

KIC 011026582

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})
011026582-01	OBS	5854.01	240.571091	239.503571	919.8	11.346	28.4	27.6	0.94	6146	3.04	1.96
011026582-02	OBS	No	364.911580	306.500190	268.5	8.416	7.4	6.5	0.94	6146	1.69	1.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011026582-01	OBS	PC	0.98	0	0	0	0	NO_COMMENT
011026582-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_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.

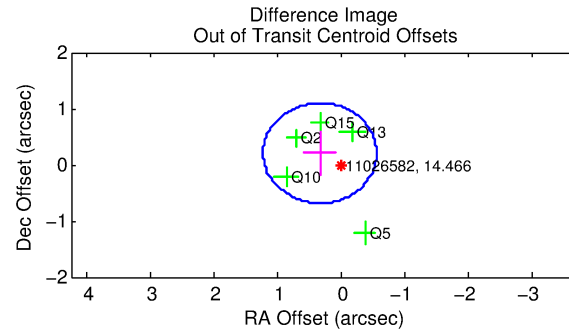
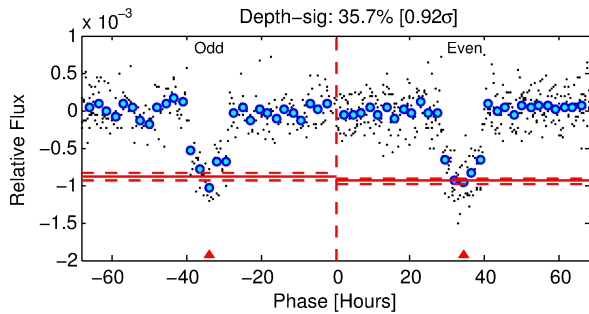
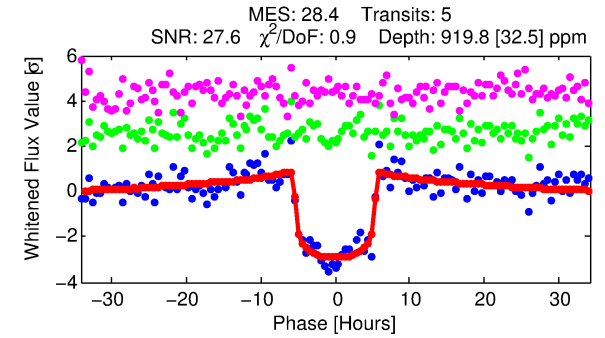
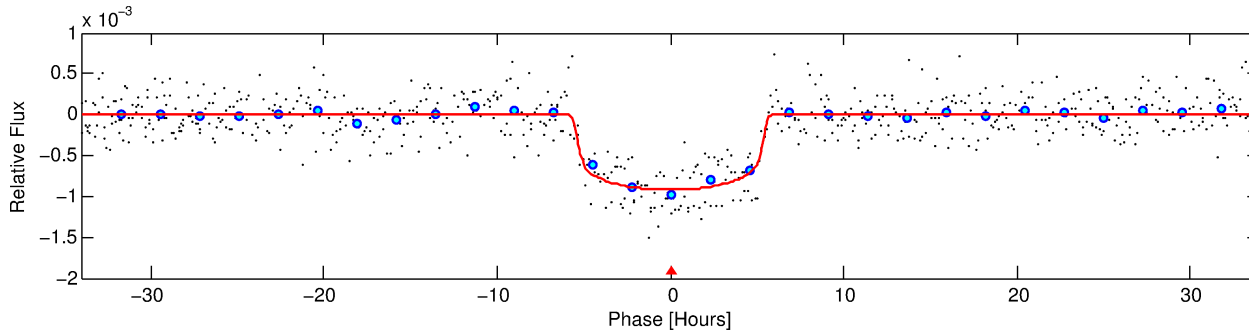
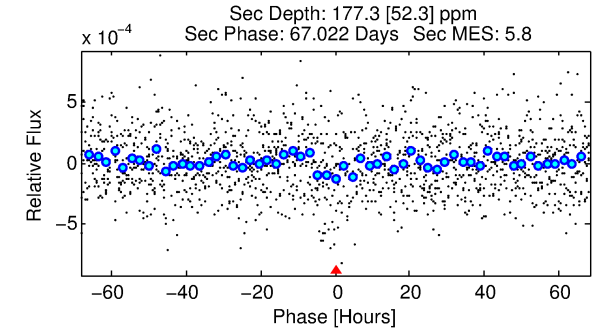
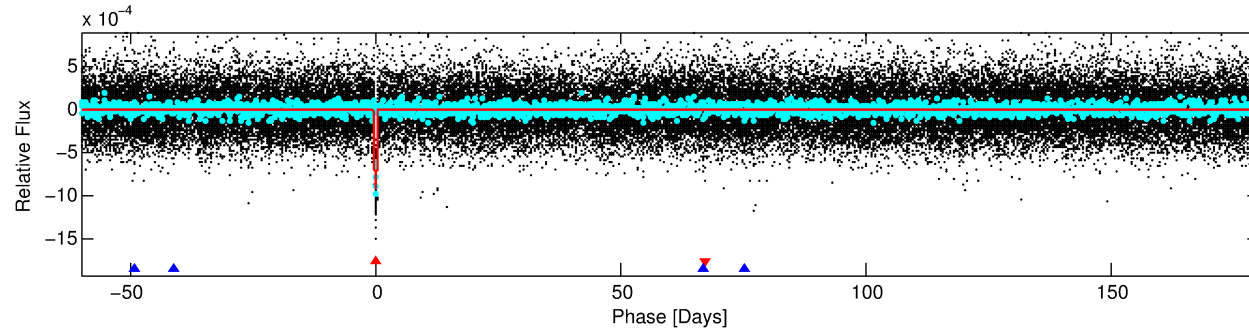
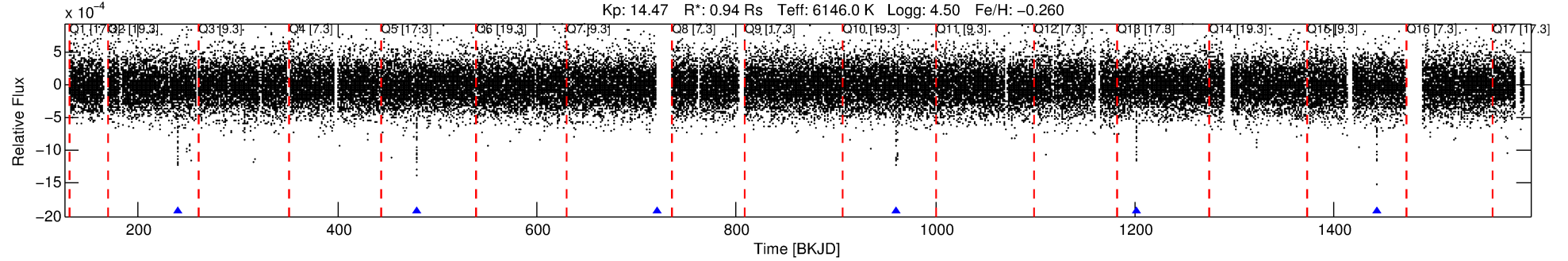
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011026582-01

No Significant Match Found

DV One-Page Summary

KIC: 11026582 Candidate: 1 of 2 Period: 240.571 d
KOI: K05854.01 Corr: 0.991



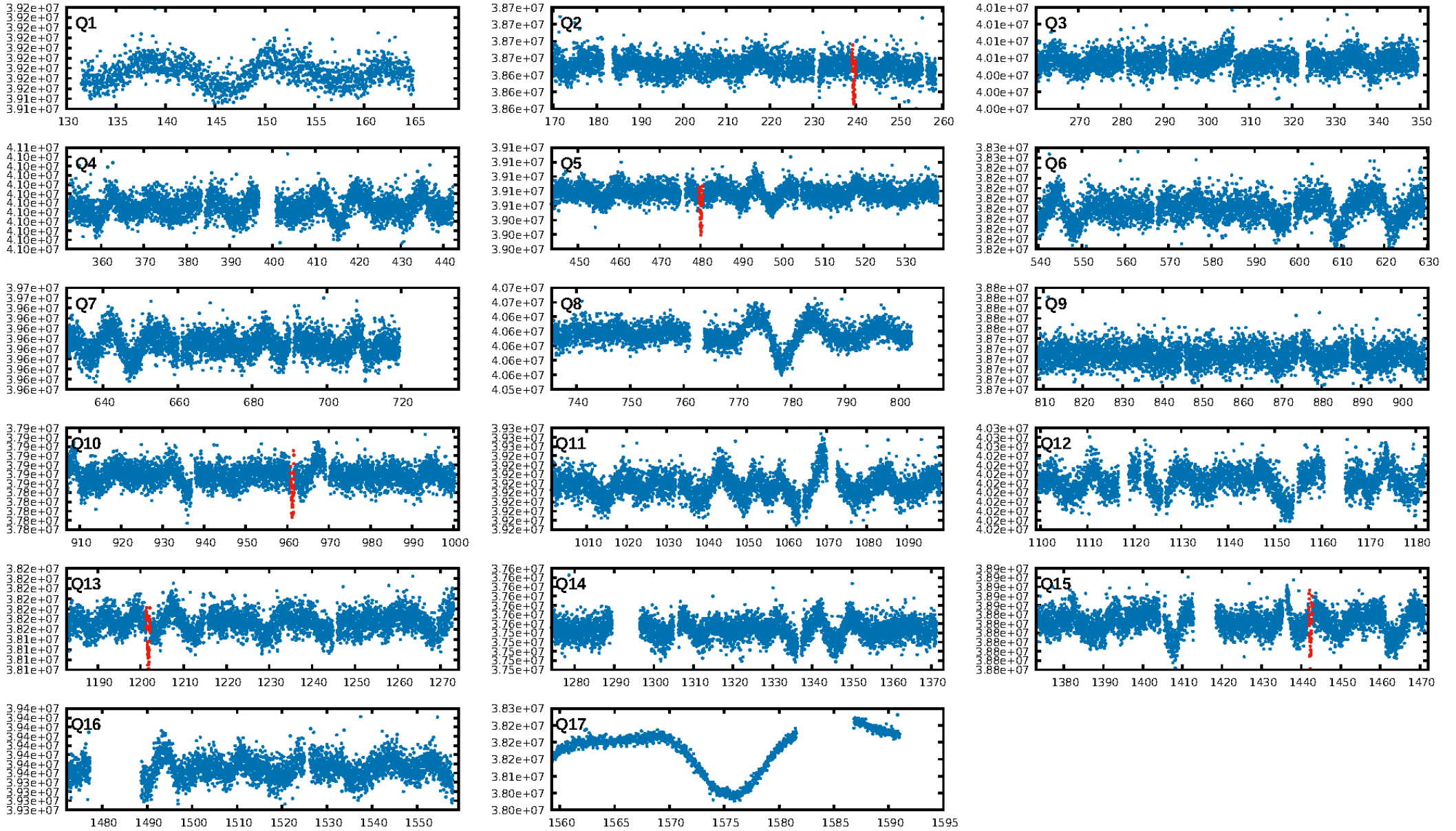
DV Fit Results:

Period = 240.57109 [0.00155] d
Epoch = 239.5036 [0.0048] BKJD
Rp/R* = 0.0295 [0.0025]
a/R* = 126.04 [51.90]
b = 0.67 [0.34]
Seff = 1.96 [0.78]
Teff = 302 [30] K
Rp = 3.04 [0.96] Re
a = 0.7618 [0.1967] AU
Ag = 6135.88 [3119.22] [1.97 σ]
Teffp = 4128 [373] K [10.21 σ]

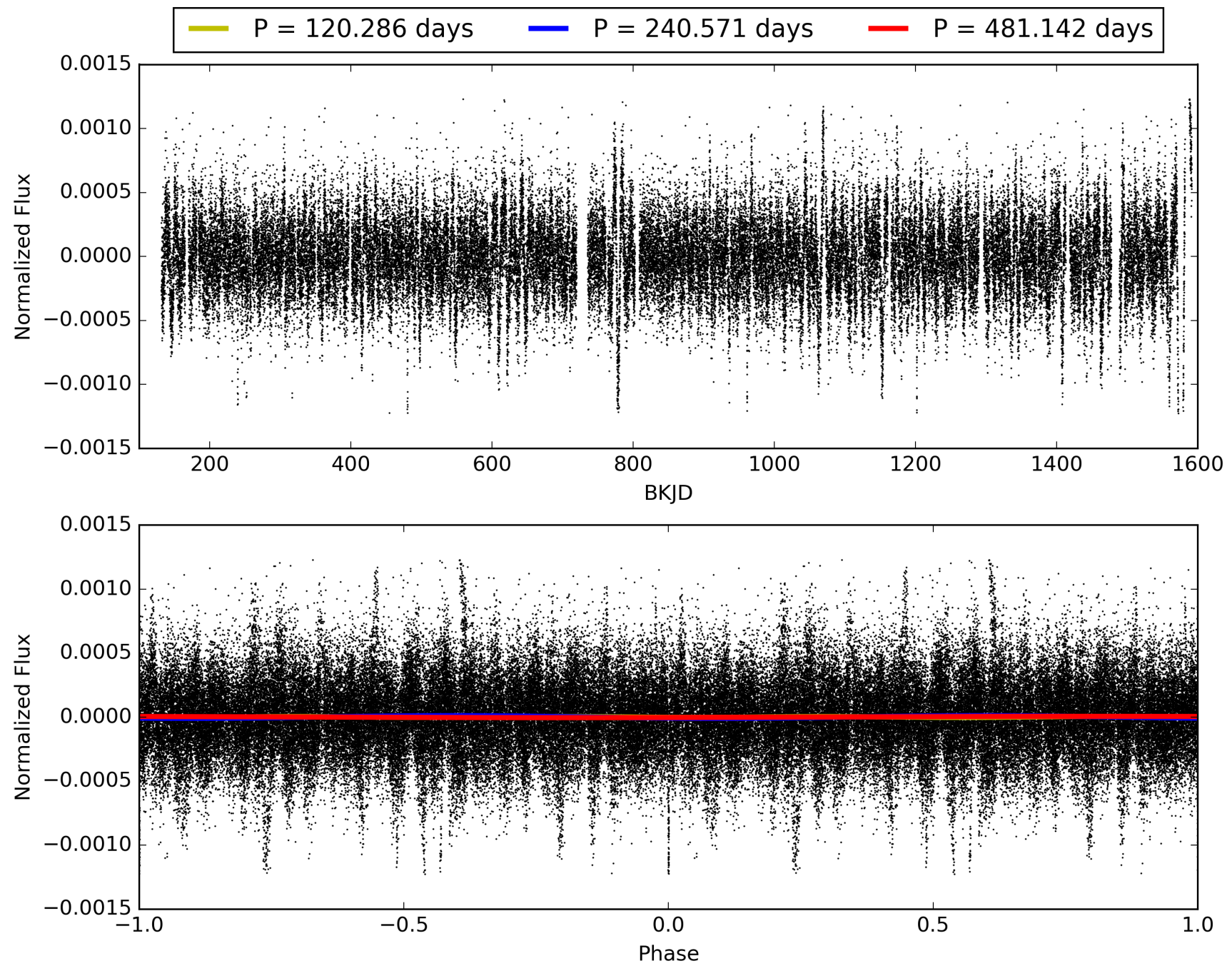
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [211.24 σ]
ModelChiSquare2-sig: 80.6%
ModelChiSquareGof-sig: 99.0%
Bootstrap-pfa: 3.74e-156
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 2.786
Centroid-sig: 78.1%
Centroid-so: 0.273 arcsec [0.72 σ]
OotOffset-rm: 0.395 arcsec [1.33 σ]
KicOffset-rm: 0.412 arcsec [1.42 σ]
OotOffset-st: 2/1/0/2 [5]
KicOffset-st: 2/1/0/2 [5]
DiffImageQuality-fgm: 1.00 [5/5]
DiffImageOverlap-fno: 1.00 [5/5]

TCE 011026582-01, PDC Light Curves

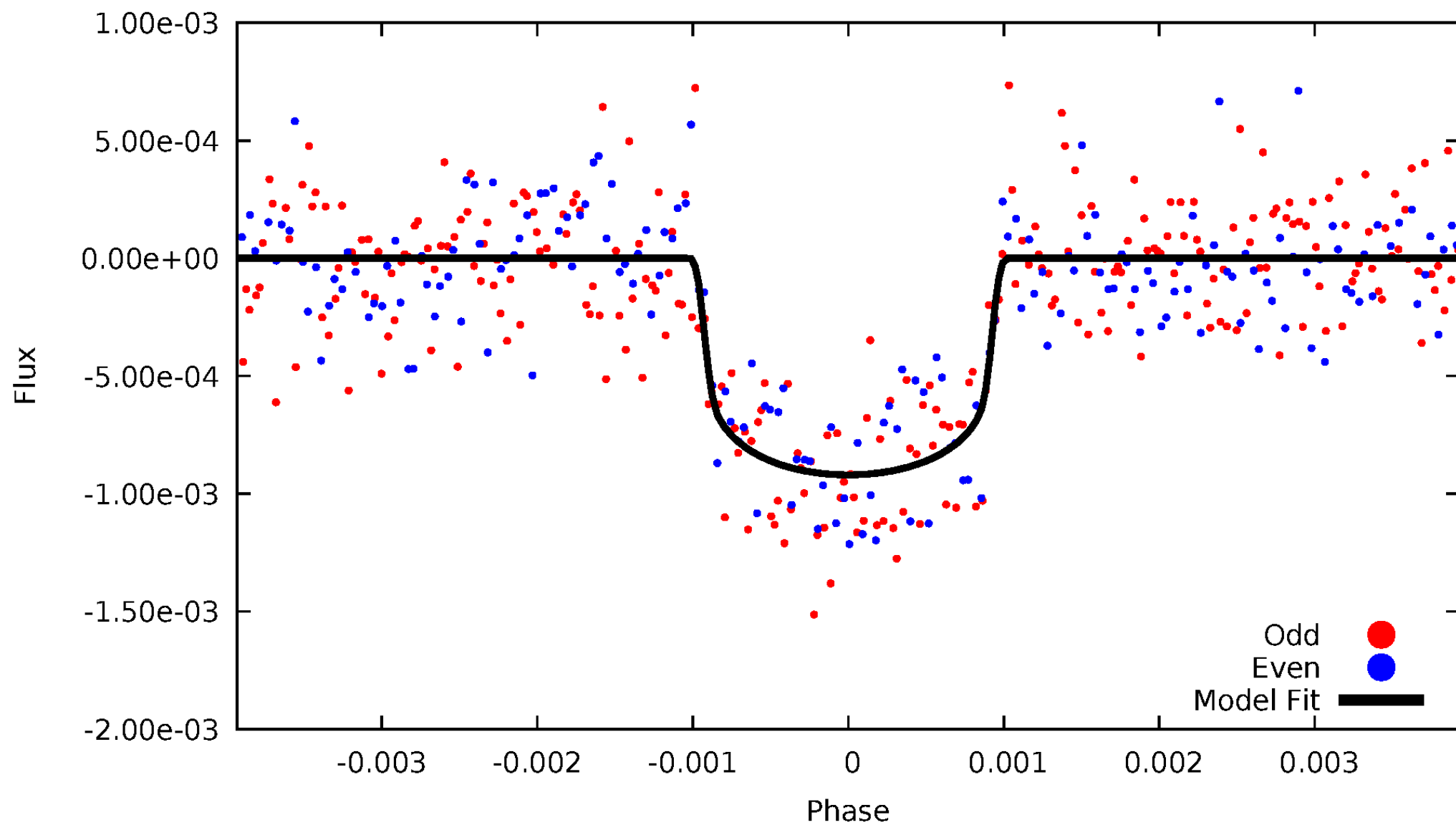


TCE 011026582-01



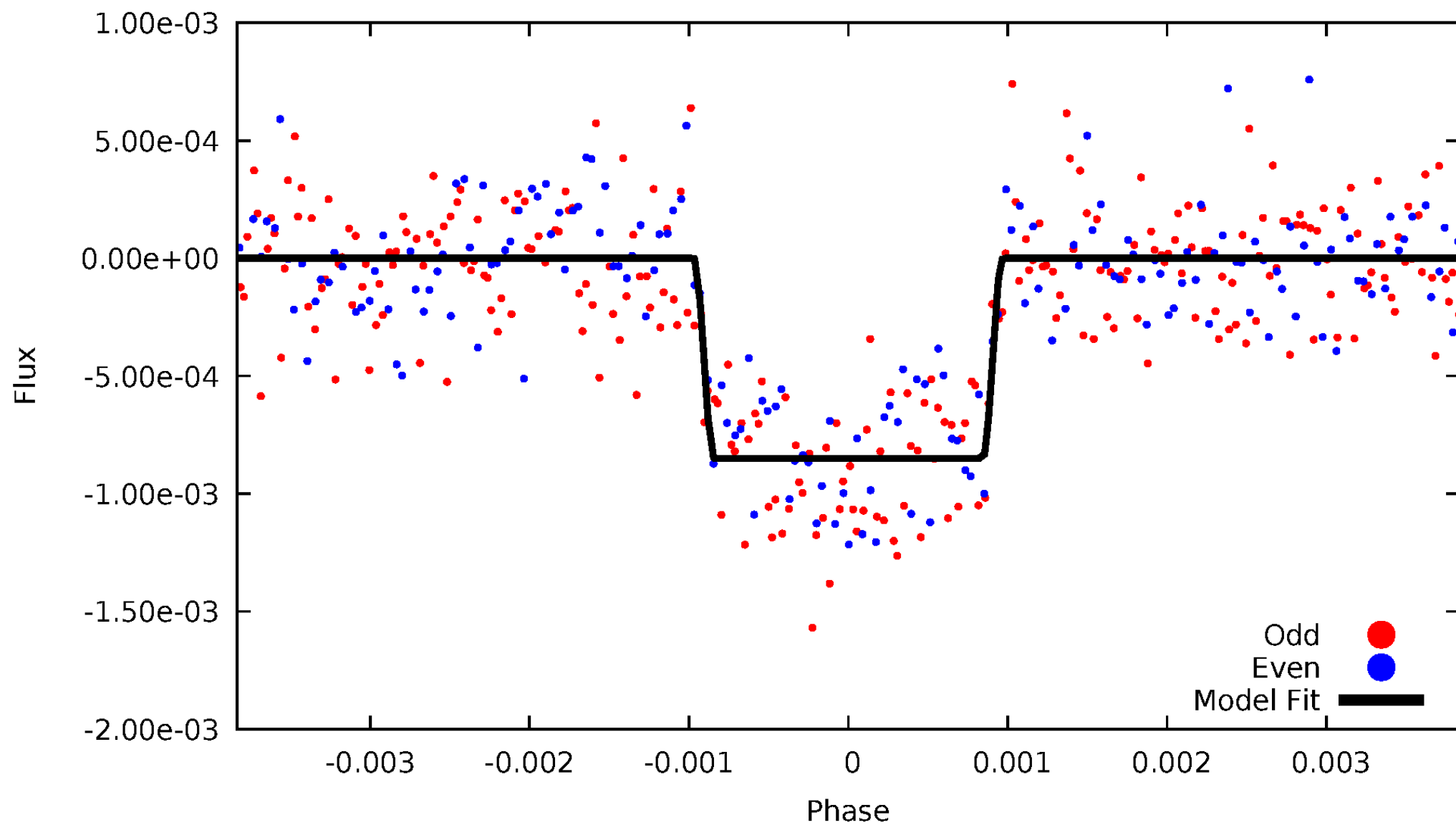
DV Odd/Even

TCE 011026582-01



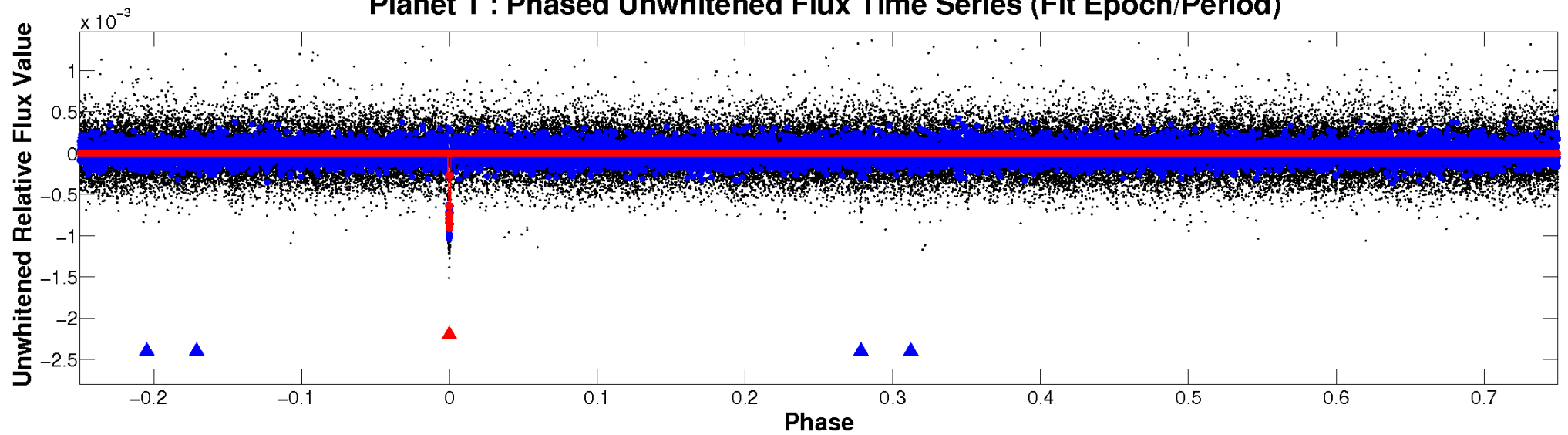
ALT Odd/Even

TCE 011026582-01

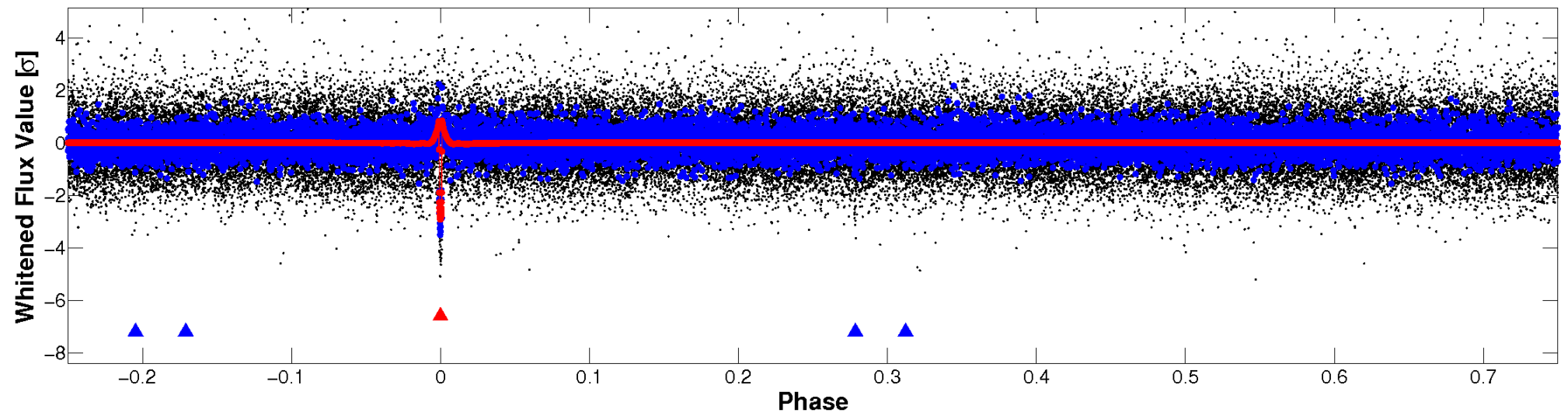


Non-Whitened Vs. Whitened Light Curve

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

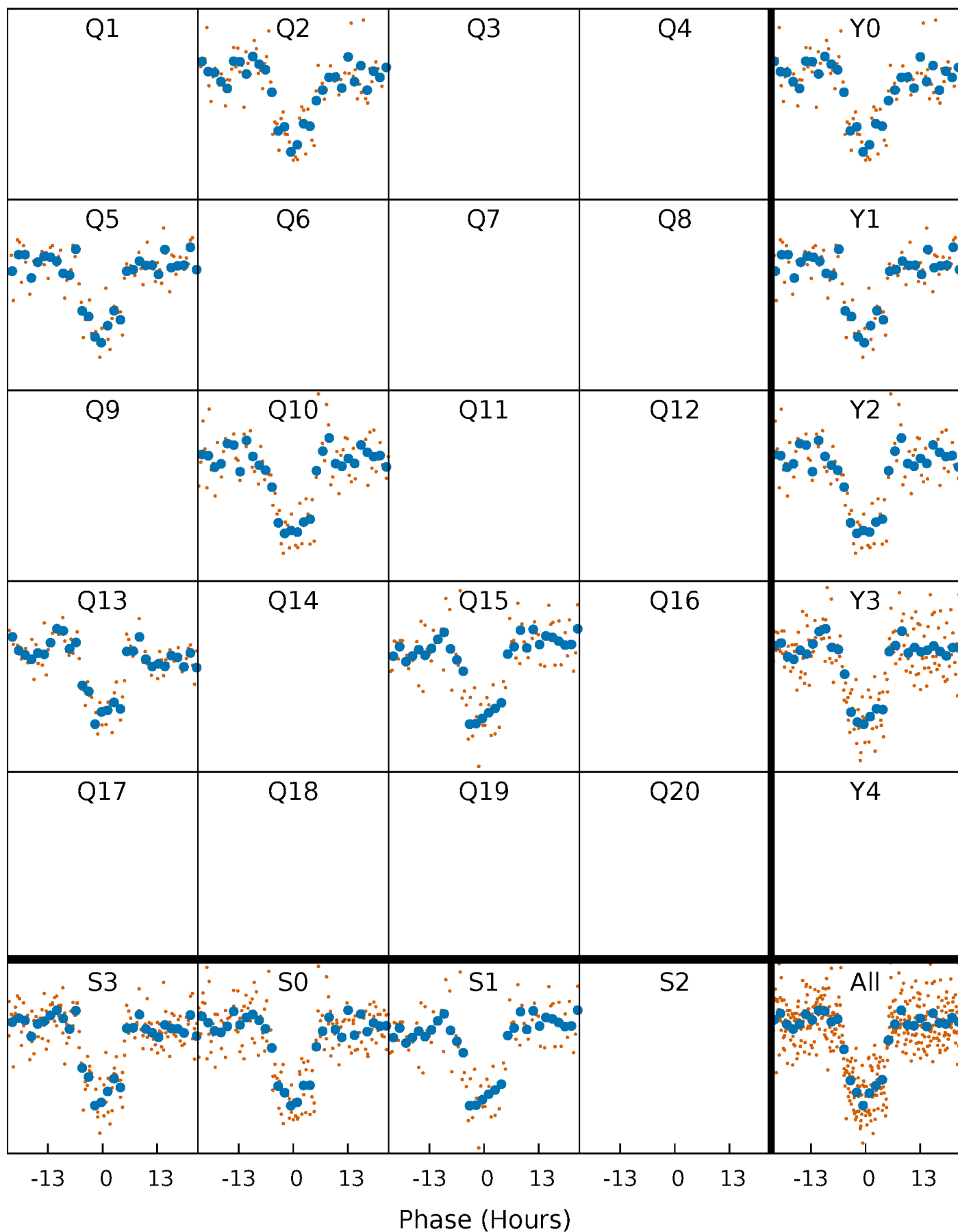


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



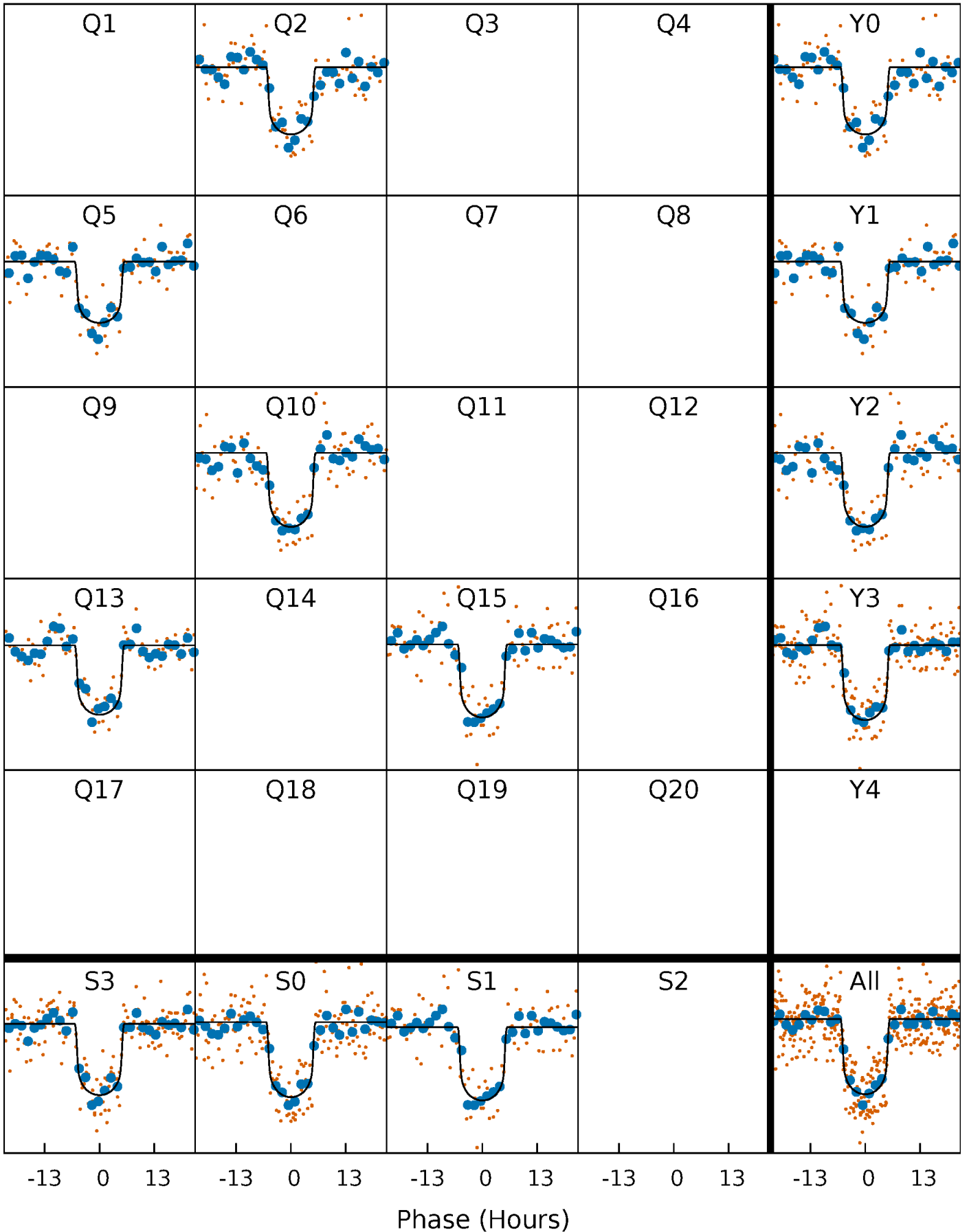
PDC Quarter-Phased Transit Curves

TCE 011026582-01 P=240.571091 Days $T_0=239.503571$ (BKJD)



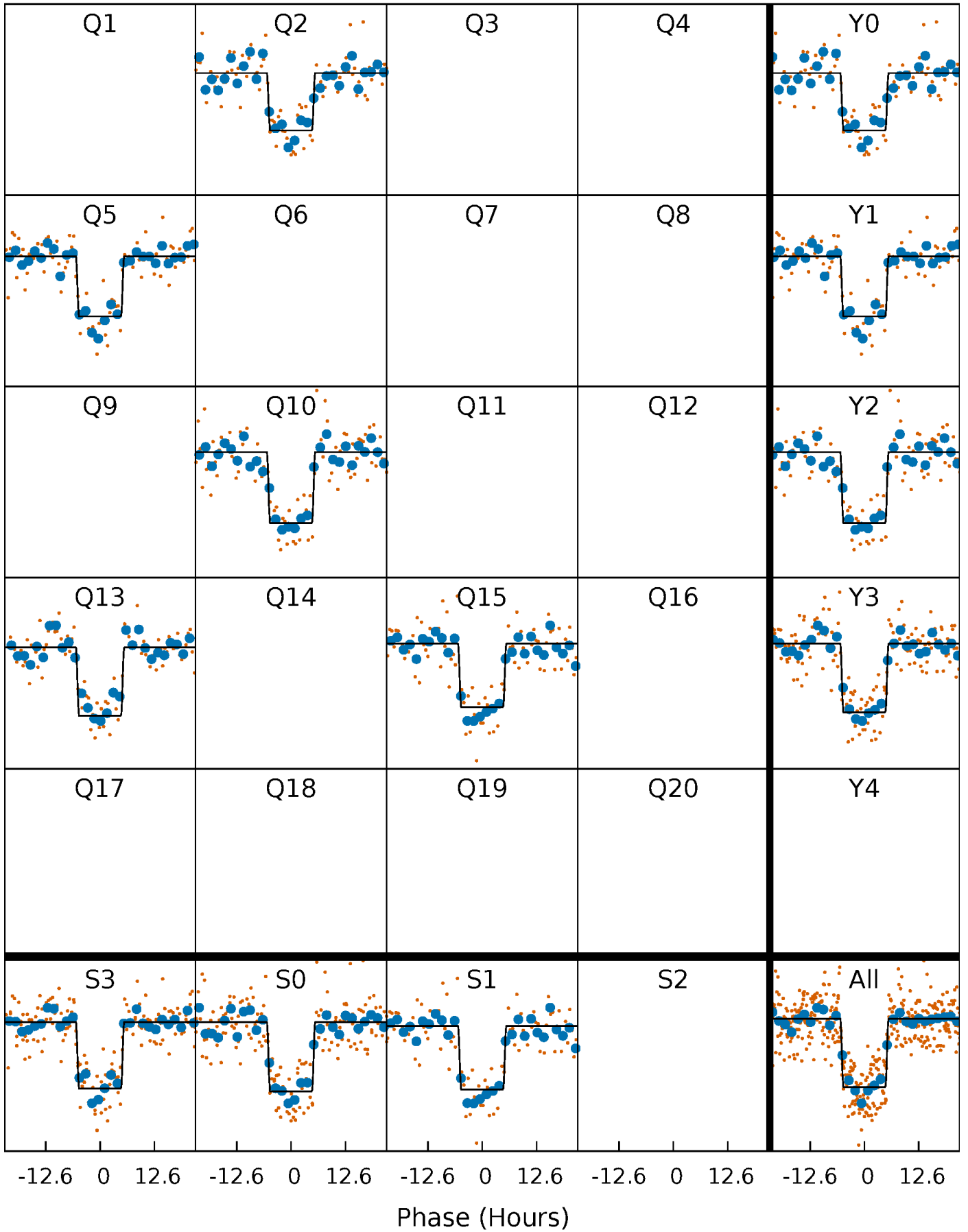
DV Quarter-Phased Transit Curves

TCE 011026582-01 P=240.571091 Days $T_0=239.503571$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

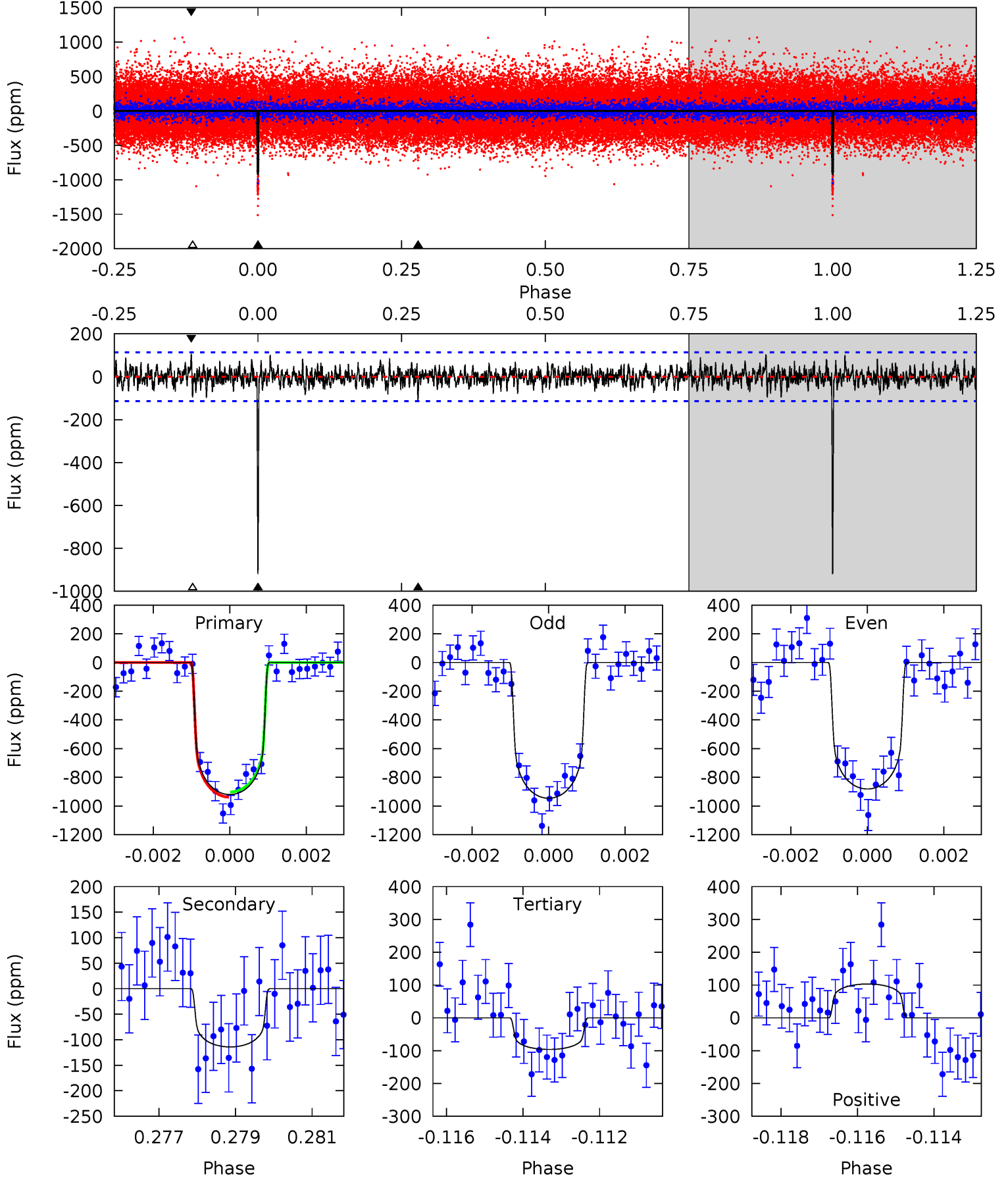
TCE 011026582-01 P=240.571113 Days $T_0=239.504395$ (BKJD)



DV Model-Shift Uniqueness Test

011026582-01, P = 240.571091 Days, E = 239.503571 Days

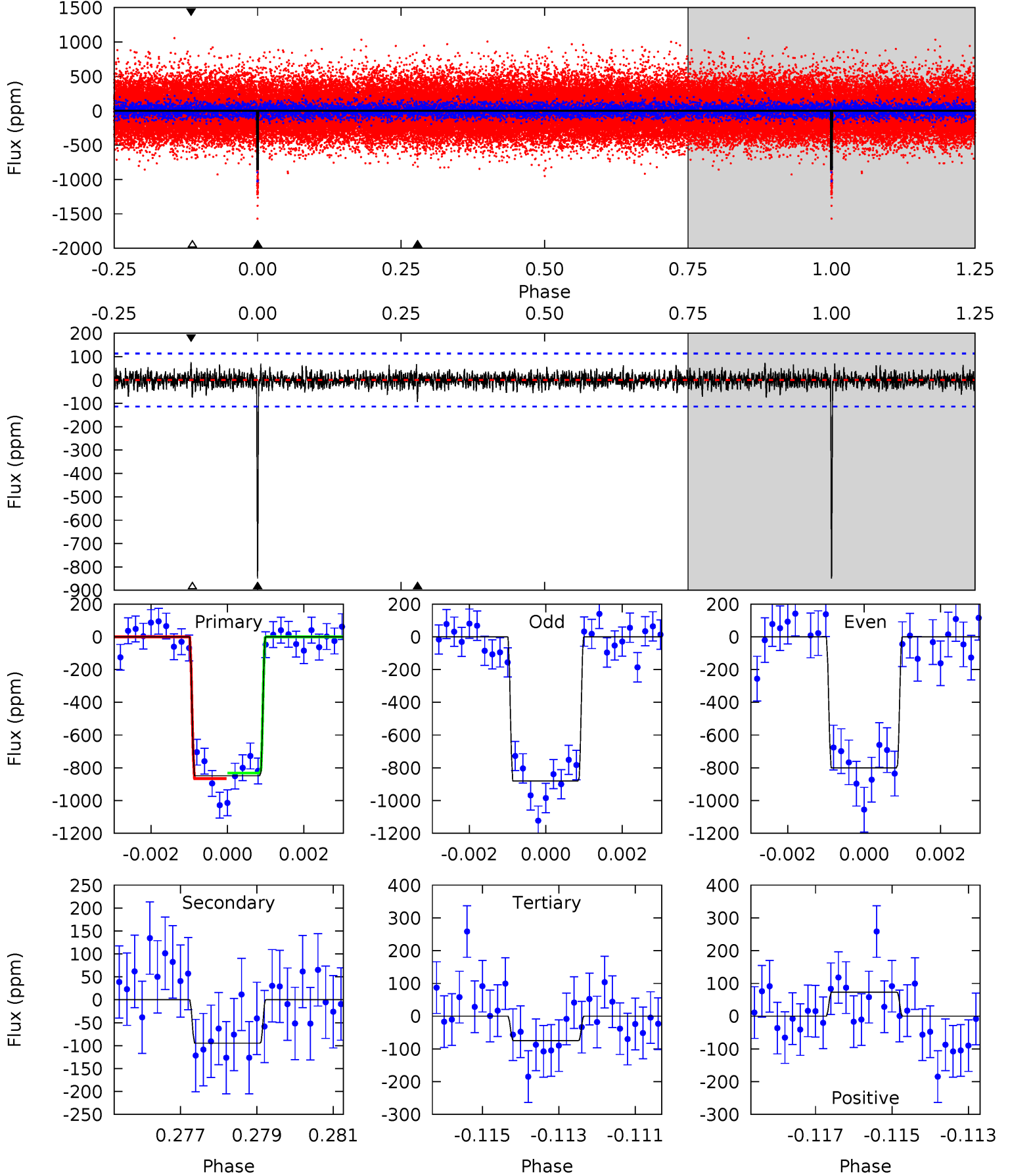
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.0	5.34	4.50	4.83	5.33	3.09	1.30	38.5	38.2	0.83	0.51	1.48	0.99	0.10	0.85



Alt Model-Shift Uniqueness Test

011026582-01, P = 240.571113 Days, E = 239.504395 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.8	4.44	3.52	3.43	5.33	3.10	0.90	36.3	36.4	0.92	1.01	1.85	0.99	0.08	0.79



Stellar Parameters For KIC 011026582

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6146^{+170}_{-192}	$4.497^{+0.052}_{-0.208}$	$-0.260^{+0.250}_{-0.350}$	$0.943^{+0.287}_{-0.096}$	$1.020^{+0.124}_{-0.138}$	$1.713^{+0.372}_{-0.899}$
	+3%/-3%	+1%/-5%	+96%/-135%	+30%/-10%	+12%/-14%	+22%/-53%
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 011026582-01 / KOI 5854.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-114 ± 21	$3.15^{+0.52}_{-0.40}$	428^{+31}_{-19}	4001^{+209}_{-190}	3576^{+1289}_{-1079}
Alt.	-95 ± 21	$3.11^{+0.48}_{-0.39}$	430^{+29}_{-21}	3886^{+210}_{-212}	2971^{+1130}_{-967}

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 $A_{obs} \gg 1.0$

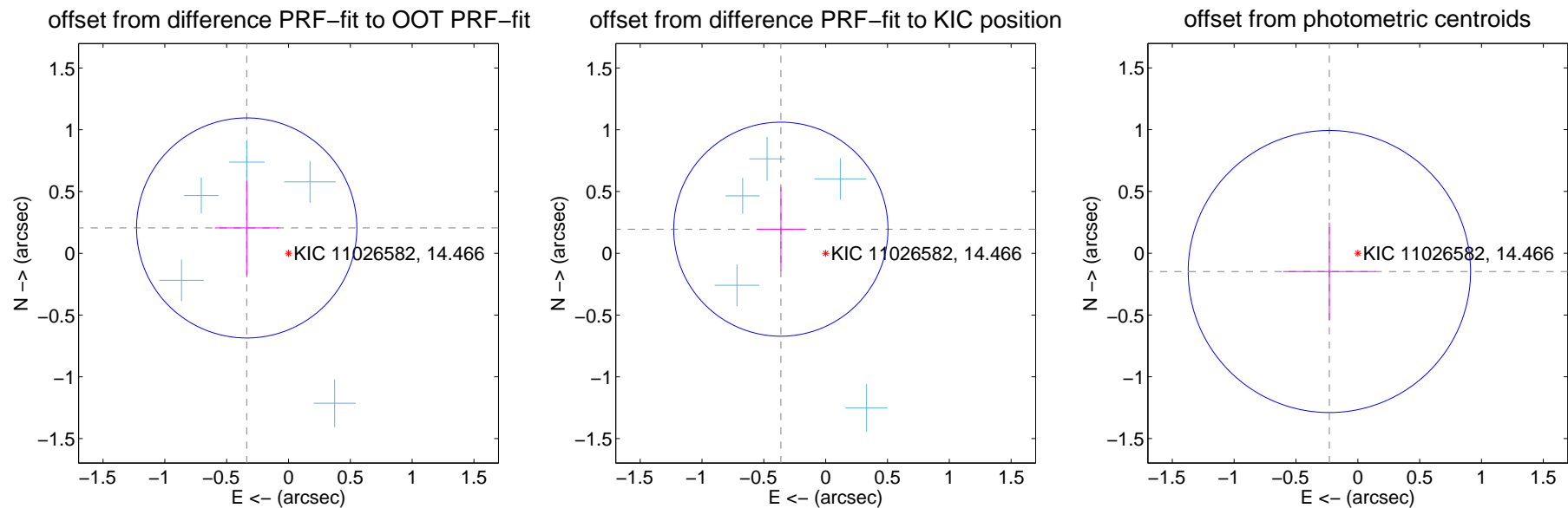
DV Centroid Data

Supplemental centroid analysis for 011026582-01. Kepler magnitude: 14.47. Transit SNR 27.65

There are 5 quarters with good PRF difference image offsets

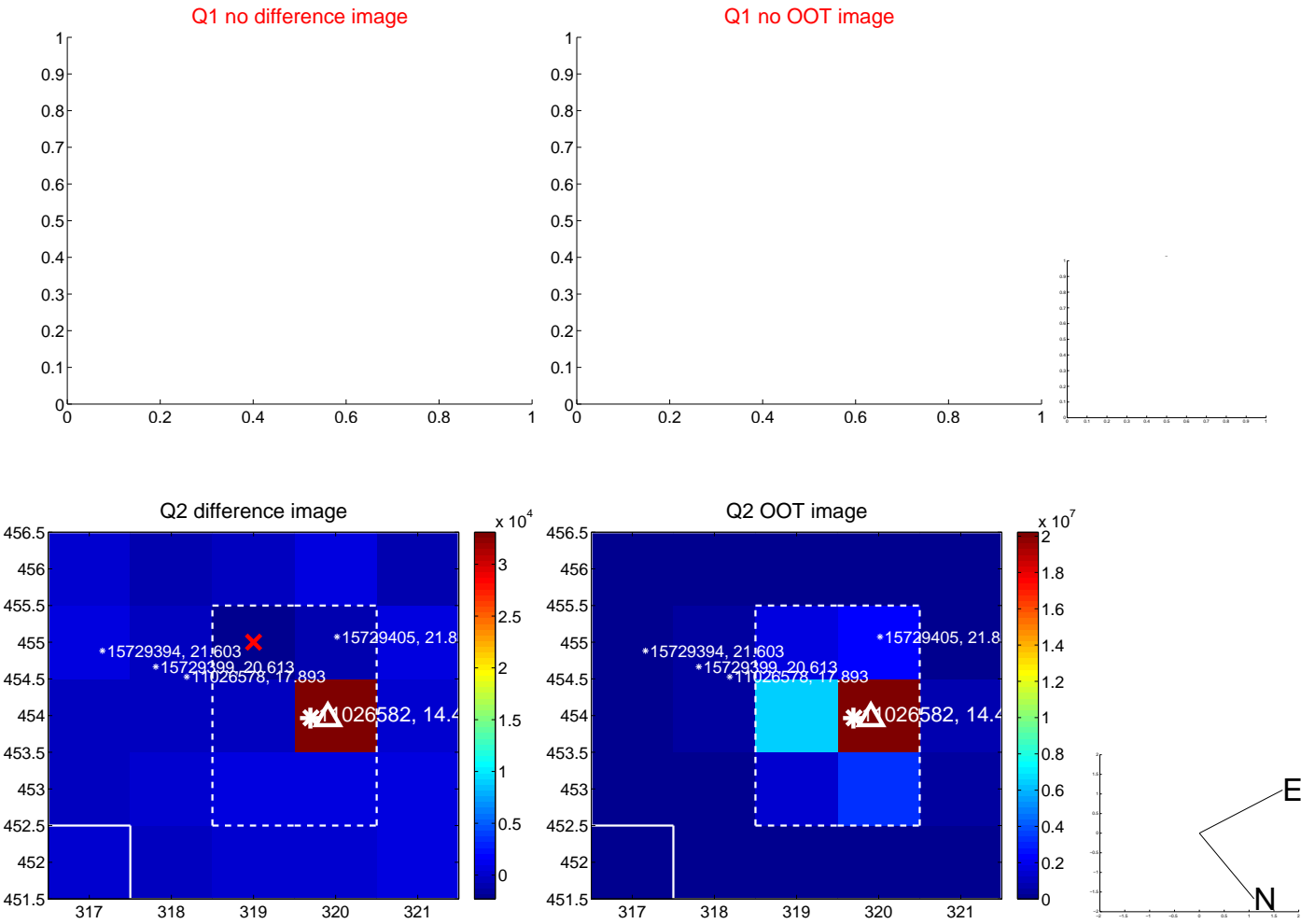
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.395 ± 0.297	1.33	0.338 ± 0.258	0.205 ± 0.383
PRF-fit source offset from KIC position	0.412 ± 0.289	1.42	0.362 ± 0.194	0.195 ± 0.339
photometric centroid source offset	0.27 ± 0.38	0.72	0.23 ± 0.37	-0.15 ± 0.40

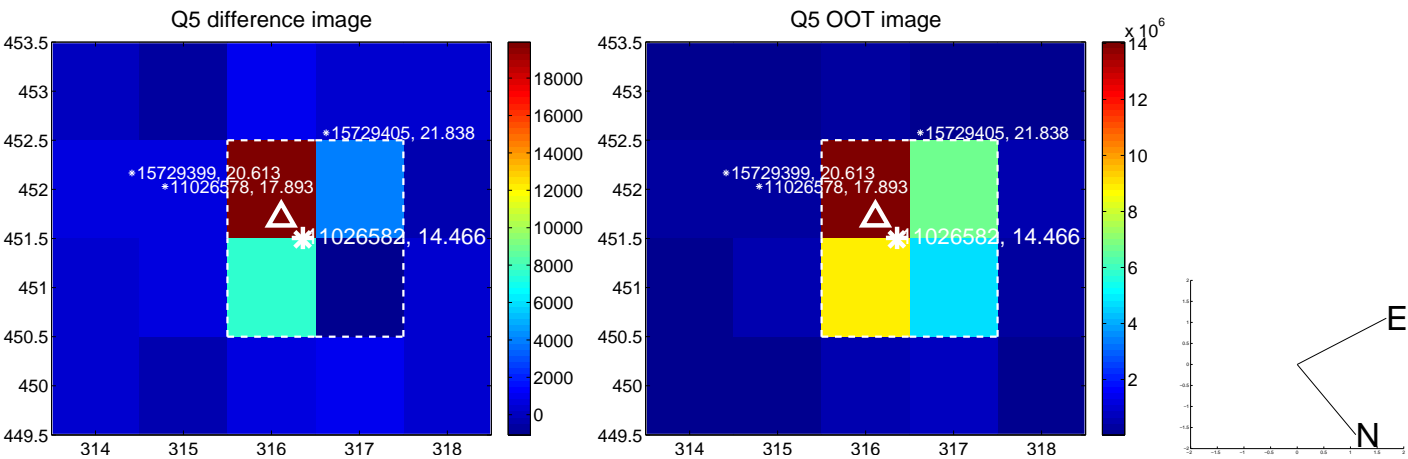


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

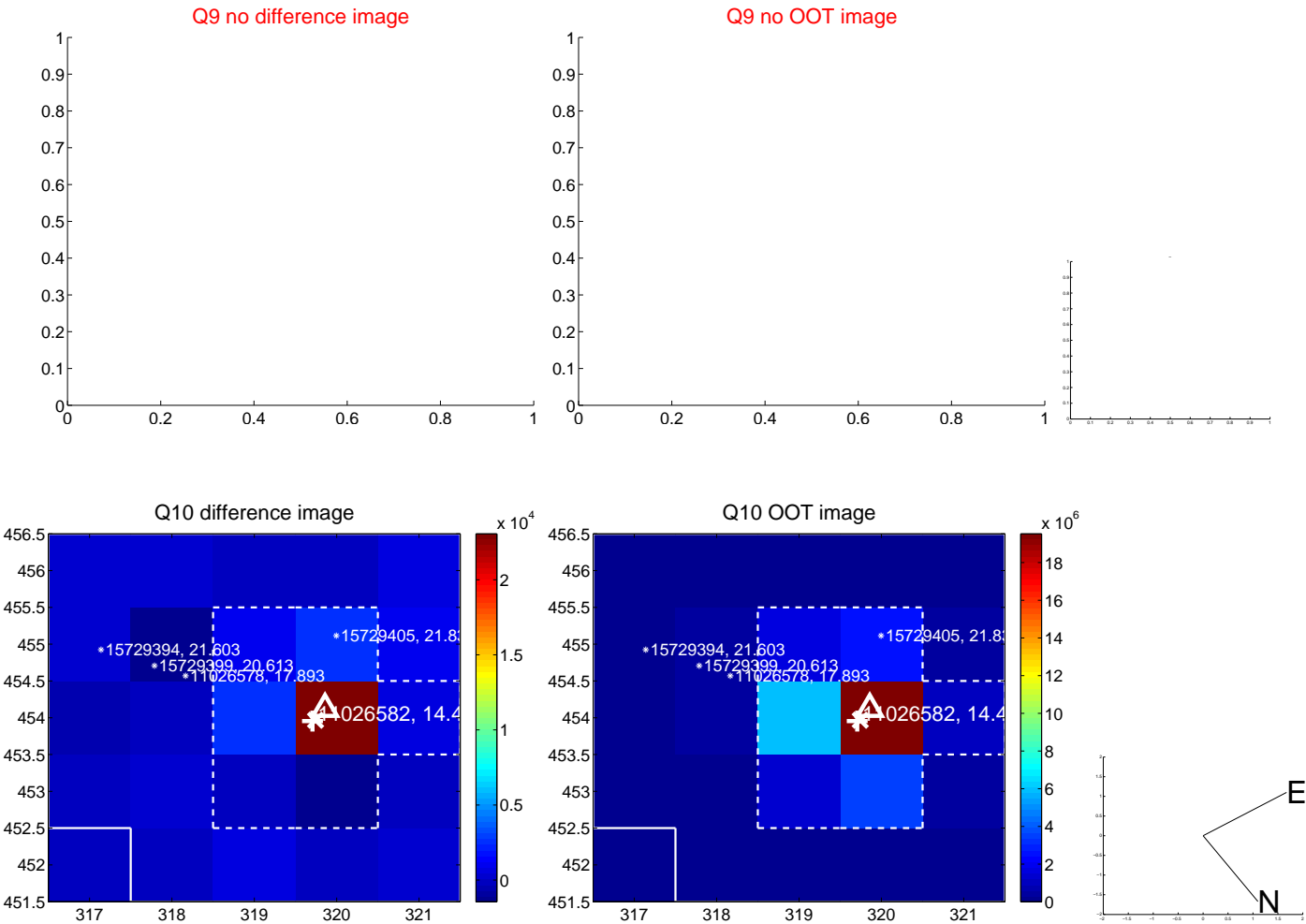
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



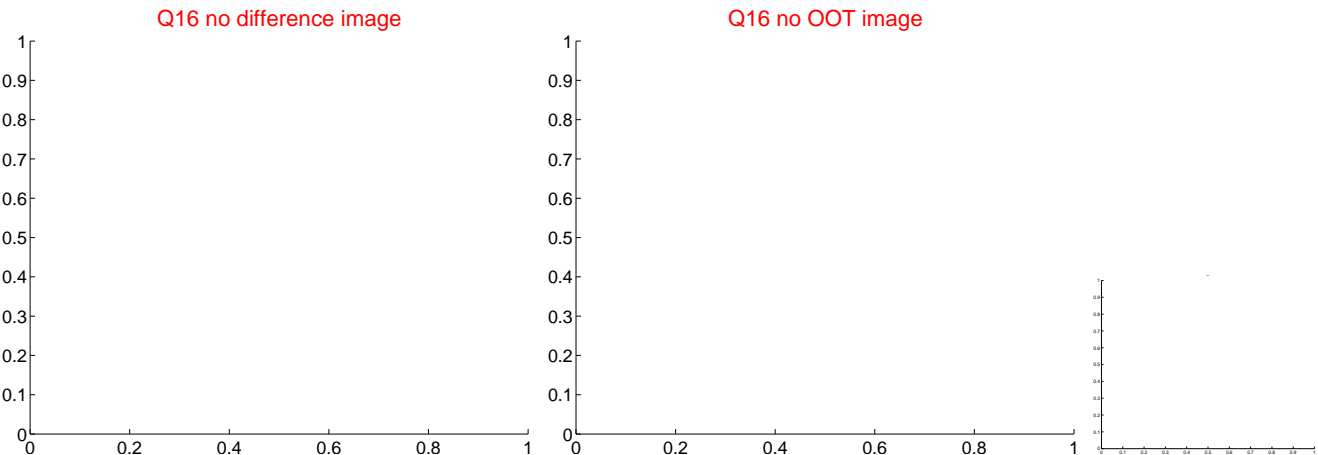
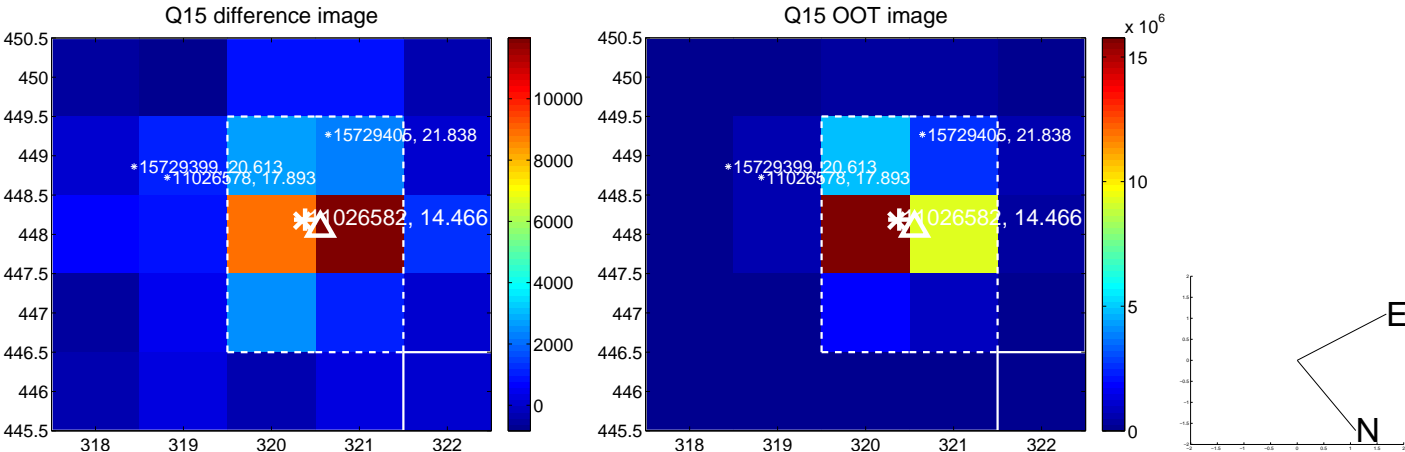
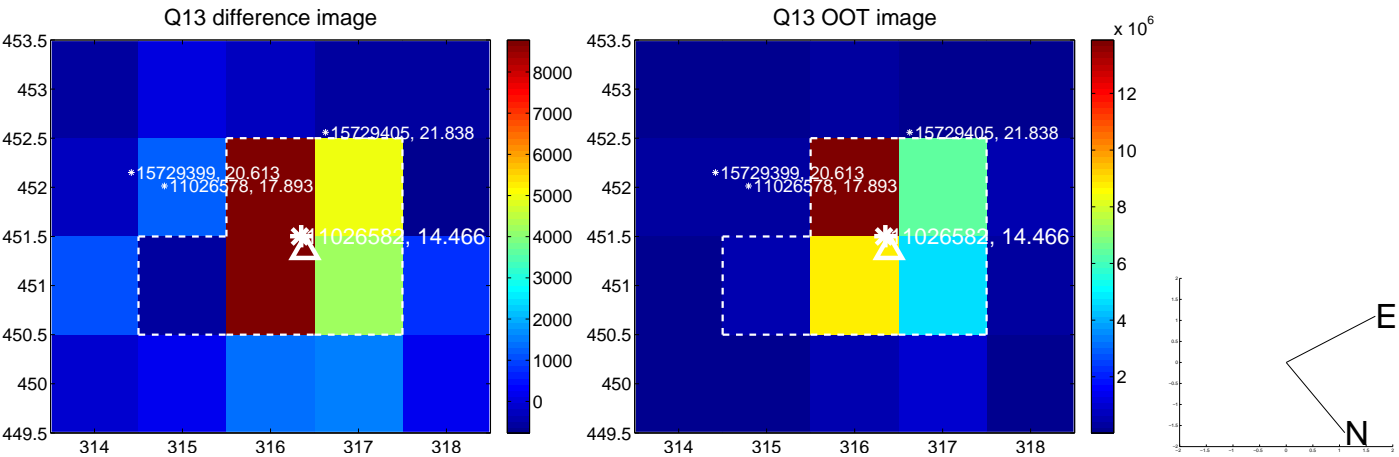
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



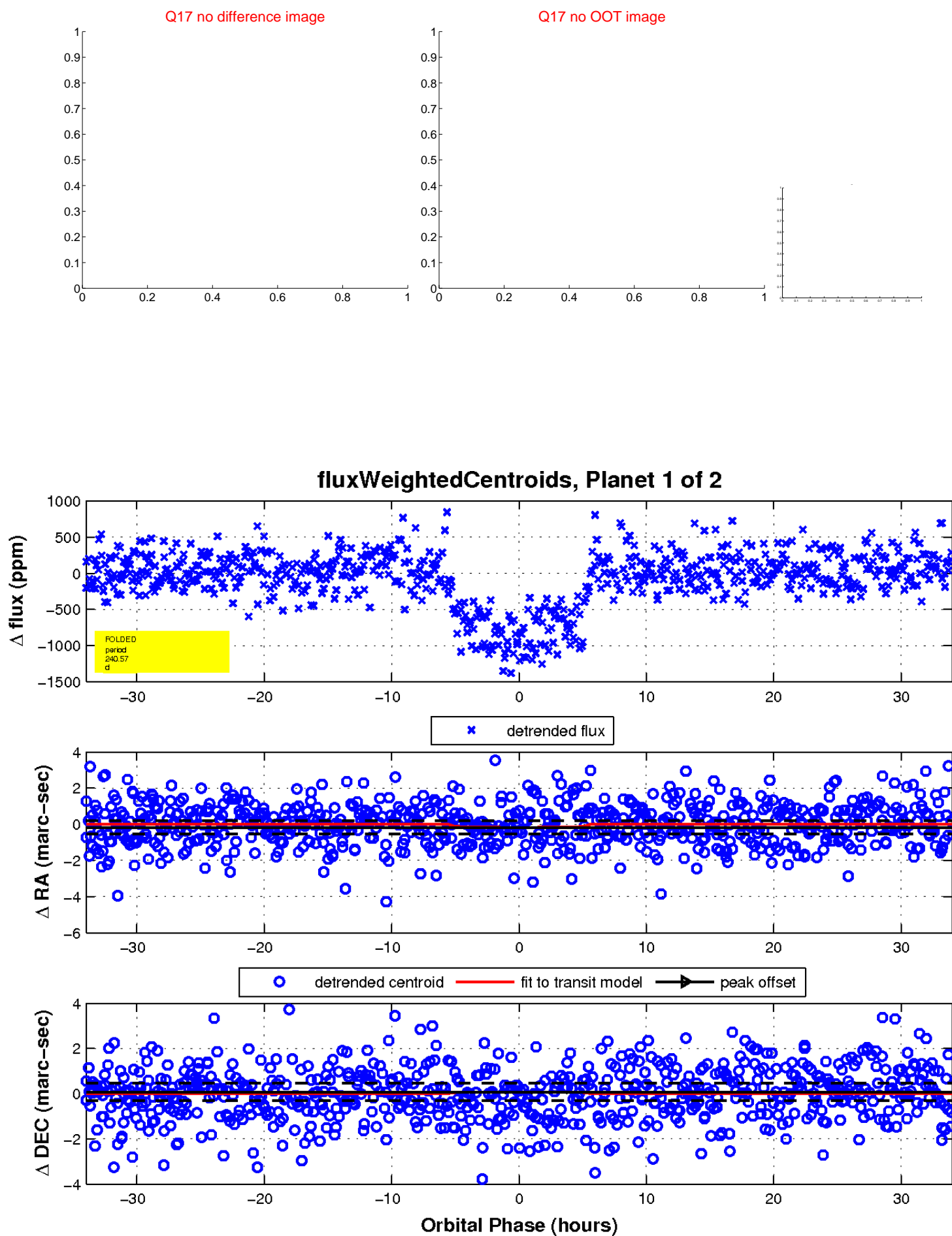
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

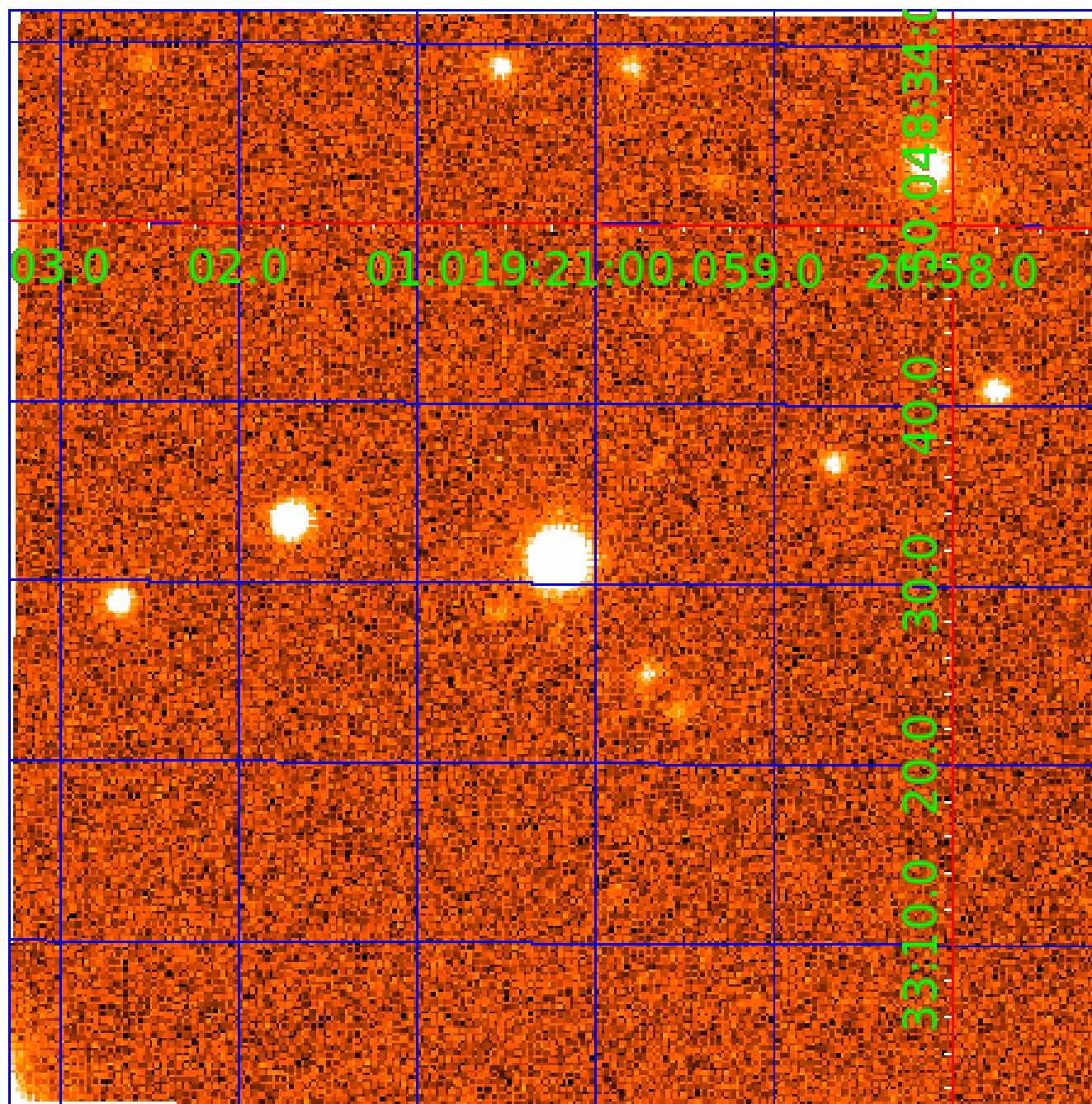


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011026582

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})
011026582-01	OBS	5854.01	240.571091	239.503571	919.8	11.346	28.4	27.6	0.94	6146	3.04	1.96
011026582-02	OBS	No	364.911580	306.500190	268.5	8.416	7.4	6.5	0.94	6146	1.69	1.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011026582-01	OBS	PC	0.98	0	0	0	0	NO_COMMENT
011026582-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQU_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.

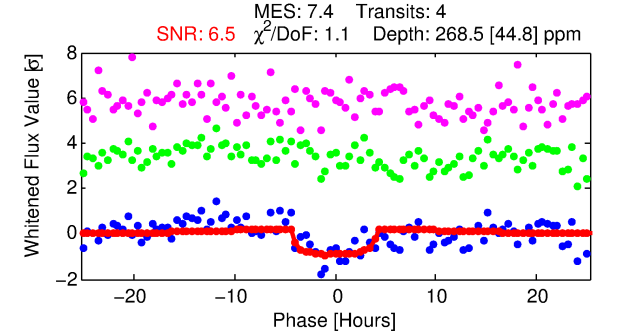
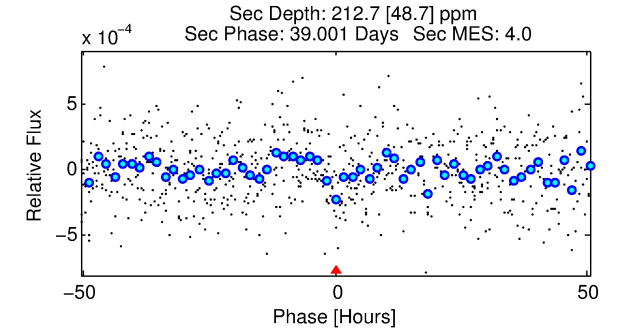
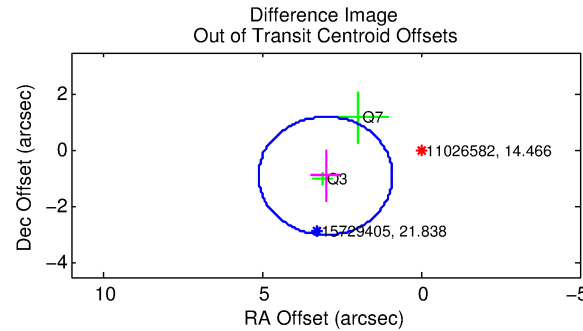
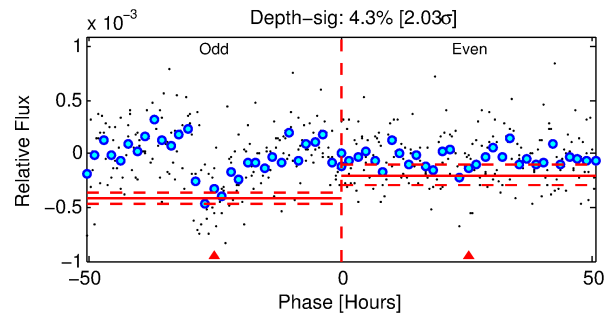
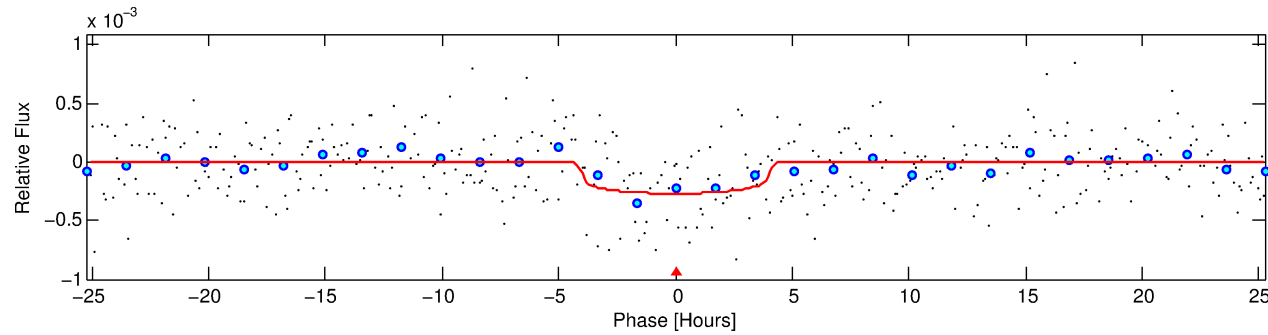
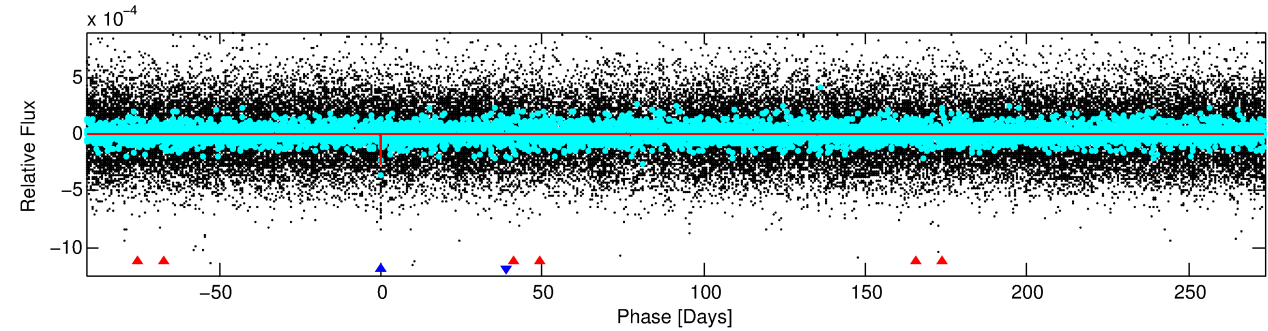
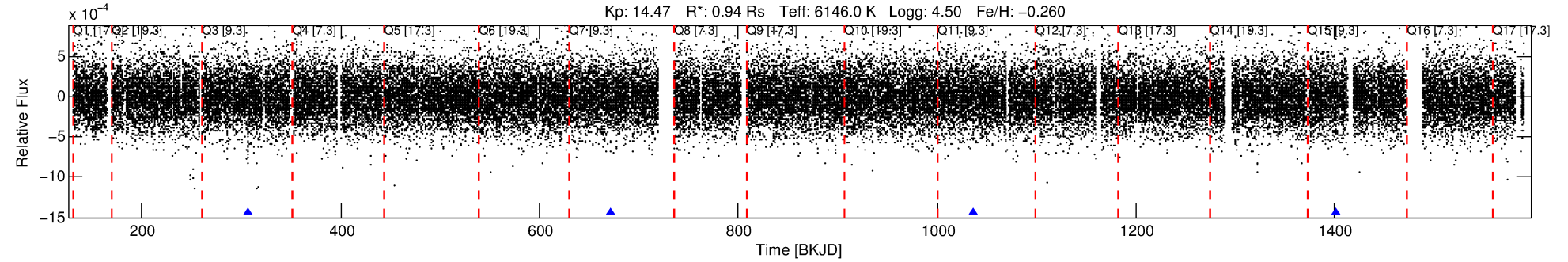
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011026582-02

No Significant Match Found

DV One-Page Summary

KIC: 11026582 Candidate: 2 of 2 Period: 364.912 d
KOI: K05854 Corr: No Ephemeris Match



DV Fit Results:

Period = 364.91158 [0.00944] d
Epoch = 306.5002 [0.0183] BKJD
Rp/R* = 0.0164 [0.0108]
a/R* = 221.34 [743.59]
b = 0.77 [1.83]
Seff = 1.12 [0.45]
Teff = 263 [26] K
Rp = 1.69 [1.22] Re
a = 1.0058 [0.2597] AU
Ag = 41645.56 [57724.54] [0.72σ]
Teffp = 5799 [1942] K [2.85σ]

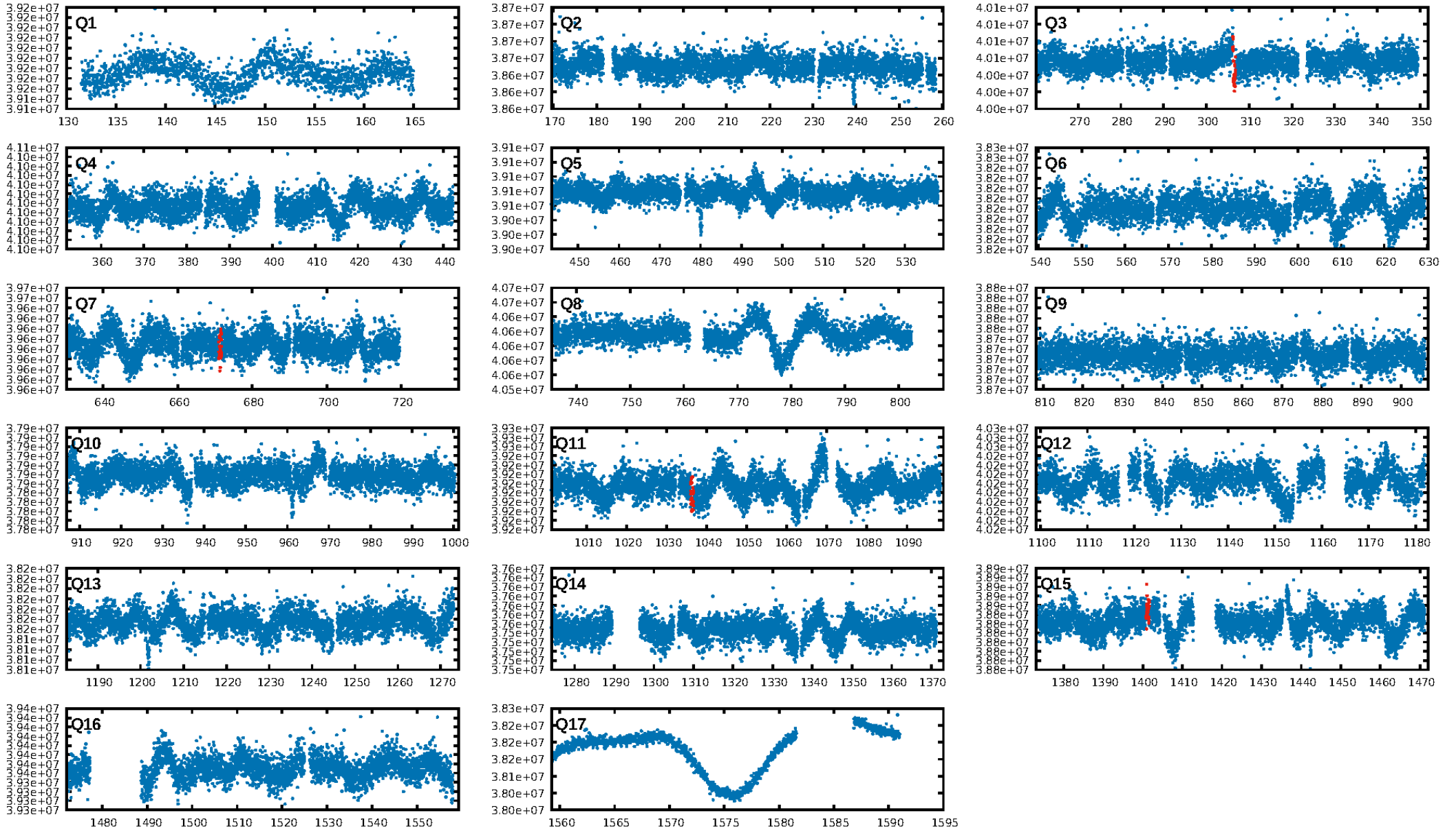
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [211.24σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 59.3%
Bootstrap-pfa: 3.25e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -3.075
Centroid-sig: 27.0%
Centroid-so: 1.739 arcsec [1.04σ]
OotOffset-rm: 3.130 arcsec [4.46σ]
KicOffset-rm: 3.205 arcsec [4.06σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [4/4]

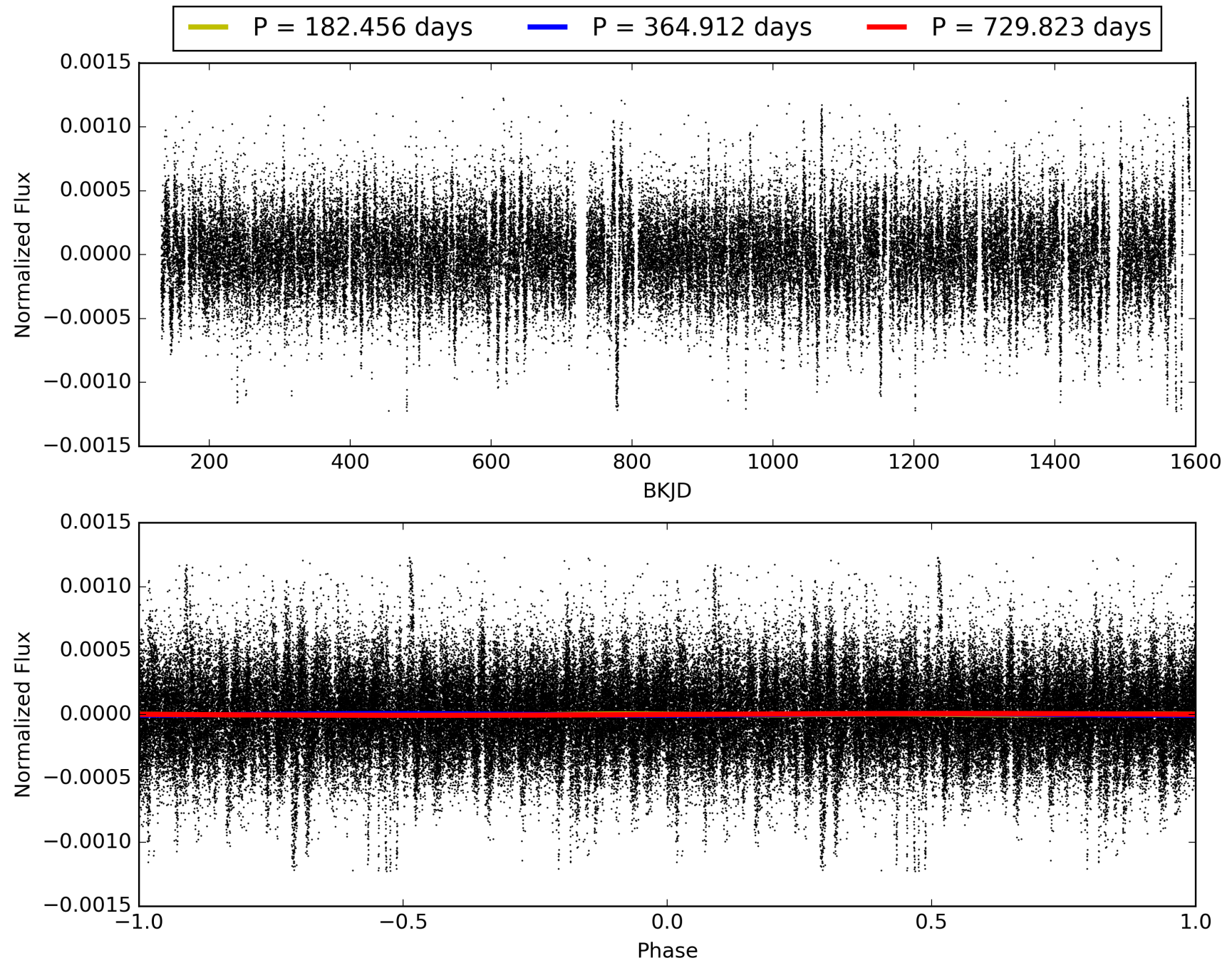
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:10:42 Z

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

TCE 011026582-02, PDC Light Curves

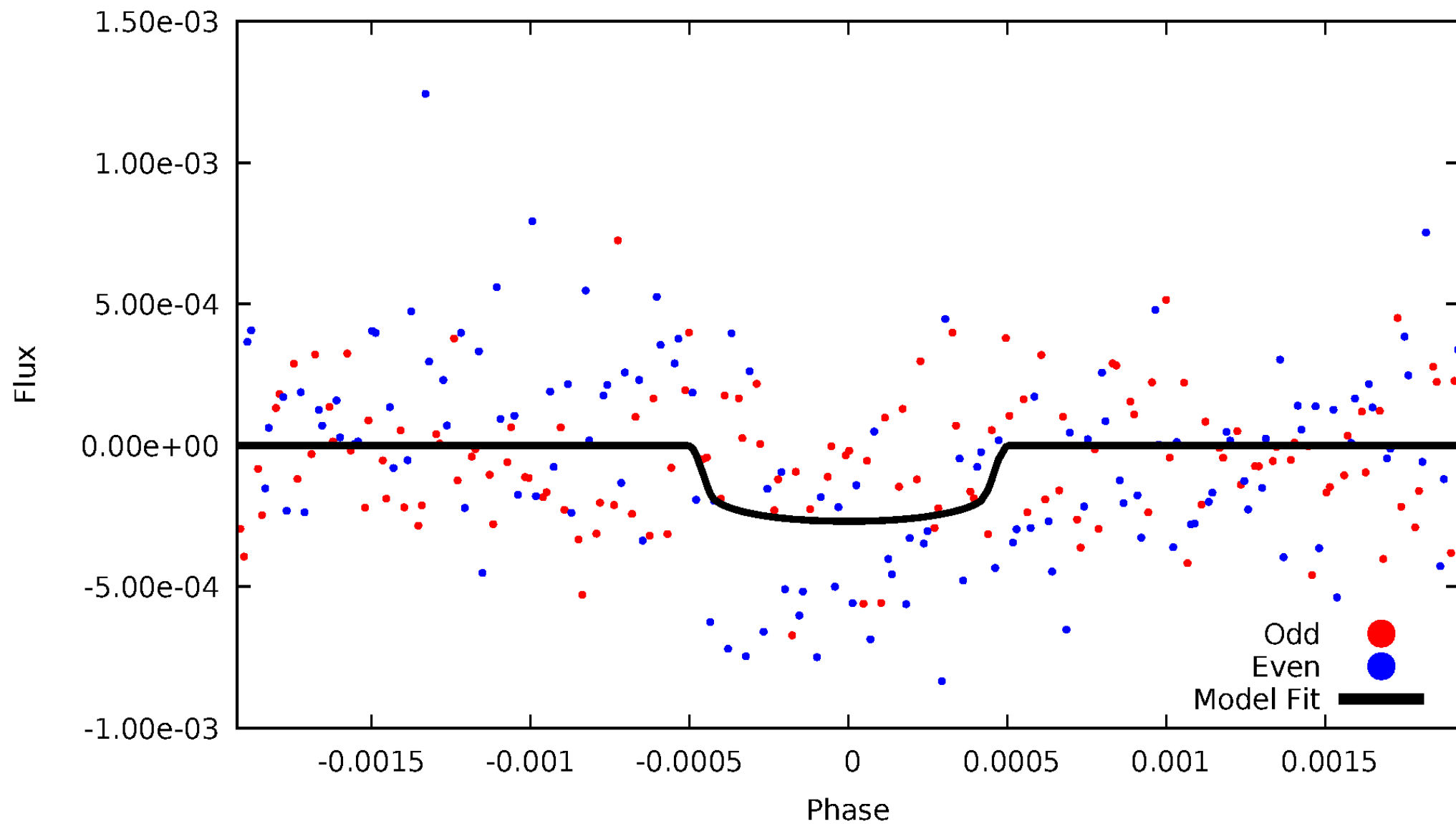


TCE 011026582-02



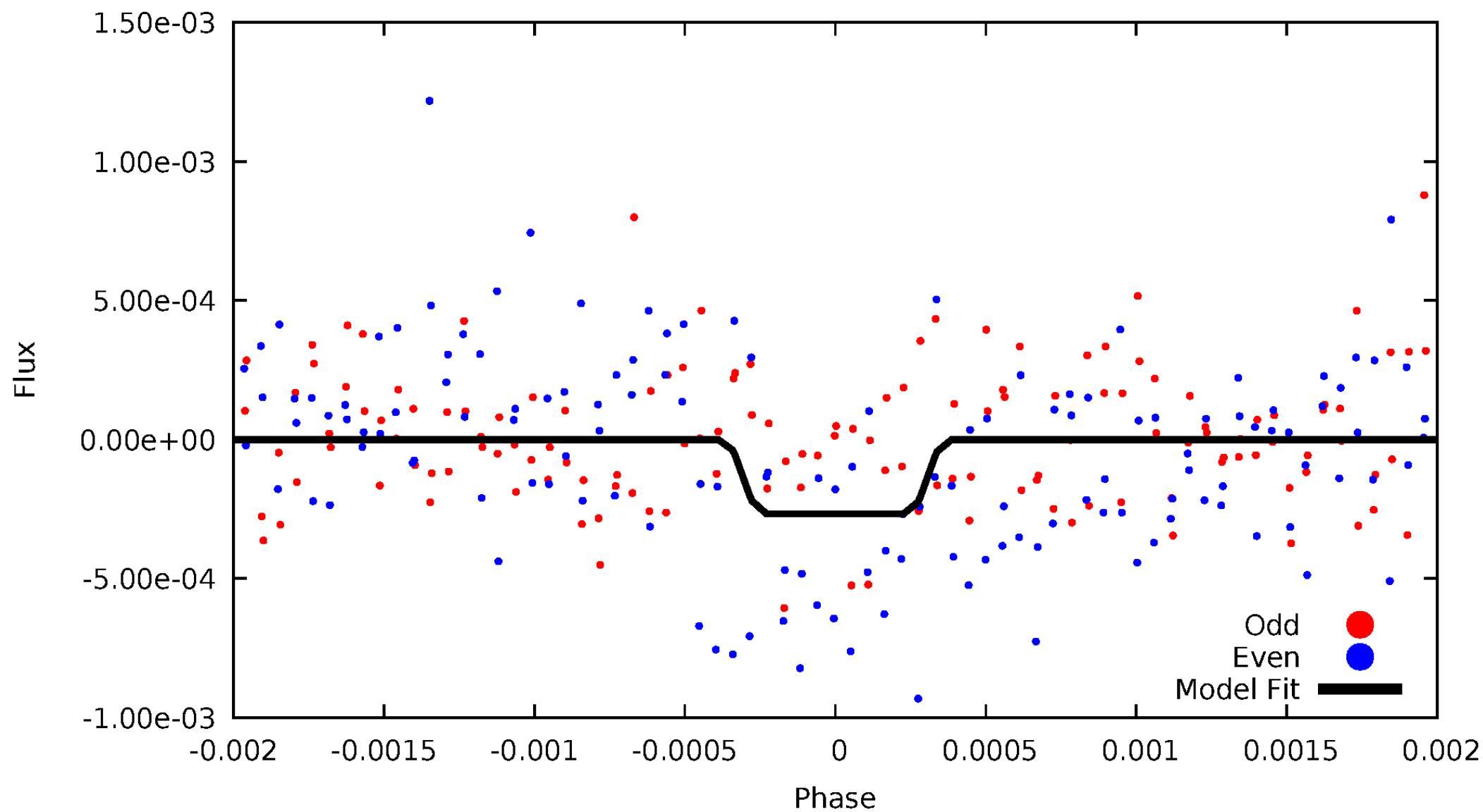
DV Odd/Even

TCE 011026582-02



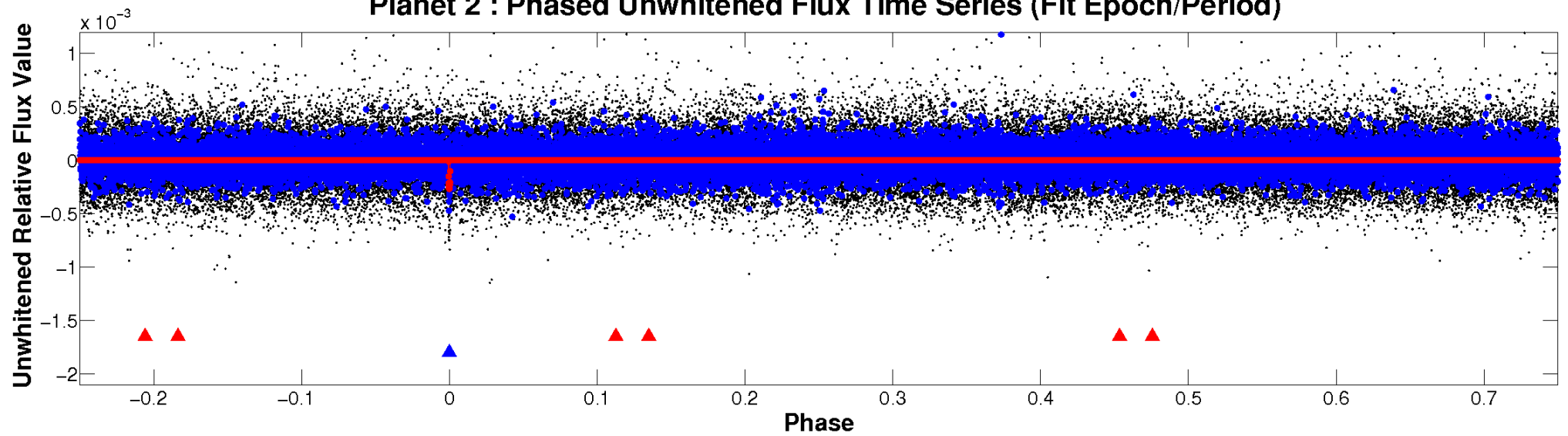
ALT Odd/Even

TCE 011026582-02

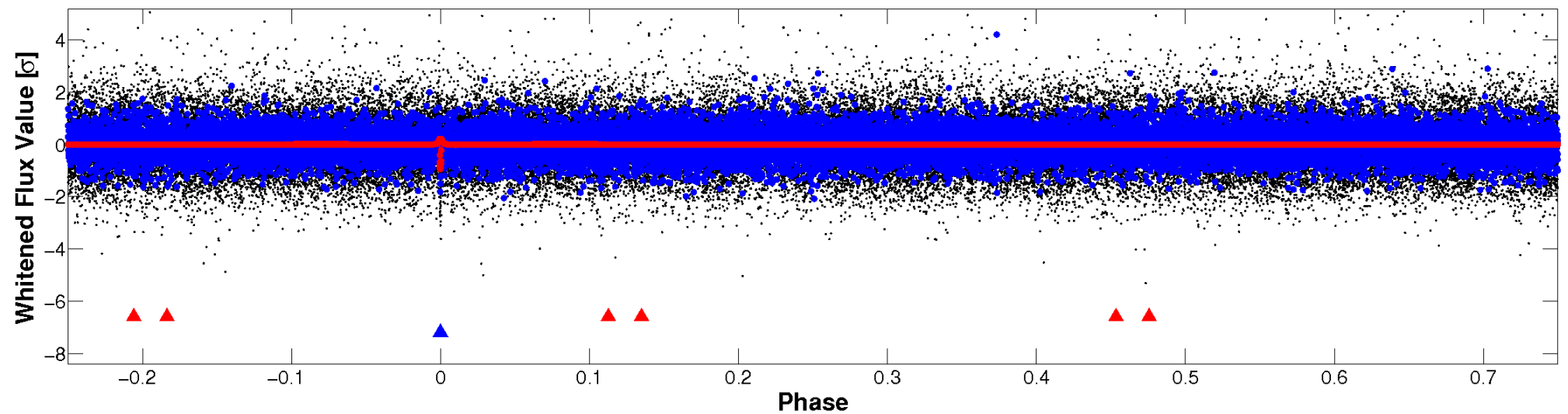


Non-Whitened Vs. Whitened Light Curve

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

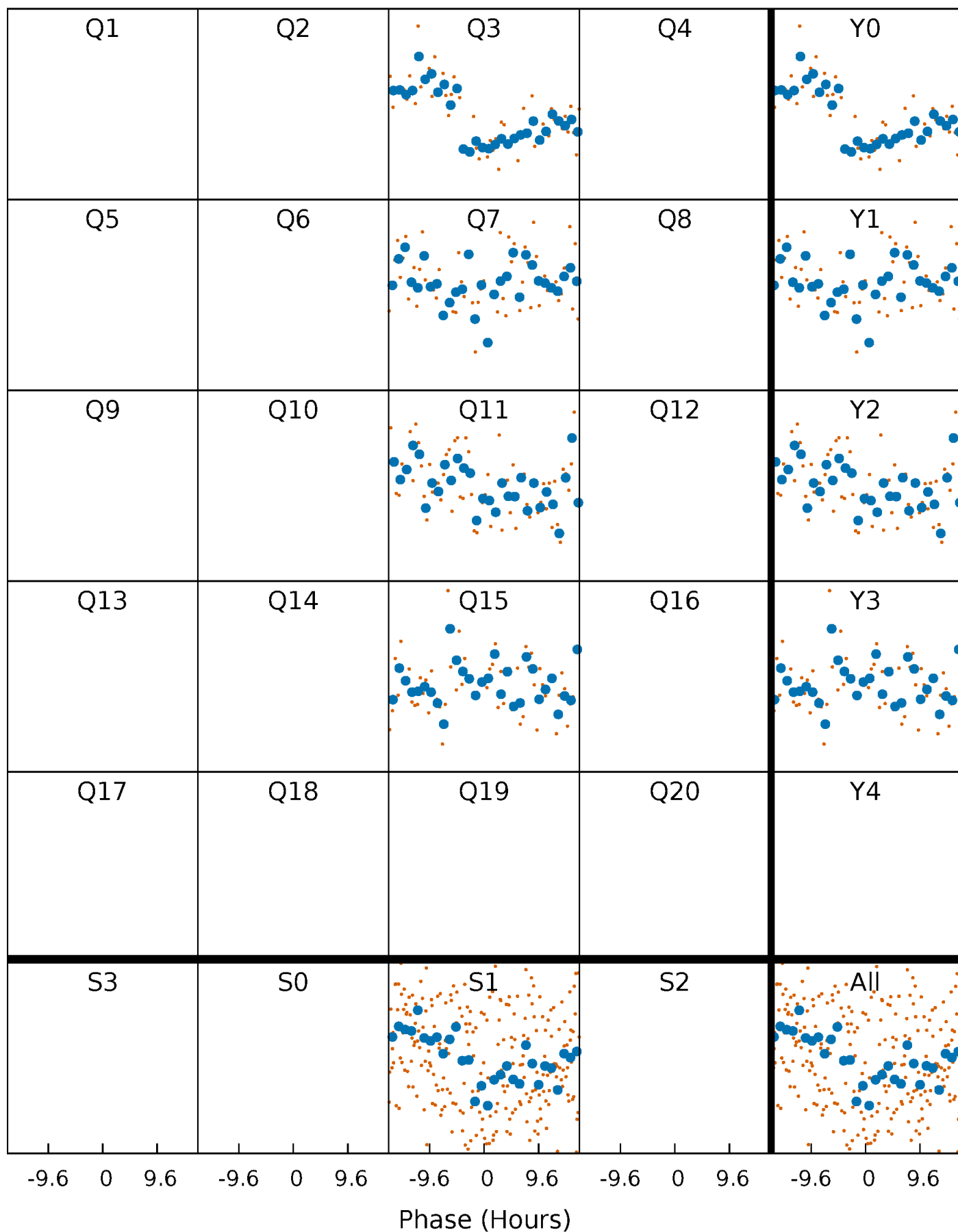


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



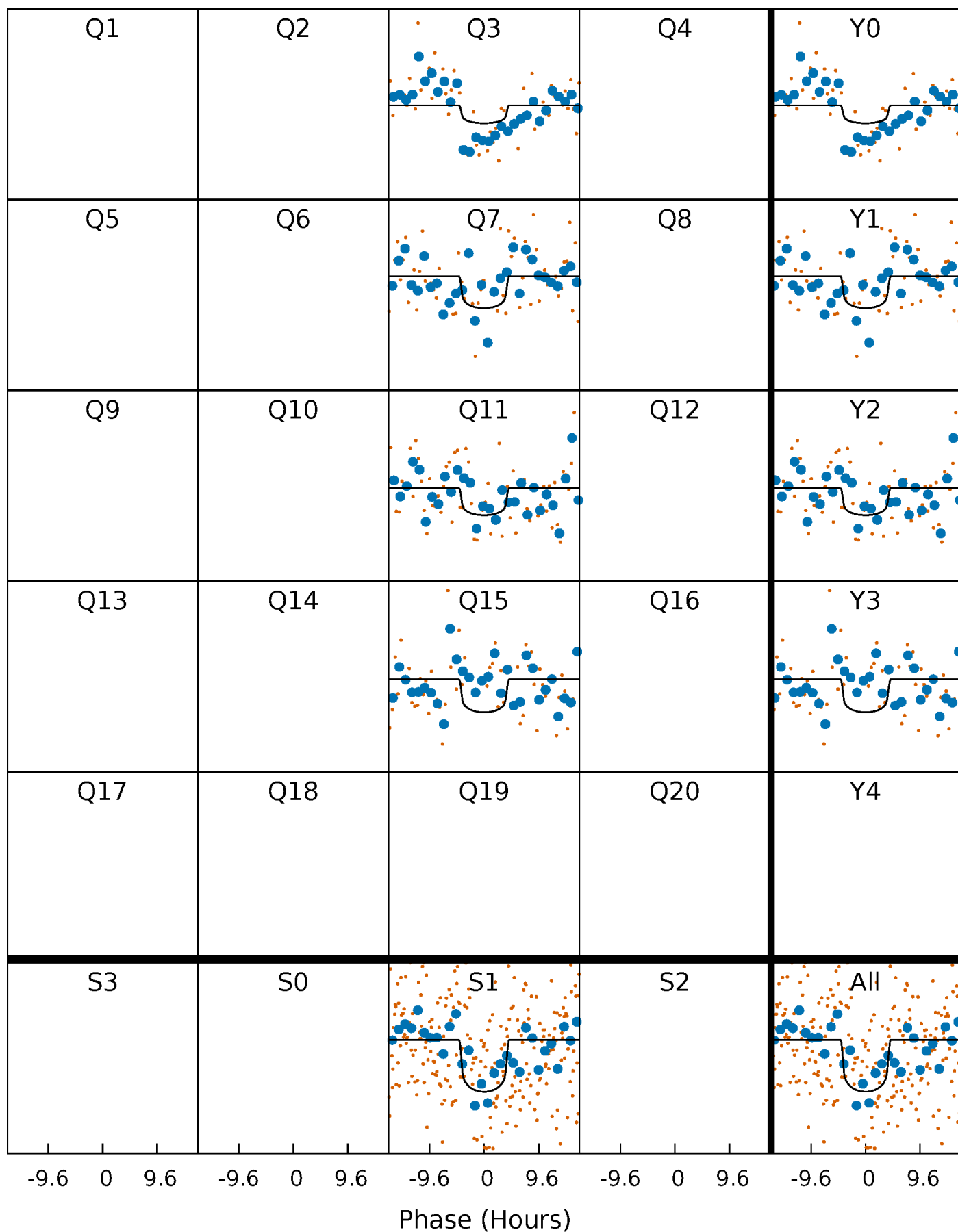
PDC Quarter-Phased Transit Curves

TCE 011026582-02 $P=364.911580$ Days $T_0=306.500190$ (BKJD)



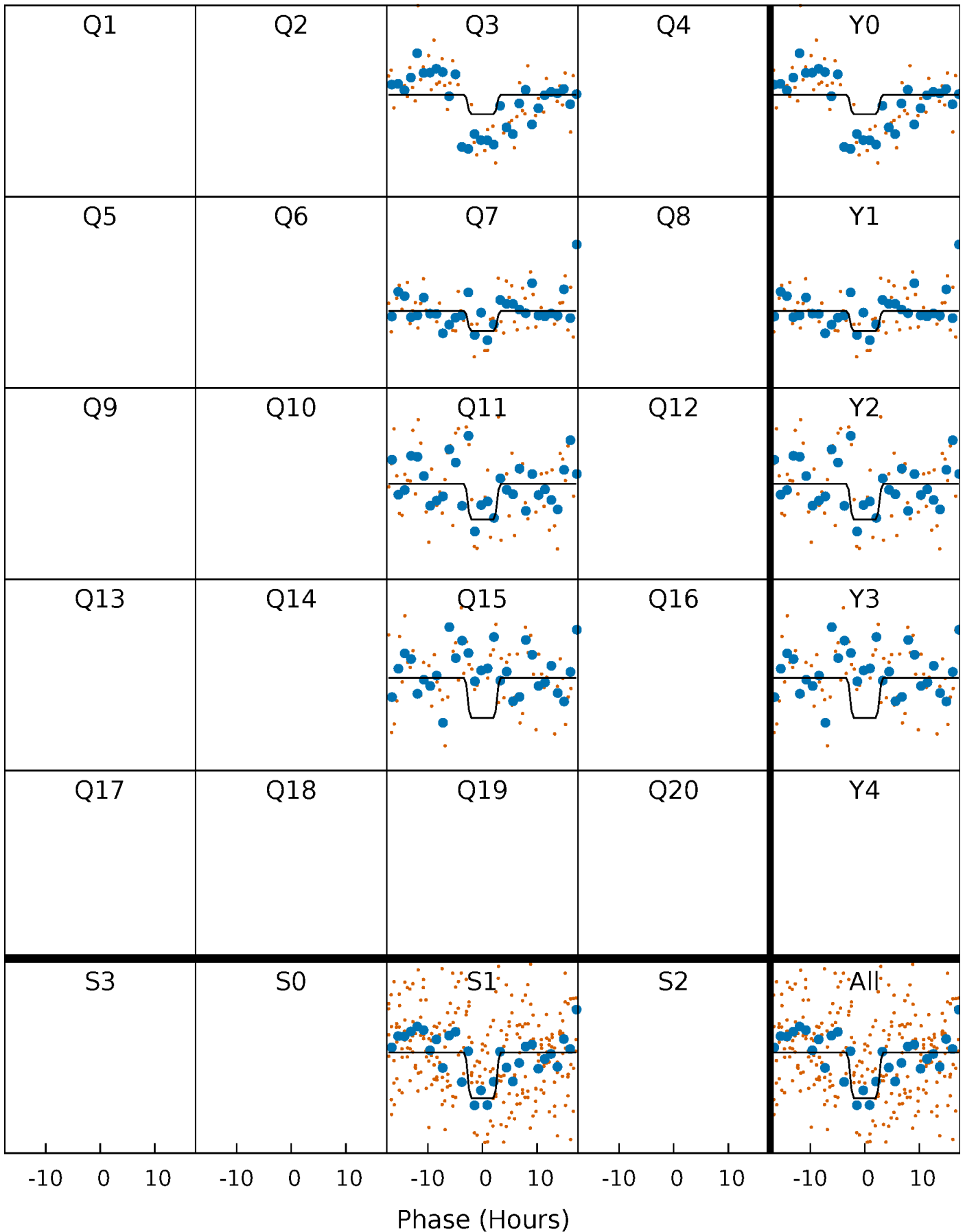
DV Quarter-Phased Transit Curves

TCE 011026582-02 $P=364.911580$ Days $T_0=306.500190$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

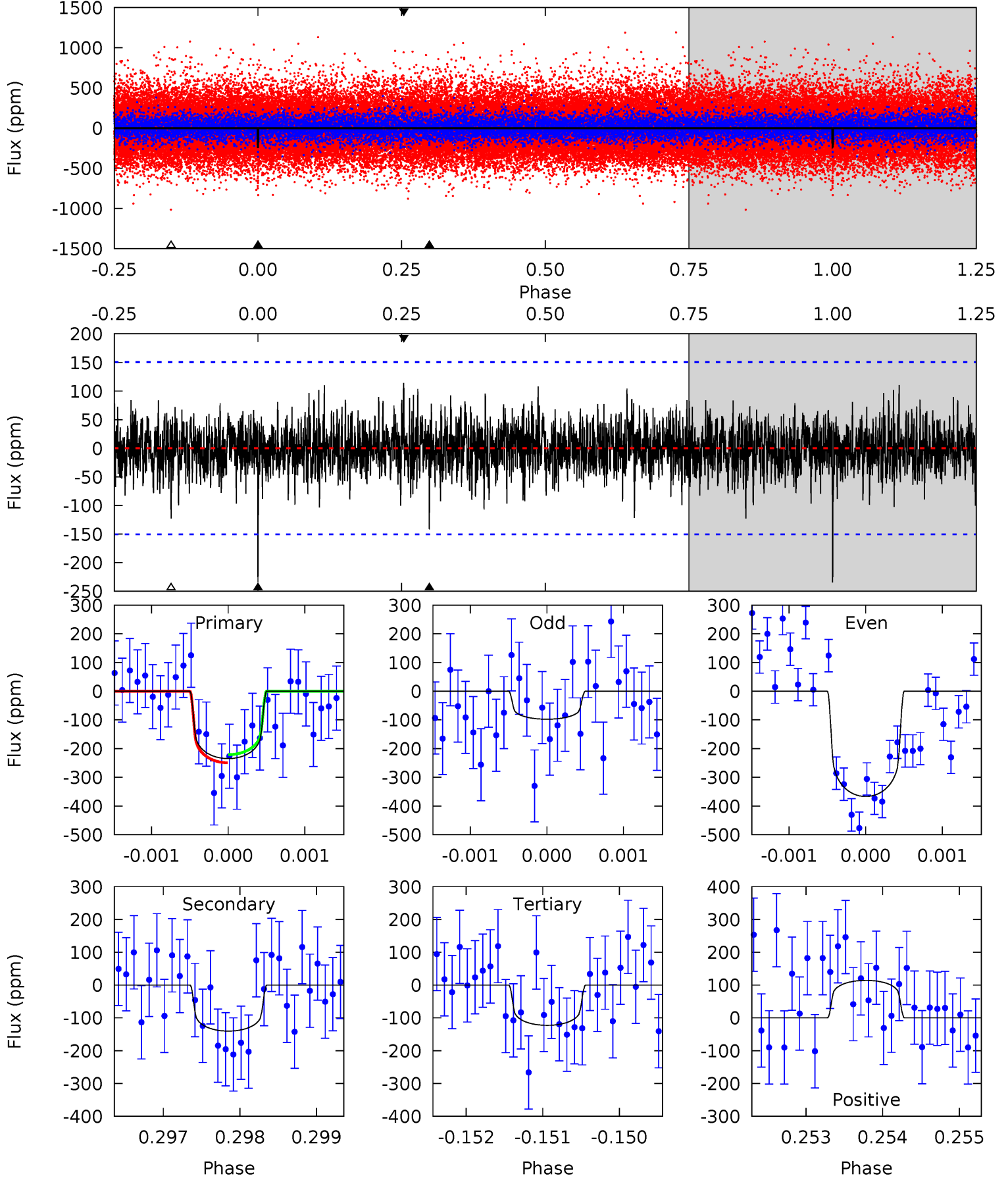
TCE 011026582-02 $P=364.902514$ Days $T_0=306.506978$ (BKJD)



DV Model-Shift Uniqueness Test

011026582-02, P = 364.911580 Days, E = 306.500190 Days

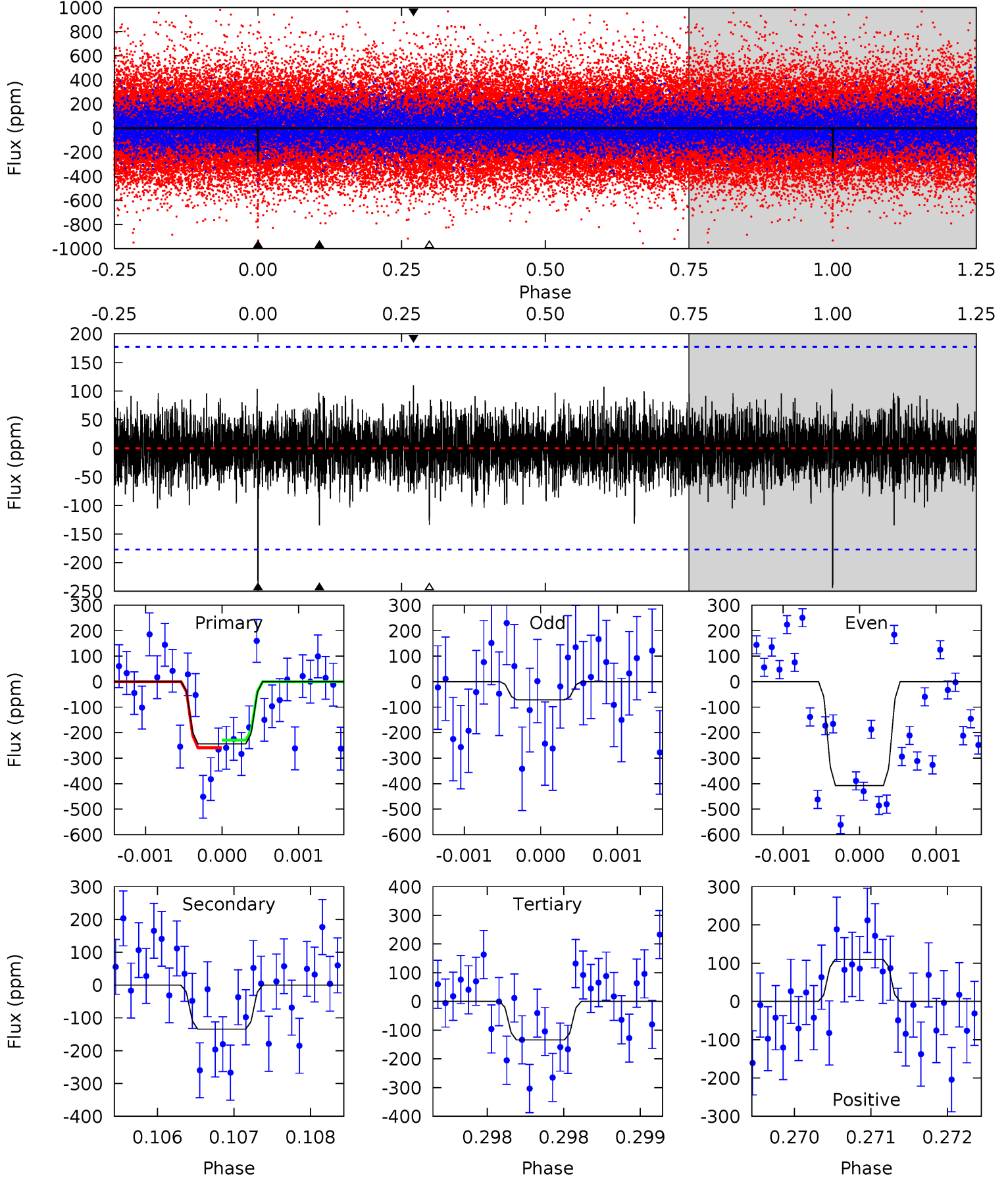
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.50	5.08	4.45	4.14	5.45	3.29	1.14	4.06	4.37	0.64	0.95	4.88	1.26	0.33	0.52



Alt Model-Shift Uniqueness Test

011026582-02, P = 364.902514 Days, E = 306.506978 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.58	4.18	4.17	3.42	5.51	3.38	0.97	3.42	4.16	0.02	0.76	5.29	1.23	0.31	0.46



Stellar Parameters For KIC 011026582

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6146^{+170}_{-192}	$4.497^{+0.052}_{-0.208}$	$-0.260^{+0.250}_{-0.350}$	$0.943^{+0.287}_{-0.096}$	$1.020^{+0.124}_{-0.138}$	$1.713^{+0.372}_{-0.899}$
	+3%/-3%	+1%/-5%	+96%/-135%	+30%/-10%	+12%/-14%	+22%/-53%
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 011026582-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-140 ± 28	$1.78^{+1.34}_{-0.99}$	375^{+25}_{-18}	5241^{+2634}_{-1029}	23245^{+94228}_{-15578}
Alt.	-134 ± 32	$1.87^{+1.13}_{-1.01}$	374^{+25}_{-17}	5078^{+2529}_{-906}	20206^{+79729}_{-12261}

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

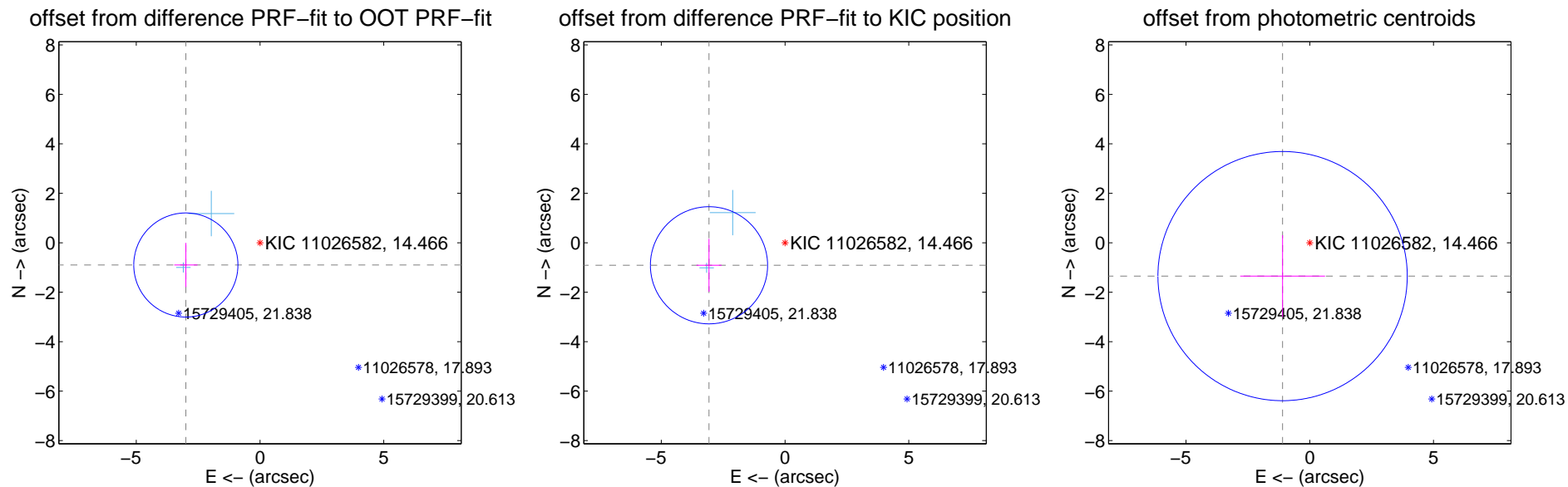
DV Centroid Data

Supplemental centroid analysis for 011026582-02. Kepler magnitude: 14.47. Transit SNR 6.49

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.130 ± 0.702	4.46	2.998 ± 0.467	-0.900 ± 0.893
PRF-fit source offset from KIC position	3.205 ± 0.790	4.06	3.073 ± 0.508	-0.911 ± 1.071
photometric centroid source offset	1.74 ± 1.68	1.04	1.10 ± 1.71	-1.35 ± 1.66



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.

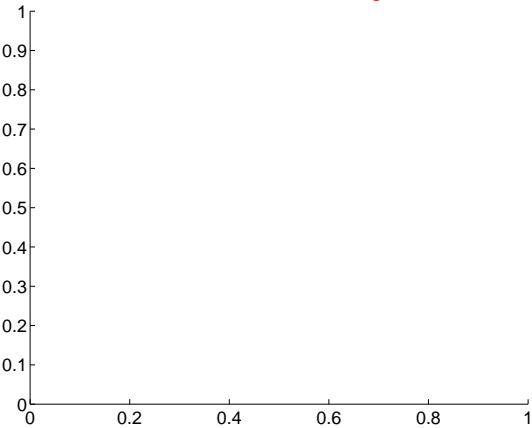
Q1 no difference image



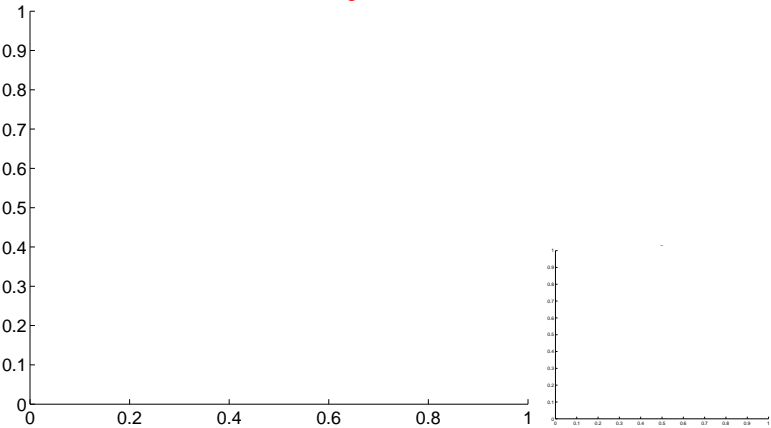
Q1 no OOT image



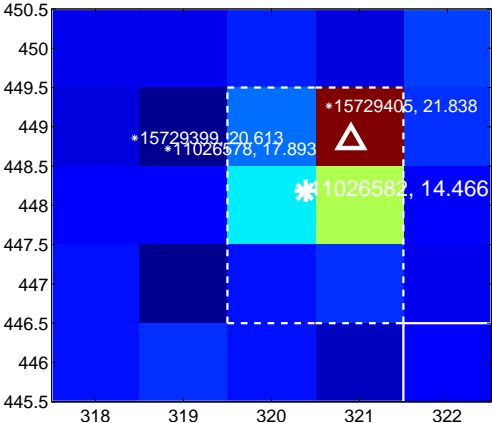
Q2 no difference image



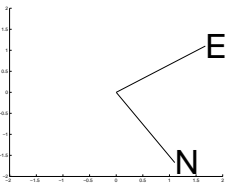
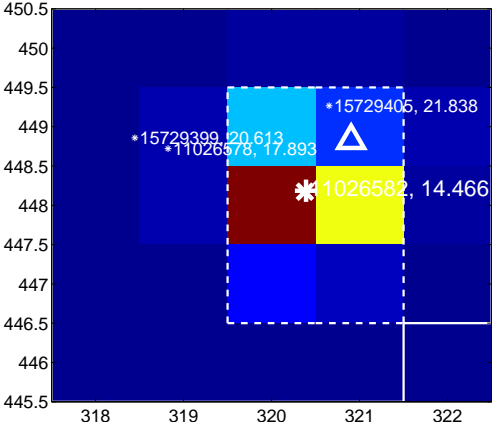
Q2 no OOT image



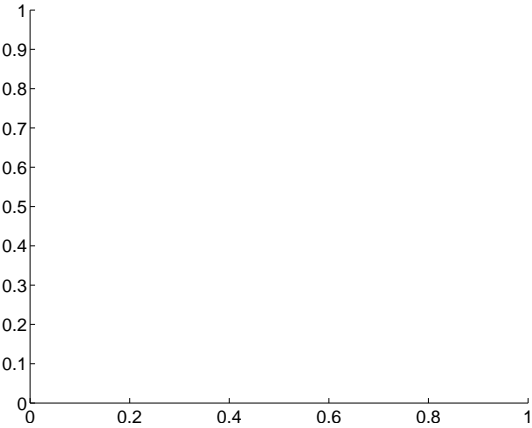
Q3 difference image



Q3 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



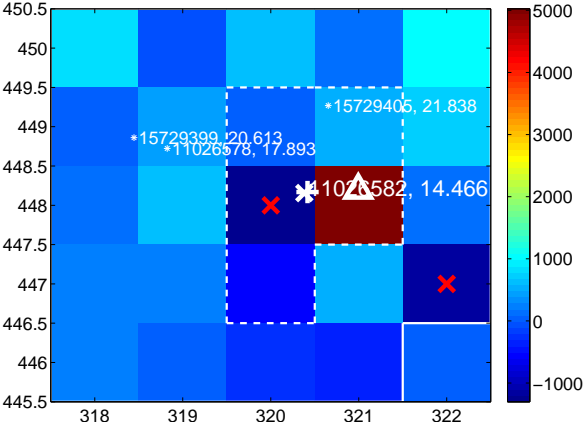
Q6 no difference image



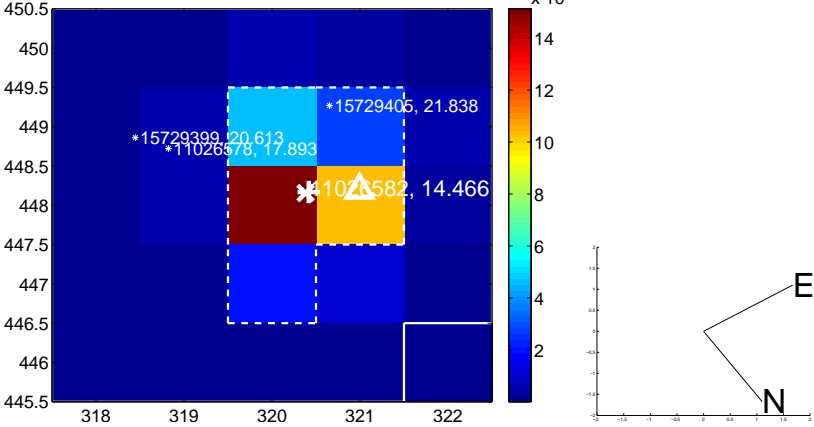
Q6 no OOT image



Q7 difference image



Q7 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



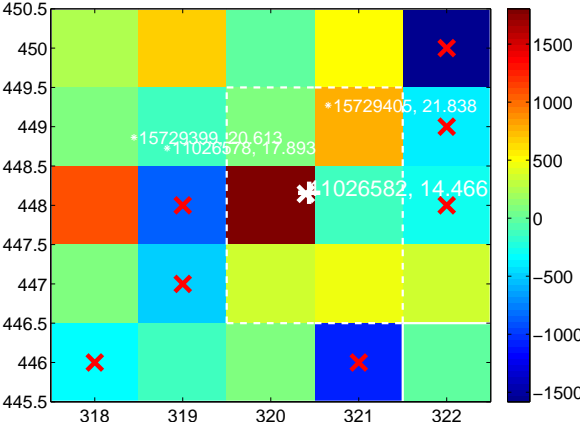
Q10 no difference image



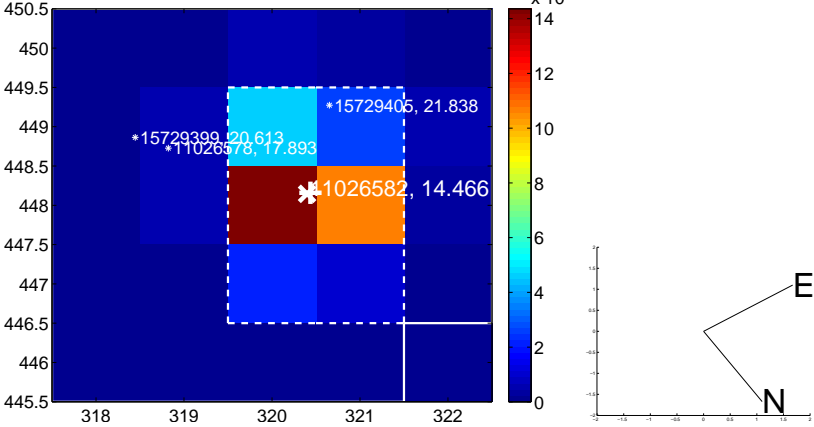
Q10 no OOT image



Q11 difference image. Poor Quality



Q11 OOT image



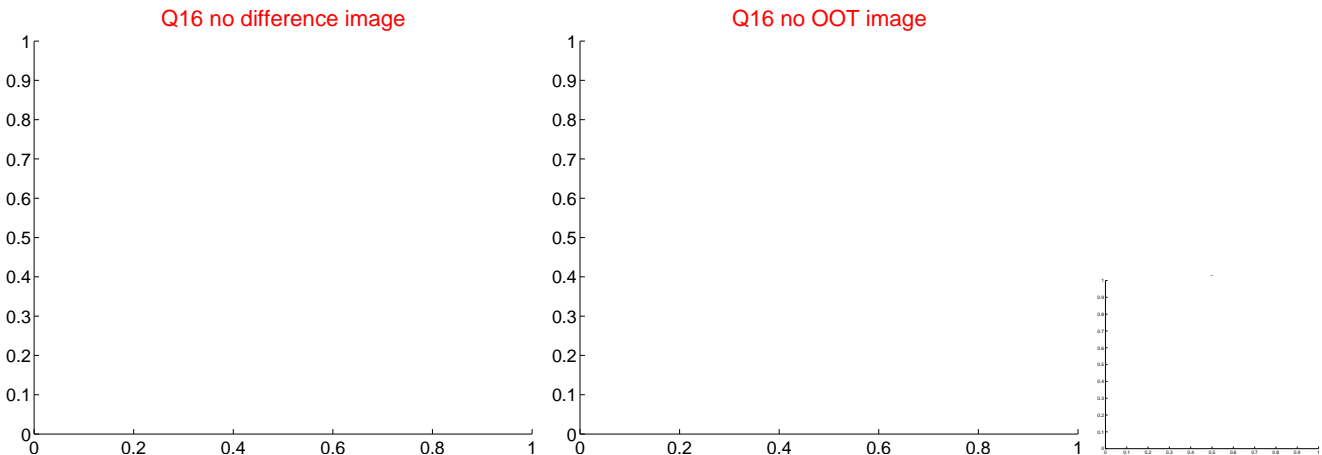
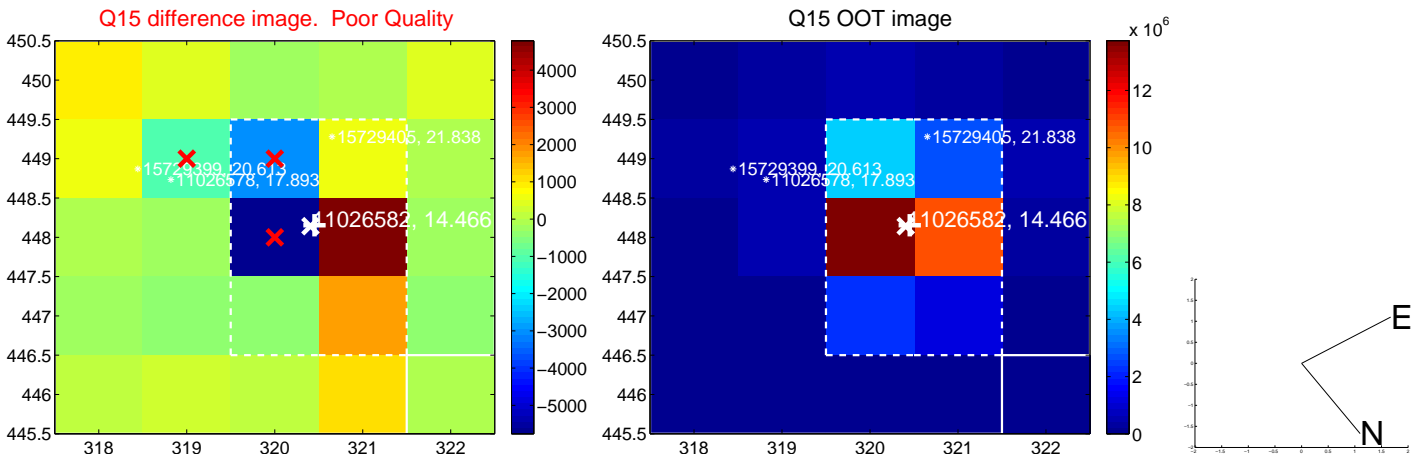
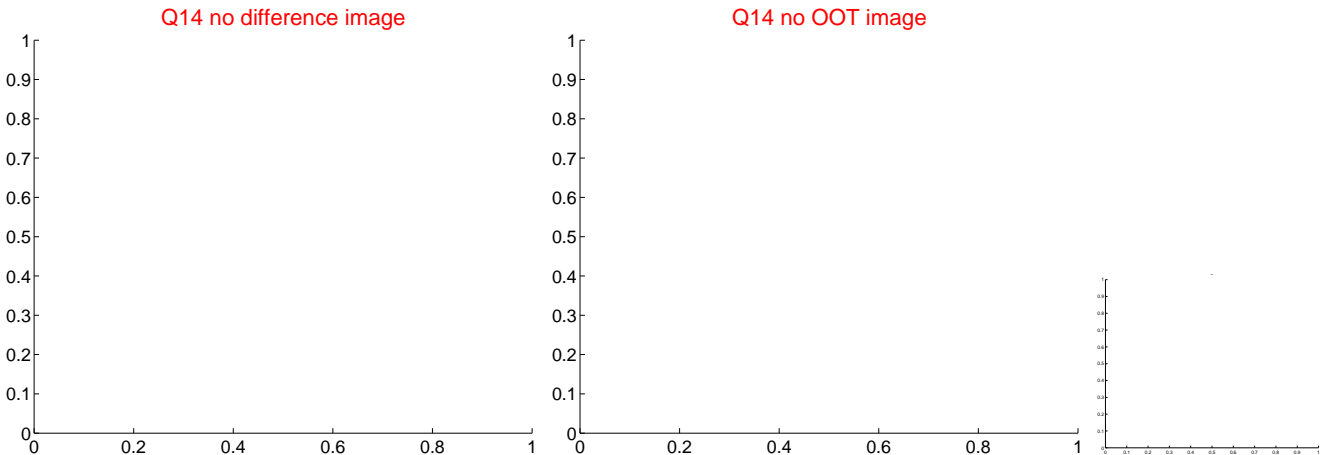
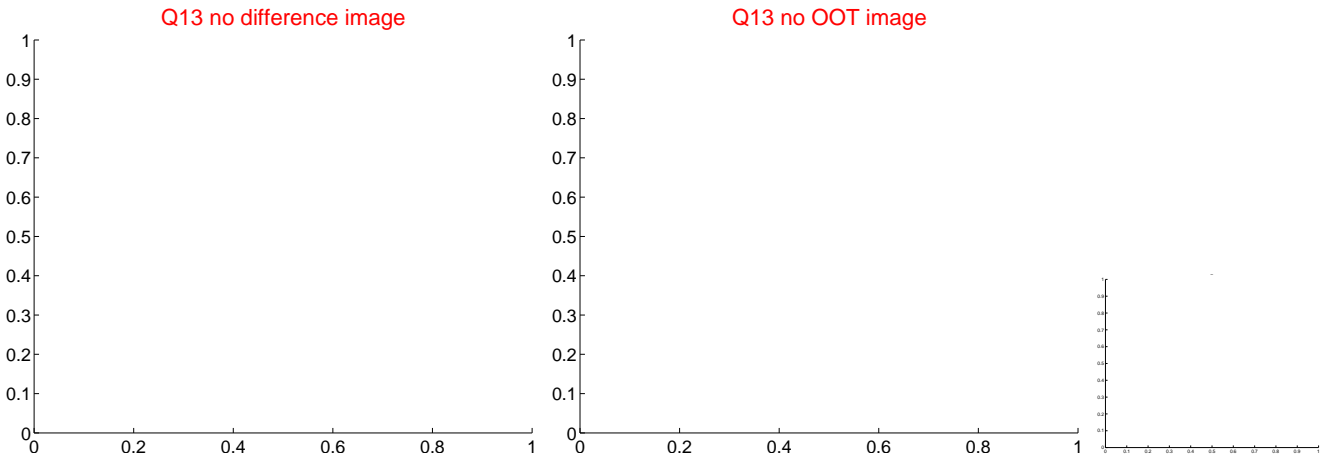
Q12 no difference image



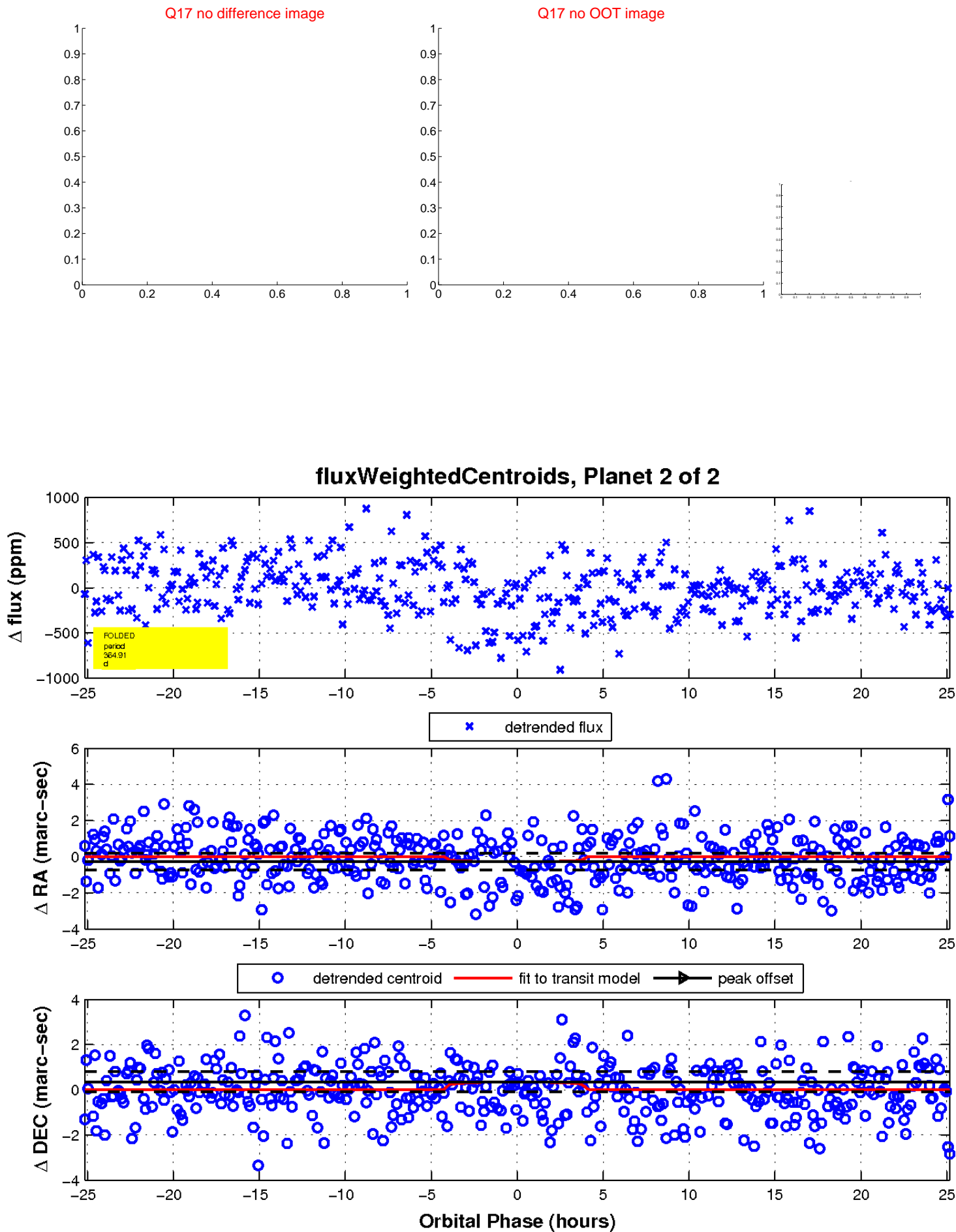
Q12 no OOT image



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



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



UKIRT Image

Declination

