

KIC 008831687

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})
008831687-01	OBS	No	2.409197	132.266923	63.8	10.226	7.9	8.6	1.10	6499	1.32	1443.78
008831687-02	OBS	No	428.934480	274.992047	323.7	12.000	10.6	-1.0	1.10	6499	2.00	1.44
008831687-03	OBS	No	269.149957	162.041117	159.9	7.885	9.6	1.5	1.10	6499	1.58	2.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008831687-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
008831687-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008831687-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

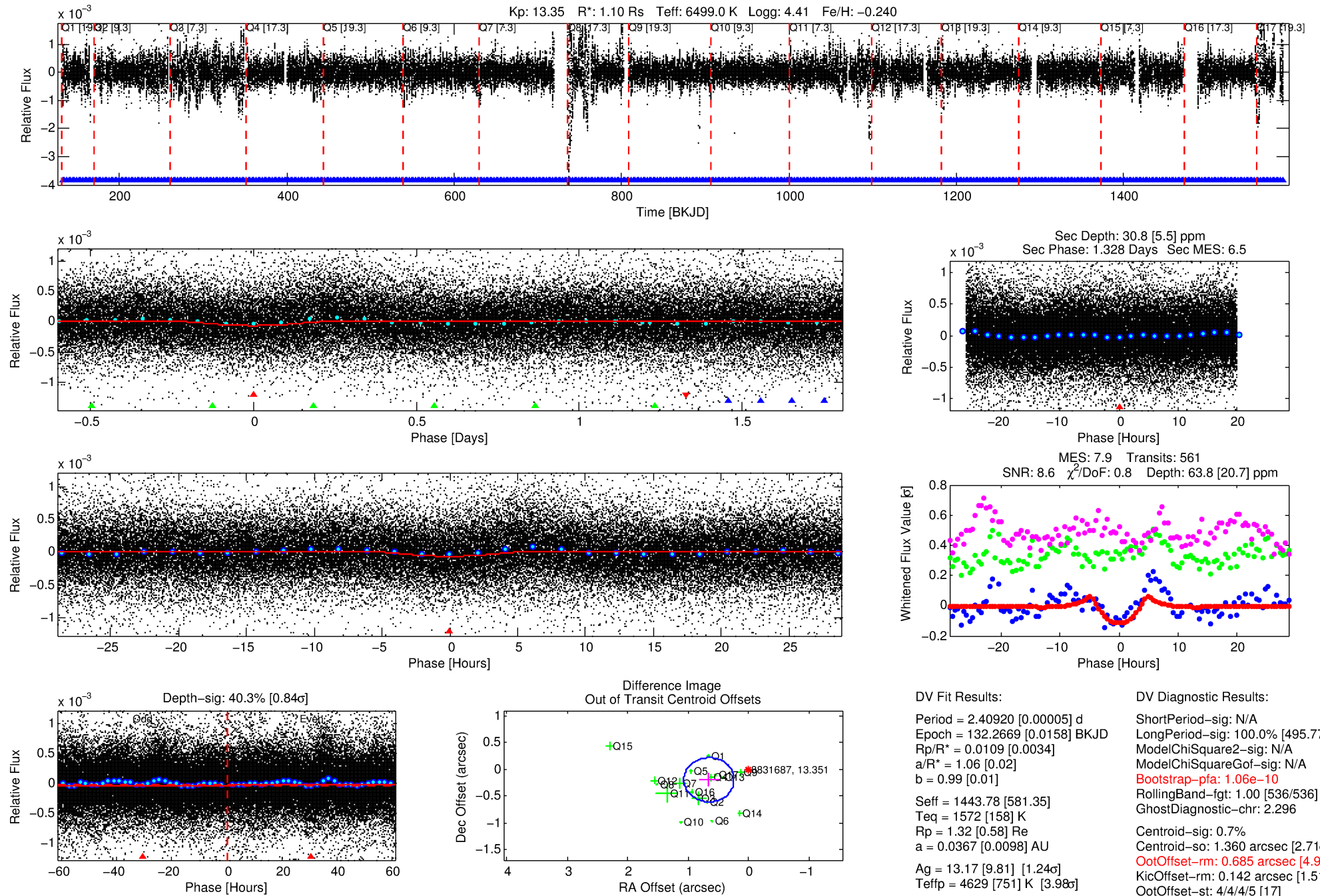
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008831687-01

No Significant Match Found

DV One-Page Summary

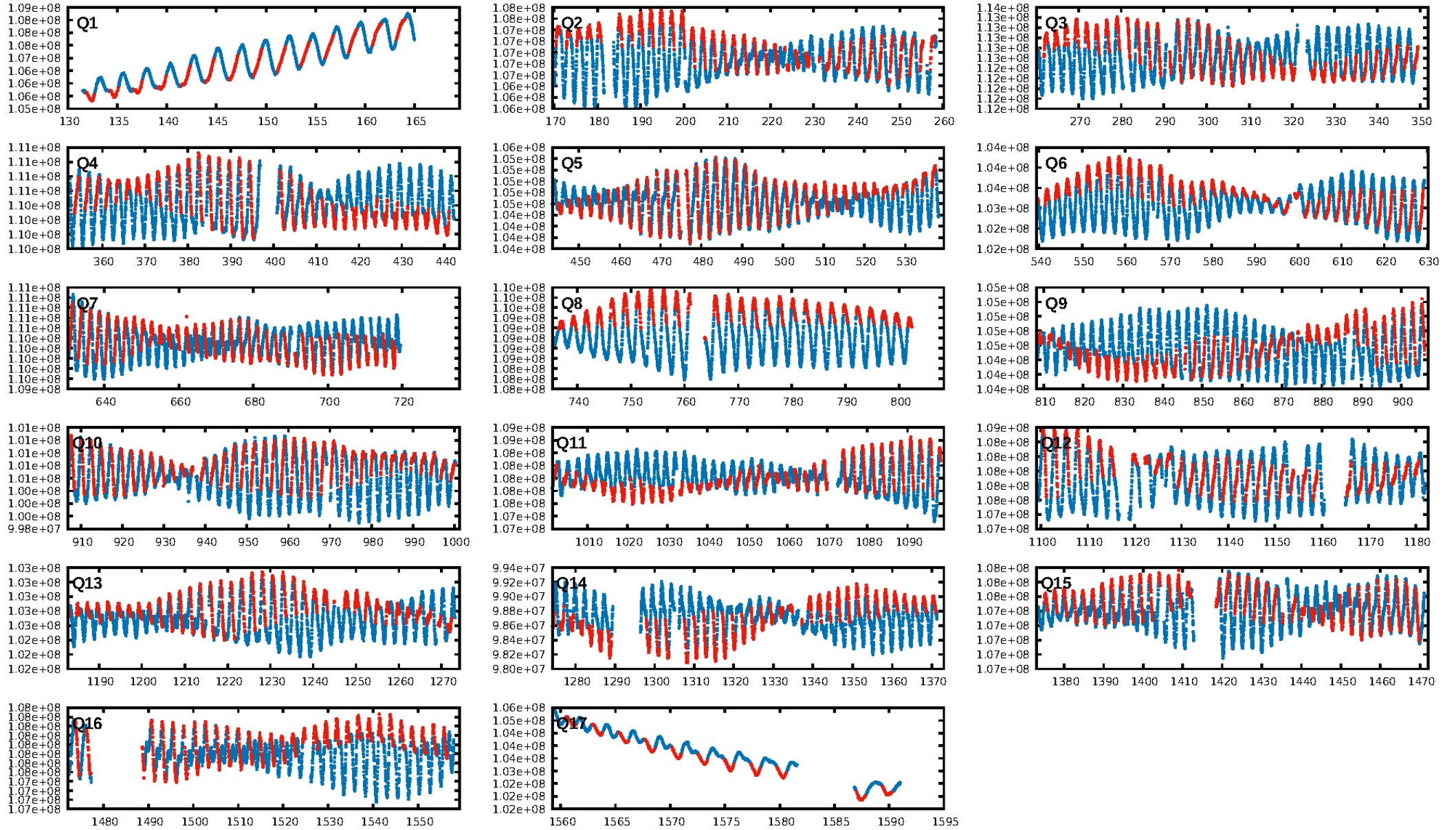
KIC: 8831687 Candidate: 1 of 3 Period: 2.409 d



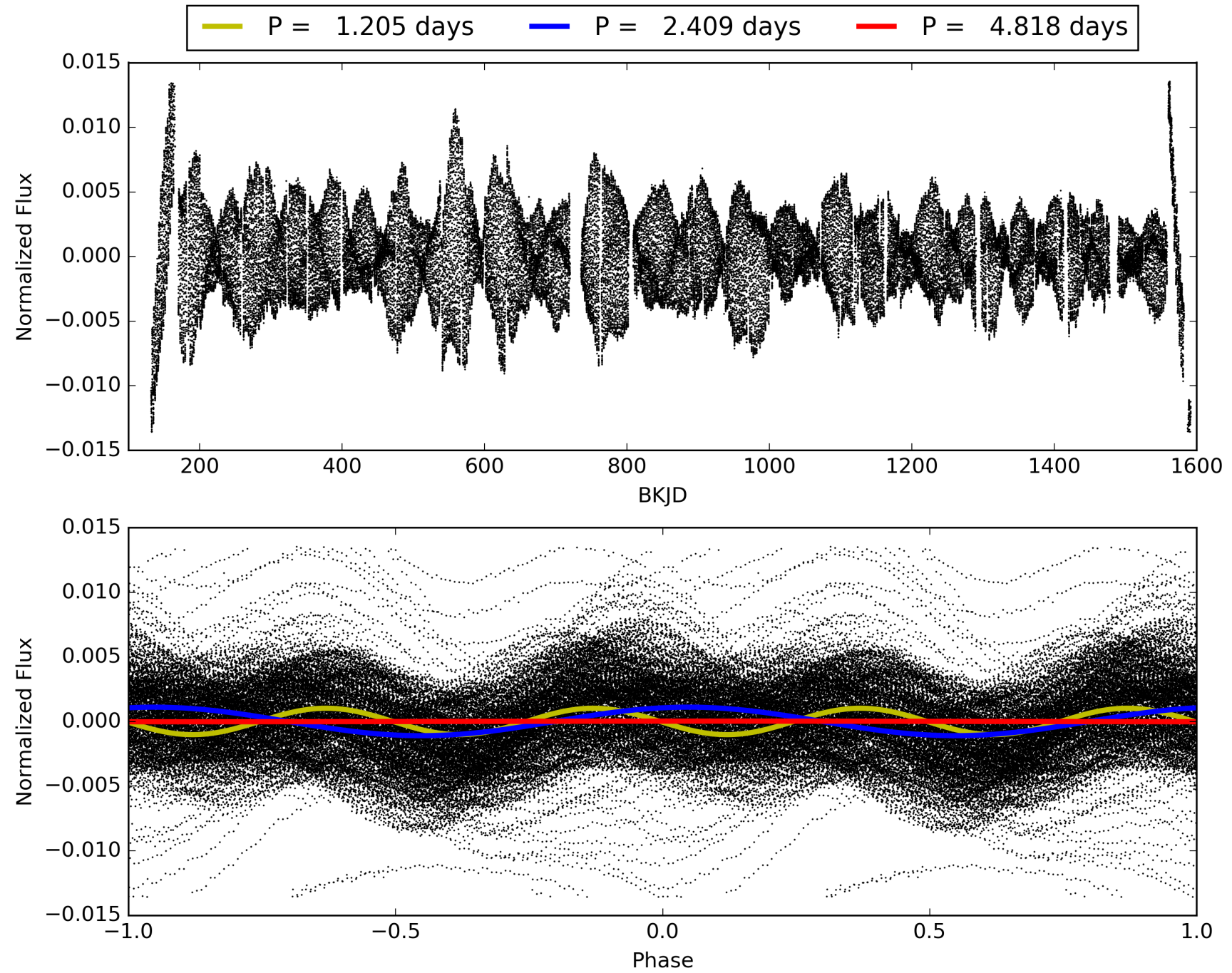
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:19:50 Z

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

TCE 008831687-01, PDC Light Curves

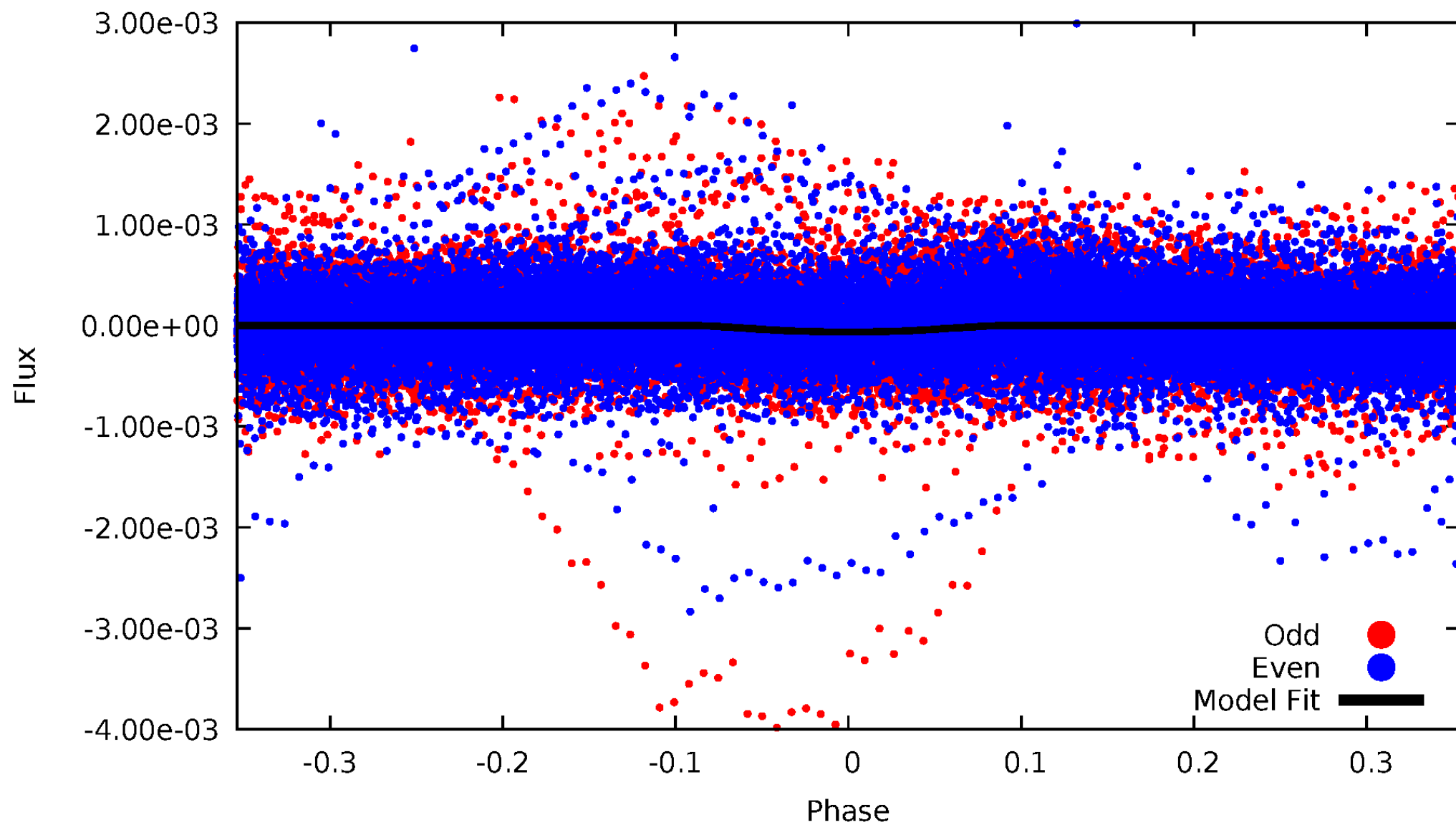


TCE 008831687-01



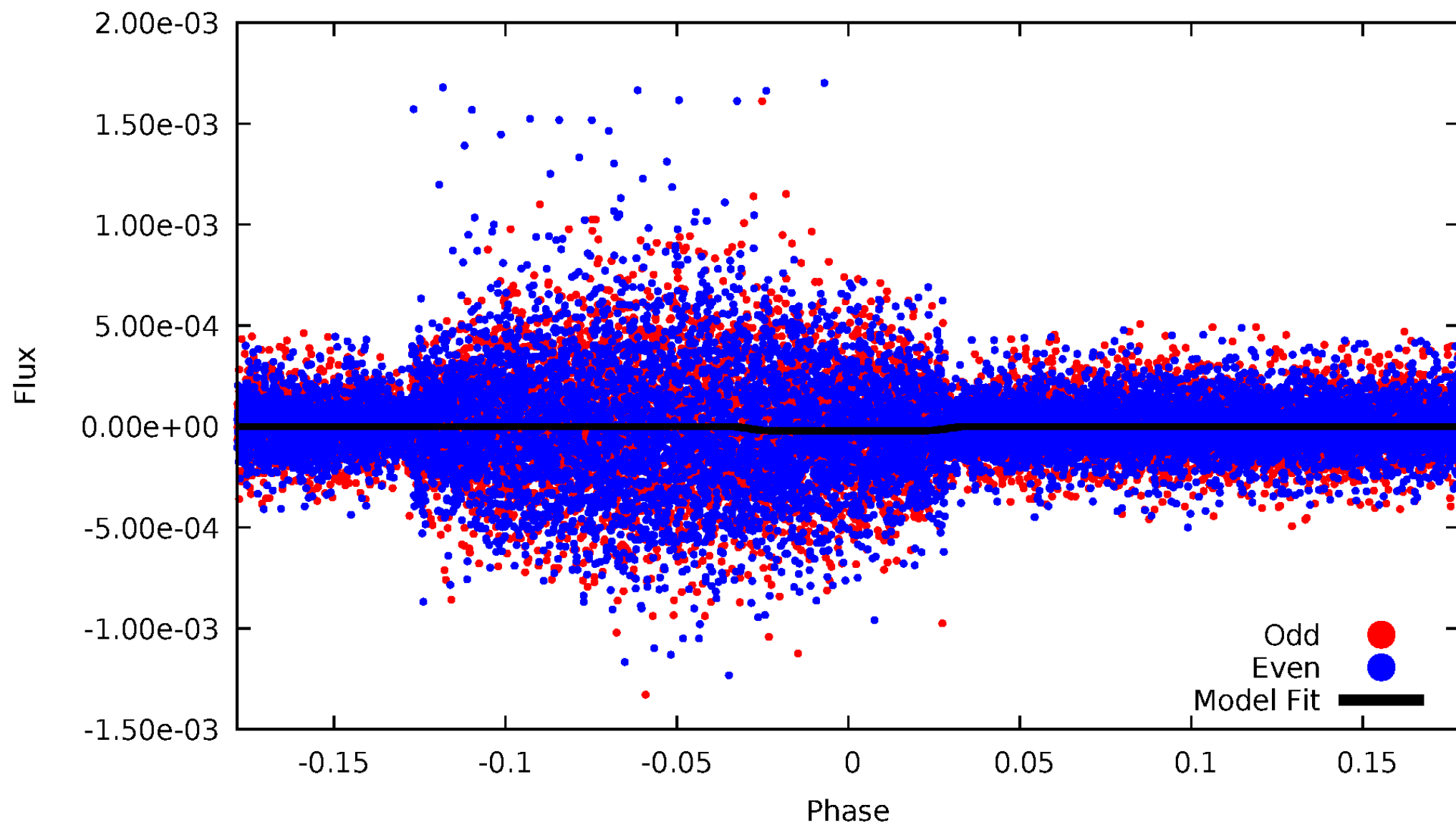
DV Odd/Even

TCE 008831687-01



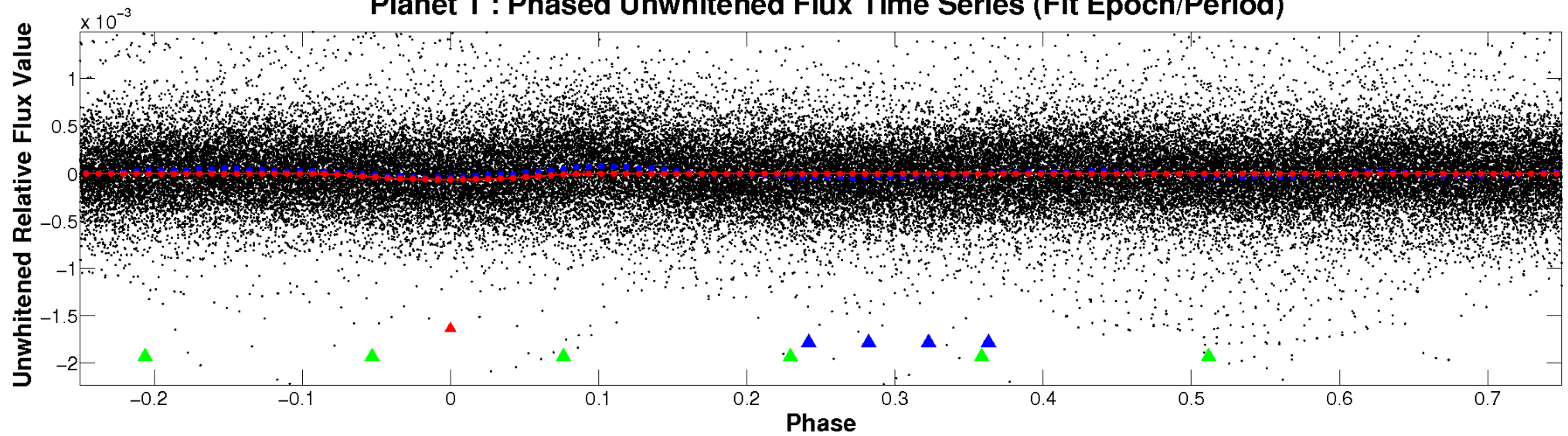
ALT Odd/Even

TCE 008831687-01

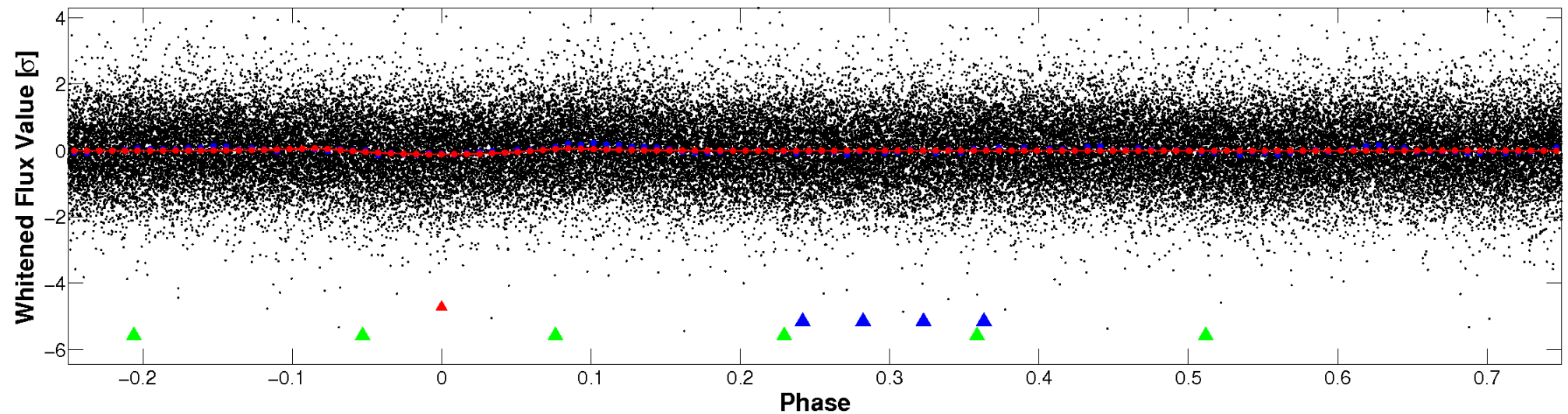


Non-Whitened Vs. Whitened Light Curve

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

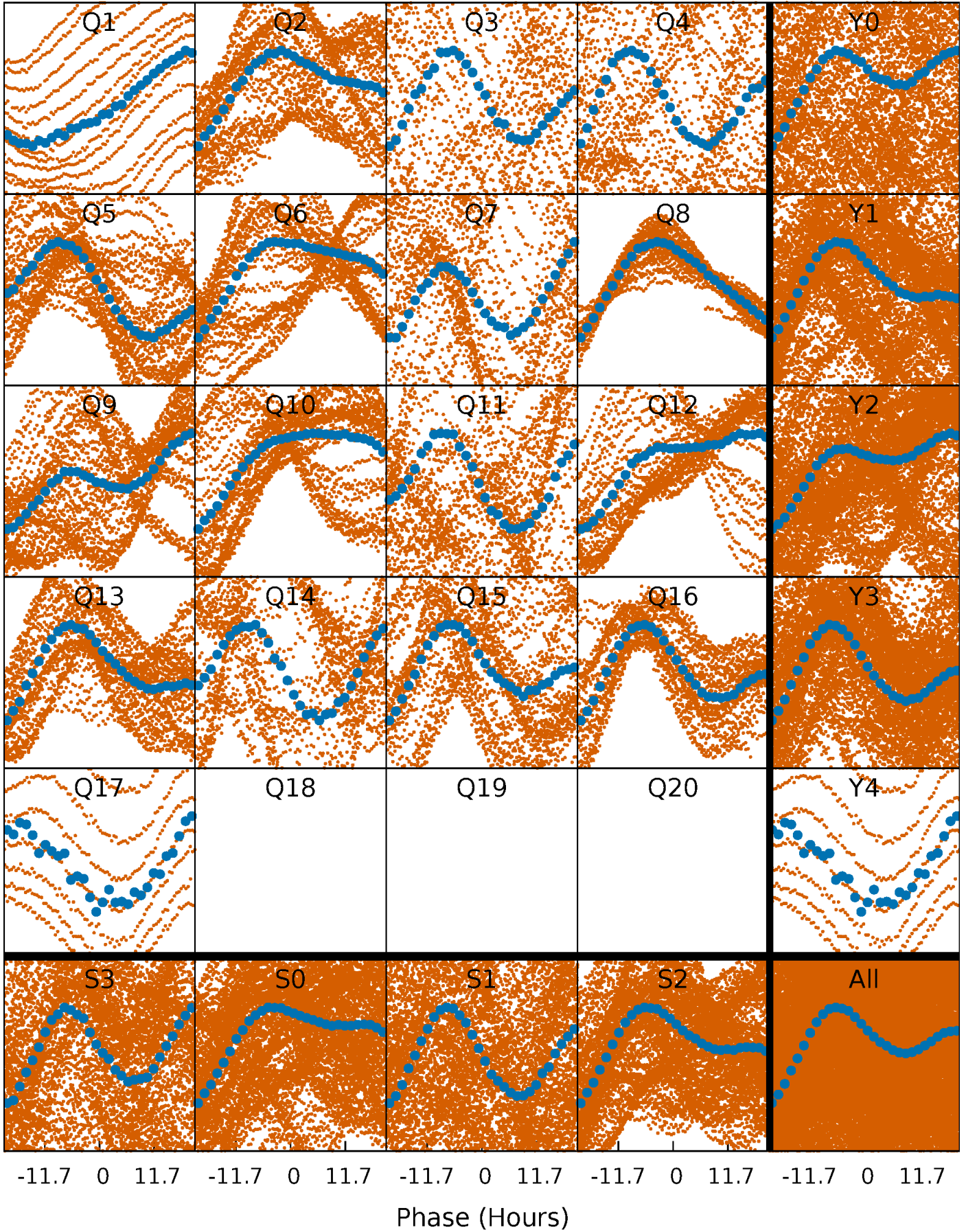


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



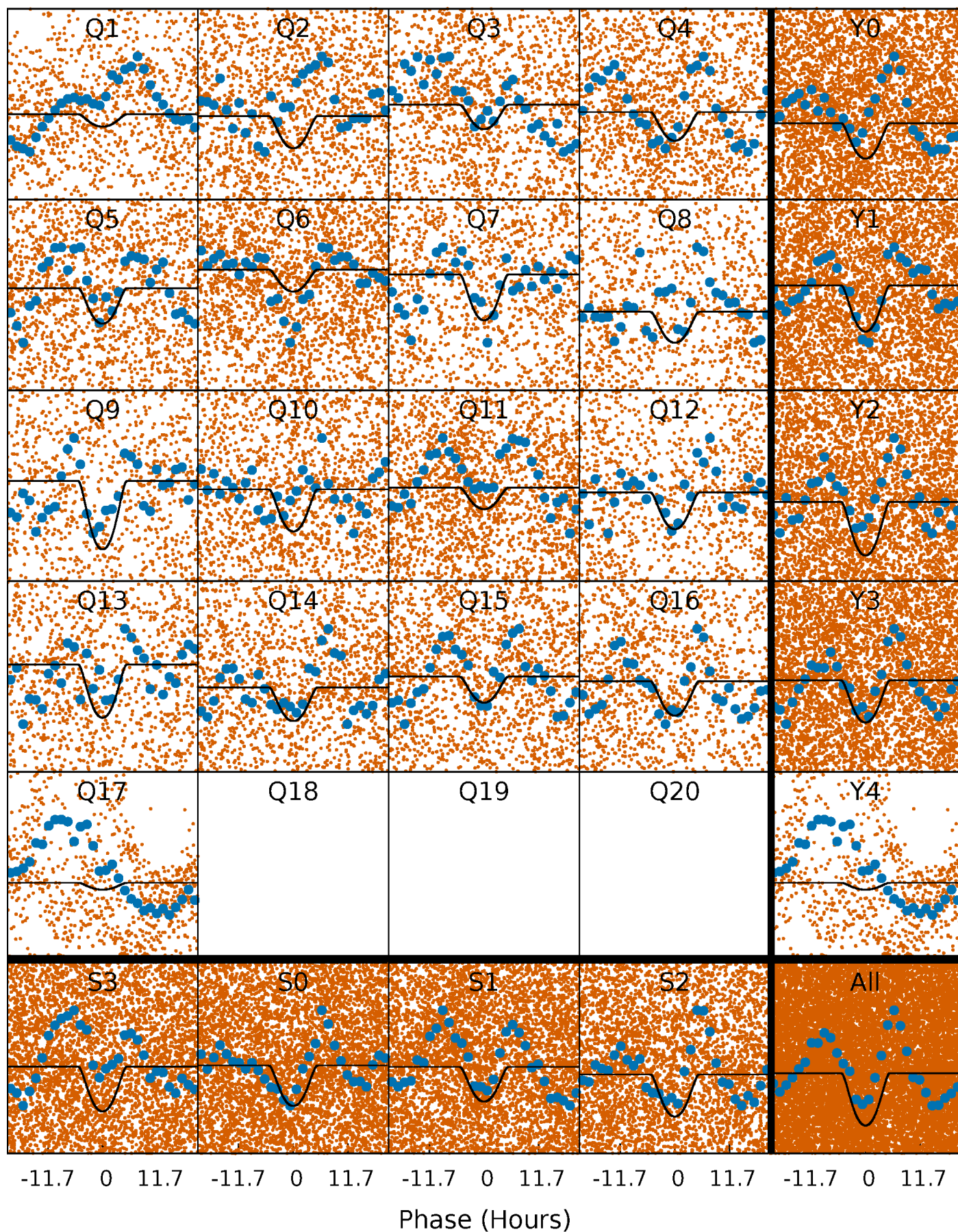
PDC Quarter-Phased Transit Curves

TCE 008831687-01 P= 2.409197 Days $T_0=132.266923$ (BKJD)



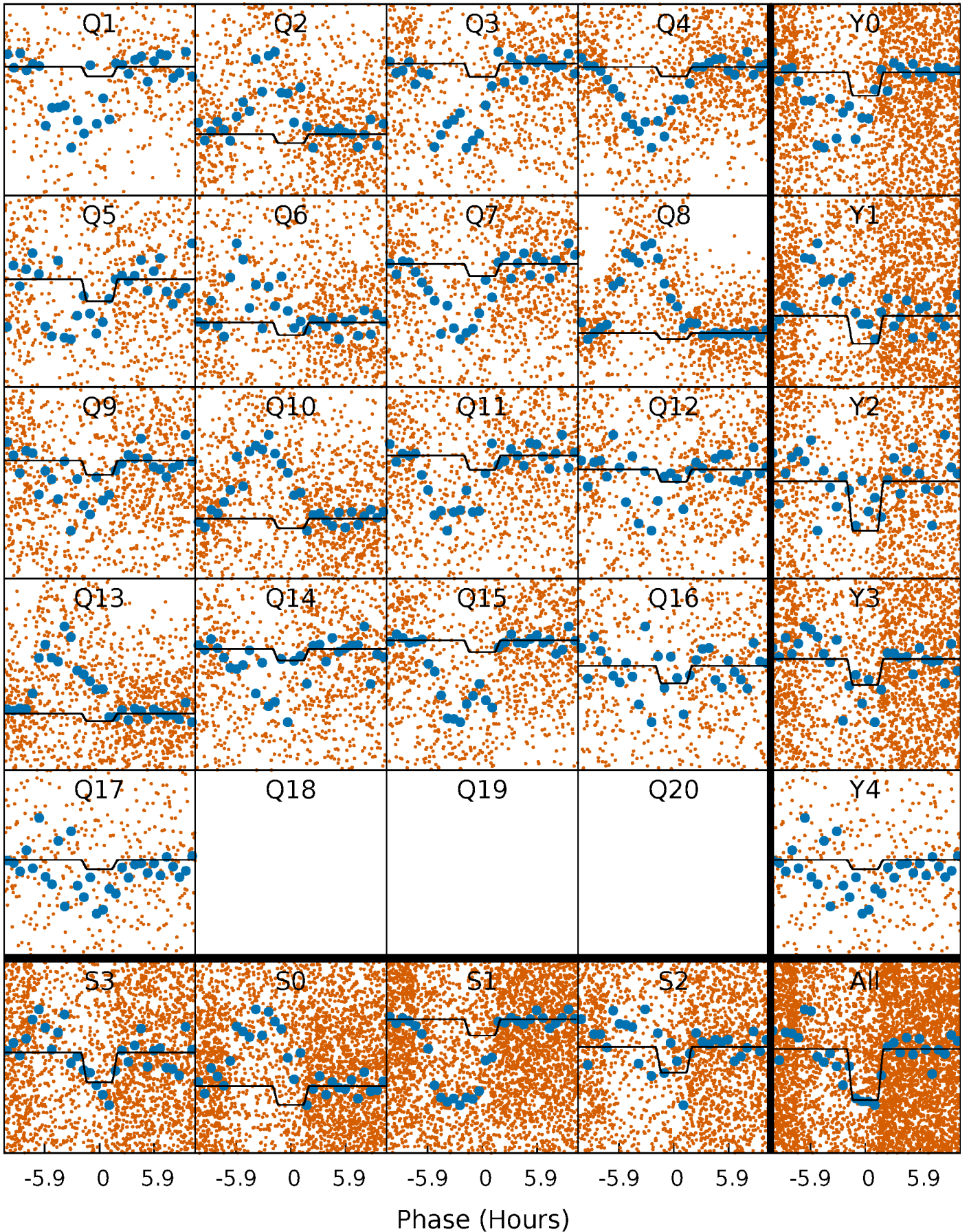
DV Quarter-Phased Transit Curves

TCE 008831687-01 P= 2.409197 Days $T_0=132.266923$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

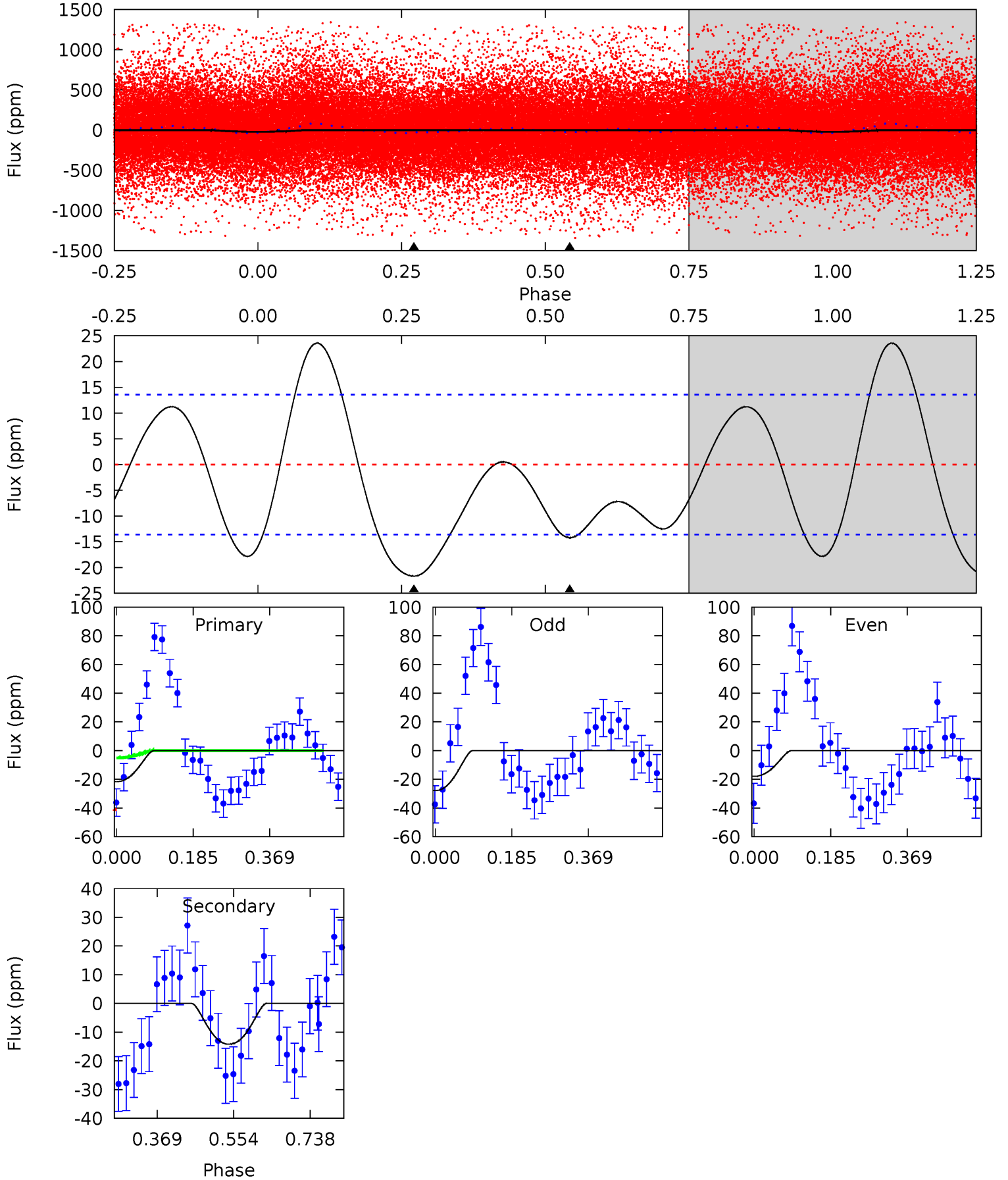
TCE 008831687-01 P= 2.409180 Days $T_0=132.387065$ (BKJD)



DV Model-Shift Uniqueness Test

008831687-01, P = 2.409197 Days, E = 129.857726 Days

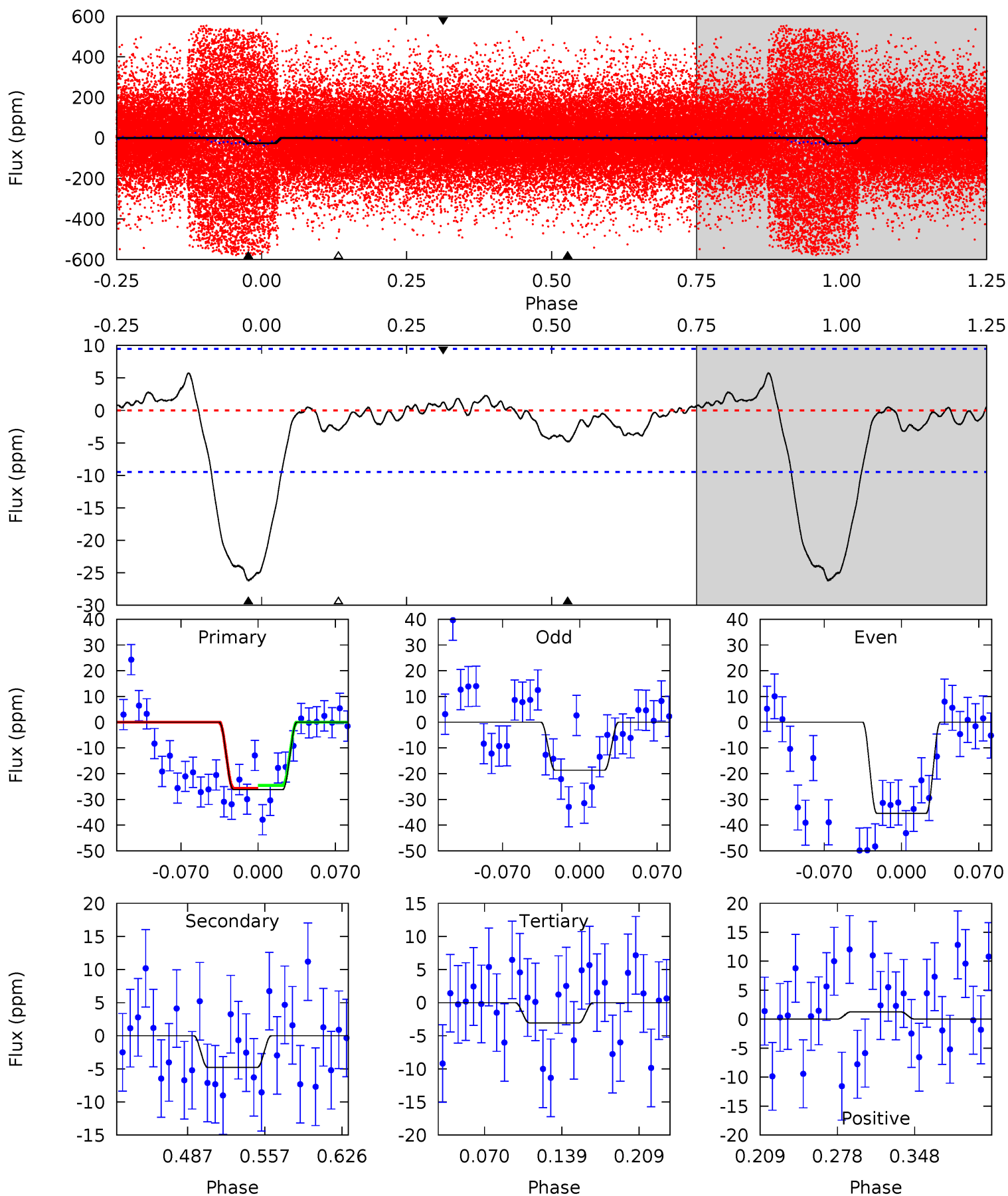
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.08	4.64	0	0	4.43	1.33	3.46	7.08	7.08	4.64	4.64	1.66	0.08	0.52	5.90



Alt Model-Shift Uniqueness Test

008831687-01, P = 2.409180 Days, E = 129.977885 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	2.34	1.50	0.62	4.64	1.81	0.91	11.3	12.2	0.85	1.72	4.10	0.72	0.18	0.27



Stellar Parameters For KIC 008831687

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6499^{+156}_{-195}	$4.408^{+0.065}_{-0.208}$	$-0.240^{+0.250}_{-0.300}$	$1.103^{+0.354}_{-0.118}$	$1.135^{+0.158}_{-0.144}$	$1.192^{+0.328}_{-0.613}$
	+2%/-3%	+1%/-5%	+104%/-125%	+32%/-11%	+14%/-13%	+28%/-51%
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 008831687-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-14 ± 3	$1.38^{+0.50}_{-0.46}$	2230^{+170}_{-102}	4047^{+666}_{-449}	$5.495^{+6.396}_{-2.669}$
Alt.	-5 ± 2	$0.63^{+0.42}_{-0.34}$	2237^{+145}_{-110}	4379^{+1966}_{-820}	$8.284^{+34.131}_{-5.578}$

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

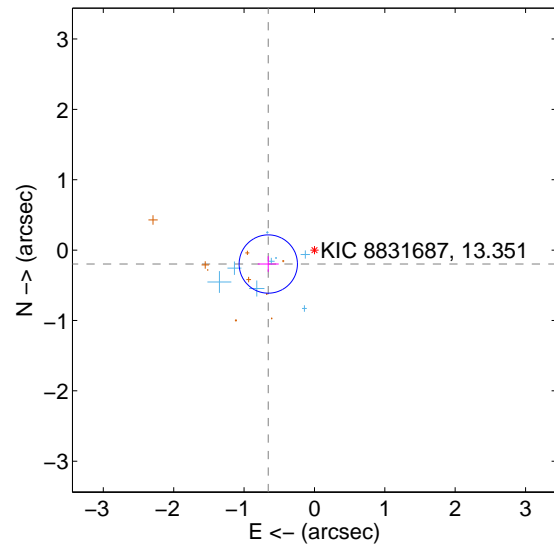
Supplemental centroid analysis for 008831687-01. Kepler magnitude: 13.35. Transit SNR 8.55

There are 8 quarters with good PRF difference image offsets

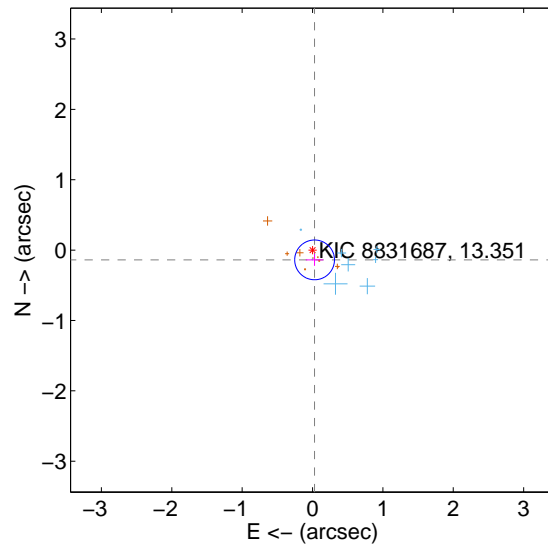
The direct PRF centroid is offset from the target star catalog position by about 0.54 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.685 ± 0.138	4.96	0.656 ± 0.149	-0.198 ± 0.111
PRF-fit source offset from KIC position	0.142 ± 0.094	1.51	-0.029 ± 0.124	-0.139 ± 0.085
photometric centroid source offset	1.36 ± 0.50	2.71	-0.88 ± 0.65	1.04 ± 0.37

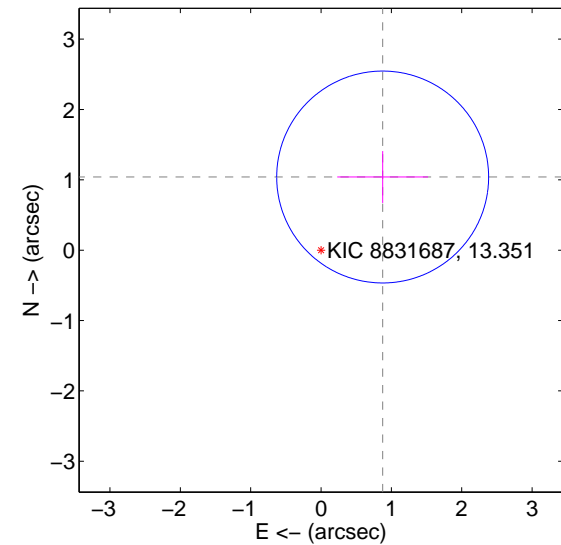
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

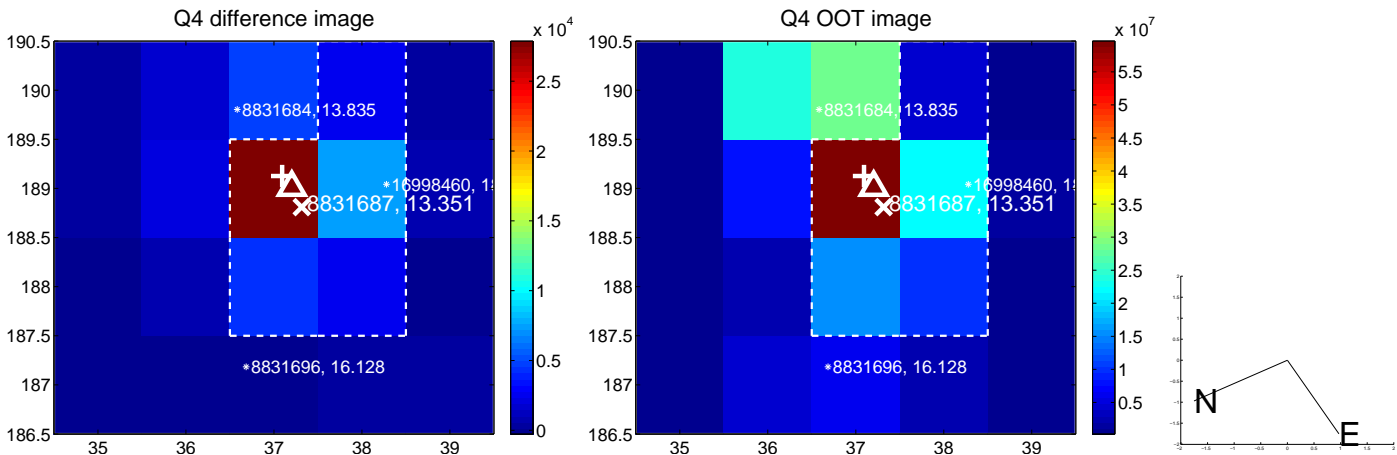
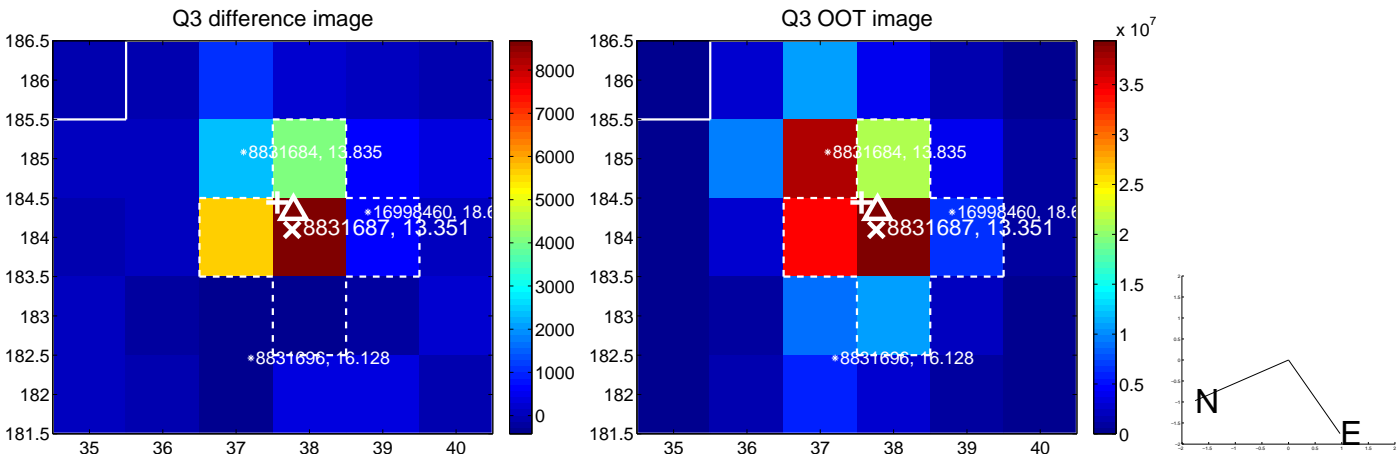
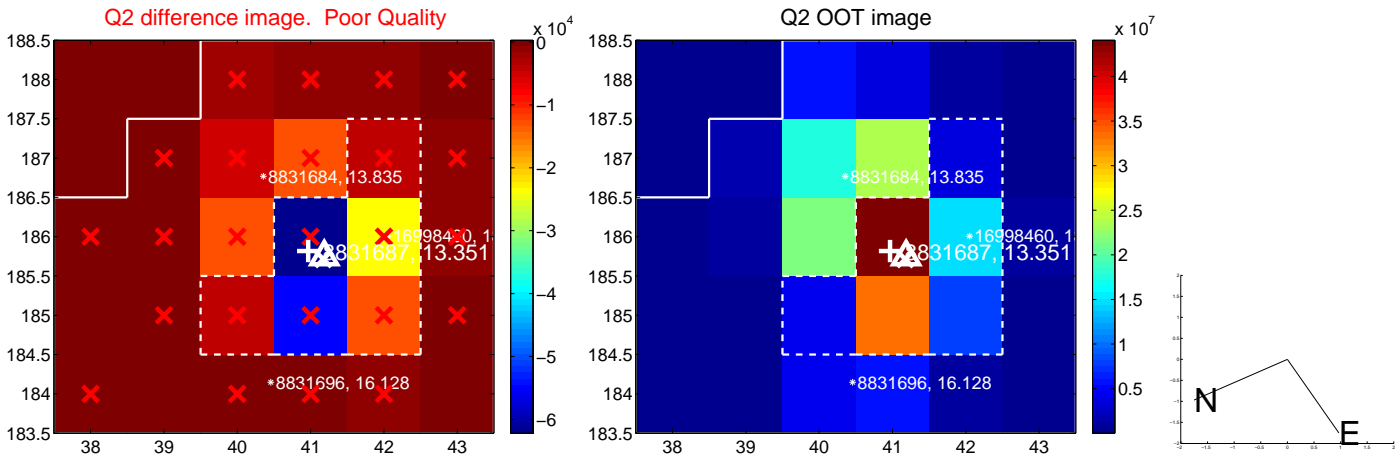
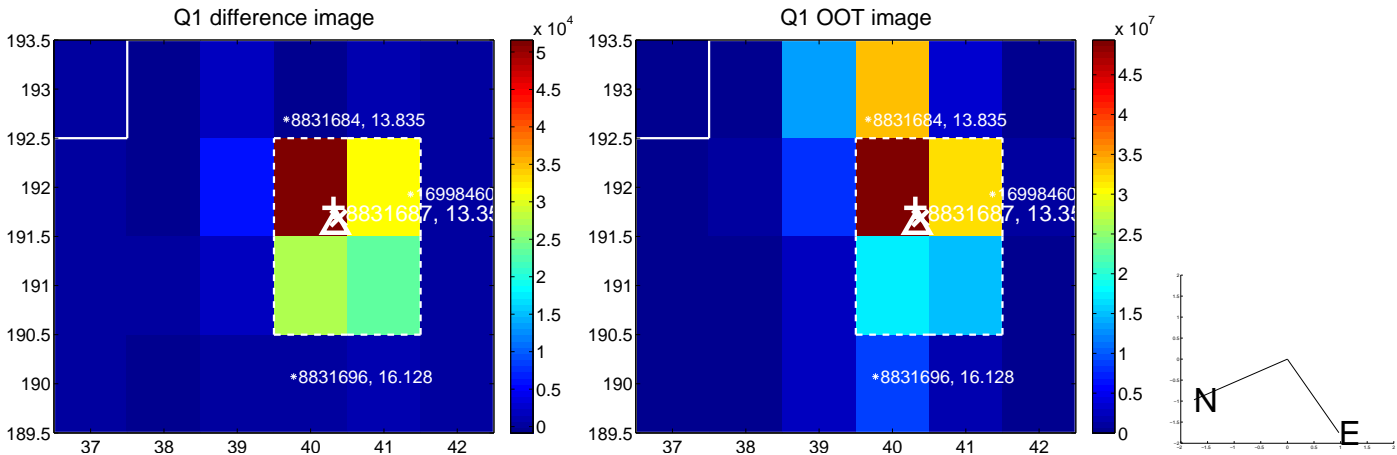


offset from photometric centroids

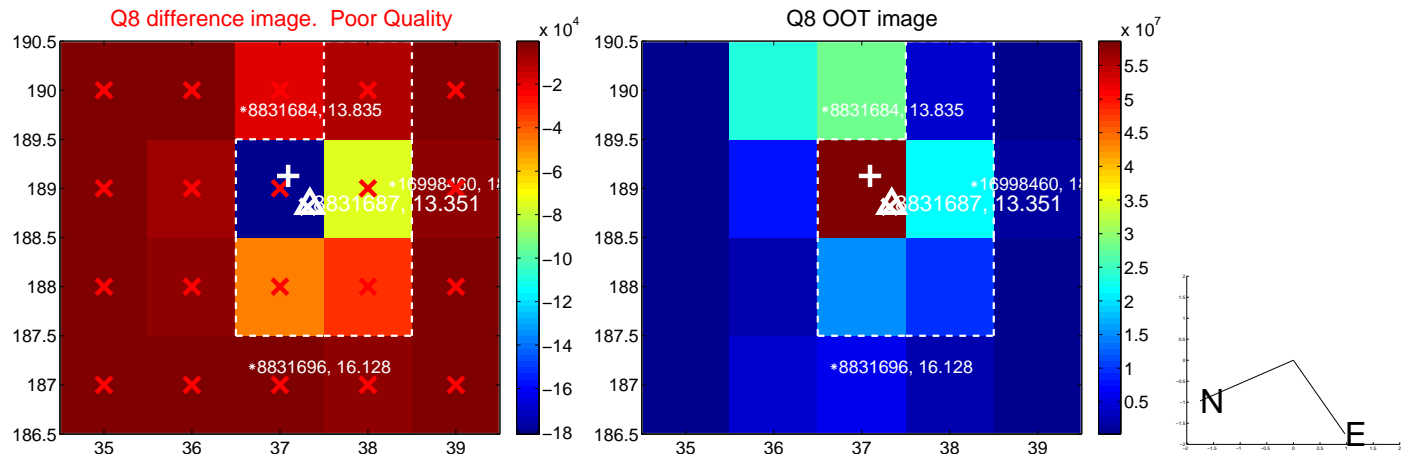
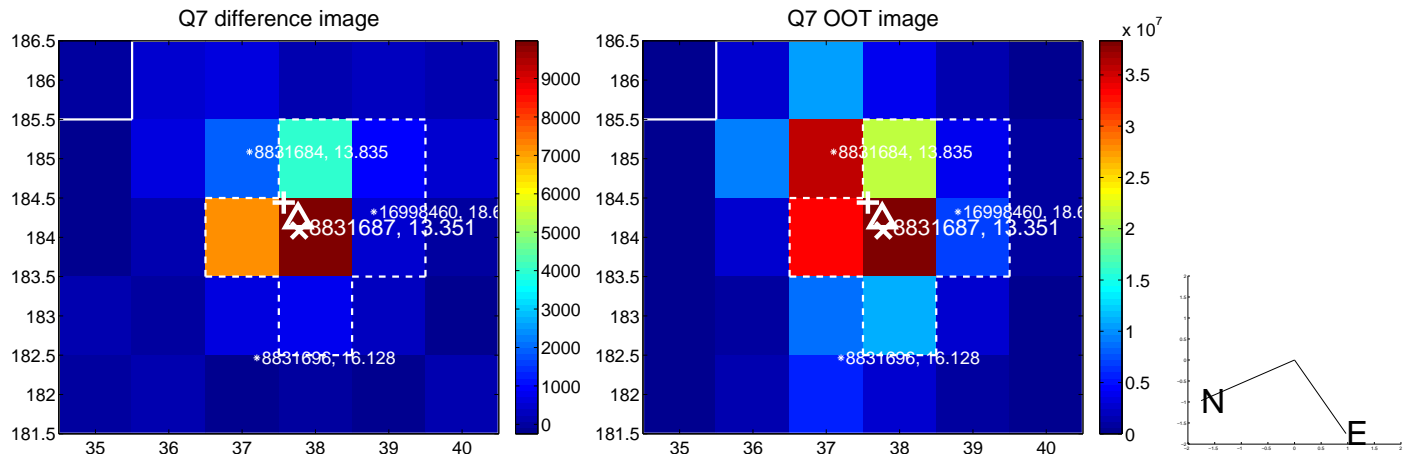
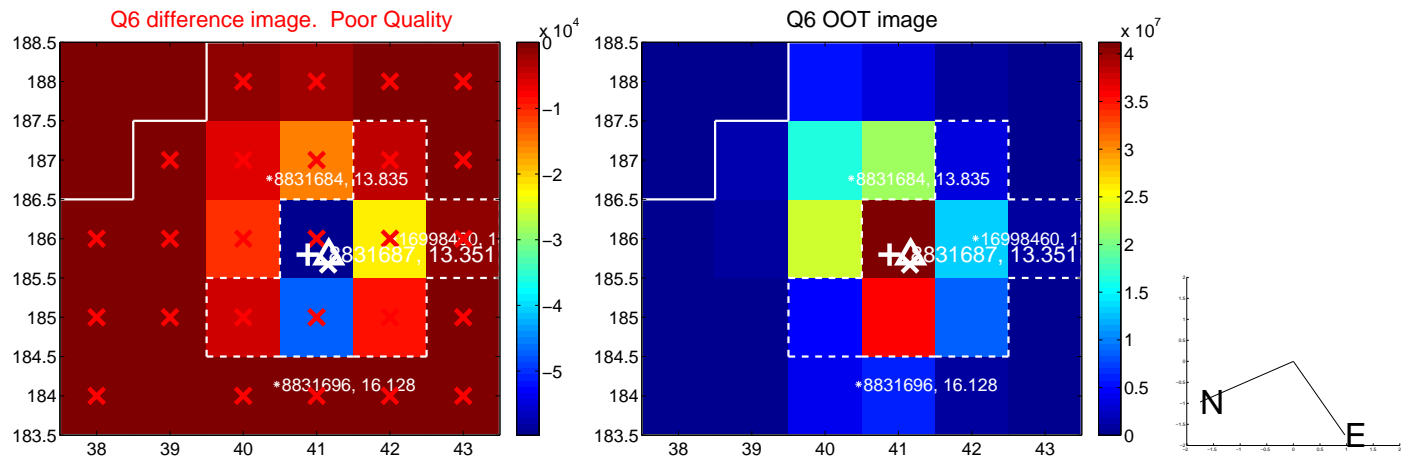
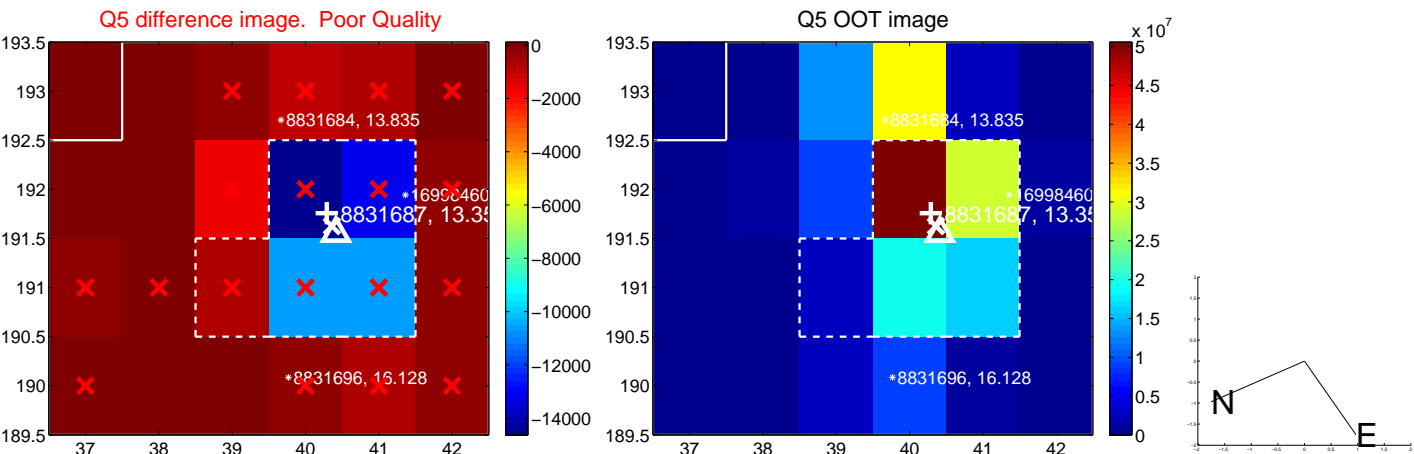


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

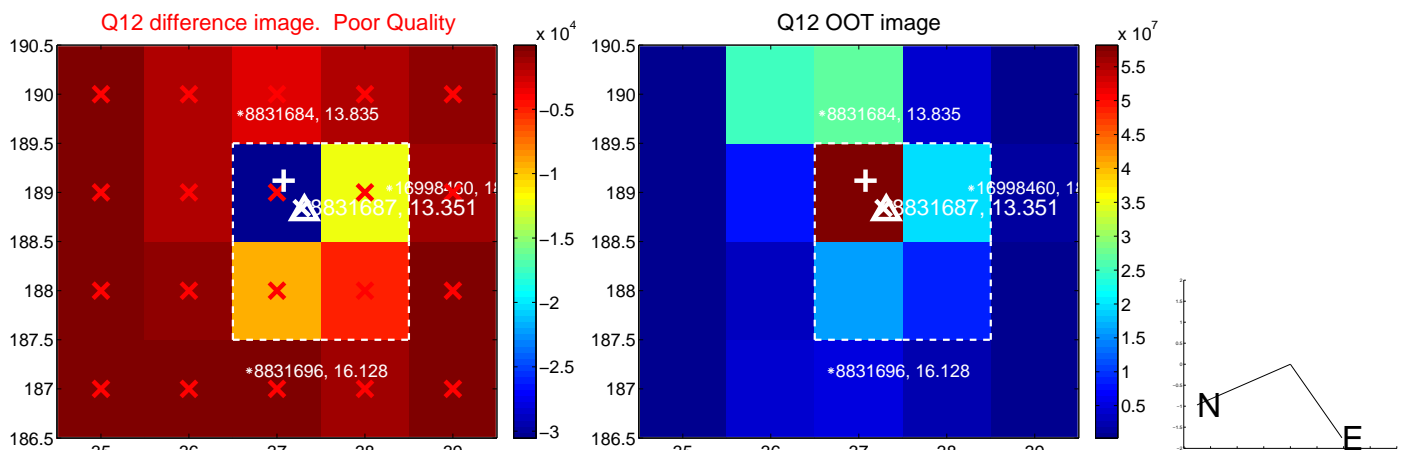
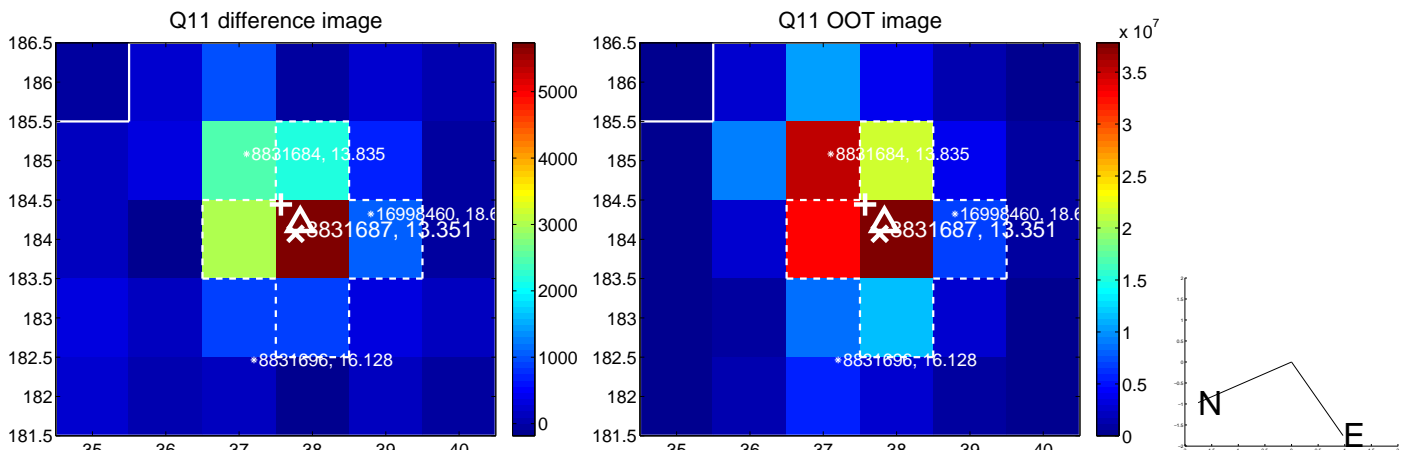
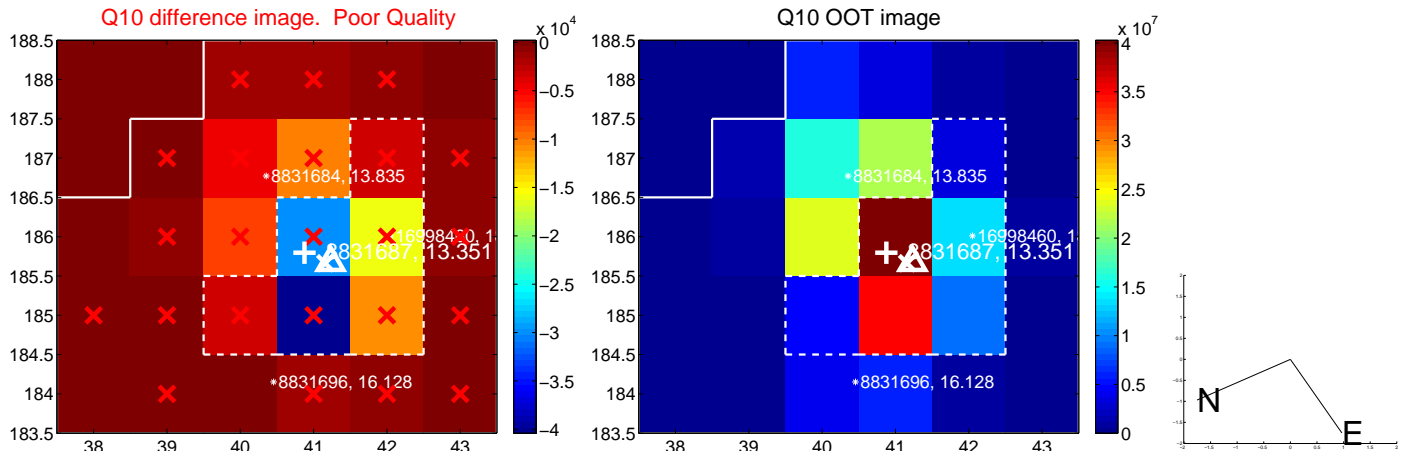
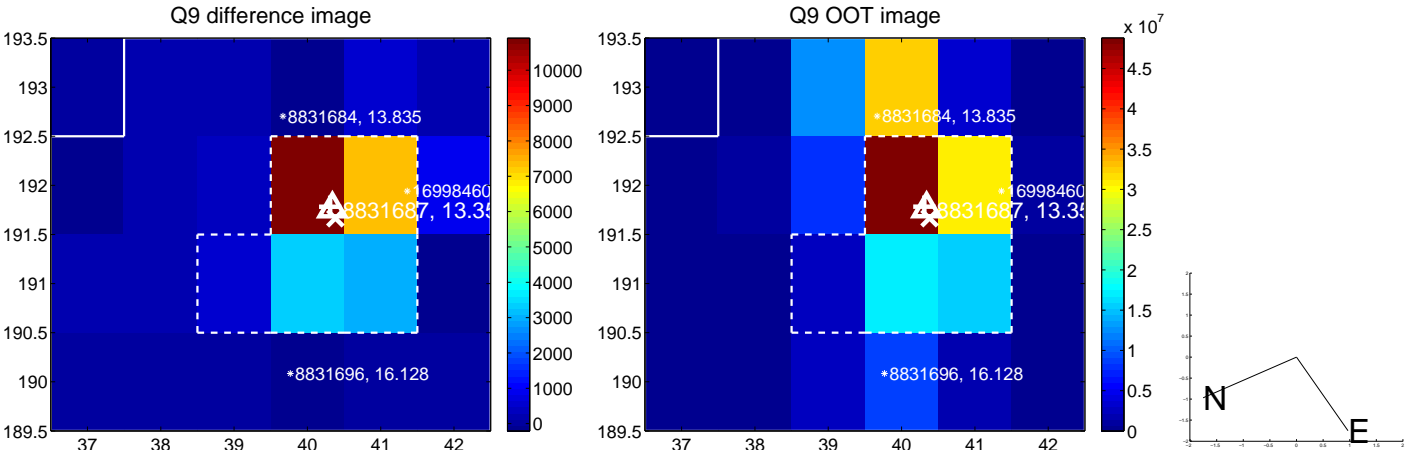
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



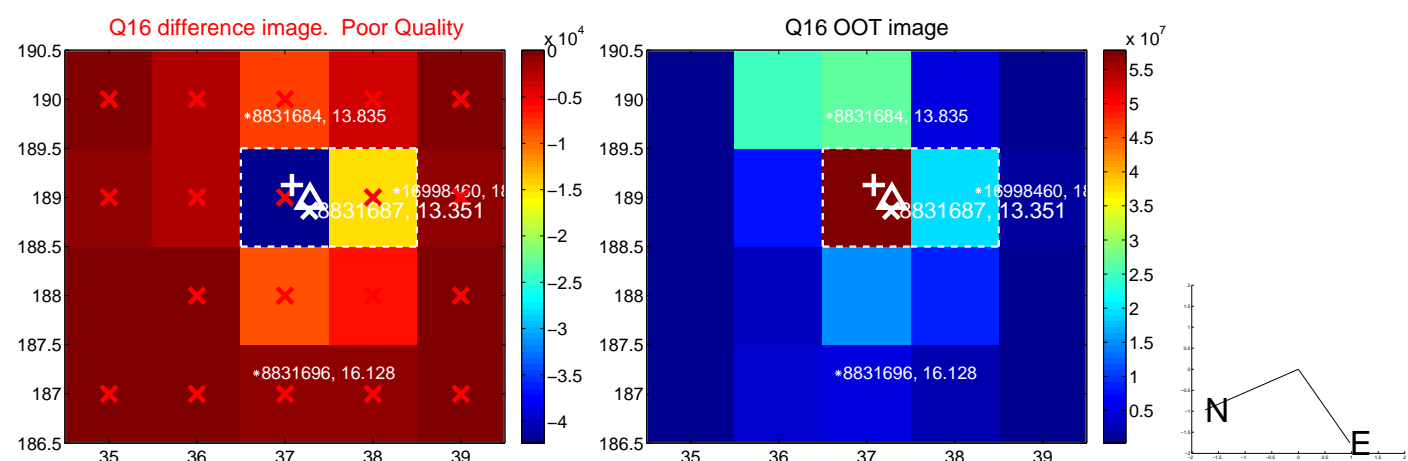
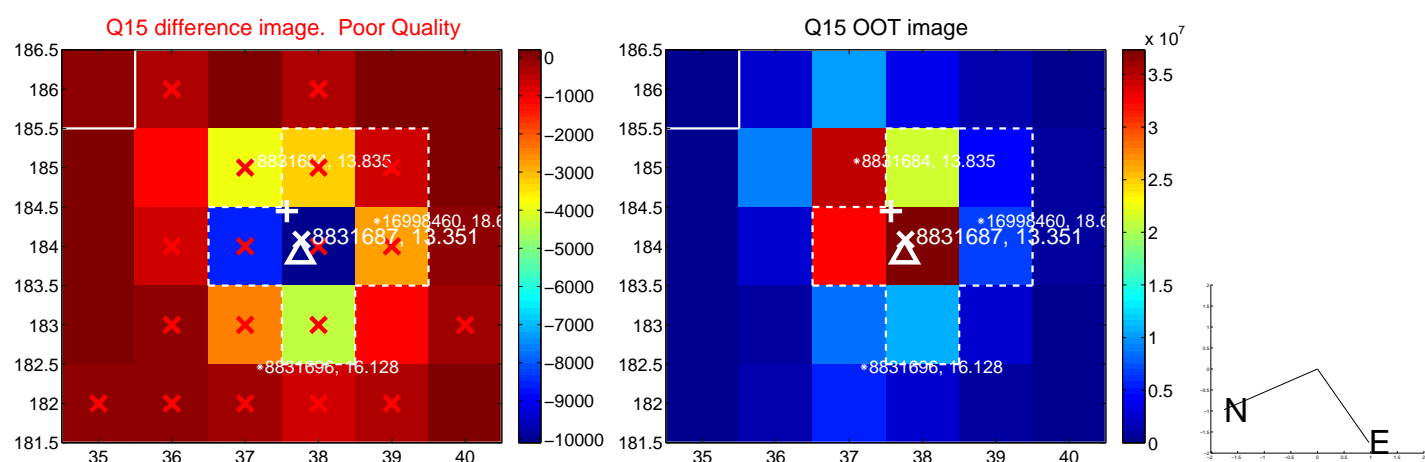
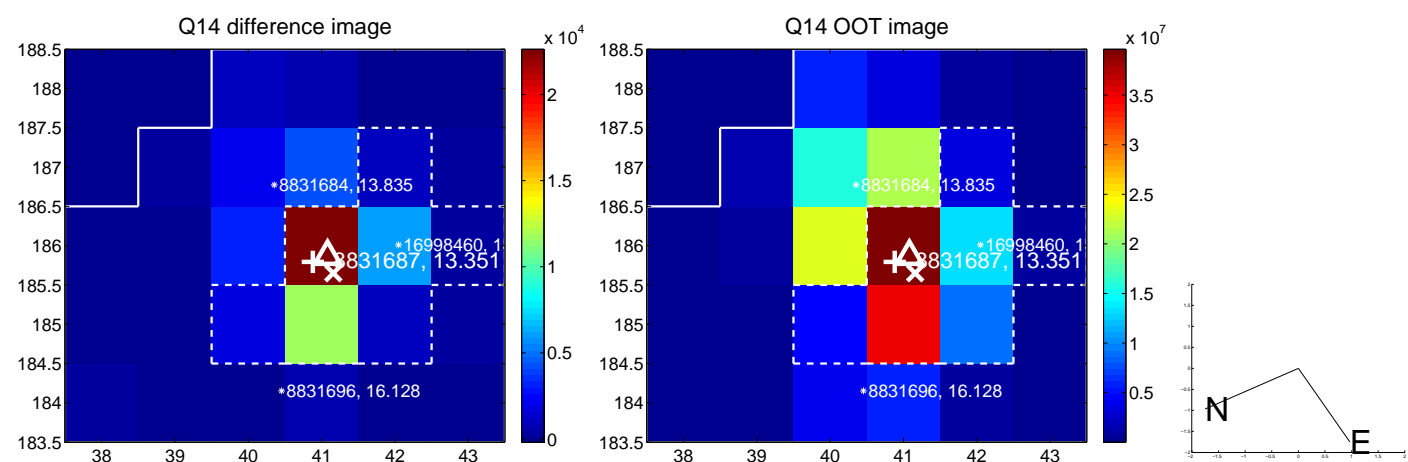
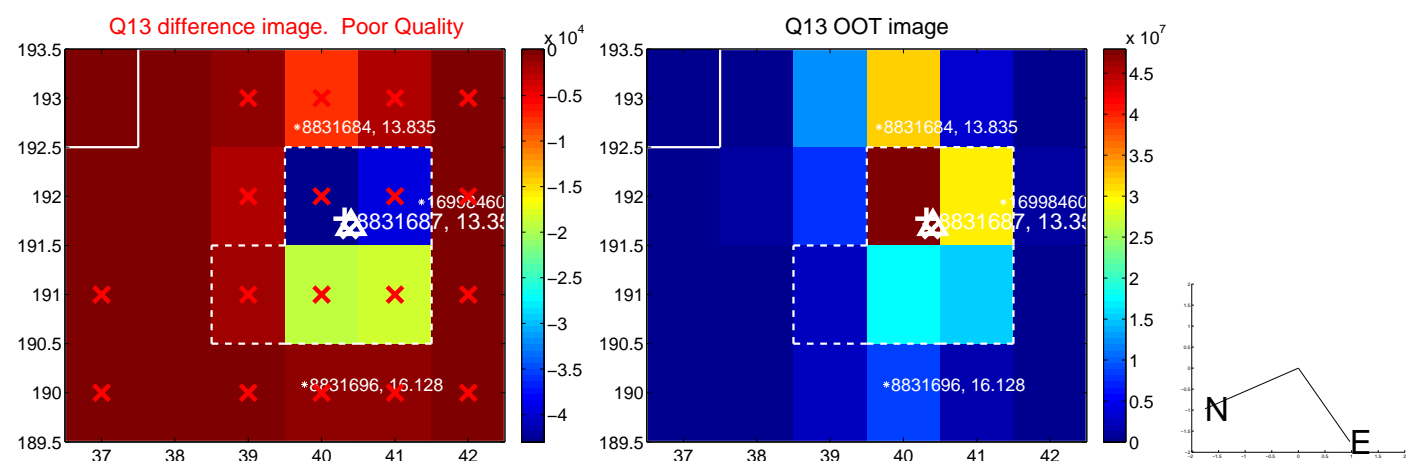
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

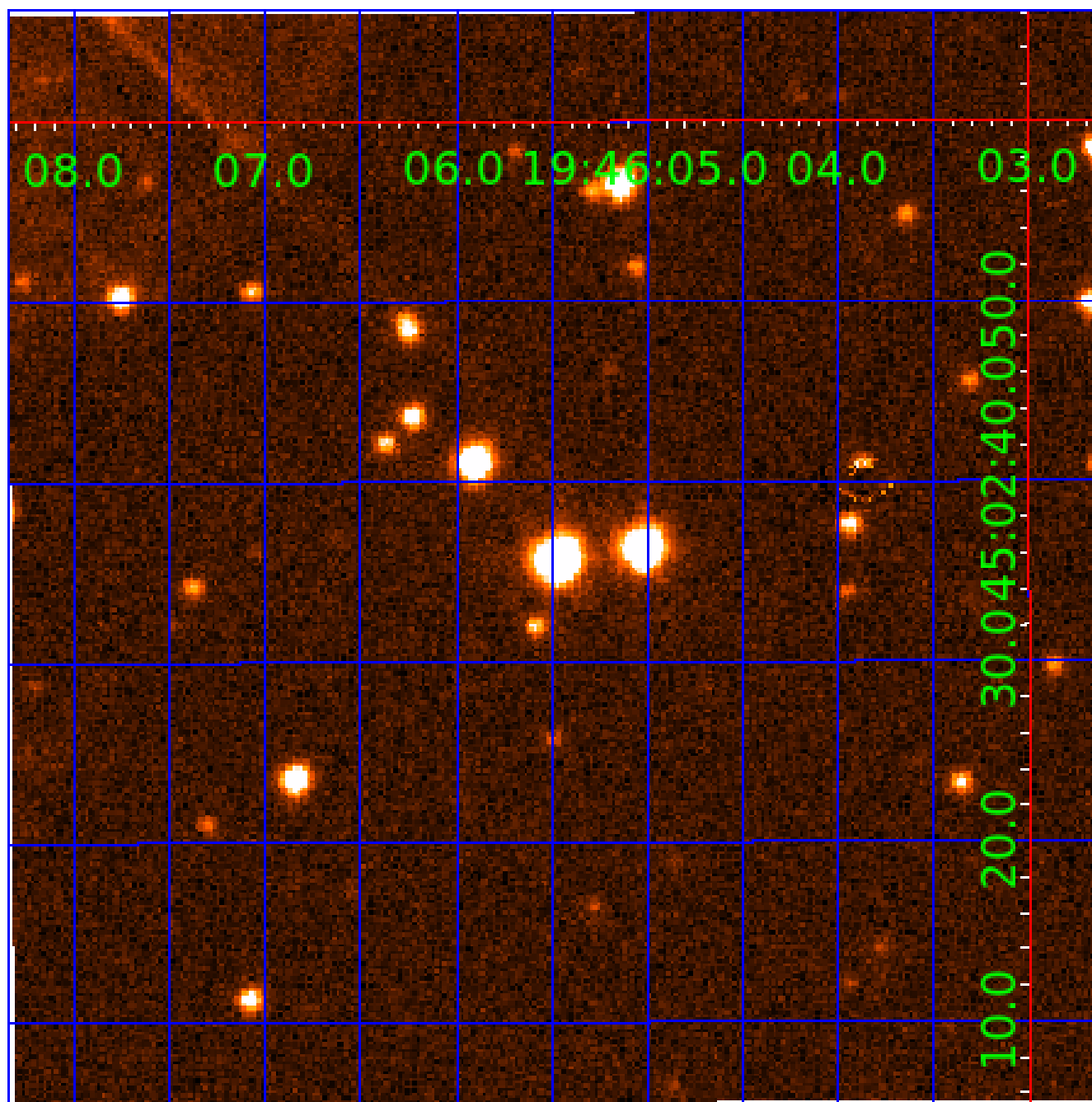


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008831687

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})
008831687-01	OBS	No	2.409197	132.266923	63.8	10.226	7.9	8.6	1.10	6499	1.32	1443.78
008831687-02	OBS	No	428.934480	274.992047	323.7	12.000	10.6	-1.0	1.10	6499	2.00	1.44
008831687-03	OBS	No	269.149957	162.041117	159.9	7.885	9.6	1.5	1.10	6499	1.58	2.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008831687-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
008831687-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008831687-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

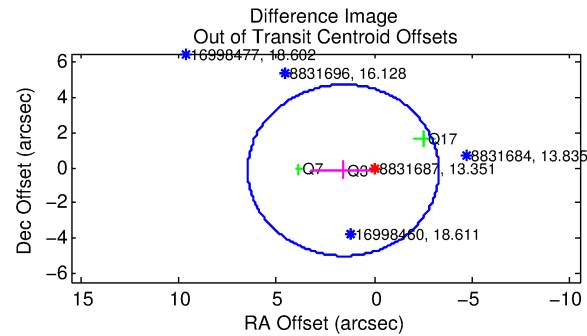
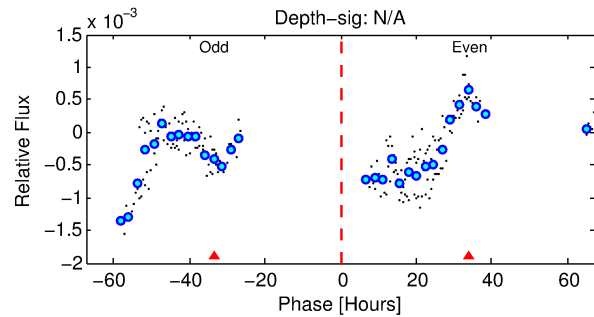
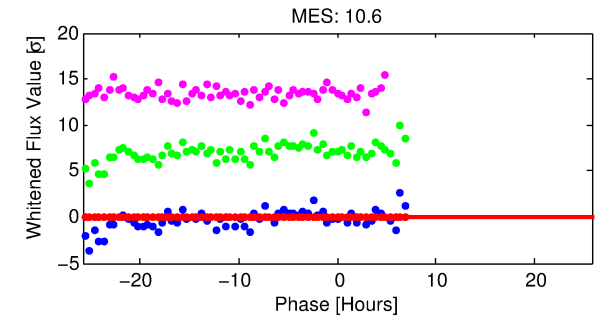
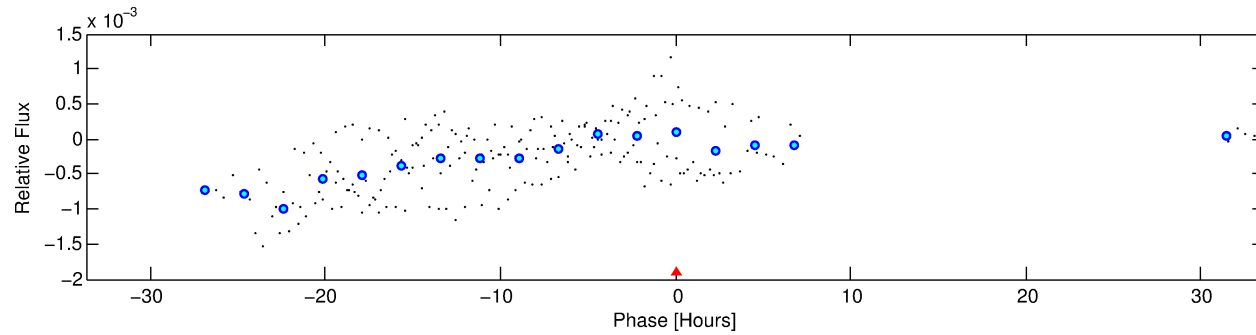
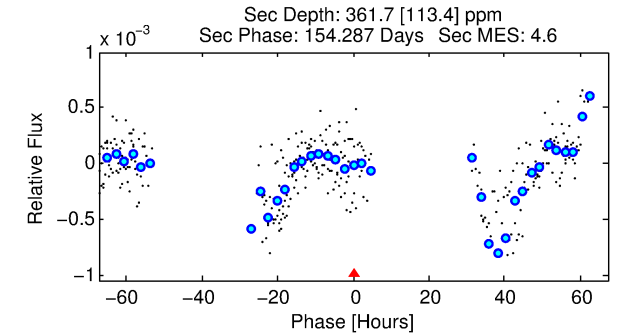
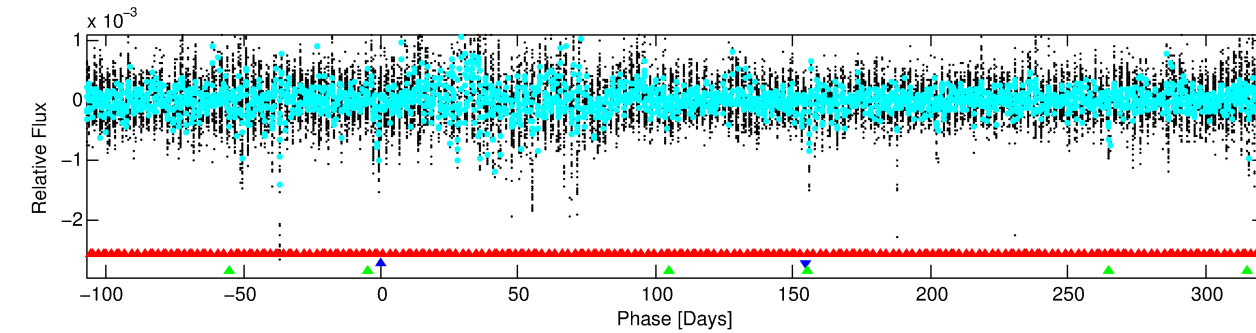
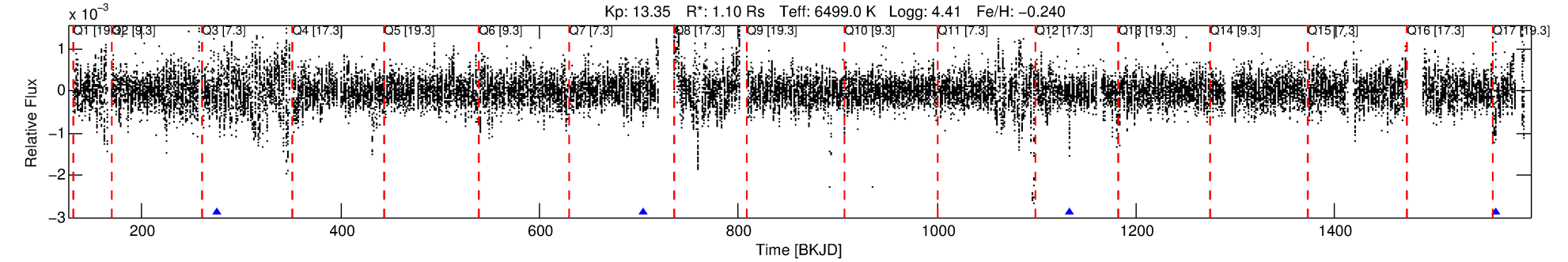
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008831687-02

No Significant Match Found

DV One-Page Summary

KIC: 8831687 Candidate: 2 of 3 Period: 428.934 d



TPS TCE Results:

Period = 428.93448 d
Epoch = 274.9920 BKJD

DV fit results are unavailable

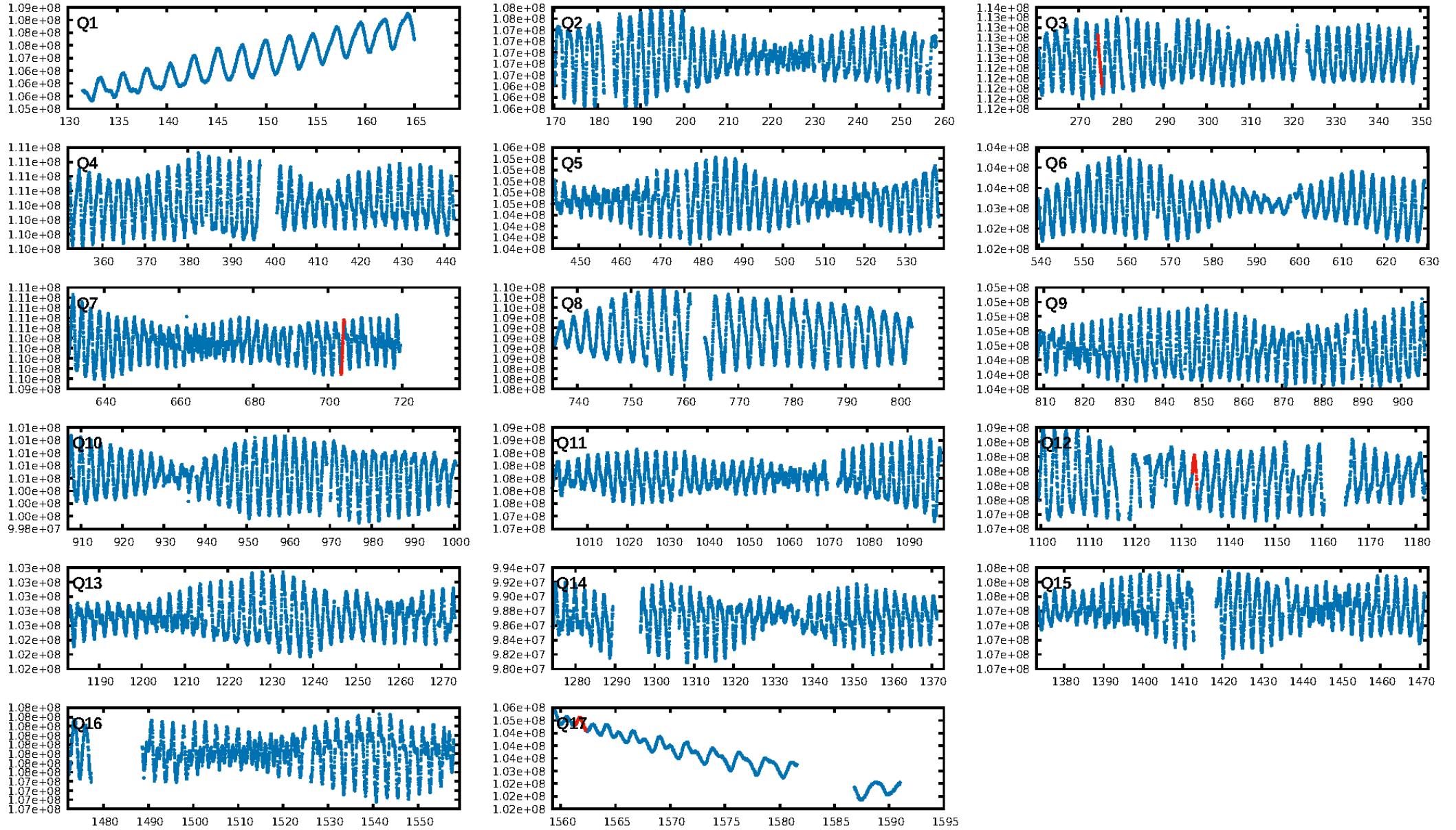
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [267.07σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.23e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.641
Centroid-sig: 5.6%
Centroid-so: 0.979 arcsec [3.55σ]
OotOffset-rm: 1.590 arcsec [0.98σ]
KicOffset-rm: 0.132 arcsec [0.66σ]
OotOffset-st: 0/2/0/1 [3]
KicOffset-st: 0/2/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/3]

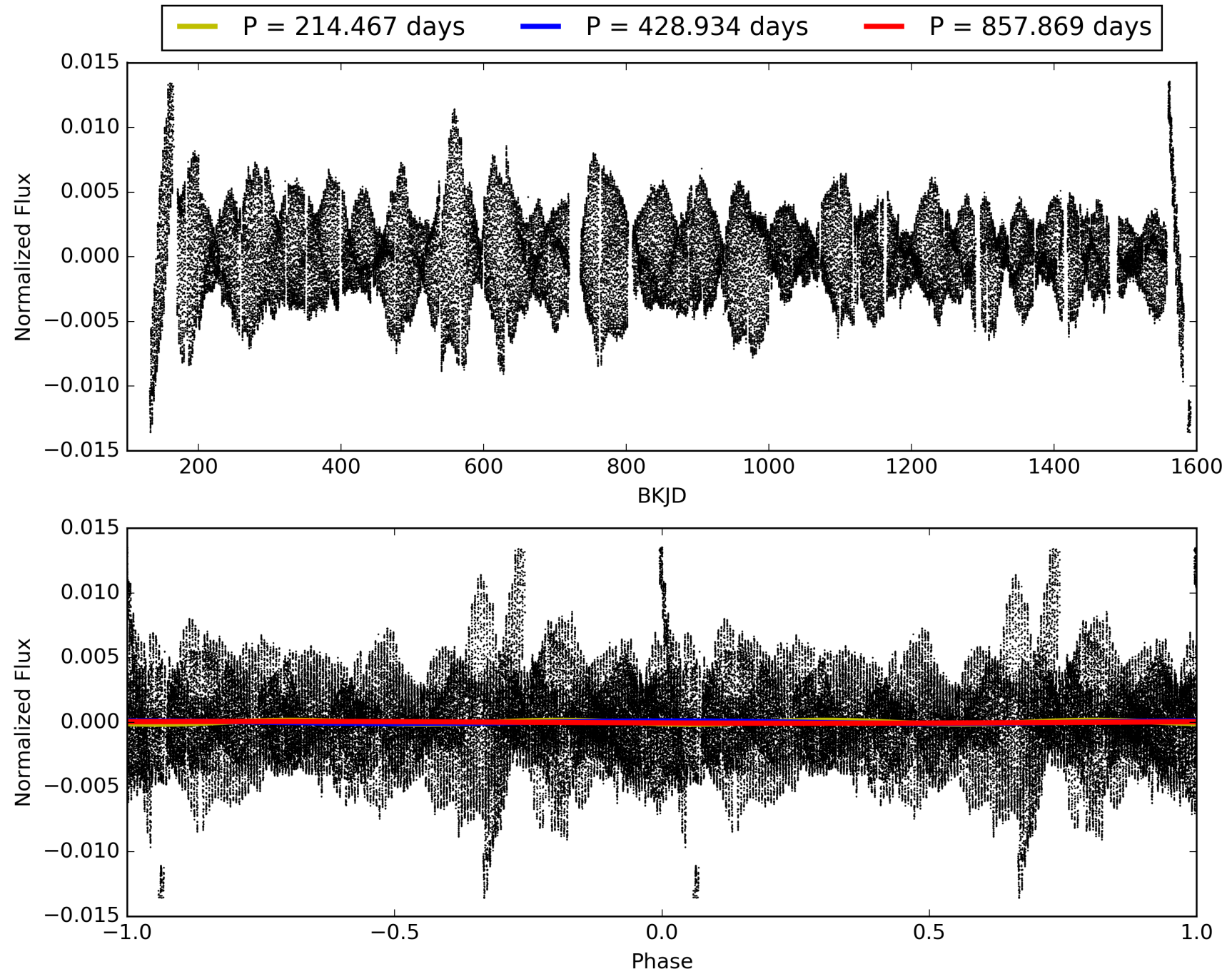
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:20:02 Z

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

TCE 008831687-02, PDC Light Curves

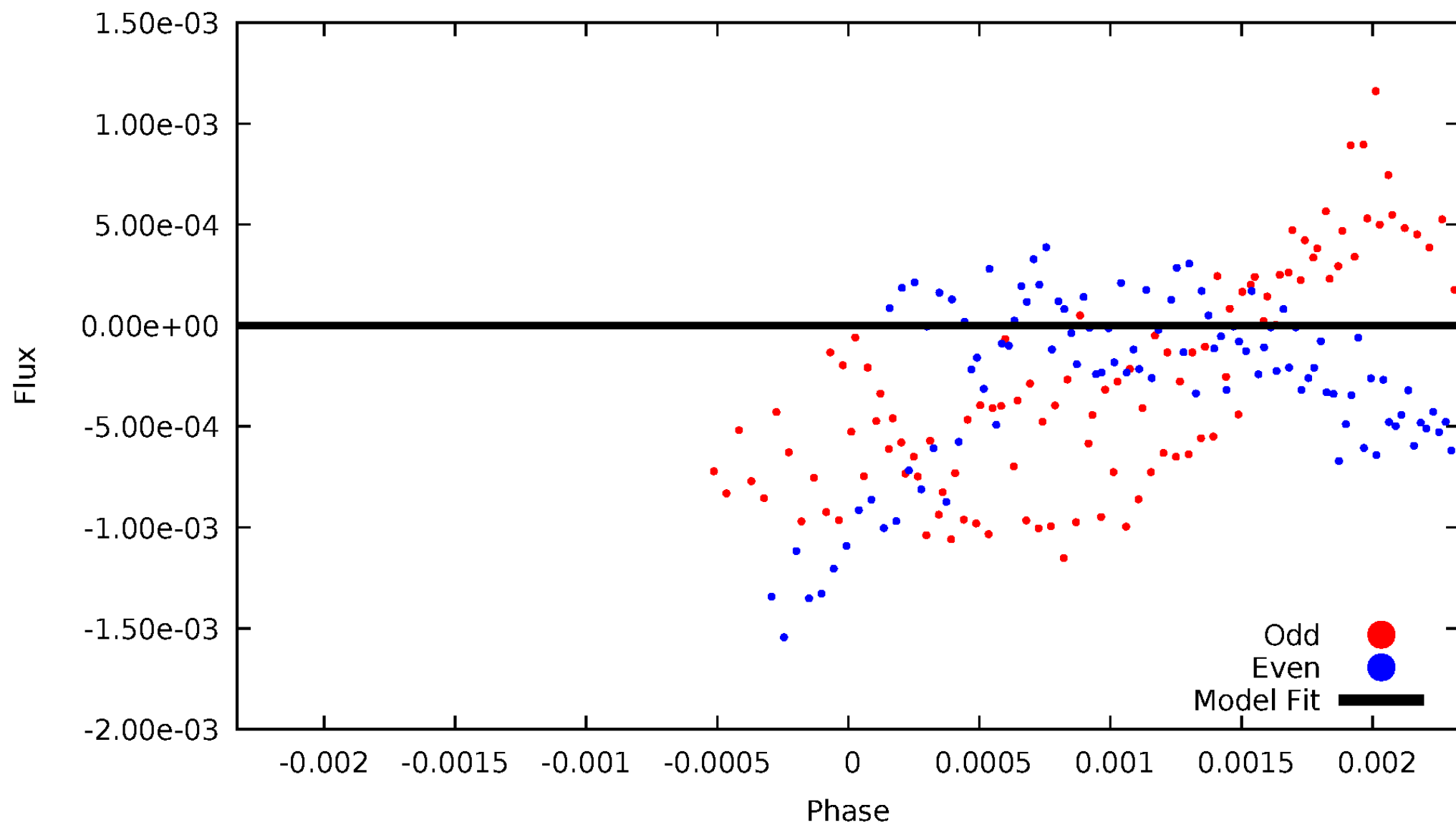


TCE 008831687-02



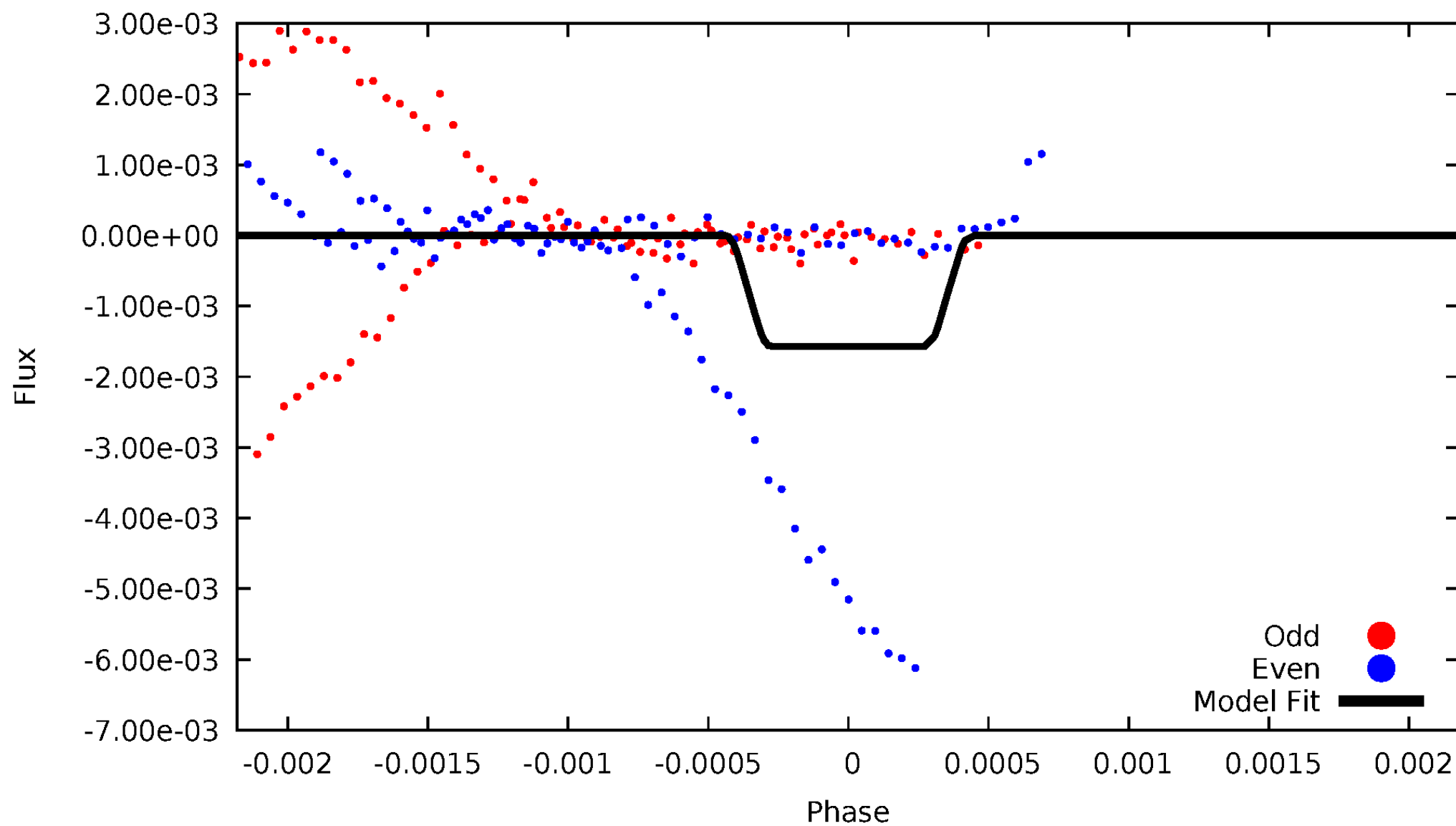
DV Odd/Even

TCE 008831687-02



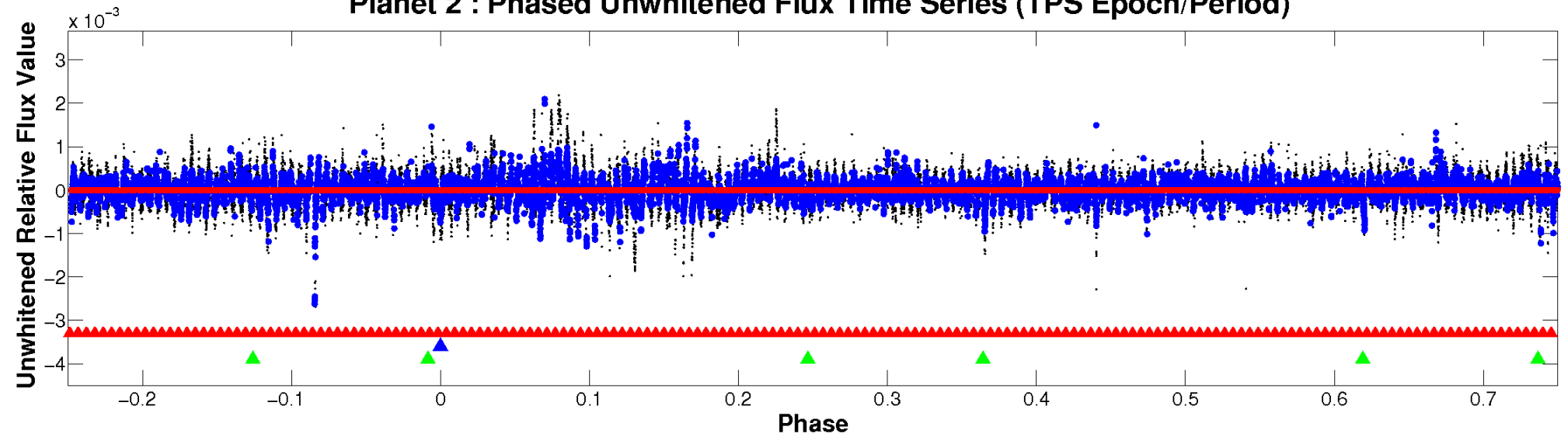
ALT Odd/Even

TCE 008831687-02



Non-Whitened Vs. Whitened Light Curve

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

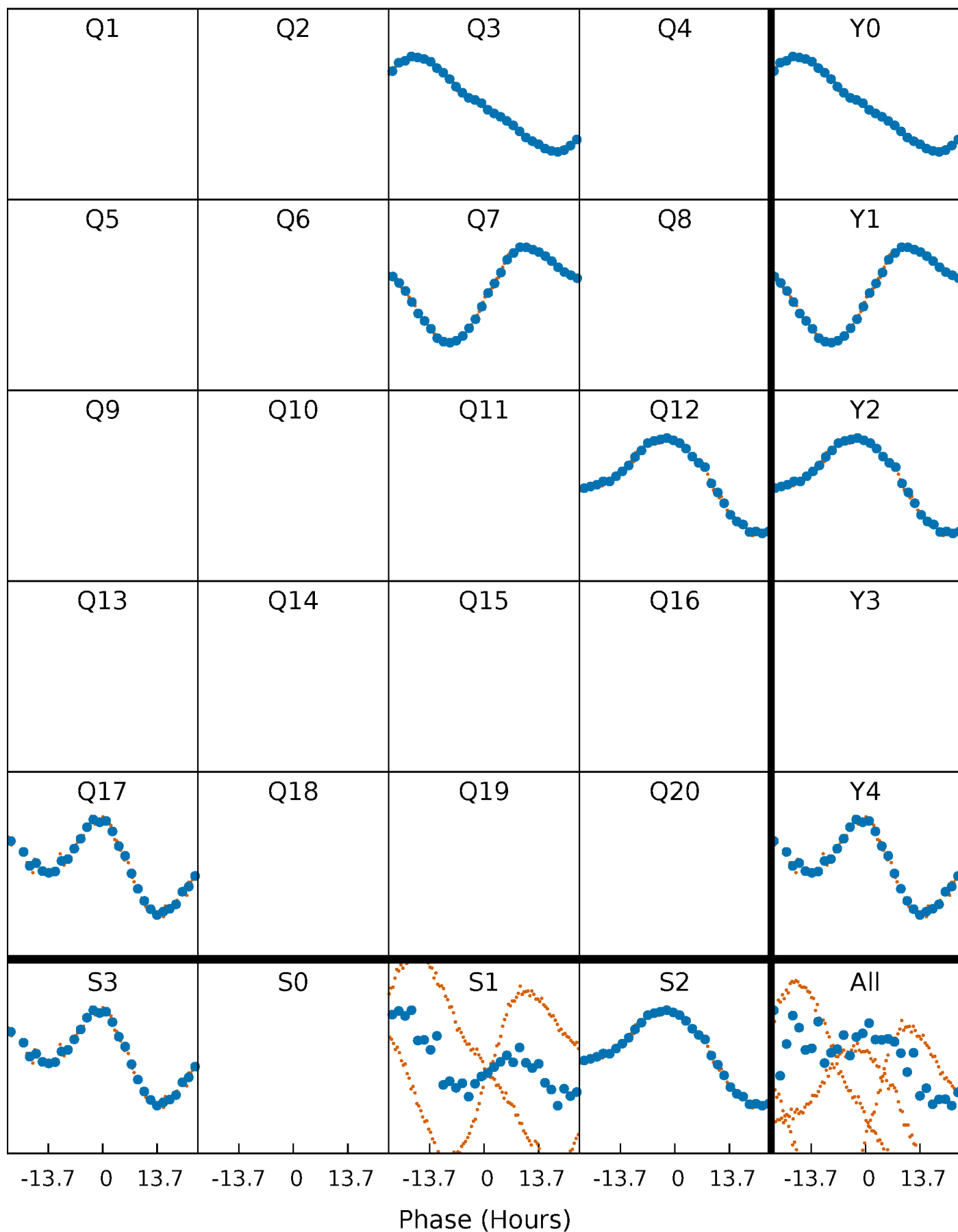


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 008831687-02 $P=428.934480$ Days $T_0=274.992047$ (BKJD)



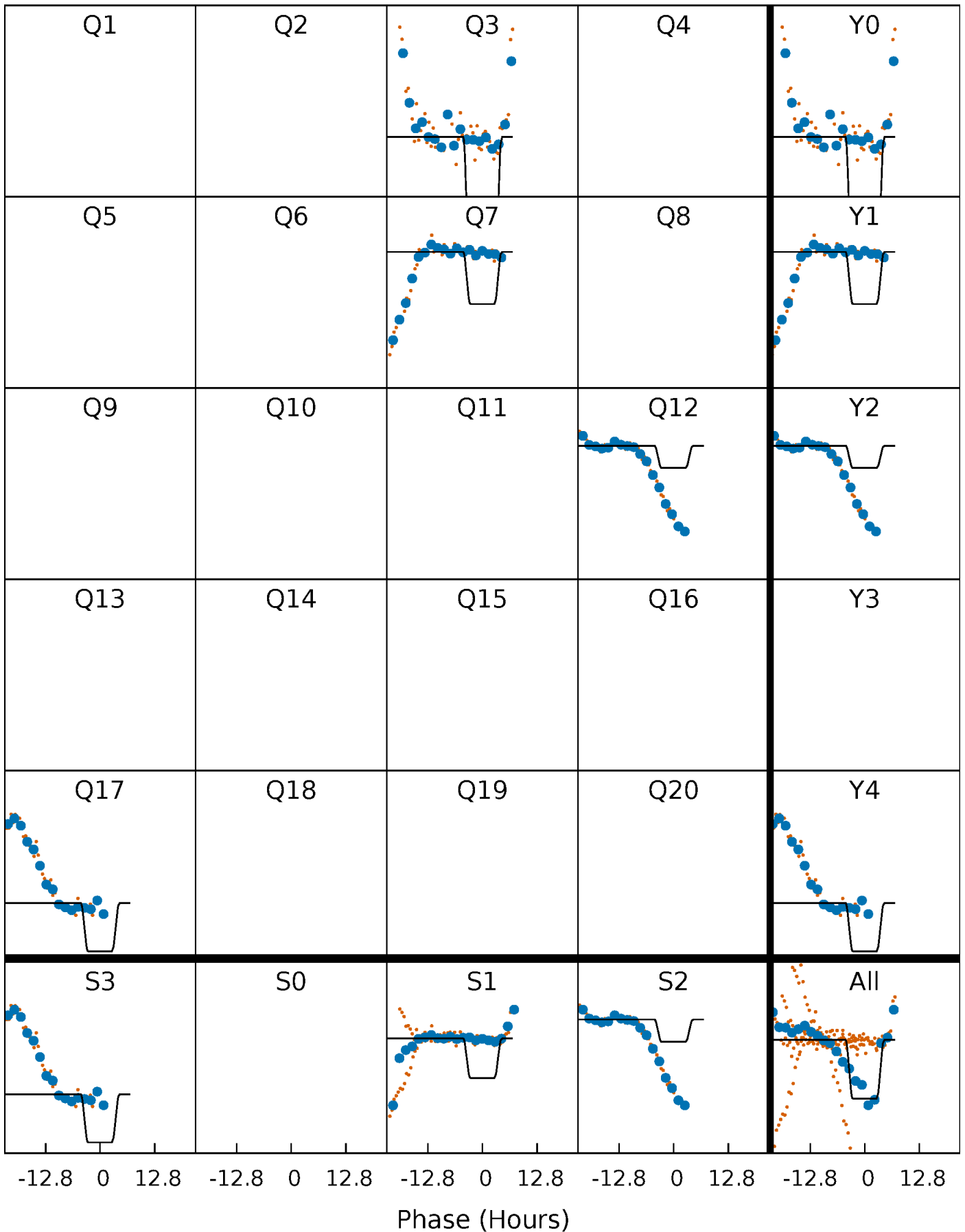
DV Quarter-Phased Transit Curves

TCE 008831687-02 $P=428.934480$ Days $T_0=274.992047$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

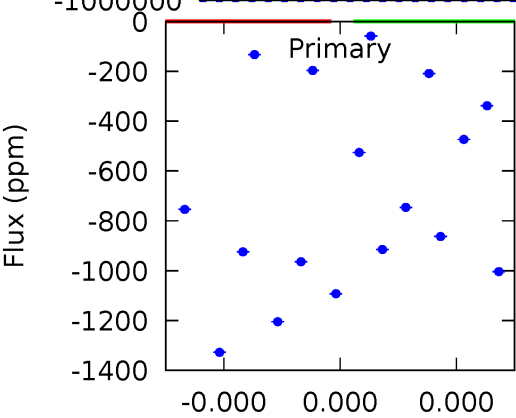
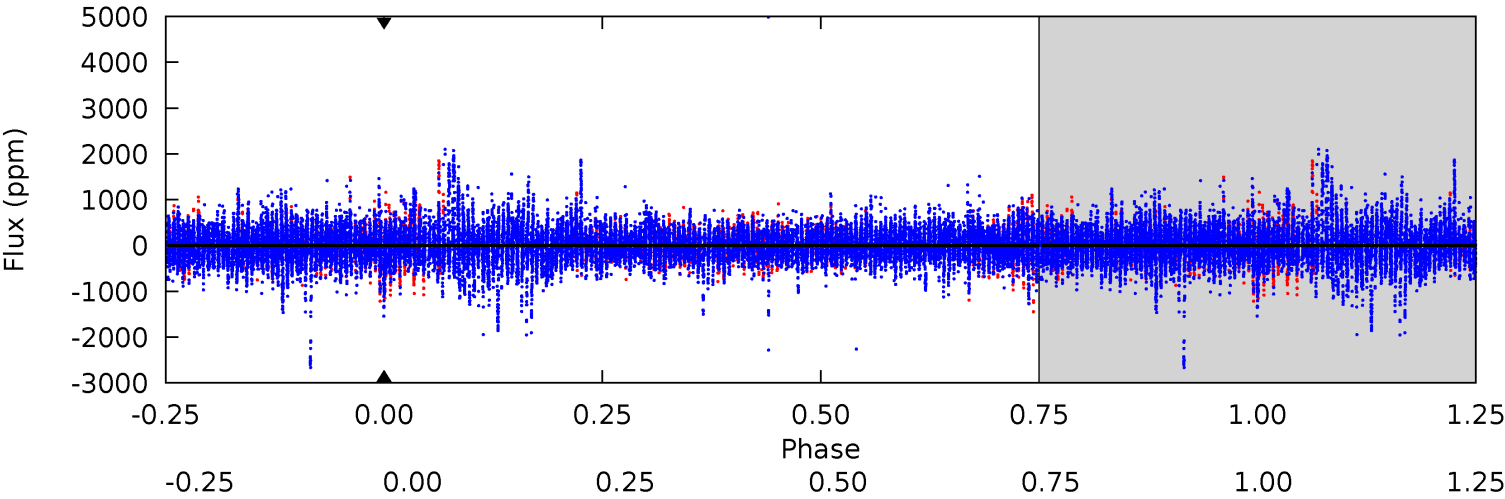
TCE 008831687-02 $P=428.934480$ Days $T_0=275.867235$ (BKJD)



DV Model-Shift Uniqueness Test

008831687-02, P = 428.934480 Days, E = 274.992047 Days

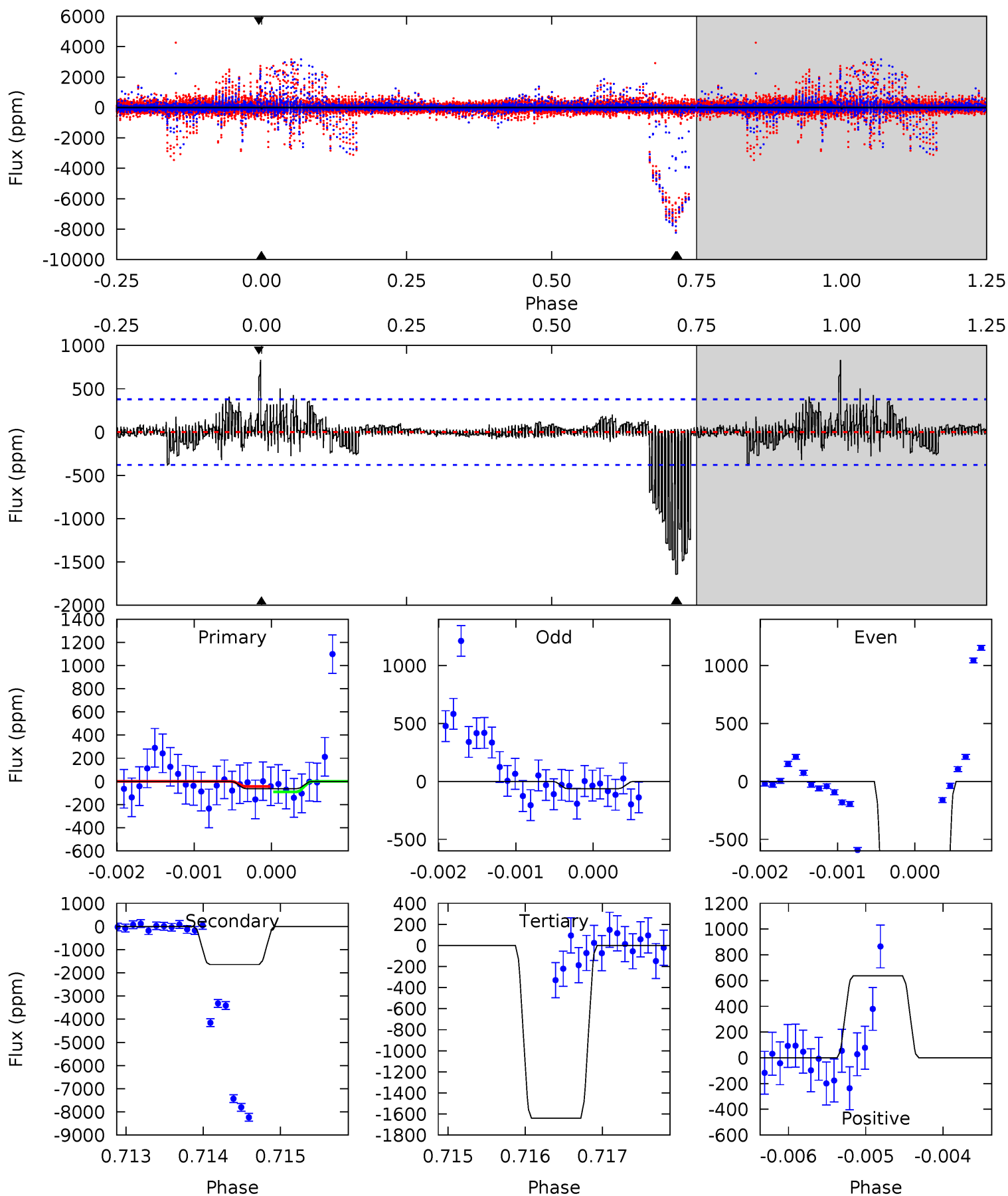
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008831687-02, P = 428.934480 Days, E = 275.867235 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.91	23.8	23.7	9.21	5.48	3.34	2.32	-22.8	-8.30	0.04	14.6	12.5	14.8	0.34	0.35



Stellar Parameters For KIC 008831687

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6499^{+156}_{-195}	$4.408^{+0.065}_{-0.208}$	$-0.240^{+0.250}_{-0.300}$	$1.103^{+0.354}_{-0.118}$	$1.135^{+0.158}_{-0.144}$	$1.192^{+0.328}_{-0.613}$
	+2%/-3%	+1%/-5%	+104%/-125%	+32%/-11%	+14%/-13%	+28%/-51%
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 008831687-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$9.08^{+9.30}_{-6.39}$	396^{+30}_{-19}	3244^{+30717}_{-30397}	$1101^{+1900863}_{-1392581}$
Alt.	-1643 ± 69	$10.38^{+10.60}_{-6.91}$	397^{+29}_{-18}	4657^{+3511}_{-1014}	10983^{+90165}_{-8326}

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 $A_{obs} \gg 1.0$

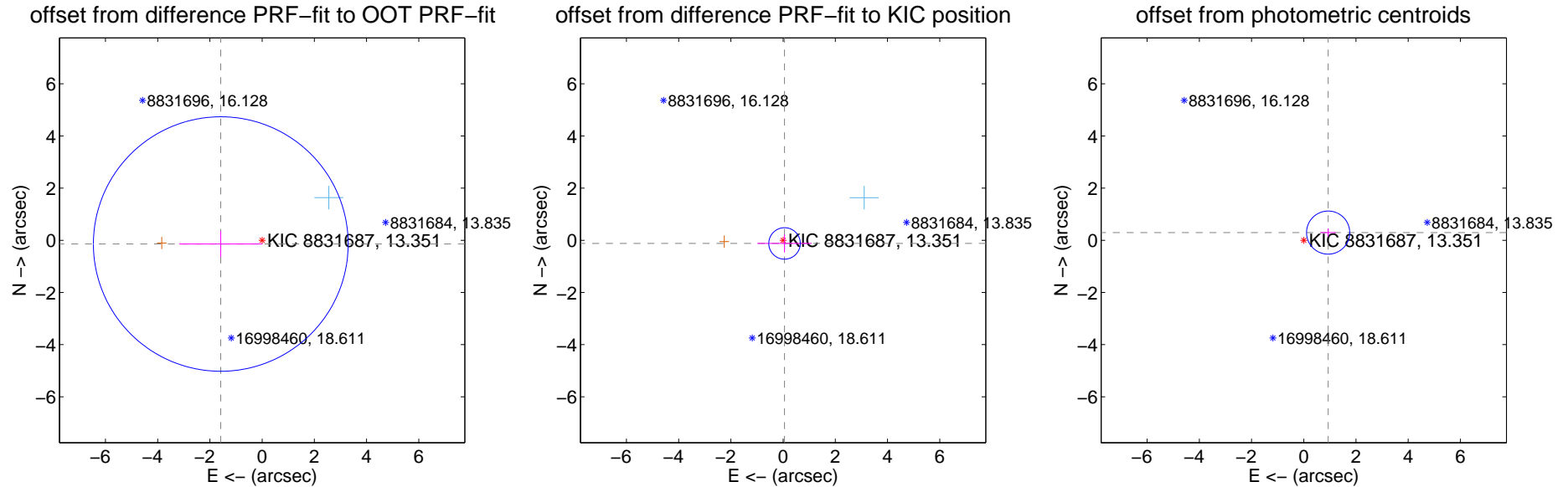
DV Centroid Data

Supplemental centroid analysis for 008831687-02. Kepler magnitude: 13.35. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.55 arcsec

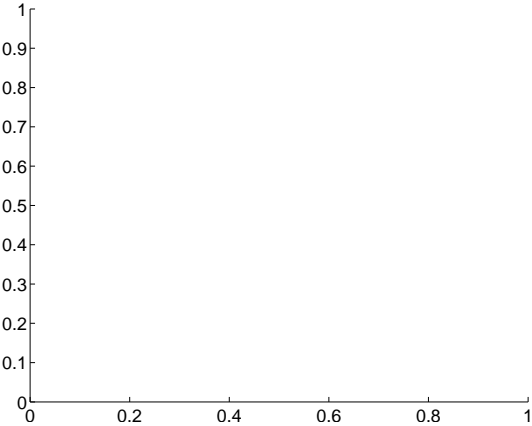
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.590 ± 1.626	0.98	1.583 ± 1.593	-0.143 ± 0.494
PRF-fit source offset from KIC position	0.132 ± 0.201	0.66	-0.055 ± 1.037	-0.120 ± 0.347
photometric centroid source offset	0.98 ± 0.28	3.55	-0.93 ± 0.28	0.30 ± 0.16



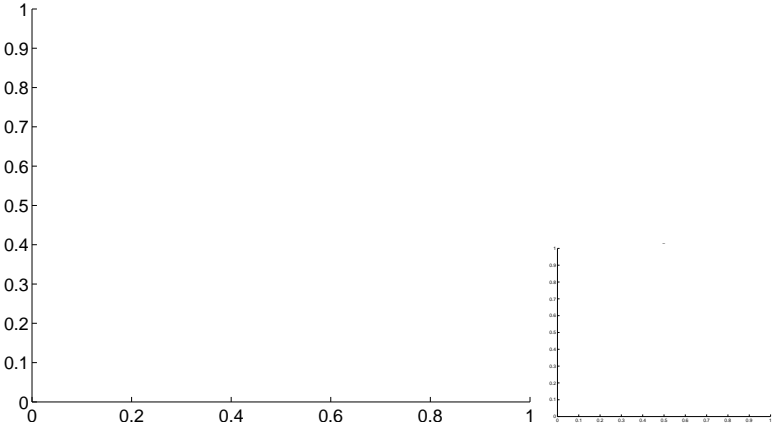
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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

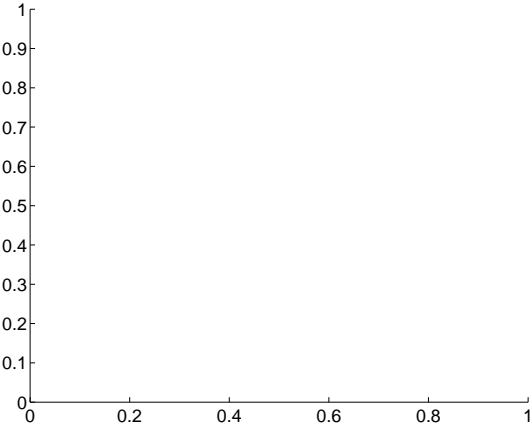
Q1 no difference image



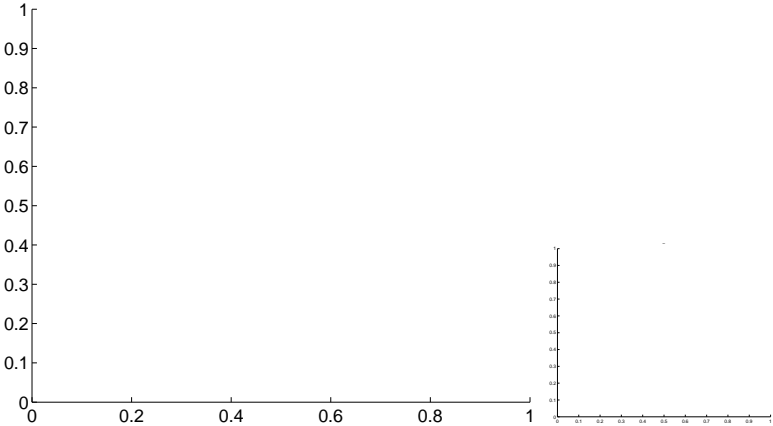
Q1 no OOT image



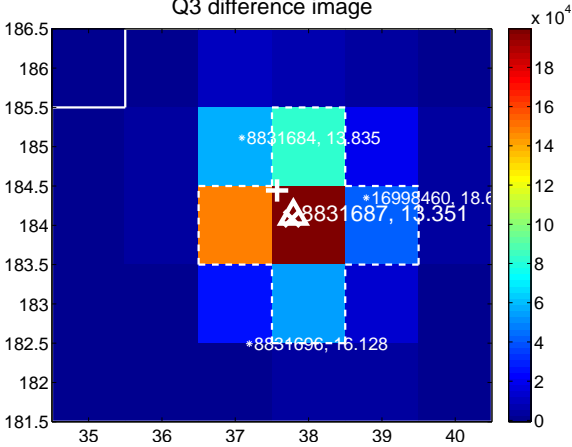
Q2 no difference image



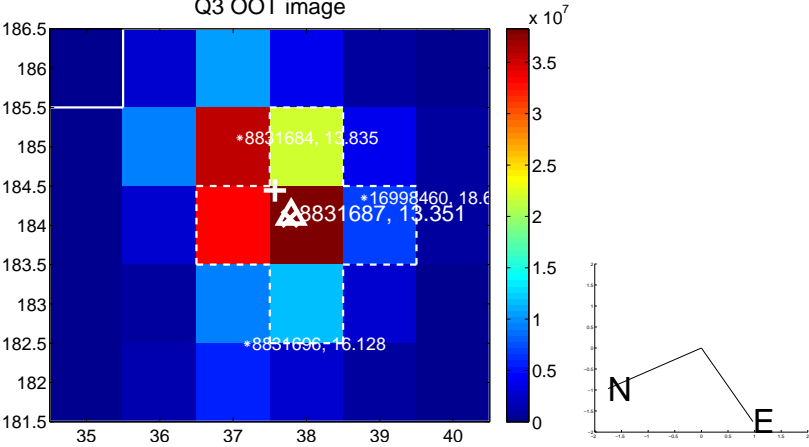
Q2 no OOT image



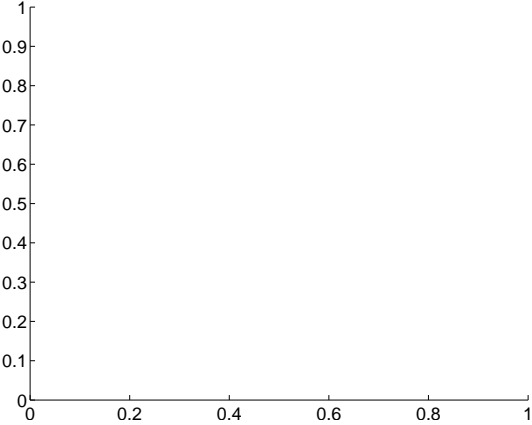
Q3 difference image



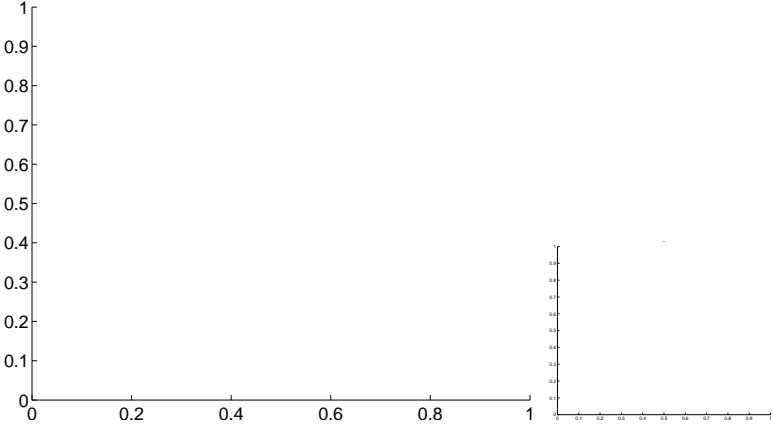
Q3 OOT image



Q4 no difference image



Q4 no OOT image



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

Q5 no difference image



Q5 no OOT image



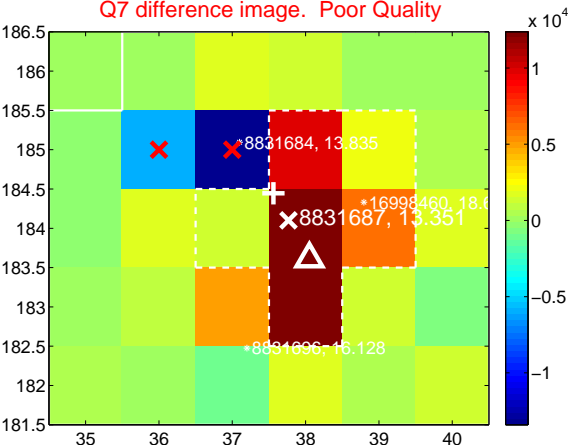
Q6 no difference image



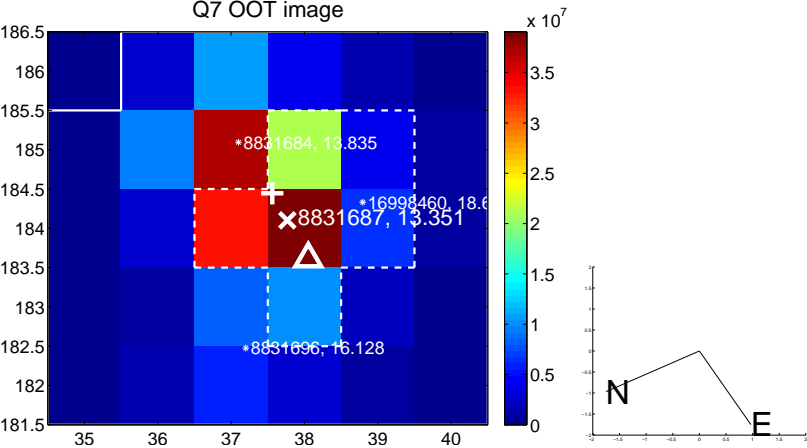
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



Q8 no difference image



Q8 no OOT image



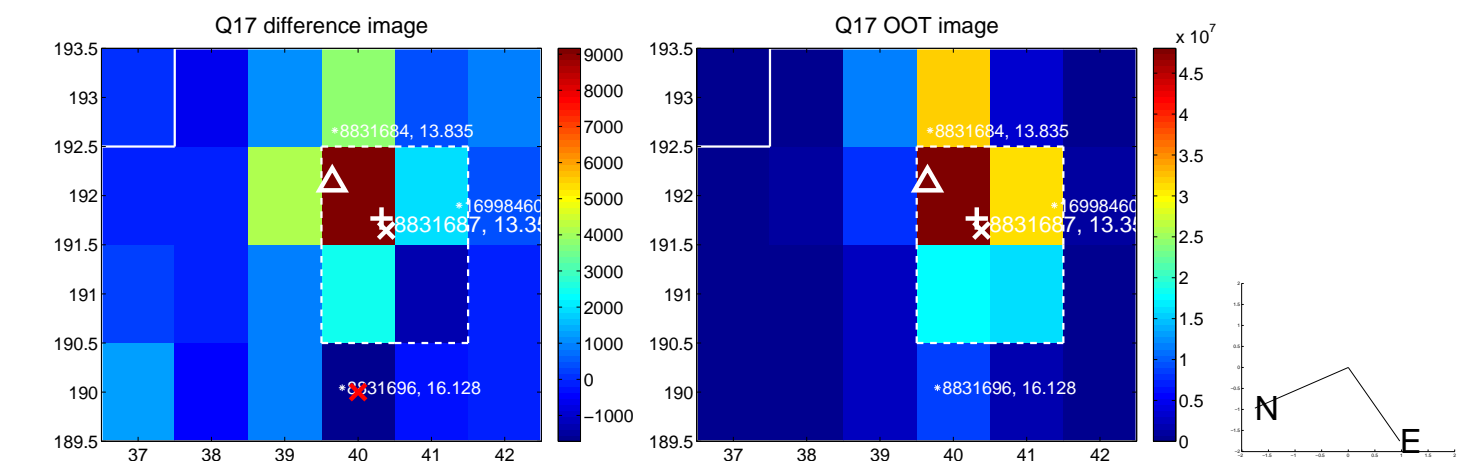
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



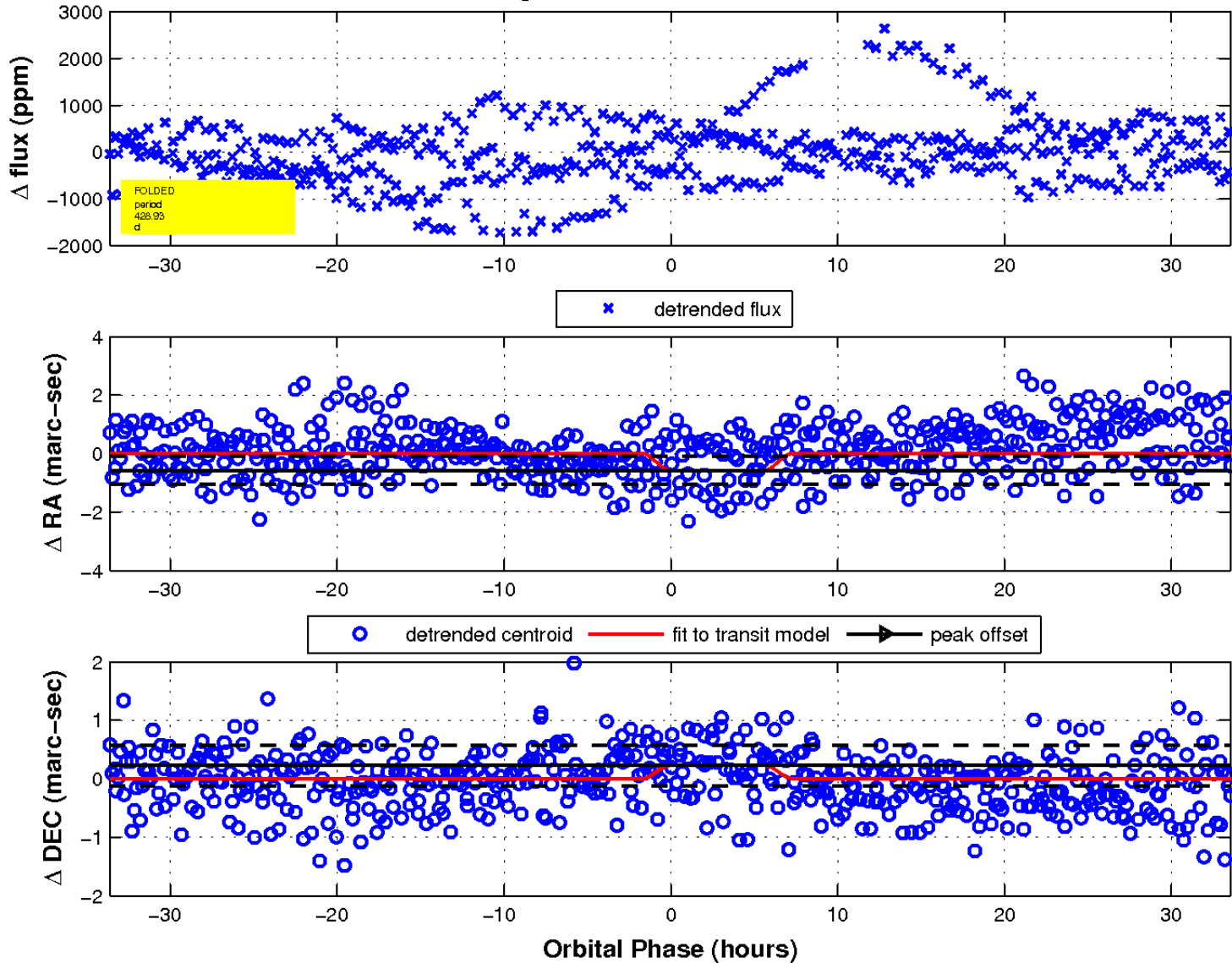
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

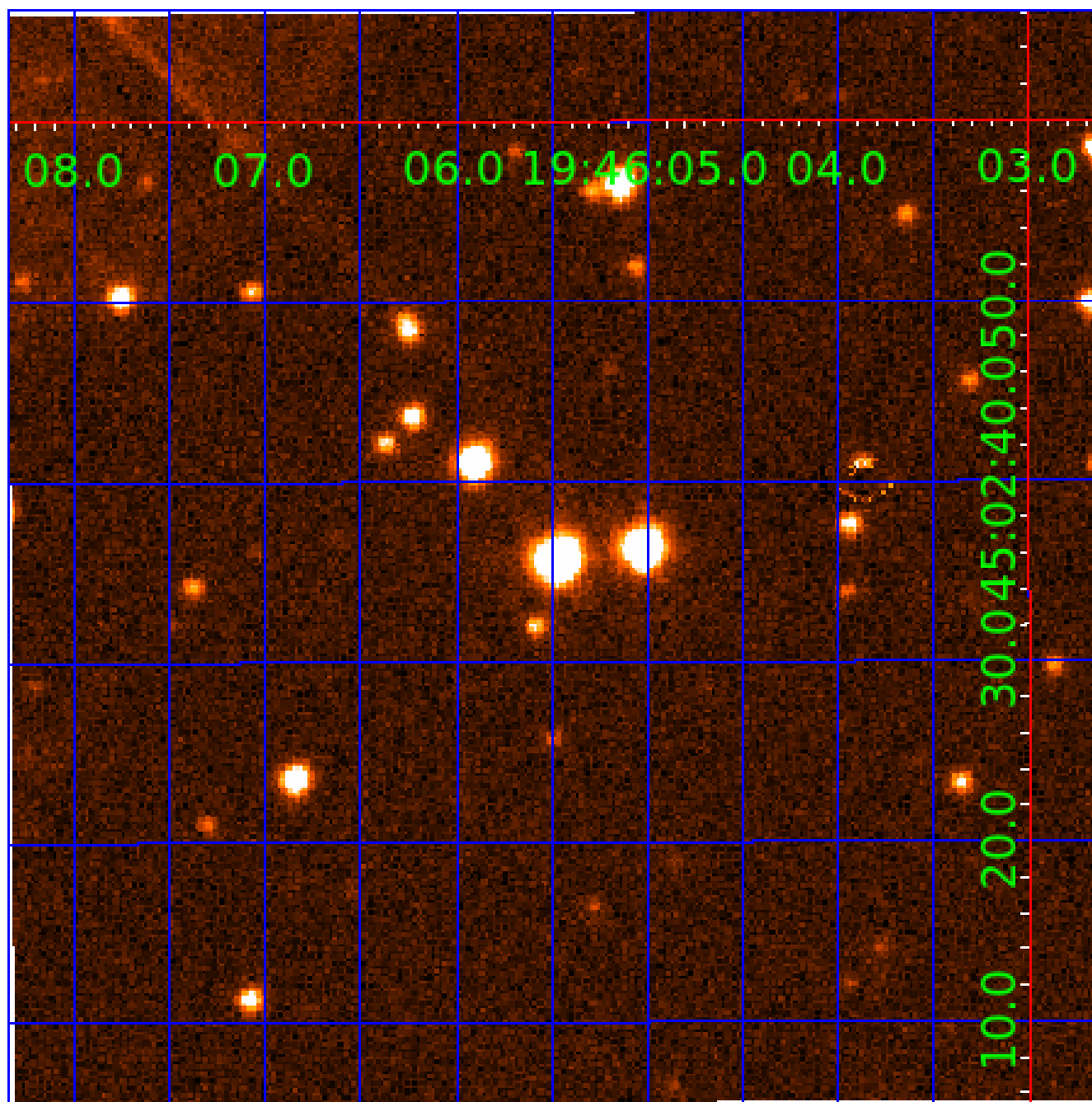


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 008831687

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})
008831687-01	OBS	No	2.409197	132.266923	63.8	10.226	7.9	8.6	1.10	6499	1.32	1443.78
008831687-02	OBS	No	428.934480	274.992047	323.7	12.000	10.6	-1.0	1.10	6499	2.00	1.44
008831687-03	OBS	No	269.149957	162.041117	159.9	7.885	9.6	1.5	1.10	6499	1.58	2.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008831687-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
008831687-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_NOFITS
008831687-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

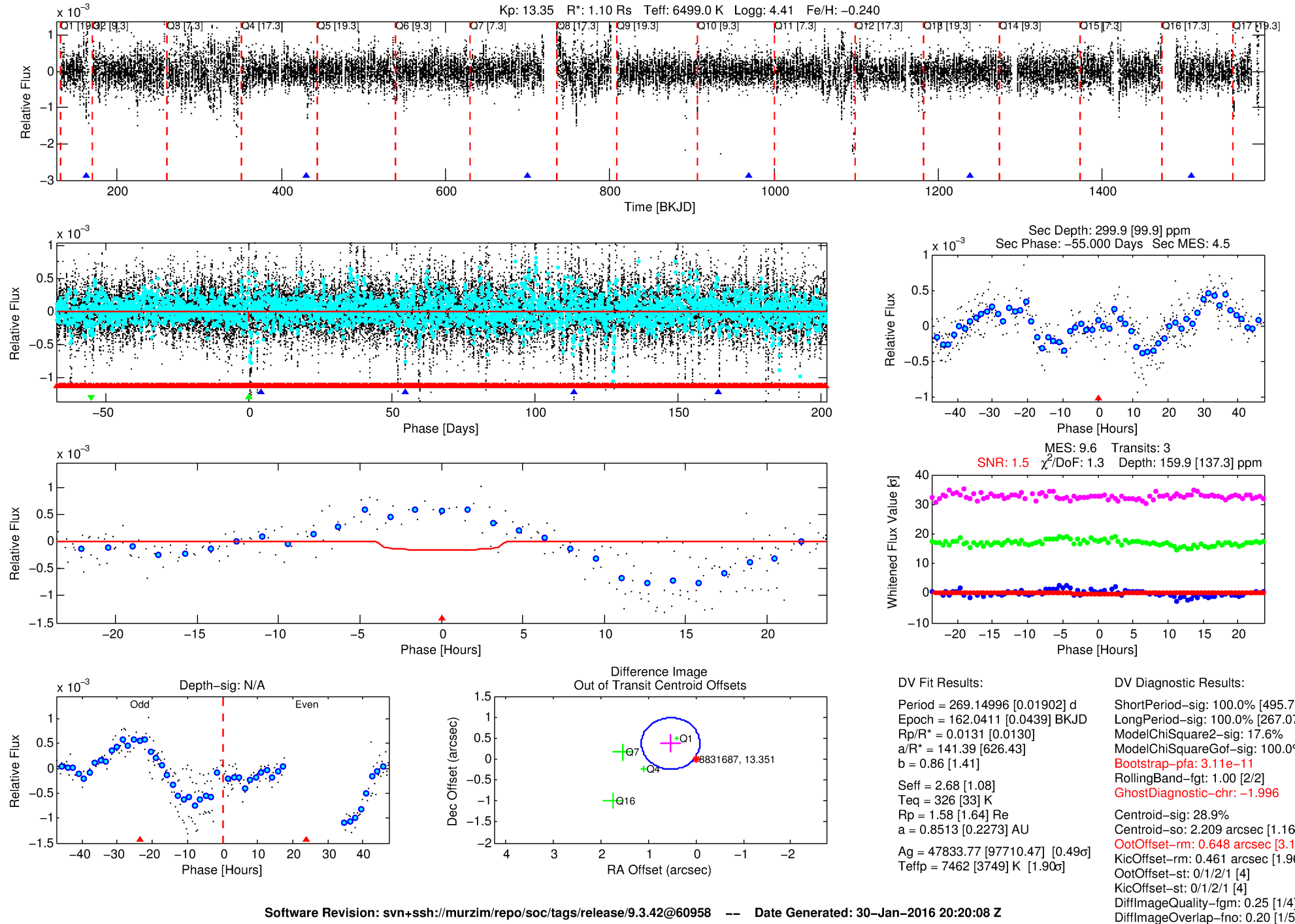
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008831687-03

No Significant Match Found

DV One-Page Summary

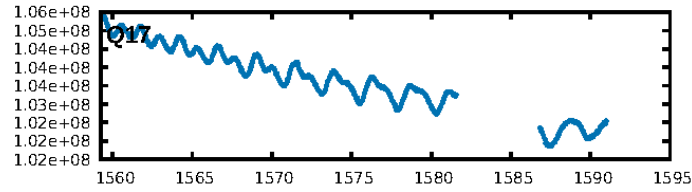
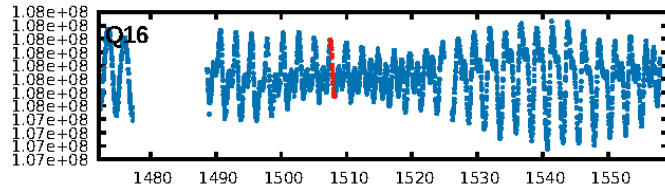
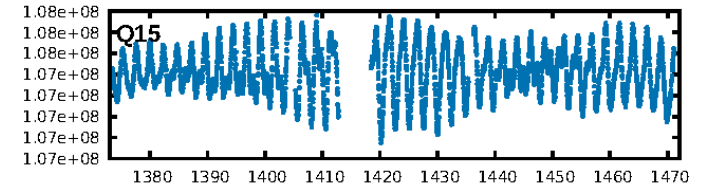
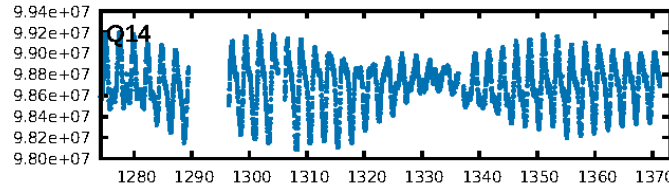
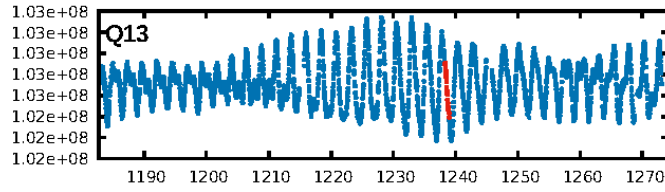
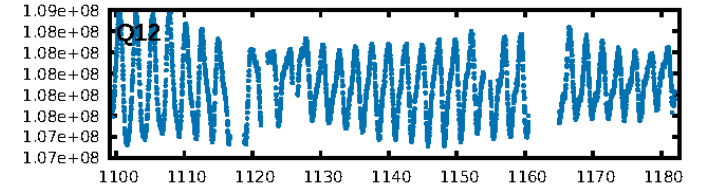
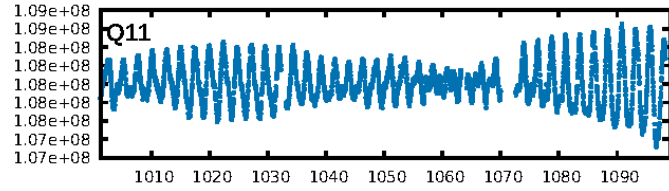
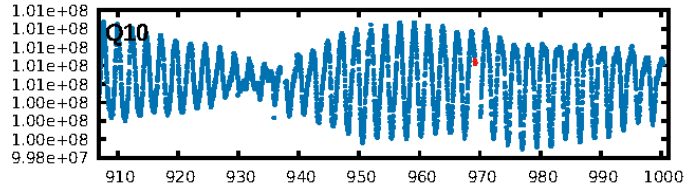
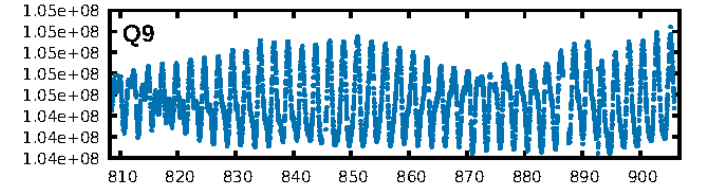
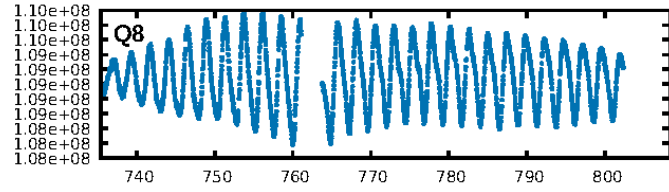
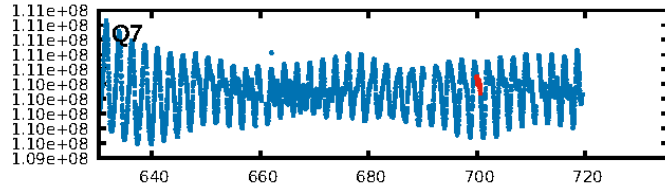
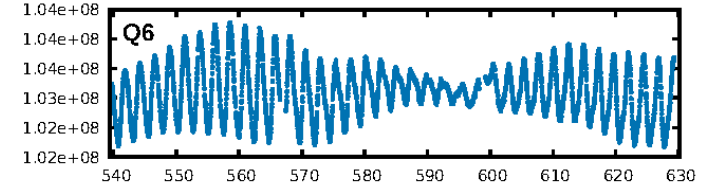
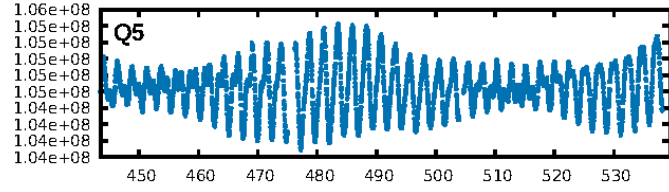
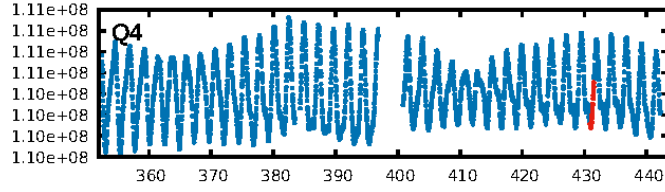
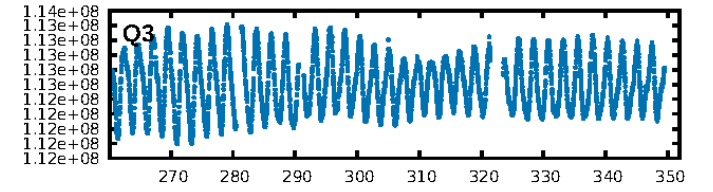
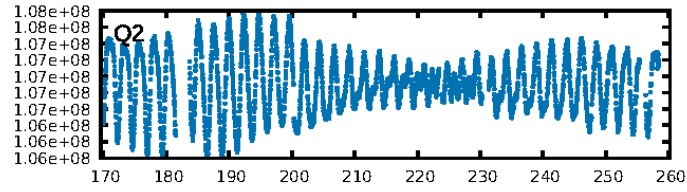
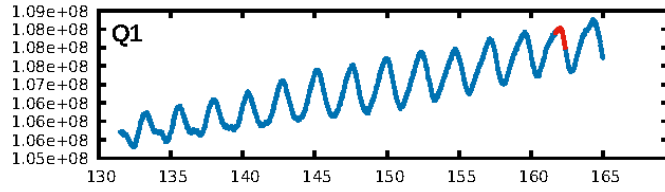
KIC: 8831687 Candidate: 3 of 3 Period: 269.150 d



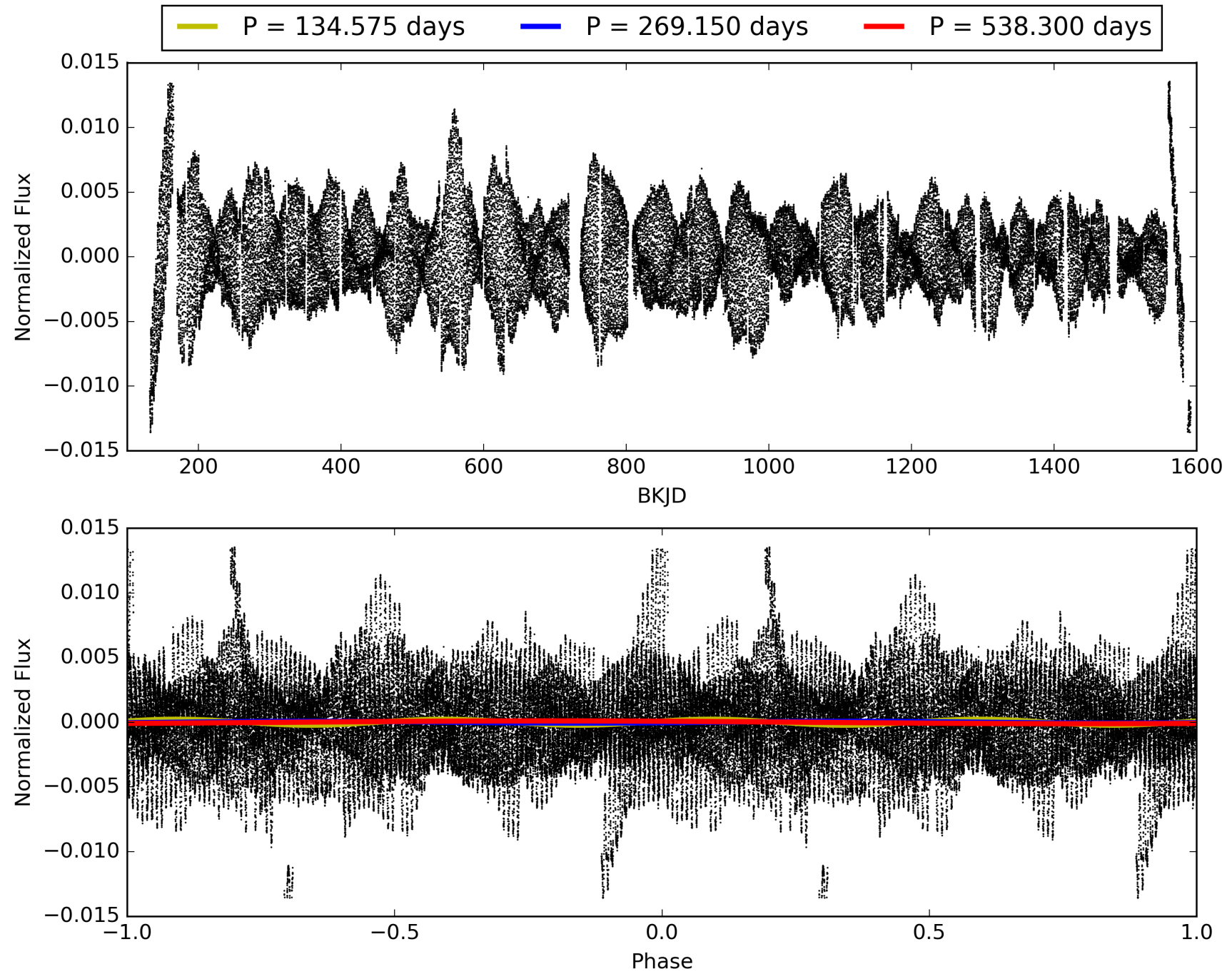
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:20:08 Z

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

TCE 008831687-03, PDC Light Curves

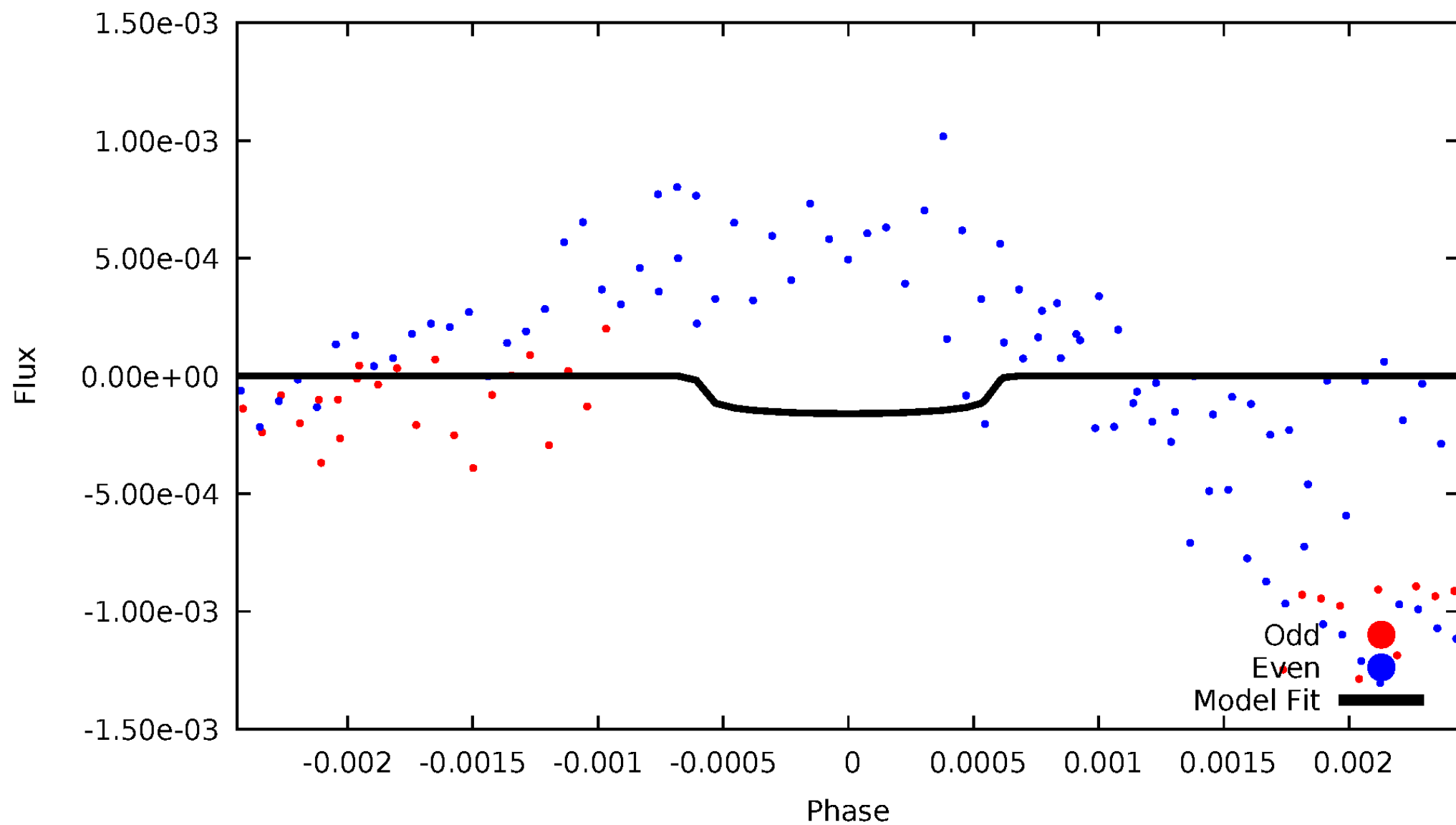


TCE 008831687-03



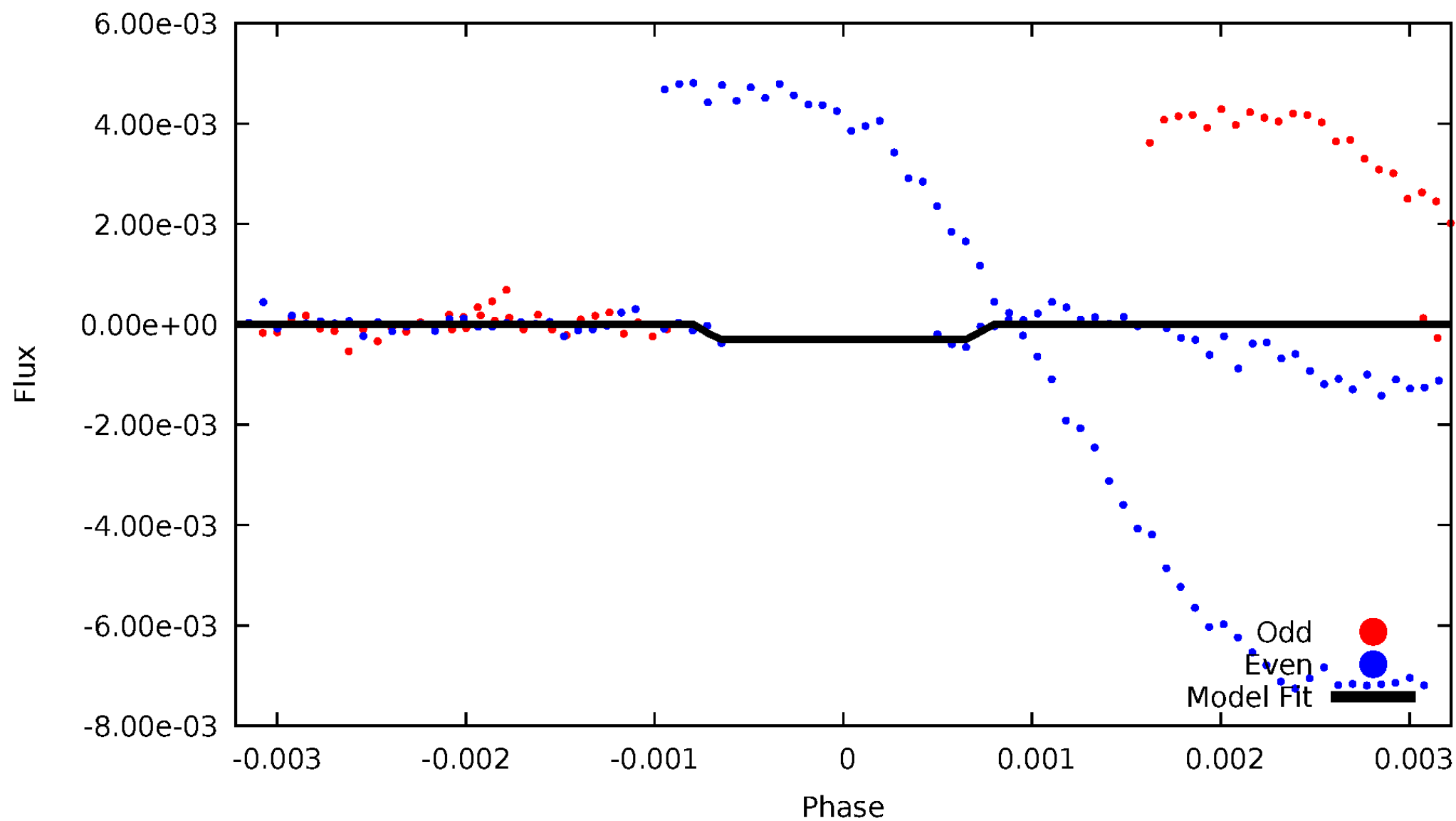
DV Odd/Even

TCE 008831687-03



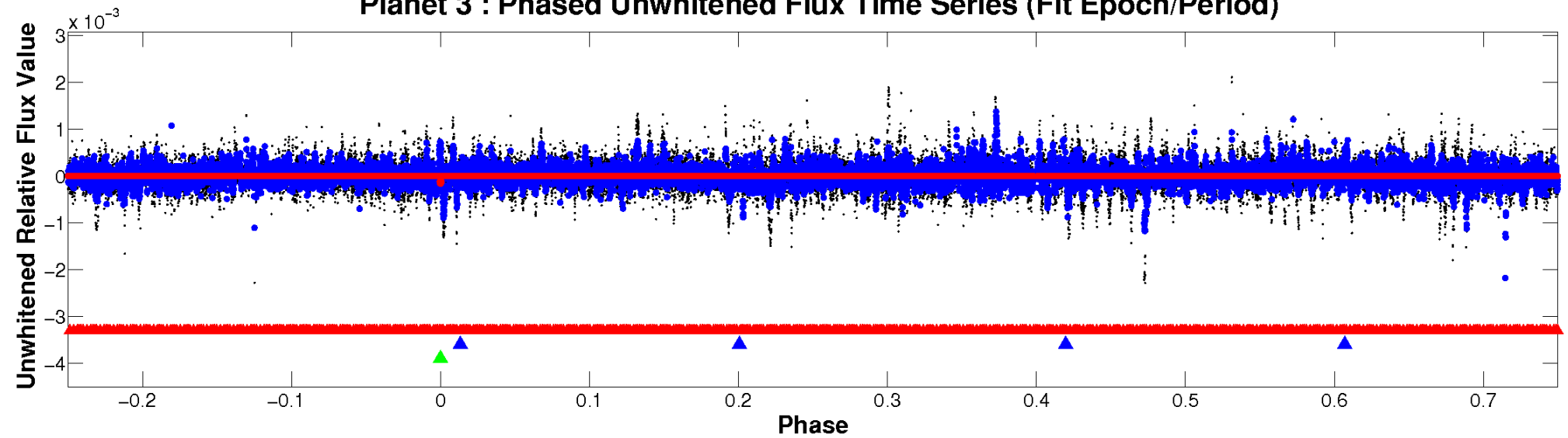
ALT Odd/Even

TCE 008831687-03

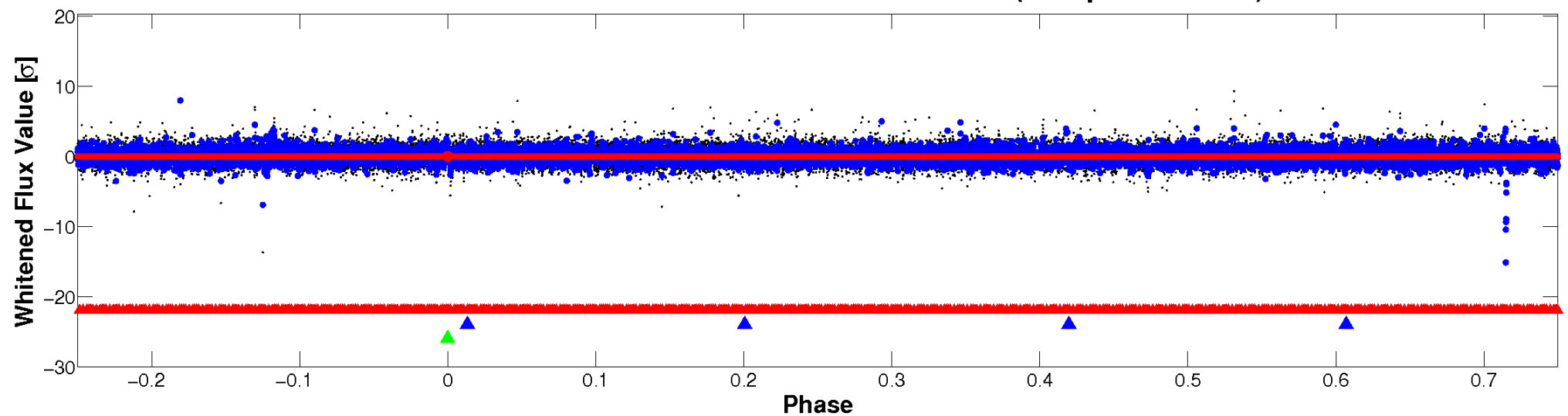


Non-Whitened Vs. Whitened Light Curve

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

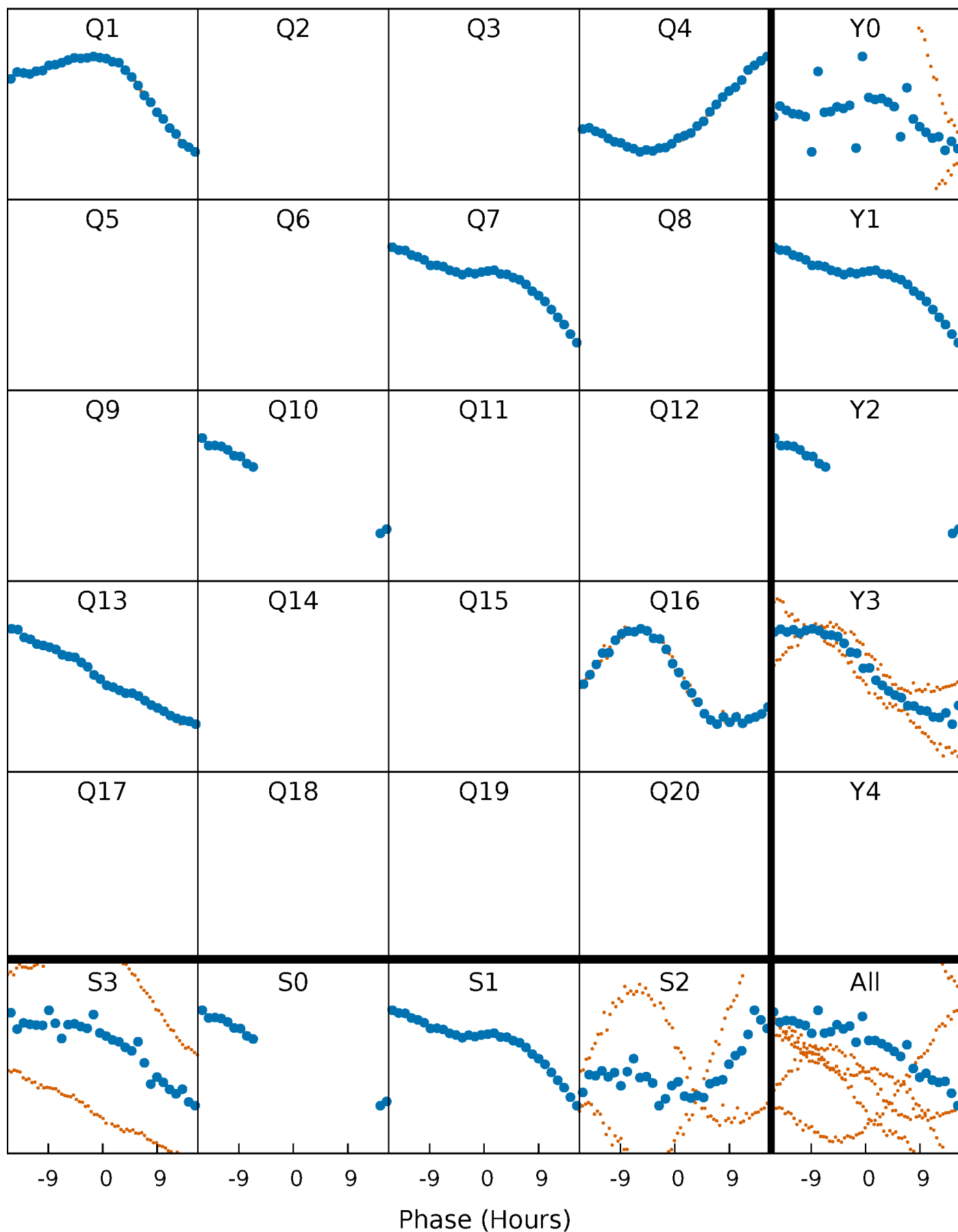


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



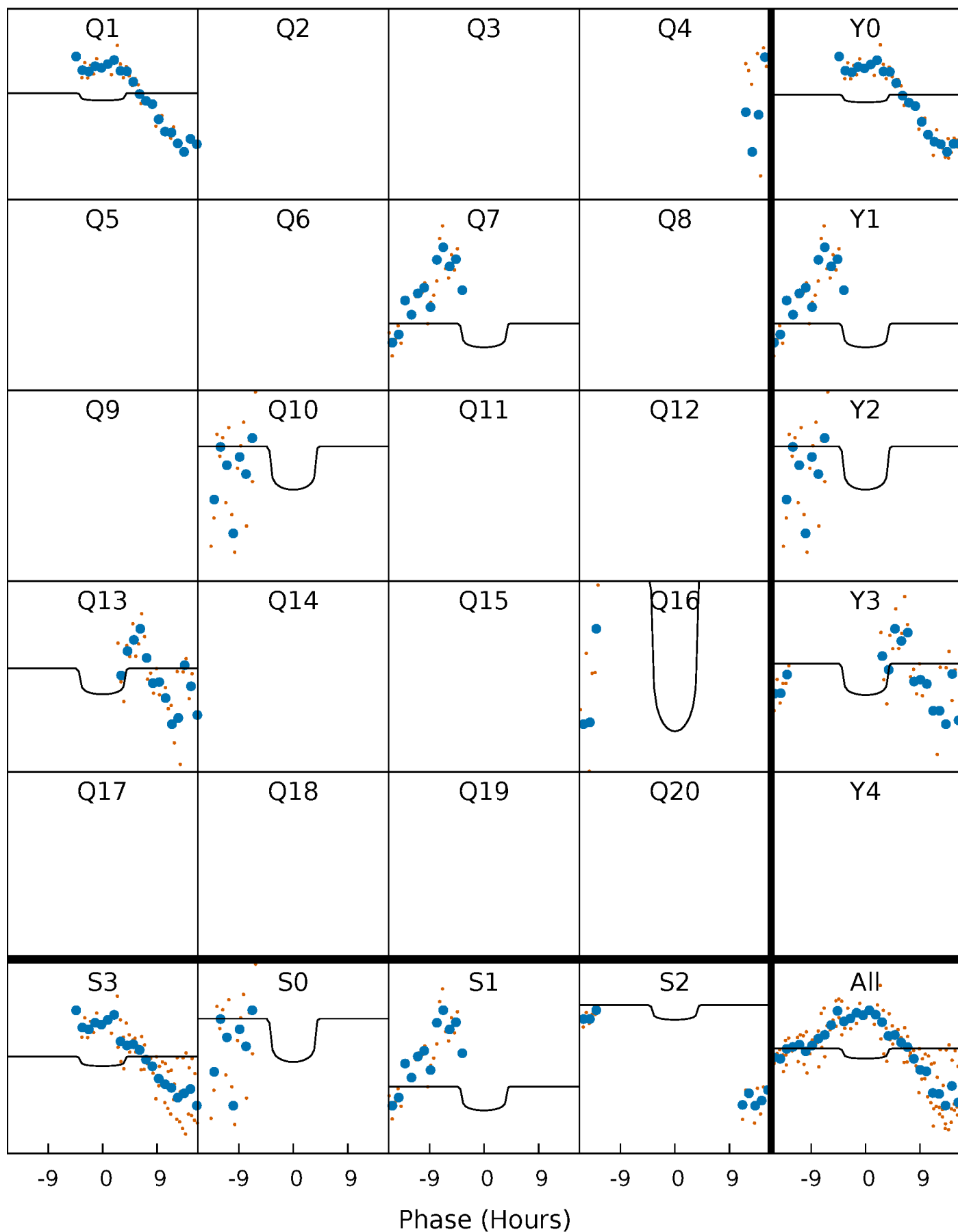
PDC Quarter-Phased Transit Curves

TCE 008831687-03 P=269.149957 Days $T_0=162.041117$ (BKJD)



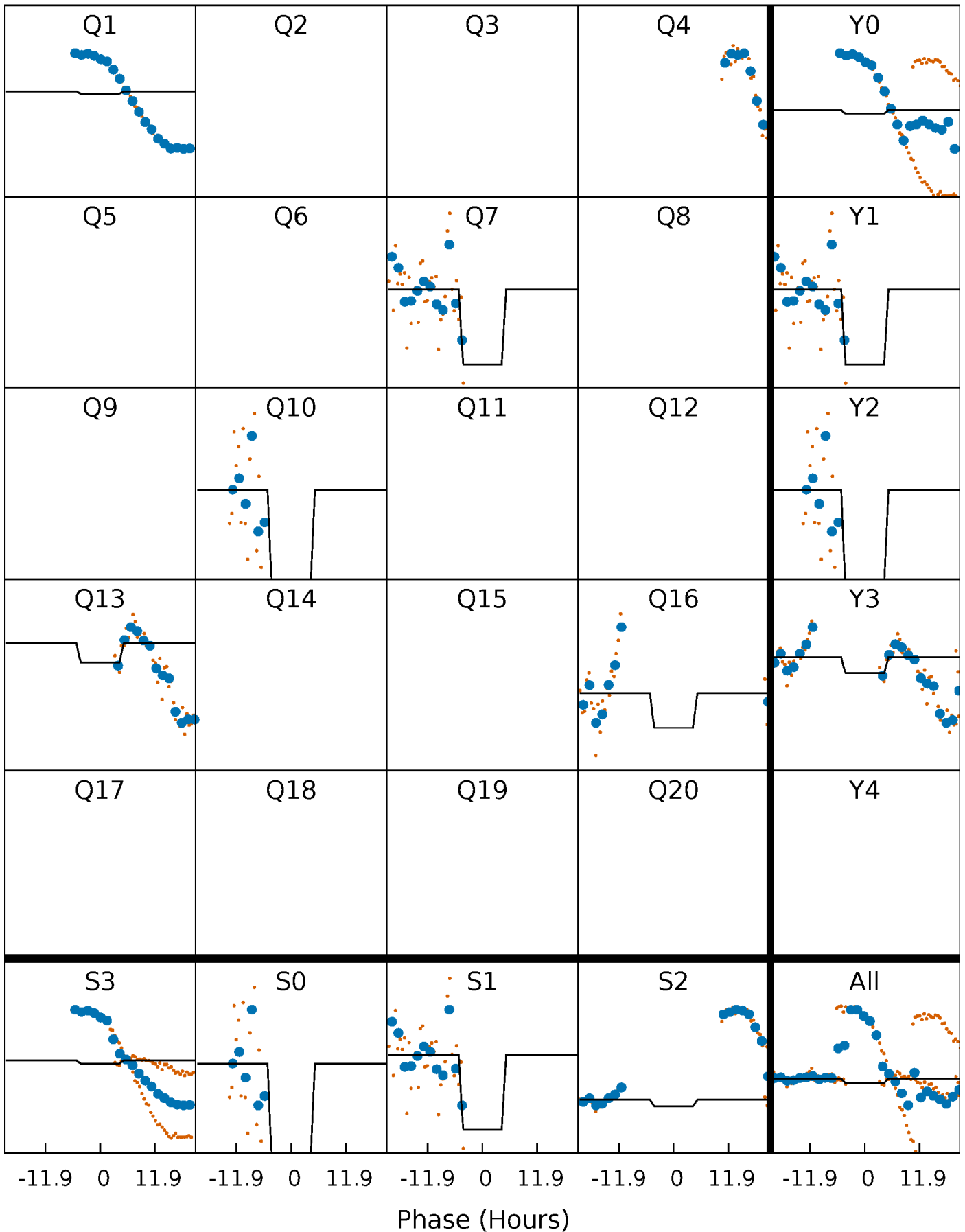
DV Quarter-Phased Transit Curves

TCE 008831687-03 $P=269.149957$ Days $T_0=162.041117$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

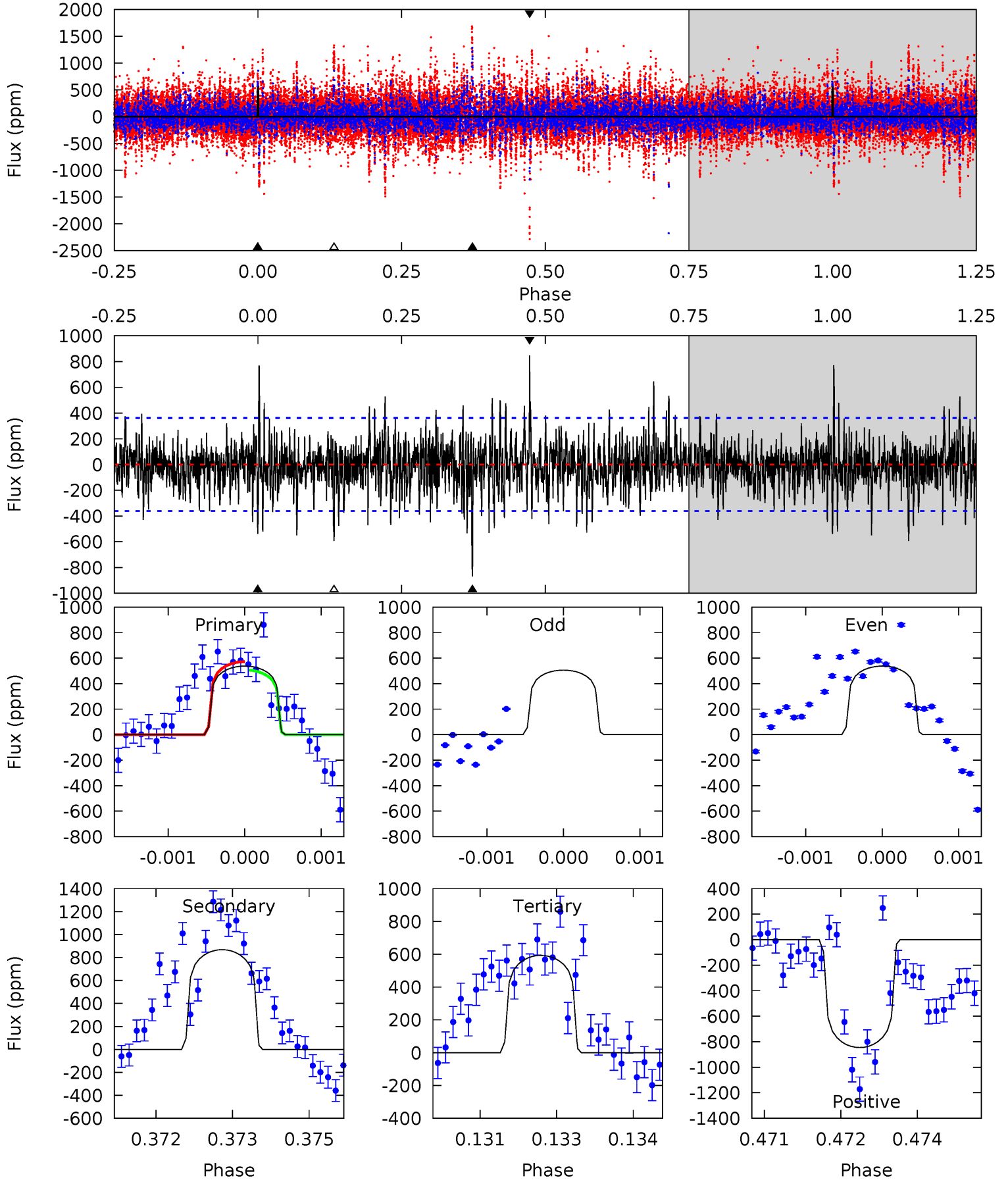
TCE 008831687-03 P=269.130419 Days $T_0=162.091147$ (BKJD)



DV Model-Shift Uniqueness Test

008831687-03, P = 269.149957 Days, E = 162.041117 Days

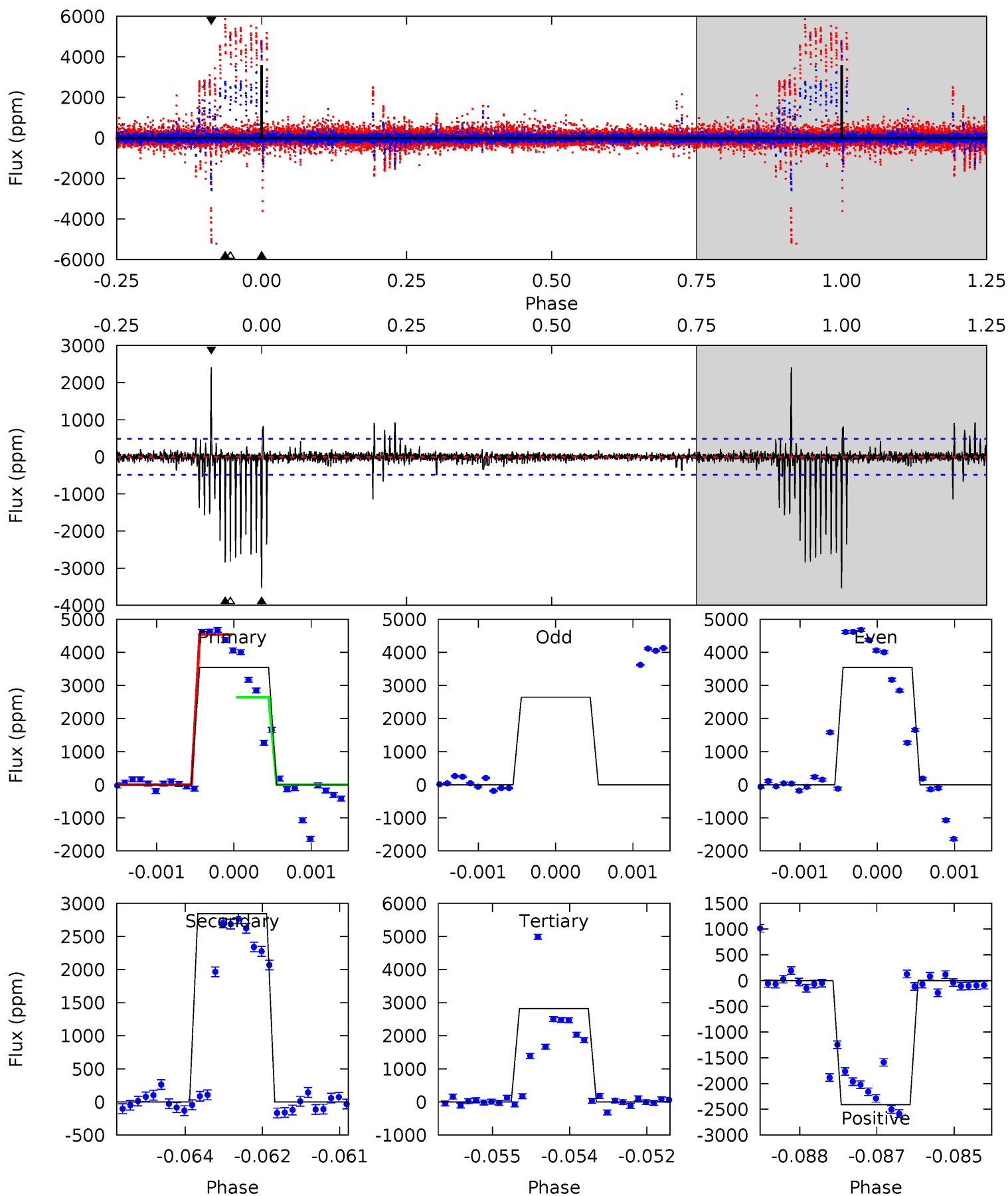
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.04	13.0	8.87	12.6	5.41	3.22	2.25	-0.83	-4.61	4.12	0.34	0.28	1.00	0.49	0.49



Alt Model-Shift Uniqueness Test

008831687-03, P = 269.130419 Days, E = 162.091147 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.4	31.6	31.3	26.8	5.39	3.18	2.43	8.07	12.6	0.26	4.80	4.05	-3.53	0.40	10.0



Stellar Parameters For KIC 008831687

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6499^{+156}_{-195}	$4.408^{+0.065}_{-0.208}$	$-0.240^{+0.250}_{-0.300}$	$1.103^{+0.354}_{-0.118}$	$1.135^{+0.158}_{-0.144}$	$1.192^{+0.328}_{-0.613}$
	+2%/-3%	+1%/-5%	+104%/-125%	+32%/-11%	+14%/-13%	+28%/-51%
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 008831687-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-868 ± 67	$1.99^{+1.44}_{-1.24}$	462^{+35}_{-20}	9403^{+13455}_{-2572}	$84338^{+478190}_{-55096}$
Alt.	-2842 ± 90	$2.30^{+1.52}_{-1.28}$	463^{+34}_{-22}	13496^{+19748}_{-4392}	$212938^{+871409}_{-134336}$

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

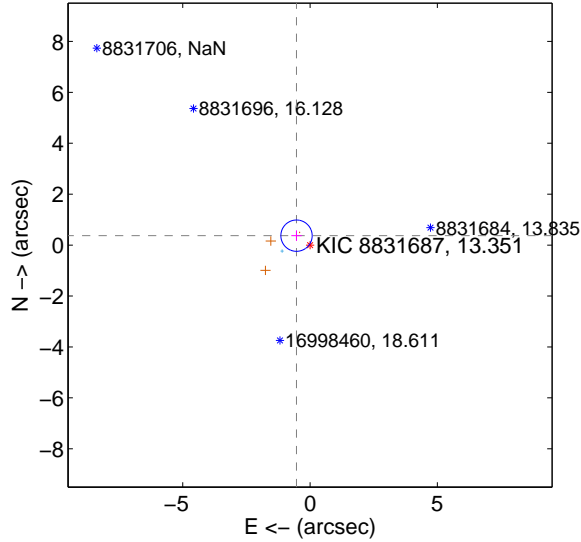
Supplemental centroid analysis for 008831687-03. Kepler magnitude: 13.35. Transit SNR 1.49

There are 1 quarters with good PRF difference image offsets

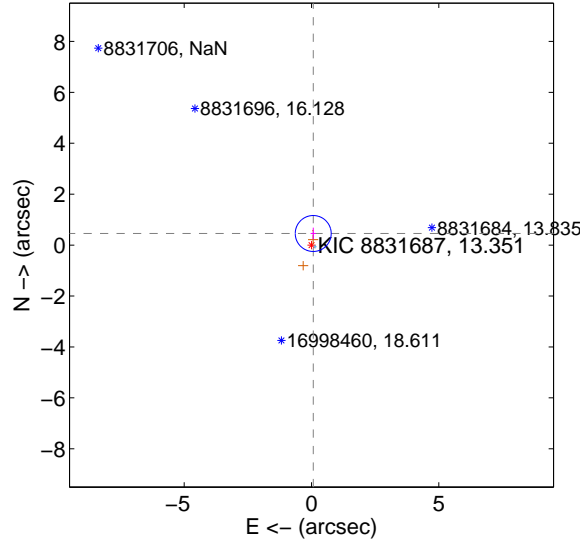
The direct PRF centroid is offset from the target star catalog position by about 1.43 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.648 ± 0.205	3.16	0.531 ± 0.204	0.371 ± 0.207
PRF-fit source offset from KIC position	0.461 ± 0.235	1.96	-0.068 ± 0.102	0.456 ± 0.228
photometric centroid source offset	2.21 ± 1.90	1.16	-1.48 ± 2.38	1.64 ± 1.41

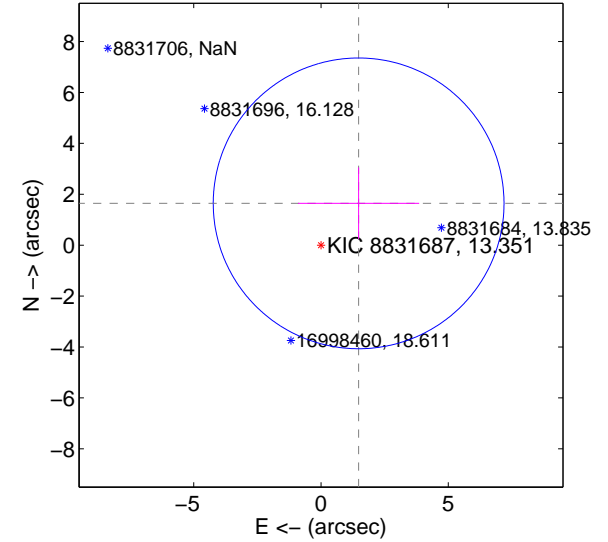
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

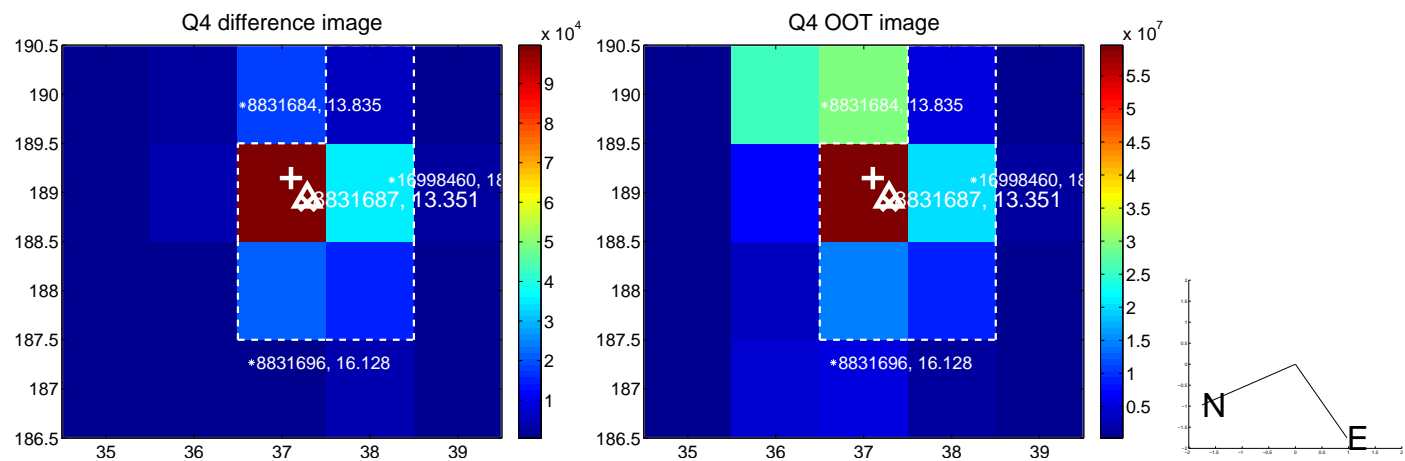
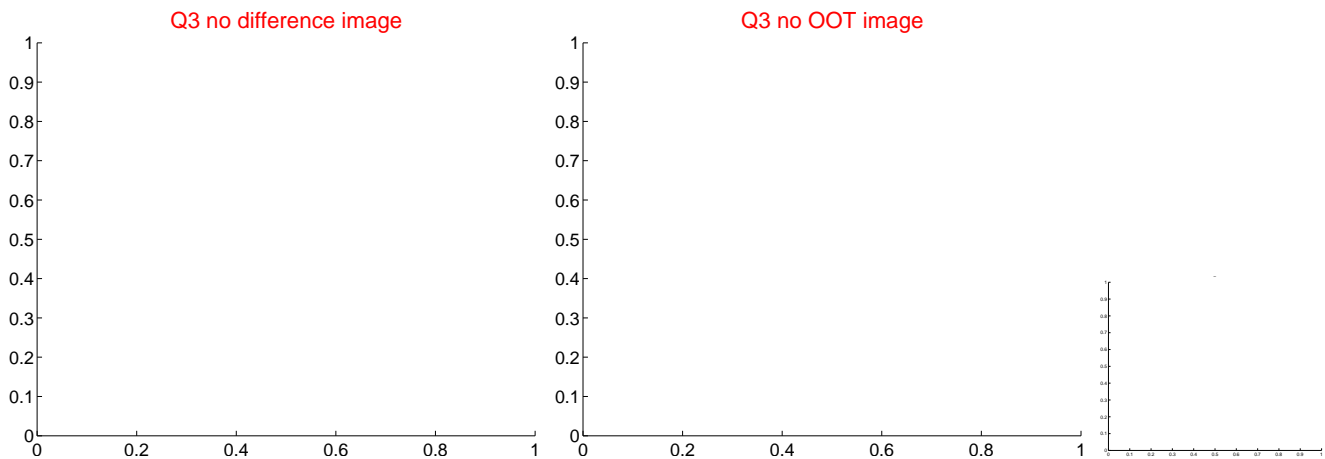
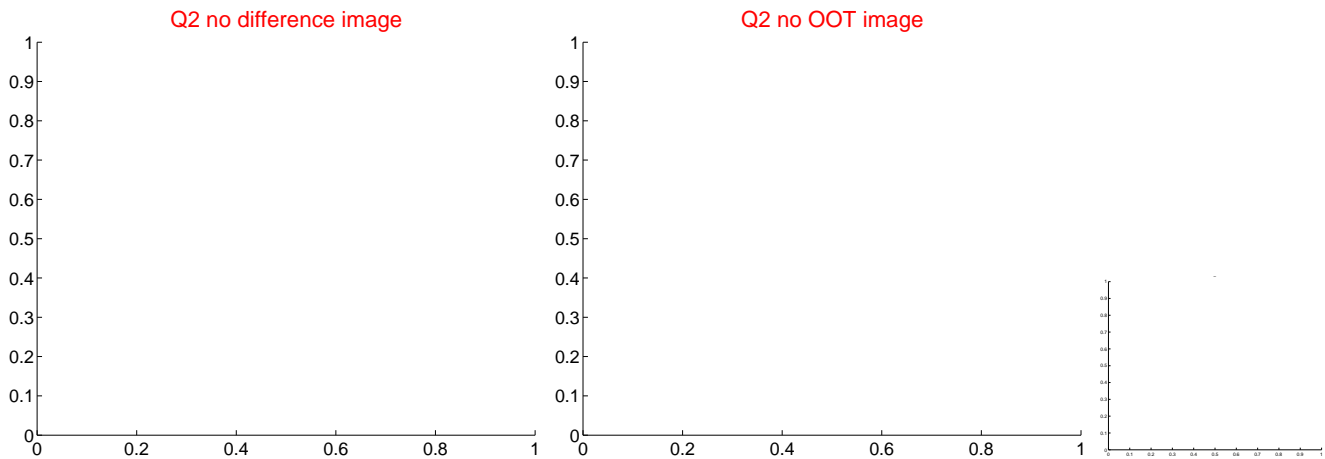
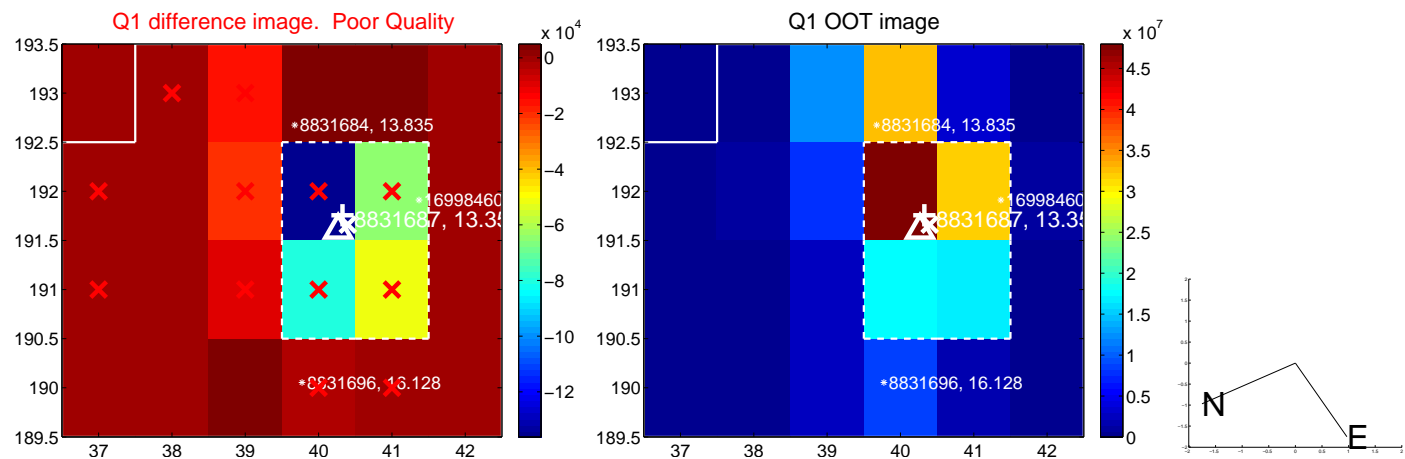


offset from photometric centroids

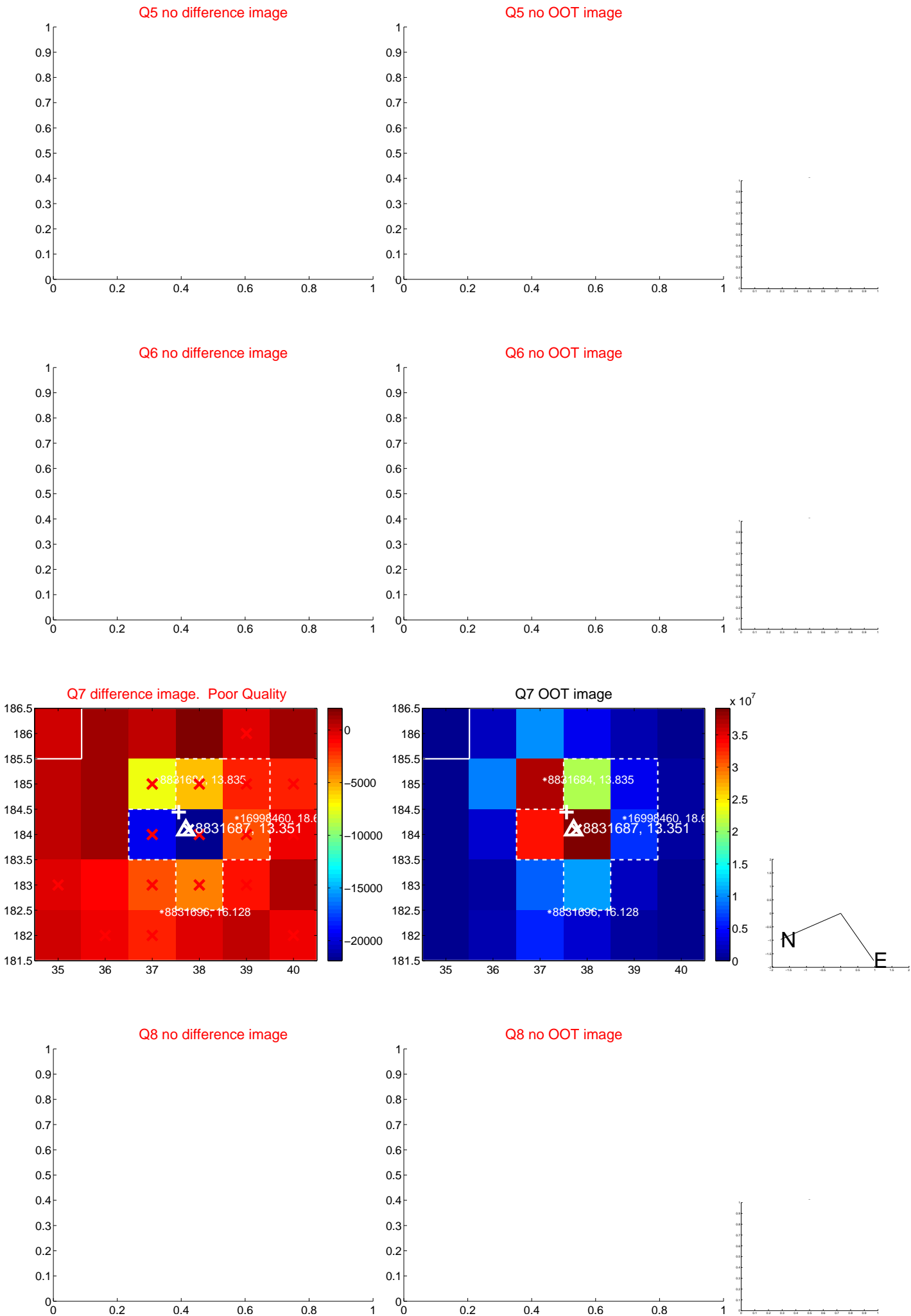


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



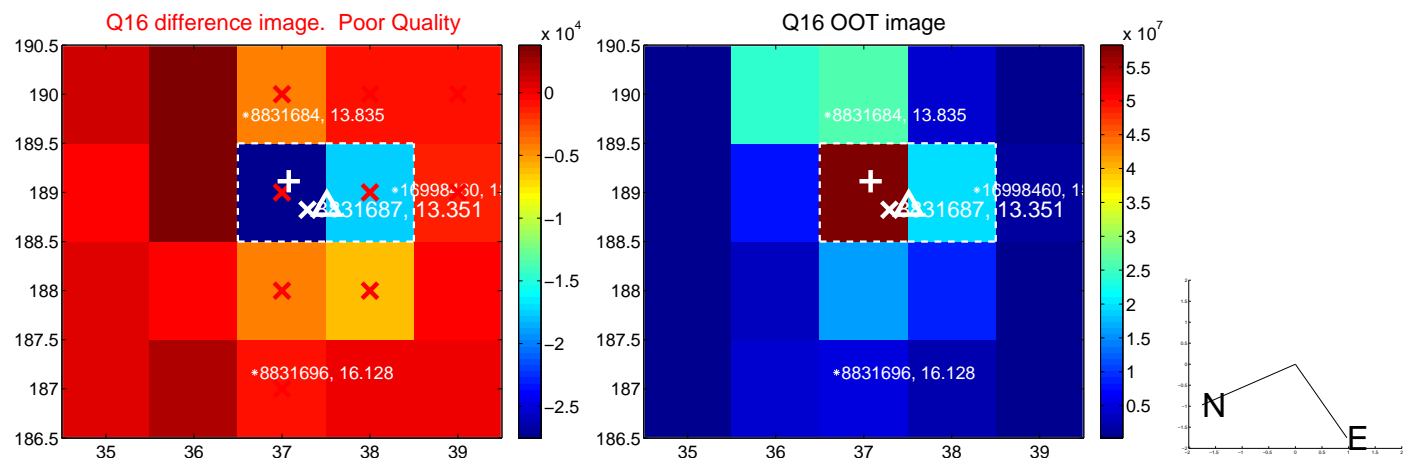
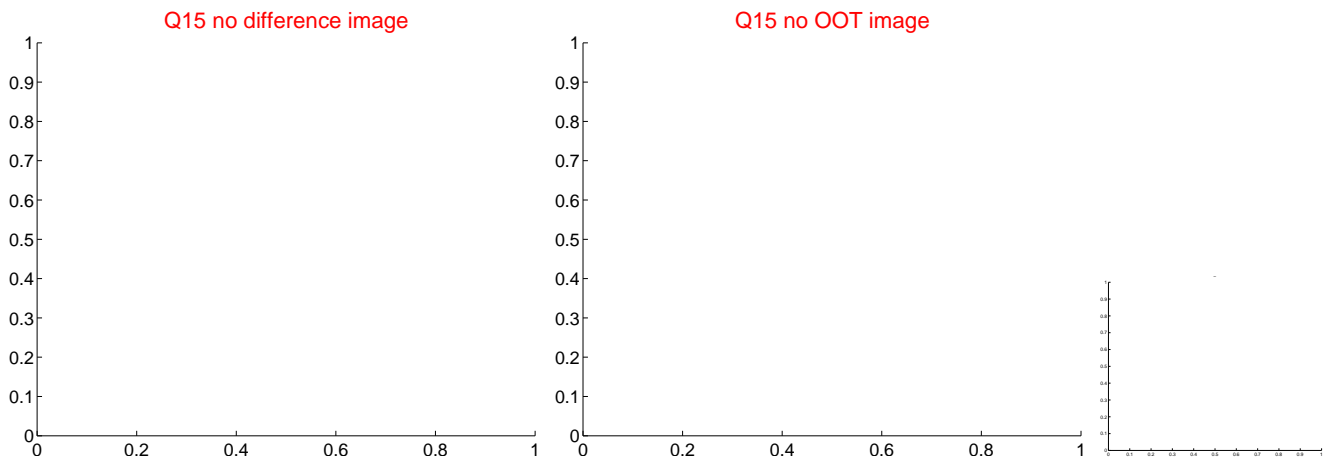
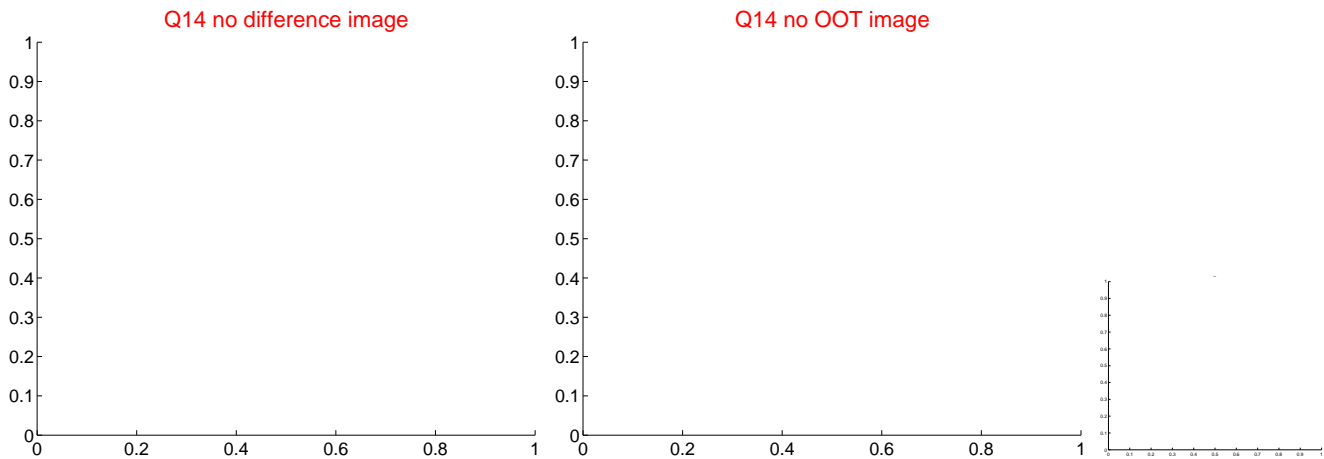
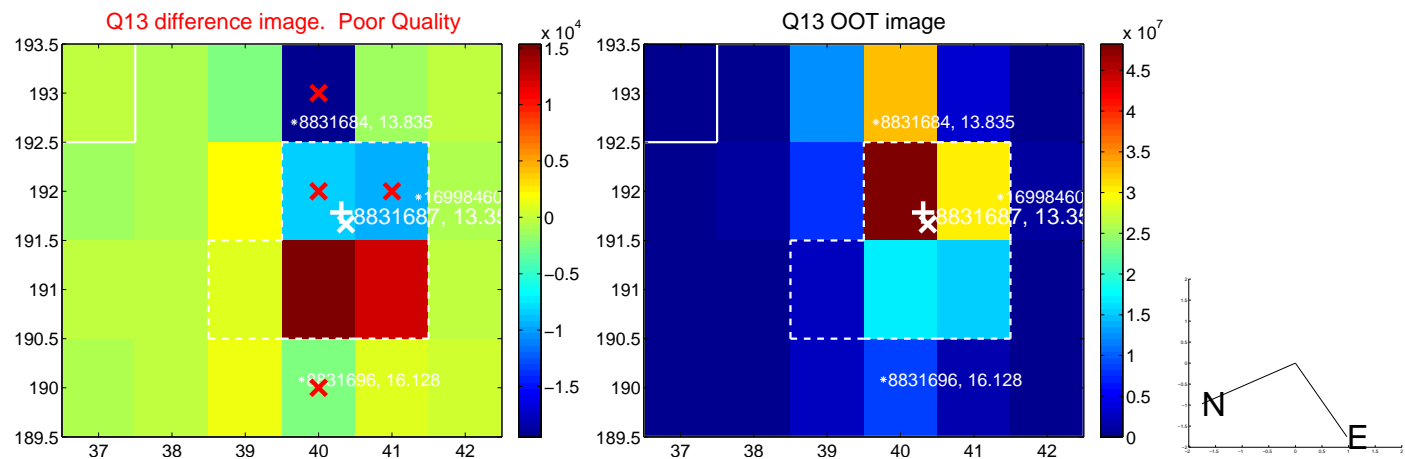
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



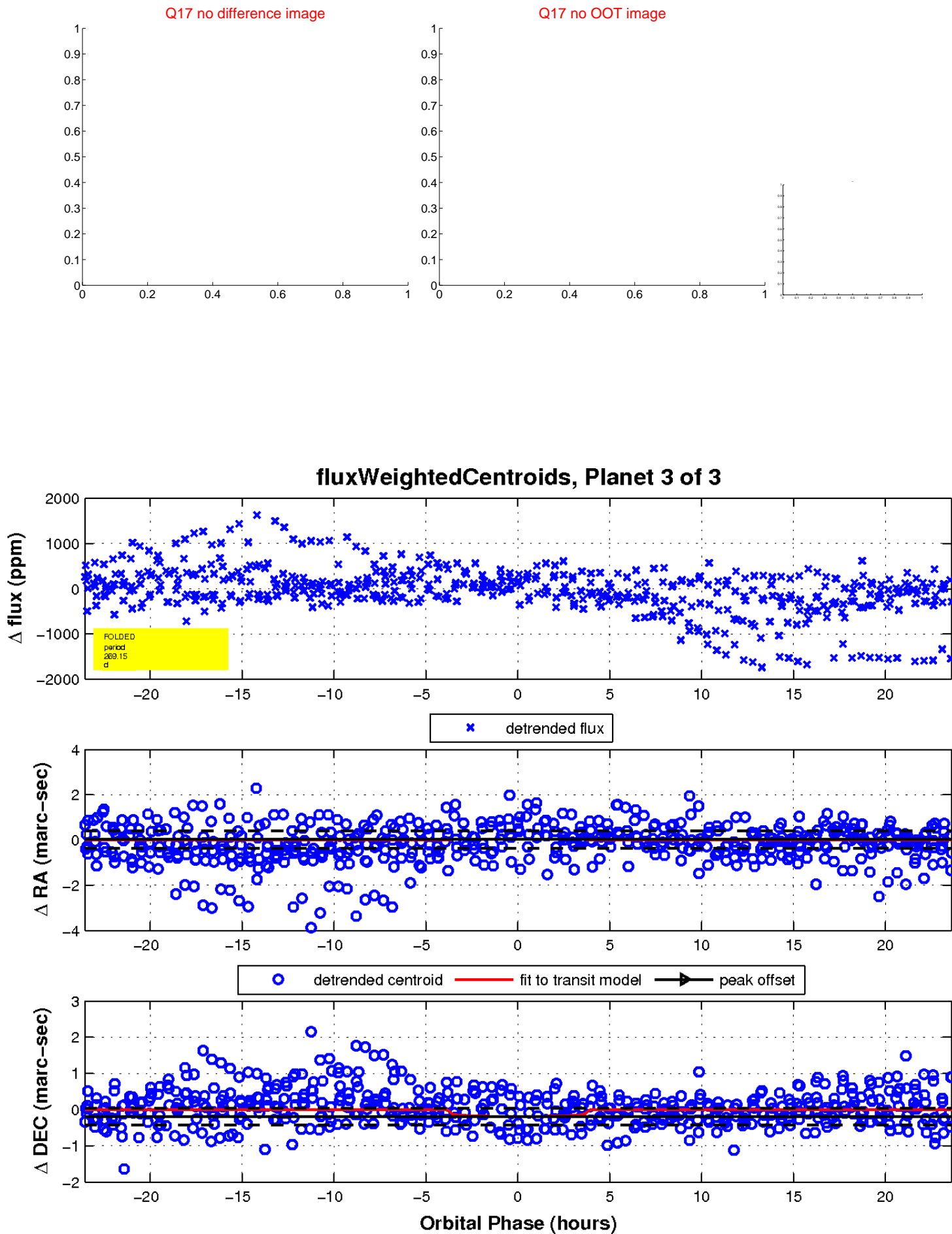
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

