

# KIC 007767559

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007767559-01	OBS	0895.01	4.409409	132.209674	12985.9	3.854	735.7	694.7	0.97	5600	10.99	348.18
007767559-02	OBS	No	2.204757	132.186925	124.0	3.170	7.5	7.0	0.97	5600	1.15	877.34
007767559-03	OBS	No	165.437658	226.804531	466.9	1.241	7.2	2.2	0.97	5600	2.10	2.77
007767559-04	OBS	No	165.432971	226.497062	149.8	0.966	8.5	0.6	0.97	5600	1.27	2.77
007767559-05	OBS	No	361.608186	465.313357	1421.4	3.000	9.4	-1.0	0.97	5600	3.64	0.98

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007767559-01	OBS	FP	0.23	0	1	0	0	MOD_SEC_DV—HAS_SEC_TCE
007767559-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
007767559-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_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
007767559-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_FEW_DIFFS
007767559-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

**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](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

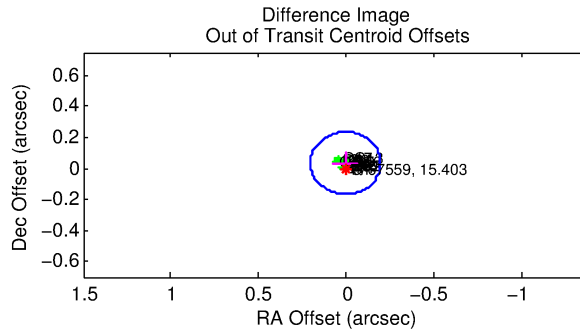
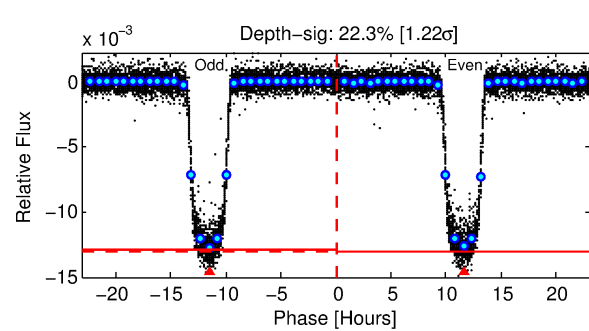
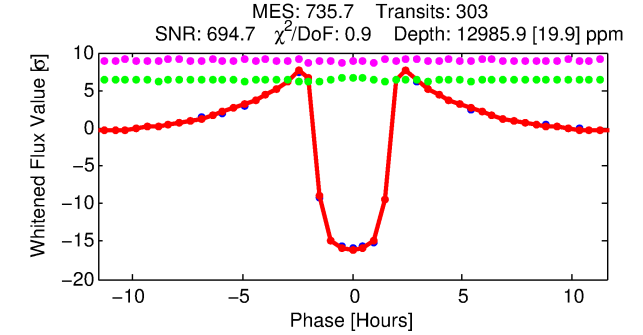
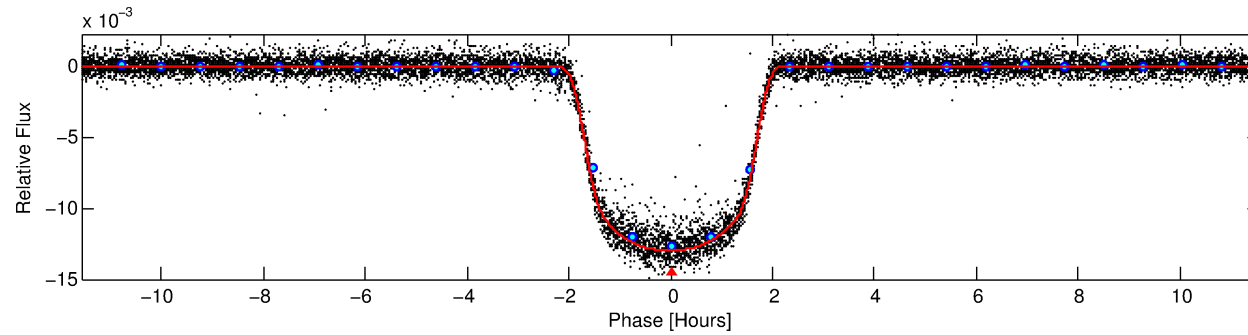
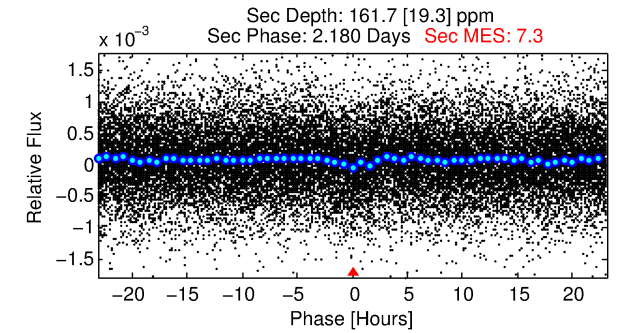
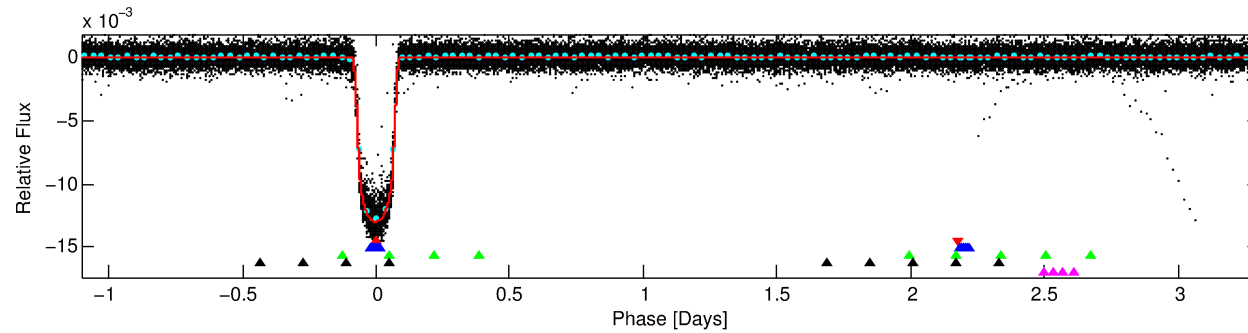
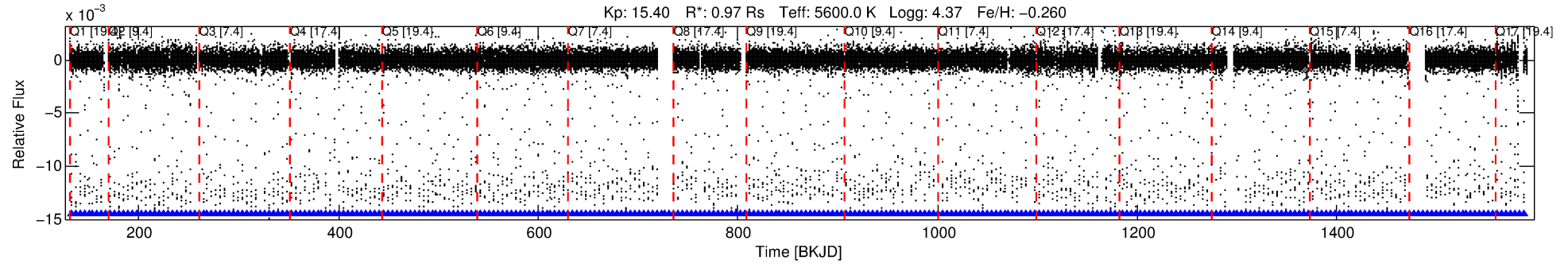
## Ephemeris Match Information For 007767559-01

No Significant Match Found

# DV One-Page Summary

KIC: 7767559 Candidate: 1 of 5 Period: 4.409 d

KOI: K00895.01 Corr: 0.997



## DV Fit Results:

Period = 4.40941 [0.00000] d  
Epoch = 132.2097 [0.0001] BKJD  
Rp/R\* = 0.1033 [0.0005]  
a/R\* = 9.67 [0.17]  
b = 0.00 [4.32]  
Seff = 348.18 [134.87]  
Teq = 1101 [107] K  
Rp = 10.99 [3.06] Re  
a = 0.0490 [0.0119] AU  
Ag = 1.77 [0.68] [1.14 $\sigma$ ]  
Teffp = 1965 [88] K [6.24 $\sigma$ ]

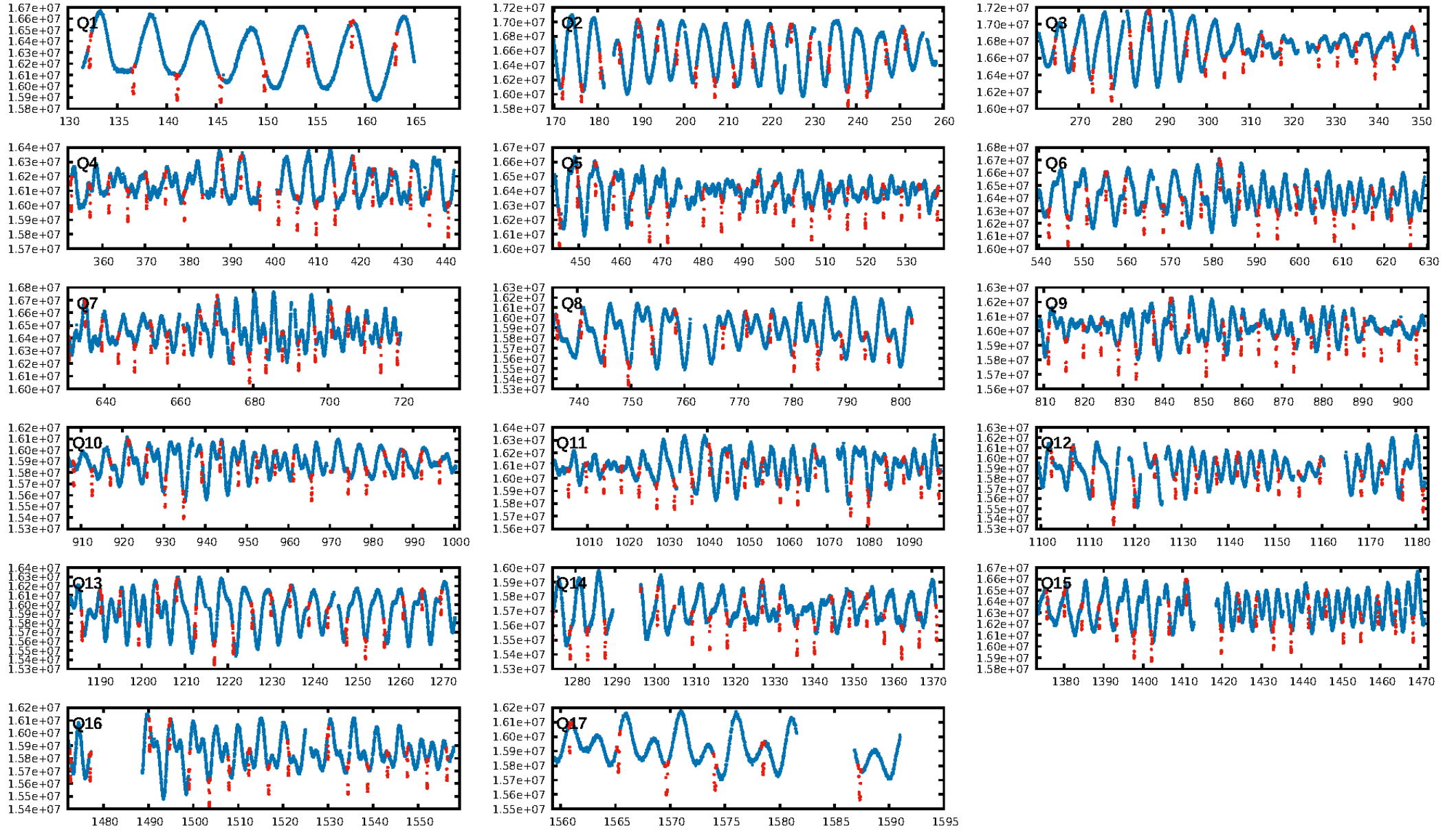
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [10.60 $\sigma$ ]  
LongPeriod-sig: 100.0% [972.73 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [289/289]  
GhostDiagnostic-chr: 2.3  
Centroid-sig: 0.0%  
Centroid-so: 0.188 arcsec [11.87 $\sigma$ ]  
OotOffset-rm: 0.035 arcsec [0.53 $\sigma$ ]  
KicOffset-rm: 0.161 arcsec [2.34 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 0.00 [0/17]

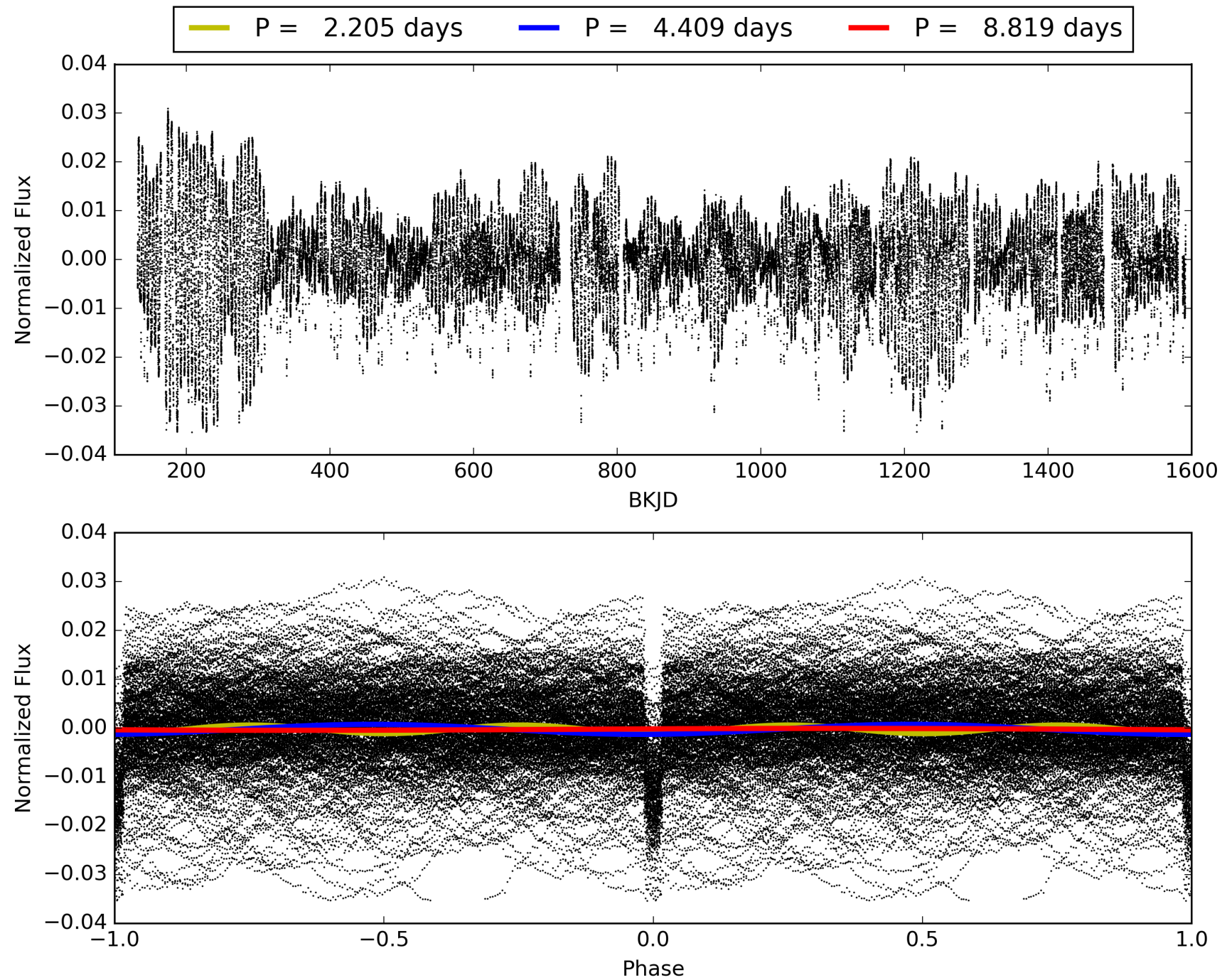
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:44:53 Z

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

# TCE 007767559-01, PDC Light Curves



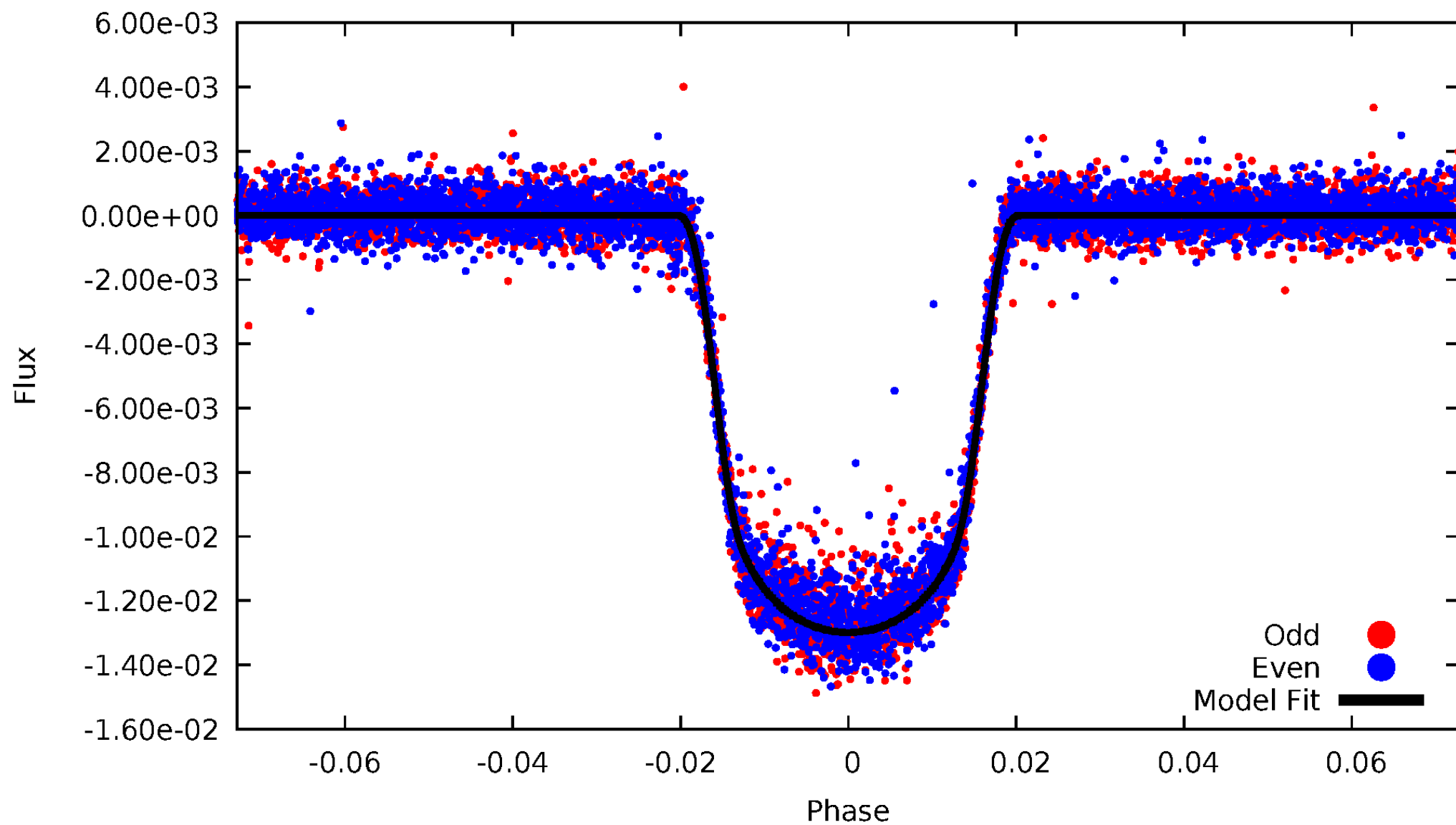
TCE 007767559-01





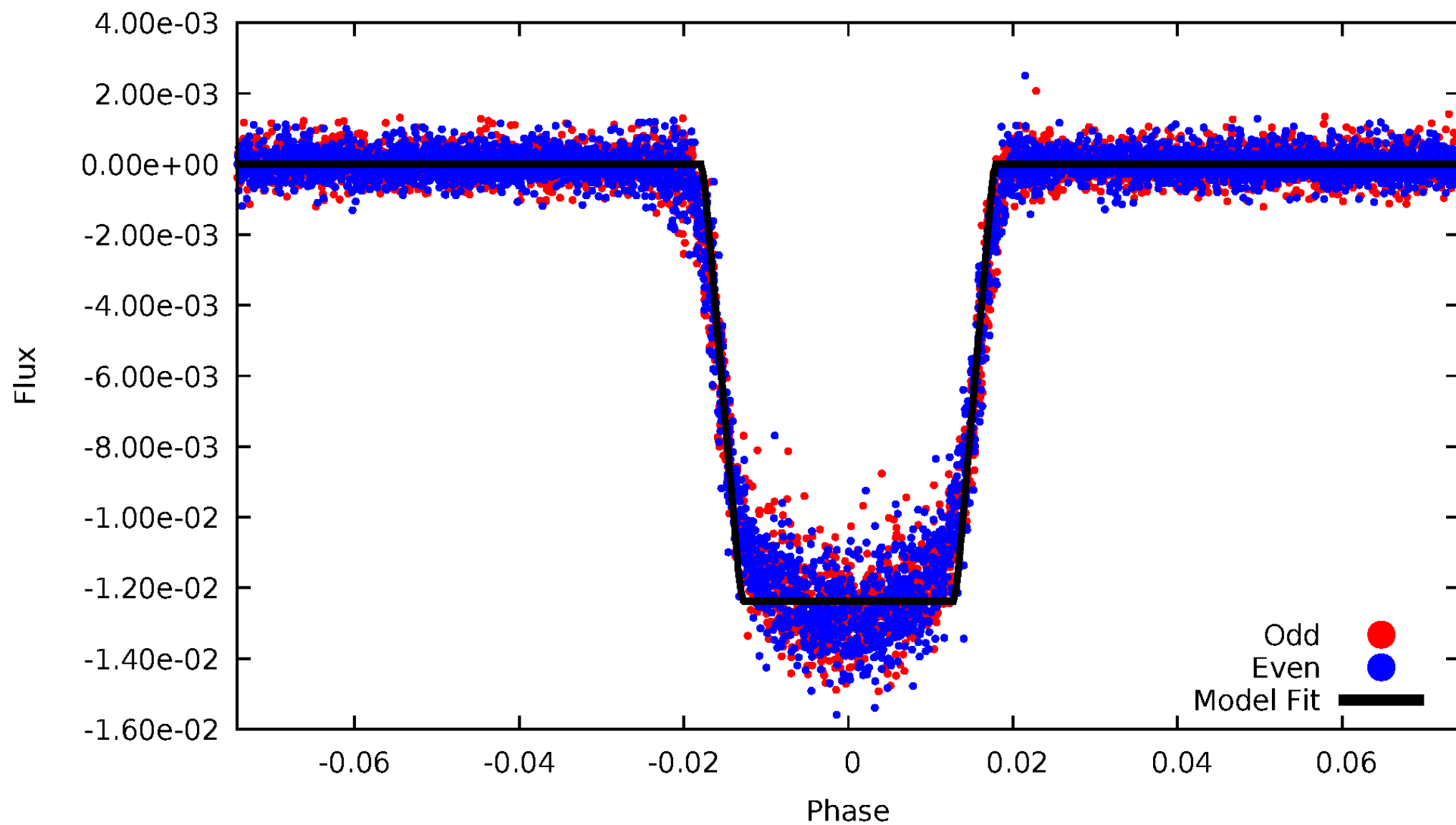
# DV Odd/Even

TCE 007767559-01



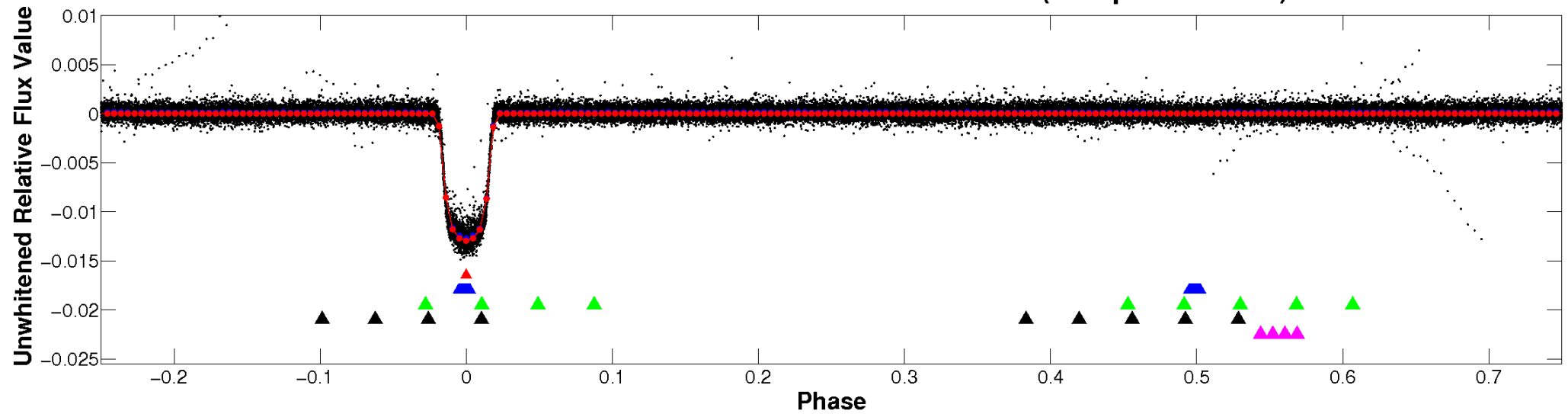
# ALT Odd/Even

TCE 007767559-01

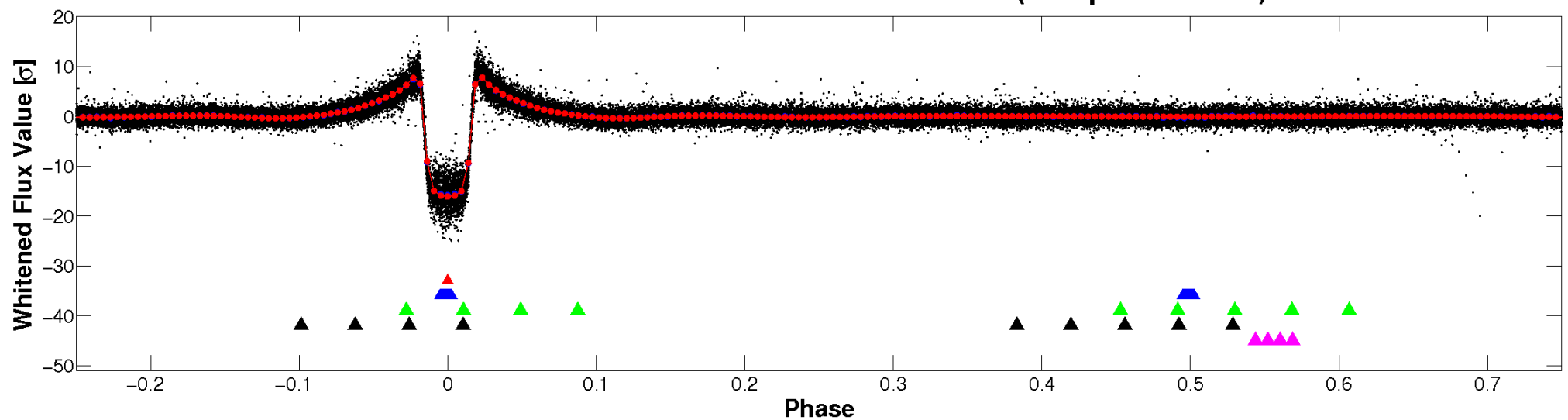


# Non-Whitened Vs. Whitened Light Curve

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

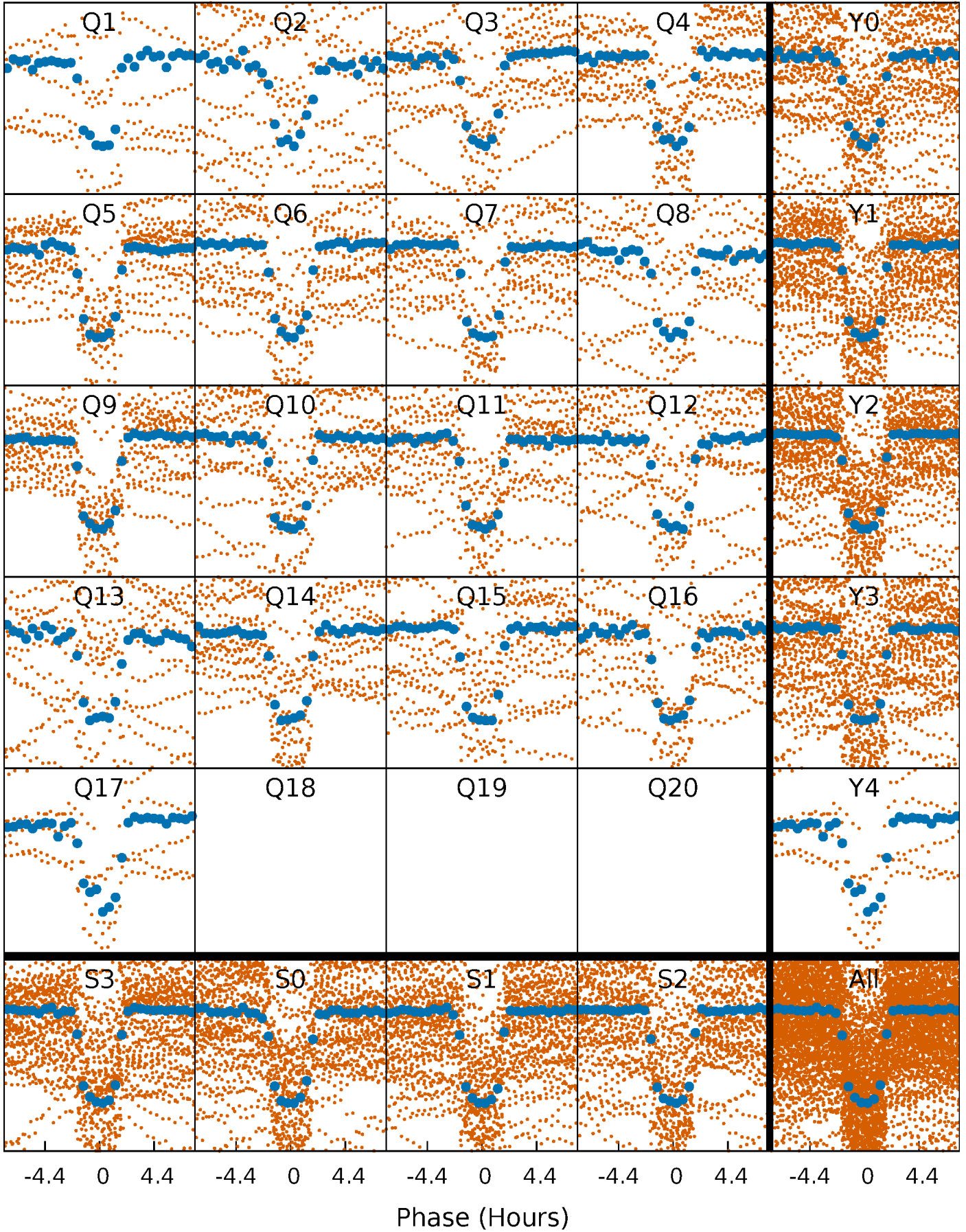


## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

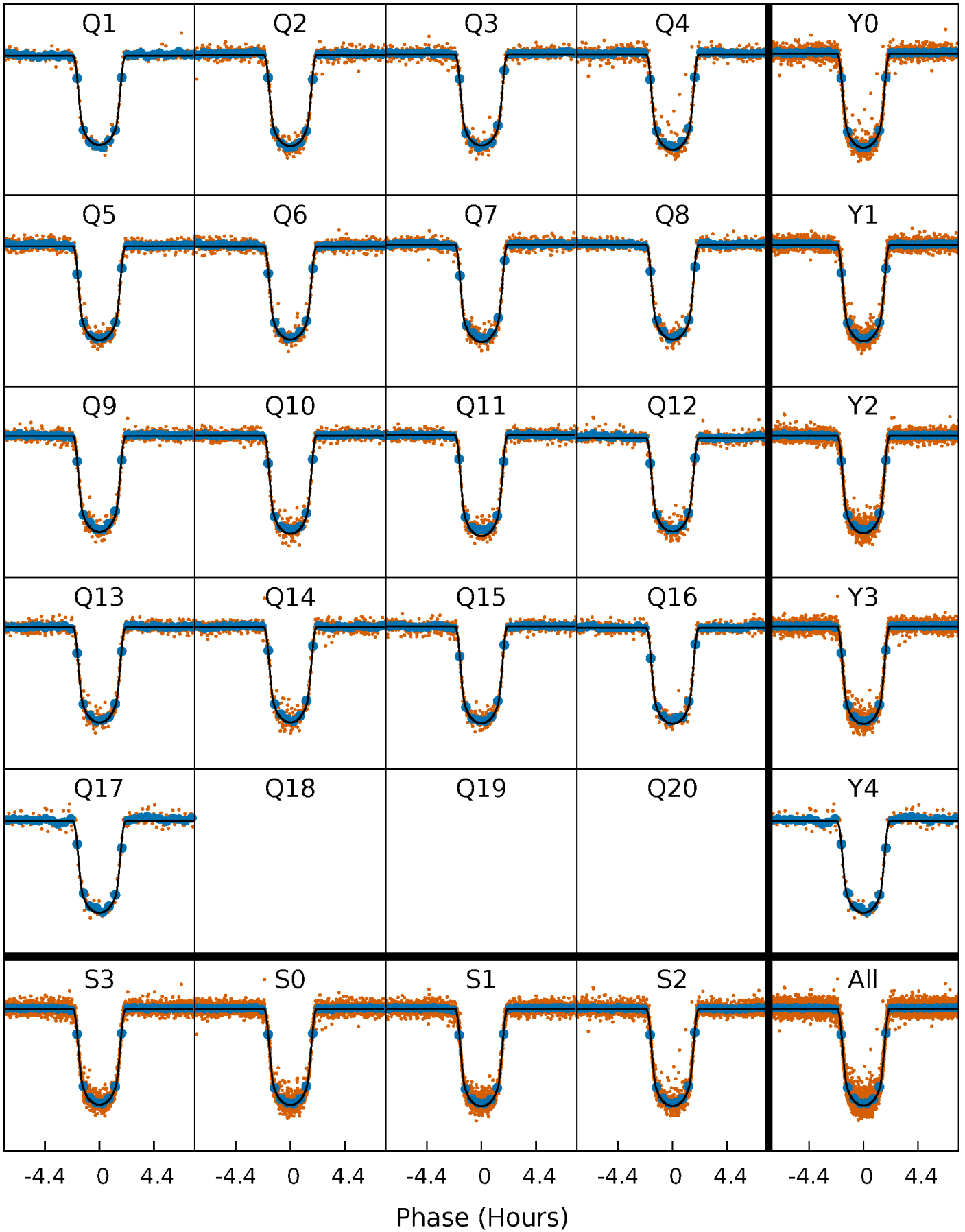
TCE 007767559-01 P= 4.409409 Days  $T_0=132.209674$  (BKJD)





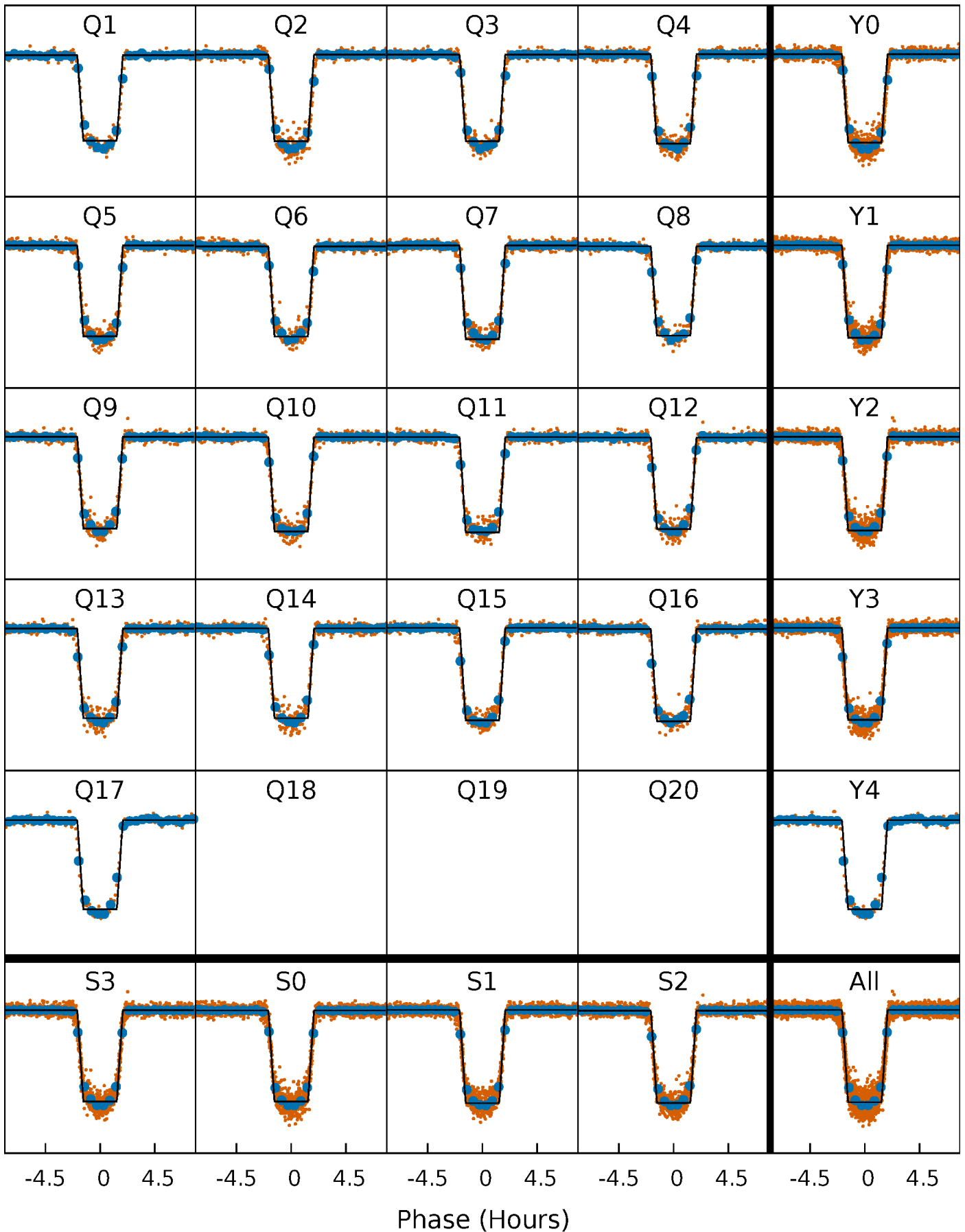
# DV Quarter-Phased Transit Curves

TCE 007767559-01 P= 4.409409 Days  $T_0=132.209674$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

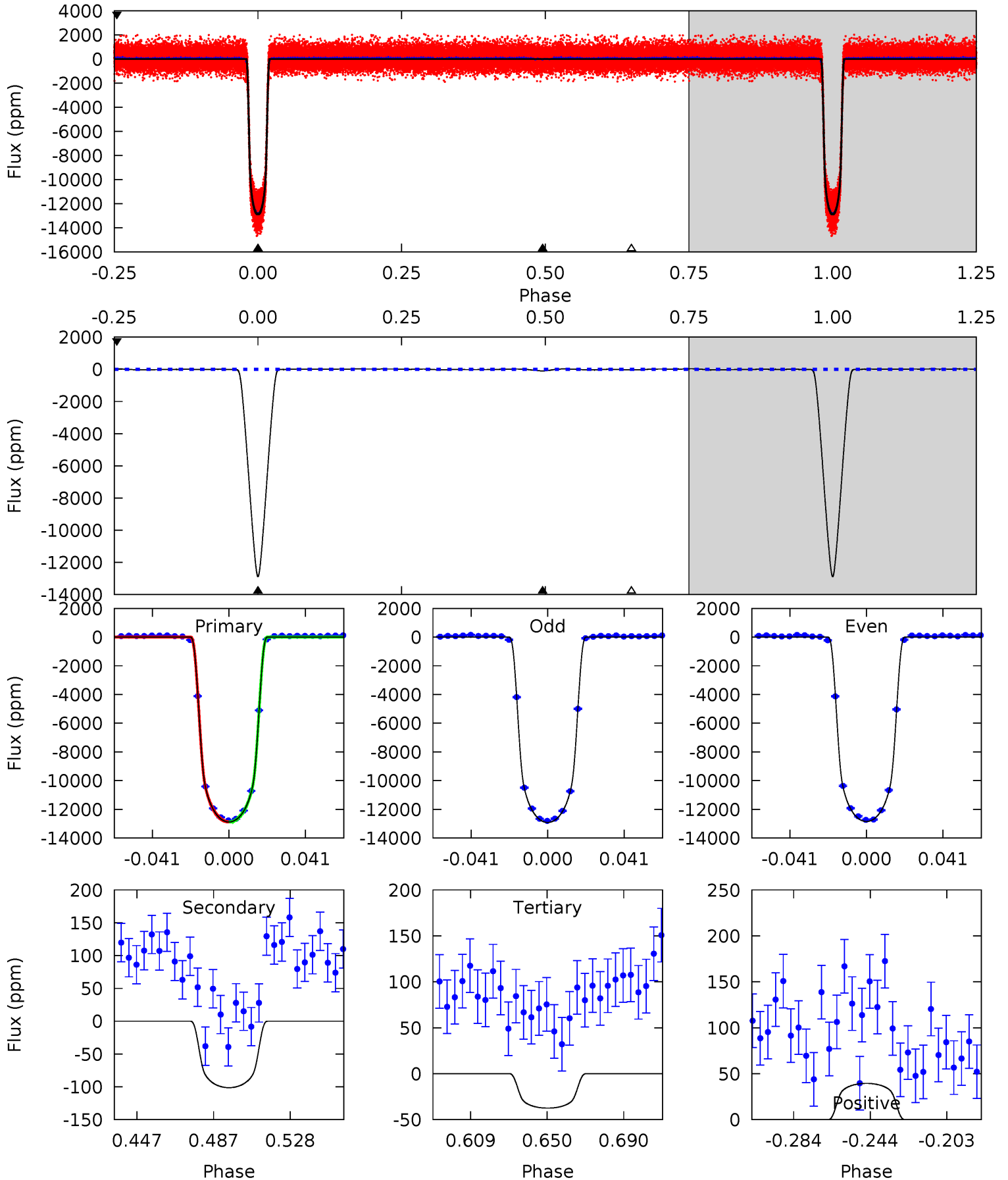
TCE 007767559-01 P= 4.409431 Days  $T_0=132.206217$  (BKJD)



# DV Model-Shift Uniqueness Test

007767559-01, P = 4.409409 Days, E = 127.800265 Days

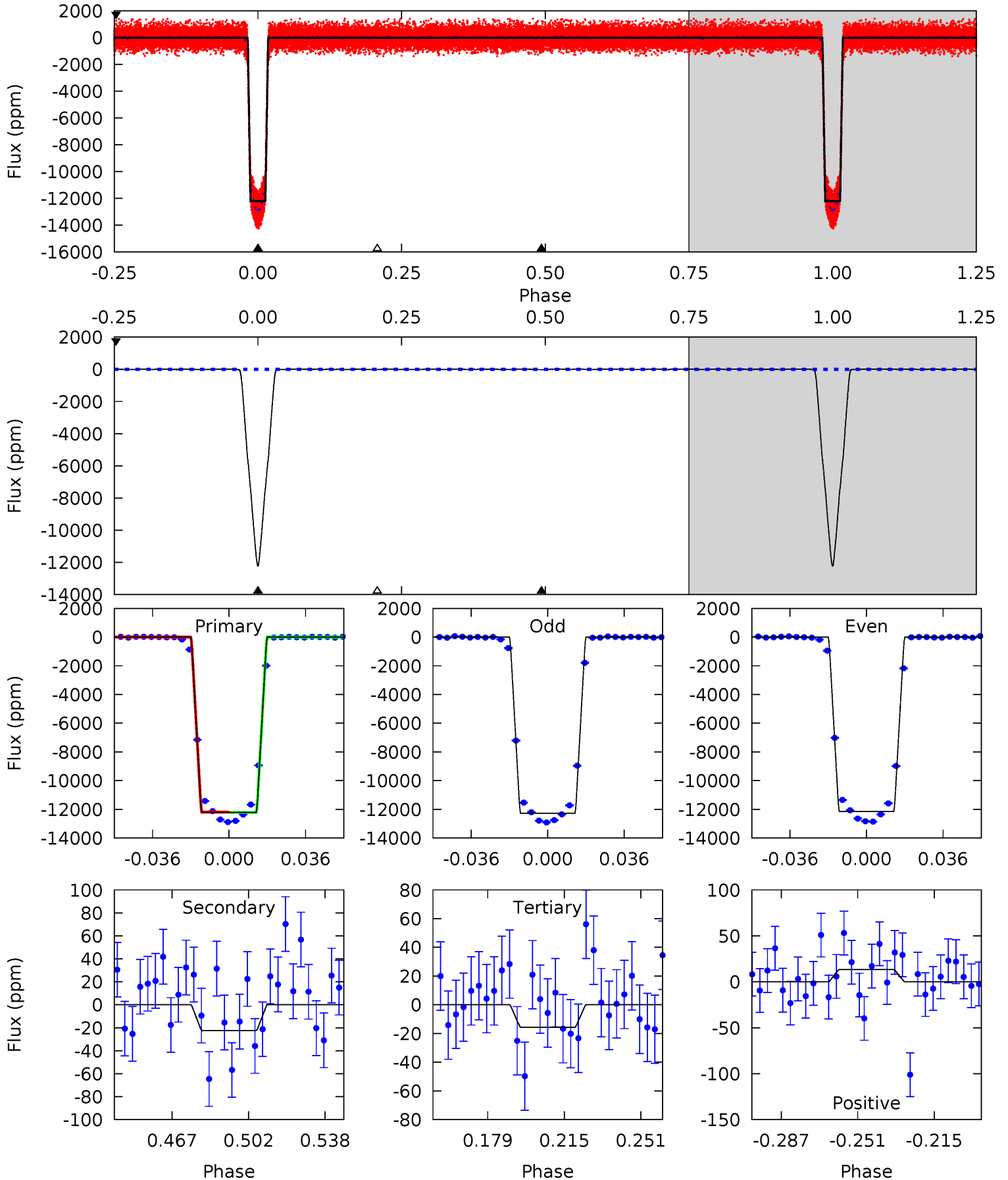
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1307	10.3	3.81	4.00	4.75	2.05	1.60	1303	1303	6.47	6.28	3.38	1.00	0.00	0.60



# Alt Model-Shift Uniqueness Test

007767559-01, P = 4.409431 Days, E = 127.796786 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1508	2.76	1.93	1.65	4.78	2.10	0.68	1506	1506	0.84	1.12	7.18	1.00	0.00	2.19





### Stellar Parameters For KIC 007767559

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5600^{+186}_{-169}$	$4.368^{+0.185}_{-0.204}$	$-0.260^{+0.300}_{-0.300}$	$0.975^{+0.271}_{-0.181}$	$0.811^{+0.127}_{-0.058}$	$1.231^{+1.019}_{-0.650}$
	+3%/-3%	+4%/-5%	+115%/-115%	+28%/-19%	+16%/-7%	+83%/-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 007767559-01 / KOI 0895.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-101 \pm 10$	$11.04^{+1.83}_{-1.24}$	$1541^{+123}_{-105}$	$2469^{+58}_{-71}$	$1.081^{+0.359}_{-0.267}$
Alt.	$-22 \pm 8$	$12.00^{+1.90}_{-1.46}$	$1547^{+121}_{-109}$	$-1962^{+3221}_{-170}$	$0.205^{+0.095}_{-0.082}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

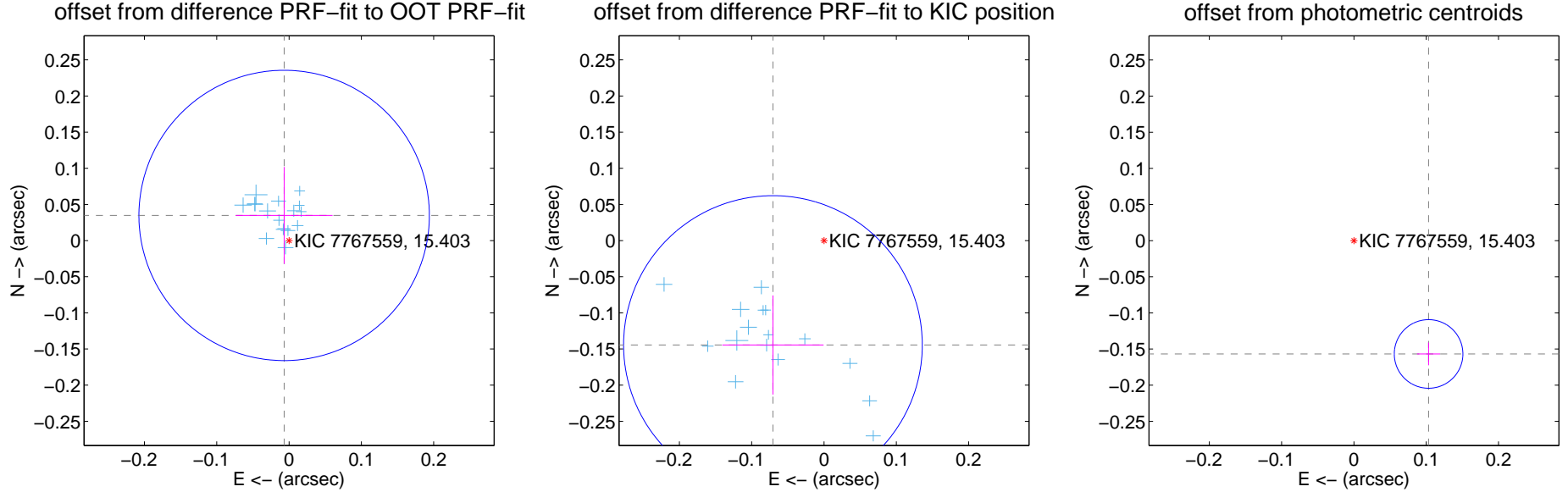
## DV Centroid Data

Supplemental centroid analysis for 007767559-01. Kepler magnitude: 15.40. Transit SNR 694.69

There are 17 quarters with good PRF difference image offsets

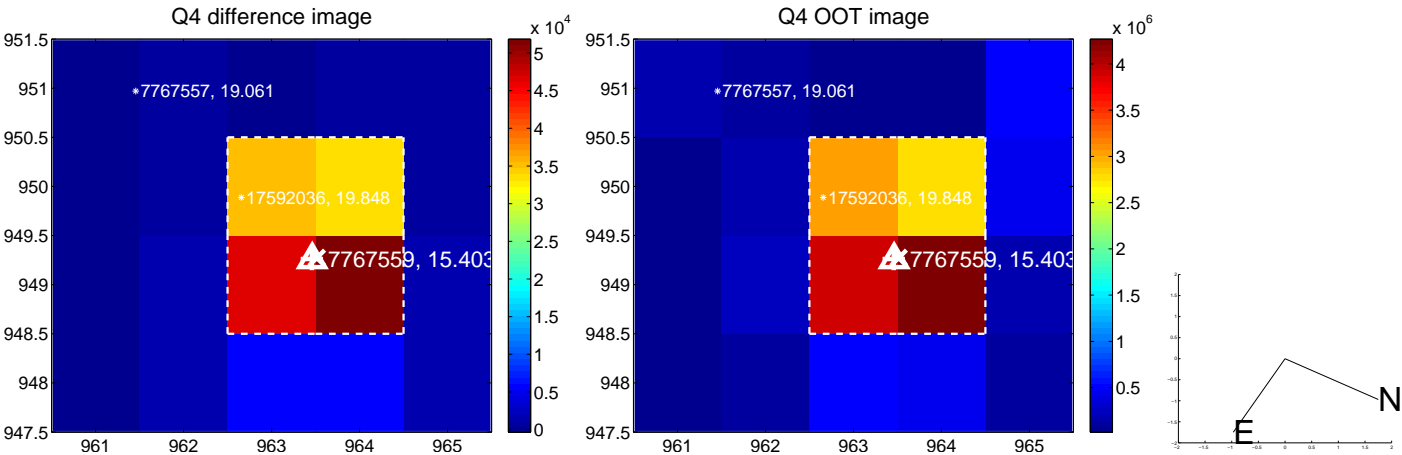
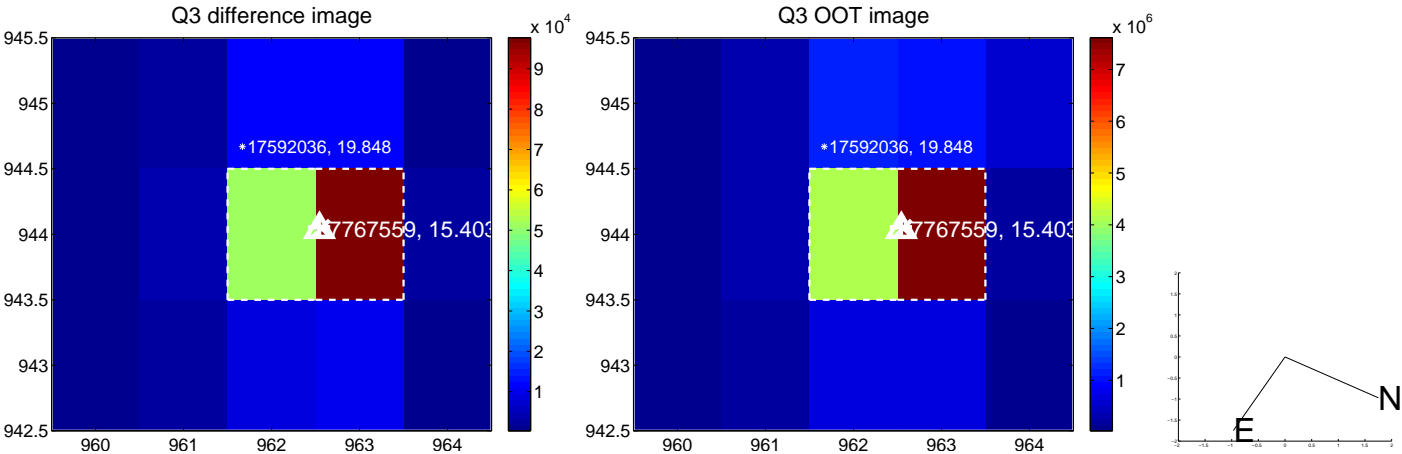
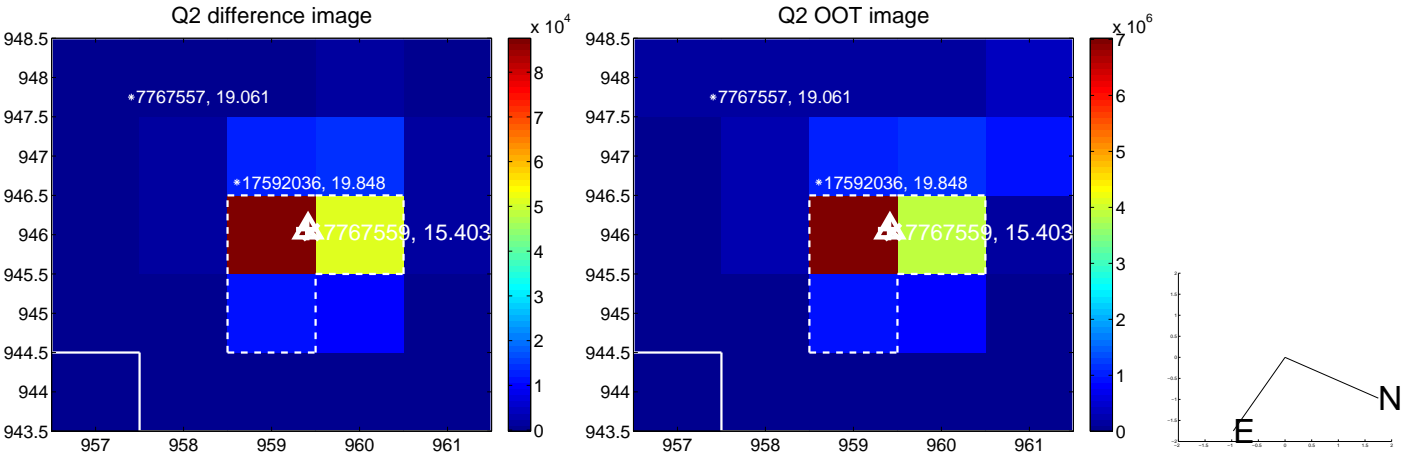
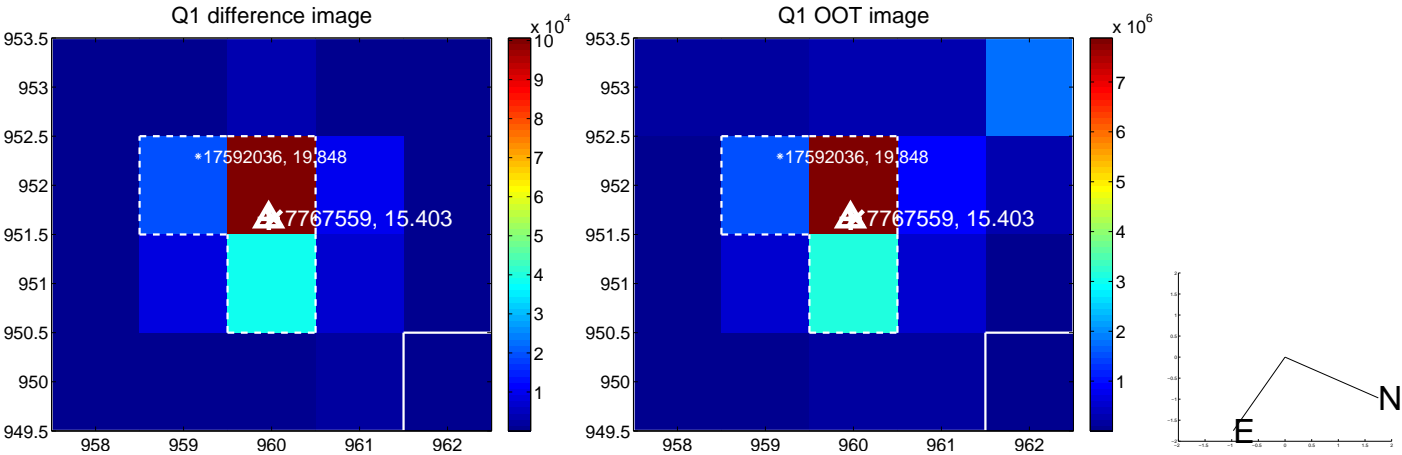
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.035 \pm 0.067$	0.53	$0.007 \pm 0.067$	$0.035 \pm 0.067$
PRF-fit source offset from KIC position	$0.161 \pm 0.069$	2.34	$0.071 \pm 0.070$	$-0.144 \pm 0.069$
photometric centroid source offset	$0.19 \pm 0.02$	11.87	$-0.10 \pm 0.02$	$-0.16 \pm 0.02$

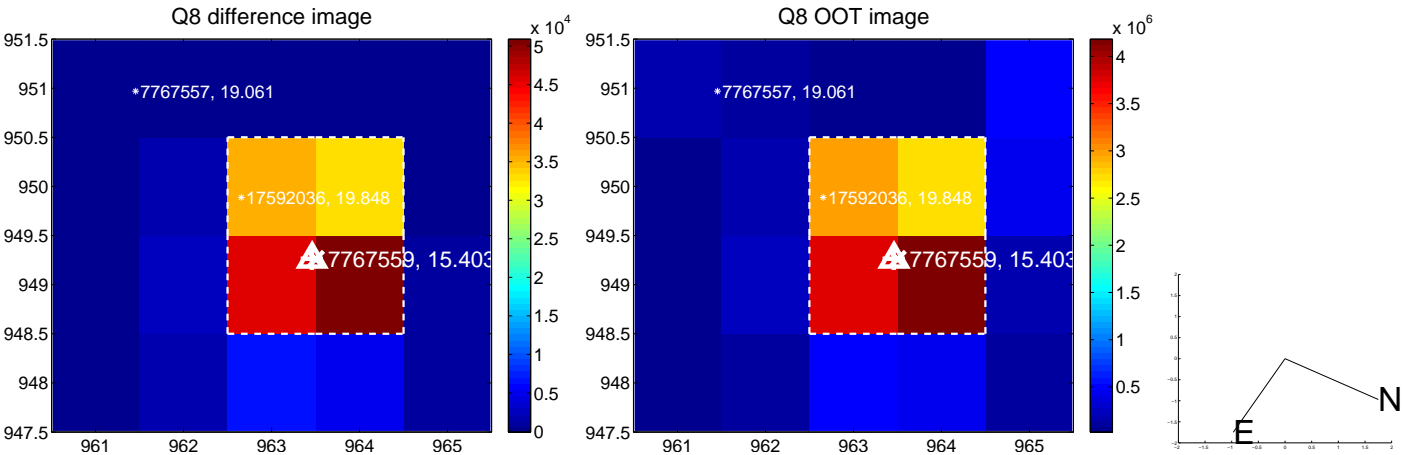
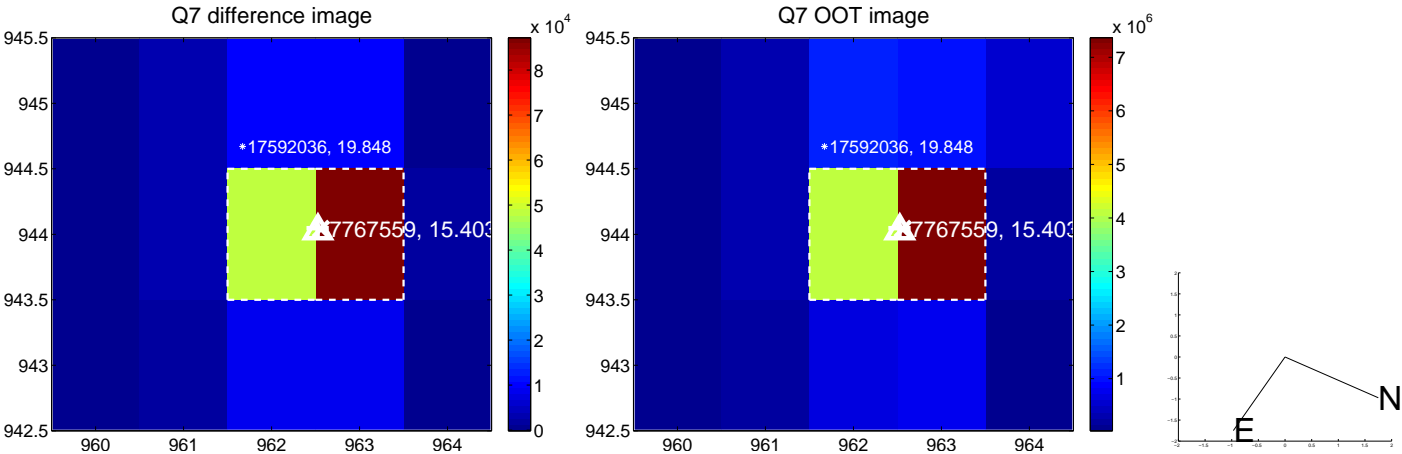
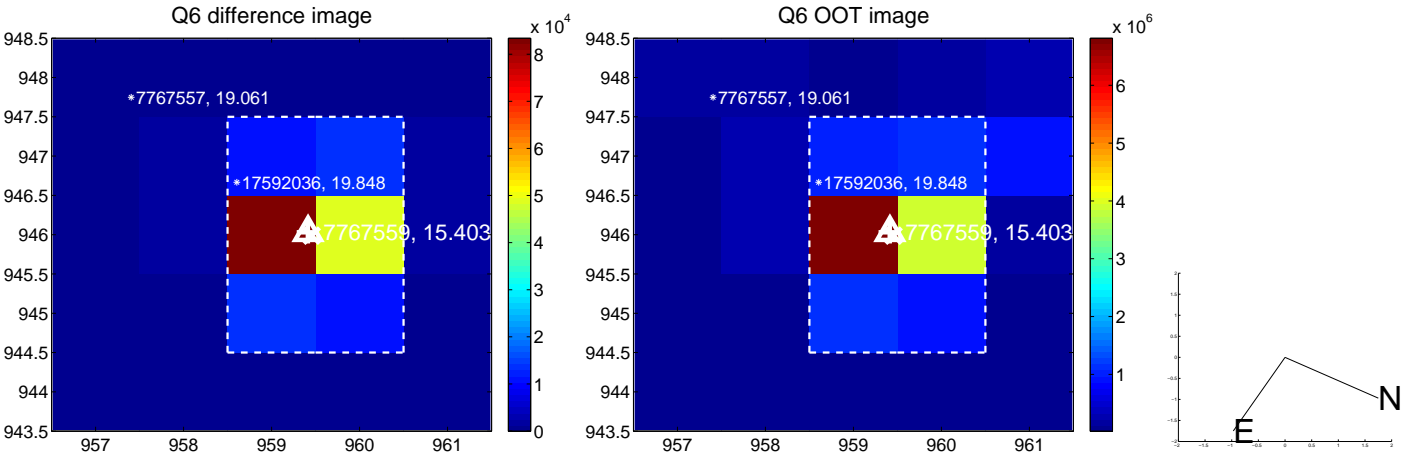
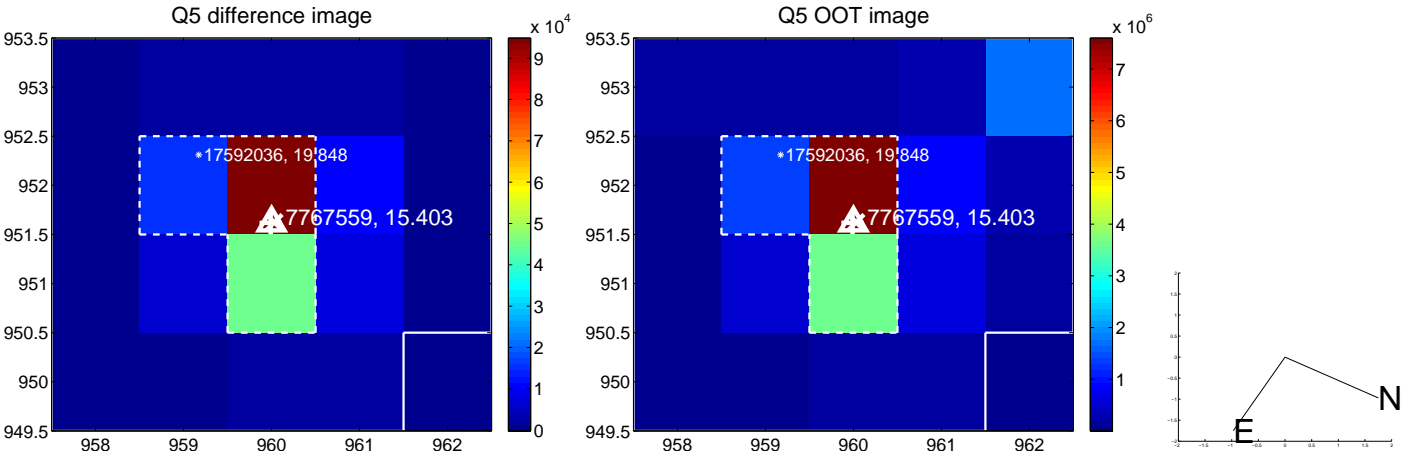


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

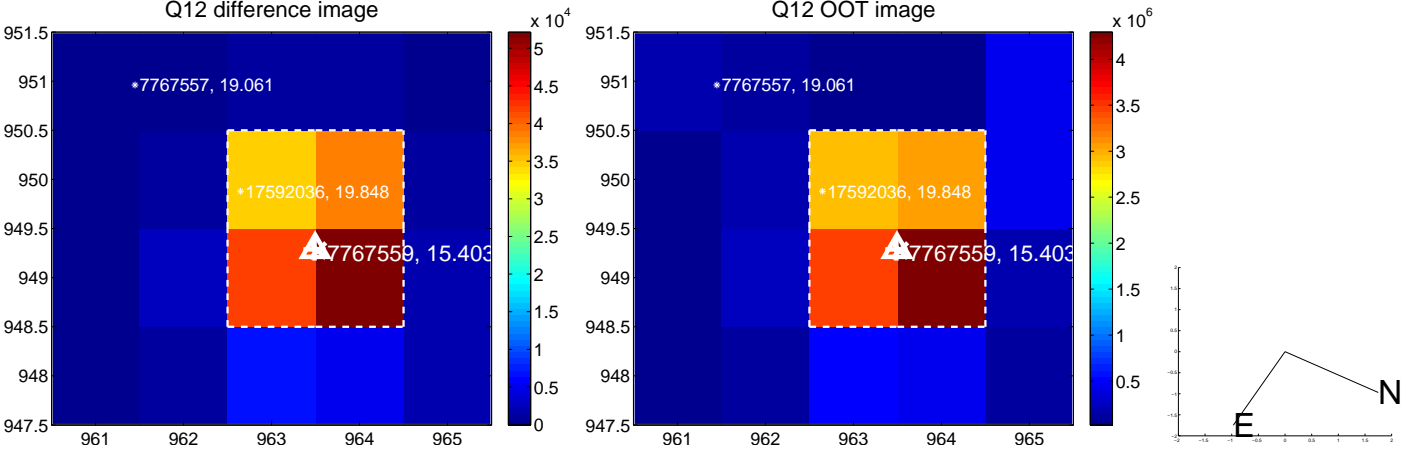
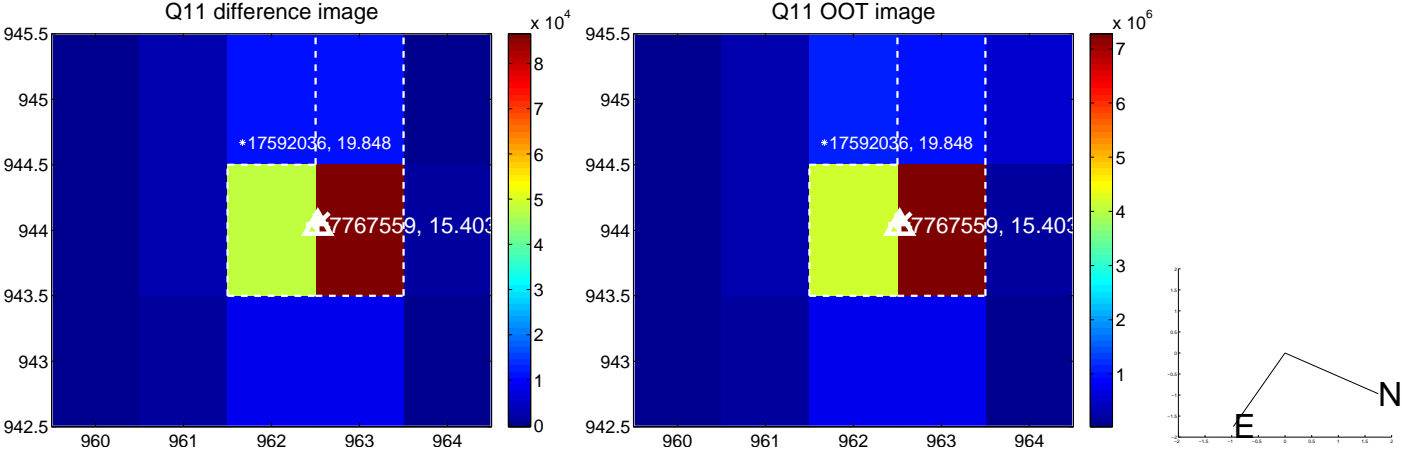
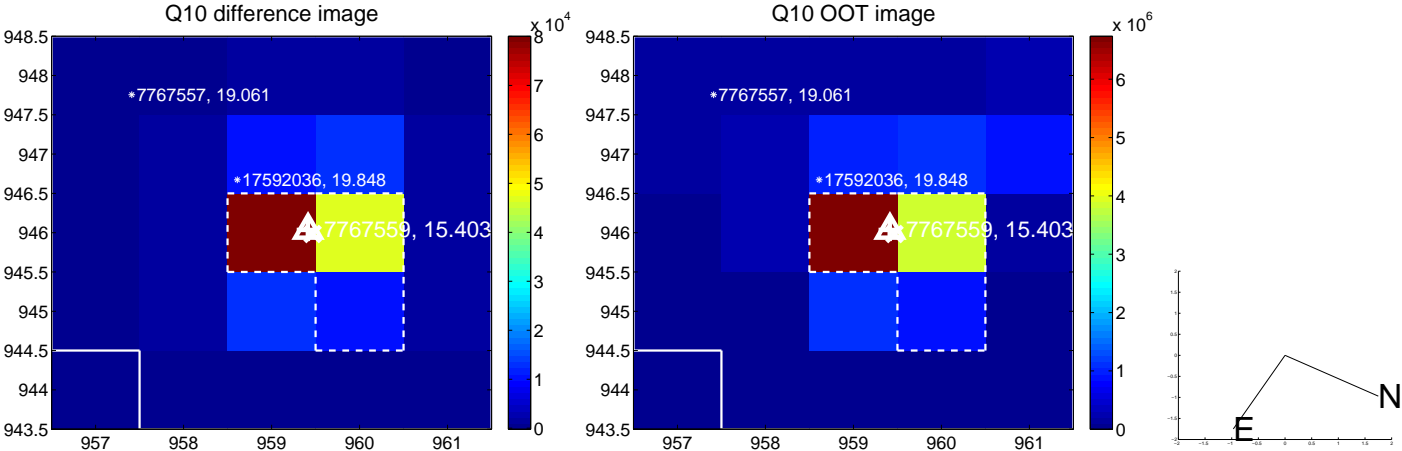
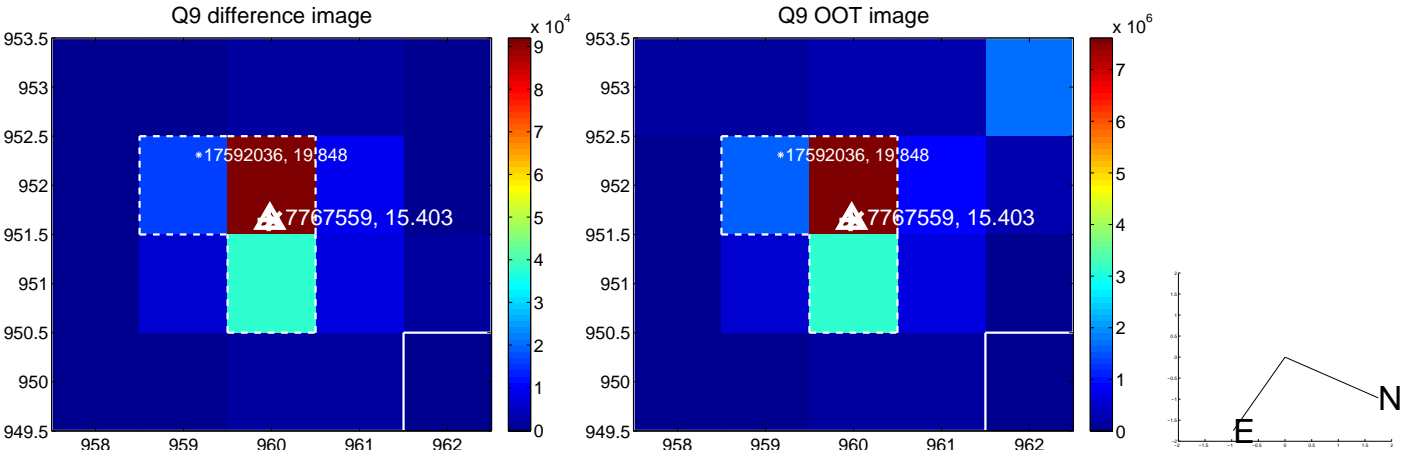


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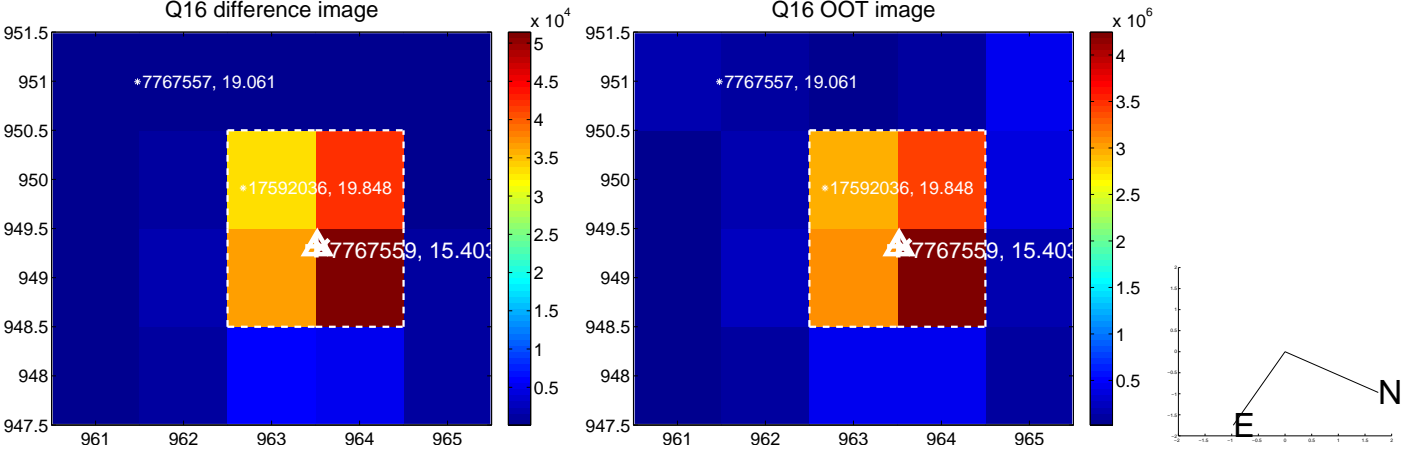
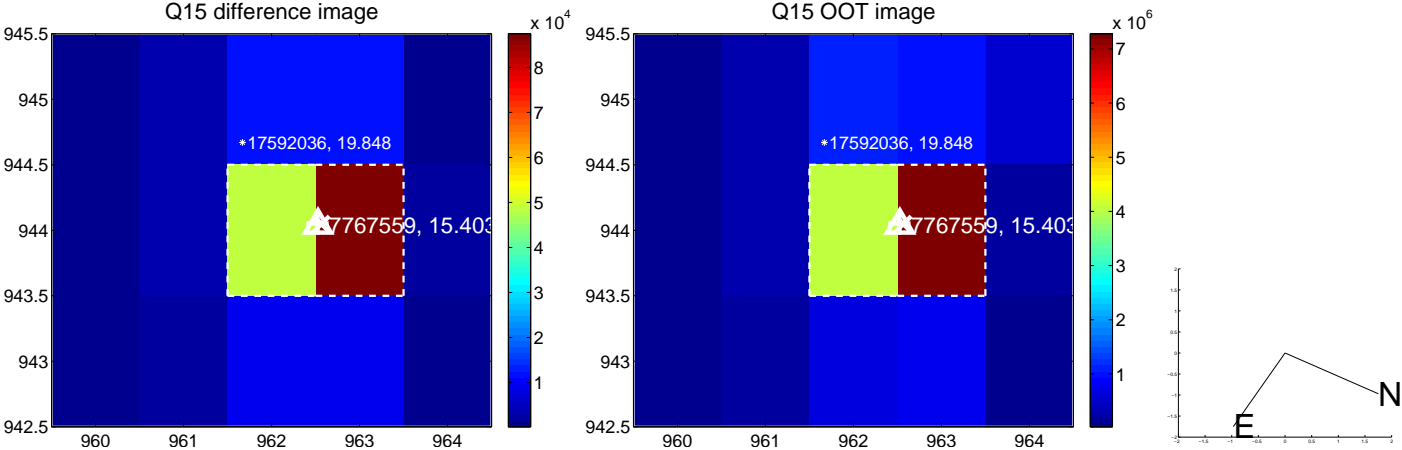
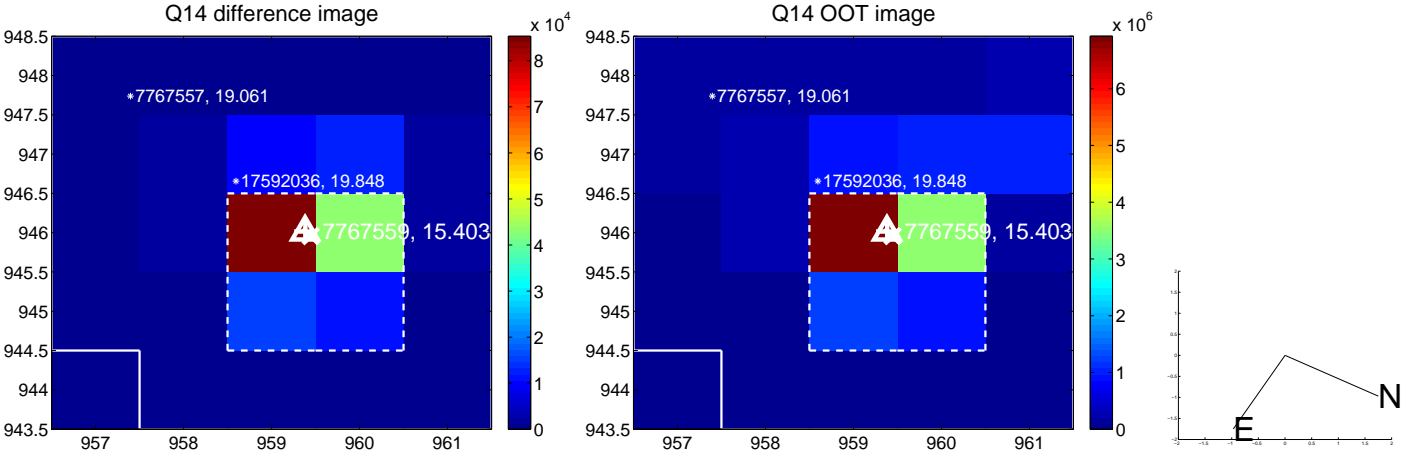
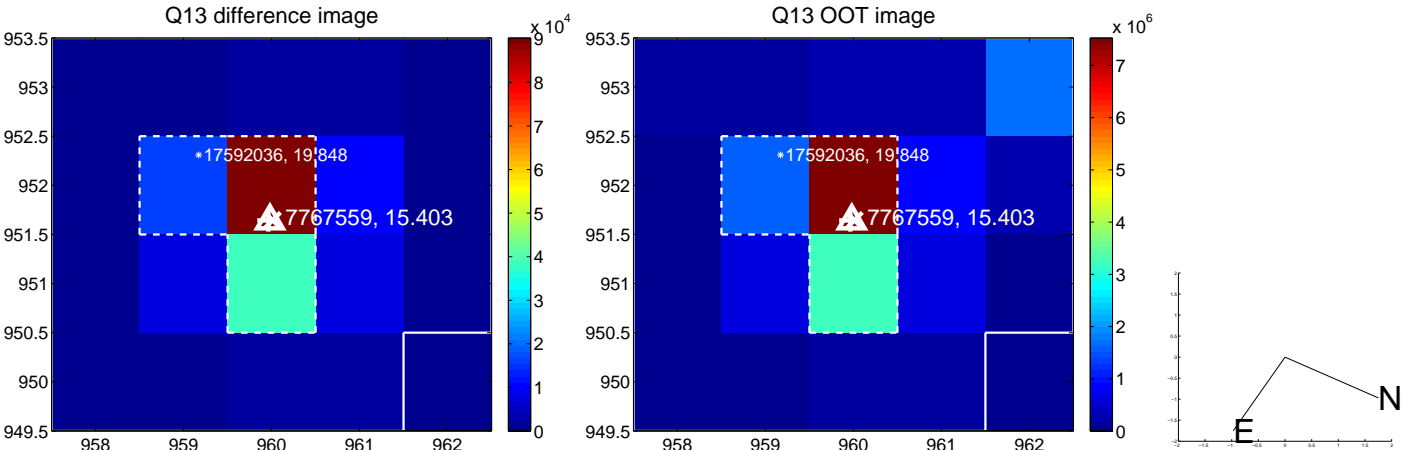




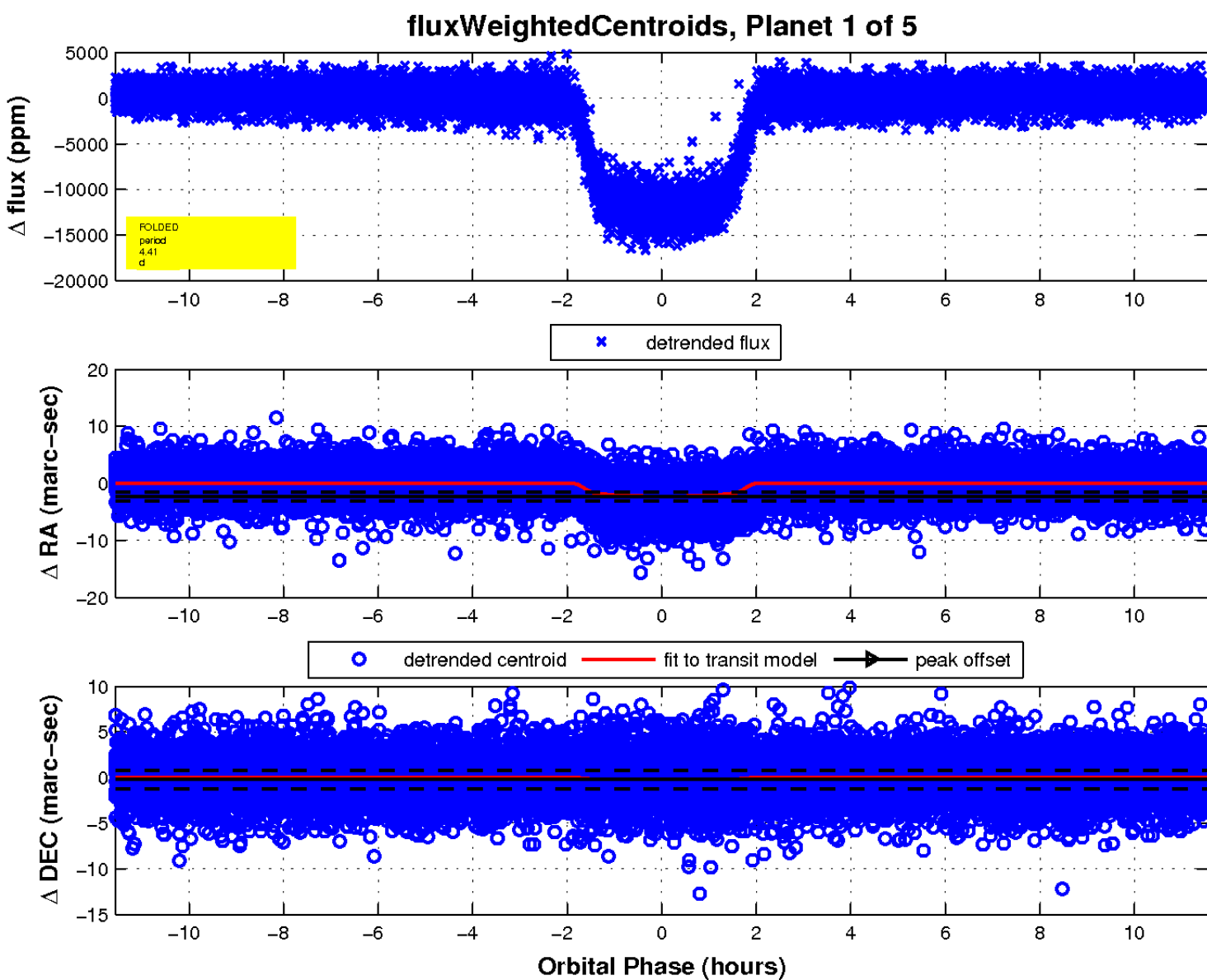
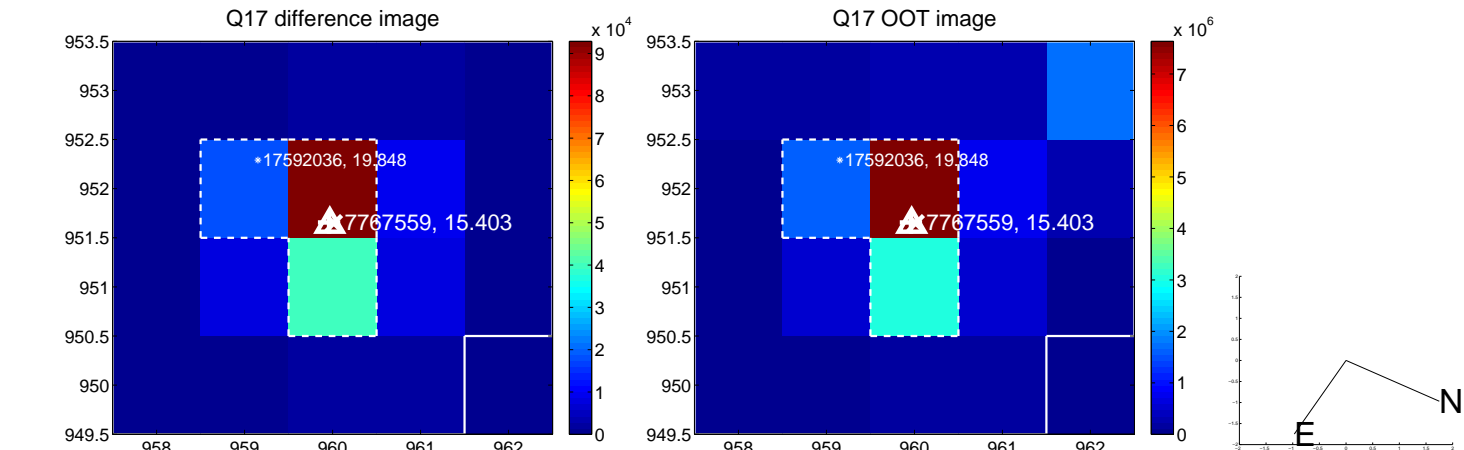
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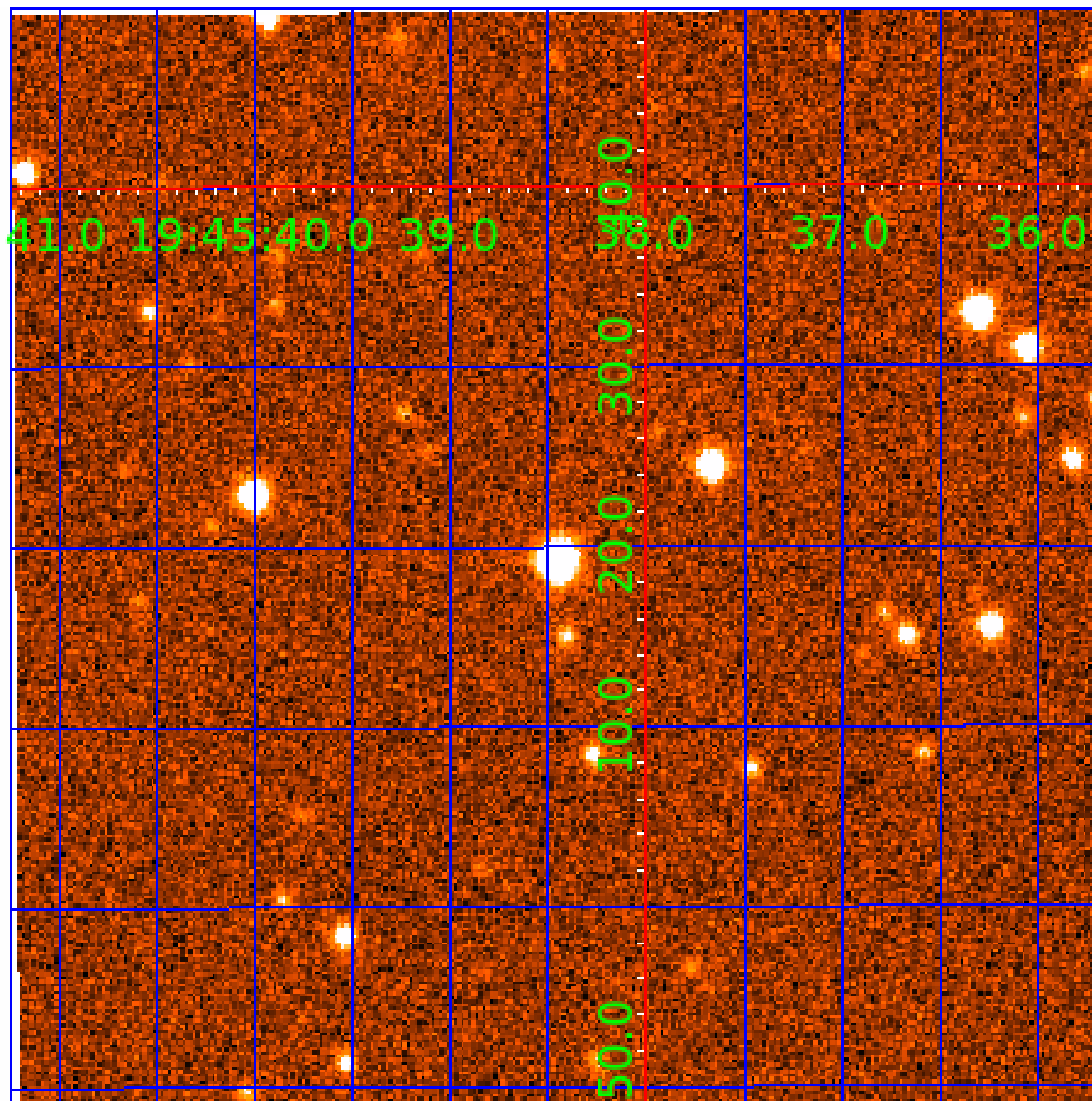


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UKIRT Image

Declination





# KIC 007767559

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007767559-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_FEW_DIFFS
007767559-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

**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](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

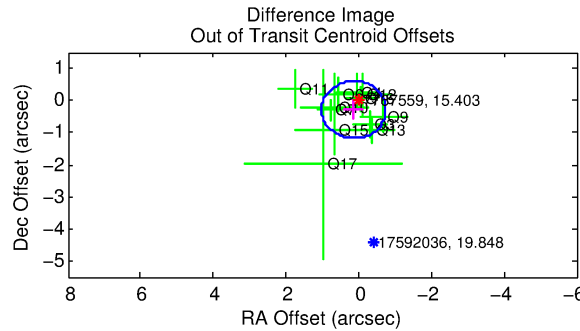
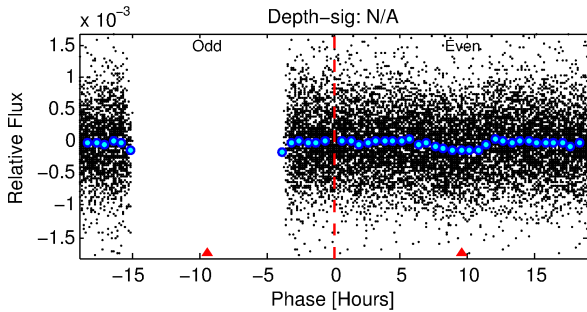
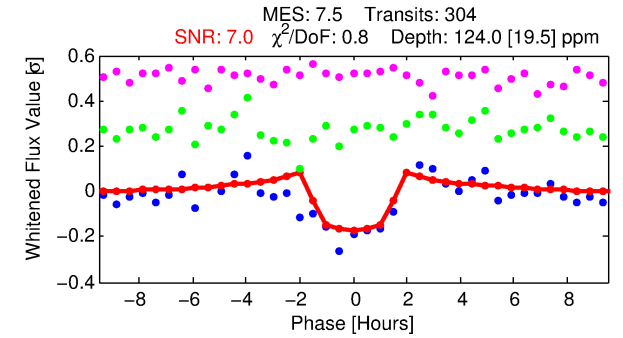
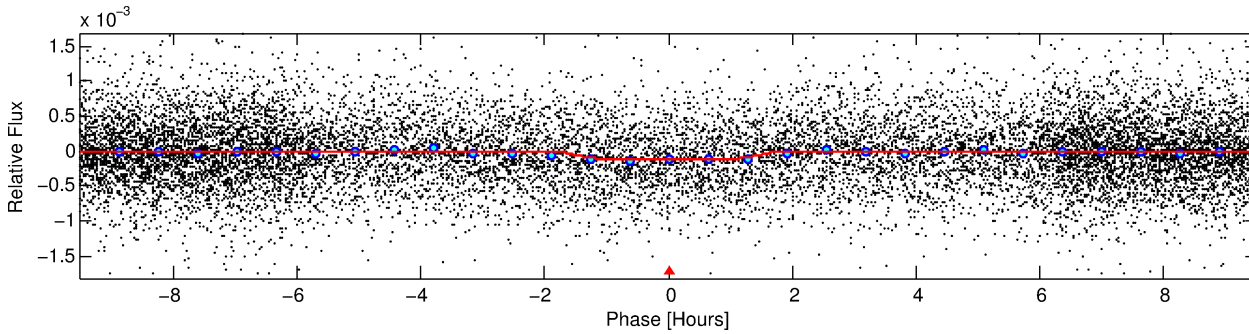
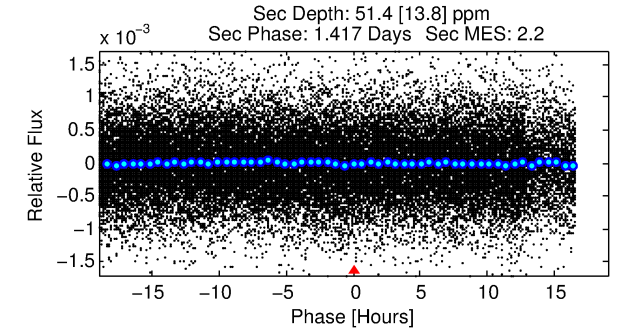
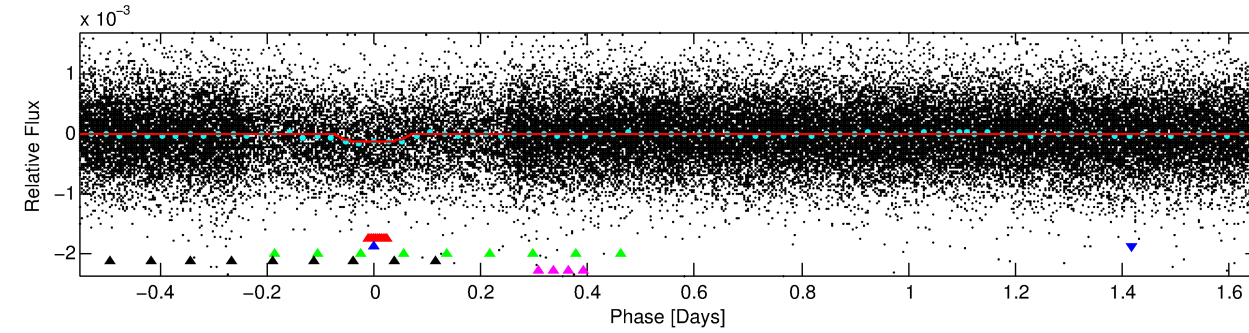
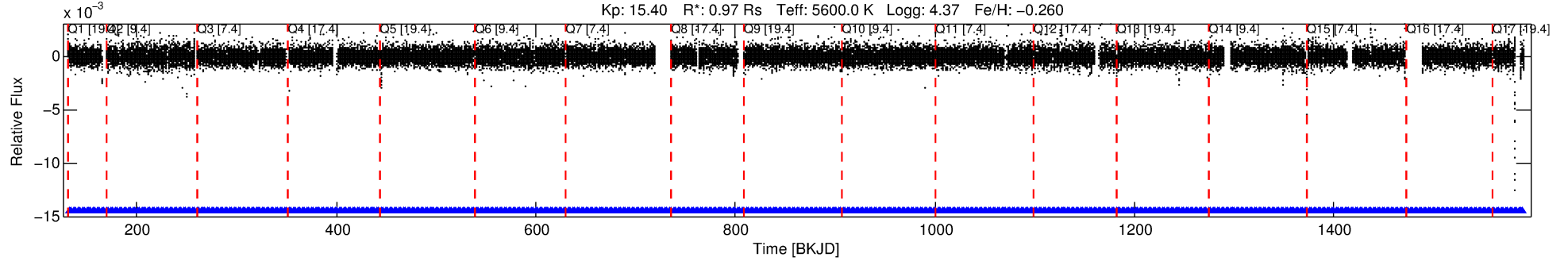
## Ephemeris Match Information For 007767559-02

No Significant Match Found

# DV One-Page Summary

KIC: 7767559 Candidate: 2 of 5 Period: 2.205 d

KOI: K00895 Corr: No Ephemeris Match



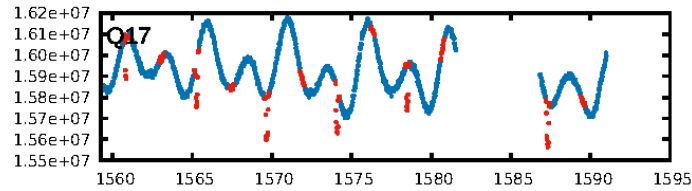
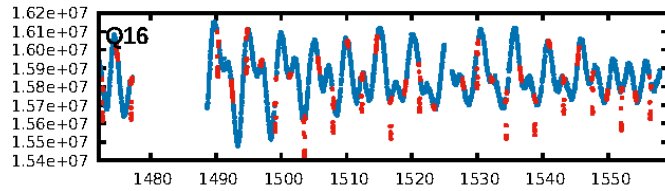
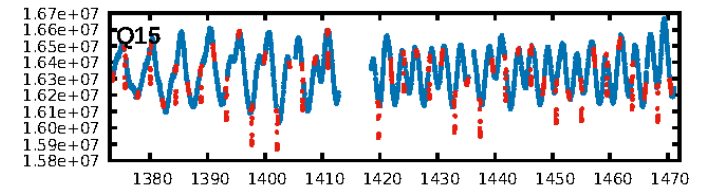
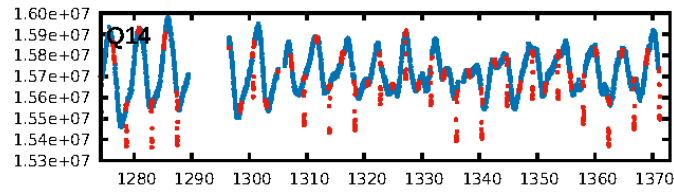
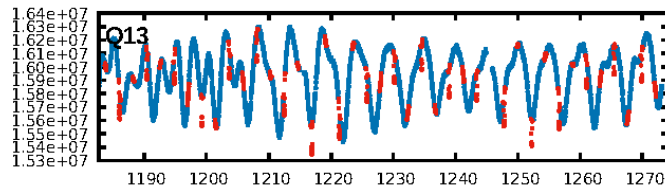
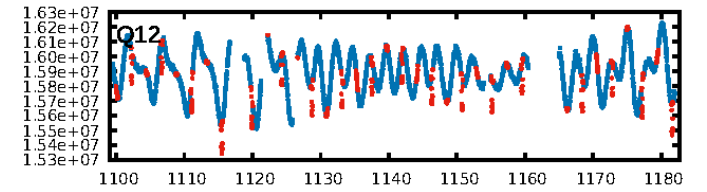
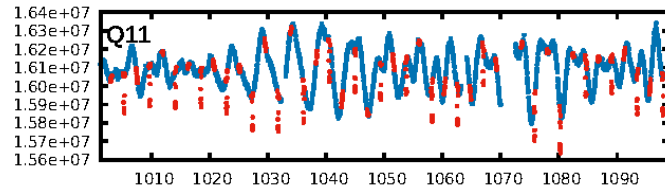
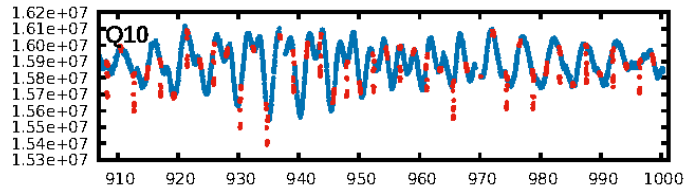
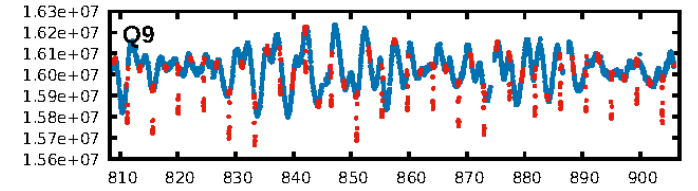
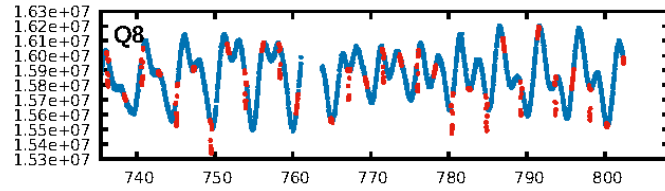
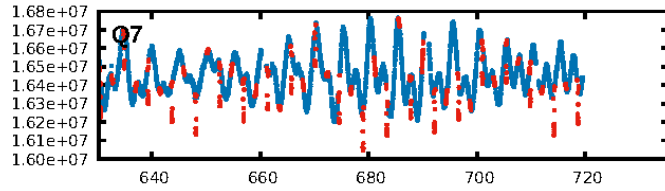
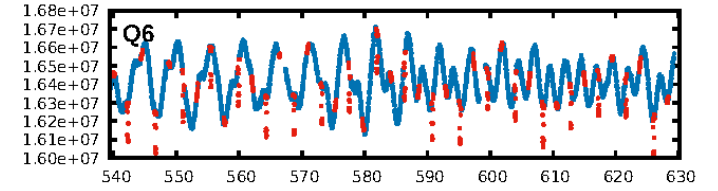
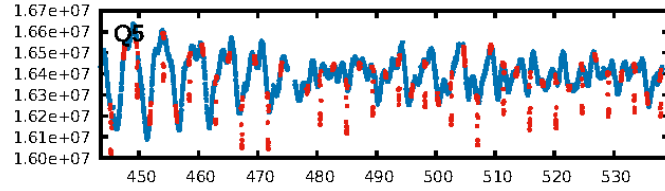
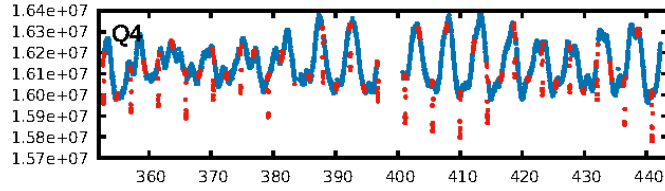
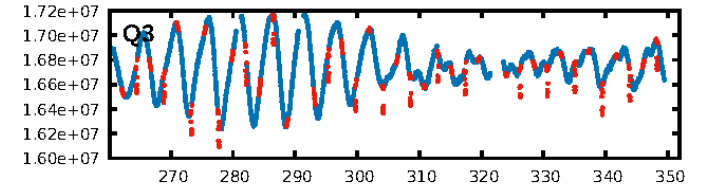
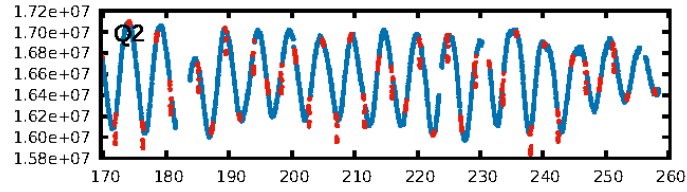
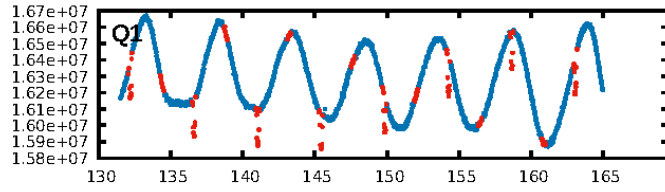
## DV Fit Results:

Period = 2.20476 [0.00002] d  
Epoch = 132.1869 [0.0045] BKJD  
Rp/R\* = 0.0108 [0.0110]  
a/R\* = 4.06 [16.74]  
b = 0.68 [3.53]  
Seff = 877.34 [339.85]  
Teq = 1388 [134] K  
Rp = 1.15 [1.21] Re  
a = 0.0309 [0.0075] AU  
Ag = 20.33 [42.16] [0.46σ]  
Teffp = 4556 [2330] K [1.36σ]

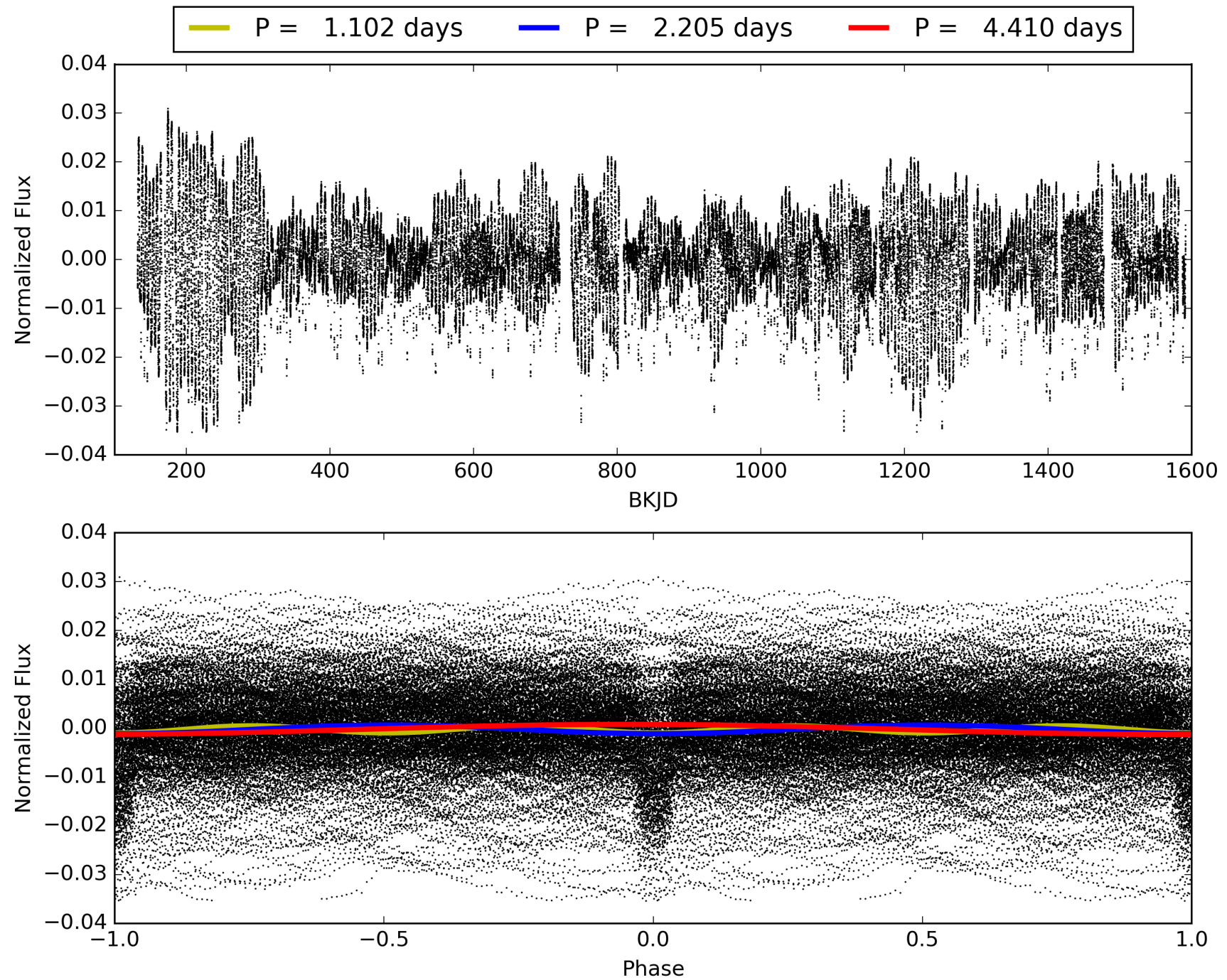
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [10.60σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
**Bootstrap-pfa: 1.15e-12**  
RollingBand-fgt: 1.00 [291/291]  
GhostDiagnostic-chr: -2.981  
**Centroid-sig: 0.0%**  
Centroid-so: 1.992 arcsec [1.64σ]  
OotOffset-rm: 0.324 arcsec [1.09σ]  
KicOffset-rm: 0.475 arcsec [1.58σ]  
OotOffset-st: 2/4/3/3 [12]  
KicOffset-st: 2/4/3/3 [12]  
DiffImageQuality-fgm: 0.67 [8/12]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 007767559-02, PDC Light Curves

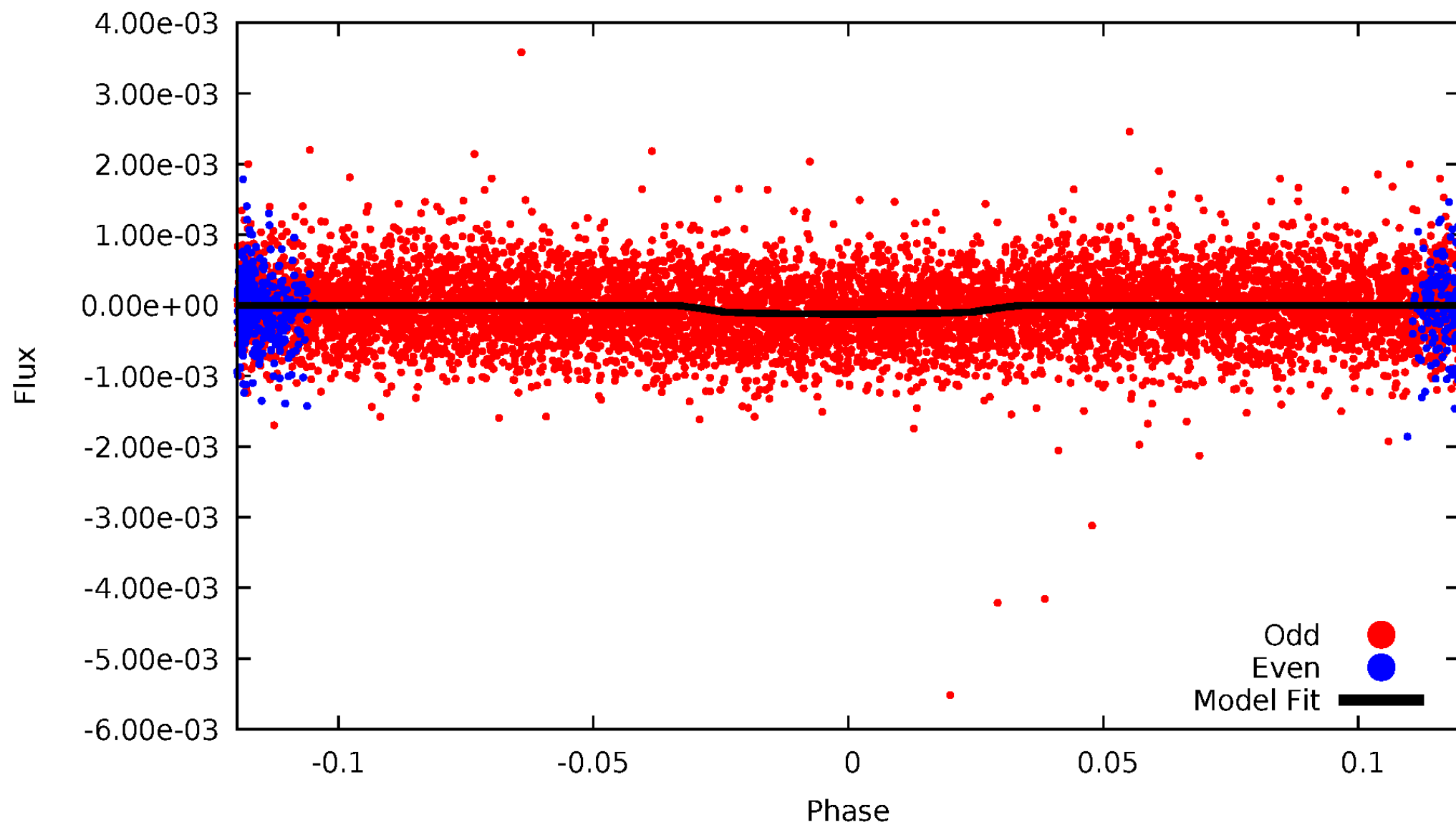


TCE 007767559-02



DV Odd/Even

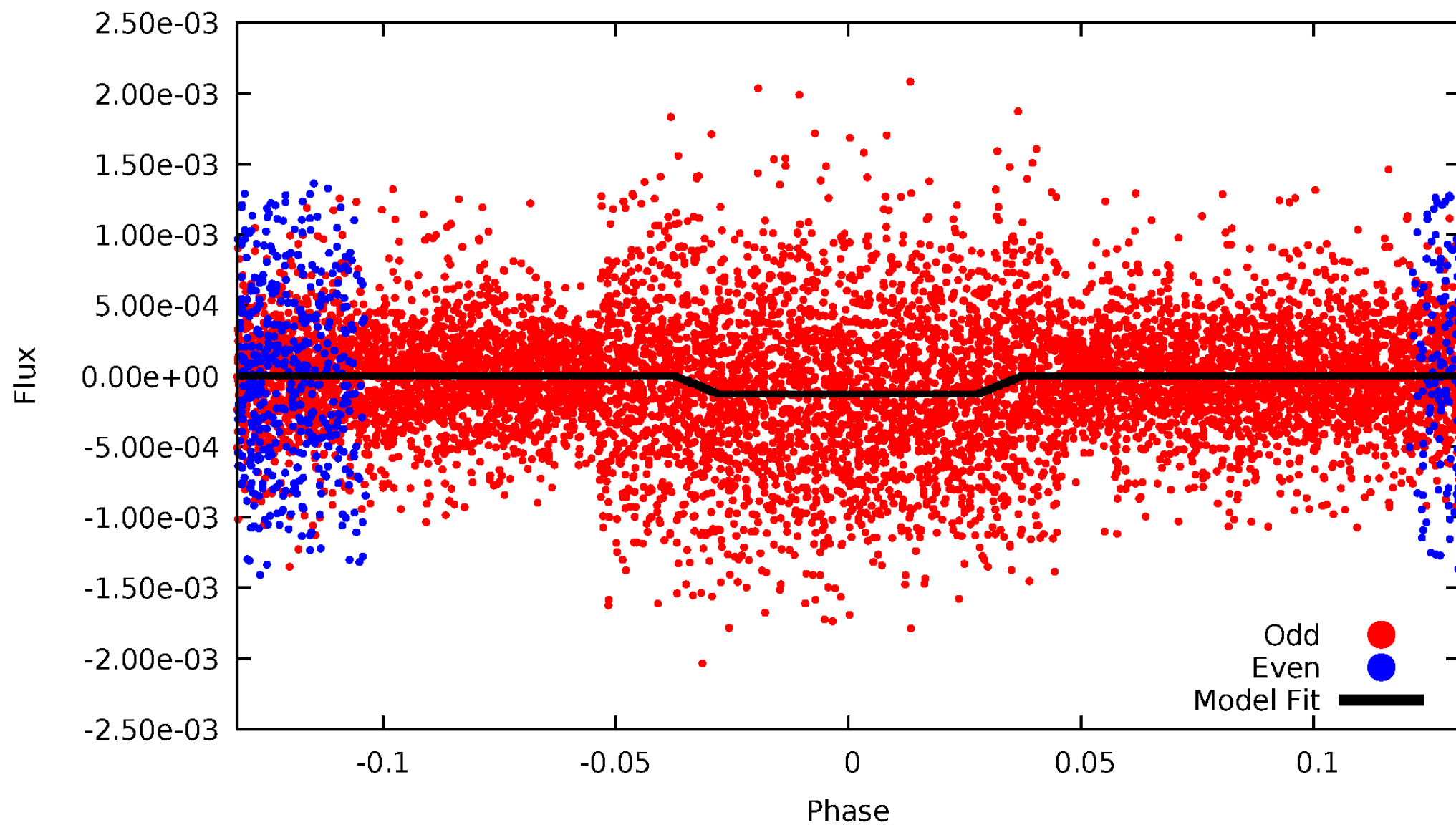
TCE 007767559-02





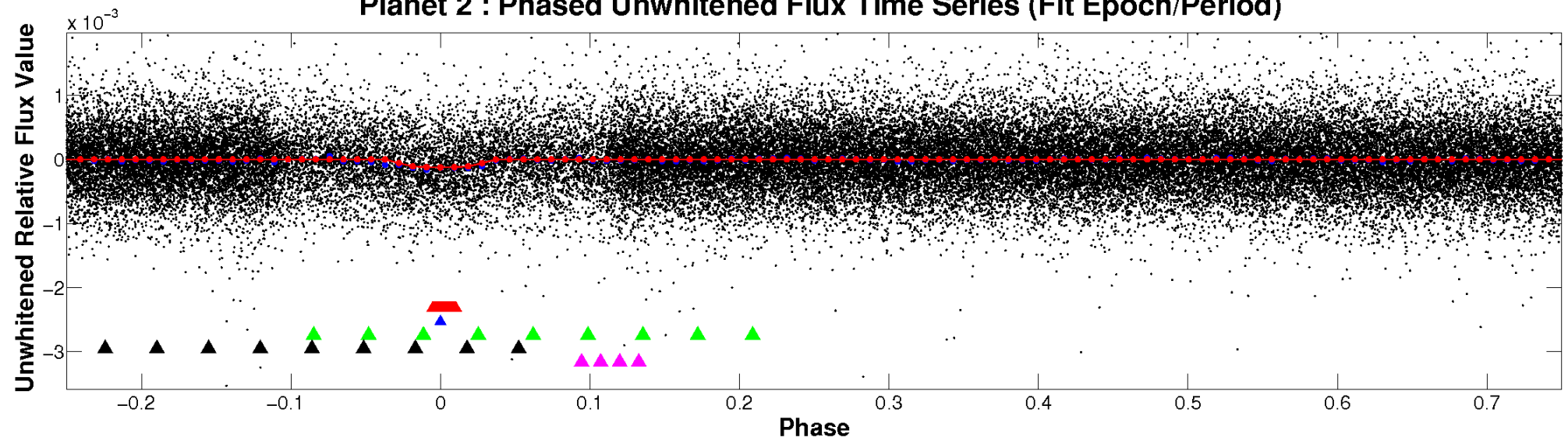
# ALT Odd/Even

TCE 007767559-02

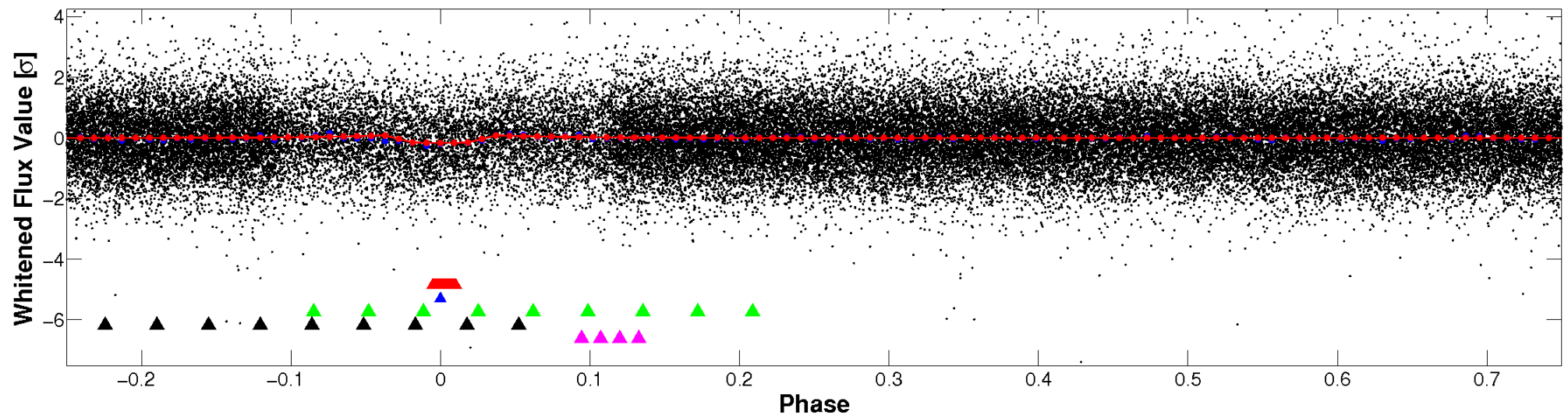


# Non-Whitened Vs. Whitened Light Curve

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



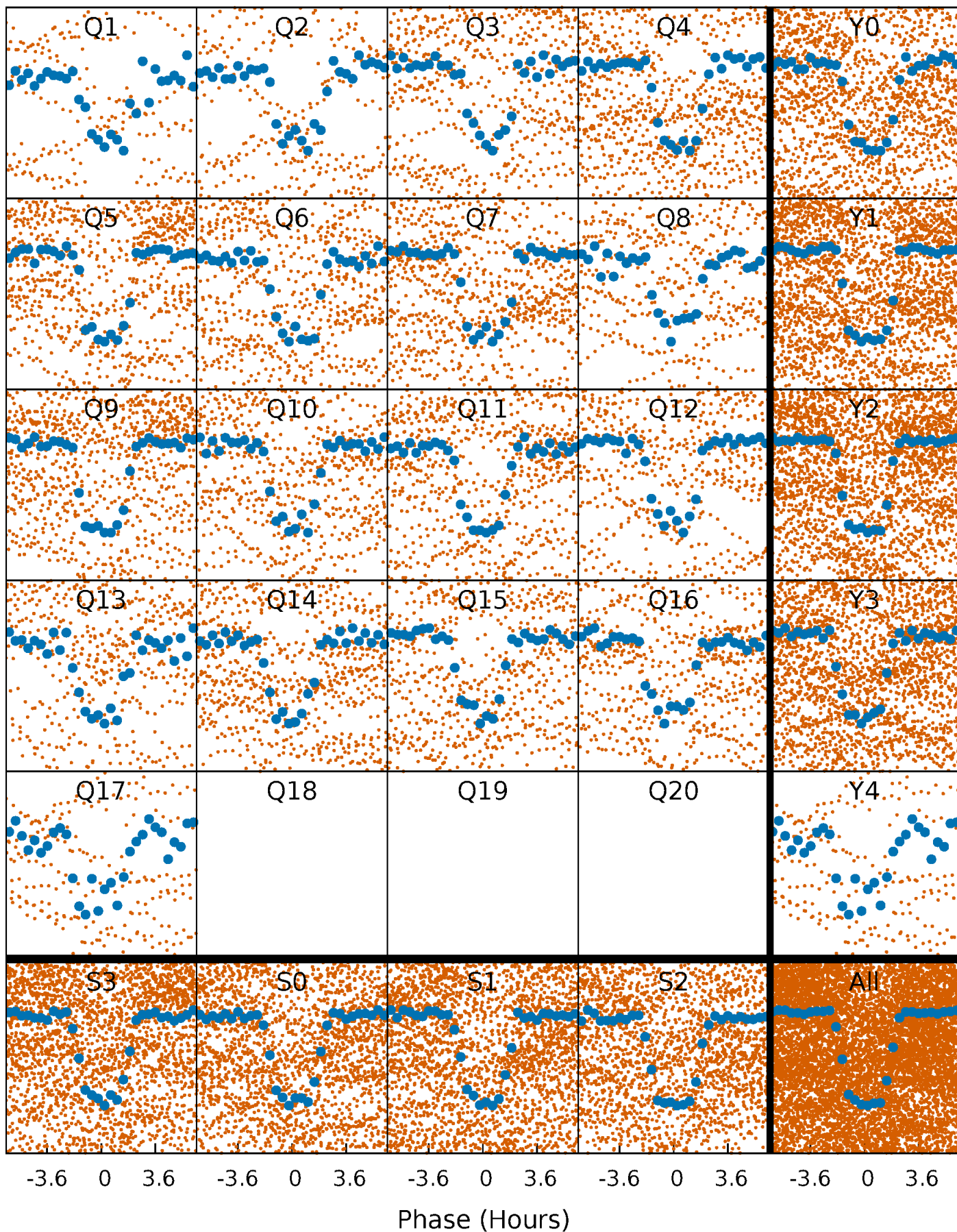
## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)





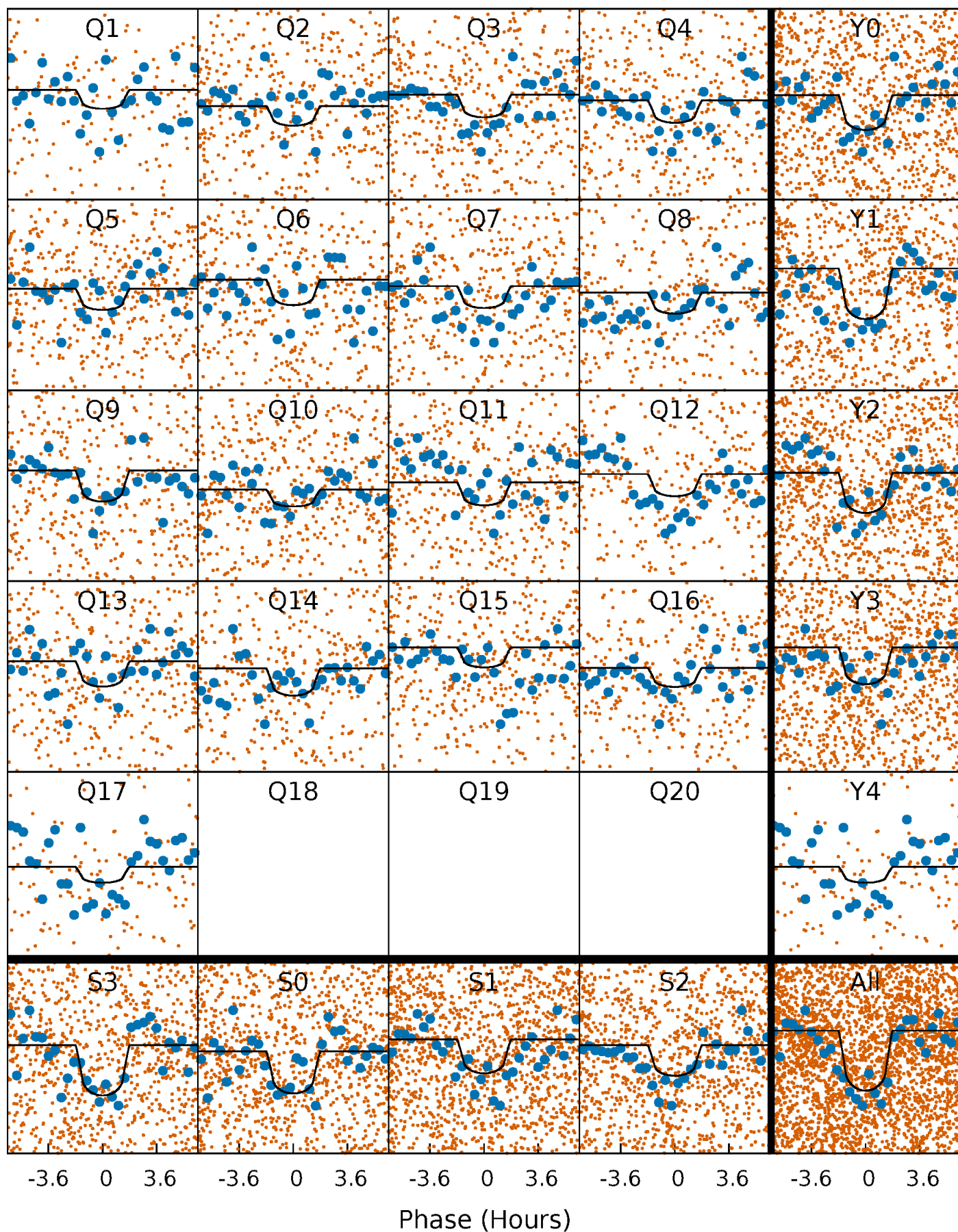
# PDC Quarter-Phased Transit Curves

TCE 007767559-02 P= 2.204757 Days  $T_0=132.186925$  (BKJD)



# DV Quarter-Phased Transit Curves

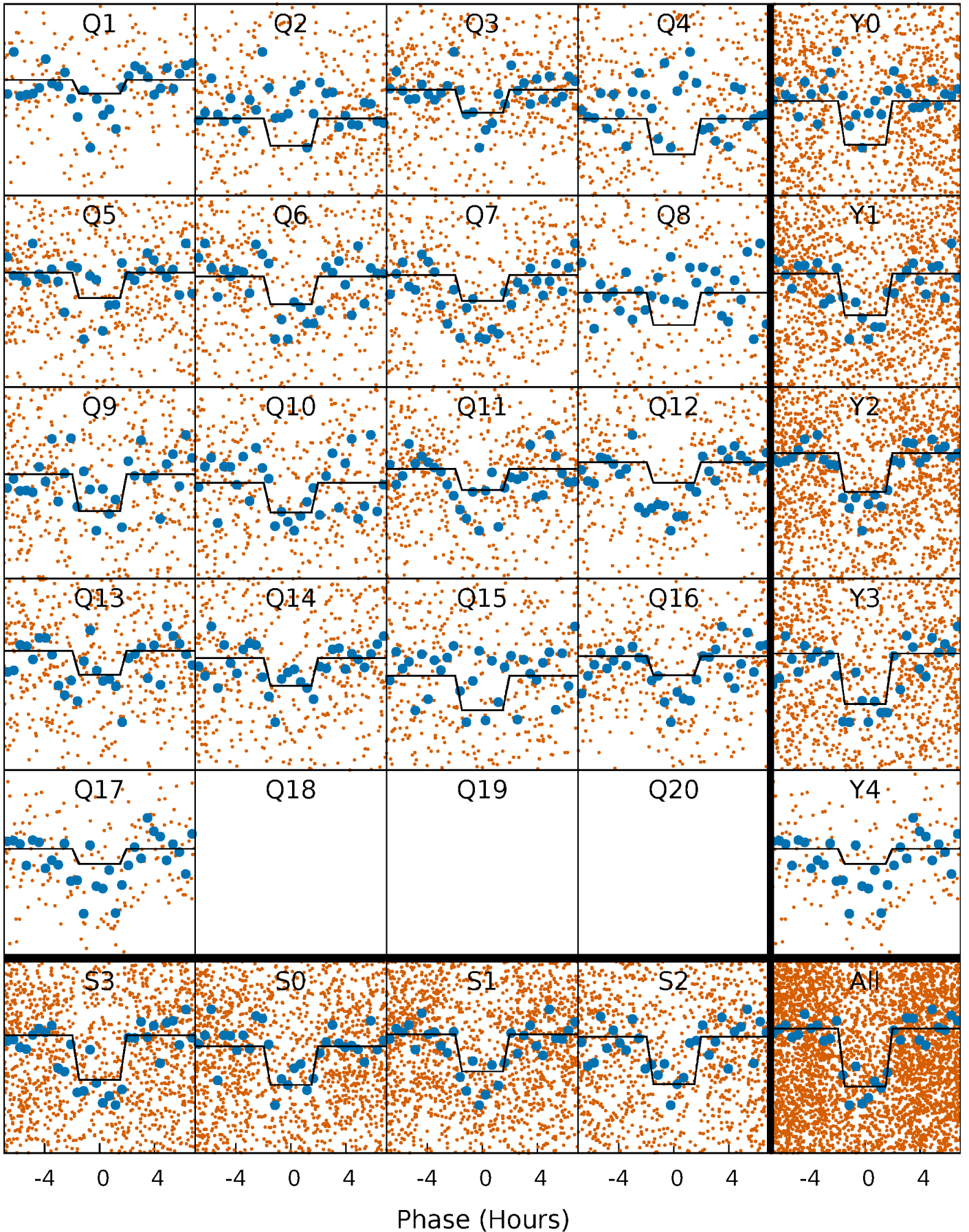
TCE 007767559-02 P= 2.204757 Days  $T_0=132.186925$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

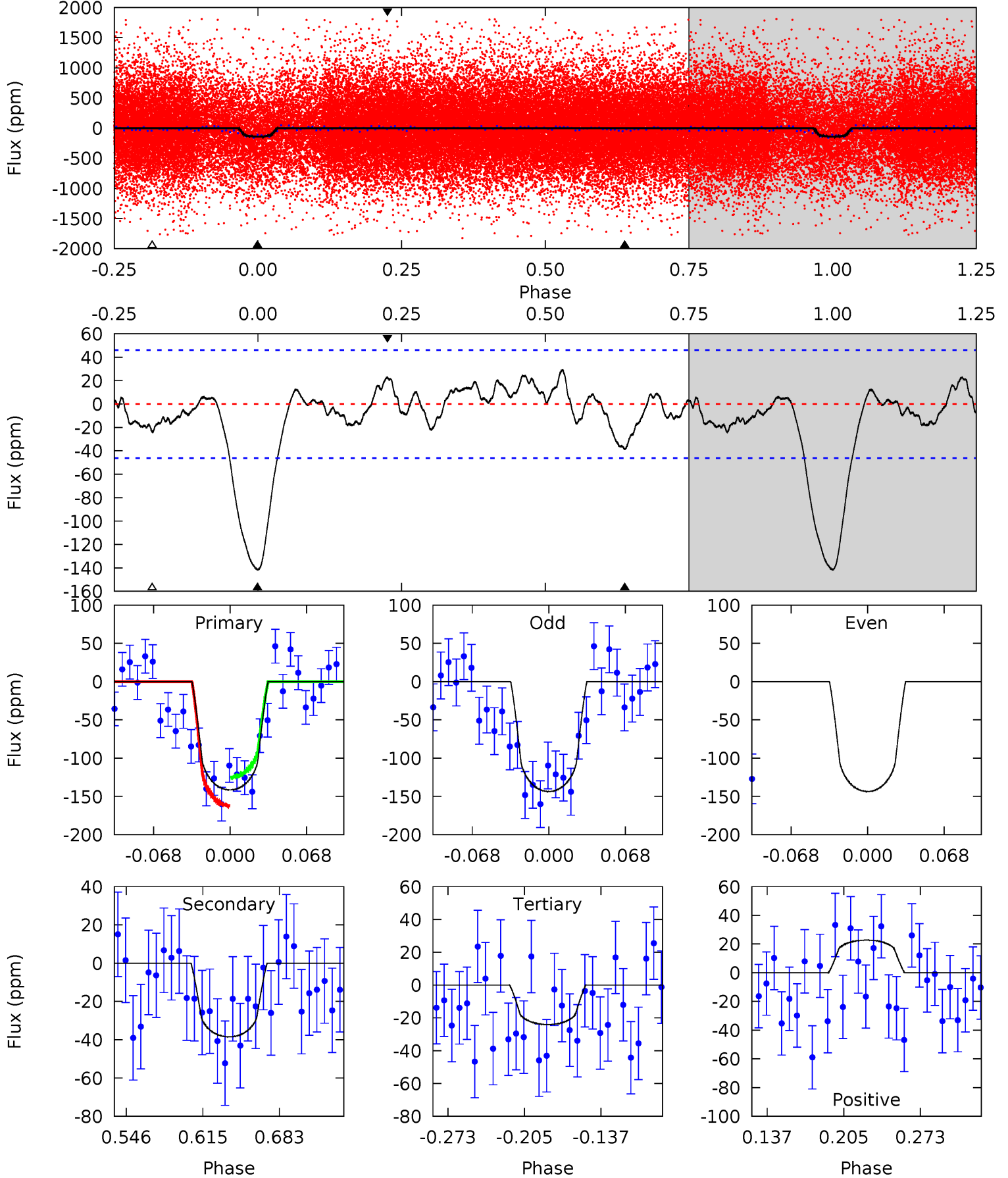
TCE 007767559-02 P= 2.204690 Days  $T_0=132.194921$  (BKJD)



# DV Model-Shift Uniqueness Test

007767559-02, P = 2.204757 Days, E = 129.982168 Days

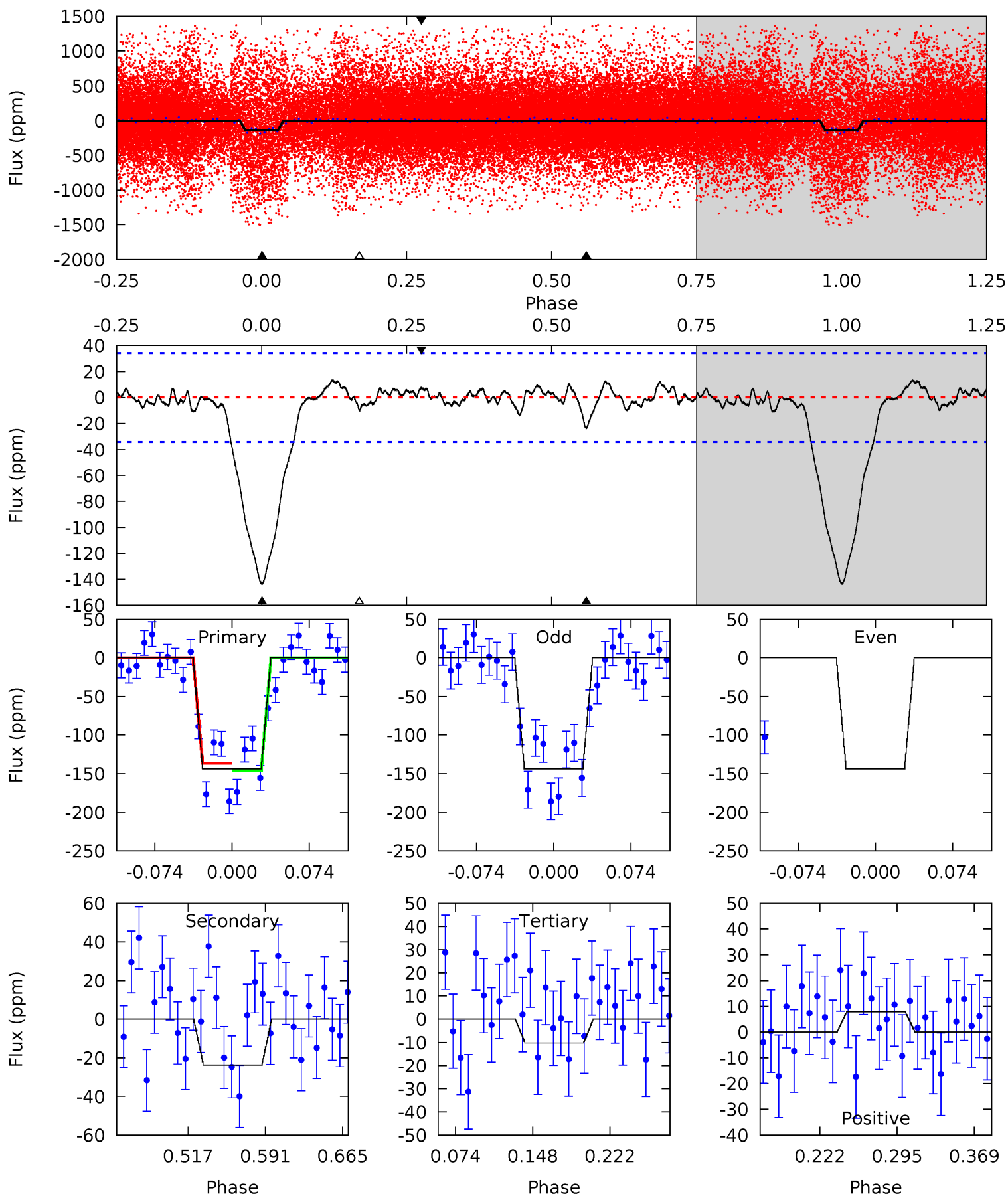
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	3.87	2.42	2.29	4.64	1.82	1.28	11.8	11.9	1.45	1.58	0	1.09	0.17	1.87



# Alt Model-Shift Uniqueness Test

007767559-02, P = 2.204690 Days, E = 129.990231 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.4	3.20	1.39	1.06	4.63	1.79	0.68	18.0	18.4	1.81	2.14	0	0.77	0.08	0.65



### Stellar Parameters For KIC 007767559

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5600^{+186}_{-169}$	$4.368^{+0.185}_{-0.204}$	$-0.260^{+0.300}_{-0.300}$	$0.975^{+0.271}_{-0.181}$	$0.811^{+0.127}_{-0.058}$	$1.231^{+1.019}_{-0.650}$
	+3%/-3%	+4%/-5%	+115%/-115%	+28%/-19%	+16%/-7%	+83%/-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 007767559-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-38 \pm 10$	$1.46^{+1.11}_{-0.96}$	$1948^{+169}_{-139}$	$4079^{+2101}_{-763}$	$9.760^{+61.677}_{-6.846}$
Alt.	$-24 \pm 7$	$1.38^{+1.16}_{-0.84}$	$1944^{+150}_{-135}$	$3714^{+1797}_{-693}$	$6.406^{+36.764}_{-4.687}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

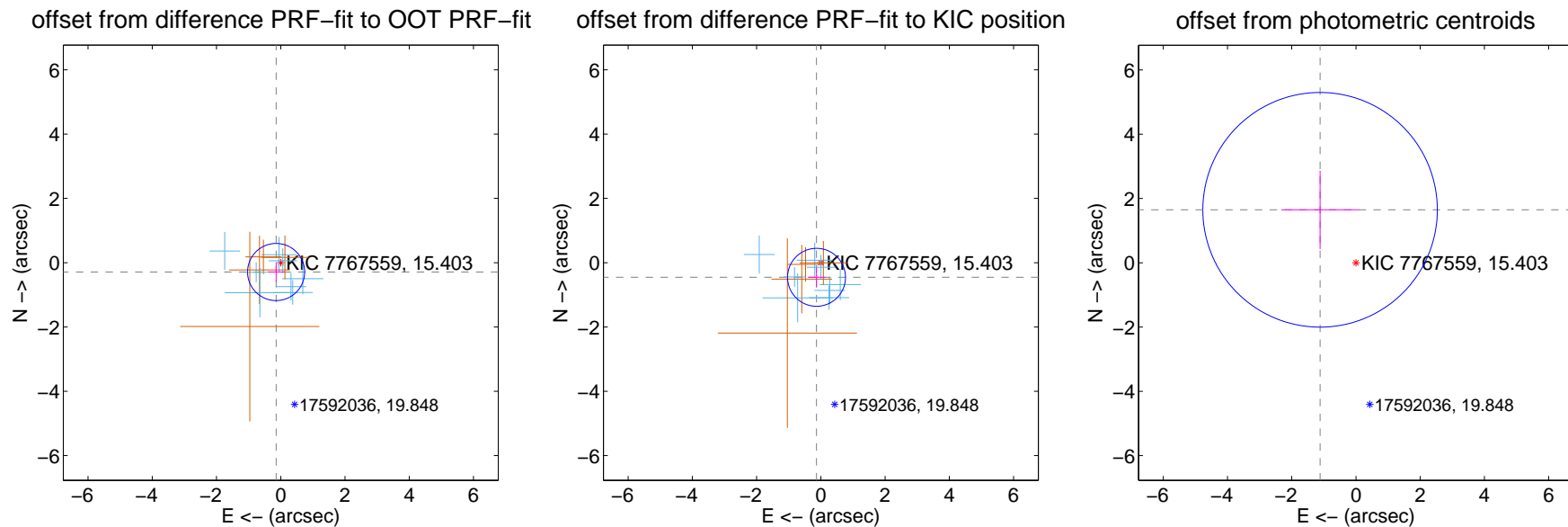
## DV Centroid Data

Supplemental centroid analysis for 007767559-02. Kepler magnitude: 15.40. Transit SNR 6.97

There are 8 quarters with good PRF difference image offsets

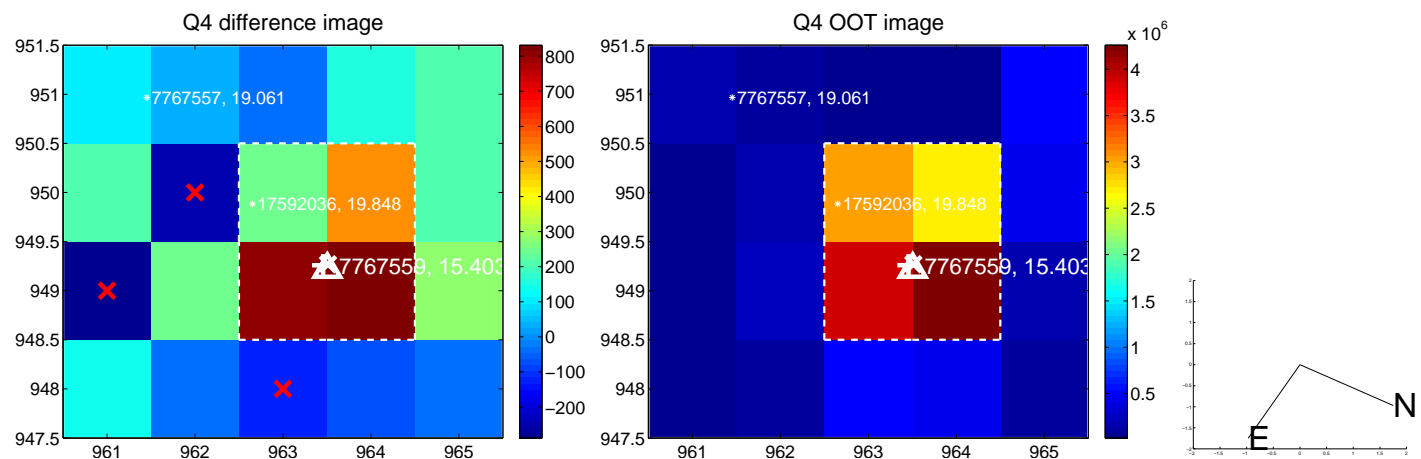
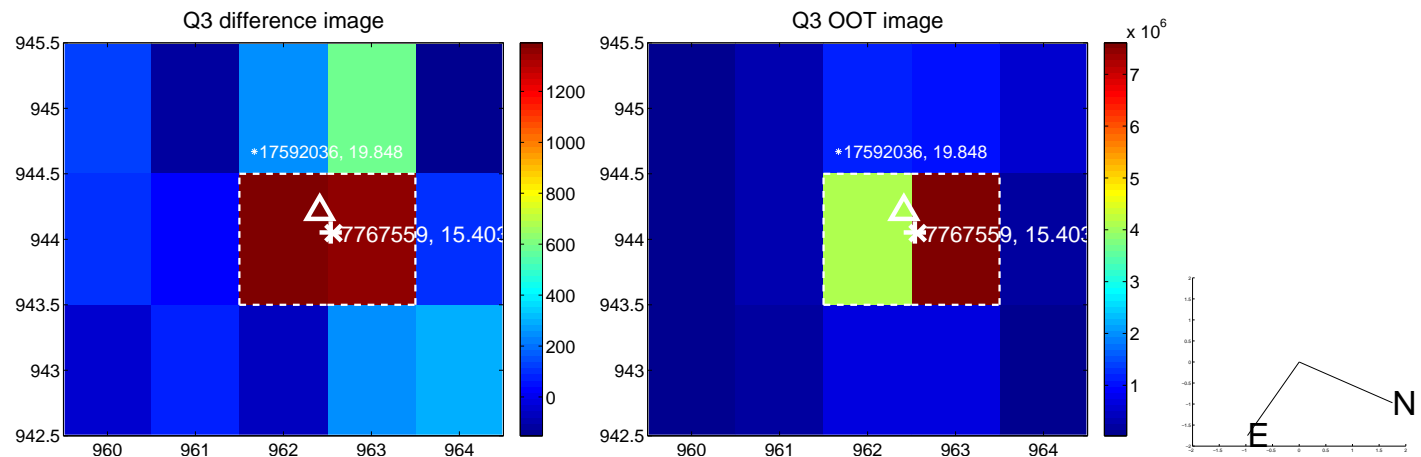
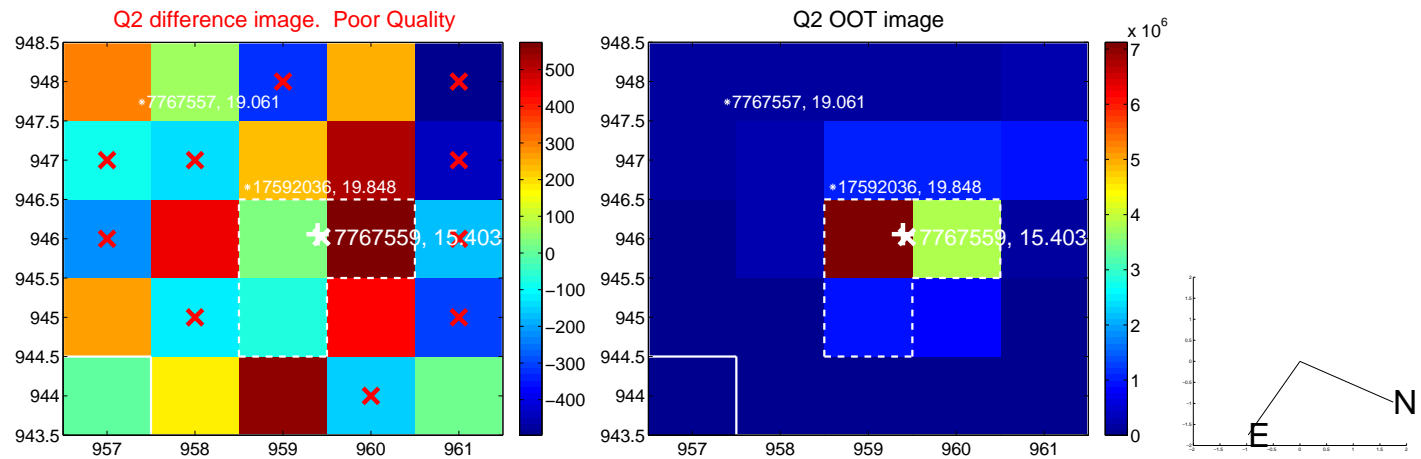
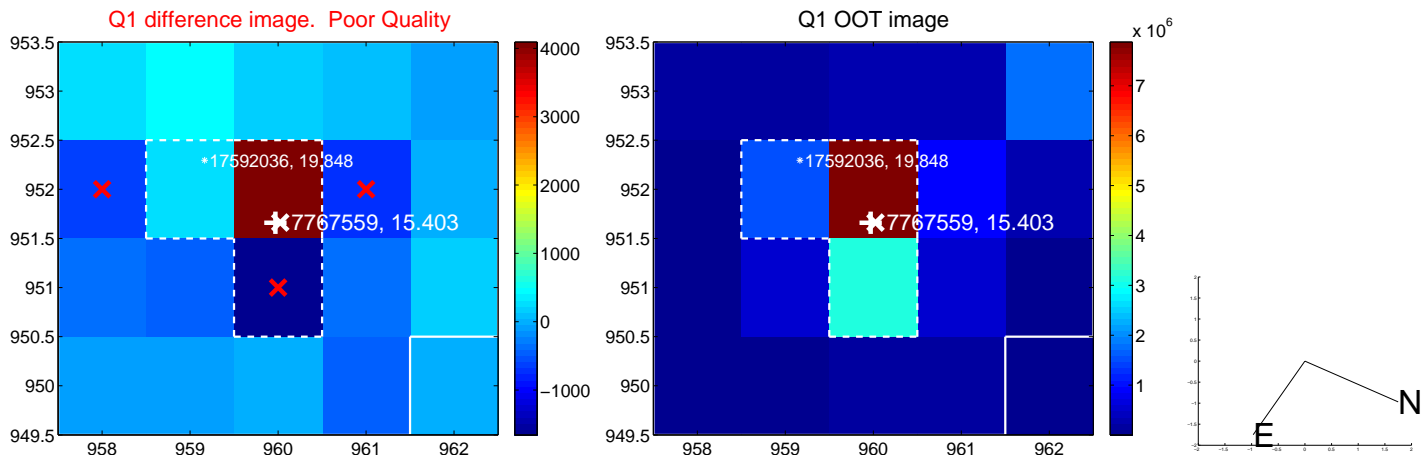
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.324 \pm 0.296$	1.09	$0.144 \pm 0.266$	$-0.290 \pm 0.303$
PRF-fit source offset from KIC position	$0.475 \pm 0.301$	1.58	$0.135 \pm 0.266$	$-0.455 \pm 0.303$
photometric centroid source offset	$1.99 \pm 1.22$	1.64	$1.12 \pm 1.21$	$1.65 \pm 1.22$



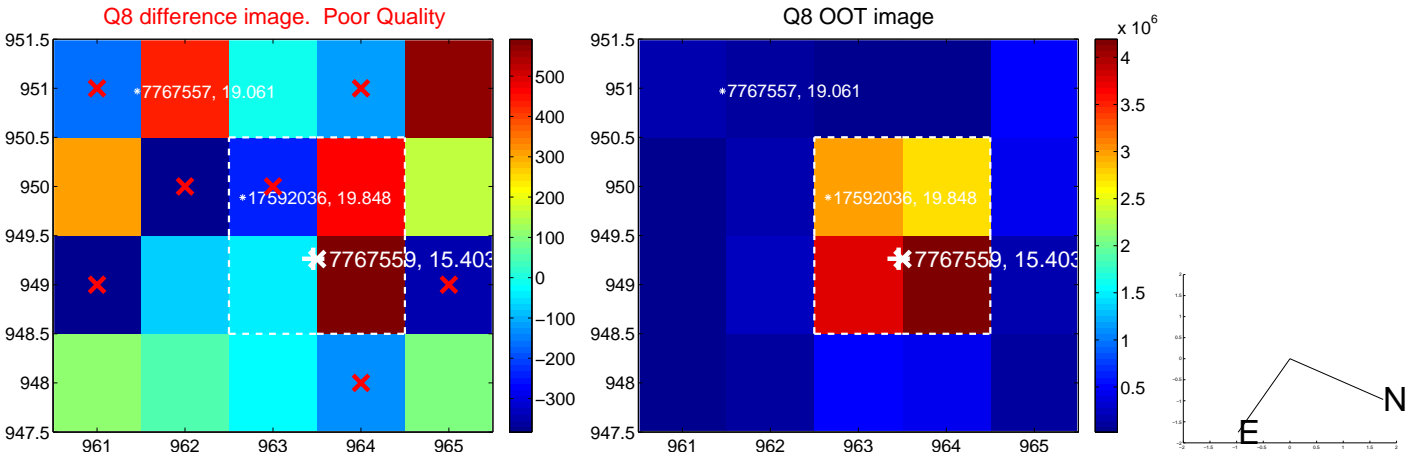
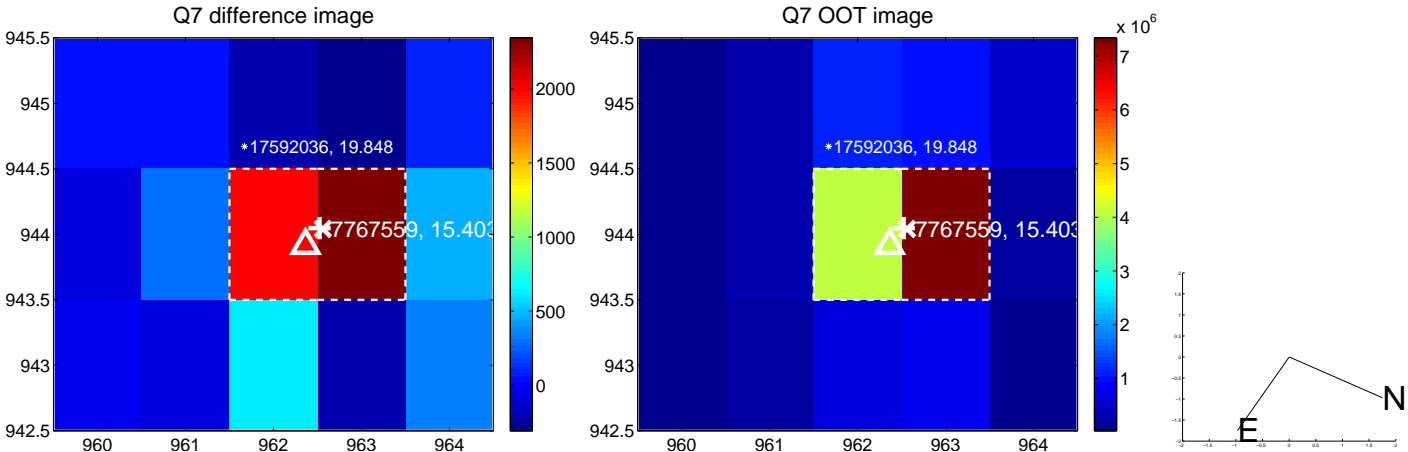
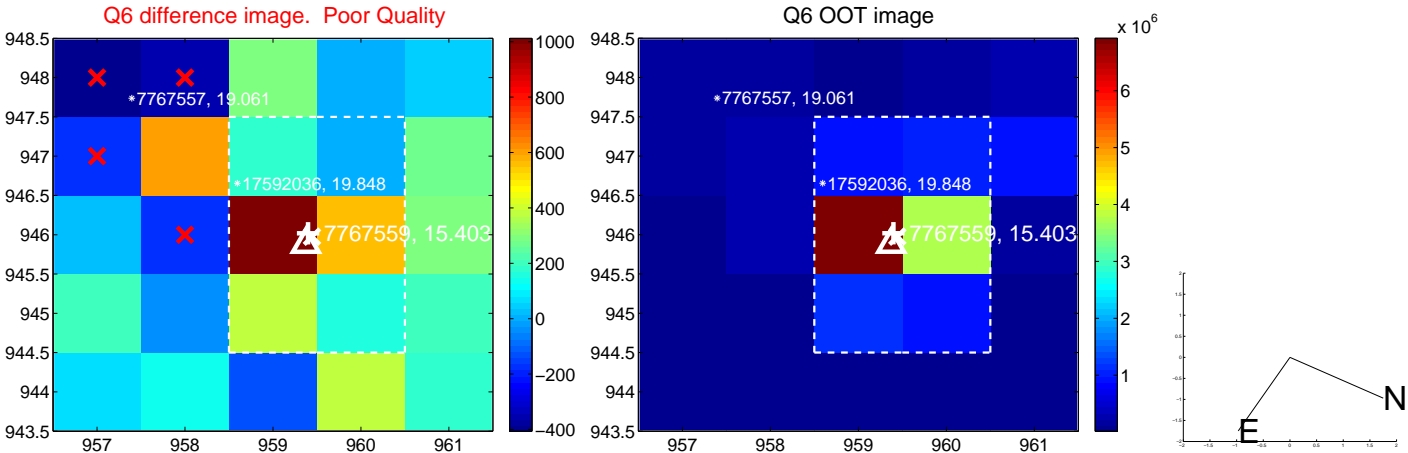
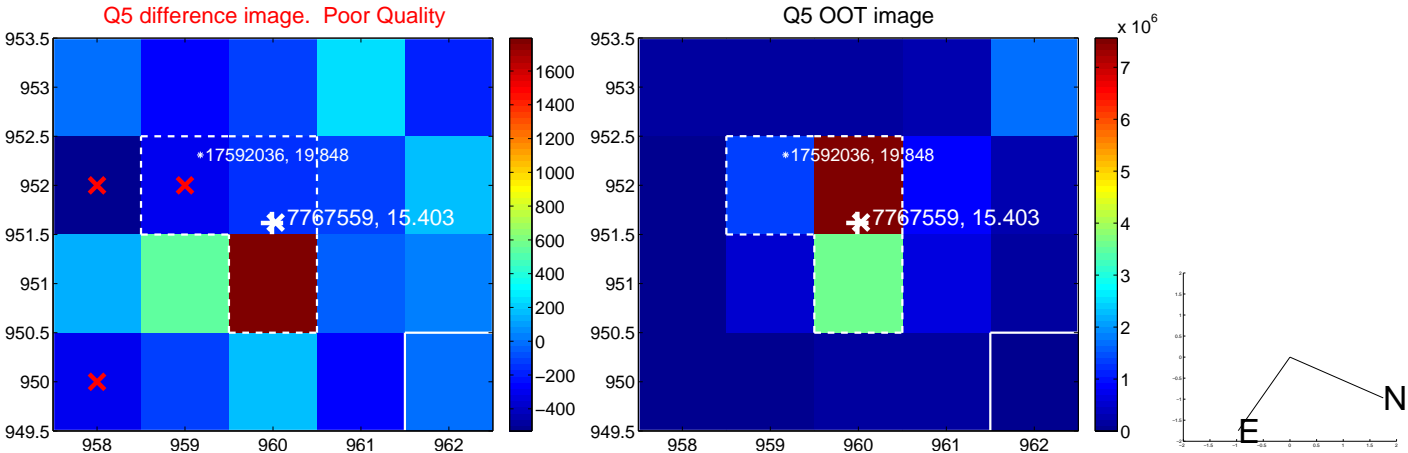
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

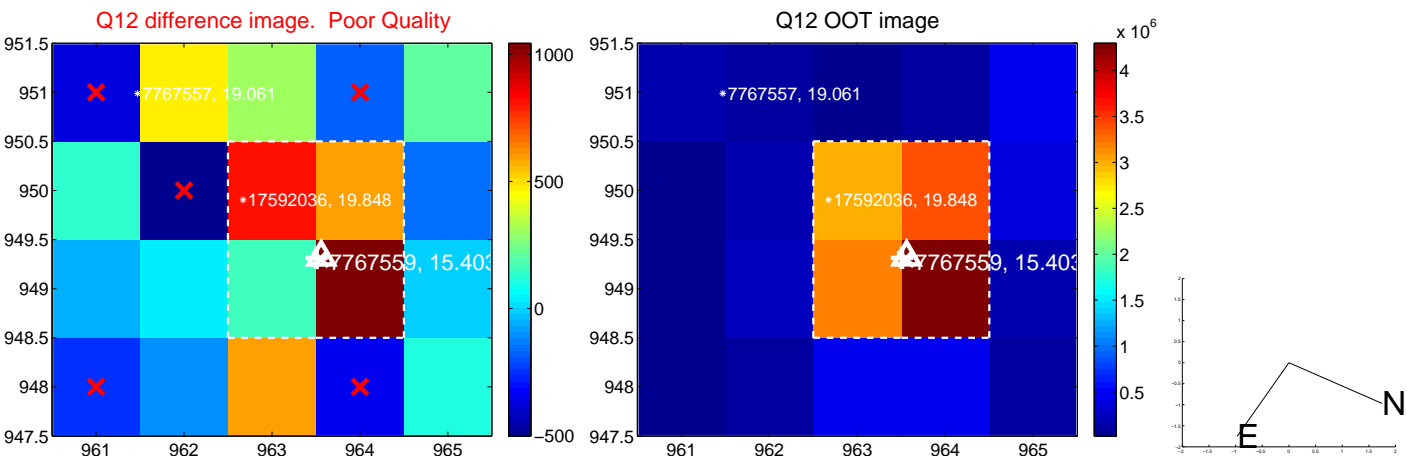
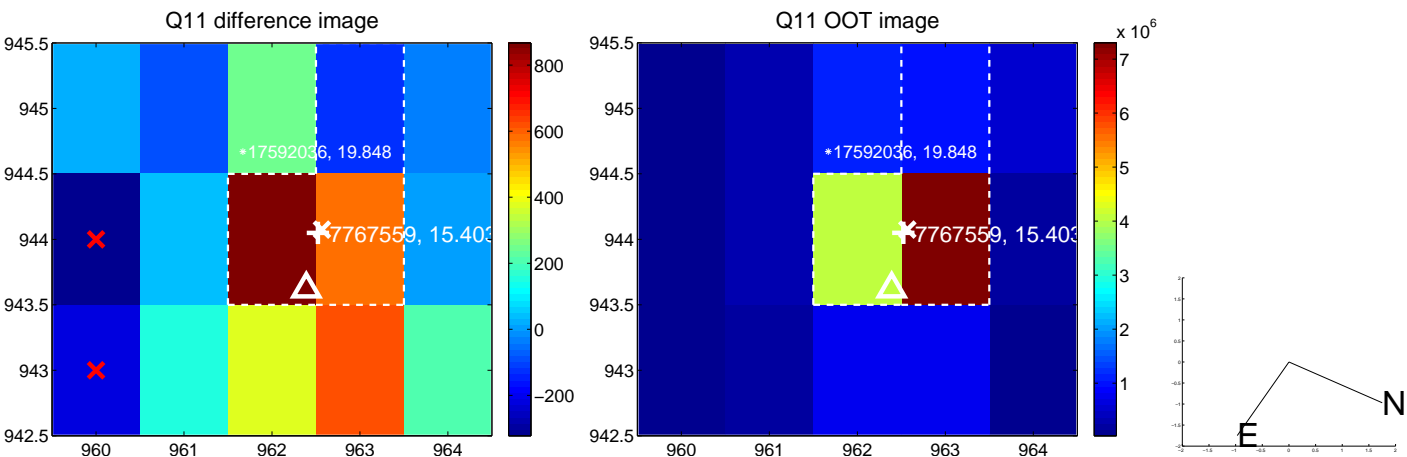
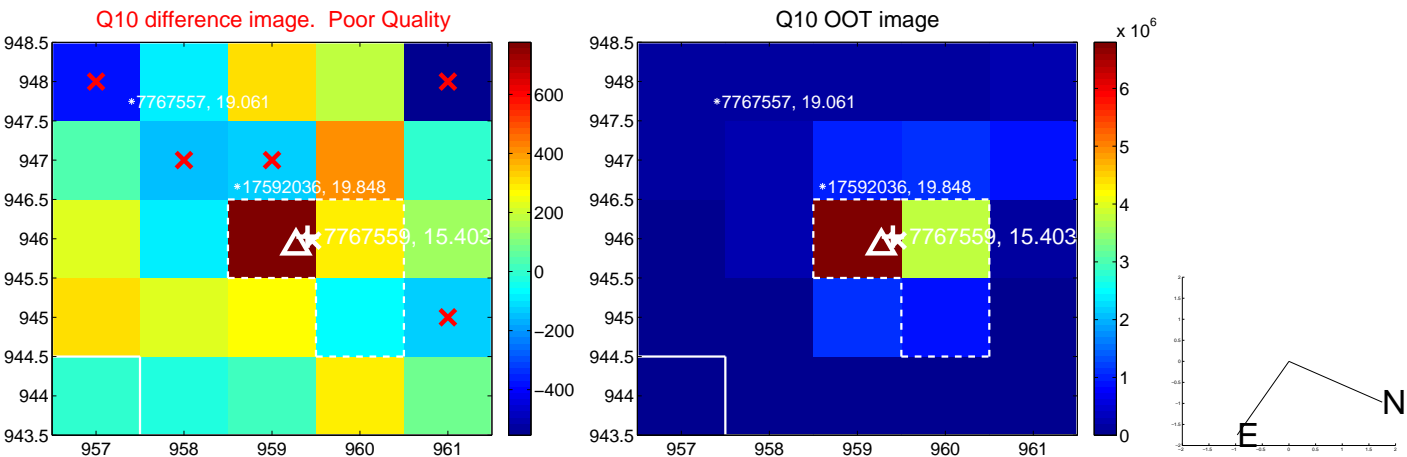
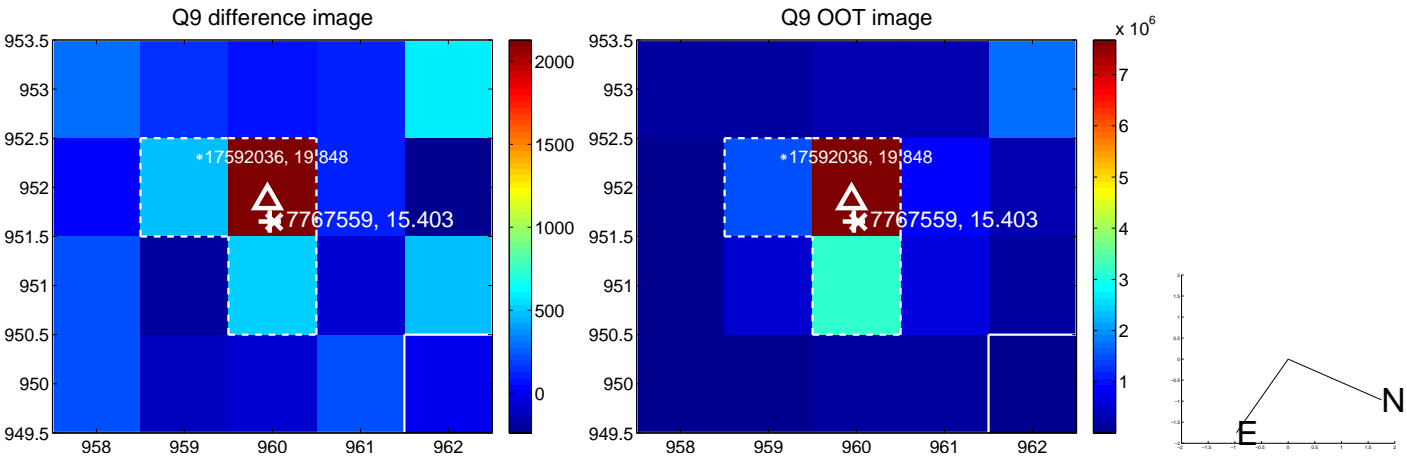




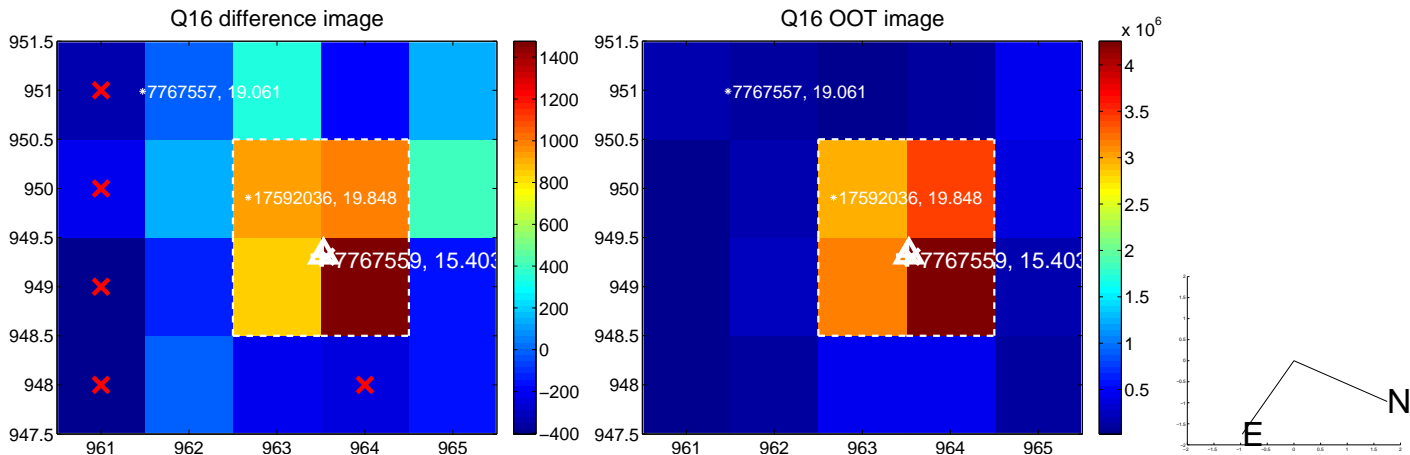
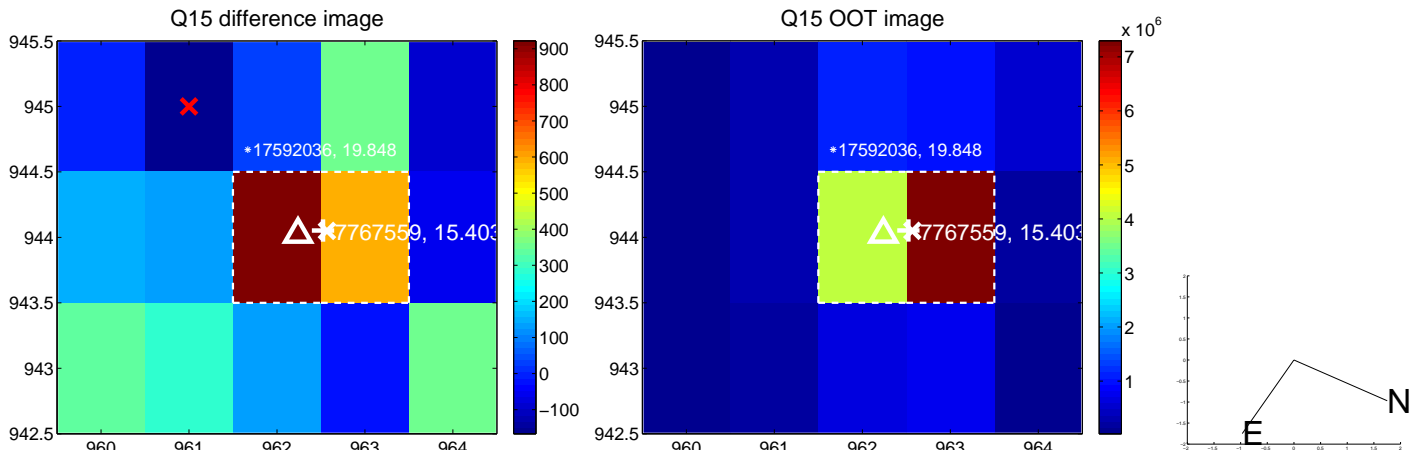
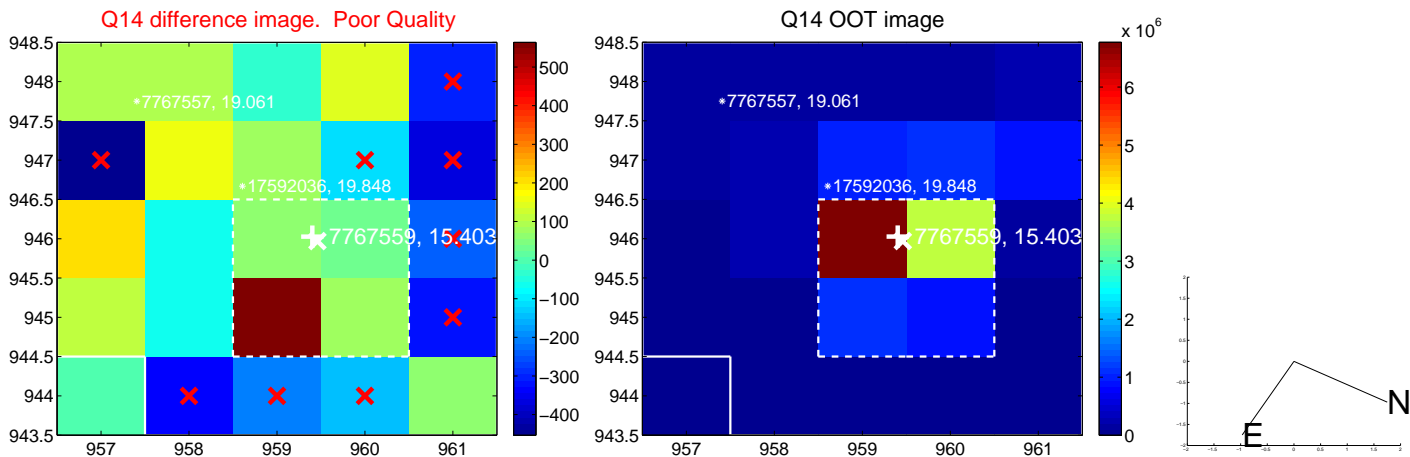
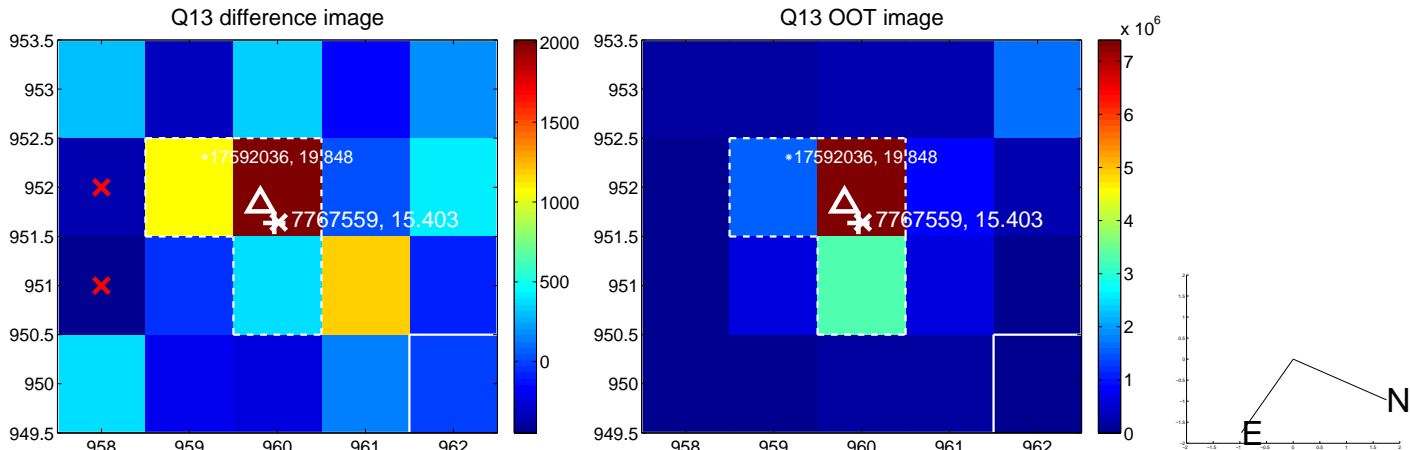
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



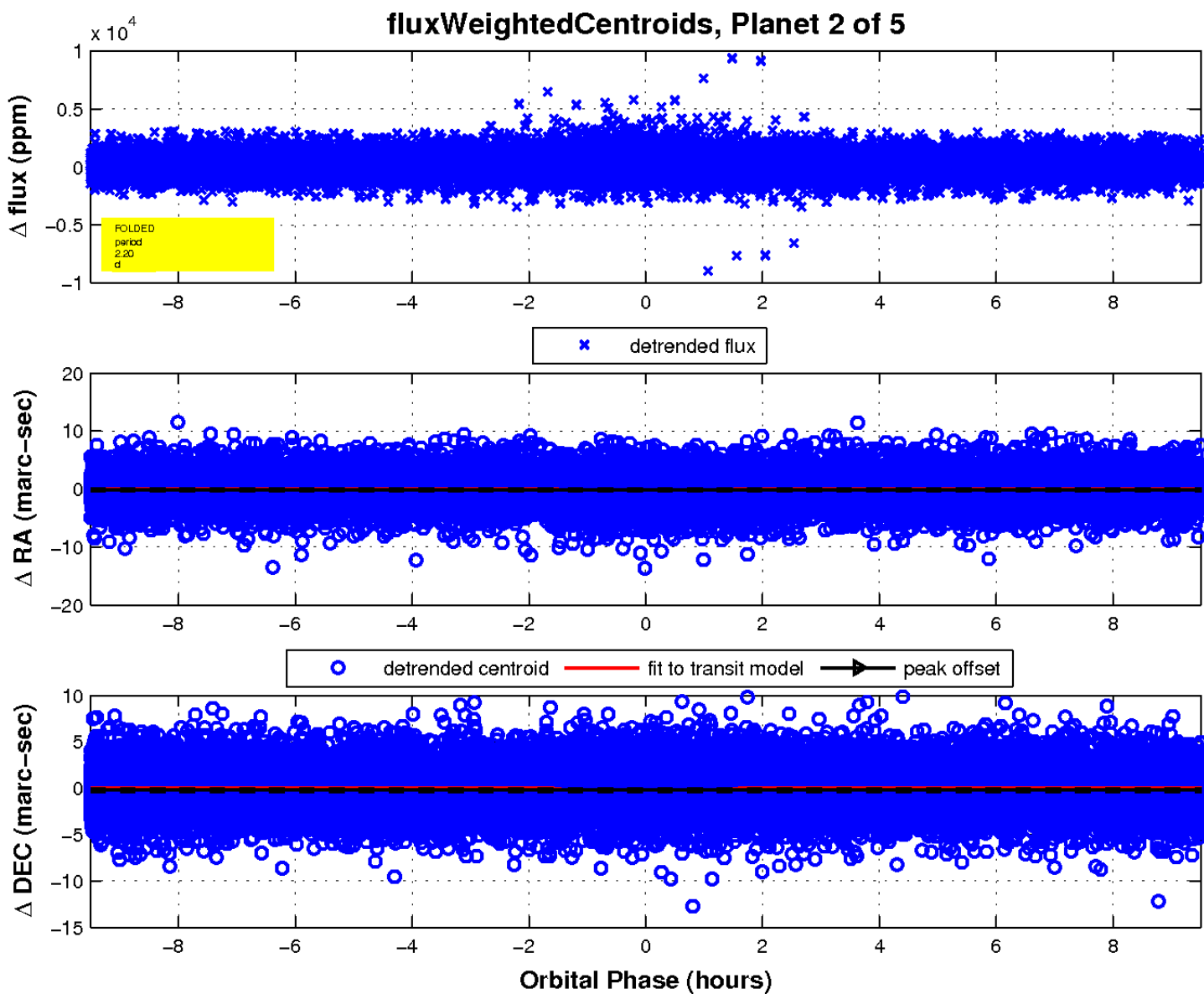
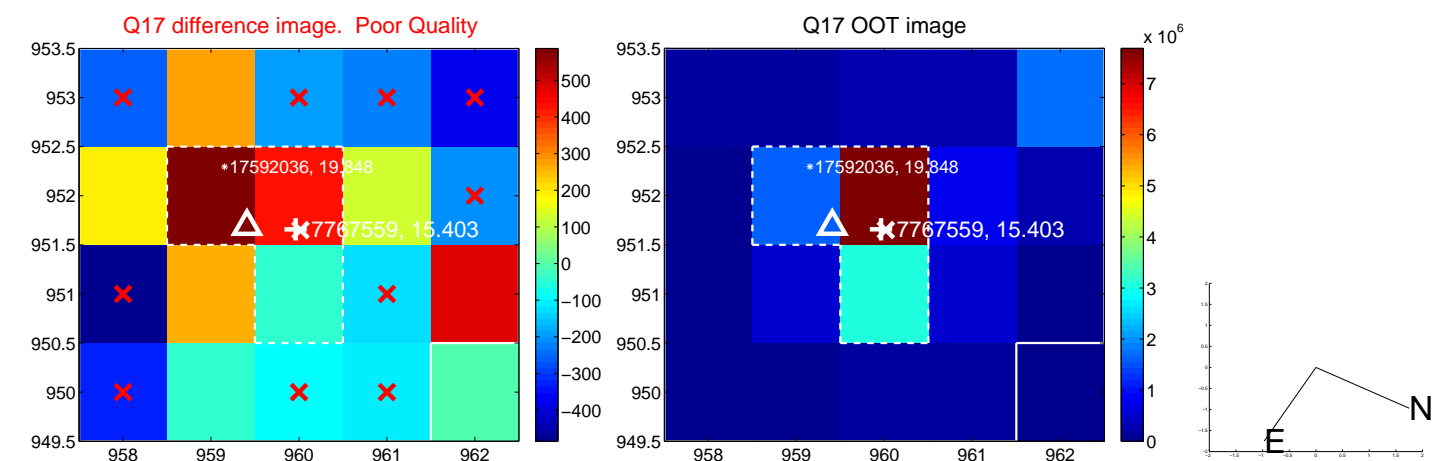
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

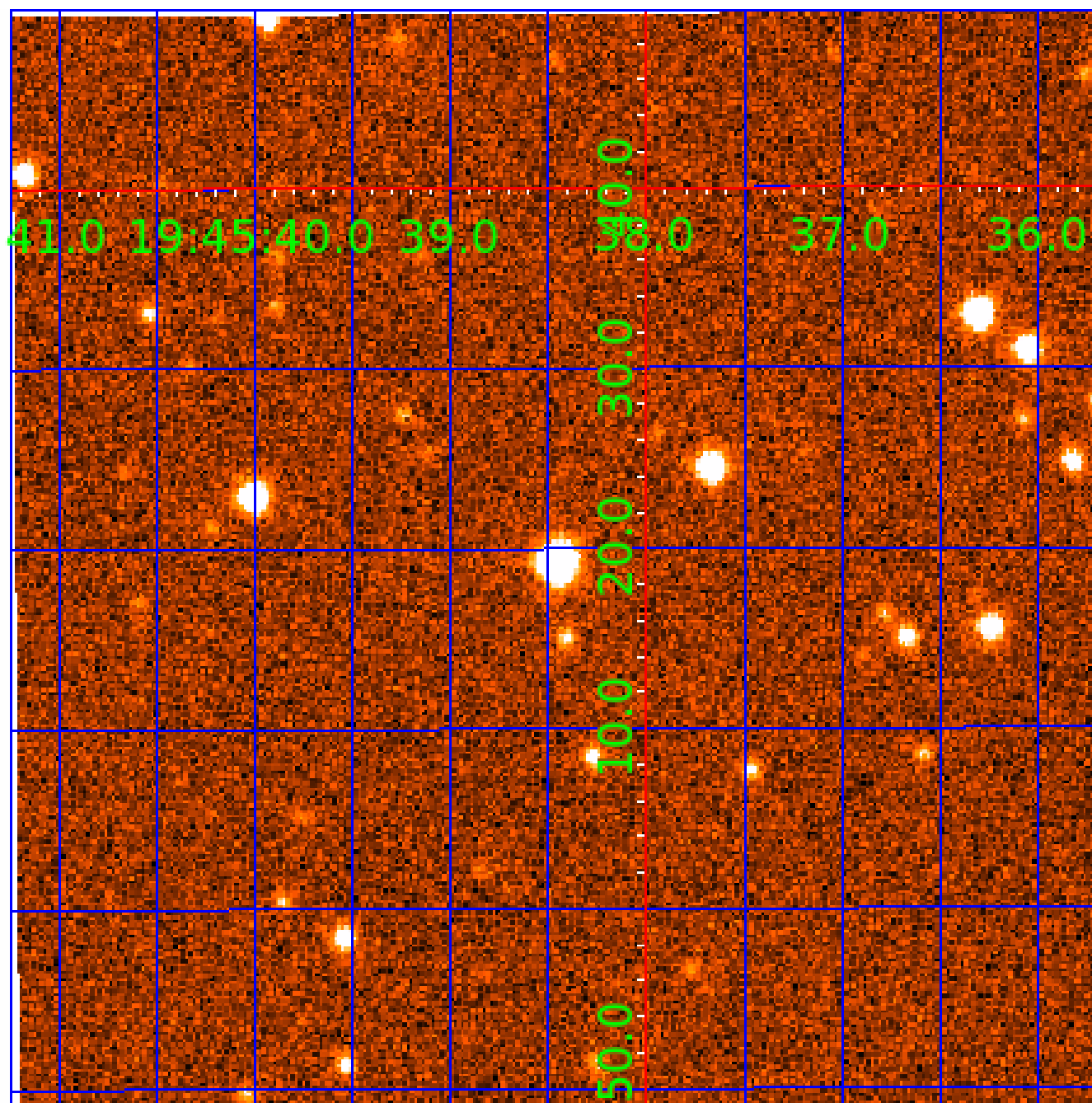


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 007767559

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007767559-01	OBS	0895.01	4.409409	132.209674	12985.9	3.854	735.7	694.7	0.97	5600	10.99	348.18
007767559-02	OBS	No	2.204757	132.186925	124.0	3.170	7.5	7.0	0.97	5600	1.15	877.34
007767559-03	OBS	No	165.437658	226.804531	466.9	1.241	7.2	2.2	0.97	5600	2.10	2.77
007767559-04	OBS	No	165.432971	226.497062	149.8	0.966	8.5	0.6	0.97	5600	1.27	2.77
007767559-05	OBS	No	361.608186	465.313357	1421.4	3.000	9.4	-1.0	0.97	5600	3.64	0.98

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007767559-01	OBS	FP	0.23	0	1	0	0	MOD_SEC_DV—HAS_SEC_TCE
007767559-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
007767559-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_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
007767559-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_FEW_DIFFS
007767559-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

**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](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

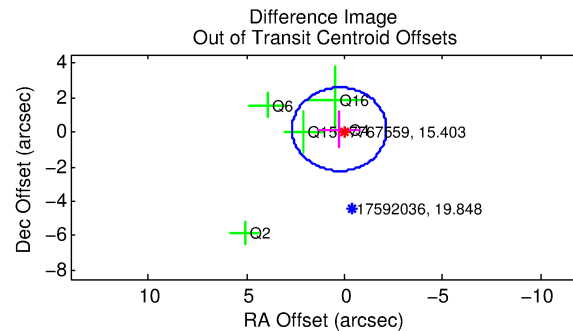
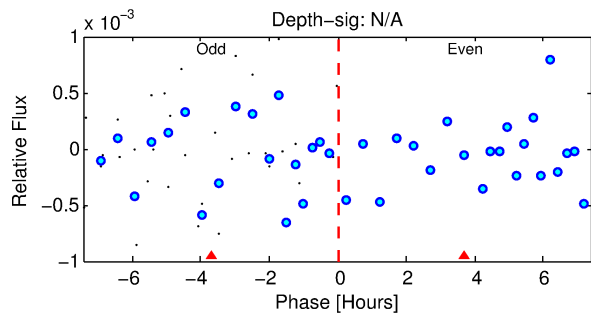
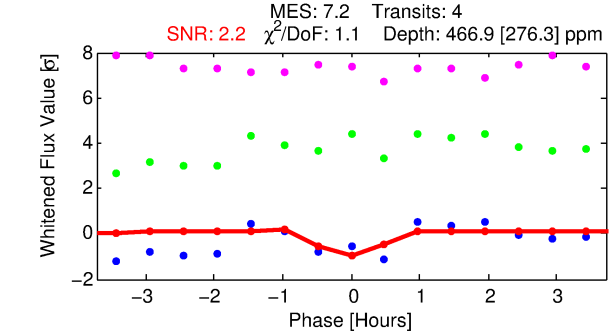
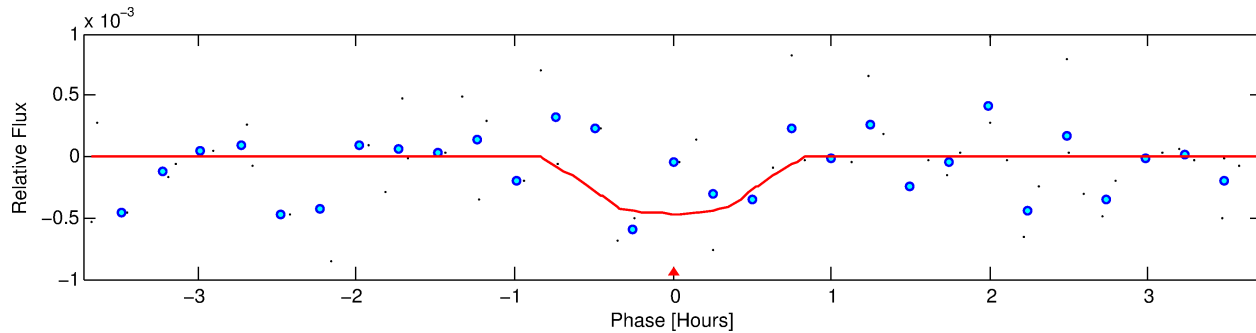
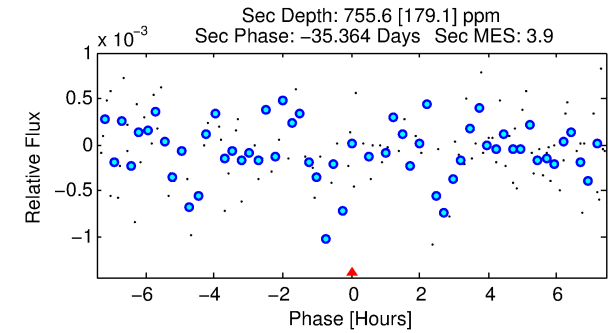
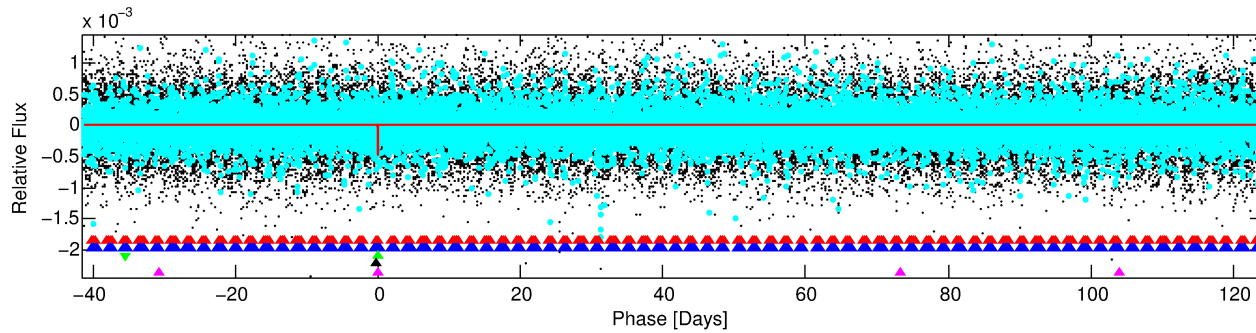
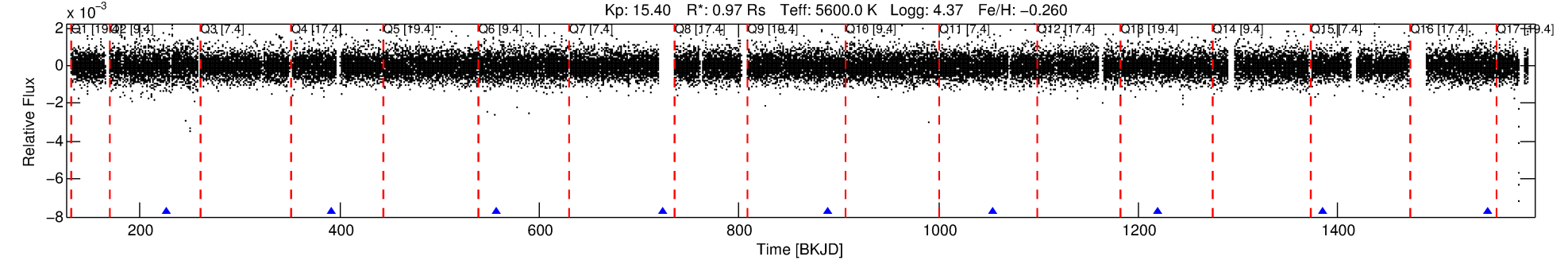
## Ephemeris Match Information For 007767559-03

No Significant Match Found

# DV One-Page Summary

KIC: 7767559 Candidate: 3 of 5 Period: 165.438 d  
KOI: K00895 Corr: No Ephemeris Match

Kp: 15.40 R\*: 0.97 Rs Teff: 5600.0 K Logg: 4.37 Fe/H: -0.260



## DV Fit Results:

Period = 165.43766 [0.00260] d  
Epoch = 226.8045 [0.0196] BKJD  
Rp/R\* = 0.0197 [0.3104]  
a/R\* = 1034.21 [69676.91]  
b = 0.10 [707.06]  
Seff = 2.77 [1.07]  
Teq = 329 [32] K  
Rp = 2.10 [33.03] Re  
a = 0.5497 [0.1334] AU  
Ag = 28568.72 [899990.74] [0.03σ]  
Teffp = 6614 [52084] K [0.12σ]

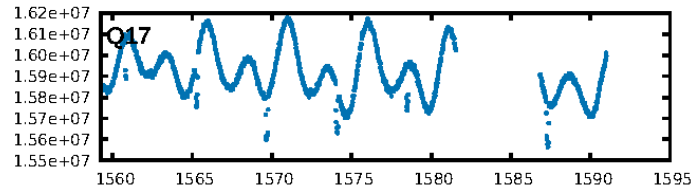
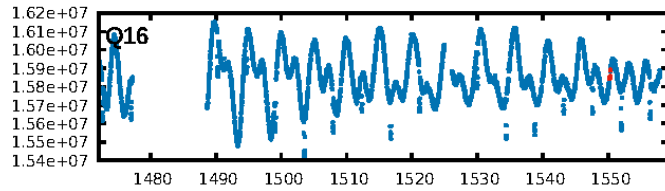
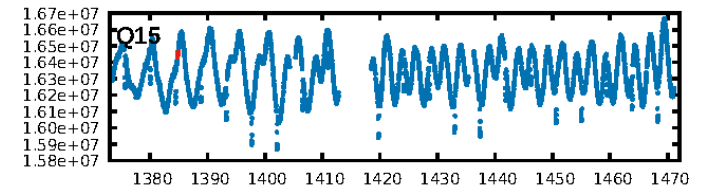
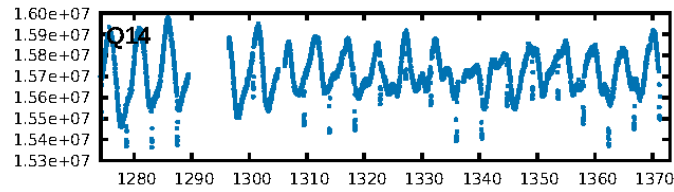
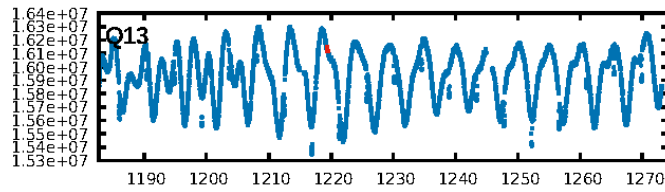
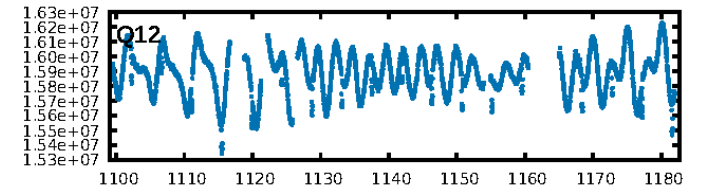
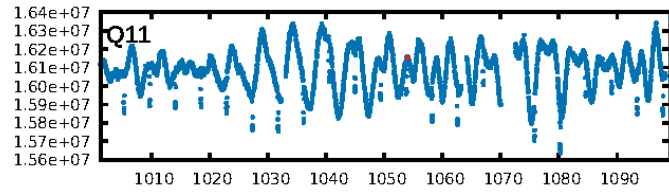
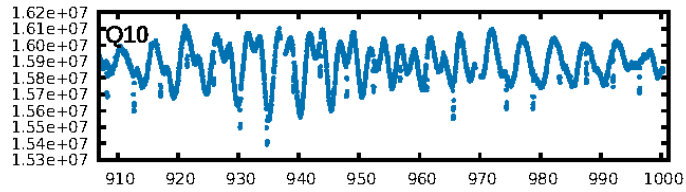
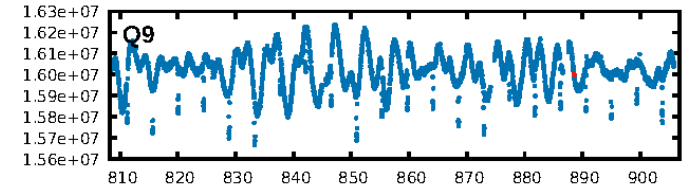
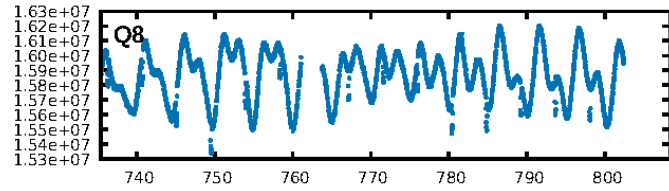
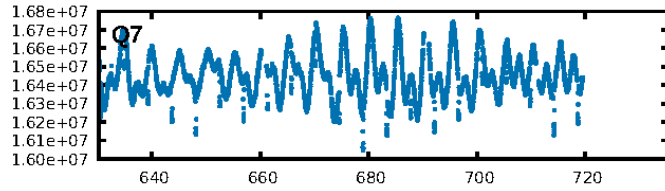
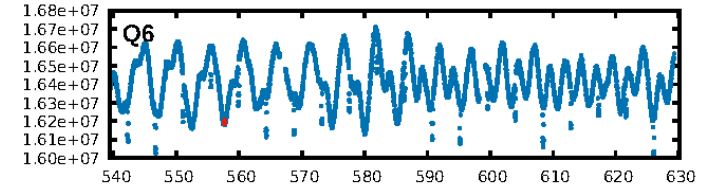
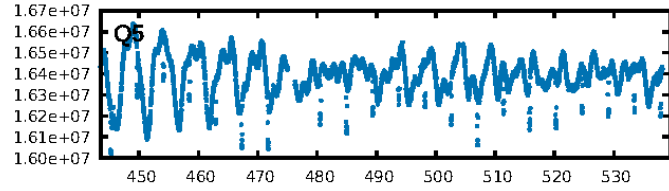
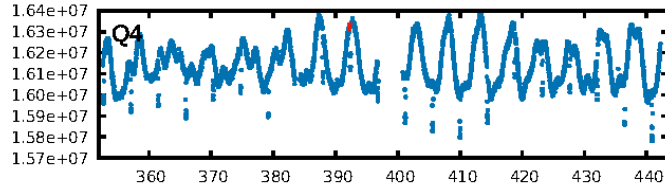
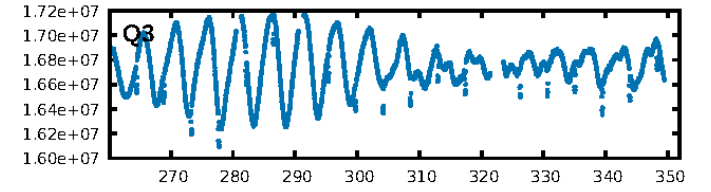
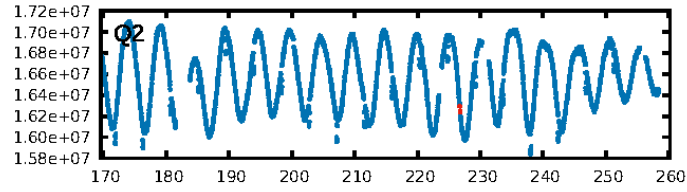
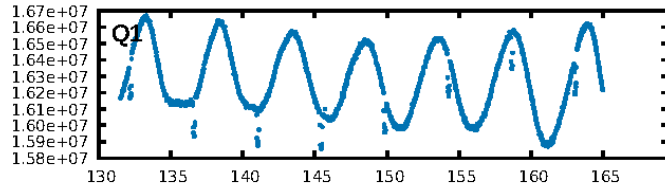
## DV Diagnostic Results:

ShortPeriod-sig: 5.7% [0.07σ]  
LongPeriod-sig: 100.0% [1450.26σ]  
ModelChiSquare2-sig: 39.7%  
ModelChiSquareGof-sig: 76.9%  
**Bootstrap-pfa: 5.63e-10**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -0.3092  
Centroid-sig: 28.2%  
Centroid-so: 3.144 arcsec [0.95σ]  
OotOffset-rm: 0.322 arcsec [0.40σ]  
OotOffset-st: 2/1/2/0 [5]  
KicOffset-rm: 0.404 arcsec [0.66σ]  
KicOffset-st: 2/1/2/0 [5]  
DiffImageQuality-fgm: 0.00 [0/5]  
DiffImageOverlap-fno: 0.25 [2/8]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:45:18 Z

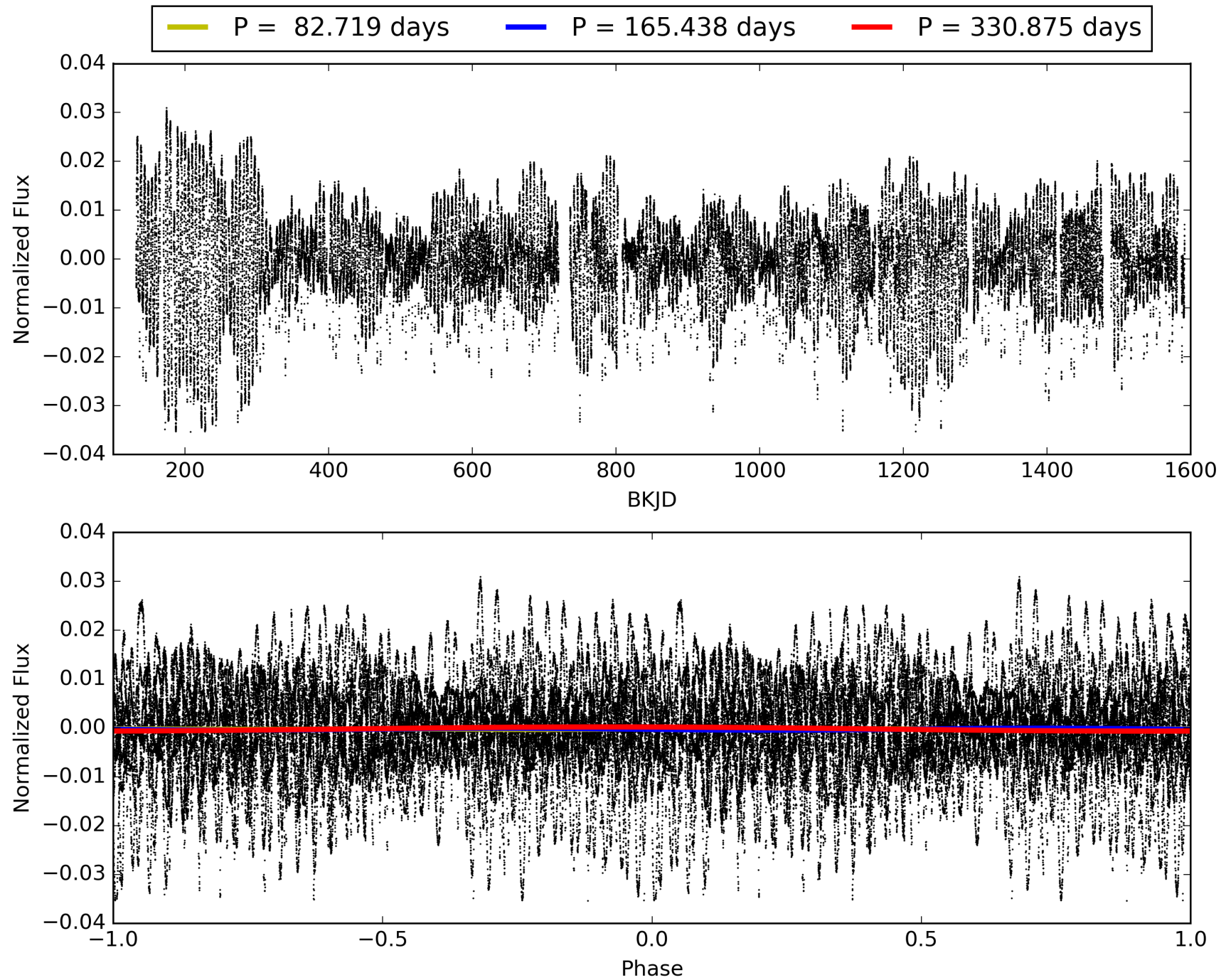
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007767559-03, PDC Light Curves



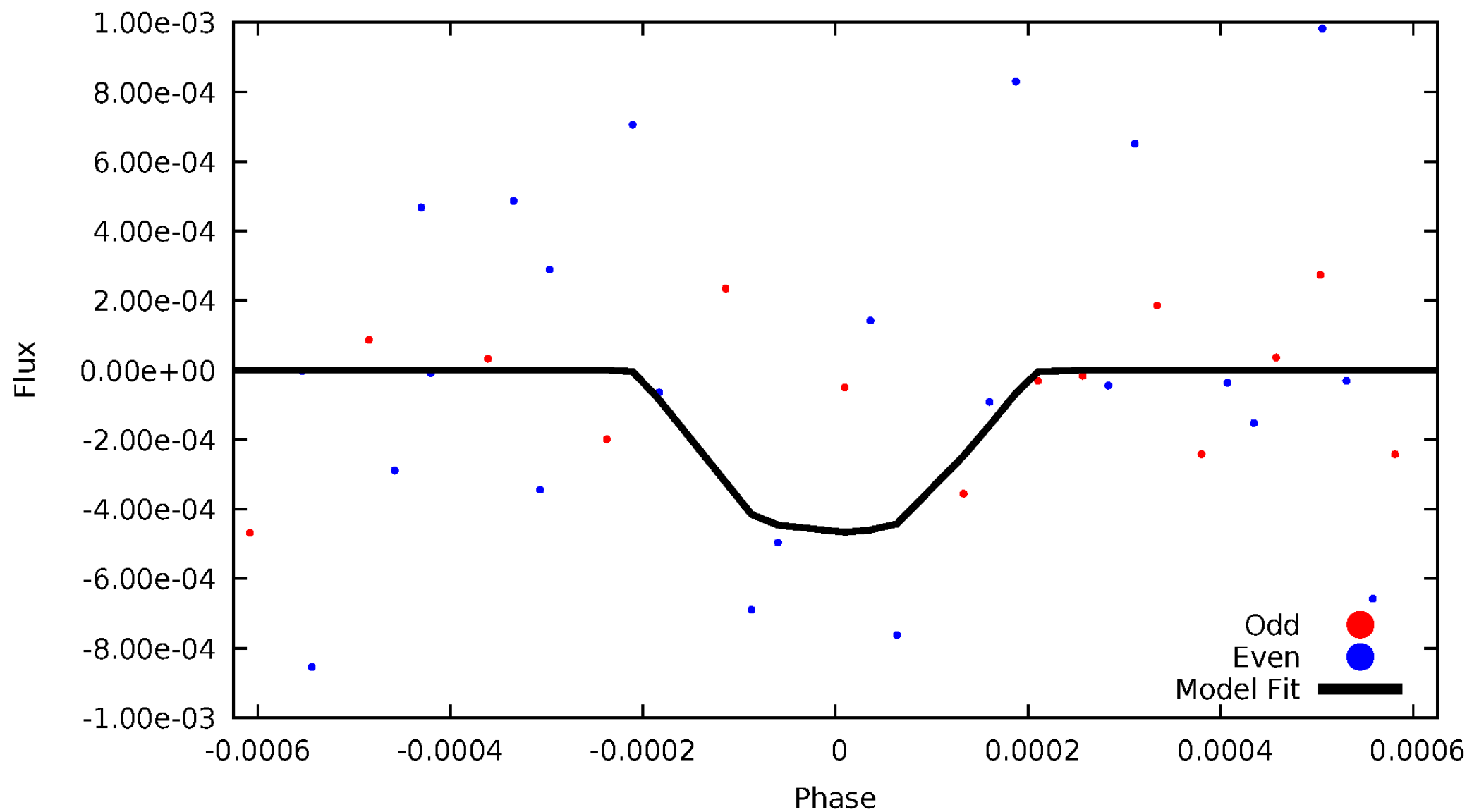


TCE 007767559-03



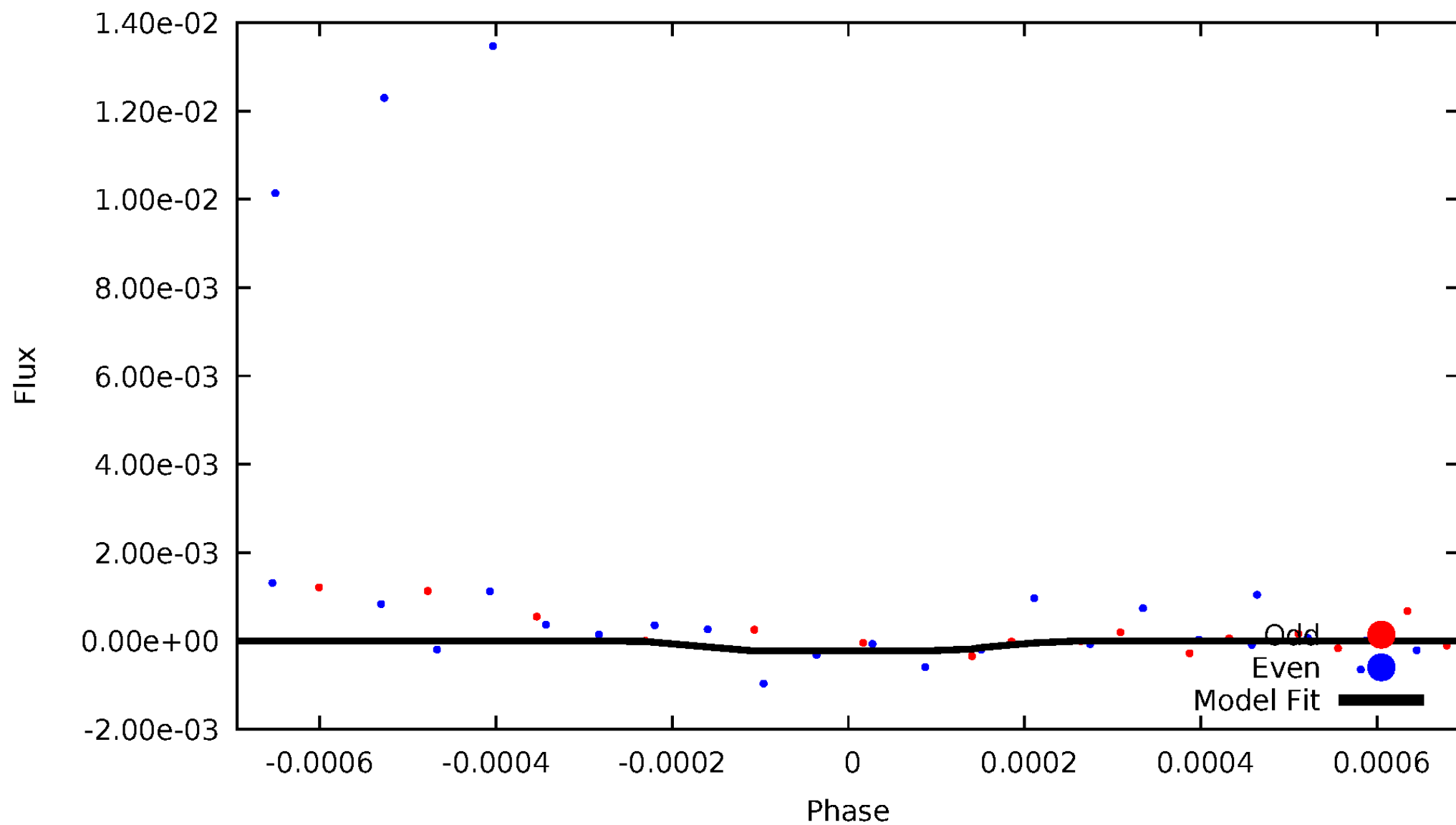
# DV Odd/Even

TCE 007767559-03



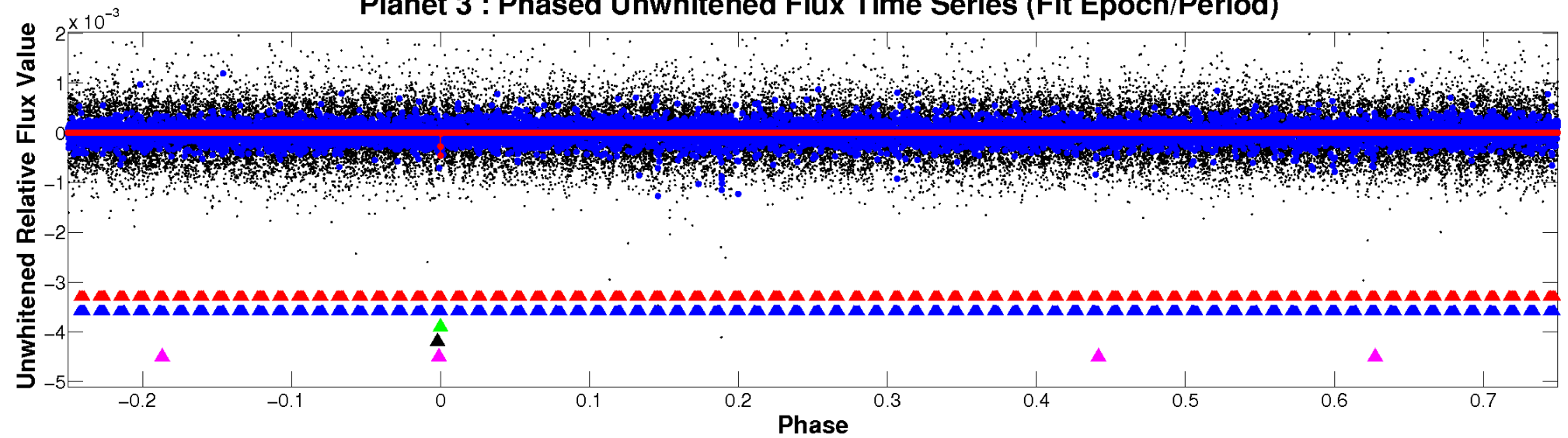
# ALT Odd/Even

TCE 007767559-03

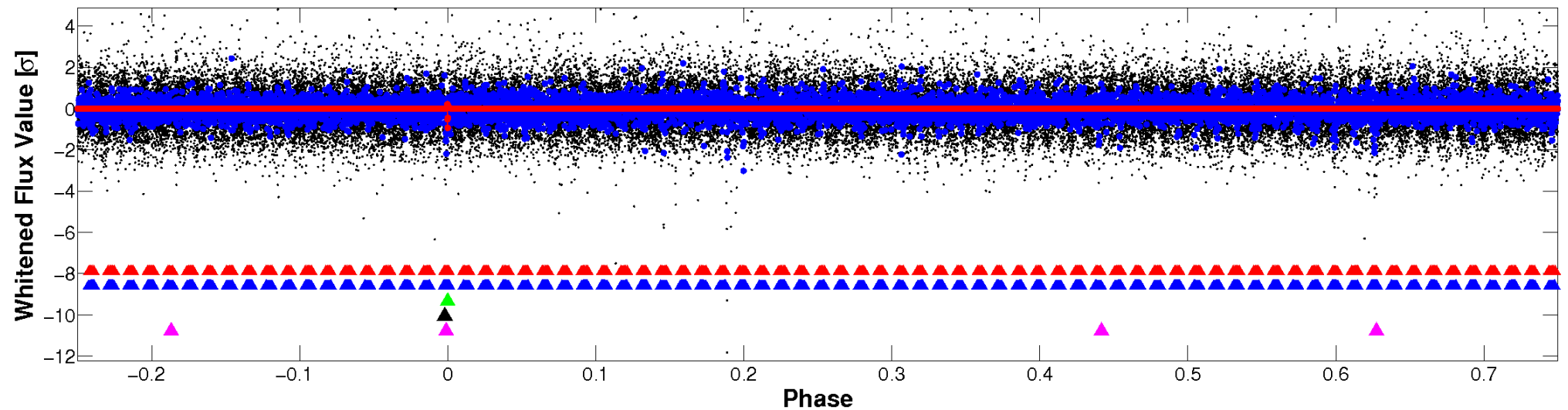


# Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

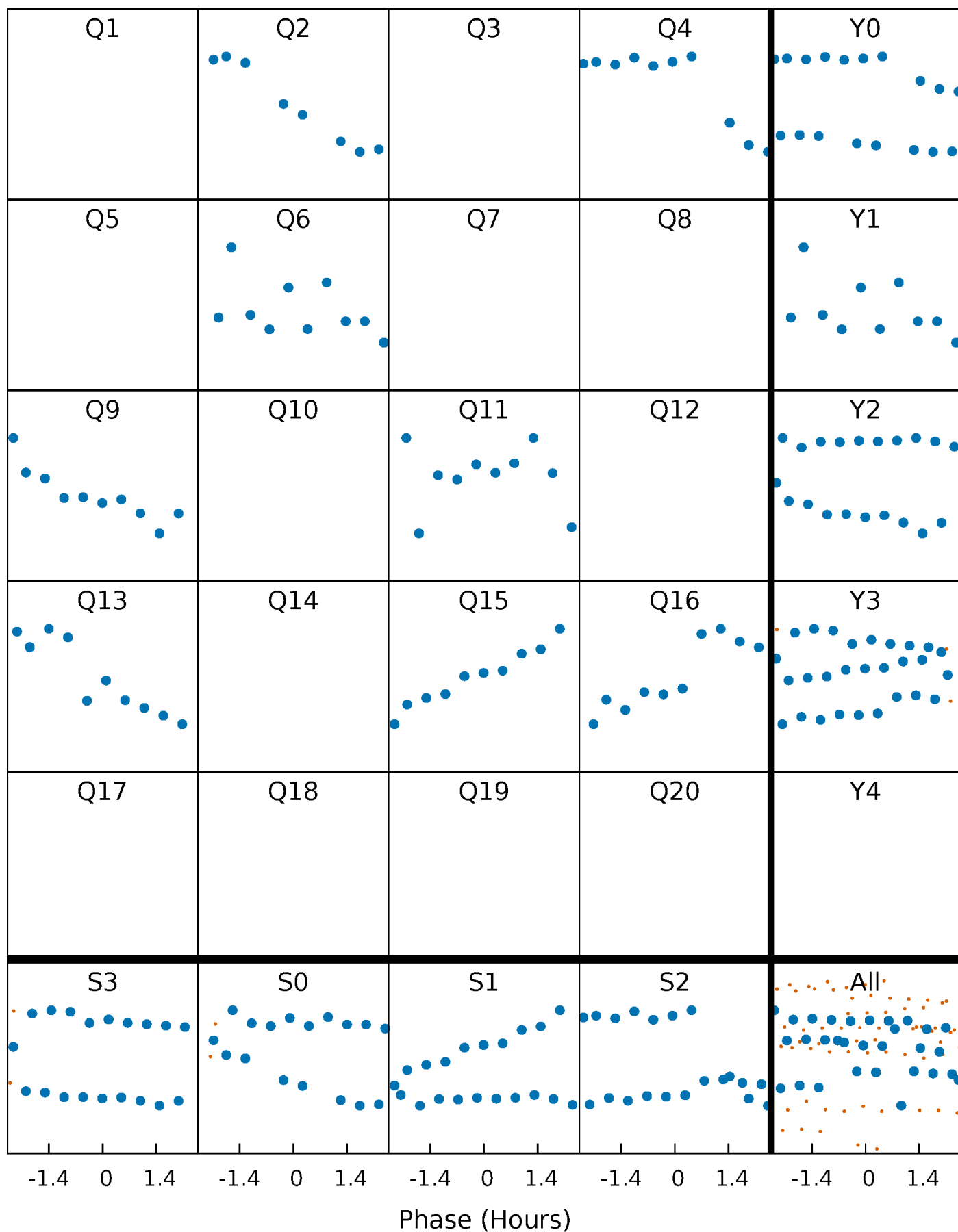


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



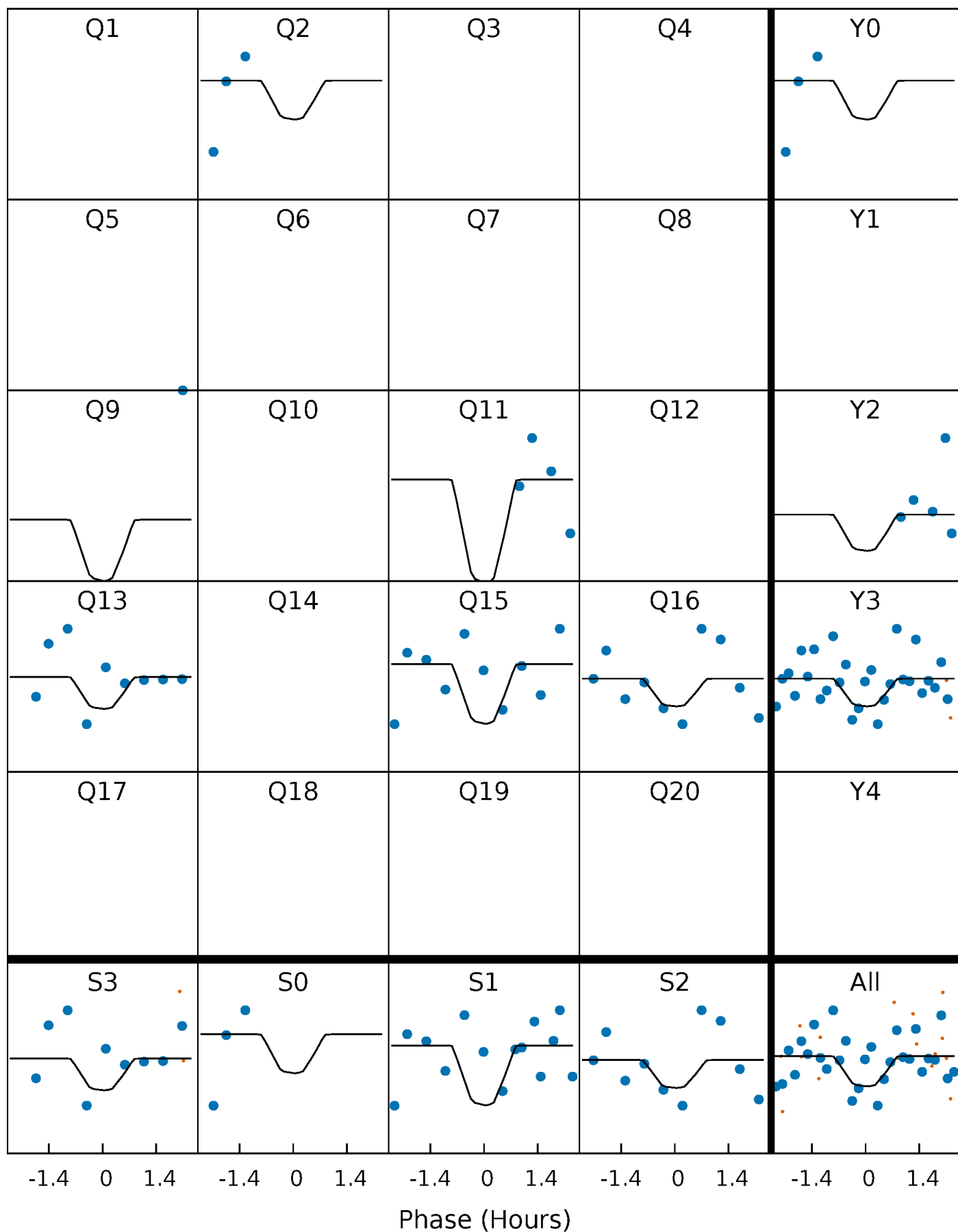
# PDC Quarter-Phased Transit Curves

TCE 007767559-03 P=165.437658 Days  $T_0=226.804531$  (BKJD)



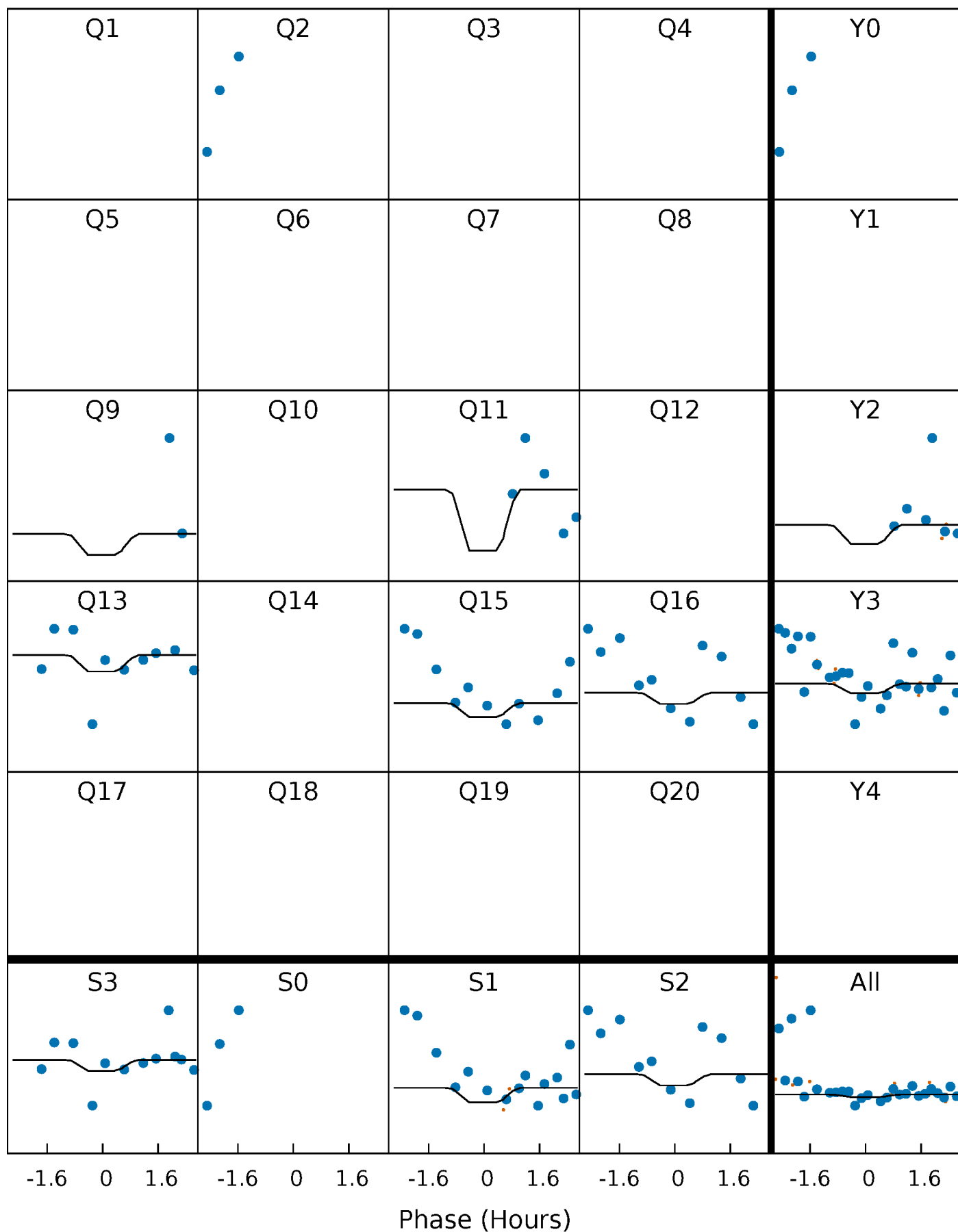
# DV Quarter-Phased Transit Curves

TCE 007767559-03 P=165.437658 Days  $T_0=226.804531$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

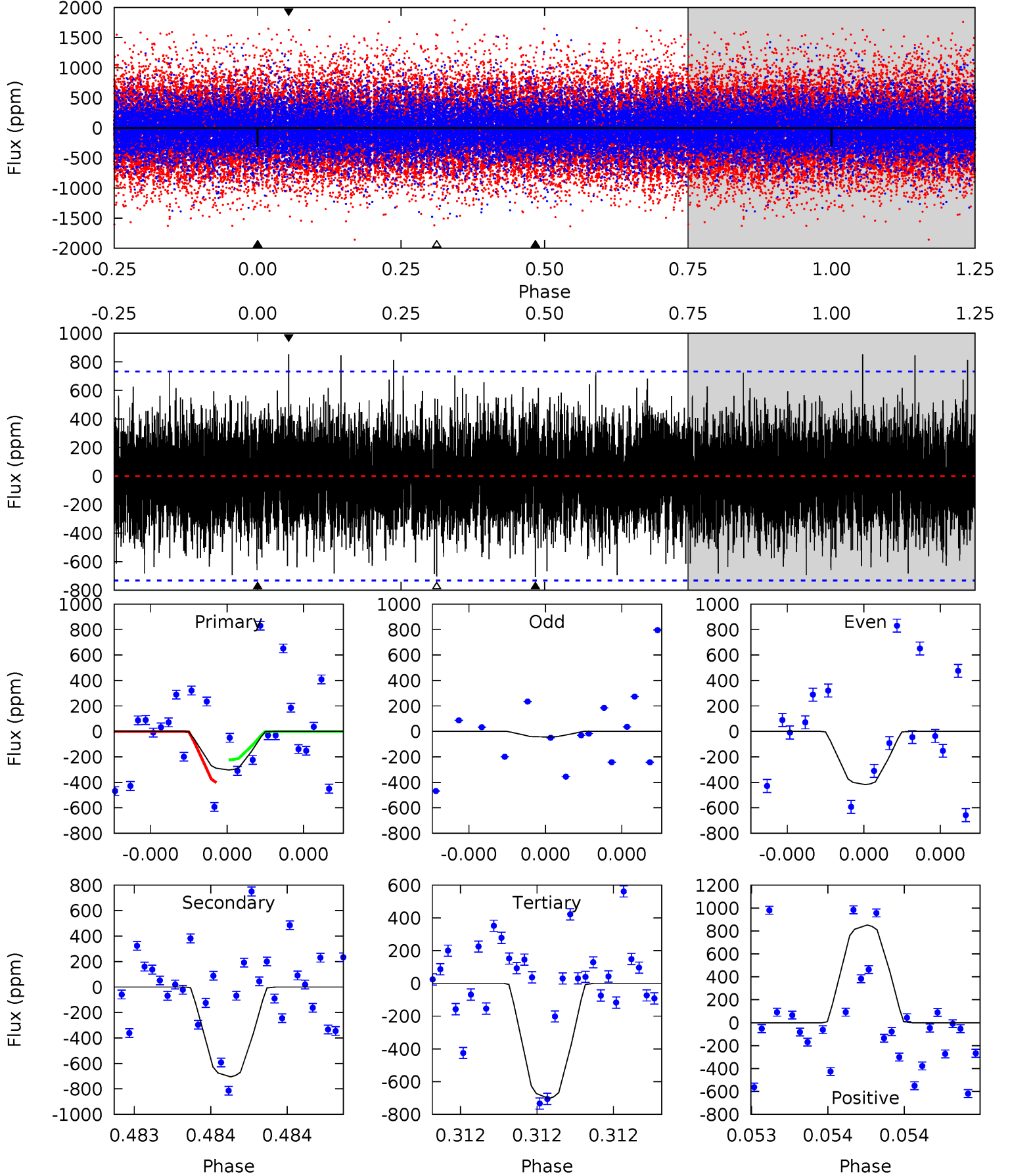
TCE 007767559-03 P=165.434970 Days  $T_0=226.822153$  (BKJD)



# DV Model-Shift Uniqueness Test

007767559-03, P = 165.437658 Days, E = 61.366873 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.32	5.40	5.38	6.52	5.60	3.53	1.44	-3.06	-4.21	0.02	-1.13	1.36	1.12	0.55	0.67

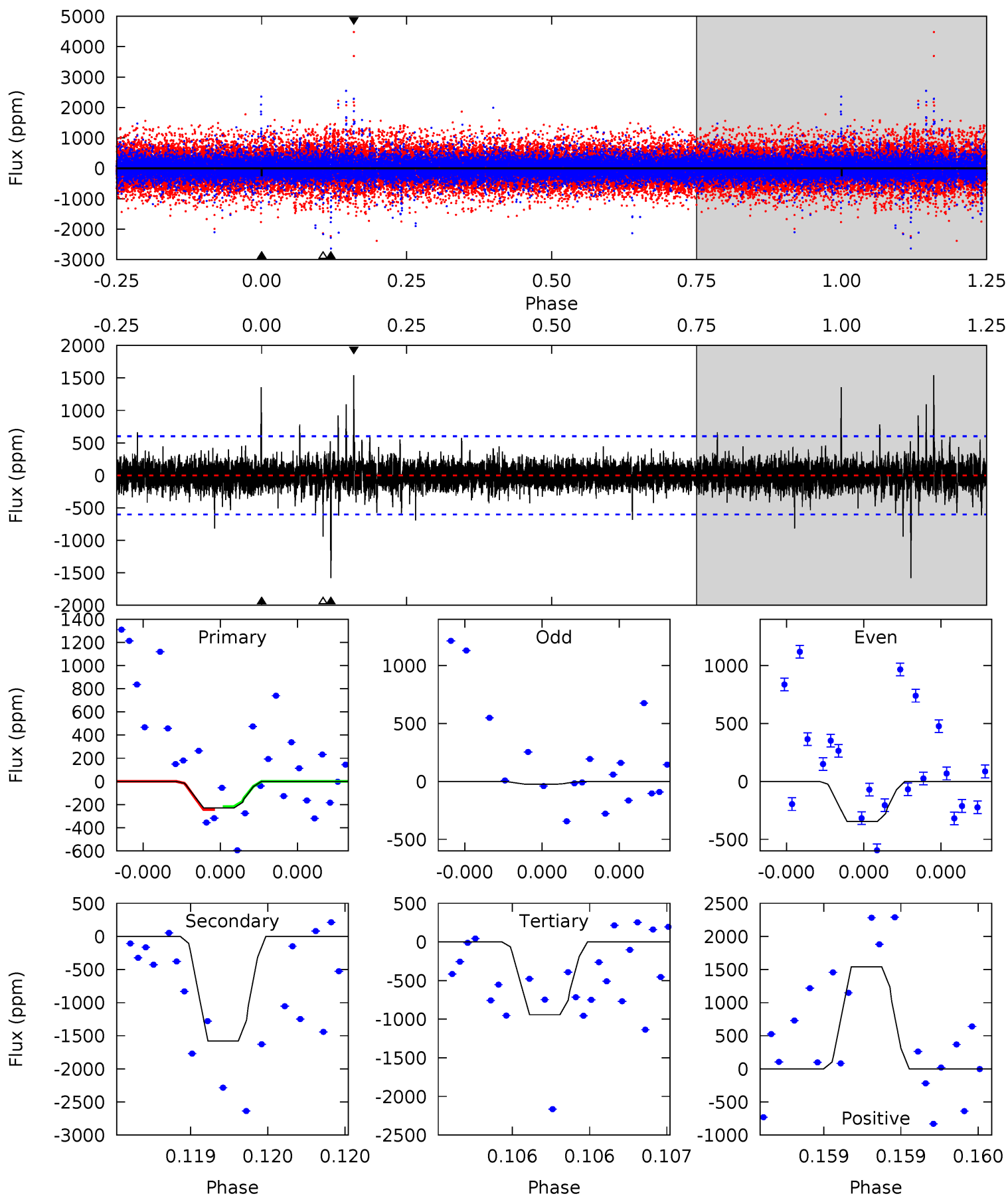




# Alt Model-Shift Uniqueness Test

007767559-03,  $P = 165.434970$  Days,  $E = 61.387183$  Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.12	14.6	8.71	14.3	5.58	3.48	1.16	-6.59	-12.2	5.91	0.35	1.39	1.02	0.49	0.12



### Stellar Parameters For KIC 007767559

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5600^{+186}_{-169}$	$4.368^{+0.185}_{-0.204}$	$-0.260^{+0.300}_{-0.300}$	$0.975^{+0.271}_{-0.181}$	$0.811^{+0.127}_{-0.058}$	$1.231^{+1.019}_{-0.650}$
	+3%/-3%	+4%/-5%	+115%/-115%	+28%/-19%	+16%/-7%	+83%/-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 007767559-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-705 \pm 131$	$23.76^{+25.85}_{-16.09}$	$461^{+38}_{-30}$	$2700^{+1056}_{-419}$	$217^{+1843}_{-169}$
Alt.	$-1580 \pm 108$	$23.62^{+28.95}_{-17.54}$	$461^{+38}_{-31}$	$3053^{+1810}_{-571}$	$484^{+6922}_{-388}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

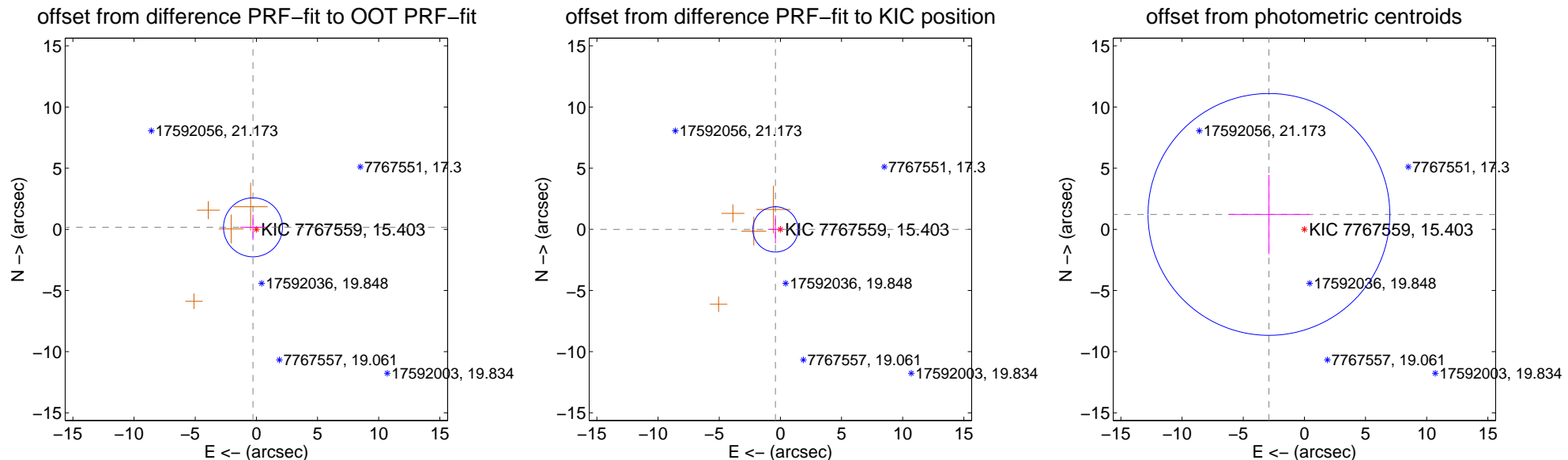
## DV Centroid Data

Supplemental centroid analysis for 007767559-03. Kepler magnitude: 15.40. Transit SNR 2.19

There are 0 quarters with good PRF difference image offsets

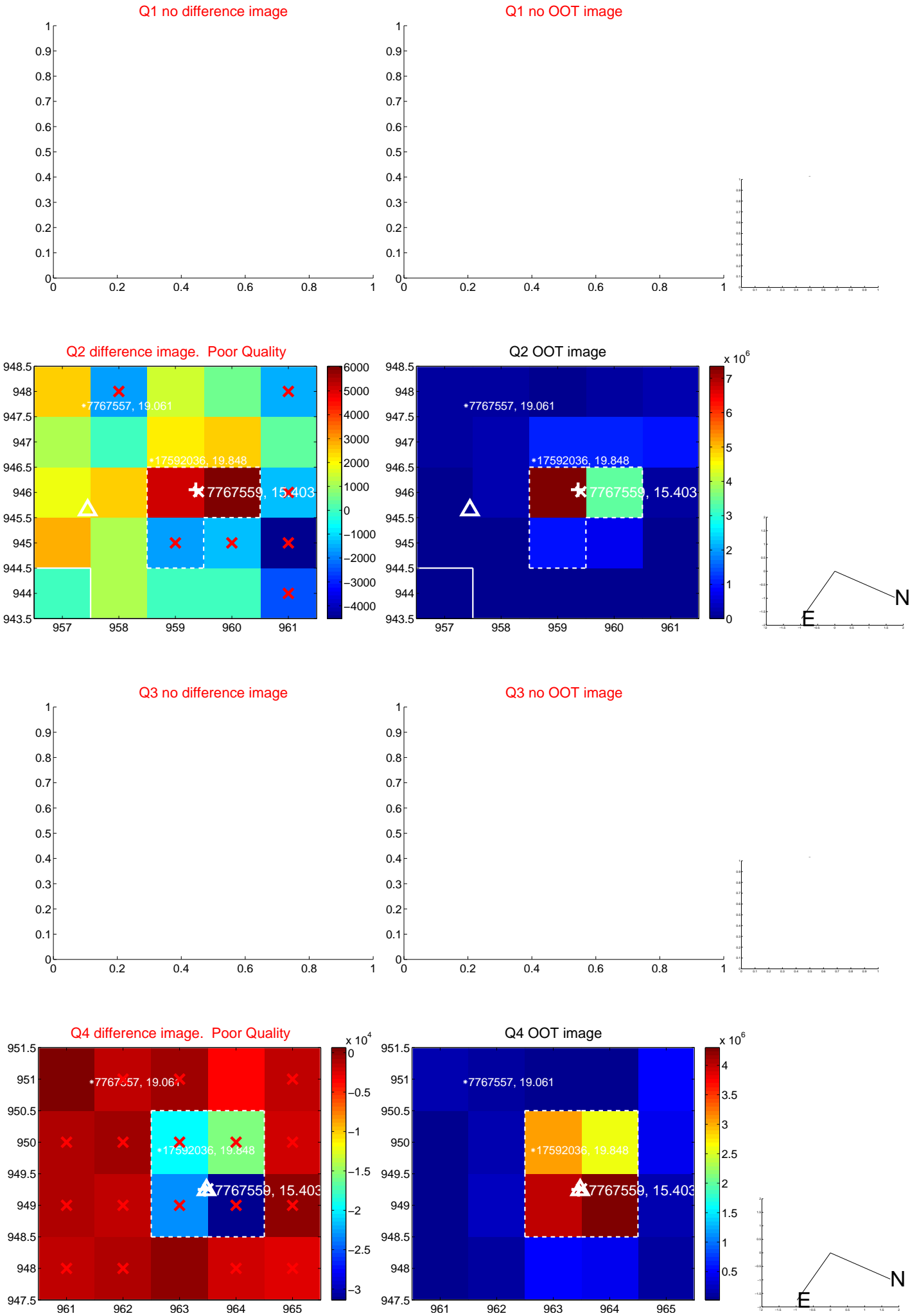
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.322 \pm 0.803$	0.40	$0.277 \pm 1.058$	$0.165 \pm 1.039$
PRF-fit source offset from KIC position	$0.404 \pm 0.617$	0.66	$0.404 \pm 0.613$	$-0.004 \pm 1.146$
photometric centroid source offset	$3.14 \pm 3.29$	0.95	$2.90 \pm 3.30$	$1.22 \pm 3.24$



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- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

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



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

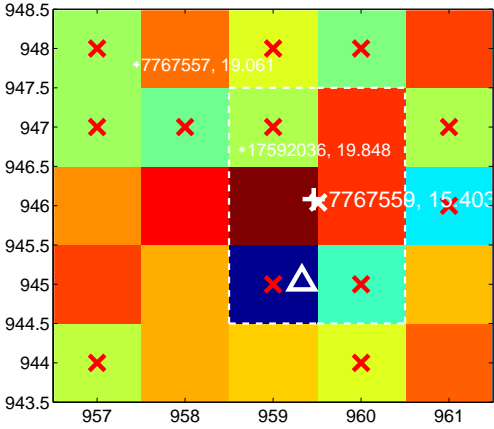
Q5 no difference image



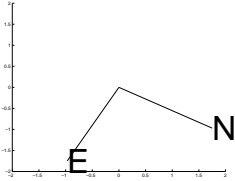
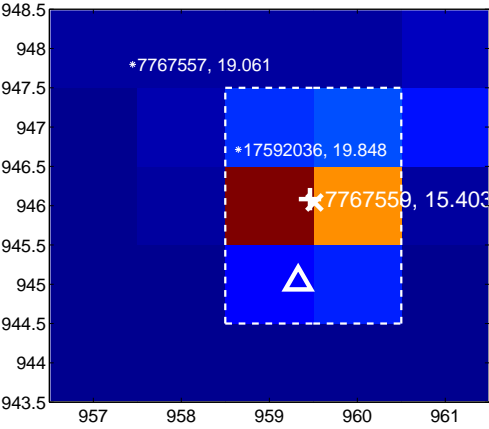
Q5 no OOT image



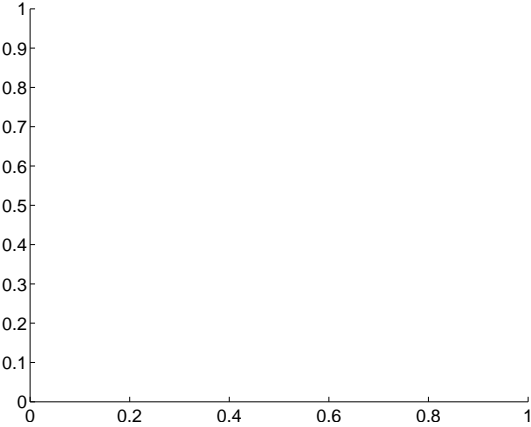
Q6 difference image. Poor Quality



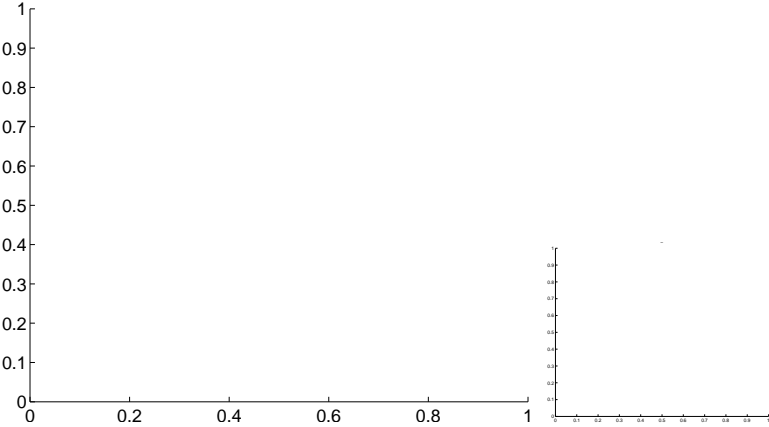
Q6 OOT image



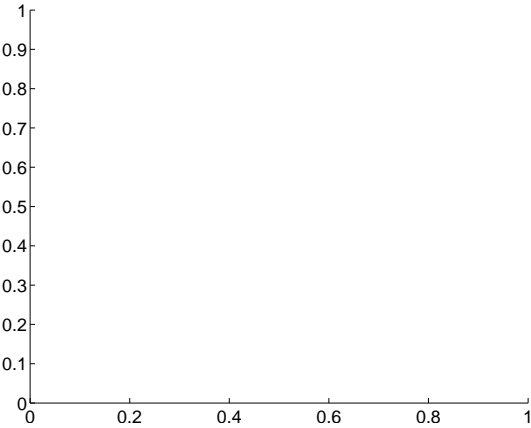
Q7 no difference image



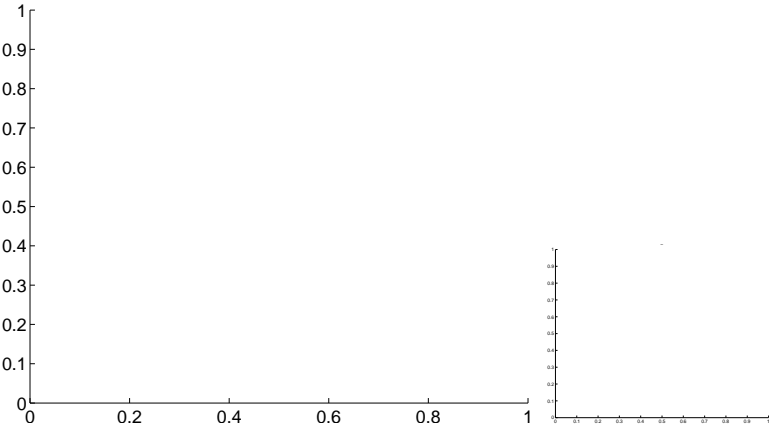
Q7 no OOT image



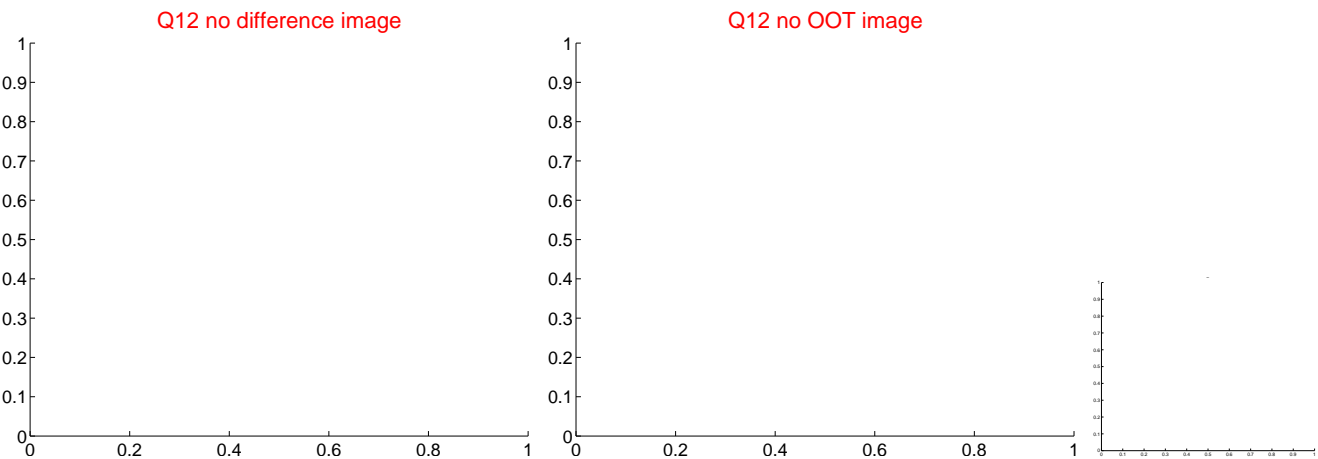
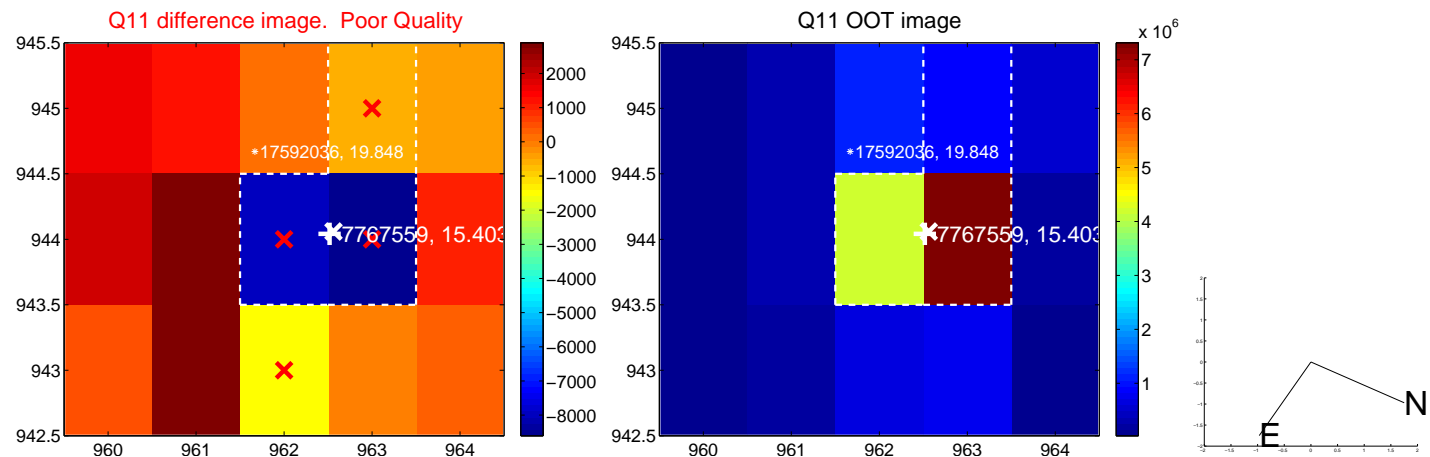
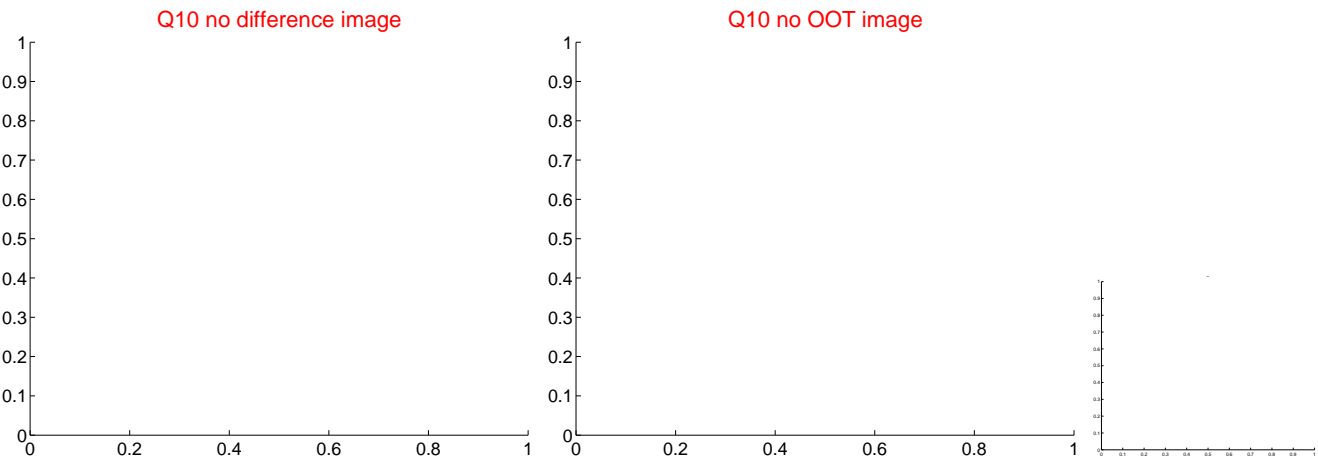
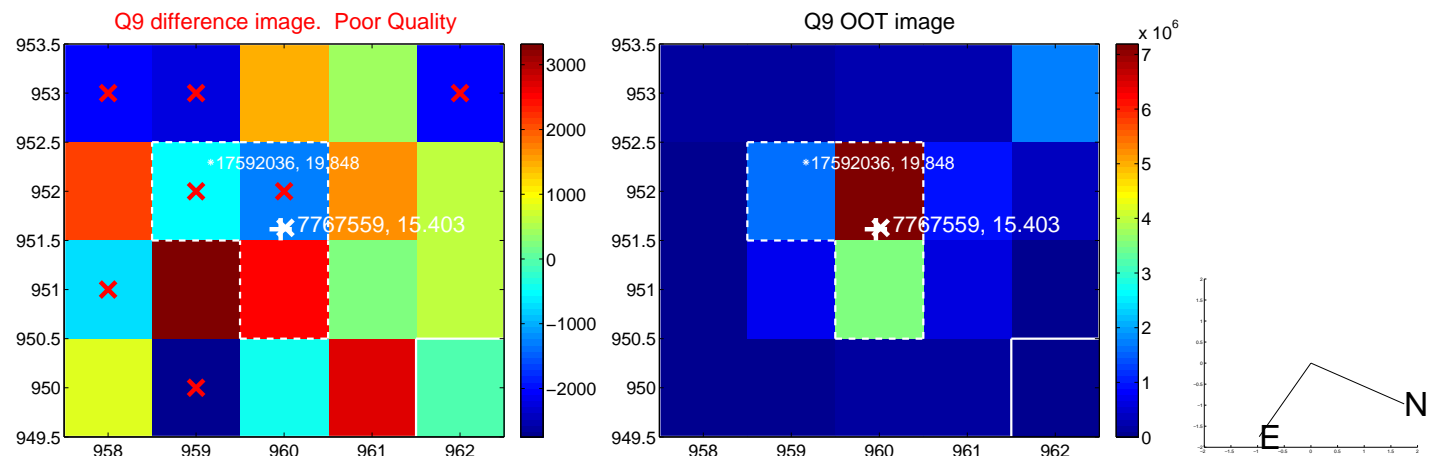
Q8 no difference image



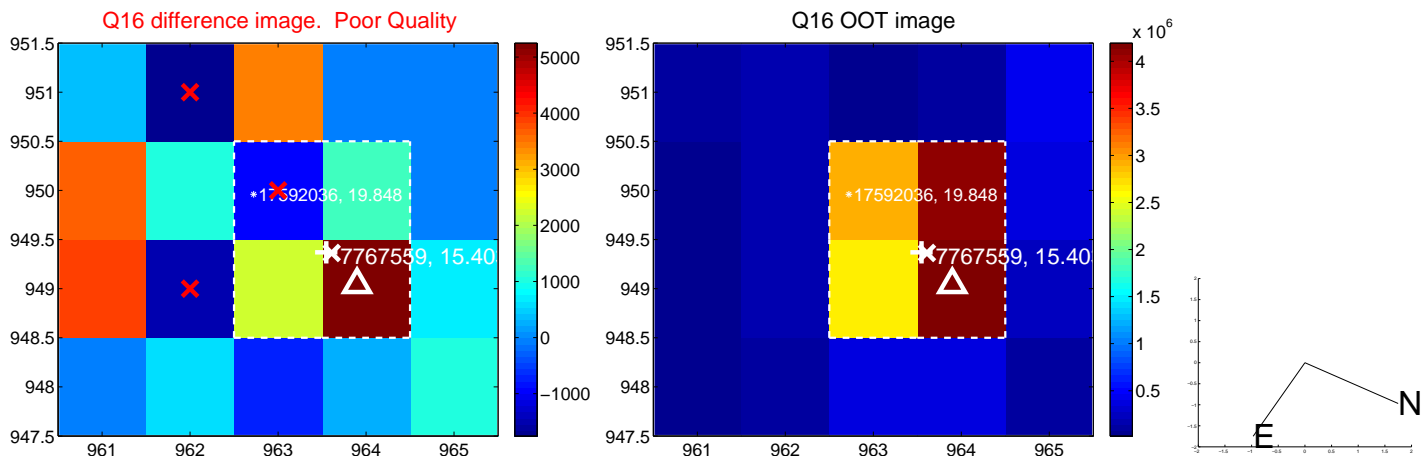
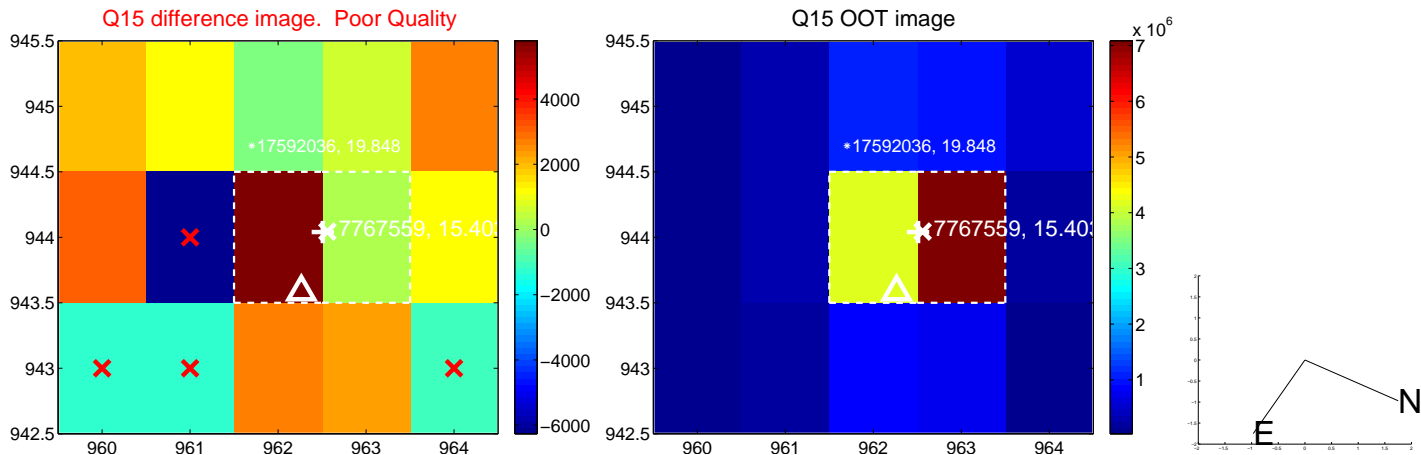
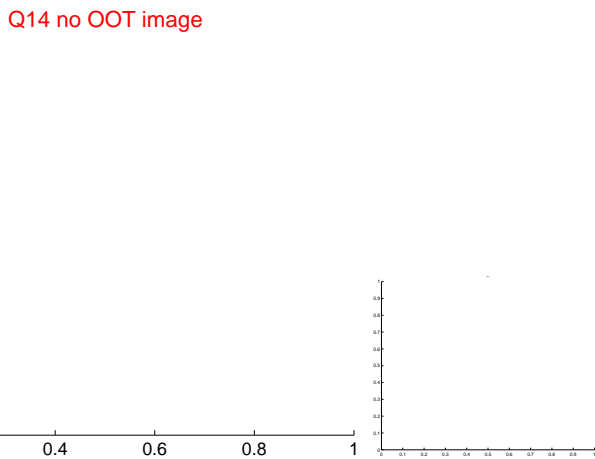
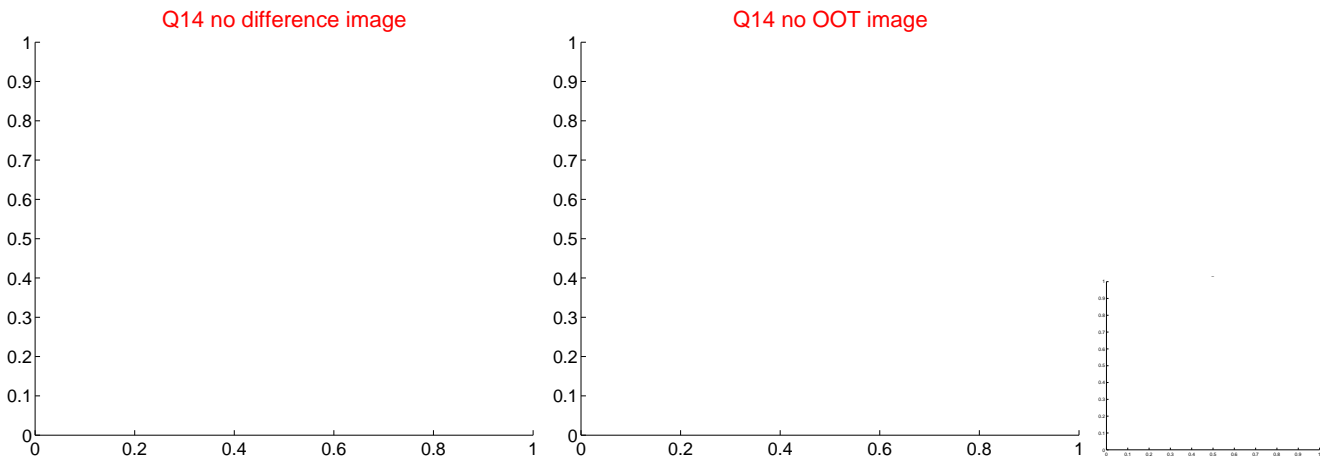
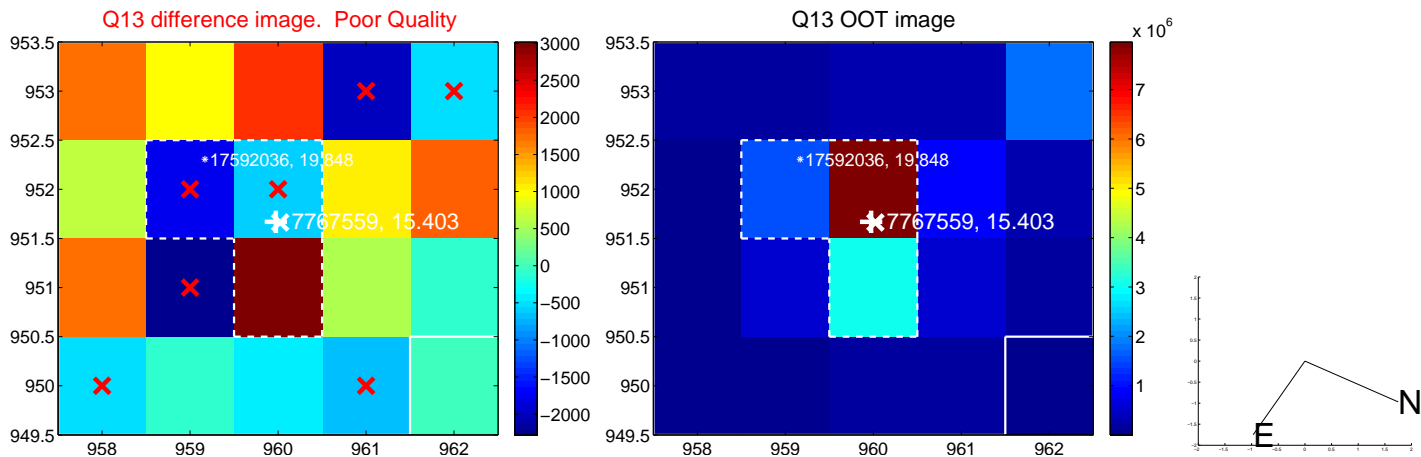
Q8 no OOT image



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

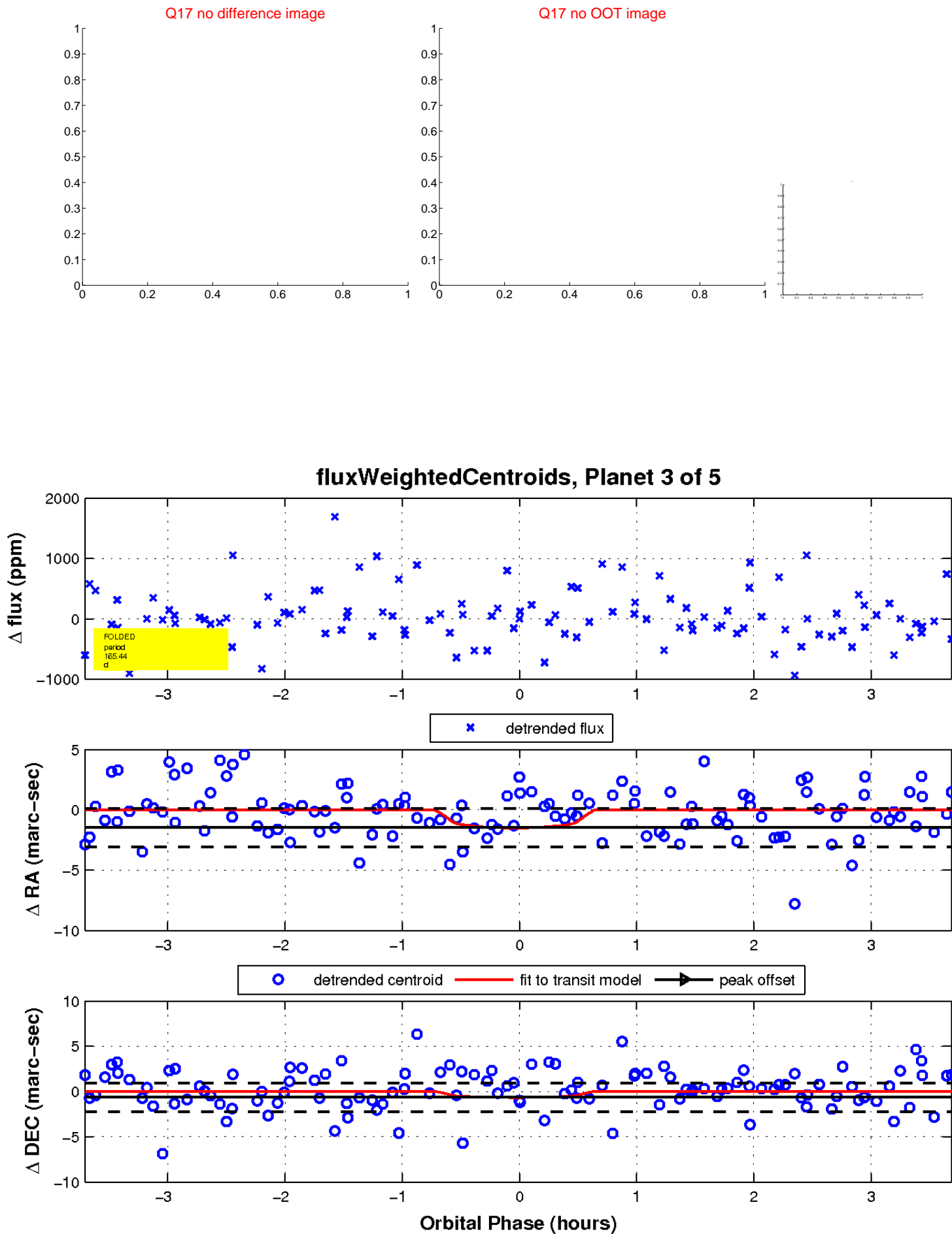


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



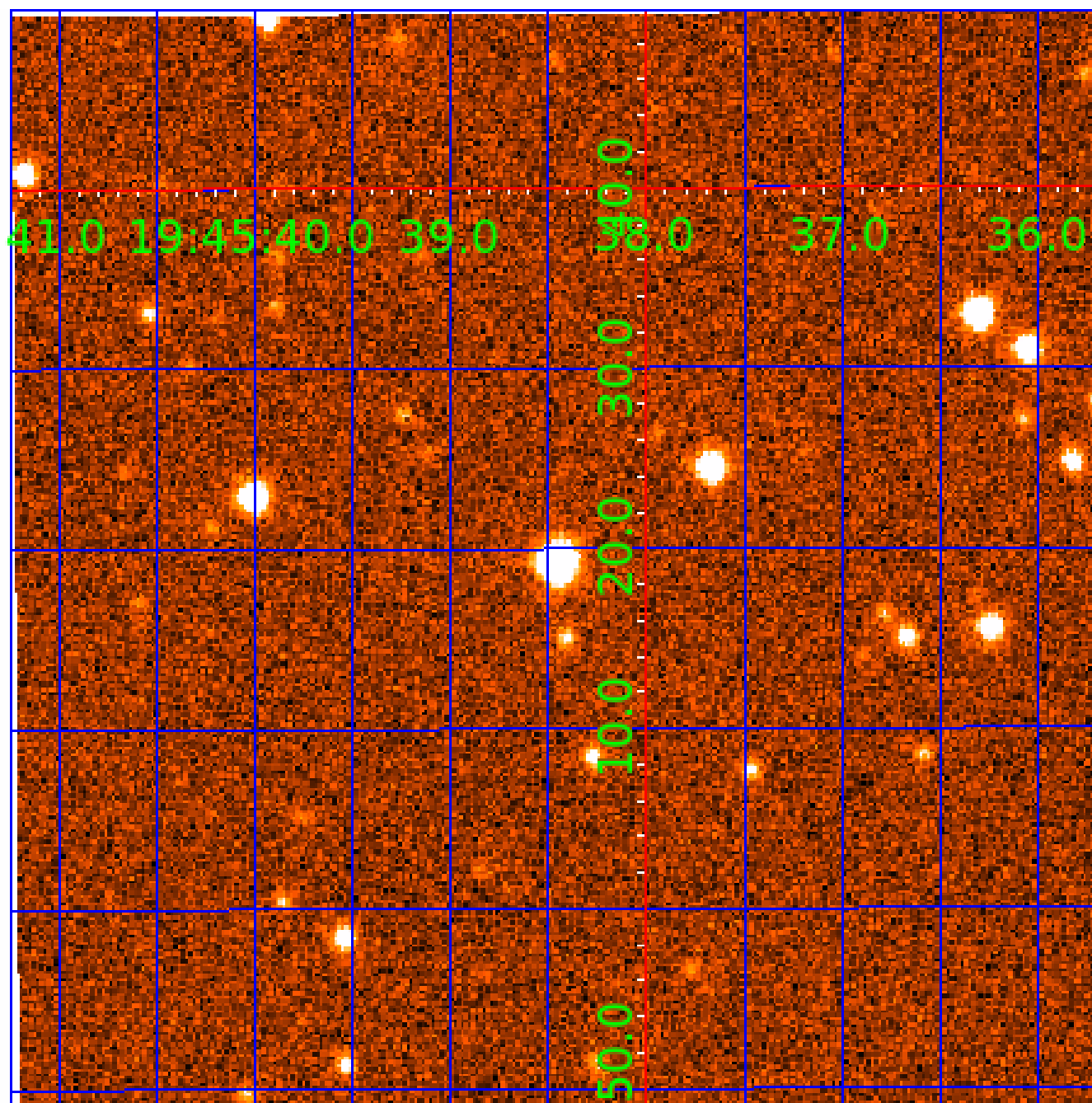


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 007767559

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007767559-01	OBS	0895.01	4.409409	132.209674	12985.9	3.854	735.7	694.7	0.97	5600	10.99	348.18
007767559-02	OBS	No	2.204757	132.186925	124.0	3.170	7.5	7.0	0.97	5600	1.15	877.34
007767559-03	OBS	No	165.437658	226.804531	466.9	1.241	7.2	2.2	0.97	5600	2.10	2.77
007767559-04	OBS	No	165.432971	226.497062	149.8	0.966	8.5	0.6	0.97	5600	1.27	2.77
007767559-05	OBS	No	361.608186	465.313357	1421.4	3.000	9.4	-1.0	0.97	5600	3.64	0.98

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007767559-01	OBS	FP	0.23	0	1	0	0	MOD_SEC_DV—HAS_SEC_TCE
007767559-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
007767559-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_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
007767559-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV— MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_FEW_DIFFS
007767559-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

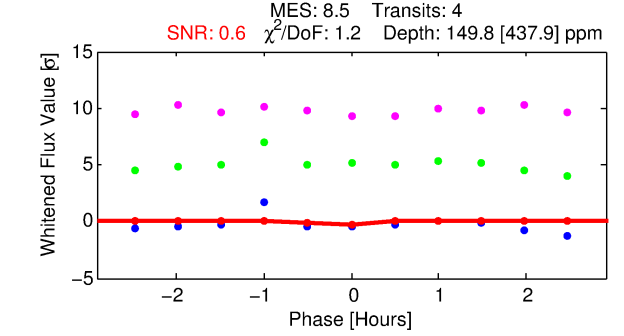
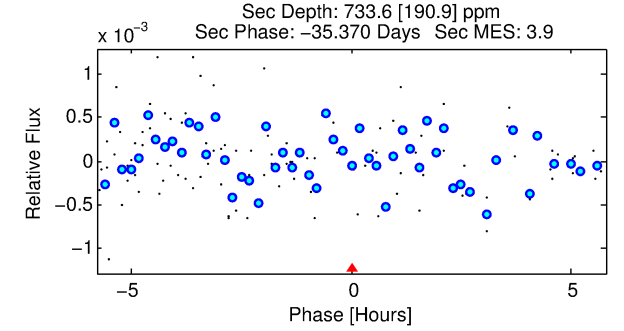
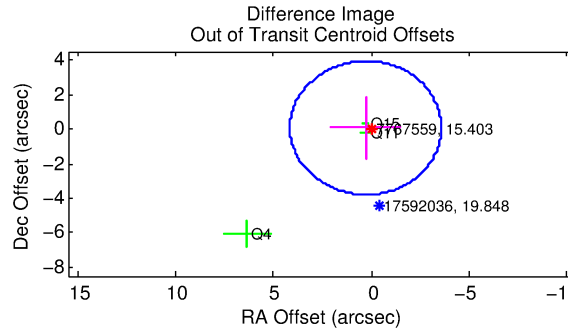
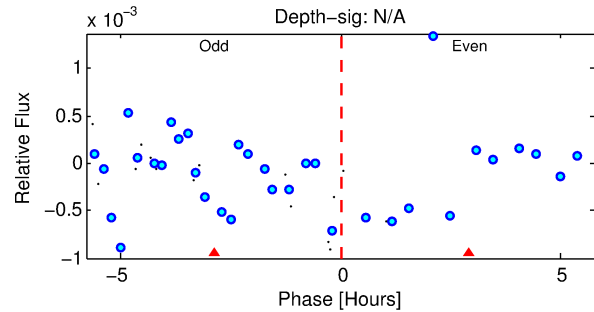
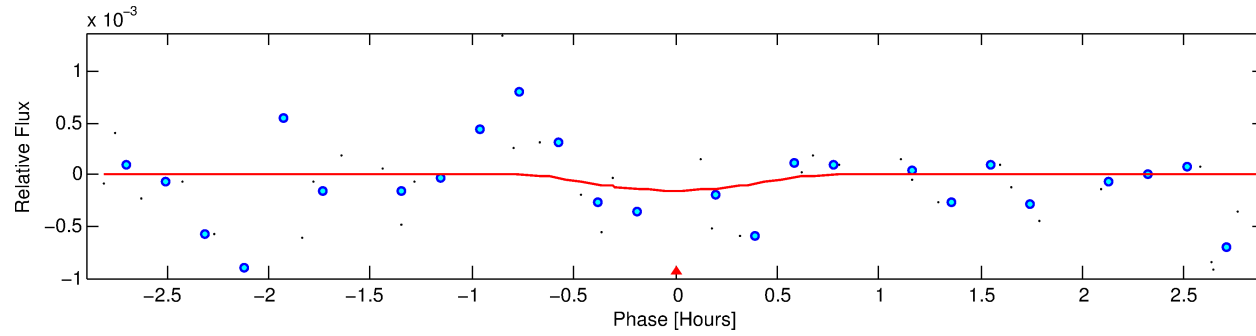
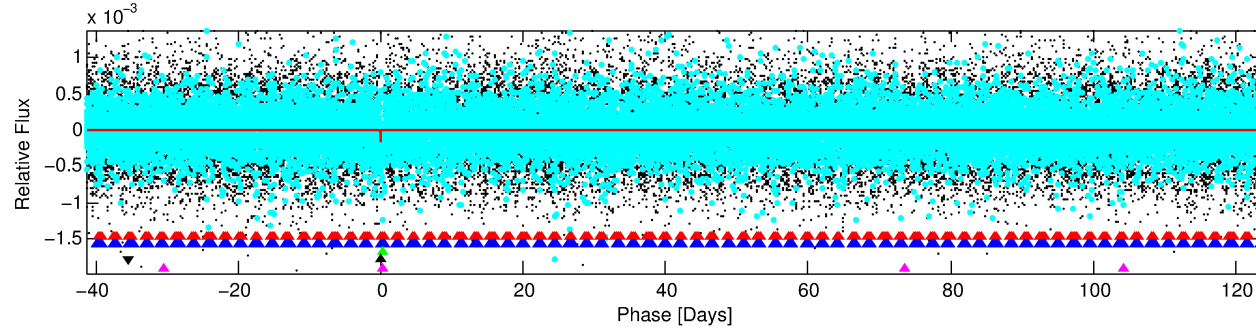
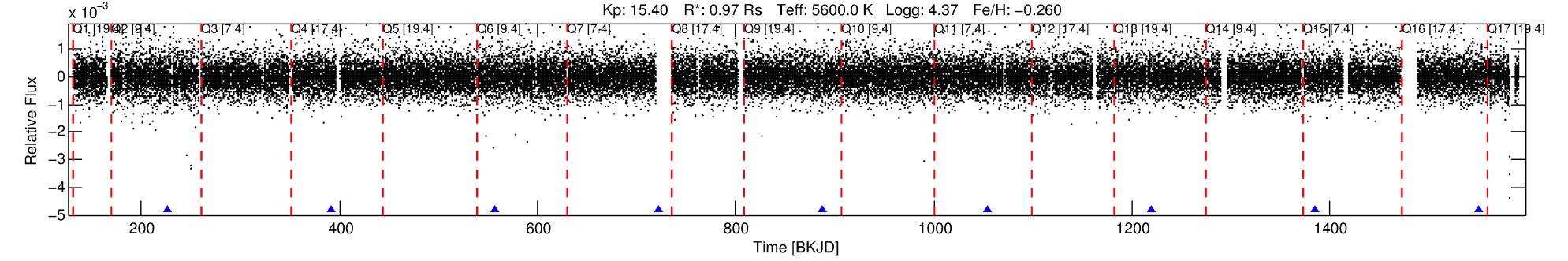
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007767559-04

No Significant Match Found

# DV One-Page Summary

KIC: 7767559 Candidate: 4 of 5 Period: 165.433 d  
KOI: K00895 Corr: No Ephemeris Match



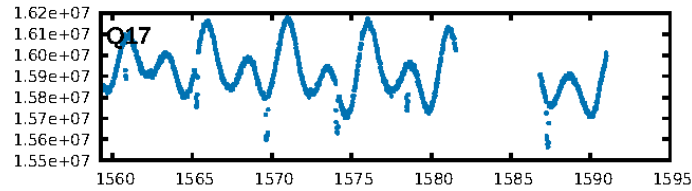
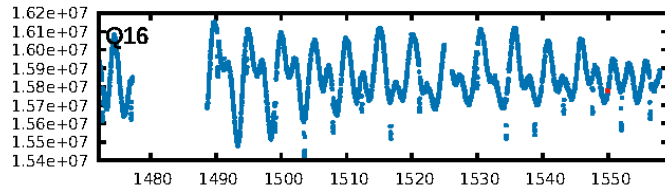
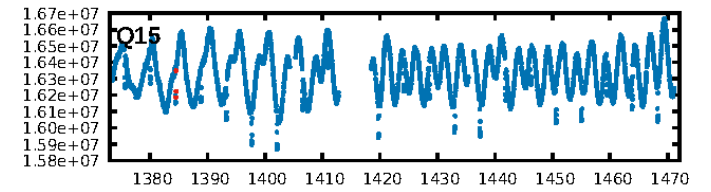
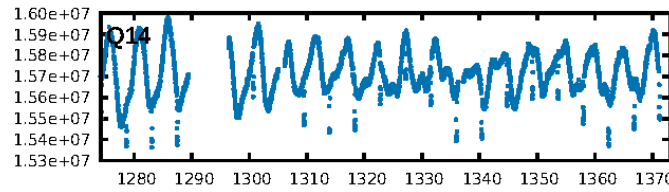
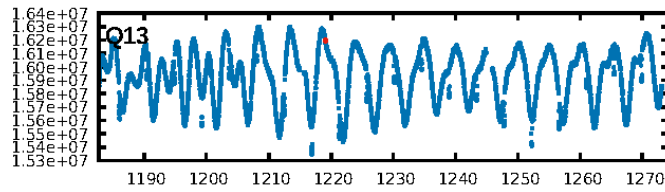
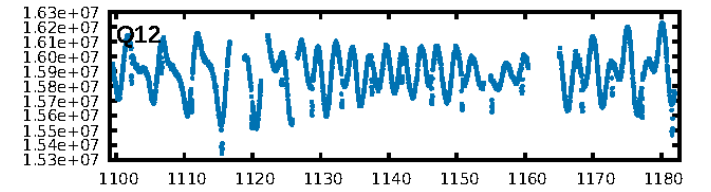
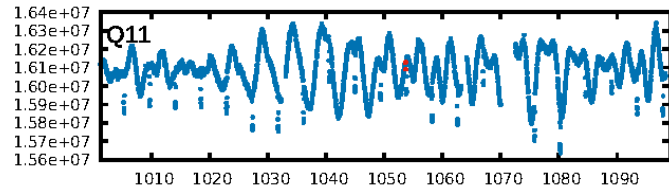
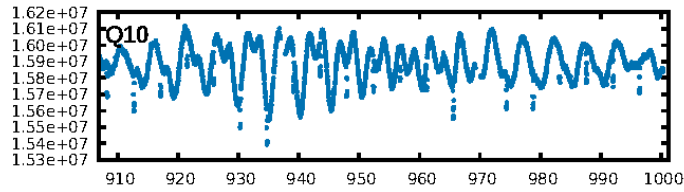
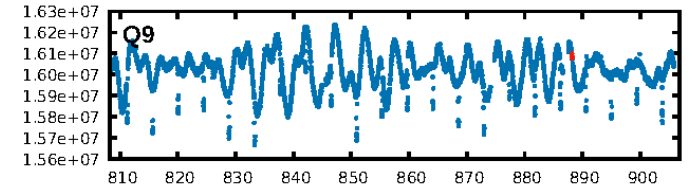
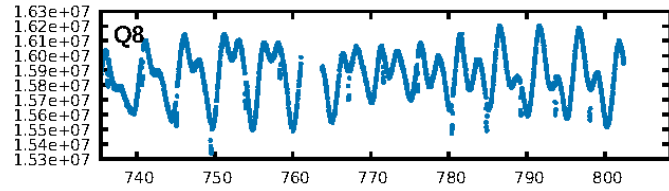
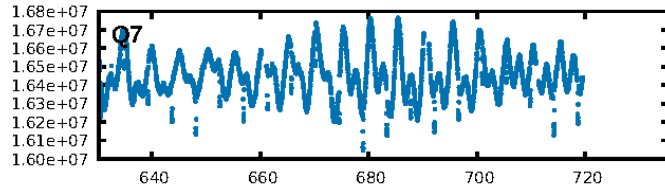
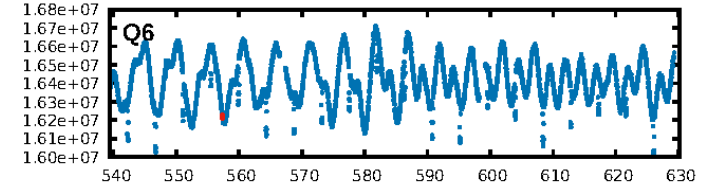
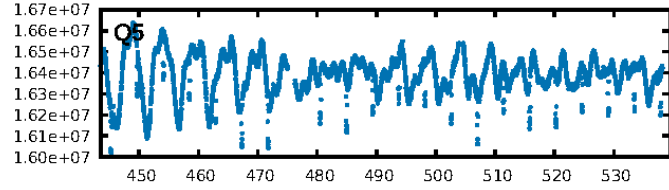
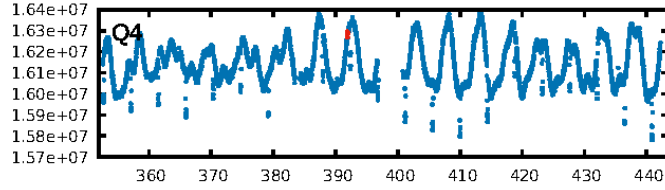
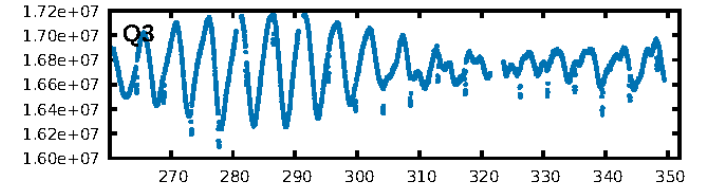
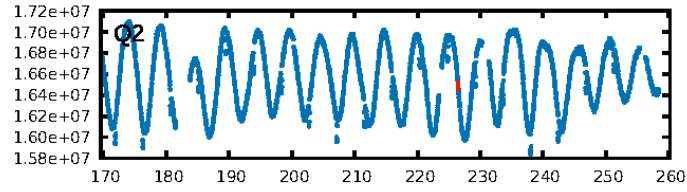
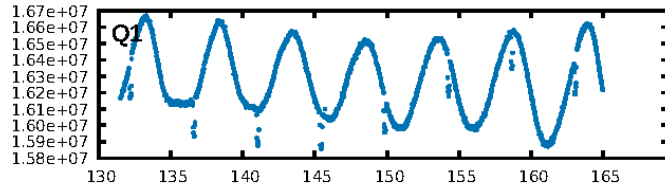
## DV Fit Results:

Period = 165.43297 [0.02285] d  
Epoch = 226.4971 [0.0372] BKJD  
Rp/R\* = 0.0119 [1.6185]  
a/R\* = 1019.31 [586746.57]  
b = 0.65 [536.06]  
Seff = 2.77 [1.07]  
Teq = 329 [32] K  
Rp = 1.27 [172.20] Re  
a = 0.5497 [0.1334] AU  
Ag = 75822.19 [20590381.77] [0.00%]  
Teffp = 8442 [573097] K [0.01%]

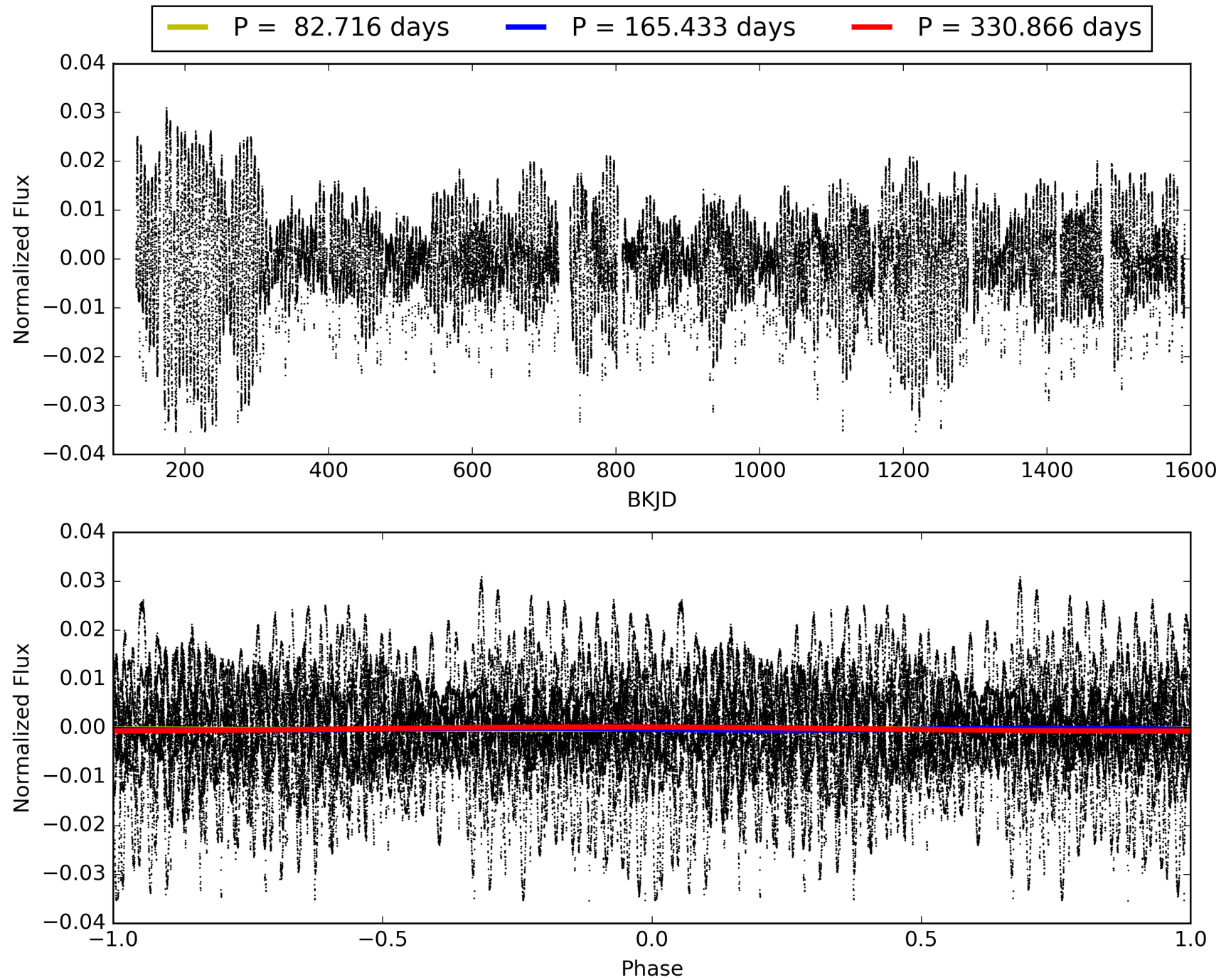
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [972.73%]  
LongPeriod-sig: 5.7% [0.07%]  
ModelChiSquare2-sig: 89.4%  
ModelChiSquareGof-sig: 98.3%  
**Bootstrap-pfa: 2.04e-12**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 0.3383  
Centroid-sig: 20.6%  
Centroid-so: 13.194 arcsec [1.11%]  
OotOffset-rm: 0.300 arcsec [0.23%]  
KicOffset-rm: 0.421 arcsec [0.21%]  
OotOffset-st: 0/2/1/0 [3]  
KicOffset-st: 0/2/1/0 [3]  
DiffImageQuality-fgm: 0.33 [1/3]  
DiffImageOverlap-fno: 0.43 [3/7]

# TCE 007767559-04, PDC Light Curves

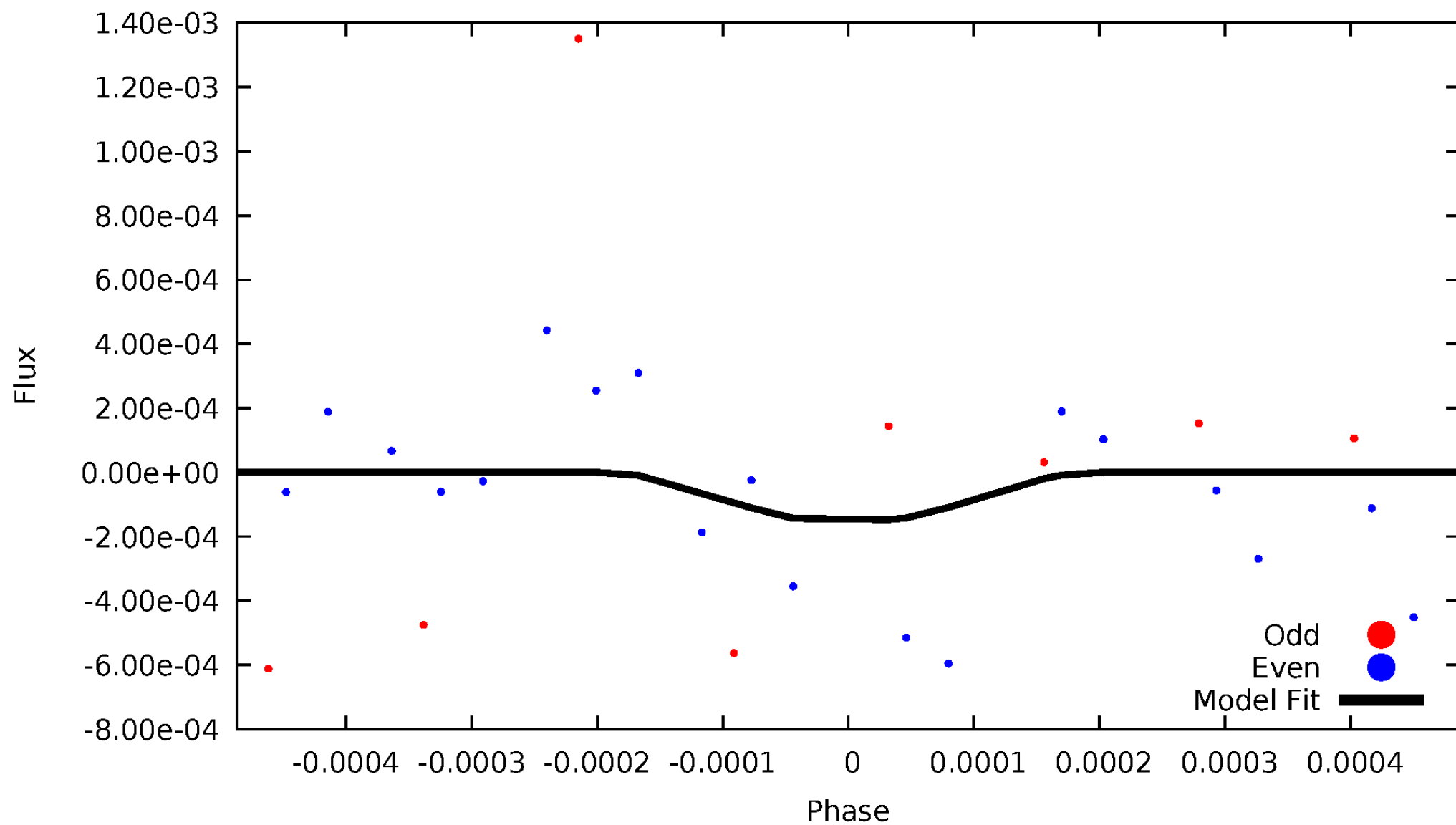


TCE 007767559-04



# DV Odd/Even

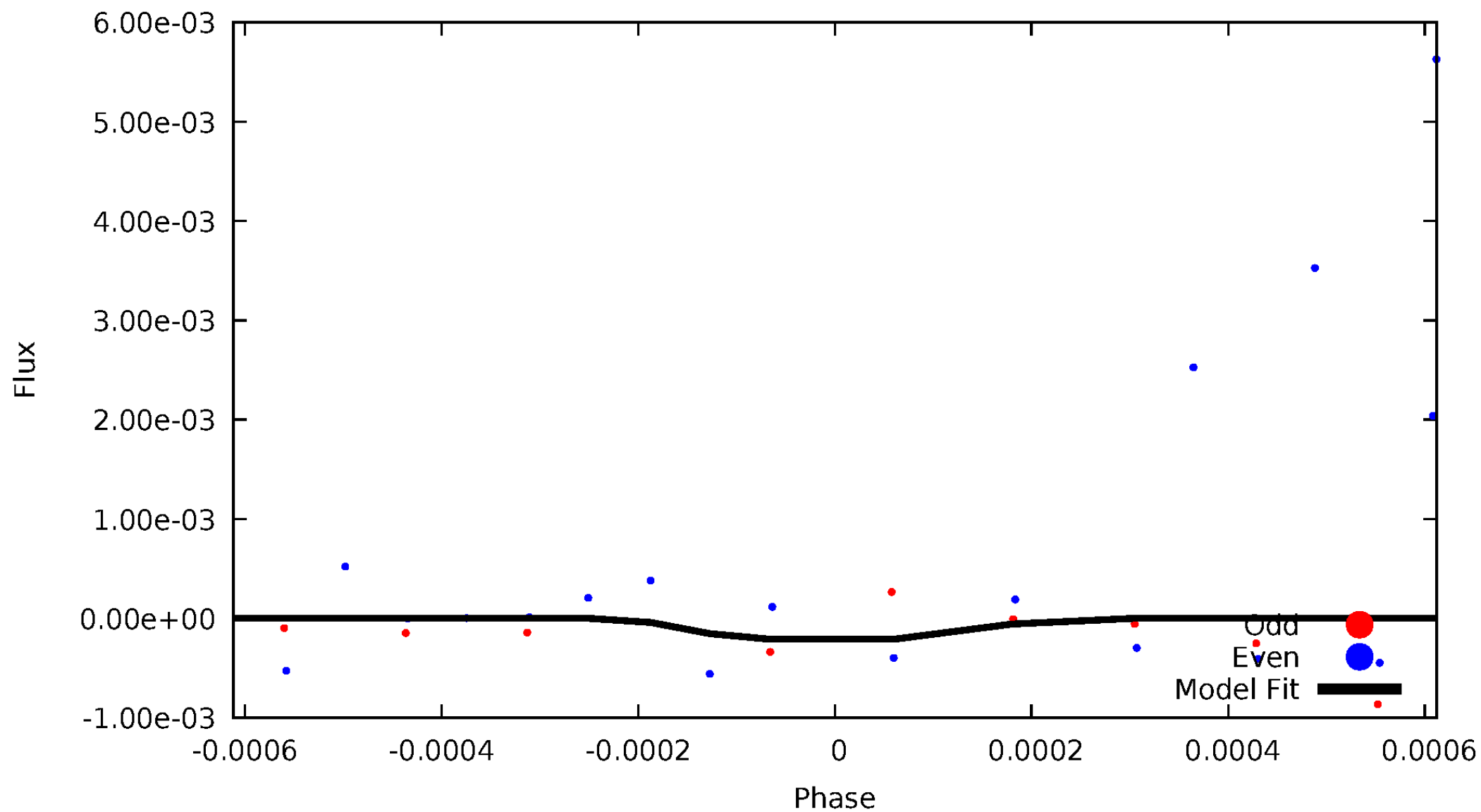
TCE 007767559-04





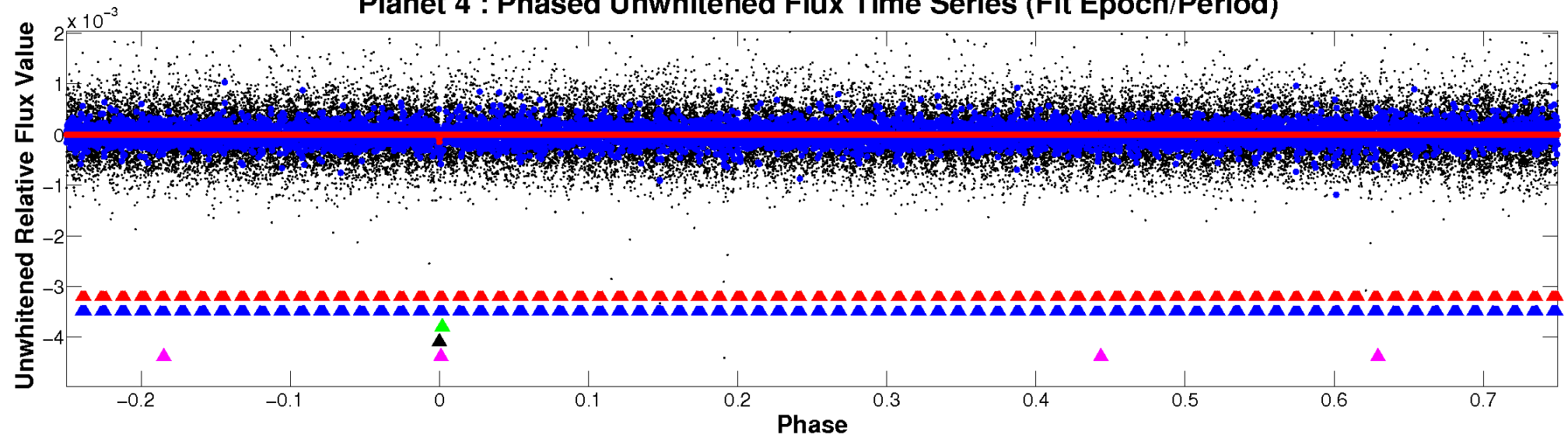
# ALT Odd/Even

TCE 007767559-04

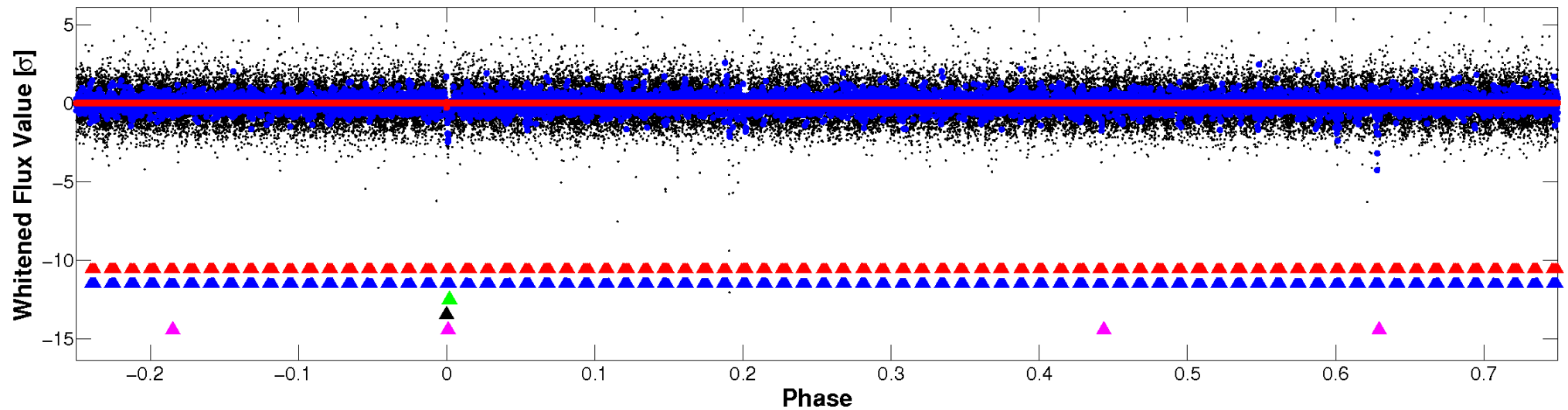


# Non-Whitened Vs. Whitened Light Curve

## Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

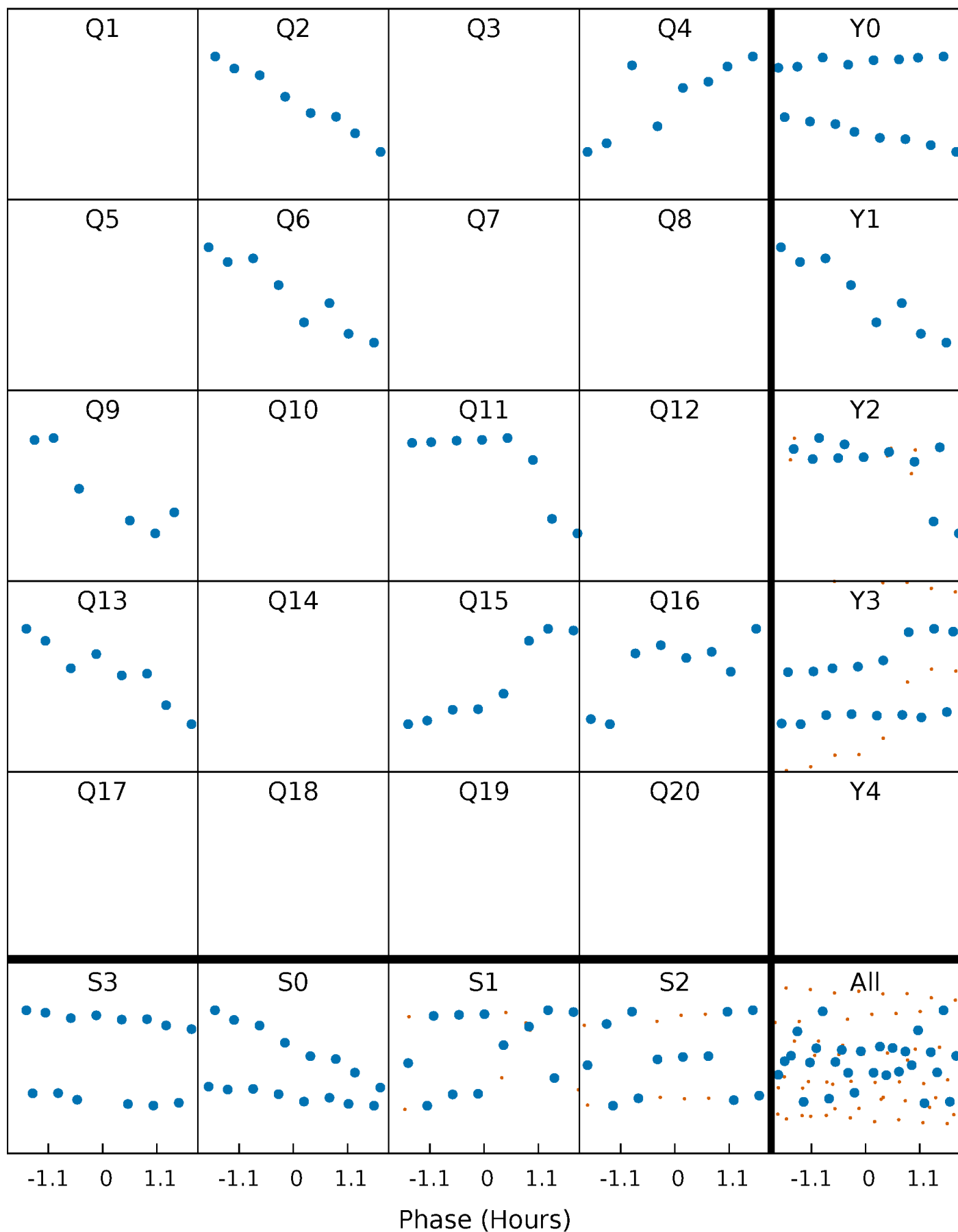


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



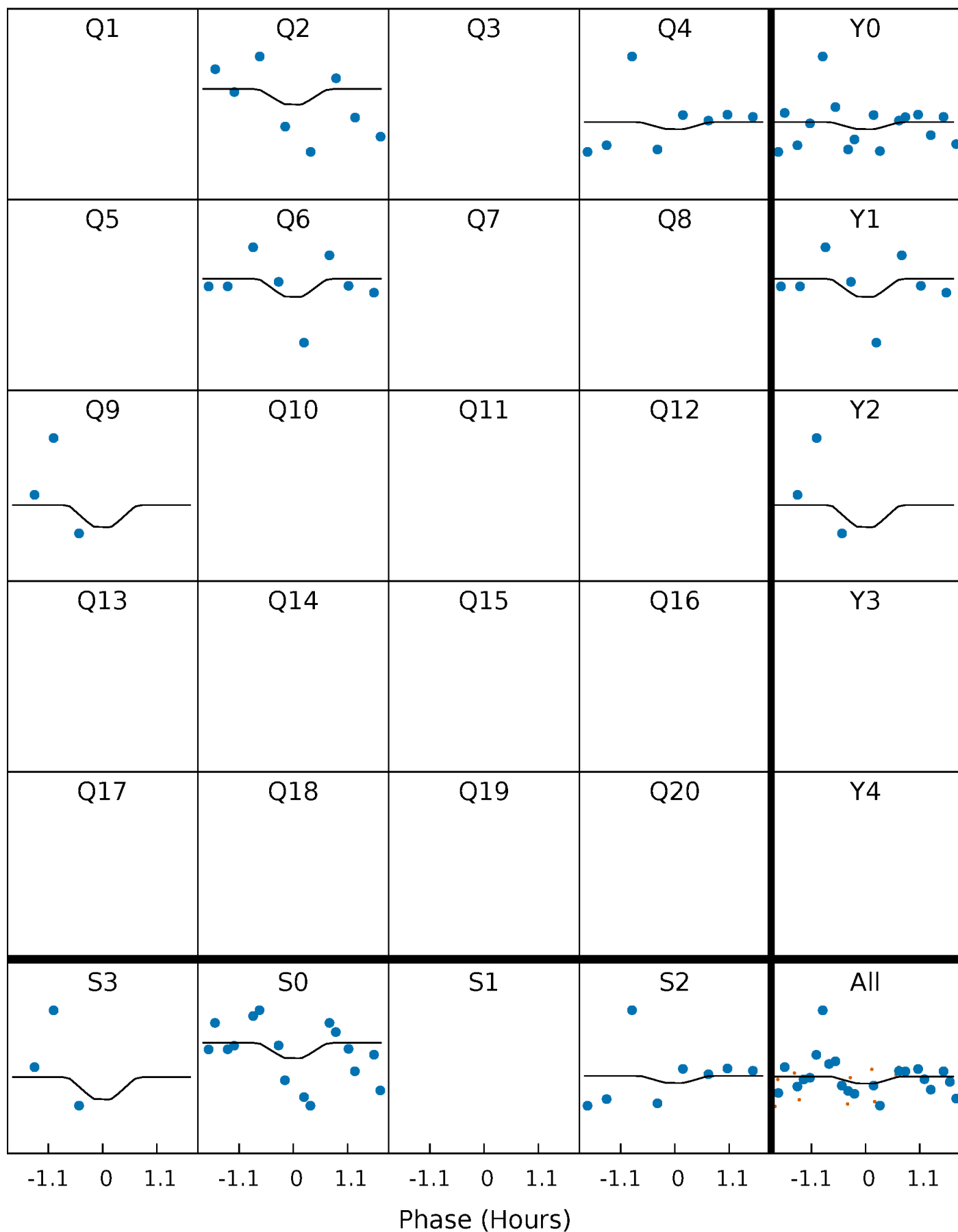
# PDC Quarter-Phased Transit Curves

TCE 007767559-04 P=165.432971 Days  $T_0=226.497062$  (BKJD)



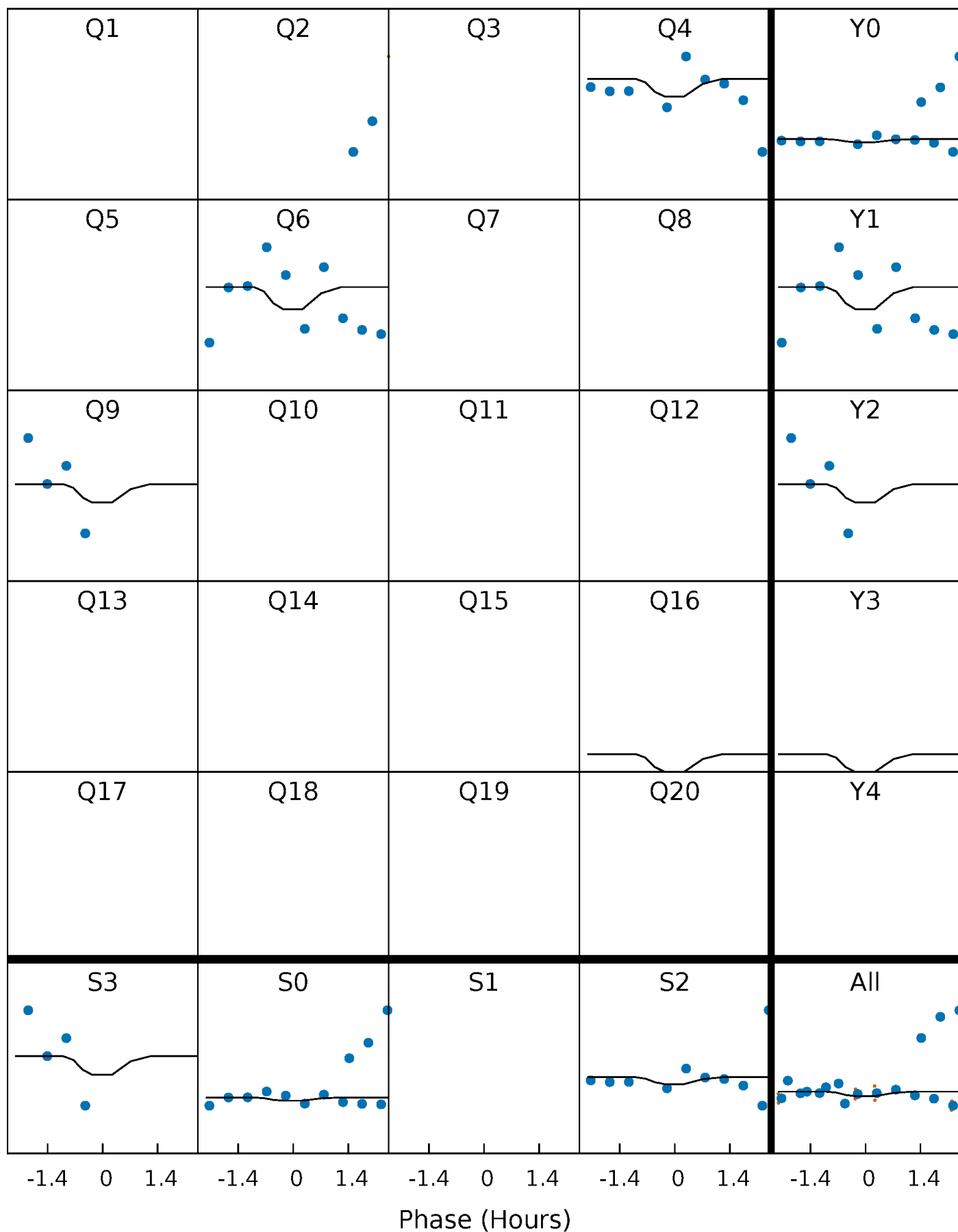
# DV Quarter-Phased Transit Curves

TCE 007767559-04 P=165.432971 Days  $T_0=226.497062$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

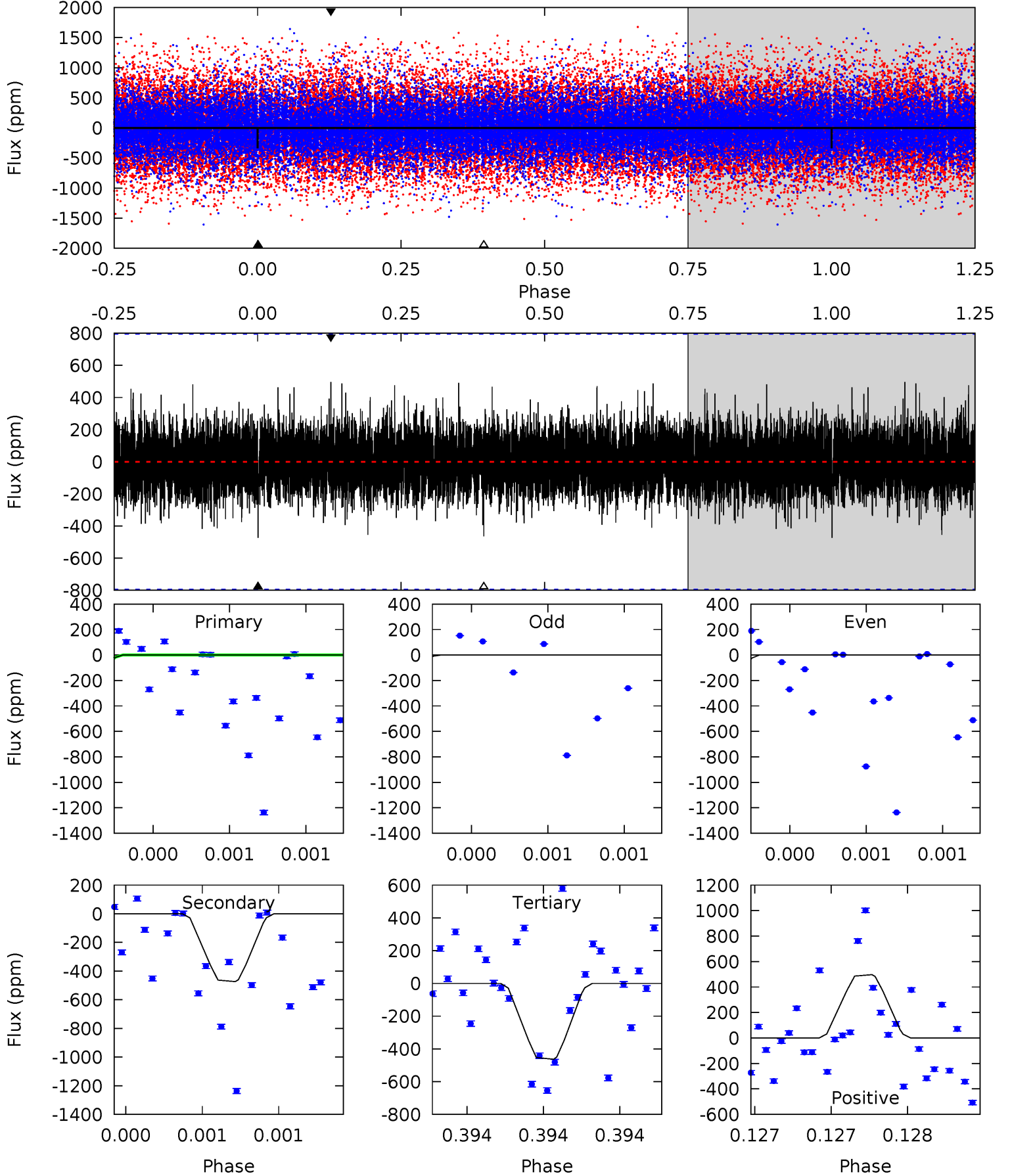
TCE 007767559-04 P=165.434970 Days  $T_0=226.490836$  (BKJD)



# DV Model-Shift Uniqueness Test

007767559-04, P = 165.432971 Days, E = 61.064091 Days

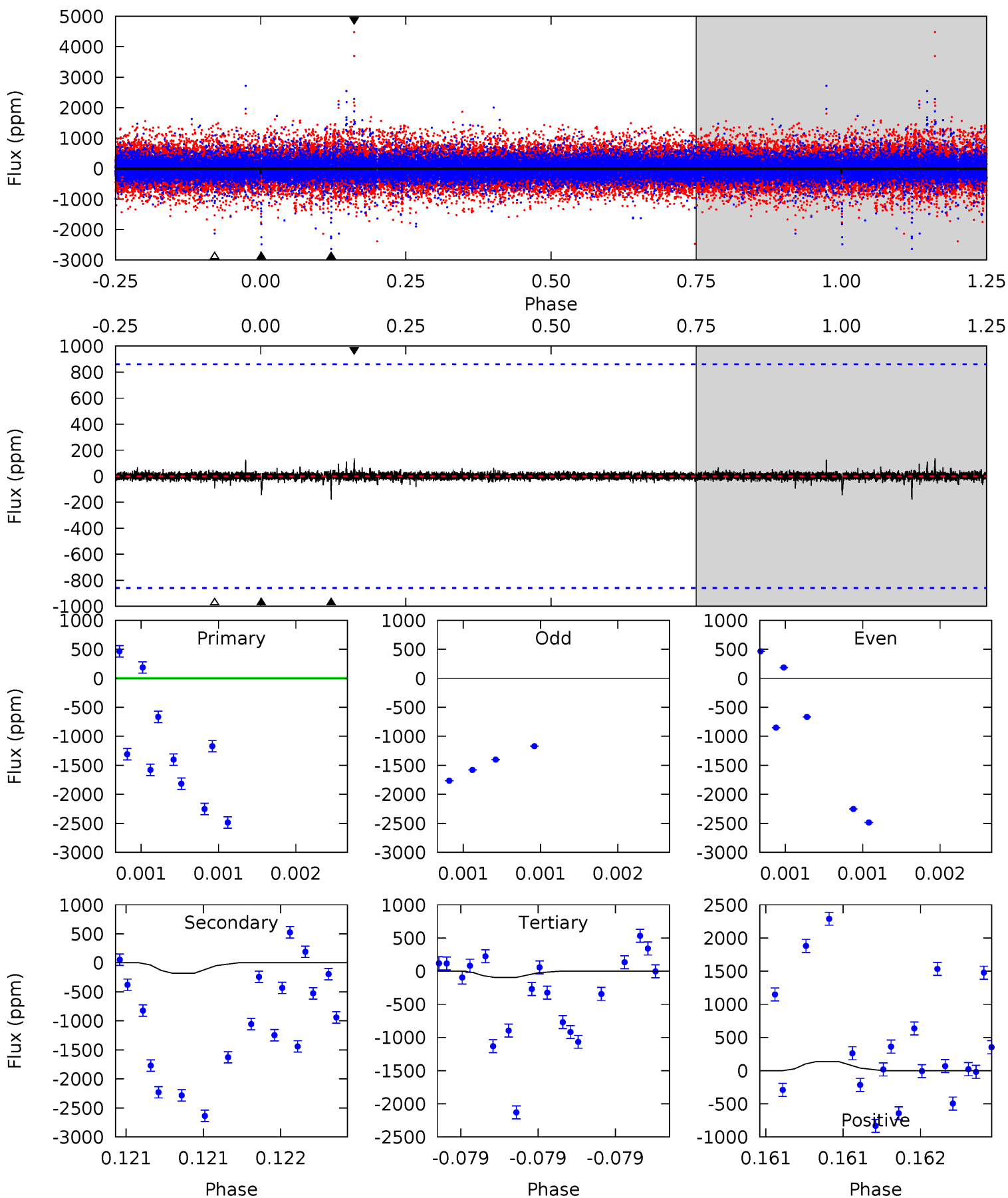
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.39	3.35	3.28	3.52	5.64	3.58	0.79	-0.89	-1.13	0.07	-0.17	0.93	0.99	0.51	0.18



# Alt Model-Shift Uniqueness Test

007767559-04, P = 165.434970 Days, E = 61.055866 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.88	1.16	0.61	0.89	5.60	3.52	0.09	0.27	-0.01	0.55	0.27	0.57	1.00	0.43	0.55





### Stellar Parameters For KIC 007767559

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5600^{+186}_{-169}$	$4.368^{+0.185}_{-0.204}$	$-0.260^{+0.300}_{-0.300}$	$0.975^{+0.271}_{-0.181}$	$0.811^{+0.127}_{-0.058}$	$1.231^{+1.019}_{-0.650}$
	+3%/-3%	+4%/-5%	+115%/-115%	+28%/-19%	+16%/-7%	+83%/-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 007767559-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-473 \pm 141$	$122.14^{+138.05}_{-88.19}$	$461^{+36}_{-30}$	$1802^{+549}_{-269}$	$5.365^{+61.519}_{-4.252}$
Alt.	$-178 \pm 154$	$117.89^{+141.67}_{-82.02}$	$459^{+35}_{-31}$	$1588^{+472}_{-2955}$	$1.582^{+17.479}_{-1.454}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

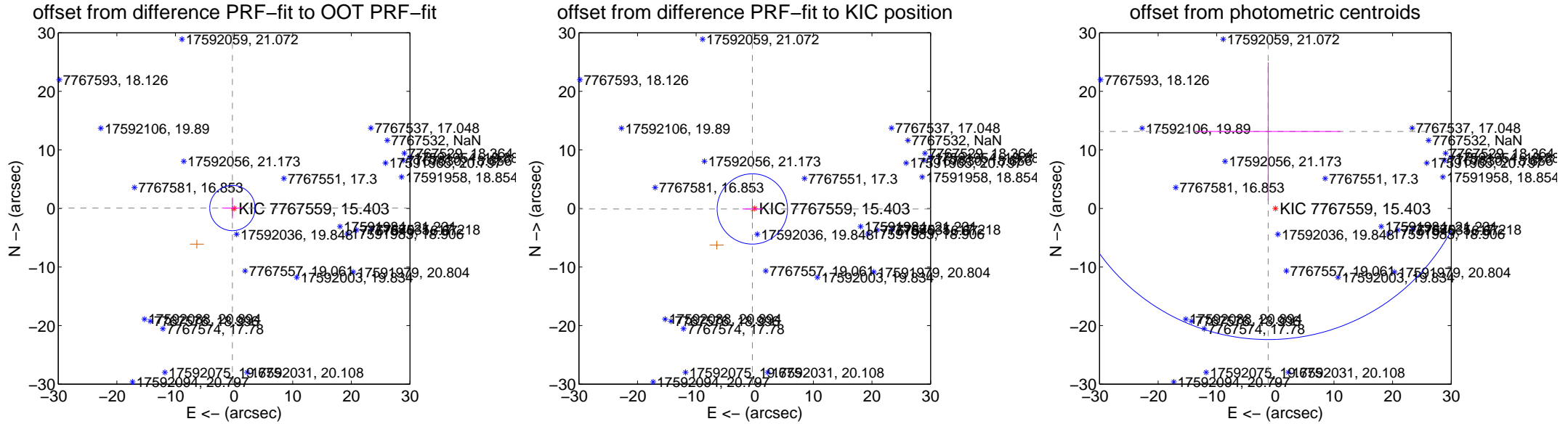
# DV Centroid Data

Supplemental centroid analysis for 007767559-04. Kepler magnitude: 15.40. Transit SNR 0.63

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.300 \pm 1.288$	0.23	$0.292 \pm 1.750$	$0.069 \pm 1.802$
PRF-fit source offset from KIC position	$0.421 \pm 2.000$	0.21	$0.411 \pm 1.686$	$-0.089 \pm 1.674$
photometric centroid source offset	$13.19 \pm 11.84$	1.11	$1.23 \pm 12.36$	$13.14 \pm 11.84$



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- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

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

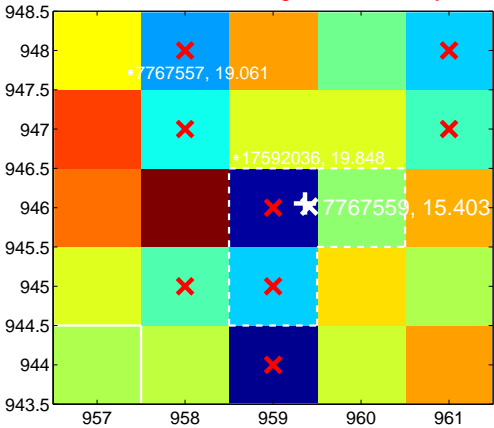
Q1 no difference image



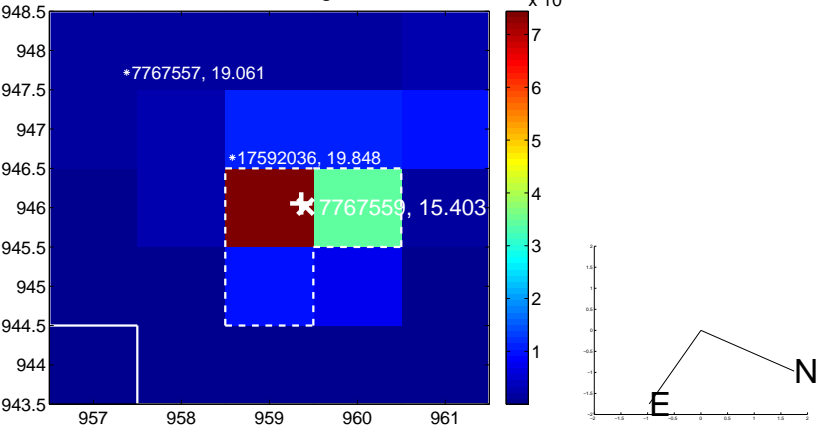
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



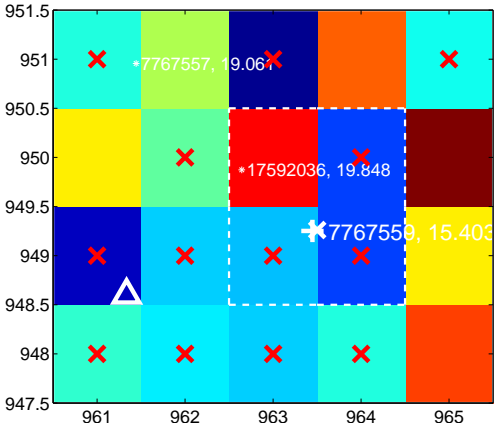
Q3 no difference image



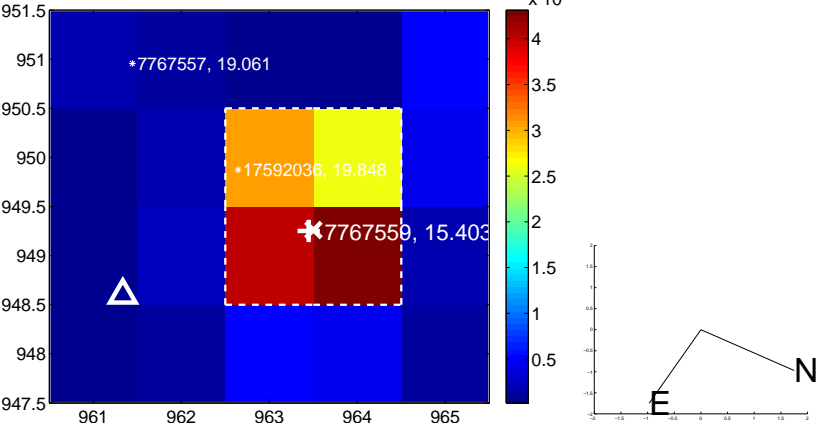
Q3 no OOT image



Q4 difference image. Poor Quality



Q4 OOT image



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

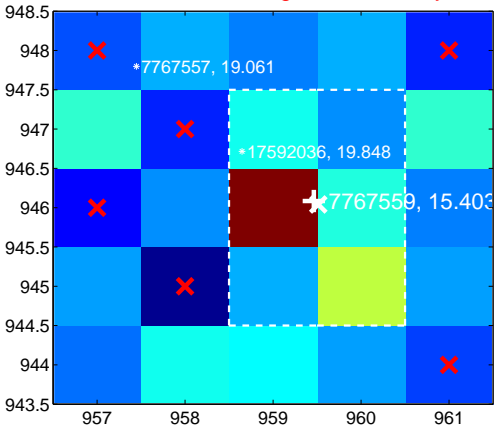
Q5 no difference image



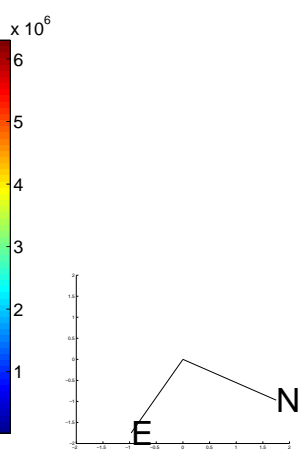
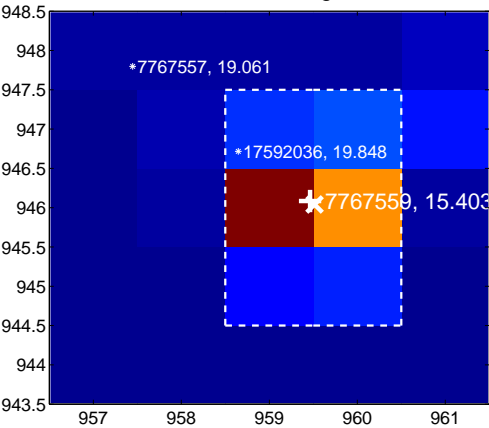
Q5 no OOT image



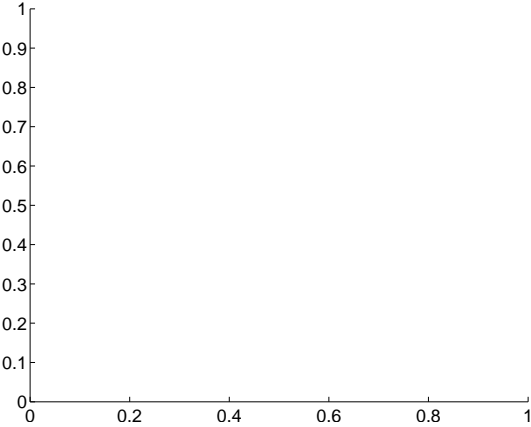
Q6 difference image. Poor Quality



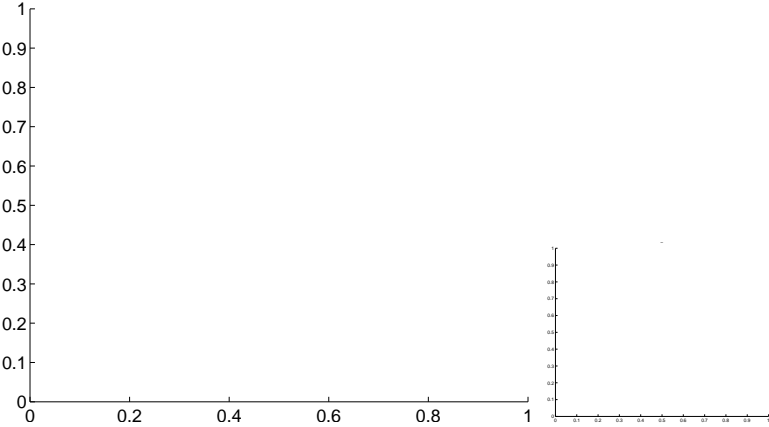
Q6 OOT image



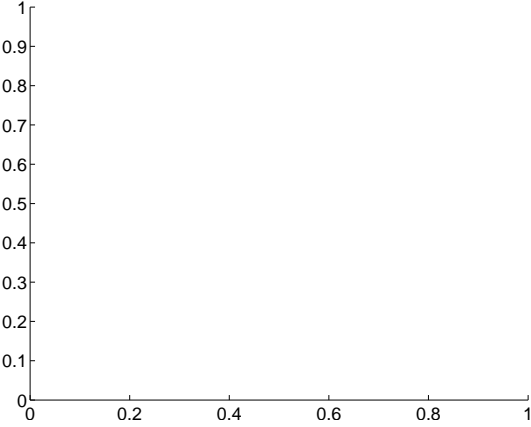
Q7 no difference image



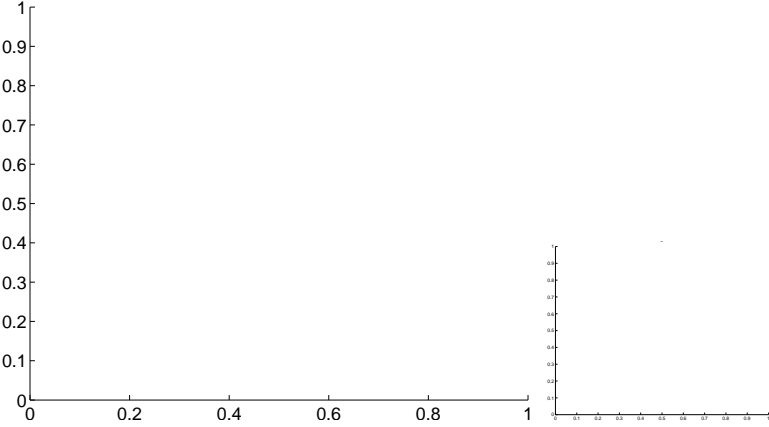
Q7 no OOT image



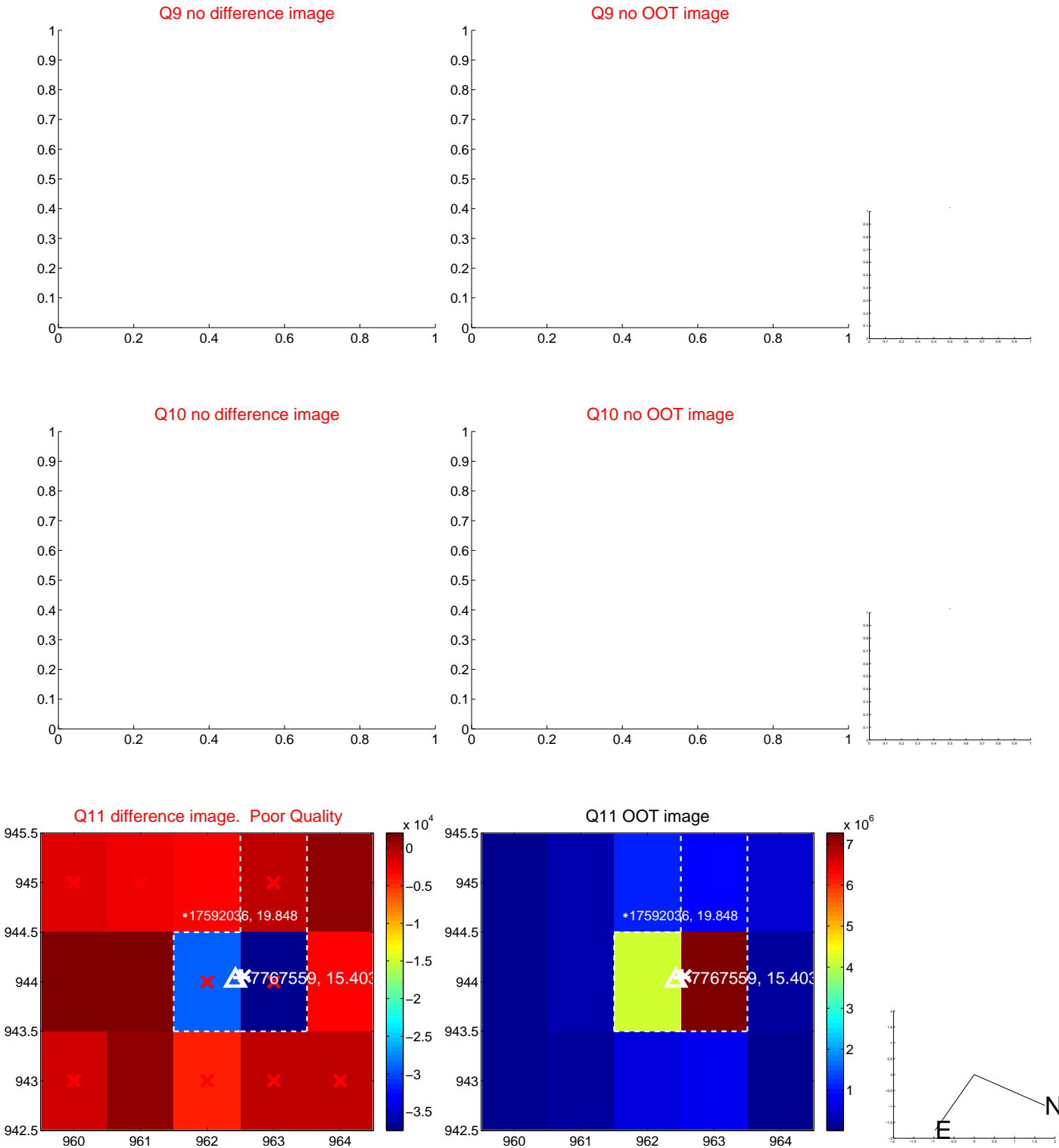
Q8 no difference image



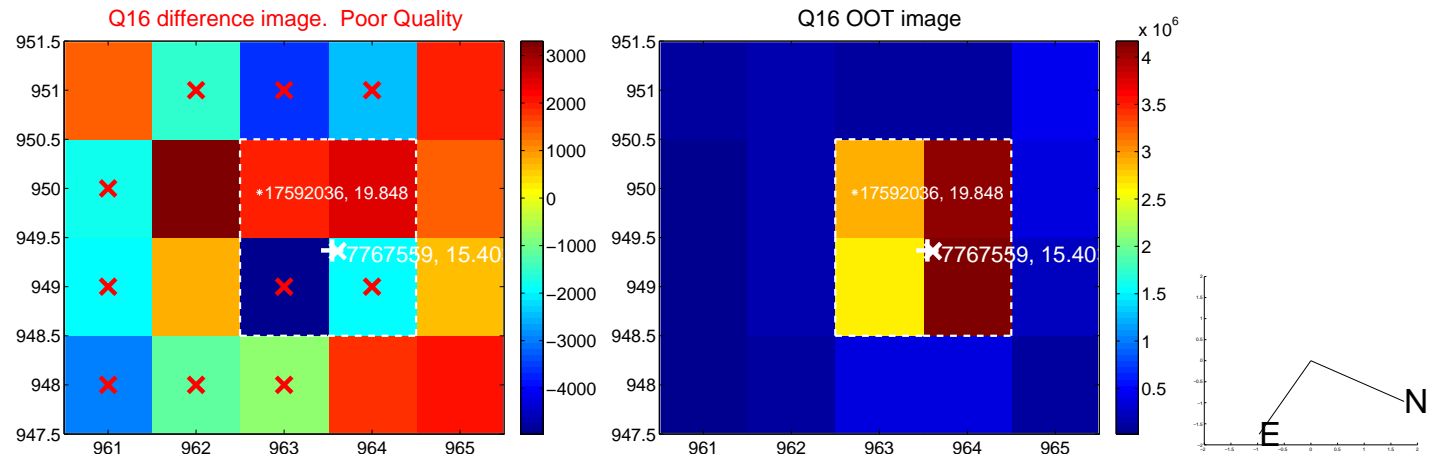
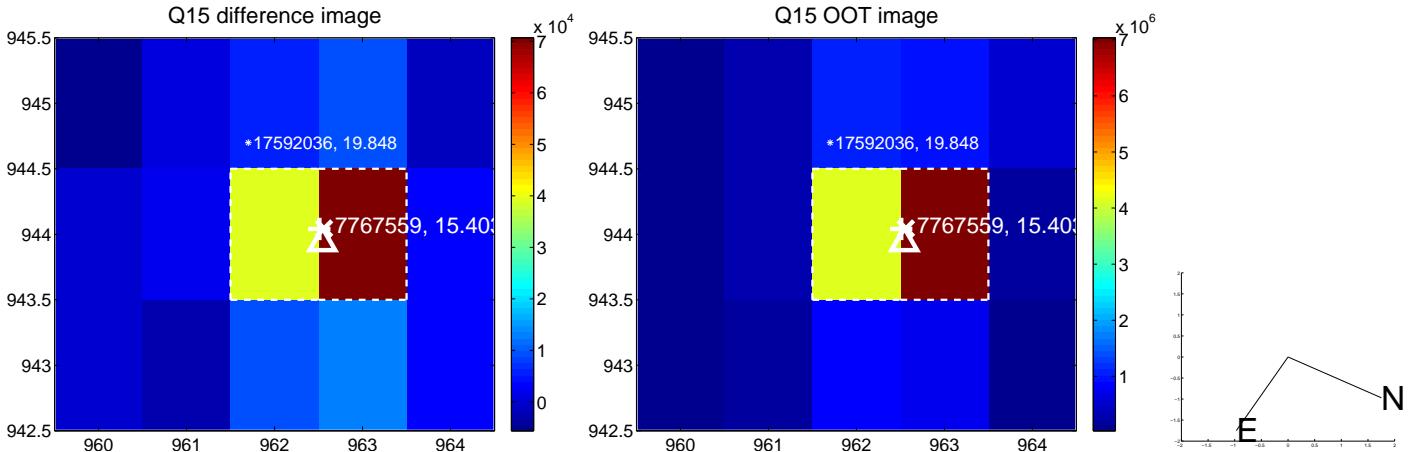
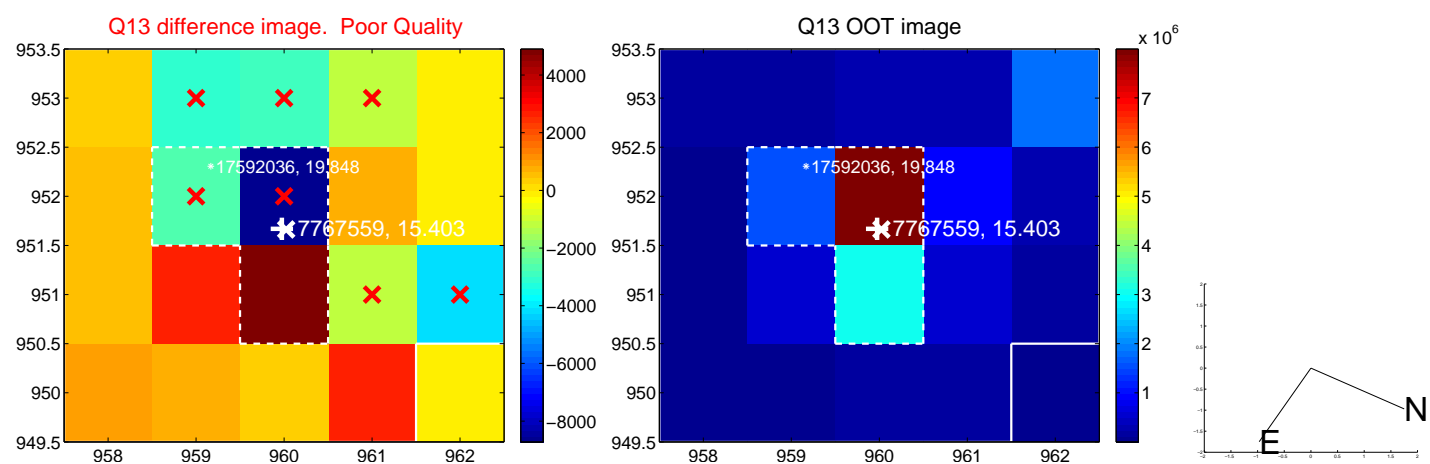
Q8 no OOT image



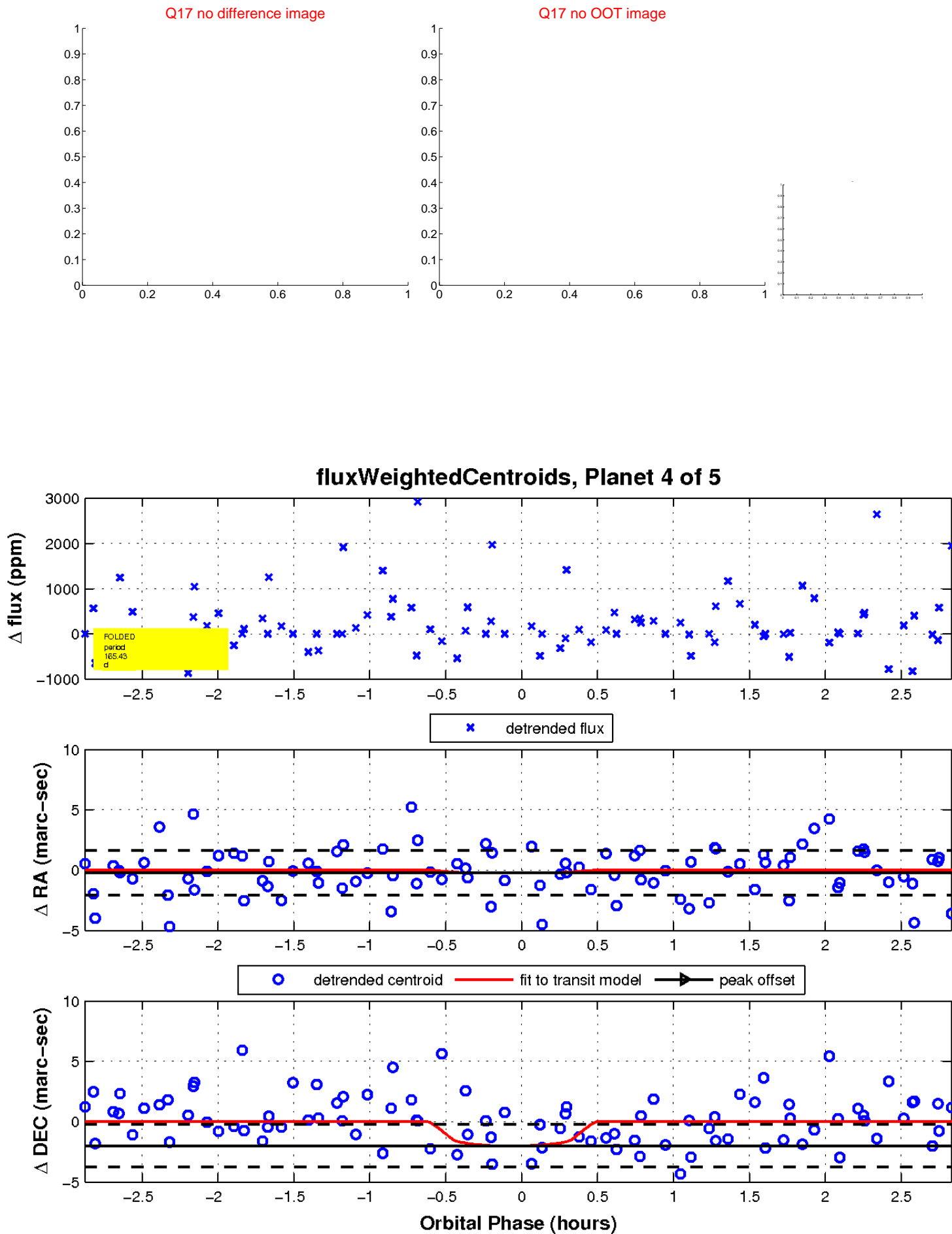
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



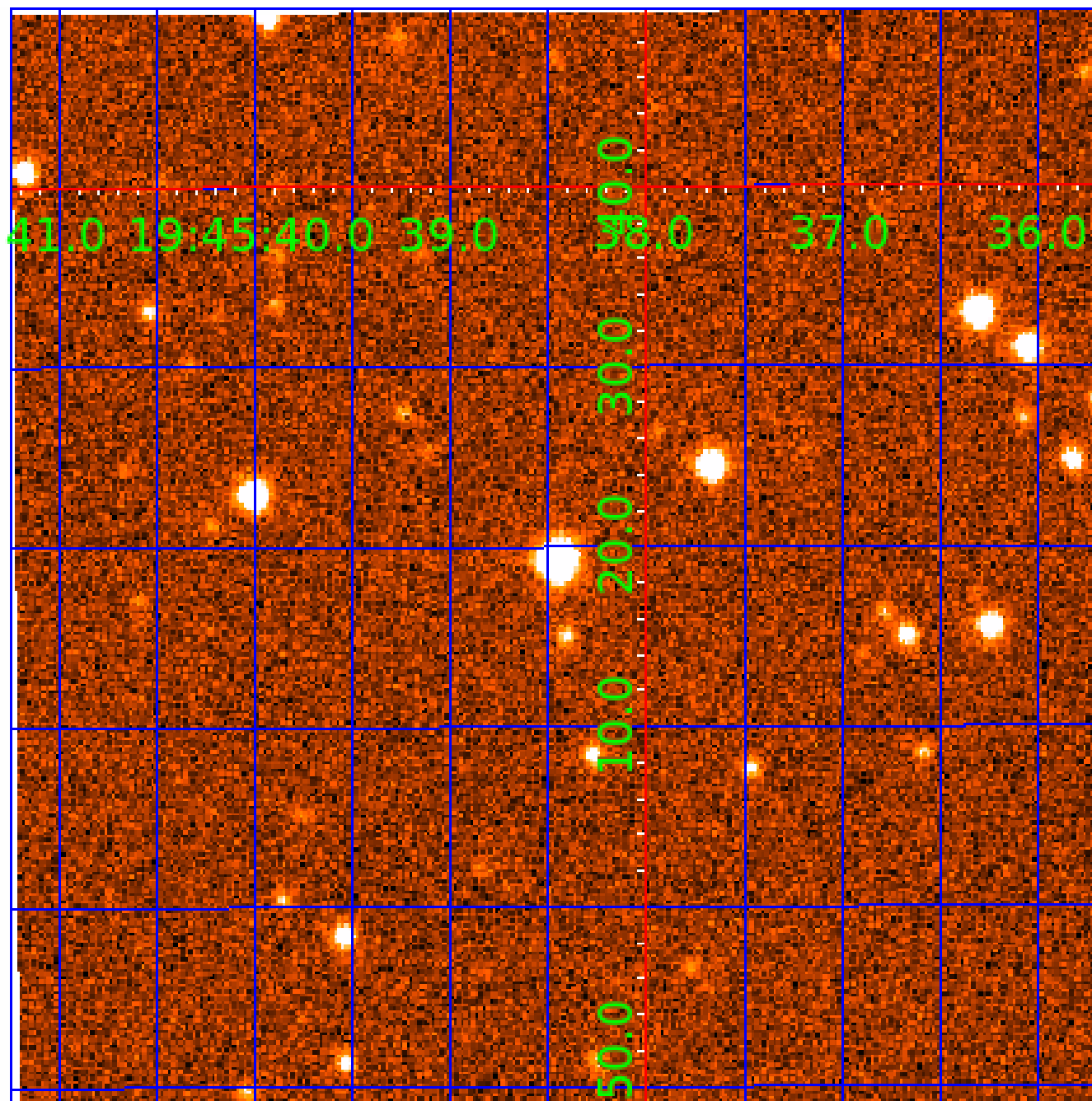
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





UKIRT Image

Declination



# KIC 007767559

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007767559-01	OBS	0895.01	4.409409	132.209674	12985.9	3.854	735.7	694.7	0.97	5600	10.99	348.18
007767559-02	OBS	No	2.204757	132.186925	124.0	3.170	7.5	7.0	0.97	5600	1.15	877.34
007767559-03	OBS	No	165.437658	226.804531	466.9	1.241	7.2	2.2	0.97	5600	2.10	2.77
007767559-04	OBS	No	165.432971	226.497062	149.8	0.966	8.5	0.6	0.97	5600	1.27	2.77
007767559-05	OBS	No	361.608186	465.313357	1421.4	3.000	9.4	-1.0	0.97	5600	3.64	0.98

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007767559-01	OBS	FP	0.23	0	1	0	0	MOD_SEC_DV—HAS_SEC_TCE
007767559-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
007767559-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_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
007767559-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_FEW_DIFFS
007767559-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

**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](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

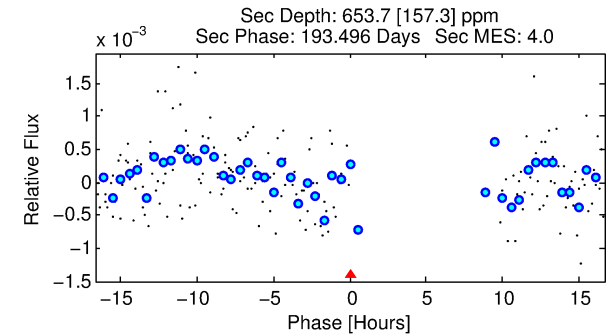
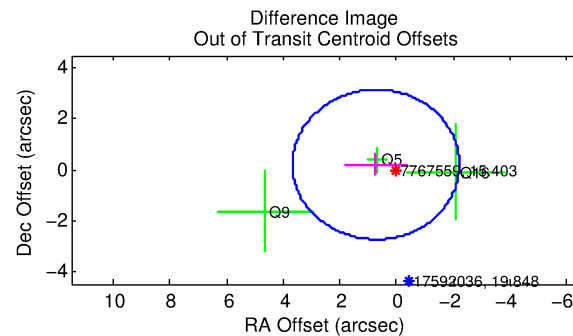
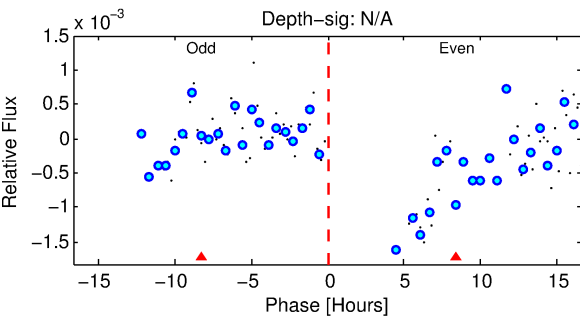
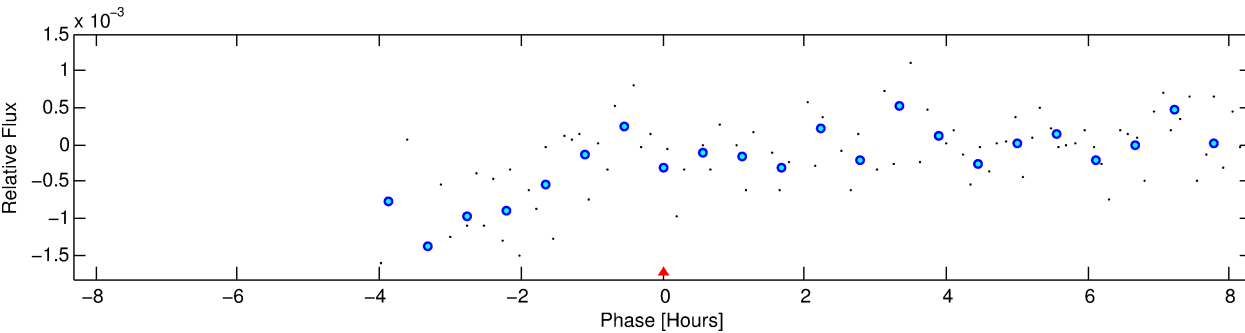
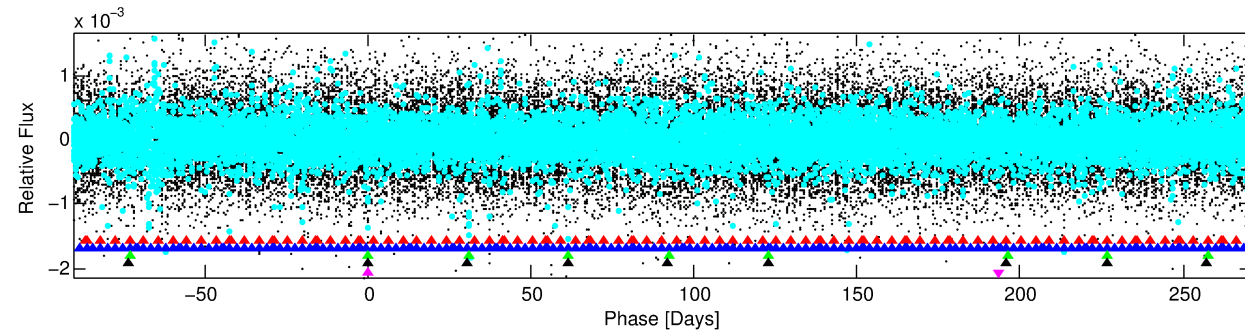
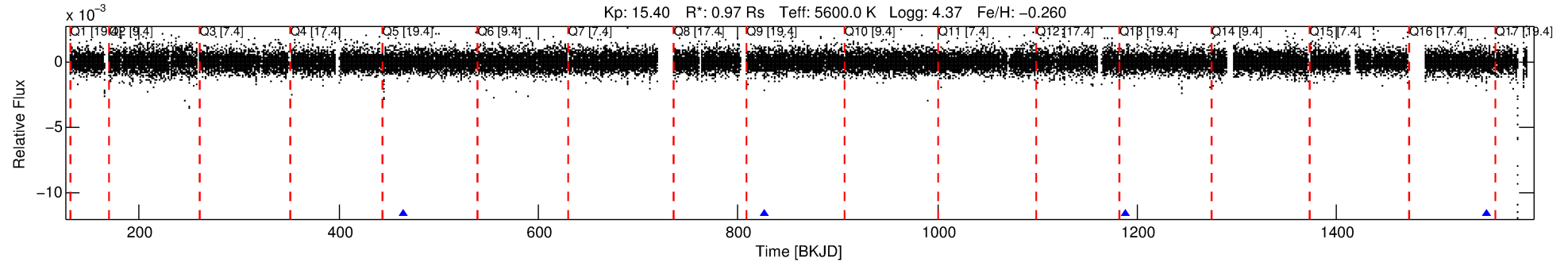
## Ephemeris Match Information For 007767559-05

No Significant Match Found

# DV One-Page Summary

KIC: 7767559 Candidate: 5 of 5 Period: 361.608 d  
KOI: K00895 Corr: No Ephemeris Match

Kp: 15.40 R\*: 0.97 Rs Teff: 5600.0 K Logg: 4.37 Fe/H: -0.260



## TPS TCE Results:

Period = 361.60819 d  
Epoch = 465.3134 BKJD

DV fit results are unavailable

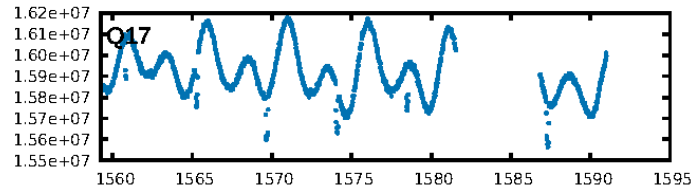
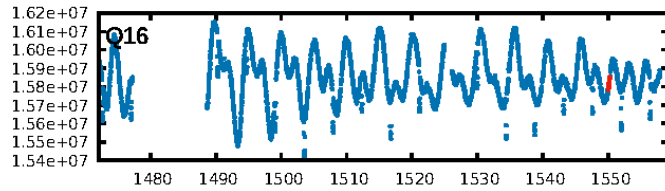
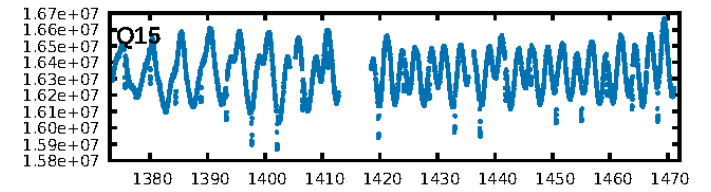
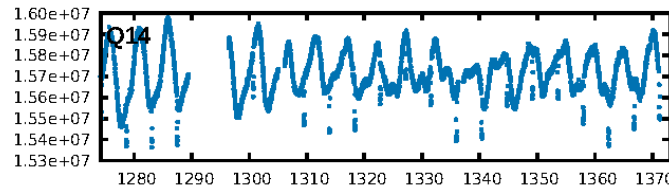
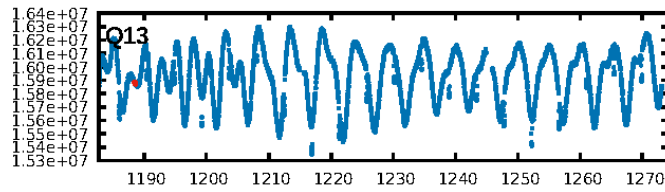
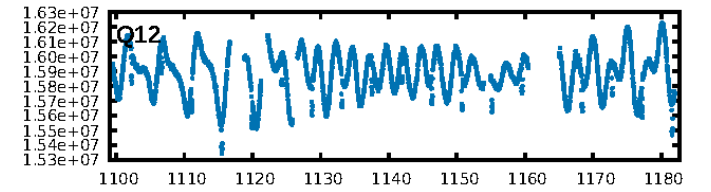
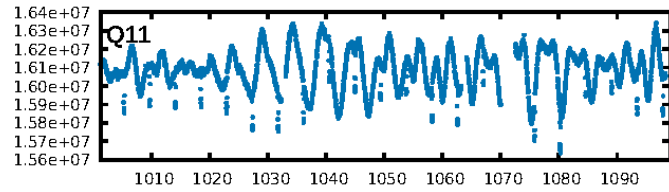
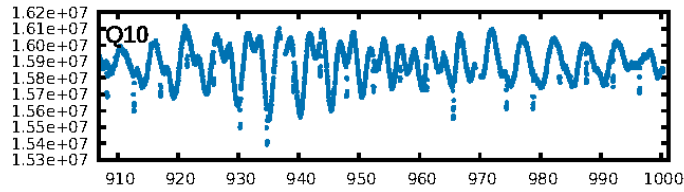
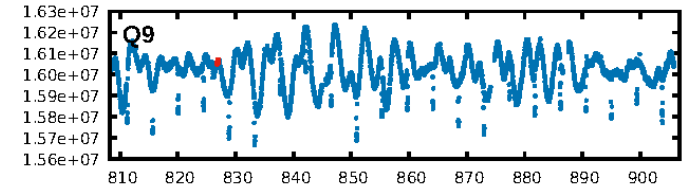
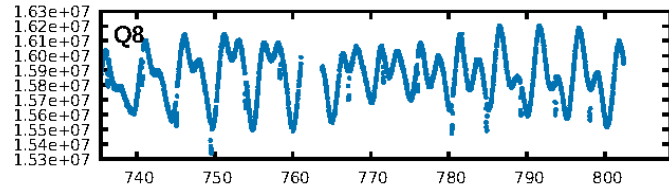
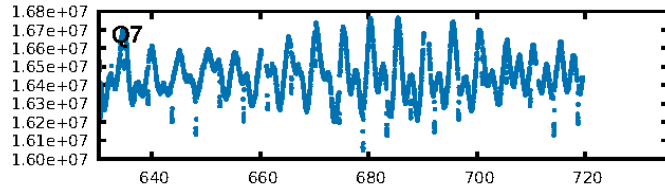
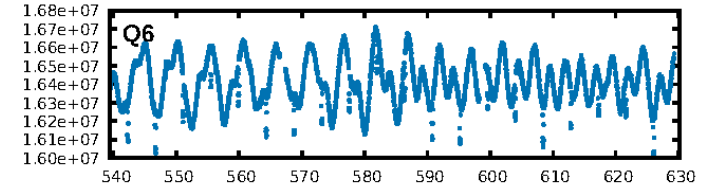
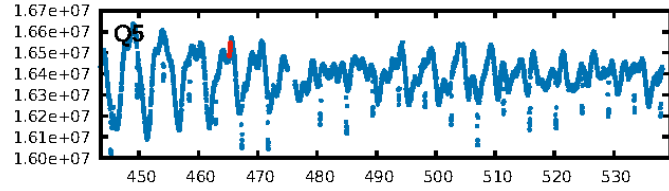
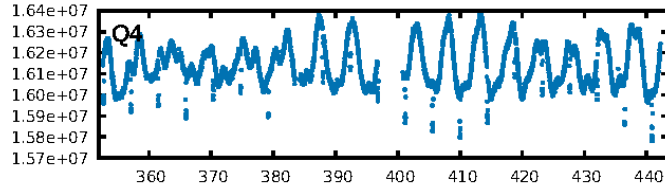
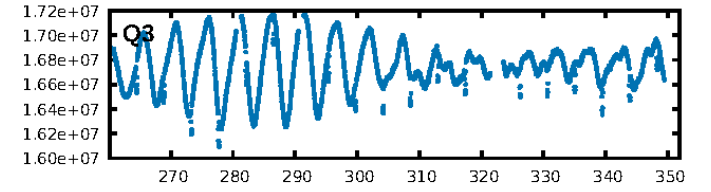
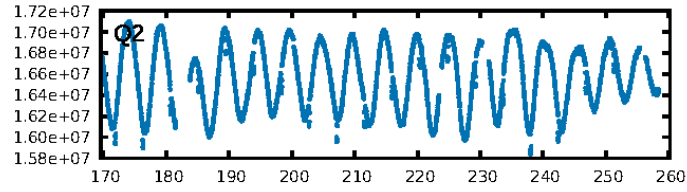
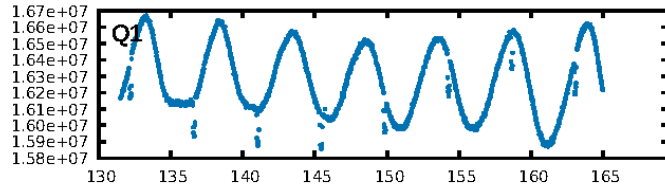
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1450.26σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.59e-11  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.758 arcsec [0.77σ]  
KicOffset-rm: 0.785 arcsec [0.44σ]  
OotOffset-st: 0/0/1/2 [3]  
KicOffset-st: 0/0/1/2 [3]  
DiffImageQuality-fgm: 0.00 [0/3]  
DiffImageOverlap-fno: 0.00 [0/4]

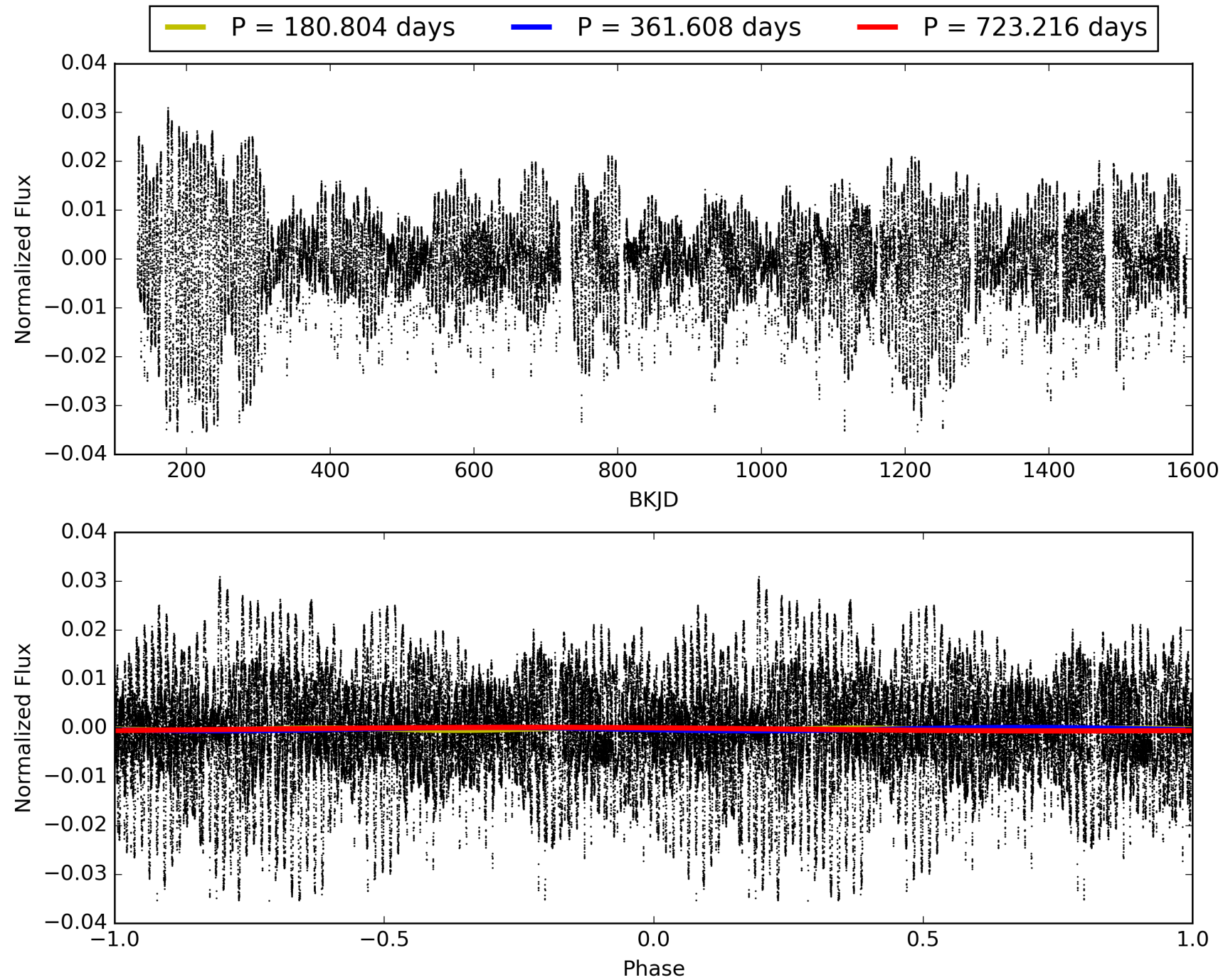
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:45:53 Z

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

# TCE 007767559-05, PDC Light Curves

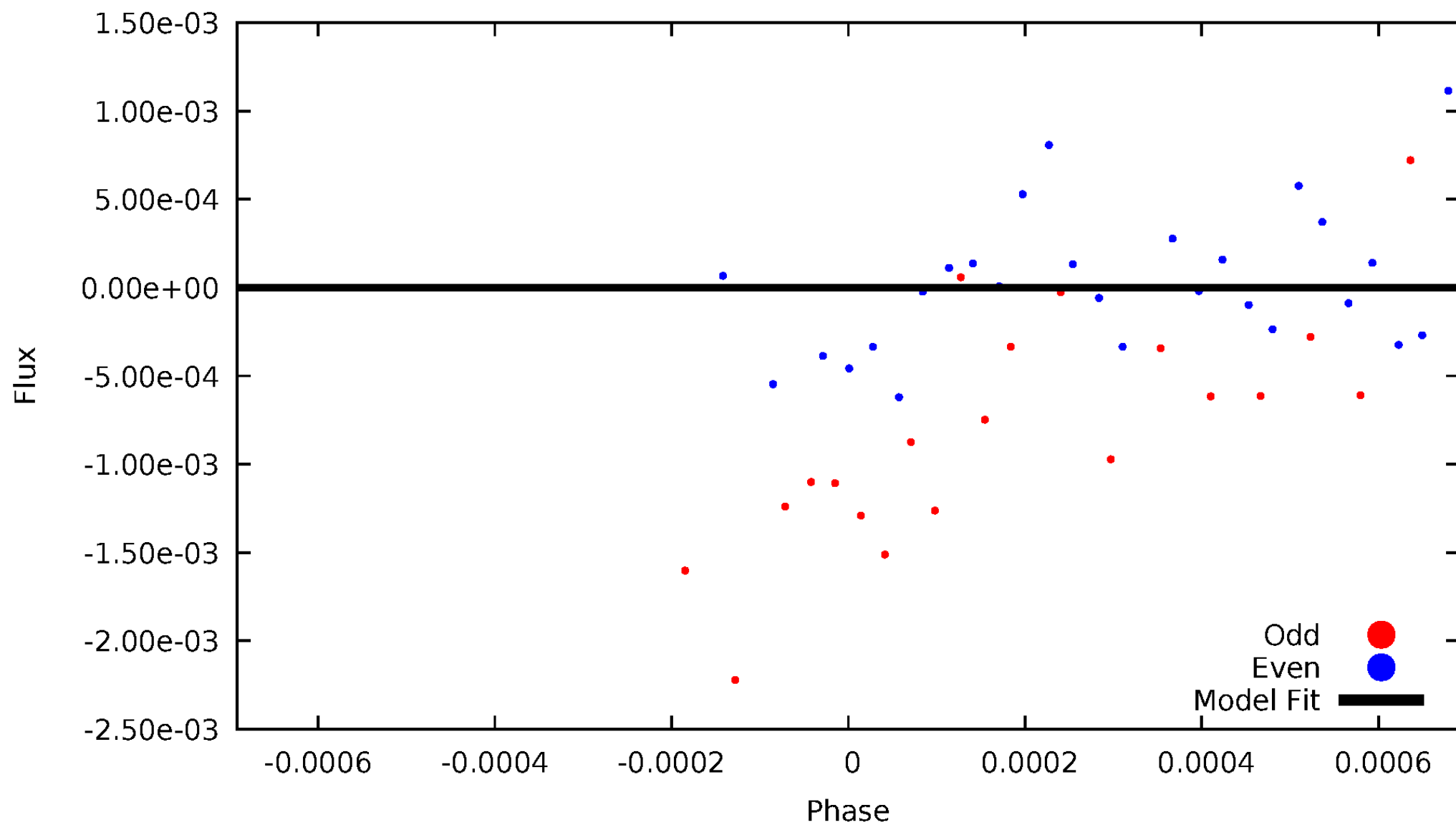


TCE 007767559-05



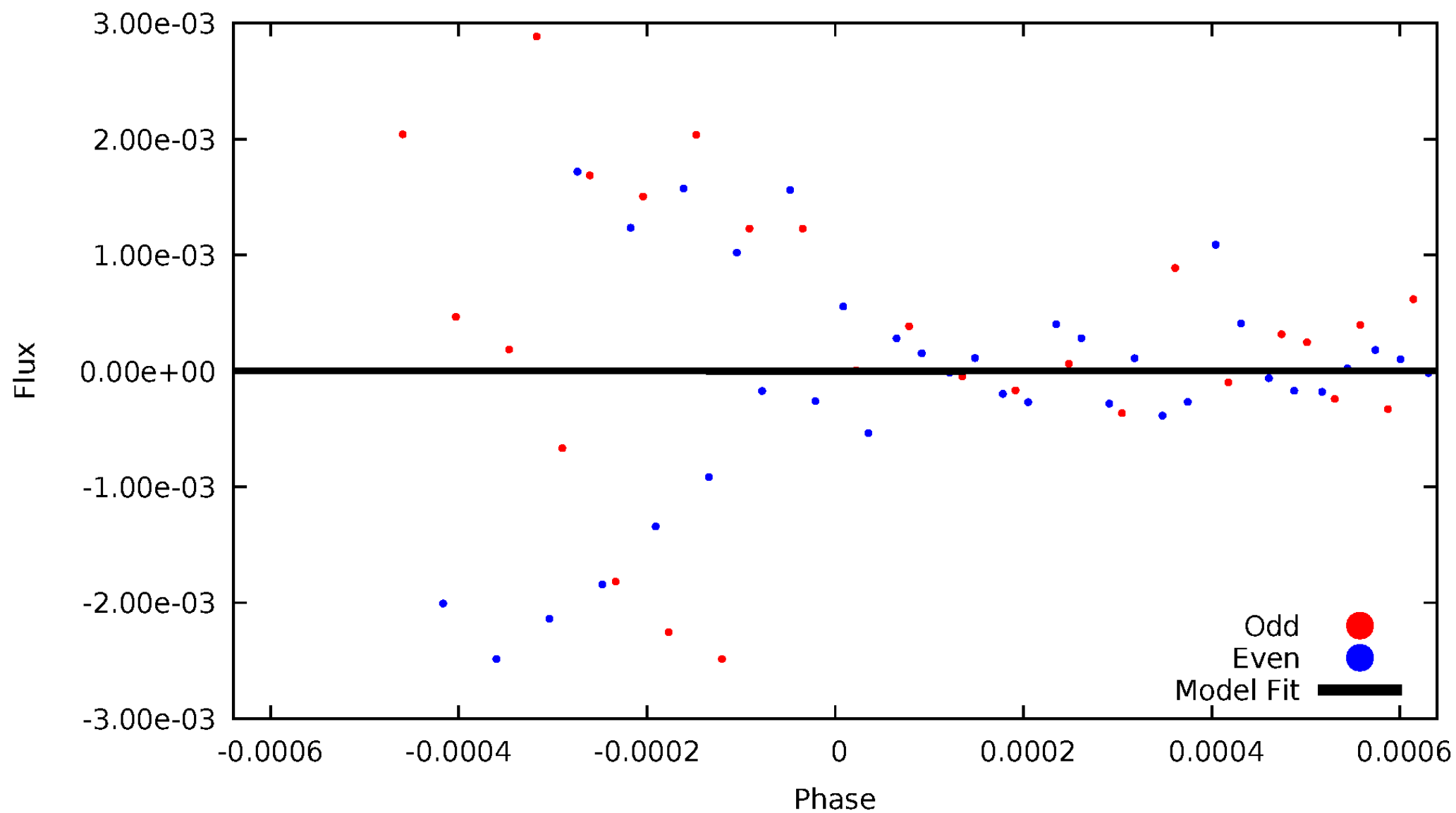
# DV Odd/Even

TCE 007767559-05



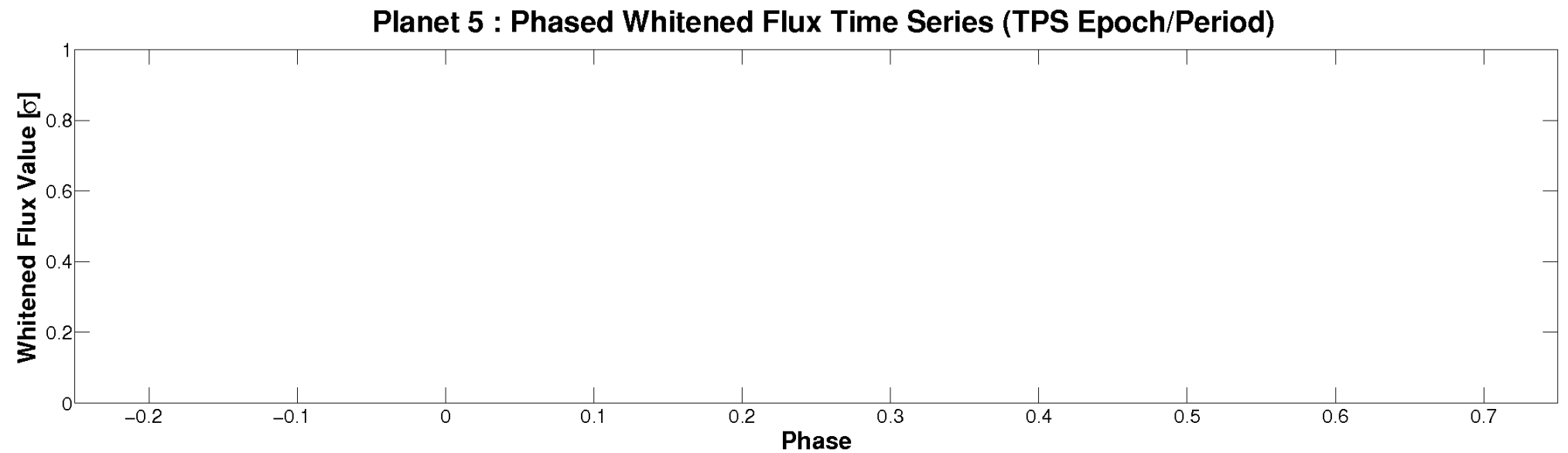
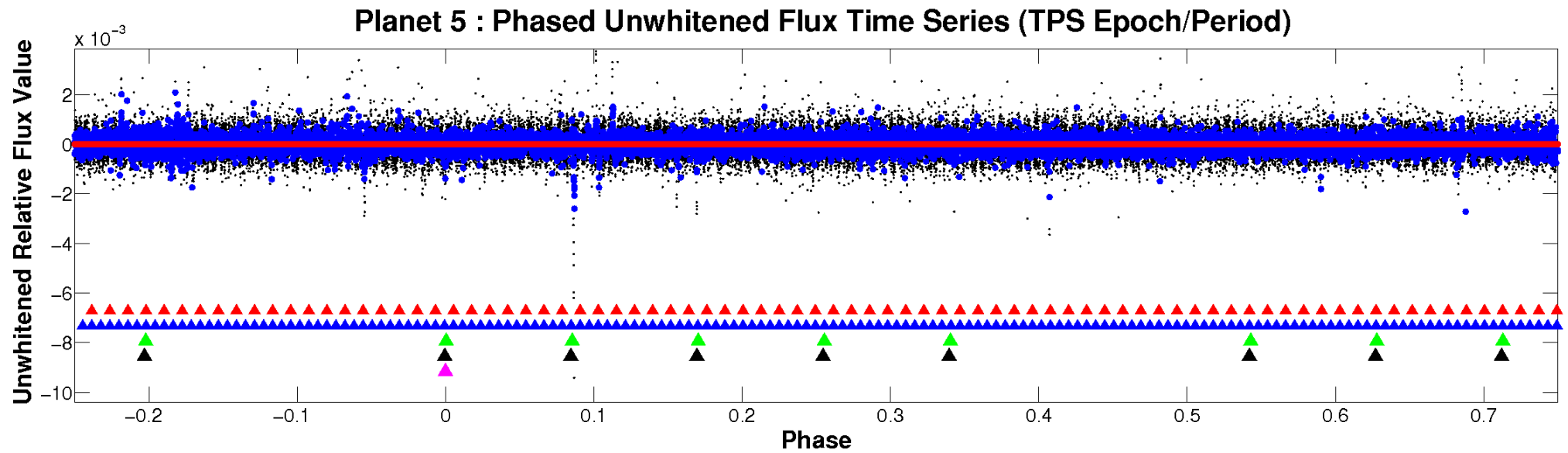
# ALT Odd/Even

TCE 007767559-05



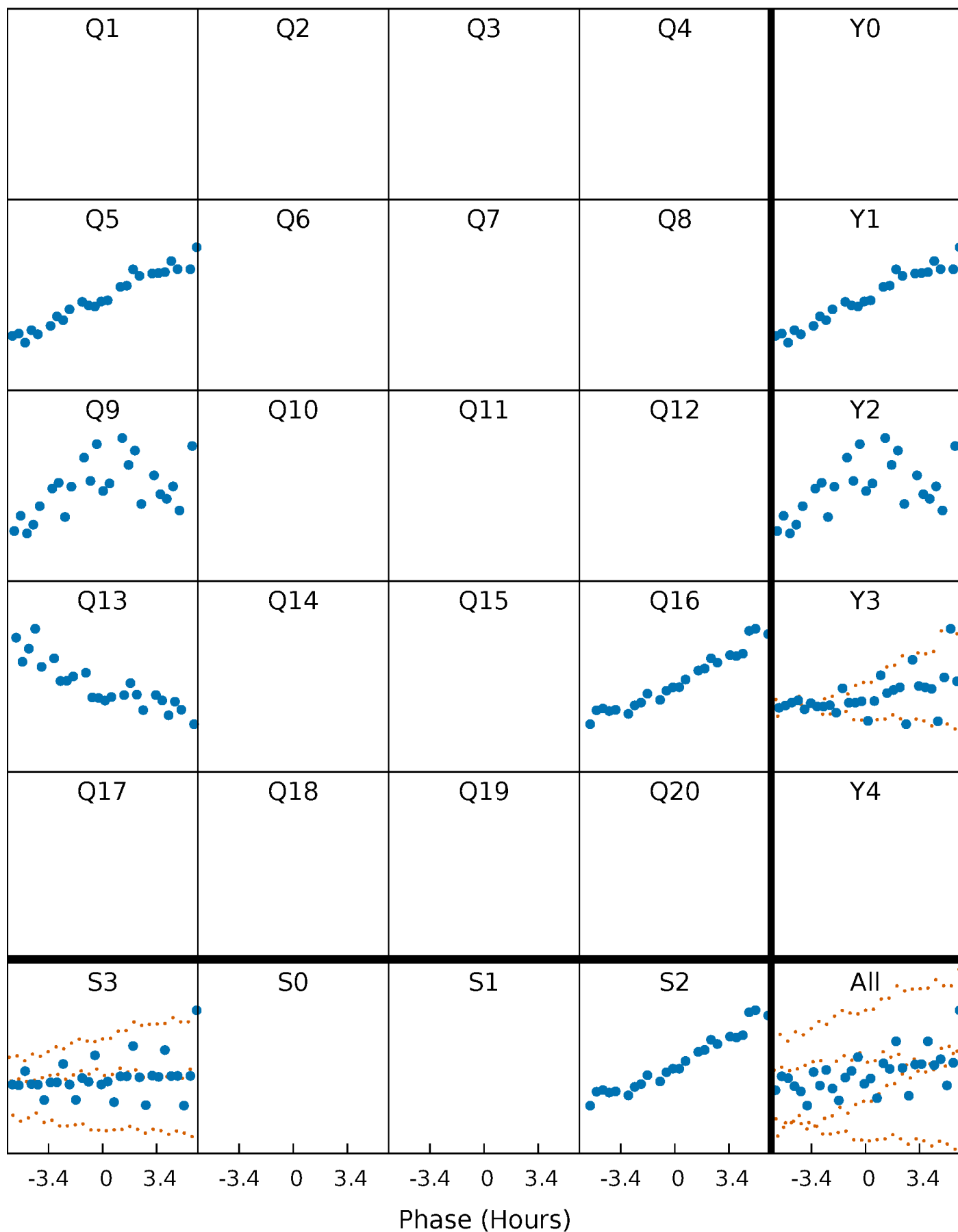


# Non-Whitened Vs. Whitened Light Curve



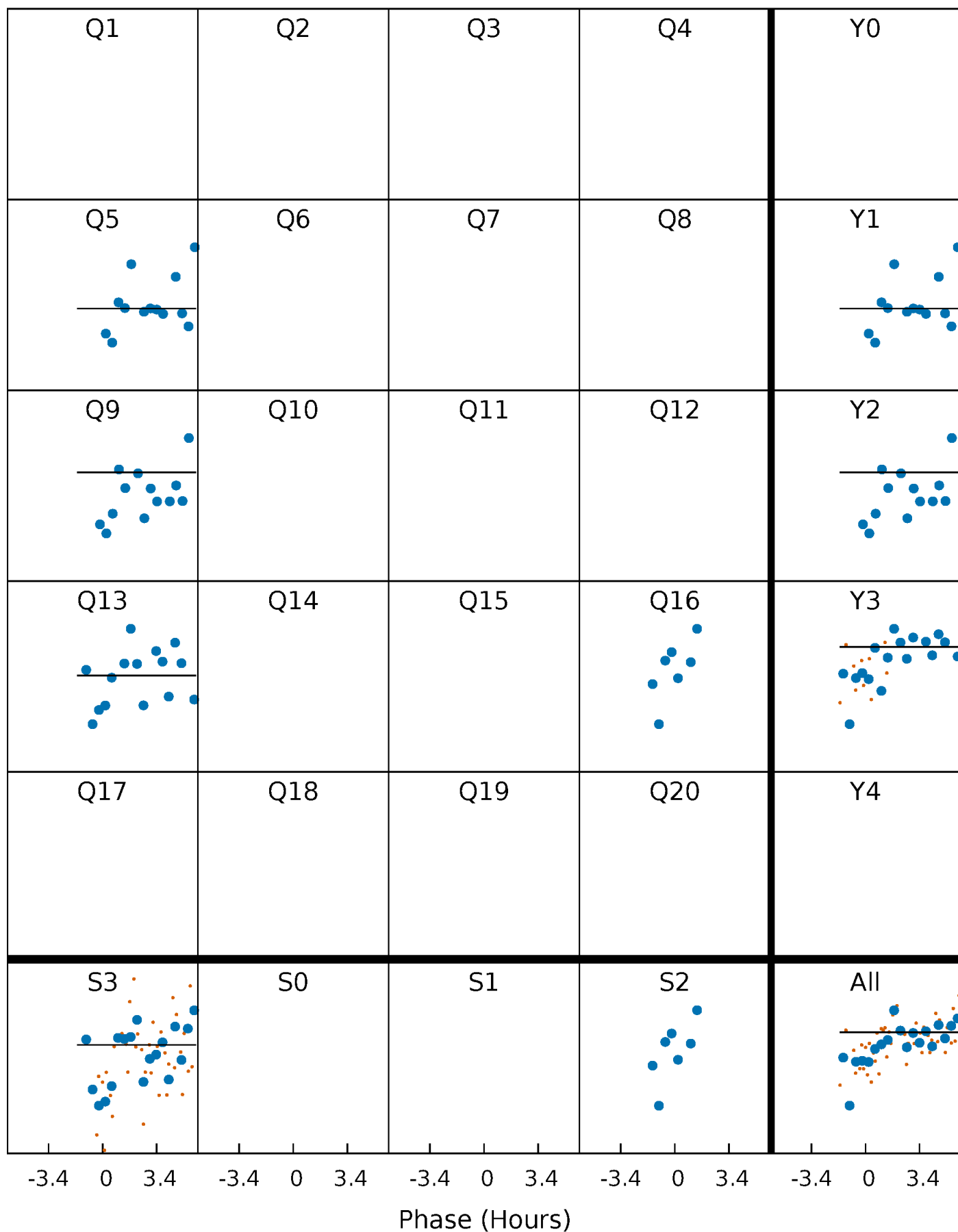
# PDC Quarter-Phased Transit Curves

TCE 007767559-05     $P=361.608186$  Days     $T_0=465.313357$  (BKJD)



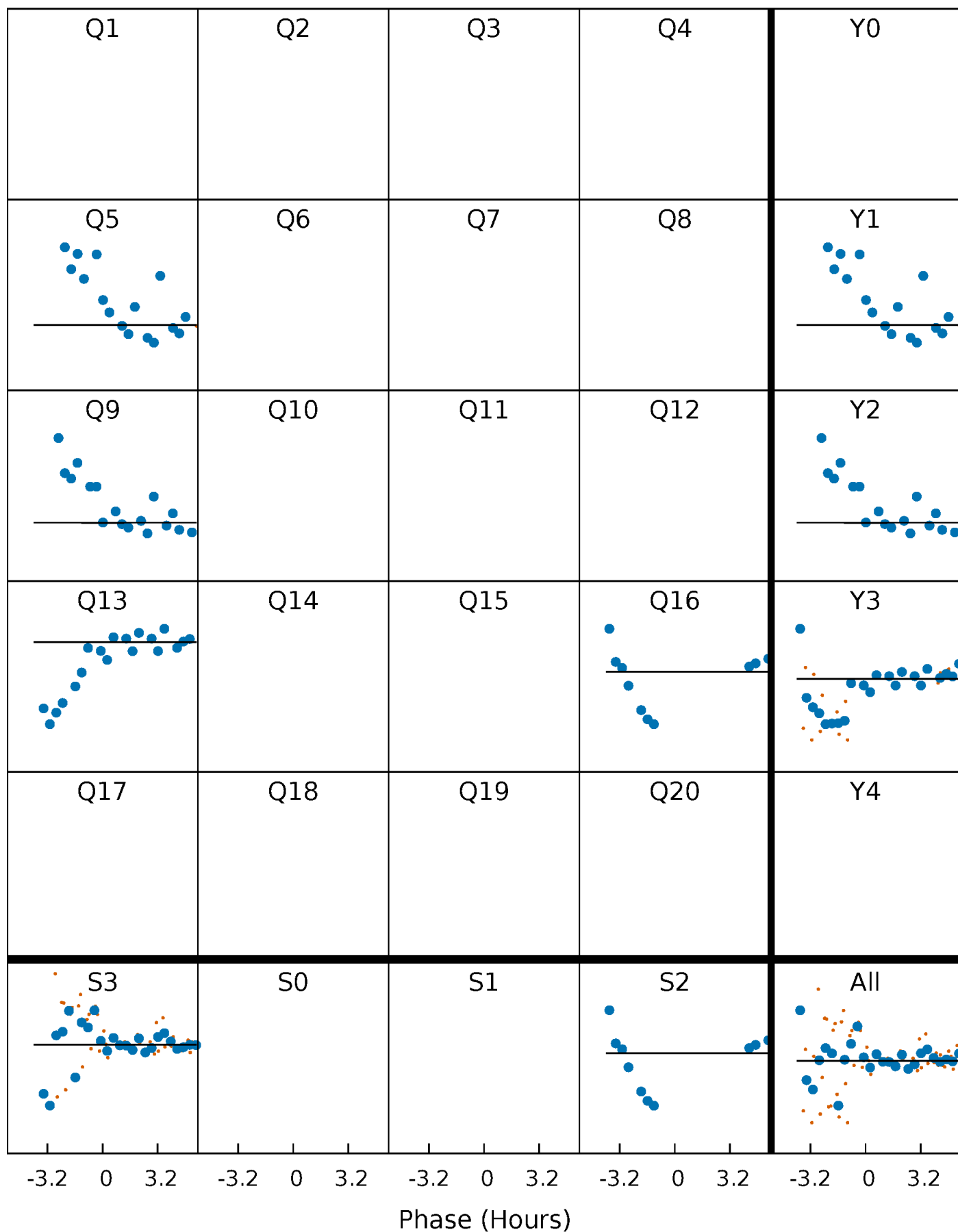
# DV Quarter-Phased Transit Curves

TCE 007767559-05     $P=361.608186$  Days     $T_0=465.313357$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

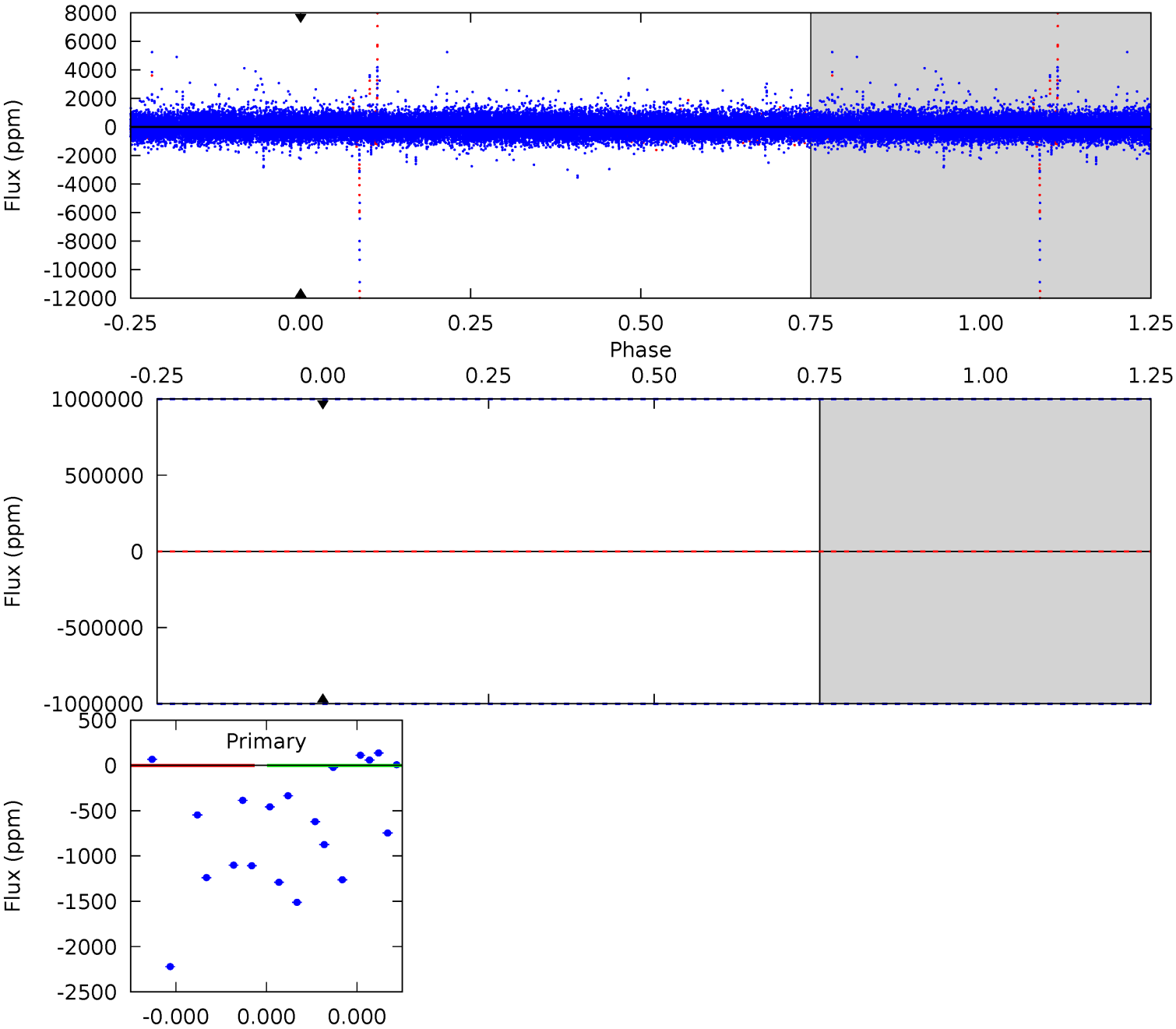
TCE 007767559-05     $P=361.608186$  Days     $T_0=465.412735$  (BKJD)



# DV Model-Shift Uniqueness Test

007767559-05, P = 361.608186 Days, E = 103.705171 Days

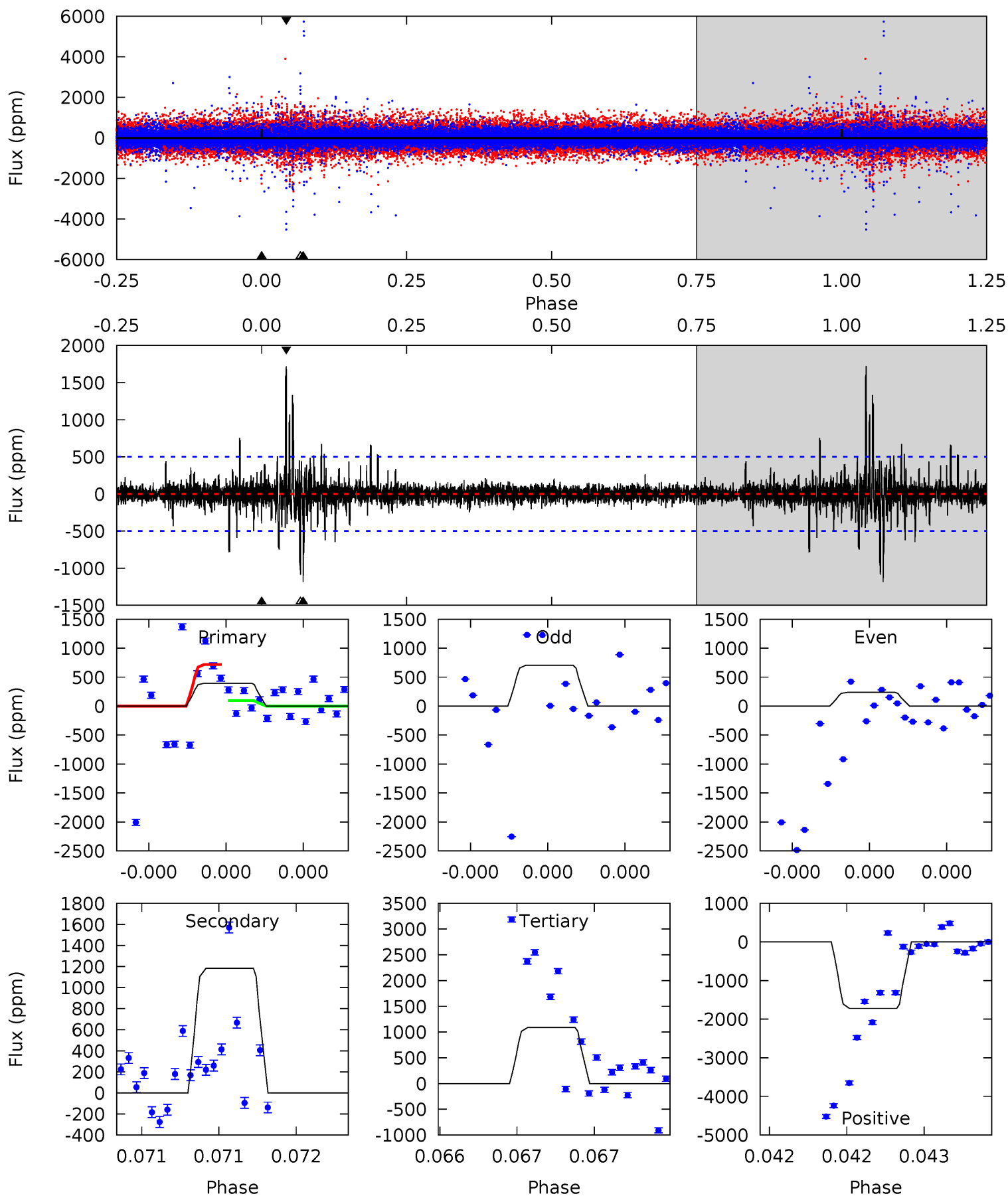
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

007767559-05, P = 361.608186 Days, E = 103.804549 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.46	13.3	12.3	19.4	5.63	3.56	1.10	-7.81	-14.9	1.08	-6.05	2.33	-1.62	0.59	3.54



### Stellar Parameters For KIC 007767559

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$5600^{+186}_{-169}$	$4.368^{+0.185}_{-0.204}$	$-0.260^{+0.300}_{-0.300}$	$0.975^{+0.271}_{-0.181}$	$0.811^{+0.127}_{-0.058}$	$1.231^{+1.019}_{-0.650}$
	+3%/-3%	+4%/-5%	+115%/-115%	+28%/-19%	+16%/-7%	+83%/-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 007767559-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 1000000$	$9.02^{+8.92}_{-6.09}$	$355^{+30}_{-23}$	$-4766^{+23210}_{-11713}$	$-15240.097^{+1075828.025}_{-1000129.045}$
Alt.	$-1184 \pm 89$	$7.30^{+8.48}_{-4.72}$	$355^{+26}_{-24}$	$4230^{+2355}_{-929}$	$10832^{+72255}_{-8496}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

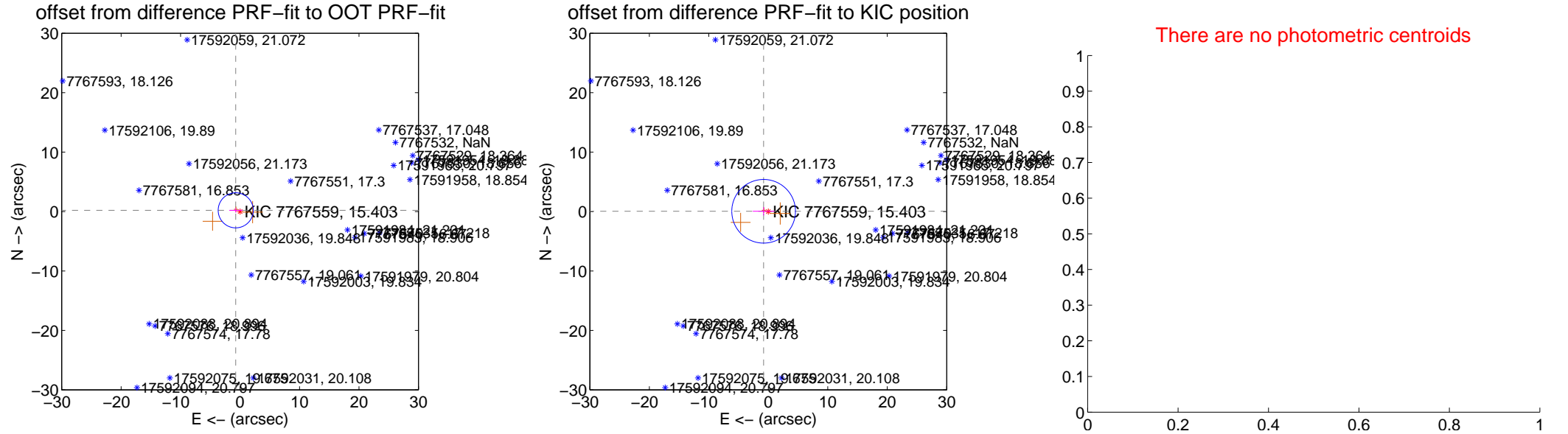
## DV Centroid Data

Supplemental centroid analysis for 007767559-05. Kepler magnitude: 15.40. 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 0.25 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.758 \pm 0.984$	0.77	$0.729 \pm 1.100$	$0.207 \pm 0.390$
PRF-fit source offset from KIC position	$0.785 \pm 1.785$	0.44	$0.783 \pm 1.825$	$0.045 \pm 0.708$
photometric centroid source offset	—	—	—	—



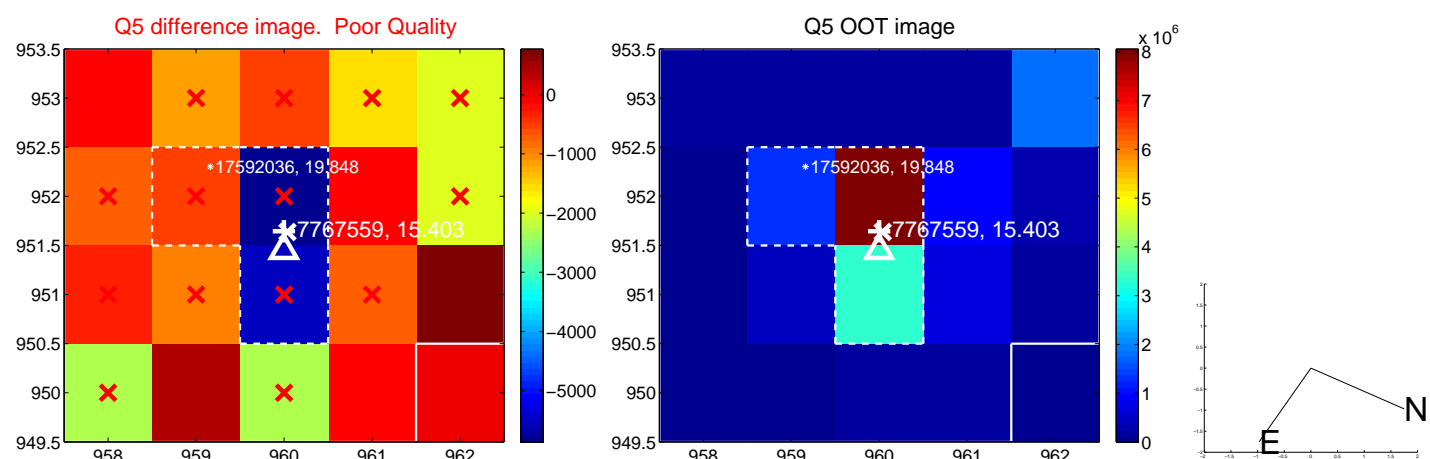
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



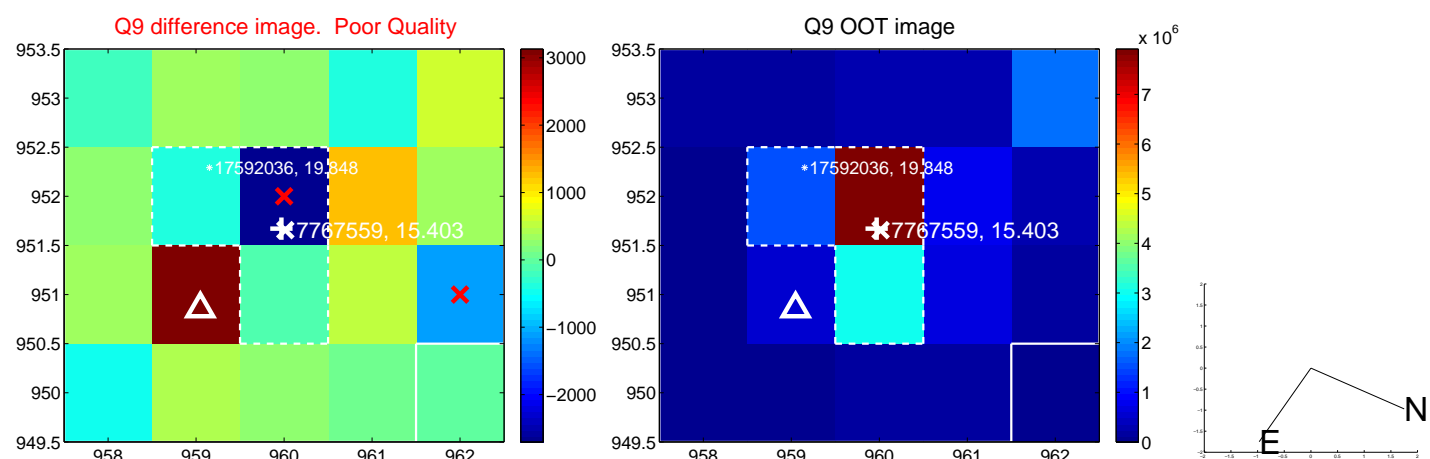
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



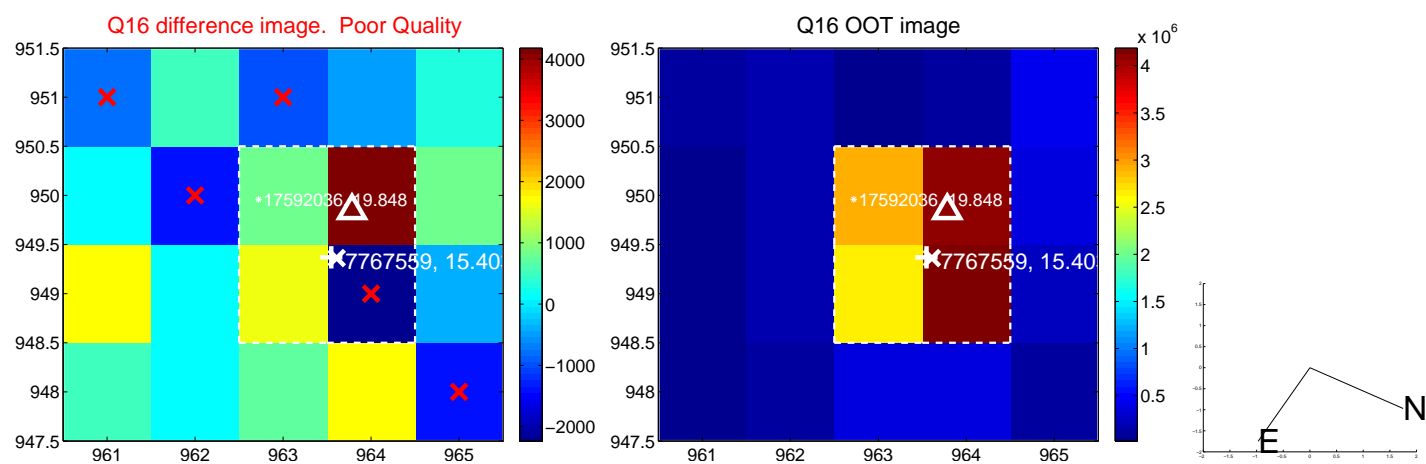
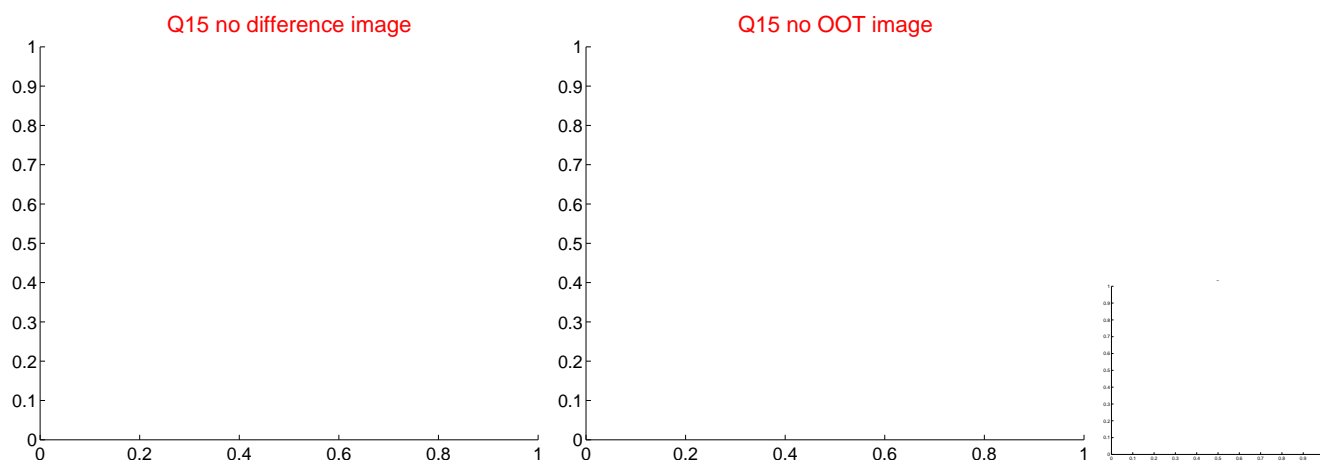
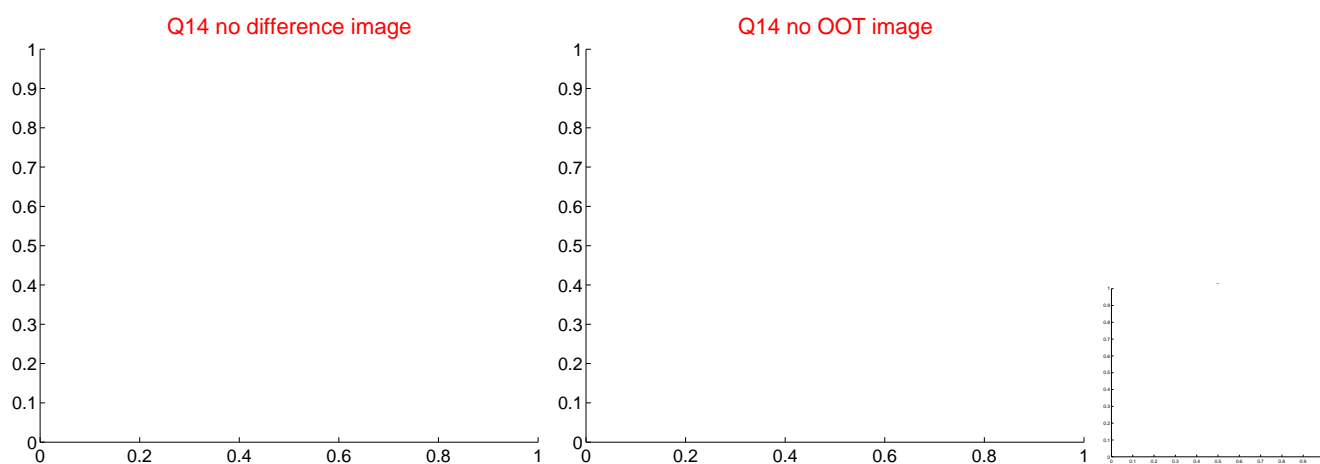
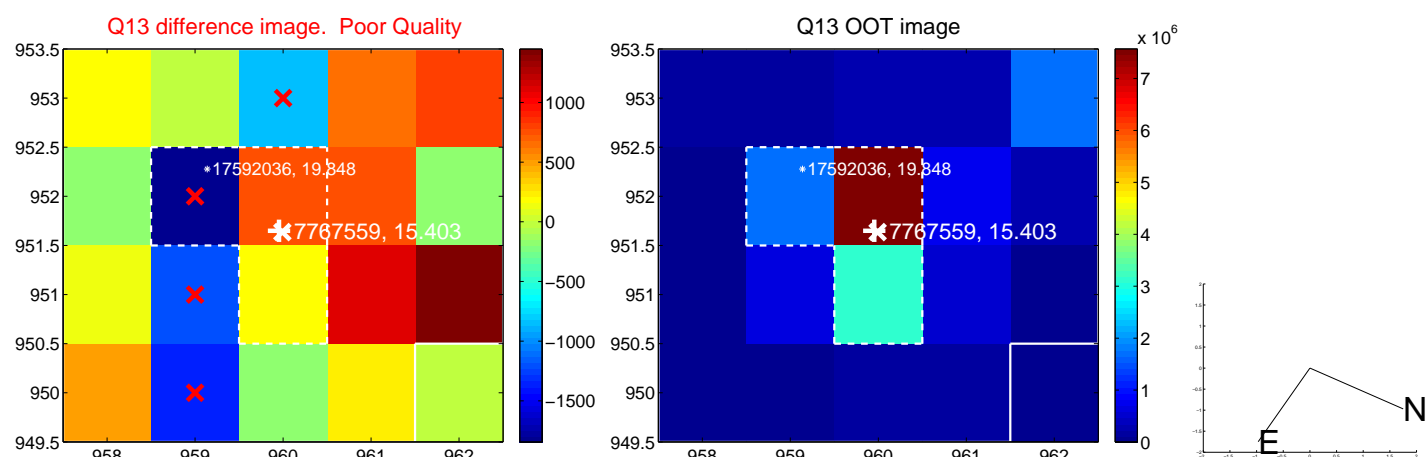
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

