

KIC 011876227

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})
011876227-01	OBS	No	1.460907	132.628028	3735.5	3.500	15.6	-1.0	0.18	3218	1.08	16.76
011876227-02	OBS	No	313.302446	232.189772	1124.0	6.643	8.2	1.9	0.18	3218	0.63	0.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011876227-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_NOFITS
011876227-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

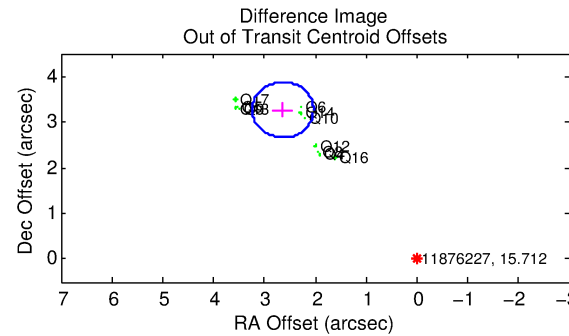
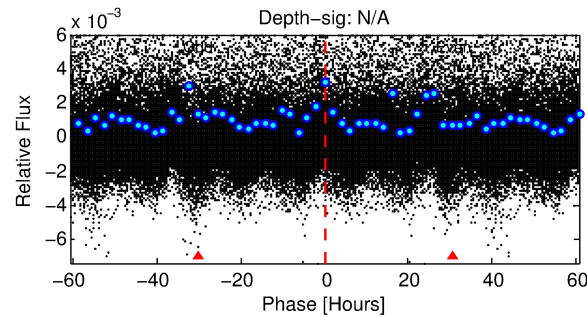
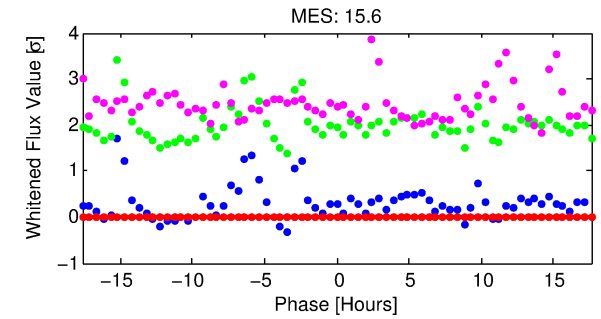
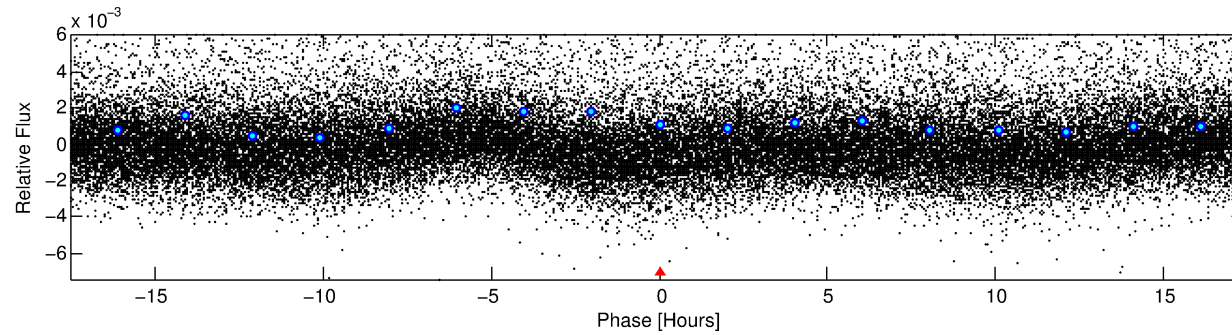
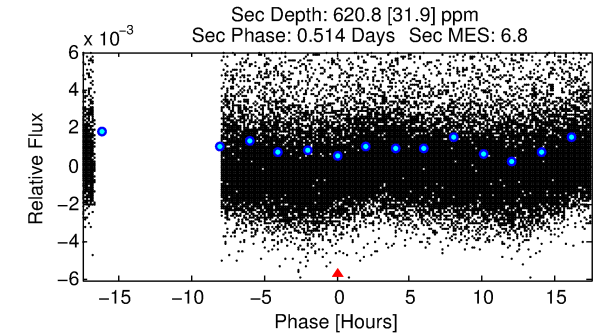
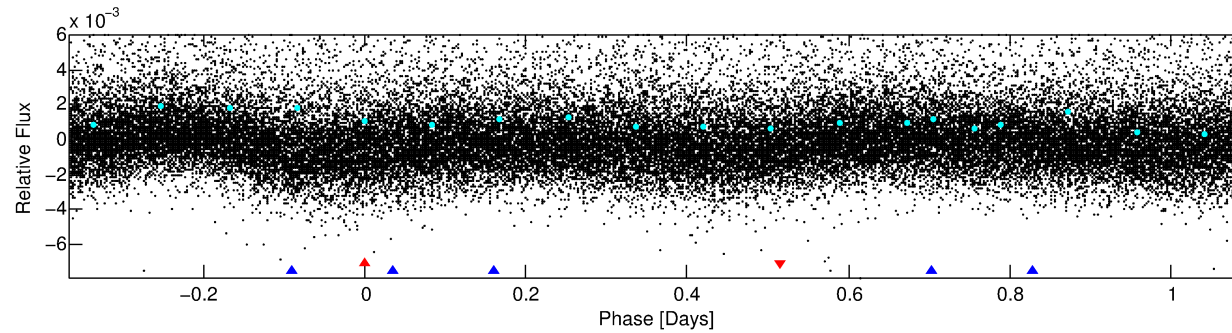
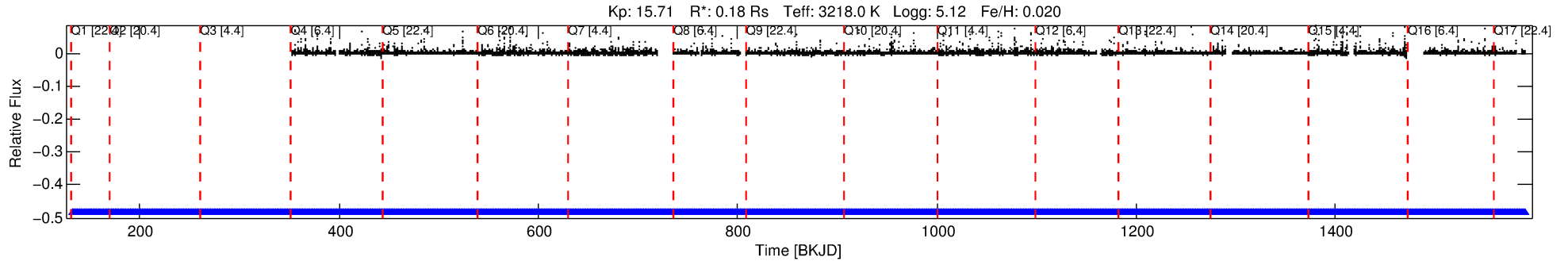
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011876227-01

No Significant Match Found

DV One-Page Summary

KIC: 11876227 Candidate: 1 of 2 Period: 1.461 d



TPS TCE Results:

Period = 1.46091 d
Epoch = 132.6280 BKJD

DV fit results are unavailable

DV Diagnostic Results:

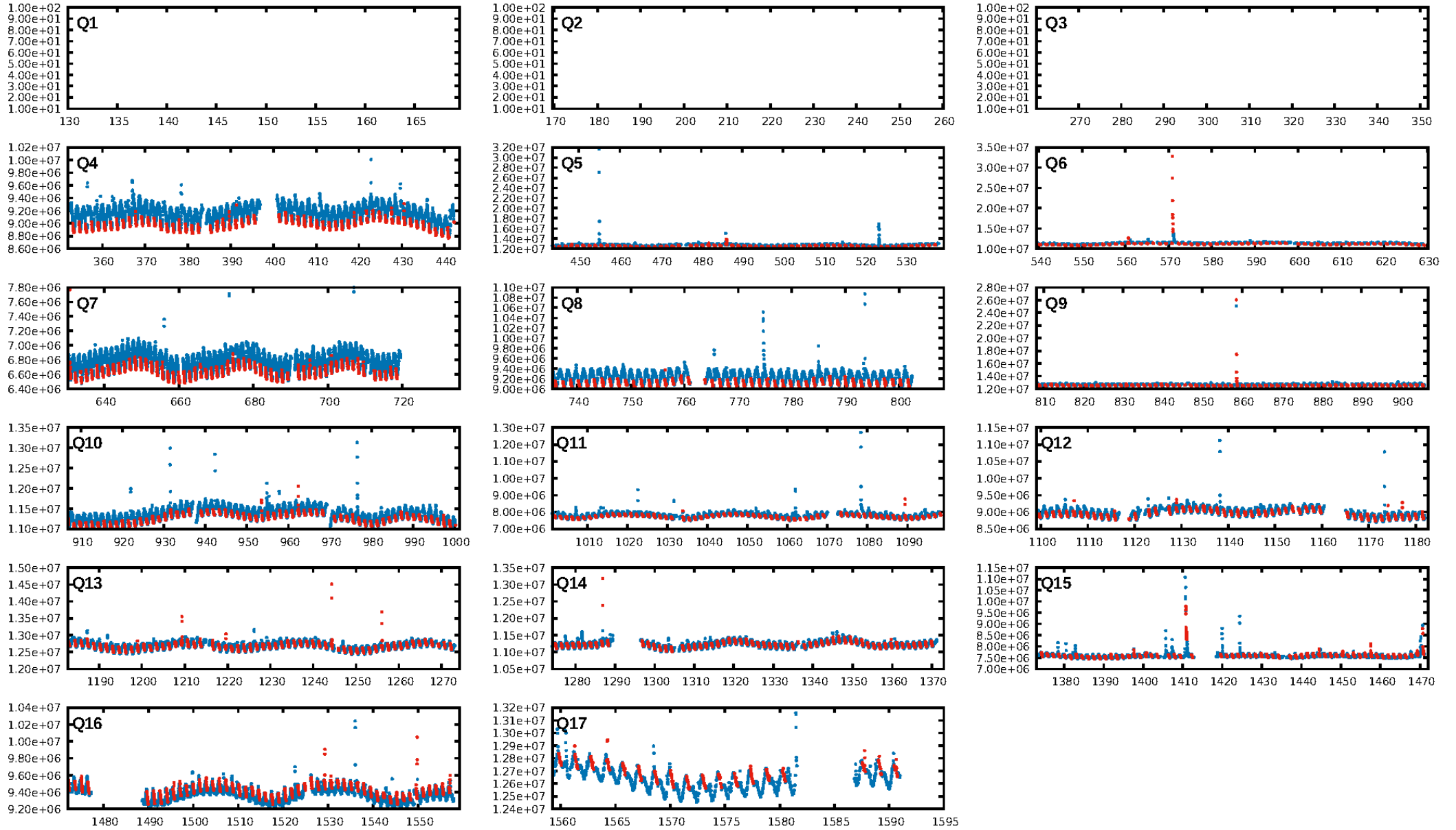
ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [996.71 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.13e-29
RollingBand-fgt: 1.00 [766/766]
GhostDiagnostic-chr: 0.4951

Centroid-sig: 0.0%
Centroid-so: 1.039 arcsec [12.21 σ]
OotOffset-rm: 4.202 arcsec [20.78 σ]
KicOffset-rm: 0.558 arcsec [7.77 σ]
OotOffset-st: 3/0/4/4 [11]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 1.00 [14/14]

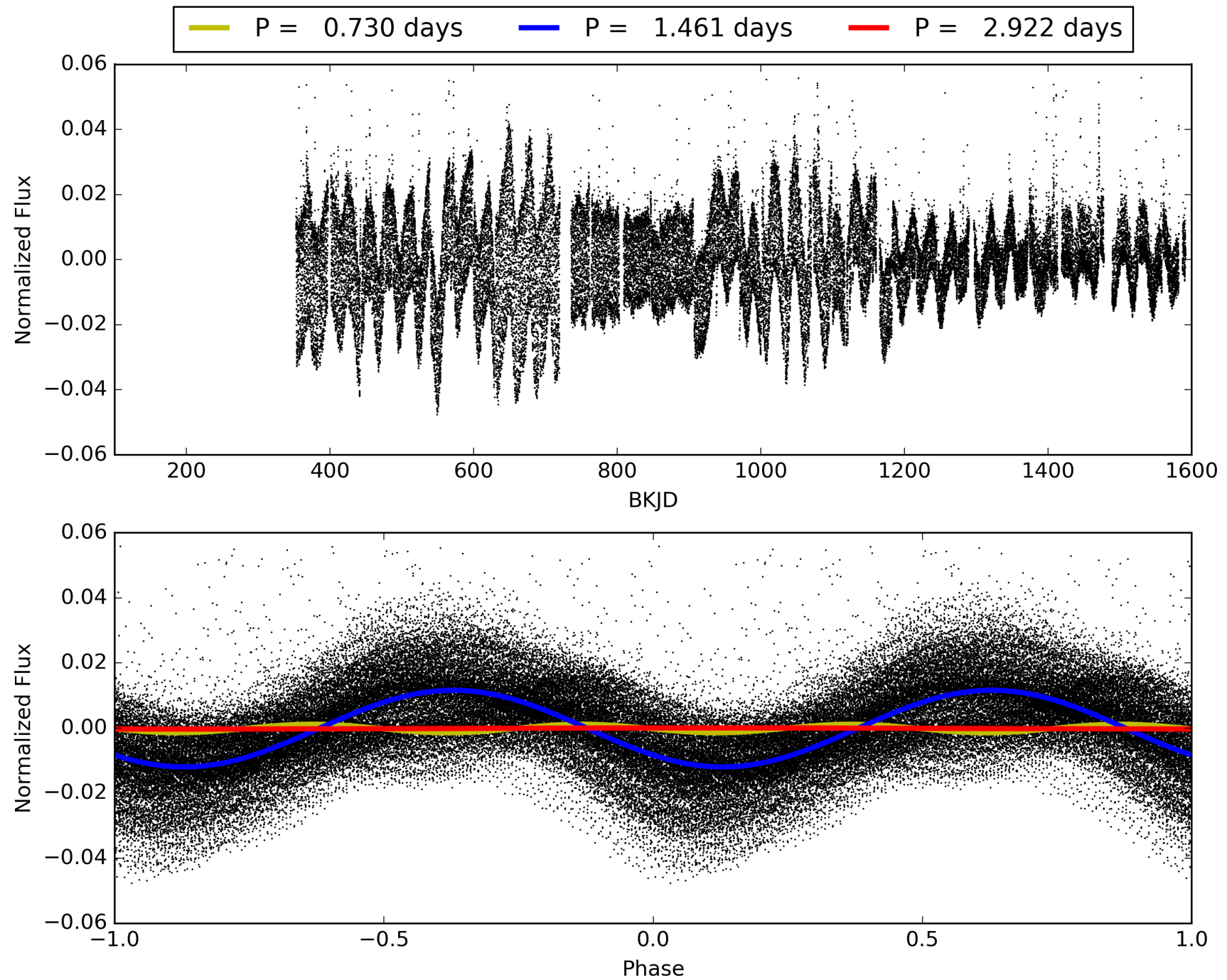
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:38:10 Z

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

TCE 011876227-01, PDC Light Curves

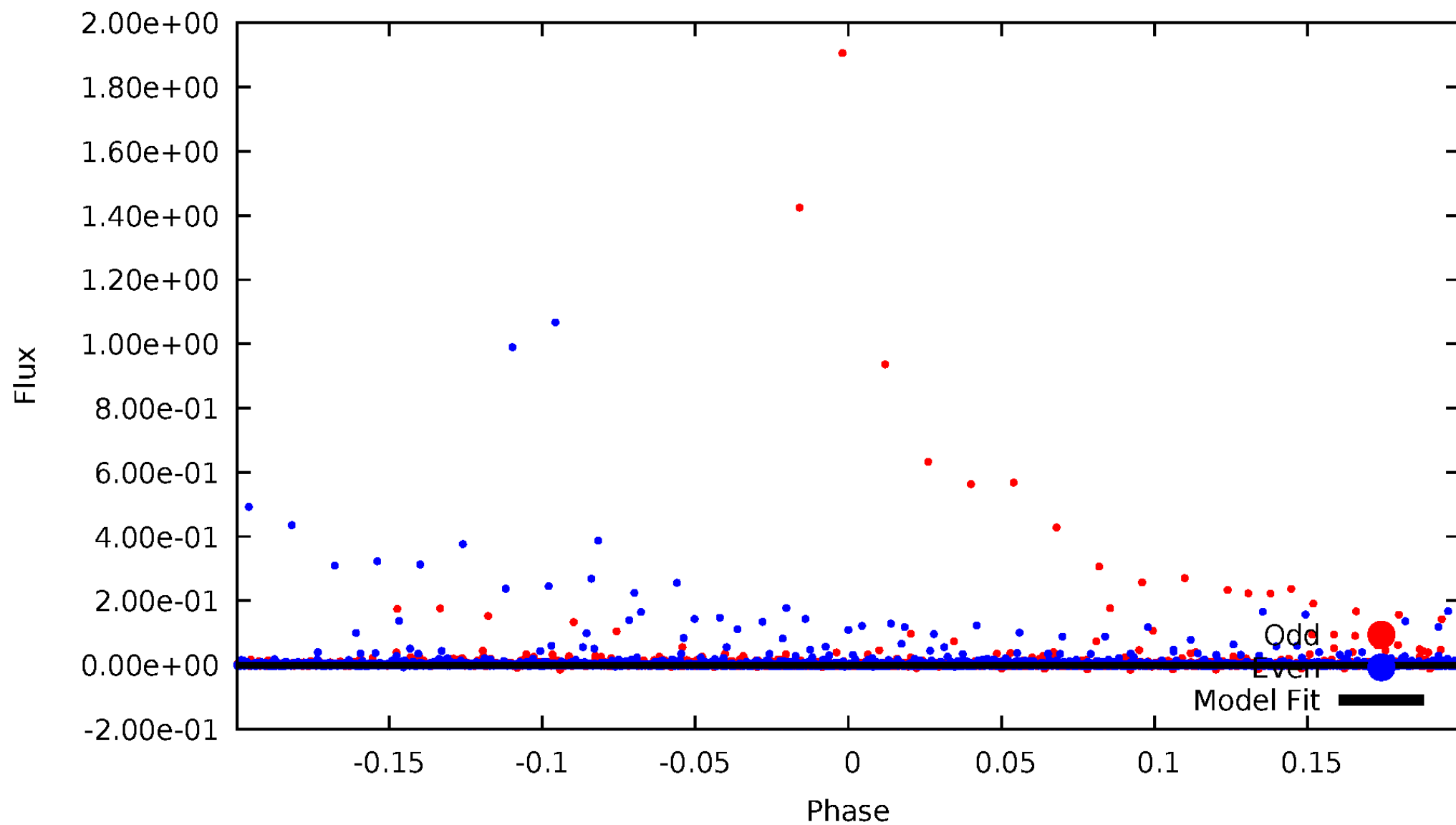


TCE 011876227-01



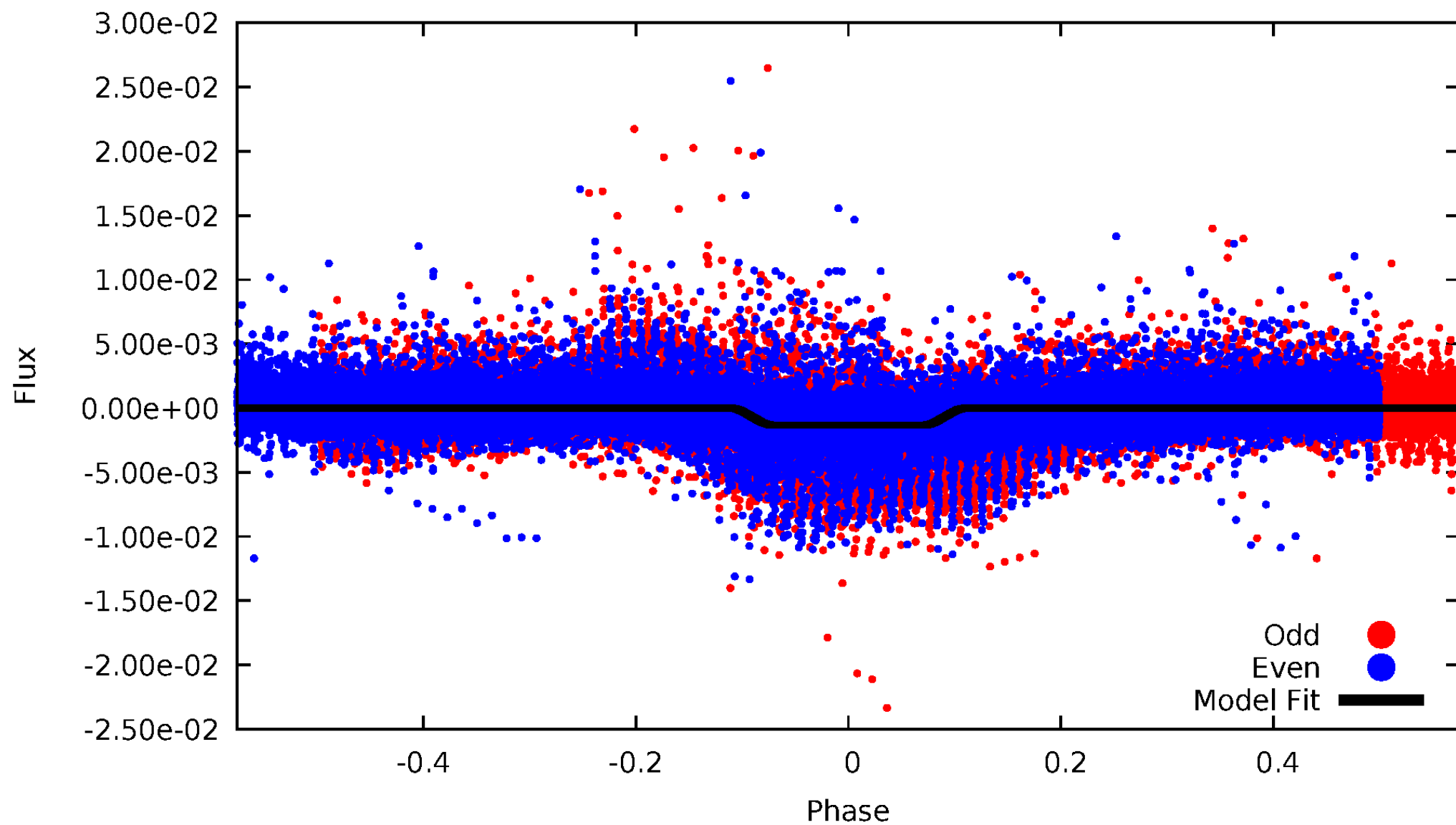
DV Odd/Even

TCE 011876227-01



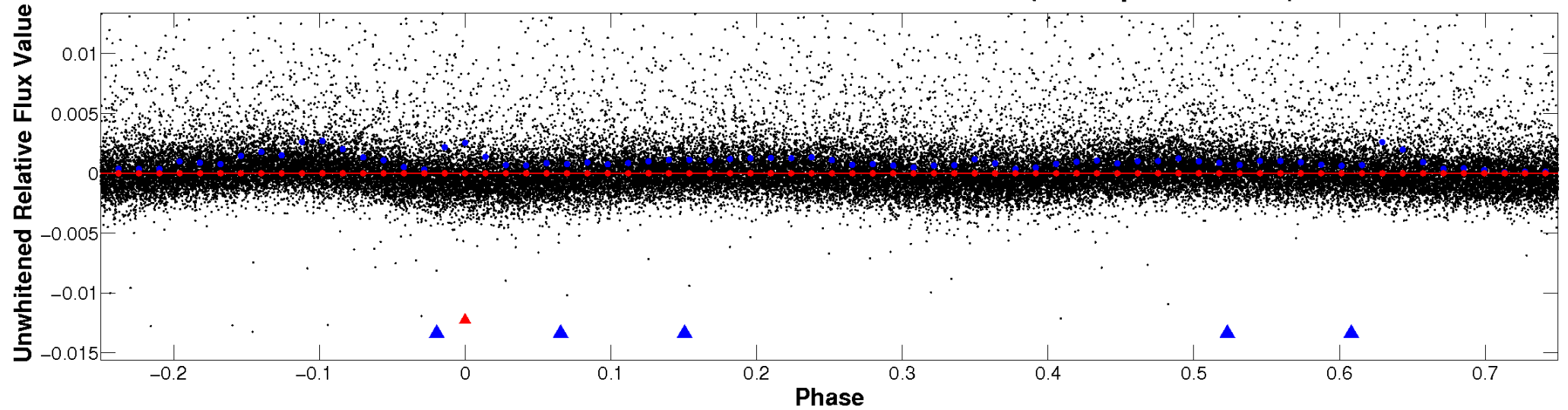
ALT Odd/Even

TCE 011876227-01



Non-Whitened Vs. Whitened Light Curve

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

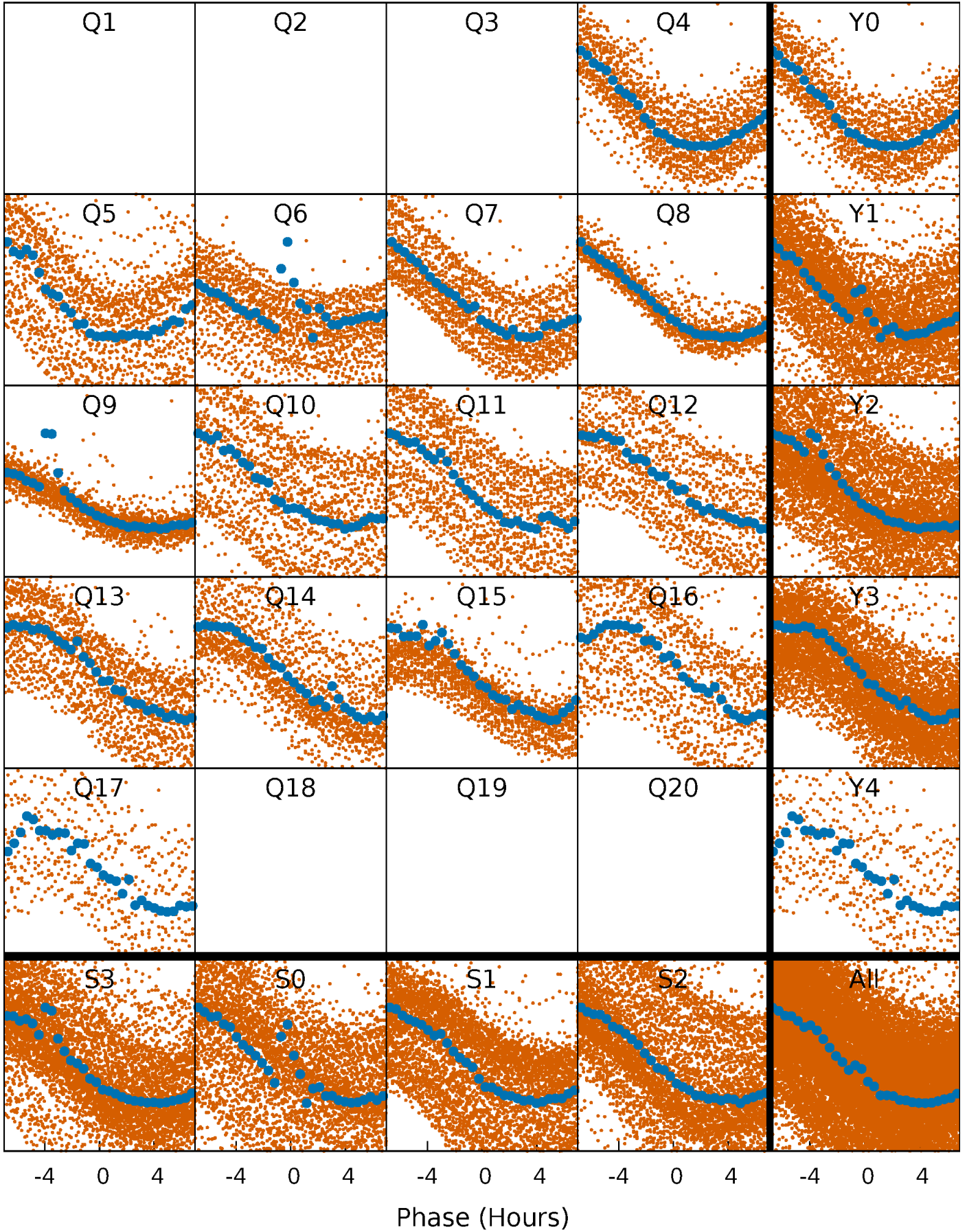


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



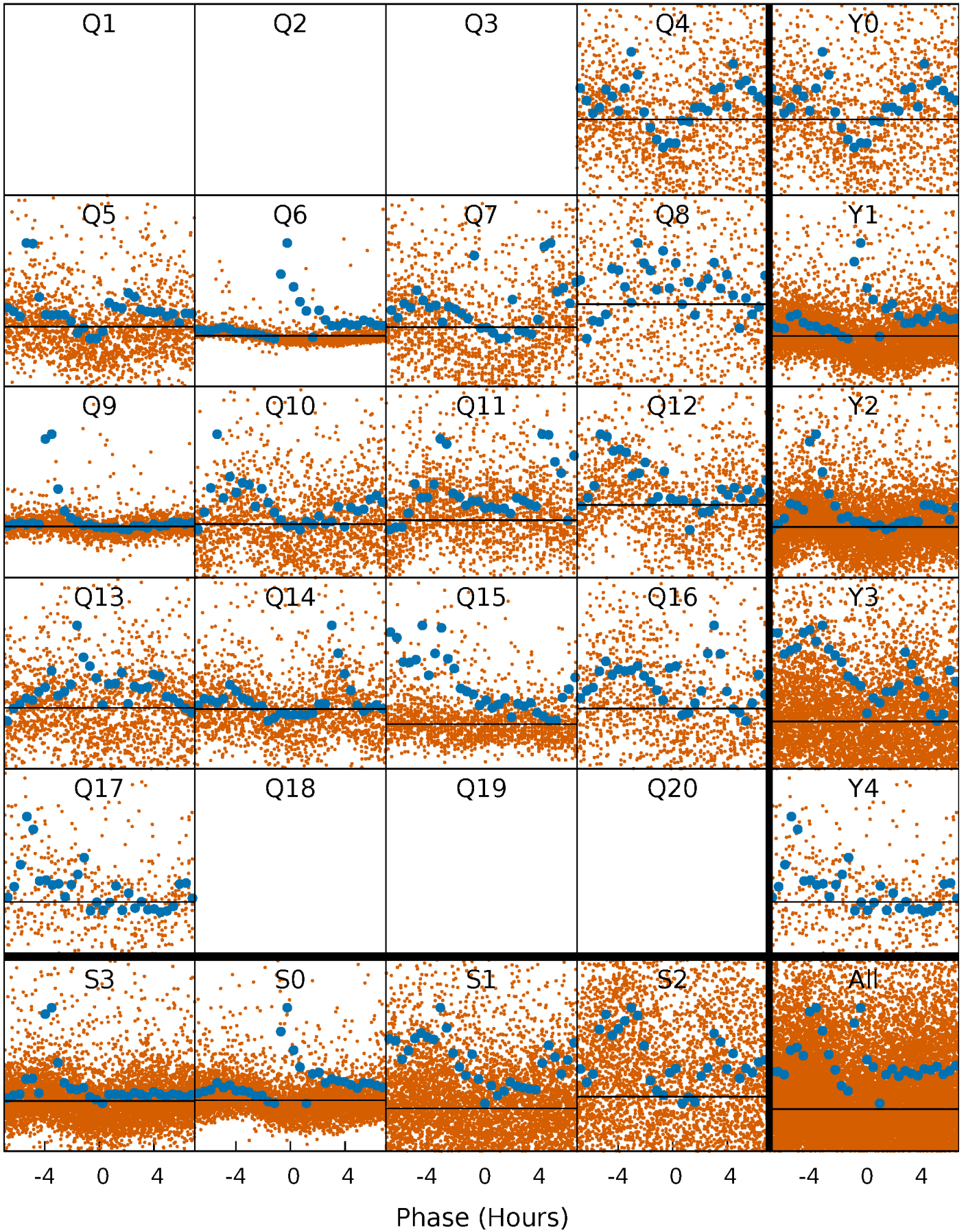
PDC Quarter-Phased Transit Curves

TCE 011876227-01 P= 1.460907 Days $T_0=132.628028$ (BKJD)



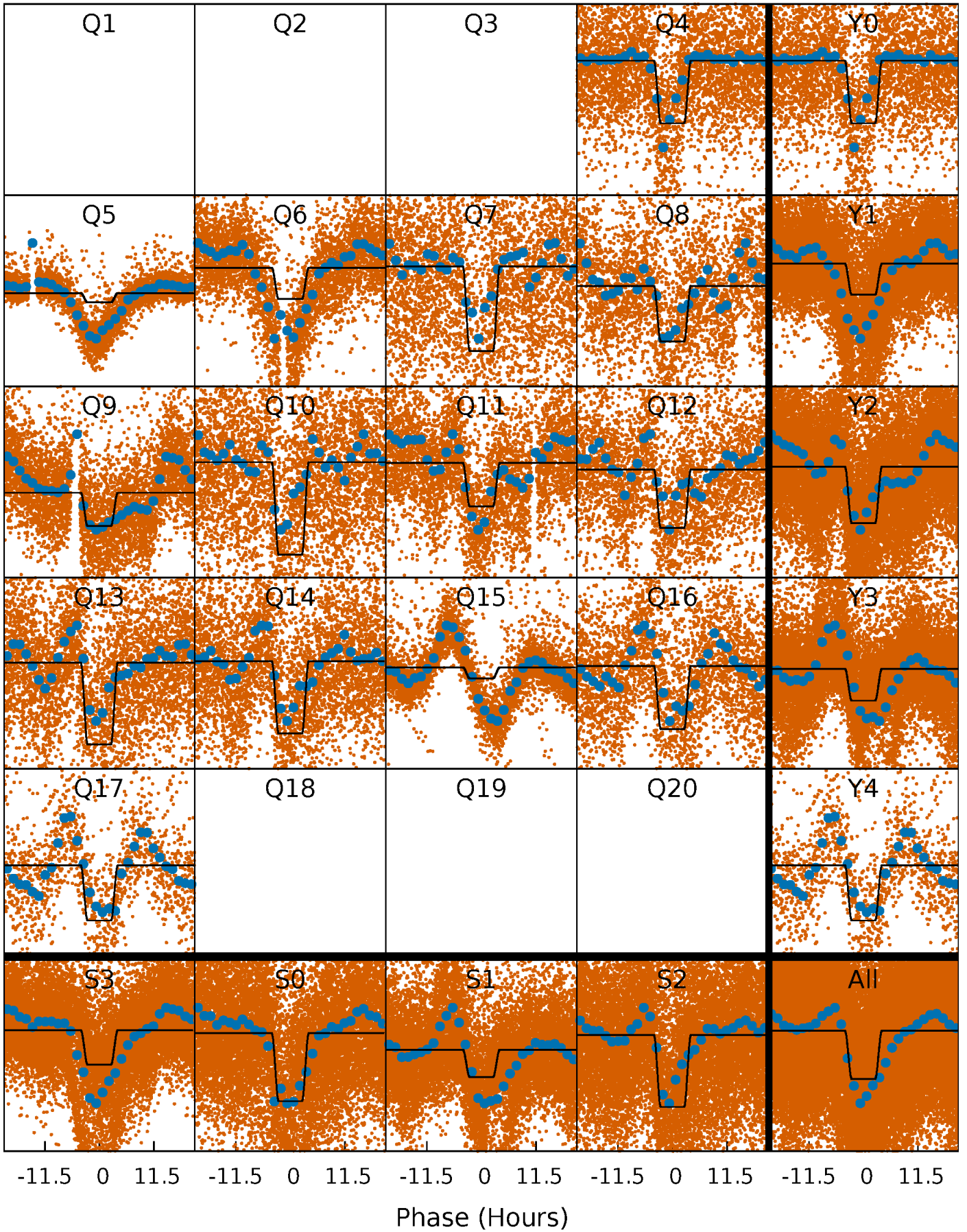
DV Quarter-Phased Transit Curves

TCE 011876227-01 P= 1.460907 Days $T_0=132.628028$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

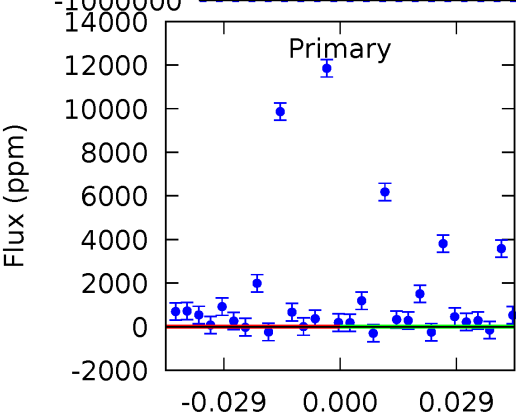
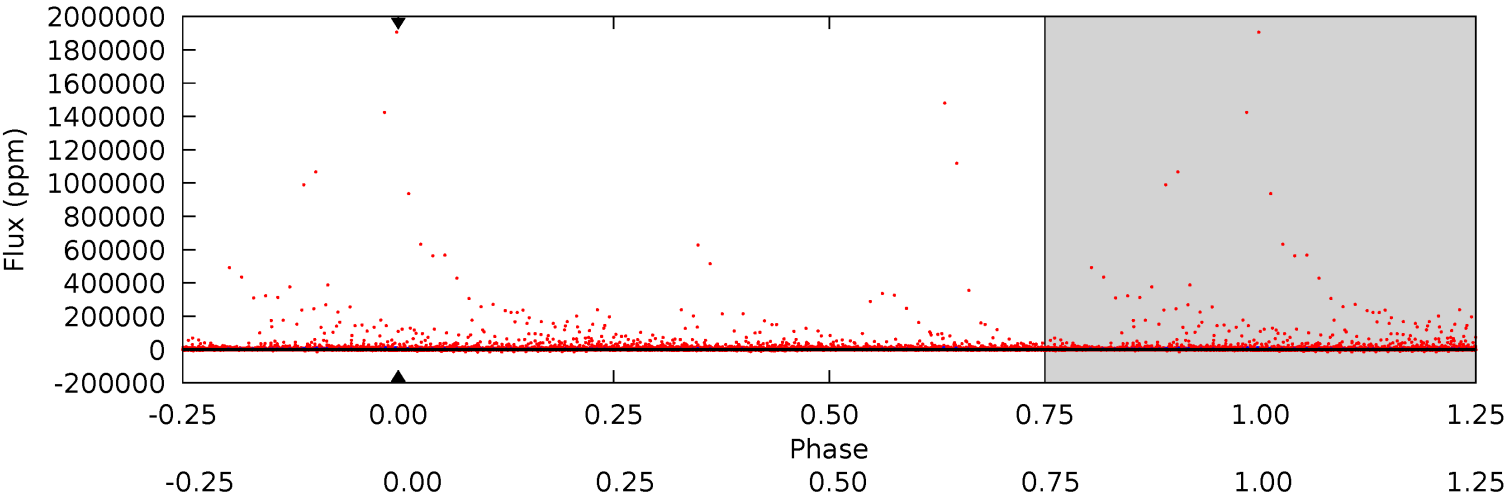
TCE 011876227-01 P= 1.460907 Days $T_0=132.689032$ (BKJD)



DV Model-Shift Uniqueness Test

011876227-01, P = 1.460907 Days, E = 132.628028 Days

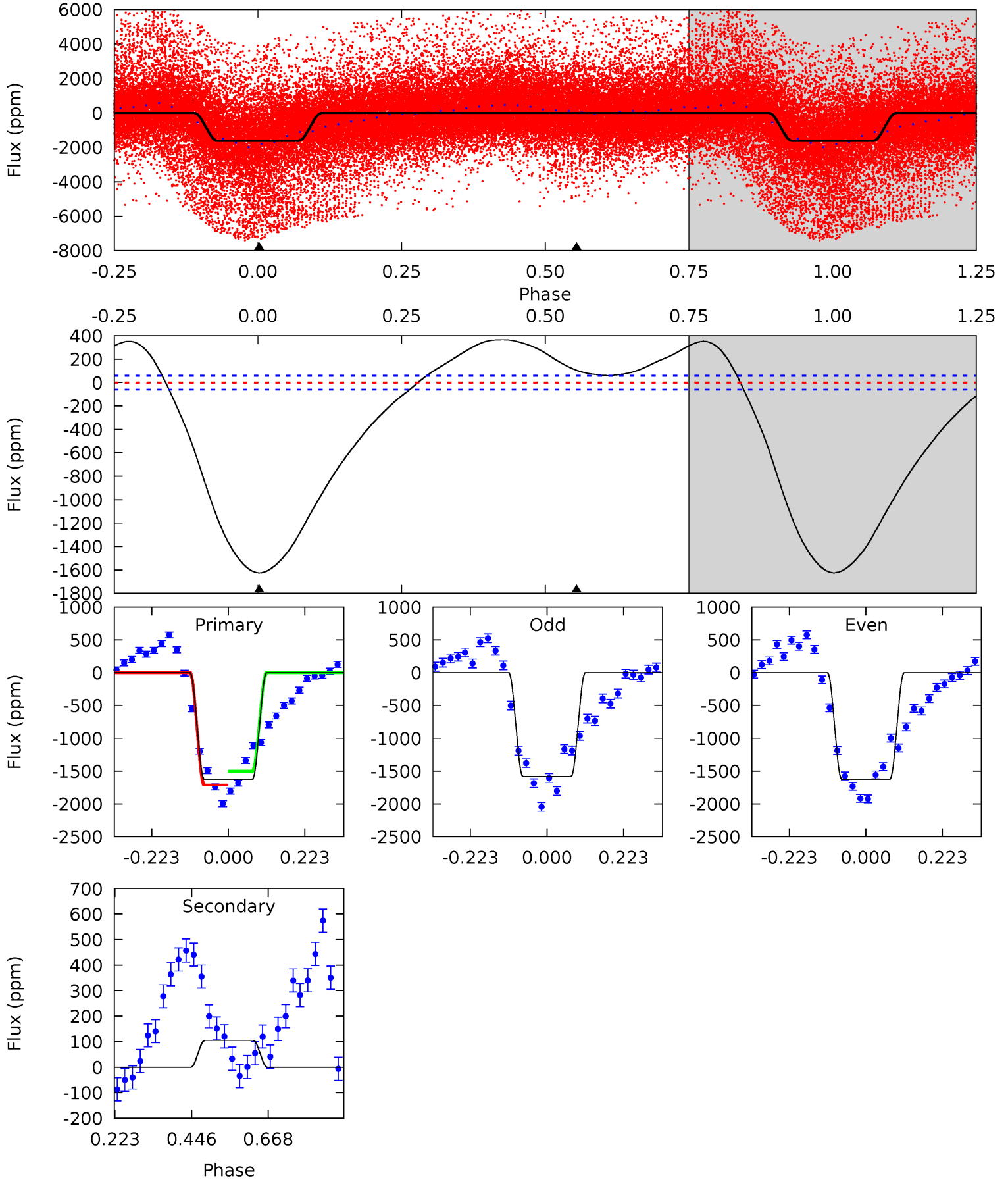
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

011876227-01, P = 1.460907 Days, E = 132.689032 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
120.9	-7.83	0	0	4.39	1.22	9.40	120.9	120.9	-7.83	-7.83	1.54	1.56	0.18	7.71



Stellar Parameters For KIC 011876227

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3218^{+41}_{-19}	$5.124^{+0.055}_{-0.060}$	$0.020^{+0.100}_{-0.100}$	$0.179^{+0.032}_{-0.023}$	$0.155^{+0.037}_{-0.020}$	$38.210^{+10.890}_{-10.110}$
	+1%/-1%	+1%/-1%	+500%/-500%	+18%/-13%	+24%/-13%	+29%/-26%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 011876227-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$1.84^{+1.71}_{-1.29}$	724^{+22}_{-18}	-2647^{+8373}_{-2745}	$-58.172^{+5810.501}_{-4742.255}$
Alt.	105 ± 13	$1.55^{+1.60}_{-0.99}$	724^{+21}_{-20}	-1979^{+223}_{-475}	$-4.414^{+3.310}_{-29.395}$

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

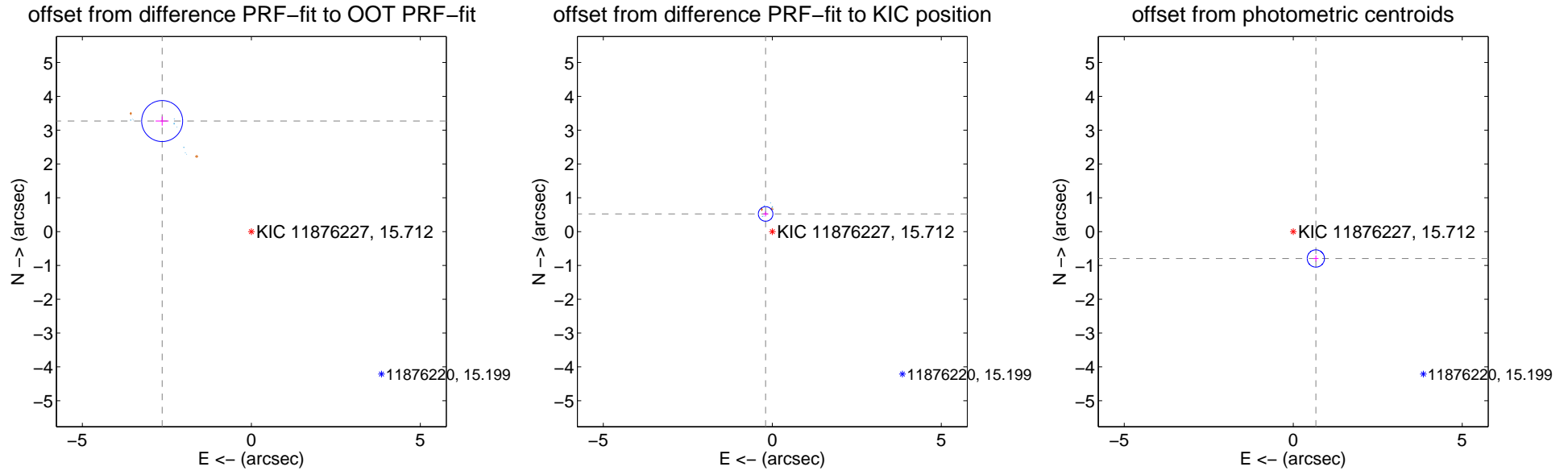
DV Centroid Data

Supplemental centroid analysis for 011876227-01. Kepler magnitude: 15.71. Transit SNR -1.00

There are 12 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 4.32 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.202 ± 0.202	20.78	2.640 ± 0.193	3.269 ± 0.135
PRF-fit source offset from KIC position	0.558 ± 0.072	7.77	0.197 ± 0.079	0.522 ± 0.074
photometric centroid source offset	1.04 ± 0.09	12.21	-0.67 ± 0.08	-0.79 ± 0.09



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

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

Q1 no difference image



Q1 no OOT image



Q2 no difference image



Q2 no OOT image



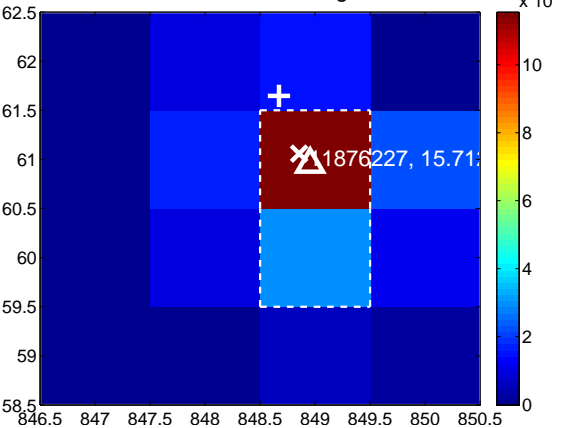
Q3 no difference image



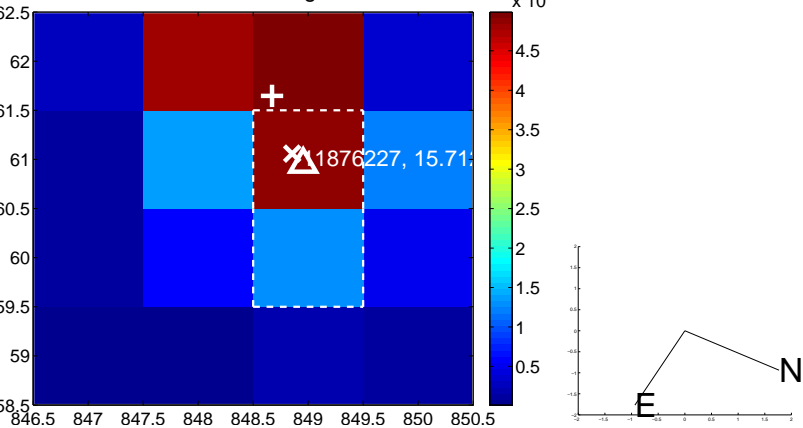
Q3 no OOT image



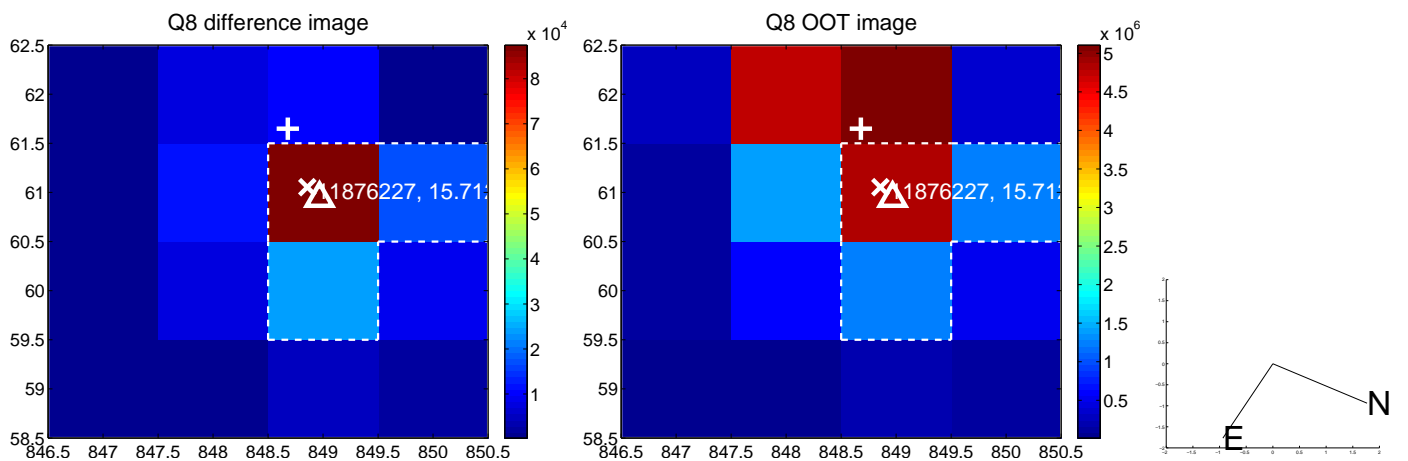
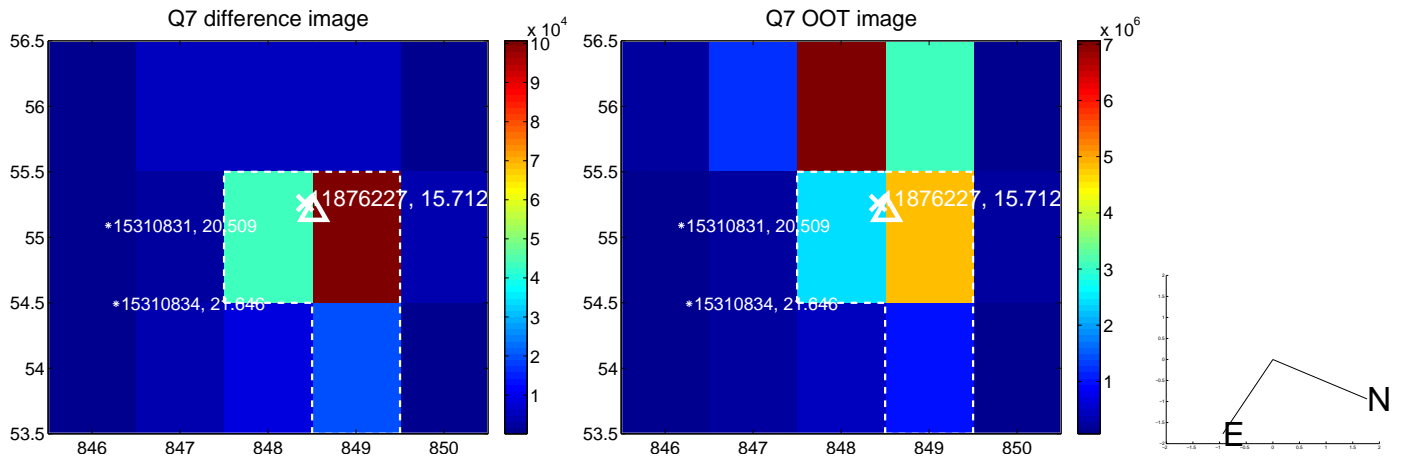
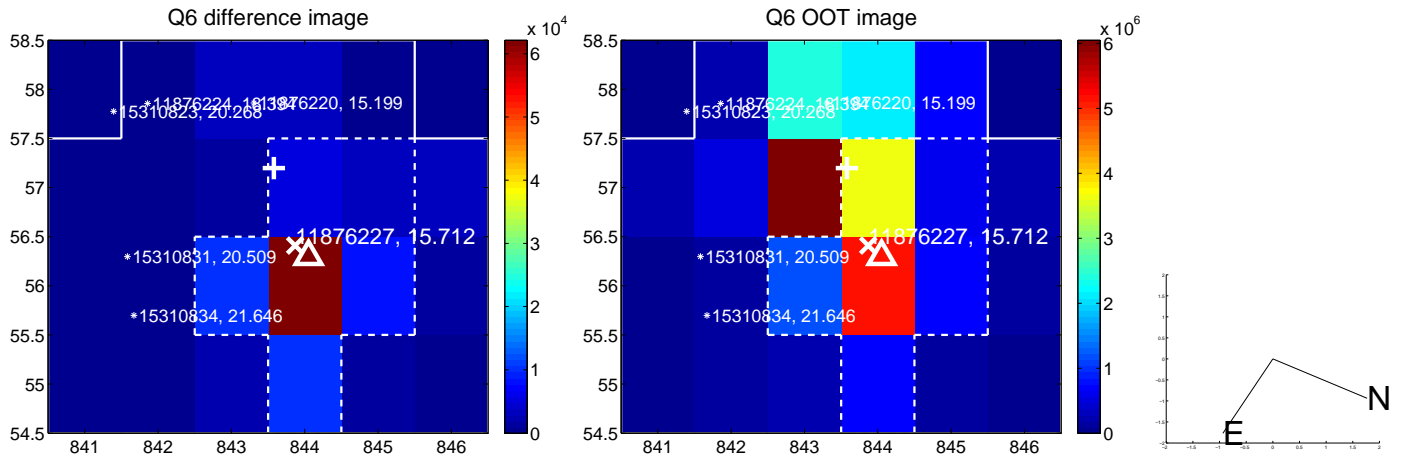
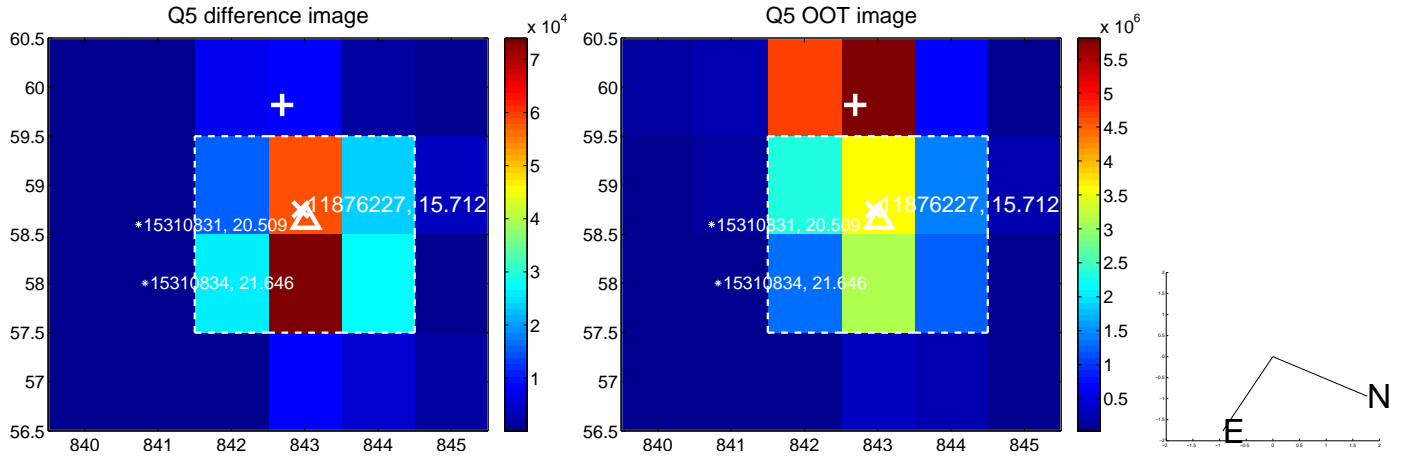
Q4 difference image



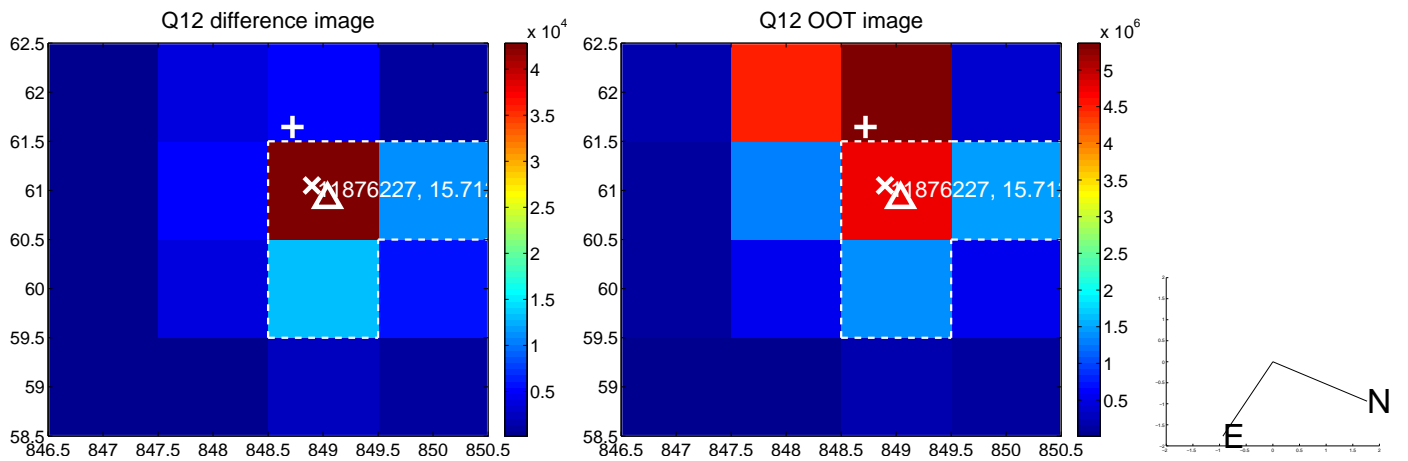
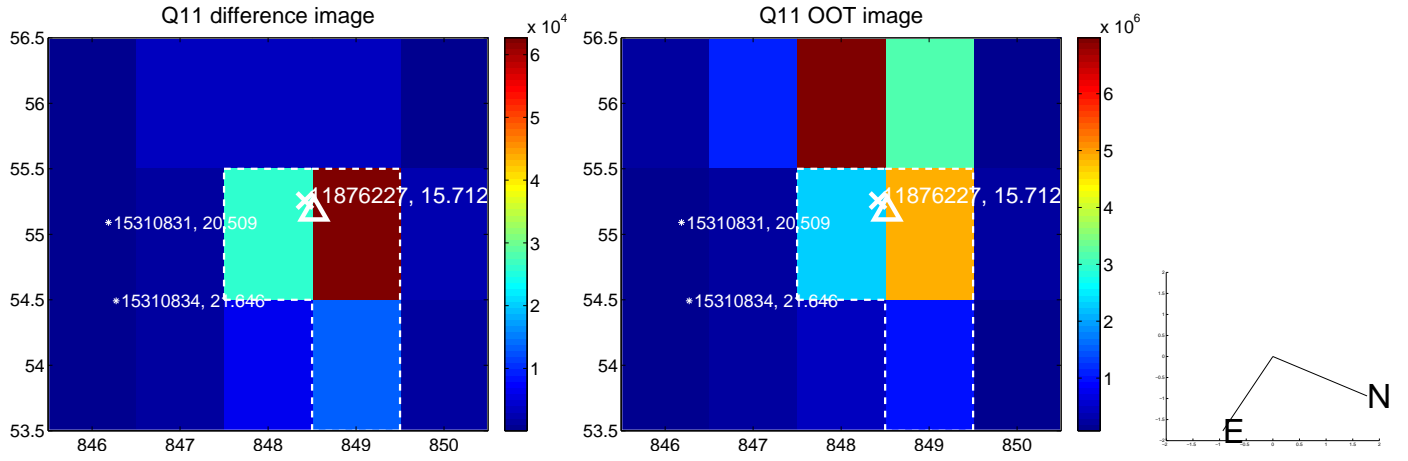
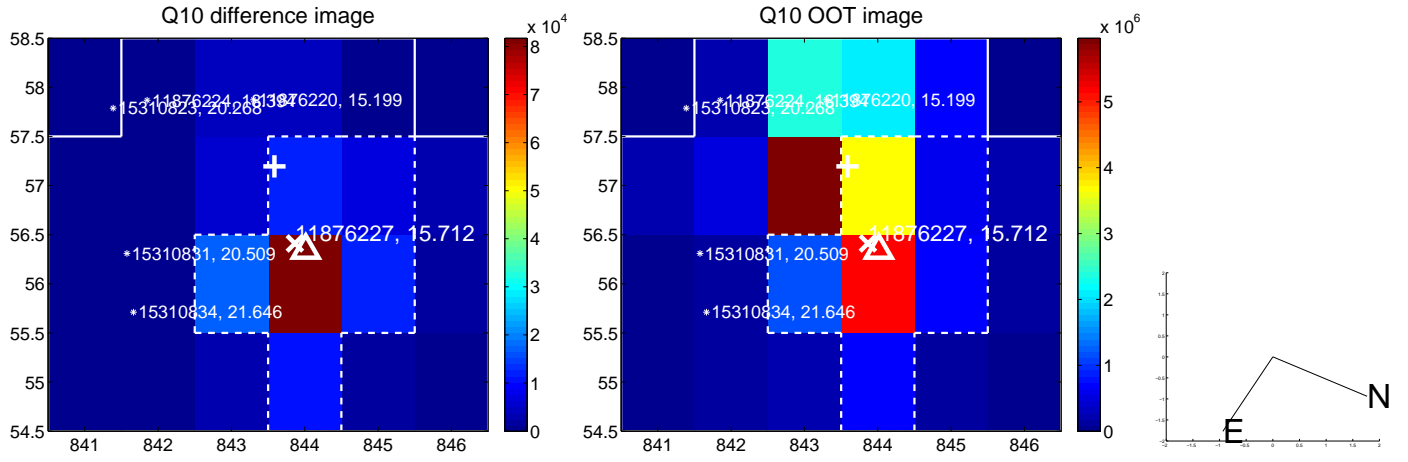
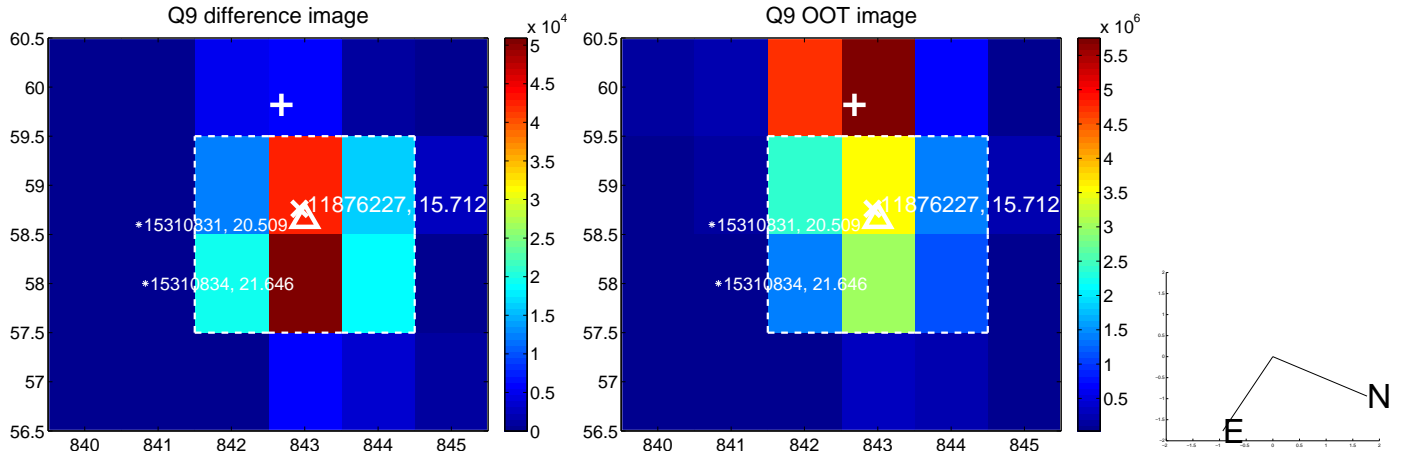
Q4 OOT image



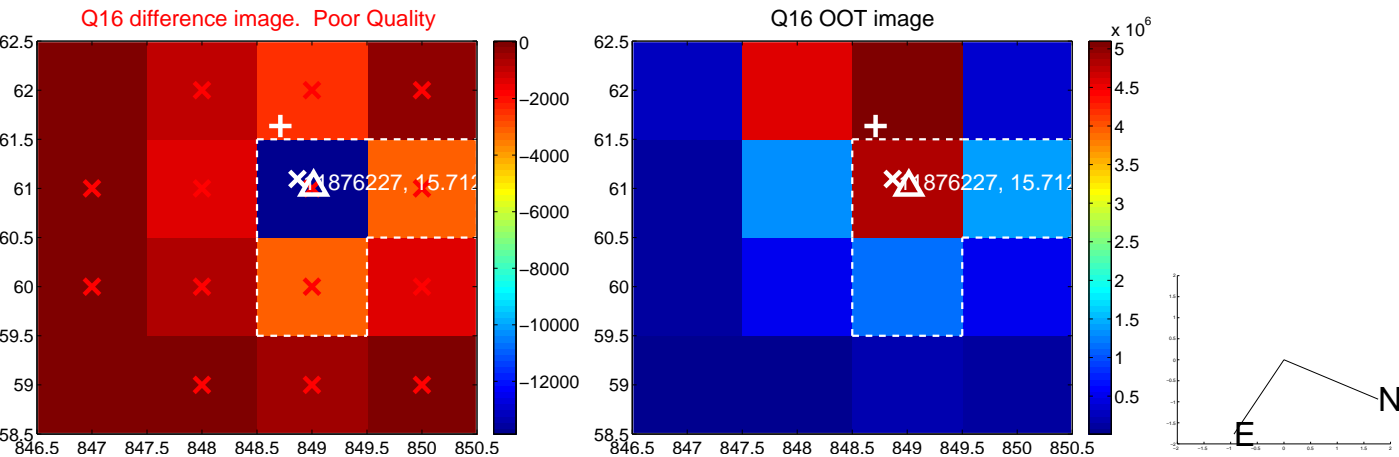
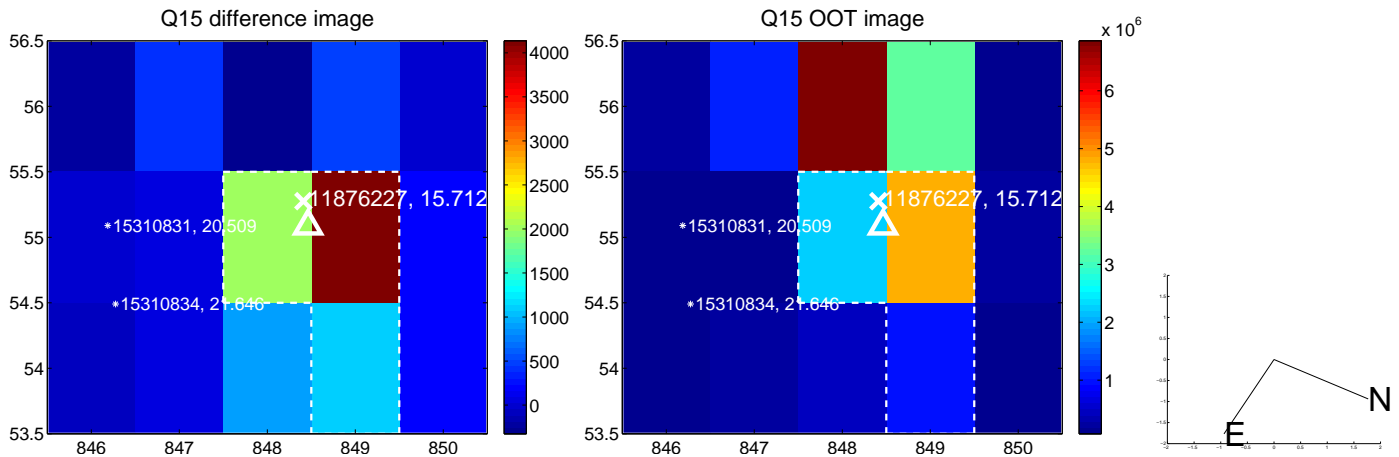
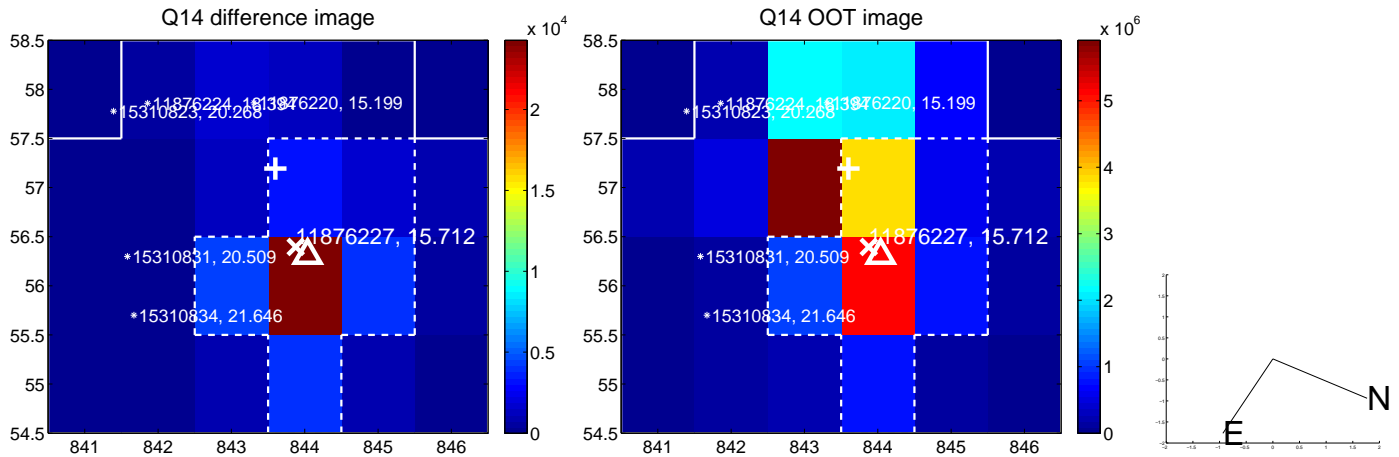
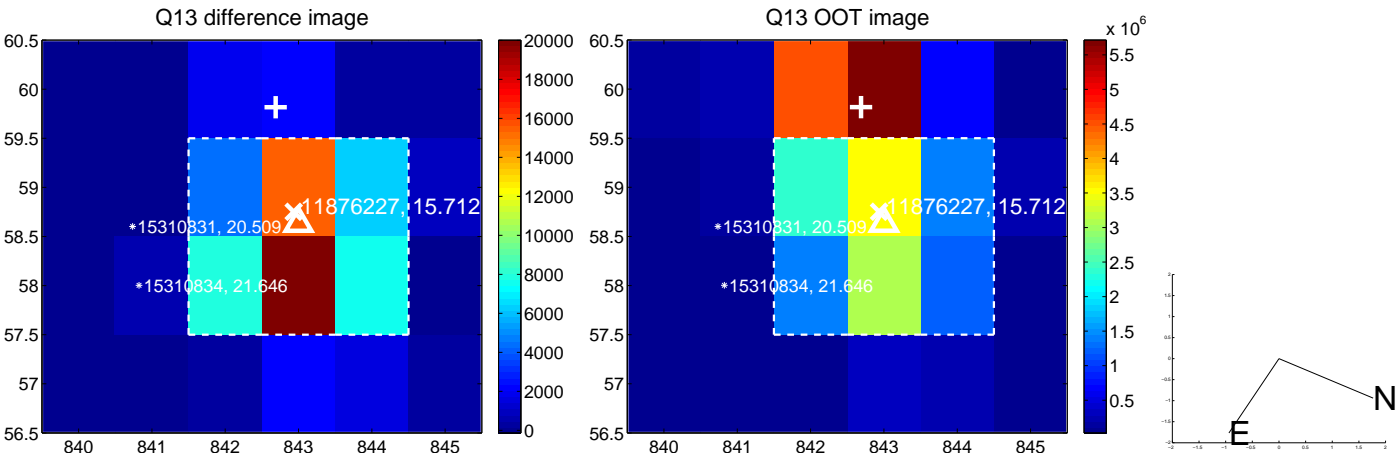
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



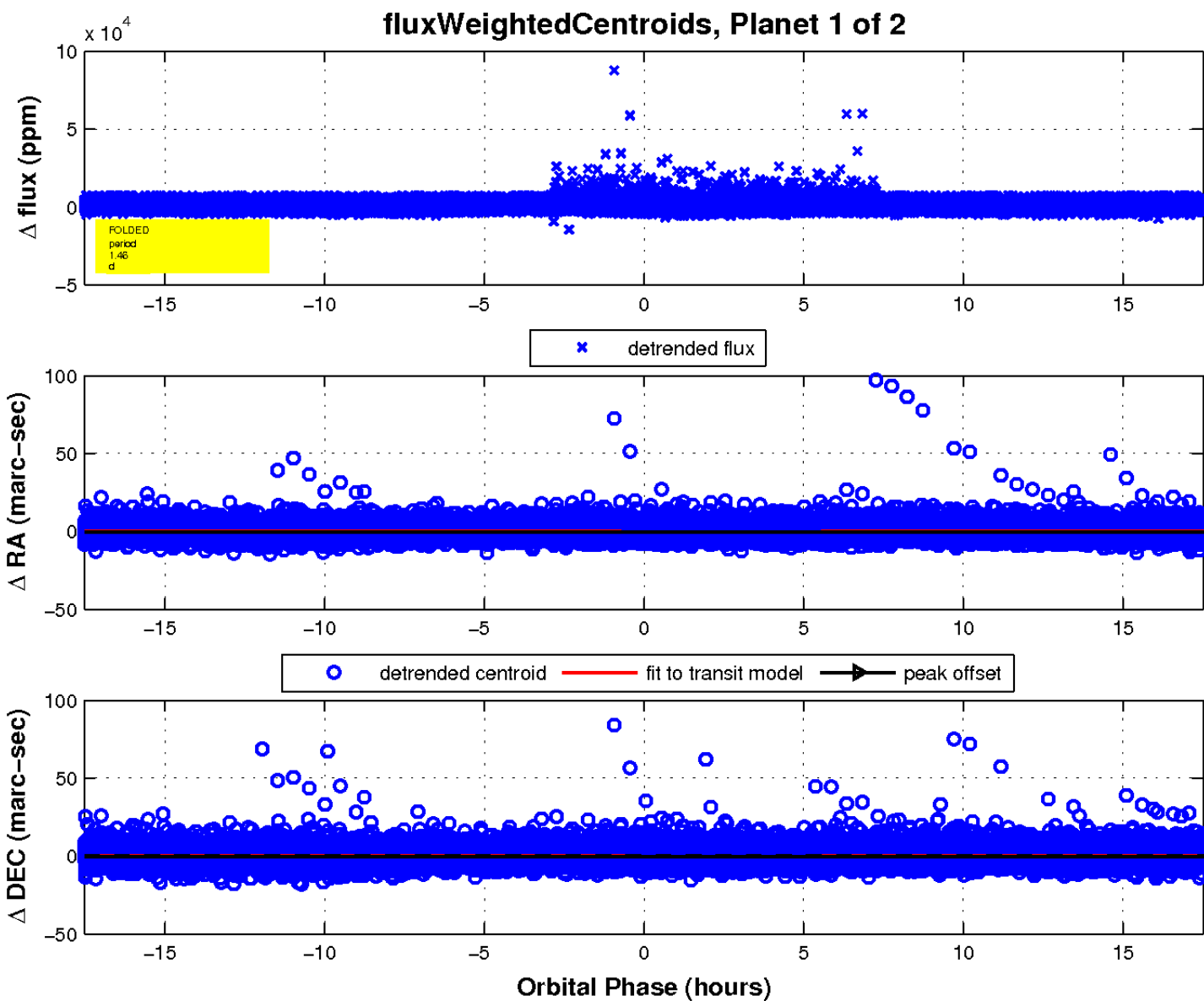
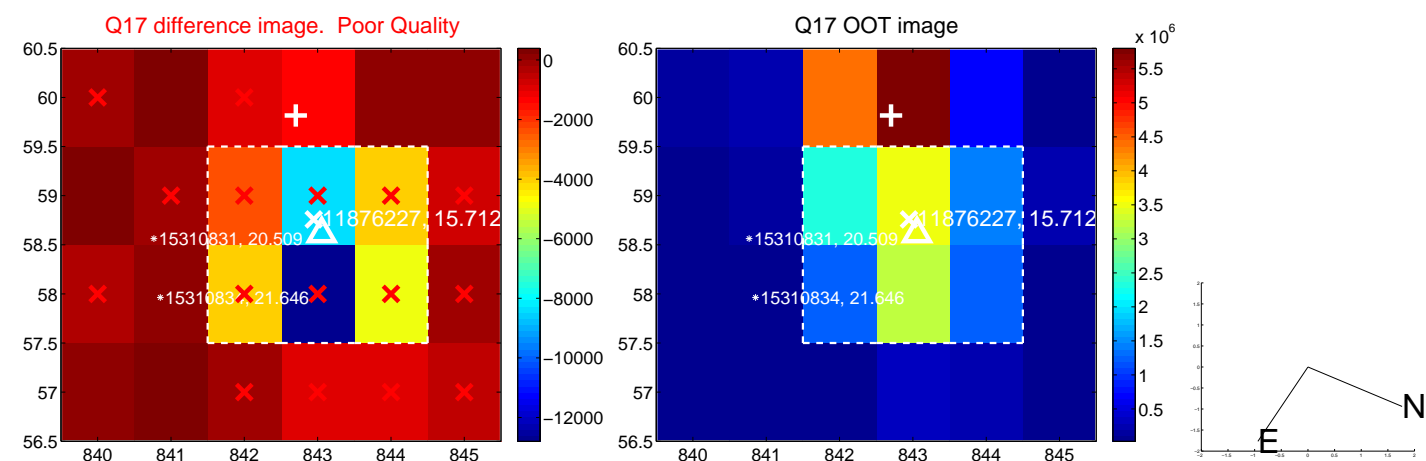
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

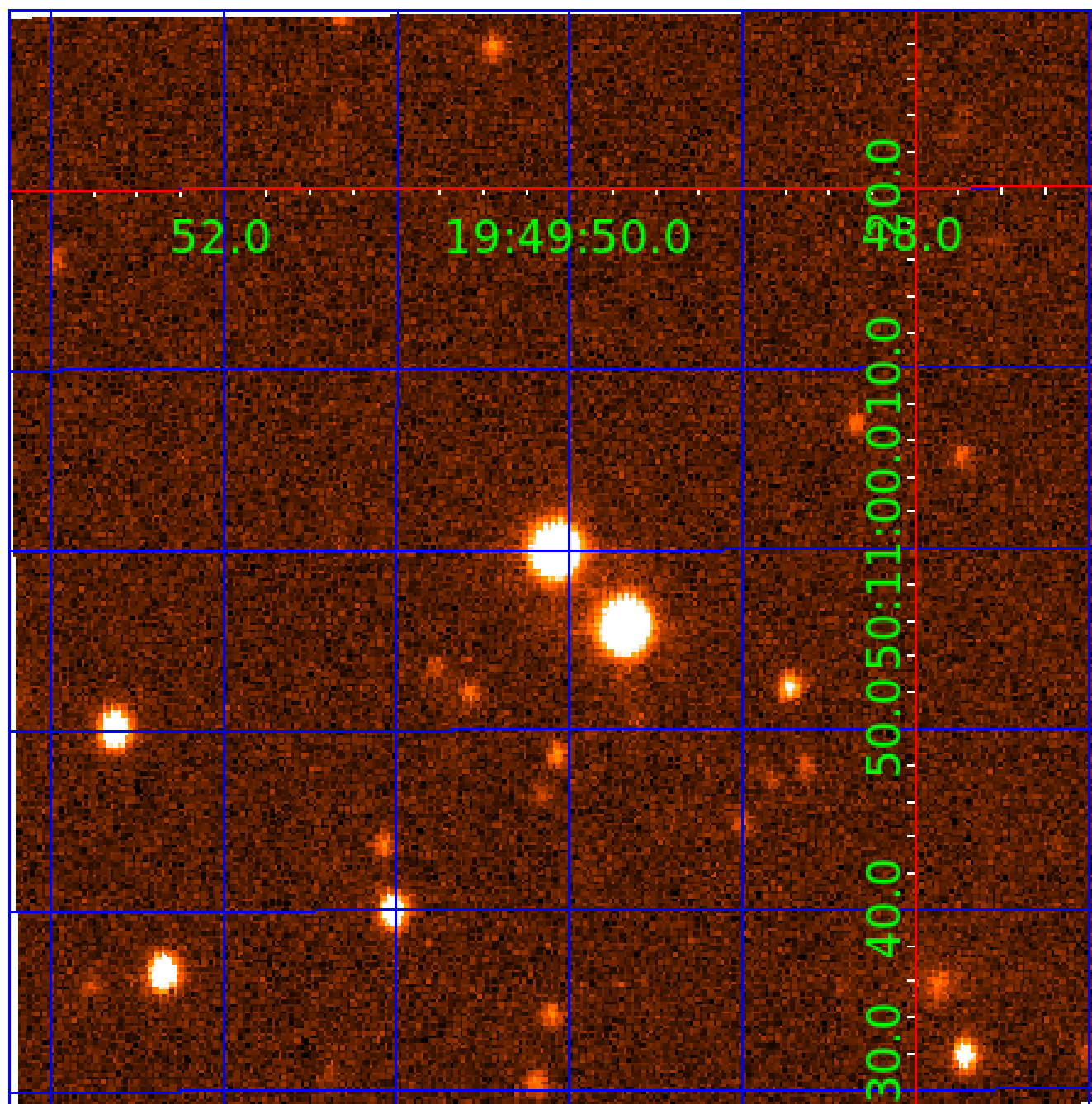


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011876227

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})
011876227-01	OBS	No	1.460907	132.628028	3735.5	3.500	15.6	-1.0	0.18	3218	1.08	16.76
011876227-02	OBS	No	313.302446	232.189772	1124.0	6.643	8.2	1.9	0.18	3218	0.63	0.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011876227-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_NOFITS
011876227-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

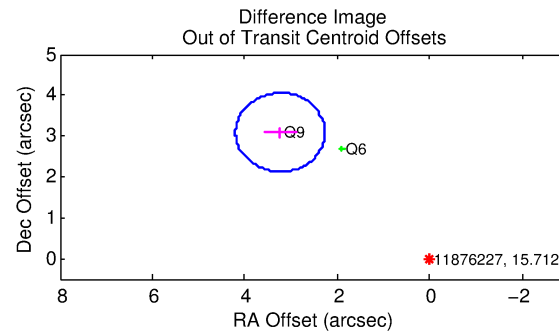
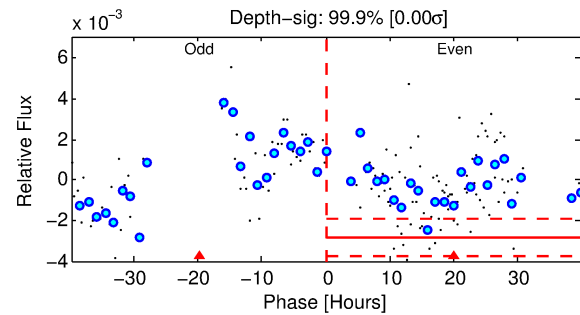
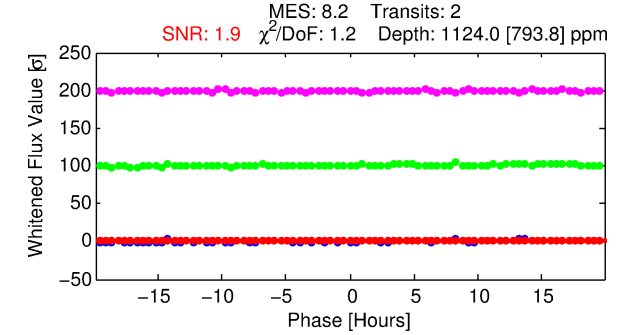
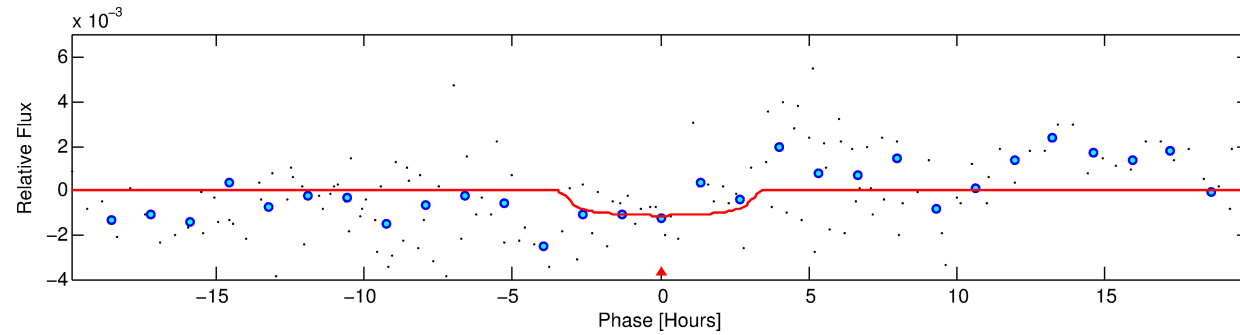
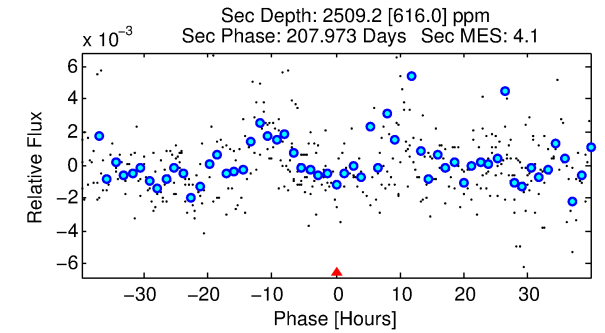
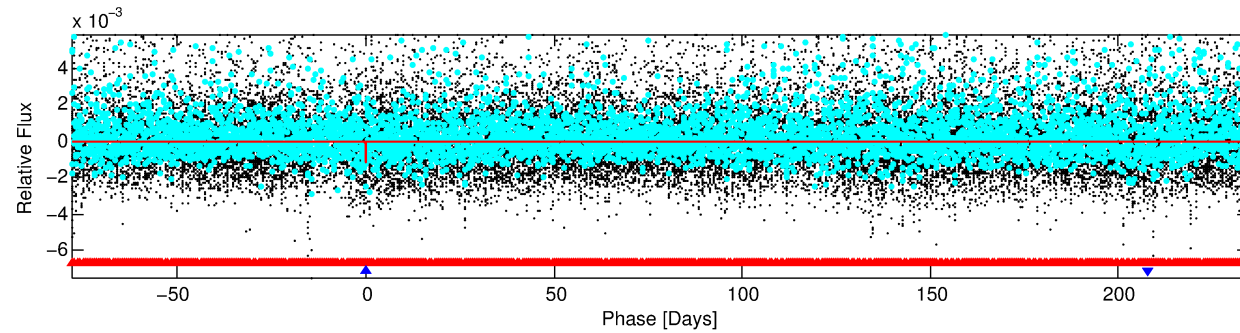
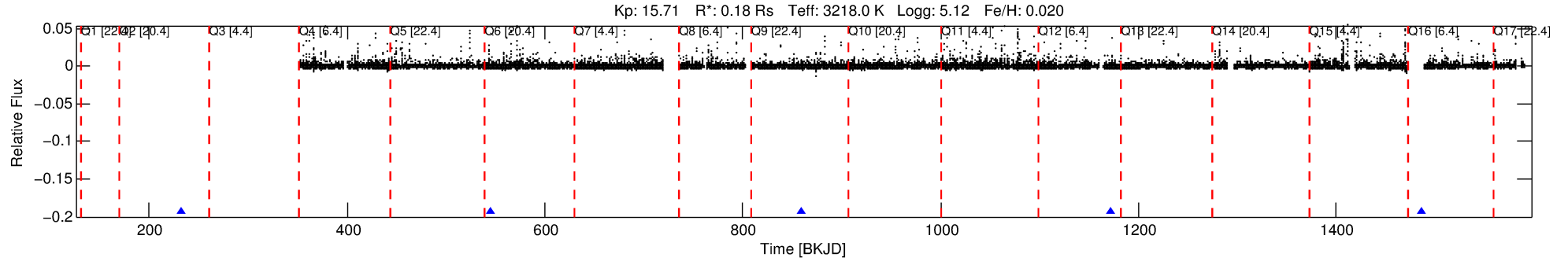
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011876227-02

No Significant Match Found

DV One-Page Summary

KIC: 11876227 Candidate: 2 of 2 Period: 313.302 d



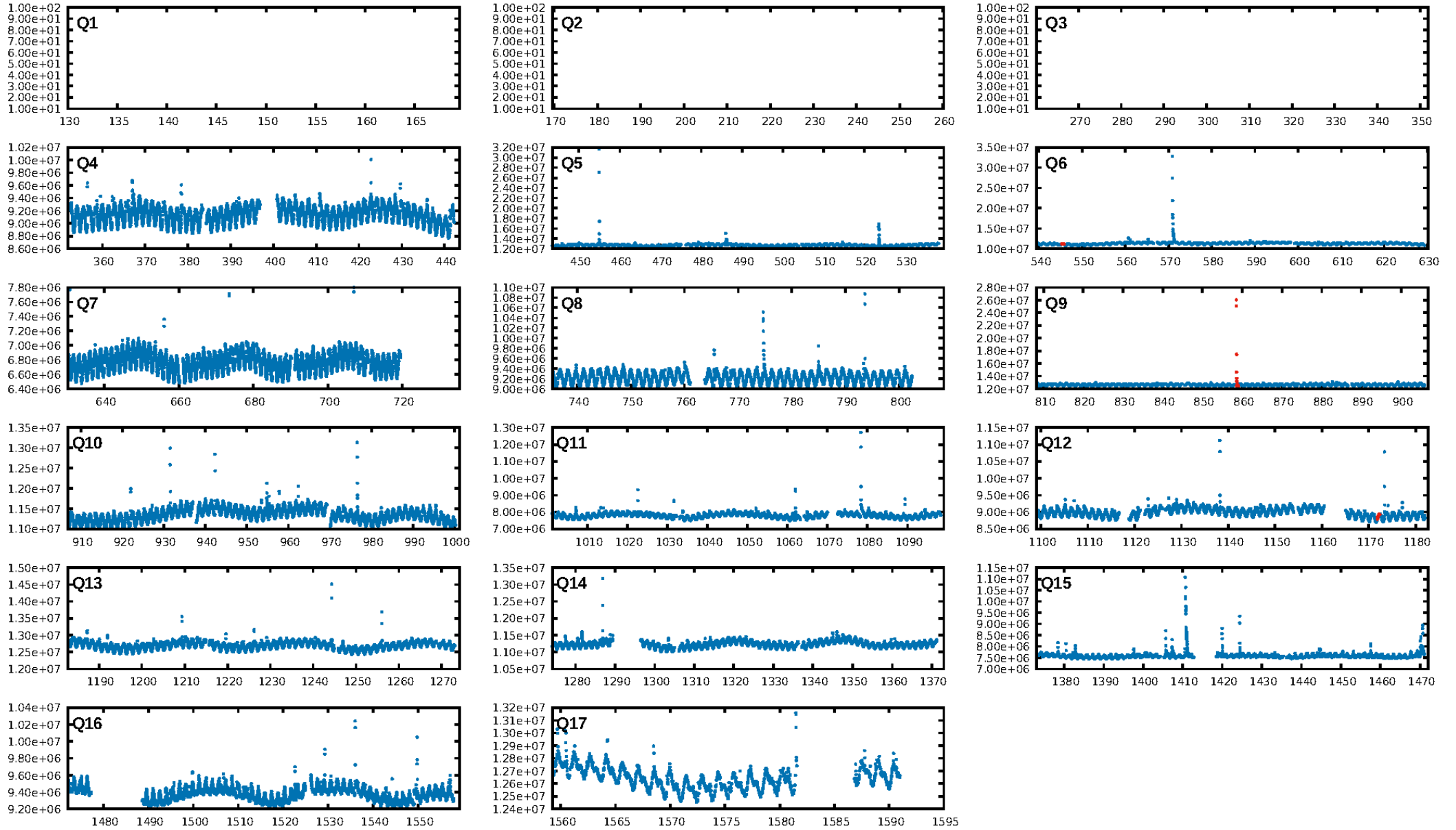
DV Fit Results:

Period = 313.30245 [0.02744] d
Epoch = 232.1898 [0.0631] BKJD
Rp/R* = 0.0322 [0.0783]
a/R* = 290.26 [2885.15]
b = 0.65 [9.09]
Seff = 0.01 [0.00]
Teff = 86 [3] K
Rp = 0.63 [1.53] Re
a = 0.4856 [0.0620] AU
Ag = 822167.00 [4001758.20] [0.21 σ]
Teffp = 4013 [4881] K [0.80 σ]

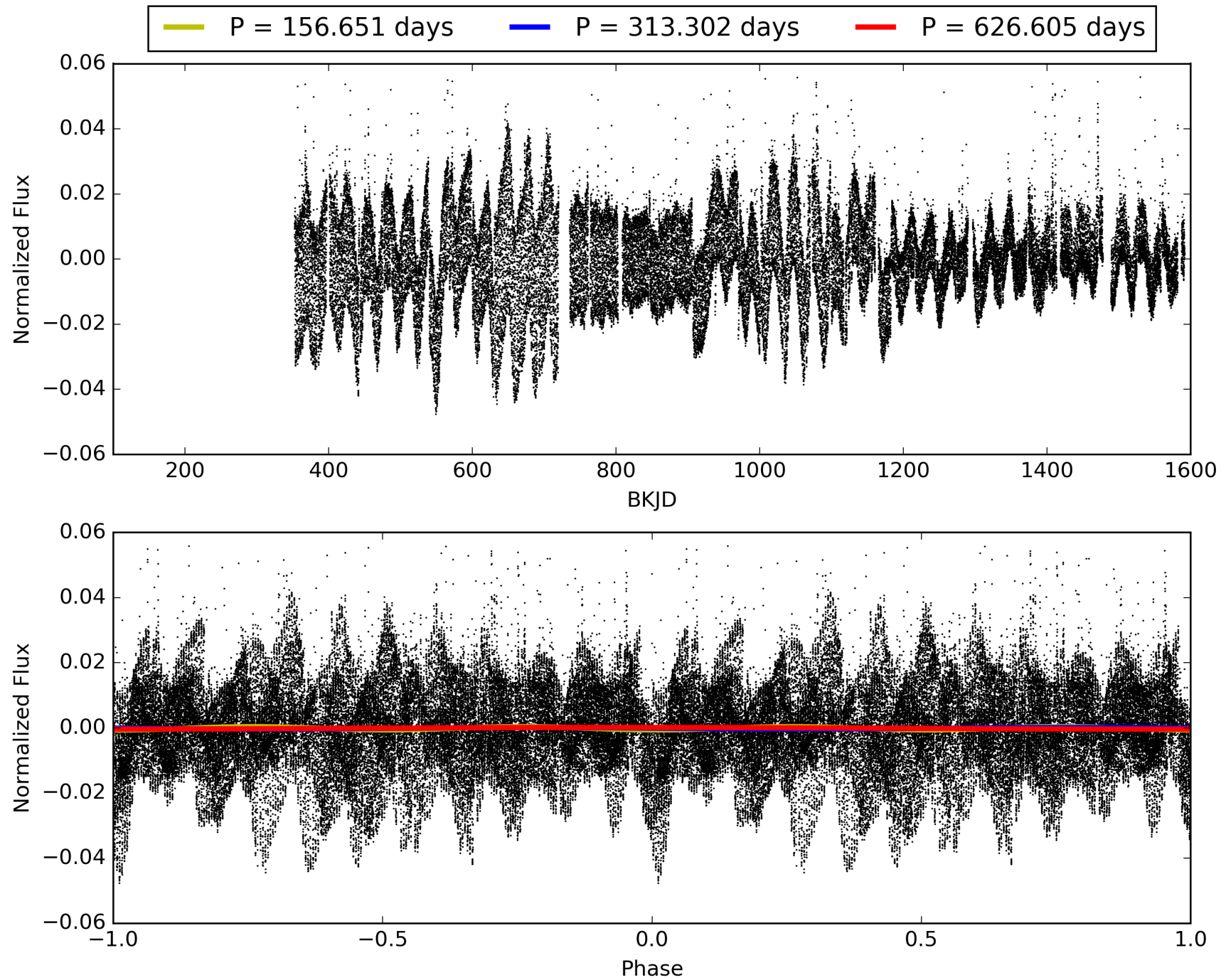
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [996.71 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 83.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.64e-09
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 1.245
Centroid-sig: 57.5%
Centroid-so: 1.637 arcsec [0.69 σ]
OotOffset-rm: 4.476 arcsec [13.92 σ]
KicOffset-rm: 0.441 arcsec [4.74 σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/2]

TCE 011876227-02, PDC Light Curves

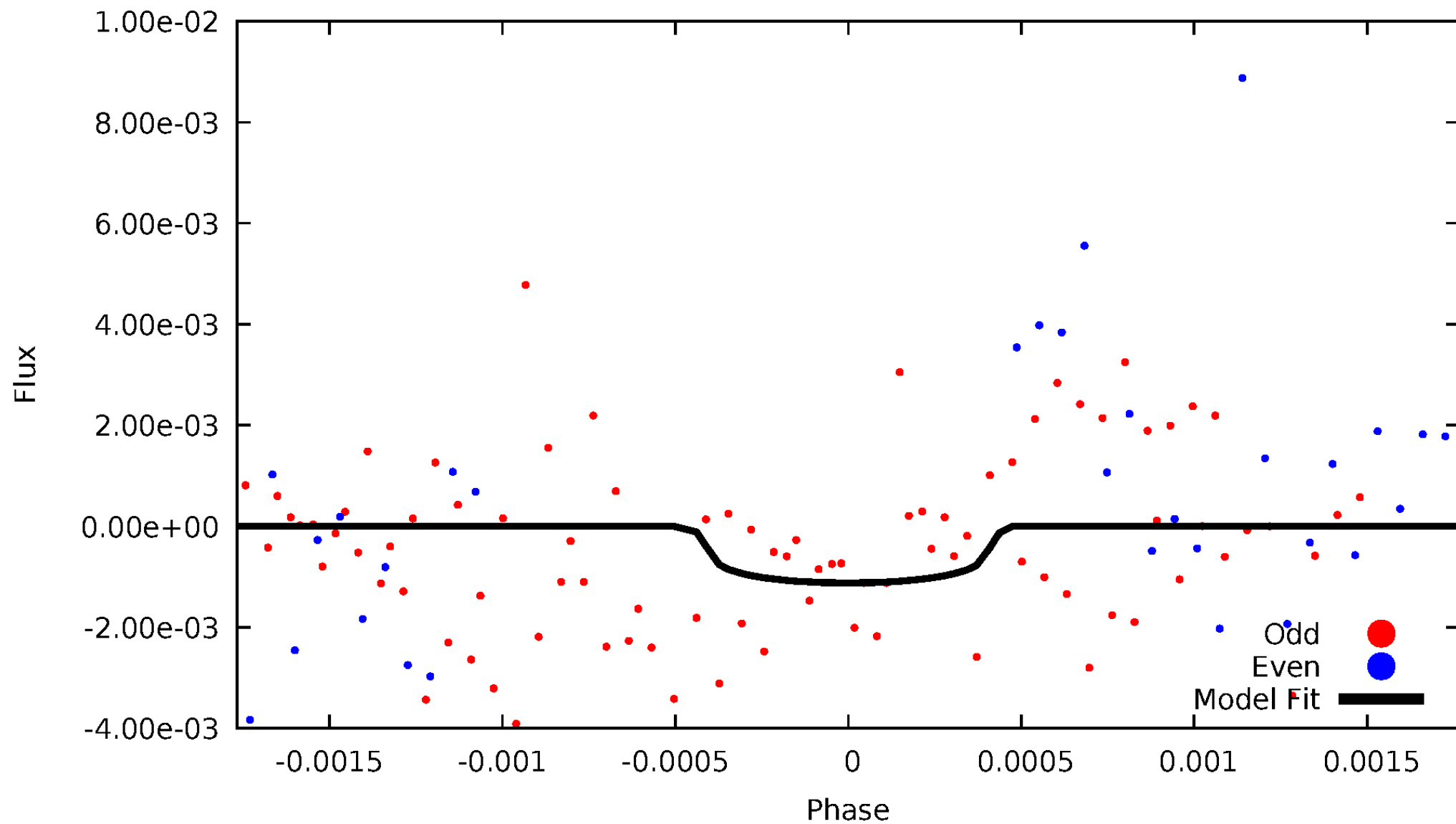


TCE 011876227-02



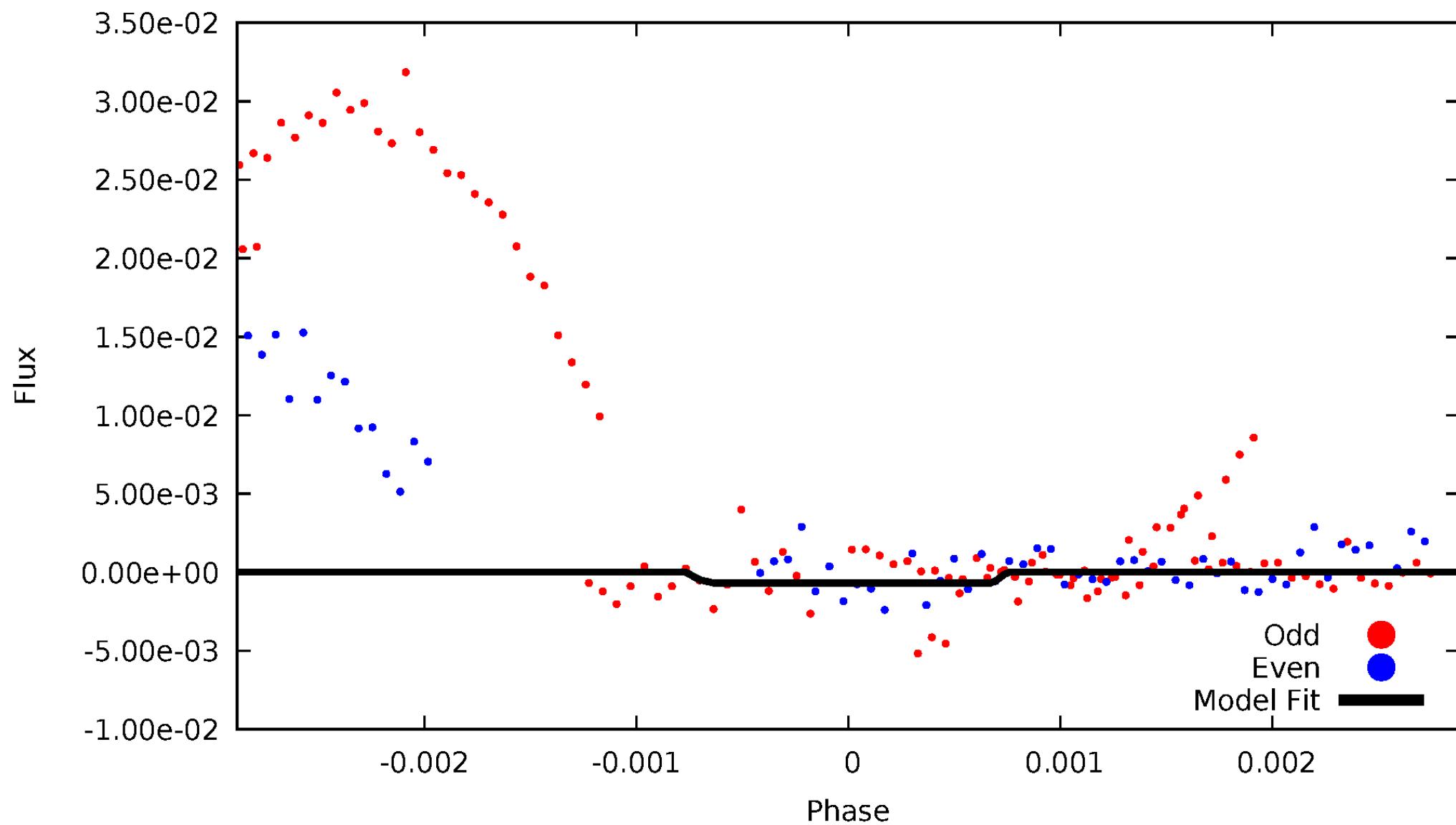
DV Odd/Even

TCE 011876227-02



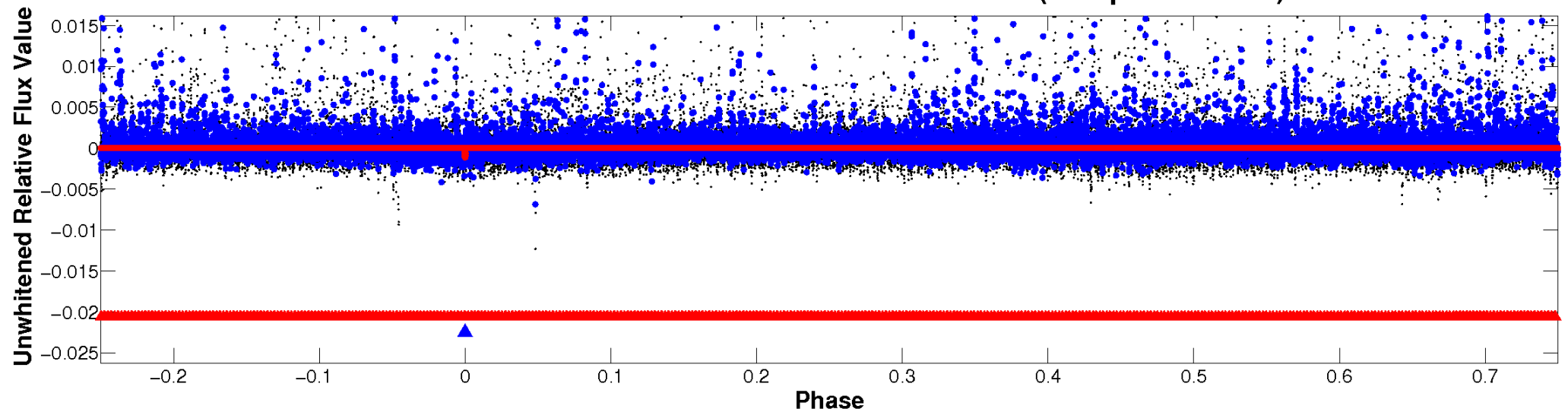
ALT Odd/Even

TCE 011876227-02

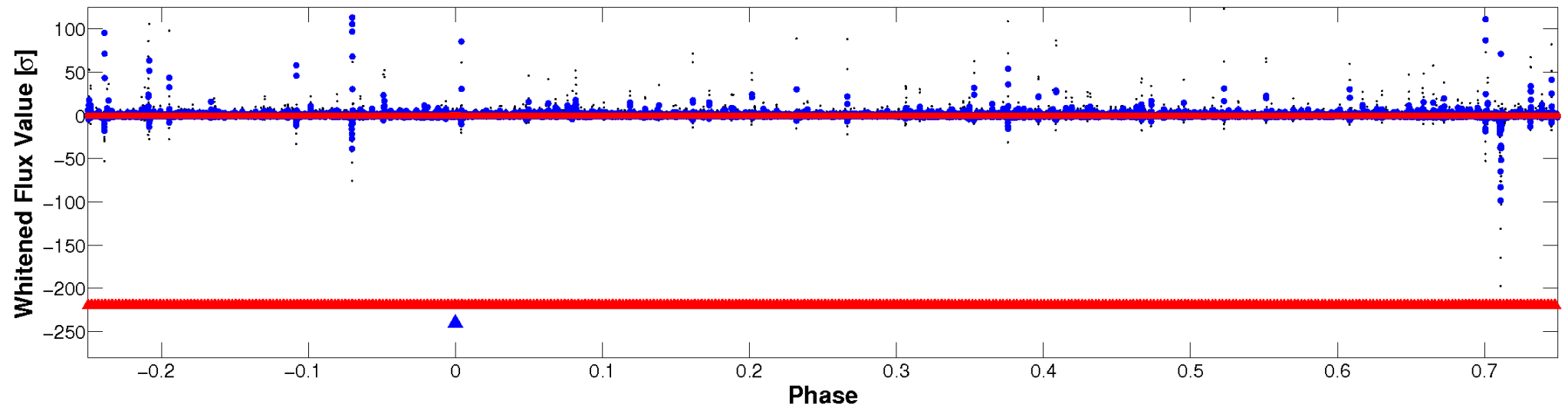


Non-Whitened Vs. Whitened Light Curve

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

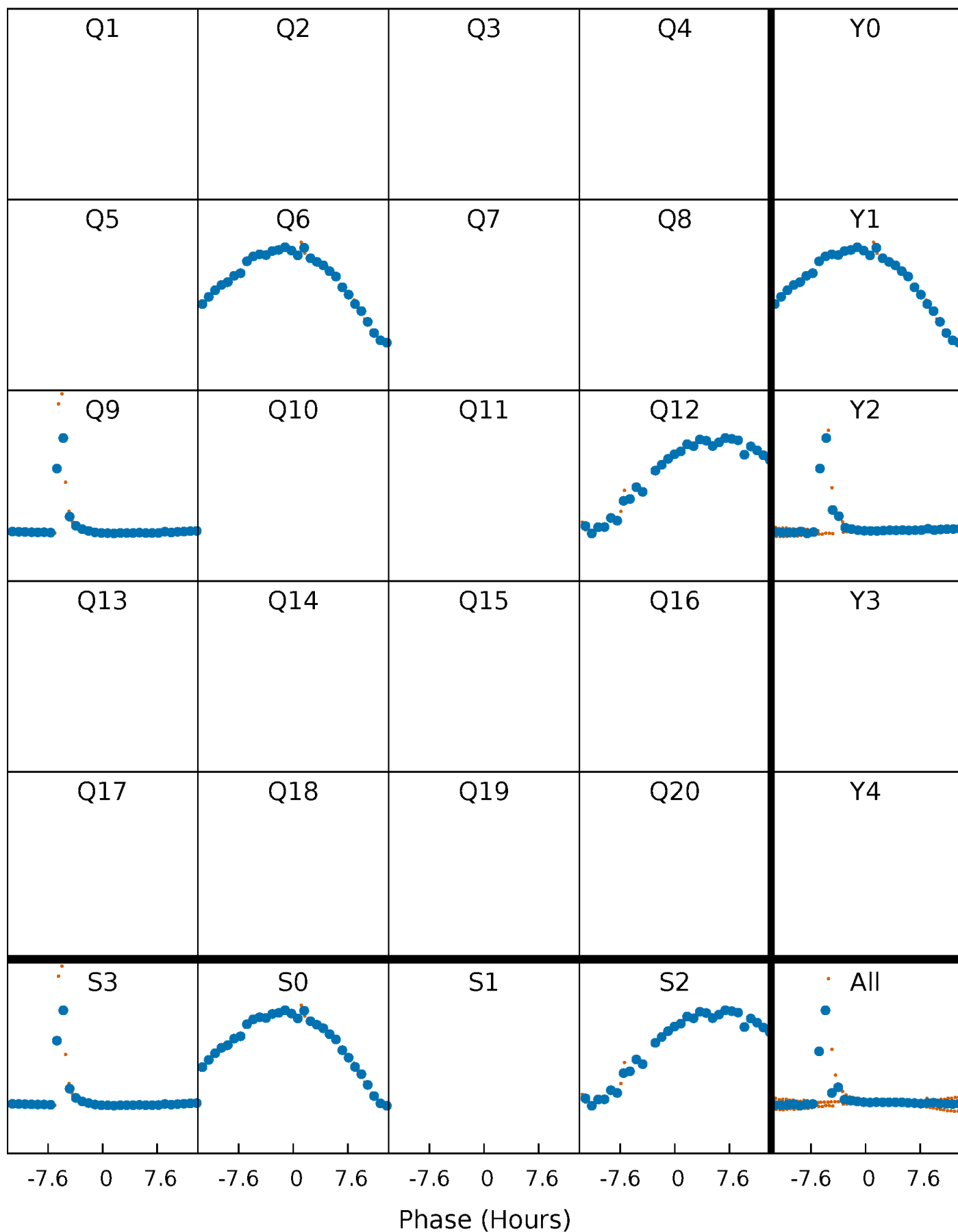


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



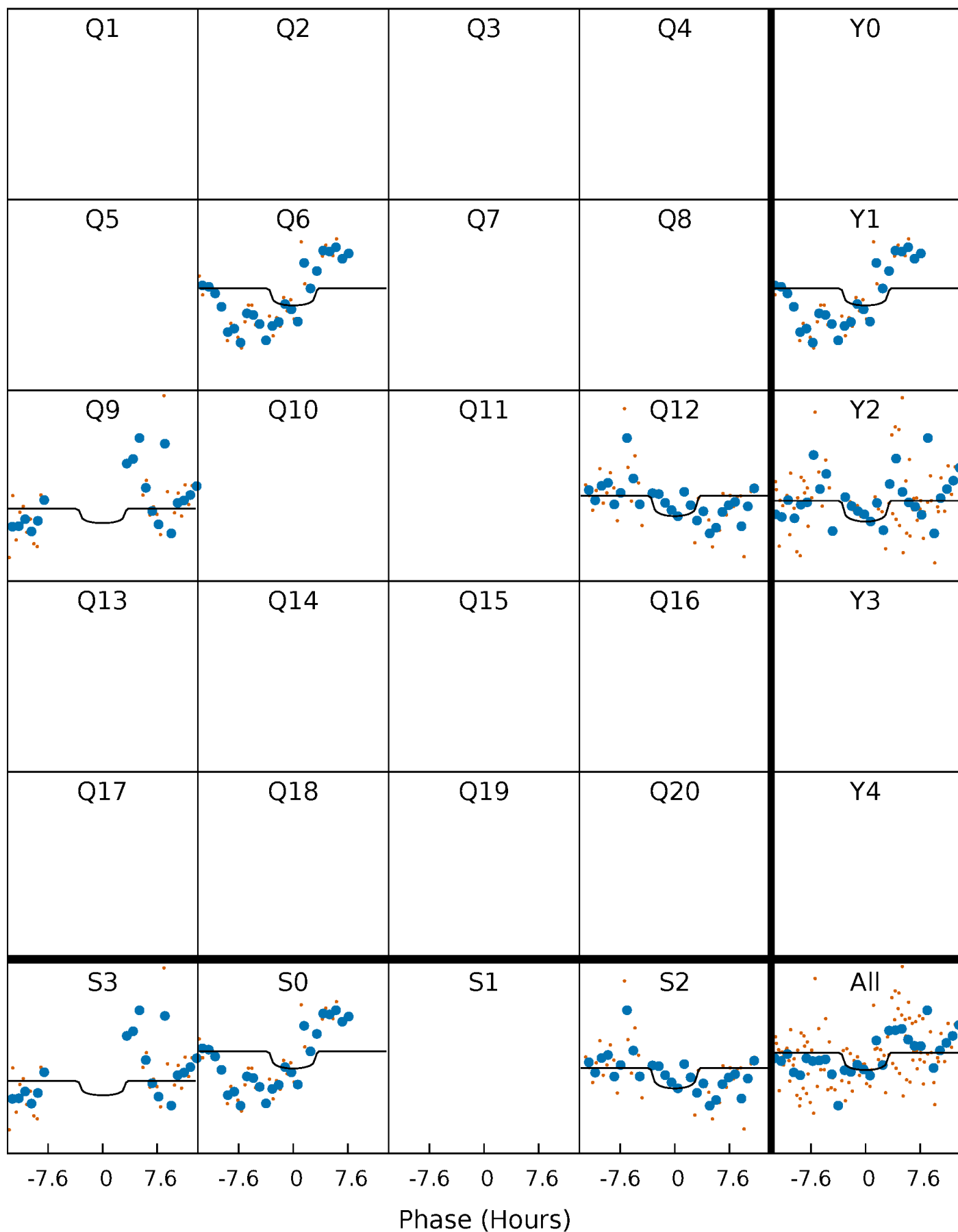
PDC Quarter-Phased Transit Curves

TCE 011876227-02 P=313.302446 Days $T_0=232.189772$ (BKJD)



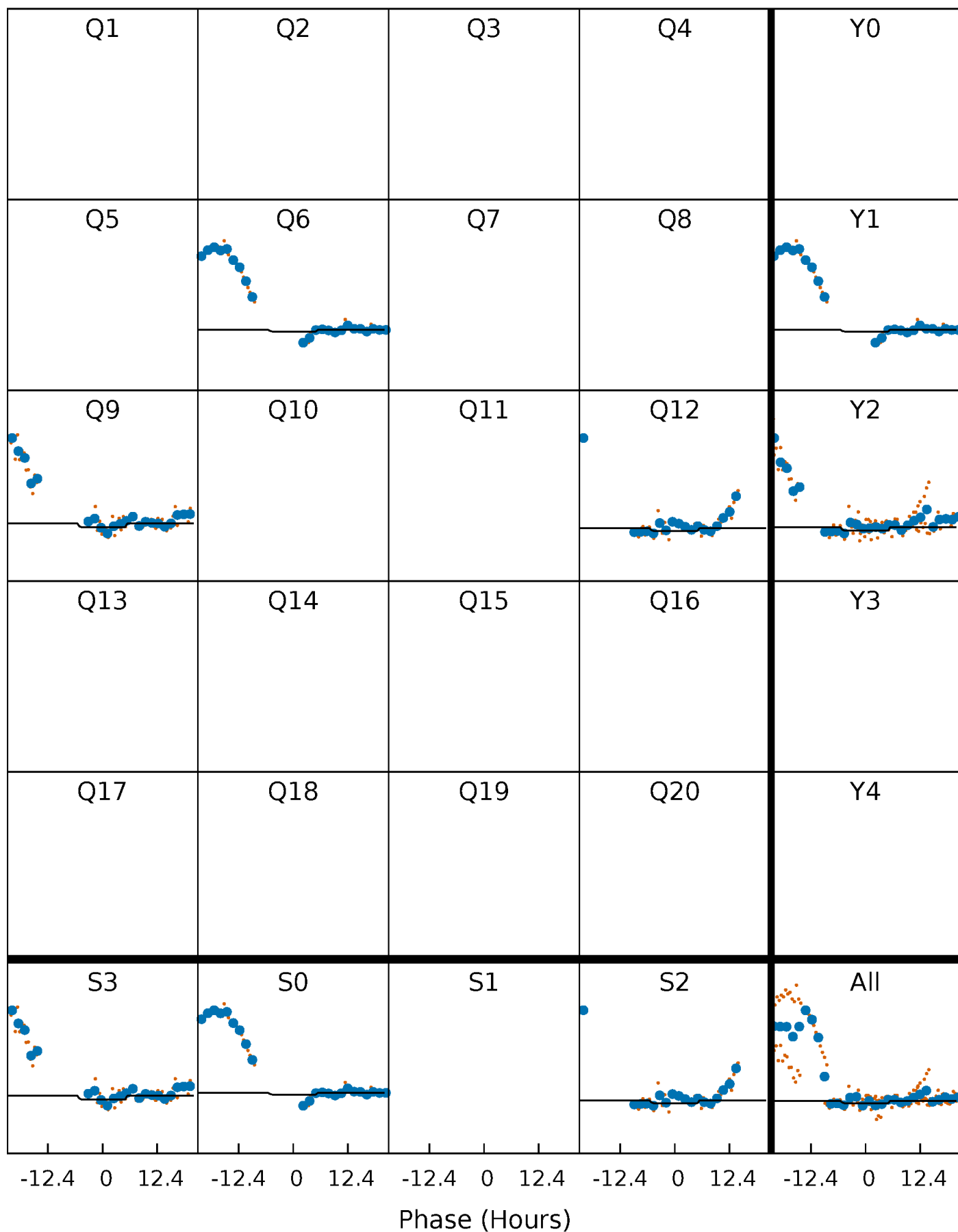
DV Quarter-Phased Transit Curves

TCE 011876227-02 $P=313.302446$ Days $T_0=232.189772$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

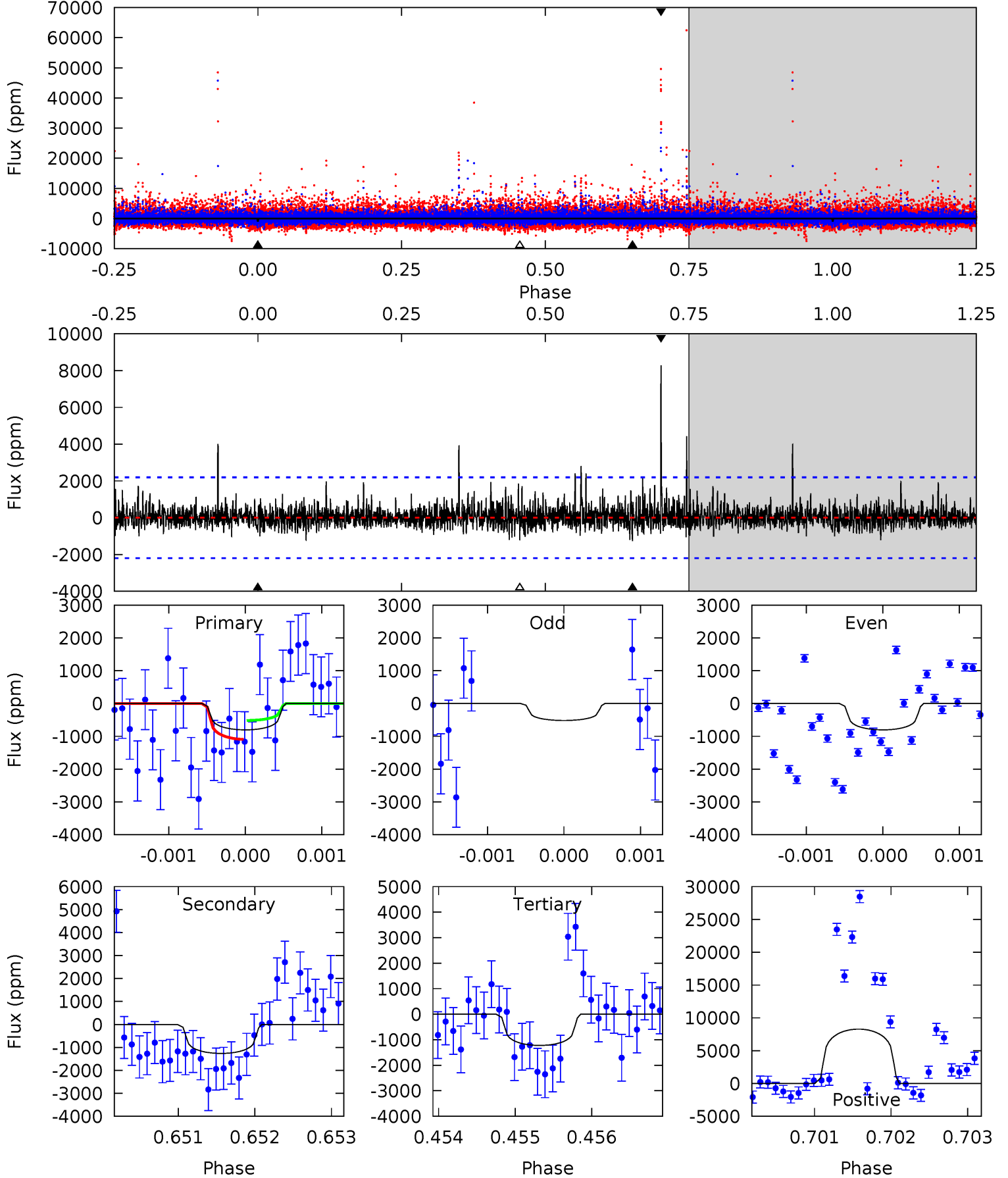
TCE 011876227-02 $P=312.885482$ Days $T_0=233.306343$ (BKJD)



DV Model-Shift Uniqueness Test

011876227-02, P = 313.302446 Days, E = 232.189772 Days

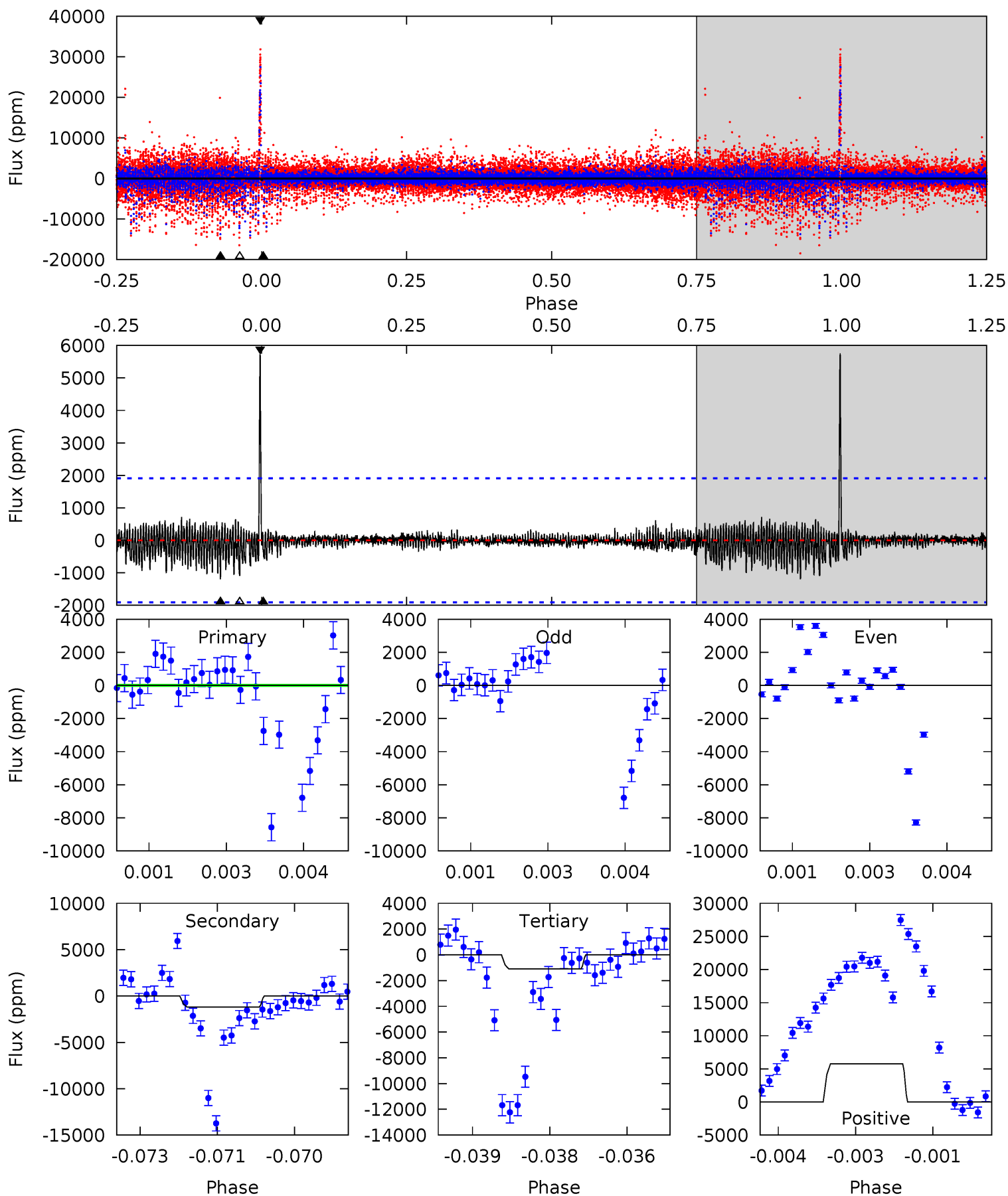
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.00	3.14	3.05	20.6	5.47	3.32	1.23	-1.04	-18.6	0.10	-17.5	0.34	1.00	0.87	0.72



Alt Model-Shift Uniqueness Test

011876227-02, P = 312.885482 Days, E = 233.306343 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.02	3.38	3.08	16.2	5.39	3.20	0.89	-2.06	-15.2	0.30	-12.9	0.32	4.70	0.83	0.76



Stellar Parameters For KIC 011876227

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3218^{+41}_{-19}	$5.124^{+0.055}_{-0.060}$	$0.020^{+0.100}_{-0.100}$	$0.179^{+0.032}_{-0.023}$	$0.155^{+0.037}_{-0.020}$	$38.210^{+10.890}_{-10.110}$
	+1%/-1%	+1%/-1%	+500%/-500%	+18%/-13%	+24%/-13%	+29%/-26%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 011876227-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1262 ± 401	$1.26^{+1.26}_{-0.85}$	121^{+3}_{-3}	2730^{+1097}_{-438}	$100109^{+883981}_{-76288}$
Alt.	-1198 ± 354	$1.24^{+1.30}_{-0.86}$	121^{+4}_{-3}	2723^{+1123}_{-413}	$101367^{+894685}_{-75741}$

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

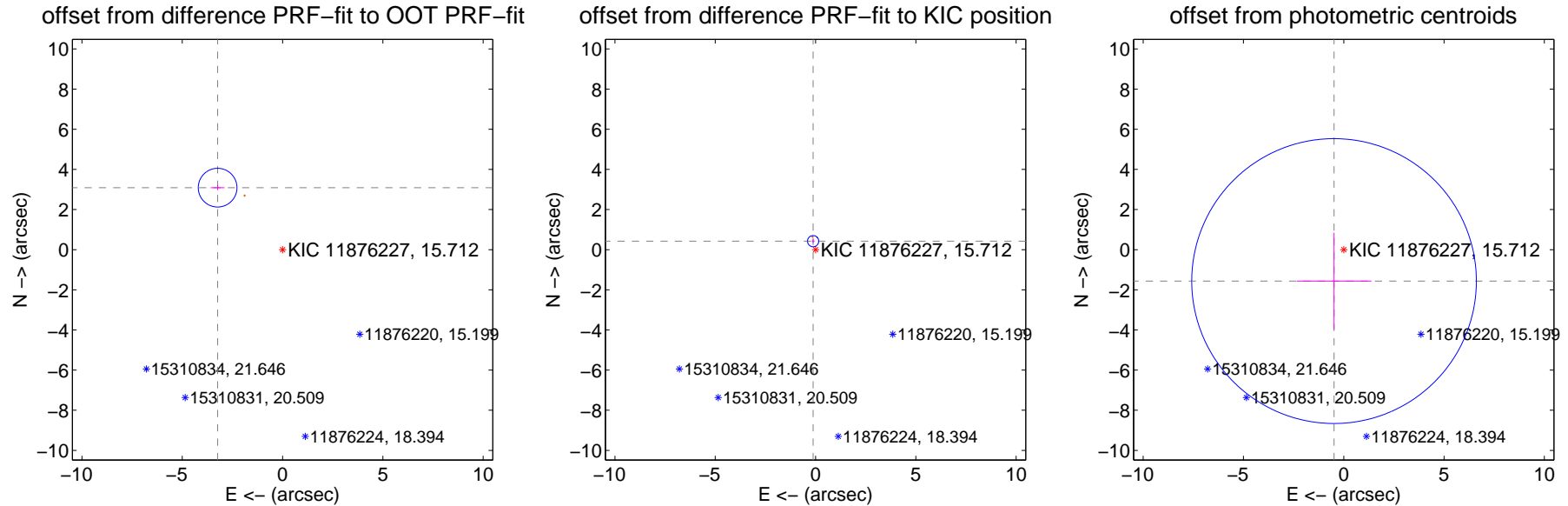
DV Centroid Data

Supplemental centroid analysis for 011876227-02. Kepler magnitude: 15.71. Transit SNR 1.95

There are 1 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 4.12 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.476 ± 0.322	13.92	3.238 ± 0.345	3.090 ± 0.121
PRF-fit source offset from KIC position	0.441 ± 0.093	4.74	0.121 ± 0.067	0.425 ± 0.093
photometric centroid source offset	1.64 ± 2.37	0.69	0.48 ± 1.87	-1.56 ± 2.41



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

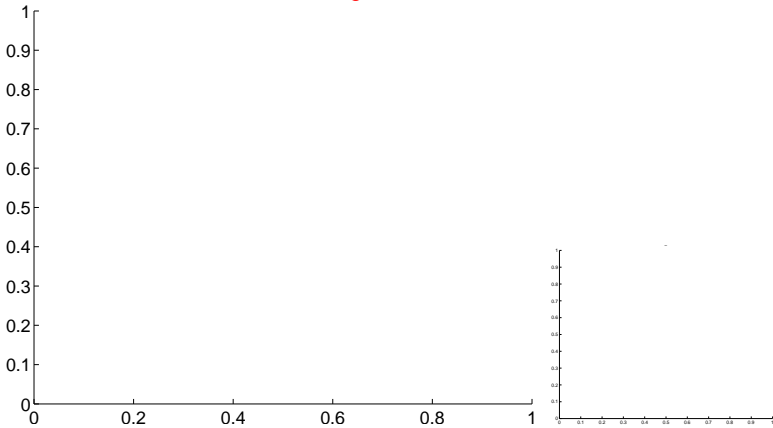


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

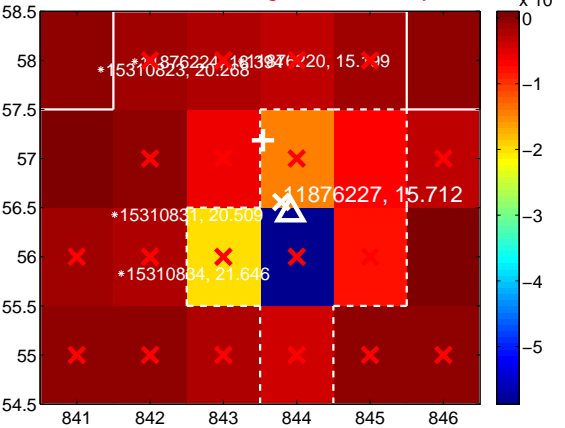
Q5 no difference image



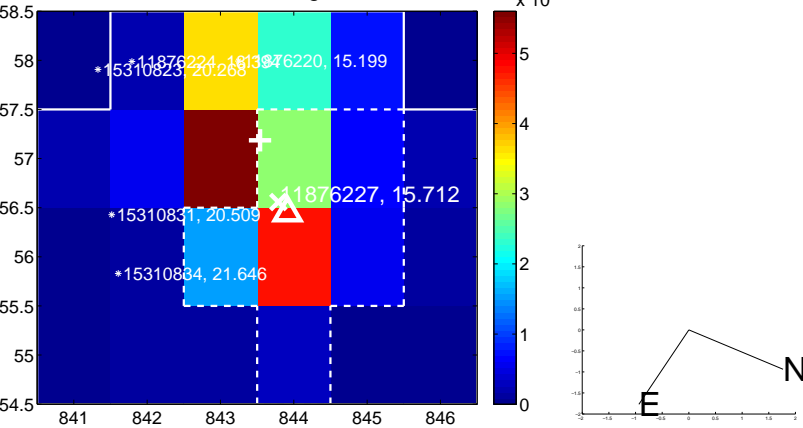
Q5 no OOT image



Q6 difference image. Poor Quality



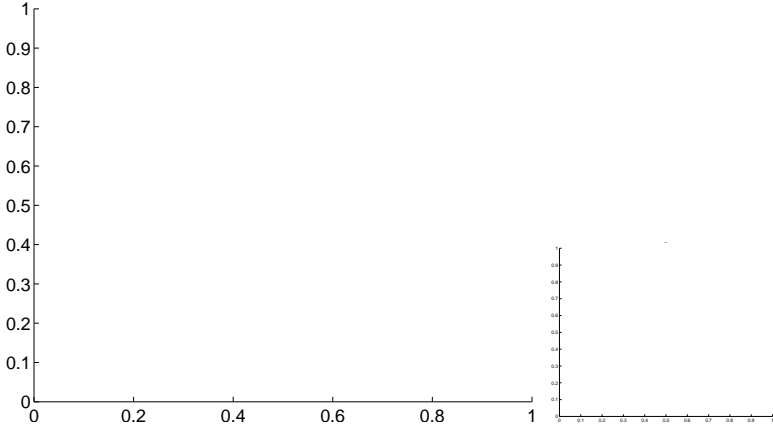
Q6 OOT image



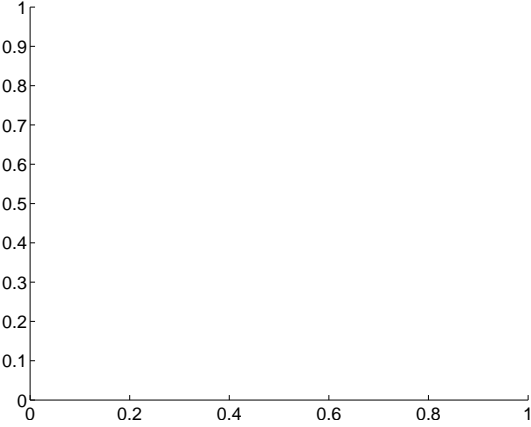
Q7 no difference image



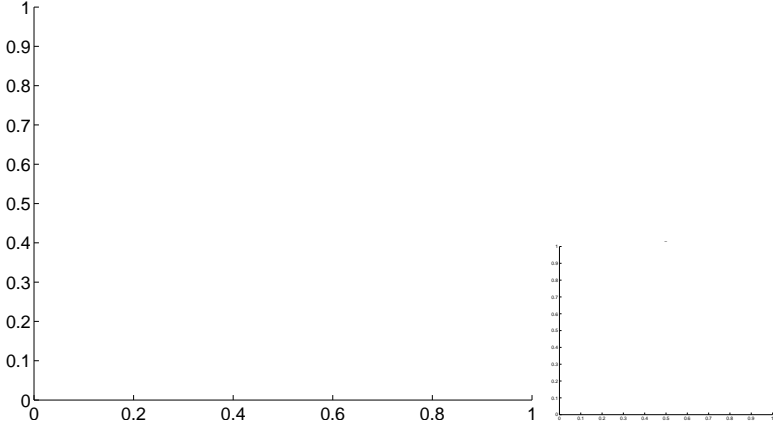
Q7 no OOT image



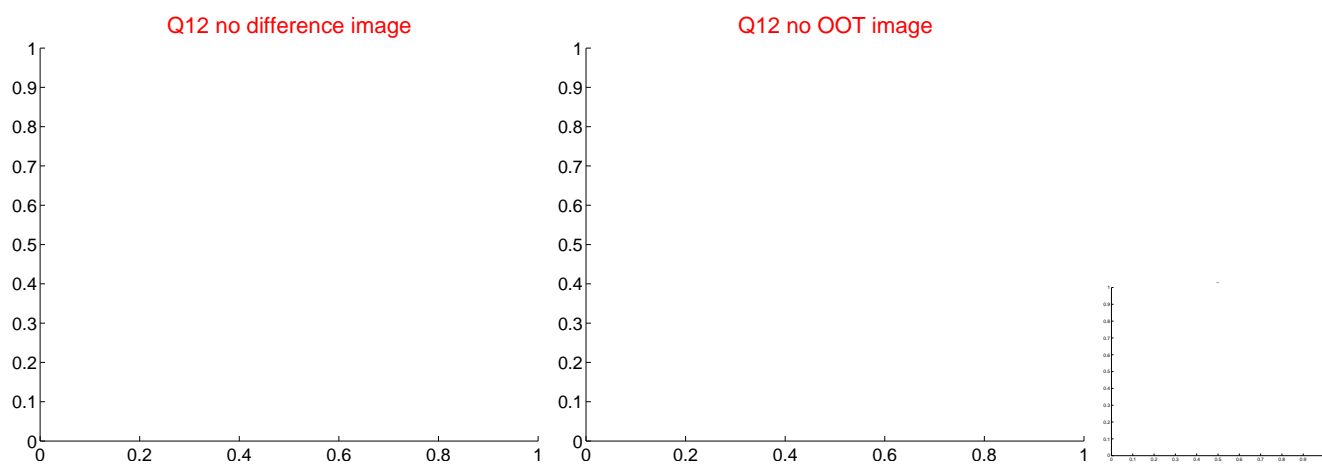
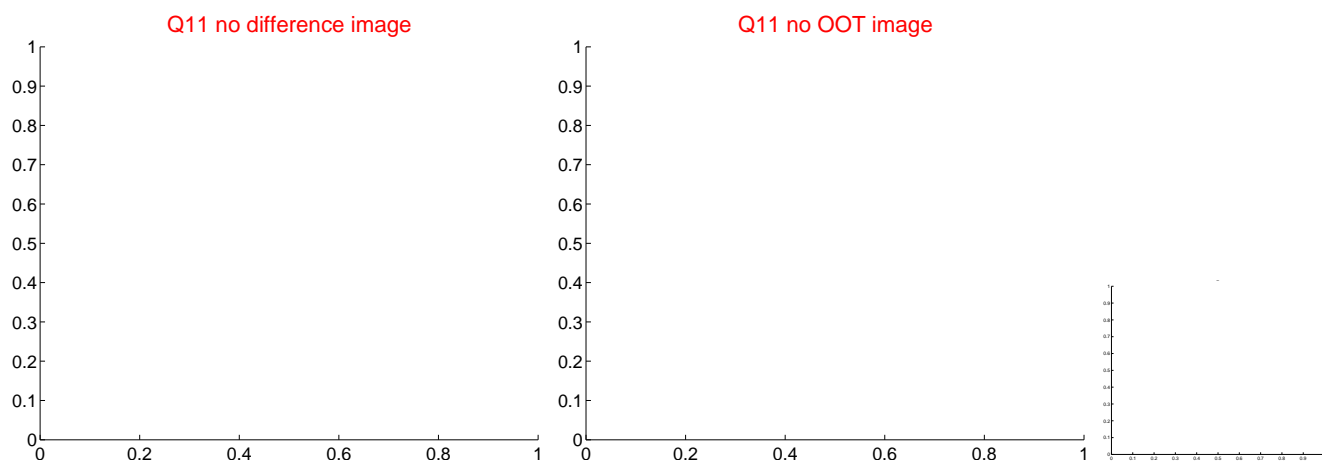
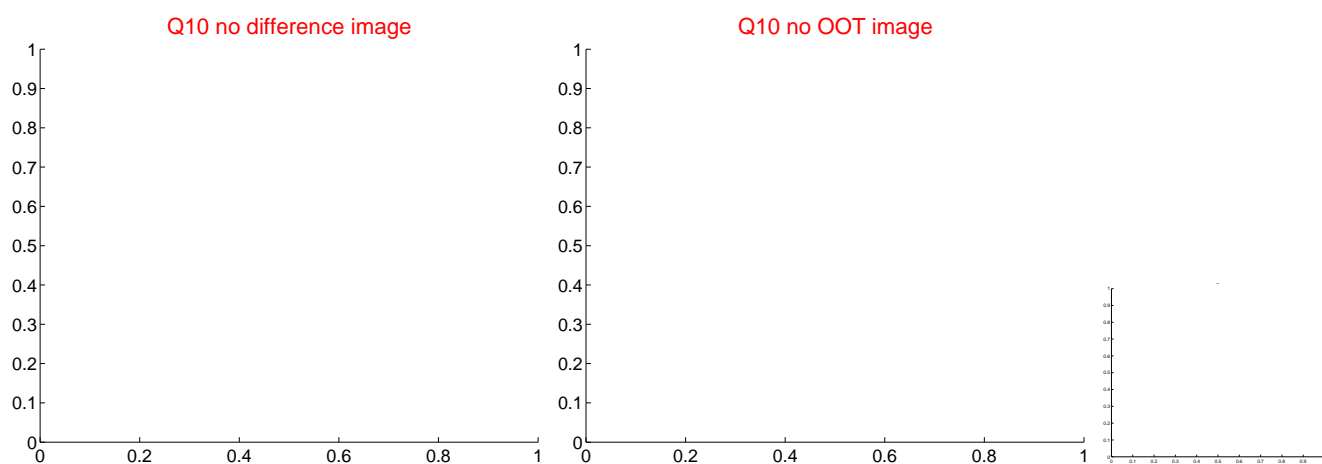
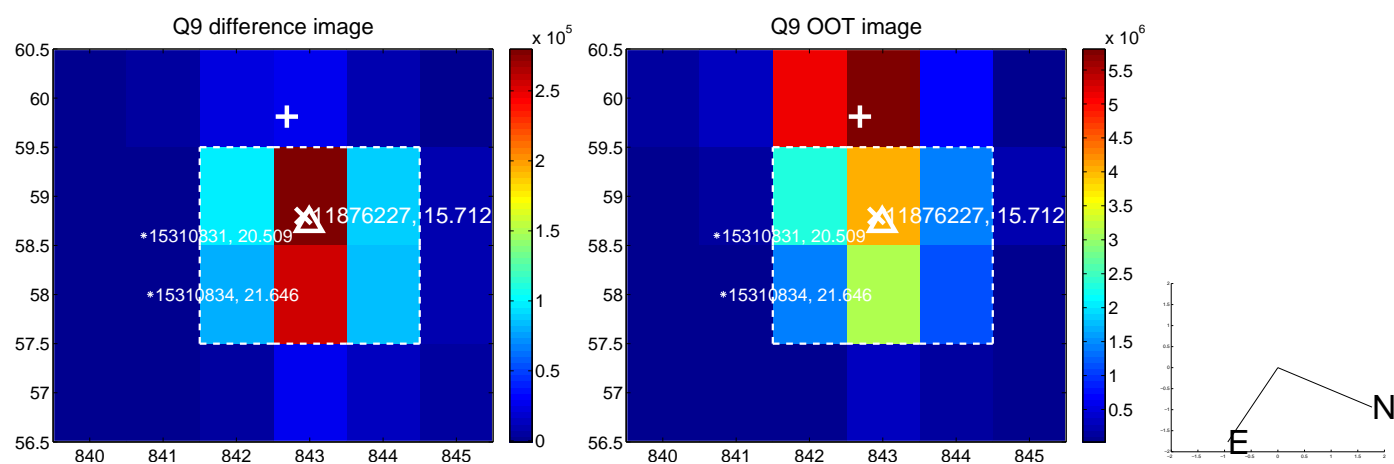
Q8 no difference image



Q8 no OOT image



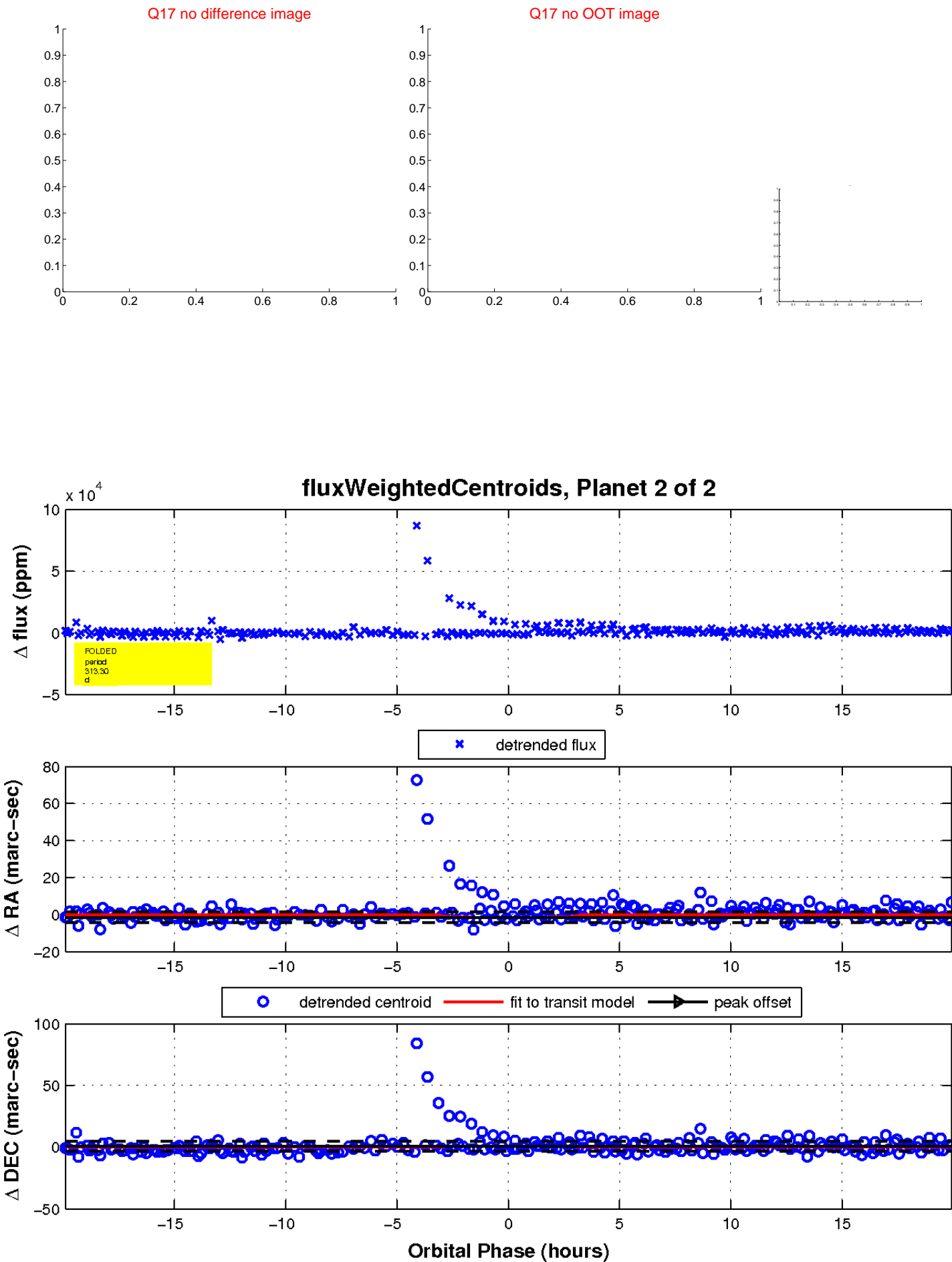
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

