

KIC 007770282

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})
007770282-01	OBS	No	222.046010	348.457079	102.2	3.000	14.3	-1.0	4.51	7675	4.60	69.82
007770282-02	OBS	No	379.683203	506.773725	202.0	7.993	17.1	1.6	4.51	7675	6.51	34.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007770282-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—LPP_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007770282-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

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

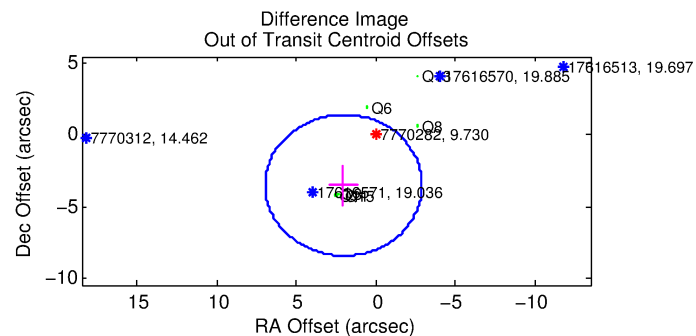
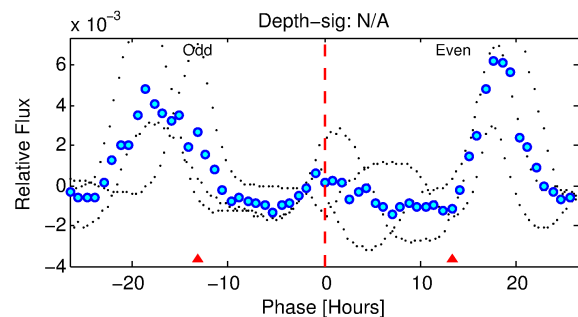
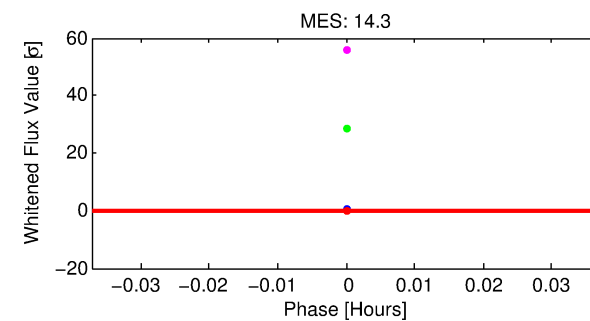
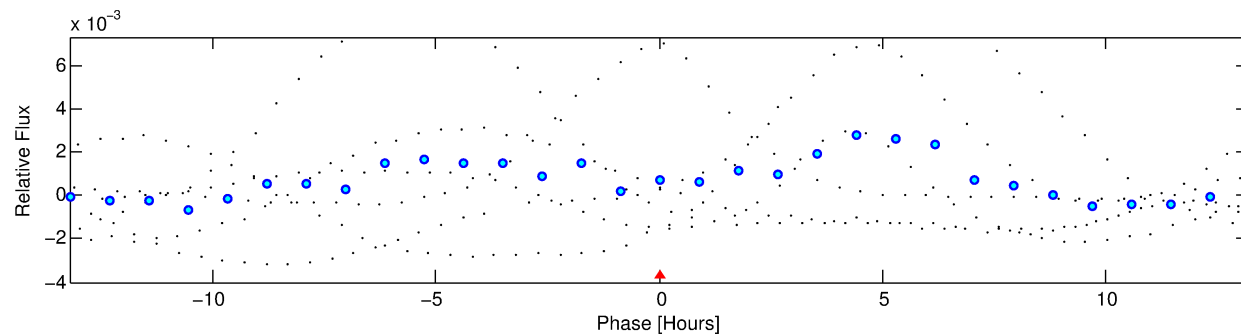
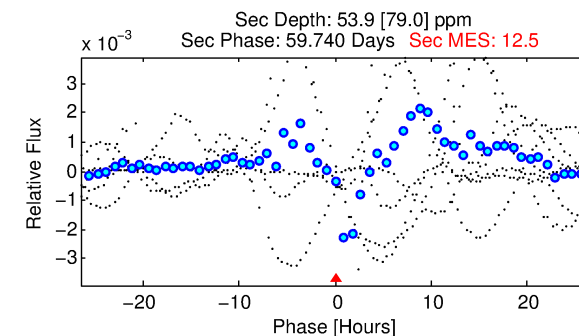
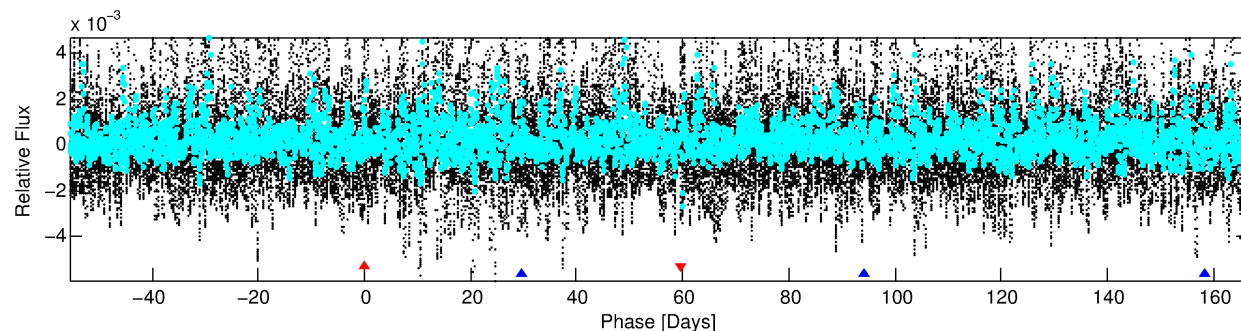
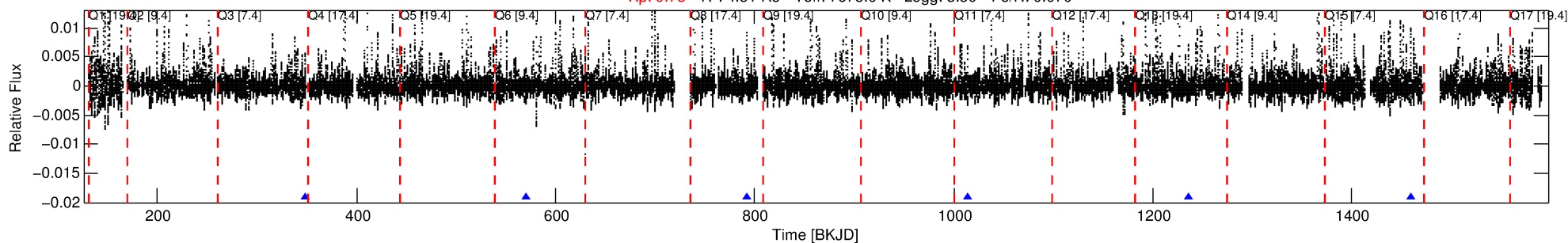
Ephemeris Match Information For 007770282-01

No Significant Match Found

DV One-Page Summary

KIC: 7770282 Candidate: 1 of 2 Period: 222.046 d

Kp: 9.73 R*: 4.51 Rs Teff: 7675.0 K Logg: 3.50 Fe/H: 0.070



TPS TCE Results:

Period = 222.04601 d
Epoch = 348.4571 BKJD

DV fit results are unavailable

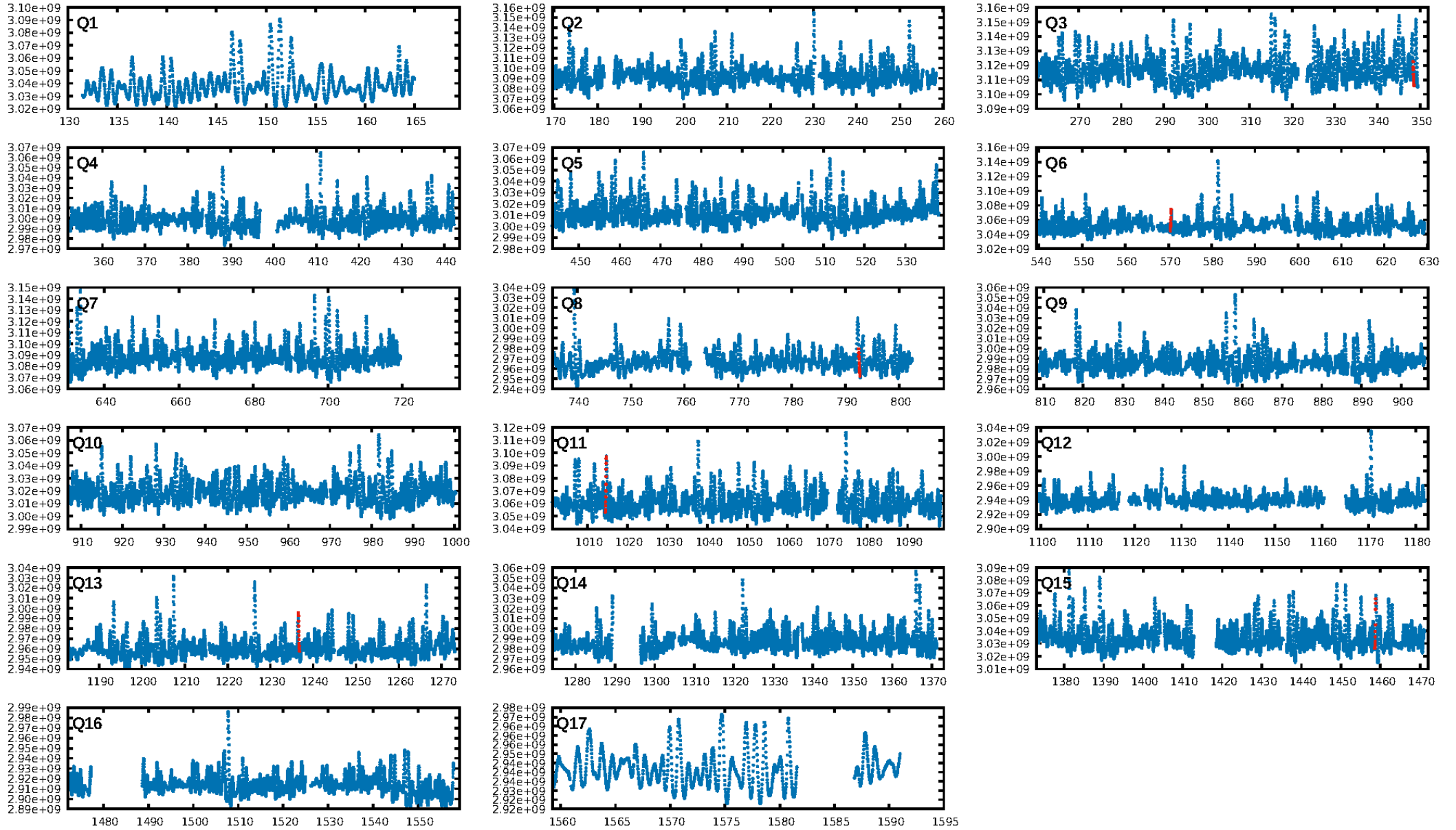
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [443.16σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.36e-10
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: N/A
Centroid-sig: 1.4%
Centroid-so: 0.476 arcsec [2.49σ]
OotOffset-rm: 4.063 arcsec [2.47σ]
KicOffset-rm: 2.690 arcsec [2.79σ]
OotOffset-st: 1/3/1/1 [6]
KicOffset-st: 1/3/1/1 [6]
DiffImageQuality-fgm: 0.00 [0/6]
DiffImageOverlap-fno: 1.00 [6/6]

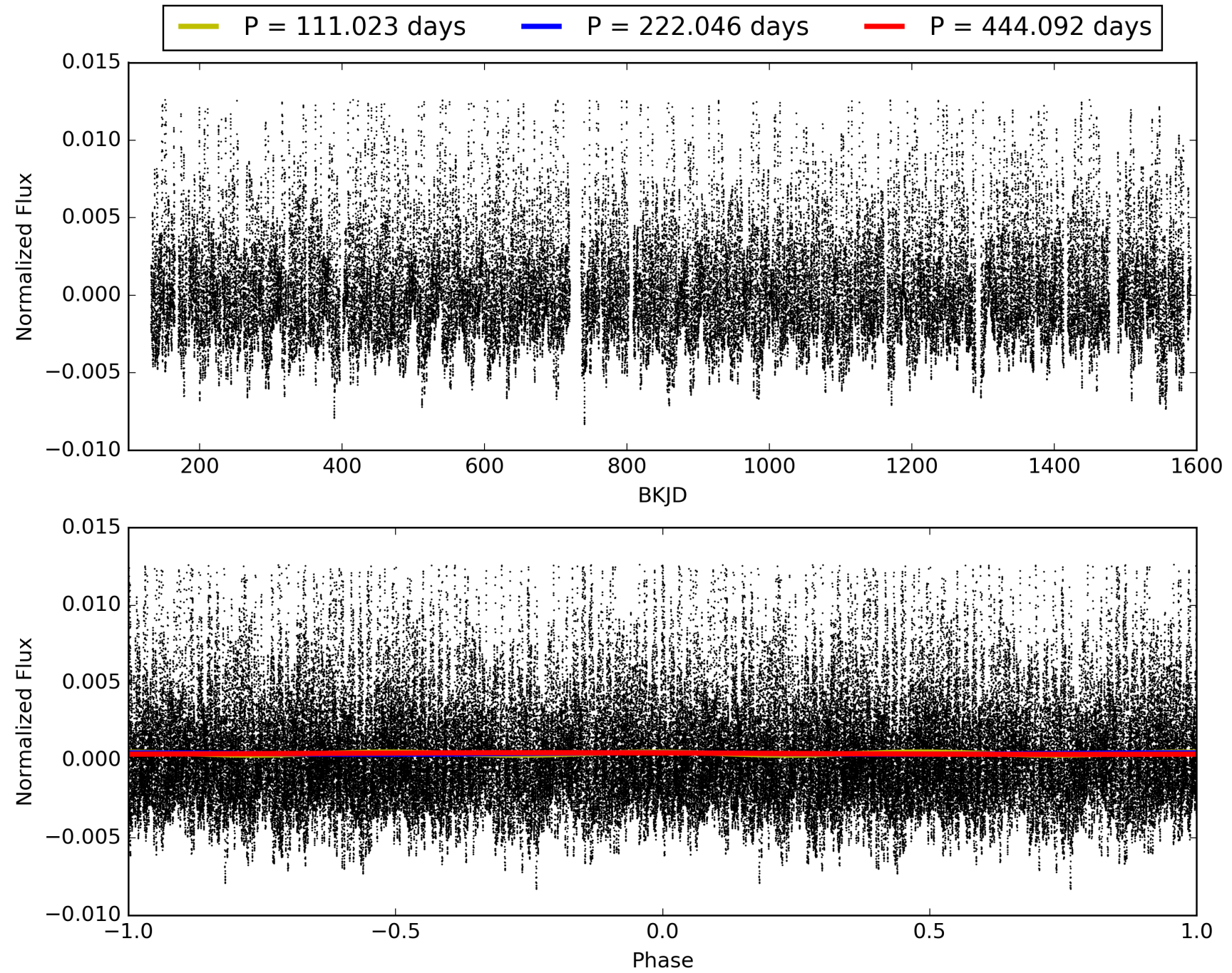
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:24:47 Z

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

TCE 007770282-01, PDC Light Curves

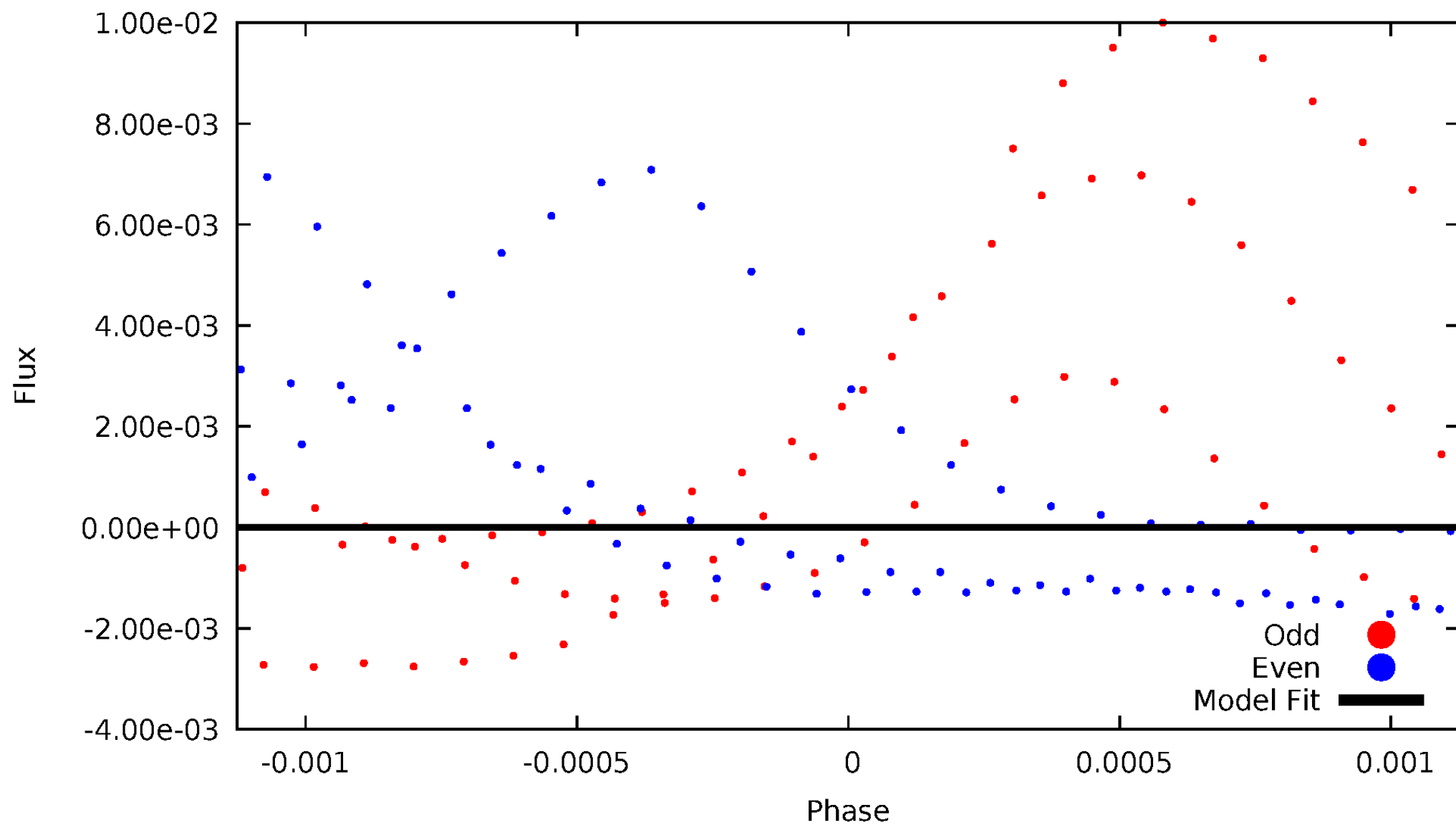


TCE 007770282-01



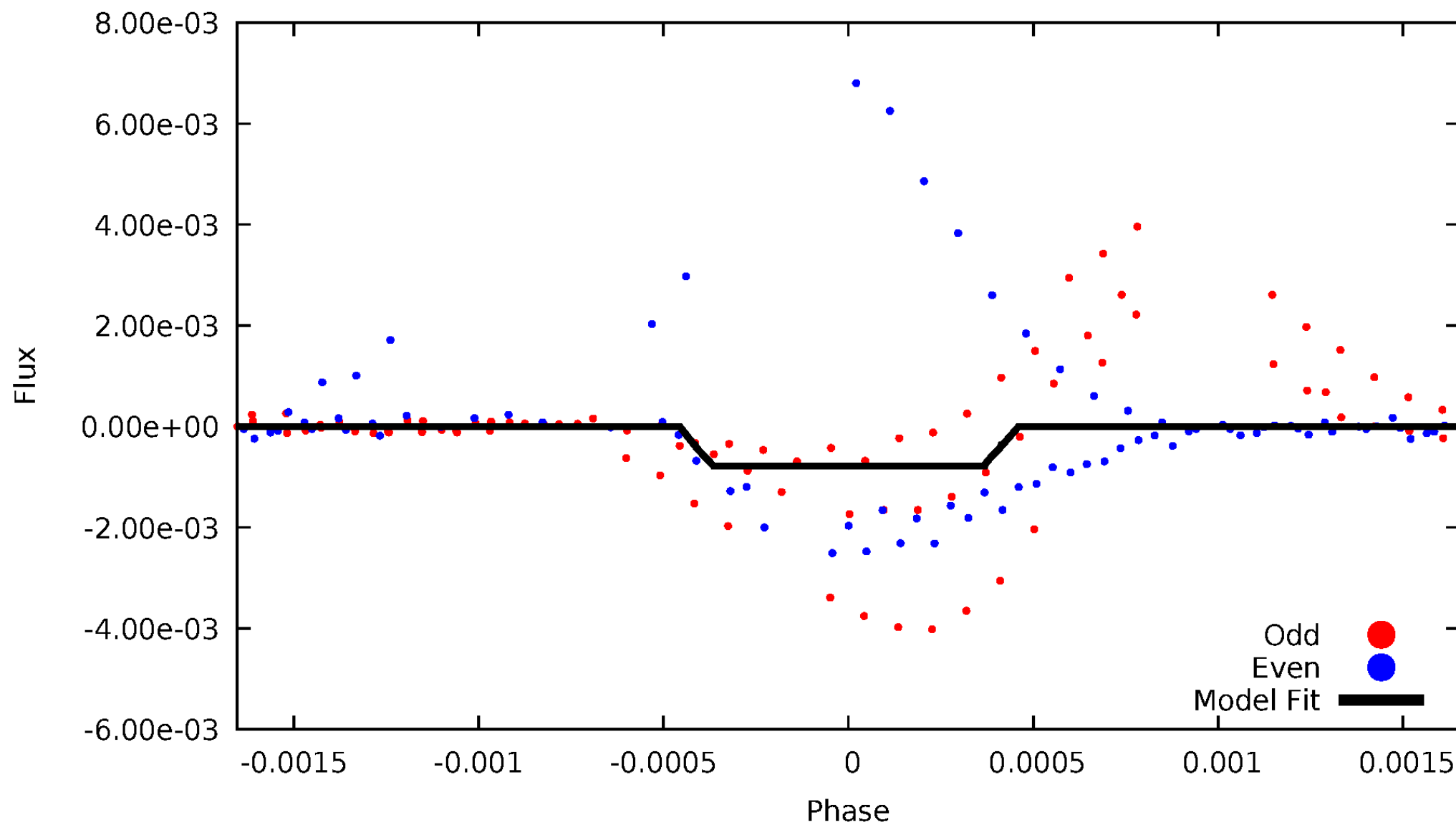
DV Odd/Even

TCE 007770282-01

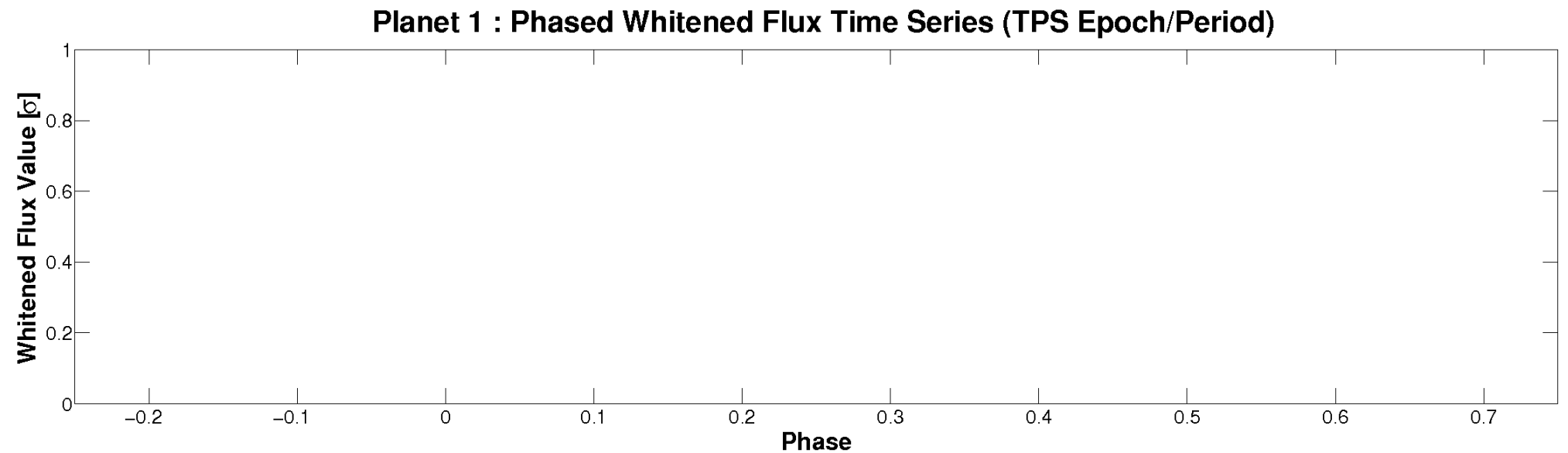
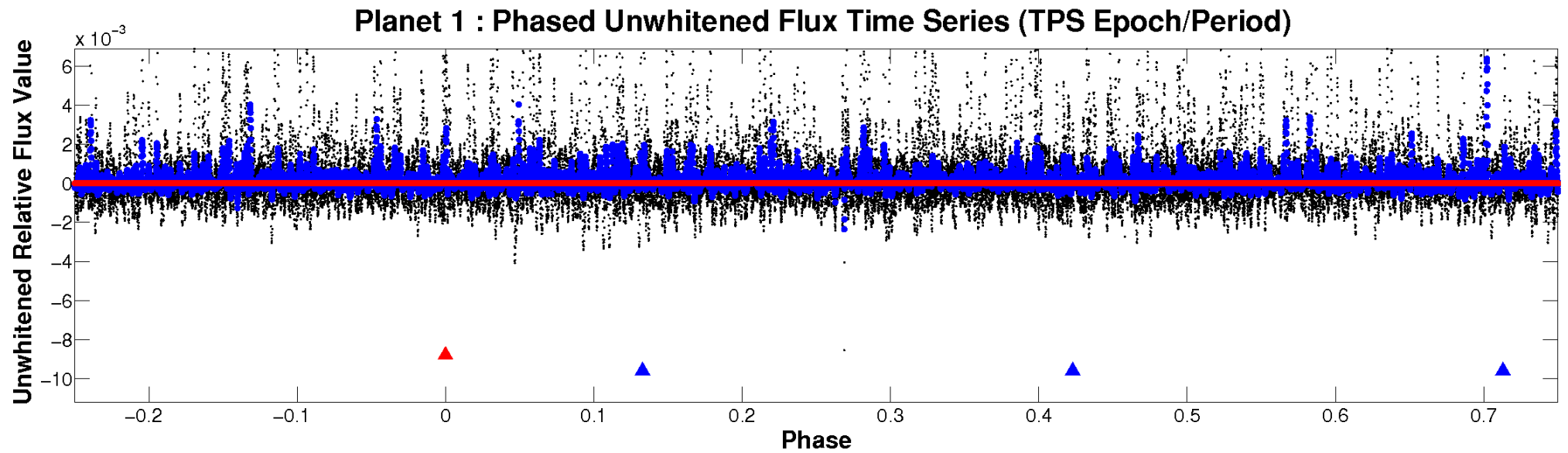


ALT Odd/Even

TCE 007770282-01

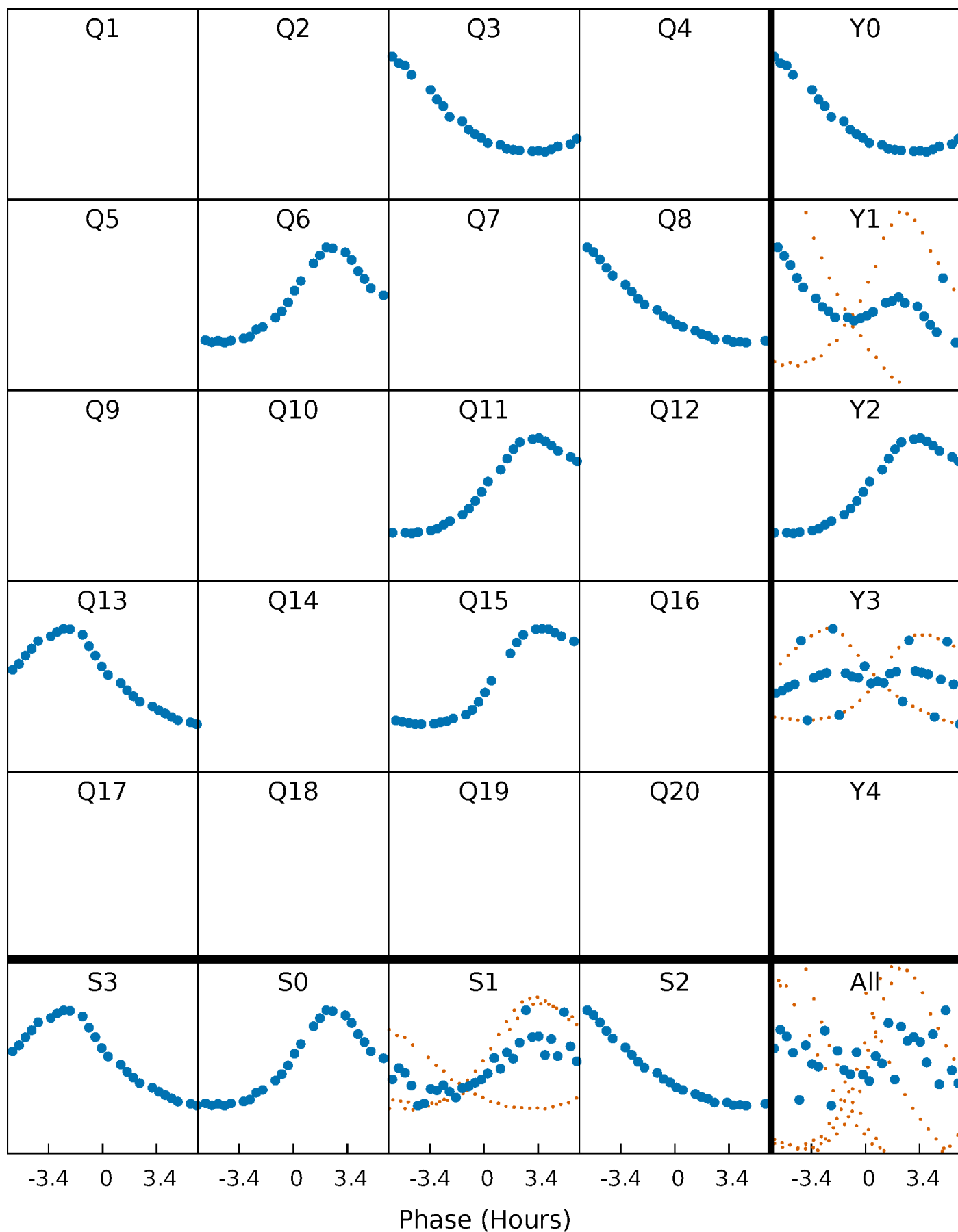


Non-Whitened Vs. Whitened Light Curve



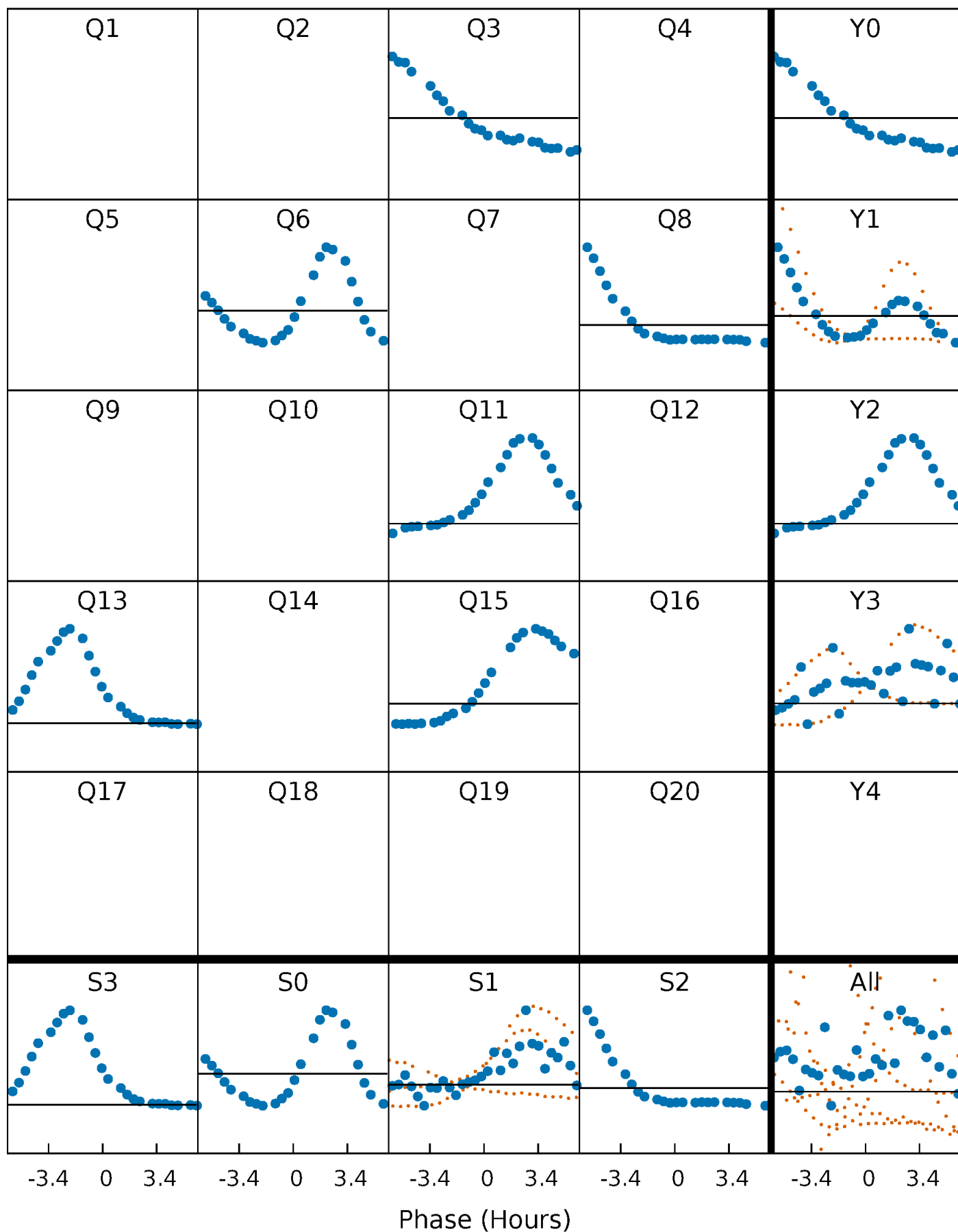
PDC Quarter-Phased Transit Curves

TCE 007770282-01 P=222.046010 Days $T_0=348.457079$ (BKJD)



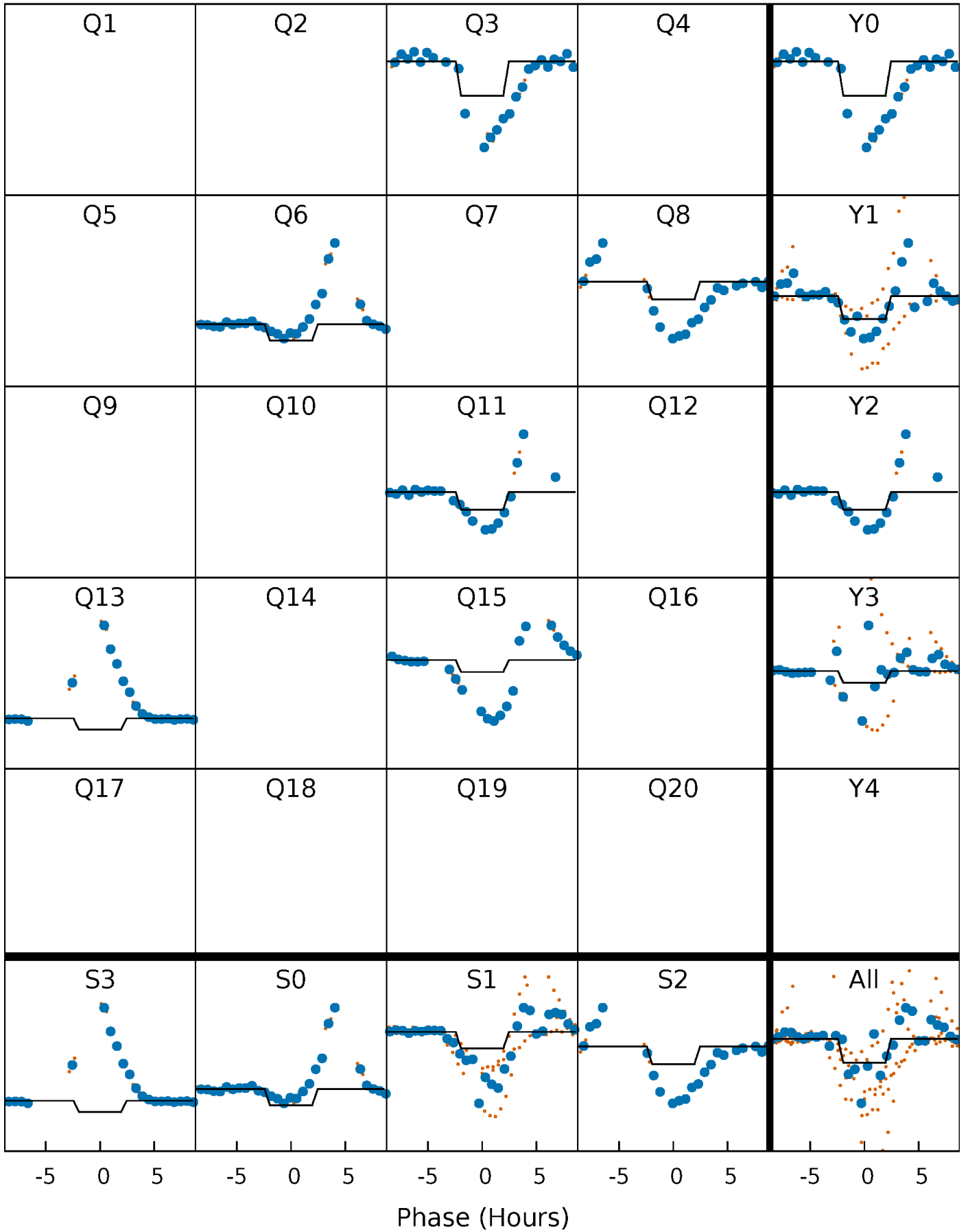
DV Quarter-Phased Transit Curves

TCE 007770282-01 P=222.046010 Days $T_0=348.457079$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

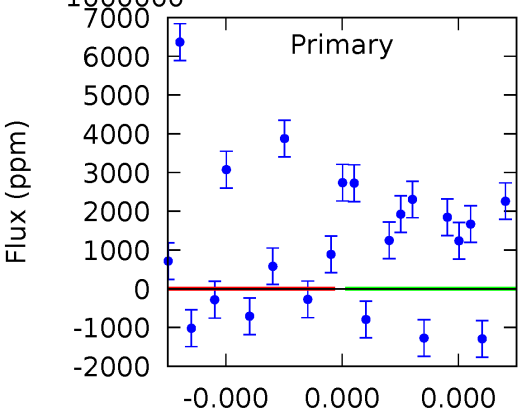
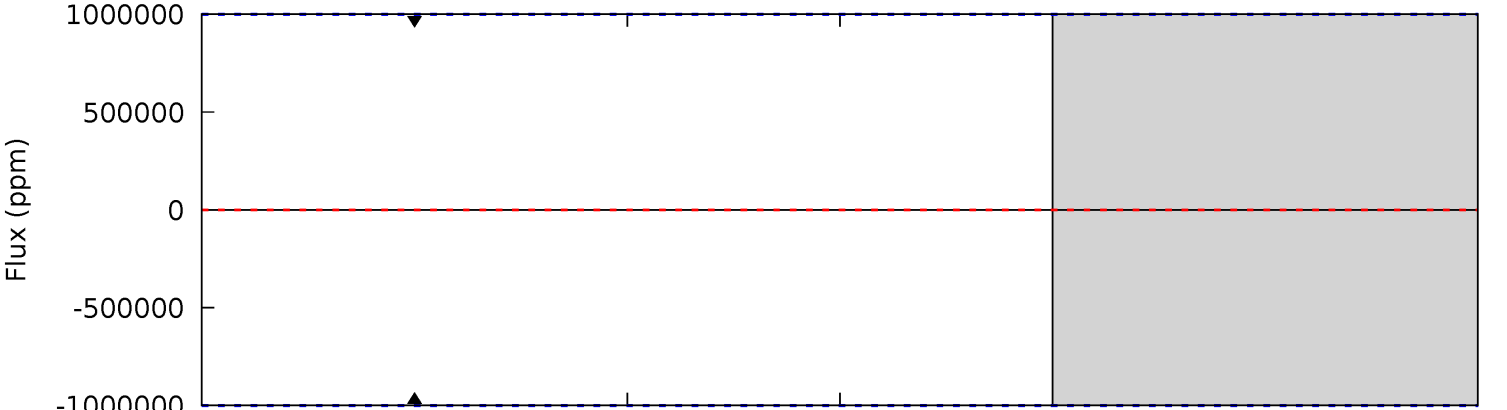
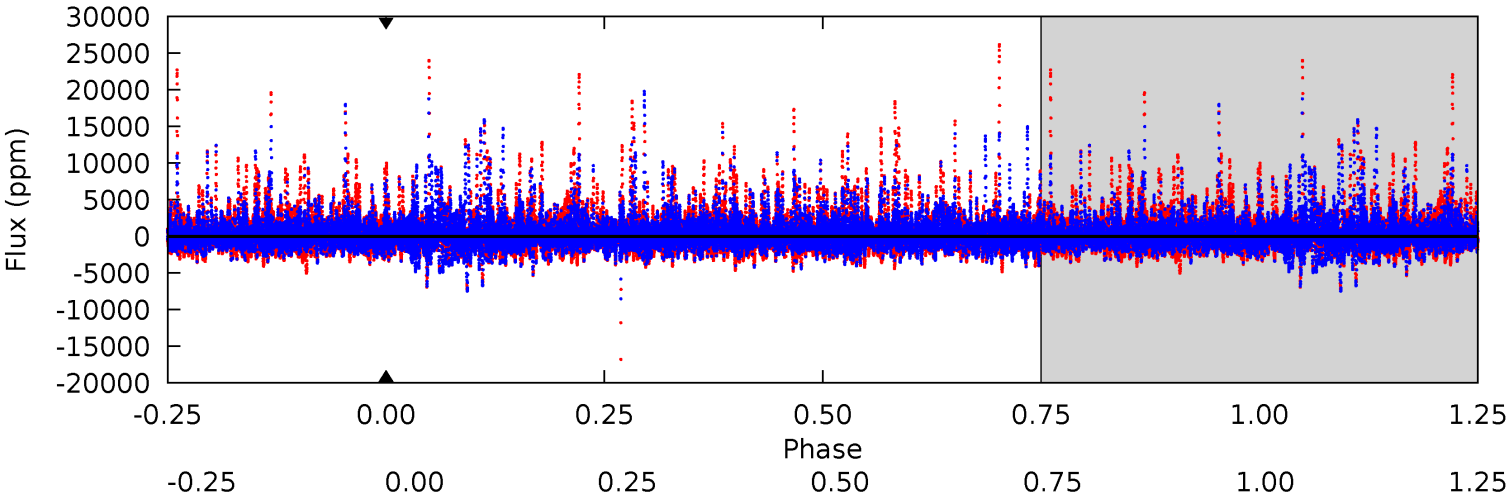
TCE 007770282-01 P=222.046010 Days $T_0=348.371896$ (BKJD)



DV Model-Shift Uniqueness Test

007770282-01, P = 222.046010 Days, E = 126.411069 Days

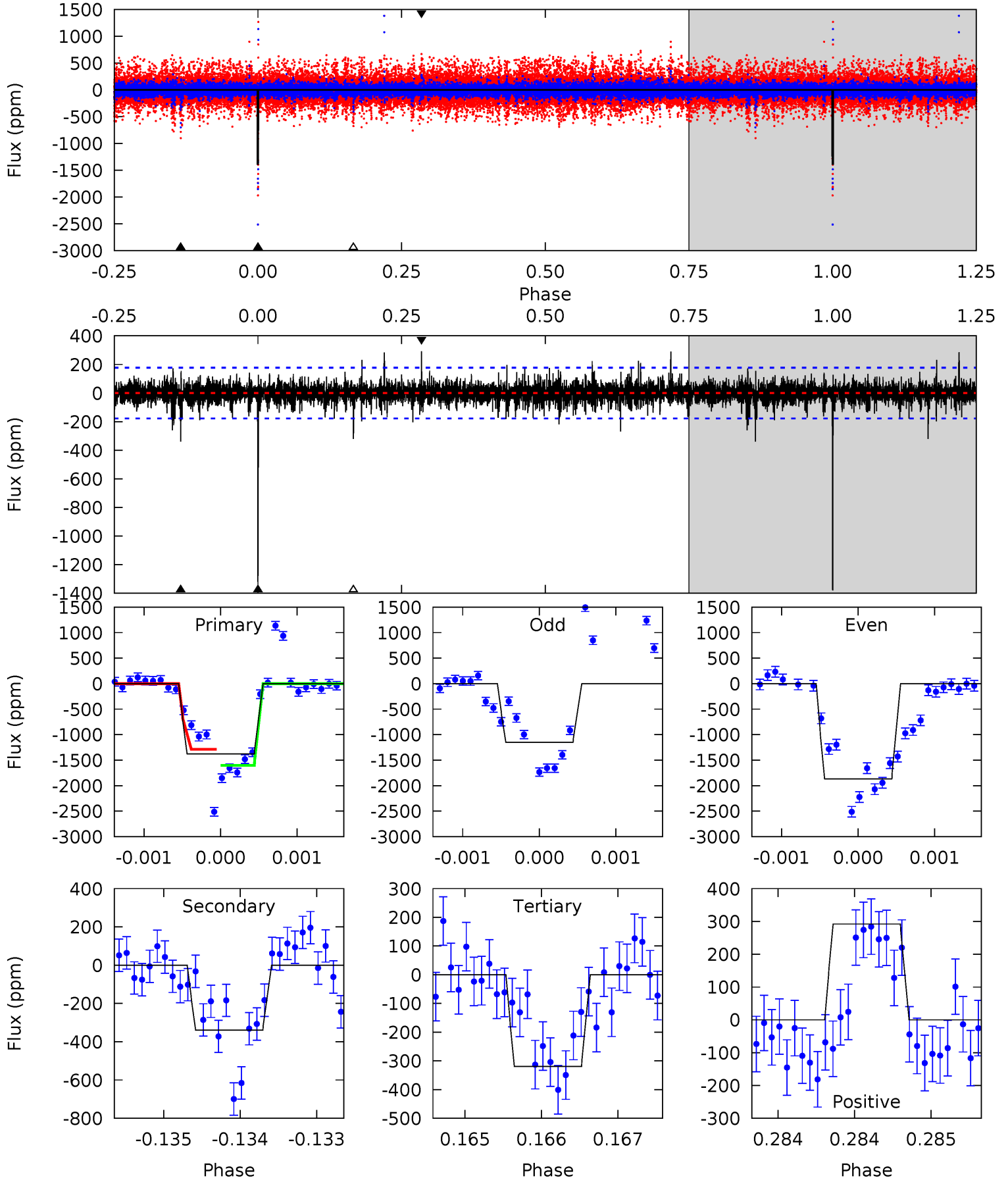
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007770282-01, P = 222.046010 Days, E = 126.325886 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.7	10.5	9.88	9.04	5.48	3.34	1.48	32.8	33.6	0.62	1.46	11.0	0.41	0.17	4.60



Stellar Parameters For KIC 007770282

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7675^{+212}_{-318}	$3.497^{+0.570}_{-0.030}$	$0.070^{+0.150}_{-0.350}$	$4.509^{+0.294}_{-2.646}$	$2.328^{+0.243}_{-0.729}$	$0.036^{+0.299}_{-0.004}$
	+3%/-4%	+16%/-1%	+214%/-500%	+7%/-59%	+10%/-31%	+836%/-11%
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 007770282-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$29.52^{+35.29}_{-20.94}$	978^{+68}_{-139}	5098^{+36541}_{-55507}	$512^{+96452}_{-125258}$
Alt.	-339 ± 32	$34.46^{+36.12}_{-23.67}$	985^{+63}_{-133}	3928^{+2288}_{-780}	143^{+1274}_{-108}

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

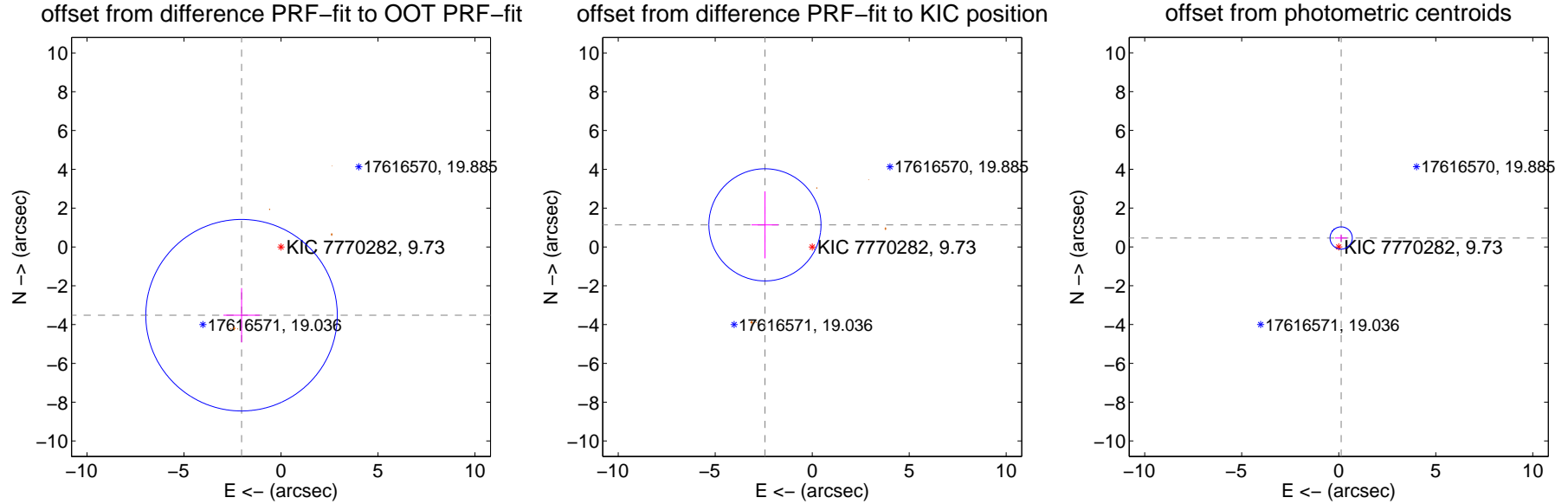
DV Centroid Data

Supplemental centroid analysis for 007770282-01. **Kepler magnitude: 9.73.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.74 arcsec

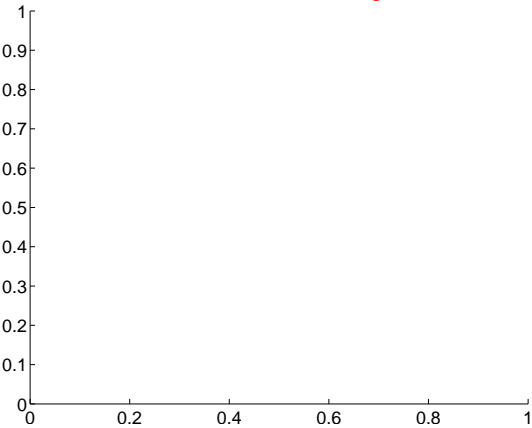
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.063 ± 1.645	2.47	2.034 ± 0.935	-3.518 ± 1.397
PRF-fit source offset from KIC position	2.690 ± 0.963	2.79	2.436 ± 0.691	1.139 ± 1.728
photometric centroid source offset	0.48 ± 0.19	2.49	-0.12 ± 0.31	0.46 ± 0.18



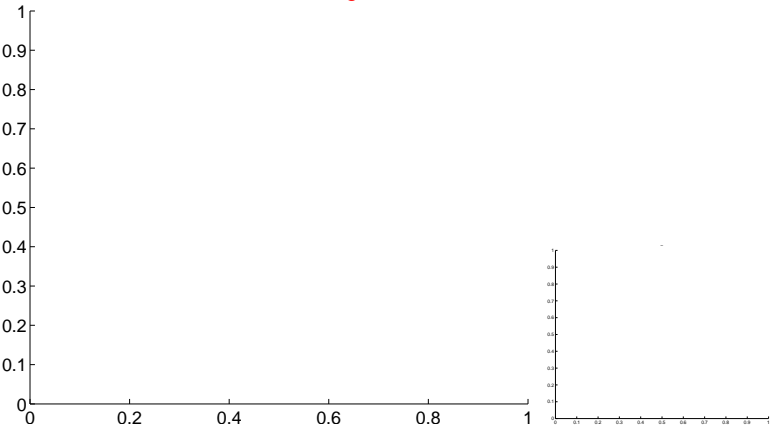
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

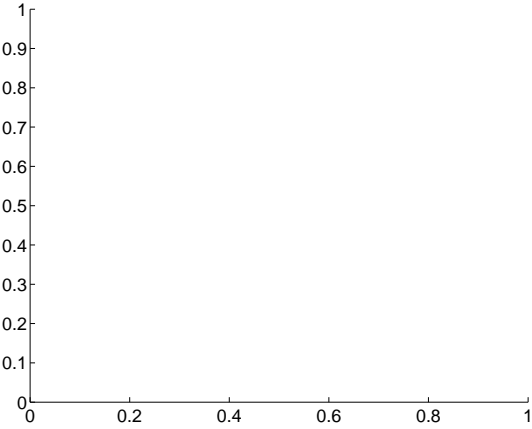
Q1 no difference image



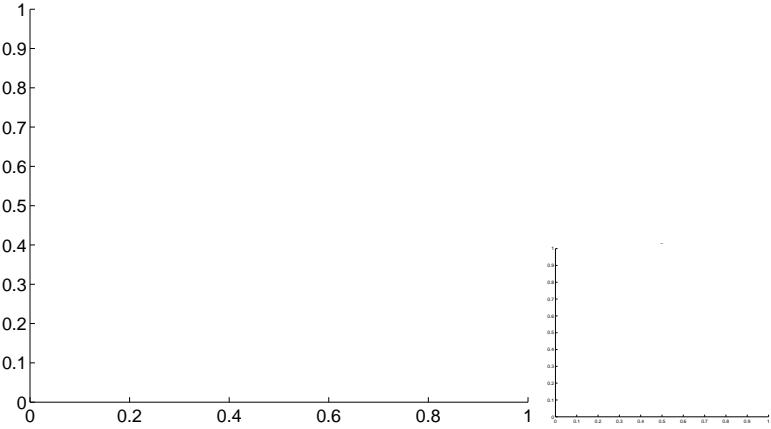
Q1 no OOT image



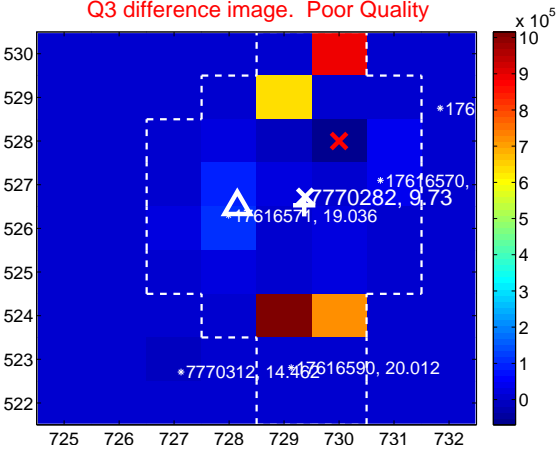
Q2 no difference image



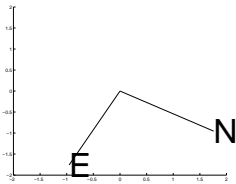
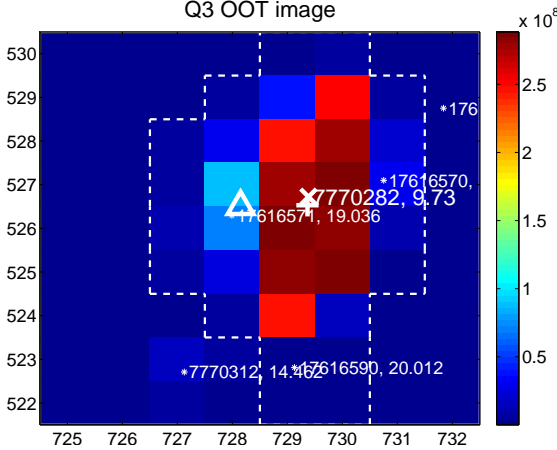
Q2 no OOT image



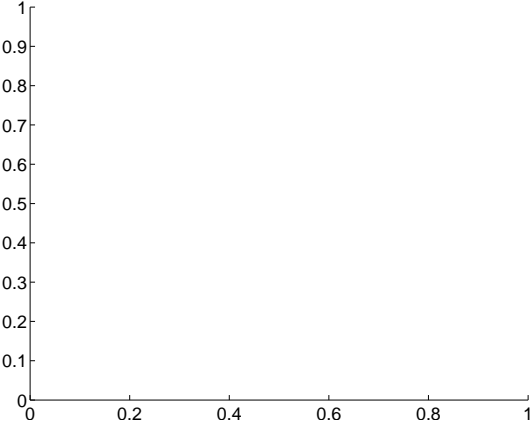
Q3 difference image. Poor Quality



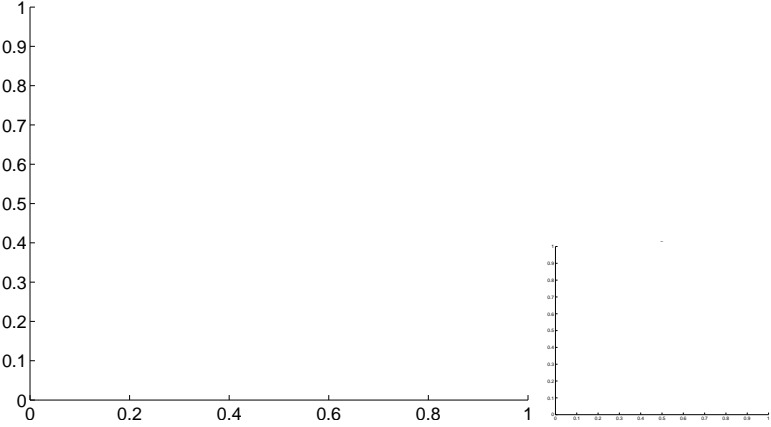
Q3 OOT image



Q4 no difference image

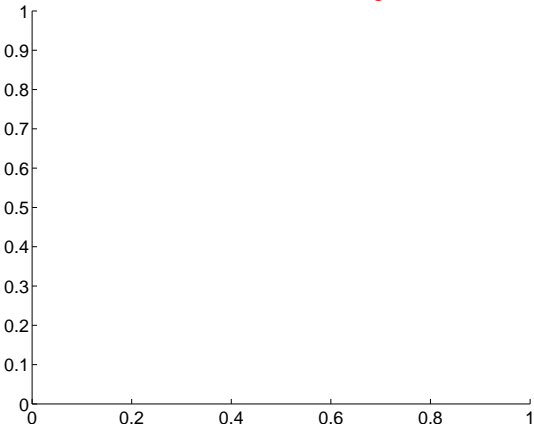


Q4 no OOT image

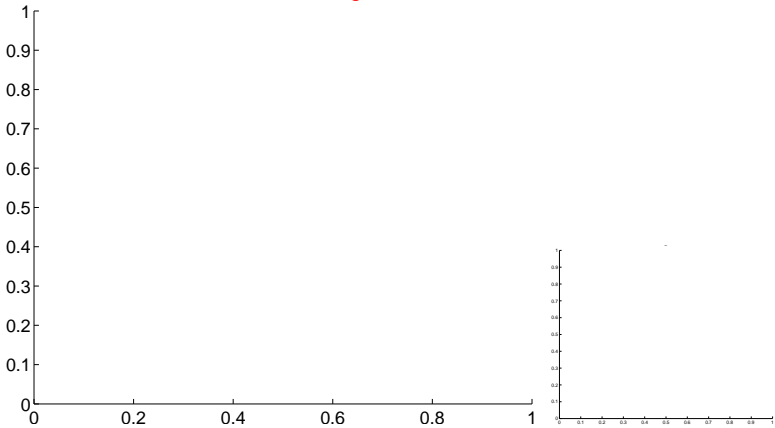


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

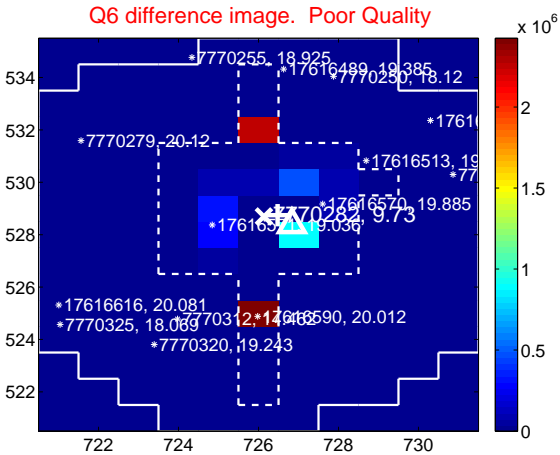
Q5 no difference image



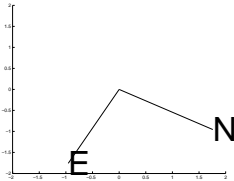
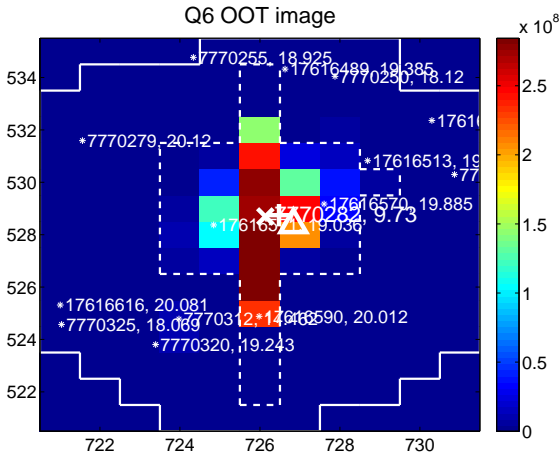
Q5 no OOT image



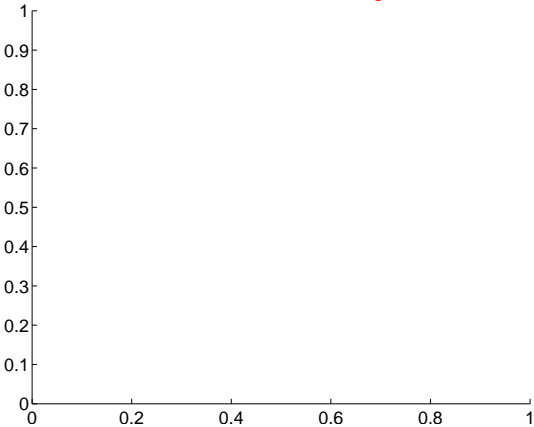
Q6 difference image. Poor Quality



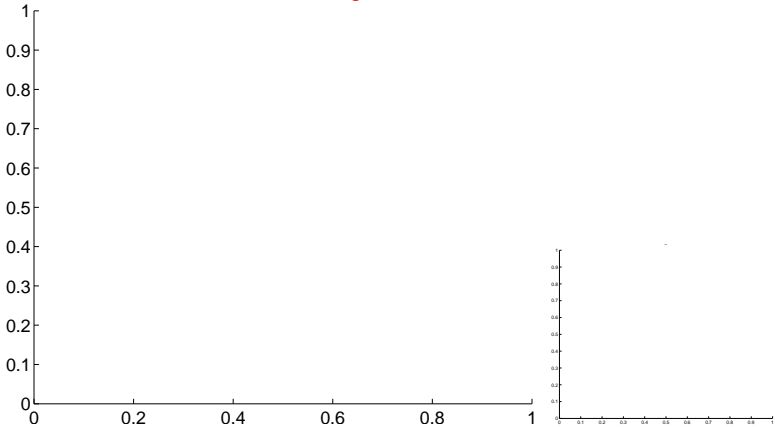
Q6 OOT image



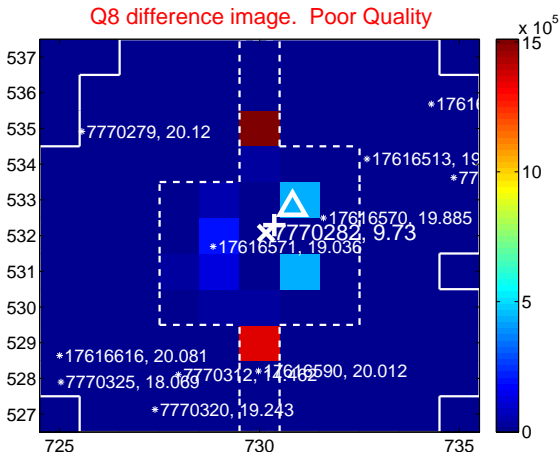
Q7 no difference image



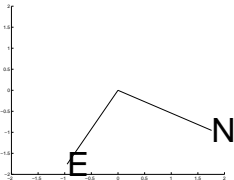
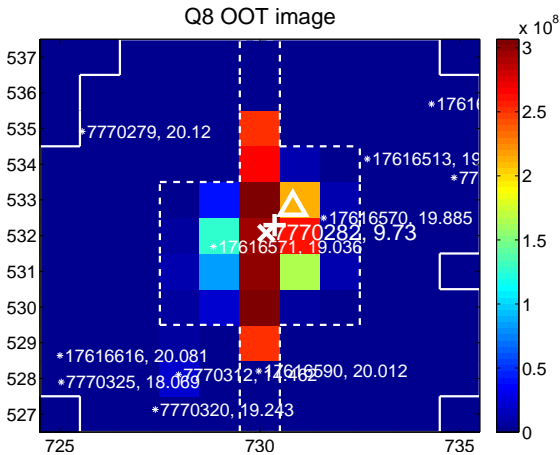
Q7 no OOT image



Q8 difference image. Poor Quality

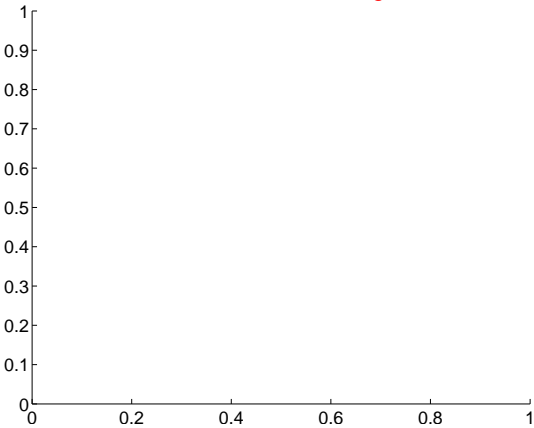


Q8 OOT image

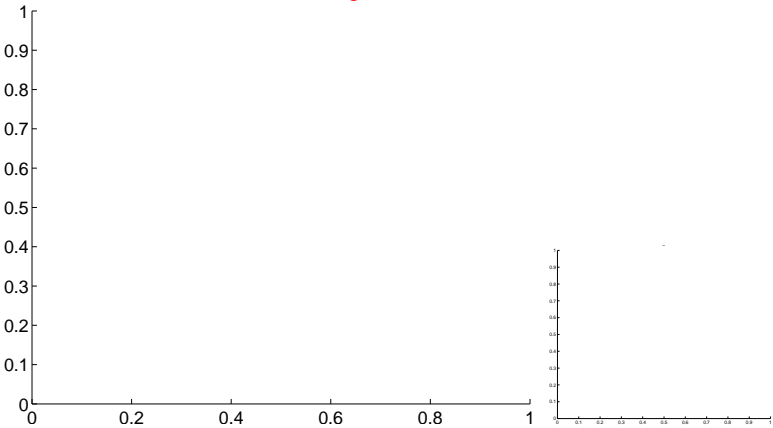


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

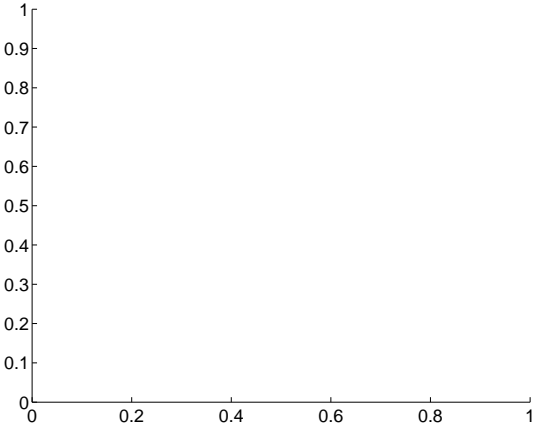
Q9 no difference image



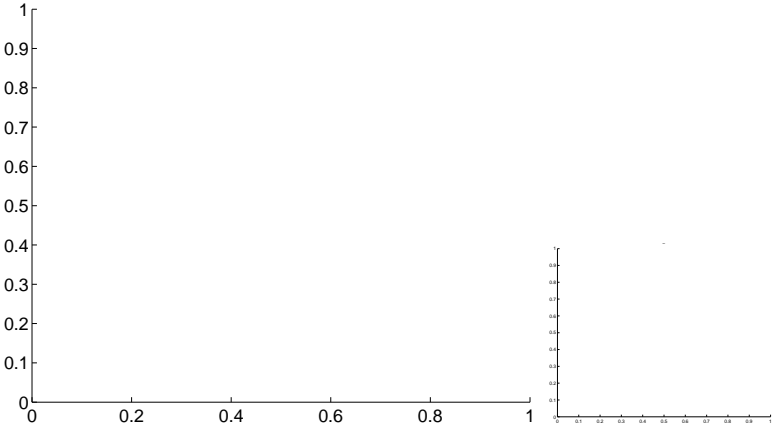
Q9 no OOT image



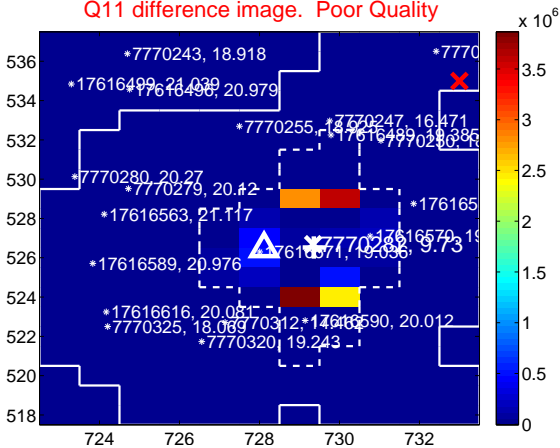
Q10 no difference image



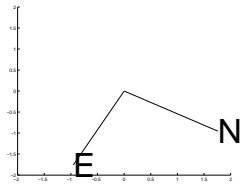
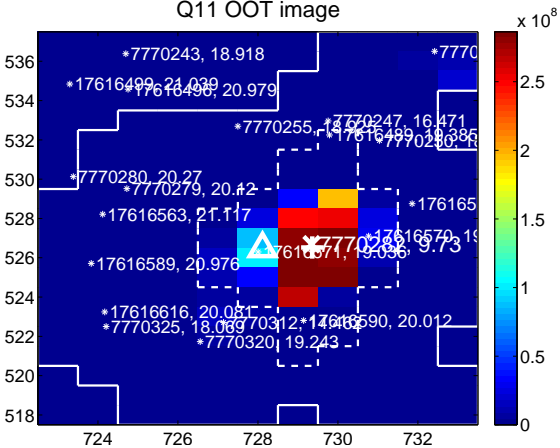
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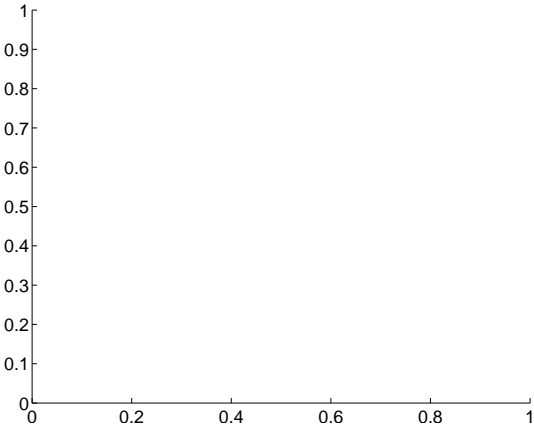
Q11 difference image. Poor Quality



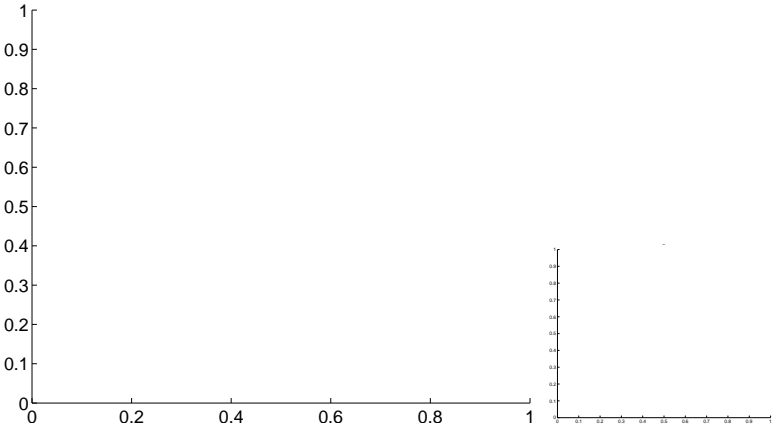
Q11 OOT image



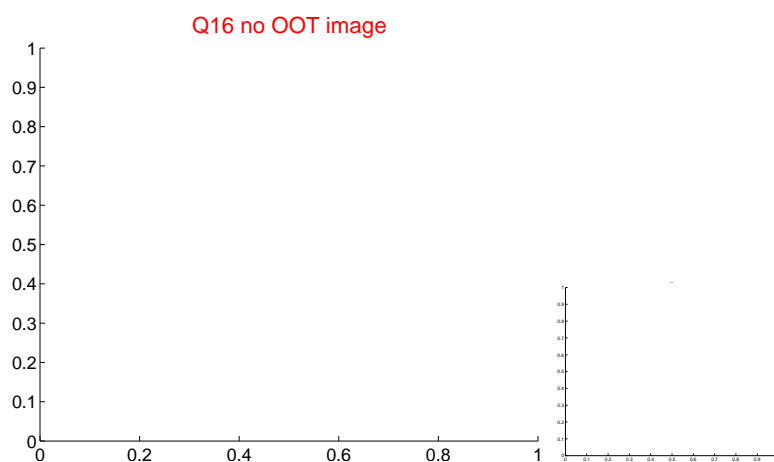
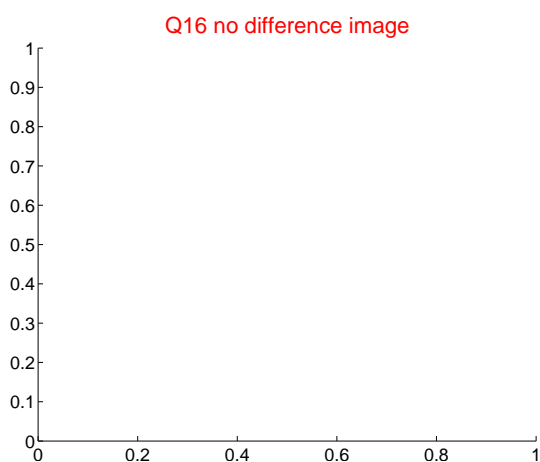
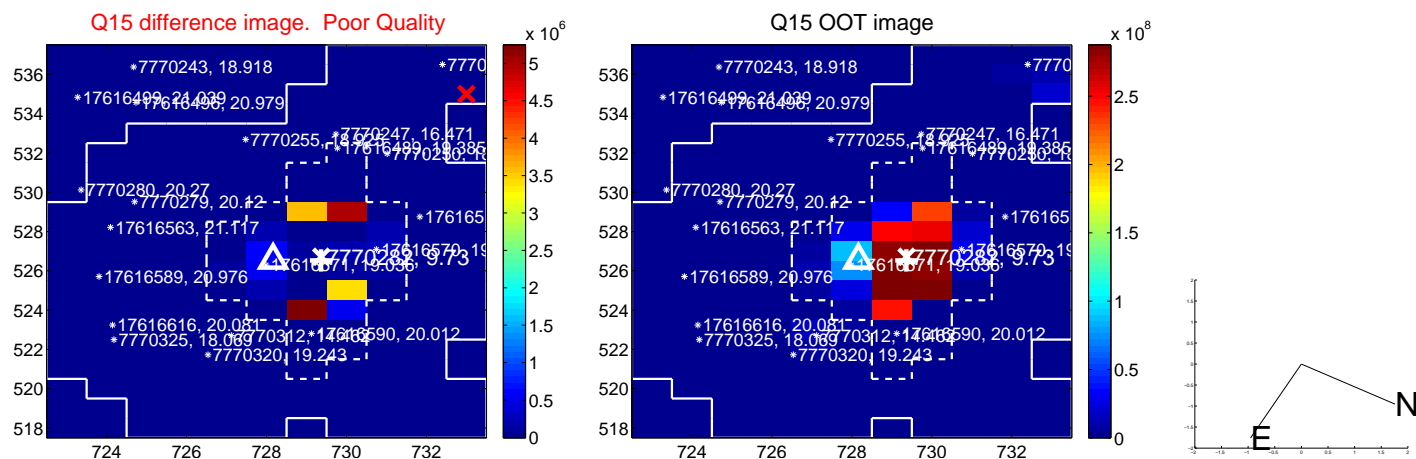
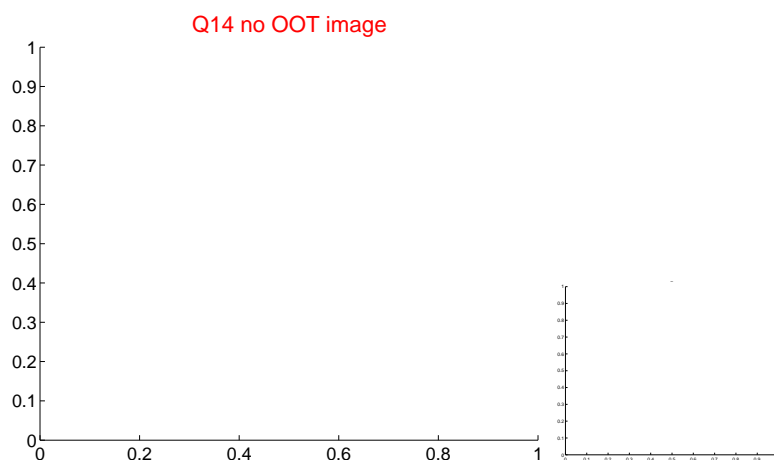
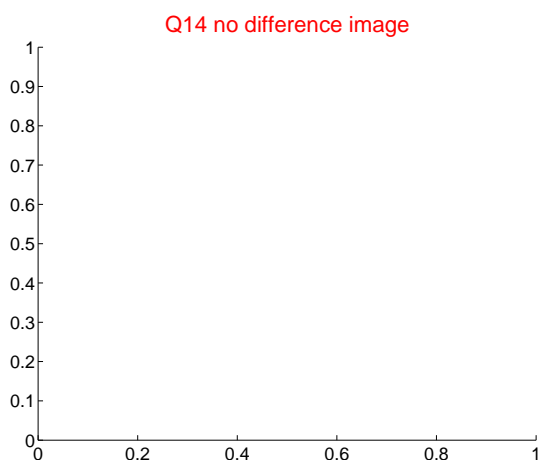
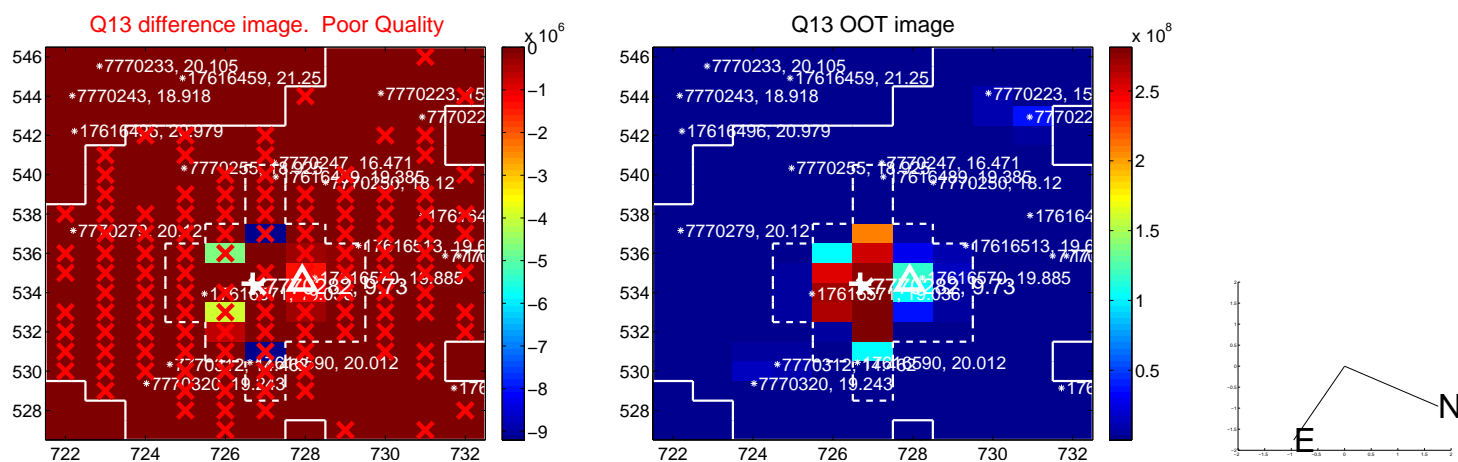
Q12 no difference image



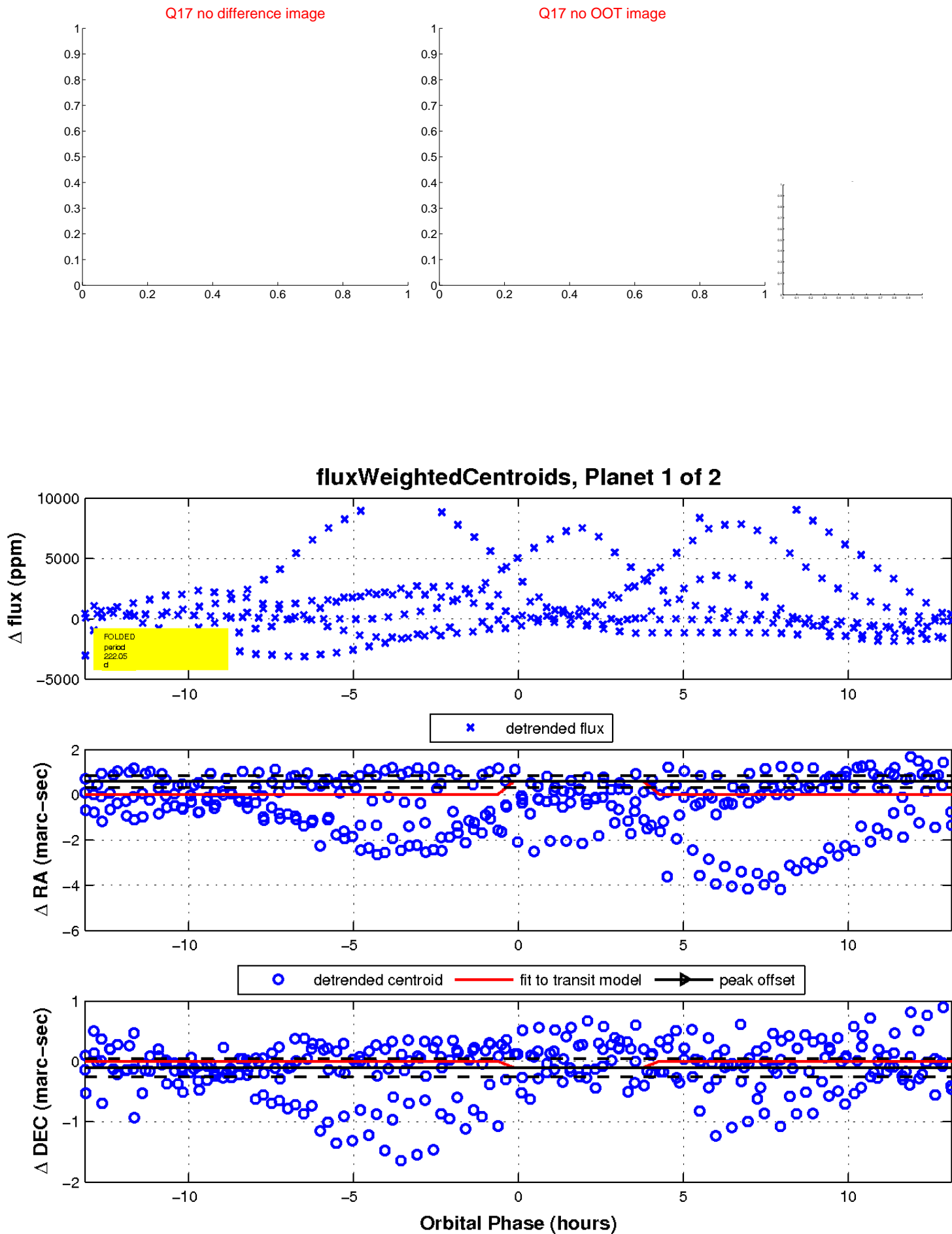
Q12 no OOT image



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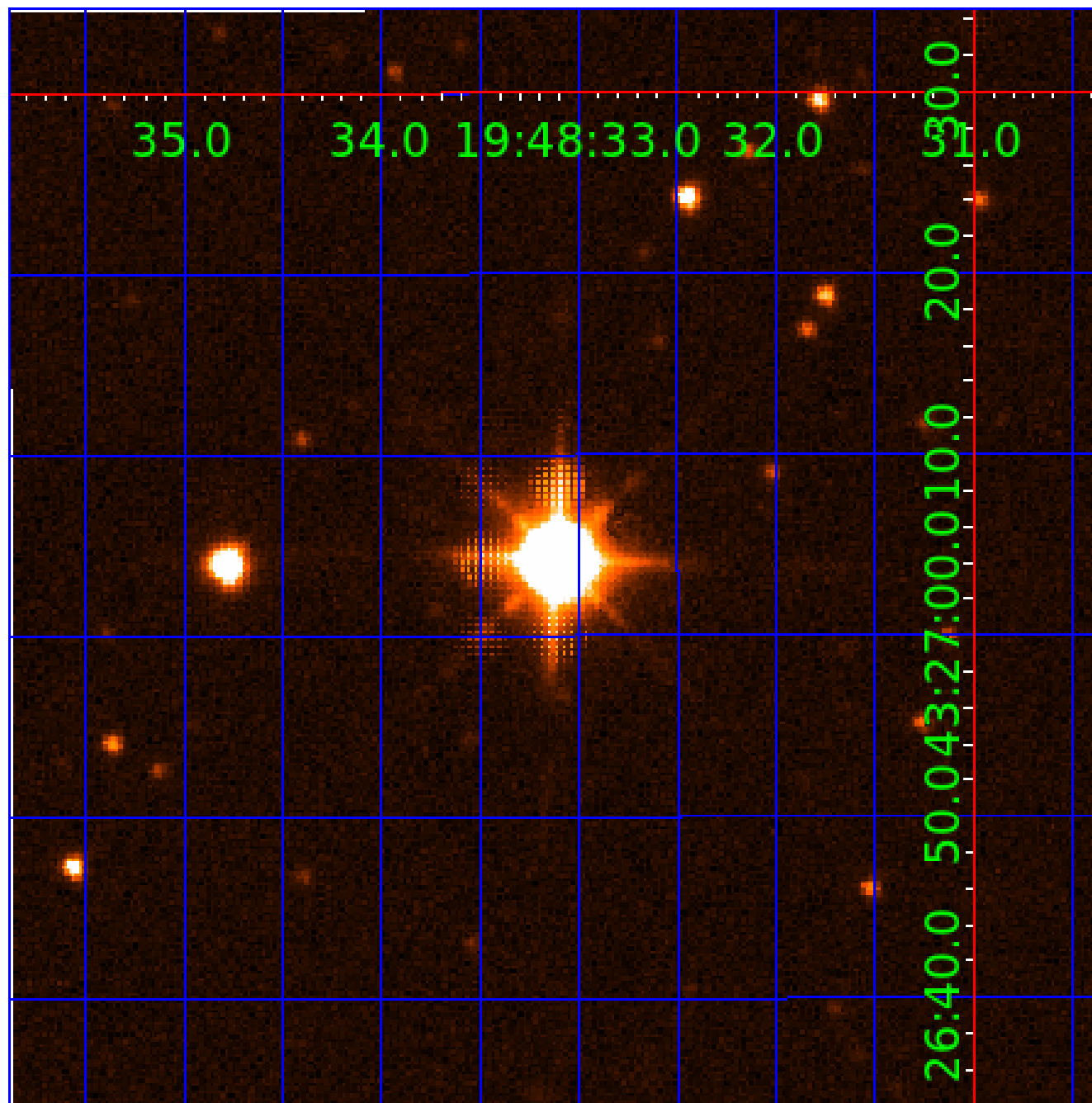


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007770282

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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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.

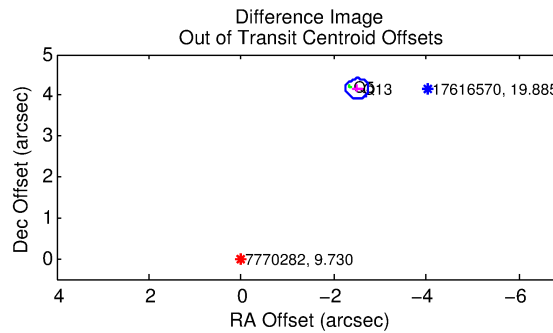
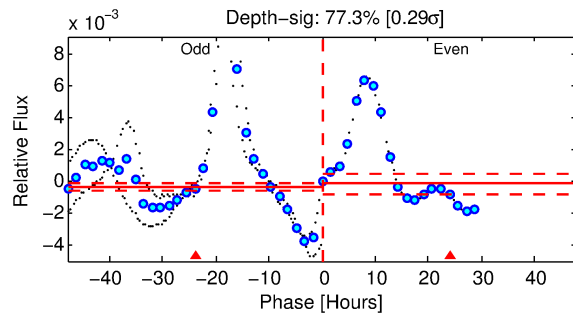
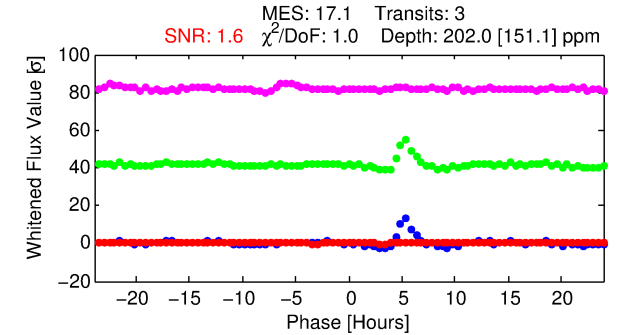
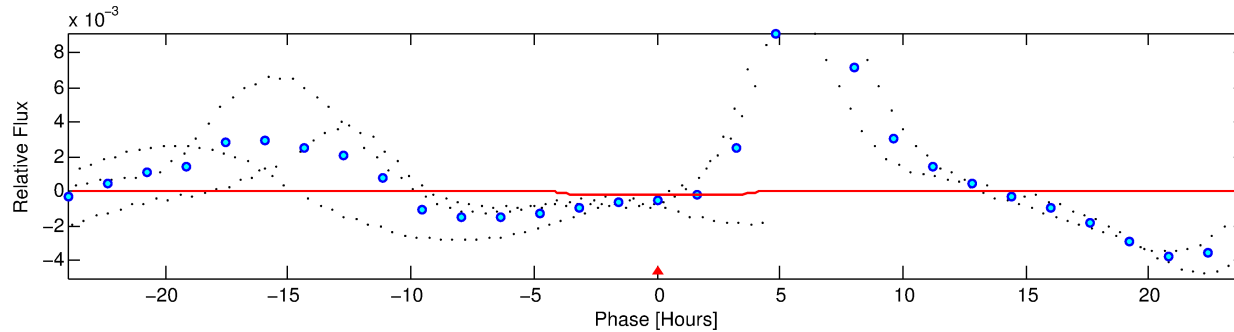
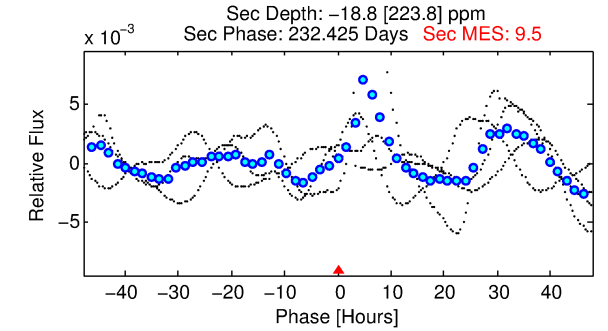
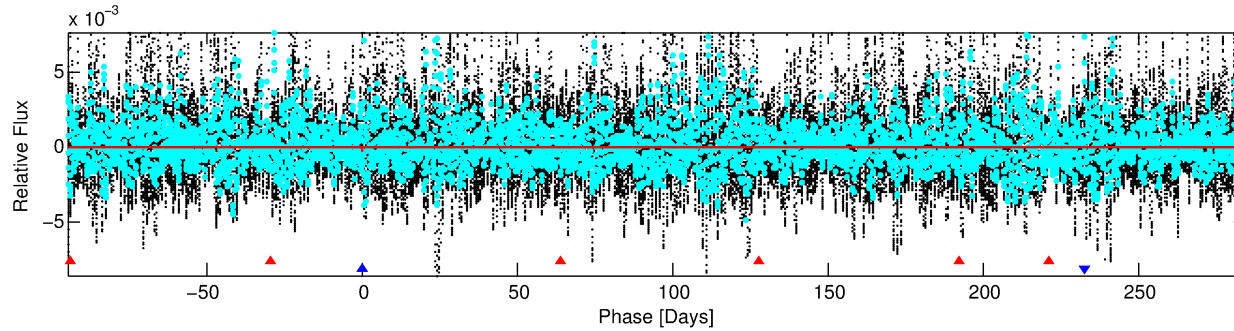
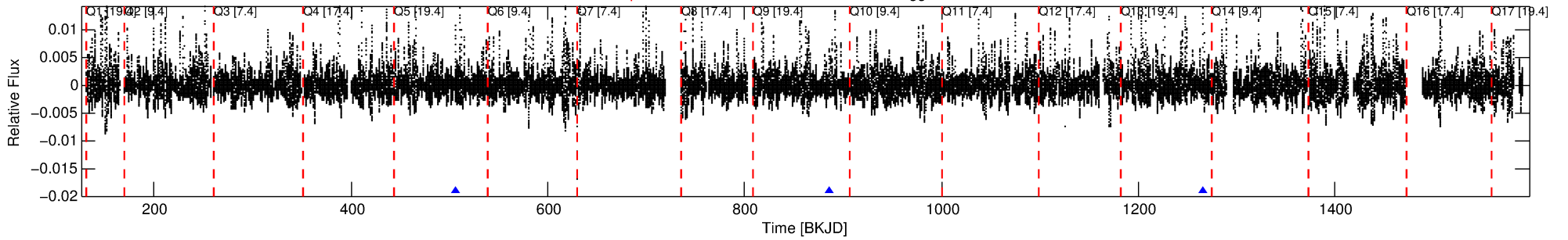
Ephemeris Match Information For 007770282-02

No Significant Match Found

DV One-Page Summary

KIC: 7770282 Candidate: 2 of 2 Period: 379.683 d

Kp: 9.73 R*: 4.51 Rs Teff: 7675.0 K Logg: 3.50 Fe/H: 0.070



DV Fit Results:

Period = 379.68320 [0.01319] d
Epoch = 506.7737 [0.0100] BKJD
Rp/R* = 0.0132 [0.0357]
a/R* = 351.76 [5437.44]
b = 0.30 [47.99]
Seff = 34.15 [33.22]
Teff = 616 [150] K
Rp = 6.51 [17.98] Re
a = 1.3605 [0.7985] AU
Ag = N/A
Teffp = N/A

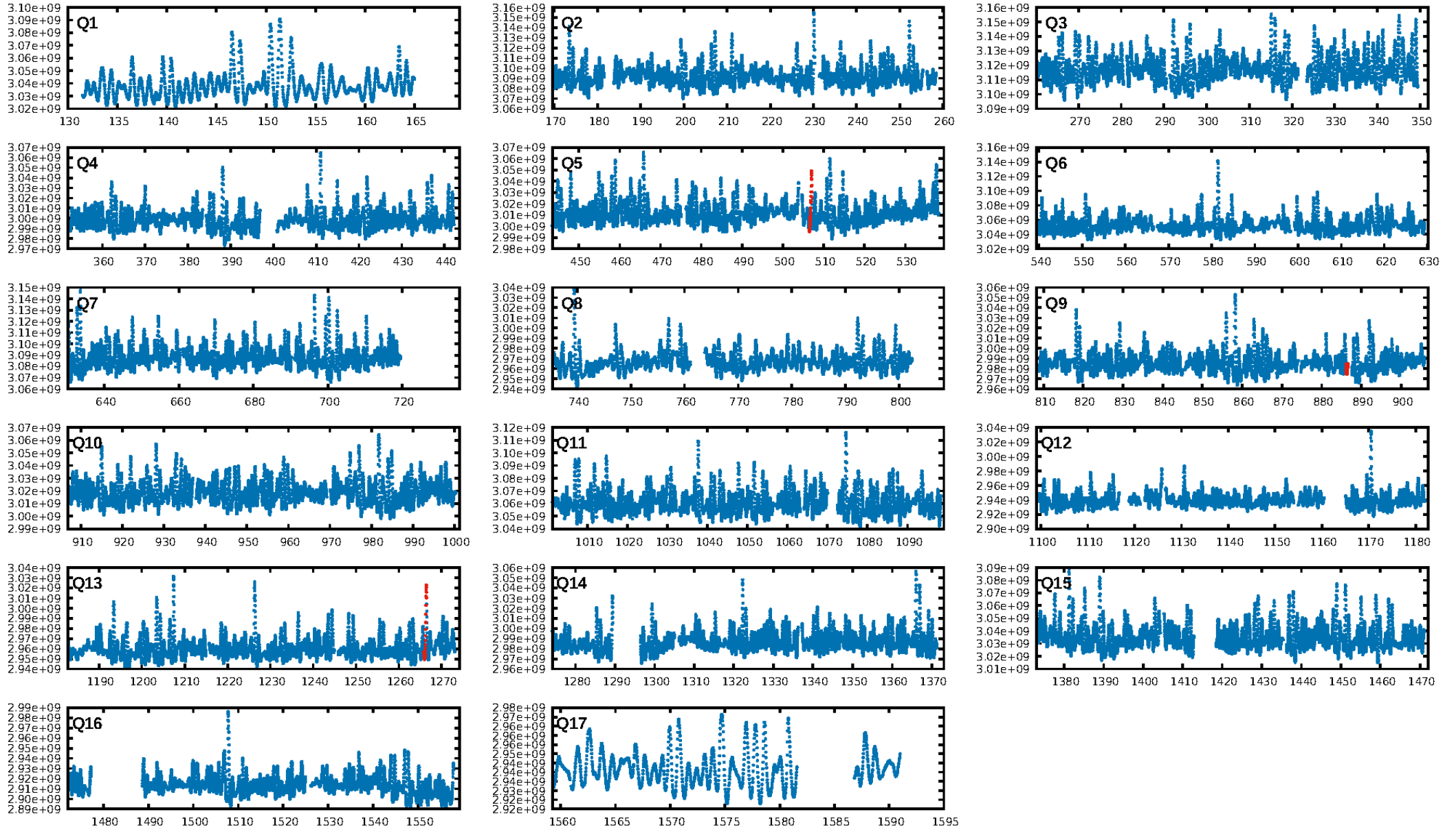
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [443.16σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 63.6%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 7.35e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 37.4%
Centroid-so: 1.267 arcsec [0.69σ]
OotOffset-rm: 4.857 arcsec [59.35σ]
KicOffset-rm: 4.560 arcsec [39.79σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

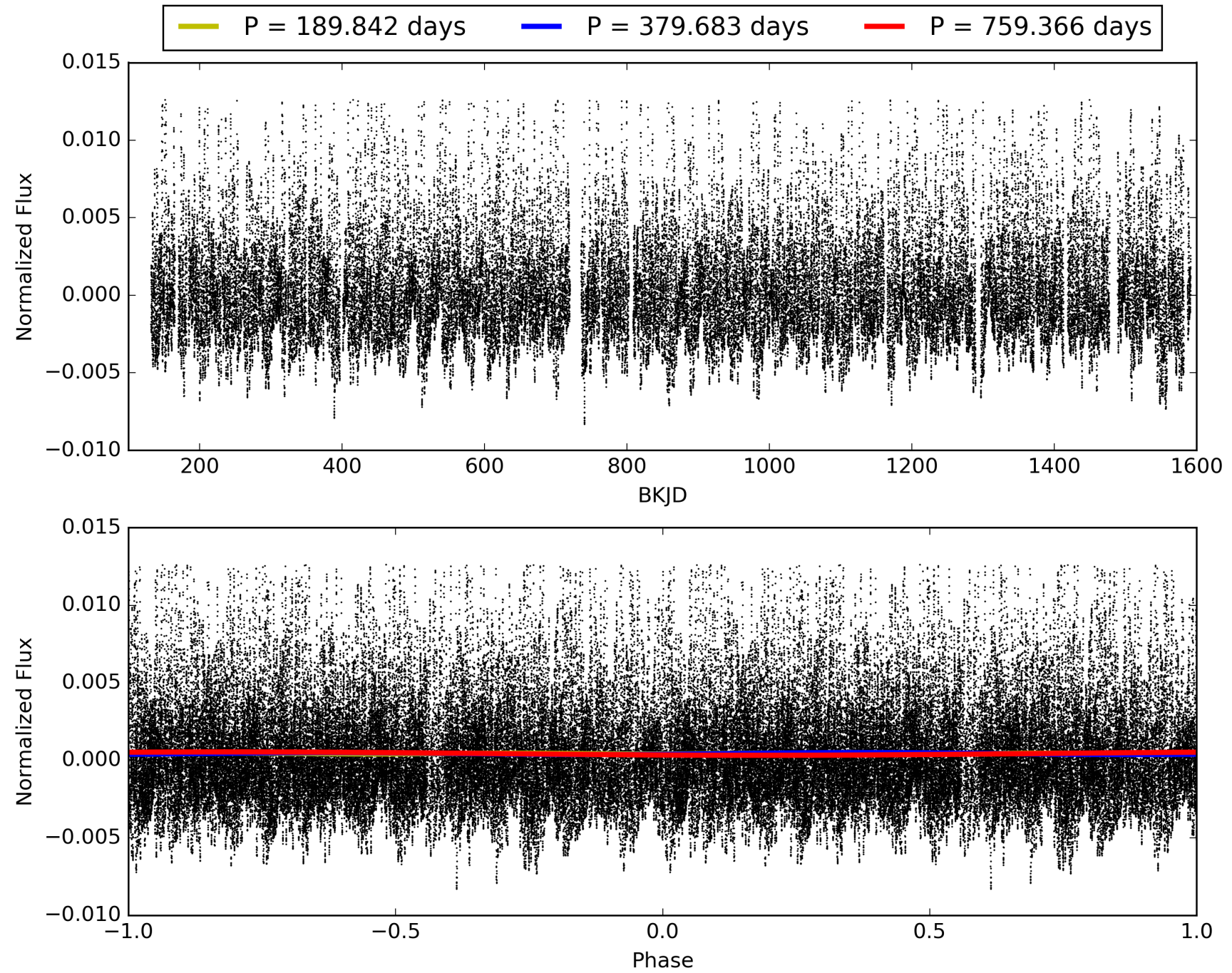
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:24:57 Z

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

TCE 007770282-02, PDC Light Curves

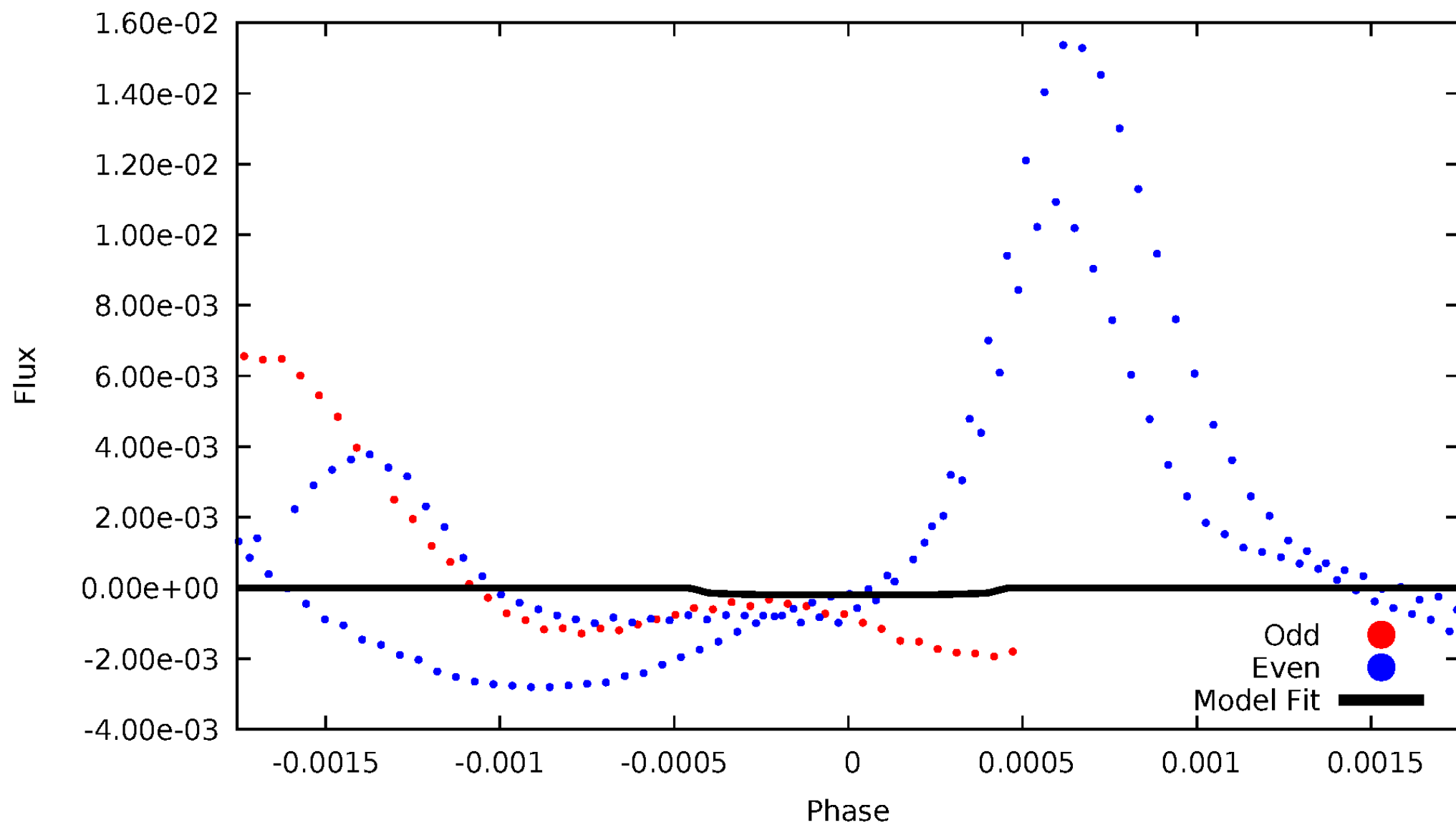


TCE 007770282-02



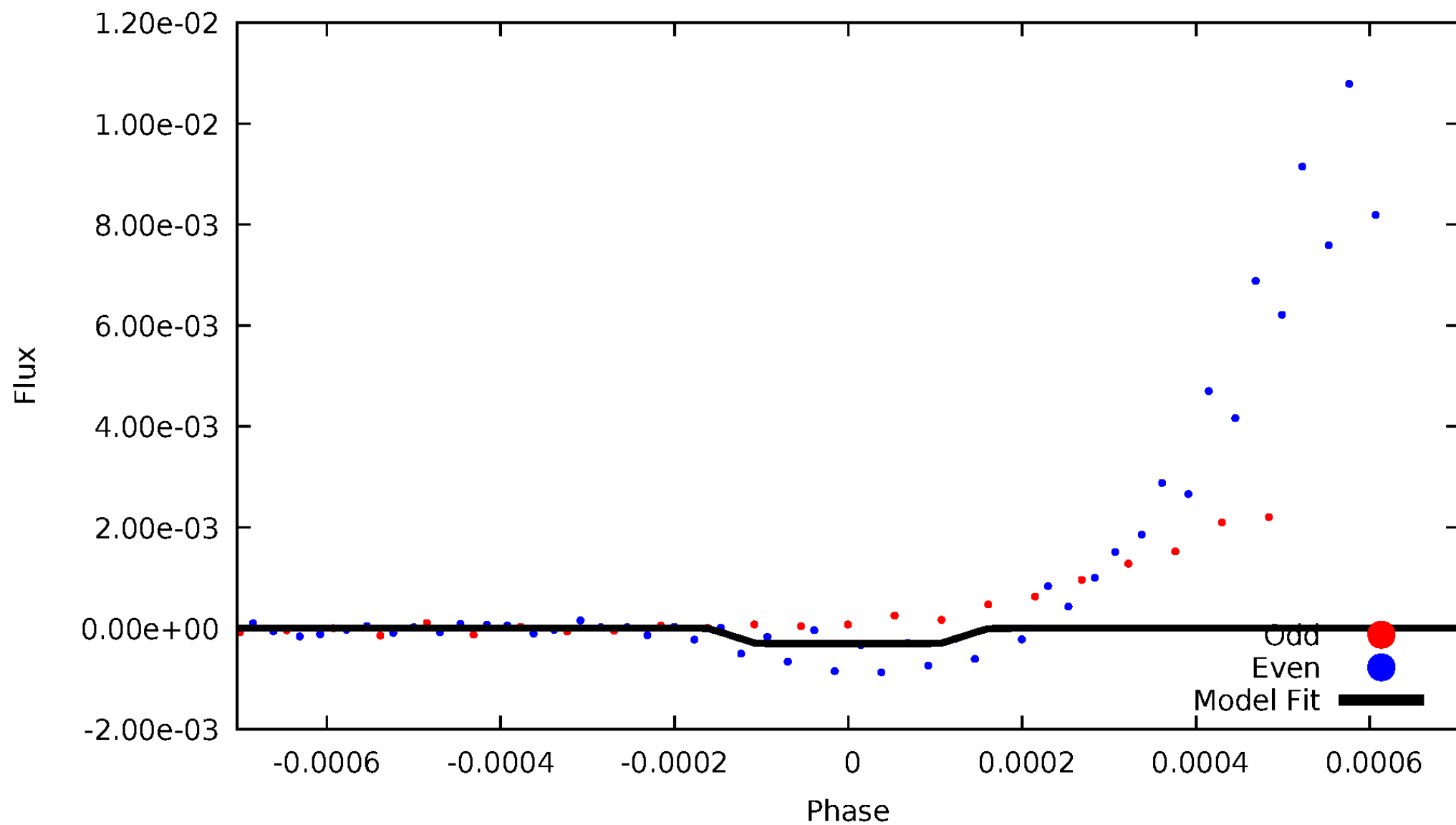
DV Odd/Even

TCE 007770282-02



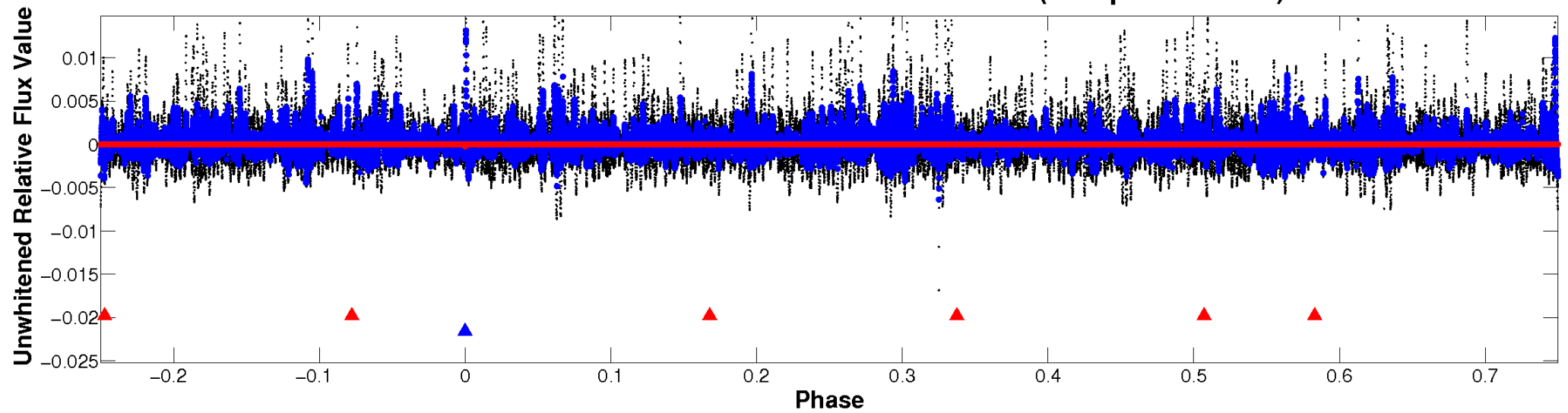
ALT Odd/Even

TCE 007770282-02

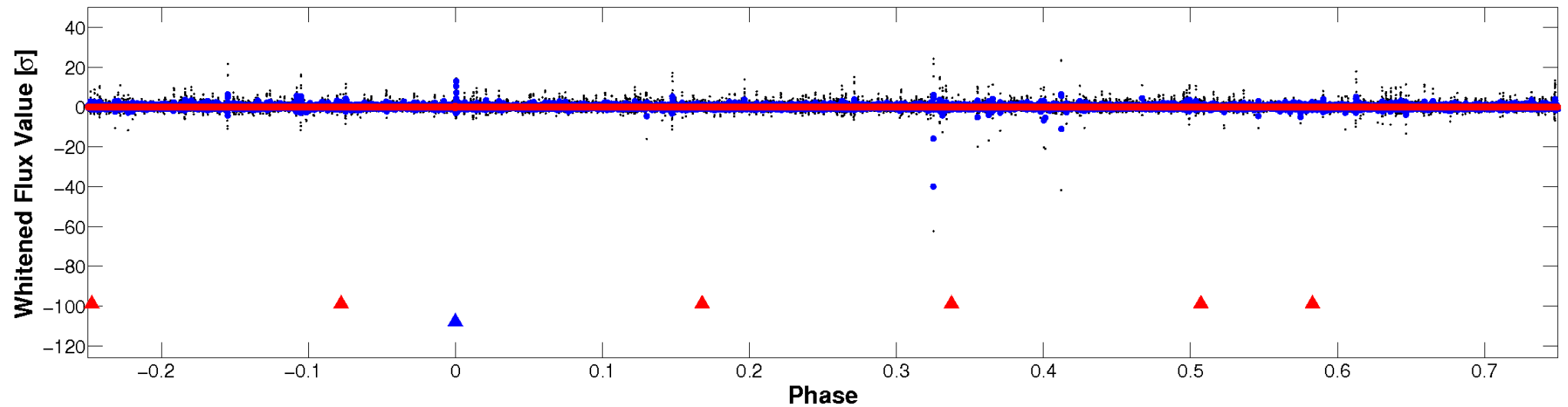


Non-Whitened Vs. Whitened Light Curve

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

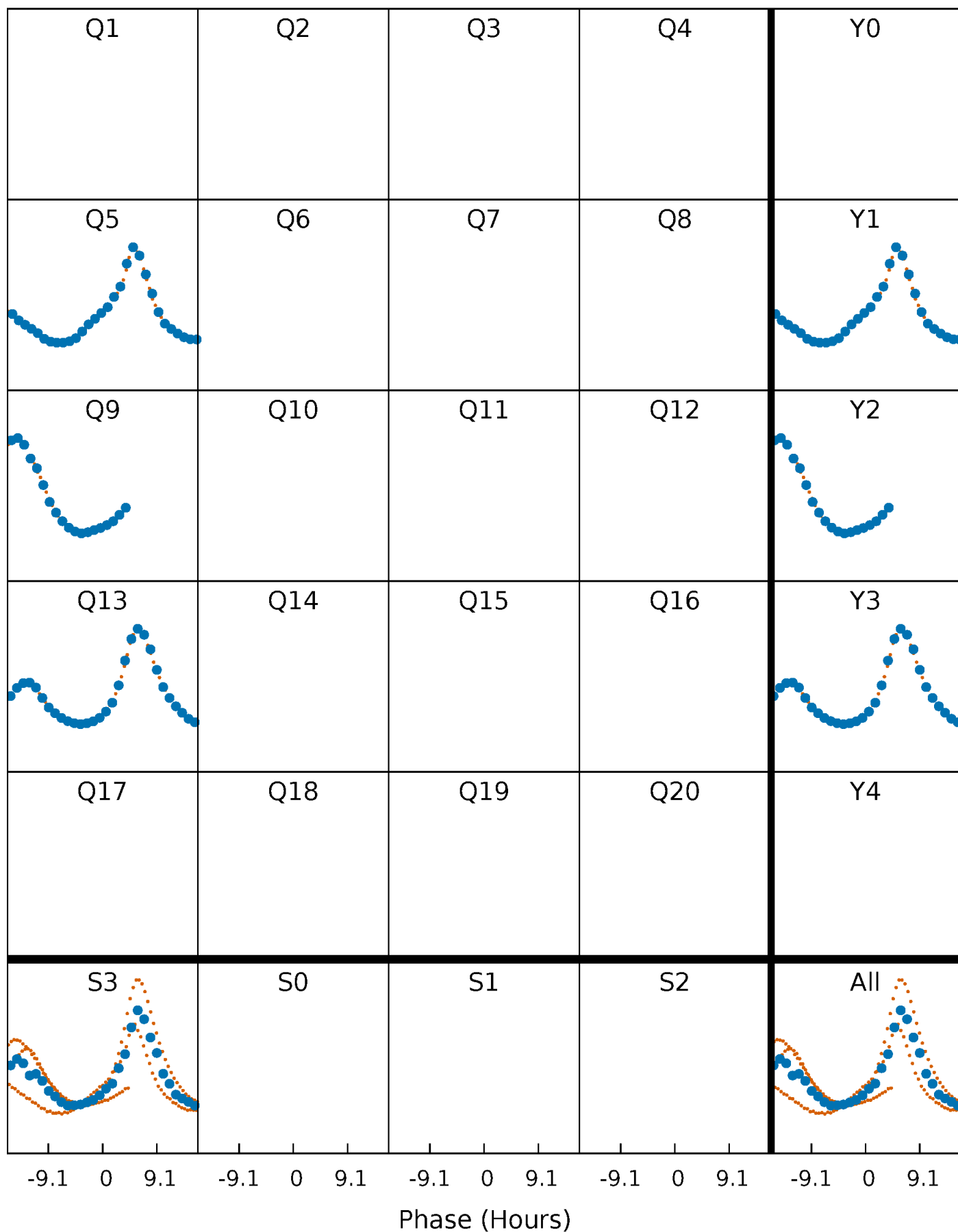


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



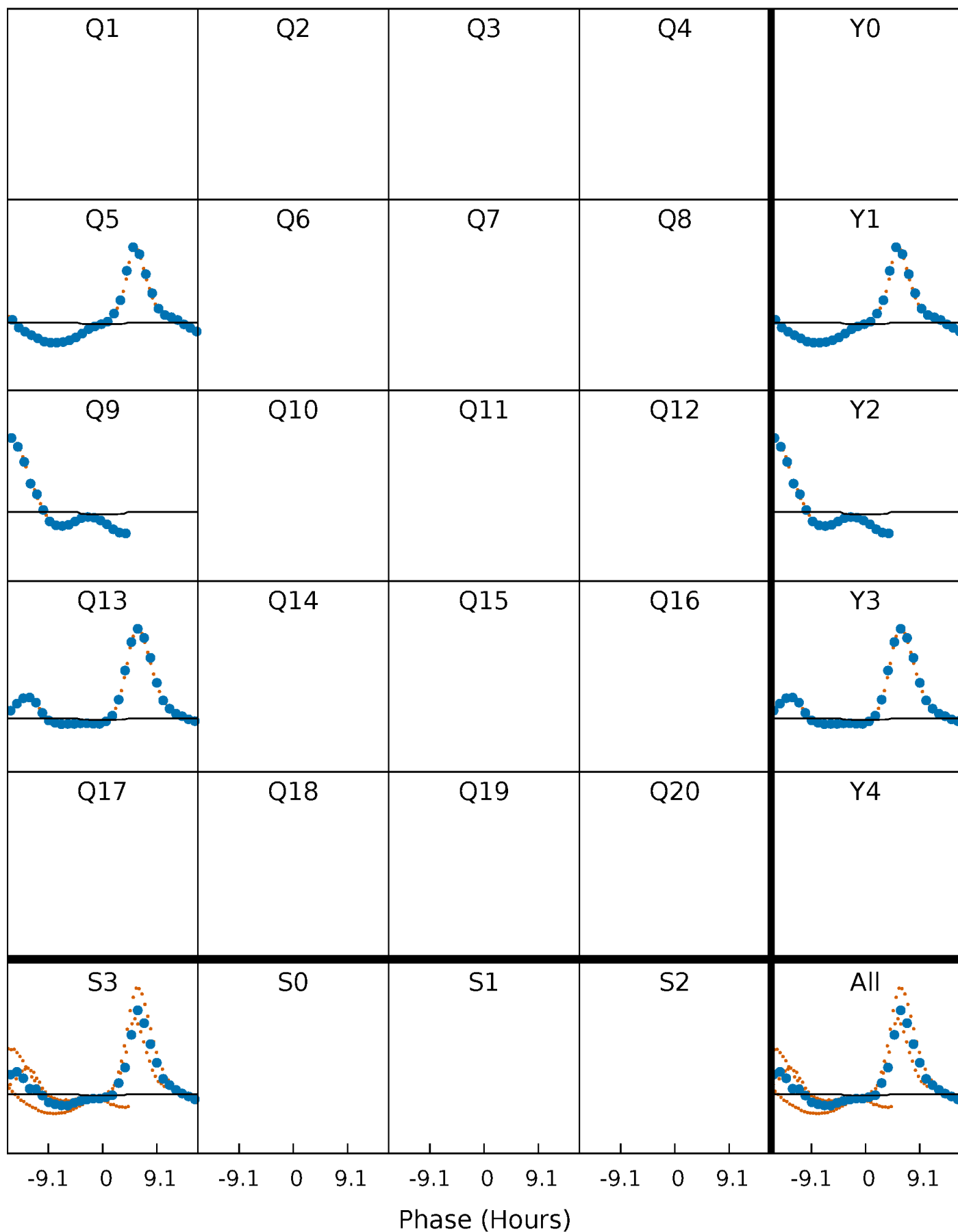
PDC Quarter-Phased Transit Curves

TCE 007770282-02 $P=379.683203$ Days $T_0=506.773725$ (BKJD)



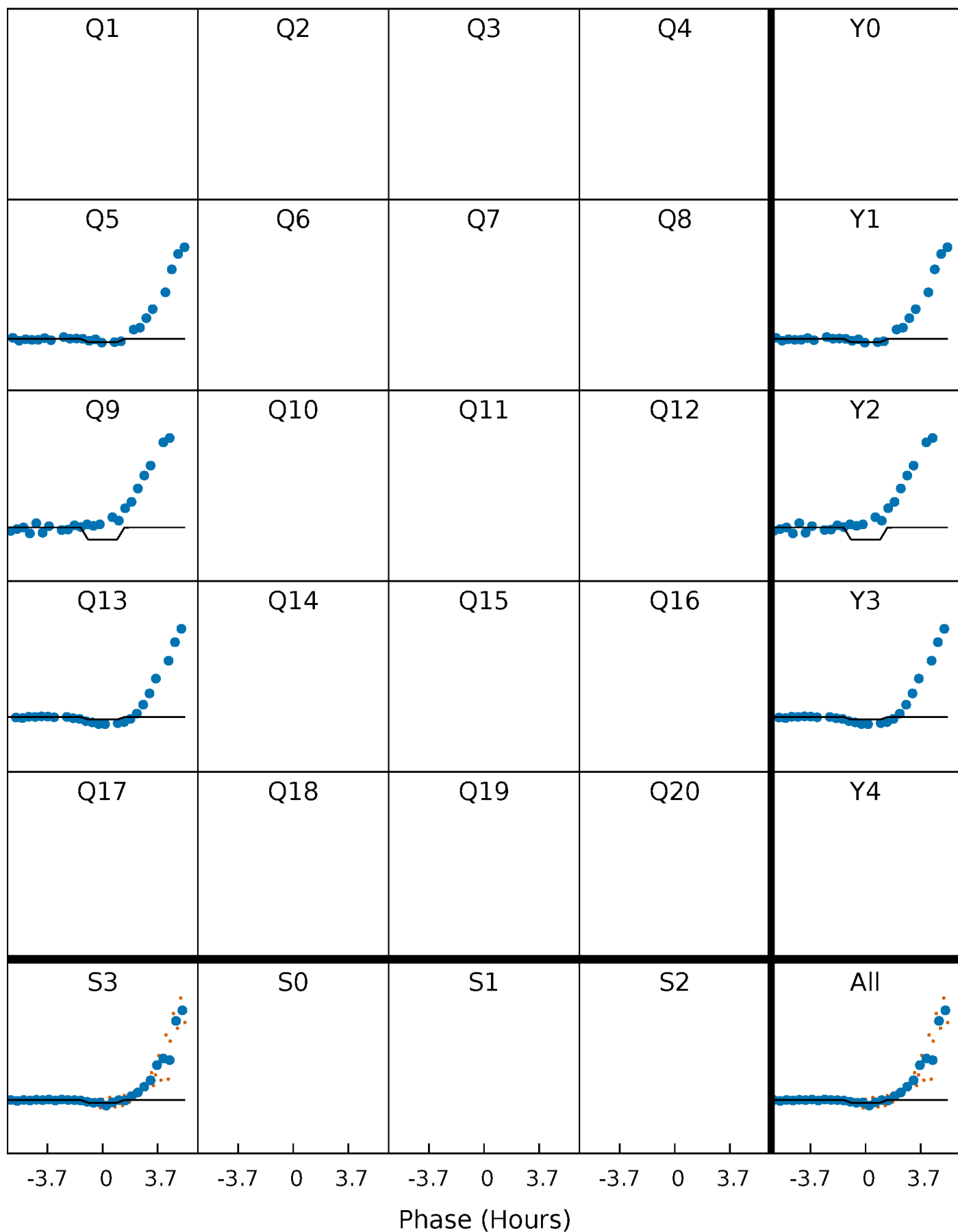
DV Quarter-Phased Transit Curves

TCE 007770282-02 $P=379.683203$ Days $T_0=506.773725$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

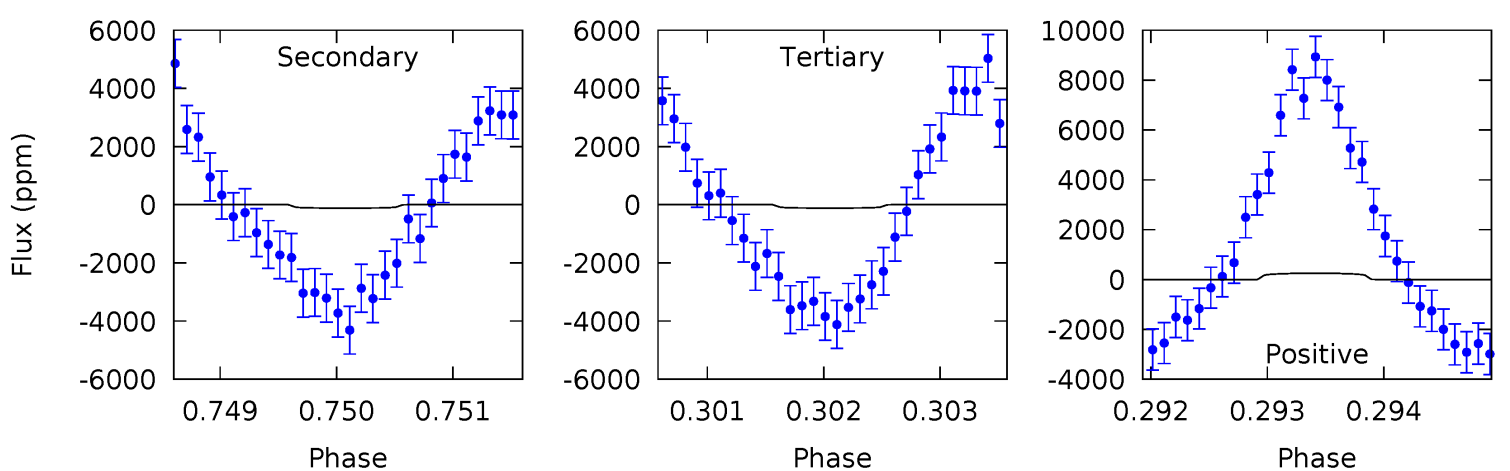
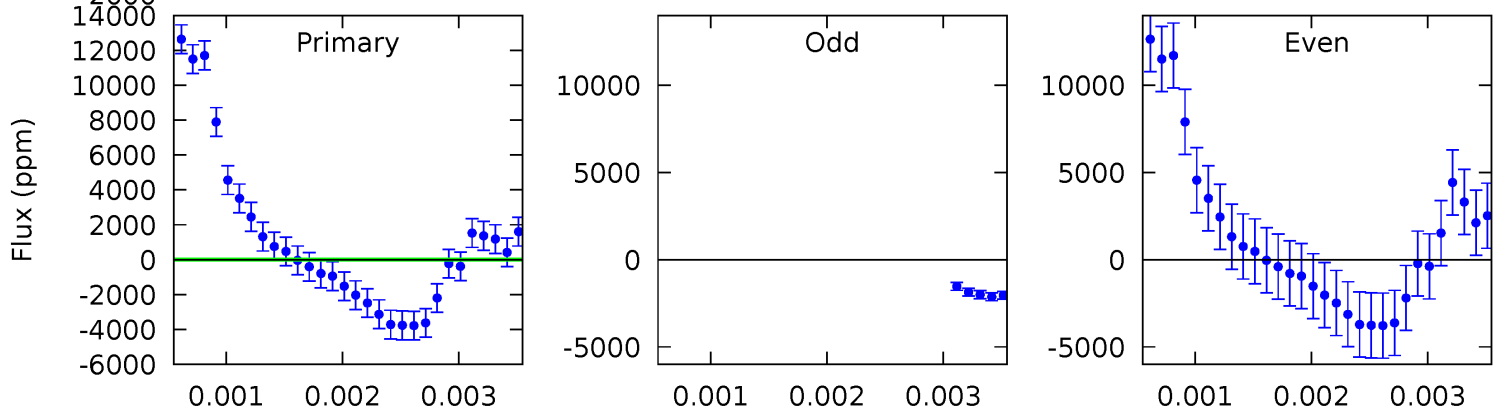
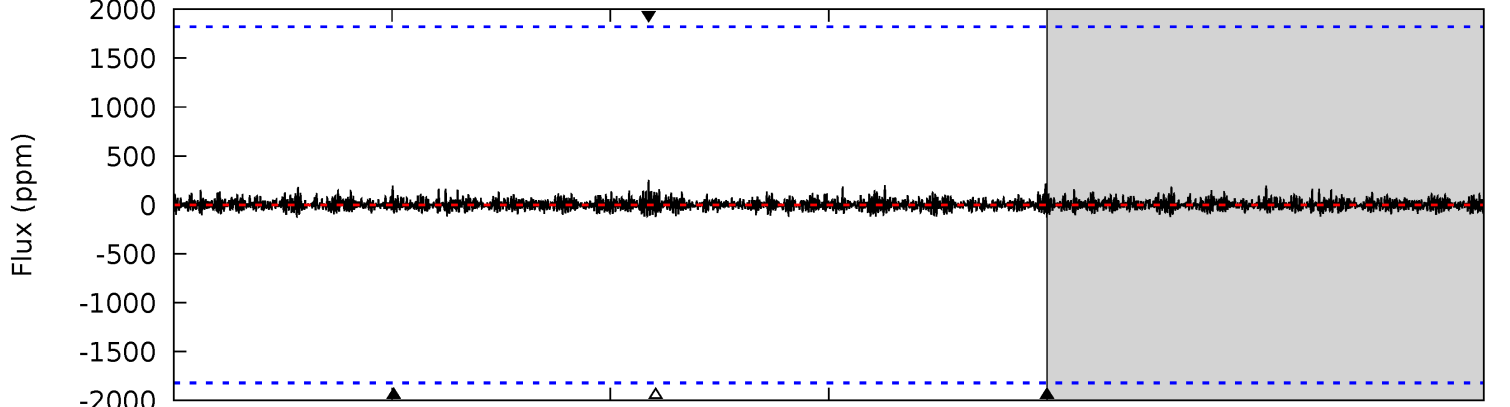
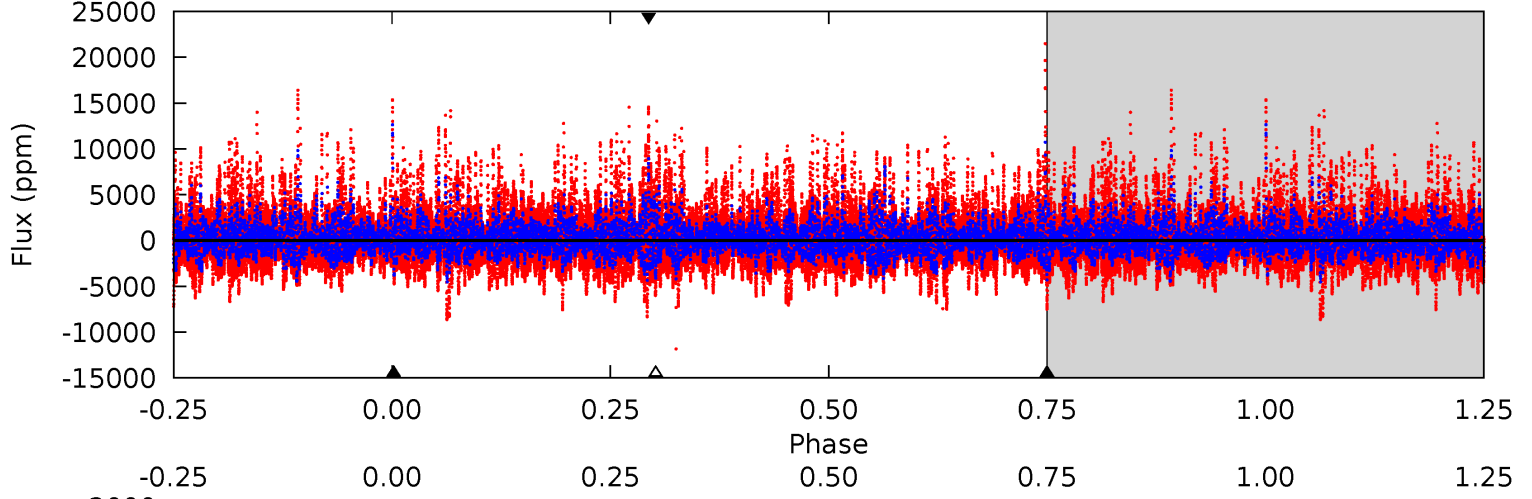
TCE 007770282-02 P=379.682790 Days $T_0=506.769667$ (BKJD)



DV Model-Shift Uniqueness Test

007770282-02, $P = 379.683203$ Days, $E = 127.090522$ Days

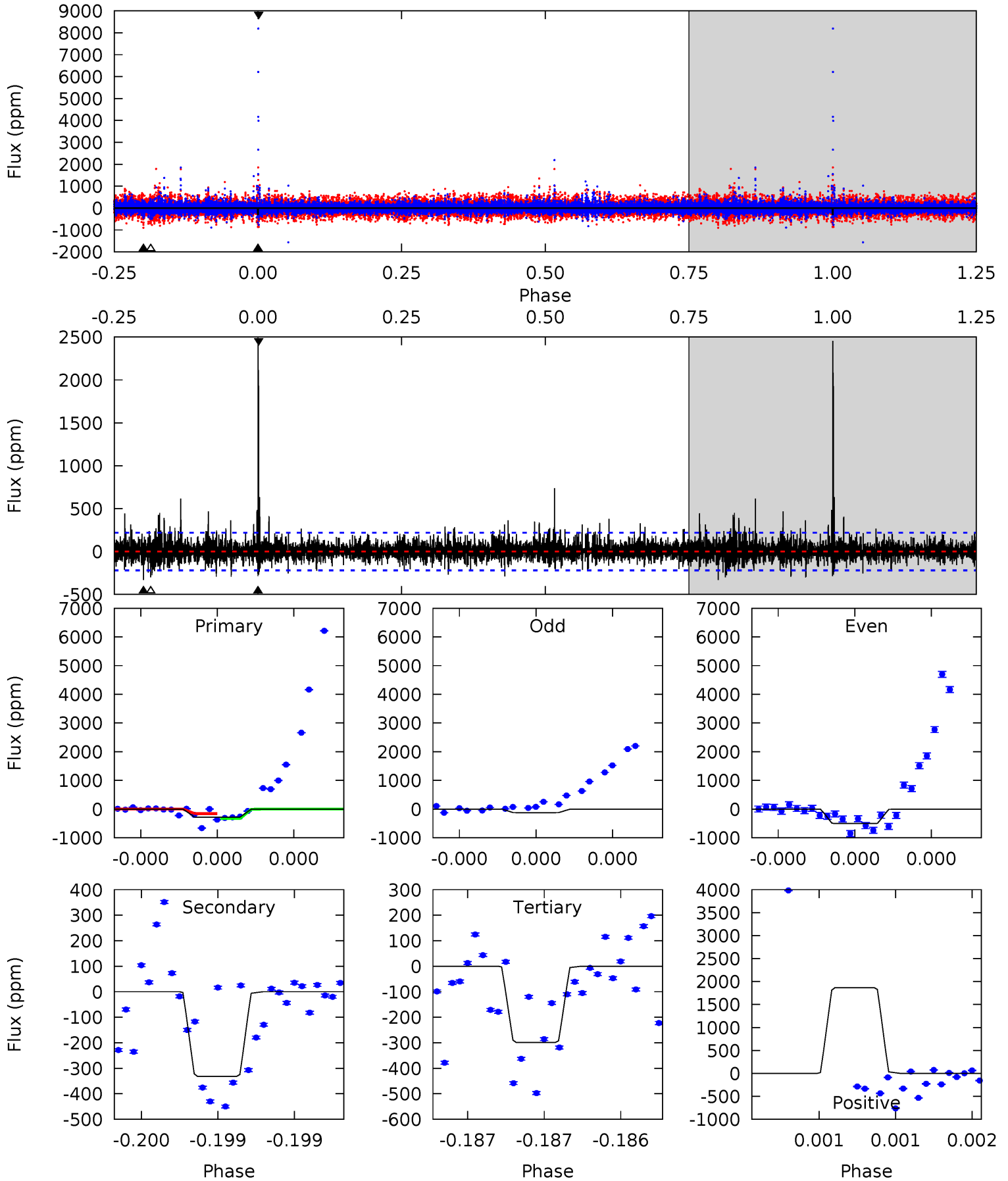
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.18	0.36	0.36	0.76	5.46	3.31	0.14	-0.18	-0.58	0.00	-0.40	0.82	-0.12	0.68	0.14



Alt Model-Shift Uniqueness Test

007770282-02, $P = 379.682790$ Days, $E = 127.086877$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.34	8.53	7.68	48.1	5.63	3.57	1.98	-0.34	-40.7	0.85	-39.5	3.59	1.38	0.88	2.07



Stellar Parameters For KIC 007770282

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7675^{+212}_{-318}	$3.497^{+0.570}_{-0.030}$	$0.070^{+0.150}_{-0.350}$	$4.509^{+0.294}_{-2.646}$	$2.328^{+0.243}_{-0.729}$	$0.036^{+0.299}_{-0.004}$
	+3%/-4%	+16%/-1%	+214%/-500%	+7%/-59%	+10%/-31%	+836%/-11%
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 007770282-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-120 ± 333	$12.71^{+13.91}_{-8.73}$	823^{+50}_{-118}	4326^{+3565}_{-9206}	483^{+6167}_{-1498}
Alt.	-332 ± 39	$13.21^{+13.54}_{-9.30}$	816^{+59}_{-114}	5657^{+6256}_{-1337}	1918^{+19986}_{-1447}

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 $A_{obs} \gg 1.0$

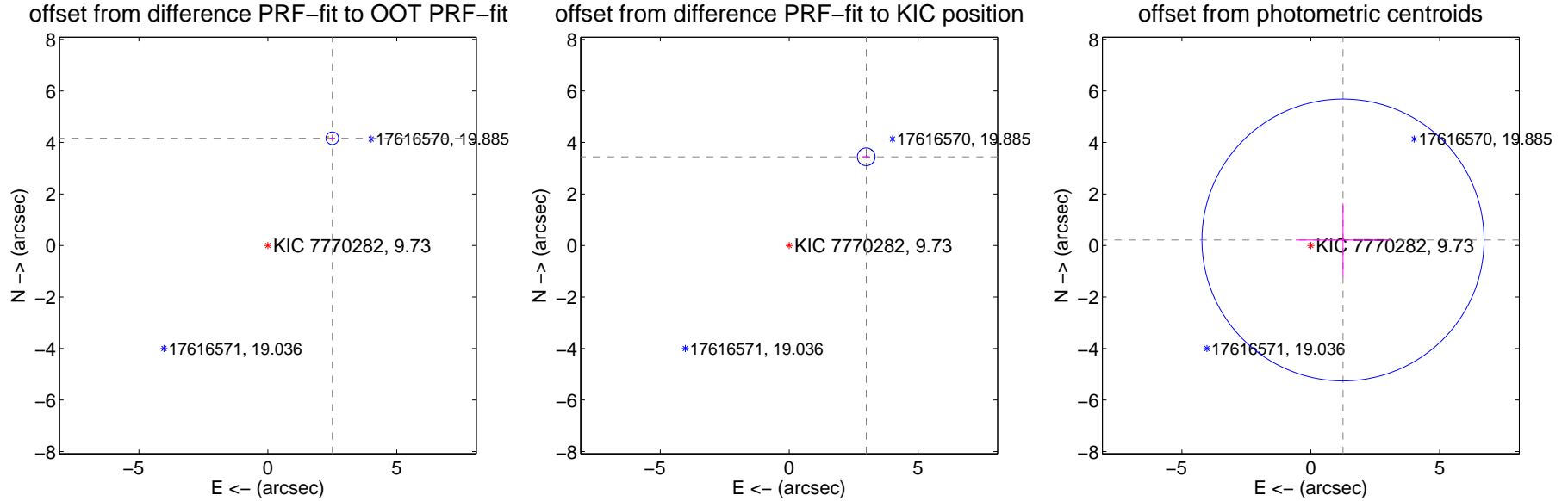
DV Centroid Data

Supplemental centroid analysis for 007770282-02. **Kepler magnitude: 9.73.** Transit SNR 1.57

There are 0 quarters with good PRF difference image offsets

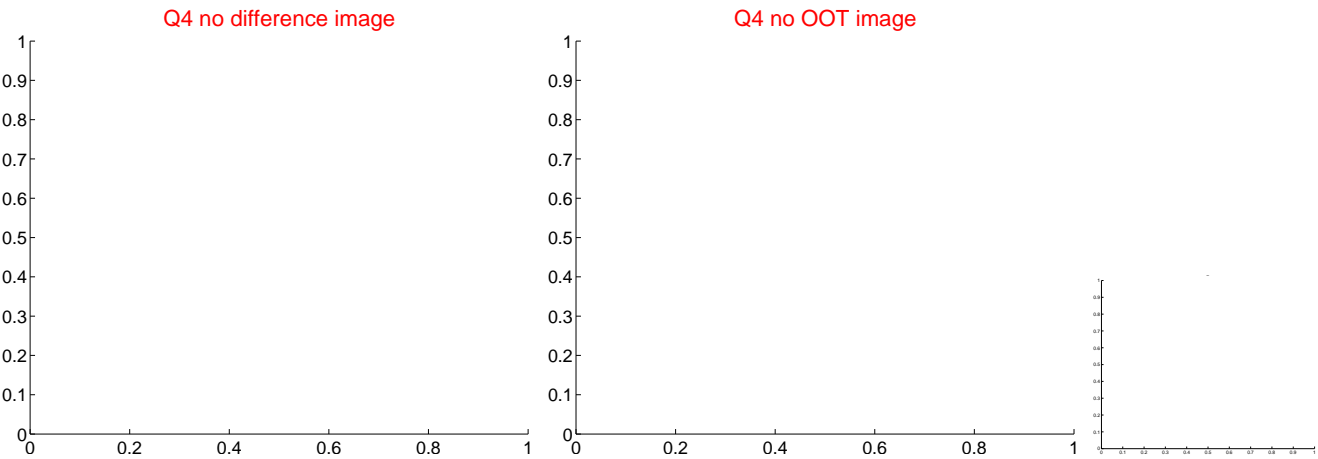
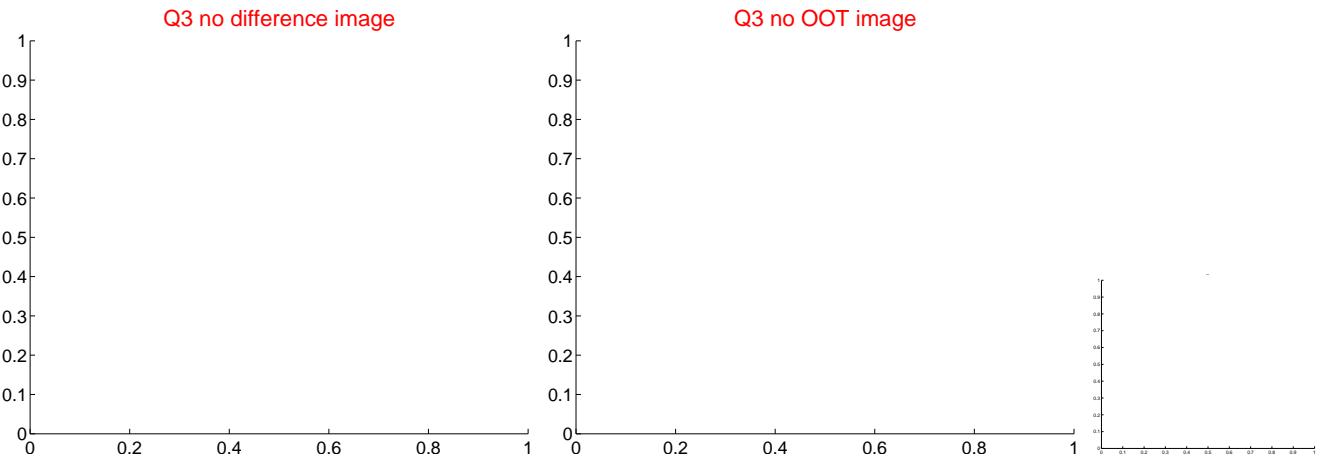
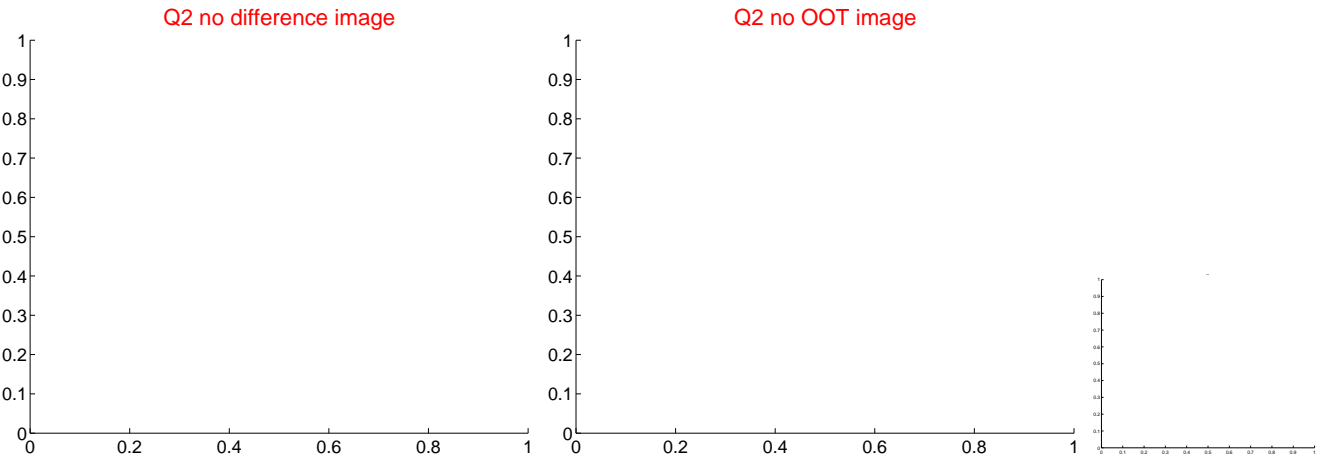
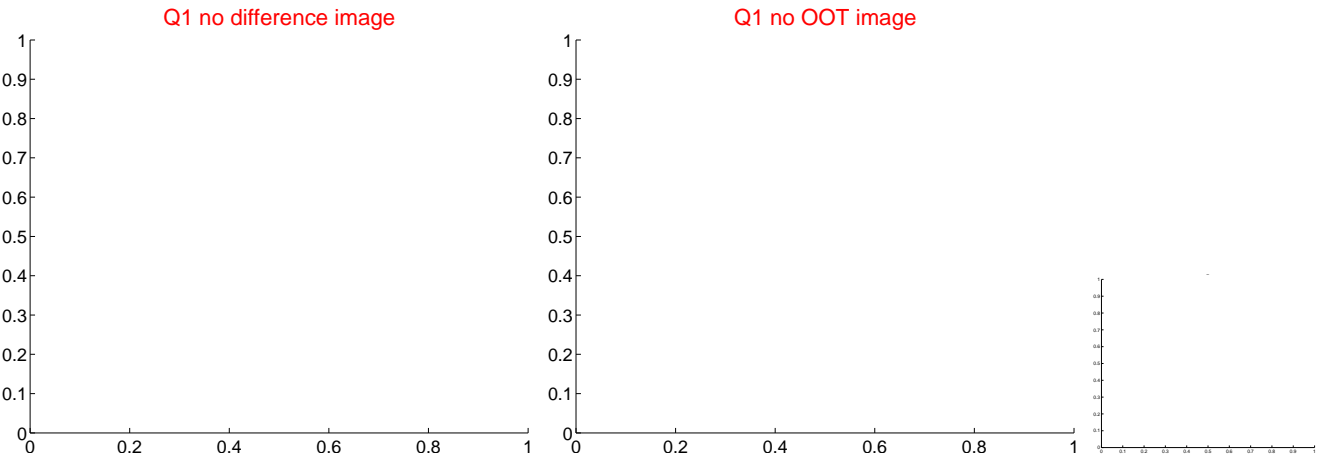
The direct PRF centroid is offset from the target star catalog position by about 0.87 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.857 ± 0.082	59.35	-2.502 ± 0.105	4.163 ± 0.072
PRF-fit source offset from KIC position	4.560 ± 0.115	39.79	-2.989 ± 0.155	3.443 ± 0.070
photometric centroid source offset	1.27 ± 1.82	0.69	-1.25 ± 1.83	0.21 ± 1.42

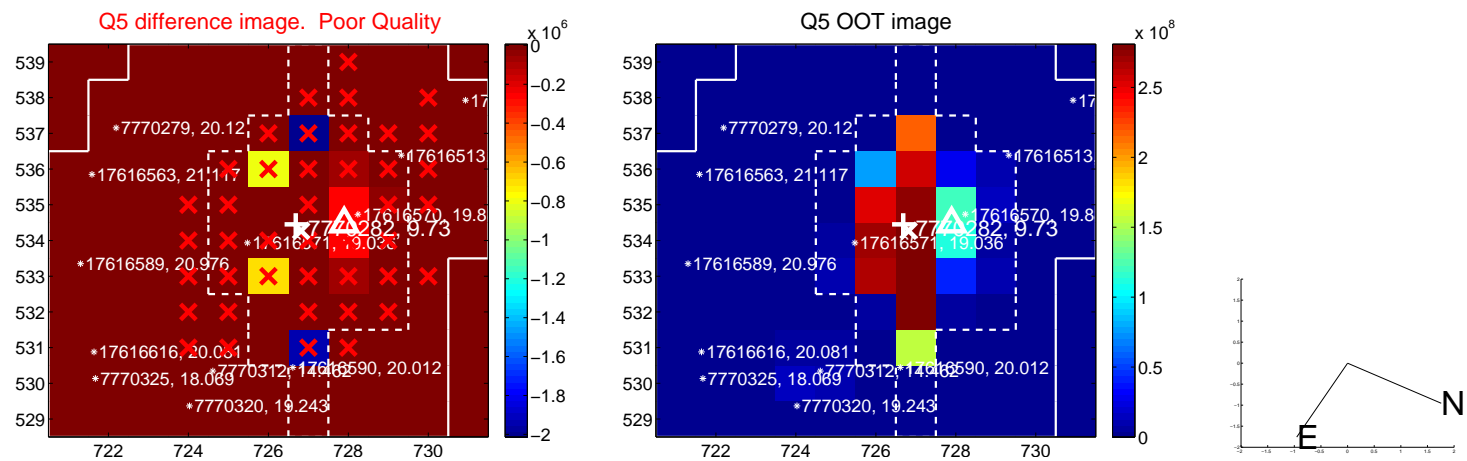


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

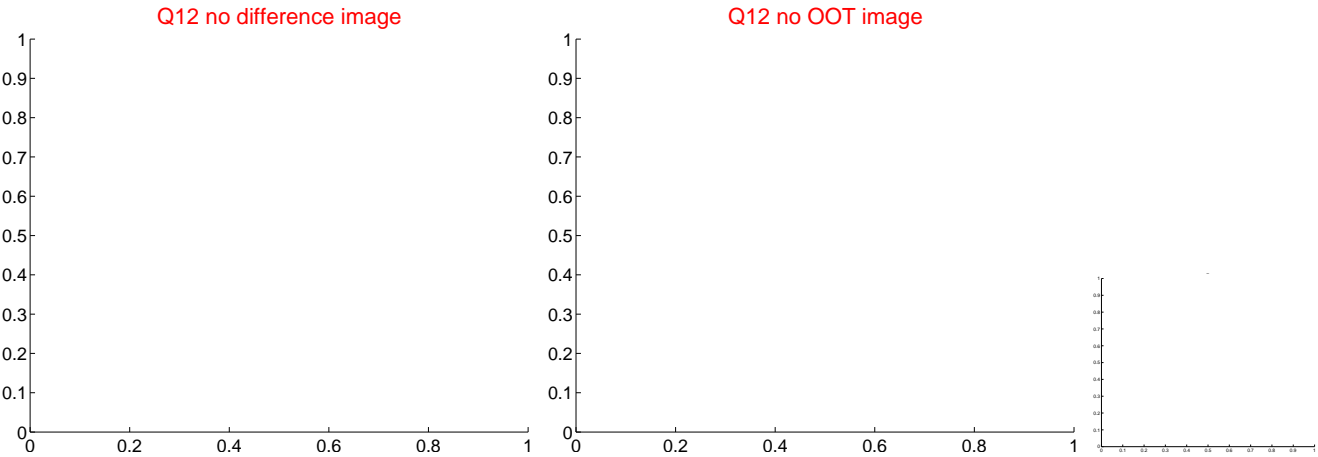
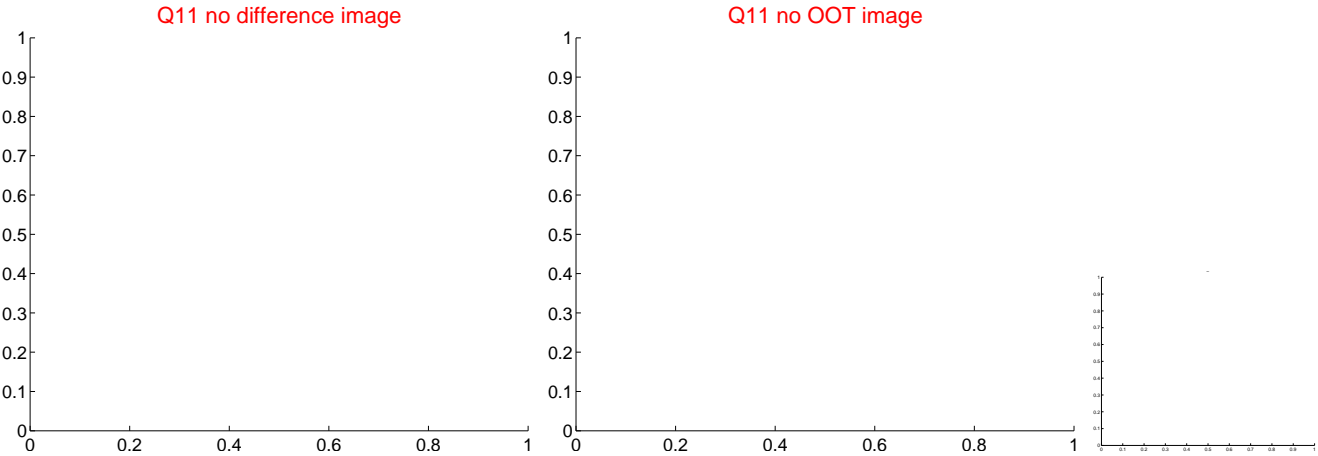
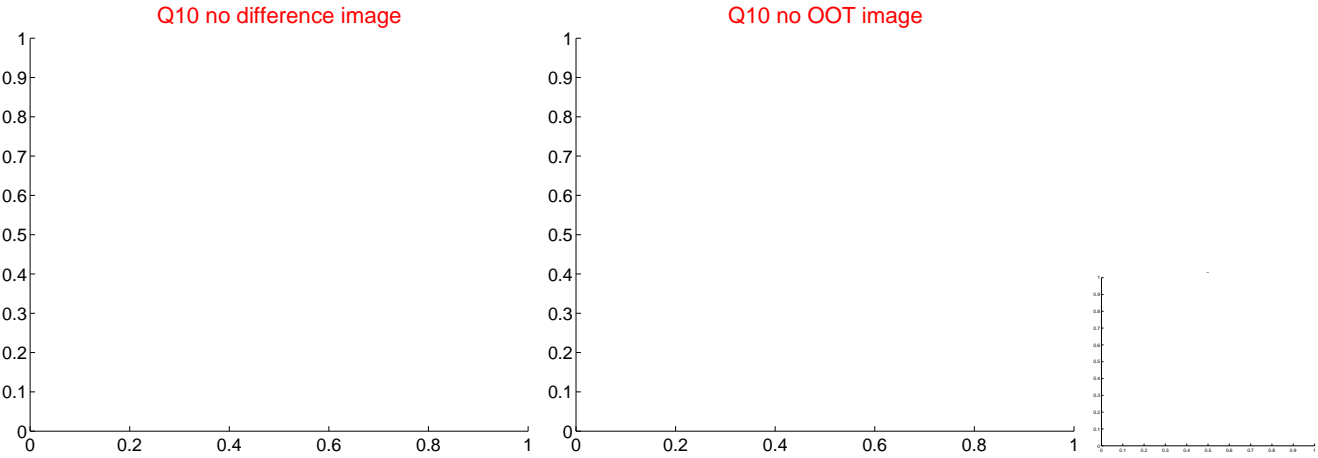
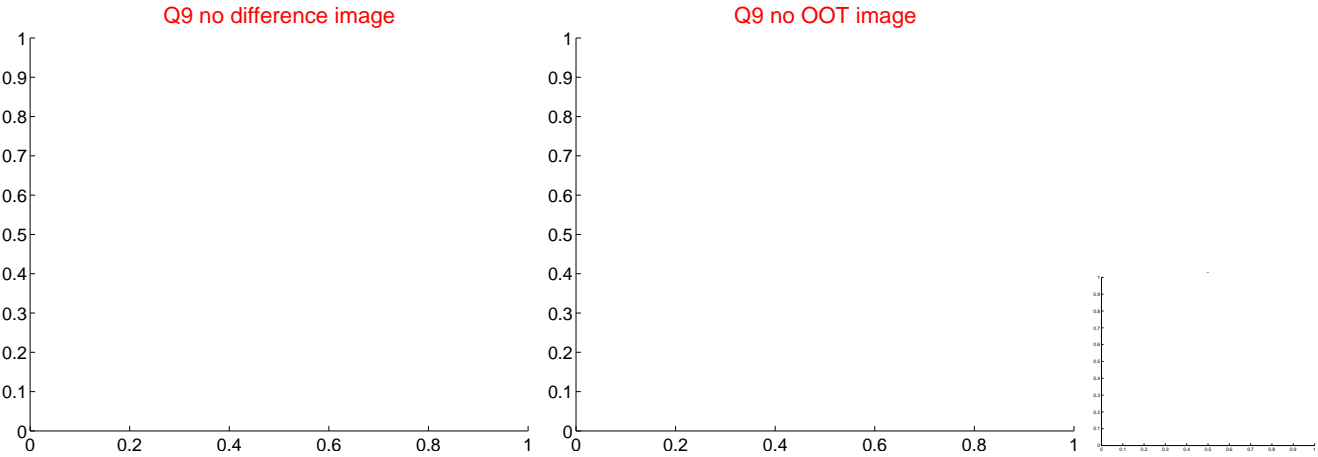
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



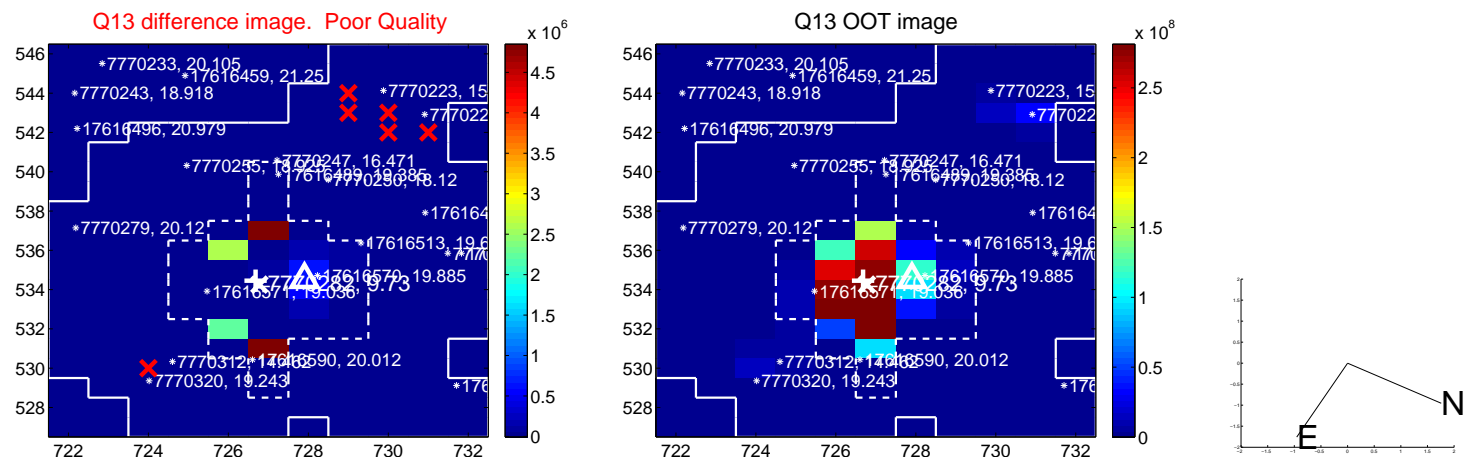
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



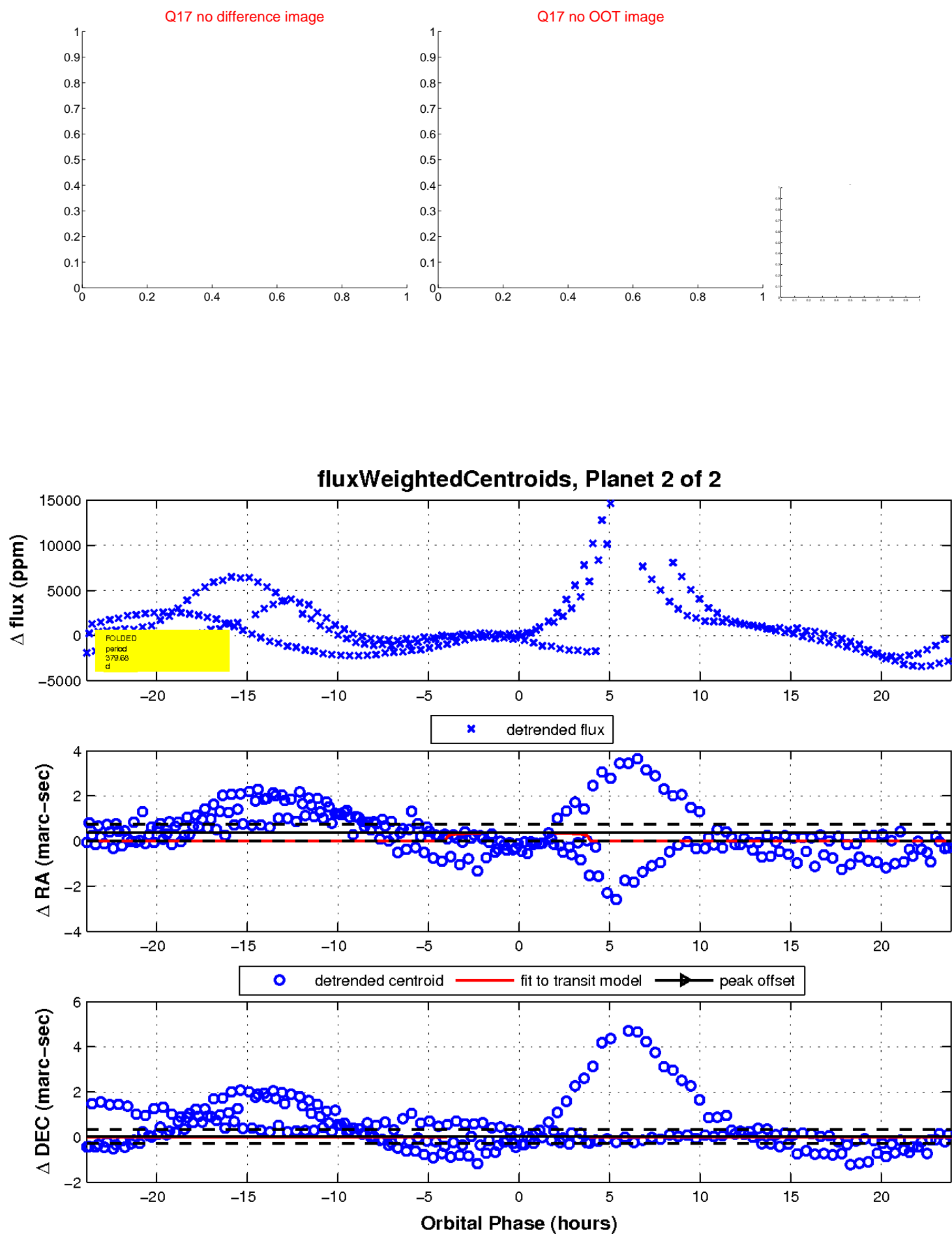
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

