

KIC 011802766

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})
011802766-01	OBS	No	6.511020	134.627046	54.3	13.537	11.9	11.2	2.11	7302	1.81	1714.44
011802766-02	OBS	No	6.511671	133.442149	50.3	13.900	9.1	10.8	2.11	7302	1.64	1714.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011802766-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011802766-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

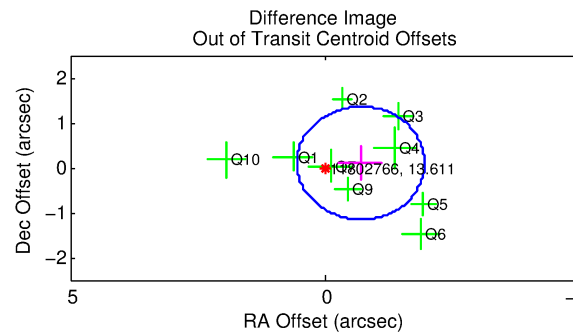
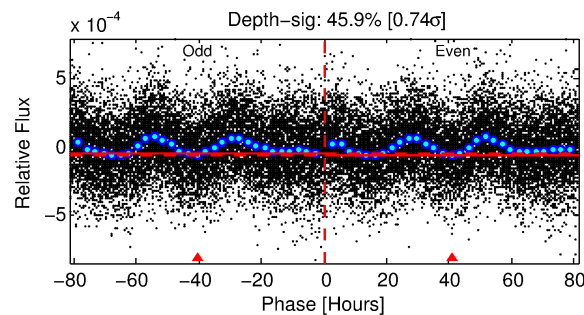
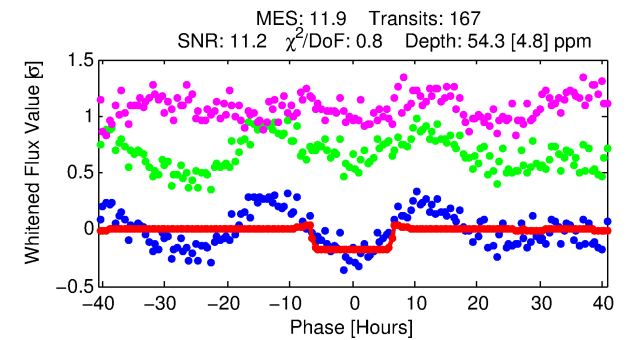
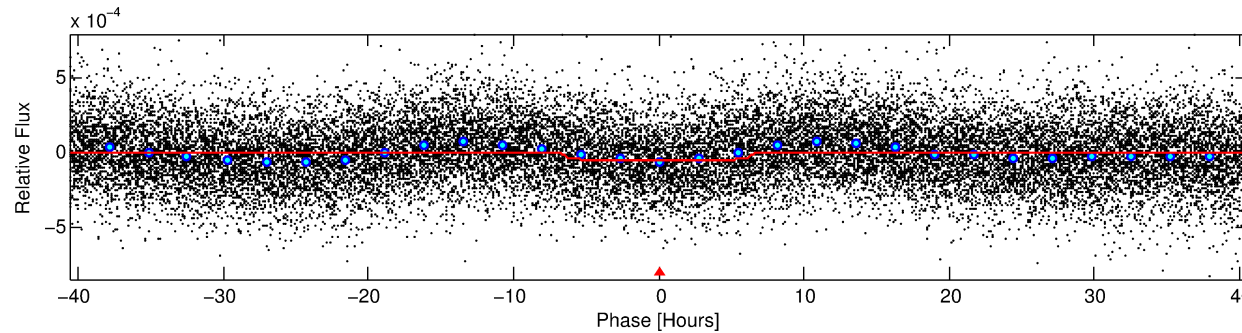
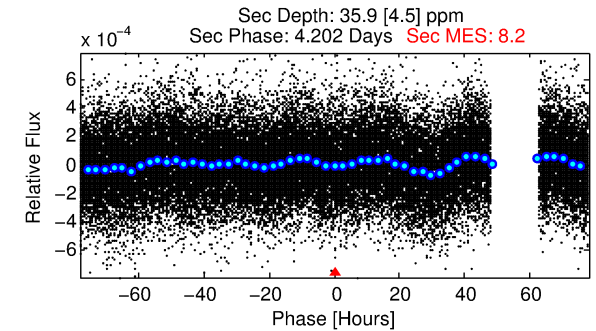
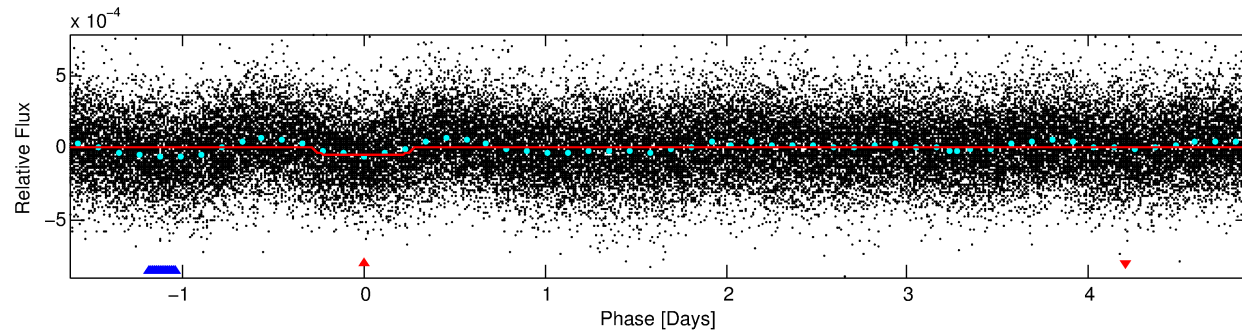
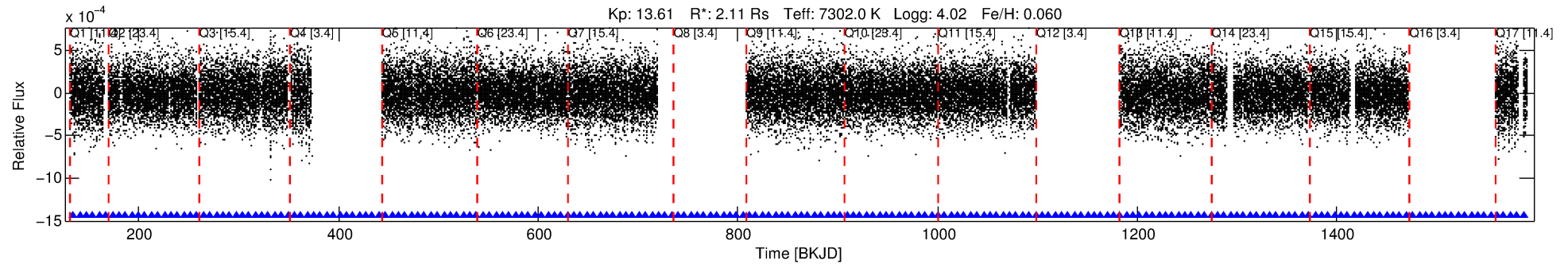
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011802766-01

No Significant Match Found

DV One-Page Summary

KIC: 11802766 Candidate: 1 of 2 Period: 6.511 d



DV Fit Results:

Period = 6.51102 [0.00011] d
Epoch = 134.6270 [0.0123] BKJD
Rp/R* = 0.0079 [0.0009]
a/R* = 1.86 [0.83]
b = 0.91 [0.12]
Seff = 1714.44 [619.42]
Teq = 1641 [148] K
Rp = 1.81 [0.54] Re
a = 0.0814 [0.0183] AU
Ag = 39.77 [16.17] [2.40σ]
Teffp = 6370 [483] K [9.36σ]

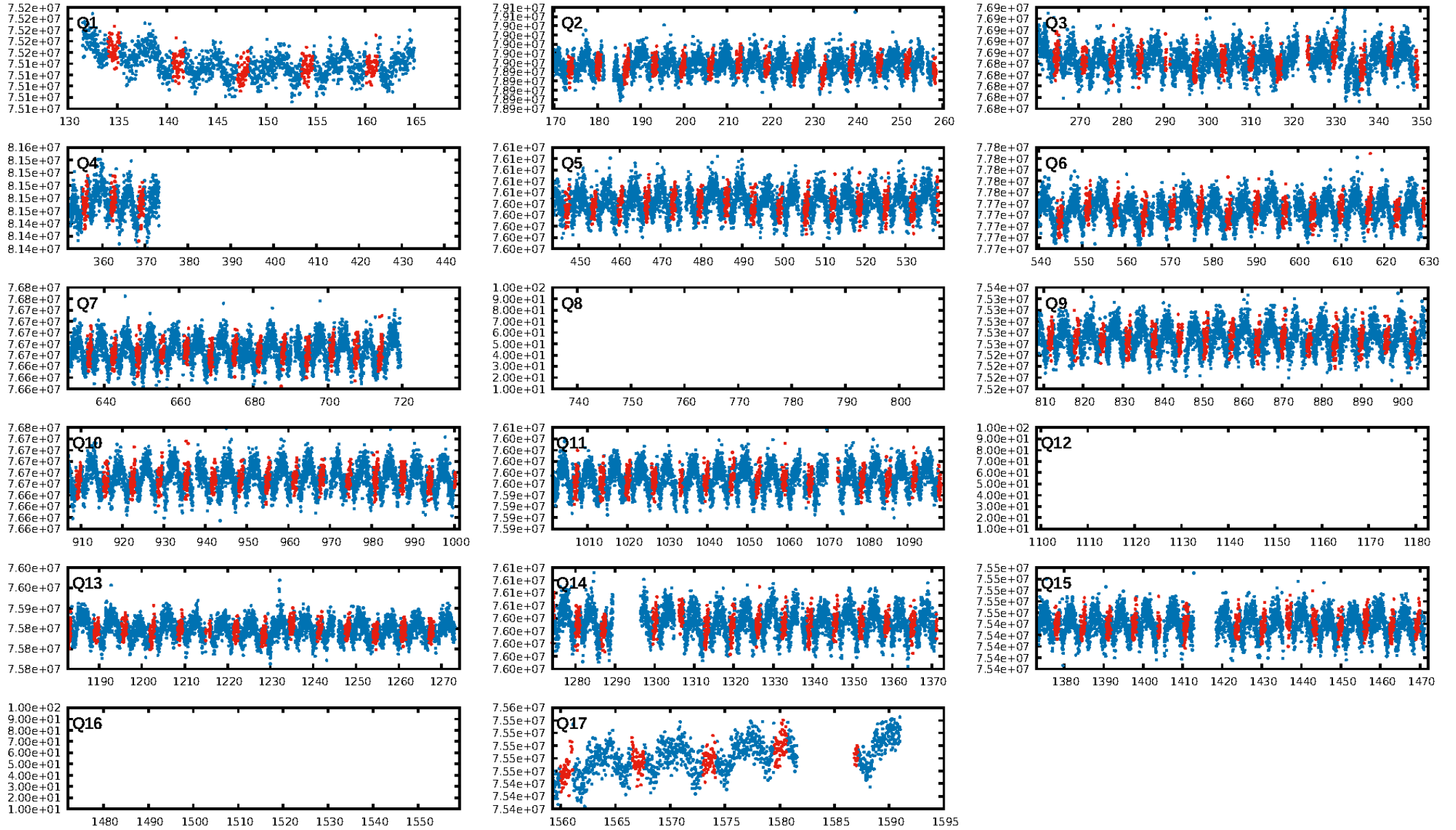
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.23e-28
RollingBand-fgt: 1.00 [154/154]
GhostDiagnostic-chr: 3.826
Centroid-sig: 59.7%
Centroid-so: 0.876 arcsec [1.06σ]
OotOffset-rm: 0.715 arcsec [1.71σ]
OotOffset-st: 3/2/1/3 [9]
KicOffset-rm: 0.868 arcsec [2.09σ]
KicOffset-st: 3/2/1/3 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 0.00 [0/14]

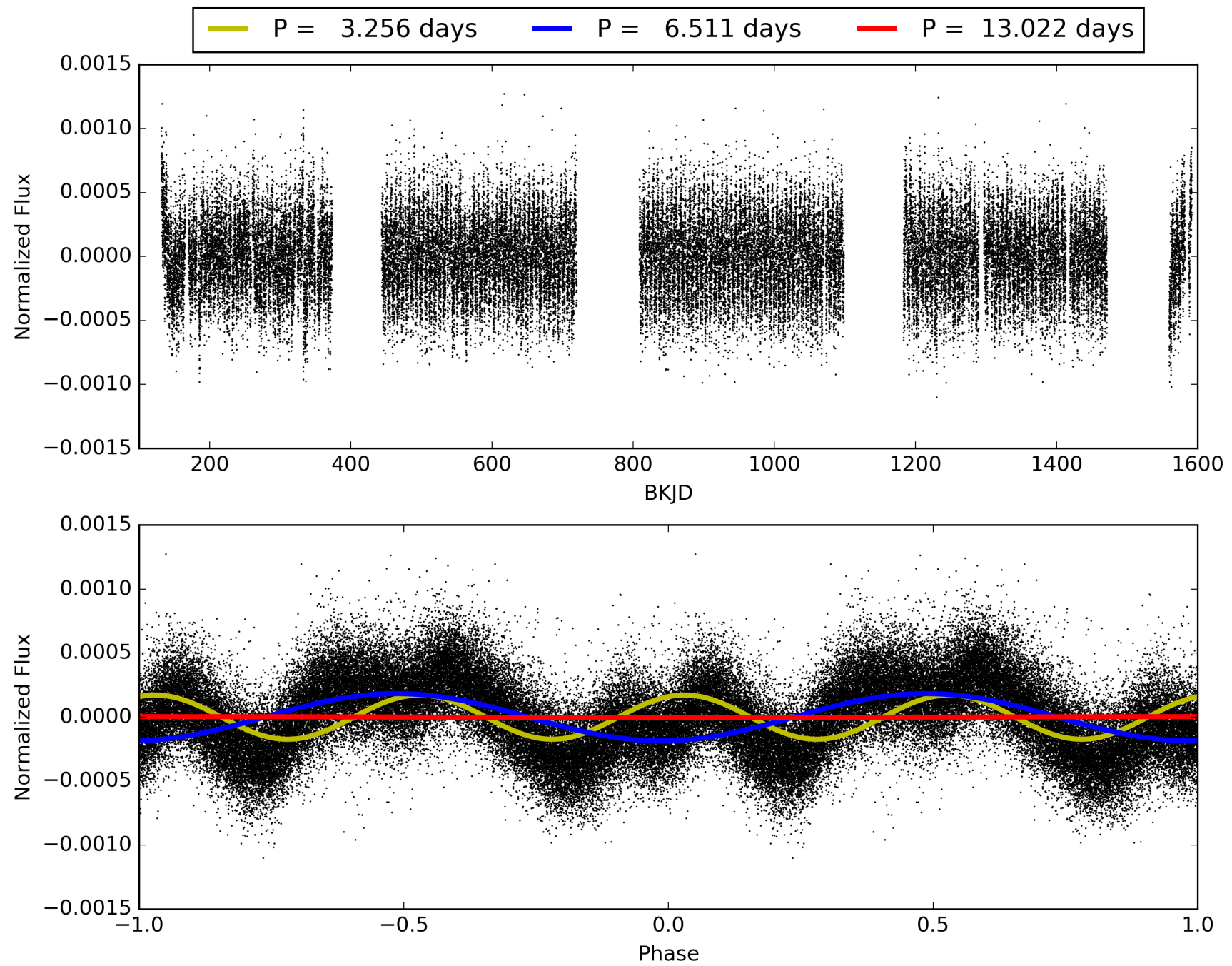
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:11:54 Z

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

TCE 011802766-01, PDC Light Curves

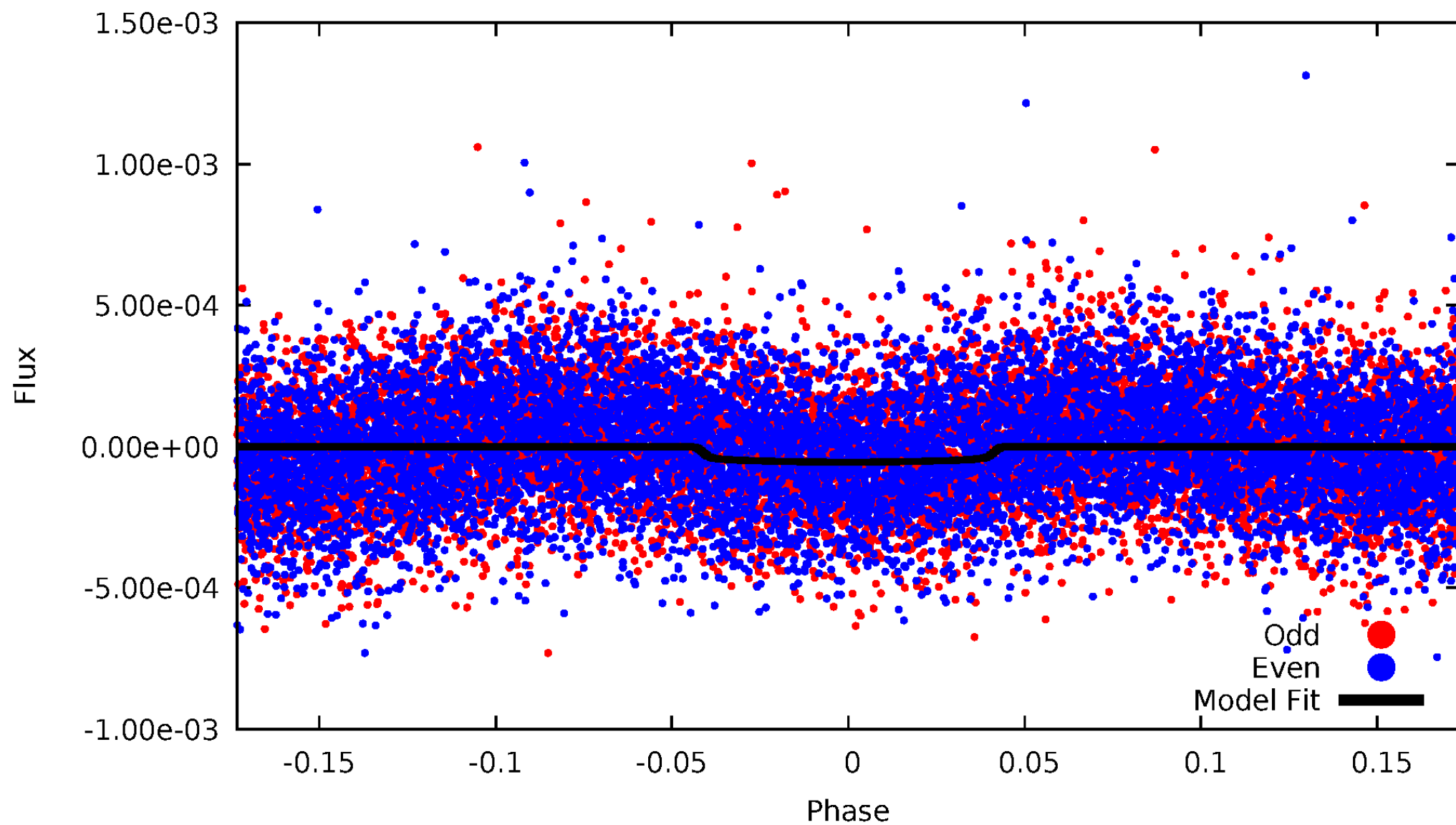


TCE 011802766-01



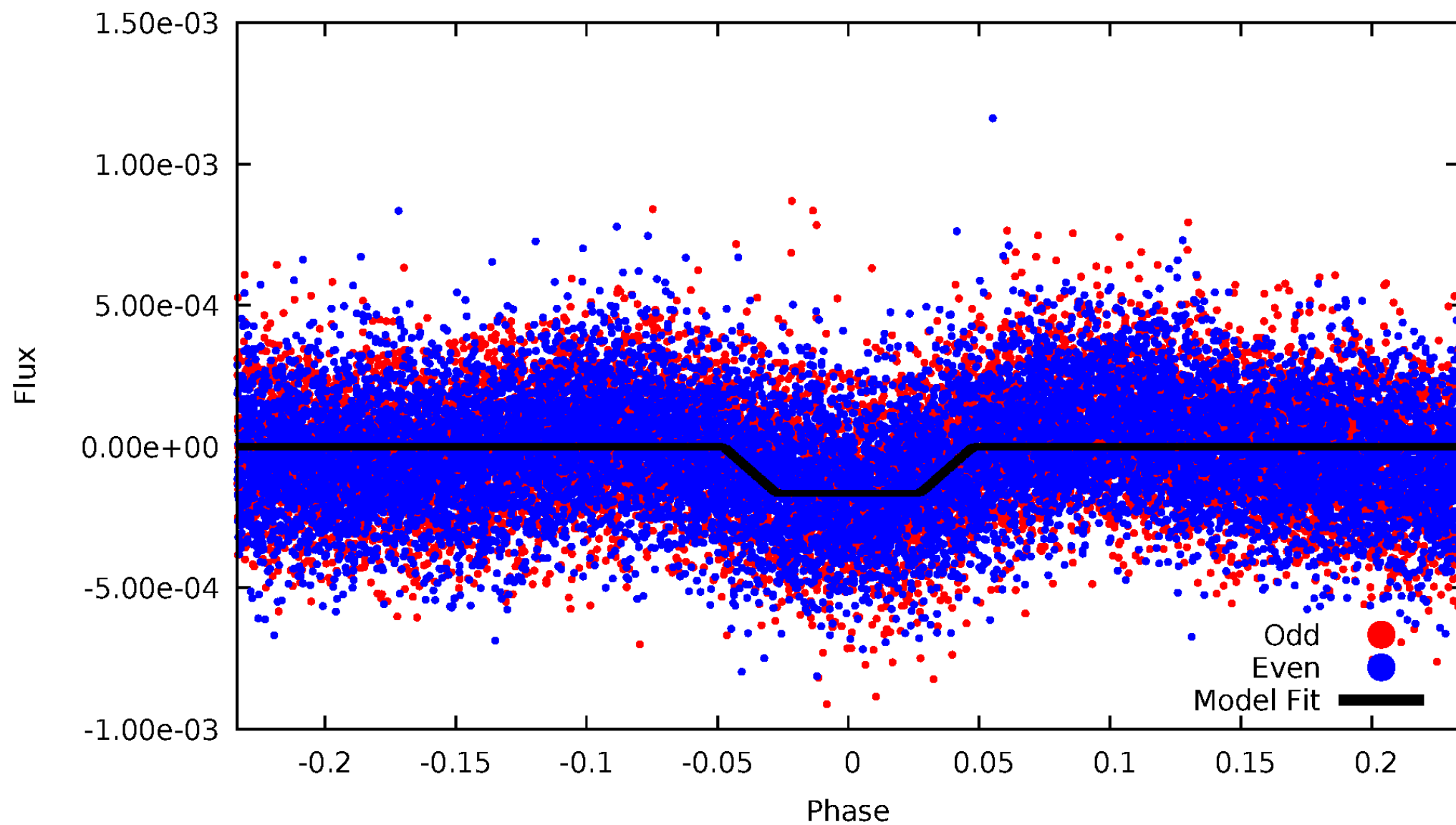
DV Odd/Even

TCE 011802766-01



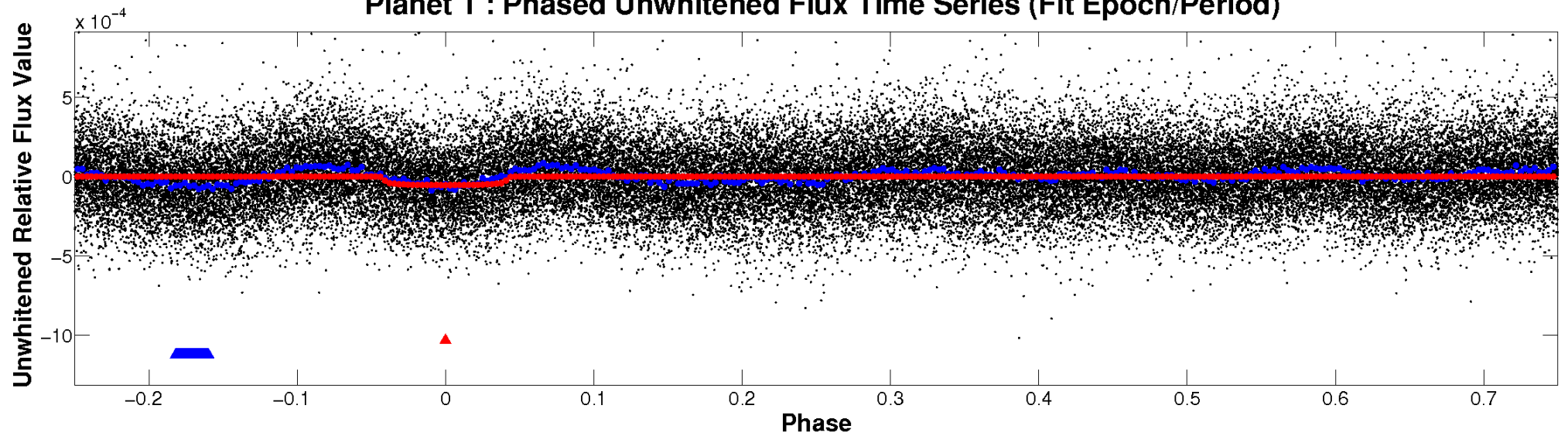
ALT Odd/Even

TCE 011802766-01

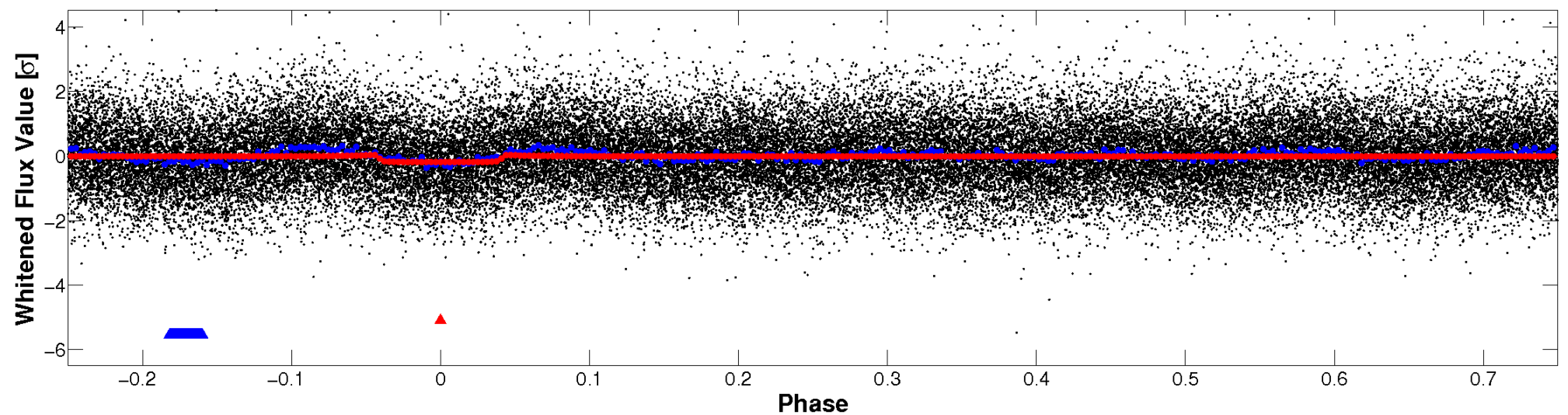


Non-Whitened Vs. Whitened Light Curve

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

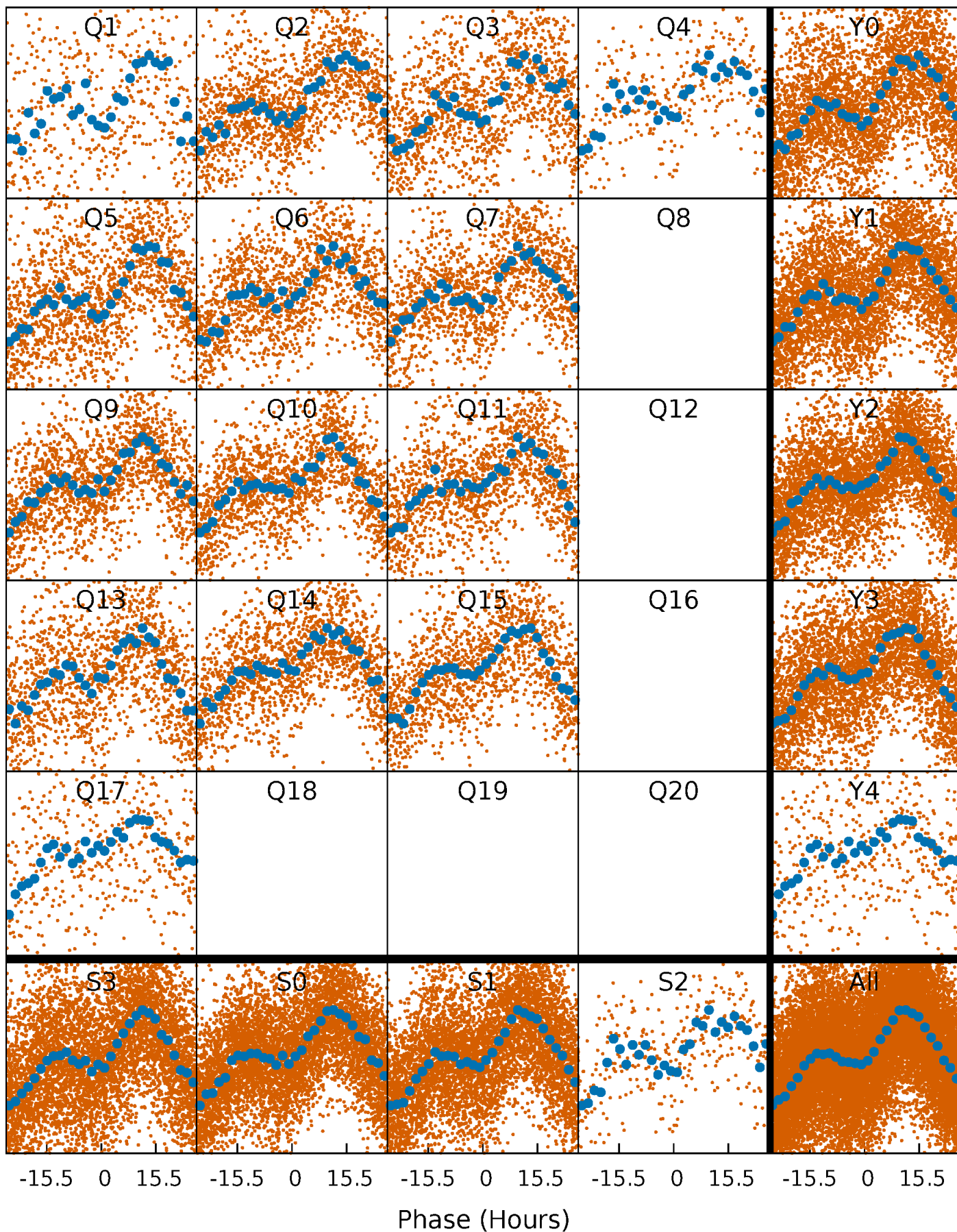


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



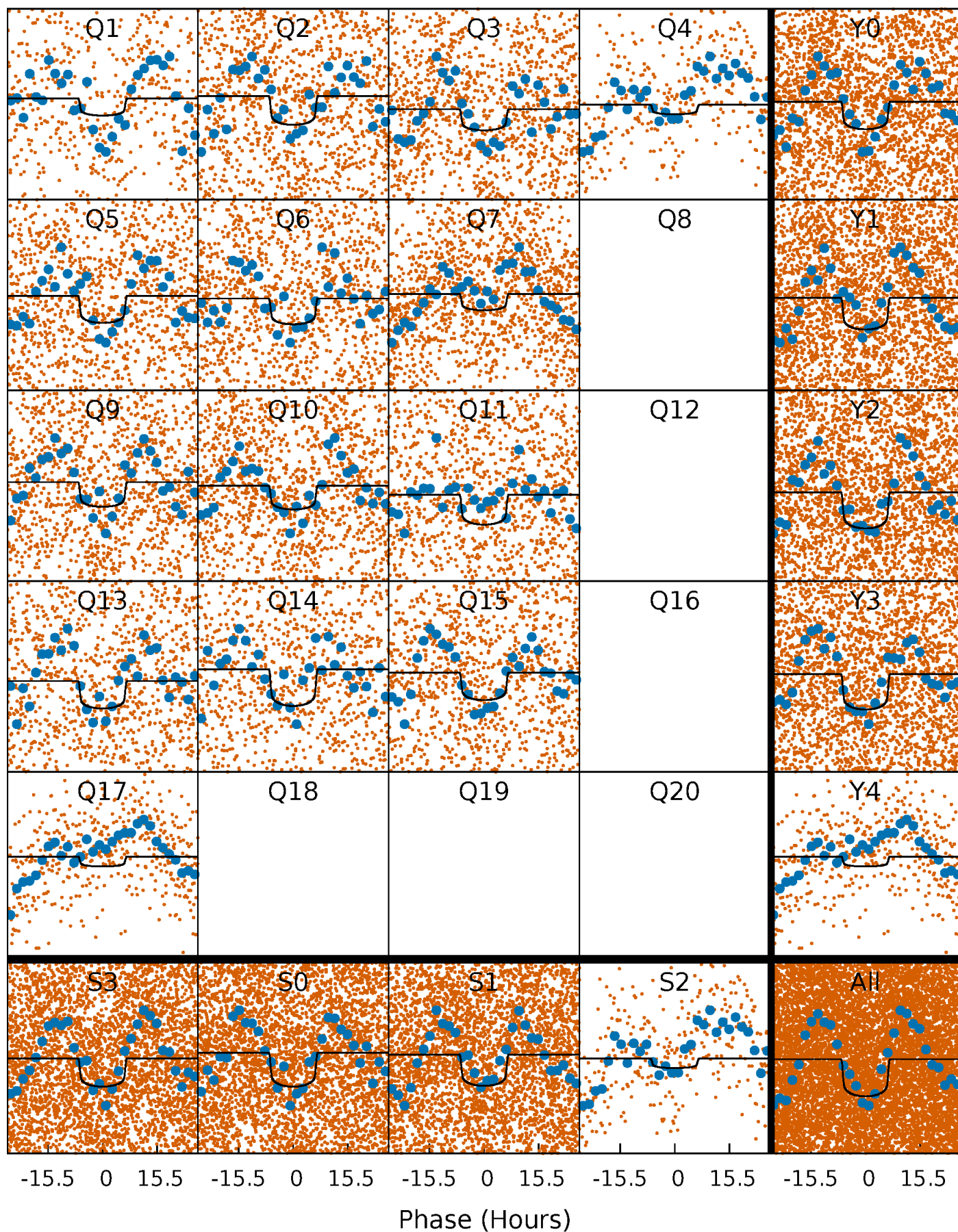
PDC Quarter-Phased Transit Curves

TCE 011802766-01 P= 6.511020 Days $T_0=134.627046$ (BKJD)



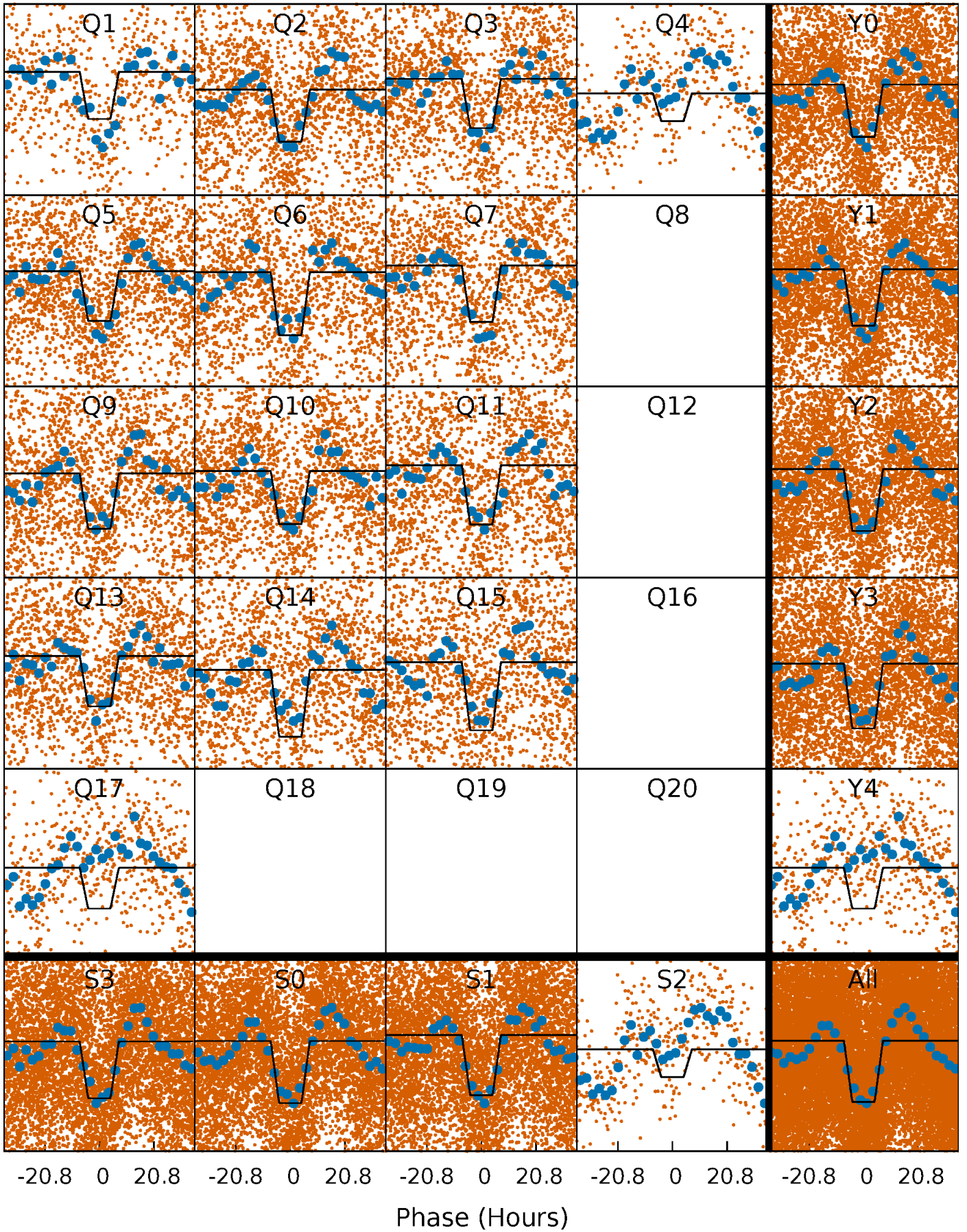
DV Quarter-Phased Transit Curves

TCE 011802766-01 P= 6.511020 Days $T_0=134.627046$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

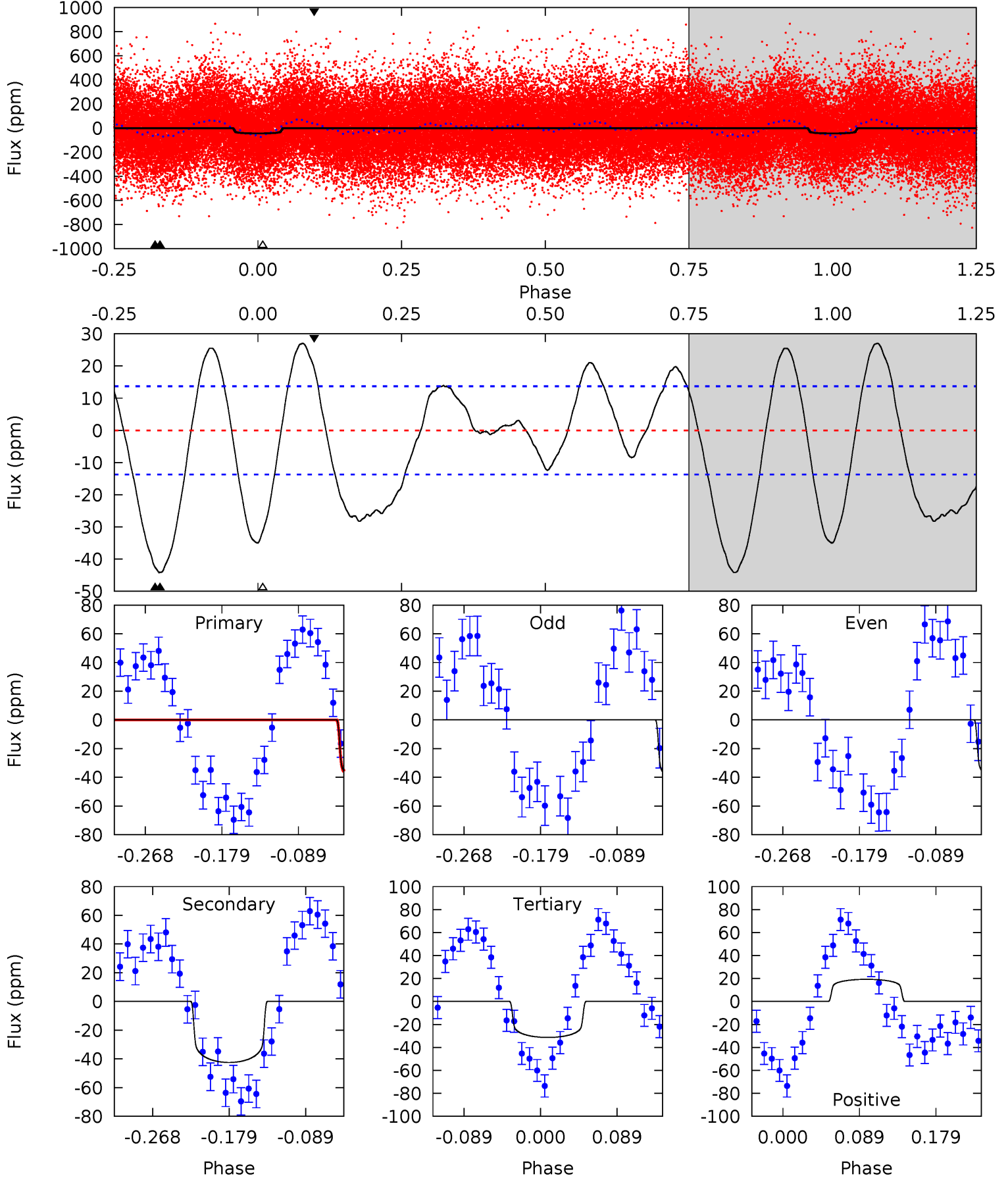
TCE 011802766-01 P= 6.510584 Days $T_0=134.628035$ (BKJD)



DV Model-Shift Uniqueness Test

011802766-01, P = 6.511020 Days, E = 128.116026 Days

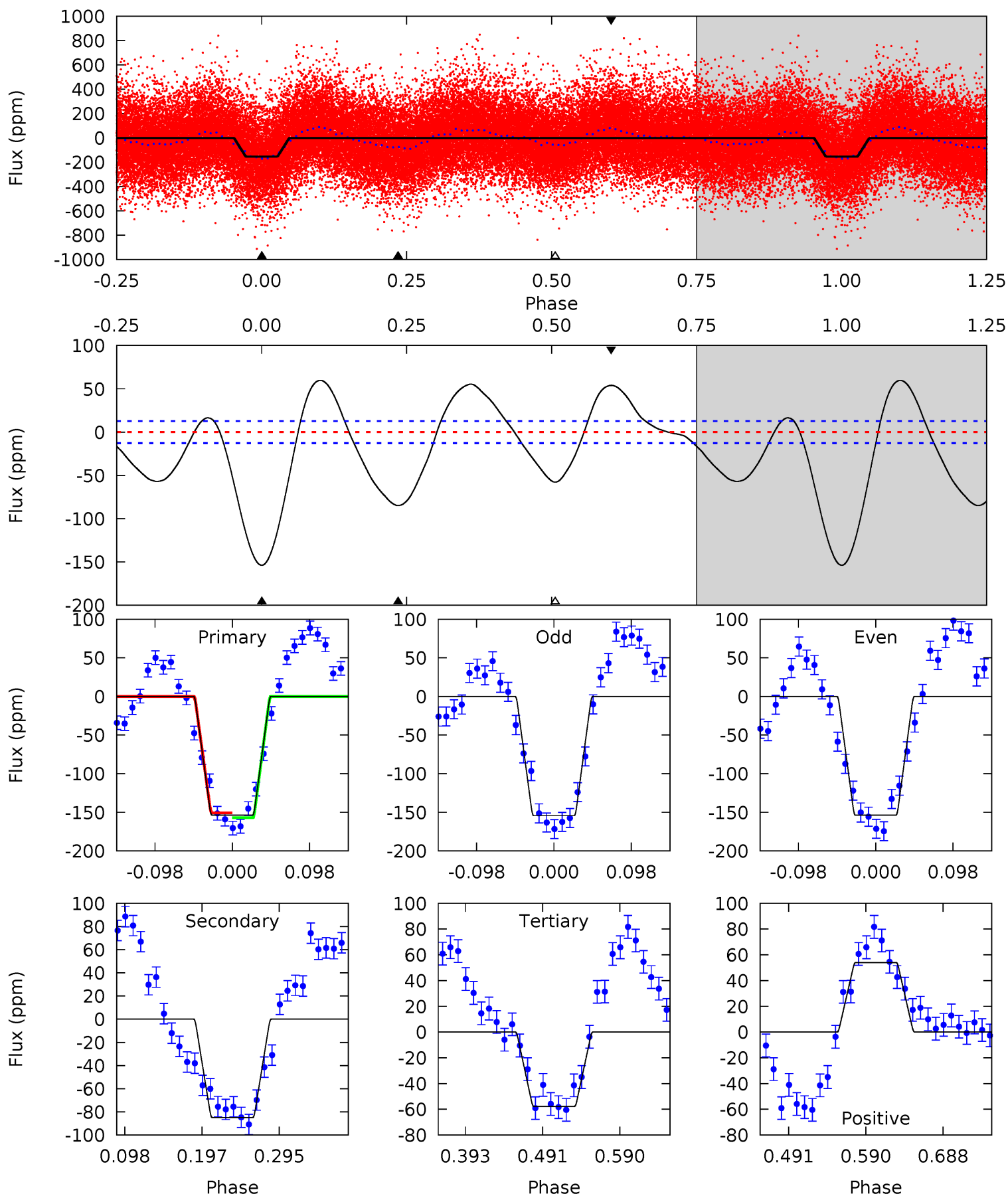
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	14.2	10.5	6.45	4.59	1.70	5.31	4.31	8.34	3.73	7.77	0.23	0.87	0.38	0.06



Alt Model-Shift Uniqueness Test

011802766-01, P = 6.510584 Days, E = 128.117451 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
55.3	30.5	20.8	19.4	4.57	1.65	13.3	34.5	35.9	9.74	11.1	0.10	1.00	0.28	1.12



Stellar Parameters For KIC 011802766

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7302^{+232}_{-309}	$4.018^{+0.170}_{-0.170}$	$0.060^{+0.200}_{-0.350}$	$2.111^{+0.582}_{-0.529}$	$1.691^{+0.207}_{-0.276}$	$0.253^{+0.260}_{-0.110}$
	+3%/-4%	+4%/-4%	+333%/-583%	+28%/-25%	+12%/-16%	+102%/-43%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011802766-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-42 ± 3	$1.80^{+0.34}_{-0.29}$	2298^{+158}_{-176}	6564^{+504}_{-424}	48^{+19}_{-14}
Alt.	-85 ± 3	$2.98^{+0.51}_{-0.43}$	2305^{+162}_{-174}	6107^{+287}_{-300}	35^{+12}_{-9}

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

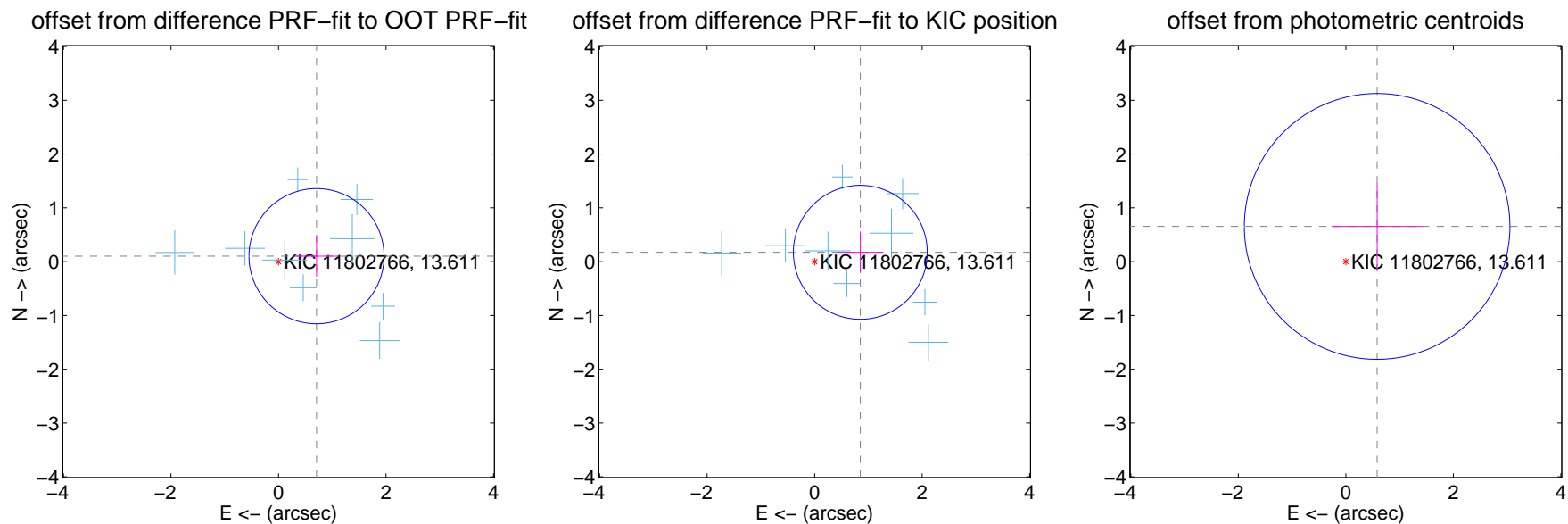
DV Centroid Data

Supplemental centroid analysis for 011802766-01. Kepler magnitude: 13.61. Transit SNR 11.19

There are 9 quarters with good PRF difference image offsets

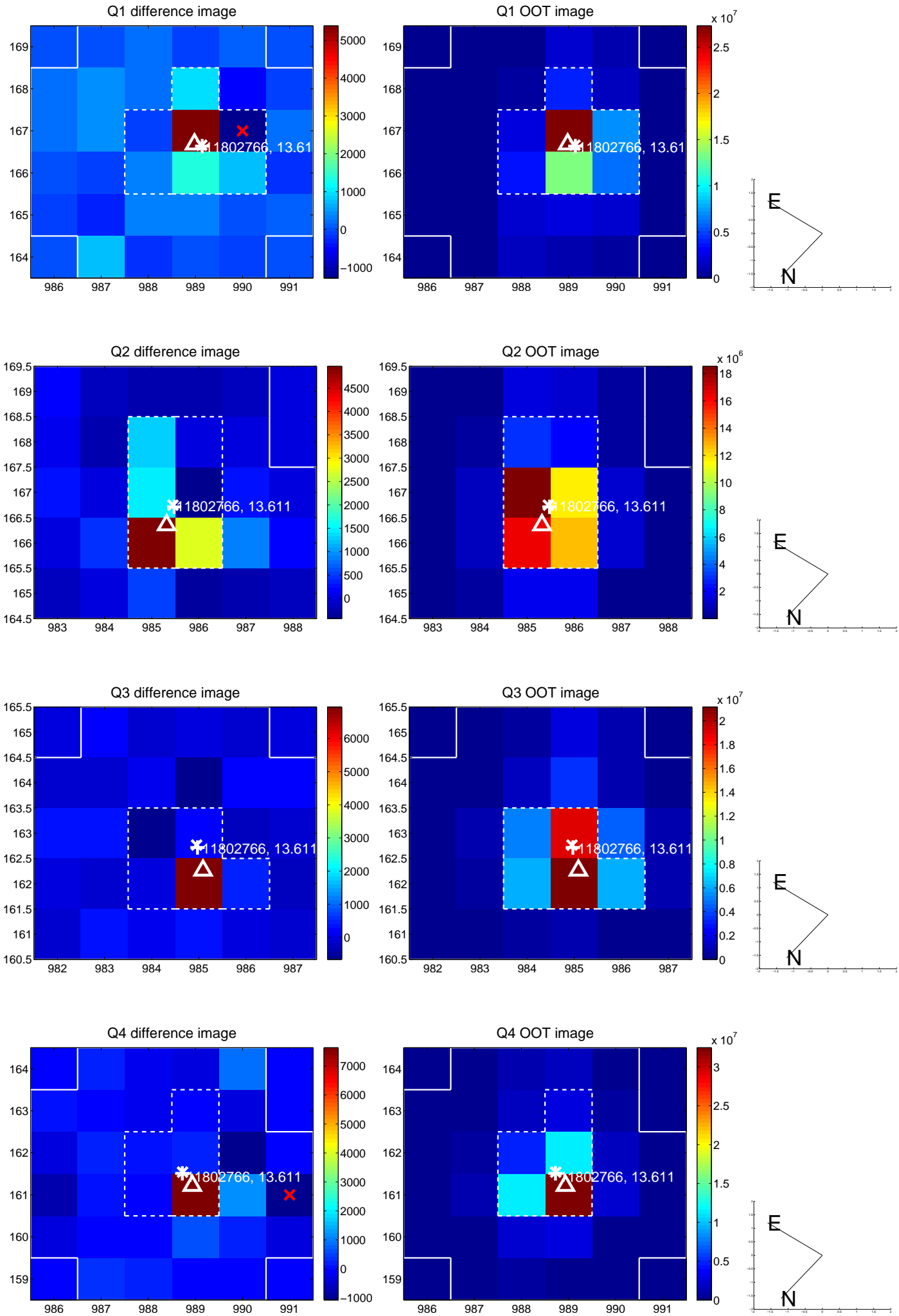
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.715 ± 0.419	1.71	-0.707 ± 0.420	0.102 ± 0.377
PRF-fit source offset from KIC position	0.868 ± 0.415	2.09	-0.850 ± 0.416	0.173 ± 0.385
photometric centroid source offset	0.88 ± 0.82	1.06	-0.58 ± 0.85	0.65 ± 0.81

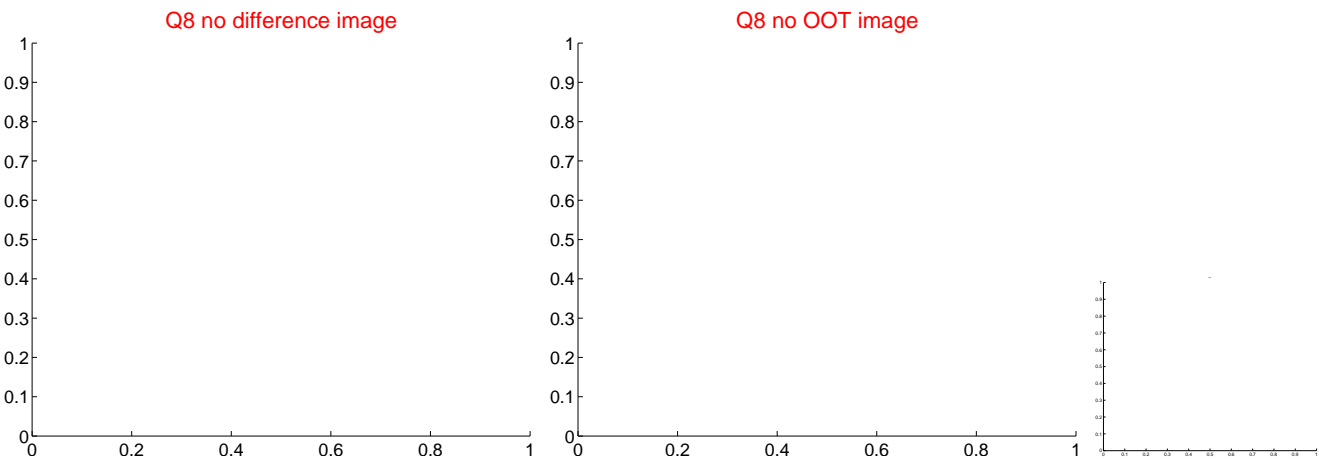
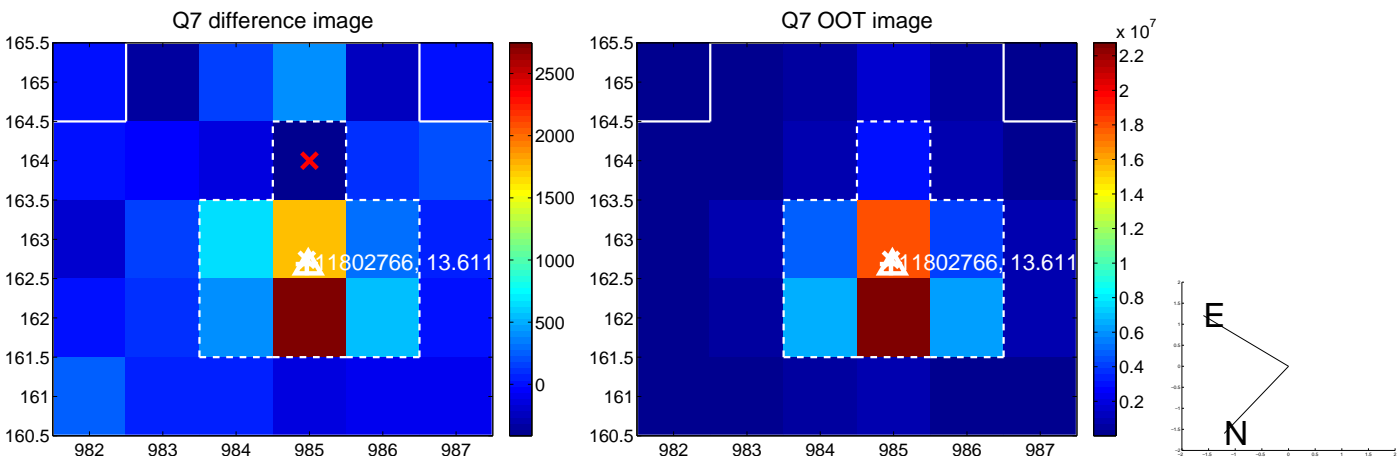
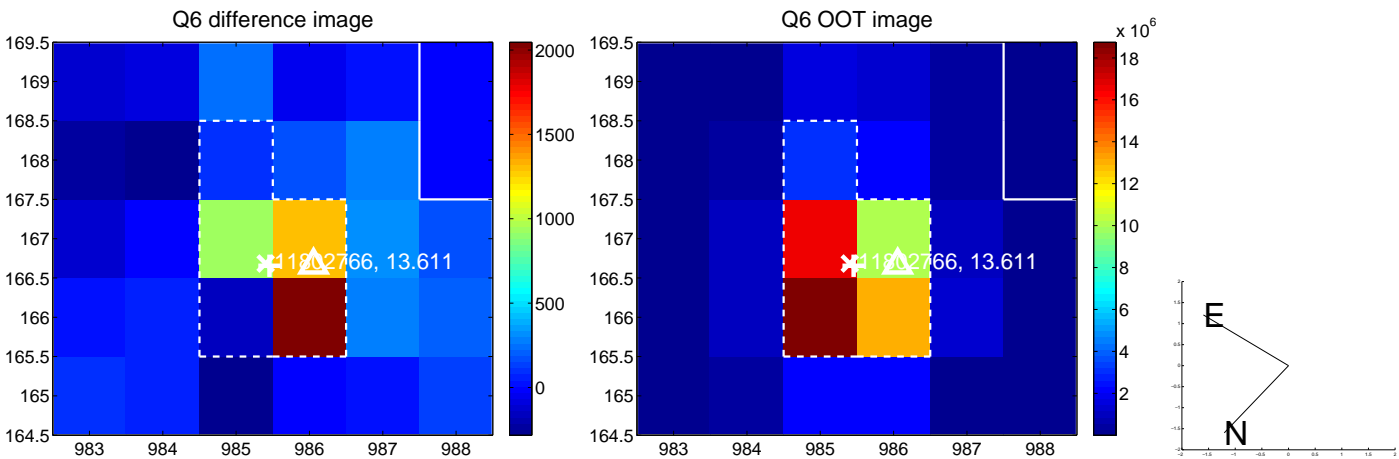
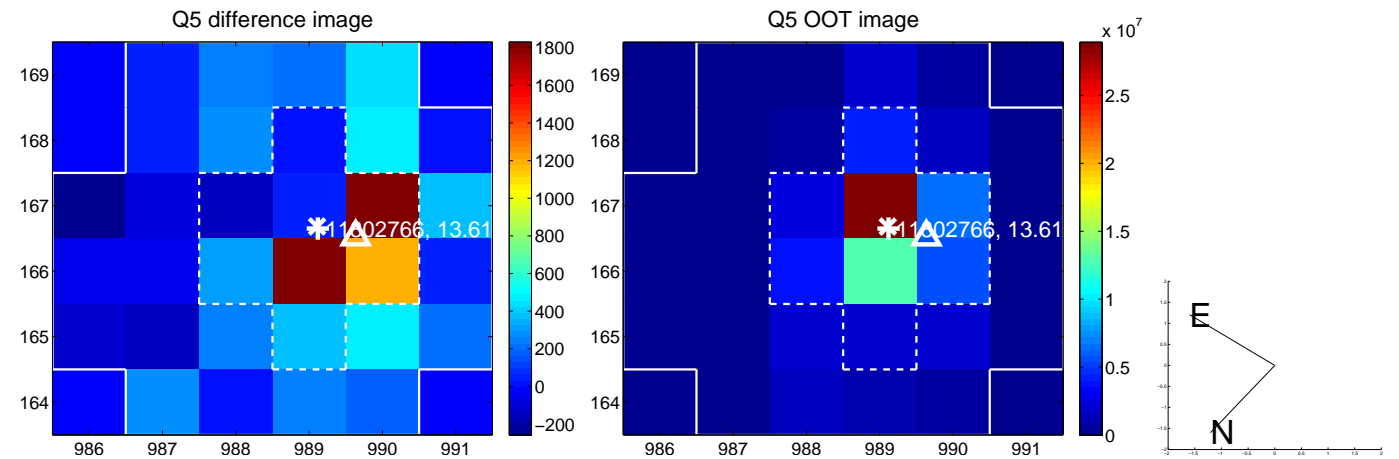


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

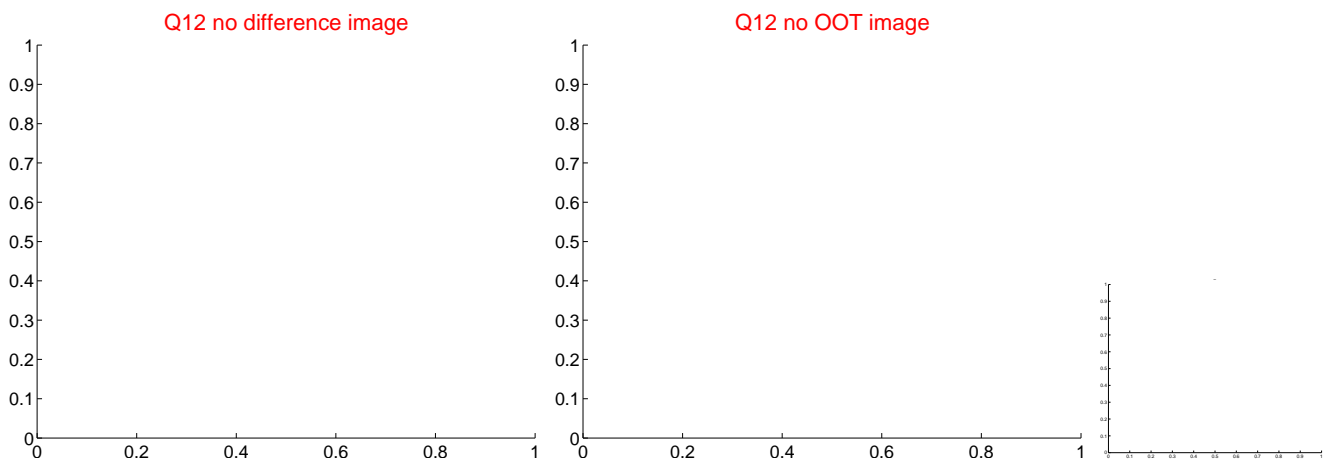
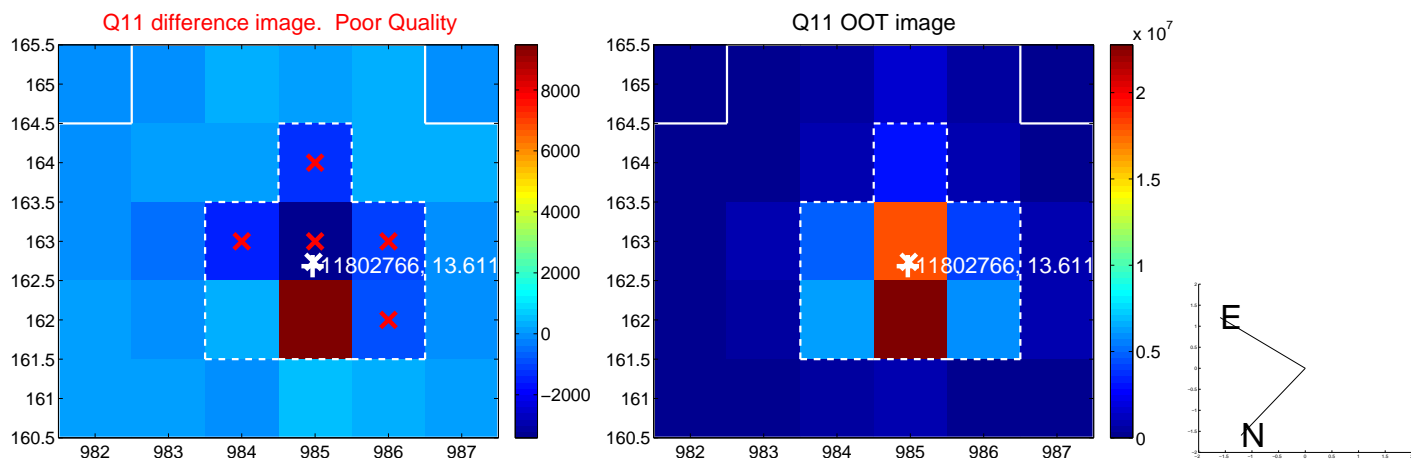
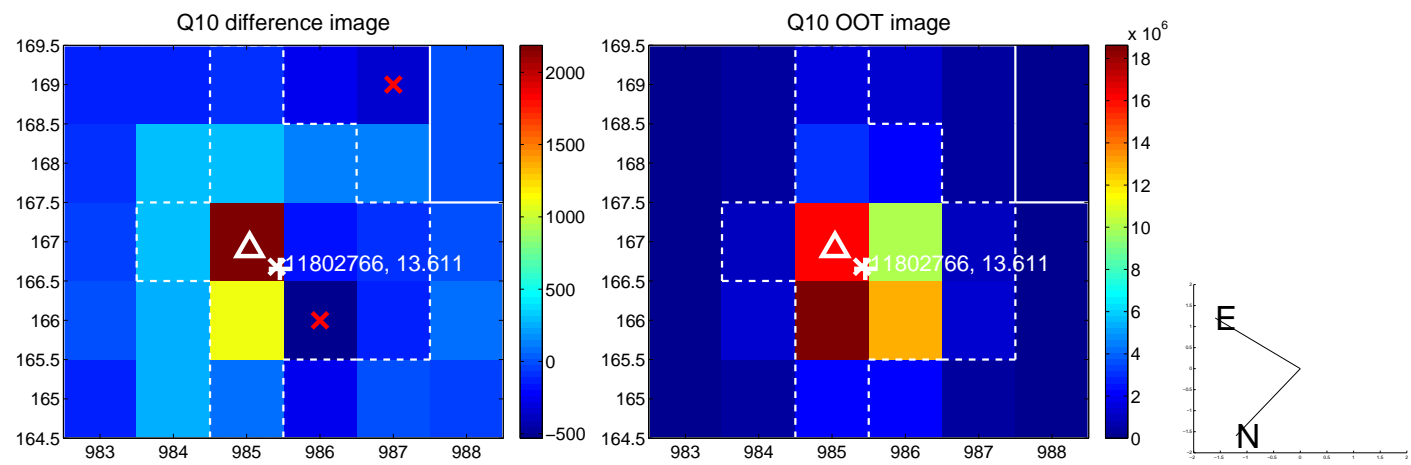
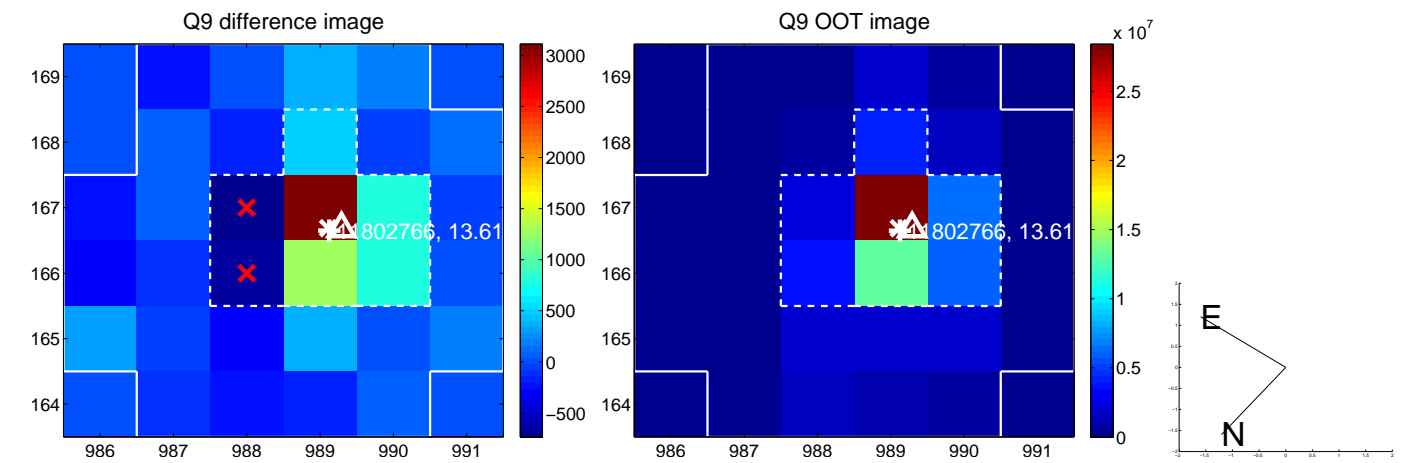
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



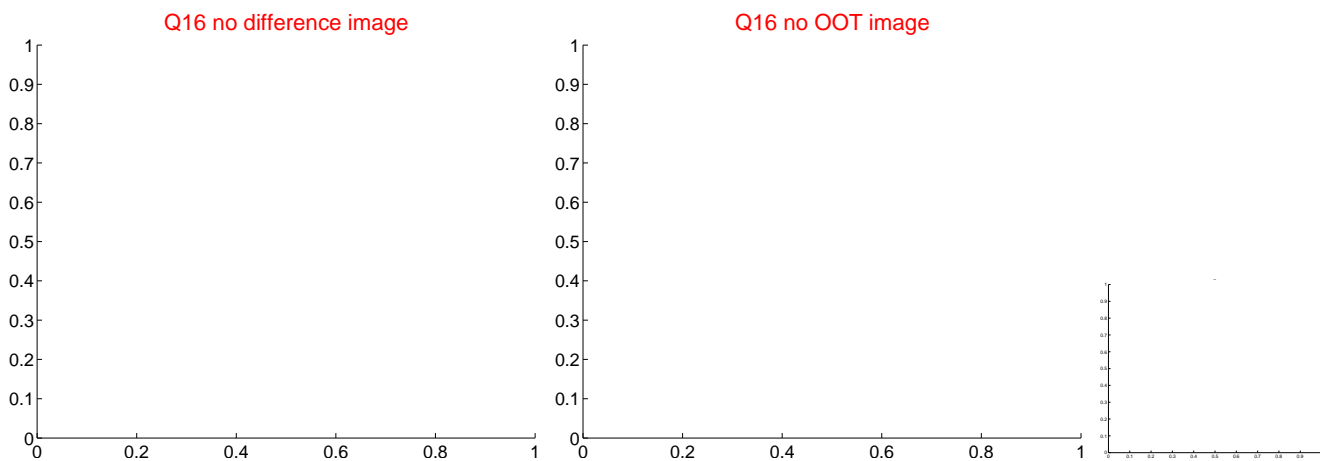
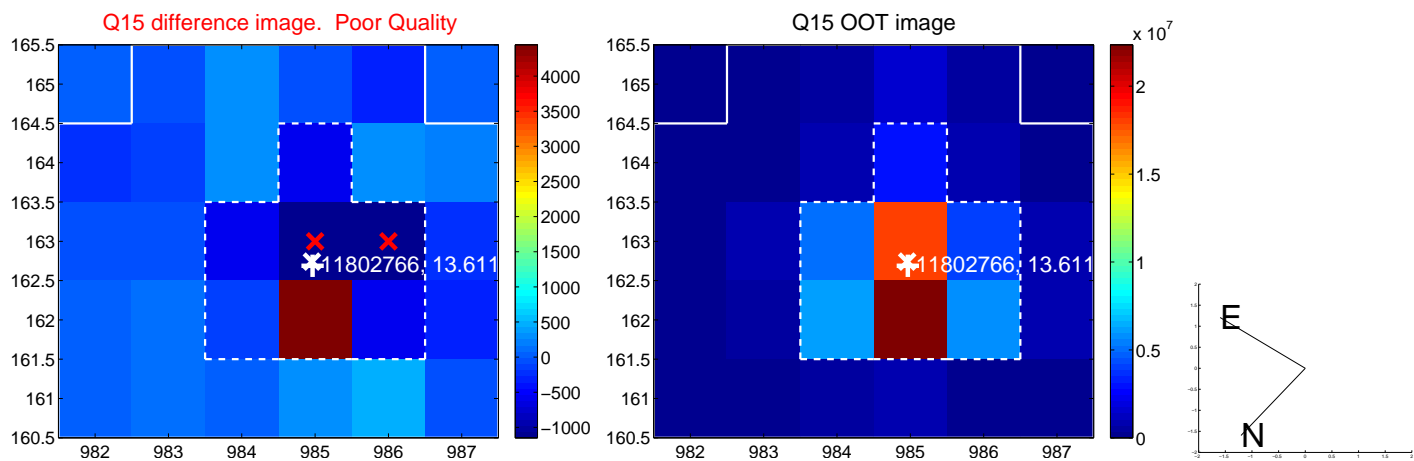
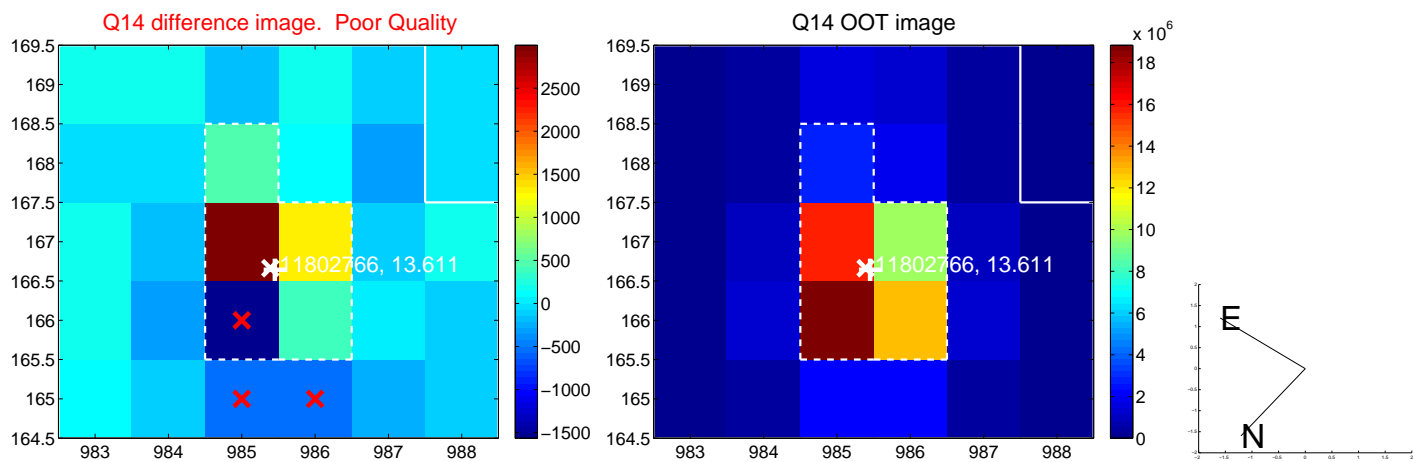
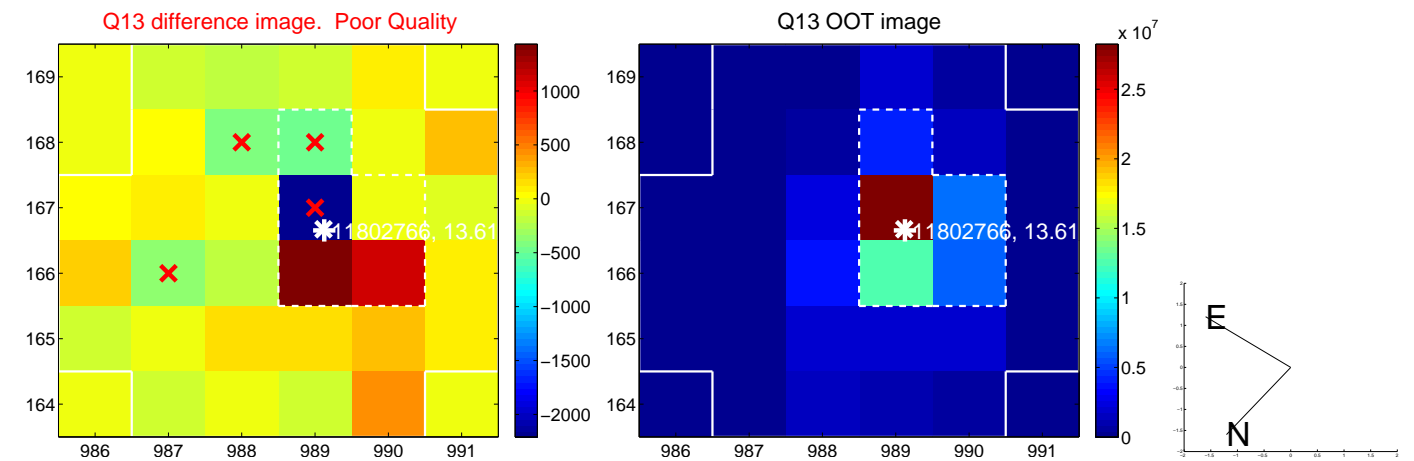
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



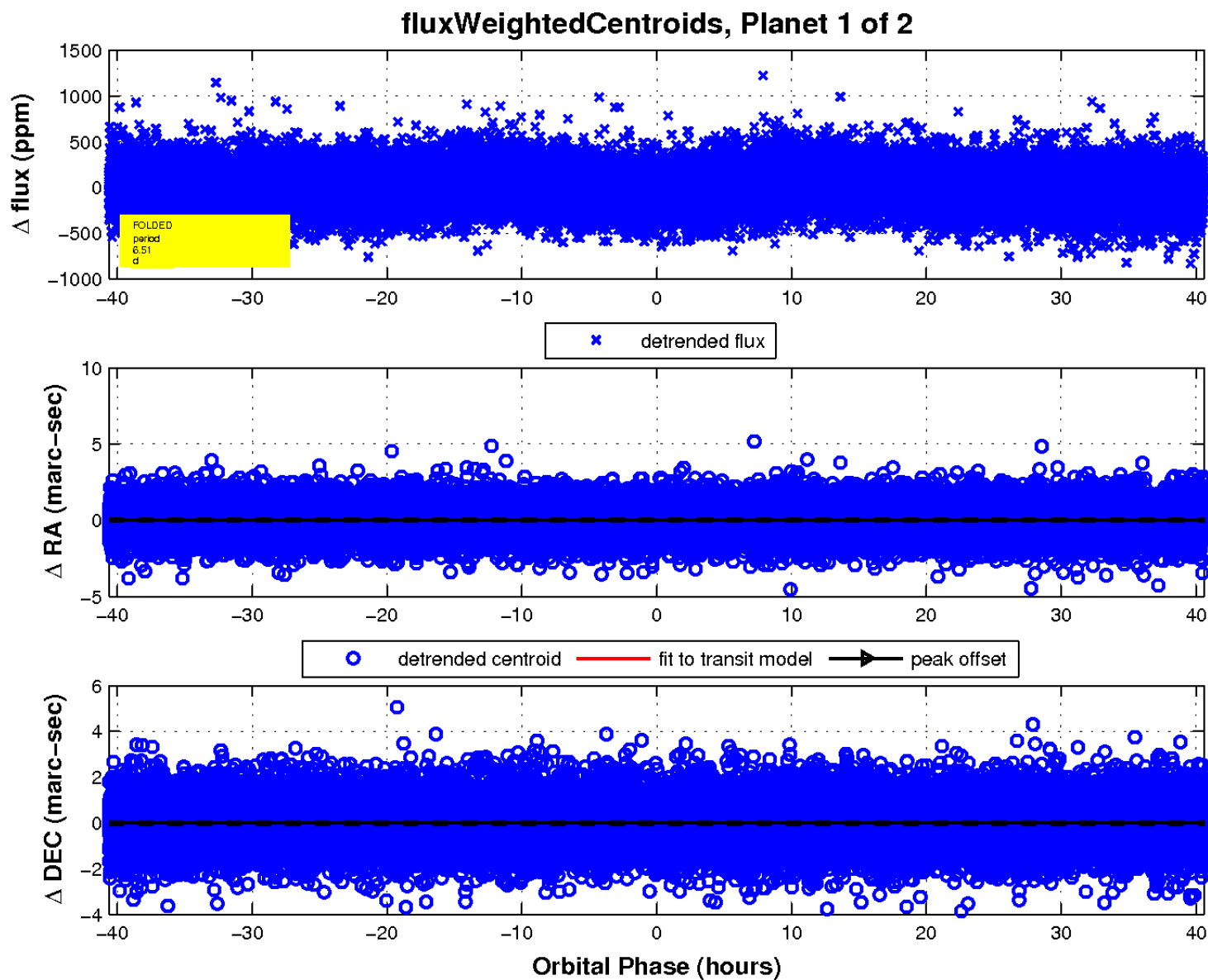
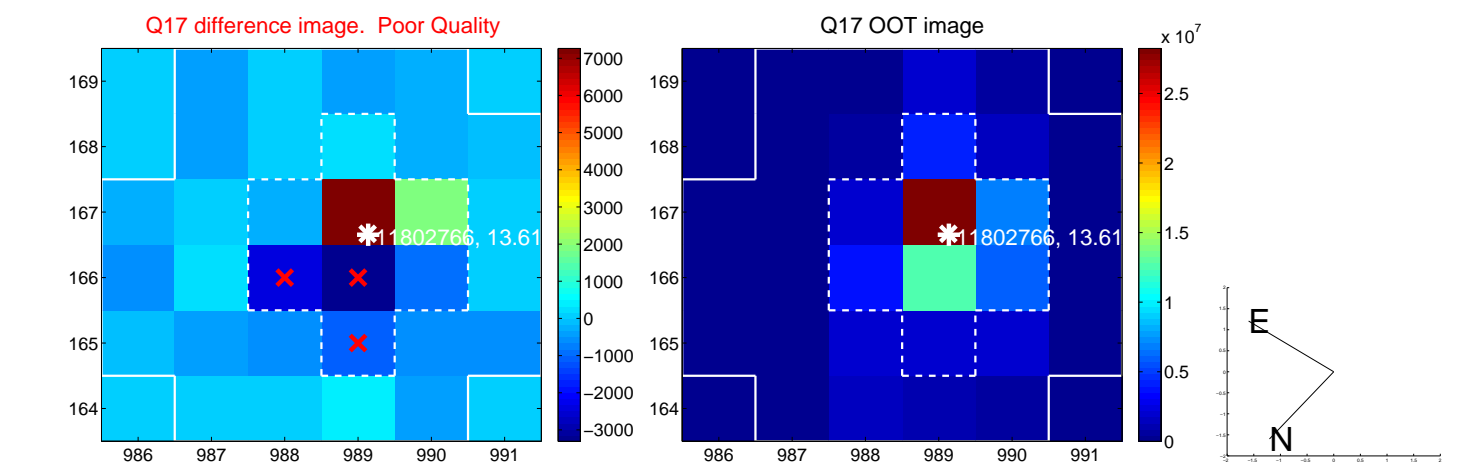
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

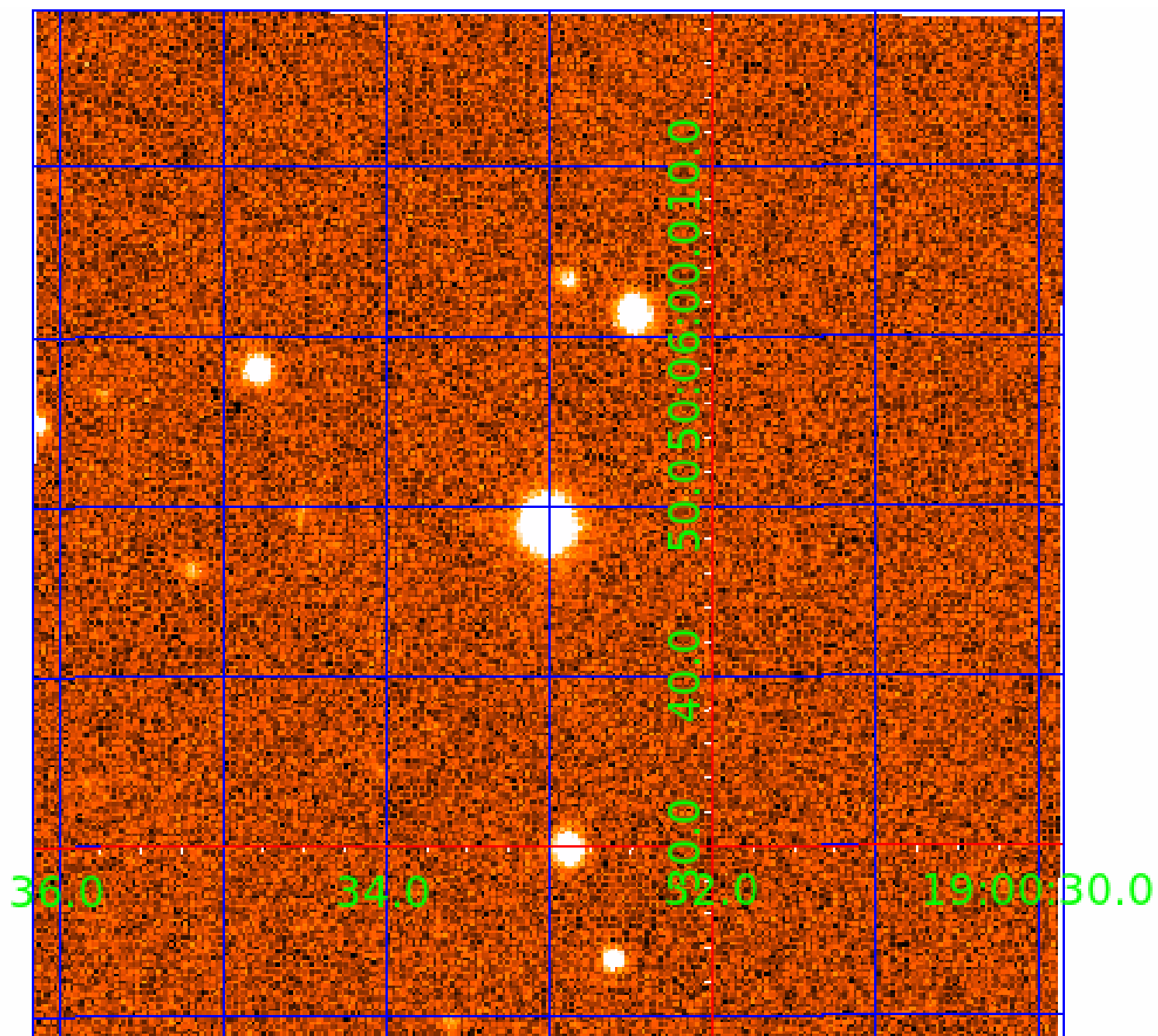


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011802766

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})
011802766-01	OBS	No	6.511020	134.627046	54.3	13.537	11.9	11.2	2.11	7302	1.81	1714.44
011802766-02	OBS	No	6.511671	133.442149	50.3	13.900	9.1	10.8	2.11	7302	1.64	1714.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011802766-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011802766-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

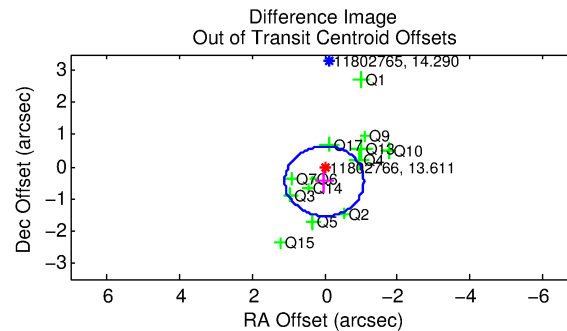
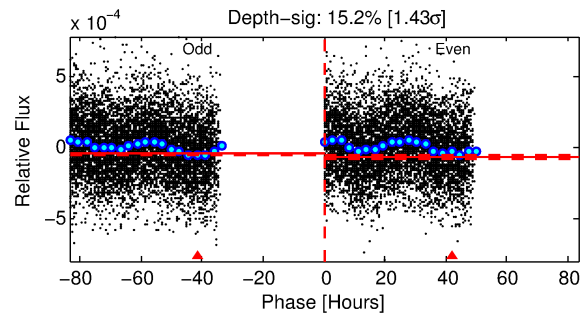
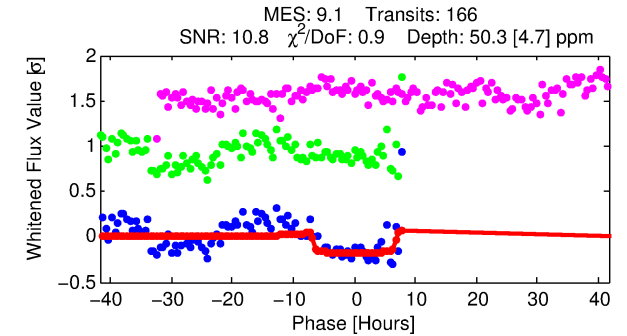
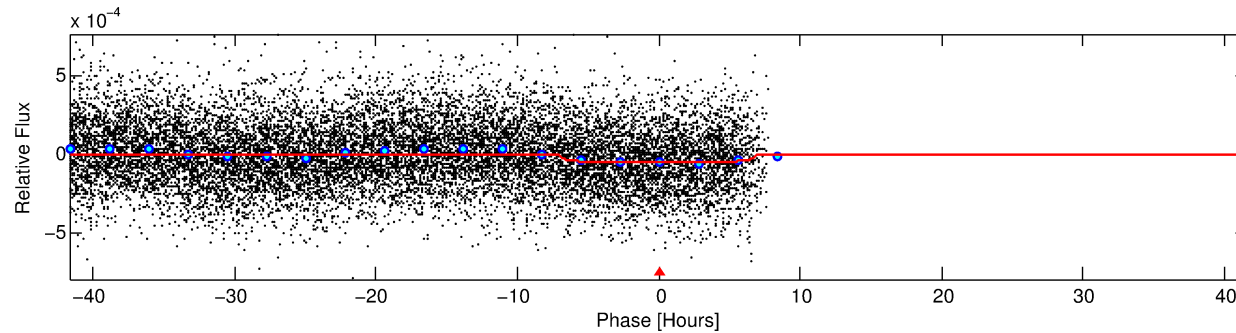
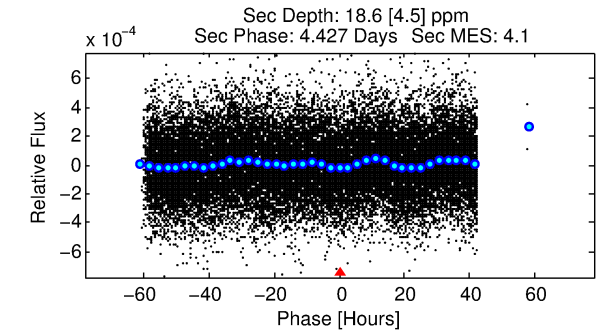
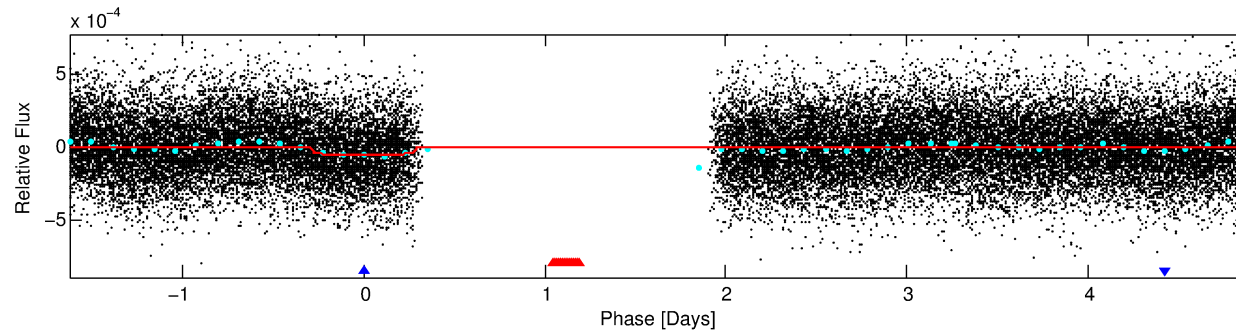
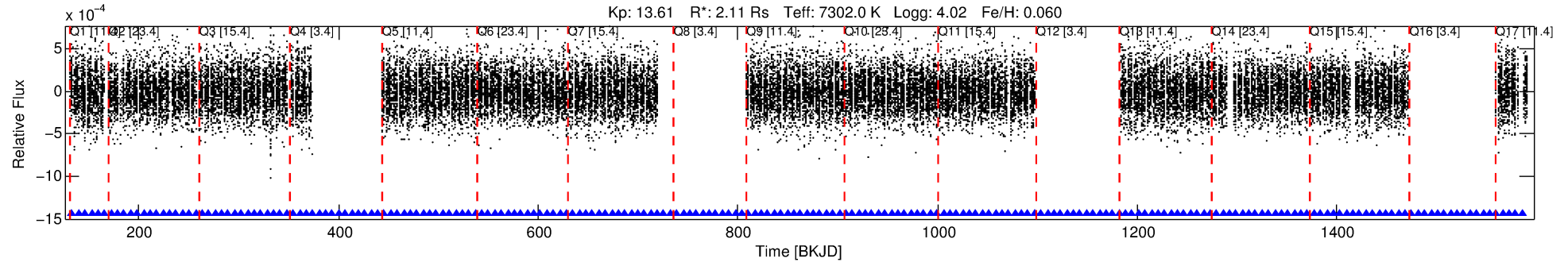
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011802766-02

No Significant Match Found

DV One-Page Summary

KIC: 11802766 Candidate: 2 of 2 Period: 6.512 d



DV Fit Results:

Period = 6.51167 [0.00014] d
Epoch = 133.4421 [0.0130] BKJD
Rp/R* = 0.0071 [0.0017]
a/R* = 2.41 [2.92]
b = 0.79 [0.71]
Seff = 1714.21 [619.33]
Teff = 1641 [148] K
Rp = 1.64 [0.60] Re
a = 0.0814 [0.0183] AU
Ag = 25.17 [15.71] [1.54σ]
Teffp = 5682 [799] K [4.97σ]

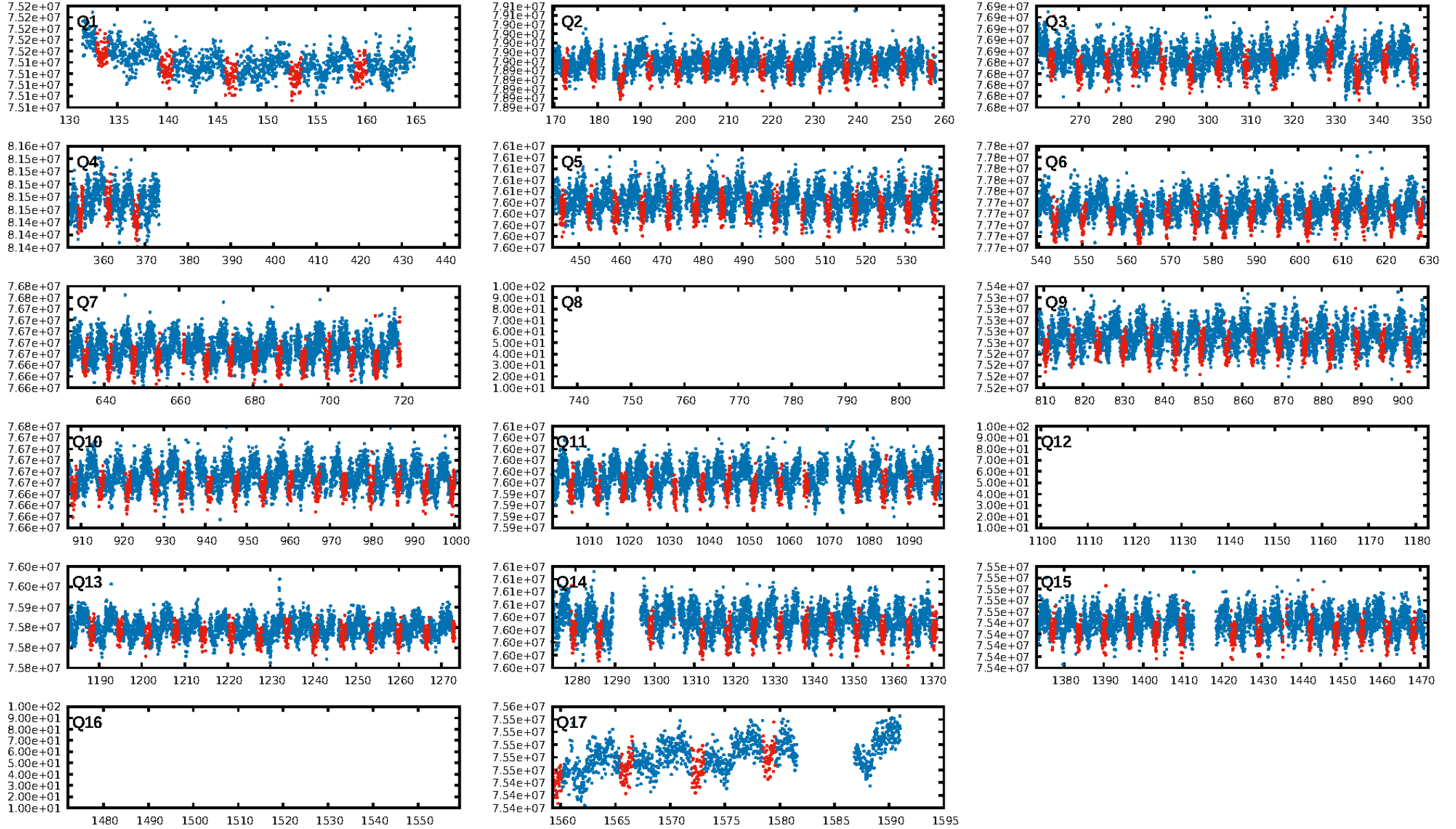
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 95.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.63e-18
RollingBand-fgt: 1.00 [154/154]
GhostDiagnostic-chr: 1.488
Centroid-sig: 12.1%
Centroid-so: 1.316 arcsec [1.51σ]
OotOffset-rm: 0.451 arcsec [1.24σ]
KicOffset-rm: 0.462 arcsec [1.35σ]
OotOffset-st: 4/3/1/5 [13]
KicOffset-st: 4/3/1/5 [13]
DiffImageQuality-fgm: 0.92 [12/13]
DiffImageOverlap-fno: 0.00 [0/14]

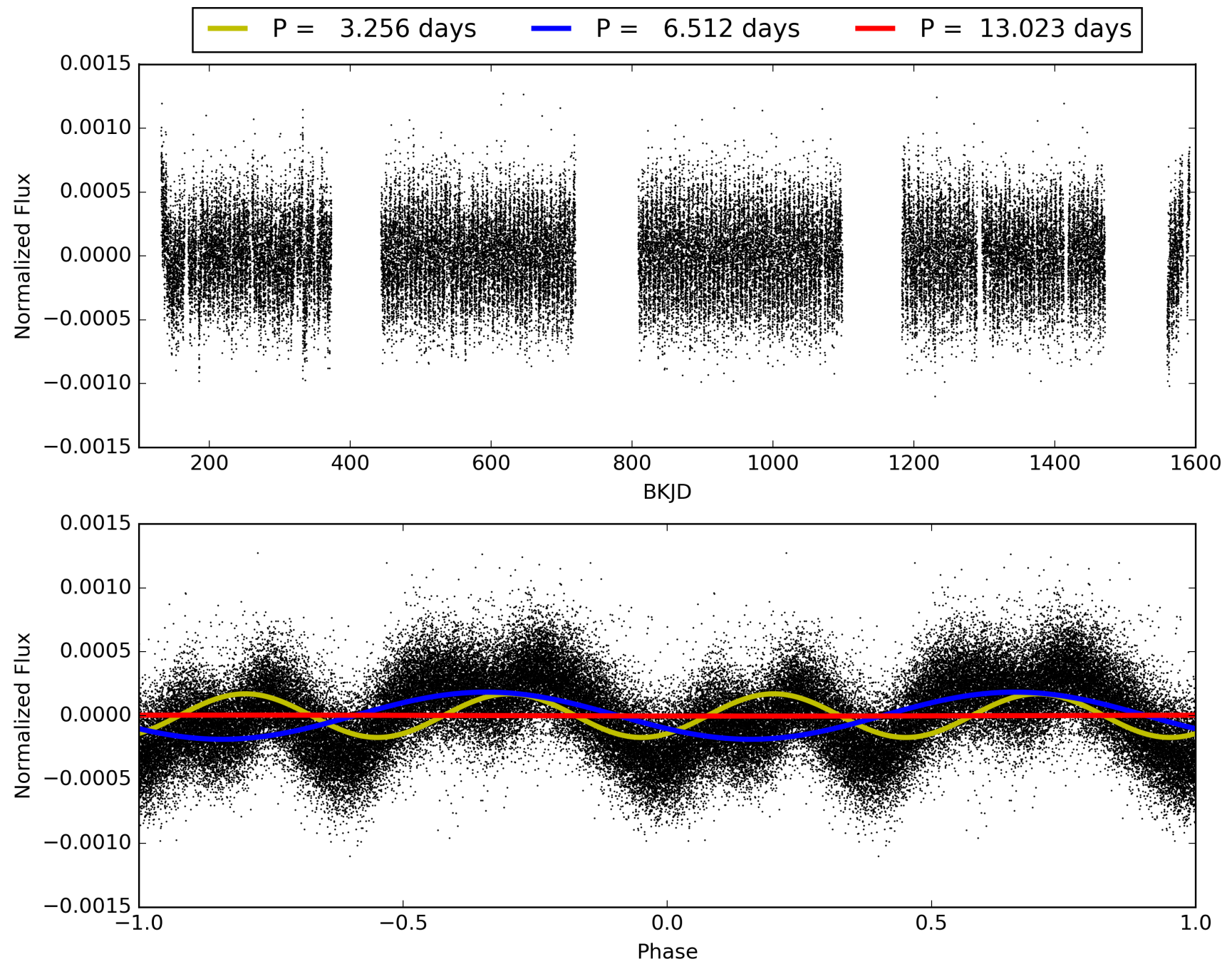
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:12:04 Z

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

TCE 011802766-02, PDC Light Curves

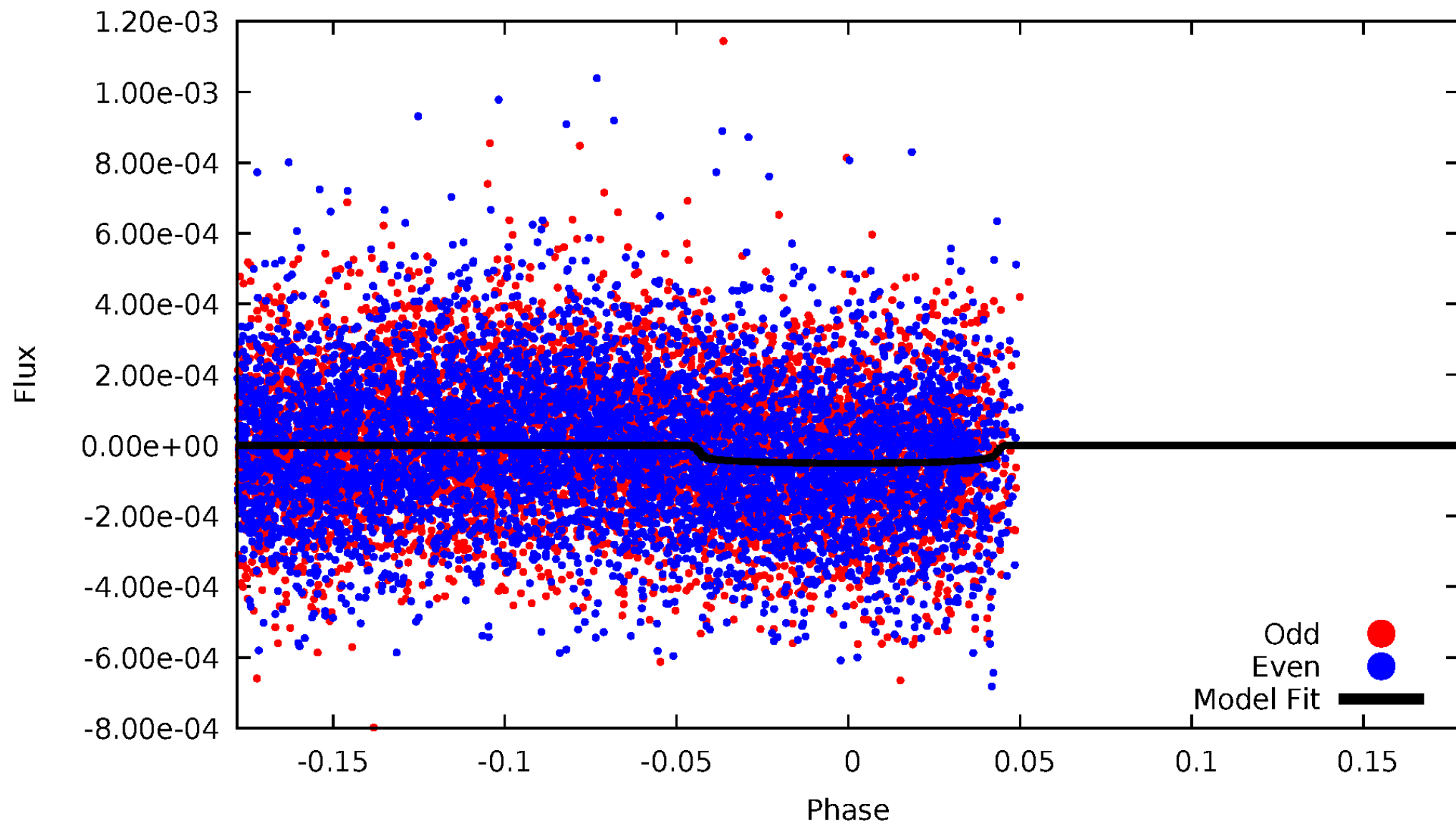


TCE 011802766-02



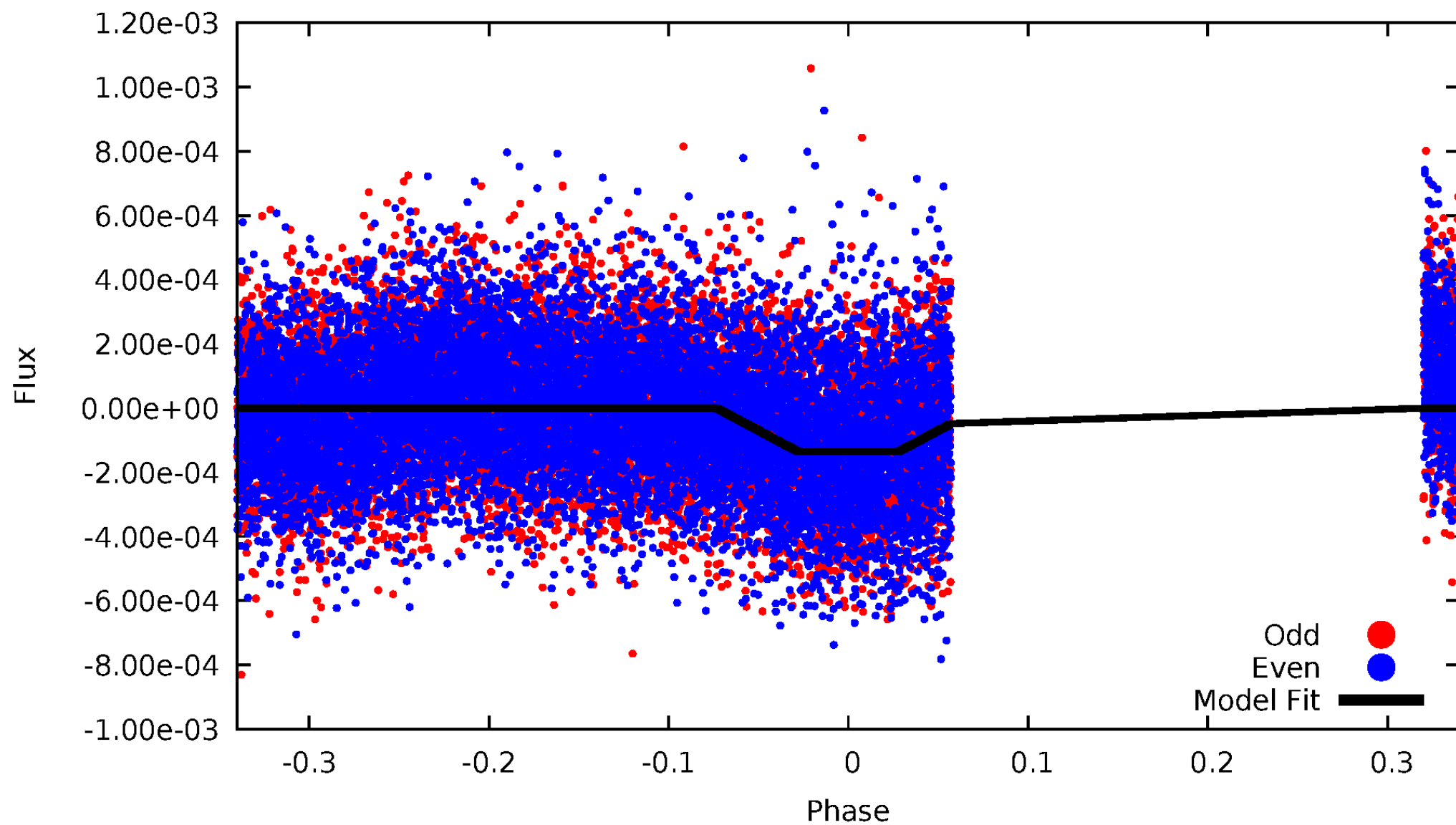
DV Odd/Even

TCE 011802766-02



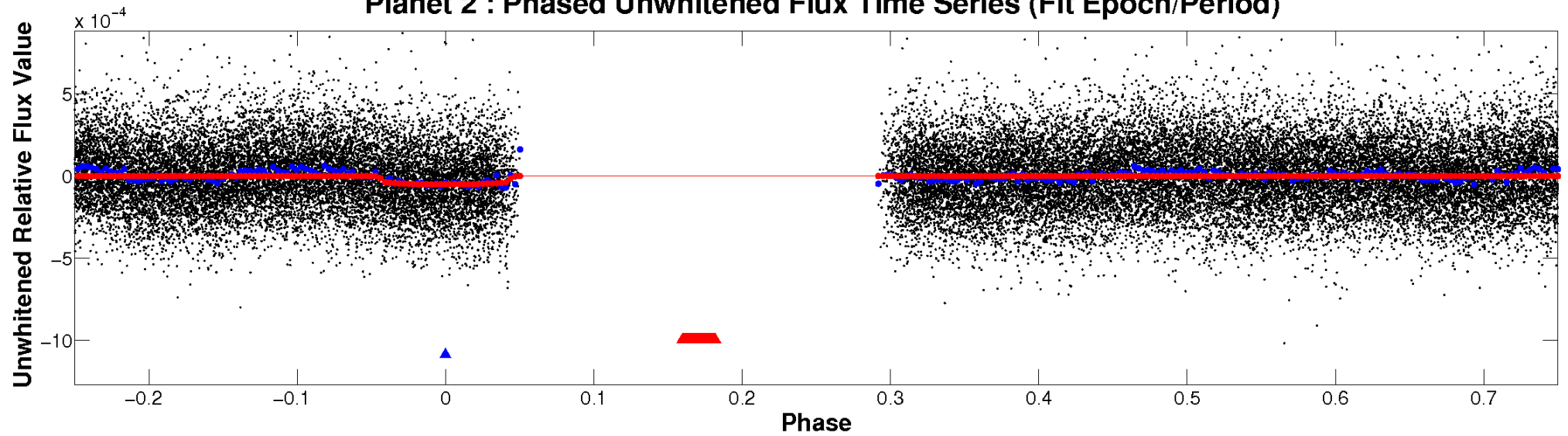
ALT Odd/Even

TCE 011802766-02

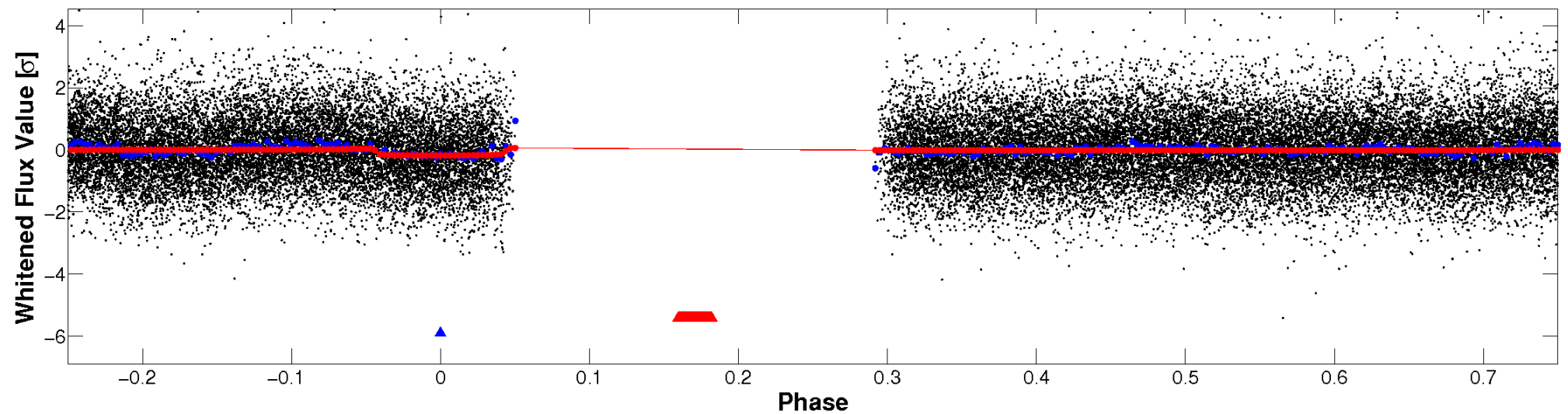


Non-Whitened Vs. Whitened Light Curve

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

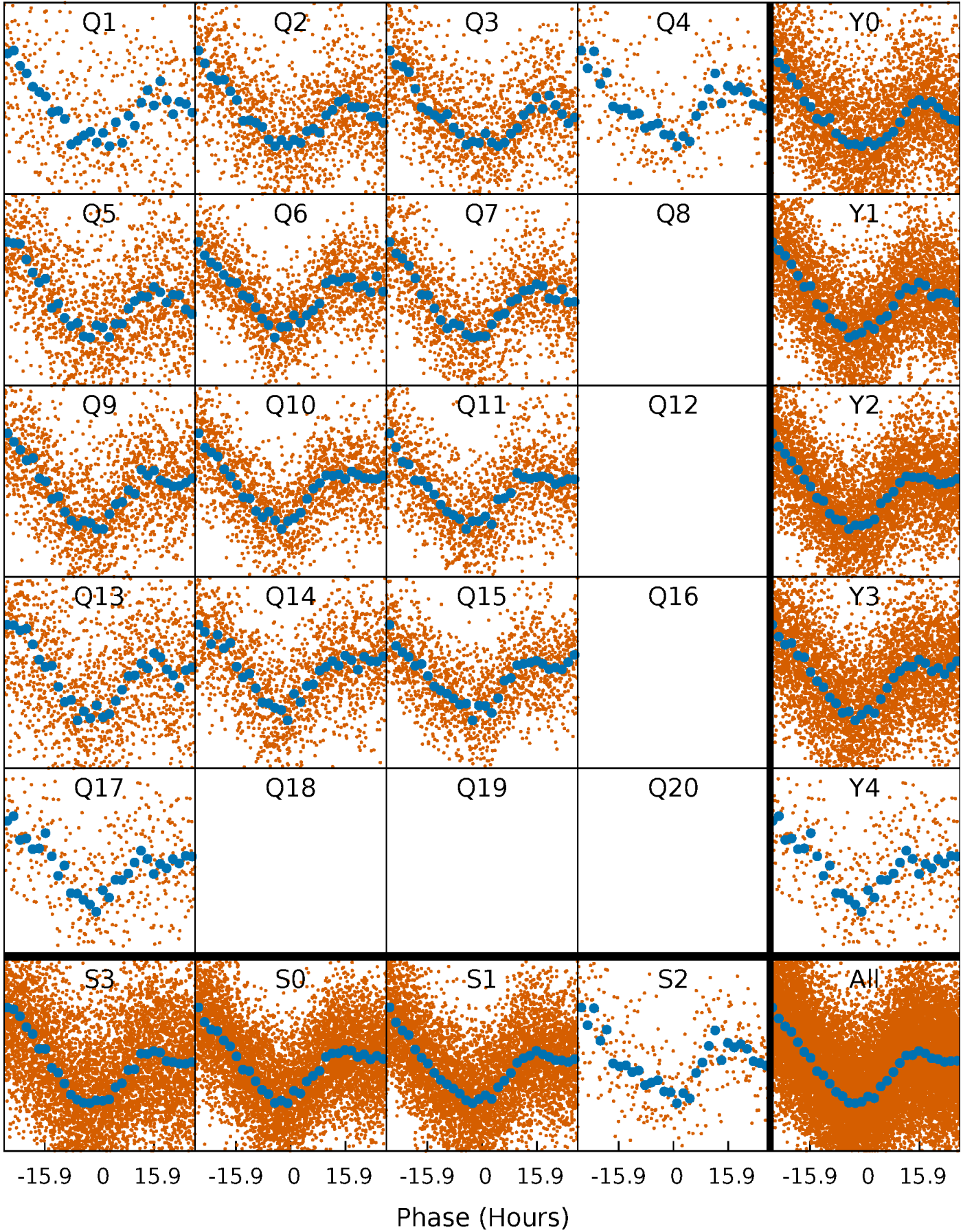


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



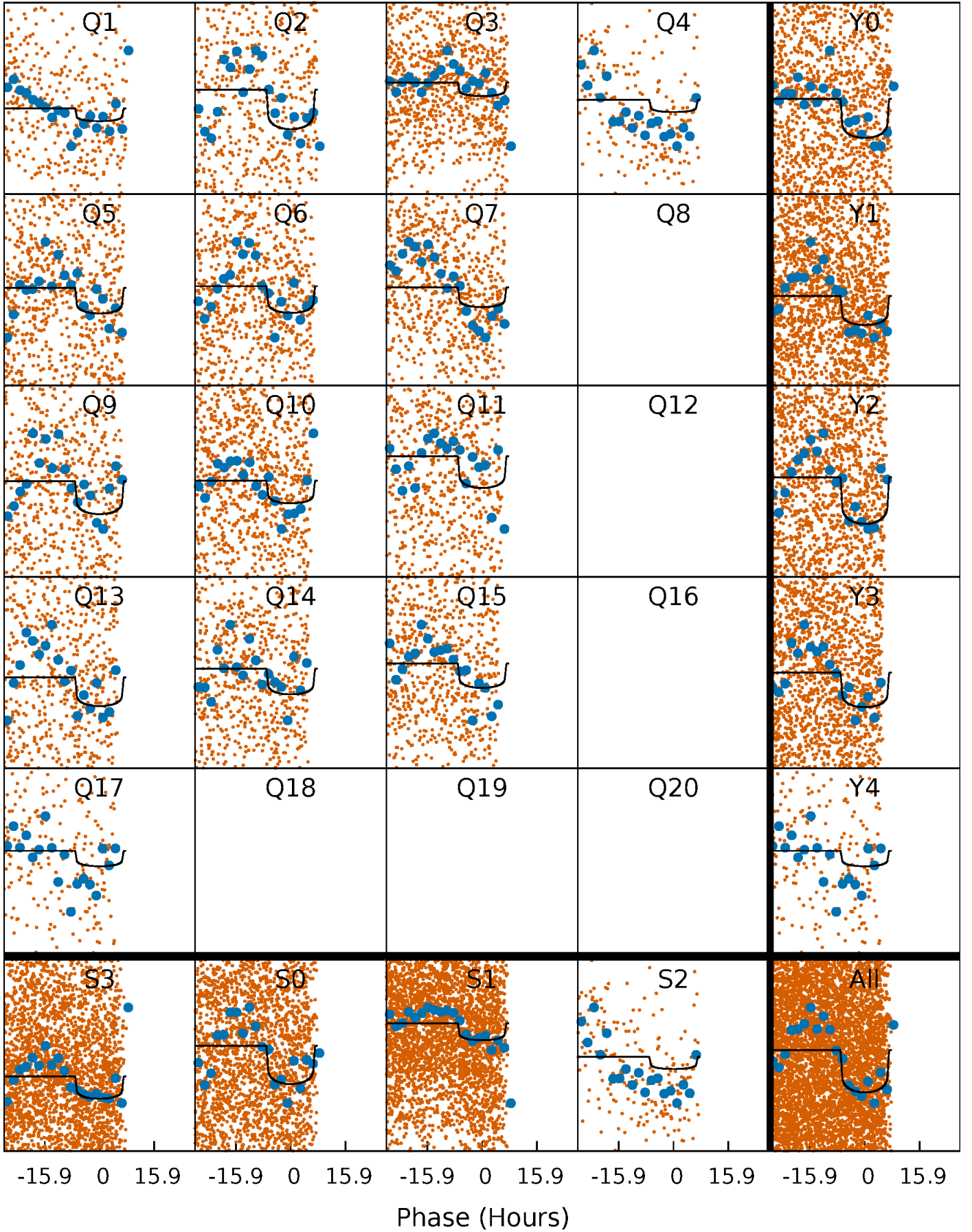
PDC Quarter-Phased Transit Curves

TCE 011802766-02 $P = 6.511671$ Days $T_0 = 133.442149$ (BKJD)



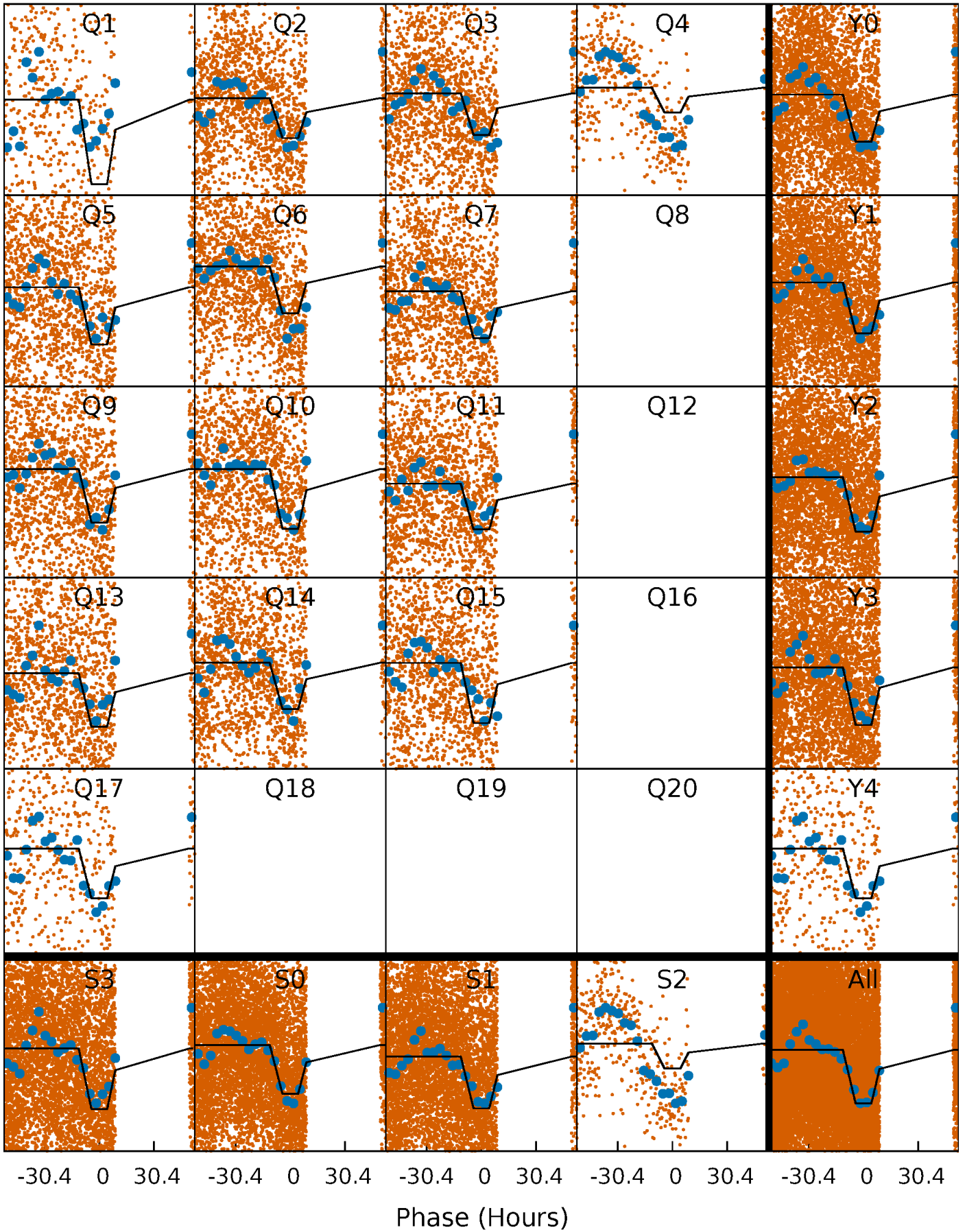
DV Quarter-Phased Transit Curves

TCE 011802766-02 P= 6.511671 Days $T_0=133.442149$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

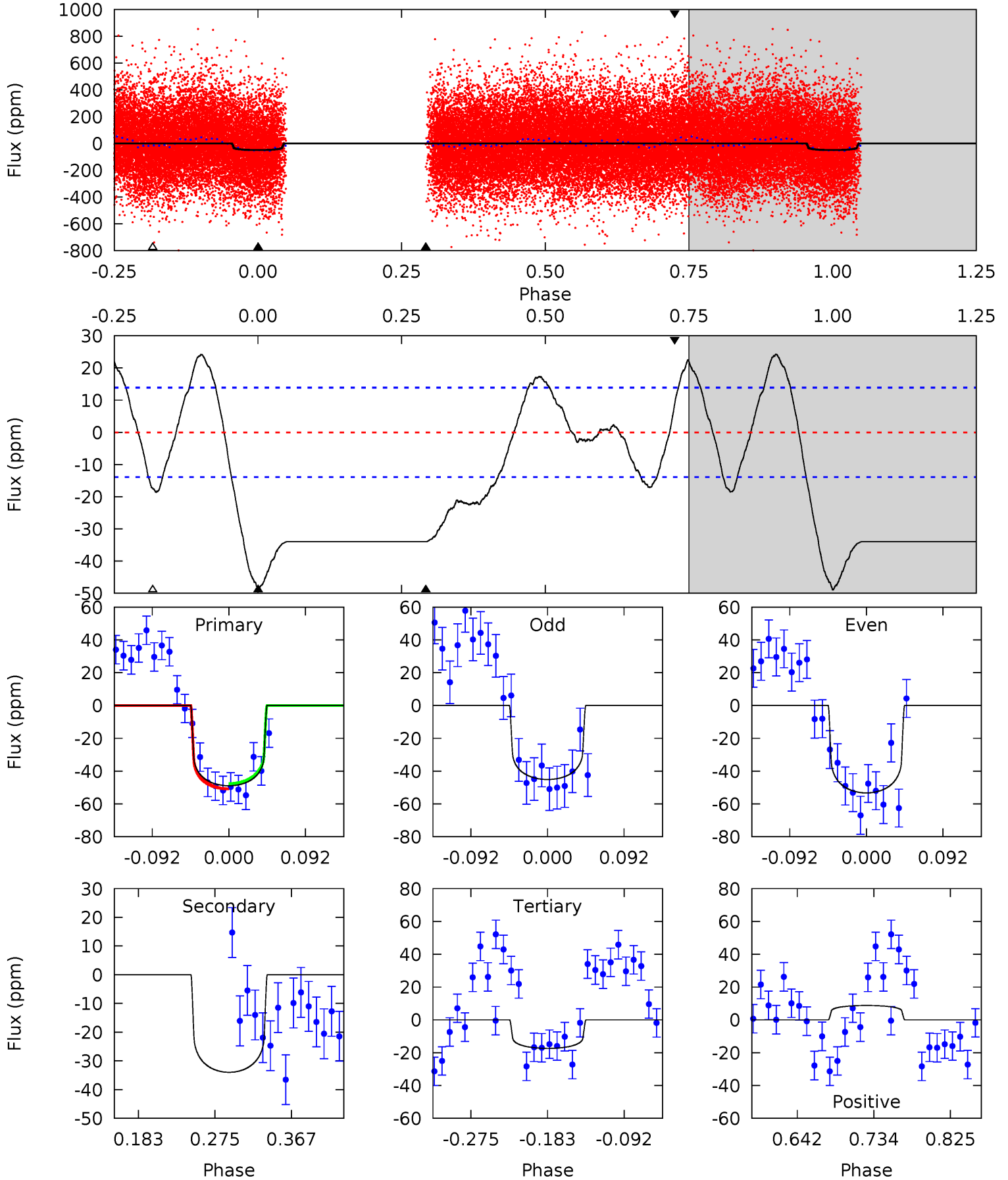
TCE 011802766-02 P= 6.511028 Days $T_0=133.398167$ (BKJD)



DV Model-Shift Uniqueness Test

011802766-02, P = 6.511671 Days, E = 126.930478 Days

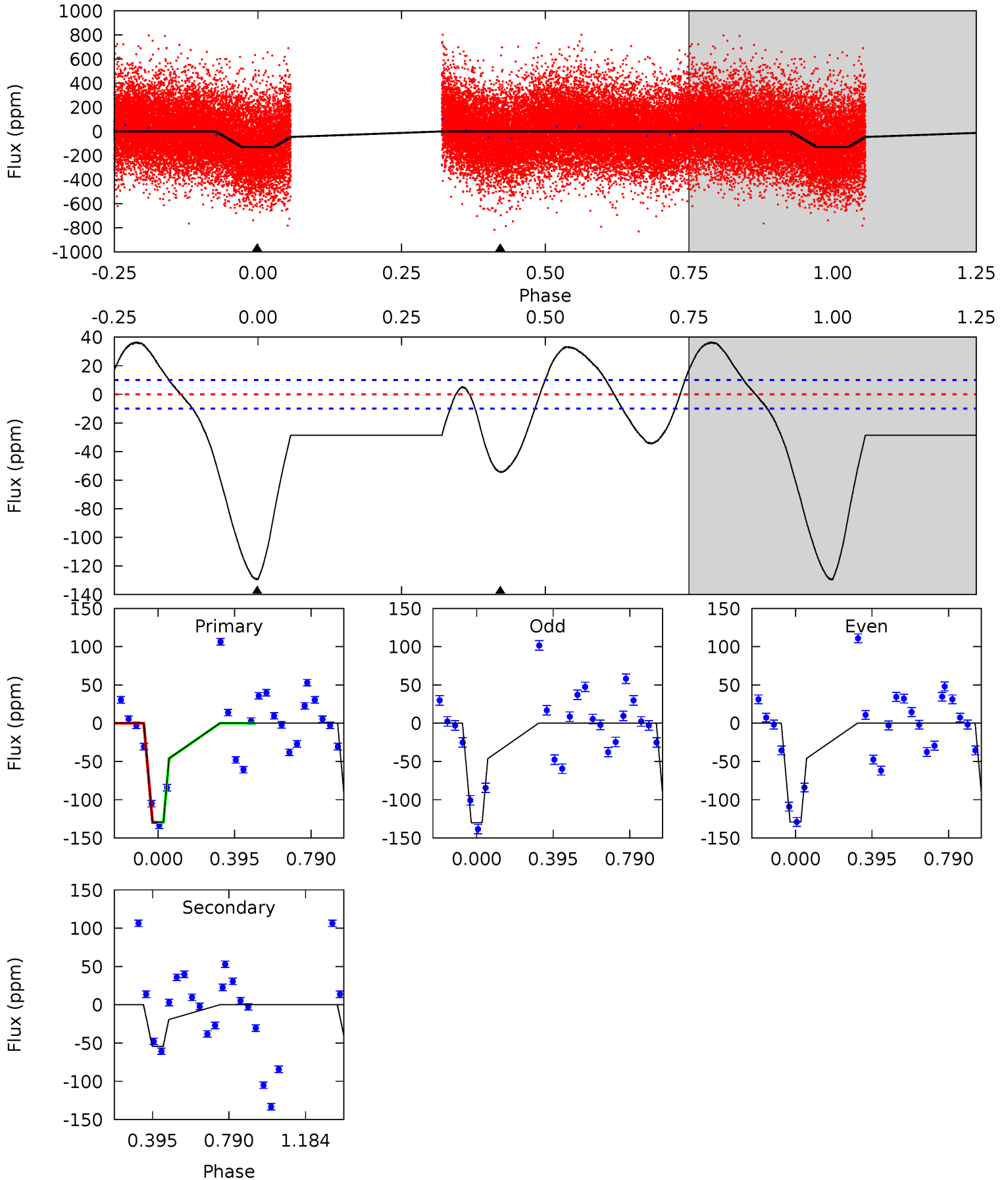
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.1	11.2	5.73	2.88	4.58	1.69	4.04	10.4	13.3	5.47	8.32	1.35	0.91	0.33	0.53



Alt Model-Shift Uniqueness Test

011802766-02, P = 6.511028 Days, E = 126.887139 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
55.6	23.4	0	0	4.27	0.85	4.91	55.6	55.6	23.4	23.4	0.19	0.98	0.22	0.01



Stellar Parameters For KIC 011802766

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7302^{+232}_{-309}	$4.018^{+0.170}_{-0.170}$	$0.060^{+0.200}_{-0.350}$	$2.111^{+0.582}_{-0.529}$	$1.691^{+0.207}_{-0.276}$	$0.253^{+0.260}_{-0.110}$
	+3%/-4%	+4%/-4%	+333%/-583%	+28%/-25%	+12%/-16%	+102%/-43%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011802766-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-34 ± 3	$1.64^{+0.47}_{-0.38}$	2286^{+178}_{-158}	6462^{+1032}_{-662}	44^{+33}_{-16}
Alt.	-54 ± 2	$2.65^{+0.59}_{-0.51}$	2289^{+163}_{-165}	5731^{+533}_{-401}	28^{+14}_{-9}

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

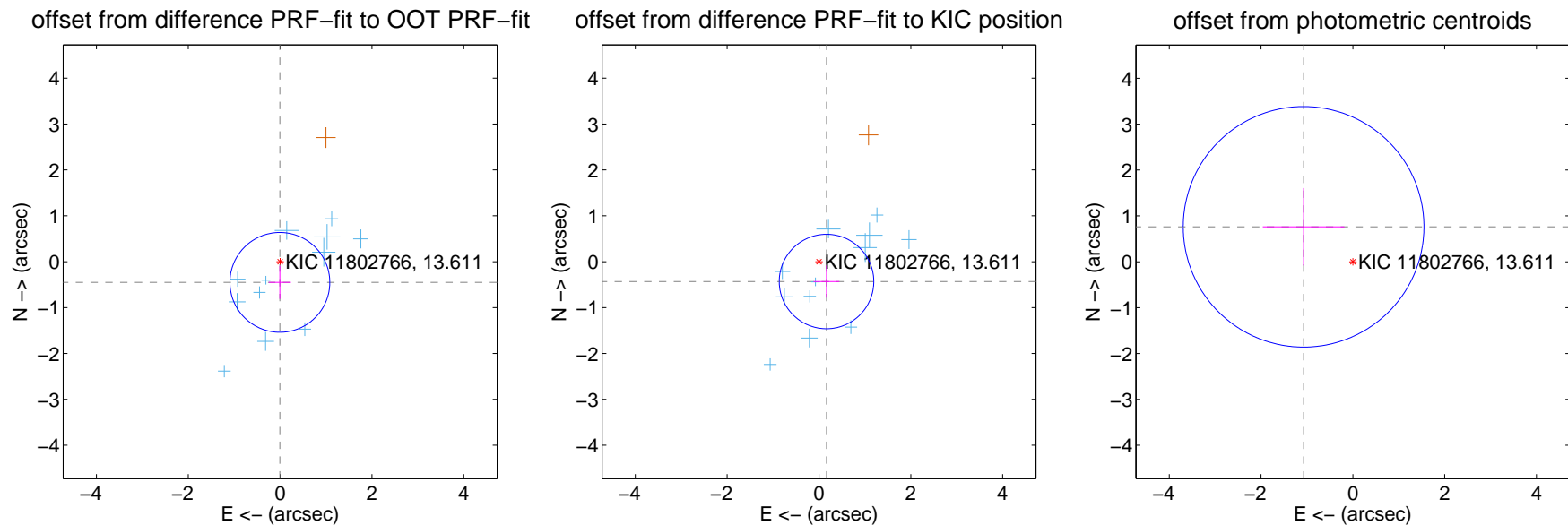
DV Centroid Data

Supplemental centroid analysis for 011802766-02. Kepler magnitude: 13.61. Transit SNR 10.75

There are 12 quarters with good PRF difference image offsets

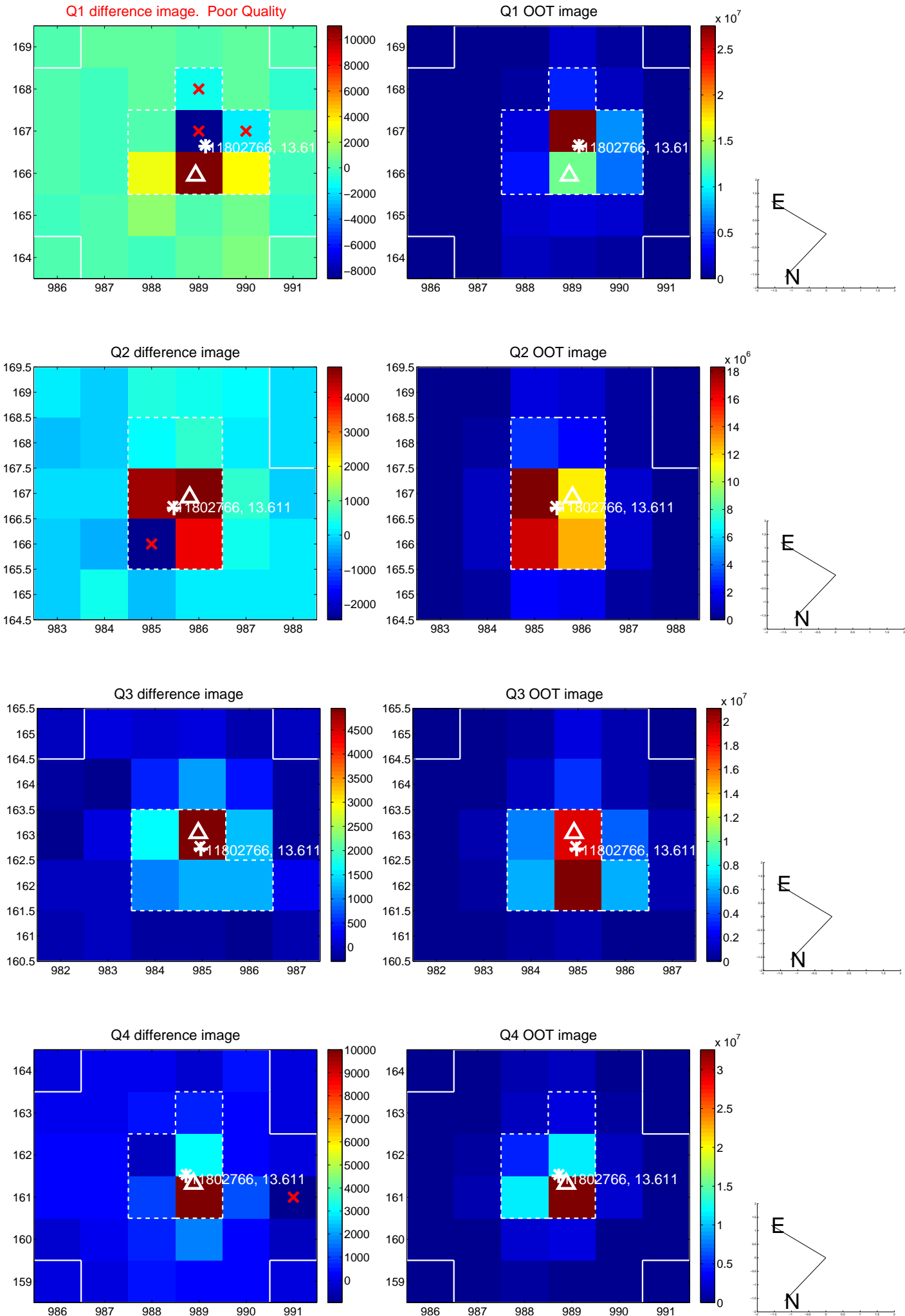
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.451 ± 0.362	1.24	0.006 ± 0.242	-0.451 ± 0.361
PRF-fit source offset from KIC position	0.462 ± 0.343	1.35	-0.164 ± 0.281	-0.432 ± 0.351
photometric centroid source offset	1.32 ± 0.87	1.51	1.07 ± 0.89	0.76 ± 0.84

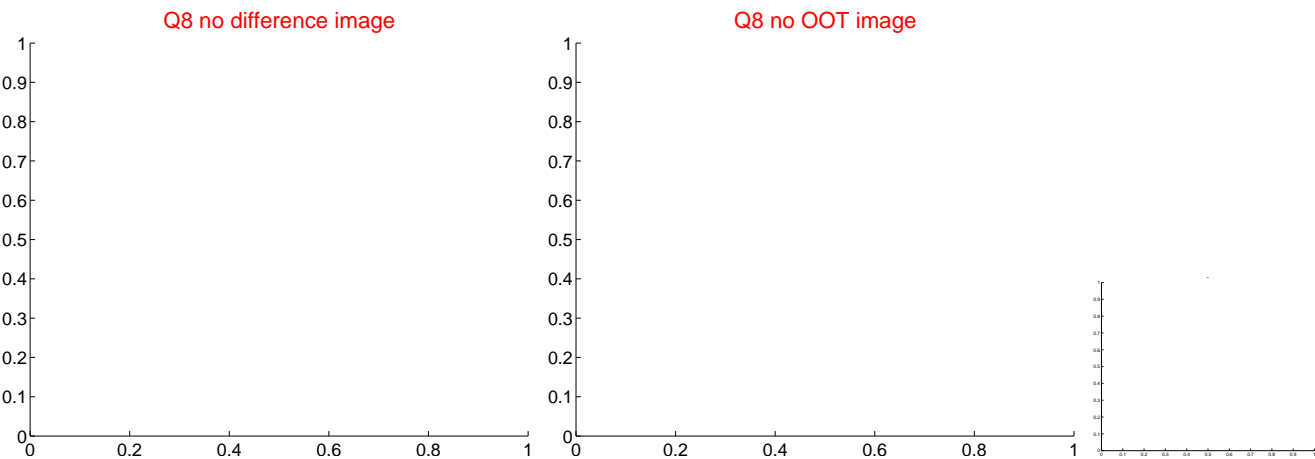
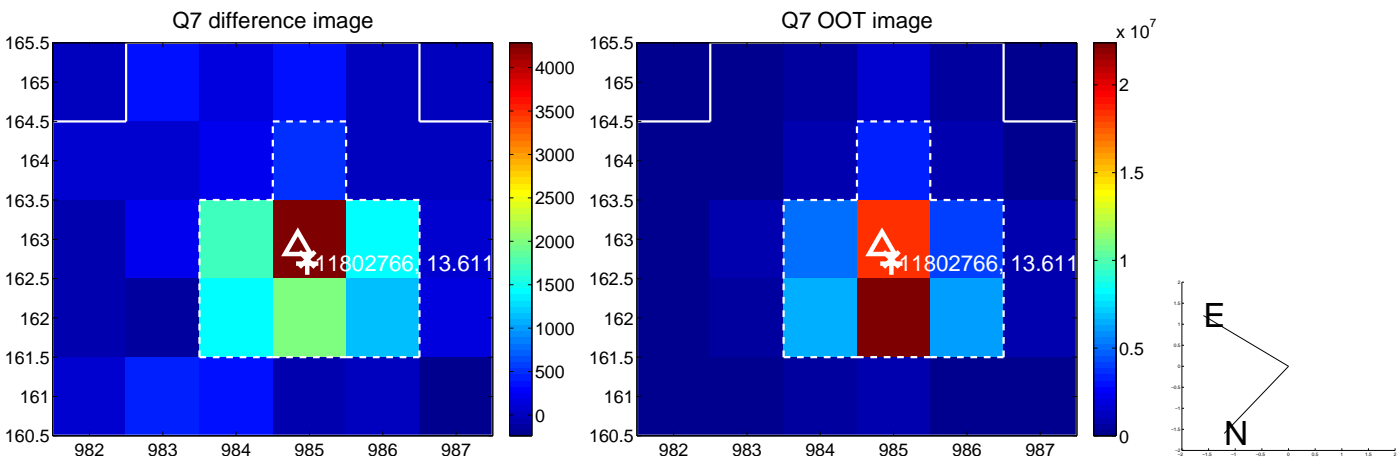
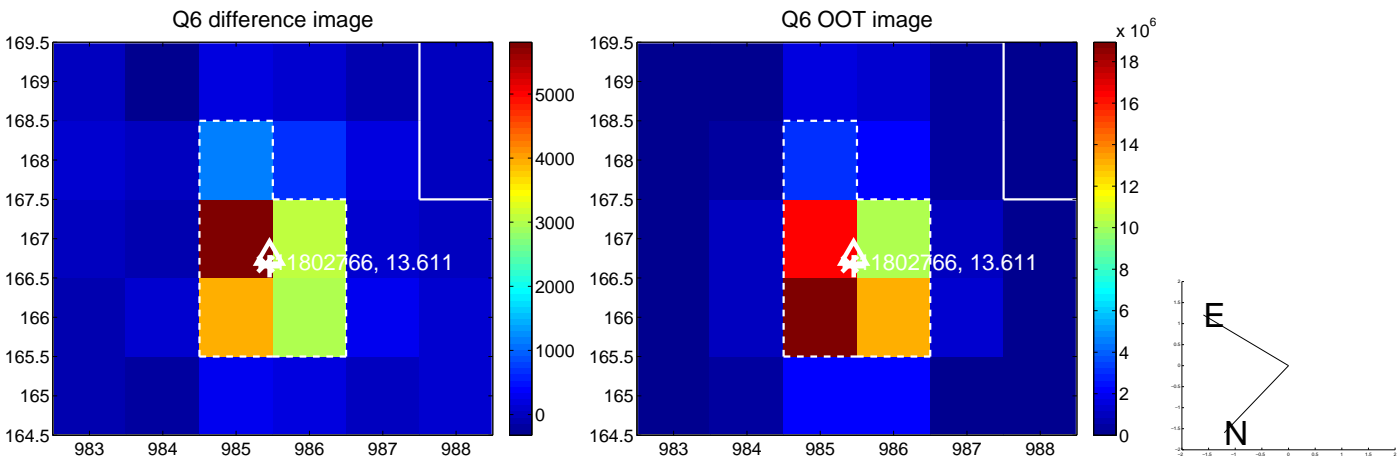
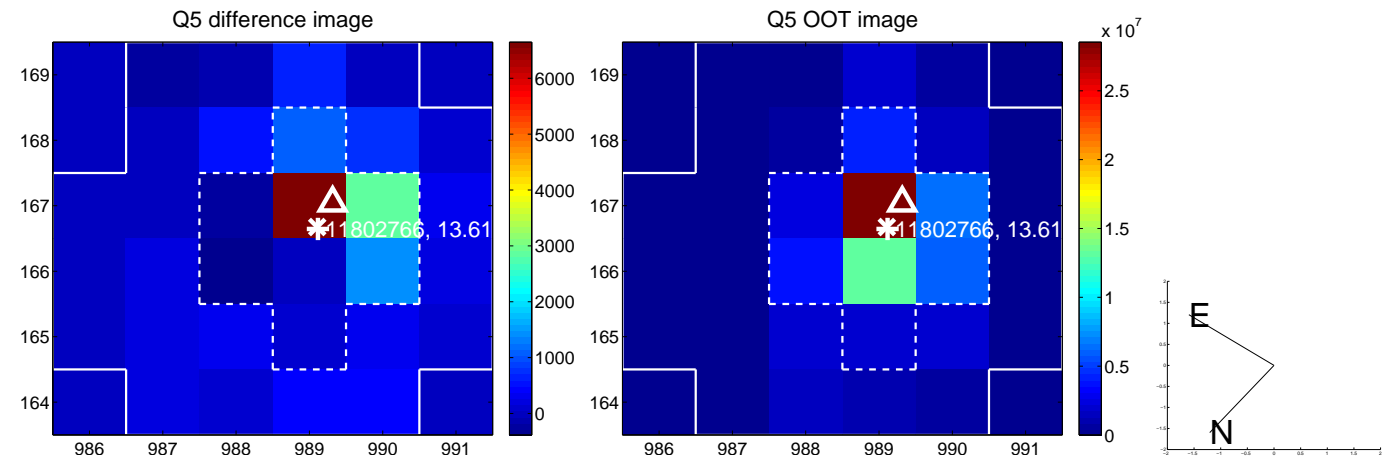


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

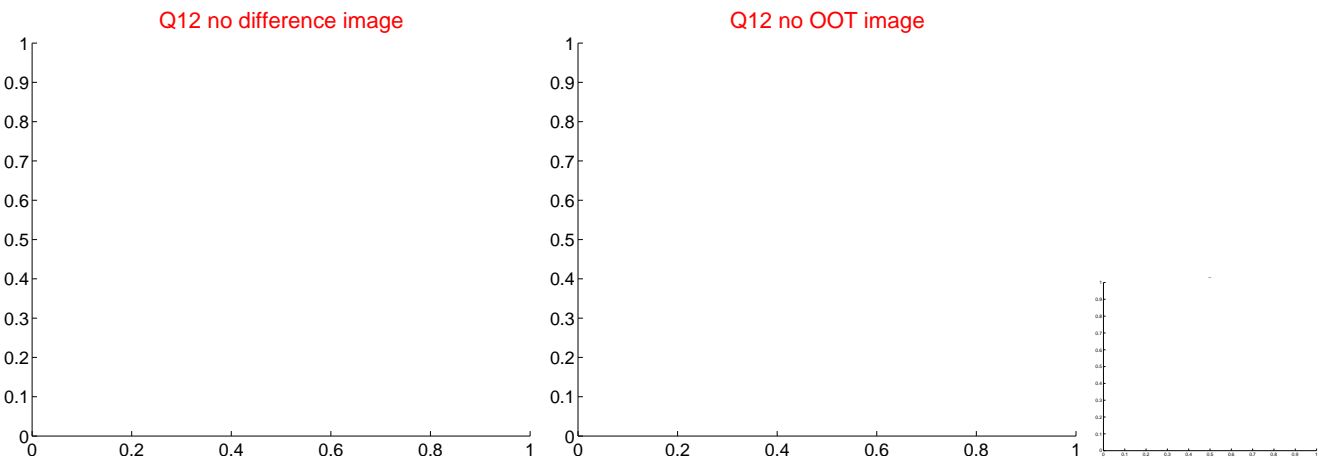
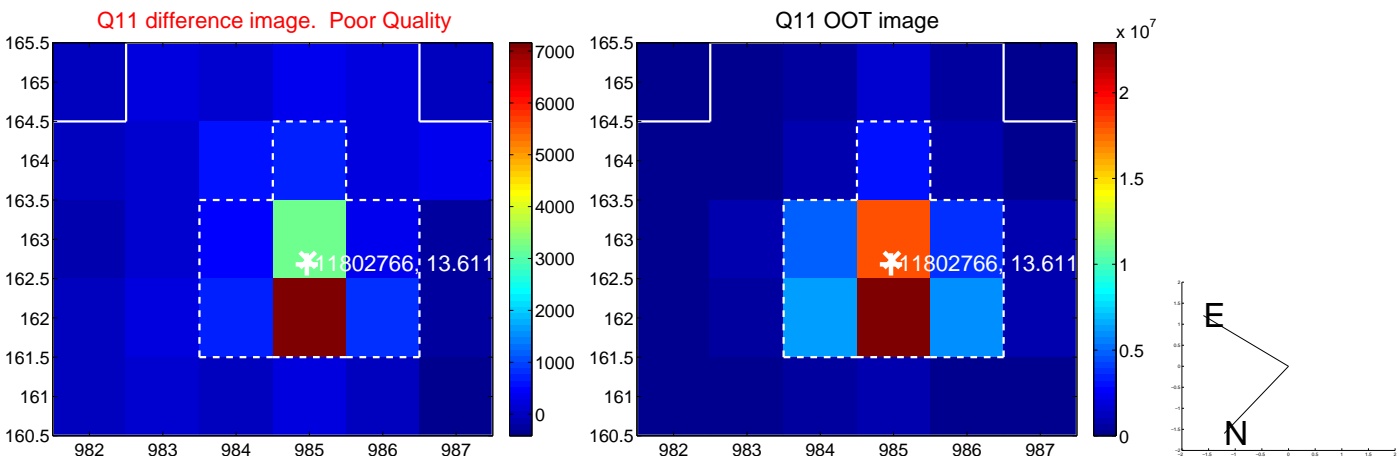
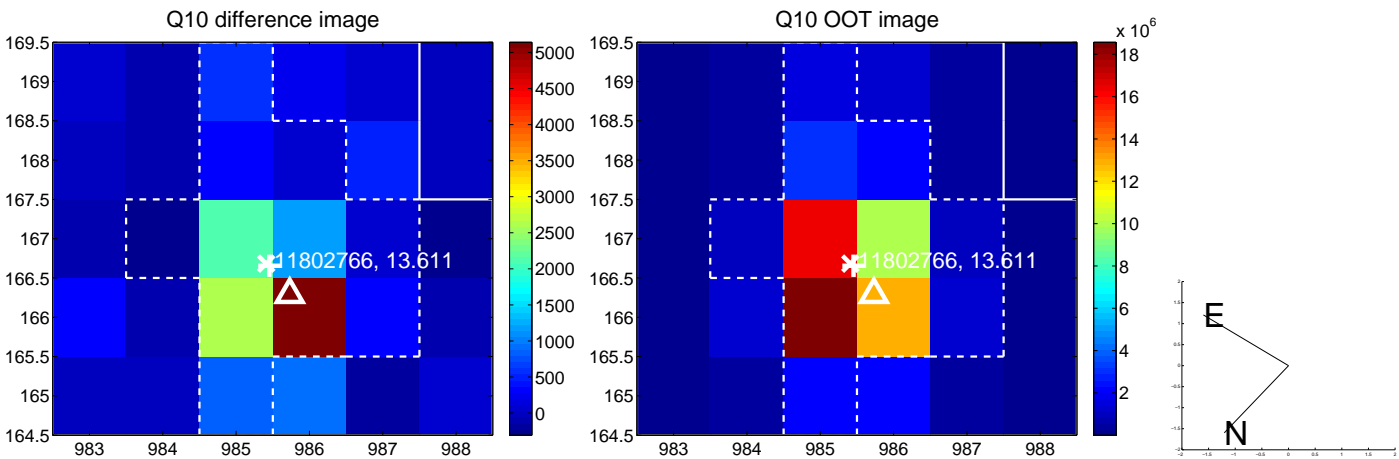
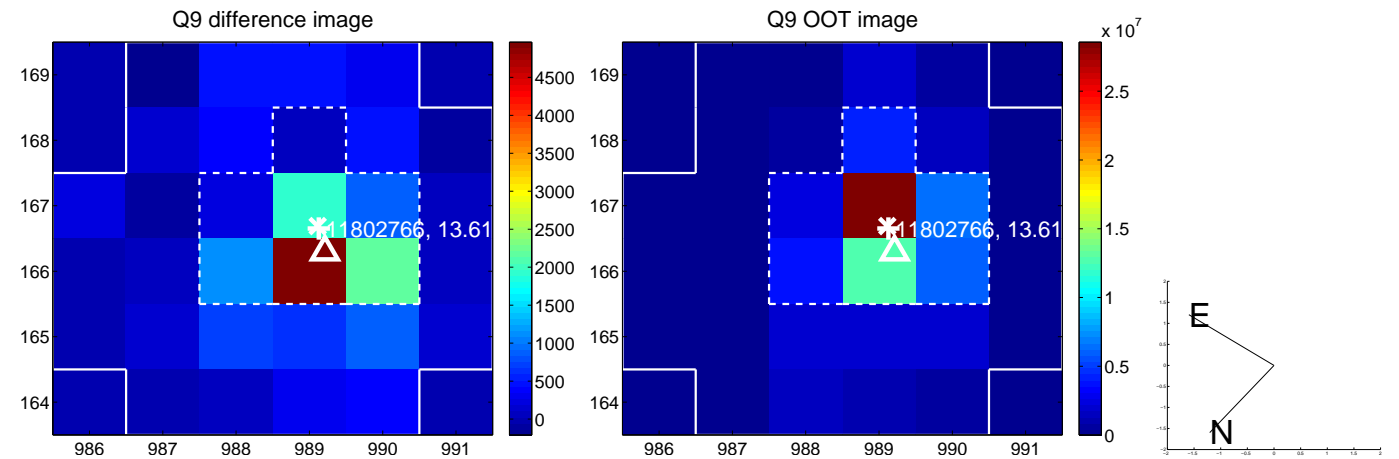
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



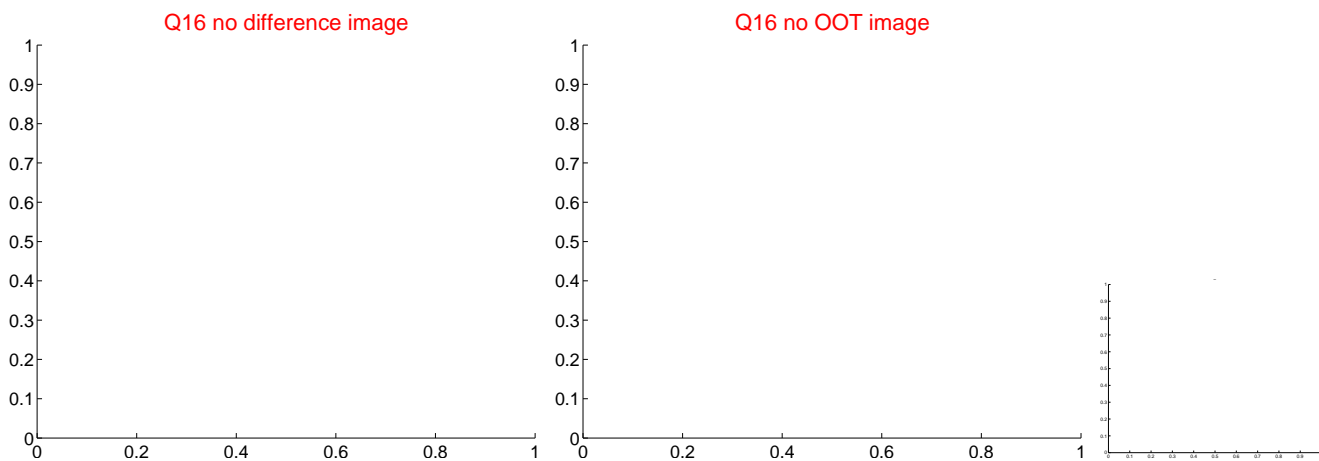
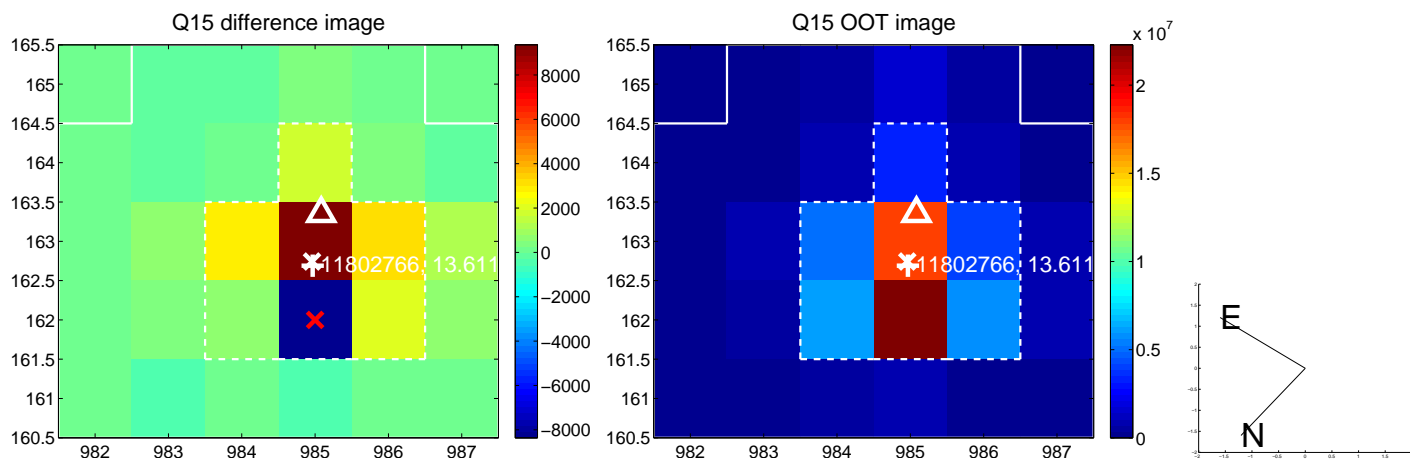
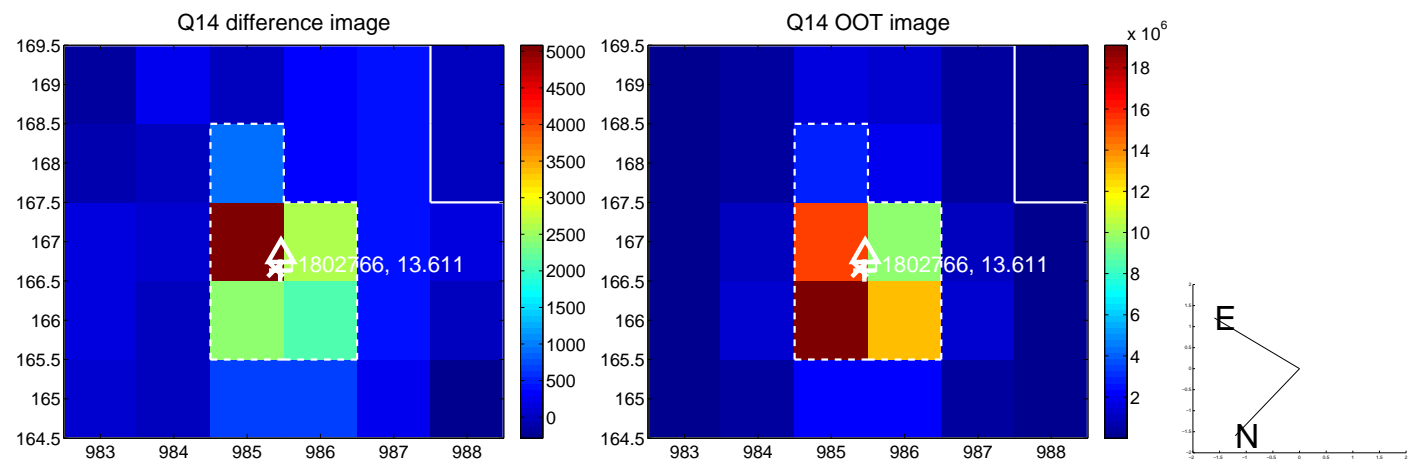
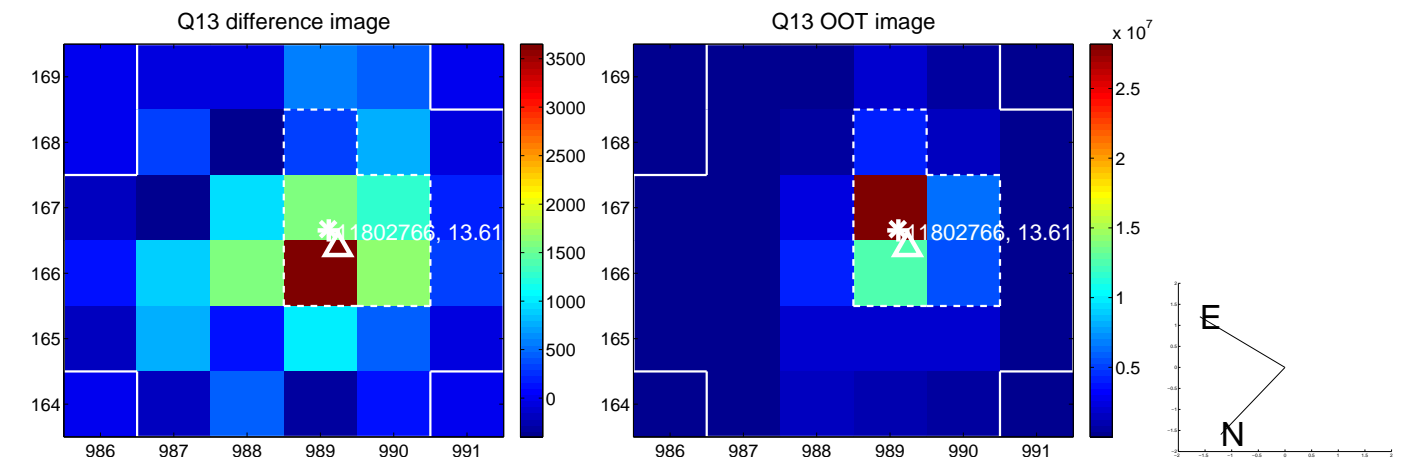
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



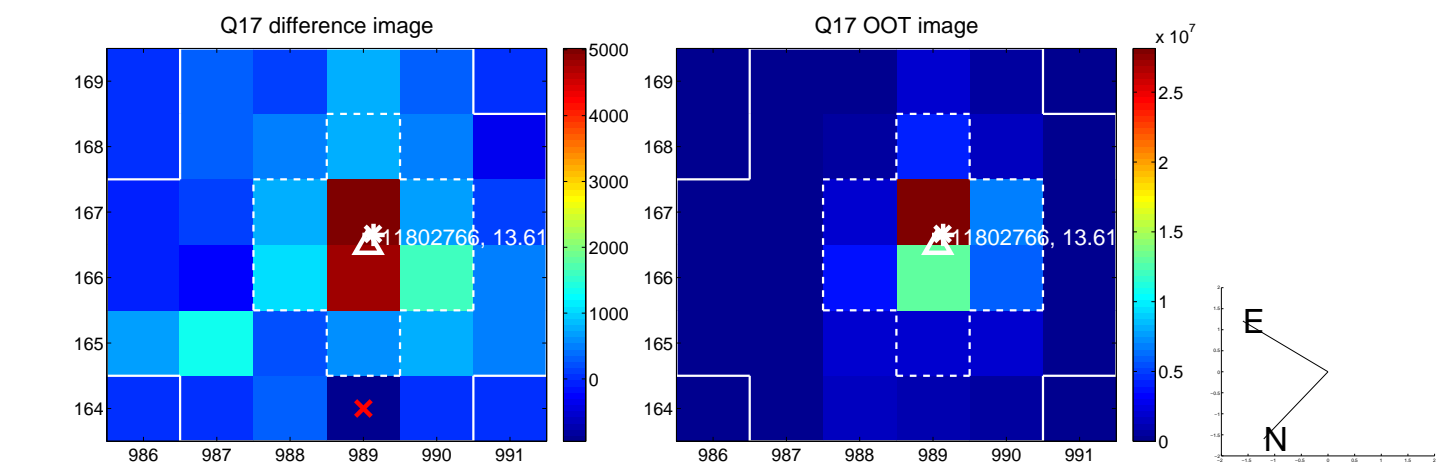
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



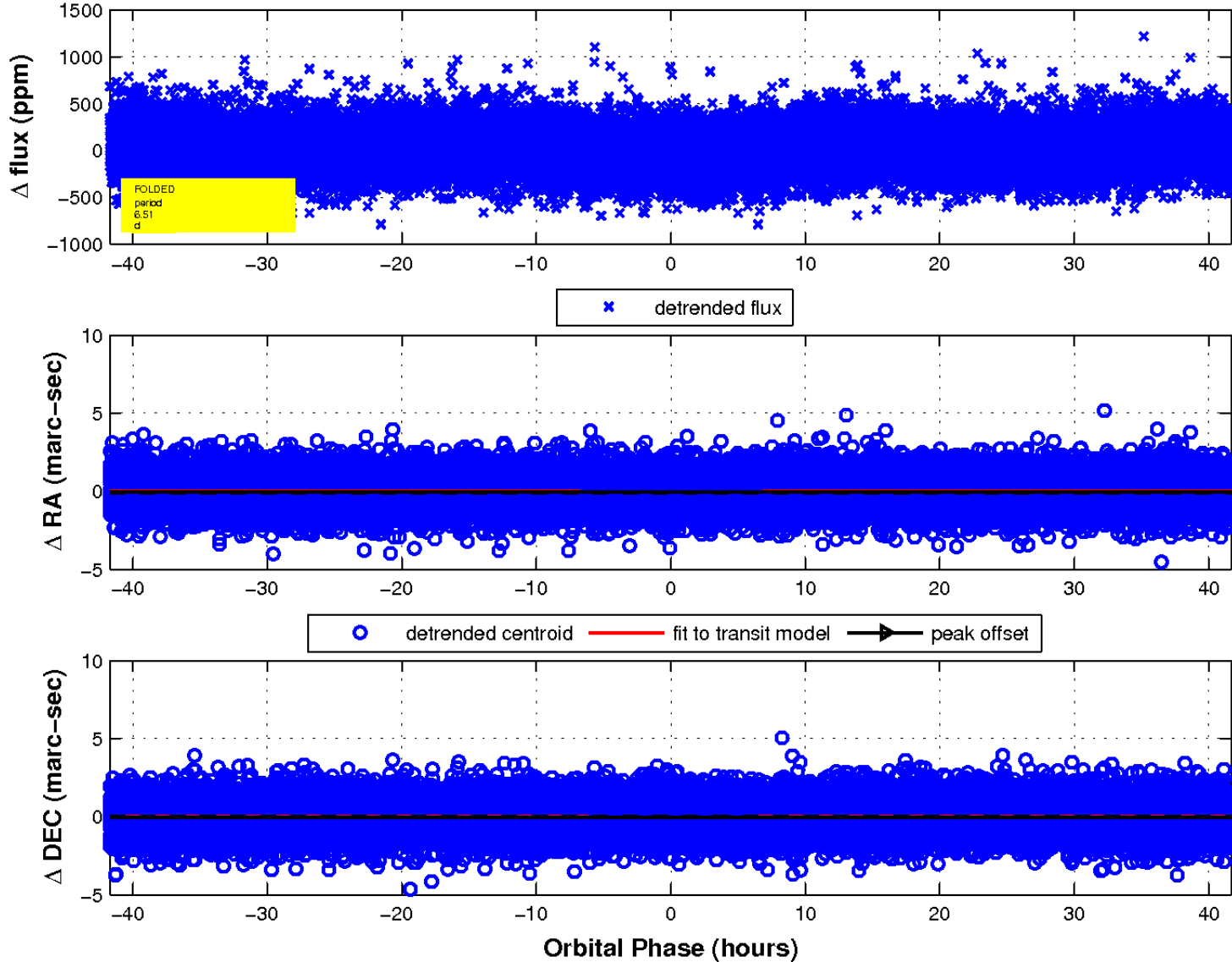
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

