

KIC 010647611

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})
010647611-01	OBS	No	1.305776	132.770746	118.1	9.040	8.2	5.4	2.18	7334	2.40	15768.93
010647611-02	OBS	No	50.508779	145.994554	3635.0	2.795	10.6	10.4	2.18	7334	15.72	120.54
010647611-03	OBS	No	8.901573	136.241424	2237.4	1.444	11.1	12.0	2.18	7334	12.04	1219.94
010647611-04	OBS	No	146.283936	139.901061	3295.0	2.556	9.9	8.5	2.18	7334	13.69	29.20
010647611-05	OBS	No	19.684845	138.109707	2241.8	1.646	9.3	9.7	2.18	7334	10.59	423.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010647611-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
010647611-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010647611-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010647611-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010647611-05	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.

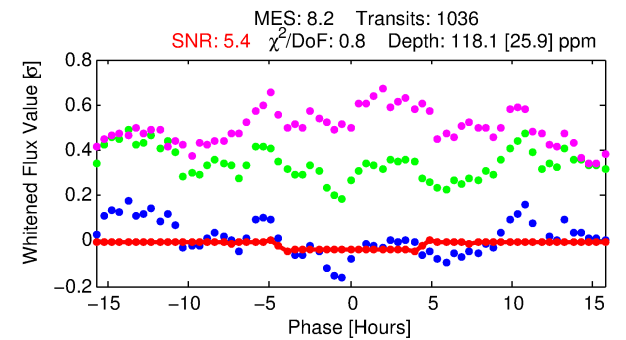
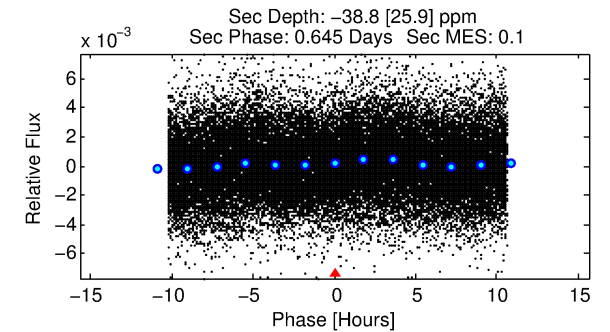
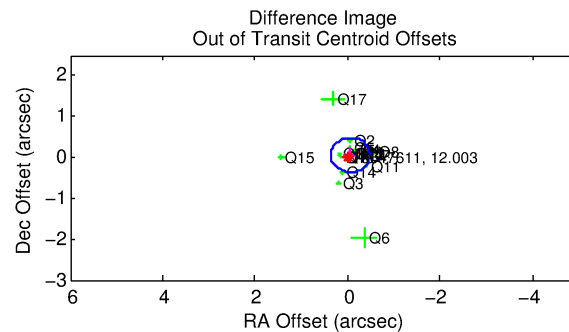
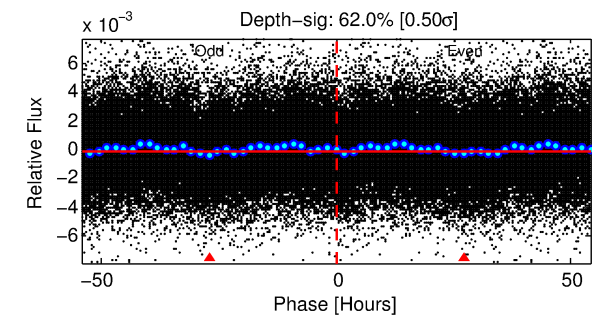
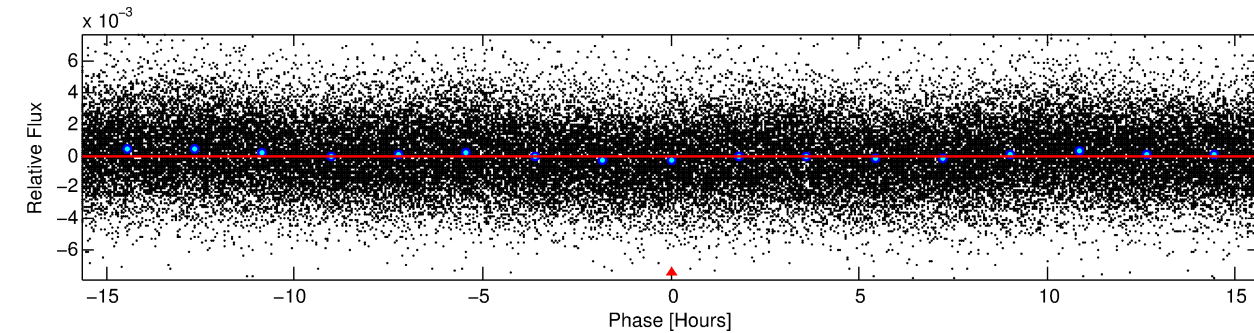
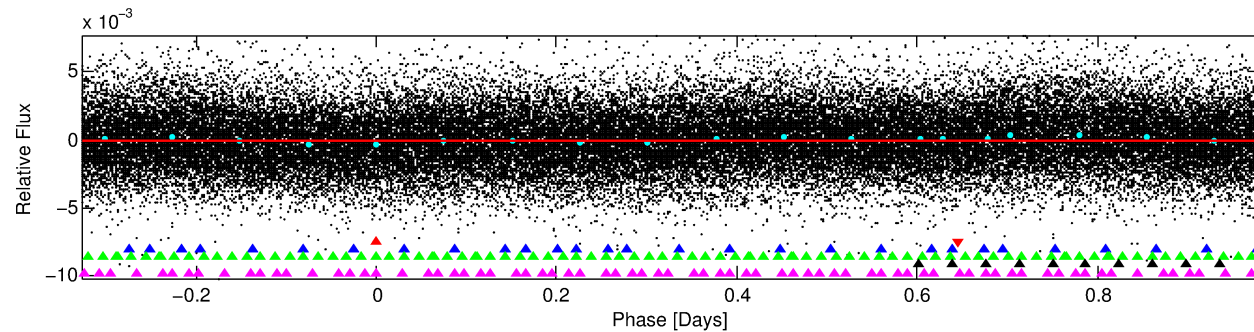
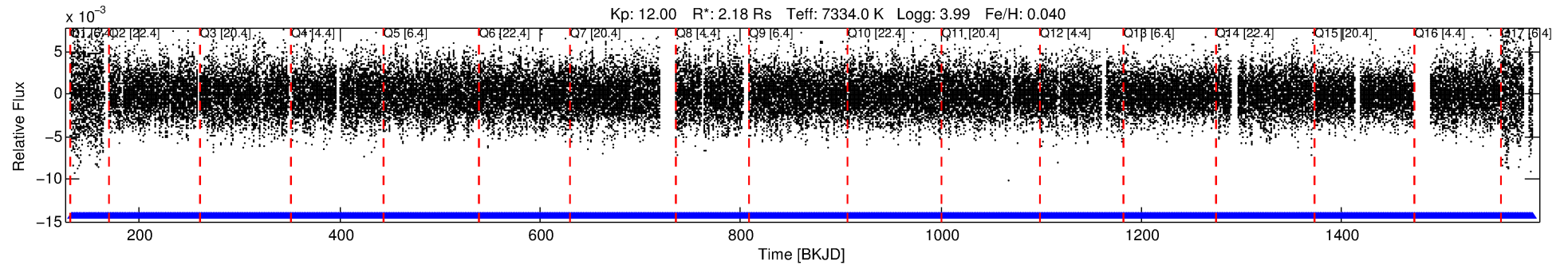
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010647611-01

No Significant Match Found

DV One-Page Summary

KIC: 10647611 Candidate: 1 of 5 Period: 1.306 d



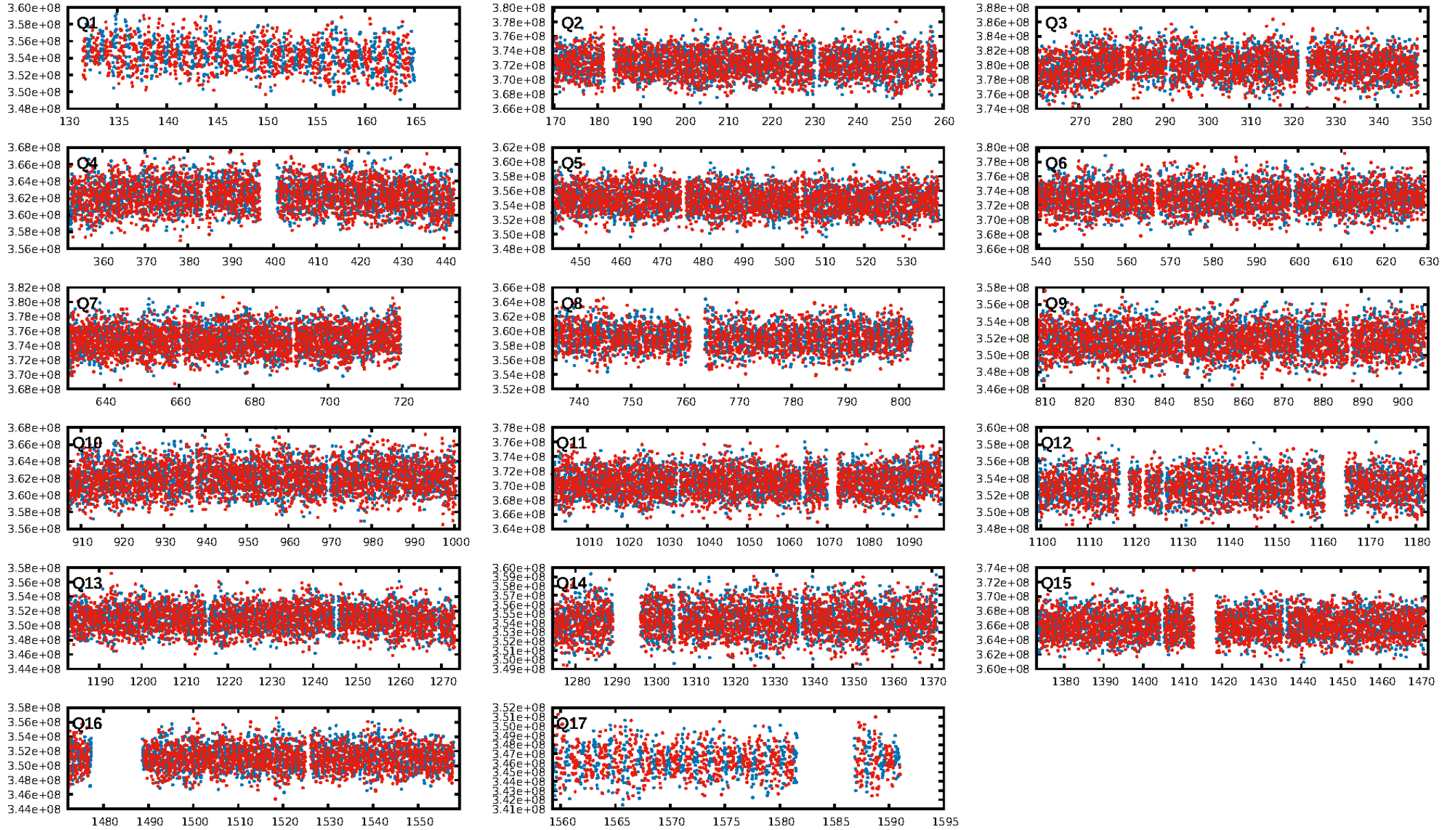
DV Fit Results:

Period = 1.30578 [0.00003] d
Epoch = 132.7707 [0.0073] BKJD
Rp/R* = 0.0101 [0.0127]
a/R* = 1.28 [3.82]
b = 0.00 [12017.55]
Seff = 15768.93 [6216.54]
Teff = 2857 [282] K
Rp = 2.40 [3.09] Re
a = 0.0280 [0.0066] AU
Ag = N/A
Teffp = N/A

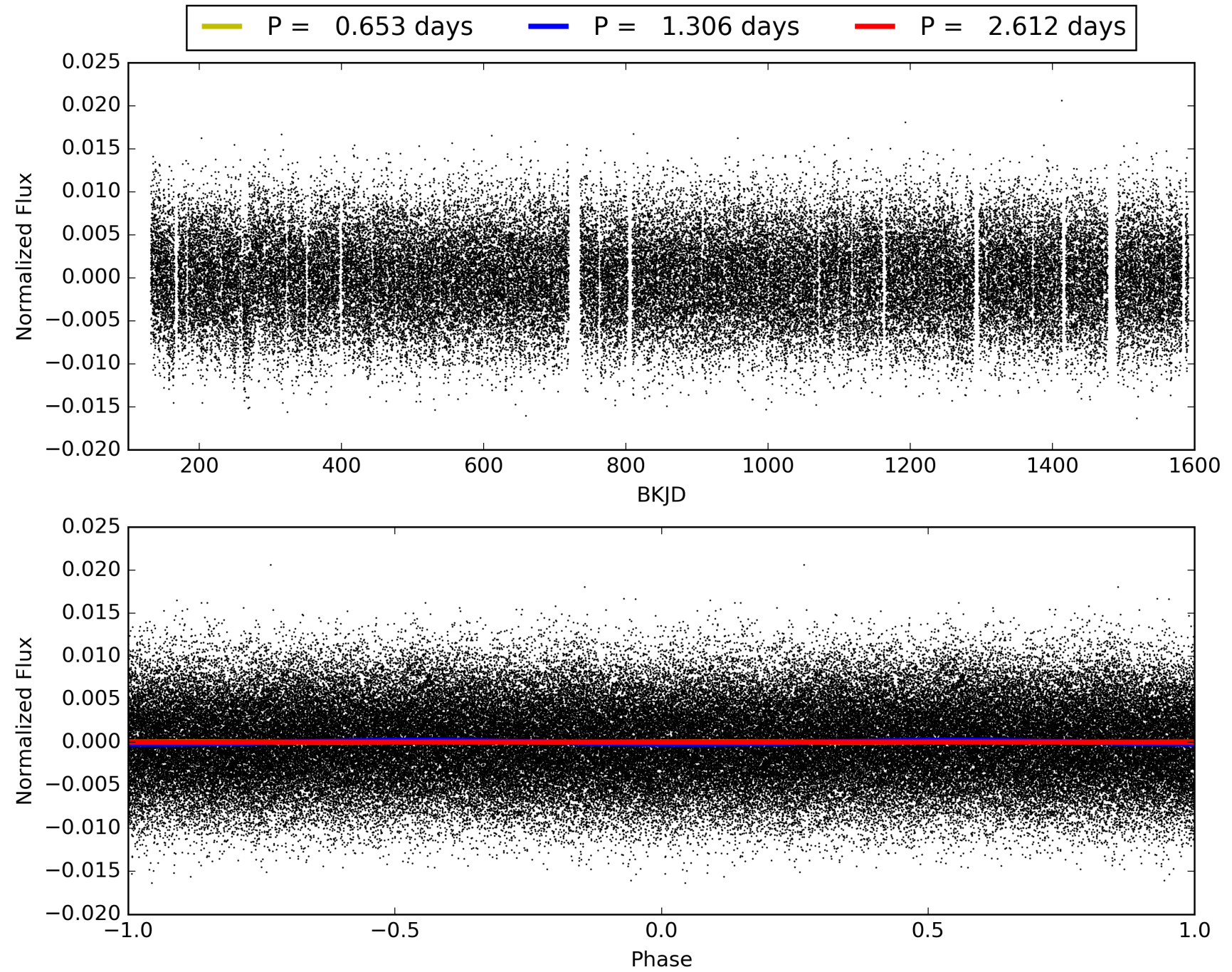
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [19.91 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.99e-15
RollingBand-fgt: 1.00 [990/990]
GhostDiagnostic-chr: 1.495
Centroid-sig: 0.0%
Centroid-so: 0.307 arcsec [3.21 σ]
OotOffset-rm: 0.080 arcsec [0.57 σ]
KicOffset-rm: 0.036 arcsec [0.24 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 010647611-01, PDC Light Curves

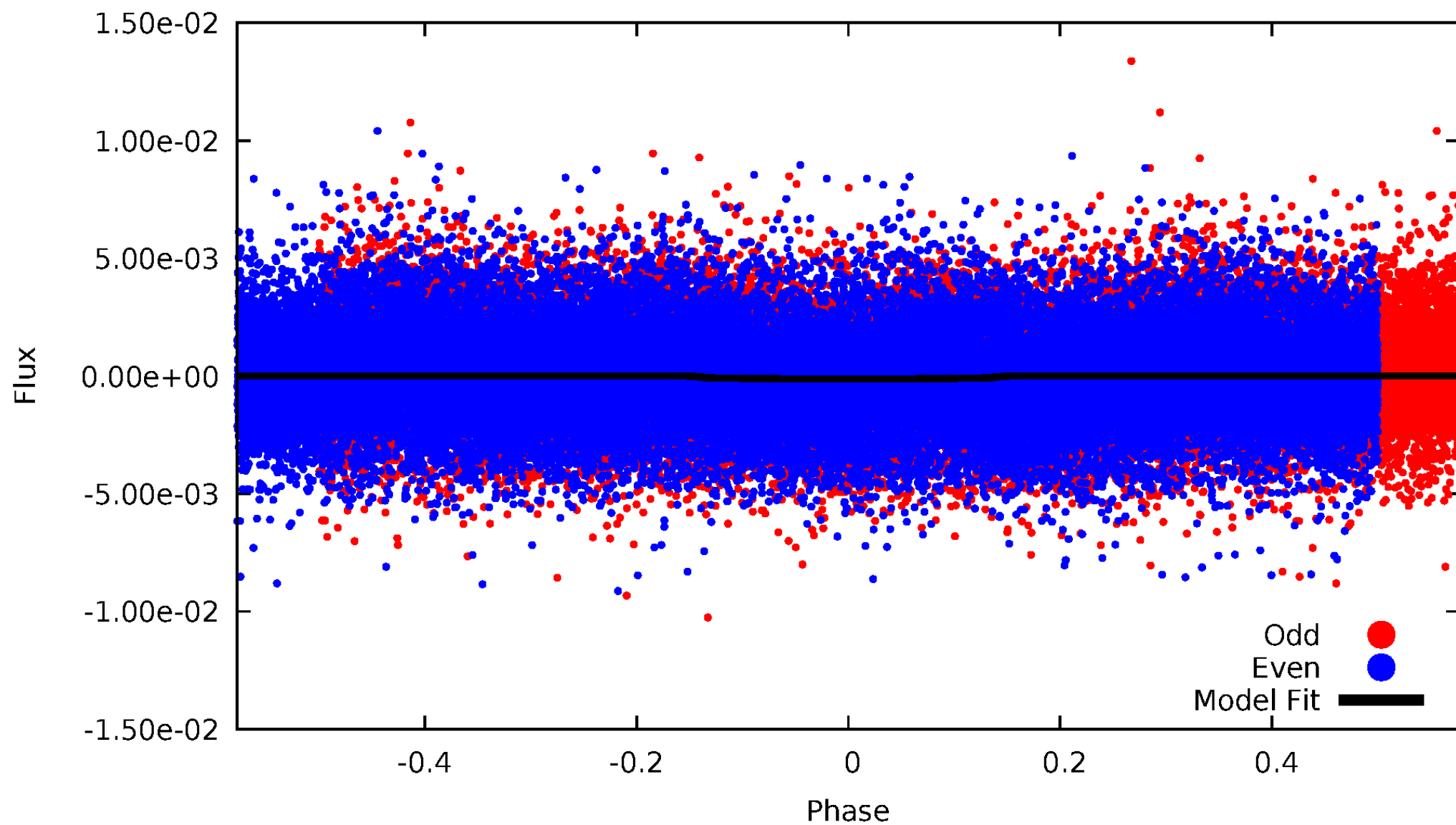


TCE 010647611-01



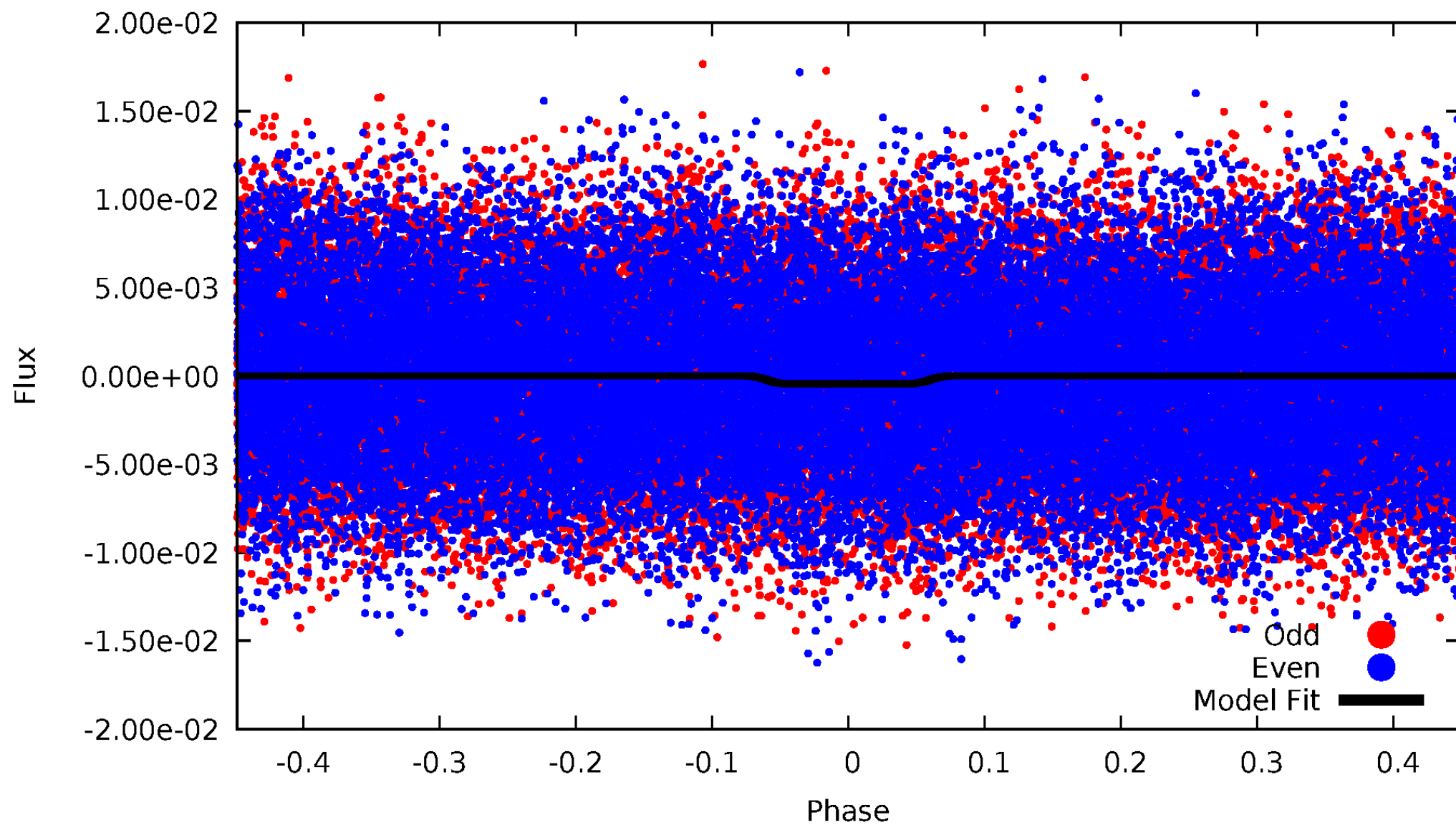
DV Odd/Even

TCE 010647611-01

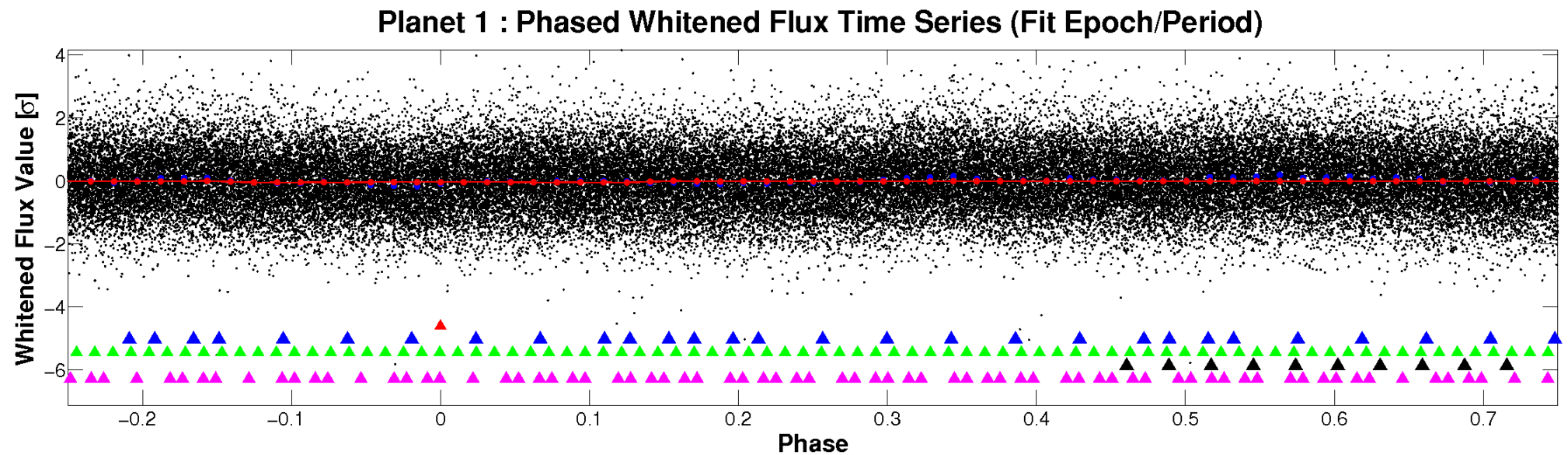
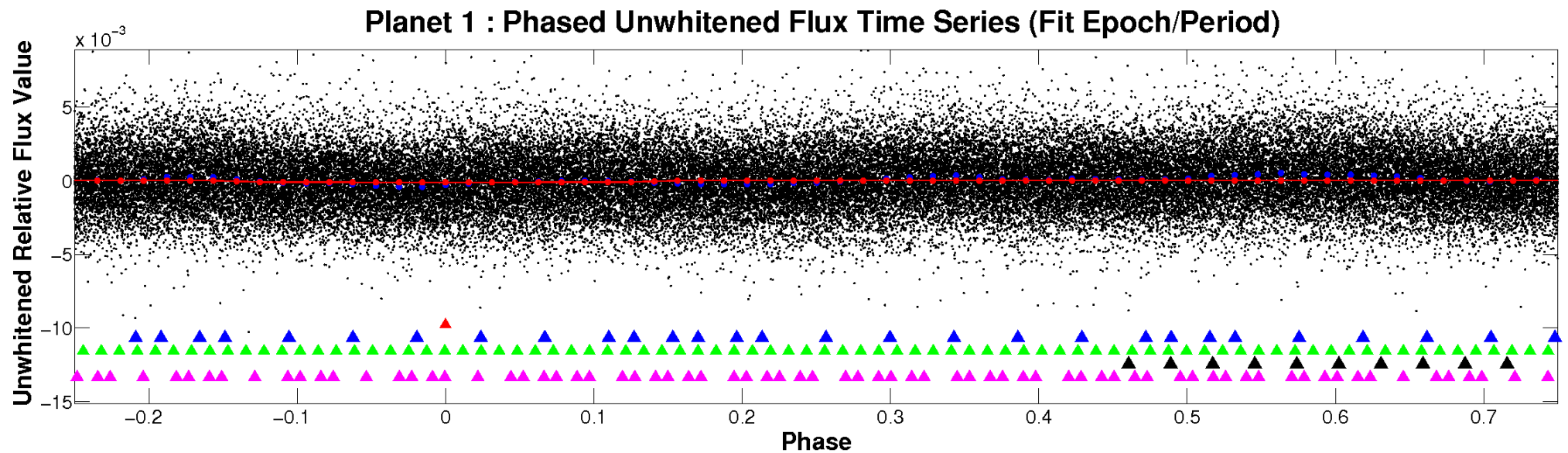


ALT Odd/Even

TCE 010647611-01

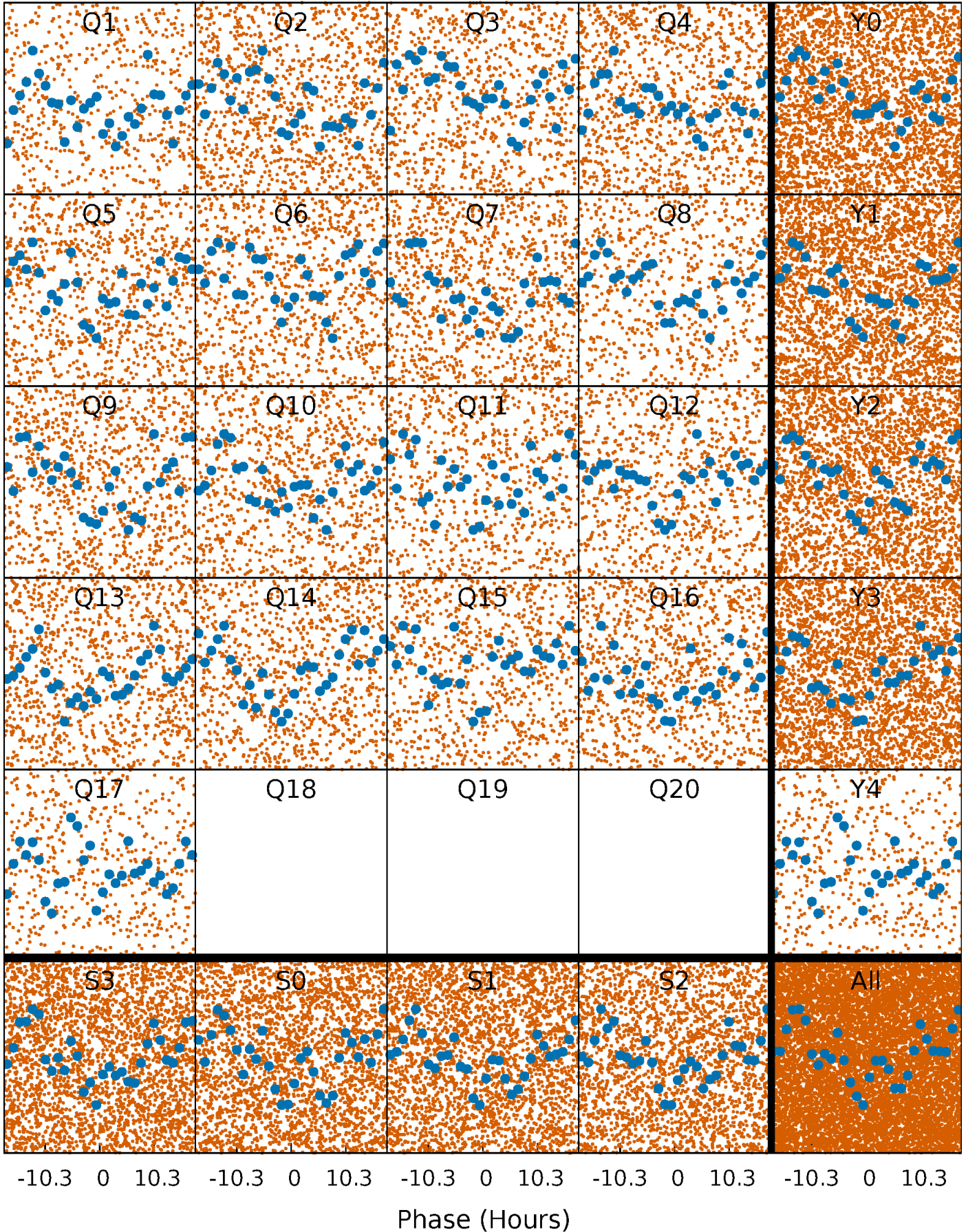


Non-Whitened Vs. Whitened Light Curve



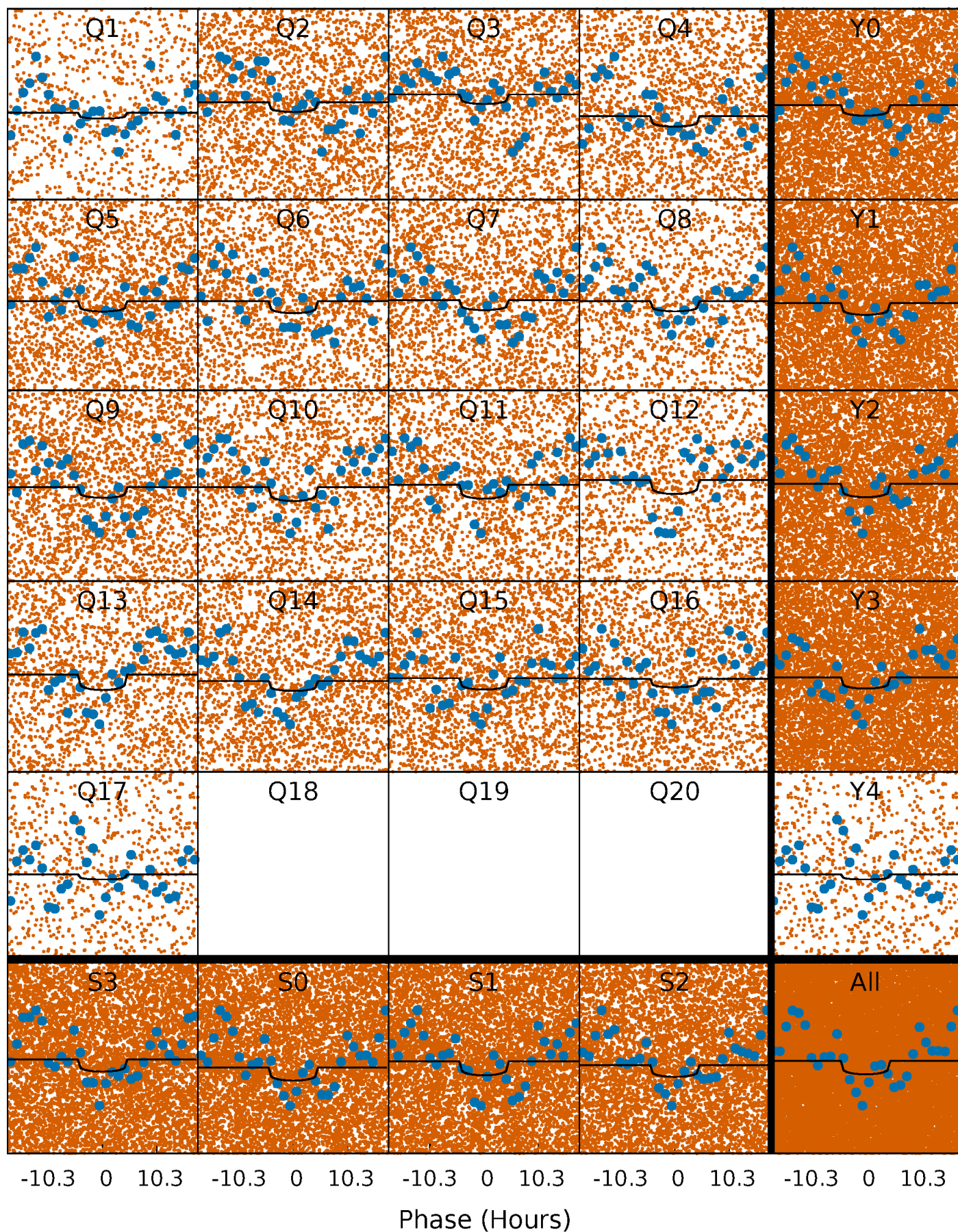
PDC Quarter-Phased Transit Curves

TCE 010647611-01 P= 1.305776 Days $T_0=132.770746$ (BKJD)



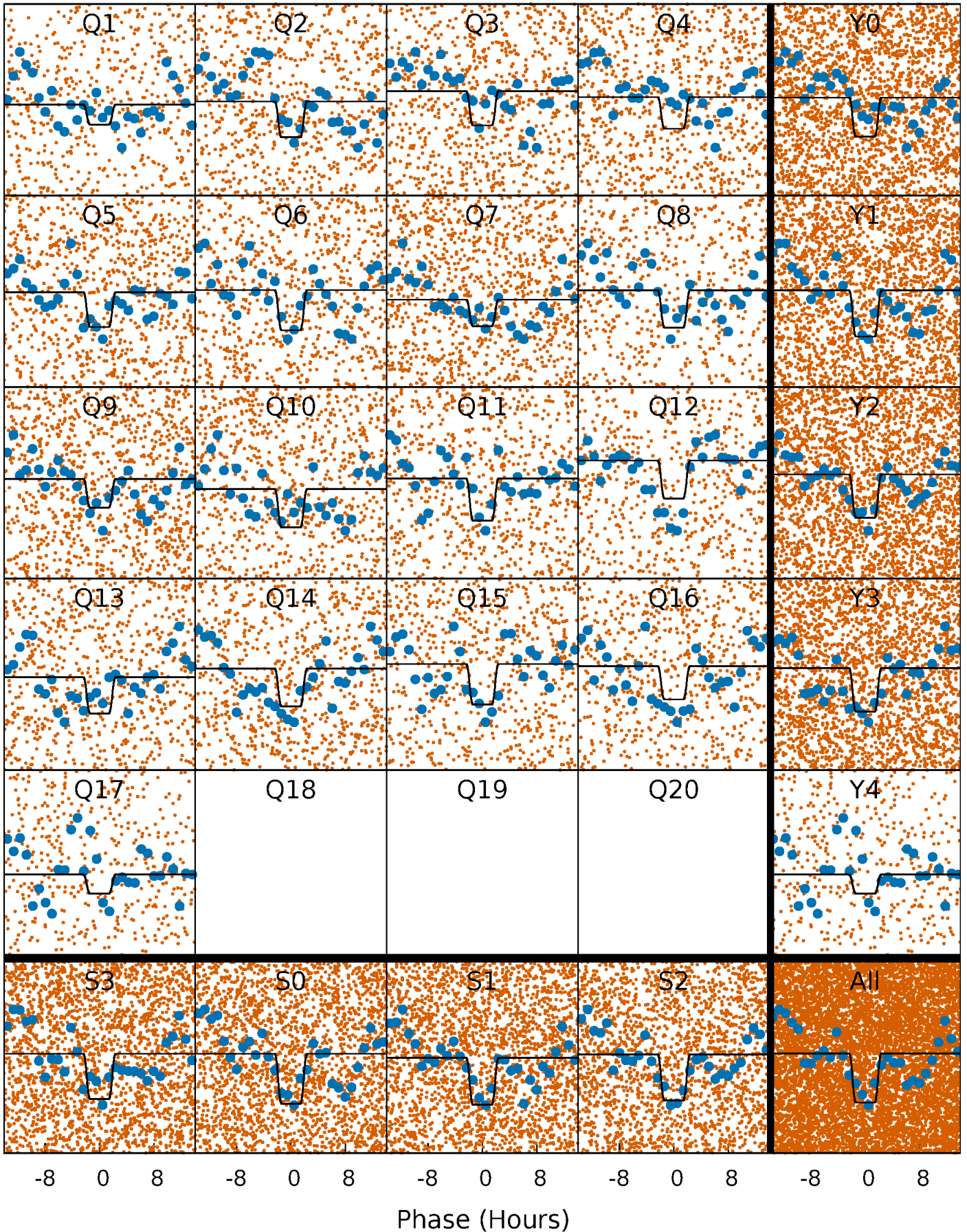
DV Quarter-Phased Transit Curves

TCE 010647611-01 P= 1.305776 Days $T_0=132.770746$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

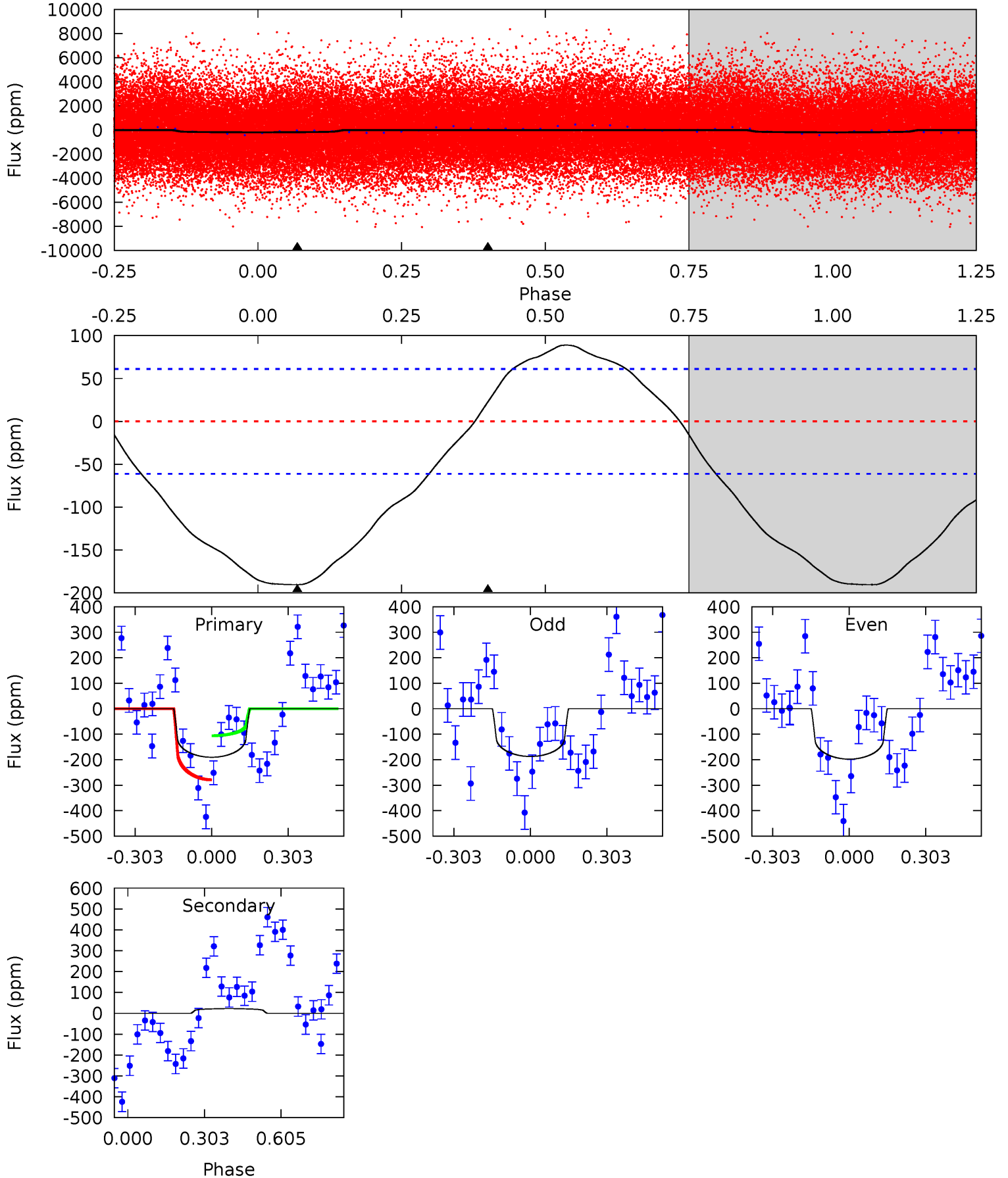
TCE 010647611-01 P= 1.305767 Days $T_0=132.729448$ (BKJD)



DV Model-Shift Uniqueness Test

010647611-01, P = 1.305776 Days, E = 131.464970 Days

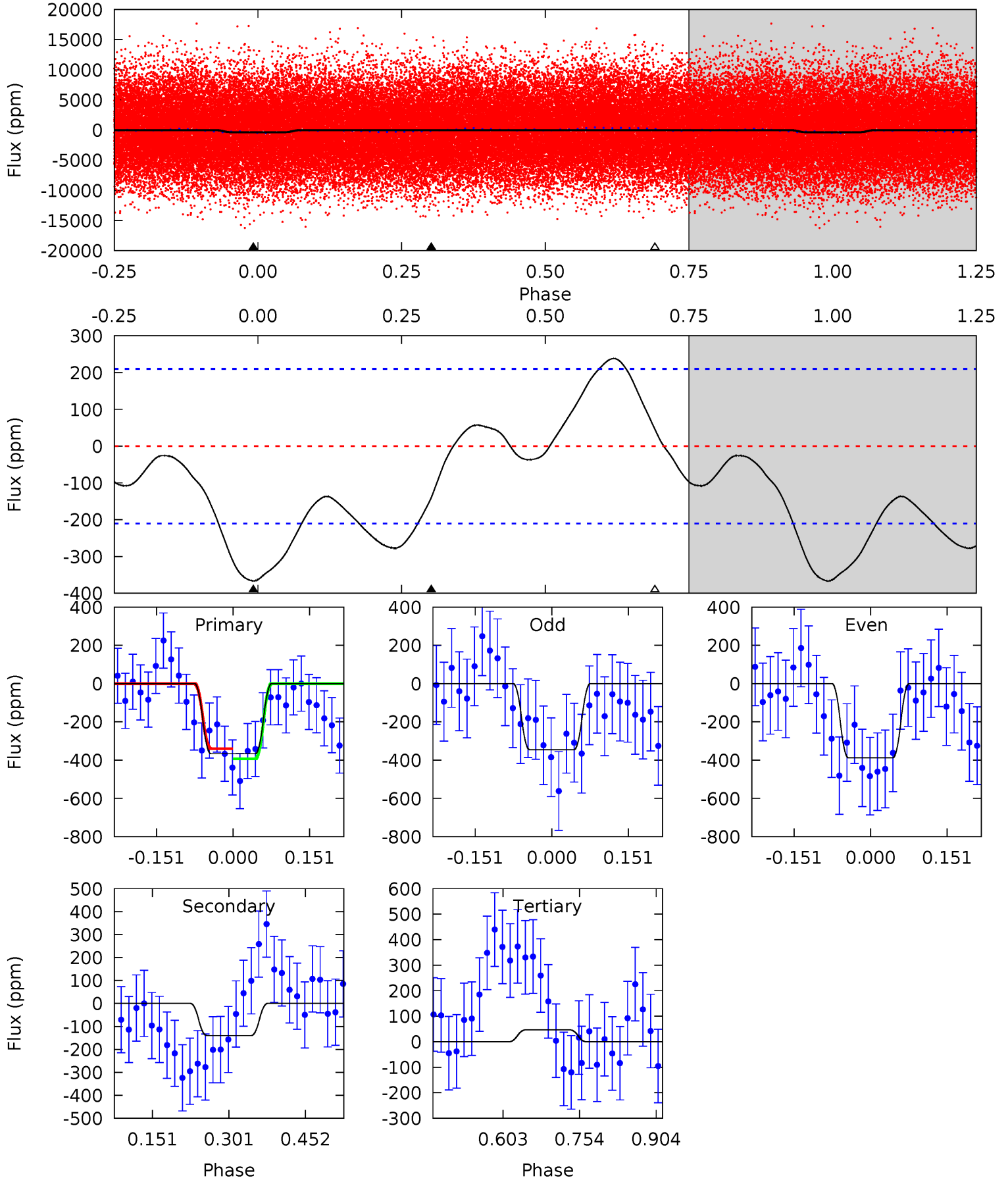
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	-1.60	0	0	4.33	1.03	1.83	13.5	13.5	-1.60	-1.60	0.37	1.05	0.32	6.01



Alt Model-Shift Uniqueness Test

010647611-01, P = 1.305767 Days, E = 131.423681 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.81	2.98	-0.99	0	4.48	1.44	2.43	8.80	7.81	3.97	2.98	0.45	1.14	0.39	0.57



Stellar Parameters For KIC 010647611

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7334^{+235}_{-324}	$3.994^{+0.198}_{-0.162}$	$0.040^{+0.200}_{-0.300}$	$2.183^{+0.584}_{-0.584}$	$1.713^{+0.197}_{-0.271}$	$0.232^{+0.266}_{-0.110}$
	+3%/-4%	+5%/-4%	+500%/-750%	+27%/-27%	+12%/-16%	+115%/-47%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010647611-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	23 ± 14	$3.42^{+2.39}_{-2.26}$	3943^{+310}_{-297}	-4556^{+634}_{-2331}	$-0.702^{+0.533}_{-5.836}$
Alt.	-140 ± 47	$5.17^{+3.07}_{-2.68}$	3982^{+320}_{-288}	5183^{+2805}_{-1213}	$2.237^{+8.061}_{-1.430}$

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

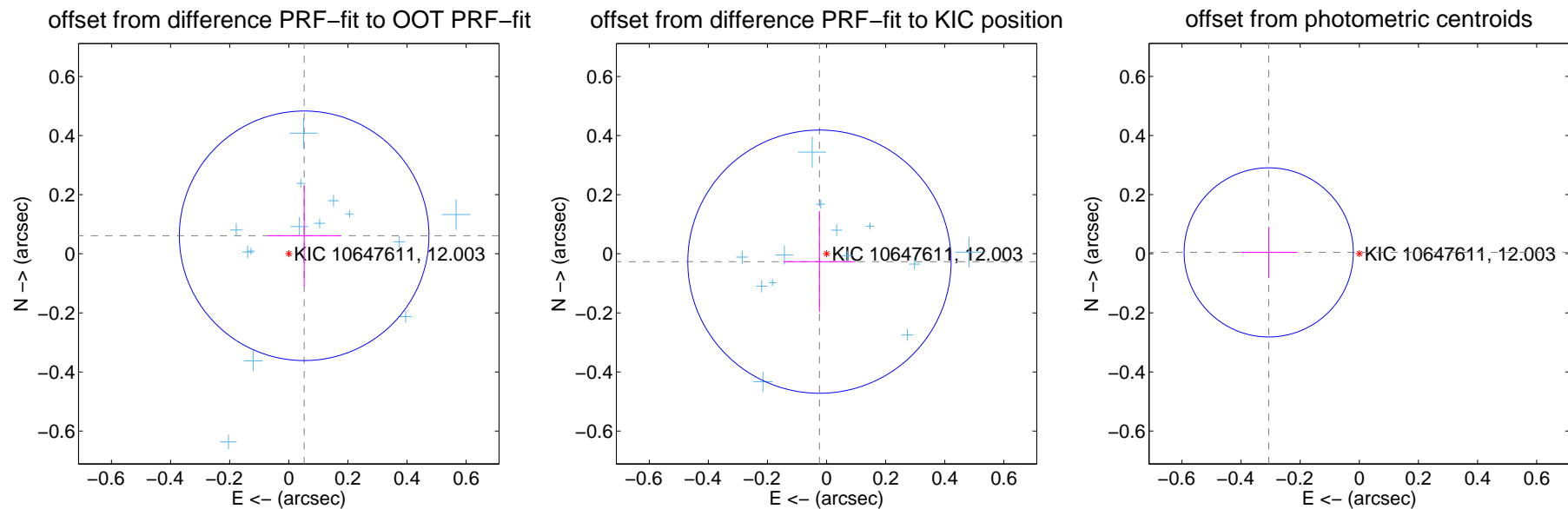
DV Centroid Data

Supplemental centroid analysis for 010647611-01. Kepler magnitude: 12.00. Transit SNR 5.42

There are 16 quarters with good PRF difference image offsets

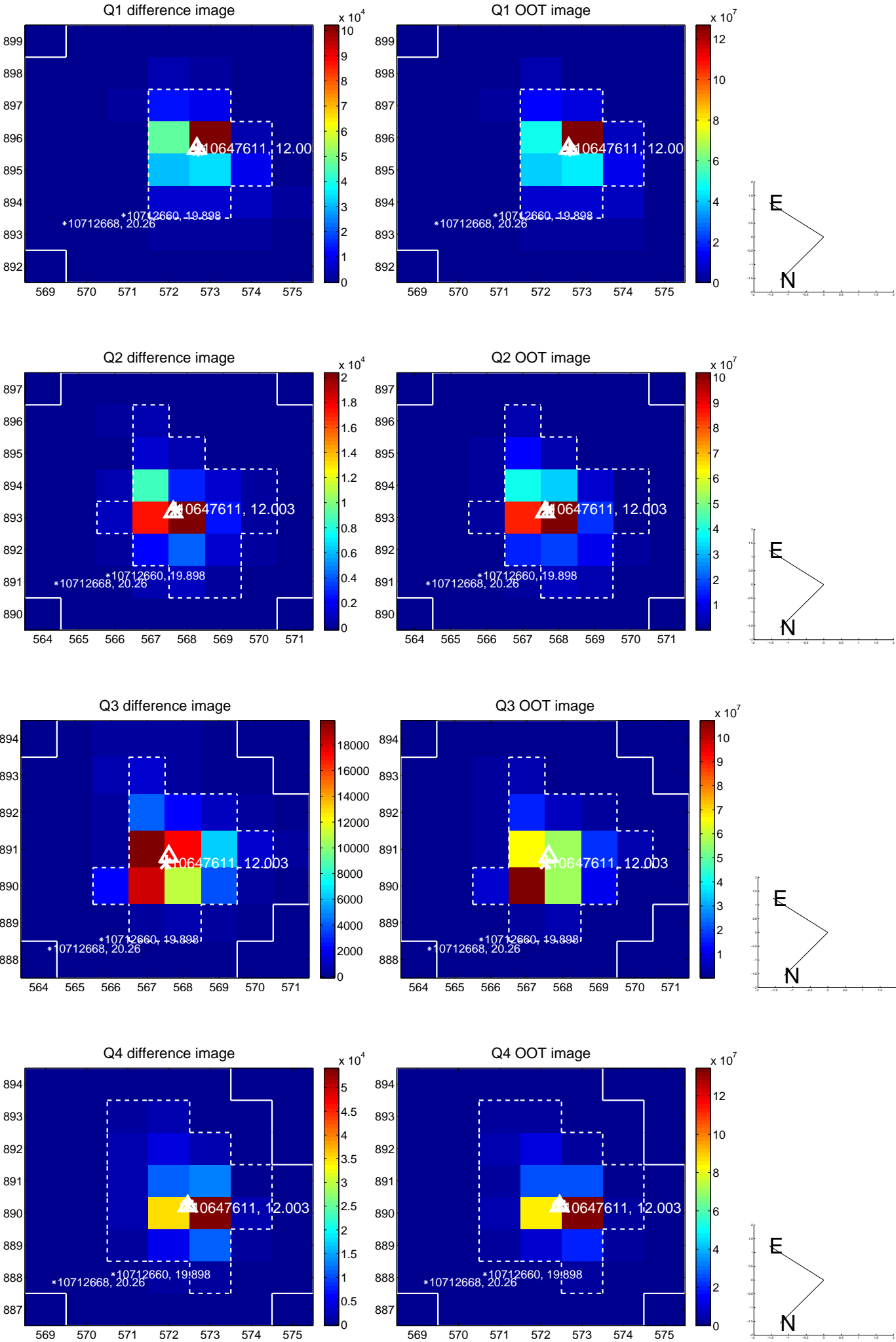
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.080 ± 0.141	0.57	-0.052 ± 0.124	0.061 ± 0.170
PRF-fit source offset from KIC position	0.036 ± 0.149	0.24	0.024 ± 0.122	-0.027 ± 0.171
photometric centroid source offset	0.31 ± 0.10	3.21	0.31 ± 0.10	0.00 ± 0.09

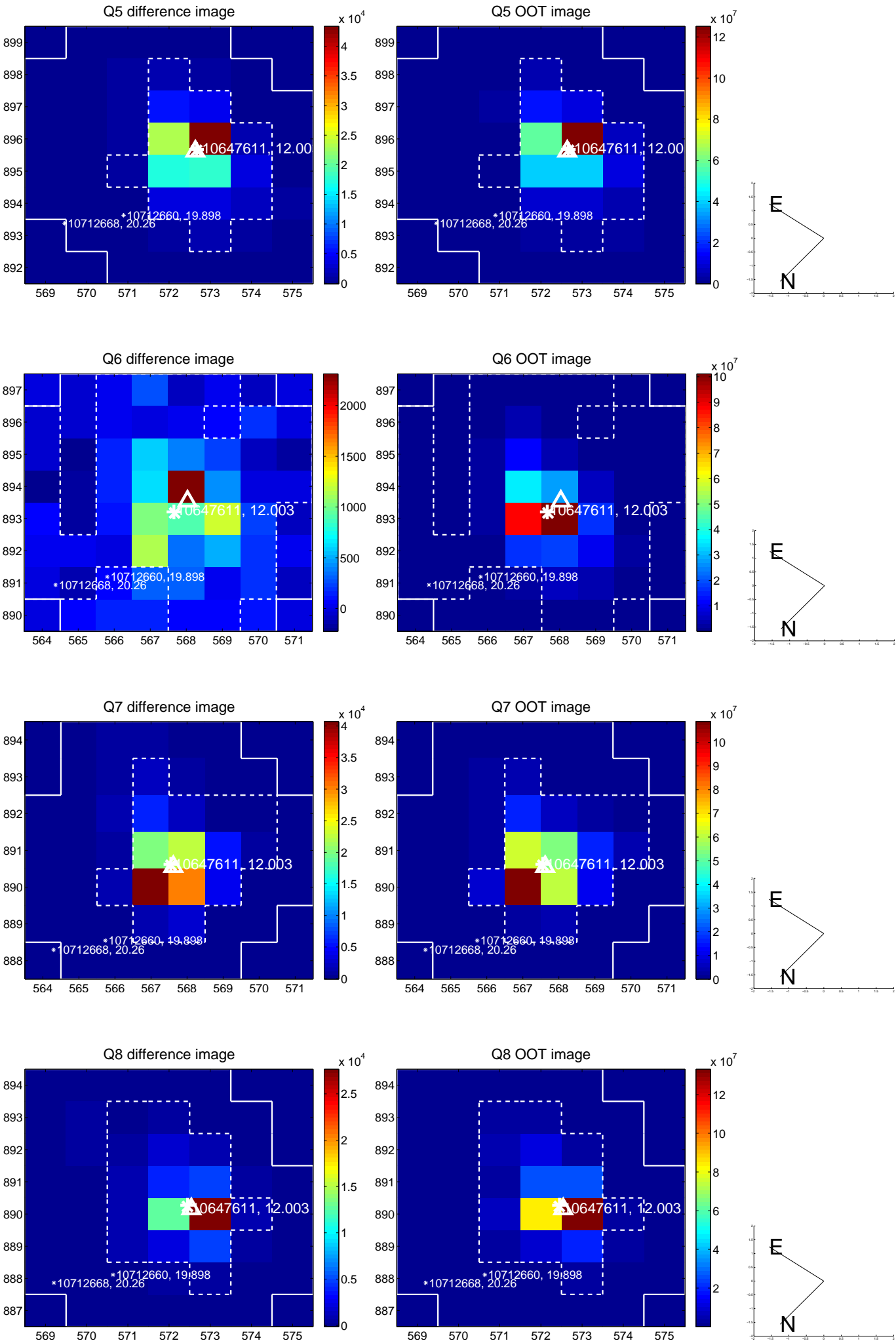


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

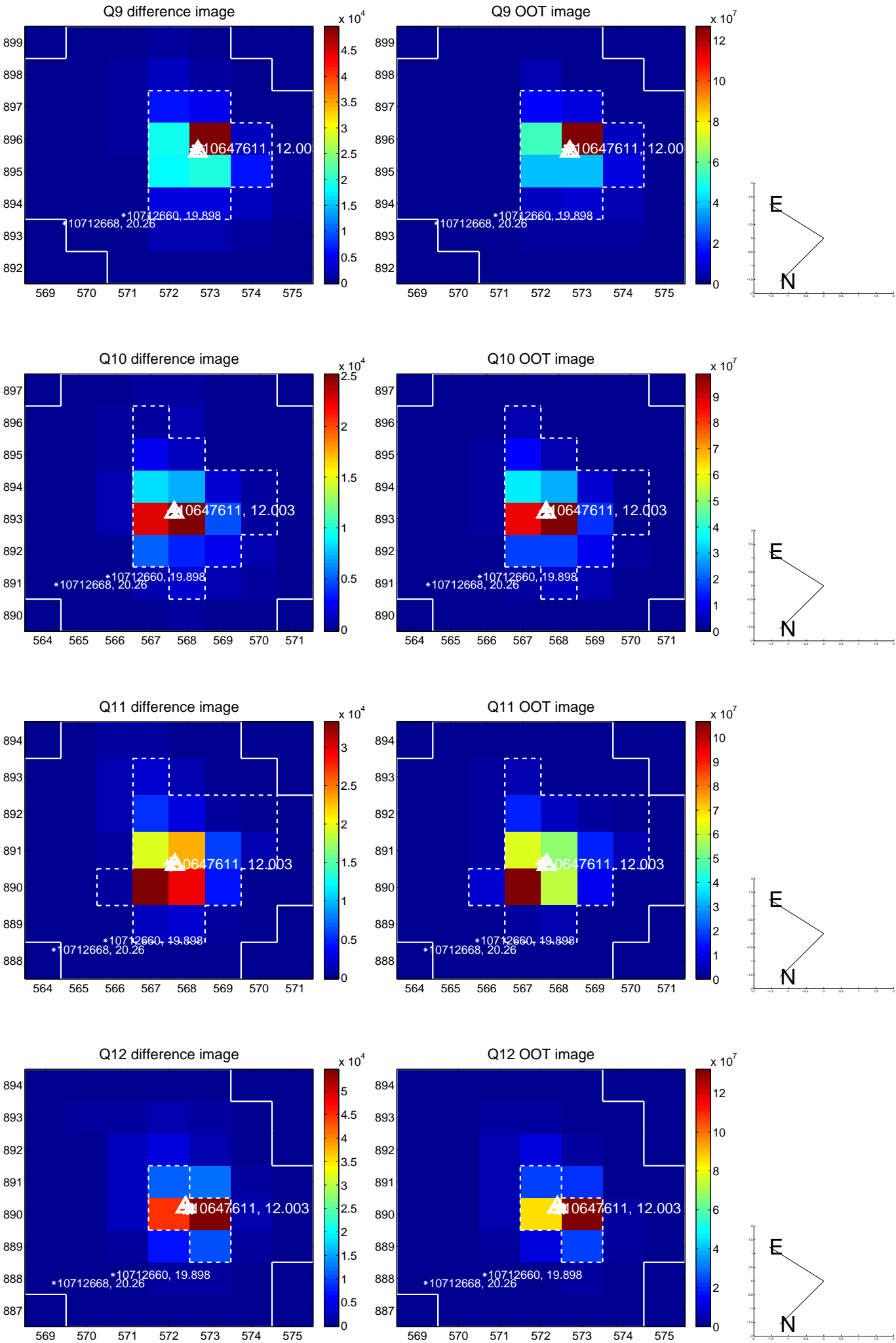
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



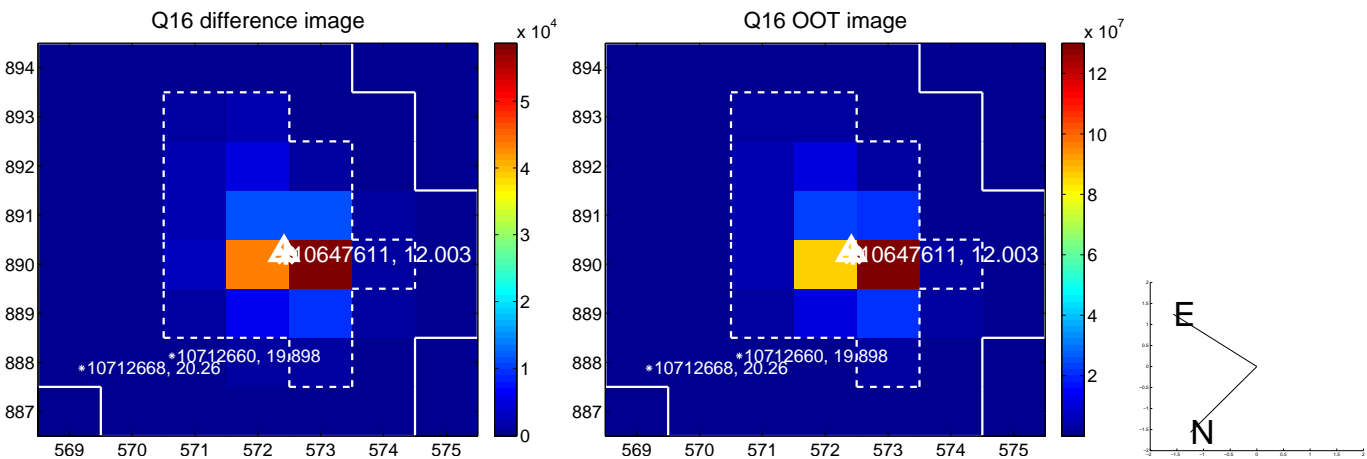
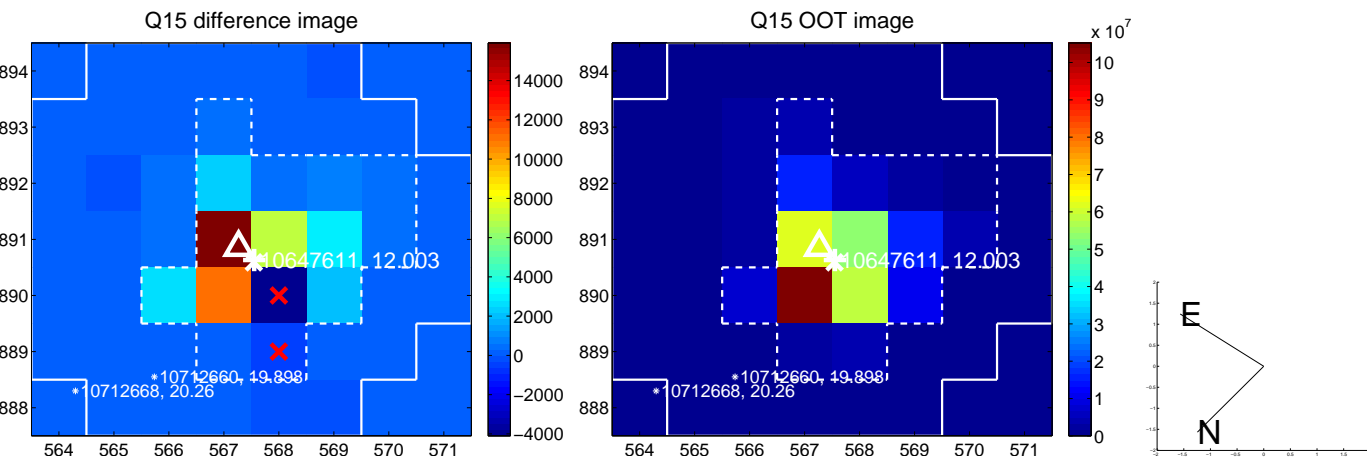
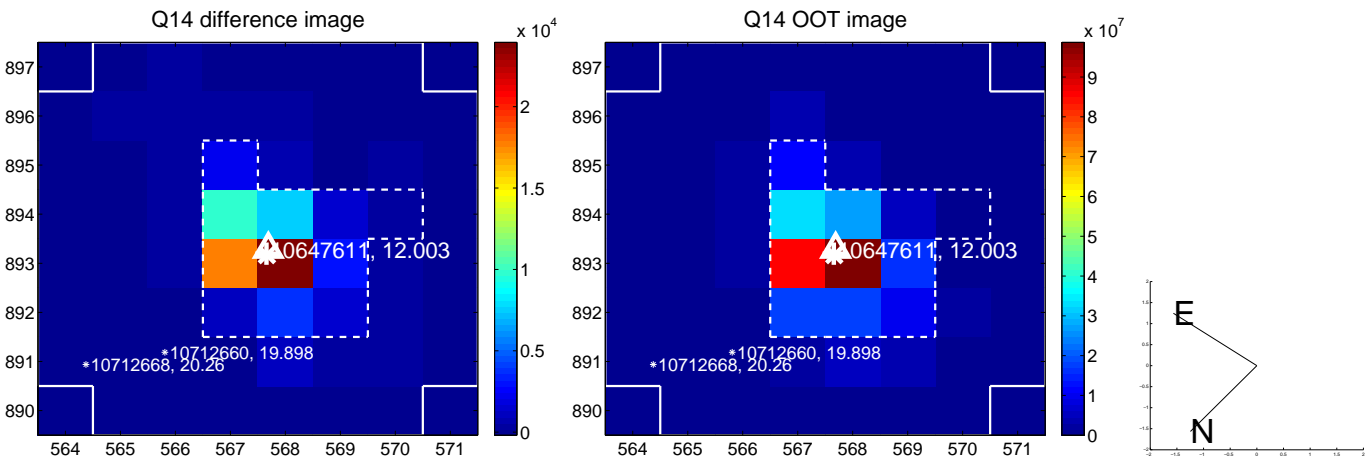
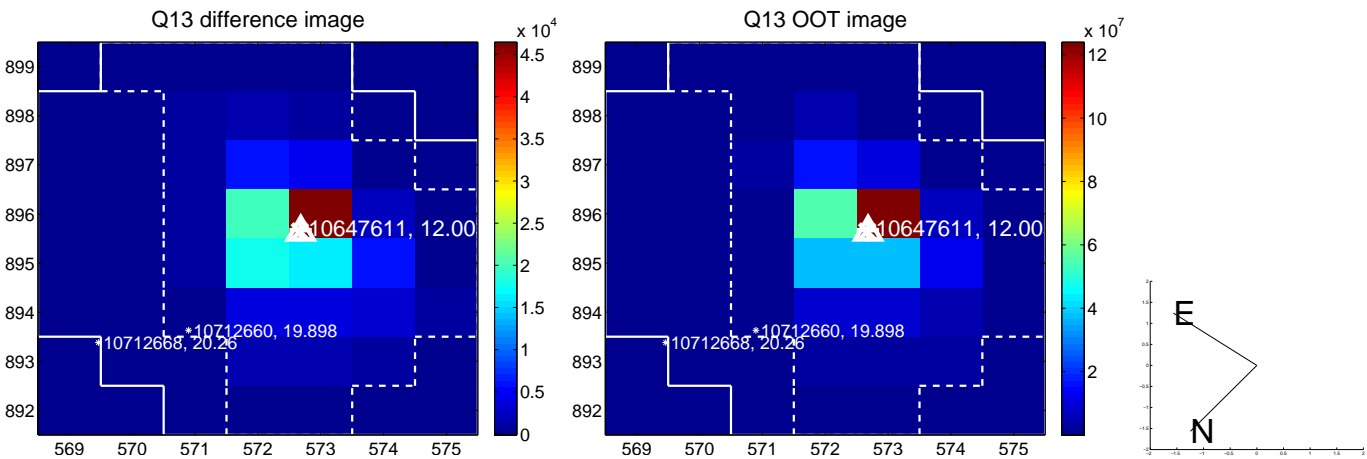
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



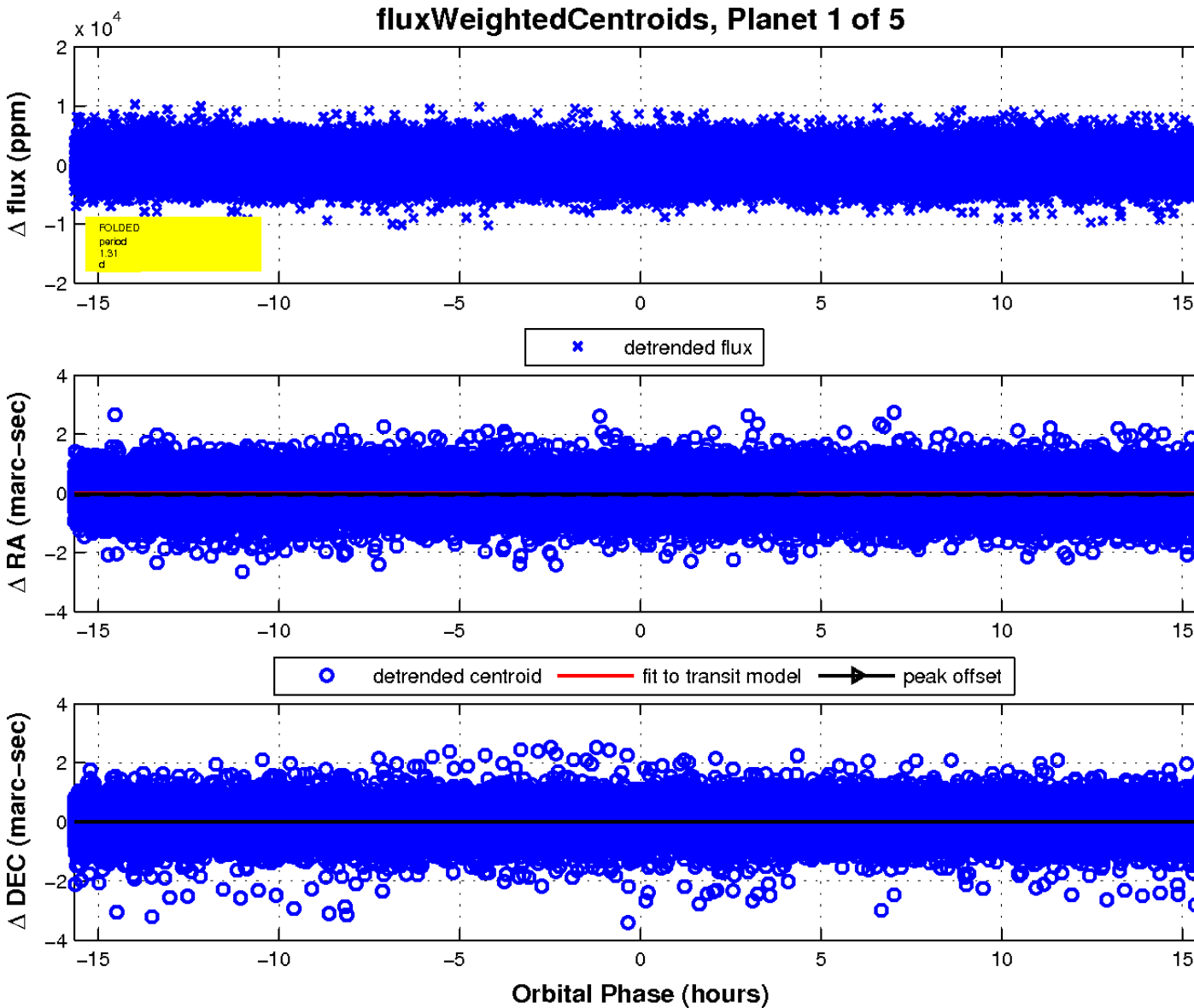
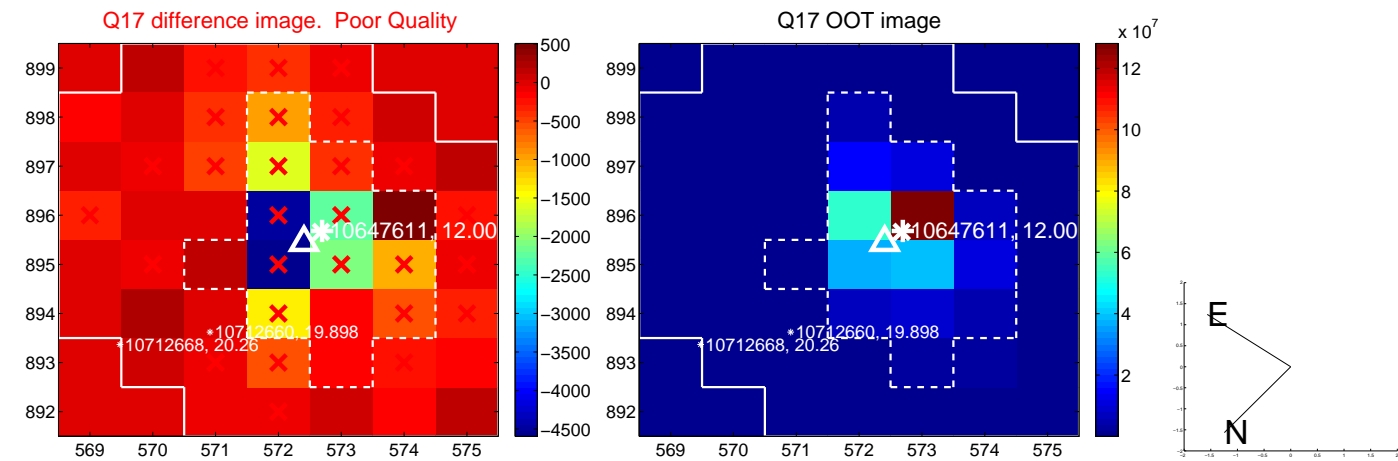
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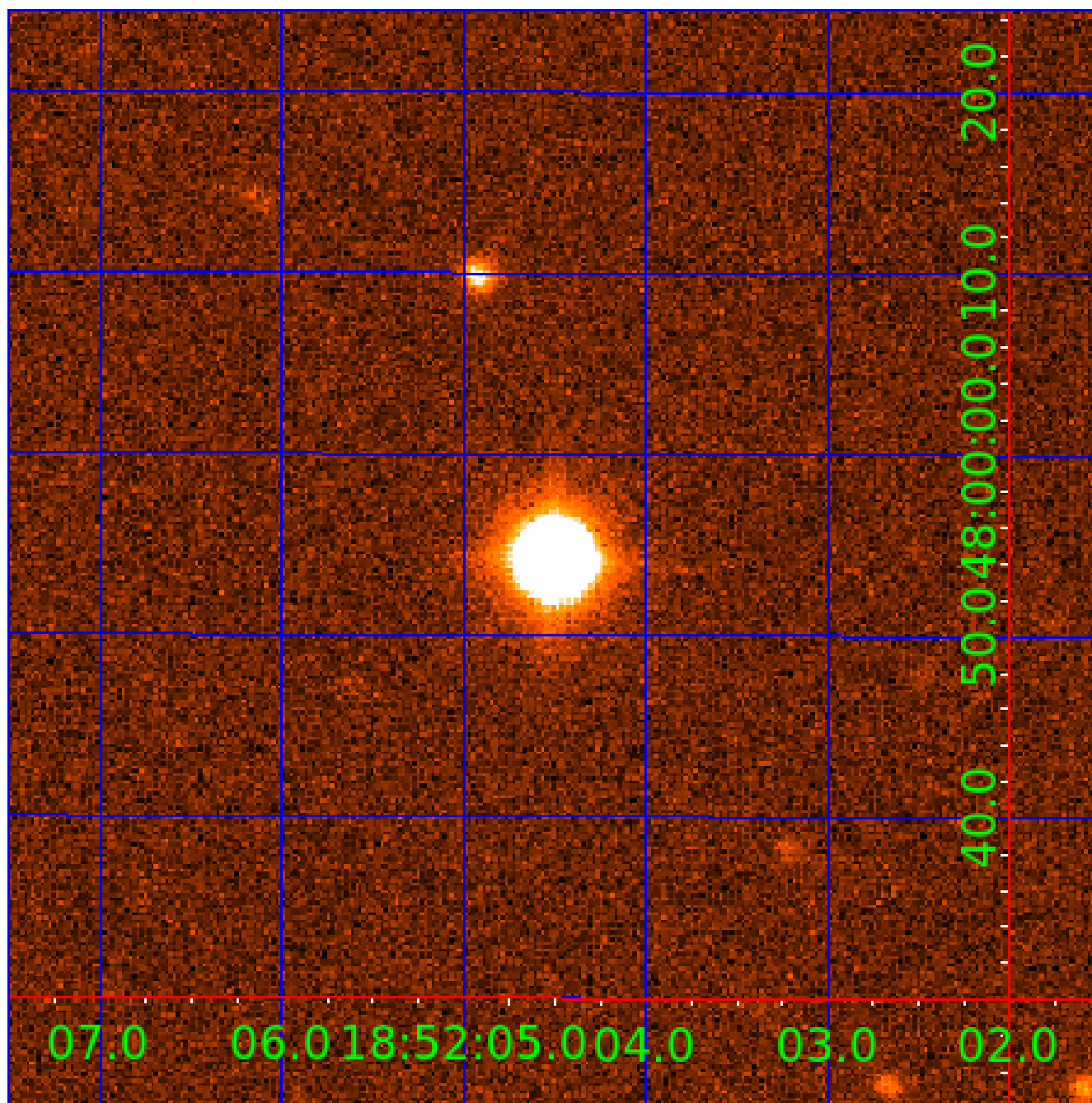


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010647611

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})
010647611-01	OBS	No	1.305776	132.770746	118.1	9.040	8.2	5.4	2.18	7334	2.40	15768.93
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010647611-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
010647611-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010647611-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010647611-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010647611-05	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.

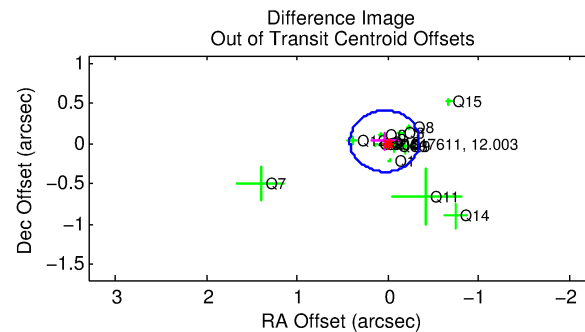
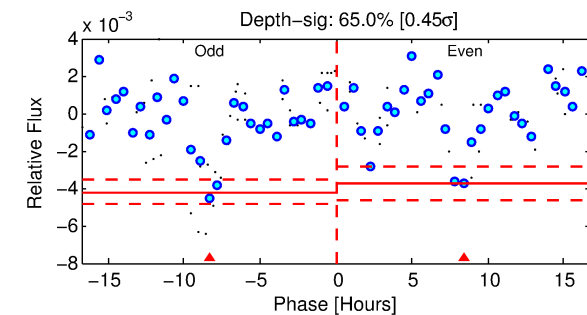
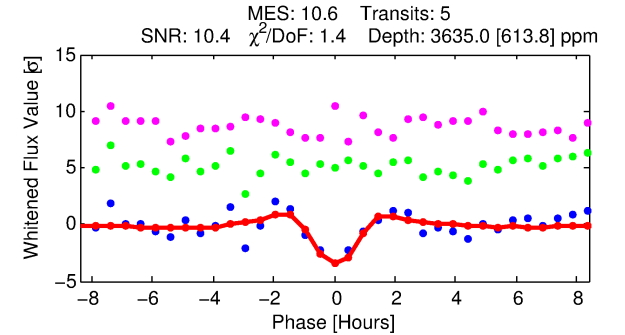
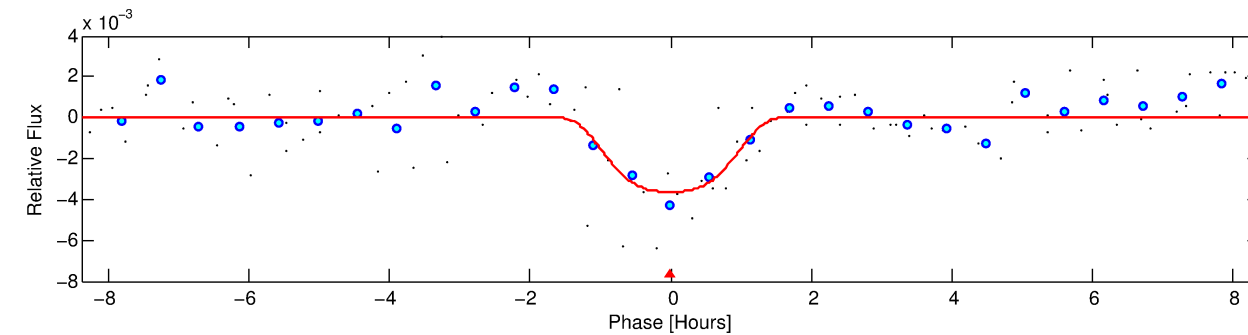
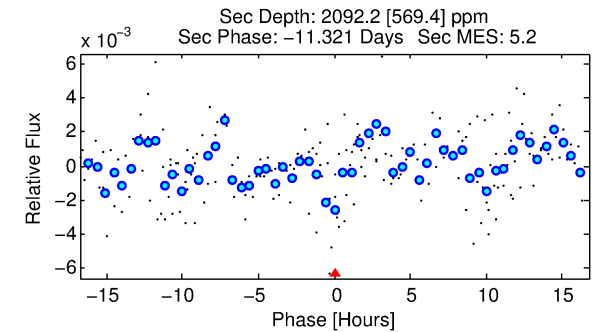
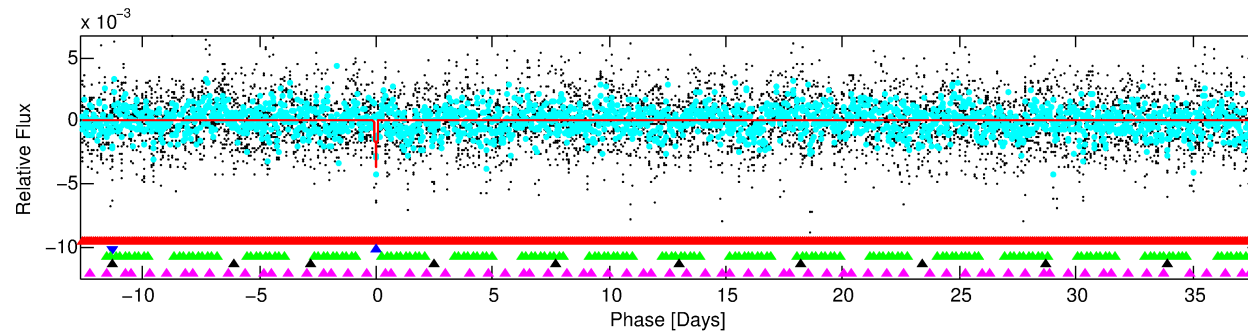
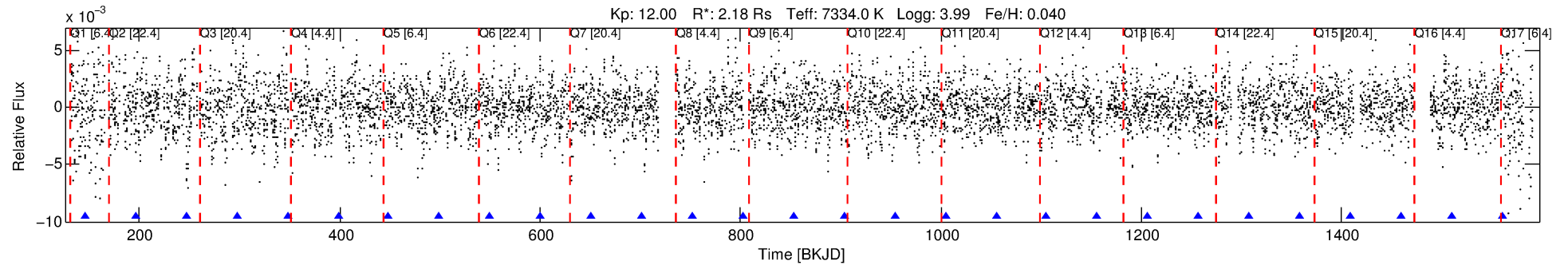
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010647611-02

No Significant Match Found

DV One-Page Summary

KIC: 10647611 Candidate: 2 of 5 Period: 50.509 d



DV Fit Results:

Period = 50.50878 [0.00033] d
Epoch = 145.9946 [0.0067] BKJD
Rp/R* = 0.0660 [0.0079]
a/R* = 72.94 [16.55]
b = 0.93 [0.04]
Seff = 120.54 [47.52]
Teq = 845 [83] K
Rp = 15.72 [4.61] Re
a = 0.3201 [0.0750] AU
Ag = 477.31 [241.39] [1.97 σ]
Teffp = 6106 [616] K [8.46 σ]

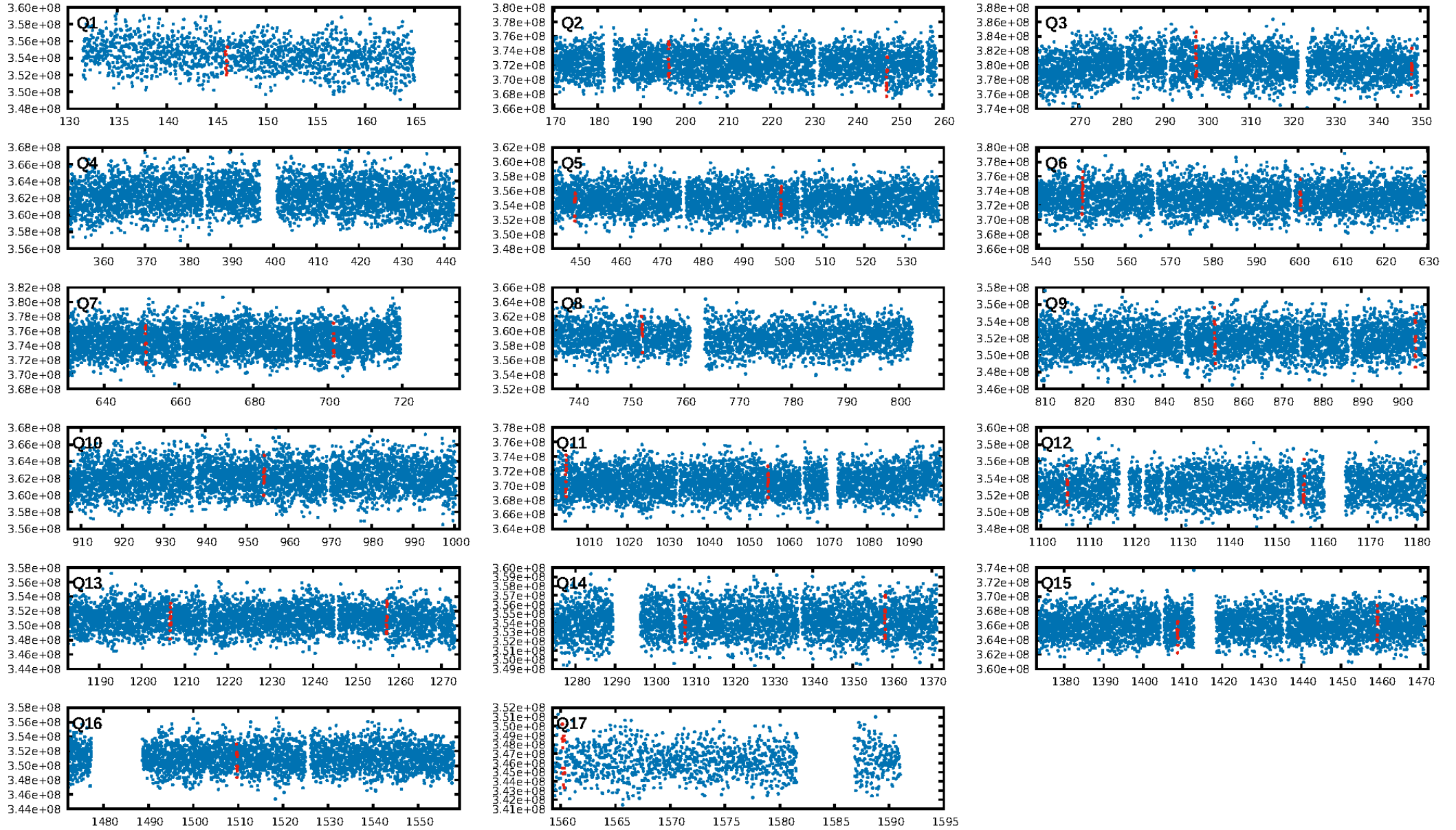
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [228.06 σ]
LongPeriod-sig: 100.0% [606.86 σ]
ModelChiSquare2-sig: 6.2%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.45e-09
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.636
Centroid-sig: 0.0%
Centroid-so: 0.097 arcsec [2.59 σ]
OotOffset-rm: 0.048 arcsec [0.38 σ]
KicOffset-rm: 0.102 arcsec [0.72 σ]
OotOffset-st: 4/4/3/4 [15]
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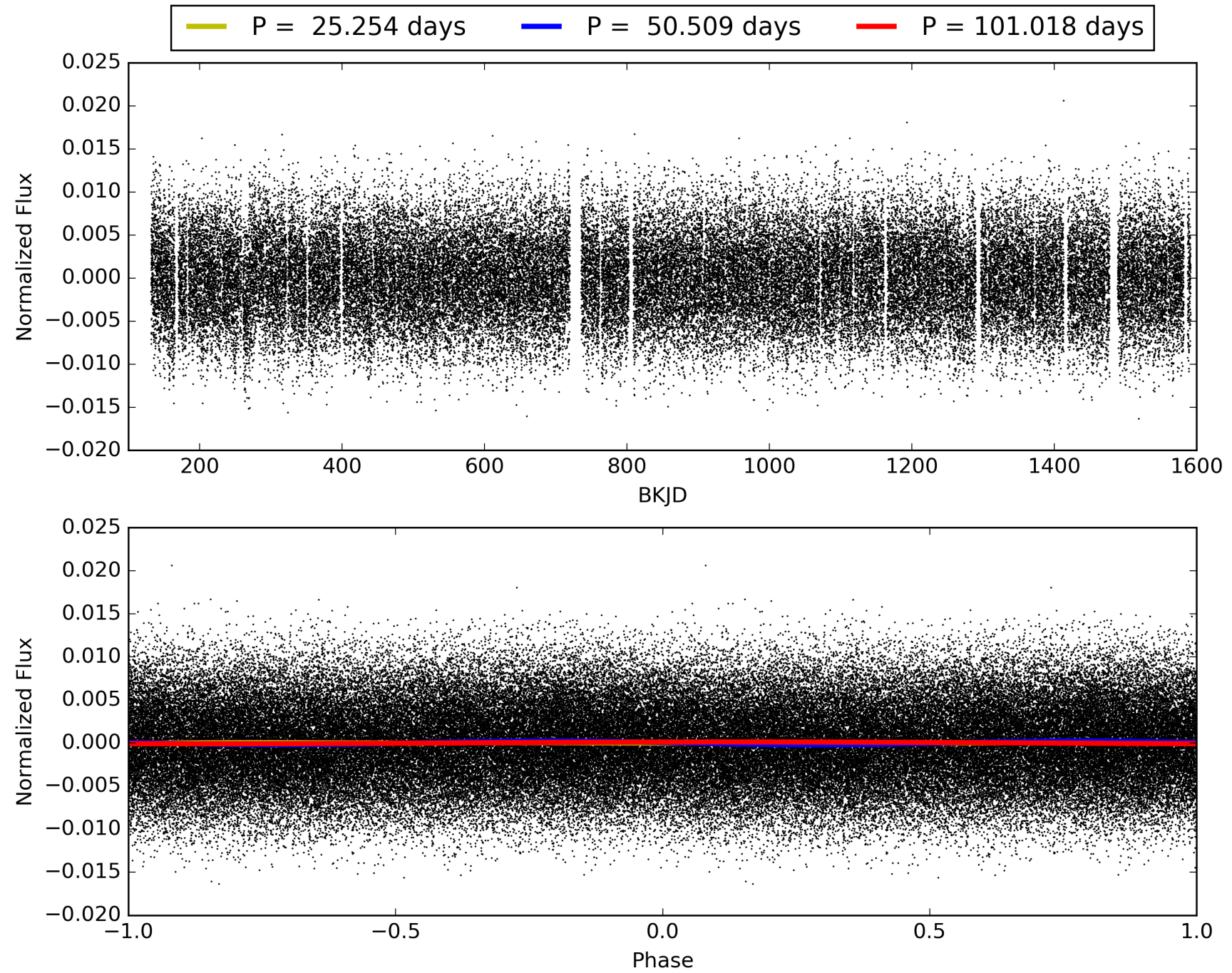
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010647611-02, PDC Light Curves

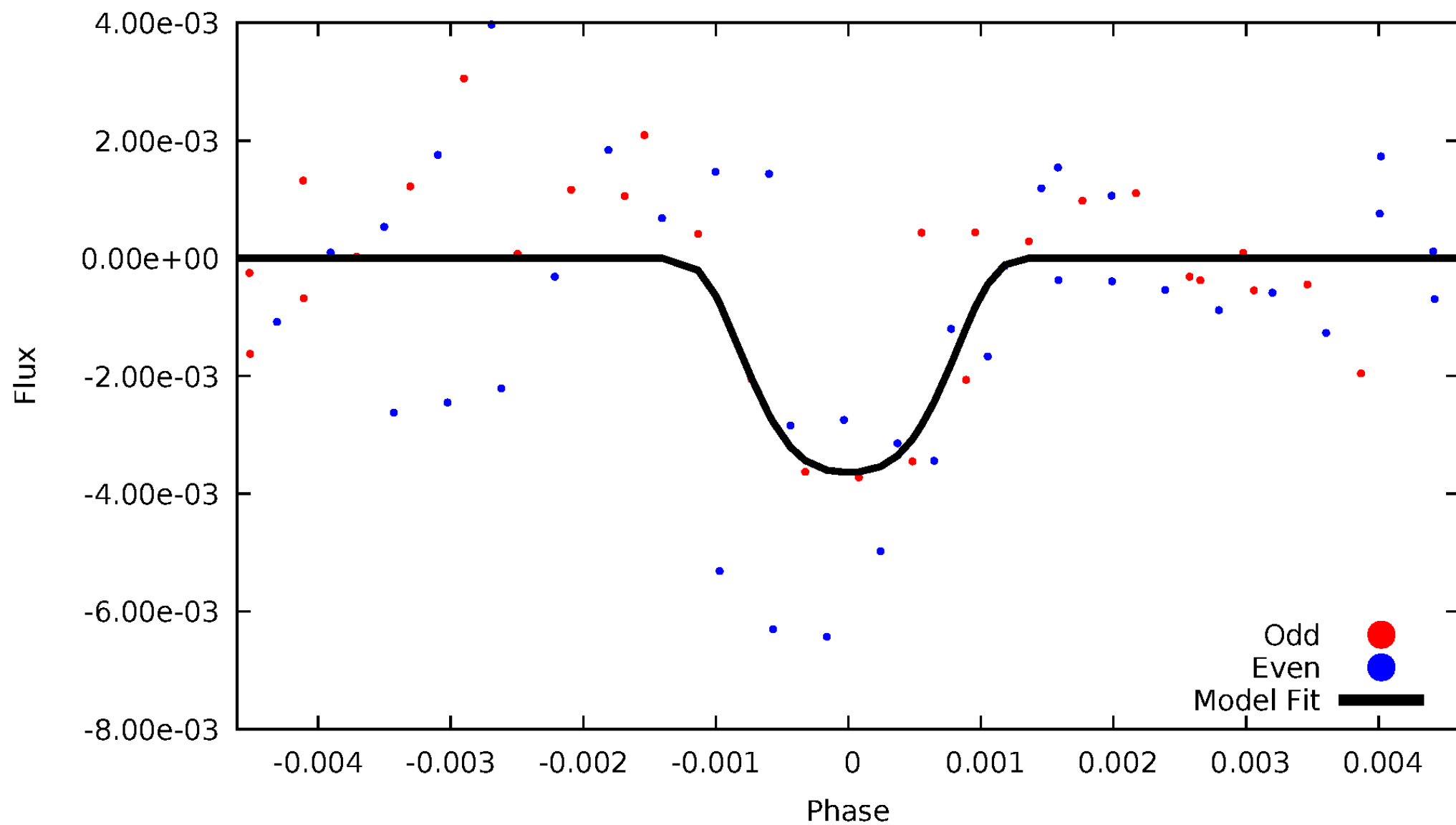


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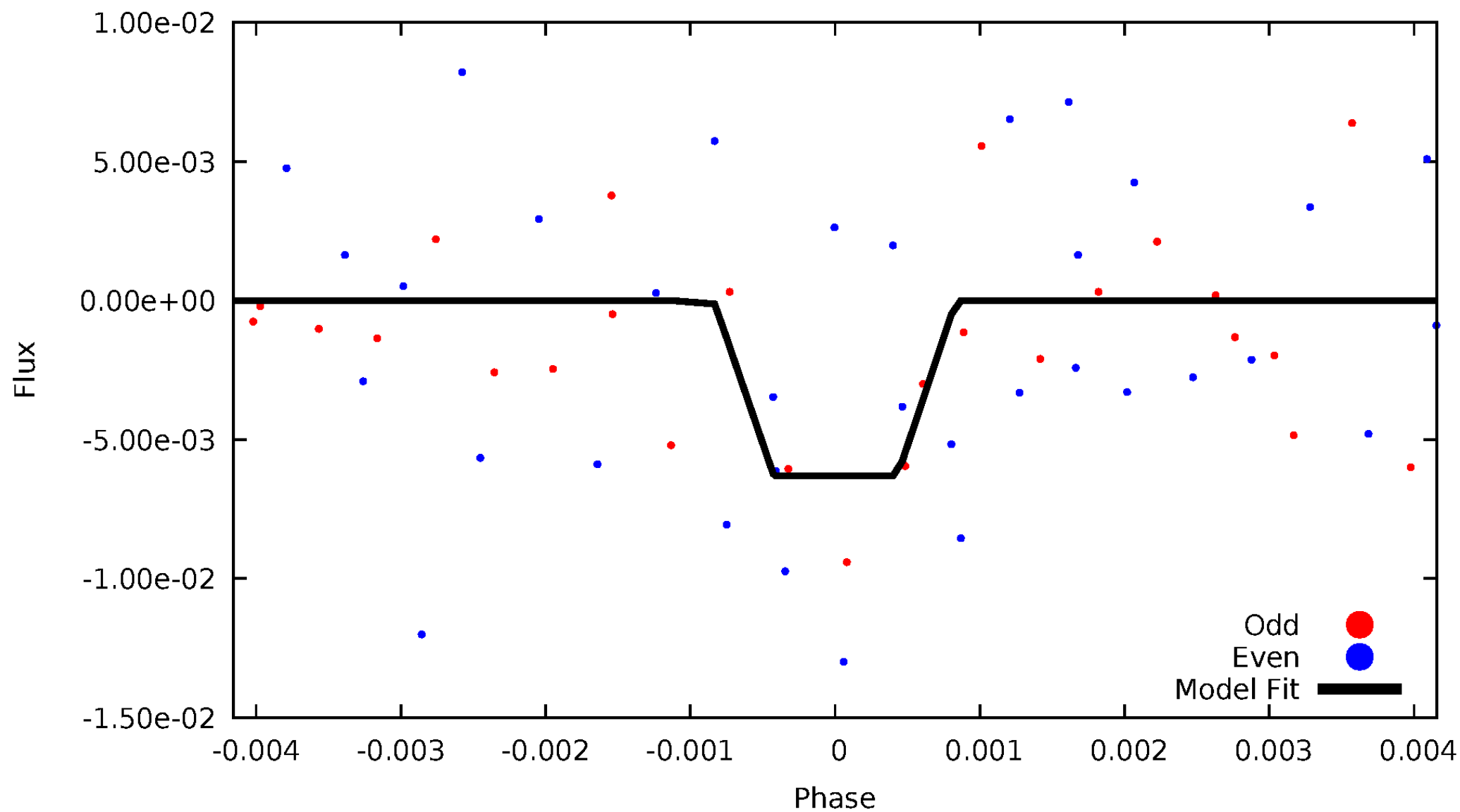
DV Odd/Even

TCE 010647611-02



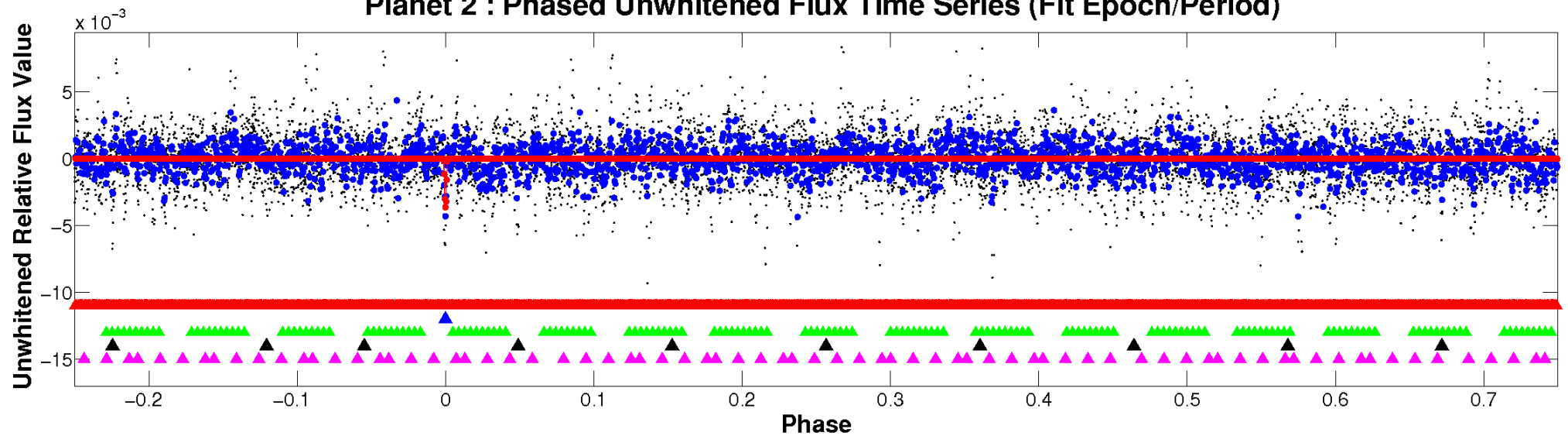
ALT Odd/Even

TCE 010647611-02

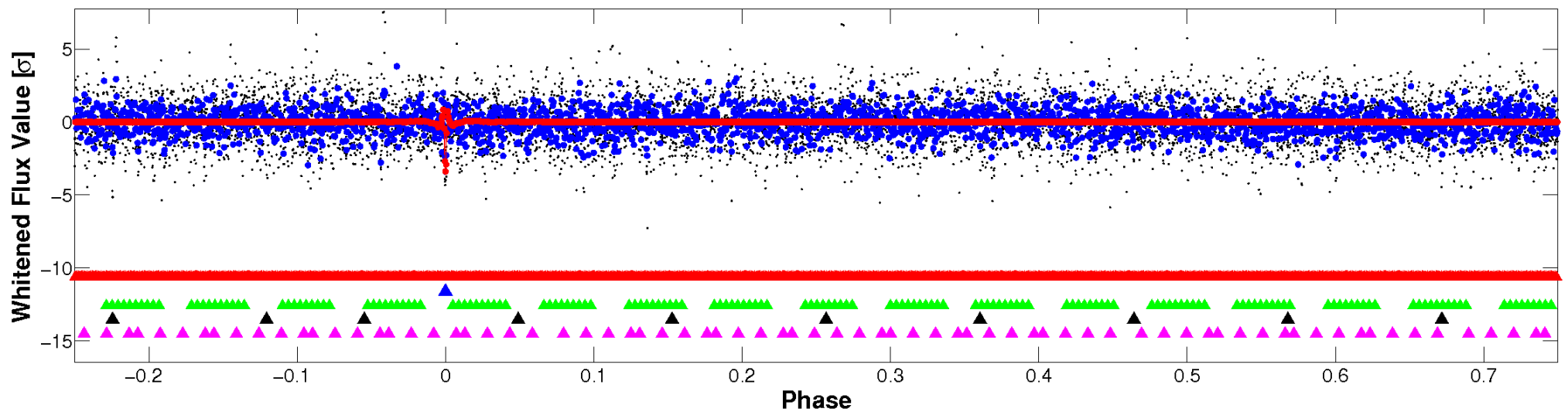


Non-Whitened Vs. Whitened Light Curve

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

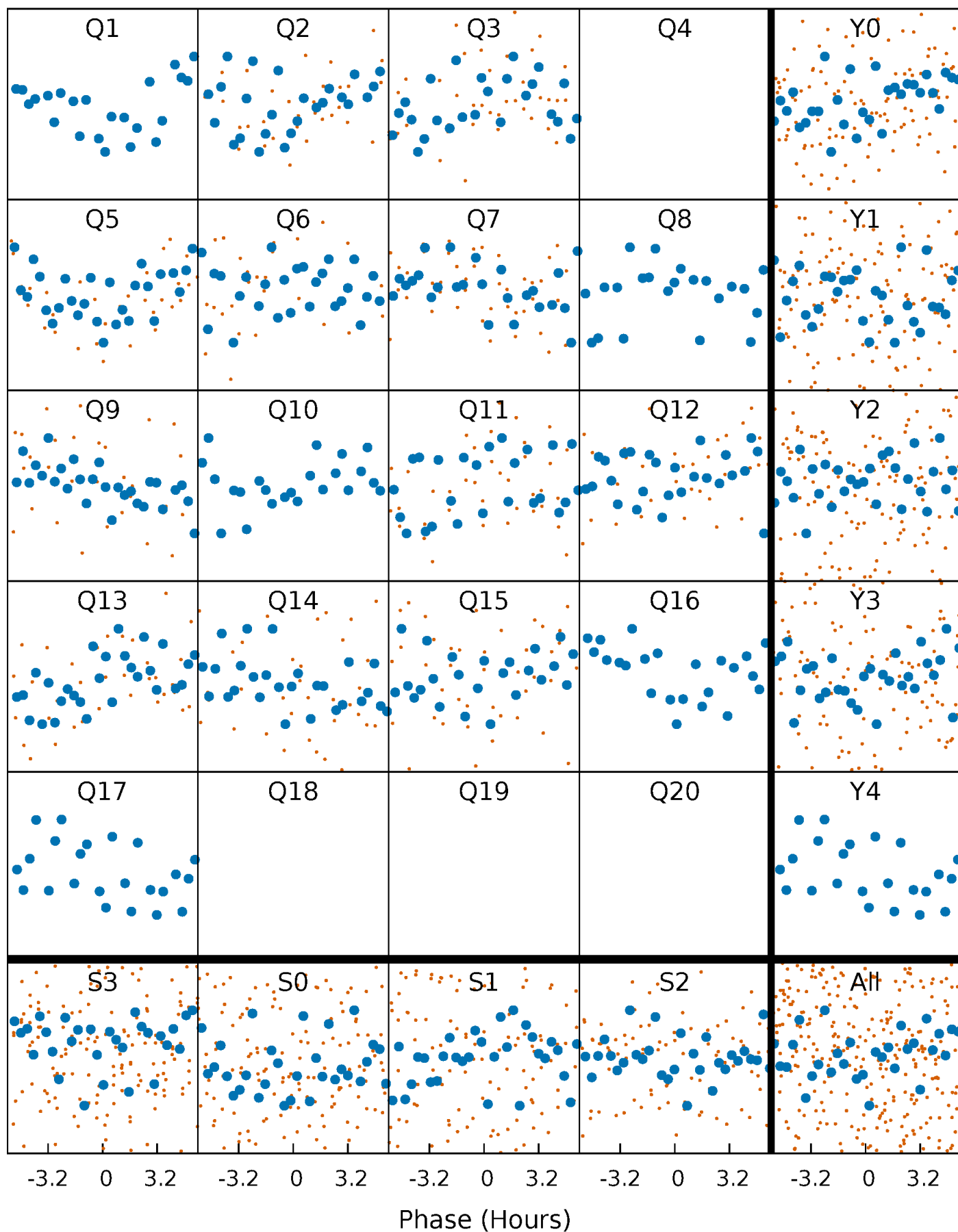


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



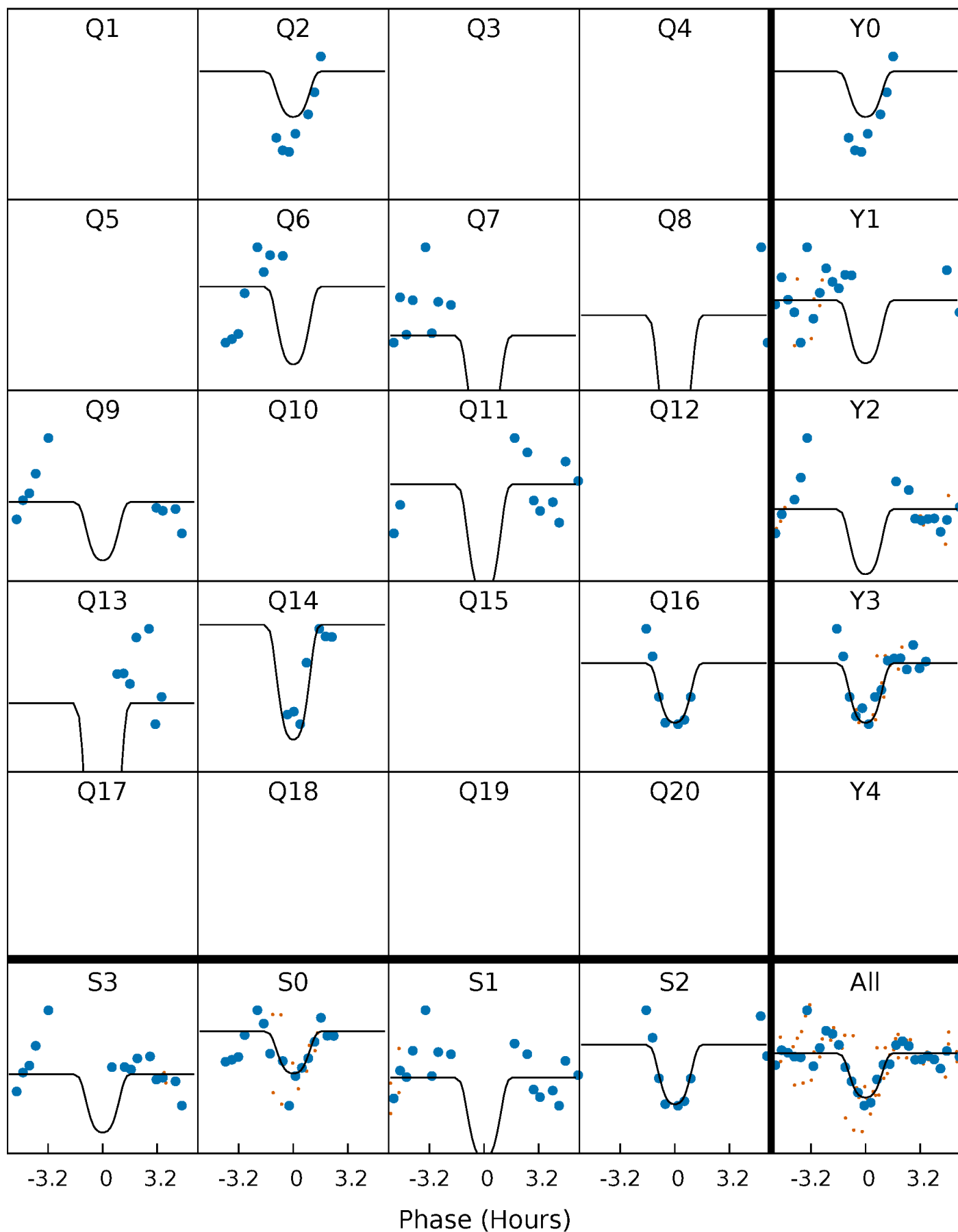
PDC Quarter-Phased Transit Curves

TCE 010647611-02 P= 50.508779 Days $T_0=145.994554$ (BKJD)



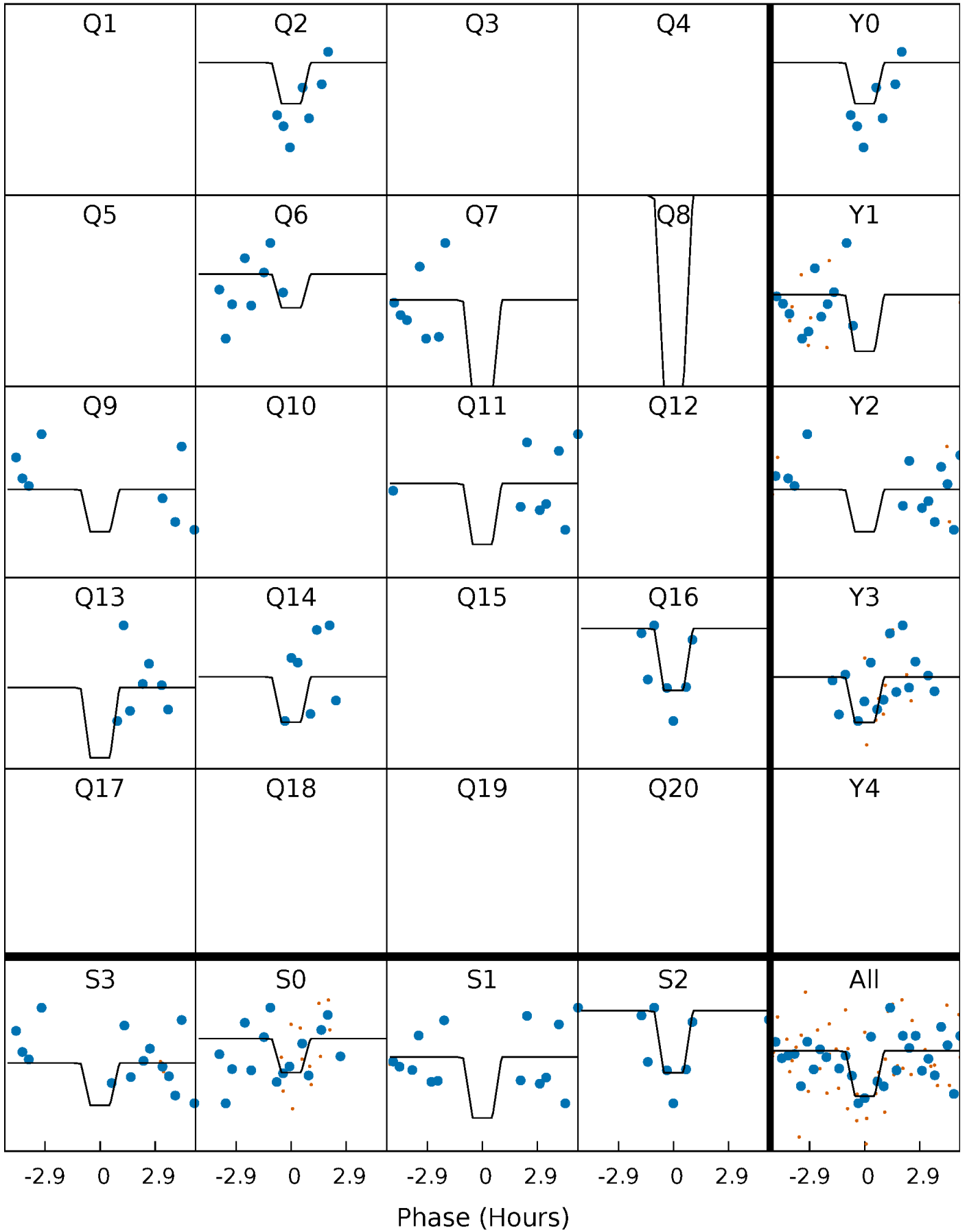
DV Quarter-Phased Transit Curves

TCE 010647611-02 P= 50.508779 Days $T_0=145.994554$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

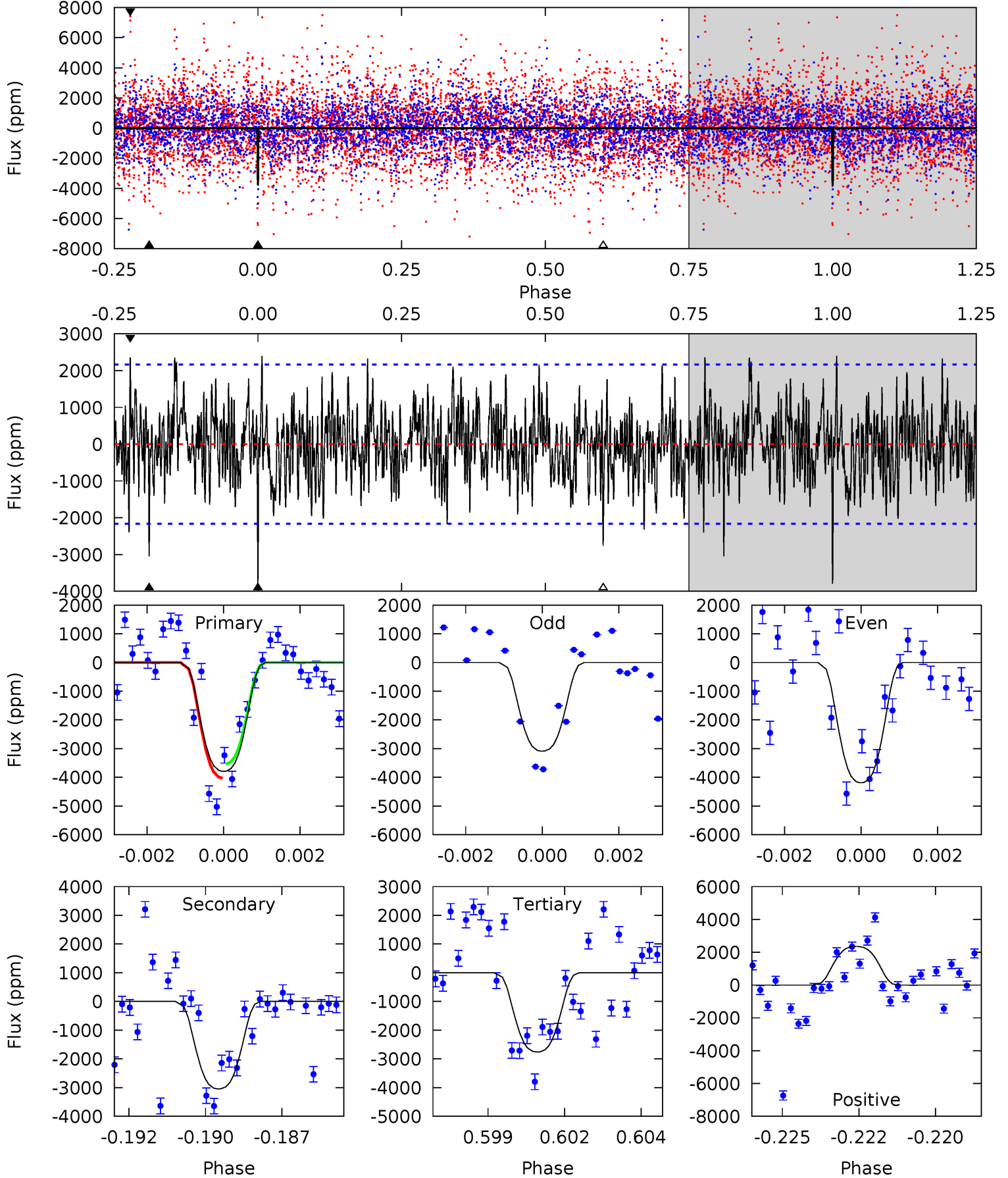
TCE 010647611-02 P= 50.509225 Days $T_0=145.982431$ (BKJD)



DV Model-Shift Uniqueness Test

010647611-02, P = 50.508779 Days, E = 95.485775 Days

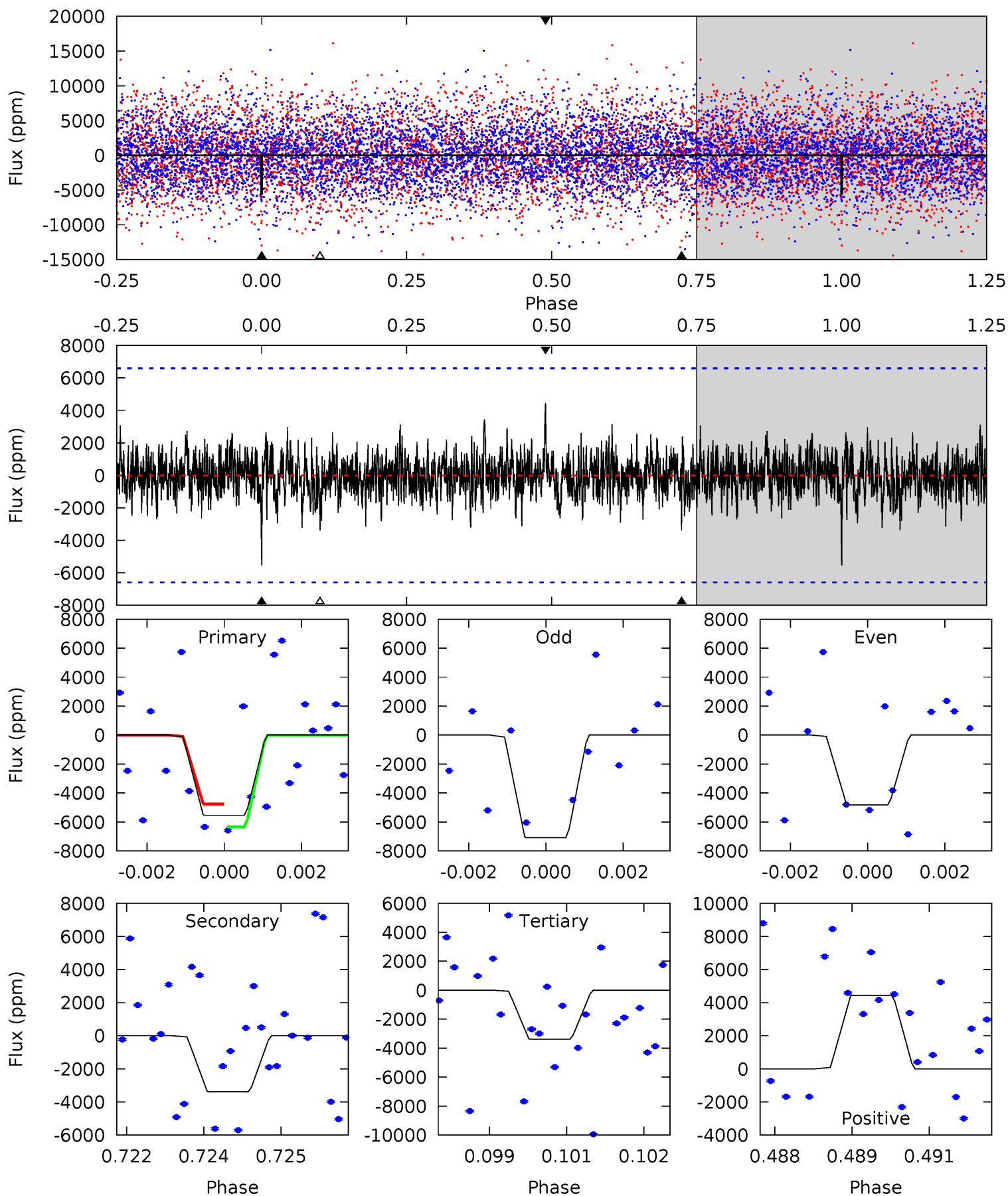
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.26	7.44	6.74	5.75	5.29	3.02	1.93	2.52	3.51	0.70	1.68	1.29	0.69	0.39	0.59



Alt Model-Shift Uniqueness Test

010647611-02, P = 50.509225 Days, E = 95.473206 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.51	2.76	2.76	3.62	5.37	3.16	0.83	1.76	0.89	0.00	-0.86	0.93	0.98	0.44	0.65



Stellar Parameters For KIC 010647611

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7334^{+235}_{-324}	$3.994^{+0.198}_{-0.162}$	$0.040^{+0.200}_{-0.300}$	$2.183^{+0.584}_{-0.584}$	$1.713^{+0.197}_{-0.271}$	$0.232^{+0.266}_{-0.110}$
	+3%/-4%	+5%/-4%	+500%/-750%	+27%/-27%	+12%/-16%	+115%/-47%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010647611-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-3047 ± 410	$15.55^{+3.35}_{-2.70}$	1178^{+94}_{-91}	6624^{+621}_{-470}	697^{+344}_{-220}
Alt.	-3386 ± 1227	$18.47^{+3.57}_{-2.93}$	1174^{+88}_{-87}	6187^{+708}_{-682}	532^{+335}_{-205}

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

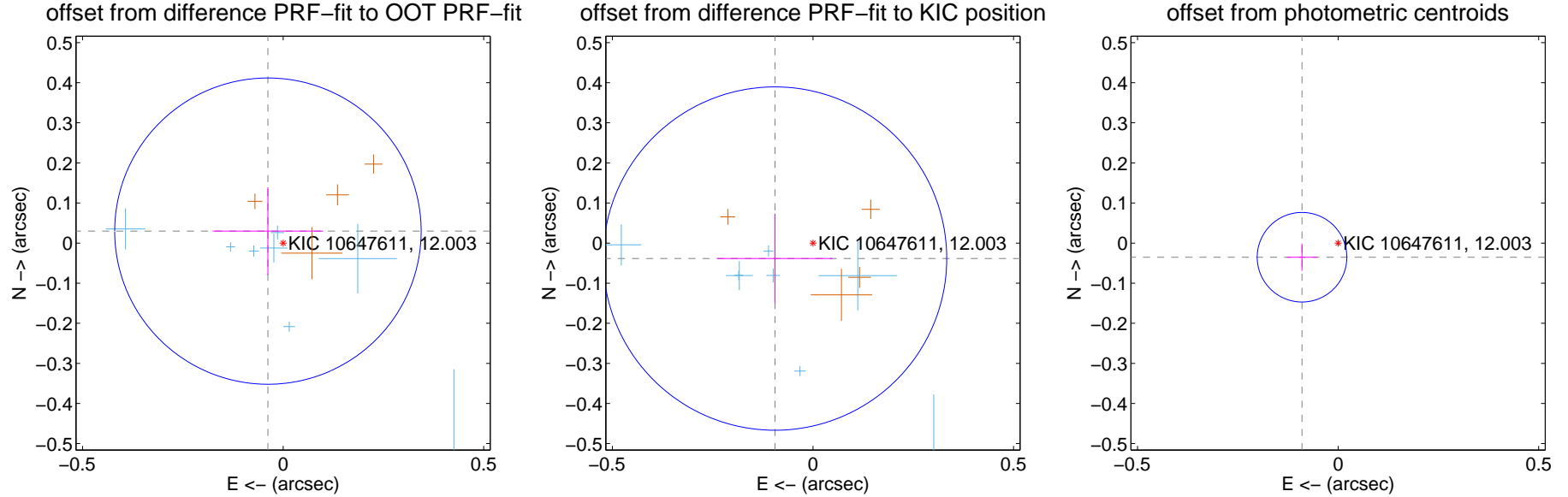
DV Centroid Data

Supplemental centroid analysis for 010647611-02. Kepler magnitude: 12.00. Transit SNR 10.43

There are 11 quarters with good PRF difference image offsets

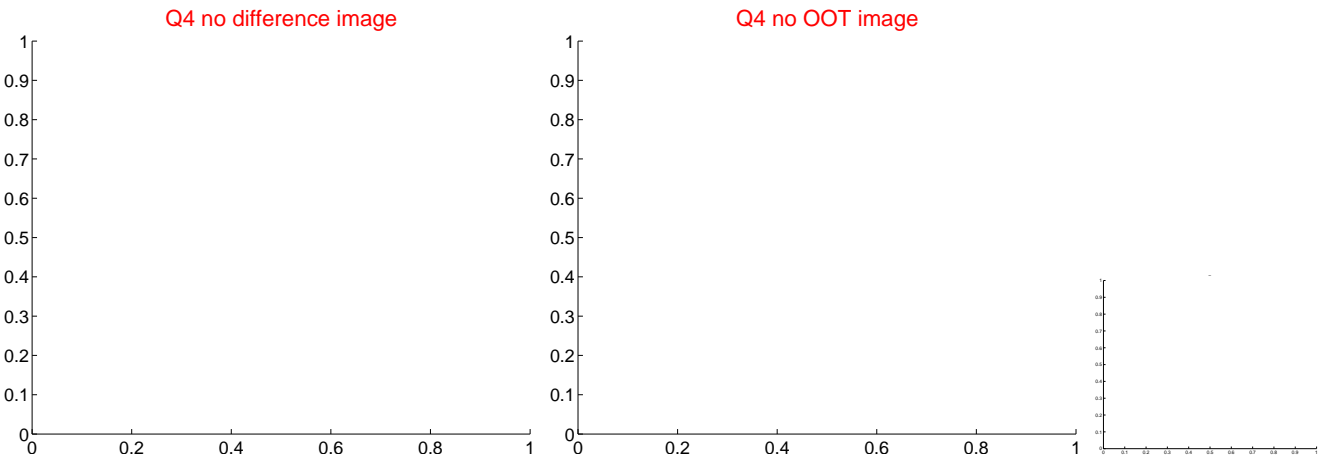
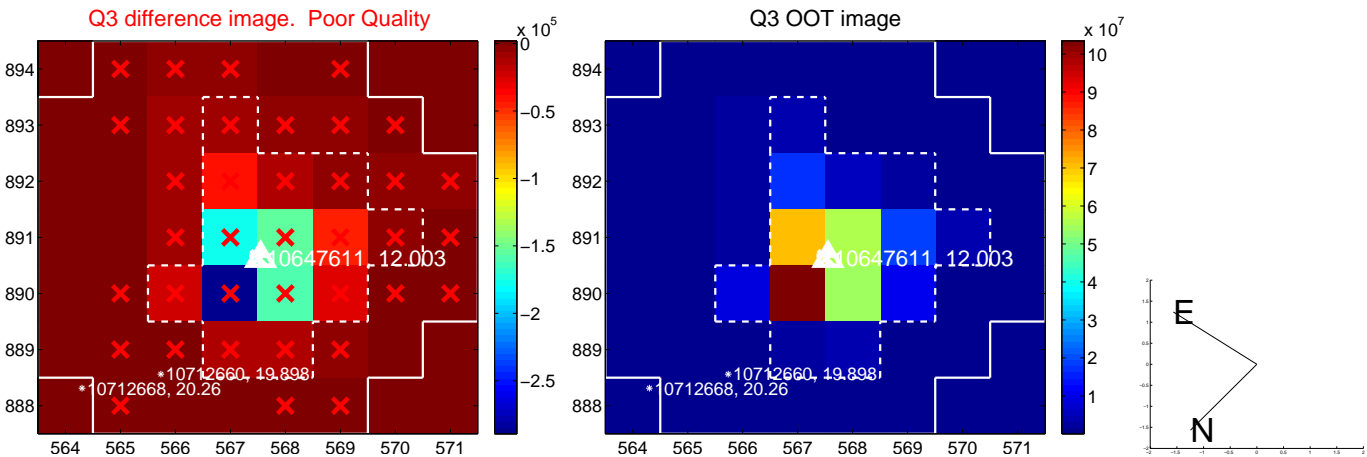
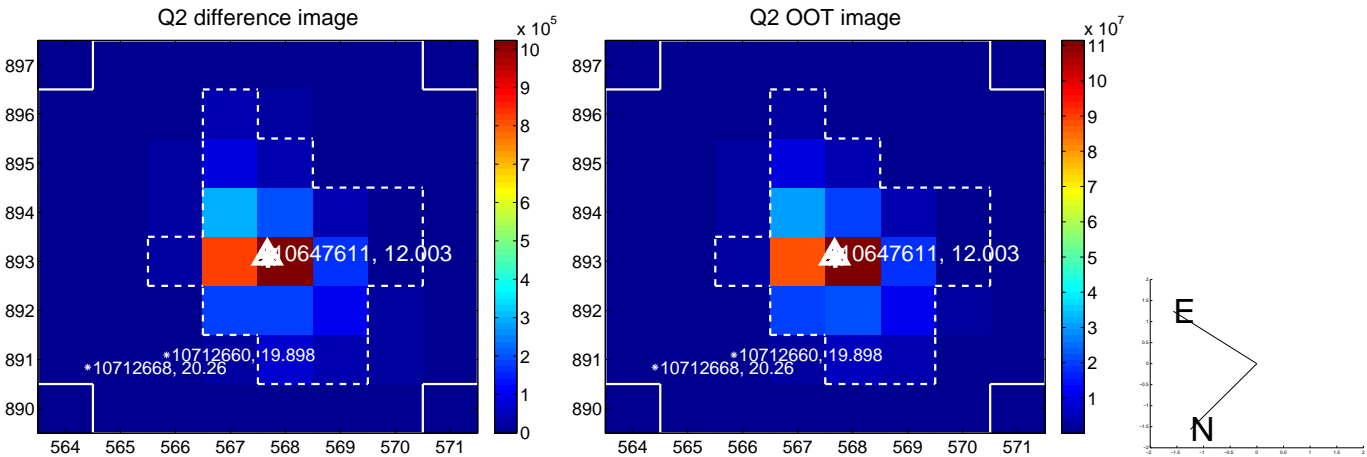
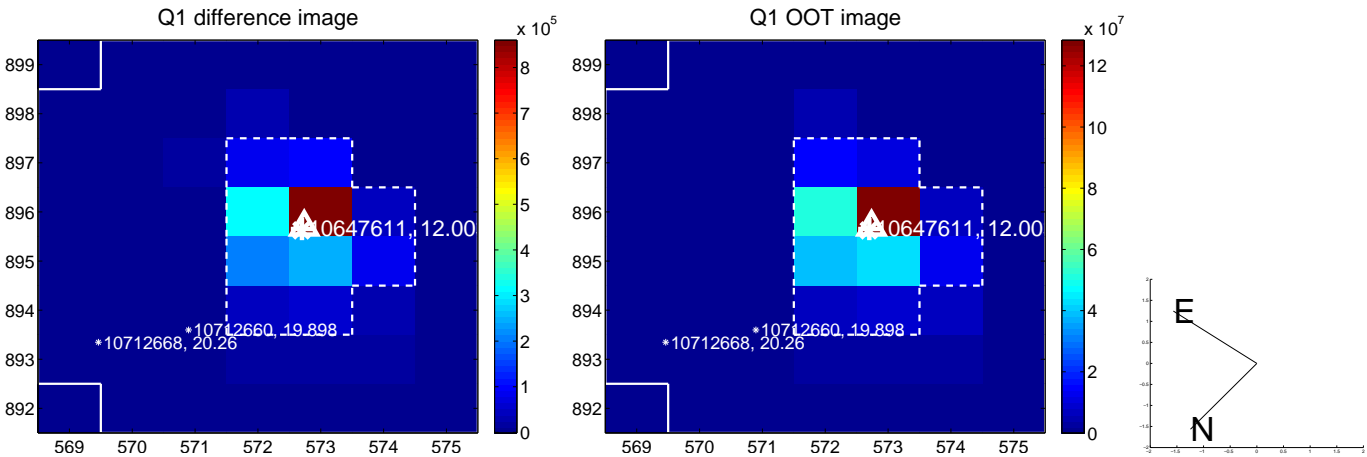
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.048 ± 0.127	0.38	0.038 ± 0.138	0.030 ± 0.109
PRF-fit source offset from KIC position	0.102 ± 0.143	0.72	0.095 ± 0.144	-0.039 ± 0.112
photometric centroid source offset	0.10 ± 0.04	2.59	0.09 ± 0.04	-0.04 ± 0.03

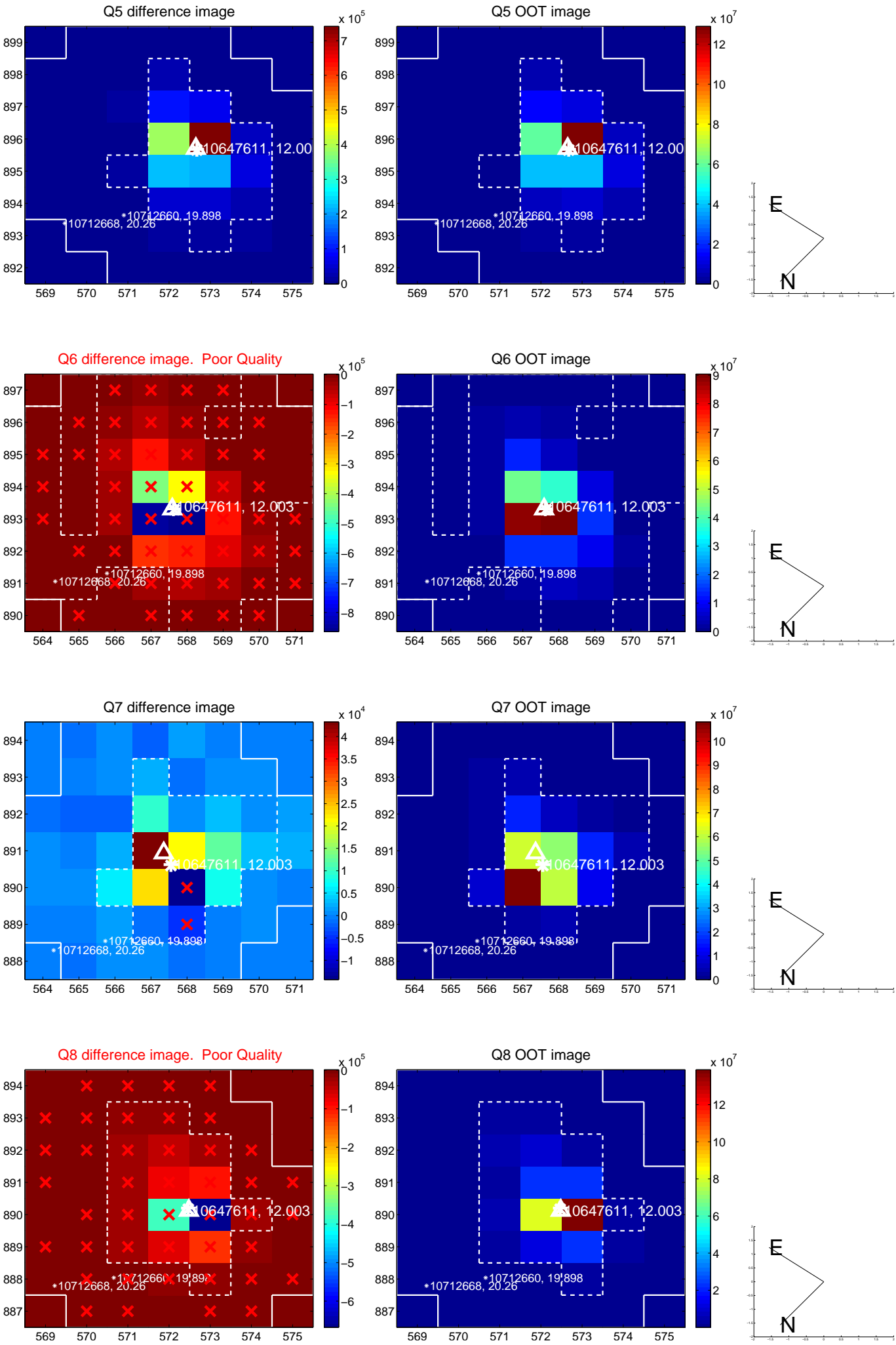


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

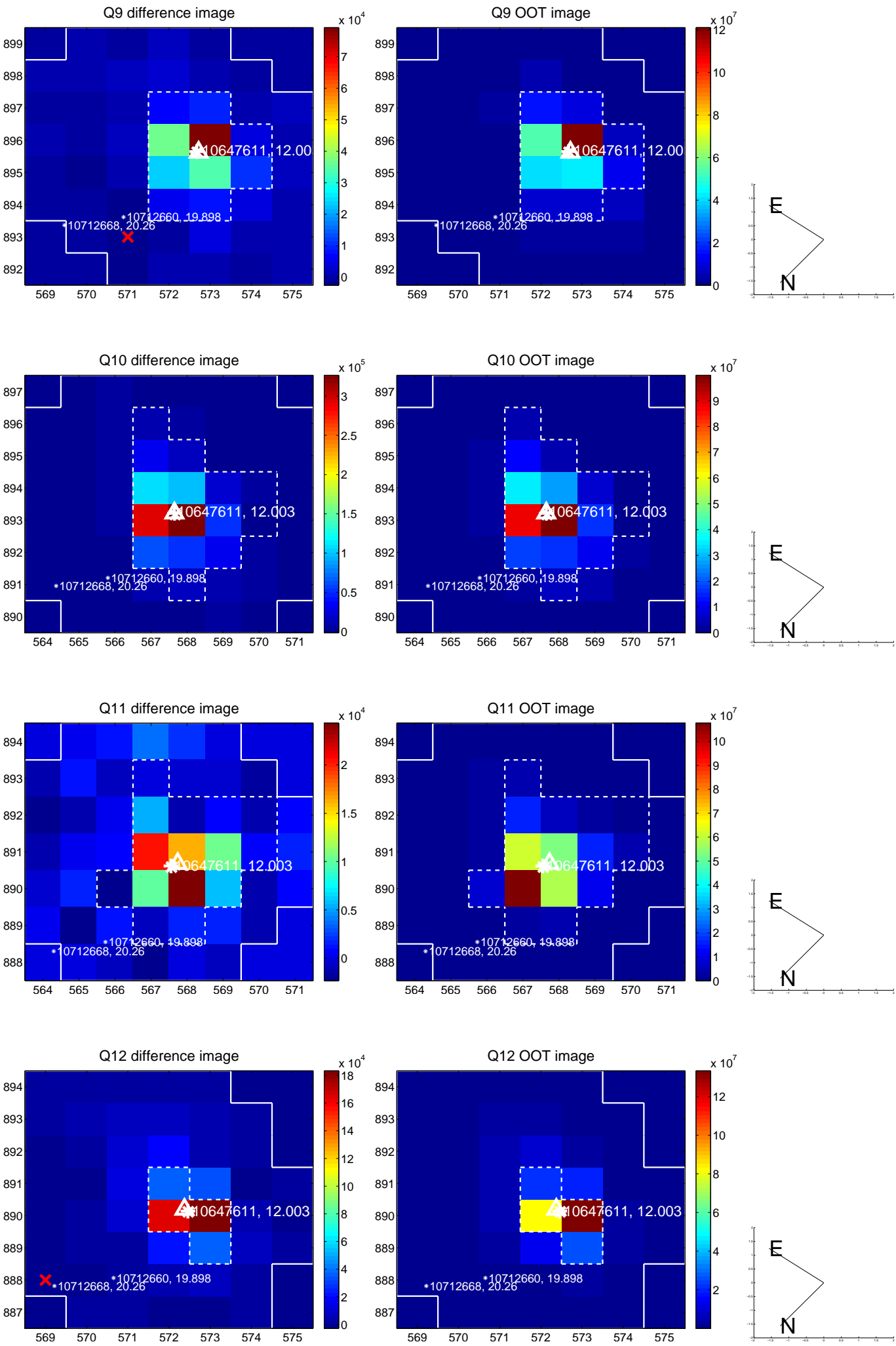
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



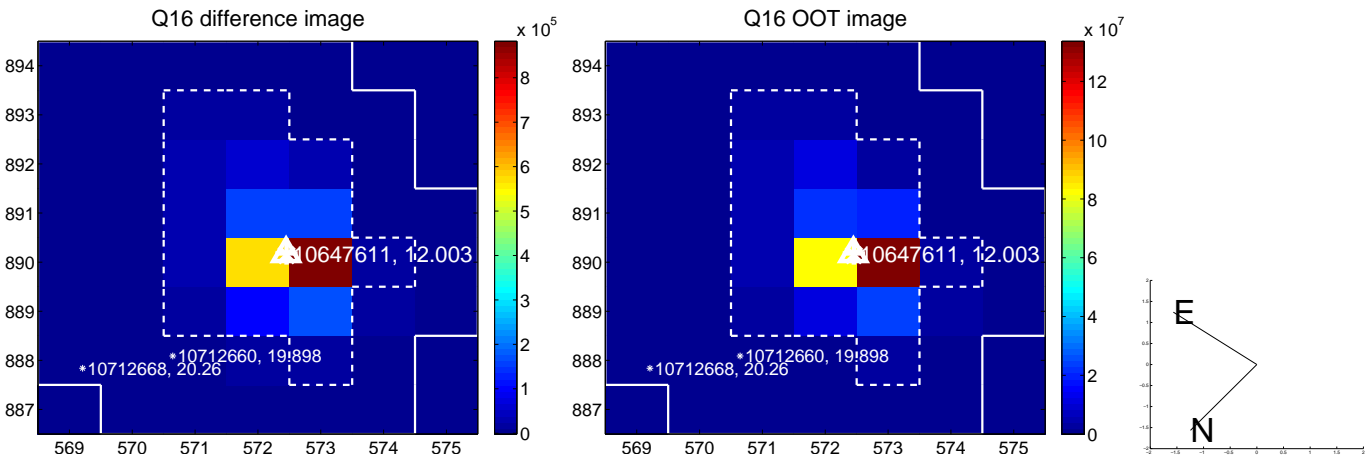
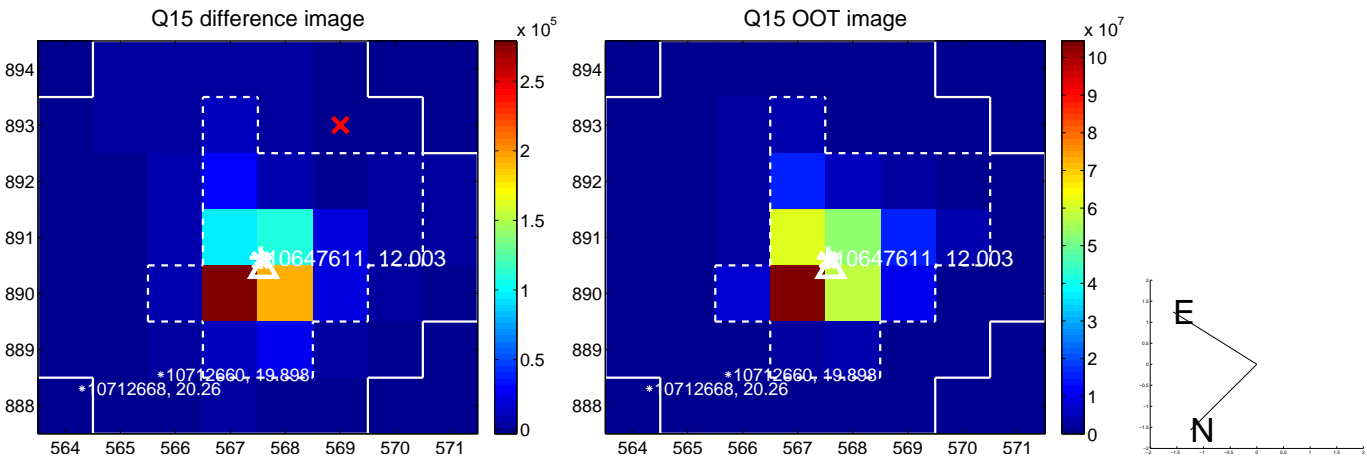
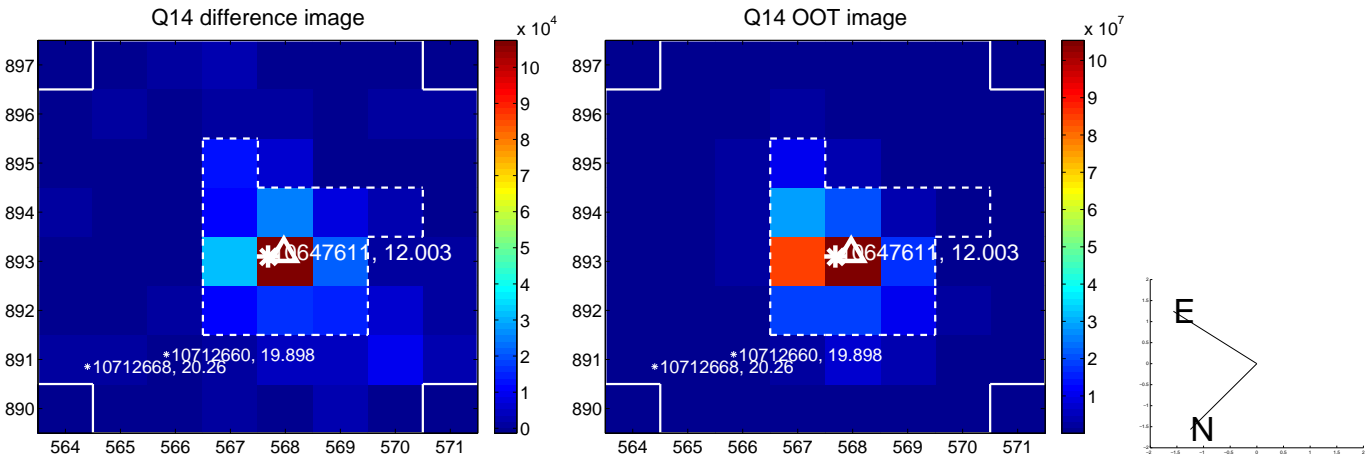
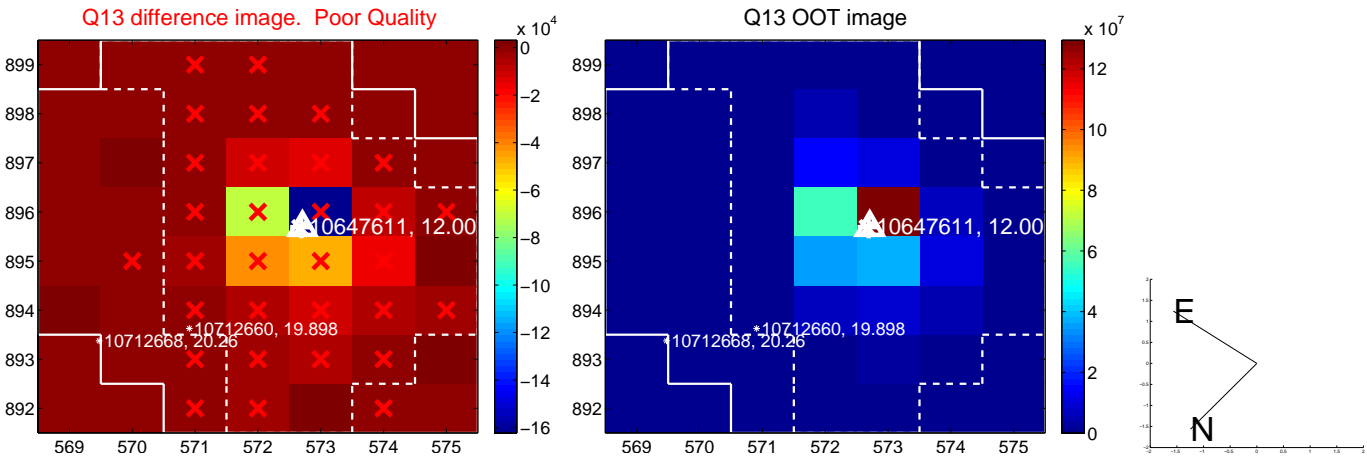
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



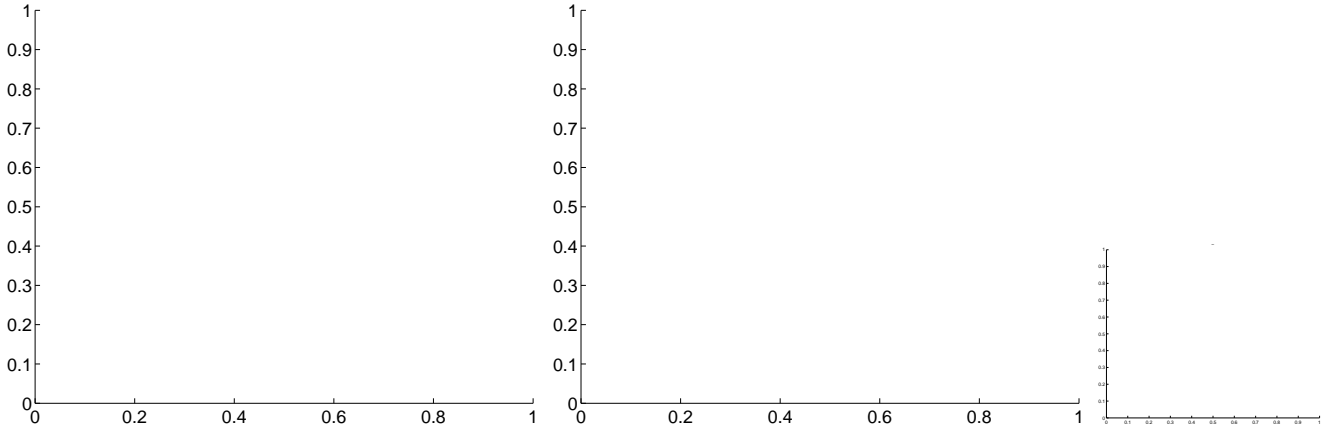
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



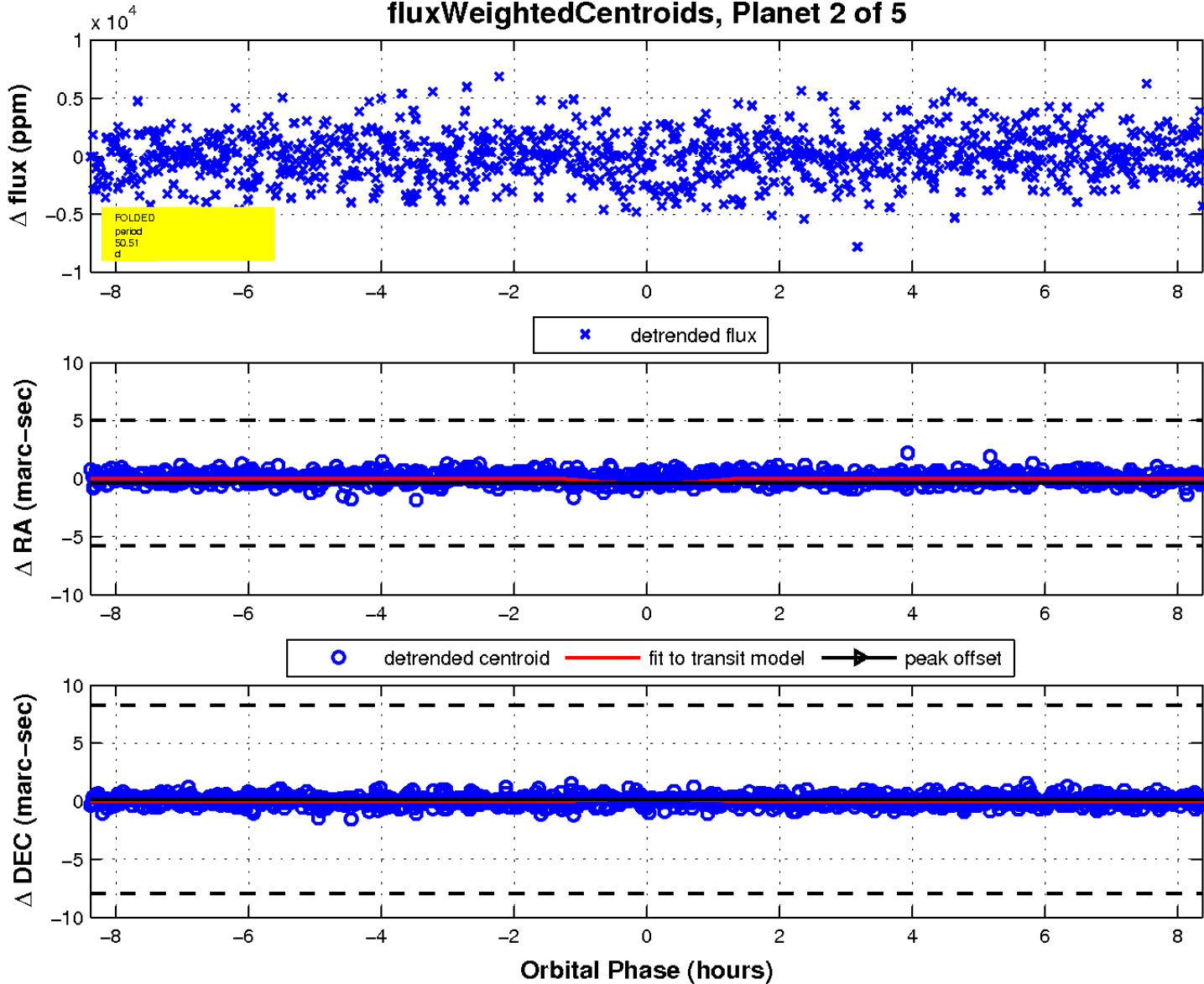
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q17 no difference image

Q17 no OOT image

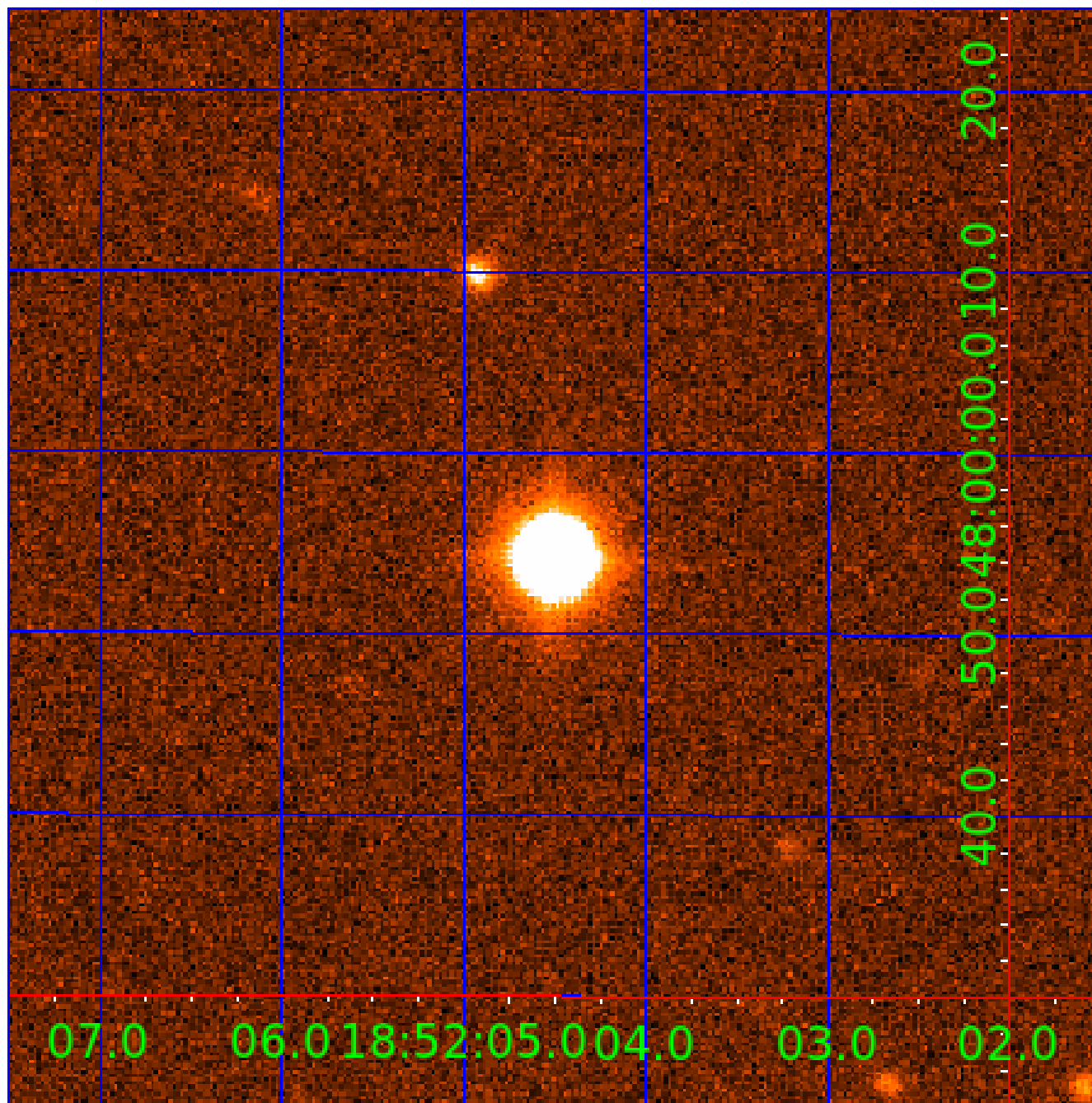


fluxWeightedCentroids, Planet 2 of 5



UKIRT Image

Declination



KIC 010647611

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})
010647611-01	OBS	No	1.305776	132.770746	118.1	9.040	8.2	5.4	2.18	7334	2.40	15768.93
010647611-02	OBS	No	50.508779	145.994554	3635.0	2.795	10.6	10.4	2.18	7334	15.72	120.54
010647611-03	OBS	No	8.901573	136.241424	2237.4	1.444	11.1	12.0	2.18	7334	12.04	1219.94
010647611-04	OBS	No	146.283936	139.901061	3295.0	2.556	9.9	8.5	2.18	7334	13.69	29.20
010647611-05	OBS	No	19.684845	138.109707	2241.8	1.646	9.3	9.7	2.18	7334	10.59	423.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010647611-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
010647611-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010647611-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010647611-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010647611-05	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.

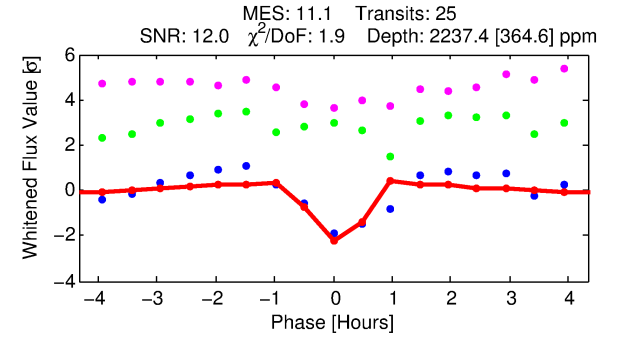
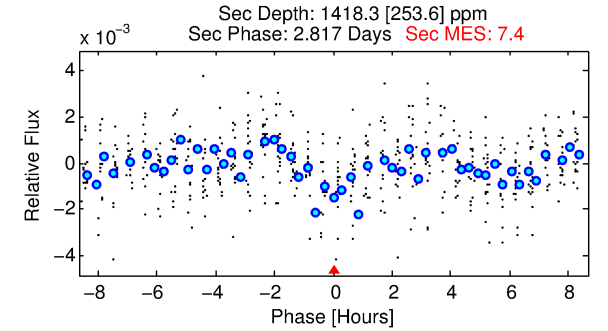
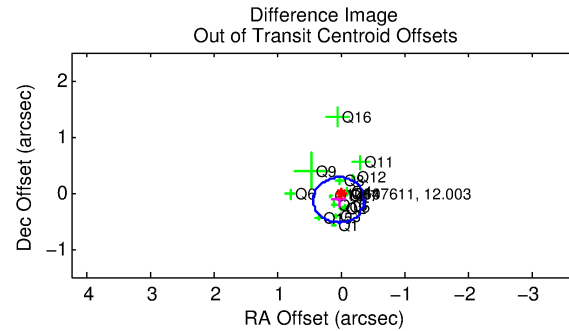
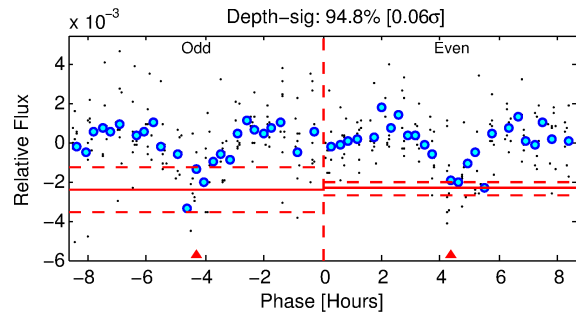
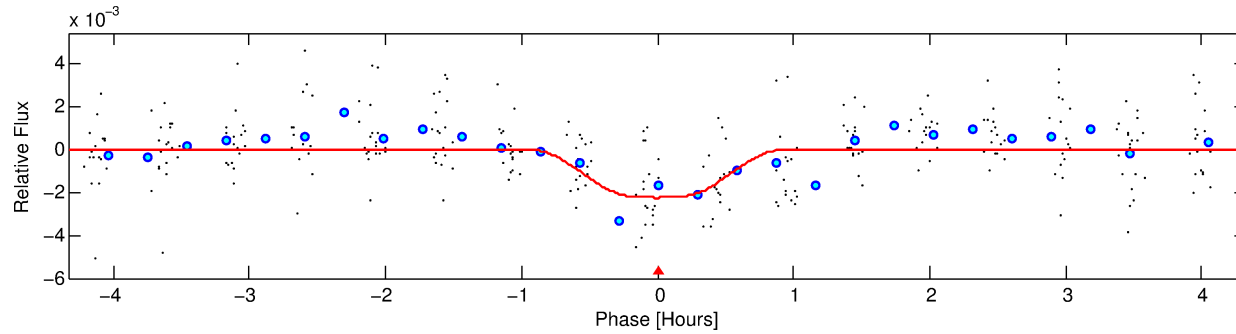
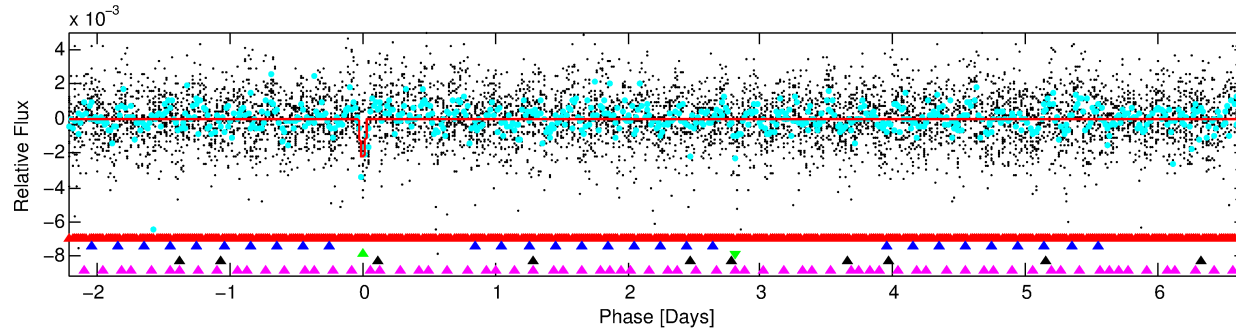
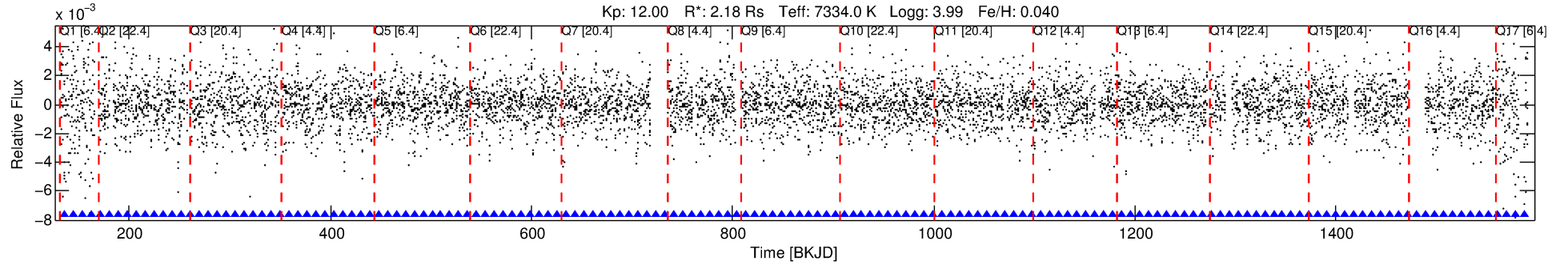
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010647611-03

No Significant Match Found

DV One-Page Summary

KIC: 10647611 Candidate: 3 of 5 Period: 8.902 d



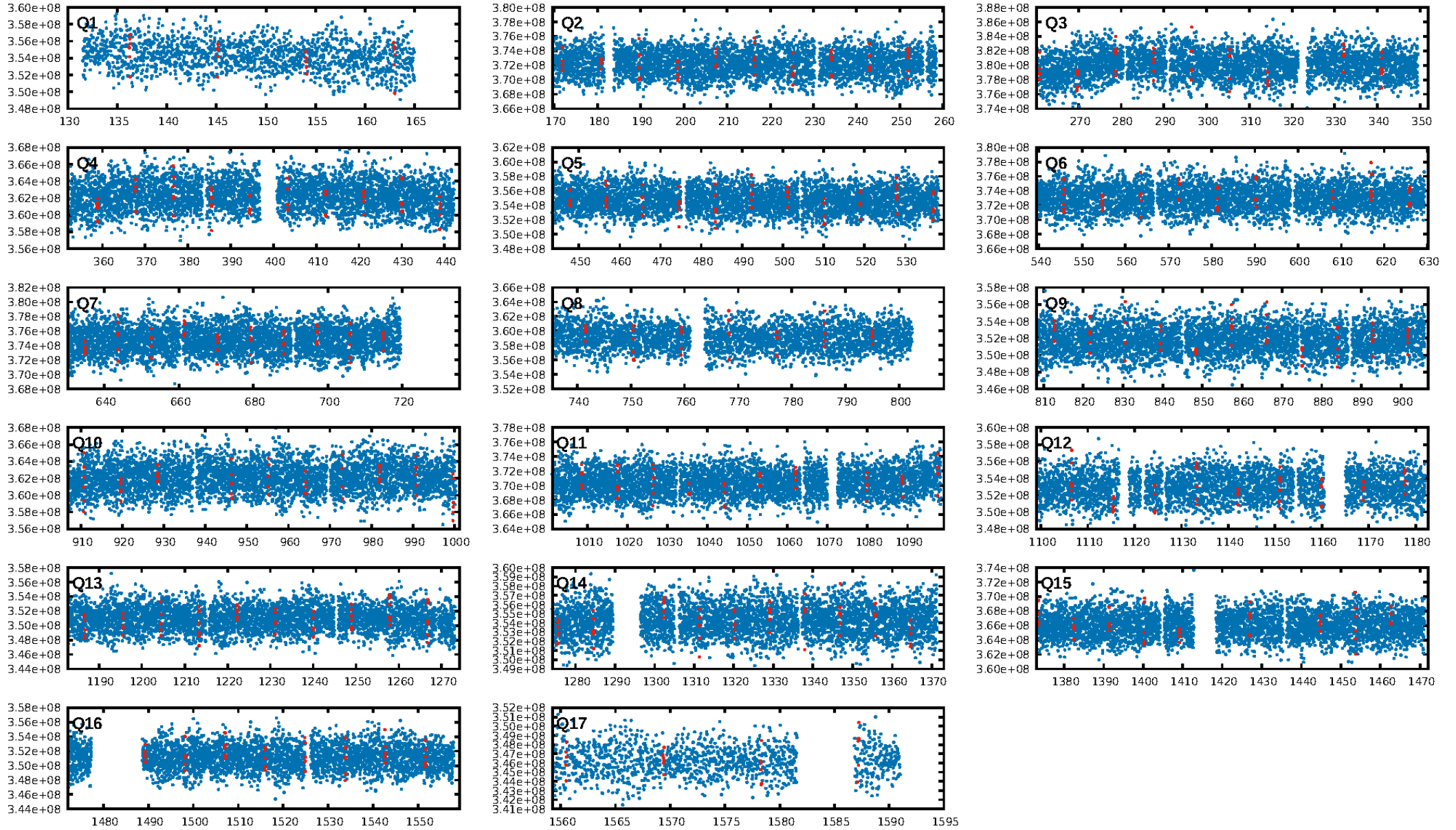
DV Fit Results:

Period = 8.90157 [0.00005] d
Epoch = 136.2414 [0.0042] BKJD
Rp/R* = 0.0505 [0.0185]
a/R* = 25.58 [53.00]
b = 0.90 [0.44]
Seff = 1219.94 [480.93]
Teq = 1507 [149] K
Rp = 12.04 [5.46] Re
a = 0.1006 [0.0236] AU
Ag = 54.54 [45.37] [1.18 σ]
Teffp = 6332 [1225] K [3.91 σ]

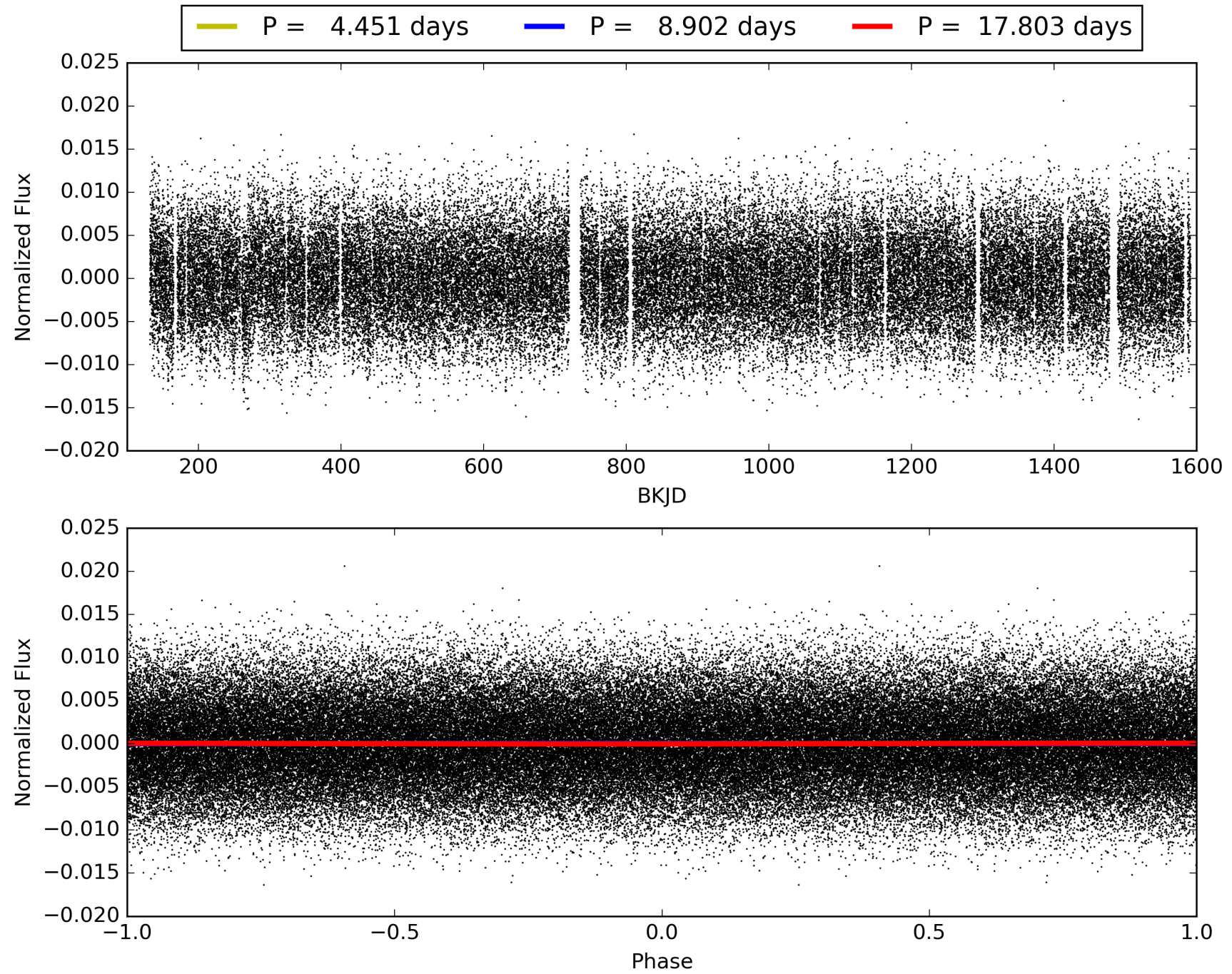
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [19.91 σ]
LongPeriod-sig: 100.0% [118.20 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 29.7%
Bootstrap-pfa: 5.16e-10
RollingBand-fgt: 1.00 [24/24]
GhostDiagnostic-chr: 1.37
Centroid-sig: 58.0%
Centroid-so: 0.020 arcsec [0.68 σ]
OotOffset-rm: 0.137 arcsec [1.02 σ]
KicOffset-rm: 0.210 arcsec [1.63 σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.62 [10/16]
DiffImageOverlap-fno: 0.94 [16/17]

TCE 010647611-03, PDC Light Curves

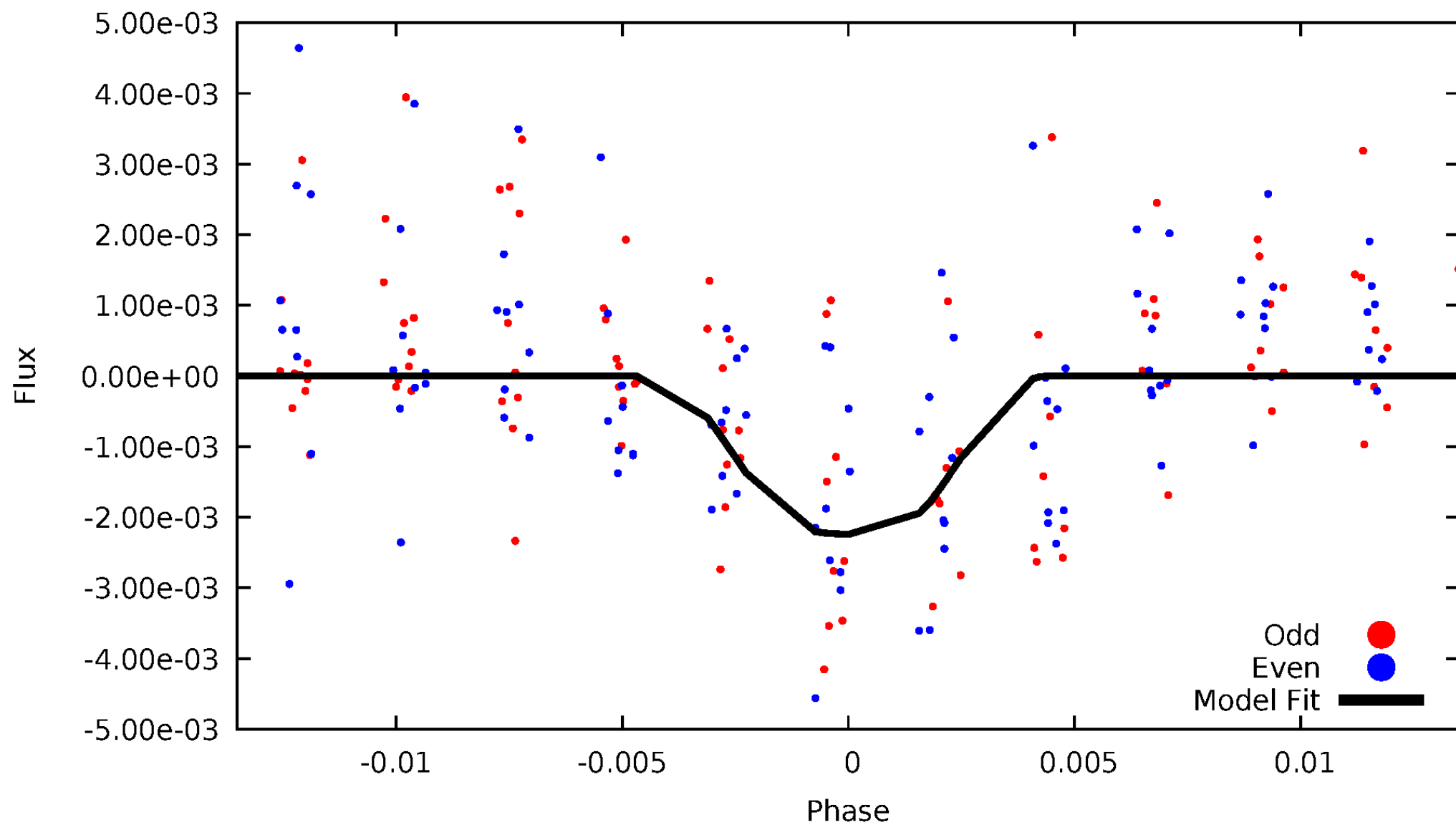


TCE 010647611-03



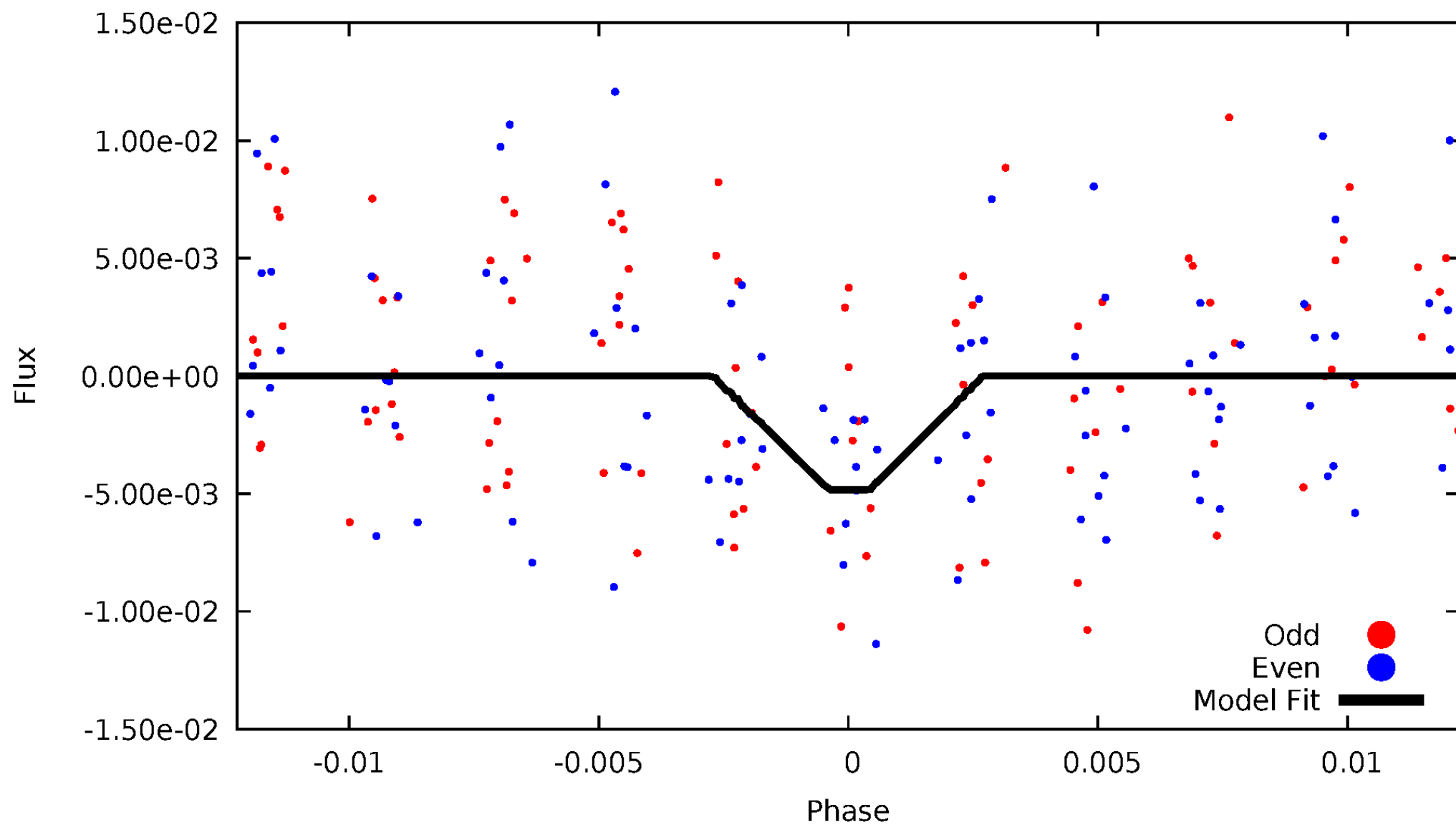
DV Odd/Even

TCE 010647611-03



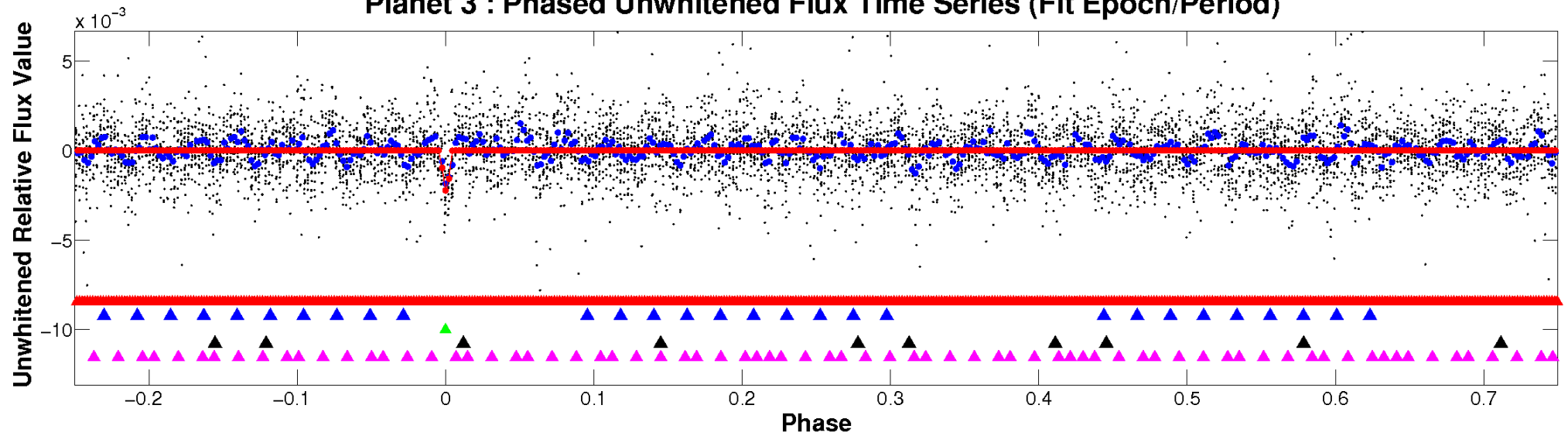
ALT Odd/Even

TCE 010647611-03

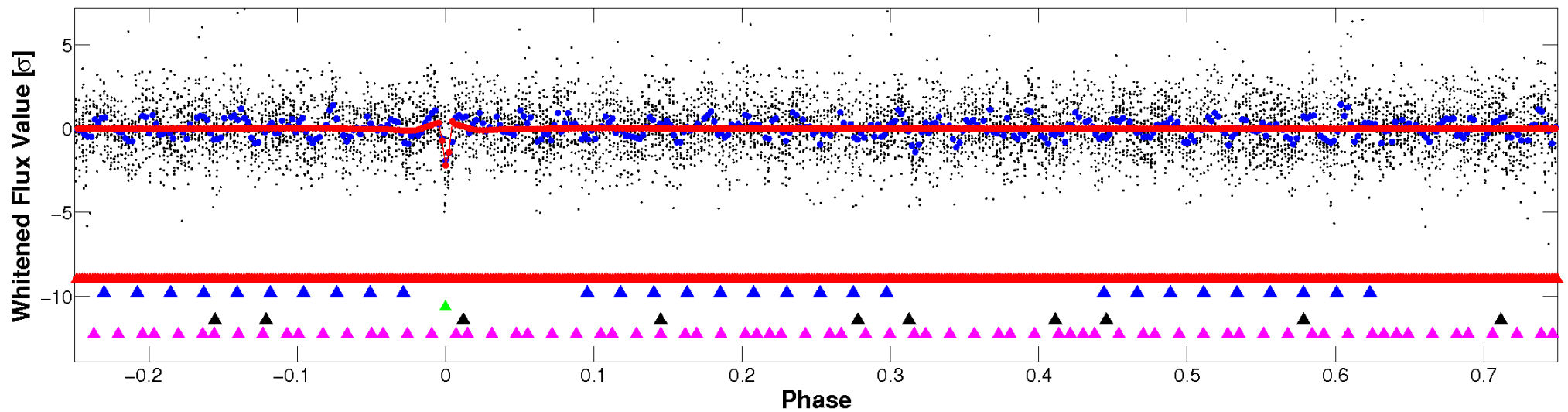


Non-Whitened Vs. Whitened Light Curve

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

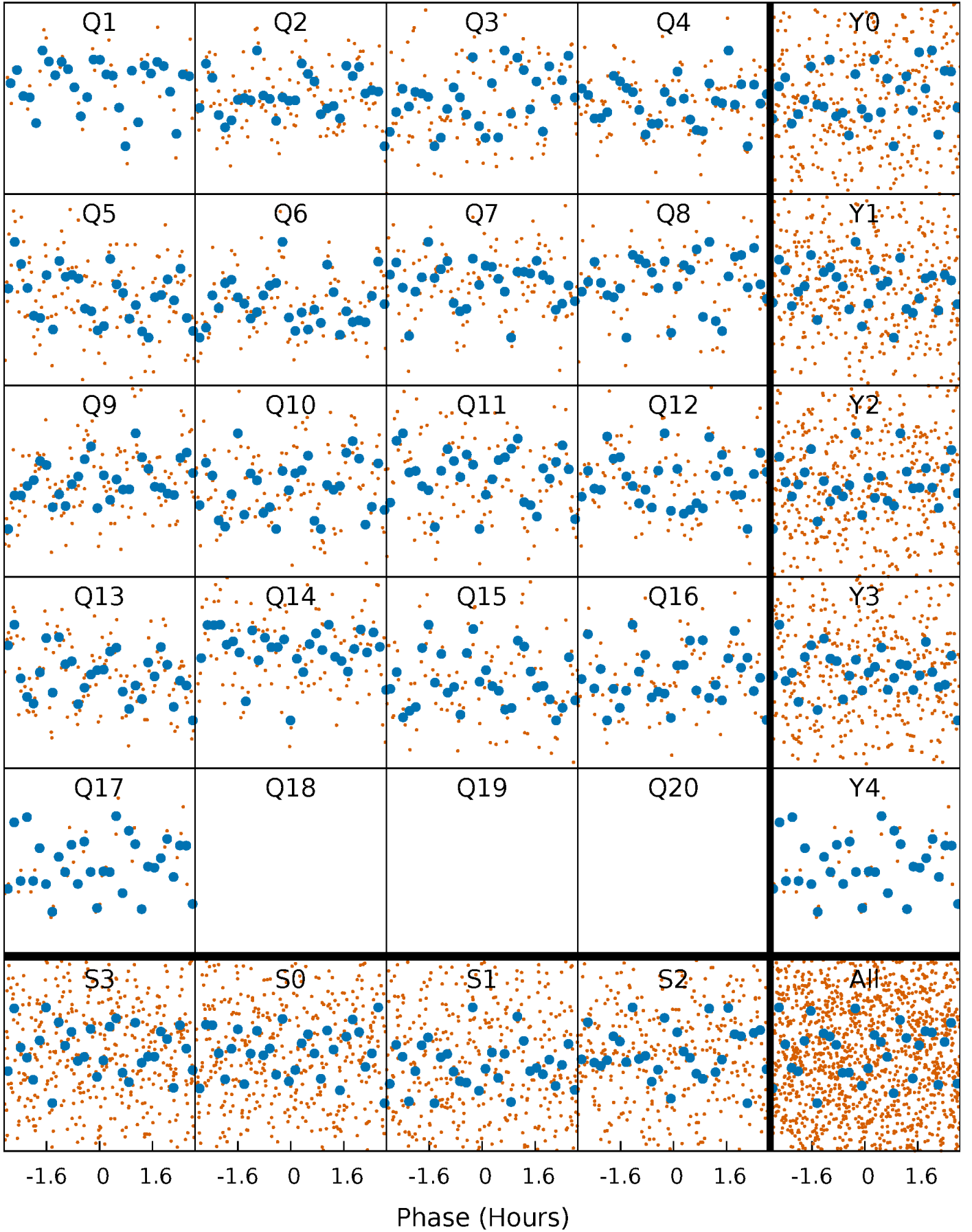


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



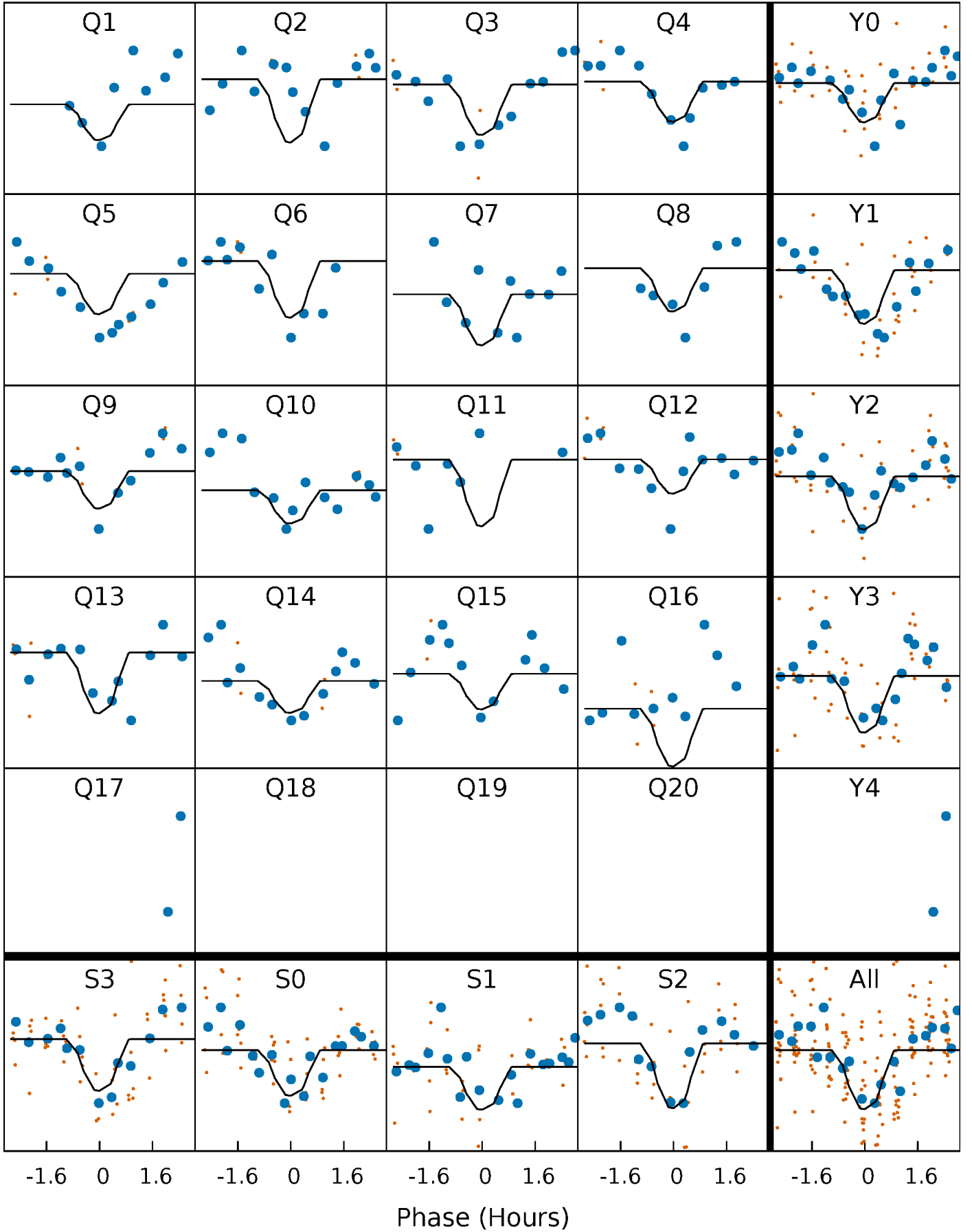
PDC Quarter-Phased Transit Curves

TCE 010647611-03 P= 8.901573 Days $T_0=136.241424$ (BKJD)



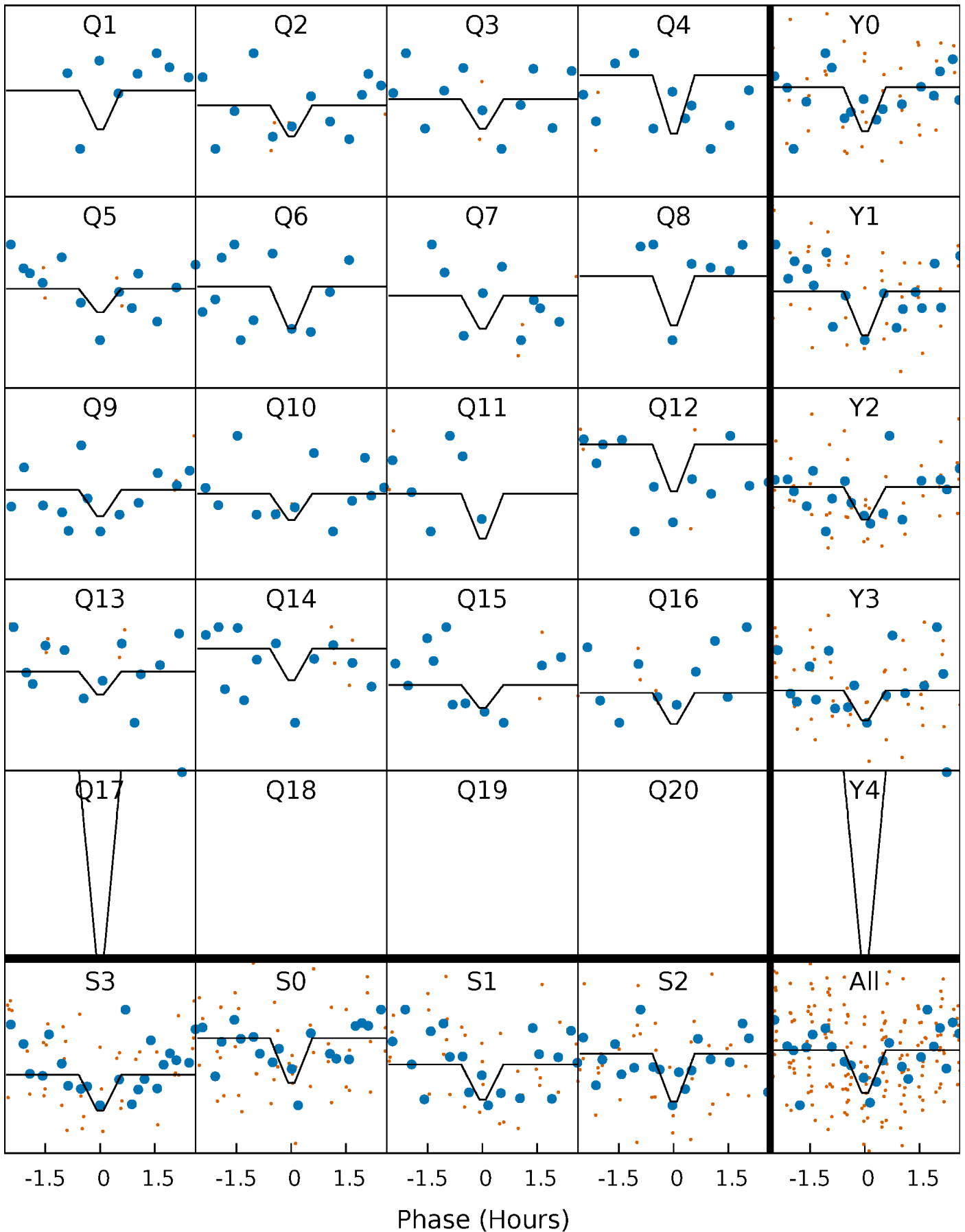
DV Quarter-Phased Transit Curves

TCE 010647611-03 P= 8.901573 Days $T_0=136.241424$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

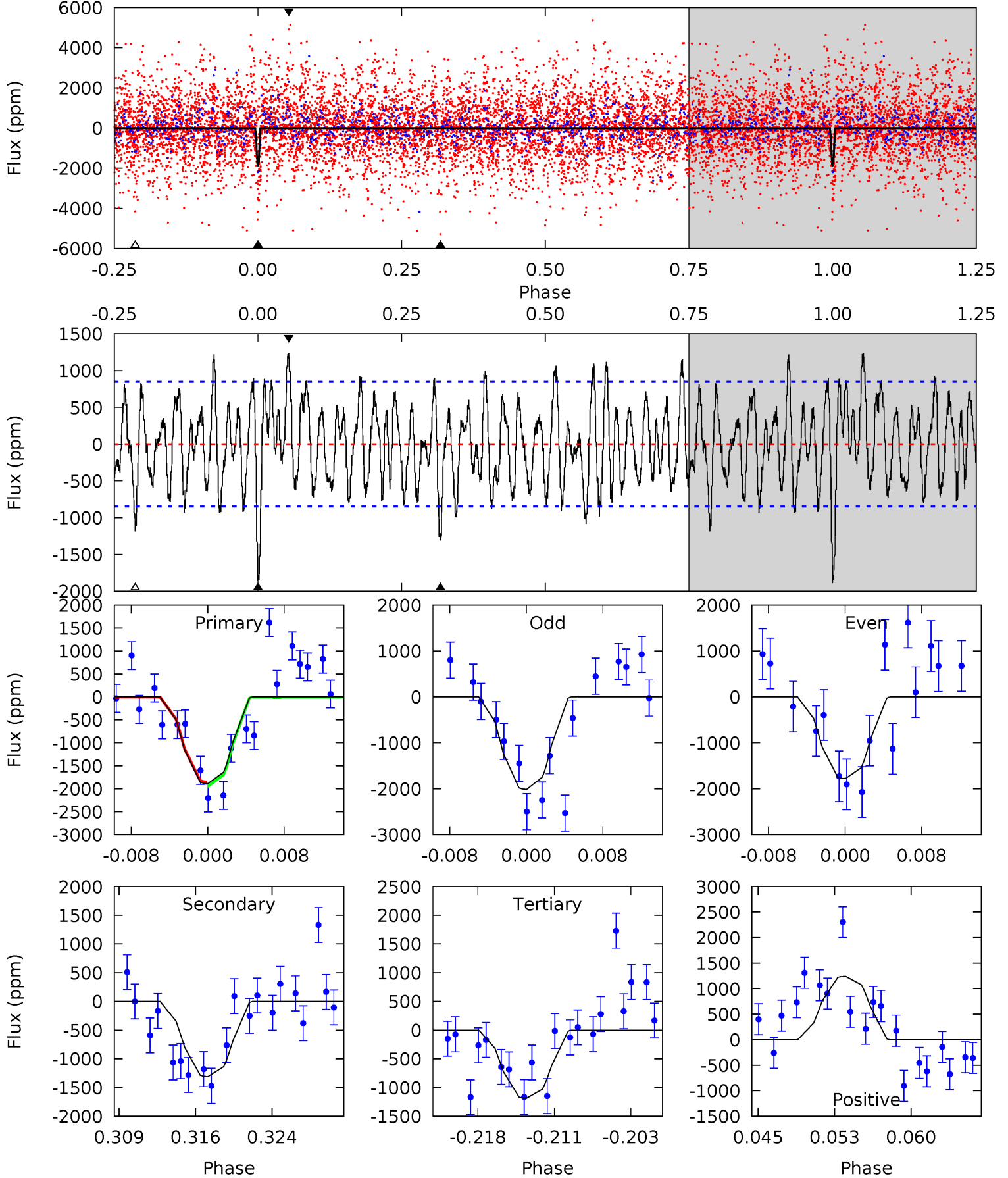
TCE 010647611-03 P= 8.901531 Days $T_0=136.240565$ (BKJD)



DV Model-Shift Uniqueness Test

010647611-03, P = 8.901573 Days, E = 127.339851 Days

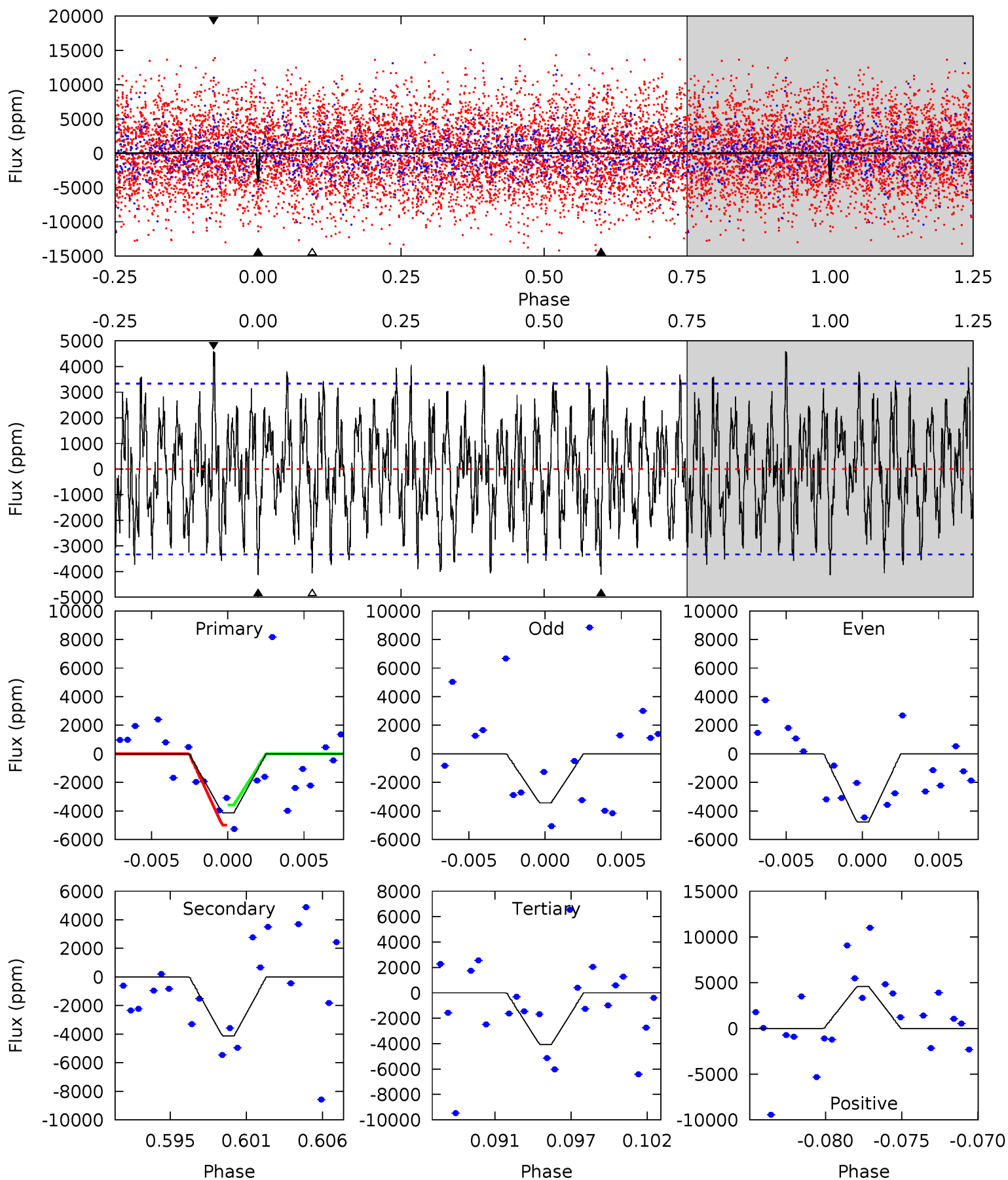
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	7.84	7.09	7.44	5.08	2.67	2.89	4.21	3.86	0.74	0.39	0.71	0.81	0.40	0.28



Alt Model-Shift Uniqueness Test

010647611-03, P = 8.901531 Days, E = 127.339034 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.38	6.37	6.28	7.08	5.14	2.78	2.55	0.10	-0.70	0.08	-0.72	1.03	1.03	0.53	1.09



Stellar Parameters For KIC 010647611

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7334^{+235}_{-324}	$3.994^{+0.198}_{-0.162}$	$0.040^{+0.200}_{-0.300}$	$2.183^{+0.584}_{-0.584}$	$1.713^{+0.197}_{-0.271}$	$0.232^{+0.266}_{-0.110}$
	+3%/-4%	+5%/-4%	+500%/-750%	+27%/-27%	+12%/-16%	+115%/-47%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010647611-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1308 ± 167	$11.77^{+5.08}_{-4.54}$	2094^{+163}_{-164}	6102^{+1876}_{-900}	53^{+81}_{-28}
Alt.	-4125 ± 648	$16.31^{+4.90}_{-4.77}$	2095^{+149}_{-171}	6949^{+1429}_{-858}	85^{+86}_{-36}

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

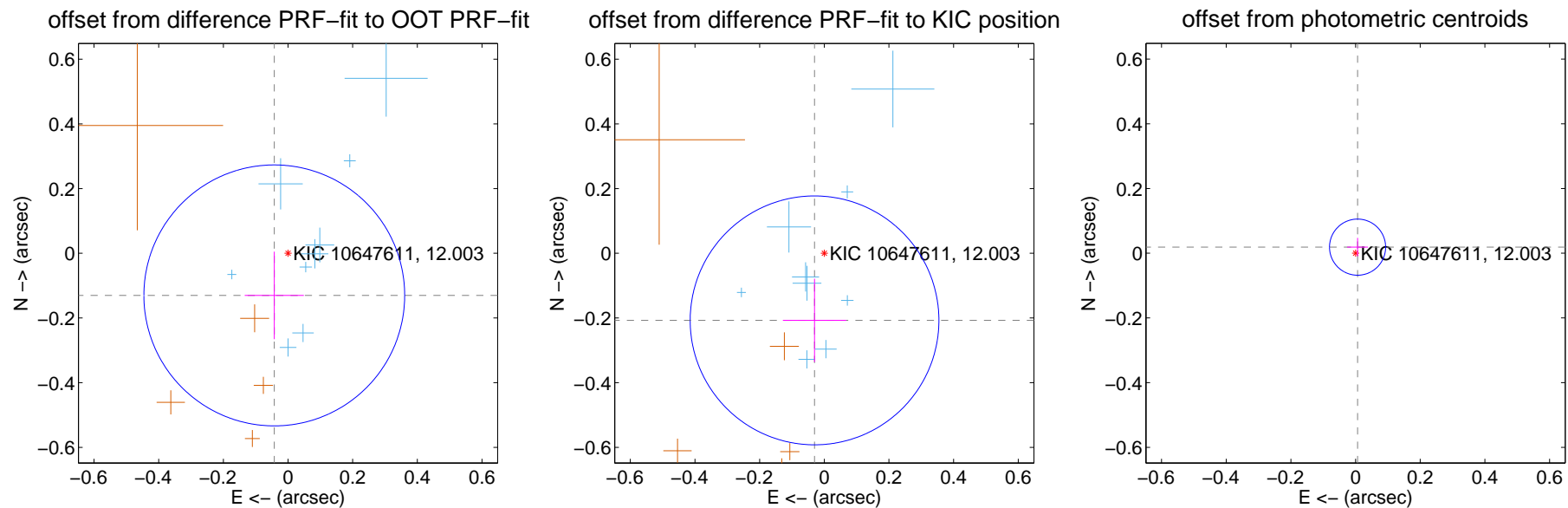
DV Centroid Data

Supplemental centroid analysis for 010647611-03. Kepler magnitude: 12.00. Transit SNR 11.98

There are 10 quarters with good PRF difference image offsets

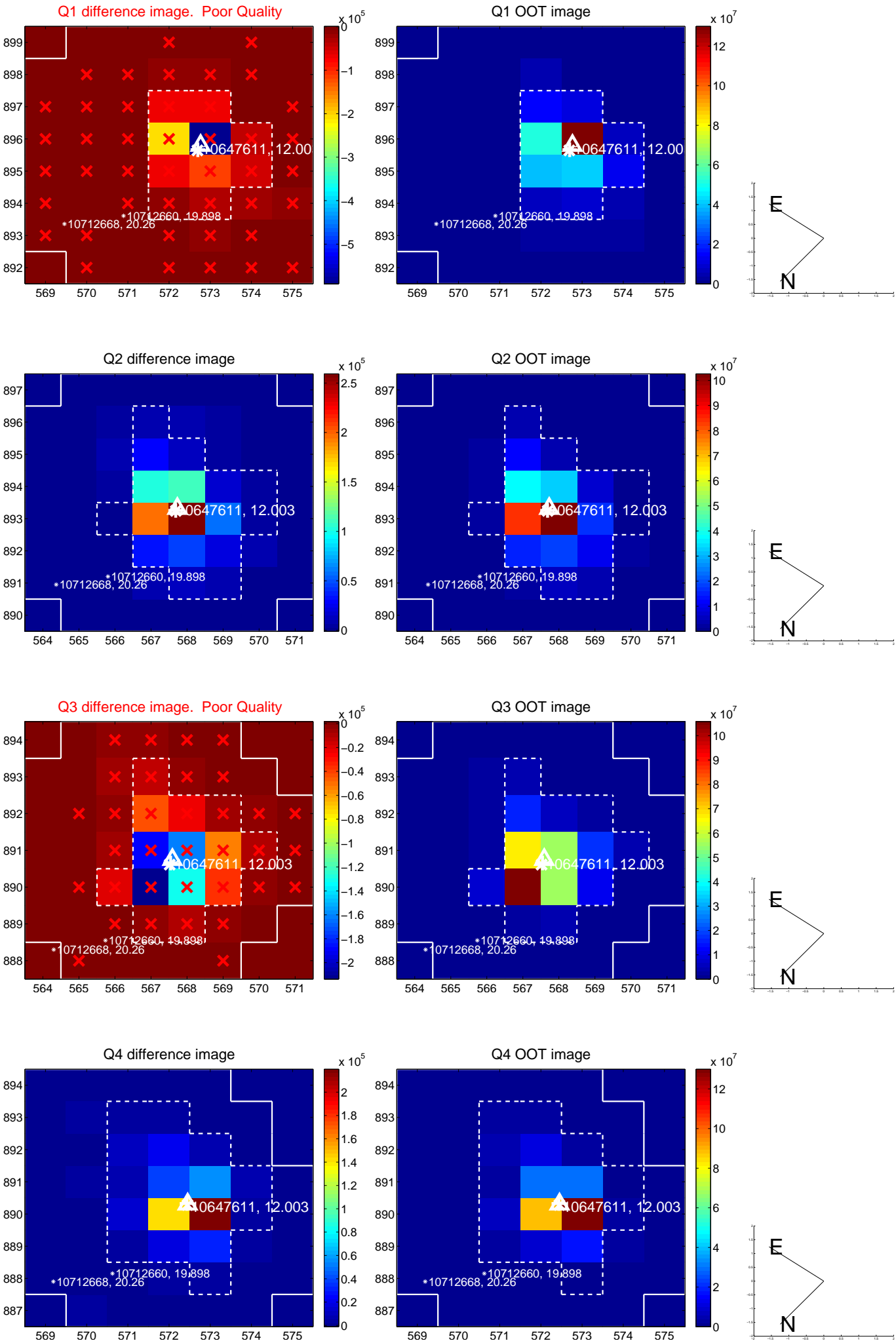
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.137 ± 0.134	1.02	0.042 ± 0.092	-0.130 ± 0.135
PRF-fit source offset from KIC position	0.210 ± 0.128	1.63	0.030 ± 0.098	-0.207 ± 0.129
photometric centroid source offset	0.02 ± 0.03	0.68	-0.01 ± 0.03	0.02 ± 0.03

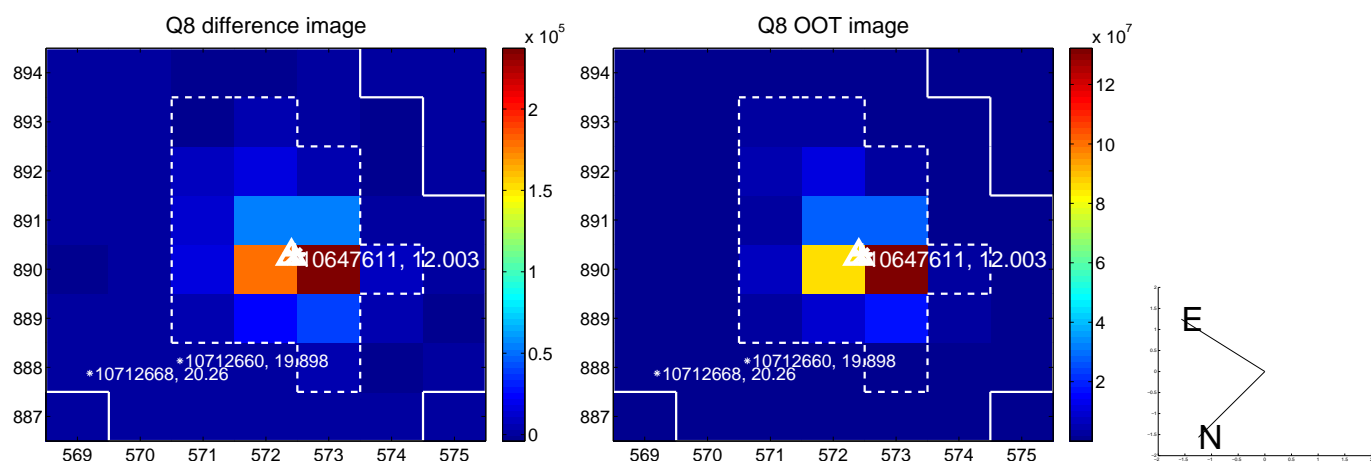
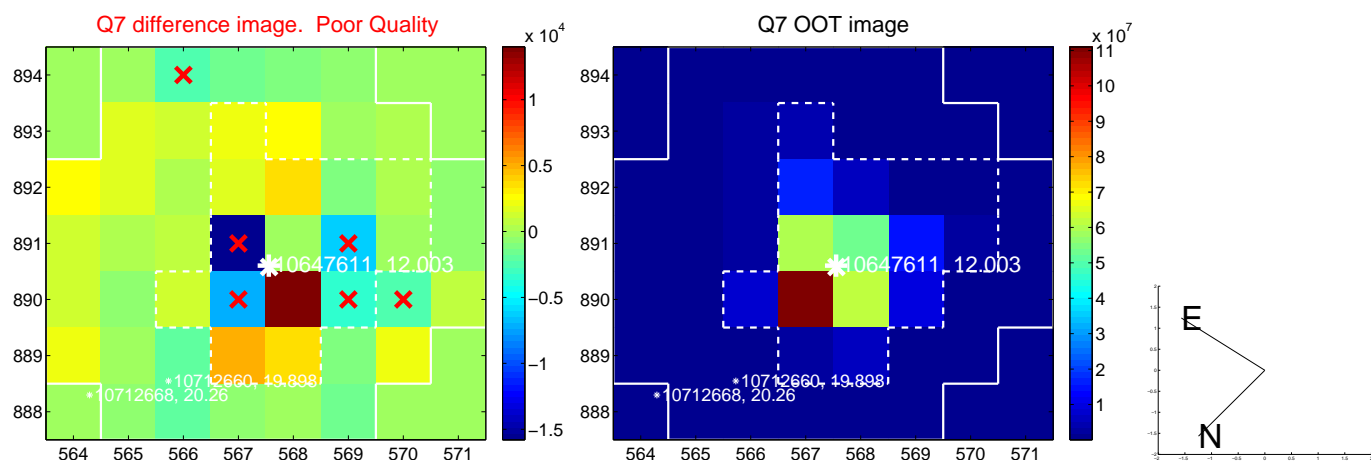
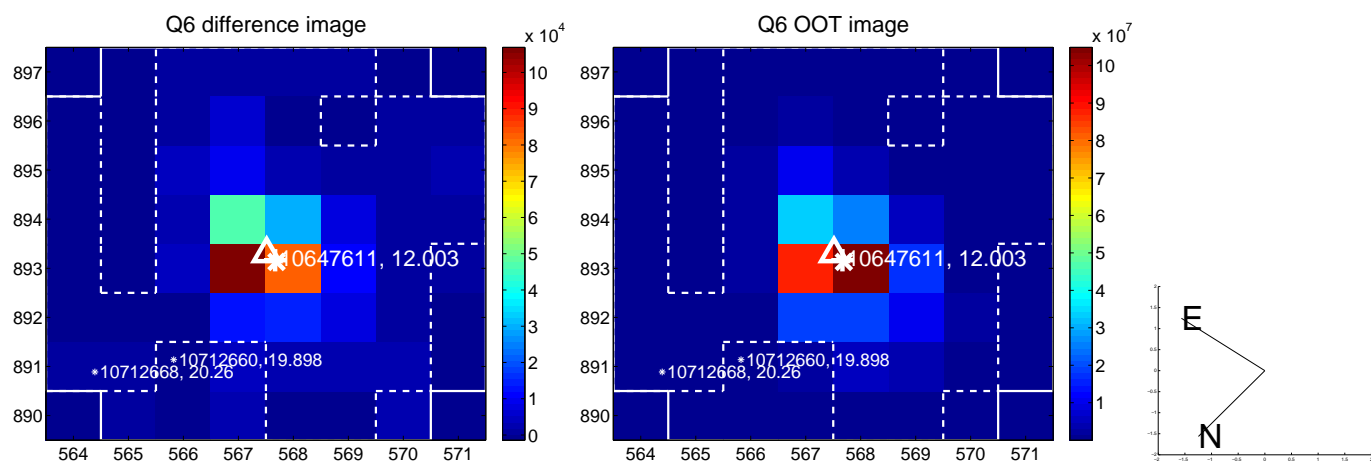
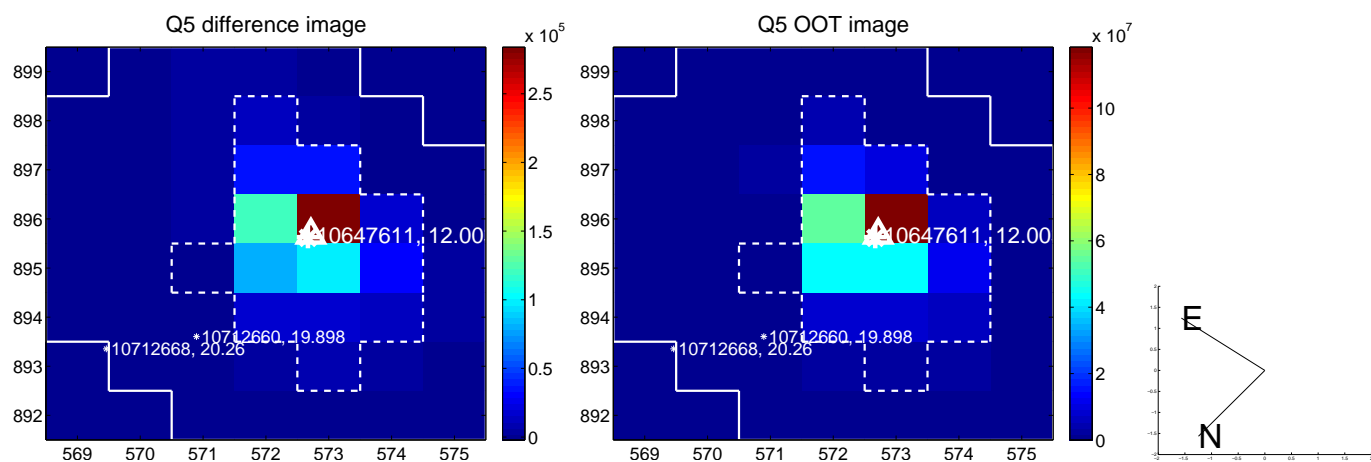


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

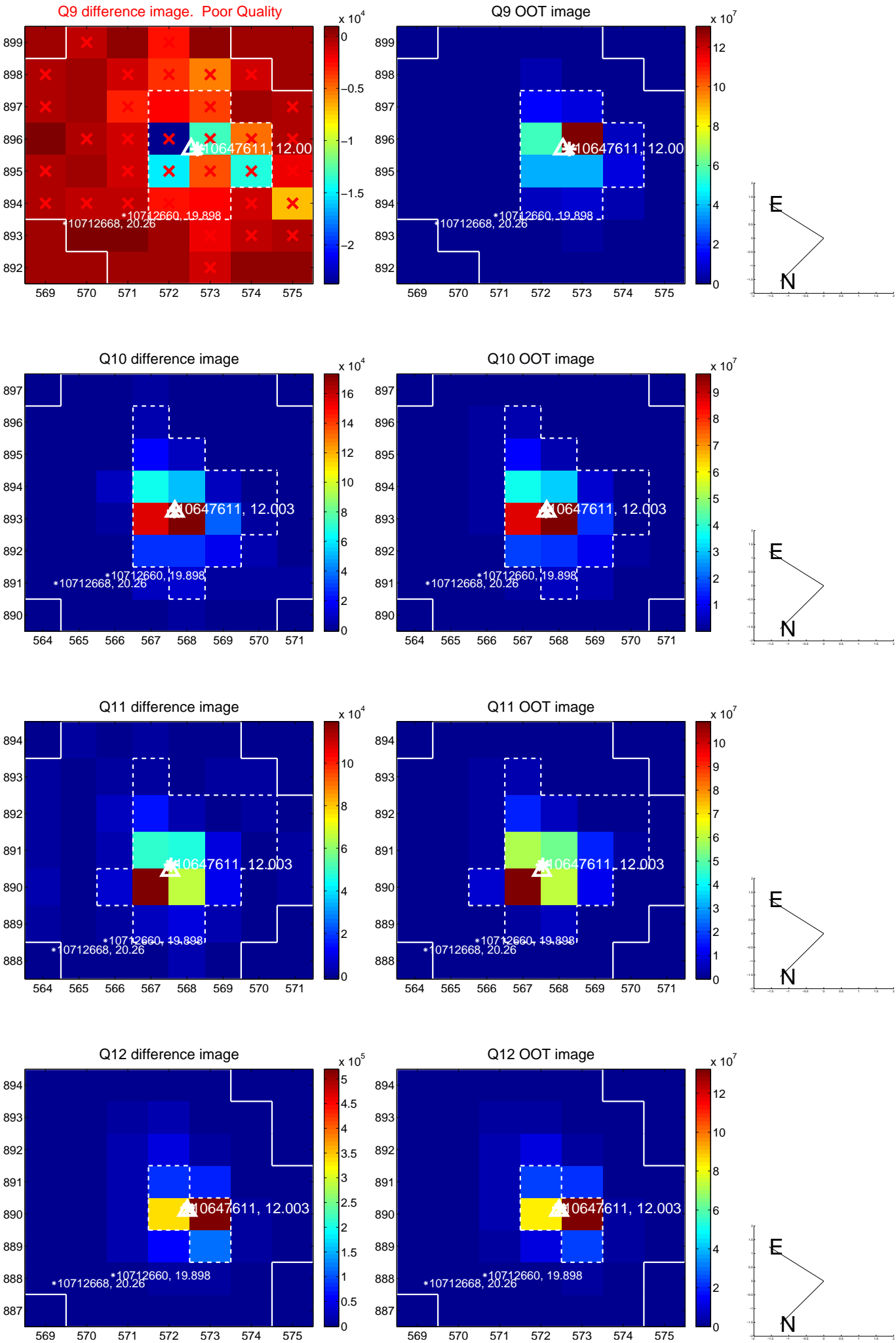
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



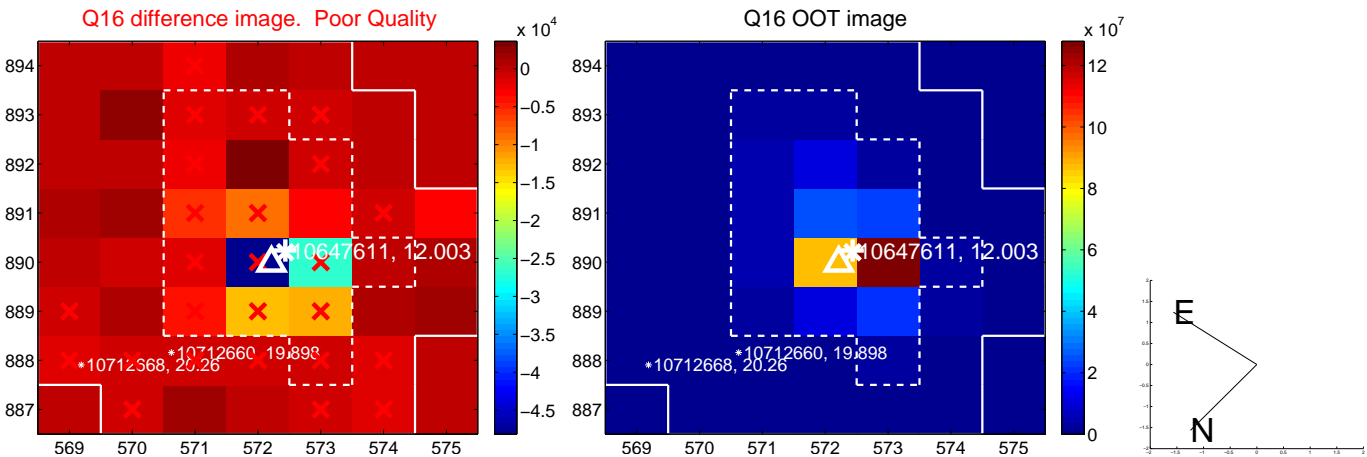
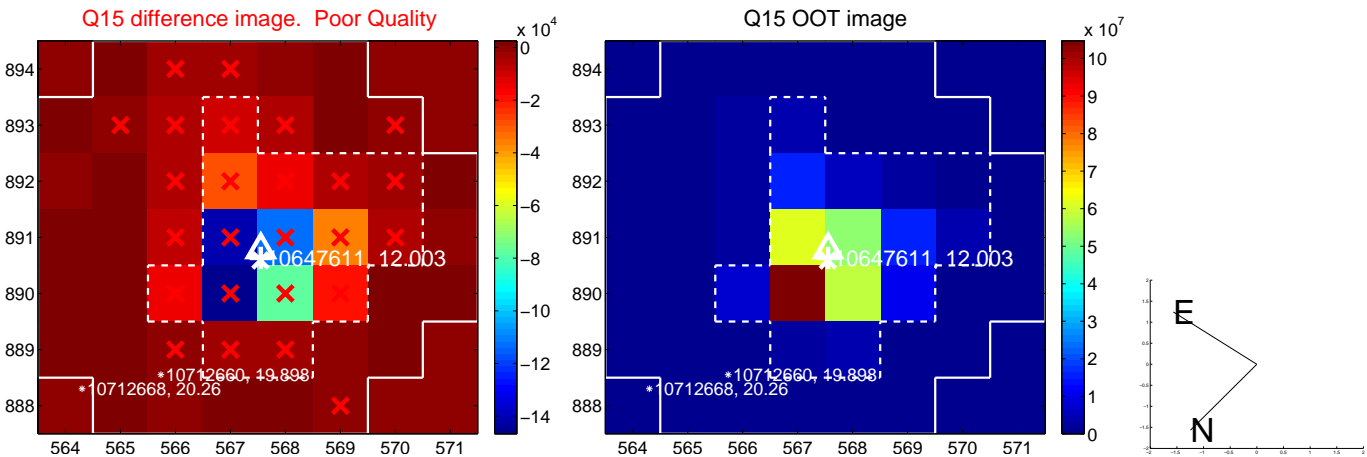
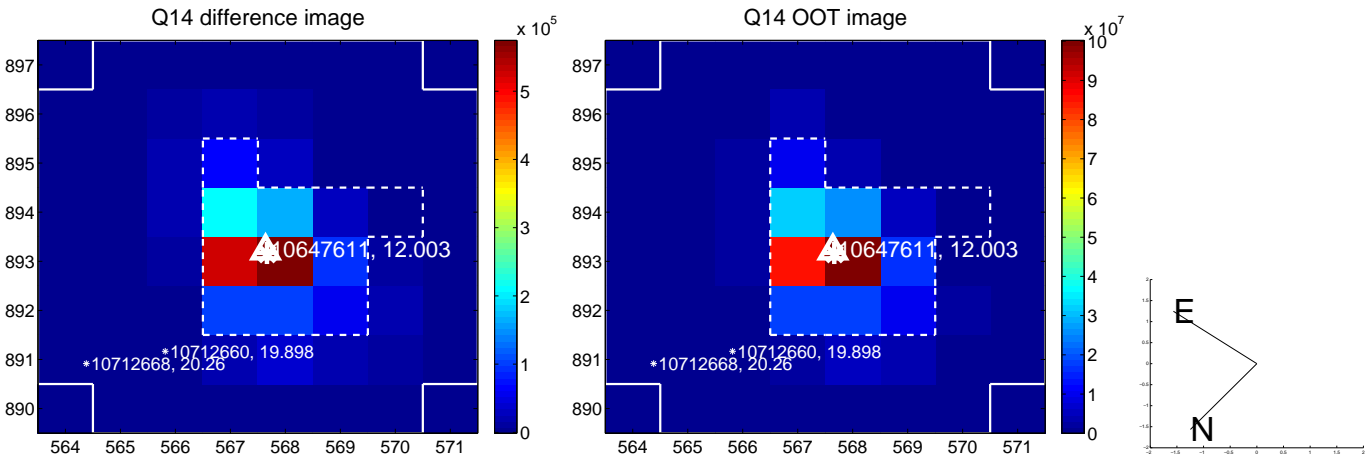
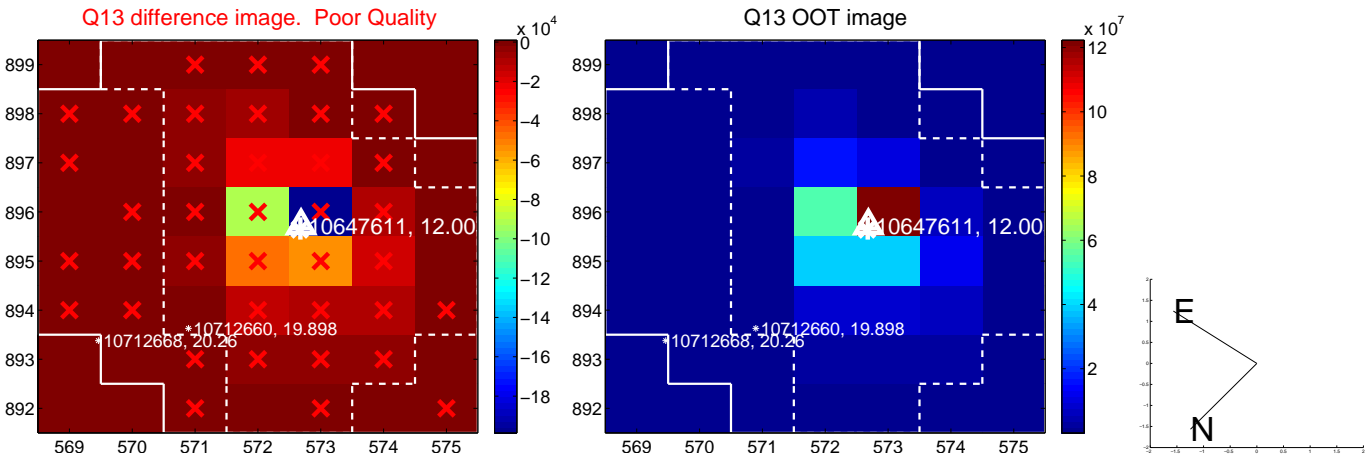
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



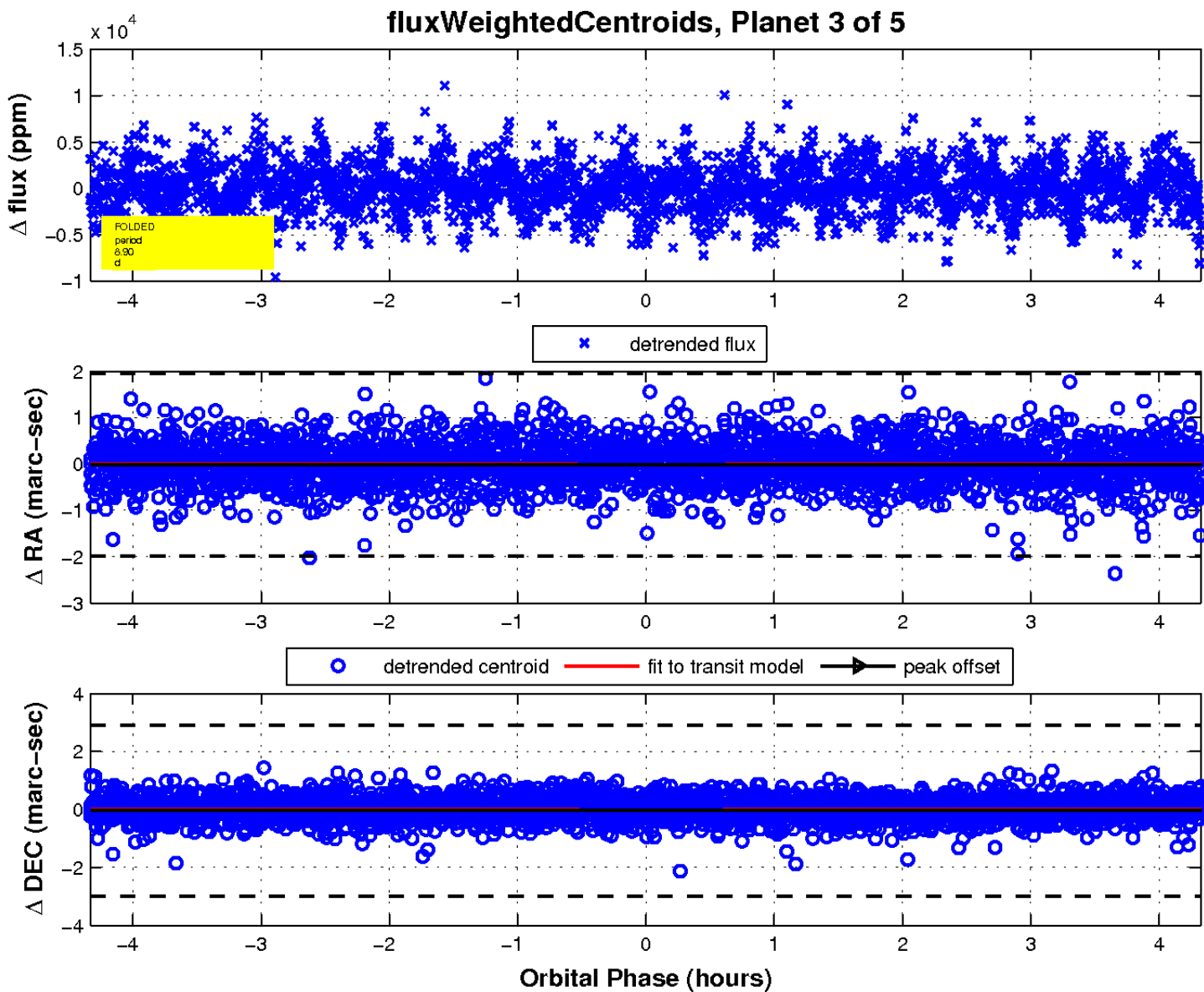
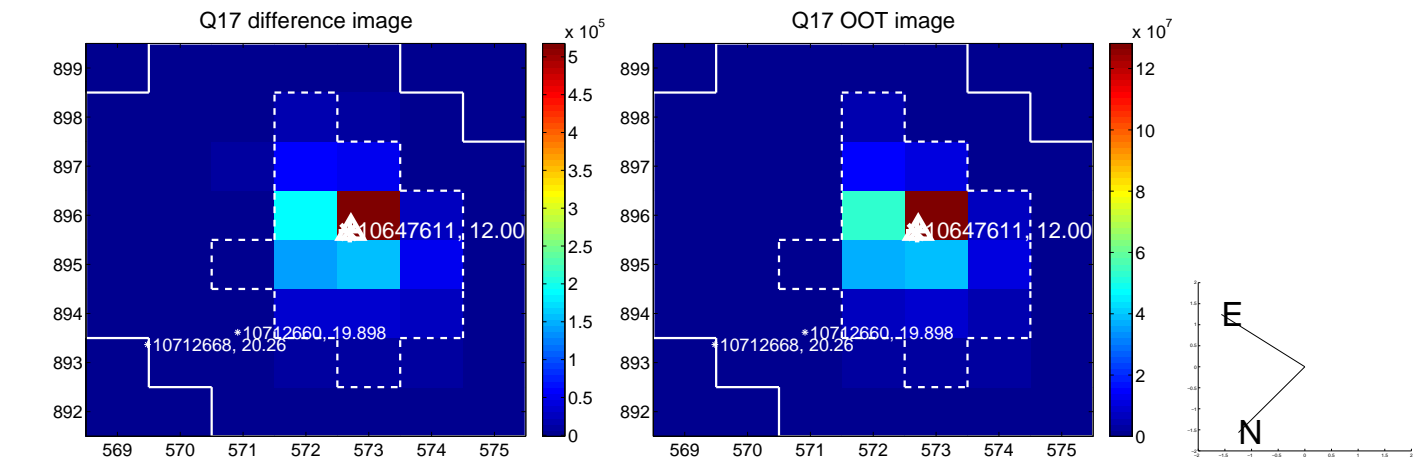
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

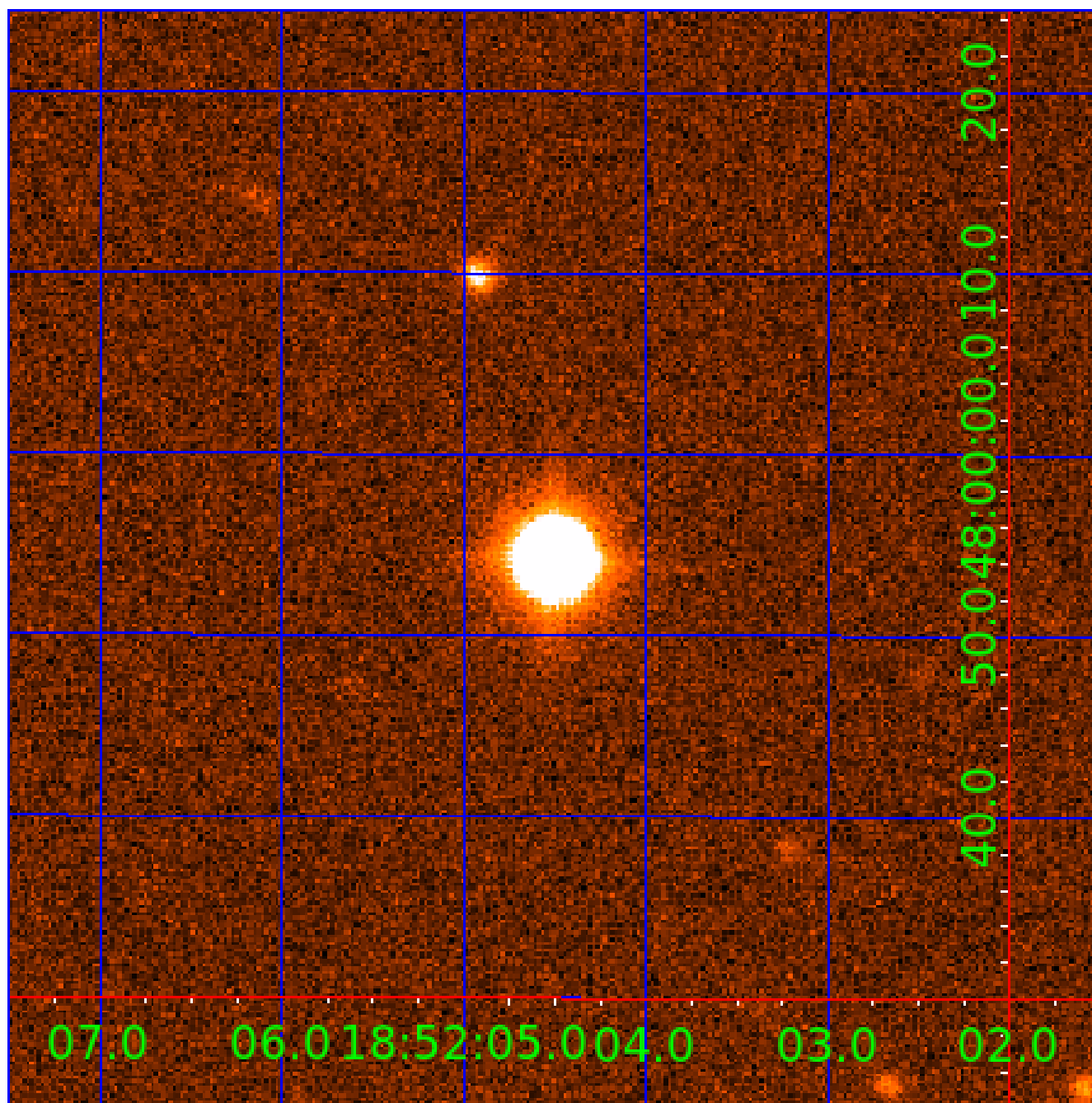


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010647611

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})
010647611-01	OBS	No	1.305776	132.770746	118.1	9.040	8.2	5.4	2.18	7334	2.40	15768.93
010647611-02	OBS	No	50.508779	145.994554	3635.0	2.795	10.6	10.4	2.18	7334	15.72	120.54
010647611-03	OBS	No	8.901573	136.241424	2237.4	1.444	11.1	12.0	2.18	7334	12.04	1219.94
010647611-04	OBS	No	146.283936	139.901061	3295.0	2.556	9.9	8.5	2.18	7334	13.69	29.20
010647611-05	OBS	No	19.684845	138.109707	2241.8	1.646	9.3	9.7	2.18	7334	10.59	423.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010647611-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
010647611-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010647611-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010647611-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010647611-05	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.

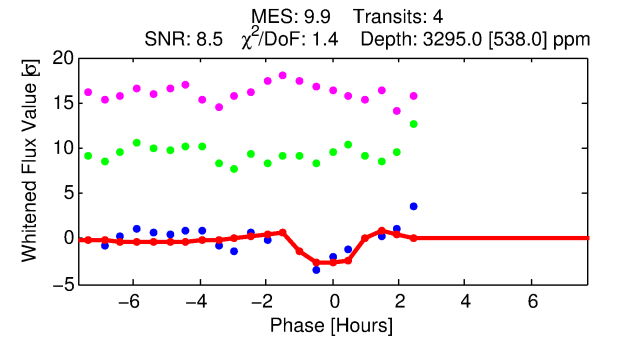
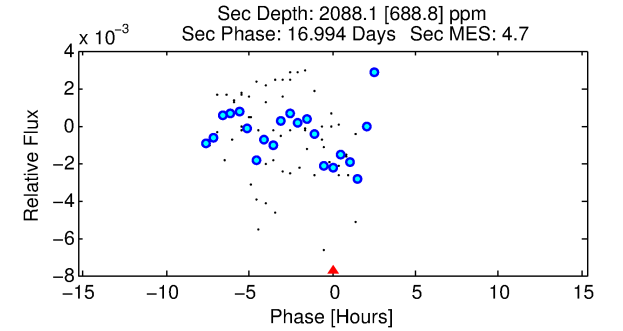
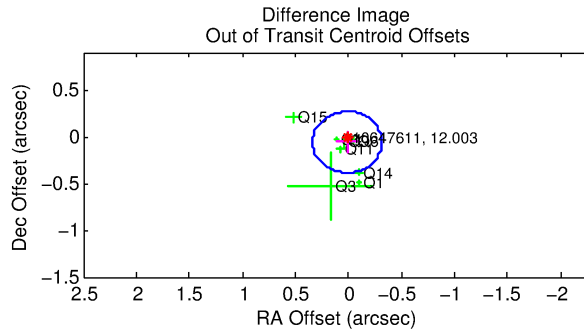
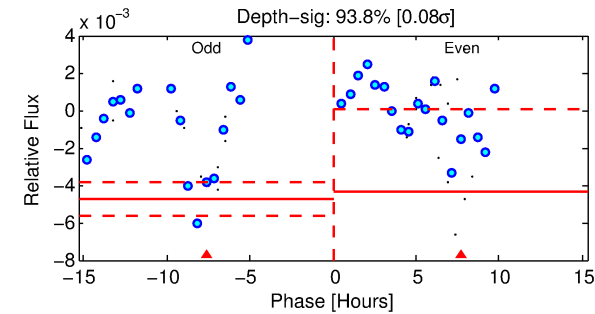
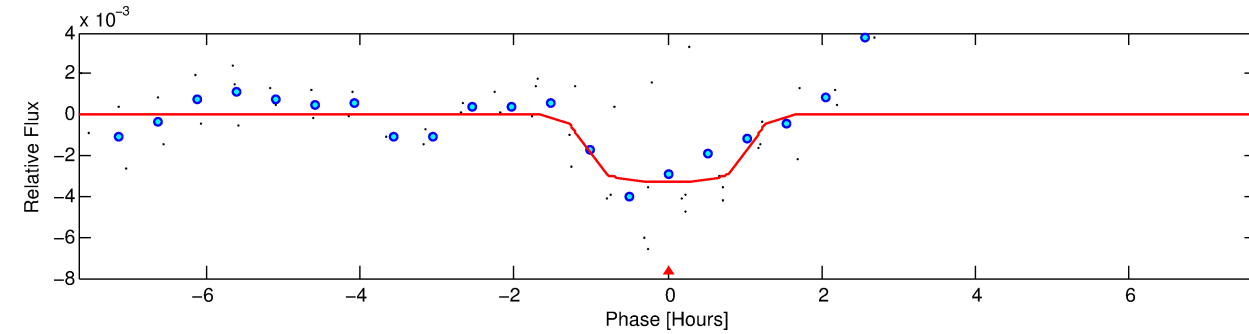
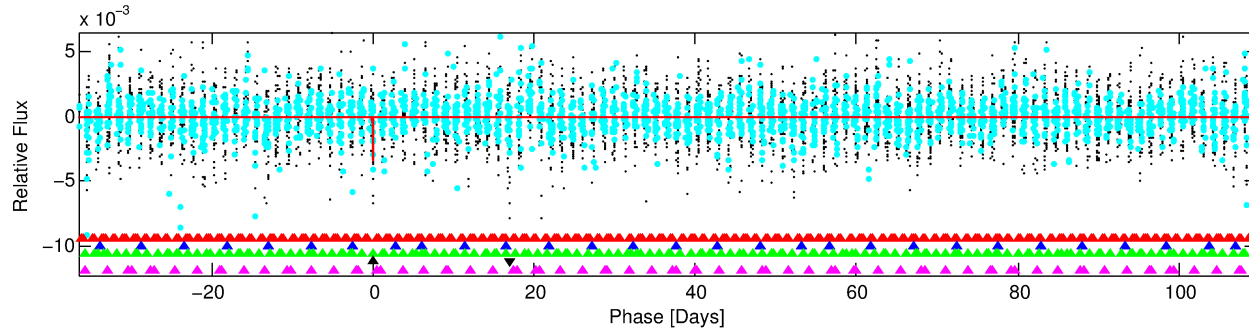
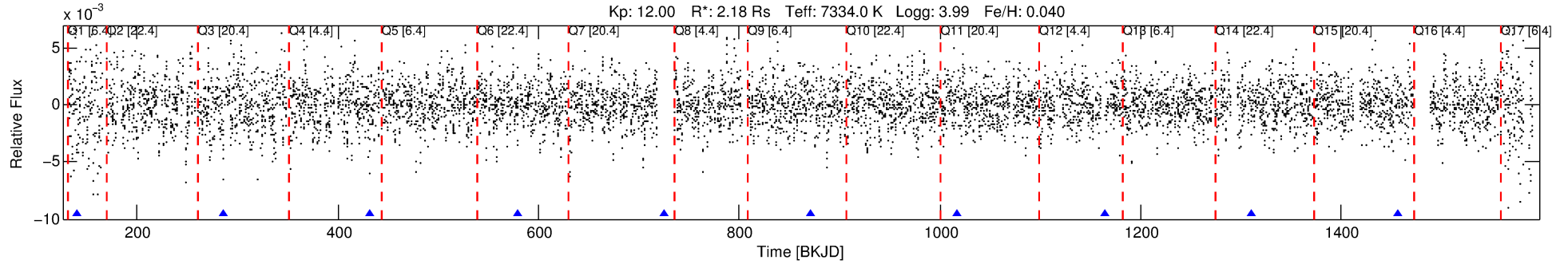
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010647611-04

No Significant Match Found

DV One-Page Summary

KIC: 10647611 Candidate: 4 of 5 Period: 146.284 d



DV Fit Results:

Period = 146.28394 [0.00468] d
Epoch = 139.9011 [0.0087] BKJD
Rp/R* = 0.0575 [0.0397]
a/R* = 321.83 [1310.59]
b = 0.76 [2.30]
Seff = 29.20 [11.51]
Teff = 593 [58] K
Rp = 13.69 [10.13] Re
a = 0.6504 [0.1524] AU
Ag = 2594.60 [3794.69] [0.68 σ]
Teffp = 6541 [2339] K [2.54 σ]

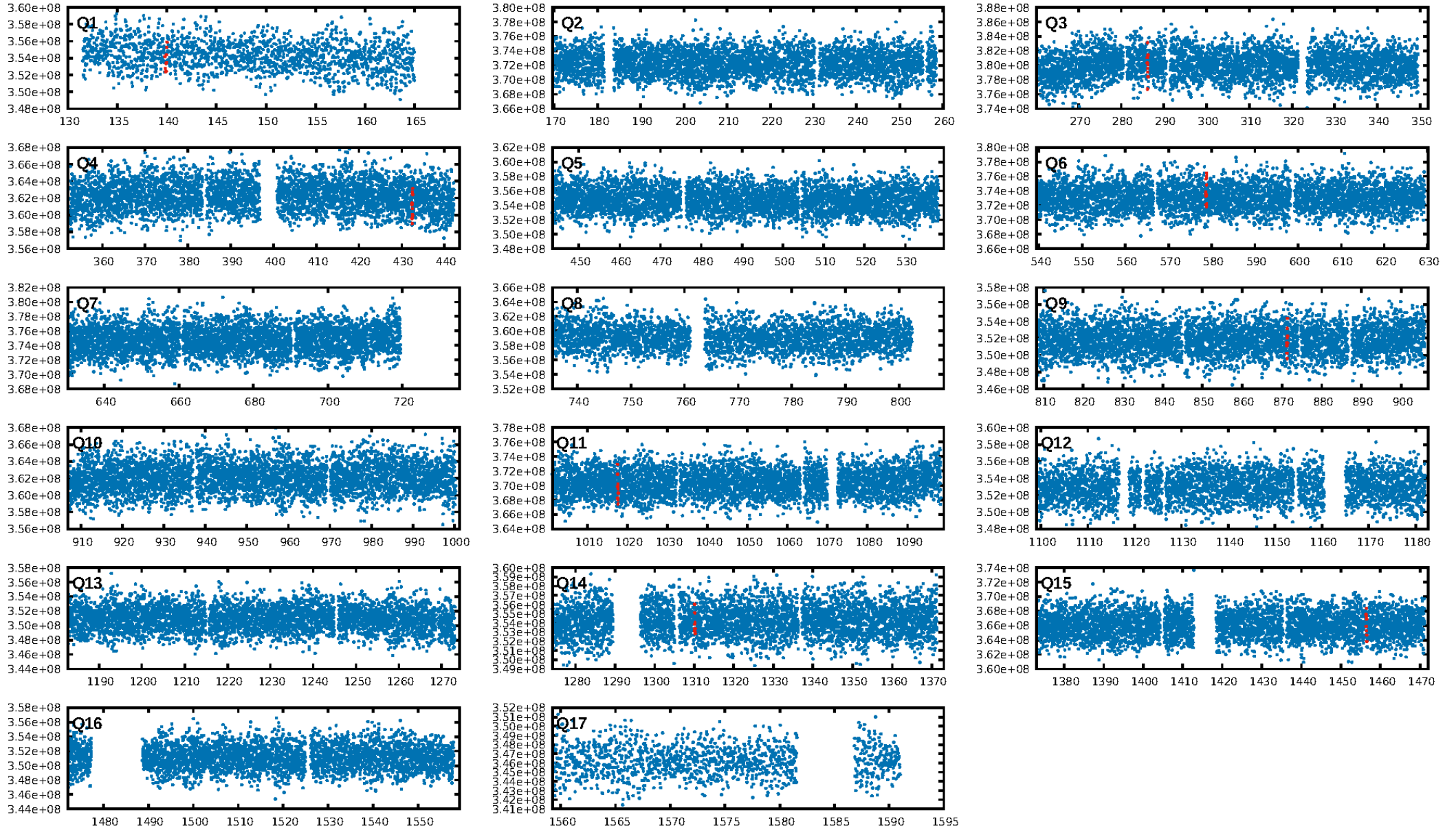
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [606.86 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 12.7%
ModelChiSquareGof-sig: 98.0%
Bootstrap-pfa: 1.39e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.305
Centroid-sig: 7.3%
Centroid-so: 0.071 arcsec [1.12 σ]
OotOffset-rm: 0.060 arcsec [0.55 σ]
KicOffset-rm: 0.198 arcsec [2.34 σ]
OotOffset-st: 2/3/1/2 [8]
KicOffset-st: 2/3/1/2 [8]
DiffImageQuality-fgm: 0.75 [6/8]
DiffImageOverlap-fno: 0.62 [5/8]

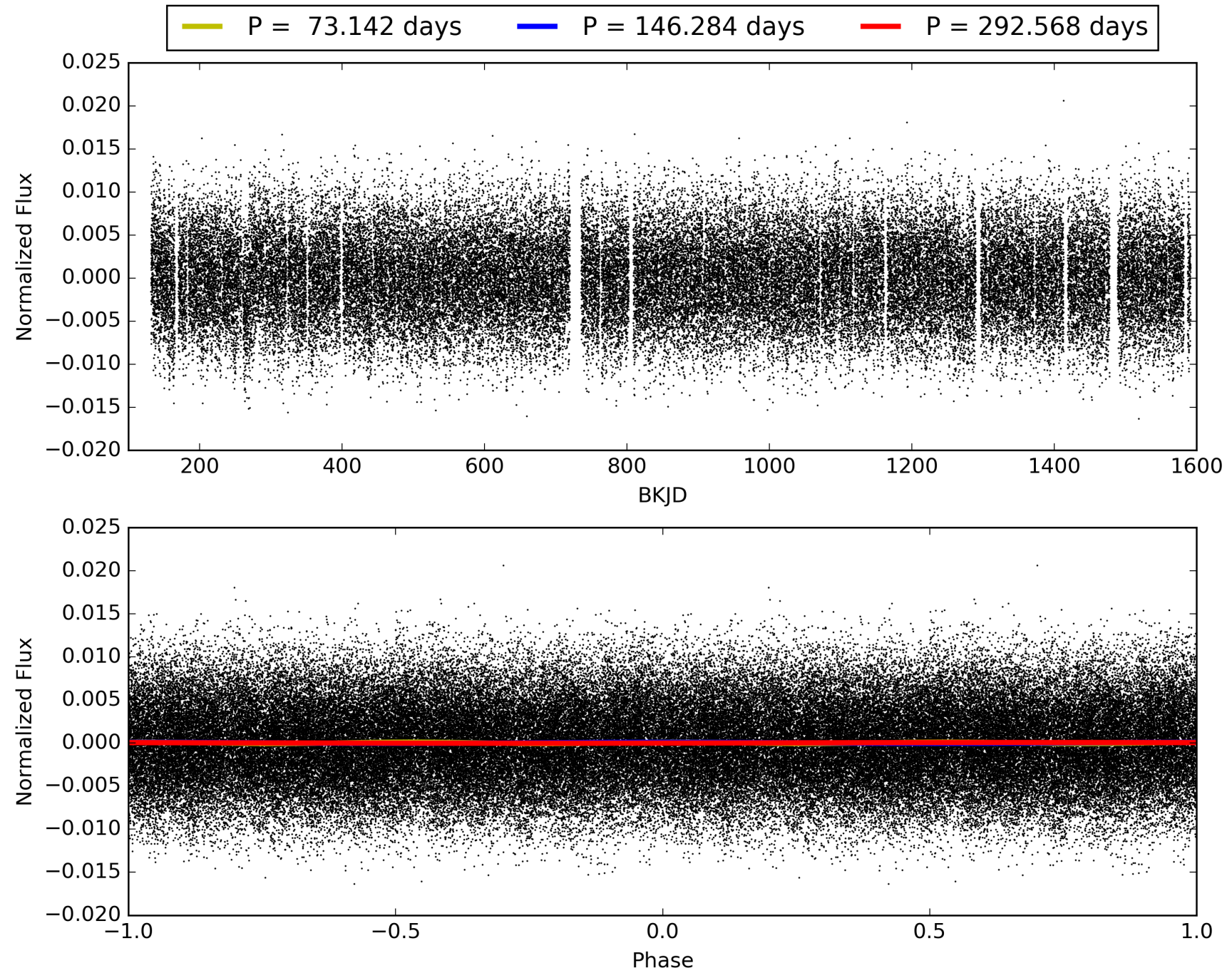
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:12:31 Z

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

TCE 010647611-04, PDC Light Curves

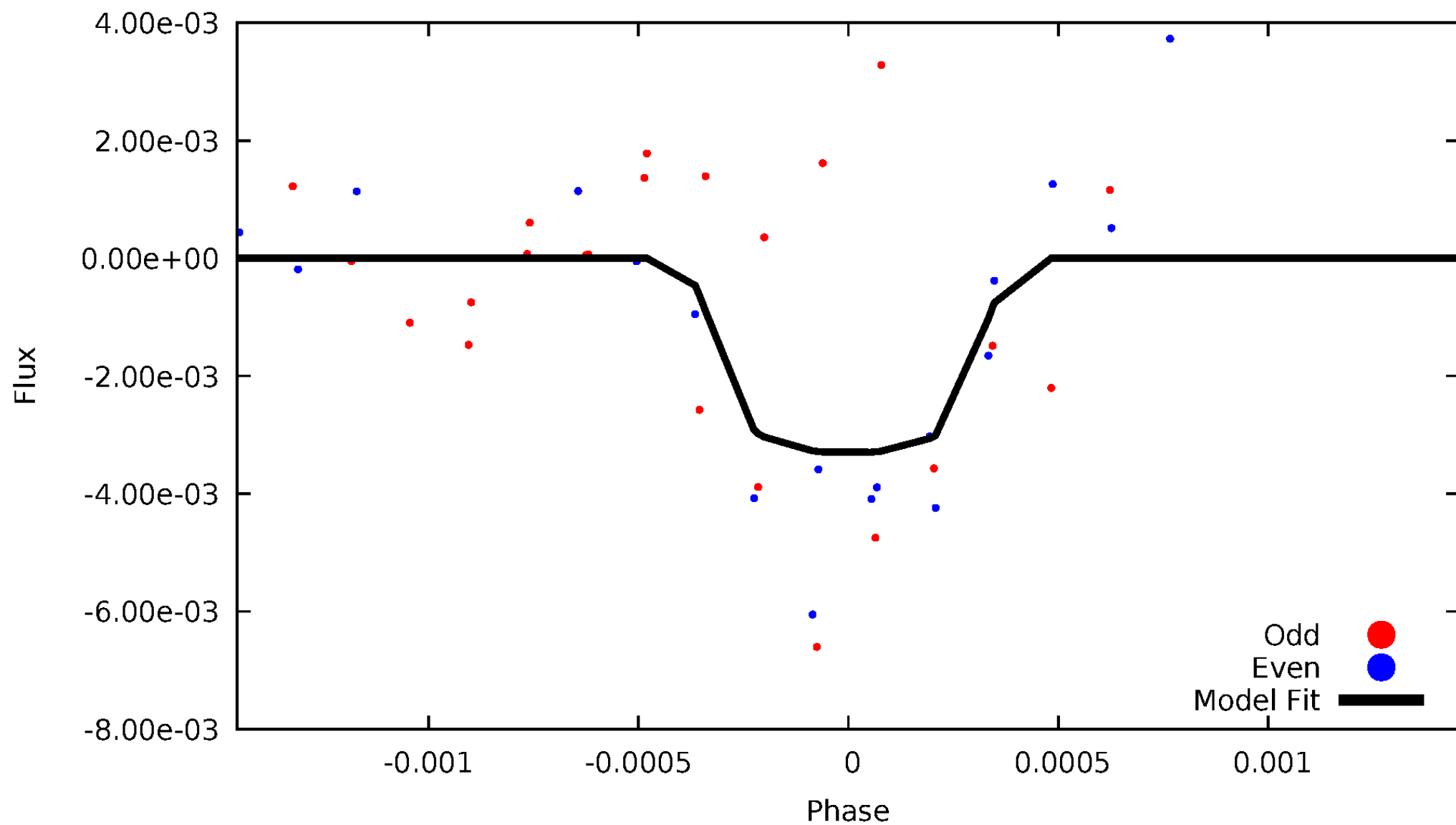


TCE 010647611-04



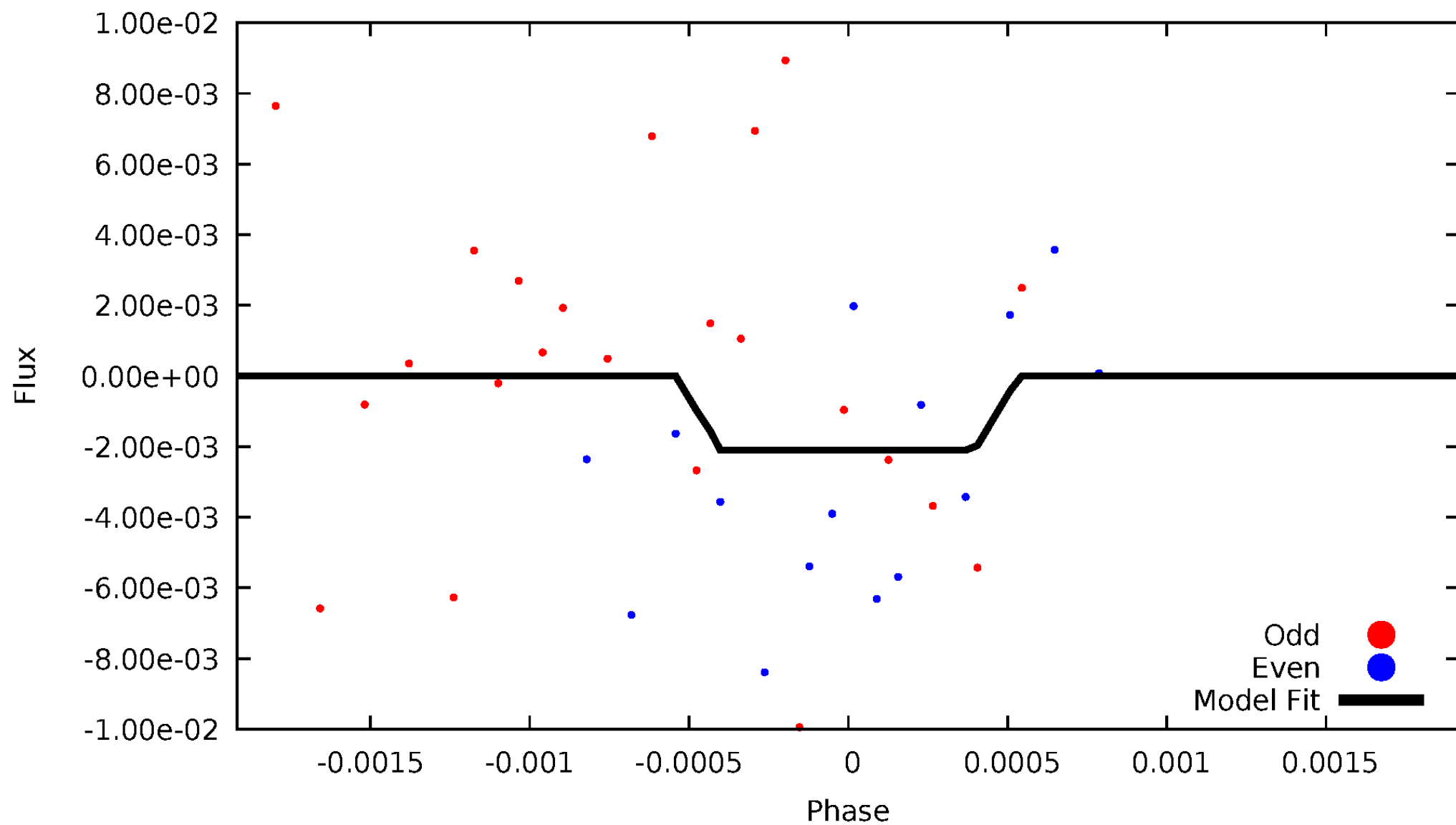
DV Odd/Even

TCE 010647611-04



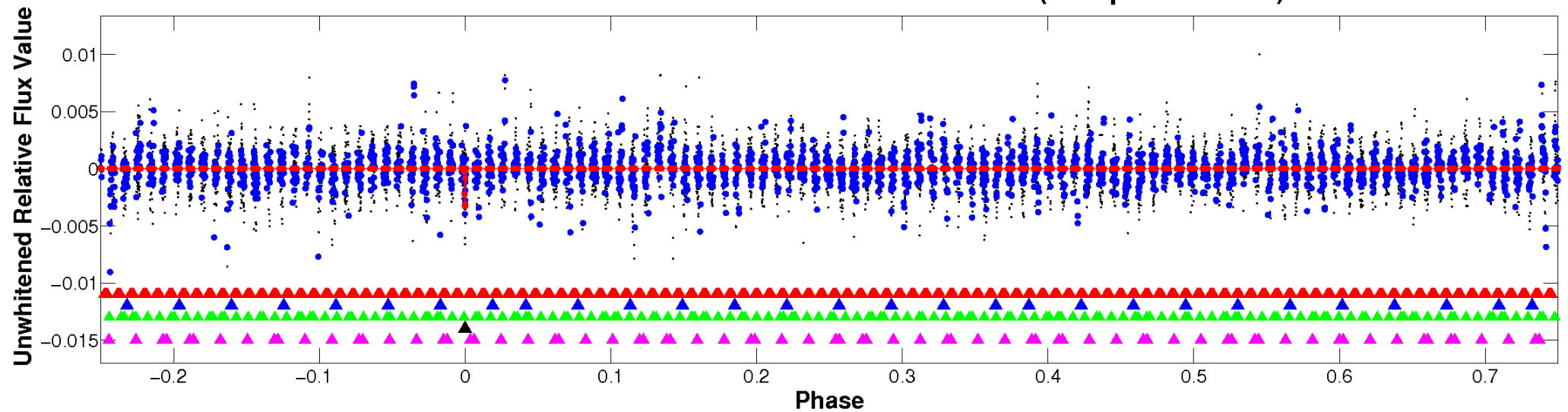
ALT Odd/Even

TCE 010647611-04

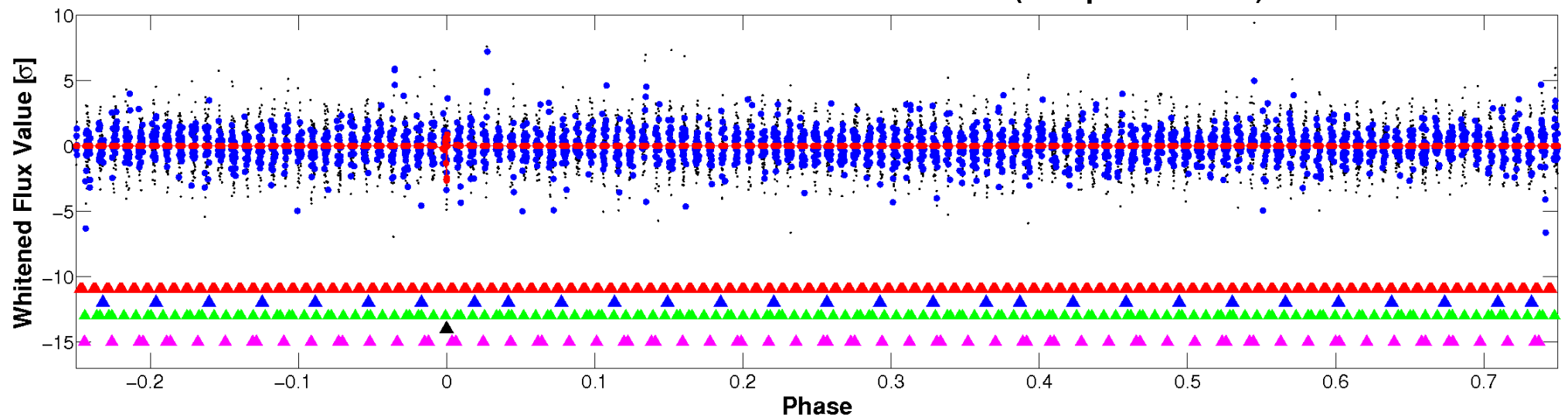


Non-Whitened Vs. Whitened Light Curve

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

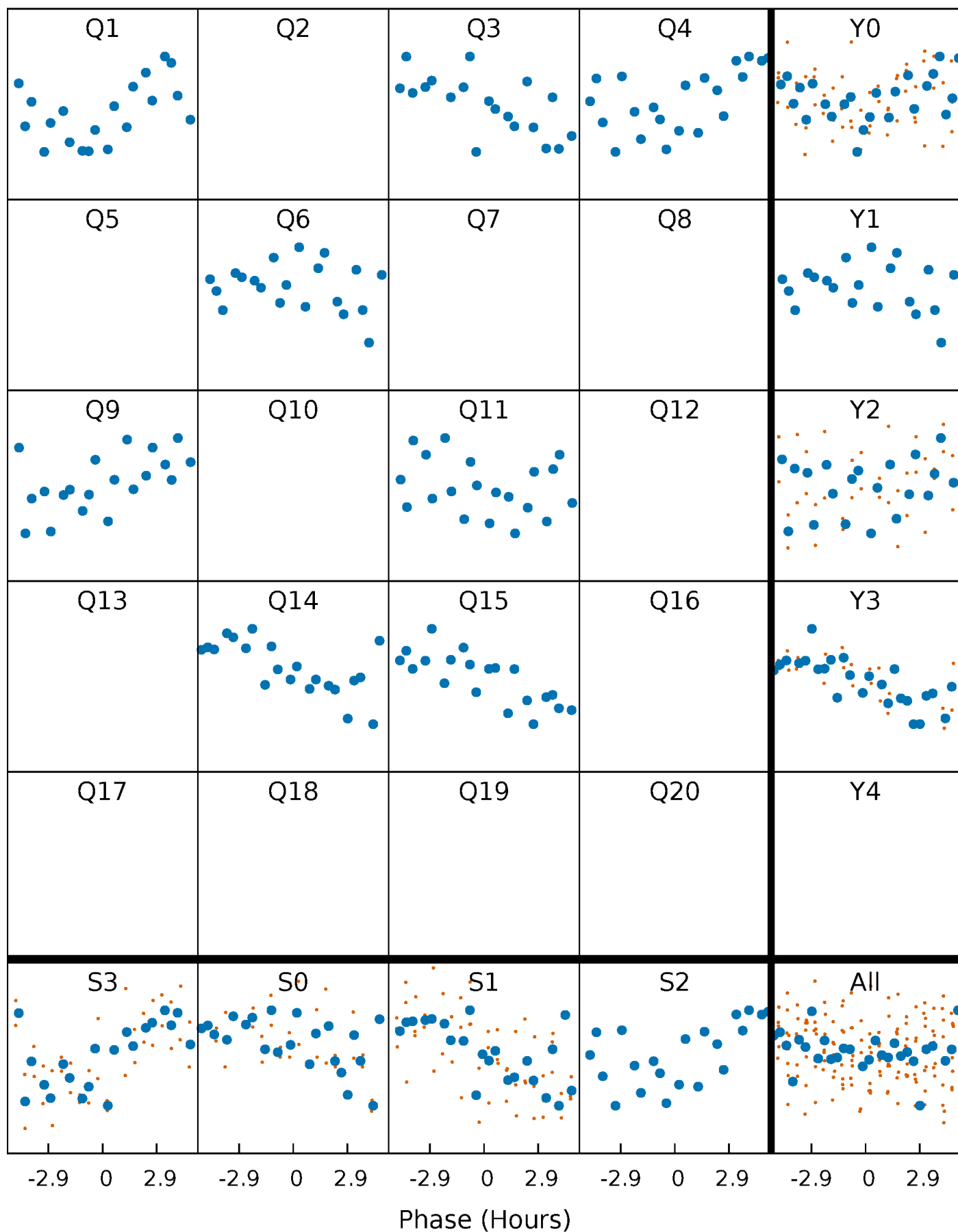


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



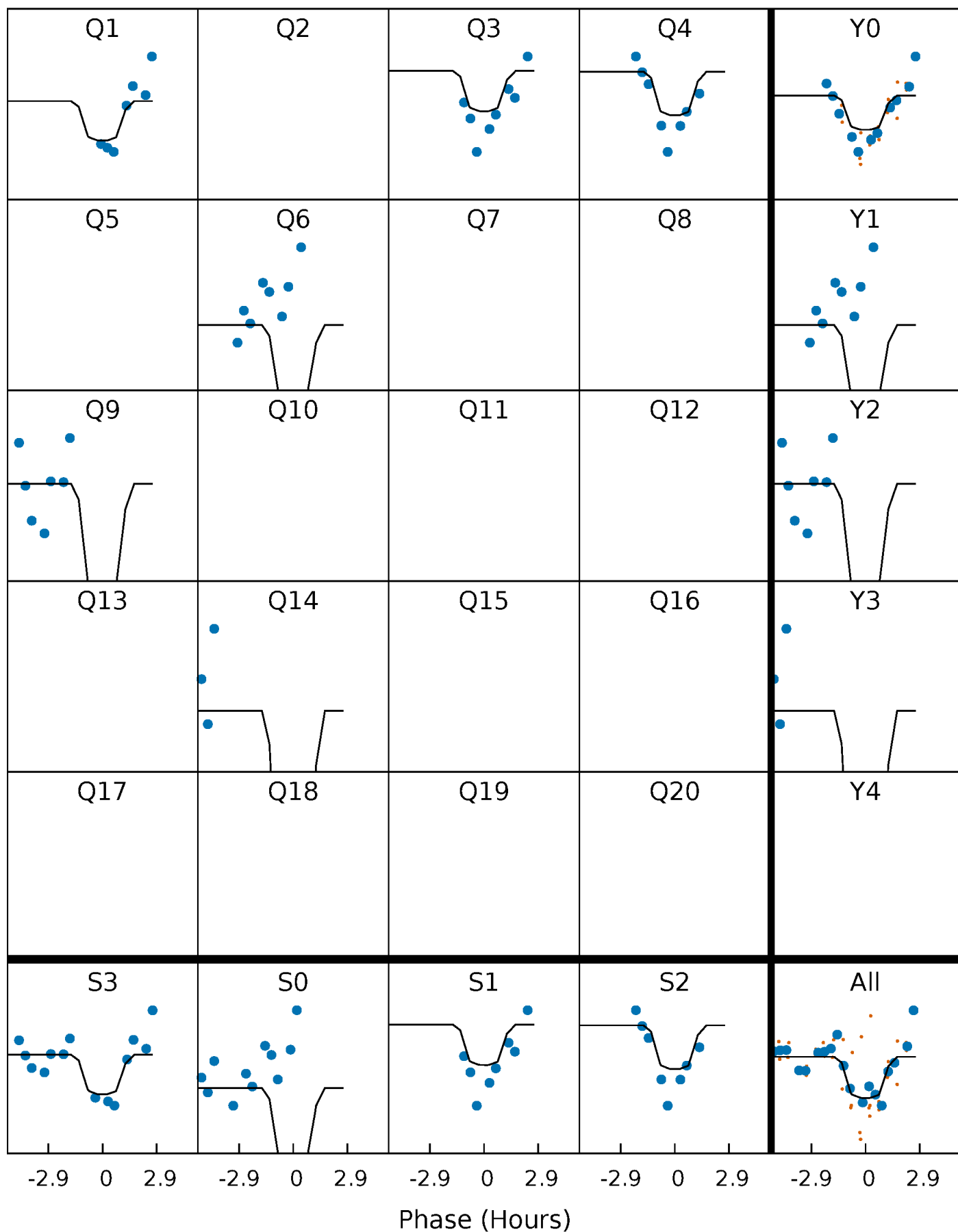
PDC Quarter-Phased Transit Curves

TCE 010647611-04 P=146.283936 Days $T_0=139.901061$ (BKJD)



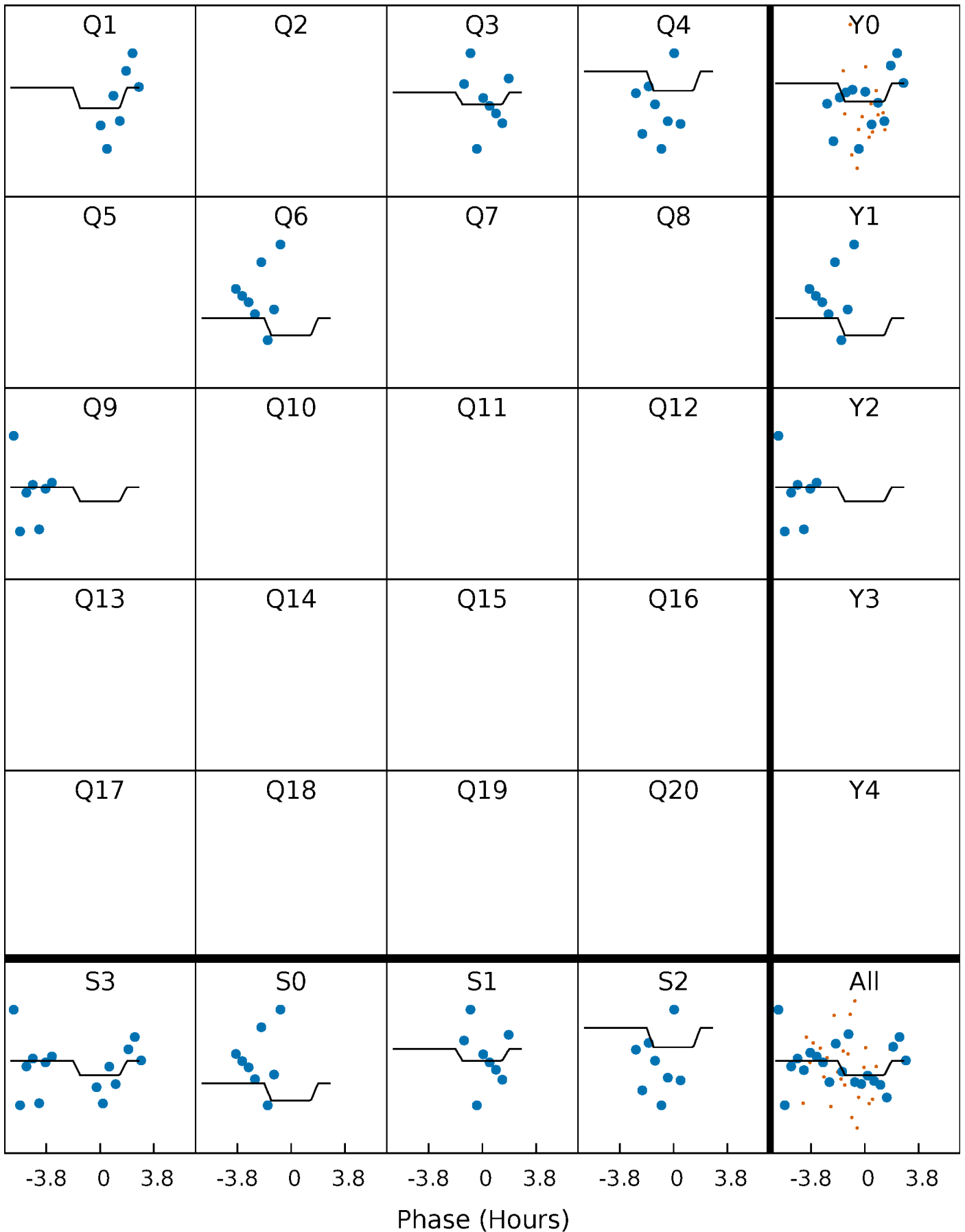
DV Quarter-Phased Transit Curves

TCE 010647611-04 P=146.283936 Days $T_0=139.901061$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

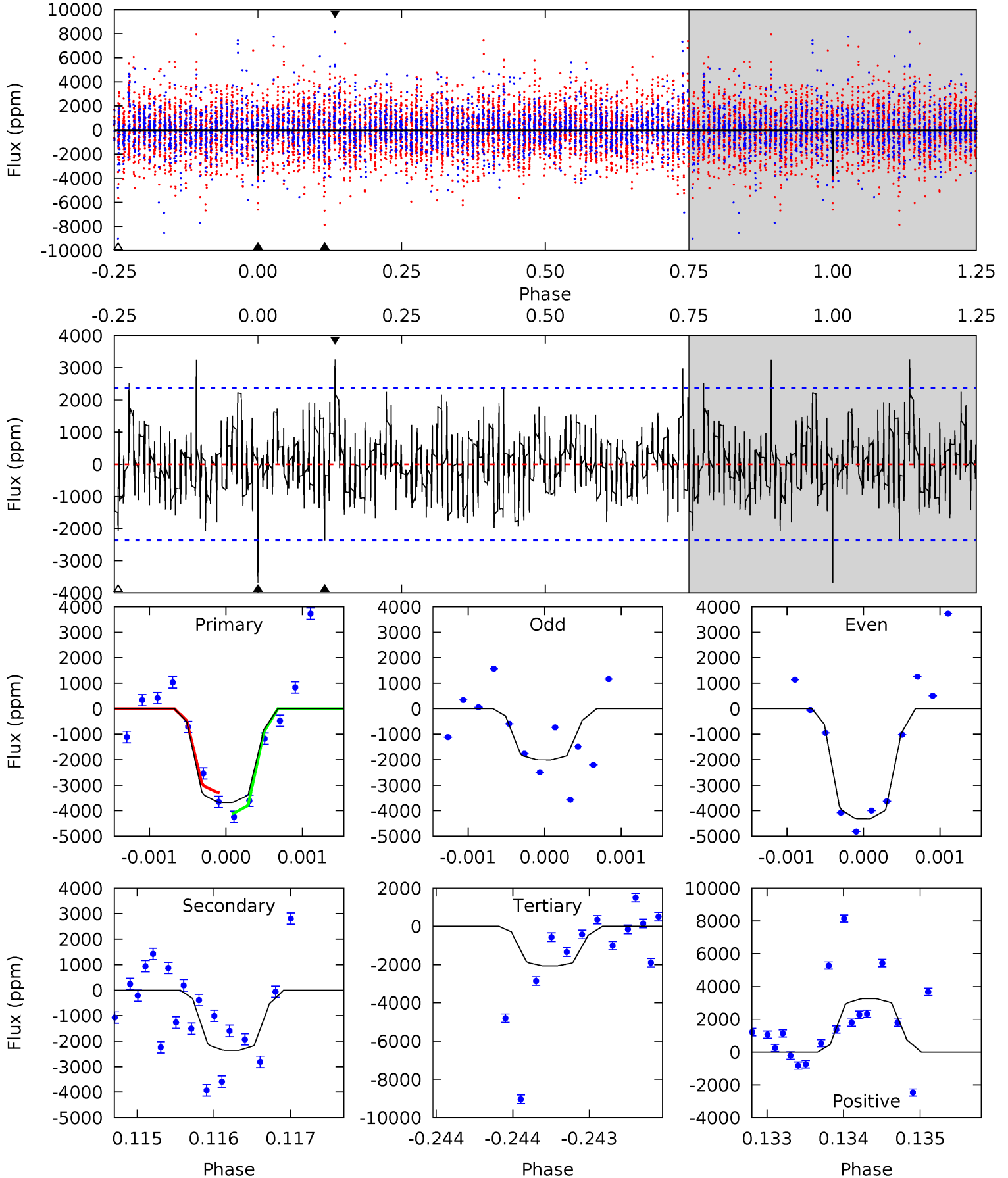
TCE 010647611-04 P=146.298413 Days $T_0=139.898033$ (BKJD)



DV Model-Shift Uniqueness Test

010647611-04, P = 146.283936 Days, E = 139.901061 Days

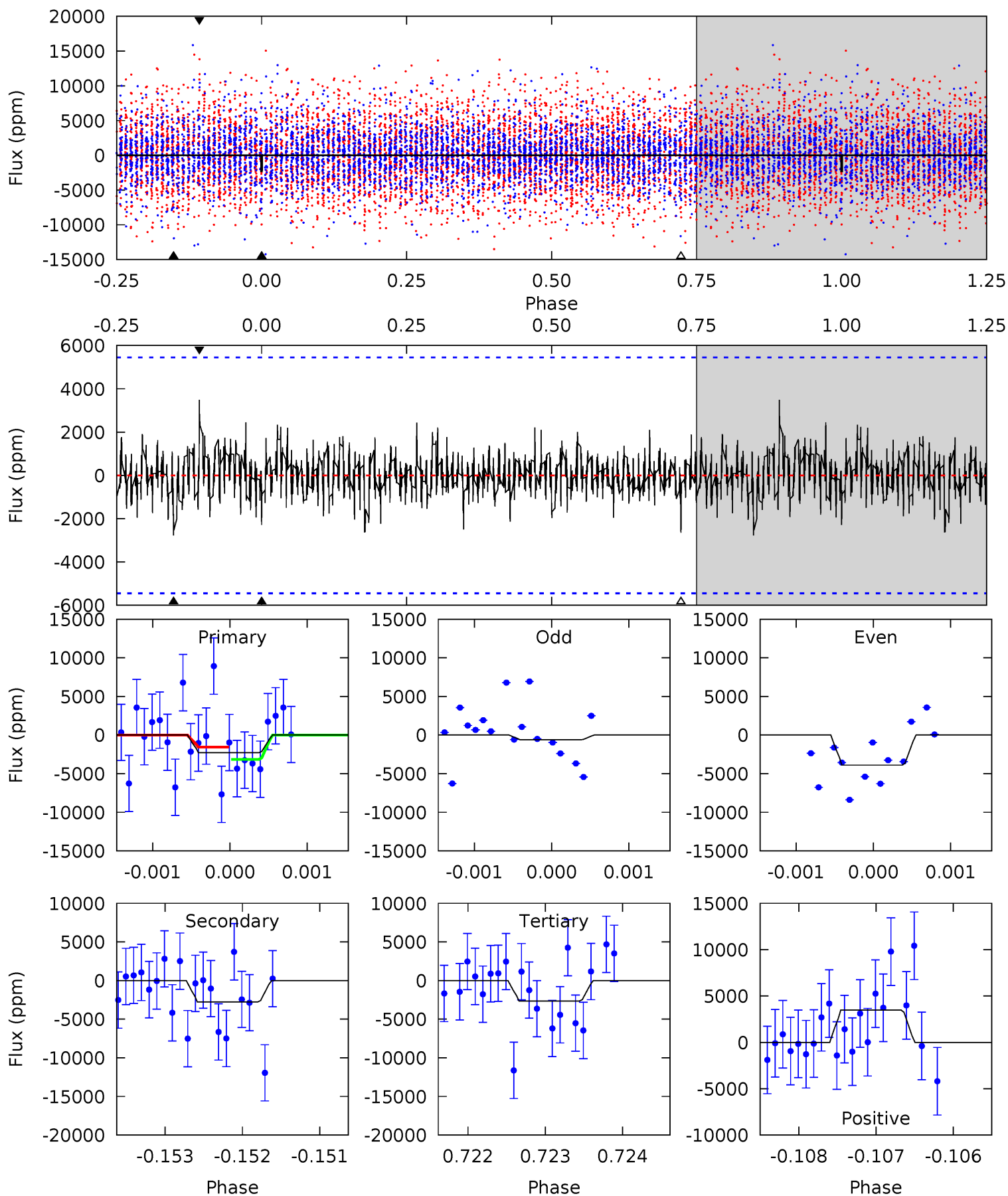
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.58	5.52	4.82	7.61	5.51	3.38	1.72	3.76	0.97	0.70	-2.09	2.81	0.68	0.47	0.97



Alt Model-Shift Uniqueness Test

010647611-04, P = 146.298413 Days, E = 139.898033 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.29	2.77	2.64	3.48	5.45	3.29	0.71	-0.36	-1.19	0.13	-0.71	1.69	0.52	0.56	0.79



Stellar Parameters For KIC 010647611

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7334^{+235}_{-324}	$3.994^{+0.198}_{-0.162}$	$0.040^{+0.200}_{-0.300}$	$2.183^{+0.584}_{-0.584}$	$1.713^{+0.197}_{-0.271}$	$0.232^{+0.266}_{-0.110}$
	+3%/-4%	+5%/-4%	+500%/-750%	+27%/-27%	+12%/-16%	+115%/-47%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010647611-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2367 ± 429	$14.38^{+9.53}_{-7.96}$	825^{+58}_{-68}	6405^{+4329}_{-1316}	2713^{+10694}_{-1777}
Alt.	-2770 ± 999	$11.73^{+9.37}_{-6.85}$	822^{+60}_{-61}	7417^{+6771}_{-2024}	4640^{+21217}_{-3388}

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

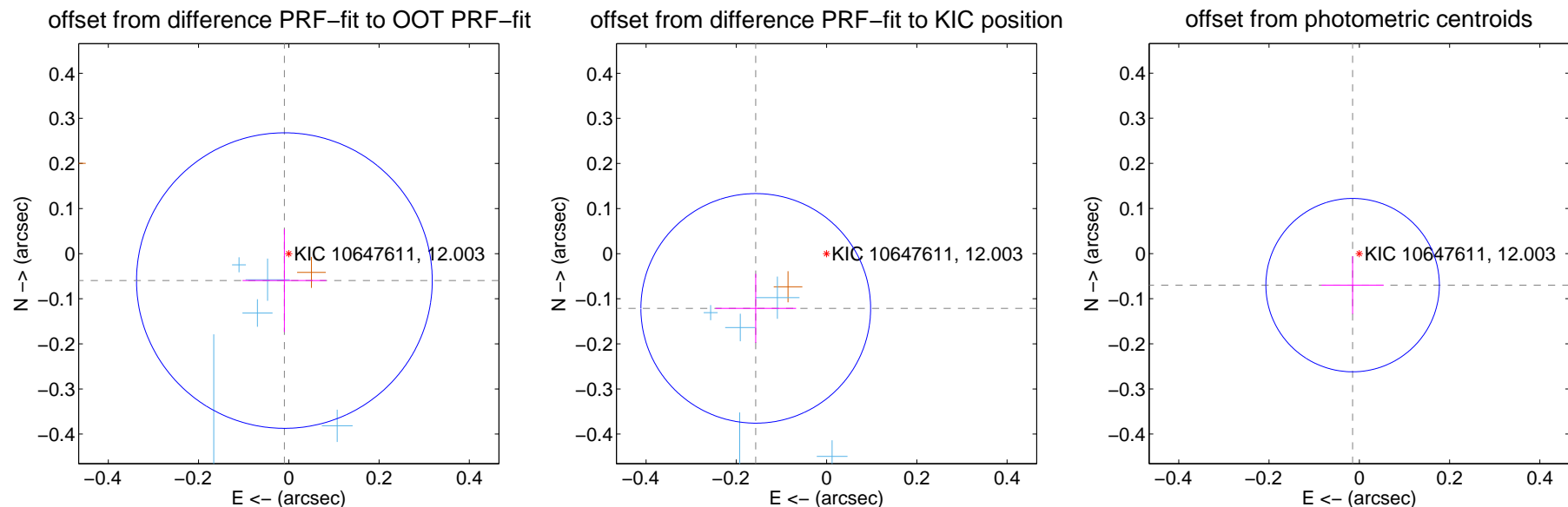
DV Centroid Data

Supplemental centroid analysis for 010647611-04. Kepler magnitude: 12.00. Transit SNR 8.54

There are 6 quarters with good PRF difference image offsets

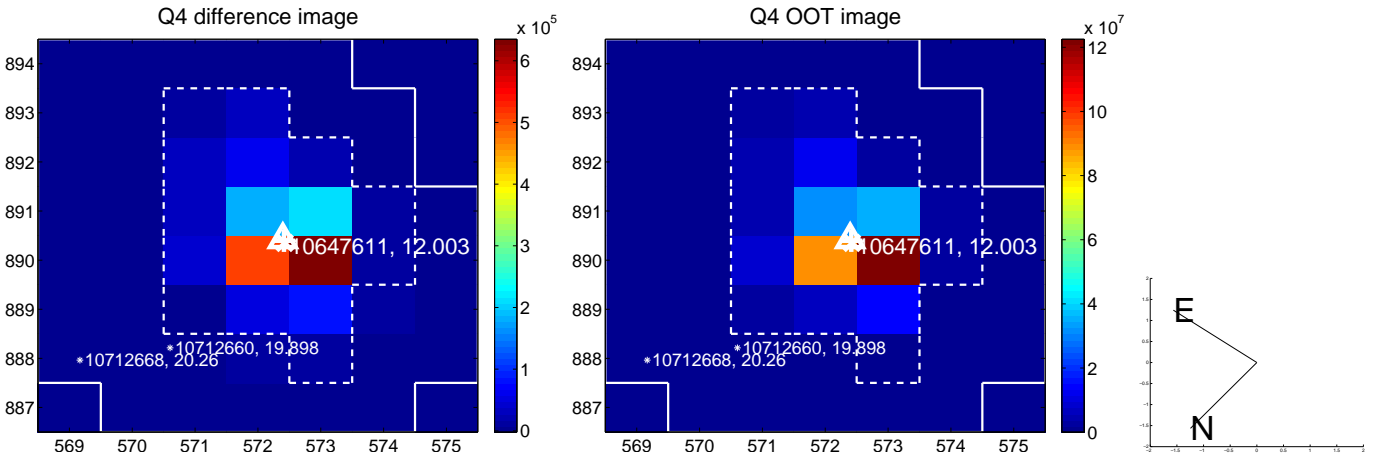
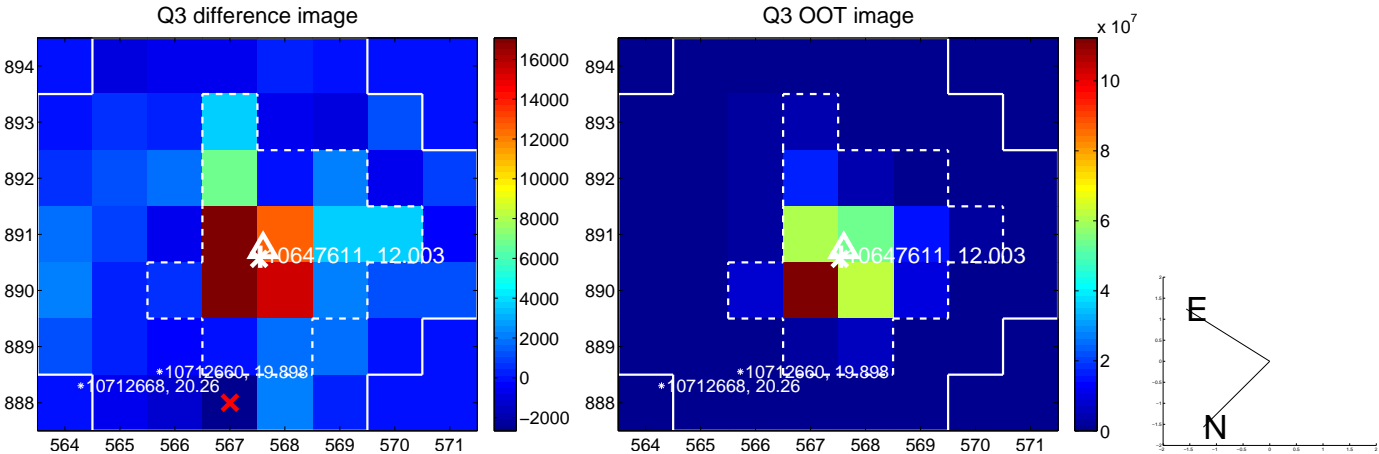
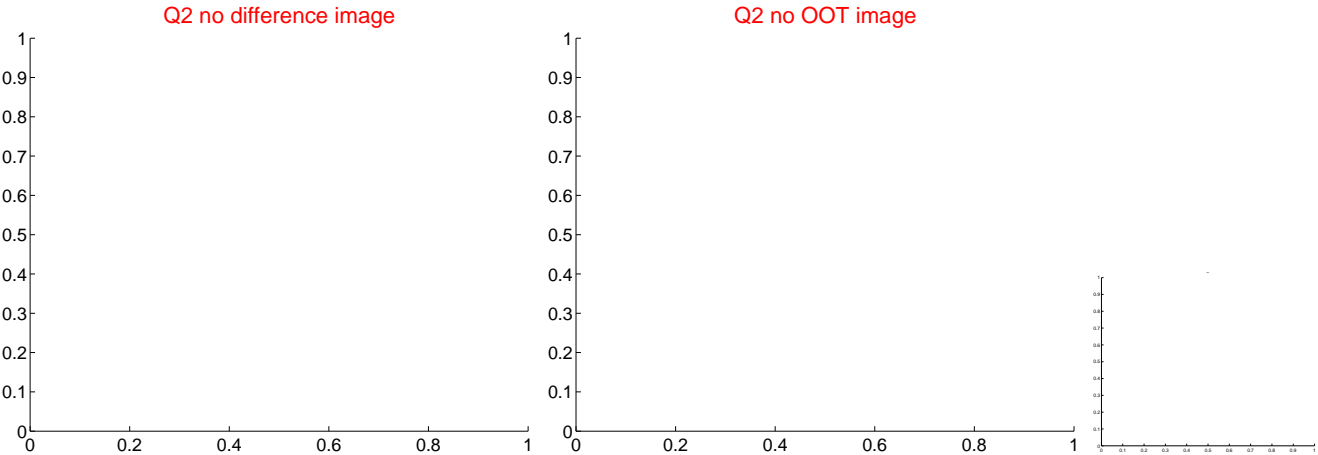
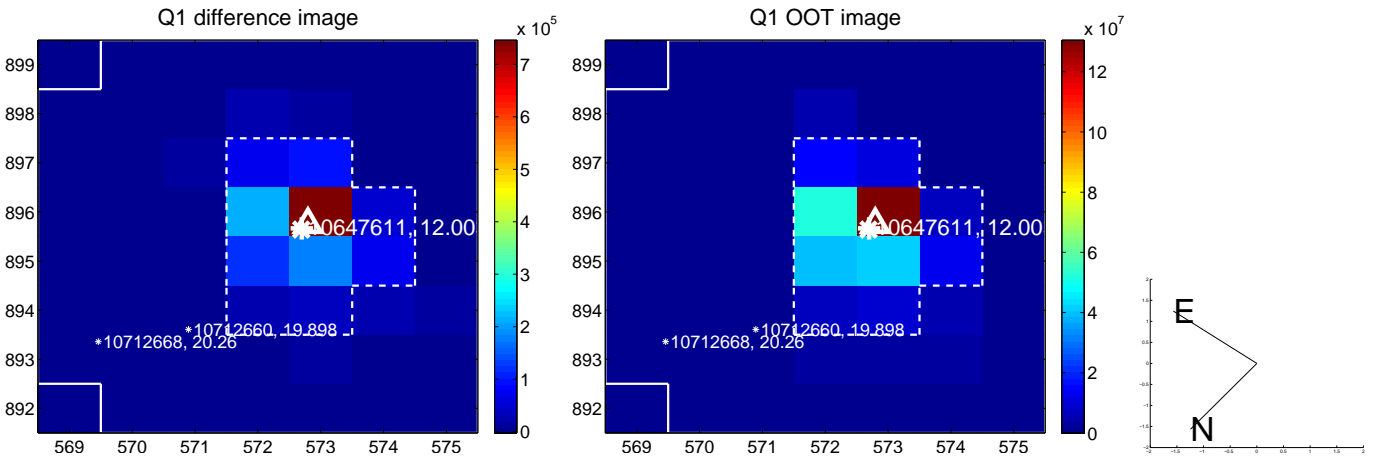
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.060 ± 0.109	0.55	0.010 ± 0.093	-0.060 ± 0.114
PRF-fit source offset from KIC position	0.198 ± 0.085	2.34	0.157 ± 0.089	-0.121 ± 0.077
photometric centroid source offset	0.07 ± 0.06	1.12	0.01 ± 0.07	-0.07 ± 0.06

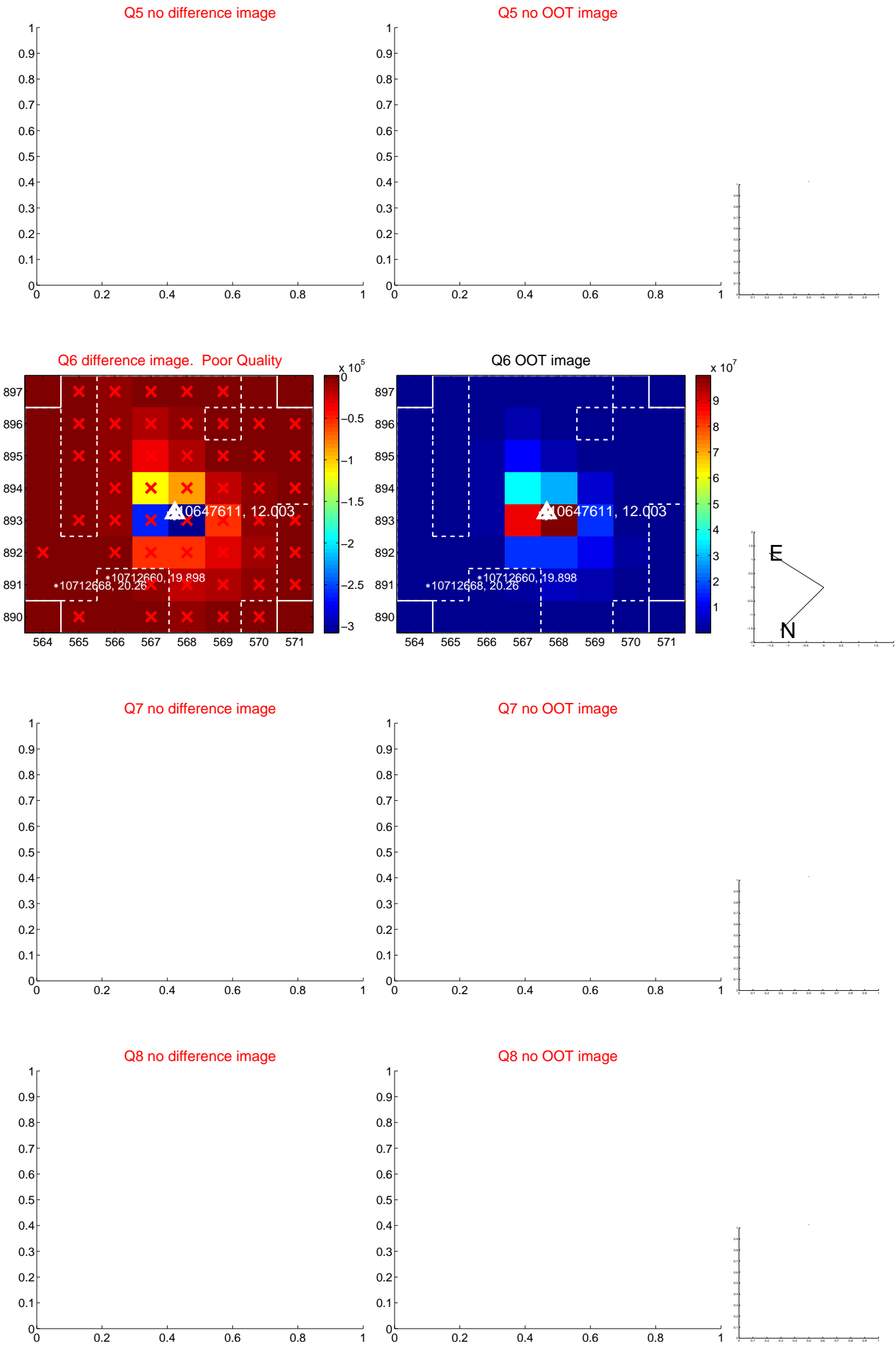


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

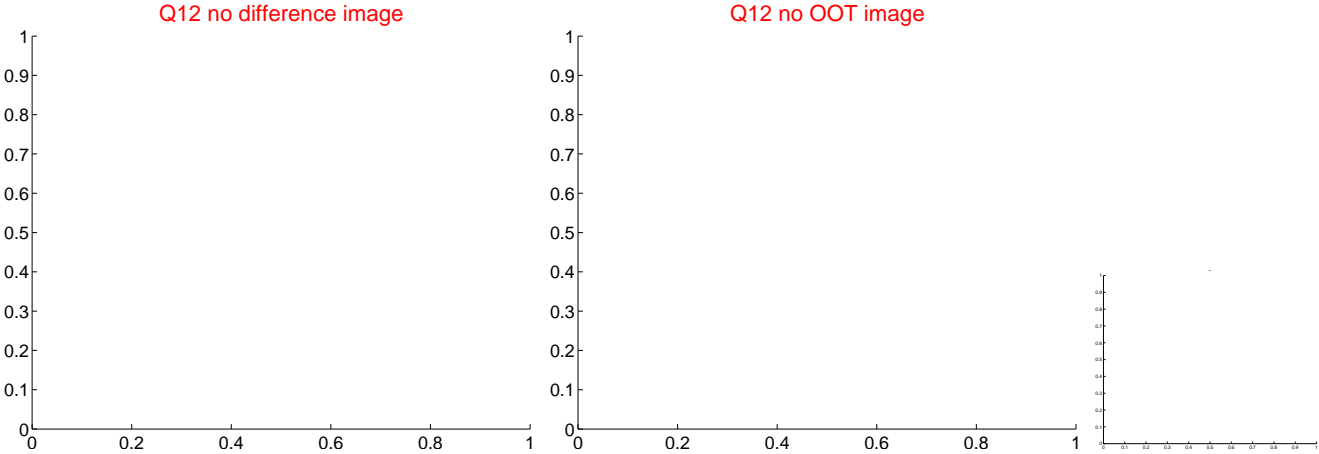
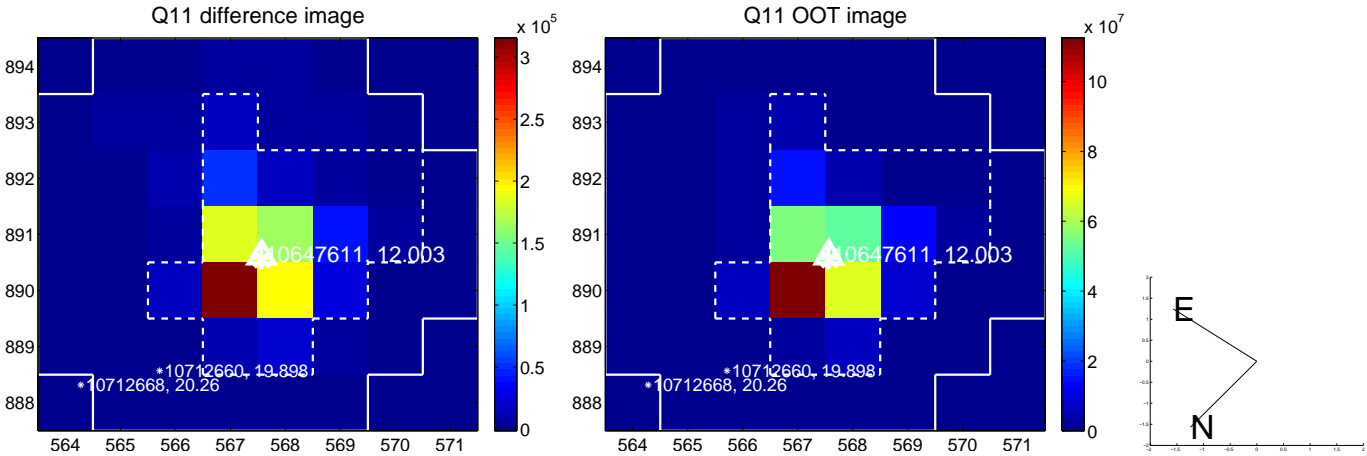
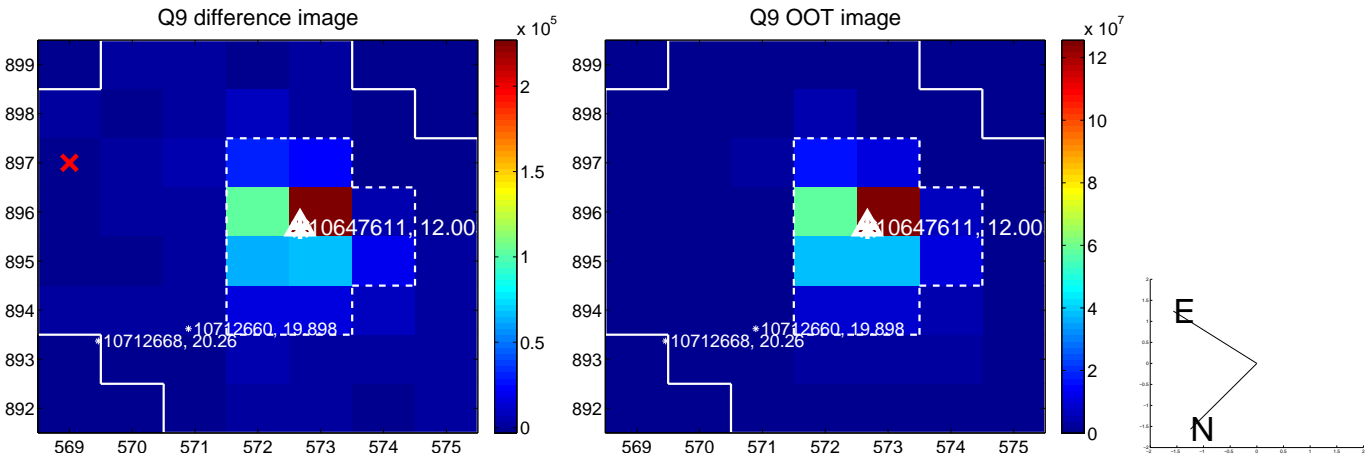
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



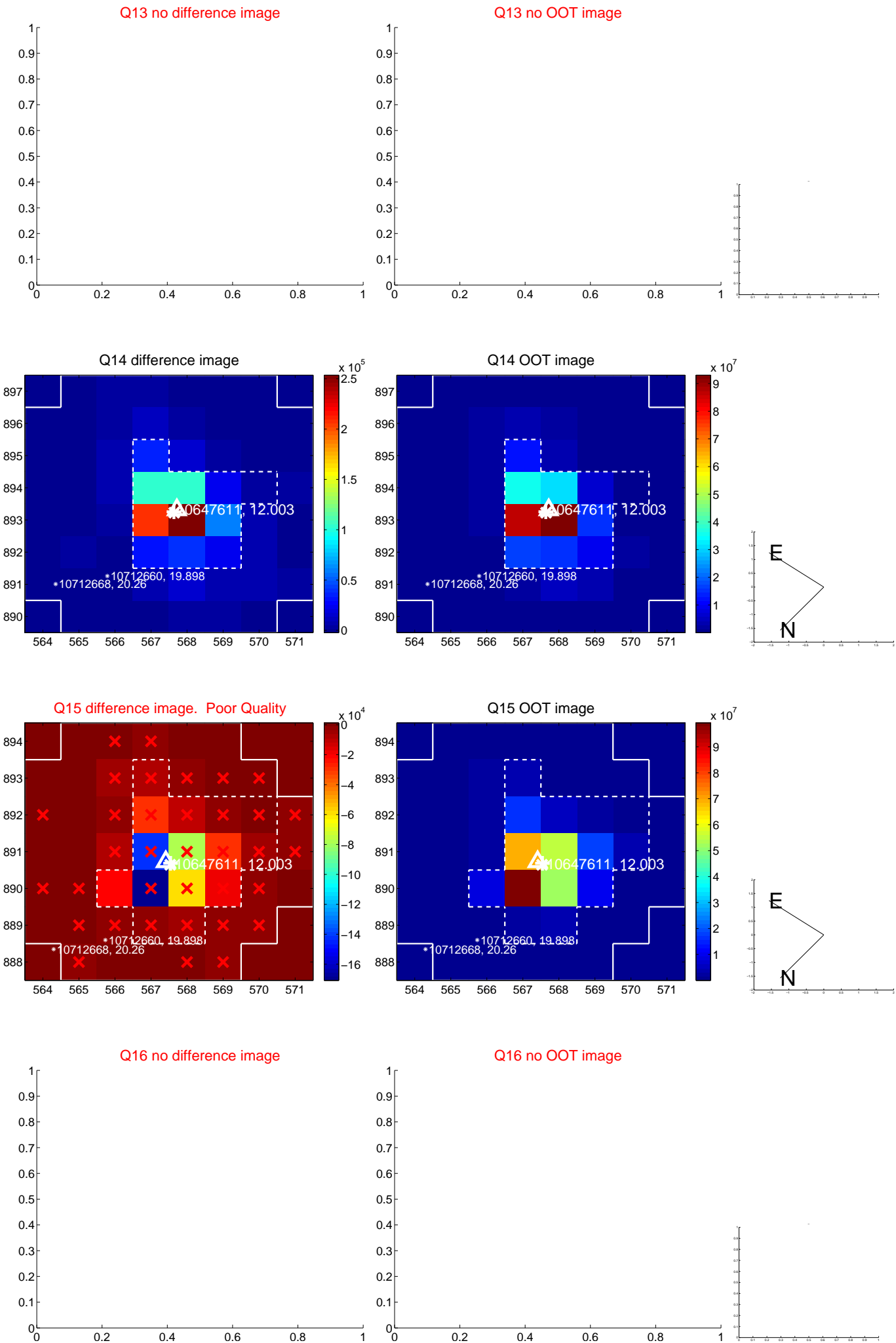
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



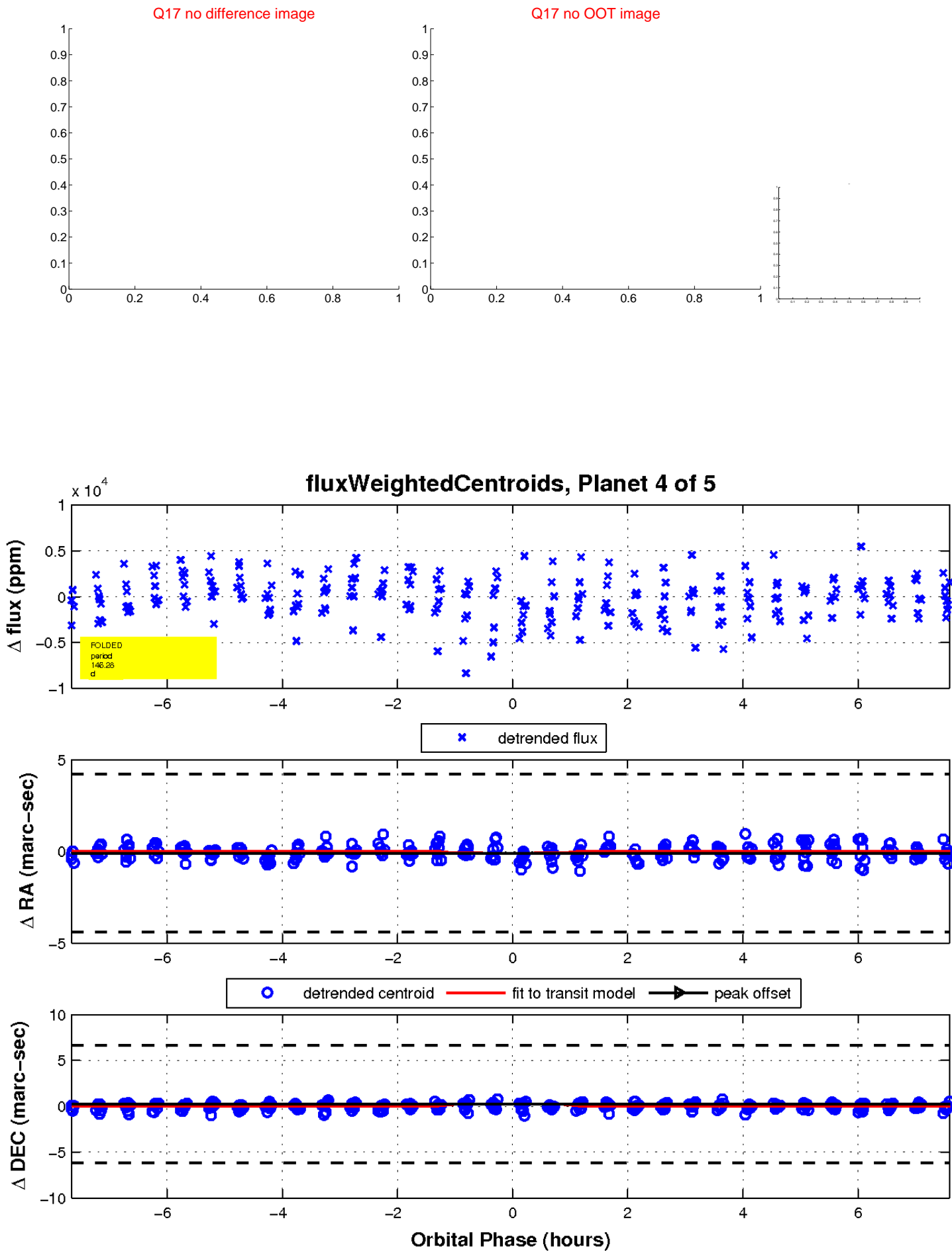
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

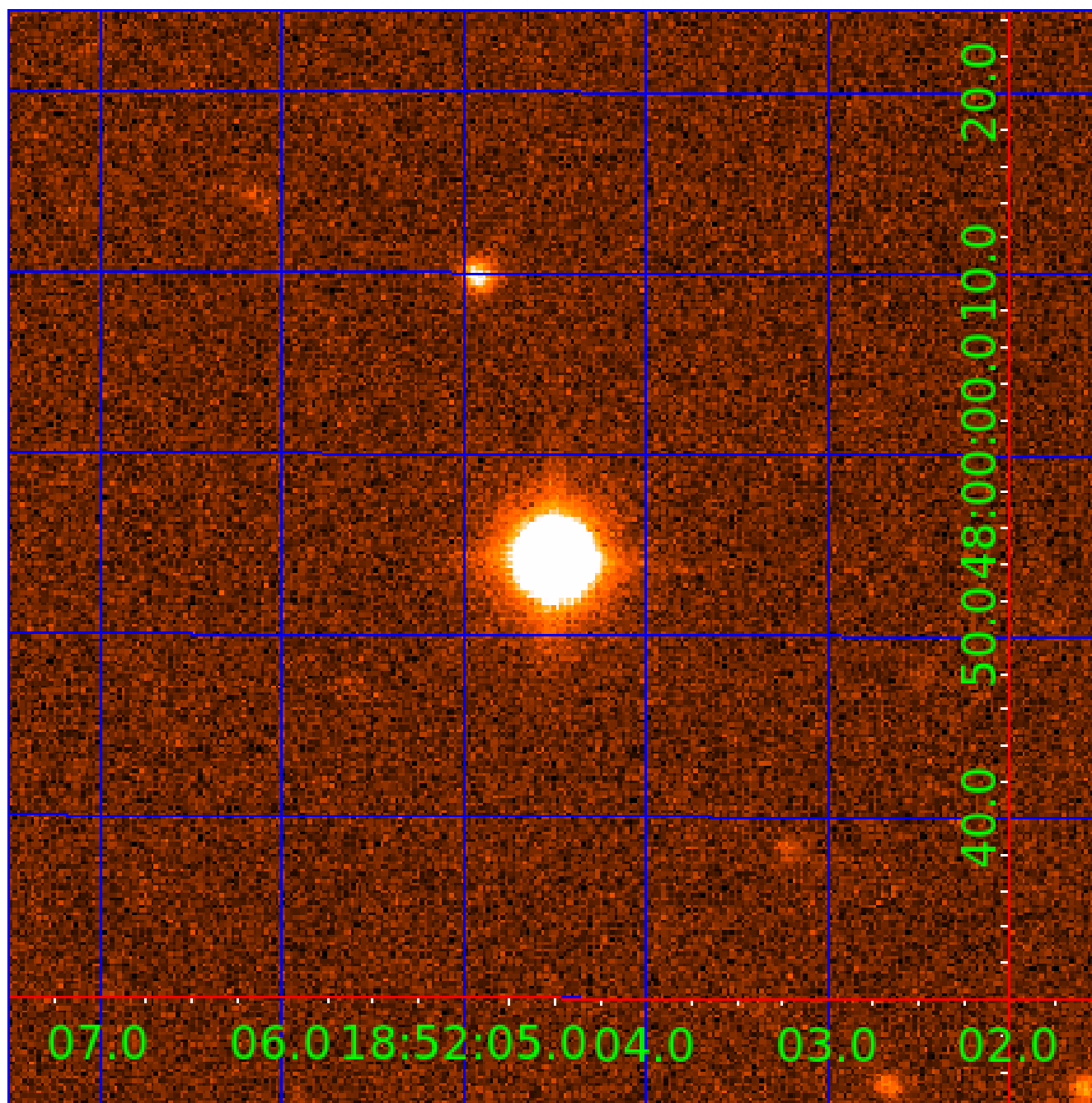


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010647611

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})
010647611-01	OBS	No	1.305776	132.770746	118.1	9.040	8.2	5.4	2.18	7334	2.40	15768.93
010647611-02	OBS	No	50.508779	145.994554	3635.0	2.795	10.6	10.4	2.18	7334	15.72	120.54
010647611-03	OBS	No	8.901573	136.241424	2237.4	1.444	11.1	12.0	2.18	7334	12.04	1219.94
010647611-04	OBS	No	146.283936	139.901061	3295.0	2.556	9.9	8.5	2.18	7334	13.69	29.20
010647611-05	OBS	No	19.684845	138.109707	2241.8	1.646	9.3	9.7	2.18	7334	10.59	423.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010647611-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
010647611-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010647611-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010647611-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010647611-05	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.

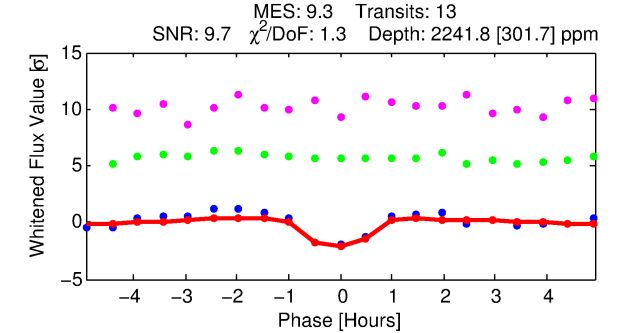
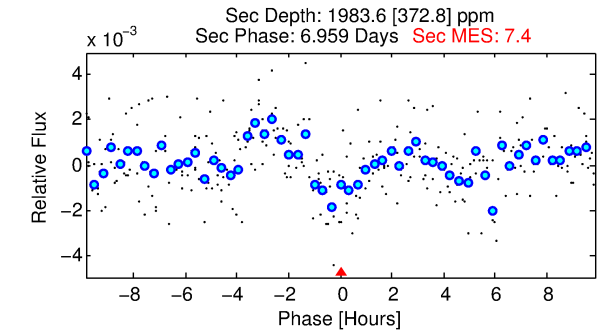
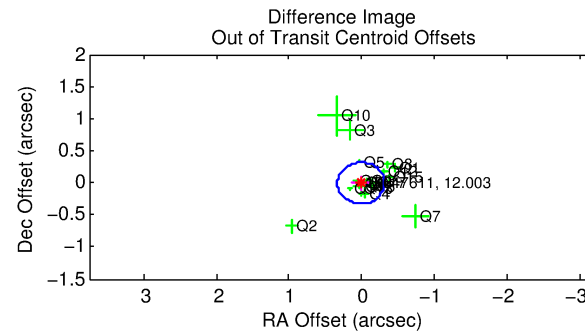
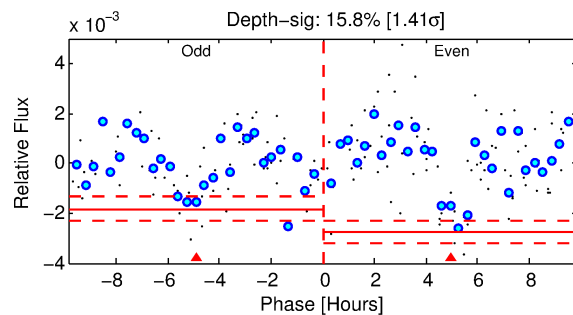
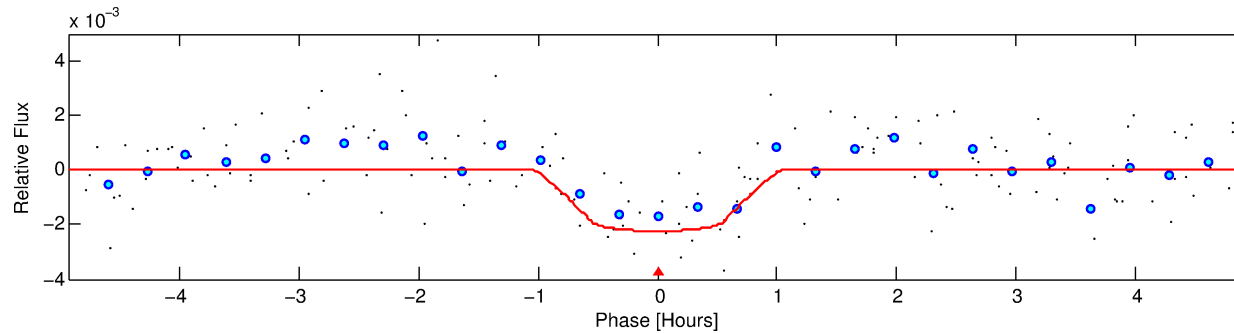
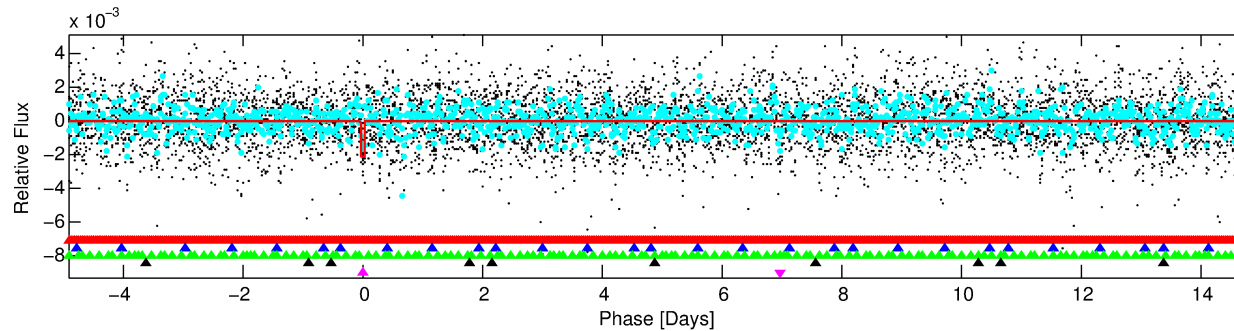
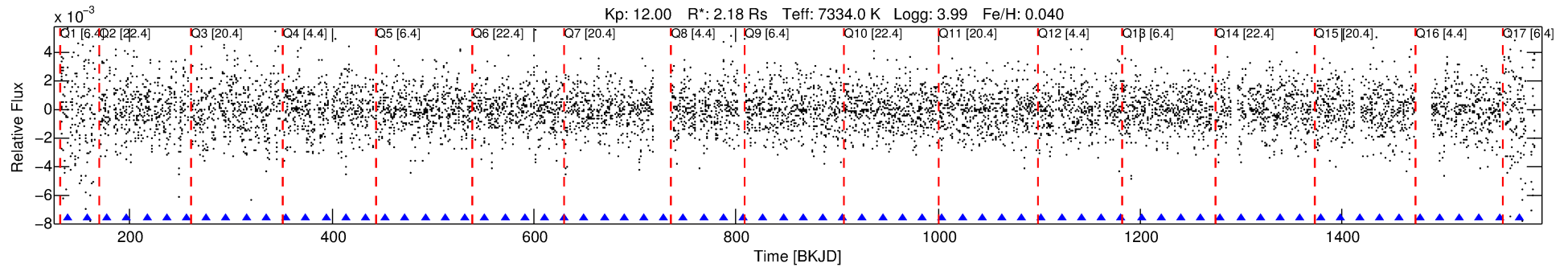
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010647611-05

No Significant Match Found

DV One-Page Summary

KIC: 10647611 Candidate: 5 of 5 Period: 19.685 d



DV Fit Results:

Period = 19.68484 [0.00013] d
Epoch = 138.1097 [0.0057] BKJD
Rp/R* = 0.0445 [0.0970]
a/R* = 91.39 [1173.03]
b = 0.30 [39.23]
Seff = 423.43 [166.93]
Teq = 1157 [114] K
Rp = 10.59 [23.27] Re
a = 0.1708 [0.0400] AU
Ag = 283.92 [1243.86] [0.23 σ]
Teffp = 7341 [8021] K [0.77 σ]

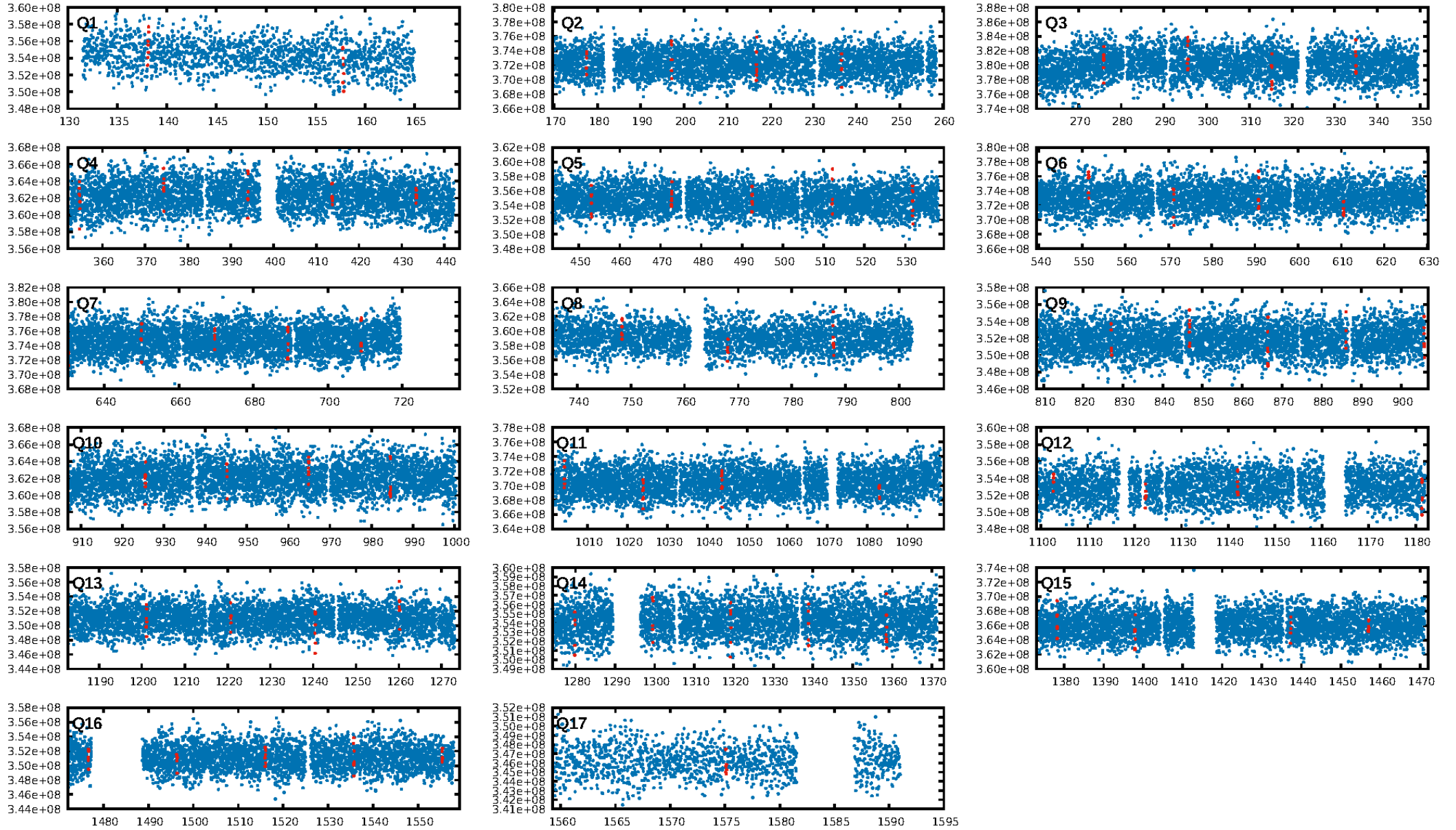
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [118.20 σ]
LongPeriod-sig: 100.0% [228.06 σ]
ModelChiSquare2-sig: 2.5%
ModelChiSquareGof-sig: 97.5%
Bootstrap-pfa: 2.56e-08
RollingBand-fgt: 1.00 [12/12]
GhostDiagnostic-chr: -5.32
Centroid-sig: 53.9%
Centroid-so: 0.039 arcsec [0.94 σ]
OotOffset-rm: 0.014 arcsec [0.13 σ]
KicOffset-rm: 0.129 arcsec [1.17 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.47 [8/17]
DiffImageOverlap-fno: 0.59 [10/17]

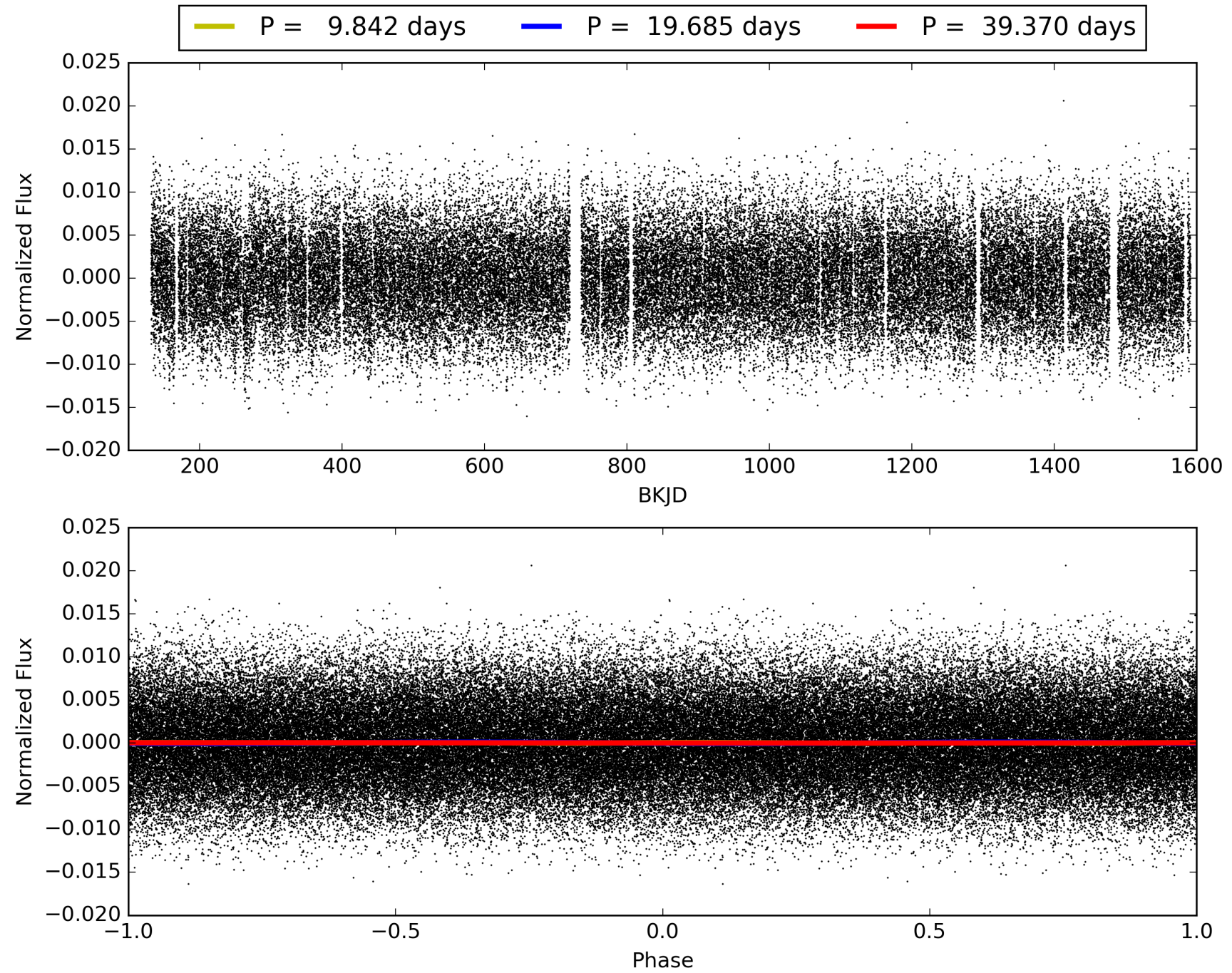
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:12:35 Z

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

TCE 010647611-05, PDC Light Curves

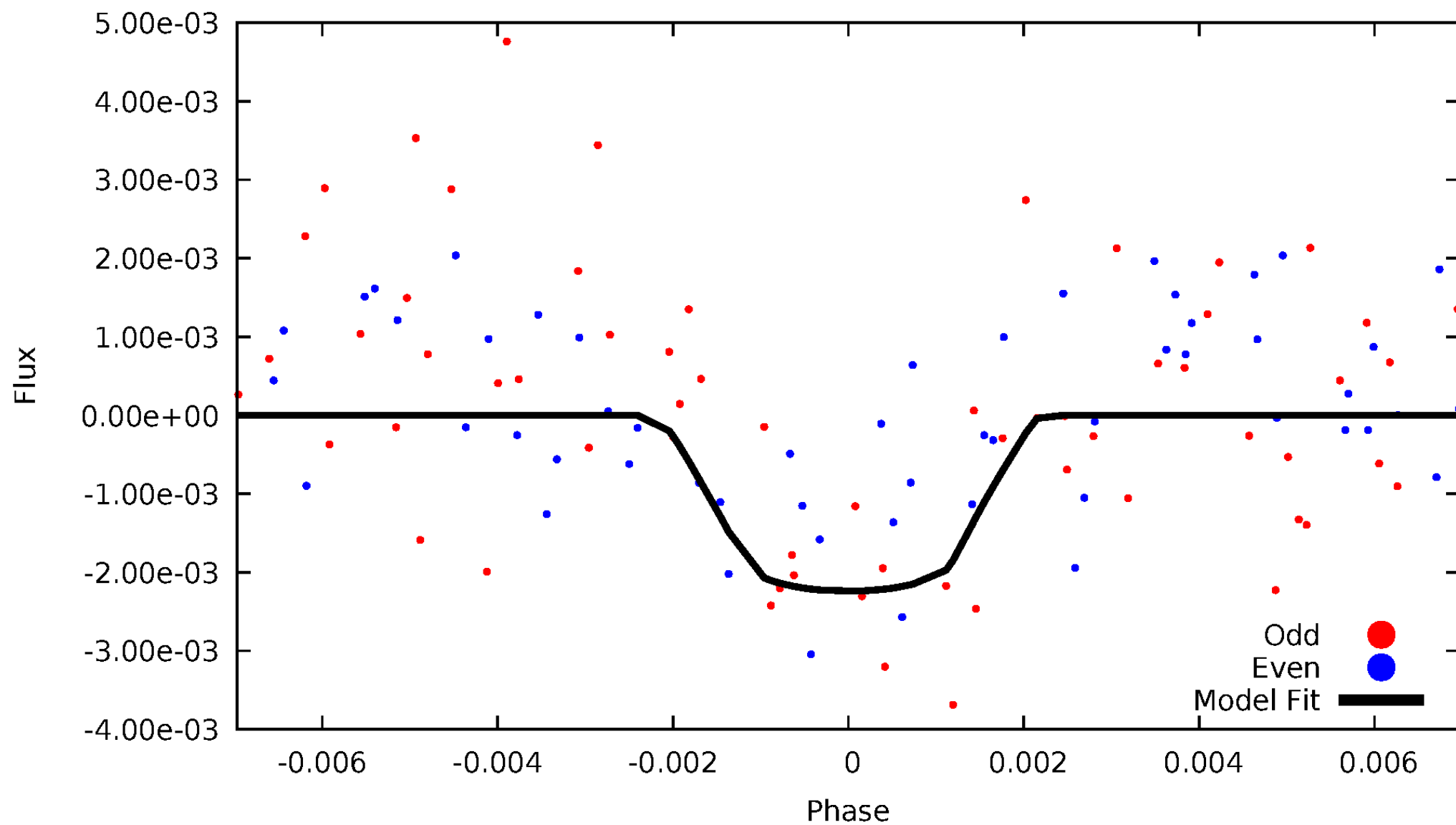


TCE 010647611-05



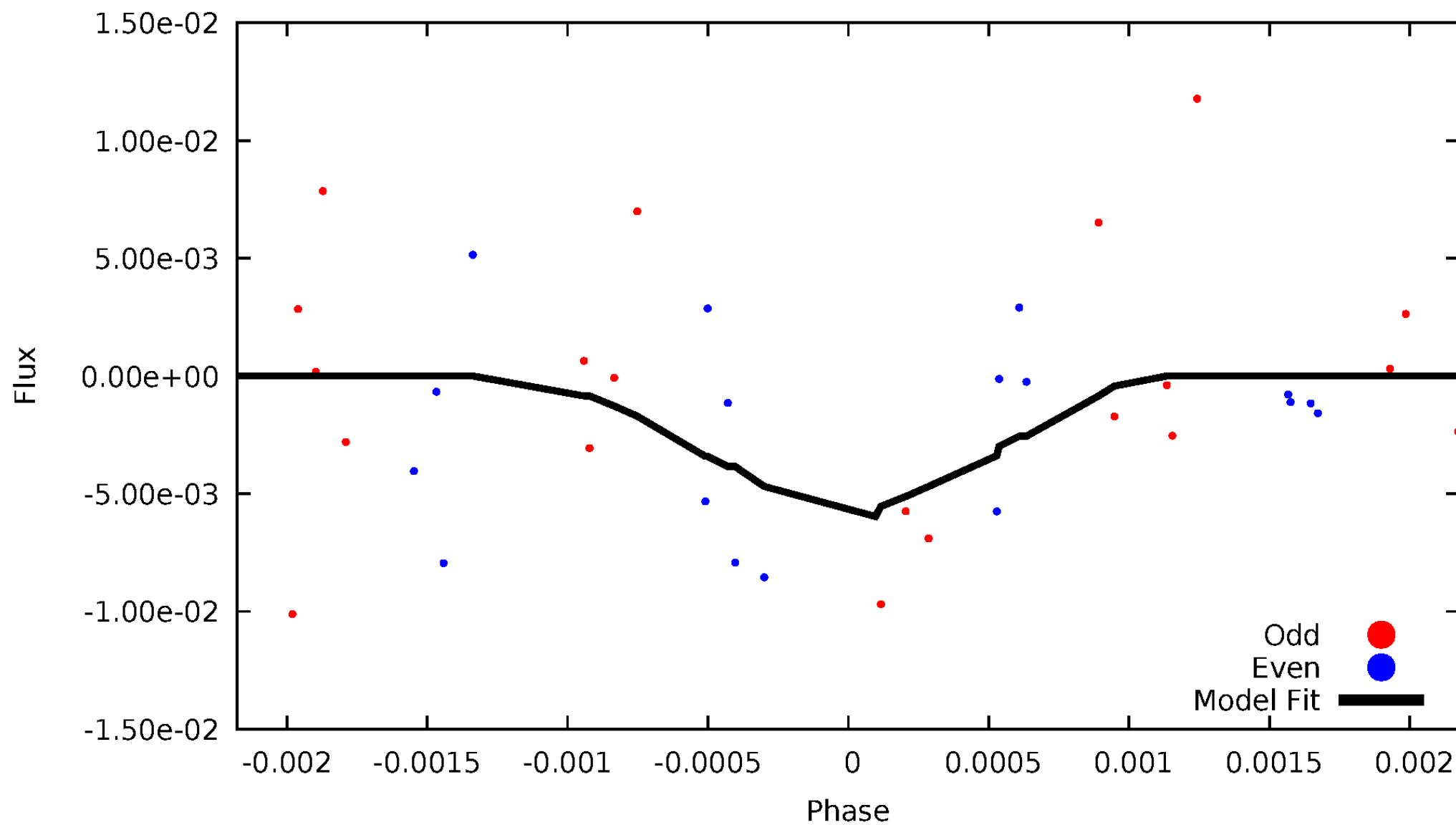
DV Odd/Even

TCE 010647611-05



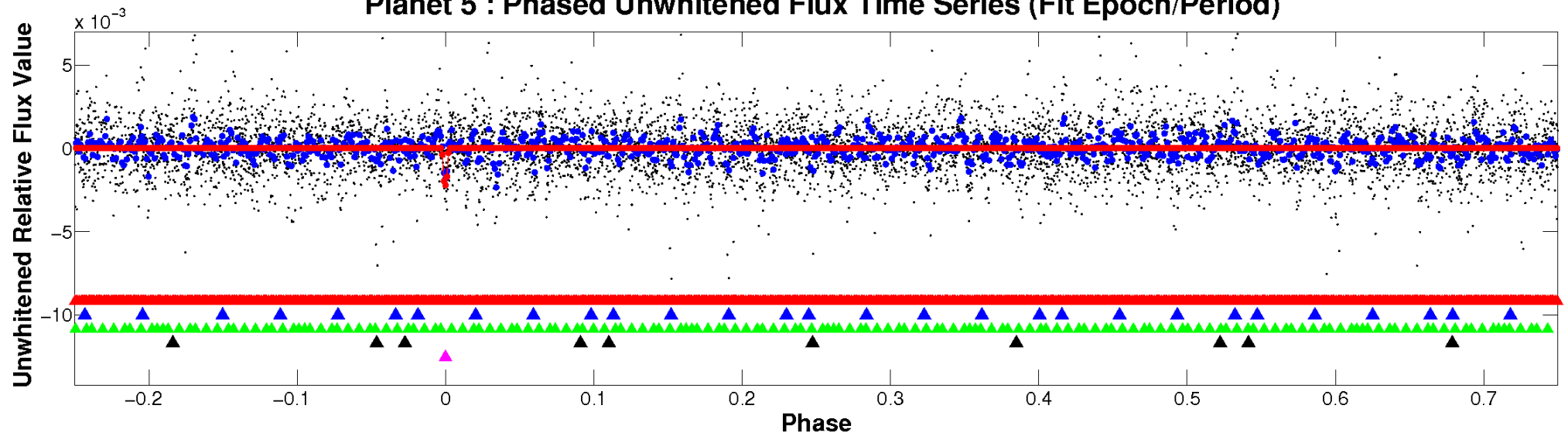
ALT Odd/Even

TCE 010647611-05

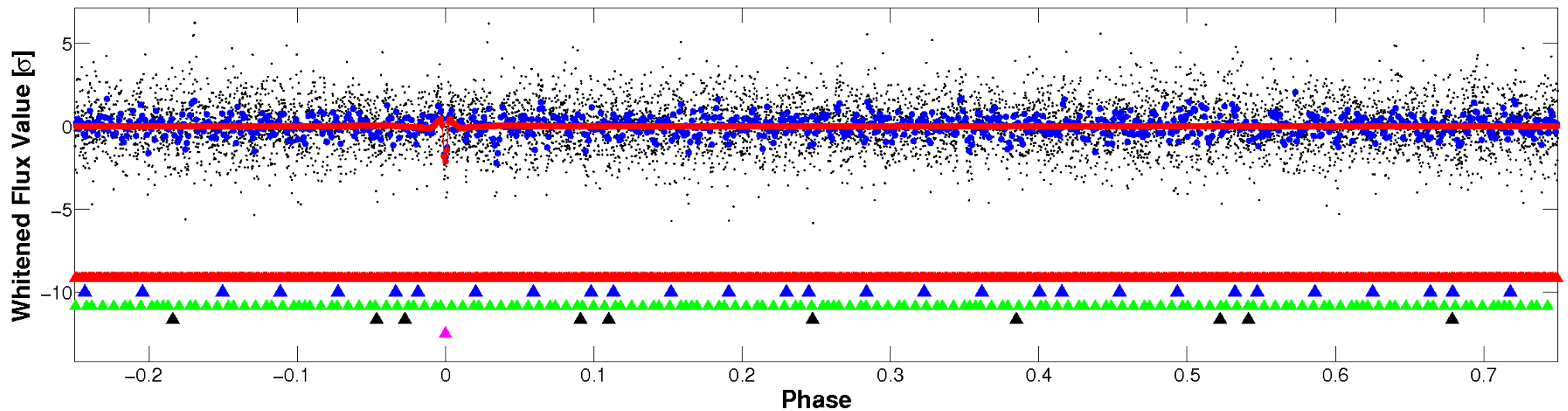


Non-Whitened Vs. Whitened Light Curve

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

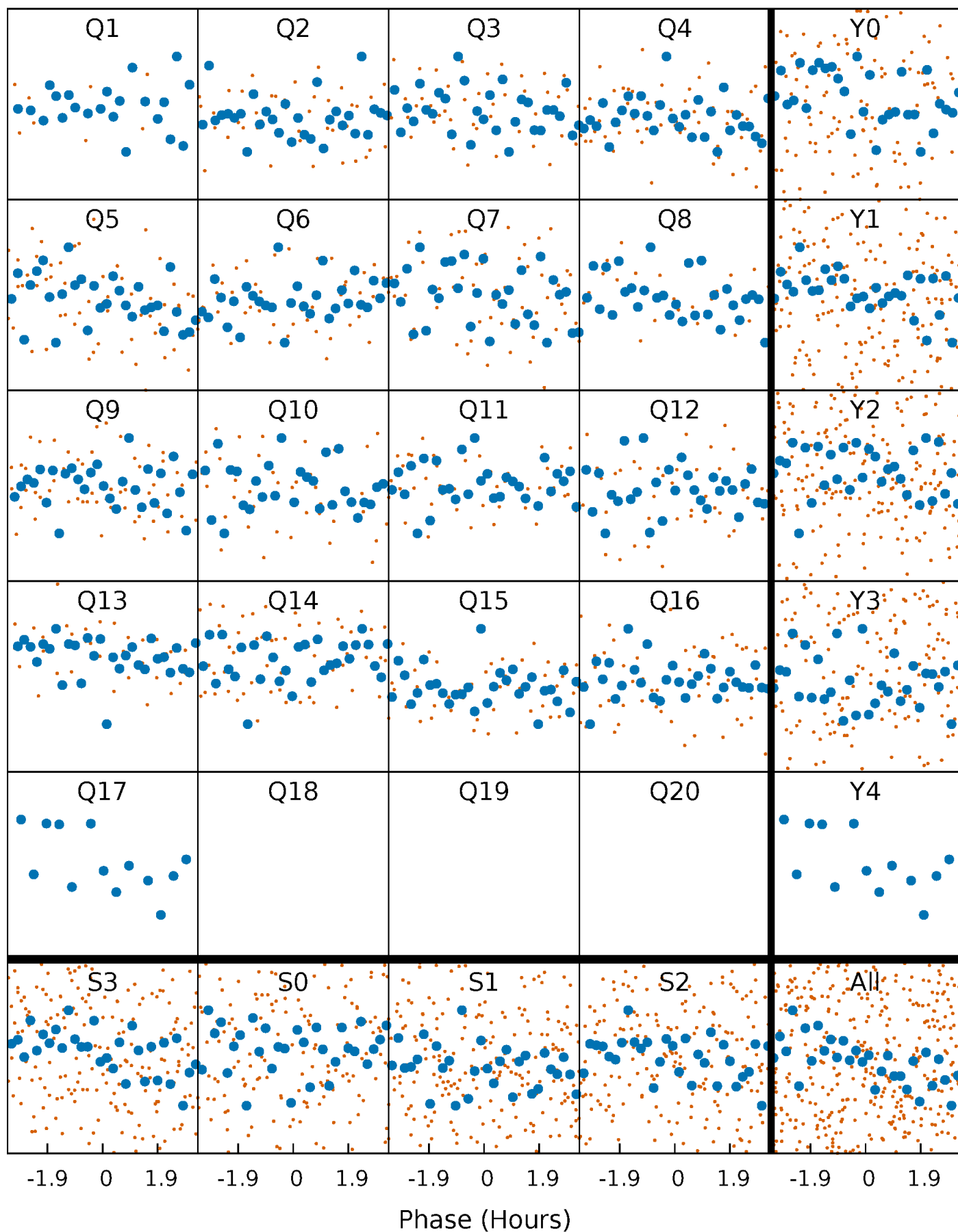


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



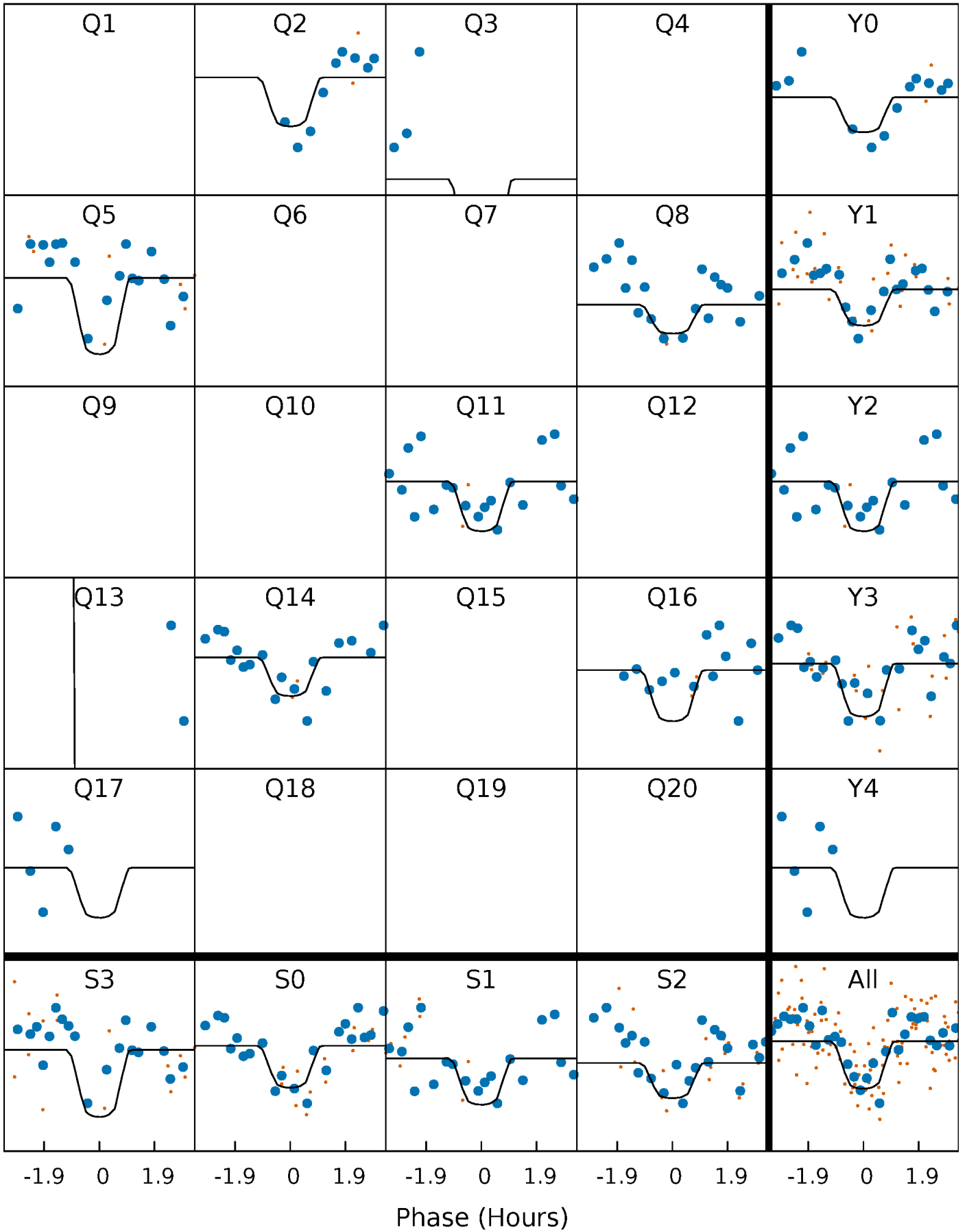
PDC Quarter-Phased Transit Curves

TCE 010647611-05 $P = 19.684845$ Days $T_0 = 138.109707$ (BKJD)



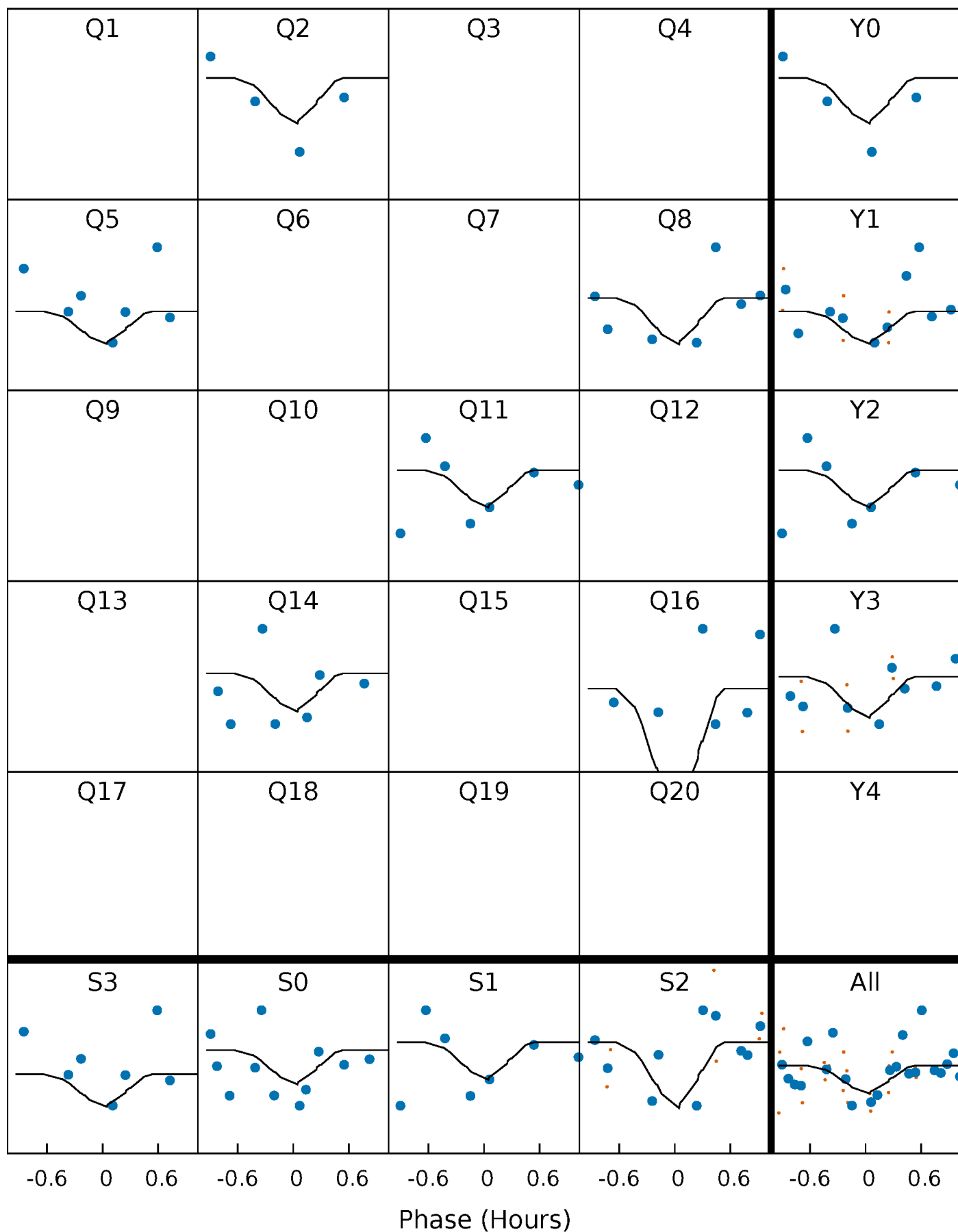
DV Quarter-Phased Transit Curves

TCE 010647611-05 P= 19.684845 Days $T_0=138.109707$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

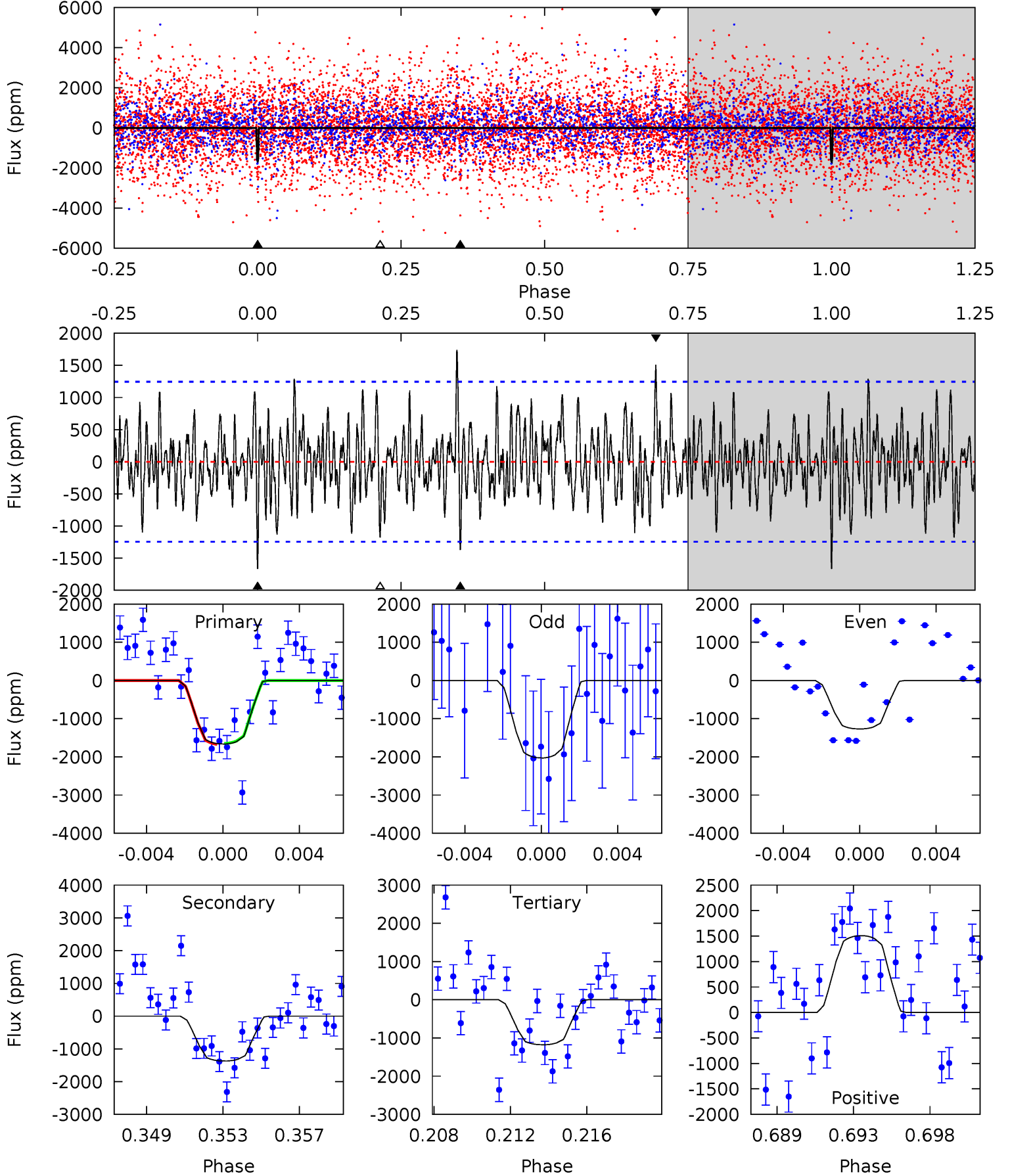
TCE 010647611-05 P= 19.684688 Days $T_0=138.136861$ (BKJD)



DV Model-Shift Uniqueness Test

010647611-05, P = 19.684845 Days, E = 118.424862 Days

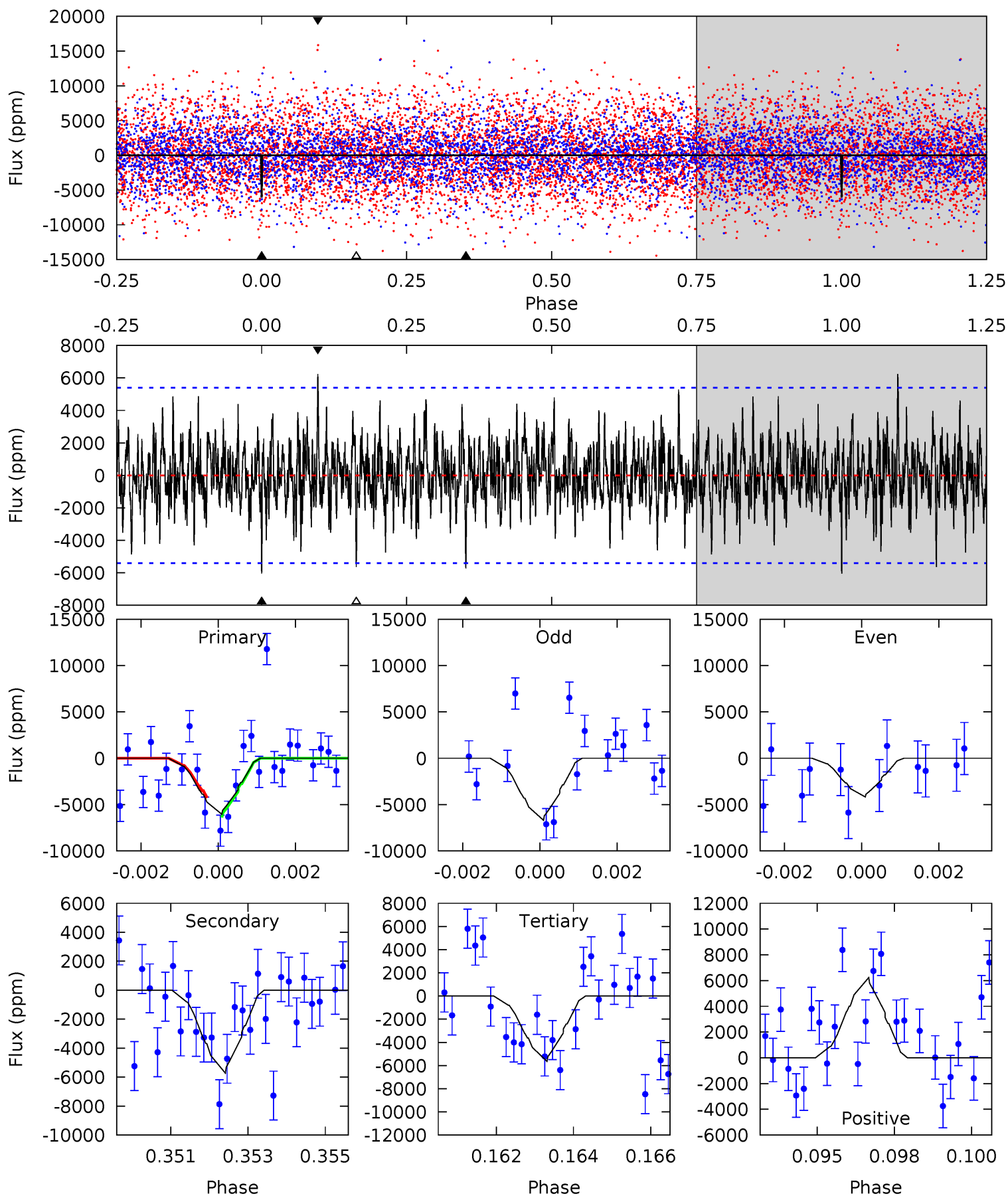
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.95	5.72	4.92	6.30	5.19	2.87	1.86	2.03	0.65	0.80	-0.58	1.59	1.03	0.51	0.05



Alt Model-Shift Uniqueness Test

010647611-05, P = 19.684688 Days, E = 118.452173 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.96	5.64	5.56	6.14	5.32	3.08	1.56	0.40	-0.18	0.09	-0.50	1.24	0.88	0.51	1.03



Stellar Parameters For KIC 010647611

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7334^{+235}_{-324}	$3.994^{+0.198}_{-0.162}$	$0.040^{+0.200}_{-0.300}$	$2.183^{+0.584}_{-0.584}$	$1.713^{+0.197}_{-0.271}$	$0.232^{+0.266}_{-0.110}$
	+3%/-4%	+5%/-4%	+500%/-750%	+27%/-27%	+12%/-16%	+115%/-47%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010647611-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1371 ± 240	$19.74^{+18.11}_{-13.36}$	1606^{+126}_{-124}	4934^{+3810}_{-1167}	57^{+493}_{-43}
Alt.	-5727 ± 1015	$24.20^{+22.25}_{-15.65}$	1605^{+133}_{-120}	6181^{+5873}_{-1593}	149^{+1119}_{-108}

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

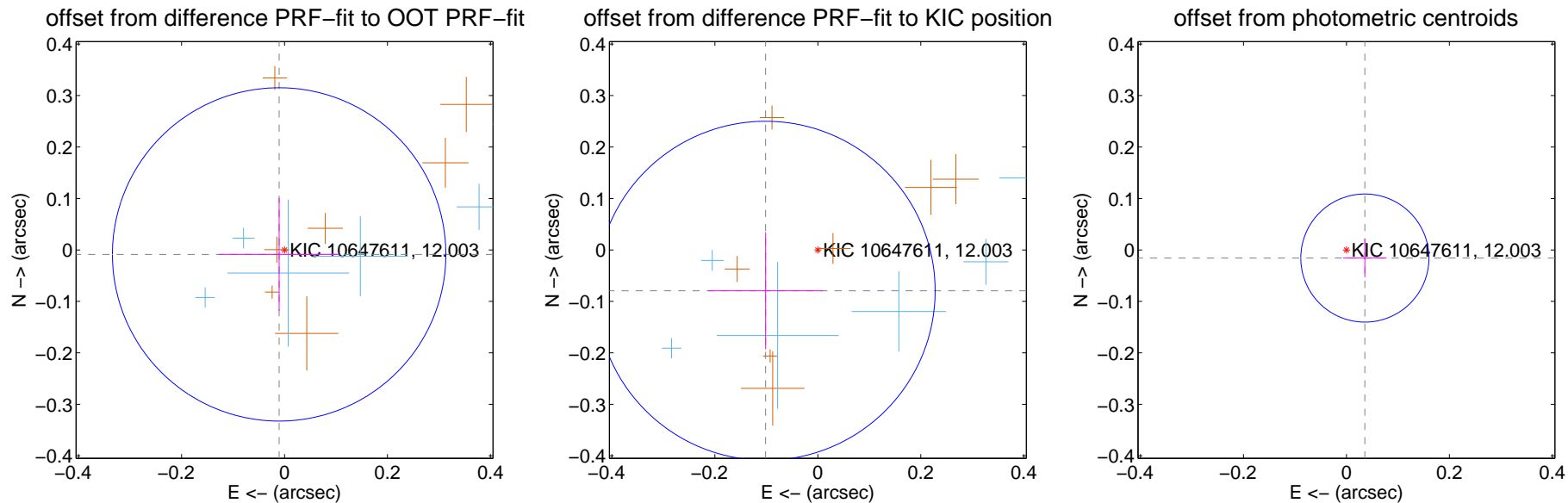
DV Centroid Data

Supplemental centroid analysis for 010647611-05. Kepler magnitude: 12.00. Transit SNR 9.66

There are 8 quarters with good PRF difference image offsets

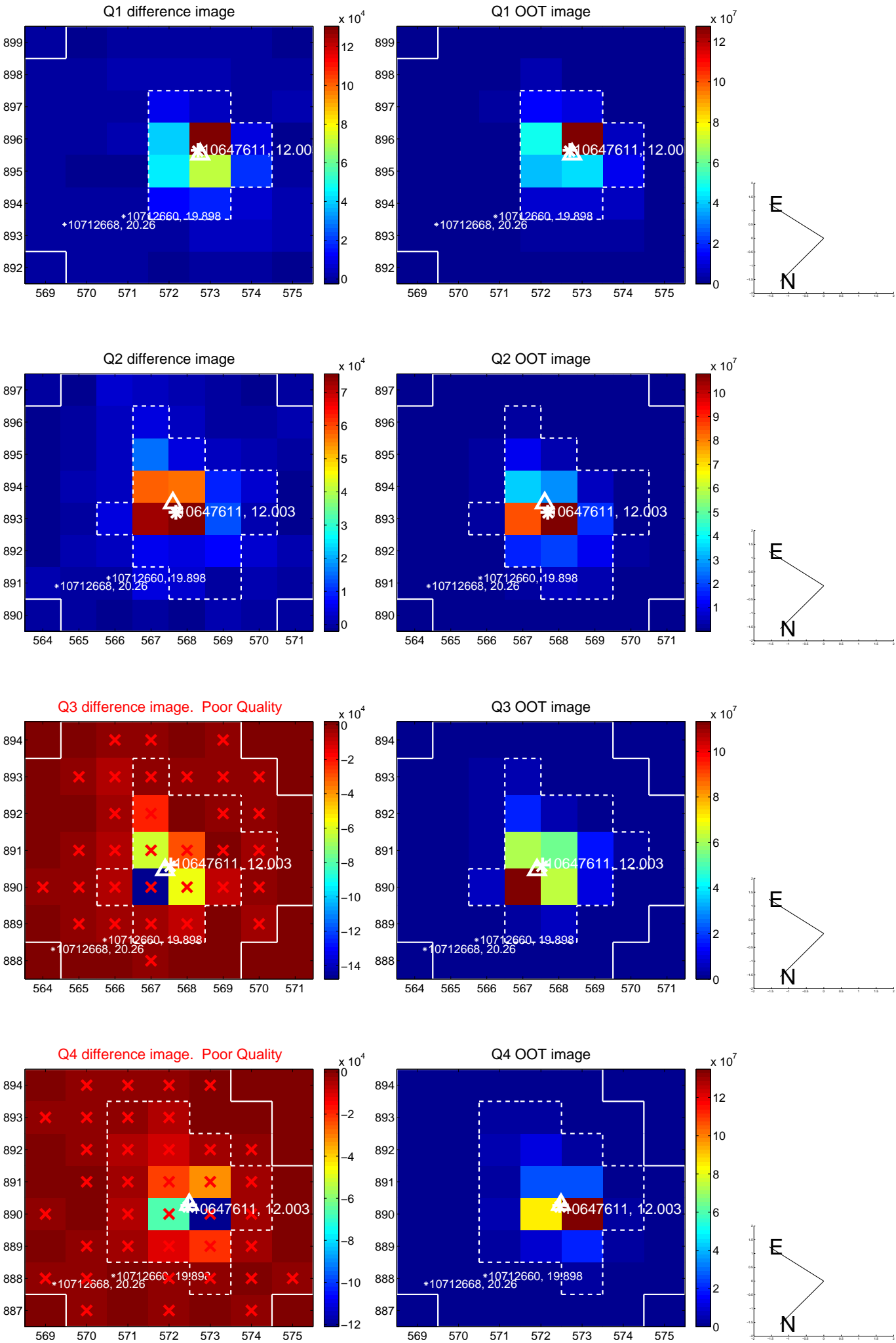
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.014 ± 0.108	0.13	0.010 ± 0.117	-0.009 ± 0.110
PRF-fit source offset from KIC position	0.129 ± 0.110	1.17	0.102 ± 0.111	-0.079 ± 0.114
photometric centroid source offset	0.04 ± 0.04	0.94	-0.04 ± 0.04	-0.02 ± 0.04

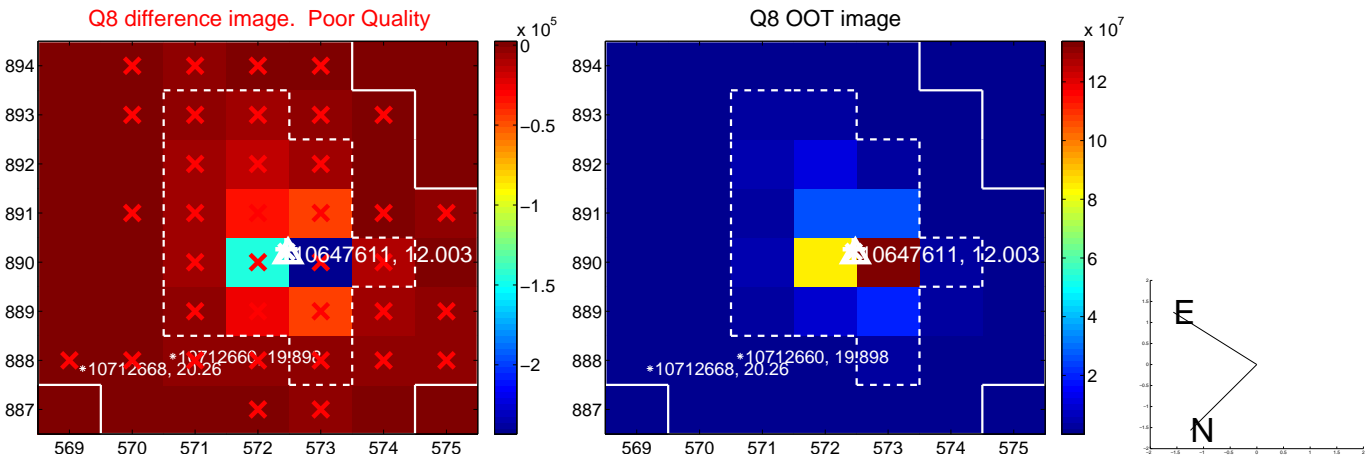
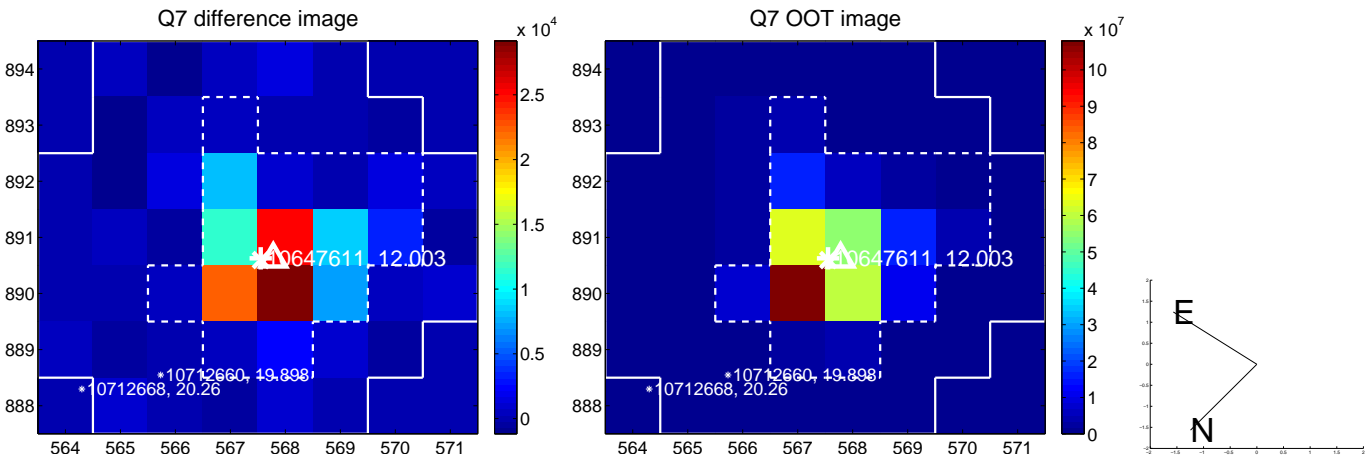
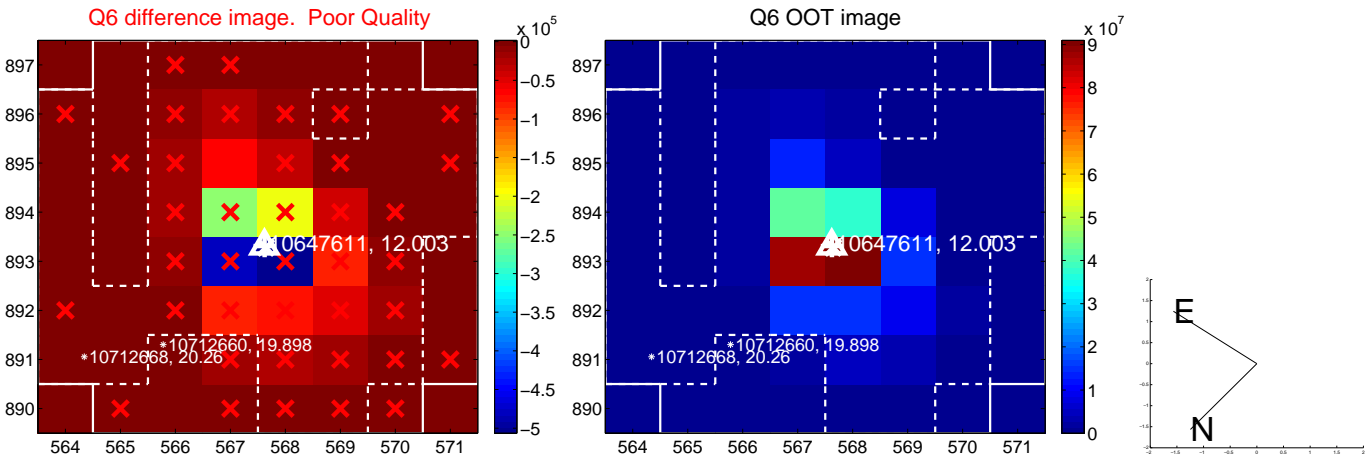
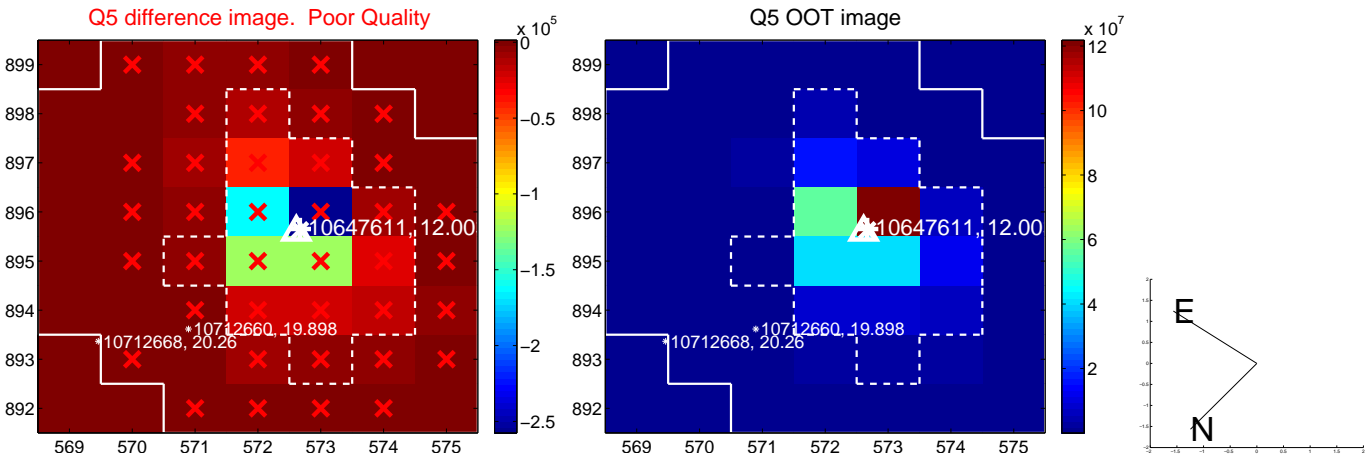


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

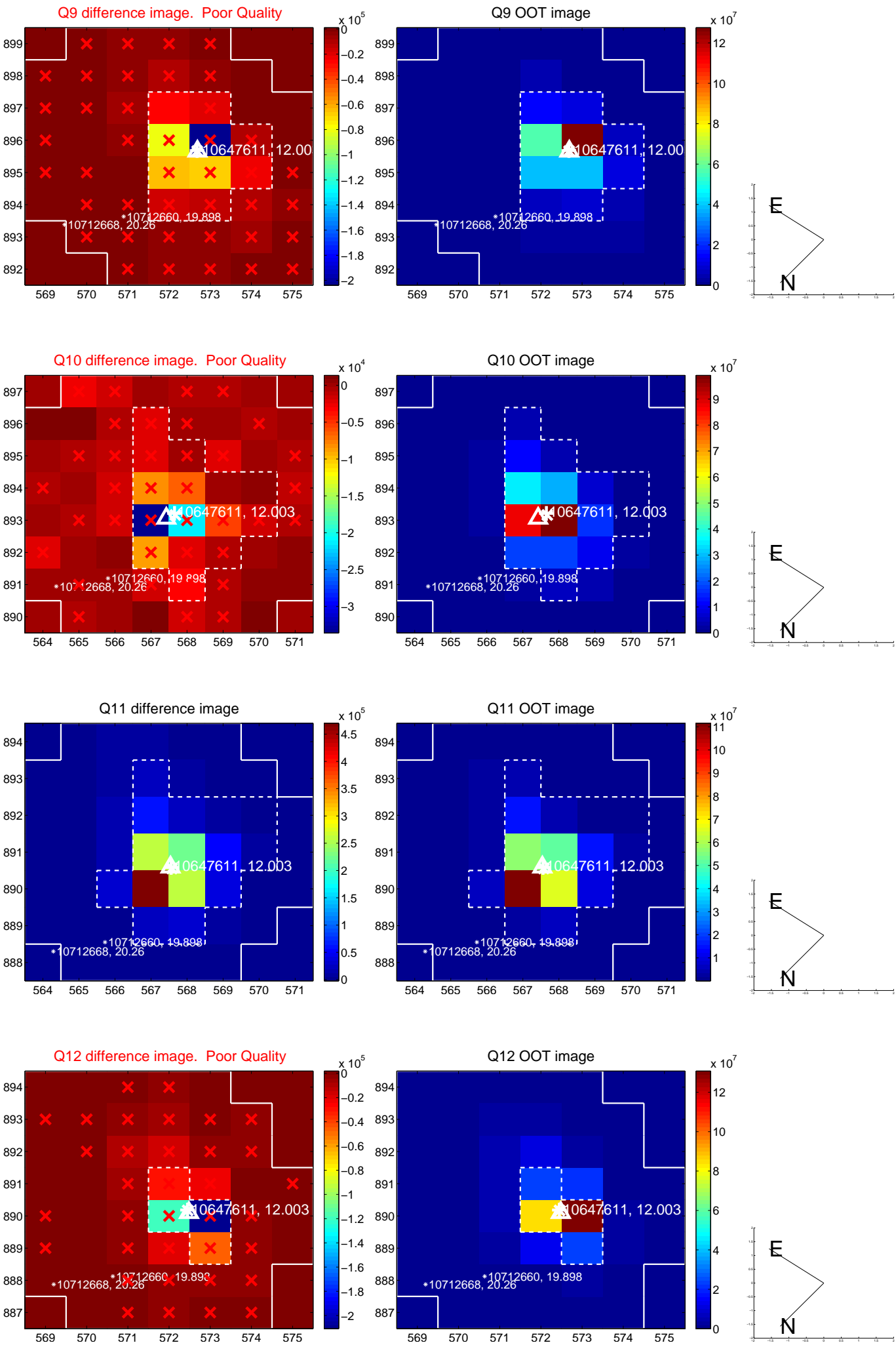
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



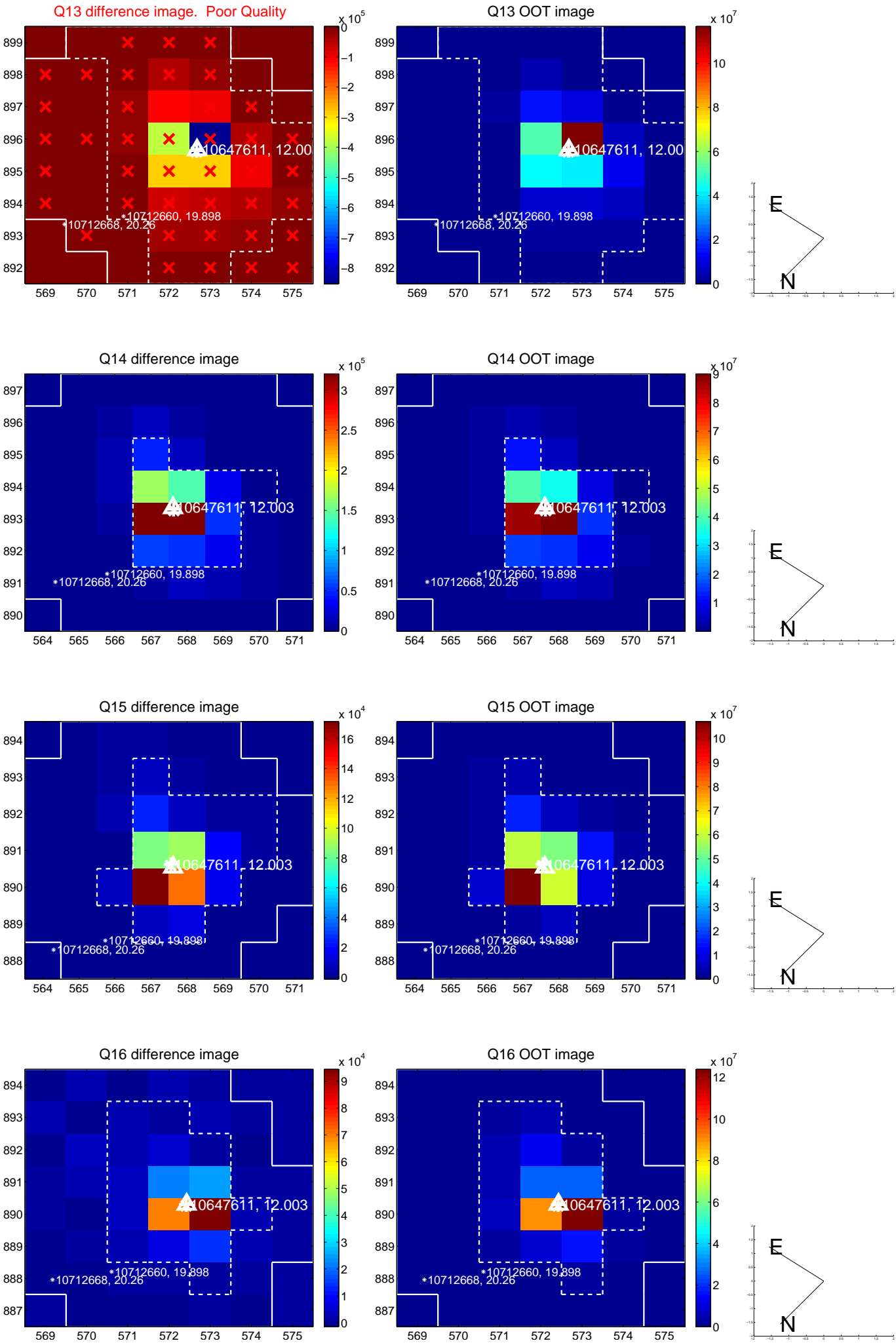
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



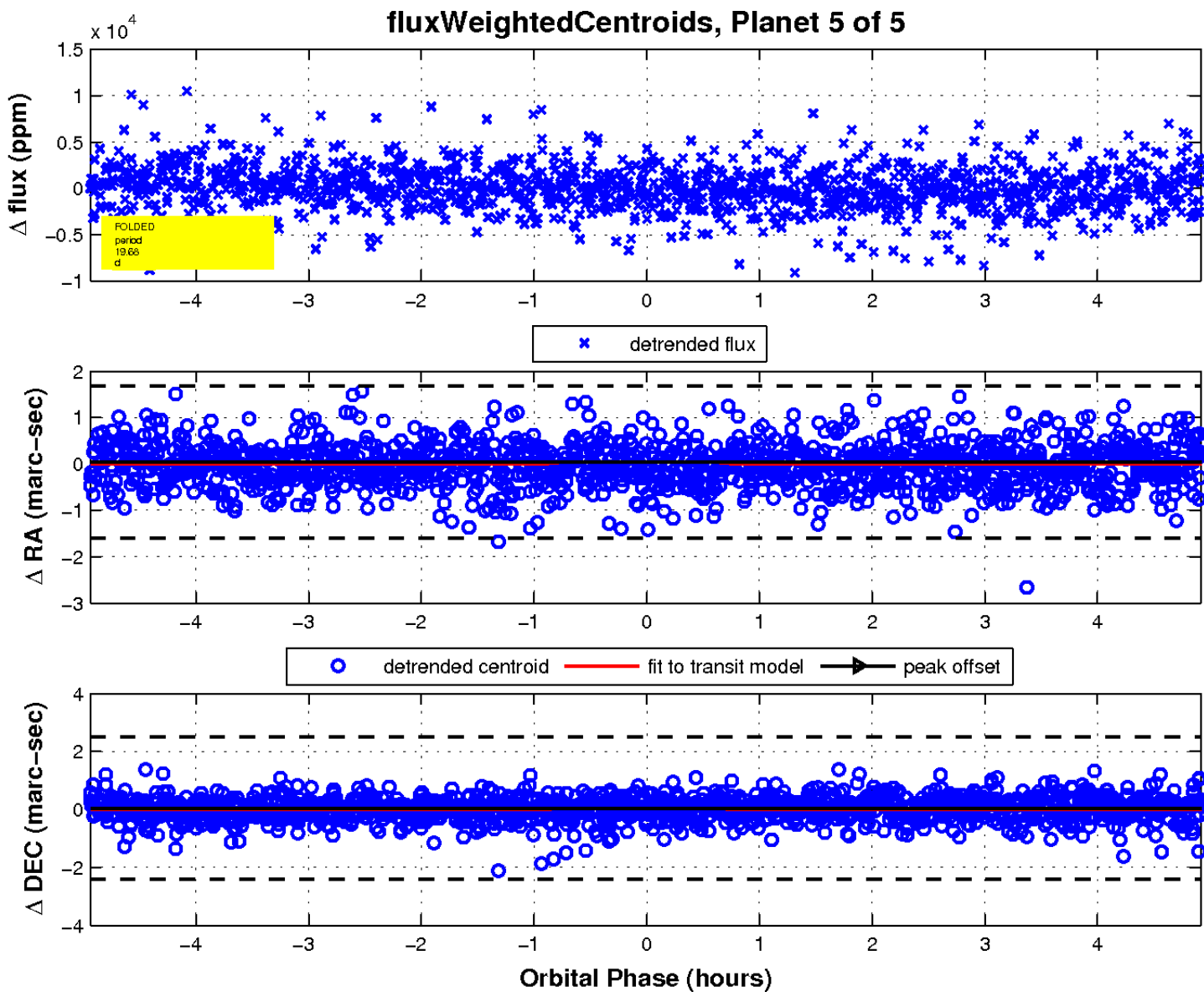
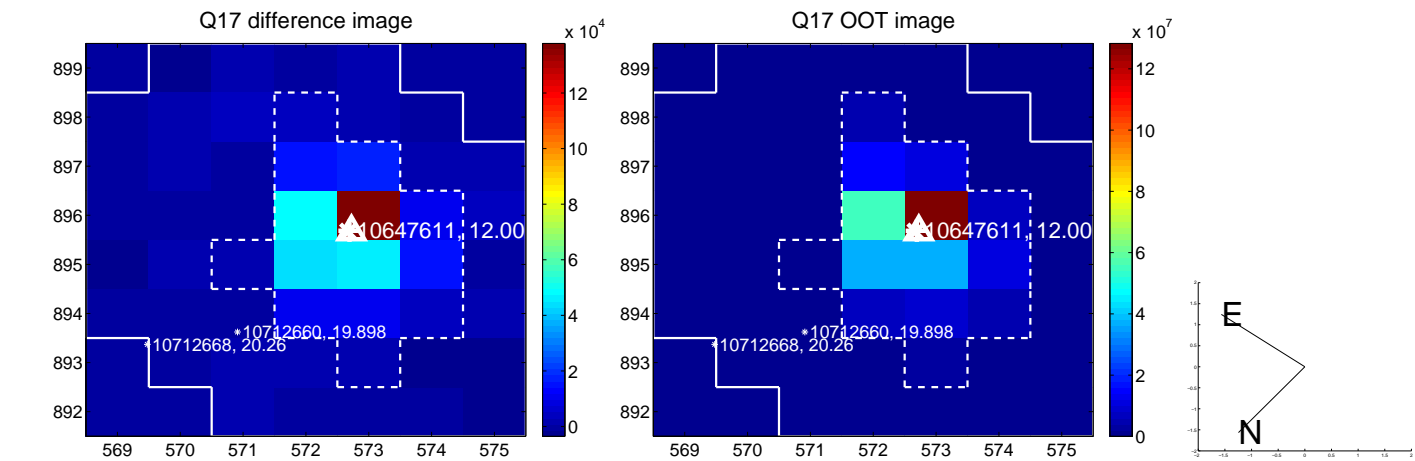
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

