

KIC 010087801

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})
010087801-01	OBS	No	0.833641	132.310622	0.0	5.082	8.3	0.0	1.77	7734	0.00	23578.07
010087801-02	OBS	No	26.499271	143.293686	103.6	2.614	9.2	8.9	1.77	7734	2.31	234.15
010087801-03	OBS	No	48.292326	142.533212	149.7	2.984	8.5	8.1	1.77	7734	2.44	105.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010087801-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_NOFITS
010087801-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010087801-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

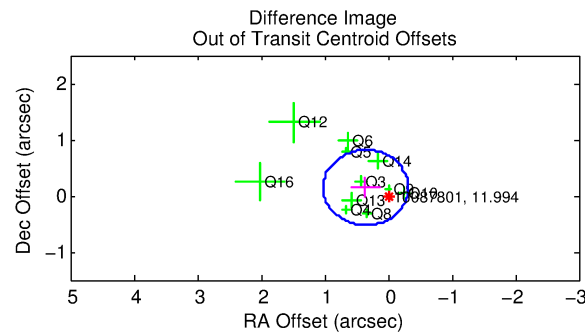
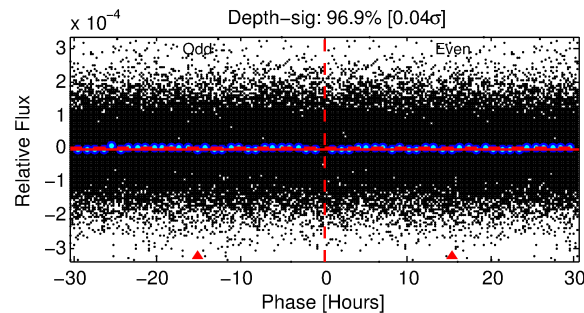
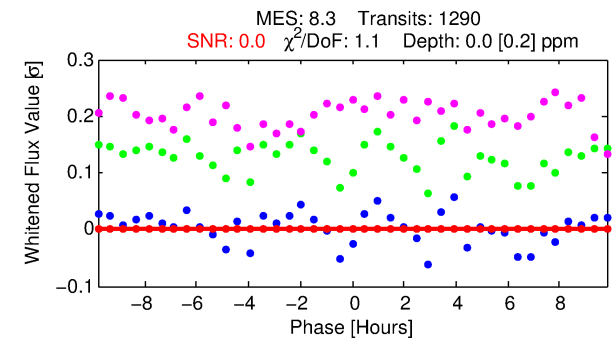
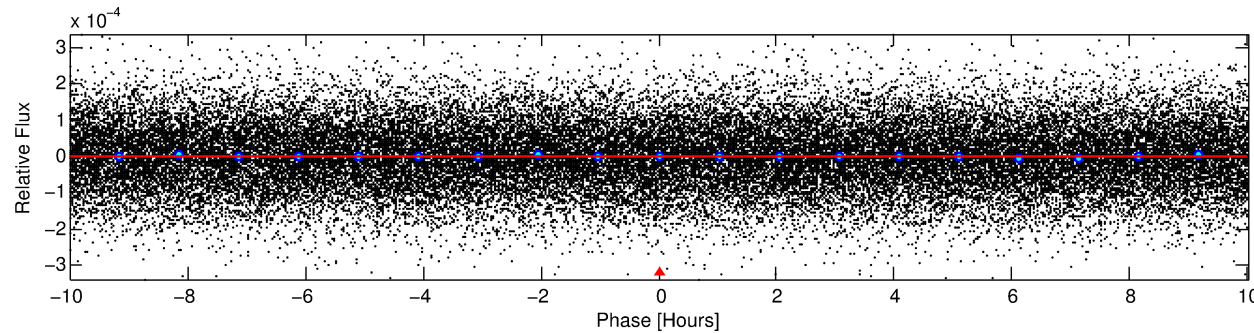
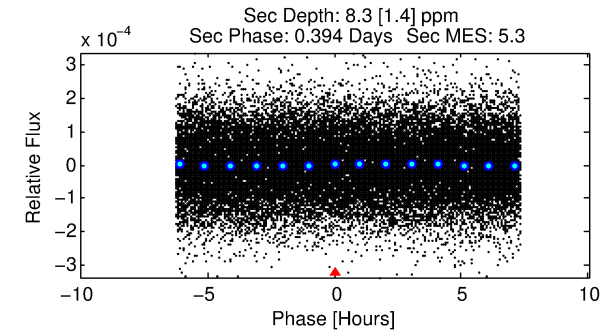
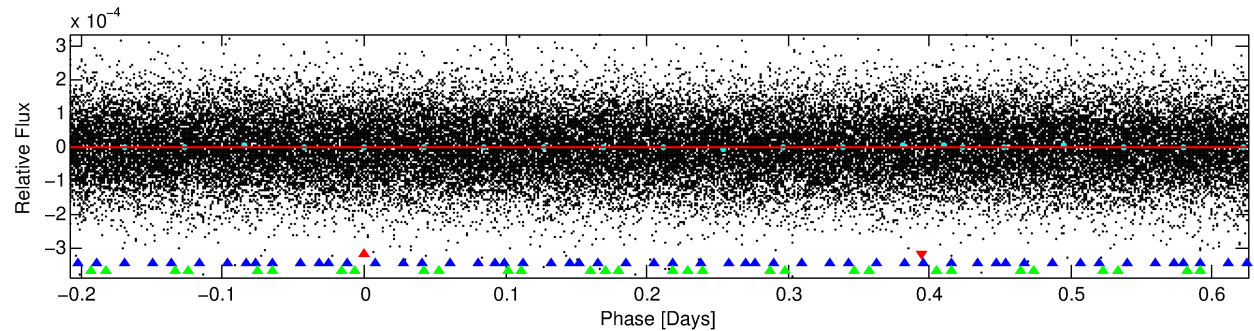
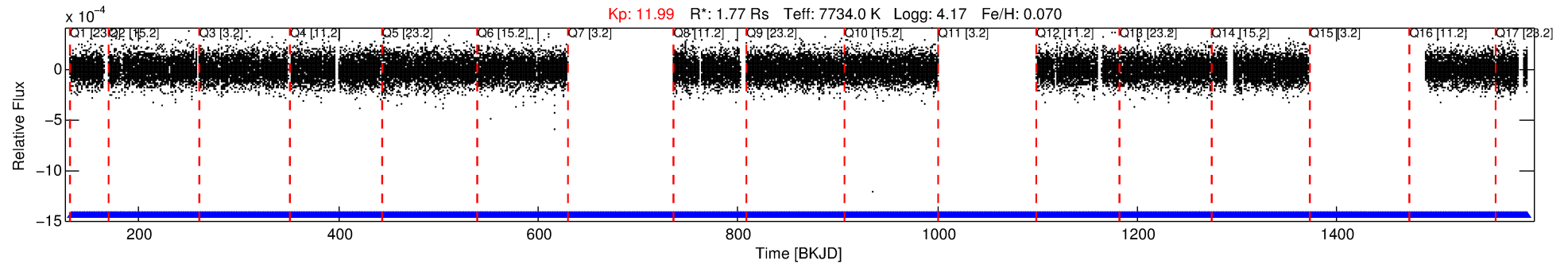
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010087801-01

No Significant Match Found

DV One-Page Summary

KIC: 10087801 Candidate: 1 of 3 Period: 0.834 d



DV Fit Results:

Period = 0.83364 [0.00355] d
Epoch = 132.3106 [0.8327] BKJD
Rp/R* = 0.0000 [0.0051]
a/R* = 1.37 [10.00]
b = 0.27 [5.29]
Seff = 23578.07 [8933.82]
Teq = 3160 [299] K
Rp = 0.00 [0.99] Re
a = 0.0207 [0.0050] AU
Ag = 114317.17 [55111537.25] [0.00σ]
Teffp = 89830 [10826697] K [0.01σ]

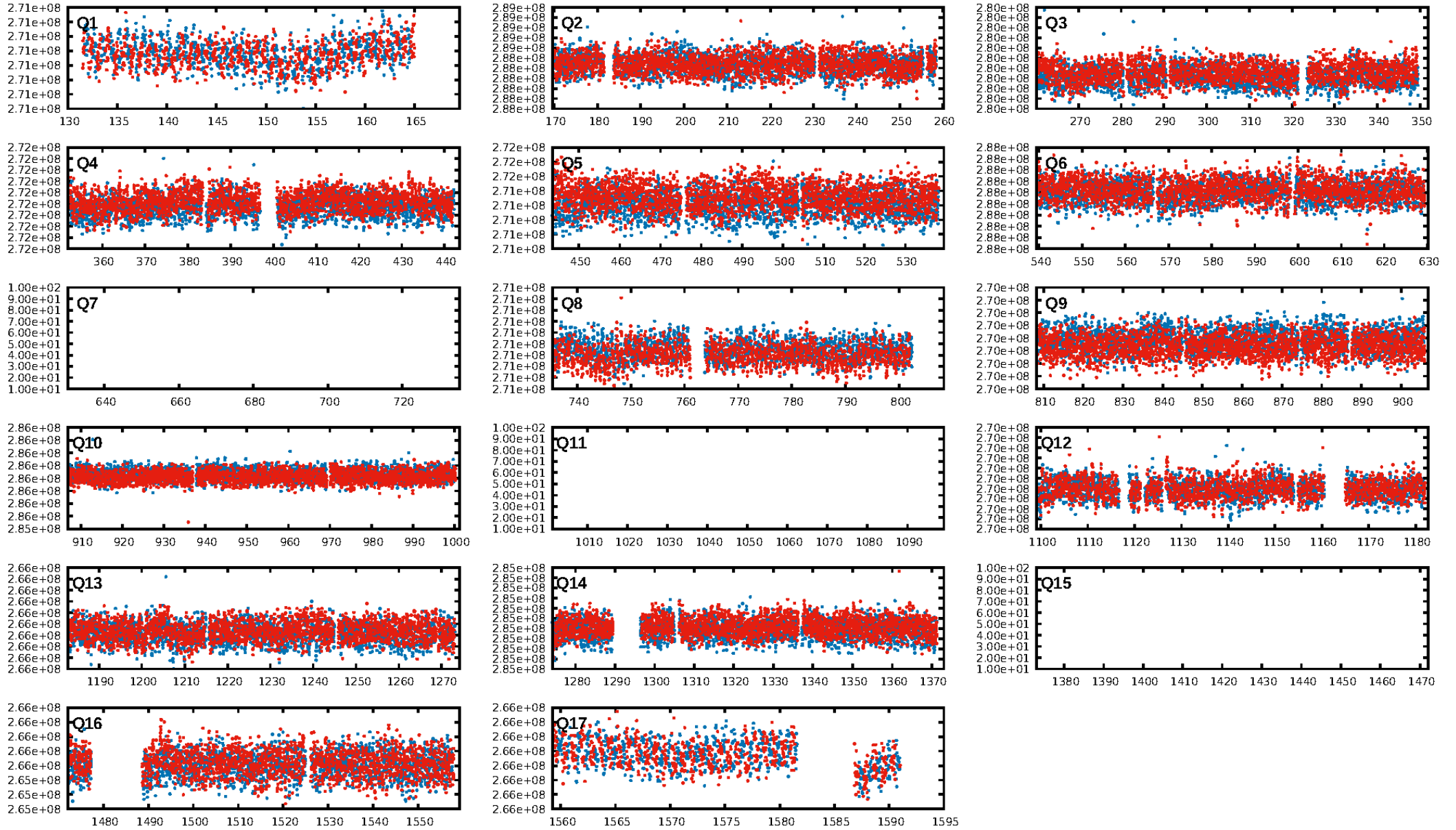
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [107.80σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.01e-10
RollingBand-fgt: 1.00 [1217/1217]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.385 arcsec [1.72σ]
KicOffset-rm: 0.375 arcsec [2.00σ]
OotOffset-st: 3/1/4/3 [11]
KicOffset-st: 3/1/4/3 [11]
DiffImageQuality-fgm: 0.27 [3/11]
DiffImageOverlap-fno: 1.00 [14/14]

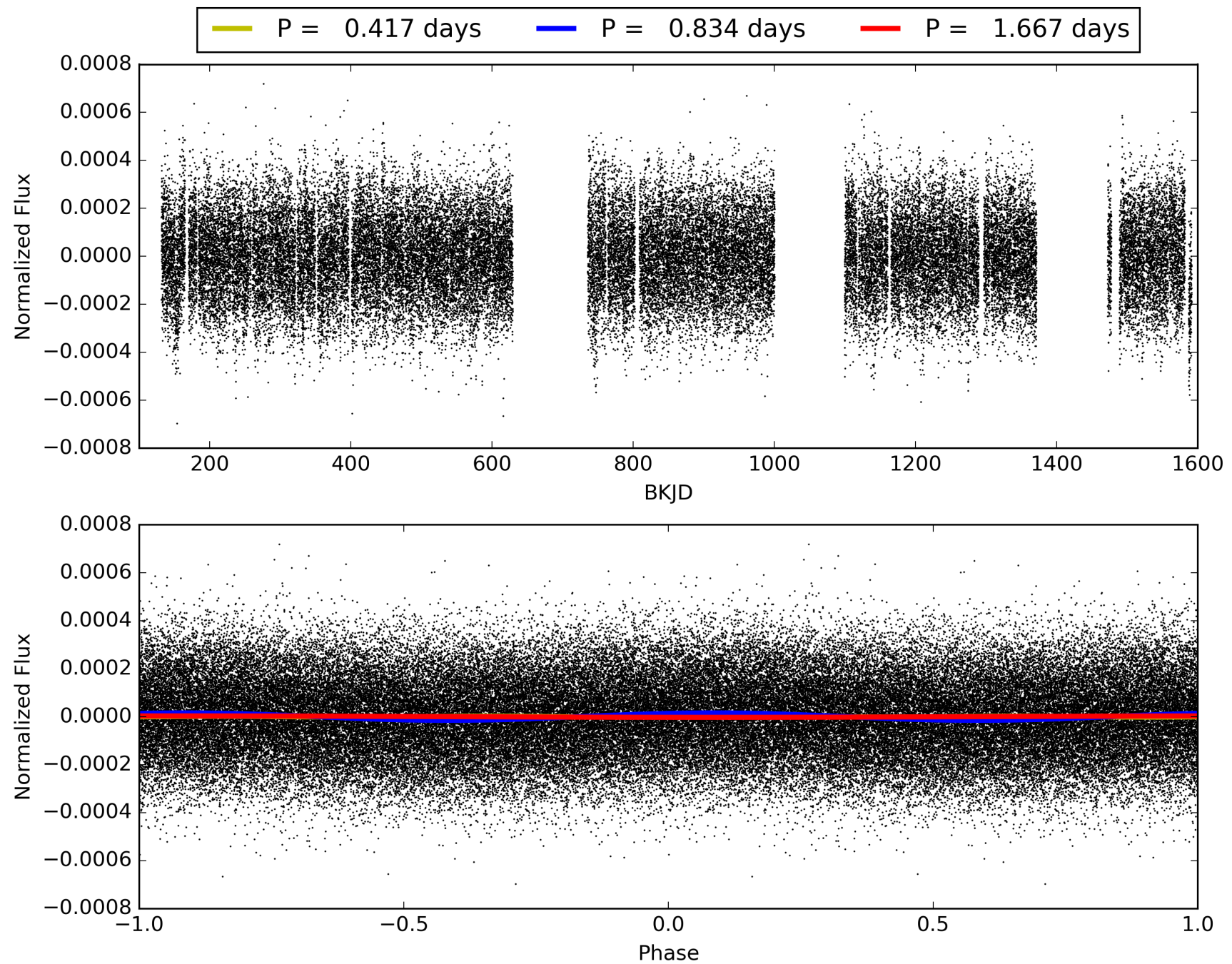
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010087801-01, PDC Light Curves

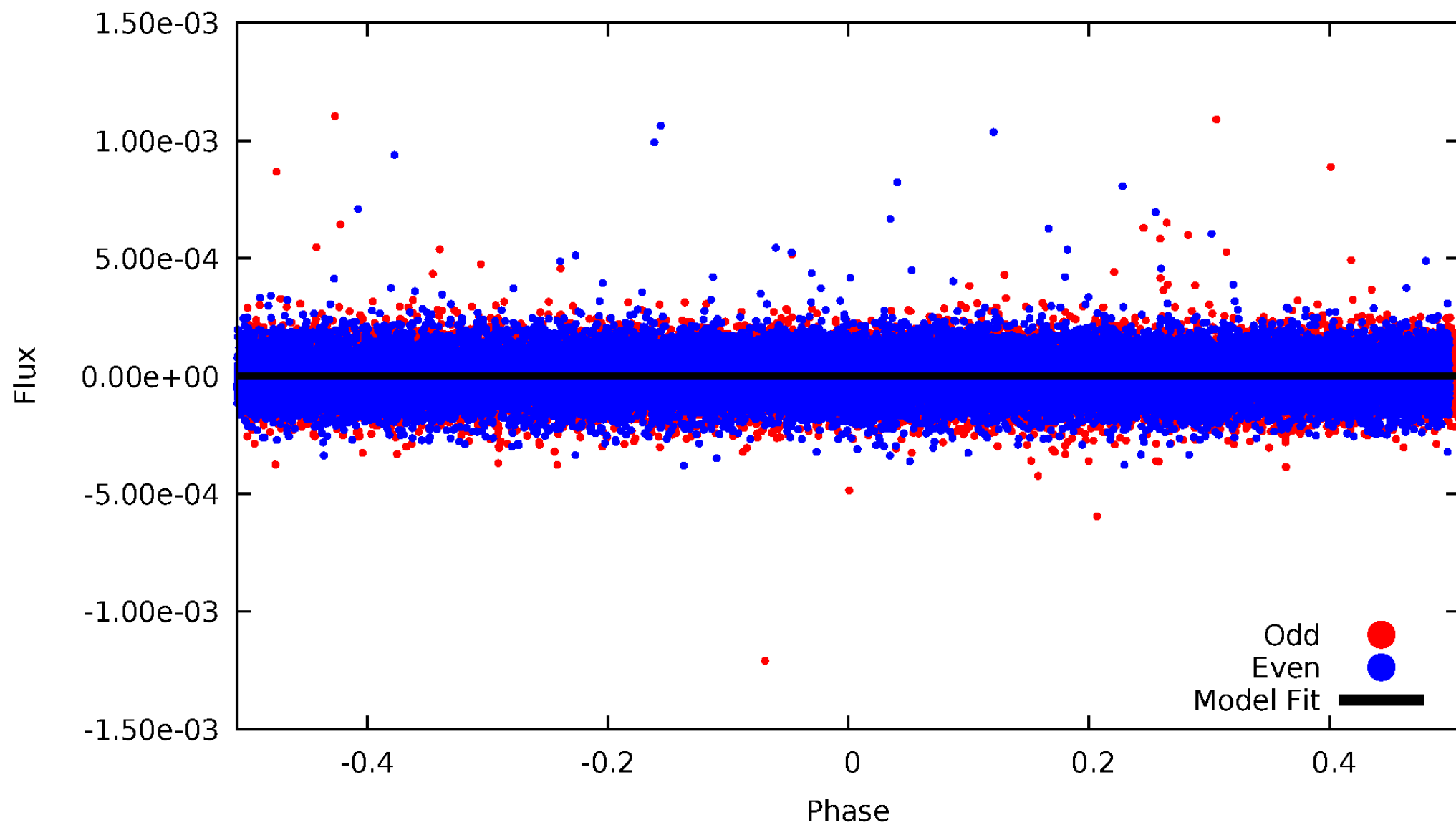


TCE 010087801-01



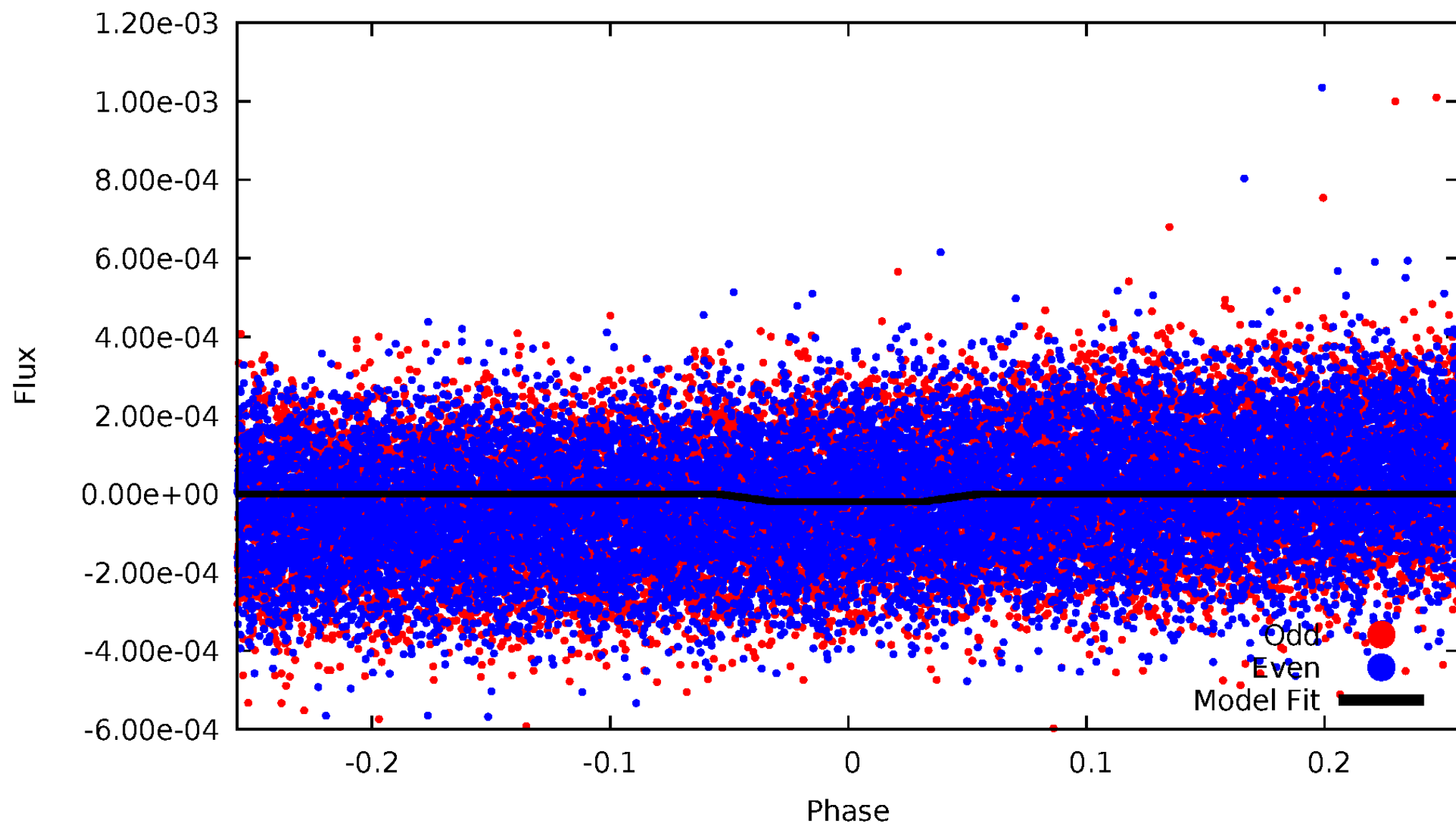
DV Odd/Even

TCE 010087801-01

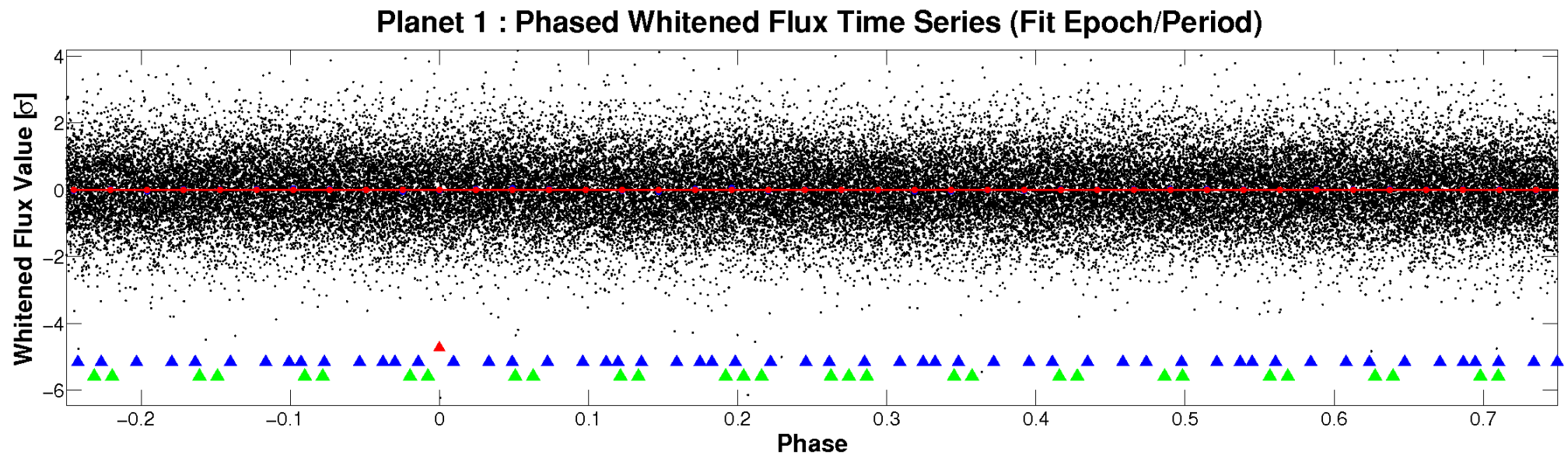
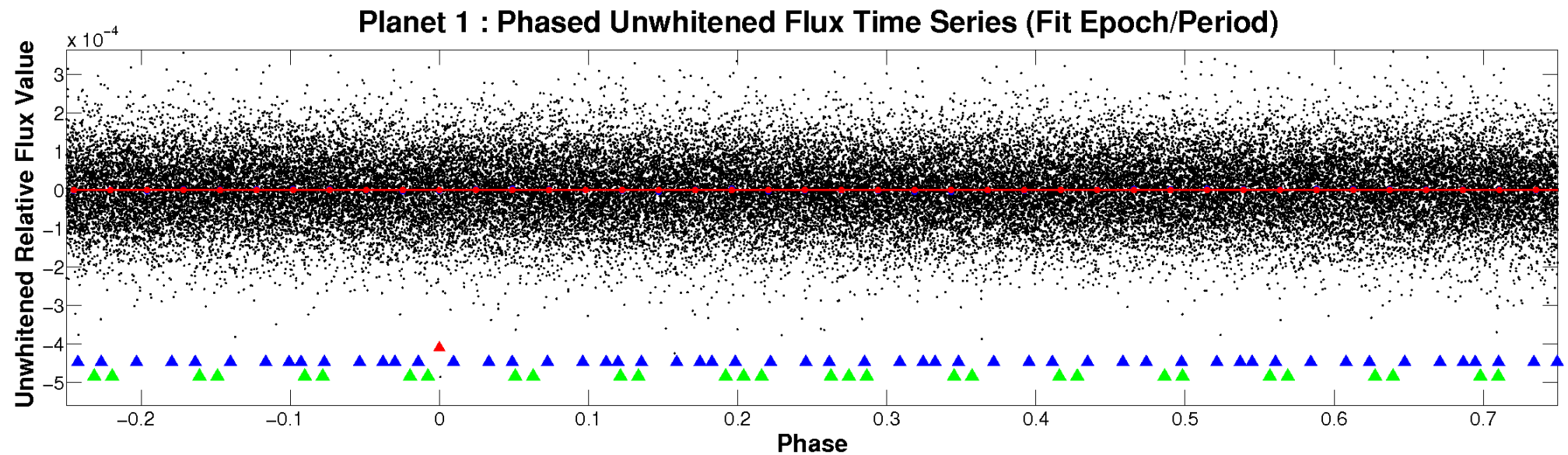


ALT Odd/Even

TCE 010087801-01

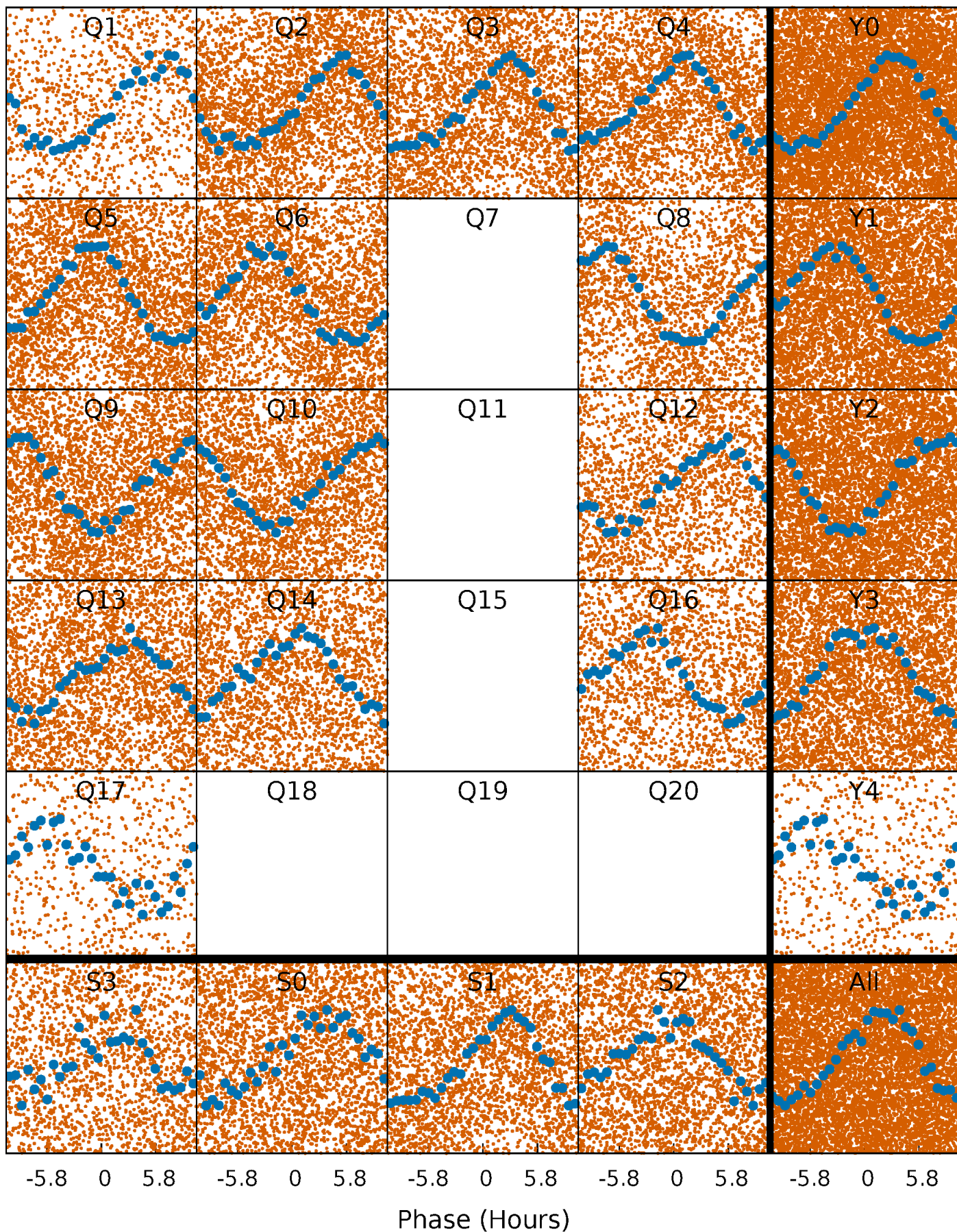


Non-Whitened Vs. Whitened Light Curve



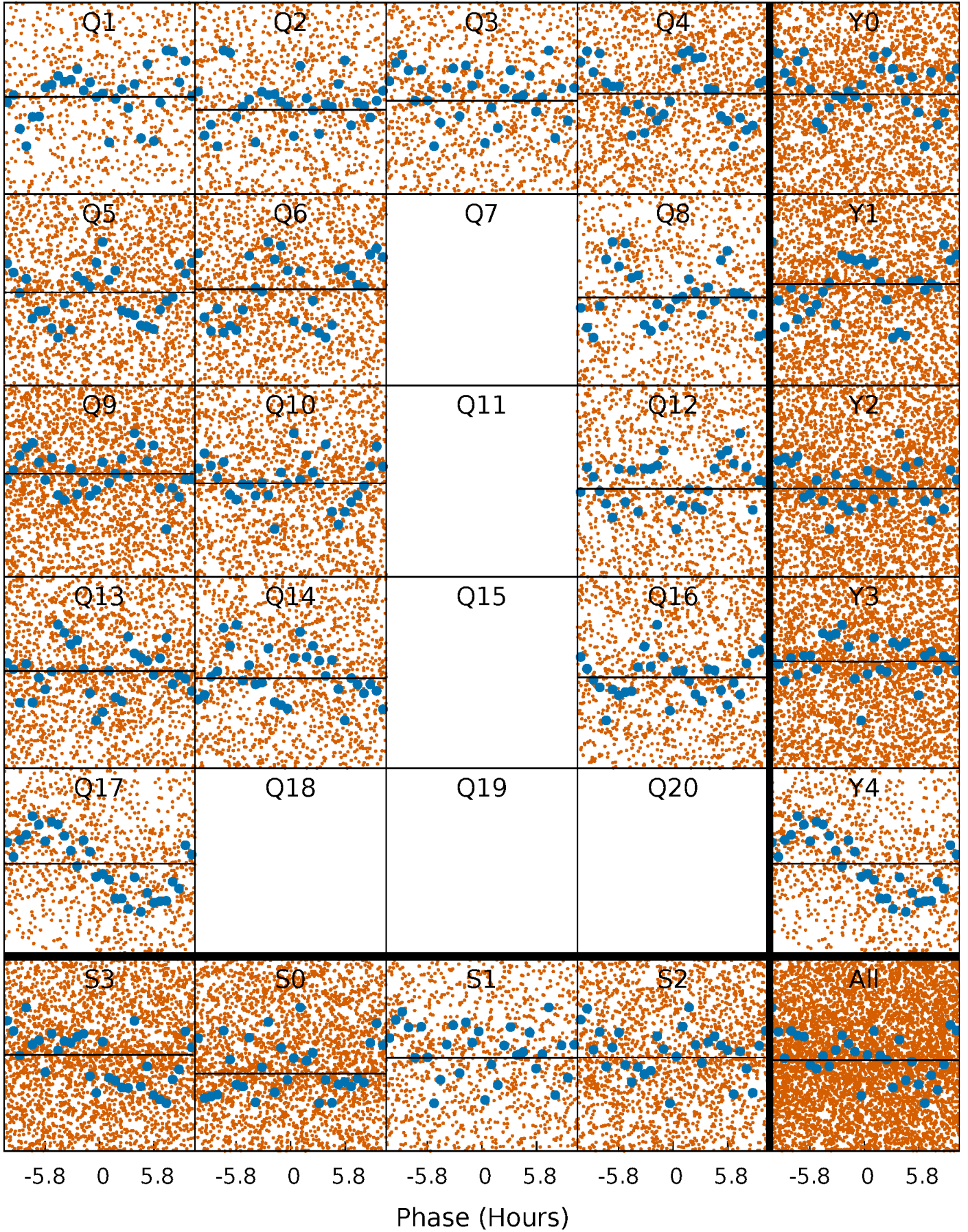
PDC Quarter-Phased Transit Curves

TCE 010087801-01 P= 0.833641 Days $T_0=132.310622$ (BKJD)



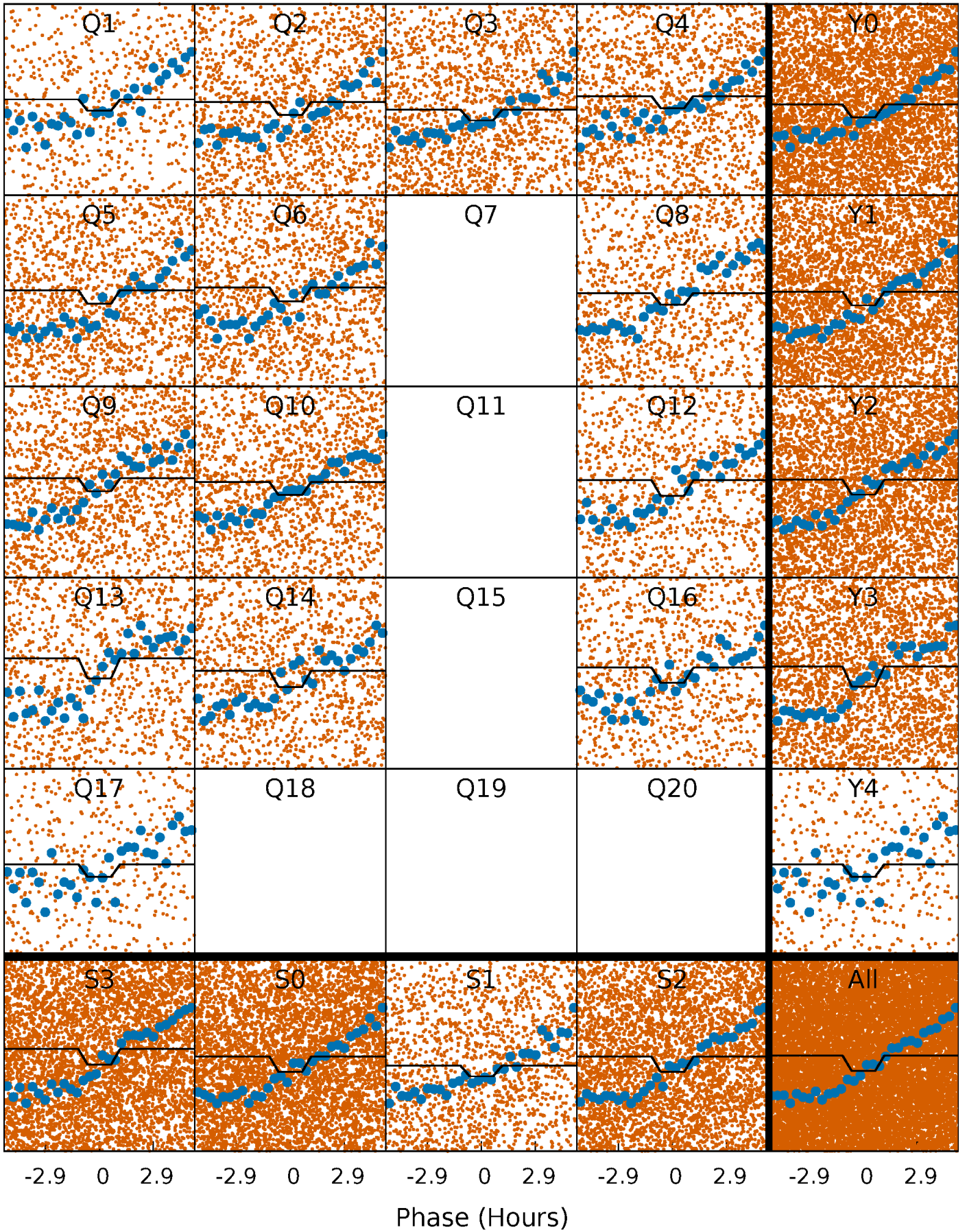
DV Quarter-Phased Transit Curves

TCE 010087801-01 P= 0.833641 Days $T_0=132.310622$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

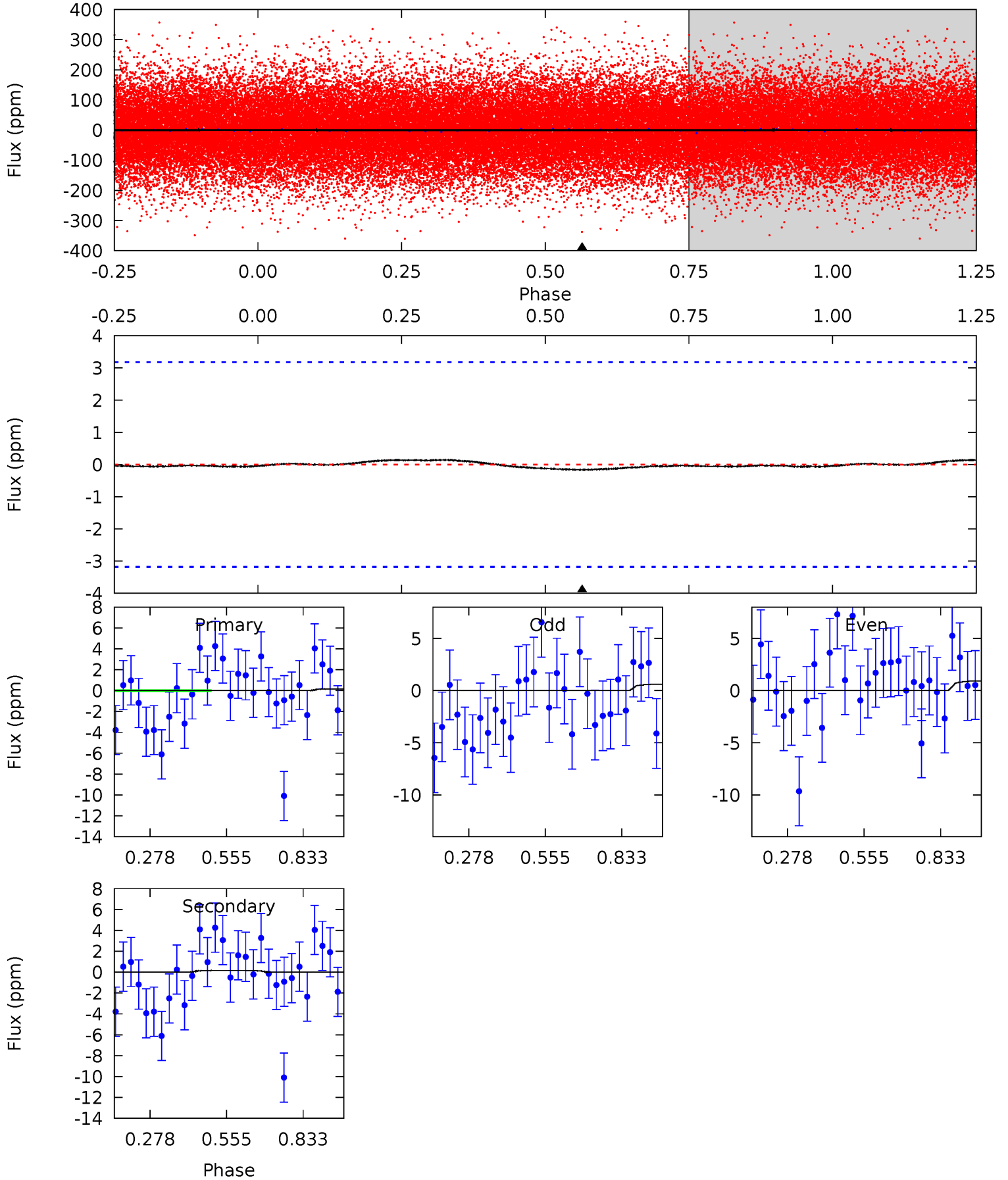
TCE 010087801-01 P= 0.832879 Days $T_0=132.279894$ (BKJD)



DV Model-Shift Uniqueness Test

010087801-01, P = 0.833641 Days, E = 131.476981 Days

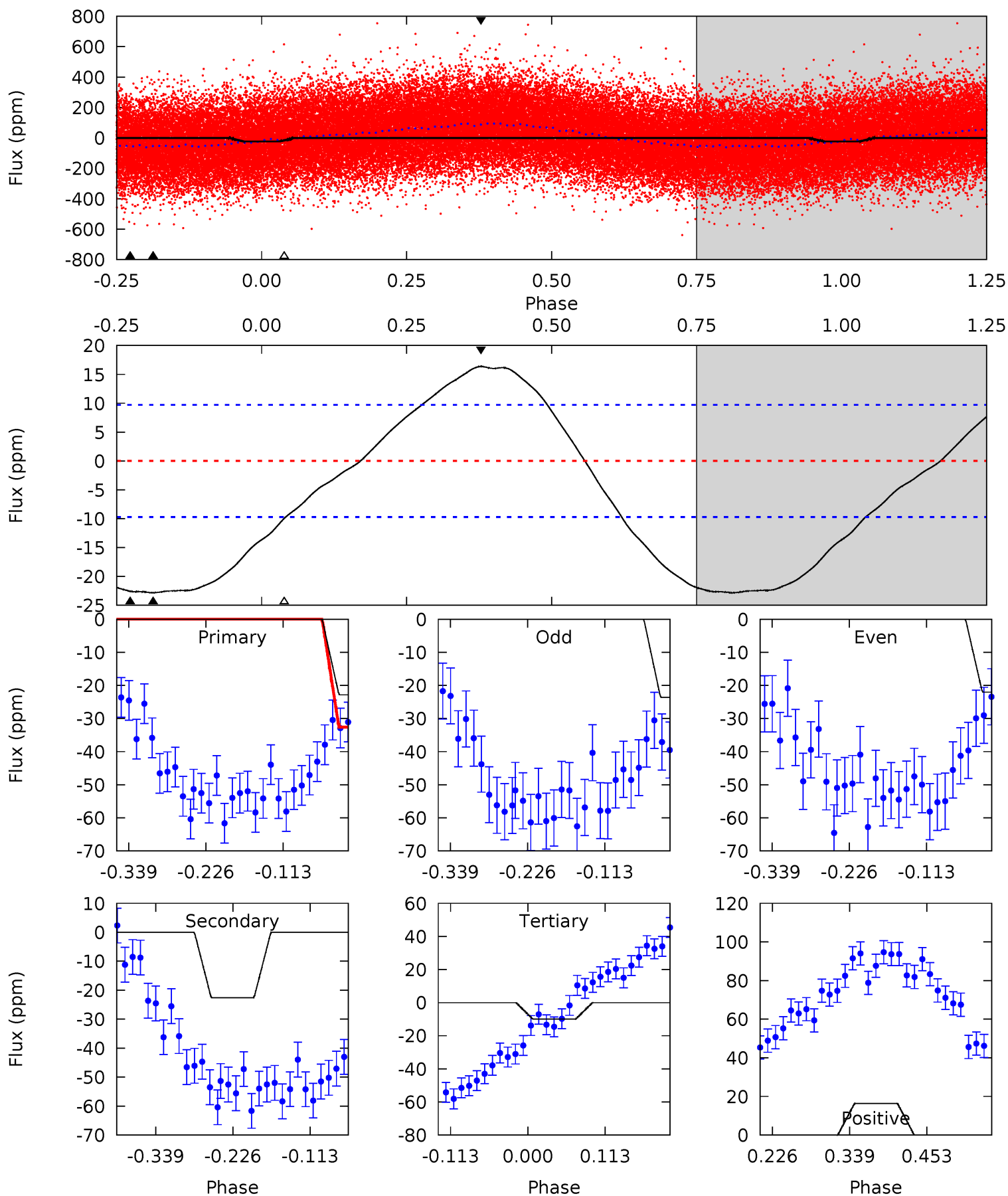
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.23	0.23	0	0	4.35	1.09	0.09	0.23	0.23	0.23	0.23	0.22	0.26	0.47	0.22



Alt Model-Shift Uniqueness Test

010087801-01, P = 0.832879 Days, E = 131.447015 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	10.5	4.65	7.66	4.54	1.58	5.30	6.02	3.01	5.90	2.89	0.37	0.96	0.42	4.60



Stellar Parameters For KIC 010087801

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7734^{+214}_{-322}	$4.170^{+0.084}_{-0.182}$	$0.070^{+0.200}_{-0.400}$	$1.774^{+0.517}_{-0.279}$	$1.696^{+0.210}_{-0.252}$	$0.428^{+0.188}_{-0.209}$
	+3%/-4%	+2%/-4%	+286%/-571%	+29%/-16%	+12%/-15%	+44%/-49%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010087801-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-0 ± 1	$0.68^{+0.80}_{-0.48}$	4459^{+287}_{-247}	-3830^{+8585}_{-785}	$0.034^{+1.064}_{-0.384}$
Alt.	-23 ± 2	$1.18^{+0.93}_{-0.77}$	4461^{+298}_{-261}	6659^{+8412}_{-1821}	$3.747^{+29.834}_{-2.532}$

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 $A_{obs} \gg 1.0$

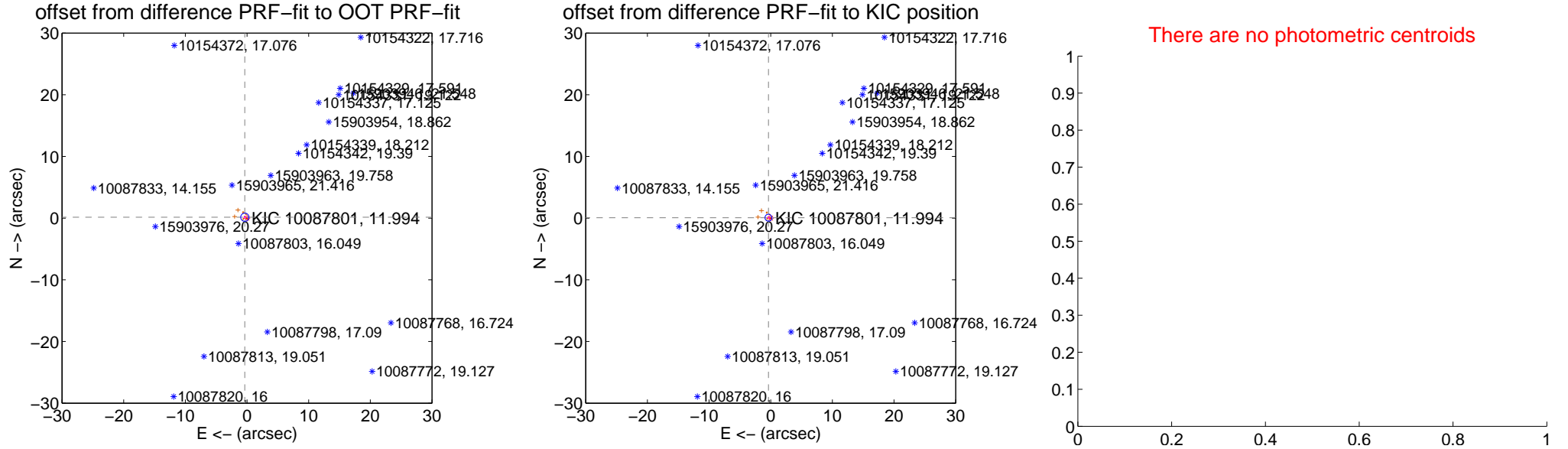
DV Centroid Data

Supplemental centroid analysis for 010087801-01. **Kepler magnitude: 11.99.** Transit SNR 0.00

There are 3 quarters with good PRF difference image offsets

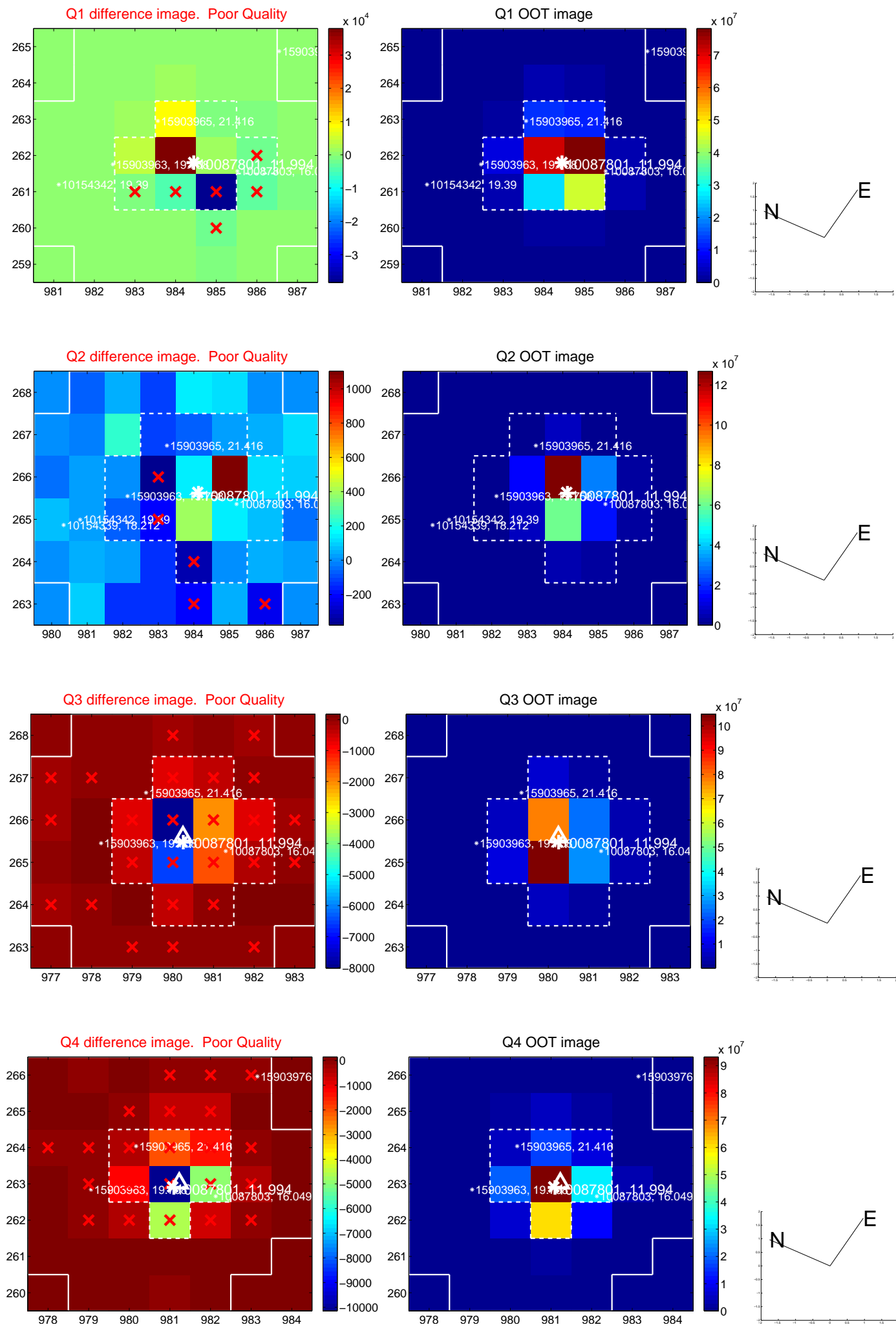
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.385 ± 0.223	1.72	0.356 ± 0.210	0.146 ± 0.168
PRF-fit source offset from KIC position	0.375 ± 0.187	2.00	0.368 ± 0.179	0.069 ± 0.176
photometric centroid source offset	—	—	—	—

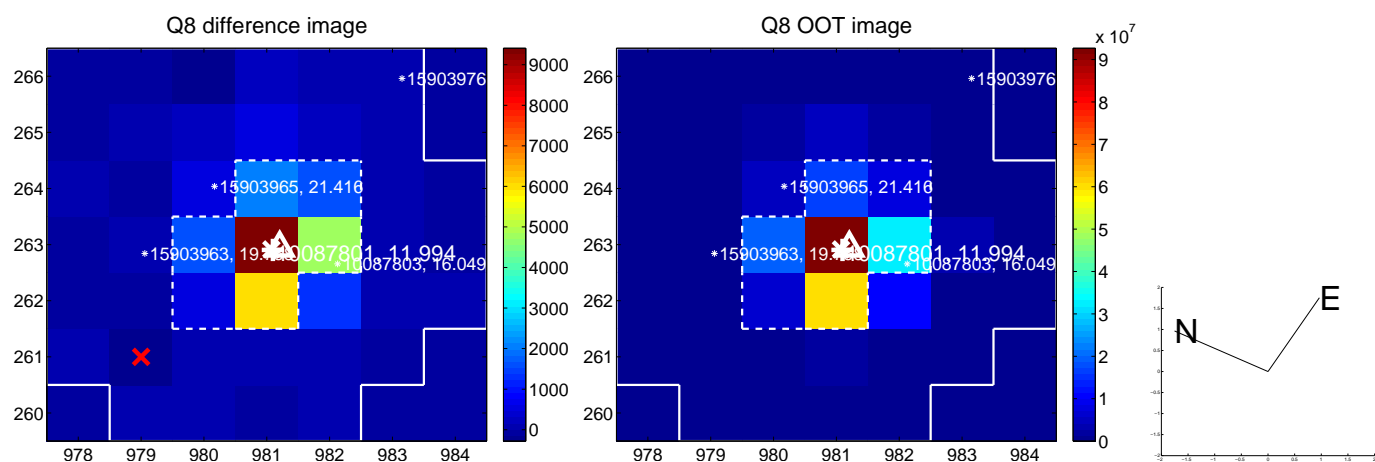
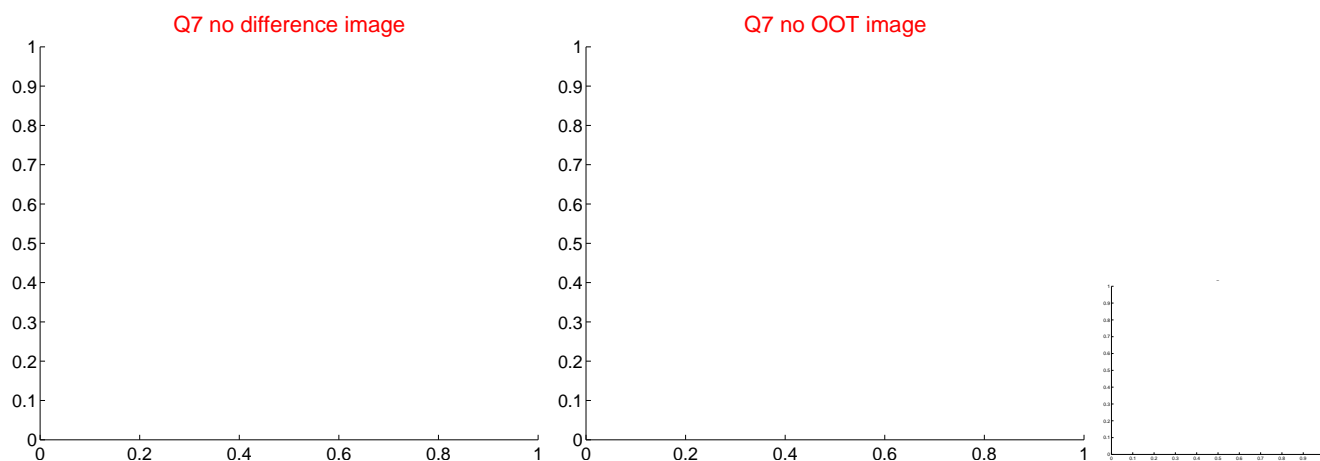
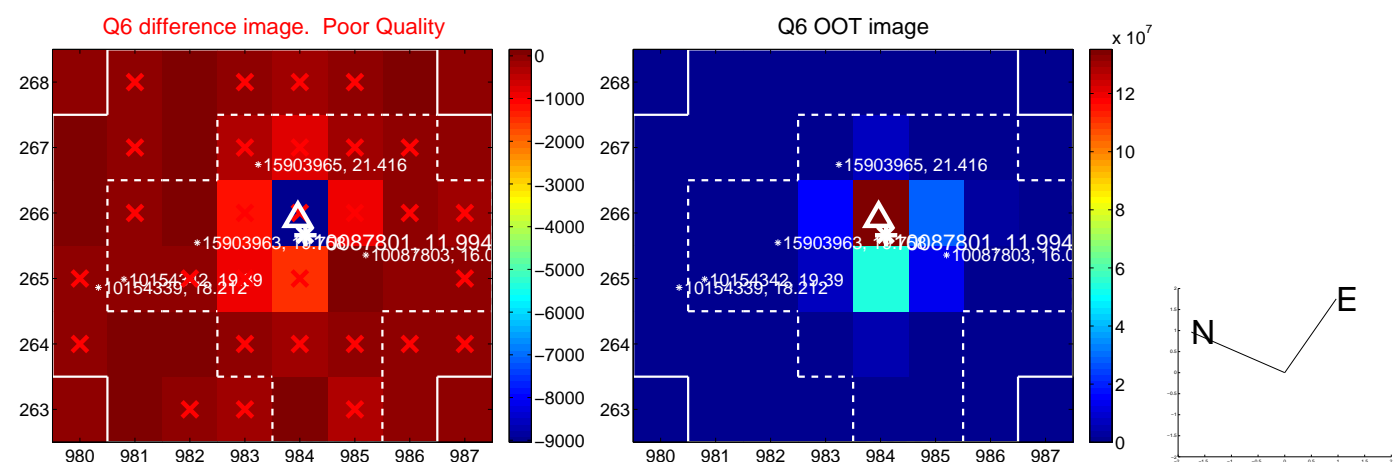
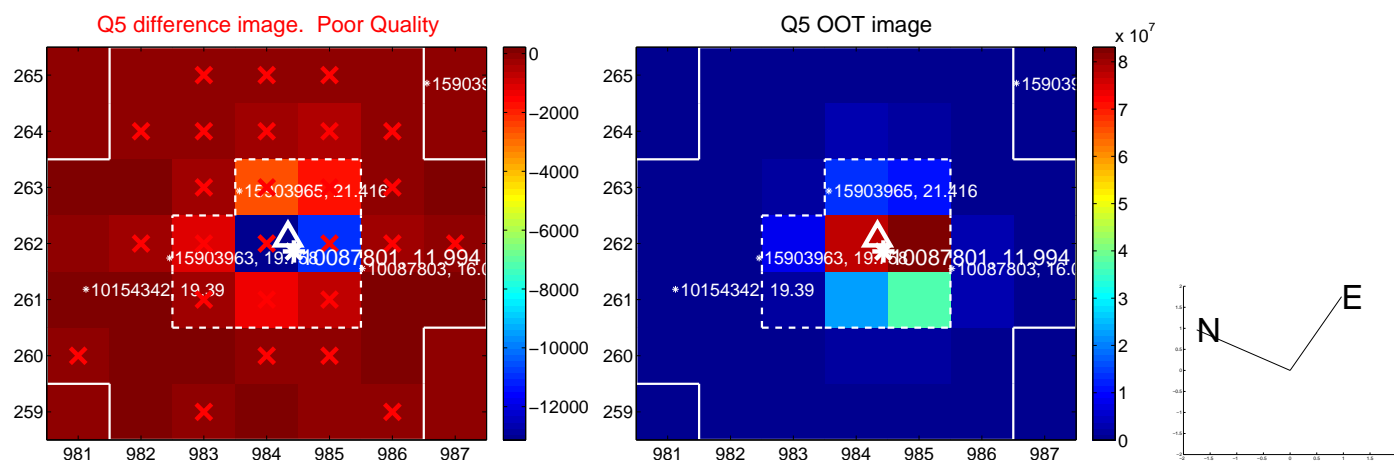


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

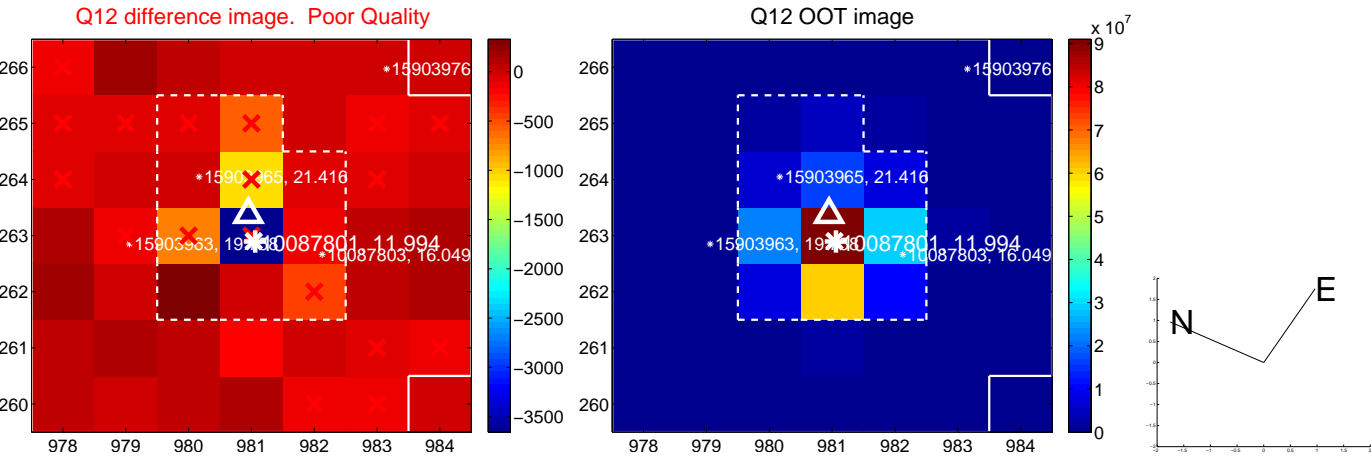
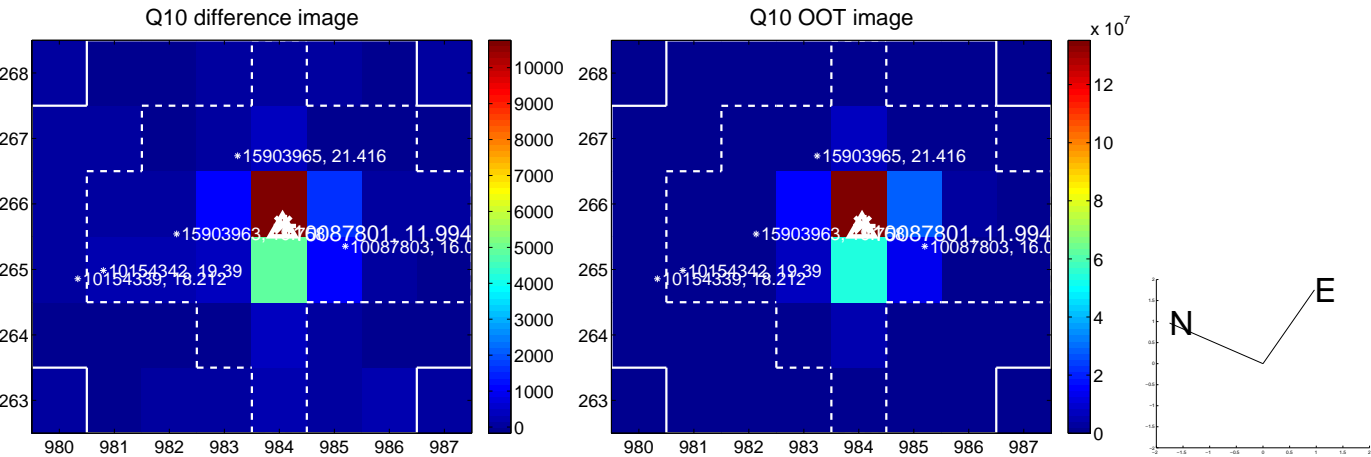
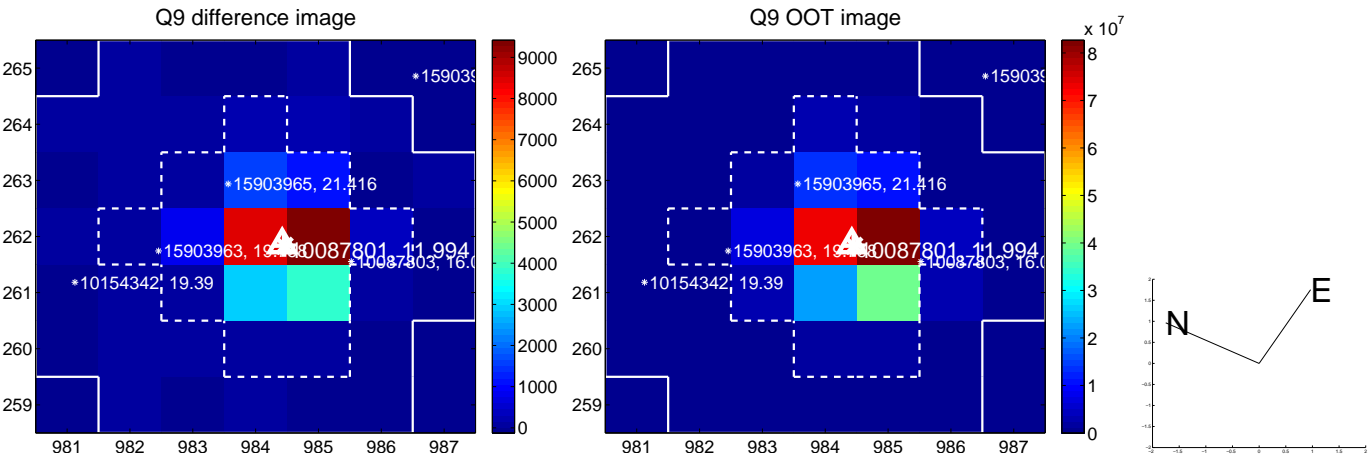
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



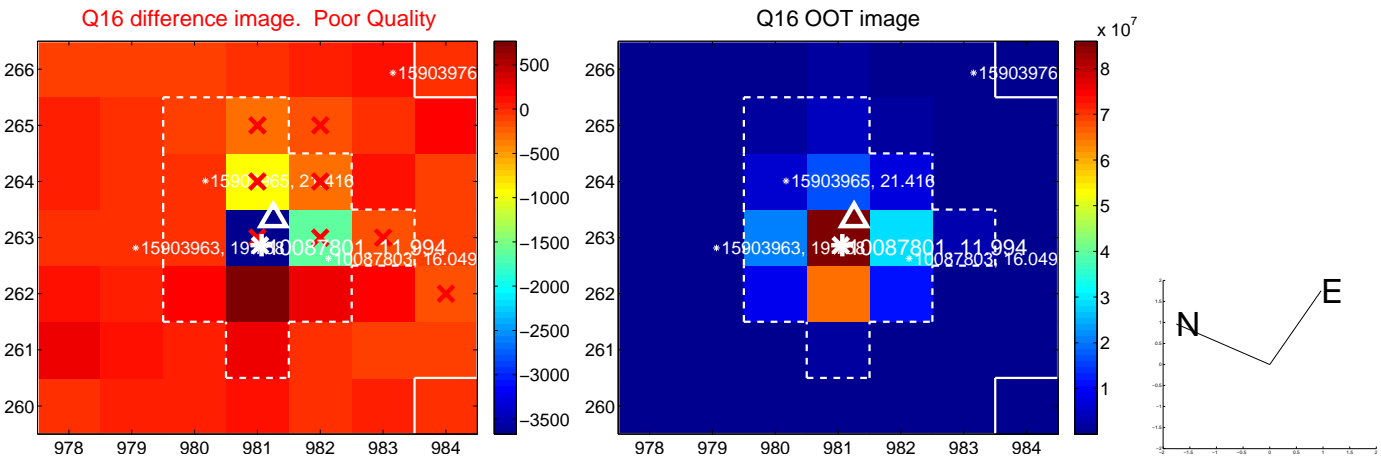
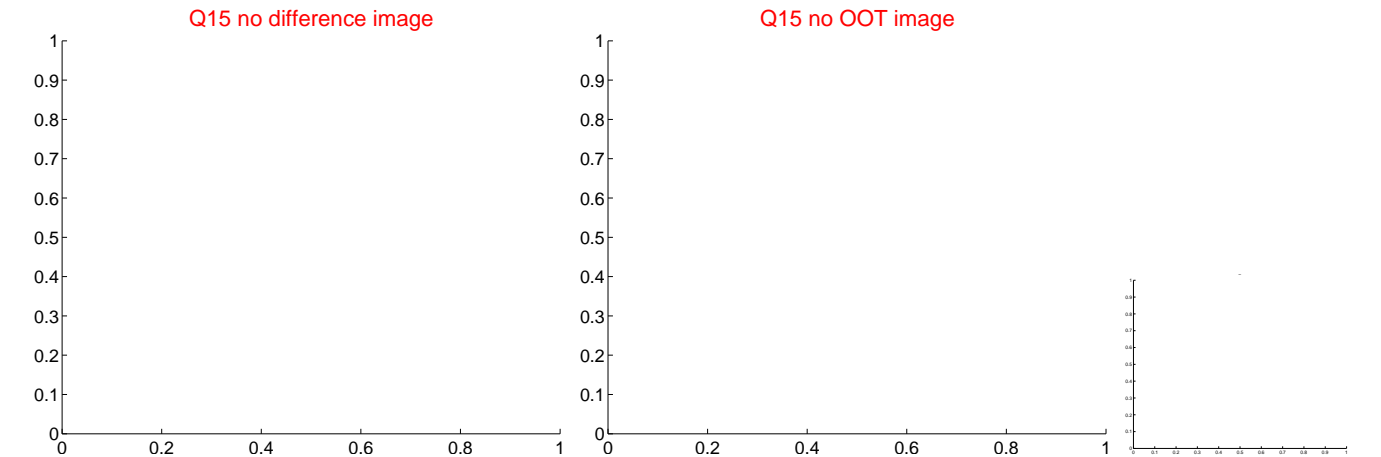
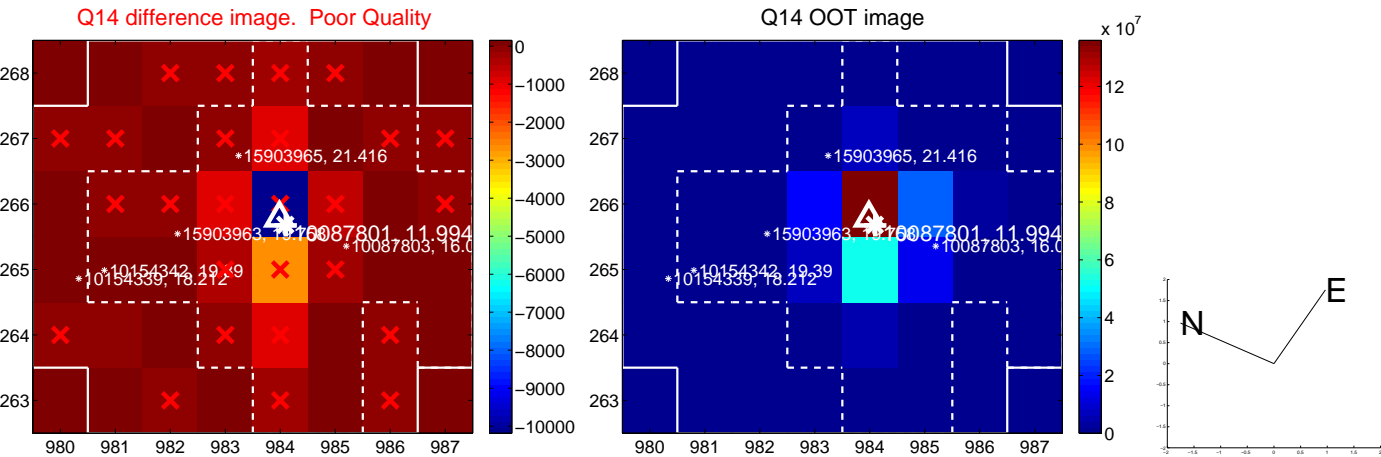
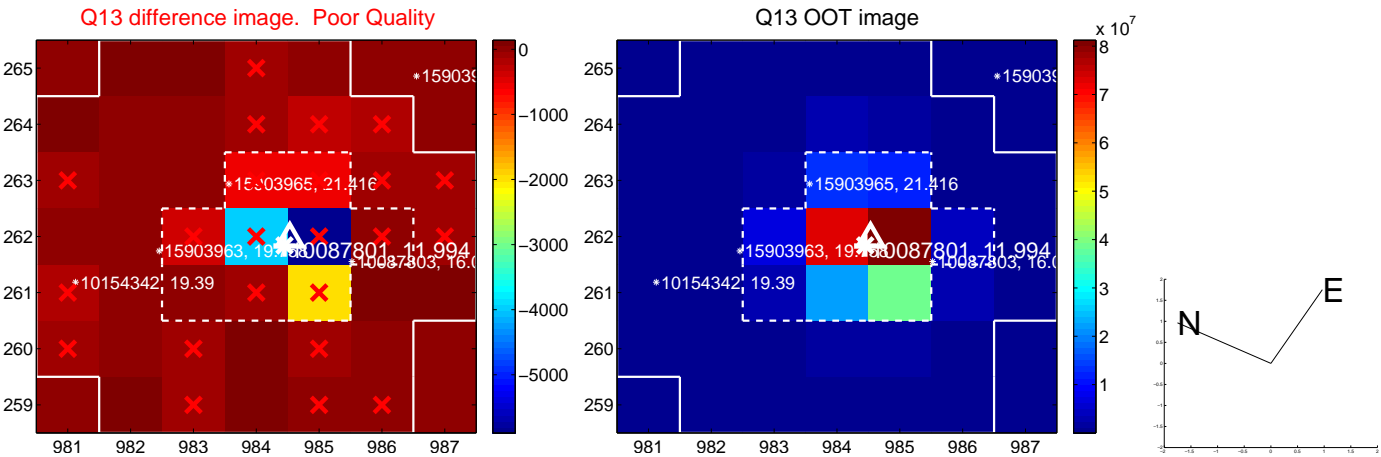
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



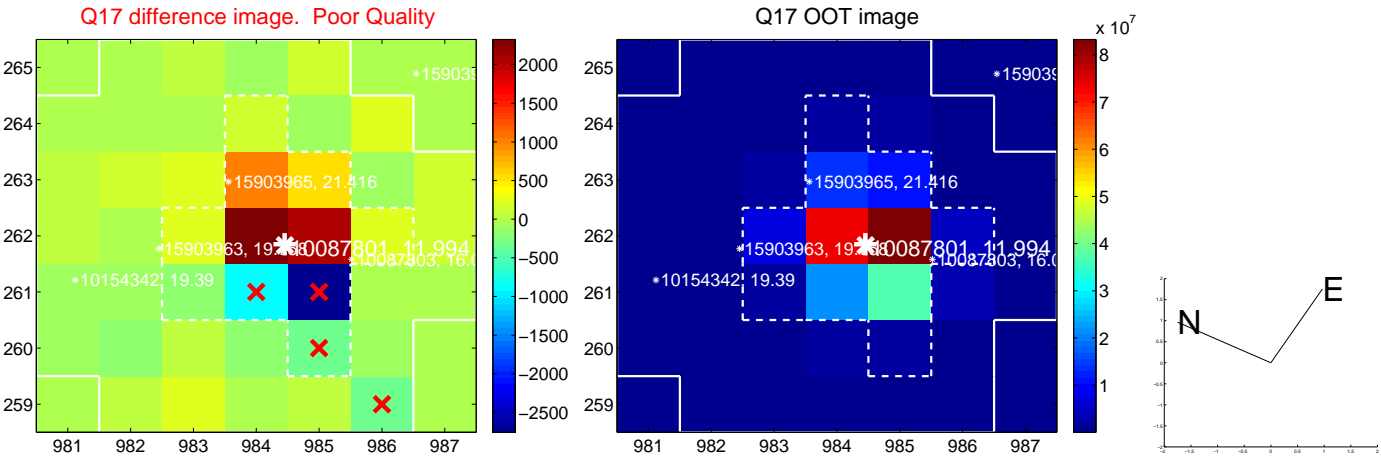
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



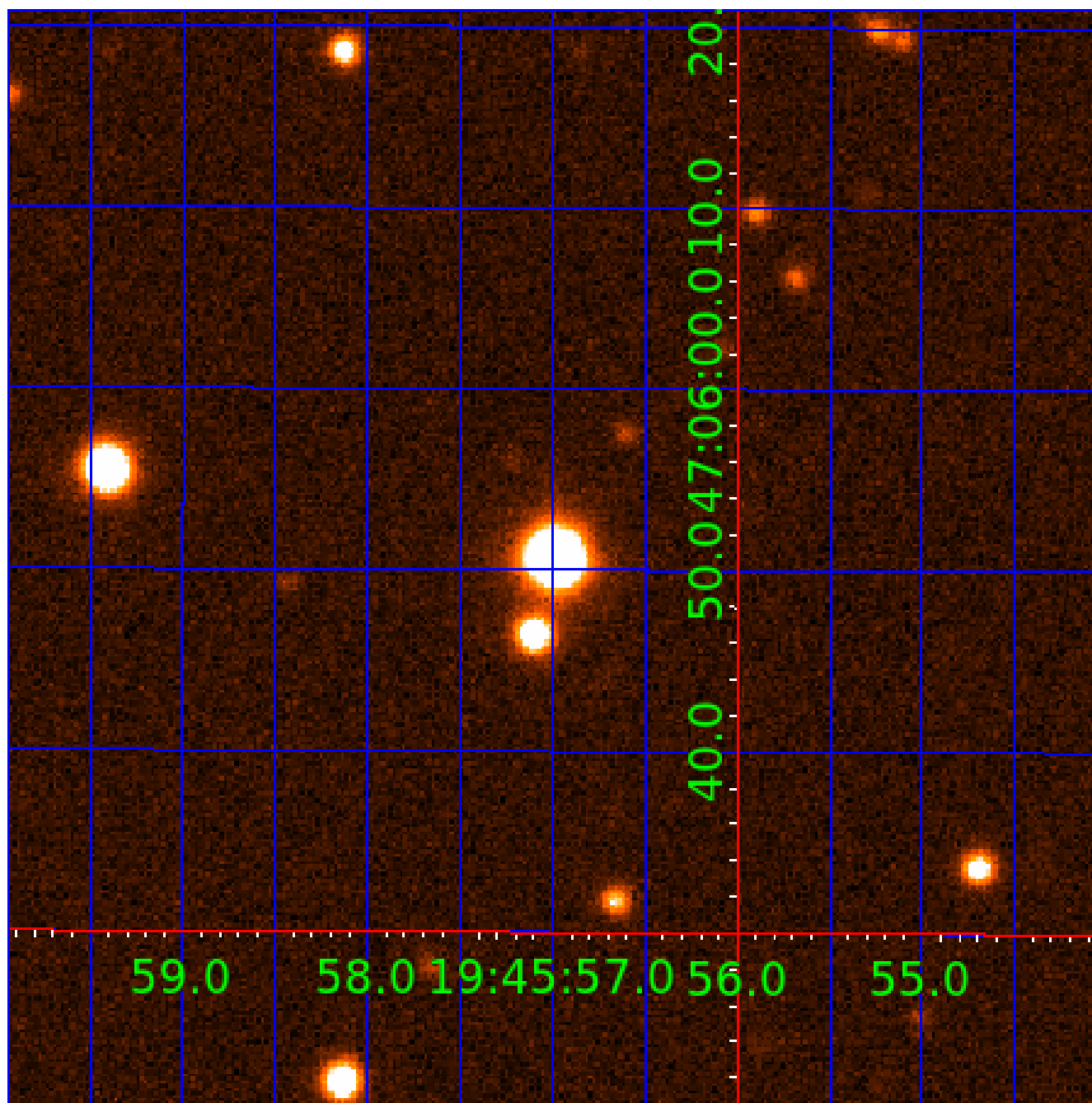
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 010087801

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})
010087801-01	OBS	No	0.833641	132.310622	0.0	5.082	8.3	0.0	1.77	7734	0.00	23578.07
010087801-02	OBS	No	26.499271	143.293686	103.6	2.614	9.2	8.9	1.77	7734	2.31	234.15
010087801-03	OBS	No	48.292326	142.533212	149.7	2.984	8.5	8.1	1.77	7734	2.44	105.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010087801-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_NOFITS
010087801-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010087801-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

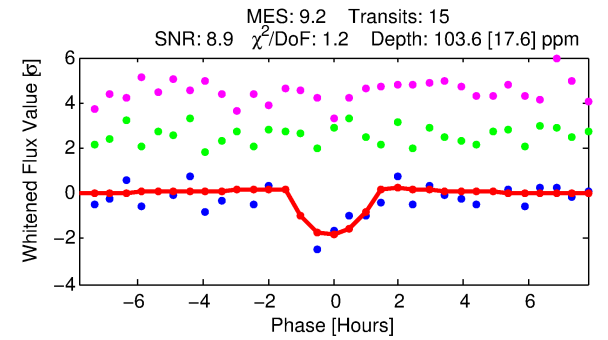
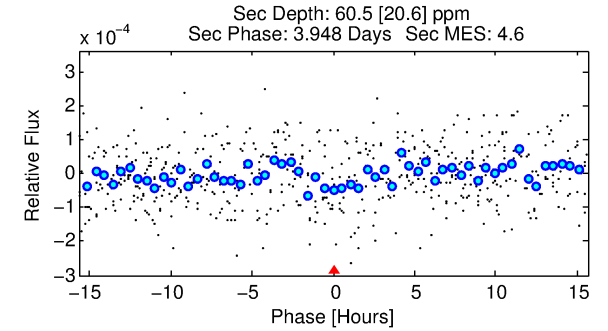
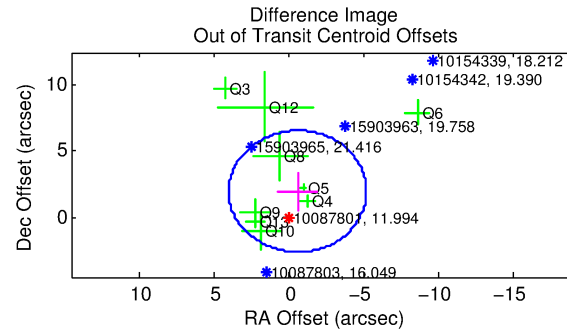
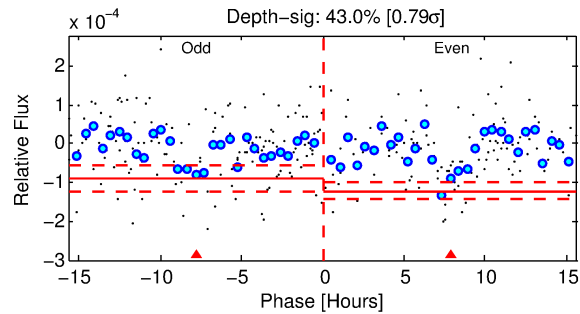
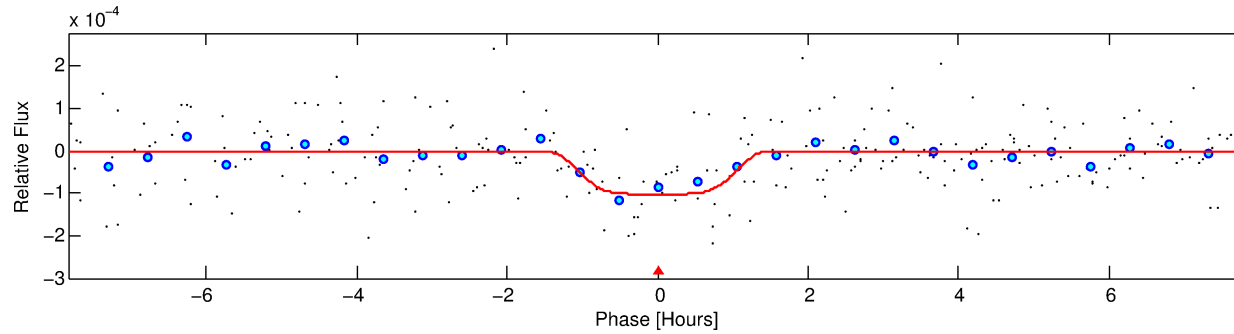
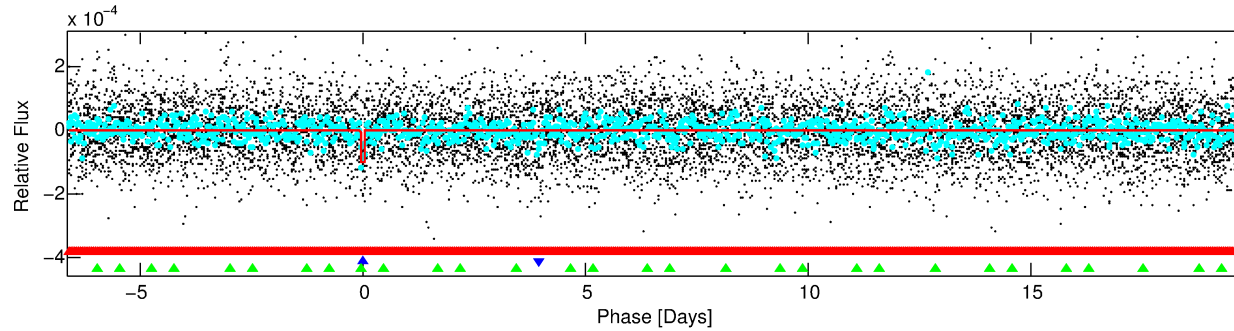
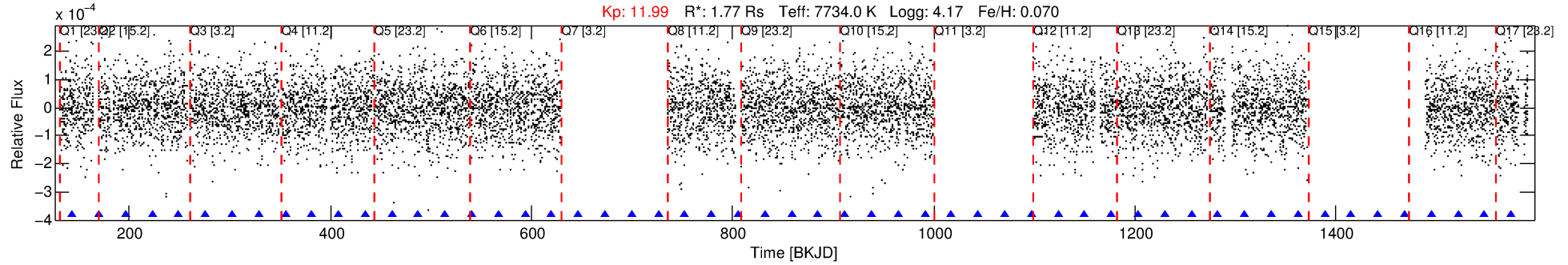
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010087801-02

No Significant Match Found

DV One-Page Summary

KIC: 10087801 Candidate: 2 of 3 Period: 26.499 d



DV Fit Results:

Period = 26.49927 [0.00032] d
Epoch = 143.2937 [0.0086] BKJD
Rp/R* = 0.0119 [0.0019]
a/R* = 20.96 [16.49]
b = 0.98 [0.04]
Seff = 234.15 [88.71]
Teq = 997 [94] K
Rp = 2.31 [0.77] Re
a = 0.2076 [0.0497] AU
Ag = 269.46 [156.10] [1.72 σ]
Teffp = 6248 [777] K [6.71 σ]

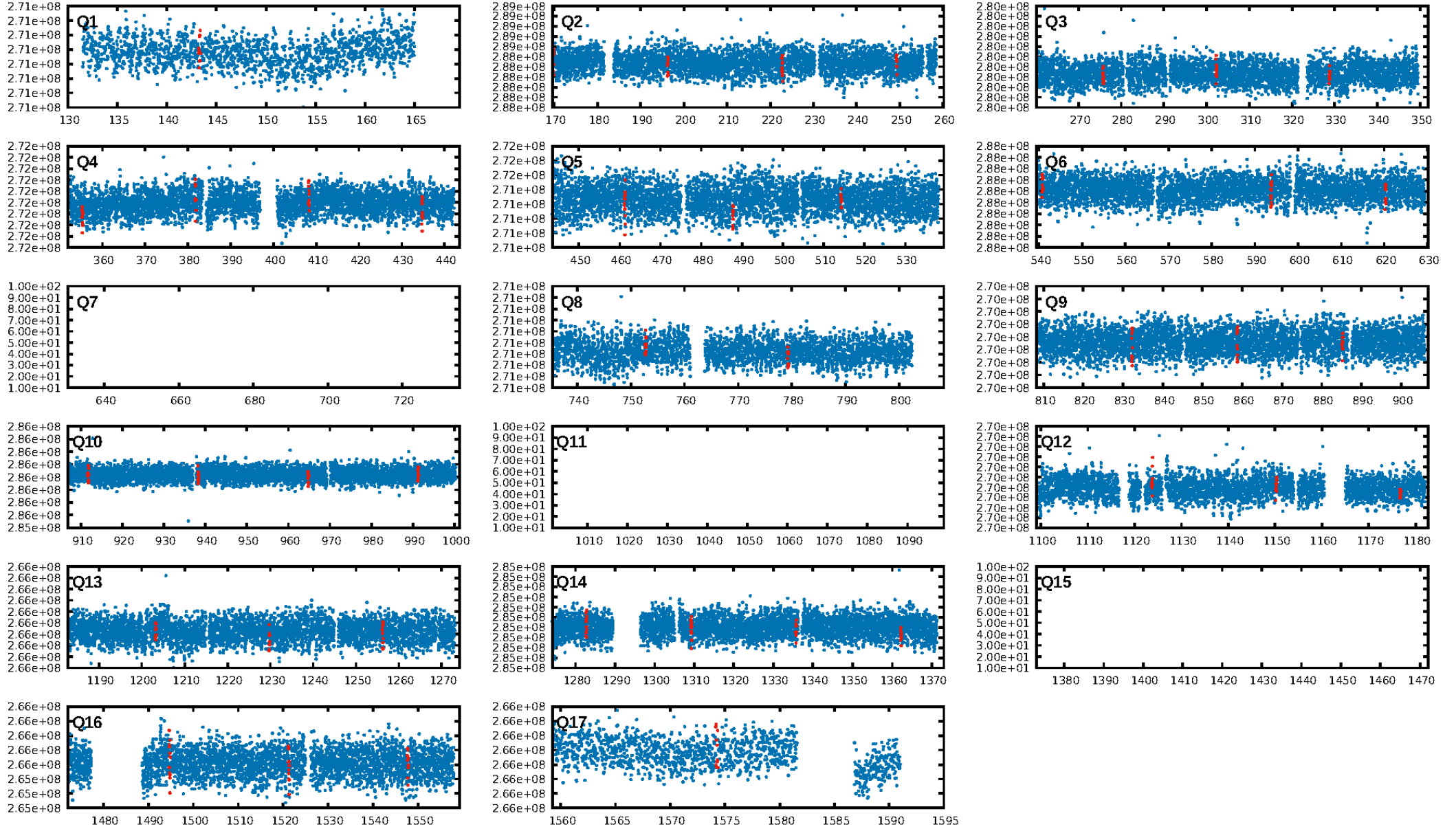
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [107.80 σ]
LongPeriod-sig: 100.0% [131.85 σ]
ModelChiSquare2-sig: 28.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.34e-10
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: 0.8264
Centroid-sig: 0.2%
Centroid-so: 1.846 arcsec [2.20 σ]
OotOffset-rm: 2.078 arcsec [1.36 σ]
KicOffset-rm: 2.073 arcsec [1.75 σ]
OotOffset-st: 2/1/3/3 [9]
KicOffset-st: 2/1/3/3 [9]
DiffImageQuality-fgm: 0.44 [4/9]
DiffImageOverlap-fno: 0.00 [0/14]

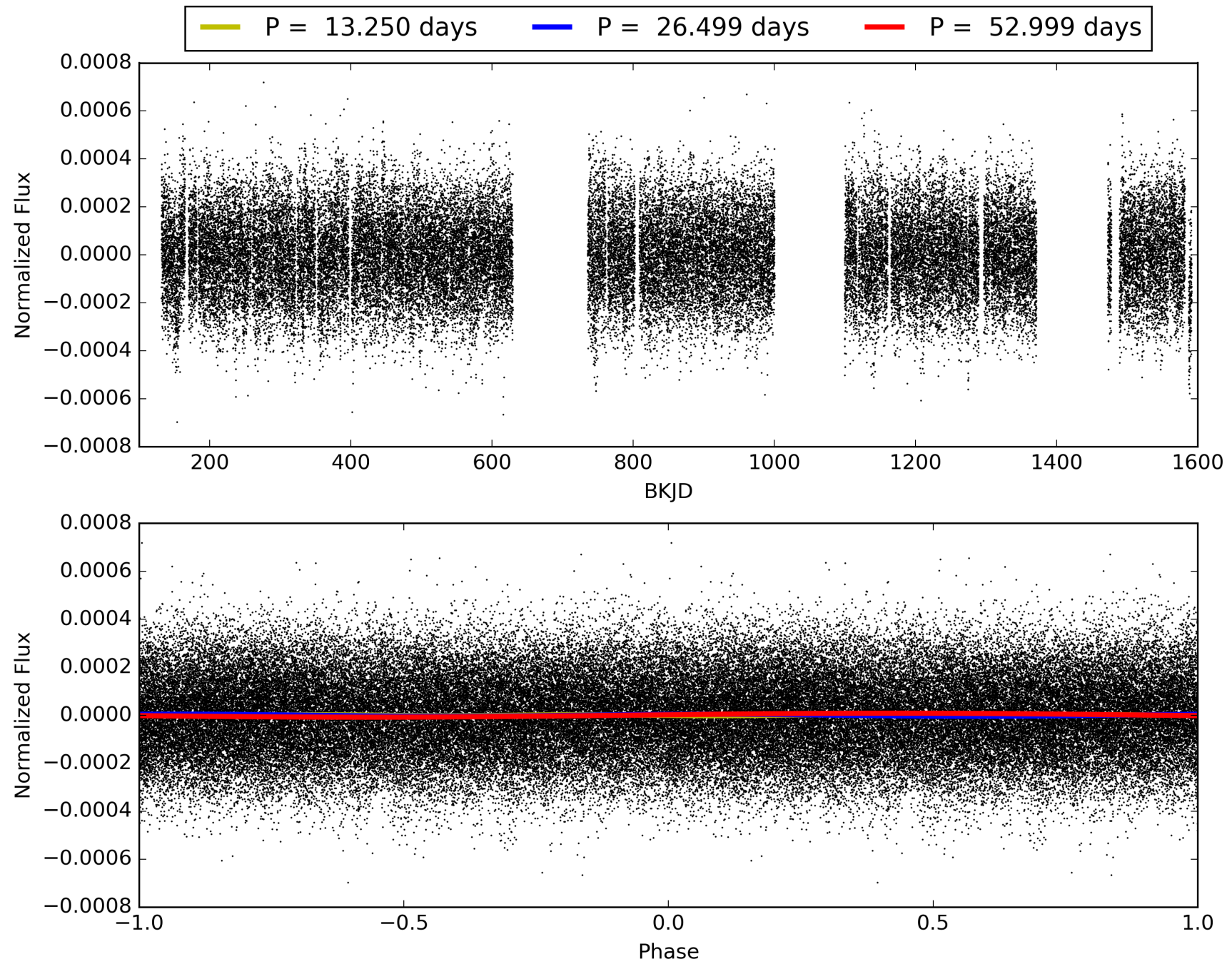
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:36:25 Z

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

TCE 010087801-02, PDC Light Curves

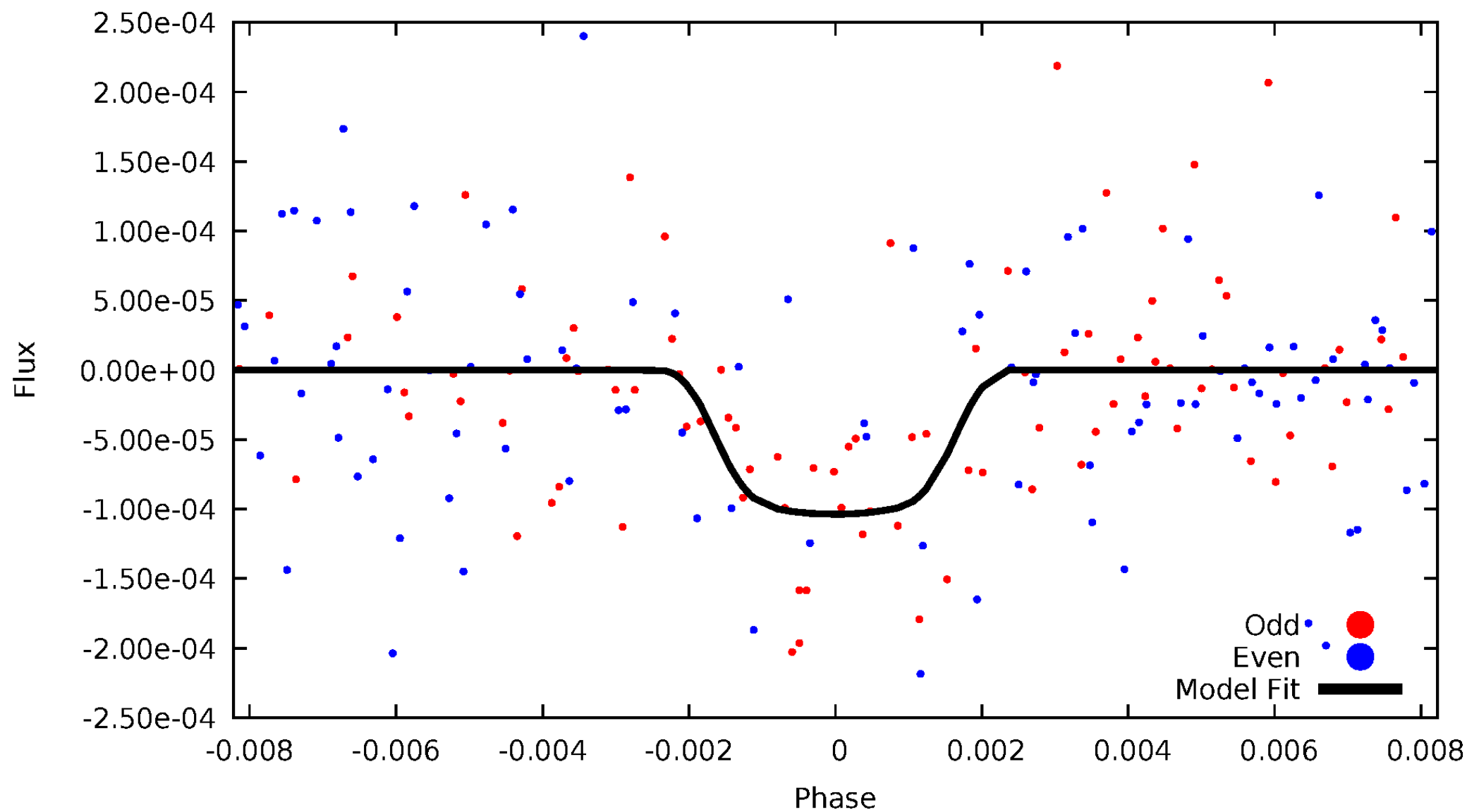


TCE 010087801-02



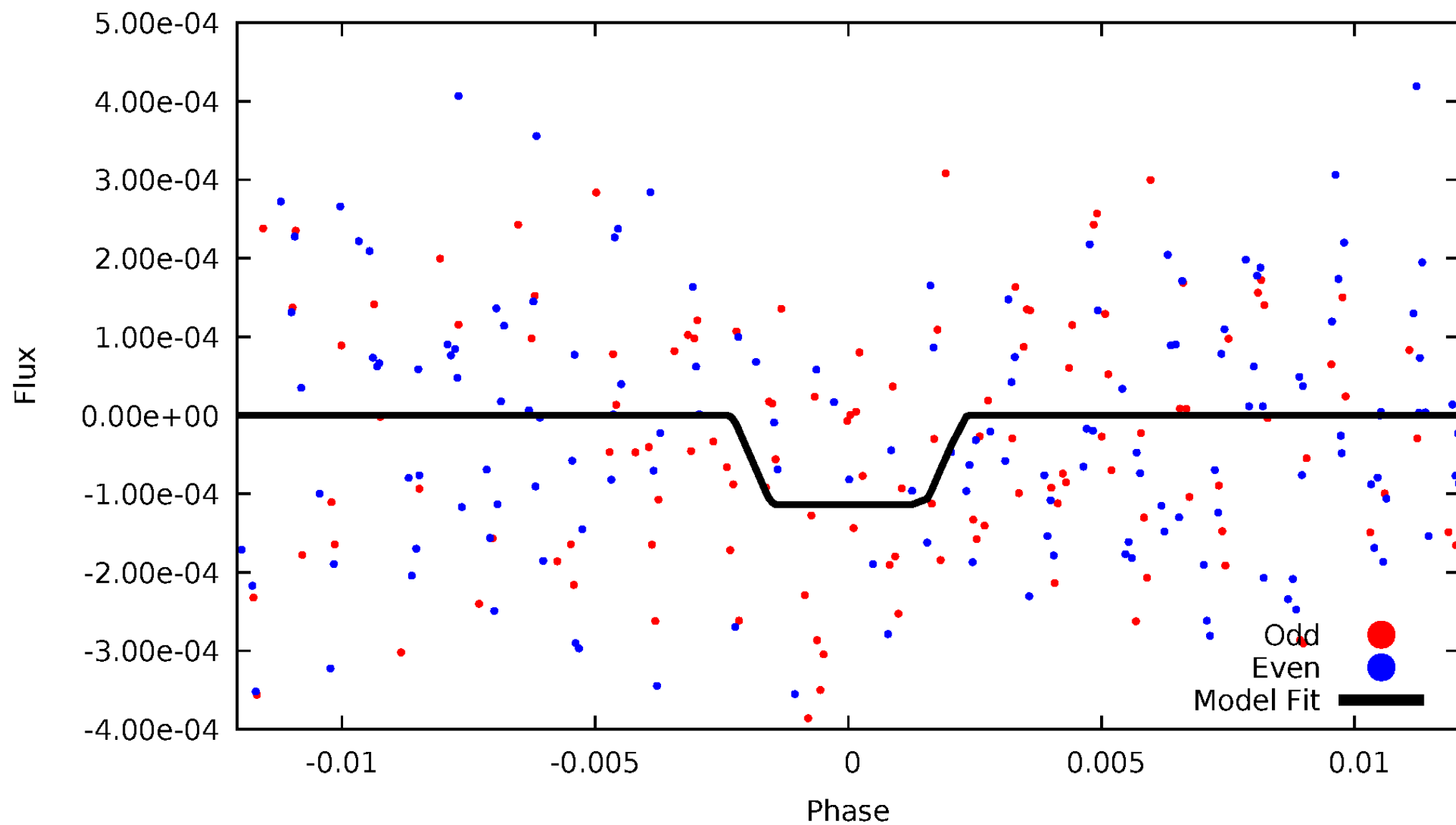
DV Odd/Even

TCE 010087801-02



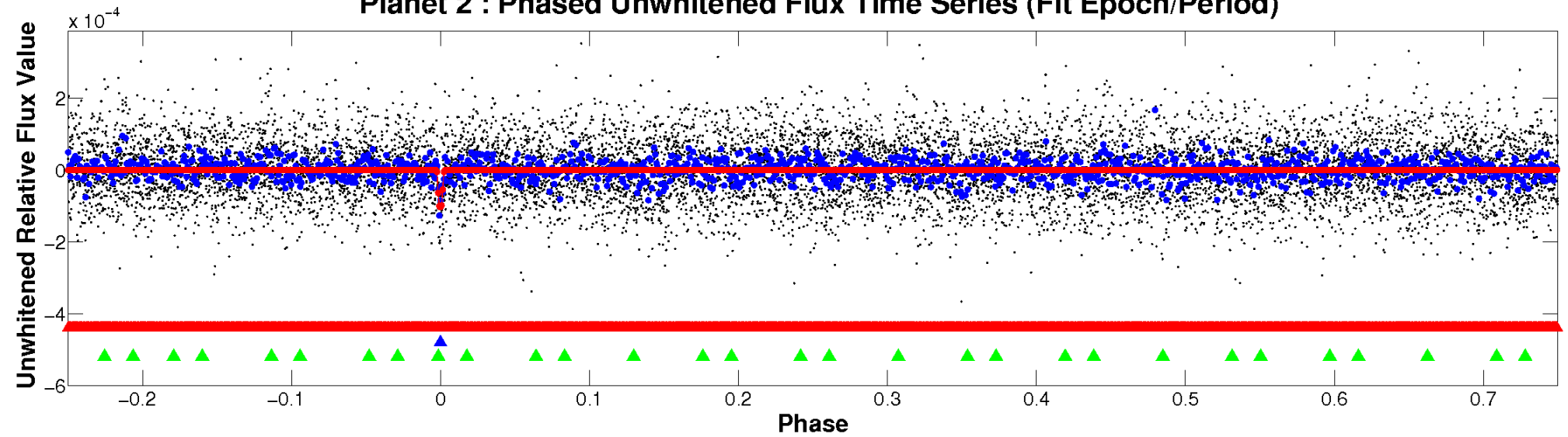
ALT Odd/Even

TCE 010087801-02

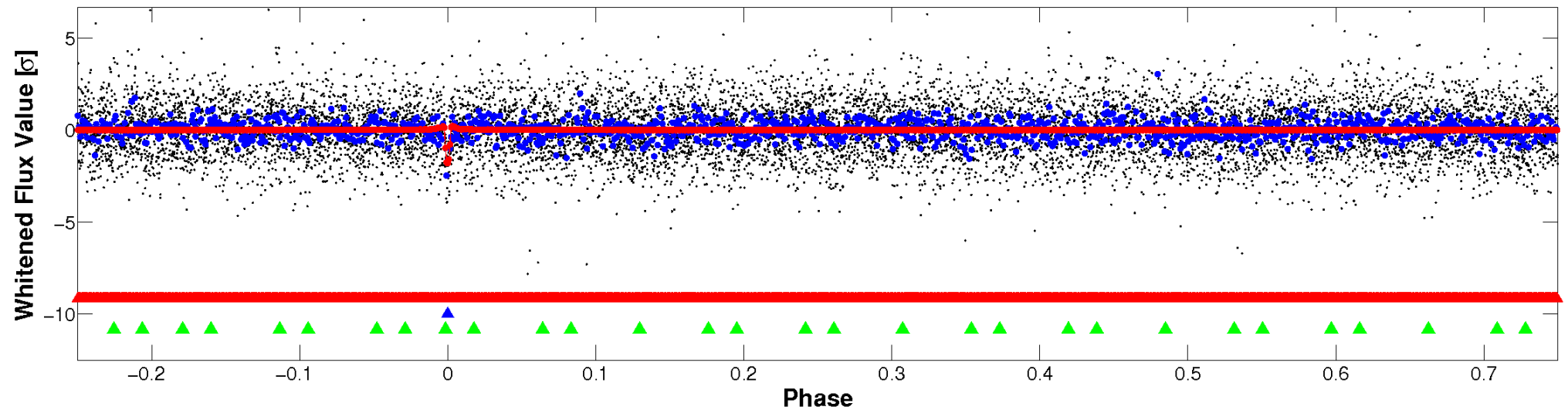


Non-Whitened Vs. Whitened Light Curve

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

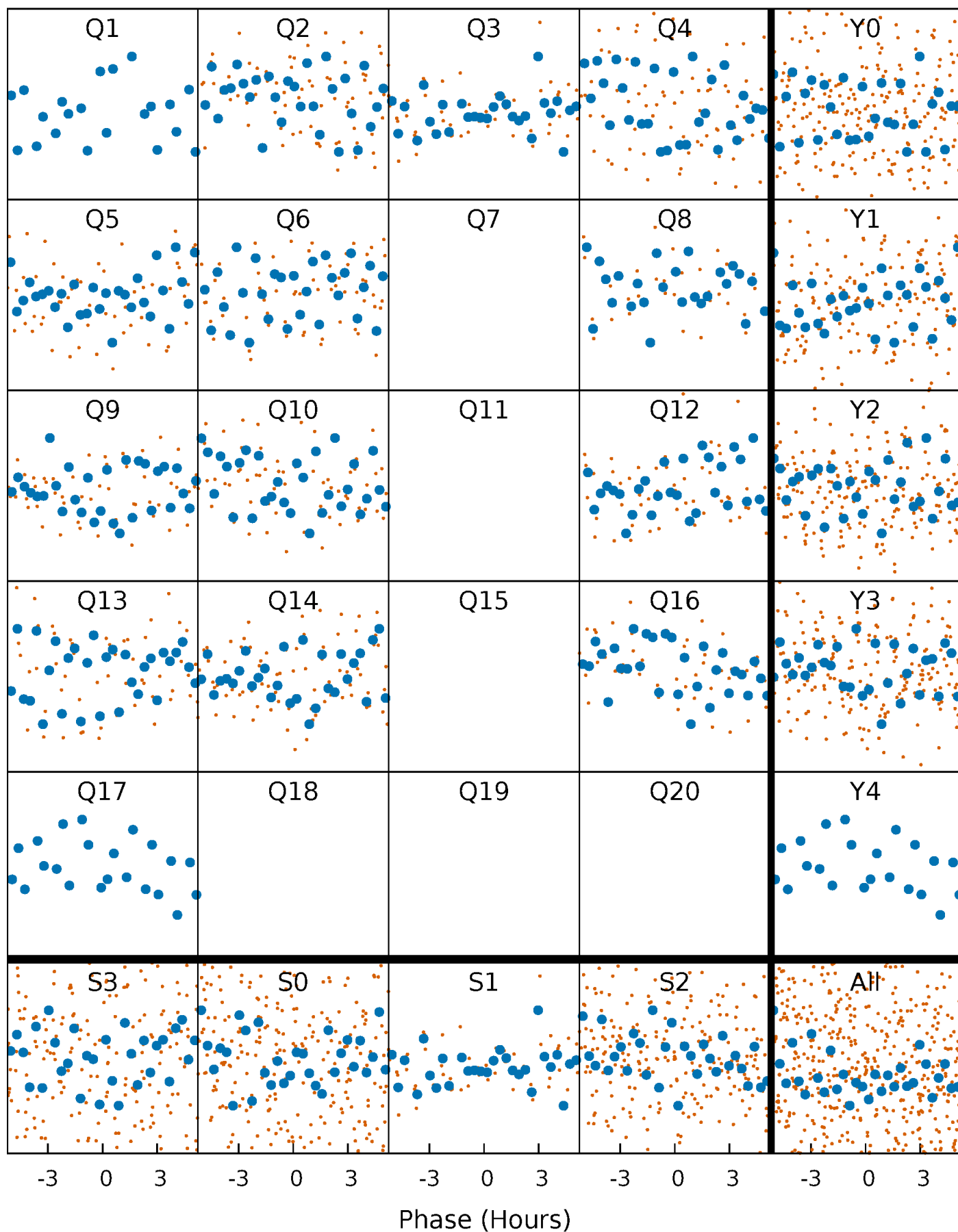


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



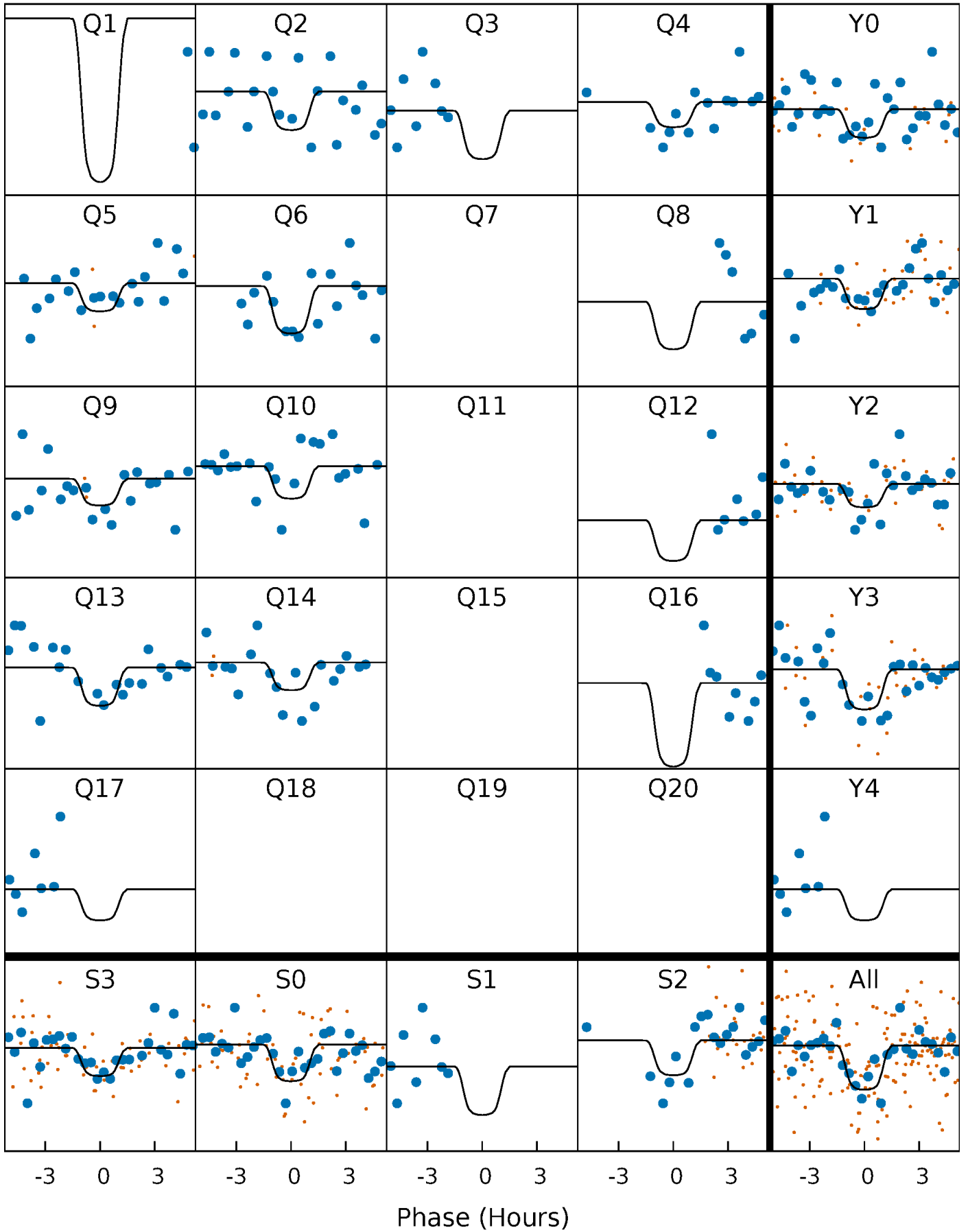
PDC Quarter-Phased Transit Curves

TCE 010087801-02 P= 26.499271 Days $T_0=143.293686$ (BKJD)



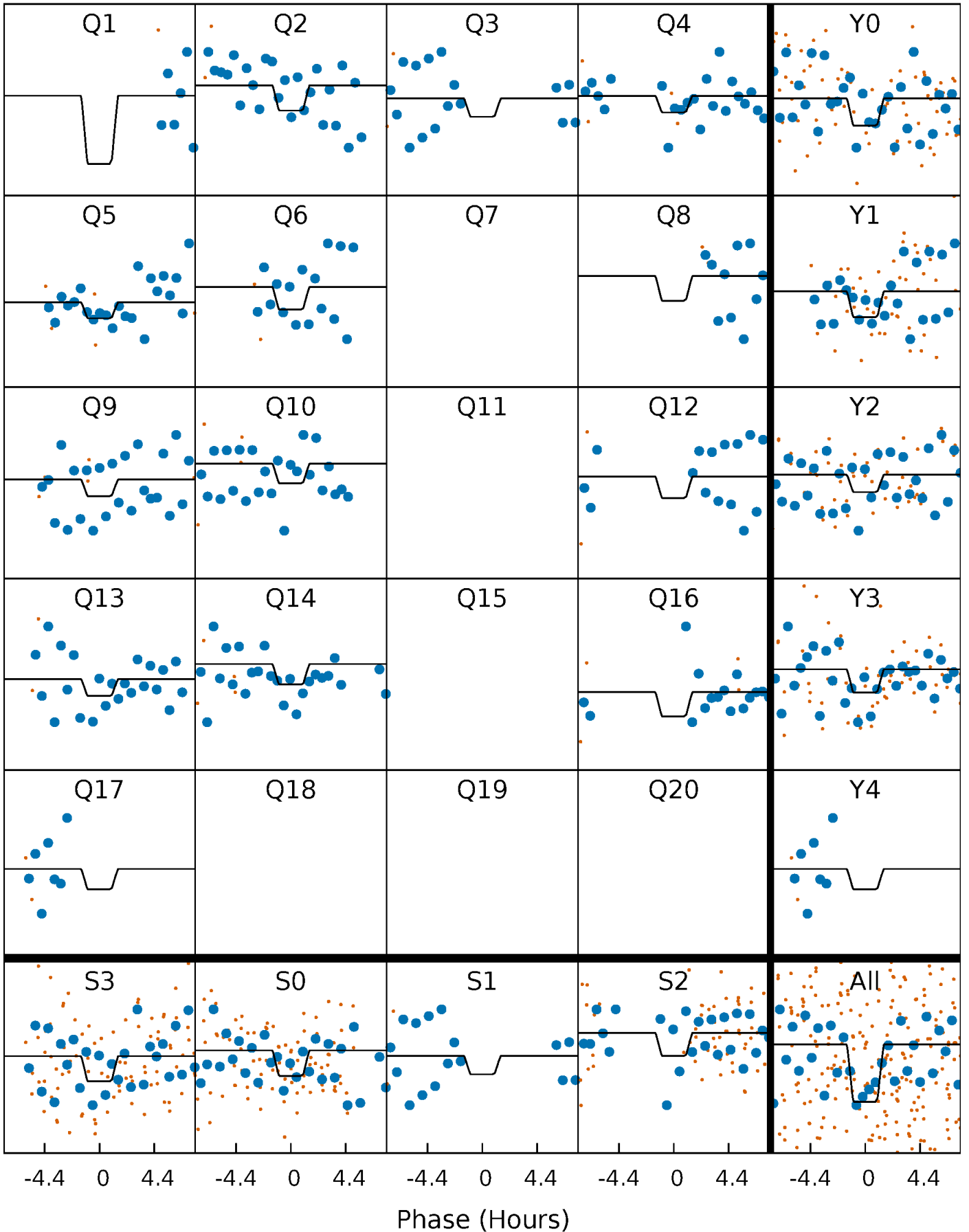
DV Quarter-Phased Transit Curves

TCE 010087801-02 P= 26.499271 Days $T_0=143.293686$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

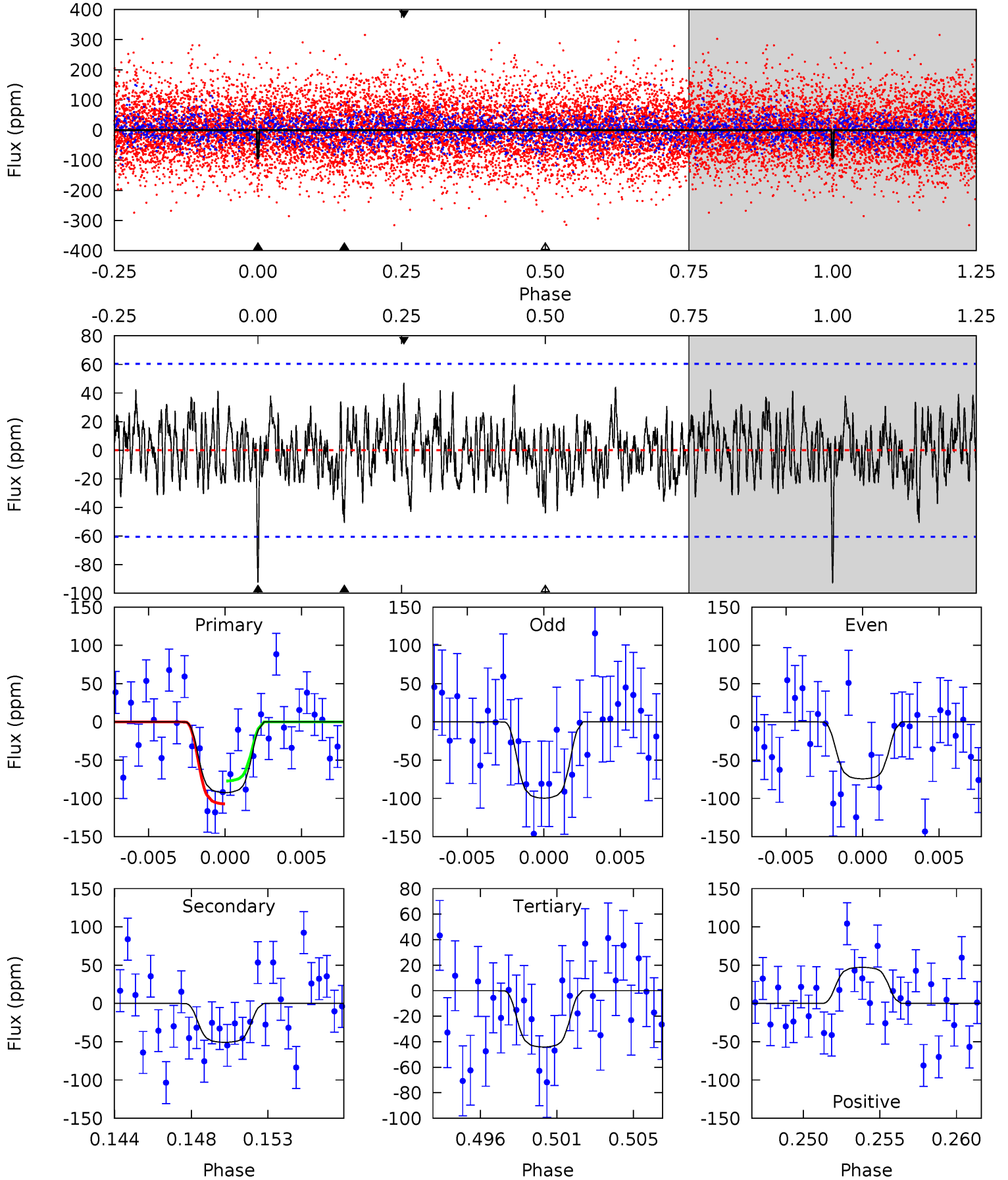
TCE 010087801-02 $P = 26.499579$ Days $T_0 = 143.289503$ (BKJD)



DV Model-Shift Uniqueness Test

010087801-02, P = 26.499271 Days, E = 116.794415 Days

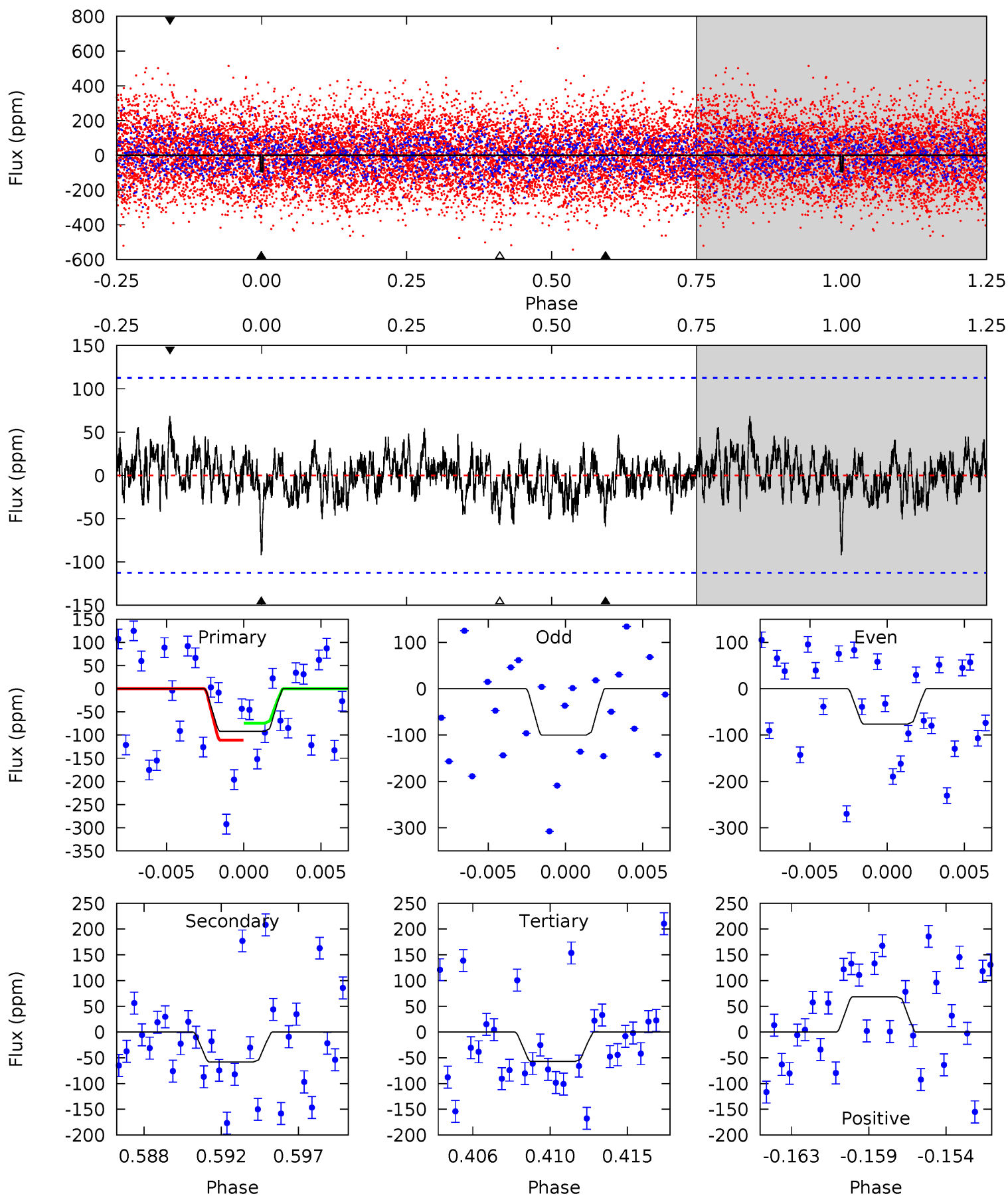
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.91	4.34	3.77	4.03	5.17	2.83	1.35	4.13	3.87	0.57	0.31	1.04	0.79	0.34	1.28



Alt Model-Shift Uniqueness Test

010087801-02, $P = 26.499579$ Days, $E = 116.789924$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.23	2.66	2.62	3.15	5.17	2.83	0.88	1.61	1.08	0.05	-0.48	0.53	0.88	0.43	0.84



Stellar Parameters For KIC 010087801

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7734^{+214}_{-322}	$4.170^{+0.084}_{-0.182}$	$0.070^{+0.200}_{-0.400}$	$1.774^{+0.517}_{-0.279}$	$1.696^{+0.210}_{-0.252}$	$0.428^{+0.188}_{-0.209}$
	+3%/-4%	+2%/-4%	+286%/-571%	+29%/-16%	+12%/-15%	+44%/-49%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010087801-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-51 ± 12	$2.36^{+0.53}_{-0.48}$	1401^{+106}_{-76}	5830^{+685}_{-541}	208^{+133}_{-75}
Alt.	-58 ± 22	$2.11^{+0.53}_{-0.46}$	1412^{+105}_{-82}	6382^{+1001}_{-792}	296^{+230}_{-131}

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

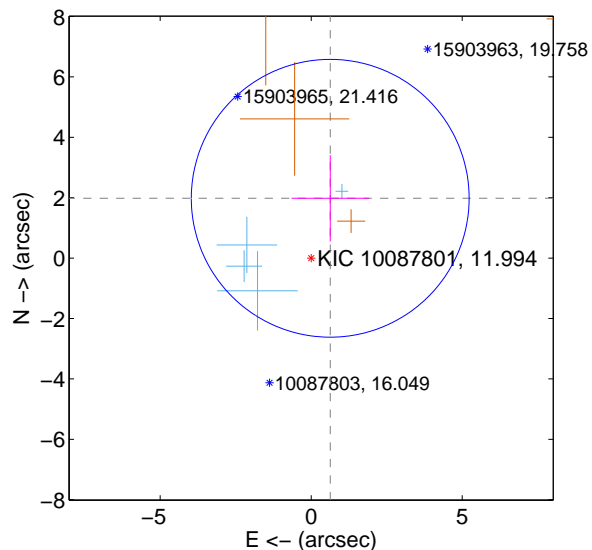
Supplemental centroid analysis for 010087801-02. **Kepler magnitude: 11.99.** Transit SNR 8.91

There are 4 quarters with good PRF difference image offsets

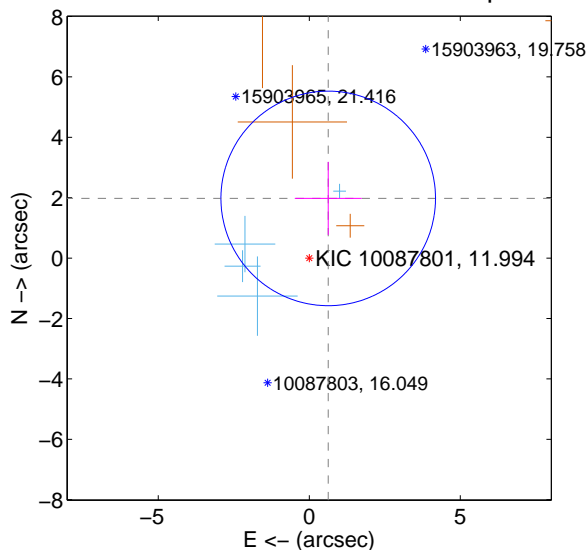
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.078 ± 1.533	1.36	-0.630 ± 1.282	1.980 ± 1.428
PRF-fit source offset from KIC position	2.073 ± 1.184	1.75	-0.627 ± 1.106	1.976 ± 1.209
photometric centroid source offset	1.85 ± 0.84	2.20	1.44 ± 0.82	1.16 ± 0.87

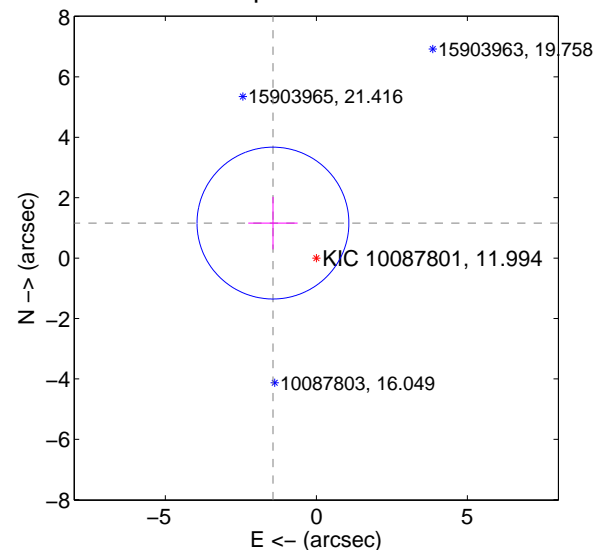
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

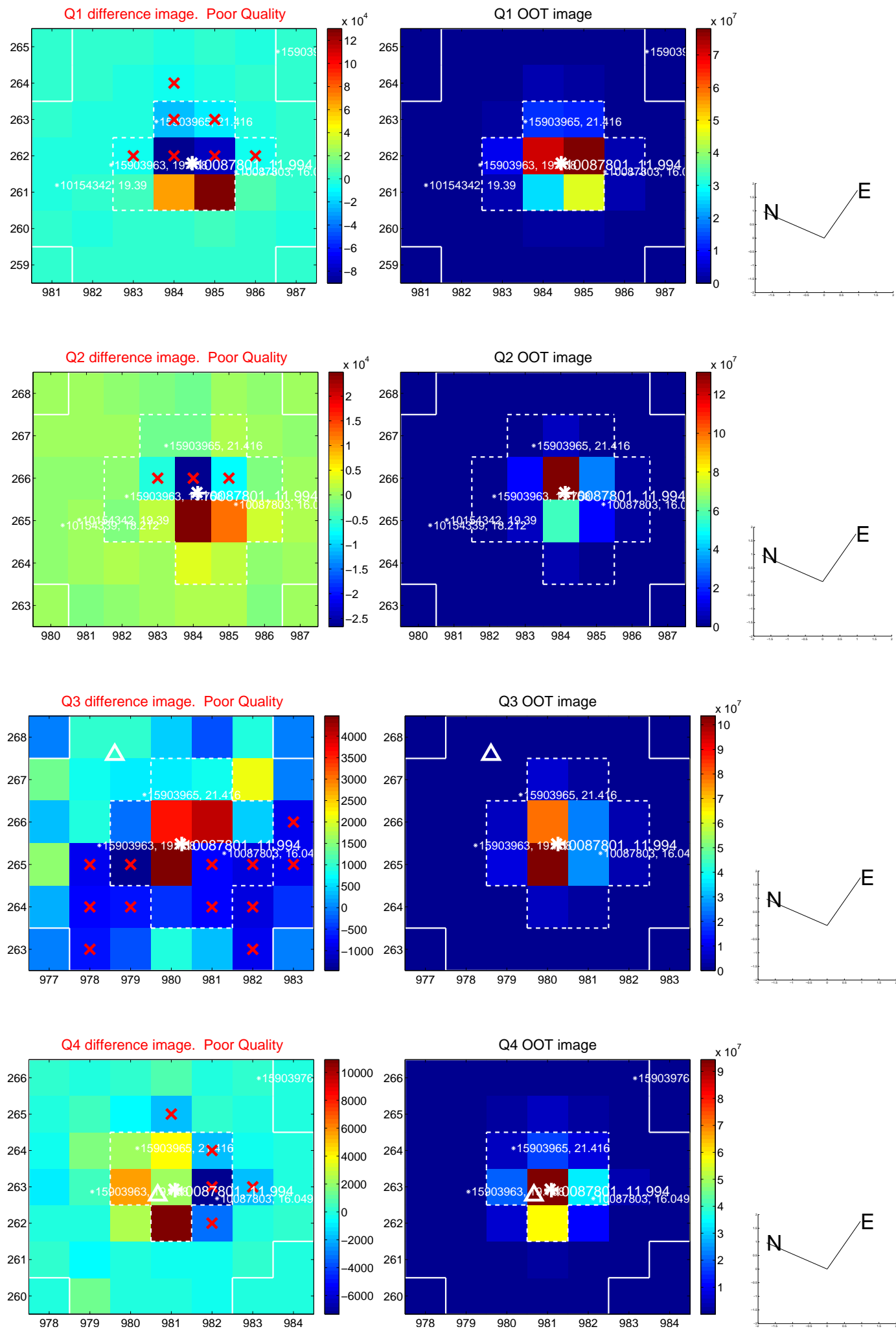


offset from photometric centroids

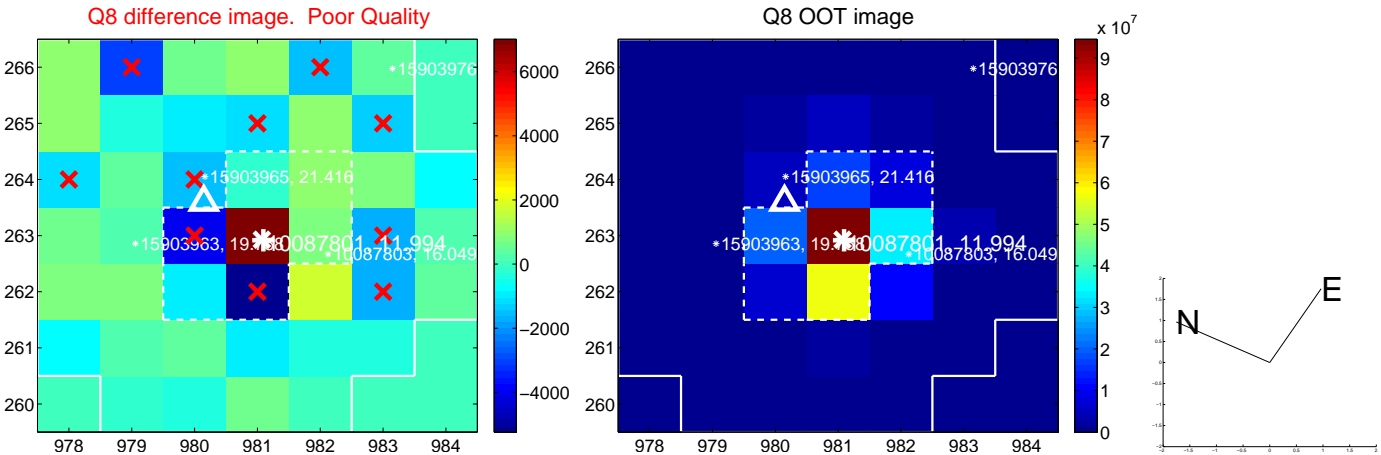
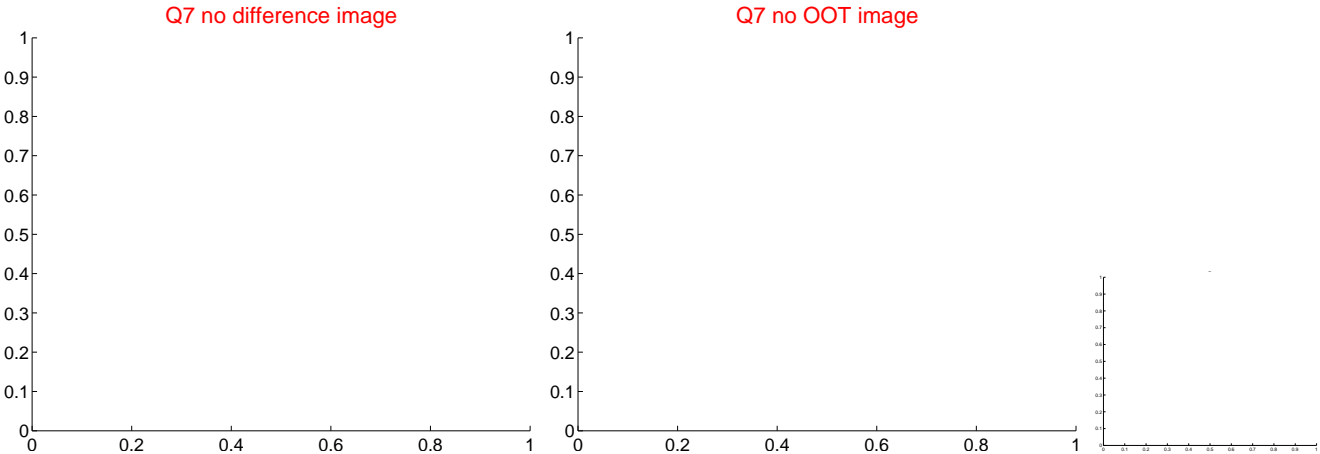
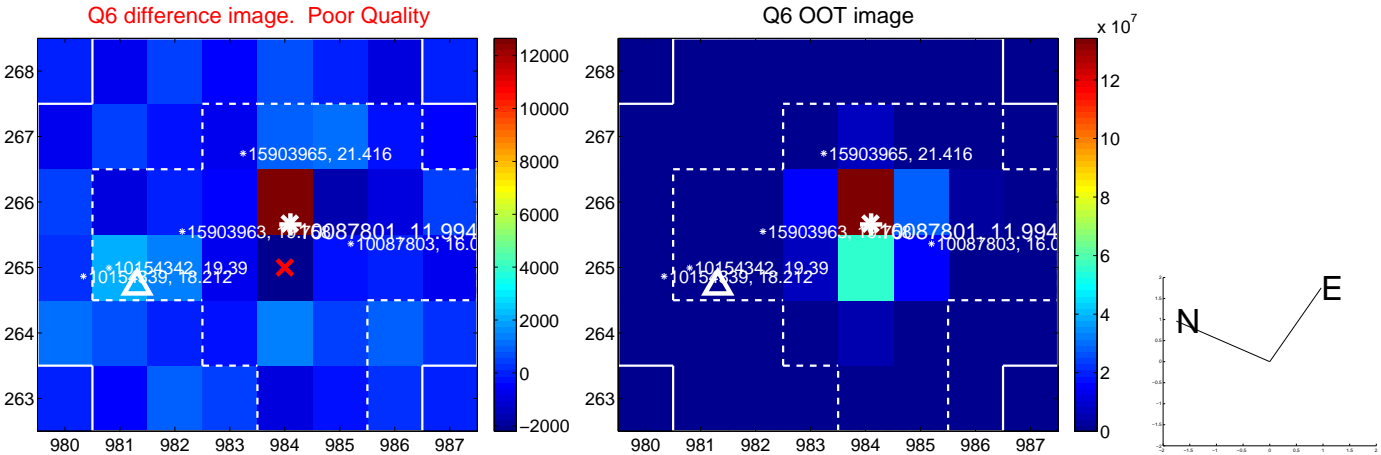
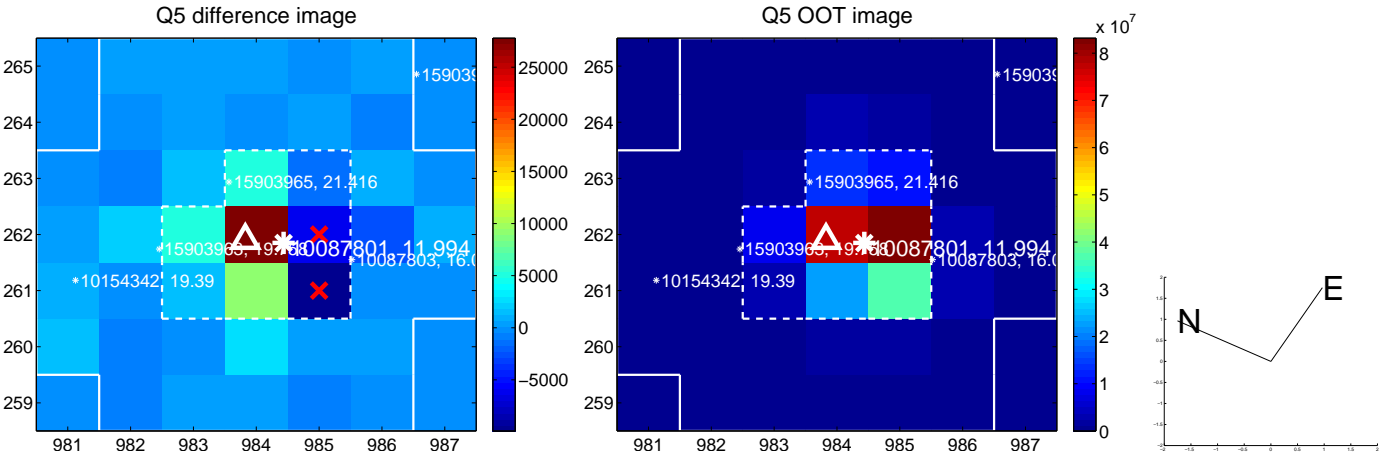


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

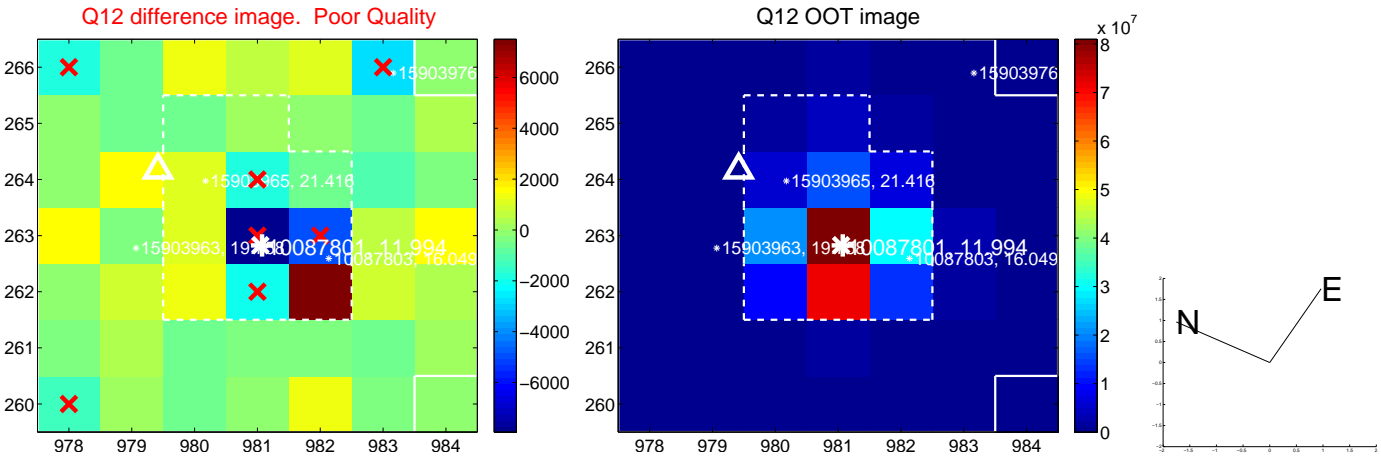
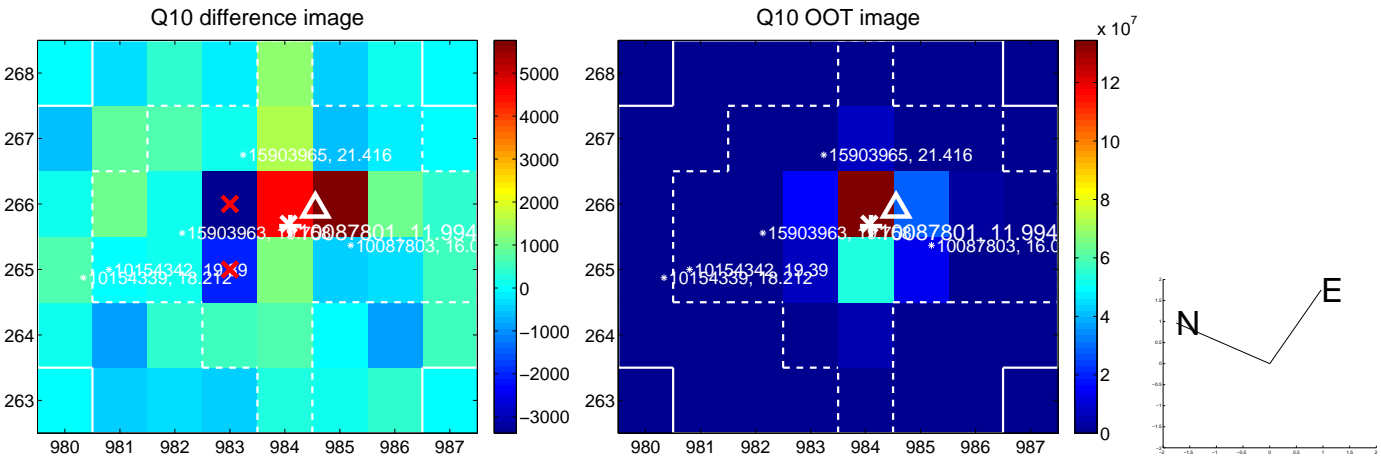
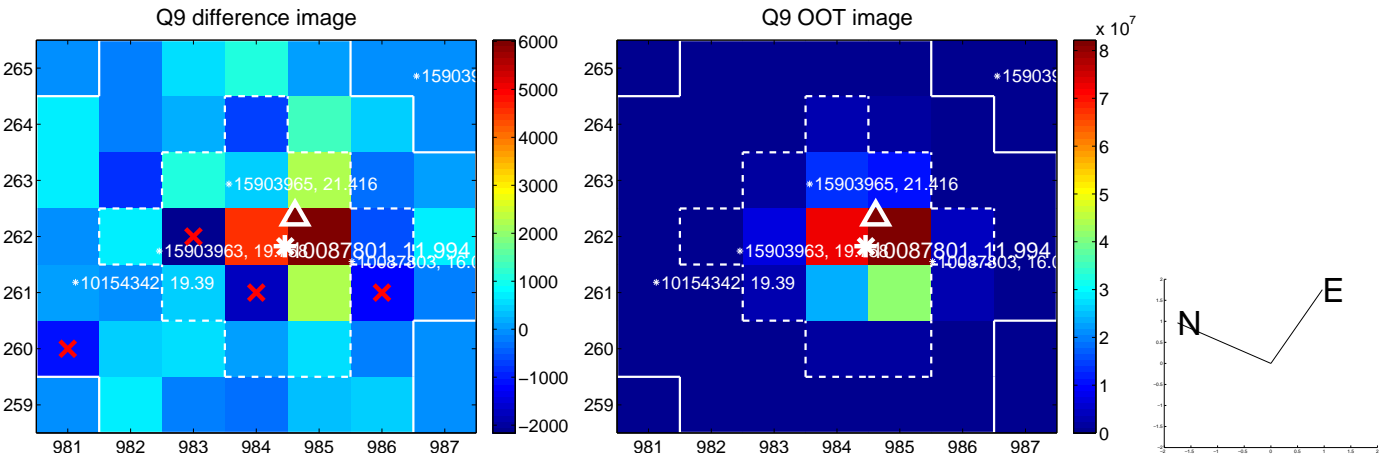
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



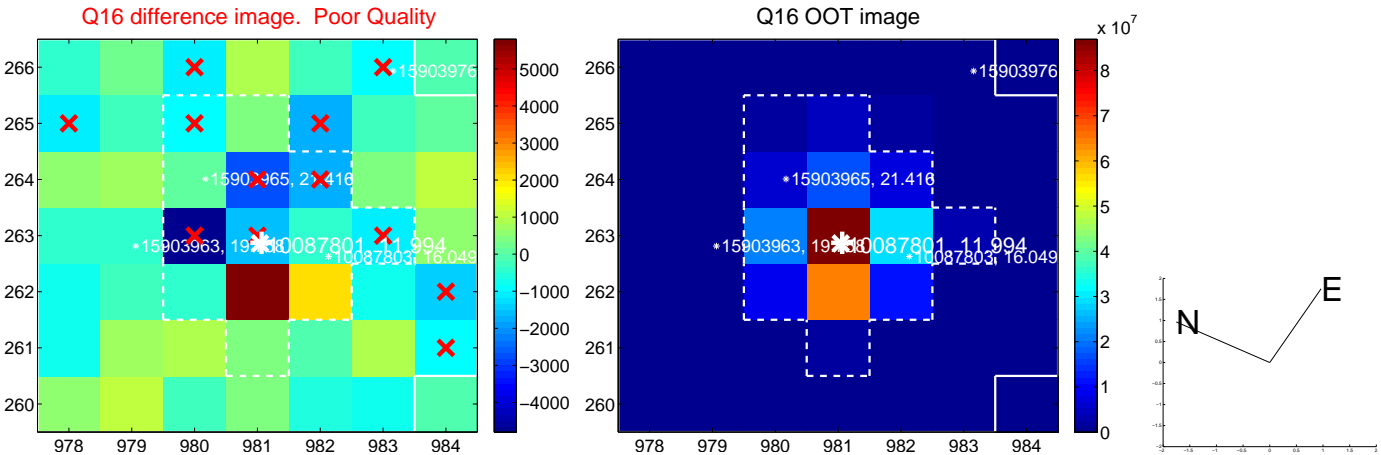
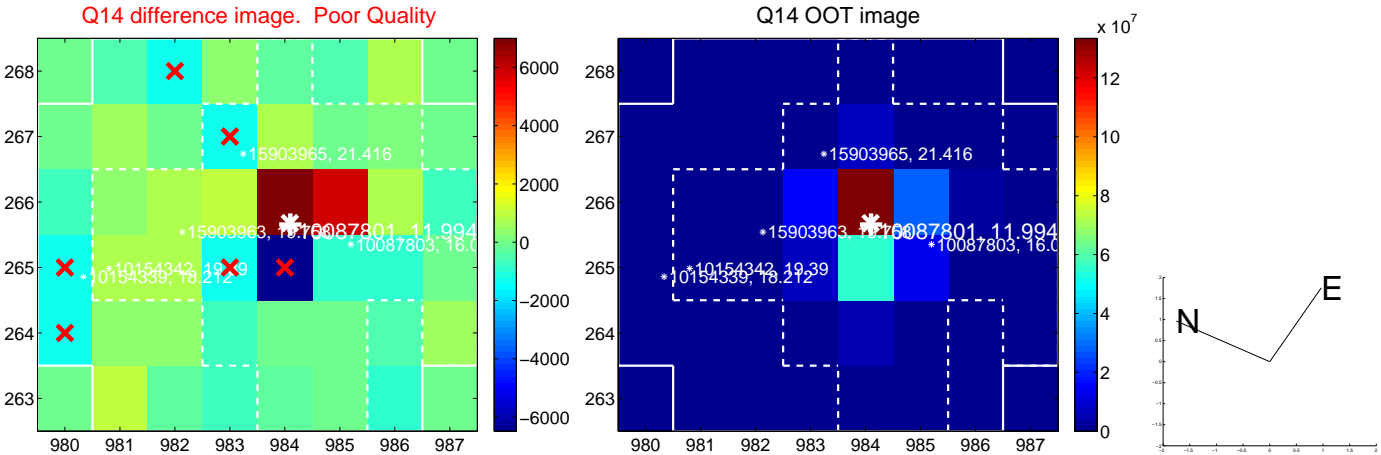
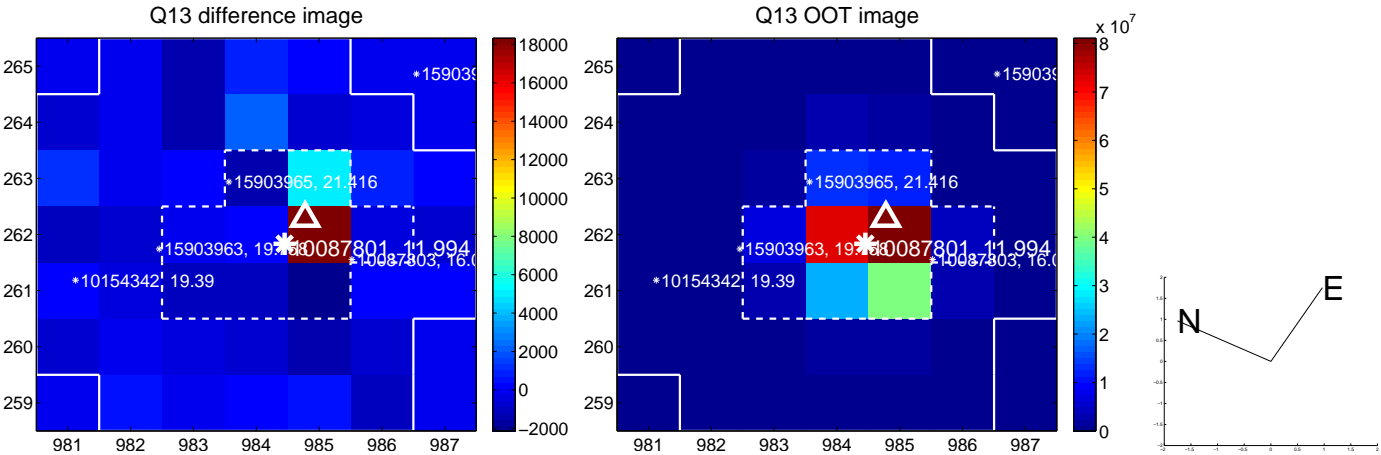
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



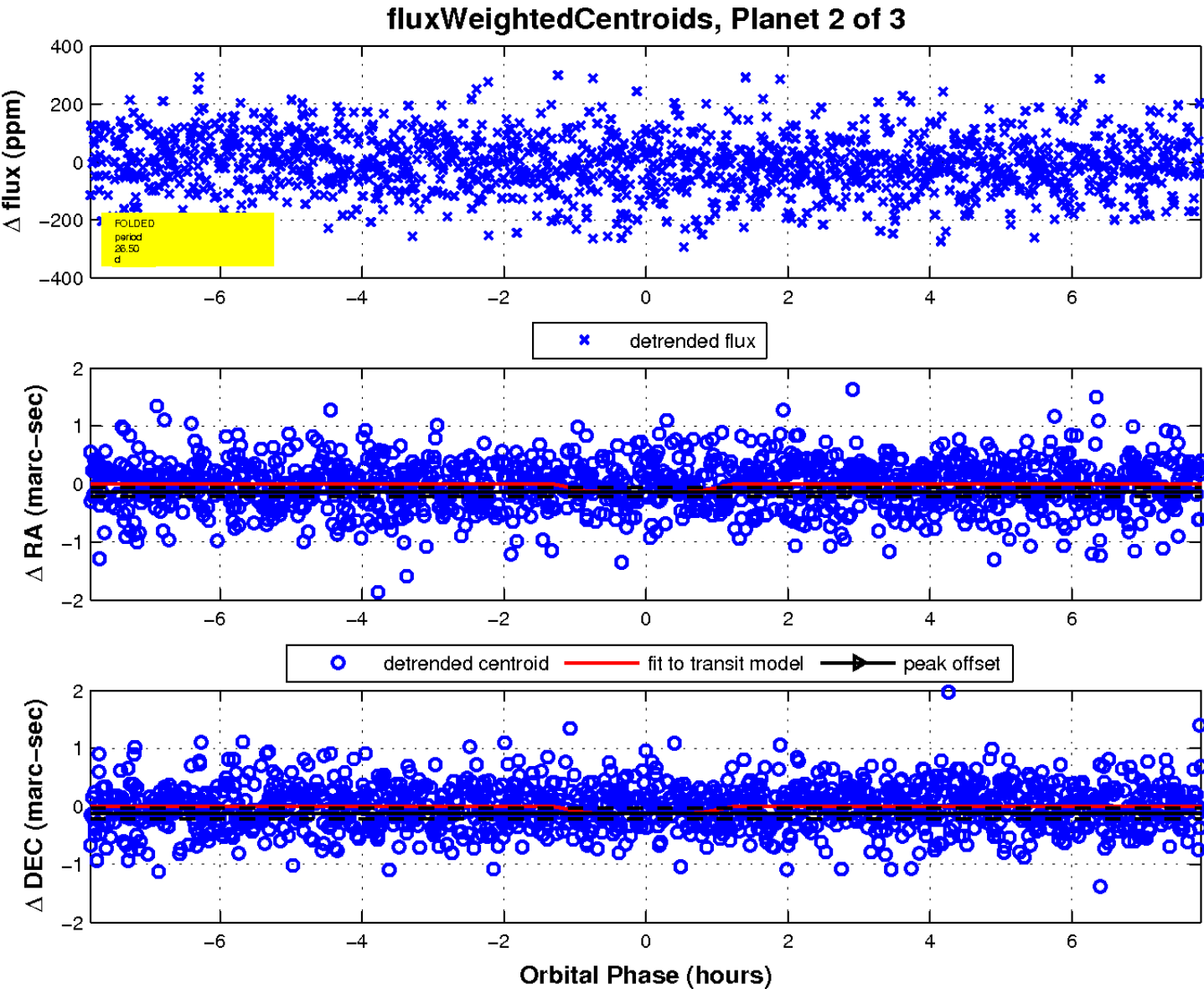
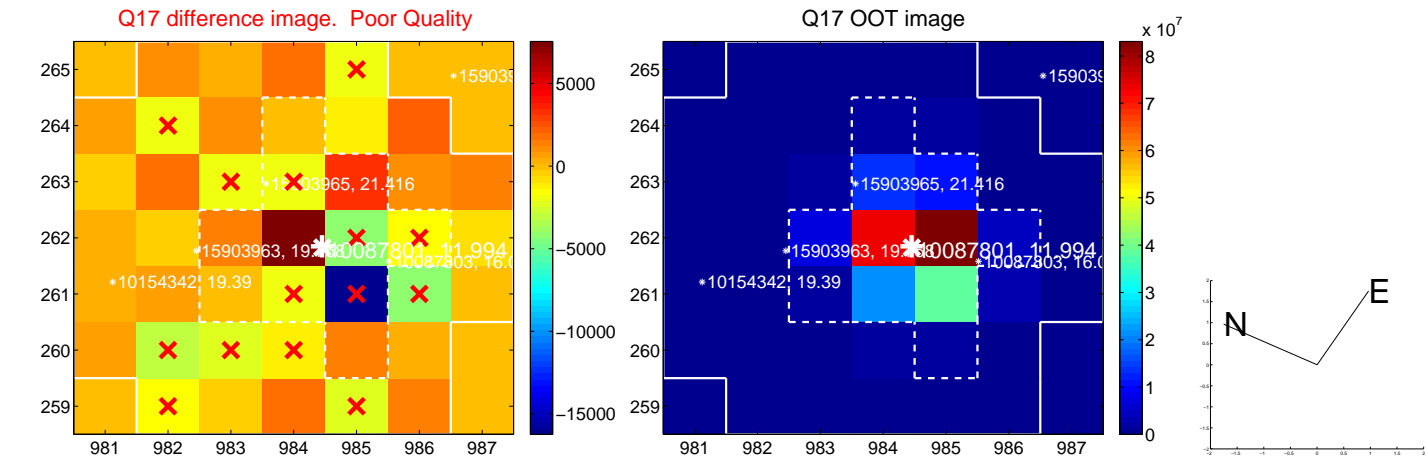
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

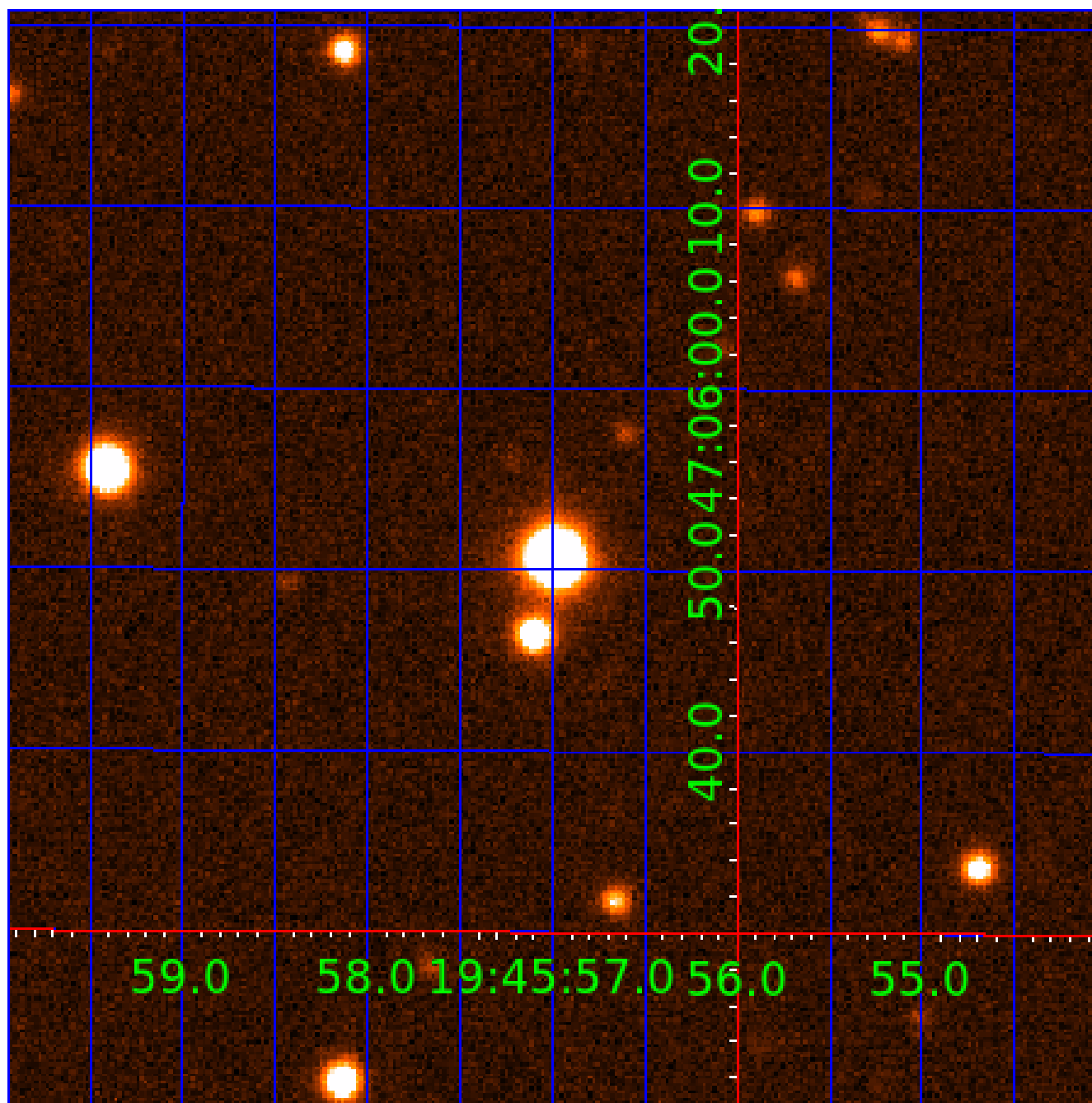


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010087801

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})
010087801-01	OBS	No	0.833641	132.310622	0.0	5.082	8.3	0.0	1.77	7734	0.00	23578.07
010087801-02	OBS	No	26.499271	143.293686	103.6	2.614	9.2	8.9	1.77	7734	2.31	234.15
010087801-03	OBS	No	48.292326	142.533212	149.7	2.984	8.5	8.1	1.77	7734	2.44	105.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010087801-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_NOFITS
010087801-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010087801-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

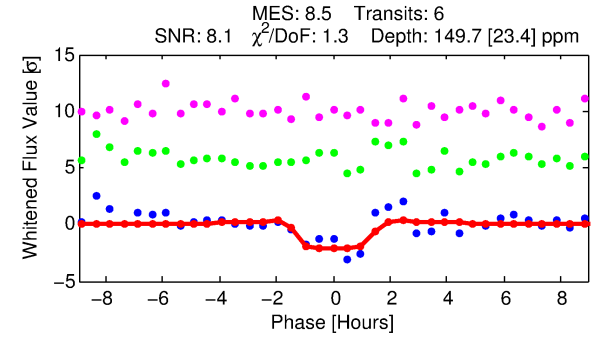
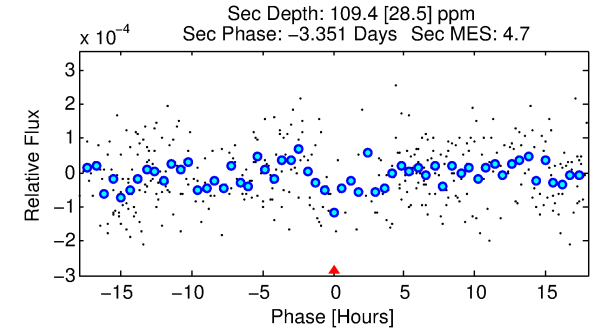
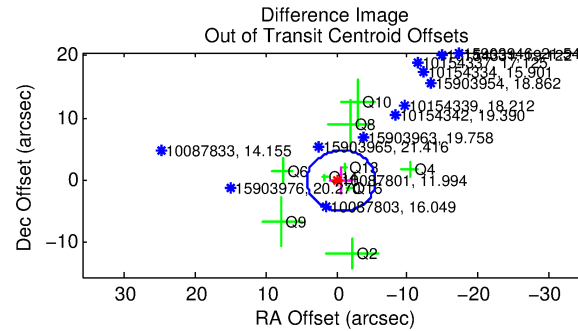
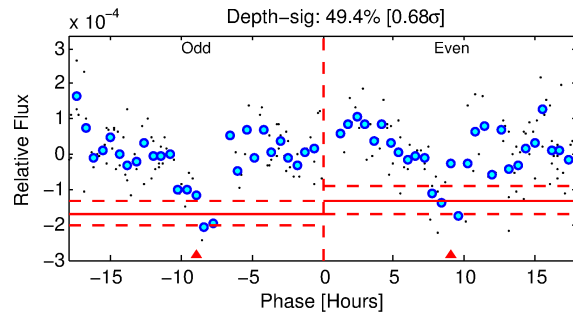
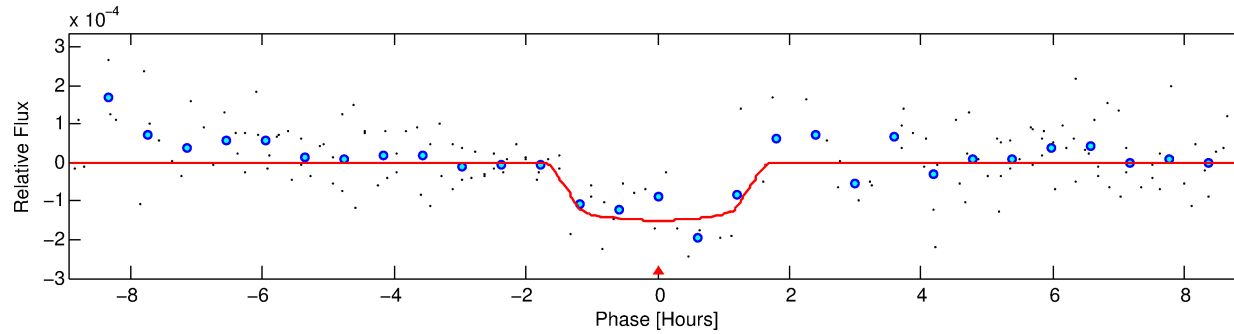
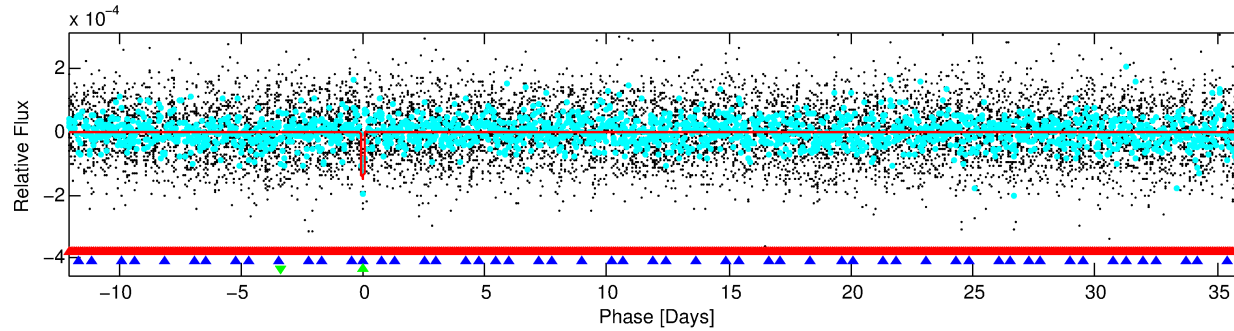
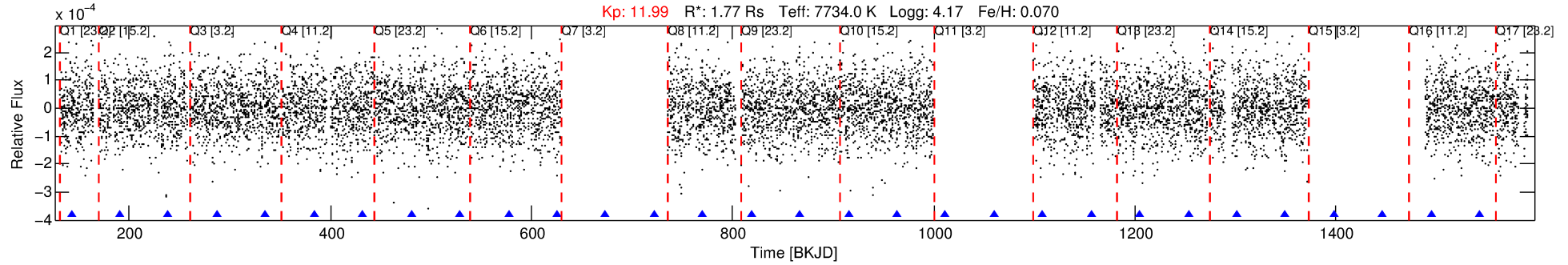
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010087801-03

No Significant Match Found

DV One-Page Summary

KIC: 10087801 Candidate: 3 of 3 Period: 48.292 d



DV Fit Results:

Period = 48.29233 [0.00073] d
Epoch = 142.5332 [0.0146] BKJD
Rp/R* = 0.0126 [0.0090]
a/R* = 67.56 [308.08]
b = 0.85 [1.49]
Seff = 105.19 [39.85]
Teq = 817 [77] K
Rp = 2.44 [1.88] Re
a = 0.3097 [0.0741] AU
Ag = 966.34 [1436.95] [0.67 σ]
Teffp = 7040 [2564] K [2.43 σ]

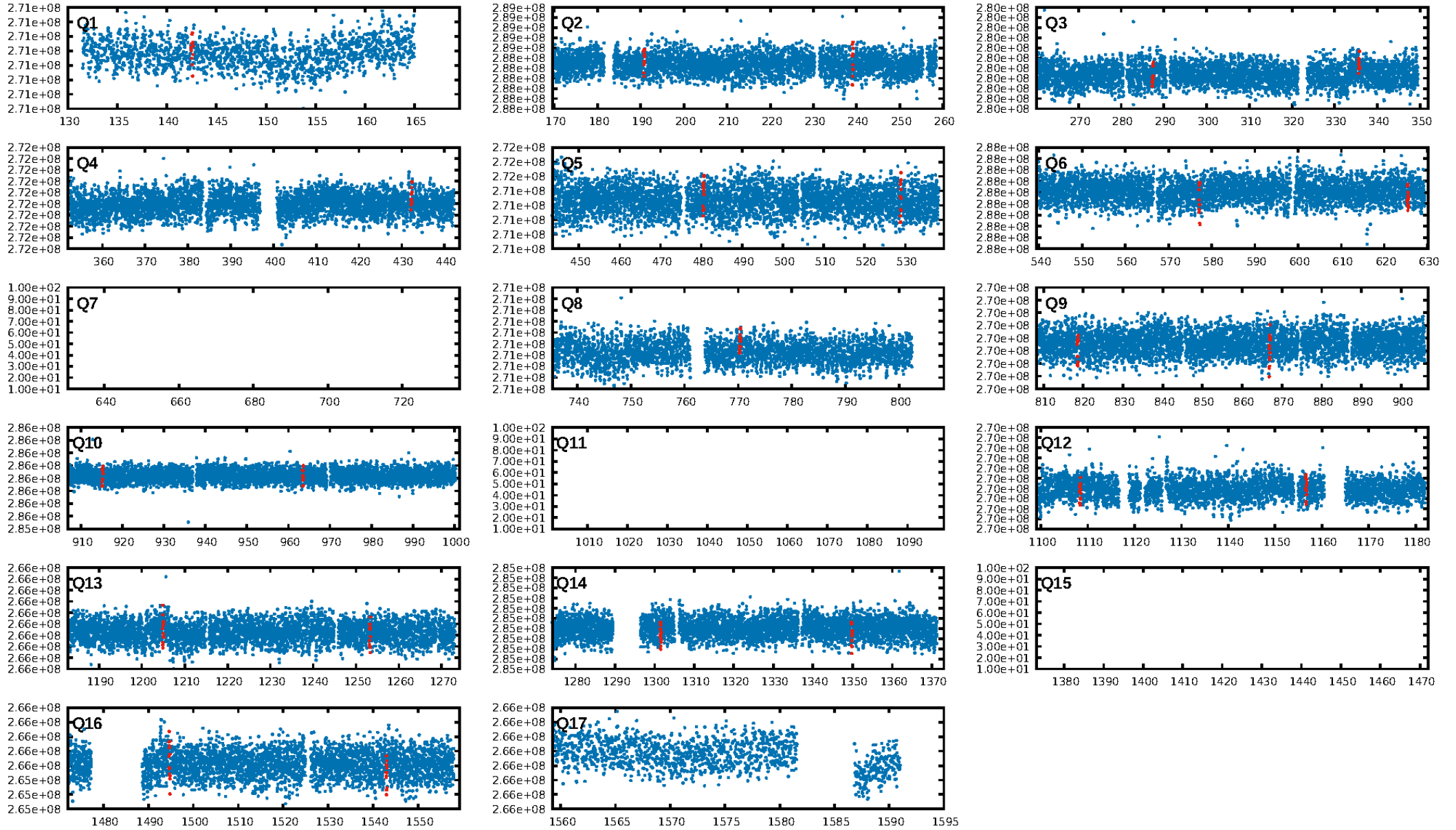
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [131.85 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 69.1%
ModelChiSquareGo-sig: 100.0%
Bootstrap-pfa: 5.96e-09
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -0.6562
Centroid-sig: 0.1%
Centroid-so: 1.427 arcsec [1.99 σ]
OotOffset-rm: 0.654 arcsec [0.40 σ]
KicOffset-rm: 0.642 arcsec [0.41 σ]
OotOffset-st: 4/0/3/2 [9]
KicOffset-st: 4/0/3/2 [9]
DiffImageQuality-fgm: 0.33 [3/9]
DiffImageOverlap-fno: 0.00 [0/13]

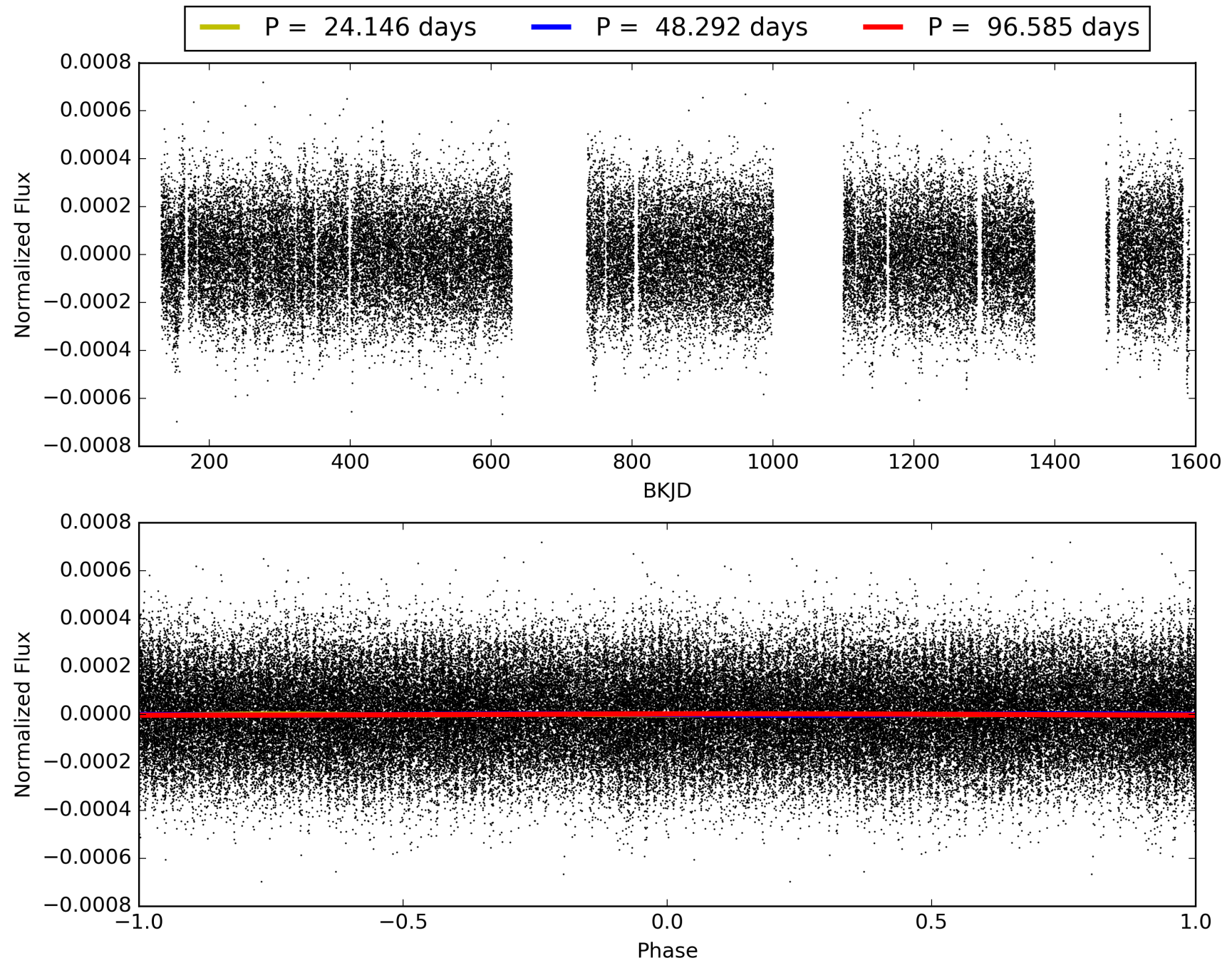
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:36:29 Z

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

TCE 010087801-03, PDC Light Curves

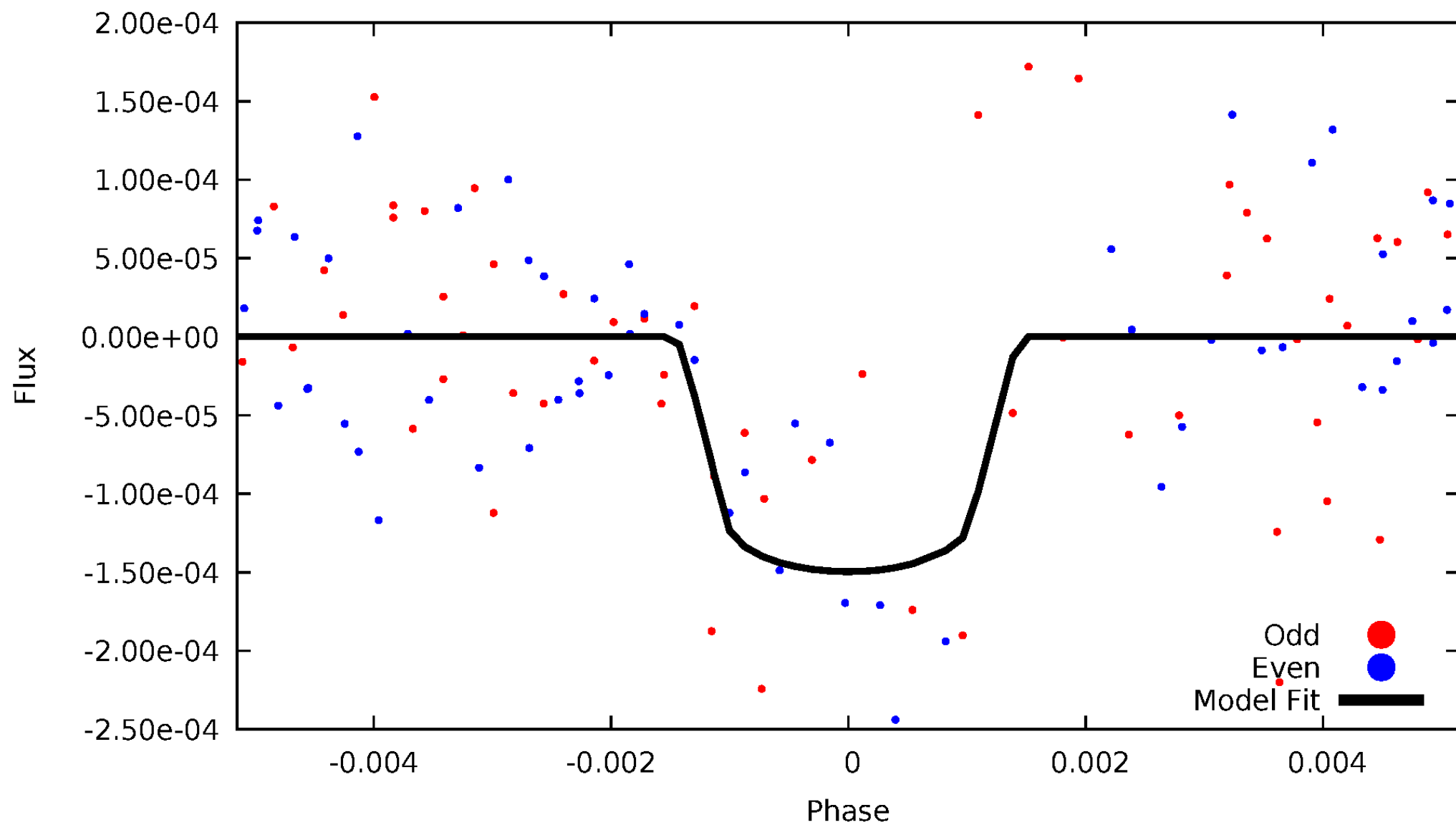


TCE 010087801-03



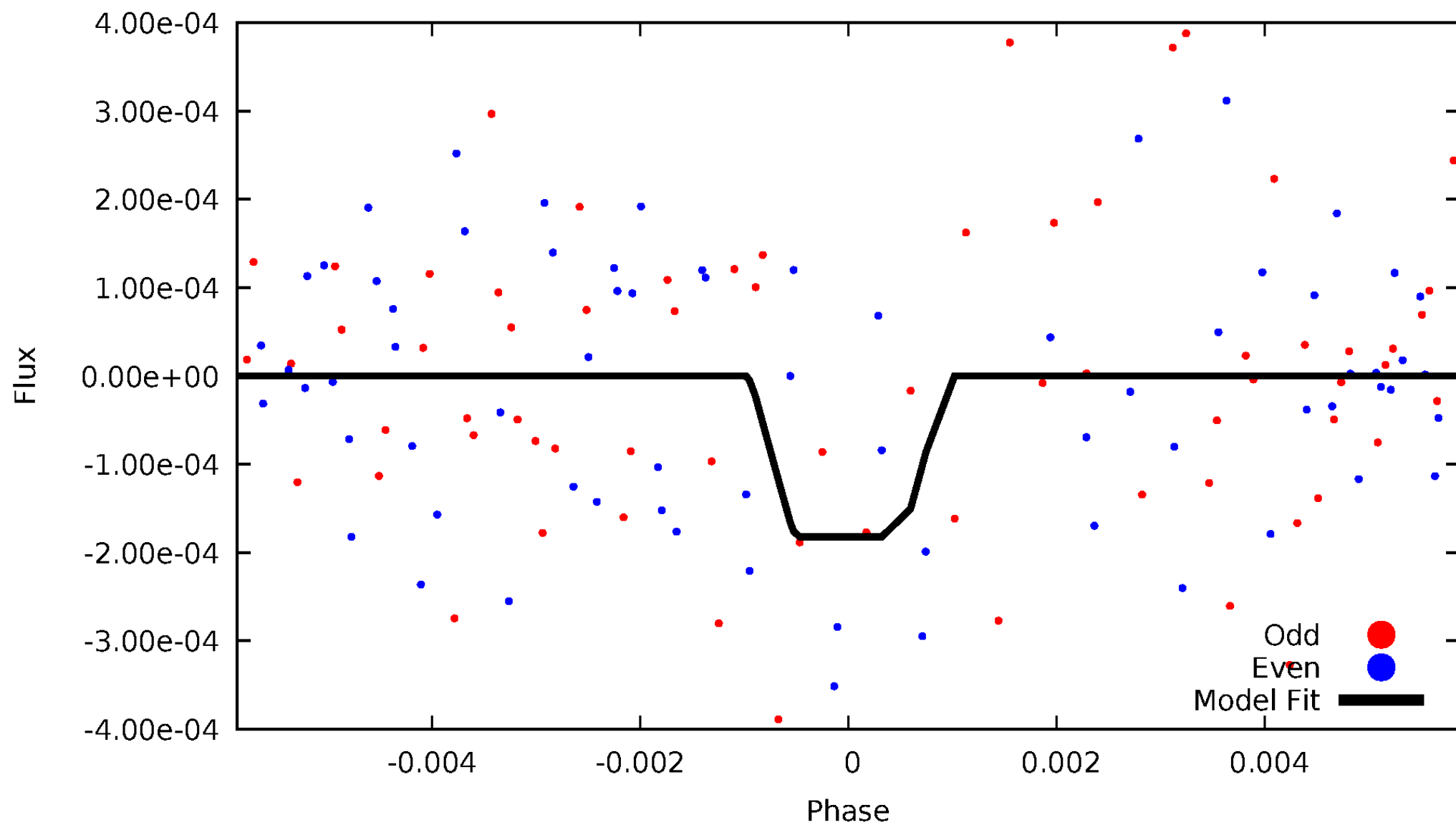
DV Odd/Even

TCE 010087801-03



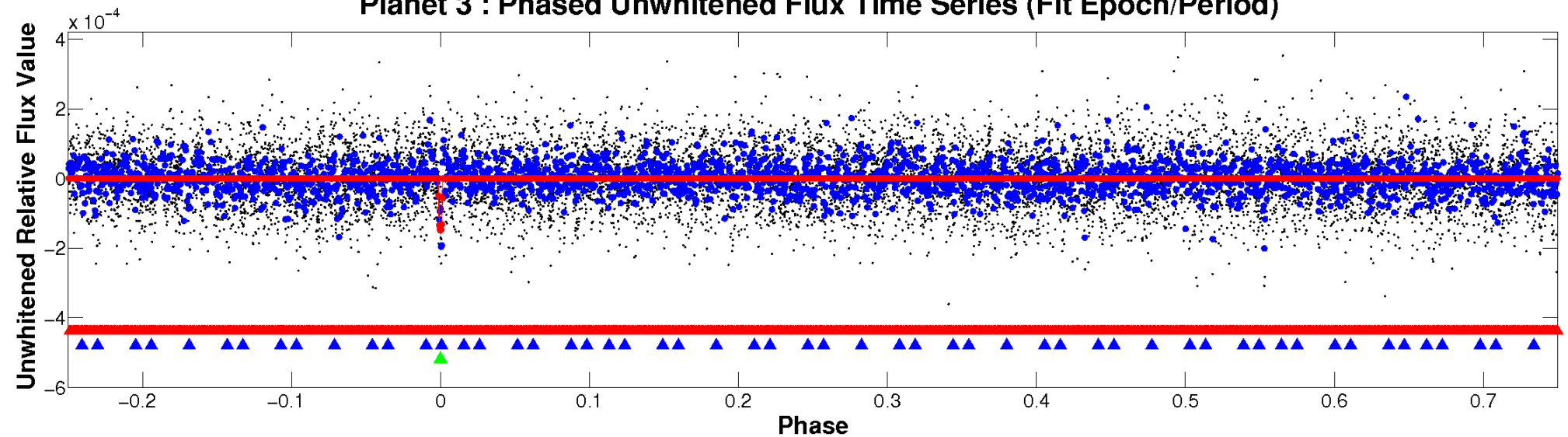
ALT Odd/Even

TCE 010087801-03

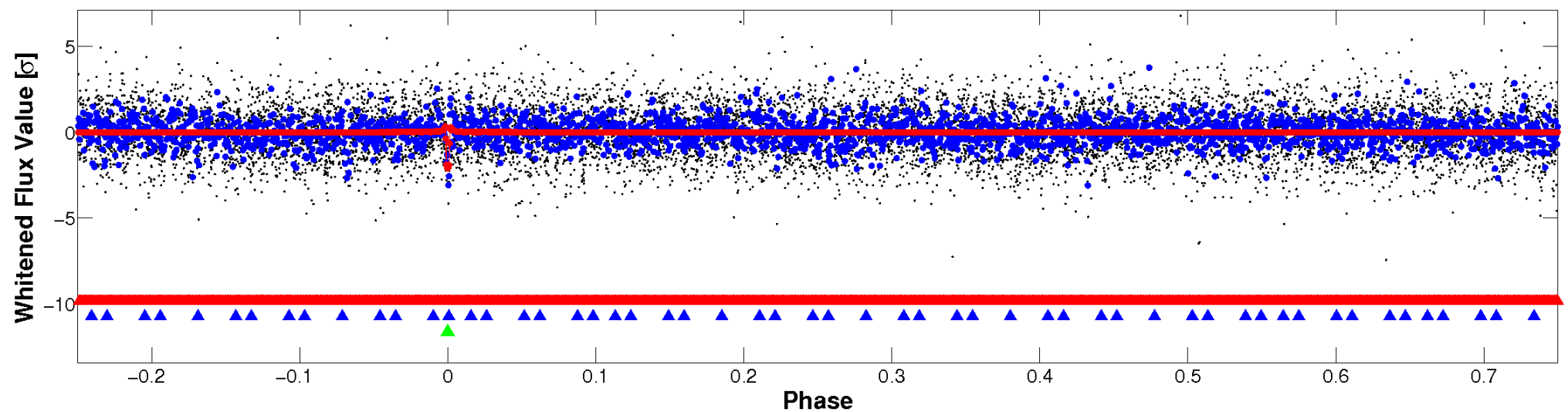


Non-Whitened Vs. Whitened Light Curve

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

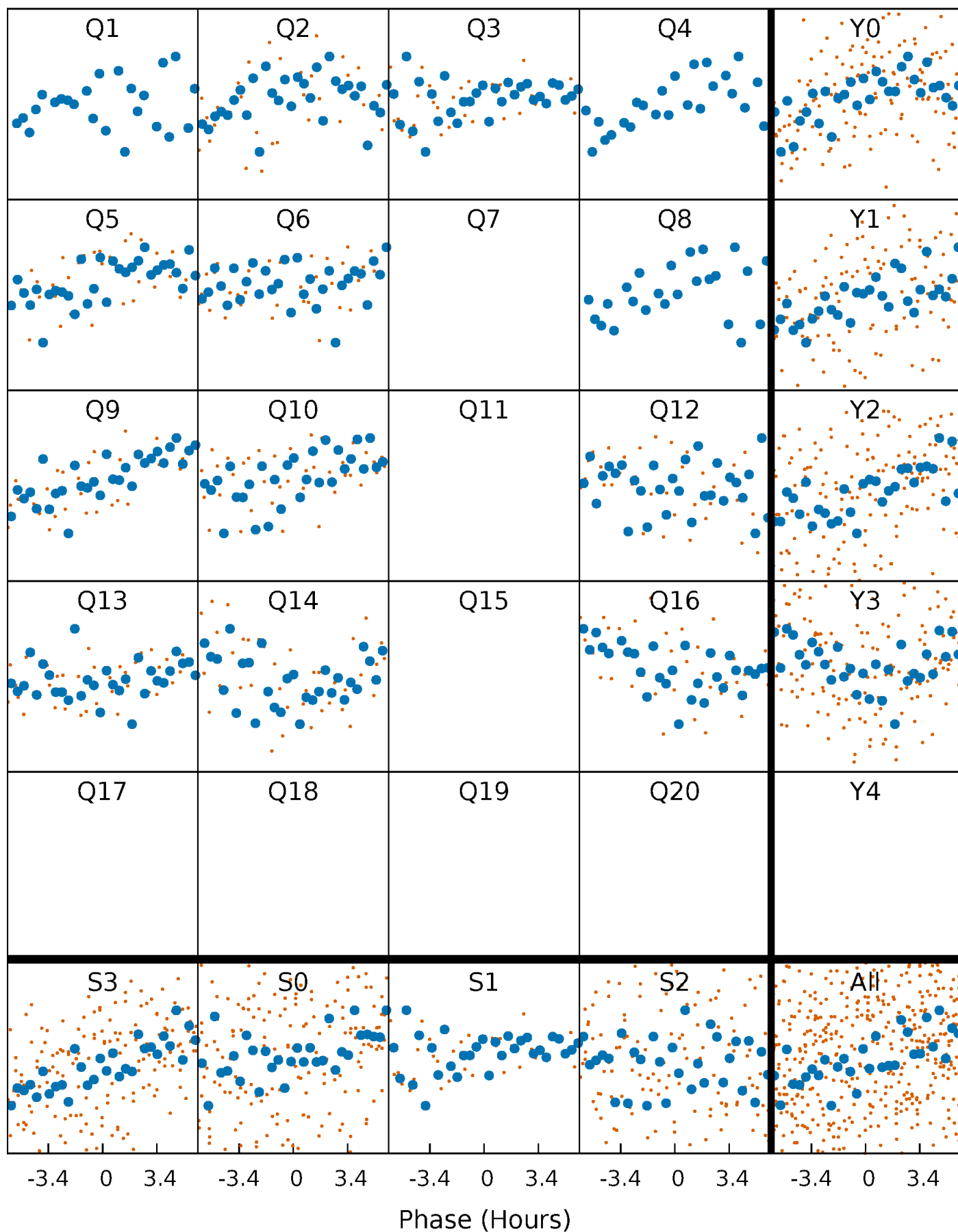


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



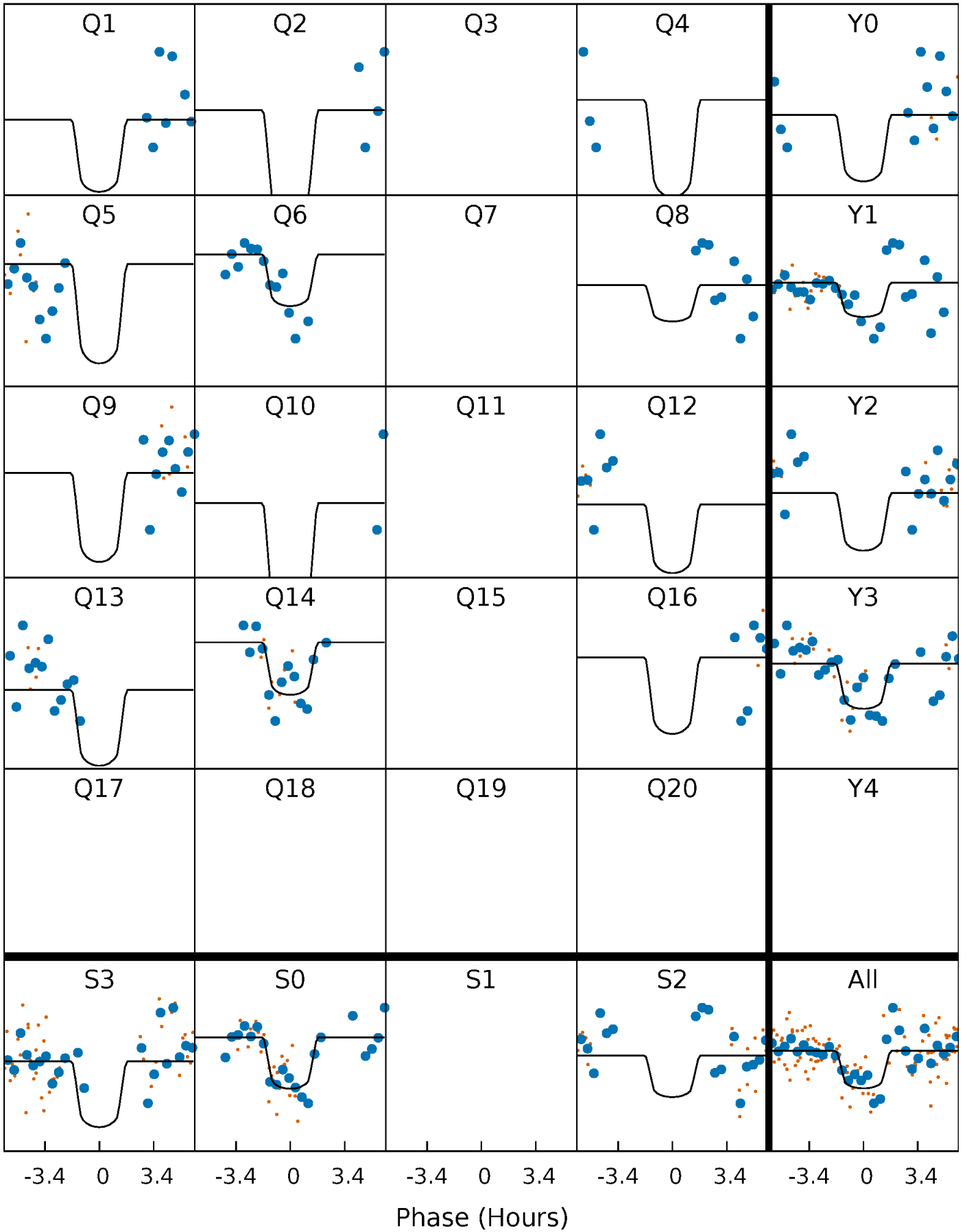
PDC Quarter-Phased Transit Curves

TCE 010087801-03 $P = 48.292326$ Days $T_0 = 142.533212$ (BKJD)



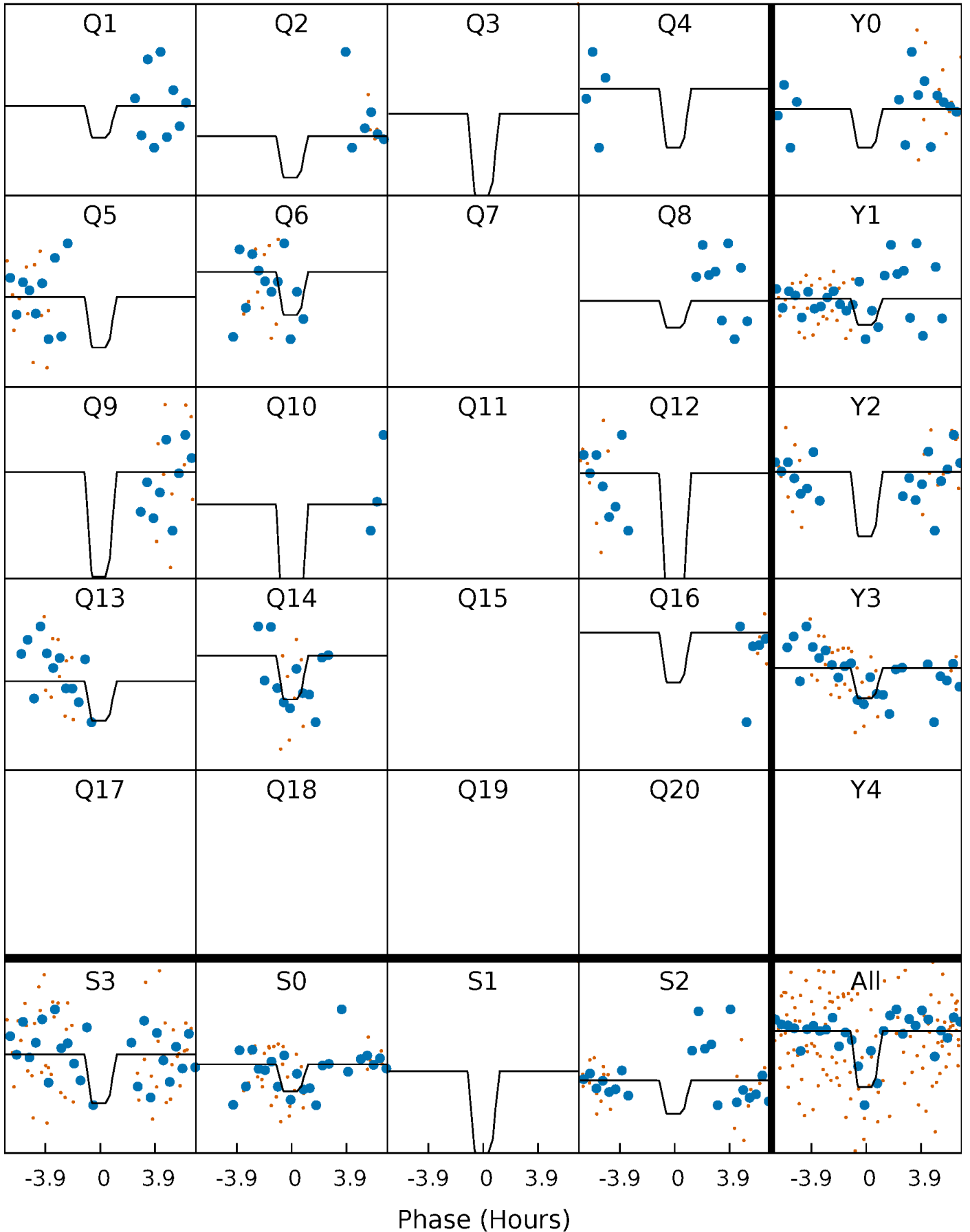
DV Quarter-Phased Transit Curves

TCE 010087801-03 $P = 48.292326$ Days $T_0 = 142.533212$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

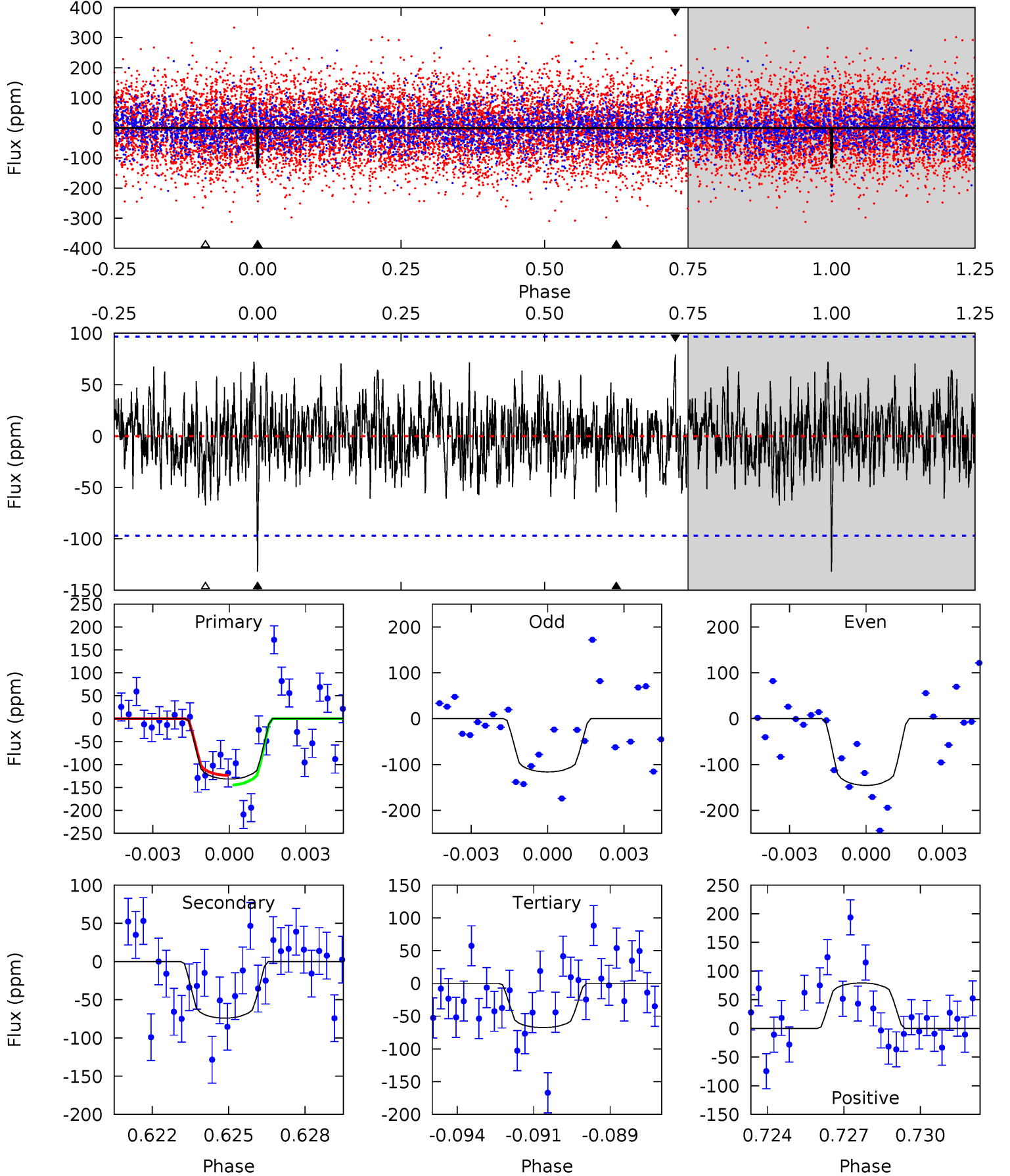
TCE 010087801-03 $P = 48.290532$ Days $T_0 = 142.554859$ (BKJD)



DV Model-Shift Uniqueness Test

010087801-03, P = 48.292326 Days, E = 94.240886 Days

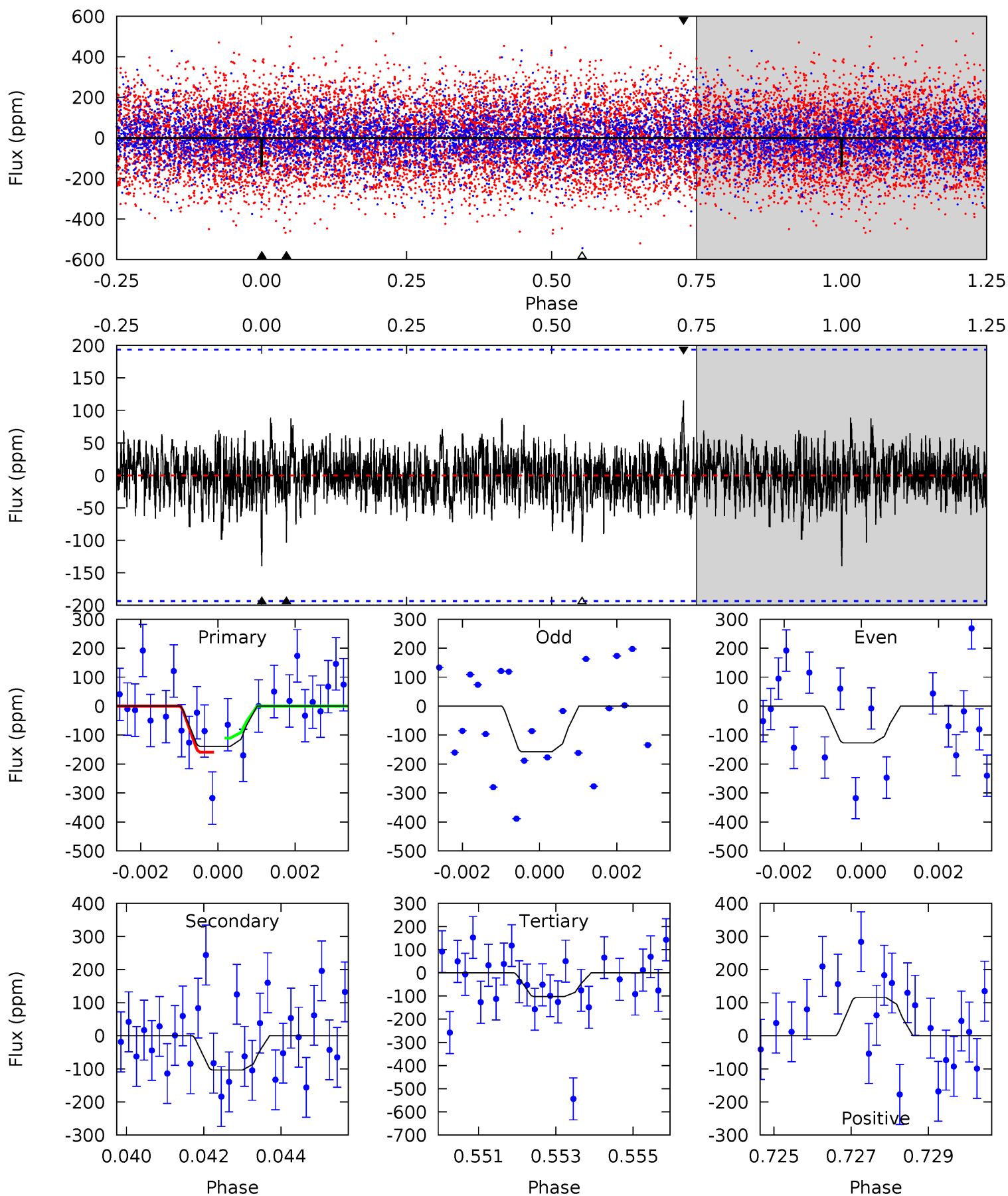
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.18	4.03	3.67	4.32	5.27	3.00	1.27	3.50	2.86	0.36	-0.28	0.80	0.95	0.38	0.54



Alt Model-Shift Uniqueness Test

010087801-03, P = 48.290532 Days, E = 94.264327 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.83	2.85	2.82	3.17	5.33	3.09	0.75	1.01	0.66	0.03	-0.32	0.42	0.95	0.45	0.64



Stellar Parameters For KIC 010087801

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7734^{+214}_{-322}	$4.170^{+0.084}_{-0.182}$	$0.070^{+0.200}_{-0.400}$	$1.774^{+0.517}_{-0.279}$	$1.696^{+0.210}_{-0.252}$	$0.428^{+0.188}_{-0.209}$
	+3%/-4%	+2%/-4%	+286%/-571%	+29%/-16%	+12%/-15%	+44%/-49%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010087801-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-74 ± 18	$2.67^{+1.83}_{-1.48}$	1154^{+85}_{-67}	5987^{+3564}_{-1228}	519^{+1956}_{-340}
Alt.	-104 ± 36	$2.83^{+1.81}_{-1.49}$	1157^{+78}_{-67}	6336^{+3794}_{-1428}	661^{+2297}_{-447}

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 $A_{obs} \gg 1.0$

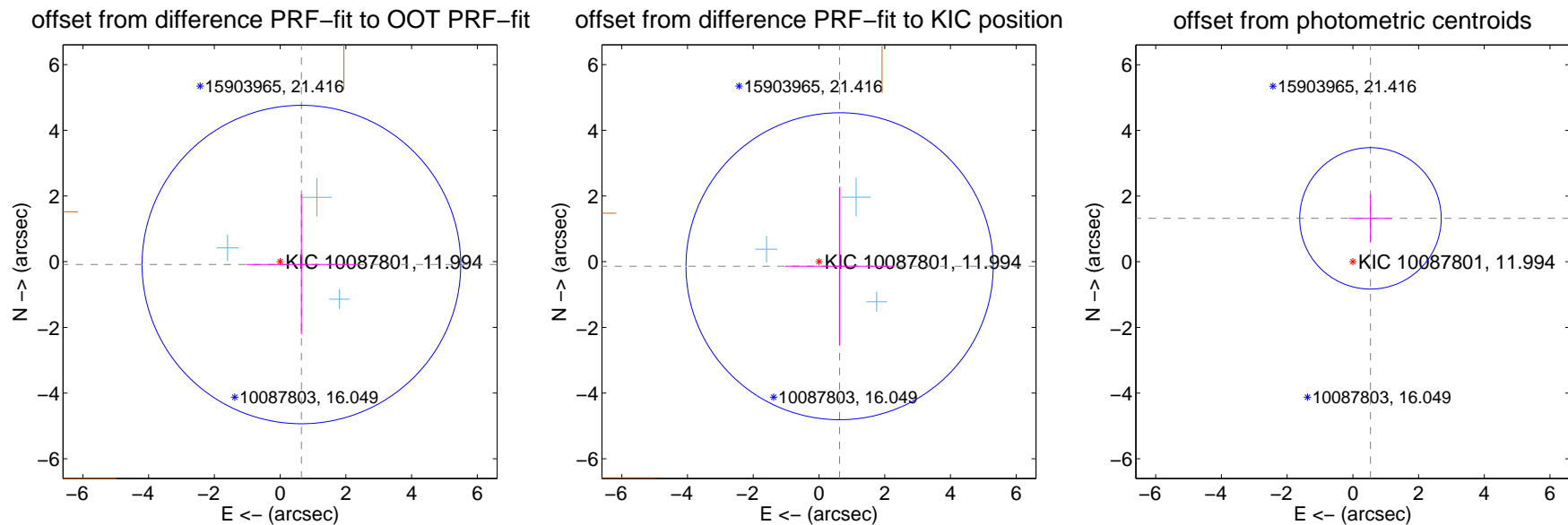
DV Centroid Data

Supplemental centroid analysis for 010087801-03. **Kepler magnitude: 11.99.** Transit SNR 8.09

There are 3 quarters with good PRF difference image offsets

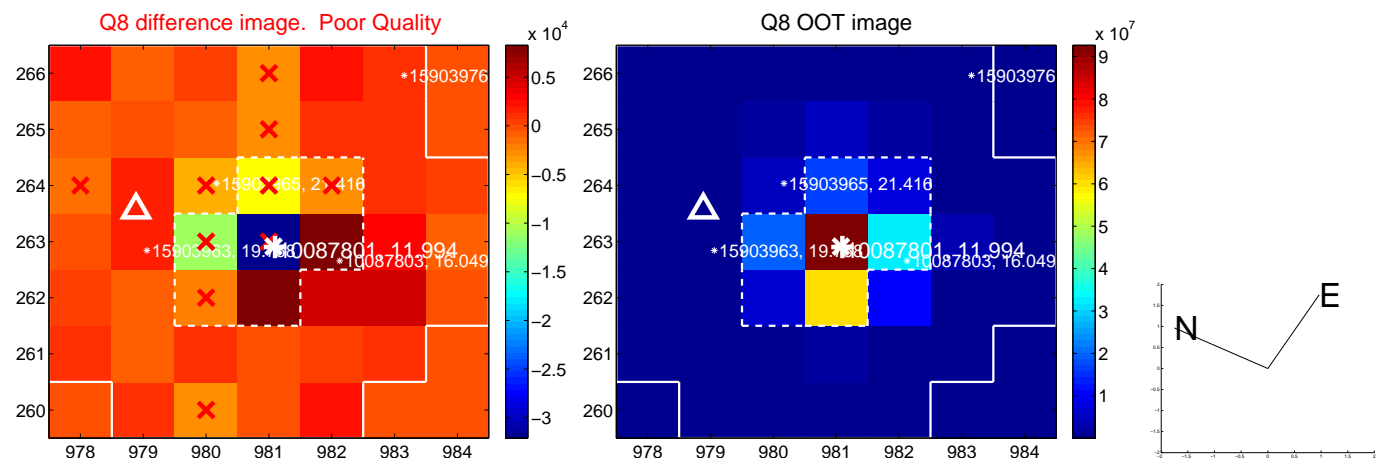
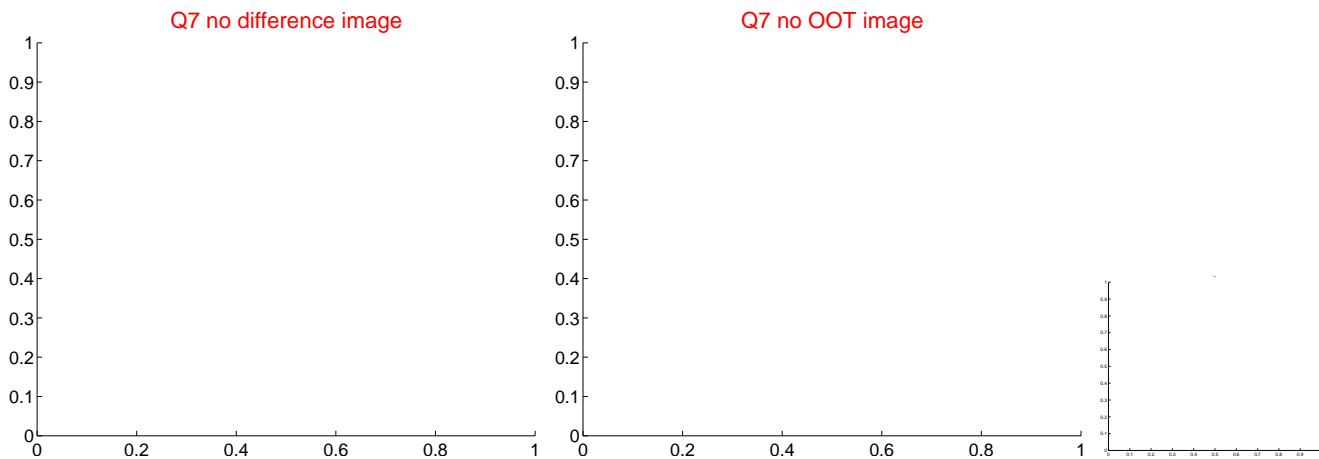
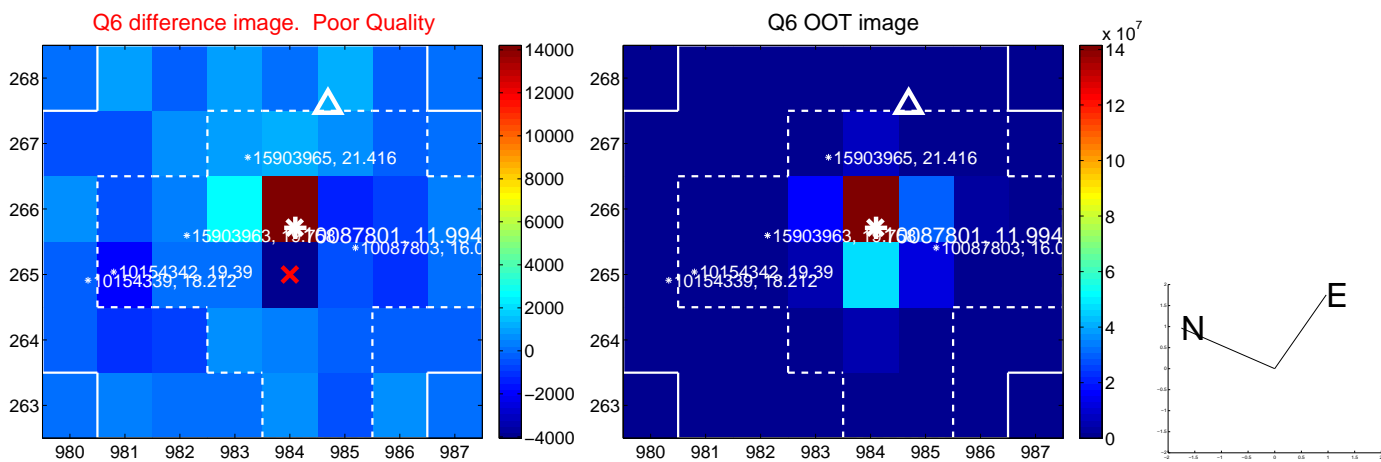
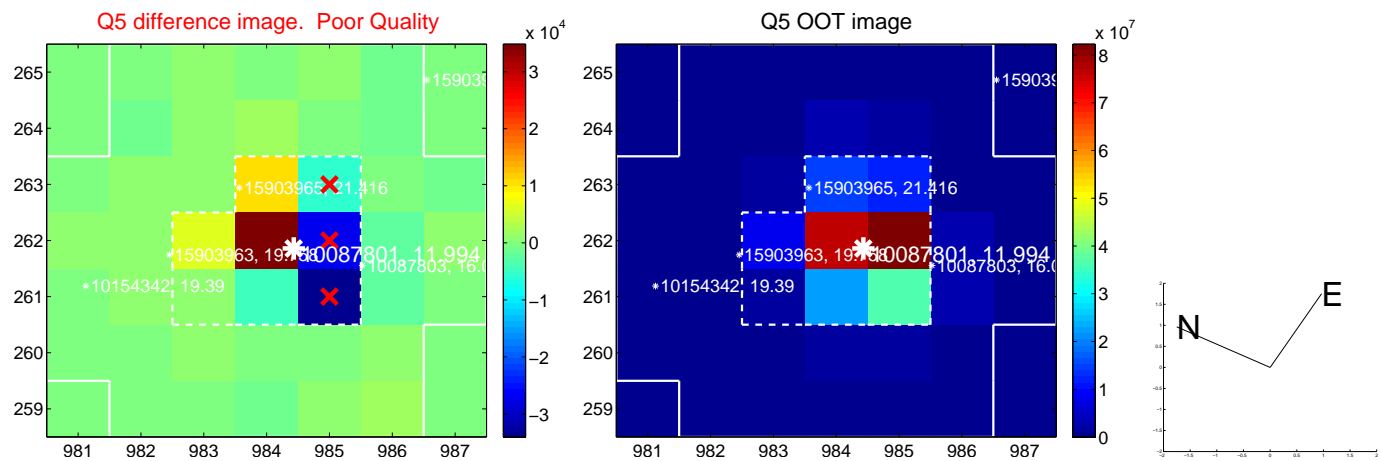
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.654 ± 1.616	0.40	-0.648 ± 1.682	-0.087 ± 2.130
PRF-fit source offset from KIC position	0.642 ± 1.558	0.41	-0.627 ± 1.650	-0.138 ± 2.411
photometric centroid source offset	1.43 ± 0.72	1.99	-0.54 ± 0.65	1.32 ± 0.73

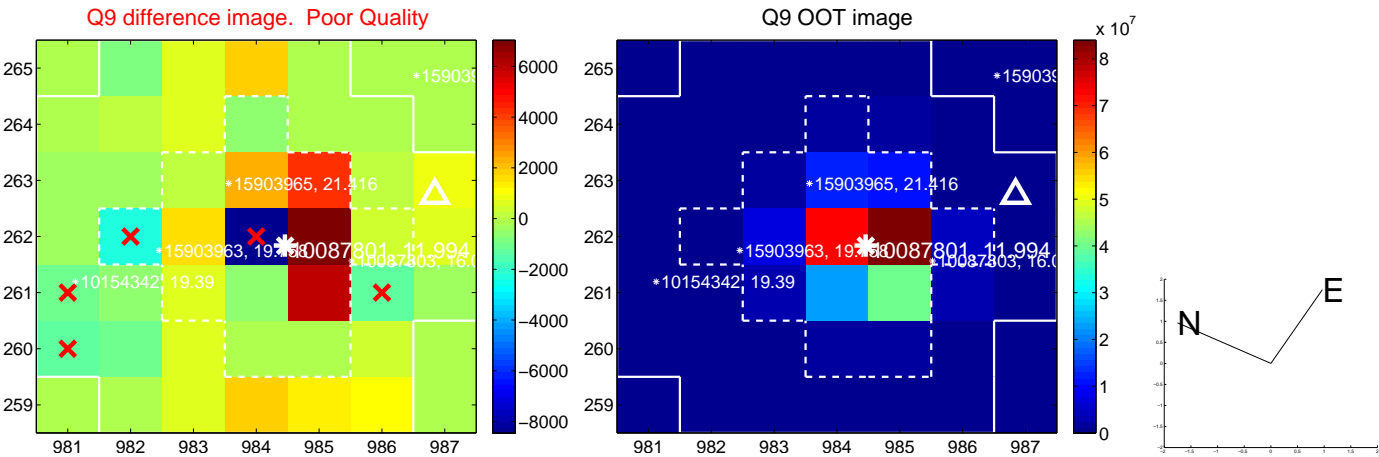


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

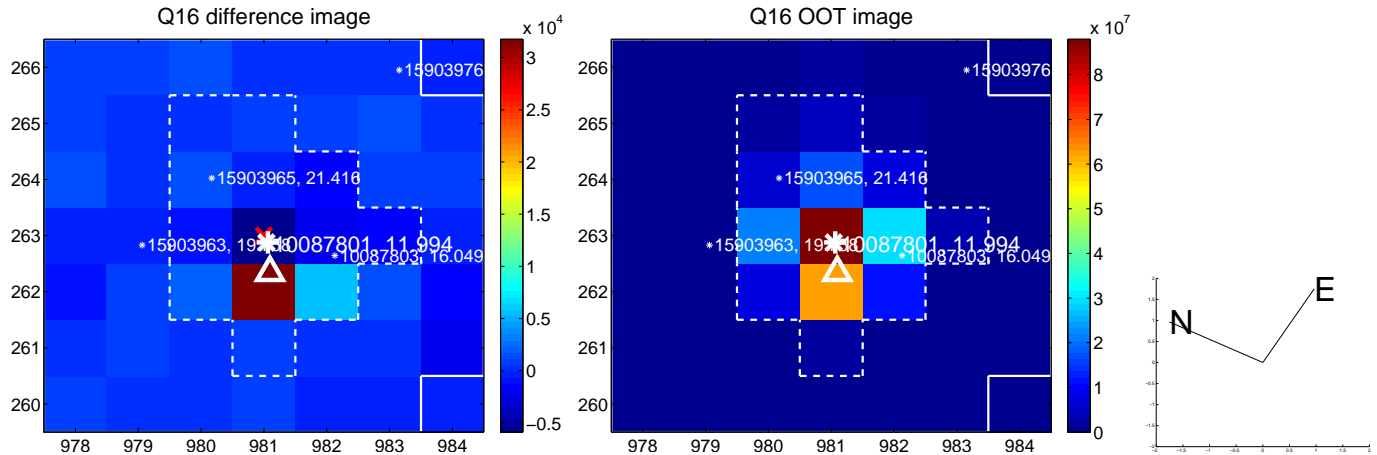
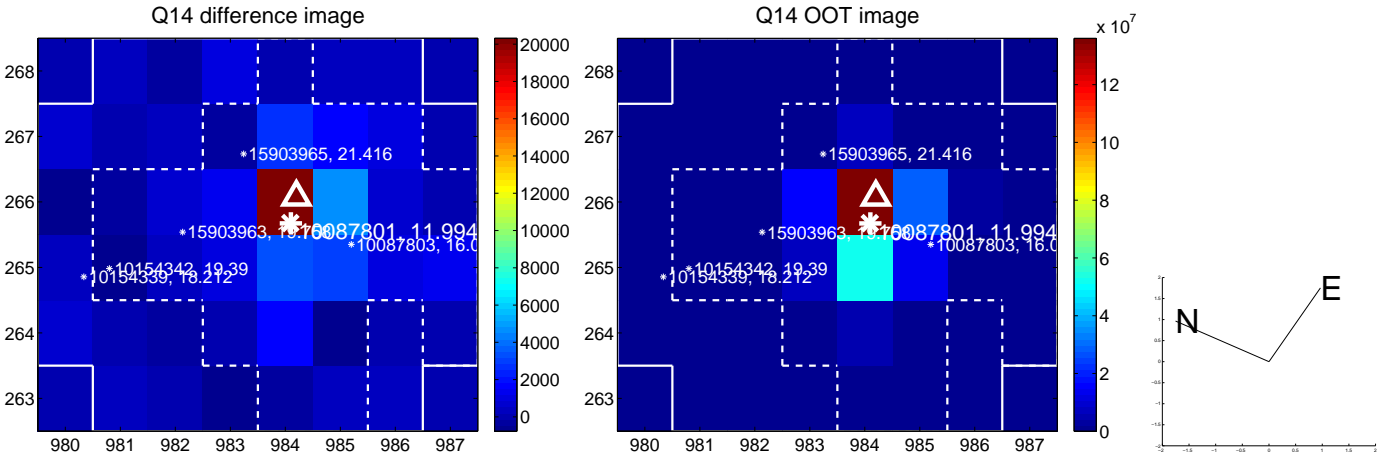
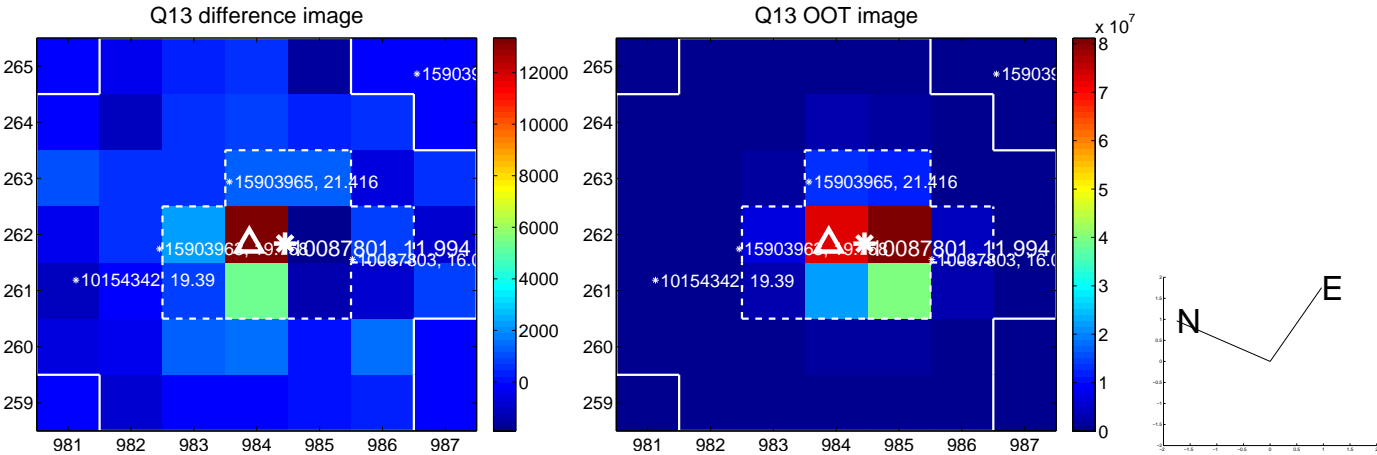
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



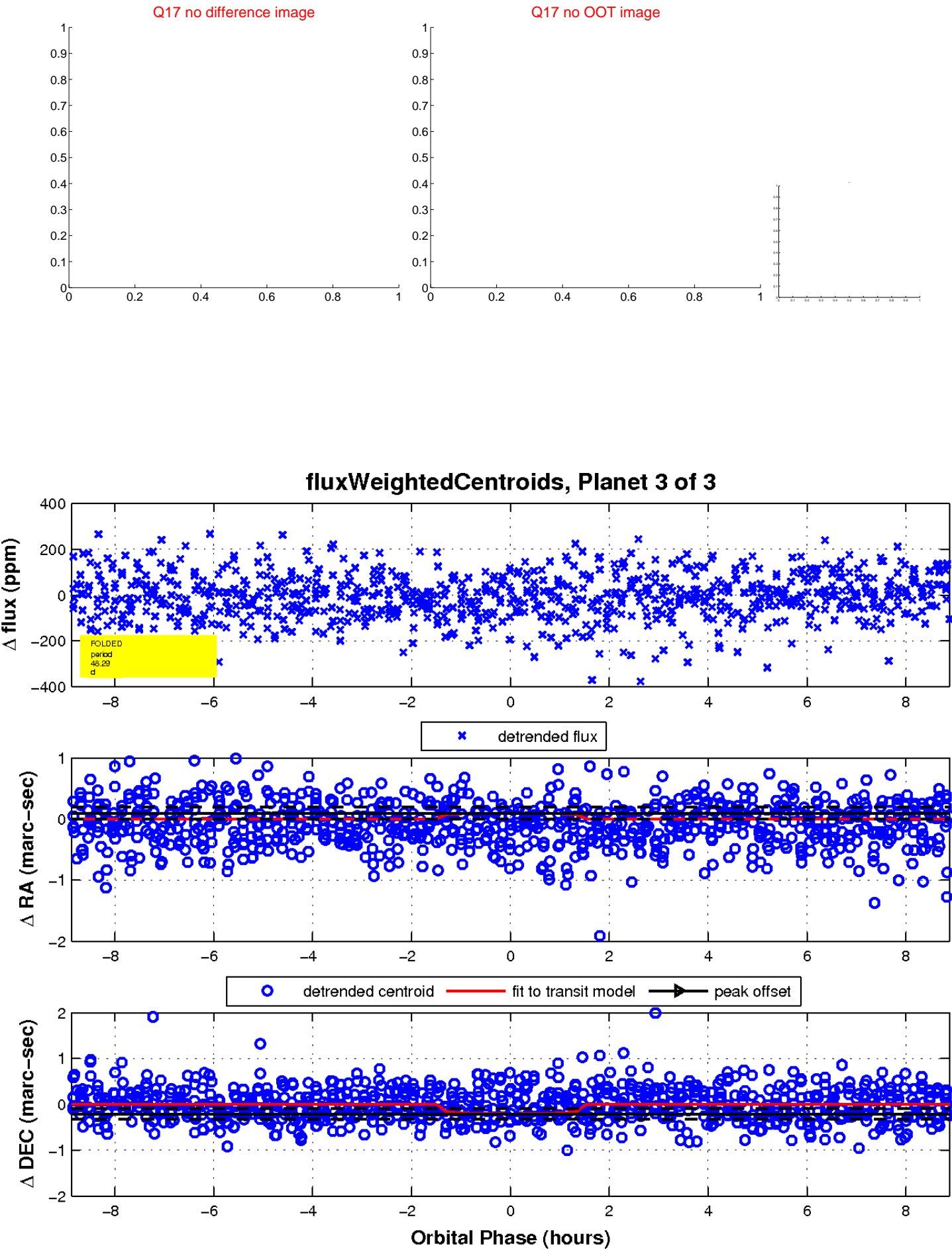
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

