

KIC 010811061

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})
010811061-01	OBS	No	1.753019	132.472284	93.9	6.614	8.3	8.0	0.80	5559	0.93	736.17
010811061-02	OBS	No	141.447729	260.828589	2149.5	18.145	10.3	9.4	0.80	5559	6.74	2.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010811061-01	OBS	FP	0.00	1	0	0	0	LPP_DV
010811061-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

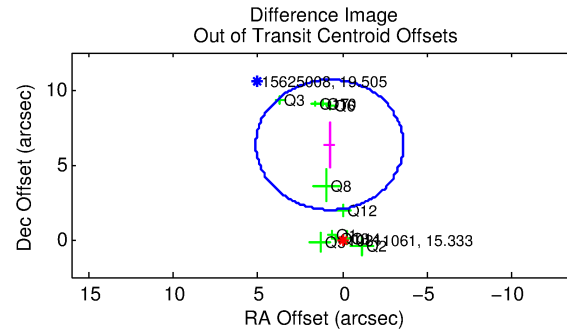
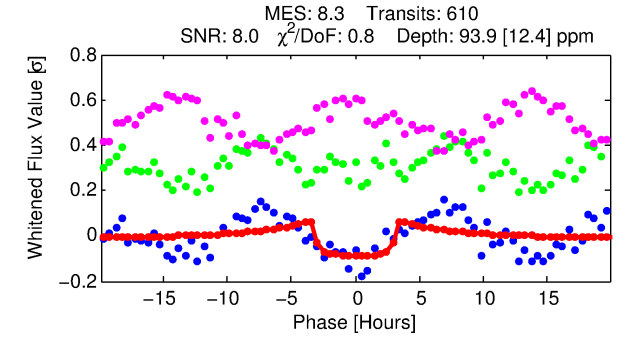
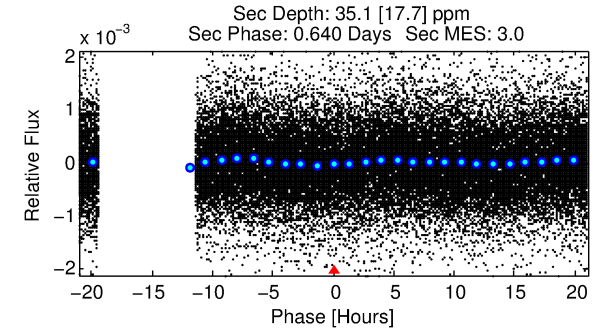
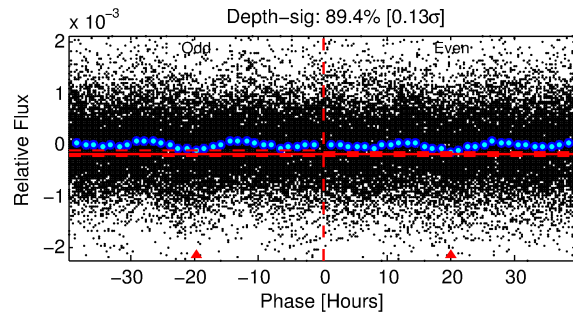
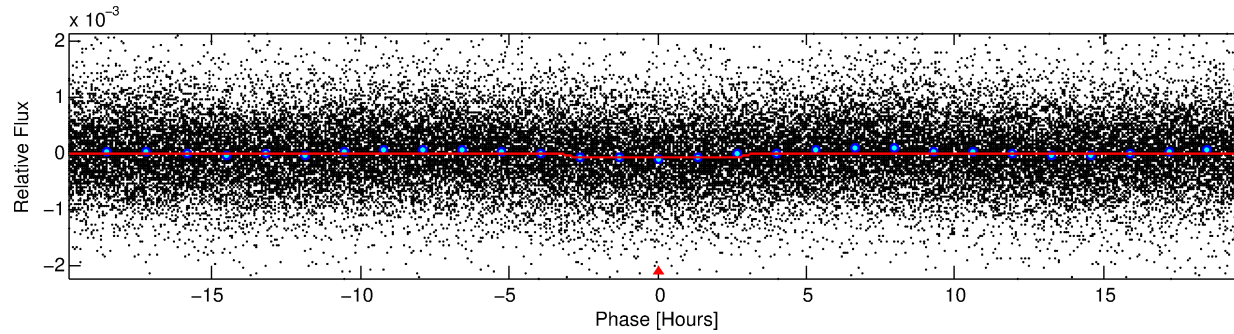
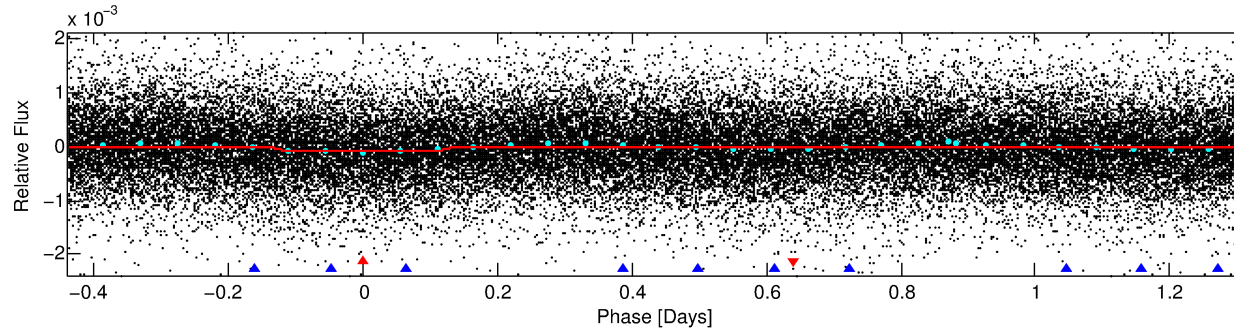
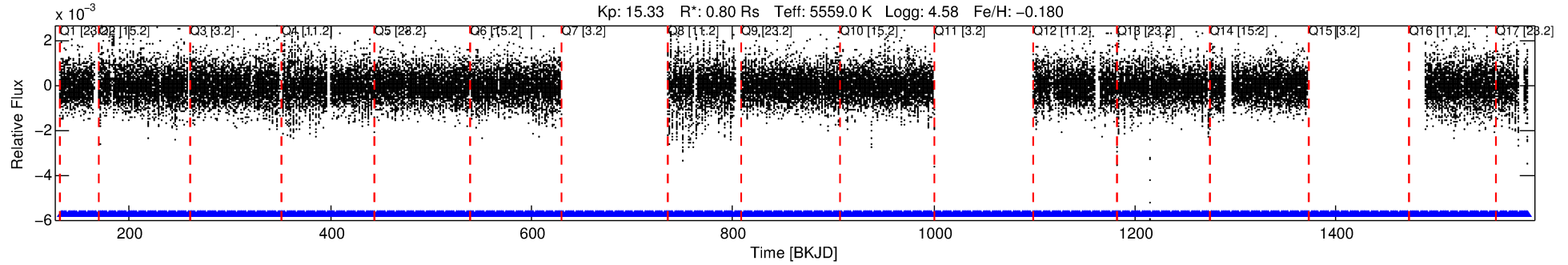
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010811061-01

No Significant Match Found

DV One-Page Summary

KIC: 10811061 Candidate: 1 of 2 Period: 1.753 d



DV Fit Results:

Period = 1.75302 [0.00002] d
Epoch = 132.4723 [0.0055] BKJD
Rp/R* = 0.0106 [0.0030]
a/R* = 1.32 [0.72]
b = 0.90 [0.27]
Seff = 736.17 [195.90]
Teq = 1328 [88] K
Rp = 0.93 [0.33] Re
a = 0.0274 [0.0046] AU
Ag = 16.81 [13.40] [1.18 σ]
Teff = 4158 [801] K [3.51 σ]

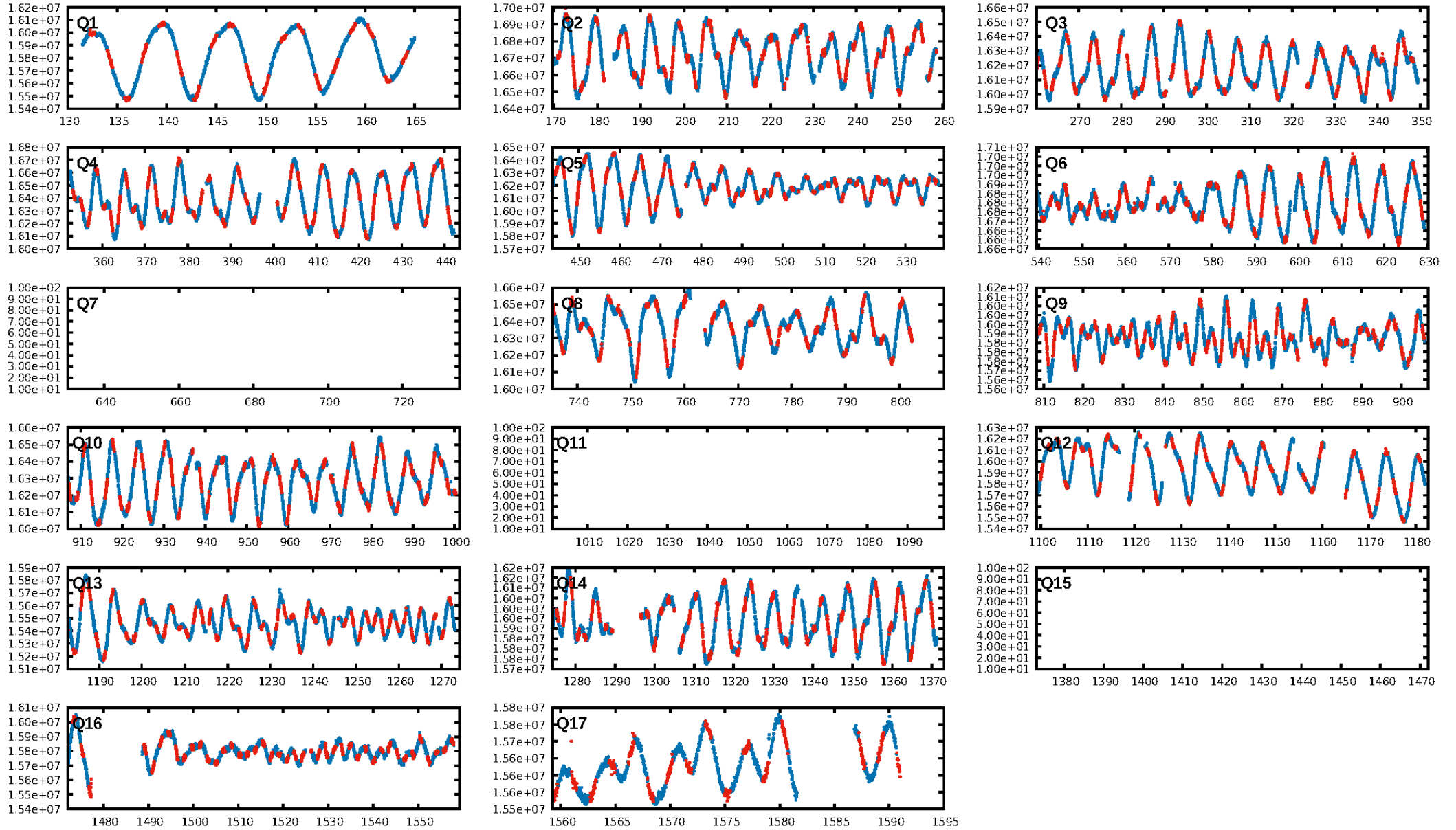
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [173.60 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.73e-12
RollingBand-fgt: 1.00 [575/575]
GhostDiagnostic-chr: 1.453
Centroid-sig: 1.3%
Centroid-so: 1.790 arcsec [1.65 σ]
OotOffset-rm: 6.368 arcsec [4.40 σ]
KicOffset-rm: 6.430 arcsec [4.45 σ]
OotOffset-st: 4/1/2/4 [11]
KicOffset-st: 4/1/2/4 [11]
DiffImageQuality-fgm: 0.64 [7/11]
DiffImageOverlap-fno: 1.00 [14/14]

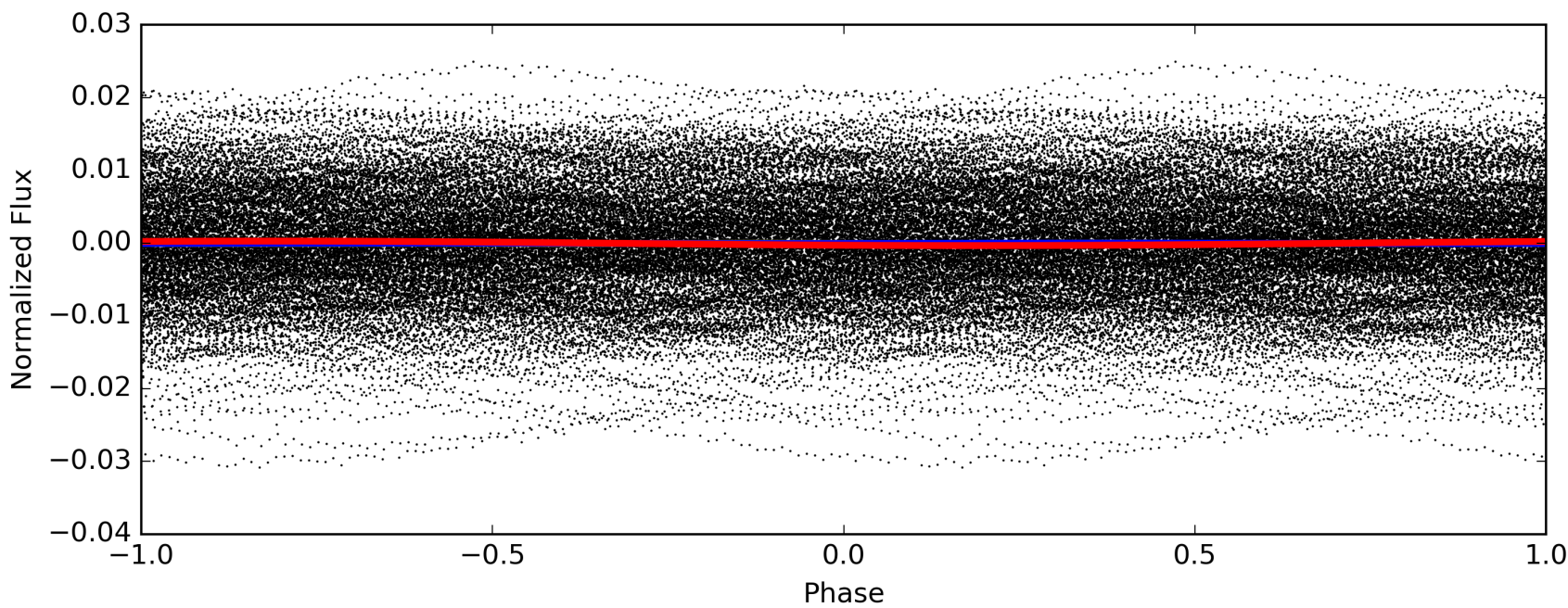
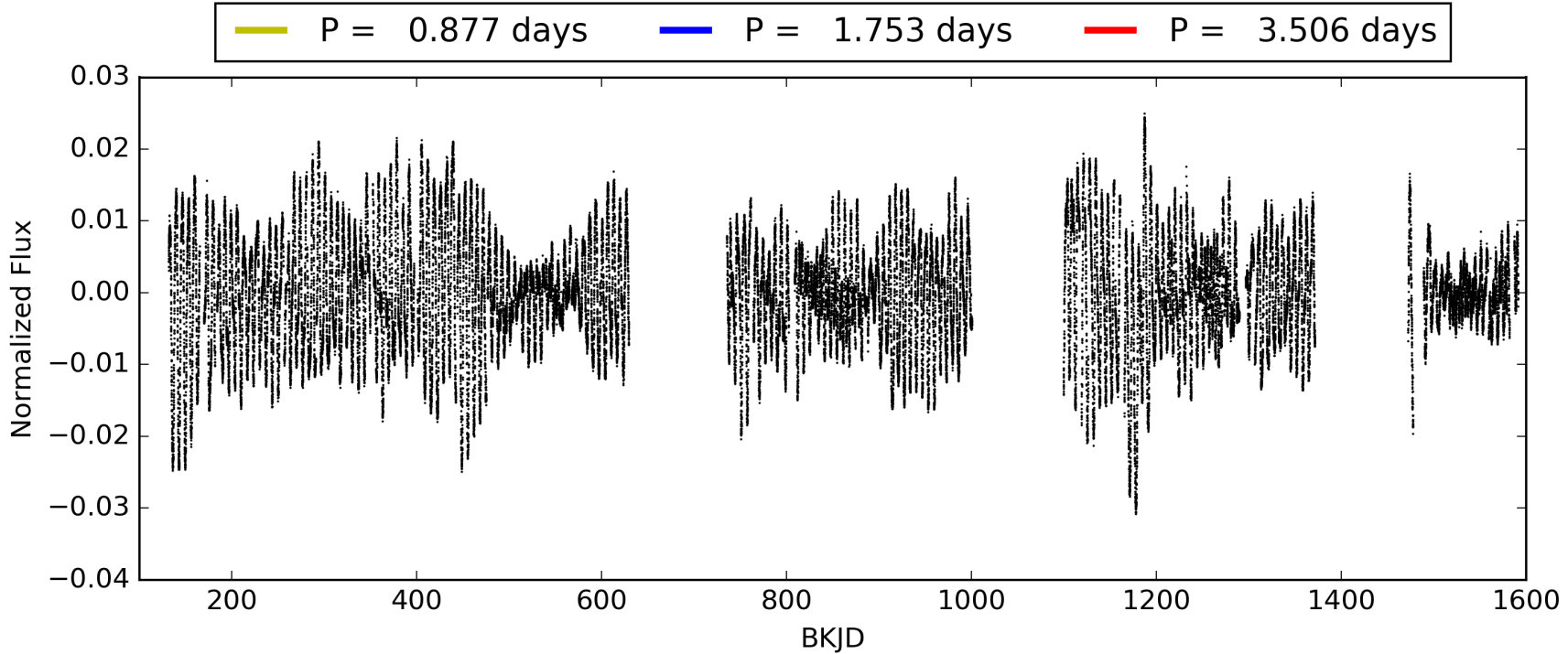
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:07:34 Z

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

TCE 010811061-01, PDC Light Curves

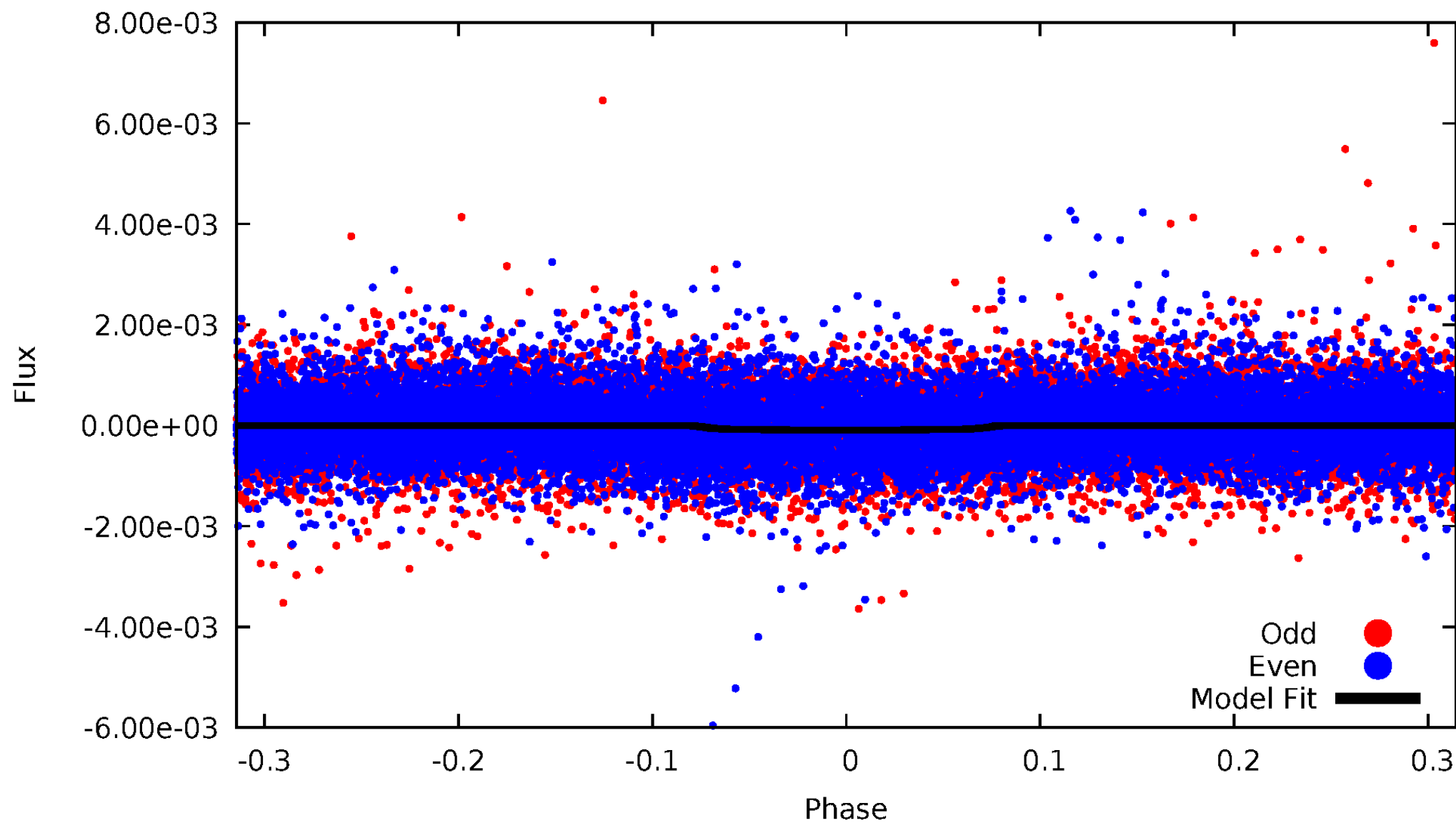


TCE 010811061-01



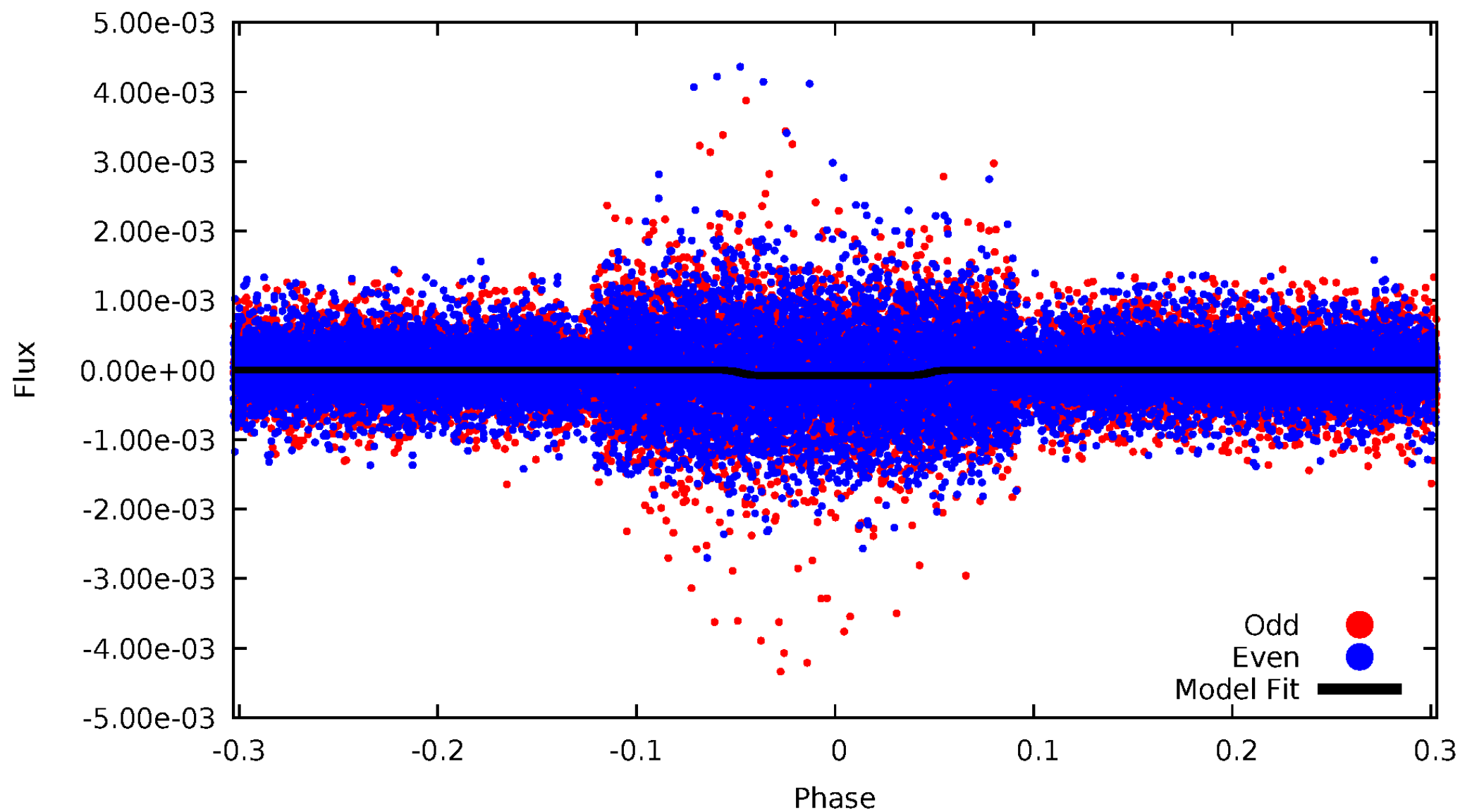
DV Odd/Even

TCE 010811061-01

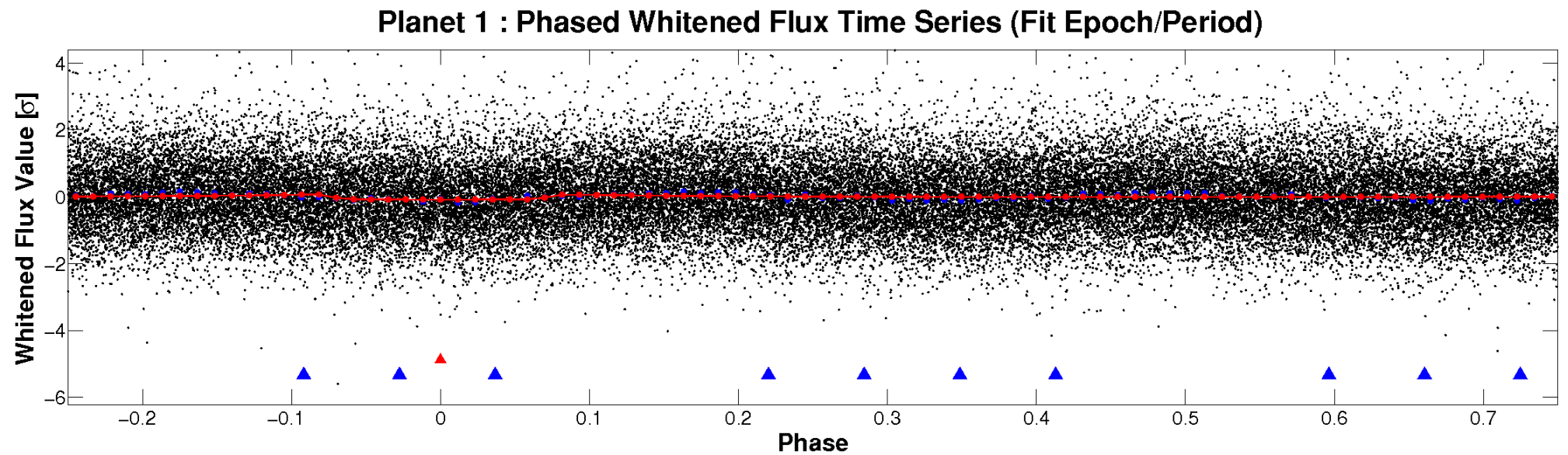
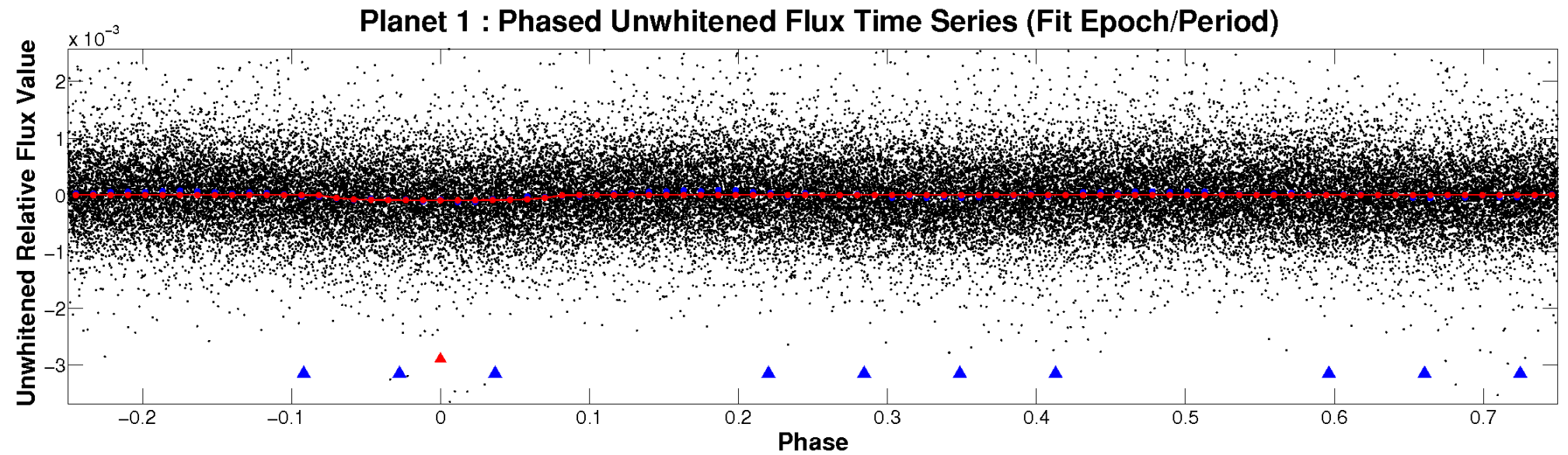


ALT Odd/Even

TCE 010811061-01

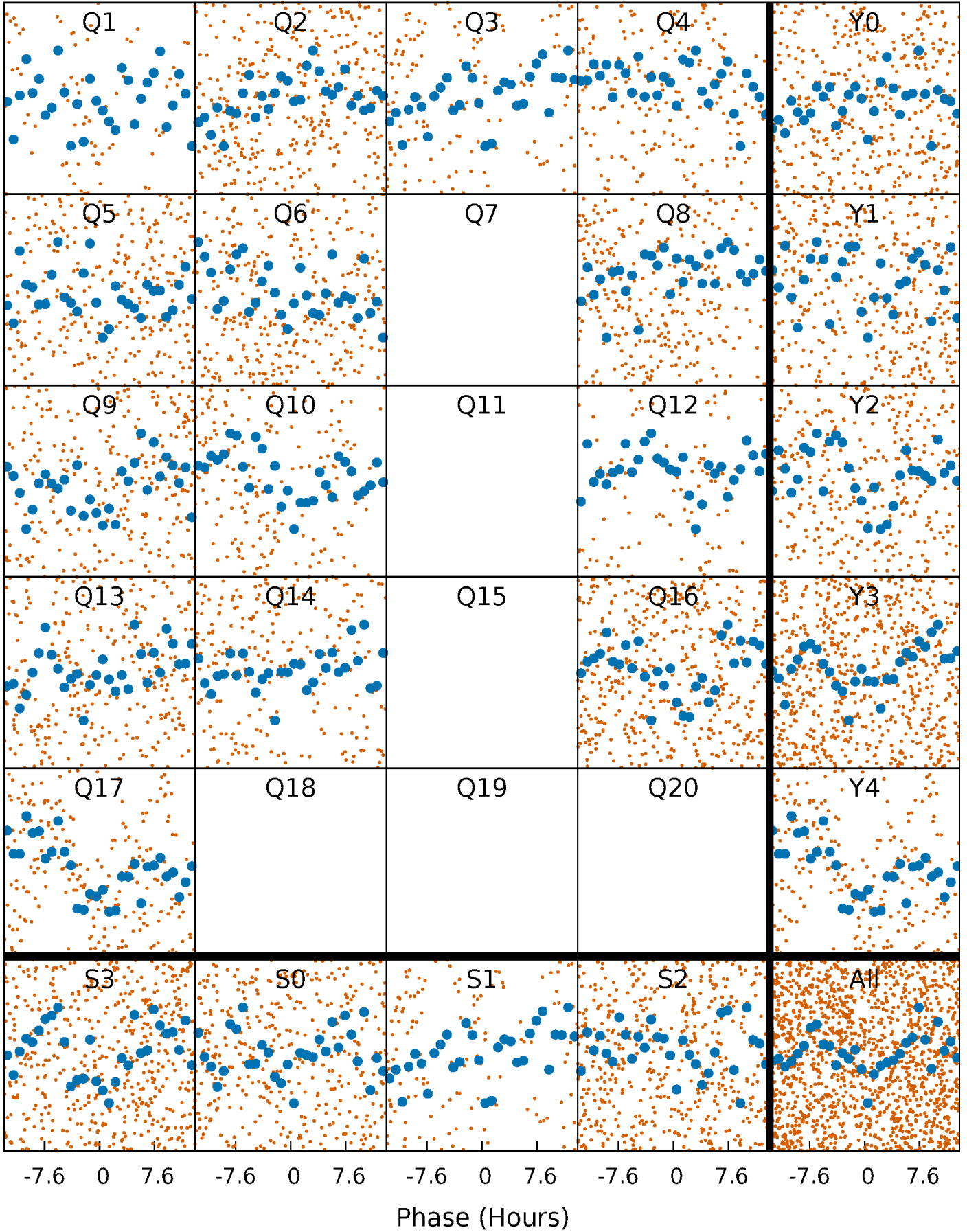


Non-Whitened Vs. Whitened Light Curve



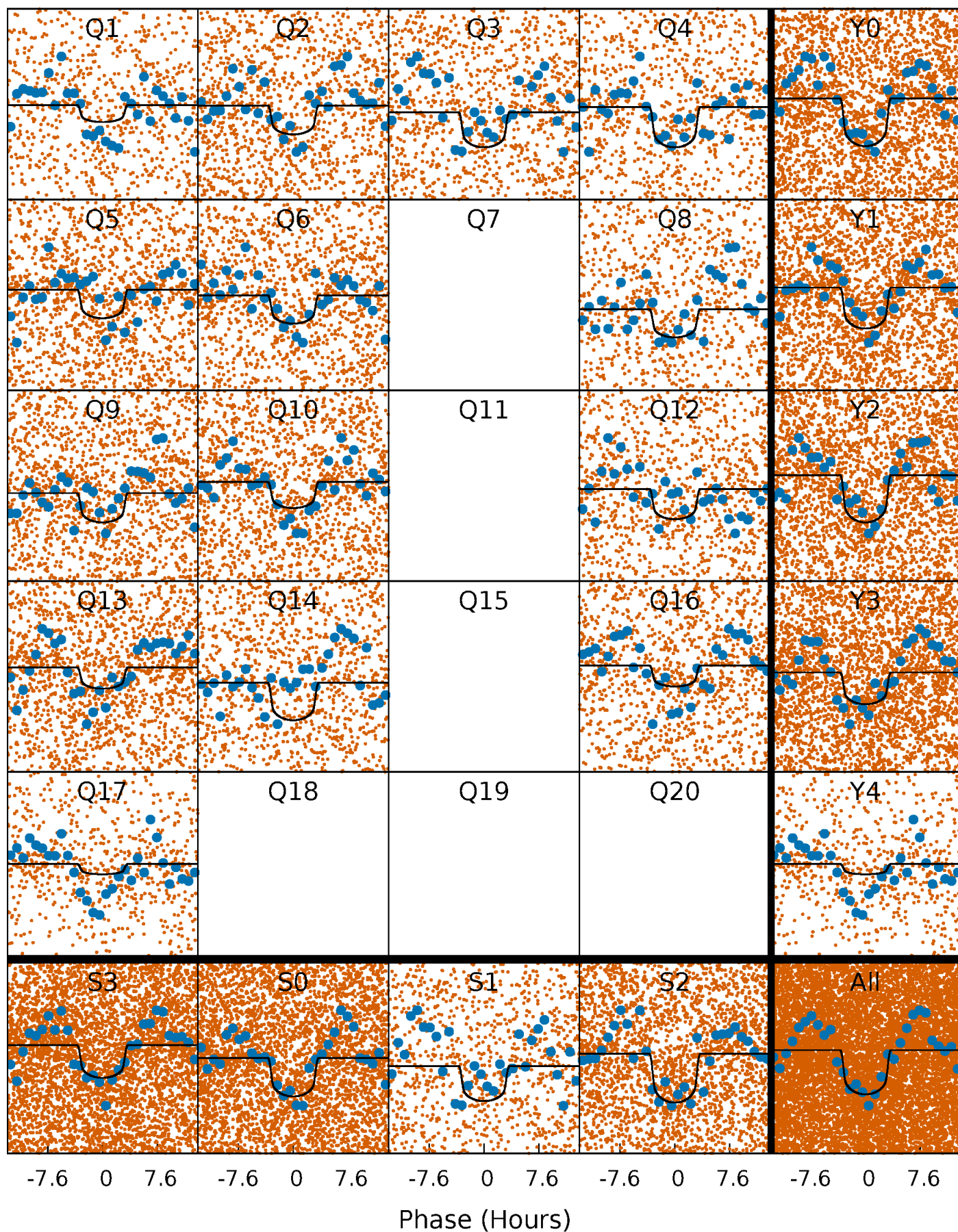
PDC Quarter-Phased Transit Curves

TCE 010811061-01 P= 1.753019 Days $T_0=132.472284$ (BKJD)



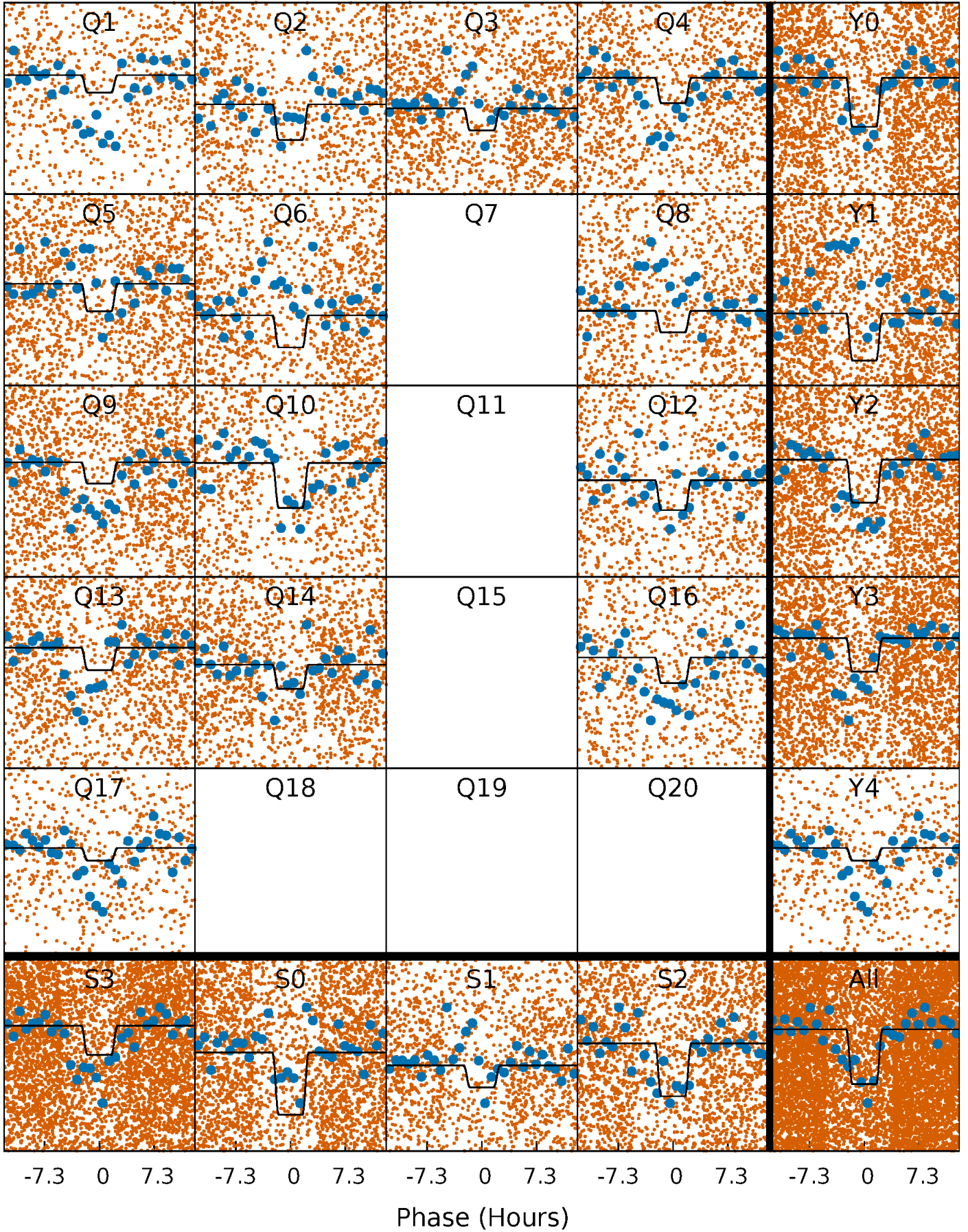
DV Quarter-Phased Transit Curves

TCE 010811061-01 P= 1.753019 Days $T_0=132.472284$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

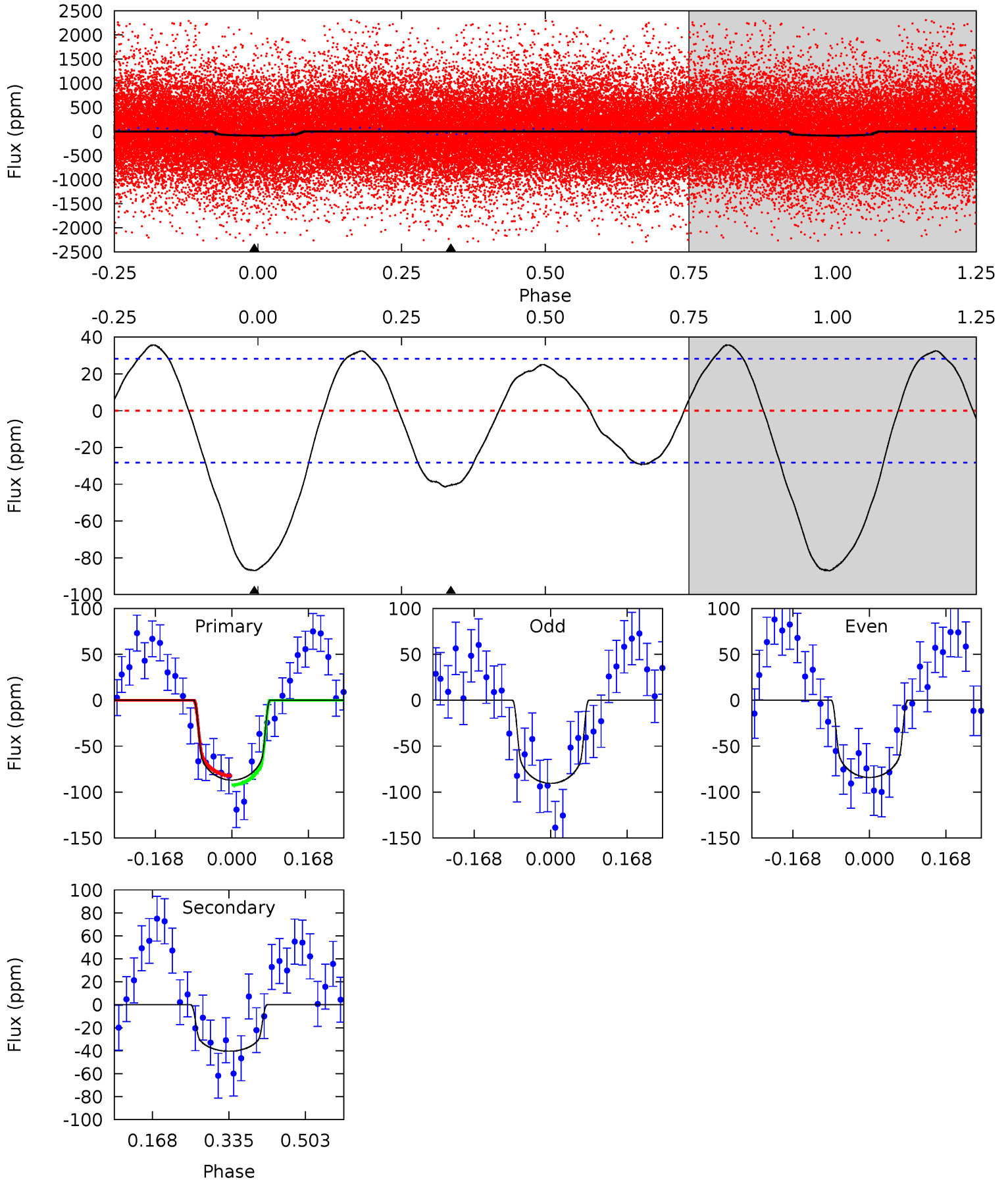
TCE 010811061-01 P= 1.752998 Days $T_0=132.477632$ (BKJD)



DV Model-Shift Uniqueness Test

010811061-01, P = 1.753019 Days, E = 130.719265 Days

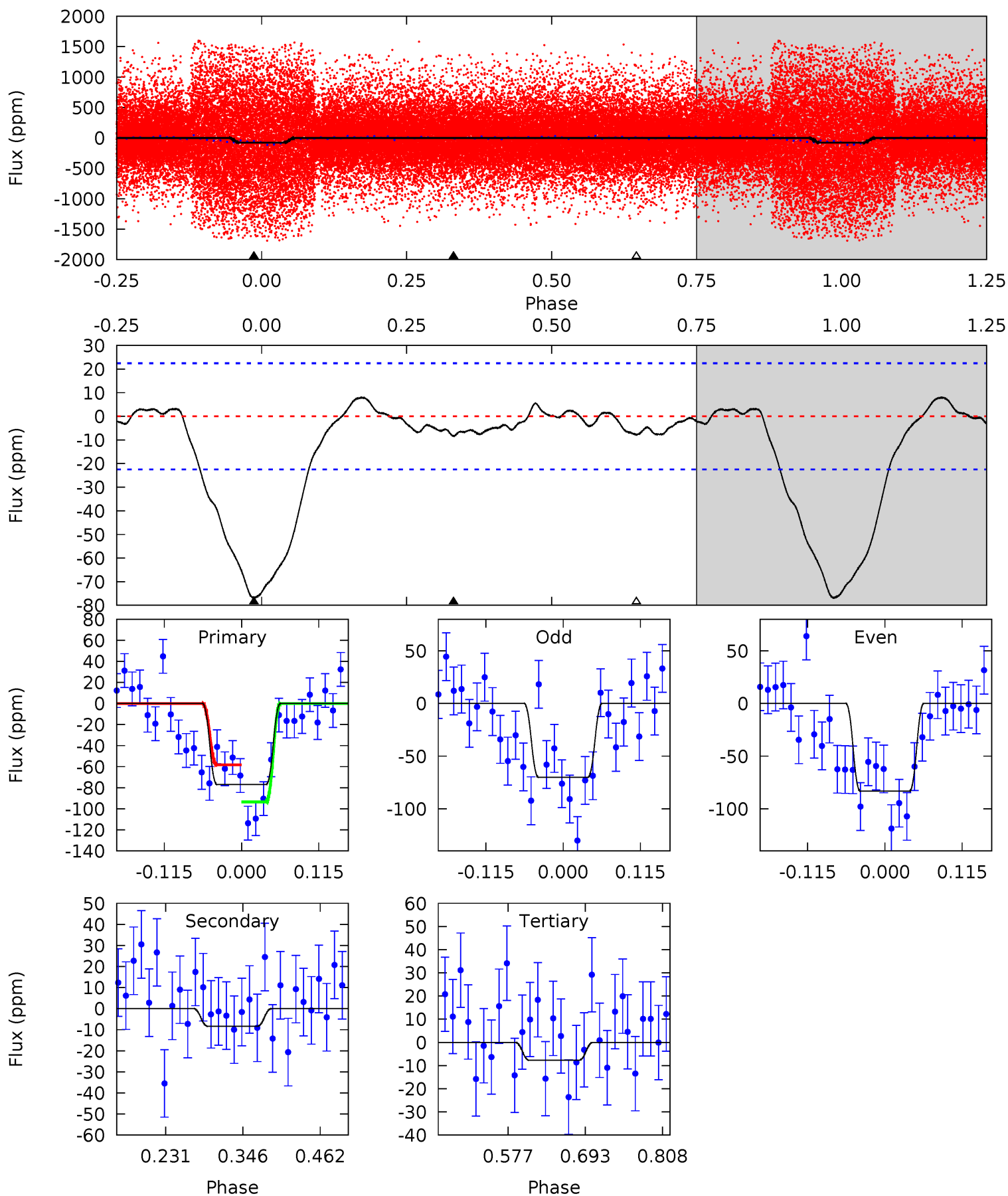
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	6.38	0	0	4.46	1.38	3.34	13.7	13.7	6.38	6.38	0.51	1.11	0.29	0.79



Alt Model-Shift Uniqueness Test

010811061-01, P = 1.752998 Days, E = 130.724634 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.5	1.68	1.56	0	4.53	1.57	0.81	13.9	15.5	0.12	1.68	1.33	1.35	0.09	3.54



Stellar Parameters For KIC 010811061

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5559^{+149}_{-166}	$4.578^{+0.034}_{-0.127}$	$-0.180^{+0.300}_{-0.300}$	$0.803^{+0.164}_{-0.070}$	$0.899^{+0.083}_{-0.102}$	$2.446^{+0.449}_{-0.974}$
	+3%/-3%	+1%/-3%	+167%/-167%	+20%/-9%	+9%/-11%	+18%/-40%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010811061-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-40 ± 6	$0.95^{+0.29}_{-0.27}$	1888^{+87}_{-73}	4488^{+681}_{-462}	18^{+18}_{-8}
Alt.	-8 ± 5	$0.80^{+0.30}_{-0.27}$	1886^{+95}_{-68}	3511^{+717}_{-605}	$4.830^{+8.619}_{-3.346}$

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

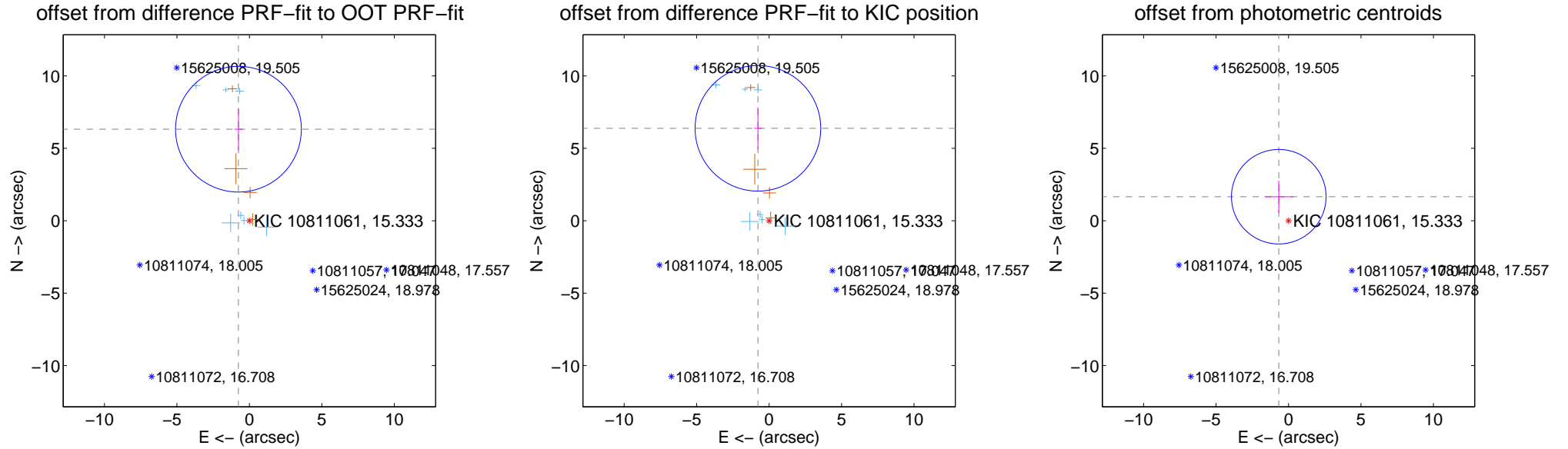
DV Centroid Data

Supplemental centroid analysis for 010811061-01. Kepler magnitude: 15.33. Transit SNR 8.05

There are 7 quarters with good PRF difference image offsets

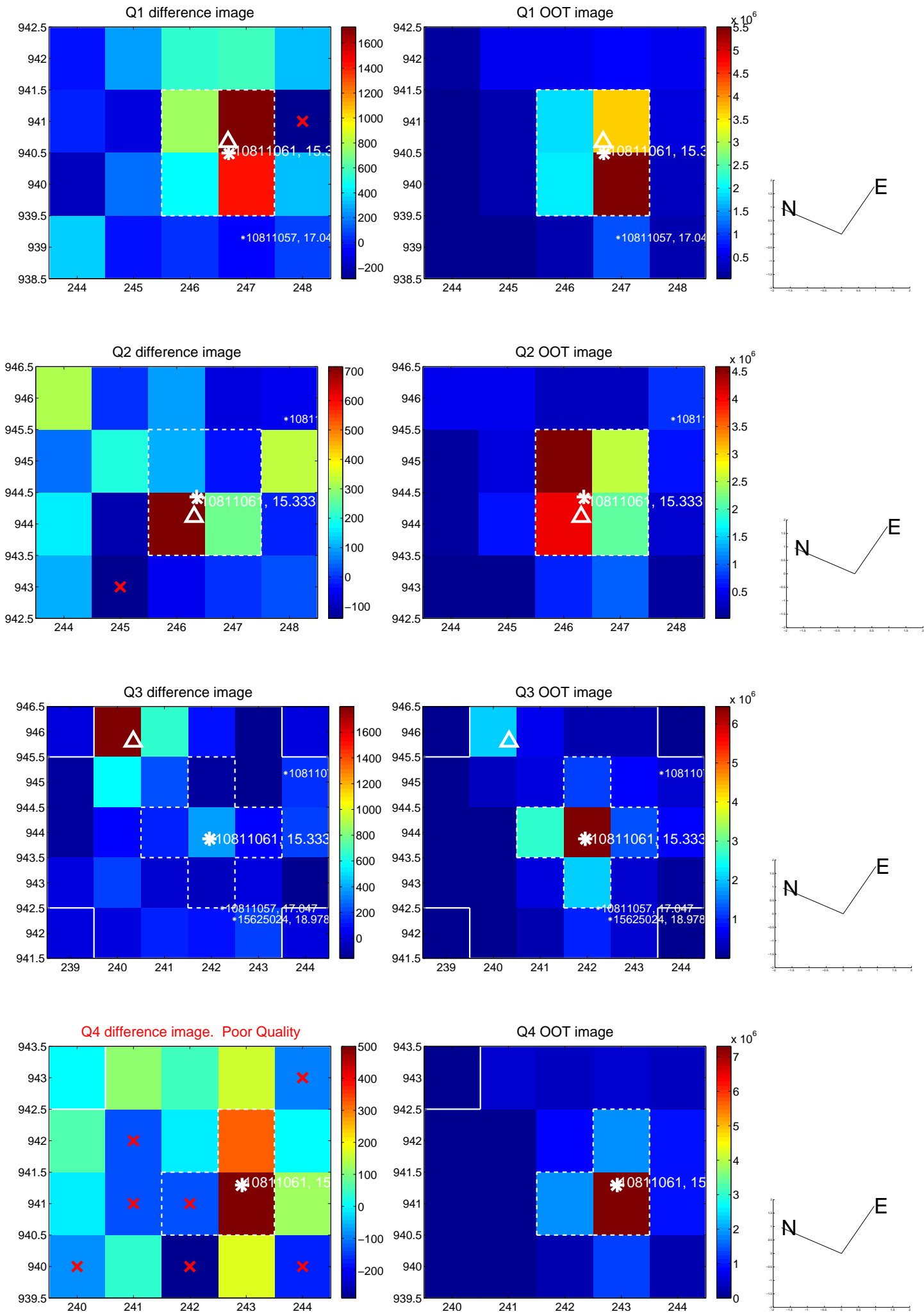
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.368 ± 1.447	4.40	0.755 ± 0.277	6.323 ± 1.457
PRF-fit source offset from KIC position	6.430 ± 1.446	4.45	0.771 ± 0.261	6.383 ± 1.456
photometric centroid source offset	1.79 ± 1.09	1.65	0.67 ± 0.99	1.66 ± 1.10

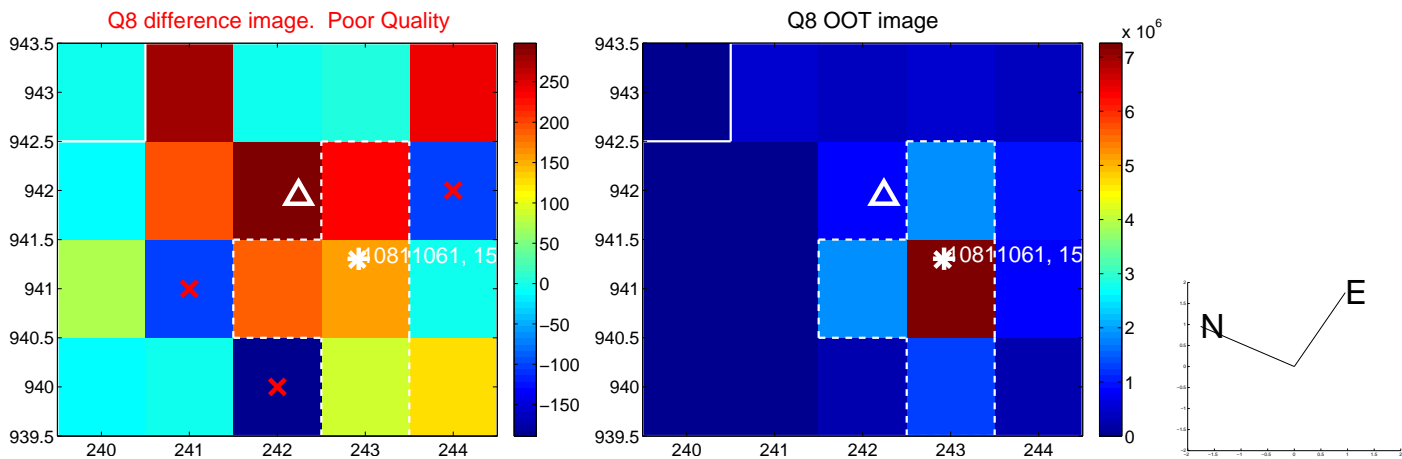
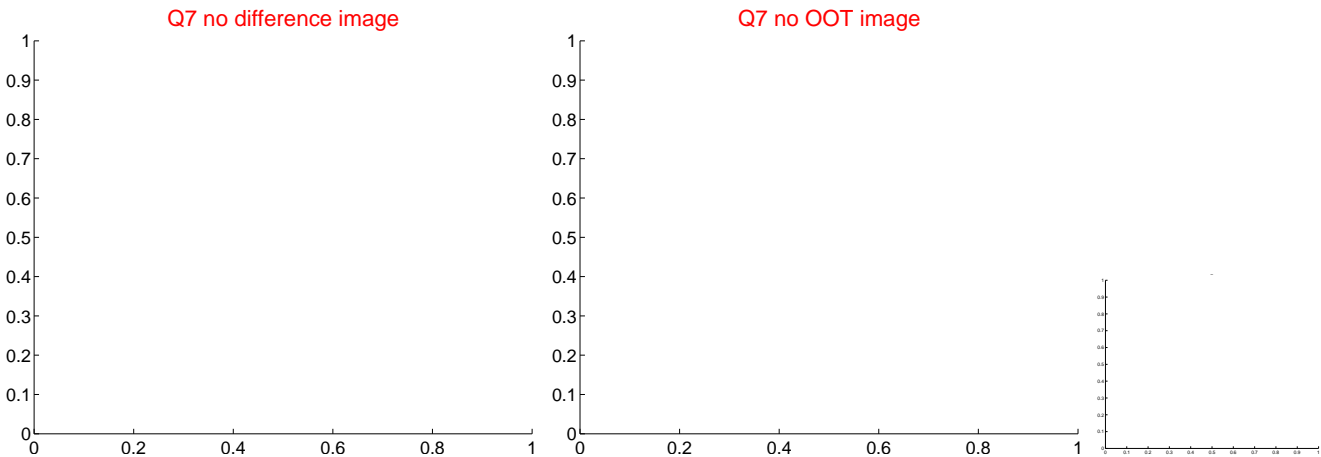
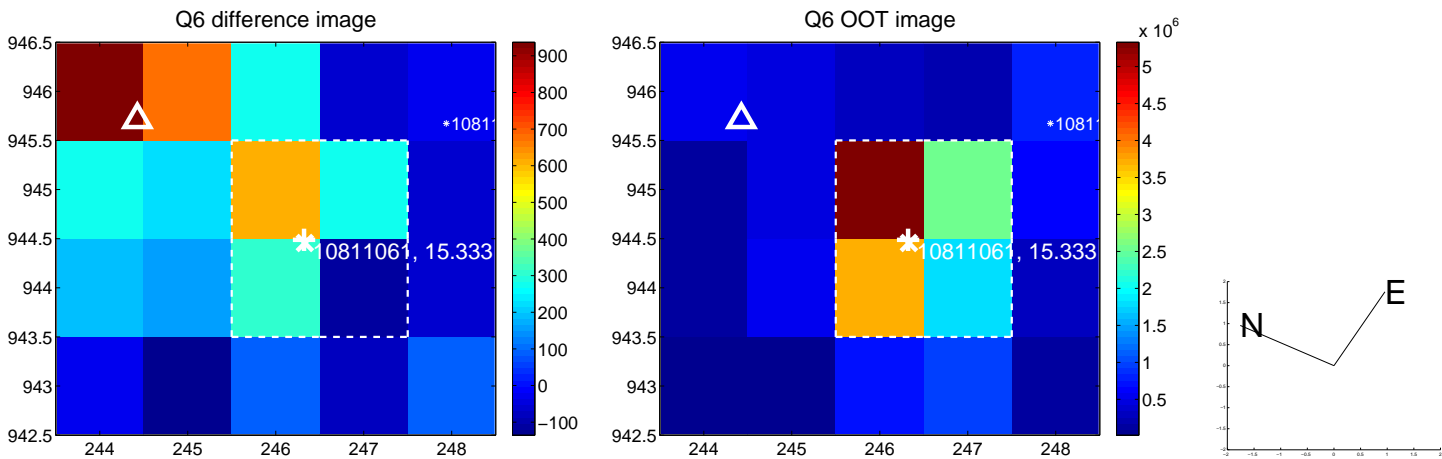
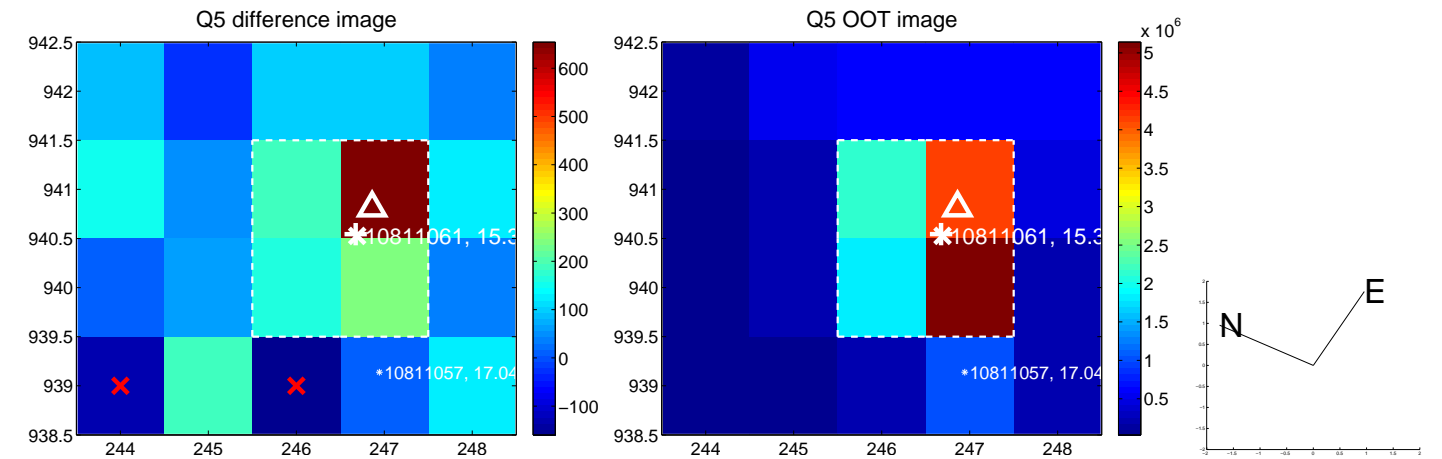


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

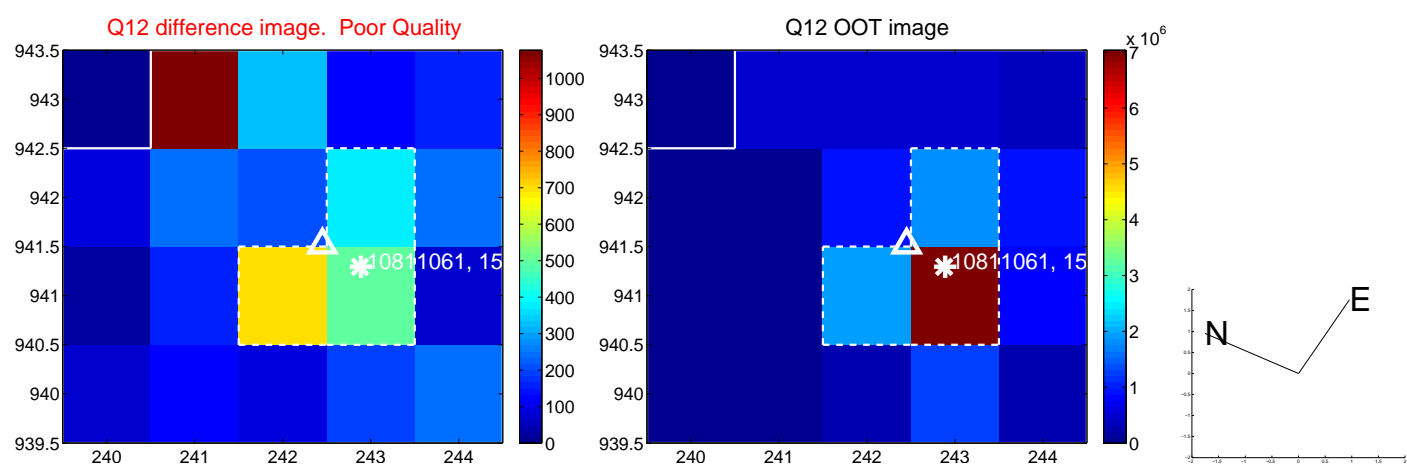
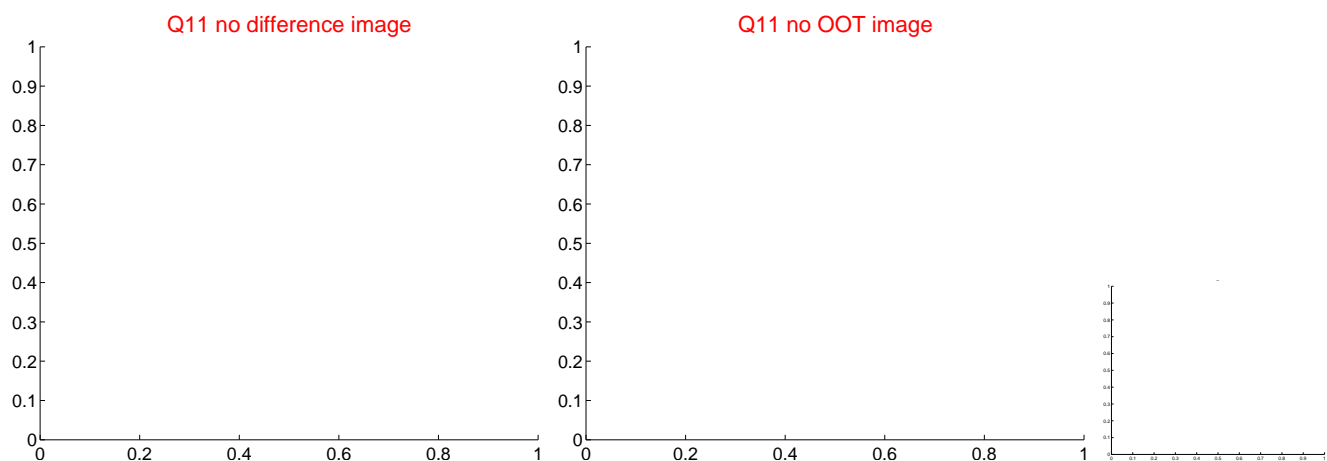
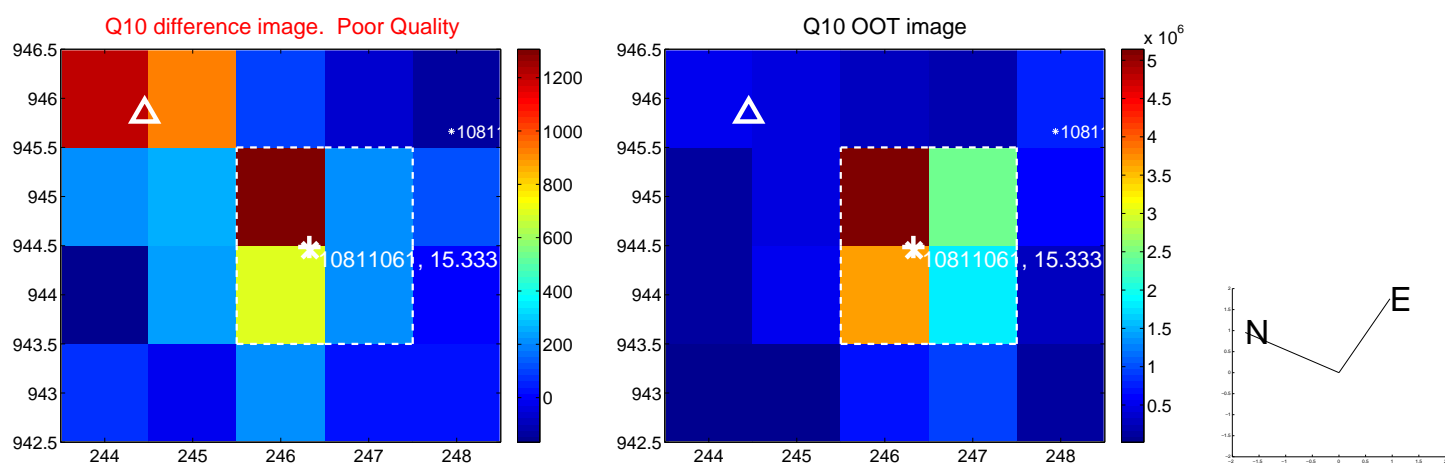
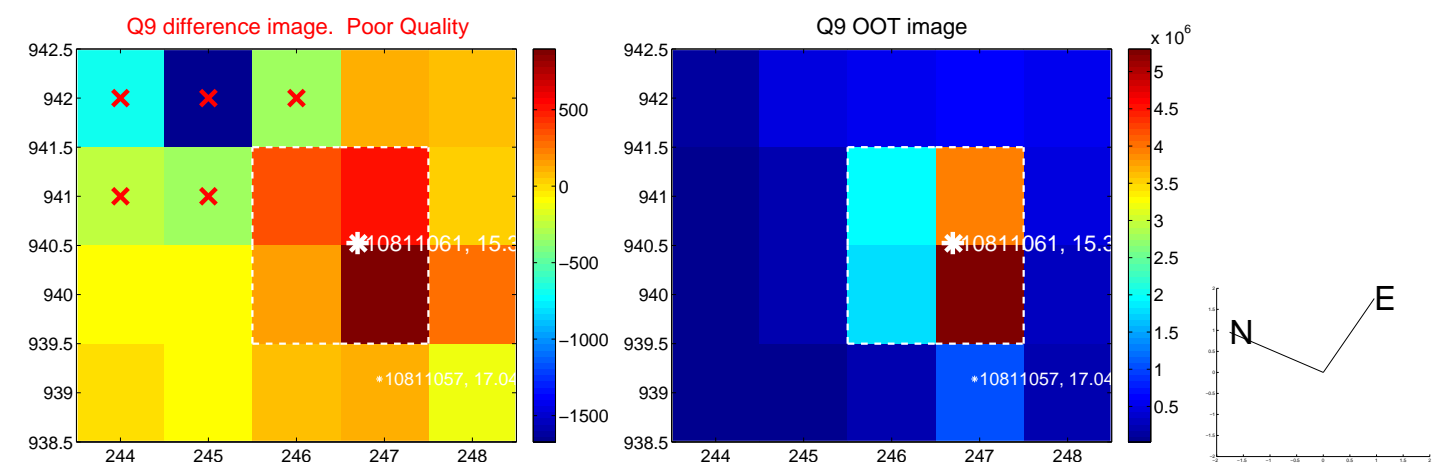
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



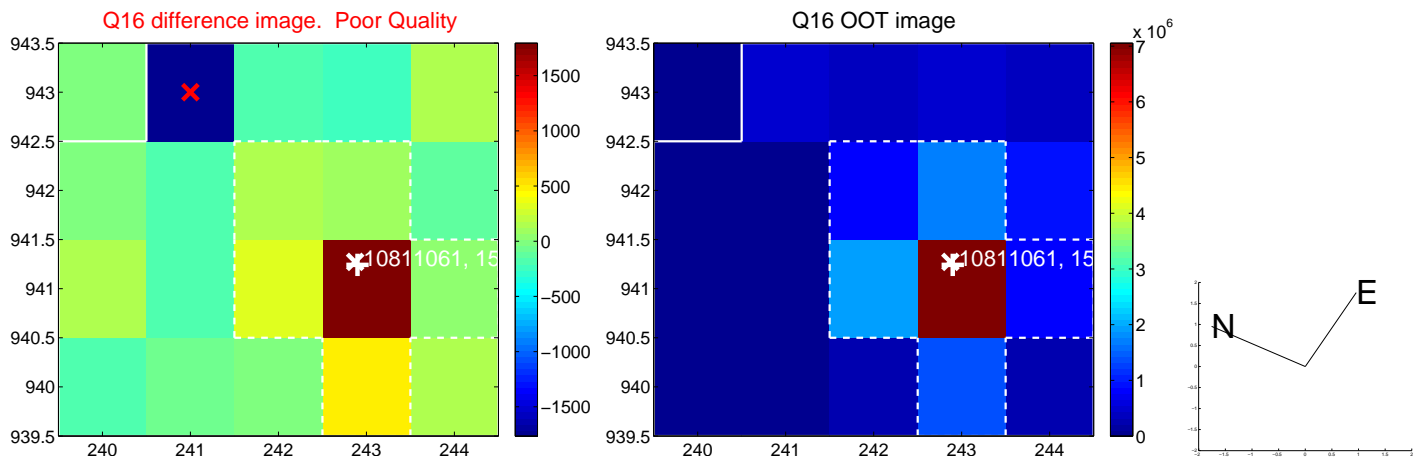
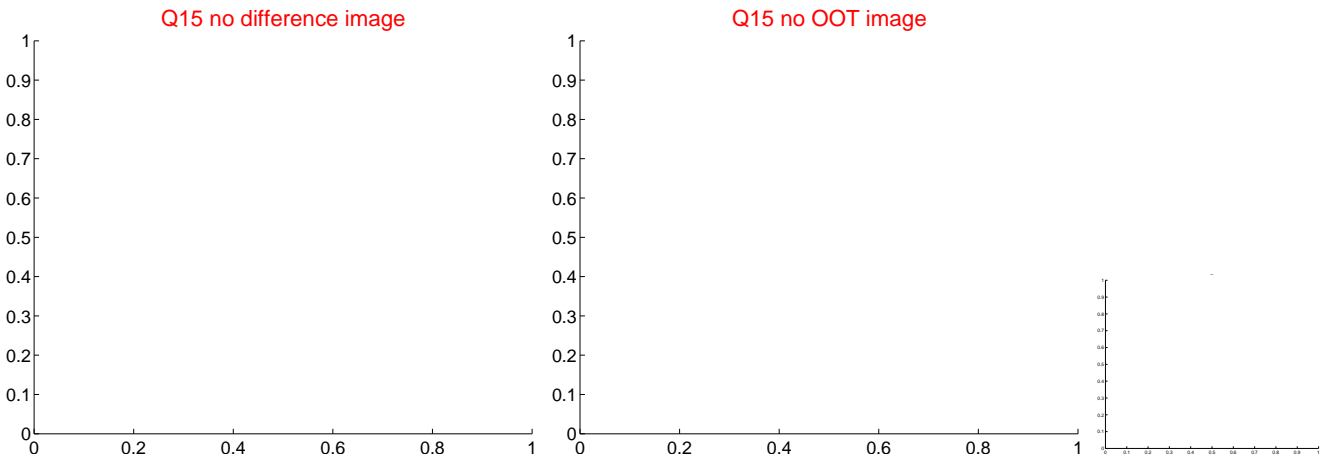
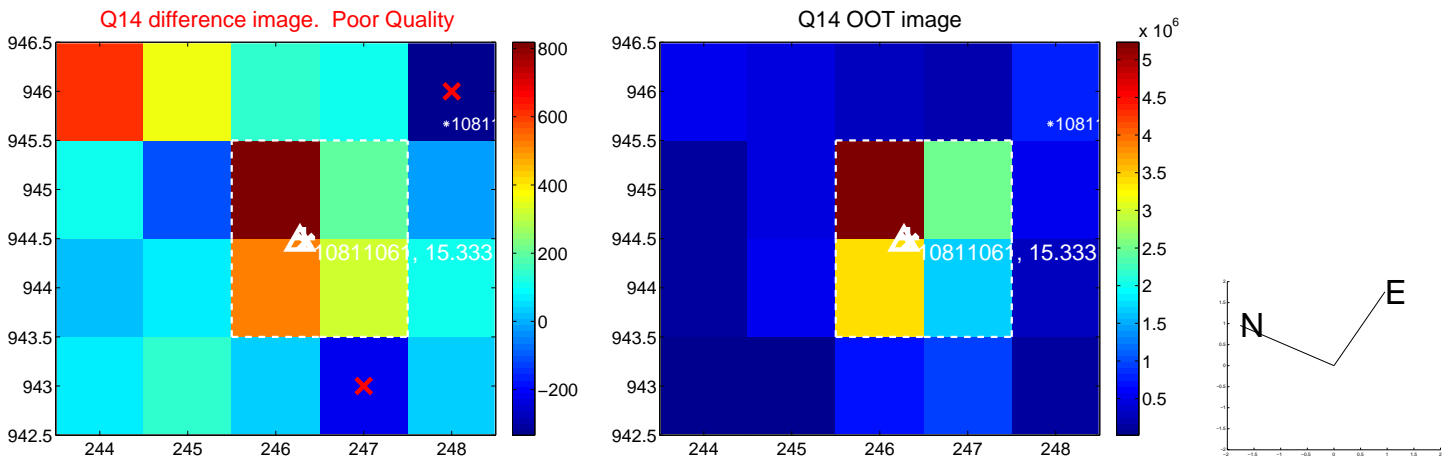
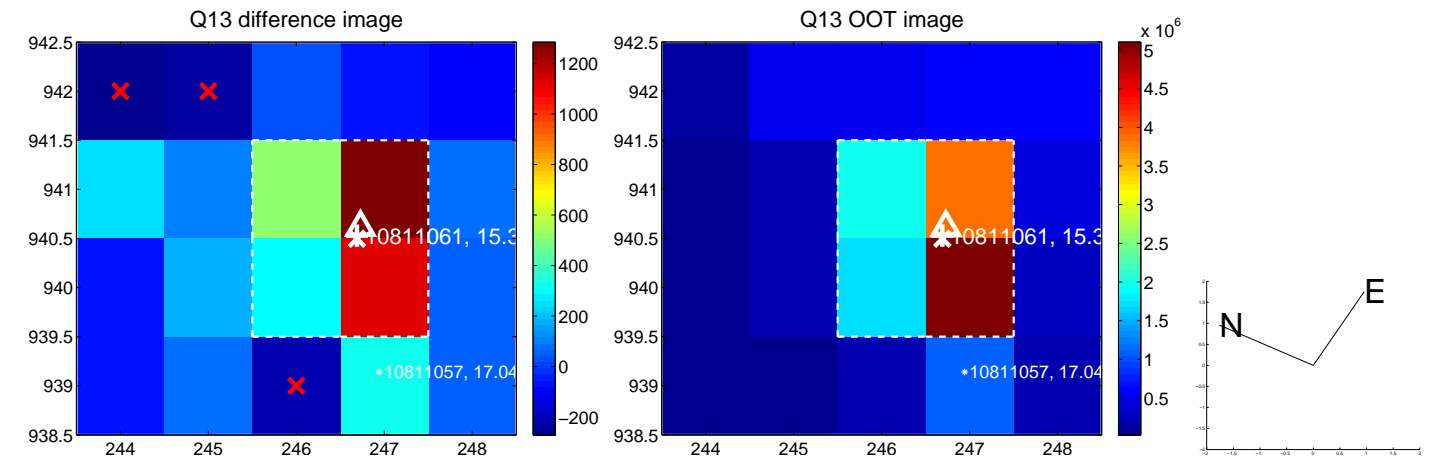
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



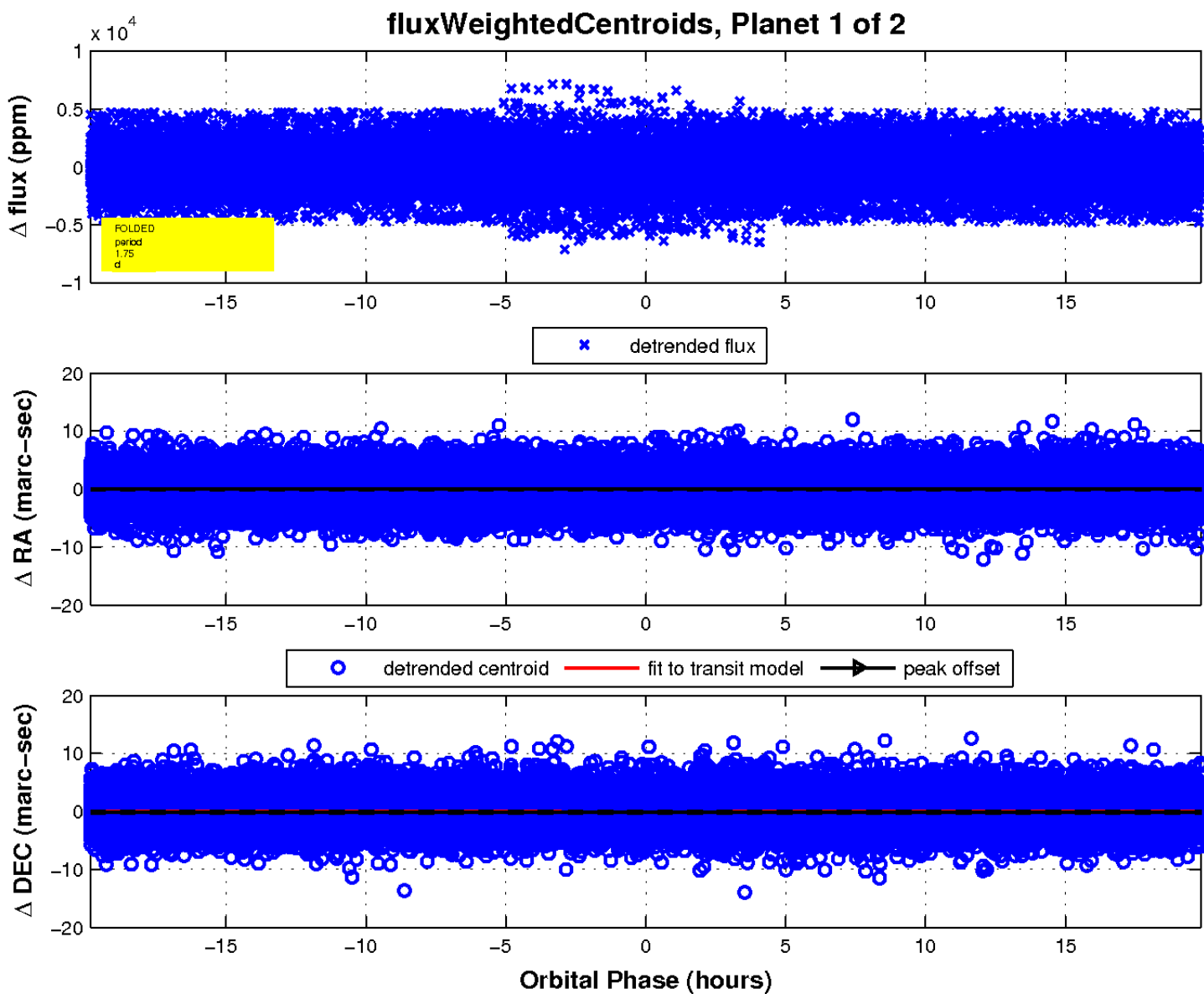
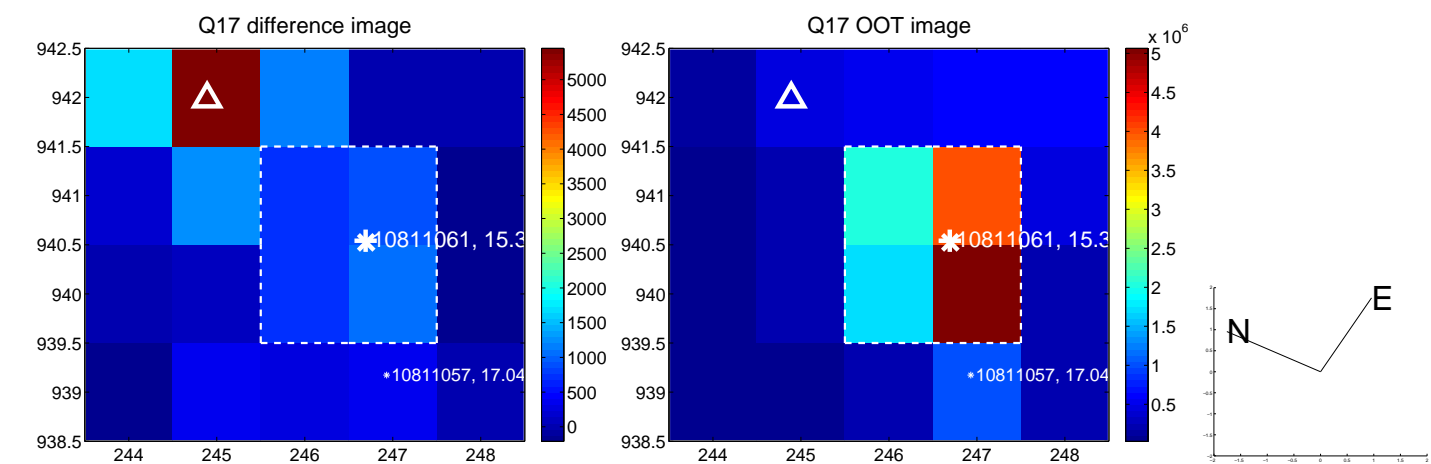
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

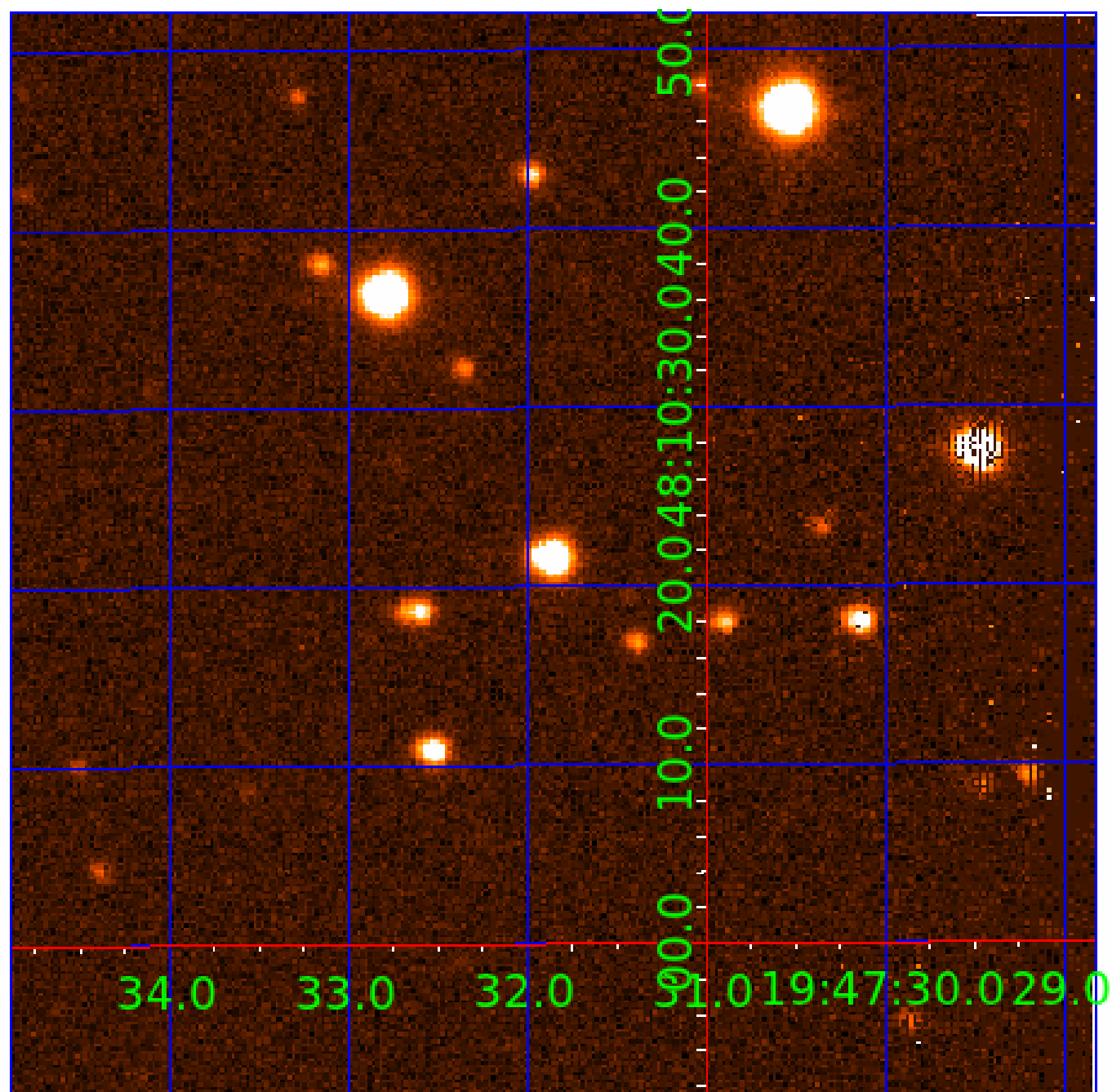


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010811061

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})
010811061-01	OBS	No	1.753019	132.472284	93.9	6.614	8.3	8.0	0.80	5559	0.93	736.17
010811061-02	OBS	No	141.447729	260.828589	2149.5	18.145	10.3	9.4	0.80	5559	6.74	2.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010811061-01	OBS	FP	0.00	1	0	0	0	LPP_DV
010811061-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

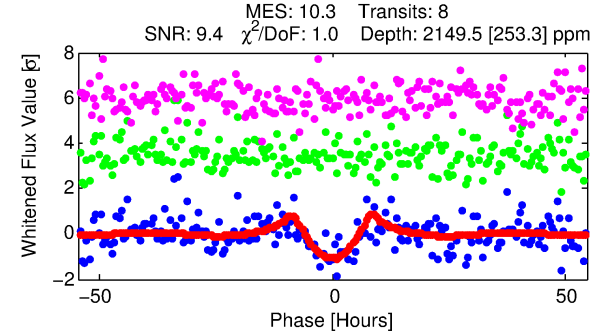
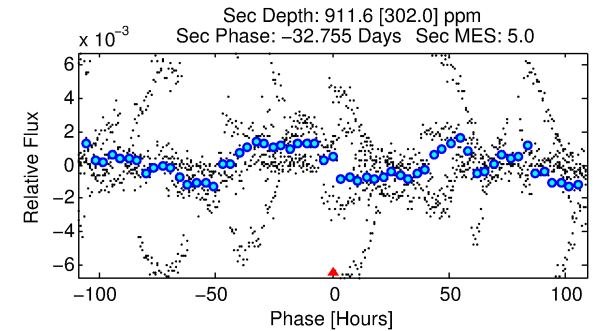
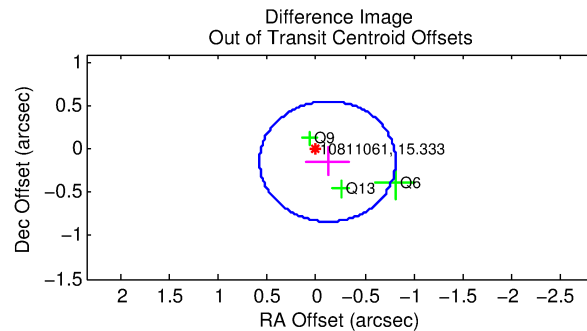
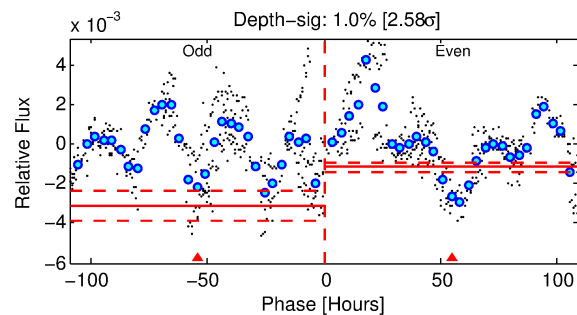
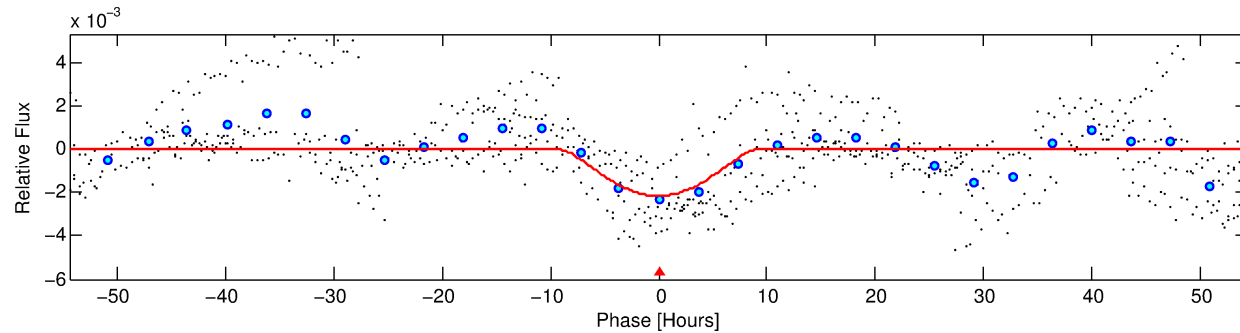
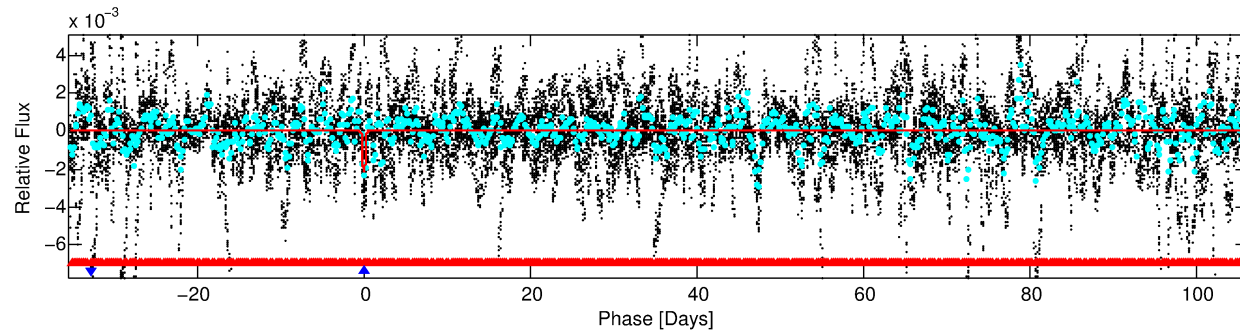
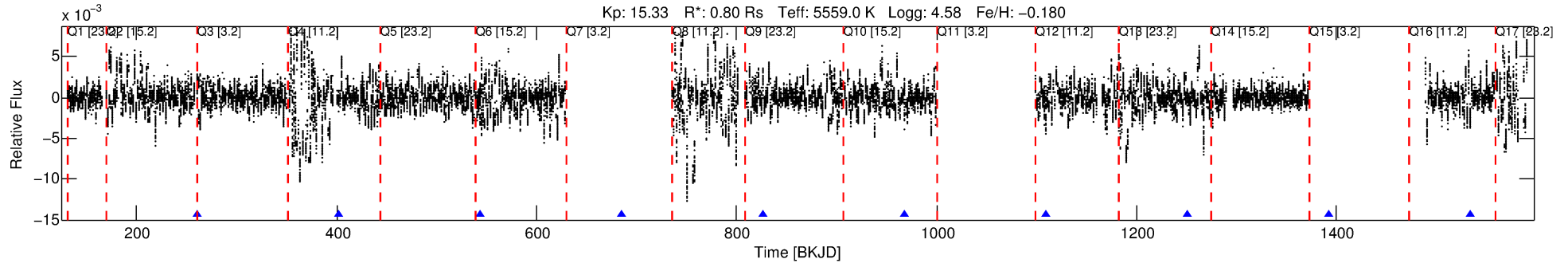
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010811061-02

No Significant Match Found

DV One-Page Summary

KIC: 10811061 Candidate: 2 of 2 Period: 141.448 d



DV Fit Results:

Period = 141.44773 [0.00540] d
Epoch = 260.8286 [0.0294] BKJD
Rp/R* = 0.0769 [0.1105]
a/R* = 24.78 [8.22]
b = 0.99 [0.17]
Seff = 2.11 [0.56]
Teq = 307 [20] K
Rp = 6.74 [9.78] Re
a = 0.5112 [0.0856] AU
Ag = 2887.92 [8383.14] [0.34 σ]
Teffp = 3484 [2522] K [1.26 σ]

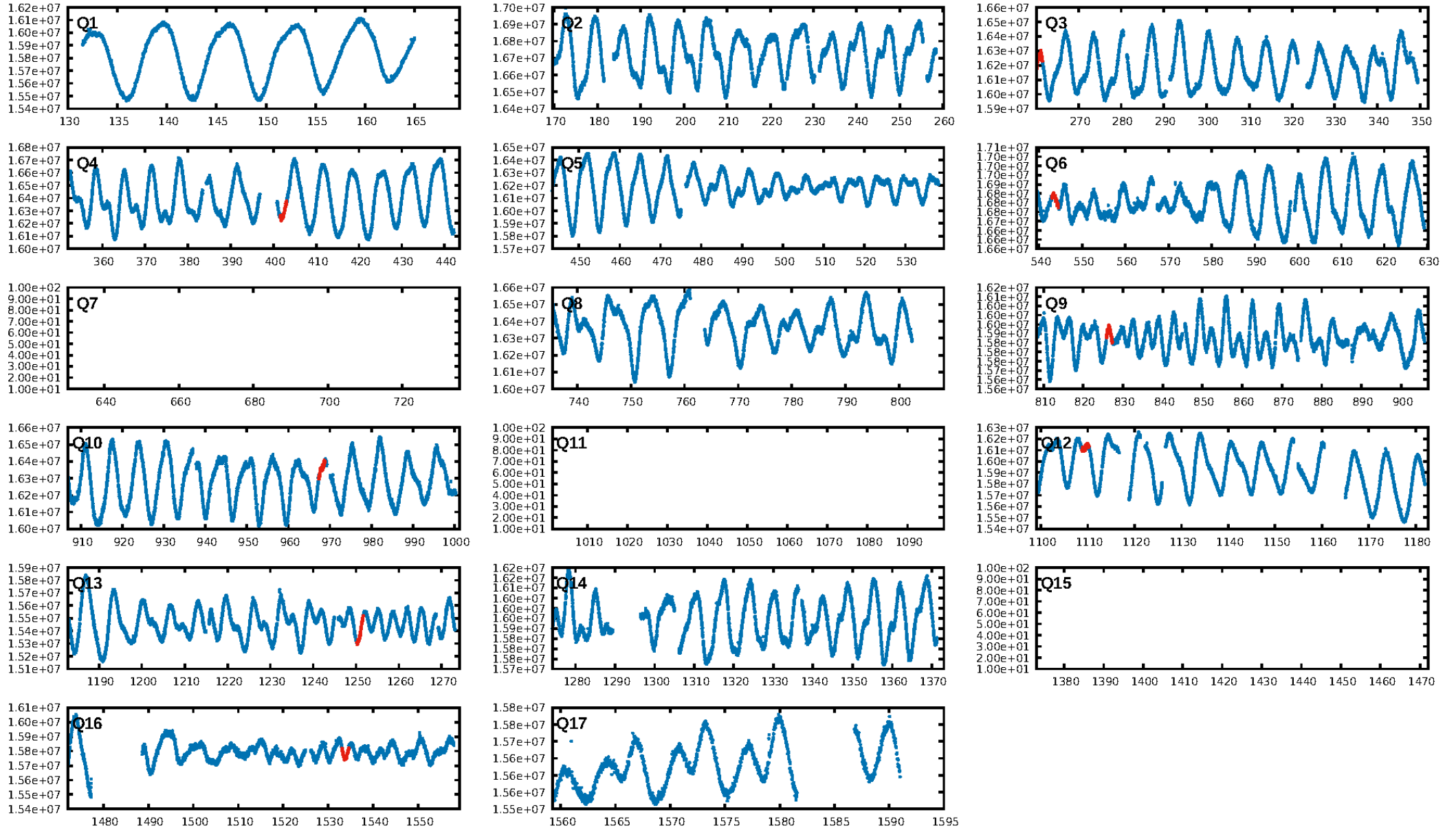
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [173.60 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.80e-12
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 0.6571
Centroid-sig: 6.0%
Centroid-so: 0.771 arcsec [1.87 σ]
OotOffset-rm: 0.182 arcsec [0.79 σ]
KicOffset-rm: 0.120 arcsec [0.53 σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.00 [0/3]

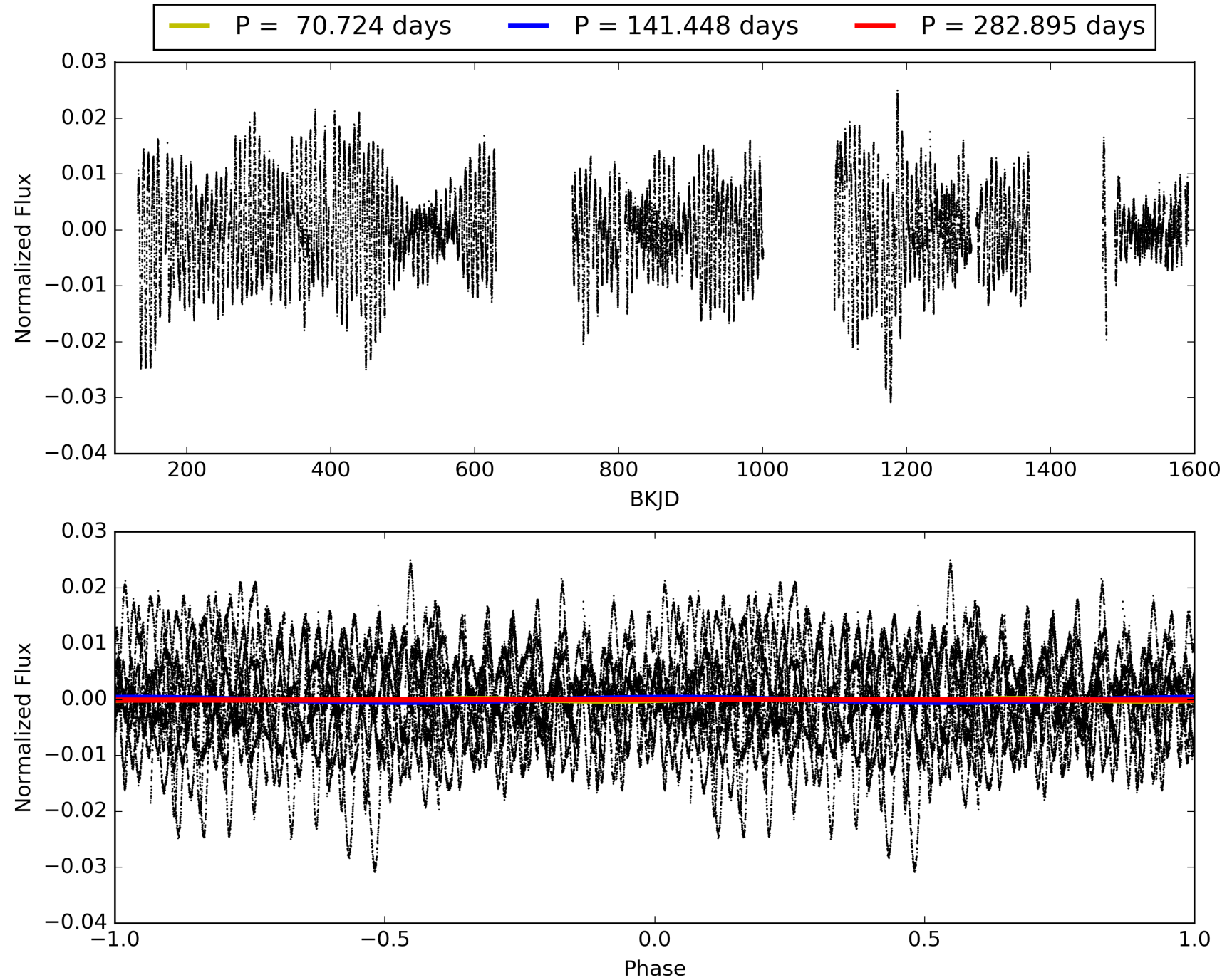
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:07:43 Z

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

TCE 010811061-02, PDC Light Curves

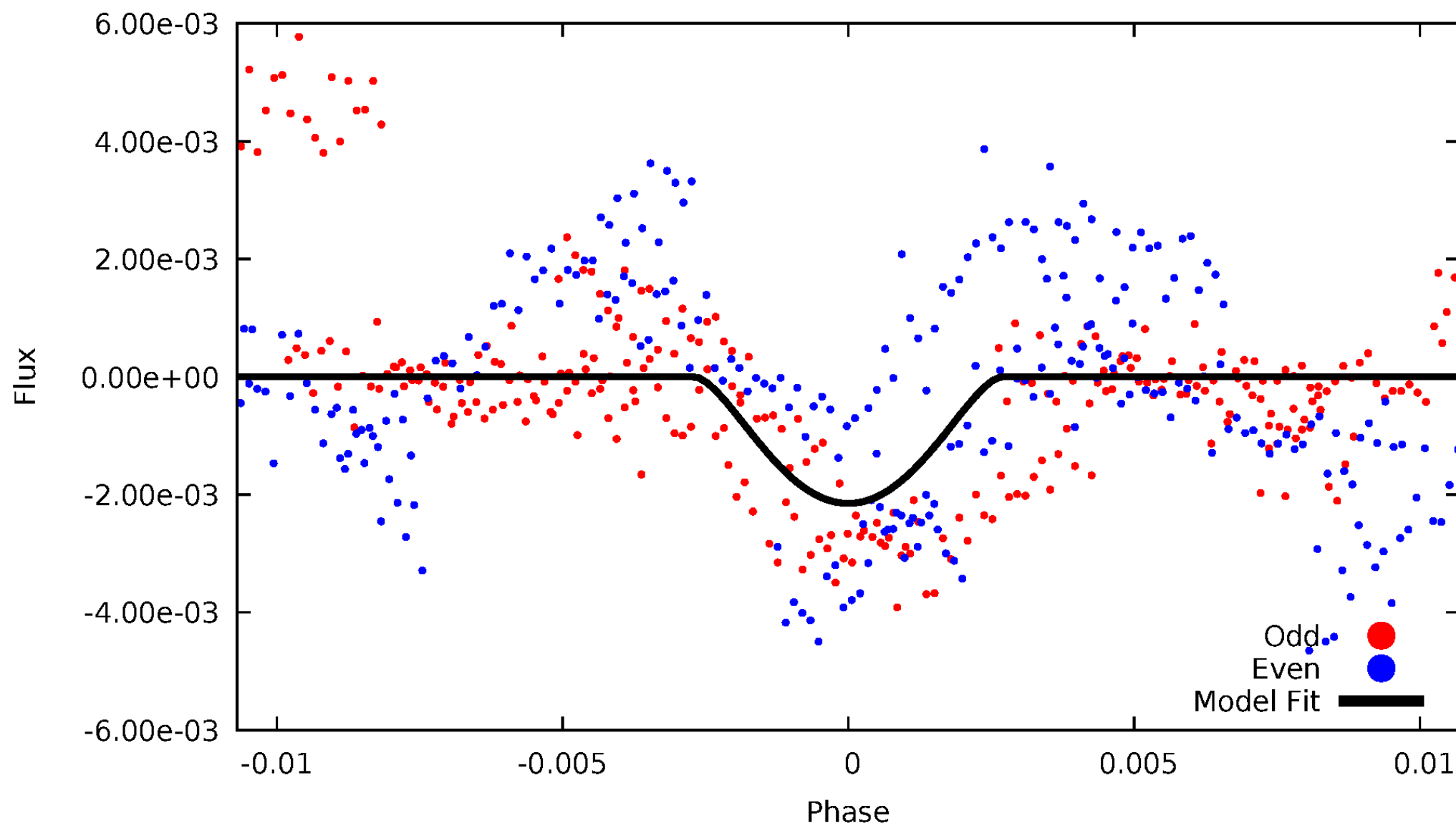


TCE 010811061-02



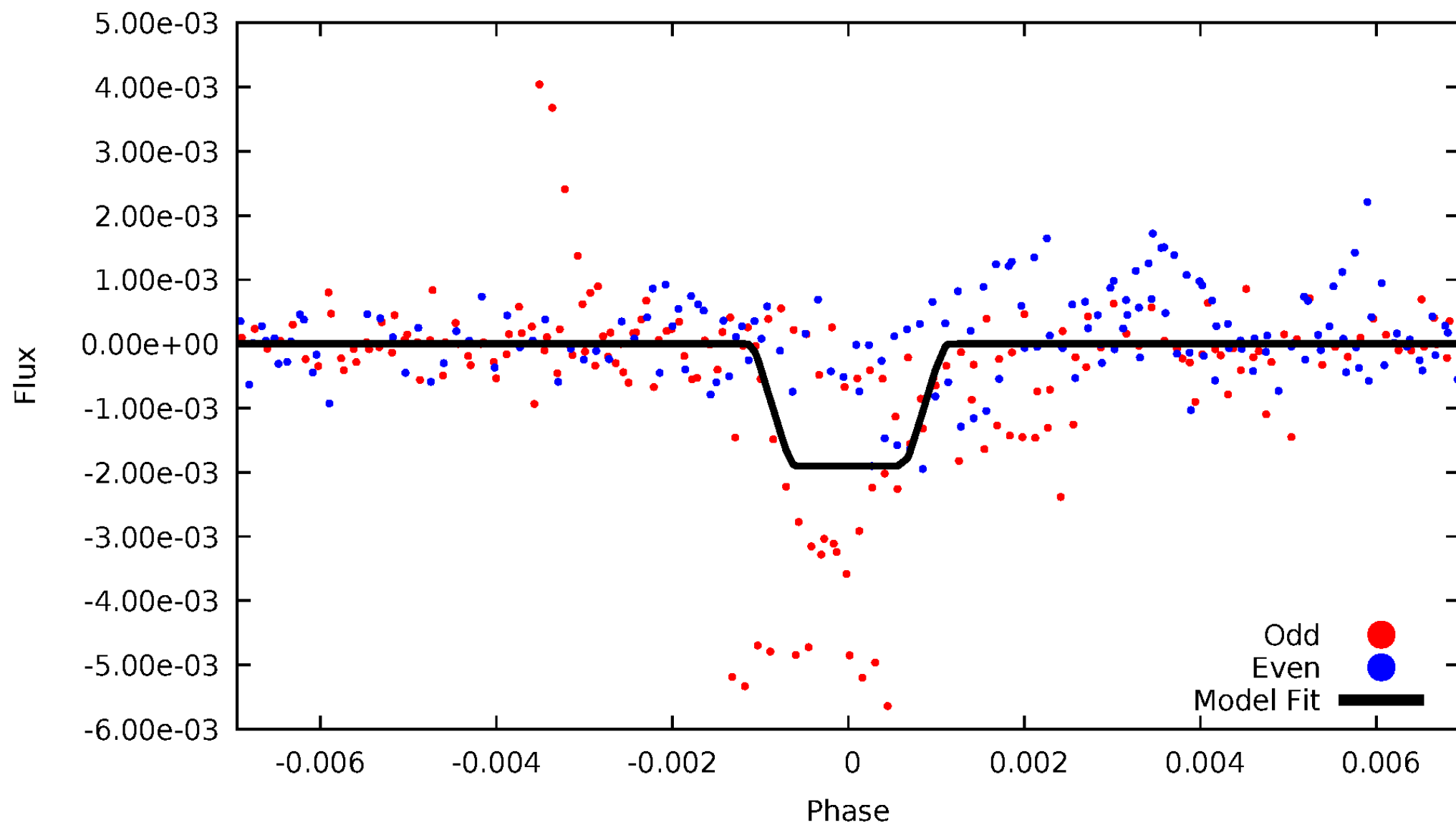
DV Odd/Even

TCE 010811061-02



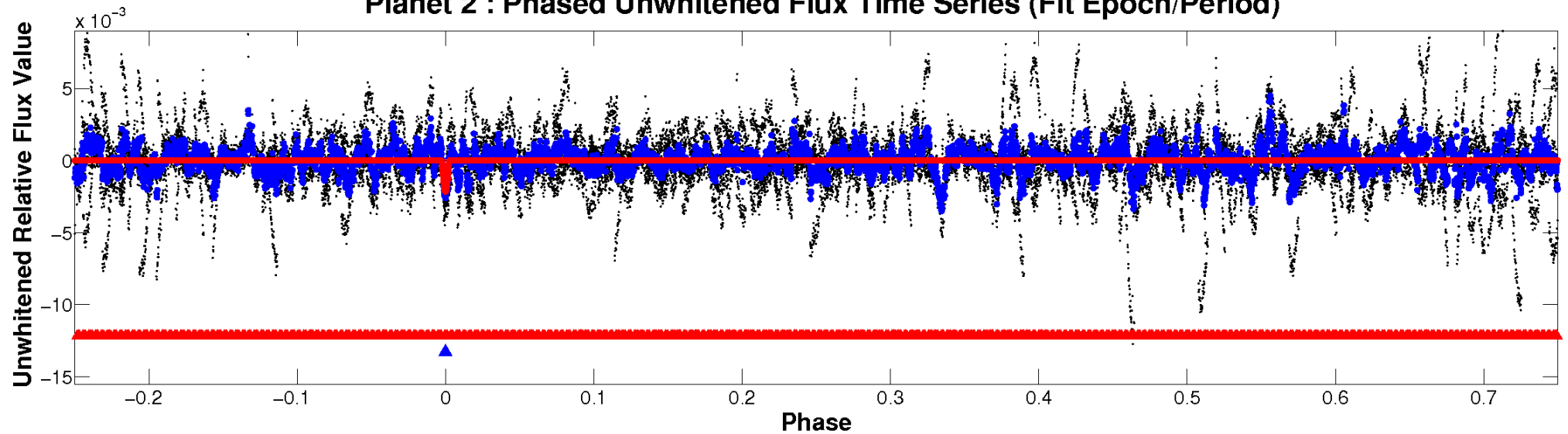
ALT Odd/Even

TCE 010811061-02

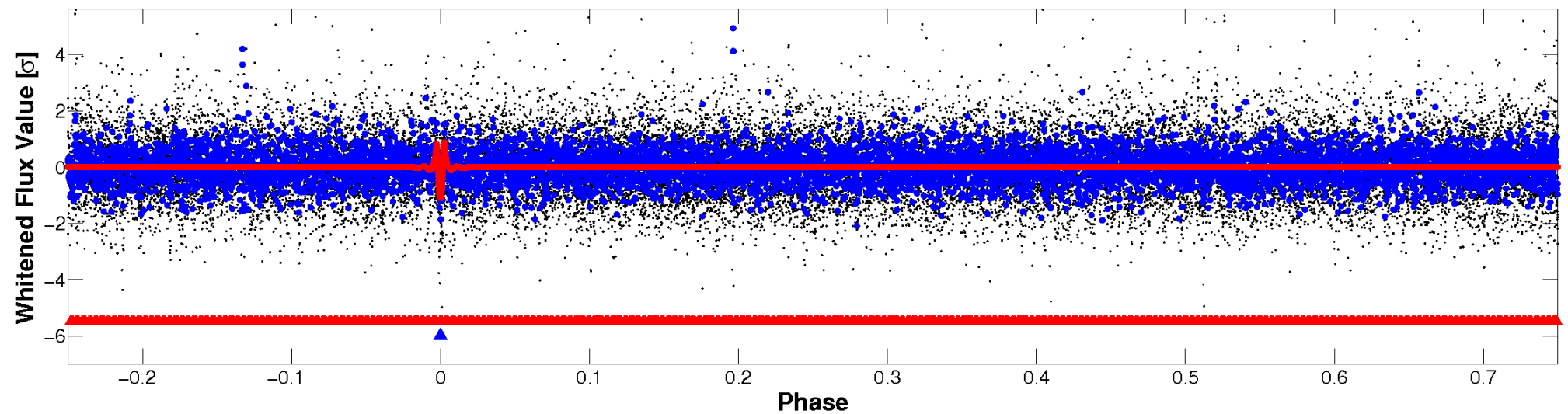


Non-Whitened Vs. Whitened Light Curve

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

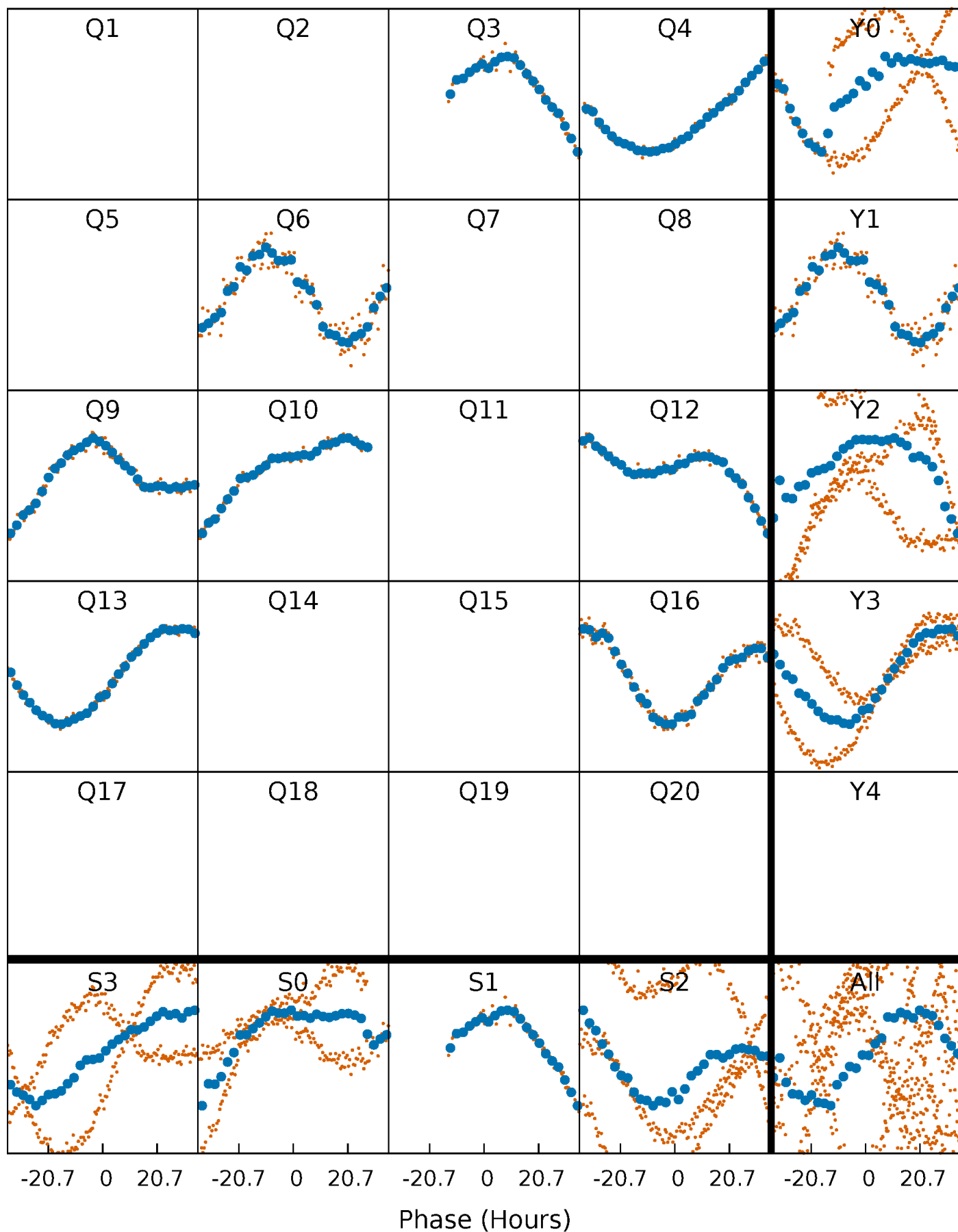


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



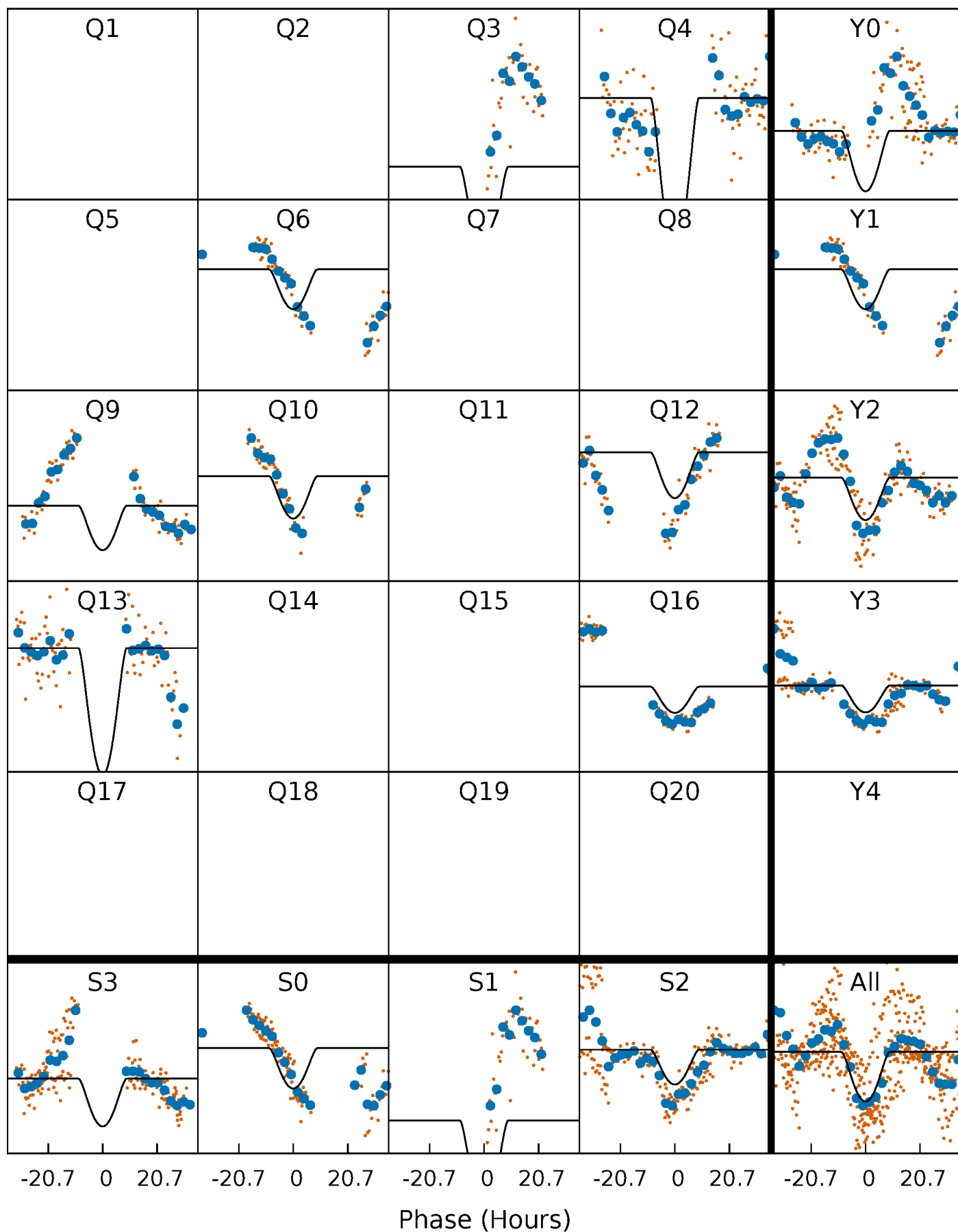
PDC Quarter-Phased Transit Curves

TCE 010811061-02 P=141.447729 Days $T_0=260.828589$ (BKJD)



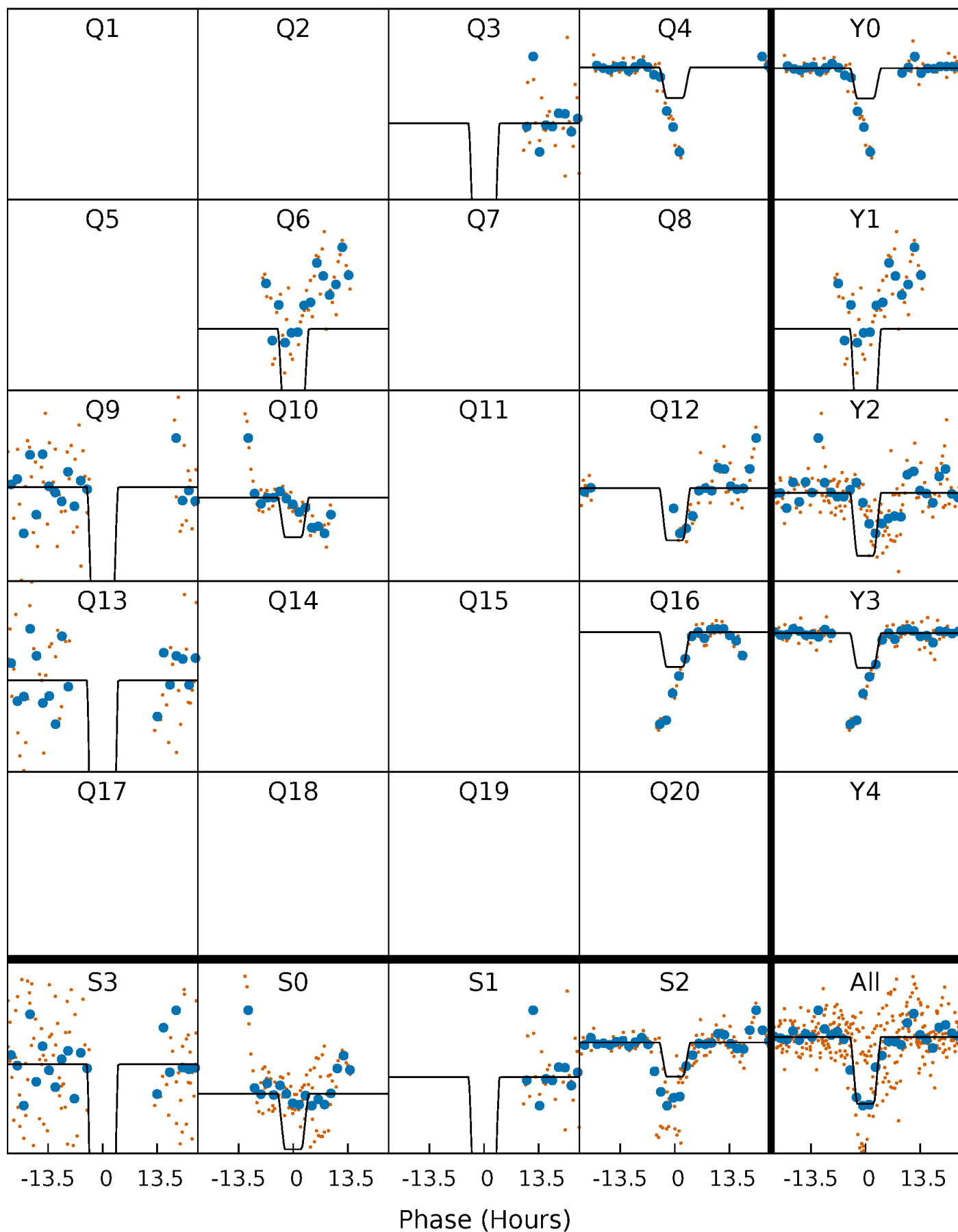
DV Quarter-Phased Transit Curves

TCE 010811061-02 P=141.447729 Days $T_0=260.828589$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

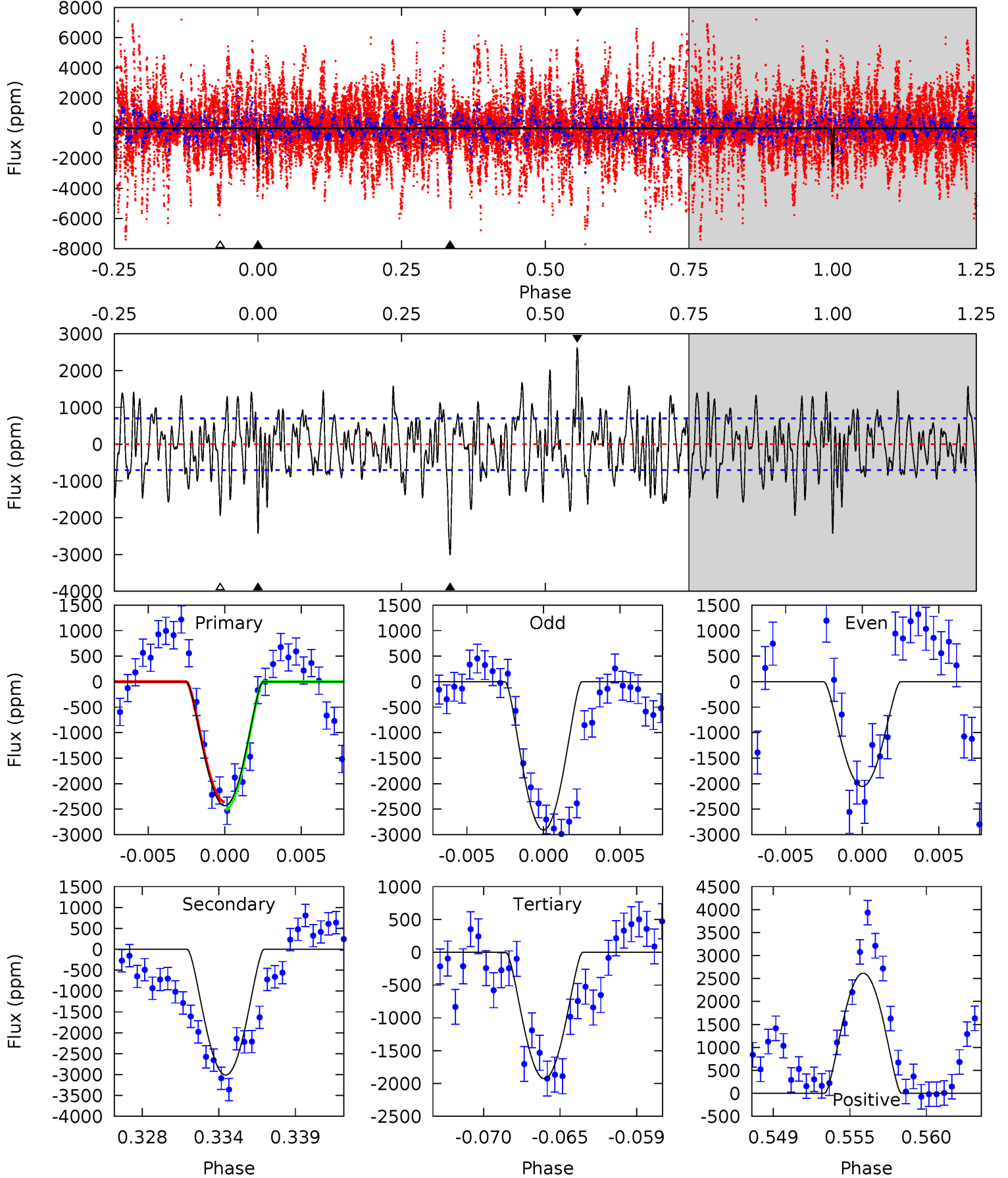
TCE 010811061-02 P=141.475158 Days $T_0=260.471072$ (BKJD)



DV Model-Shift Uniqueness Test

010811061-02, P = 141.447729 Days, E = 119.380860 Days

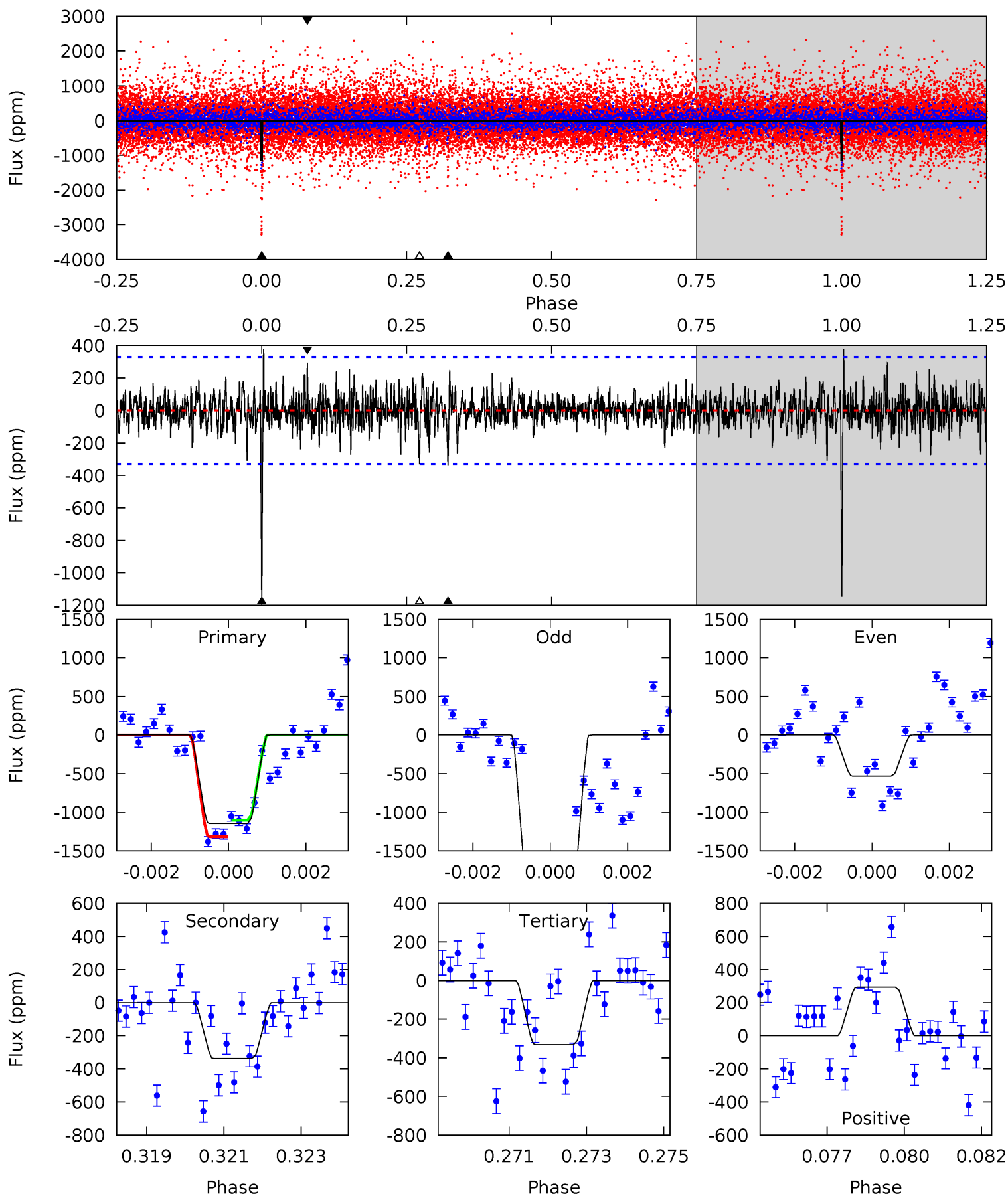
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.8	22.0	14.1	19.1	5.14	2.78	5.07	3.71	-1.34	7.95	2.91	2.74	0.98	0.46	0.55



Alt Model-Shift Uniqueness Test

010811061-02, P = 141.475158 Days, E = 118.995914 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.5	5.43	5.32	4.72	5.30	3.05	1.23	13.1	13.7	0.10	0.70	13.4	1.51	0.25	1.74



Stellar Parameters For KIC 010811061

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5559^{+149}_{-166}	$4.578^{+0.034}_{-0.127}$	$-0.180^{+0.300}_{-0.300}$	$0.803^{+0.164}_{-0.070}$	$0.899^{+0.083}_{-0.102}$	$2.446^{+0.449}_{-0.974}$
	+3%/-3%	+1%/-3%	+167%/-167%	+20%/-9%	+9%/-11%	+18%/-40%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010811061-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-3013 ± 137	$10.57^{+8.01}_{-7.18}$	438^{+22}_{-18}	4103^{+2624}_{-700}	3883^{+33188}_{-2644}
Alt.	-337 ± 62	$8.34^{+8.81}_{-5.79}$	435^{+22}_{-16}	3100^{+1466}_{-540}	667^{+6170}_{-502}

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

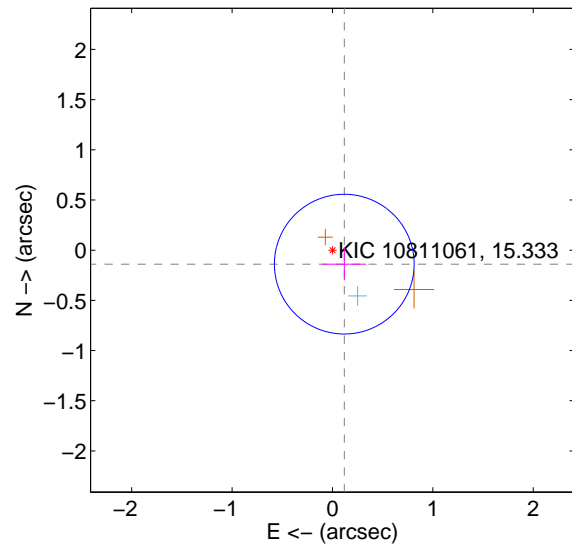
Supplemental centroid analysis for 010811061-02. Kepler magnitude: 15.33. Transit SNR 9.42

There are 1 quarters with good PRF difference image offsets

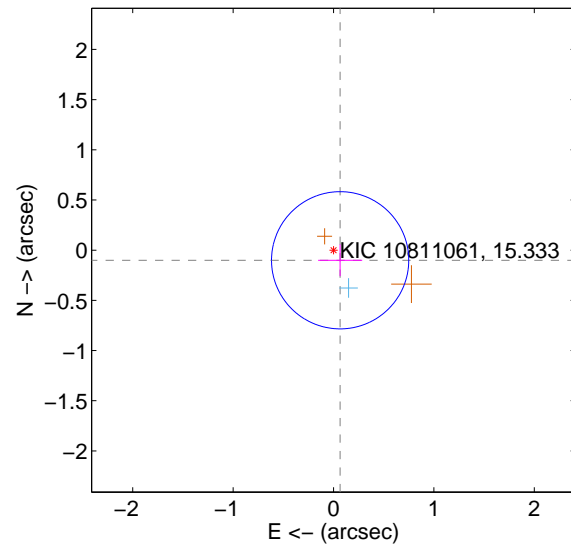
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.182 ± 0.232	0.79	-0.118 ± 0.217	-0.139 ± 0.160
PRF-fit source offset from KIC position	0.120 ± 0.228	0.53	-0.066 ± 0.220	-0.101 ± 0.158
photometric centroid source offset	0.77 ± 0.41	1.87	0.64 ± 0.40	0.43 ± 0.44

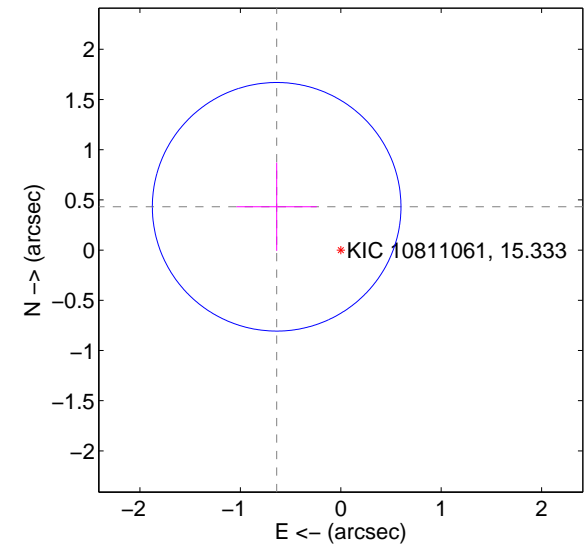
offset from difference PRF-fit to OOT PRF-fit



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.

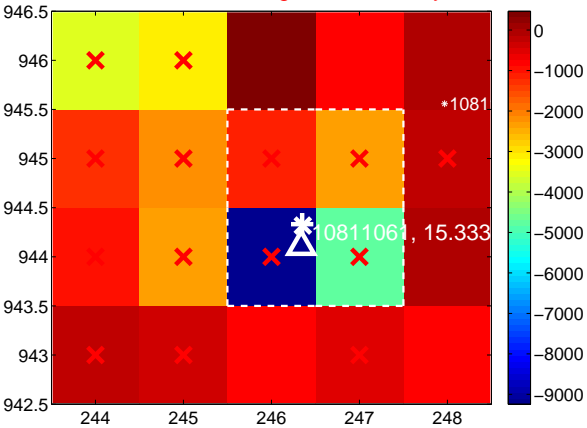
Q5 no difference image



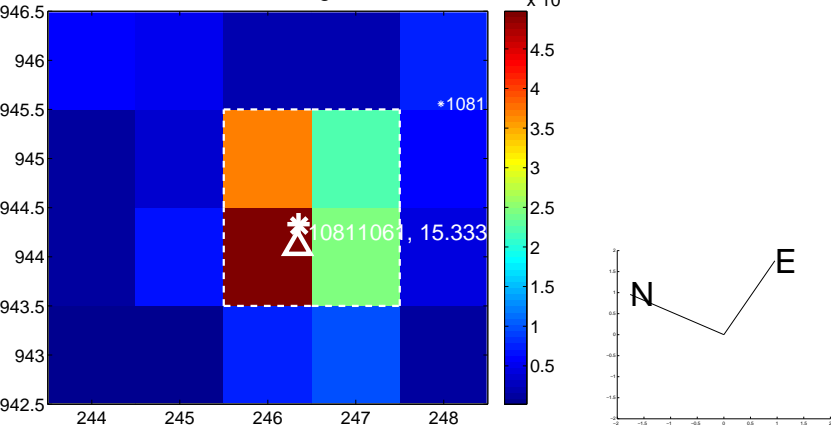
Q5 no OOT image



Q6 difference image. Poor Quality



Q6 OOT image



Q7 no difference image



Q7 no OOT image



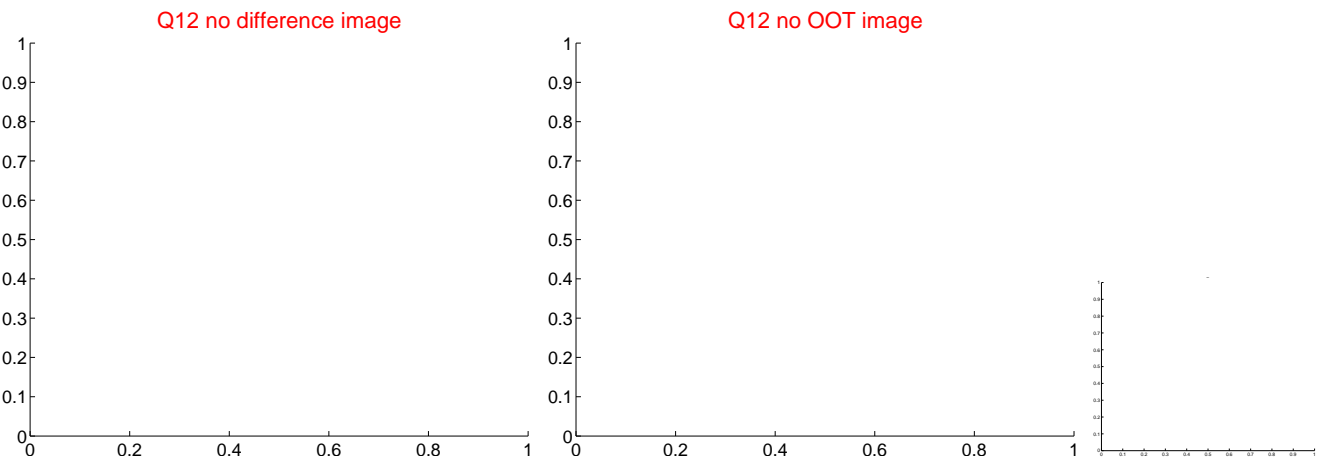
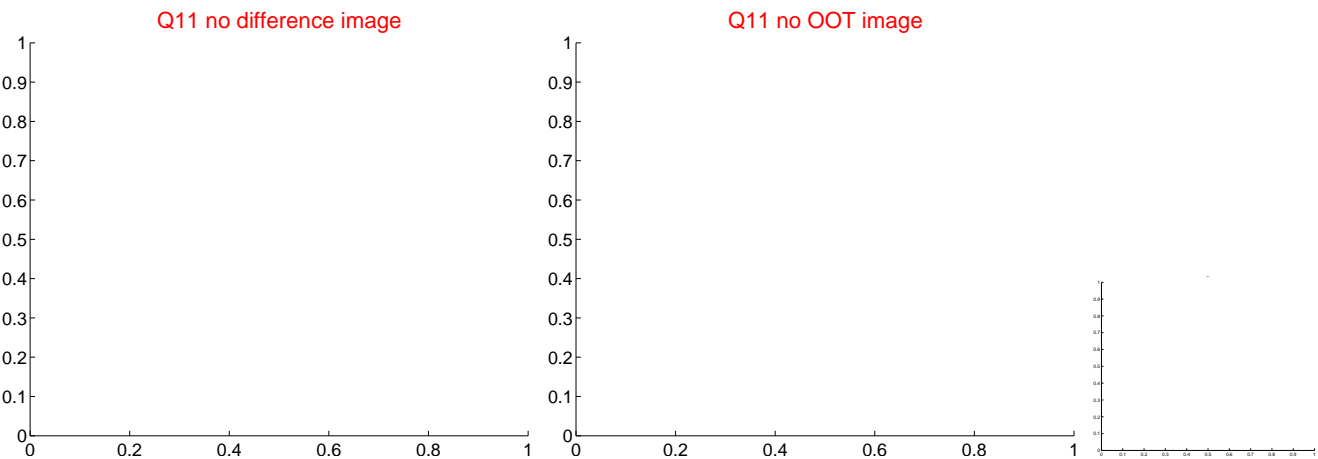
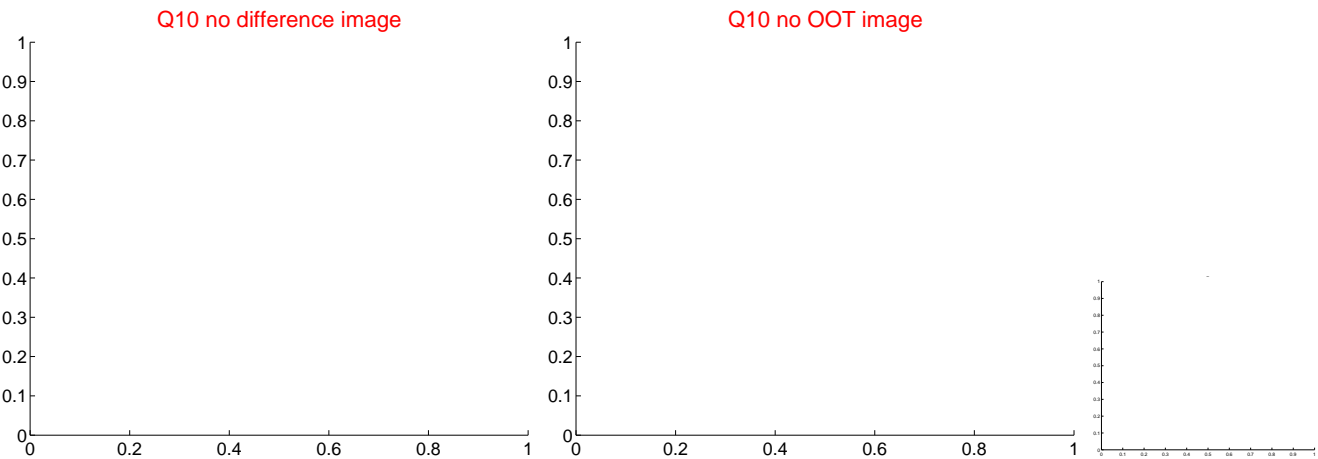
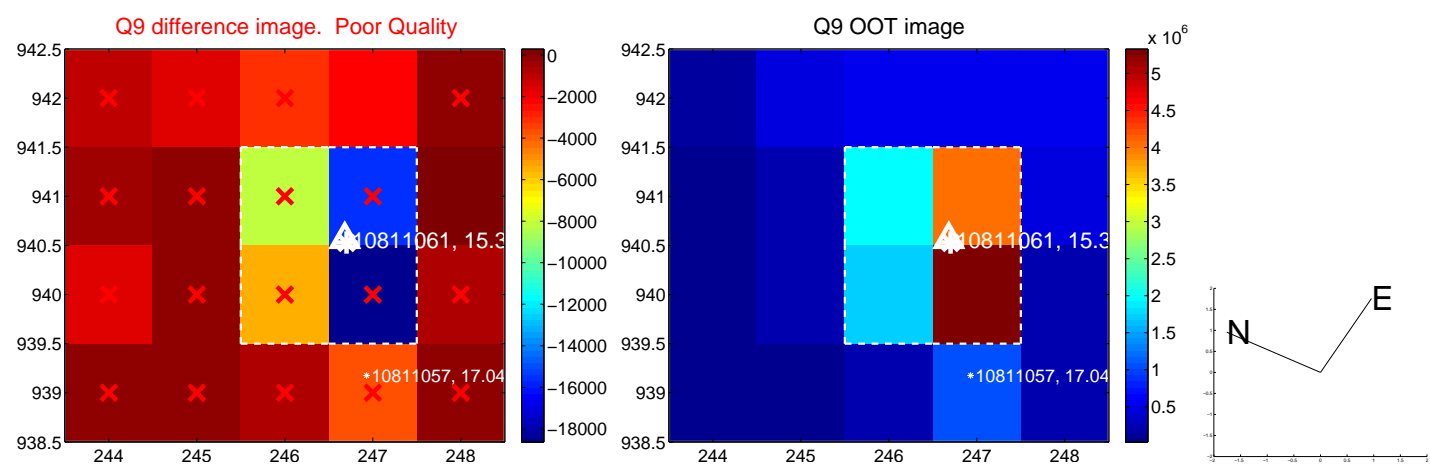
Q8 no difference image



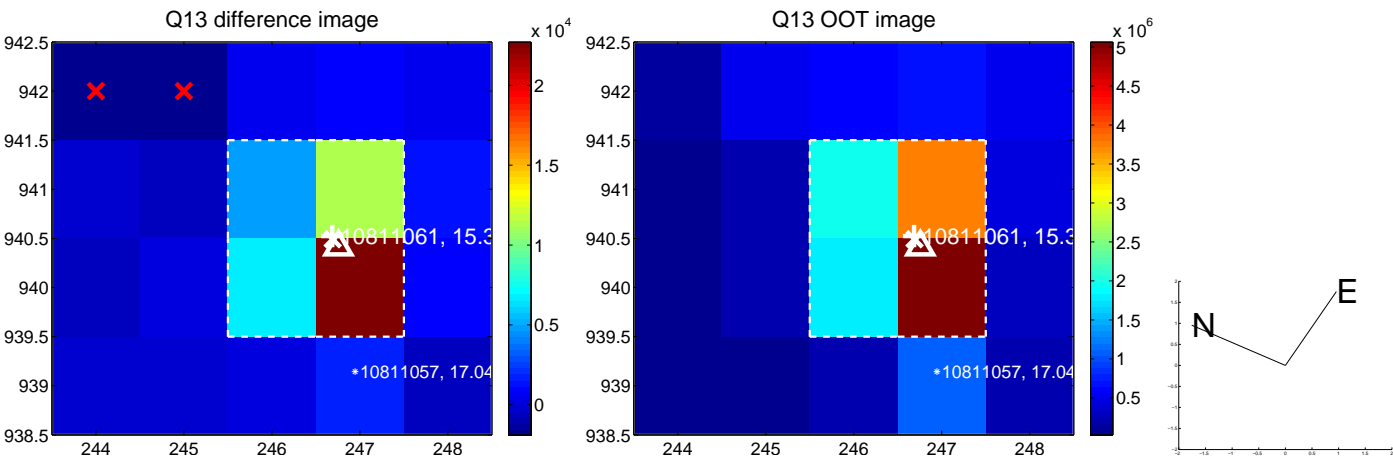
Q8 no OOT image



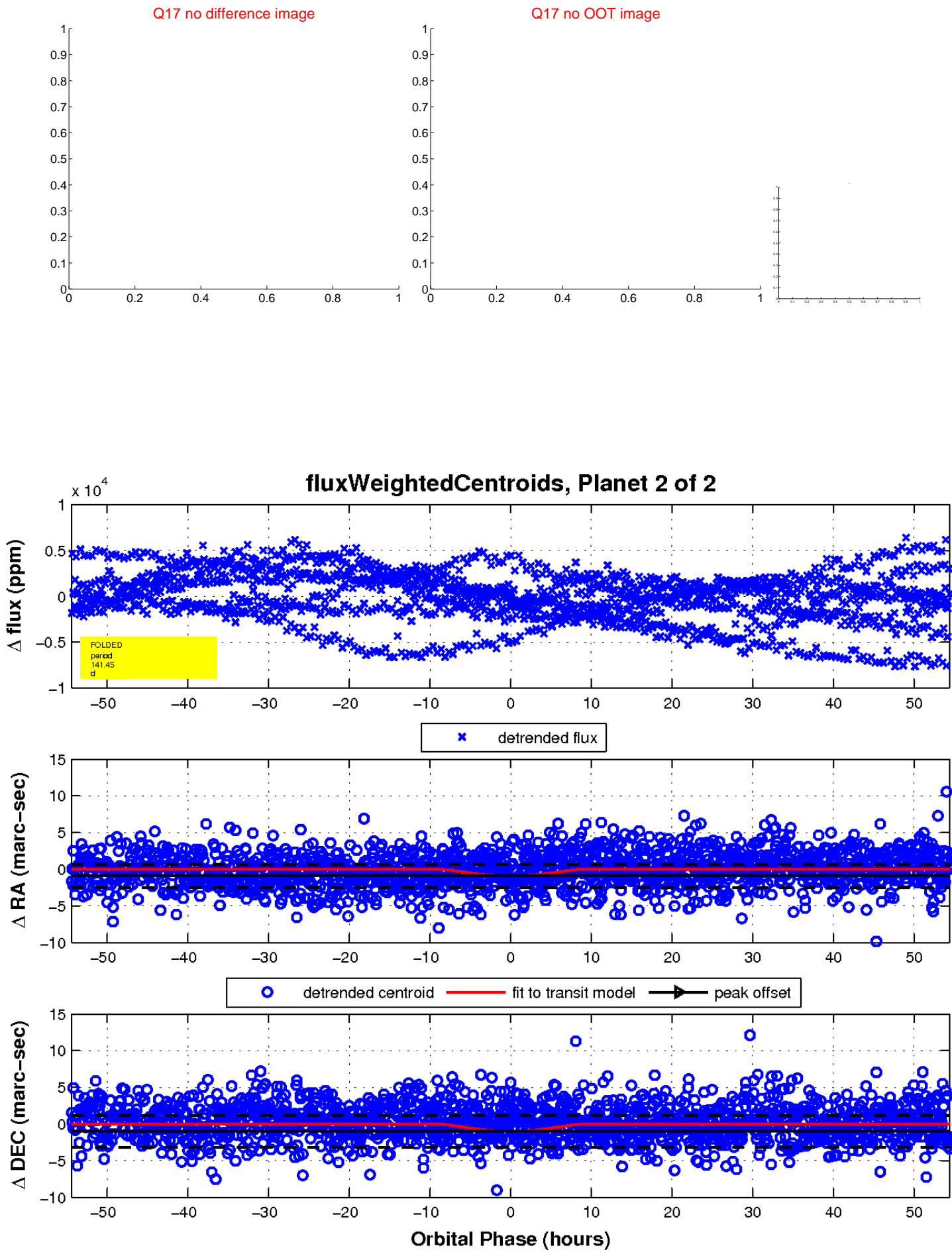
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

