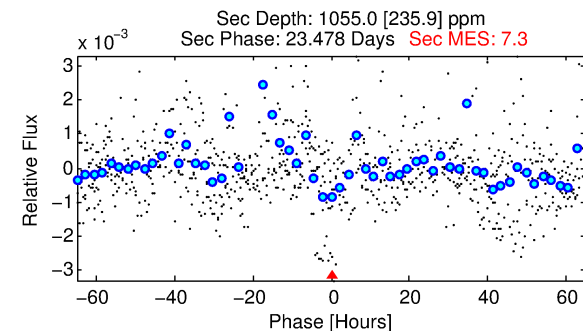
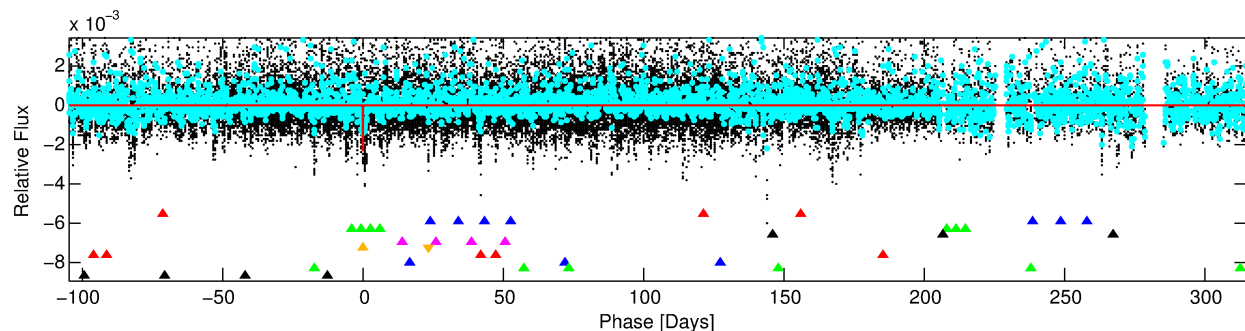
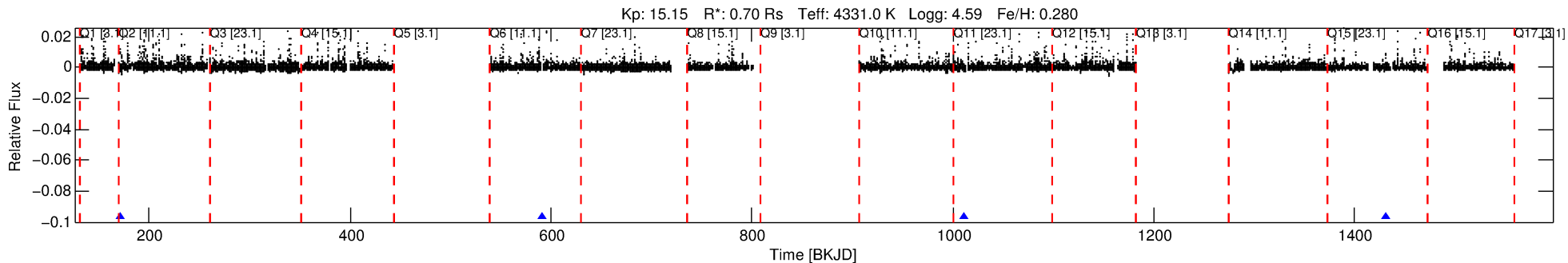
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006843185-06

No Significant Match Found

DV One-Page Summary

KIC: 6843185 Candidate: 6 of 10 Period: 419.620 d



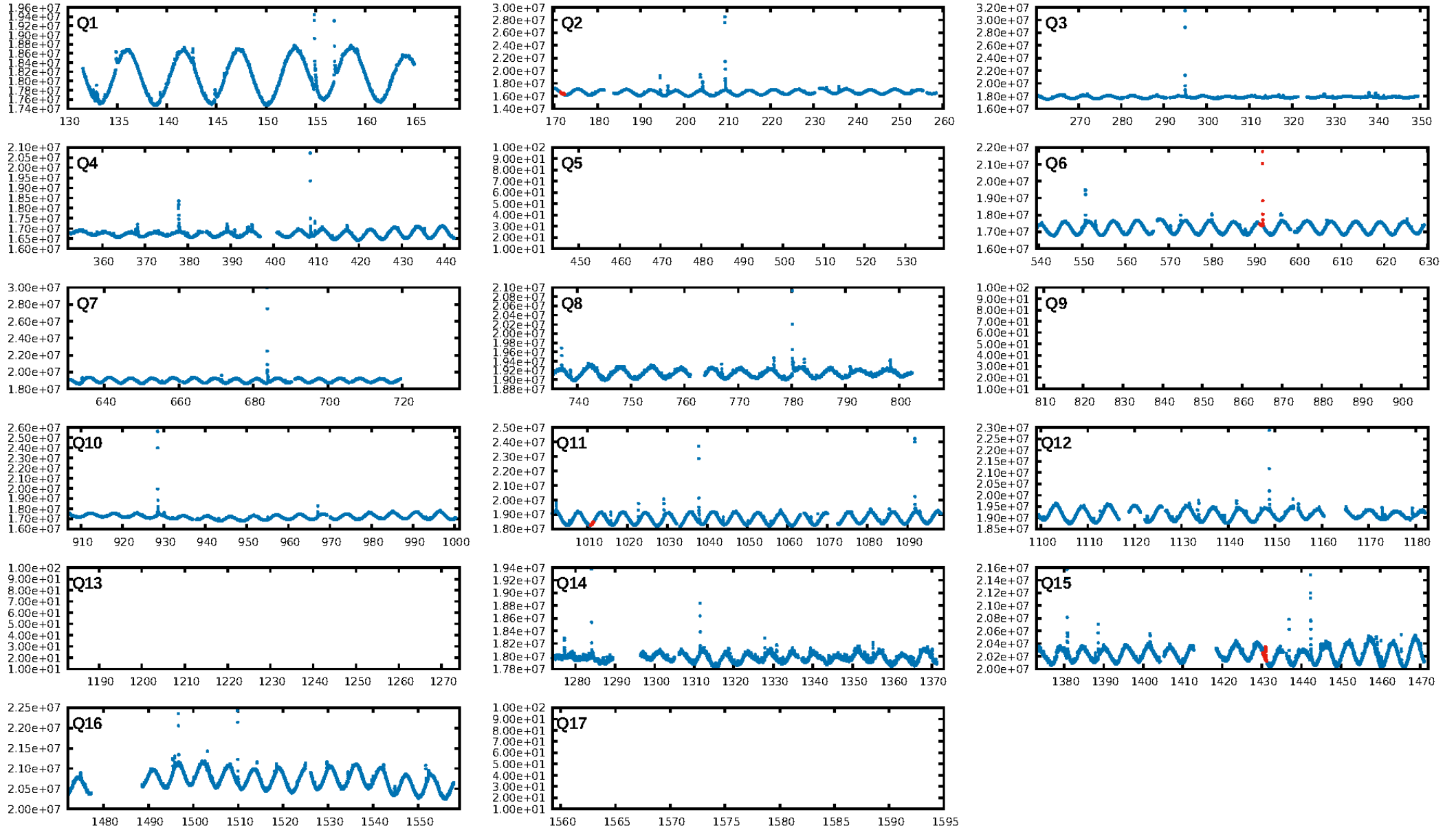
DV Fit Results:

Period = 419.62019 [0.00596] d
Epoch = 171.8801 [0.0134] BKJD
Rp/R* = 0.0438 [0.0156]
a/R* = 275.35 [270.31]
b = 0.48 [1.60]
Seff = 0.16 [0.03]
Teq = 162 [7] K
Rp = 3.36 [1.23] Re
a = 0.9733 [0.0672] AU
Ag = 48689.16 [36745.19] [1.33σ]
Teffp = 3729 [708] K [5.04σ]

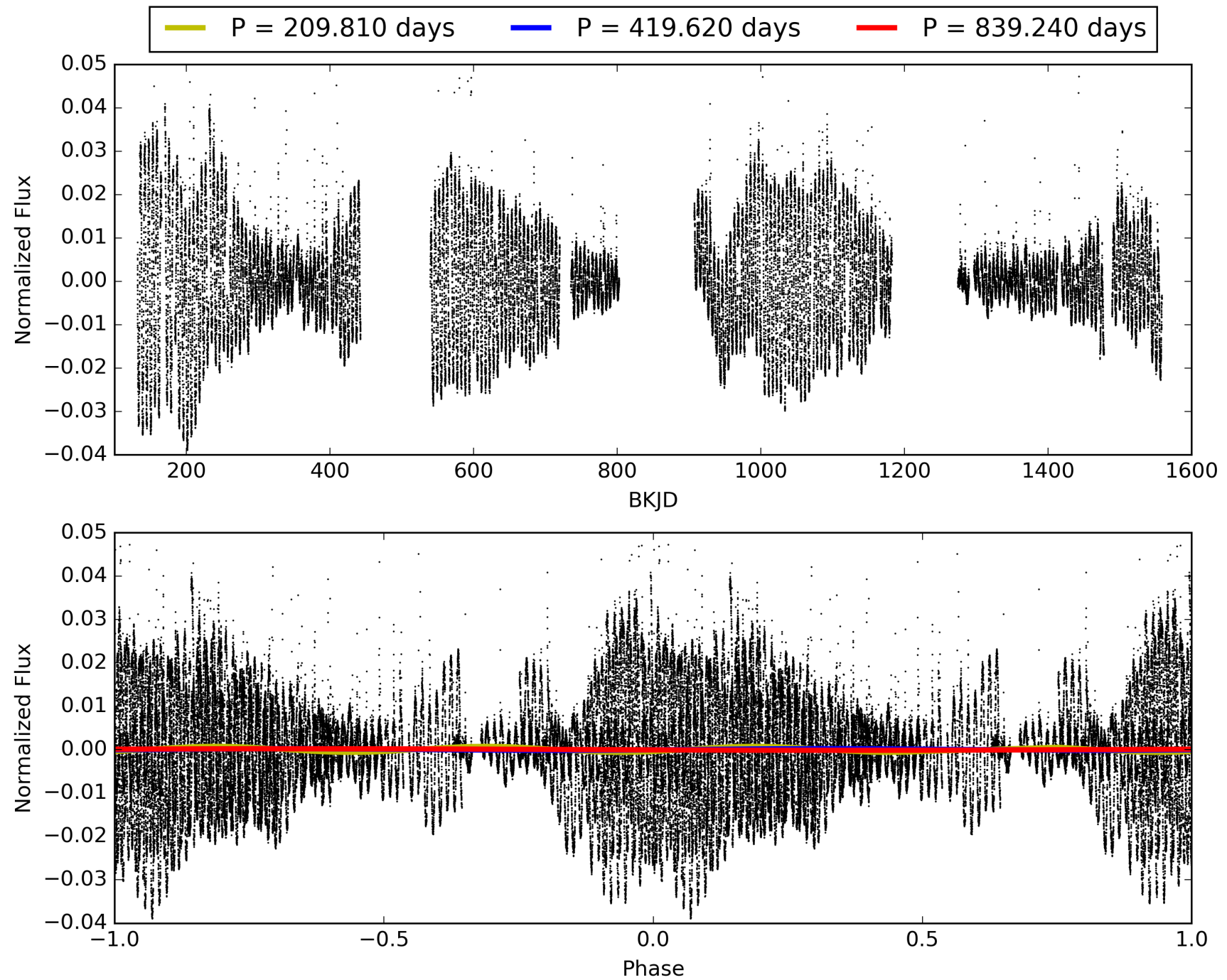
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [15.81σ]
LongPeriod-sig: 100.0% [114.67σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 52.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -18.41
Centroid-sig: 88.5%
Centroid-so: 0.265 arcsec [0.56σ]
OotOffset-rm: 0.156 arcsec [0.20σ]
OotOffset-st: 2/2/0/0 [4]
KicOffset-rm: 0.151 arcsec [0.23σ]
KicOffset-st: 2/2/0/0 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 0.75 [3/4]

TCE 006843185-06, PDC Light Curves

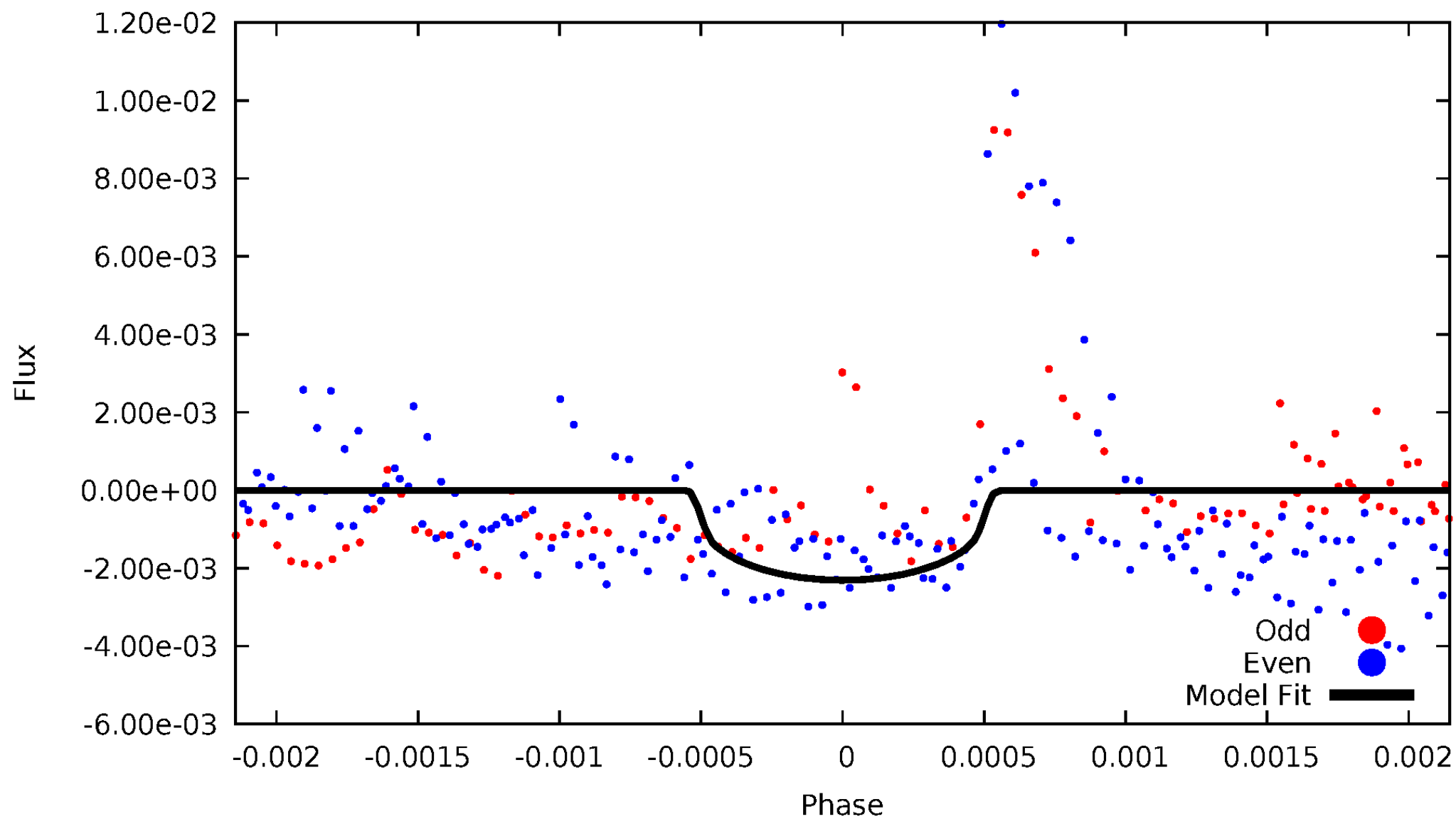


TCE 006843185-06



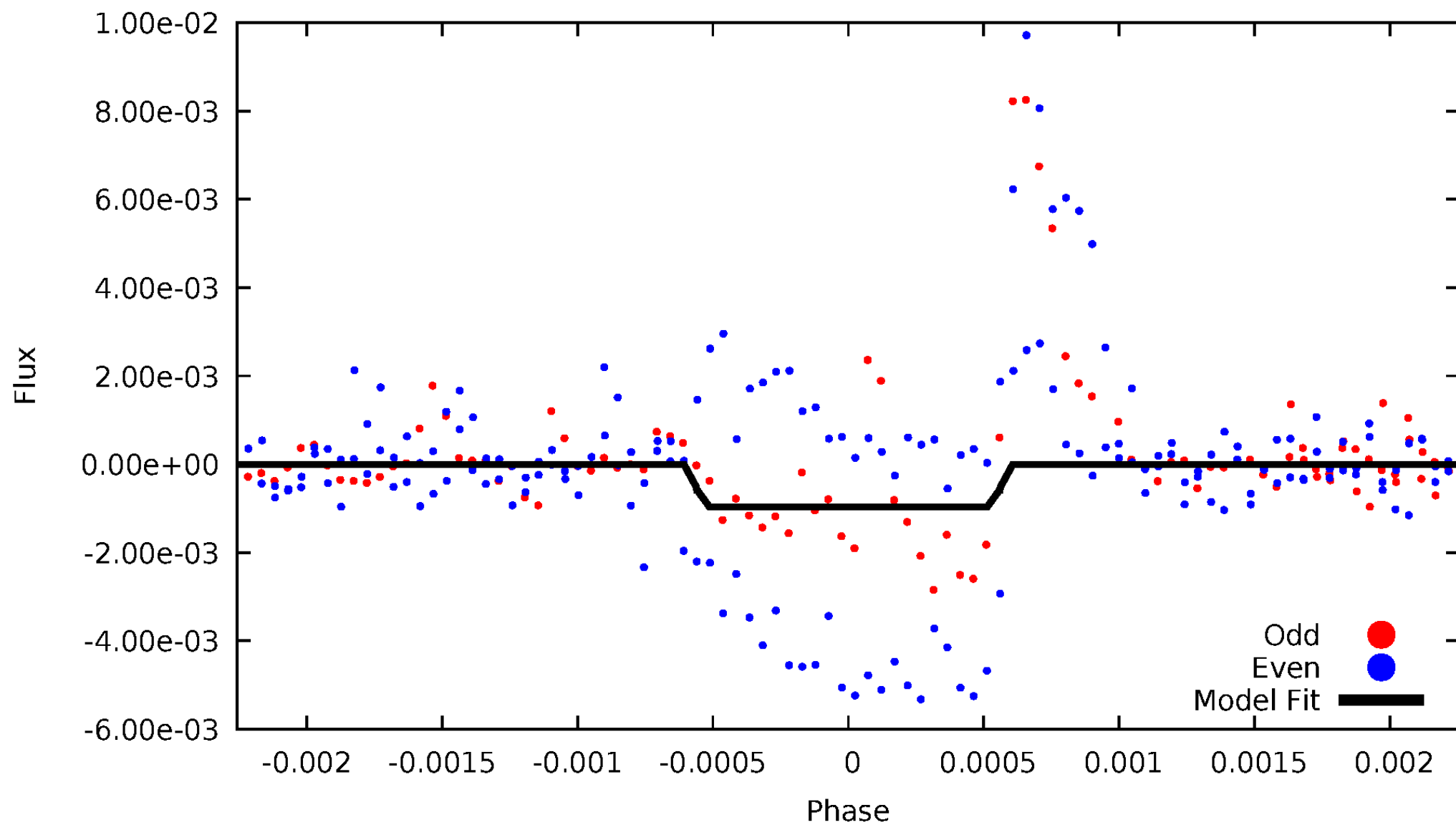
DV Odd/Even

TCE 006843185-06



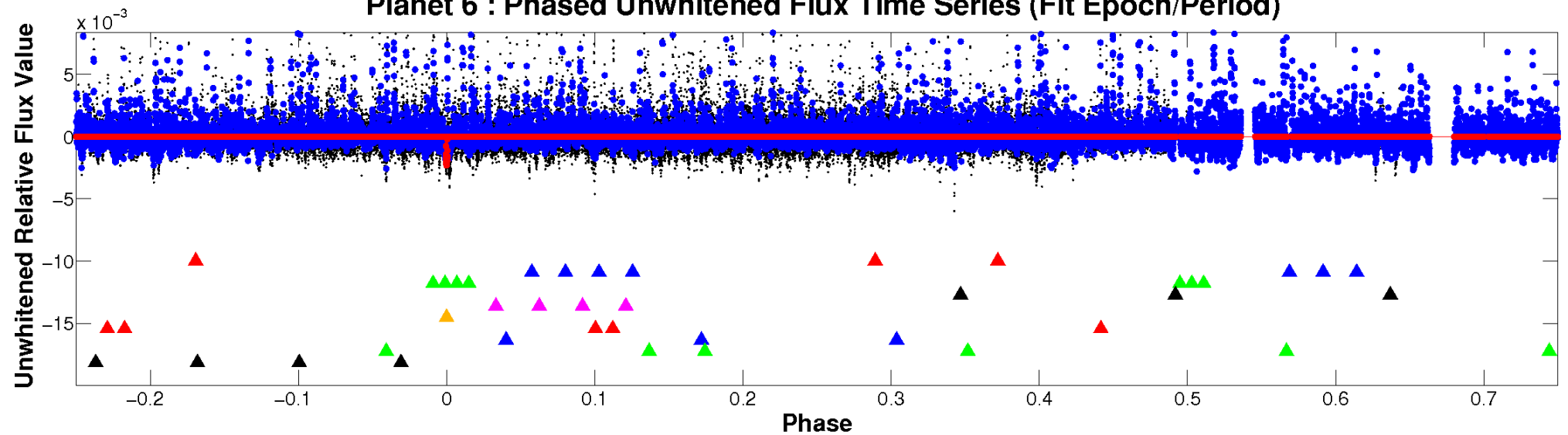
ALT Odd/Even

TCE 006843185-06

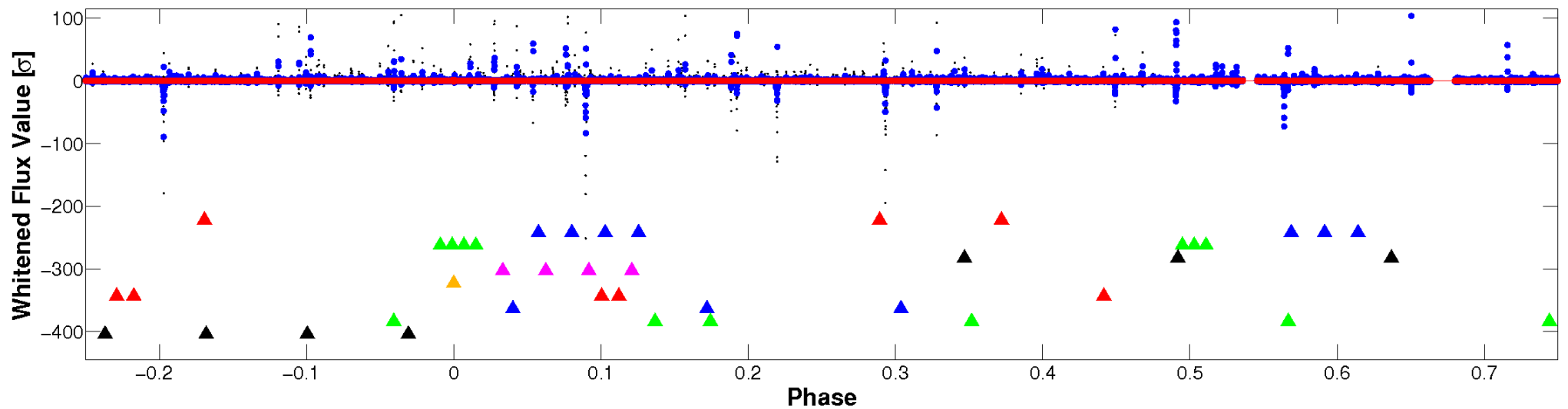


Non-Whitened Vs. Whitened Light Curve

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

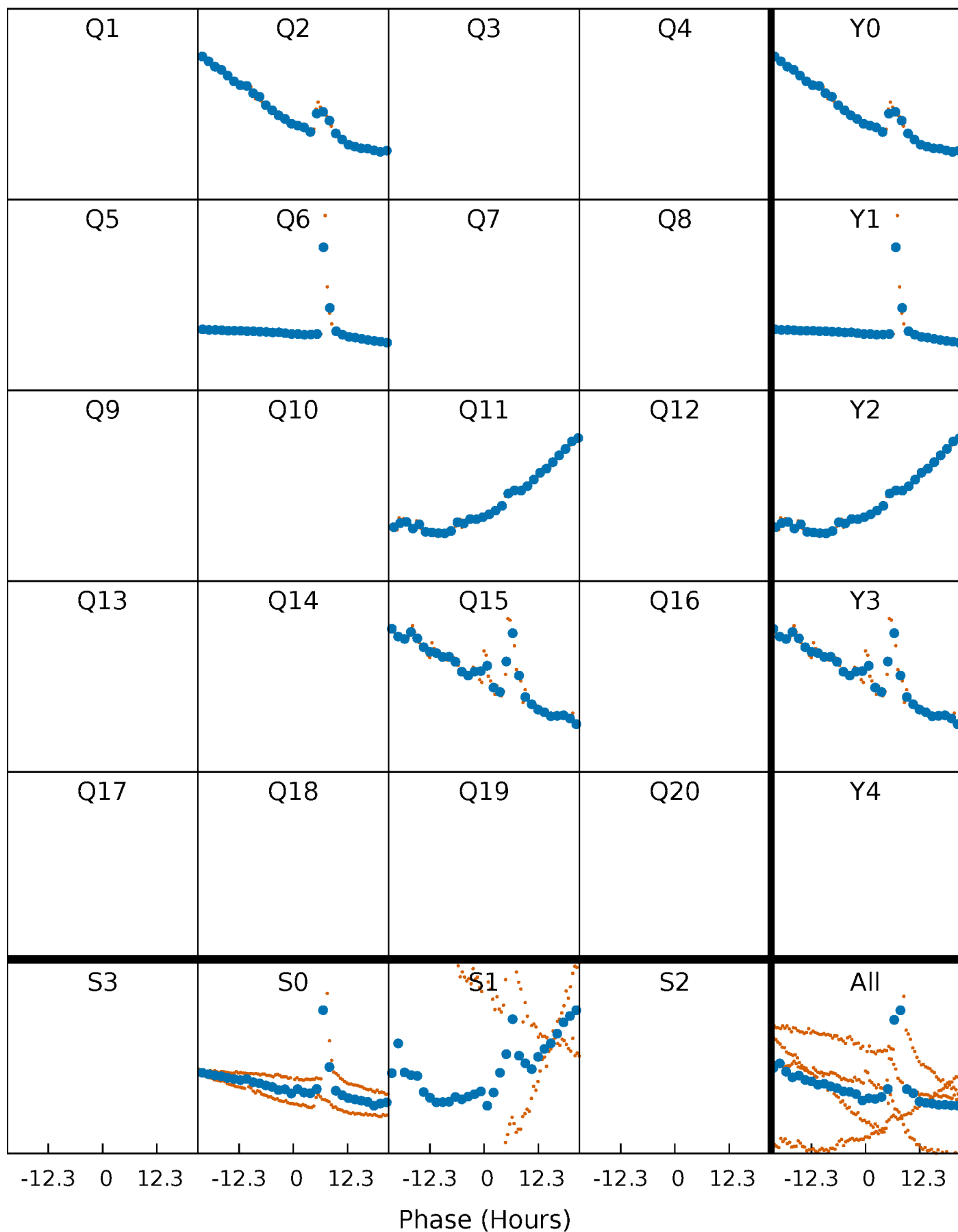


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



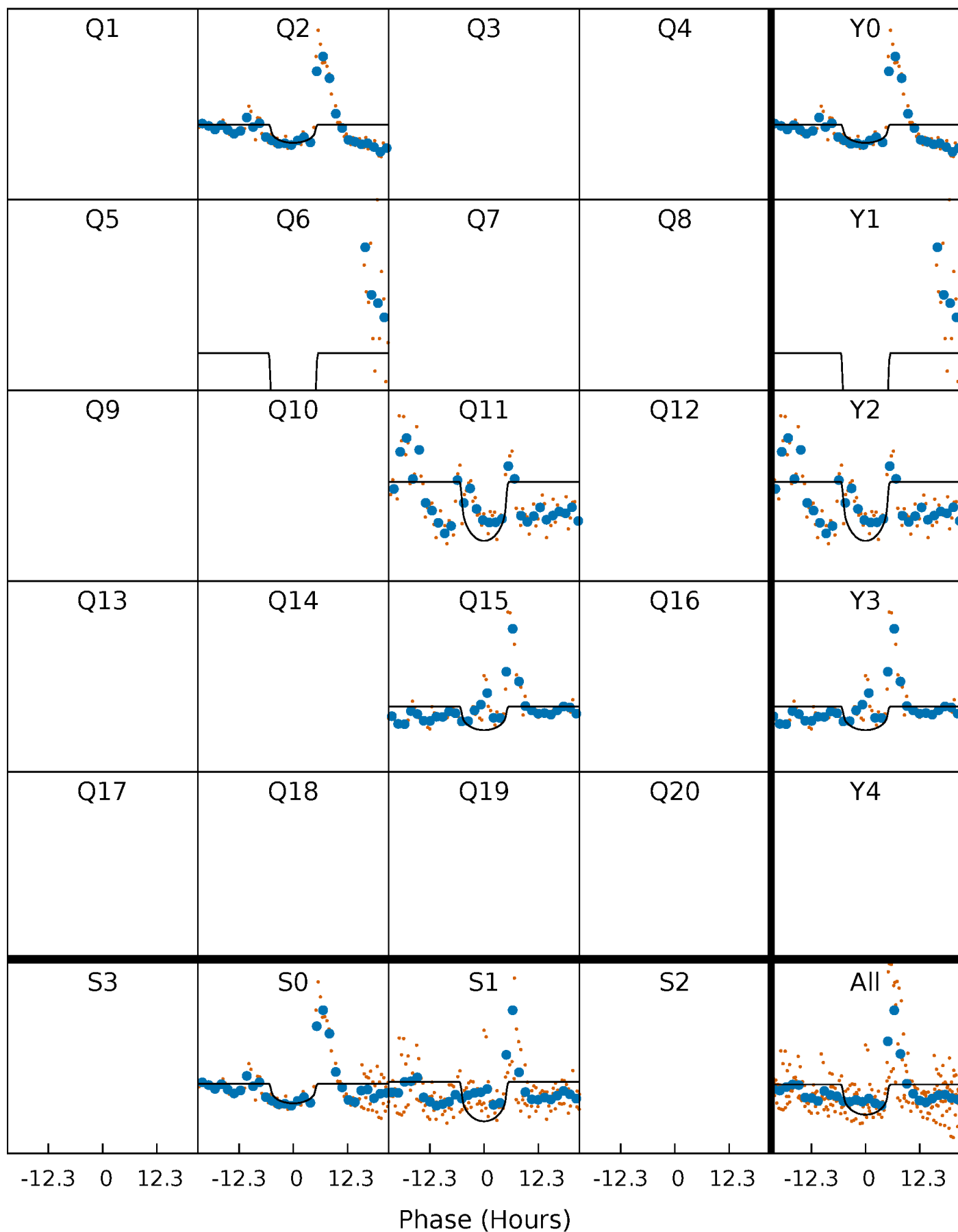
PDC Quarter-Phased Transit Curves

TCE 006843185-06 P=419.620189 Days $T_0=171.880141$ (BKJD)



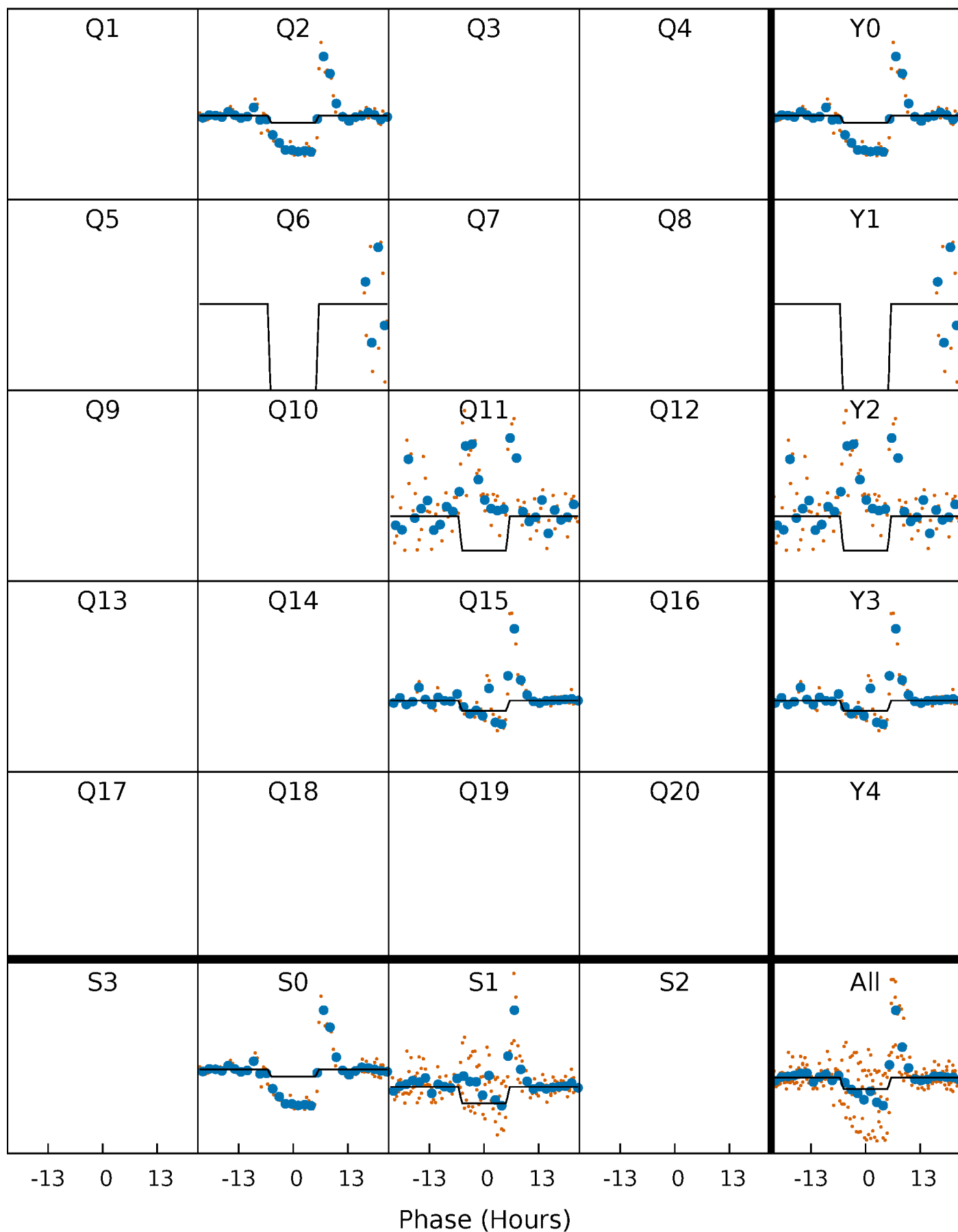
DV Quarter-Phased Transit Curves

TCE 006843185-06 P=419.620189 Days $T_0=171.880141$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

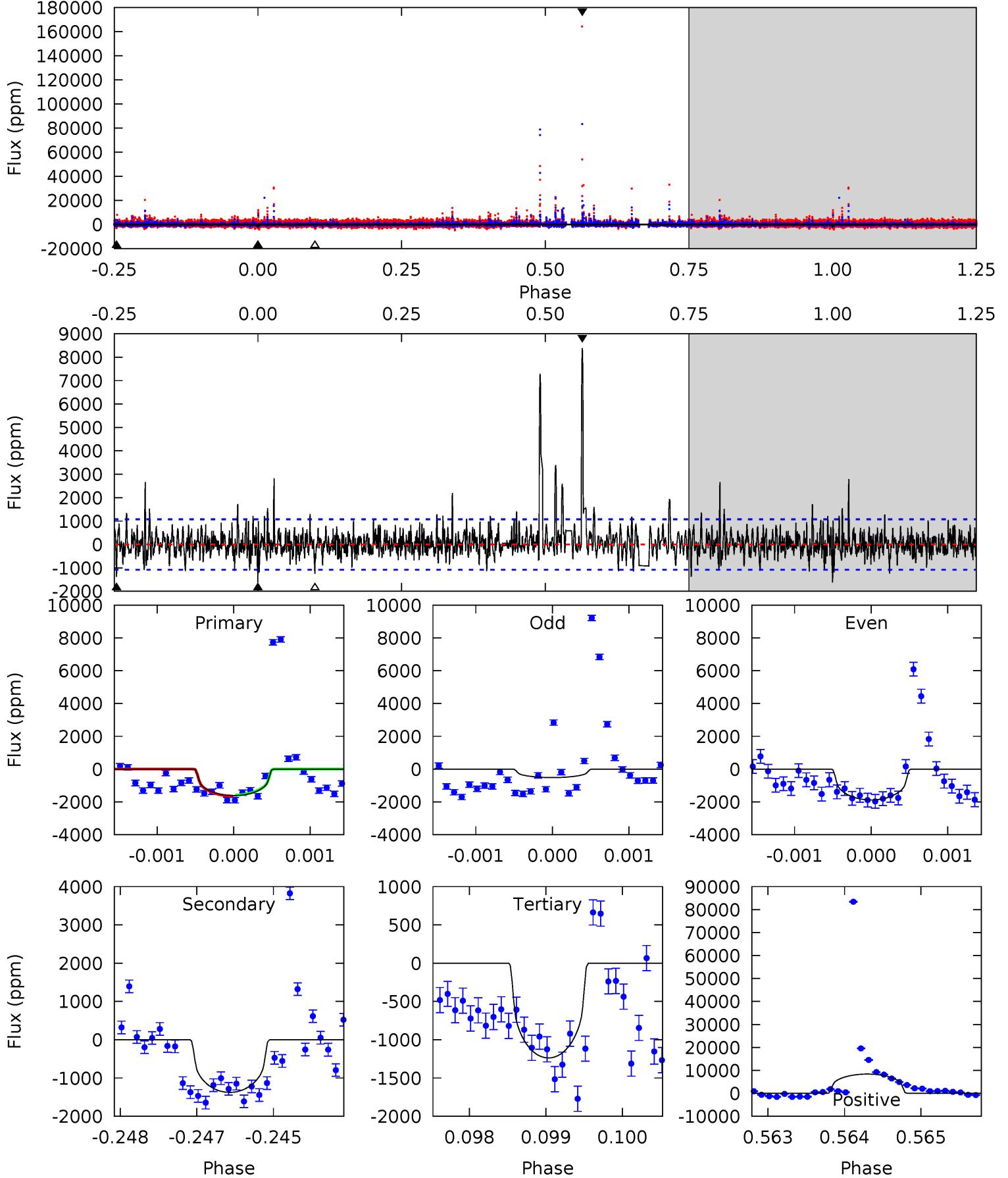
TCE 006843185-06 P=419.623588 Days $T_0=171.839636$ (BKJD)



DV Model-Shift Uniqueness Test

006843185-06, P = 419.620189 Days, E = 171.880141 Days

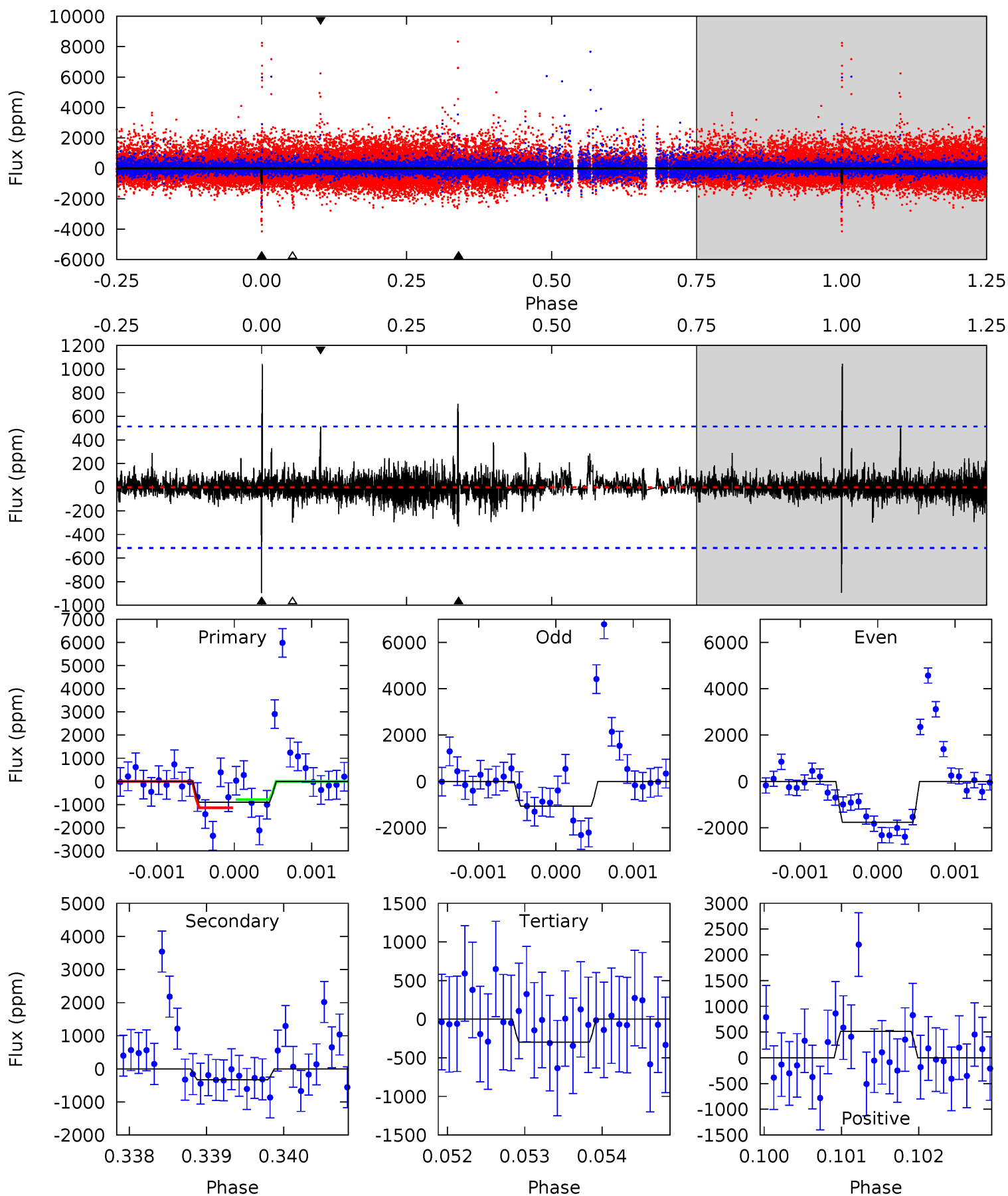
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.15	6.93	6.24	42.3	5.44	3.27	2.73	1.92	-34.1	0.69	-35.3	2.09	1.07	0.84	0



Alt Model-Shift Uniqueness Test

006843185-06, P = 419.623588 Days, E = 171.839636 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.45	3.49	3.16	5.42	5.43	3.26	0.72	6.29	4.03	0.34	-1.93	3.92	1.36	0.54	1.77



Stellar Parameters For KIC 006843185

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4331^{+142}_{-142}	$4.588^{+0.056}_{-0.017}$	$0.280^{+0.150}_{-0.300}$	$0.703^{+0.028}_{-0.057}$	$0.698^{+0.044}_{-0.049}$	$2.829^{+0.655}_{-0.190}$
	+3%/-3%	+1%/-0%	+54%/-107%	+4%/-8%	+6%/-7%	+23%/-7%
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 006843185-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1374 ± 198	$3.27^{+1.07}_{-1.17}$	225^{+8}_{-8}	4102^{+746}_{-433}	$65767^{+100114}_{-29573}$
Alt.	-331 ± 95	$2.41^{+1.10}_{-1.18}$	225^{+8}_{-8}	3569^{+937}_{-448}	30749^{+78633}_{-17596}

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

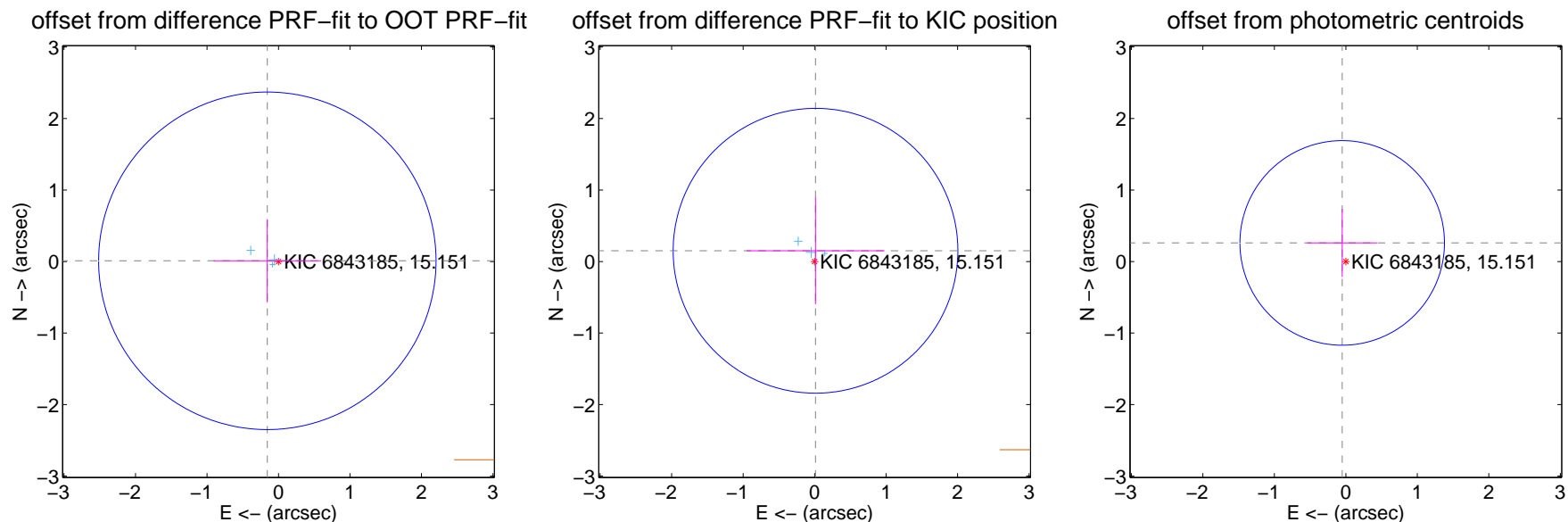
DV Centroid Data

Supplemental centroid analysis for 006843185-06. Kepler magnitude: 15.15. Transit SNR 8.01

There are 3 quarters with good PRF difference image offsets

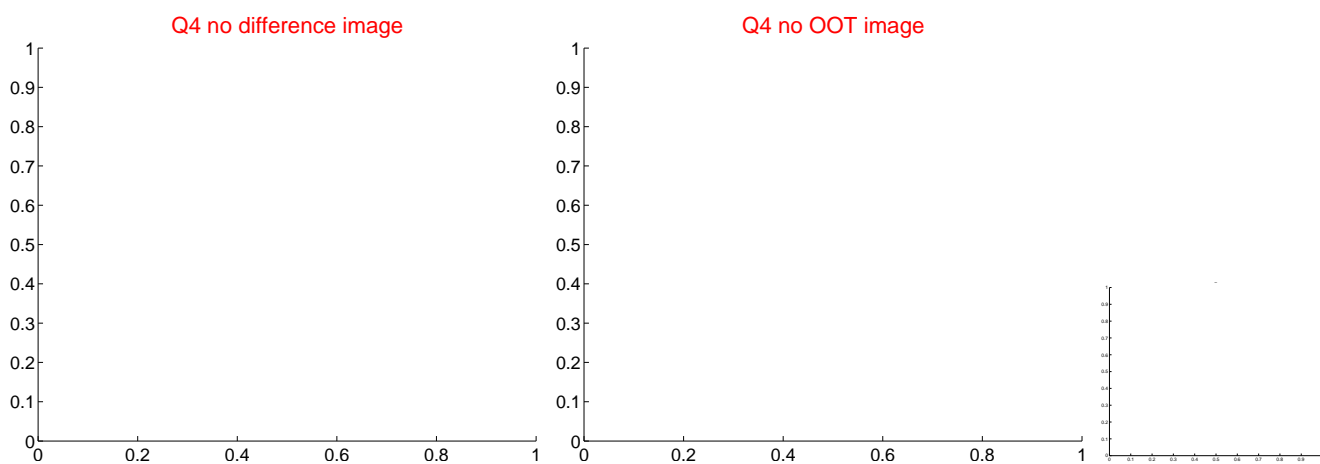
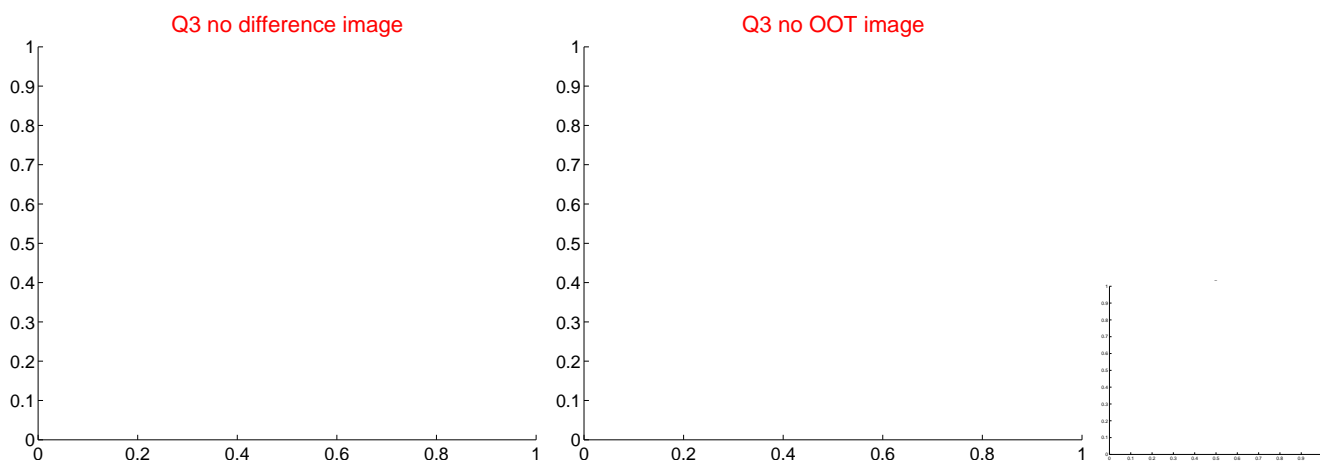
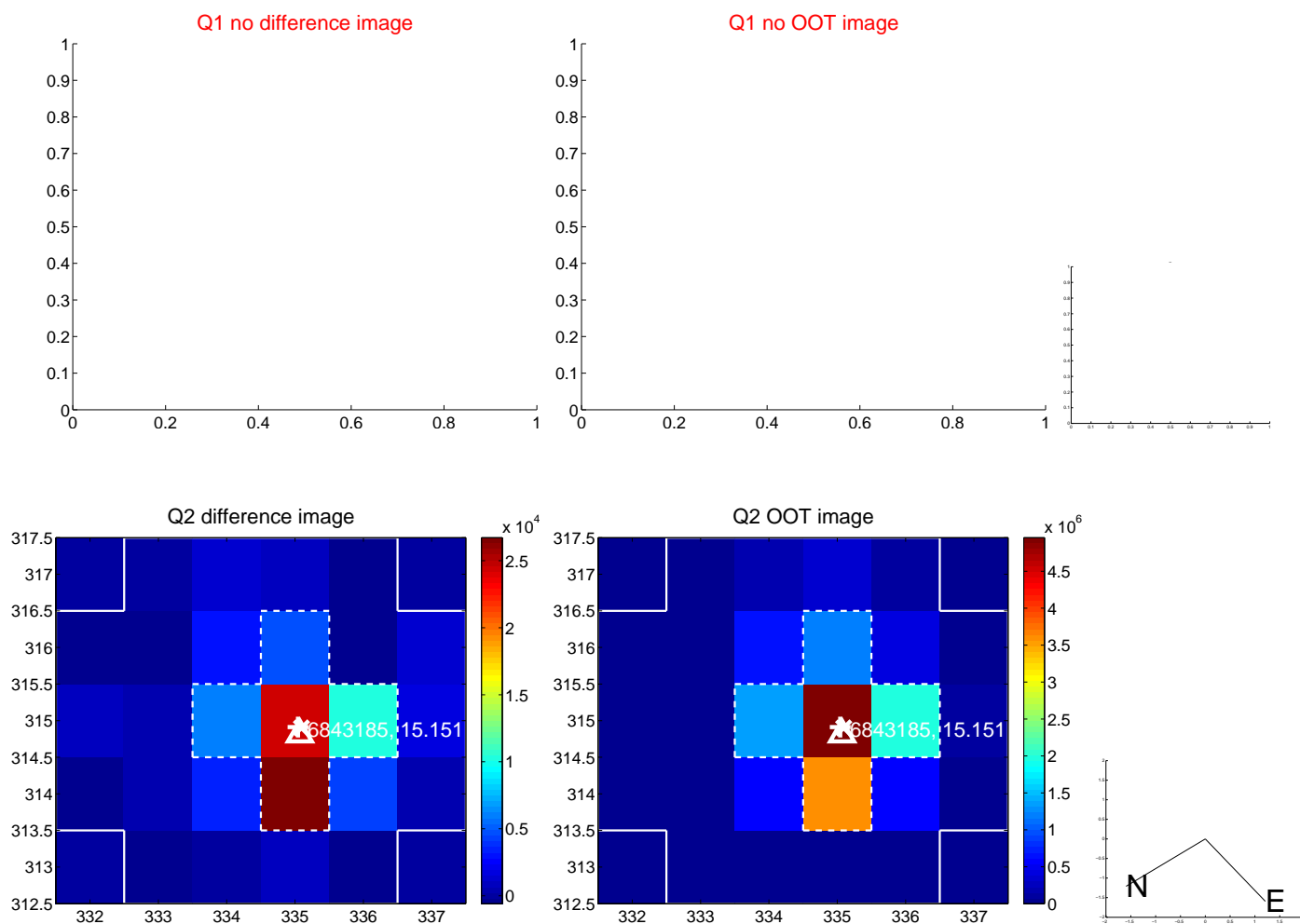
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.156 ± 0.787	0.20	0.156 ± 0.751	0.010 ± 0.581
PRF-fit source offset from KIC position	0.151 ± 0.664	0.23	-0.013 ± 0.964	0.150 ± 0.747
photometric centroid source offset	0.27 ± 0.48	0.56	0.05 ± 0.49	0.26 ± 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.

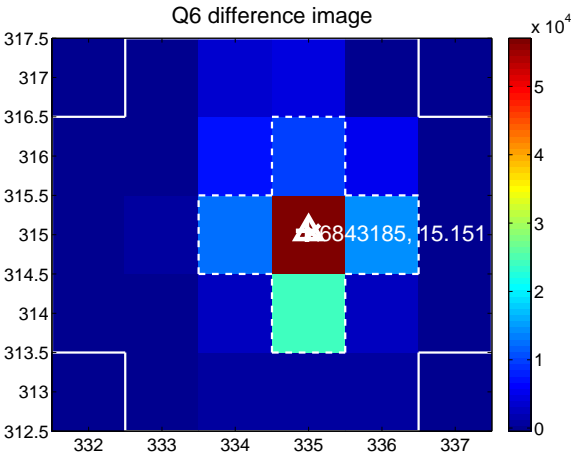
Q5 no difference image



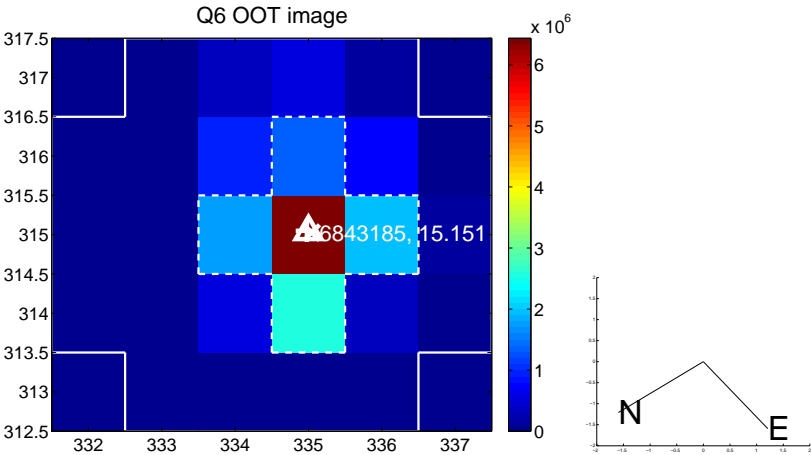
Q5 no OOT image



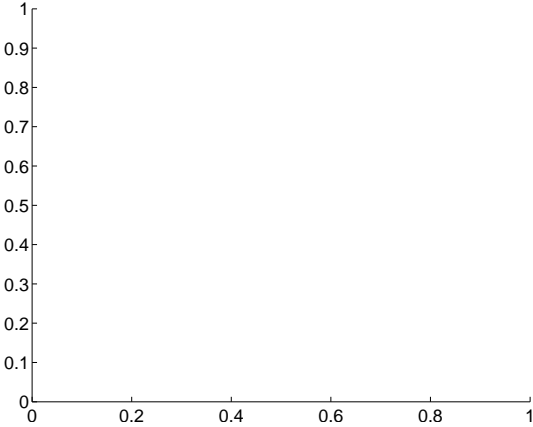
Q6 difference image



Q6 OOT image



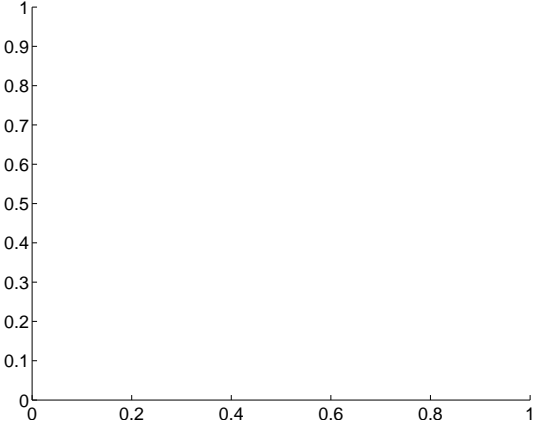
Q7 no difference image



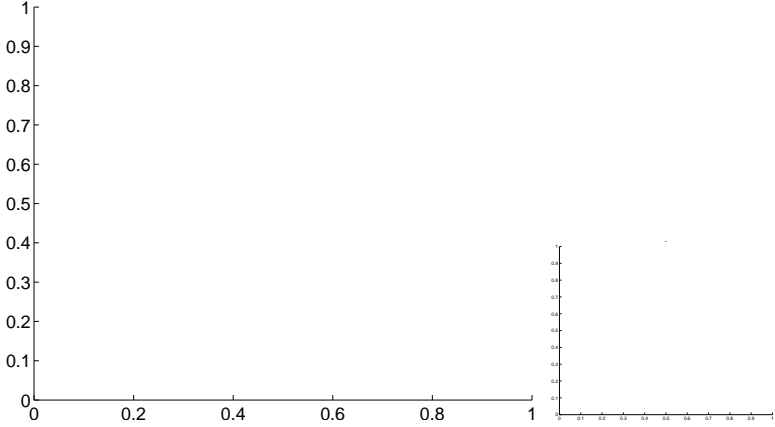
Q7 no OOT image



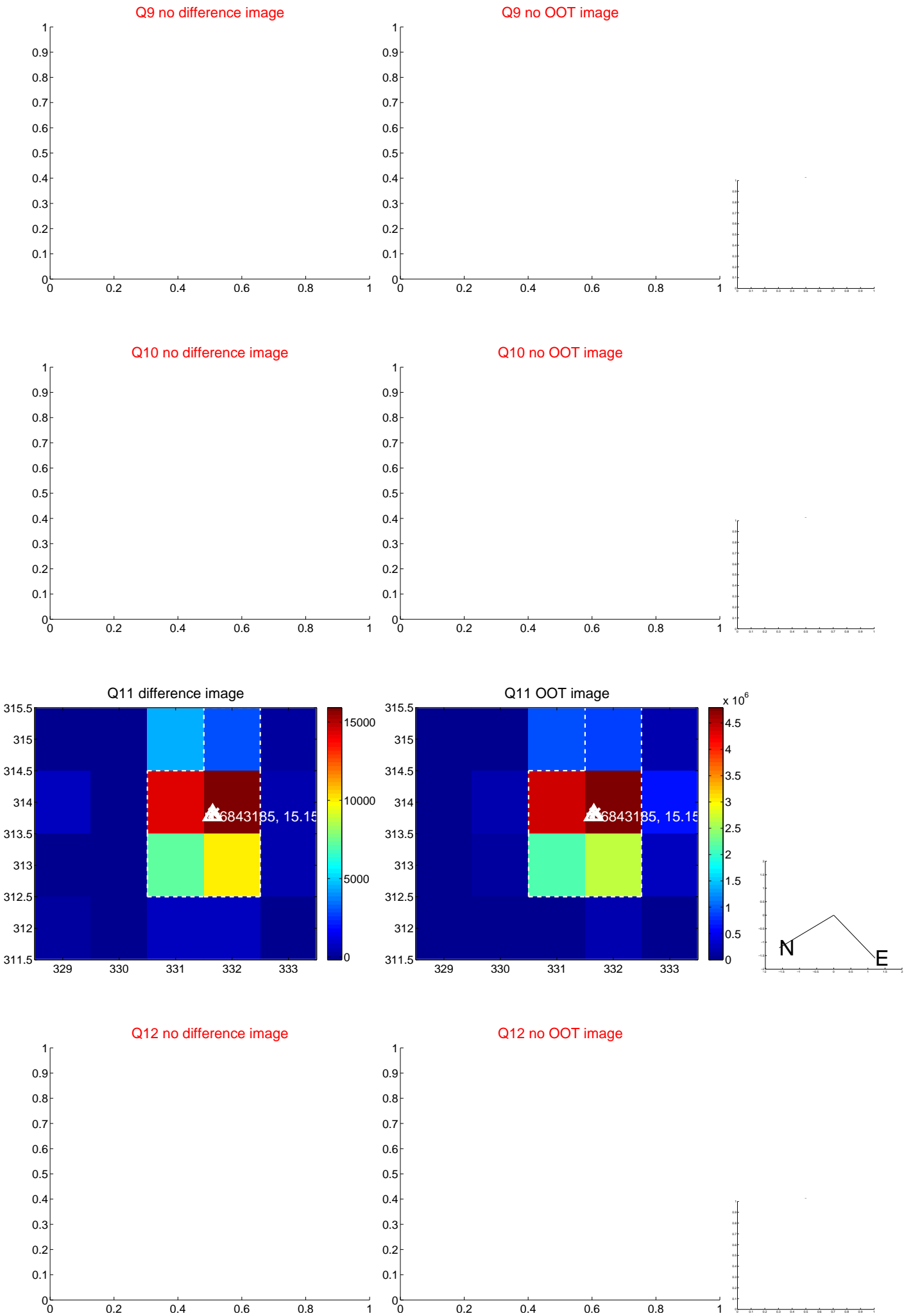
Q8 no difference image



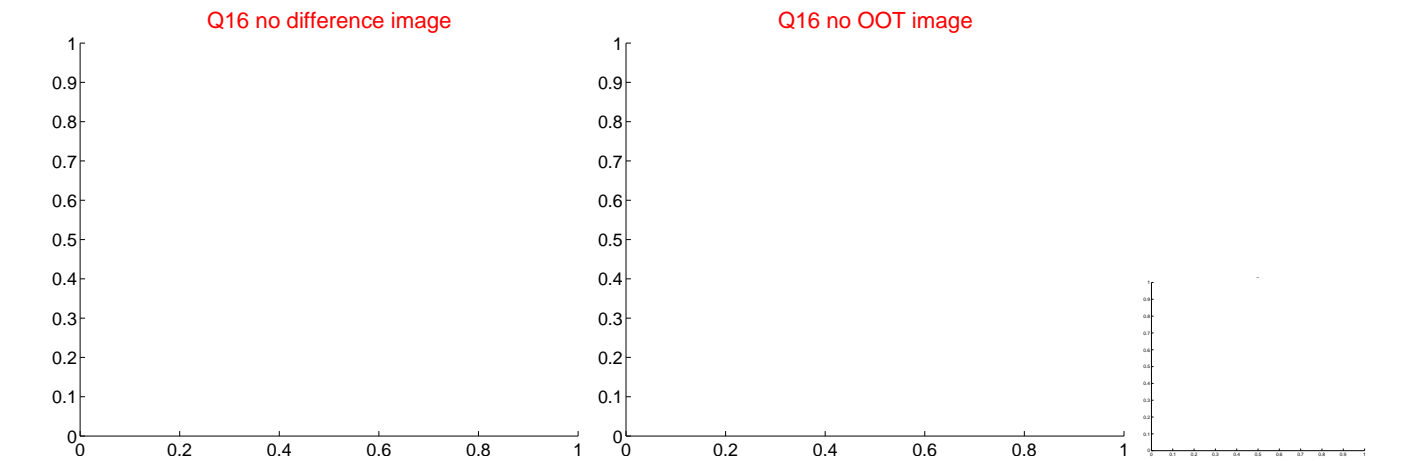
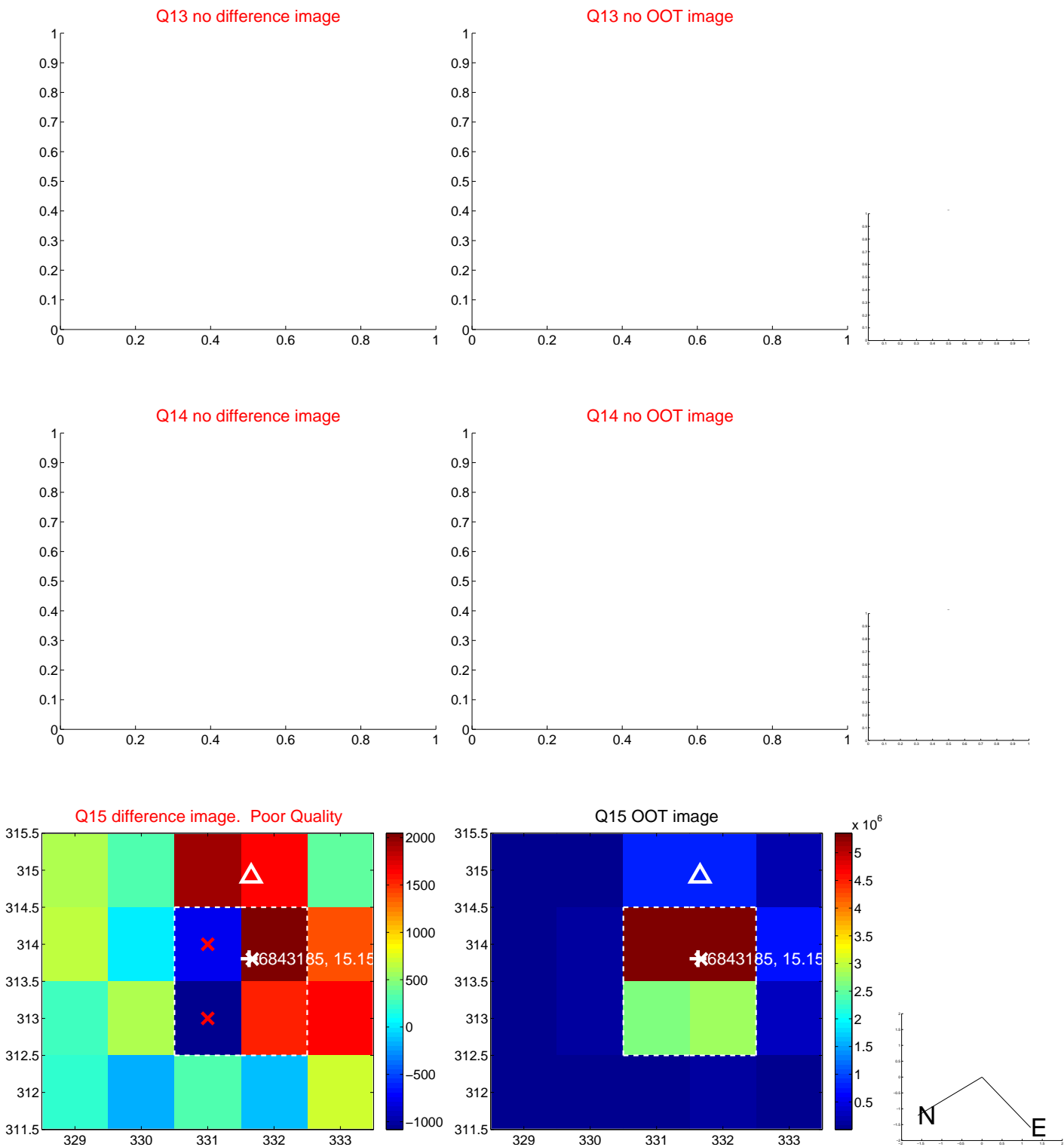
Q8 no OOT image



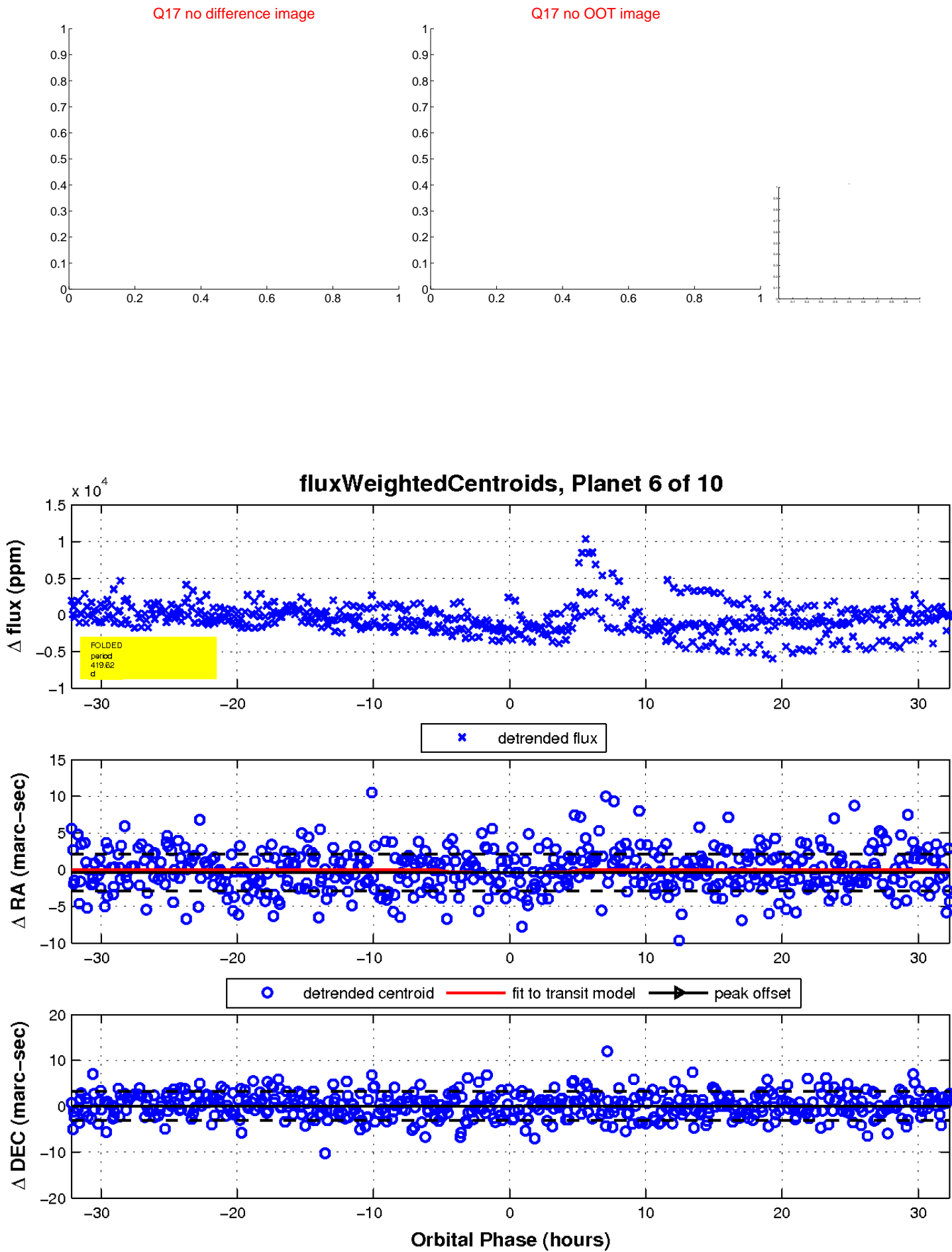
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

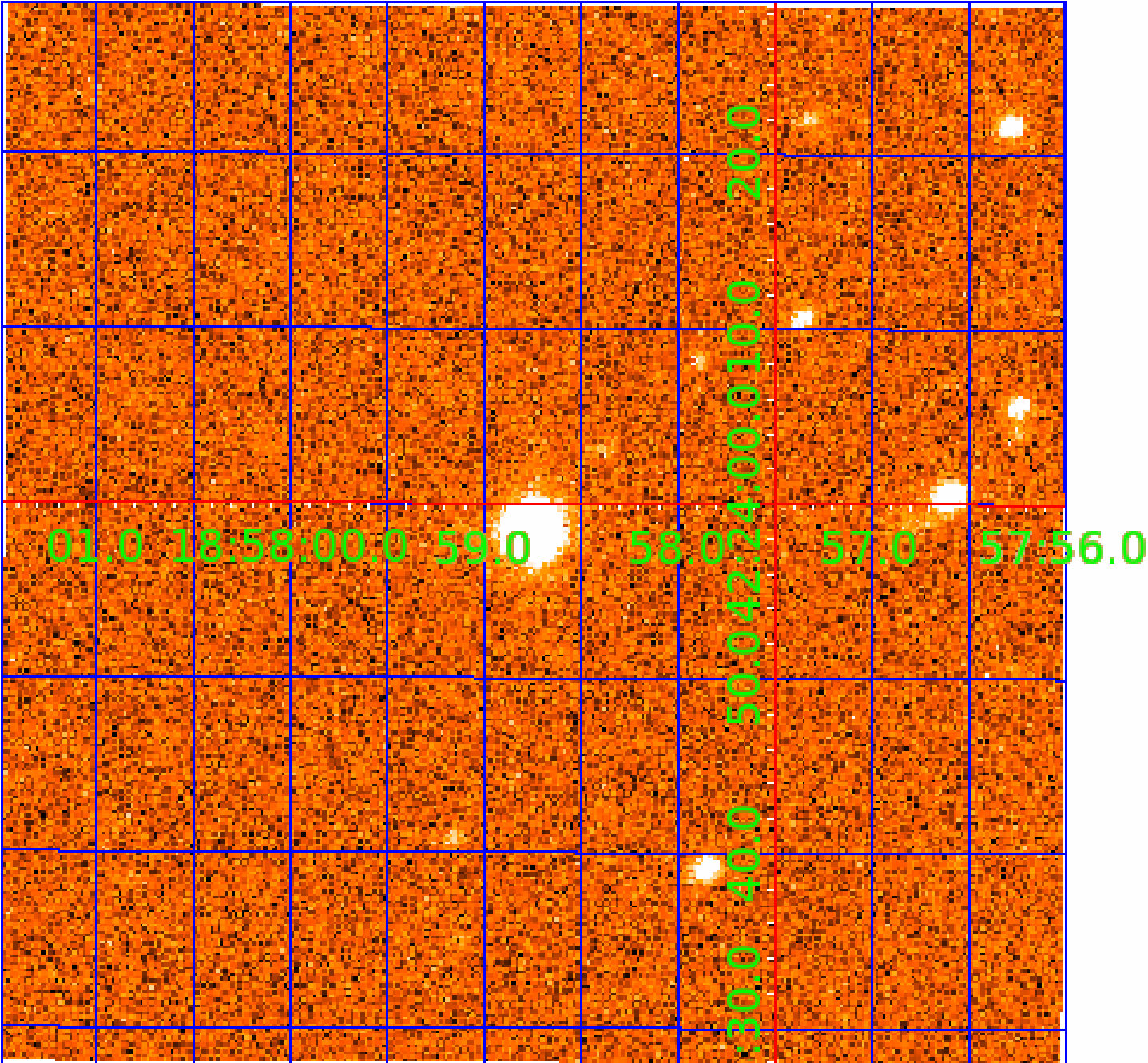


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
006843185-01	OBS	No	612.067201	328.000622	3086.6	13.627	15.2	10.9	0.70	4331	4.35	0.10
006843185-02	OBS	No	214.565578	196.030052	1975.0	9.585	13.9	7.1	0.70	4331	3.06	0.40
006843185-03	OBS	No	211.494807	168.060866	2874.5	17.193	13.1	12.6	0.70	4331	4.10	0.41
006843185-04	OBS	No	480.464997	317.440449	1747.0	22.354	14.9	5.0	0.70	4331	2.80	0.14
006843185-05	OBS	No	407.362166	222.635926	3522.6	15.164	12.9	10.8	0.70	4331	5.25	0.17
006843185-06	OBS	No	419.620189	171.880141	2311.0	10.794	14.4	8.0	0.70	4331	3.36	0.16
006843185-07	OBS	No	281.377772	214.045871	2059.1	5.569	13.0	9.2	0.70	4331	3.03	0.28
006843185-08	OBS	No	474.926569	188.740311	1305.4	4.181	12.8	4.6	0.70	4331	2.48	0.14
006843185-09	OBS	No	254.929310	229.253445	2118.2	11.457	12.6	8.8	0.70	4331	4.02	0.32
006843185-10	OBS	No	390.800507	158.970898	17.4	0.893	12.2	0.0	0.70	4331	0.29	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006843185-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-03	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
006843185-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-08	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—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-09	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
006843185-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

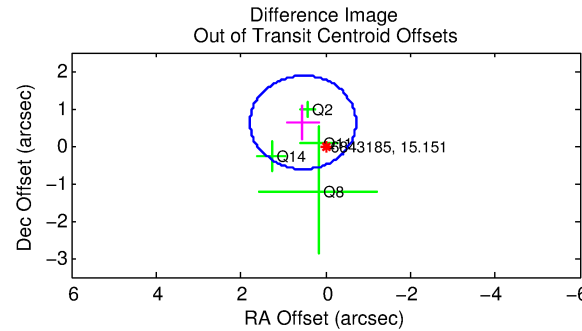
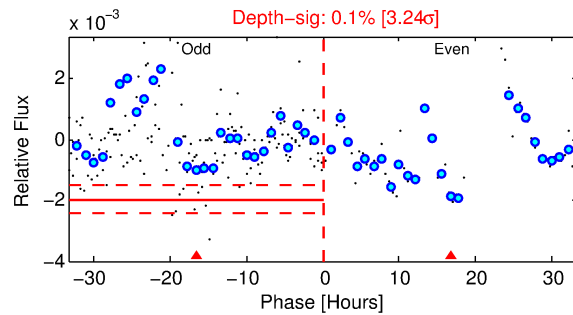
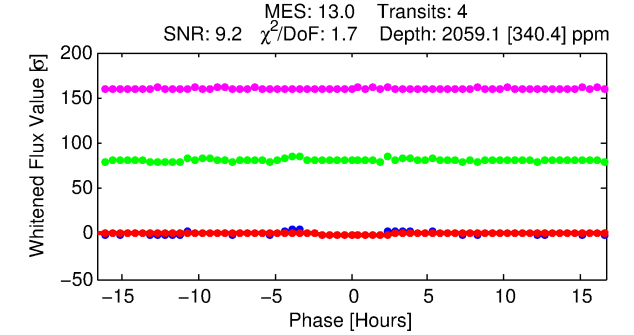
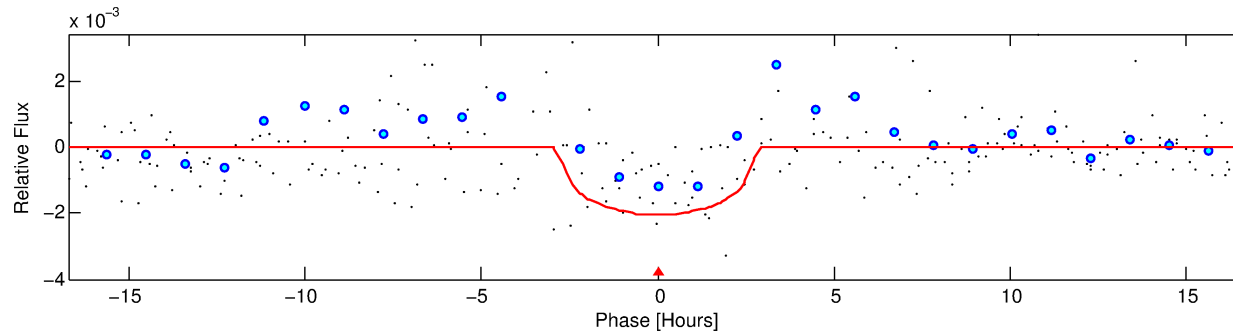
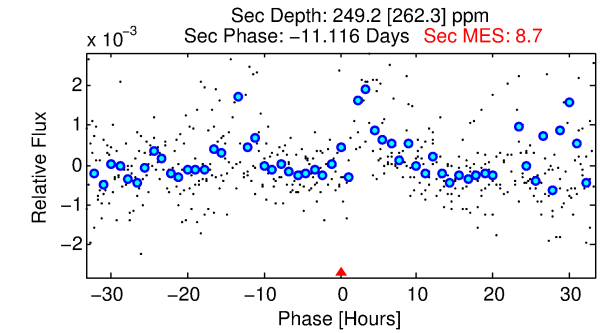
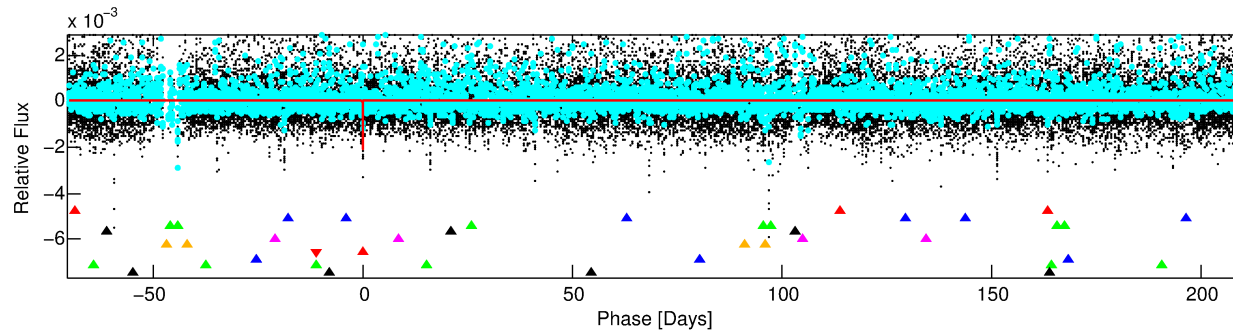
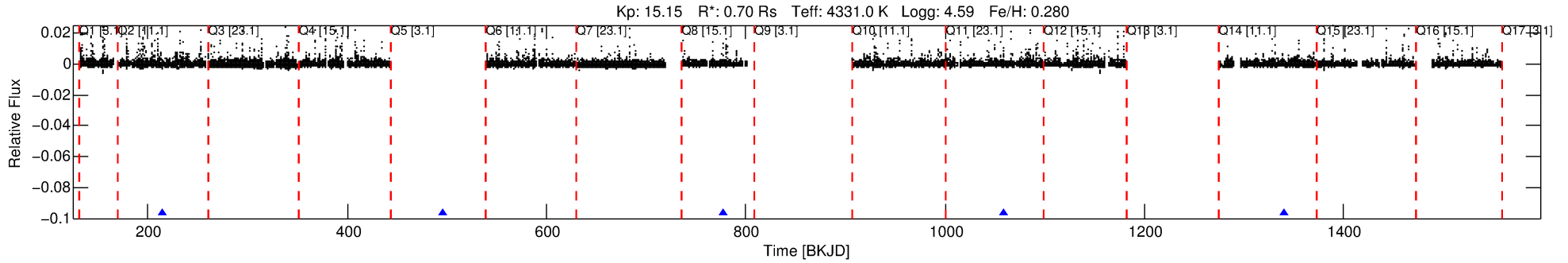
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006843185-07

No Significant Match Found

DV One-Page Summary

KIC: 6843185 Candidate: 7 of 10 Period: 281.378 d



DV Fit Results:

Period = 281.37777 [0.00425] d
Epoch = 214.0459 [0.0110] BKJD
Rp/R* = 0.0395 [0.0517]
a/R* = 401.22 [1448.43]
b = 0.00 [4985.10]
Seff = 0.28 [0.05]
Teq = 186 [8] K
Rp = 3.03 [3.97] Re
a = 0.7456 [0.0515] AU
Ag = 8312.66 [23486.14] [0.35σ]
Teffp = 2739 [1935] K [1.32σ]

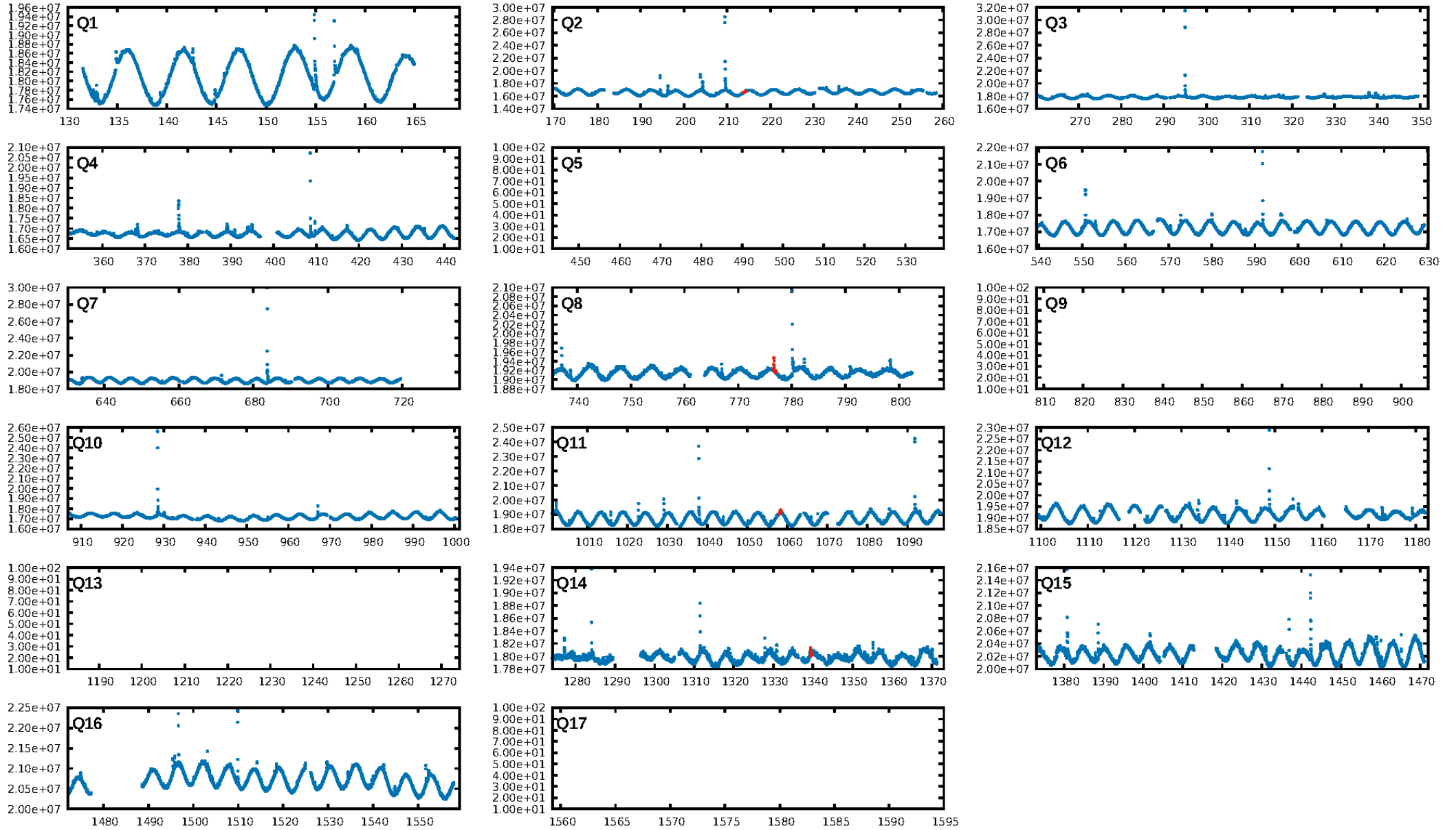
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [49.83σ]
LongPeriod-sig: 100.0% [465.62σ]
ModelChiSquare2-sig: 1.0%
ModelChiSquareGof-sig: 43.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -69.14
Centroid-sig: 18.9%
Centroid-so: 0.826 arcsec [1.12σ]
OotOffset-rm: 0.823 arcsec [1.98σ]
KicOffset-rm: 0.816 arcsec [1.89σ]
OotOffset-st: 2/1/1/0 [4]
KicOffset-st: 2/1/1/0 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 1.00 [4/4]

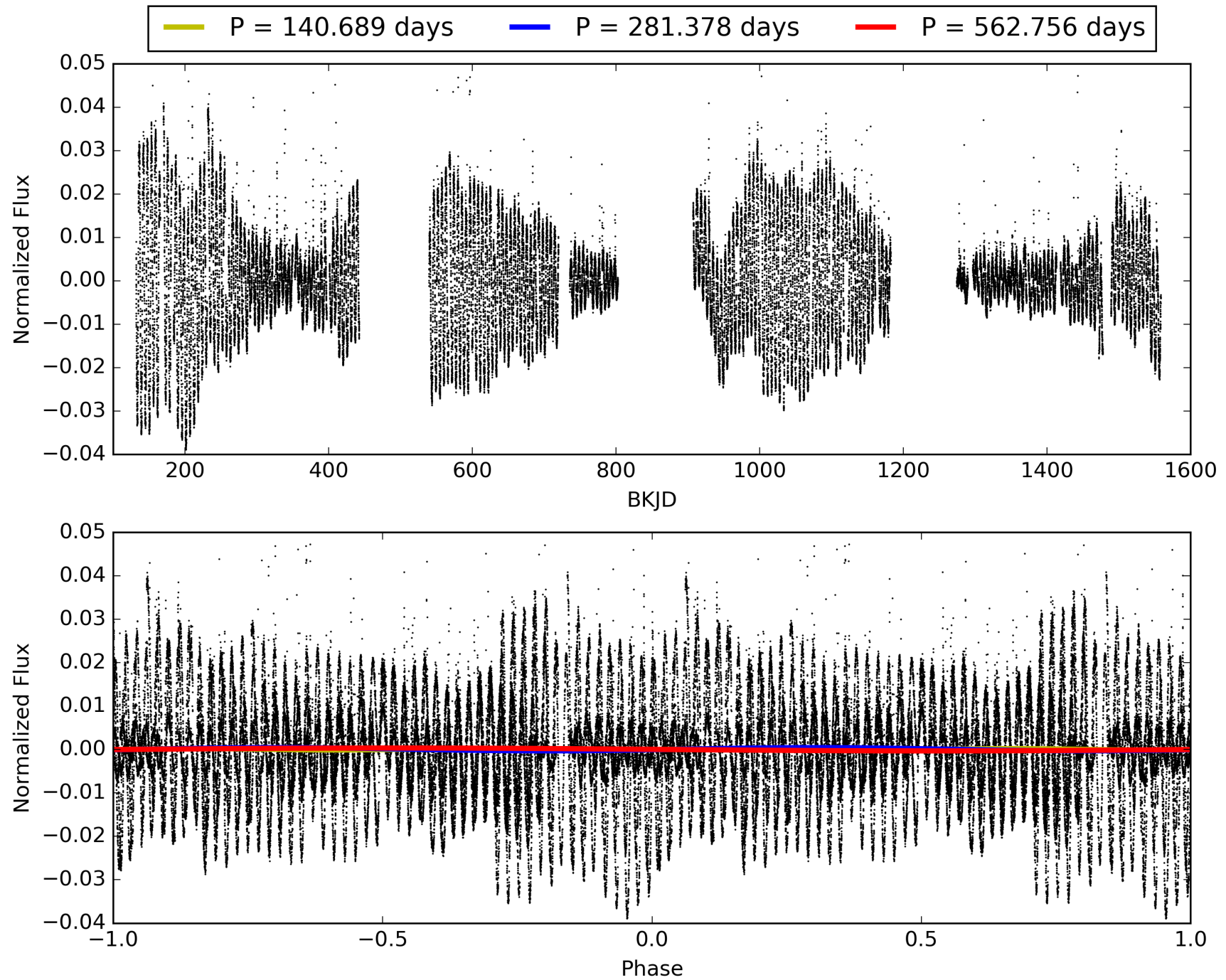
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:46:03 Z

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

TCE 006843185-07, PDC Light Curves

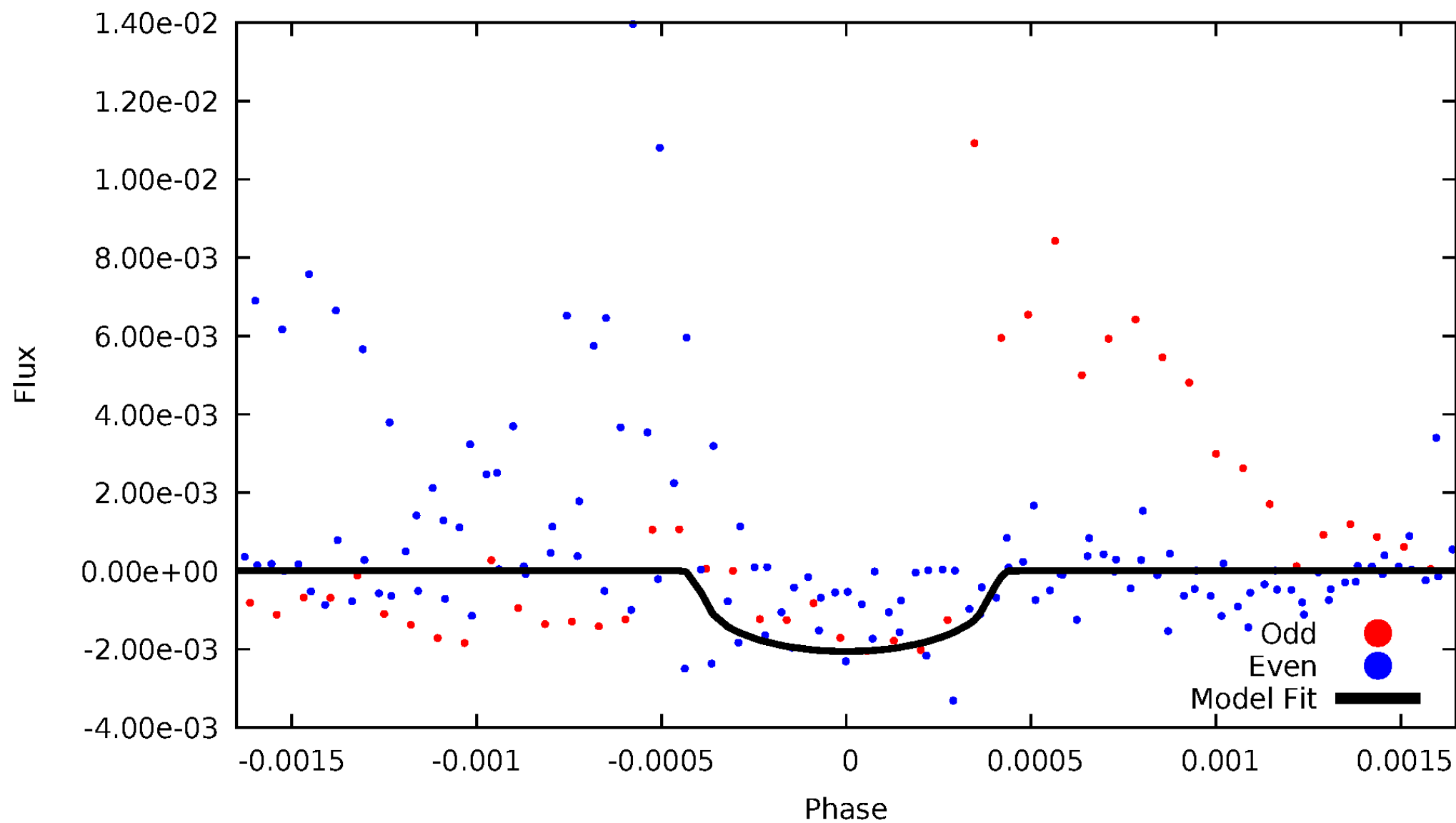


TCE 006843185-07



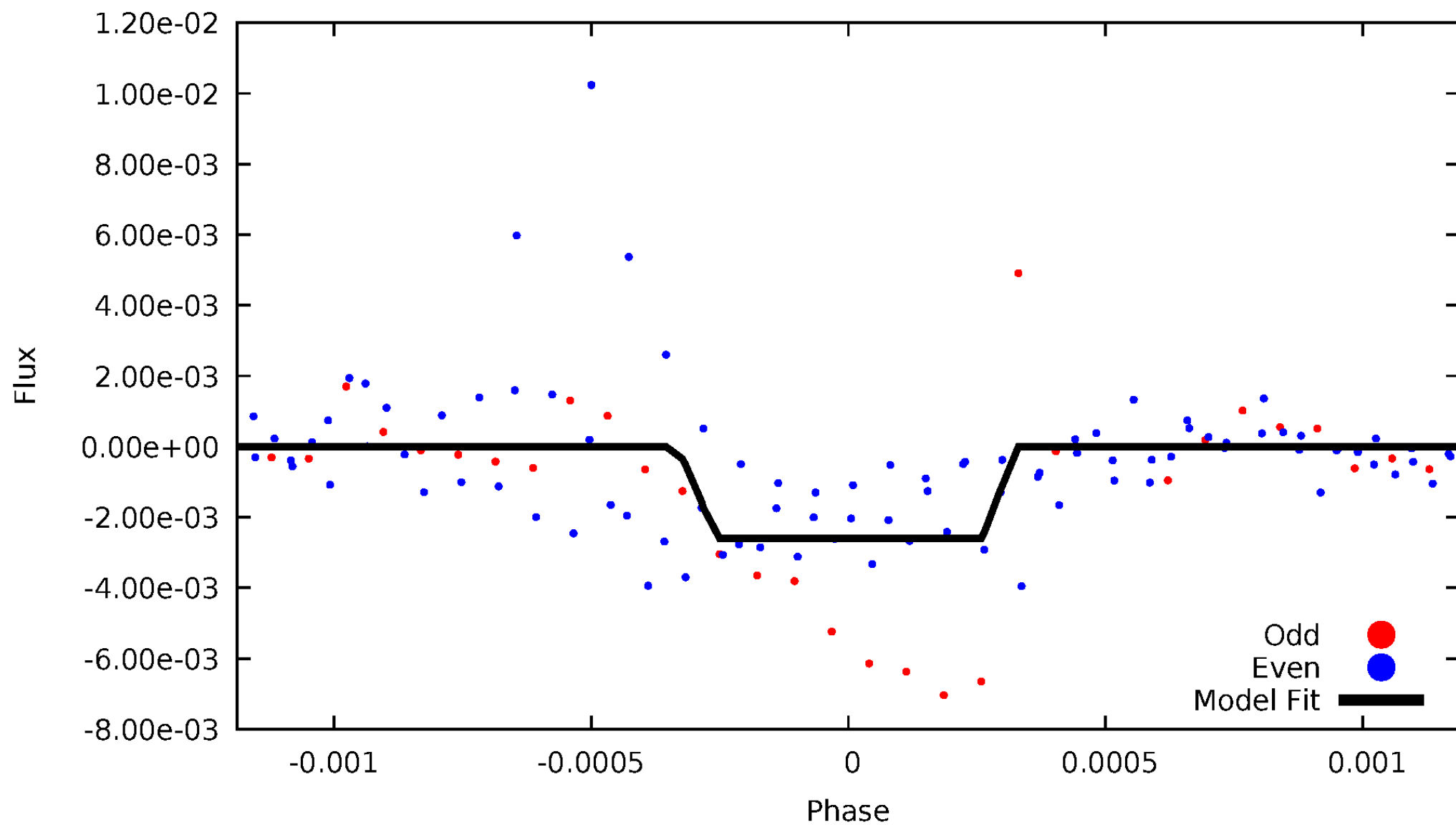
DV Odd/Even

TCE 006843185-07



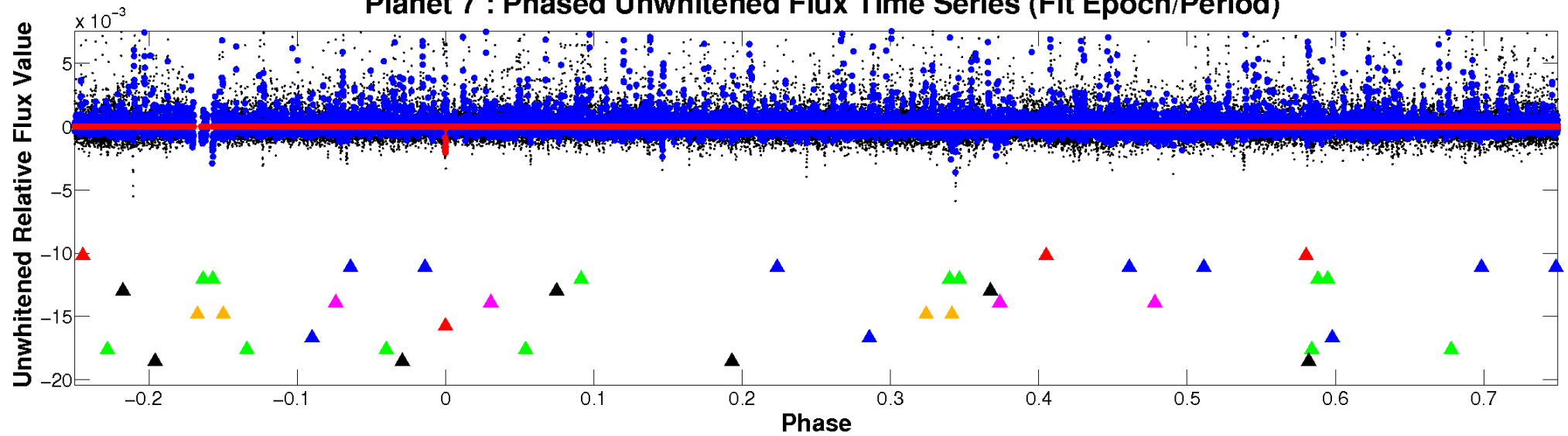
ALT Odd/Even

TCE 006843185-07

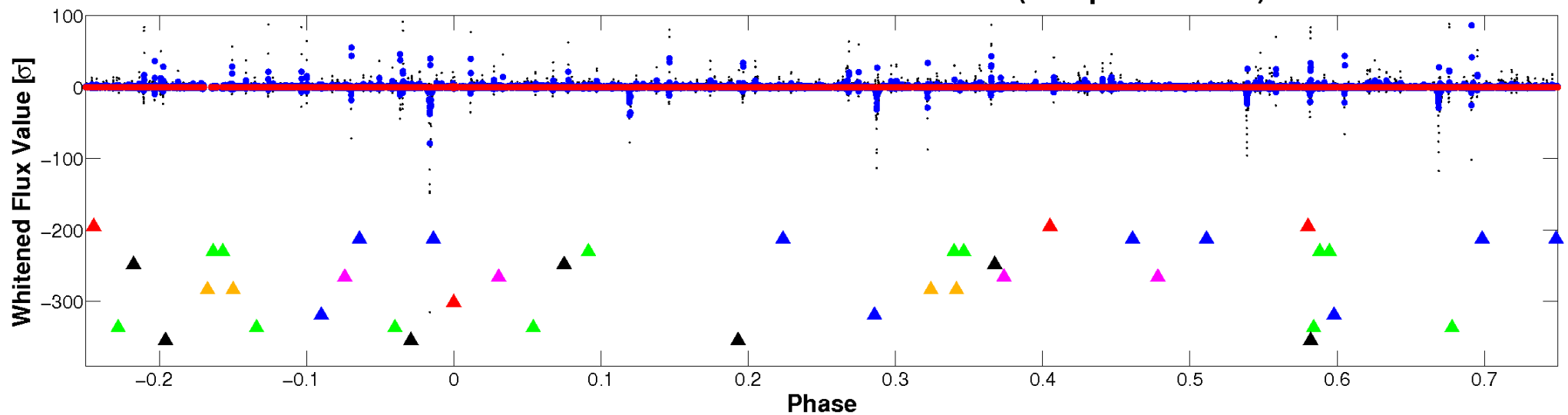


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

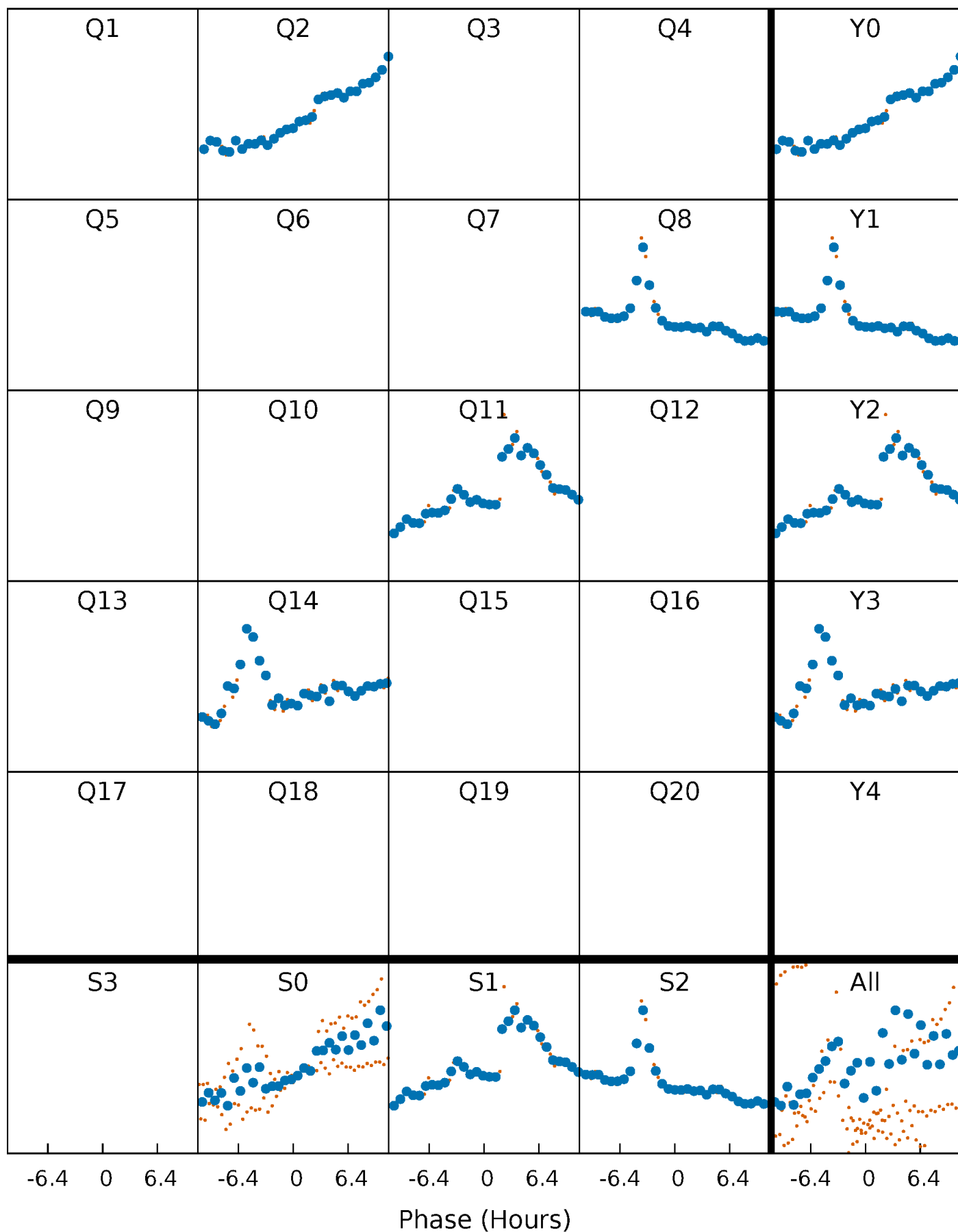


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



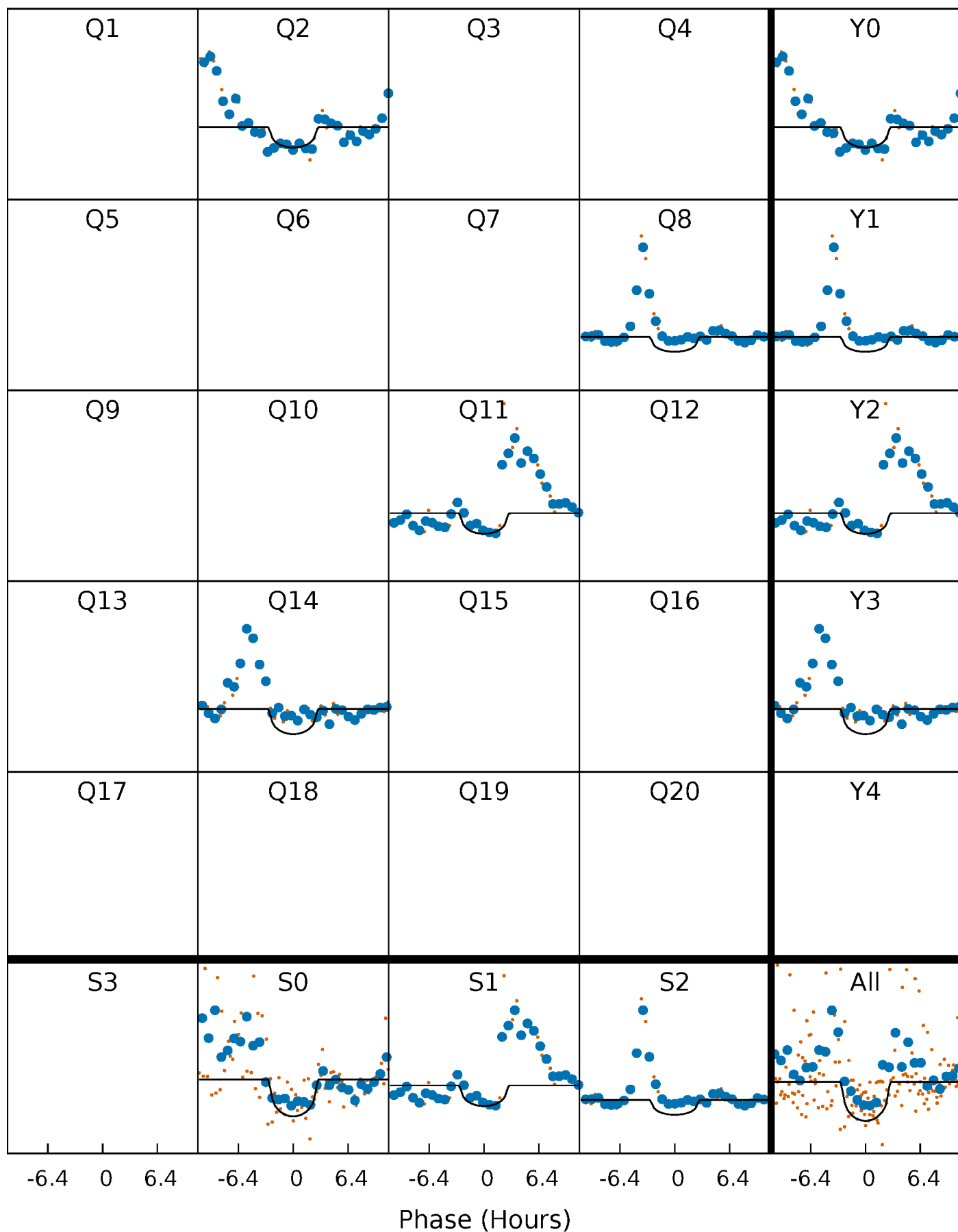
PDC Quarter-Phased Transit Curves

TCE 006843185-07 P=281.377772 Days $T_0=214.045871$ (BKJD)



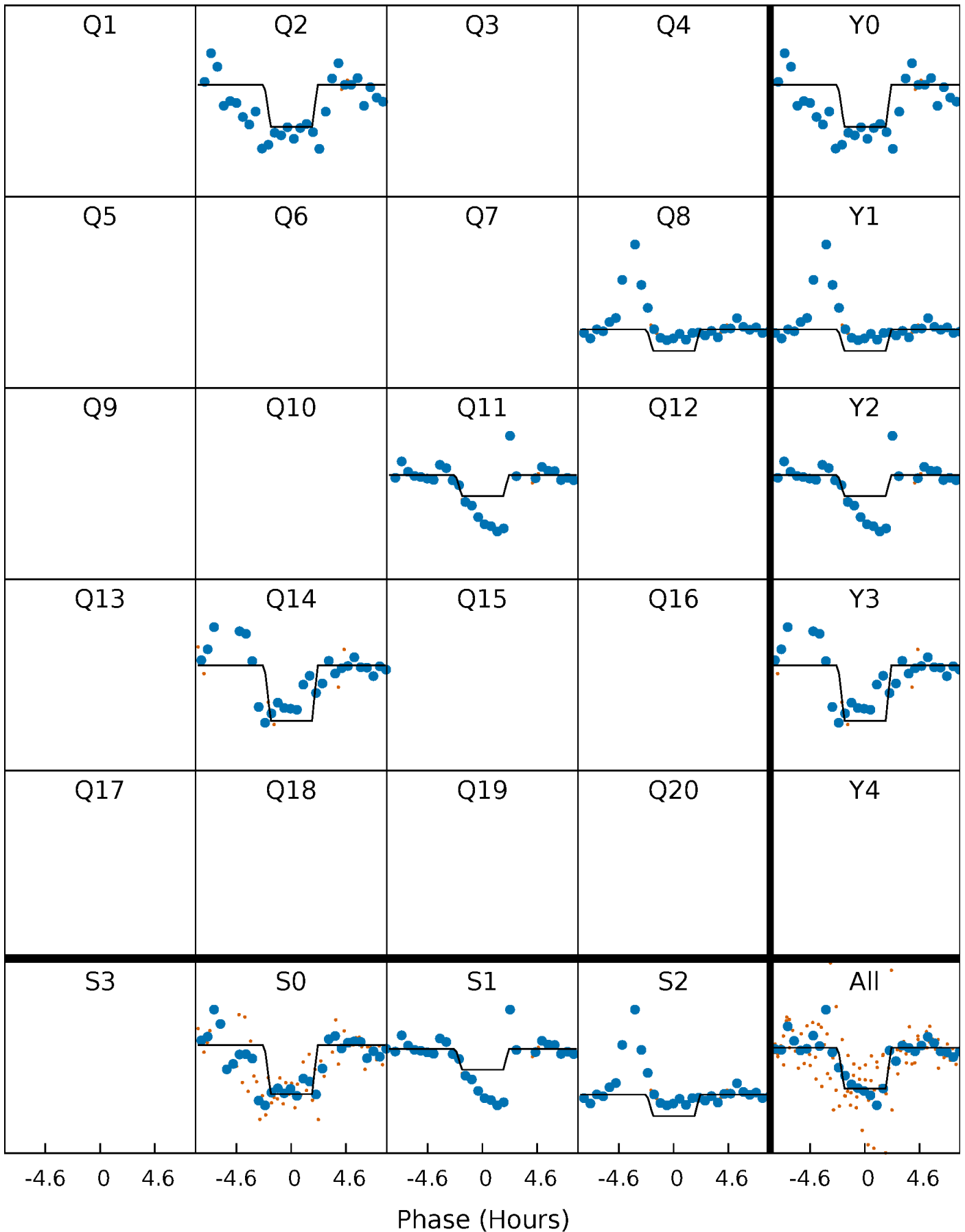
DV Quarter-Phased Transit Curves

TCE 006843185-07 $P=281.377772$ Days $T_0=214.045871$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

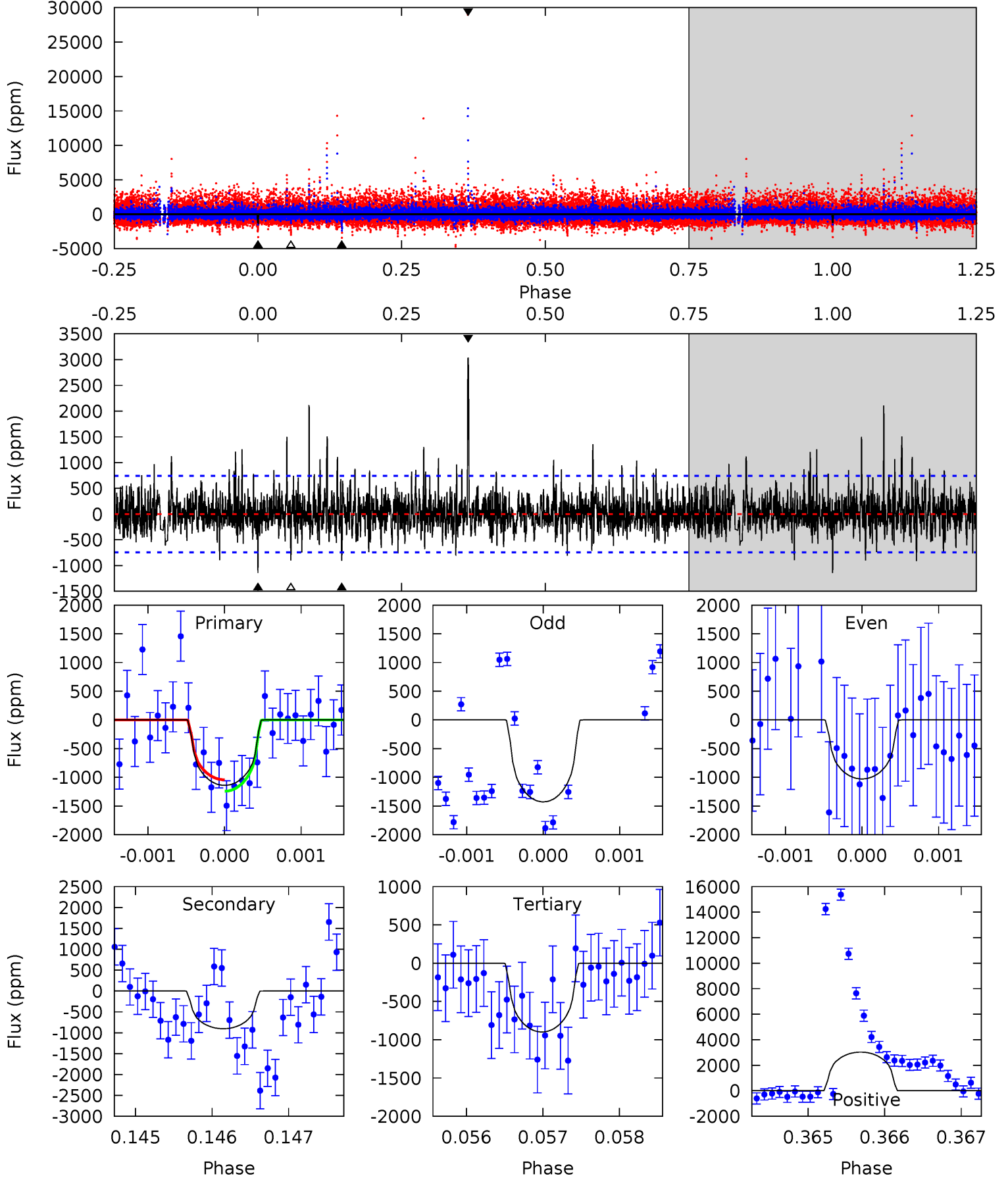
TCE 006843185-07 $P=281.383744$ Days $T_0=214.032485$ (BKJD)



DV Model-Shift Uniqueness Test

006843185-07, P = 281.377772 Days, E = 214.045871 Days

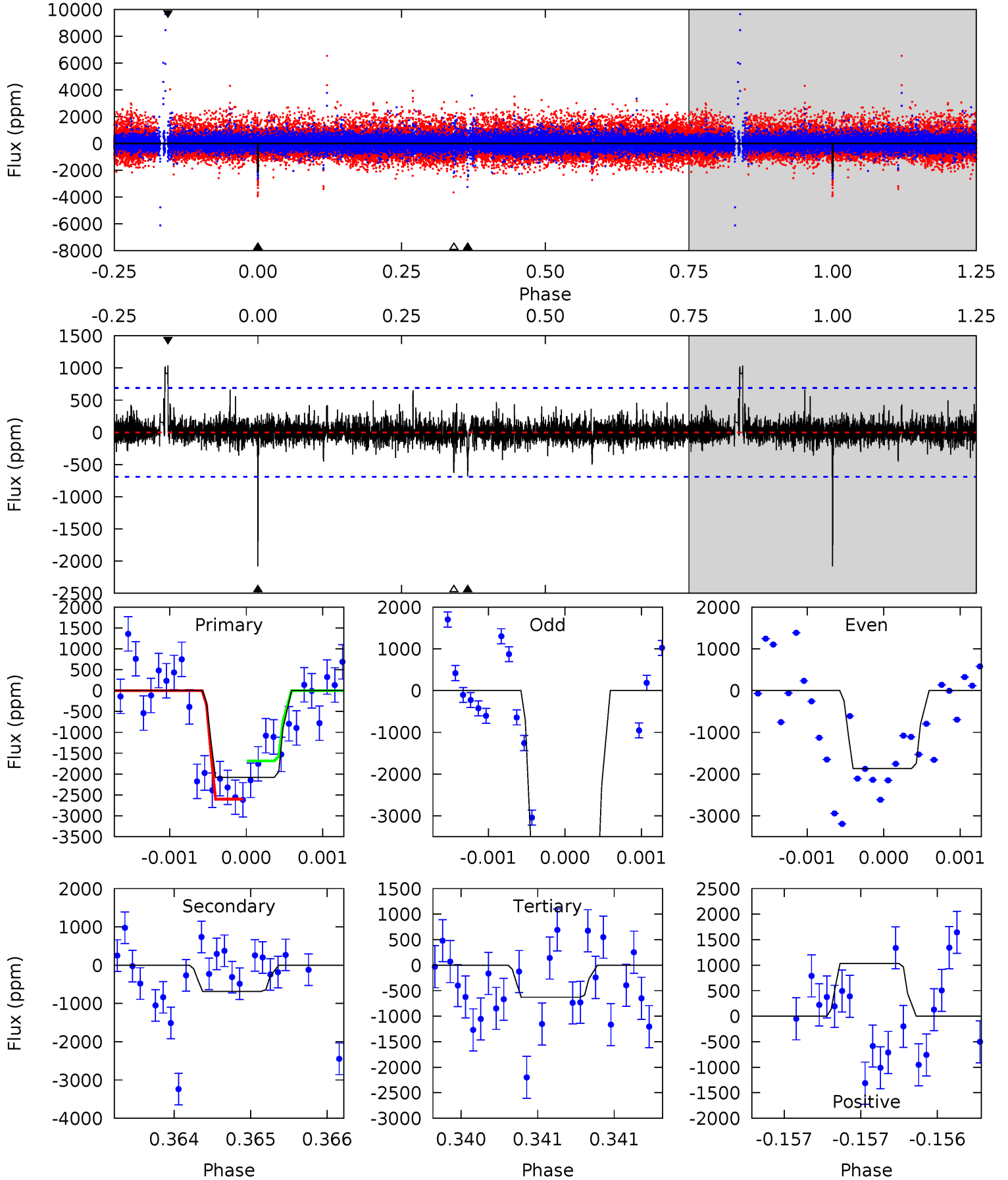
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.38	6.64	6.61	22.3	5.47	3.32	2.08	1.78	-13.9	0.04	-15.7	0.45	1.48	0.73	0.74



Alt Model-Shift Uniqueness Test

006843185-07, P = 281.383744 Days, E = 214.032485 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.7	5.49	5.04	8.30	5.54	3.42	0.91	11.6	8.38	0.45	-2.81	12.5	1.13	0.33	3.62



Stellar Parameters For KIC 006843185

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4331^{+142}_{-142}	$4.588^{+0.056}_{-0.017}$	$0.280^{+0.150}_{-0.300}$	$0.703^{+0.028}_{-0.057}$	$0.698^{+0.044}_{-0.049}$	$2.829^{+0.655}_{-0.190}$
	+3%/-3%	+1%/-0%	+54%/-107%	+4%/-8%	+6%/-7%	+23%/-7%
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 006843185-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-904 ± 136	$4.10^{+3.40}_{-2.55}$	258^{+9}_{-9}	3546^{+1578}_{-602}	16553^{+97241}_{-11666}
Alt.	-685 ± 125	$4.89^{+3.59}_{-3.09}$	257^{+10}_{-9}	3188^{+1366}_{-460}	8682^{+59800}_{-5818}

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

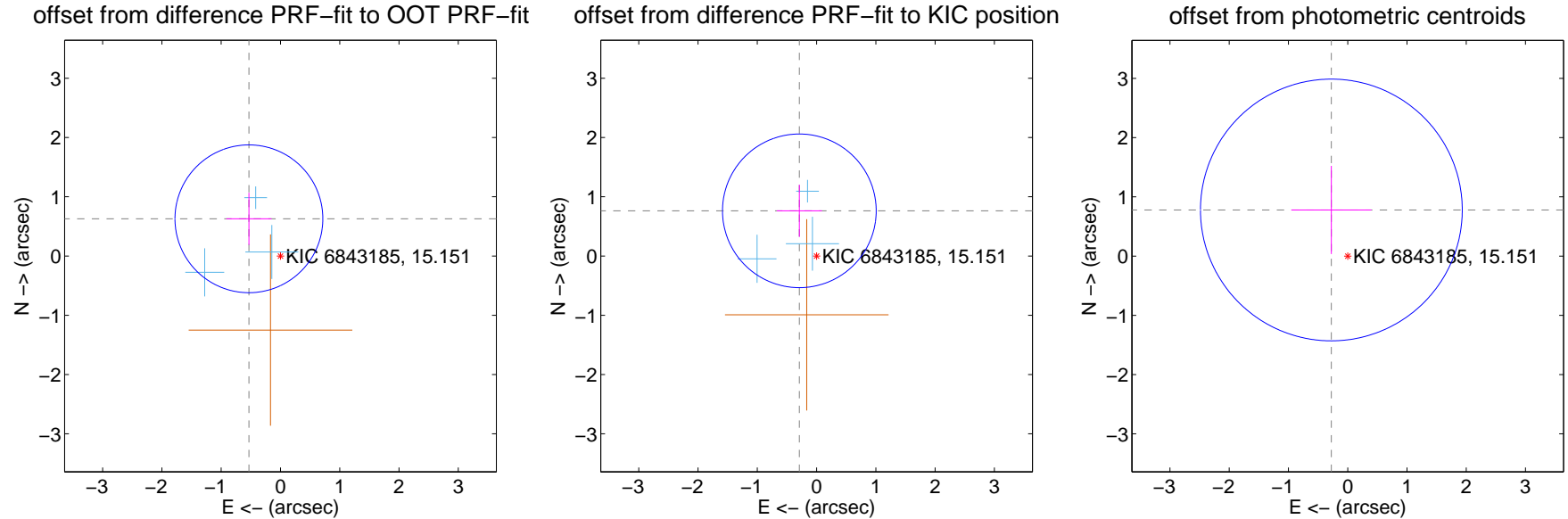
DV Centroid Data

Supplemental centroid analysis for 006843185-07. Kepler magnitude: 15.15. Transit SNR 9.19

There are 3 quarters with good PRF difference image offsets

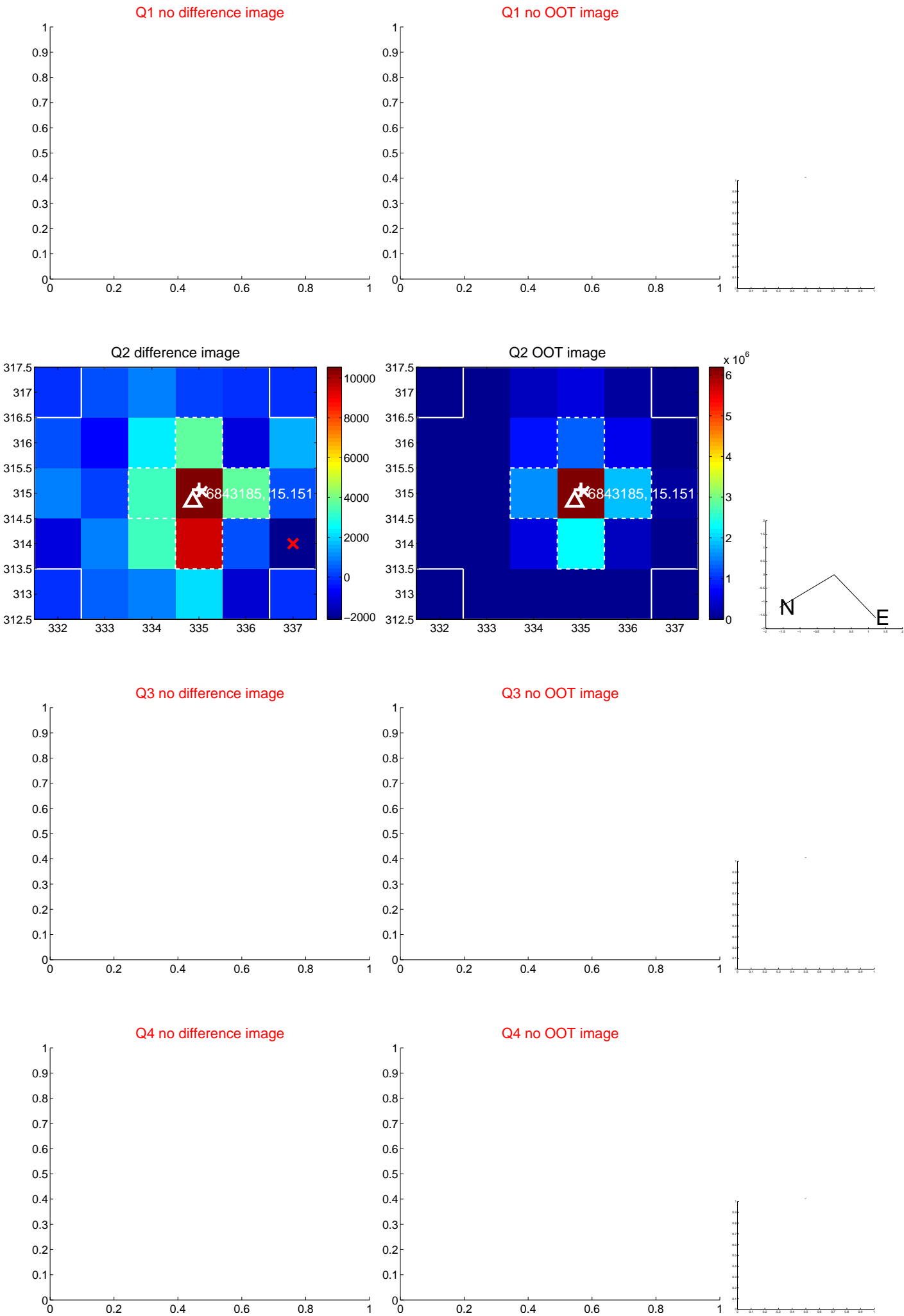
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.823 ± 0.416	1.98	0.532 ± 0.381	0.628 ± 0.439
PRF-fit source offset from KIC position	0.816 ± 0.432	1.89	0.291 ± 0.381	0.763 ± 0.439
photometric centroid source offset	0.83 ± 0.74	1.12	0.28 ± 0.68	0.78 ± 0.74

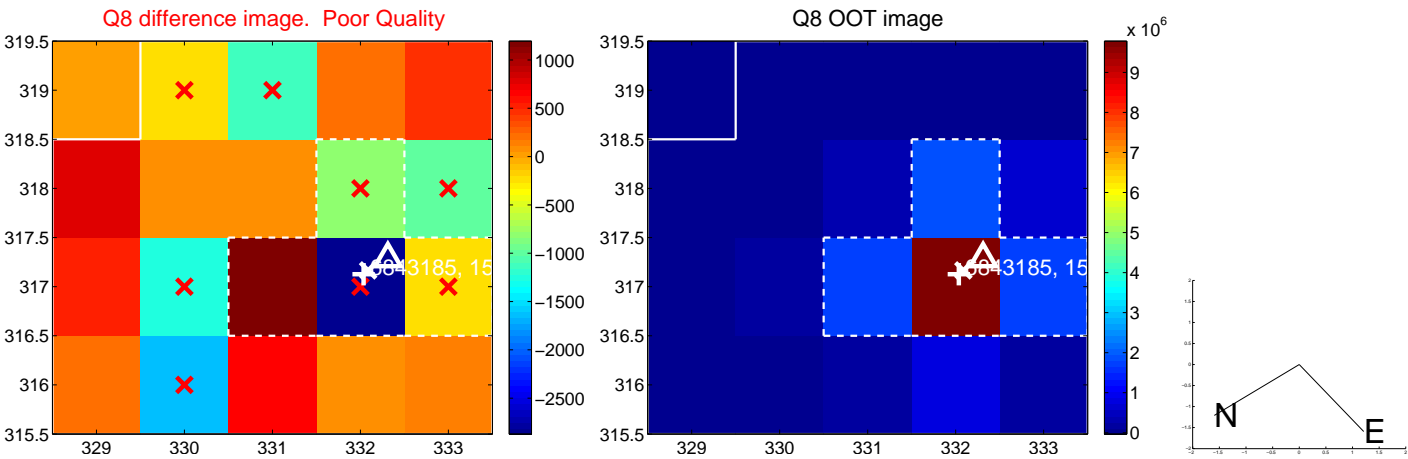
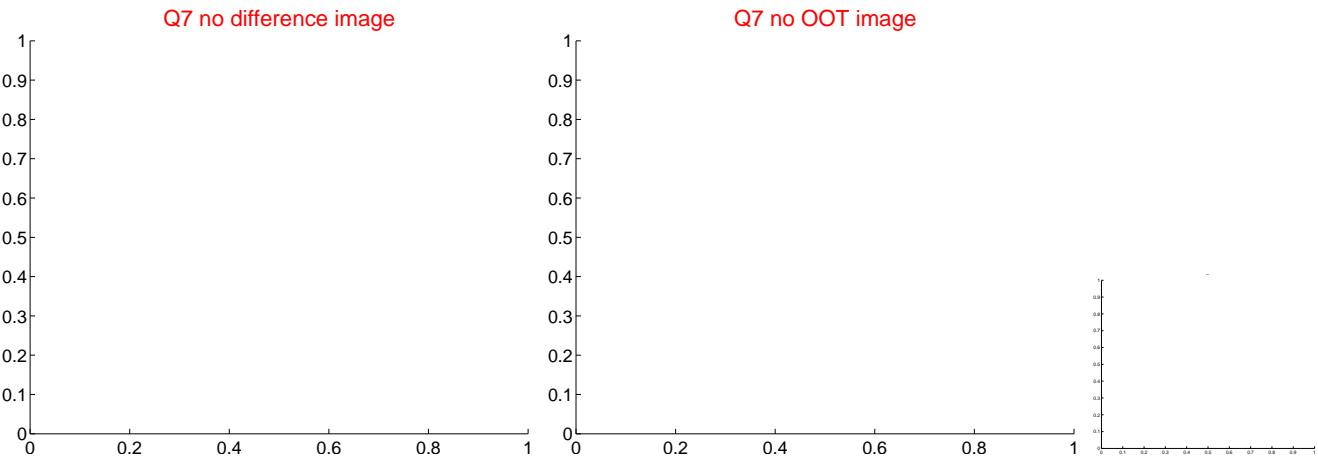
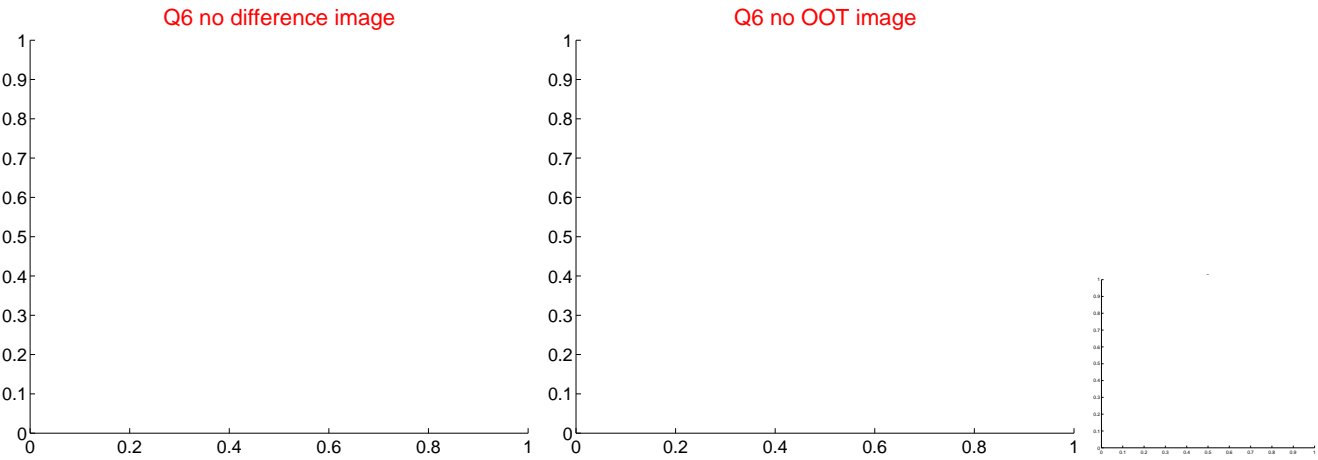
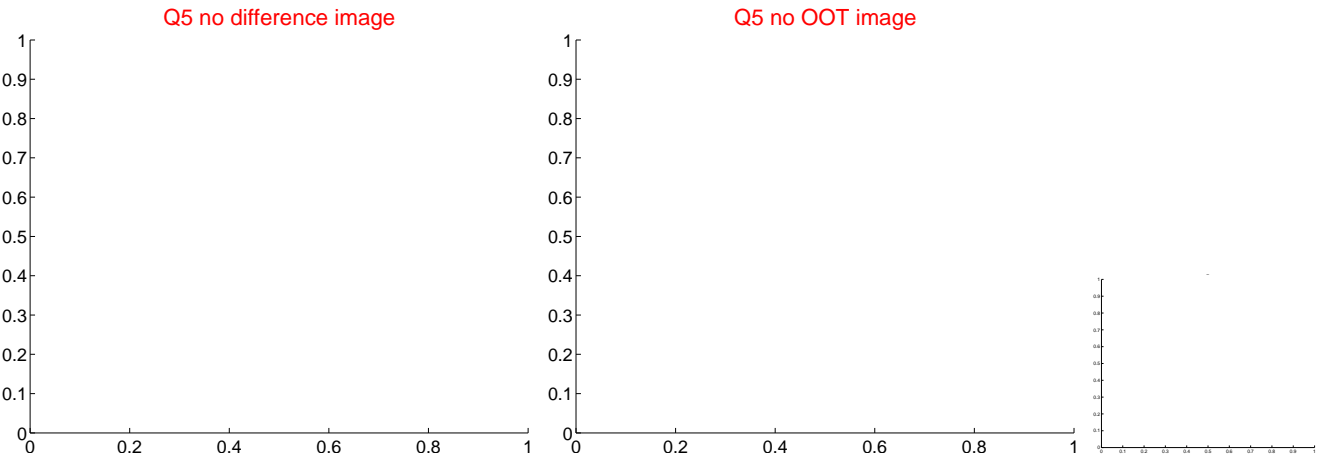


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

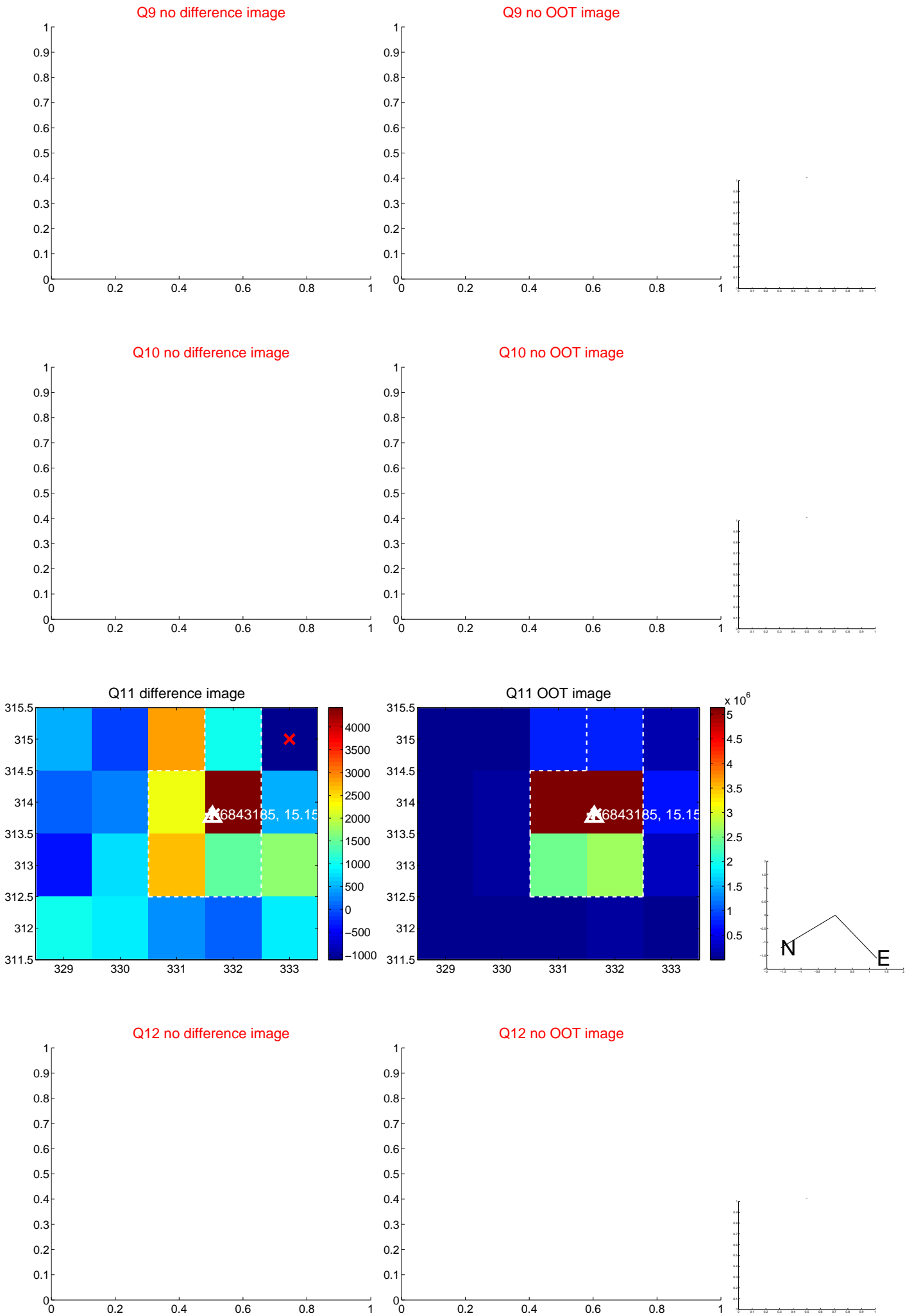
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



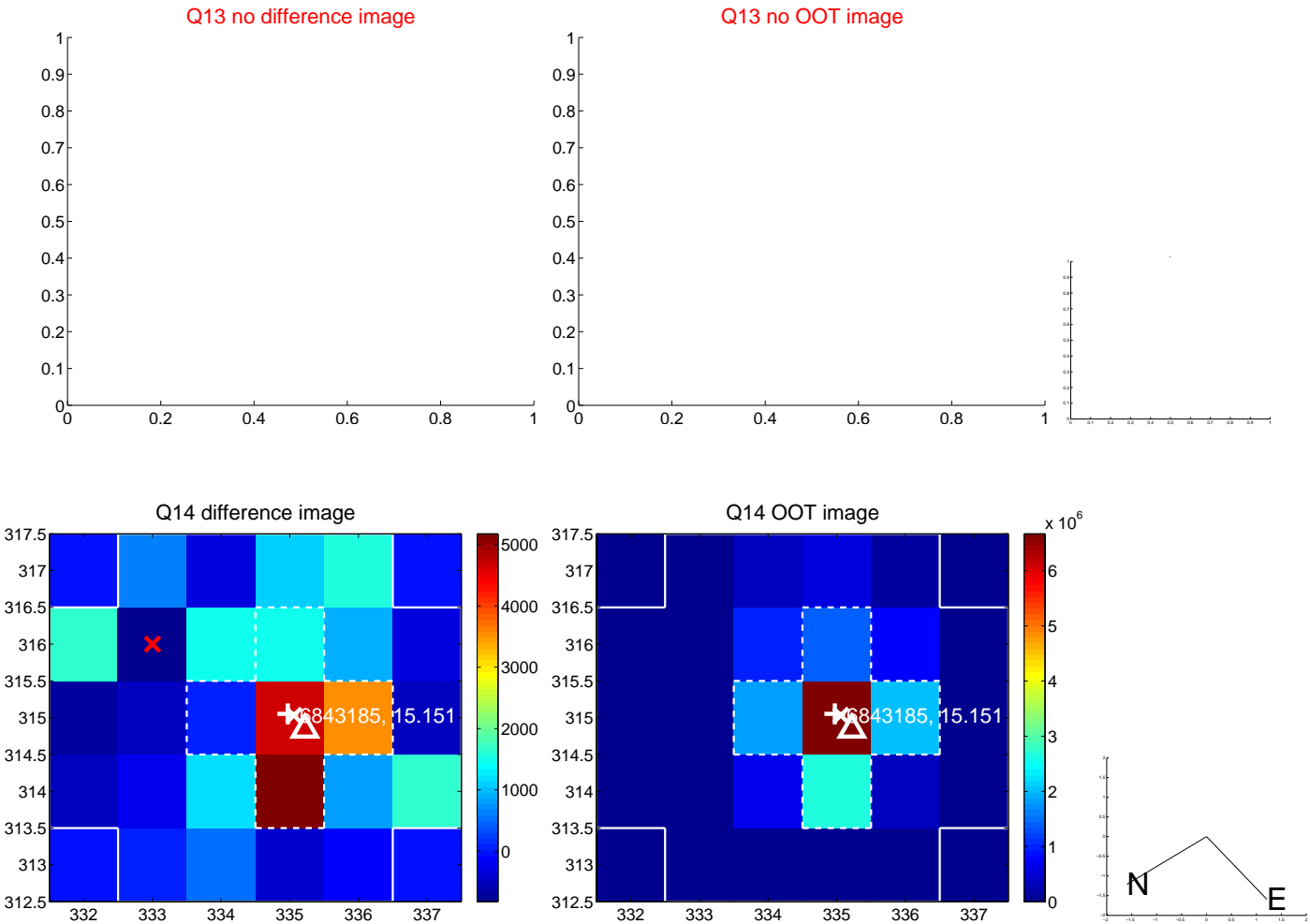
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



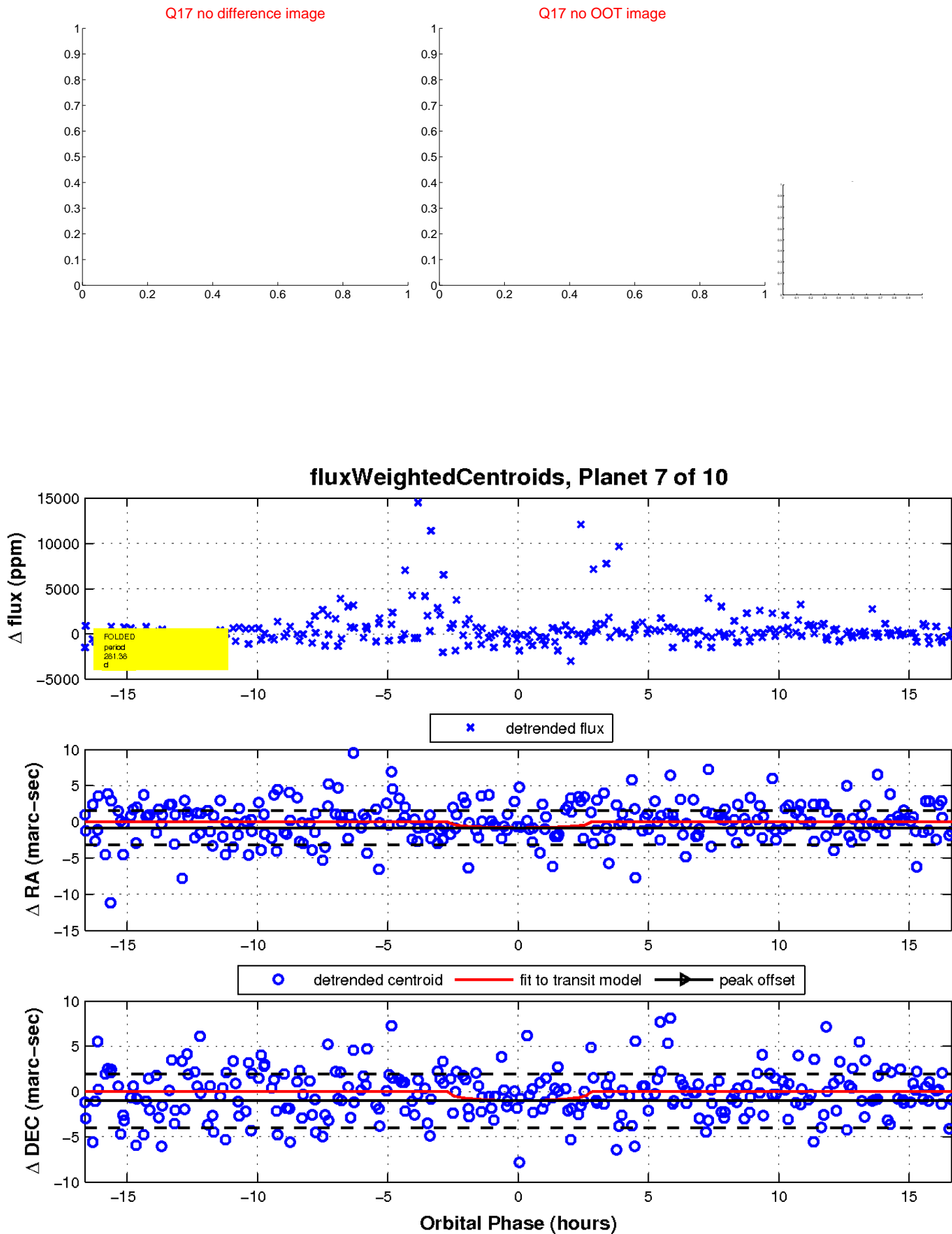
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

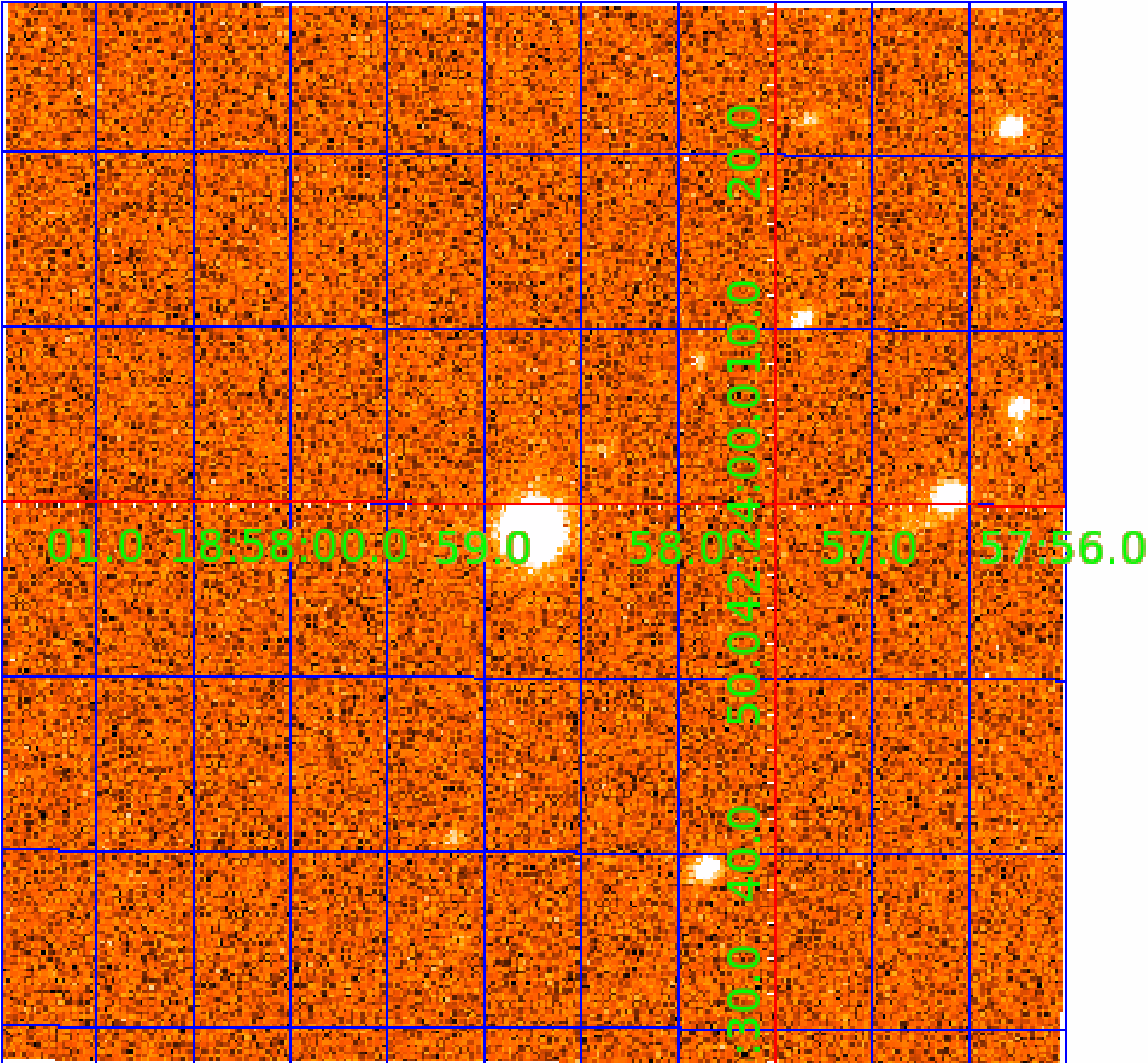


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
006843185-01	OBS	No	612.067201	328.000622	3086.6	13.627	15.2	10.9	0.70	4331	4.35	0.10
006843185-02	OBS	No	214.565578	196.030052	1975.0	9.585	13.9	7.1	0.70	4331	3.06	0.40
006843185-03	OBS	No	211.494807	168.060866	2874.5	17.193	13.1	12.6	0.70	4331	4.10	0.41
006843185-04	OBS	No	480.464997	317.440449	1747.0	22.354	14.9	5.0	0.70	4331	2.80	0.14
006843185-05	OBS	No	407.362166	222.635926	3522.6	15.164	12.9	10.8	0.70	4331	5.25	0.17
006843185-06	OBS	No	419.620189	171.880141	2311.0	10.794	14.4	8.0	0.70	4331	3.36	0.16
006843185-07	OBS	No	281.377772	214.045871	2059.1	5.569	13.0	9.2	0.70	4331	3.03	0.28
006843185-08	OBS	No	474.926569	188.740311	1305.4	4.181	12.8	4.6	0.70	4331	2.48	0.14
006843185-09	OBS	No	254.929310	229.253445	2118.2	11.457	12.6	8.8	0.70	4331	4.02	0.32
006843185-10	OBS	No	390.800507	158.970898	17.4	0.893	12.2	0.0	0.70	4331	0.29	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006843185-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-03	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
006843185-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-08	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—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-09	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
006843185-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

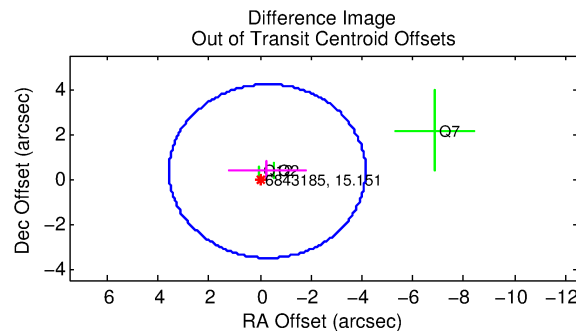
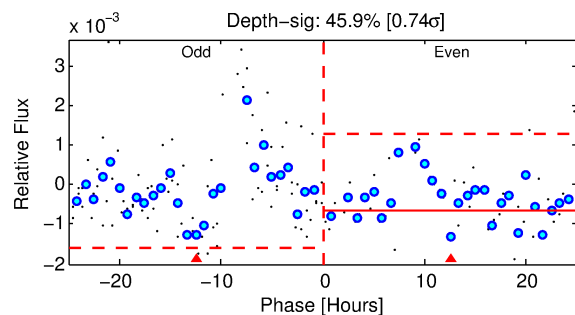
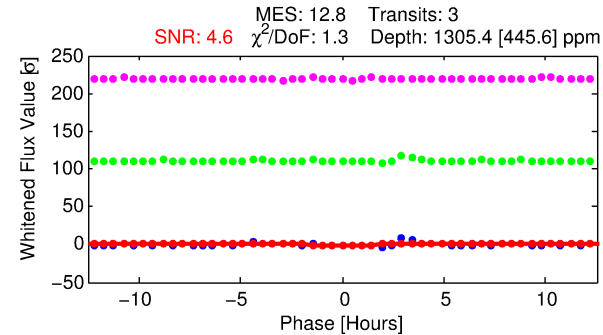
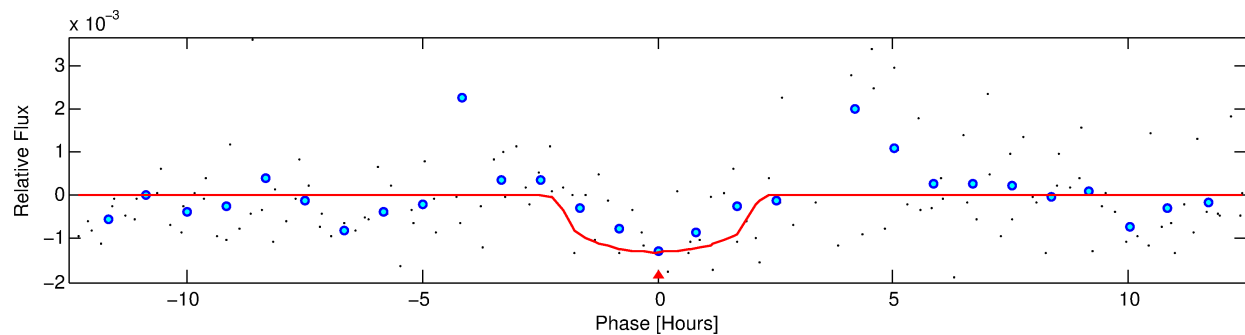
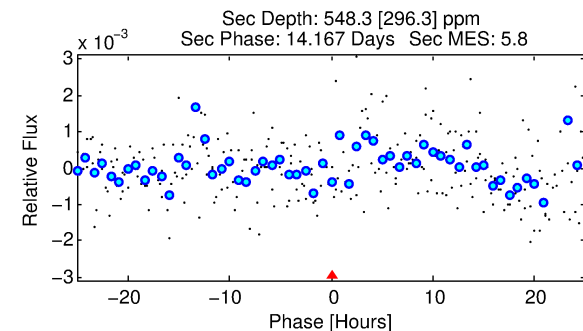
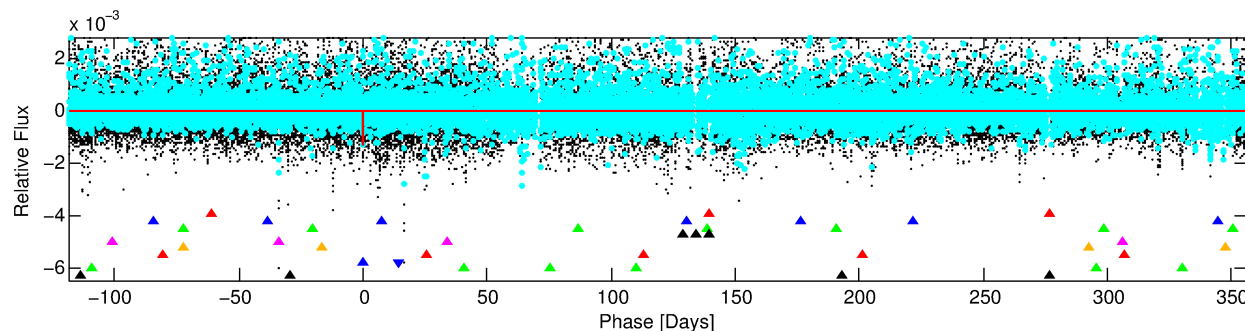
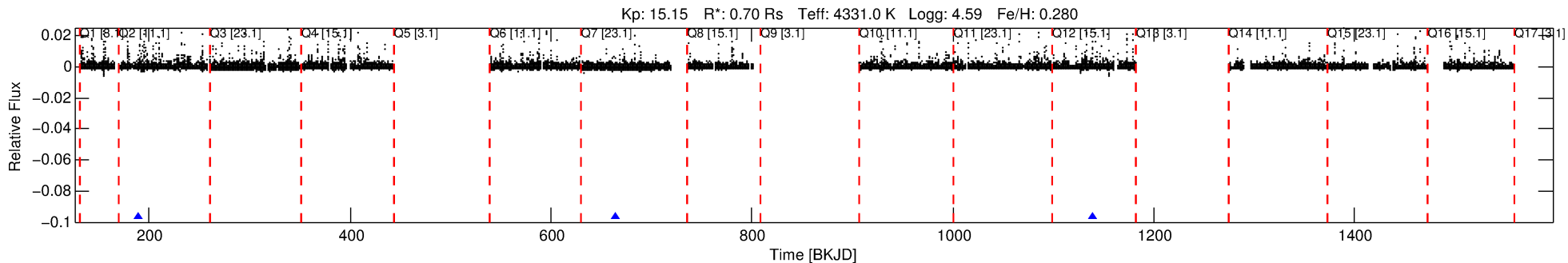
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006843185-08

No Significant Match Found

DV One-Page Summary

KIC: 6843185 Candidate: 8 of 10 Period: 474.927 d



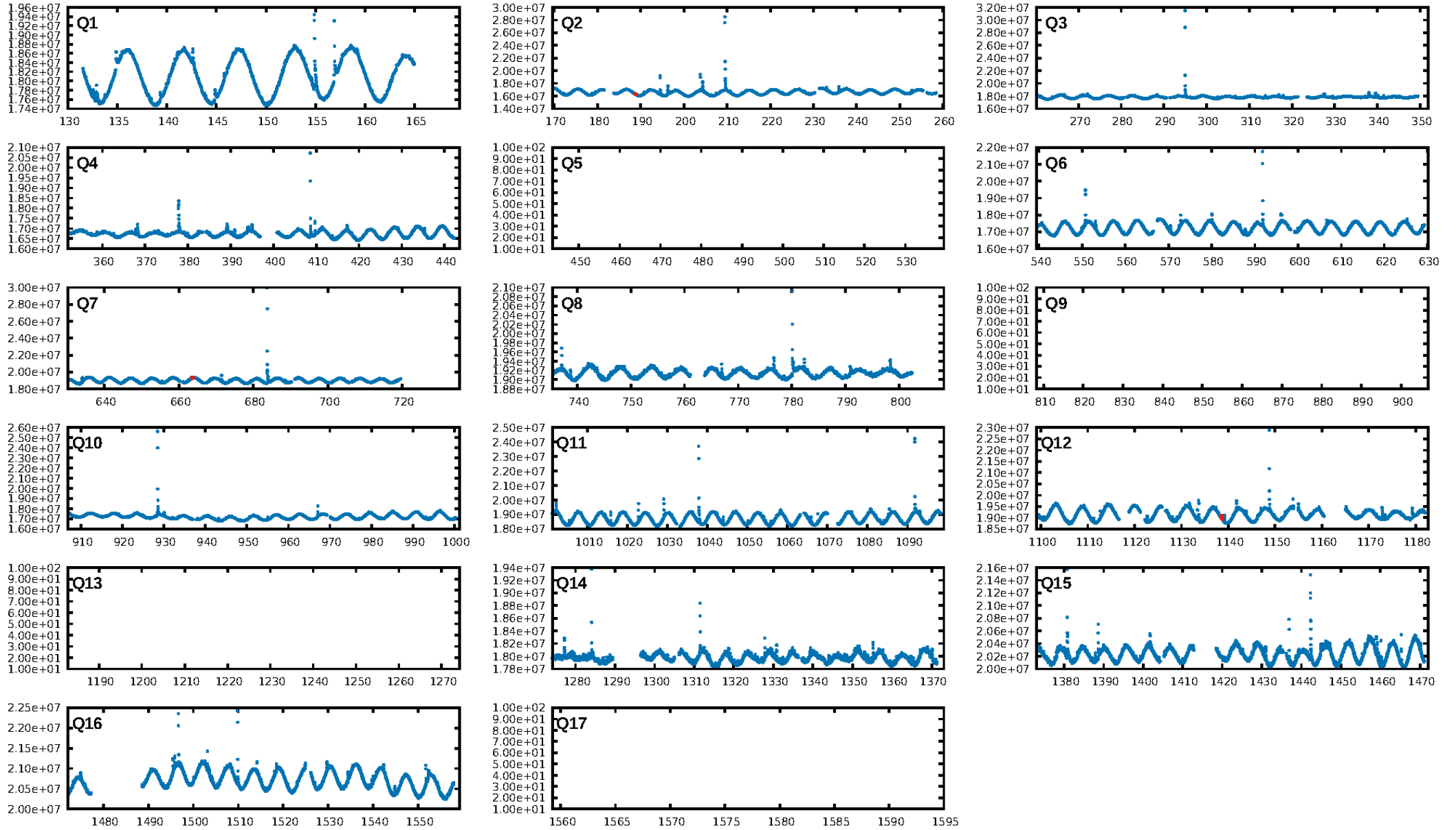
DV Fit Results:

Period = 474.92657 [0.01108] d
Epoch = 188.7403 [0.0143] BKJD
Rp/R* = 0.0323 [0.0724]
a/R* = 832.46 [5231.31]
b = 0.38 [14.47]
Seff = 0.14 [0.02]
Teq = 156 [6] K
Rp = 2.48 [5.56] Re
a = 1.0570 [0.0730] AU
Ag = 54734.34 [246967.86] [0.22σ]
Teffp = 3685 [4157] K [0.85σ]

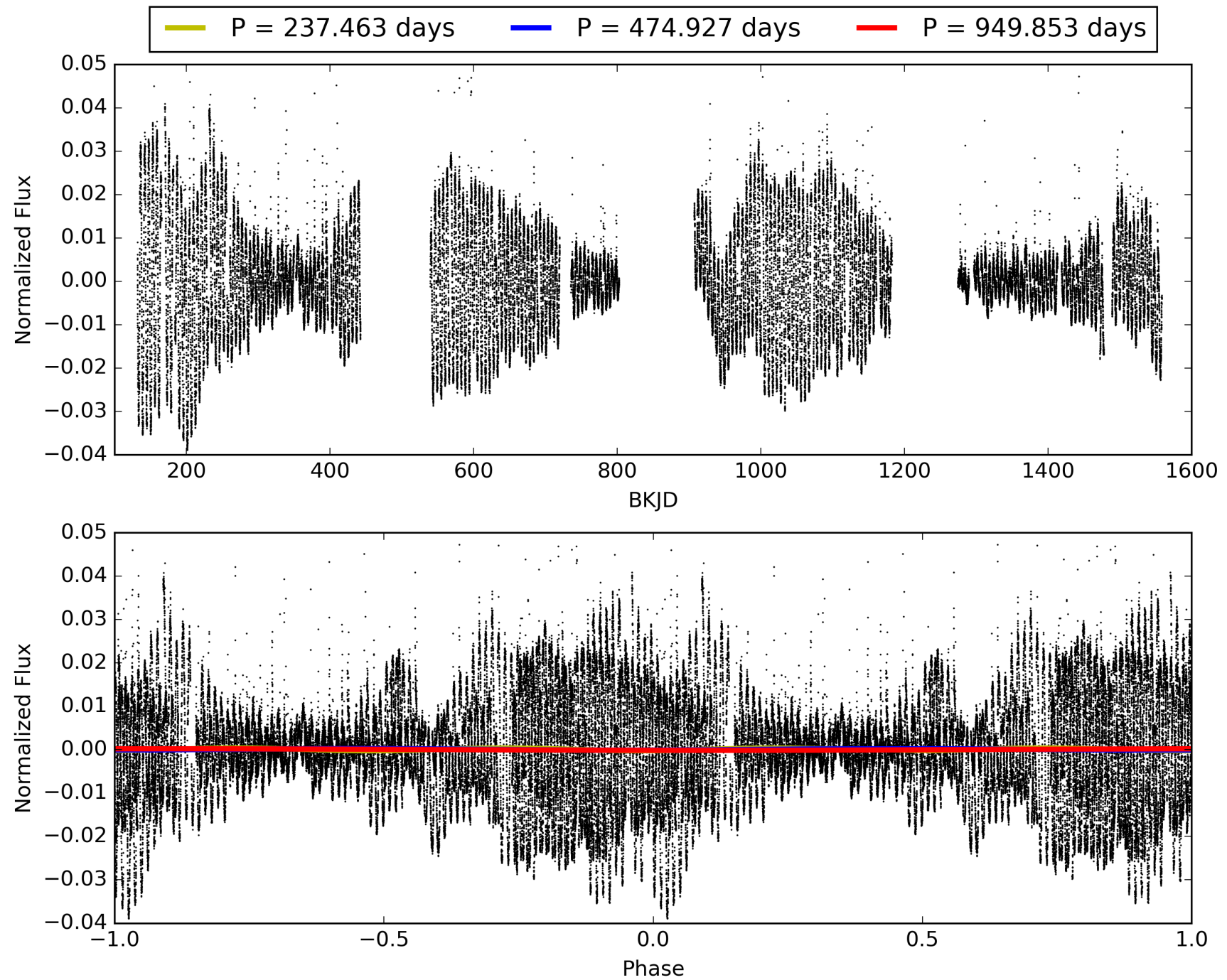
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [114.67σ]
LongPeriod-sig: 100.0% [5.85σ]
ModelChiSquare2-sig: 11.6%
ModelChiSquareGof-sig: 79.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.3698
Centroid-sig: 97.8%
Centroid-so: 0.463 arcsec [0.30σ]
OotOffset-rm: 0.451 arcsec [0.35σ]
KicOffset-rm: 0.701 arcsec [0.59σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 006843185-08, PDC Light Curves

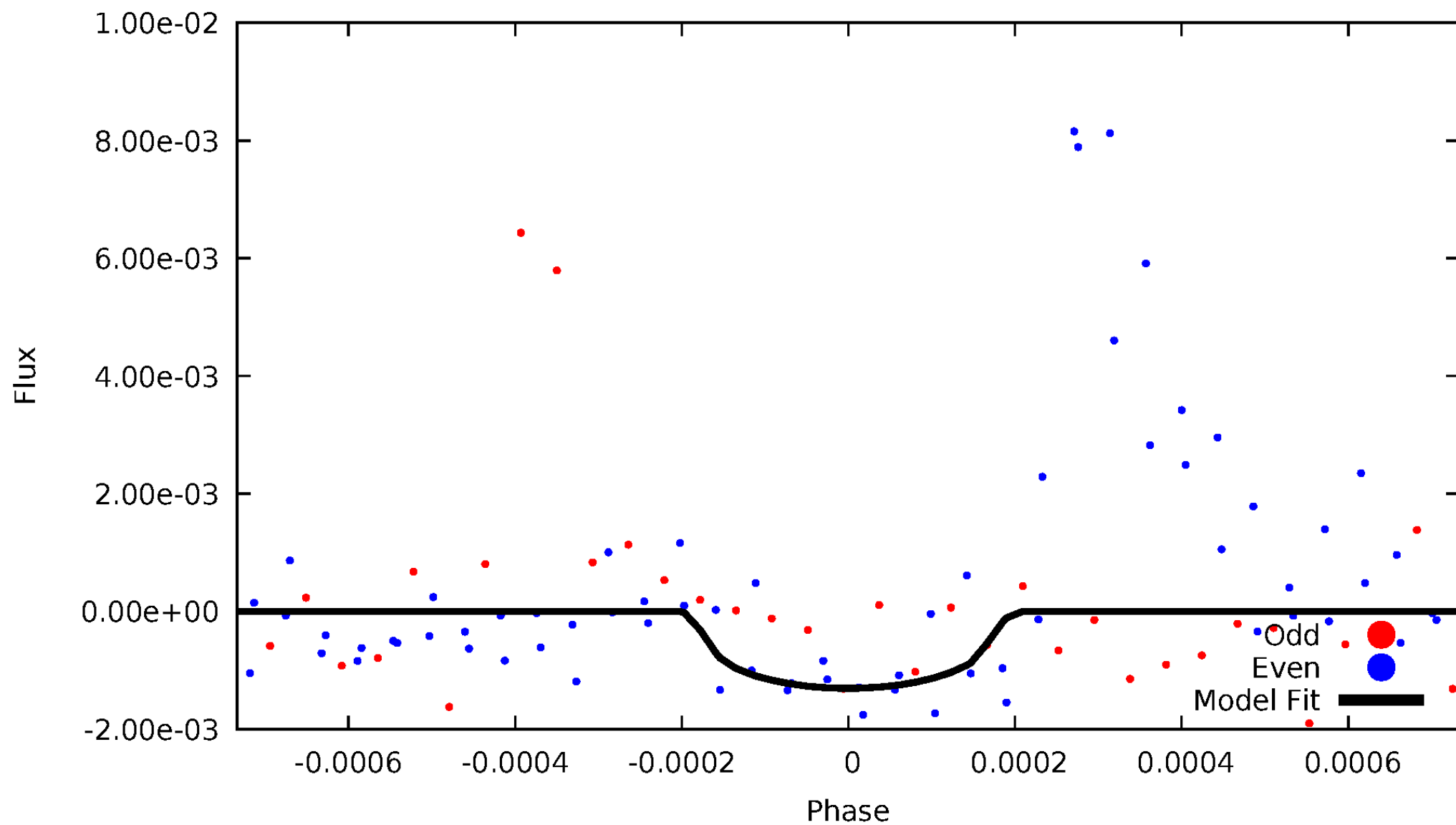


TCE 006843185-08



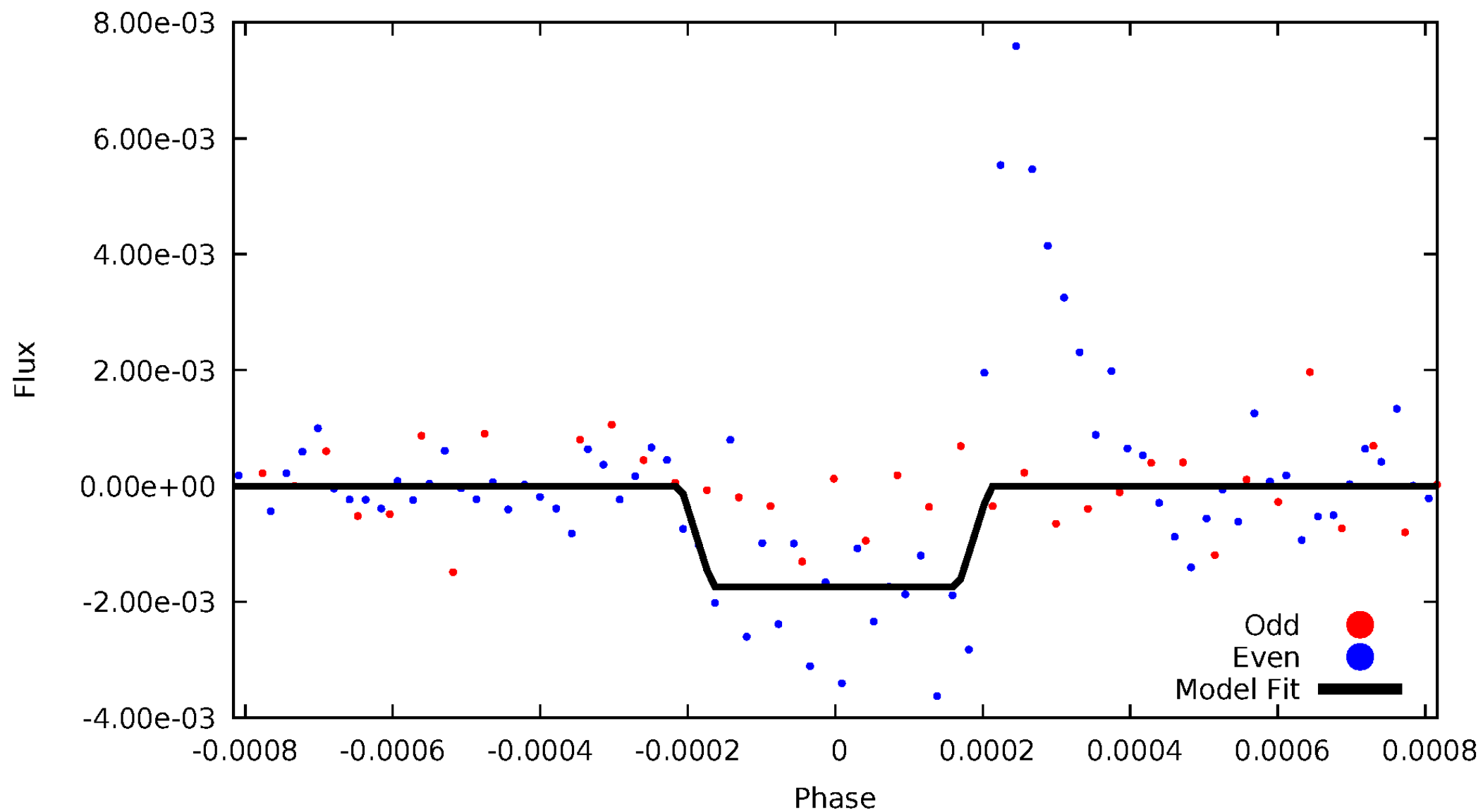
DV Odd/Even

TCE 006843185-08



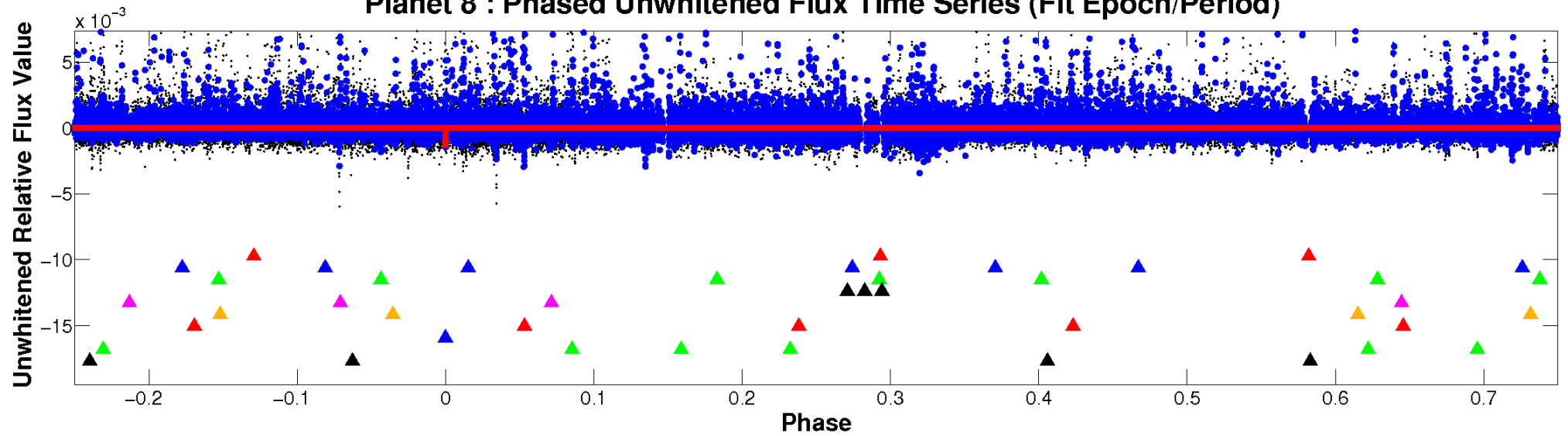
ALT Odd/Even

TCE 006843185-08

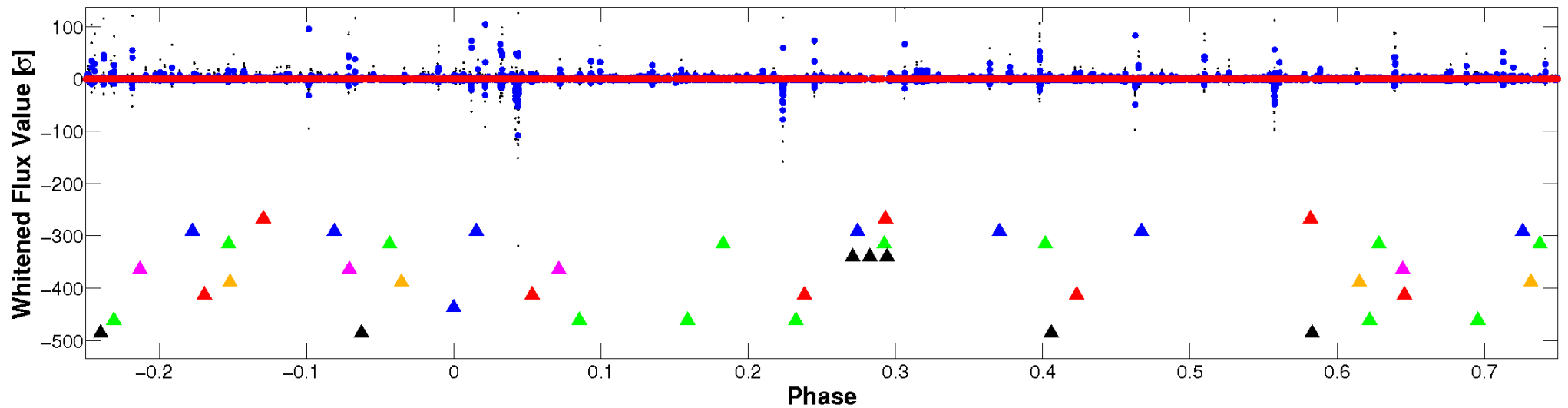


Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

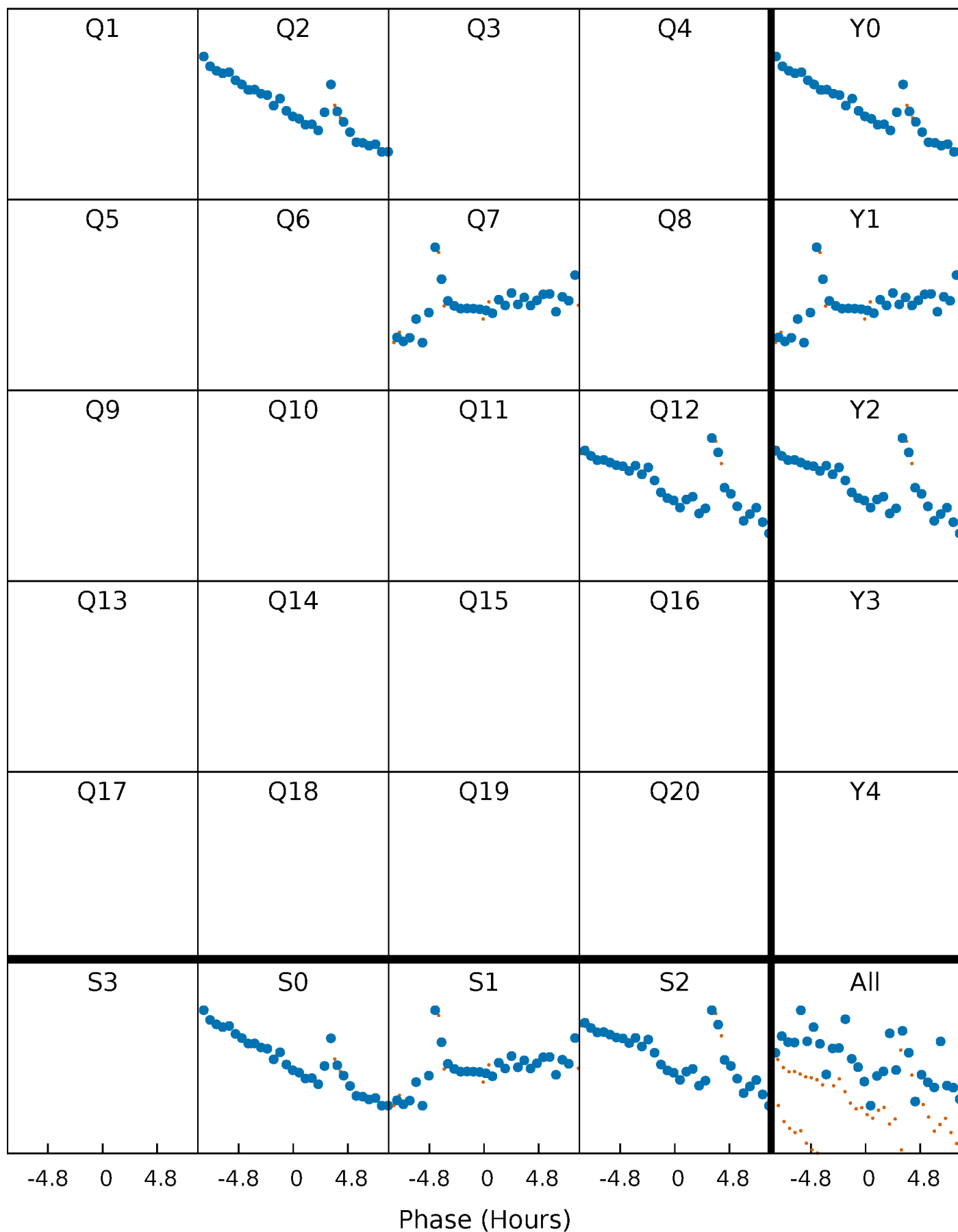


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



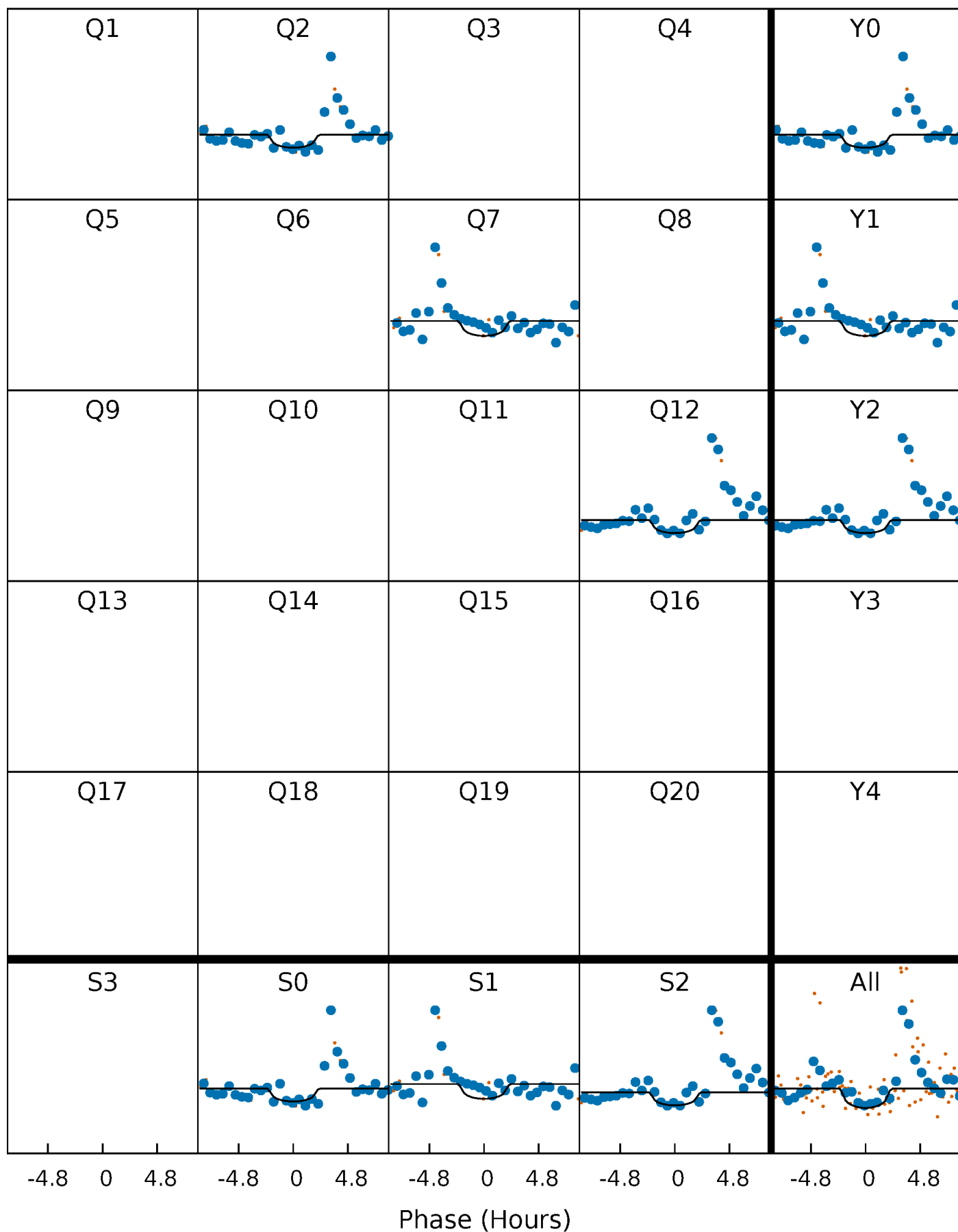
PDC Quarter-Phased Transit Curves

TCE 006843185-08 $P=474.926569$ Days $T_0=188.740310$ (BKJD)



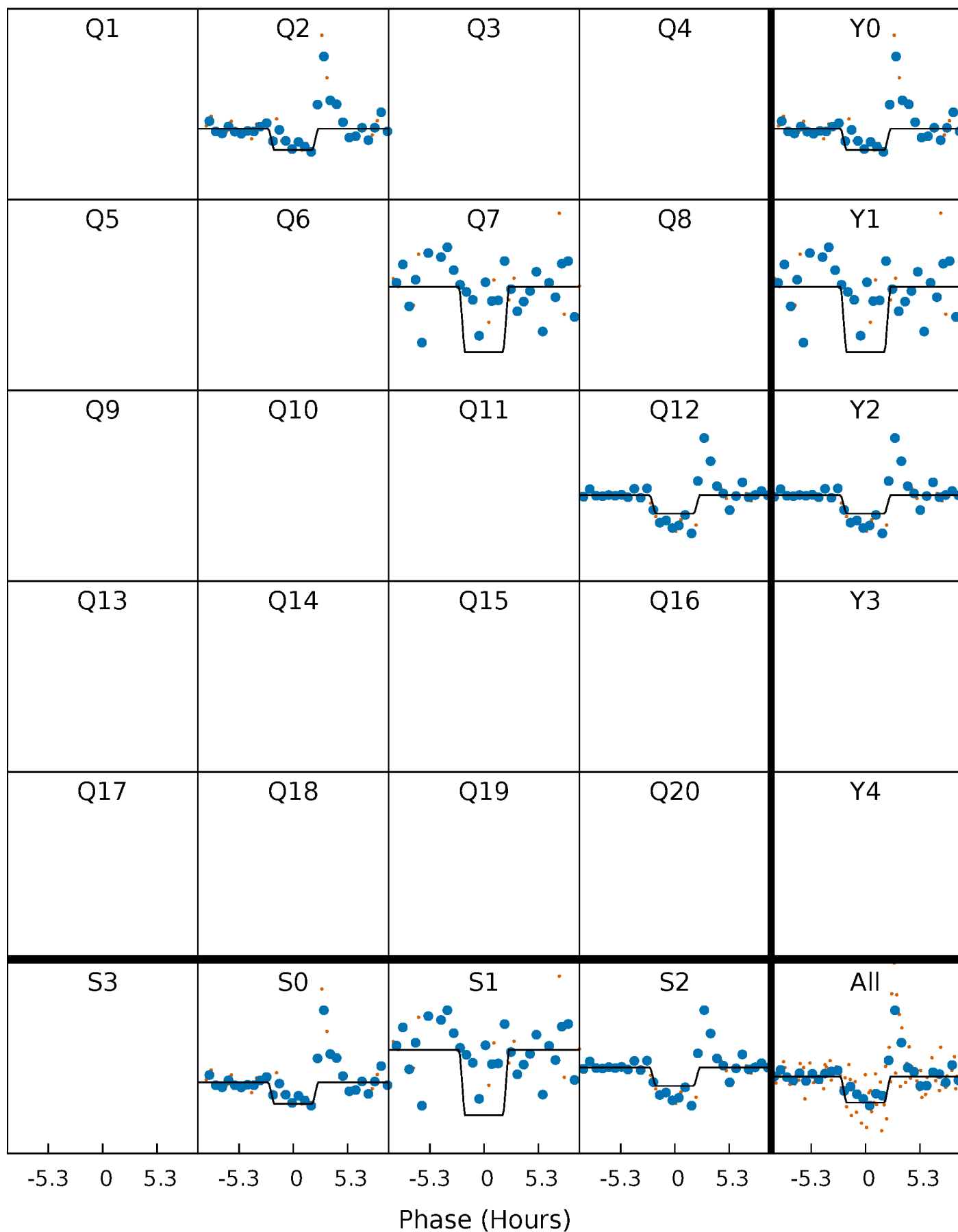
DV Quarter-Phased Transit Curves

TCE 006843185-08 $P=474.926569$ Days $T_0=188.740310$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

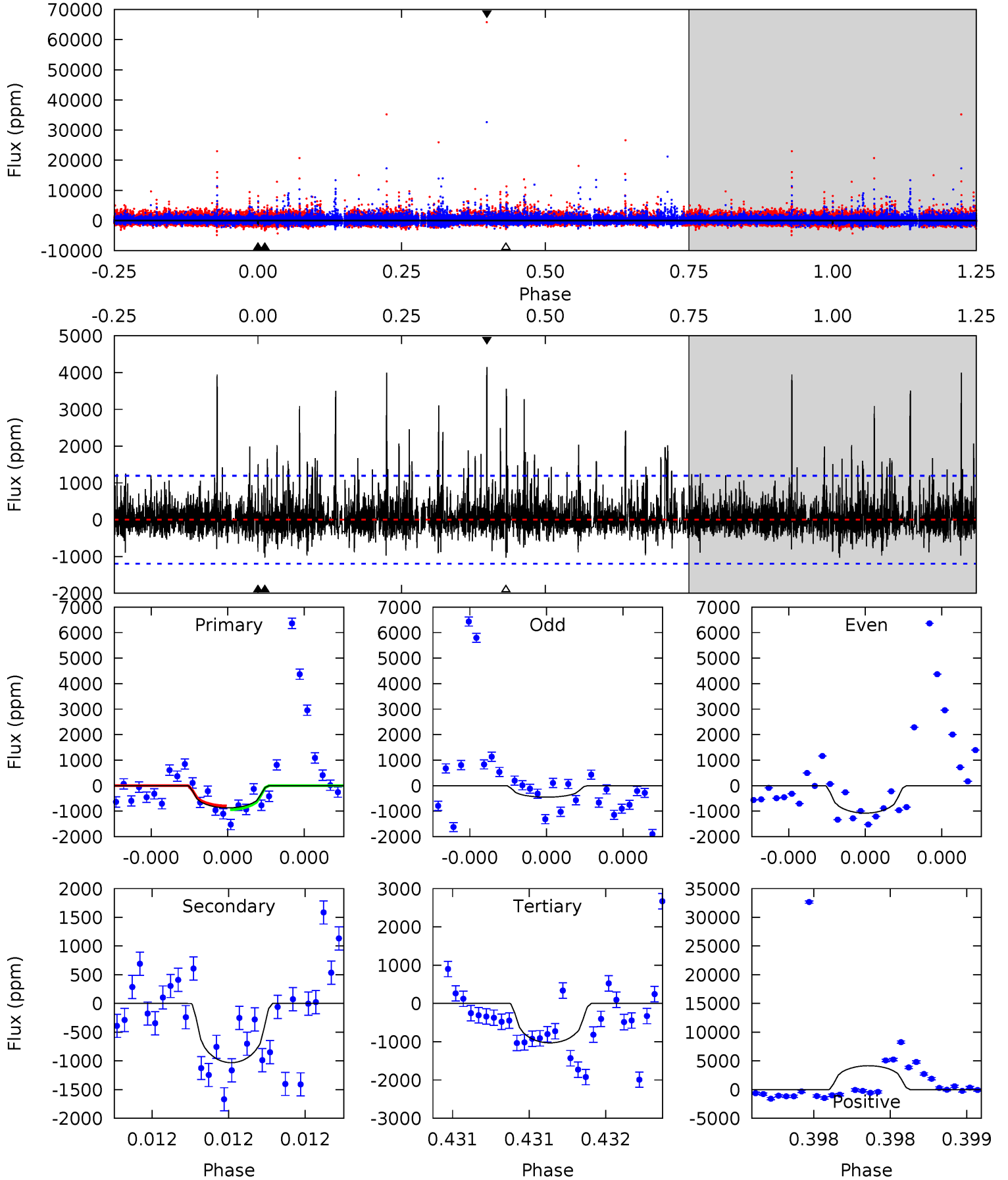
TCE 006843185-08 P=474.930424 Days $T_0=188.755012$ (BKJD)



DV Model-Shift Uniqueness Test

006843185-08, P = 474.926569 Days, E = 188.740310 Days

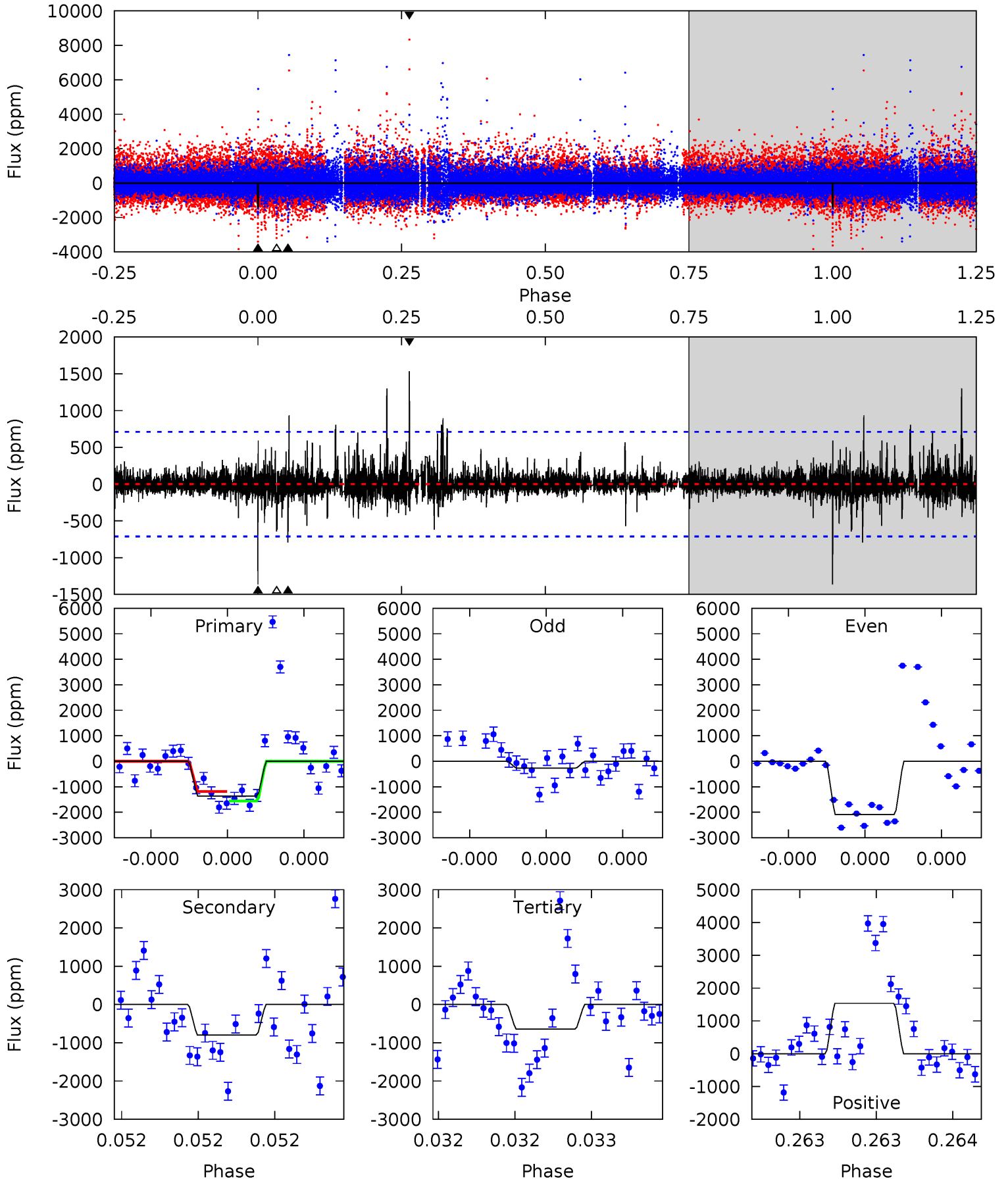
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.09	4.84	4.84	19.5	5.62	3.55	1.88	-0.75	-15.4	0.01	-14.7	0.35	1.01	0.80	0.35



Alt Model-Shift Uniqueness Test

006843185-08, P = 474.930424 Days, E = 188.755012 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	6.26	5.05	12.1	5.60	3.53	0.96	5.70	-1.34	1.21	-5.83	6.58	1.27	0.53	1.45



Stellar Parameters For KIC 006843185

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4331^{+142}_{-142}	$4.588^{+0.056}_{-0.017}$	$0.280^{+0.150}_{-0.300}$	$0.703^{+0.028}_{-0.057}$	$0.698^{+0.044}_{-0.049}$	$2.829^{+0.655}_{-0.190}$
	+3%/-3%	+1%/-0%	+54%/-107%	+4%/-8%	+6%/-7%	+23%/-7%
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 006843185-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1032 ± 213	$5.02^{+4.38}_{-3.25}$	216^{+7}_{-8}	3373^{+1521}_{-563}	$25076^{+174915}_{-17878}$
Alt.	-794 ± 127	$5.51^{+4.94}_{-3.73}$	216^{+8}_{-8}	3167^{+1460}_{-514}	$16330^{+133166}_{-11901}$

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

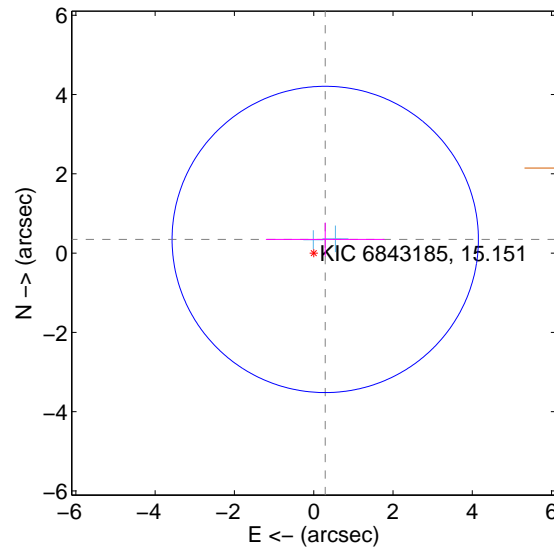
Supplemental centroid analysis for 006843185-08. Kepler magnitude: 15.15. Transit SNR 4.62

There are 2 quarters with good PRF difference image offsets

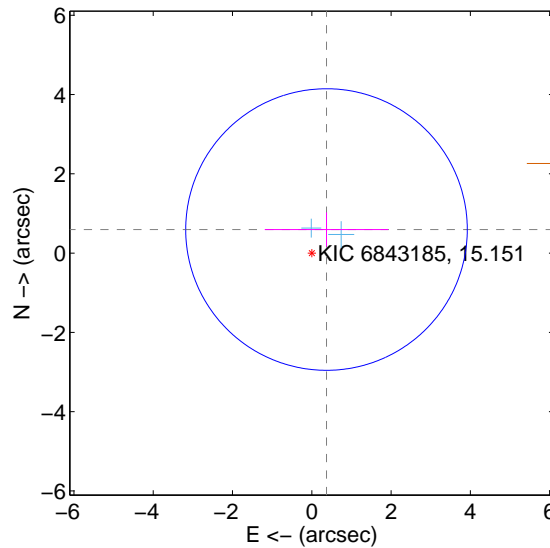
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.451 ± 1.288	0.35	-0.291 ± 1.497	0.344 ± 0.426
PRF-fit source offset from KIC position	0.701 ± 1.184	0.59	-0.371 ± 1.558	0.595 ± 0.432
photometric centroid source offset	0.46 ± 1.54	0.30	-0.19 ± 1.45	0.42 ± 1.56

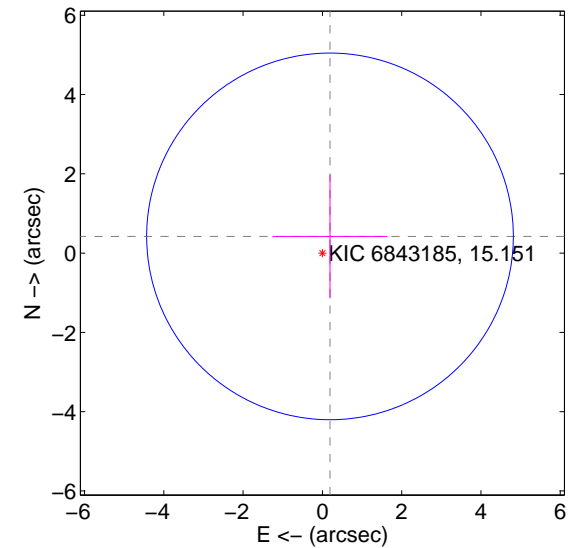
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

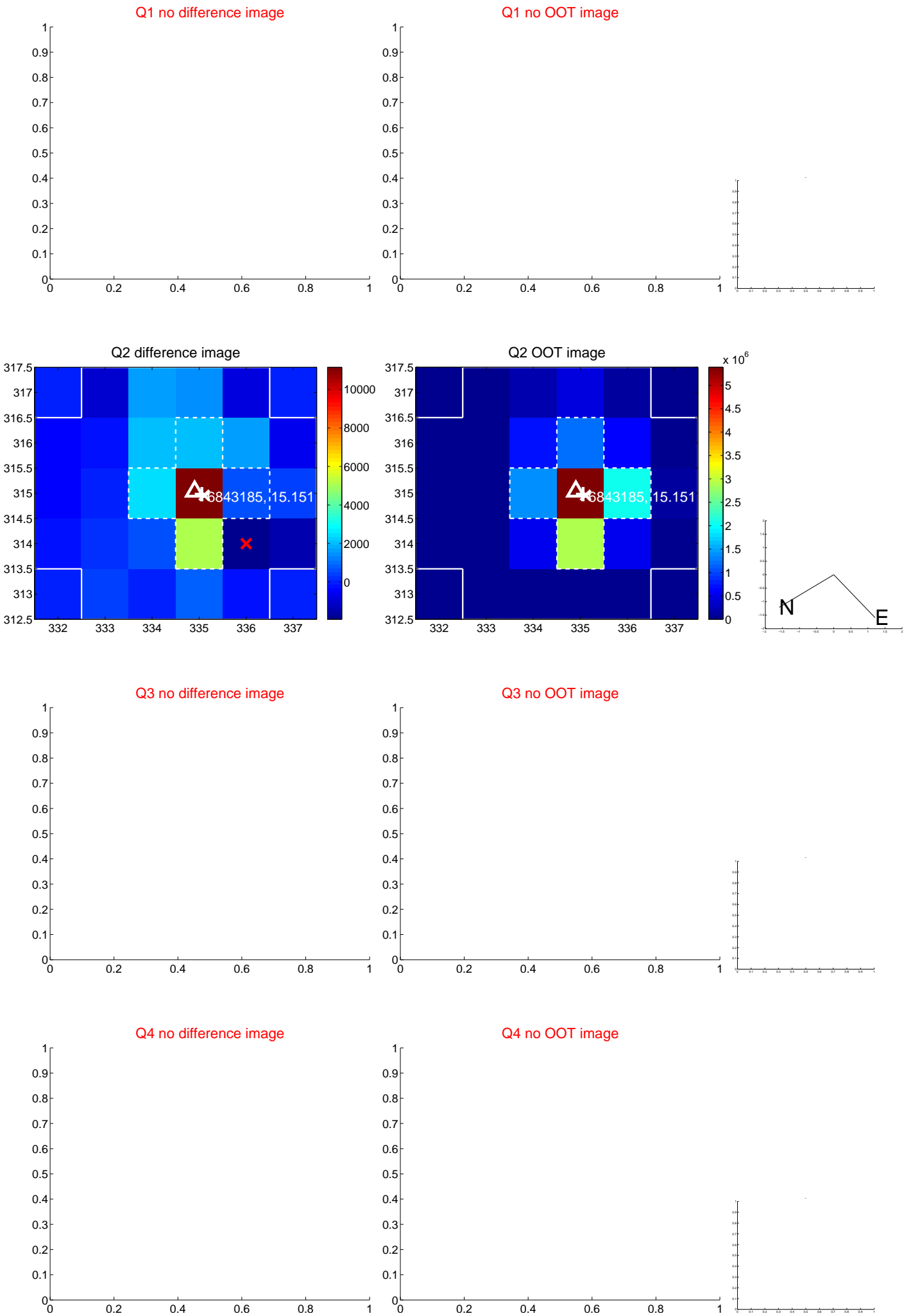


offset from photometric centroids



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

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



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

Q5 no difference image



Q5 no OOT image



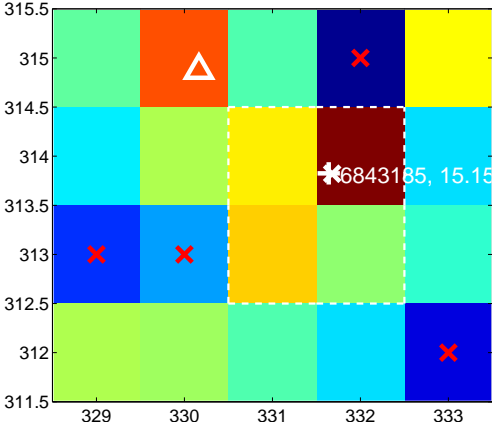
Q6 no difference image



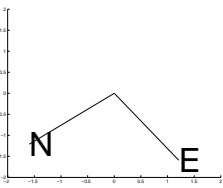
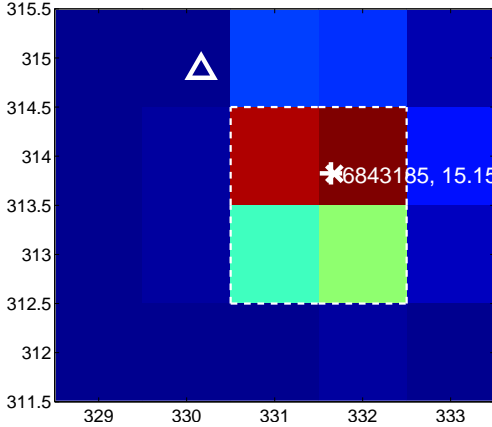
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



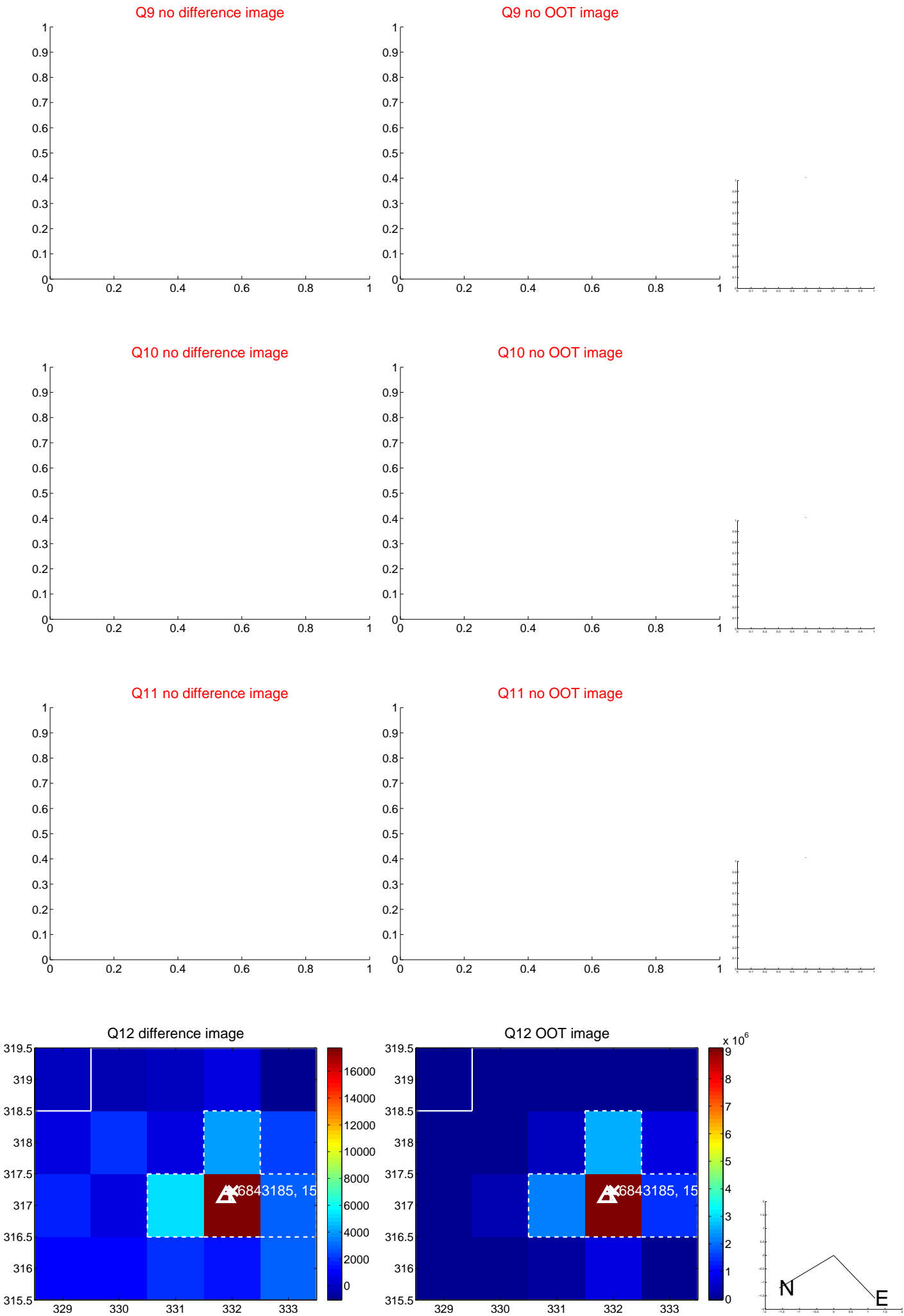
Q8 no difference image



Q8 no OOT image



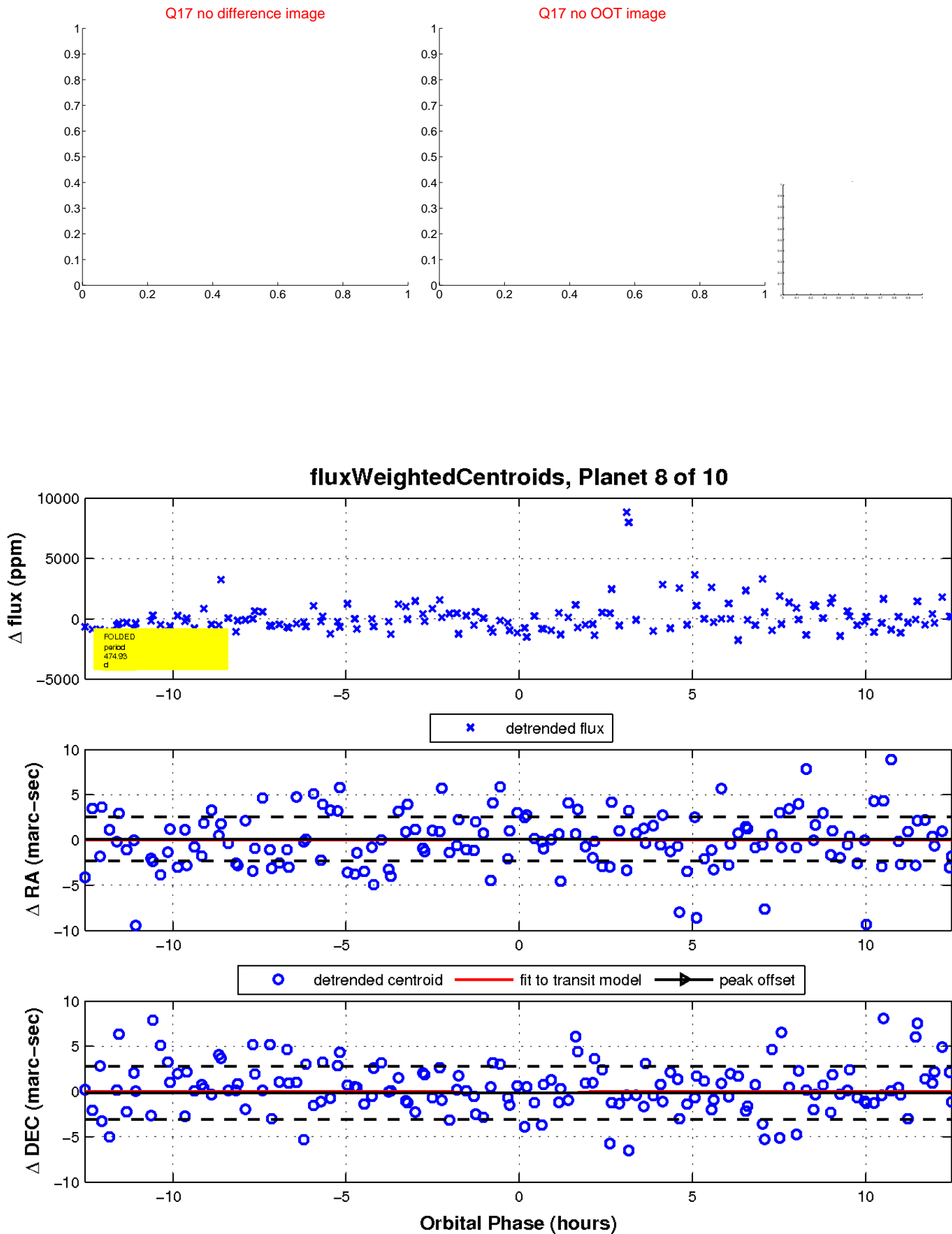
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

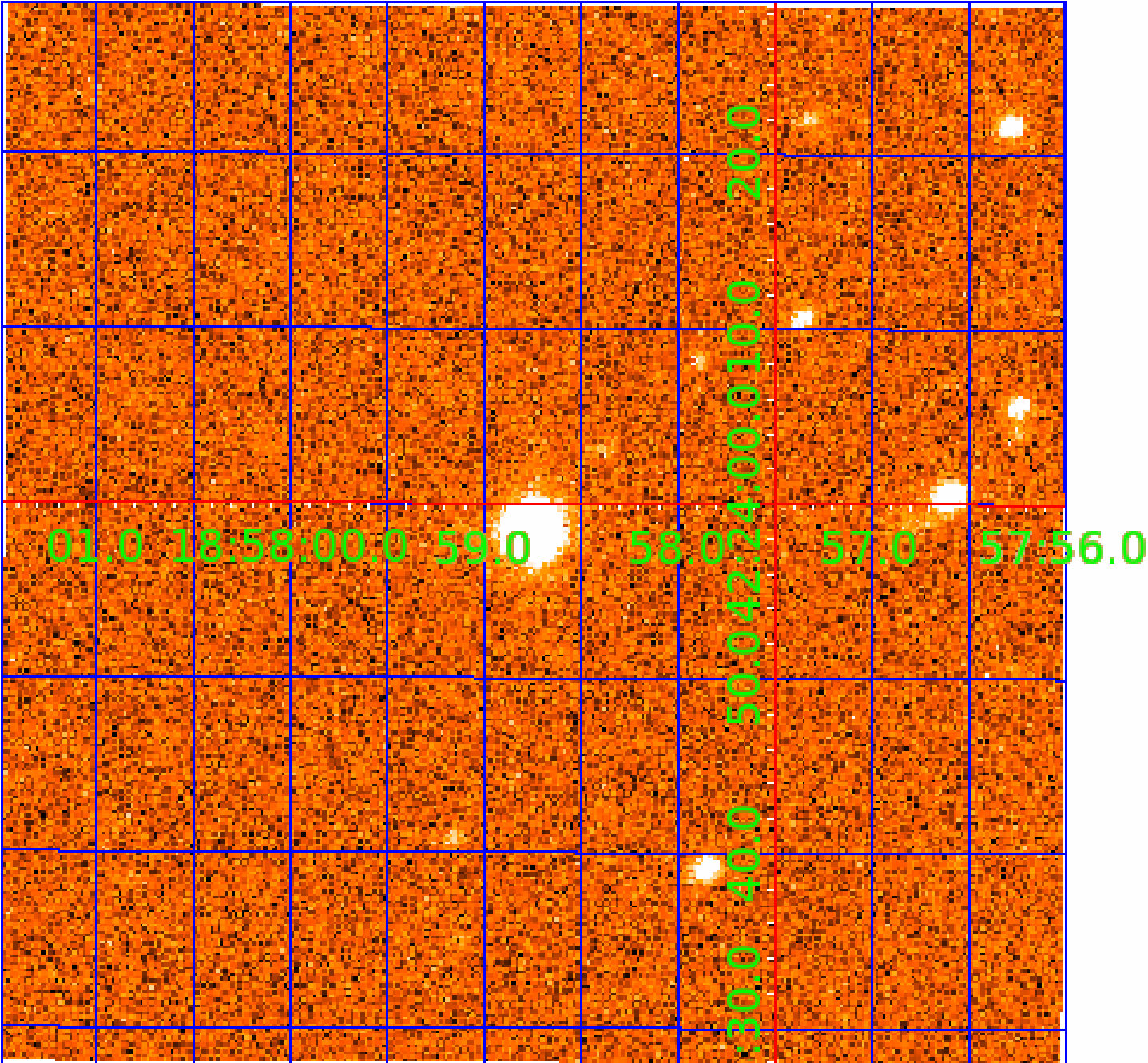


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
006843185-01	OBS	No	612.067201	328.000622	3086.6	13.627	15.2	10.9	0.70	4331	4.35	0.10
006843185-02	OBS	No	214.565578	196.030052	1975.0	9.585	13.9	7.1	0.70	4331	3.06	0.40
006843185-03	OBS	No	211.494807	168.060866	2874.5	17.193	13.1	12.6	0.70	4331	4.10	0.41
006843185-04	OBS	No	480.464997	317.440449	1747.0	22.354	14.9	5.0	0.70	4331	2.80	0.14
006843185-05	OBS	No	407.362166	222.635926	3522.6	15.164	12.9	10.8	0.70	4331	5.25	0.17
006843185-06	OBS	No	419.620189	171.880141	2311.0	10.794	14.4	8.0	0.70	4331	3.36	0.16
006843185-07	OBS	No	281.377772	214.045871	2059.1	5.569	13.0	9.2	0.70	4331	3.03	0.28
006843185-08	OBS	No	474.926569	188.740311	1305.4	4.181	12.8	4.6	0.70	4331	2.48	0.14
006843185-09	OBS	No	254.929310	229.253445	2118.2	11.457	12.6	8.8	0.70	4331	4.02	0.32
006843185-10	OBS	No	390.800507	158.970898	17.4	0.893	12.2	0.0	0.70	4331	0.29	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006843185-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-03	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
006843185-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-08	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—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-09	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
006843185-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

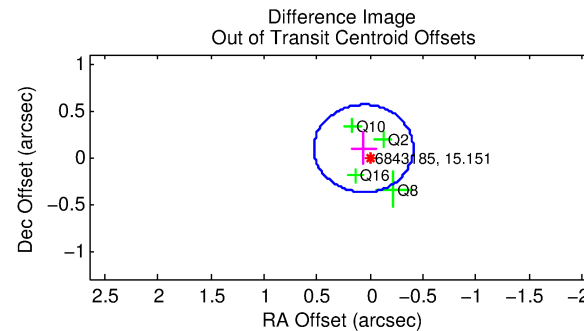
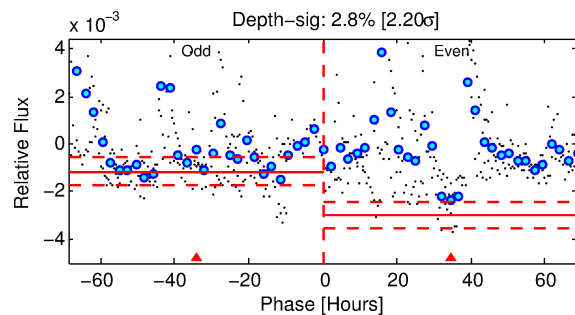
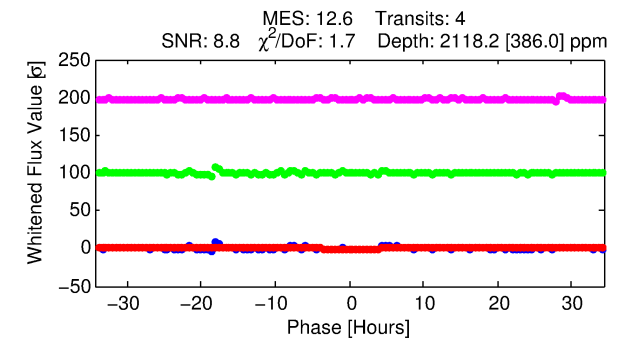
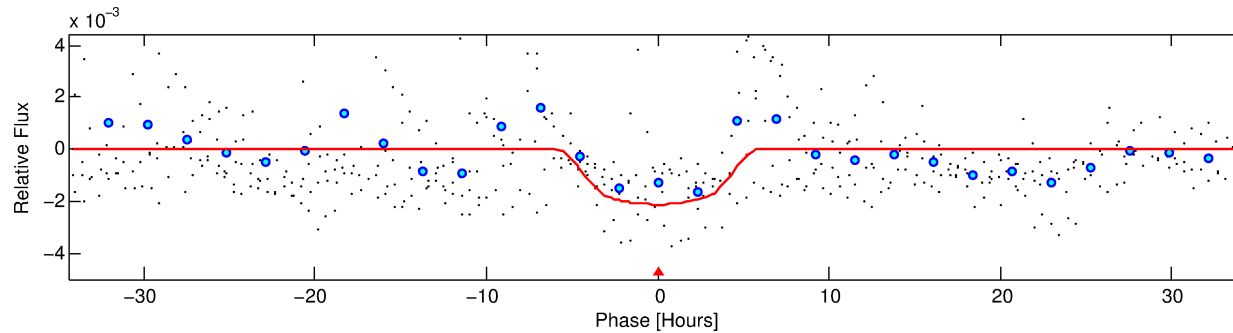
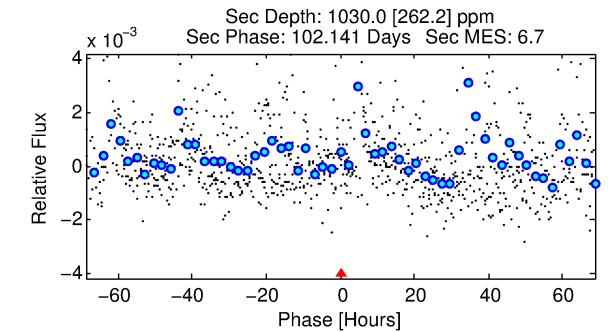
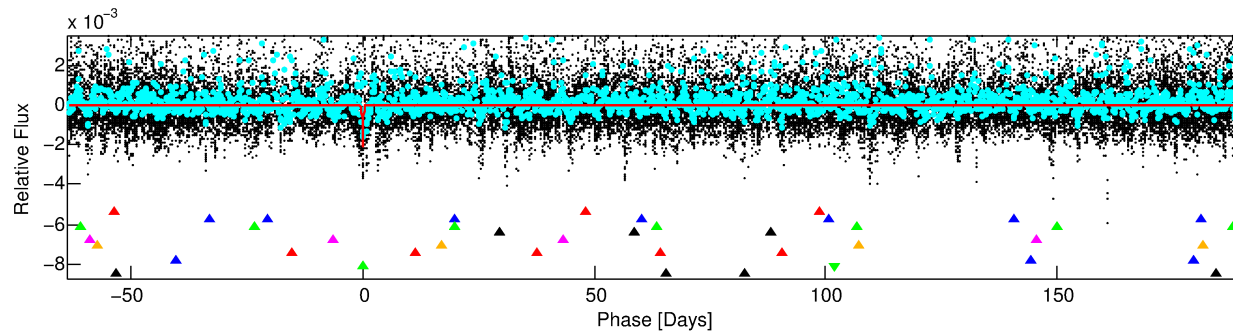
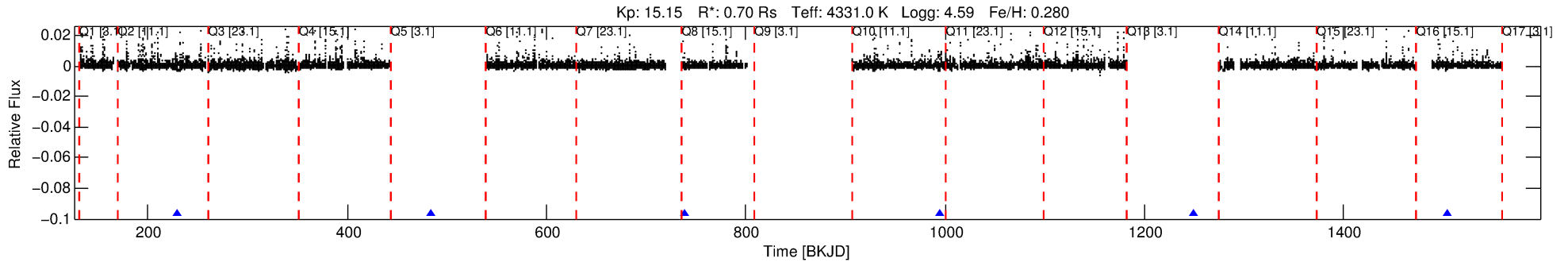
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006843185-09

No Significant Match Found

DV One-Page Summary

KIC: 6843185 Candidate: 9 of 10 Period: 254.929 d



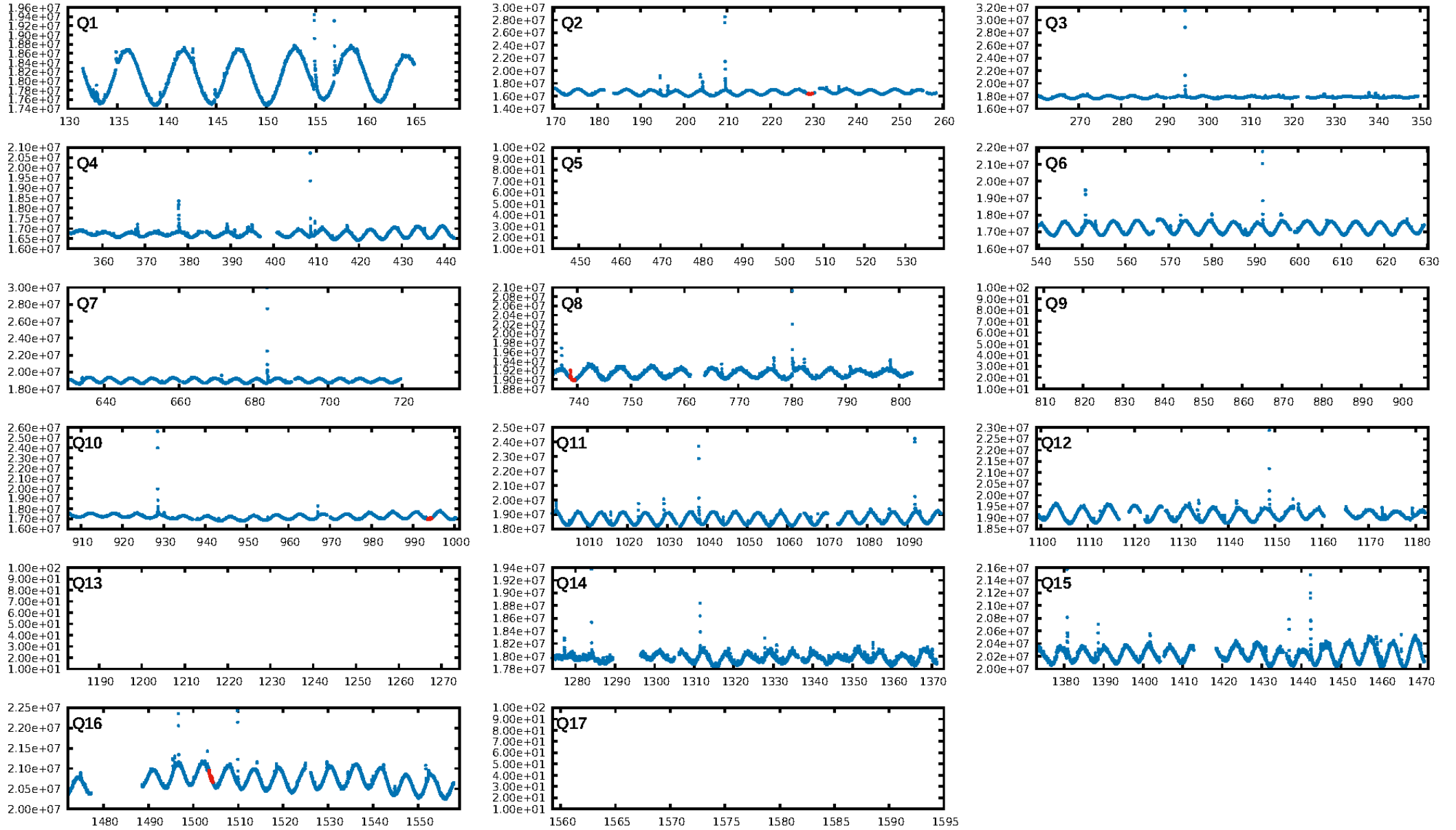
DV Fit Results:

Period = 254.92931 [0.00791] d
Epoch = 229.2534 [0.0250] BKJD
Rp/R* = 0.0525 [0.0067]
a/R* = 92.53 [22.63]
b = 0.90 [0.05]
Seff = 0.32 [0.05]
Teq = 192 [8] K
Rp = 4.02 [0.61] Re
a = 0.6981 [0.0482] AU
Ag = 17053.61 [6384.75] [2.67σ]
Teffp = 3388 [325] K [9.84σ]

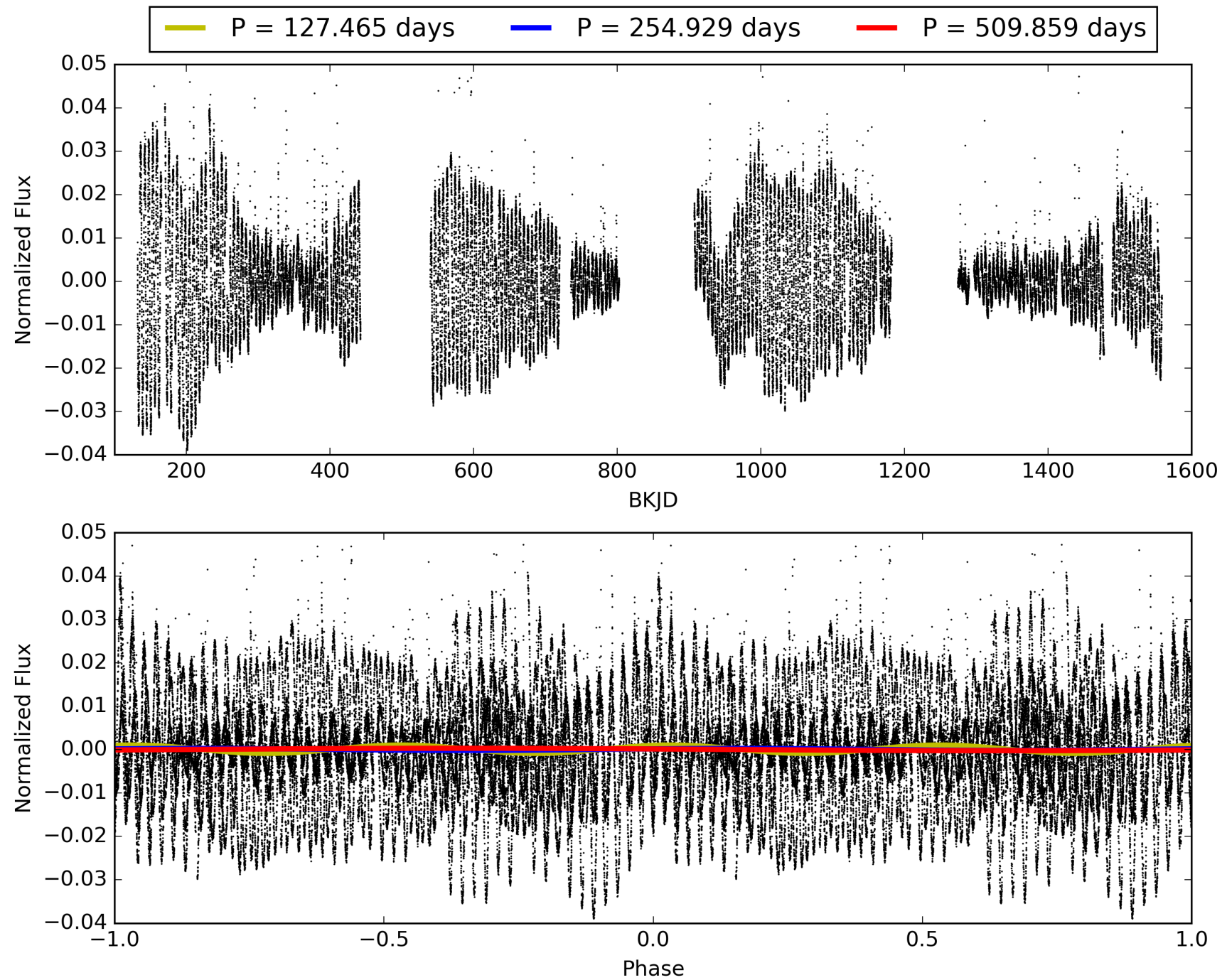
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [64.85σ]
LongPeriod-sig: 100.0% [49.83σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 85.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.272
Centroid-sig: 32.2%
Centroid-so: 0.518 arcsec [1.02σ]
OotOffset-rm: 0.112 arcsec [0.72σ]
KicOffset-rm: 0.284 arcsec [1.98σ]
OotOffset-st: 2/0/2/0 [4]
KicOffset-st: 2/0/2/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [4/4]

TCE 006843185-09, PDC Light Curves

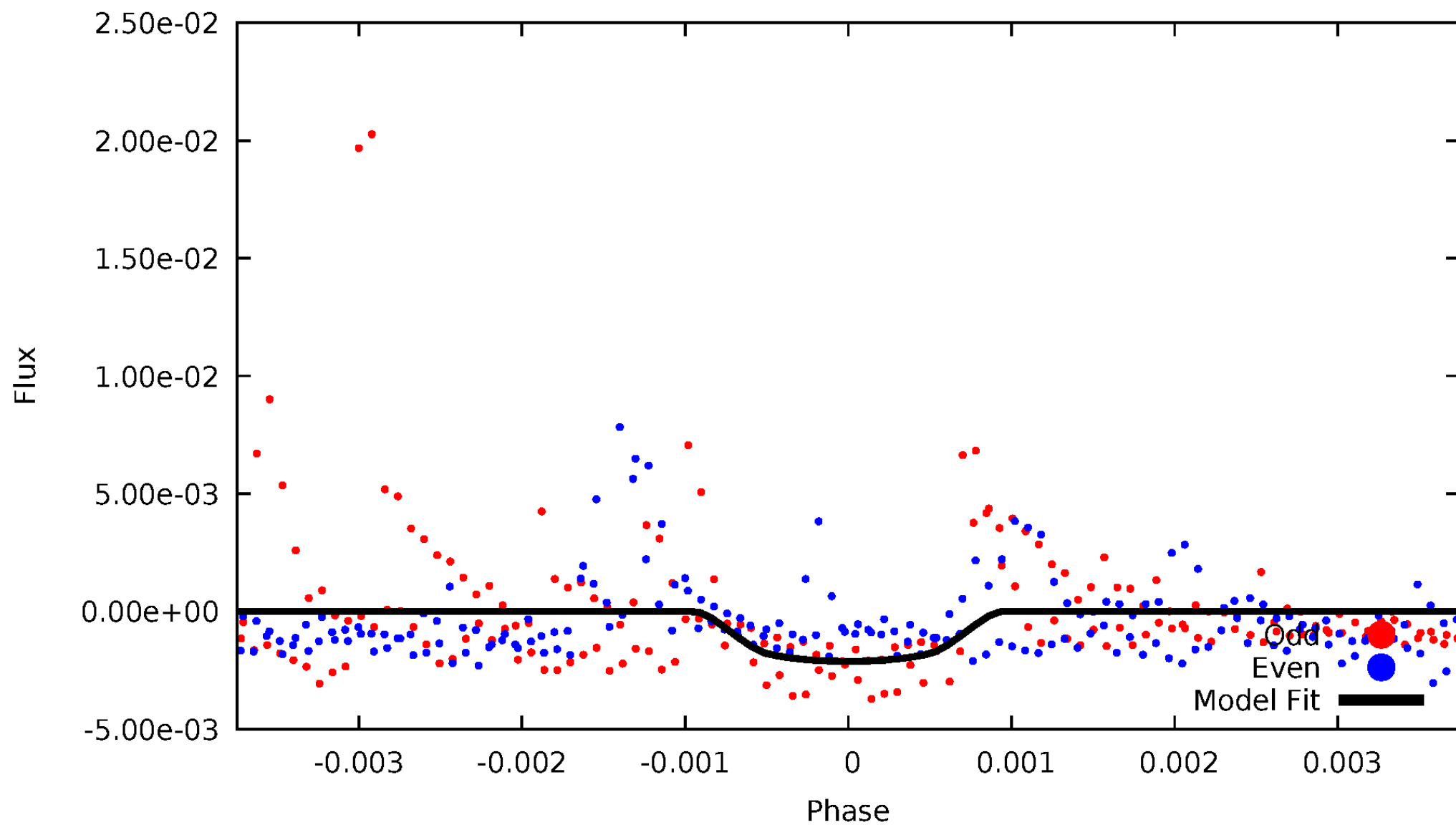


TCE 006843185-09



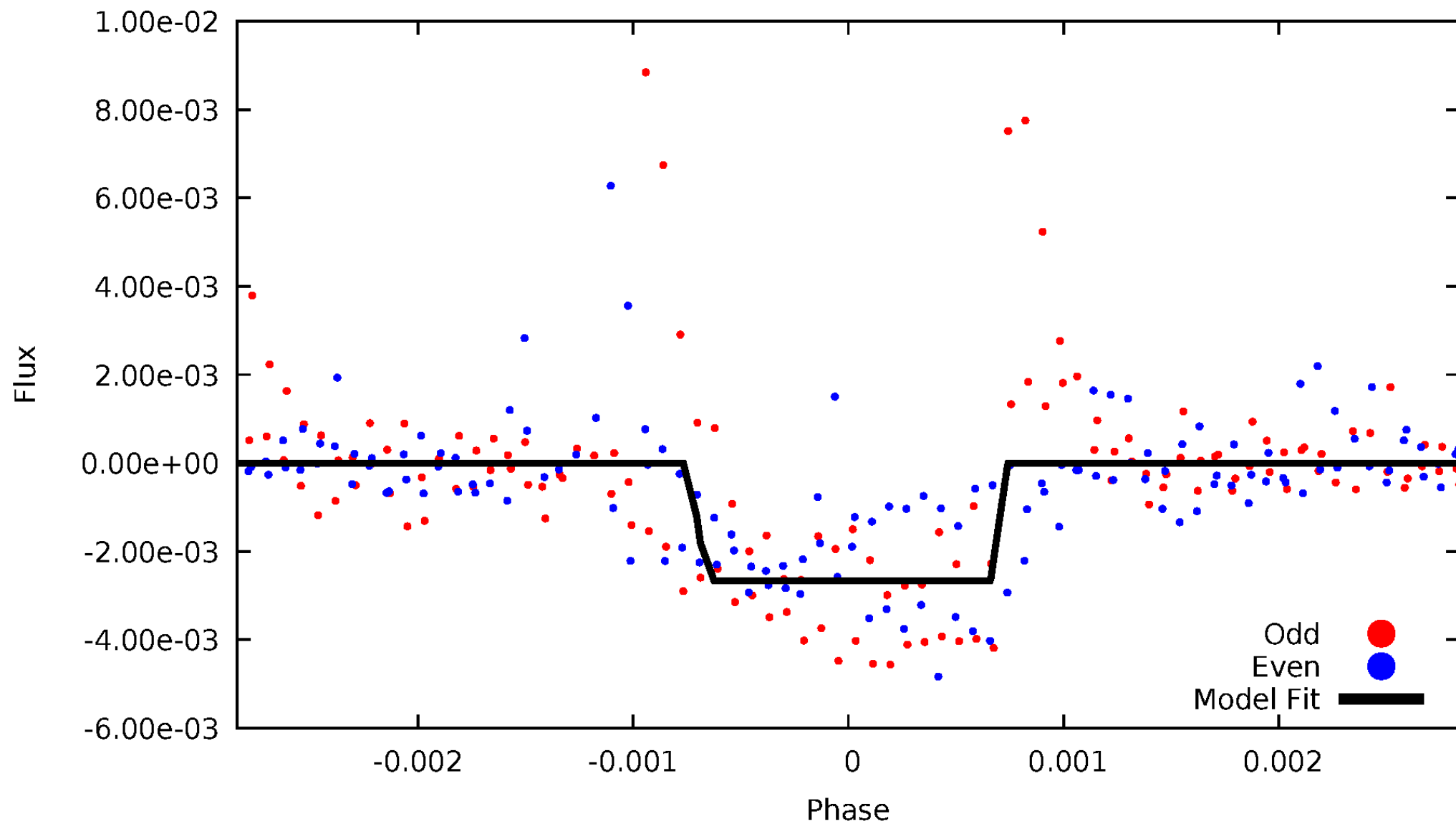
DV Odd/Even

TCE 006843185-09



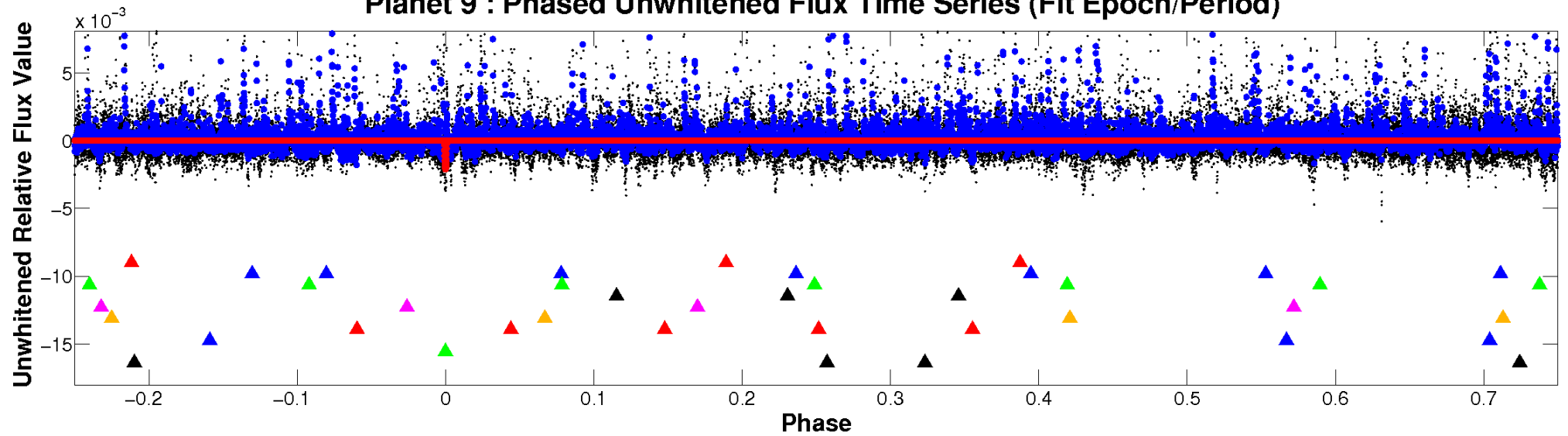
ALT Odd/Even

TCE 006843185-09

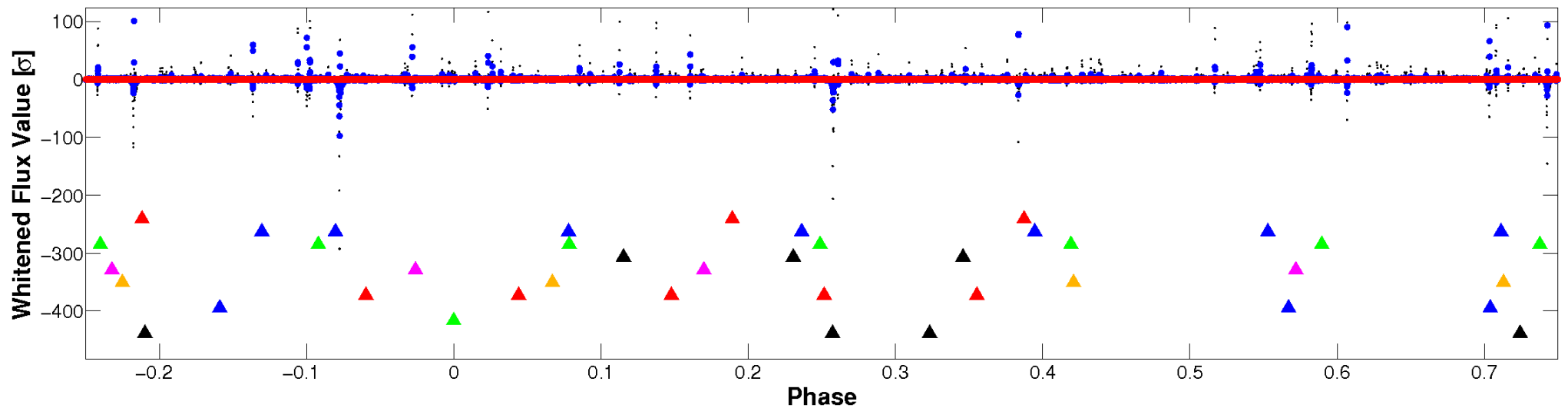


Non-Whitened Vs. Whitened Light Curve

Planet 9 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

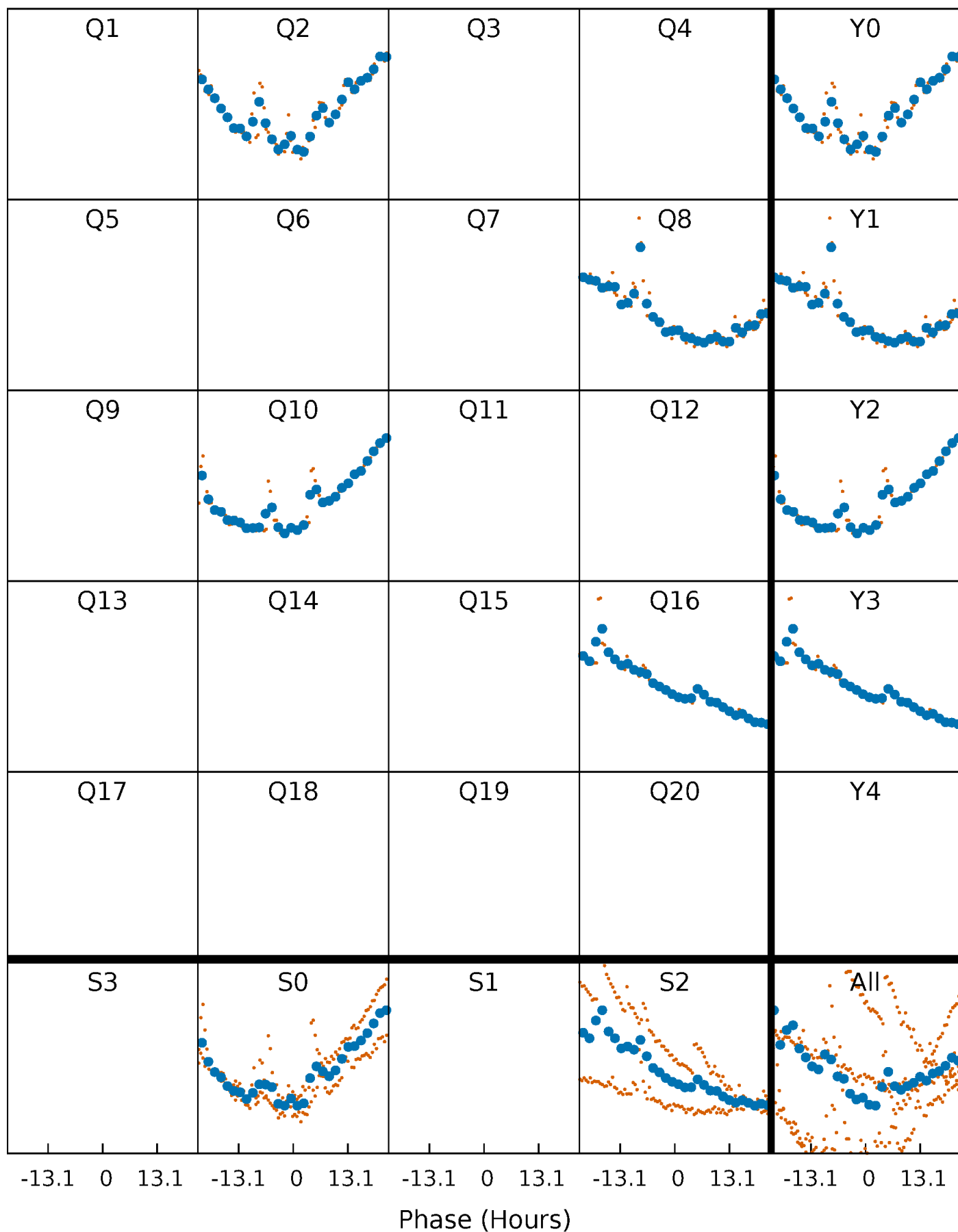


Planet 9 : Phased Whitened Flux Time Series (Fit Epoch/Period)



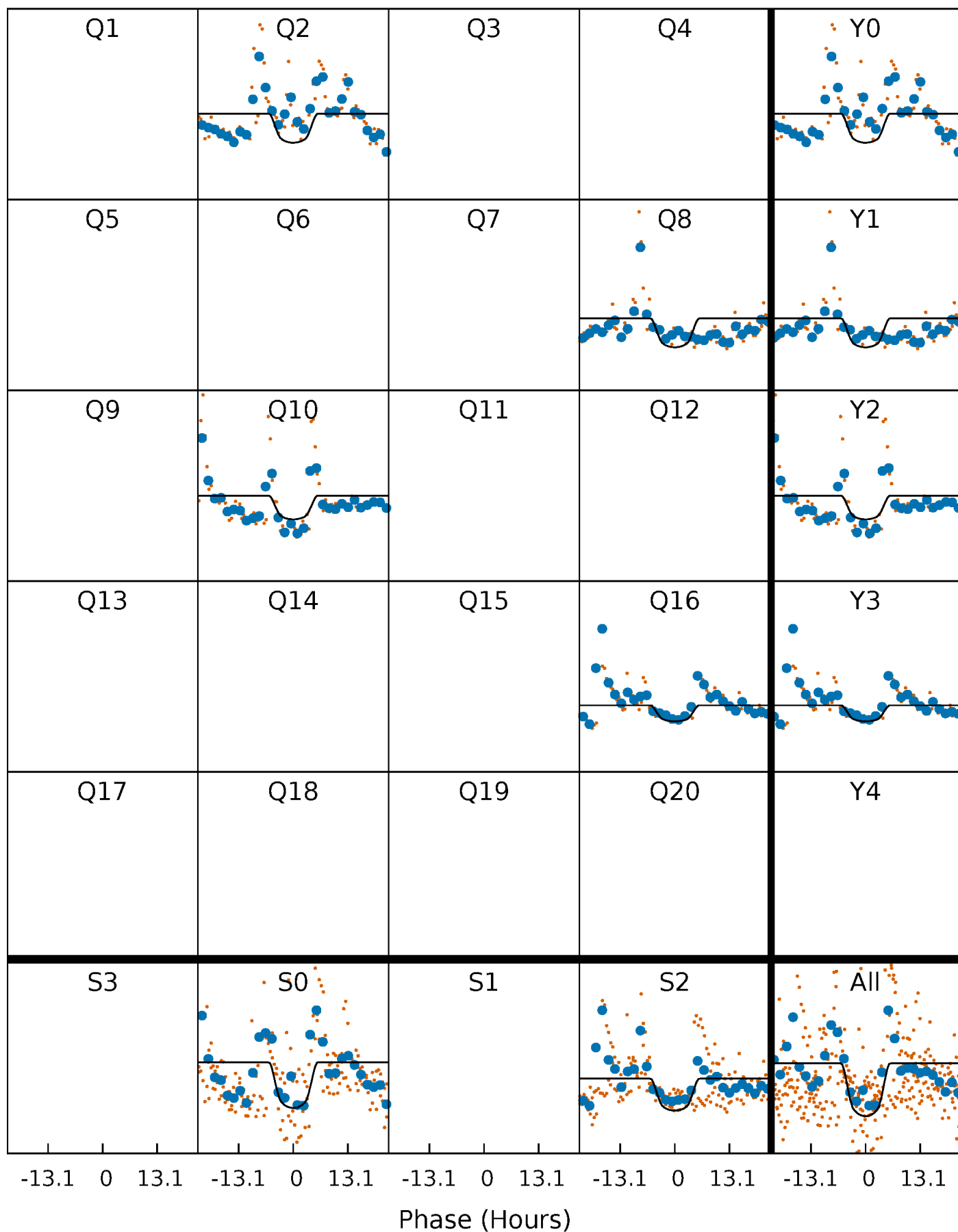
PDC Quarter-Phased Transit Curves

TCE 006843185-09 P=254.929310 Days $T_0=229.253445$ (BKJD)



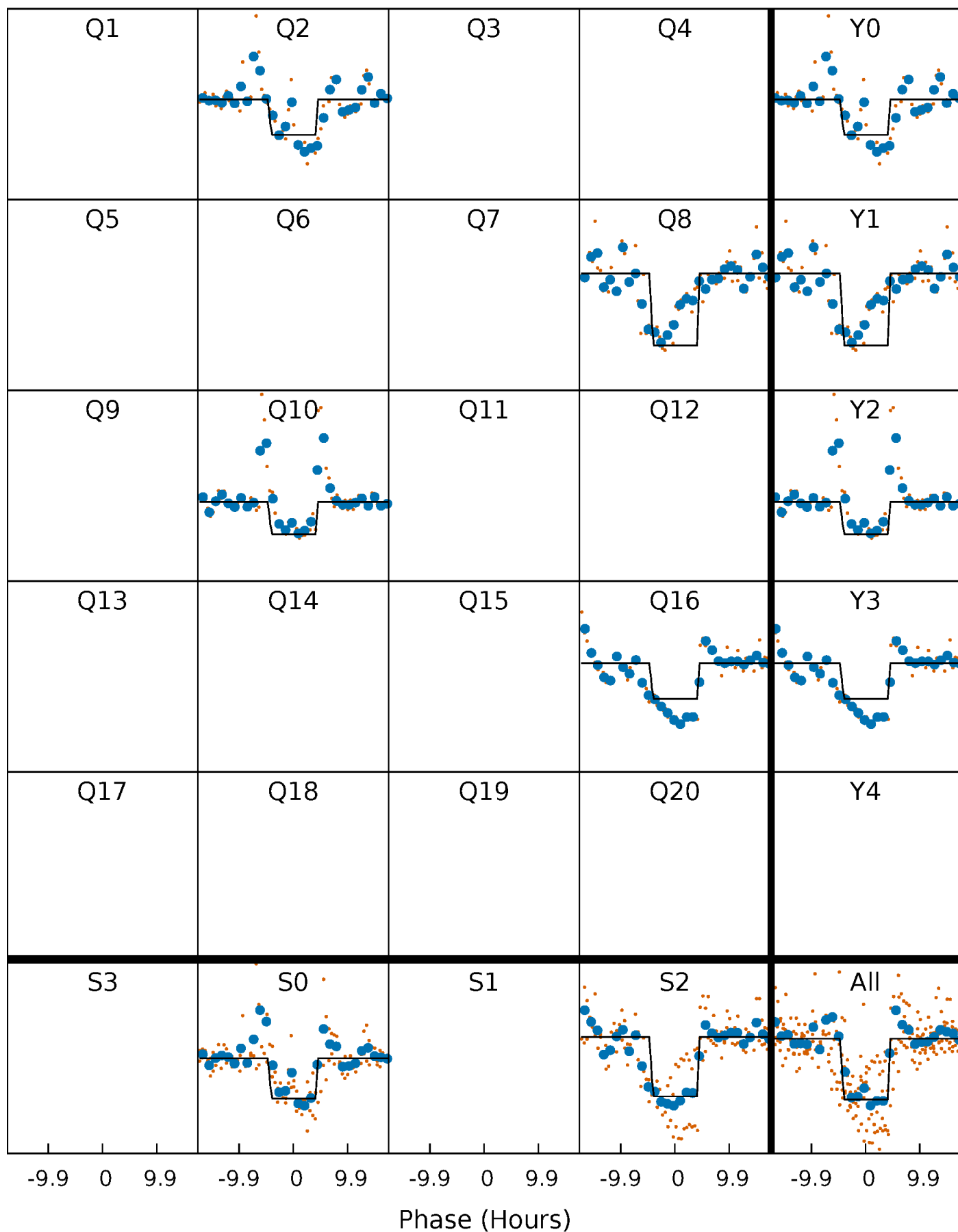
DV Quarter-Phased Transit Curves

TCE 006843185-09 $P=254.929310$ Days $T_0=229.253445$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

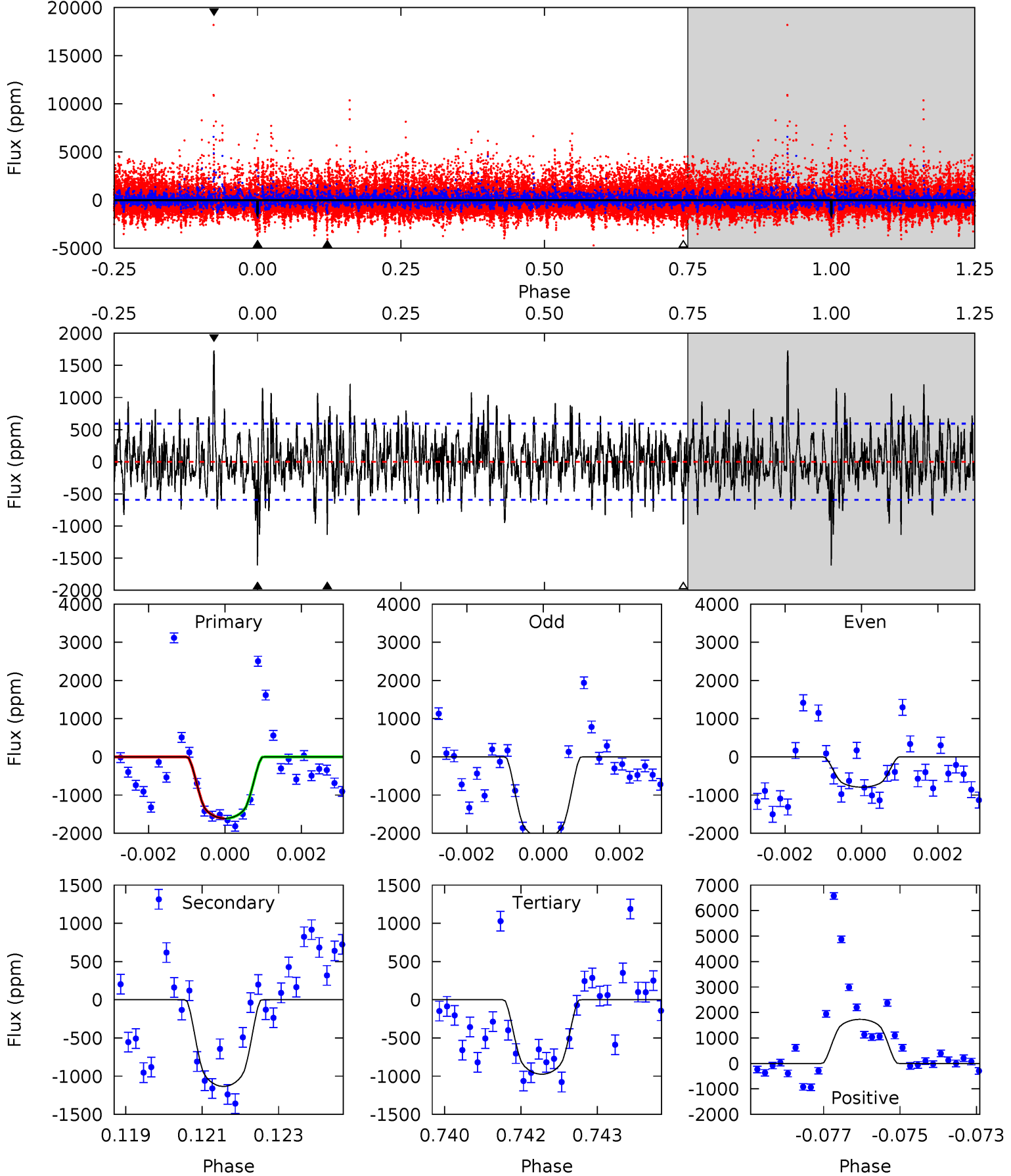
TCE 006843185-09 $P=254.935906$ Days $T_0=229.223101$ (BKJD)



DV Model-Shift Uniqueness Test

006843185-09, P = 254.929310 Days, E = 229.253445 Days

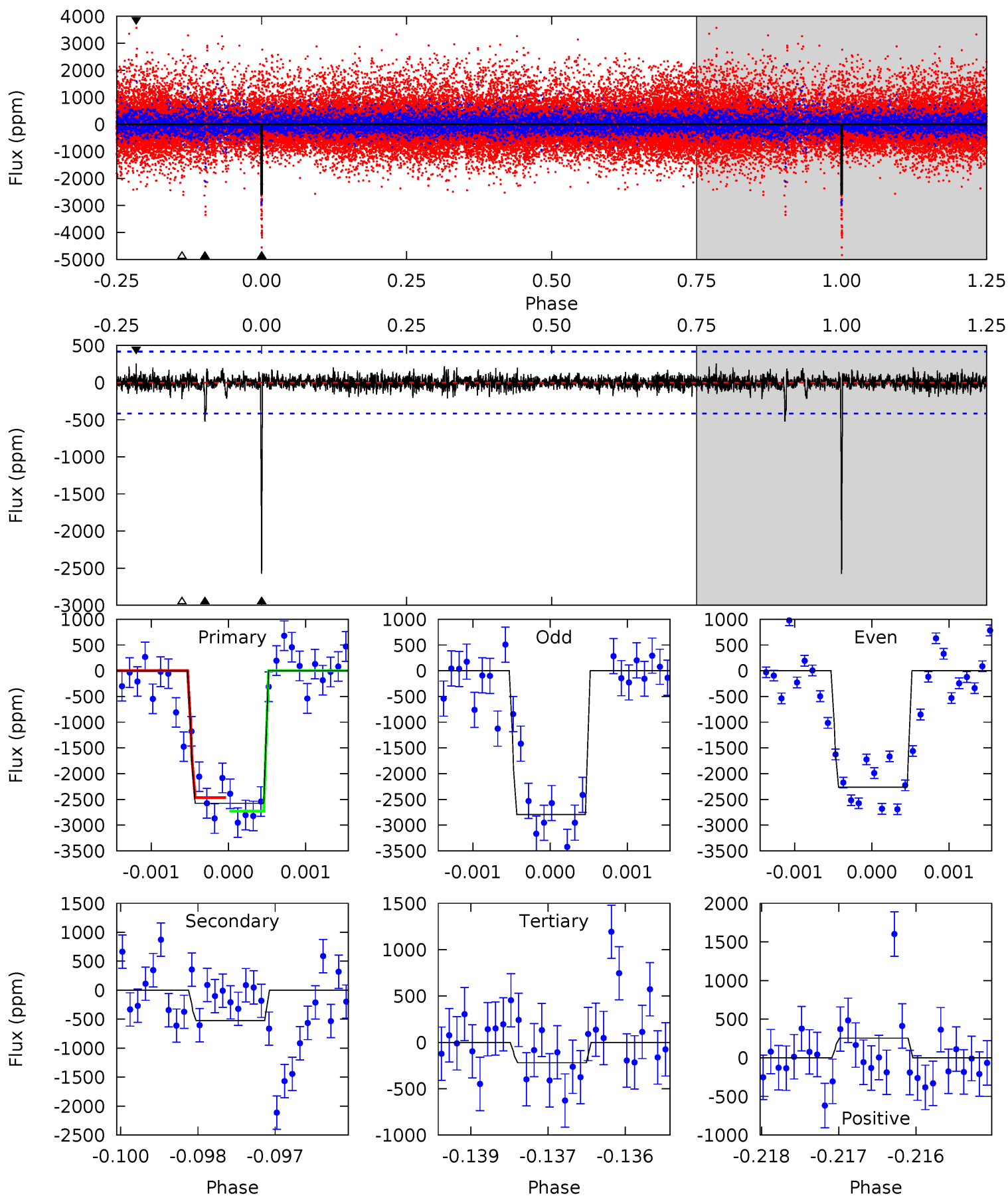
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	10.2	8.76	15.6	5.33	3.10	2.95	5.72	-1.09	1.44	-5.37	4.68	0.98	0.52	0.02



Alt Model-Shift Uniqueness Test

006843185-09, P = 254.935906 Days, E = 229.223101 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.2	6.77	2.83	3.28	5.39	3.19	0.72	30.4	29.9	3.93	3.48	3.22	1.12	0.09	1.71



Stellar Parameters For KIC 006843185

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4331^{+142}_{-142}	$4.588^{+0.056}_{-0.017}$	$0.280^{+0.150}_{-0.300}$	$0.703^{+0.028}_{-0.057}$	$0.698^{+0.044}_{-0.049}$	$2.829^{+0.655}_{-0.190}$
	+3%/-3%	+1%/-0%	+54%/-107%	+4%/-8%	+6%/-7%	+23%/-7%
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 006843185-09 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1134 ± 111	$3.97^{+0.55}_{-0.52}$	266^{+9}_{-10}	3720^{+194}_{-191}	19495^{+6067}_{-4299}
Alt.	-525 ± 78	$3.93^{+0.52}_{-0.55}$	267^{+9}_{-10}	3303^{+182}_{-167}	9251^{+3542}_{-2349}

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

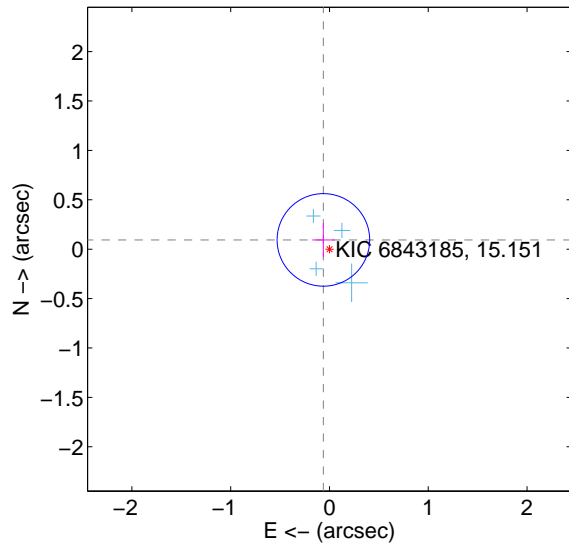
Supplemental centroid analysis for 006843185-09. Kepler magnitude: 15.15. Transit SNR 8.76

There are 4 quarters with good PRF difference image offsets

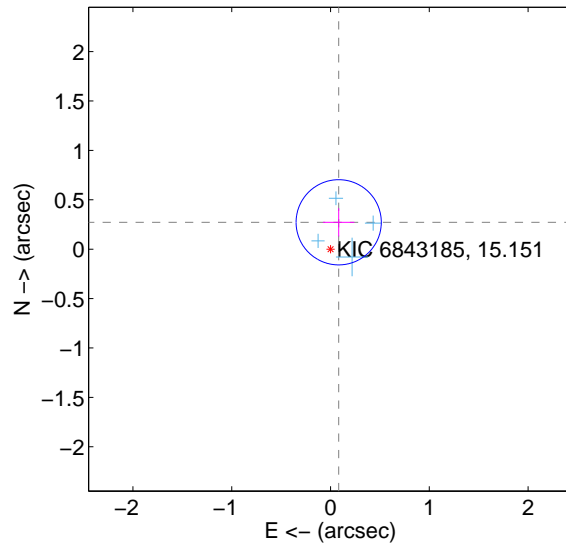
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.112 ± 0.156	0.72	0.062 ± 0.113	0.094 ± 0.172
PRF-fit source offset from KIC position	0.284 ± 0.144	1.98	-0.083 ± 0.158	0.272 ± 0.142
photometric centroid source offset	0.52 ± 0.51	1.02	0.41 ± 0.47	0.32 ± 0.56

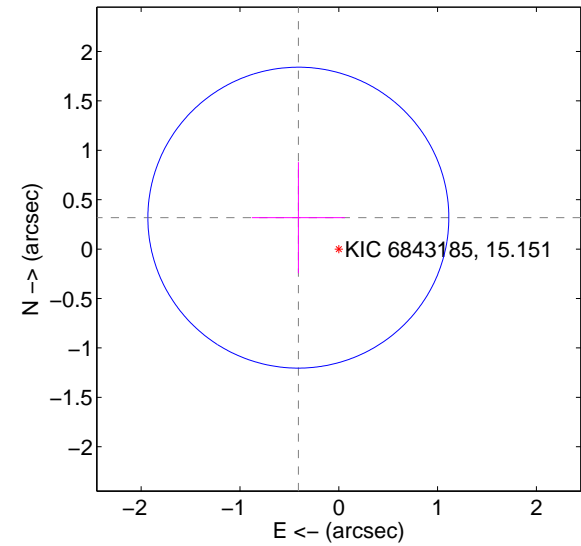
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

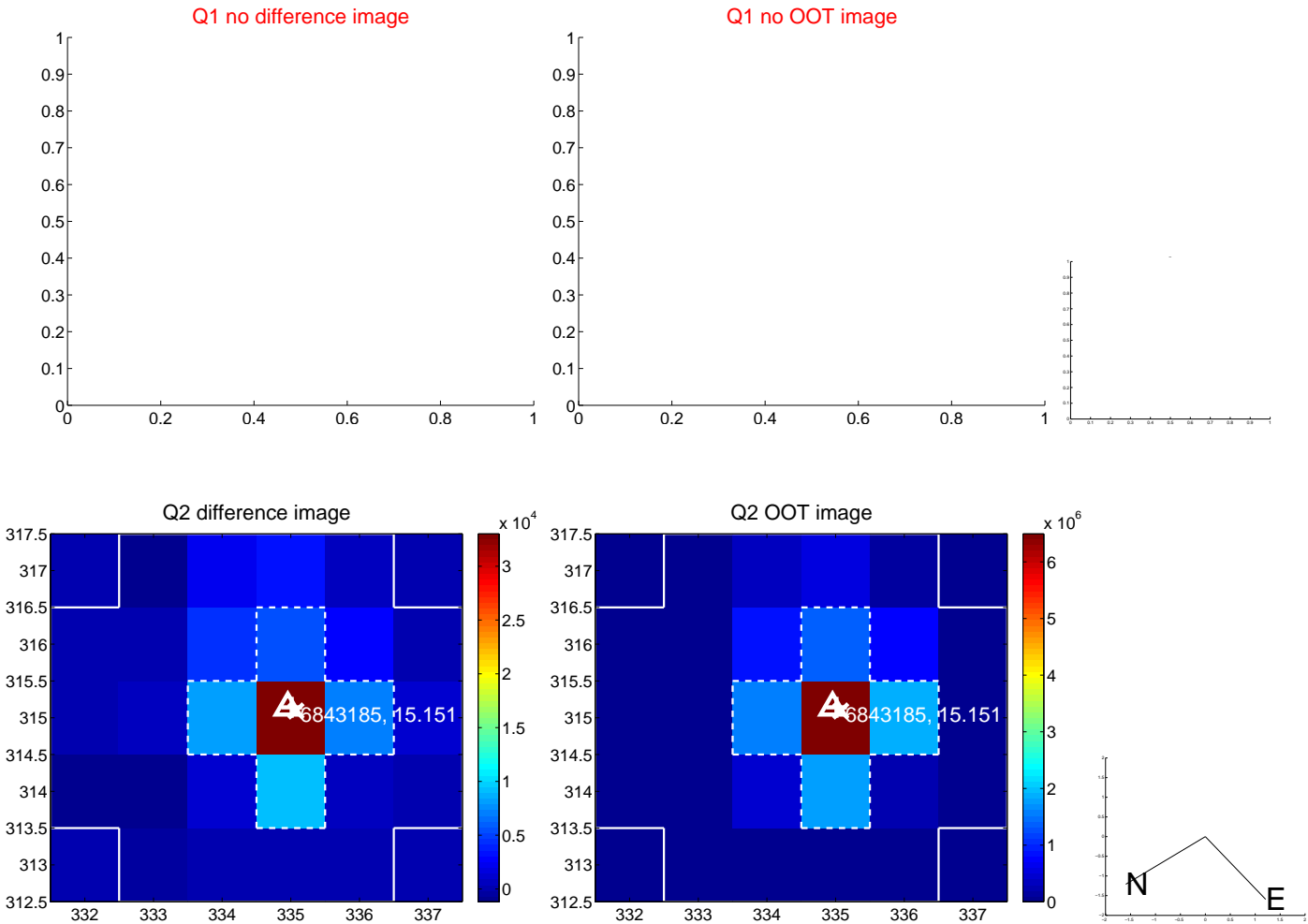


offset from photometric centroids

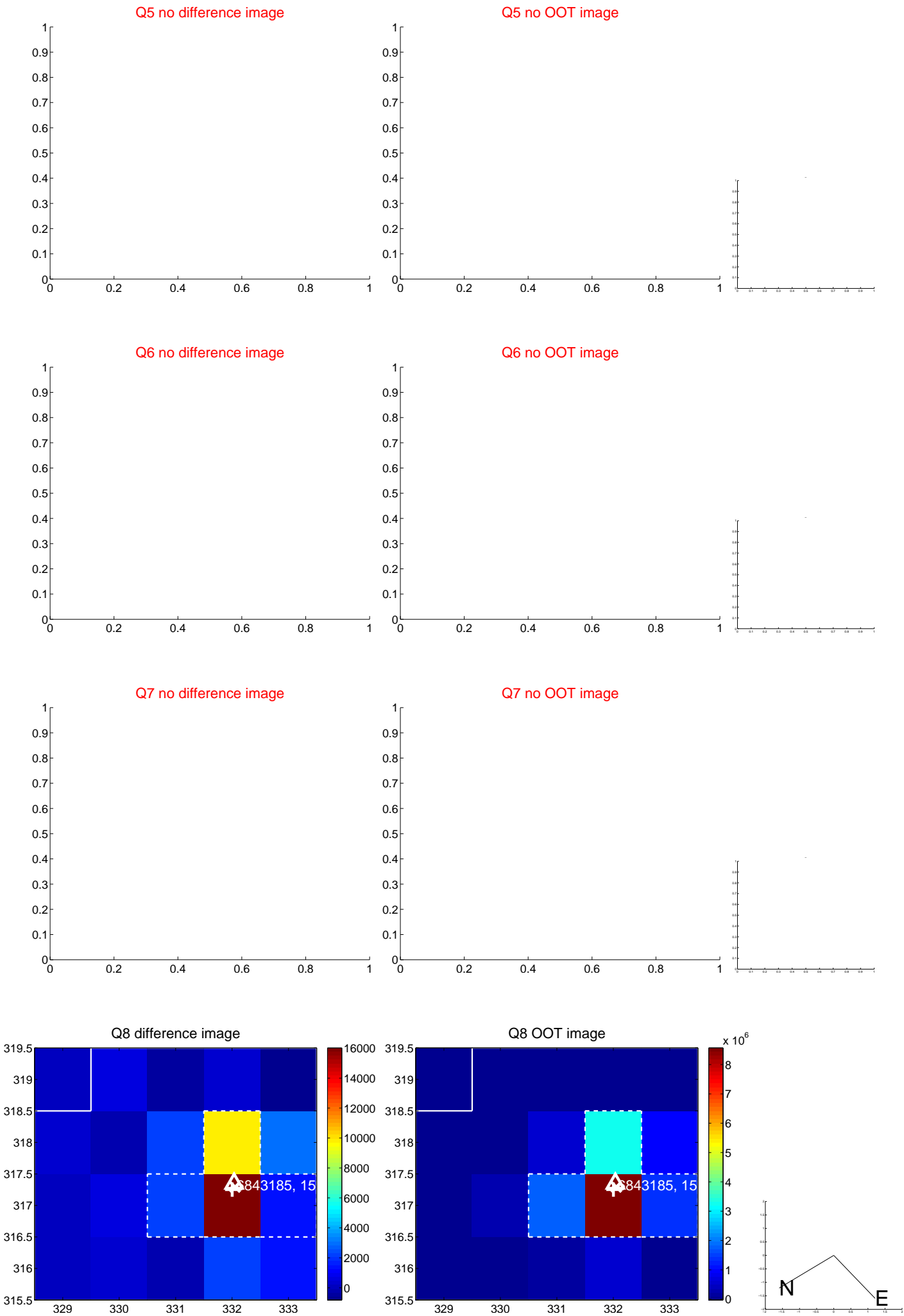


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

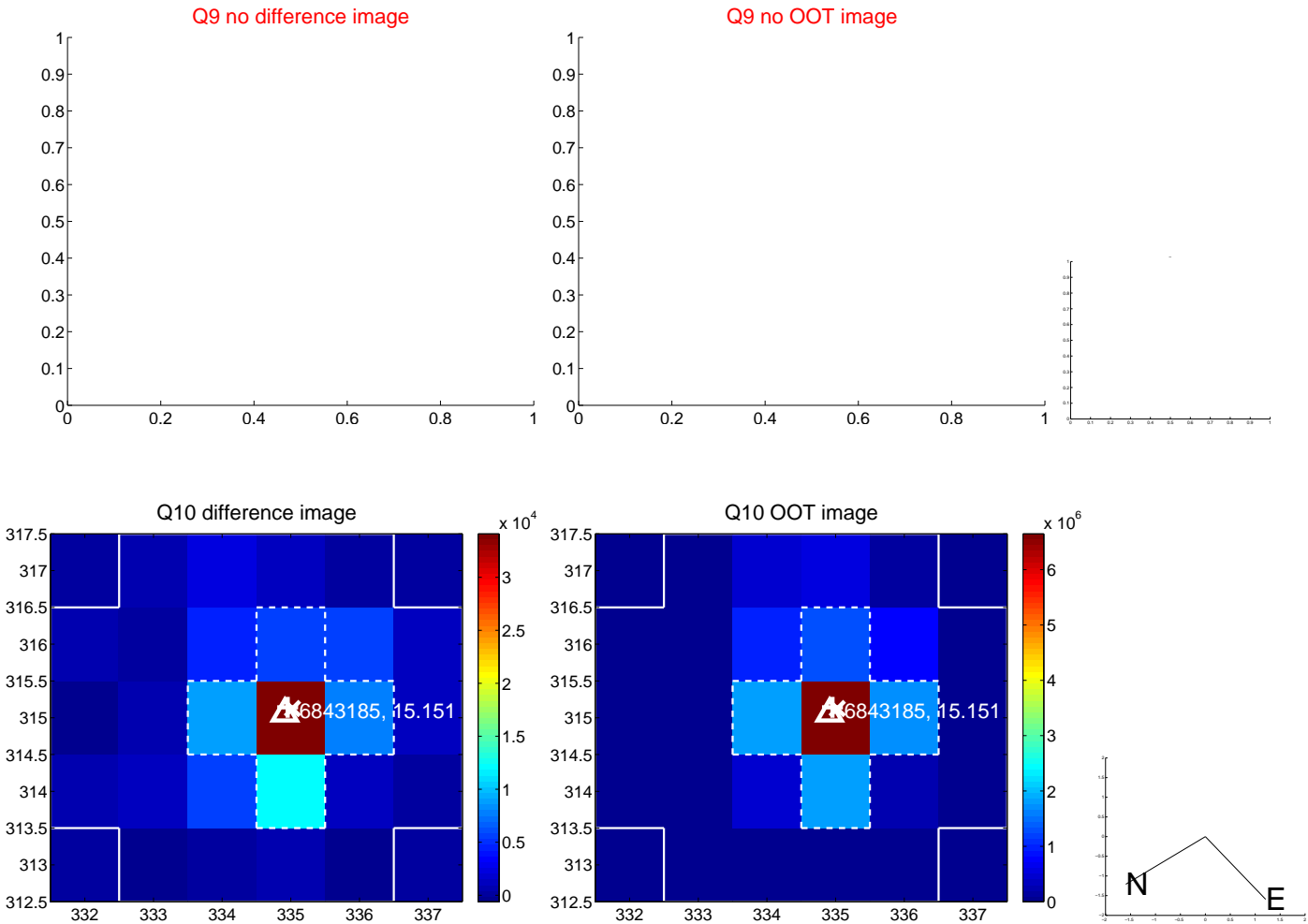
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



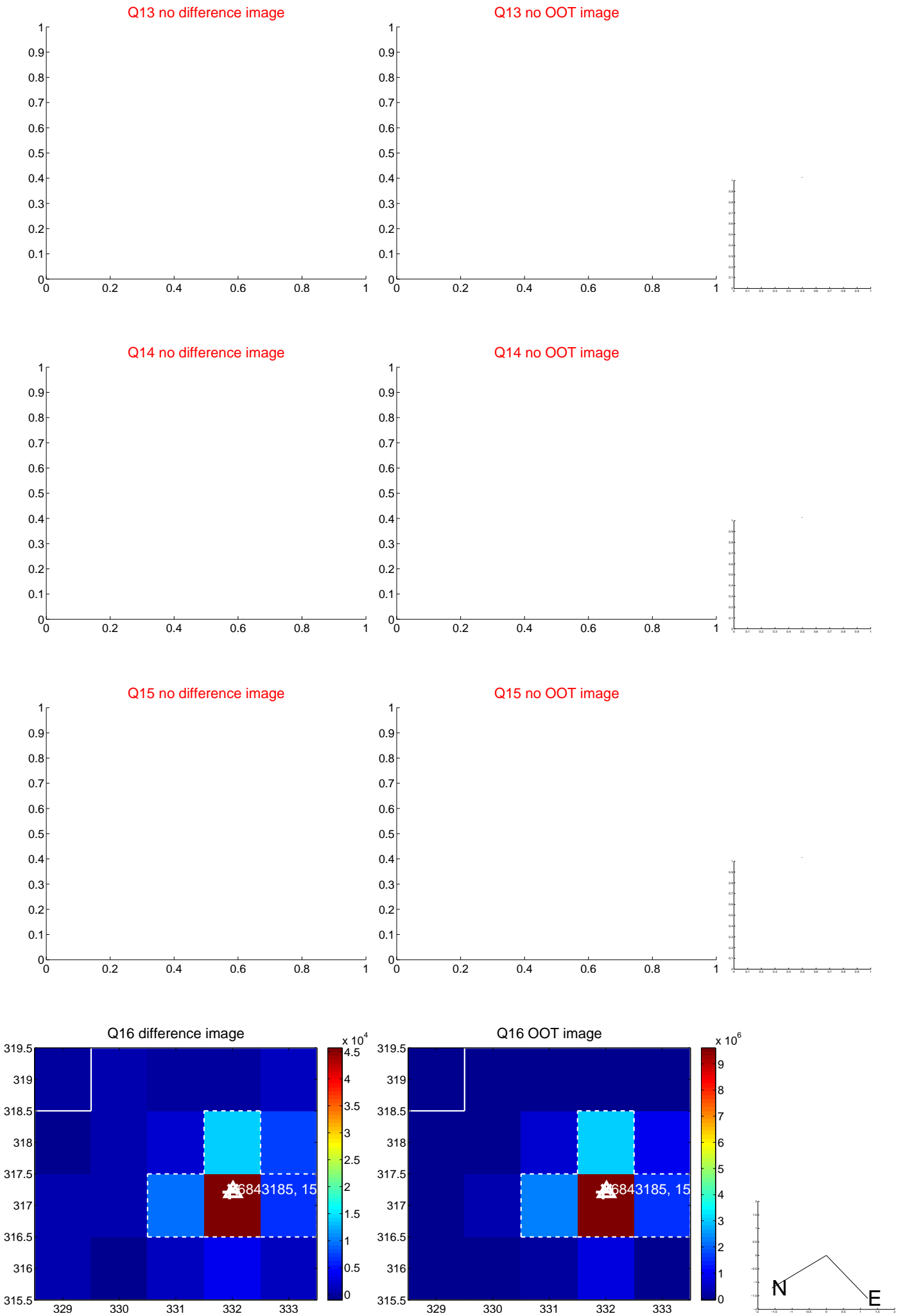
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



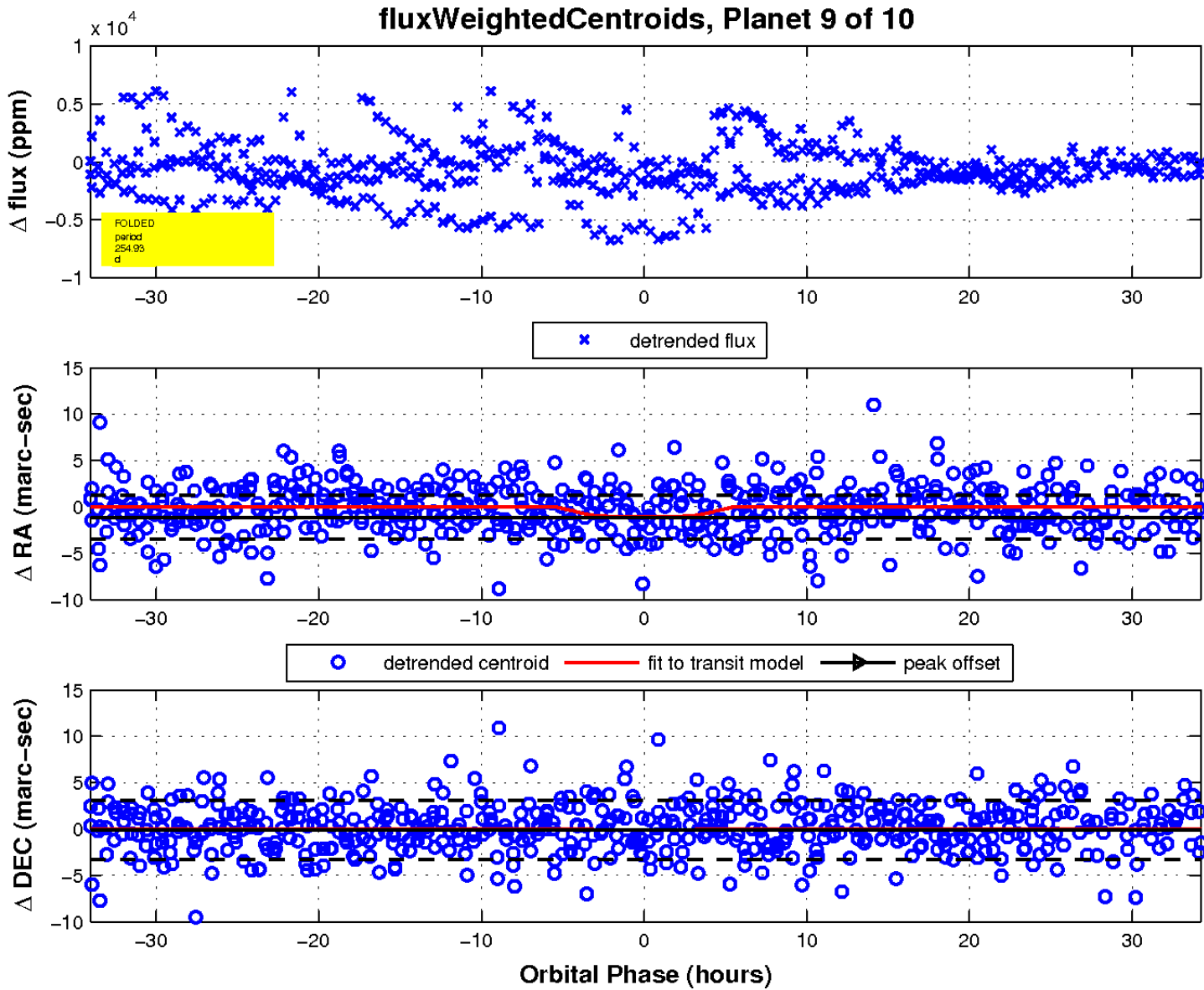
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

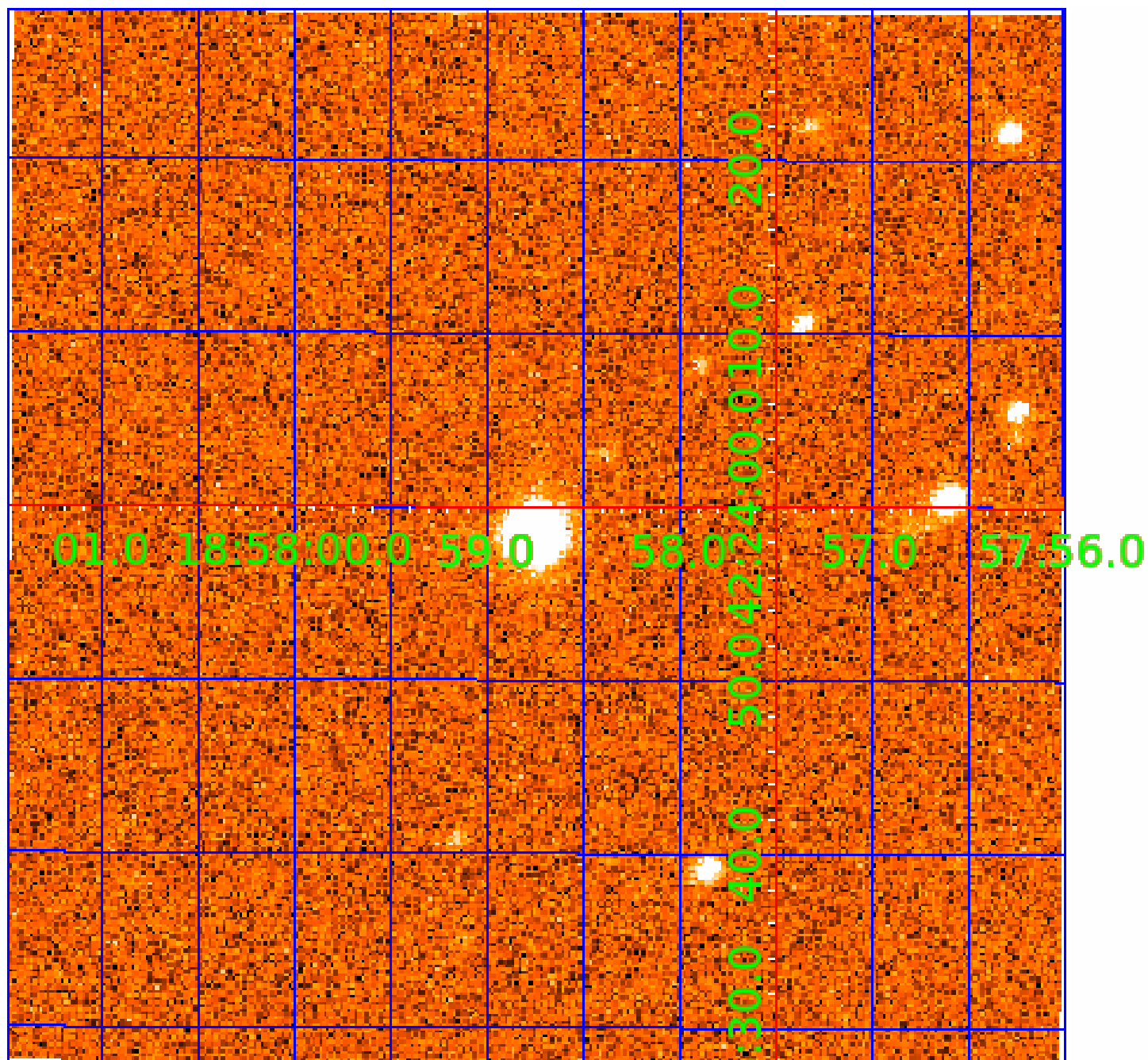
Q17 no difference image

Q17 no OOT image



UKIRT Image

Declination



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})
006843185-01	OBS	No	612.067201	328.000622	3086.6	13.627	15.2	10.9	0.70	4331	4.35	0.10
006843185-02	OBS	No	214.565578	196.030052	1975.0	9.585	13.9	7.1	0.70	4331	3.06	0.40
006843185-03	OBS	No	211.494807	168.060866	2874.5	17.193	13.1	12.6	0.70	4331	4.10	0.41
006843185-04	OBS	No	480.464997	317.440449	1747.0	22.354	14.9	5.0	0.70	4331	2.80	0.14
006843185-05	OBS	No	407.362166	222.635926	3522.6	15.164	12.9	10.8	0.70	4331	5.25	0.17
006843185-06	OBS	No	419.620189	171.880141	2311.0	10.794	14.4	8.0	0.70	4331	3.36	0.16
006843185-07	OBS	No	281.377772	214.045871	2059.1	5.569	13.0	9.2	0.70	4331	3.03	0.28
006843185-08	OBS	No	474.926569	188.740311	1305.4	4.181	12.8	4.6	0.70	4331	2.48	0.14
006843185-09	OBS	No	254.929310	229.253445	2118.2	11.457	12.6	8.8	0.70	4331	4.02	0.32
006843185-10	OBS	No	390.800507	158.970898	17.4	0.893	12.2	0.0	0.70	4331	0.29	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006843185-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-03	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
006843185-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS
006843185-08	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—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006843185-09	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS
006843185-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

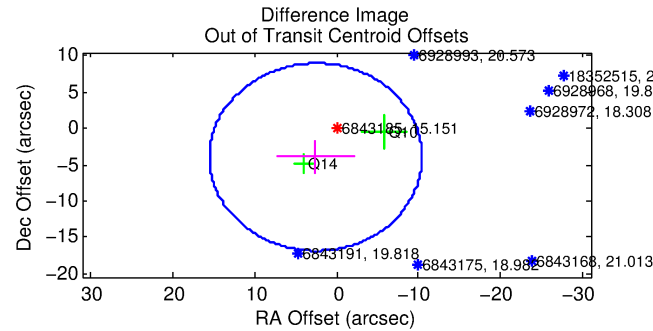
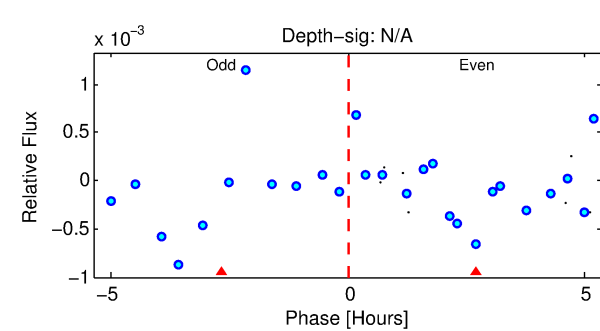
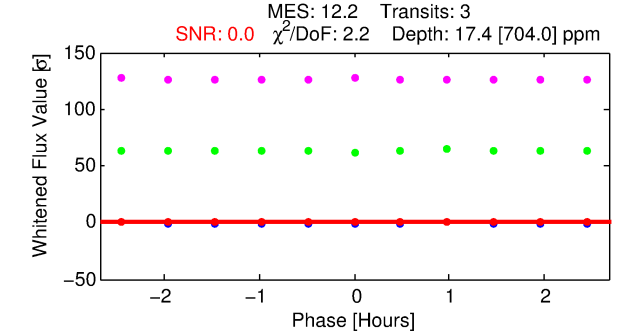
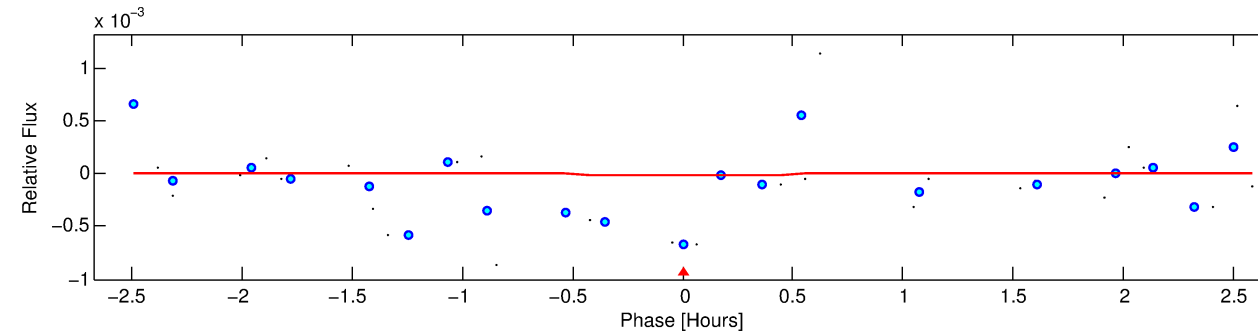
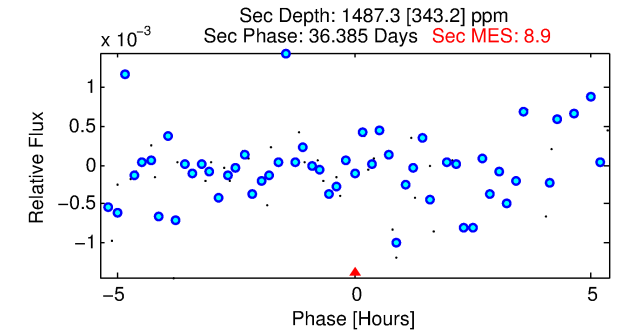
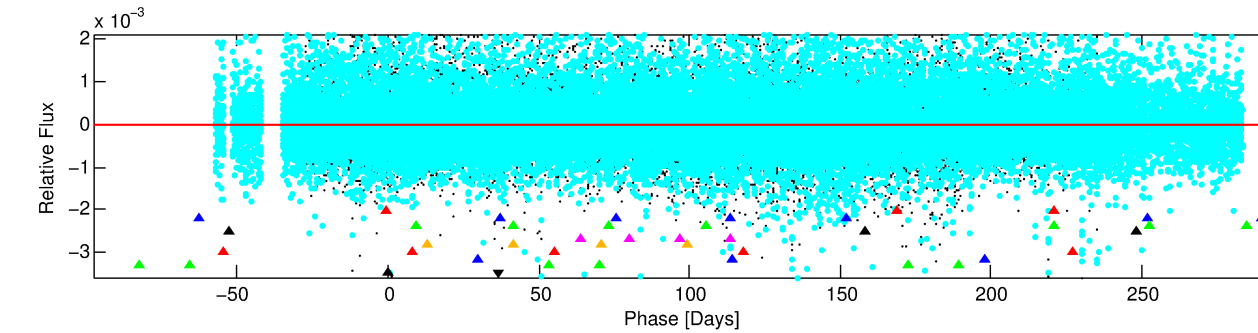
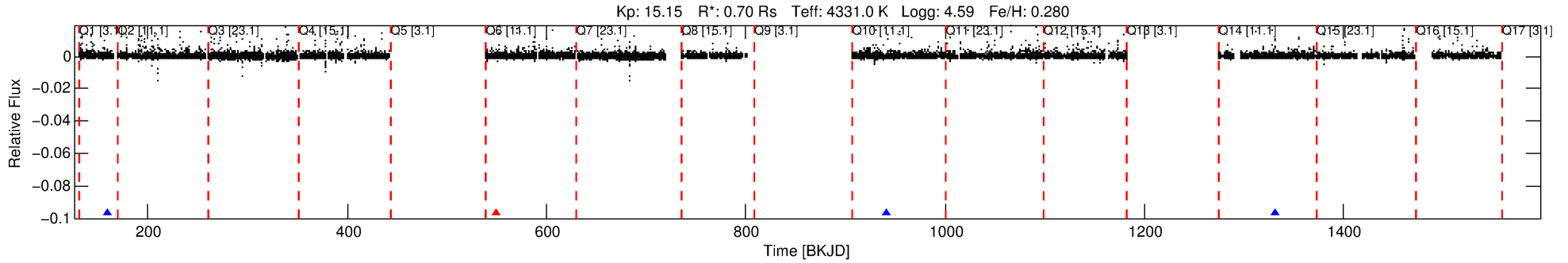
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006843185-10

No Significant Match Found

DV One-Page Summary

KIC: 6843185 Candidate: 10 of 10 Period: 390.801 d



DV Fit Results:

Period = 390.80051 [1.28075] d
Epoch = 158.9709 [1.9868] BKJD
Rp/R* = 0.0037 [1.7972]
a/R* = 3258.91 [4305051.65]
b = 0.24 [5322.13]
Seff = 0.18 [0.03]
Teq = 166 [7] K
Rp = 0.29 [137.87] Re
a = 0.9282 [0.0641] AU
Ag = 8554288.92 [8216672288.64] [0.008]
Teffp = 13904 [3338764] K [0.00σ]

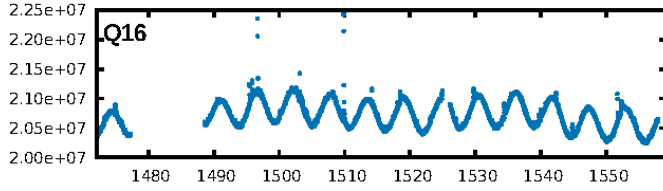
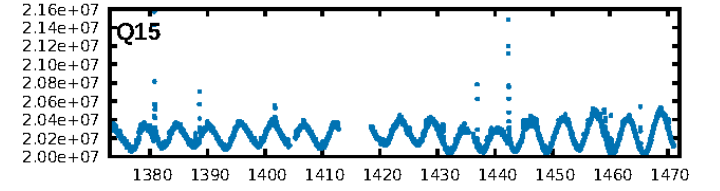
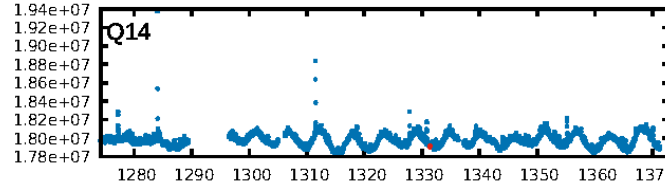
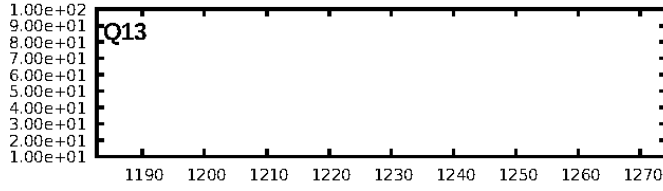
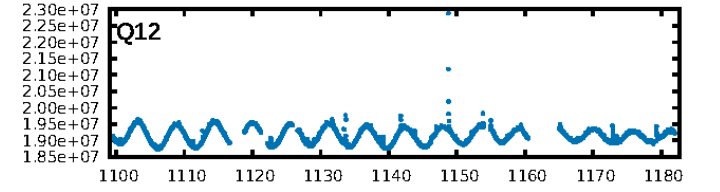
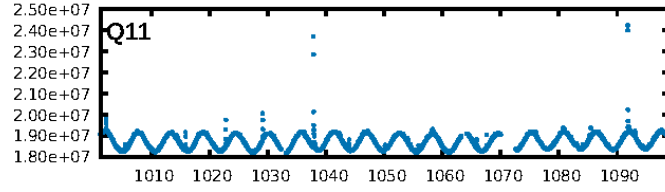
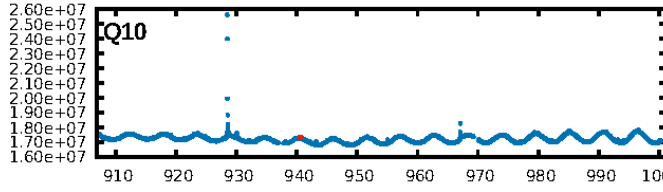
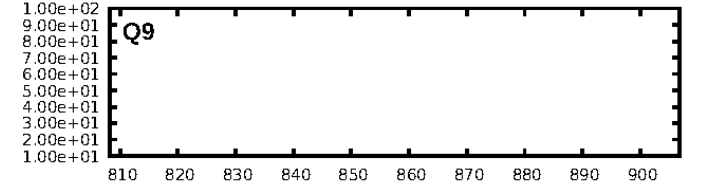
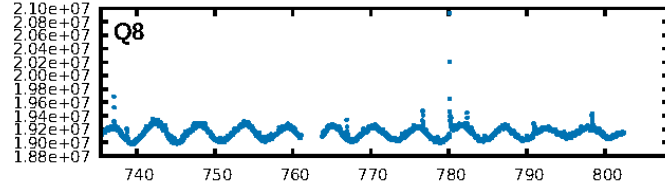
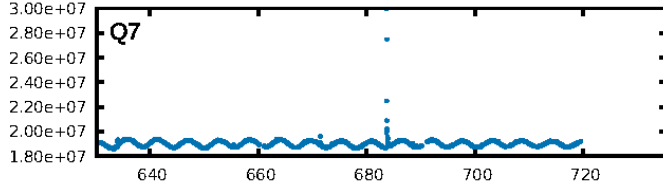
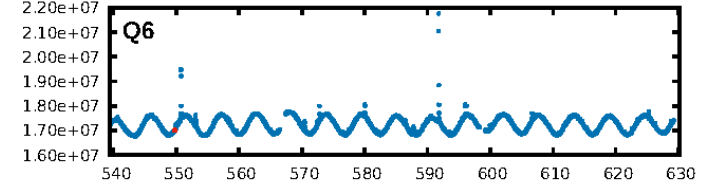
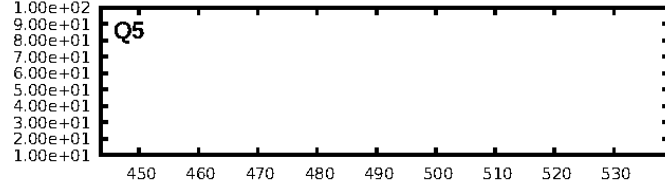
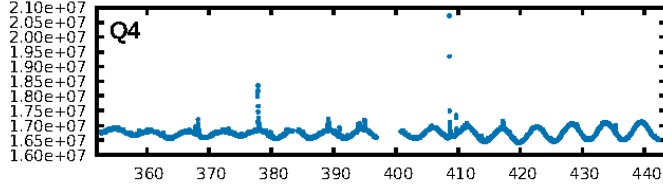
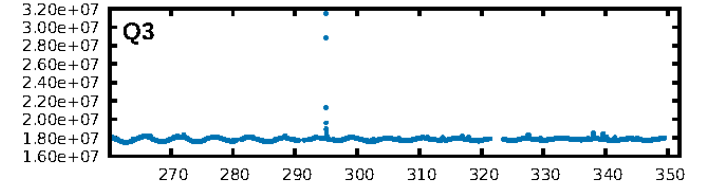
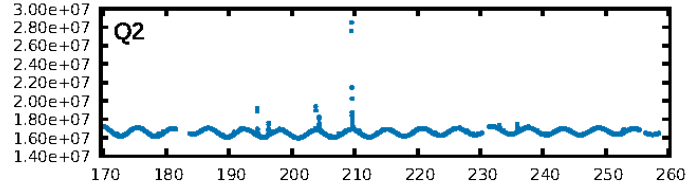
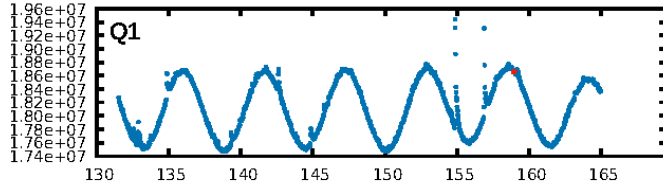
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [465.62σ]
LongPeriod-sig: 100.0% [26.17σ]
ModelChiSquare2-sig: 38.3%
ModelChiSquareGof-sig: 82.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.50 [1/2]
GhostDiagnostic-chr: 2.259
Centroid-sig: 67.0%
Centroid-so: 86.835 arcsec [0.38σ]
OotOffset-rm: 4.697 arcsec [1.09σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-rm: 4.369 arcsec [1.03σ]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 0.75 [3/4]

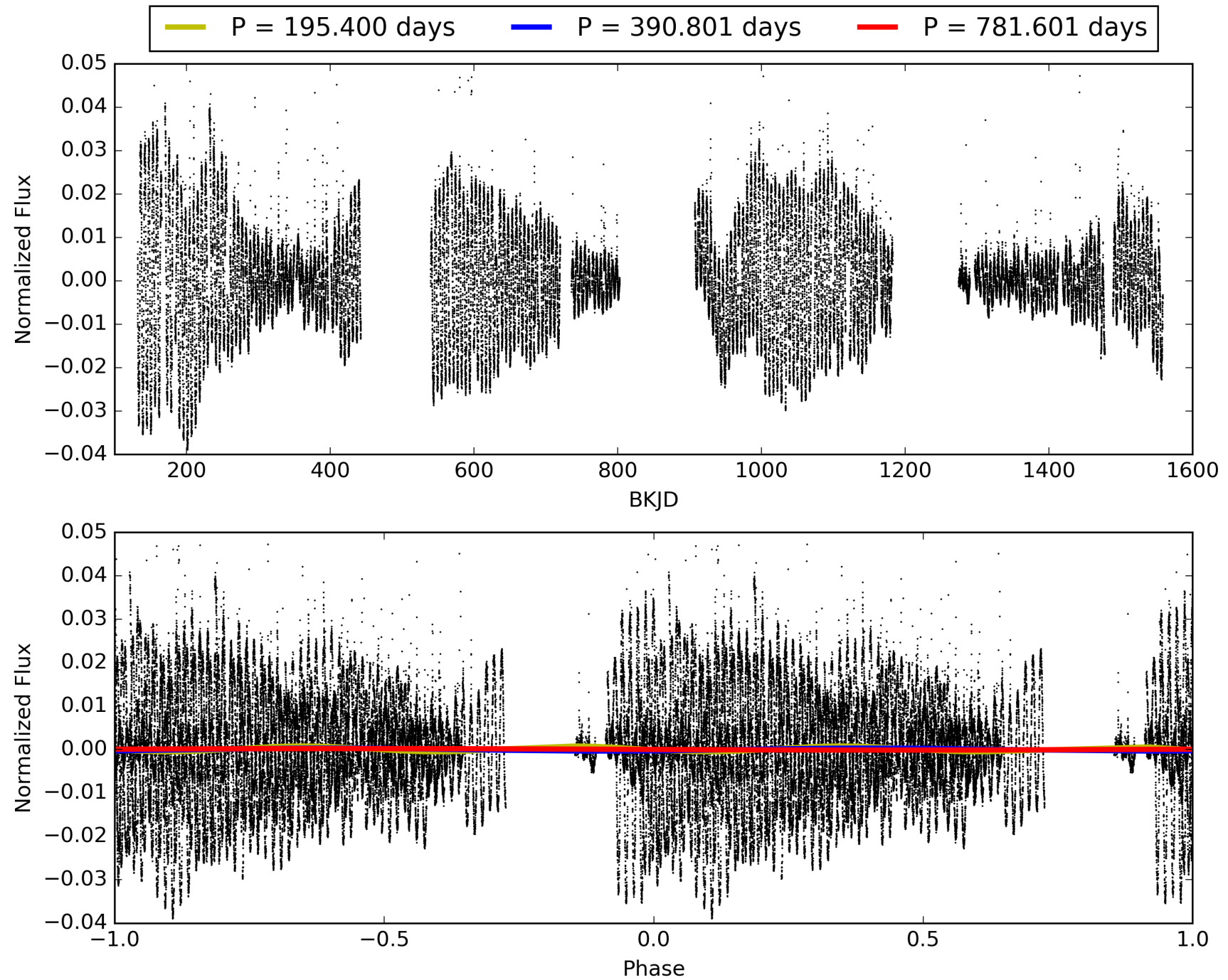
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:47:00 Z

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

TCE 006843185-10, PDC Light Curves

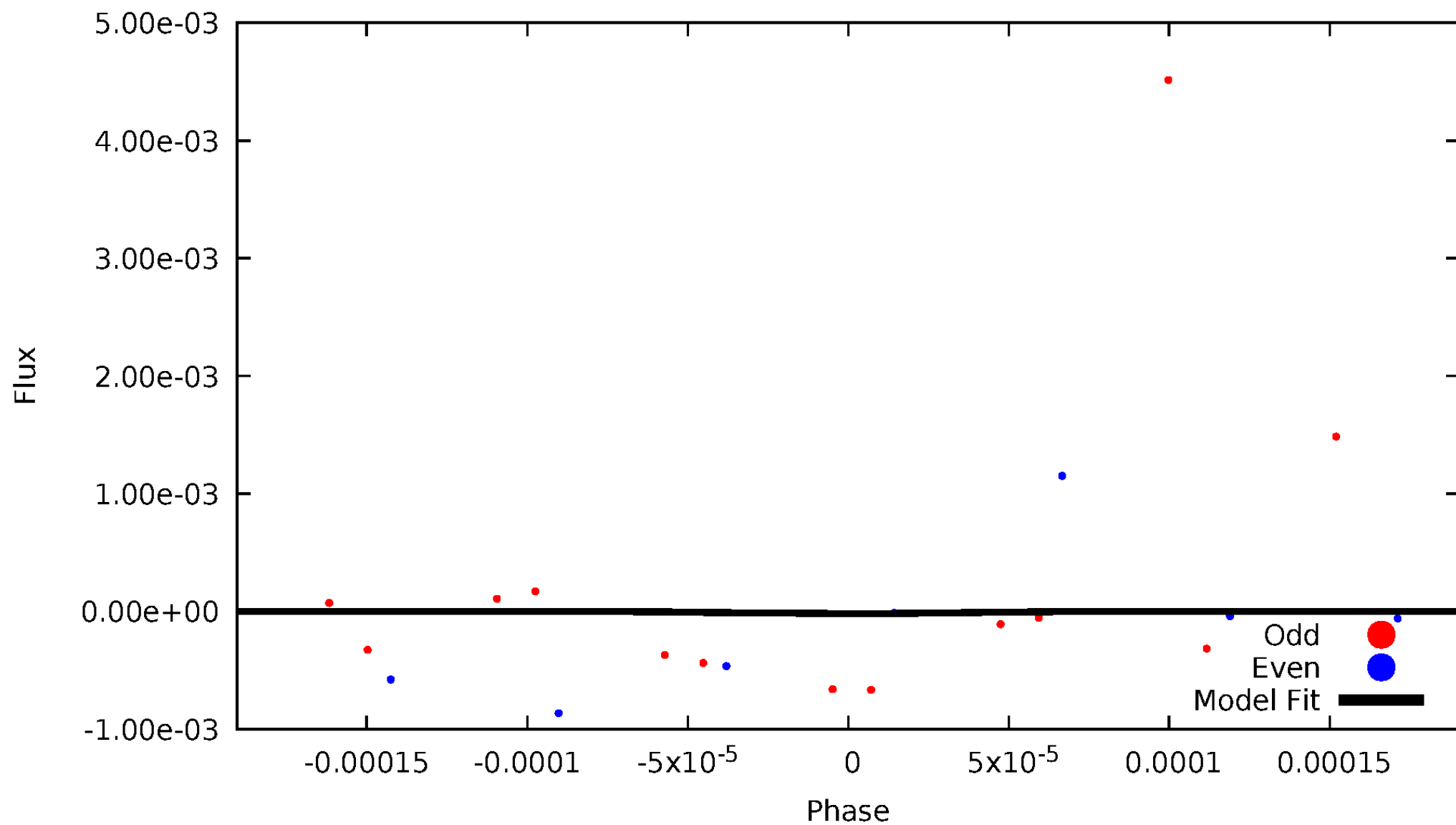


TCE 006843185-10



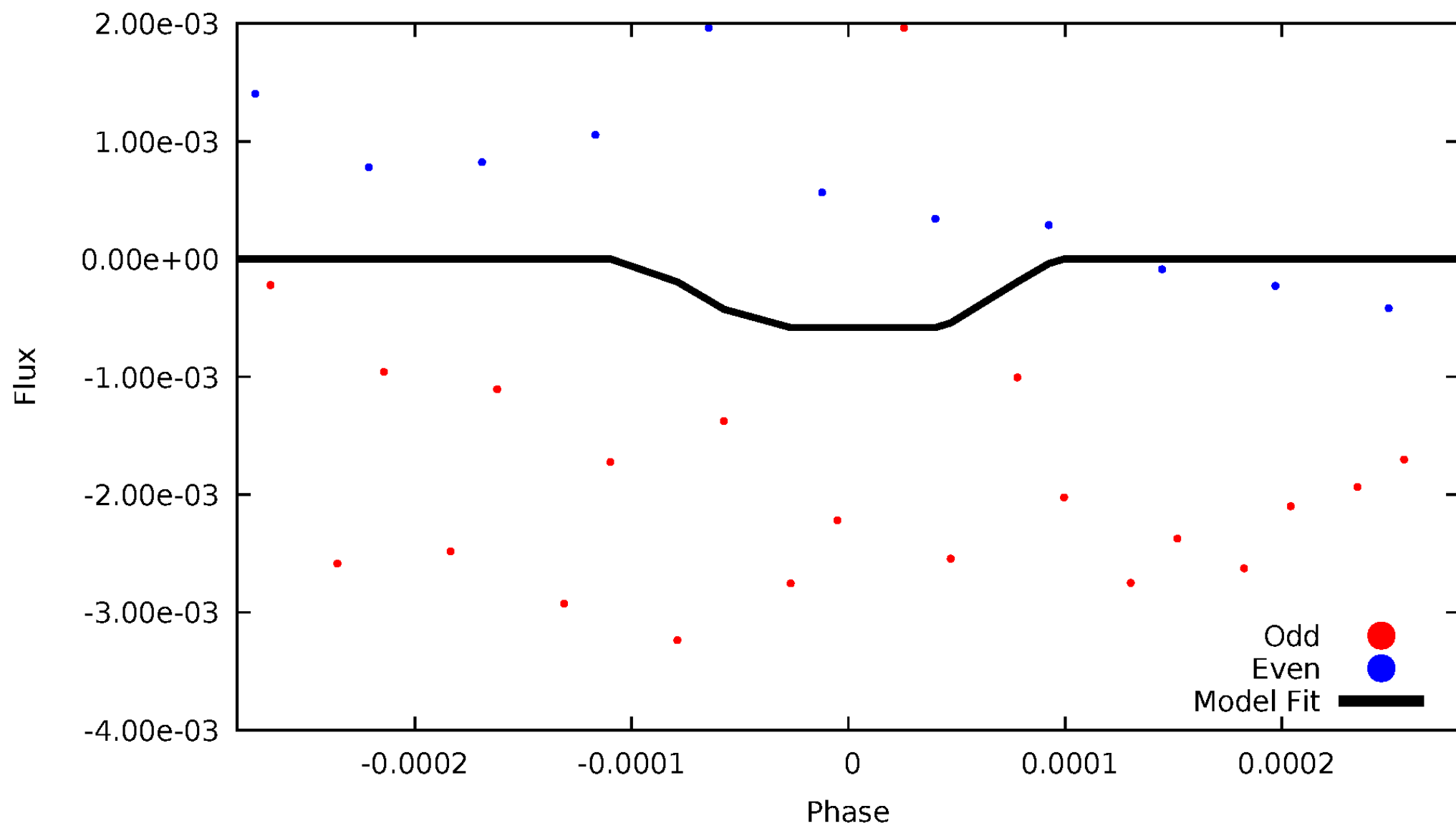
DV Odd/Even

TCE 006843185-10



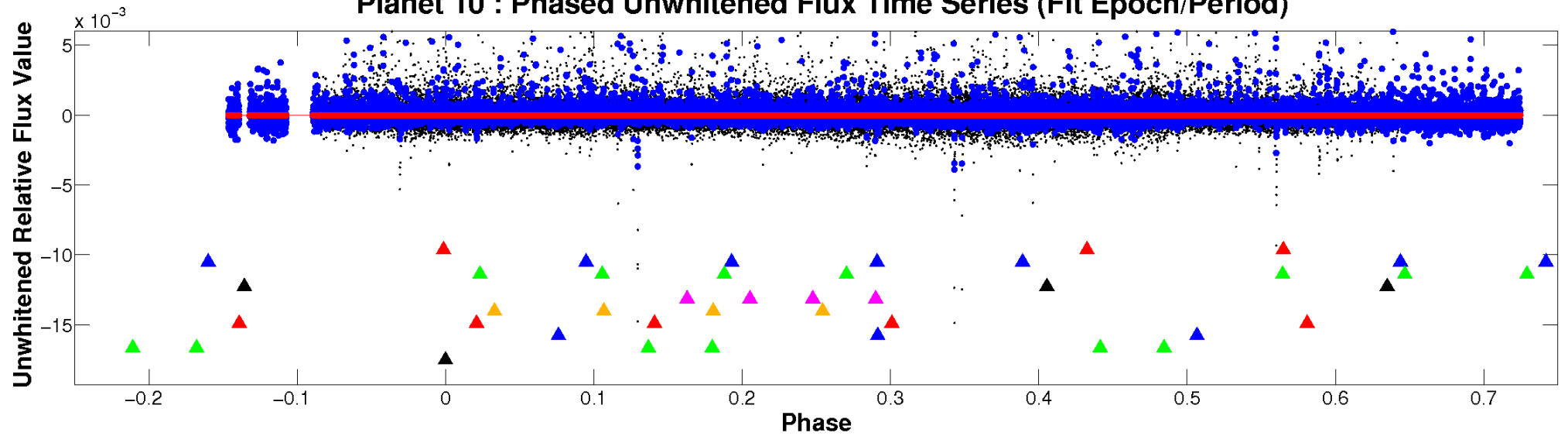
ALT Odd/Even

TCE 006843185-10

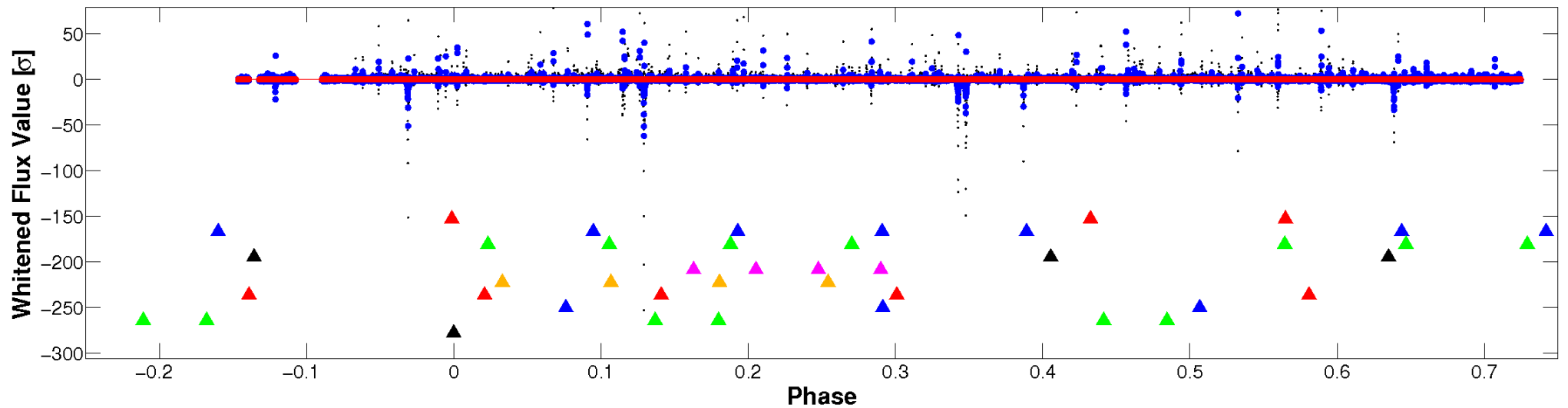


Non-Whitened Vs. Whitened Light Curve

Planet 10 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

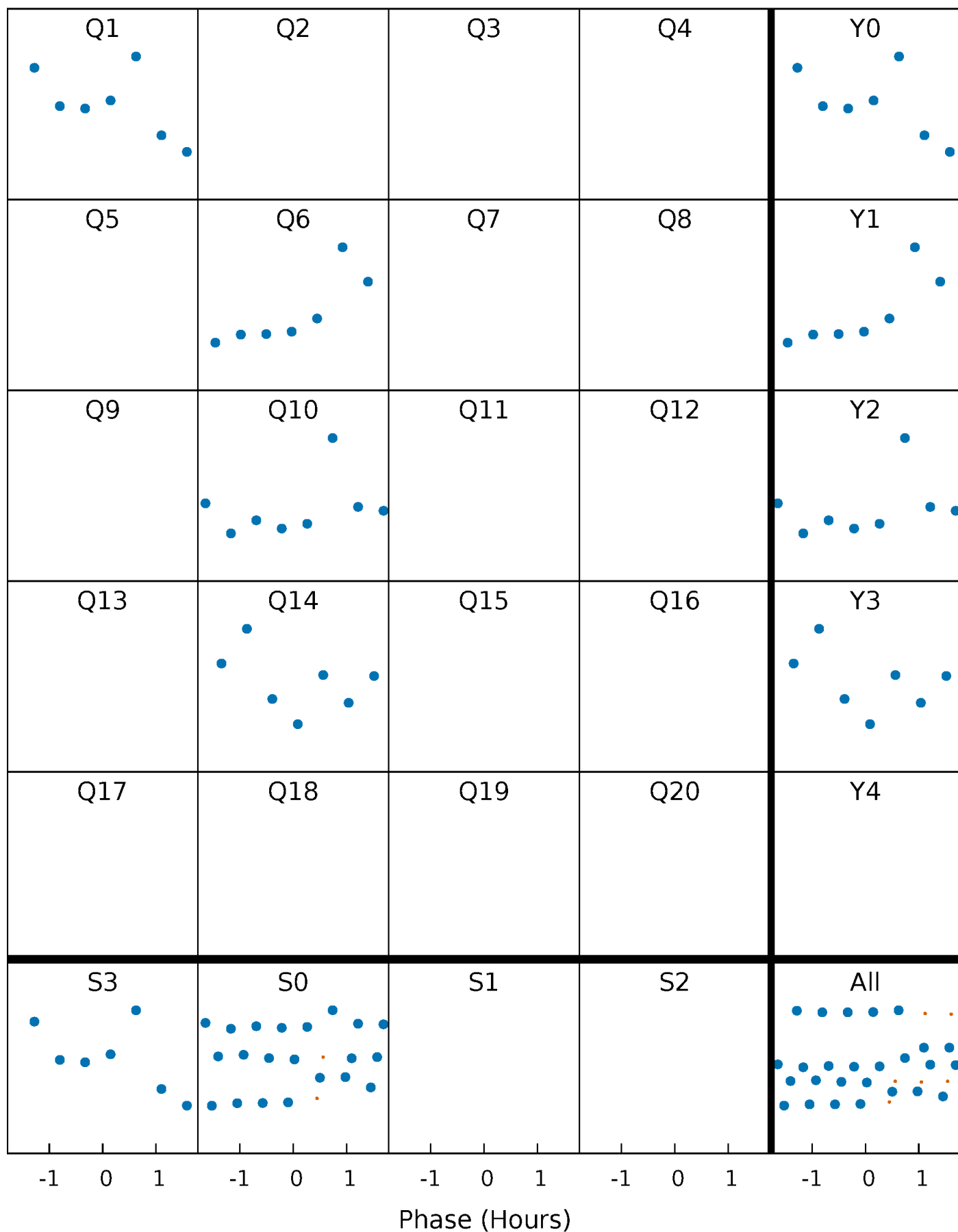


Planet 10 : Phased Whitened Flux Time Series (Fit Epoch/Period)



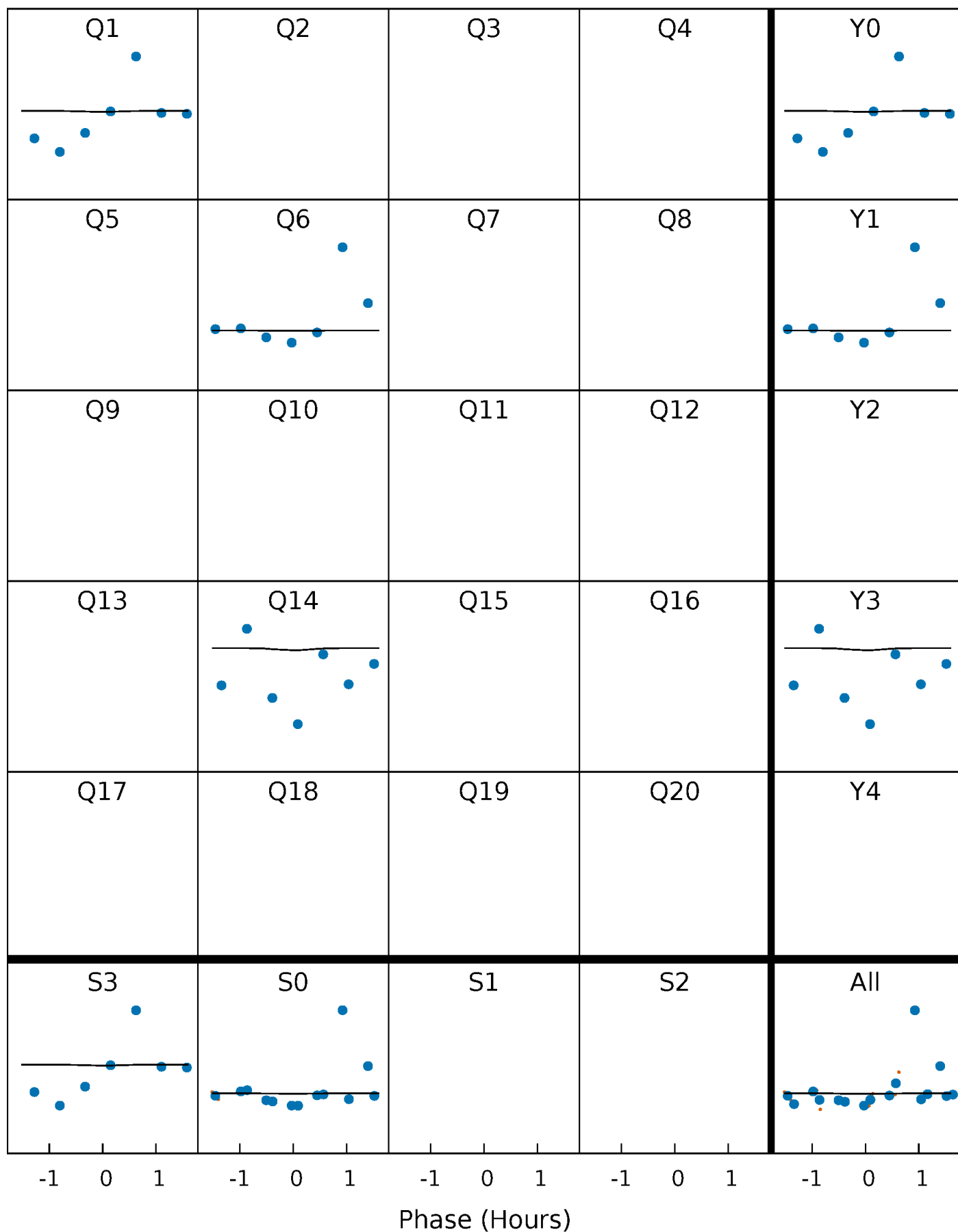
PDC Quarter-Phased Transit Curves

TCE 006843185-10 P=390.800507 Days $T_0=158.970898$ (BKJD)



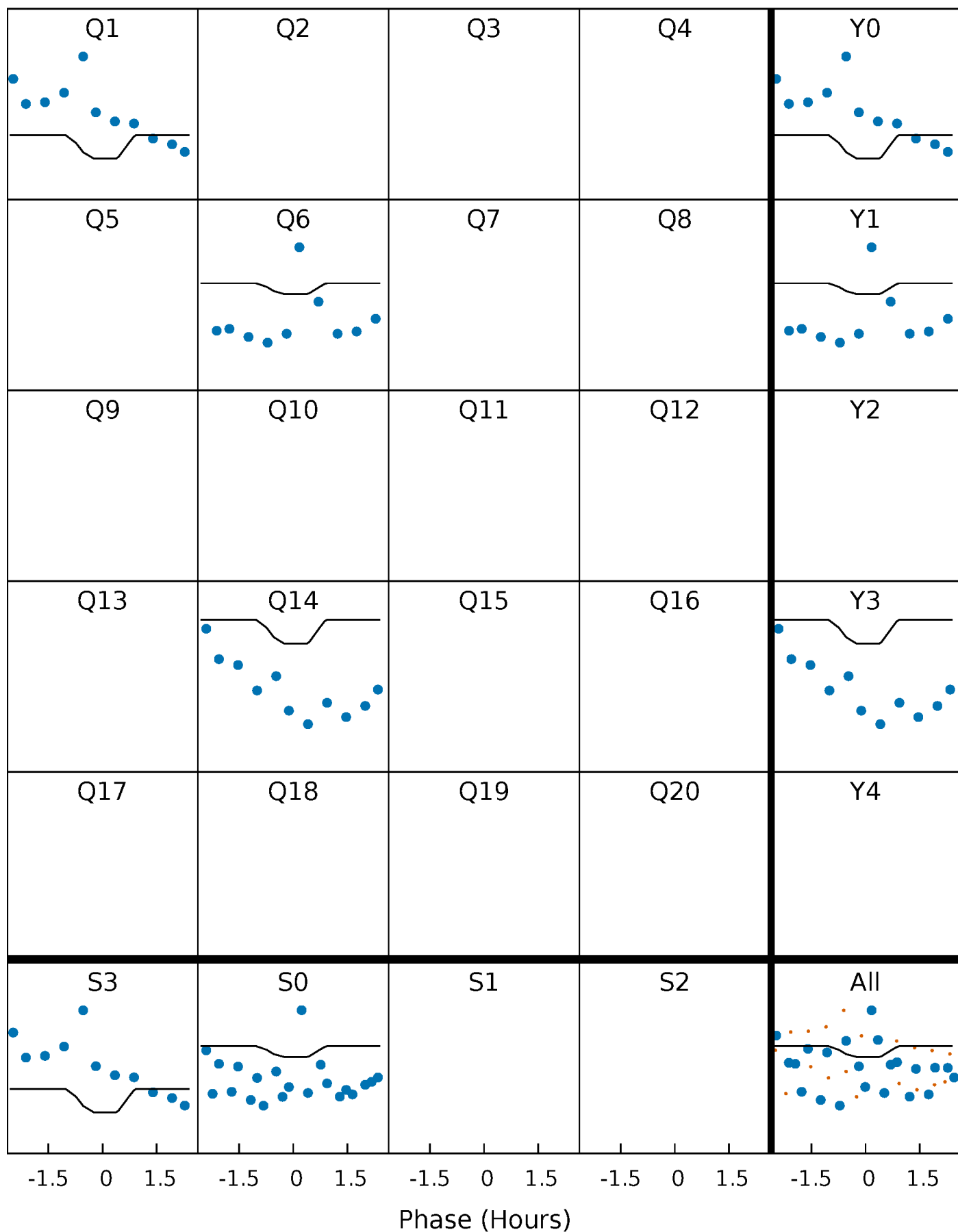
DV Quarter-Phased Transit Curves

TCE 006843185-10 P=390.800507 Days $T_0=158.970898$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

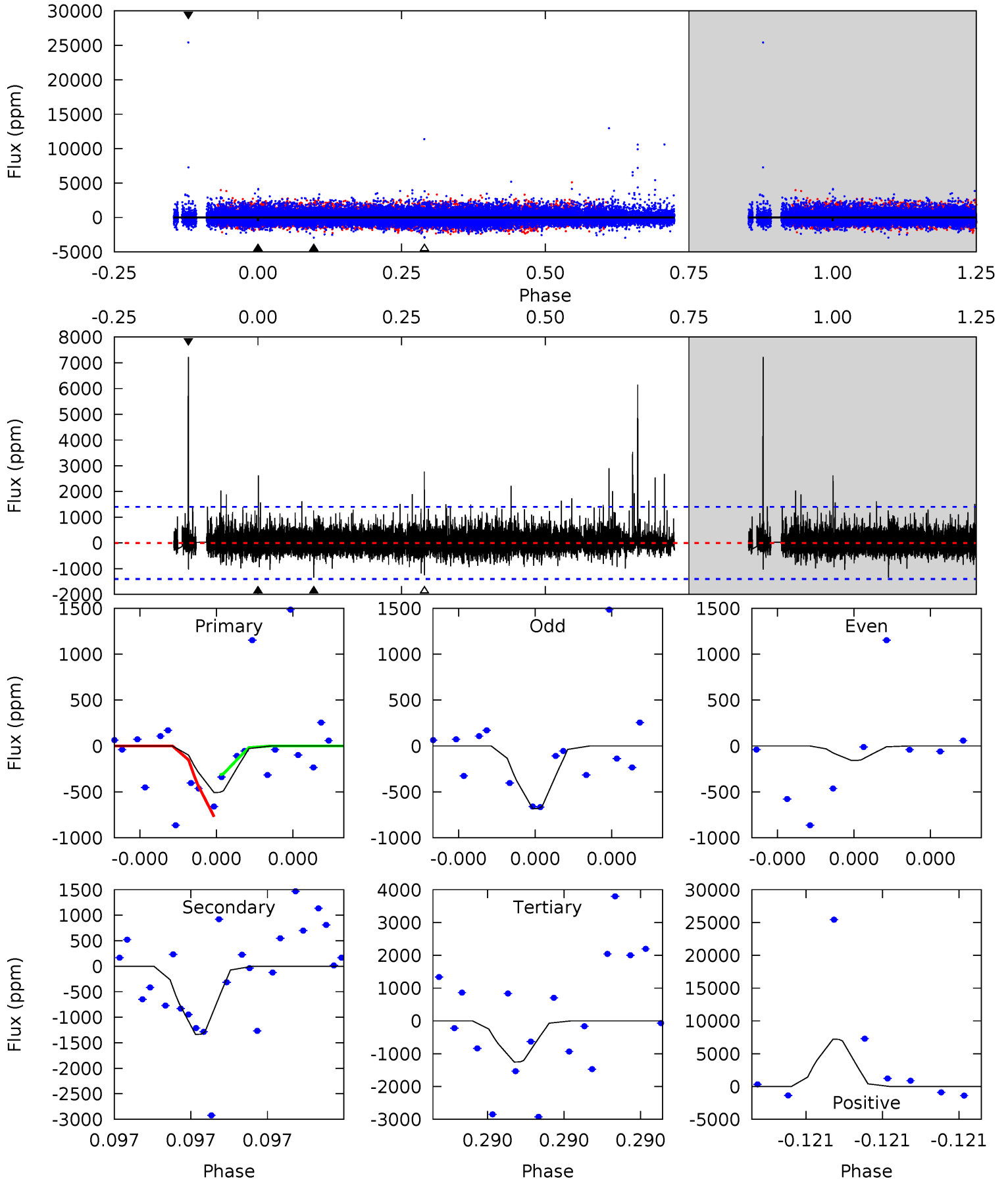
TCE 006843185-10 P=390.778213 Days $T_0=159.022103$ (BKJD)



DV Model-Shift Uniqueness Test

006843185-10, P = 390.800507 Days, E = 158.970898 Days

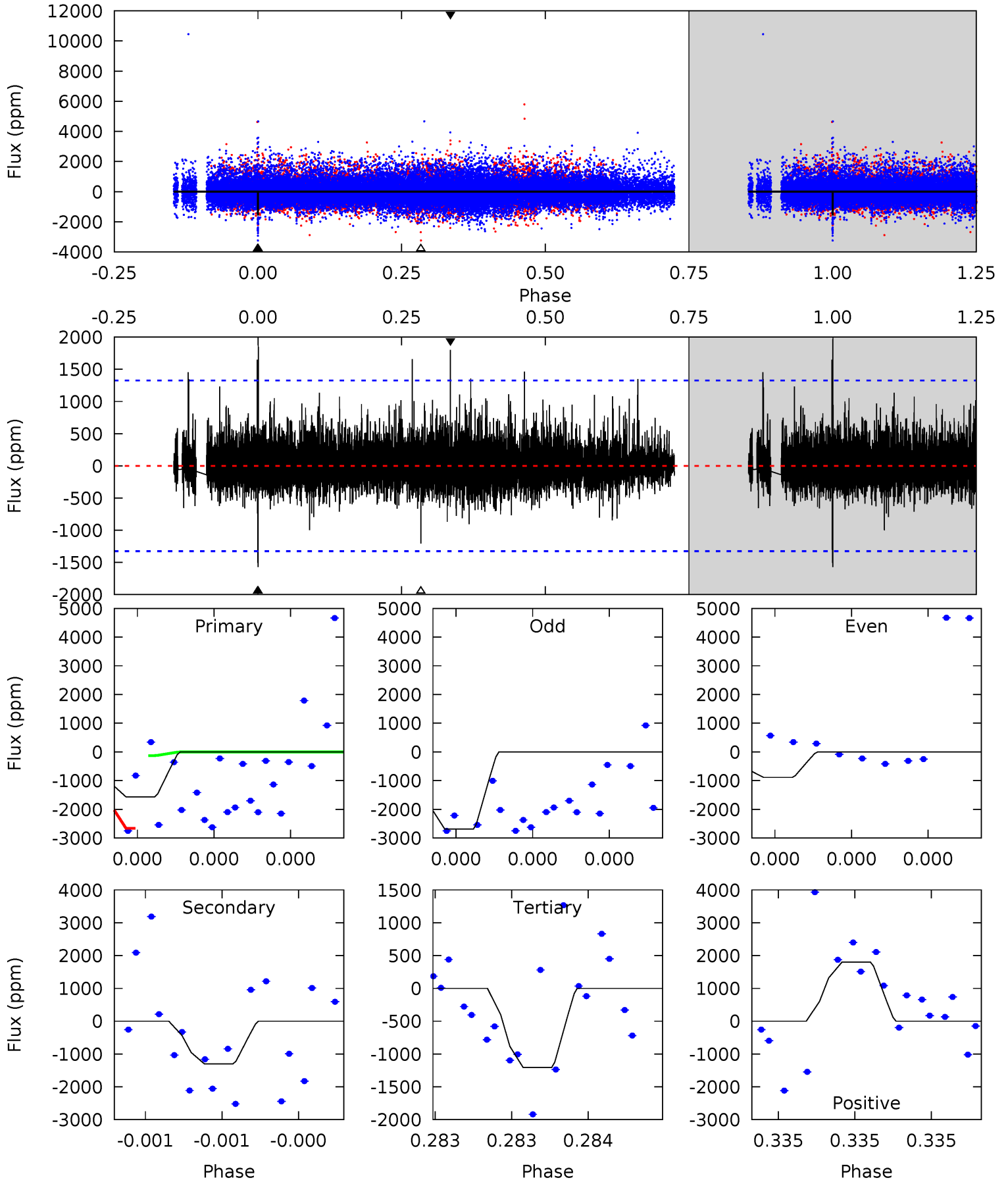
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.09	5.51	5.17	29.8	5.77	3.78	1.26	-3.08	-27.7	0.34	-24.3	0.66	0.78	0.84	0.92



Alt Model-Shift Uniqueness Test

006843185-10, P = 390.778213 Days, E = 159.022103 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.80	5.65	5.23	7.80	5.75	3.75	1.04	1.57	-1.00	0.42	-2.15	3.89	0.82	0.56	5.58



Stellar Parameters For KIC 006843185

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4331^{+142}_{-142}	$4.588^{+0.056}_{-0.017}$	$0.280^{+0.150}_{-0.300}$	$0.703^{+0.028}_{-0.057}$	$0.698^{+0.044}_{-0.049}$	$2.829^{+0.655}_{-0.190}$
	+3%/-3%	+1%/-0%	+54%/-107%	+4%/-8%	+6%/-7%	+23%/-7%
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 006843185-10 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1338 ± 243	$90.59^{+114.09}_{-61.49}$	231^{+8}_{-8}	1756^{+444}_{-228}	76^{+673}_{-60}
Alt.	-1302 ± 231	$90.21^{+102.93}_{-58.63}$	231^{+8}_{-9}	1743^{+433}_{-214}	75^{+571}_{-59}

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

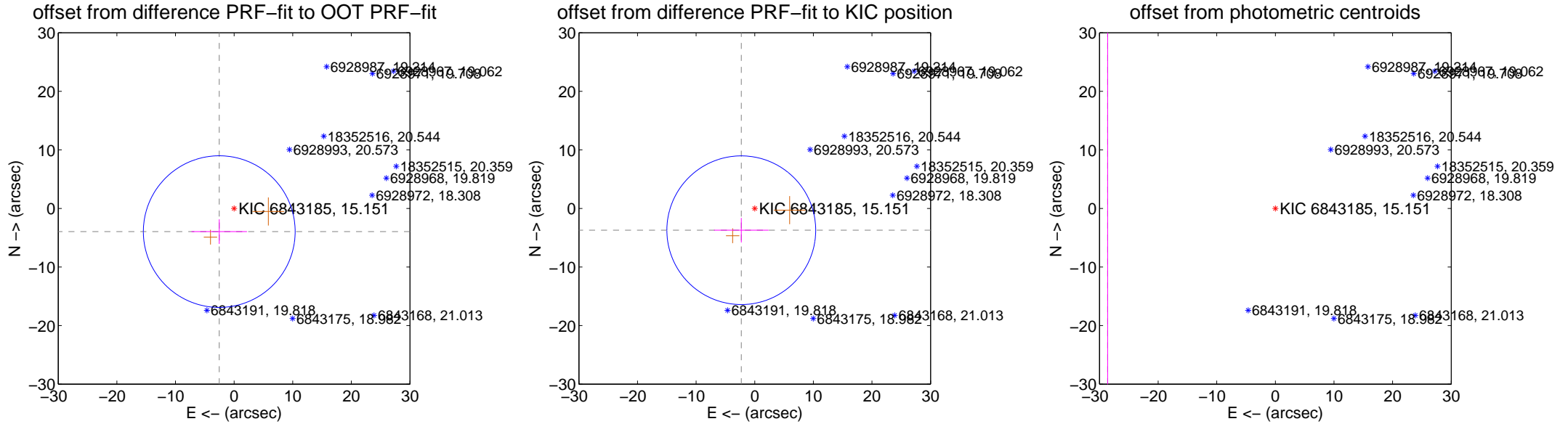
DV Centroid Data

Supplemental centroid analysis for 006843185-10. Kepler magnitude: 15.15. Transit SNR 0.04

There are 0 quarters with good PRF difference image offsets

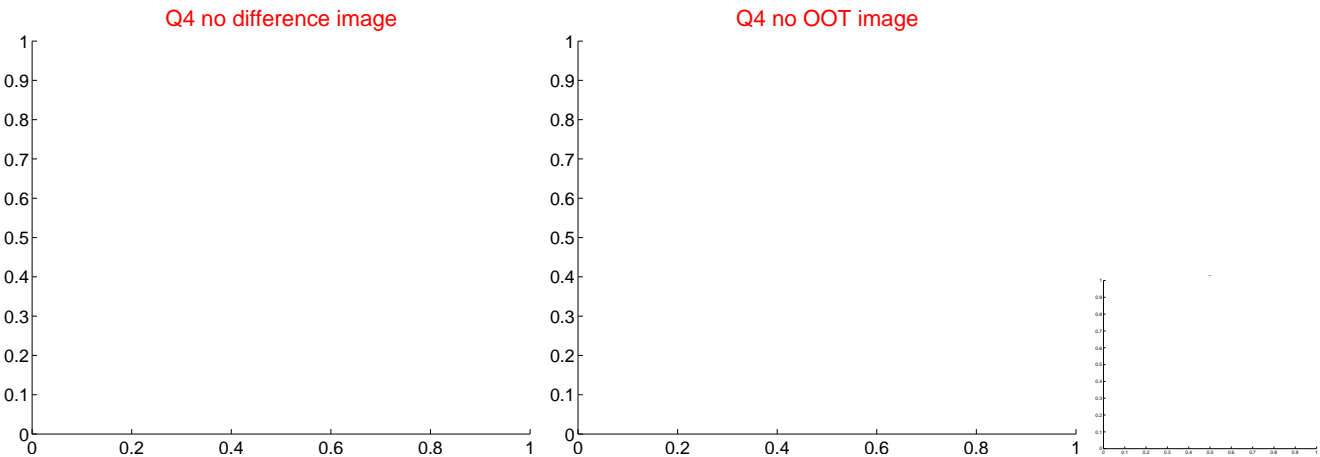
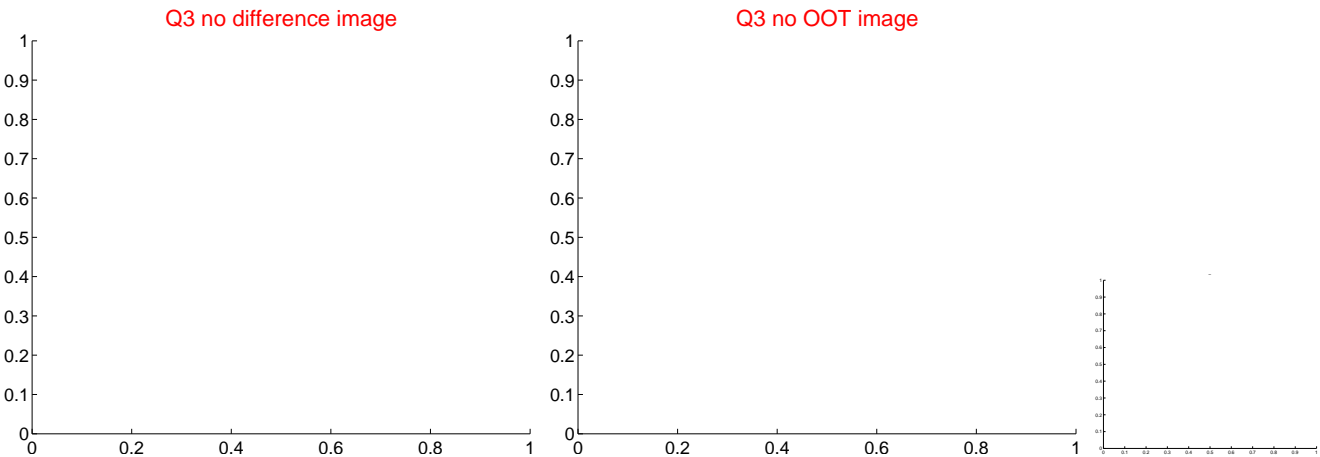
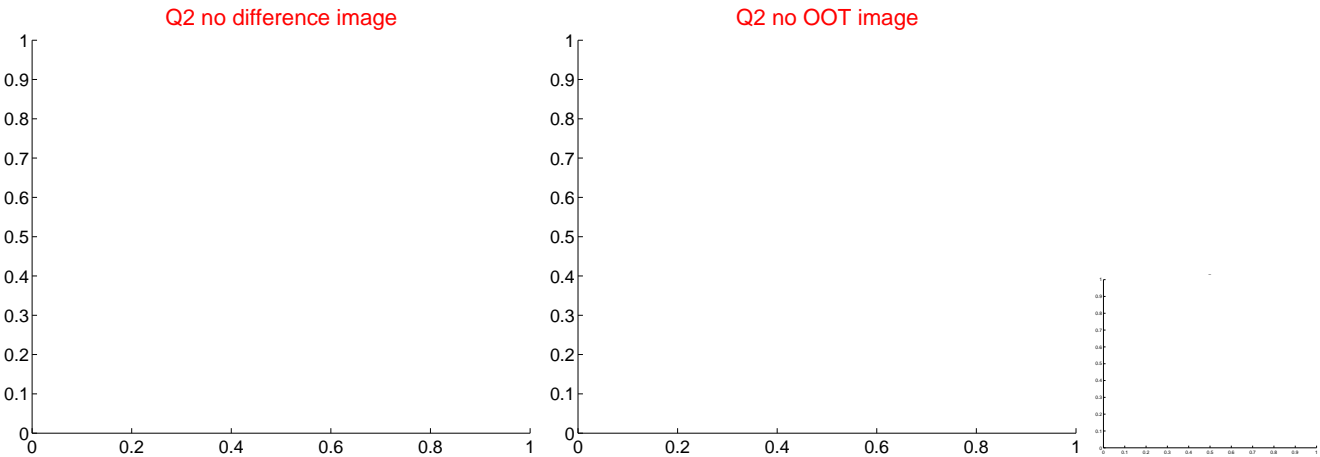
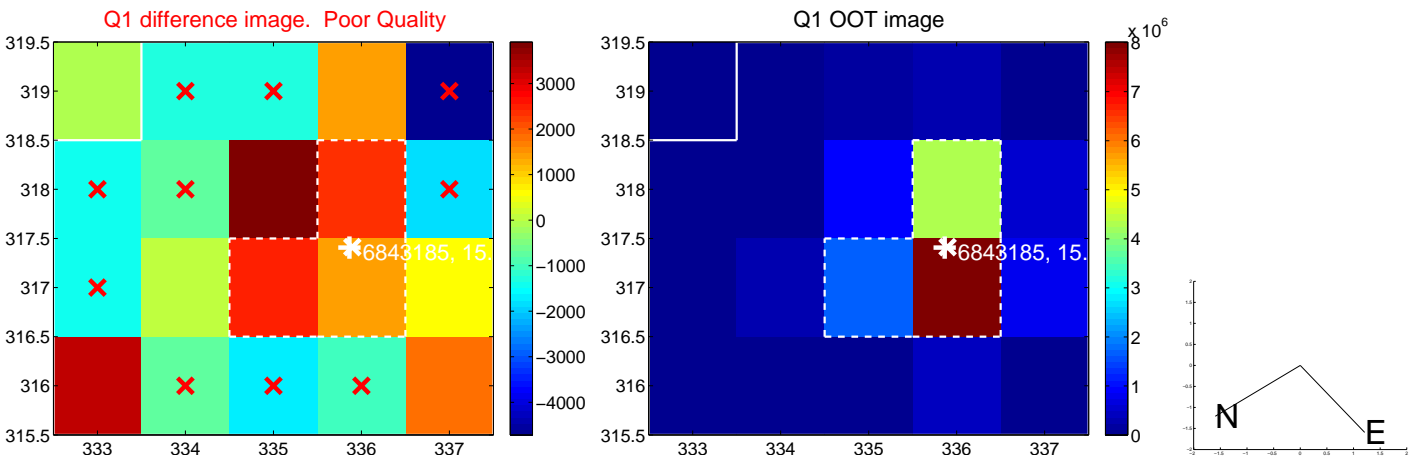
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.697 ± 4.316	1.09	2.533 ± 4.723	-3.955 ± 2.101
PRF-fit source offset from KIC position	4.369 ± 4.232	1.03	2.295 ± 4.658	-3.717 ± 2.098
photometric centroid source offset	86.83 ± 226.95	0.38	28.62 ± 198.51	81.98 ± 230.17

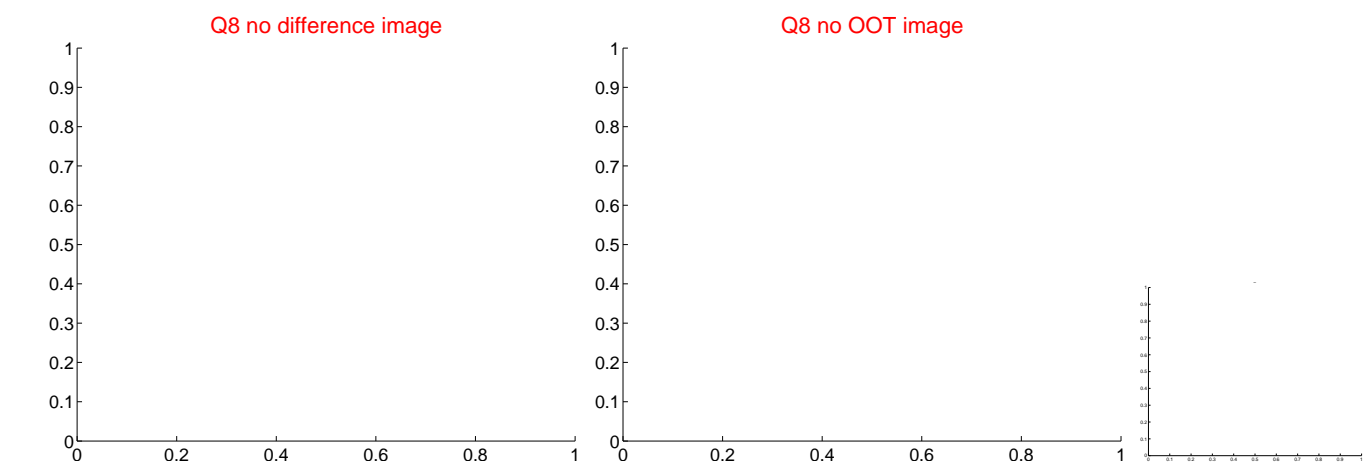
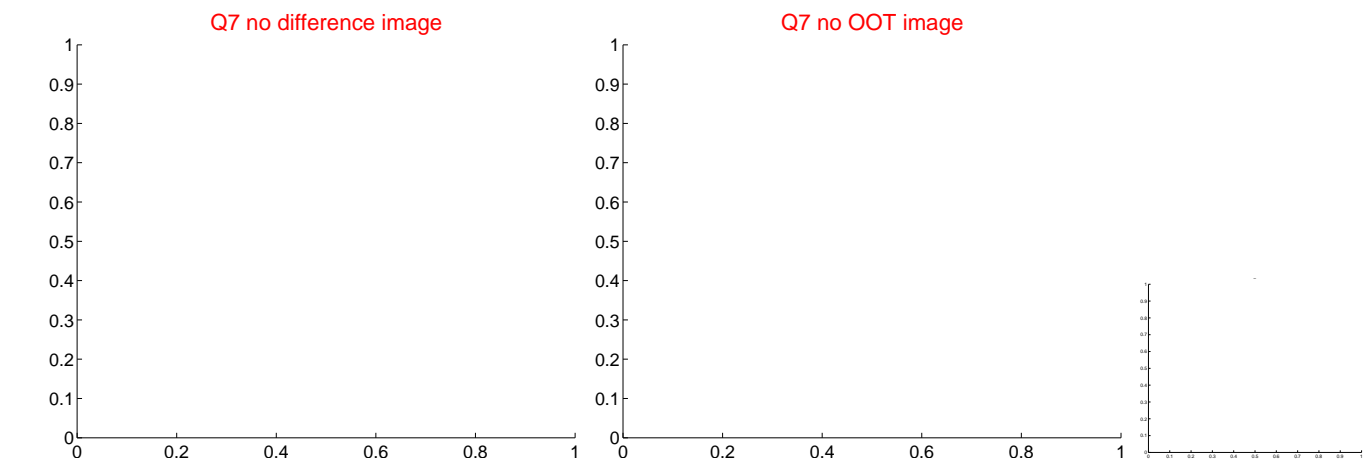
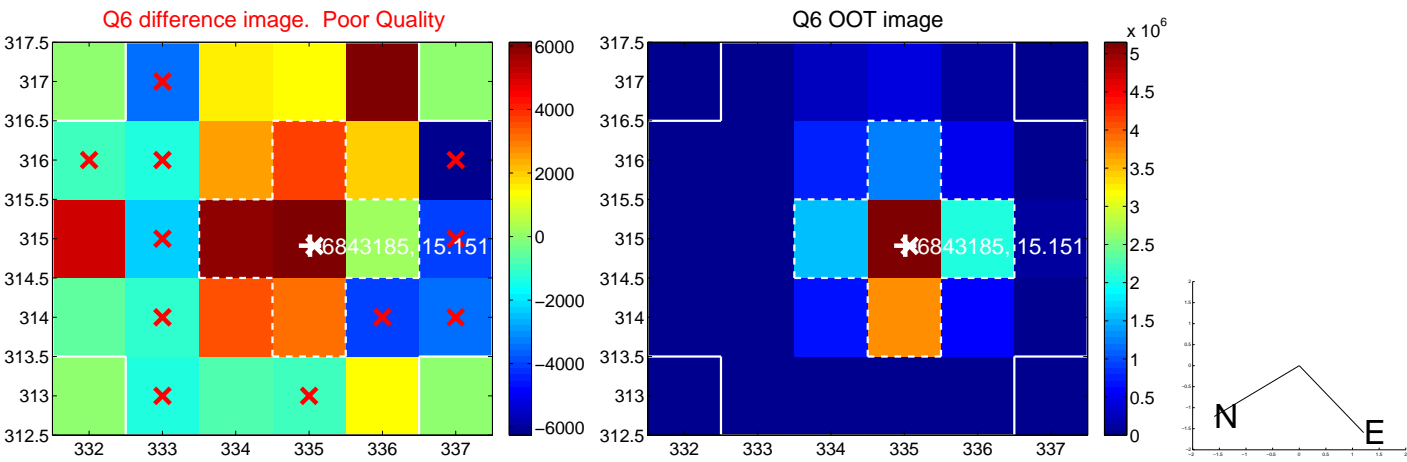
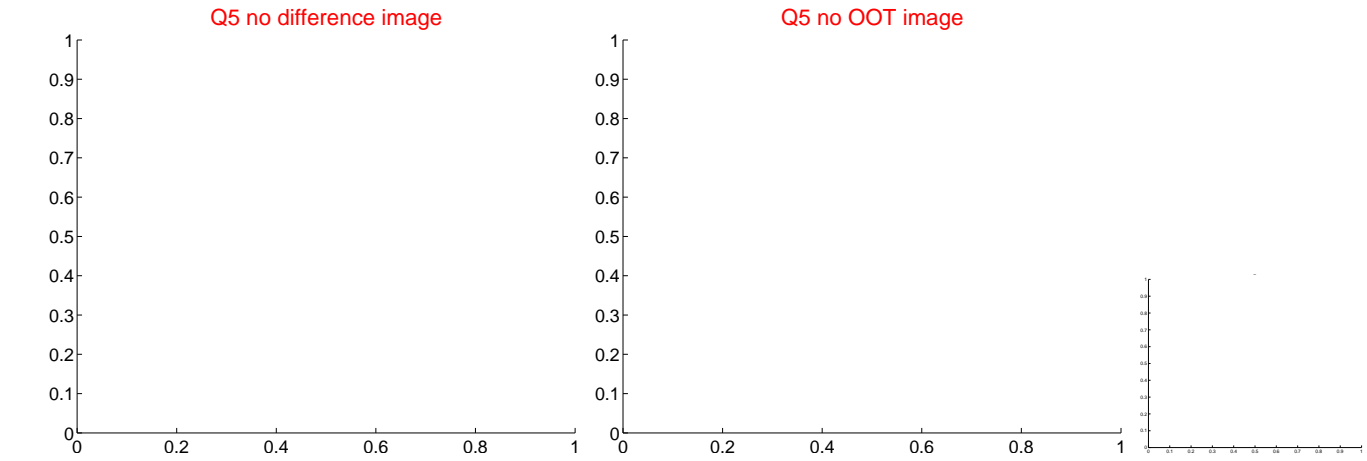


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

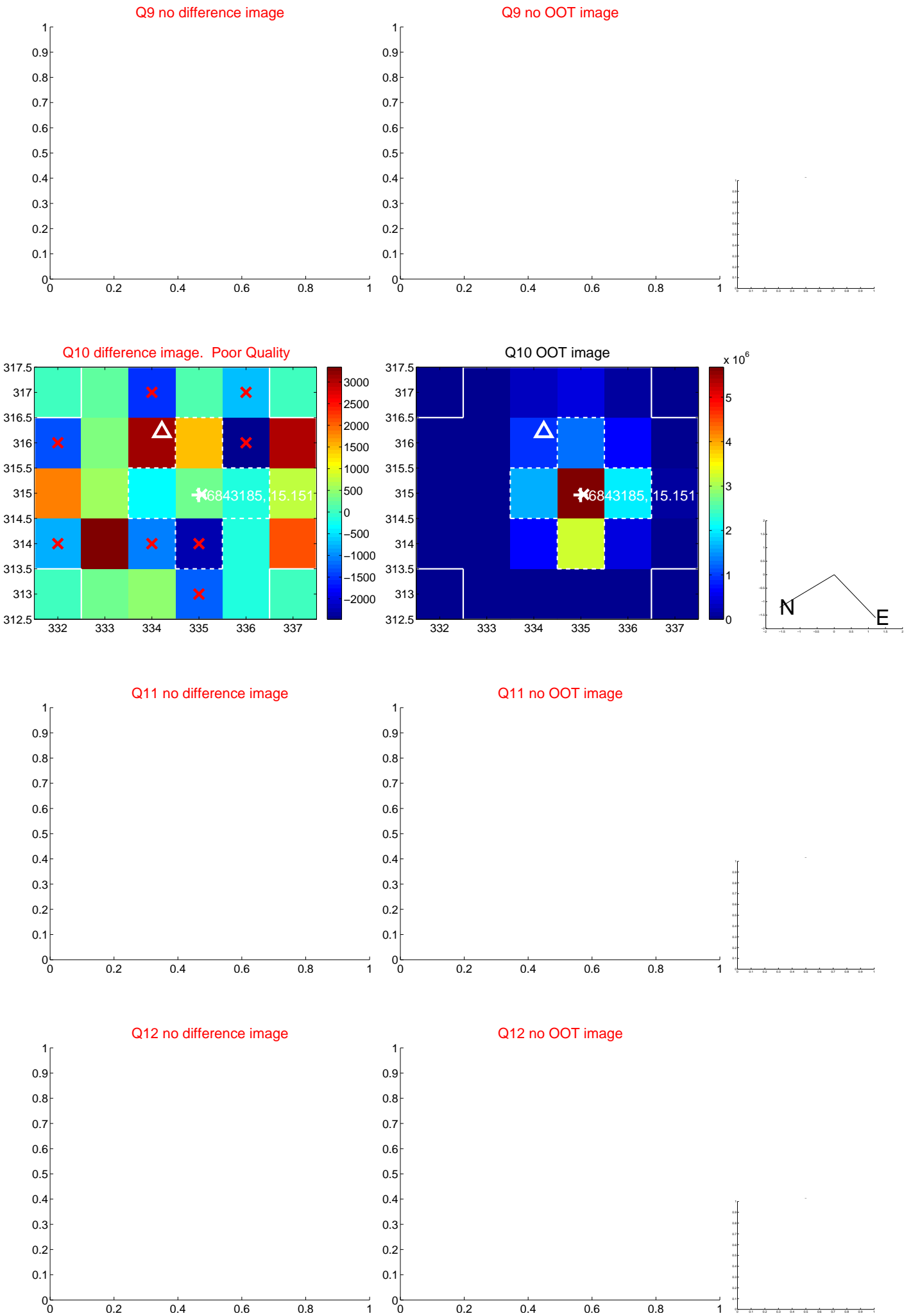
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



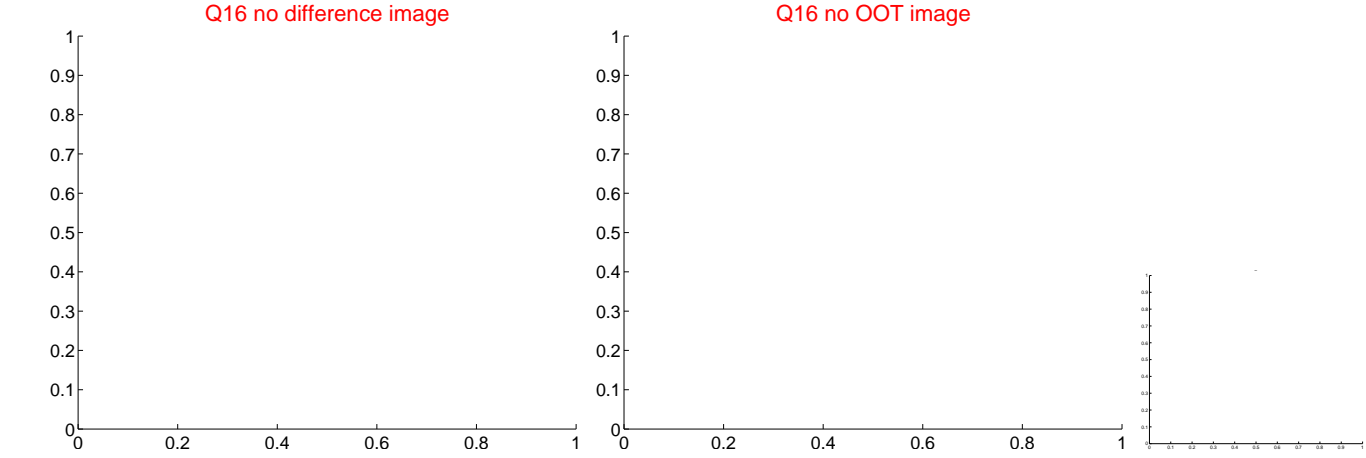
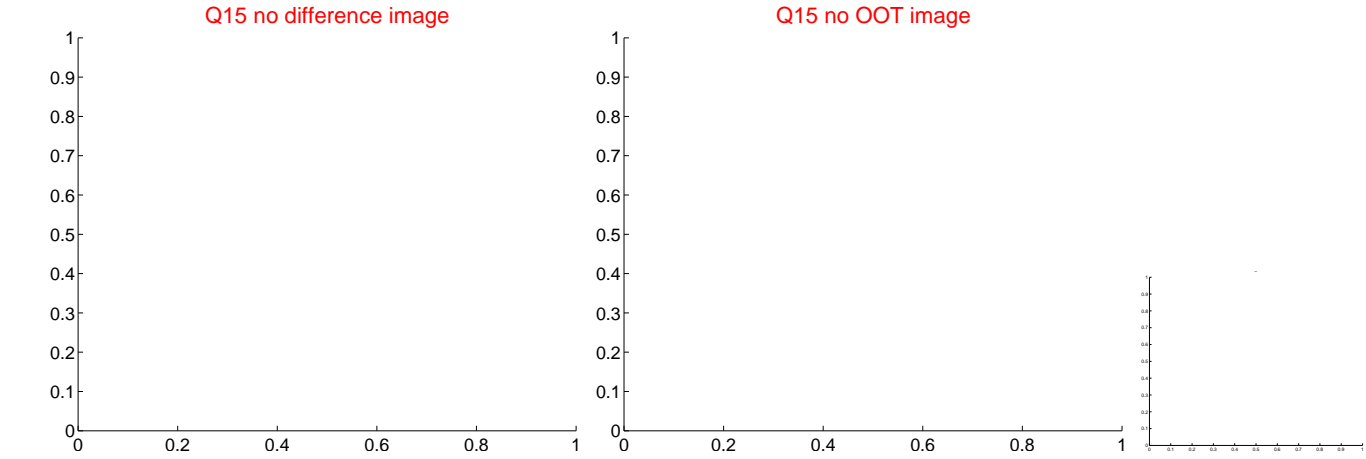
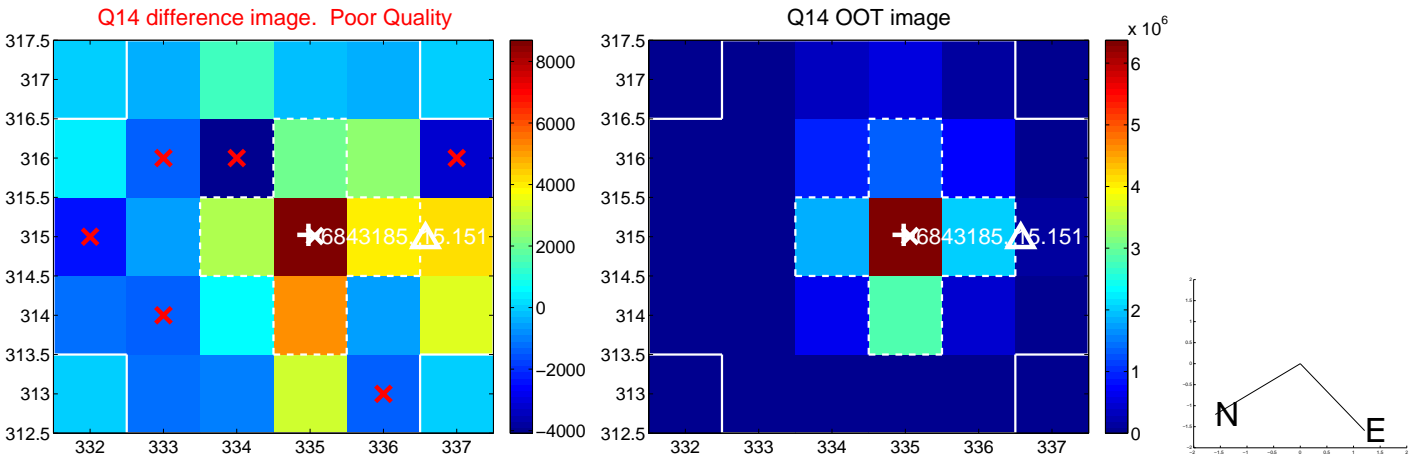
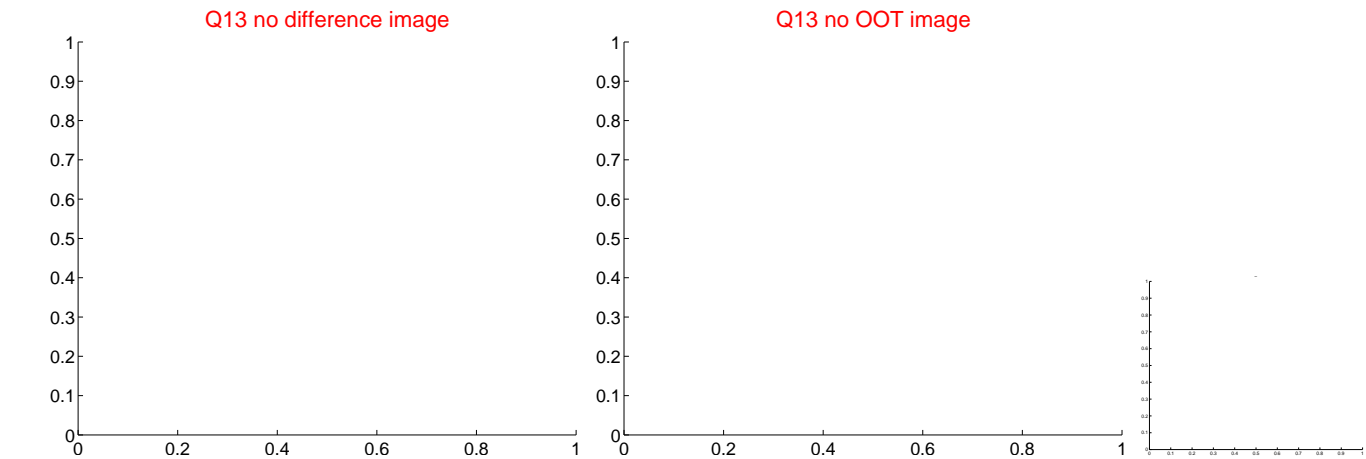
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



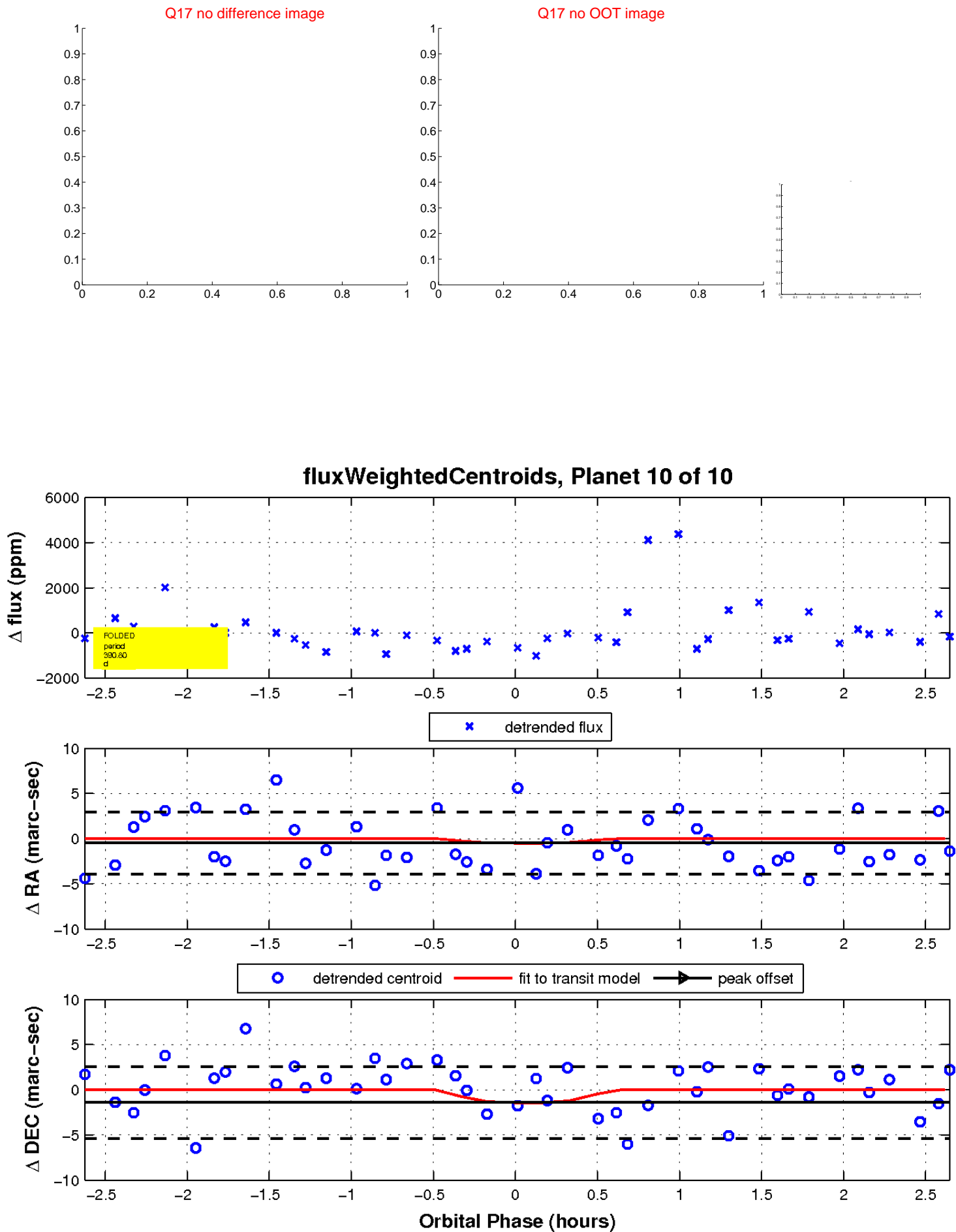
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: 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

