

KIC 006865484

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})
006865484-01	OBS	No	241.677588	264.432324	358.9	2.475	8.3	5.9	0.97	5937	1.96	2.09
006865484-02	OBS	No	447.944464	498.003576	268.9	7.847	9.7	3.9	0.97	5937	1.66	0.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006865484-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006865484-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

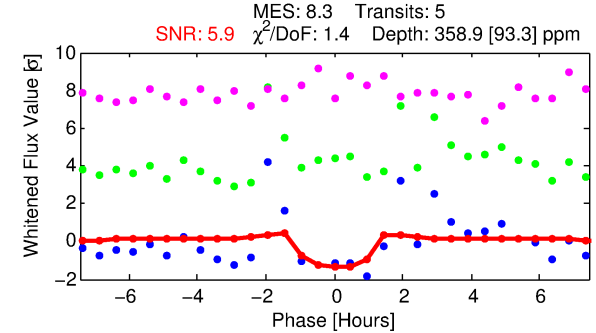
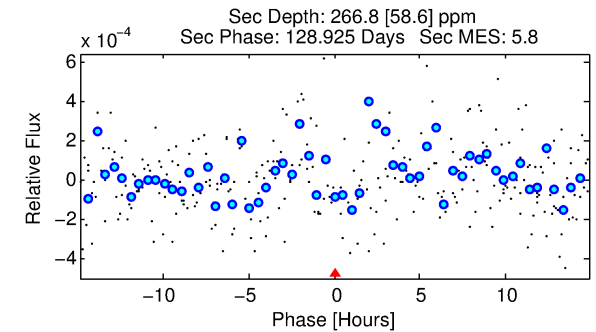
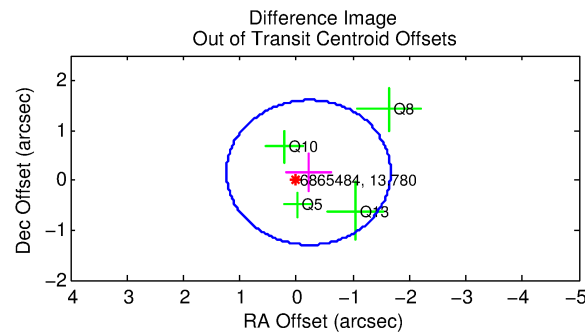
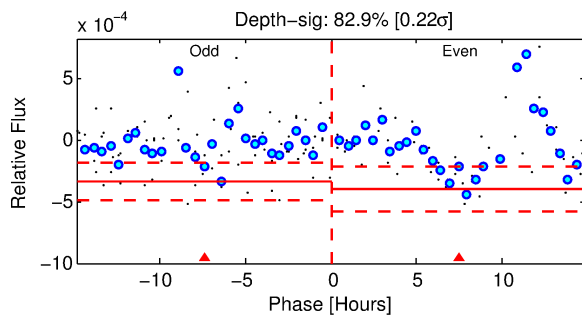
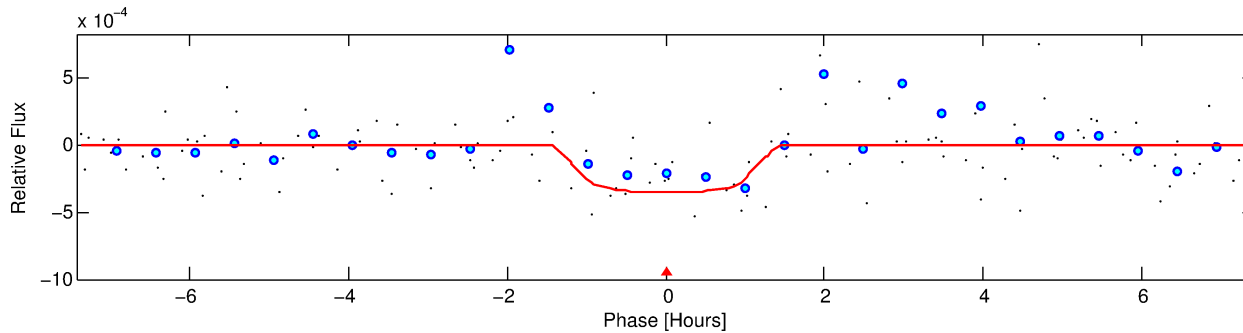
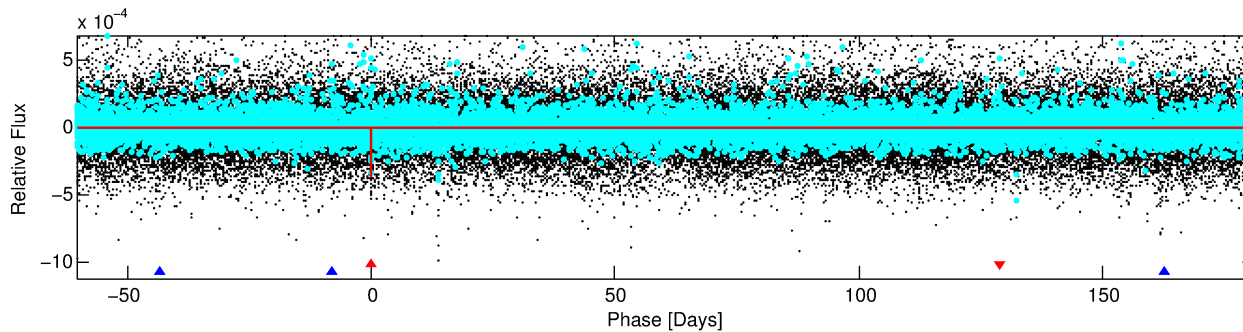
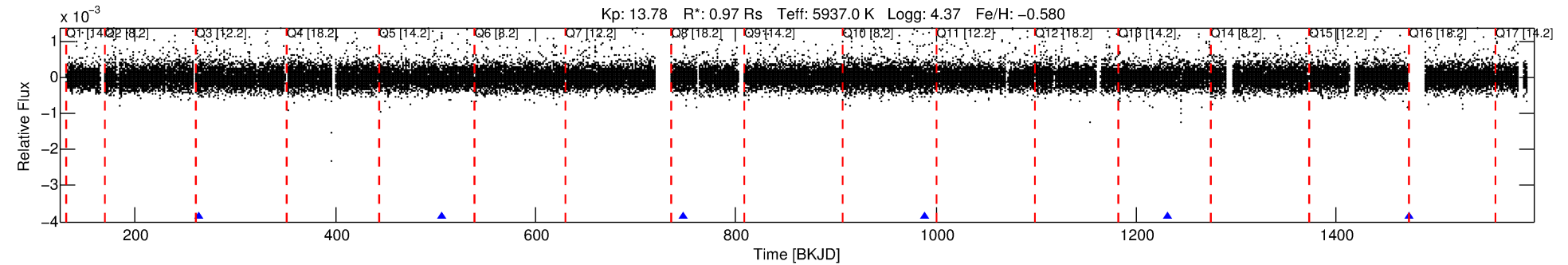
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006865484-01

No Significant Match Found

DV One-Page Summary

KIC: 6865484 Candidate: 1 of 2 Period: 241.678 d



DV Fit Results:

Period = 241.67759 [0.00386] d
Epoch = 264.4323 [0.0100] BKJD
Rp/R* = 0.0184 [0.0336]
a/R* = 571.86 [5162.40]
b = 0.67 [7.49]
Seff = 2.09 [0.73]
Teq = 307 [27] K
Rp = 1.96 [3.61] Re
a = 0.7095 [0.1607] AU
Ag = 19268.77 [70630.52] [0.27 σ]
Teffp = 5587 [5102] K [1.04 σ]

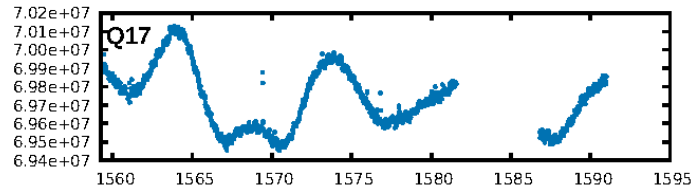
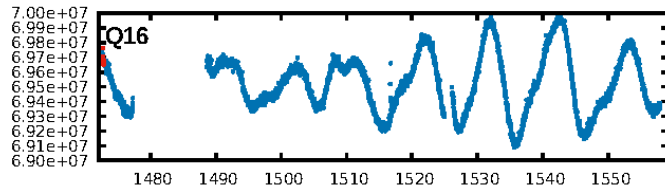
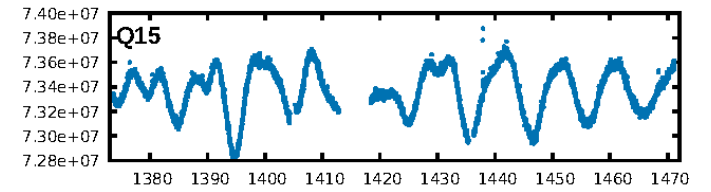
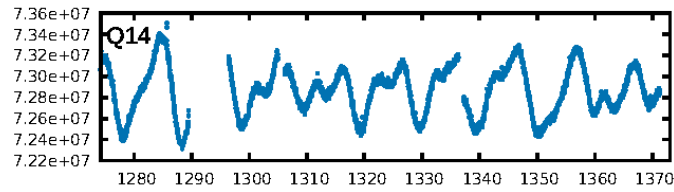
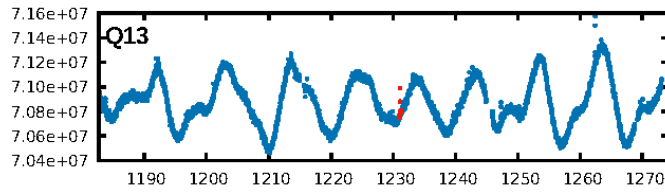
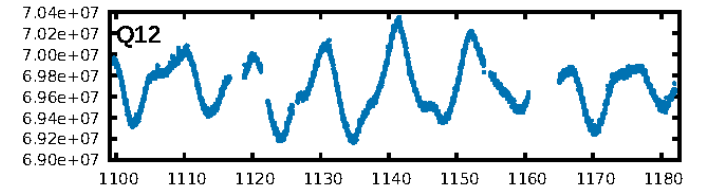
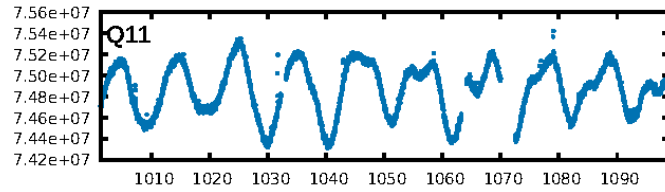
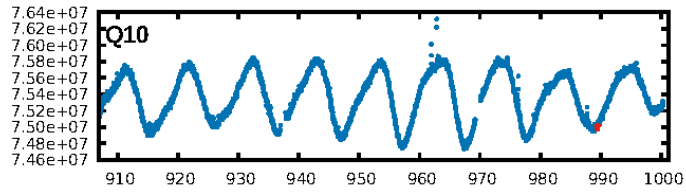
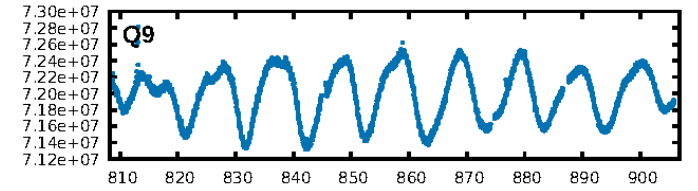
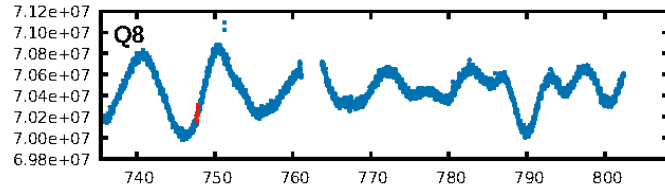
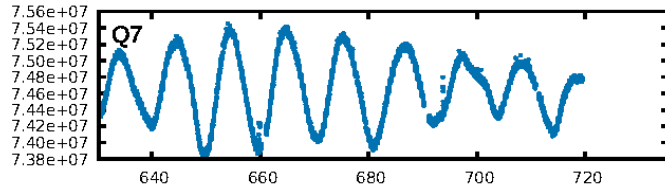
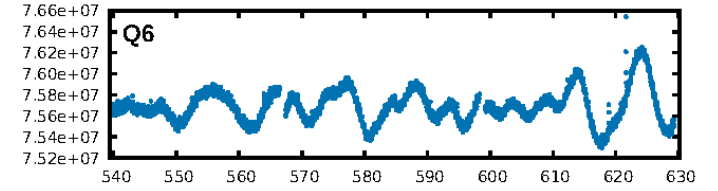
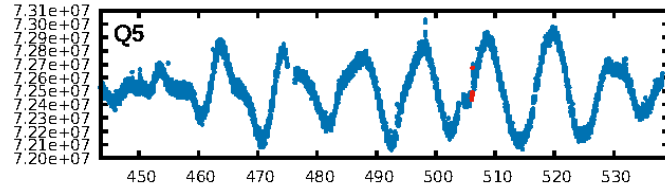
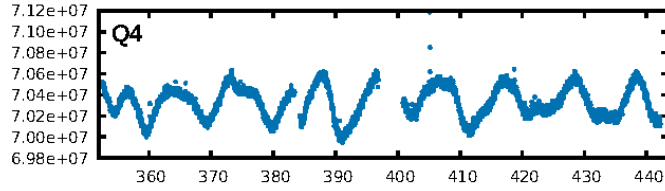
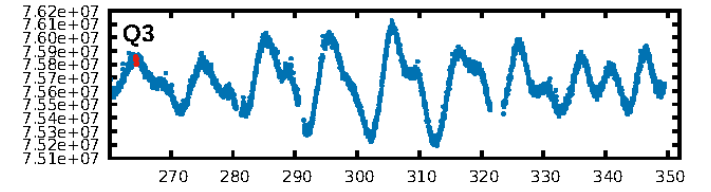
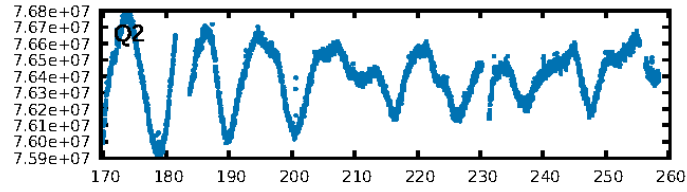
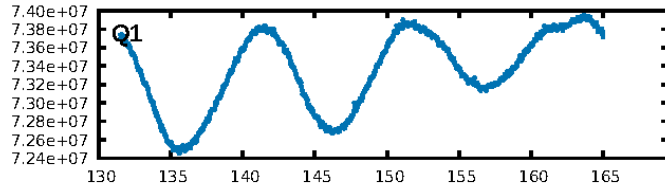
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [601.68 σ]
ModelChiSquare2-sig: 34.0%
ModelChiSquareGof-sig: 87.2%
Bootstrap-pfa: 1.81e-10
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.7363
Centroid-sig: 3.7%
Centroid-so: 2.567 arcsec [1.73 σ]
OotOffset-rm: 0.265 arcsec [0.55 σ]
OotOffset-st: 1/0/1/2 [4]
KicOffset-rm: 0.370 arcsec [0.77 σ]
KicOffset-st: 1/0/1/2 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [5/5]

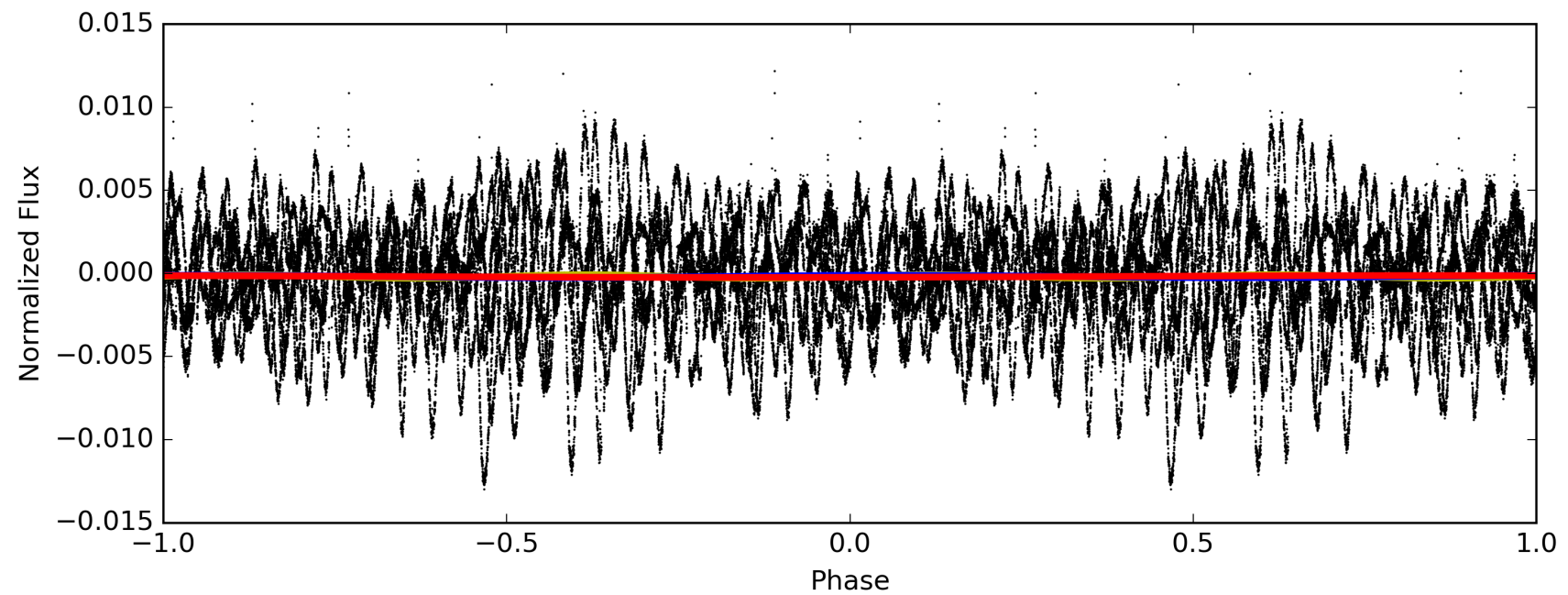
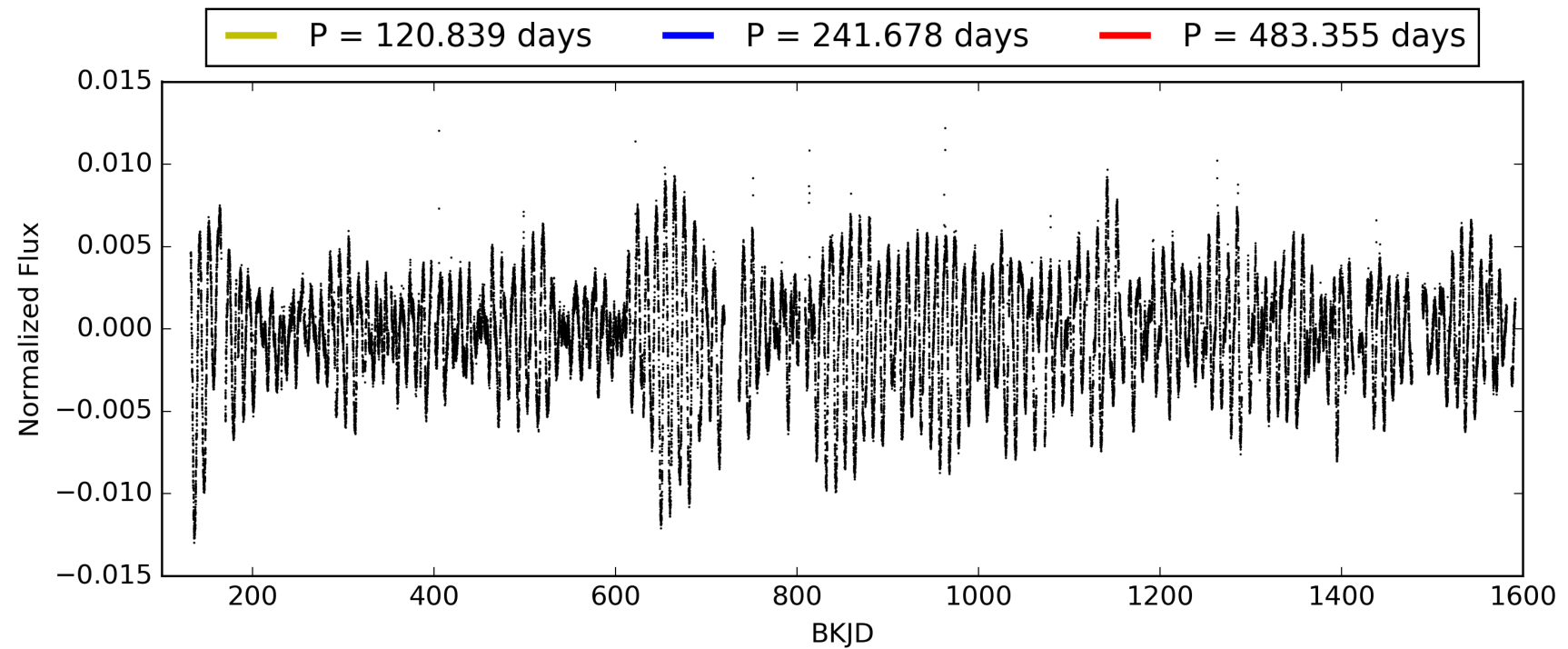
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006865484-01, PDC Light Curves

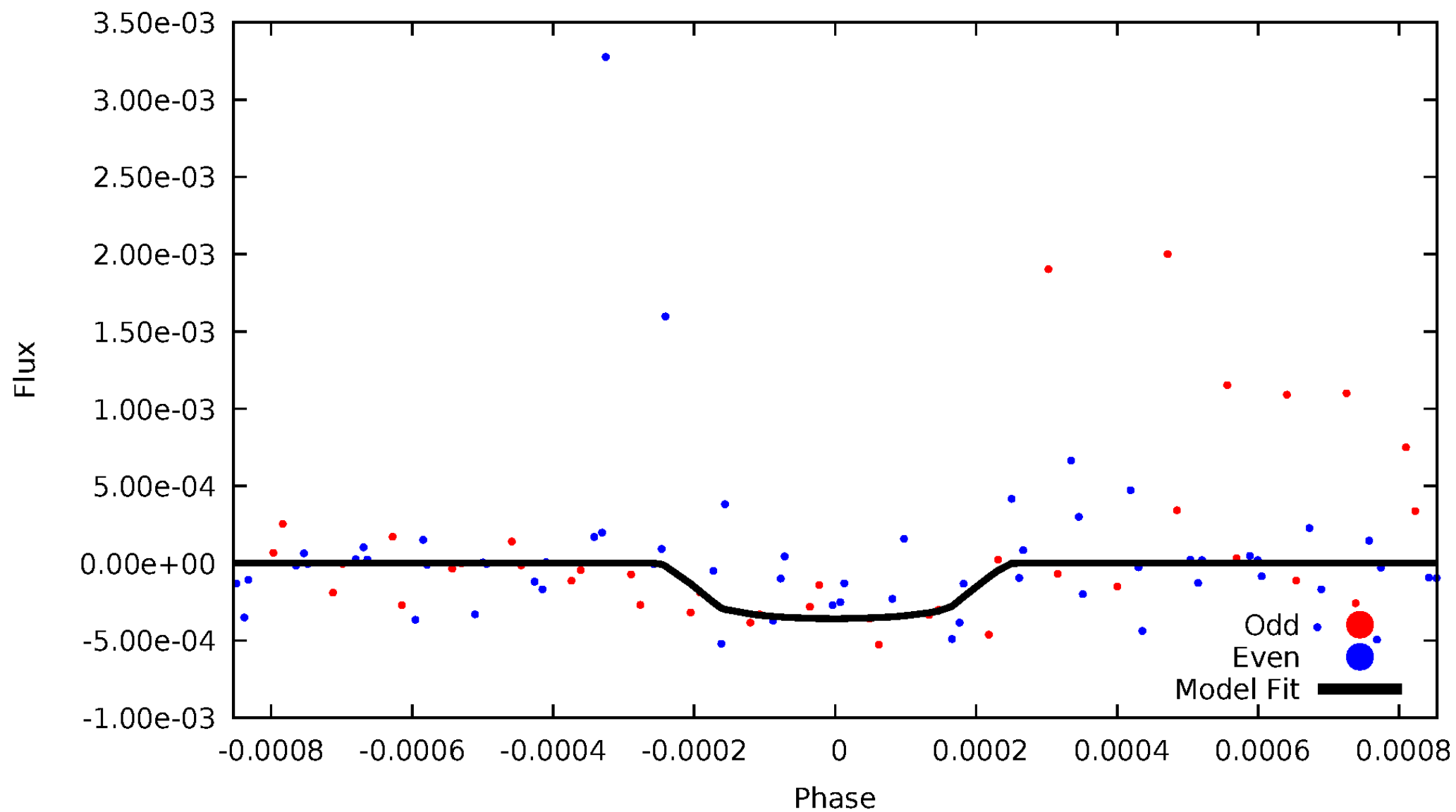


TCE 006865484-01



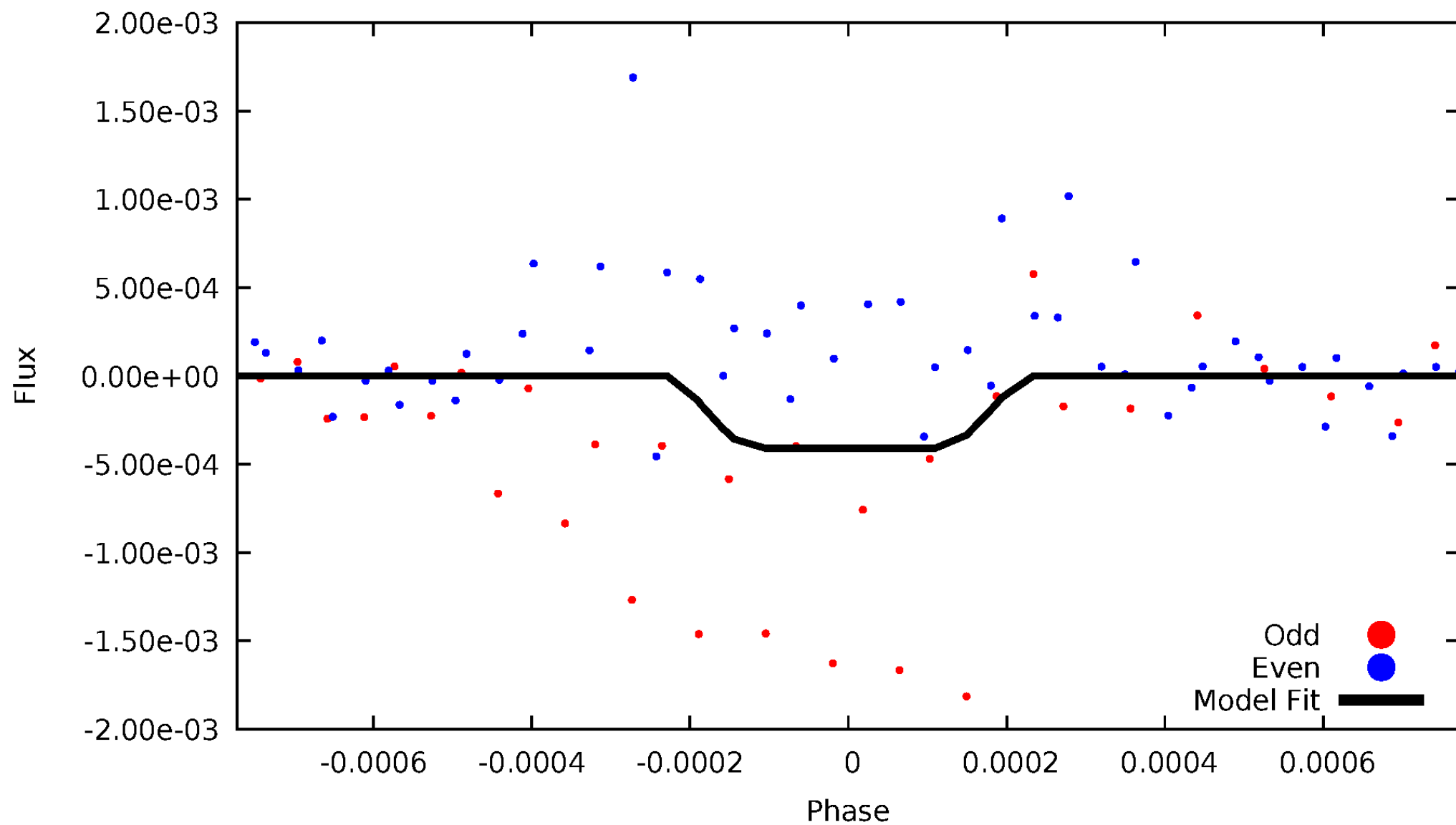
DV Odd/Even

TCE 006865484-01

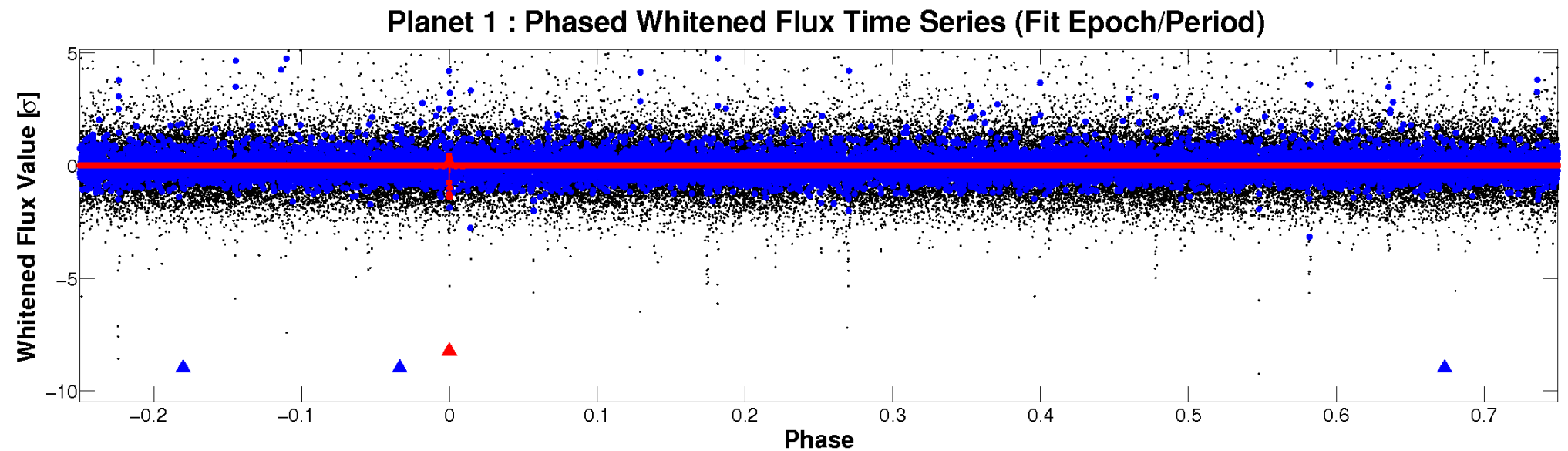
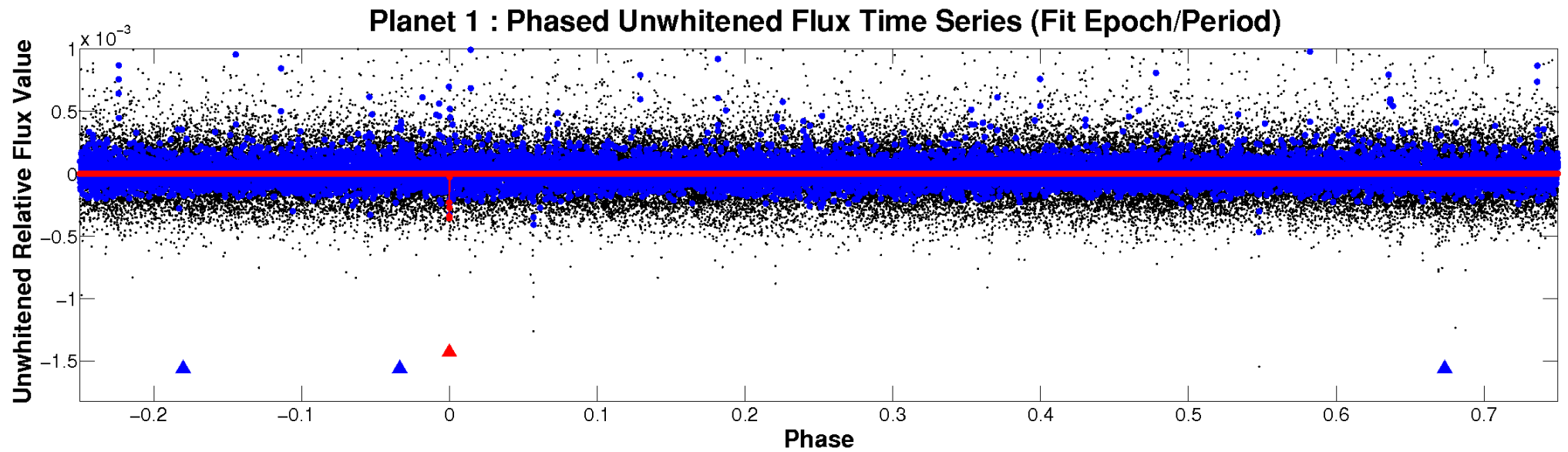


ALT Odd/Even

TCE 006865484-01

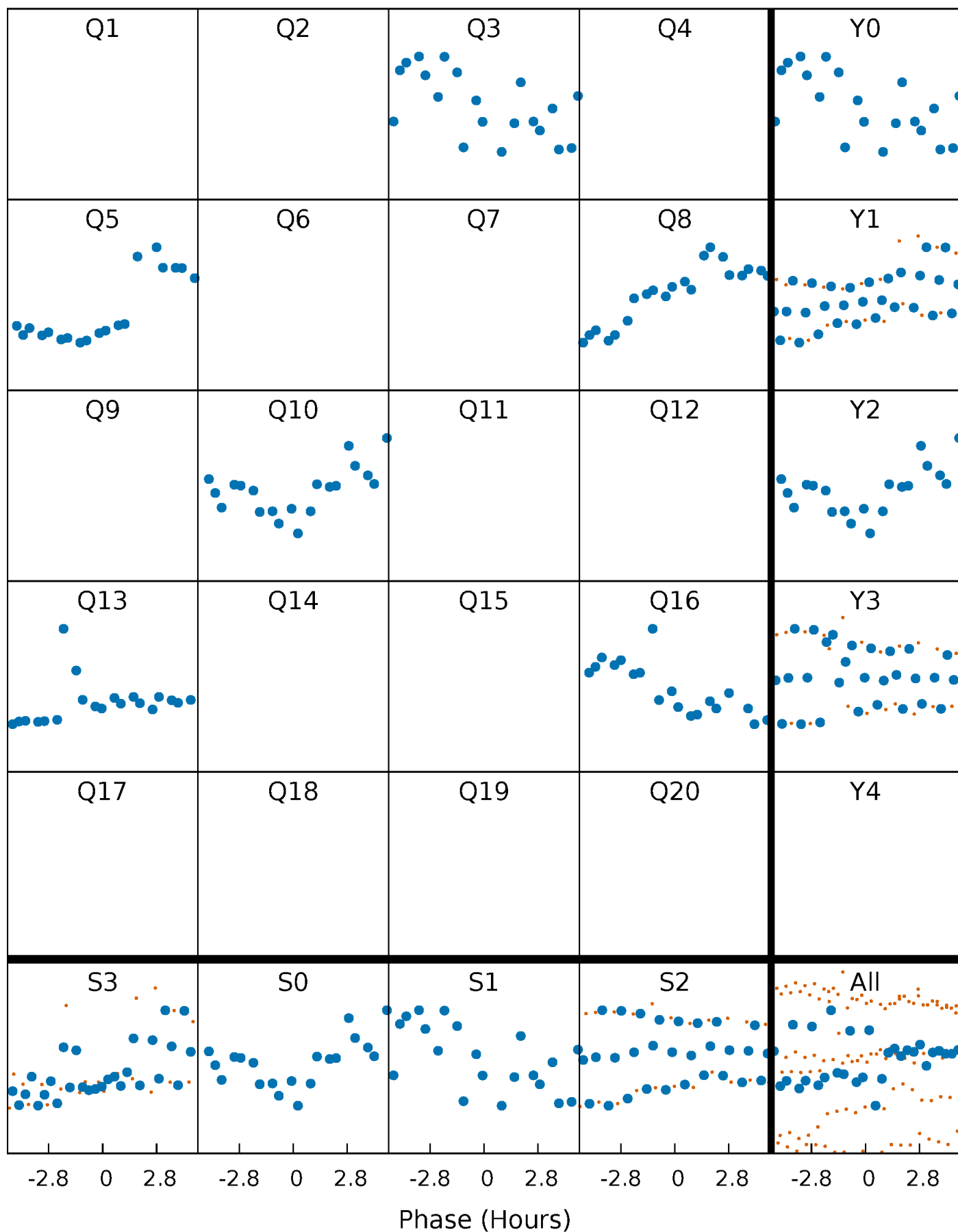


Non-Whitened Vs. Whitened Light Curve



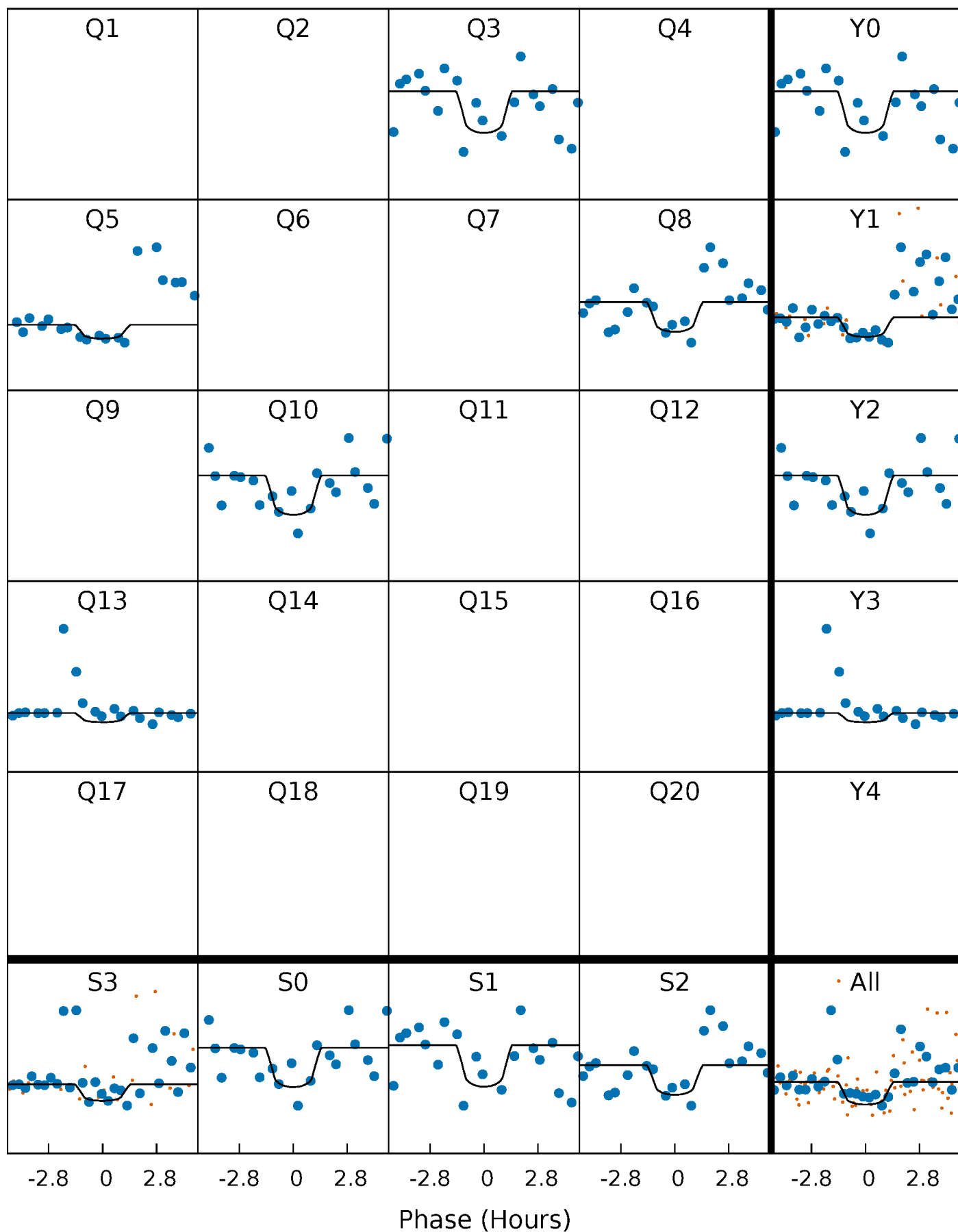
PDC Quarter-Phased Transit Curves

TCE 006865484-01 P=241.677588 Days $T_0=264.432324$ (BKJD)



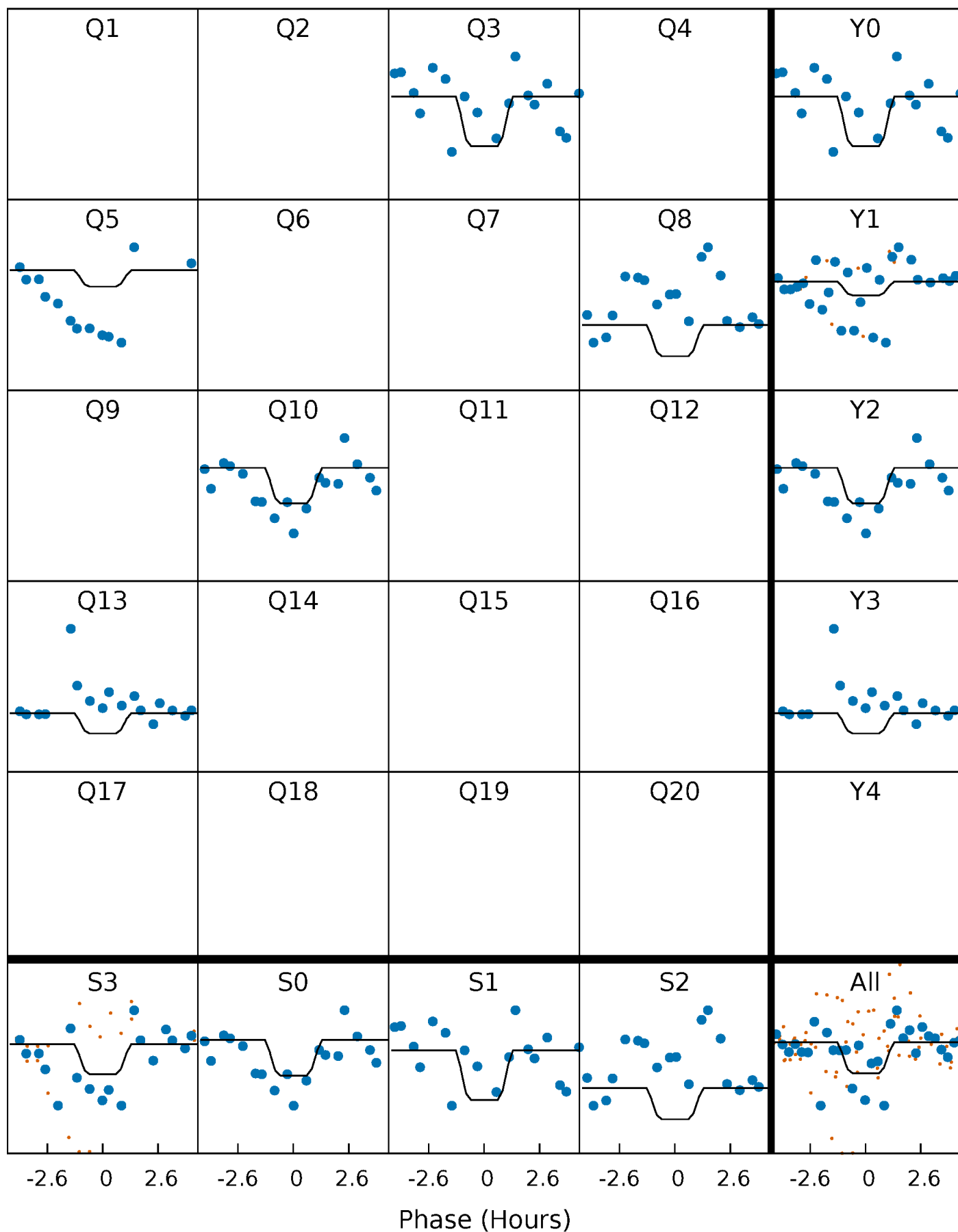
DV Quarter-Phased Transit Curves

TCE 006865484-01 P=241.677588 Days $T_0=264.432324$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

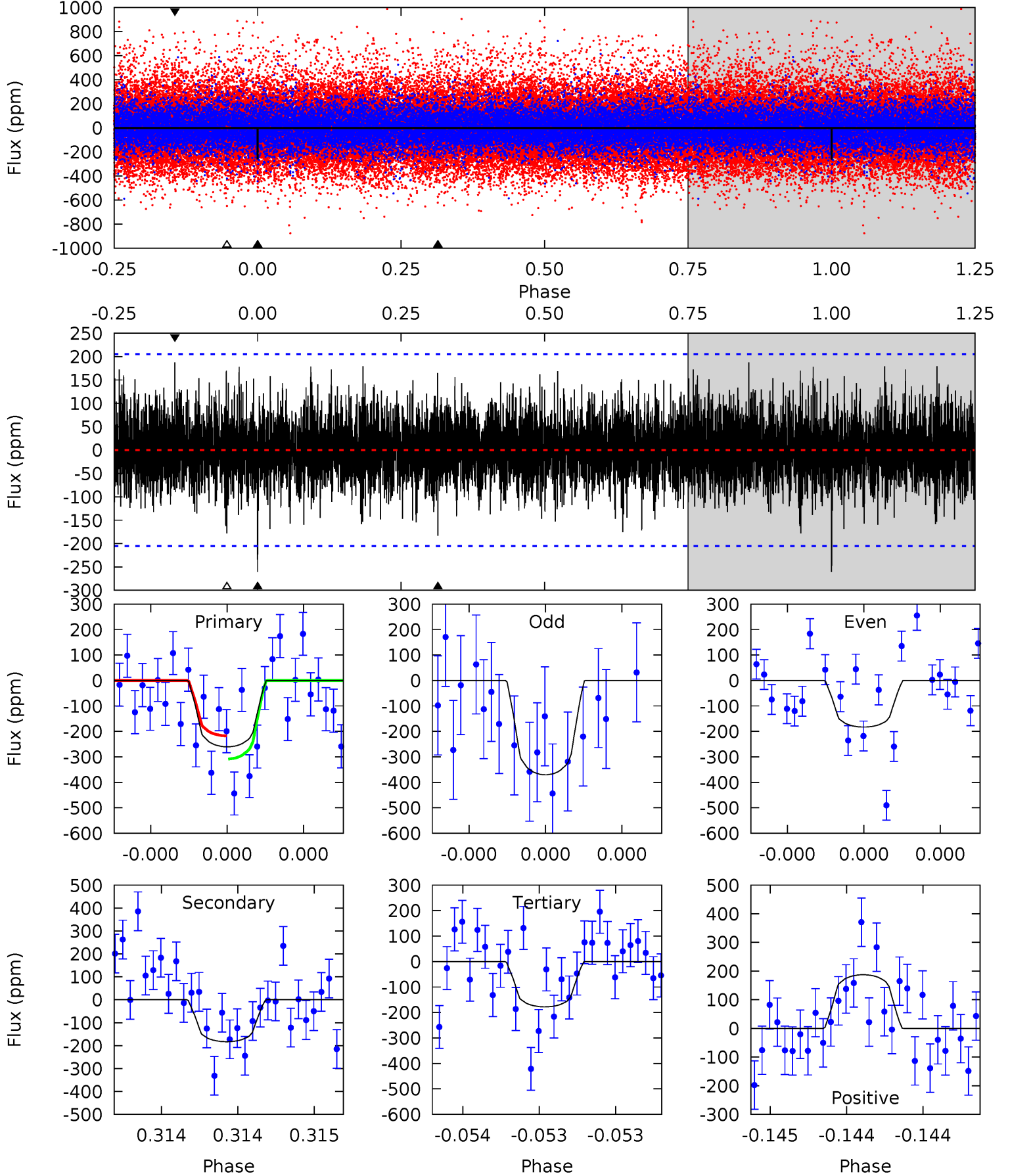
TCE 006865484-01 P=241.674586 Days $T_0=264.451880$ (BKJD)



DV Model-Shift Uniqueness Test

006865484-01, P = 241.677588 Days, E = 22.754736 Days

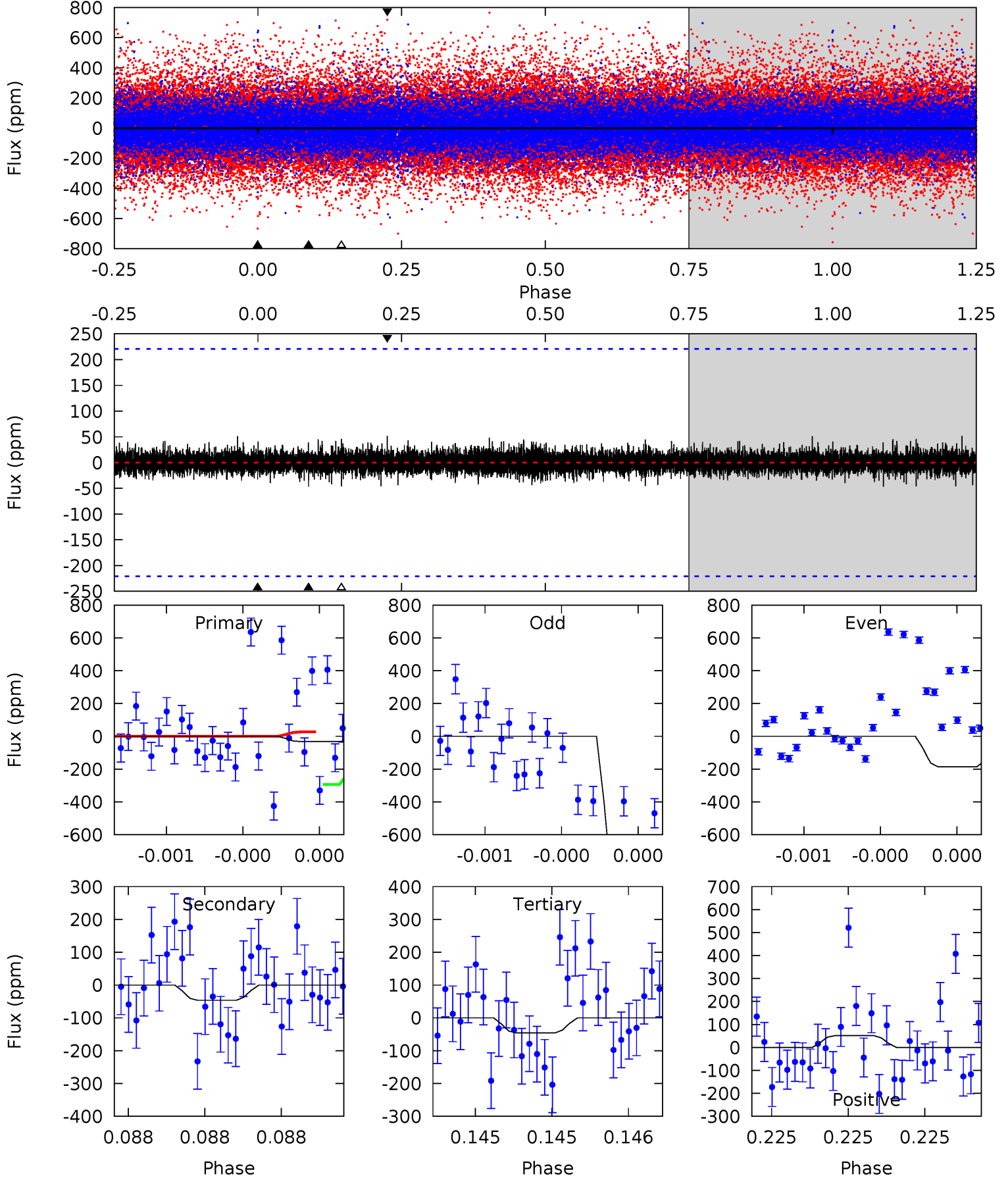
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.08	4.97	4.83	5.09	5.58	3.49	1.36	2.25	1.99	0.14	-0.12	2.52	0.77	0.42	1.24



Alt Model-Shift Uniqueness Test

006865484-01, $P = 241.674586$ Days, $E = 22.777294$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.83	1.18	1.17	1.31	5.60	3.53	0.30	-0.34	-0.48	0.01	-0.13	11.2	2.08	0.53	3.20



Stellar Parameters For KIC 006865484

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5937^{+159}_{-159}	$4.373^{+0.180}_{-0.180}$	$-0.580^{+0.300}_{-0.300}$	$0.973^{+0.262}_{-0.175}$	$0.815^{+0.110}_{-0.055}$	$1.245^{+0.982}_{-0.641}$
	+3%/-3%	+4%/-4%	+52%/-52%	+27%/-18%	+13%/-7%	+79%/-52%
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 006865484-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-183 ± 37	$3.00^{+3.26}_{-2.05}$	428^{+33}_{-28}	4352^{+2870}_{-946}	5705^{+45080}_{-4409}
Alt.	-47 ± 39	$3.25^{+2.91}_{-2.25}$	428^{+30}_{-26}	3206^{+1695}_{-1074}	938^{+9544}_{-899}

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 $A_{obs} \gg 1.0$

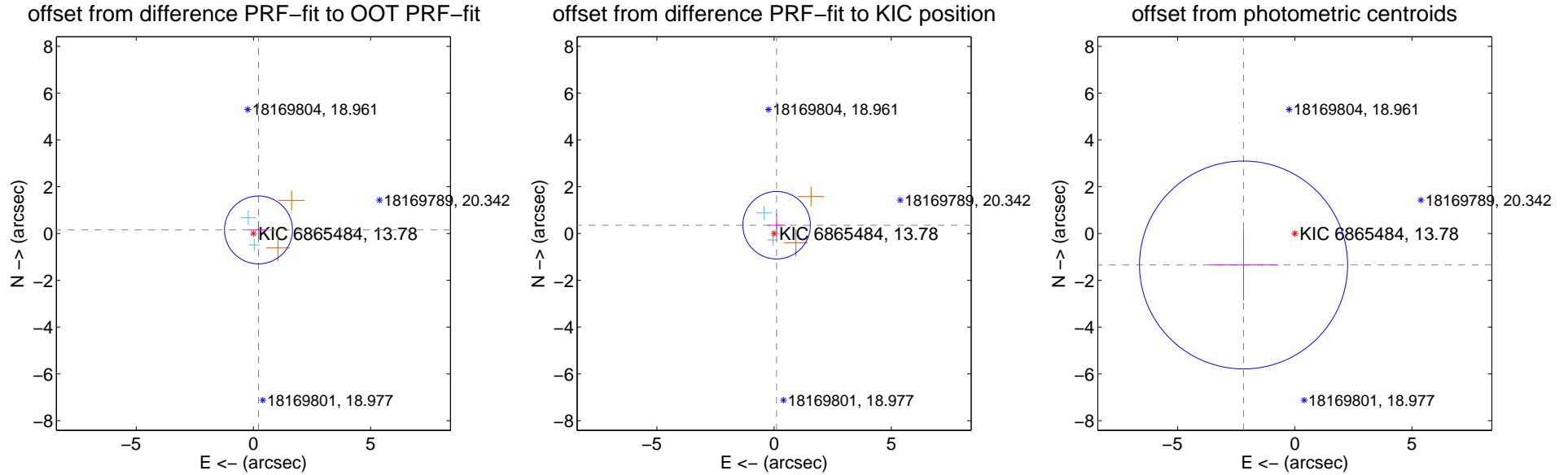
DV Centroid Data

Supplemental centroid analysis for 006865484-01. Kepler magnitude: 13.78. Transit SNR 5.85

There are 2 quarters with good PRF difference image offsets

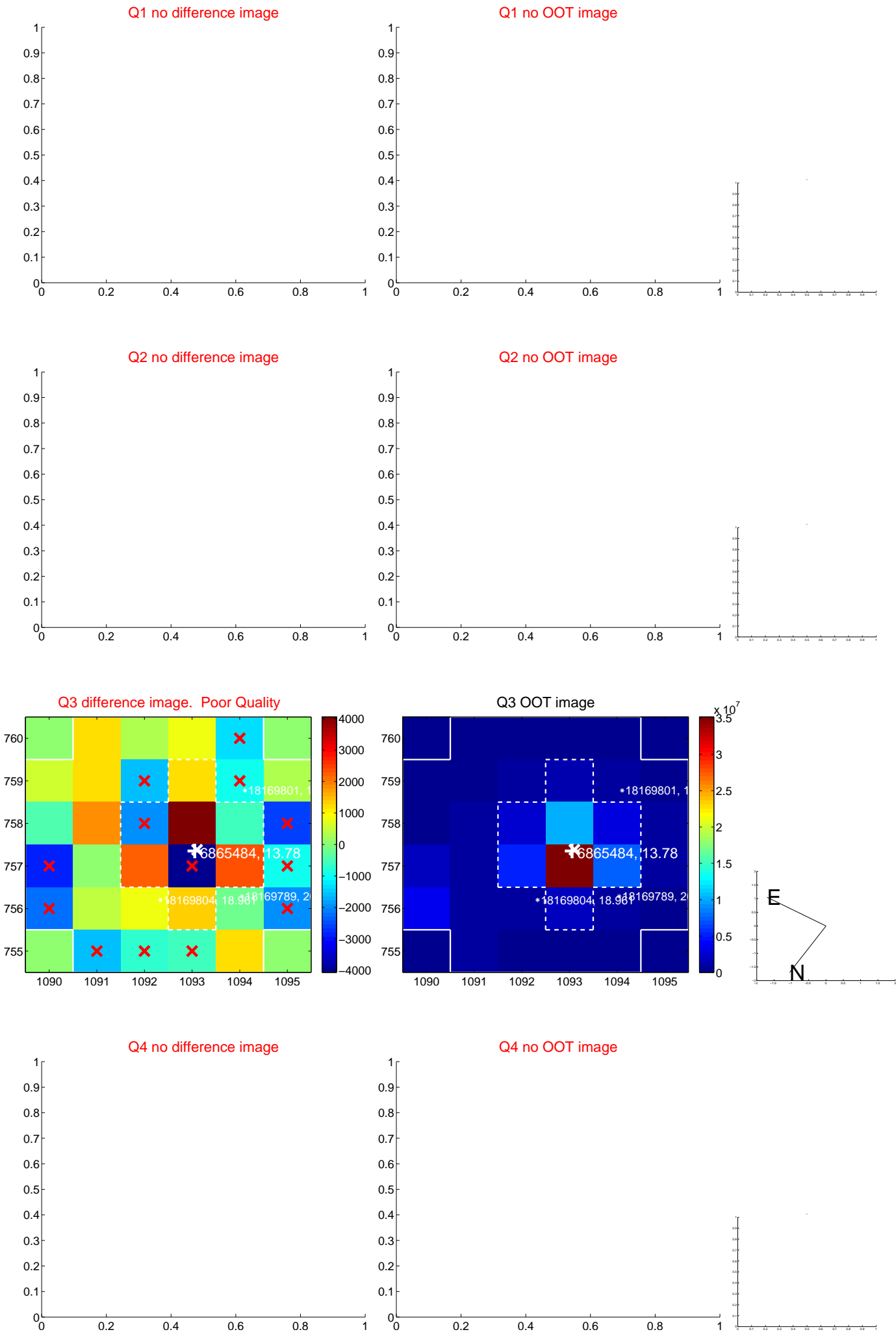
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.265 ± 0.483	0.55	-0.216 ± 0.406	0.153 ± 0.384
PRF-fit source offset from KIC position	0.370 ± 0.480	0.77	-0.107 ± 0.397	0.354 ± 0.487
photometric centroid source offset	2.57 ± 1.48	1.73	2.19 ± 1.47	-1.34 ± 1.51

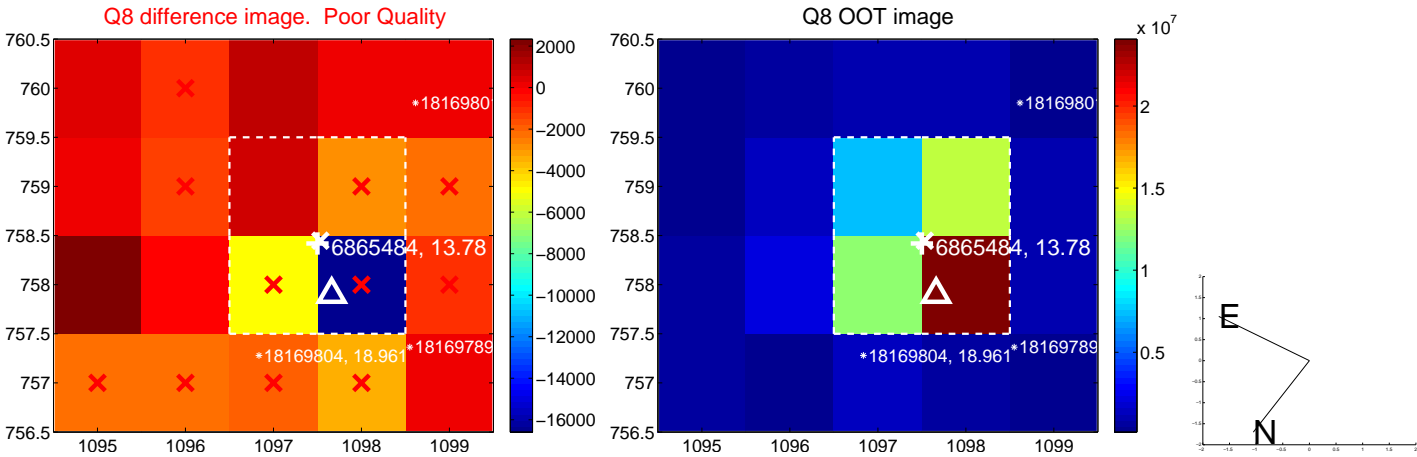
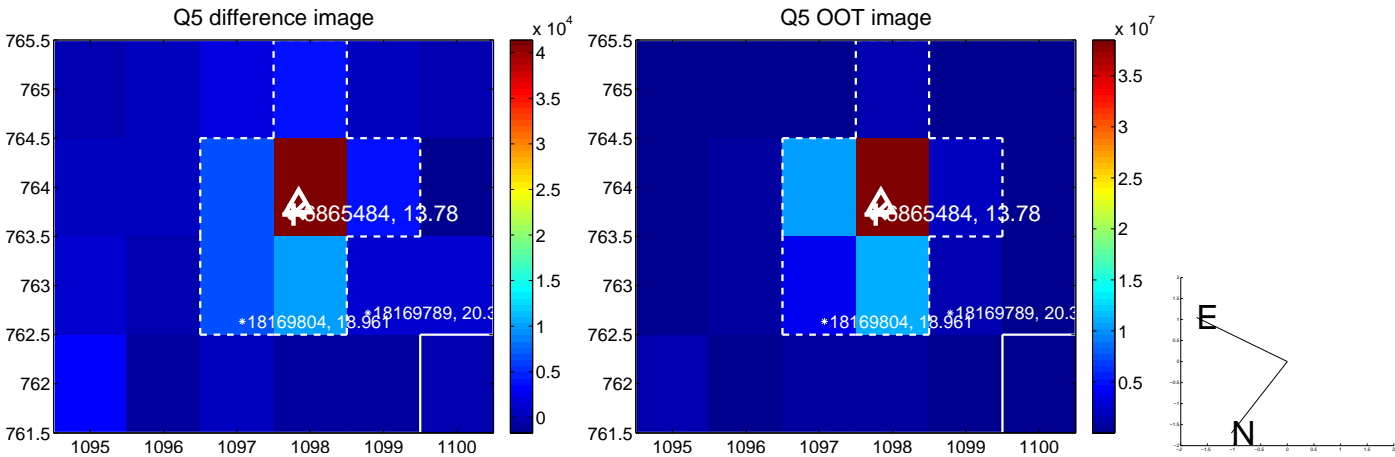


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

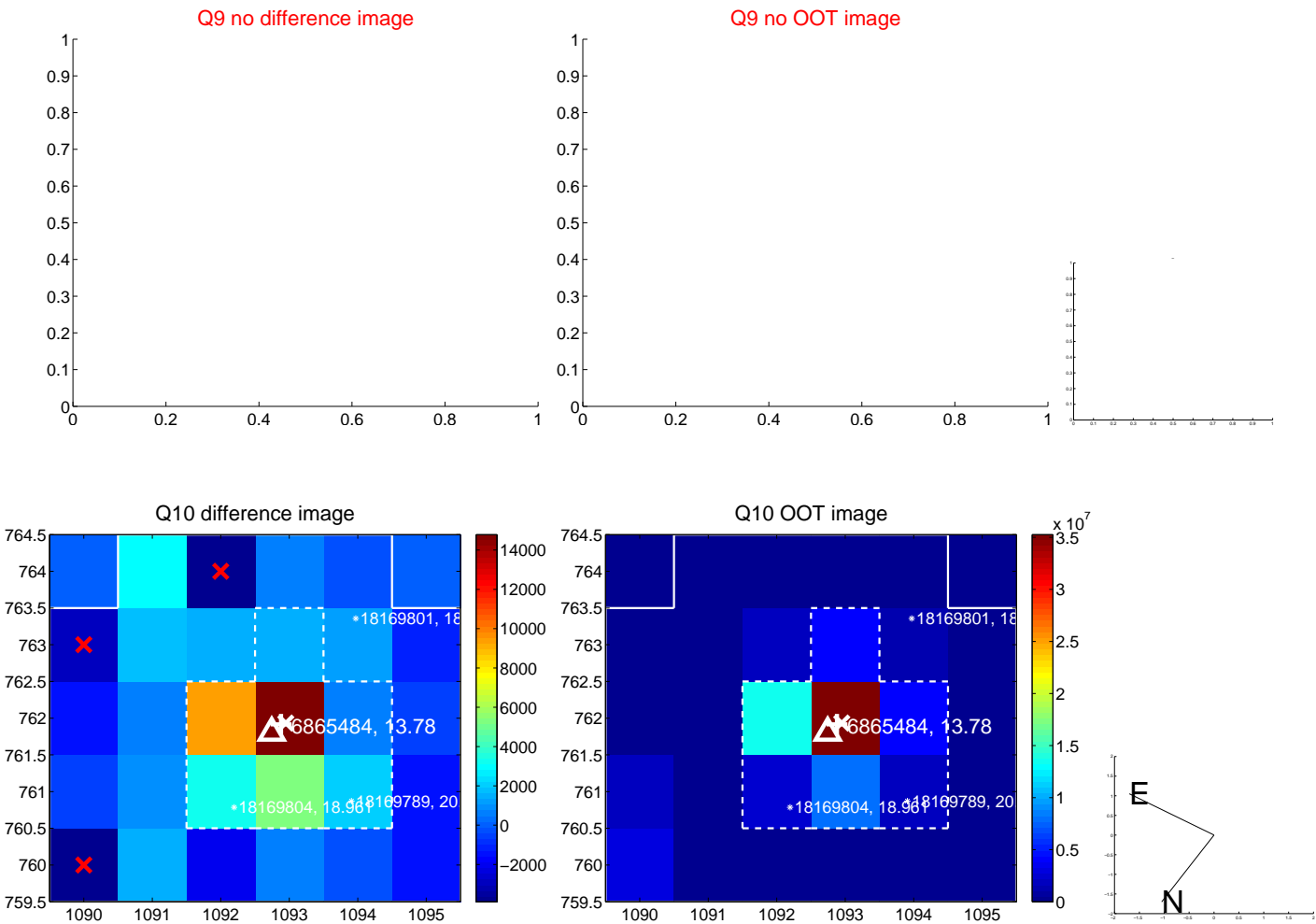
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



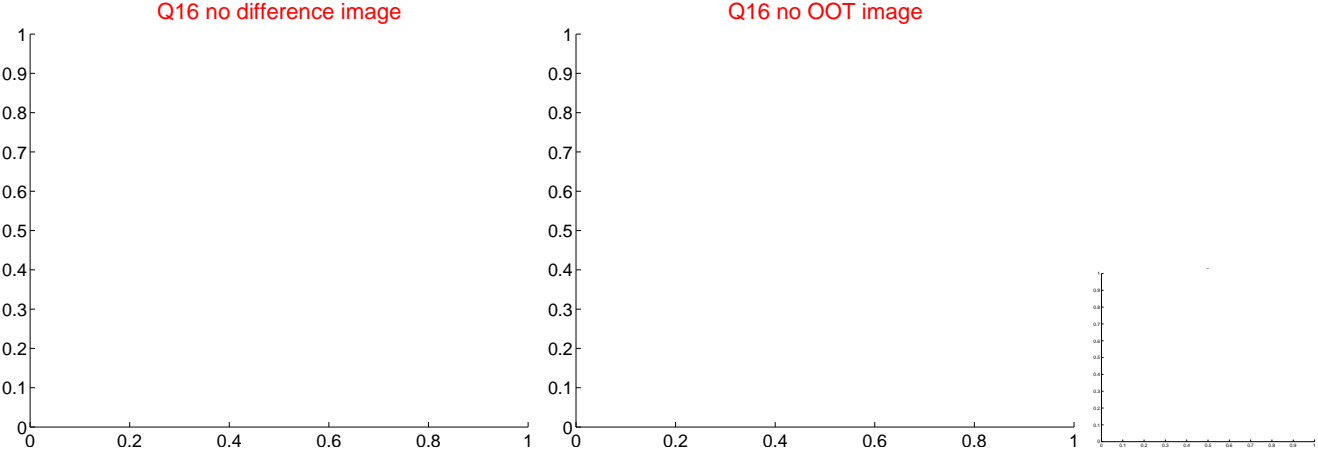
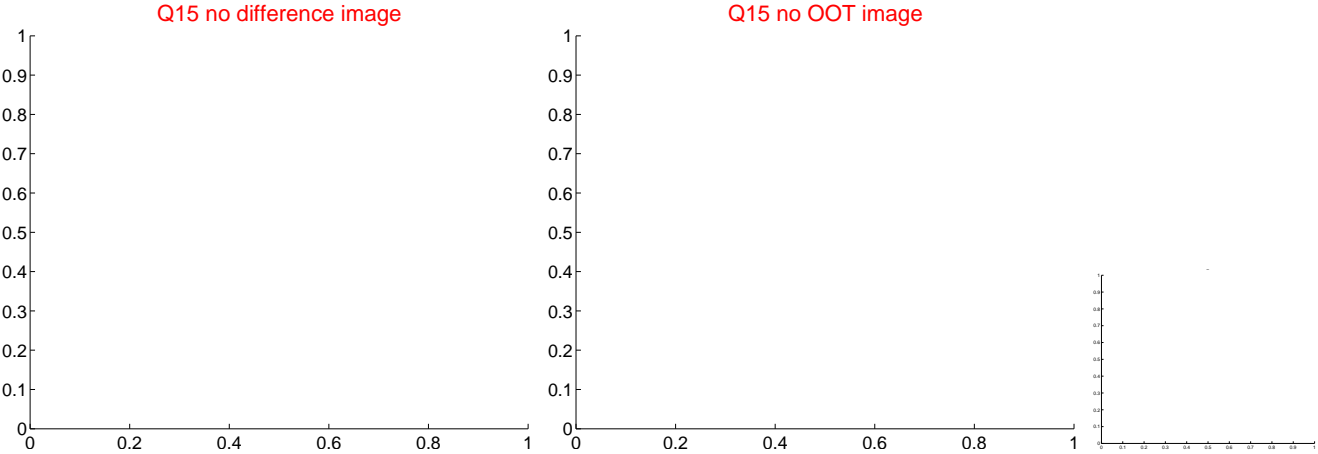
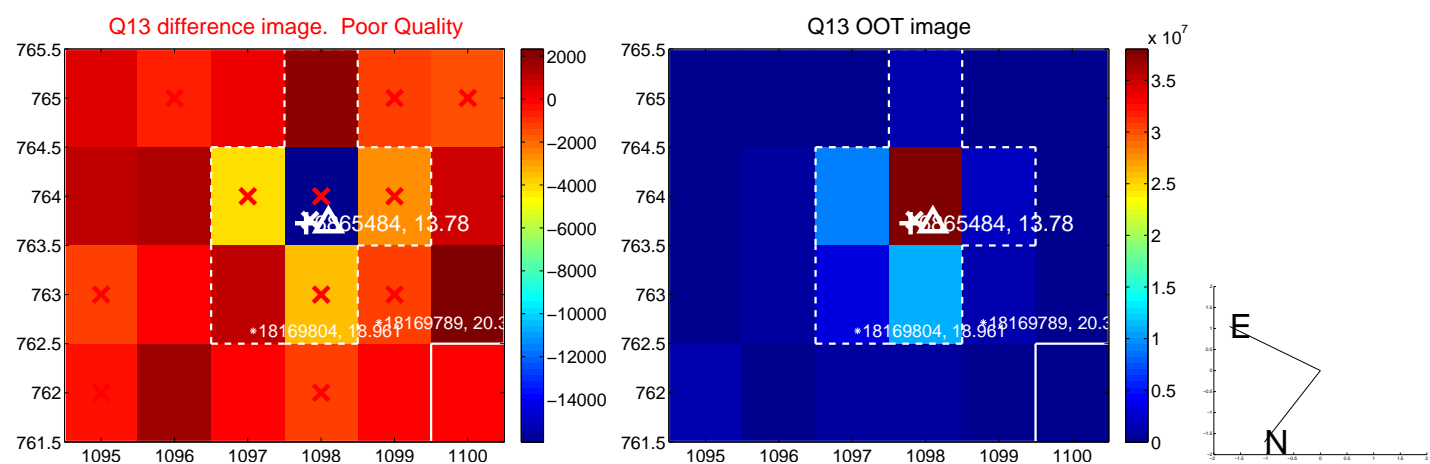
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



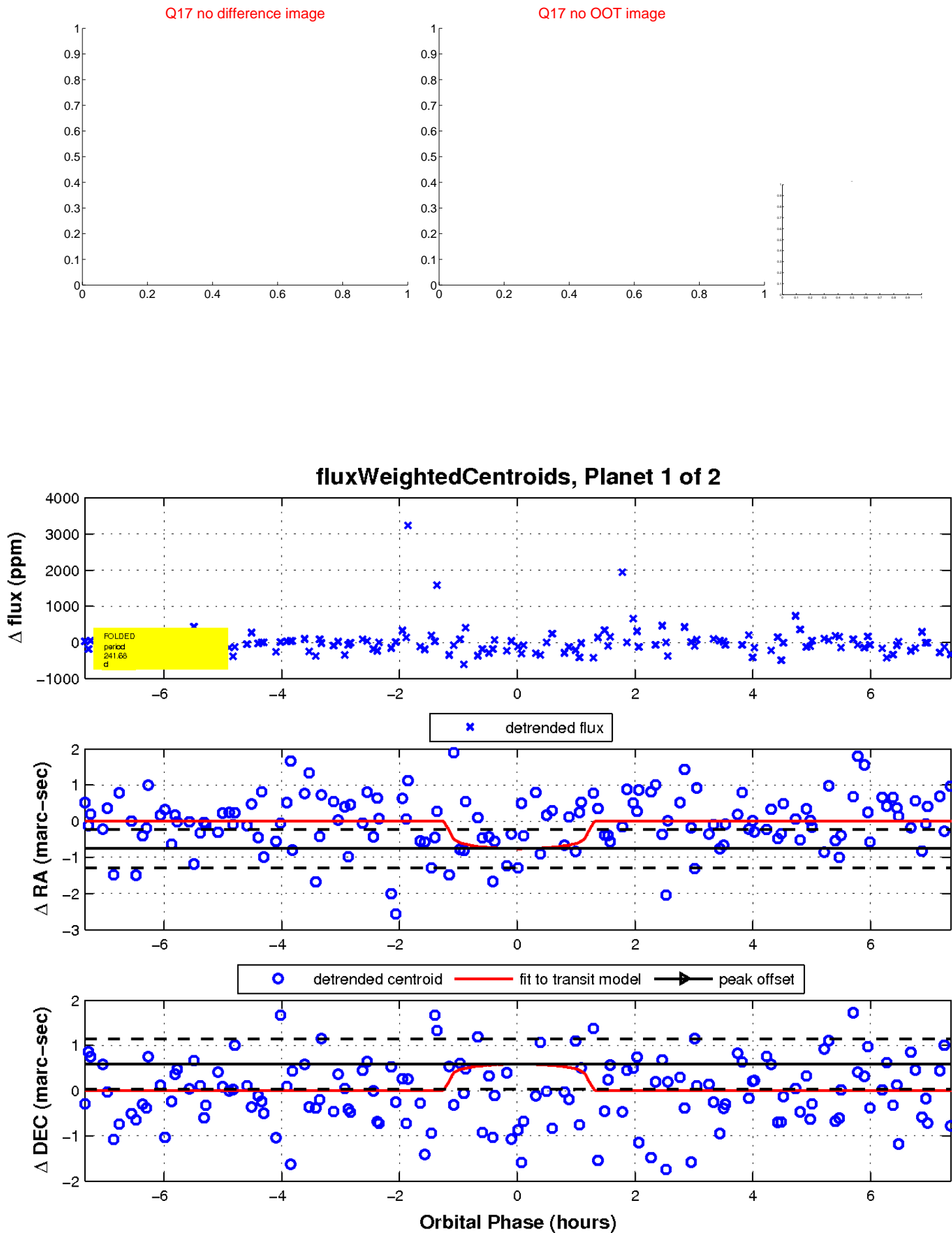
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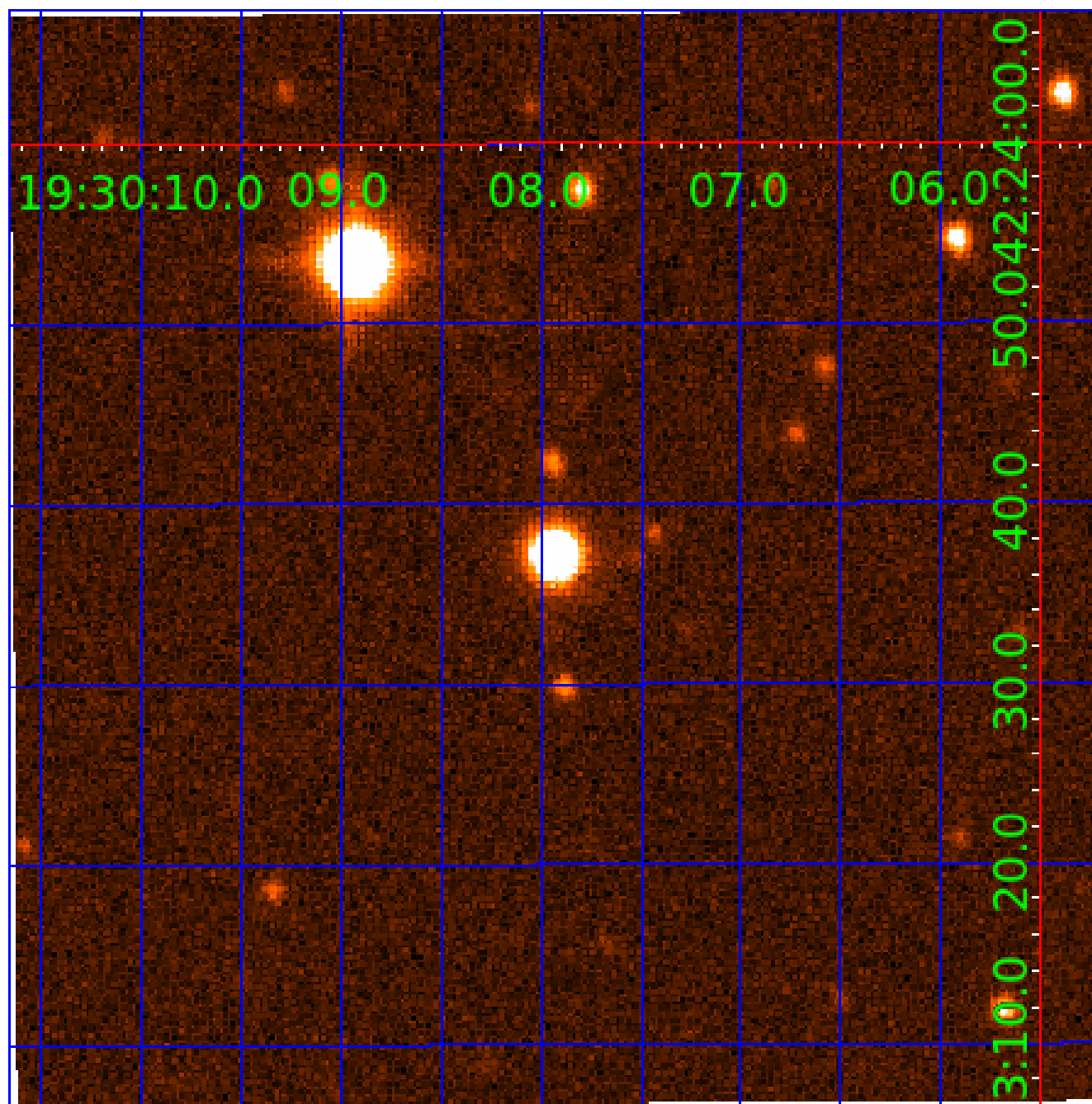


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006865484

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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006865484-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

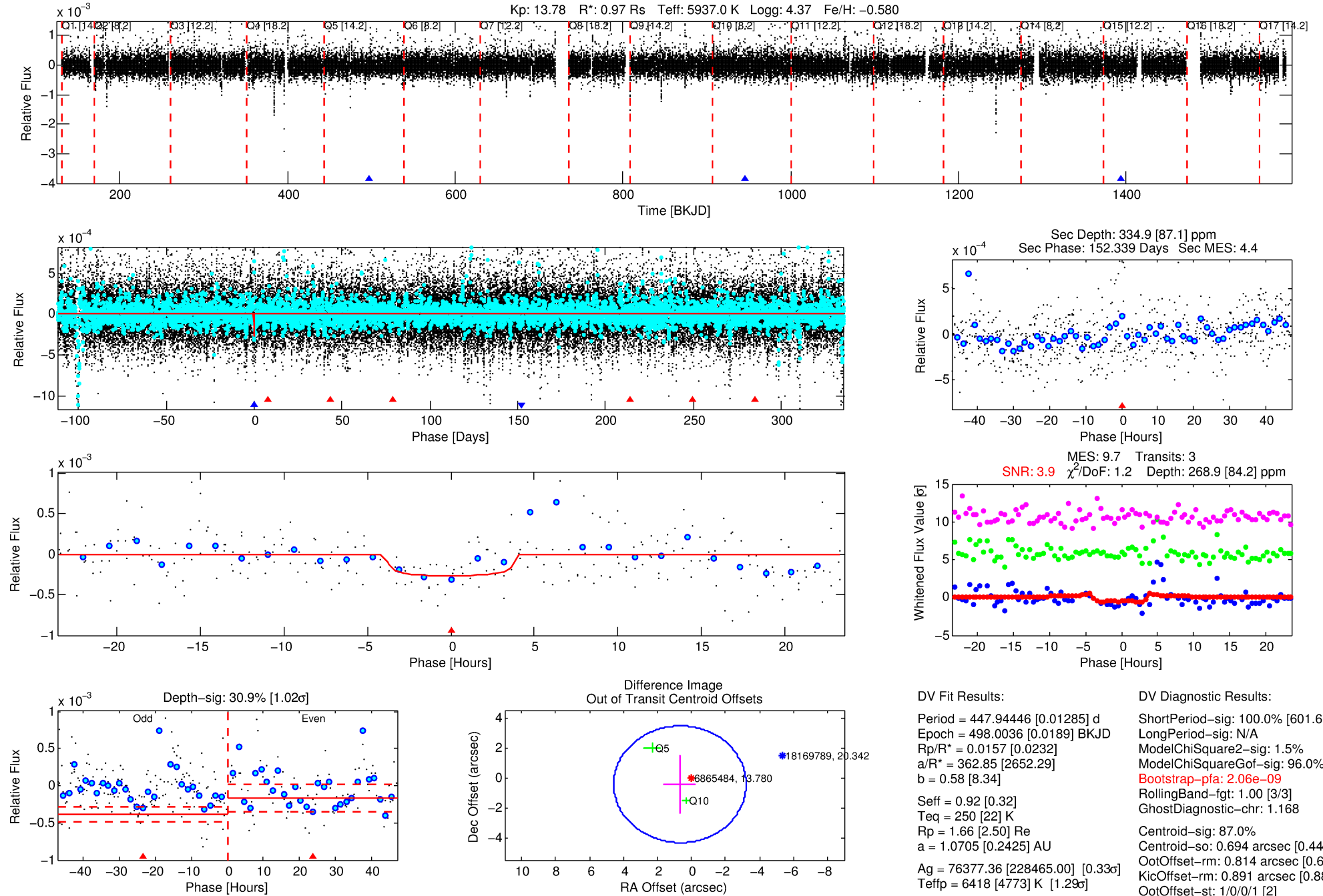
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006865484-02

No Significant Match Found

DV One-Page Summary

KIC: 6865484 Candidate: 2 of 2 Period: 447.944 d



DV Fit Results:

Period = 447.94446 [0.01285] d
Epoch = 498.0036 [0.0189] BKJD
Rp/R* = 0.0157 [0.0232]
a/R* = 362.85 [2652.29]
b = 0.58 [8.34]
Seff = 0.92 [0.32]
Teq = 250 [22] K
Rp = 1.66 [2.50] Re
a = 1.0705 [0.2425] AU
Ag = 76377.36 [228465.00] [0.33 σ]
Teffp = 6418 [4773] K [1.29 σ]

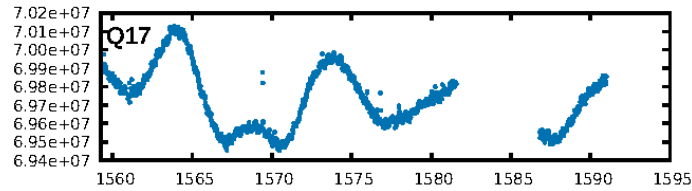
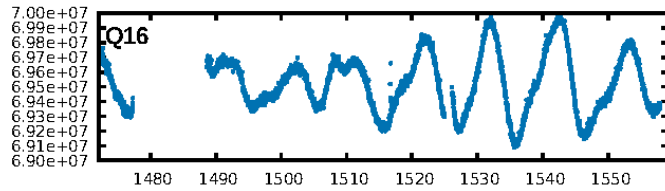
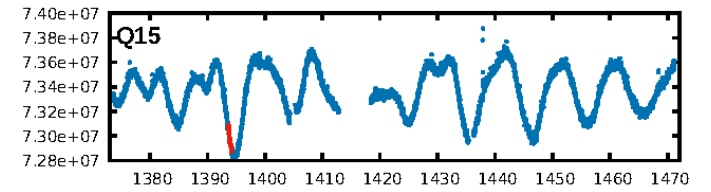
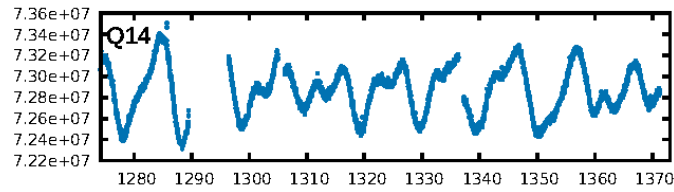
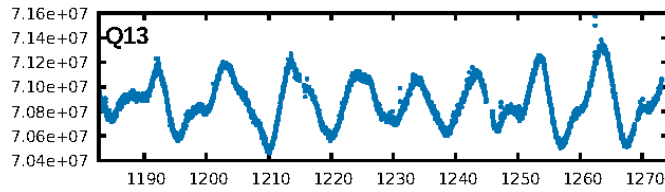
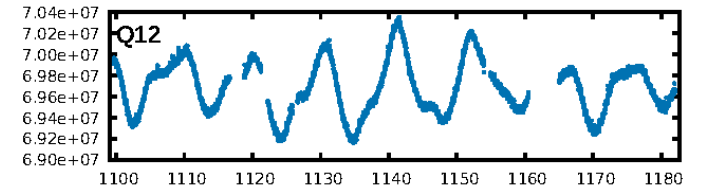
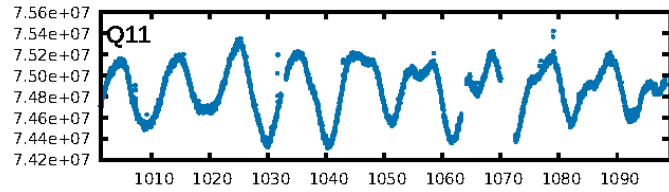
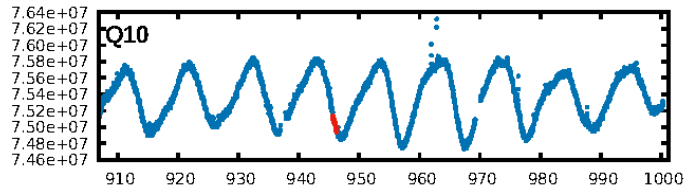
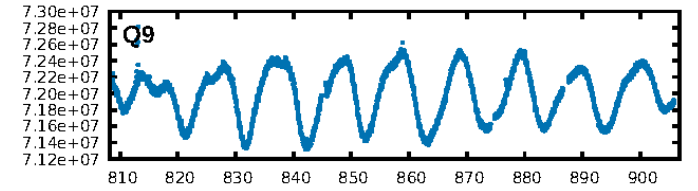
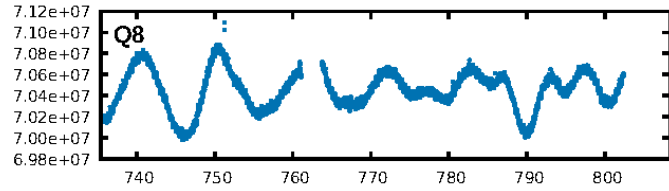
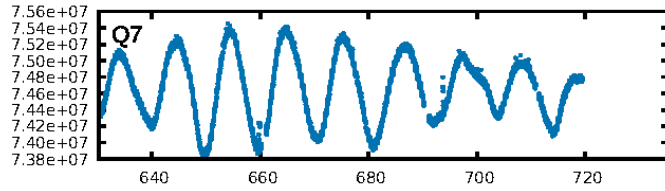
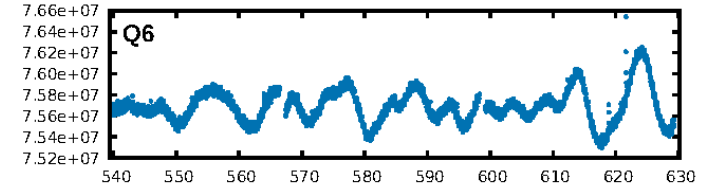
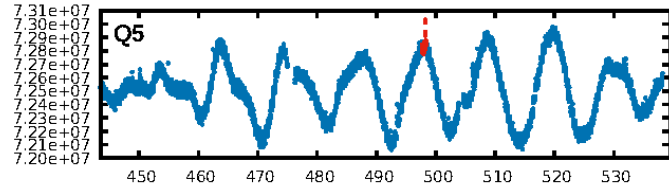
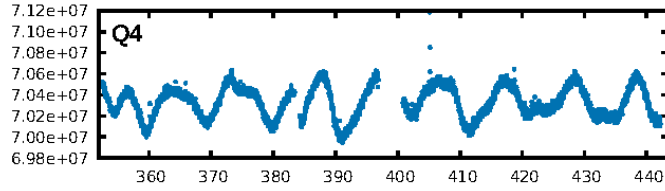
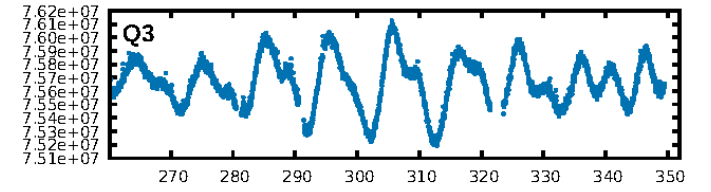
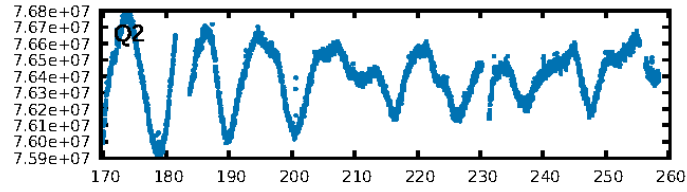
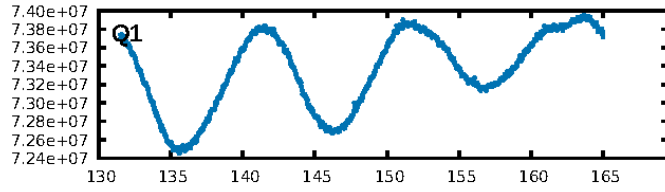
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [601.68 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.5%
ModelChiSquareGof-sig: 96.0%
Bootstrap-pfa: 2.06e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.168
Centroid-sig: 87.0%
Centroid-so: 0.694 arcsec [0.44 σ]
OotOffset-rm: 0.814 arcsec [0.63 σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-rm: 0.891 arcsec [0.88 σ]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

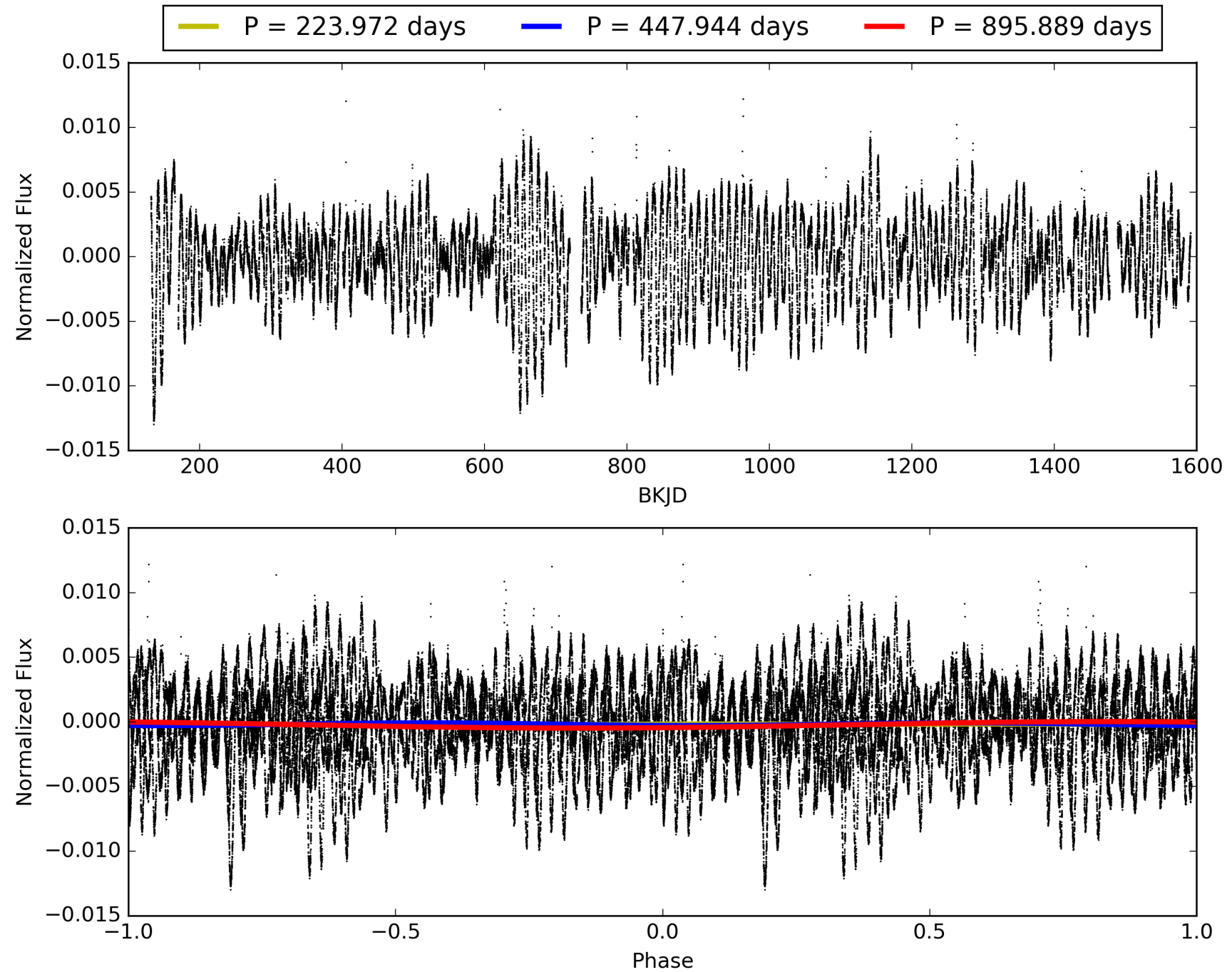
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:02:17 Z

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

TCE 006865484-02, PDC Light Curves

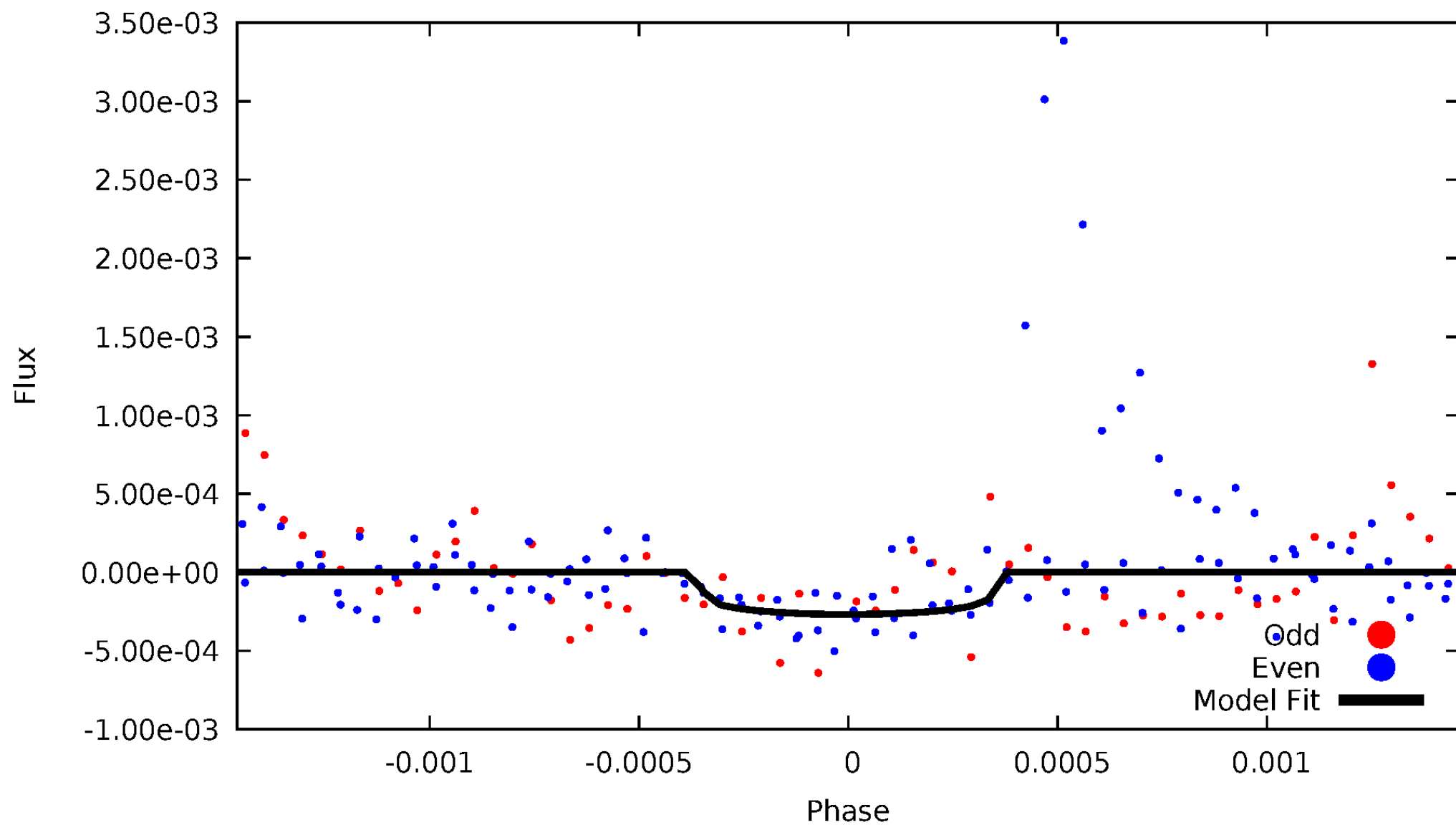


TCE 006865484-02



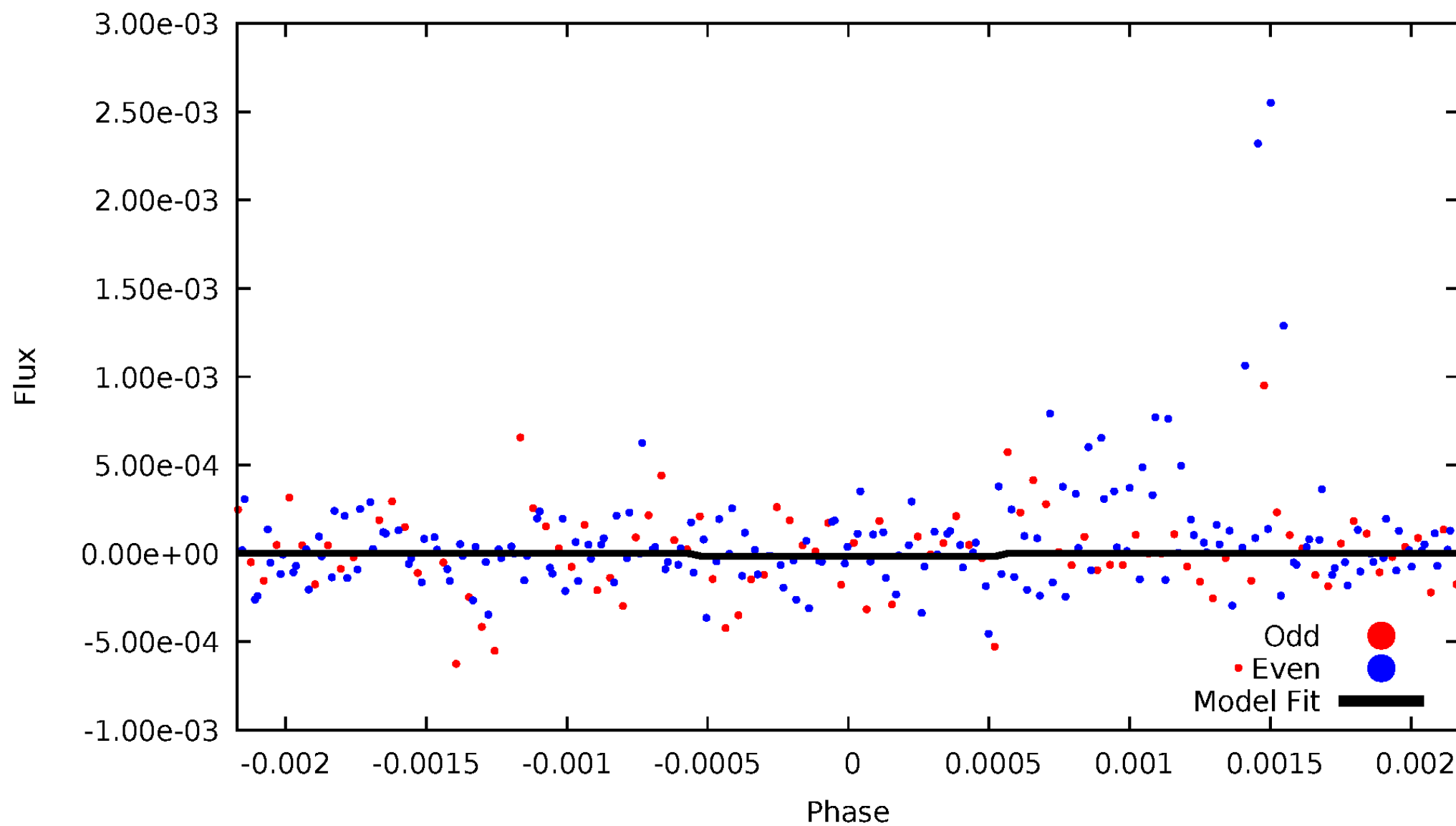
DV Odd/Even

TCE 006865484-02



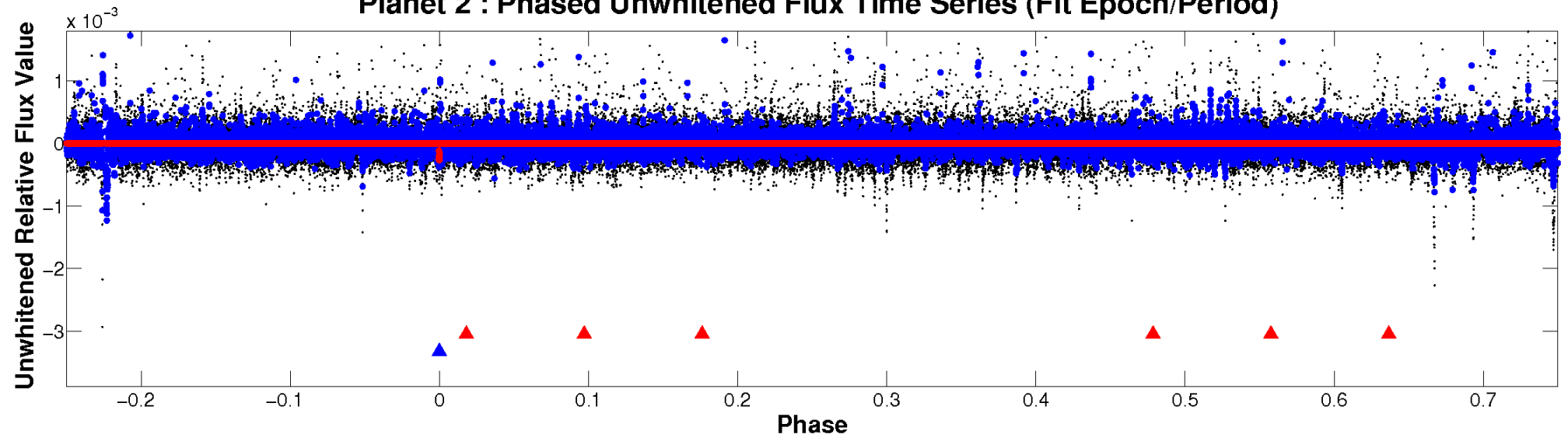
ALT Odd/Even

TCE 006865484-02

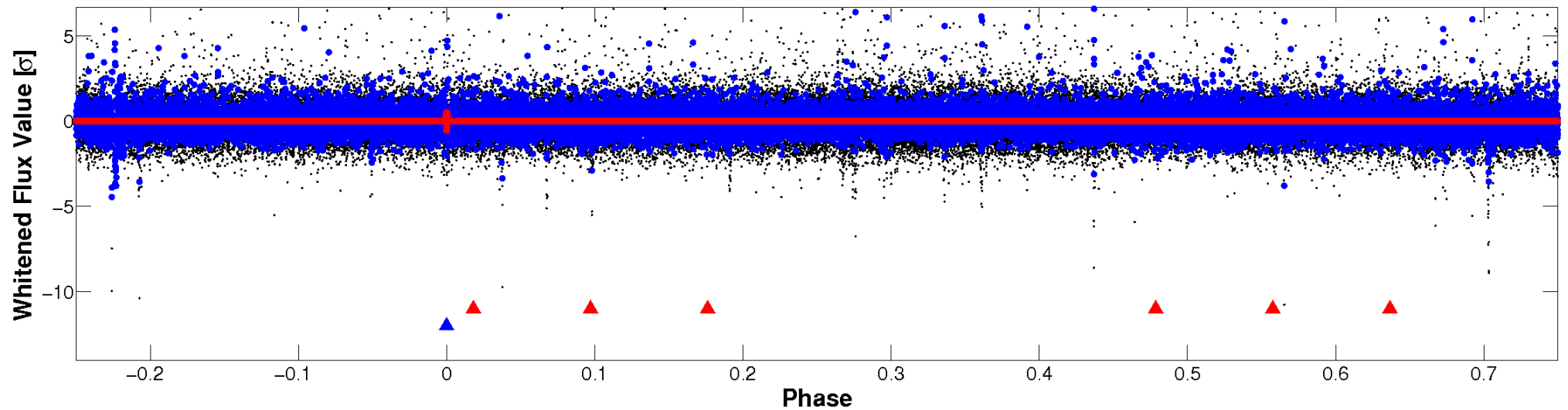


Non-Whitened Vs. Whitened Light Curve

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

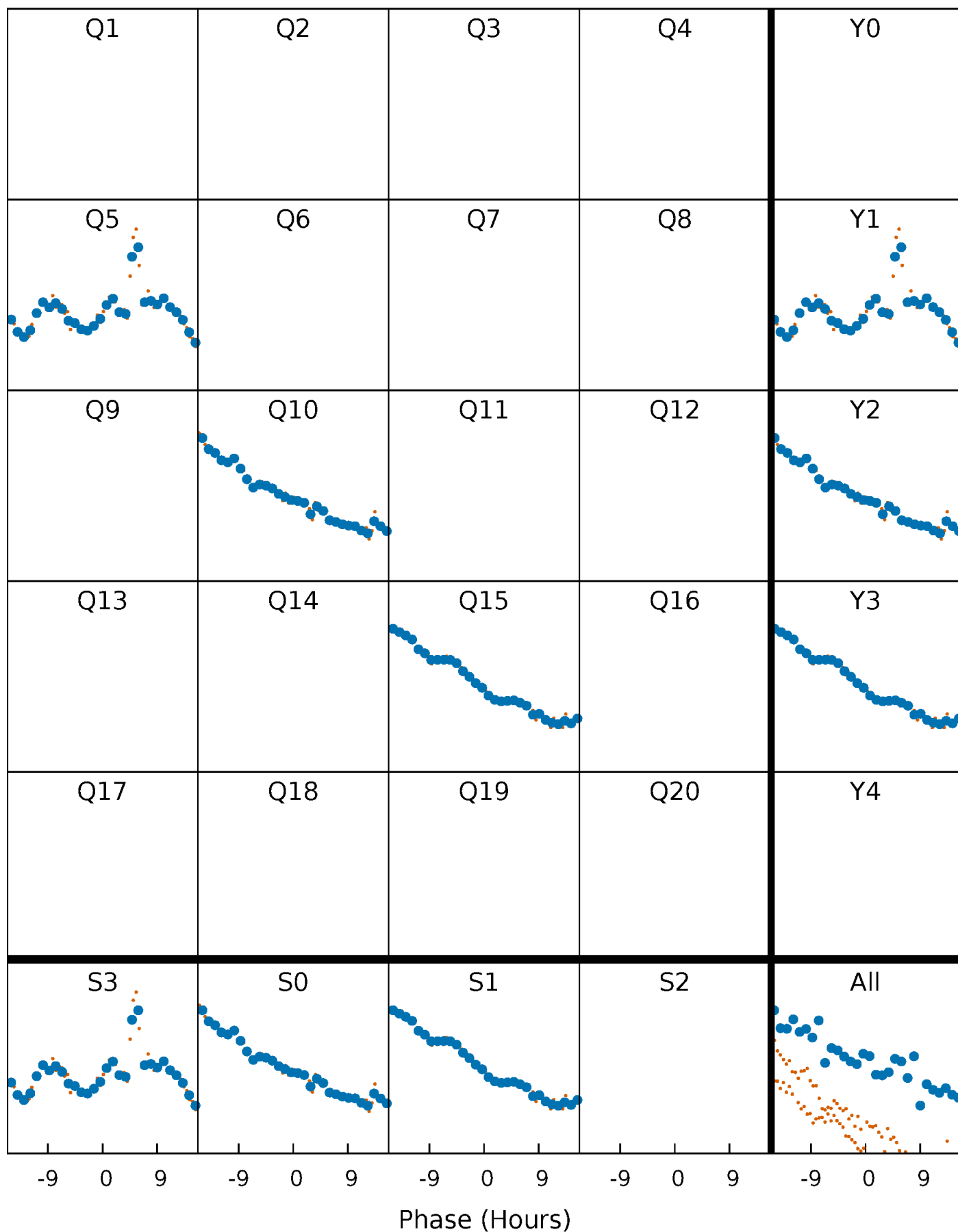


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



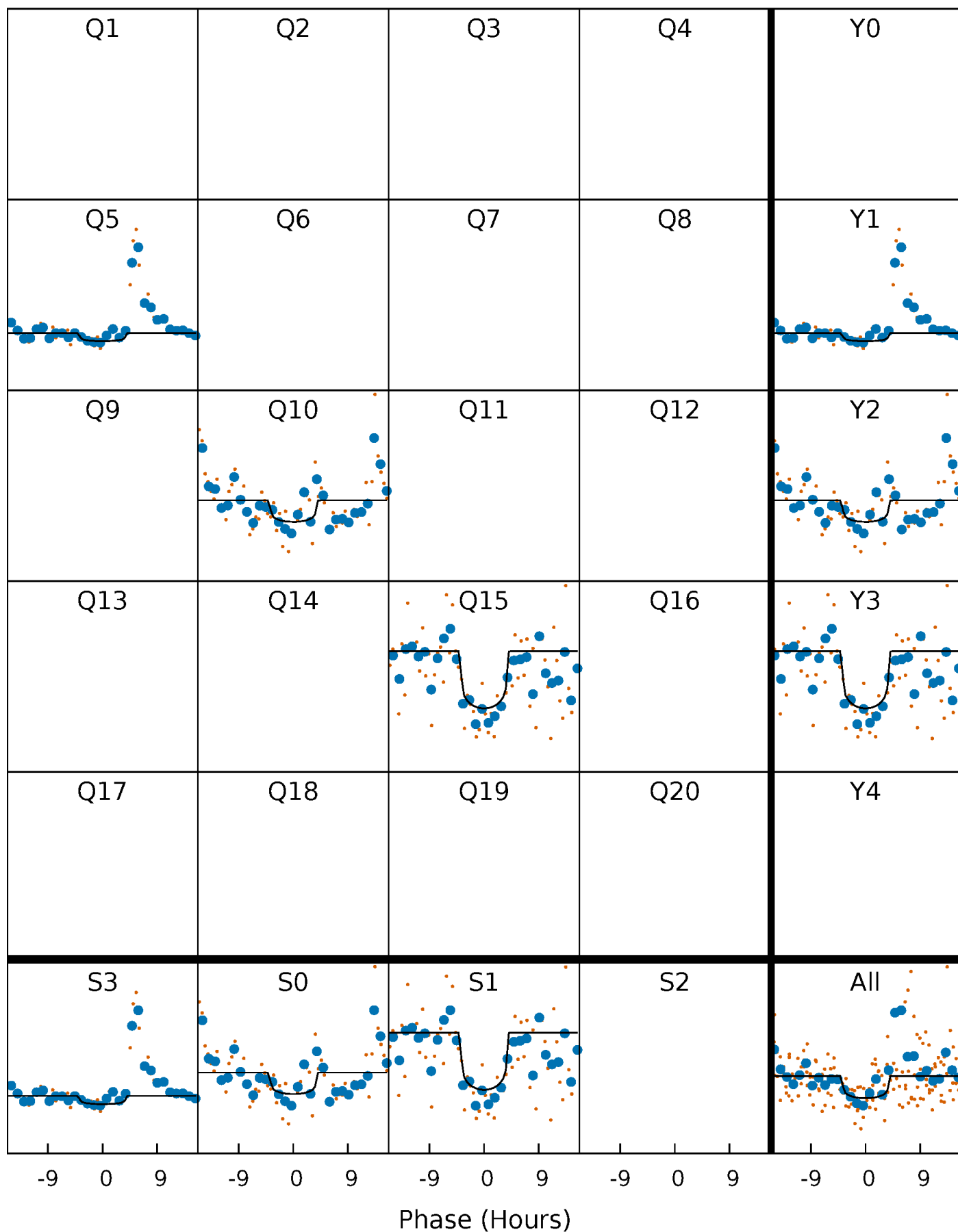
PDC Quarter-Phased Transit Curves

TCE 006865484-02 $P=447.944464$ Days $T_0=498.003576$ (BKJD)



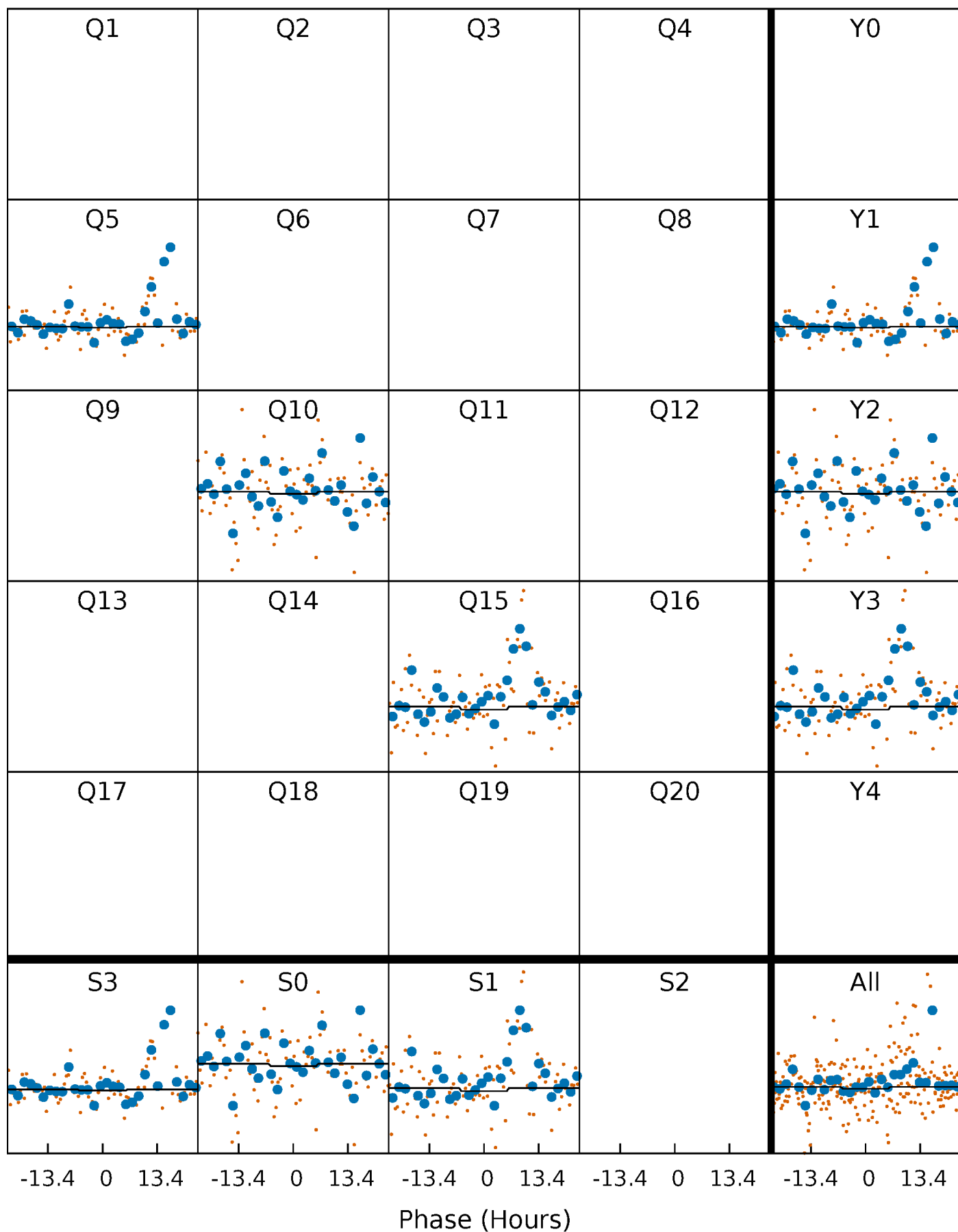
DV Quarter-Phased Transit Curves

TCE 006865484-02 $P=447.944464$ Days $T_0=498.003576$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

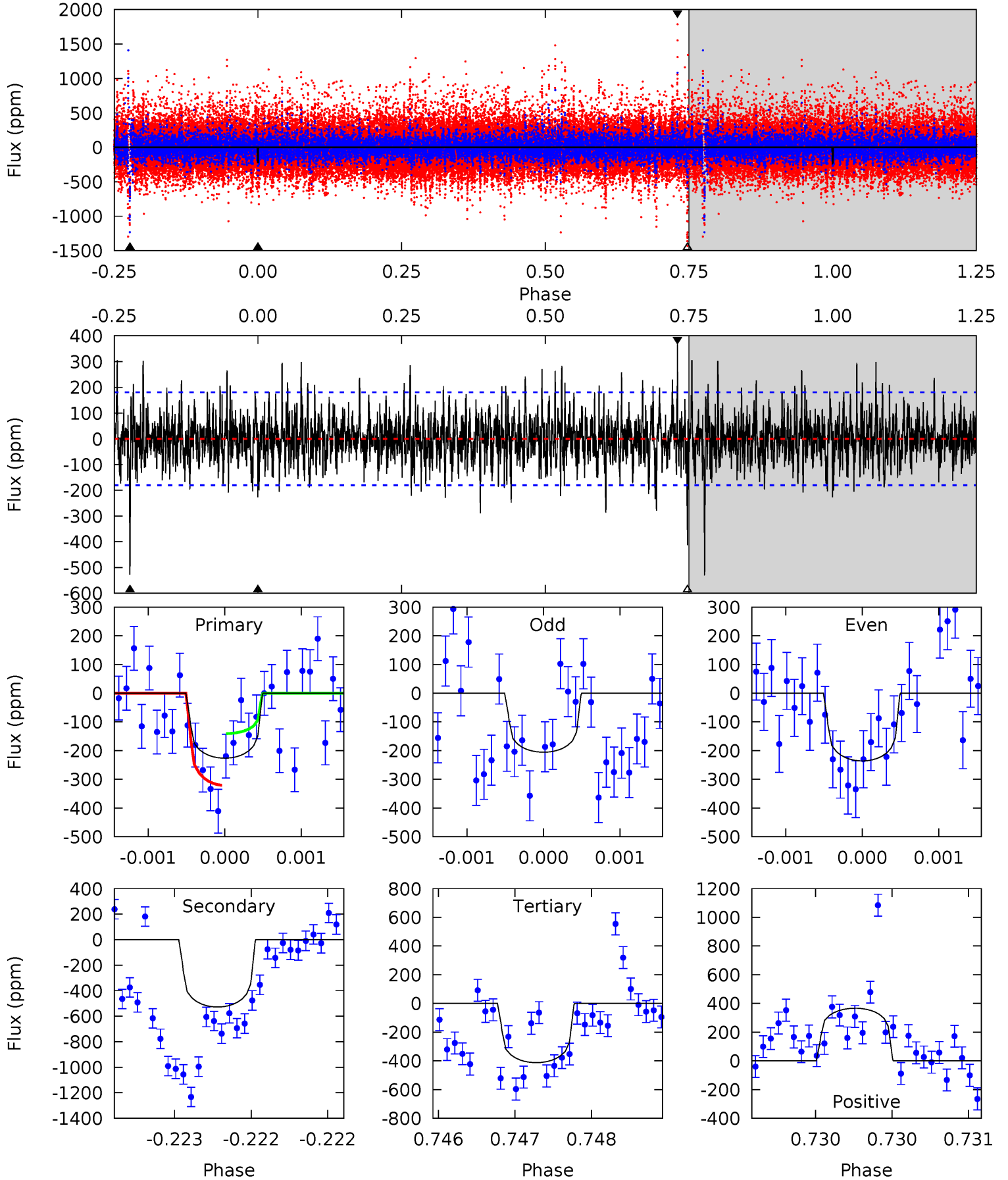
TCE 006865484-02 $P=448.285062$ Days $T_0=497.561013$ (BKJD)



DV Model-Shift Uniqueness Test

006865484-02, P = 447.944464 Days, E = 50.059112 Days

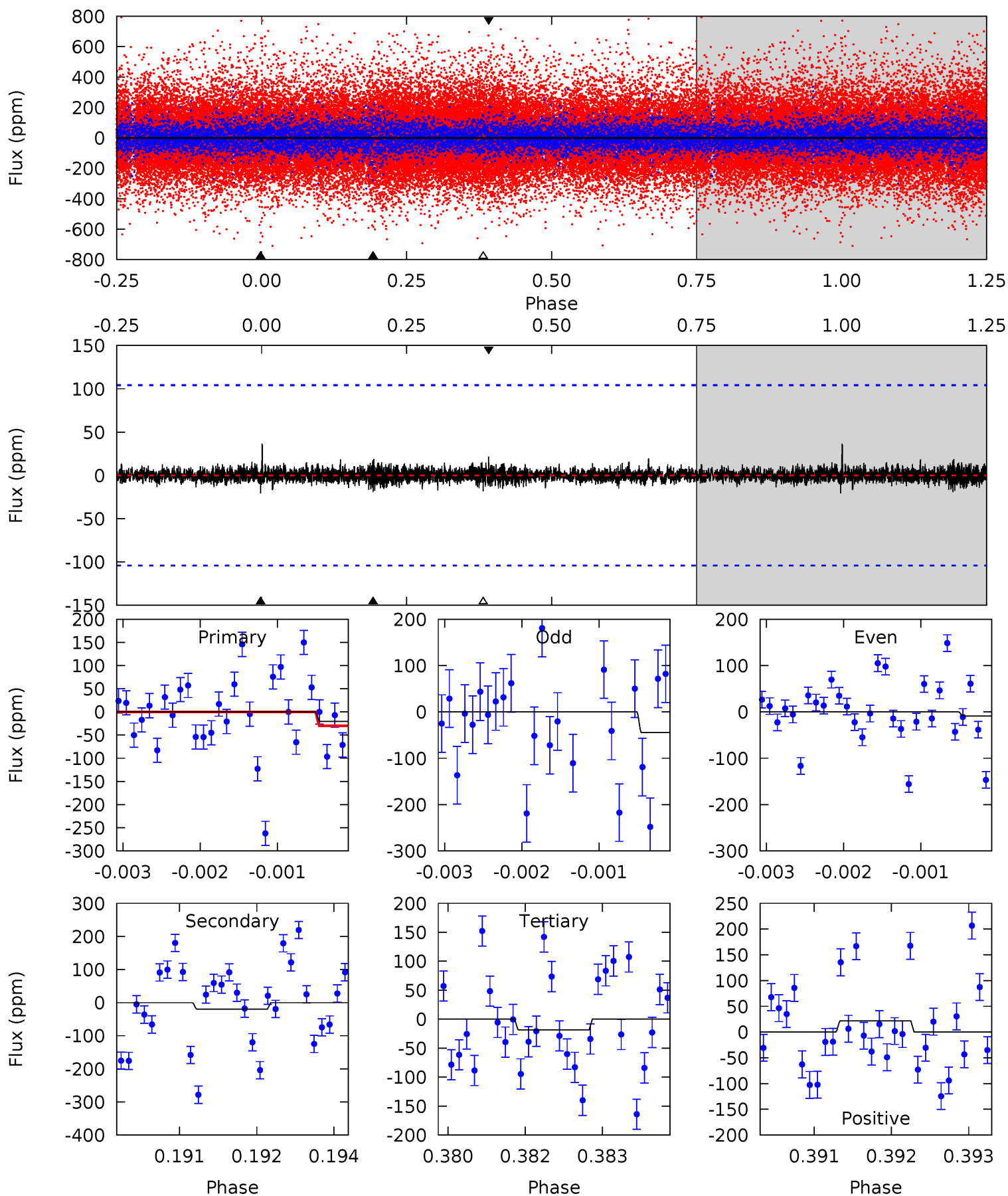
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.89	16.1	12.6	11.2	5.50	3.36	2.32	-5.66	-4.27	3.51	4.91	0.41	1.10	0.41	2.72



Alt Model-Shift Uniqueness Test

006865484-02, P = 448.285062 Days, E = 49.275951 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.08	1.01	0.96	1.13	5.43	3.26	0.24	0.12	-0.05	0.05	-0.11	0.86	1.15	0.64	0.51



Stellar Parameters For KIC 006865484

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5937^{+159}_{-159}	$4.373^{+0.180}_{-0.180}$	$-0.580^{+0.300}_{-0.300}$	$0.973^{+0.262}_{-0.175}$	$0.815^{+0.110}_{-0.055}$	$1.245^{+0.982}_{-0.641}$
	+3%/-3%	+4%/-4%	+52%/-52%	+27%/-18%	+13%/-7%	+79%/-52%
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 006865484-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-528 ± 33	$2.40^{+2.17}_{-1.57}$	348^{+25}_{-21}	5939^{+6027}_{-1411}	$57887^{+396765}_{-42057}$
Alt.	-19 ± 19	$1.78^{+1.95}_{-1.27}$	349^{+25}_{-22}	3349^{+2275}_{-1257}	2695^{+43138}_{-2641}

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 $A_{obs} \gg 1.0$

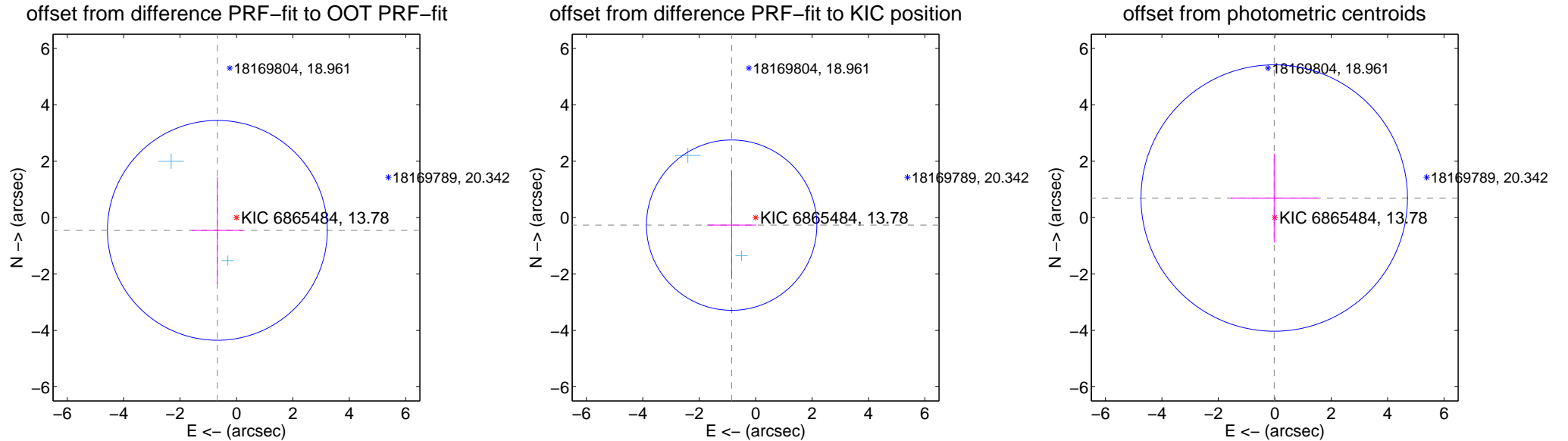
DV Centroid Data

Supplemental centroid analysis for 006865484-02. Kepler magnitude: 13.78. Transit SNR 3.94

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.814 ± 1.299	0.63	0.677 ± 0.915	-0.452 ± 1.895
PRF-fit source offset from KIC position	0.891 ± 1.007	0.88	0.850 ± 0.867	-0.267 ± 1.913
photometric centroid source offset	0.69 ± 1.57	0.44	0.02 ± 1.55	0.69 ± 1.57

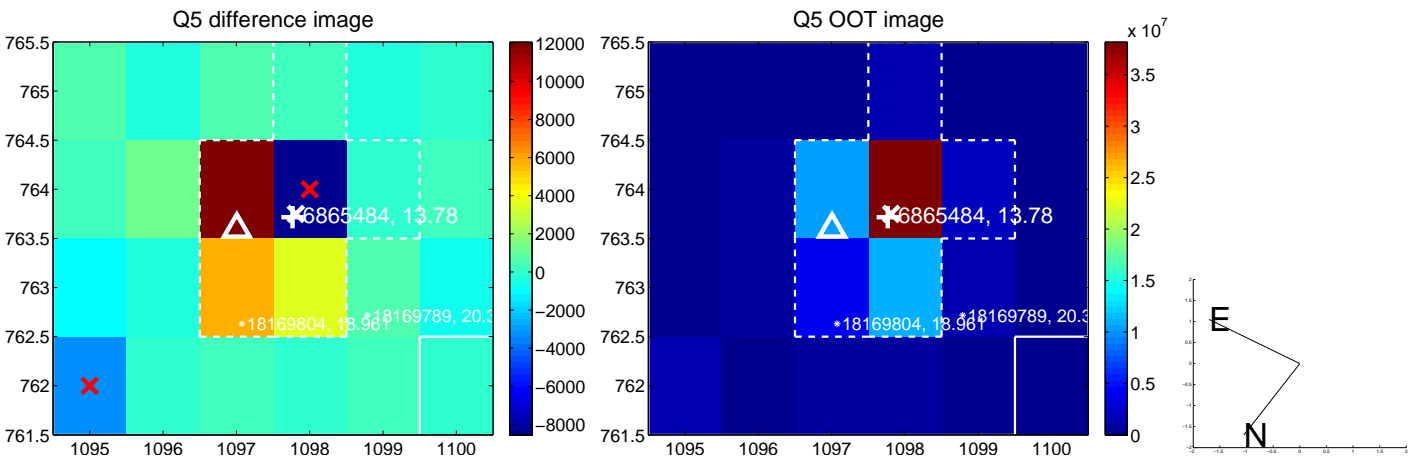


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

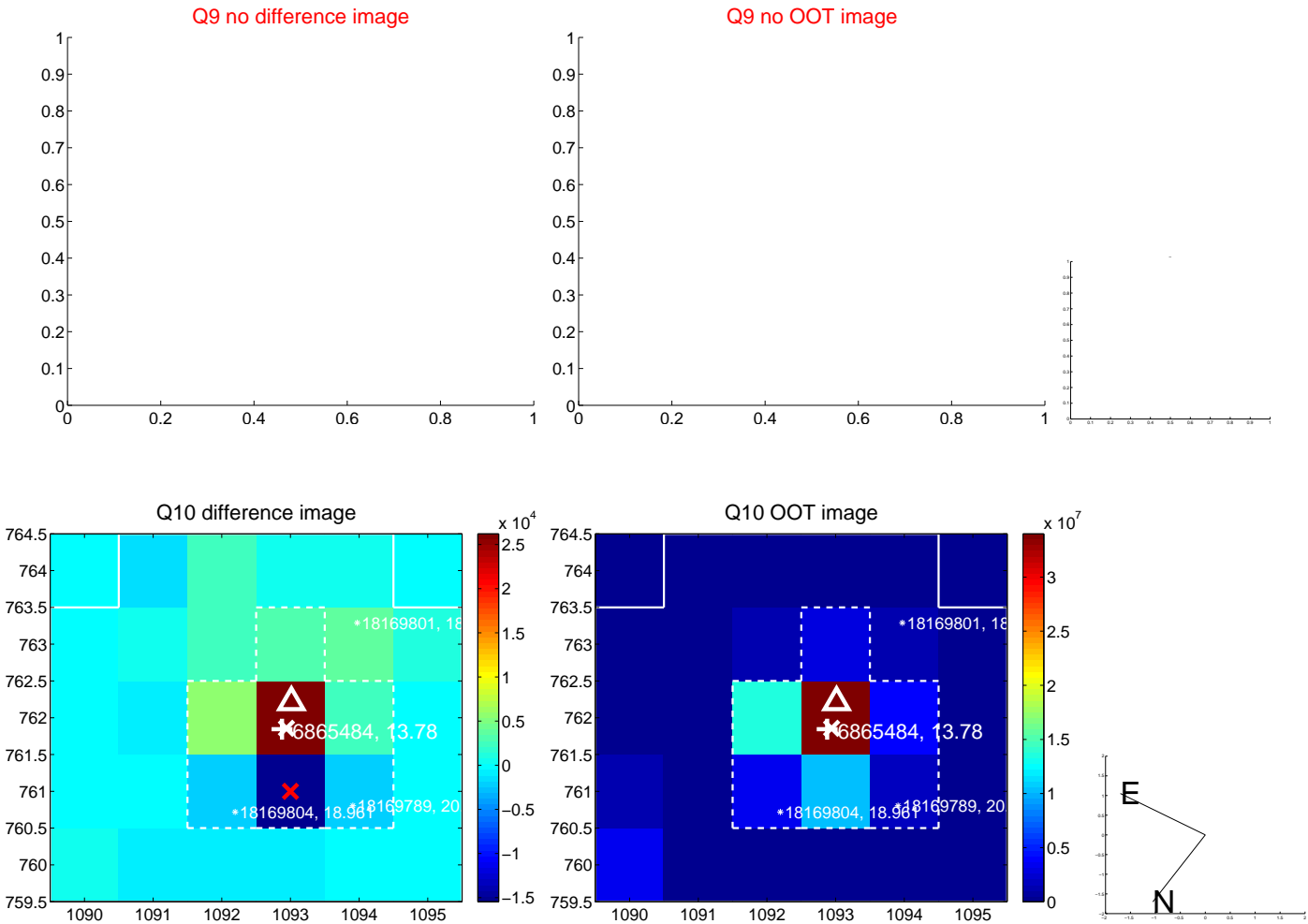
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



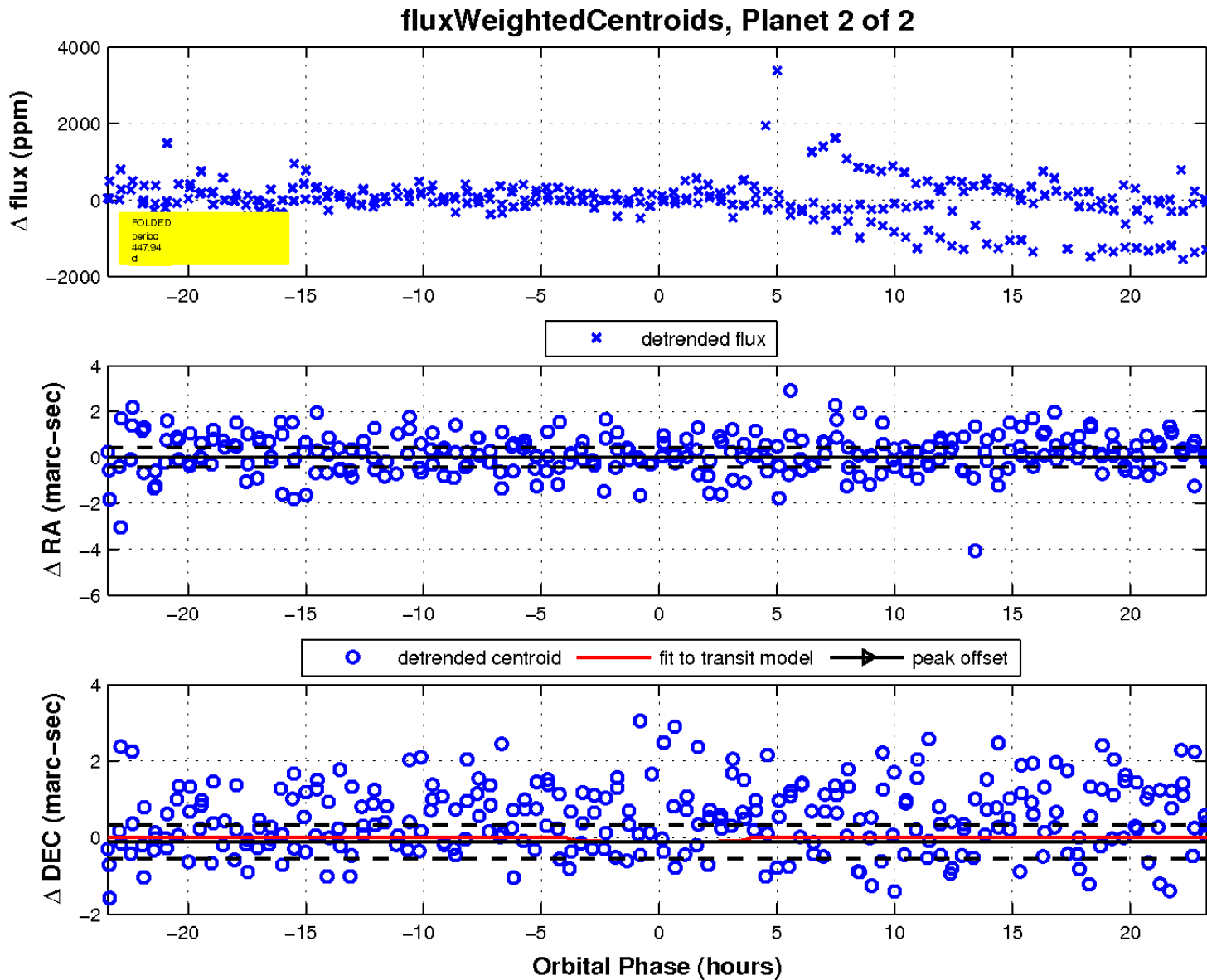
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

