

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})
006115603-01	OBS	No	2.027653	132.269081	21.2	12.019	8.2	7.3	3.55	6510	2.00	14823.71
006115603-03	OBS	No	223.073942	287.488546	216.9	7.976	10.3	8.6	3.55	6510	5.96	28.12
006115603-04	OBS	No	44.308404	165.505638	181.4	2.088	10.1	9.6	3.55	6510	5.43	242.64
006115603-05	OBS	No	160.029581	148.288775	245.7	2.560	10.0	8.8	3.55	6510	6.51	43.79
006115603-06	OBS	No	36.703881	154.308734	176.1	3.638	9.9	8.9	3.55	6510	5.07	311.89
006115603-07	OBS	No	372.914339	234.986749	276.4	3.464	9.8	9.2	3.55	6510	6.73	14.17
006115603-08	OBS	No	103.658197	154.981118	252.1	4.379	9.9	9.5	3.55	6510	6.19	78.13
006115603-09	OBS	No	80.625343	138.506069	261.4	3.510	9.7	10.4	3.55	6510	6.74	109.22
006115603-10	OBS	No	25.345451	134.150778	64.9	3.000	9.5	-1.0	3.55	6510	2.88	510.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006115603-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
006115603-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006115603-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006115603-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006115603-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006115603-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

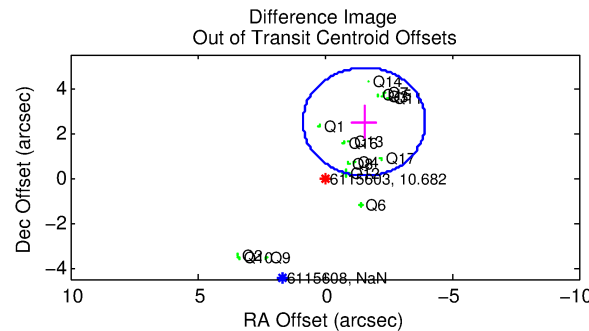
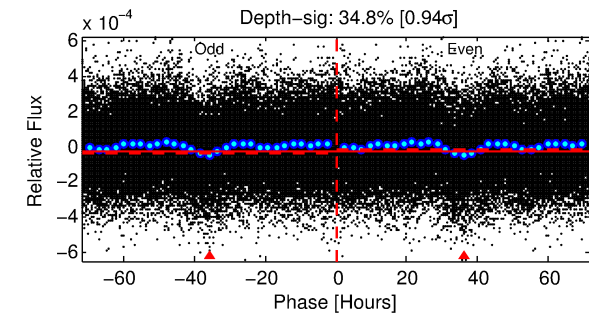
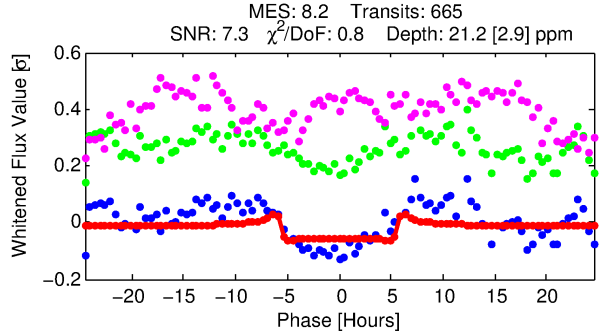
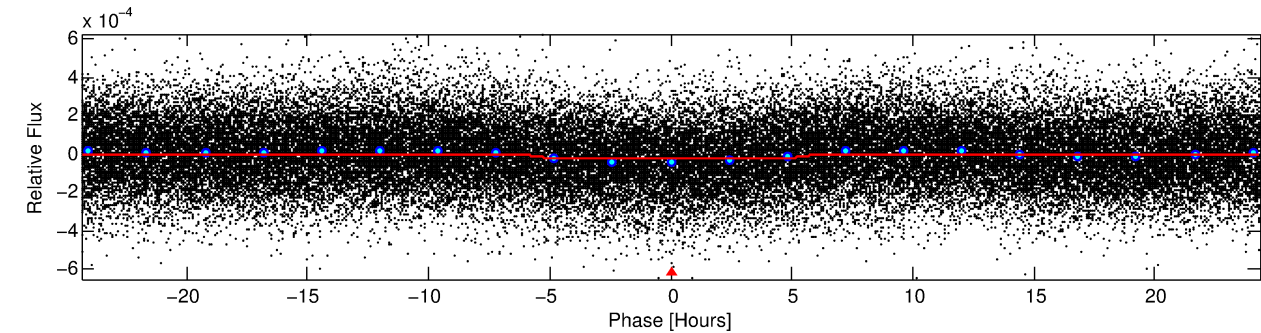
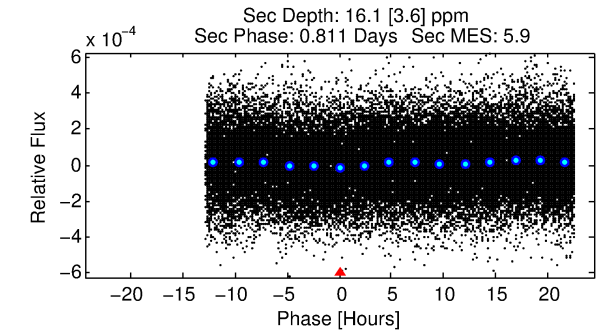
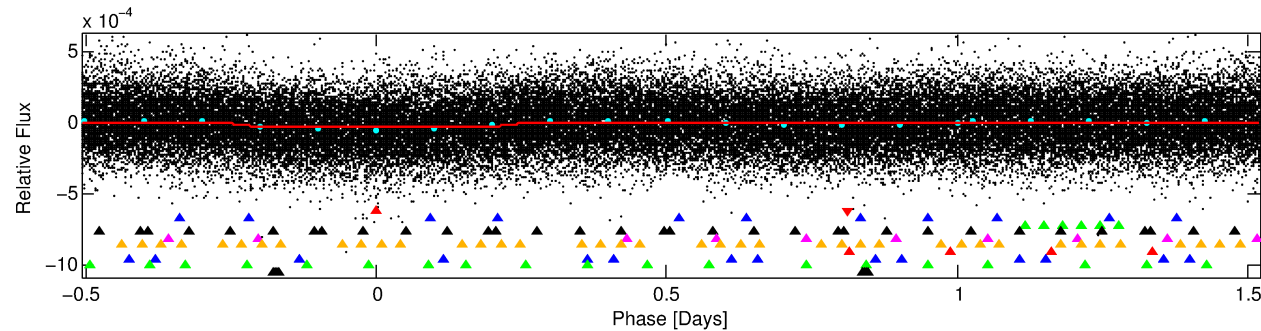
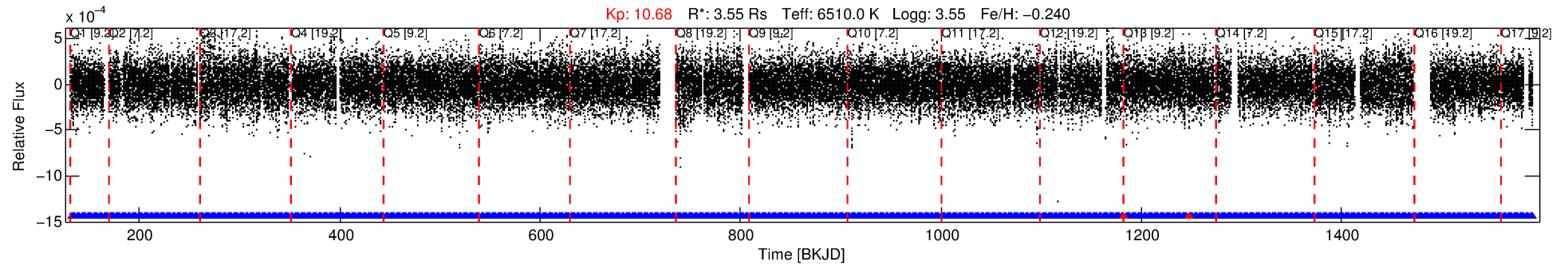
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006115603-01

No Significant Match Found

DV One-Page Summary

KIC: 6115603 Candidate: 1 of 10 Period: 2.028 d



DV Fit Results:

Period = 2.02765 [0.00003] d
Epoch = 132.2691 [0.0068] BKJD
 $R_p/R^* = 0.0052$ [0.0005]
 $a/R^* = 1.06$ [0.06]
 $b = 0.95$ [0.05]
 $S_{\text{eff}} = 14823.71$ [8449.36]
 $T_{\text{eq}} = 2814$ [401] K
 $R_p = 2.00$ [0.81] R_e
 $a = 0.0370$ [0.0133] AU
 $A_g = 3.02$ [1.93] [1.05σ]
 $T_{\text{eff}} = 5735$ [467] K [4.75σ]

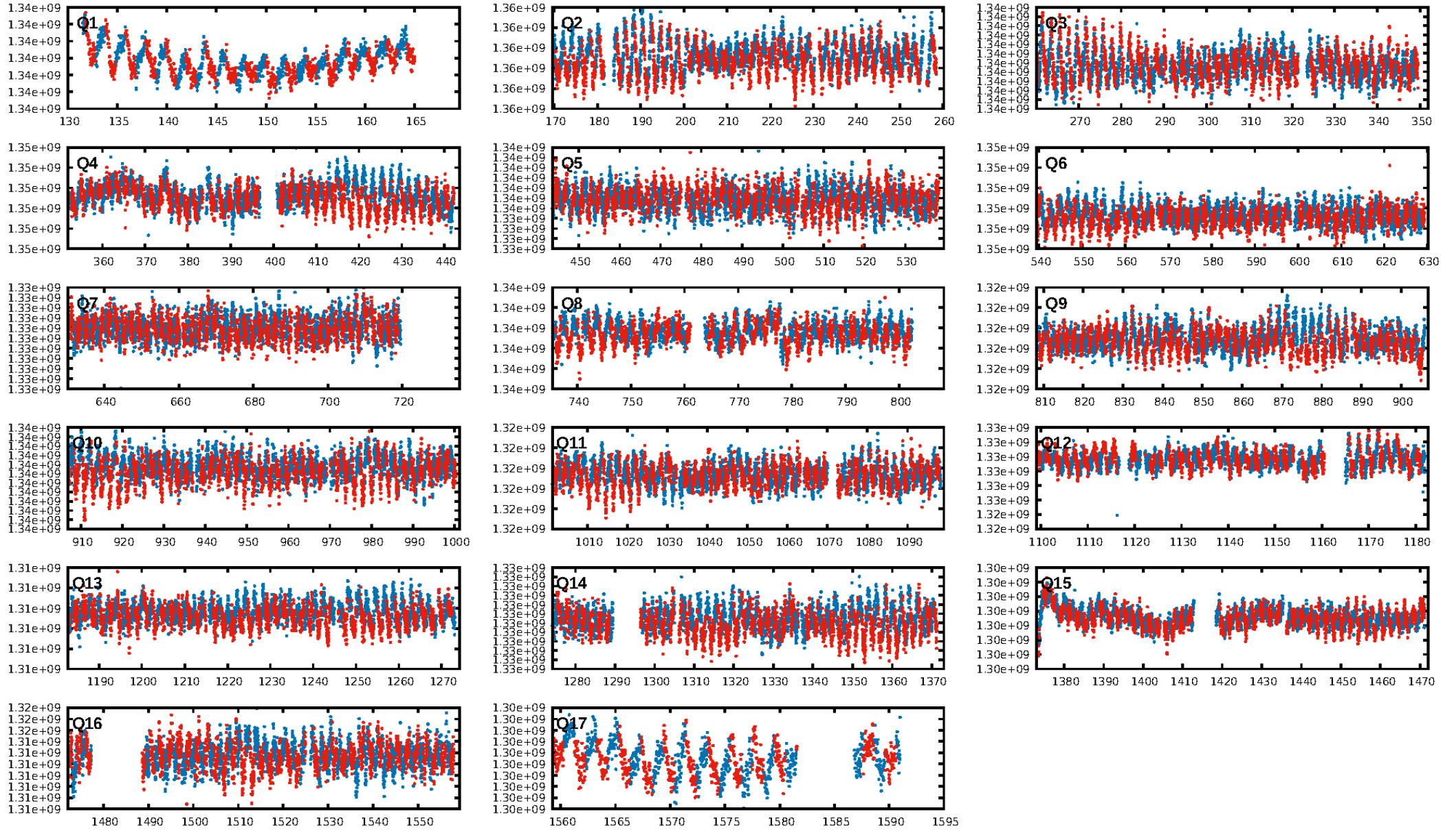
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [45.17σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [633/635]
GhostDiagnostic-chr: 0.9832
Centroid-sig: 91.4%
Centroid-so: 0.121 arcsec [0.29σ]
OotOffset-rm: 2.944 arcsec [3.67σ]
KicOffset-rm: 3.366 arcsec [4.69σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 1.00 [17/17]

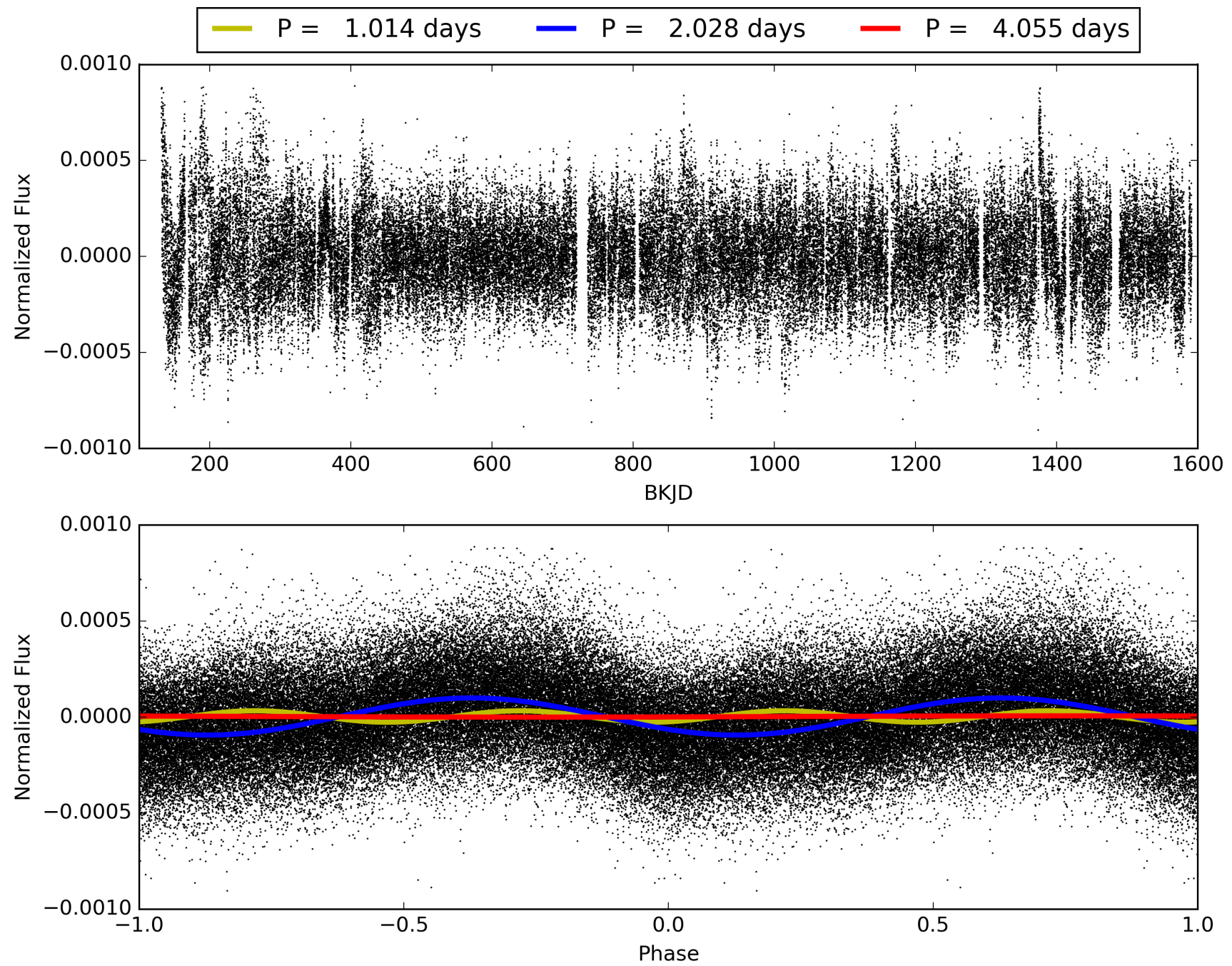
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006115603-01, PDC Light Curves

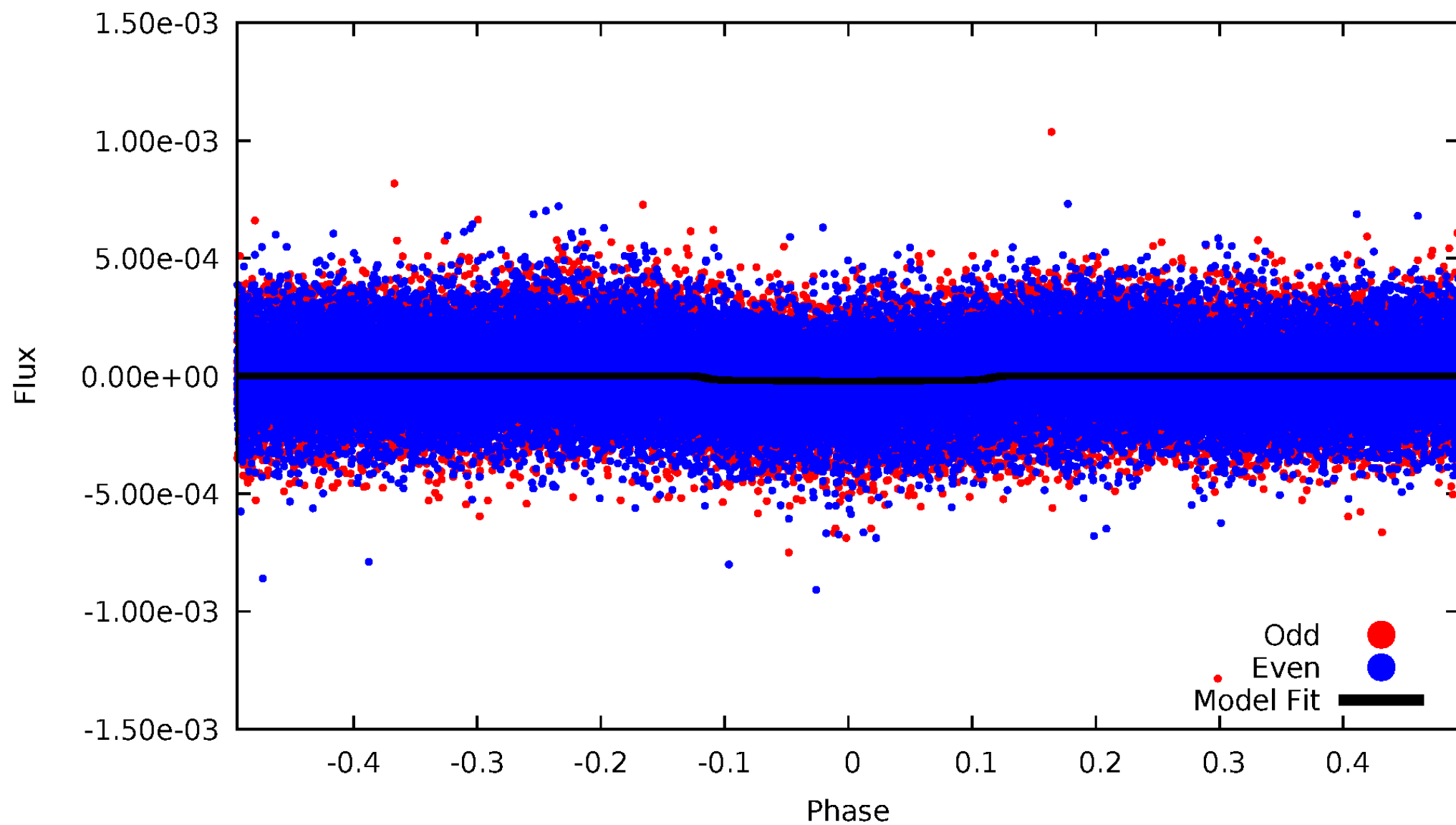


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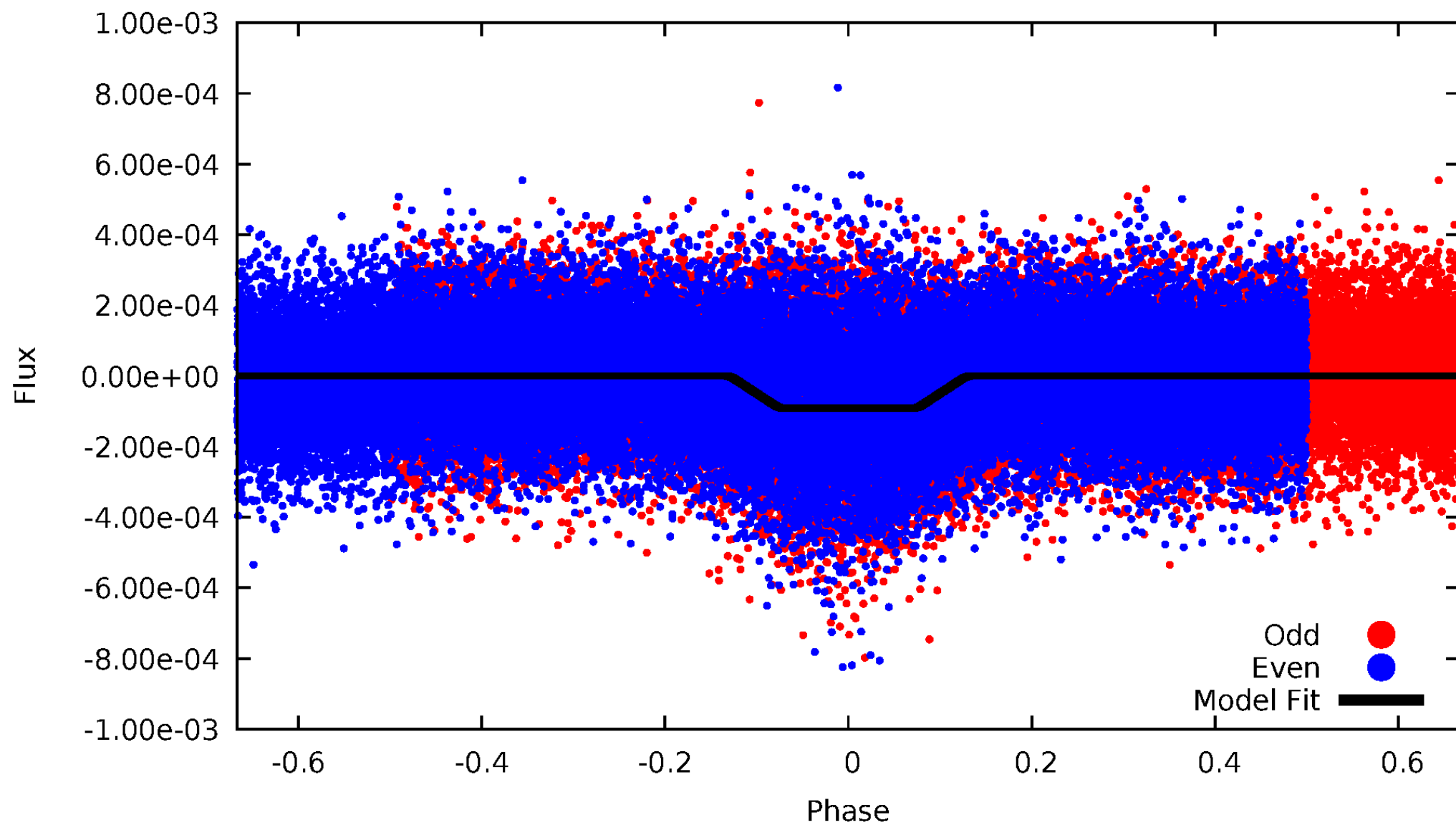
DV Odd/Even

TCE 006115603-01

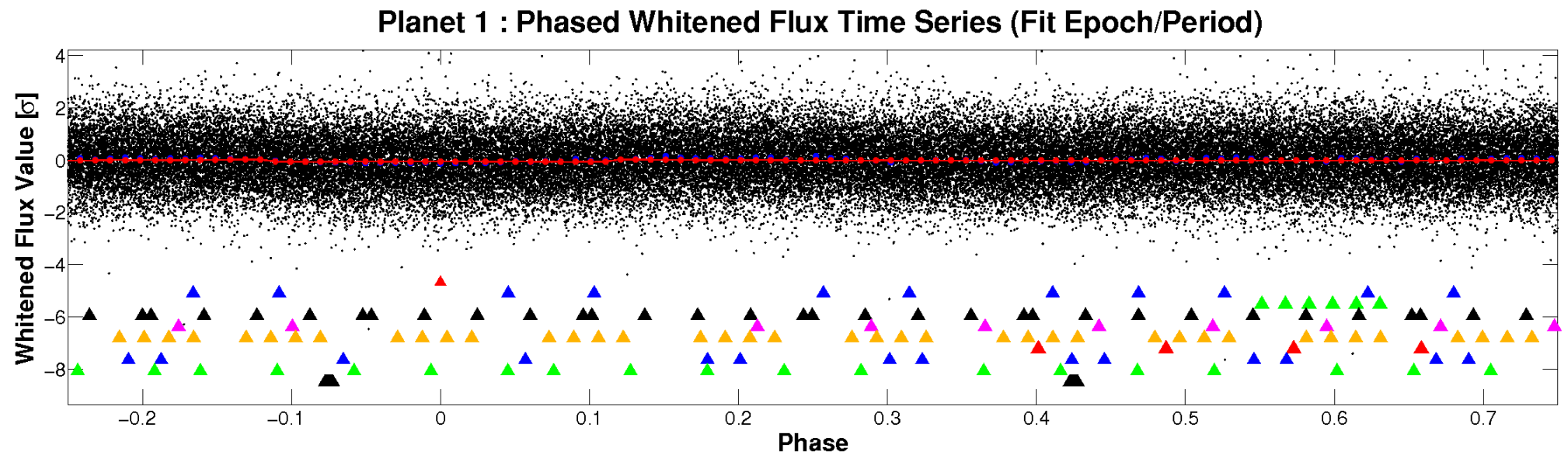
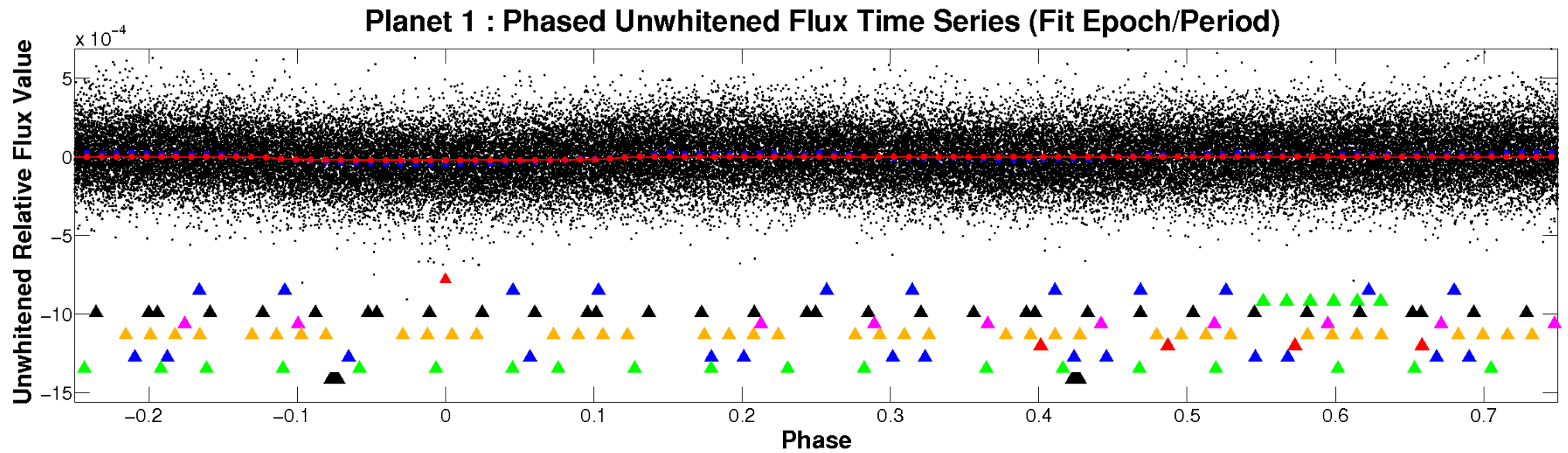


ALT Odd/Even

TCE 006115603-01

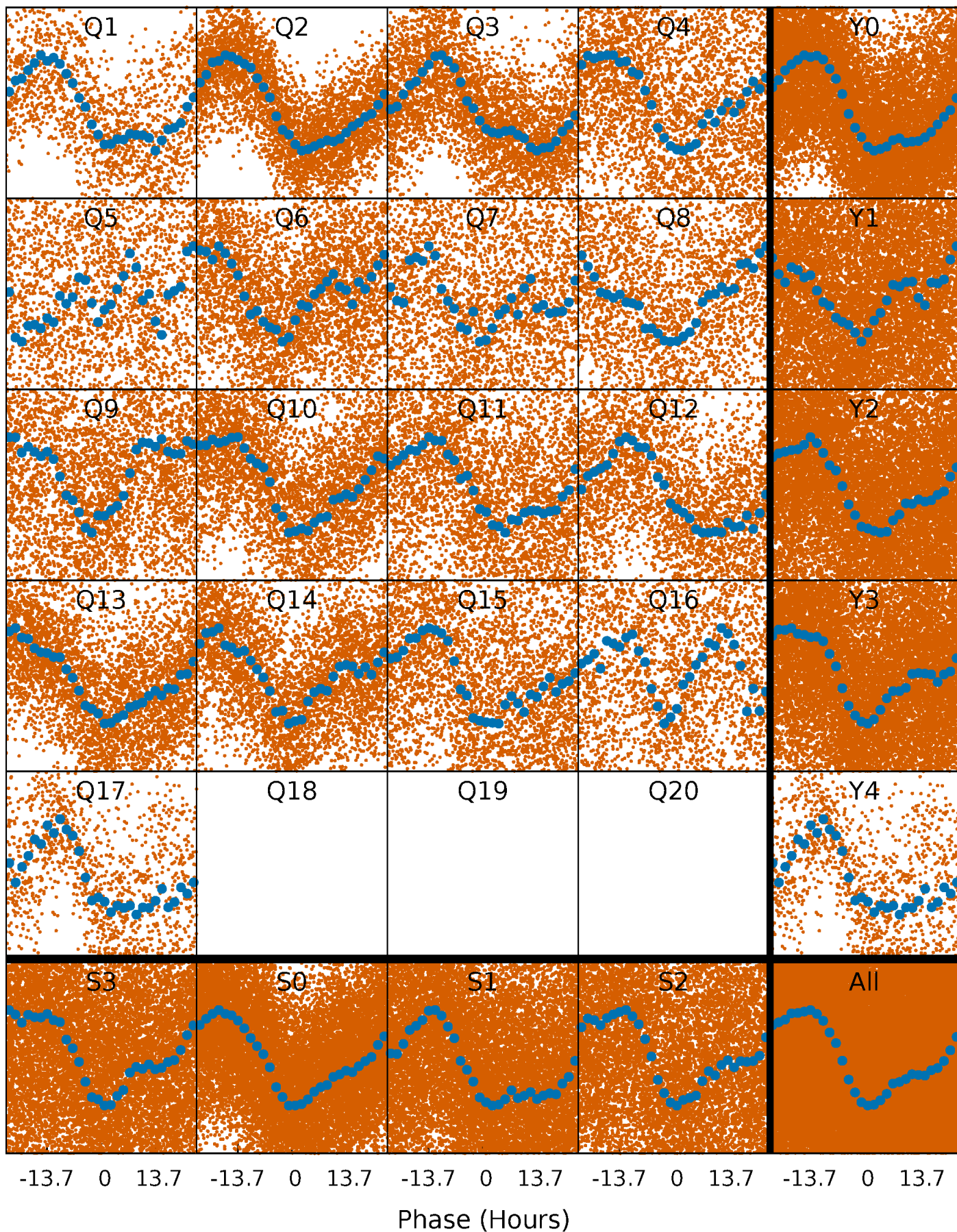


Non-Whitened Vs. Whitened Light Curve



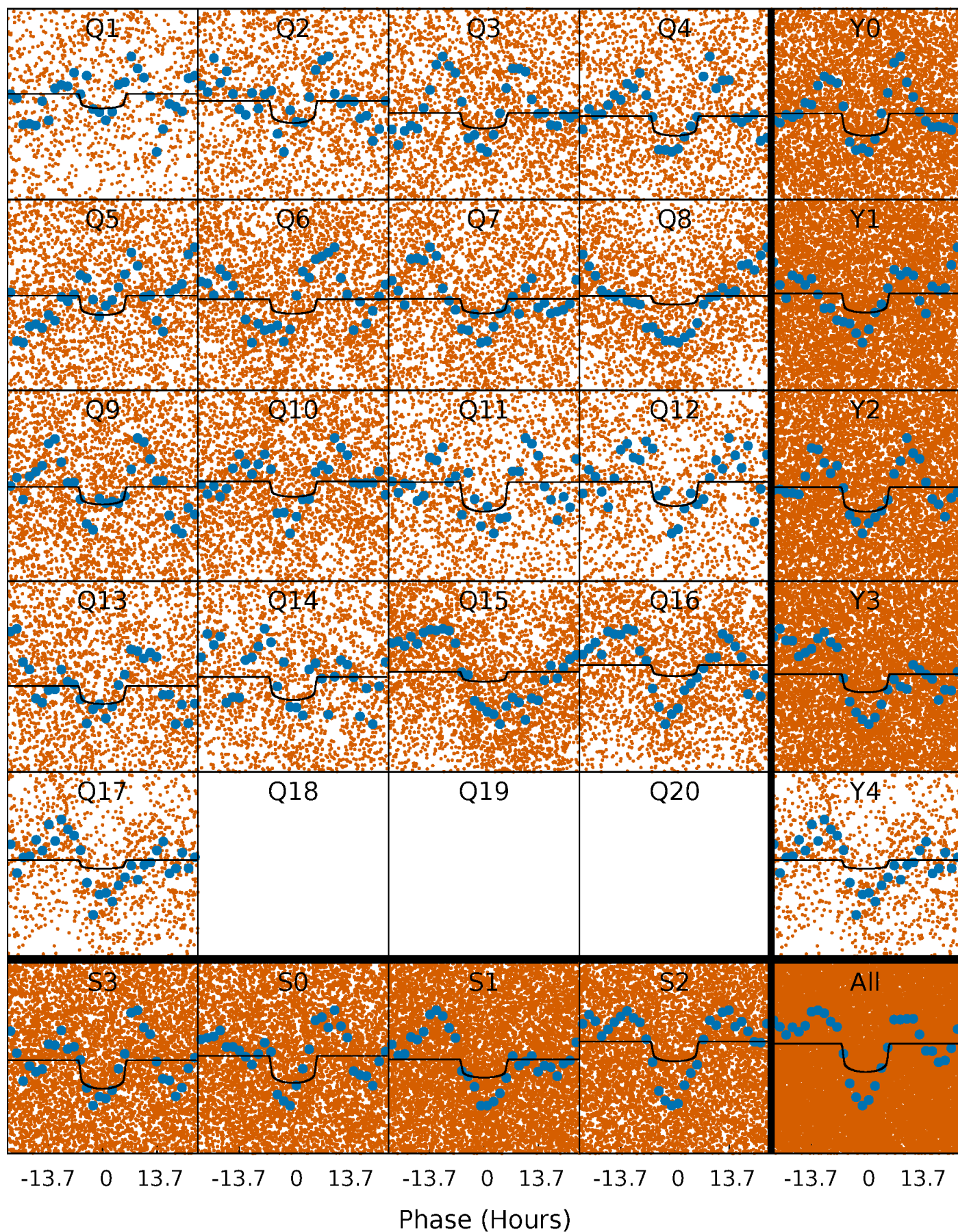
PDC Quarter-Phased Transit Curves

TCE 006115603-01 P= 2.027653 Days $T_0=132.269081$ (BKJD)



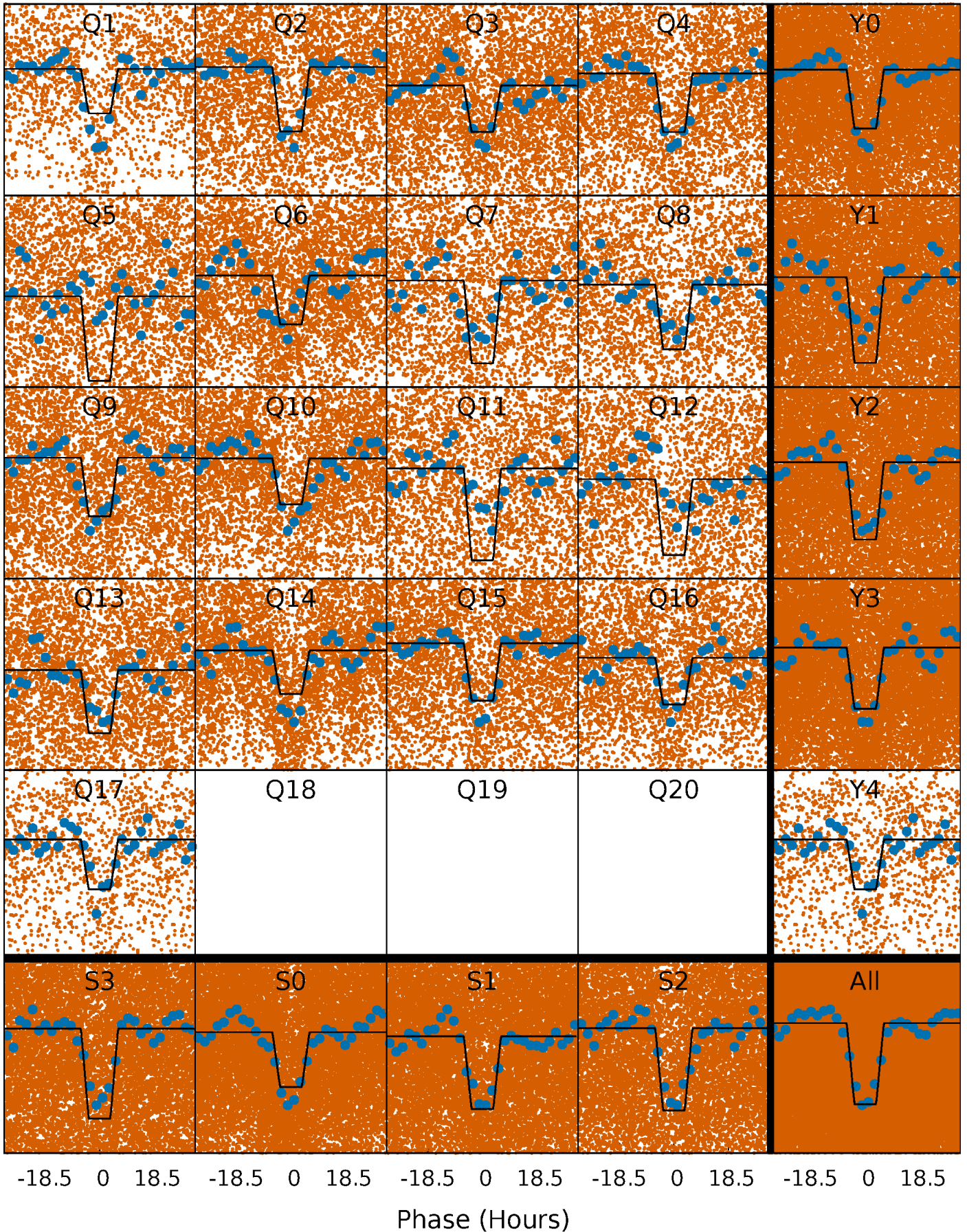
DV Quarter-Phased Transit Curves

TCE 006115603-01 P= 2.027653 Days $T_0=132.269081$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

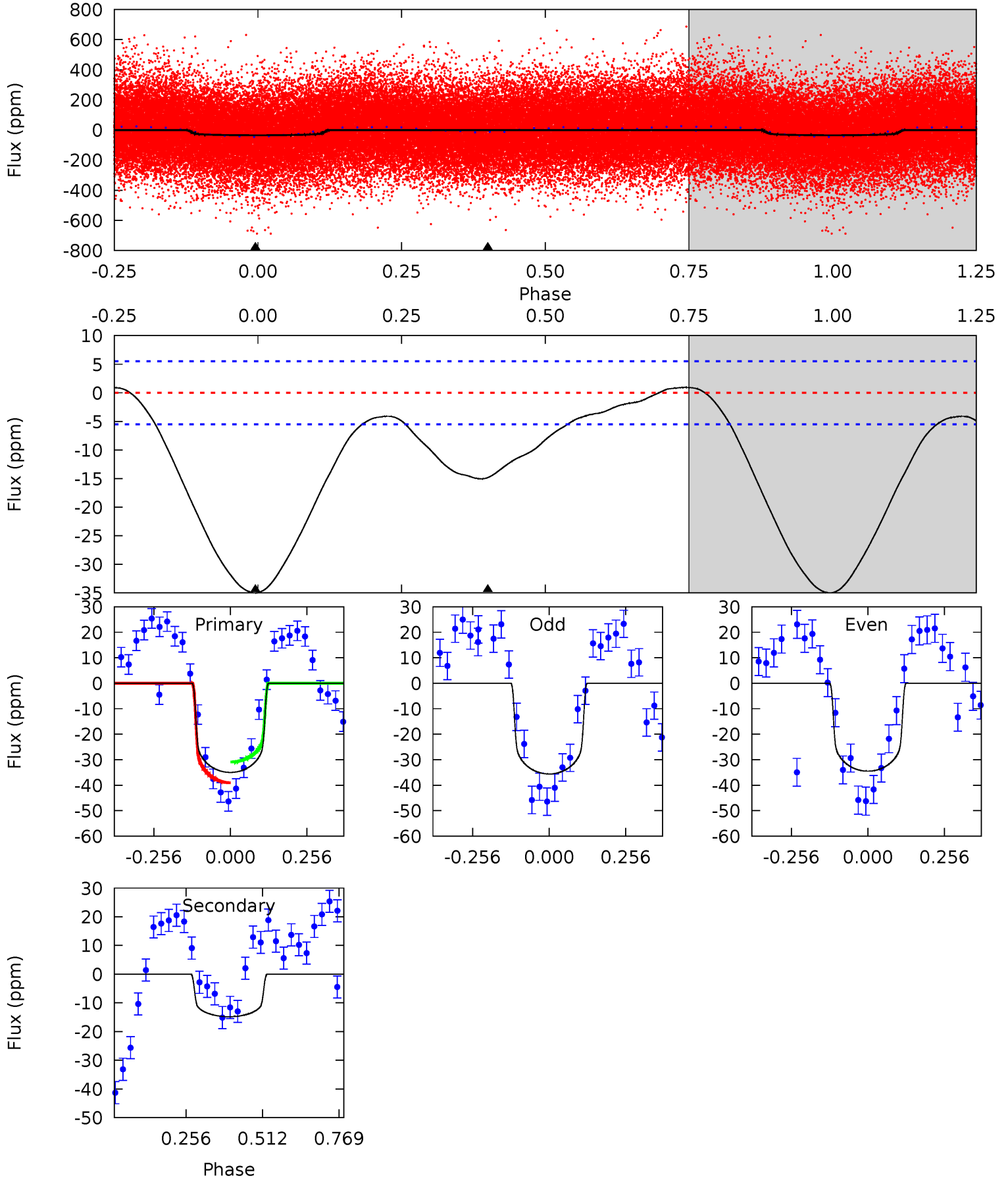
TCE 006115603-01 P= 2.027556 Days $T_0=132.282285$ (BKJD)



DV Model-Shift Uniqueness Test

006115603-01, P = 2.027653 Days, E = 130.241428 Days

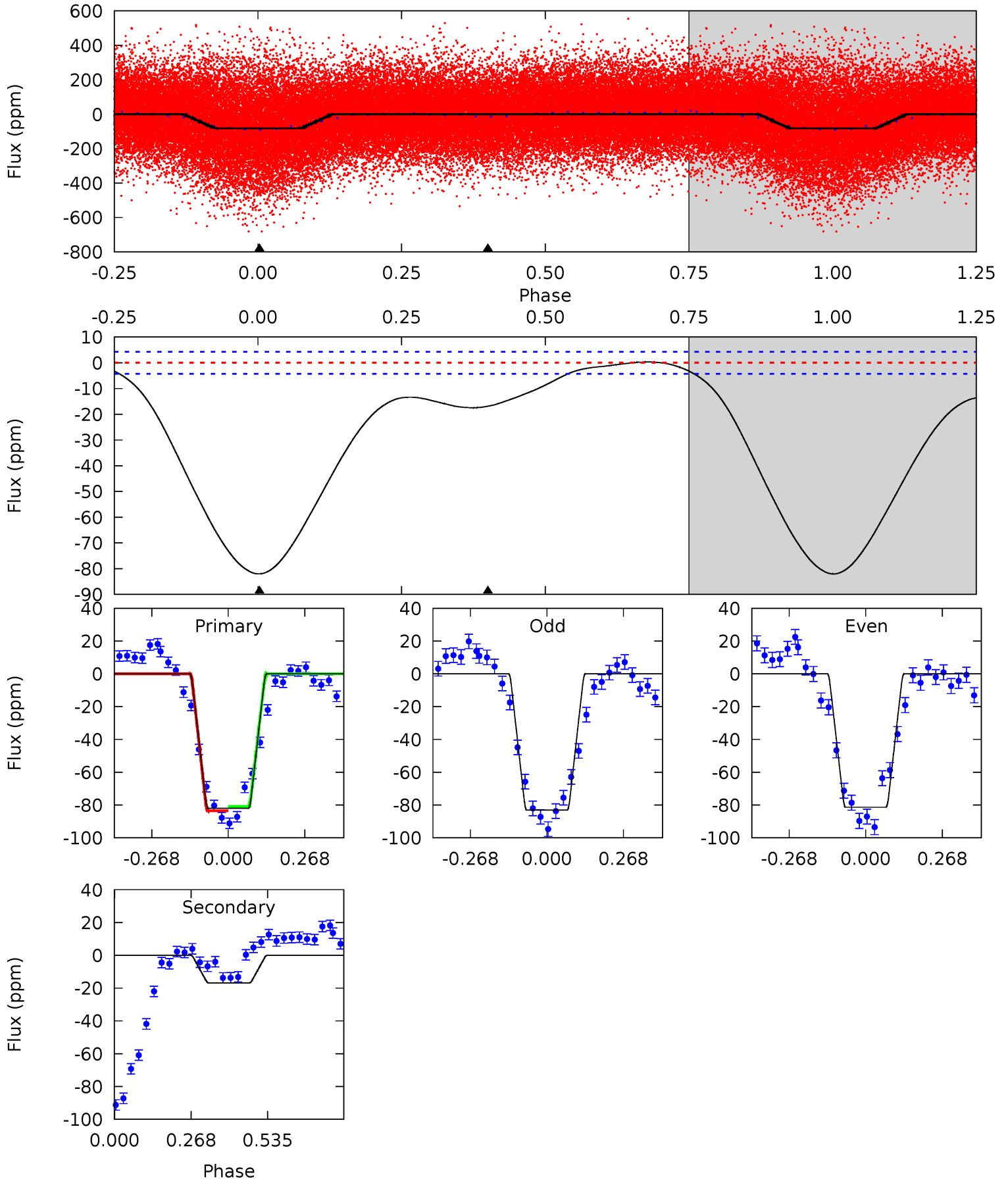
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.7	11.7	0	0	4.36	1.14	0.78	27.7	27.7	11.7	11.7	0.44	1.04	0.03	3.23



Alt Model-Shift Uniqueness Test

006115603-01, P = 2.027556 Days, E = 130.254729 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
83.1	17.1	0	0	4.35	1.11	1.06	83.1	83.1	17.1	17.1	0.88	0.96	0.00	1.36



Stellar Parameters For KIC 006115603

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6510^{+146}_{-179}	$3.553^{+0.323}_{-0.108}$	$-0.240^{+0.350}_{-0.300}$	$3.553^{+0.460}_{-1.379}$	$1.646^{+0.229}_{-0.371}$	$0.052^{+0.121}_{-0.014}$
	+2%/-3%	+9%/-3%	+146%/-125%	+13%/-39%	+14%/-23%	+234%/-28%
Source	PHO1	FLK73	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 006115603-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-15 ± 1	$1.95^{+0.33}_{-0.39}$	3882^{+214}_{-359}	5473^{+380}_{-317}	$2.990^{+1.615}_{-0.805}$
Alt.	-17 ± 1	$3.65^{+0.42}_{-0.75}$	3894^{+210}_{-338}	4170^{+185}_{-174}	$0.972^{+0.453}_{-0.199}$

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

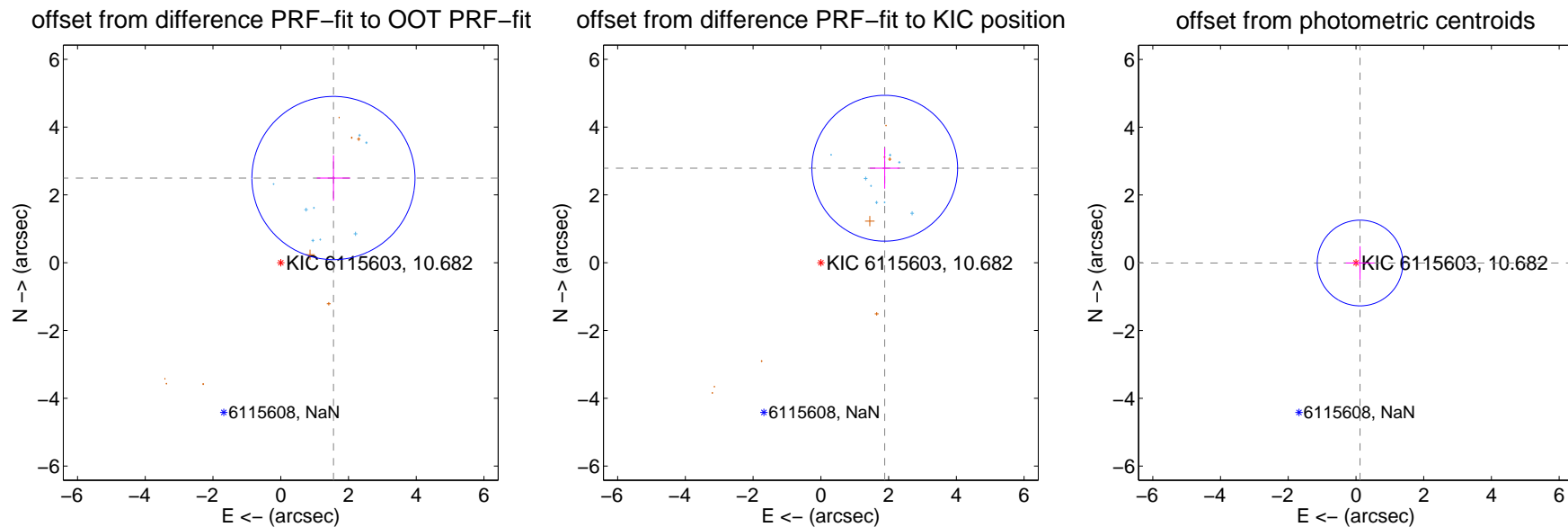
DV Centroid Data

Supplemental centroid analysis for 006115603-01. **Kepler magnitude: 10.68.** Transit SNR 7.26

There are 8 quarters with good PRF difference image offsets

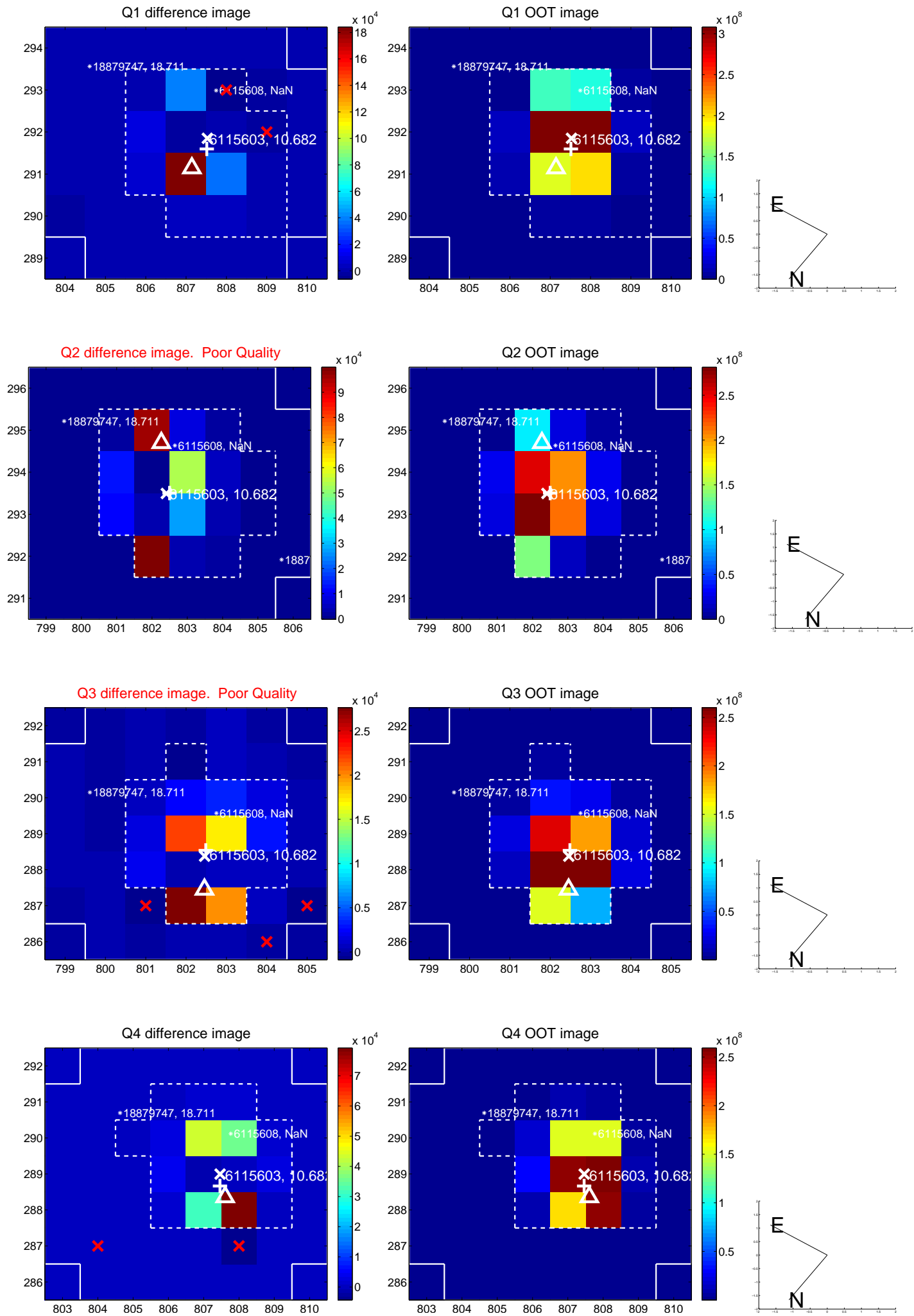
The direct PRF centroid is offset from the target star catalog position by about 0.78 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.944 ± 0.803	3.67	-1.557 ± 0.492	2.498 ± 0.671
PRF-fit source offset from KIC position	3.366 ± 0.717	4.69	-1.887 ± 0.443	2.787 ± 0.605
photometric centroid source offset	0.12 ± 0.42	0.29	-0.12 ± 0.42	-0.01 ± 0.49

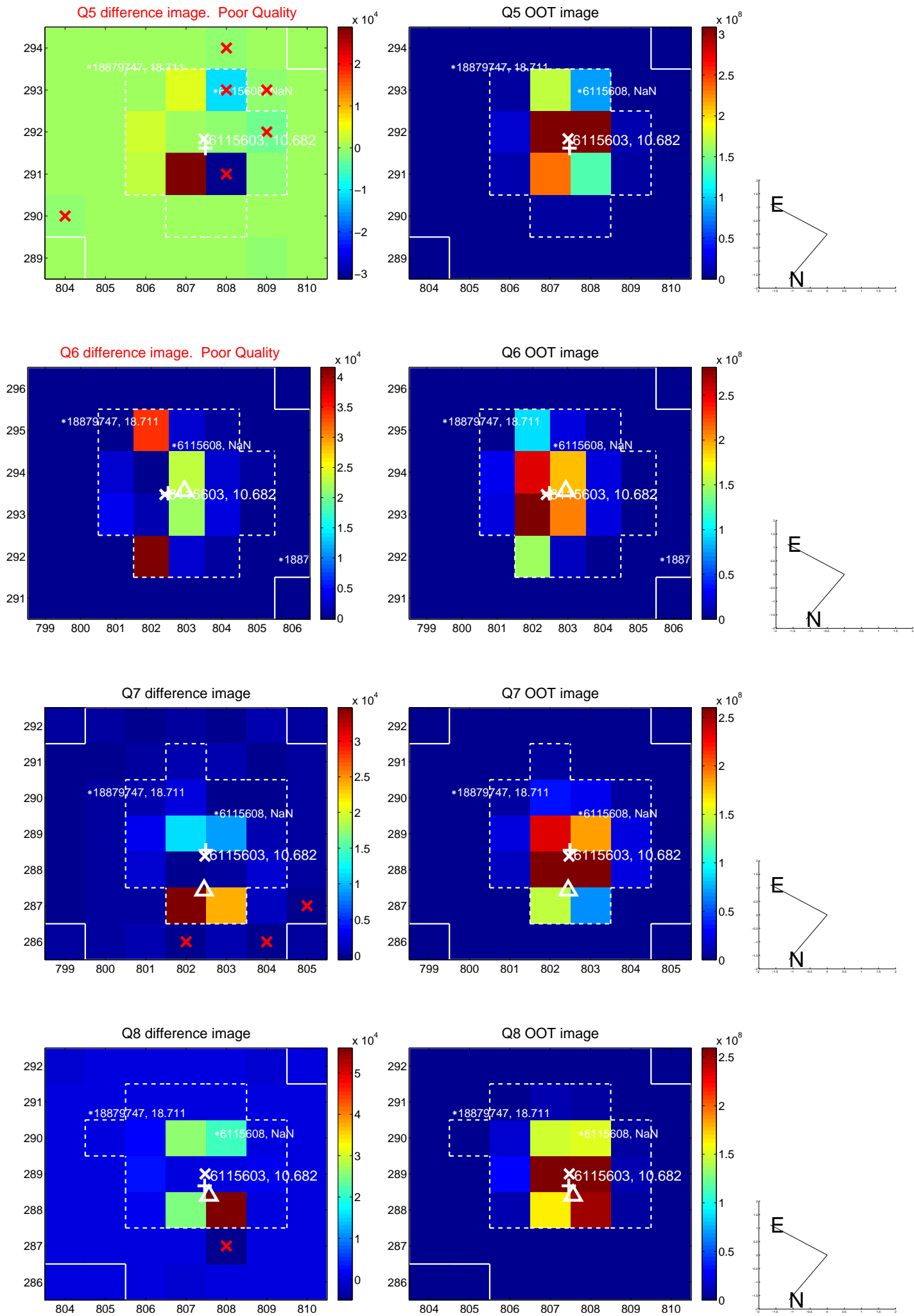


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

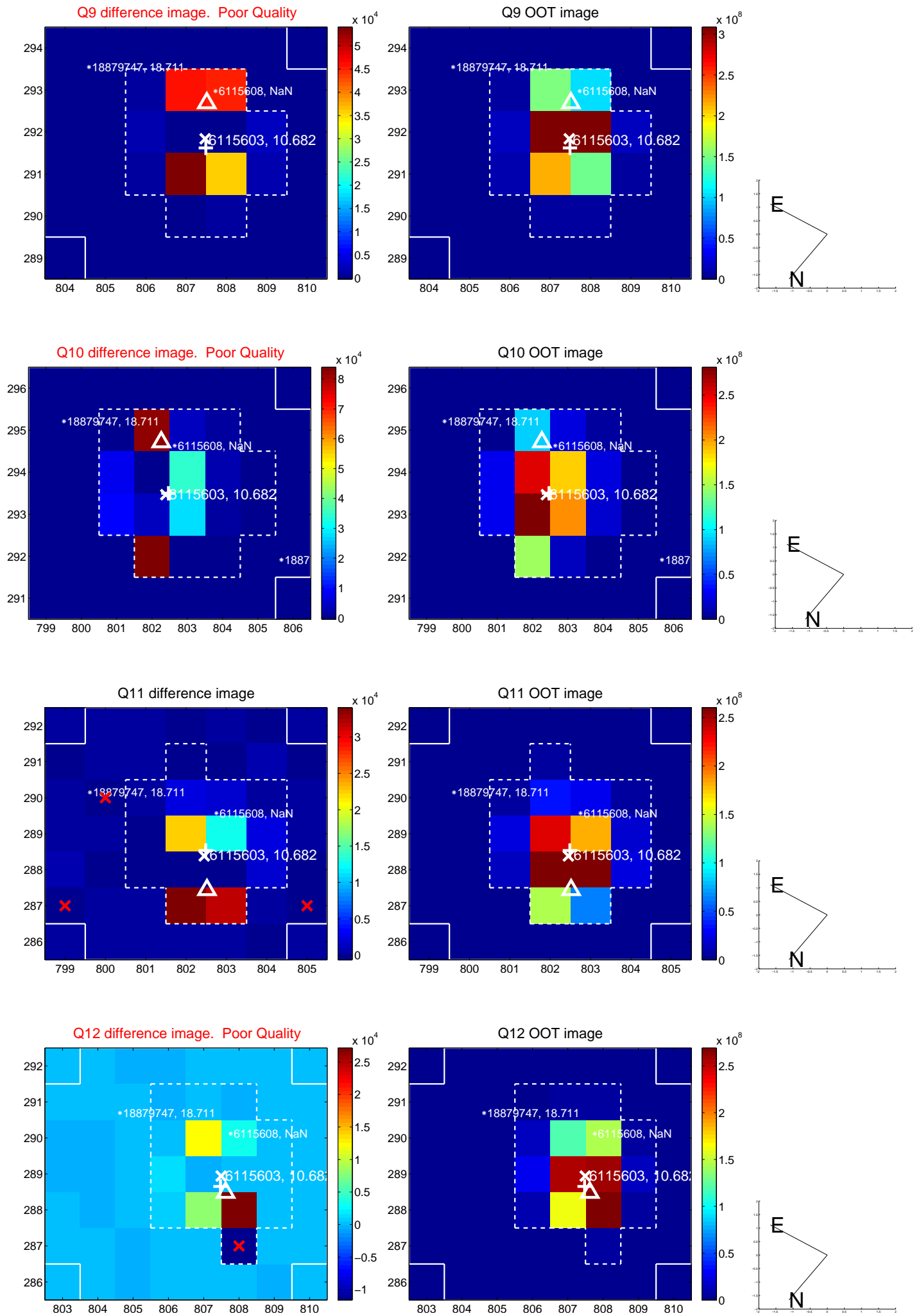
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



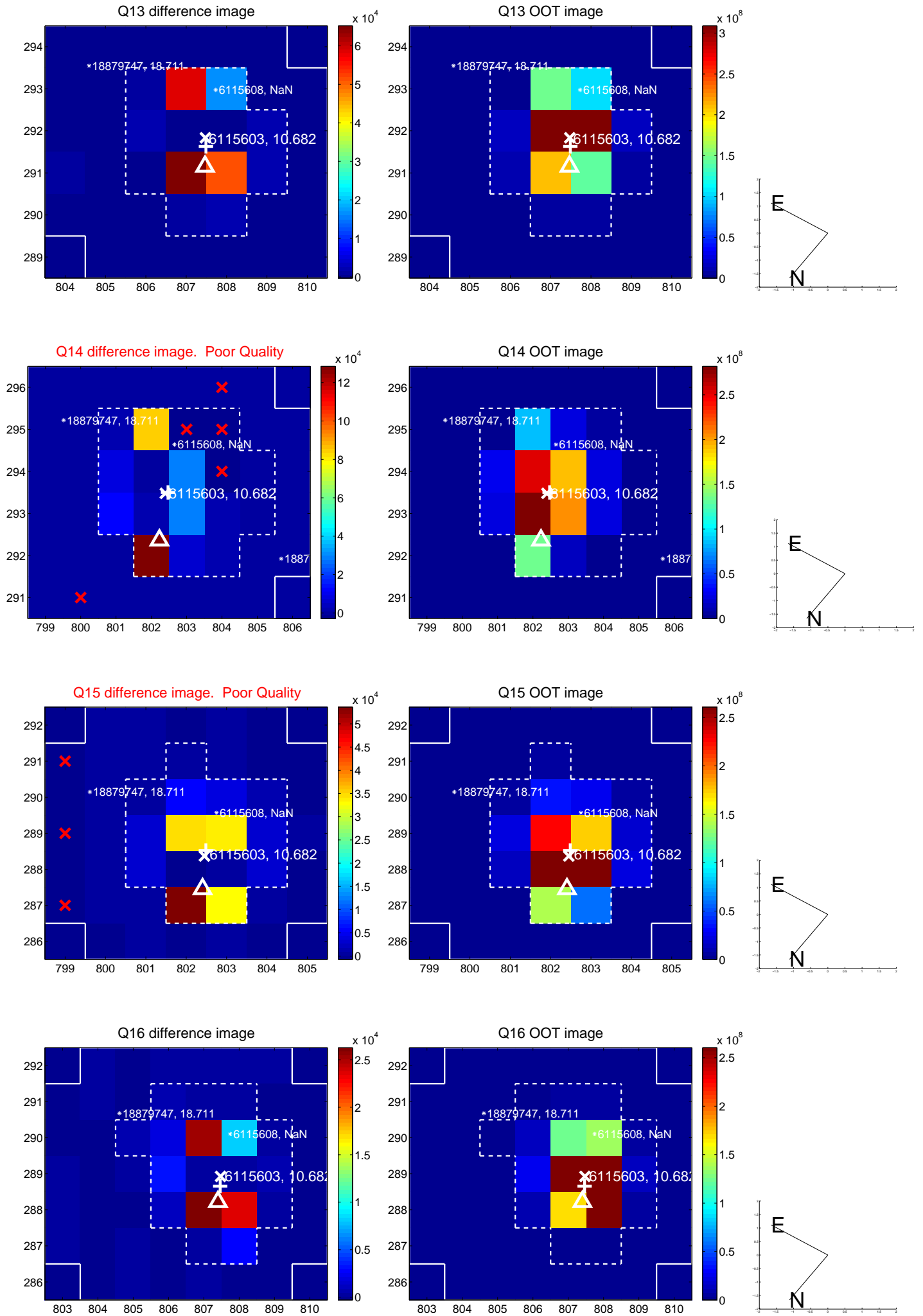
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



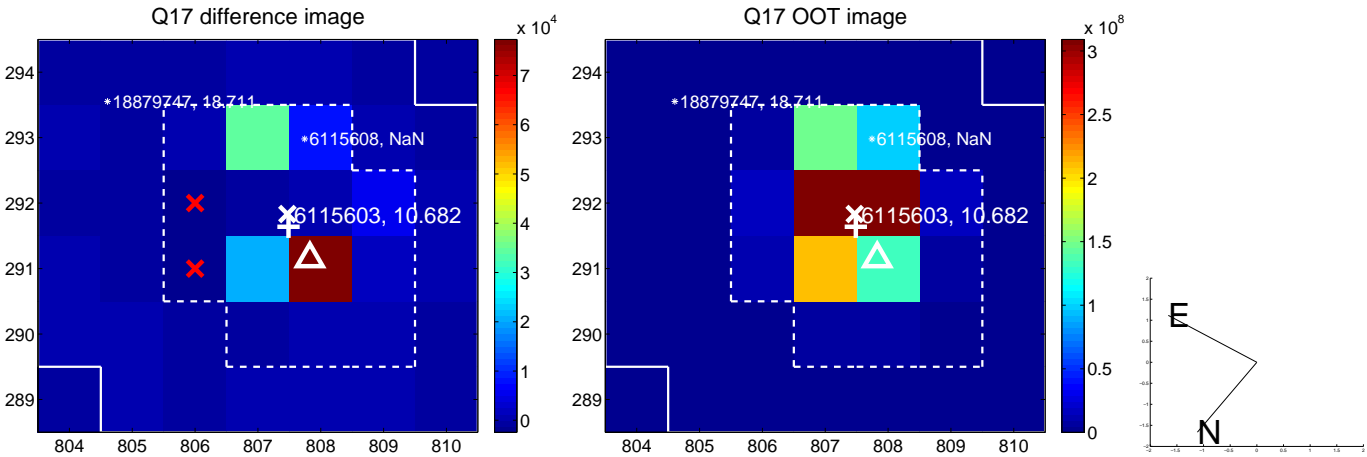
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



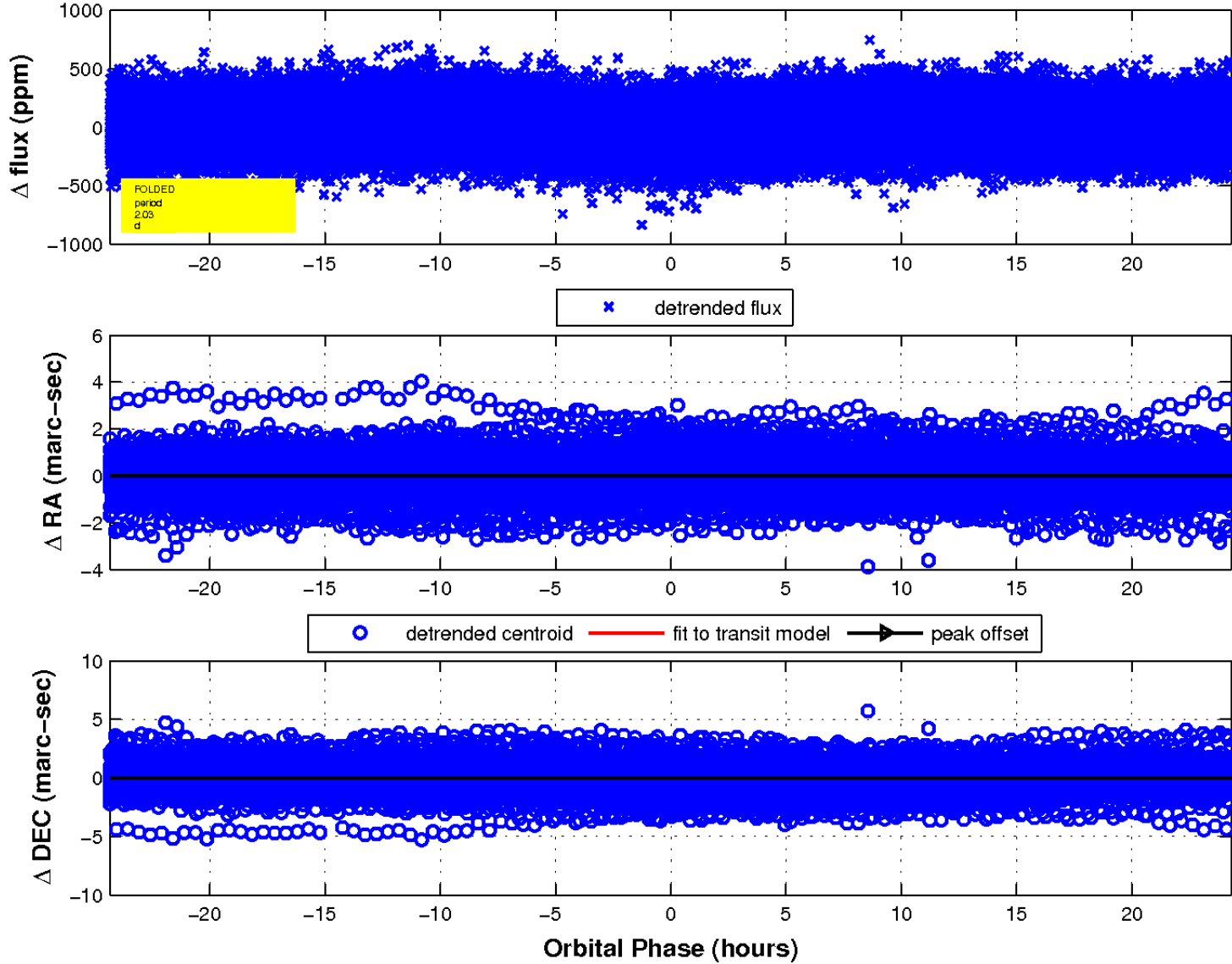
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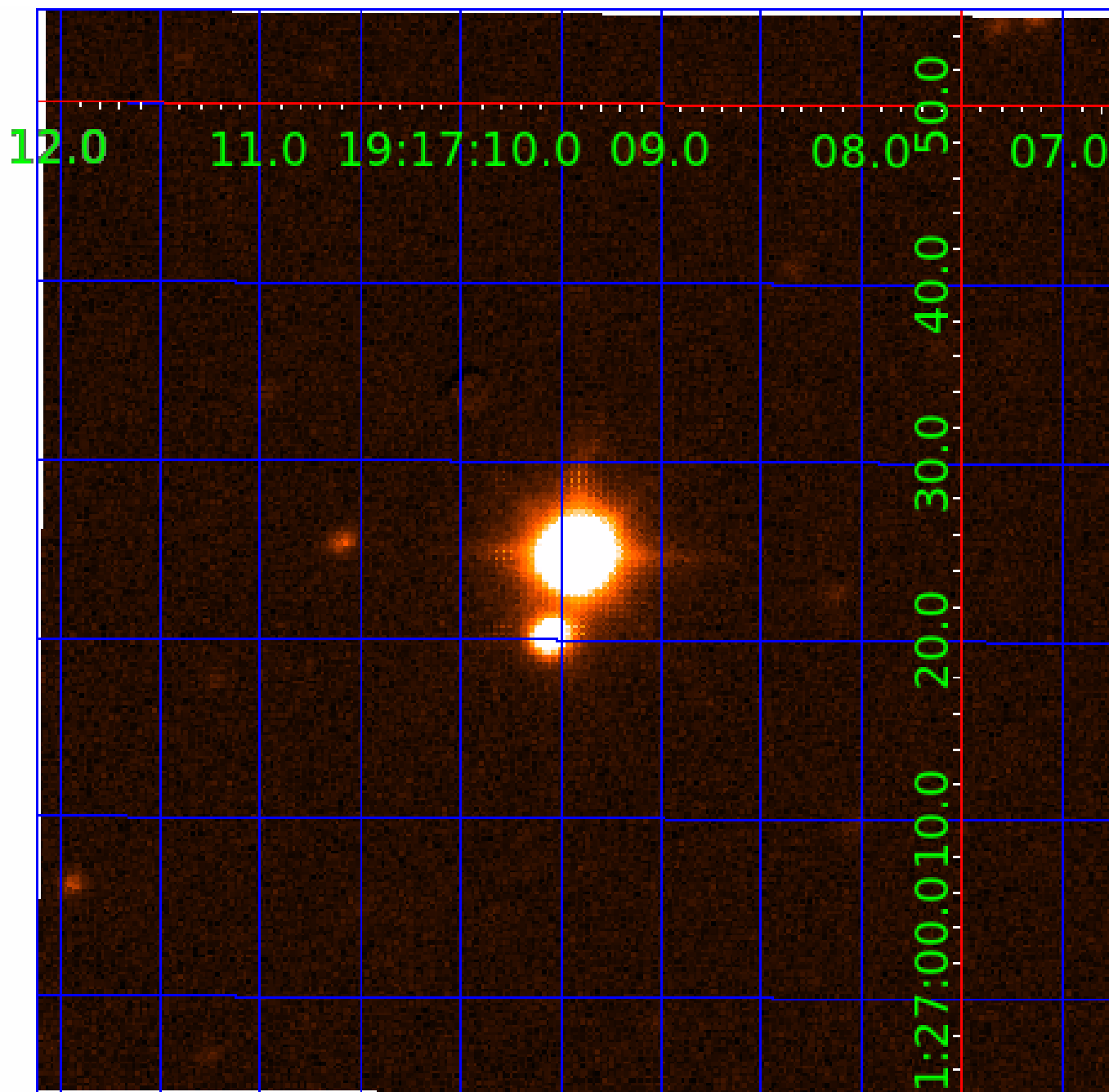


fluxWeightedCentroids, Planet 1 of 10



UKIRT Image

Declination



KIC 006115603

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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006115603-10	OBS	No	25.345451	134.150778	64.9	3.000	9.5	-1.0	3.55	6510	2.88	510.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006115603-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
006115603-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006115603-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006115603-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006115603-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006115603-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

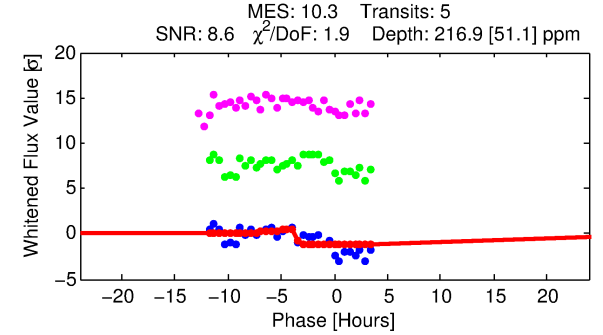
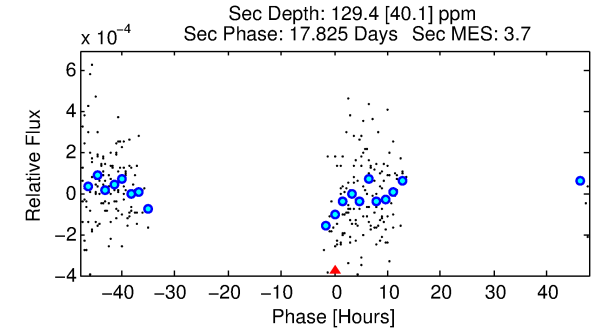
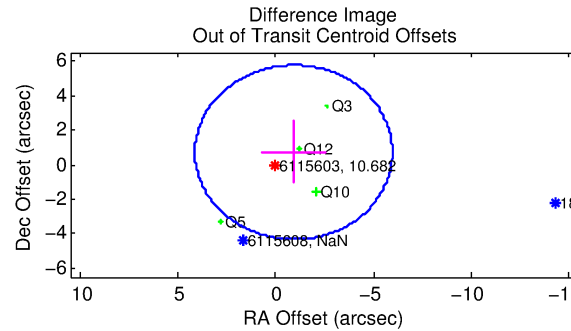
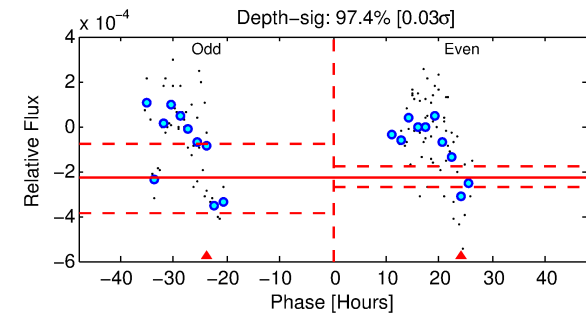
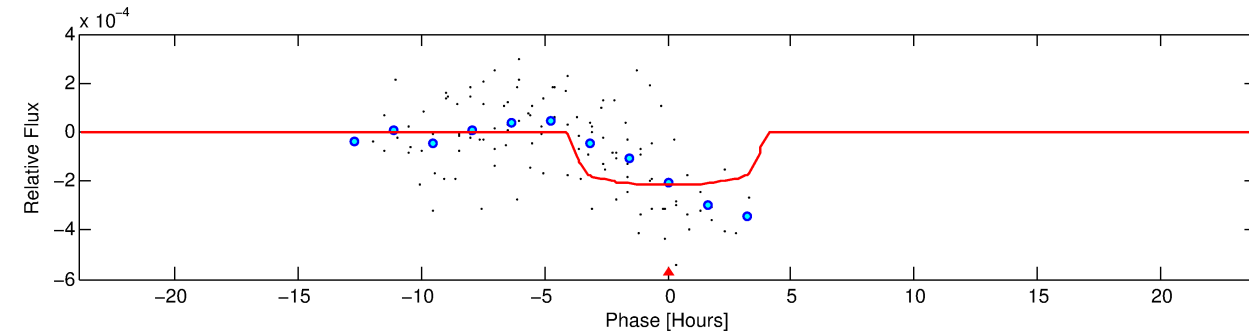
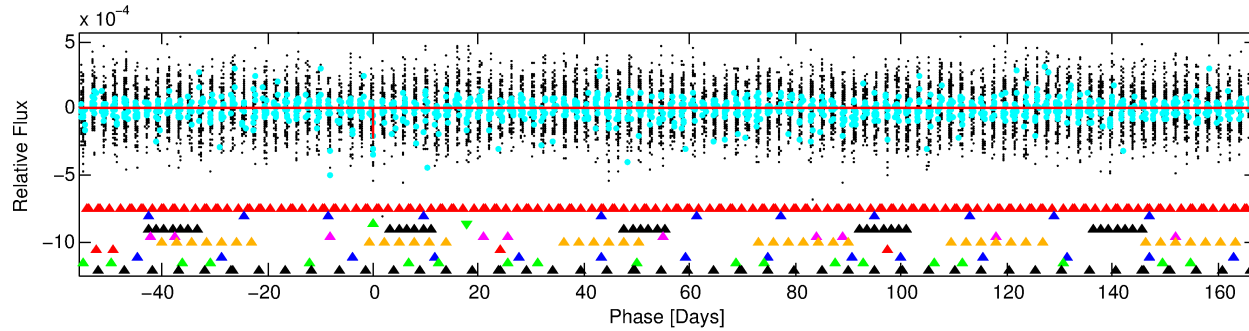
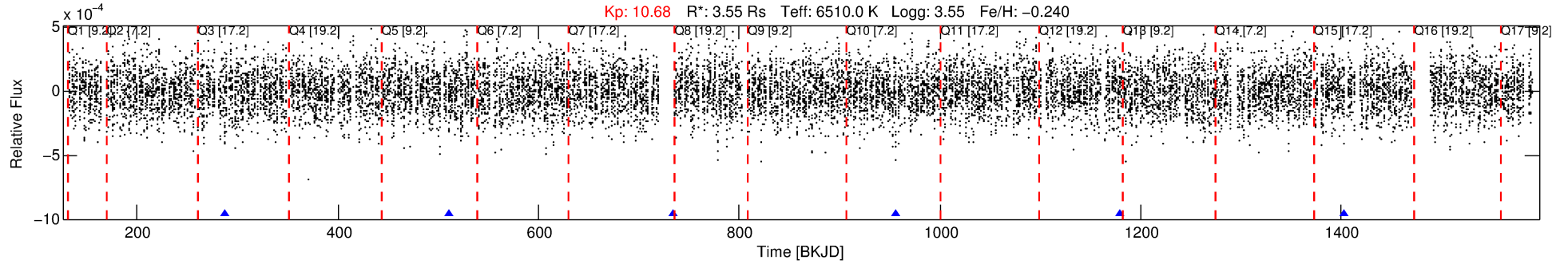
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006115603-03

No Significant Match Found

DV One-Page Summary

KIC: 6115603 Candidate: 3 of 10 Period: 223.074 d



DV Fit Results:

Period = 223.07394 [0.00526] d
Epoch = 287.4885 [0.0878] BKJD
 R_p/R^* = 0.0154 [0.0063]
 a/R^* = 113.58 [255.19]
 b = 0.87 [0.77]
 Seff = 28.12 [16.03]
 T_{eq} = 587 [84] K
 R_p = 5.96 [3.38] R_e
 a = 0.8499 [0.3046] AU
 A_g = 1446.68 [1508.99] [0.96 σ]
 T_{eff} = 5599 [1242] K [4.03 σ]

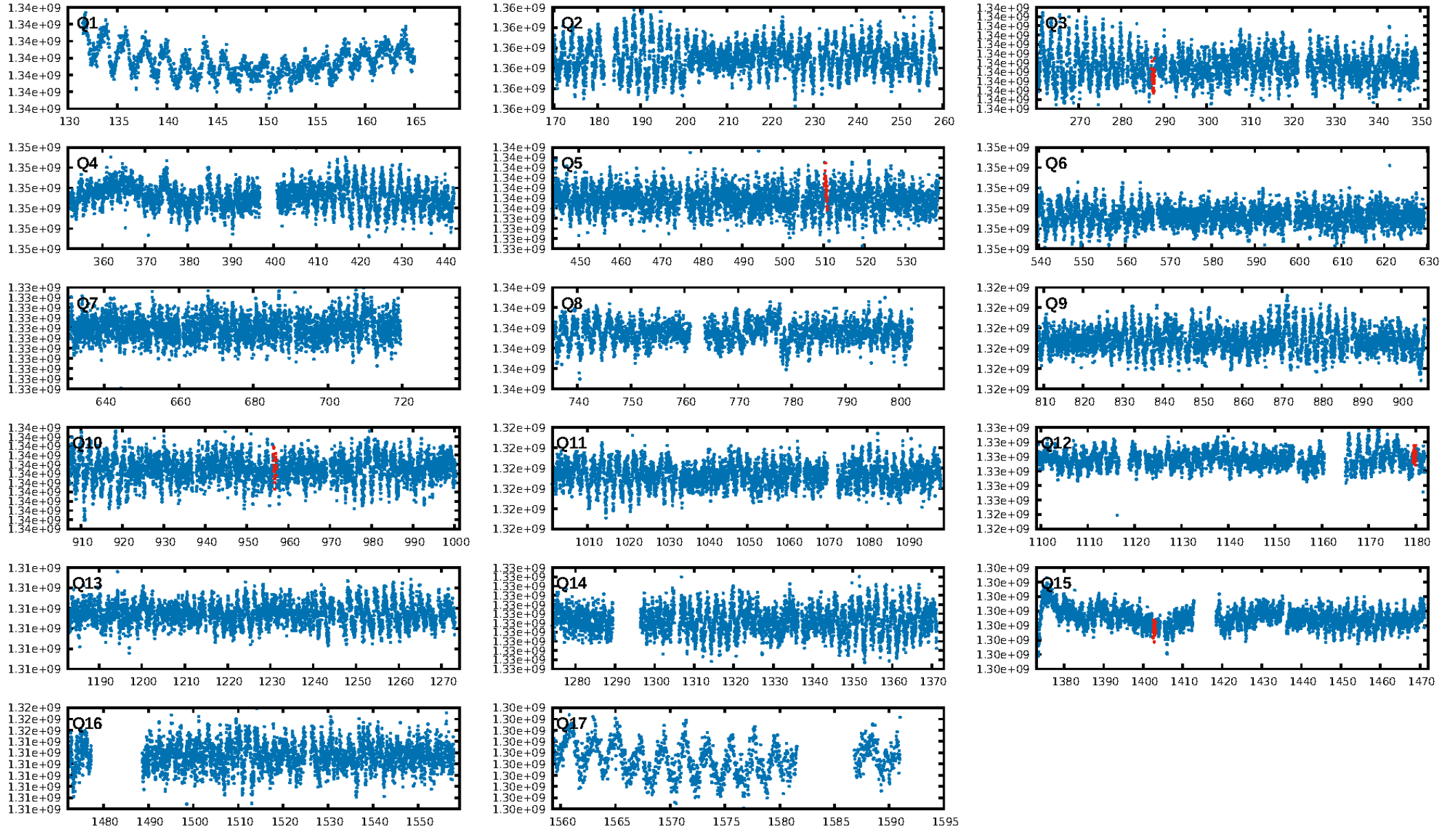
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [180.62 σ]
LongPeriod-sig: 100.0% [413.54 σ]
ModelChiSquare2-sig: 0.4%
ModelChiSquareGof-sig: 57.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -2.196
Centroid-sig: 2.8%
Centroid-so: 1.270 arcsec [2.06 σ]
OotOffset-rm: 1.163 arcsec [0.69 σ]
KicOffset-rm: 2.353 arcsec [1.62 σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 0.20 [1/5]

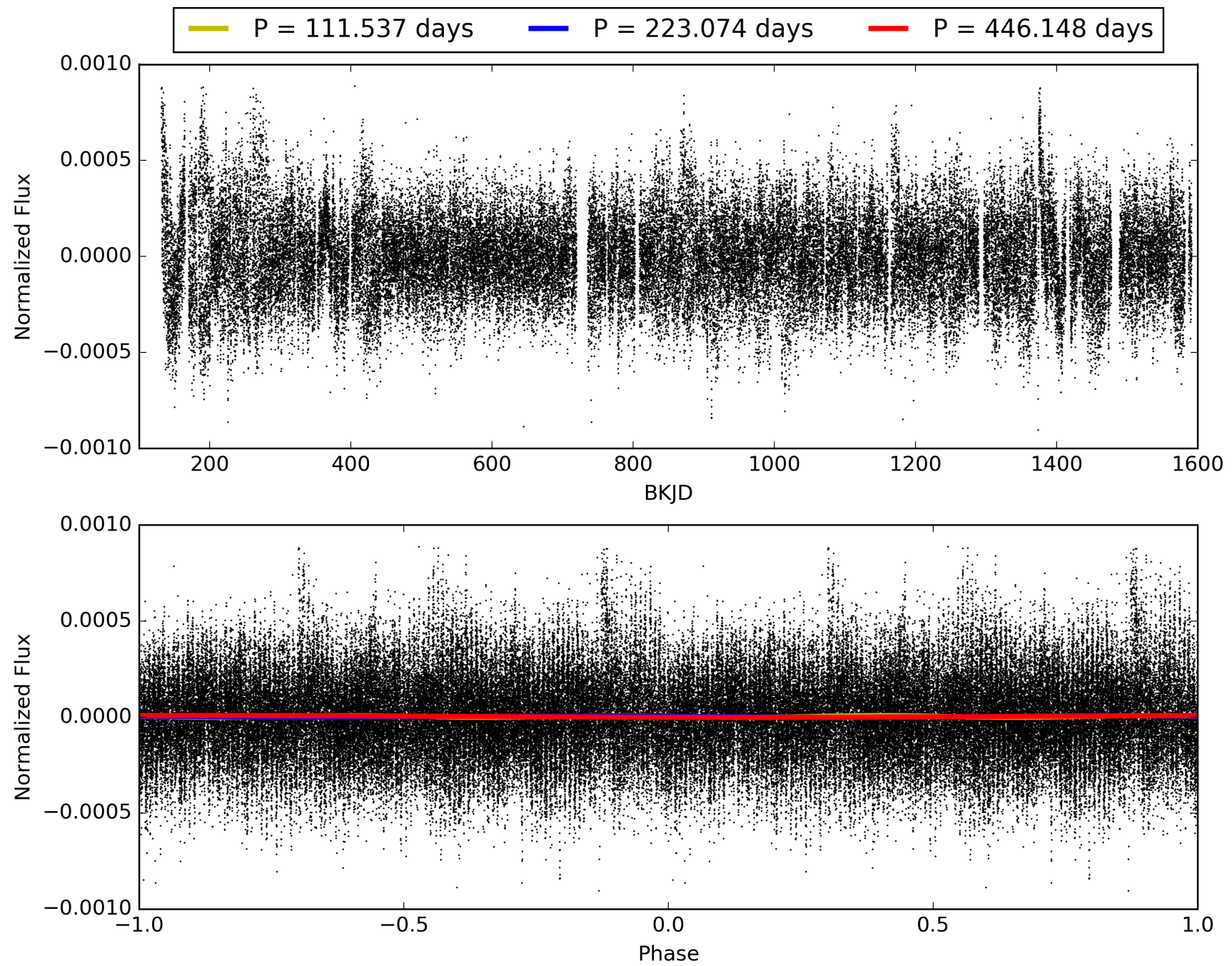
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:34:19 Z

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

TCE 006115603-03, PDC Light Curves

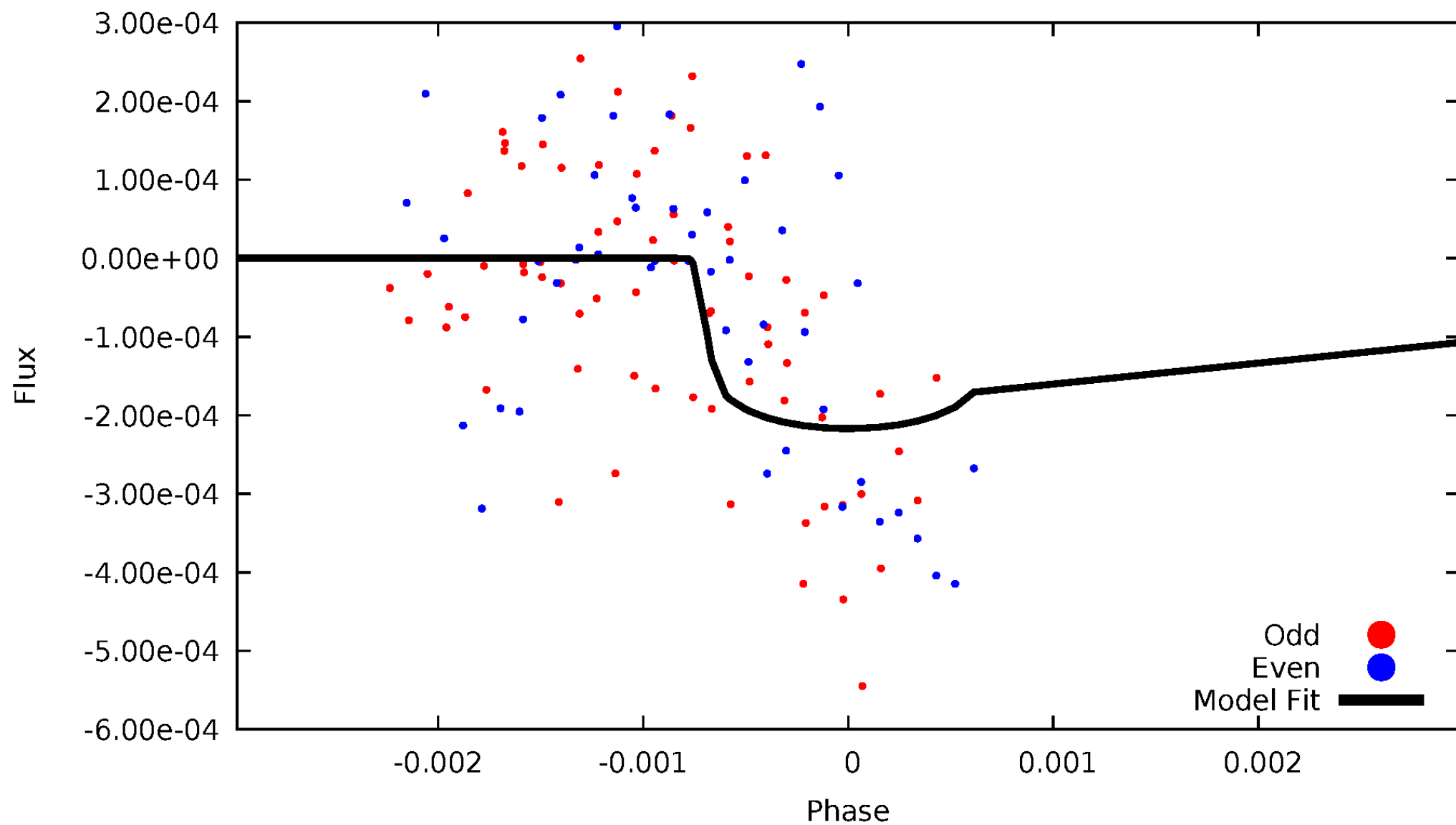


TCE 006115603-03



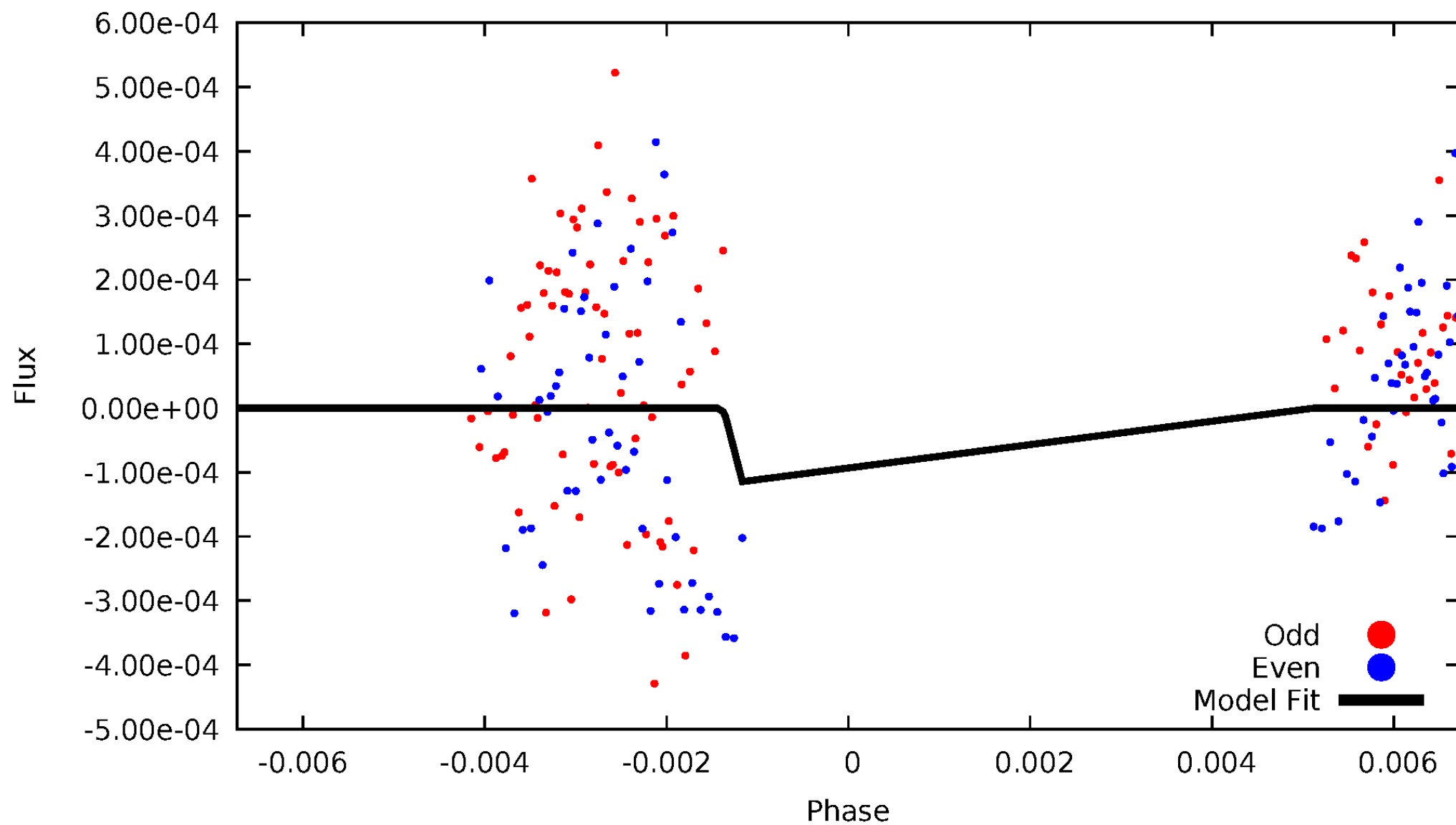
DV Odd/Even

TCE 006115603-03



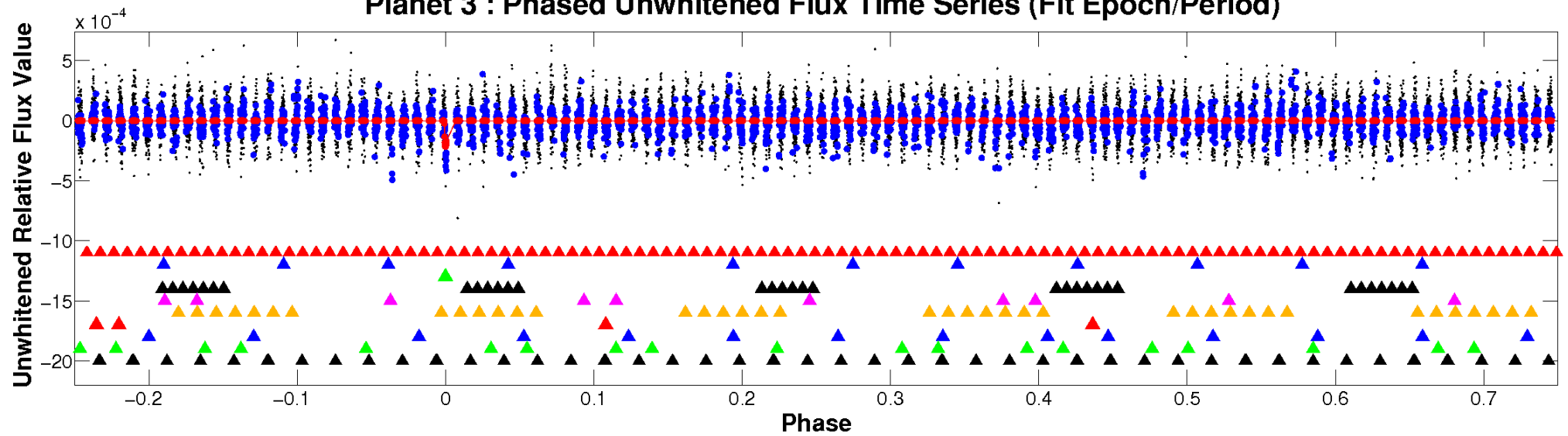
ALT Odd/Even

TCE 006115603-03

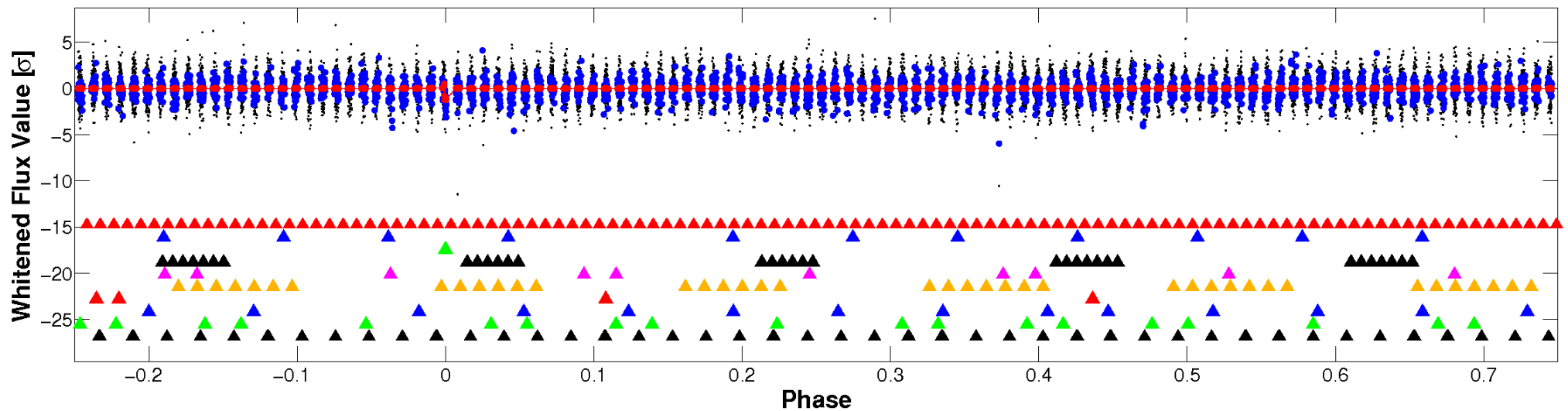


Non-Whitened Vs. Whitened Light Curve

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

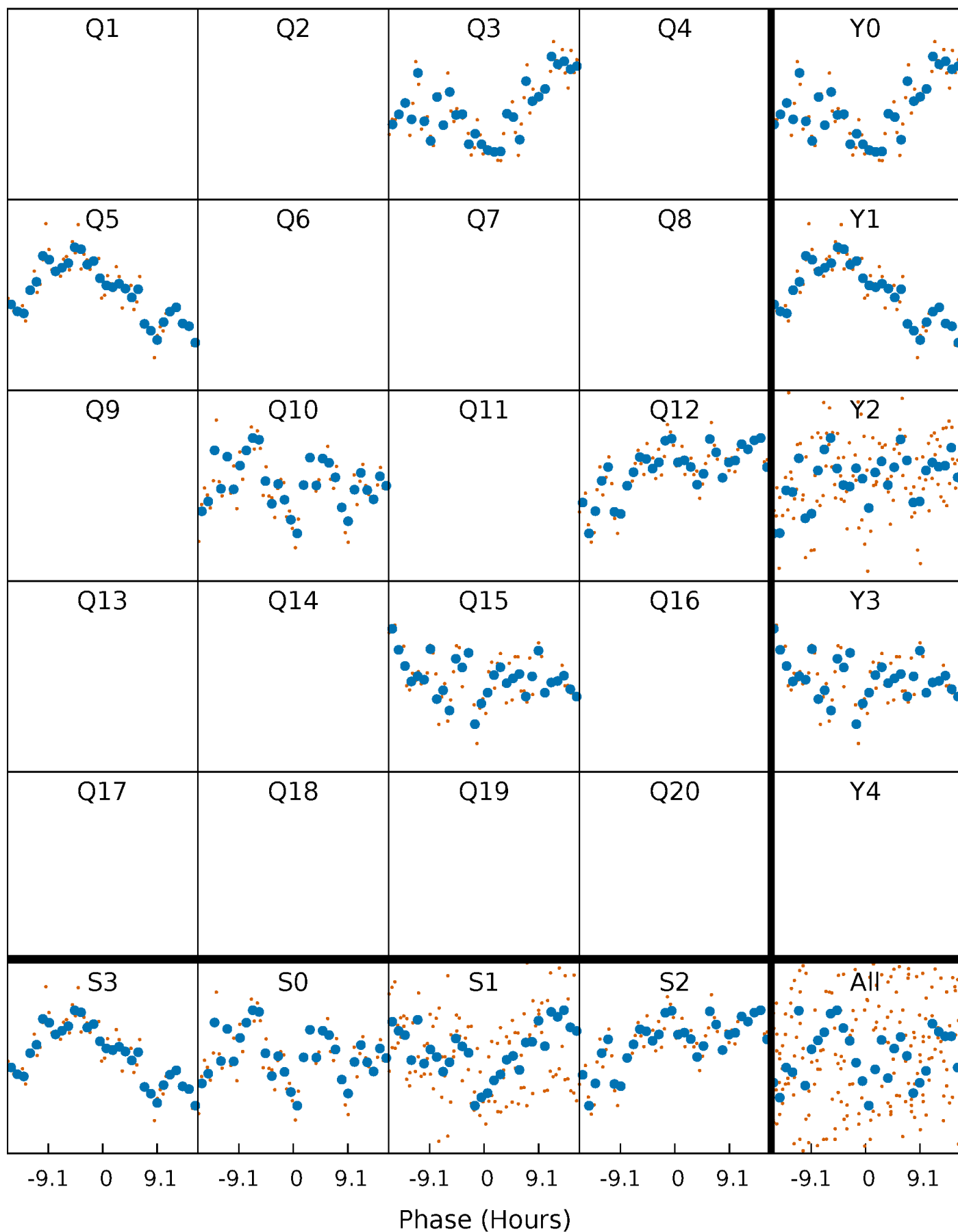


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



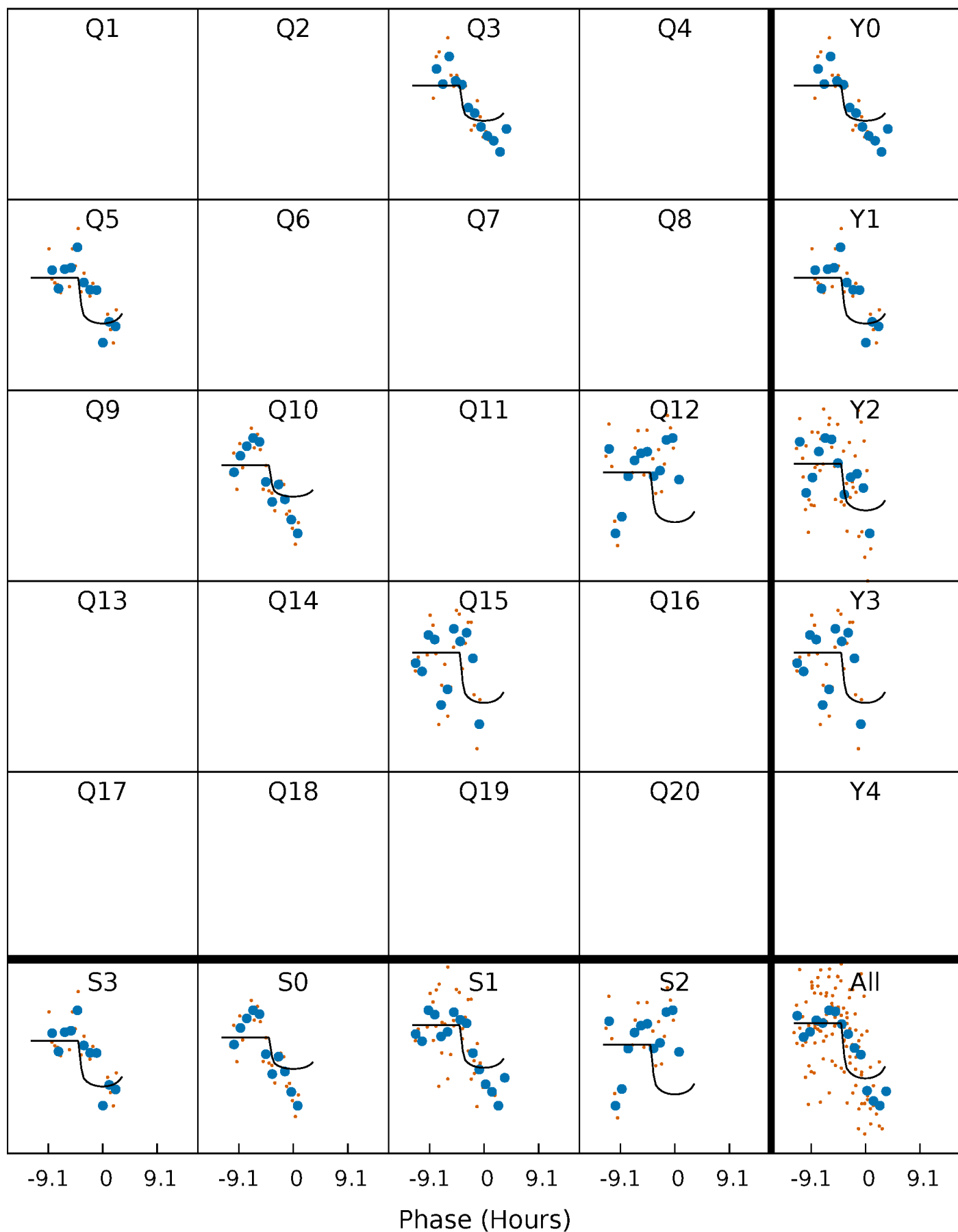
PDC Quarter-Phased Transit Curves

TCE 006115603-03 P=223.073942 Days $T_0=287.488546$ (BKJD)



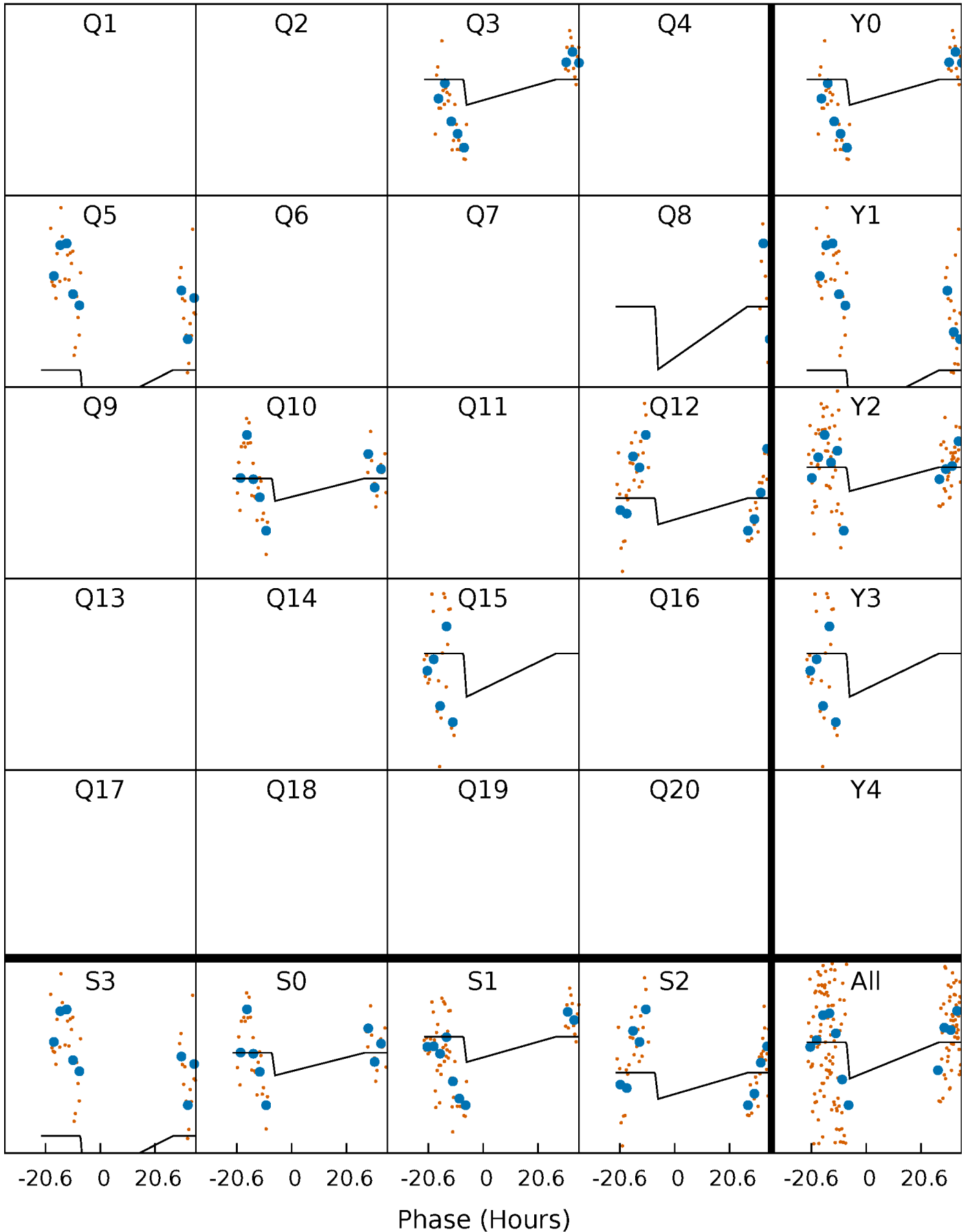
DV Quarter-Phased Transit Curves

TCE 006115603-03 P=223.073942 Days $T_0=287.488546$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

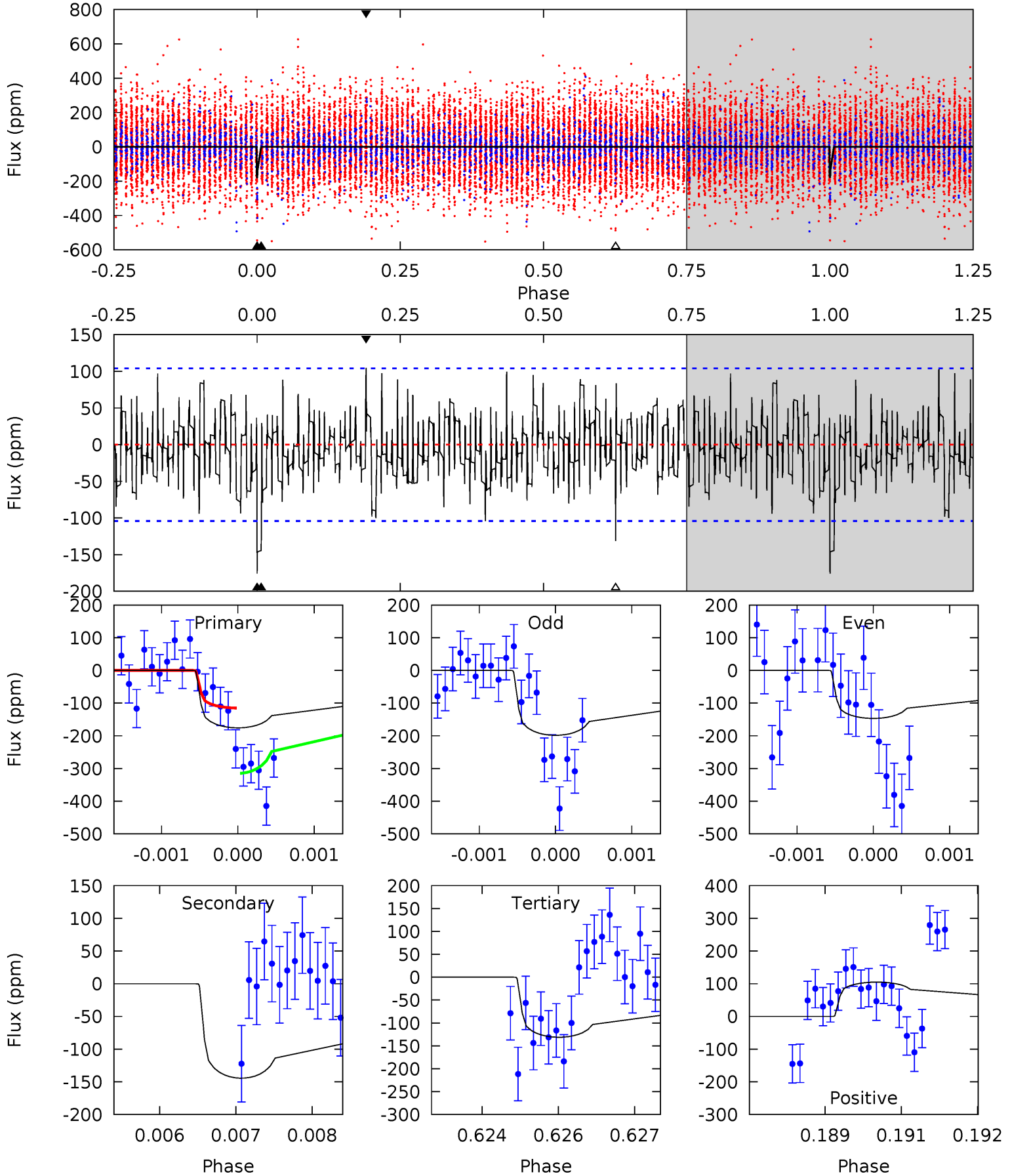
TCE 006115603-03 P=223.079986 Days $T_0=287.885400$ (BKJD)



DV Model-Shift Uniqueness Test

006115603-03, $P = 223.073942$ Days, $E = 64.414604$ Days

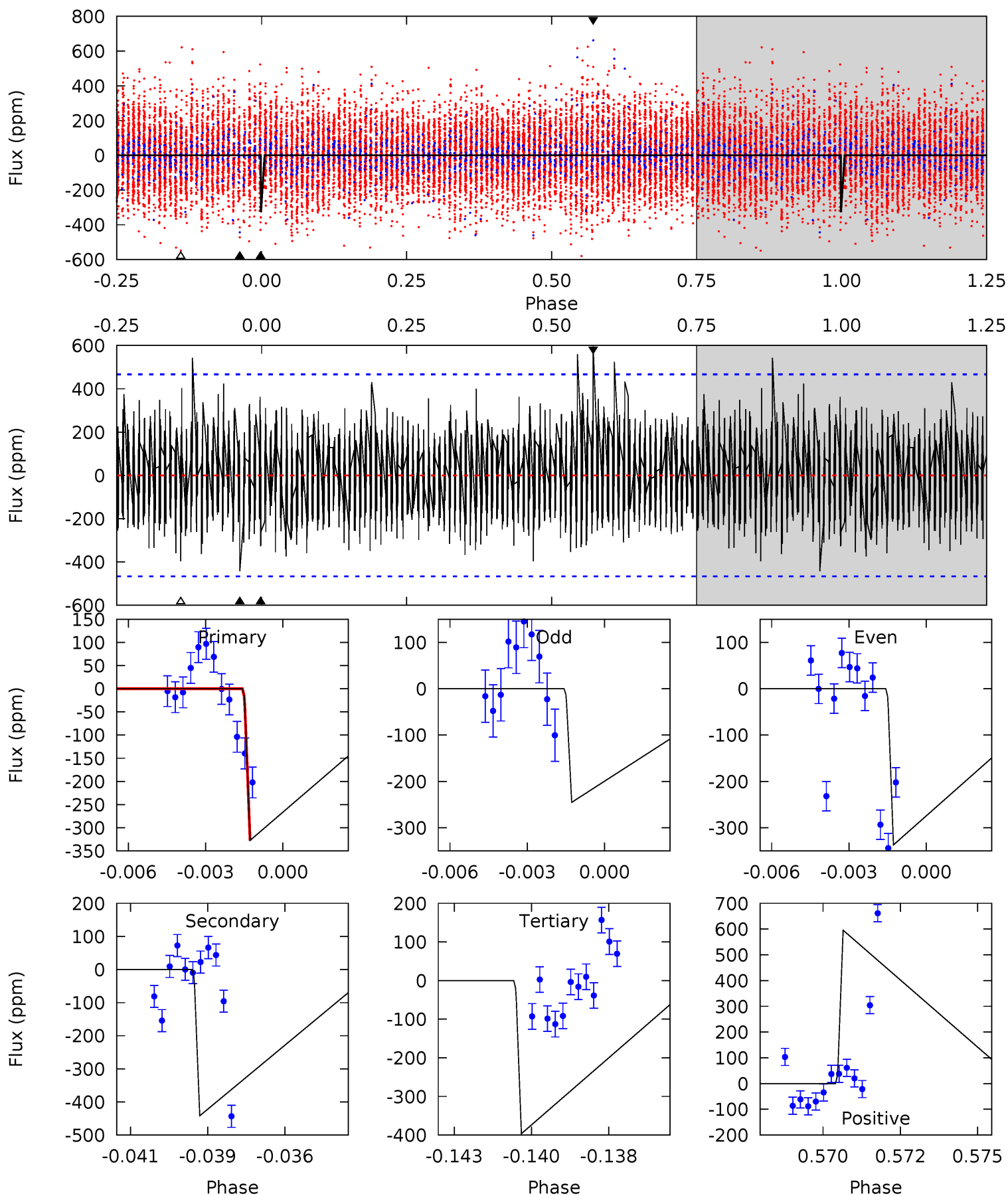
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.11	7.48	6.80	5.43	5.39	3.20	1.83	2.31	3.68	0.68	2.06	1.33	1.02	0.37	4.49



Alt Model-Shift Uniqueness Test

006115603-03, P = 223.079986 Days, E = 64.805414 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.70	4.99	4.48	6.73	5.27	2.99	1.22	-0.78	-3.03	0.52	-1.73	0.72	0	0.57	0



Stellar Parameters For KIC 006115603

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6510^{+146}_{-179}	$3.553^{+0.323}_{-0.108}$	$-0.240^{+0.350}_{-0.300}$	$3.553^{+0.460}_{-1.379}$	$1.646^{+0.229}_{-0.371}$	$0.052^{+0.121}_{-0.014}$
	+2%/-3%	+9%/-3%	+146%/-125%	+13%/-39%	+14%/-23%	+234%/-28%
Source	PHO1	FLK73	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 006115603-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-144 ± 19	$5.65^{+2.72}_{-2.46}$	809^{+49}_{-71}	5684^{+1897}_{-782}	1765^{+3636}_{-937}
Alt.	-442 ± 89	$6.54^{+2.79}_{-2.47}$	813^{+43}_{-68}	7068^{+2003}_{-1079}	3922^{+6346}_{-1941}

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

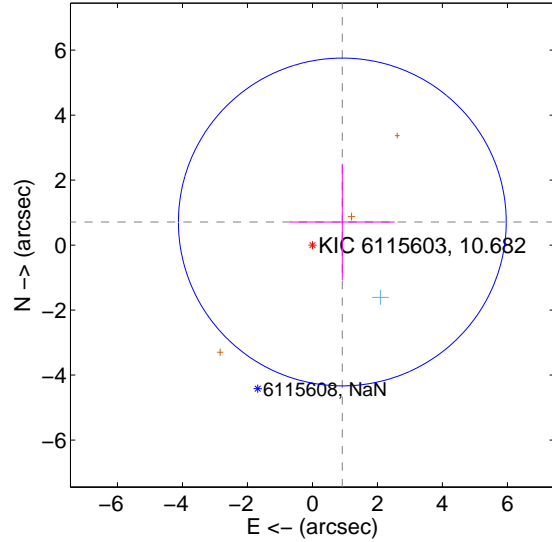
Supplemental centroid analysis for 006115603-03. **Kepler magnitude: 10.68.** Transit SNR 8.62

There are 1 quarters with good PRF difference image offsets

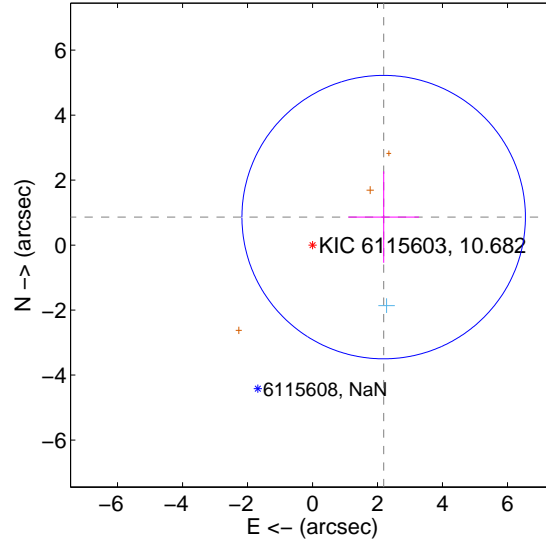
The direct PRF centroid is offset from the target star catalog position by about 1.00 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.163 ± 1.681	0.69	-0.920 ± 1.610	0.711 ± 1.794
PRF-fit source offset from KIC position	2.353 ± 1.454	1.62	-2.190 ± 1.087	0.862 ± 1.407
photometric centroid source offset	1.27 ± 0.62	2.06	1.26 ± 0.62	-0.14 ± 0.77

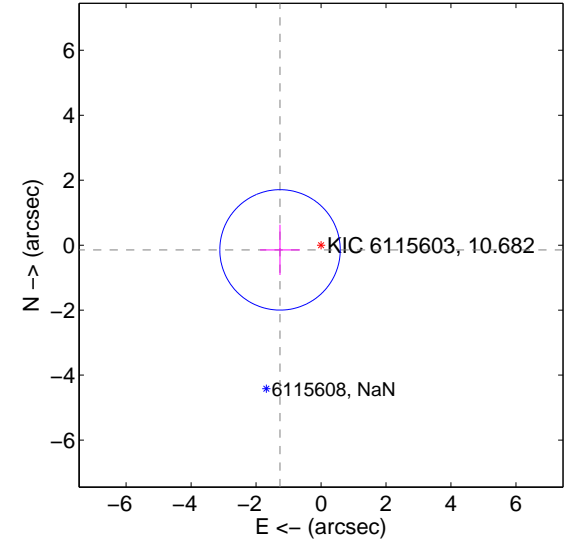
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

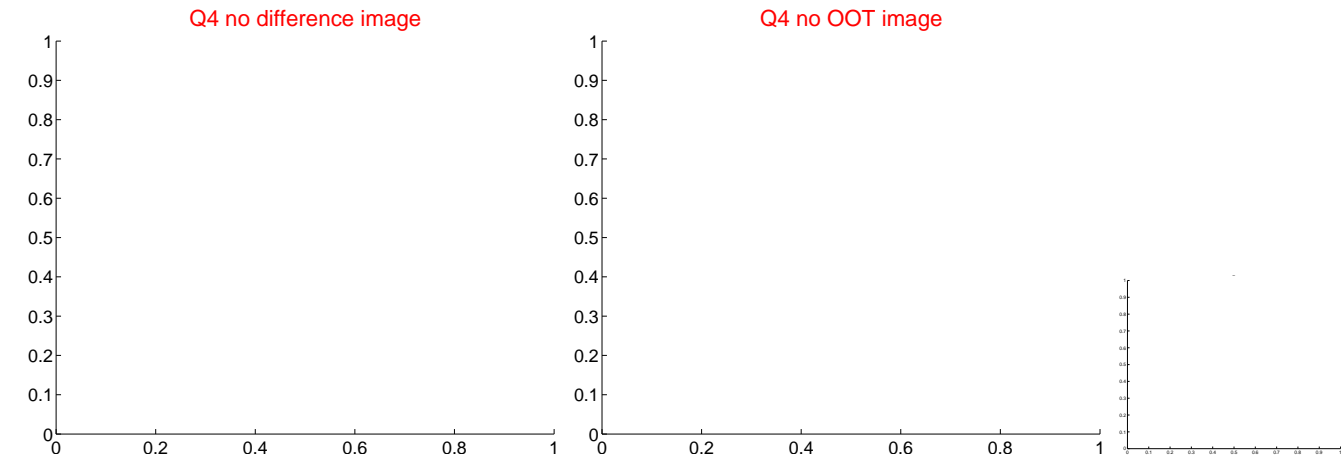
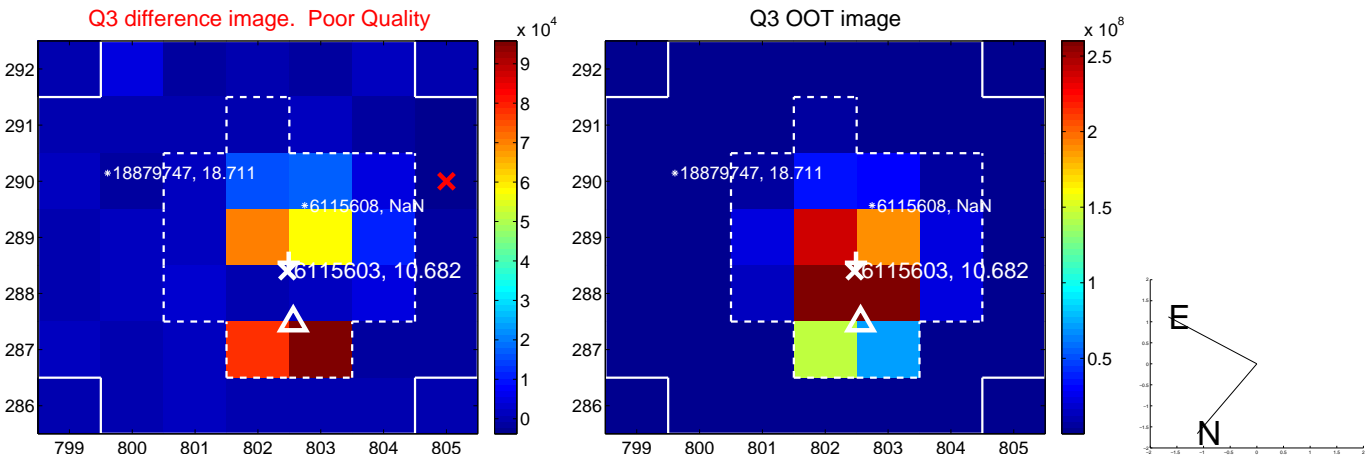
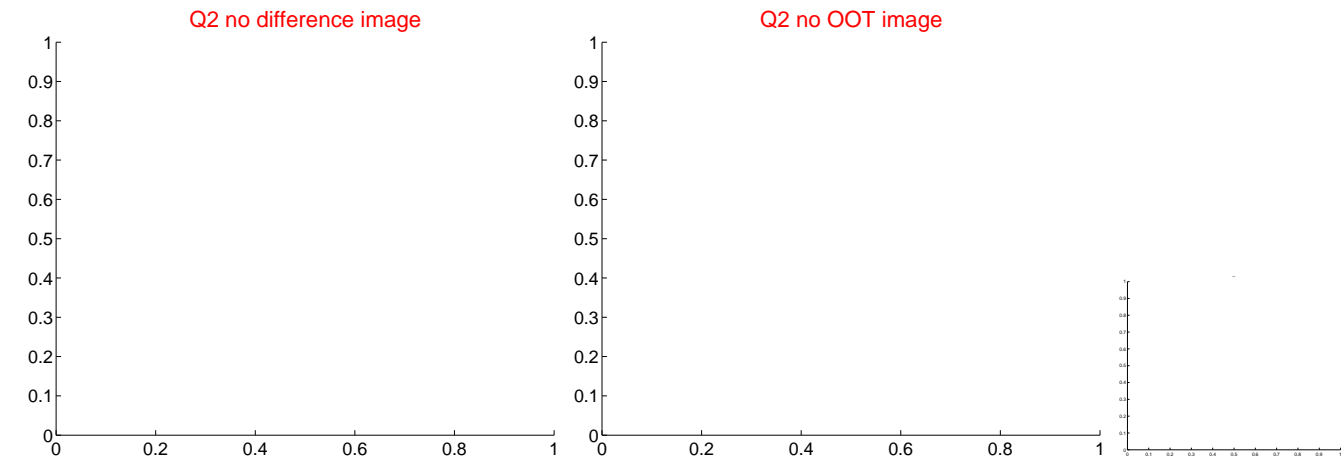


offset from photometric centroids

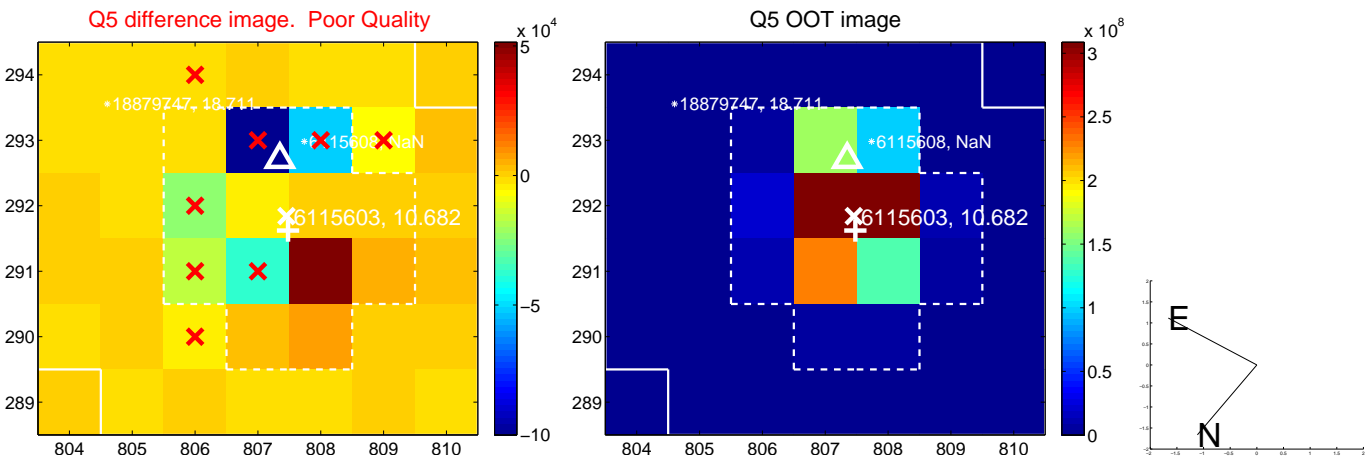


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

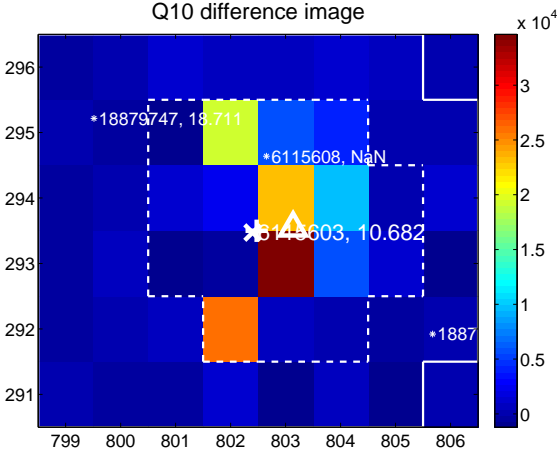
Q9 no difference image



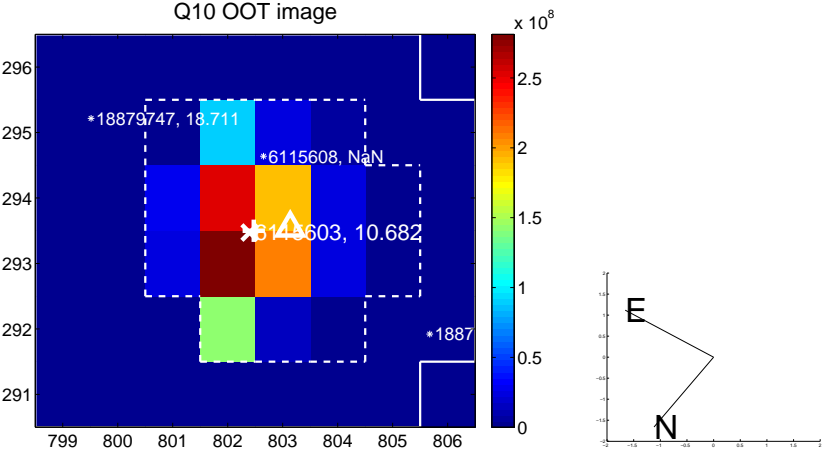
Q9 no OOT image



Q10 difference image



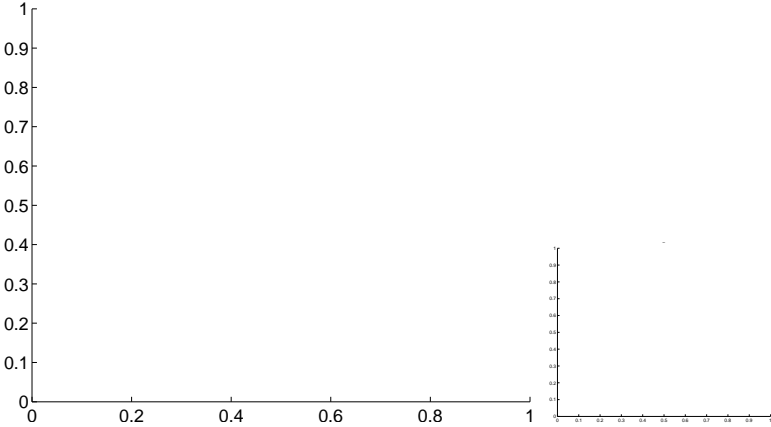
Q10 OOT image



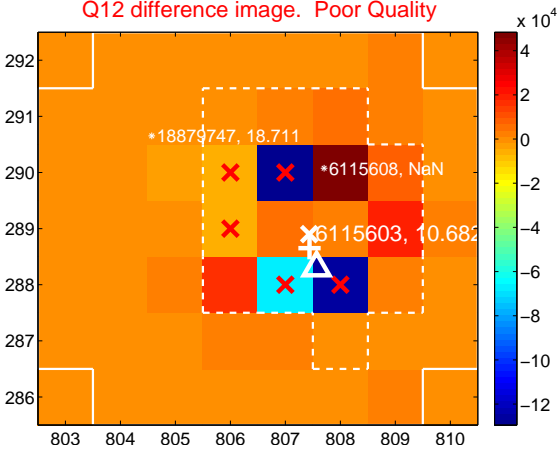
Q11 no difference image



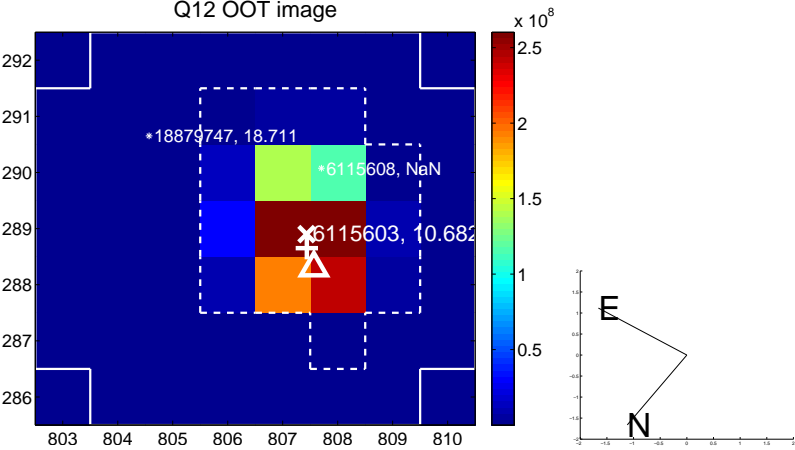
Q11 no OOT image



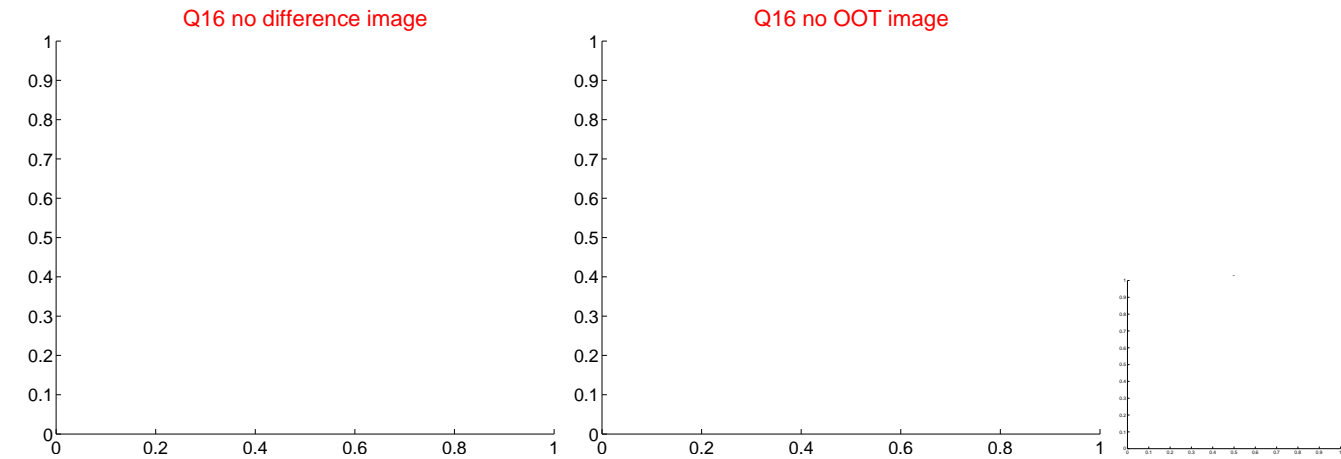
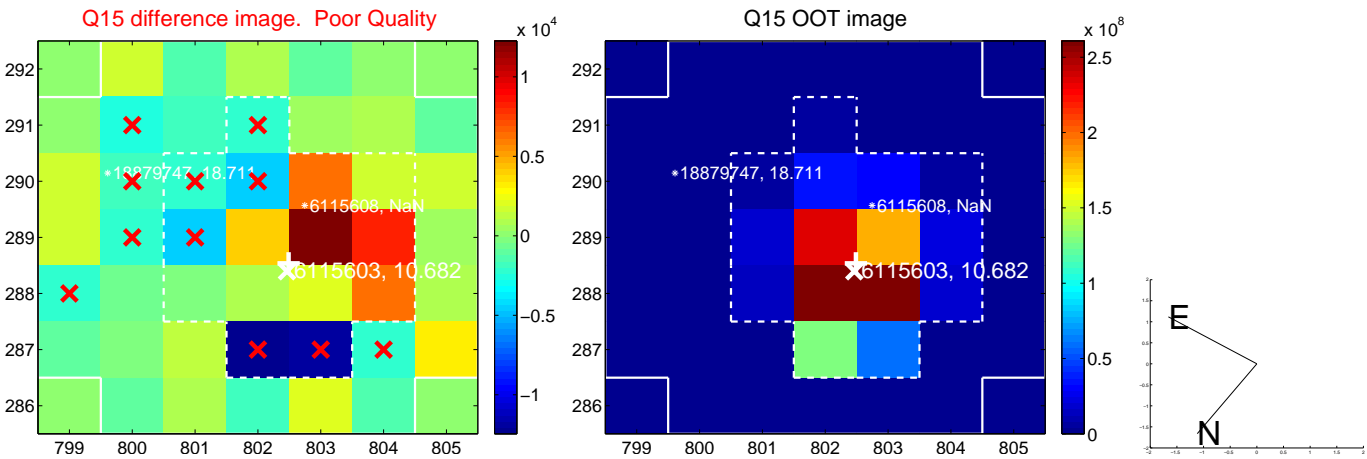
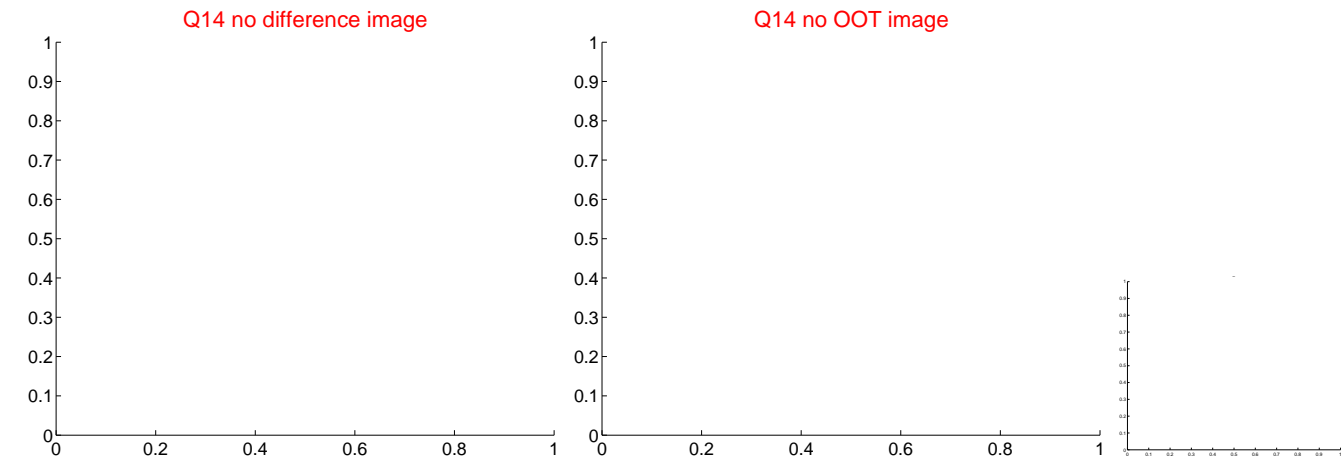
Q12 difference image. Poor Quality



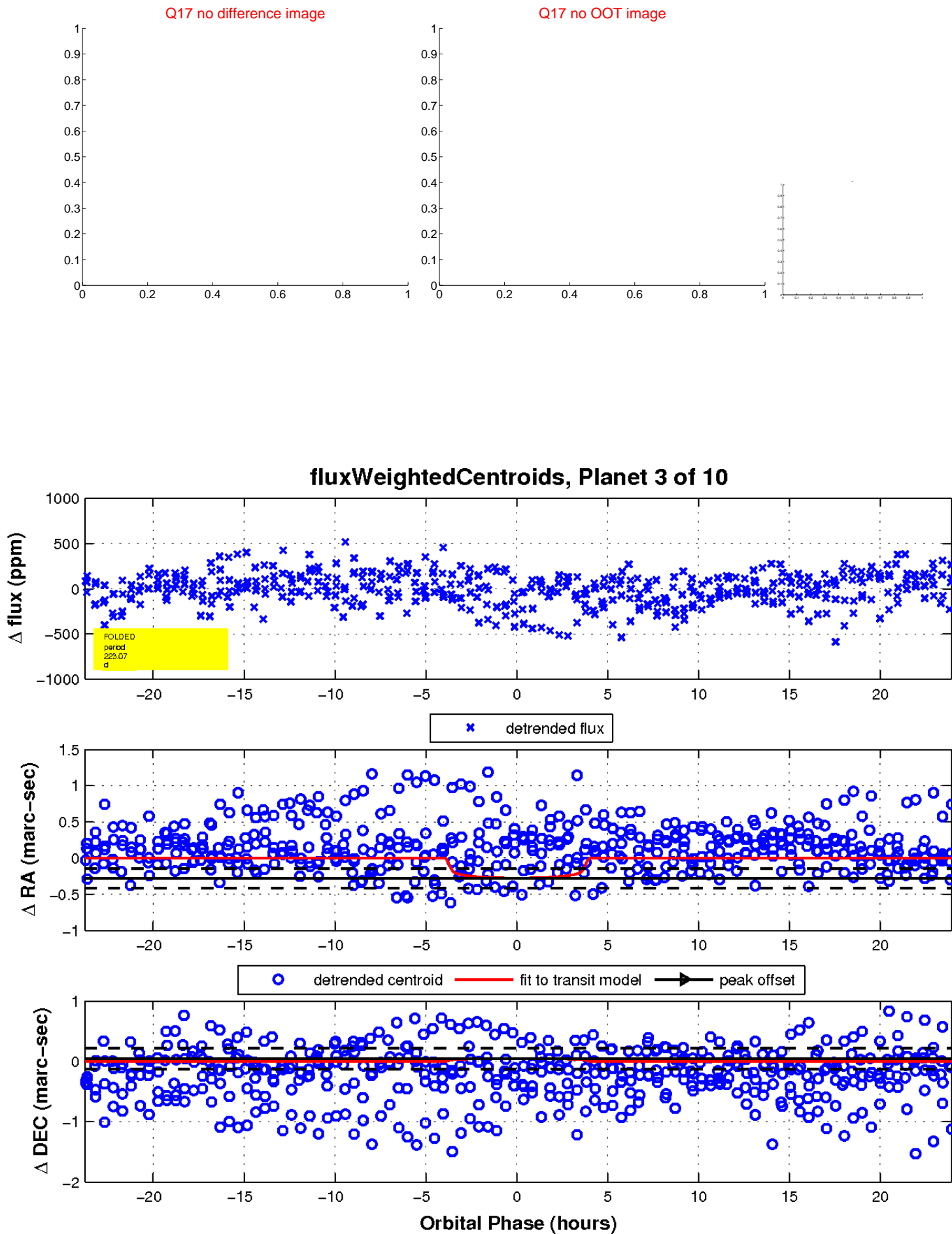
Q12 OOT image



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

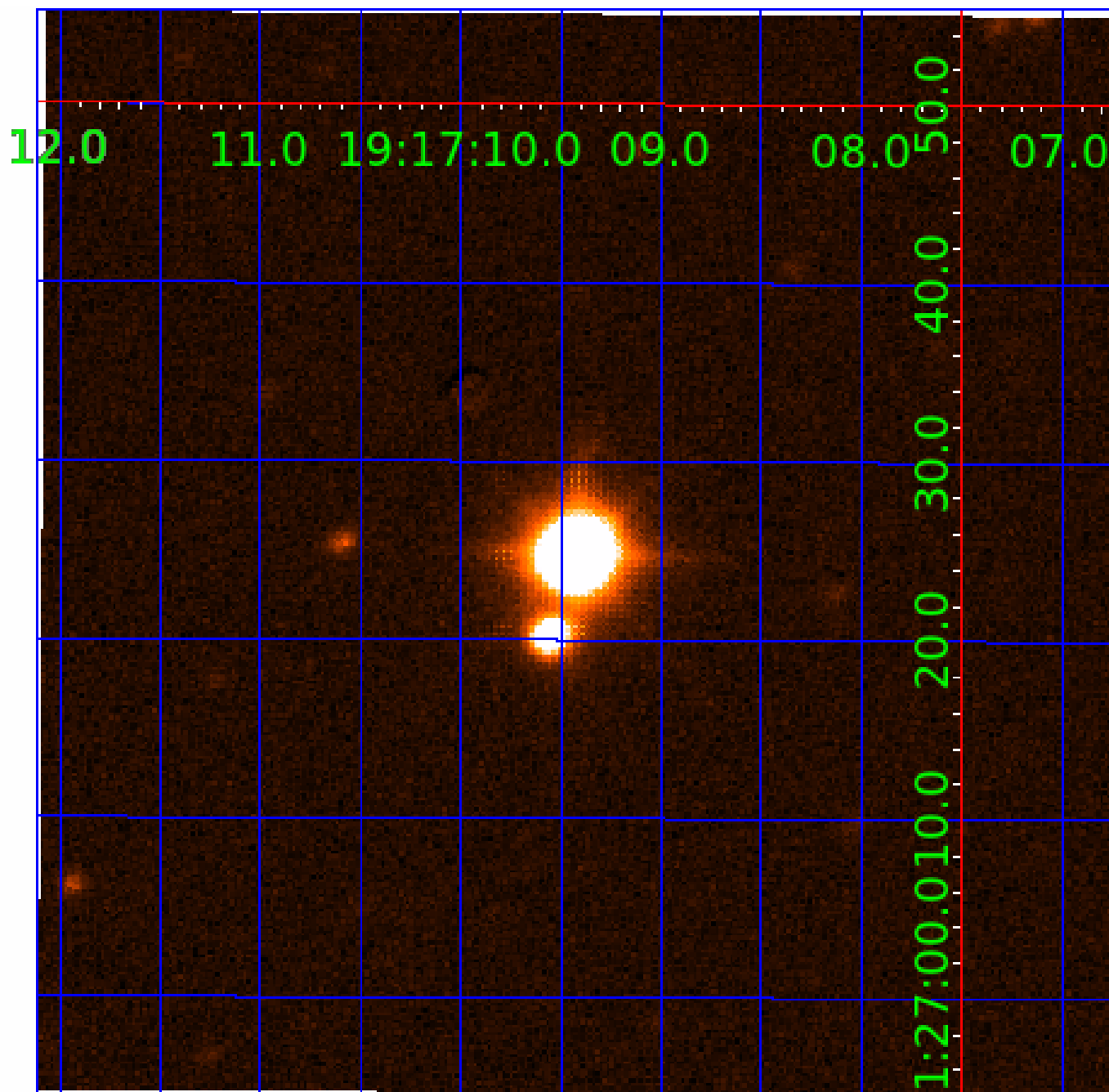


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
006115603-01	OBS	No	2.027653	132.269081	21.2	12.019	8.2	7.3	3.55	6510	2.00	14823.71
006115603-03	OBS	No	223.073942	287.488546	216.9	7.976	10.3	8.6	3.55	6510	5.96	28.12
006115603-04	OBS	No	44.308404	165.505638	181.4	2.088	10.1	9.6	3.55	6510	5.43	242.64
006115603-05	OBS	No	160.029581	148.288775	245.7	2.560	10.0	8.8	3.55	6510	6.51	43.79
006115603-06	OBS	No	36.703881	154.308734	176.1	3.638	9.9	8.9	3.55	6510	5.07	311.89
006115603-07	OBS	No	372.914339	234.986749	276.4	3.464	9.8	9.2	3.55	6510	6.73	14.17
006115603-08	OBS	No	103.658197	154.981118	252.1	4.379	9.9	9.5	3.55	6510	6.19	78.13
006115603-09	OBS	No	80.625343	138.506069	261.4	3.510	9.7	10.4	3.55	6510	6.74	109.22
006115603-10	OBS	No	25.345451	134.150778	64.9	3.000	9.5	-1.0	3.55	6510	2.88	510.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006115603-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
006115603-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006115603-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006115603-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006115603-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006115603-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

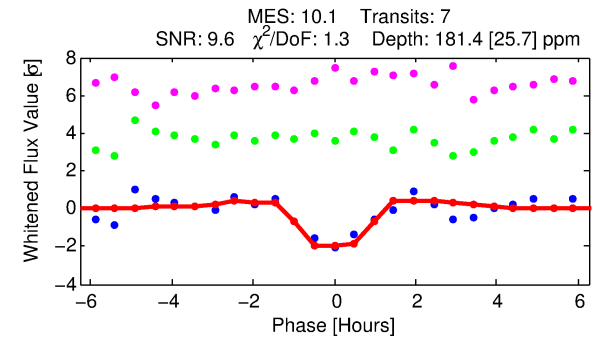
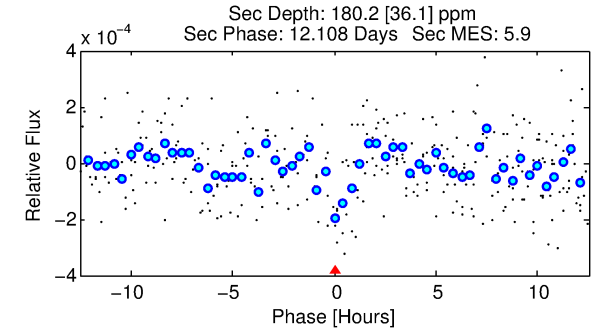
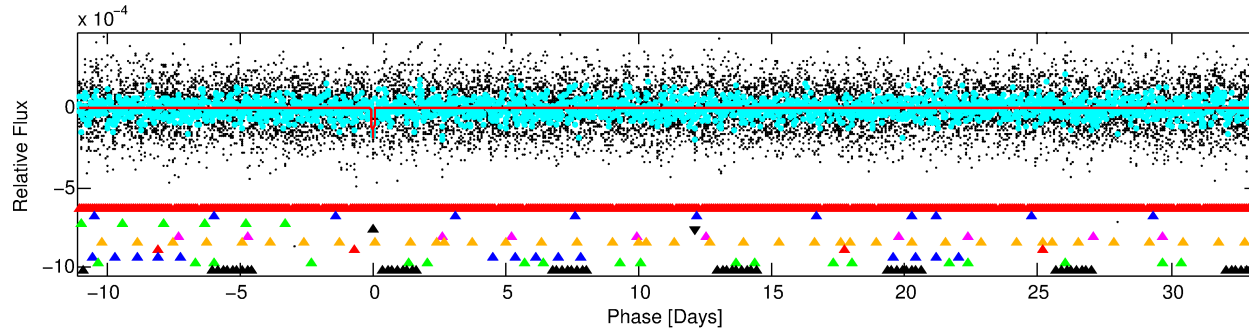
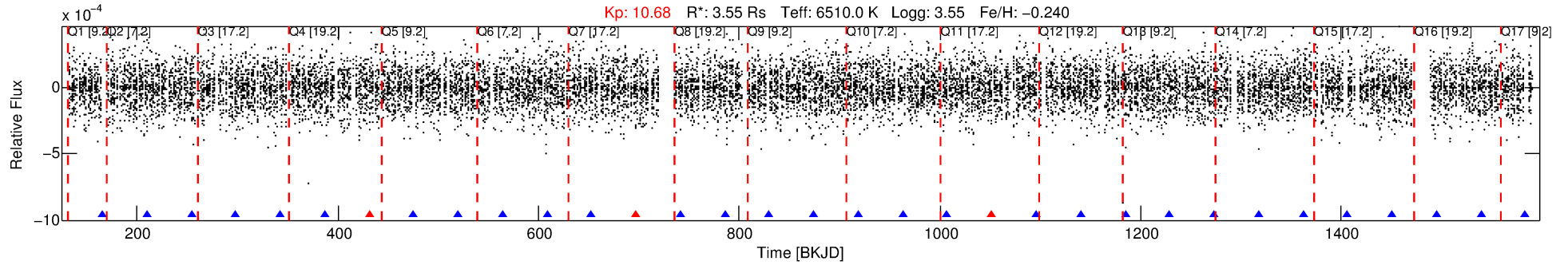
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006115603-04

No Significant Match Found

DV One-Page Summary

KIC: 6115603 Candidate: 4 of 10 Period: 44.308 d

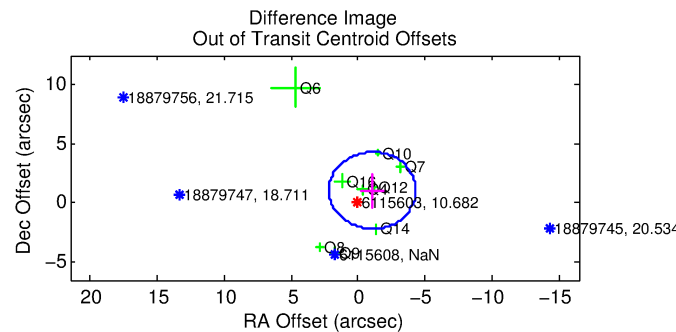
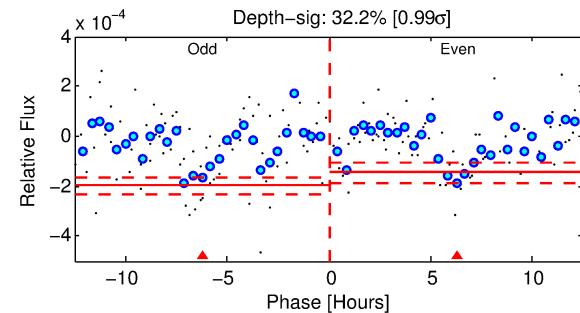
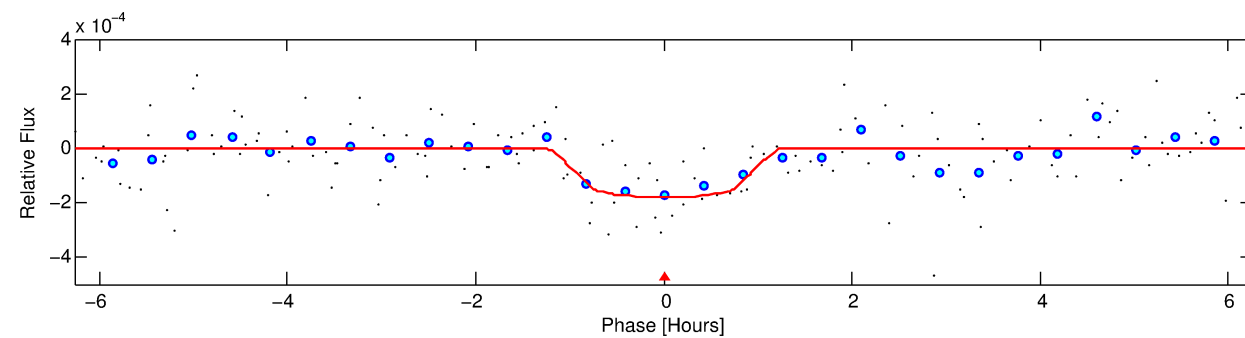


DV Fit Results:

Period = 44.30840 [0.00048] d
Epoch = 165.5056 [0.0095] BKJD
Rp/R* = 0.0140 [0.0179]
a/R* = 88.02 [650.01]
b = 0.86 [2.31]
Seff = 242.64 [138.30]
Teq = 1006 [143] K
Rp = 5.43 [7.25] Re
a = 0.2893 [0.1037] AU
Ag = 281.11 [737.17] [0.38σ]
Teffp = 6371 [4085] K [1.31σ]

DV Diagnostic Results:

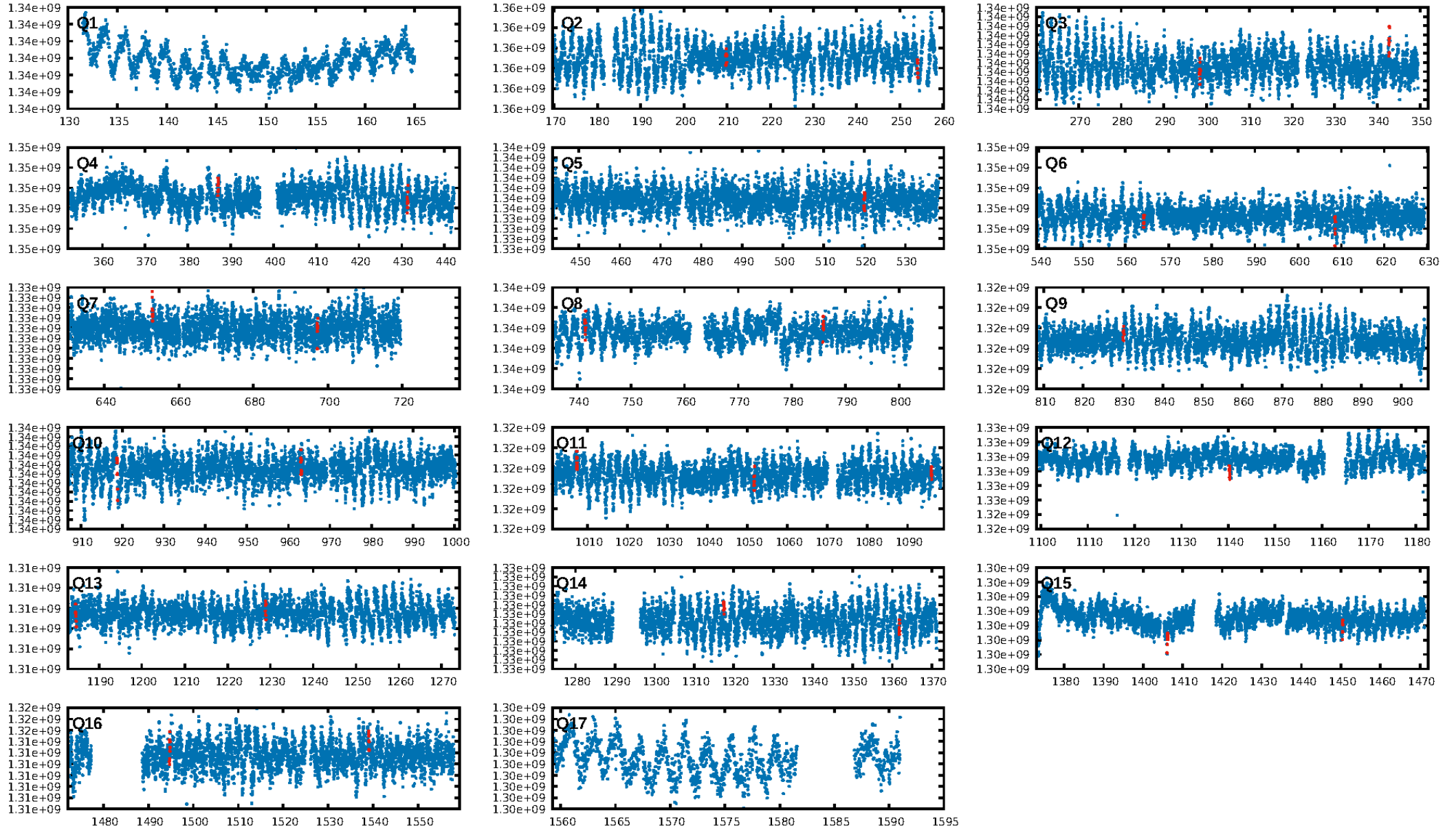
ShortPeriod-sig: 100.0% [43.51σ]
LongPeriod-sig: 100.0% [213.39σ]
ModelChiSquare2-sig: 10.1%
ModelChiSquareGof-sig: 88.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.57 [4/7]
GhostDiagnostic-chr: -5.146
Centroid-sig: 0.0%
Centroid-so: 0.998 arcsec [2.69σ]
OotOffset-rm: 1.502 arcsec [1.39σ]
KicOffset-rm: 2.144 arcsec [2.27σ]
OotOffset-st: 3/1/4/1 [9]
KicOffset-st: 3/1/4/1 [9]
DiffImageQuality-fgm: 0.33 [3/9]
DiffImageOverlap-fno: 0.43 [6/14]



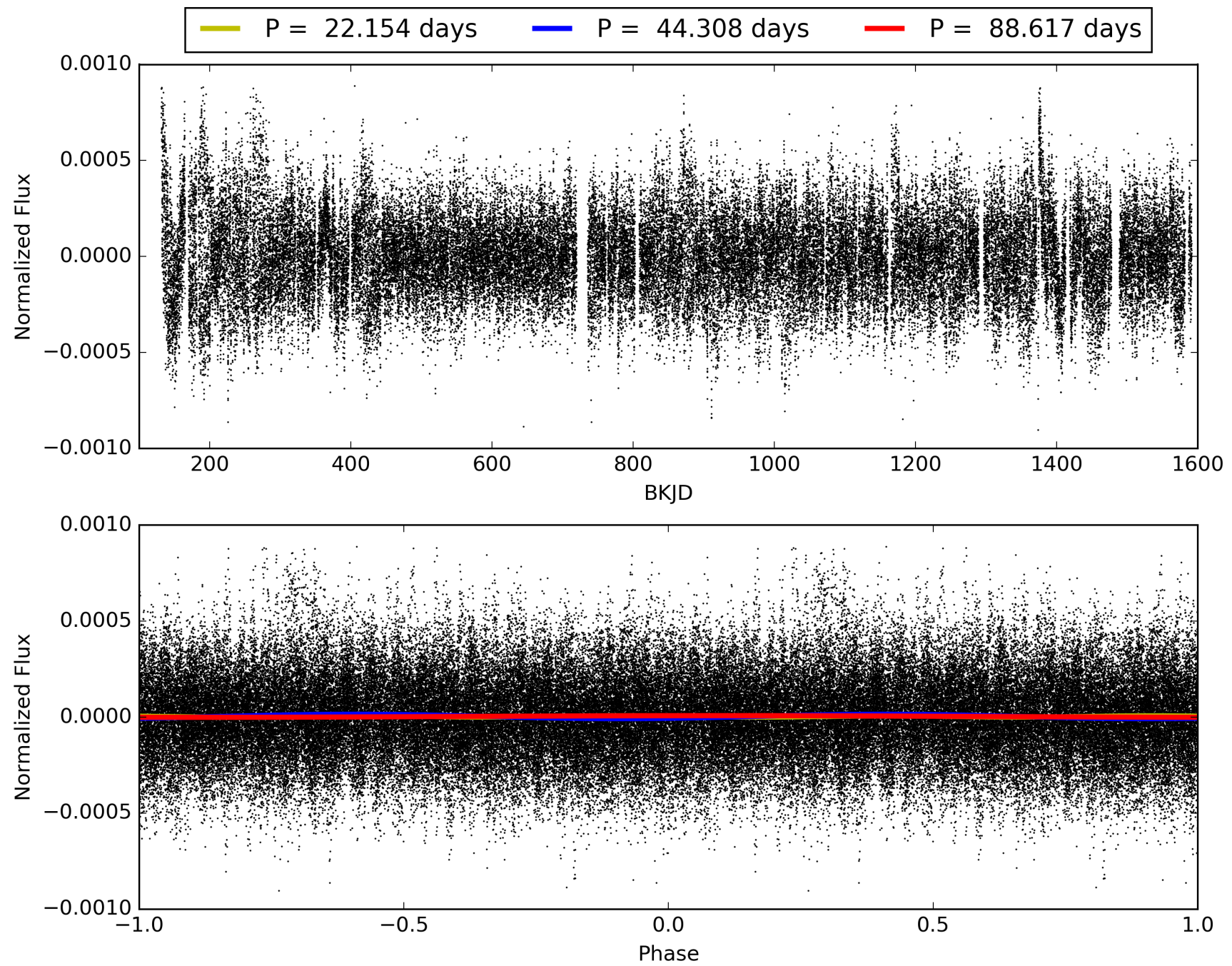
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:34:23 Z

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

TCE 006115603-04, PDC Light Curves

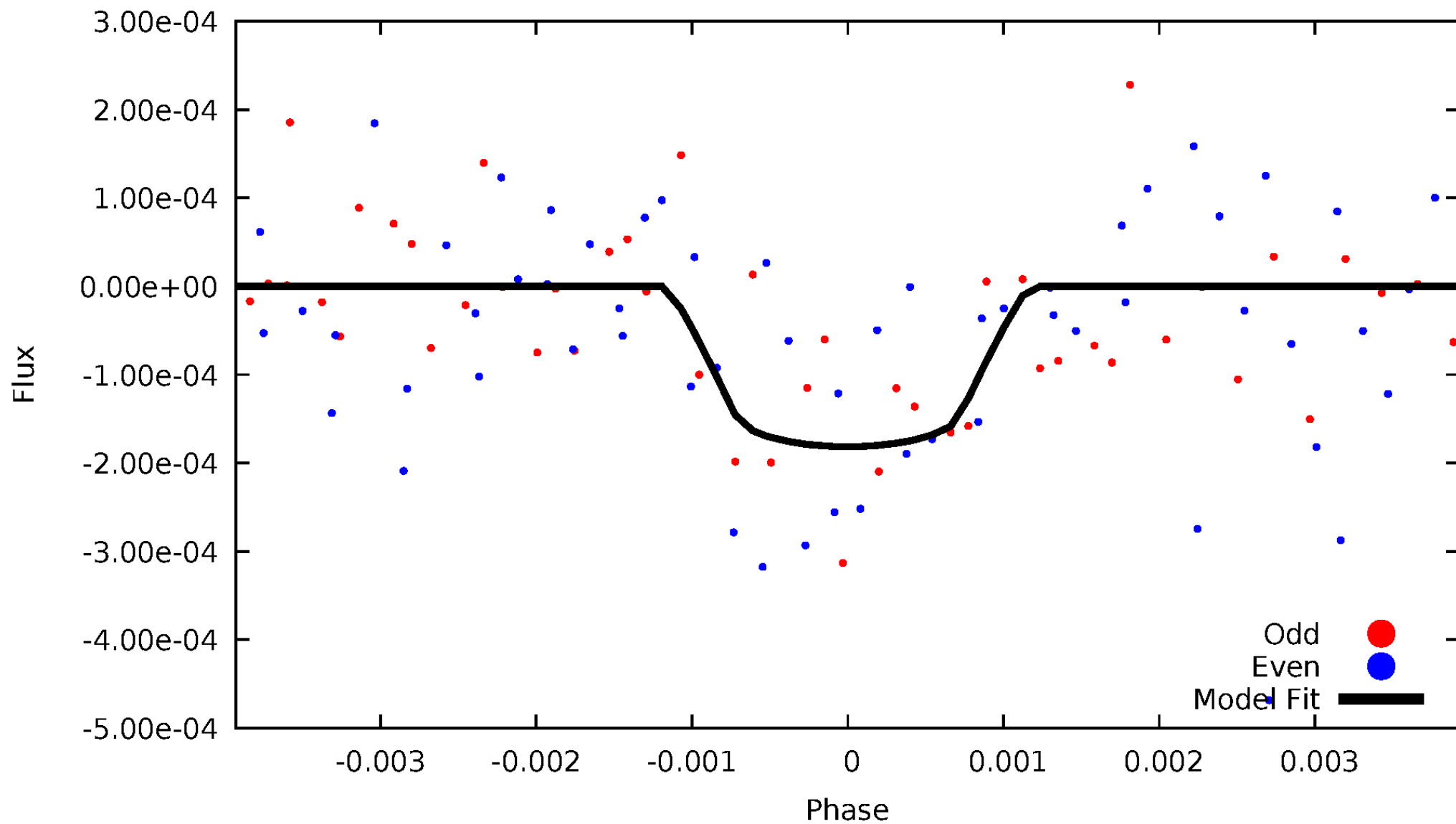


TCE 006115603-04



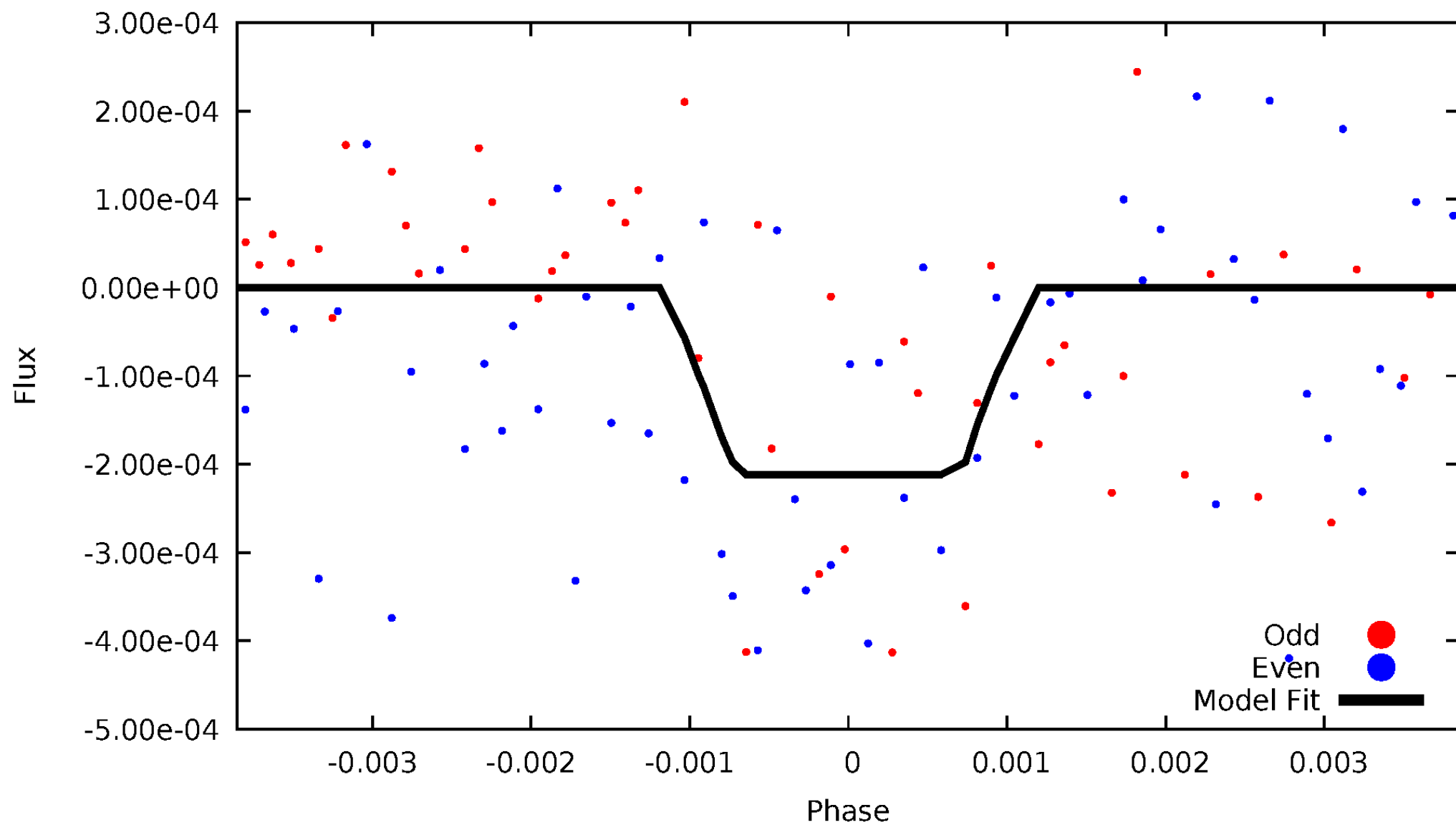
DV Odd/Even

TCE 006115603-04



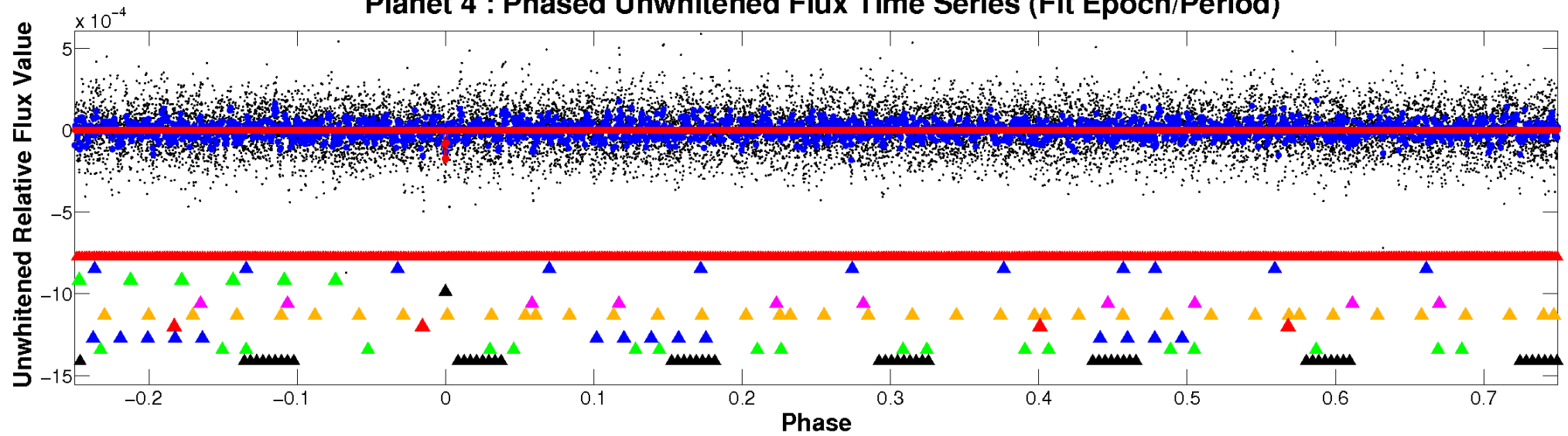
ALT Odd/Even

TCE 006115603-04

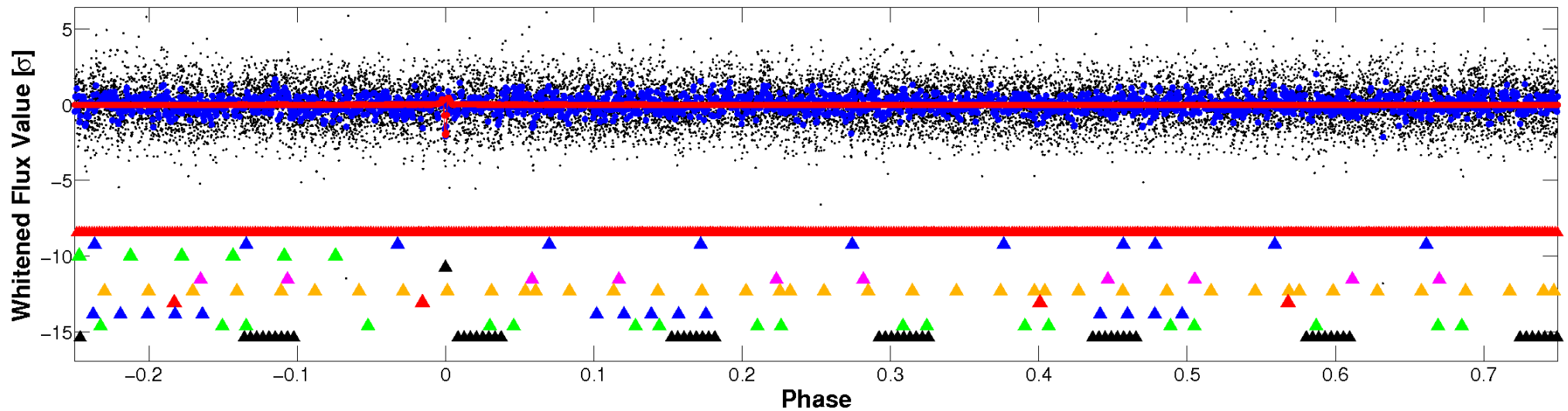


Non-Whitened Vs. Whitened Light Curve

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

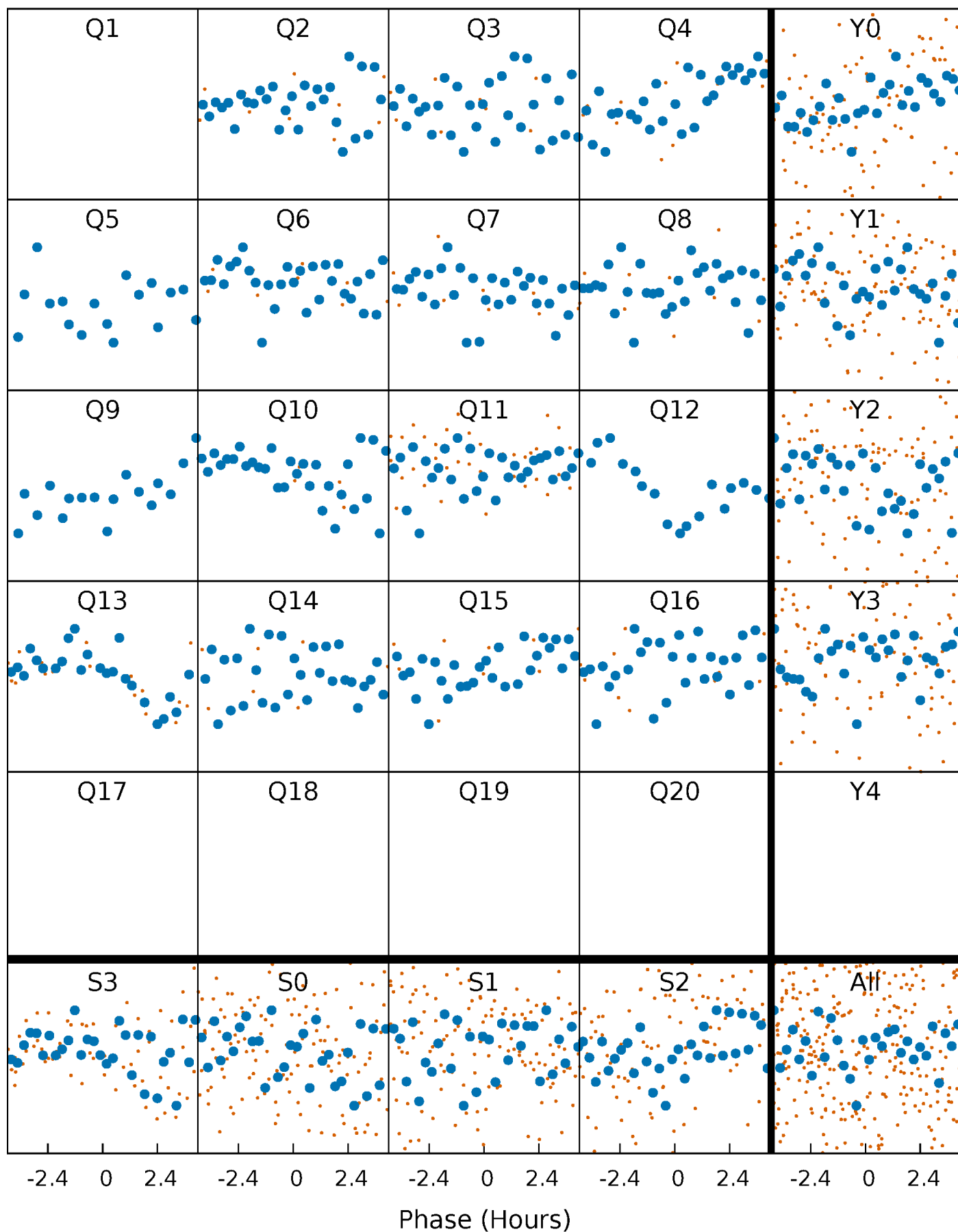


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



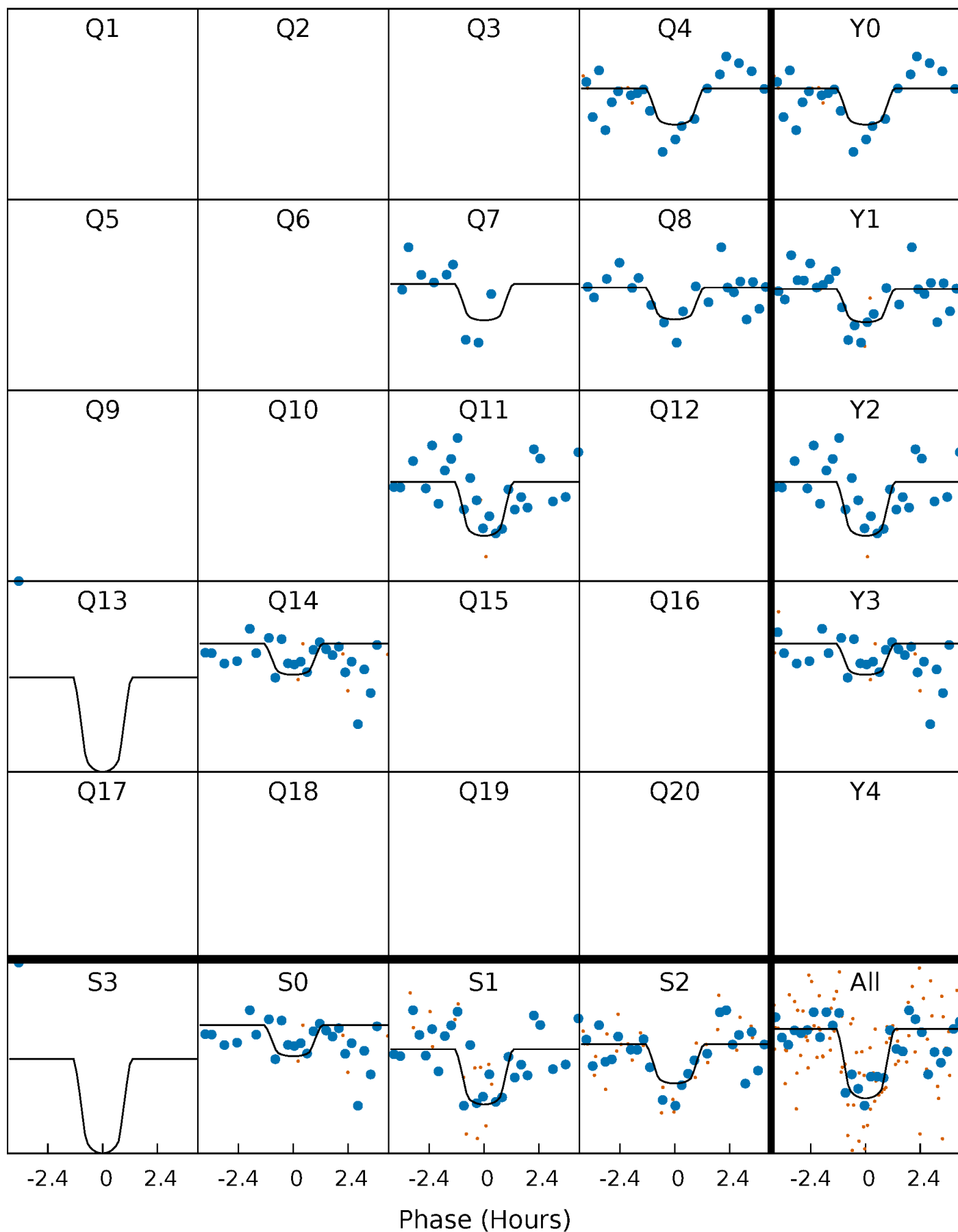
PDC Quarter-Phased Transit Curves

TCE 006115603-04 P= 44.308404 Days $T_0=165.505638$ (BKJD)



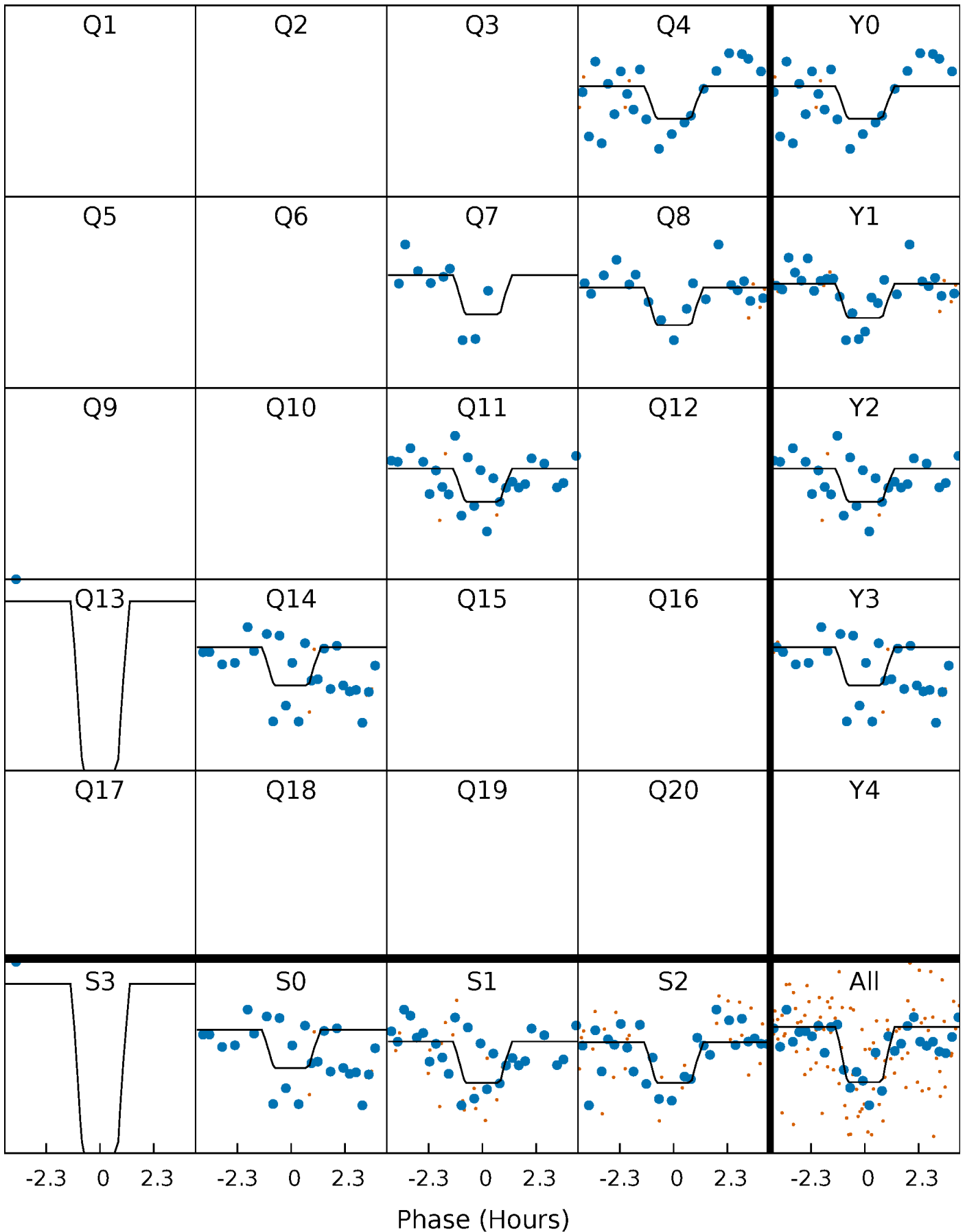
DV Quarter-Phased Transit Curves

TCE 006115603-04 $P = 44.308404$ Days $T_0 = 165.505638$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

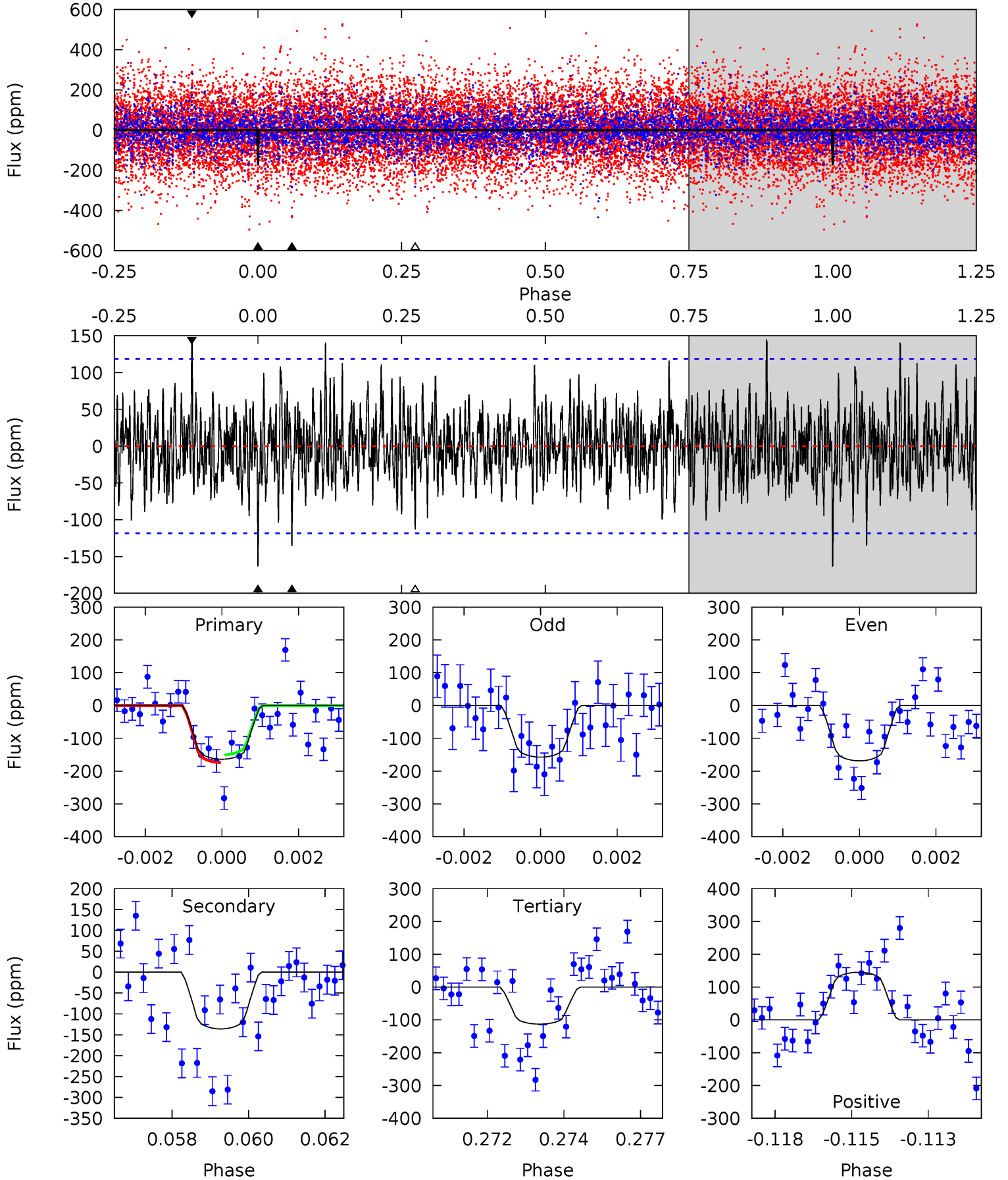
TCE 006115603-04 P= 44.308187 Days $T_0=165.508079$ (BKJD)



DV Model-Shift Uniqueness Test

006115603-04, P = 44.308404 Days, E = 121.197234 Days

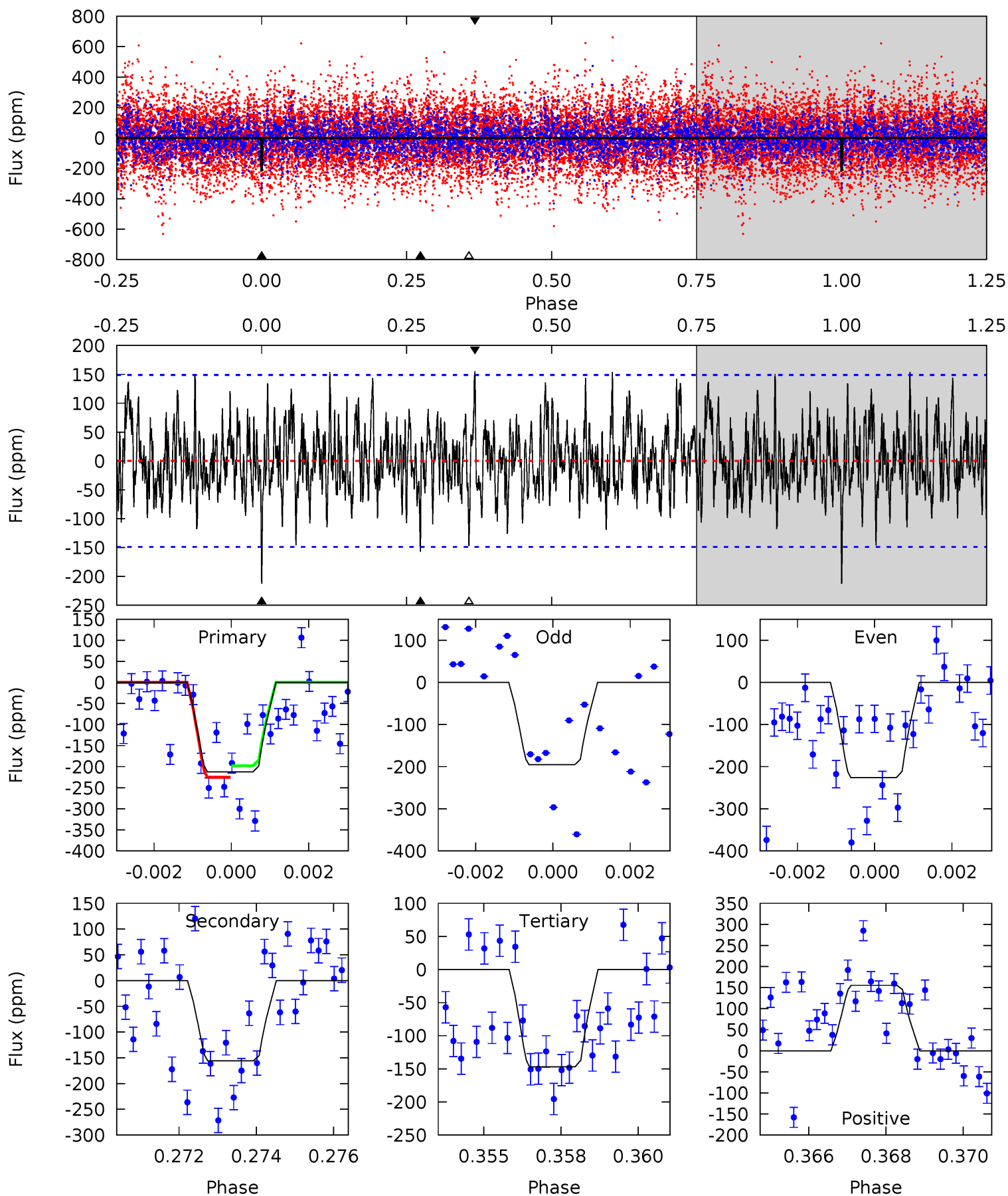
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.32	6.08	5.05	6.49	5.30	3.05	1.68	2.27	0.83	1.03	-0.41	0.25	0.89	0.47	0.54



Alt Model-Shift Uniqueness Test

006115603-04, P = 44.308187 Days, E = 121.199892 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.59	5.57	5.25	5.56	5.32	3.08	1.77	2.35	2.04	0.33	0.02	0.54	0.80	0.42	0.49



Stellar Parameters For KIC 006115603

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6510^{+146}_{-179}	$3.553^{+0.323}_{-0.108}$	$-0.240^{+0.350}_{-0.300}$	$3.553^{+0.460}_{-1.379}$	$1.646^{+0.229}_{-0.371}$	$0.052^{+0.121}_{-0.014}$
	+2%/-3%	+9%/-3%	+146%/-125%	+13%/-39%	+14%/-23%	+234%/-28%
Source	PHO1	FLK73	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 006115603-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-136 ± 22	$6.64^{+5.89}_{-4.17}$	1392^{+74}_{-130}	5265^{+3924}_{-1206}	143^{+906}_{-104}
Alt.	-156 ± 28	$6.97^{+6.30}_{-4.49}$	1389^{+81}_{-126}	5289^{+4183}_{-1142}	147^{+1068}_{-104}

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 $A_{obs} \gg 1.0$

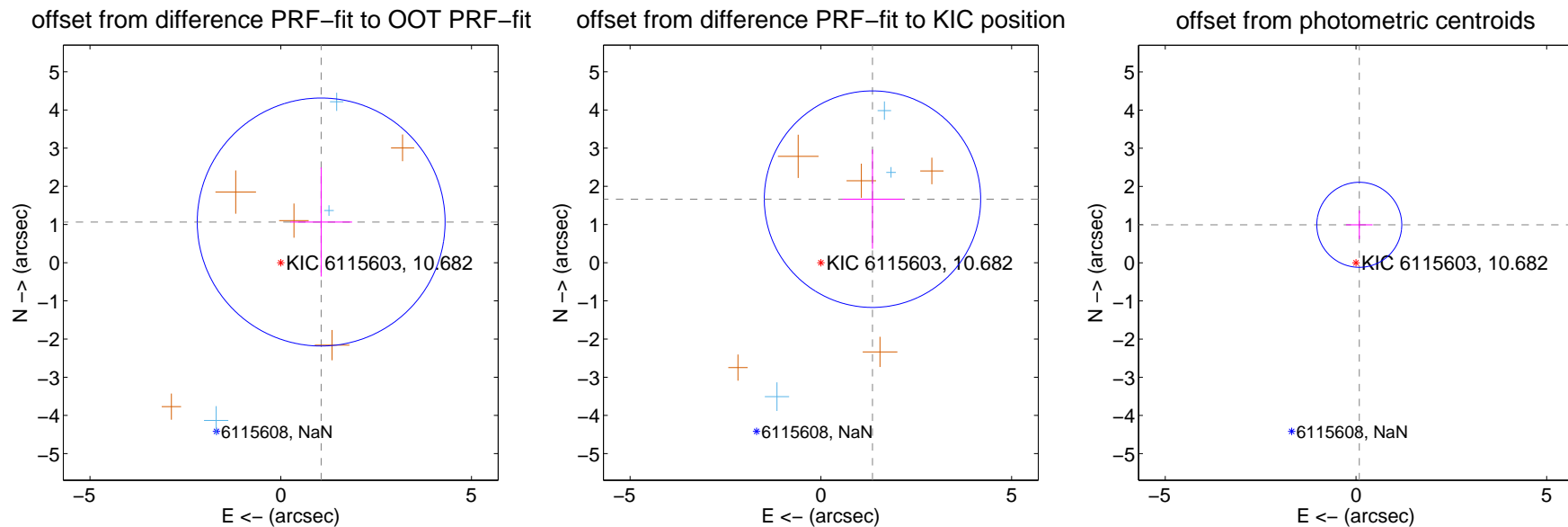
DV Centroid Data

Supplemental centroid analysis for 006115603-04. **Kepler magnitude: 10.68.** Transit SNR 9.57

There are 3 quarters with good PRF difference image offsets

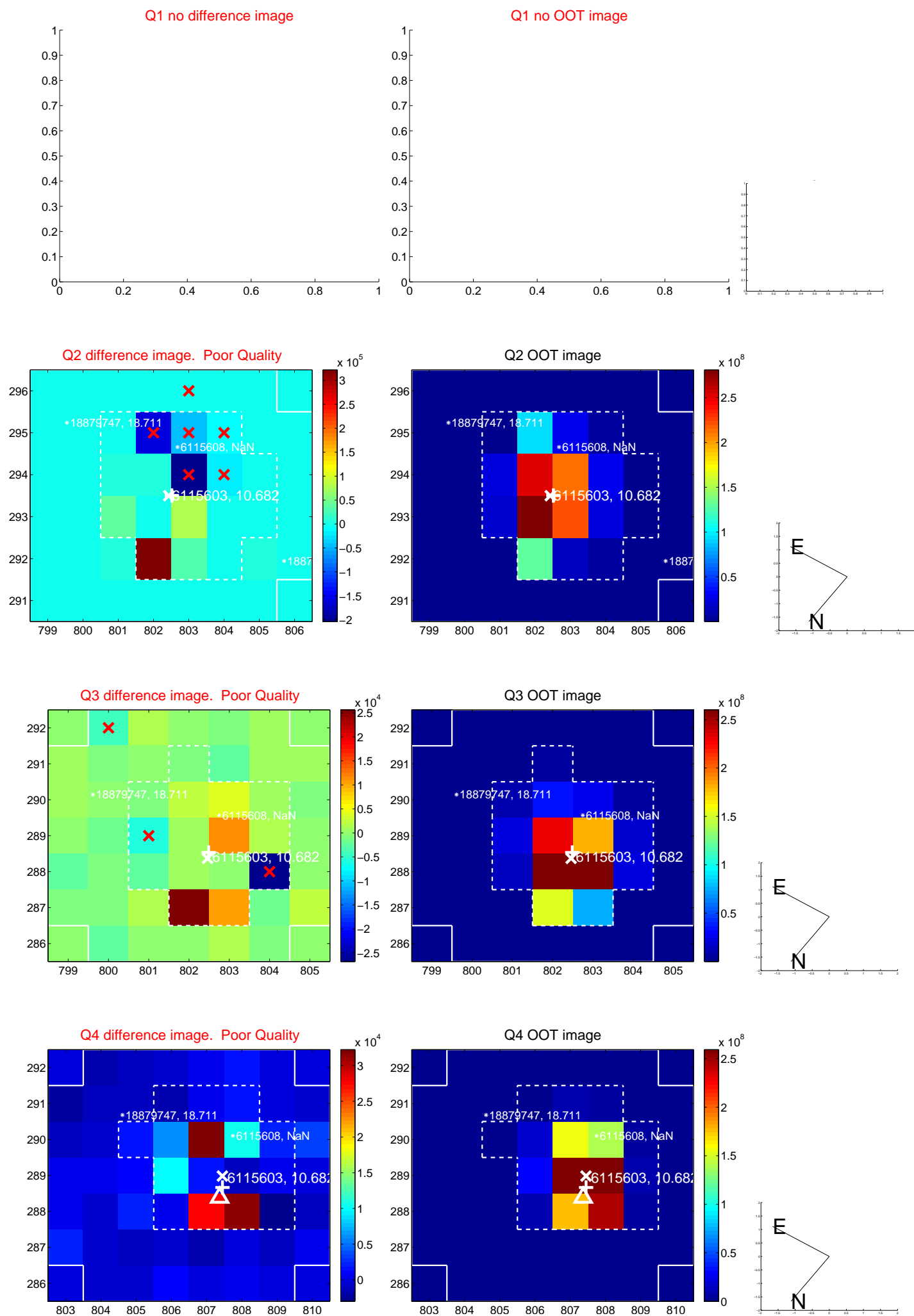
The direct PRF centroid is offset from the target star catalog position by about 1.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.502 ± 1.082	1.39	-1.059 ± 0.811	1.065 ± 1.428
PRF-fit source offset from KIC position	2.144 ± 0.945	2.27	-1.353 ± 0.787	1.663 ± 1.299
photometric centroid source offset	1.00 ± 0.37	2.69	-0.09 ± 0.35	0.99 ± 0.37

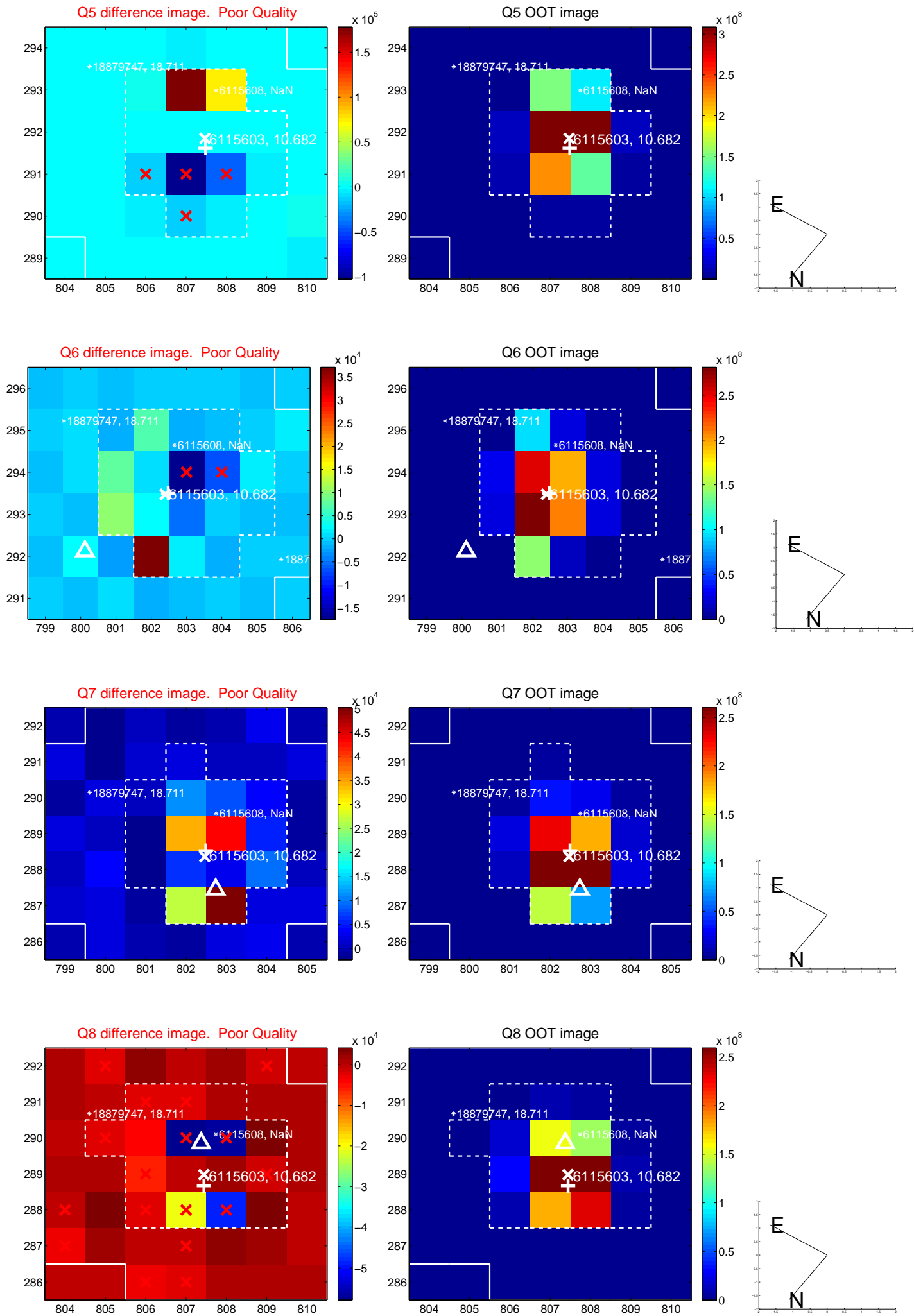


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

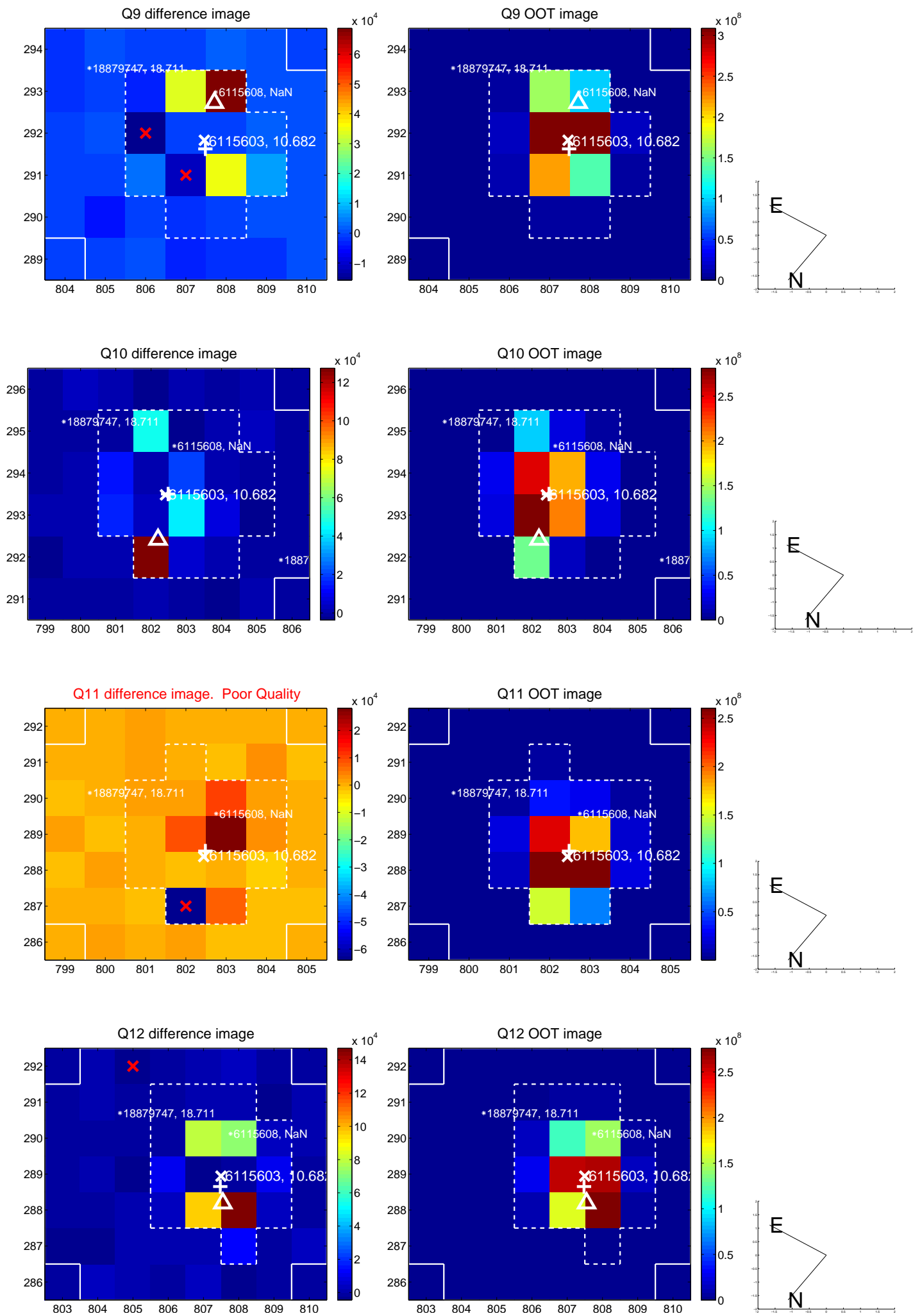
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



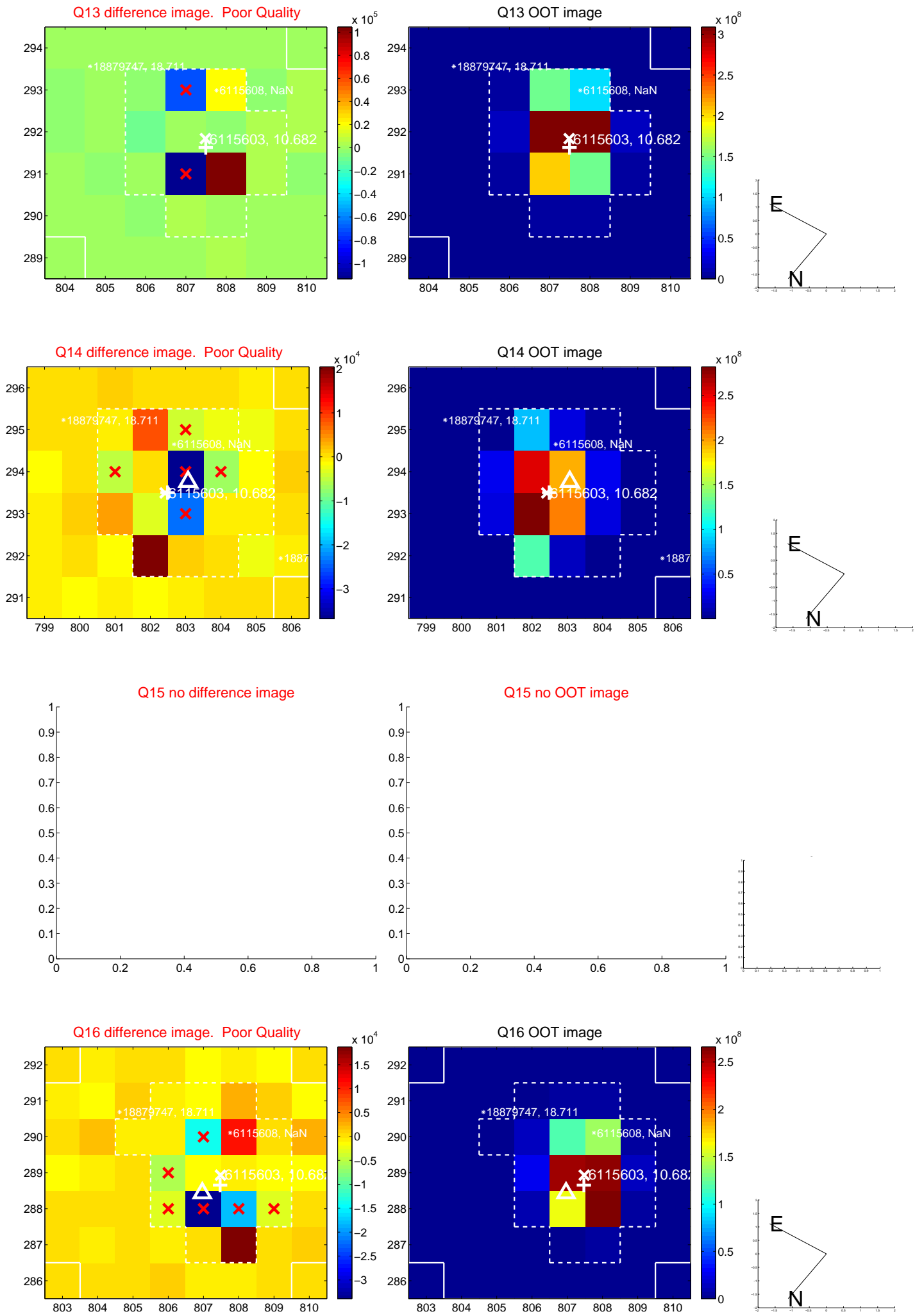
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



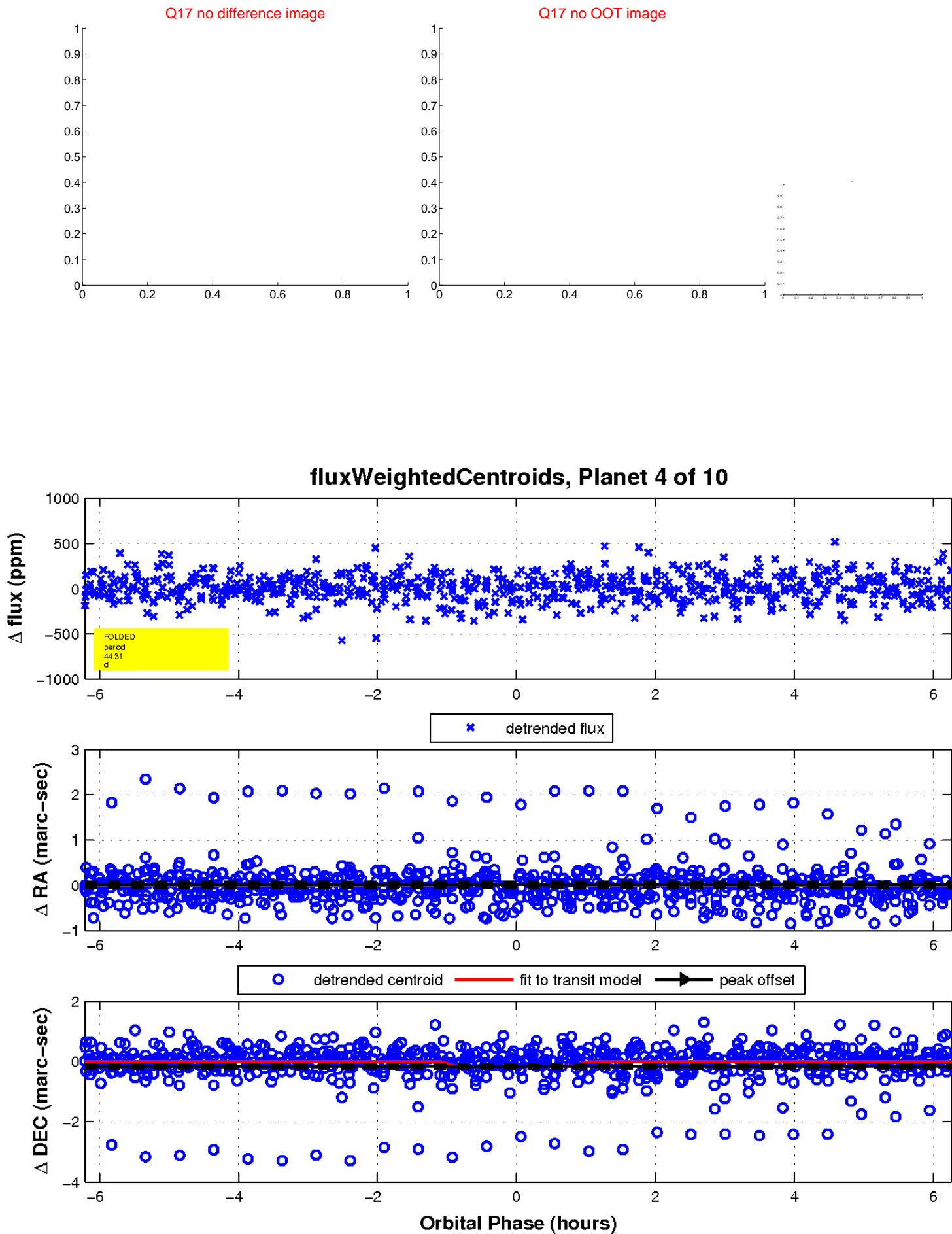
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

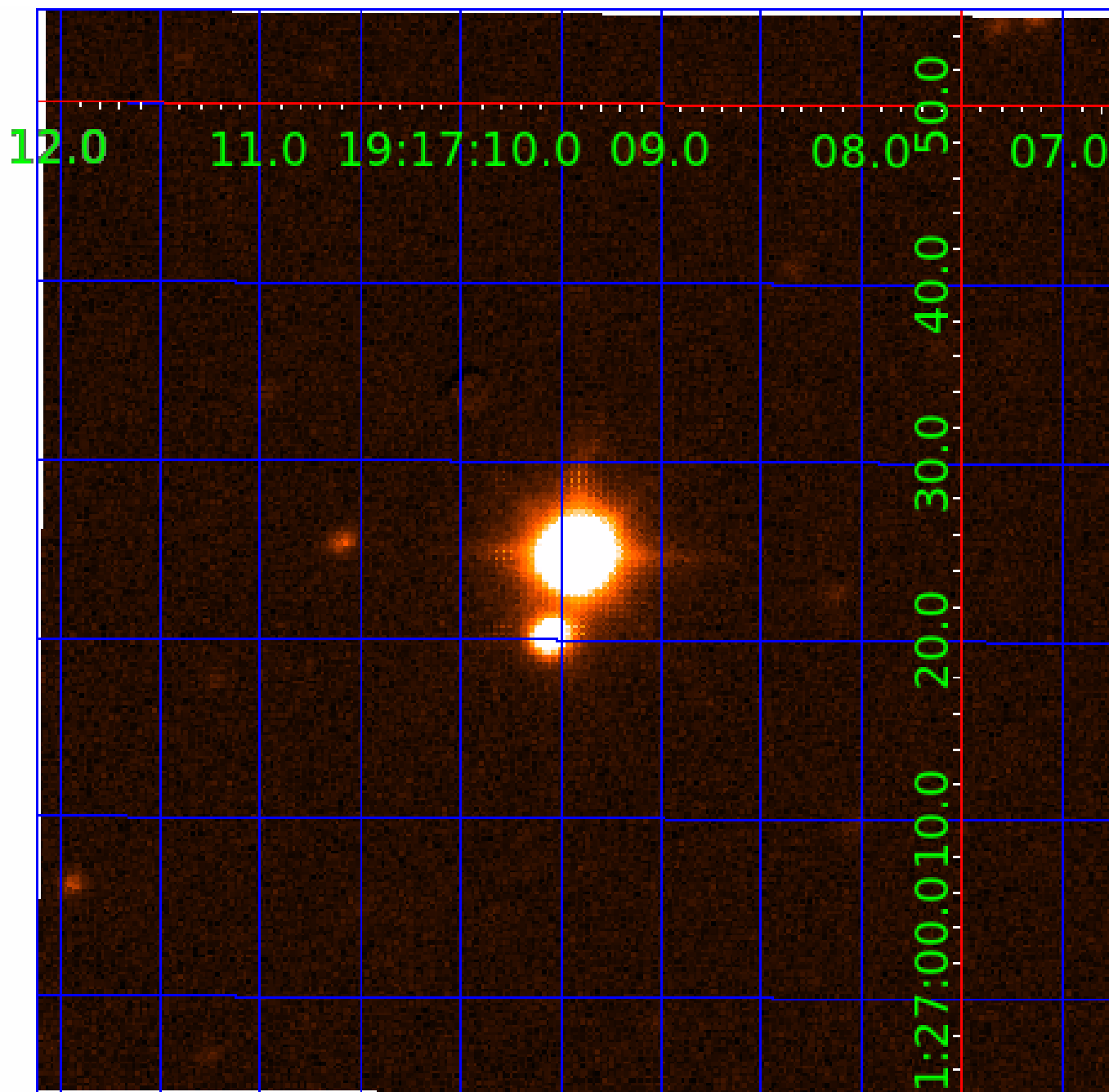


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006115603

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})
006115603-01	OBS	No	2.027653	132.269081	21.2	12.019	8.2	7.3	3.55	6510	2.00	14823.71
006115603-03	OBS	No	223.073942	287.488546	216.9	7.976	10.3	8.6	3.55	6510	5.96	28.12
006115603-04	OBS	No	44.308404	165.505638	181.4	2.088	10.1	9.6	3.55	6510	5.43	242.64
006115603-05	OBS	No	160.029581	148.288775	245.7	2.560	10.0	8.8	3.55	6510	6.51	43.79
006115603-06	OBS	No	36.703881	154.308734	176.1	3.638	9.9	8.9	3.55	6510	5.07	311.89
006115603-07	OBS	No	372.914339	234.986749	276.4	3.464	9.8	9.2	3.55	6510	6.73	14.17
006115603-08	OBS	No	103.658197	154.981118	252.1	4.379	9.9	9.5	3.55	6510	6.19	78.13
006115603-09	OBS	No	80.625343	138.506069	261.4	3.510	9.7	10.4	3.55	6510	6.74	109.22
006115603-10	OBS	No	25.345451	134.150778	64.9	3.000	9.5	-1.0	3.55	6510	2.88	510.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006115603-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
006115603-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006115603-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006115603-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006115603-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006115603-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

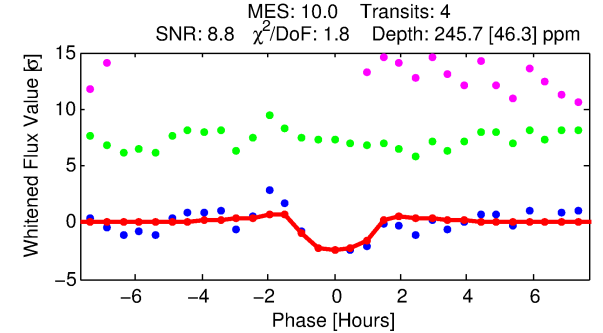
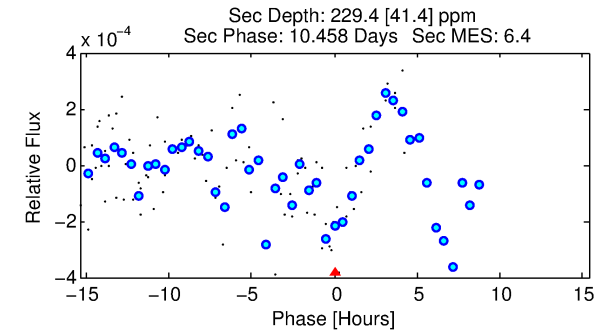
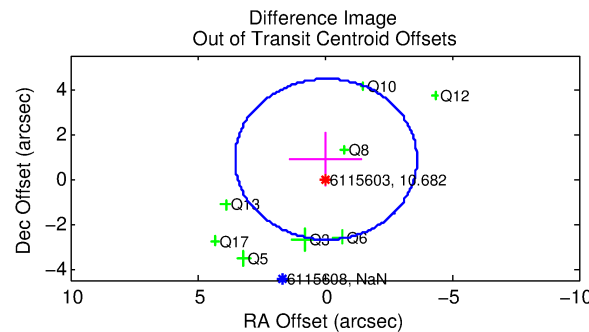
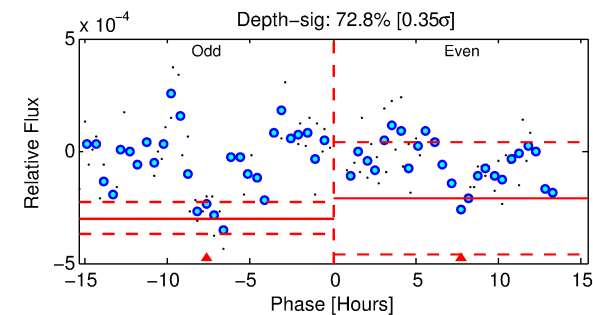
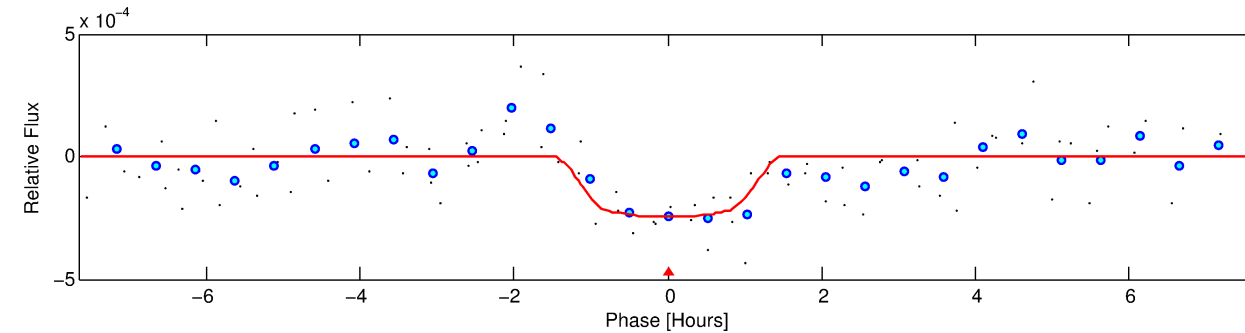
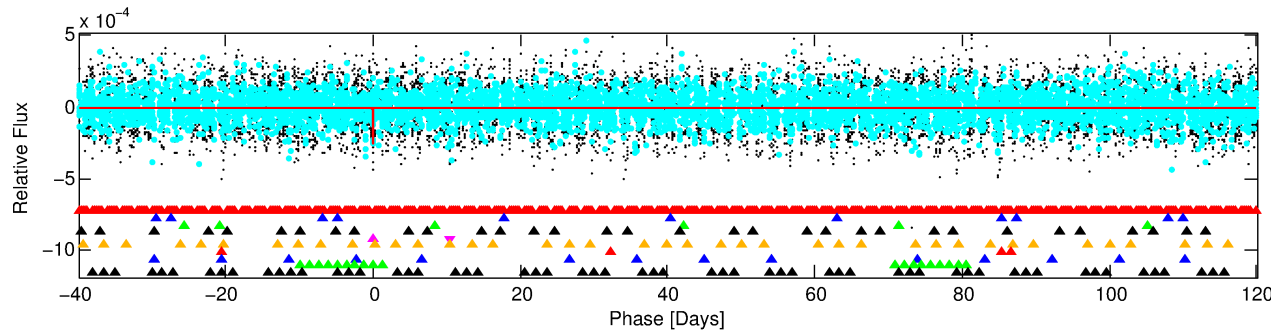
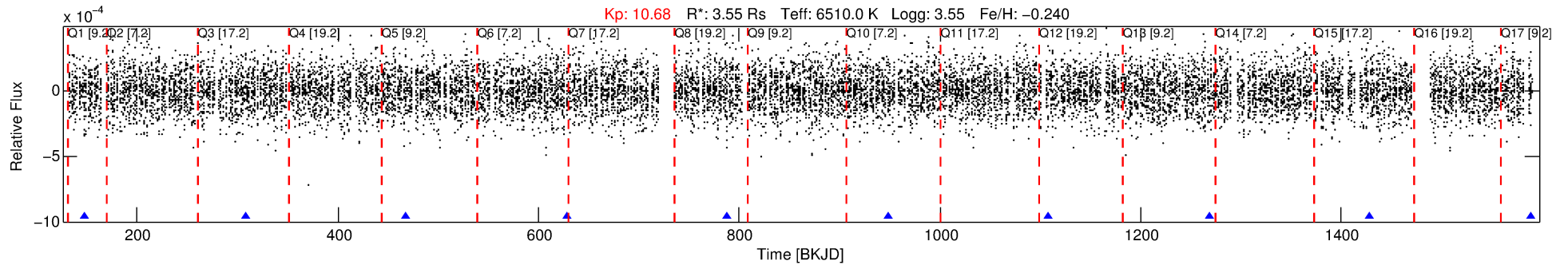
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006115603-05

No Significant Match Found

DV One-Page Summary

KIC: 6115603 Candidate: 5 of 10 Period: 160.030 d



DV Fit Results:

Period = 160.02958 [0.00520] d
Epoch = 148.2888 [0.0275] BKJD
Rp/R* = 0.0168 [0.0174]
a/R* = 225.94 [1370.85]
b = 0.90 [1.29]
Seff = 43.79 [24.96]
Teff = 656 [93] K
Rp = 6.51 [7.20] Re
a = 0.6811 [0.2441] AU
Ag = 1383.05 [2981.22] [0.46] σ
Teffp = 6185 [3223] K [1.71] σ

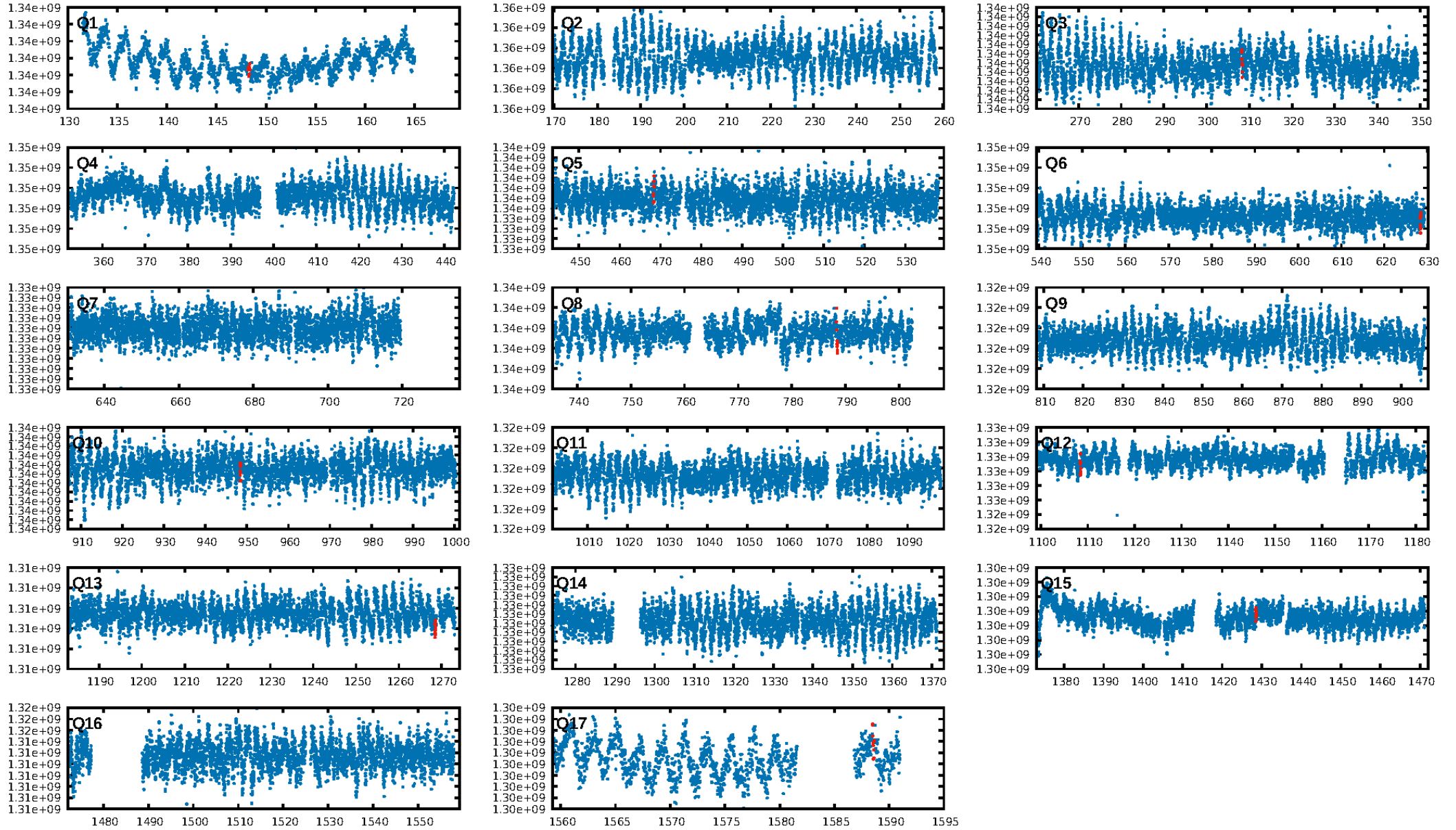
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [25.18] σ
LongPeriod-sig: 100.0% [180.62] σ
ModelChiSquare2-sig: 29.1%
ModelChiSquareGof-sig: 97.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -7.654
Centroid-sig: 37.2%
Centroid-so: 0.462 arcsec [1.00] σ
OotOffset-rm: 0.874 arcsec [0.73] σ
OotOffset-st: 2/1/2/3 [8]
KicOffset-rm: 1.483 arcsec [1.22] σ
KicOffset-st: 2/1/2/3 [8]
DiffImageQuality-fgm: 0.62 [5/8]
DiffImageOverlap-fno: 0.40 [4/10]

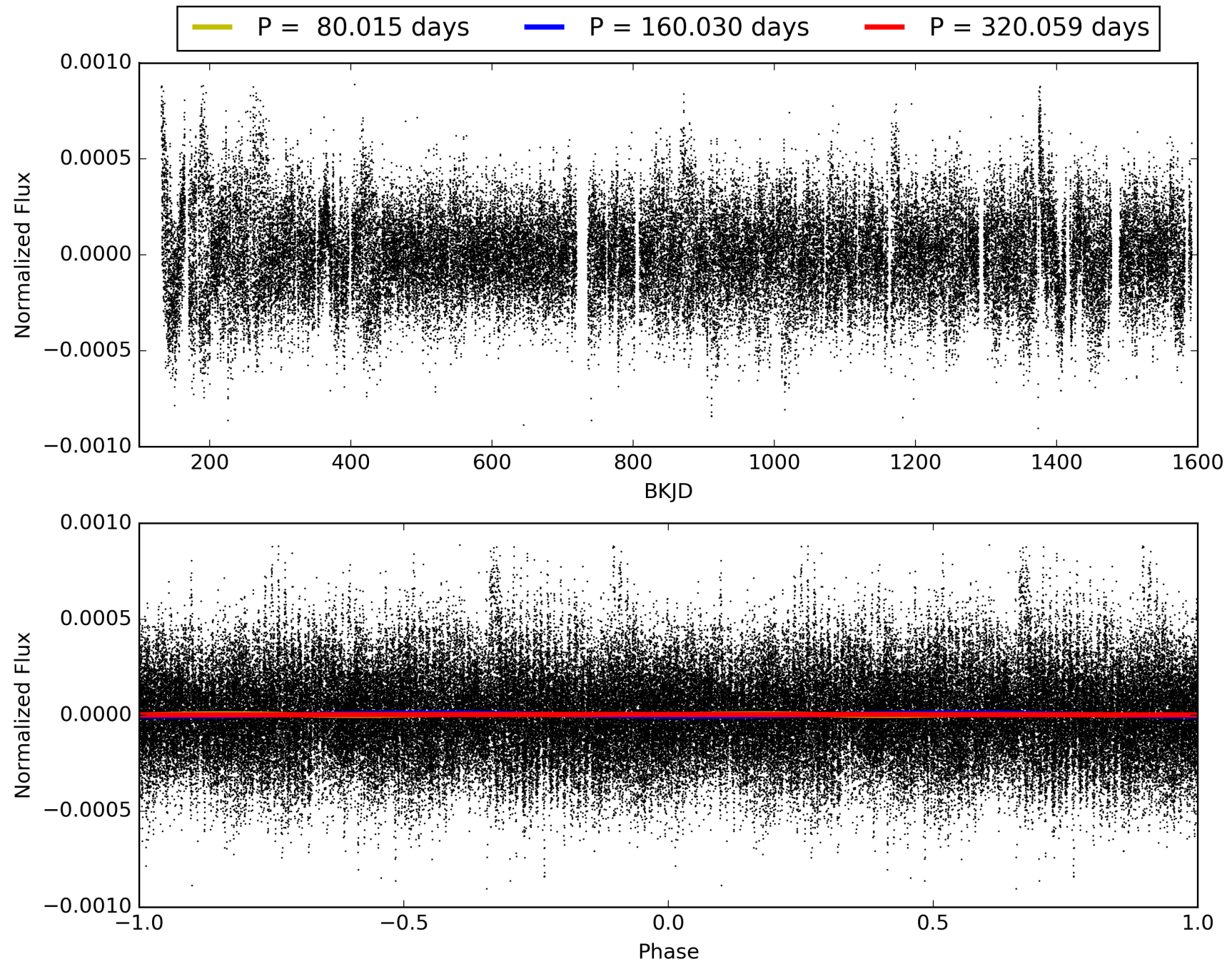
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:34:28 Z

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

TCE 006115603-05, PDC Light Curves

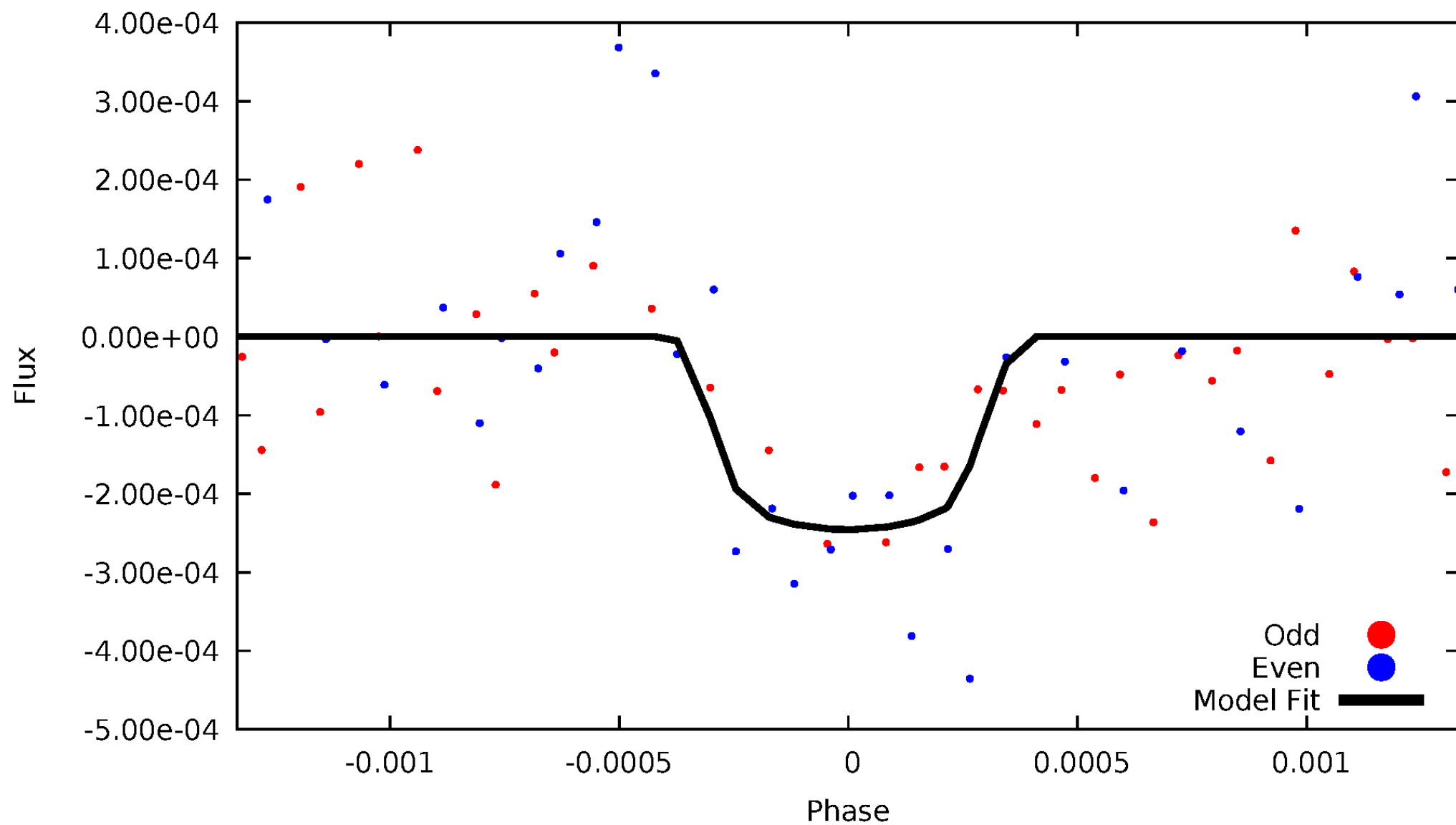


TCE 006115603-05



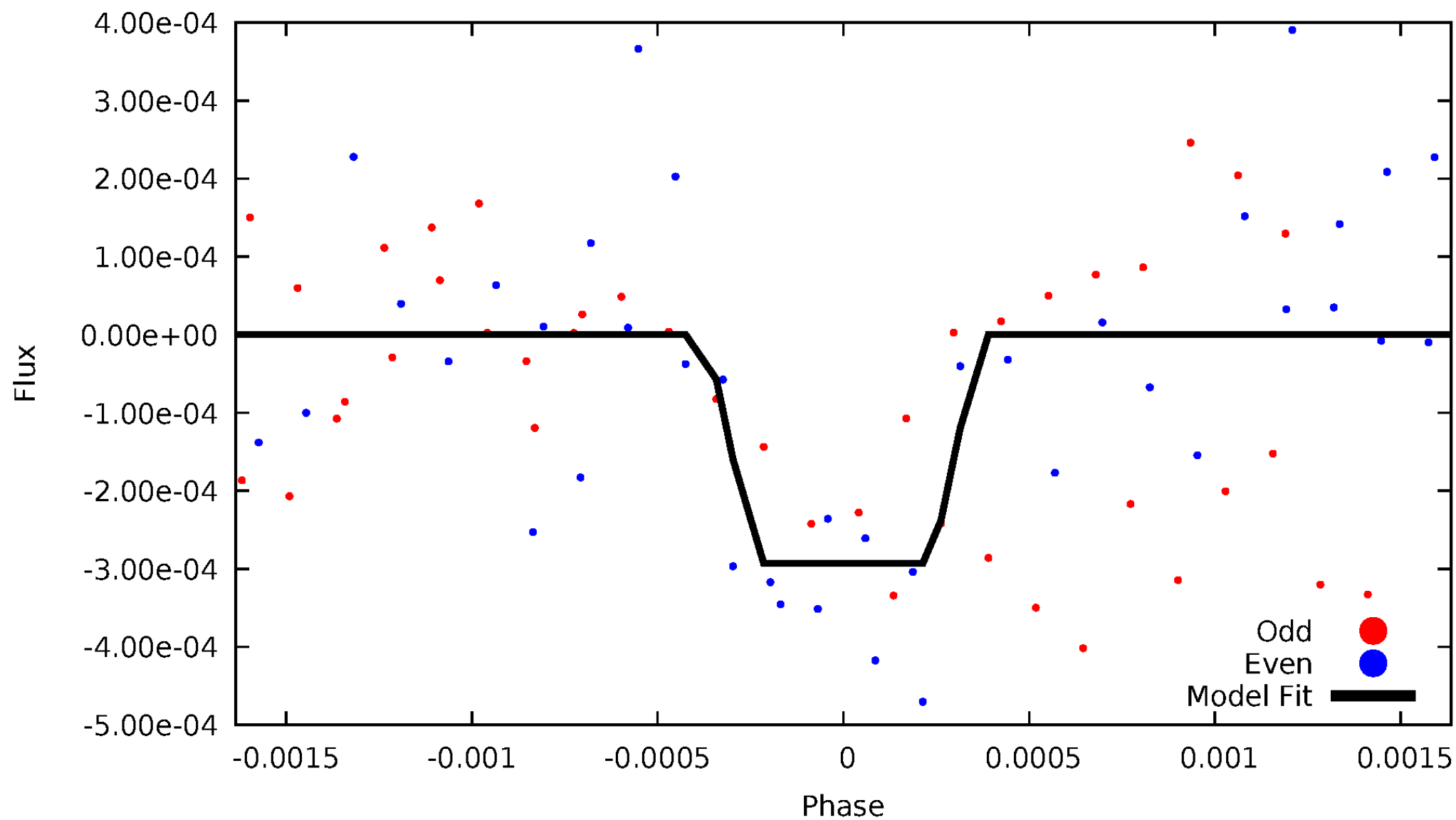
DV Odd/Even

TCE 006115603-05



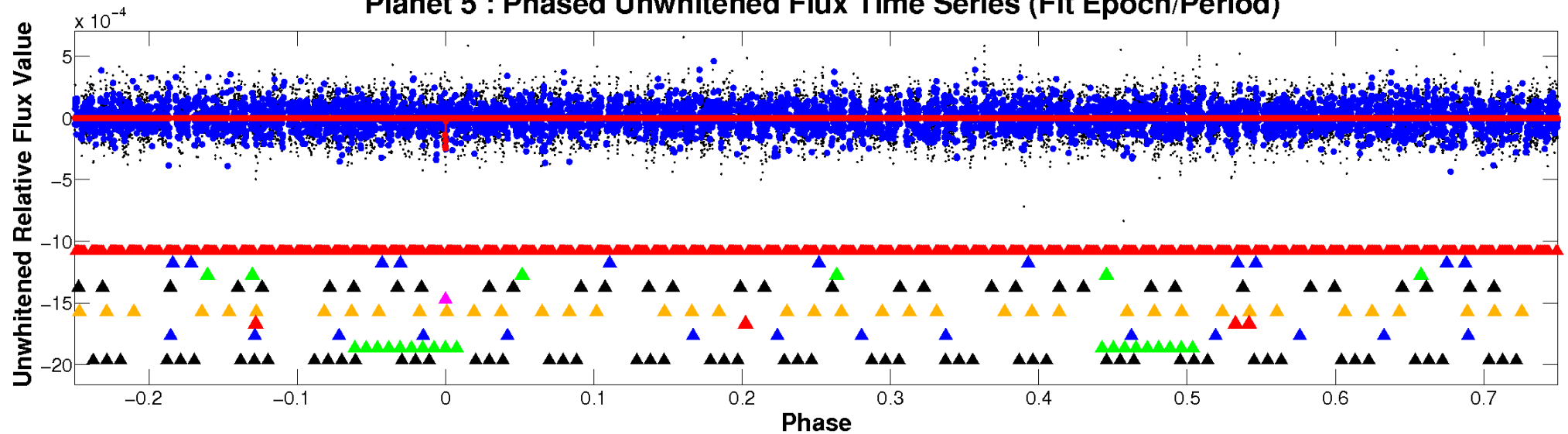
ALT Odd/Even

TCE 006115603-05

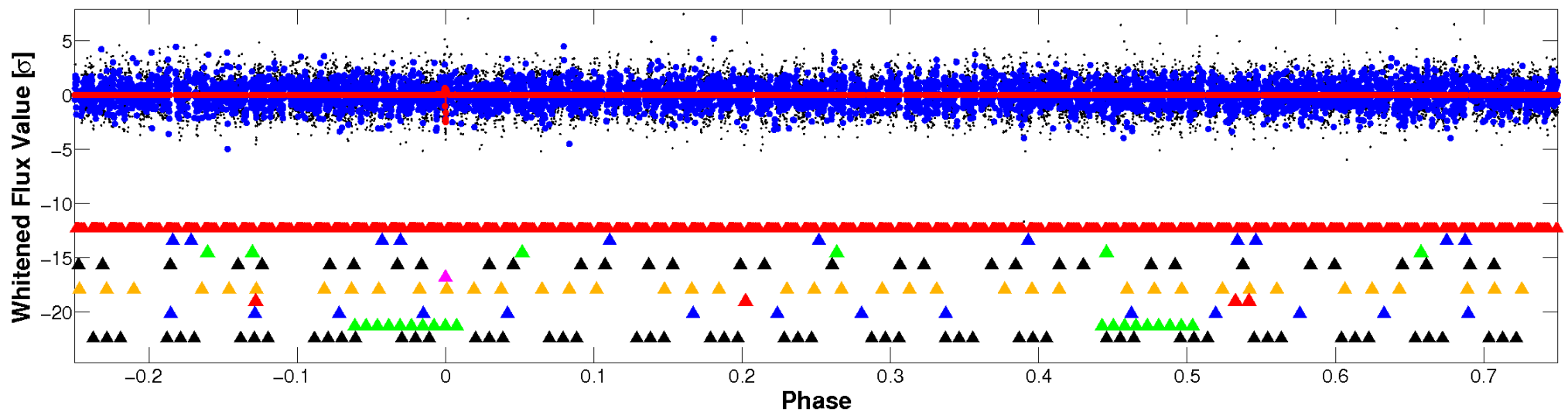


Non-Whitened Vs. Whitened Light Curve

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

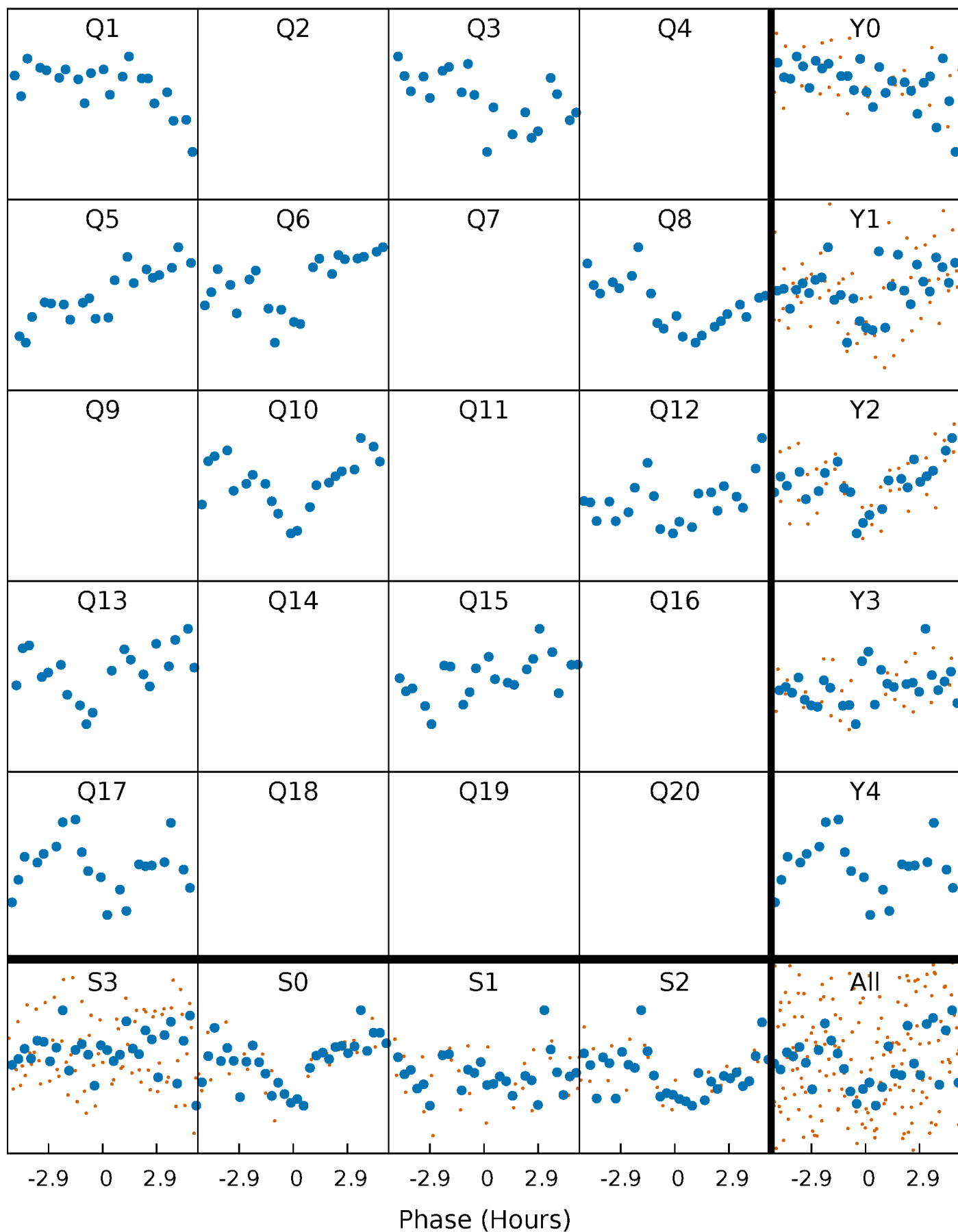


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



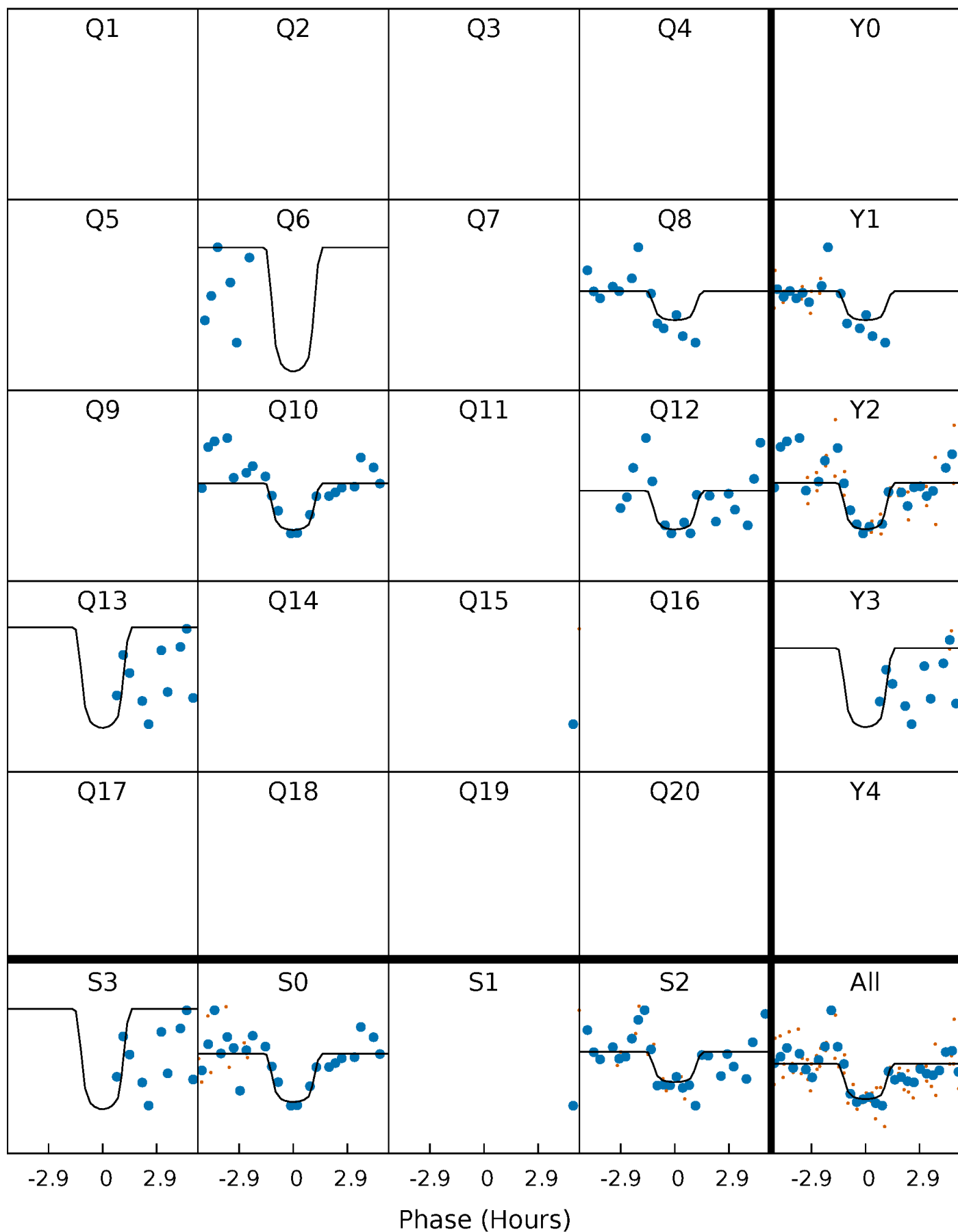
PDC Quarter-Phased Transit Curves

TCE 006115603-05 P=160.029581 Days $T_0=148.288775$ (BKJD)



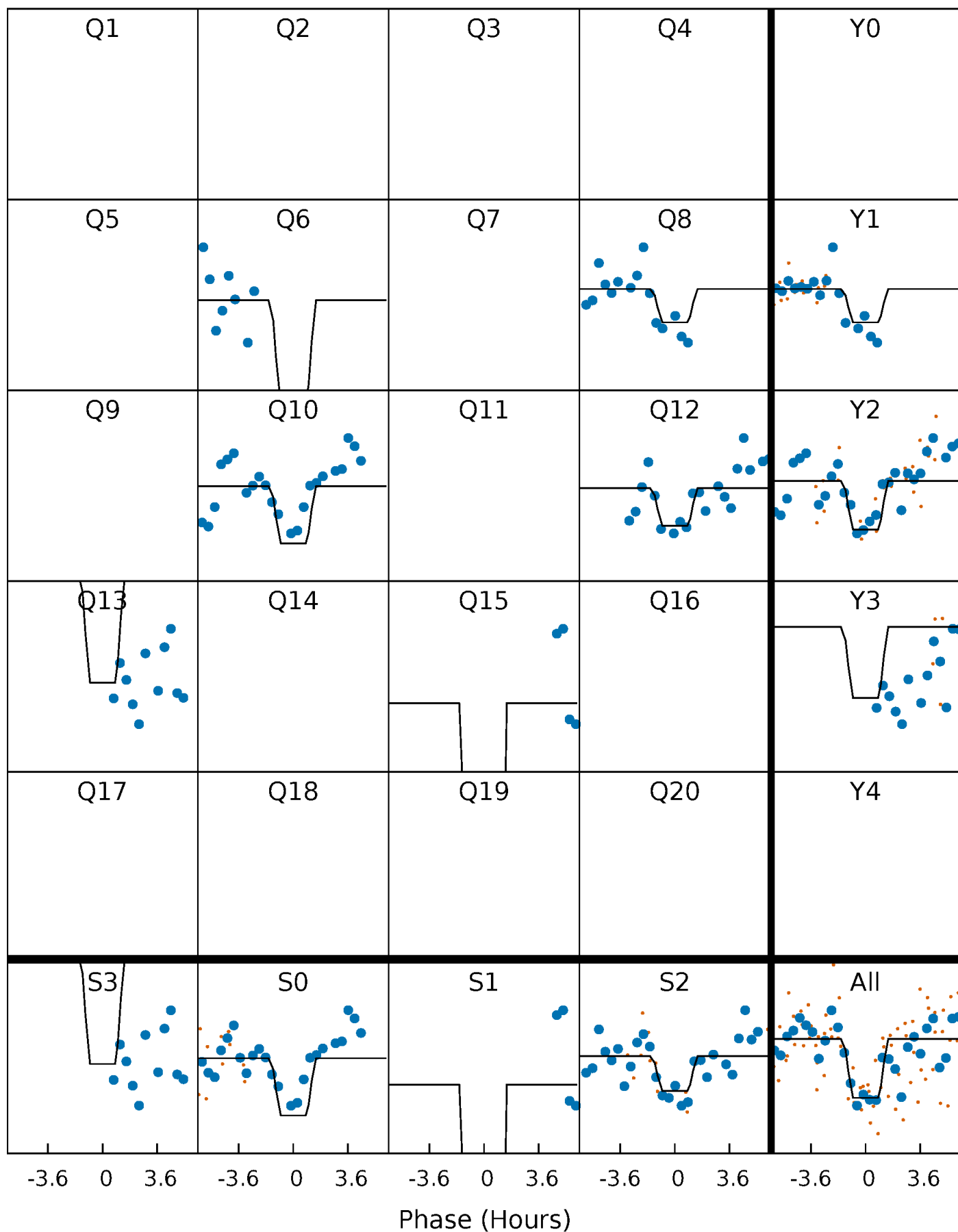
DV Quarter-Phased Transit Curves

TCE 006115603-05 $P=160.029581$ Days $T_0=148.288775$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

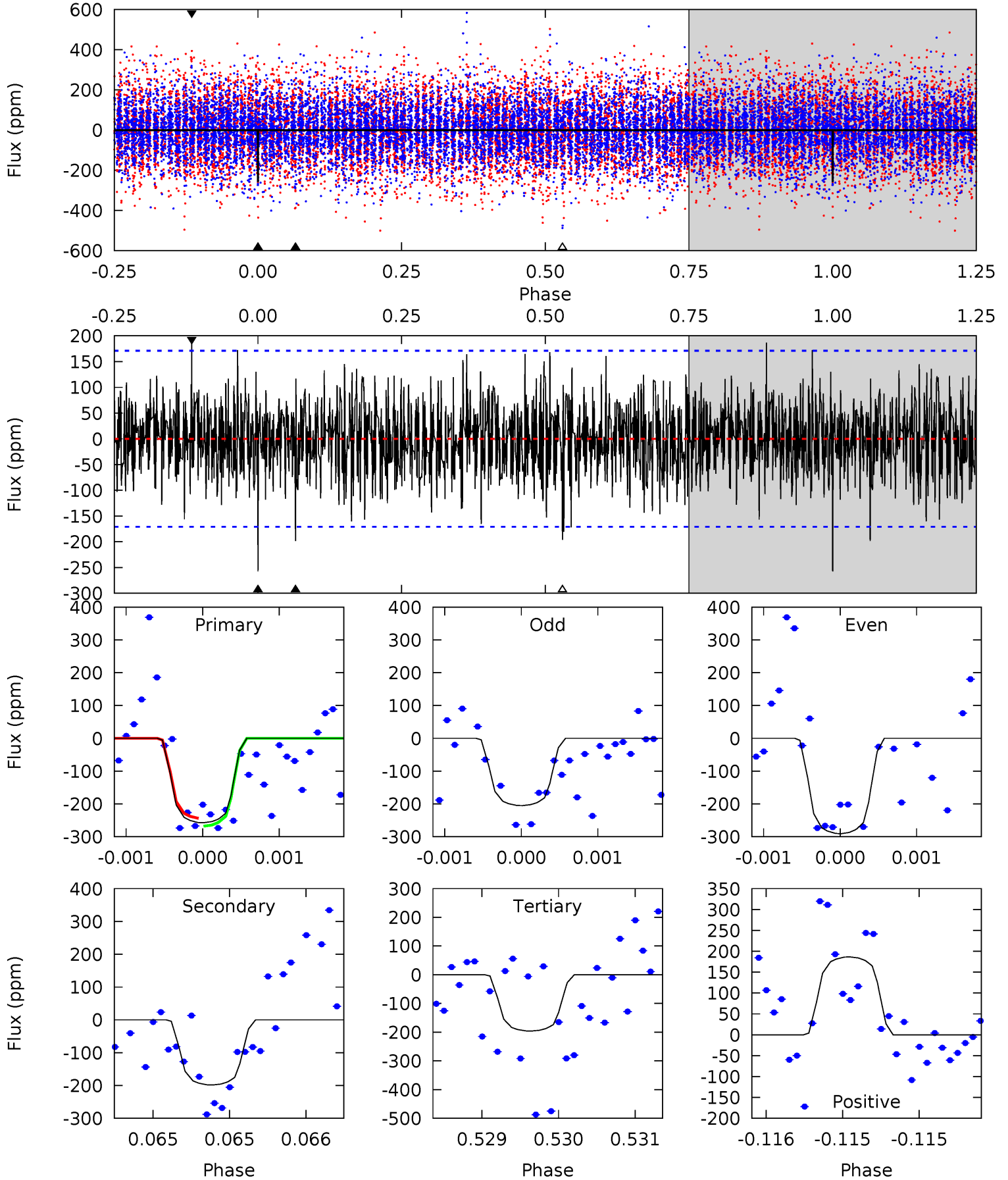
TCE 006115603-05 P=160.027919 Days $T_0=148.303629$ (BKJD)



DV Model-Shift Uniqueness Test

006115603-05, P = 160.029581 Days, E = 148.288775 Days

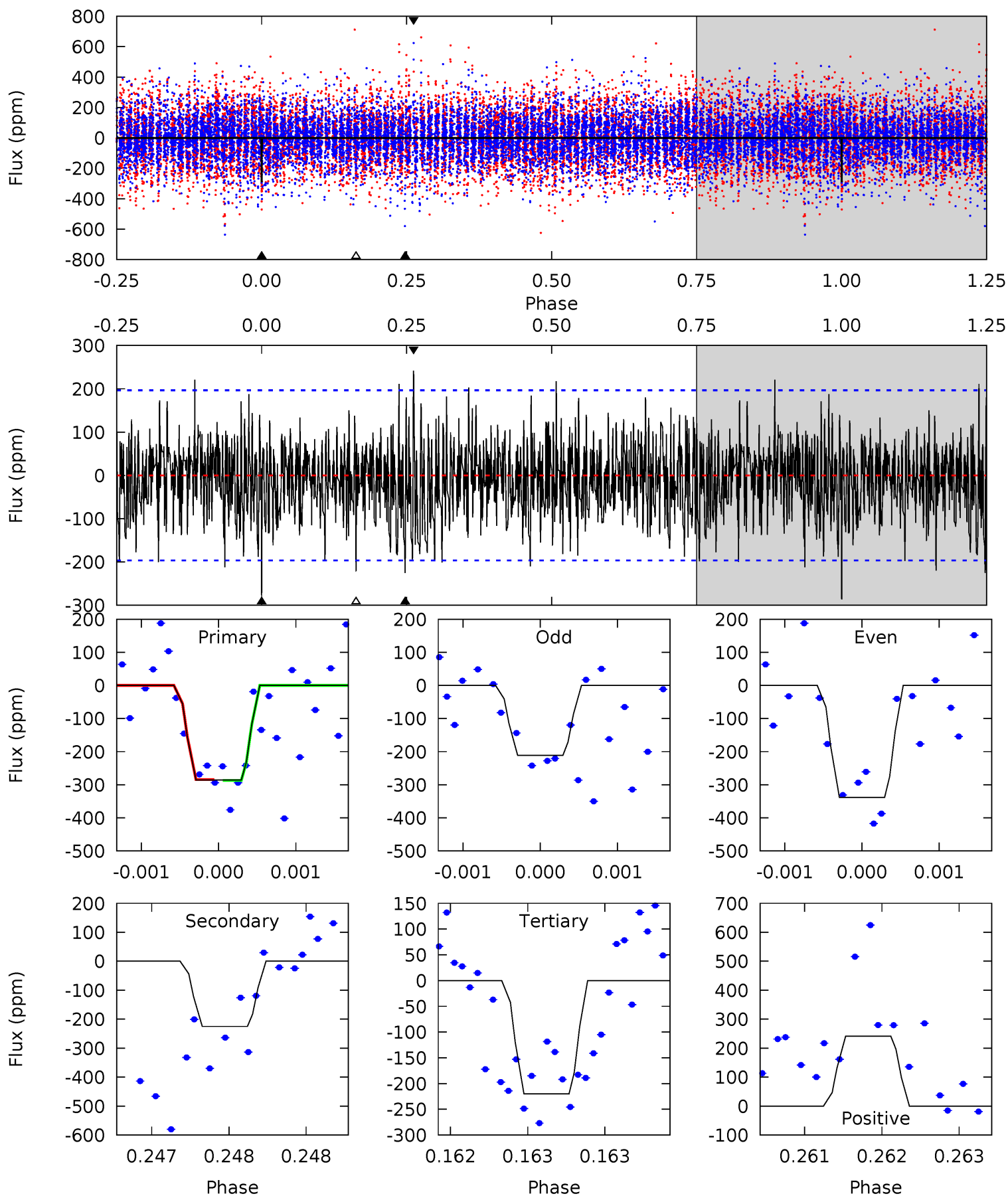
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.31	6.40	6.32	6.02	5.51	3.39	1.68	1.98	2.29	0.08	0.38	1.35	1.07	0.42	0.38



Alt Model-Shift Uniqueness Test

006115603-05, P = 160.027919 Days, E = 148.303629 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.01	6.30	6.16	6.77	5.51	3.38	1.83	1.85	1.24	0.15	-0.46	1.74	0.95	0.46	0.04



Stellar Parameters For KIC 006115603

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6510^{+146}_{-179}	$3.553^{+0.323}_{-0.108}$	$-0.240^{+0.350}_{-0.300}$	$3.553^{+0.460}_{-1.379}$	$1.646^{+0.229}_{-0.371}$	$0.052^{+0.121}_{-0.014}$
	+2%/-3%	+9%/-3%	+146%/-125%	+13%/-39%	+14%/-23%	+234%/-28%
Source	PHO1	FLK73	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 006115603-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-198 ± 31	$7.48^{+6.11}_{-4.27}$	904^{+51}_{-76}	5427^{+3193}_{-1151}	912^{+3817}_{-646}
Alt.	-225 ± 36	$7.64^{+6.19}_{-4.68}$	905^{+49}_{-92}	5497^{+3409}_{-1136}	1006^{+5198}_{-717}

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

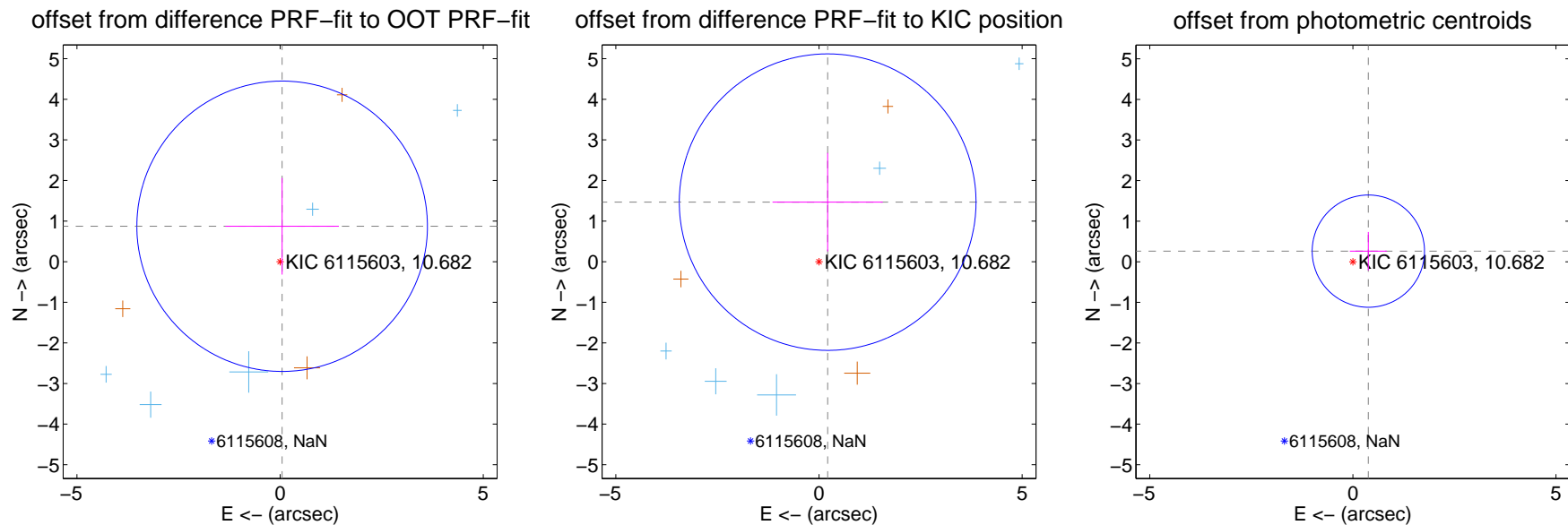
DV Centroid Data

Supplemental centroid analysis for 006115603-05. **Kepler magnitude: 10.68.** Transit SNR 8.76

There are 5 quarters with good PRF difference image offsets

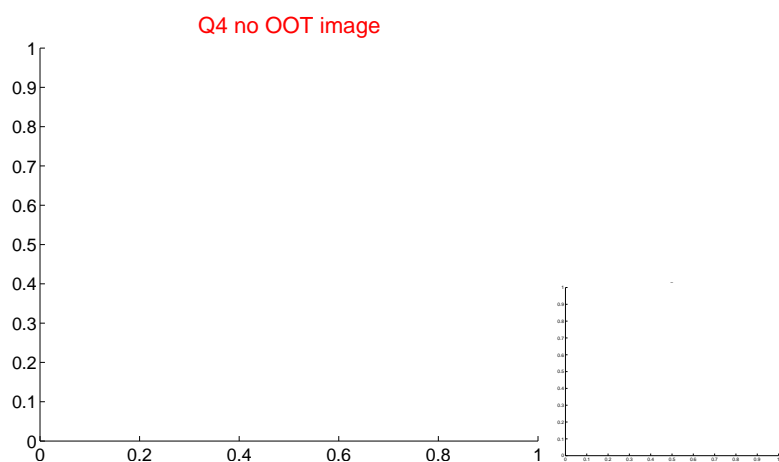
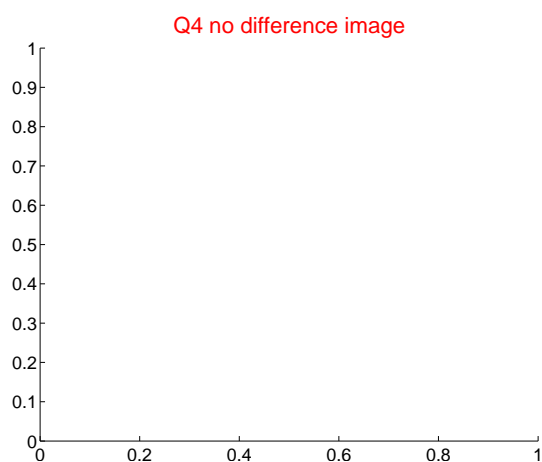
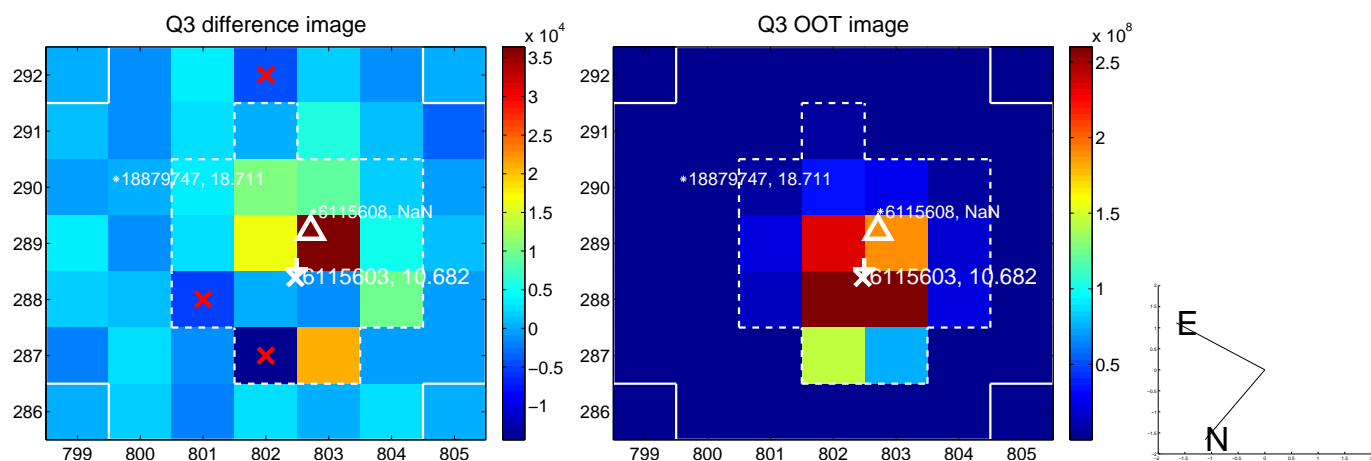
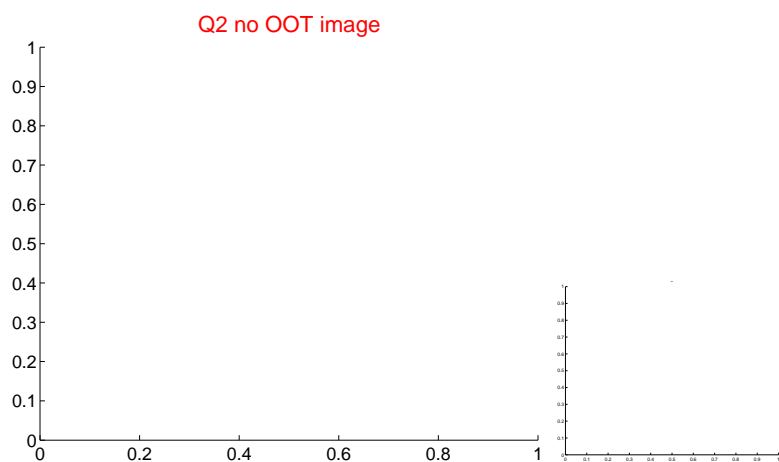
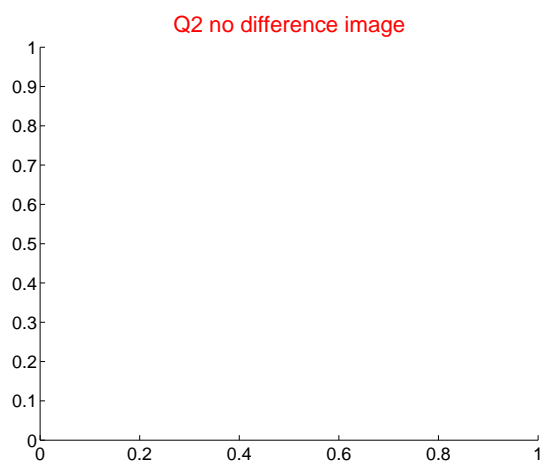
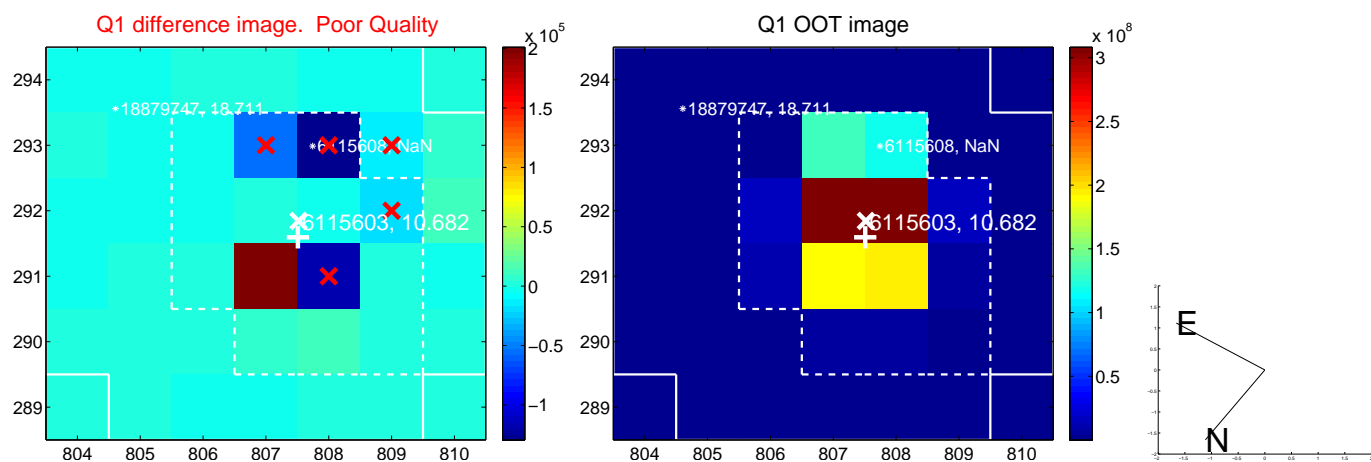
The direct PRF centroid is offset from the target star catalog position by about 0.77 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.874 ± 1.192	0.73	-0.050 ± 1.396	0.873 ± 1.191
PRF-fit source offset from KIC position	1.483 ± 1.217	1.22	-0.213 ± 1.357	1.467 ± 1.214
photometric centroid source offset	0.46 ± 0.46	1.00	-0.38 ± 0.45	0.26 ± 0.47

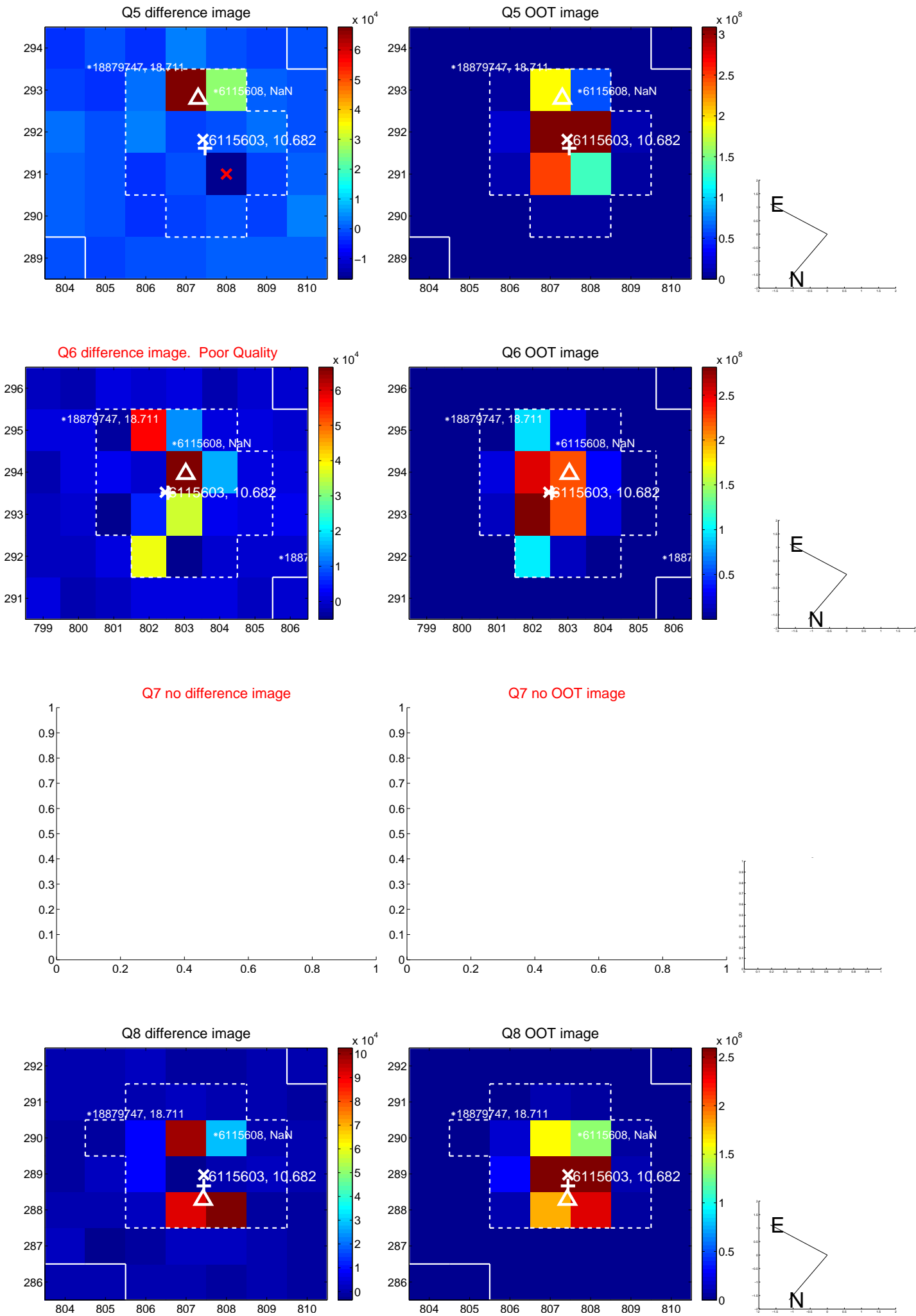


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

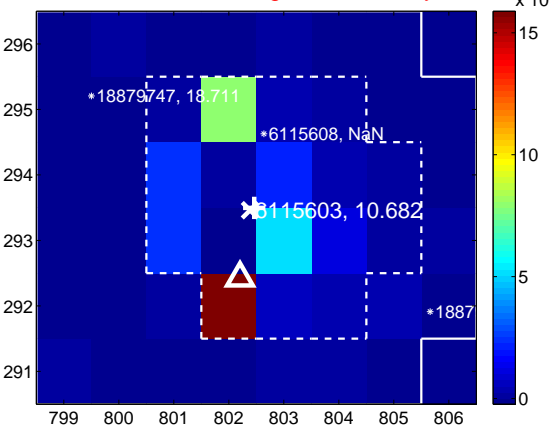
Q9 no difference image



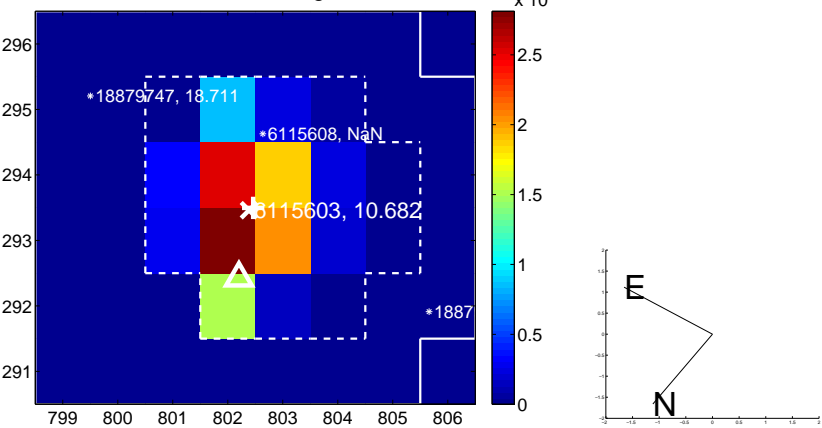
Q9 no OOT image



Q10 difference image. Poor Quality



Q10 OOT image



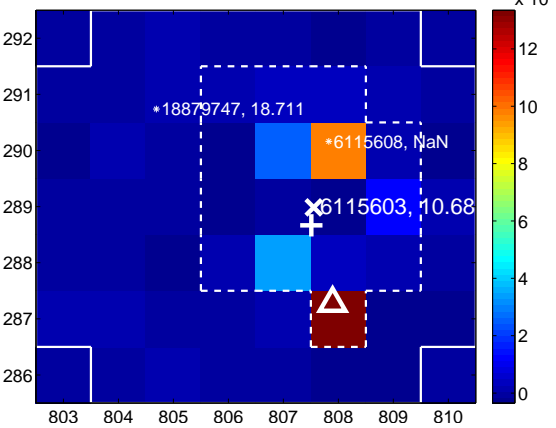
Q11 no difference image



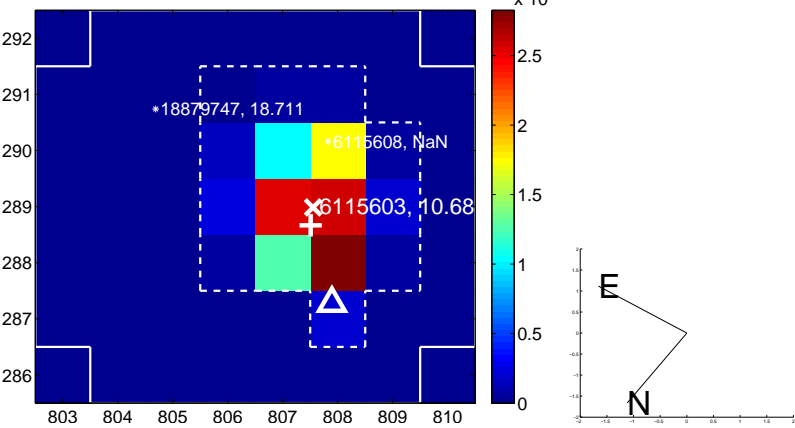
Q11 no OOT image



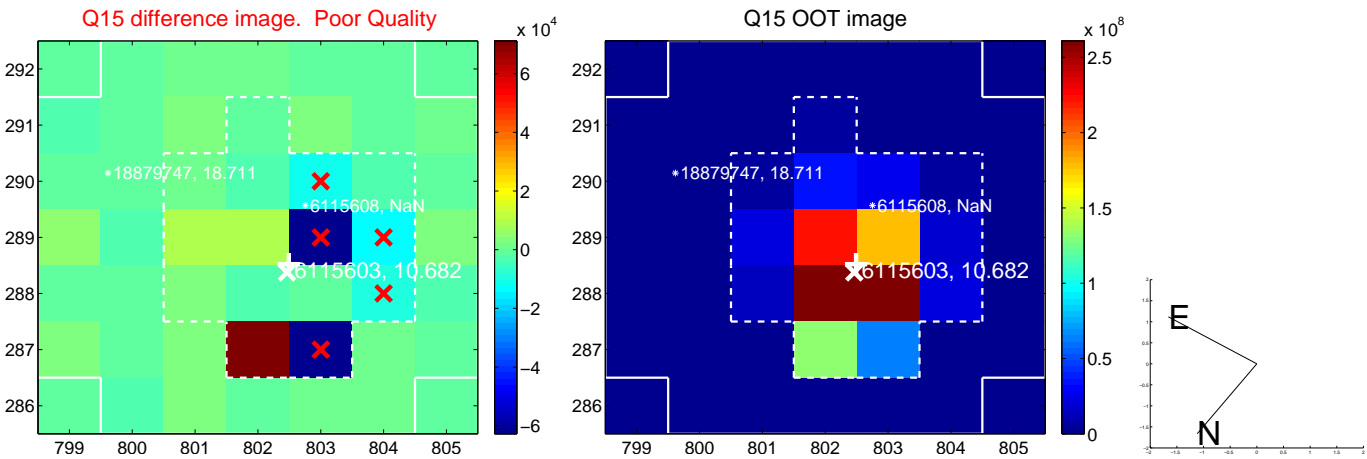
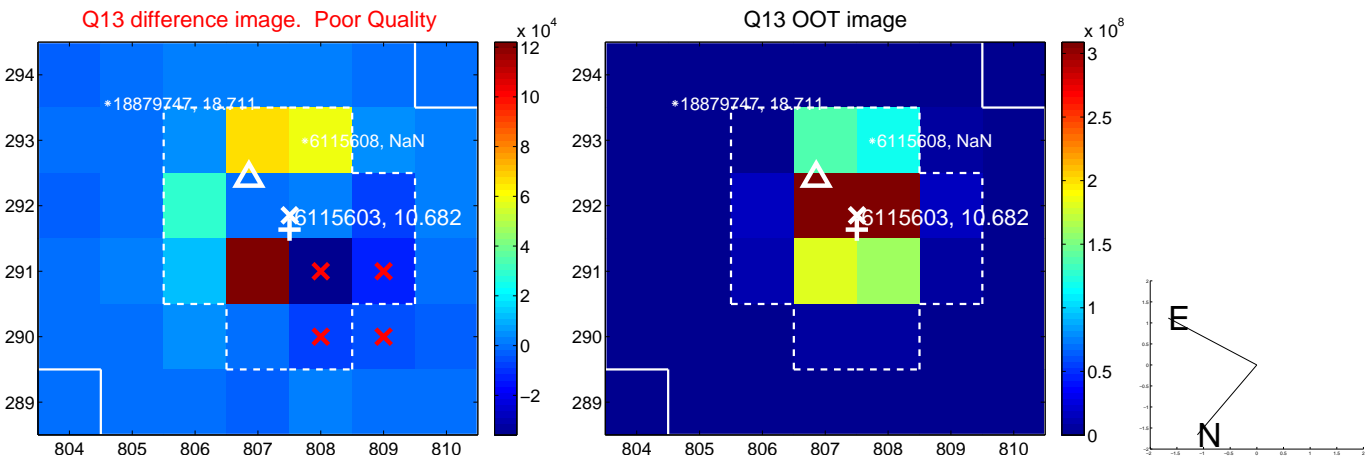
Q12 difference image



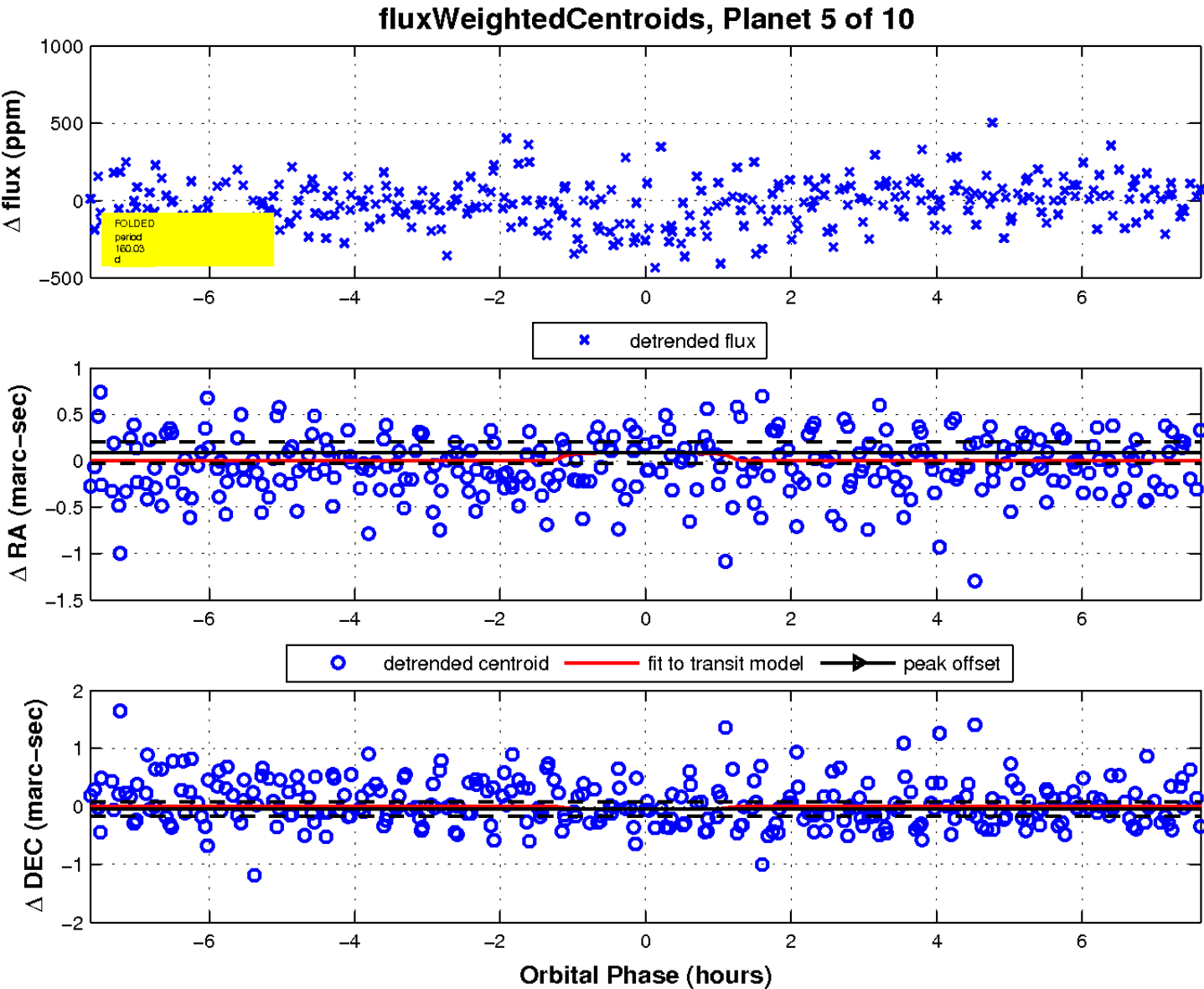
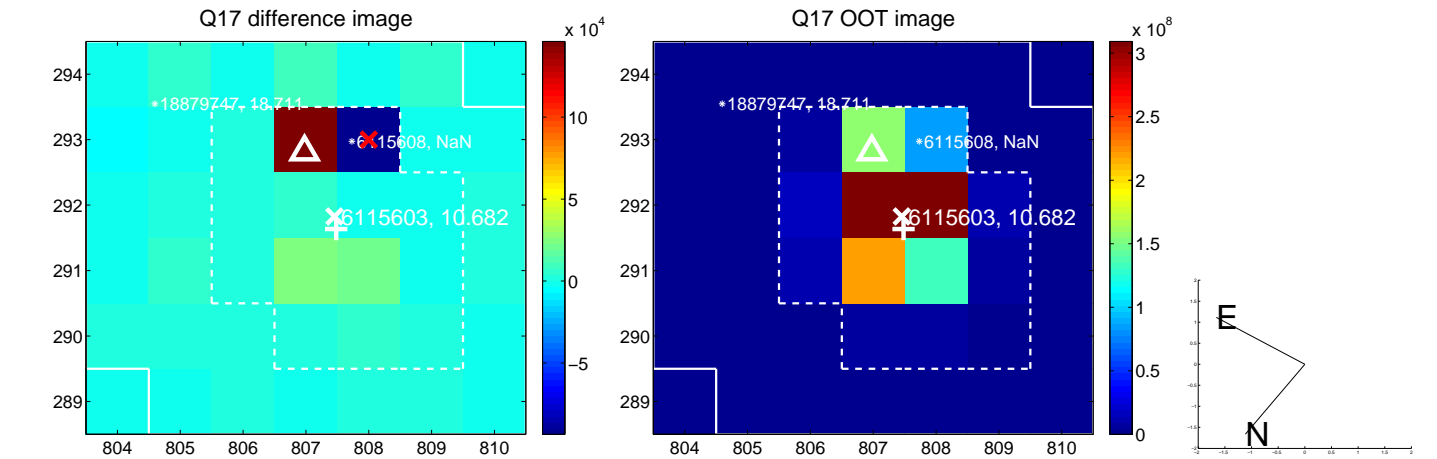
Q12 OOT image



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

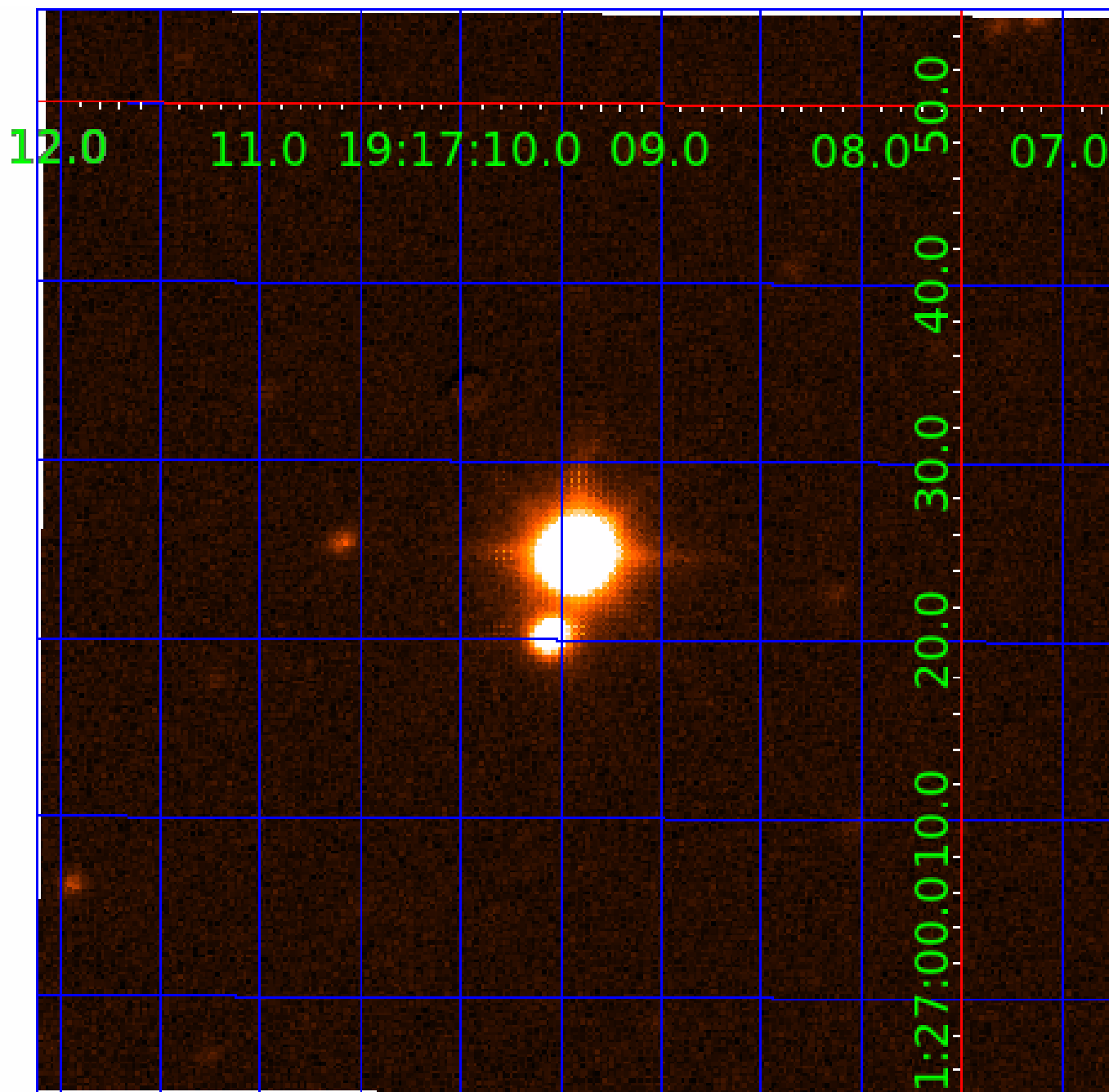


white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
006115603-01	OBS	No	2.027653	132.269081	21.2	12.019	8.2	7.3	3.55	6510	2.00	14823.71
006115603-03	OBS	No	223.073942	287.488546	216.9	7.976	10.3	8.6	3.55	6510	5.96	28.12
006115603-04	OBS	No	44.308404	165.505638	181.4	2.088	10.1	9.6	3.55	6510	5.43	242.64
006115603-05	OBS	No	160.029581	148.288775	245.7	2.560	10.0	8.8	3.55	6510	6.51	43.79
006115603-06	OBS	No	36.703881	154.308734	176.1	3.638	9.9	8.9	3.55	6510	5.07	311.89
006115603-07	OBS	No	372.914339	234.986749	276.4	3.464	9.8	9.2	3.55	6510	6.73	14.17
006115603-08	OBS	No	103.658197	154.981118	252.1	4.379	9.9	9.5	3.55	6510	6.19	78.13
006115603-09	OBS	No	80.625343	138.506069	261.4	3.510	9.7	10.4	3.55	6510	6.74	109.22
006115603-10	OBS	No	25.345451	134.150778	64.9	3.000	9.5	-1.0	3.55	6510	2.88	510.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006115603-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
006115603-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006115603-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006115603-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006115603-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006115603-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

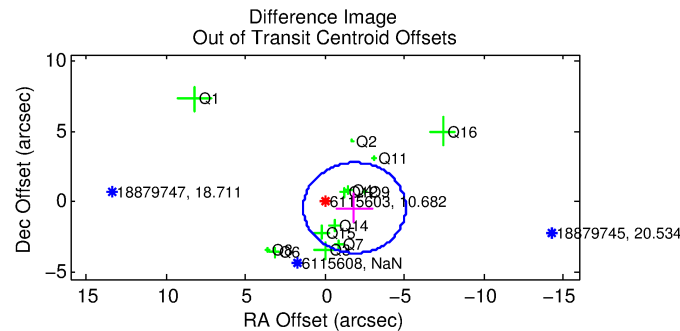
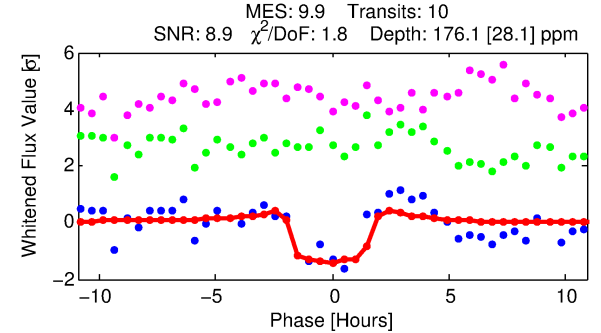
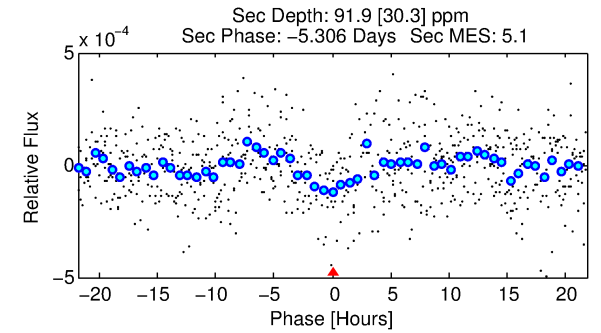
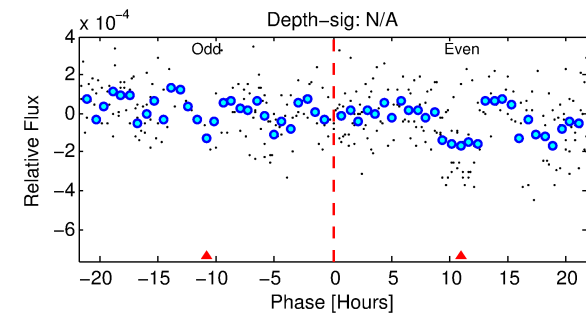
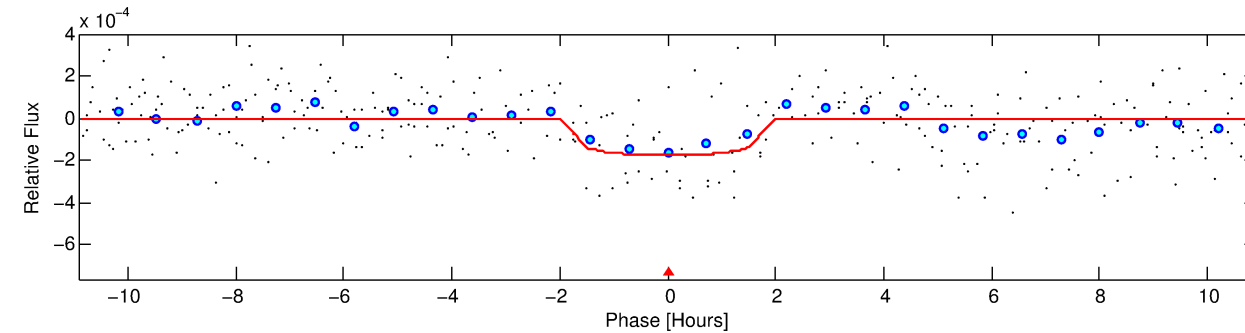
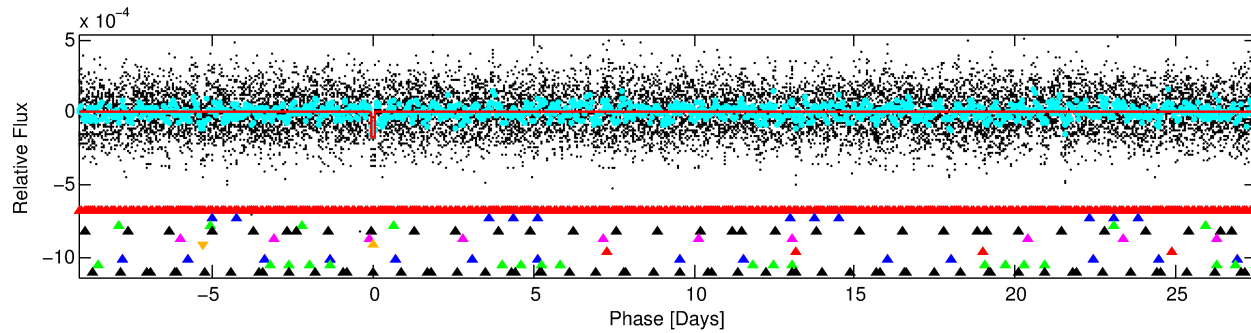
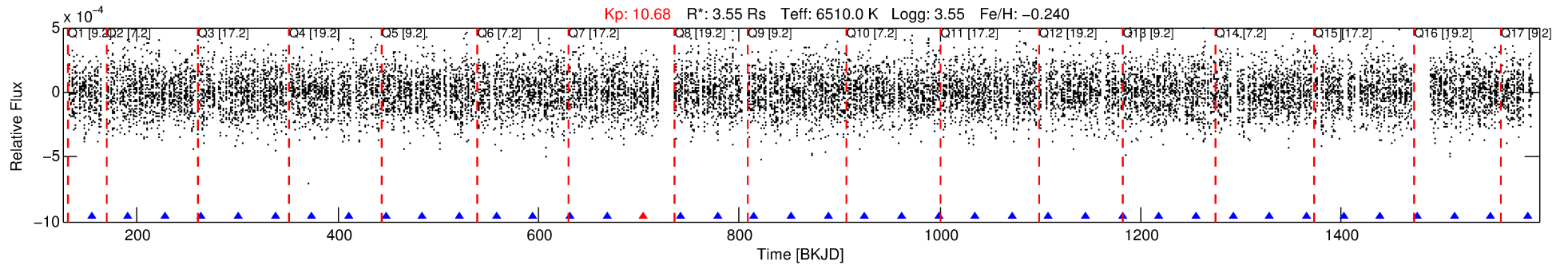
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006115603-06

No Significant Match Found

DV One-Page Summary

KIC: 6115603 Candidate: 6 of 10 Period: 36.704 d



DV Fit Results:

Period = 36.70388 [0.00042] d
Epoch = 154.3087 [0.0093] BKJD
Rp/R* = 0.0131 [0.0093]
a/R* = 55.55 [214.63]
b = 0.71 [2.71]
Seff = 311.89 [177.77]
Teq = 1072 [153] K
Rp = 5.06 [4.09] Re
a = 0.2552 [0.0915] AU
Ag = 128.31 [200.05] [0.64σ]
Teffp = 5576 [2035] K [2.21σ]

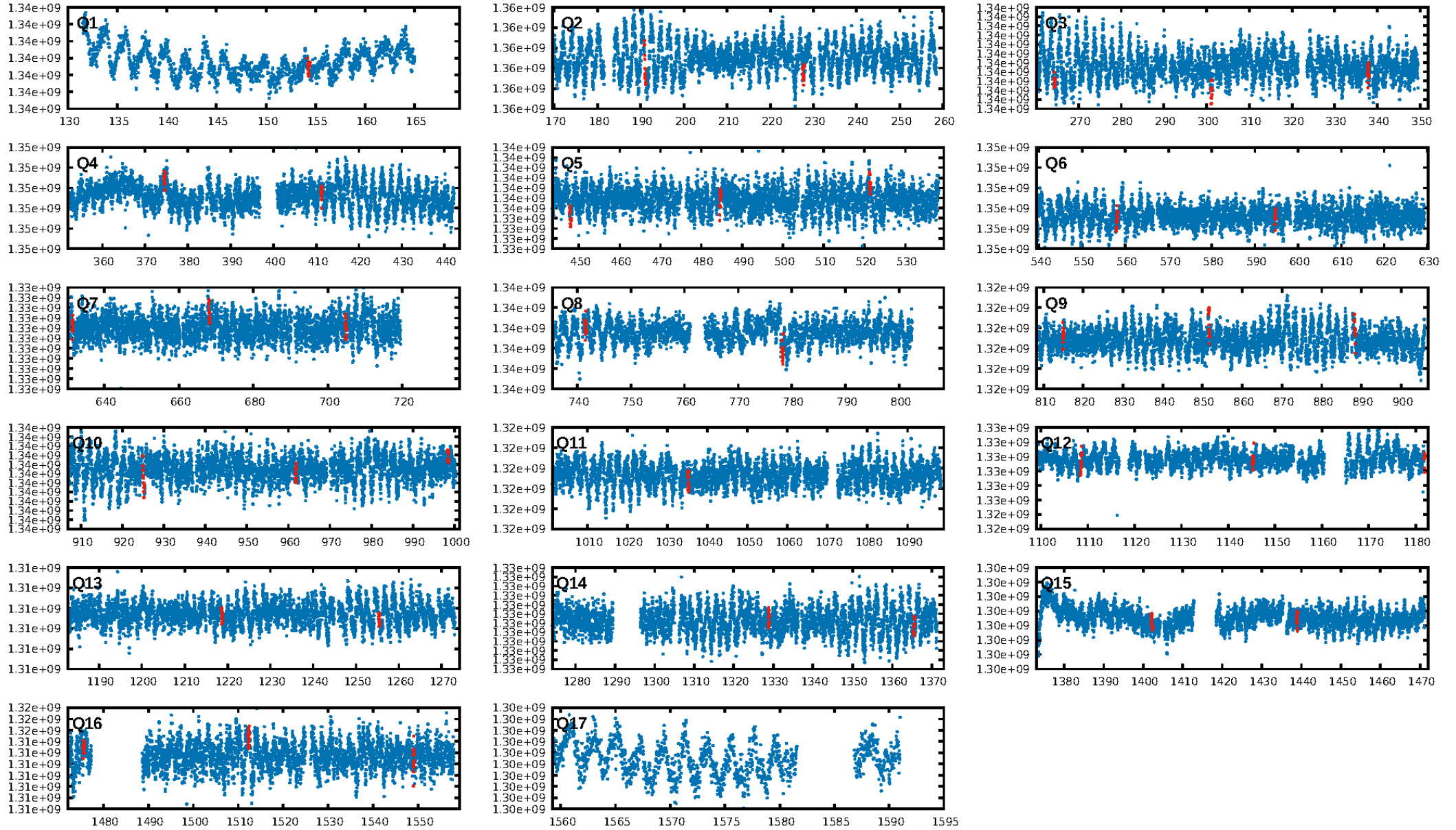
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [57.81σ]
LongPeriod-sig: 100.0% [43.51σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 67.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.90 [9/10]
GhostDiagnostic-chr: 2.347
Centroid-sig: 9.2%
Centroid-so: 0.316 arcsec [1.05σ]
OotOffset-rm: 1.926 arcsec [1.79σ]
KicOffset-rm: 2.136 arcsec [2.00σ]
OotOffset-st: 3/4/4/2 [13]
KicOffset-st: 3/4/4/2 [13]
DiffImageQuality-fgm: 0.23 [3/13]
DiffImageOverlap-fno: 0.62 [10/16]

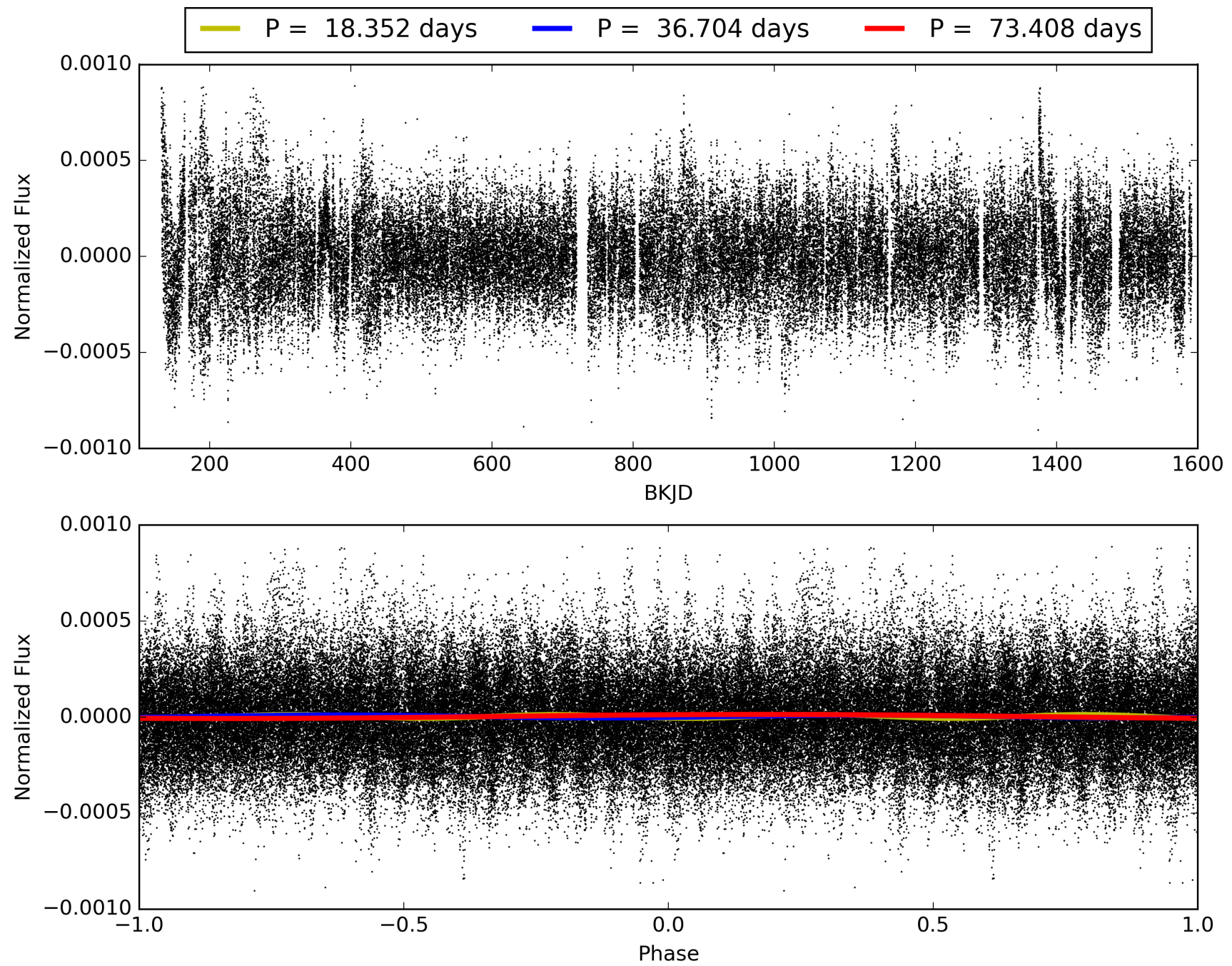
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:34:33 Z

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

TCE 006115603-06, PDC Light Curves

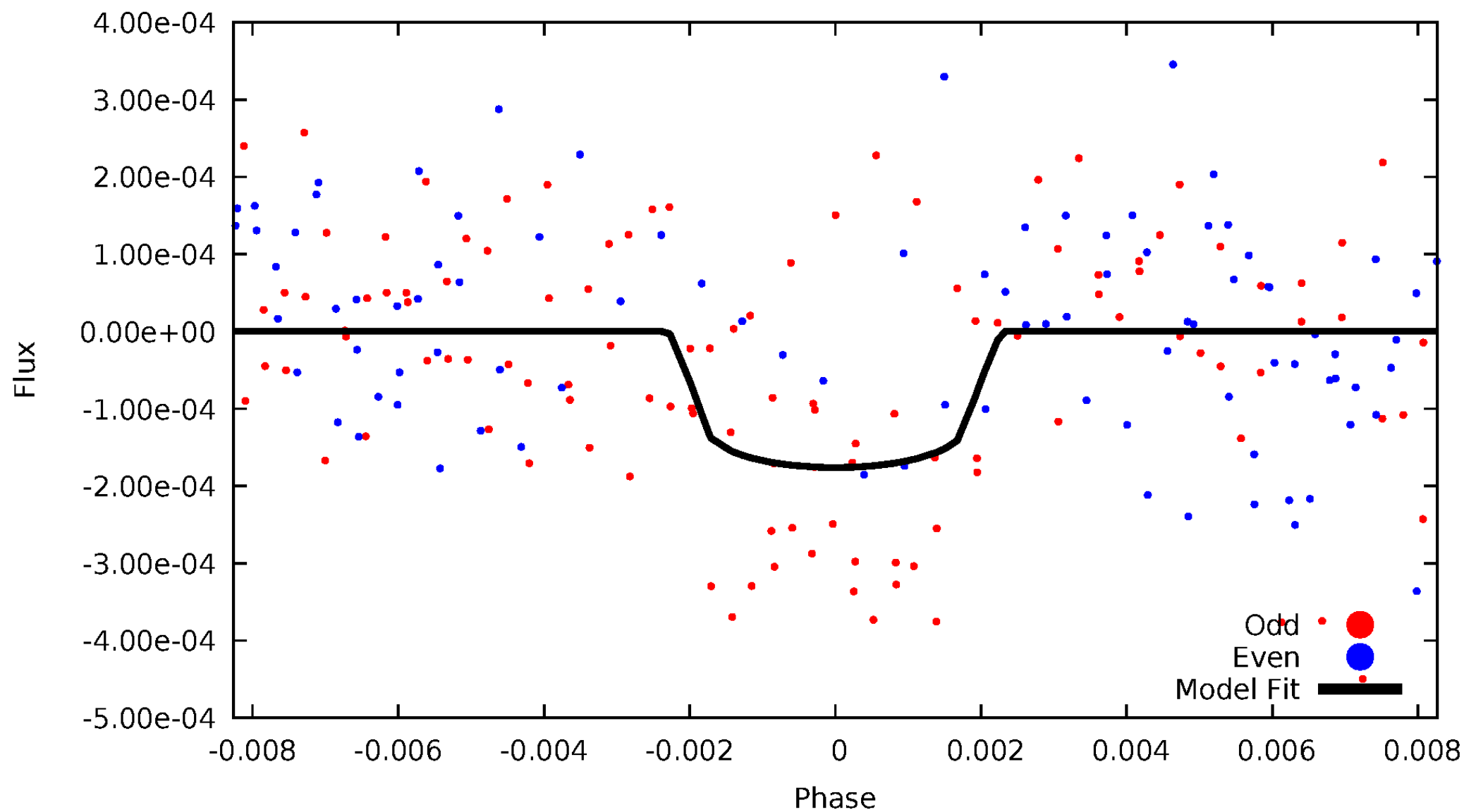


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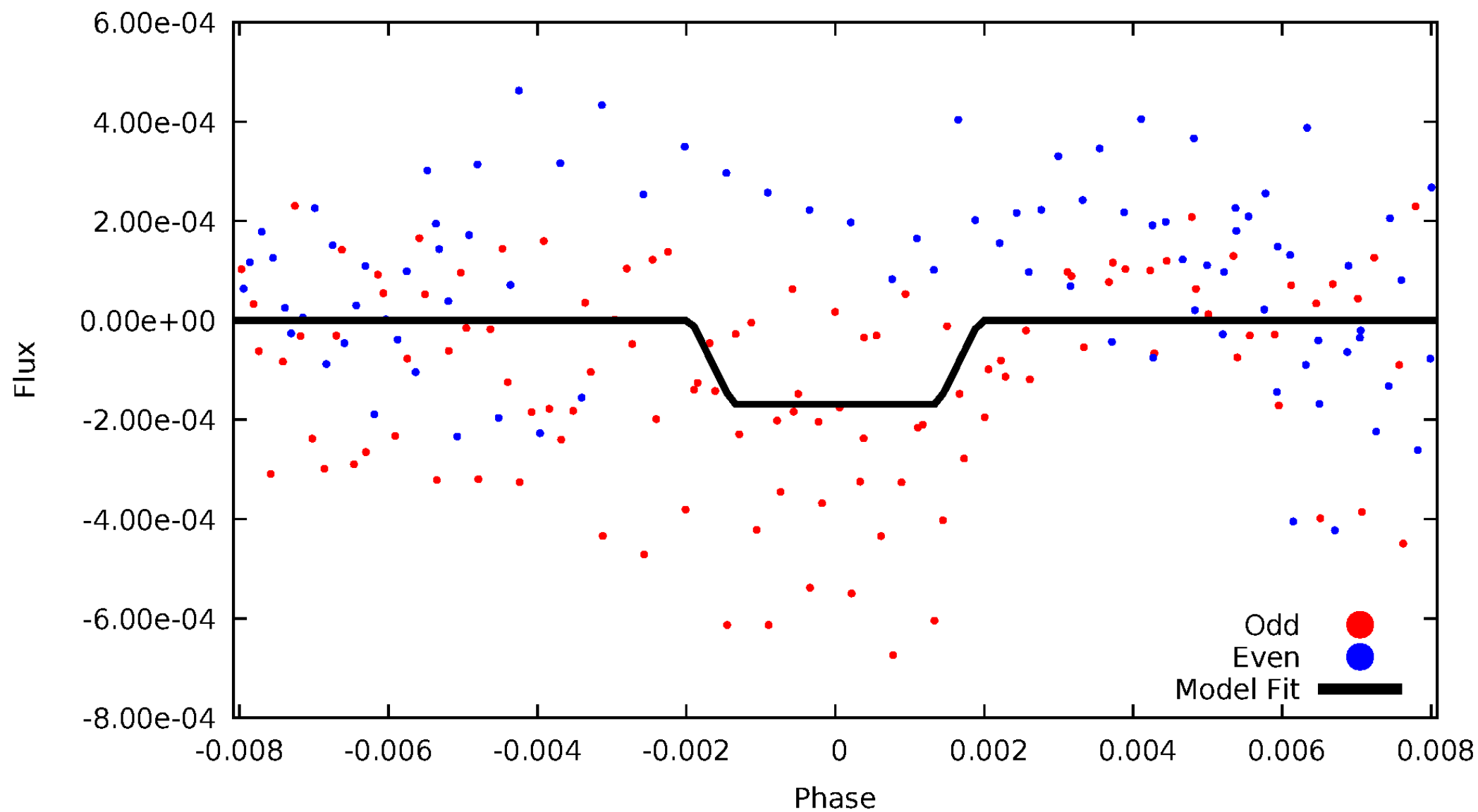
DV Odd/Even

TCE 006115603-06



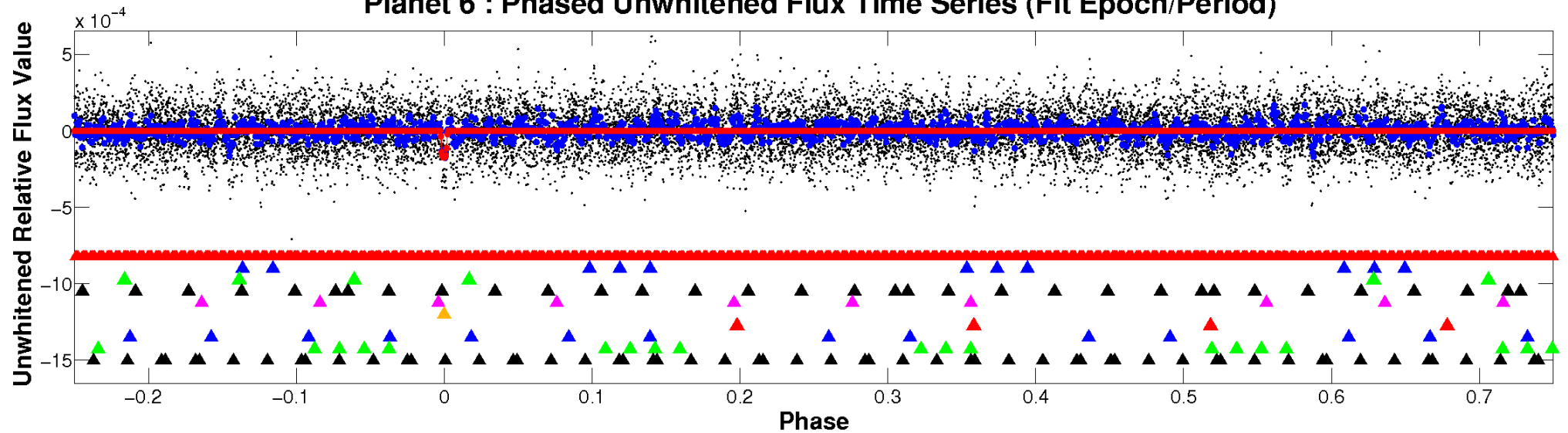
ALT Odd/Even

TCE 006115603-06

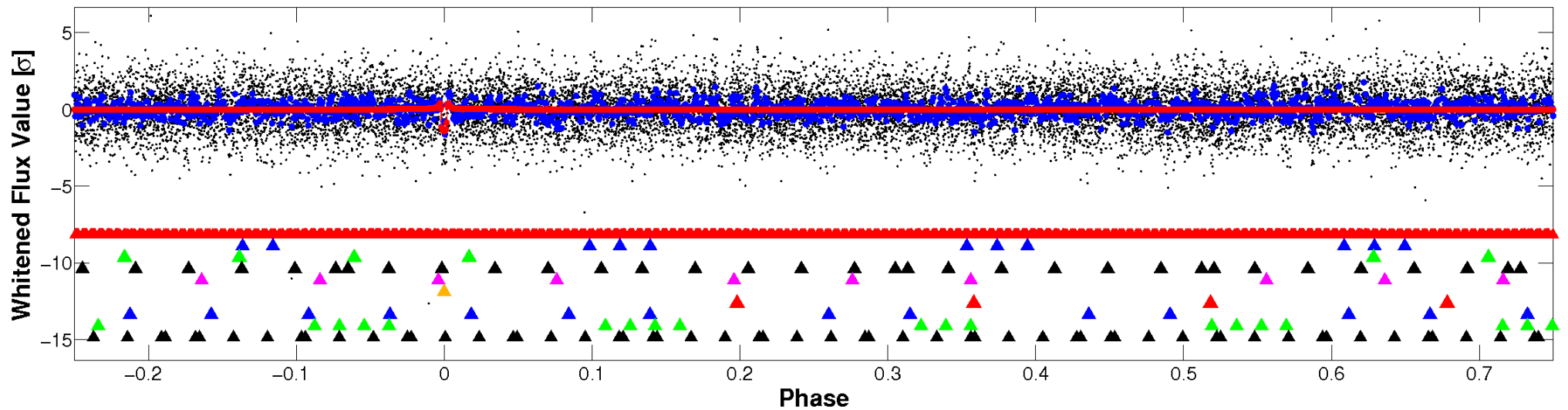


Non-Whitened Vs. Whitened Light Curve

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

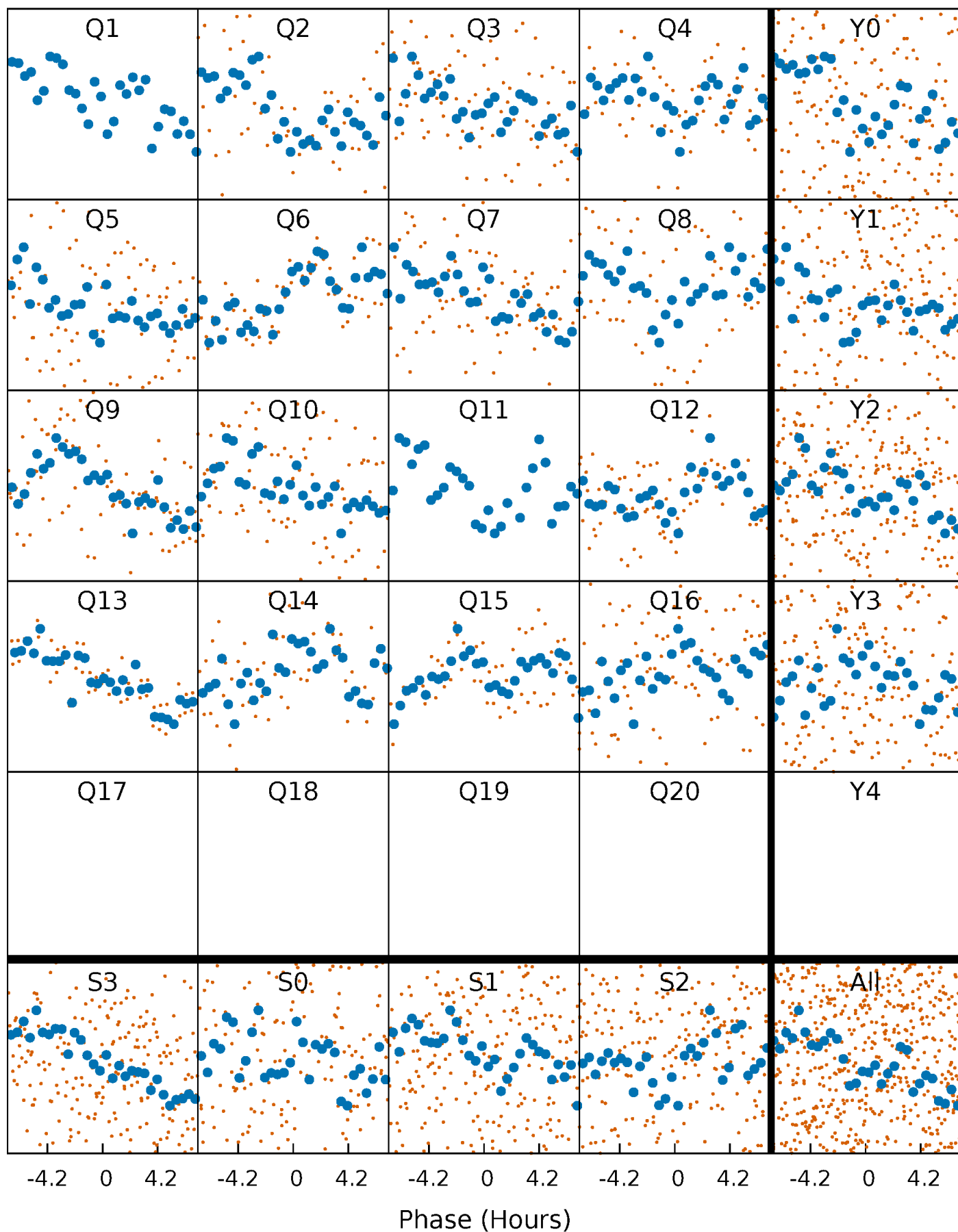


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



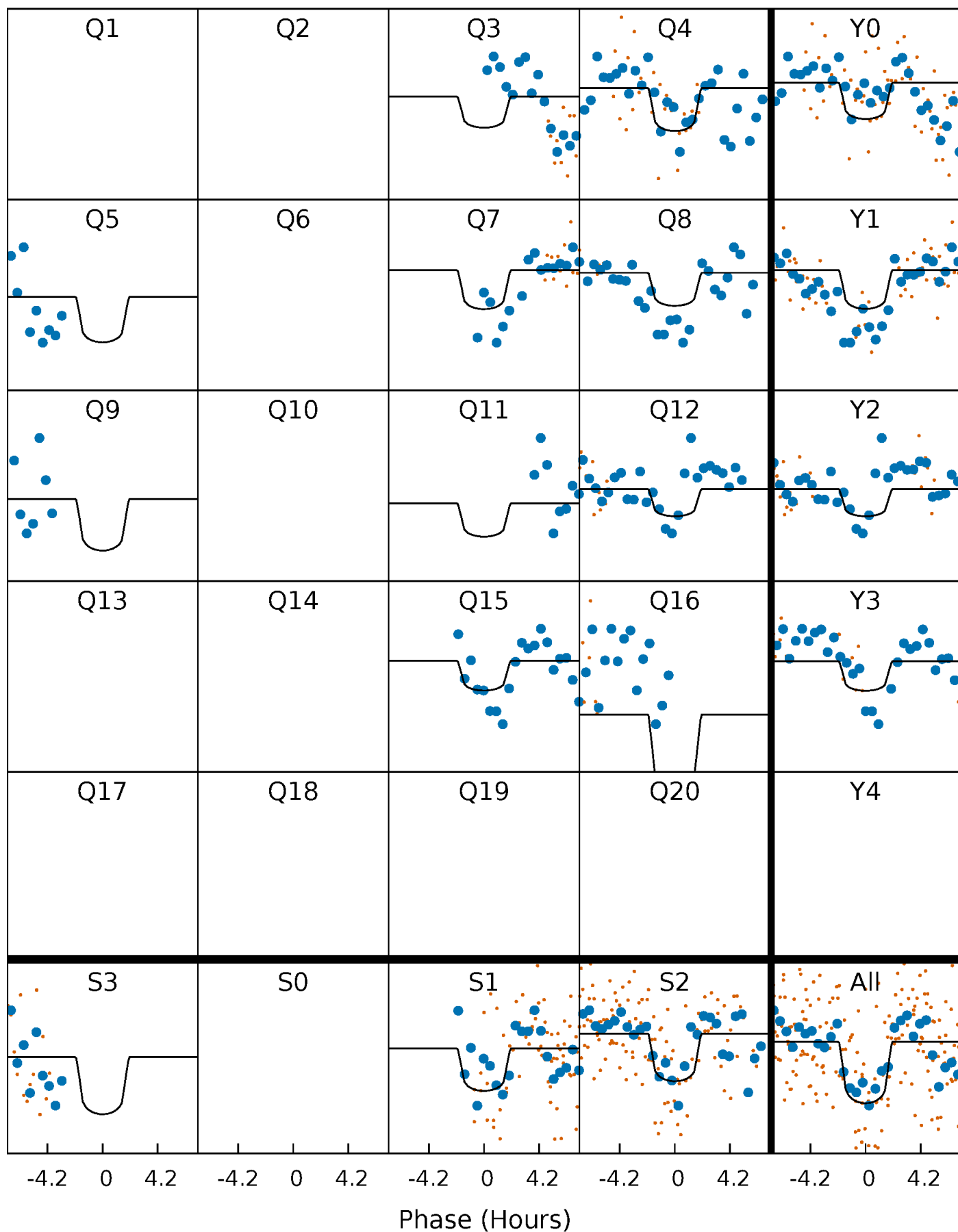
PDC Quarter-Phased Transit Curves

TCE 006115603-06 P= 36.703881 Days $T_0=154.308734$ (BKJD)



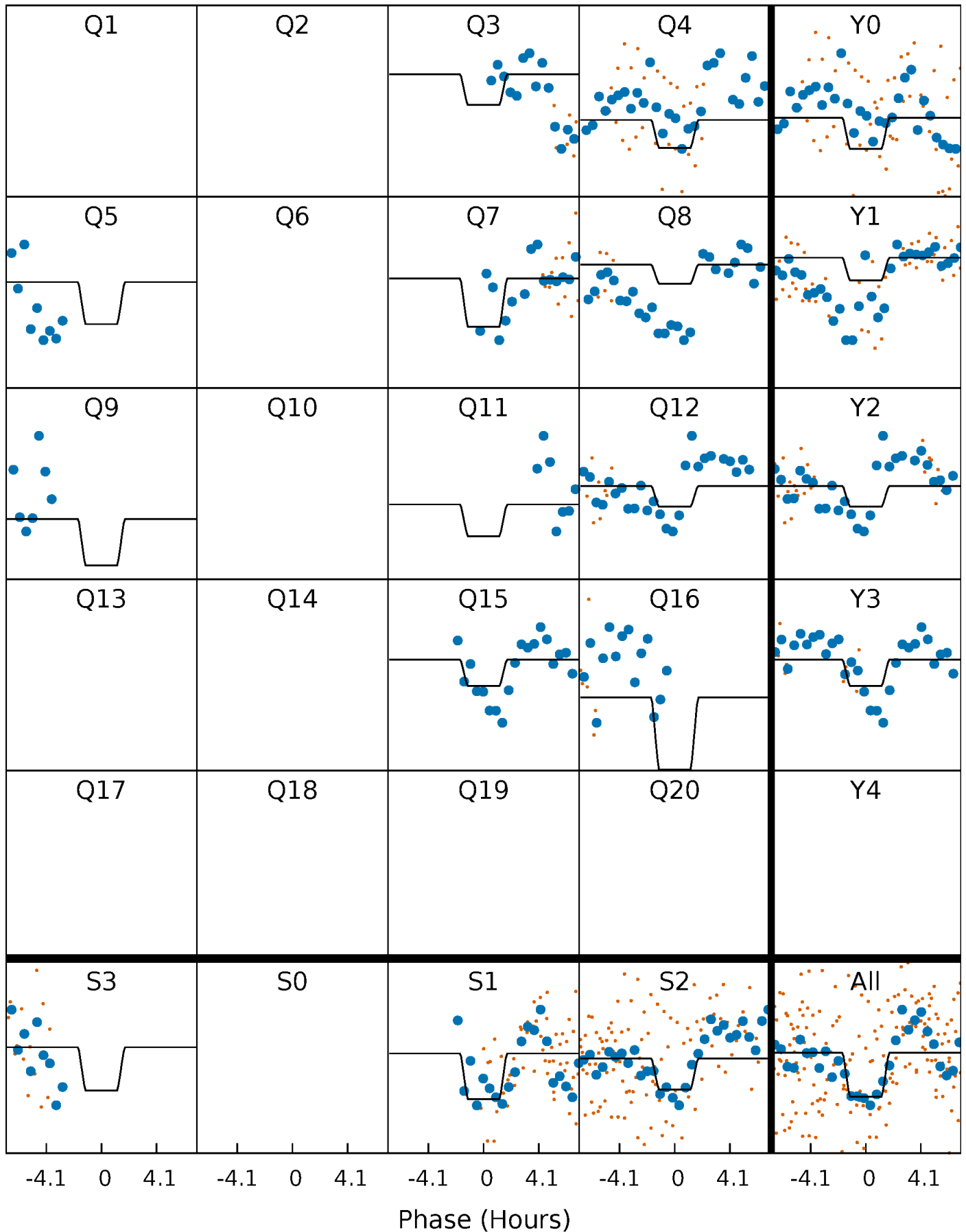
DV Quarter-Phased Transit Curves

TCE 006115603-06 P= 36.703881 Days $T_0=154.308734$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

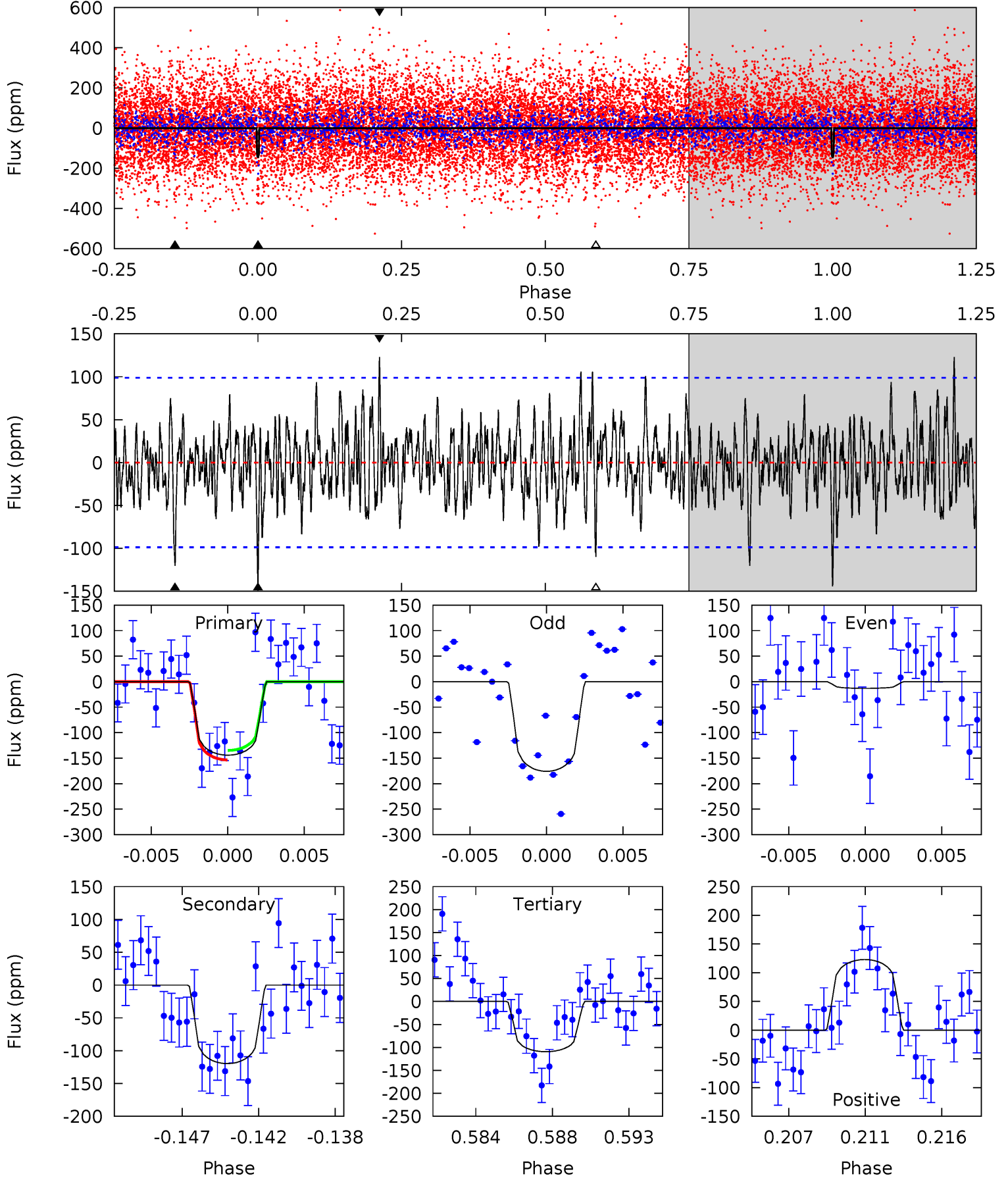
TCE 006115603-06 P= 36.704278 Days $T_0=154.292682$ (BKJD)



DV Model-Shift Uniqueness Test

006115603-06, P = 36.703881 Days, E = 117.604853 Days

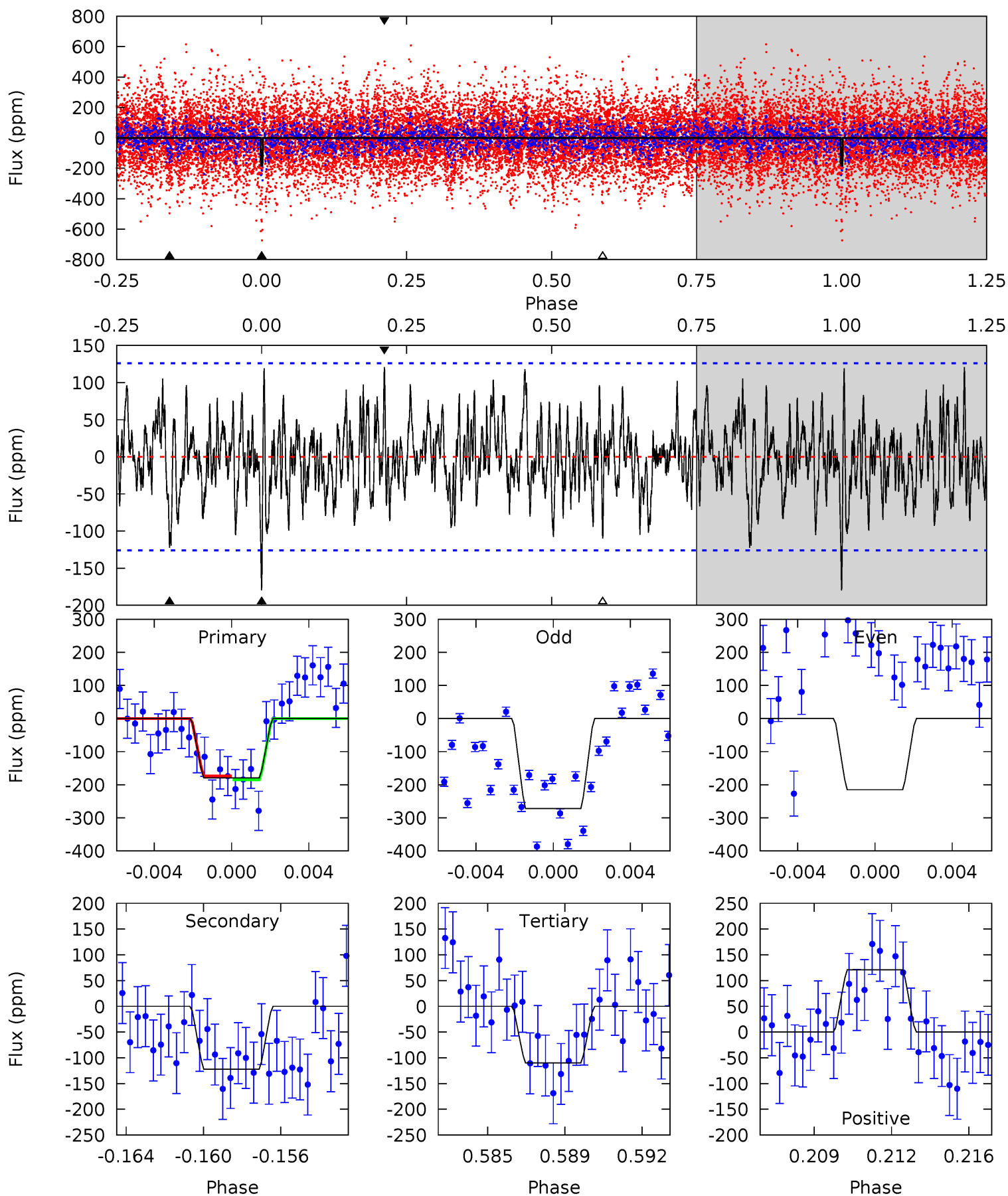
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.55	6.27	5.73	6.45	5.17	2.83	1.76	1.82	1.11	0.54	-0.17	3.64	0.50	0.46	0.49



Alt Model-Shift Uniqueness Test

006115603-06, P = 36.704278 Days, E = 117.588404 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.44	5.06	4.55	4.99	5.21	2.90	1.67	2.89	2.44	0.51	0.07	0.98	1.02	0.40	0.24



Stellar Parameters For KIC 006115603

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6510^{+146}_{-179}	$3.553^{+0.323}_{-0.108}$	$-0.240^{+0.350}_{-0.300}$	$3.553^{+0.460}_{-1.379}$	$1.646^{+0.229}_{-0.371}$	$0.052^{+0.121}_{-0.014}$
	+2%/-3%	+9%/-3%	+146%/-125%	+13%/-39%	+14%/-23%	+234%/-28%
Source	PHO1	FLK73	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 006115603-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-120 ± 19	$4.94^{+3.84}_{-2.81}$	1473^{+84}_{-134}	5740^{+3670}_{-1144}	176^{+817}_{-123}
Alt.	-122 ± 24	$4.95^{+3.83}_{-2.67}$	1474^{+86}_{-131}	5759^{+3100}_{-1137}	171^{+715}_{-116}

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 $A_{obs} \gg 1.0$

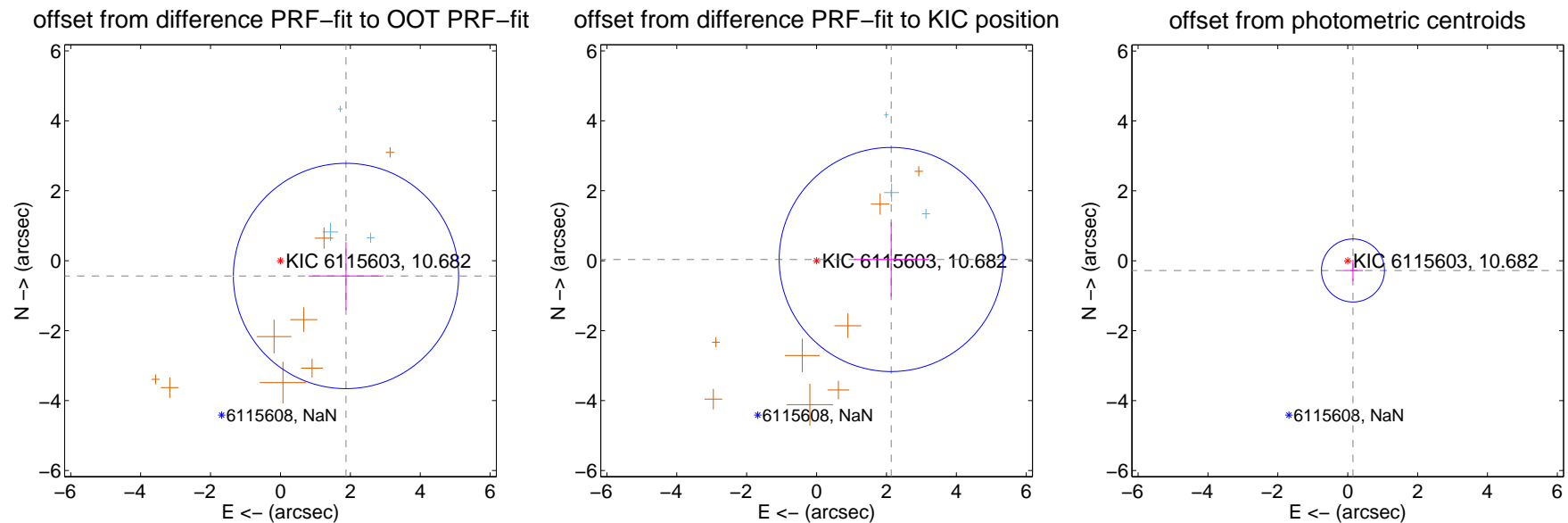
DV Centroid Data

Supplemental centroid analysis for 006115603-06. **Kepler magnitude: 10.68.** Transit SNR 8.92

There are 3 quarters with good PRF difference image offsets

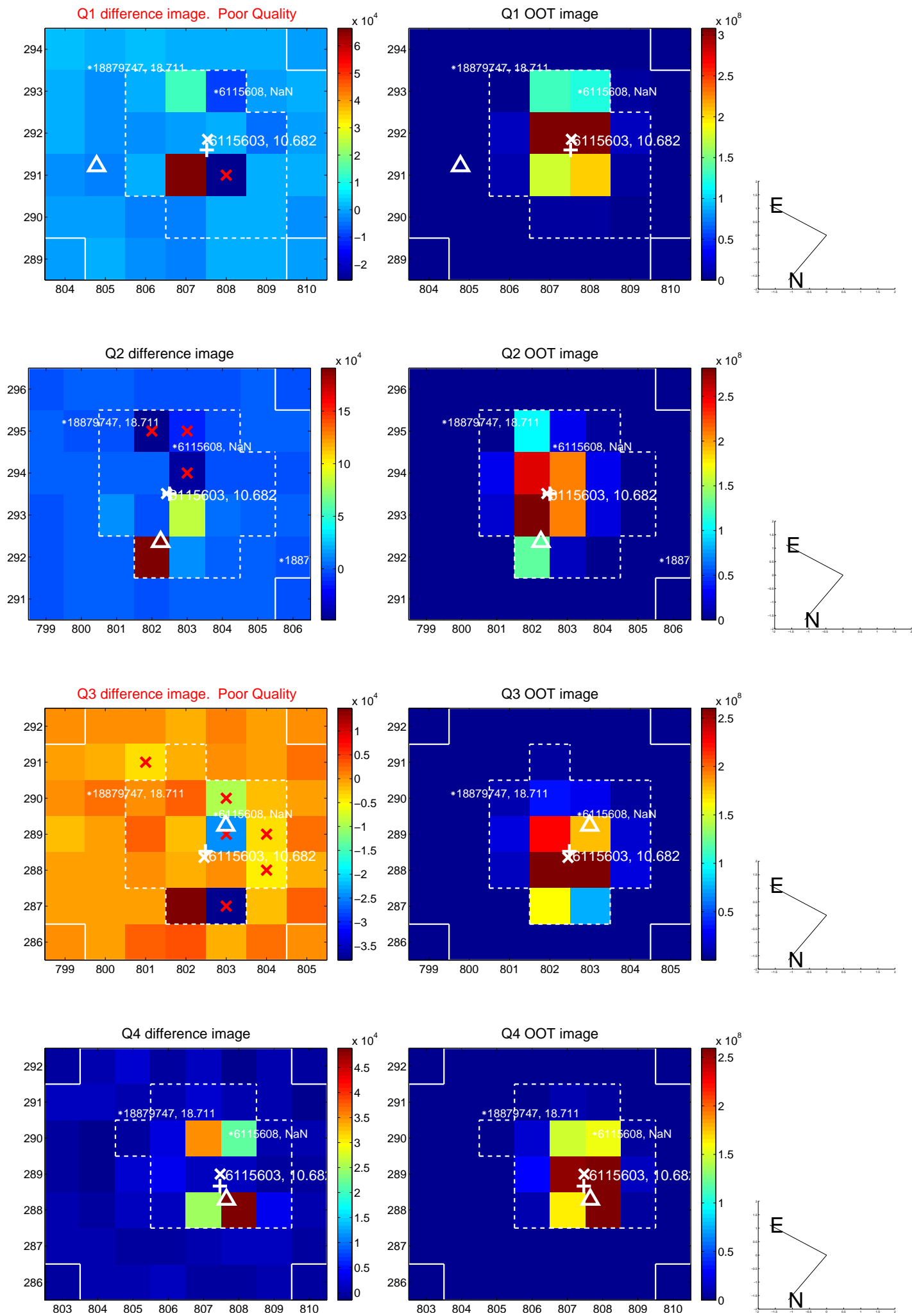
The direct PRF centroid is offset from the target star catalog position by about 1.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.926 ± 1.074	1.79	-1.875 ± 1.073	-0.437 ± 0.967
PRF-fit source offset from KIC position	2.136 ± 1.068	2.00	-2.135 ± 1.065	0.034 ± 1.061
photometric centroid source offset	0.32 ± 0.30	1.05	-0.15 ± 0.28	-0.28 ± 0.31

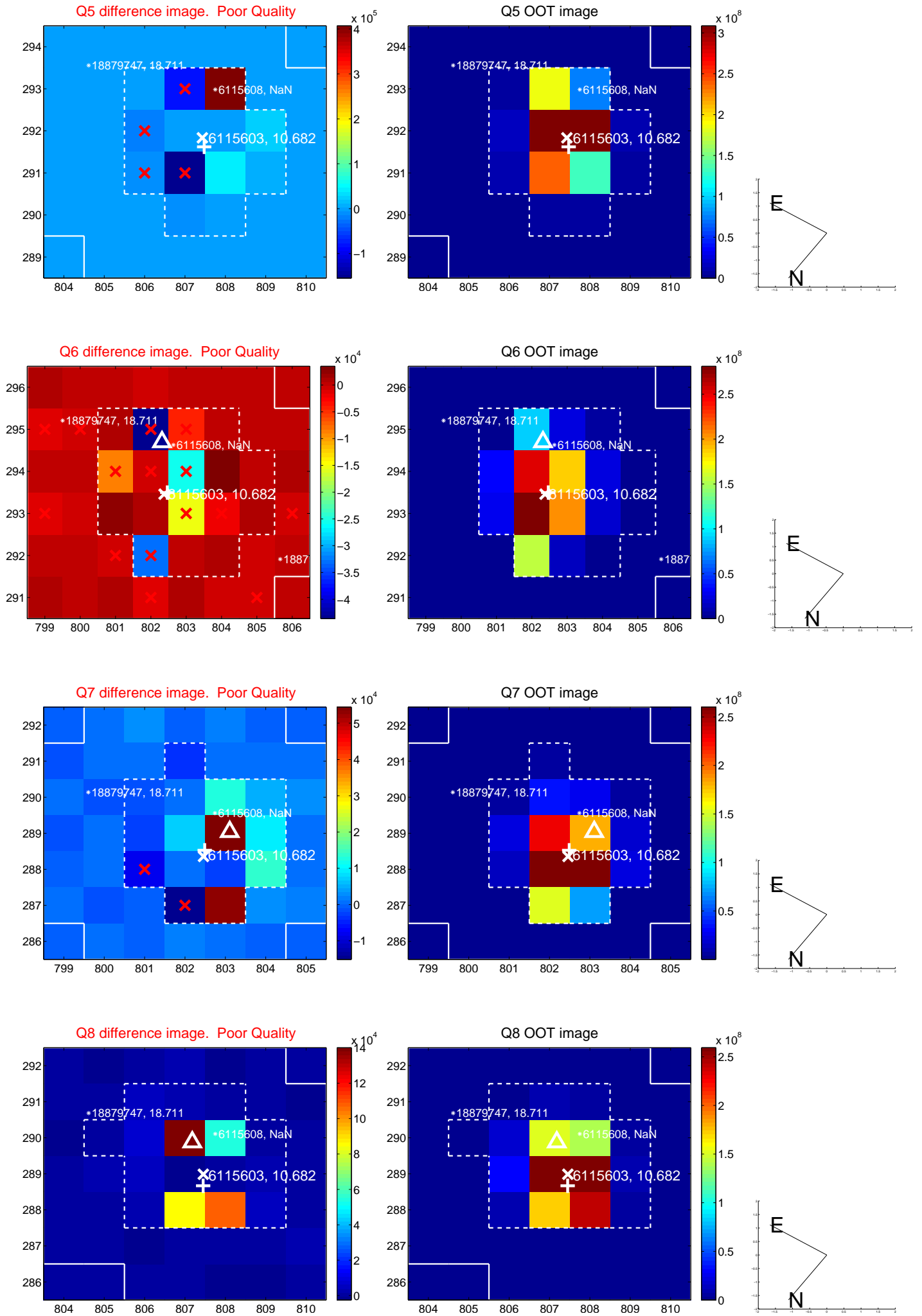


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

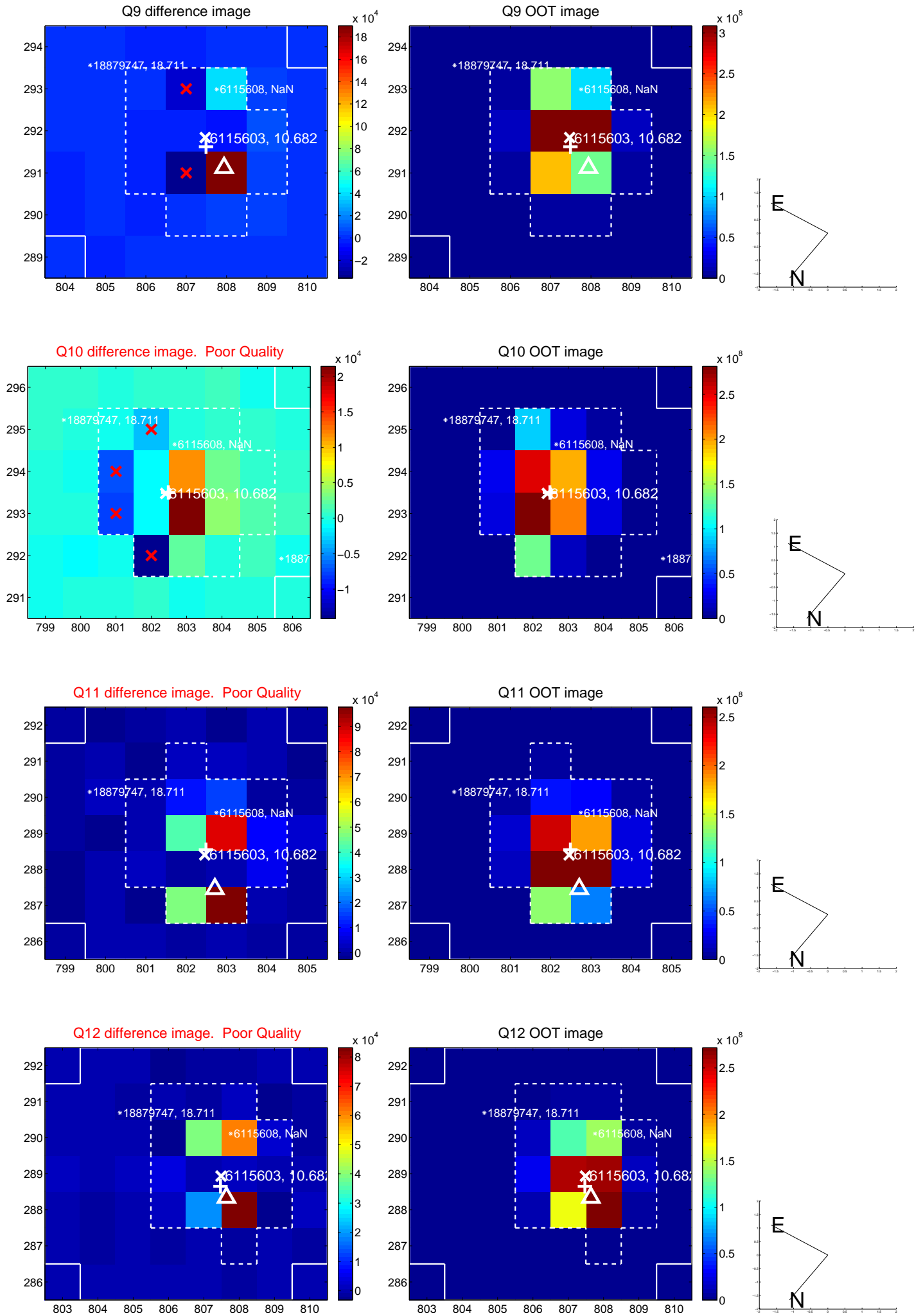
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



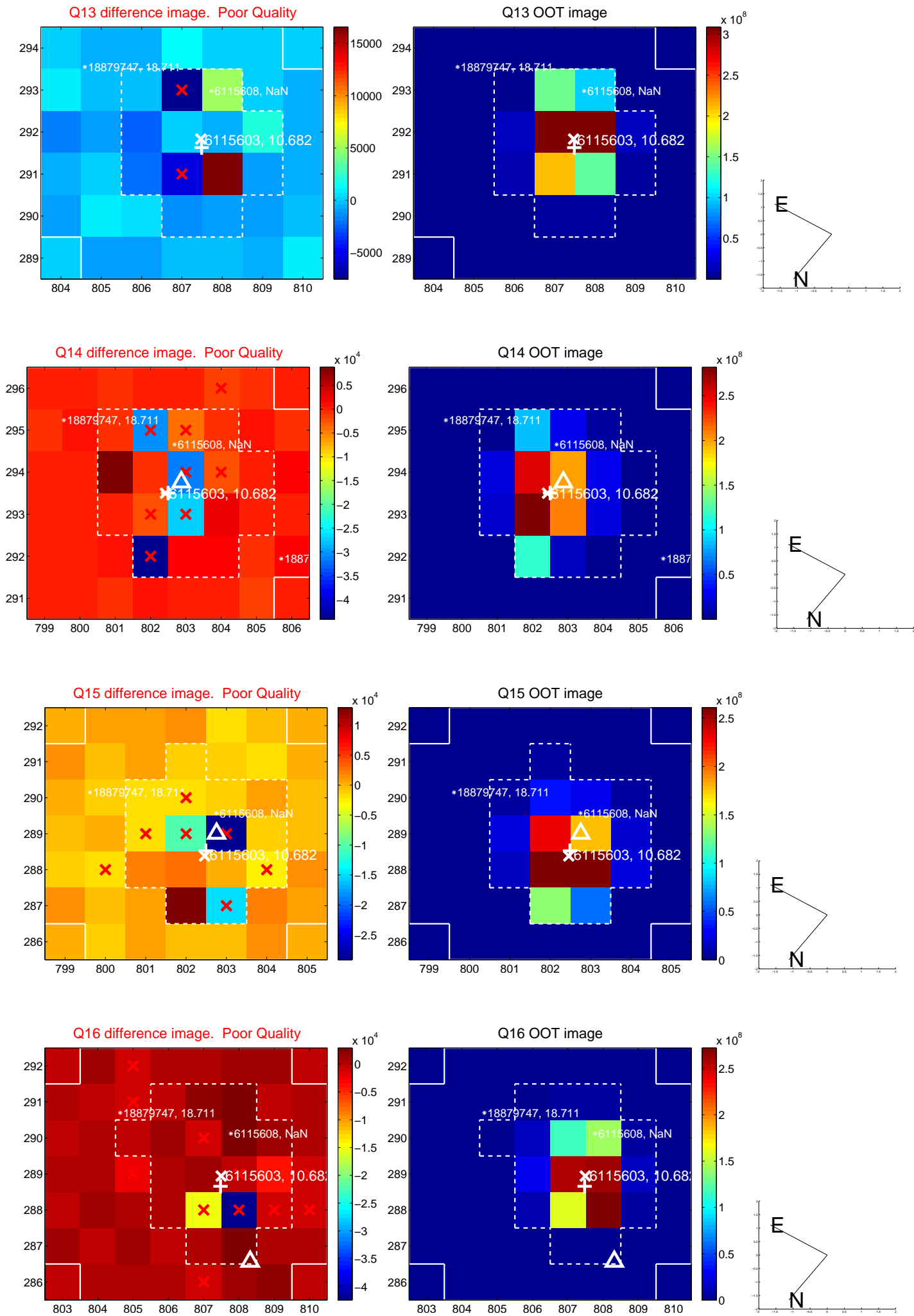
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



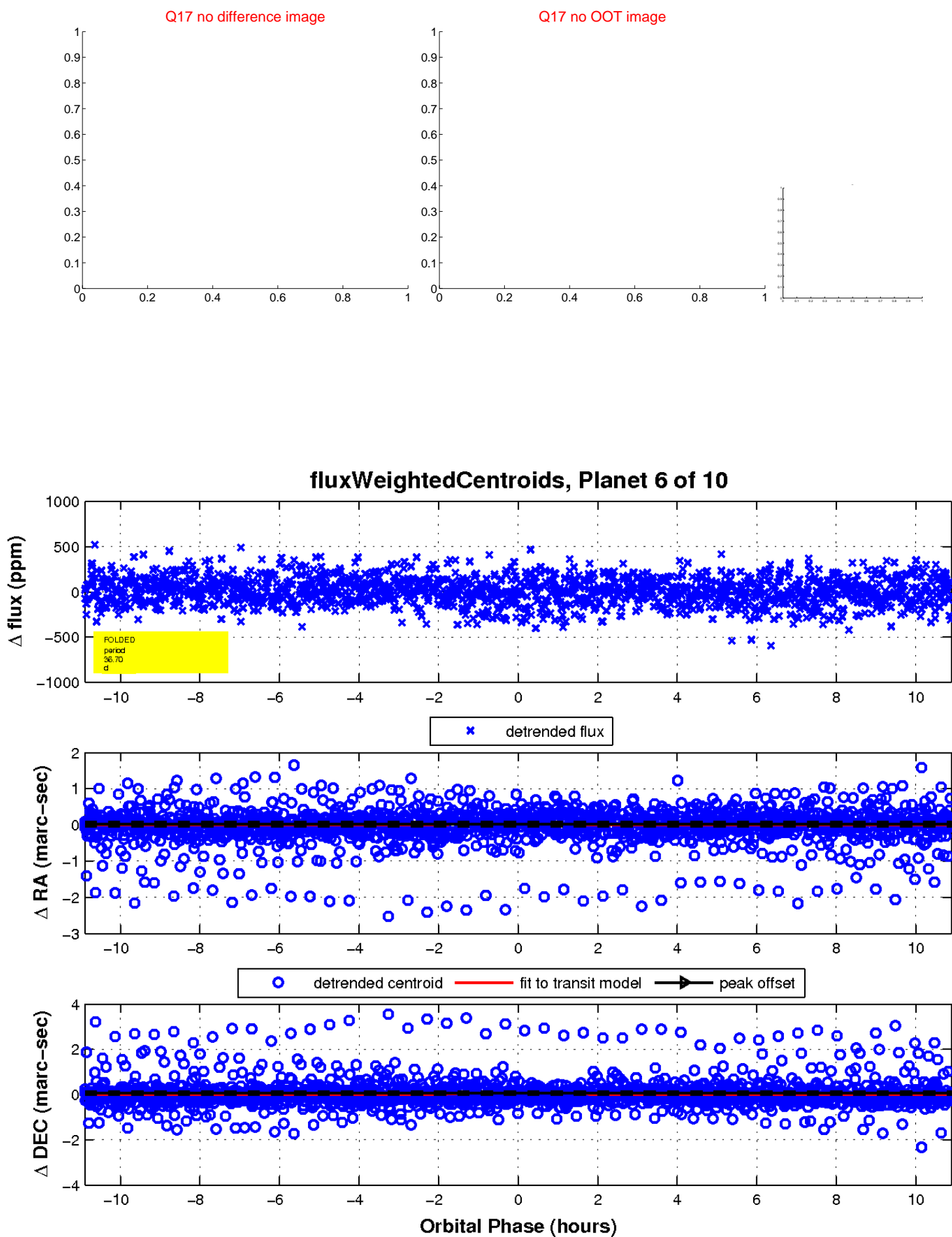
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

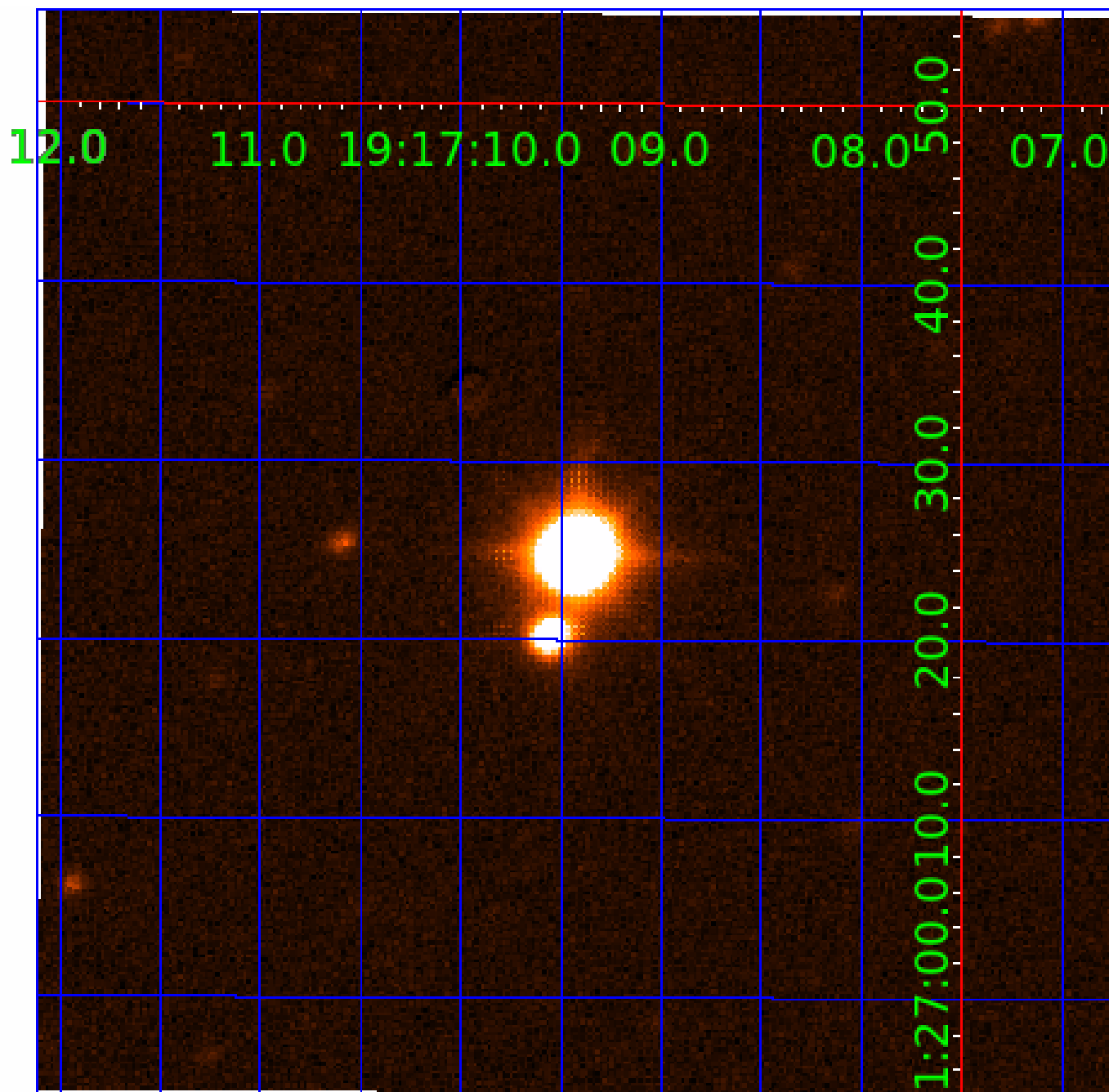


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
006115603-01	OBS	No	2.027653	132.269081	21.2	12.019	8.2	7.3	3.55	6510	2.00	14823.71
006115603-03	OBS	No	223.073942	287.488546	216.9	7.976	10.3	8.6	3.55	6510	5.96	28.12
006115603-04	OBS	No	44.308404	165.505638	181.4	2.088	10.1	9.6	3.55	6510	5.43	242.64
006115603-05	OBS	No	160.029581	148.288775	245.7	2.560	10.0	8.8	3.55	6510	6.51	43.79
006115603-06	OBS	No	36.703881	154.308734	176.1	3.638	9.9	8.9	3.55	6510	5.07	311.89
006115603-07	OBS	No	372.914339	234.986749	276.4	3.464	9.8	9.2	3.55	6510	6.73	14.17
006115603-08	OBS	No	103.658197	154.981118	252.1	4.379	9.9	9.5	3.55	6510	6.19	78.13
006115603-09	OBS	No	80.625343	138.506069	261.4	3.510	9.7	10.4	3.55	6510	6.74	109.22
006115603-10	OBS	No	25.345451	134.150778	64.9	3.000	9.5	-1.0	3.55	6510	2.88	510.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006115603-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
006115603-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006115603-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006115603-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006115603-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006115603-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

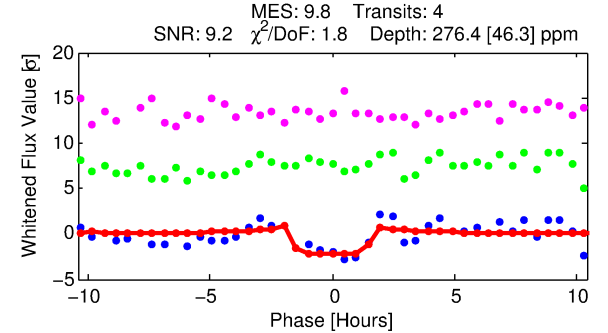
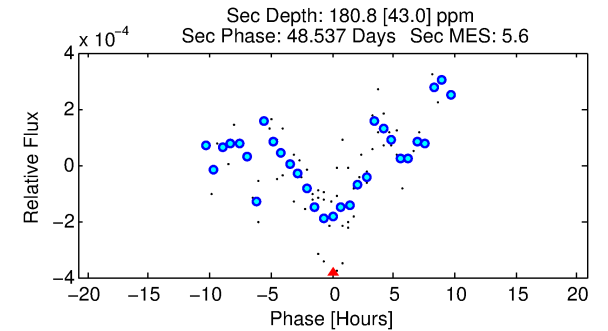
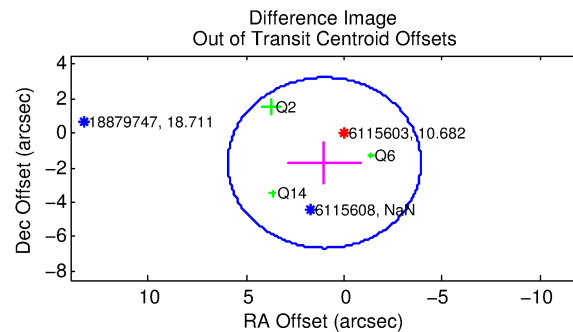
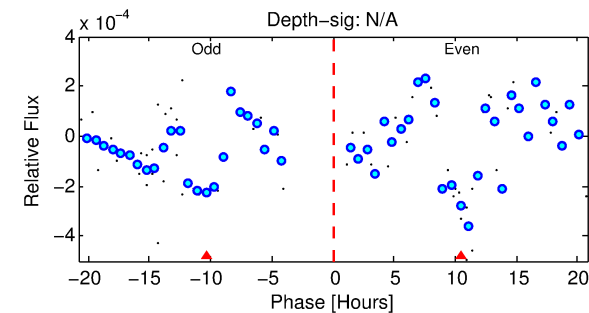
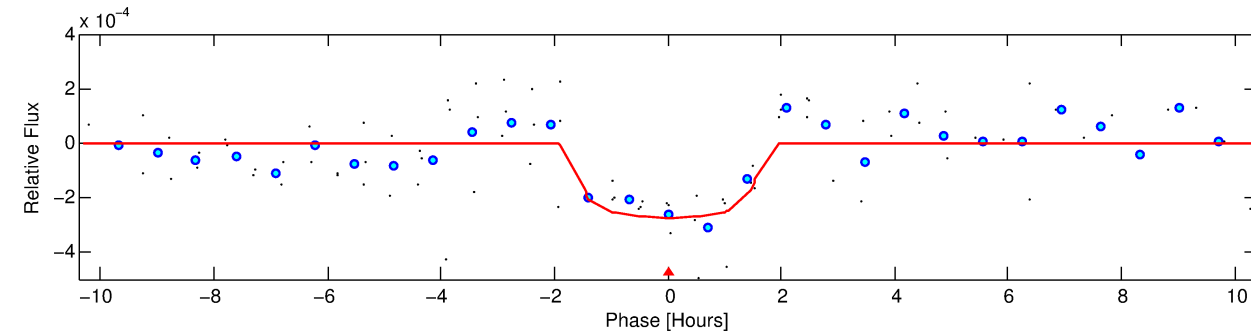
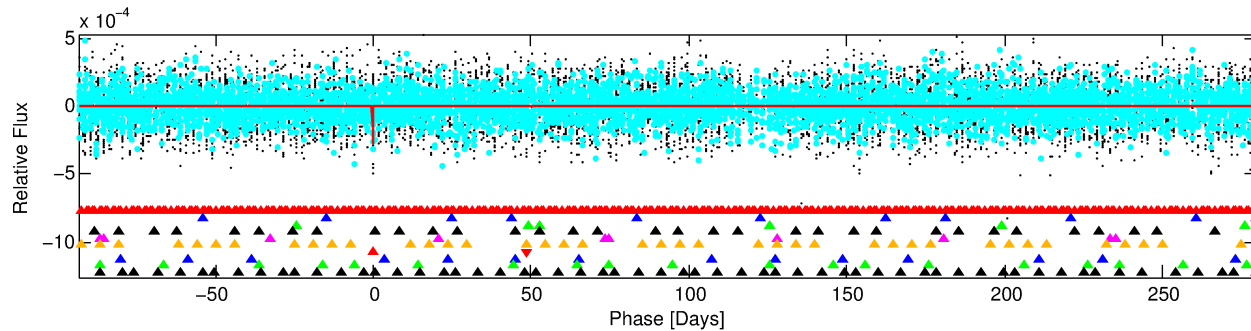
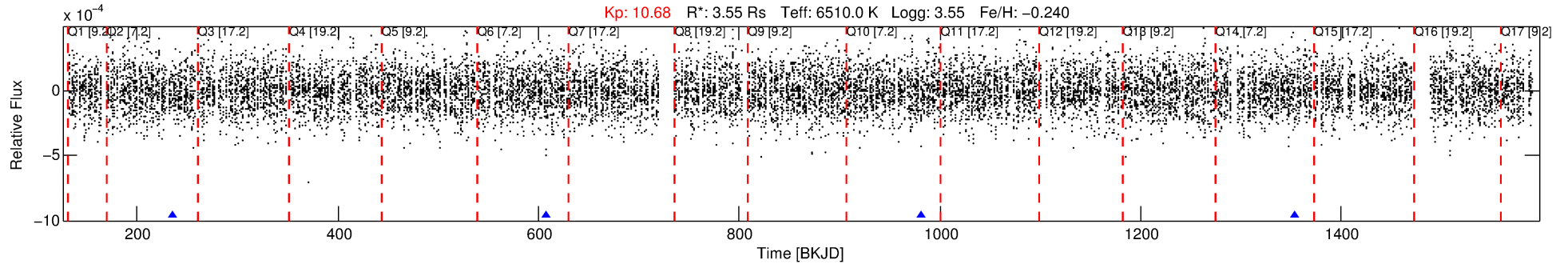
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006115603-07

No Significant Match Found

DV One-Page Summary

KIC: 6115603 Candidate: 7 of 10 Period: 372.914 d



DV Fit Results:

Period = 372.91434 [0.00628] d
Epoch = 234.9867 [0.0130] BKJD
Rp/R* = 0.0173 [0.0101]
a/R* = 442.81 [1456.25]
b = 0.86 [0.98]
Seff = 14.17 [8.08]
Teq = 495 [71] K
Rp = 6.73 [4.71] Re
a = 1.1972 [0.4290] AU
Ag = 3151.12 [4145.38] [0.76σ]
Teffp = 5731 [1713] K [3.05σ]

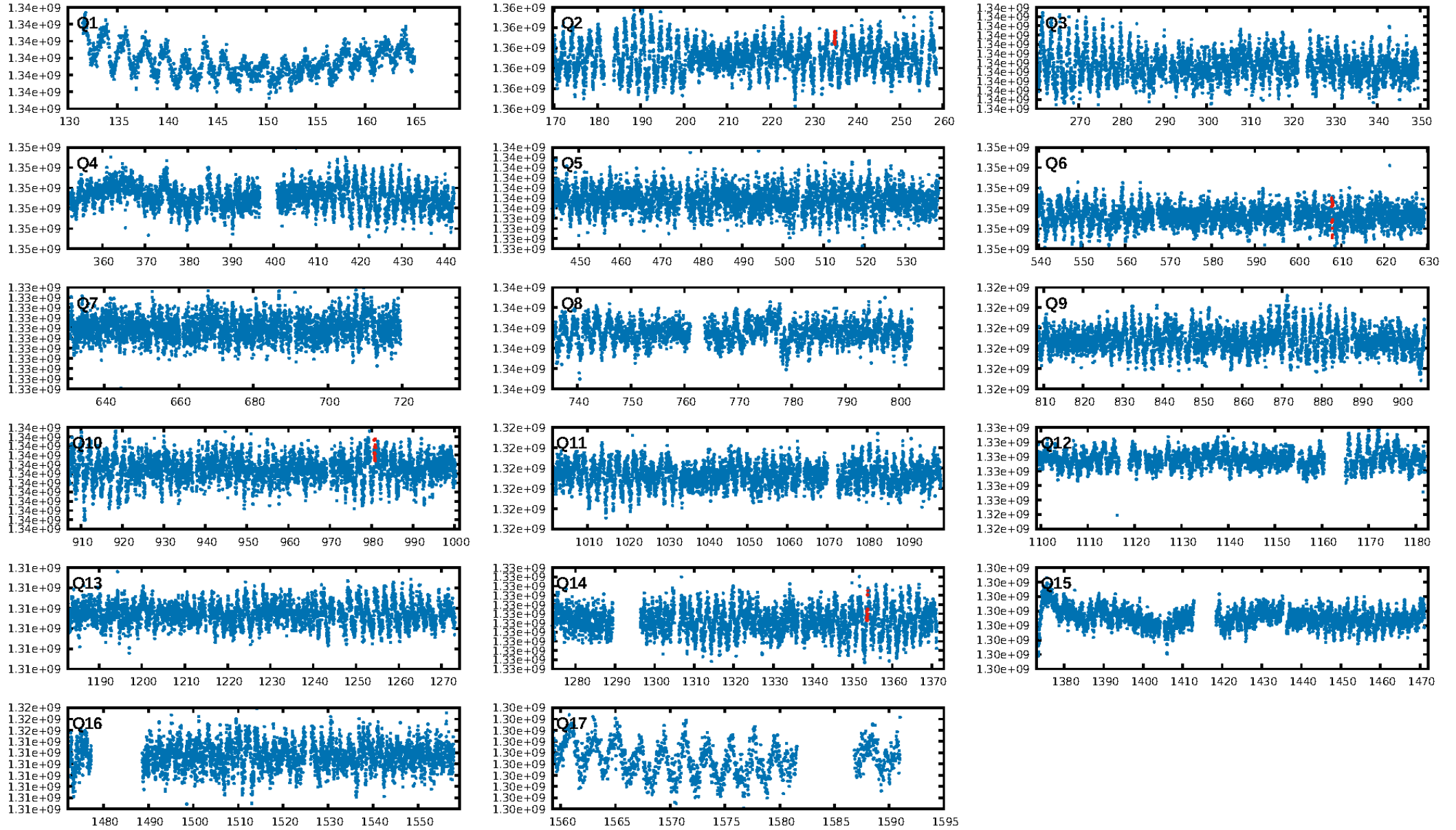
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [413.54σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.1%
ModelChiSquareGof-sig: 92.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 3.699
Centroid-sig: 51.5%
Centroid-so: 0.401 arcsec [0.81σ]
OotOffset-rm: 1.999 arcsec [1.21σ]
KicOffset-rm: 2.054 arcsec [1.71σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [4/4]

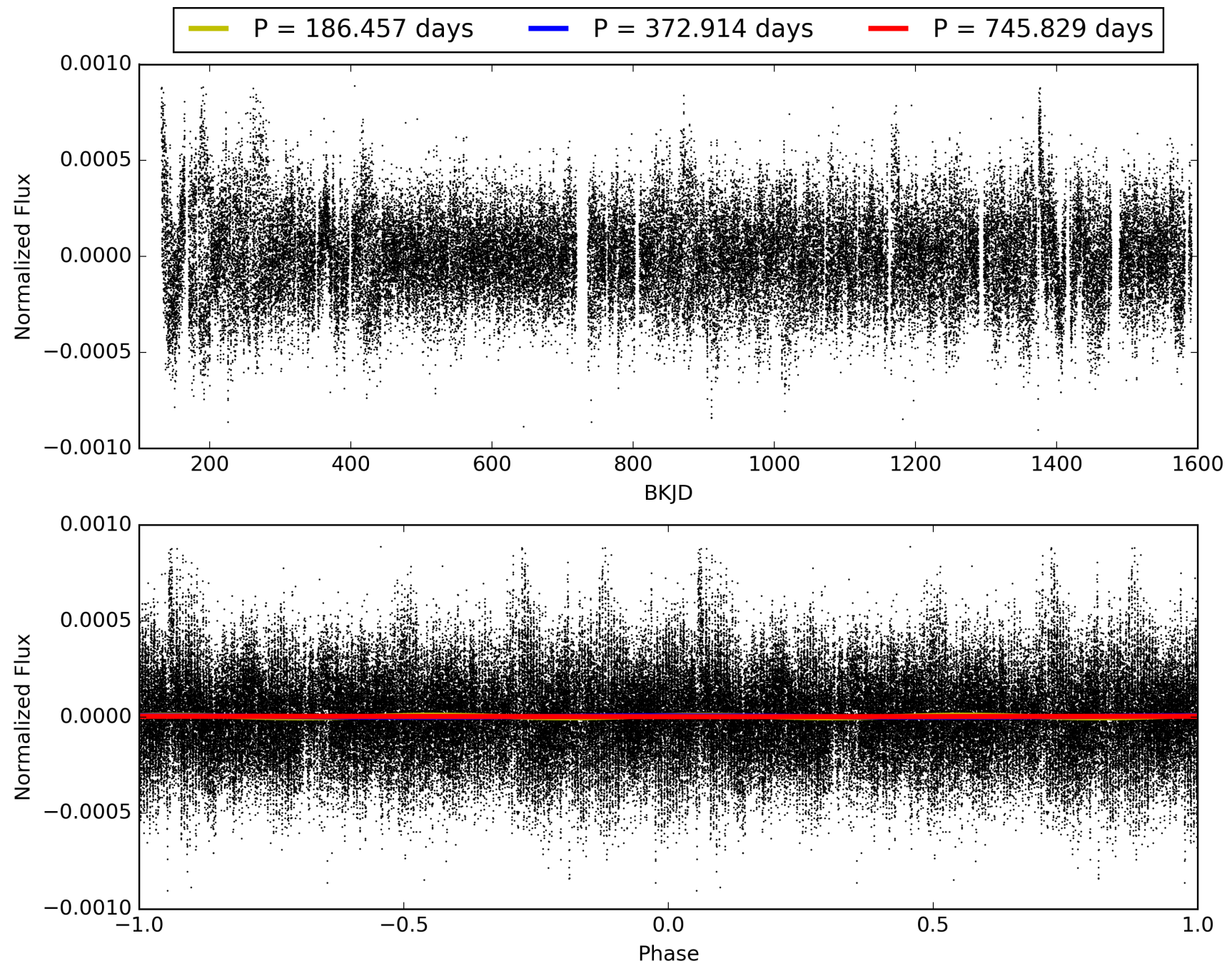
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:34:39 Z

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

TCE 006115603-07, PDC Light Curves

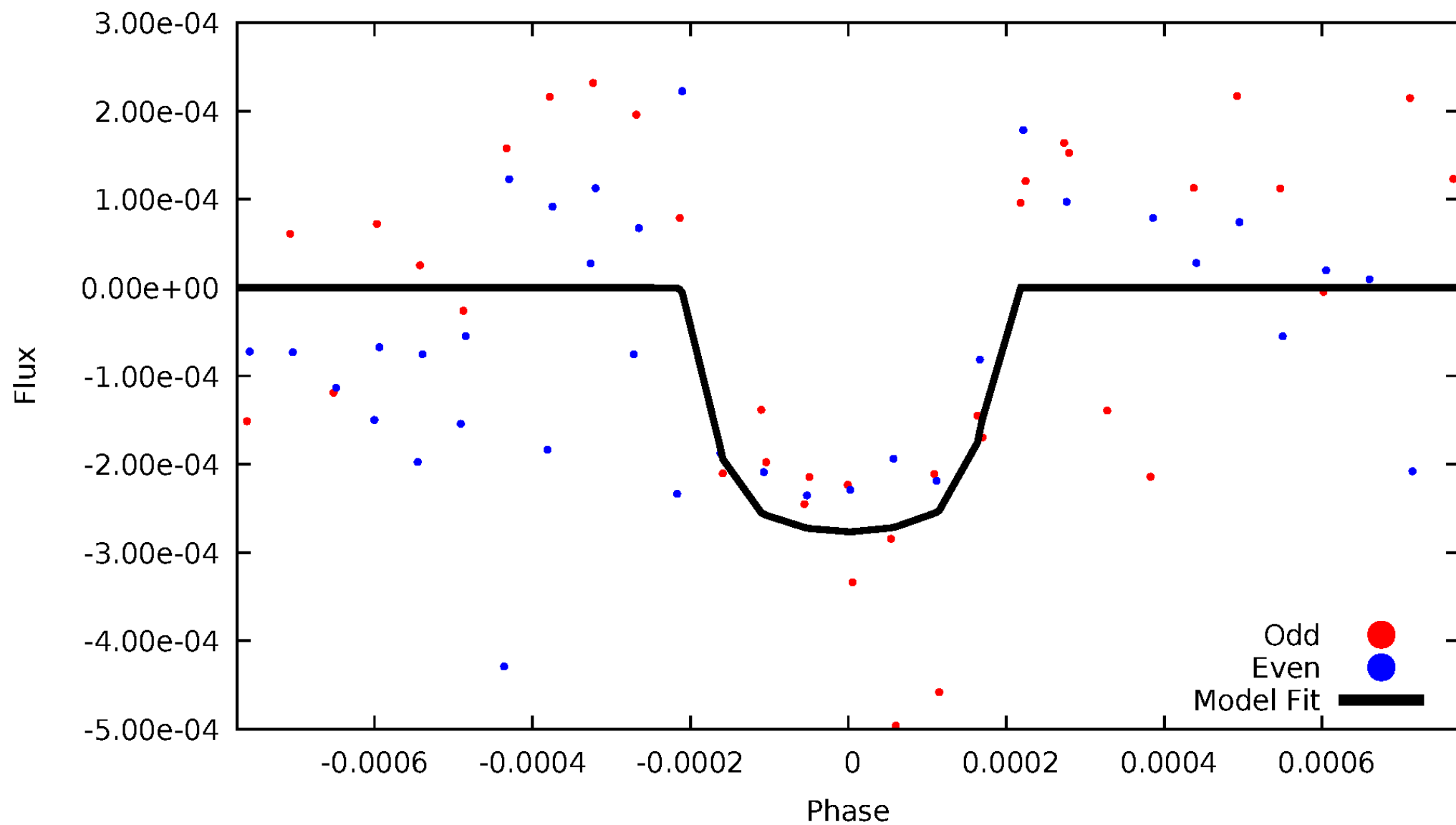


TCE 006115603-07



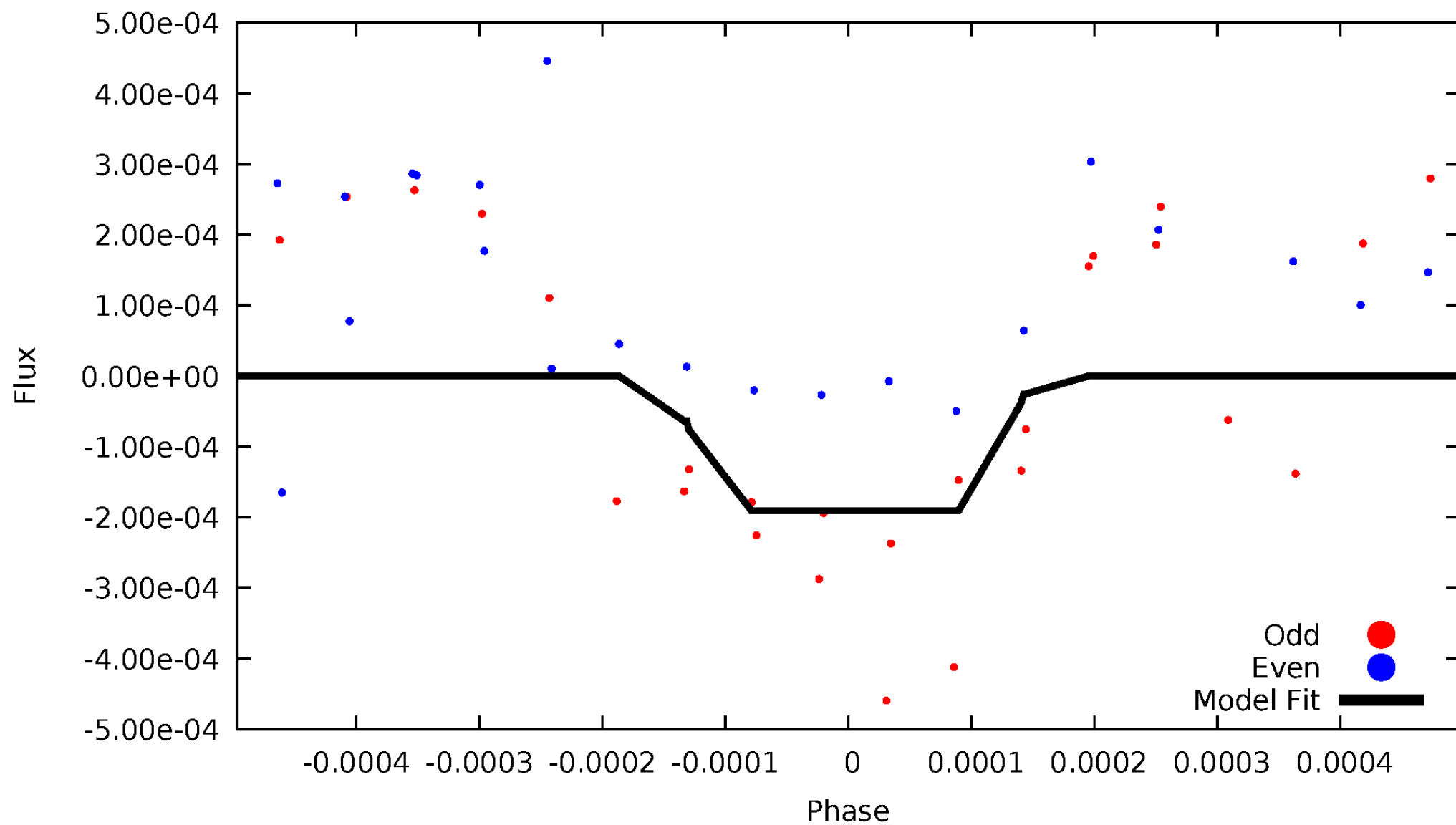
DV Odd/Even

TCE 006115603-07



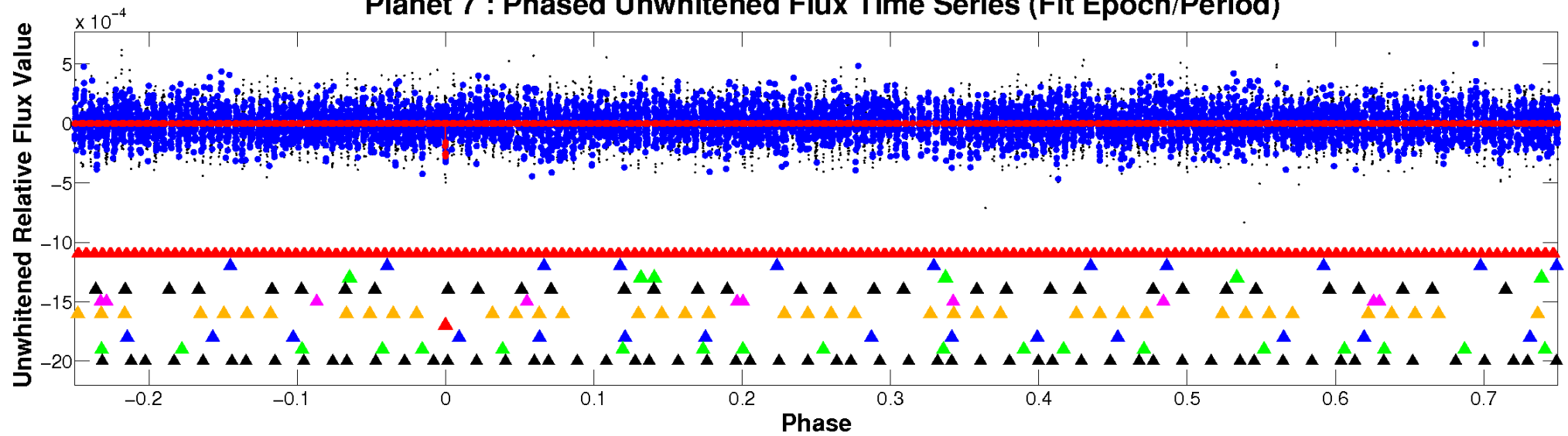
ALT Odd/Even

TCE 006115603-07

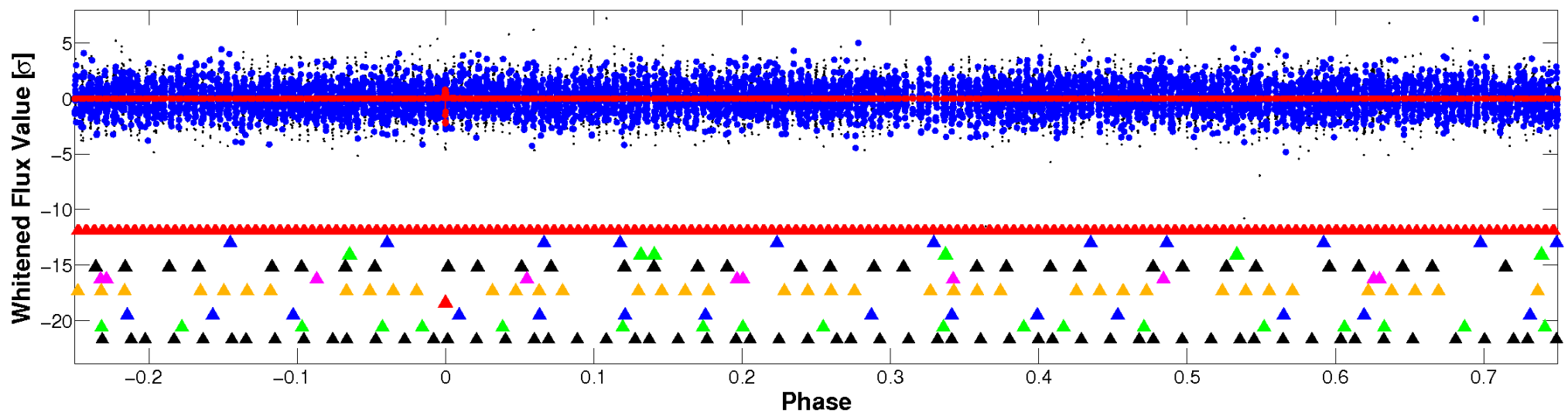


Non-Whitened Vs. Whitened Light Curve

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

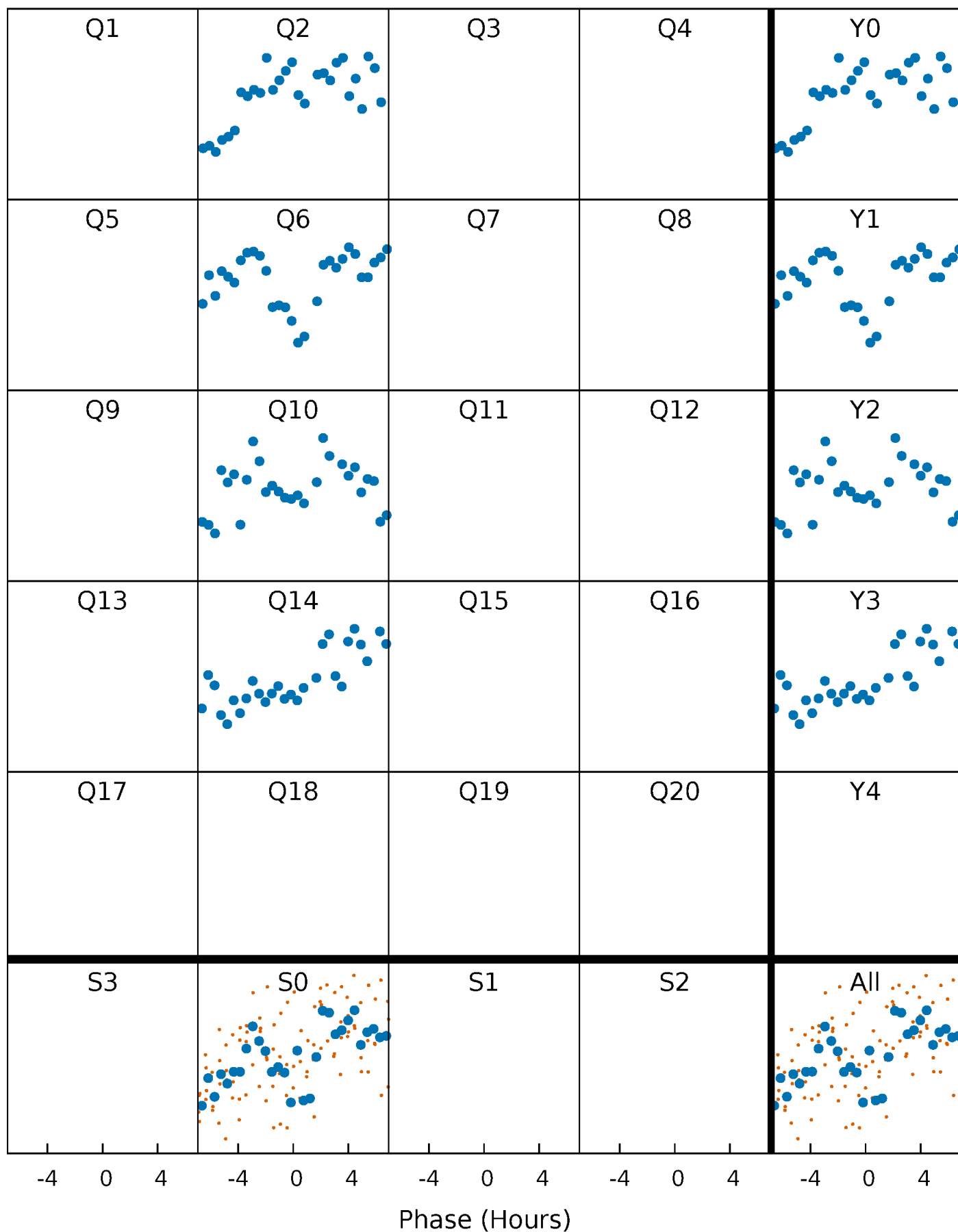


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



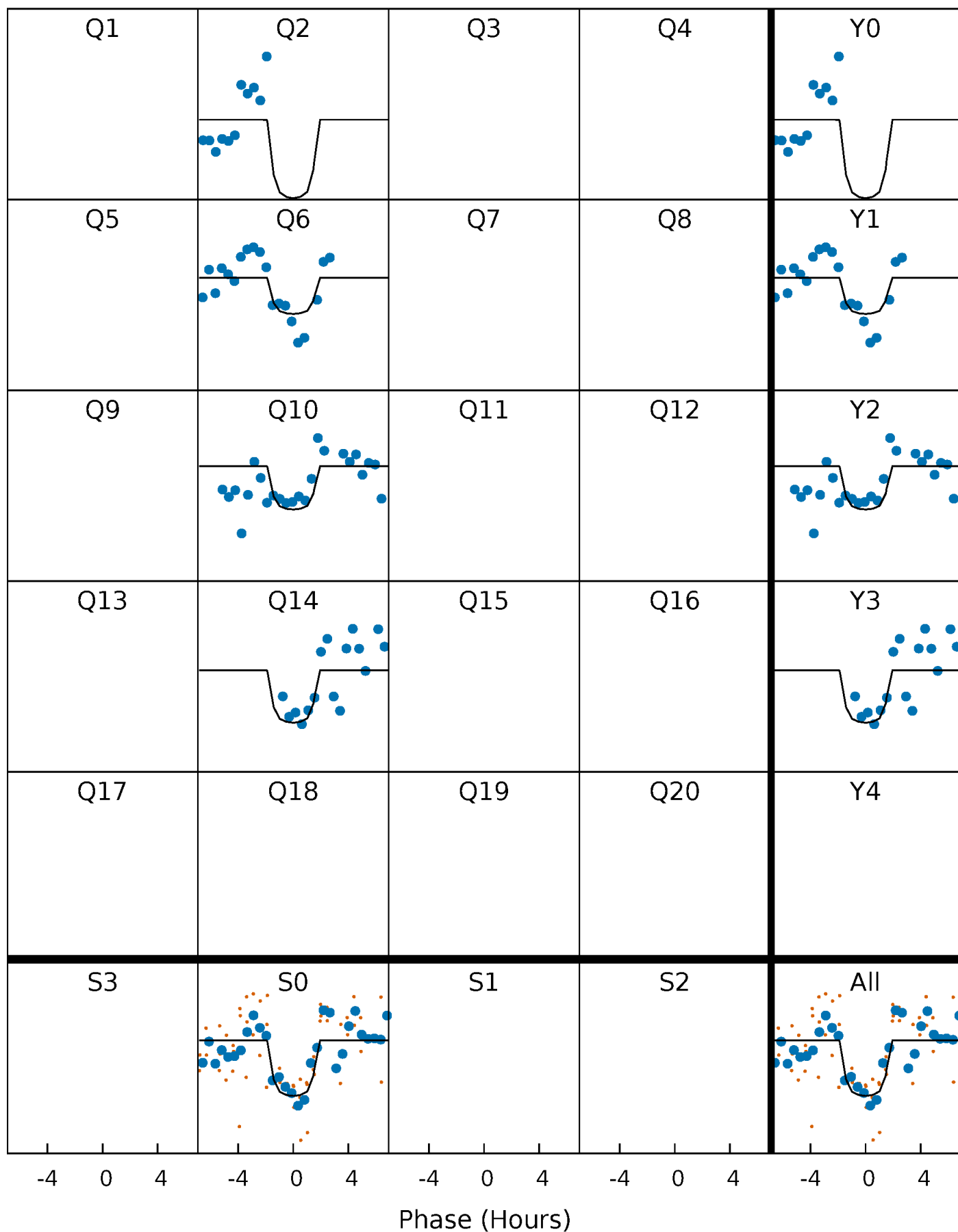
PDC Quarter-Phased Transit Curves

TCE 006115603-07 P=372.914339 Days $T_0=234.986749$ (BKJD)



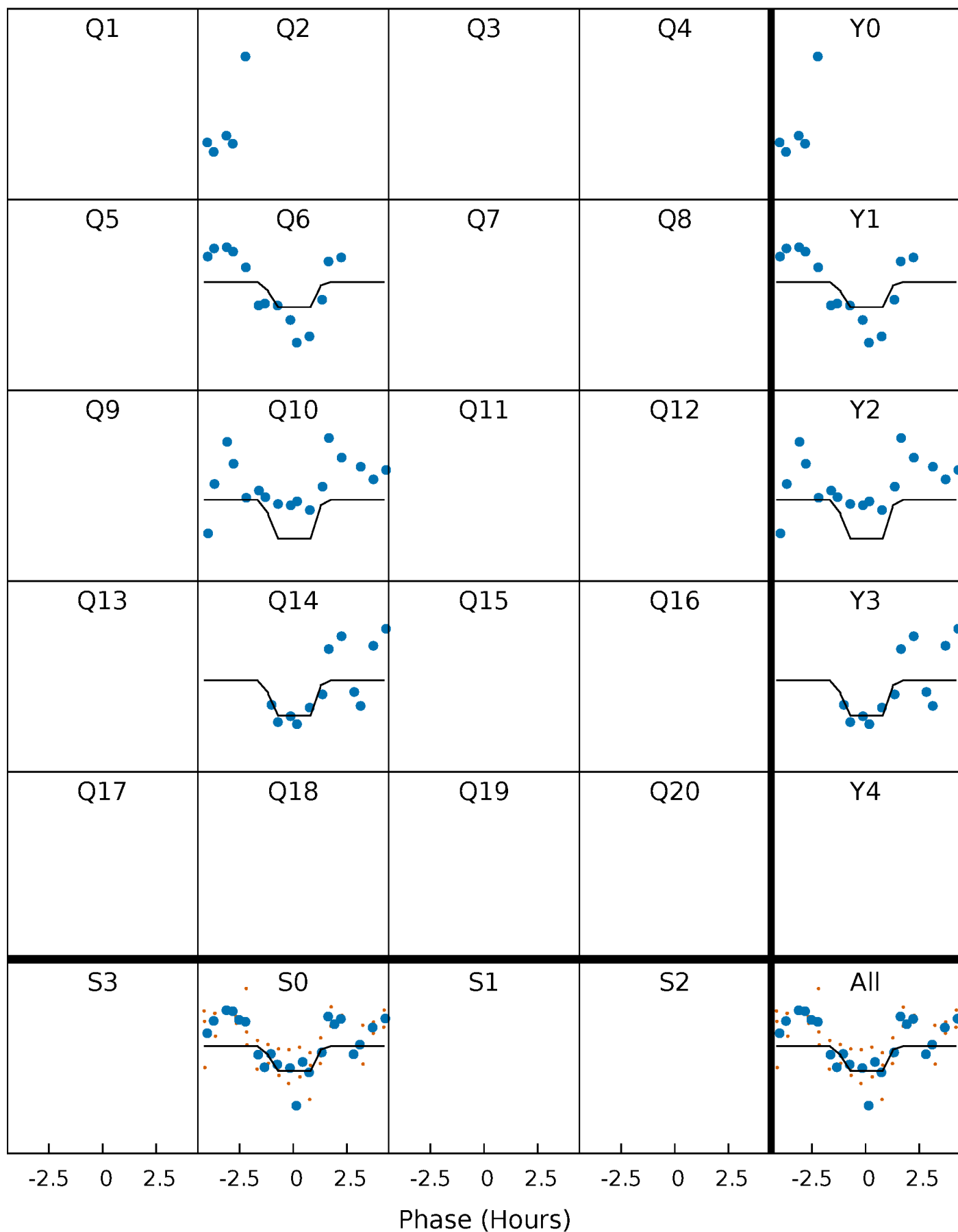
DV Quarter-Phased Transit Curves

TCE 006115603-07 $P=372.914339$ Days $T_0=234.986749$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

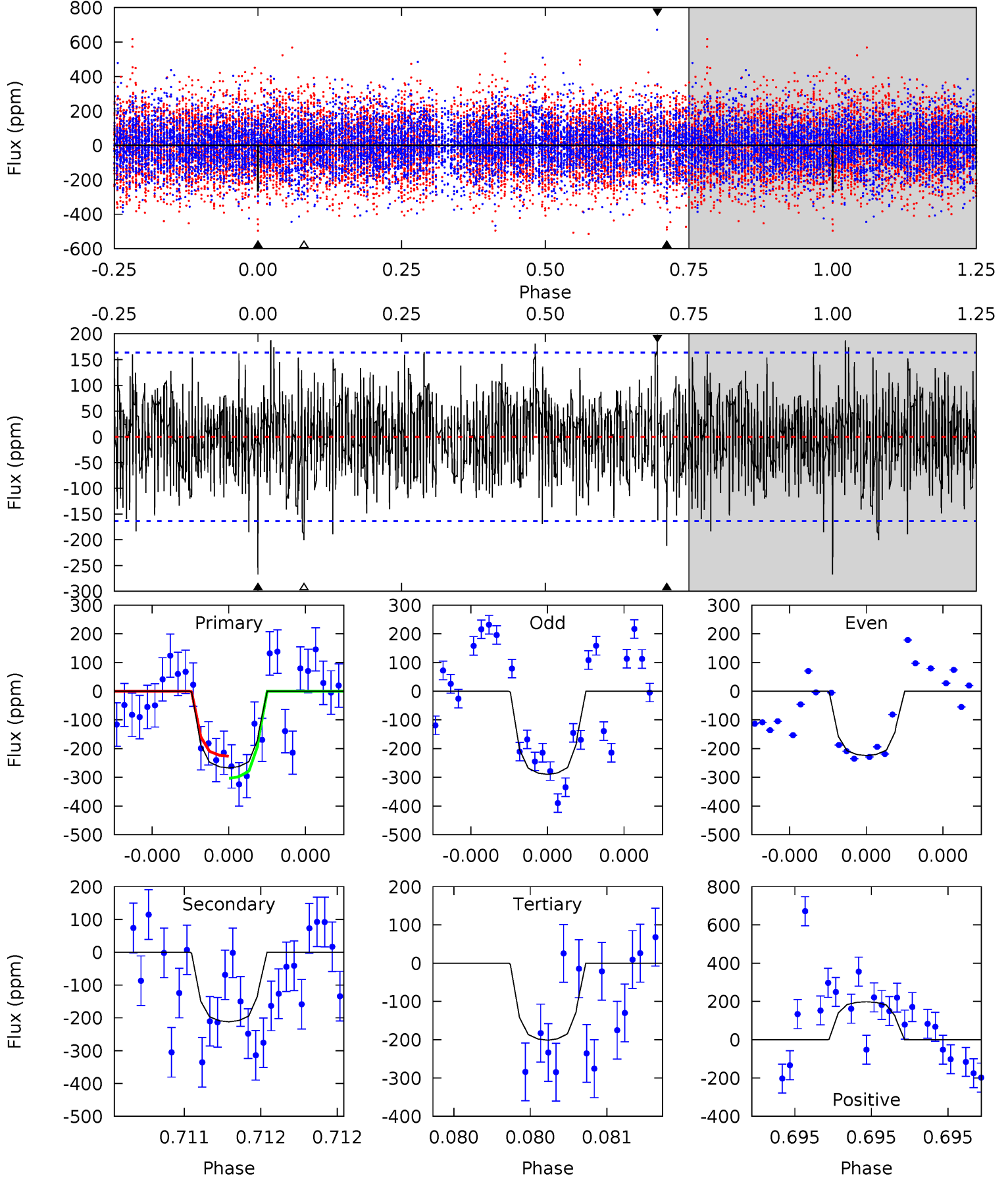
TCE 006115603-07 P=372.912470 Days $T_0=234.999538$ (BKJD)



DV Model-Shift Uniqueness Test

006115603-07, P = 372.914339 Days, E = 234.986749 Days

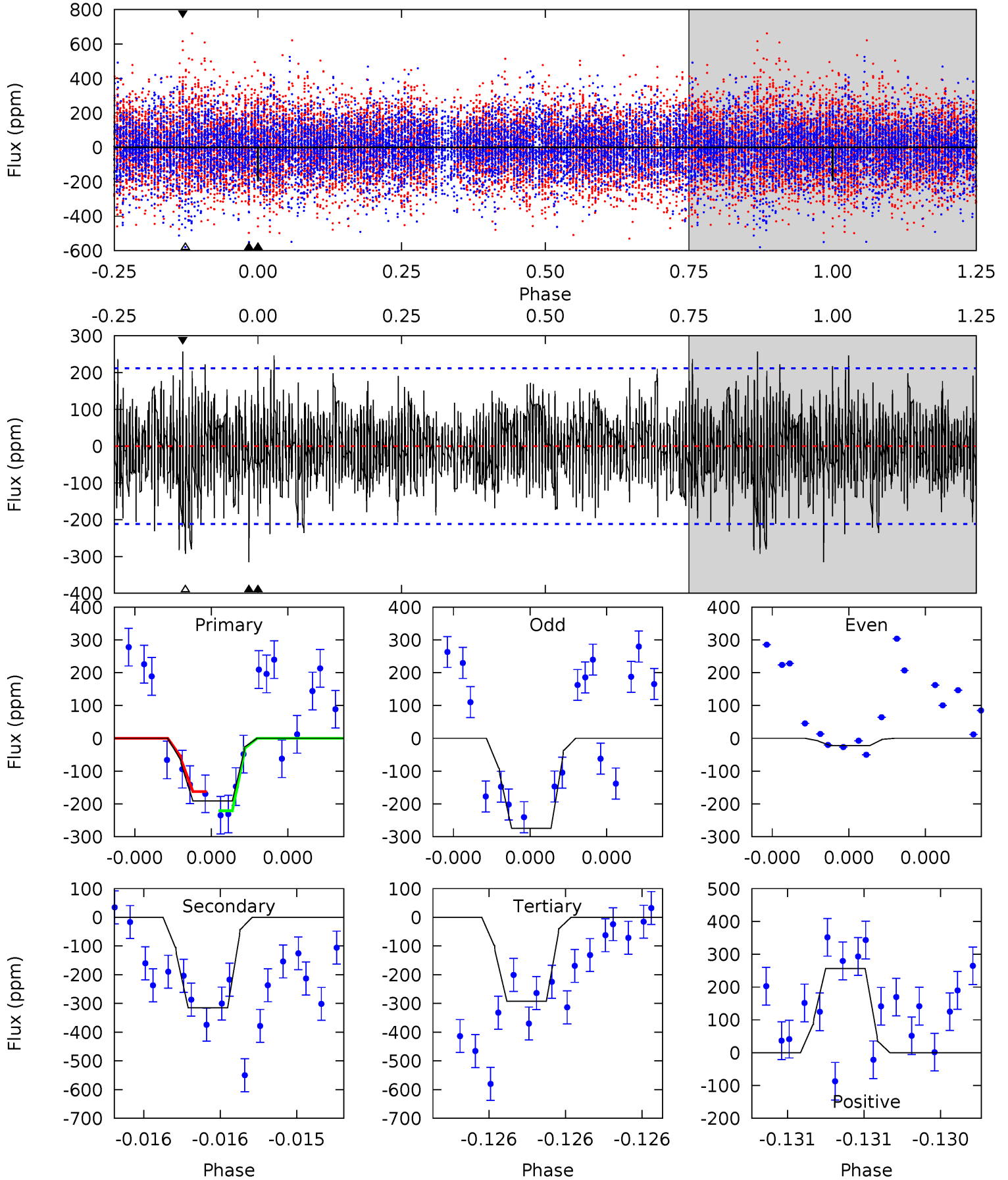
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.16	7.26	6.88	6.79	5.60	3.52	1.89	2.27	2.37	0.37	0.47	1.09	1.16	0.43	1.32



Alt Model-Shift Uniqueness Test

006115603-07, P = 372.912470 Days, E = 234.999538 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.09	8.42	7.80	6.85	5.65	3.59	1.86	-2.71	-1.76	0.61	1.57	3.09	0.92	0.45	0.77



Stellar Parameters For KIC 006115603

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6510^{+146}_{-179}	$3.553^{+0.323}_{-0.108}$	$-0.240^{+0.350}_{-0.300}$	$3.553^{+0.460}_{-1.379}$	$1.646^{+0.229}_{-0.371}$	$0.052^{+0.121}_{-0.014}$
	+2%/-3%	+9%/-3%	+146%/-125%	+13%/-39%	+14%/-23%	+234%/-28%
Source	PHO1	FLK73	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 006115603-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-212 ± 29	$6.28^{+4.00}_{-3.38}$	679^{+38}_{-66}	5969^{+3145}_{-1139}	4238^{+14216}_{-2664}
Alt.	-315 ± 37	$5.34^{+3.68}_{-3.15}$	683^{+36}_{-63}	7272^{+5905}_{-1725}	8742^{+38294}_{-5719}

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

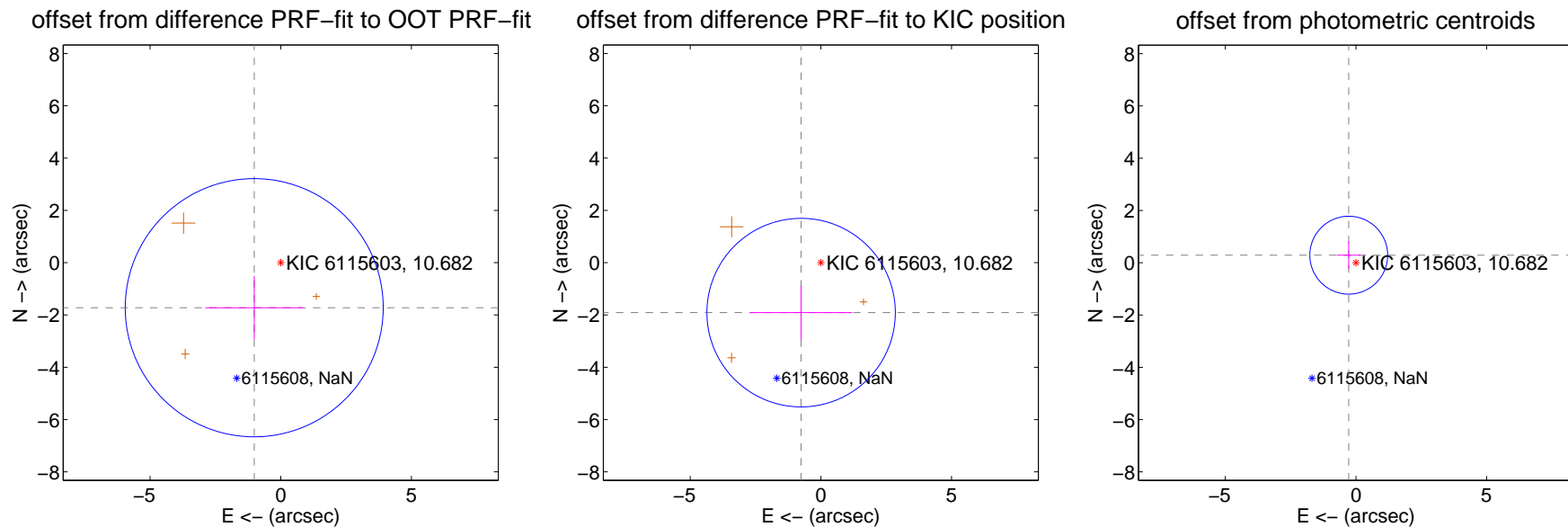
DV Centroid Data

Supplemental centroid analysis for 006115603-07. **Kepler magnitude: 10.68.** Transit SNR 9.17

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.999 ± 1.646	1.21	1.015 ± 1.876	-1.722 ± 1.207
PRF-fit source offset from KIC position	2.054 ± 1.202	1.71	0.756 ± 1.950	-1.910 ± 1.036
photometric centroid source offset	0.40 ± 0.50	0.81	0.28 ± 0.46	0.29 ± 0.53



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

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

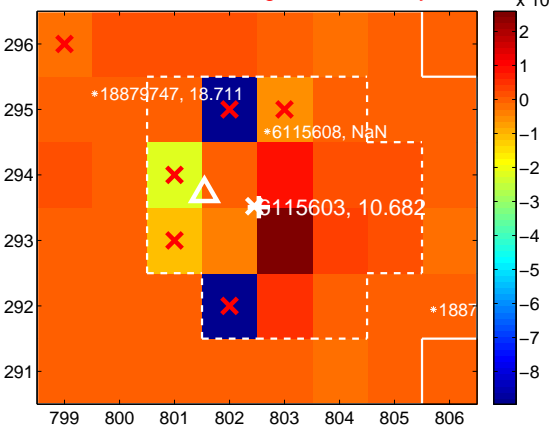
Q1 no difference image



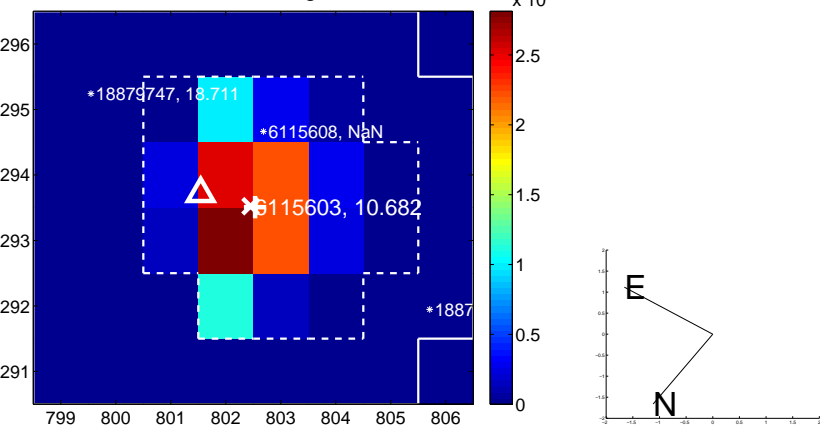
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



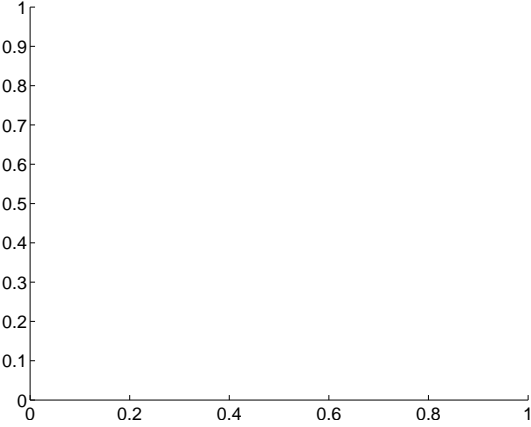
Q3 no difference image



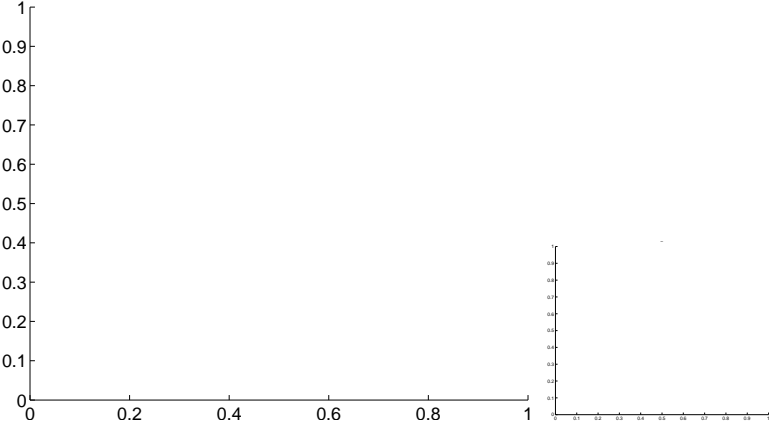
Q3 no OOT image



Q4 no difference image



Q4 no OOT image

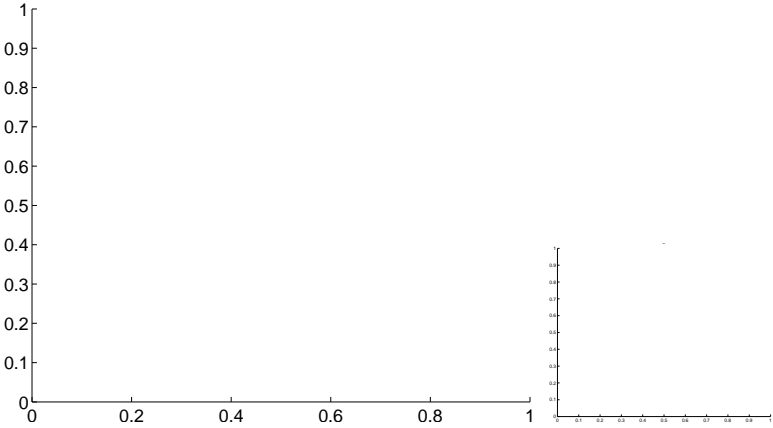


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

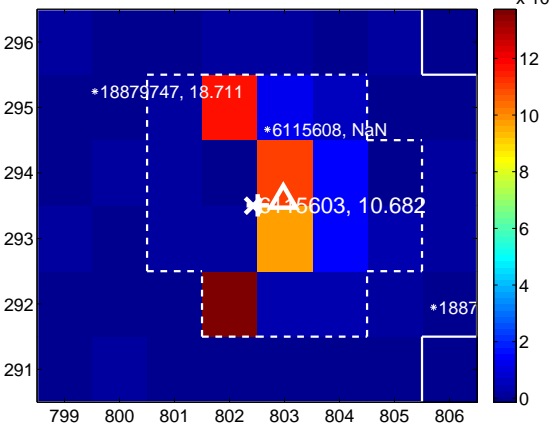
Q5 no difference image



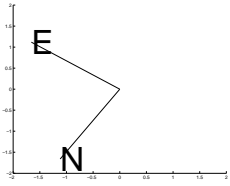
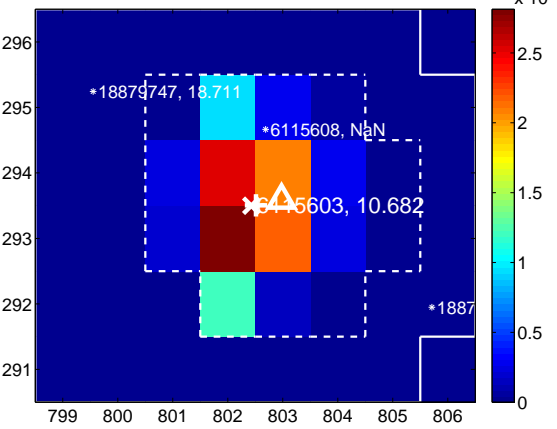
Q5 no OOT image



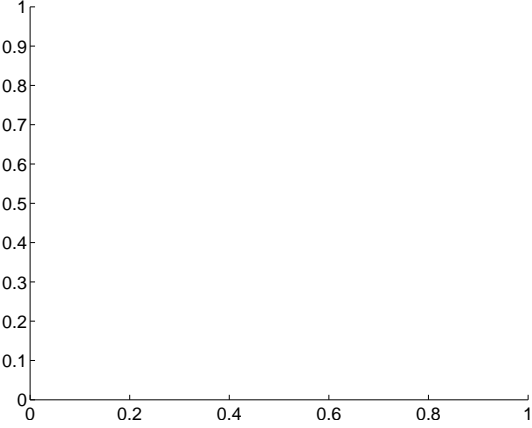
Q6 difference image. Poor Quality



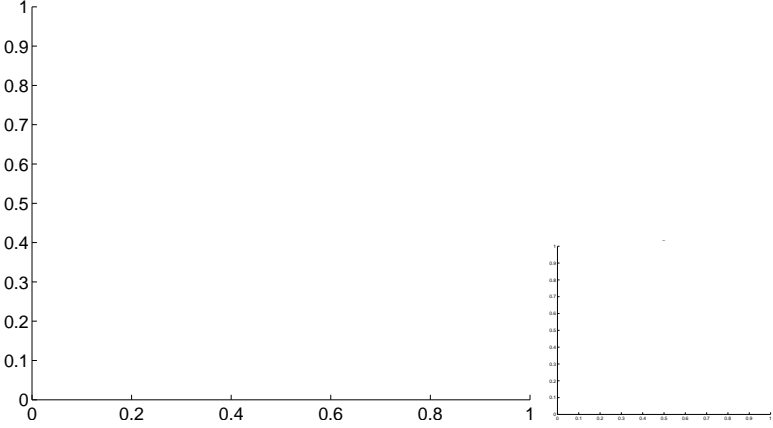
Q6 OOT image



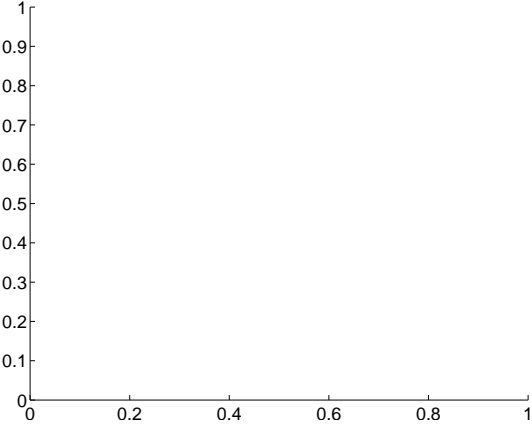
Q7 no difference image



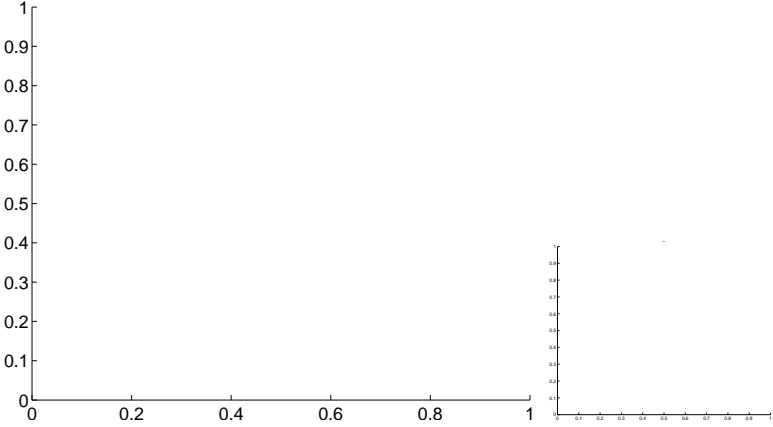
Q7 no OOT image



Q8 no difference image

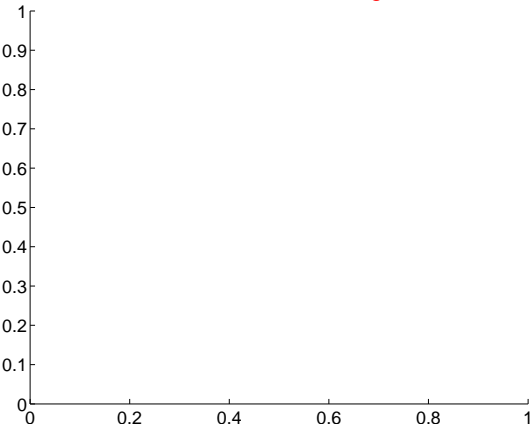


Q8 no OOT image

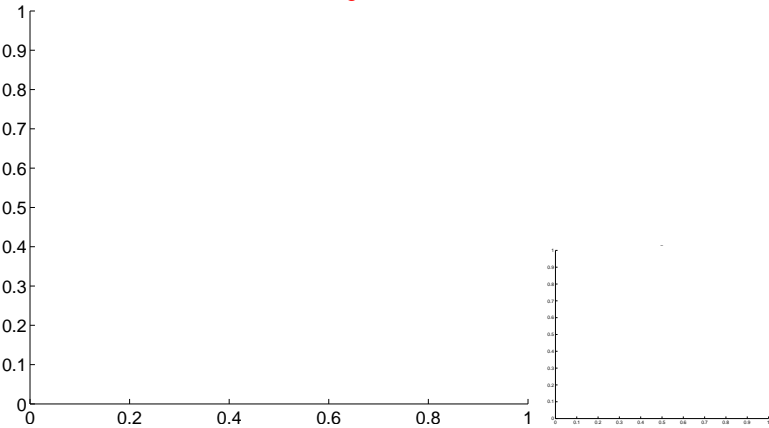


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

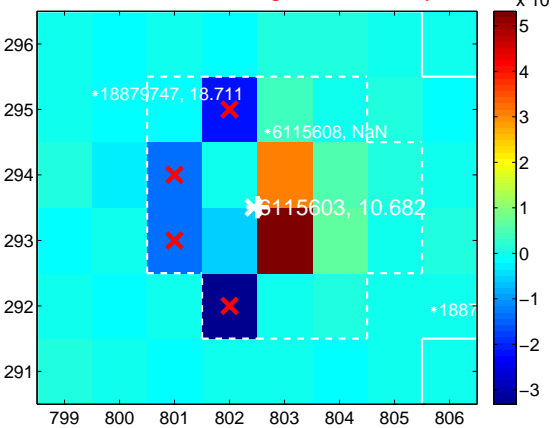
Q9 no difference image



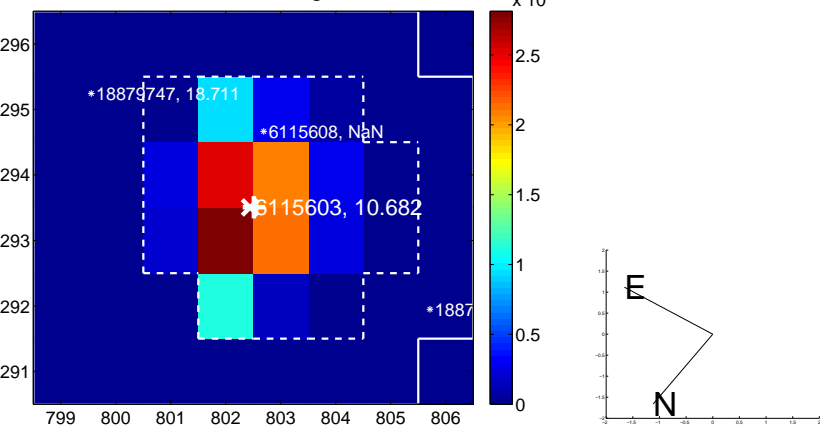
Q9 no OOT image



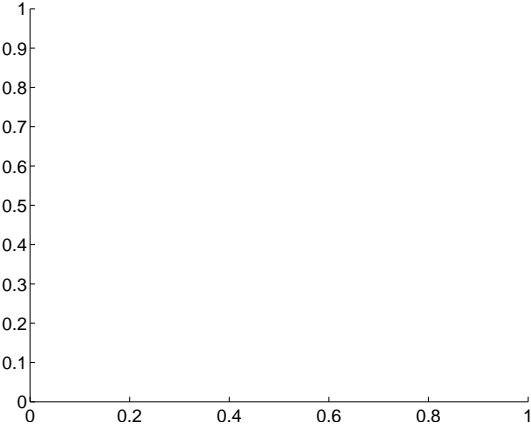
Q10 difference image. Poor Quality



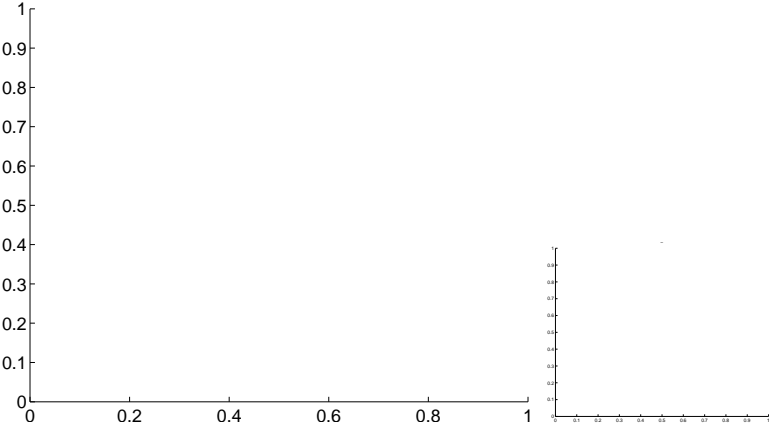
Q10 OOT image



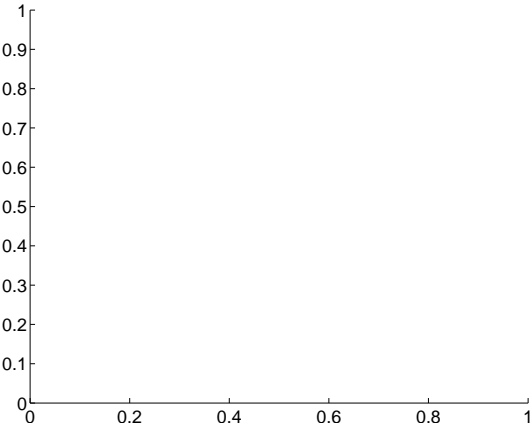
Q11 no difference image



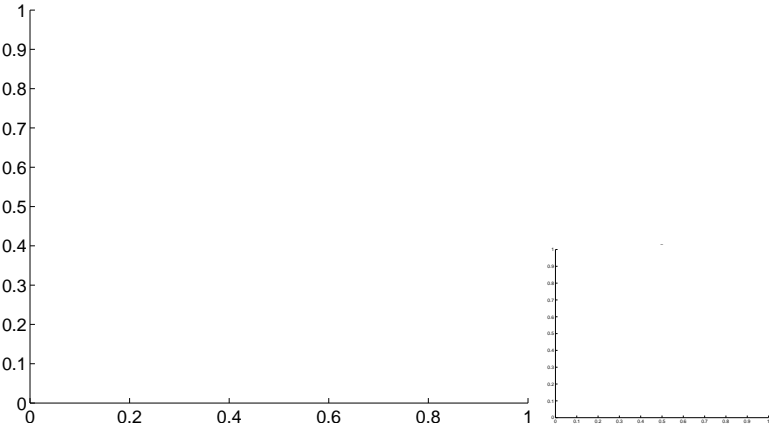
Q11 no OOT image



Q12 no difference image

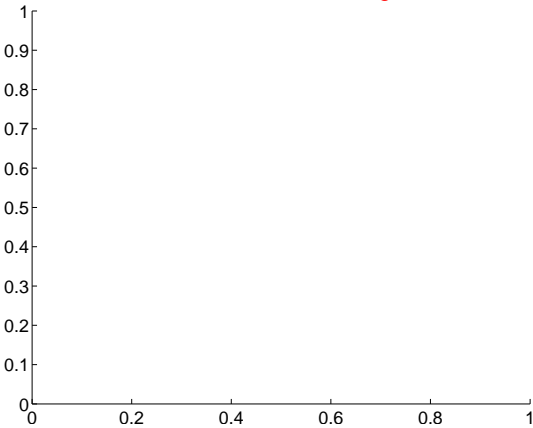


Q12 no OOT image

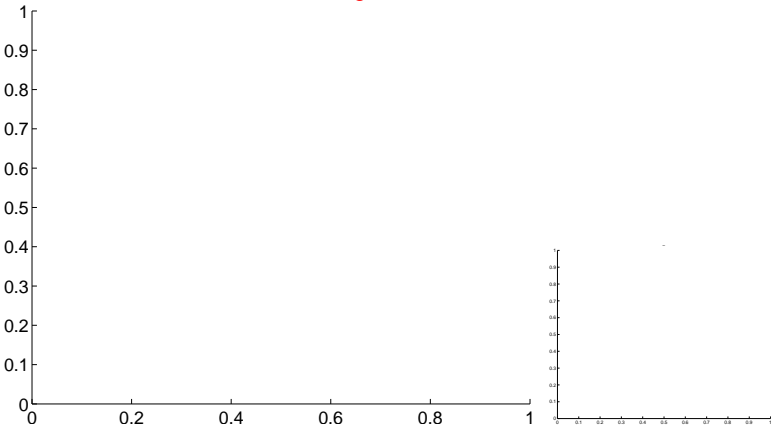


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

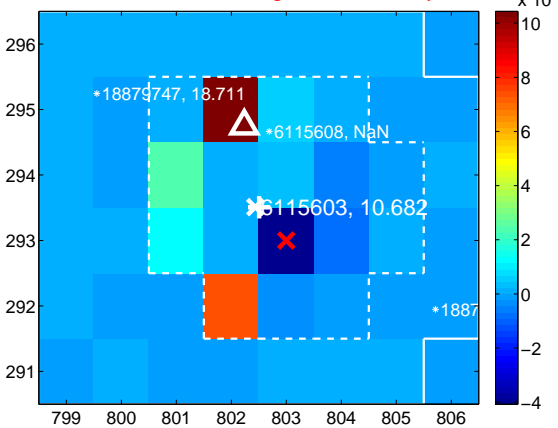
Q13 no difference image



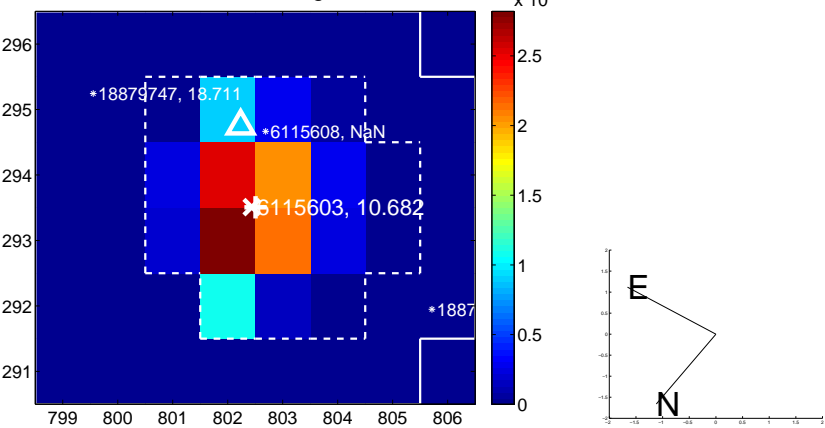
Q13 no OOT image



Q14 difference image. Poor Quality



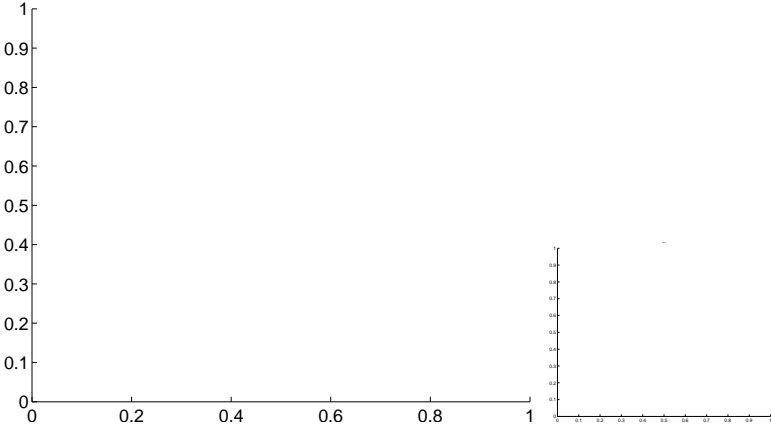
Q14 OOT image



Q15 no difference image



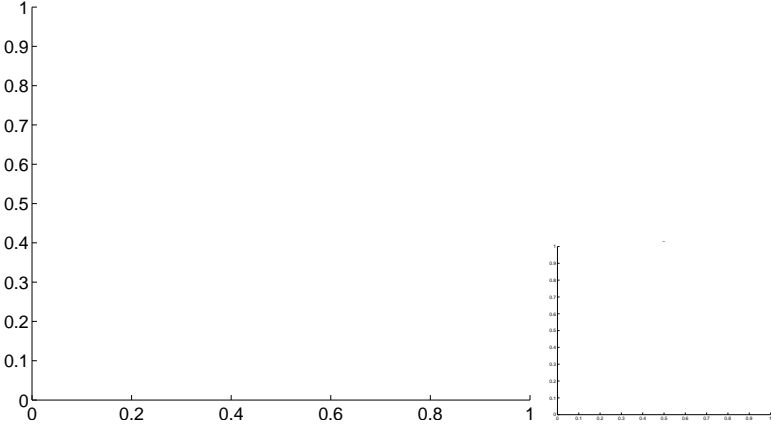
Q15 no OOT image



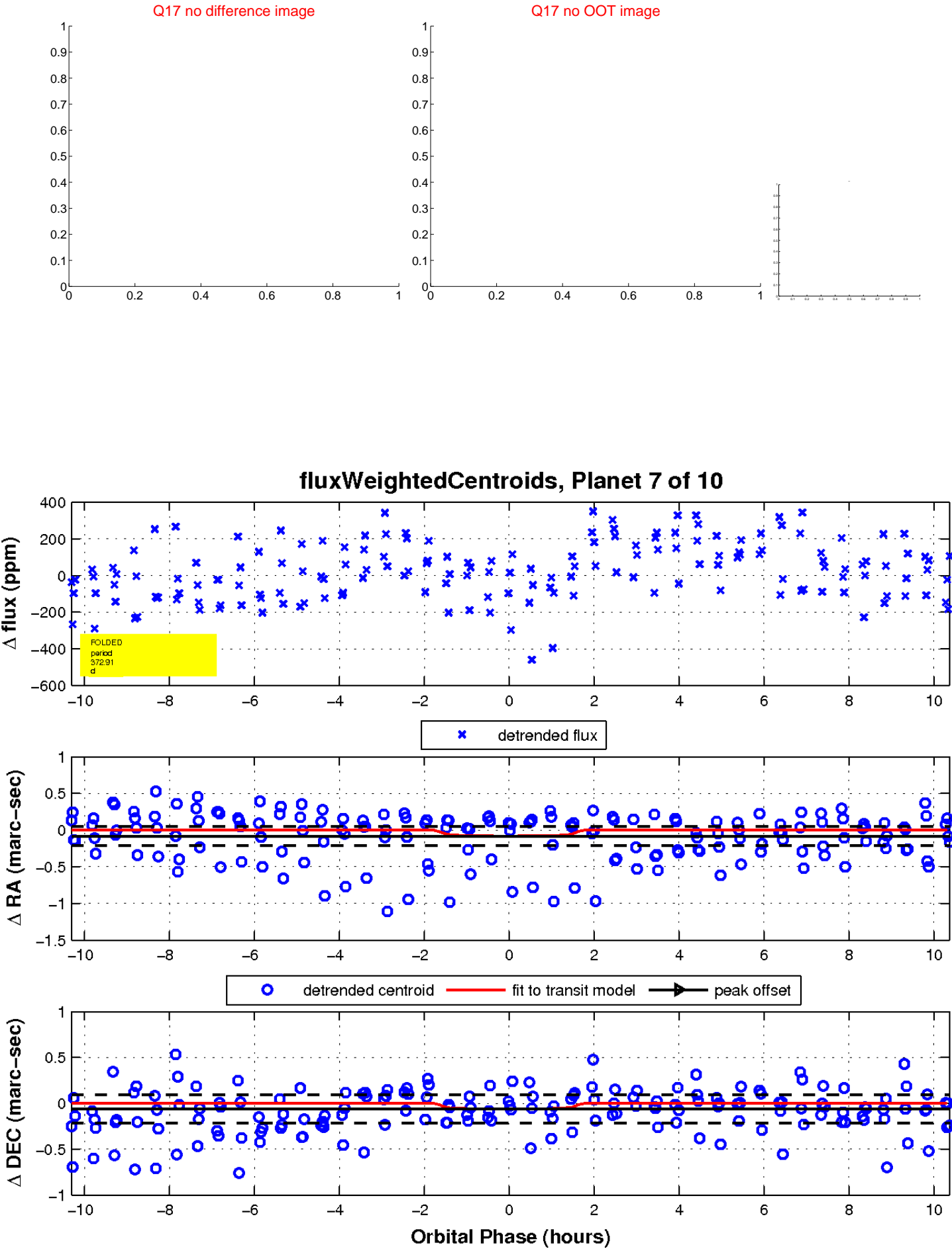
Q16 no difference image



Q16 no OOT image

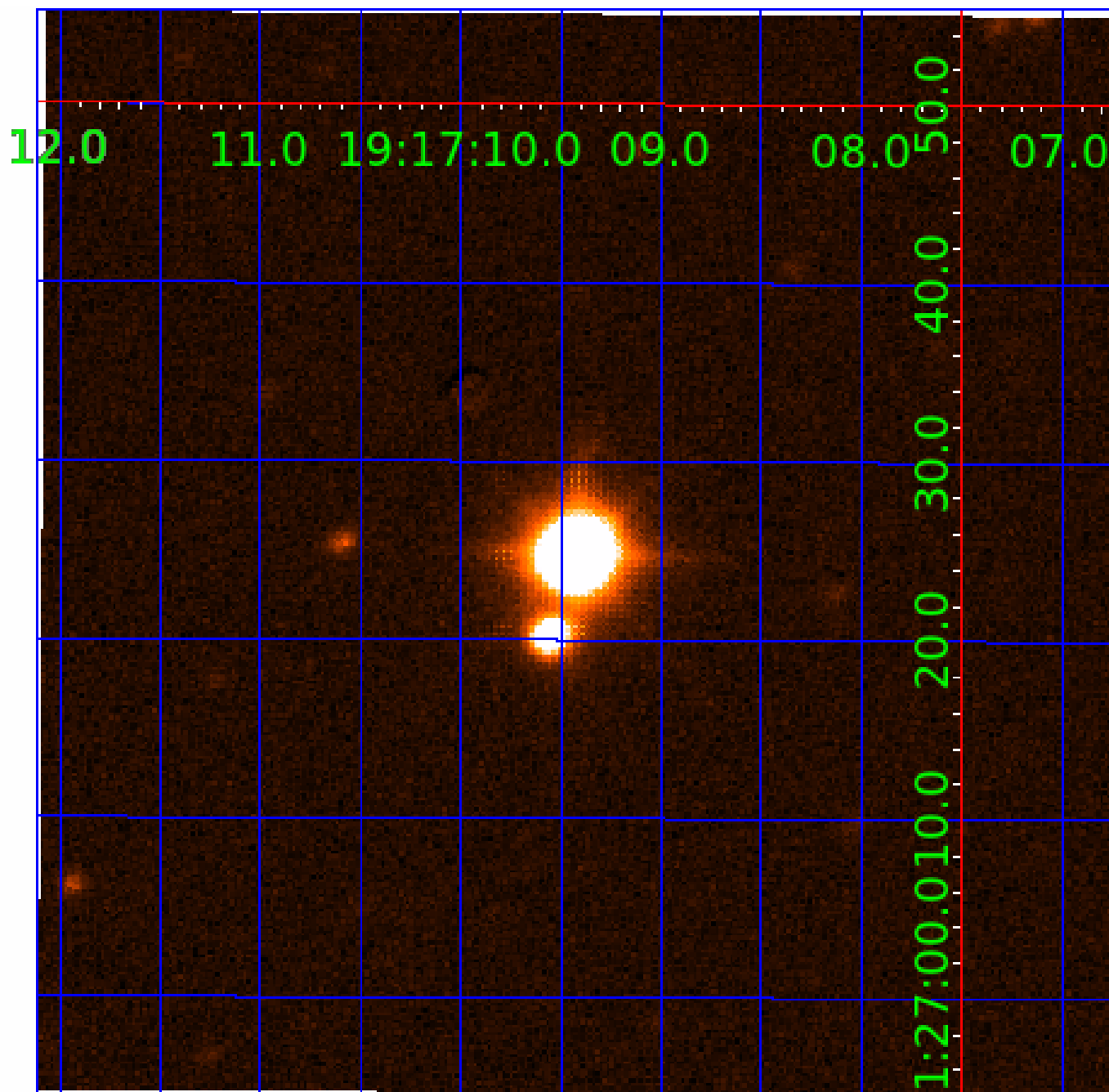


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
006115603-01	OBS	No	2.027653	132.269081	21.2	12.019	8.2	7.3	3.55	6510	2.00	14823.71
006115603-03	OBS	No	223.073942	287.488546	216.9	7.976	10.3	8.6	3.55	6510	5.96	28.12
006115603-04	OBS	No	44.308404	165.505638	181.4	2.088	10.1	9.6	3.55	6510	5.43	242.64
006115603-05	OBS	No	160.029581	148.288775	245.7	2.560	10.0	8.8	3.55	6510	6.51	43.79
006115603-06	OBS	No	36.703881	154.308734	176.1	3.638	9.9	8.9	3.55	6510	5.07	311.89
006115603-07	OBS	No	372.914339	234.986749	276.4	3.464	9.8	9.2	3.55	6510	6.73	14.17
006115603-08	OBS	No	103.658197	154.981118	252.1	4.379	9.9	9.5	3.55	6510	6.19	78.13
006115603-09	OBS	No	80.625343	138.506069	261.4	3.510	9.7	10.4	3.55	6510	6.74	109.22
006115603-10	OBS	No	25.345451	134.150778	64.9	3.000	9.5	-1.0	3.55	6510	2.88	510.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006115603-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
006115603-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006115603-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006115603-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006115603-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006115603-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

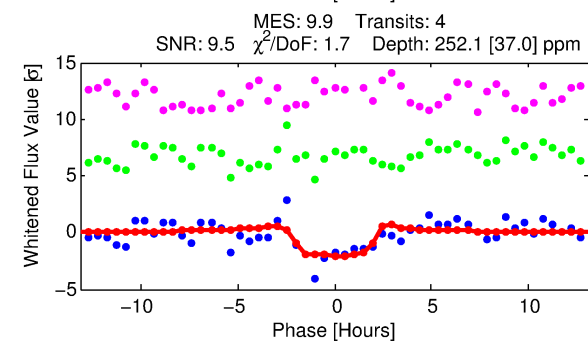
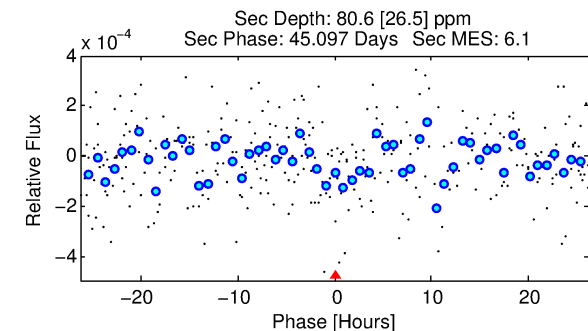
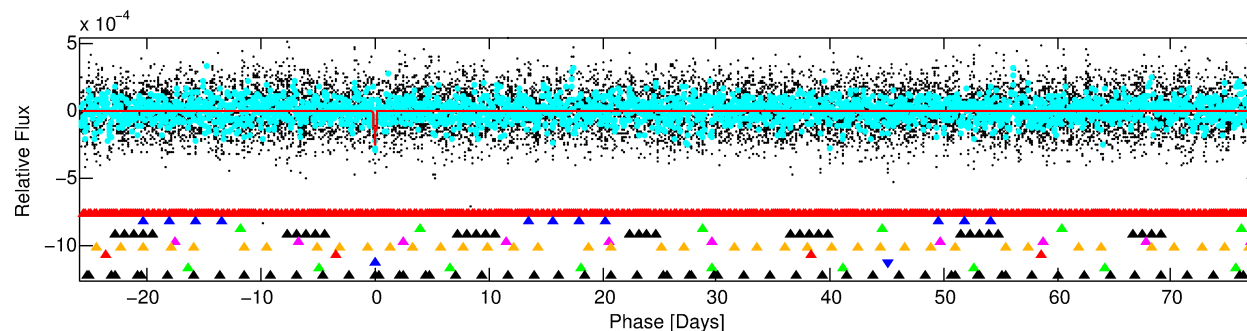
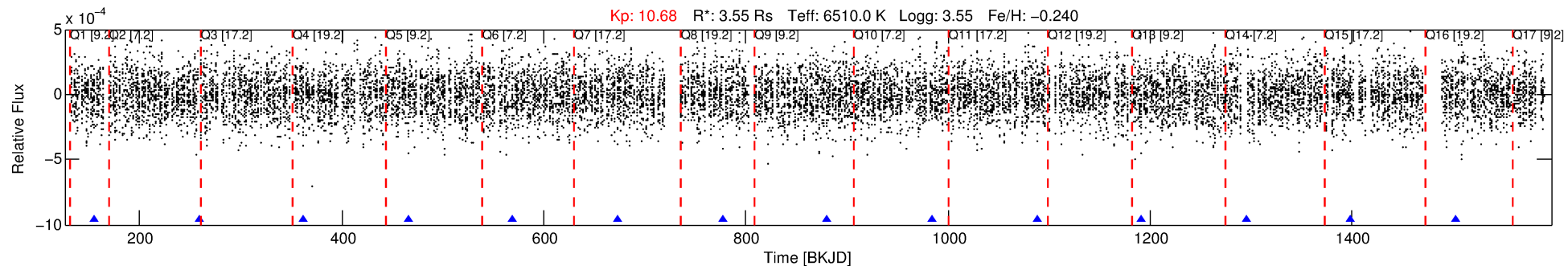
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006115603-08

No Significant Match Found

DV One-Page Summary

KIC: 6115603 Candidate: 8 of 10 Period: 103.658 d

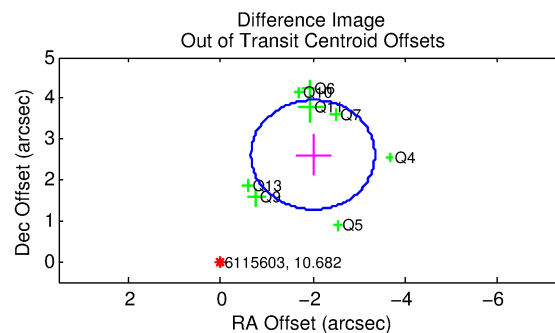
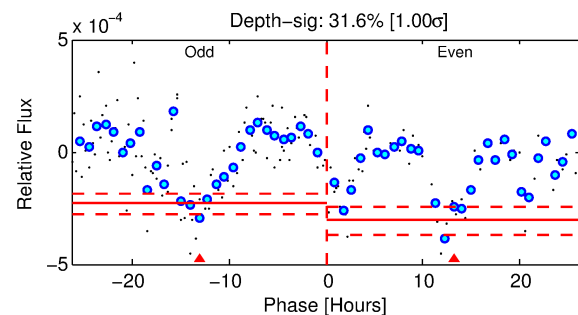
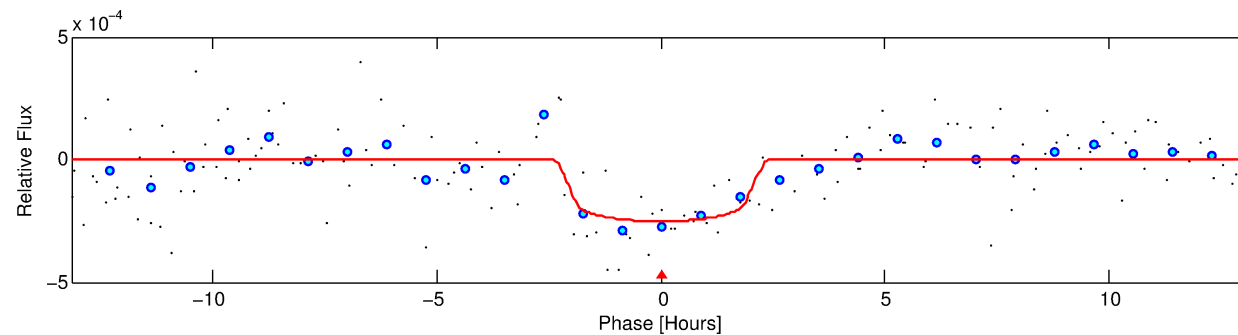


DV Fit Results:

Period = 103.65820 [0.00123] d
Epoch = 154.9811 [0.0099] BKJD
Rp/R* = 0.0160 [0.0170]
a/R* = 117.70 [706.98]
b = 0.78 [3.04]
Seff = 78.13 [44.53]
Teq = 758 [108] K
Rp = 6.19 [7.00] Re
a = 0.5099 [0.1827] AU
Ag = 301.33 [669.86] [0.45σ]
Teffp = 4883 [2630] K [1.57σ]

DV Diagnostic Results:

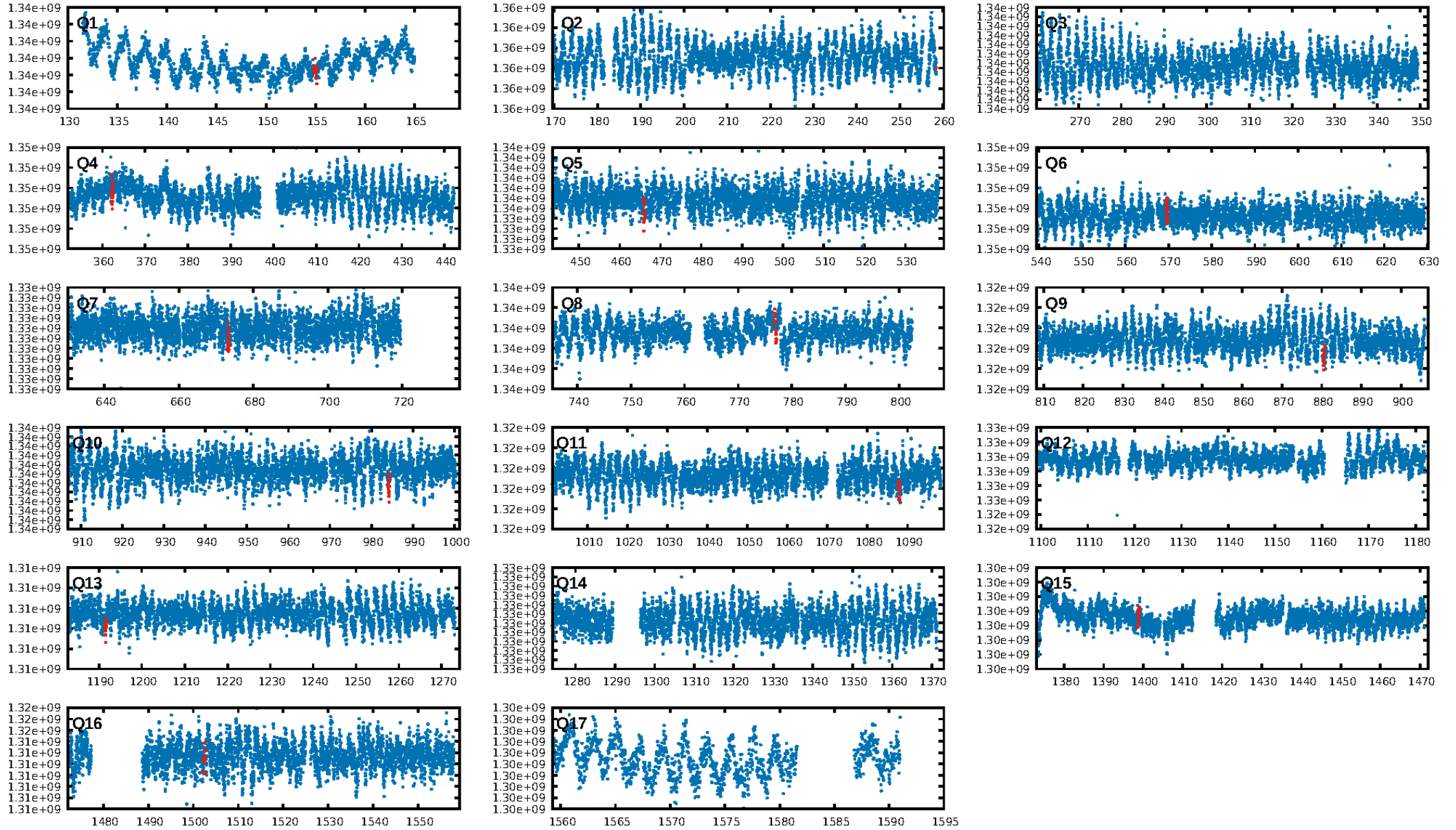
ShortPeriod-sig: 100.0% [98.49σ]
LongPeriod-sig: 100.0% [37.19σ]
ModelChiSquare2-sig: 17.3%
ModelChiSquareGof-sig: 72.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.694
Centroid-sig: 21.7%
Centroid-so: 0.445 arcsec [1.34σ]
OotOffset-rm: 3.293 arcsec [7.37σ]
KicOffset-rm: 3.669 arcsec [10.09σ]
OotOffset-st: 2/2/1/3 [8]
KicOffset-st: 2/2/1/3 [8]
DiffImageQuality-fgm: 0.25 [2/8]
DiffImageOverlap-fno: 0.25 [3/12]



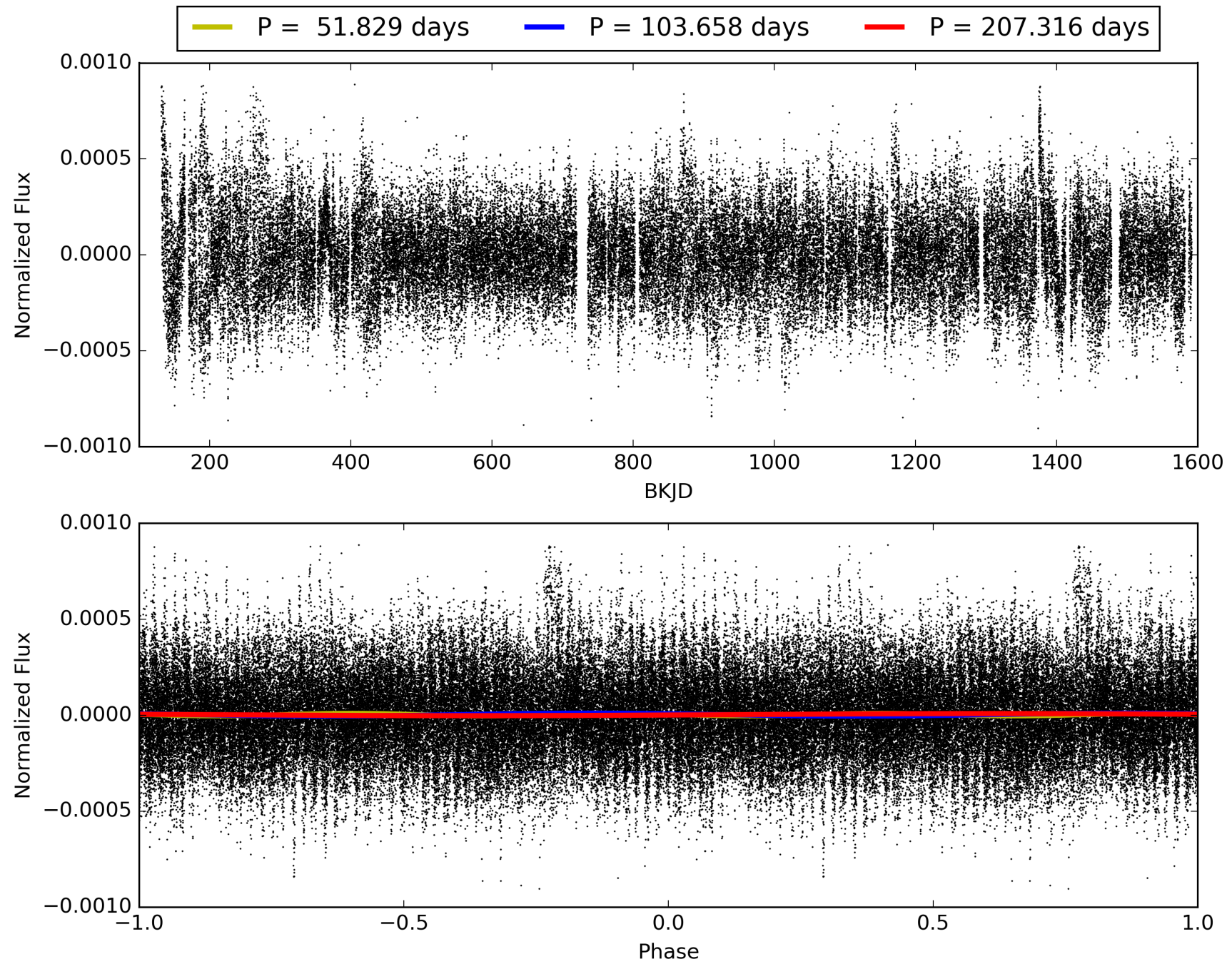
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:34:43 Z

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

TCE 006115603-08, PDC Light Curves

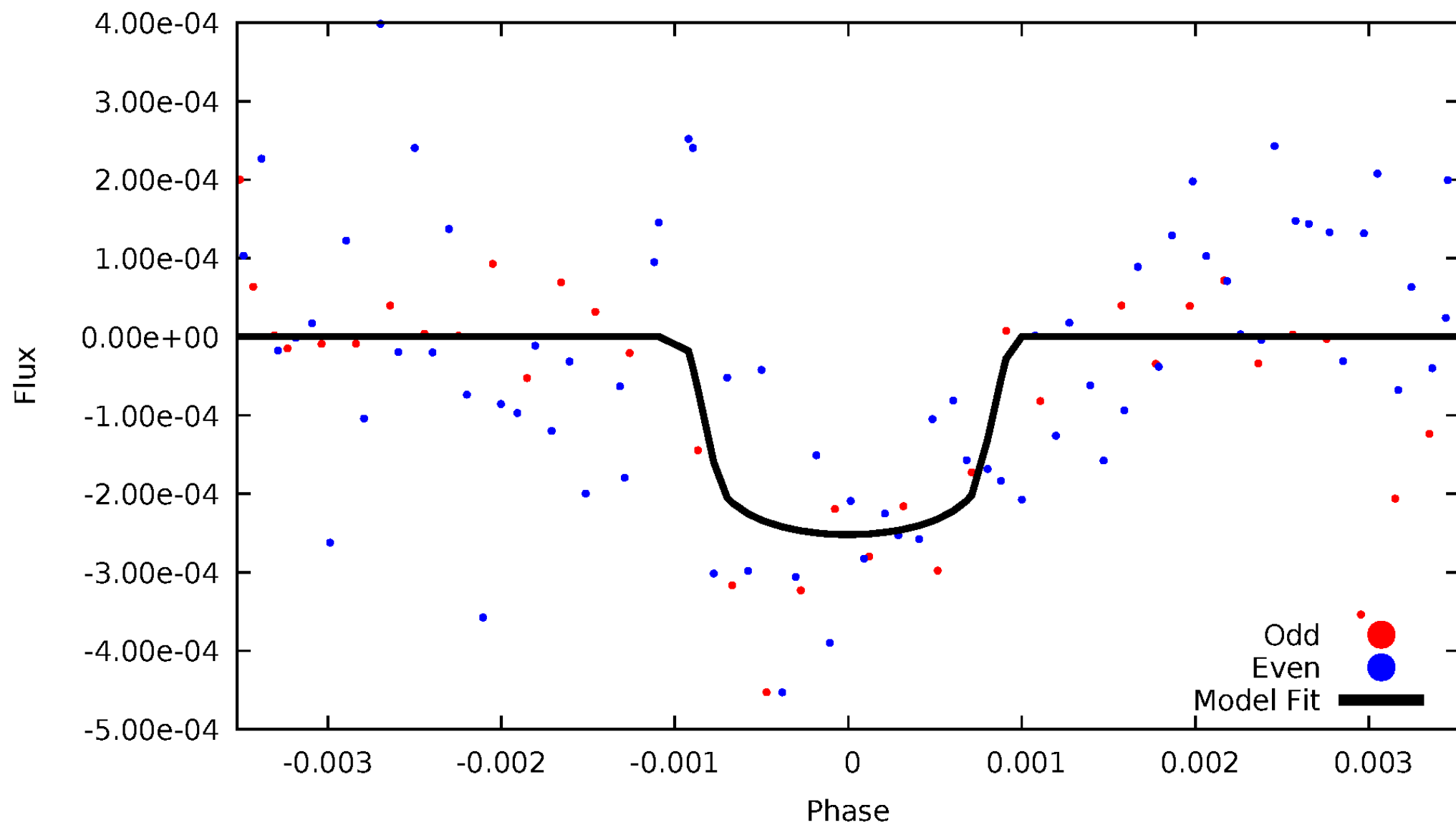


TCE 006115603-08



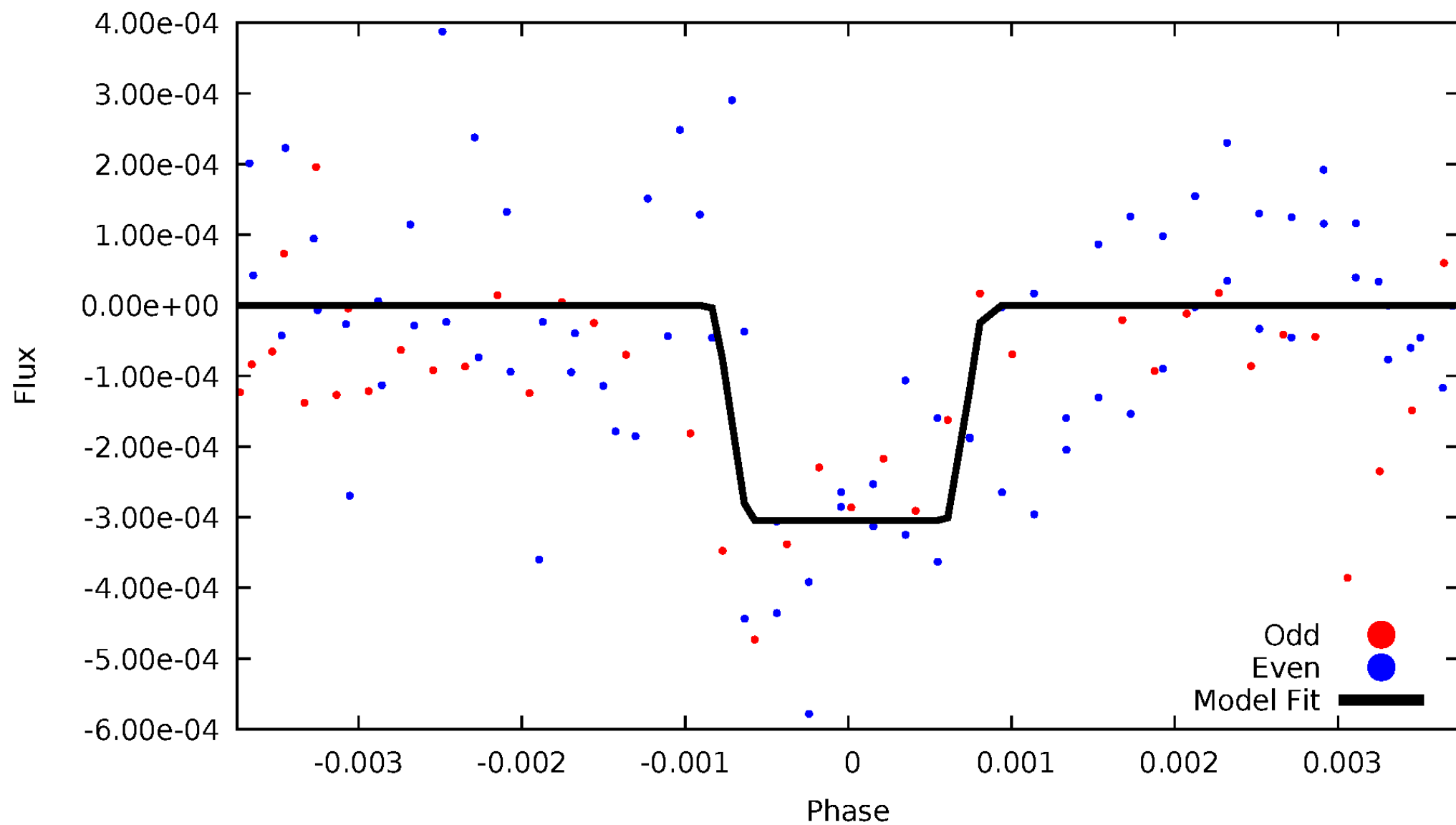
DV Odd/Even

TCE 006115603-08



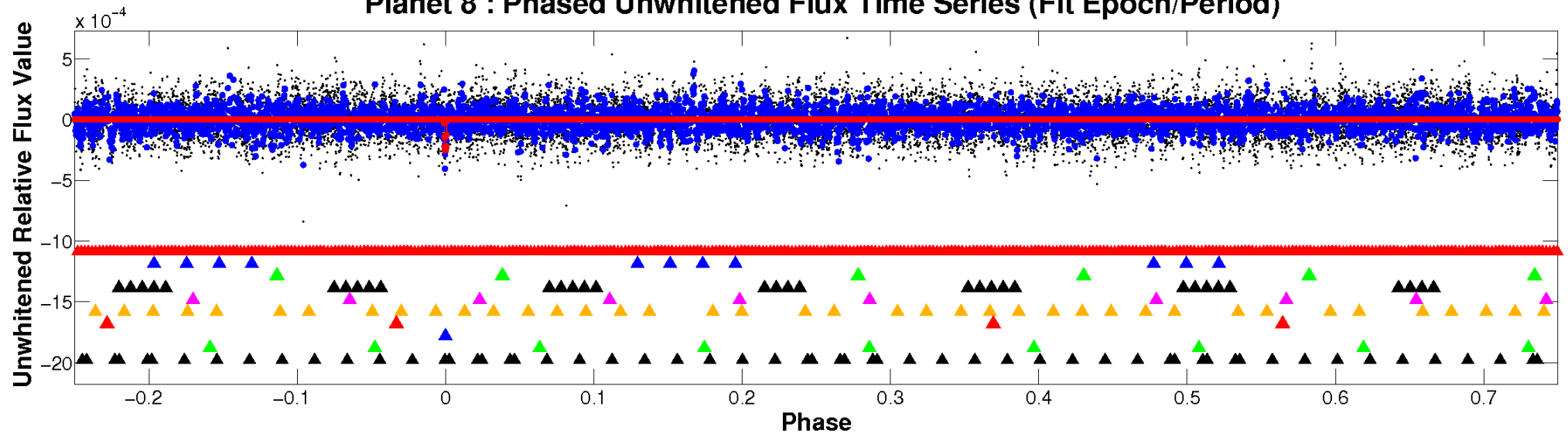
ALT Odd/Even

TCE 006115603-08

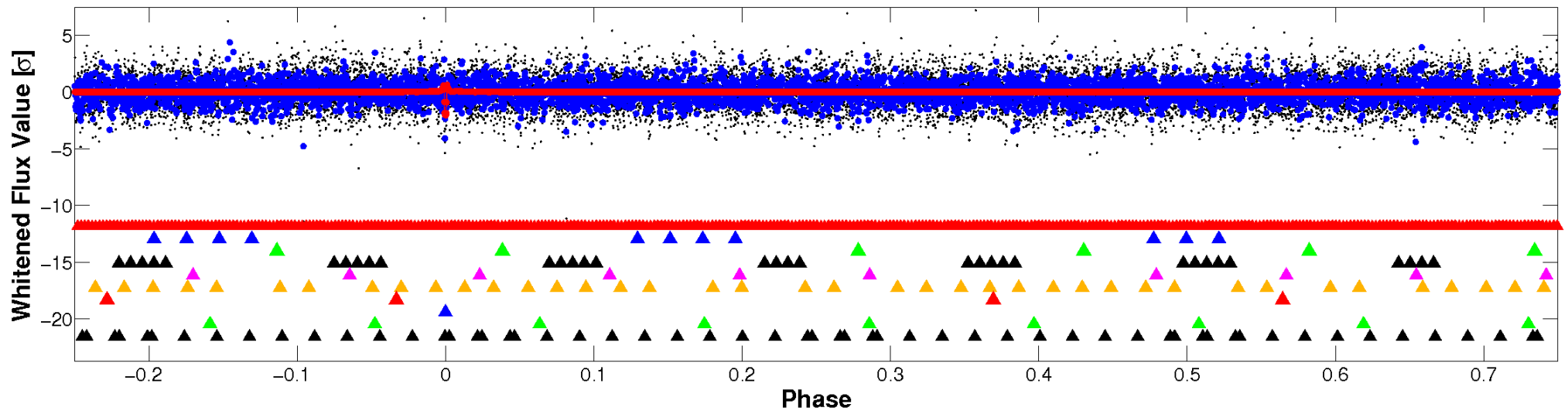


Non-Whitened Vs. Whitened Light Curve

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

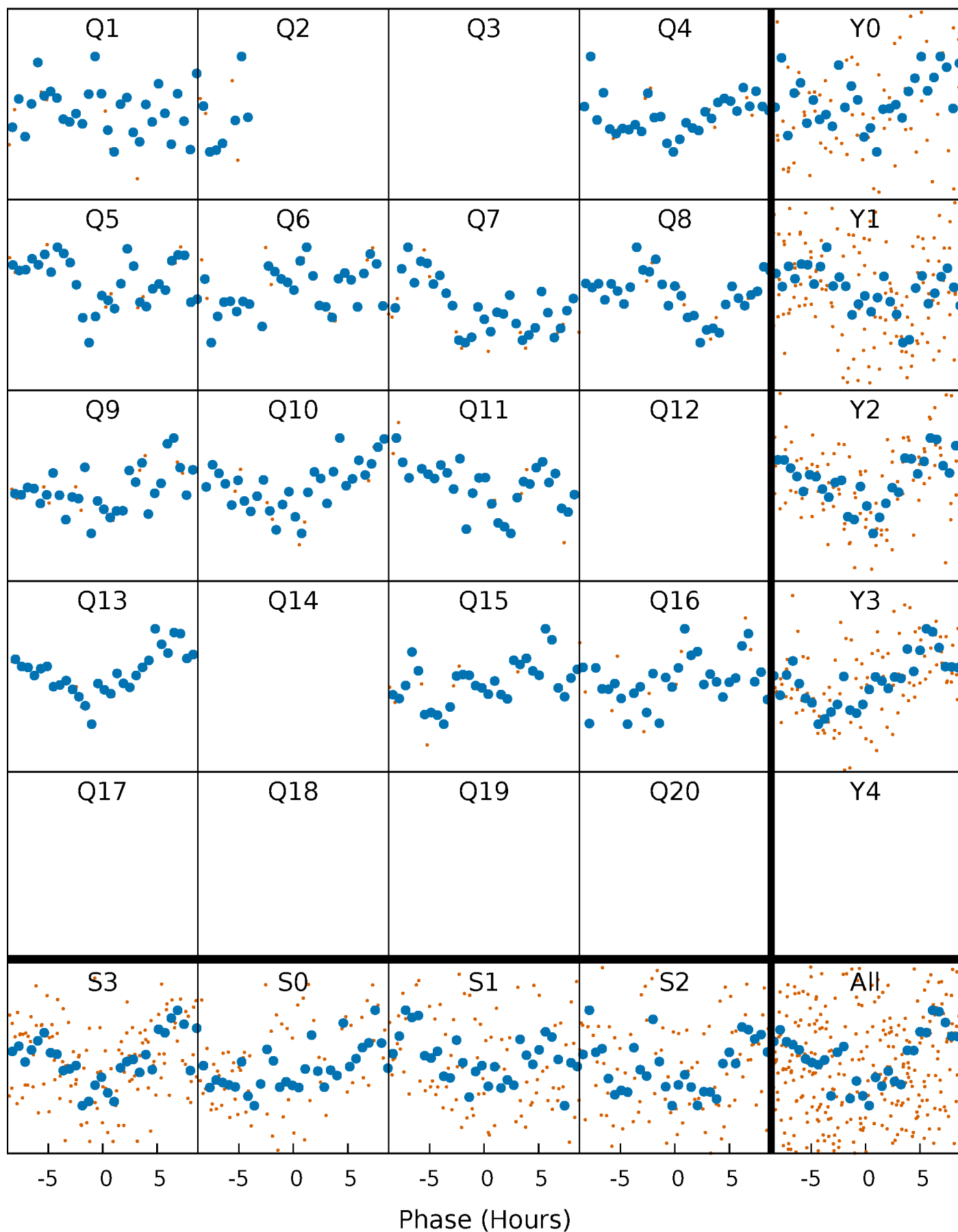


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



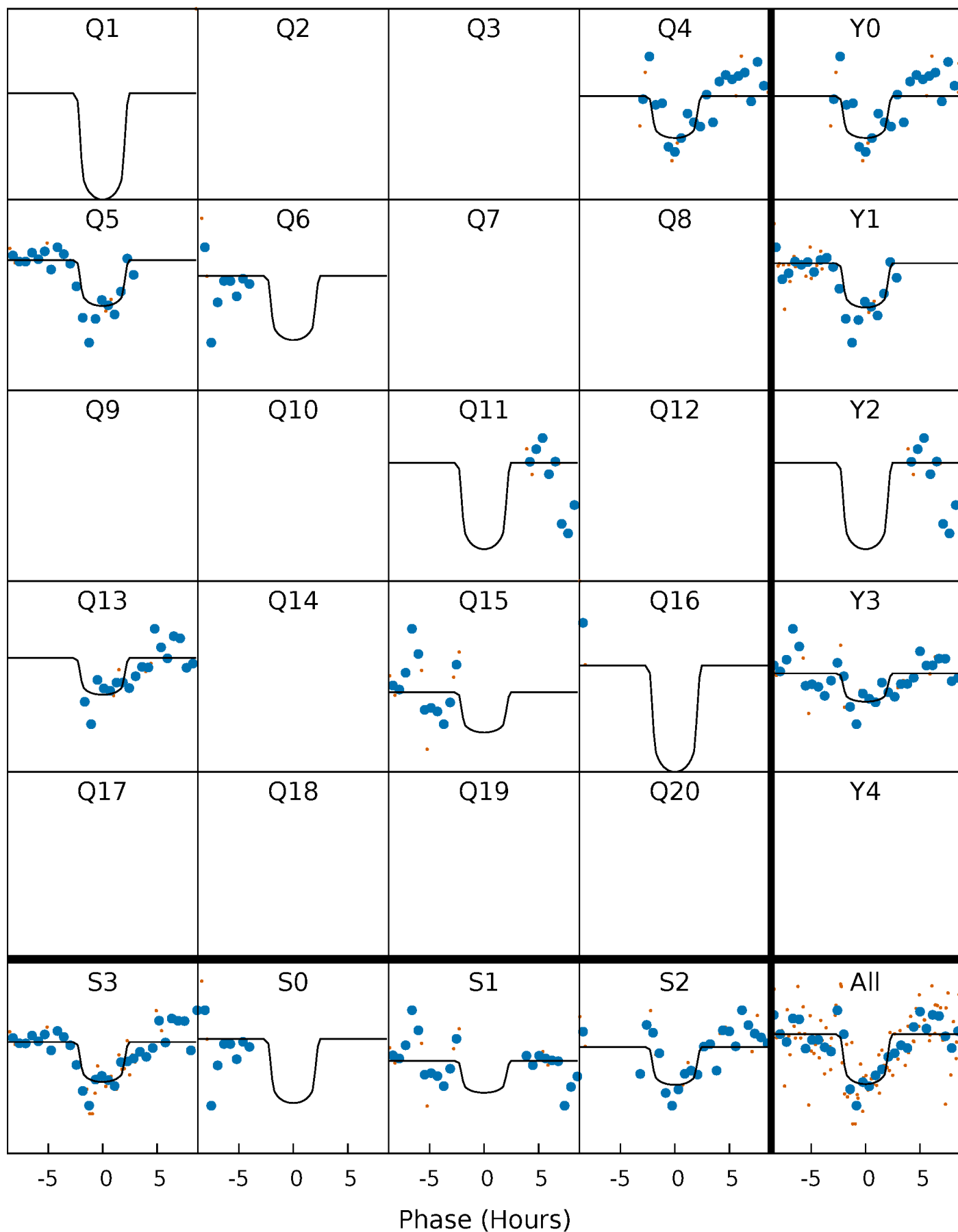
PDC Quarter-Phased Transit Curves

TCE 006115603-08 P=103.658197 Days $T_0=154.981118$ (BKJD)



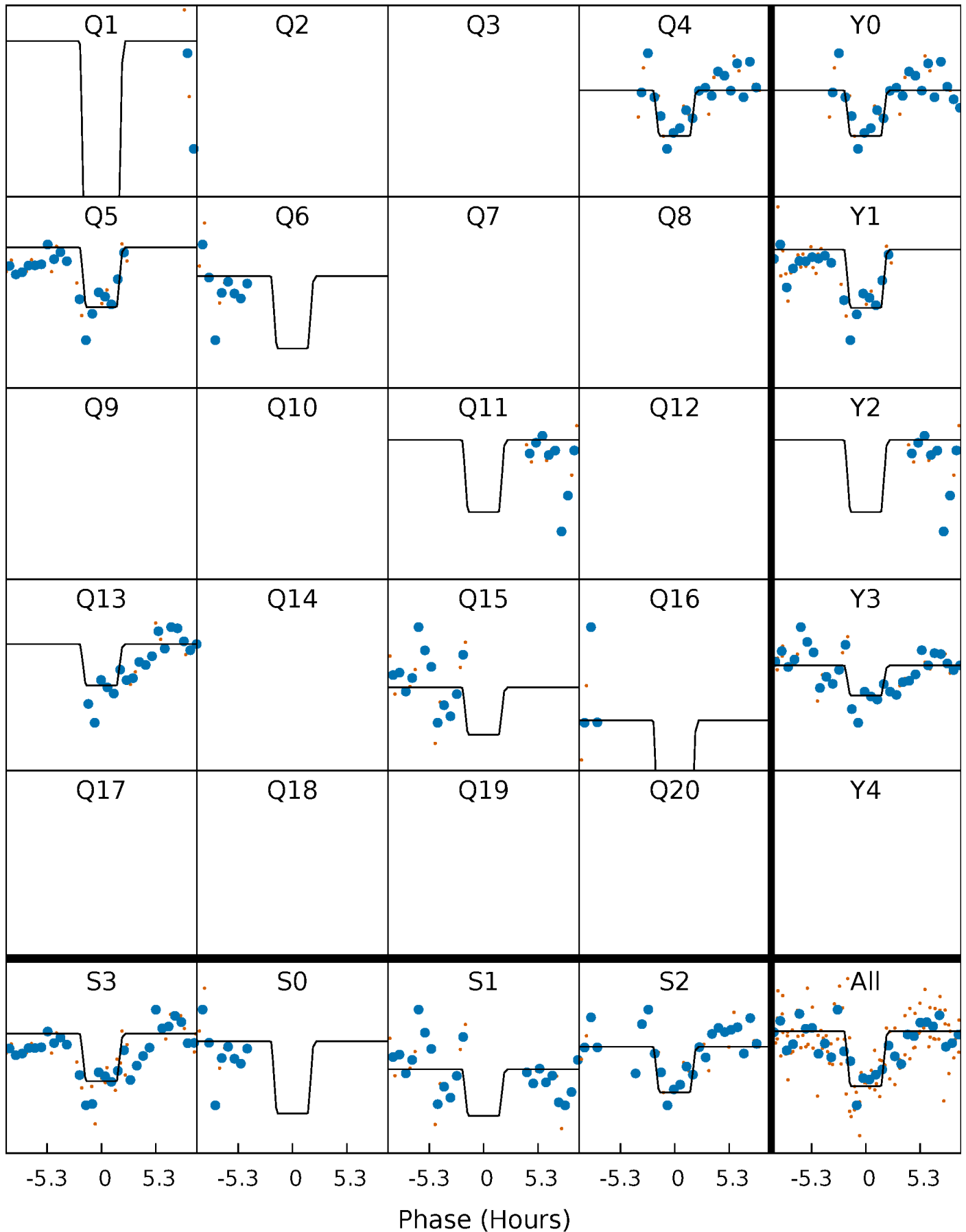
DV Quarter-Phased Transit Curves

TCE 006115603-08 P=103.658197 Days $T_0=154.981118$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

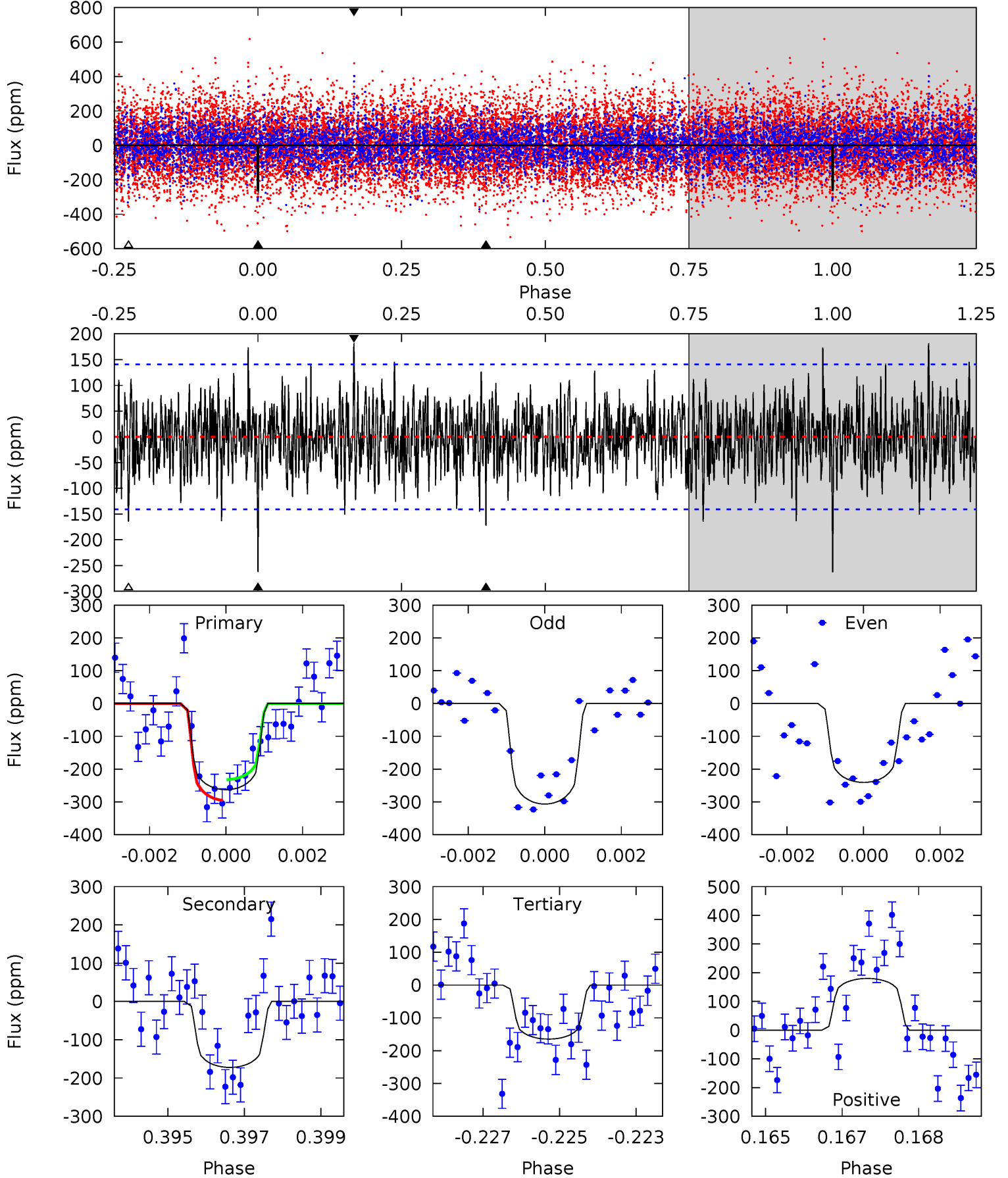
TCE 006115603-08 P=103.654619 Days $T_0=155.002412$ (BKJD)



DV Model-Shift Uniqueness Test

006115603-08, P = 103.658197 Days, E = 51.322921 Days

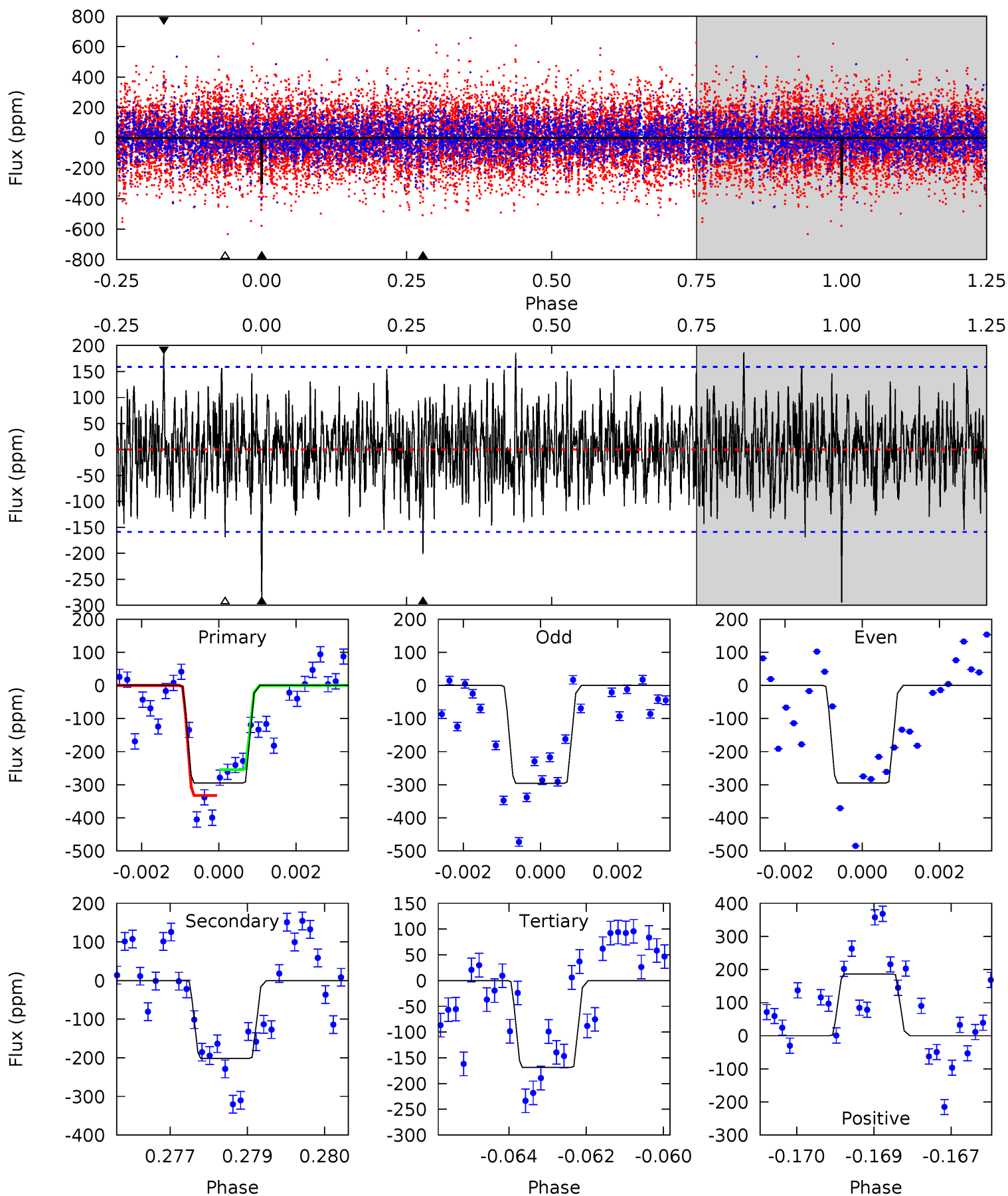
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.97	6.54	6.25	6.83	5.34	3.12	1.86	3.72	3.14	0.29	-0.29	1.17	0.99	0.41	1.20



Alt Model-Shift Uniqueness Test

006115603-08, P = 103.654619 Days, E = 51.347793 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.93	6.77	5.68	6.28	5.35	3.13	1.80	4.25	3.65	1.10	0.50	0.01	1.04	0.39	1.31



Stellar Parameters For KIC 006115603

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6510^{+146}_{-179}	$3.553^{+0.323}_{-0.108}$	$-0.240^{+0.350}_{-0.300}$	$3.553^{+0.460}_{-1.379}$	$1.646^{+0.229}_{-0.371}$	$0.052^{+0.121}_{-0.014}$
	+2%/-3%	+9%/-3%	+146%/-125%	+13%/-39%	+14%/-23%	+234%/-28%
Source	PHO1	FLK73	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 006115603-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-172 ± 26	$7.18^{+5.95}_{-4.53}$	1044^{+57}_{-88}	5308^{+4029}_{-1086}	475^{+2976}_{-334}
Alt.	-201 ± 30	$7.33^{+6.18}_{-4.43}$	1047^{+56}_{-88}	5516^{+3686}_{-1194}	518^{+2761}_{-366}

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

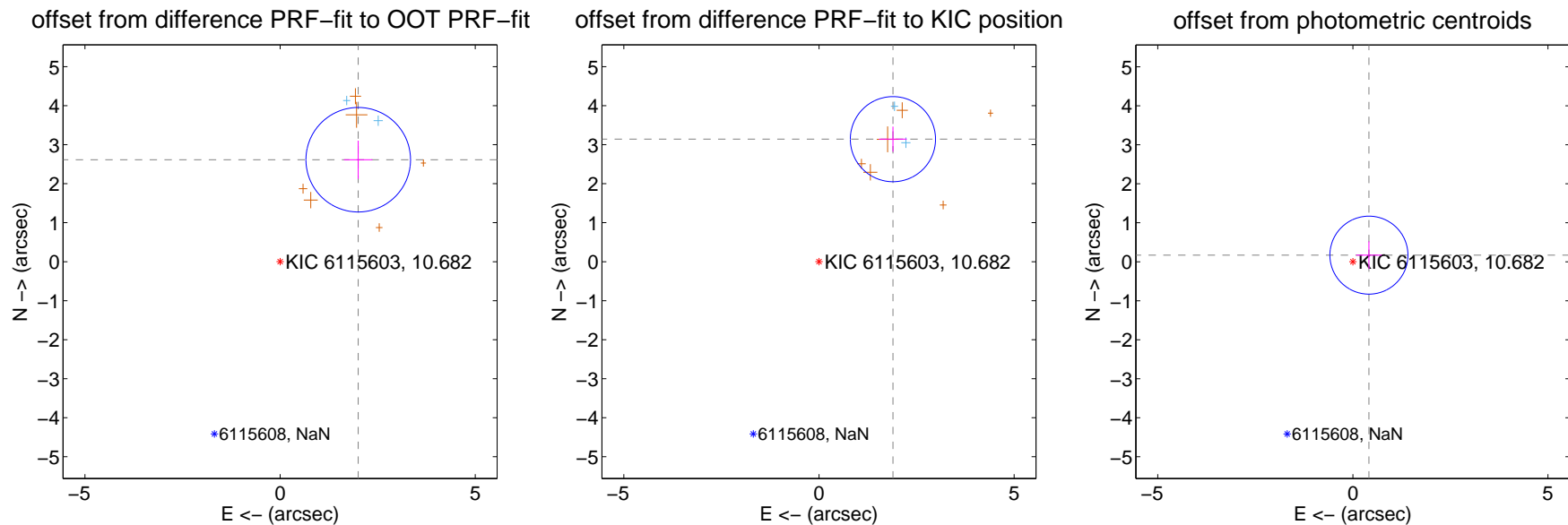
DV Centroid Data

Supplemental centroid analysis for 006115603-08. **Kepler magnitude: 10.68.** Transit SNR 9.53

There are 2 quarters with good PRF difference image offsets

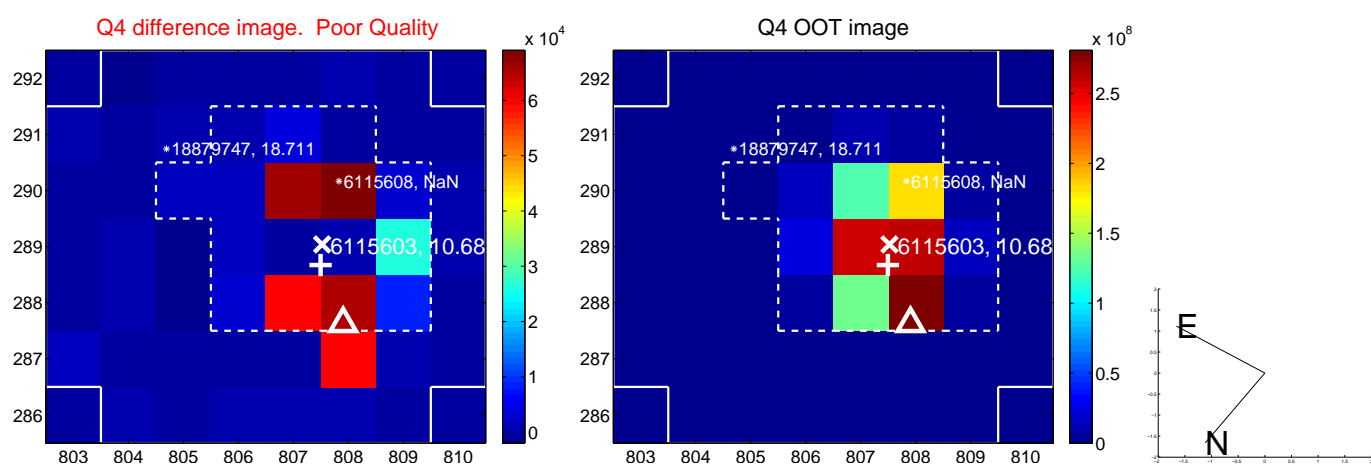
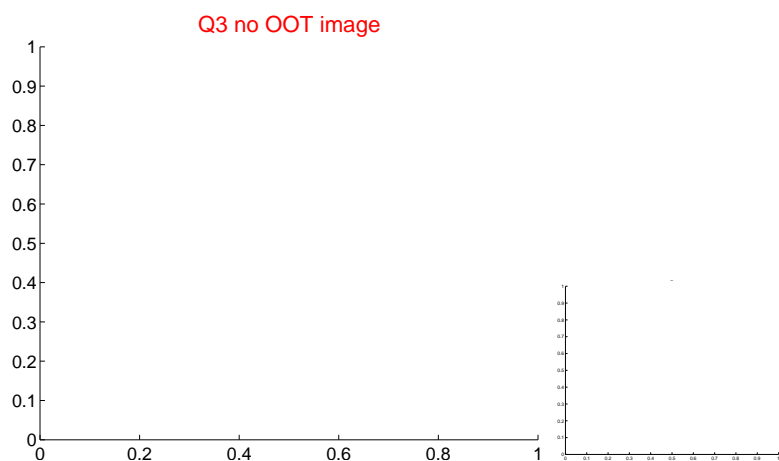
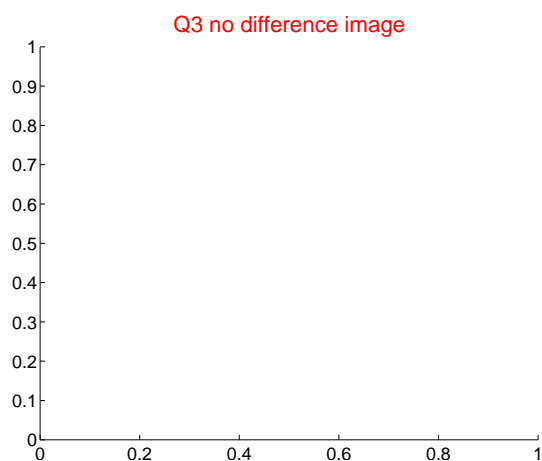
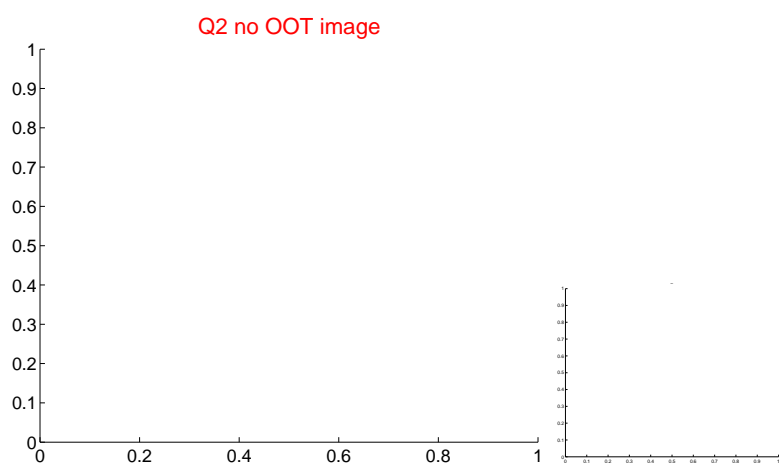
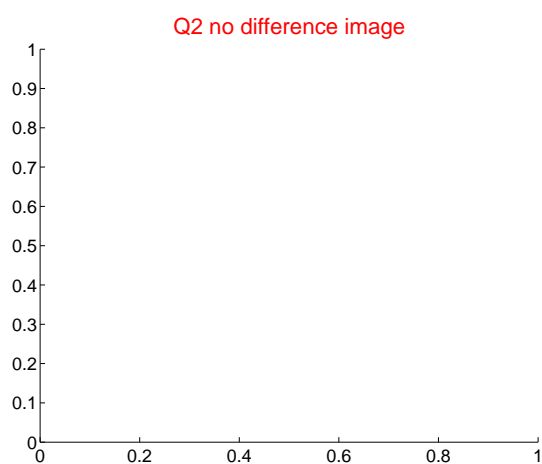
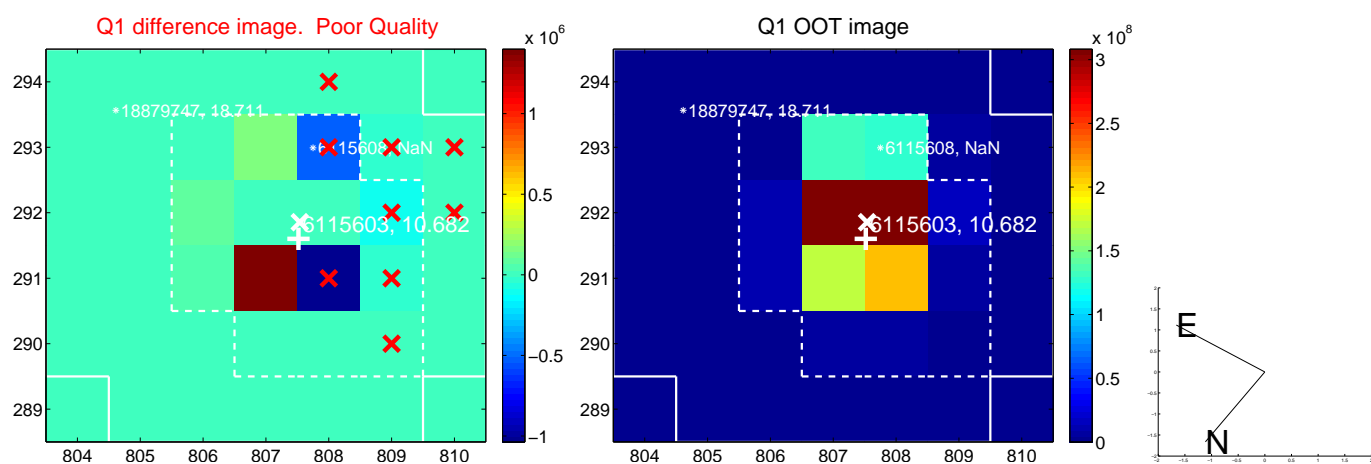
The direct PRF centroid is offset from the target star catalog position by about 0.81 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.293 ± 0.447	7.37	-2.002 ± 0.363	2.615 ± 0.489
PRF-fit source offset from KIC position	3.669 ± 0.364	10.09	-1.895 ± 0.356	3.142 ± 0.323
photometric centroid source offset	0.45 ± 0.33	1.34	-0.41 ± 0.33	0.17 ± 0.35

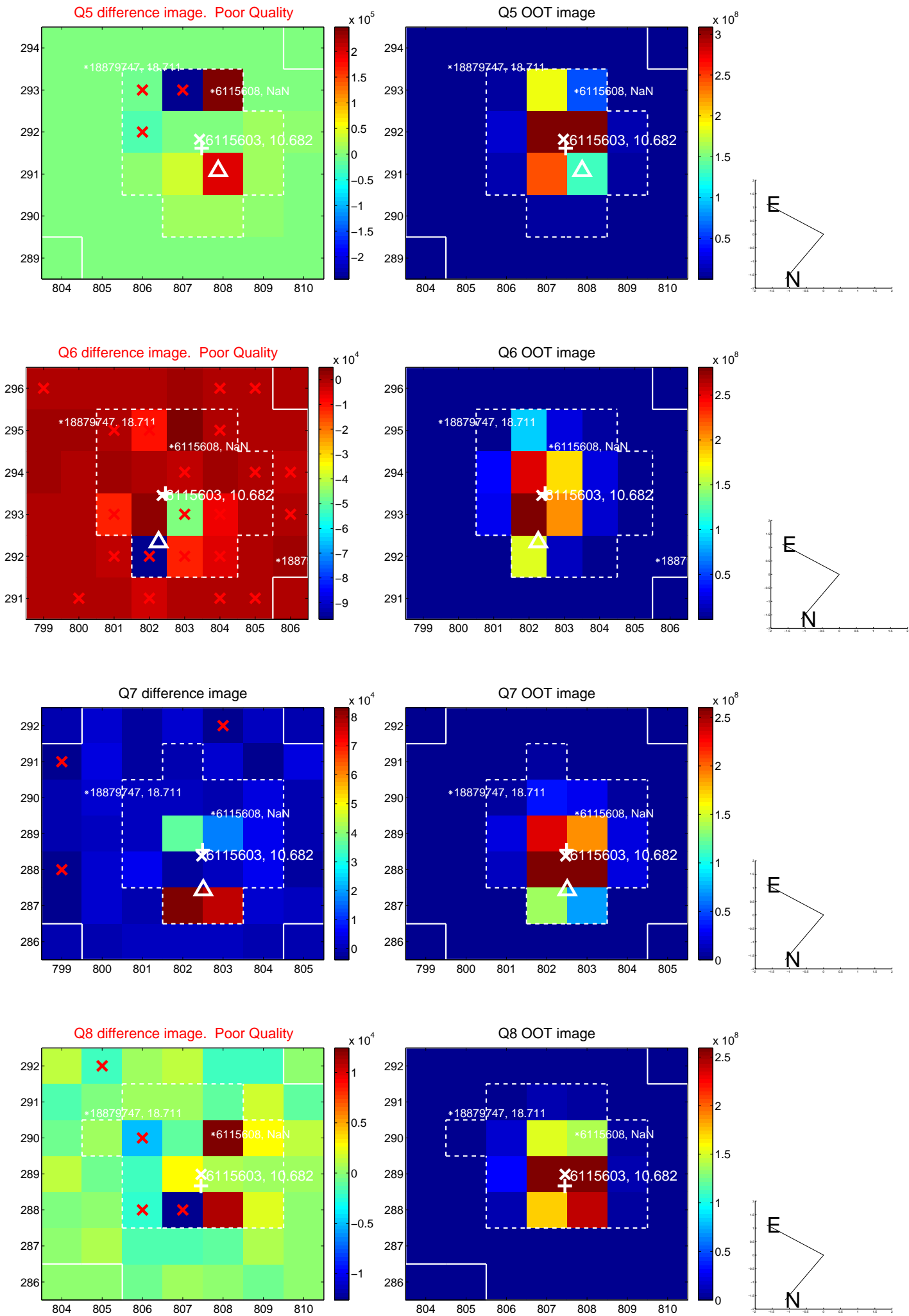


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

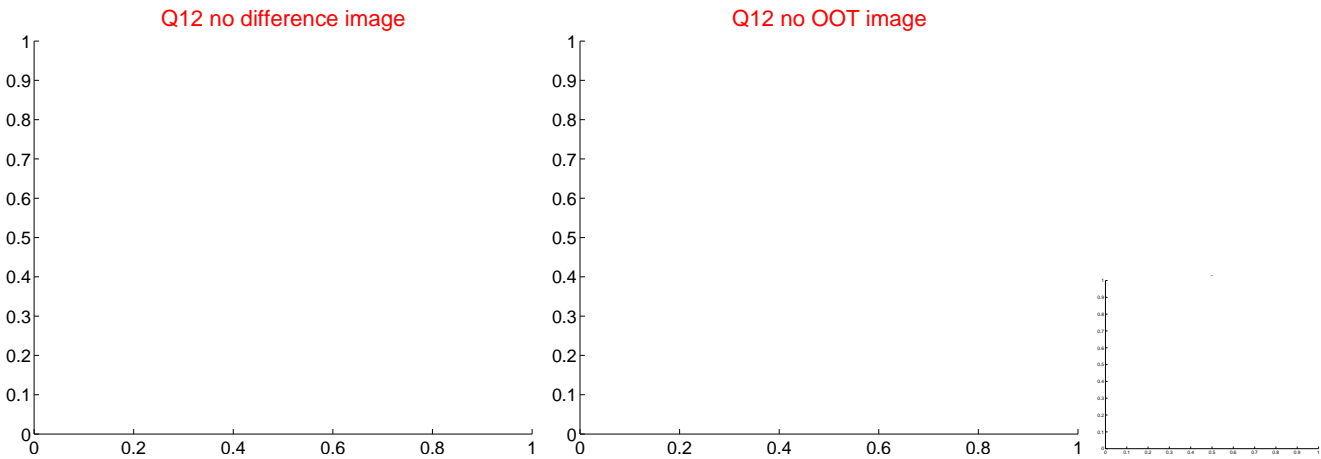
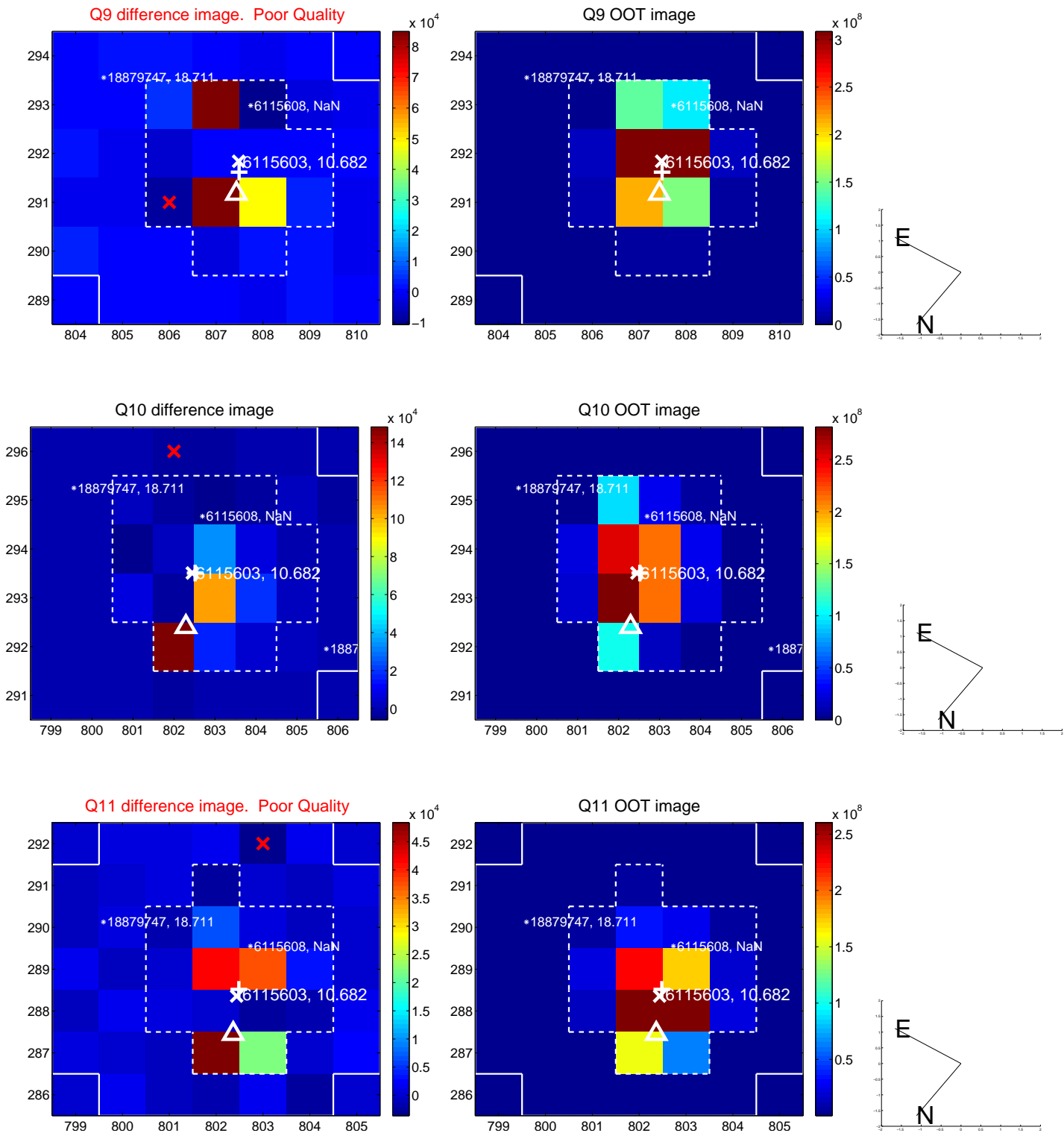
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



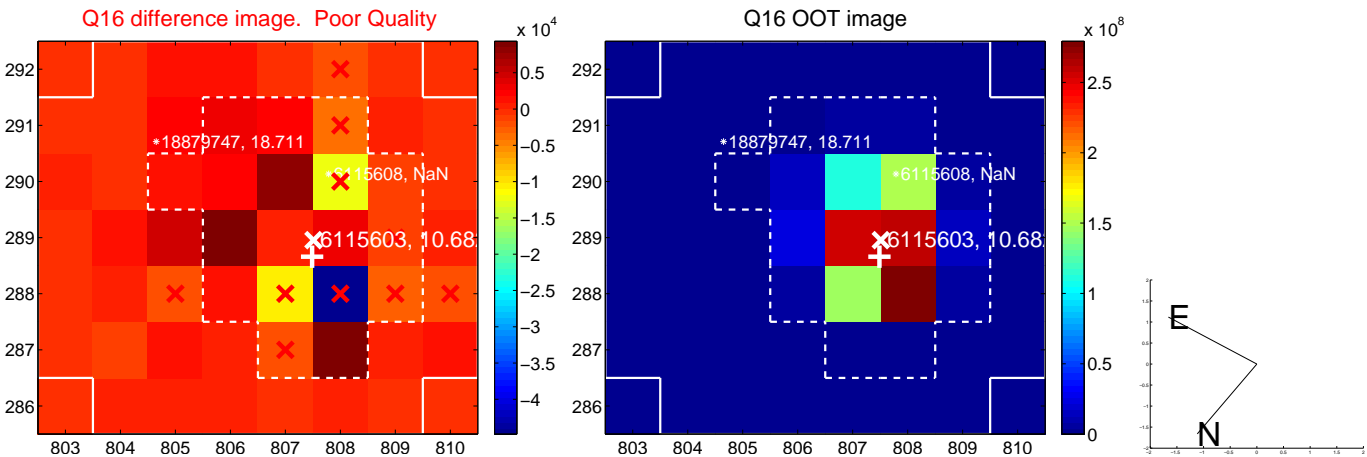
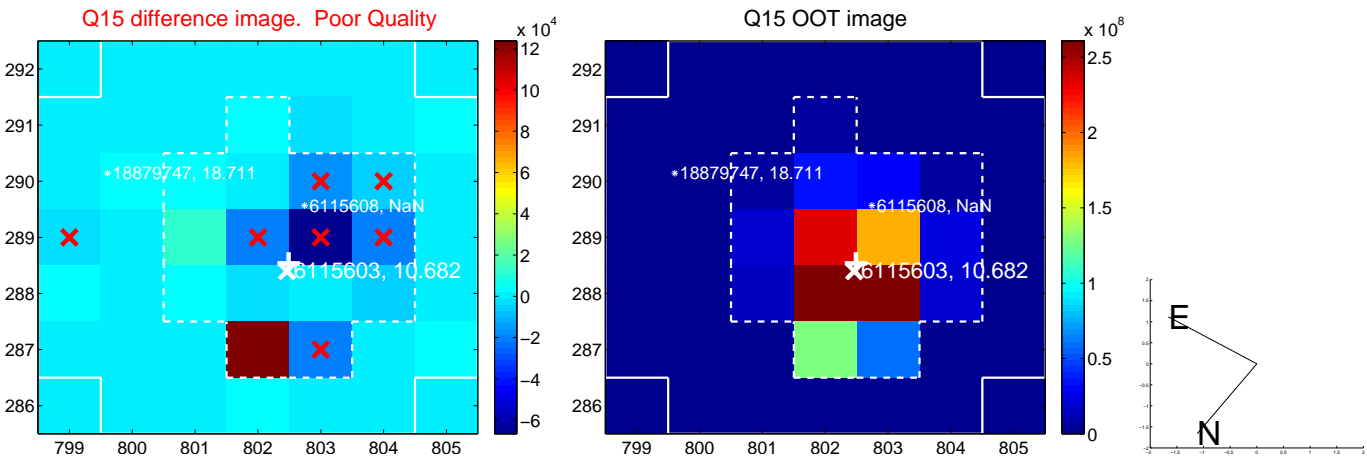
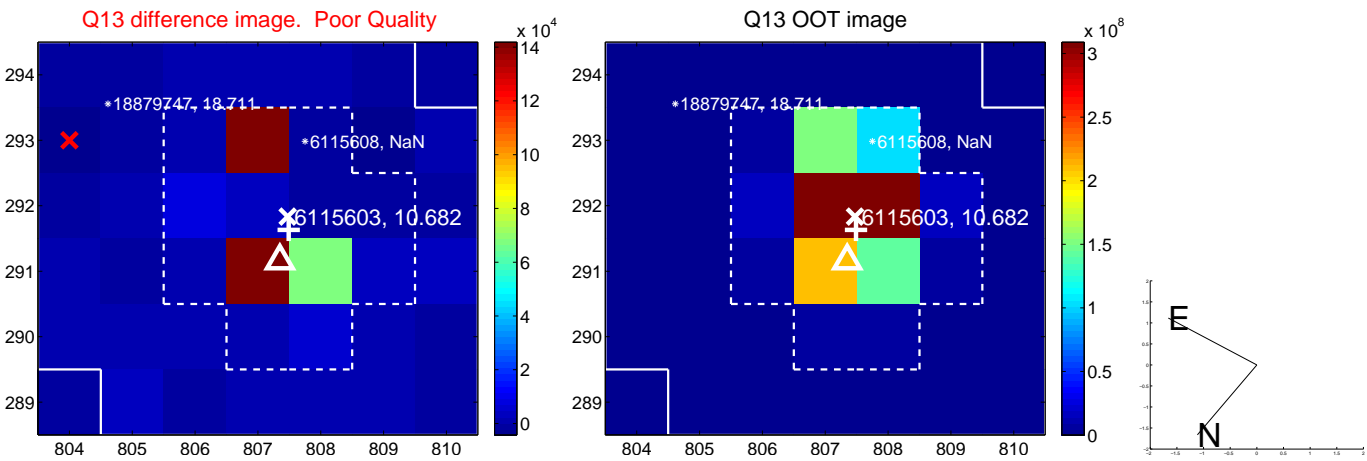
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



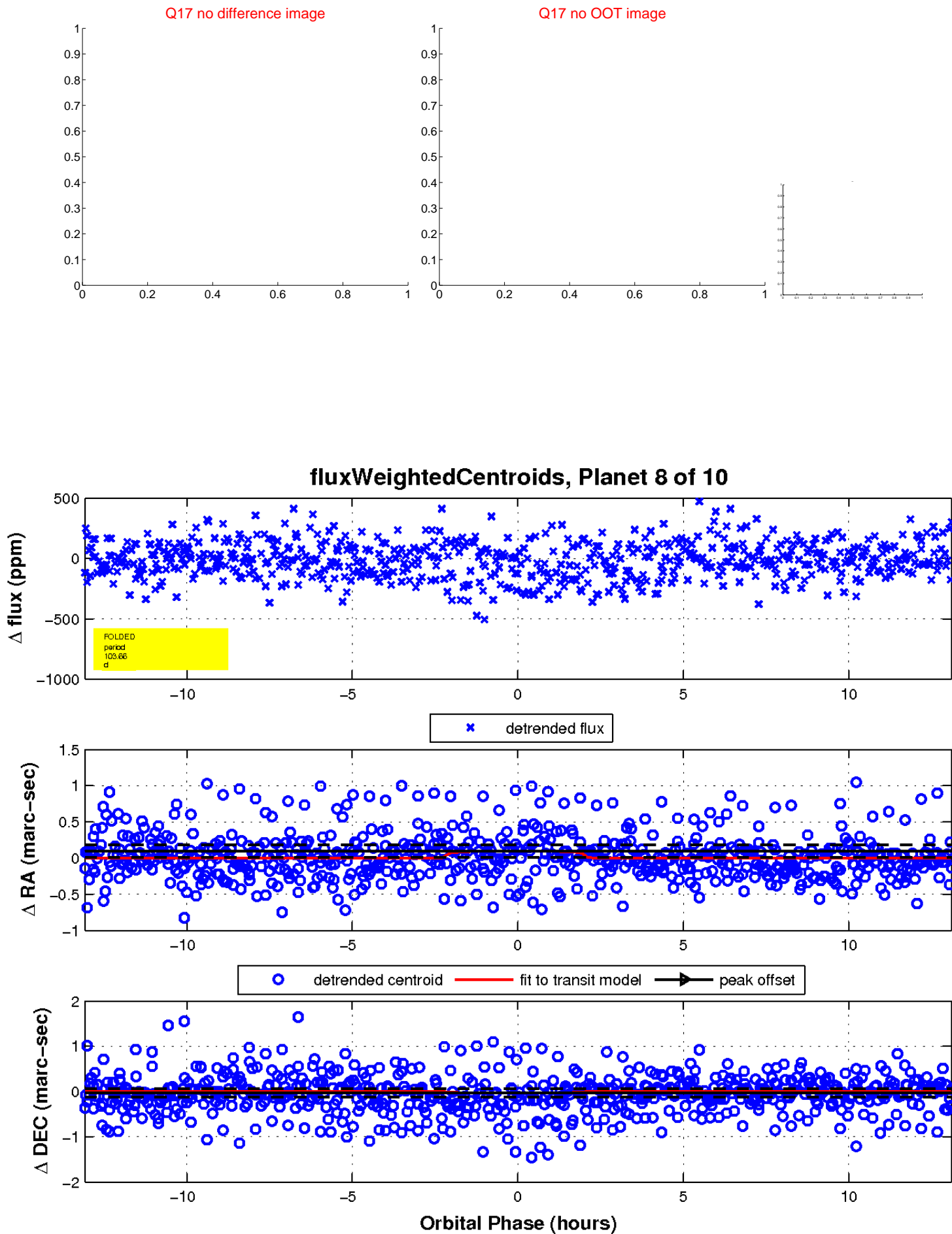
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

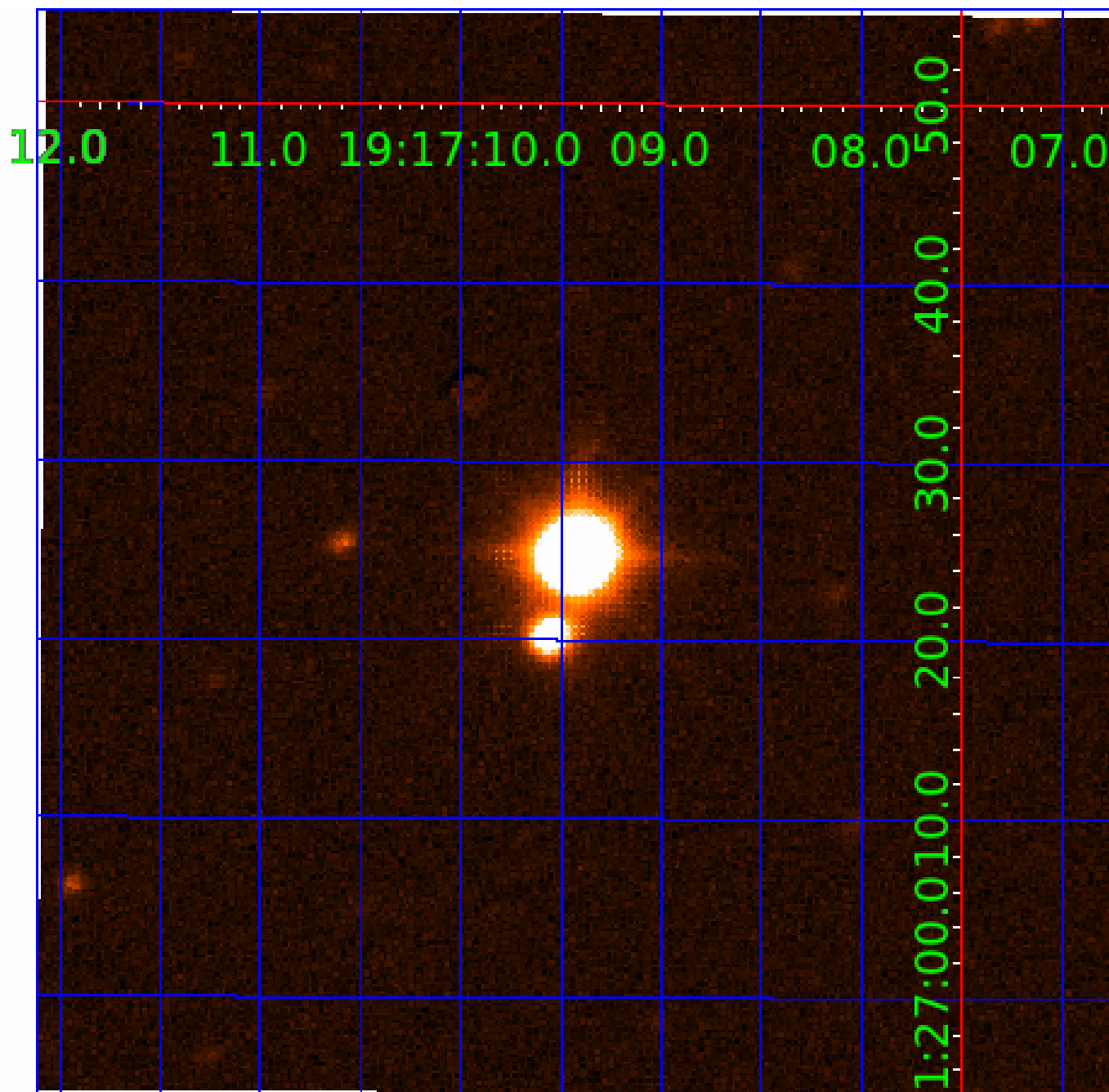


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006115603

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})
006115603-01	OBS	No	2.027653	132.269081	21.2	12.019	8.2	7.3	3.55	6510	2.00	14823.71
006115603-03	OBS	No	223.073942	287.488546	216.9	7.976	10.3	8.6	3.55	6510	5.96	28.12
006115603-04	OBS	No	44.308404	165.505638	181.4	2.088	10.1	9.6	3.55	6510	5.43	242.64
006115603-05	OBS	No	160.029581	148.288775	245.7	2.560	10.0	8.8	3.55	6510	6.51	43.79
006115603-06	OBS	No	36.703881	154.308734	176.1	3.638	9.9	8.9	3.55	6510	5.07	311.89
006115603-07	OBS	No	372.914339	234.986749	276.4	3.464	9.8	9.2	3.55	6510	6.73	14.17
006115603-08	OBS	No	103.658197	154.981118	252.1	4.379	9.9	9.5	3.55	6510	6.19	78.13
006115603-09	OBS	No	80.625343	138.506069	261.4	3.510	9.7	10.4	3.55	6510	6.74	109.22
006115603-10	OBS	No	25.345451	134.150778	64.9	3.000	9.5	-1.0	3.55	6510	2.88	510.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006115603-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
006115603-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006115603-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006115603-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006115603-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006115603-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

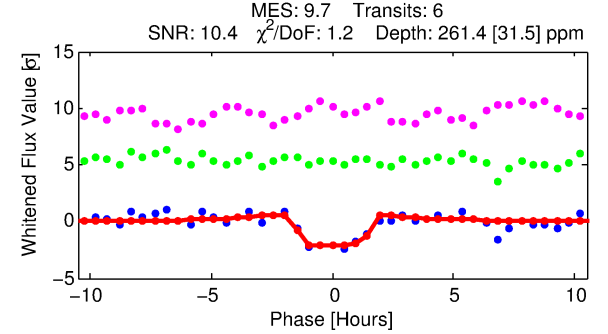
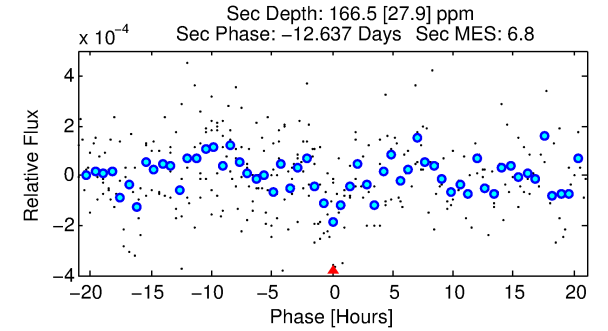
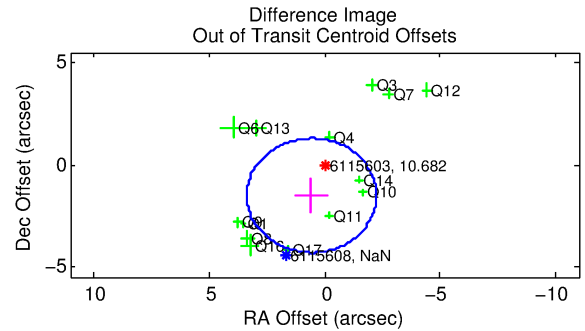
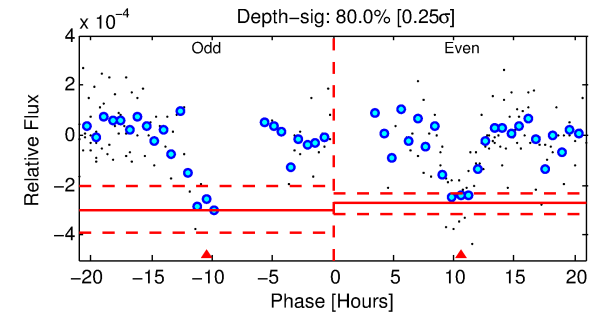
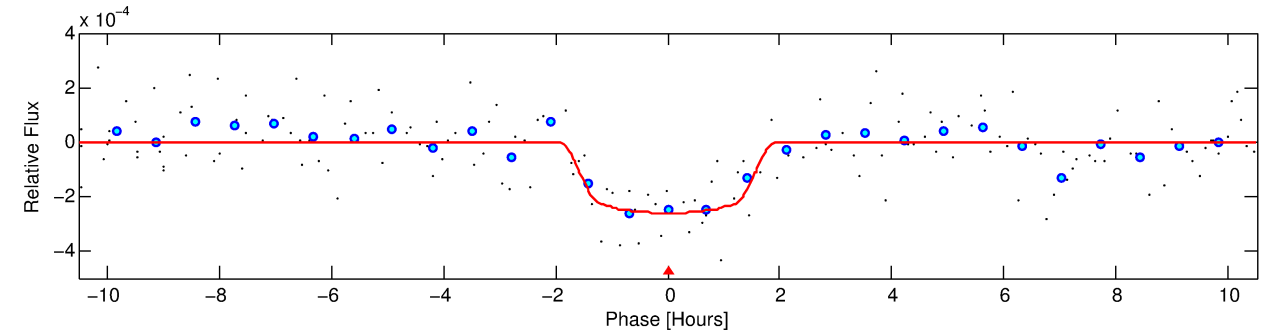
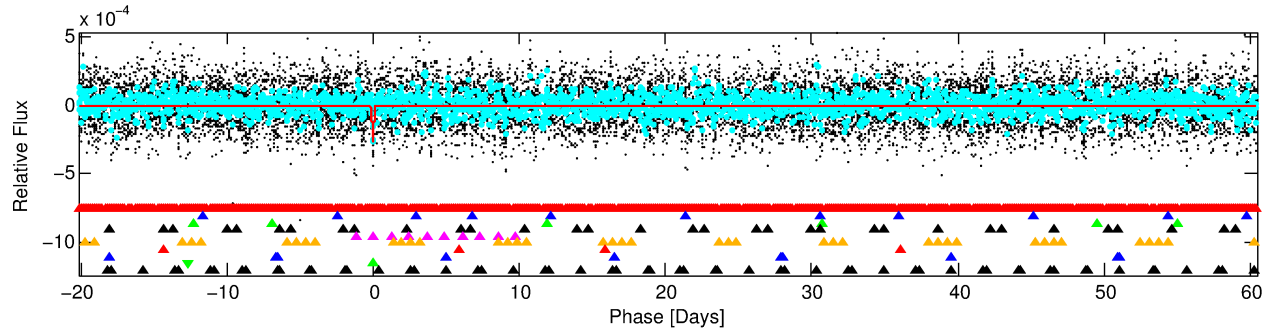
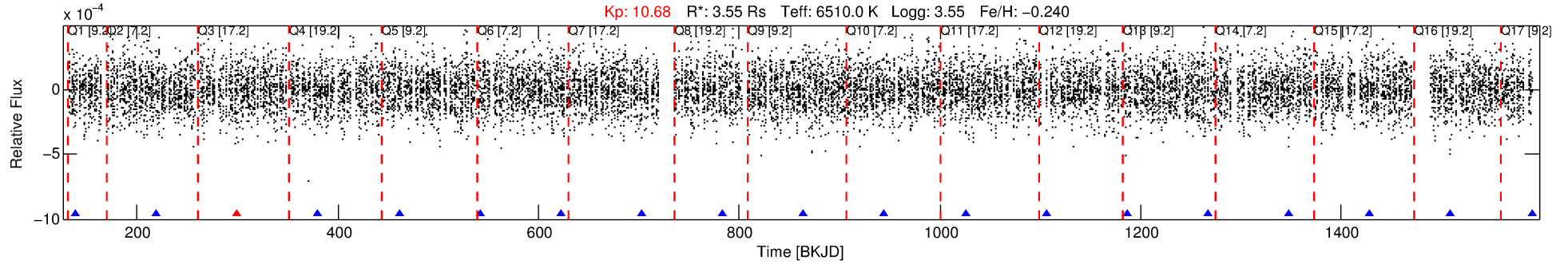
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006115603-09

No Significant Match Found

DV One-Page Summary

KIC: 6115603 Candidate: 9 of 10 Period: 80.625 d



DV Fit Results:

Period = 80.62534 [0.00083] d
Epoch = 138.5061 [0.0085] BKJD
 $R_p/R^* = 0.0174$ [0.0049]
 $a/R^* = 81.49$ [126.72]
 $b = 0.91$ [0.31]
 $S_{\text{eff}} = 109.22$ [62.26]
 $T_{\text{eq}} = 824$ [117] K
 $R_p = 6.74$ [3.24] R_e
 $a = 0.4313$ [0.1545] AU
 $A_g = 375.44$ [305.30] [1.23 σ]
 $T_{\text{eff}} = 5610$ [842] K [5.63 σ]

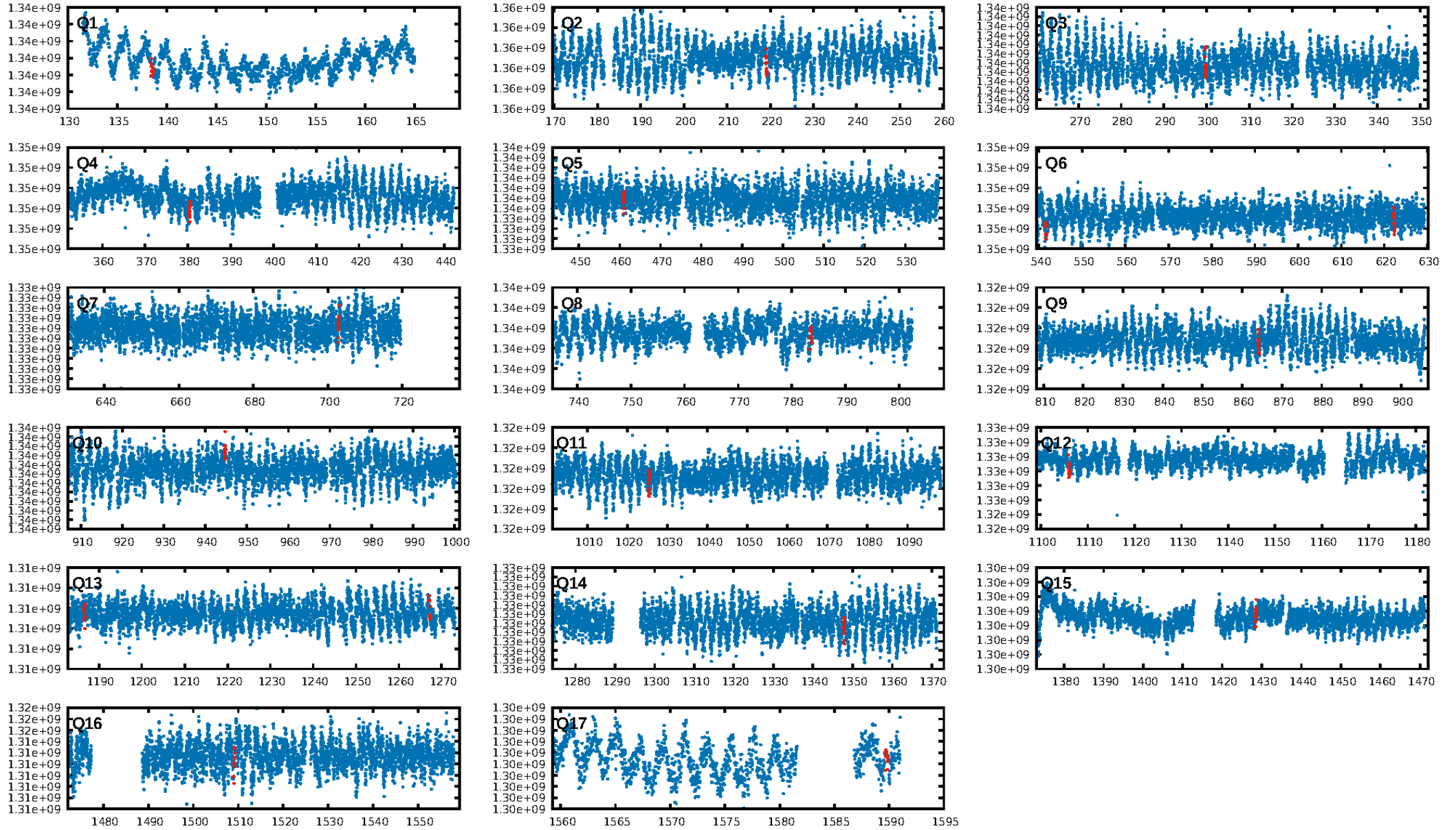
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [213.39 σ]
LongPeriod-sig: 100.0% [98.49 σ]
ModelChiSquare2-sig: 31.0%
ModelChiSquareGof-sig: 97.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.83 [5/6]
GhostDiagnostic-chr: 1.961
Centroid-sig: 77.9%
Centroid-so: 0.166 arcsec [0.58 σ]
OotOffset-rm: 1.615 arcsec [1.73 σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-rm: 1.335 arcsec [1.53 σ]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.29 [4/14]
DiffImageOverlap-fno: 0.35 [6/17]

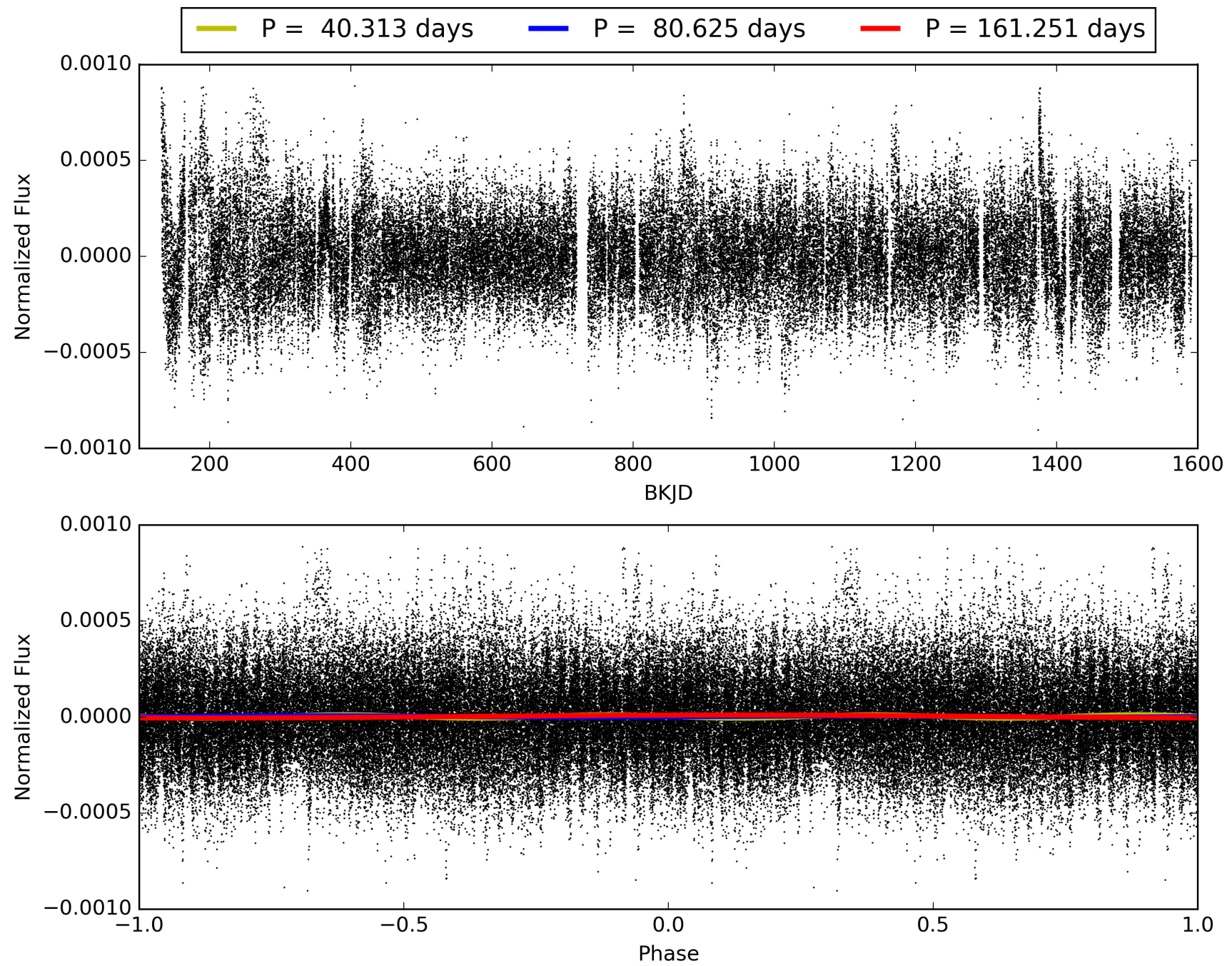
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:34:48 Z

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

TCE 006115603-09, PDC Light Curves

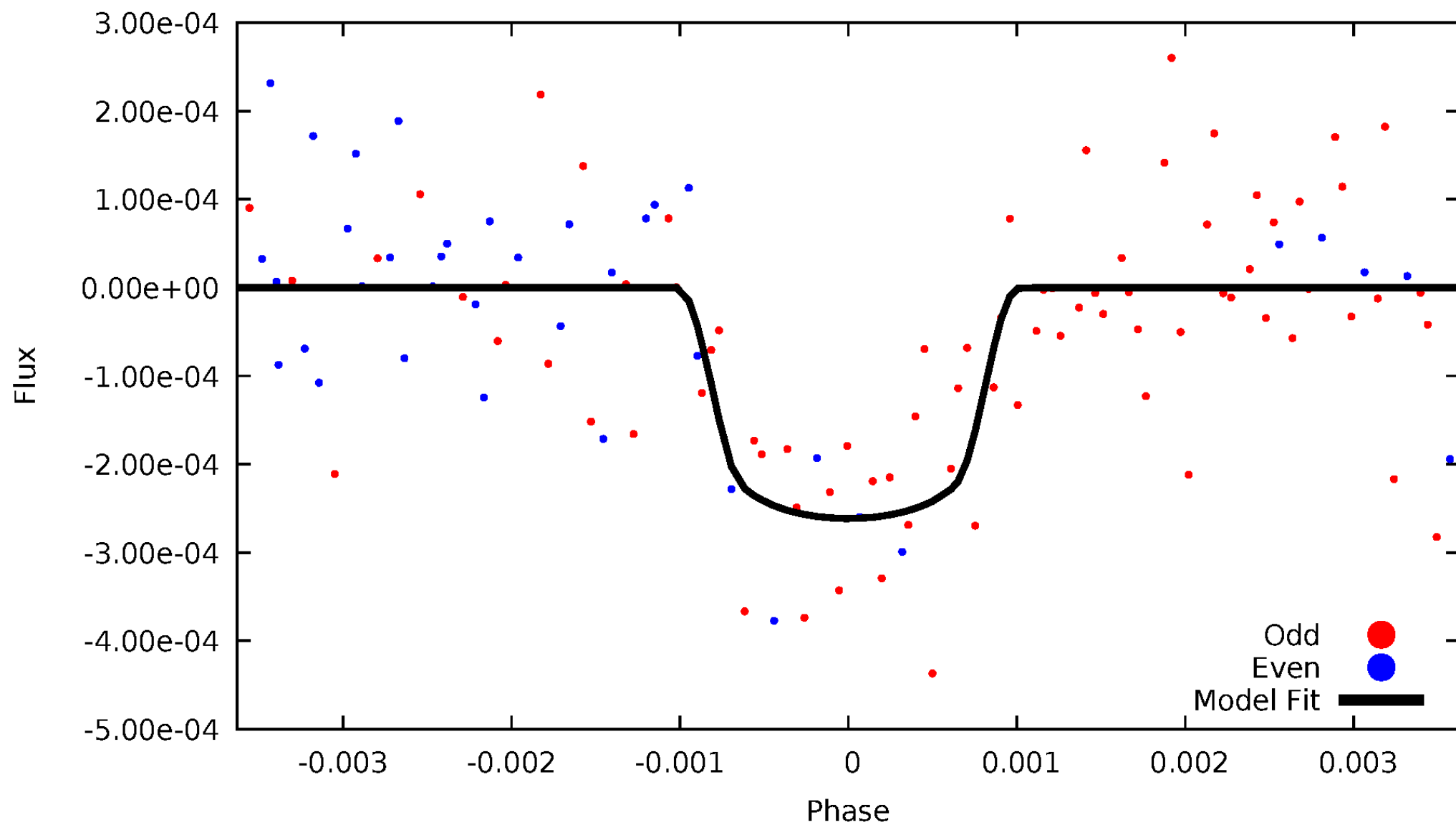


TCE 006115603-09



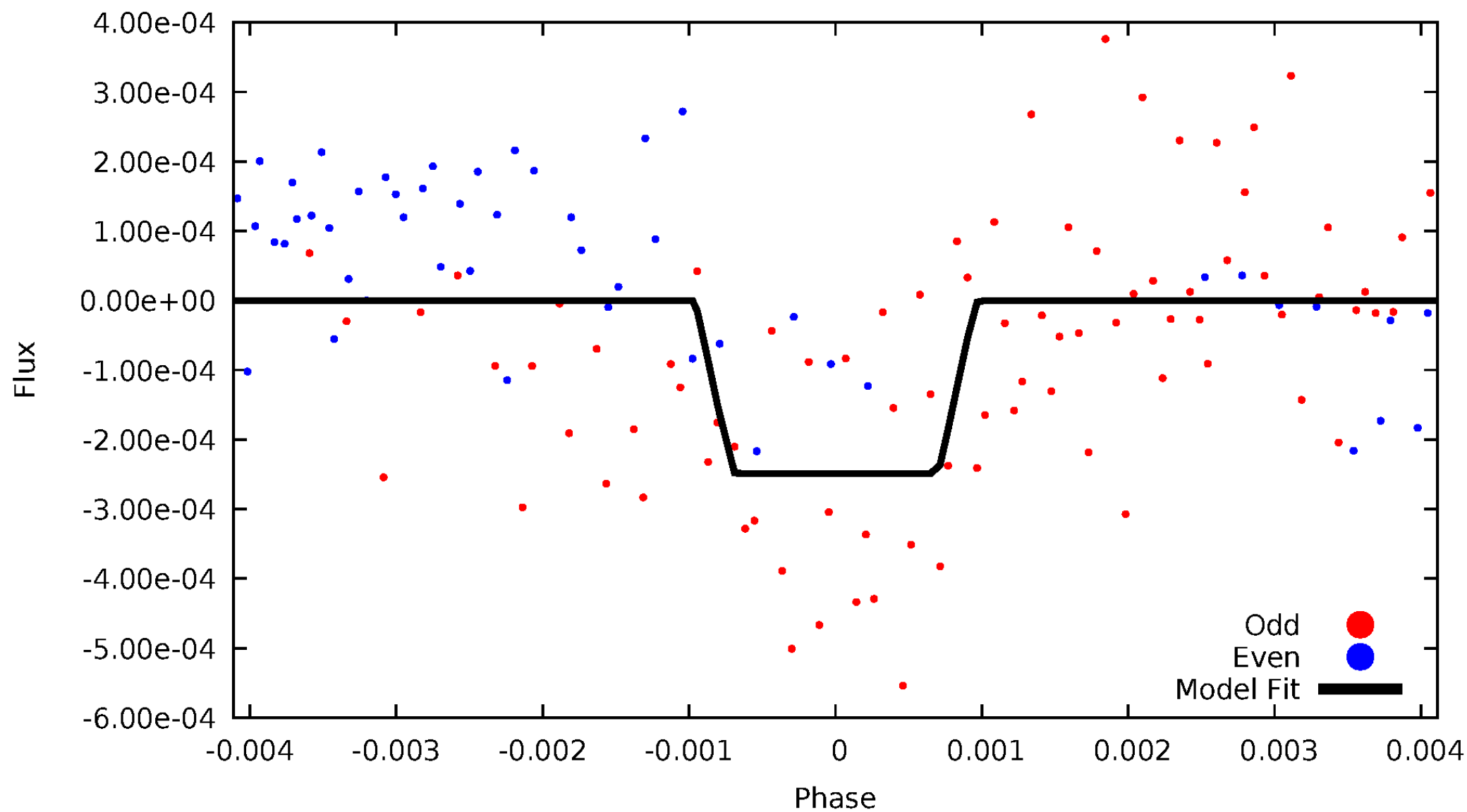
DV Odd/Even

TCE 006115603-09



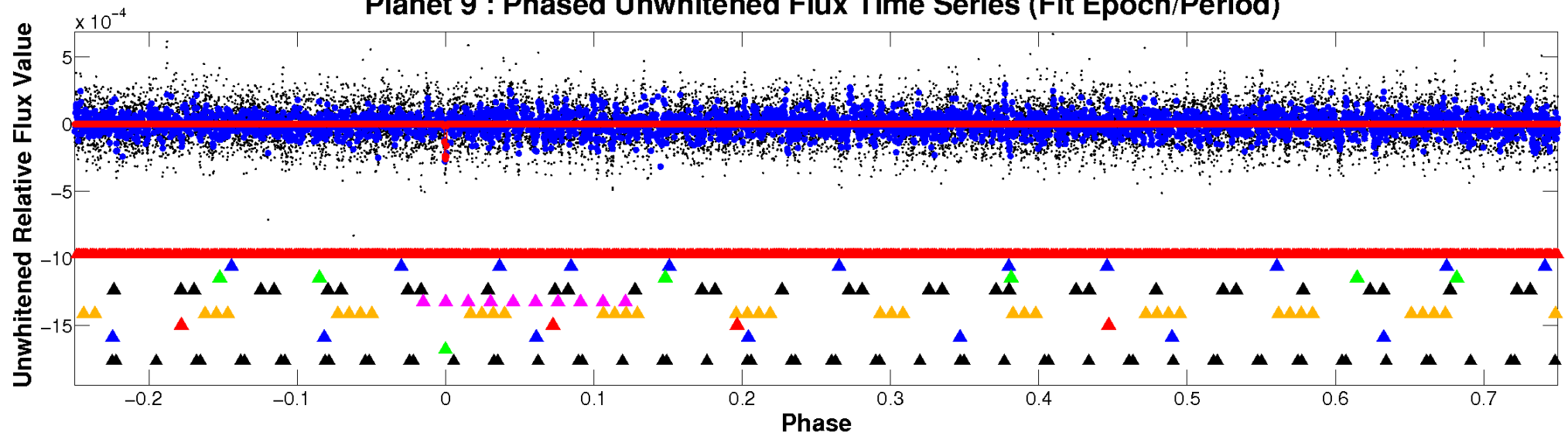
ALT Odd/Even

TCE 006115603-09

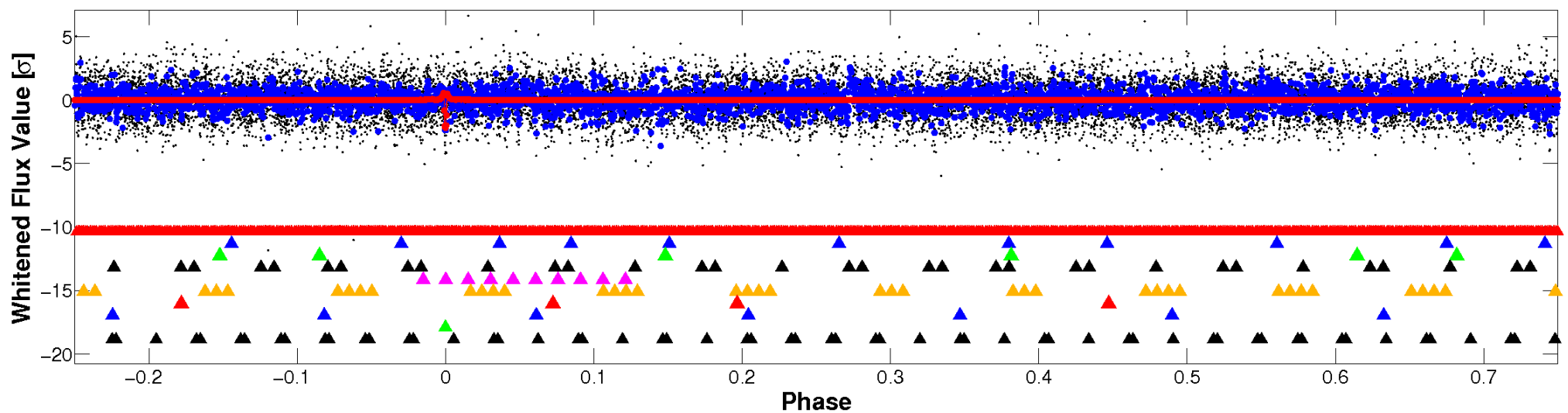


Non-Whitened Vs. Whitened Light Curve

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

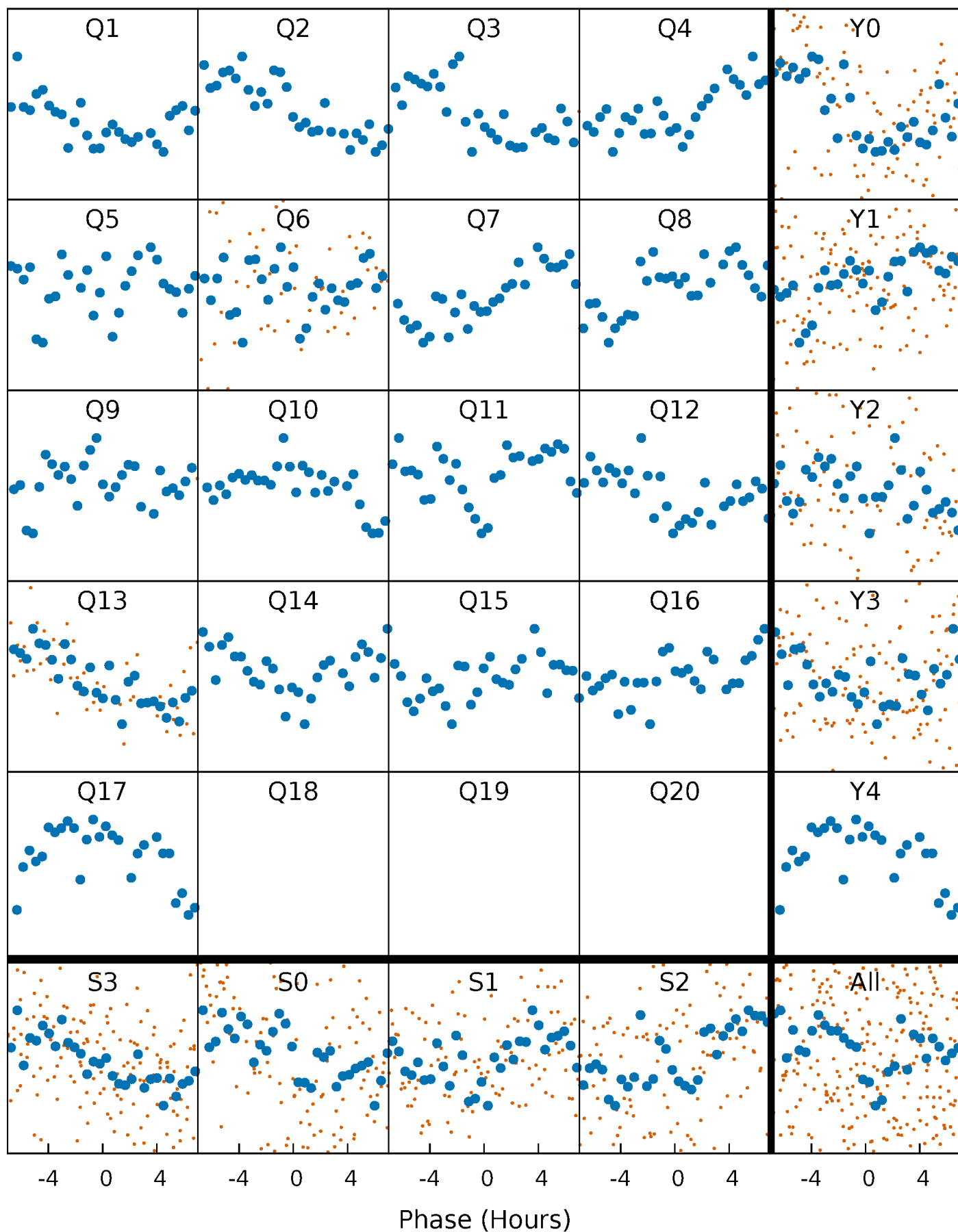


Planet 9 : Phased Whitened Flux Time Series (Fit Epoch/Period)



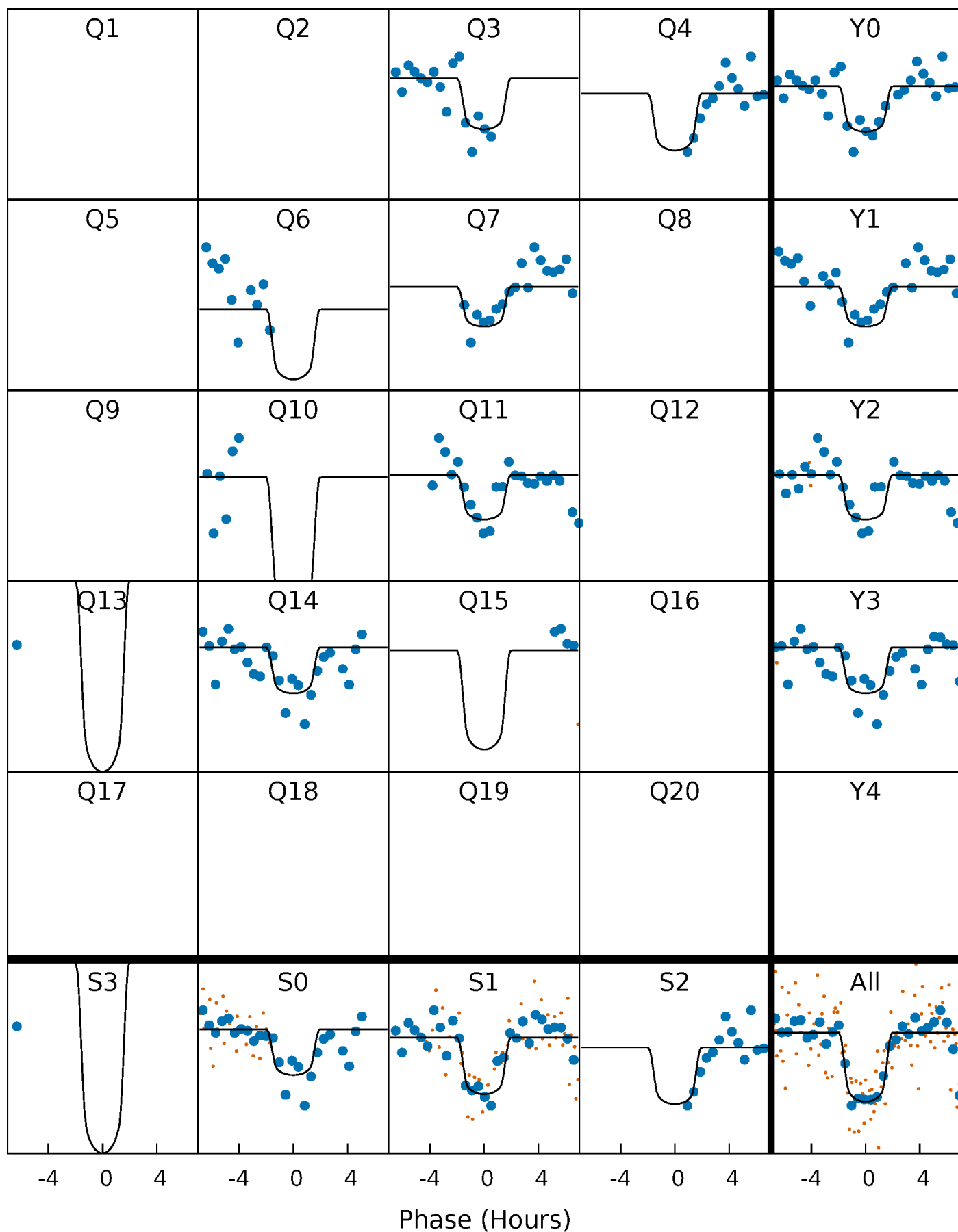
PDC Quarter-Phased Transit Curves

TCE 006115603-09 P= 80.625343 Days $T_0=138.506069$ (BKJD)



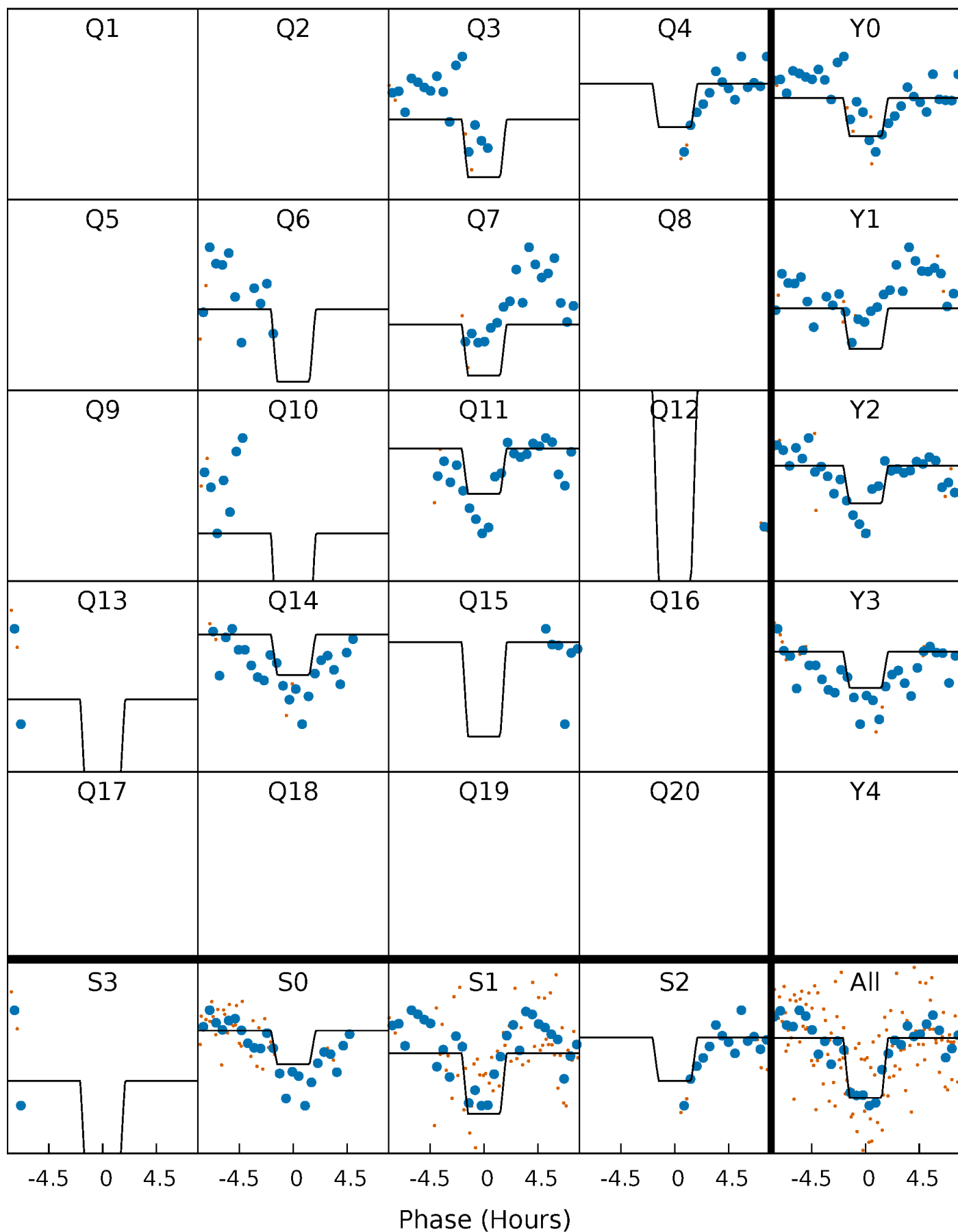
DV Quarter-Phased Transit Curves

TCE 006115603-09 $P = 80.625343$ Days $T_0 = 138.506069$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

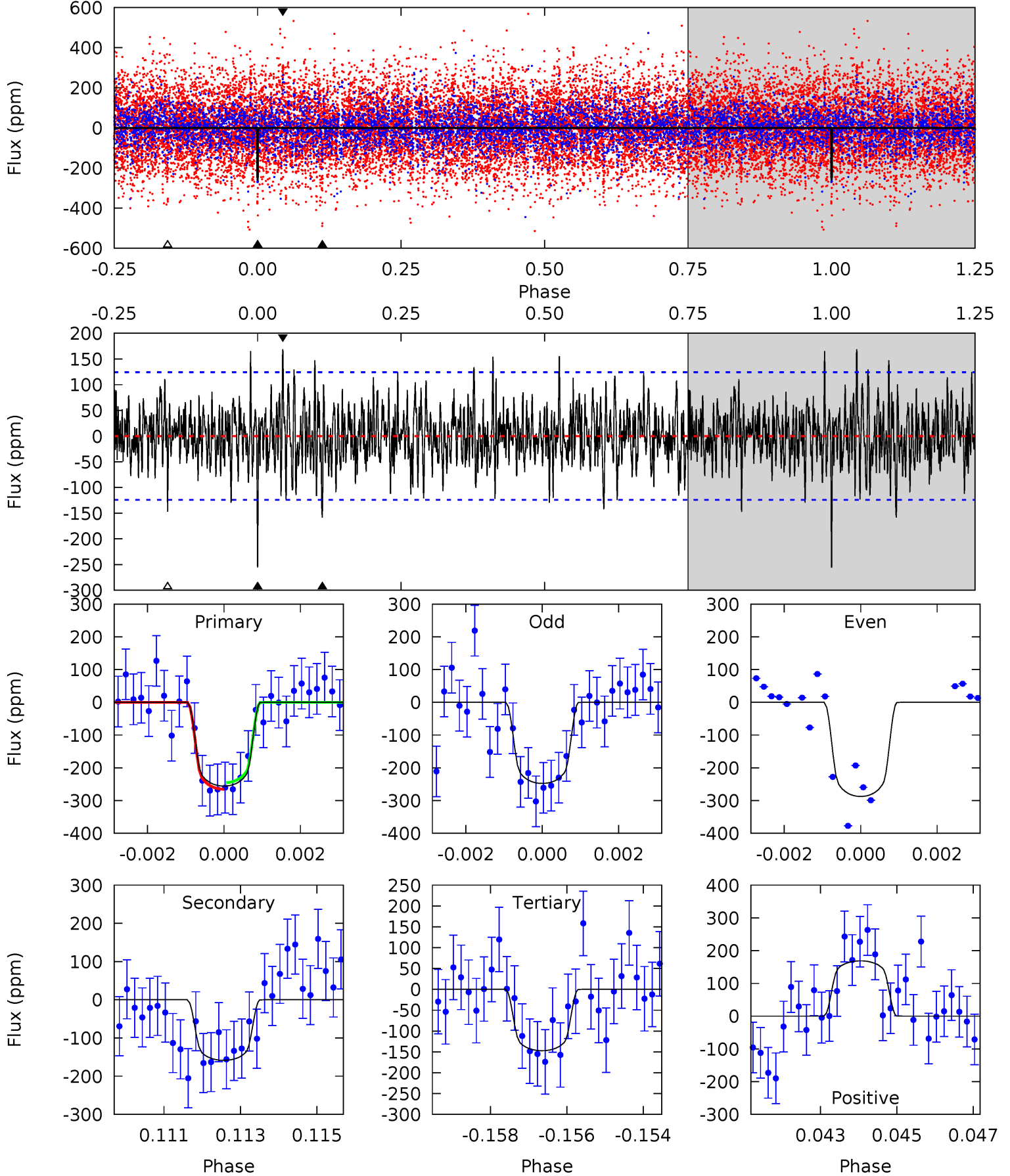
TCE 006115603-09 P= 80.624971 Days $T_0=138.514678$ (BKJD)



DV Model-Shift Uniqueness Test

006115603-09, P = 80.625343 Days, E = 57.880726 Days

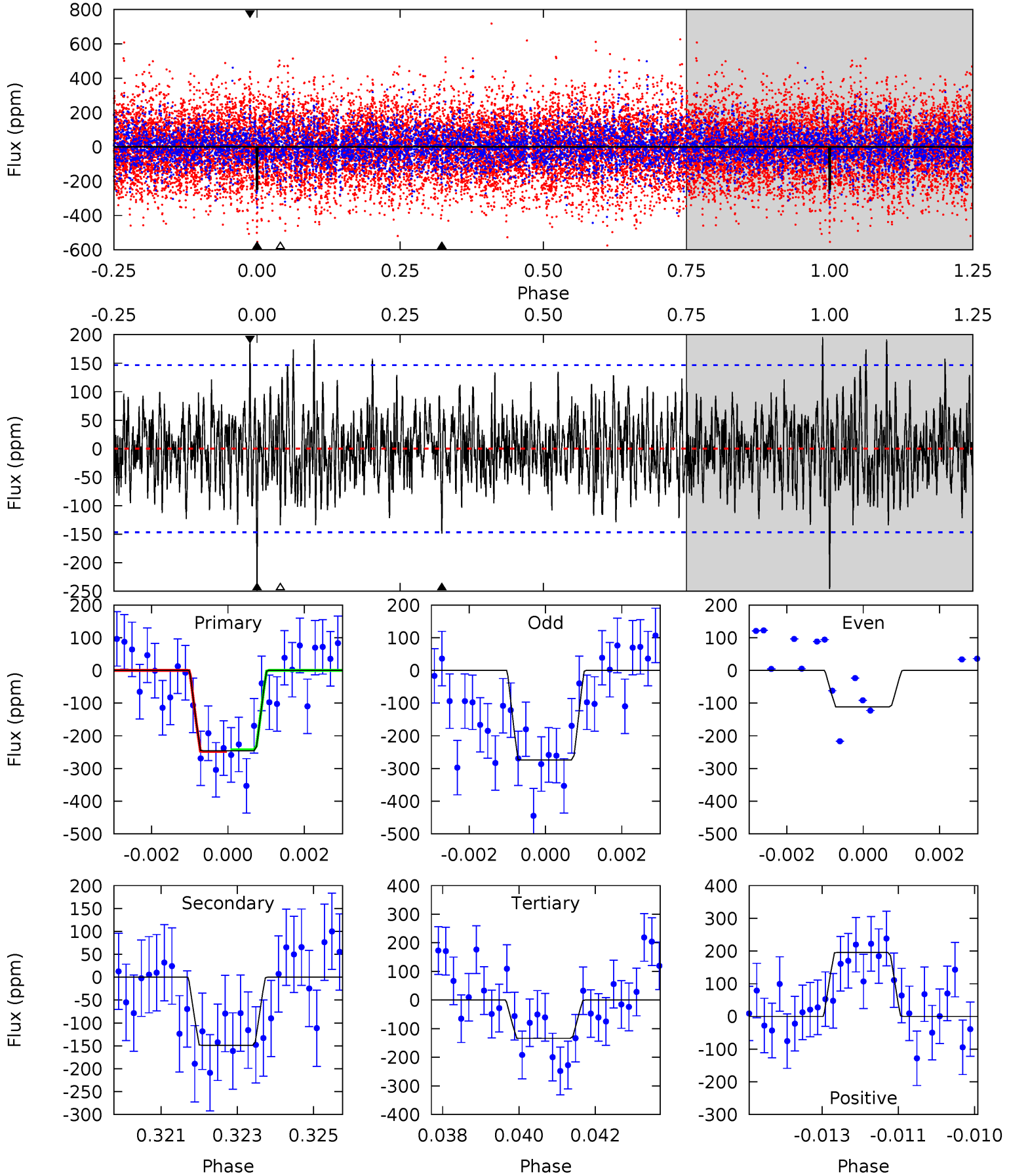
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	6.79	6.30	7.23	5.31	3.07	1.92	4.65	3.73	0.49	-0.44	0.69	0.97	0.40	0.43



Alt Model-Shift Uniqueness Test

006115603-09, P = 80.624971 Days, E = 57.889707 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.93	5.41	4.88	7.11	5.33	3.10	1.78	4.06	1.82	0.54	-1.70	2.23	0.79	0.44	0.09



Stellar Parameters For KIC 006115603

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6510^{+146}_{-179}	$3.553^{+0.323}_{-0.108}$	$-0.240^{+0.350}_{-0.300}$	$3.553^{+0.460}_{-1.379}$	$1.646^{+0.229}_{-0.371}$	$0.052^{+0.121}_{-0.014}$
	+2%/-3%	+9%/-3%	+146%/-125%	+13%/-39%	+14%/-23%	+234%/-28%
Source	PHO1	FLK73	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 006115603-09 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-159 ± 23	$6.58^{+2.13}_{-2.27}$	1136^{+58}_{-99}	5503^{+1090}_{-590}	378^{+469}_{-168}
Alt.	-149 ± 27	$5.74^{+2.15}_{-2.01}$	1139^{+61}_{-112}	5718^{+1262}_{-659}	460^{+641}_{-219}

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

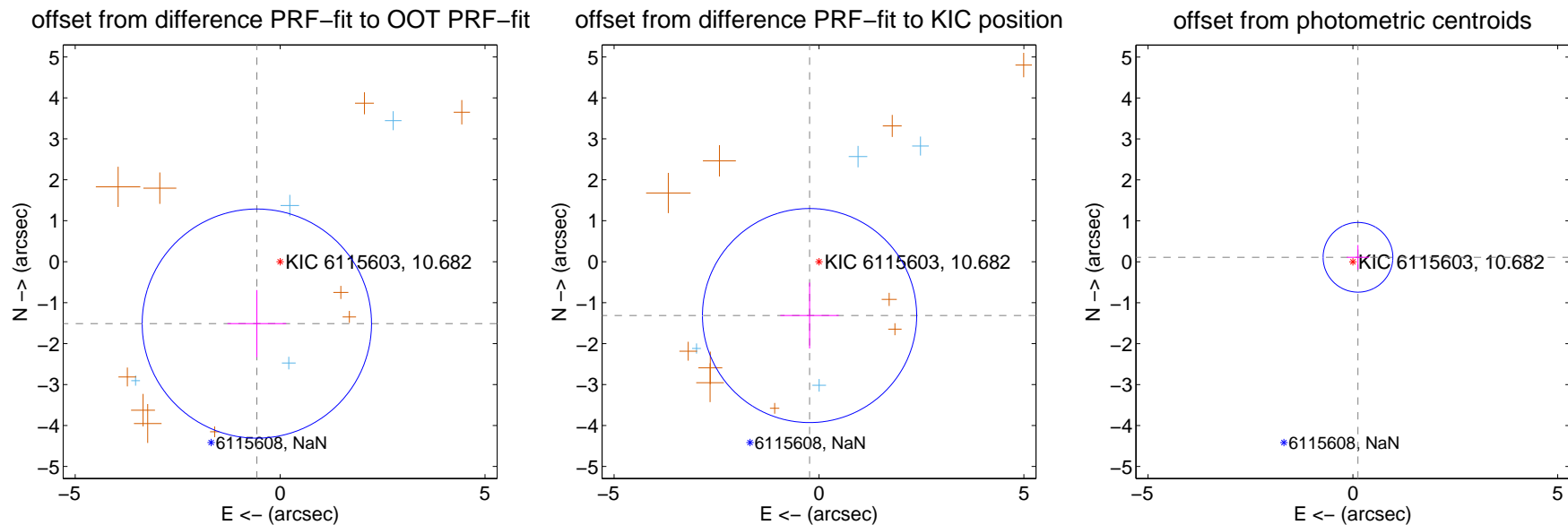
DV Centroid Data

Supplemental centroid analysis for 006115603-09. **Kepler magnitude: 10.68.** Transit SNR 10.37

There are 4 quarters with good PRF difference image offsets

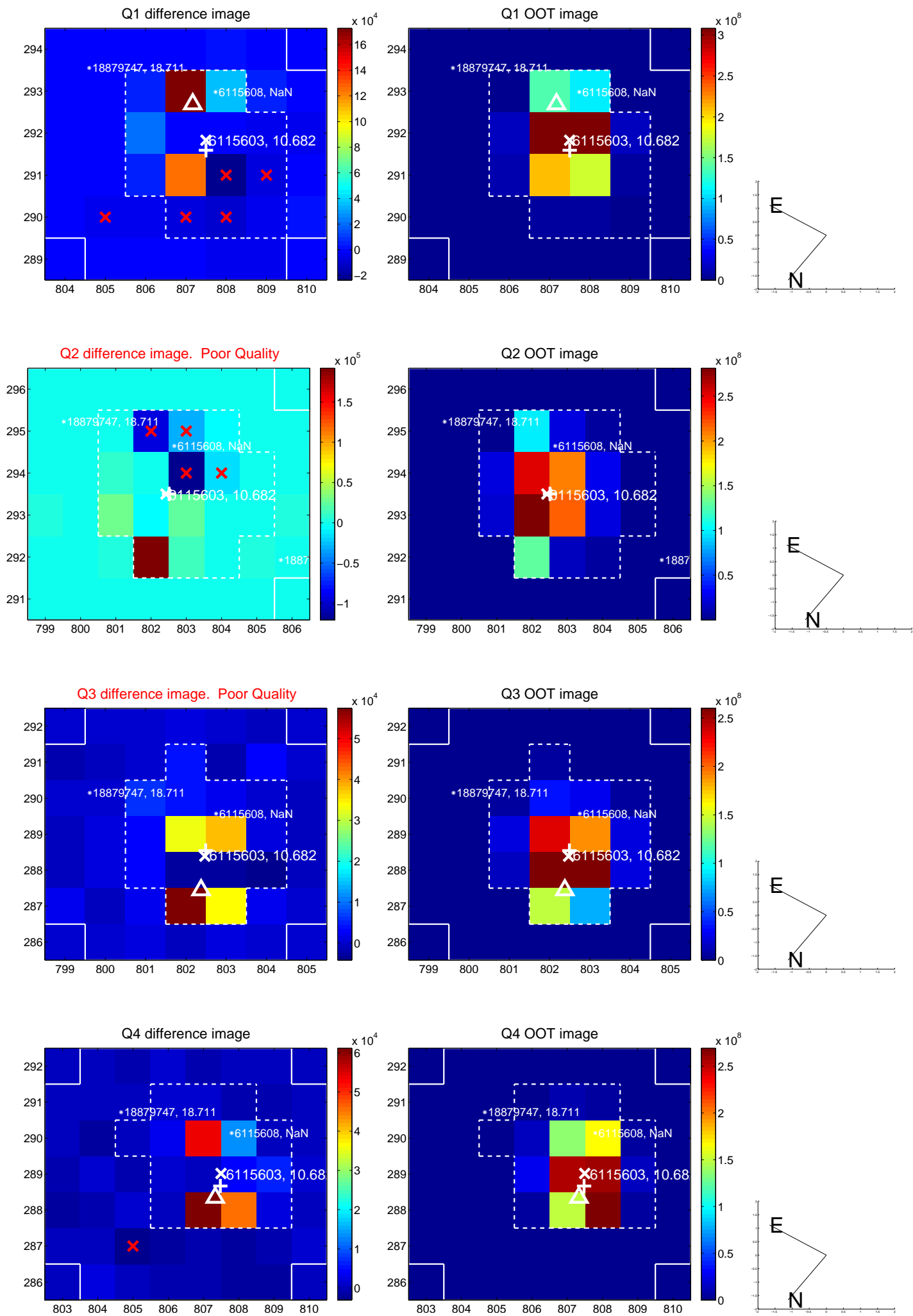
The direct PRF centroid is offset from the target star catalog position by about 0.77 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.615 ± 0.933	1.73	0.568 ± 0.718	-1.512 ± 0.819
PRF-fit source offset from KIC position	1.335 ± 0.871	1.53	0.230 ± 0.713	-1.315 ± 0.803
photometric centroid source offset	0.17 ± 0.28	0.58	-0.12 ± 0.27	0.11 ± 0.30

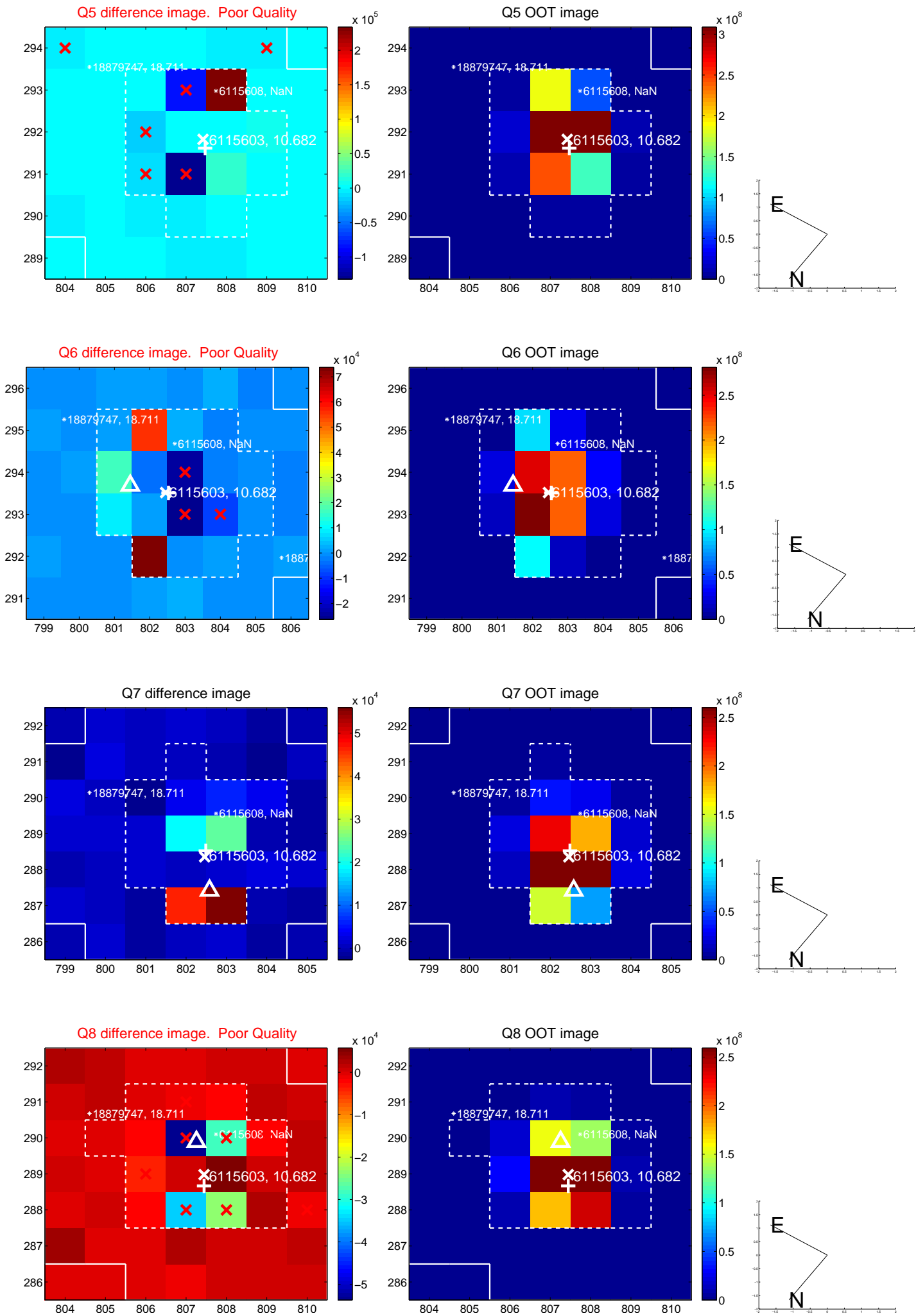


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

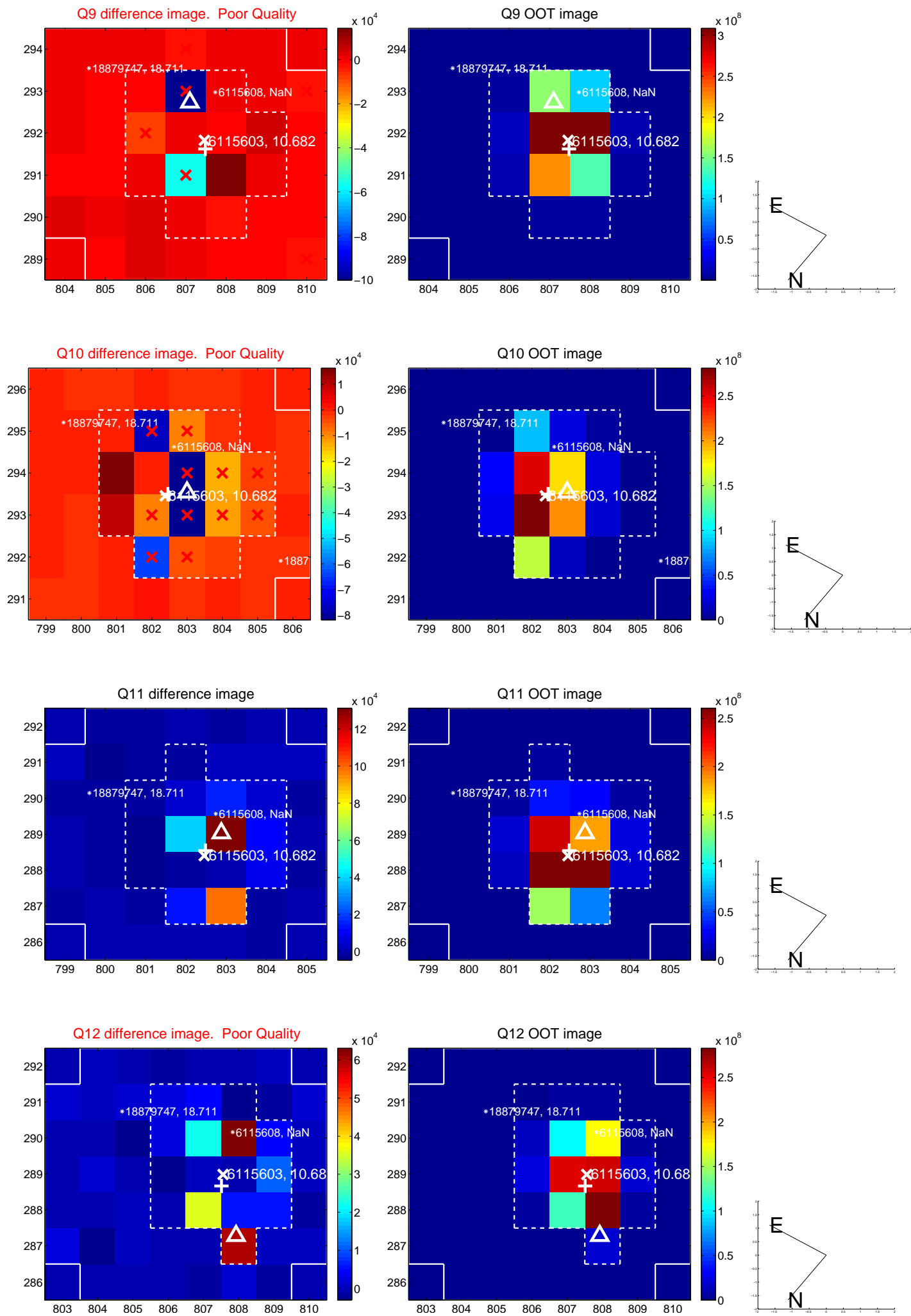
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



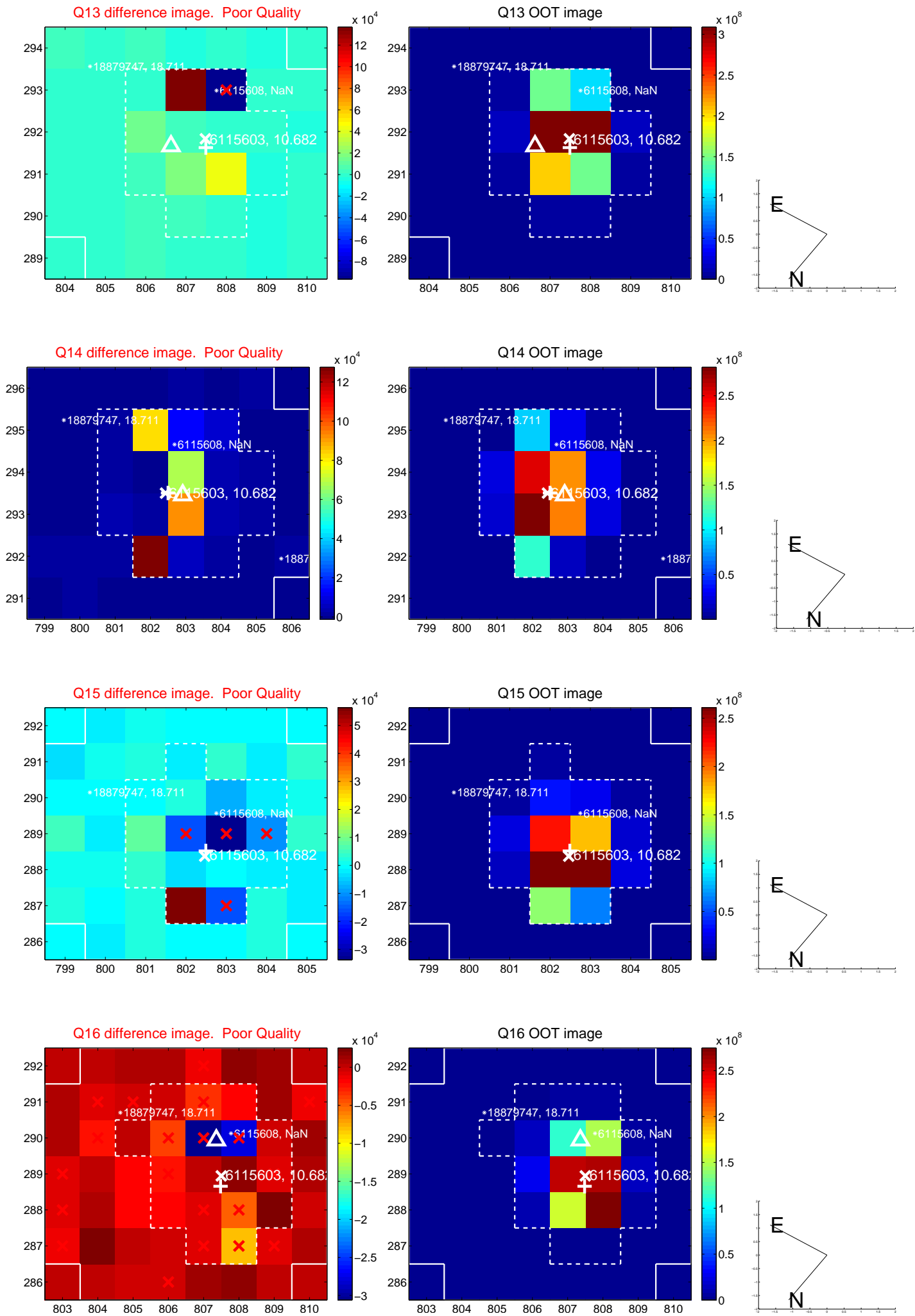
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



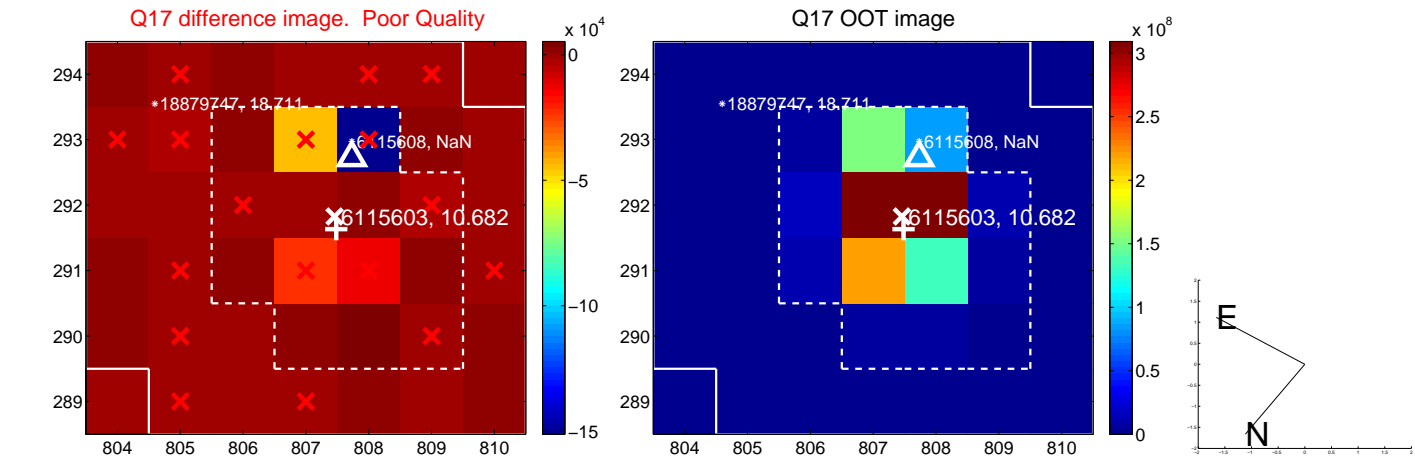
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



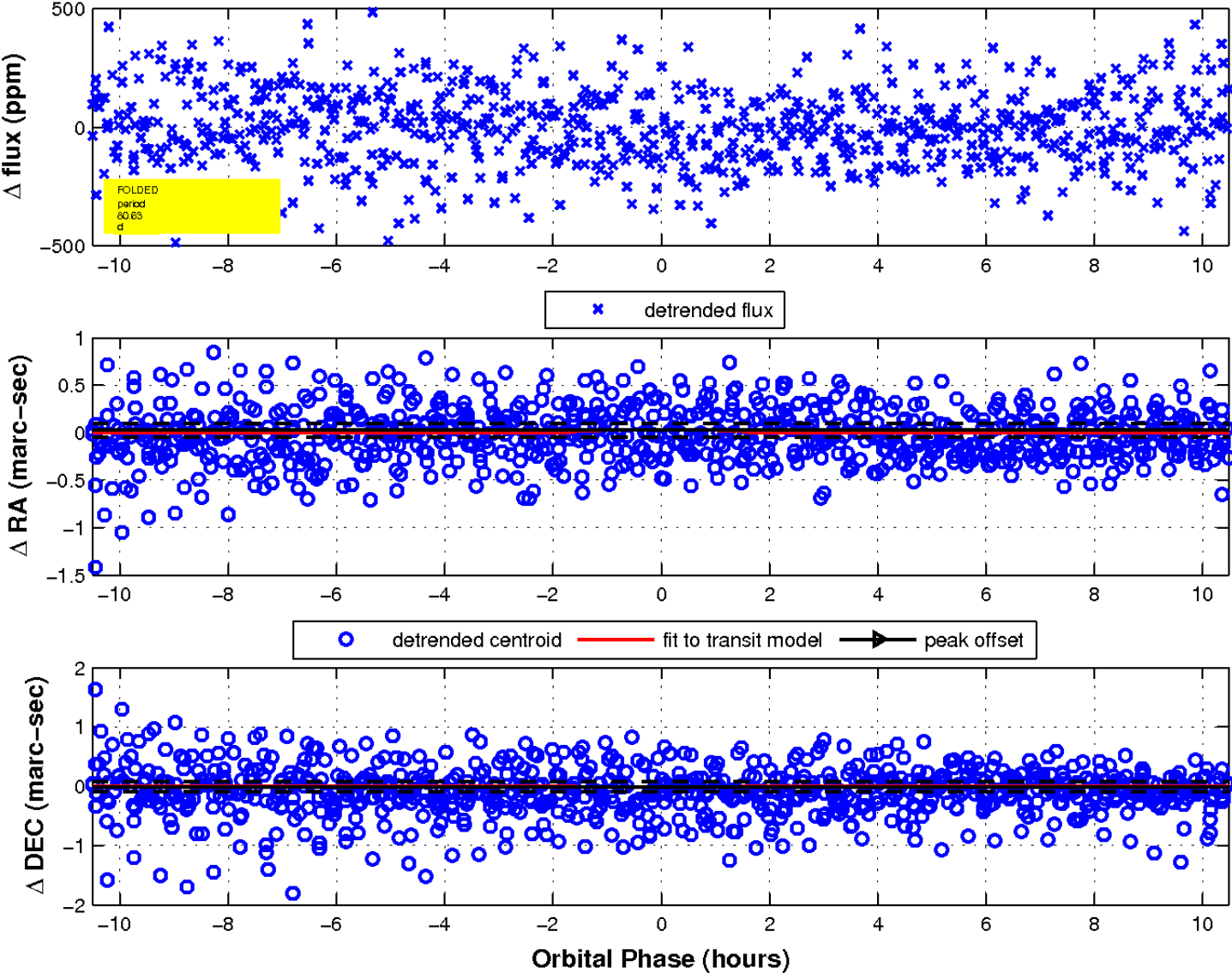
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

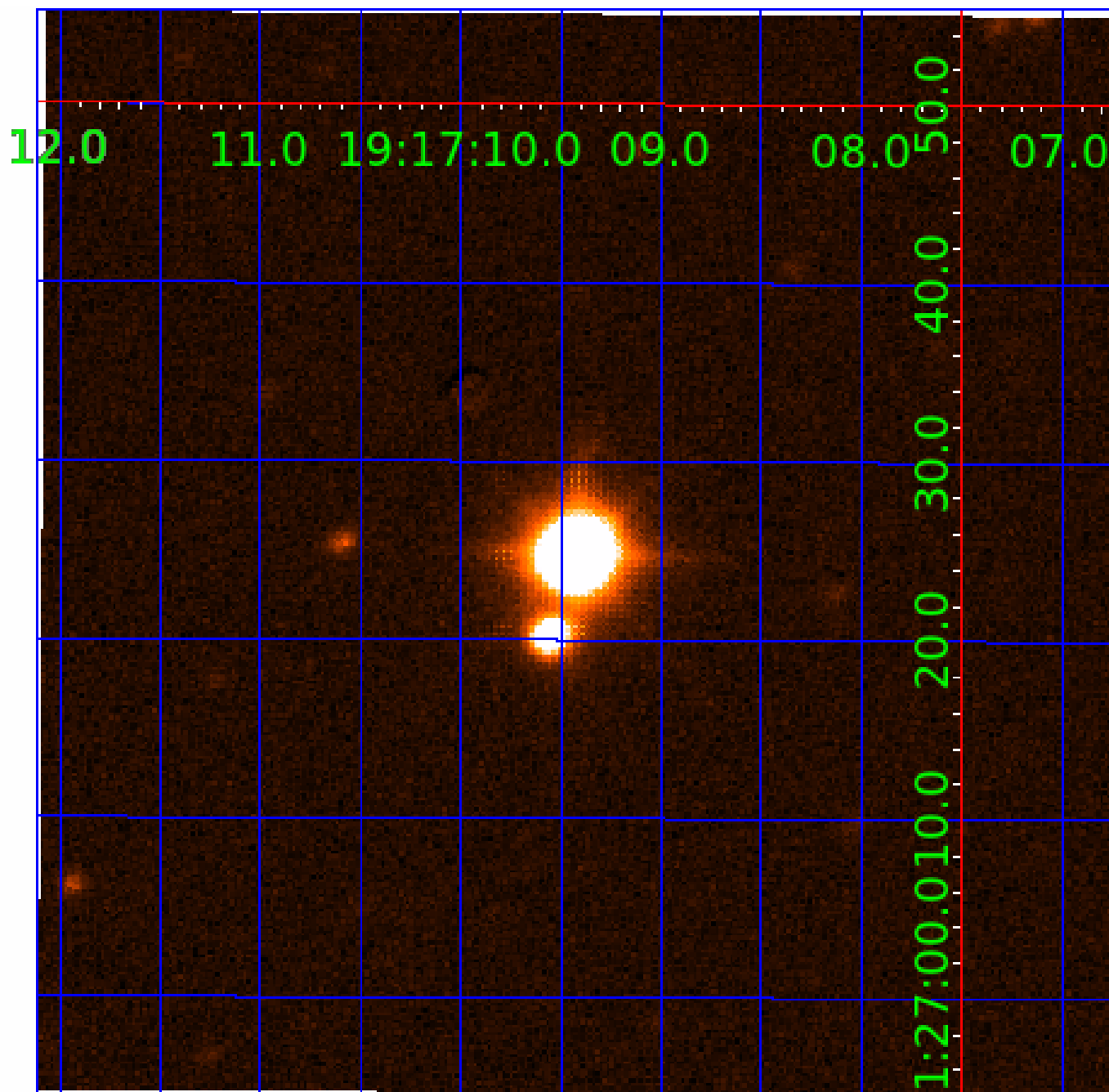


fluxWeightedCentroids, Planet 9 of 10



UKIRT Image

Declination



KIC 006115603

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})
006115603-01	OBS	No	2.027653	132.269081	21.2	12.019	8.2	7.3	3.55	6510	2.00	14823.71
006115603-03	OBS	No	223.073942	287.488546	216.9	7.976	10.3	8.6	3.55	6510	5.96	28.12
006115603-04	OBS	No	44.308404	165.505638	181.4	2.088	10.1	9.6	3.55	6510	5.43	242.64
006115603-05	OBS	No	160.029581	148.288775	245.7	2.560	10.0	8.8	3.55	6510	6.51	43.79
006115603-06	OBS	No	36.703881	154.308734	176.1	3.638	9.9	8.9	3.55	6510	5.07	311.89
006115603-07	OBS	No	372.914339	234.986749	276.4	3.464	9.8	9.2	3.55	6510	6.73	14.17
006115603-08	OBS	No	103.658197	154.981118	252.1	4.379	9.9	9.5	3.55	6510	6.19	78.13
006115603-09	OBS	No	80.625343	138.506069	261.4	3.510	9.7	10.4	3.55	6510	6.74	109.22
006115603-10	OBS	No	25.345451	134.150778	64.9	3.000	9.5	-1.0	3.55	6510	2.88	510.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006115603-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
006115603-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006115603-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006115603-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006115603-08	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006115603-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
006115603-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

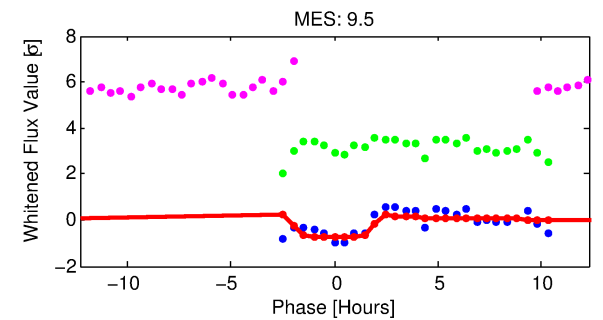
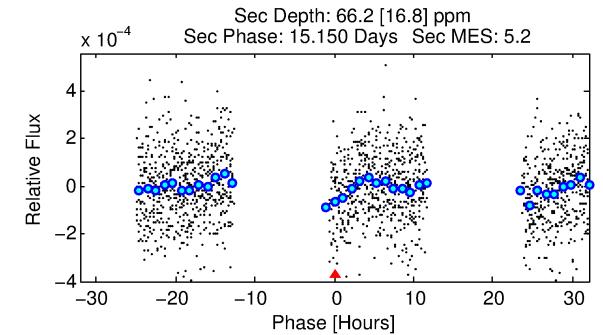
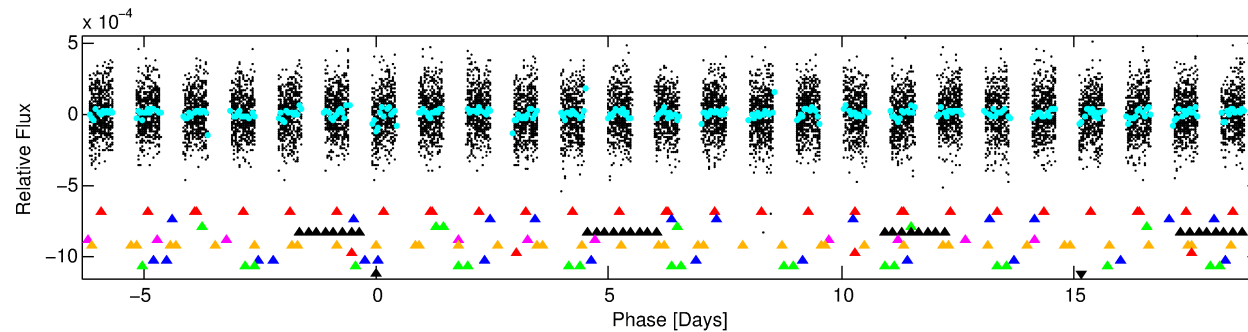
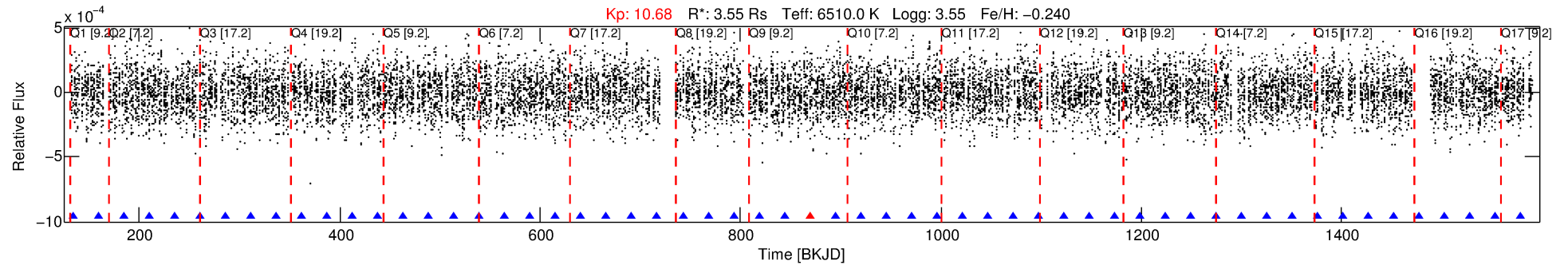
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006115603-10

No Significant Match Found

DV One-Page Summary

KIC: 6115603 Candidate: 10 of 10 Period: 25.345 d



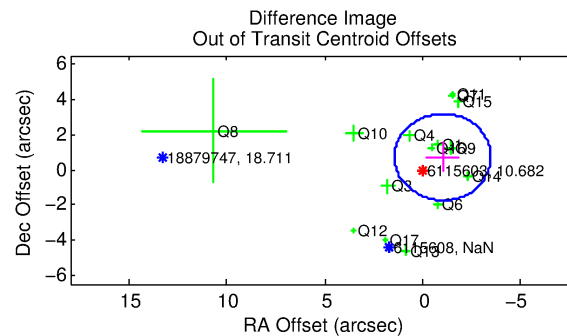
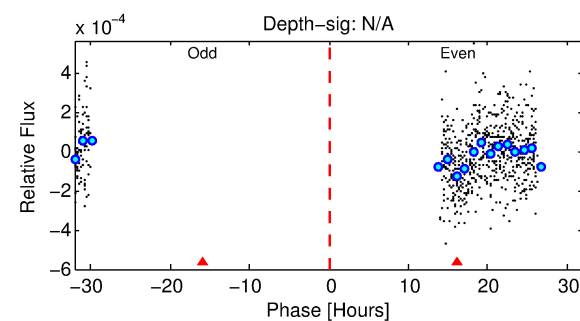
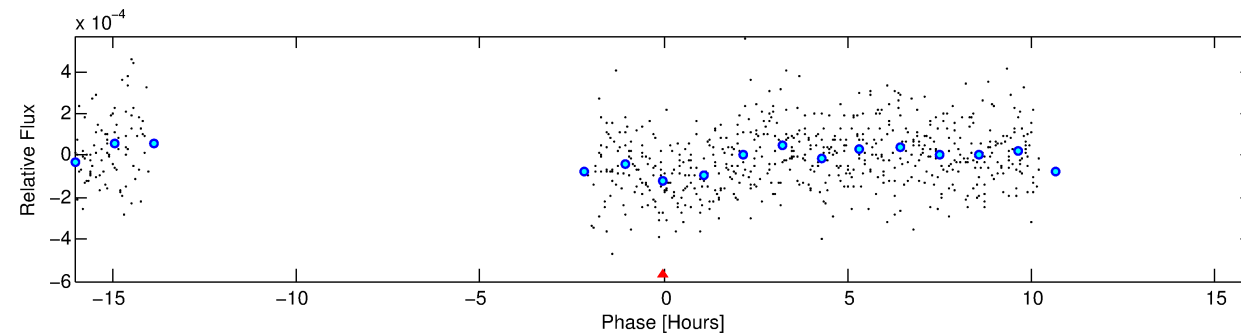
TPS TCE Results:

Period = 25.34545 d
Epoch = 134.1508 BKJD

DV fit results are unavailable

DV Diagnostic Results:

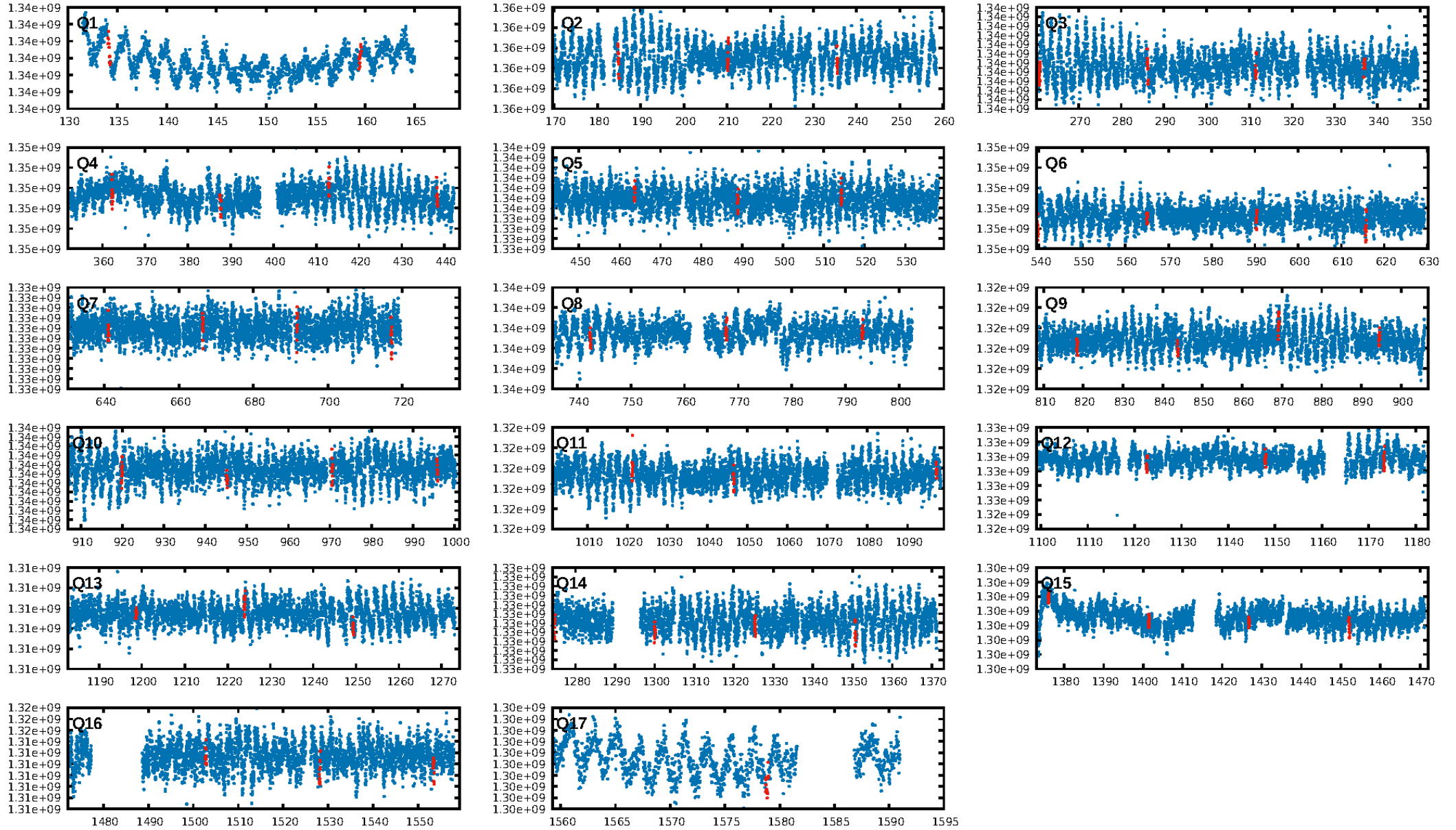
ShortPeriod-sig: 100.0% [45.17σ]
LongPeriod-sig: 100.0% [57.81σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.96 [23/24]
GhostDiagnostic-chr: -0.568
Centroid-sig: 39.6%
Centroid-so: 0.142 arcsec [0.59σ]
OotOffset-rm: 1.255 arcsec [1.53σ]
KicOffset-rm: 2.004 arcsec [2.61σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.53 [8/15]
DiffImageOverlap-fno: 0.88 [15/17]



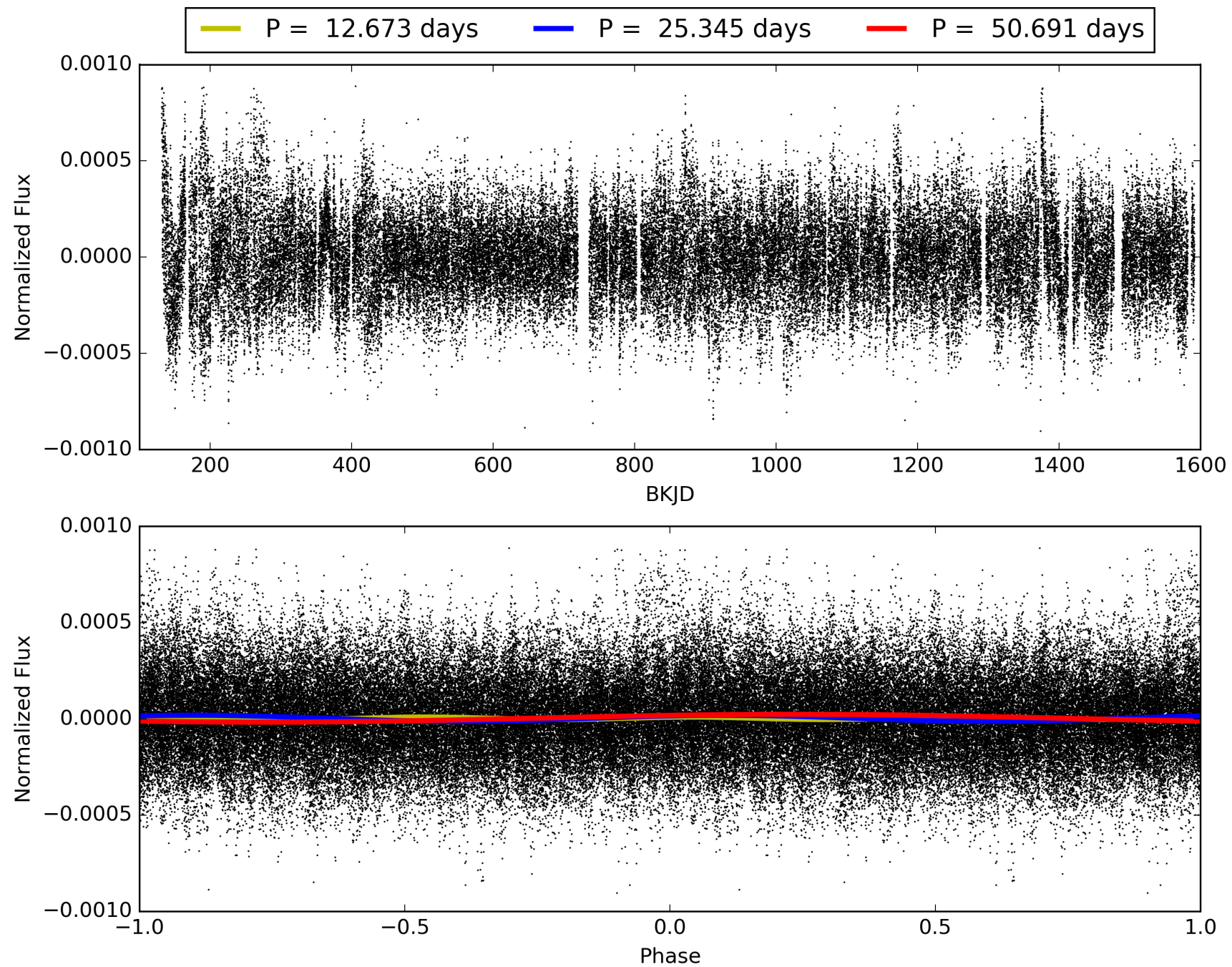
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:34:51 Z

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

TCE 006115603-10, PDC Light Curves

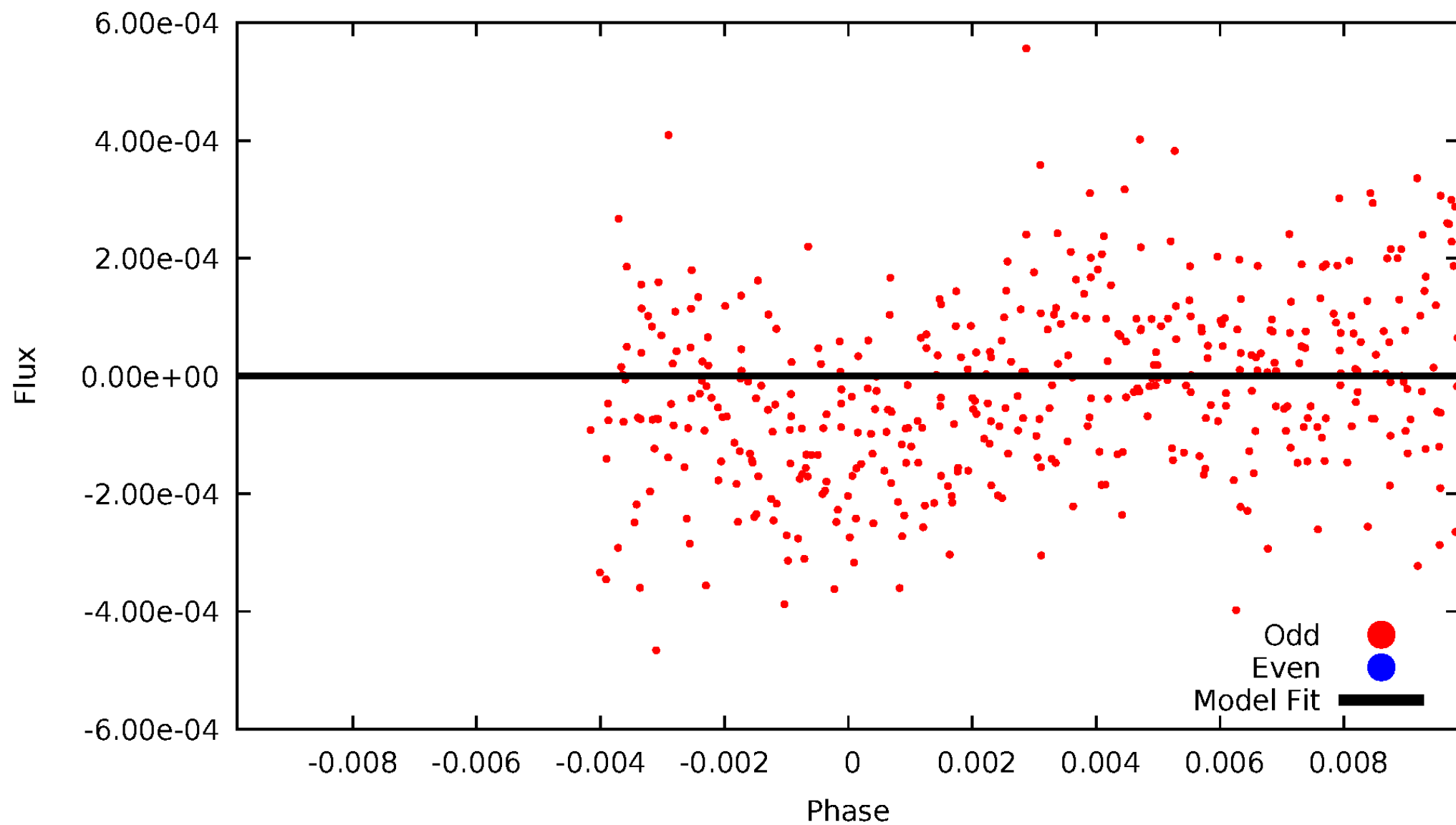


TCE 006115603-10



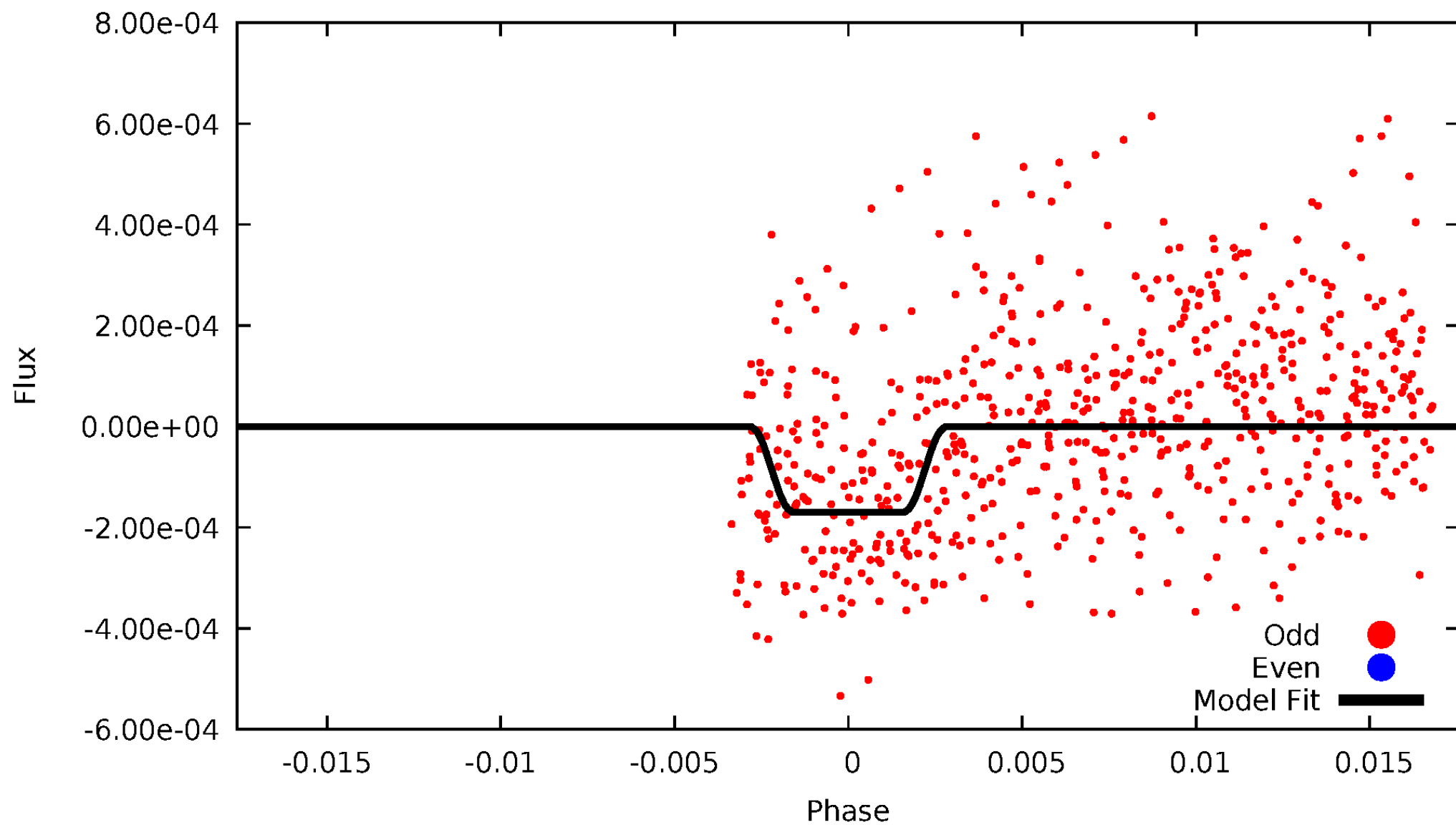
DV Odd/Even

TCE 006115603-10



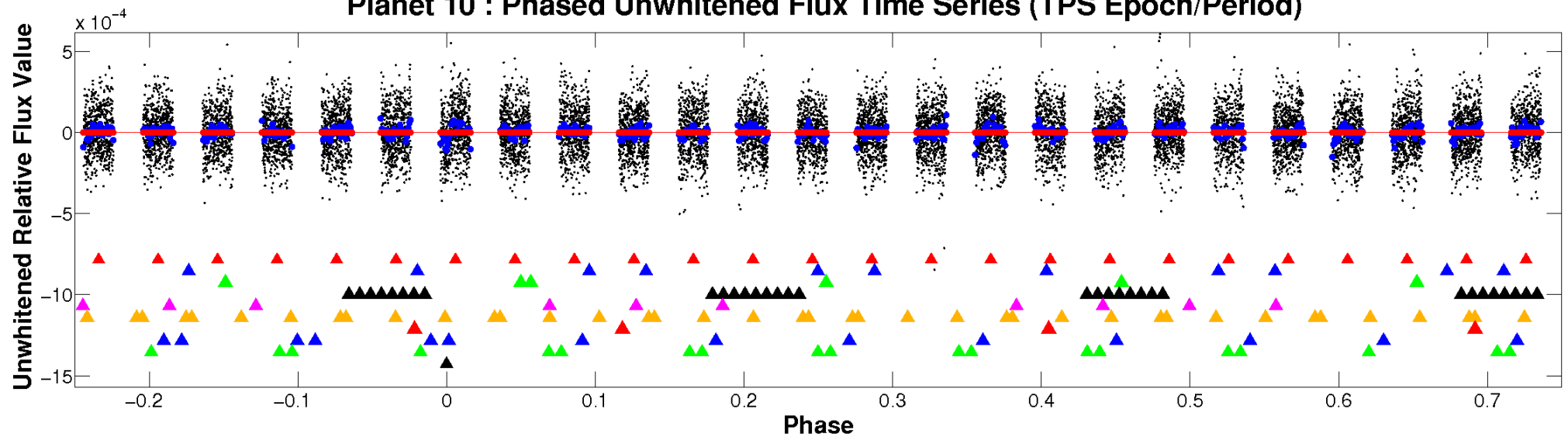
ALT Odd/Even

TCE 006115603-10

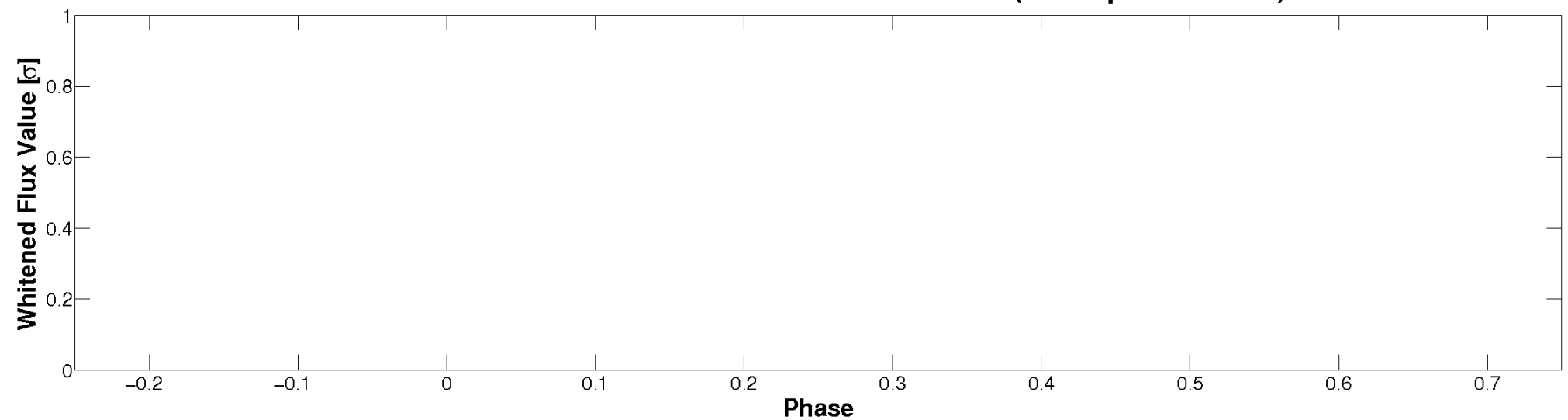


Non-Whitened Vs. Whitened Light Curve

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

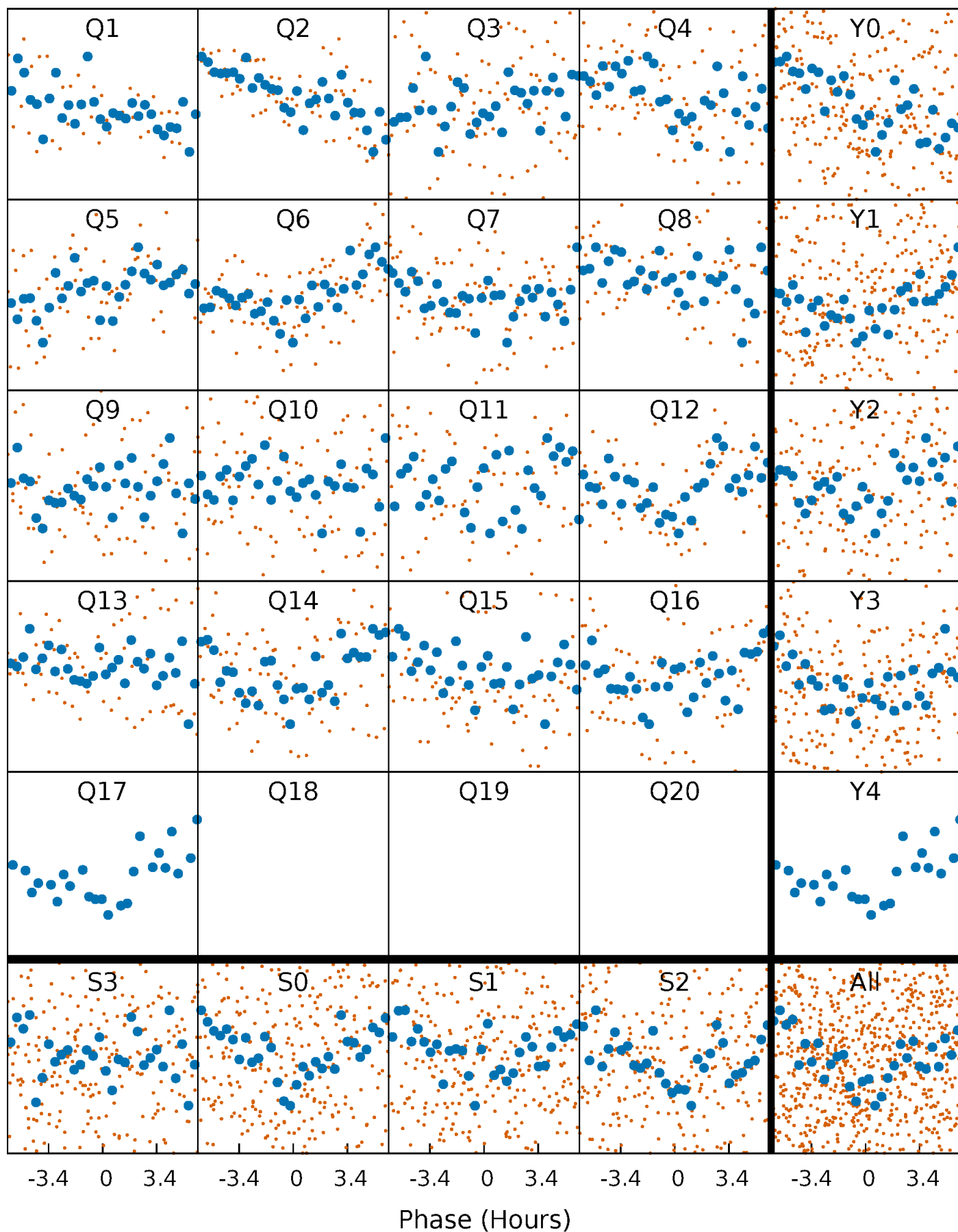


Planet 10 : Phased Whitened Flux Time Series (TPS Epoch/Period)



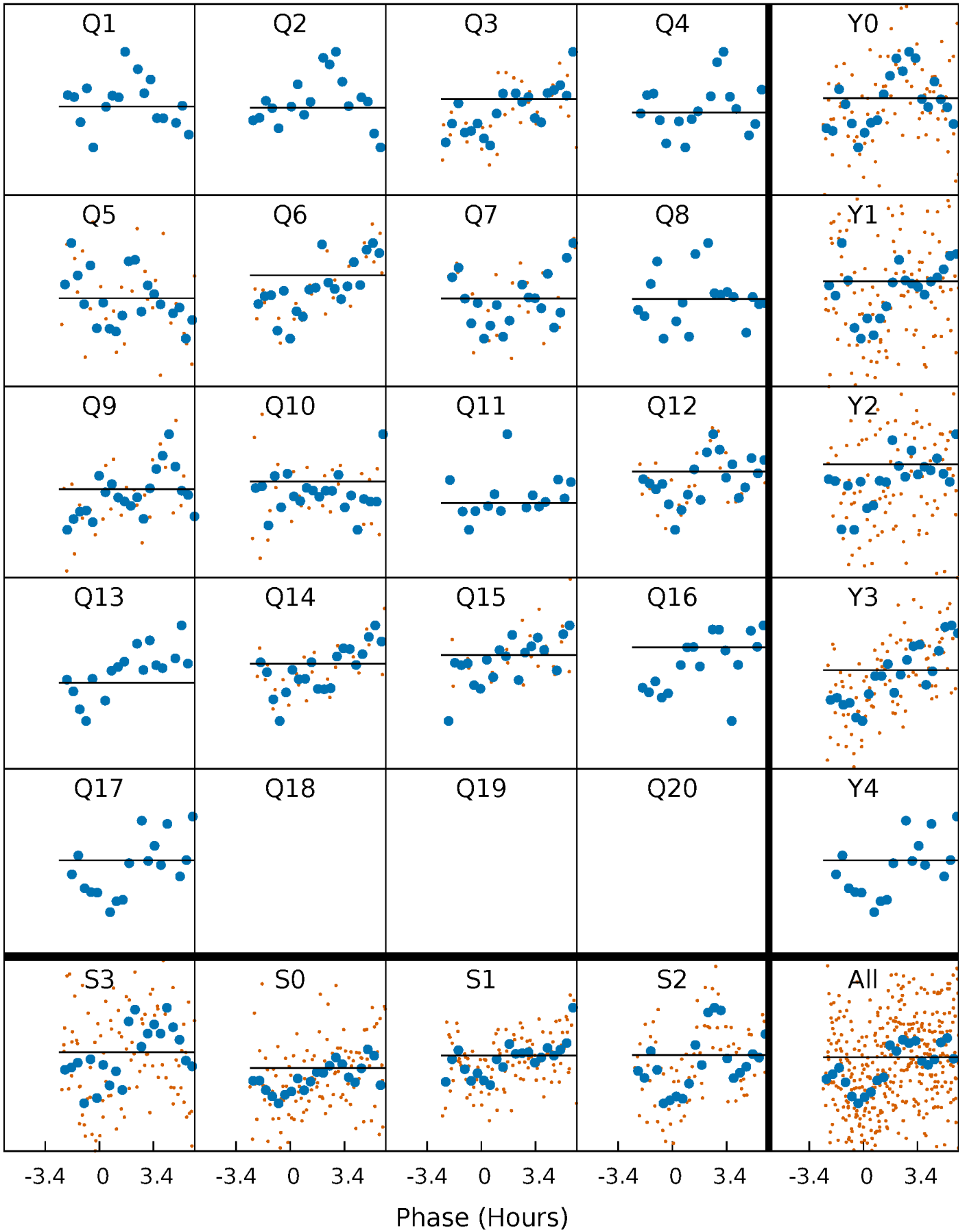
PDC Quarter-Phased Transit Curves

TCE 006115603-10 P= 25.345451 Days $T_0=134.150778$ (BKJD)



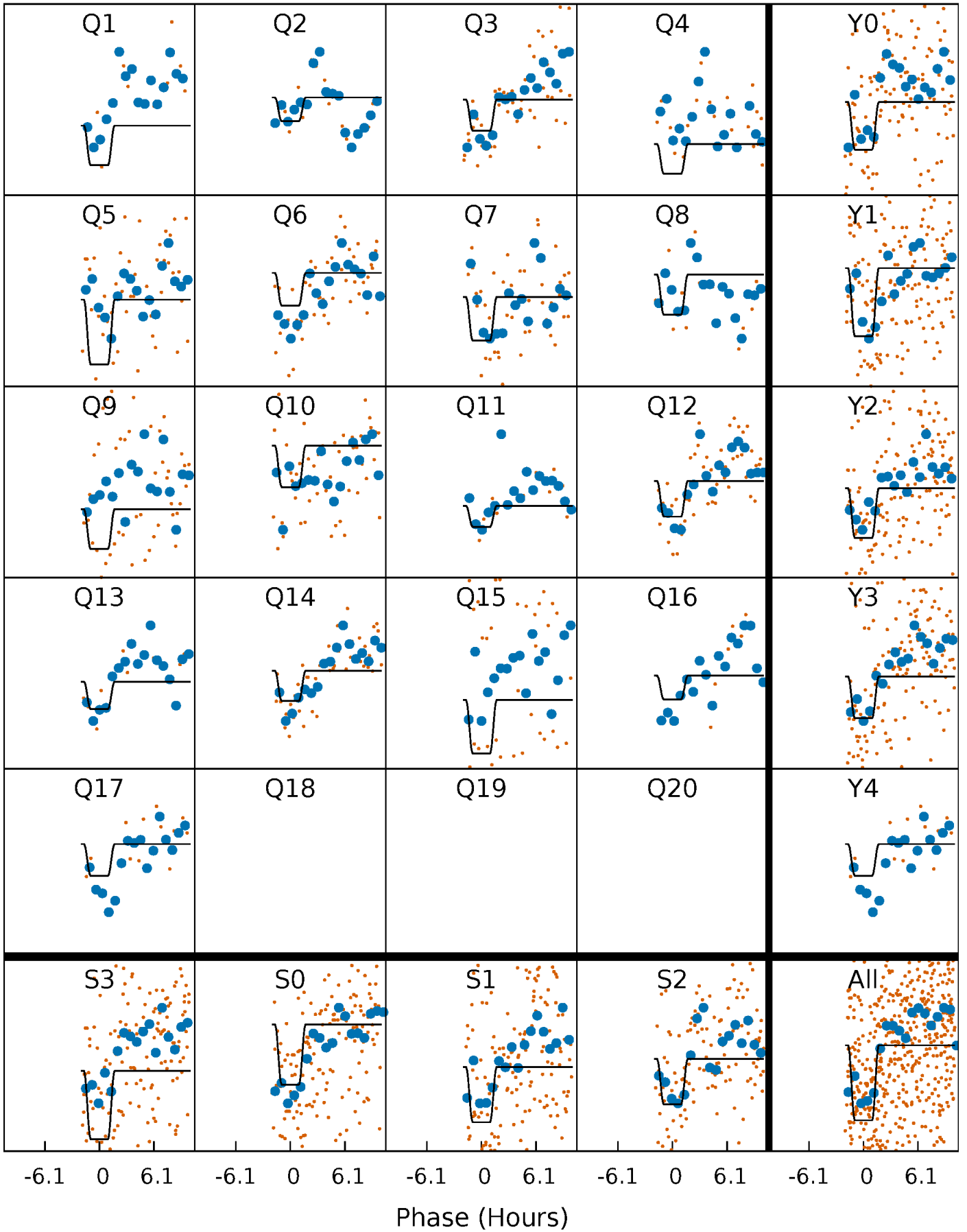
DV Quarter-Phased Transit Curves

TCE 006115603-10 P= 25.345451 Days $T_0=134.150778$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

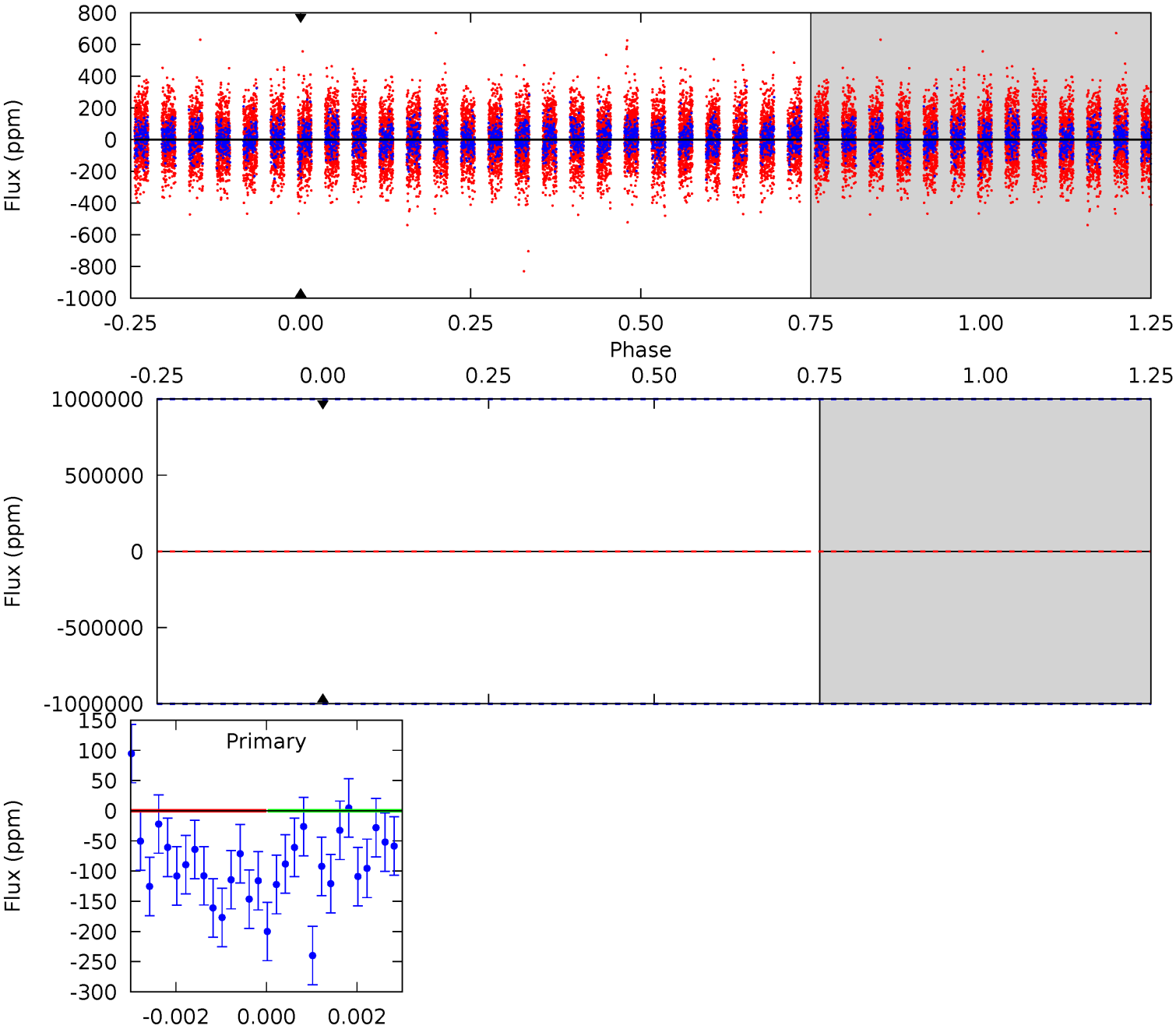
TCE 006115603-10 P= 25.345451 Days $T_0=134.130470$ (BKJD)



DV Model-Shift Uniqueness Test

006115603-10, P = 25.345451 Days, E = 108.805327 Days

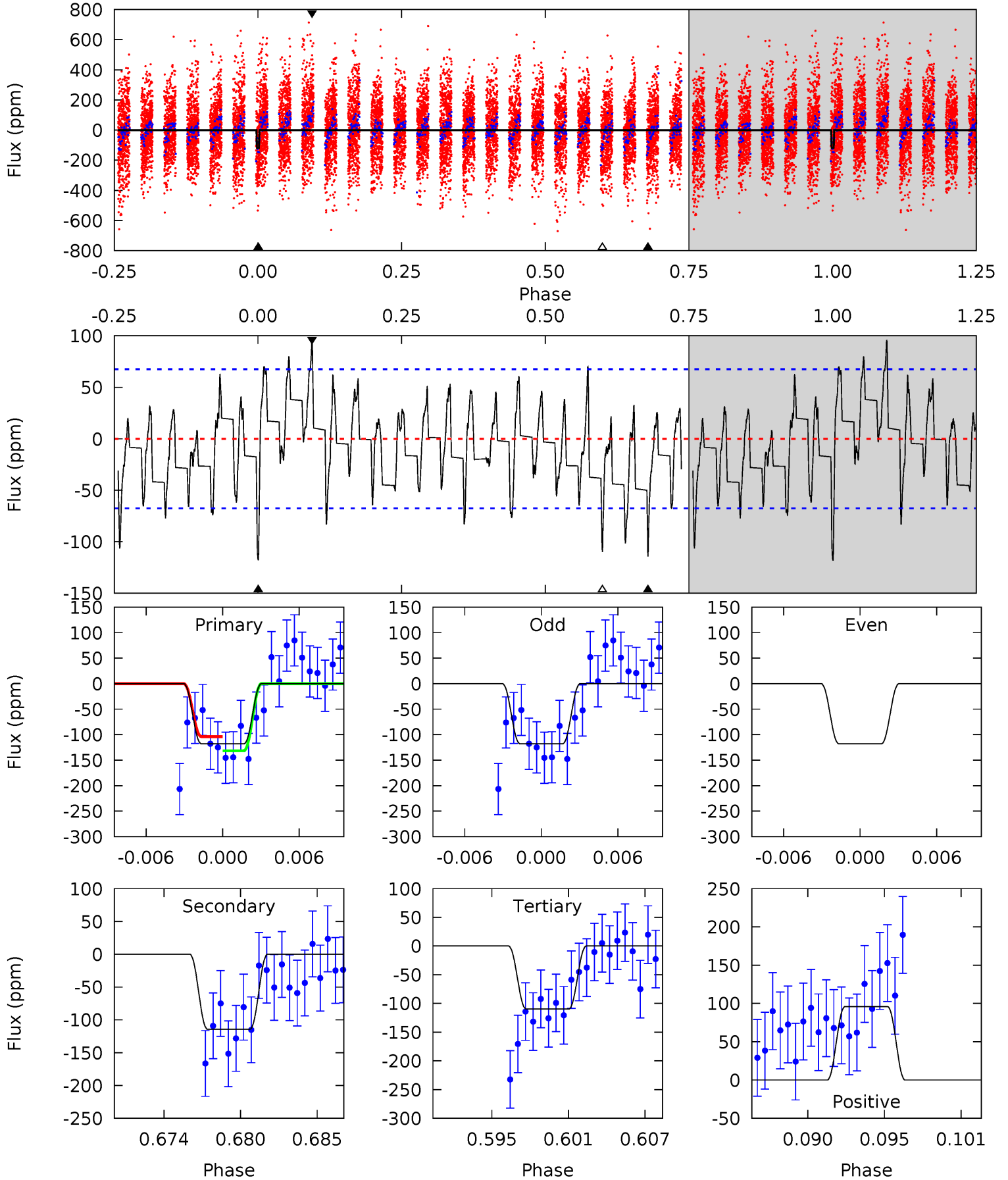
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006115603-10, P = 25.345451 Days, E = 108.785019 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.97	8.69	8.35	7.30	5.14	2.77	2.88	0.62	1.68	0.34	1.40	0	0.71	0.45	1.05



Stellar Parameters For KIC 006115603

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6510^{+146}_{-179}	$3.553^{+0.323}_{-0.108}$	$-0.240^{+0.350}_{-0.300}$	$3.553^{+0.460}_{-1.379}$	$1.646^{+0.229}_{-0.371}$	$0.052^{+0.121}_{-0.014}$
	+2%/-3%	+9%/-3%	+146%/-125%	+13%/-39%	+14%/-23%	+234%/-28%
Source	PHO1	FLK73	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 006115603-10 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$24.09^{+29.02}_{-18.04}$	1666^{+94}_{-152}	-5667^{+37113}_{-27686}	$-85.574^{+6185.906}_{-6536.640}$
Alt.	-114 ± 13	$26.59^{+27.15}_{-18.64}$	1671^{+94}_{-146}	3066^{+1557}_{-633}	$3.620^{+34.848}_{-2.769}$

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

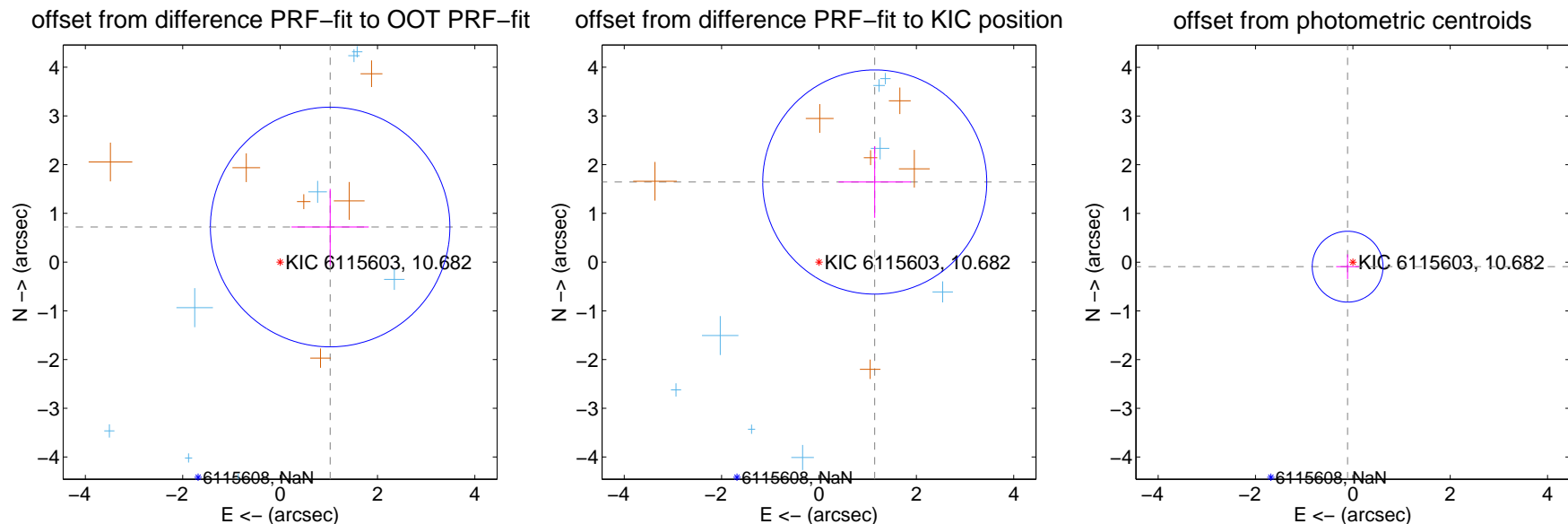
DV Centroid Data

Supplemental centroid analysis for 006115603-10. **Kepler magnitude: 10.68.** Transit SNR -1.00

There are 8 quarters with good PRF difference image offsets

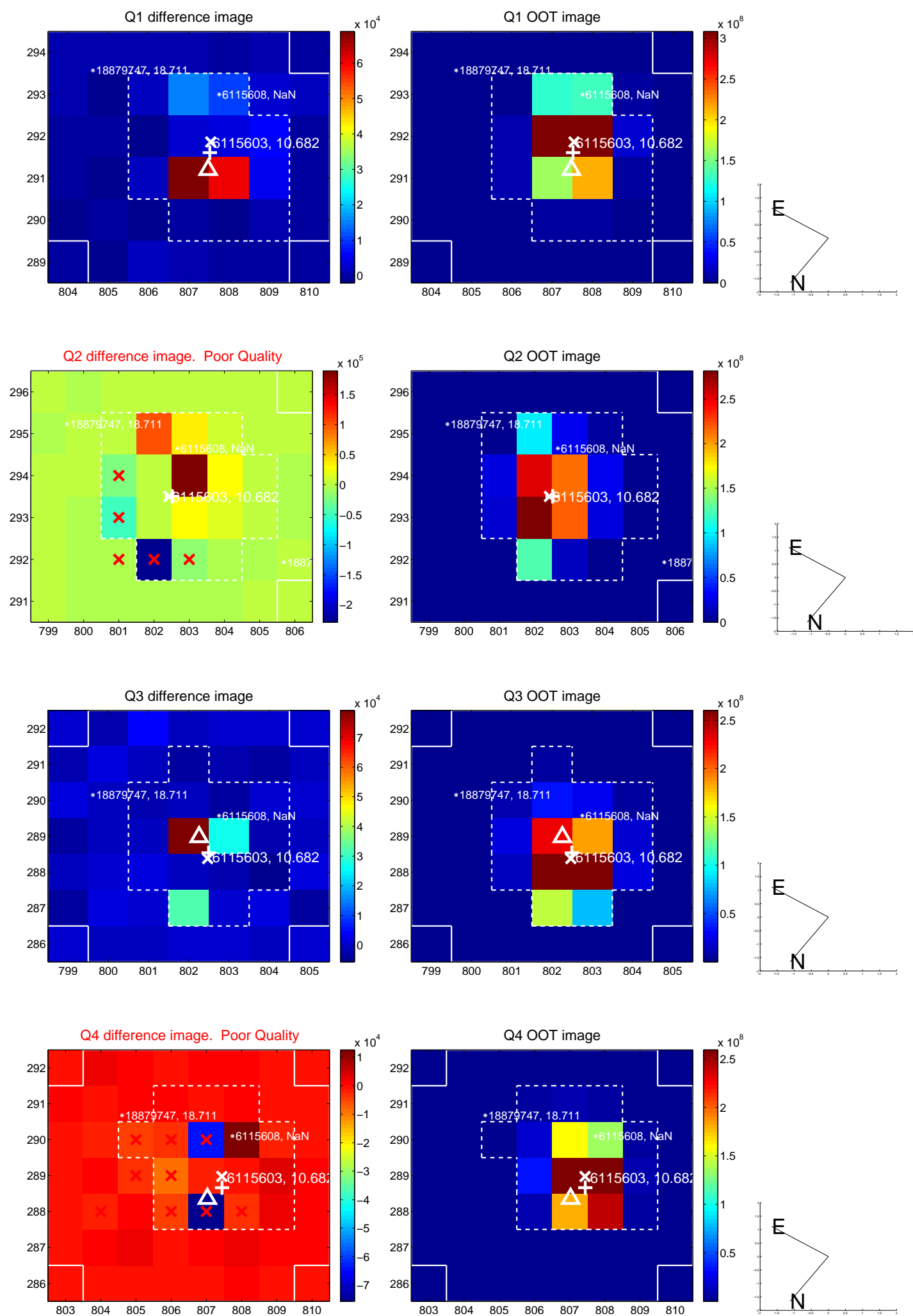
The direct PRF centroid is offset from the target star catalog position by about 0.77 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.255 ± 0.820	1.53	-1.028 ± 0.794	0.720 ± 0.784
PRF-fit source offset from KIC position	2.004 ± 0.767	2.61	-1.145 ± 0.744	1.644 ± 0.735
photometric centroid source offset	0.14 ± 0.24	0.59	0.11 ± 0.23	-0.09 ± 0.25

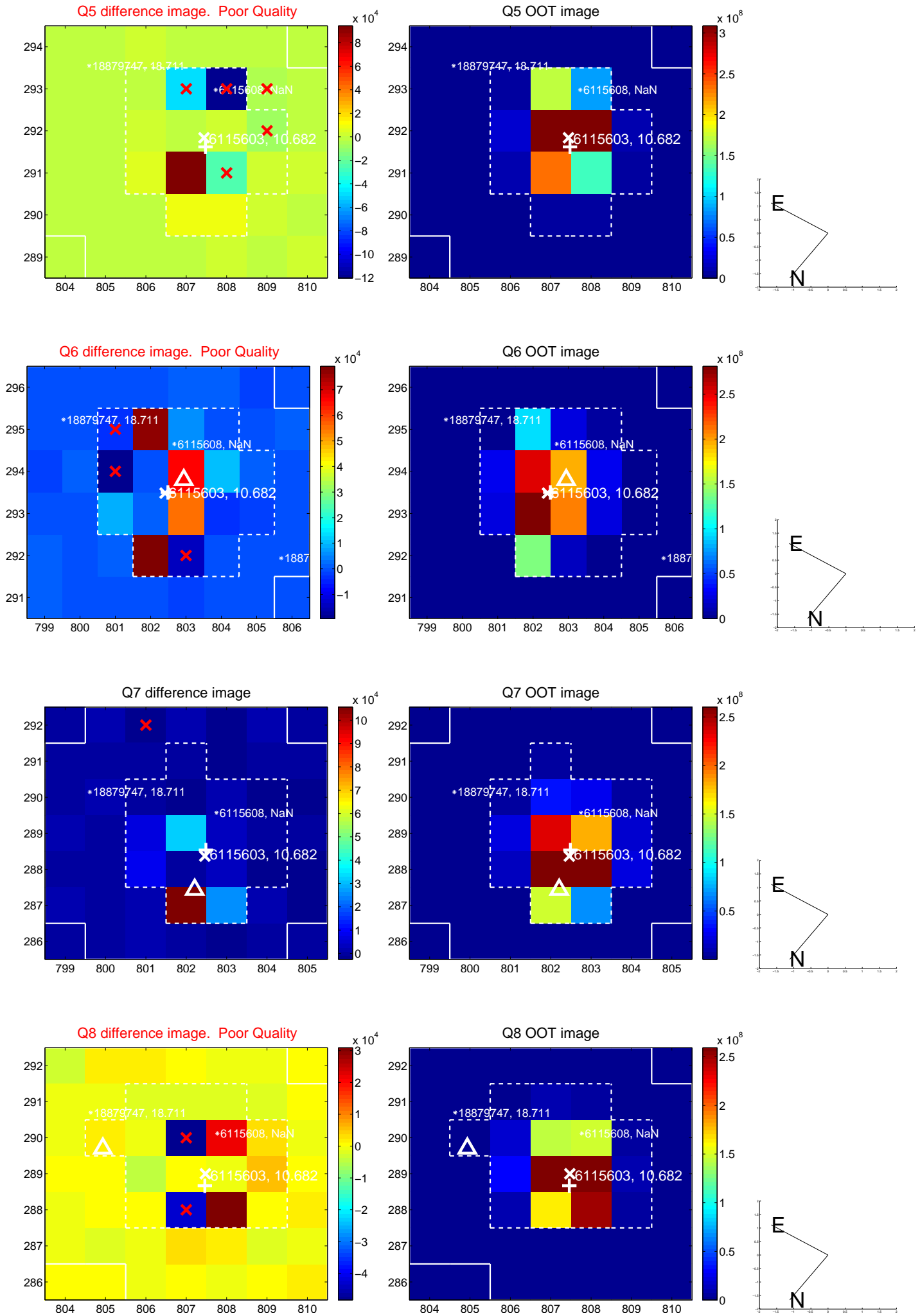


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

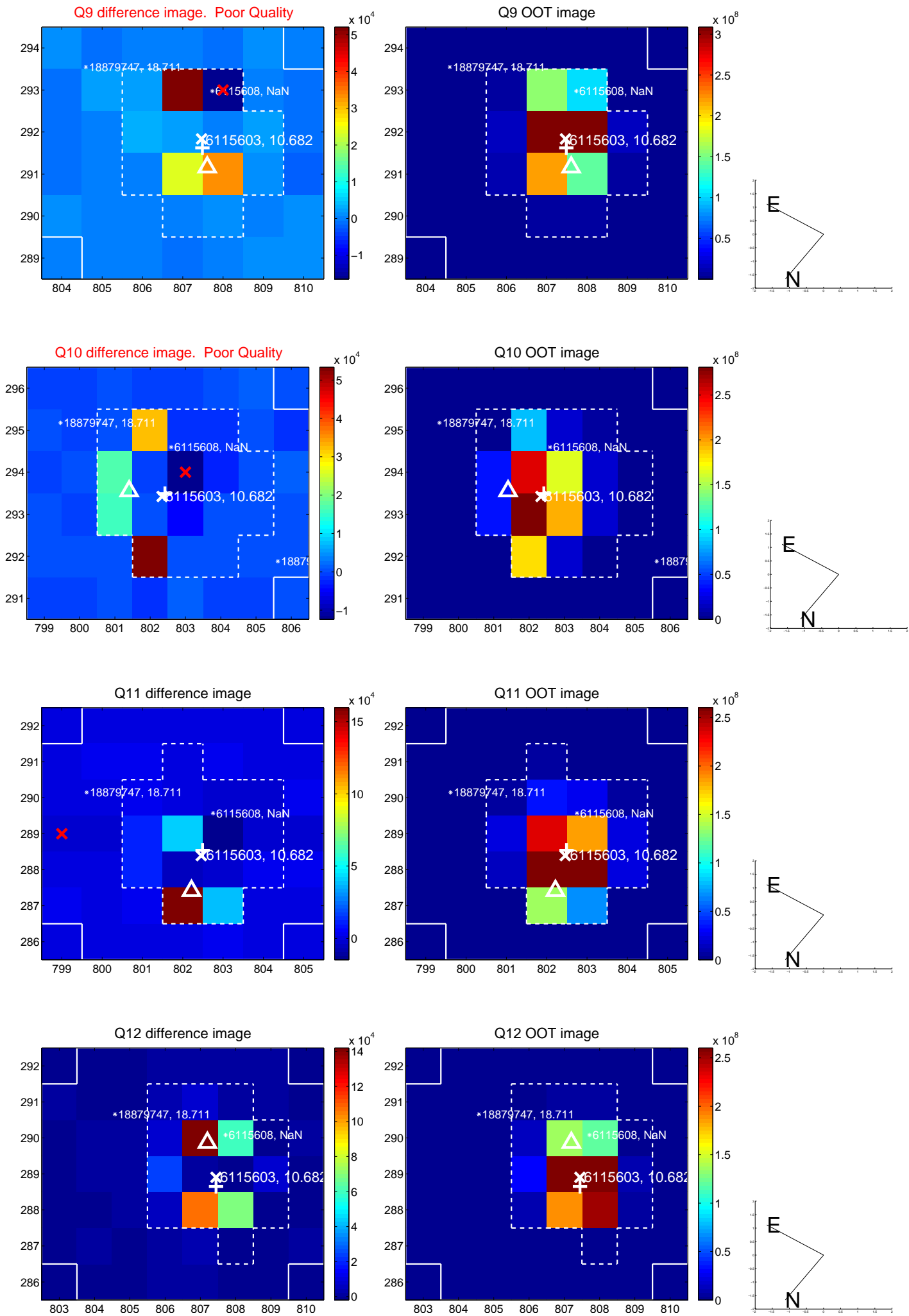
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



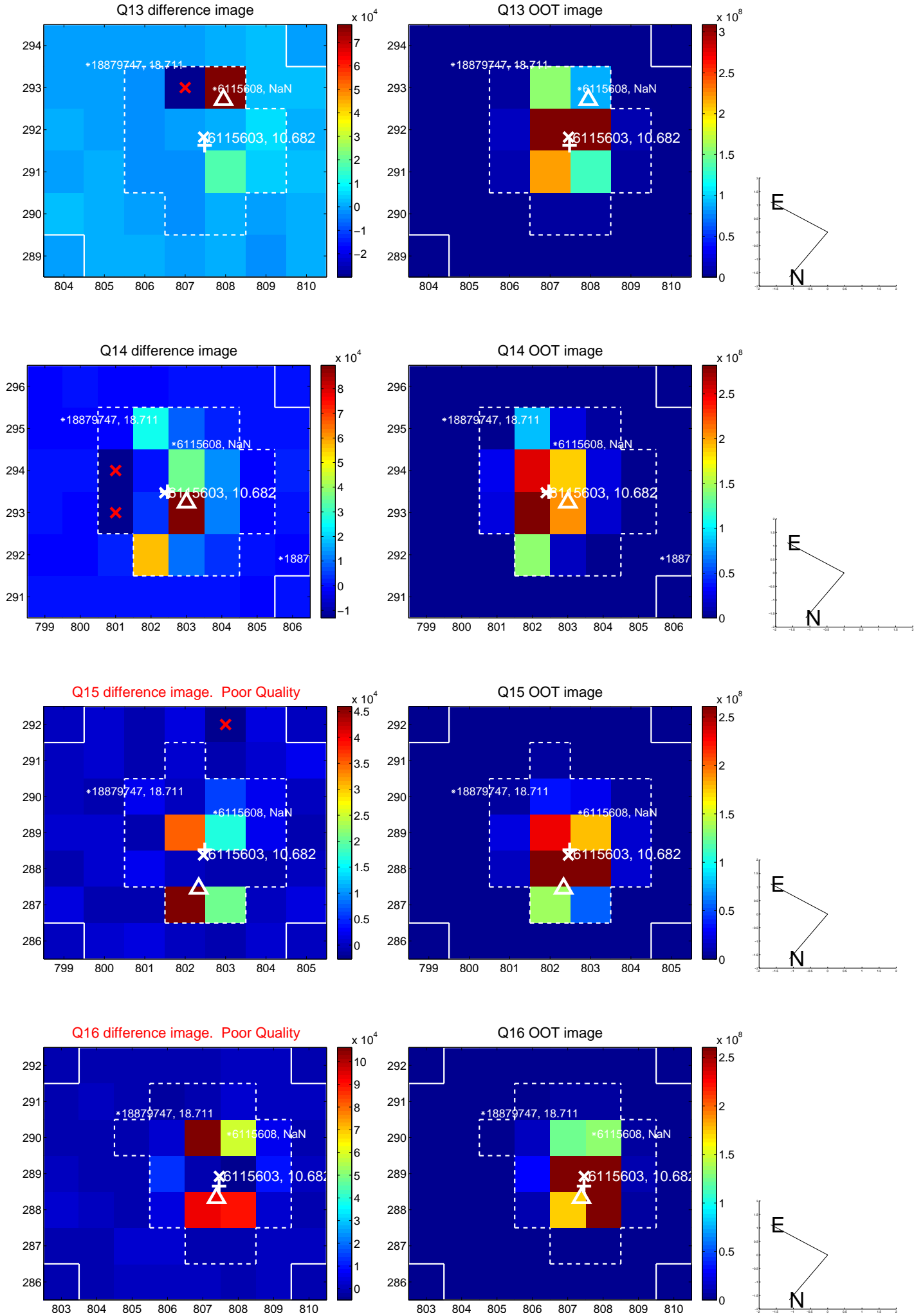
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



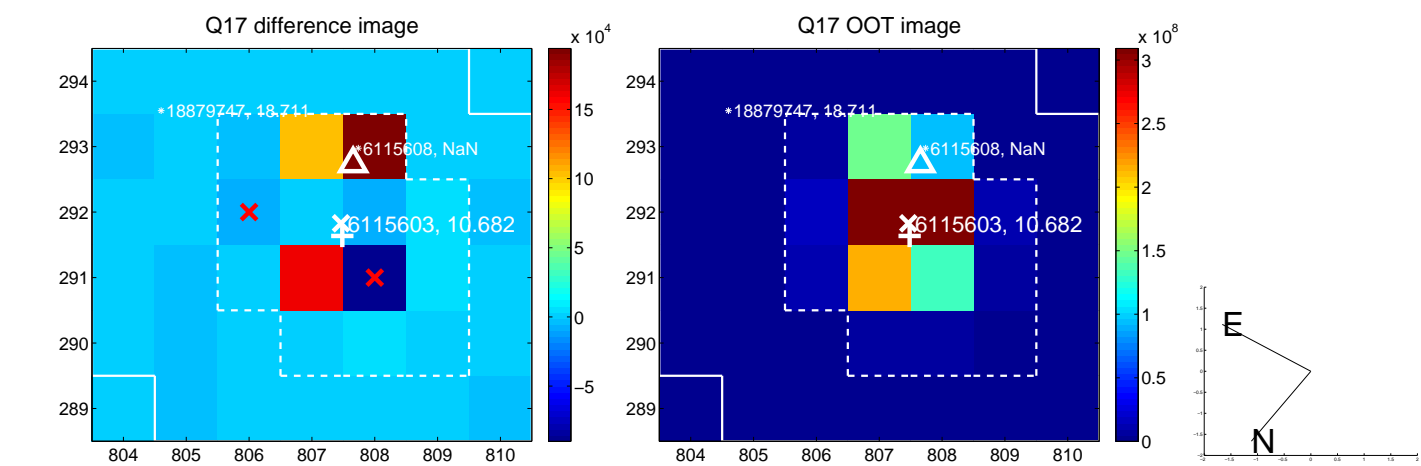
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



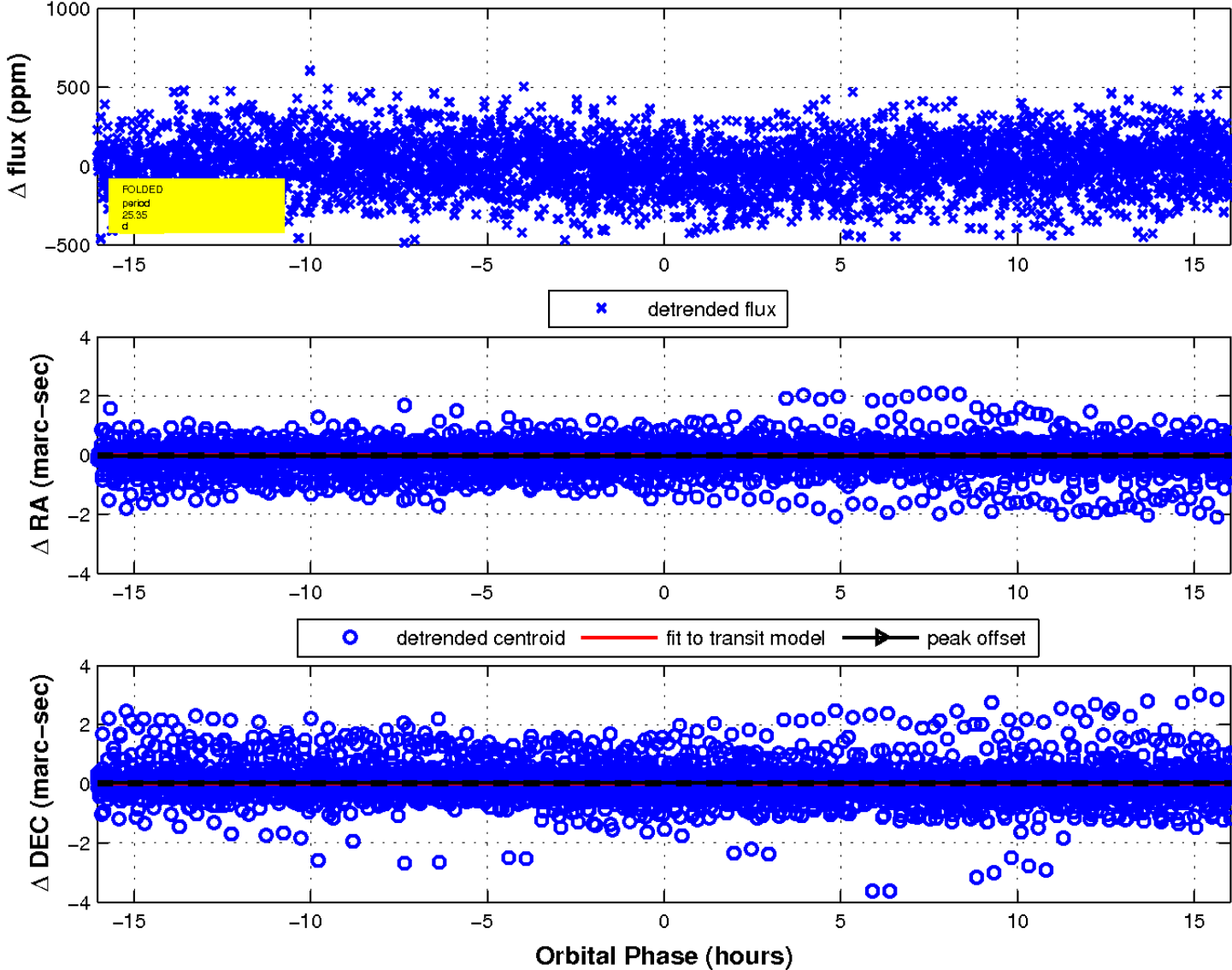
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 10 of 10



UKIRT Image

Declination

