

# KIC 007199935

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007199935-01	OBS	6841.01	0.566790	131.823891	16.7	2.682	8.5	10.6	1.39	6130	0.58	13639.77
007199935-02	OBS	No	402.314830	273.850852	353.0	7.219	10.6	6.8	1.39	6130	2.99	2.15
007199935-03	OBS	No	105.340608	182.959162	152.7	4.560	7.7	5.4	1.39	6130	1.90	12.86

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007199935-01	OBS	FP	0.00	1	0	1	1	MOD_NONUNIQ_ALT—HALO_GHOST—EPHEM_MATCH
007199935-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007199935-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

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

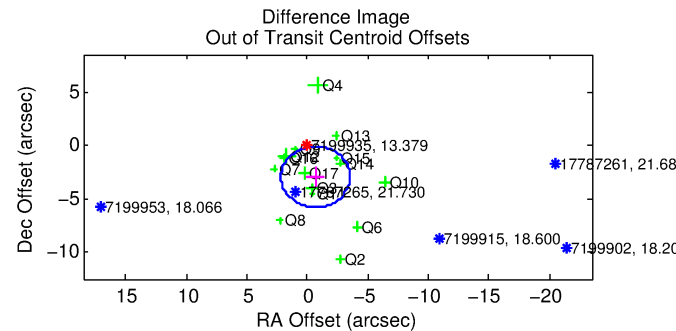
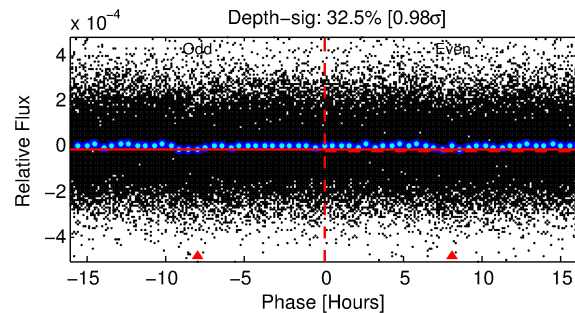
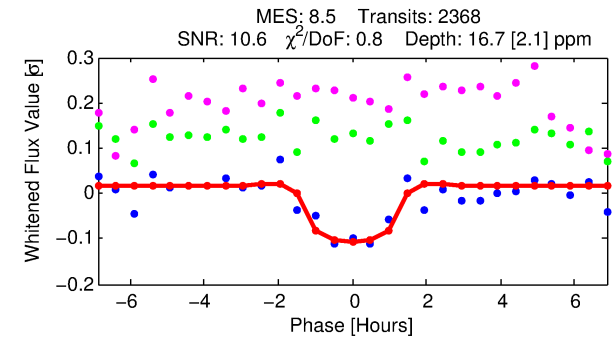
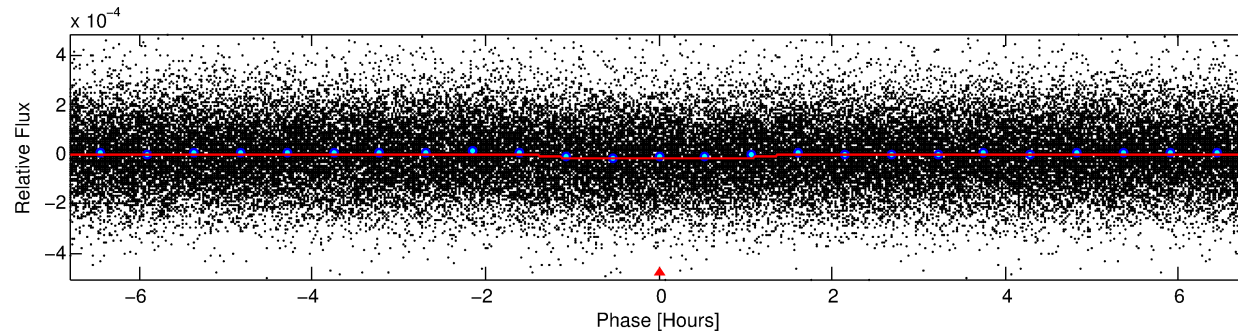
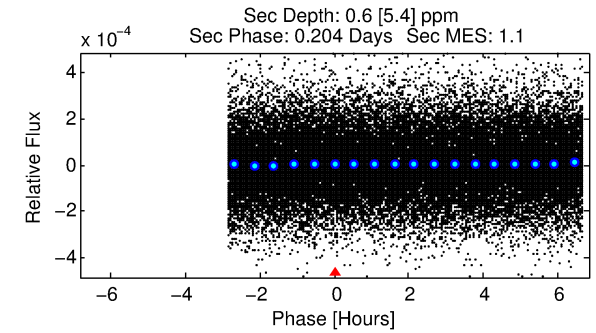
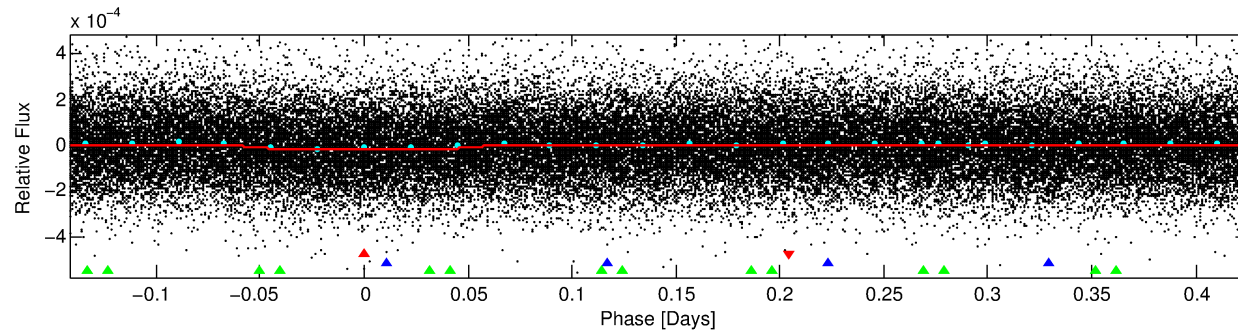
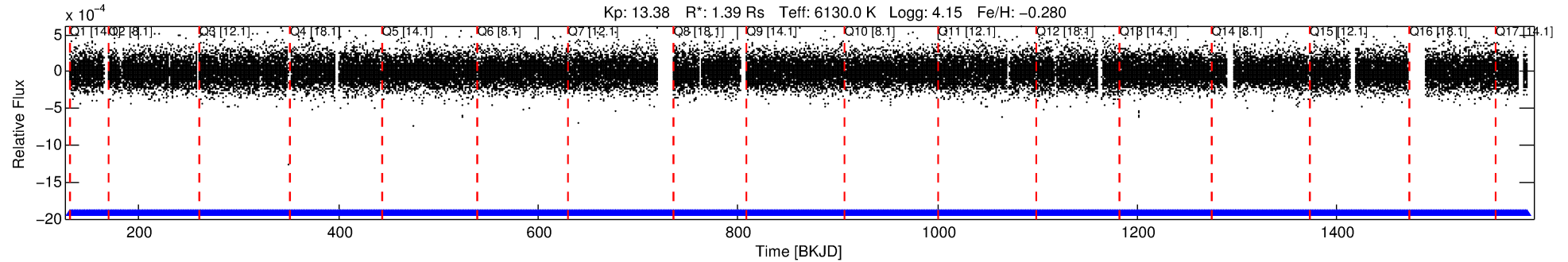
## Ephemeris Match Information For 007199935-01

TCE (1)	KIC	Parent (2)	Parent KIC	P <sub>1</sub> :P <sub>2</sub>	Dist ( $\mu$ )	$\Delta$ Row	$\Delta$ Col	m <sub>2</sub>	m <sub>1</sub>	D <sub>2</sub> /D <sub>1</sub>	Mechanism	Flag	$\sigma_P$	$\sigma_T$
007199935-01	7199935	RR-Lyr-pri	7198959	1:1	794.7	145	136	7.86	13.38	36664.00	Direct-PRF	0	1.51	19.15

**Notes:** P<sub>1</sub>:P<sub>2</sub> is the period ratio. Dist is the distance in arcseconds.  $\Delta$ Row and  $\Delta$ Col are the number of pixels apart in row and column. m<sub>2</sub> and m<sub>1</sub> are the magnitudes of the parent and child. D<sub>2</sub>/D<sub>1</sub> is the parent's transit depth divided by the child's.  $\sigma_P$  and  $\sigma_T$  are the significance of the match in period and epoch. For a match to be considered significant  $\sigma_P < 5.0$  and  $\sigma_T < 5.0$ . Matches which have  $\sigma_P$  and  $\sigma_T$  very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 7199935 Candidate: 1 of 3 Period: 0.567 d  
KOI: K06841.01 Corr: 0.755



## DV Fit Results:

Period = 0.56679 [0.00001] d  
Epoch = 131.8239 [0.0028] BKJD  
Rp/R\* = 0.0038 [0.0020]  
a/R\* = 1.65 [2.81]  
b = 0.37 [6.38]  
Seff = 13639.77 [5196.50]  
Teq = 2756 [262] K  
Rp = 0.58 [0.34] Re  
a = 0.0134 [0.0032] AU  
Ag = 0.19 [1.61] [-0.51σ]  
Teffp = 2806 [5984] K [0.01σ]

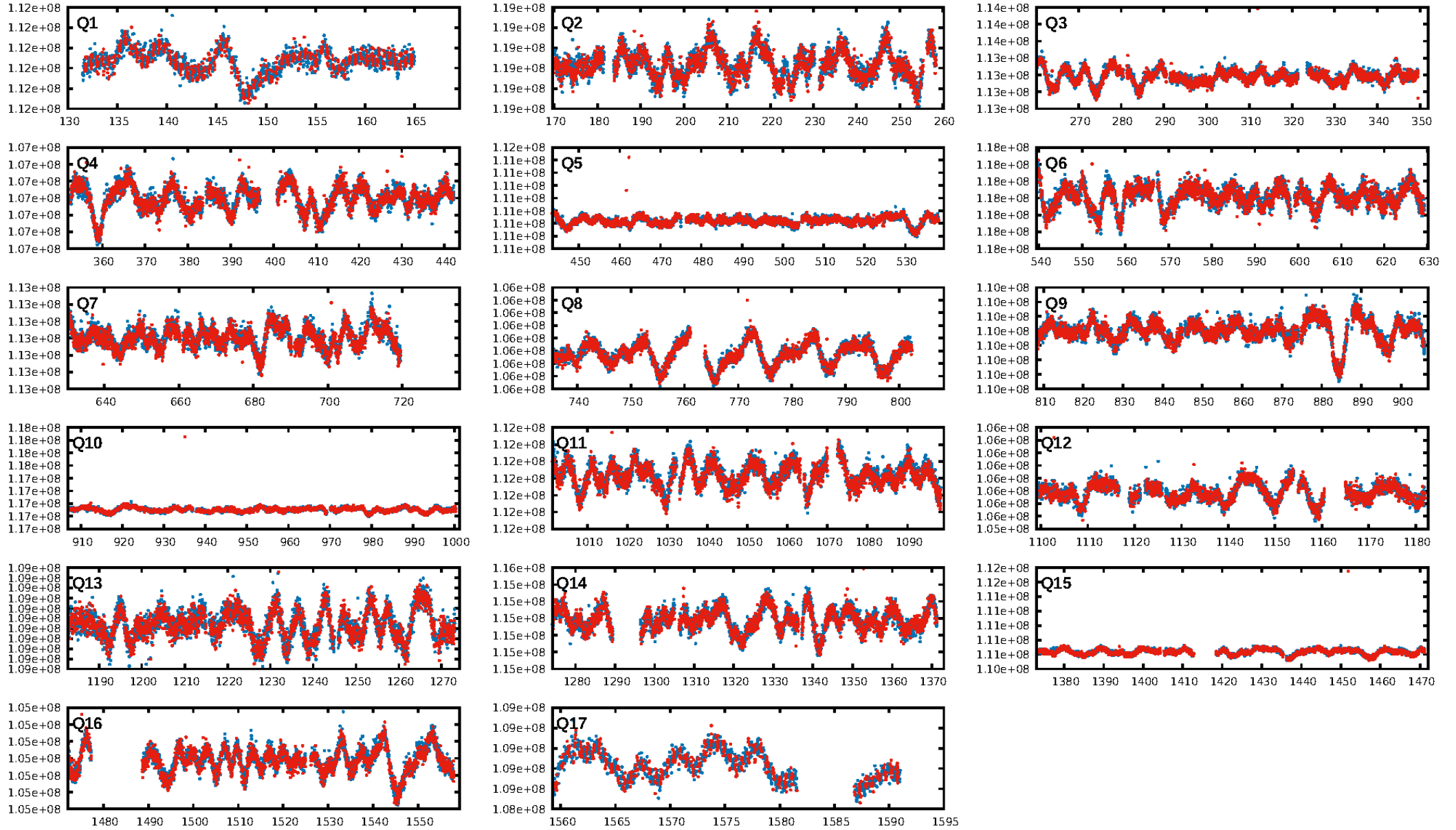
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [475.32σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 6.20e-14  
RollingBand-fgt: 1.00 [2262/2262]  
**GhostDiagnostic-chr: 0.06435**  
Centroid-sig: 0.3%  
Centroid-so: 2.025 arcsec [2.05σ]  
**OotOffset-rm: 3.034 arcsec [3.19σ]**  
OotOffset-st: 4/4/4/3 [15]  
KicOffset-rm: 2.998 arcsec [2.80σ]  
KicOffset-st: 4/4/4/3 [15]  
DiffImageQuality-fgm: 0.20 [3/15]  
DiffImageOverlap-fno: 1.00 [17/17]

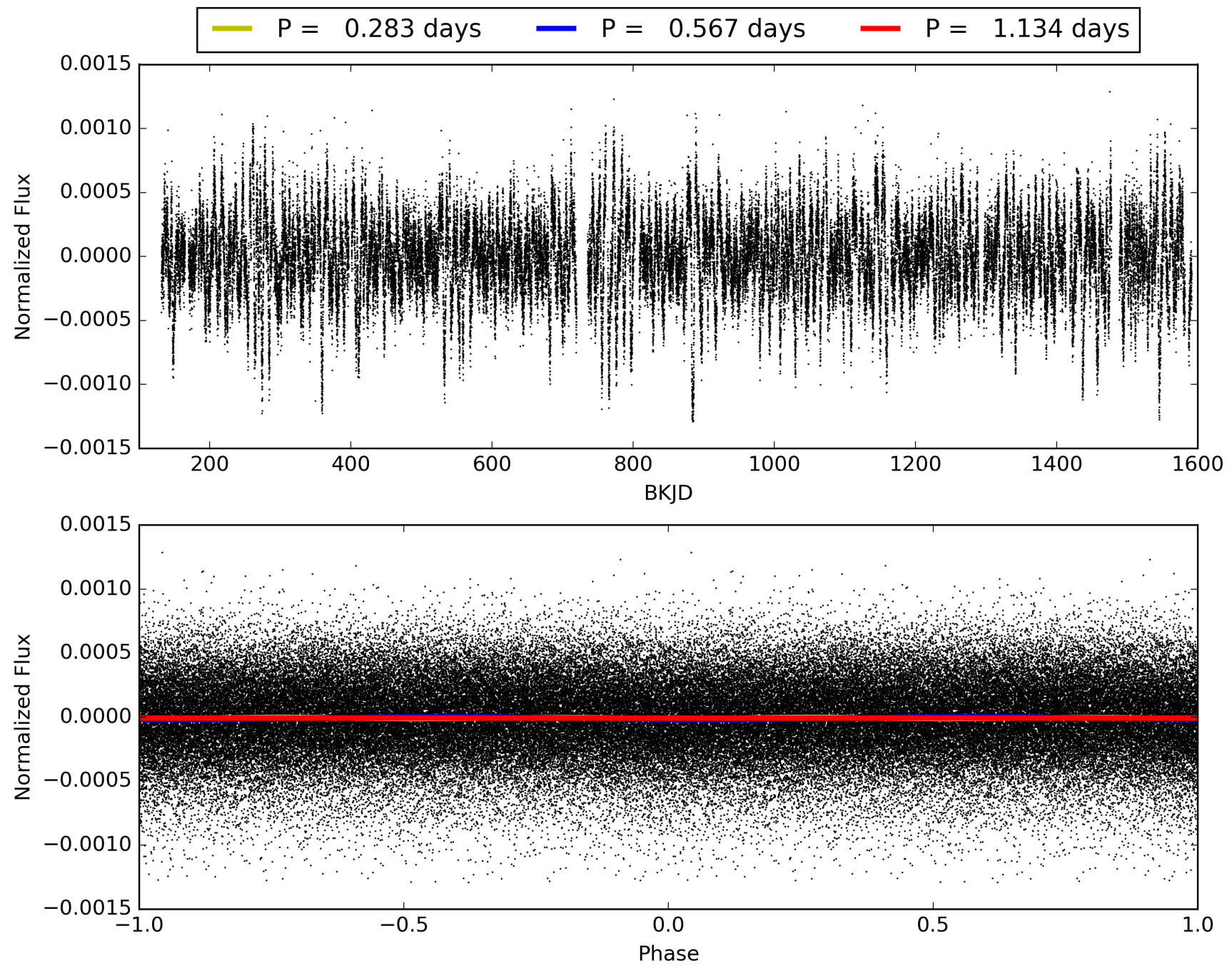
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:32:55 Z

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

# TCE 007199935-01, PDC Light Curves

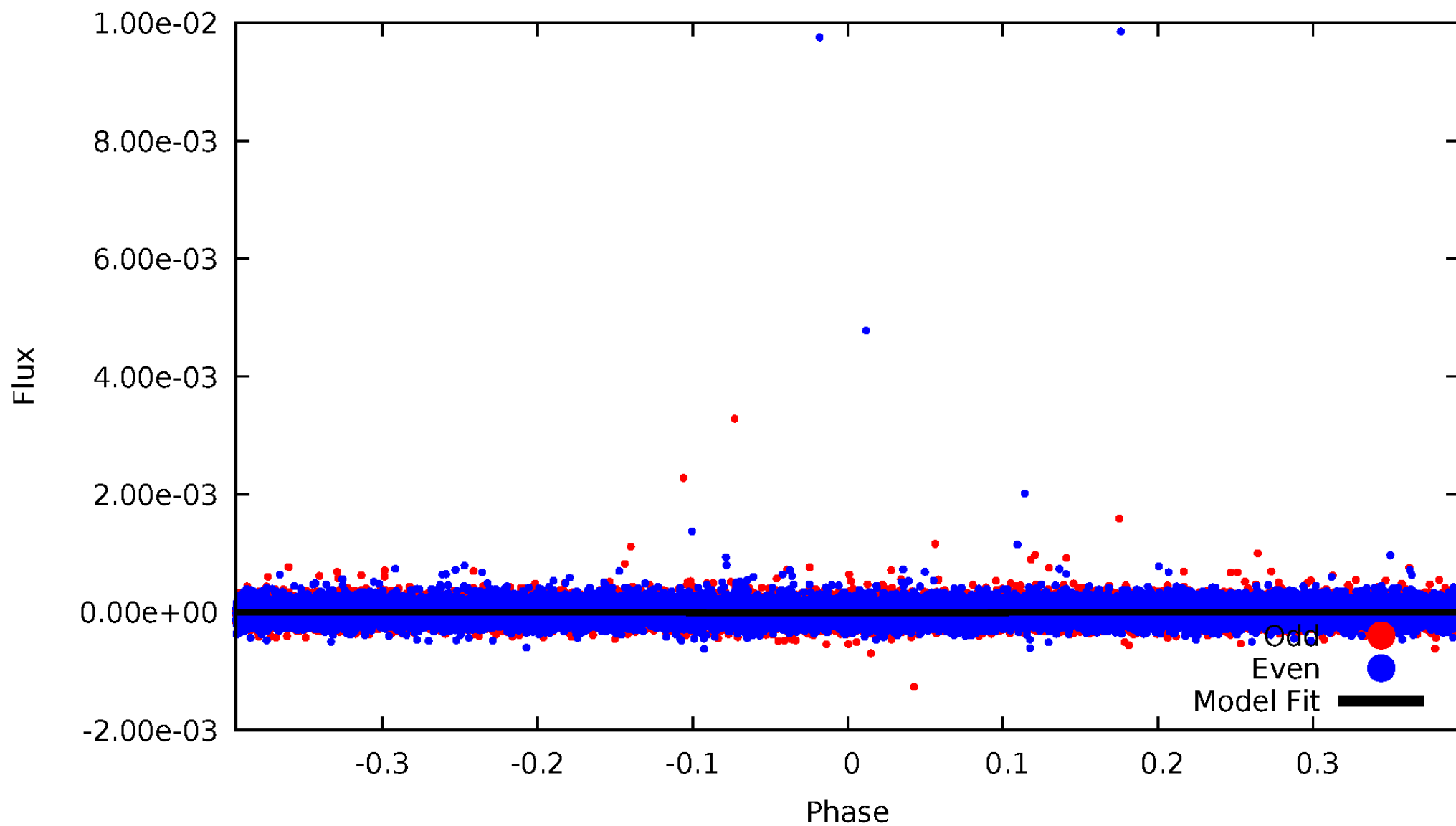


TCE 007199935-01



# DV Odd/Even

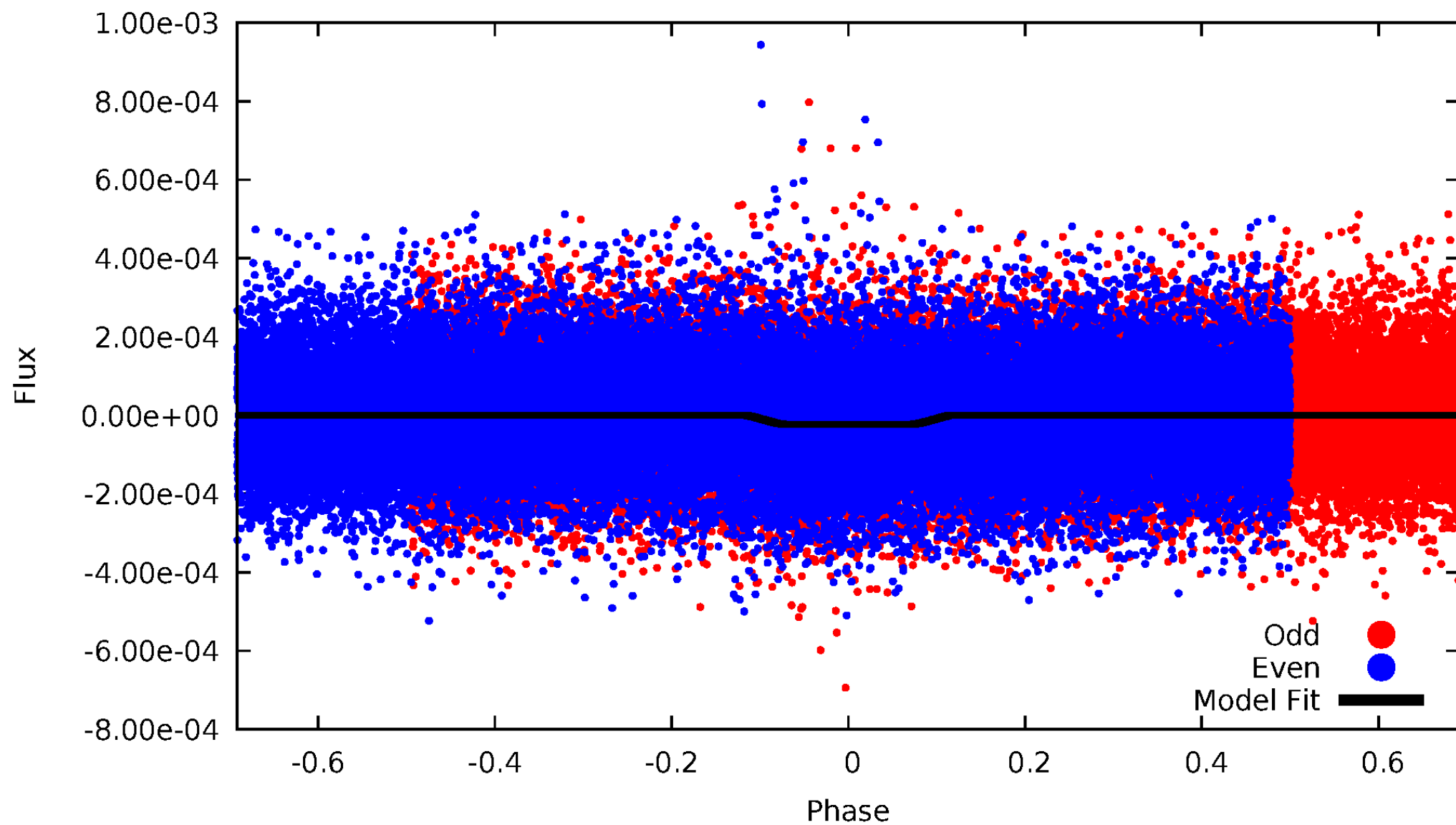
TCE 007199935-01



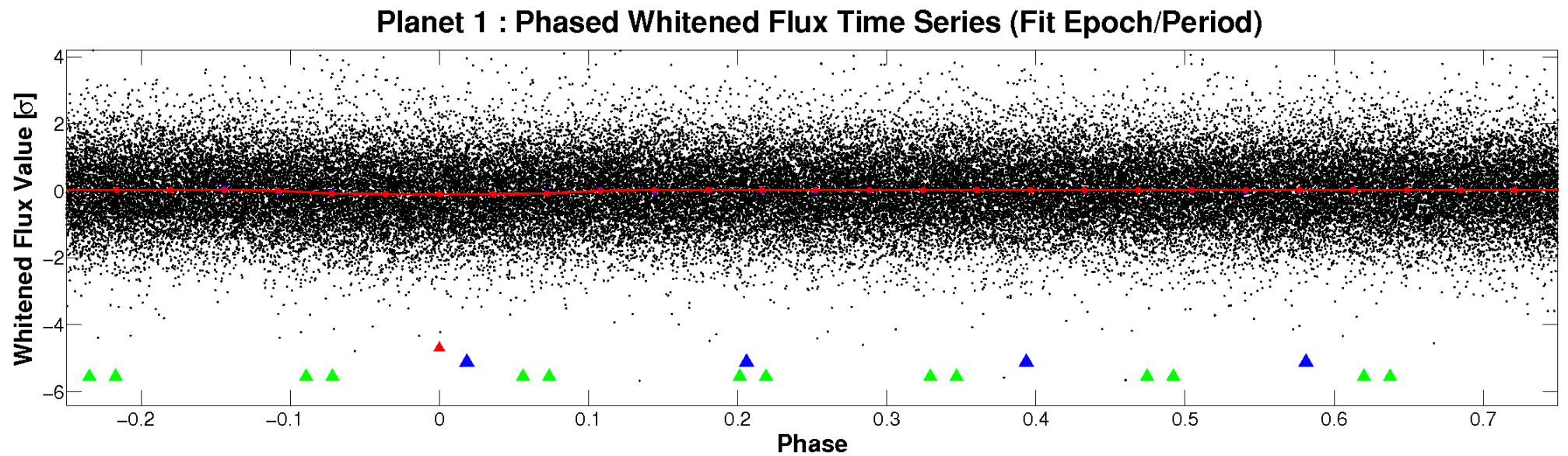
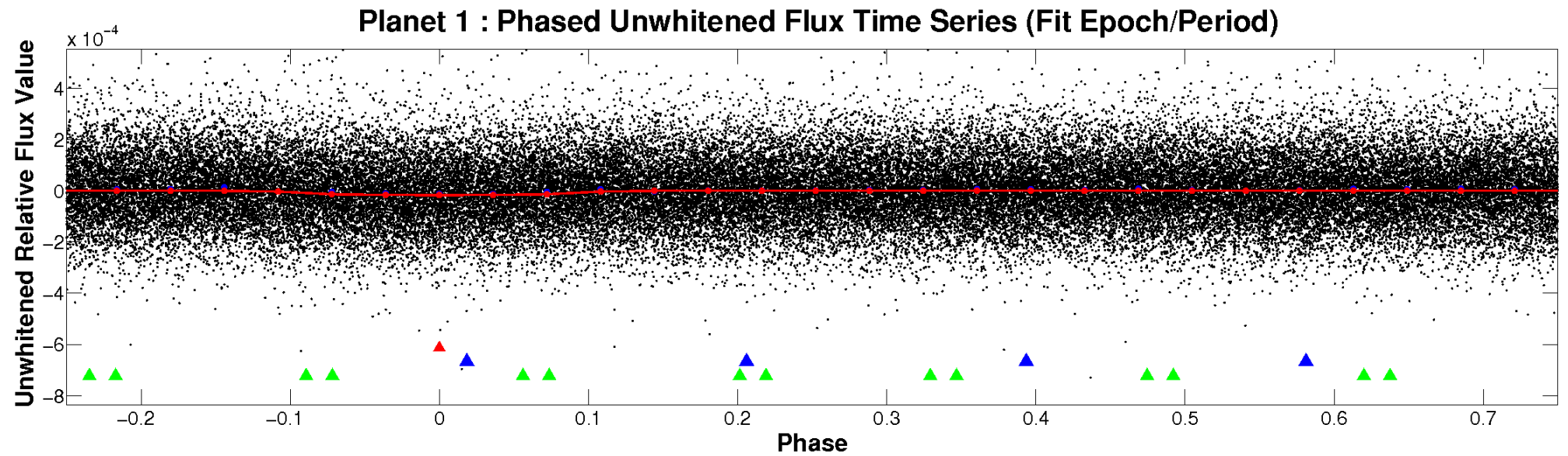


# ALT Odd/Even

TCE 007199935-01

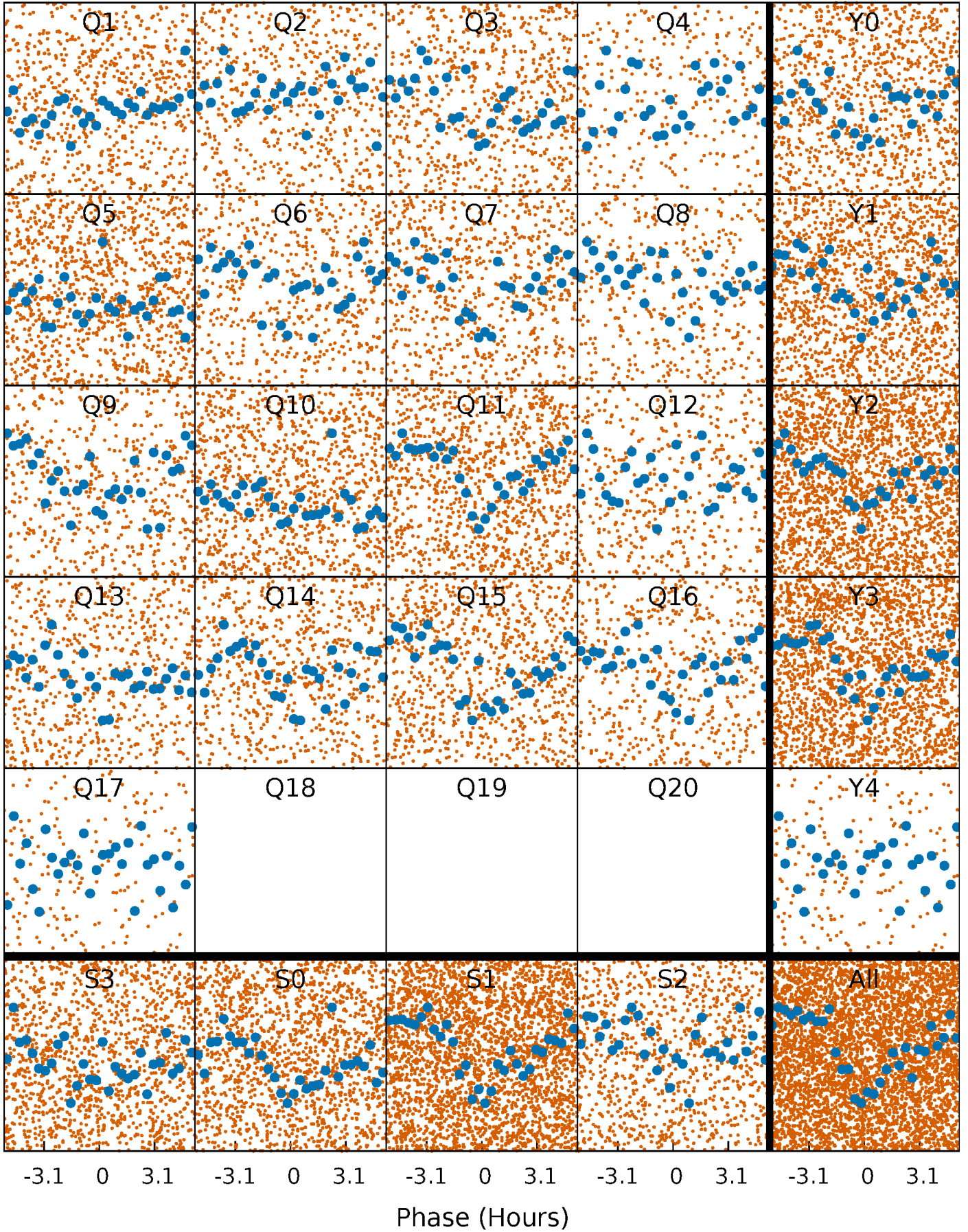


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

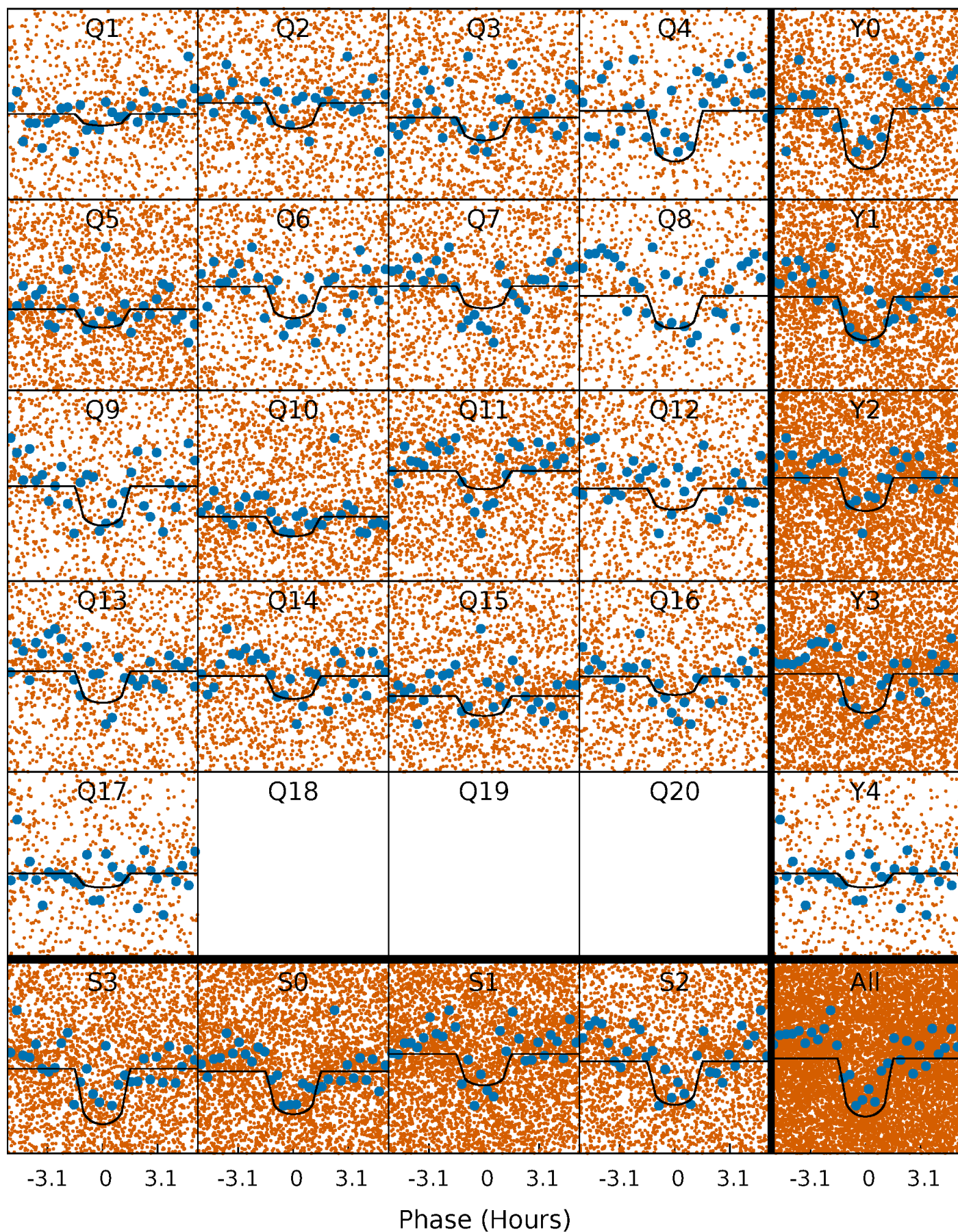
TCE 007199935-01   P= 0.566790 Days    $T_0=131.823891$  (BKJD)





# DV Quarter-Phased Transit Curves

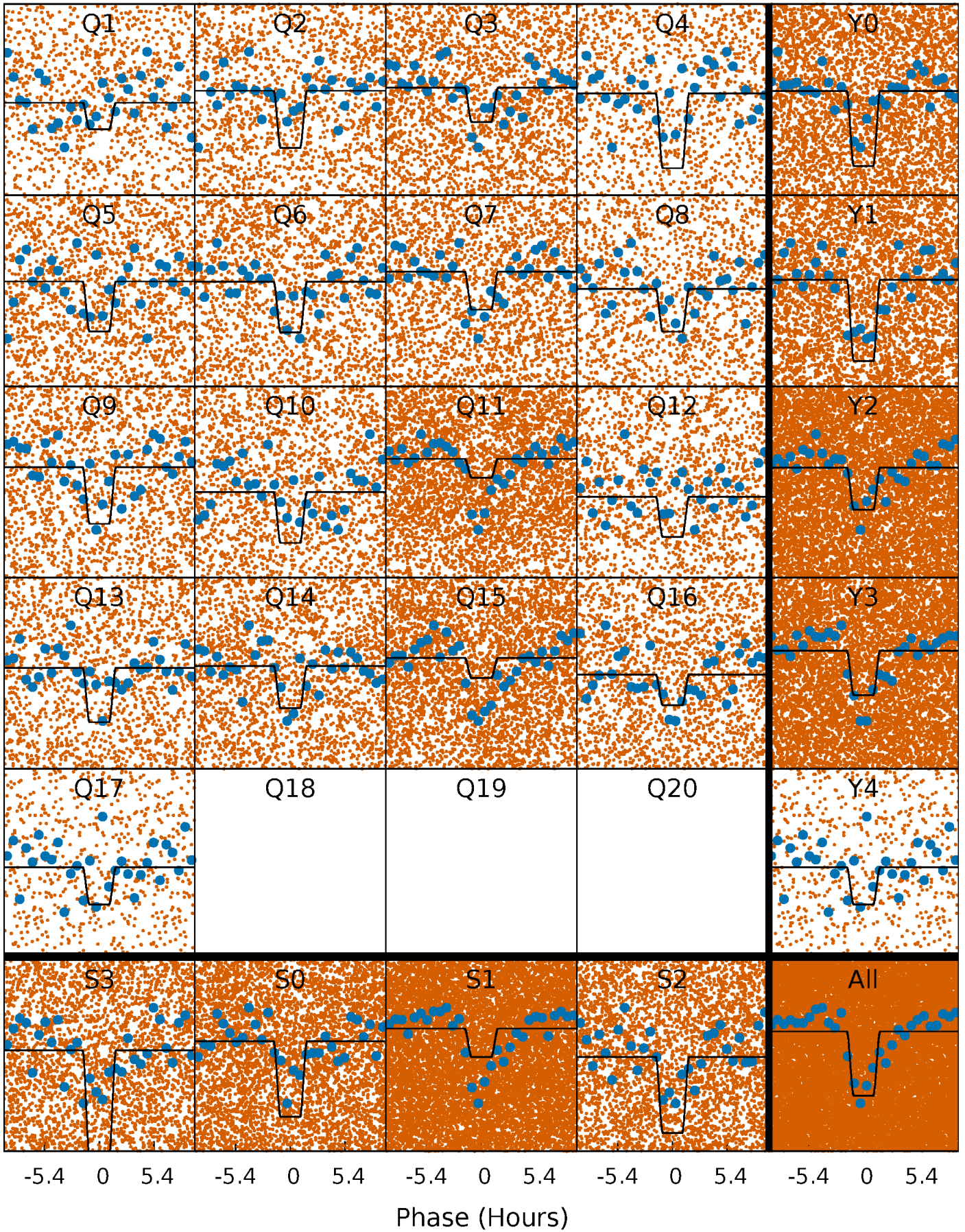
TCE 007199935-01 P= 0.566790 Days  $T_0=131.823891$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

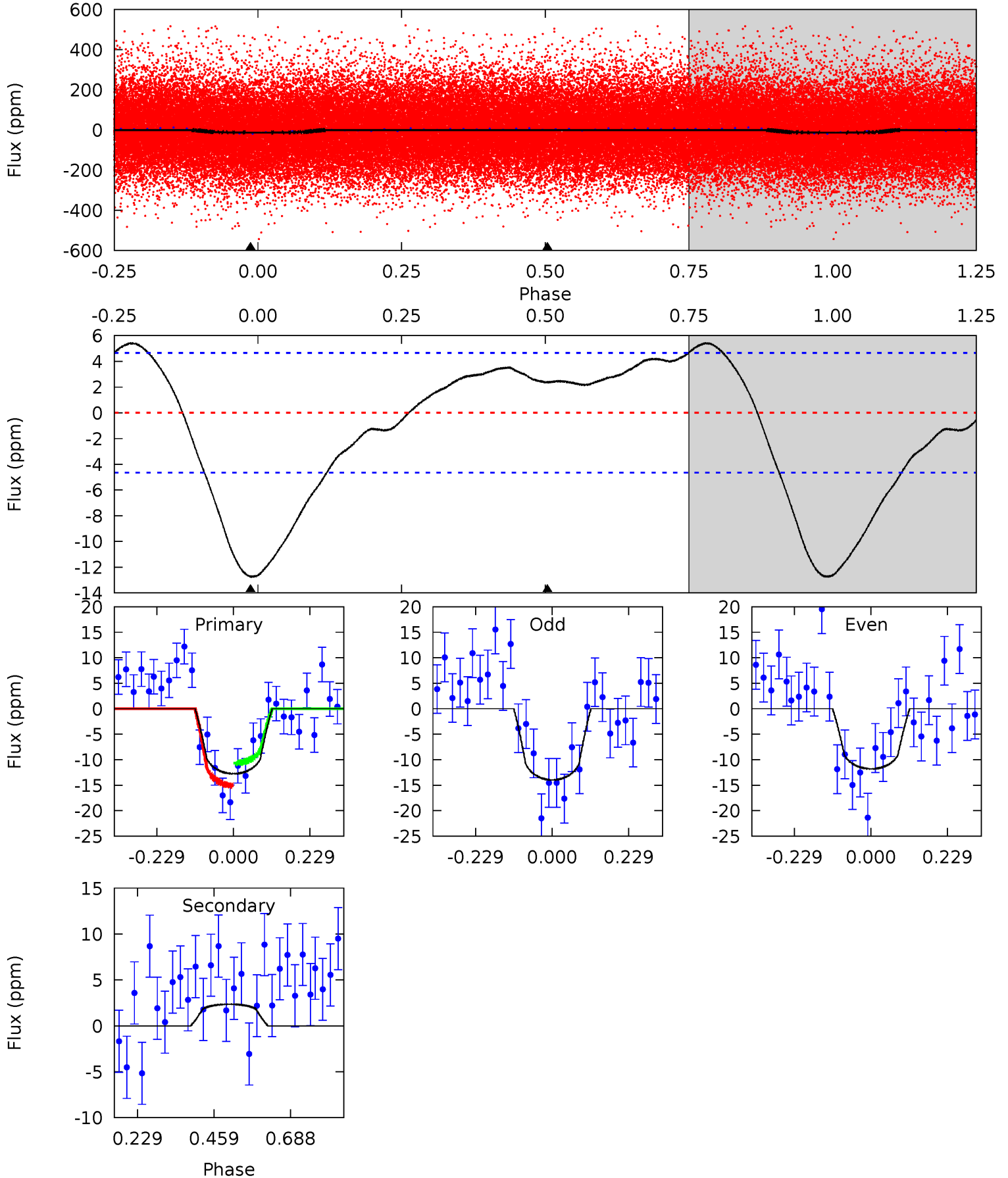
TCE 007199935-01 P= 0.566788 Days  $T_0=131.835993$  (BKJD)



# DV Model-Shift Uniqueness Test

007199935-01, P = 0.566790 Days, E = 131.257101 Days

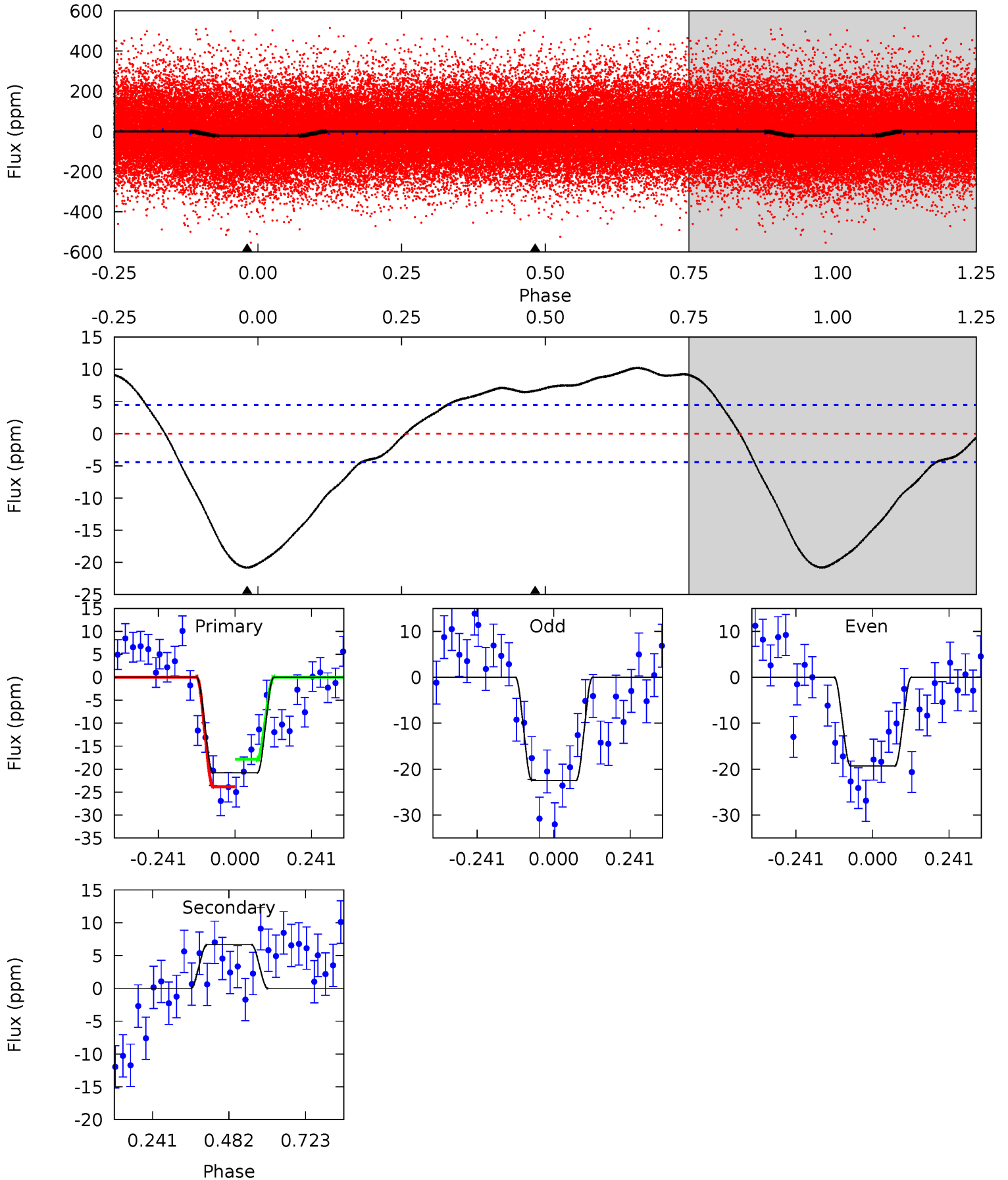
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	-2.22	0	0	4.39	1.20	2.38	12.0	12.0	-2.22	-2.22	1.03	0.88	0.30	2.10



# Alt Model-Shift Uniqueness Test

007199935-01, P = 0.566788 Days, E = 131.269205 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
20.5	-6.56	0	0	4.38	1.17	5.59	20.5	20.5	-6.56	-6.56	1.56	1.04	0.33	2.95





### Stellar Parameters For KIC 007199935

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6130^{+167}_{-167}$	$4.151^{+0.210}_{-0.123}$	$-0.280^{+0.300}_{-0.300}$	$1.393^{+0.293}_{-0.358}$	$1.003^{+0.172}_{-0.119}$	$0.522^{+0.664}_{-0.206}$
	+3%/-3%	+5%/-3%	+107%/-107%	+21%/-26%	+17%/-12%	+127%/-40%
Source	PHO1	FLK73	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 007199935-01 / KOI 6841.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$2 \pm 1$	$0.57^{+0.31}_{-0.29}$	$3826^{+234}_{-278}$	$-4456^{+490}_{-1260}$	$-0.716^{+0.463}_{-2.430}$
Alt.	$7 \pm 1$	$0.71^{+0.34}_{-0.29}$	$3803^{+243}_{-261}$	$-4839^{+485}_{-1129}$	$-1.308^{+0.701}_{-2.573}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature  
 $T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )  
 $A_{\text{obs}}$  = 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

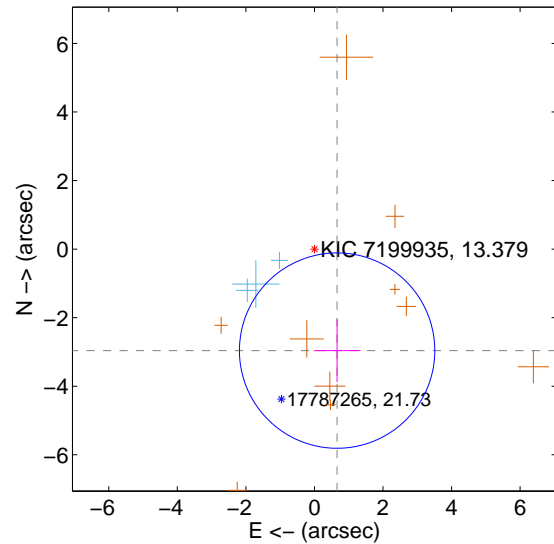
Supplemental centroid analysis for 007199935-01. Kepler magnitude: 13.38. Transit SNR 10.56

There are 3 quarters with good PRF difference image offsets

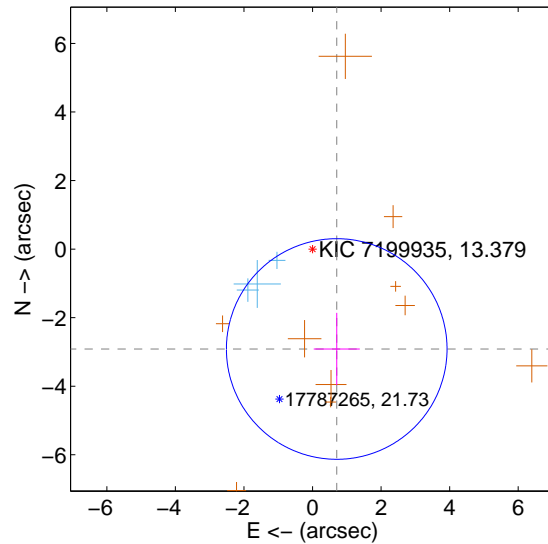
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.034 \pm 0.950$	3.19	$-0.661 \pm 0.682$	$-2.961 \pm 0.915$
PRF-fit source offset from KIC position	$2.998 \pm 1.073$	2.80	$-0.706 \pm 0.672$	$-2.914 \pm 1.054$
photometric centroid source offset	$2.02 \pm 0.99$	2.05	$-1.61 \pm 1.00$	$-1.23 \pm 0.95$

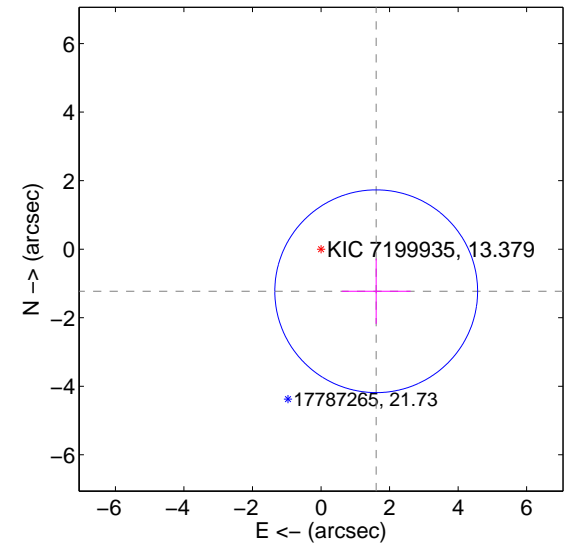
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

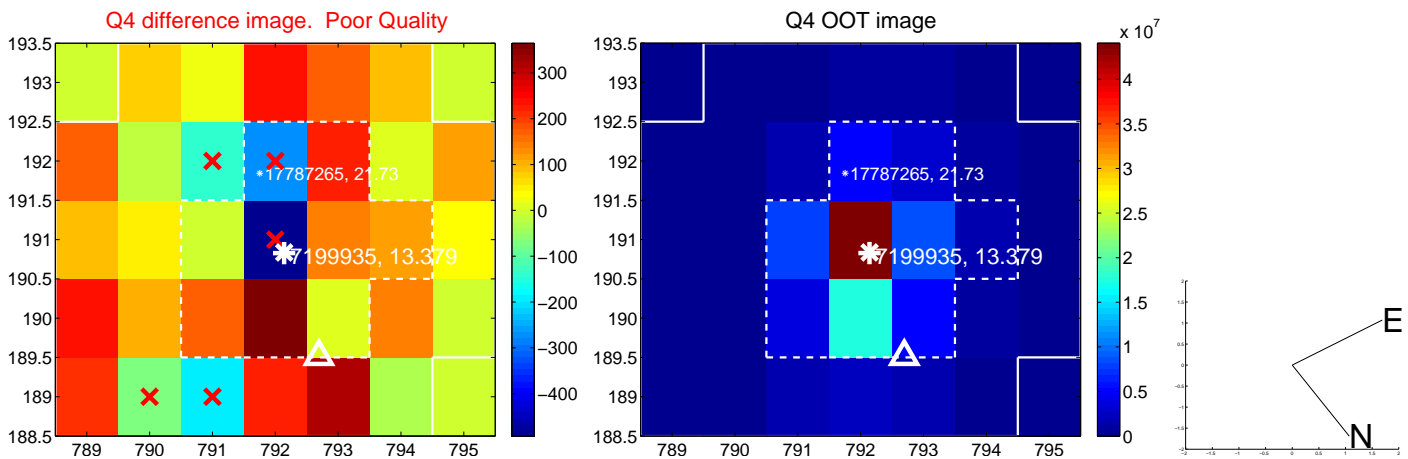
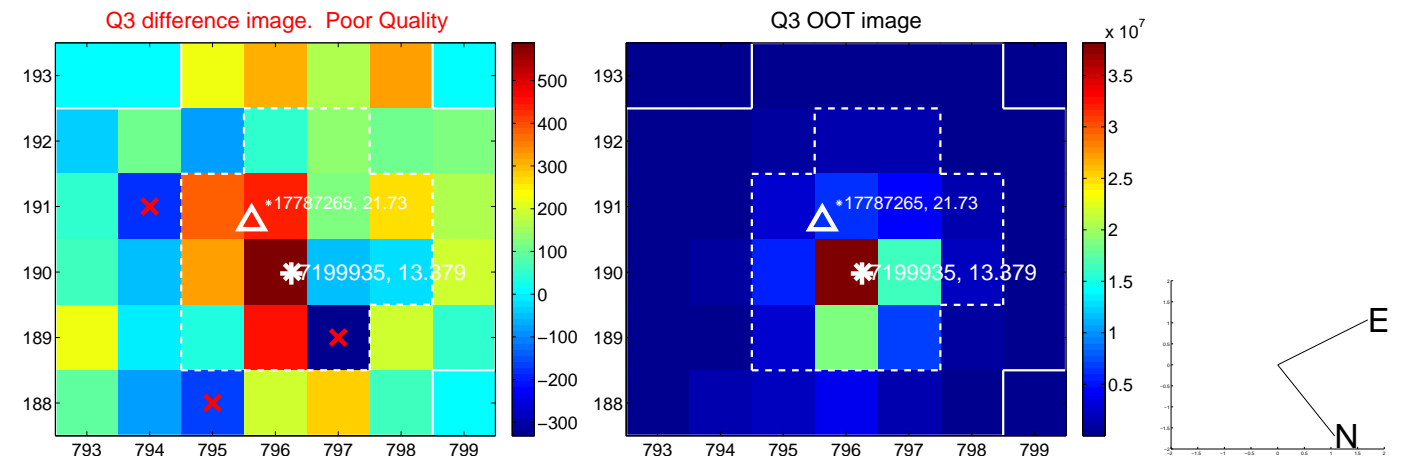
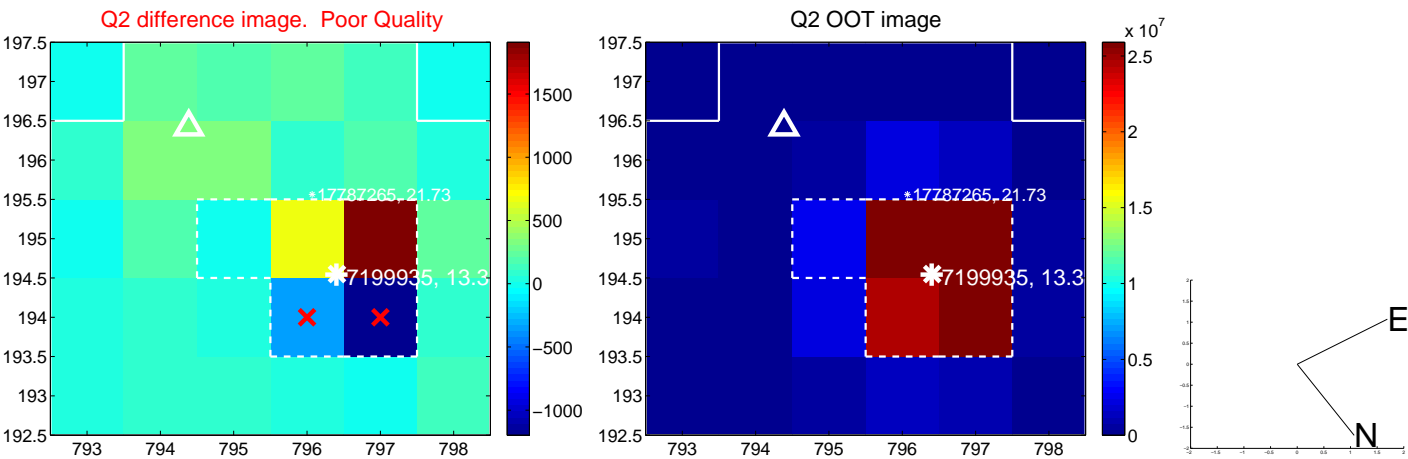
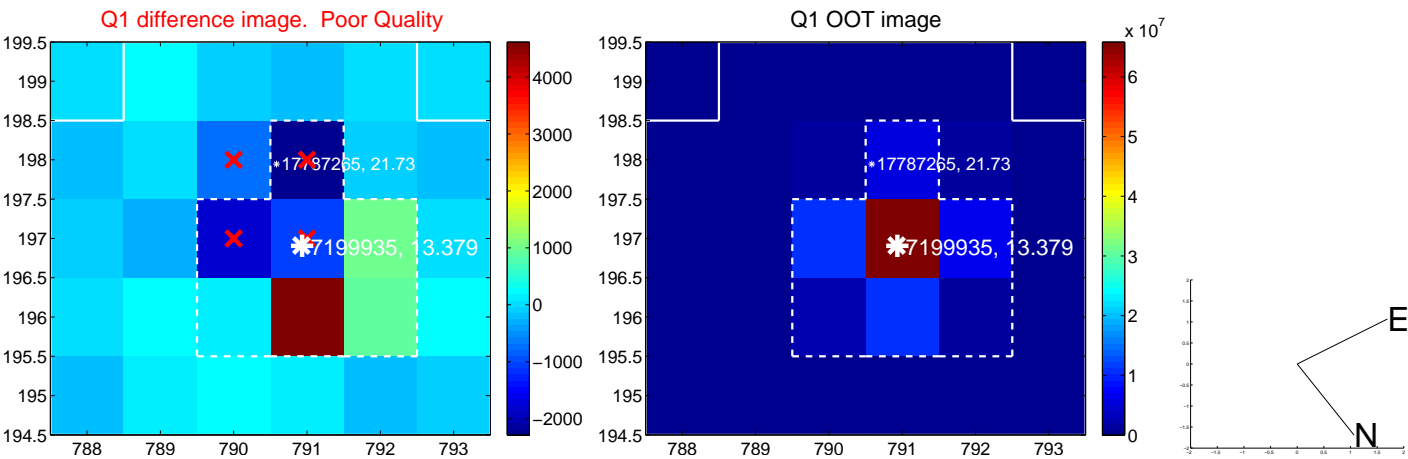


offset from photometric centroids

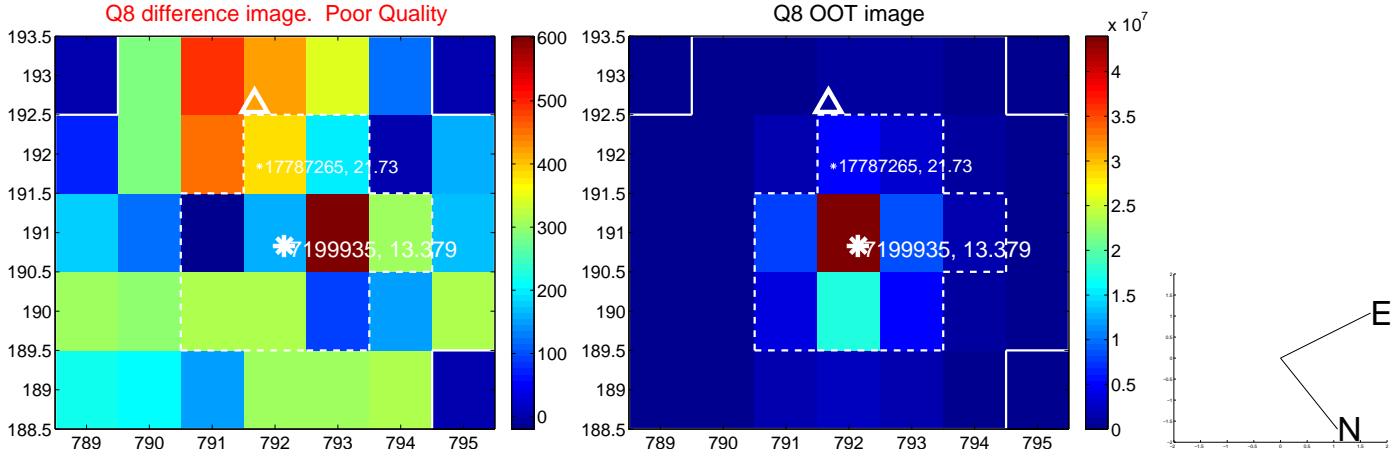
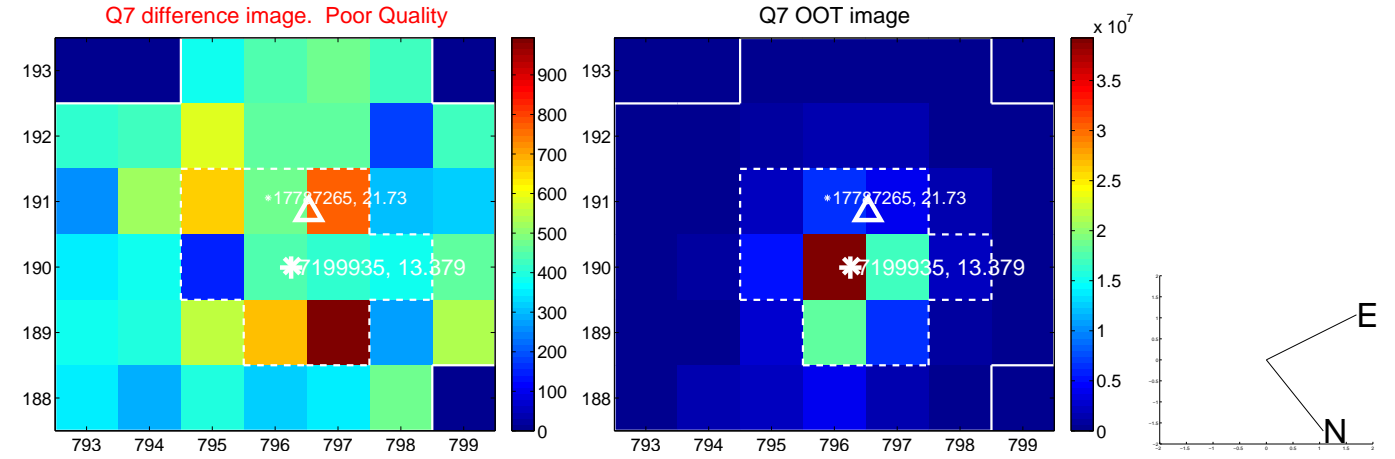
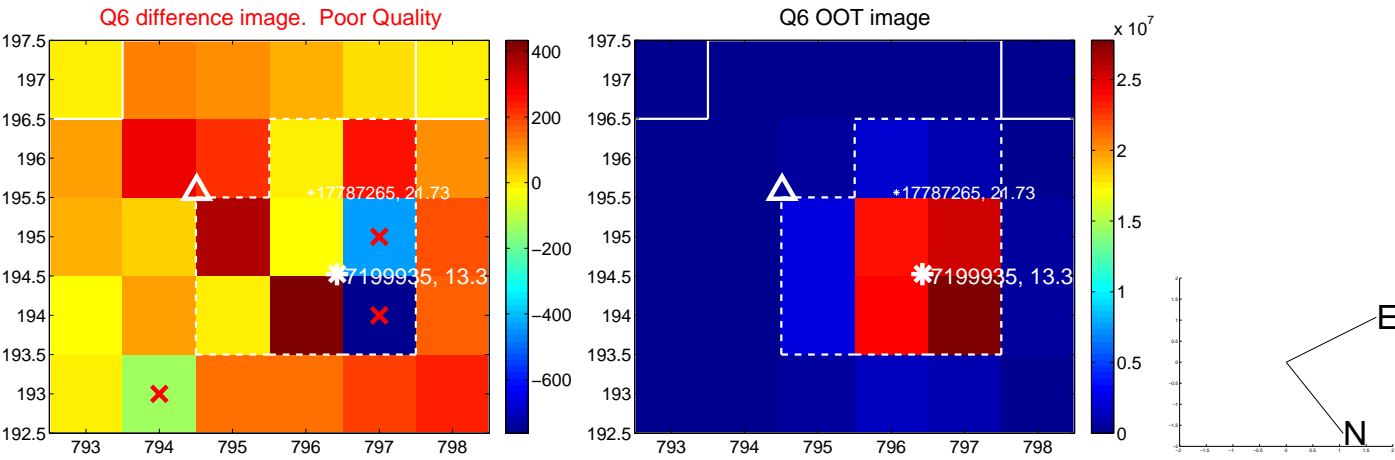
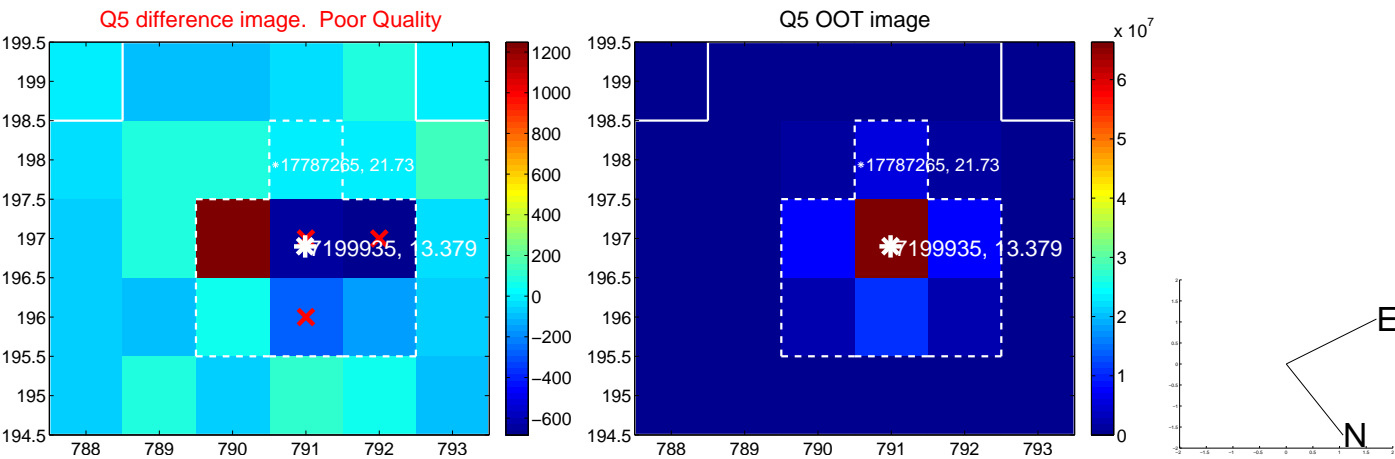


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

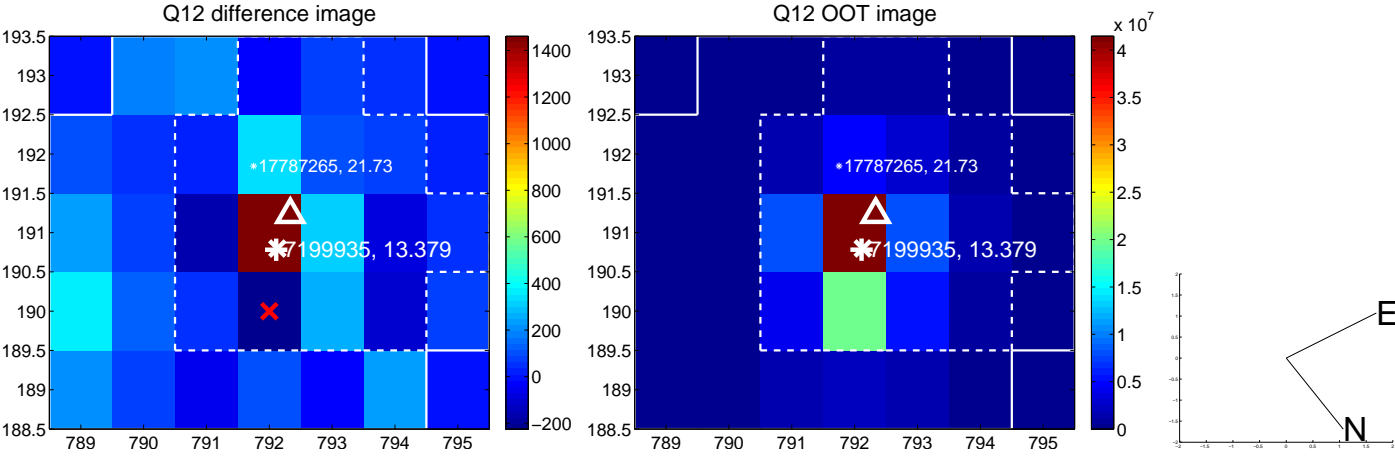
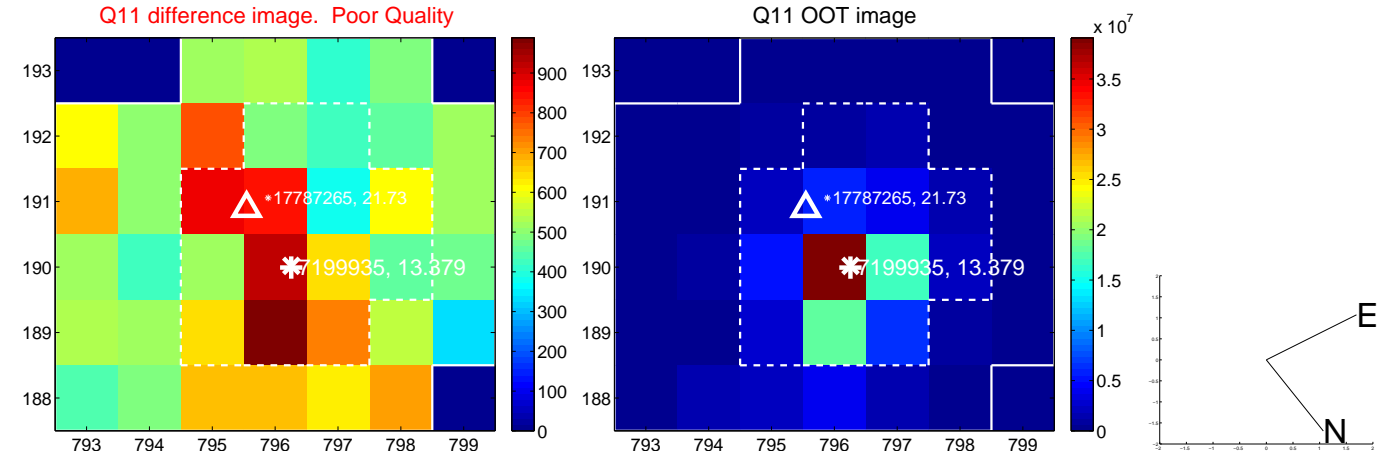
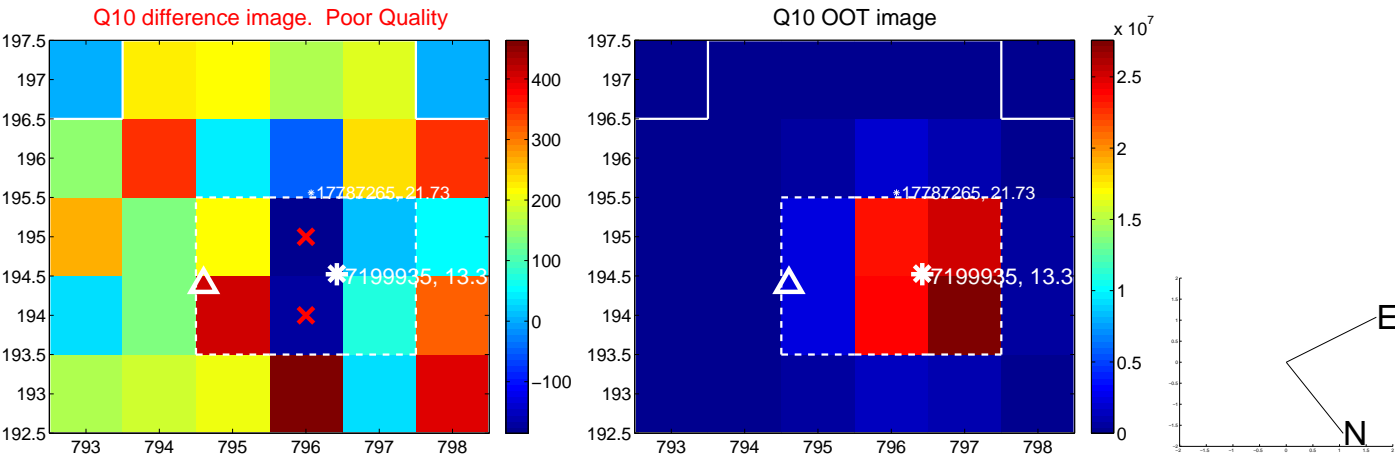
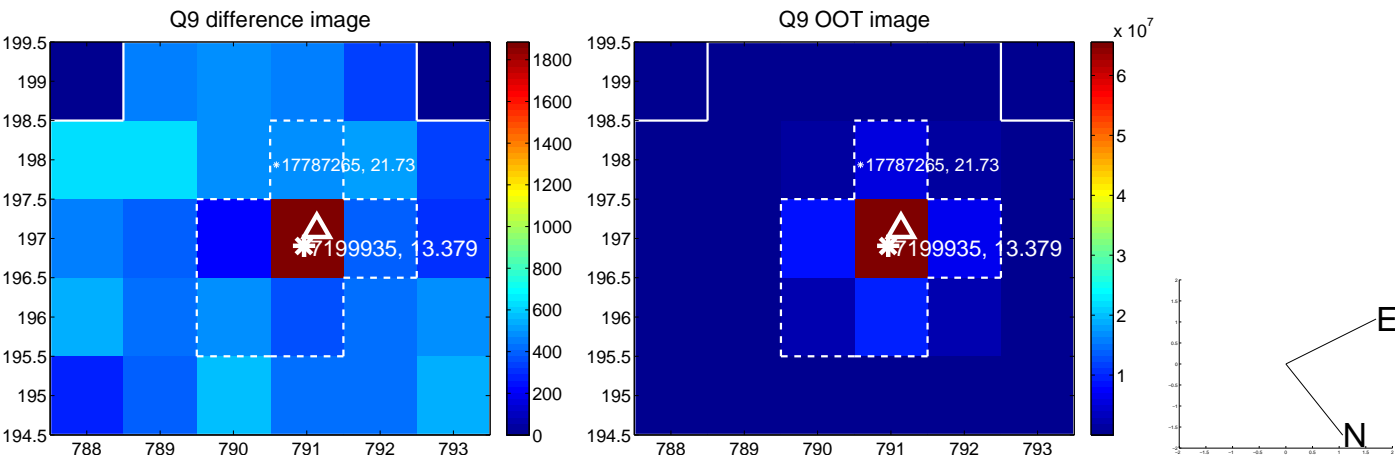


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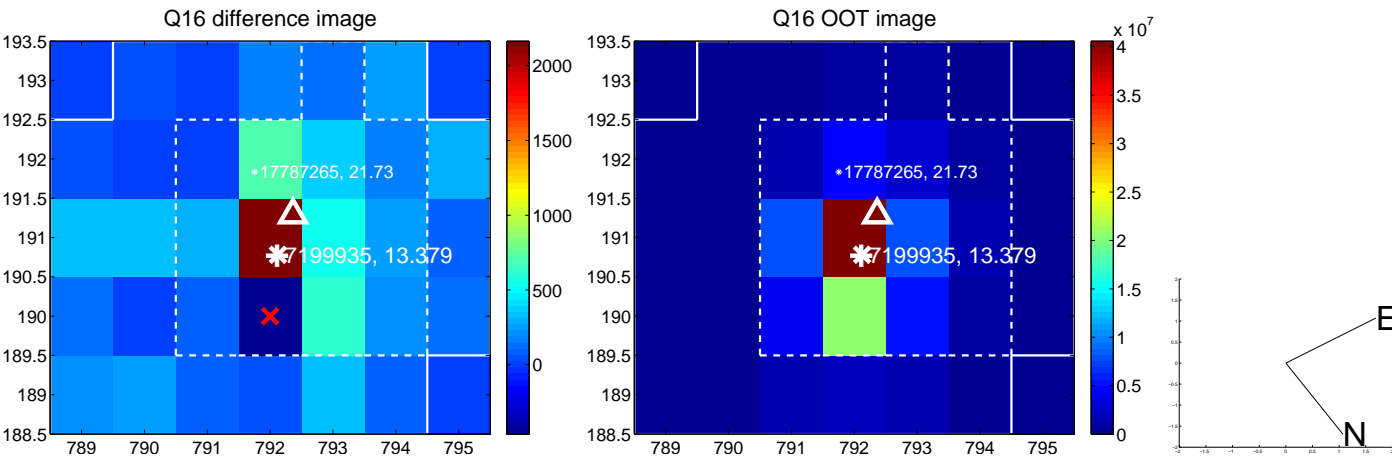
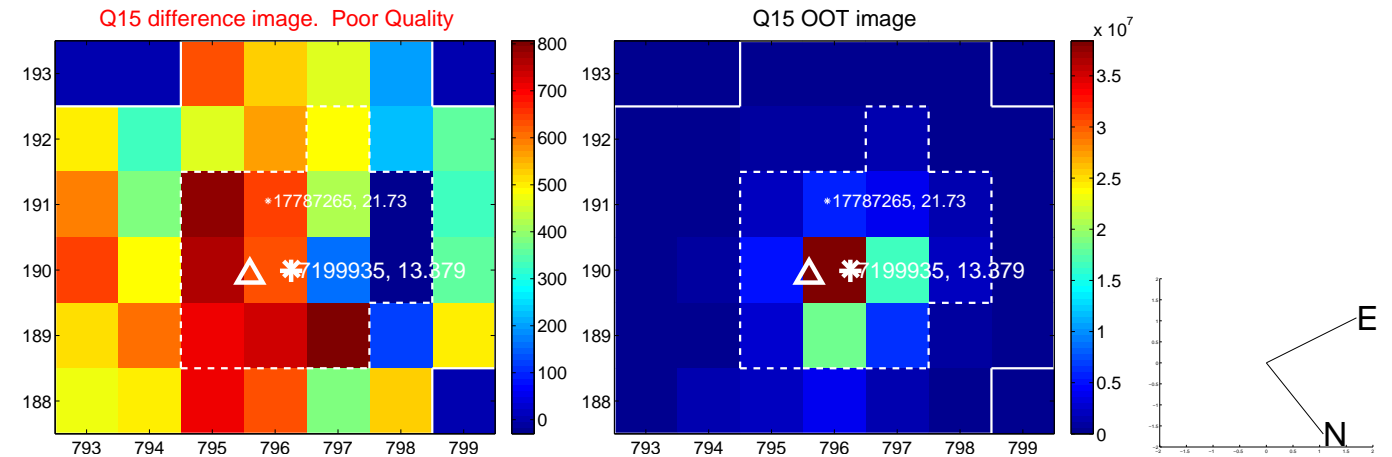
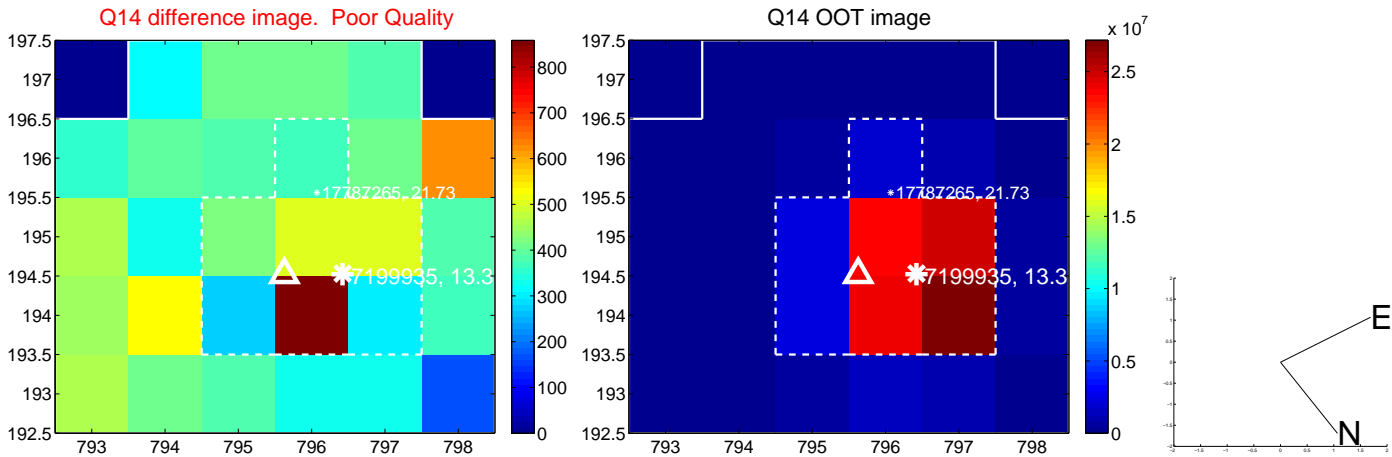
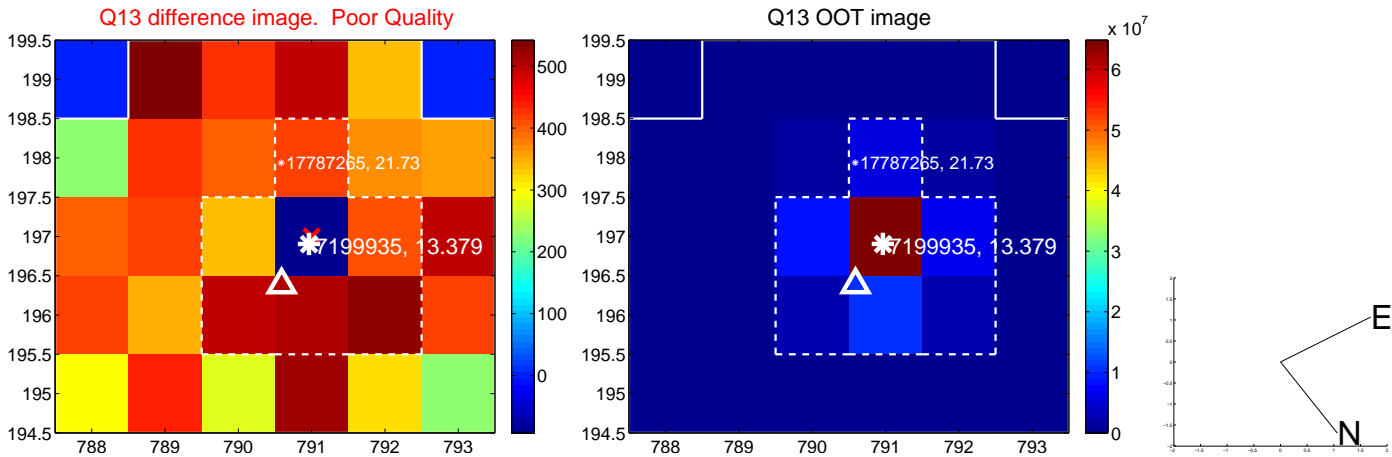




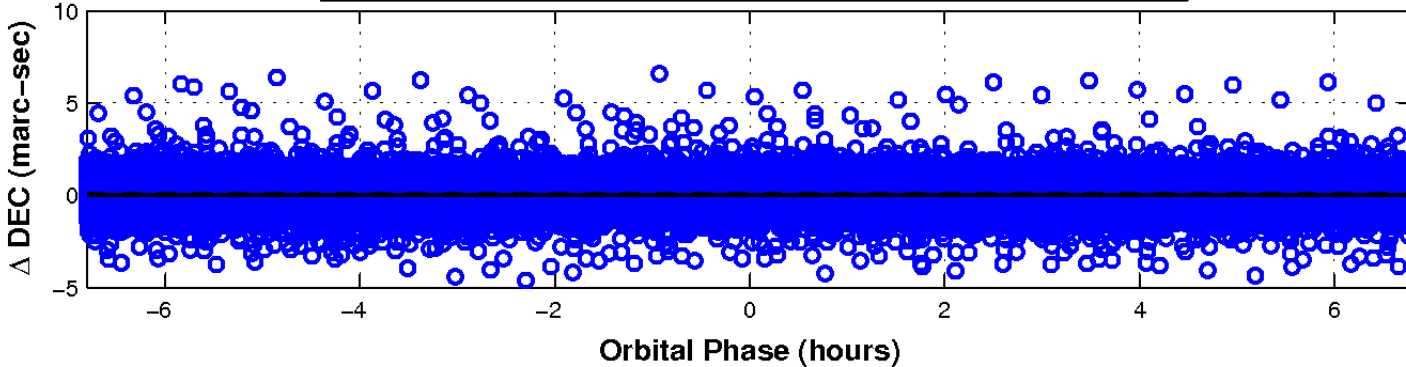
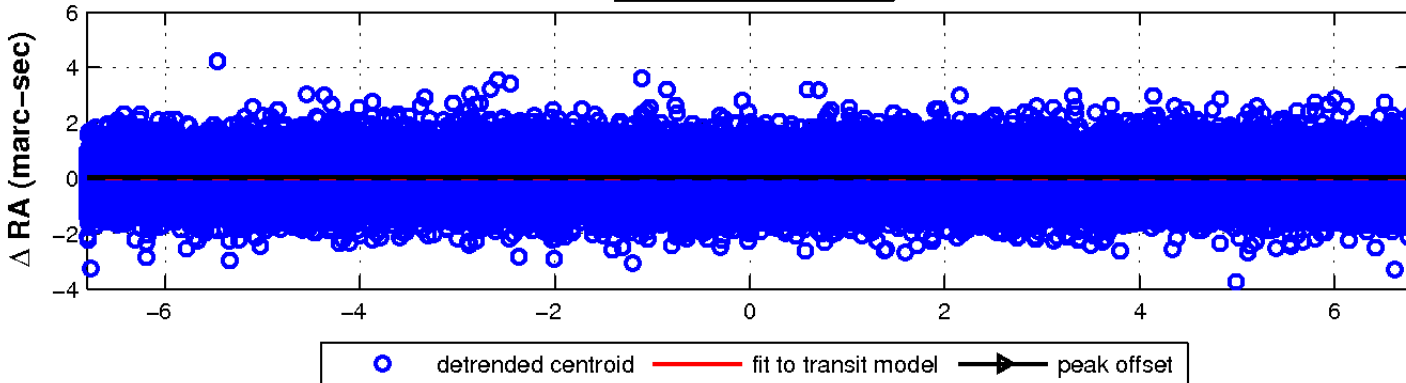
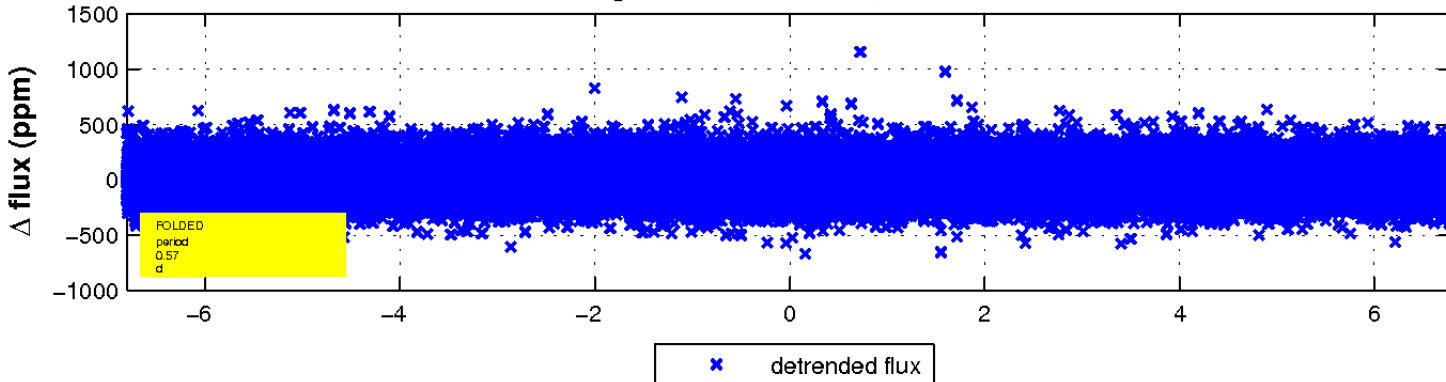
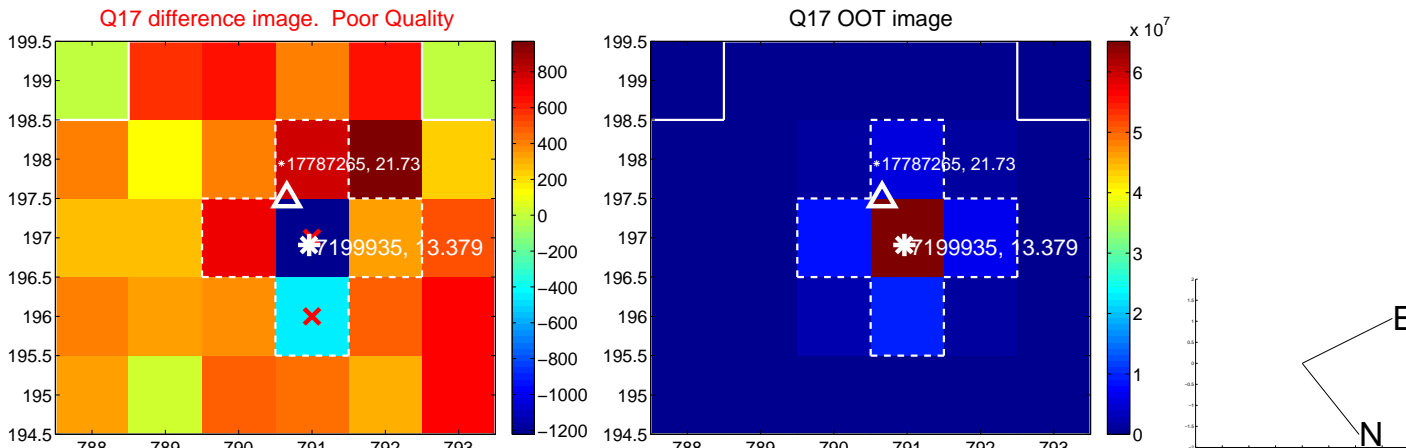
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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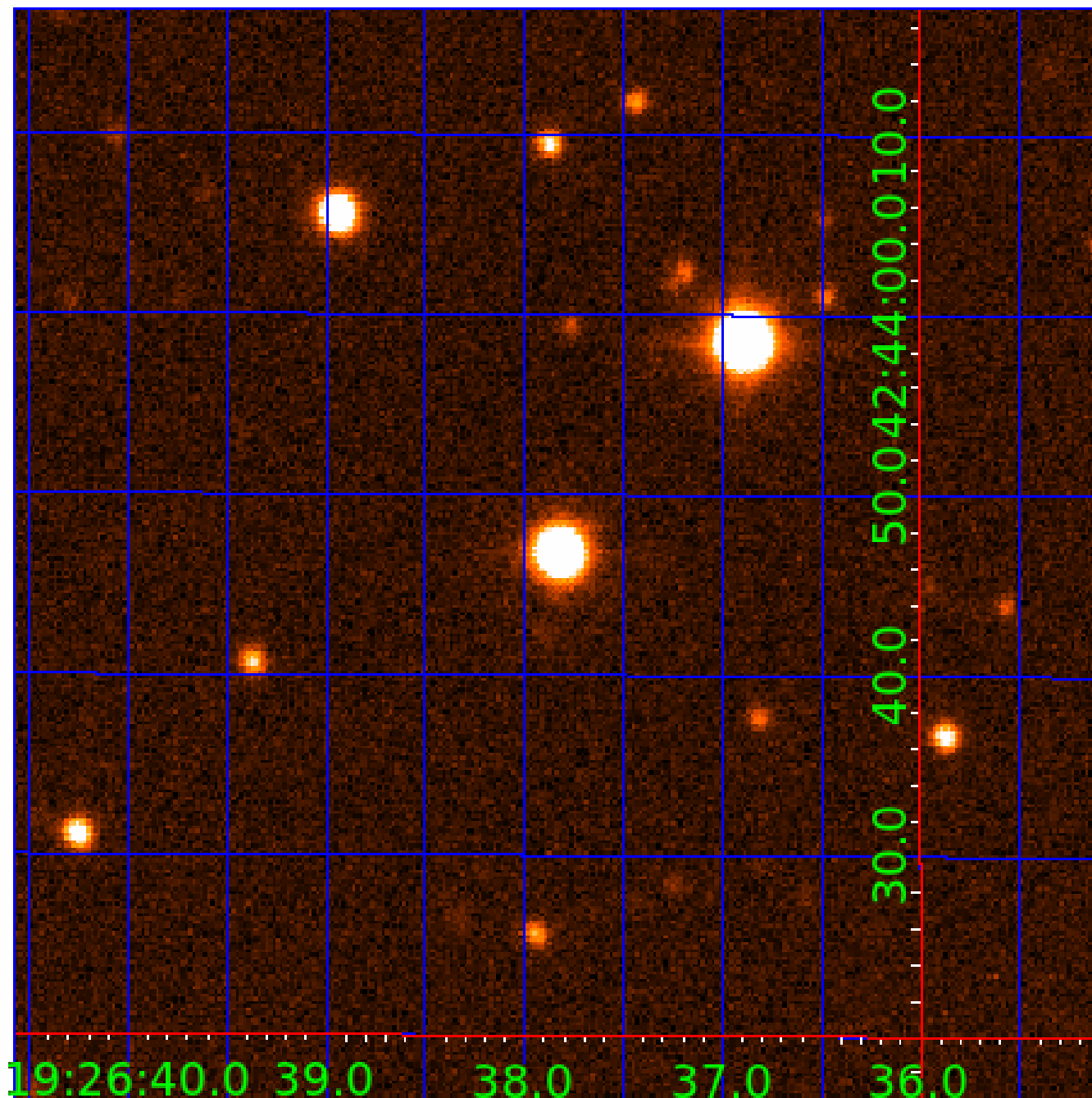


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 007199935

## 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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007199935-03	OBS	No	105.340608	182.959162	152.7	4.560	7.7	5.4	1.39	6130	1.90	12.86

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007199935-01	OBS	FP	0.00	1	0	1	1	MOD_NONUNIQ_ALT—HALO_GHOST—EPHEM_MATCH
007199935-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007199935-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

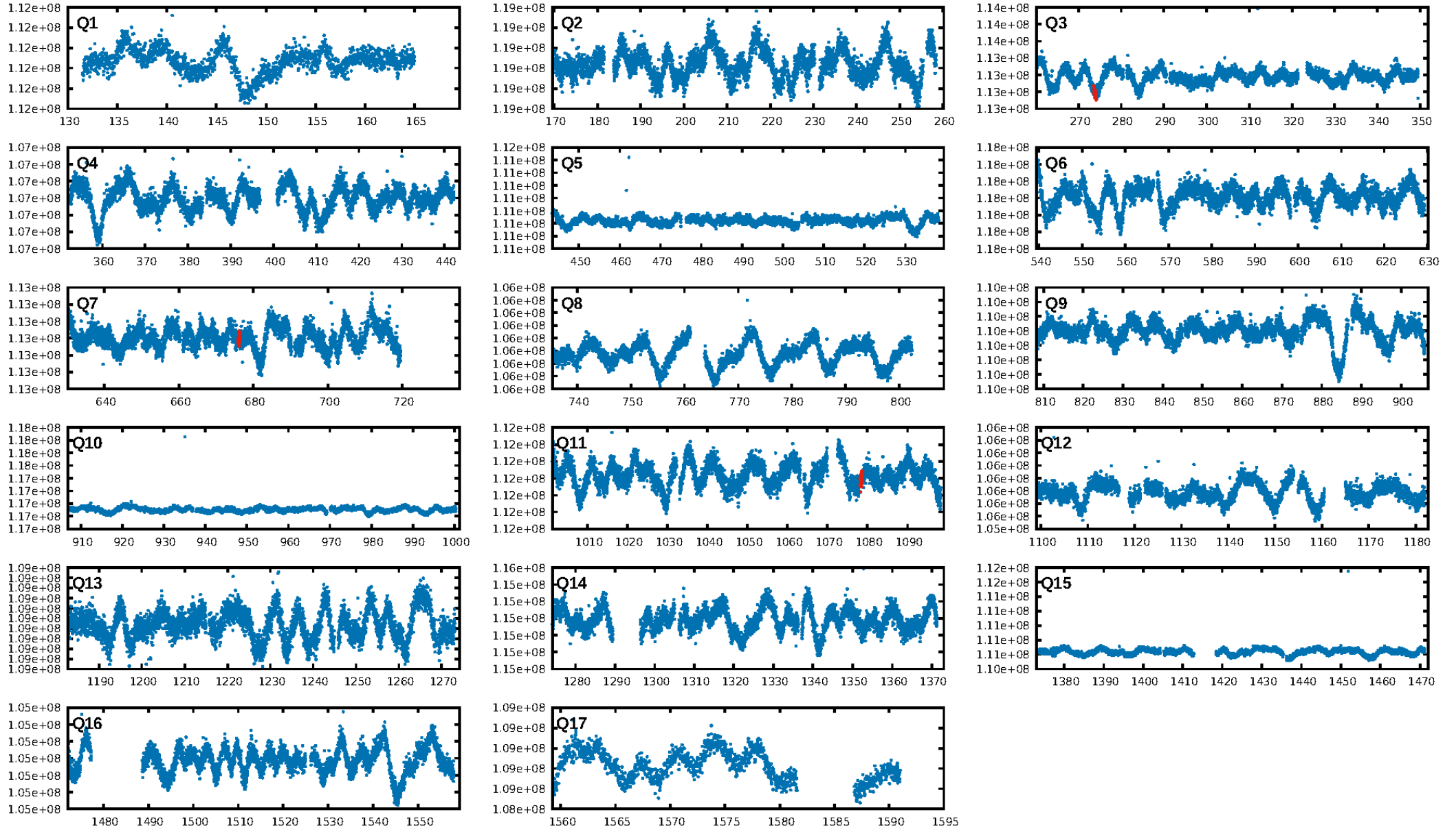
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007199935-02

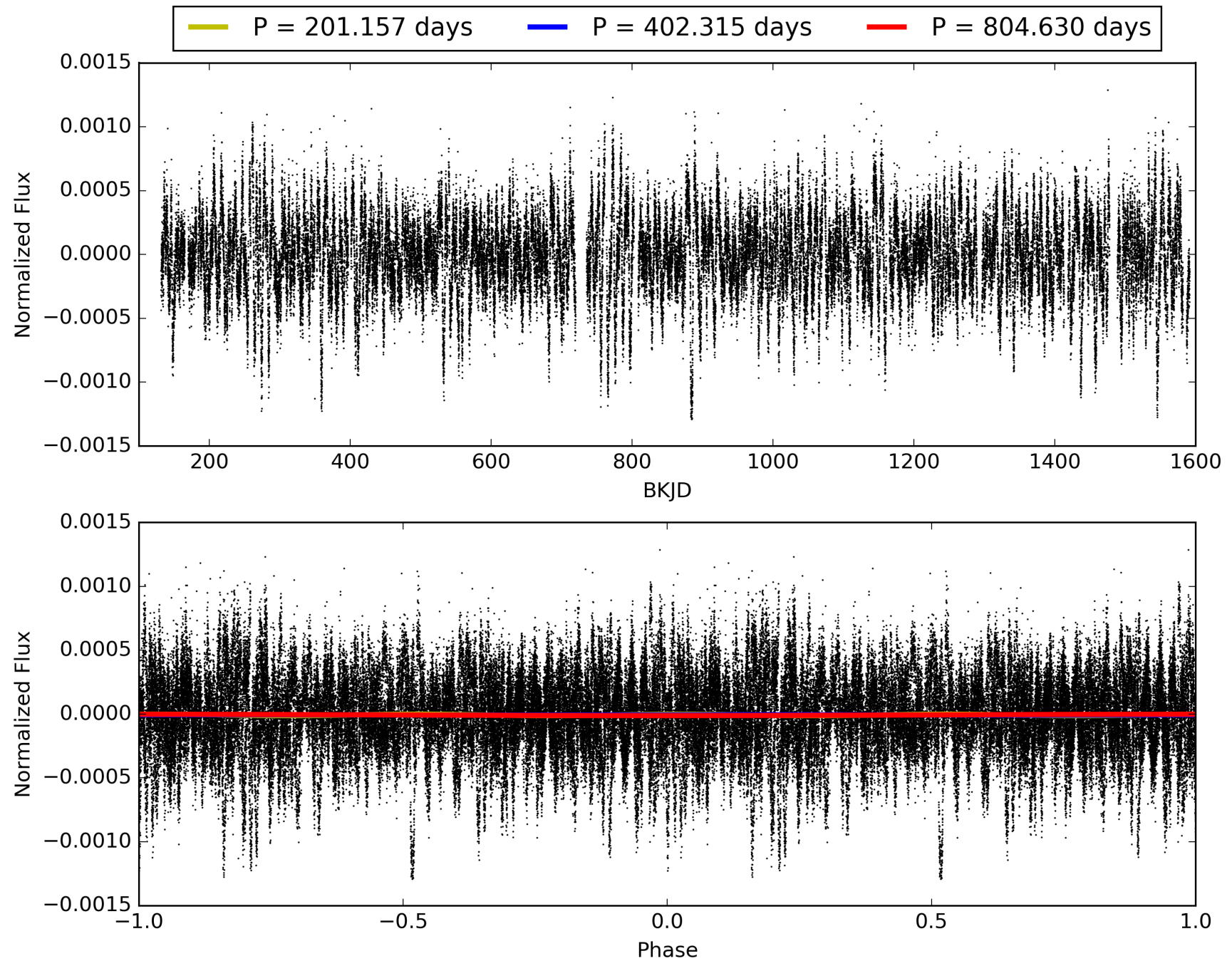
No Significant Match Found

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

# TCE 007199935-02, PDC Light Curves

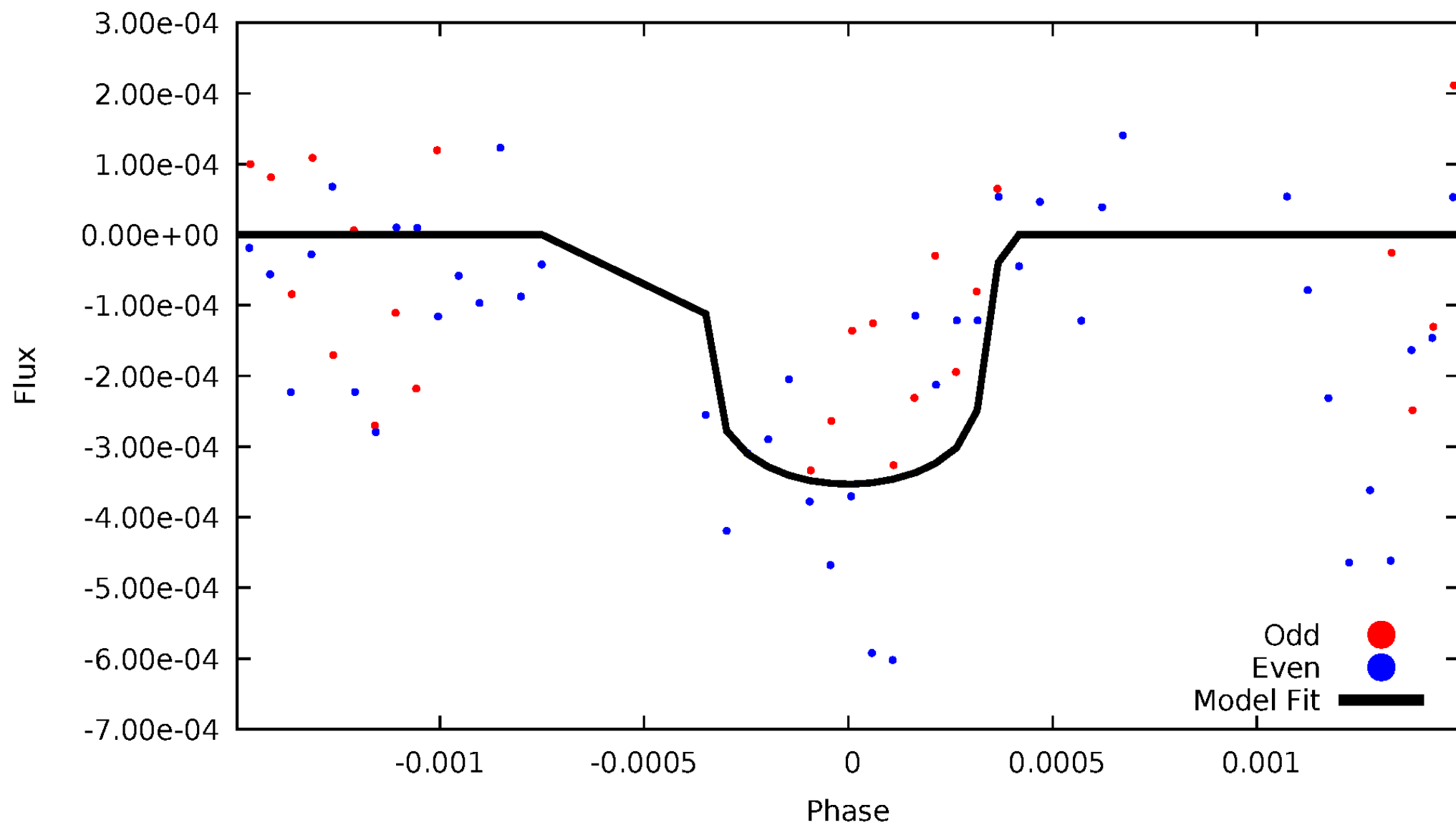


# TCE 007199935-02



# DV Odd/Even

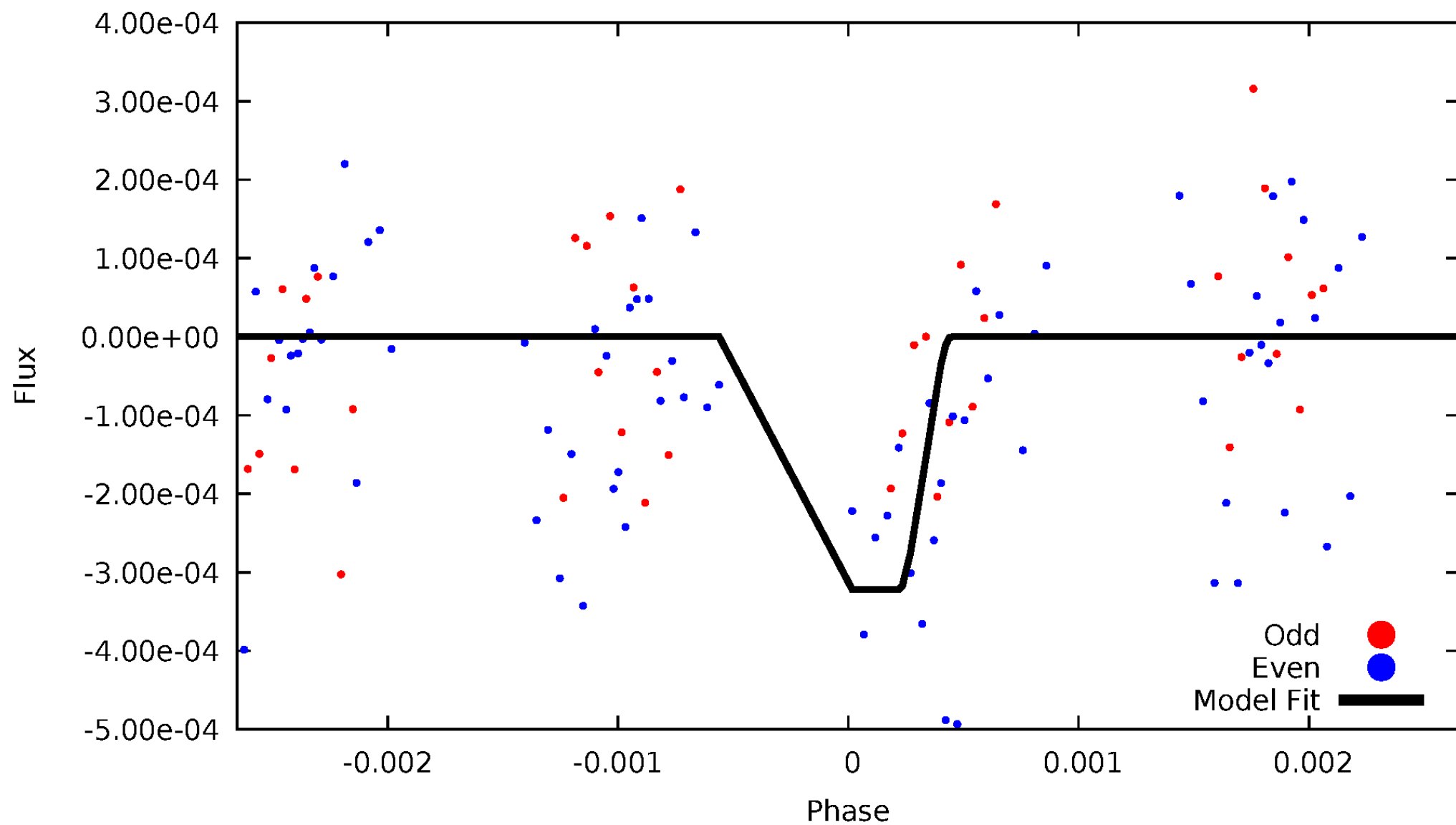
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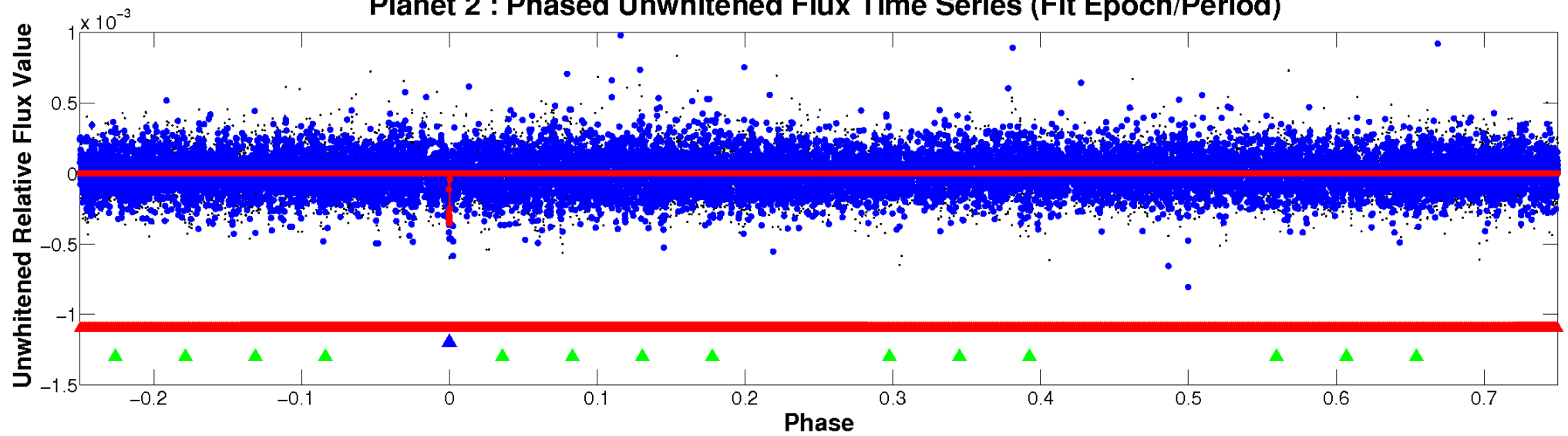
# ALT Odd/Even

TCE 007199935-02

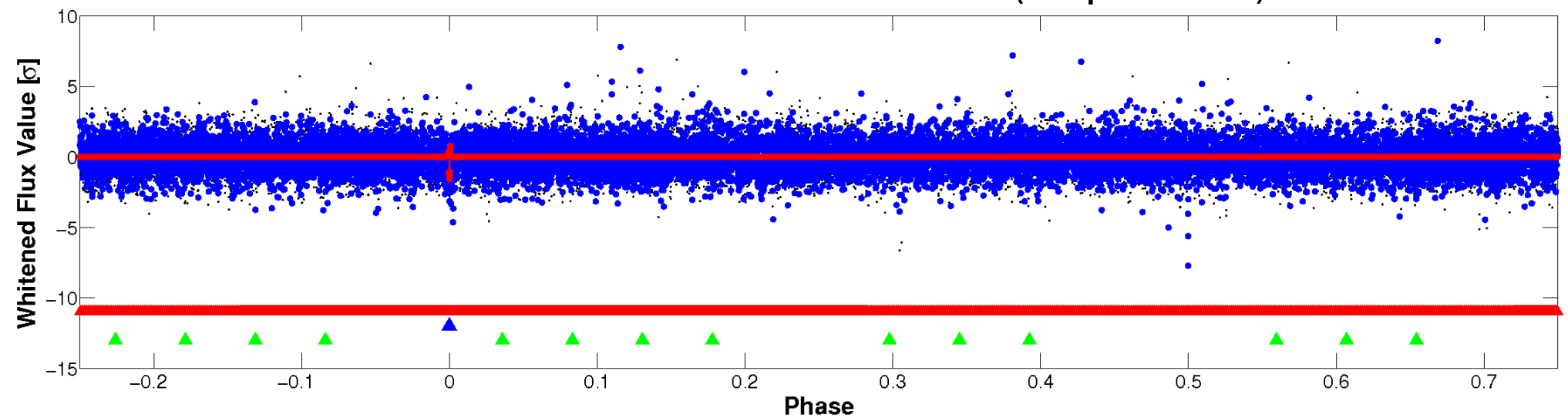


# Non-Whitened Vs. Whitened Light Curve

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



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



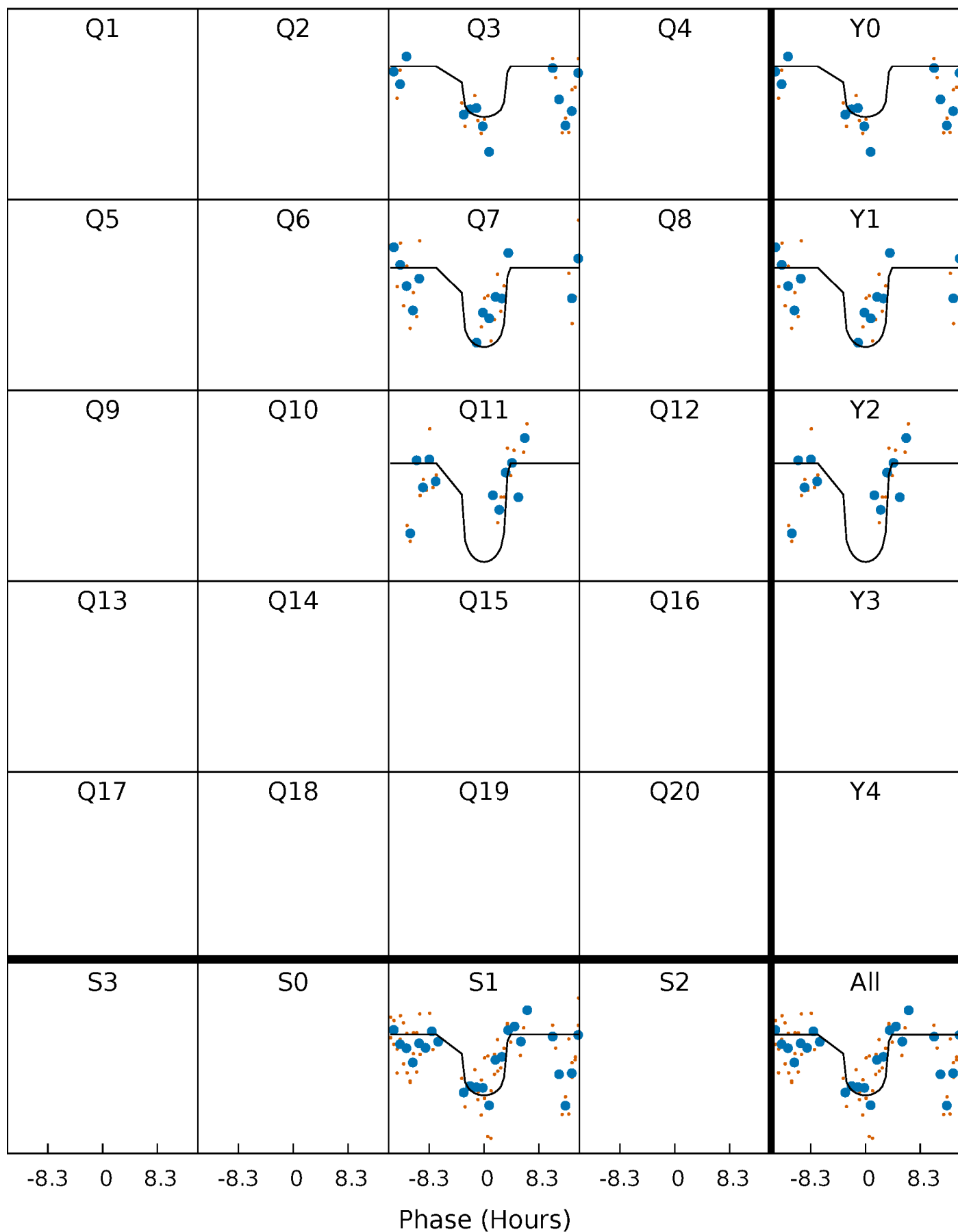
# PDC Quarter-Phased Transit Curves

TCE 007199935-02 P=402.314830 Days  $T_0=273.850852$  (BKJD)



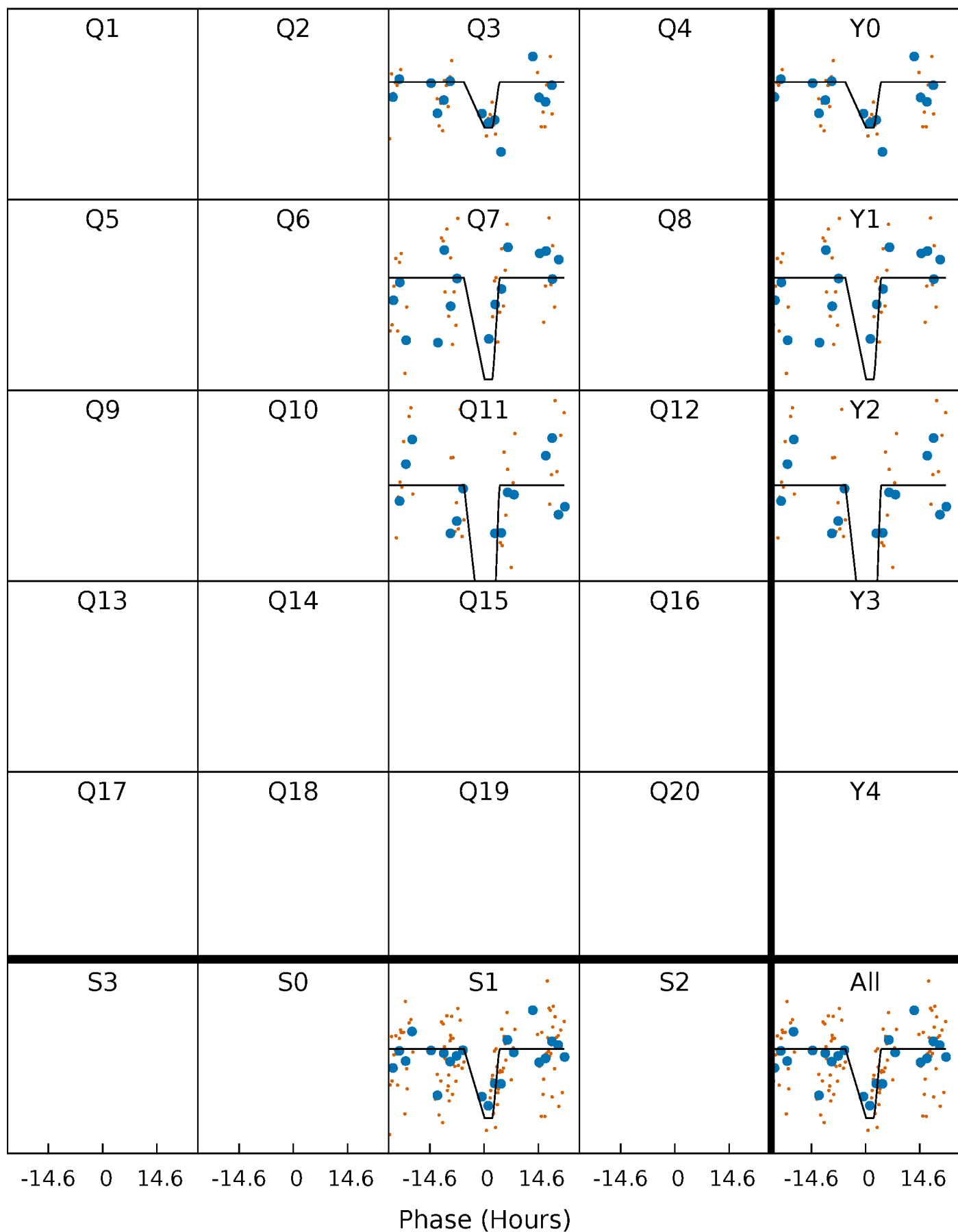
# DV Quarter-Phased Transit Curves

TCE 007199935-02     $P=402.314830$  Days     $T_0=273.850852$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007199935-02 P=402.350419 Days  $T_0=273.703974$  (BKJD)

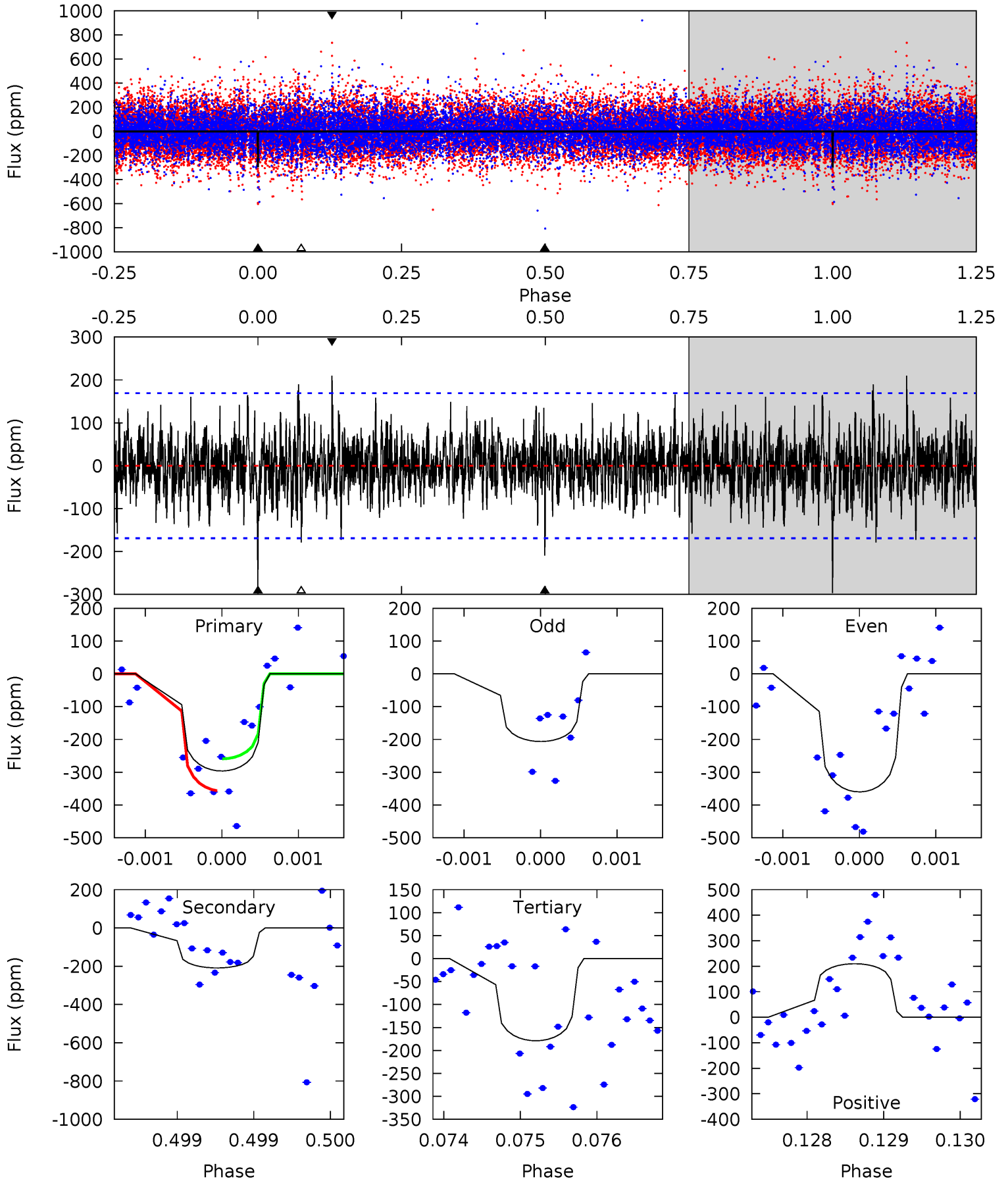




# DV Model-Shift Uniqueness Test

007199935-02, P = 402.314830 Days, E = 273.850852 Days

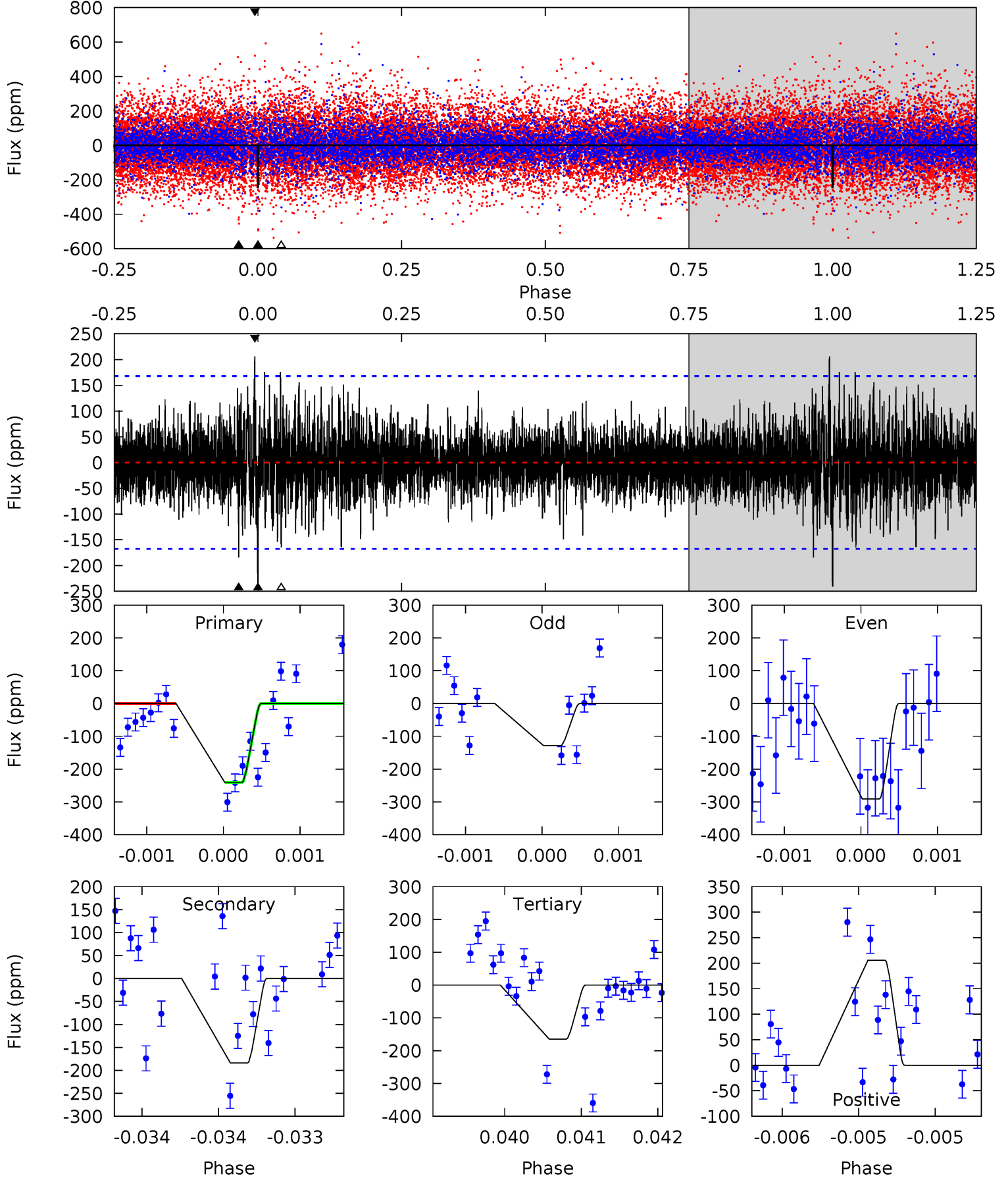
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.68	6.83	5.85	6.86	5.52	3.40	1.56	3.83	2.83	0.98	-0.03	2.51	1.29	0.41	1.49



# Alt Model-Shift Uniqueness Test

007199935-02, P = 402.350419 Days, E = 273.703974 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
7.85	6.00	5.36	6.71	5.47	3.32	1.30	2.48	1.14	0.64	-0.71	2.60	0.85	0.46	0



### Stellar Parameters For KIC 007199935

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6130^{+167}_{-167}$	$4.151^{+0.210}_{-0.123}$	$-0.280^{+0.300}_{-0.300}$	$1.393^{+0.293}_{-0.358}$	$1.003^{+0.172}_{-0.119}$	$0.522^{+0.664}_{-0.206}$
	+3%/-3%	+5%/-3%	+107%/-107%	+21%/-26%	+17%/-12%	+127%/-40%
Source	PHO1	FLK73	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 007199935-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-209 \pm 31$	$2.93^{+0.97}_{-1.00}$	$431^{+24}_{-33}$	$5322^{+1114}_{-594}$	$15489^{+20204}_{-6946}$
Alt.	$-184 \pm 31$	$2.69^{+1.02}_{-1.00}$	$428^{+26}_{-28}$	$5354^{+1333}_{-667}$	$16419^{+24539}_{-8354}$

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

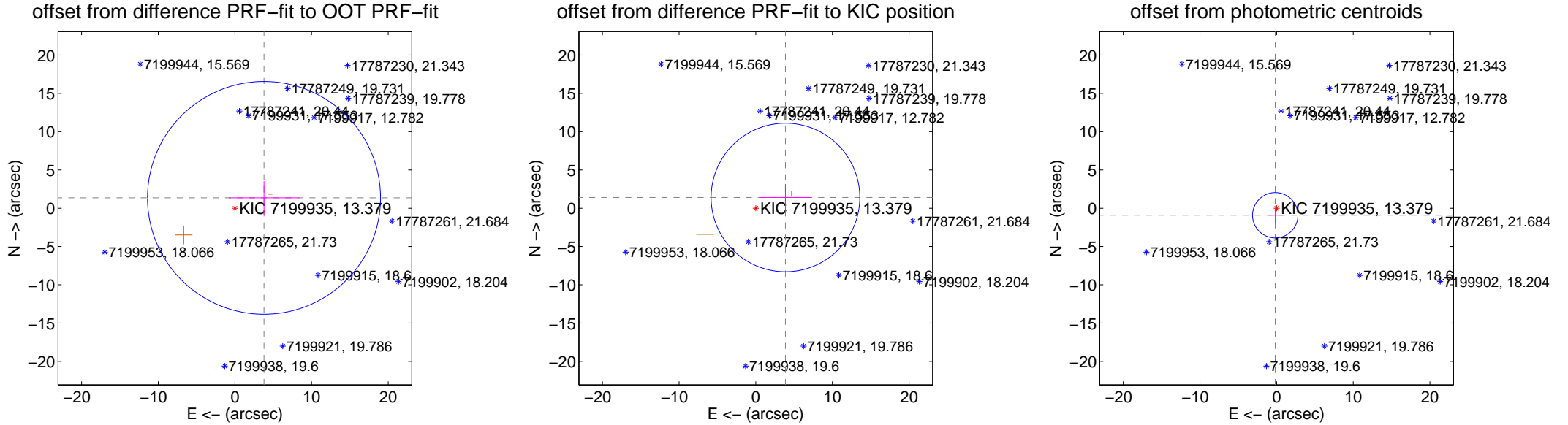
## DV Centroid Data

Supplemental centroid analysis for 007199935-02. Kepler magnitude: 13.38. Transit SNR 6.78

There are 0 quarters with good PRF difference image offsets

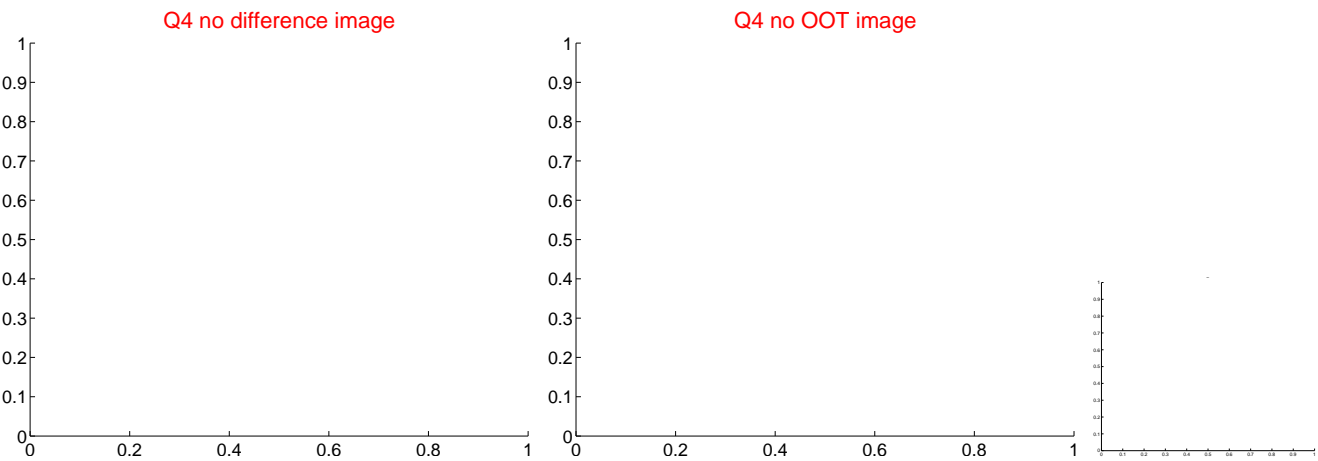
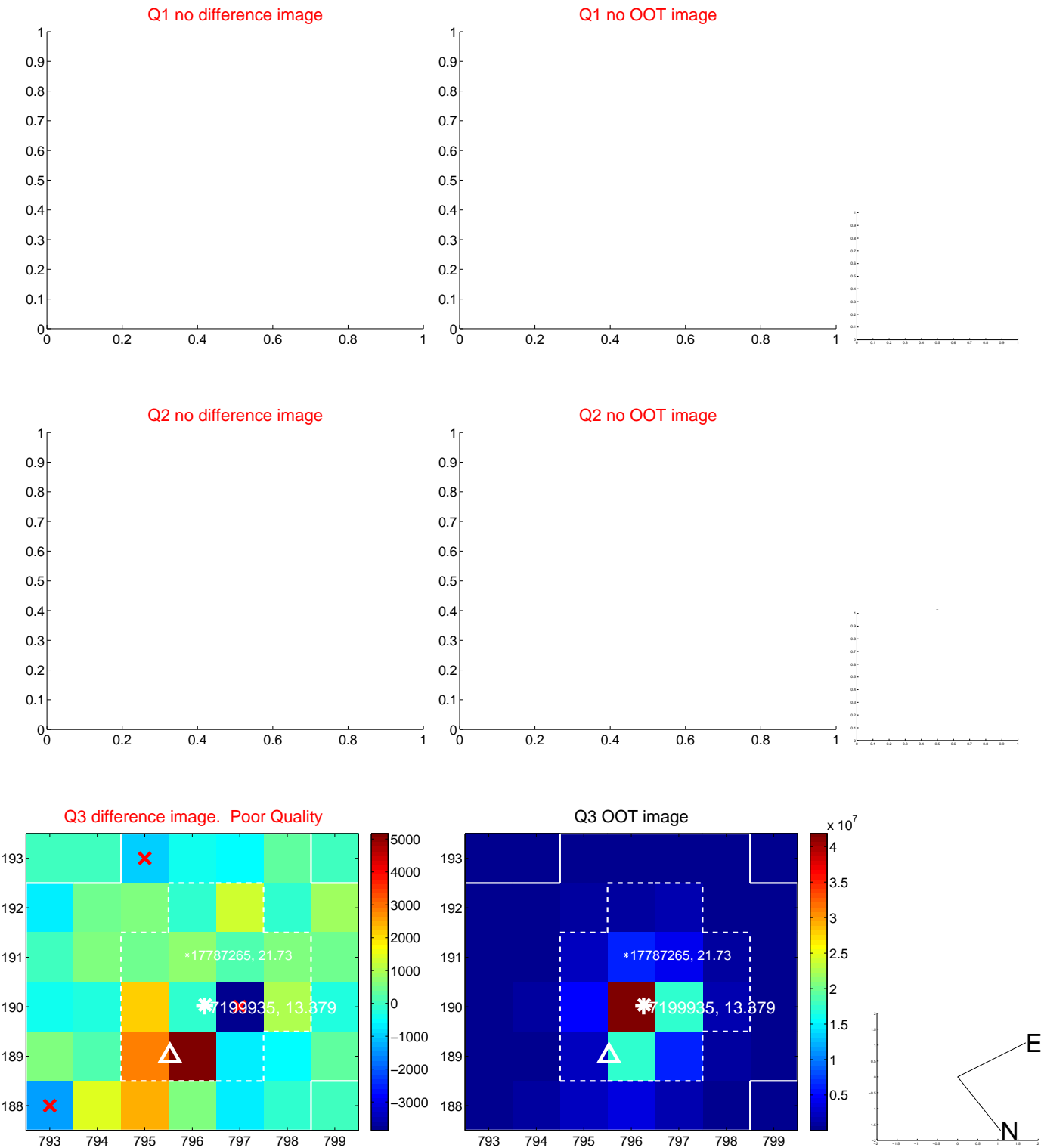
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.031 \pm 5.067$	0.80	$-3.796 \pm 4.604$	$1.356 \pm 2.177$
PRF-fit source offset from KIC position	$4.123 \pm 3.234$	1.28	$-3.876 \pm 3.379$	$1.406 \pm 1.771$
photometric centroid source offset	$0.93 \pm 0.99$	0.95	$0.18 \pm 1.03$	$-0.92 \pm 0.99$



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.





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

Q5 no difference image



Q5 no OOT image



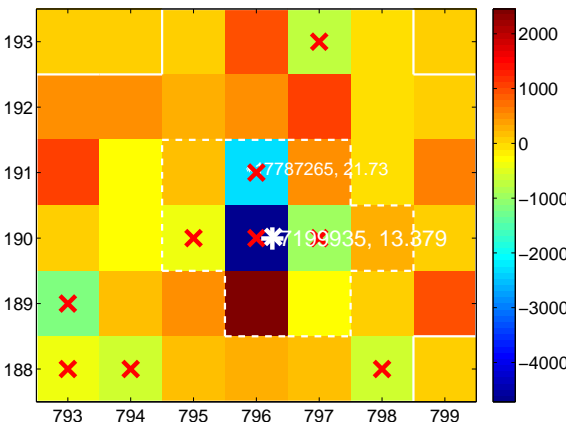
Q6 no difference image



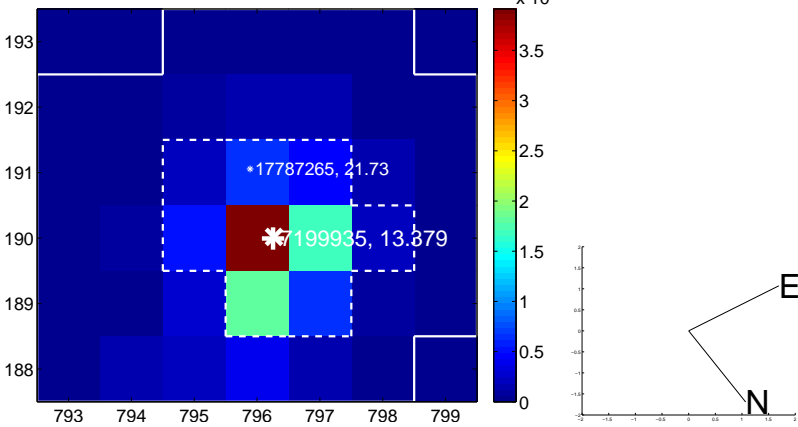
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



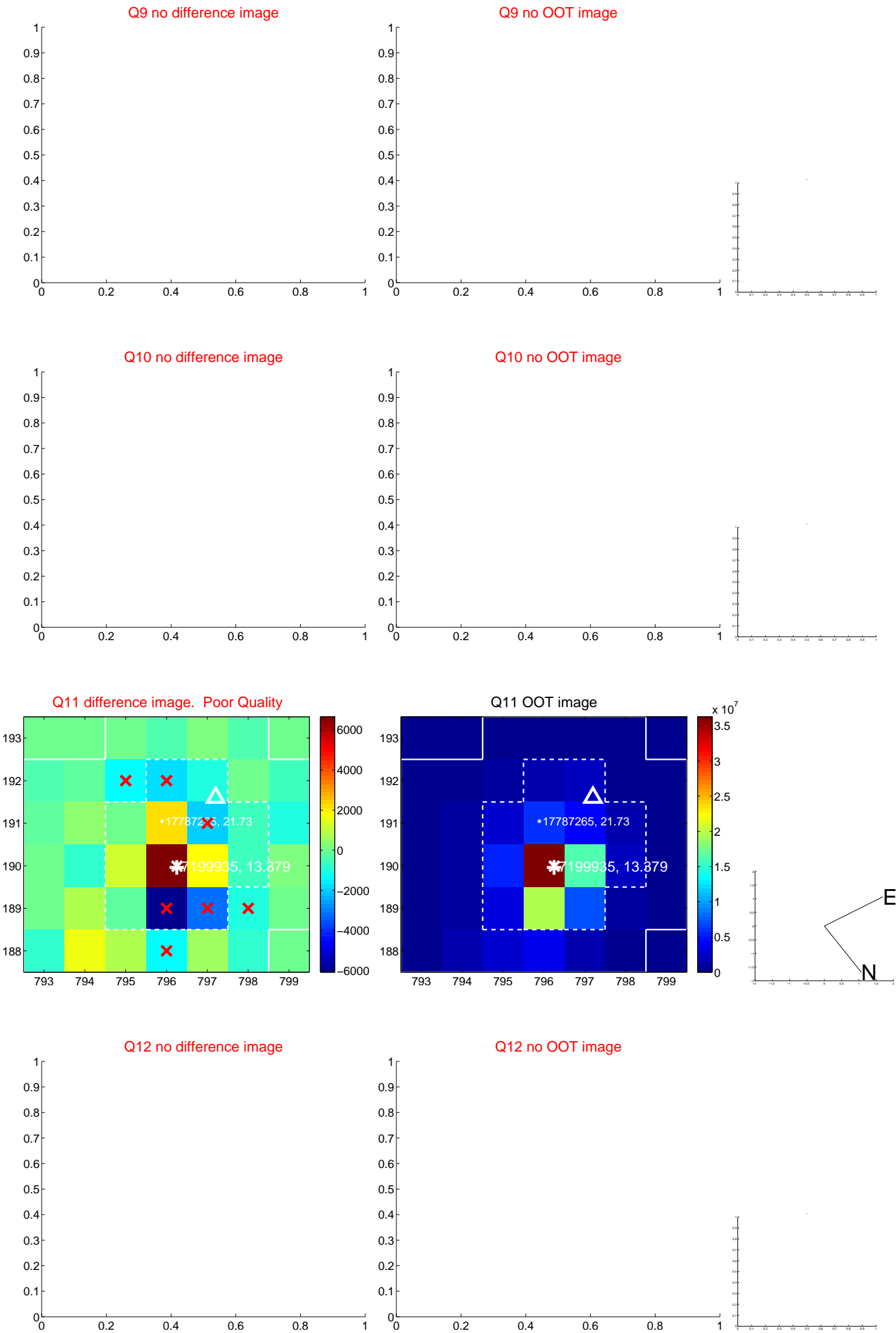
Q8 no difference image



Q8 no OOT image



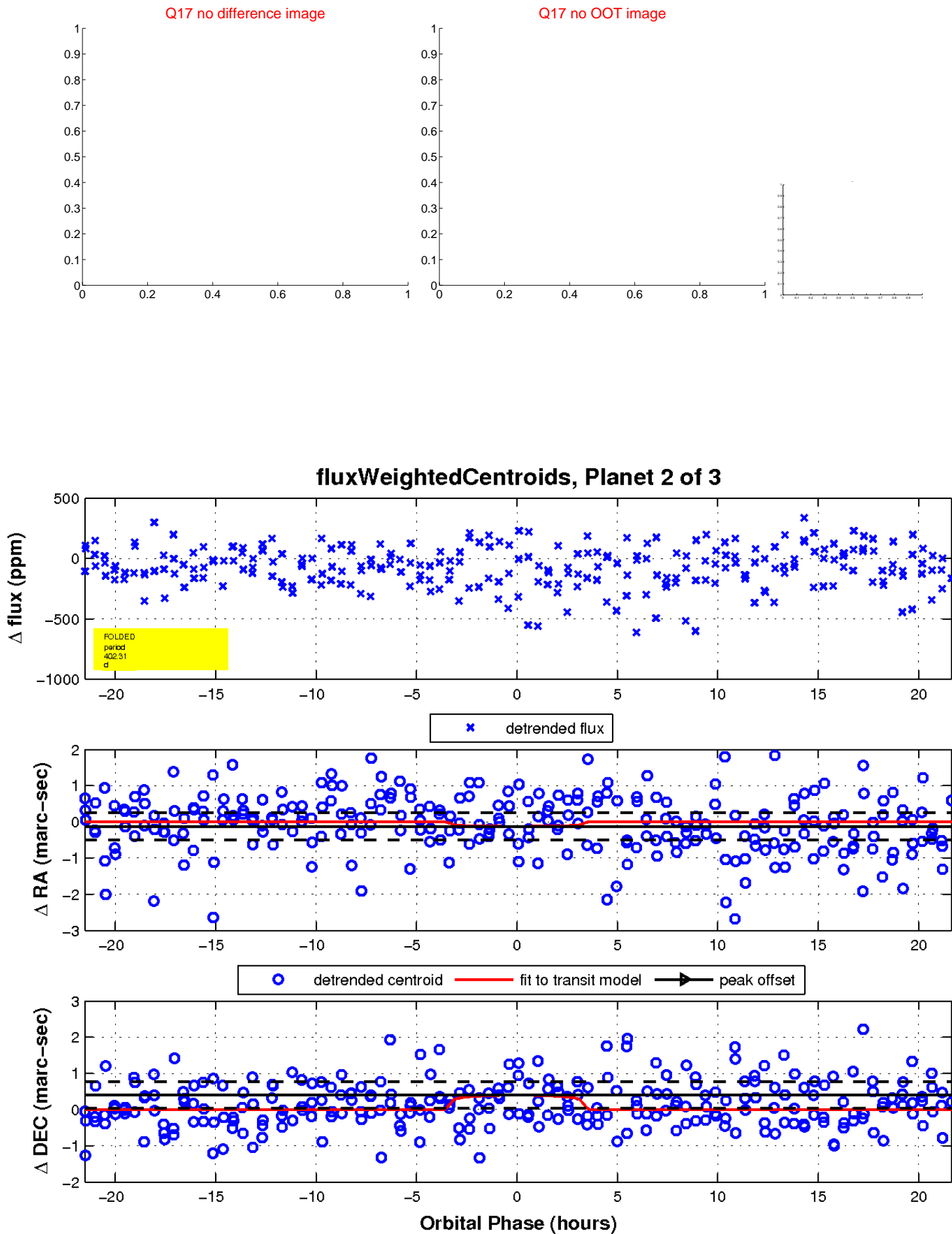
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

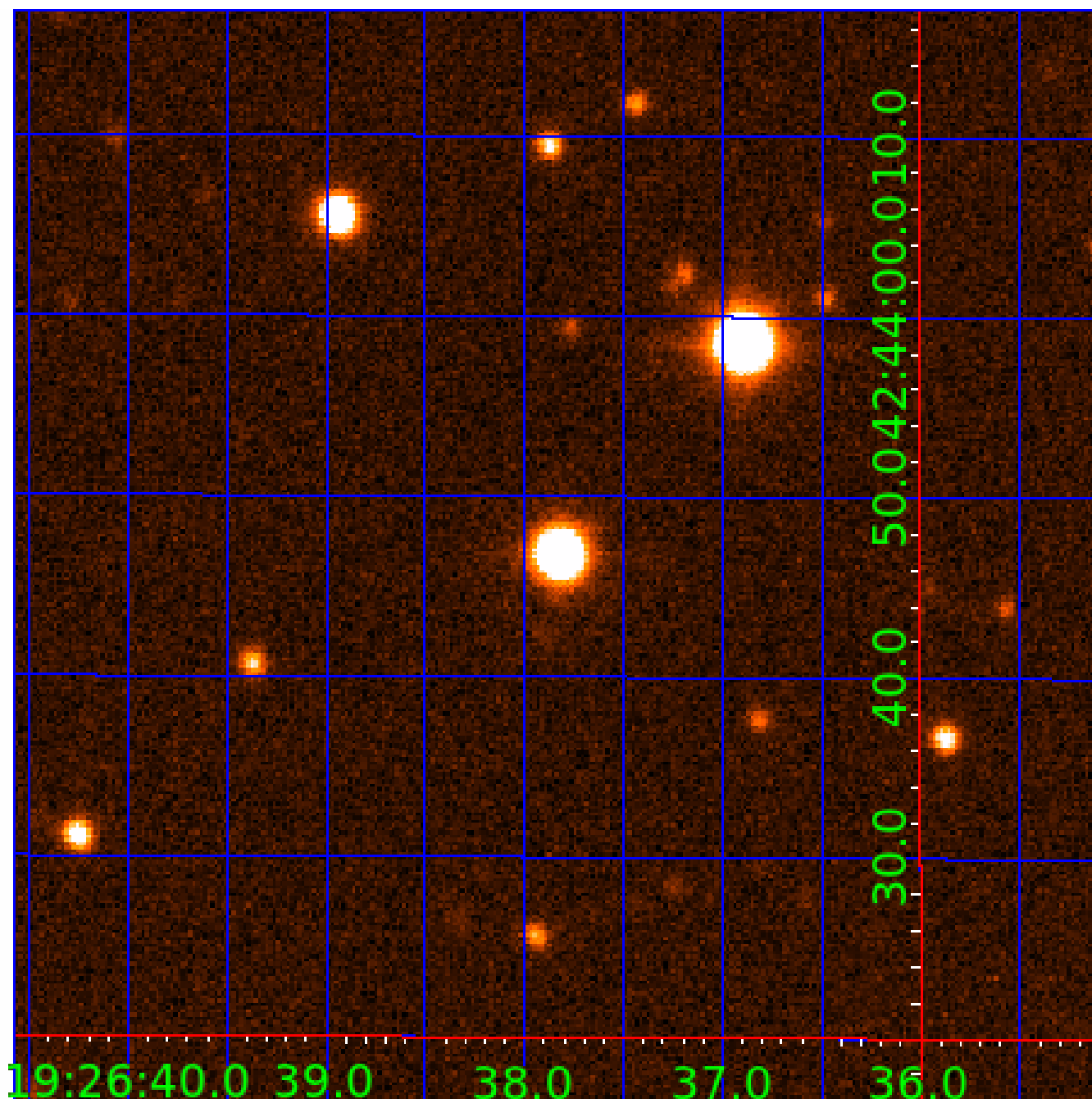


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 007199935

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007199935-01	OBS	6841.01	0.566790	131.823891	16.7	2.682	8.5	10.6	1.39	6130	0.58	13639.77
007199935-02	OBS	No	402.314830	273.850852	353.0	7.219	10.6	6.8	1.39	6130	2.99	2.15
007199935-03	OBS	No	105.340608	182.959162	152.7	4.560	7.7	5.4	1.39	6130	1.90	12.86

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007199935-01	OBS	FP	0.00	1	0	1	1	MOD_NONUNIQ_ALT—HALO_GHOST—EPHEM_MATCH
007199935-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007199935-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

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

## Ephemeris Match Information For 007199935-03

No Significant Match Found

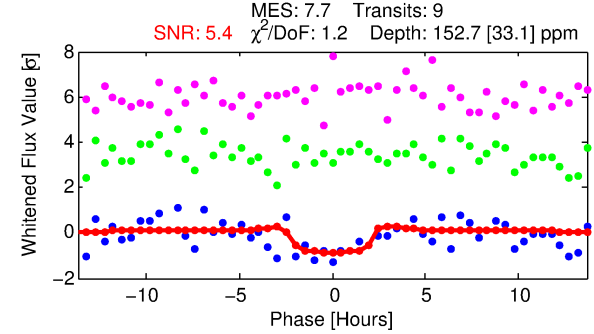
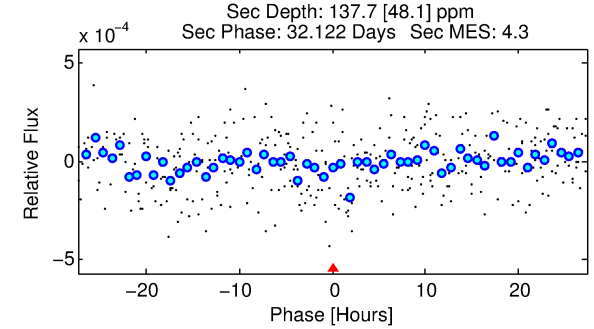
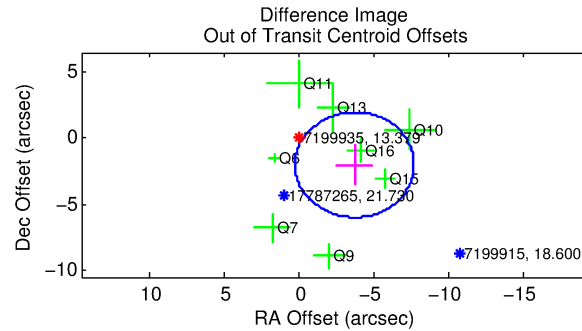
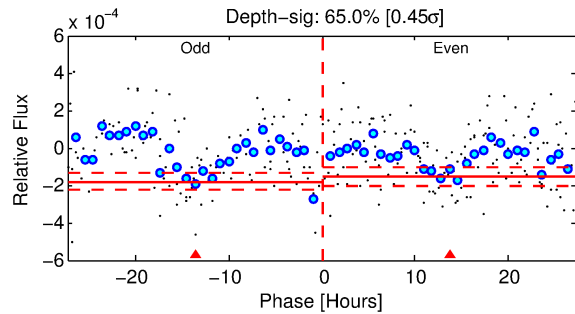
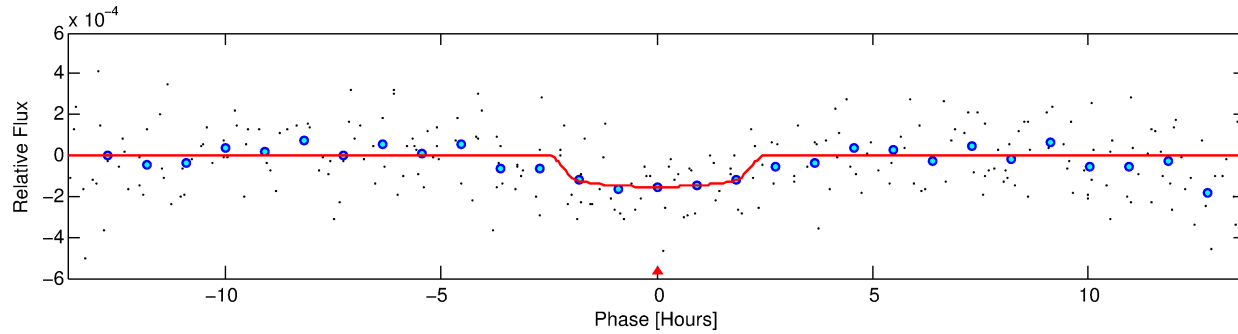
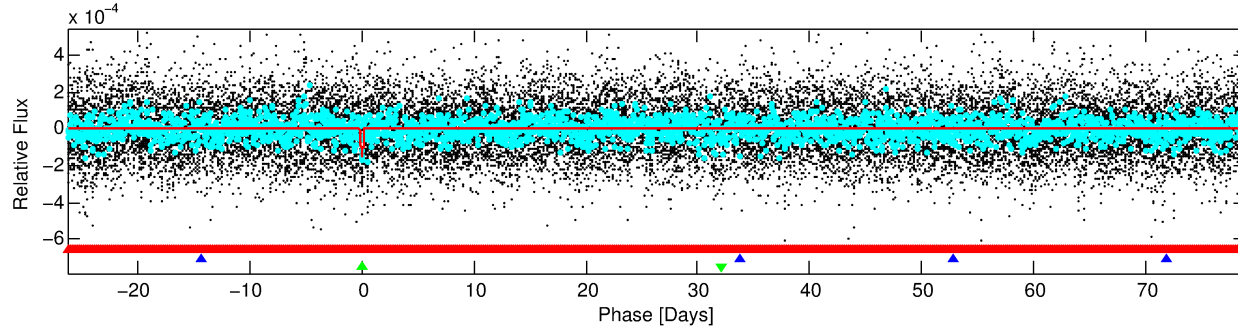
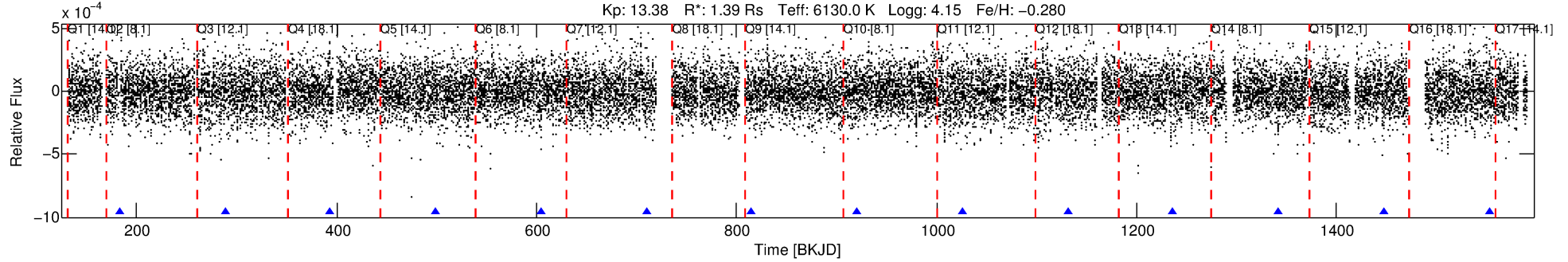


# DV One-Page Summary

KIC: 7199935 Candidate: 3 of 3 Period: 105.341 d

KOI: K06841 Corr: No Ephemeris Match

Kp: 13.38 R\*: 1.39 Rs Teff: 6130.0 K Logg: 4.15 Fe/H: -0.280



## DV Fit Results:

Period = 105.34061 [0.00243] d  
Epoch = 182.9592 [0.0202] BKJD  
Rp/R\* = 0.0125 [0.0150]  
a/R\* = 112.20 [698.93]  
b = 0.79 [3.02]  
Seff = 12.86 [4.90]  
Teq = 483 [46] K  
Rp = 1.89 [2.33] Re  
a = 0.4369 [0.1028] AU  
Ag = 4027.92 [9896.04] [0.41σ]  
Teffp = 5948 [3616] K [1.51σ]

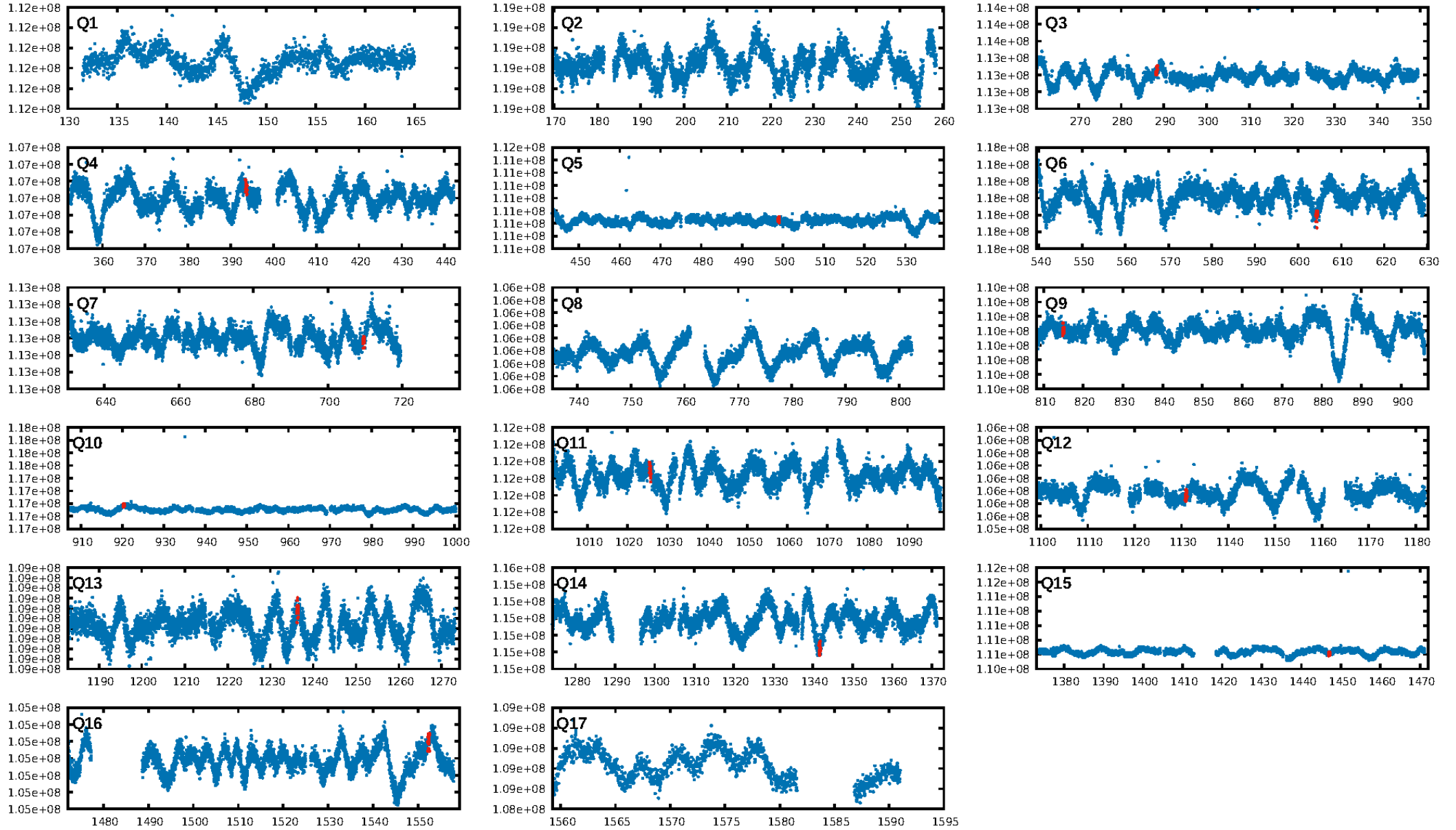
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [475.32σ]  
LongPeriod-sig: 100.0% [834.69σ]  
ModelChiSquare2-sig: 7.4%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 1.51e-10**  
RollingBand-fgt: 1.00 [9/9]  
GhostDiagnostic-chr: -1.088  
Centroid-sig: 42.4%  
Centroid-so: 1.287 arcsec [1.08σ]  
**OotOffset-rm: 4.267 arcsec [3.22σ]**  
**KicOffset-rm: 4.299 arcsec [4.03σ]**  
OotOffset-st: 2/3/1/2 [8]  
KicOffset-st: 2/3/1/2 [8]  
DiffImageQuality-fgm: 0.12 [1/8]  
DiffImageOverlap-fno: 0.00 [0/13]

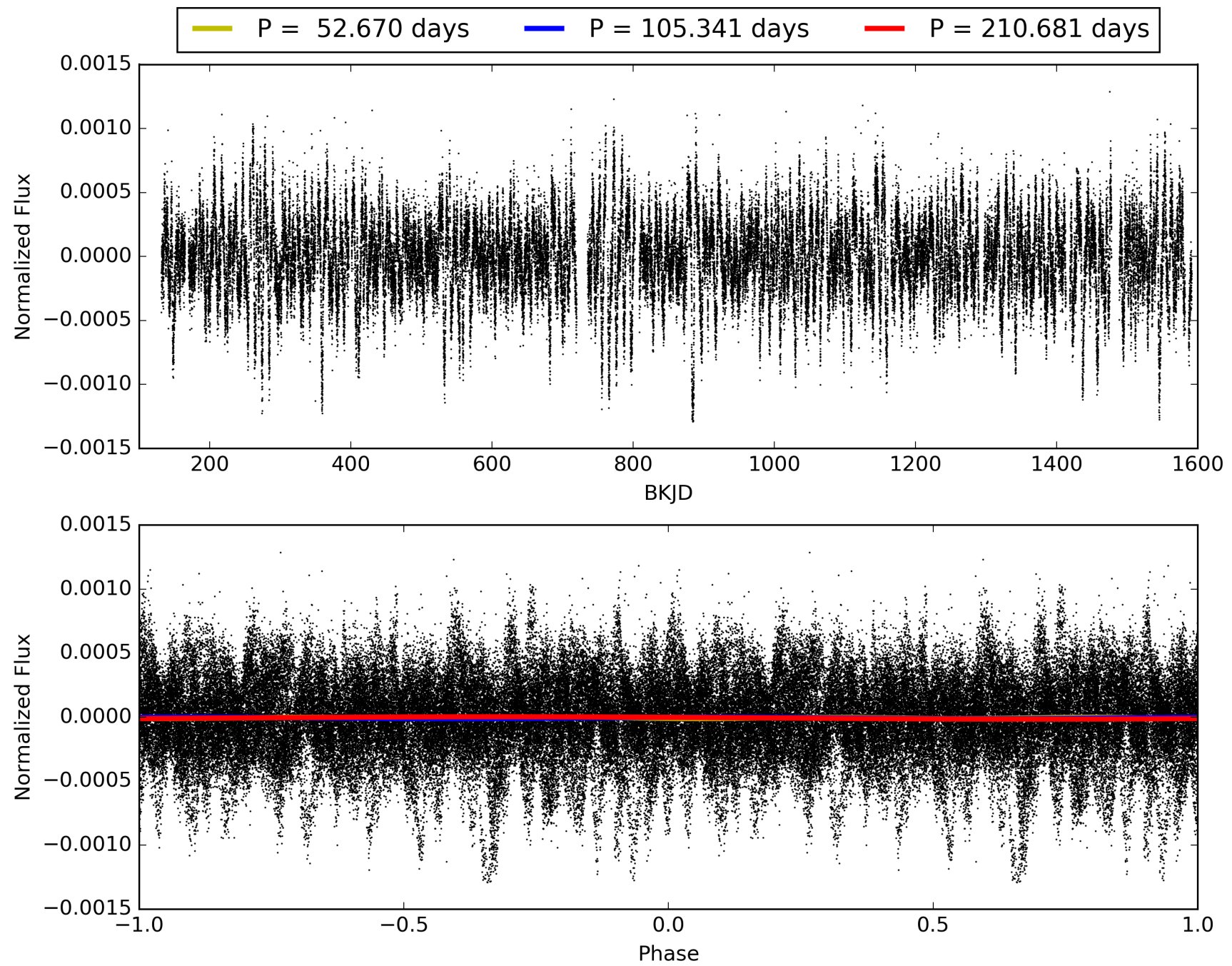
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:33:13 Z

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

# TCE 007199935-03, PDC Light Curves

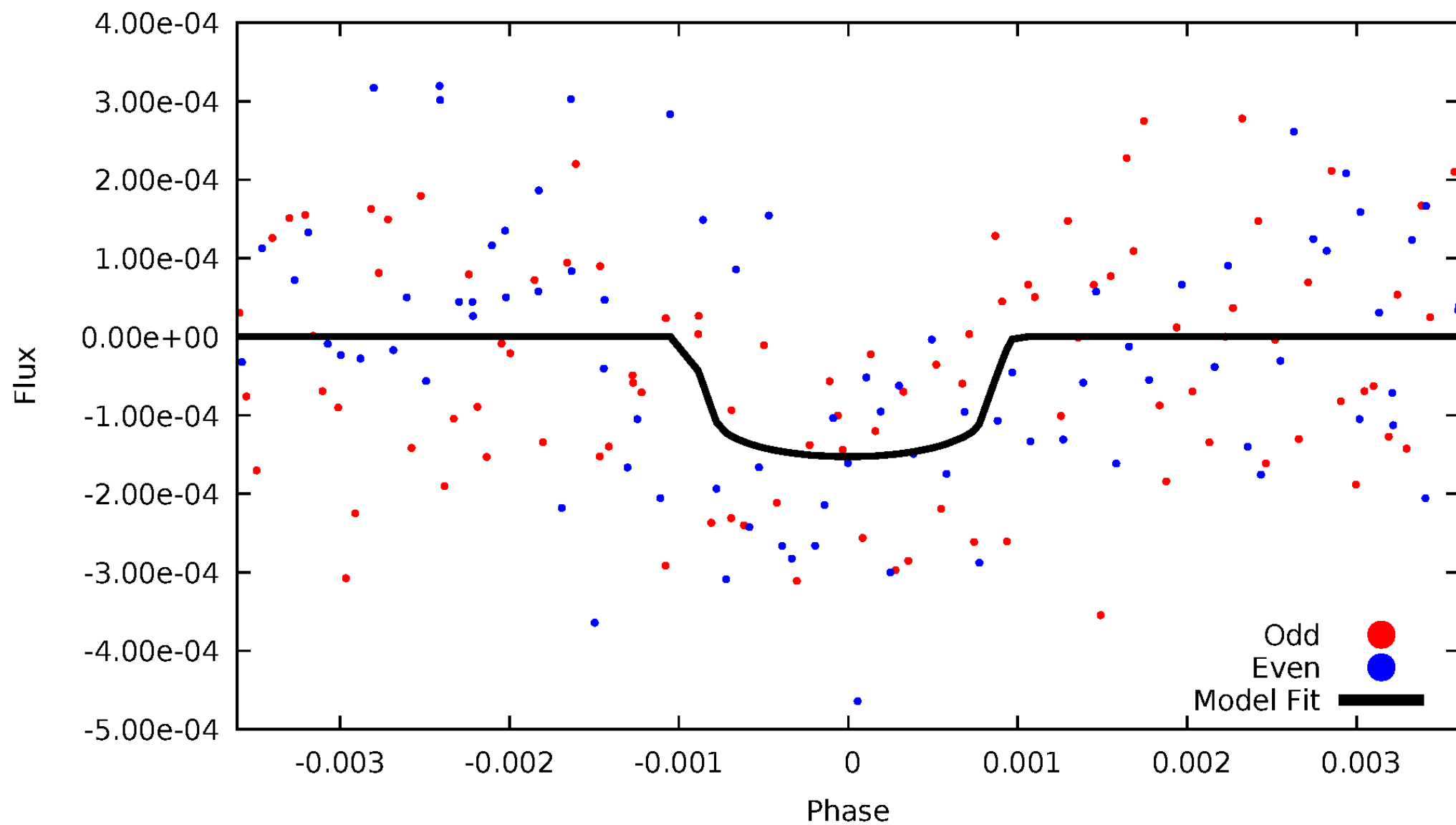


TCE 007199935-03



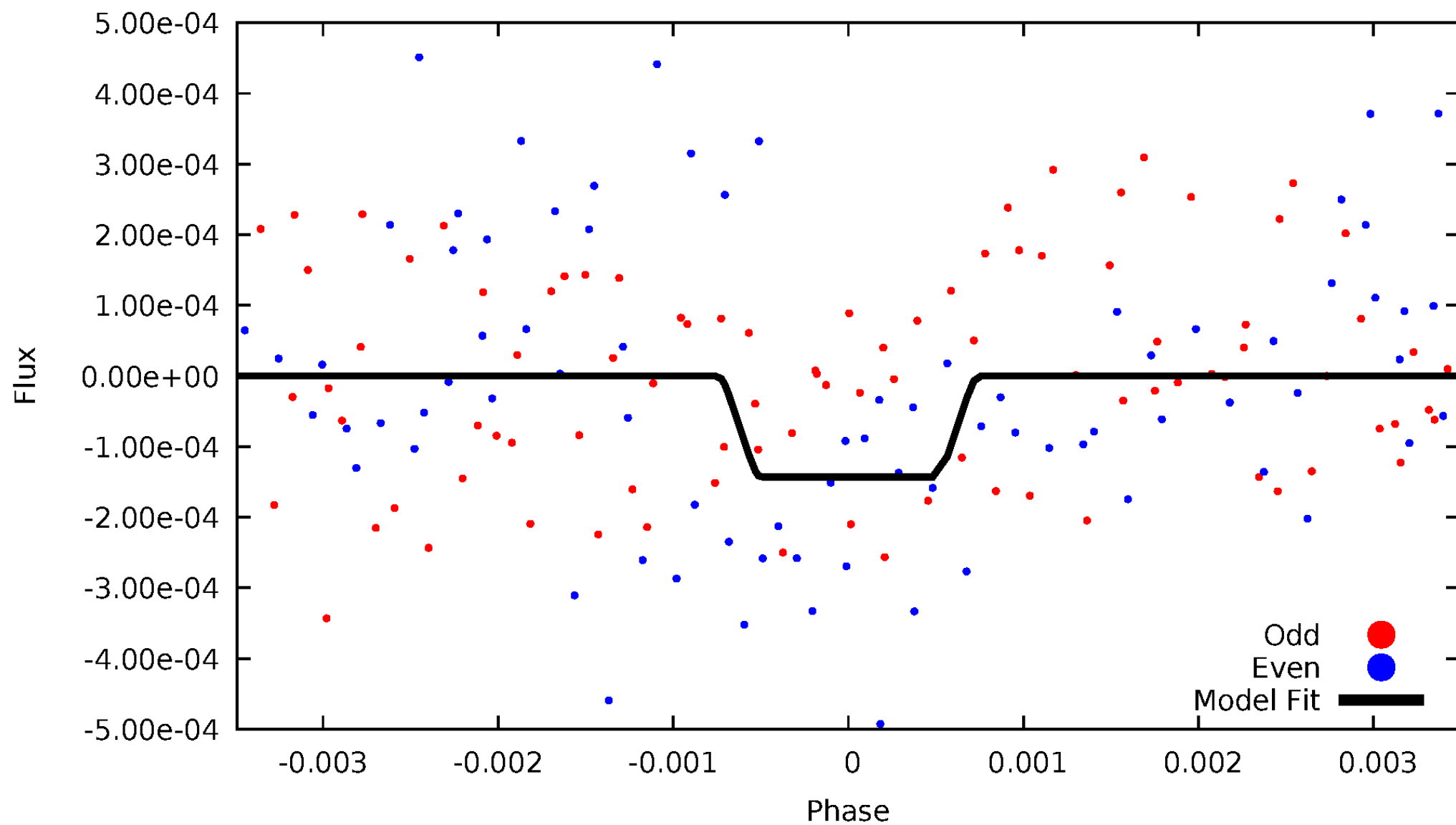
# DV Odd/Even

TCE 007199935-03



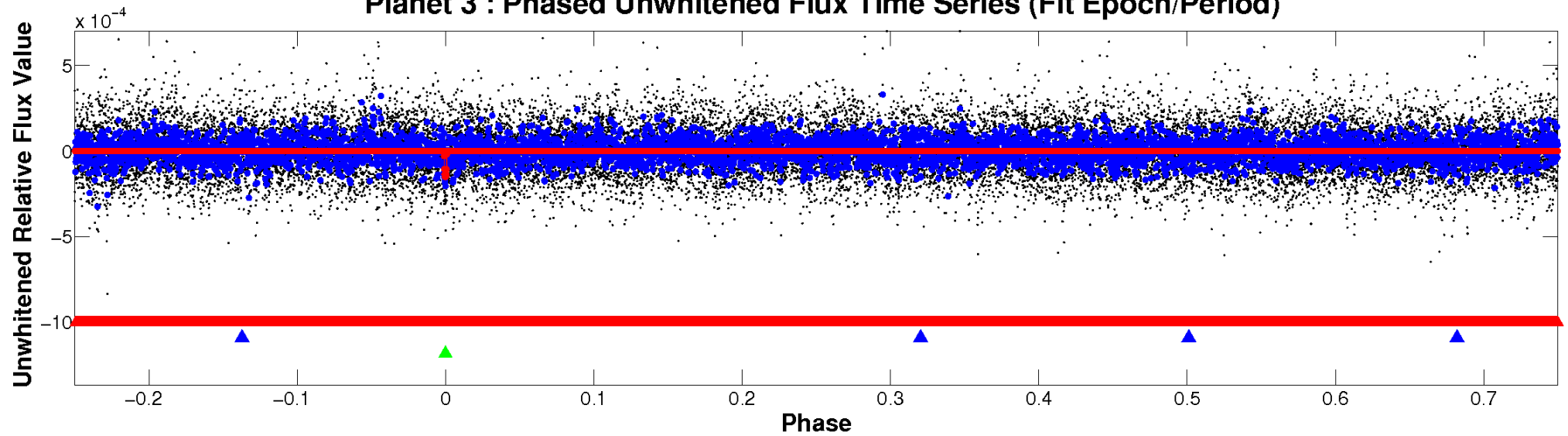
# ALT Odd/Even

TCE 007199935-03

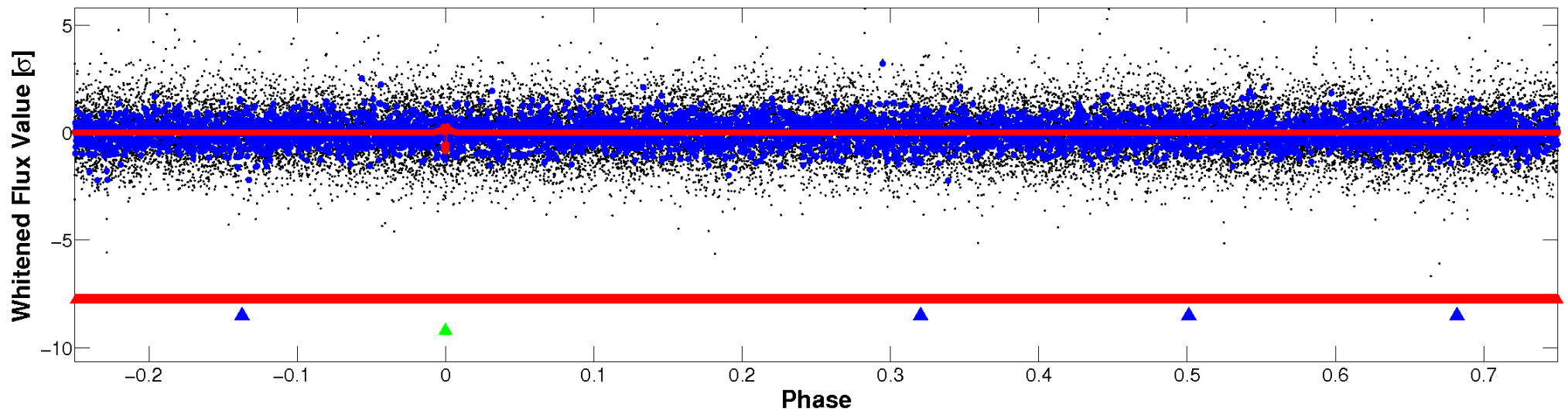


# Non-Whitened Vs. Whitened Light Curve

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

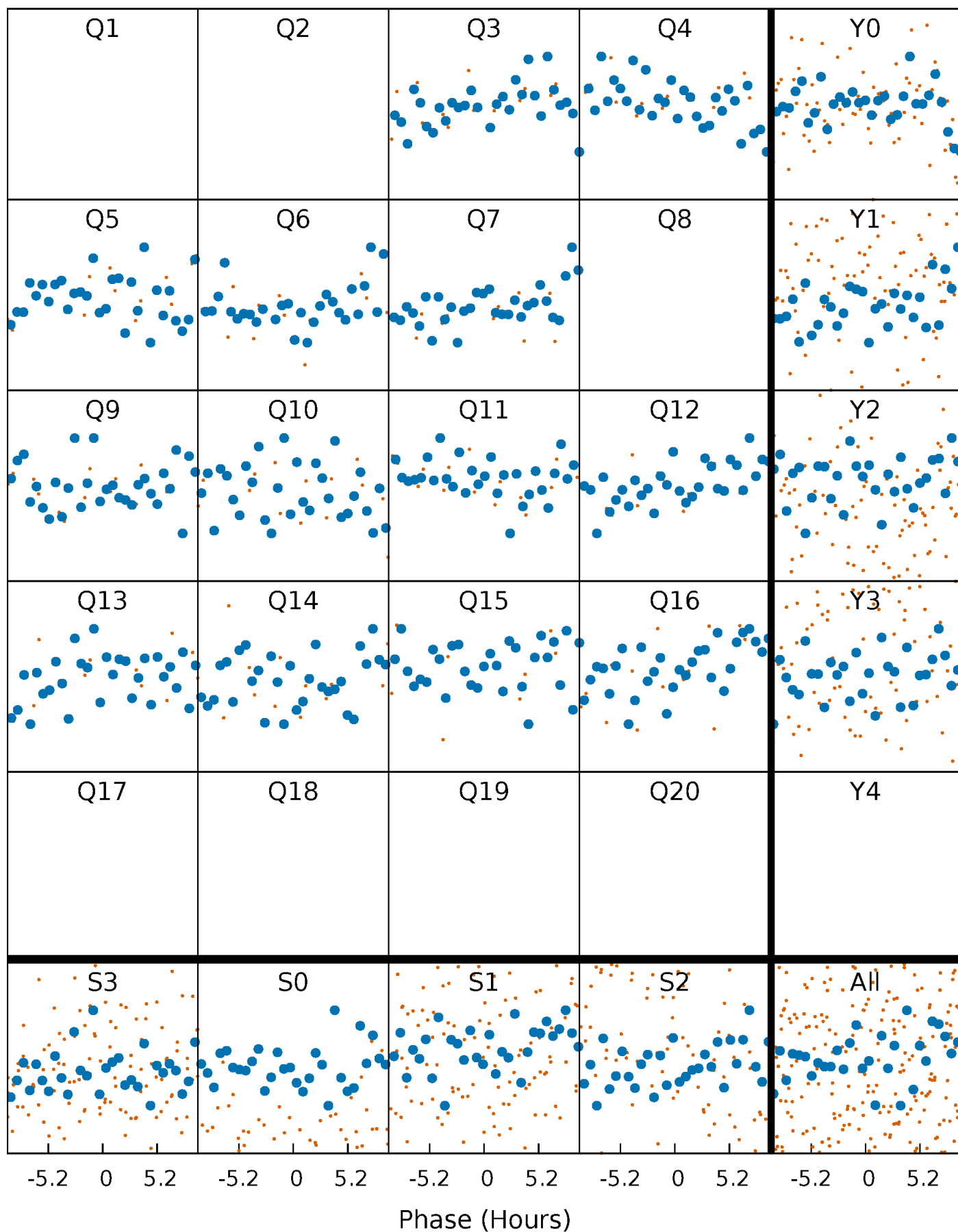


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

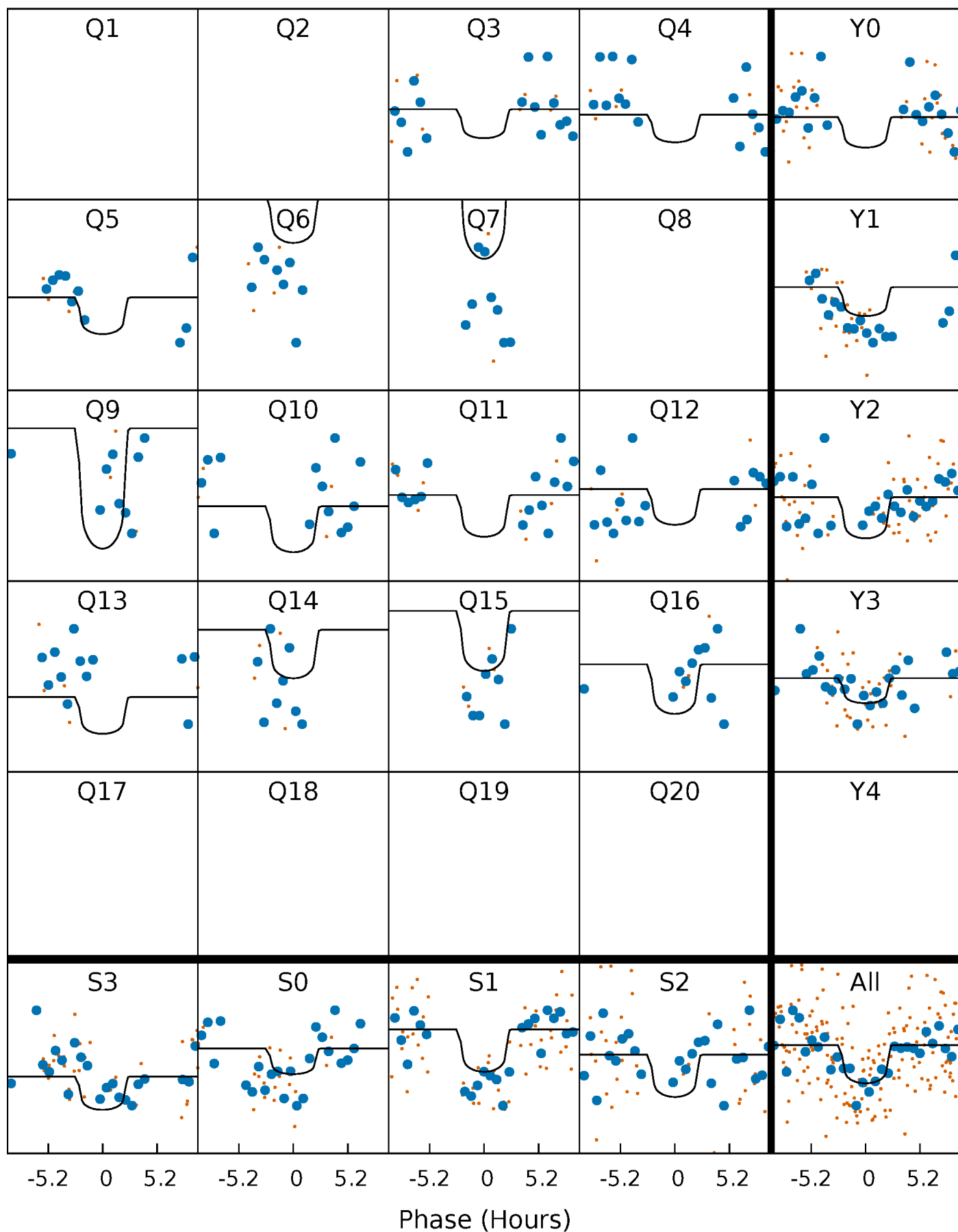
TCE 007199935-03 P=105.340608 Days  $T_0=182.959162$  (BKJD)





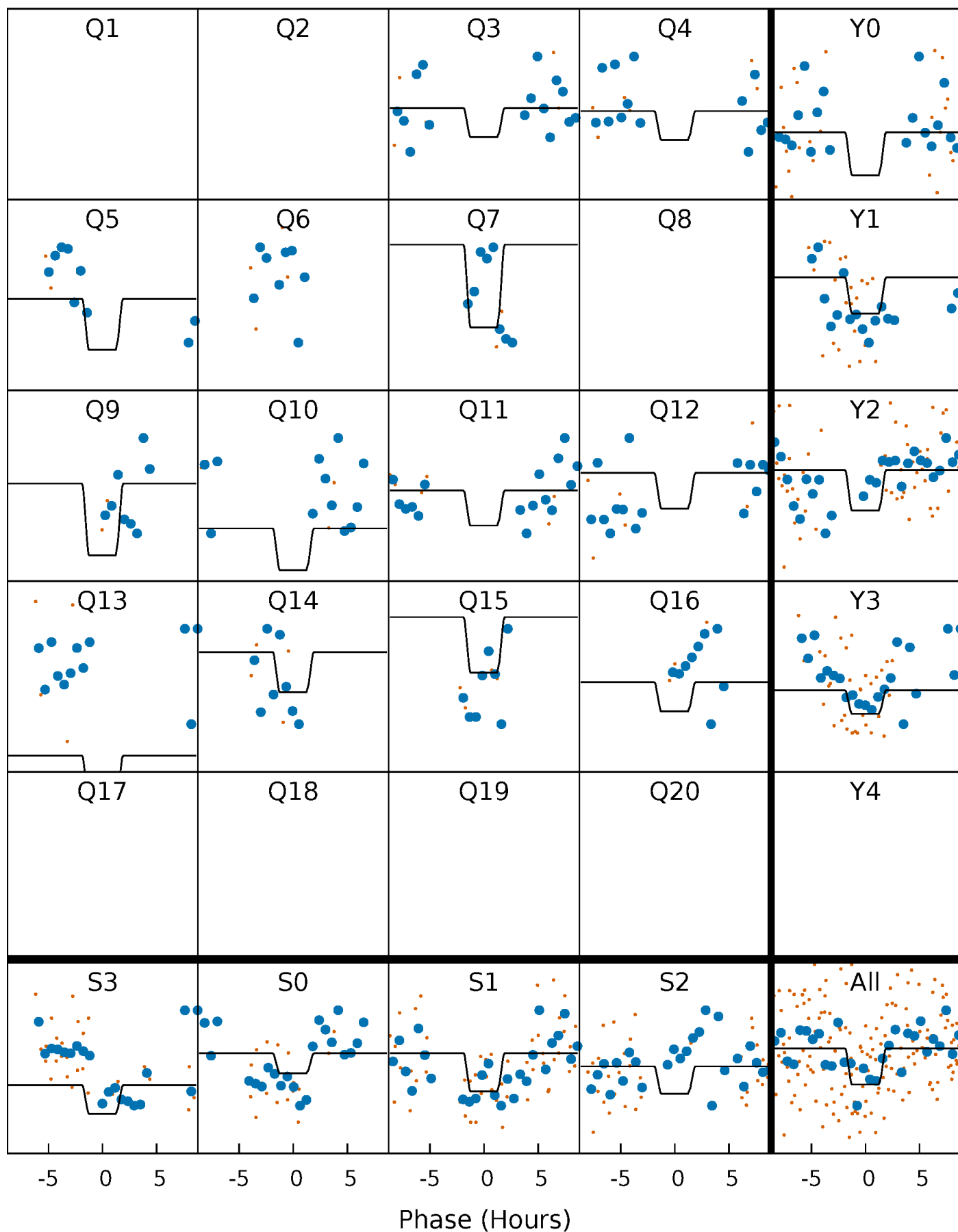
# DV Quarter-Phased Transit Curves

TCE 007199935-03 P=105.340608 Days  $T_0=182.959162$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

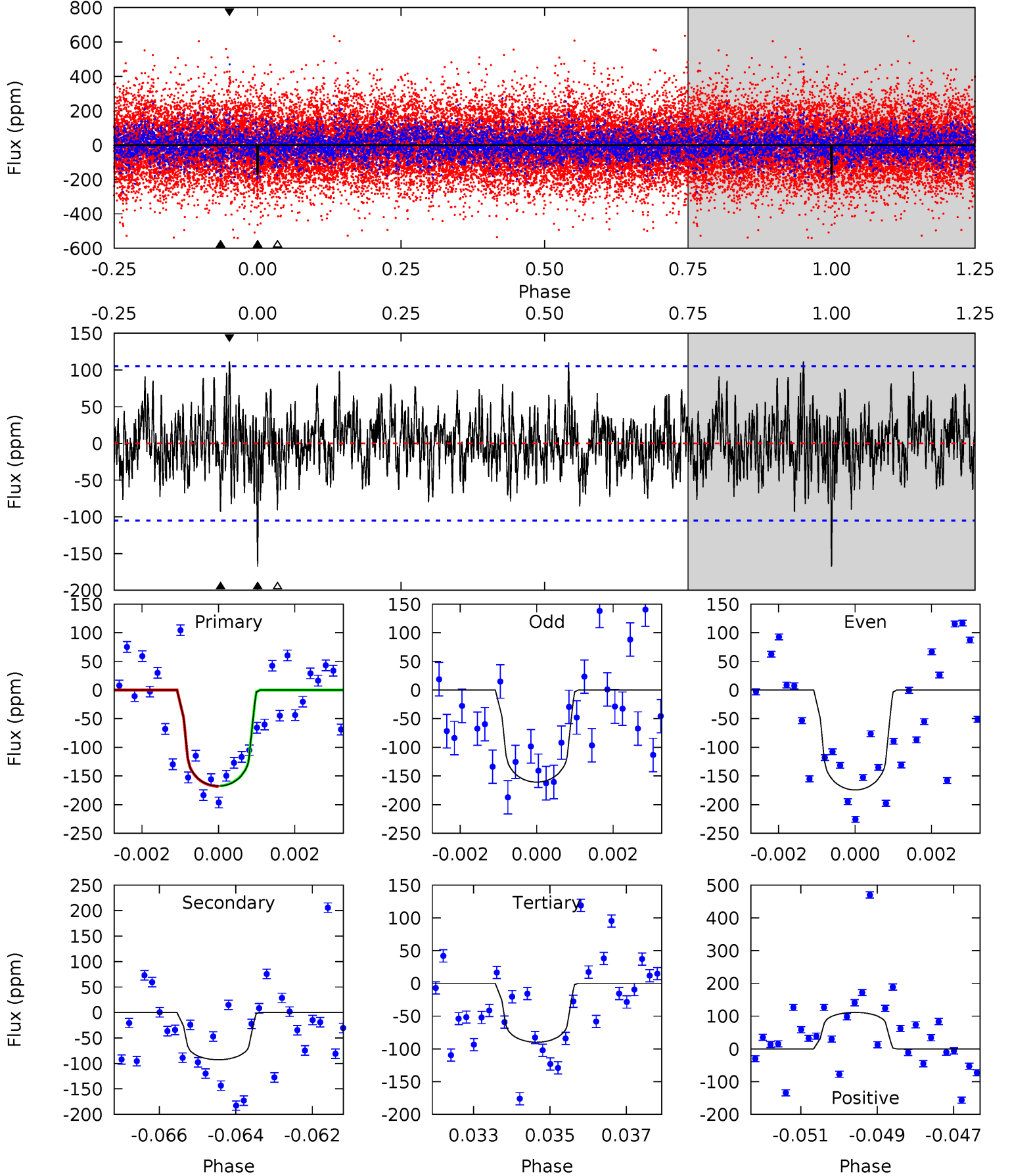
TCE 007199935-03 P=105.343592 Days  $T_0=182.933663$  (BKJD)



# DV Model-Shift Uniqueness Test

007199935-03, P = 105.340608 Days, E = 77.618554 Days

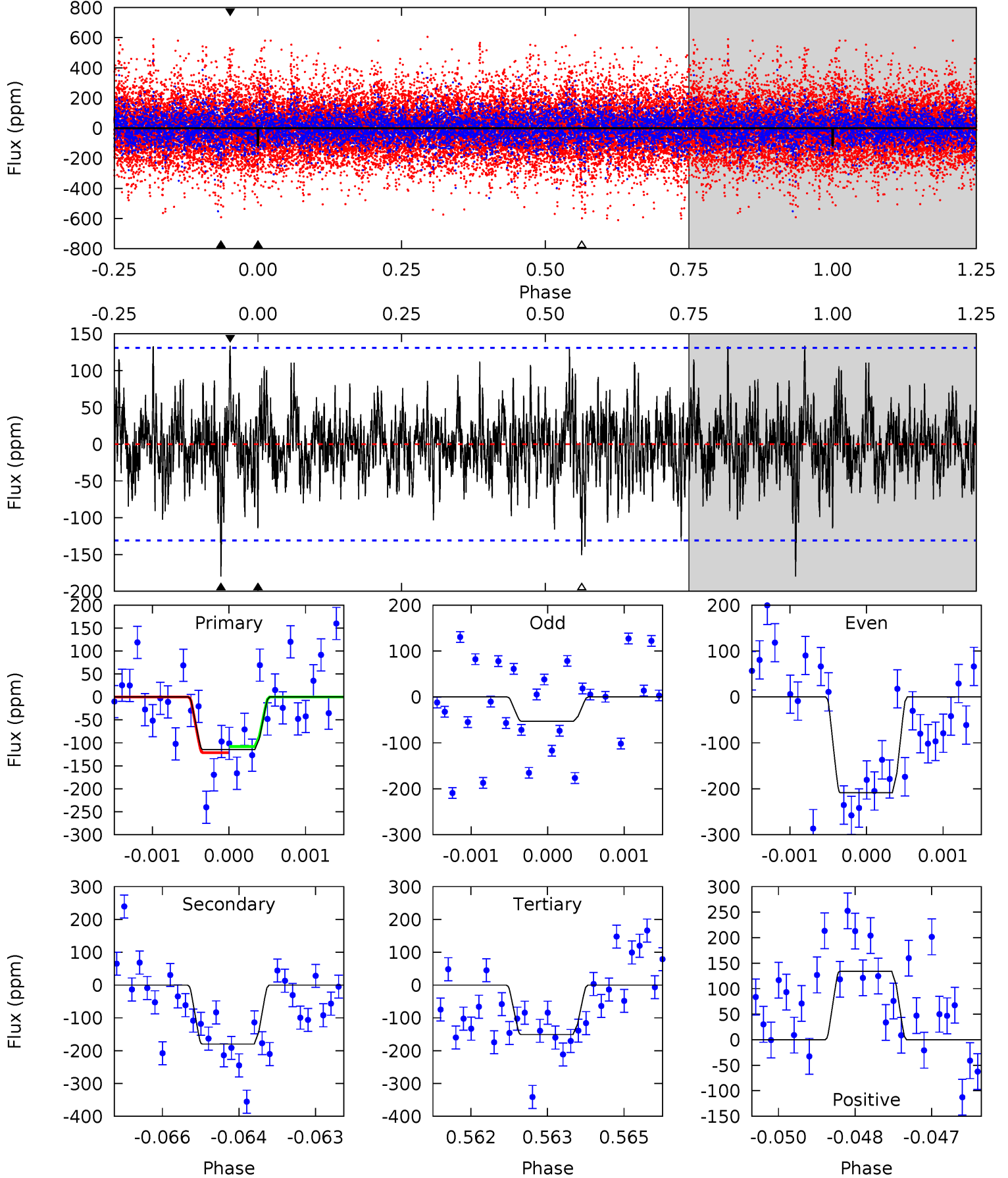
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.51	4.71	4.56	5.66	5.33	3.10	1.57	3.95	2.85	0.14	-0.96	0.35	1.24	0.40	0.03



# Alt Model-Shift Uniqueness Test

007199935-03, P = 105.343592 Days, E = 77.590071 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
4.71	7.40	6.20	5.51	5.39	3.19	1.53	-1.49	-0.80	1.20	1.89	3.14	0.88	0.43	0.27



### Stellar Parameters For KIC 007199935

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6130^{+167}_{-167}$	$4.151^{+0.210}_{-0.123}$	$-0.280^{+0.300}_{-0.300}$	$1.393^{+0.293}_{-0.358}$	$1.003^{+0.172}_{-0.119}$	$0.522^{+0.664}_{-0.206}$
	+3%/-3%	+5%/-3%	+107%/-107%	+21%/-26%	+17%/-12%	+127%/-40%
Source	PHO1	FLK73	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 007199935-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-93 \pm 20$	$2.50^{+2.05}_{-1.55}$	$670^{+42}_{-46}$	$4792^{+3005}_{-981}$	$1596^{+9572}_{-1140}$
Alt.	$-180 \pm 24$	$2.36^{+2.10}_{-1.50}$	$667^{+42}_{-45}$	$5680^{+4600}_{-1335}$	$3531^{+21279}_{-2589}$

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

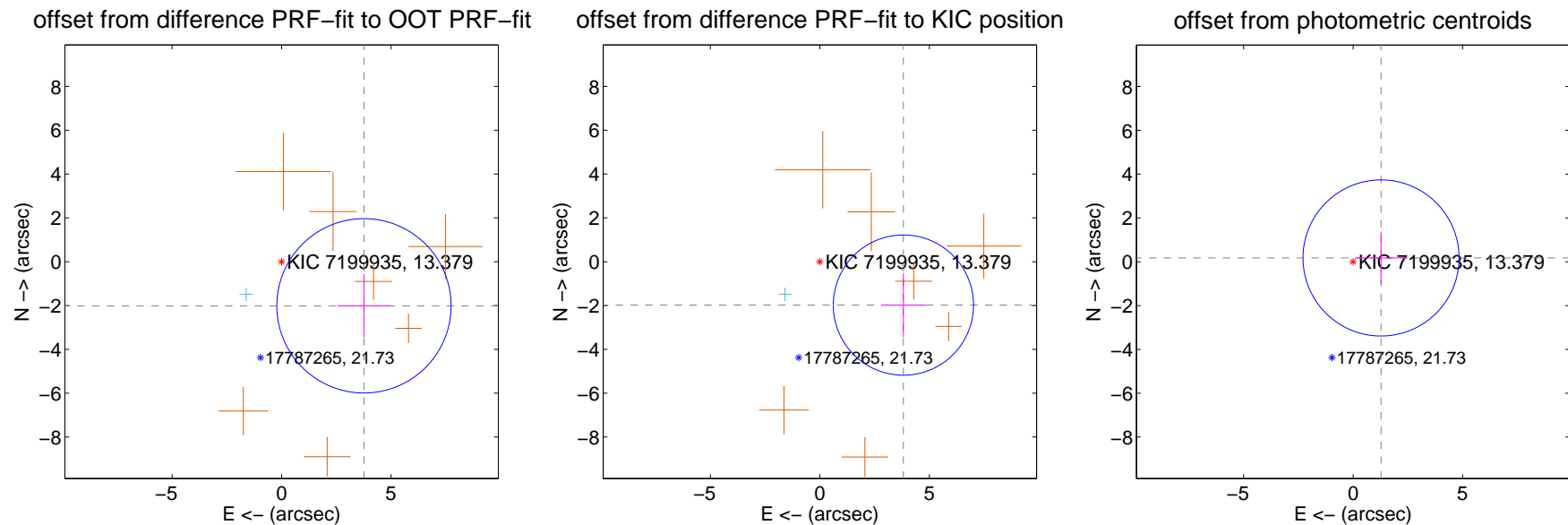
## DV Centroid Data

Supplemental centroid analysis for 007199935-03. Kepler magnitude: 13.38. Transit SNR 5.40

There are 1 quarters with good PRF difference image offsets

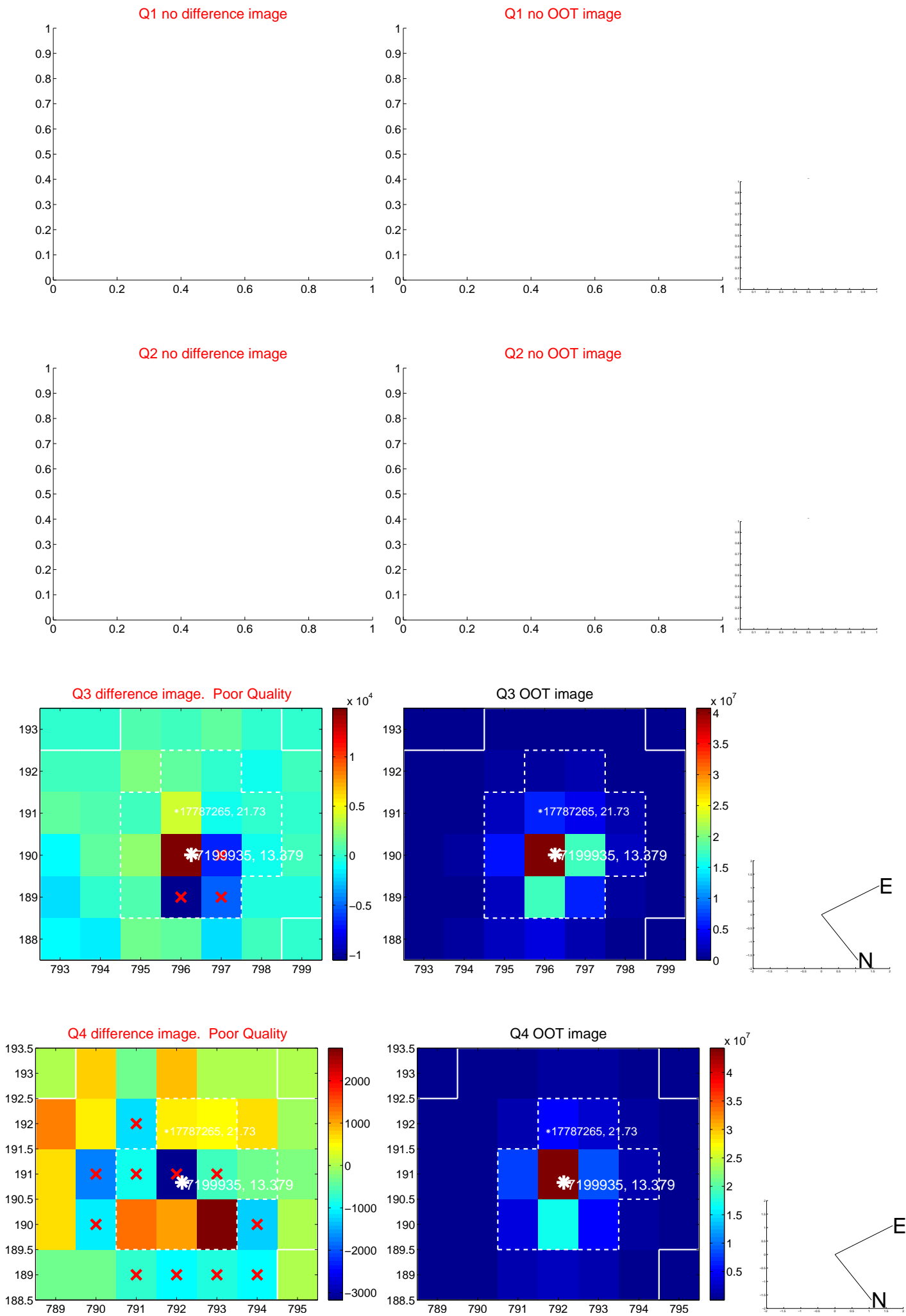
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.267 \pm 1.326$	3.22	$-3.762 \pm 1.218$	$-2.014 \pm 1.439$
PRF-fit source offset from KIC position	$4.299 \pm 1.067$	4.03	$-3.815 \pm 1.018$	$-1.980 \pm 1.464$
photometric centroid source offset	$1.29 \pm 1.19$	1.08	$-1.28 \pm 1.19$	$0.17 \pm 1.19$



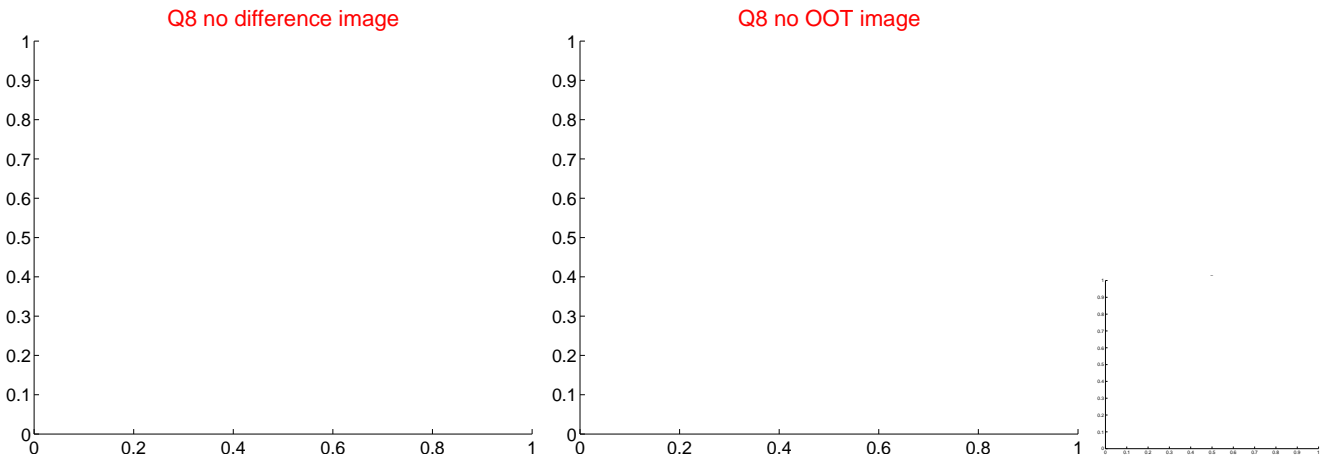
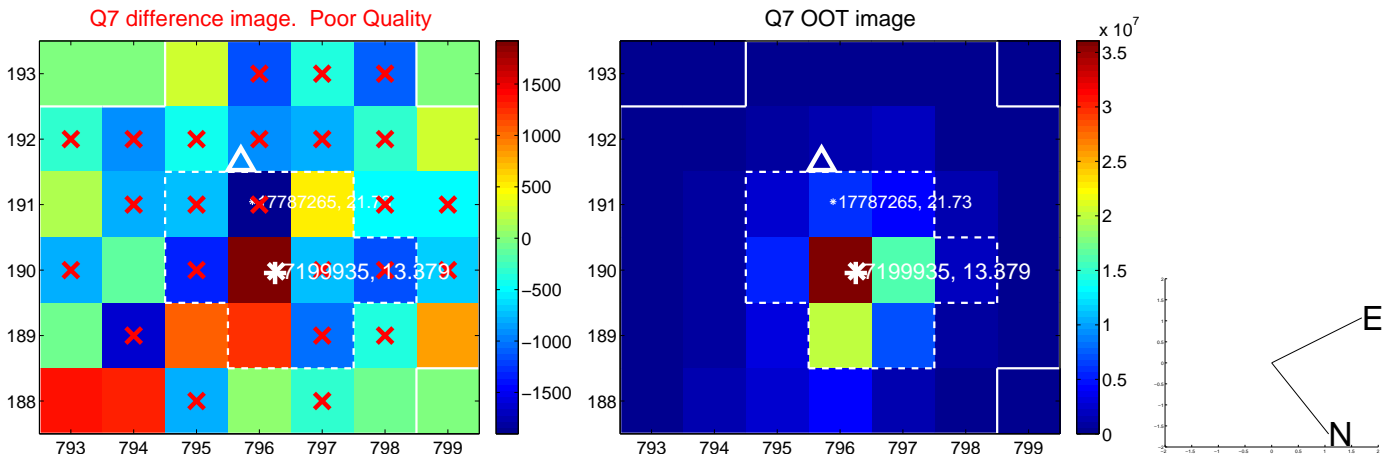
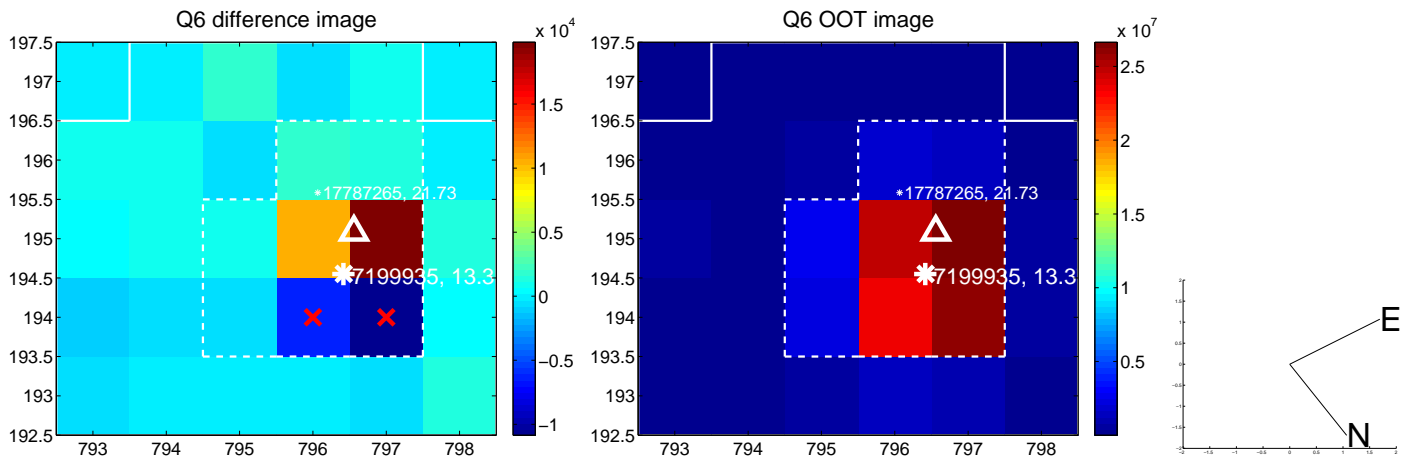
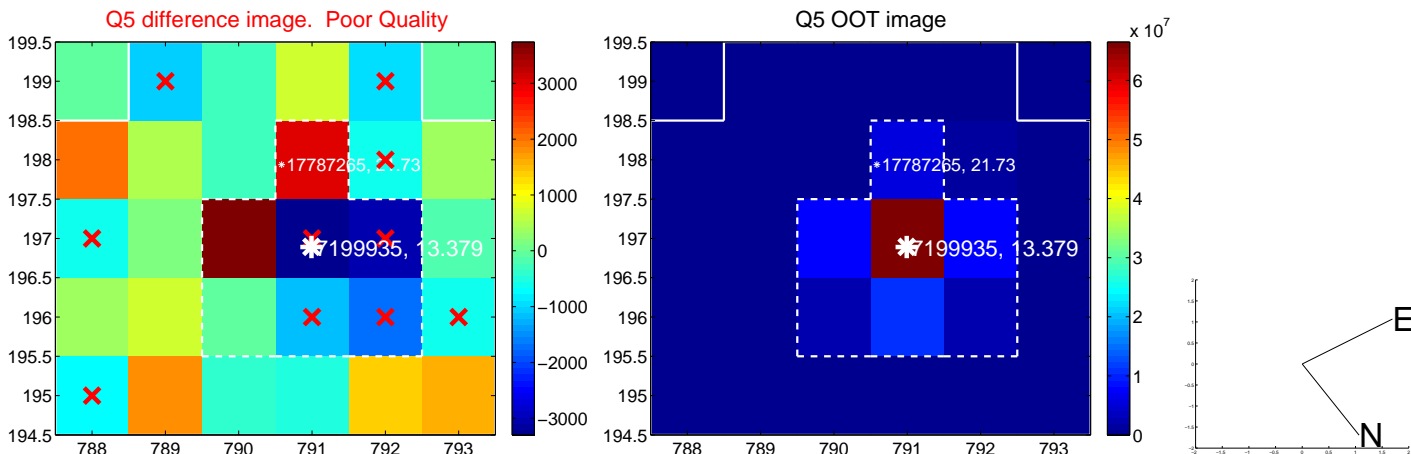
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

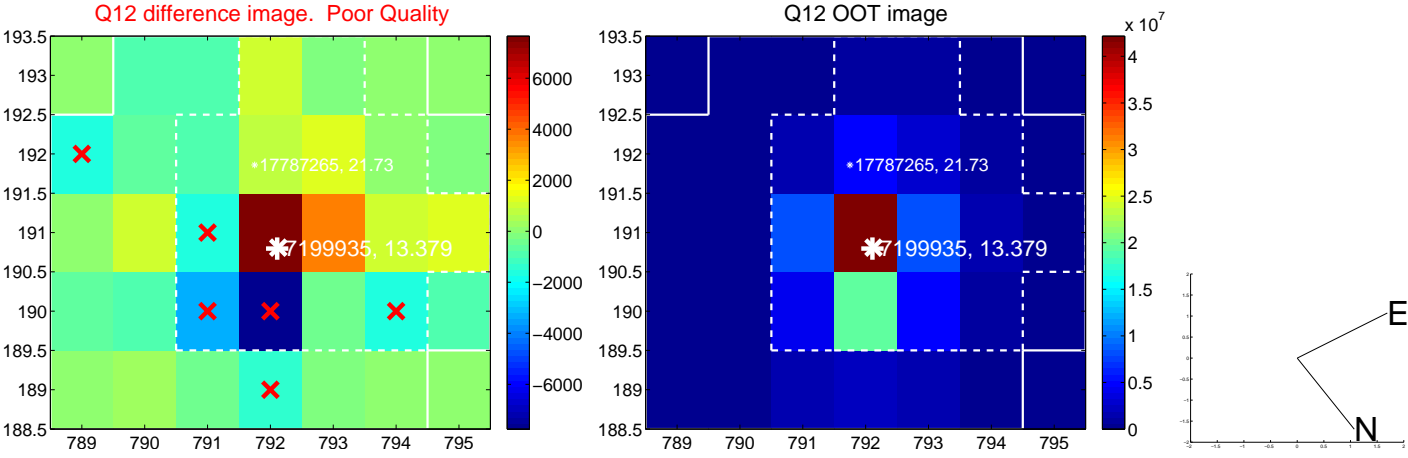
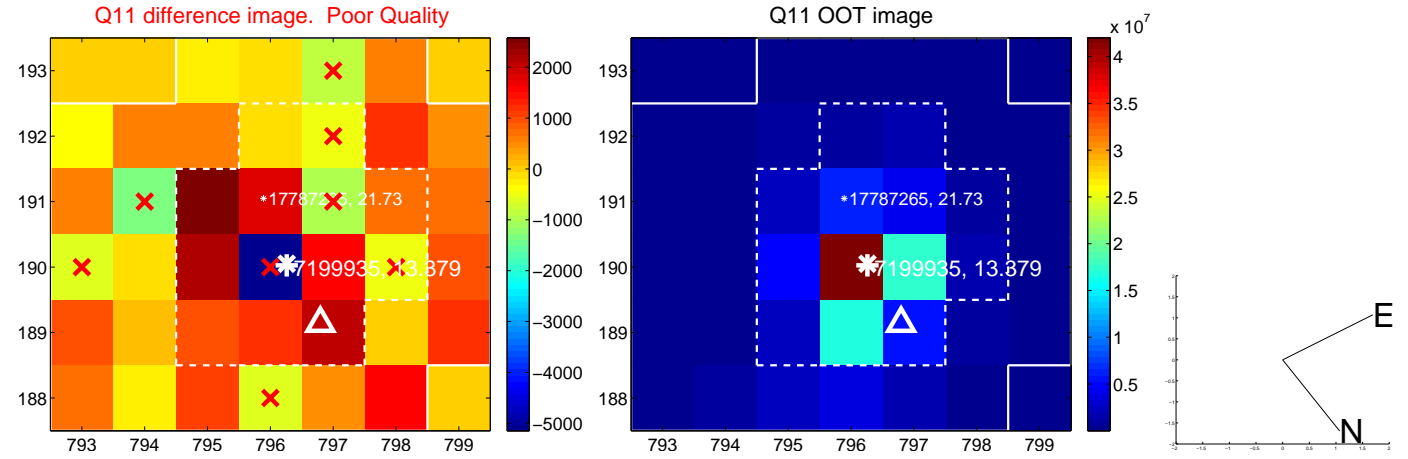
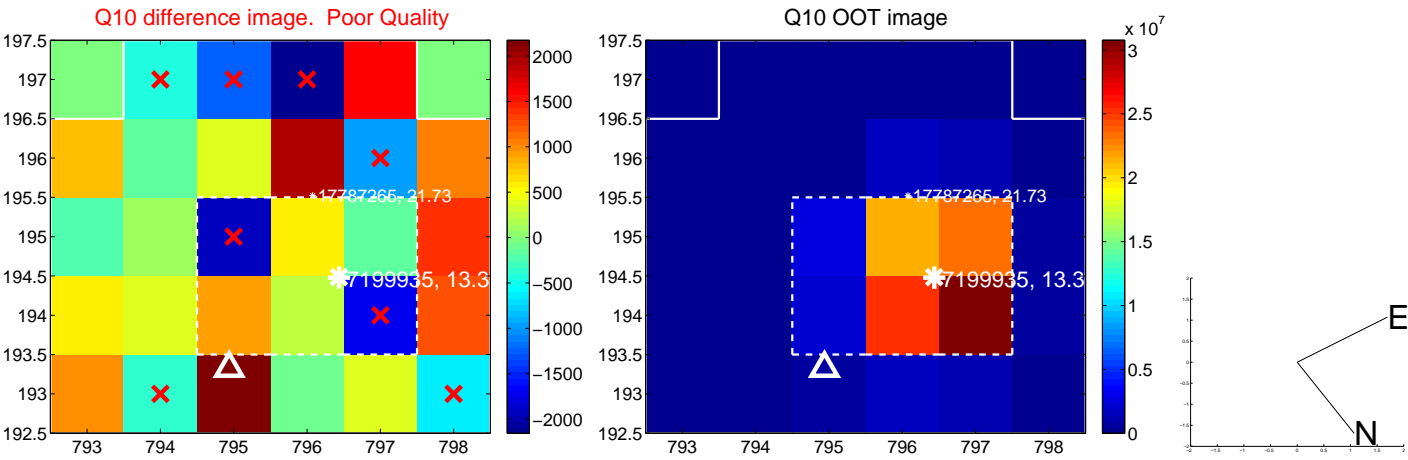
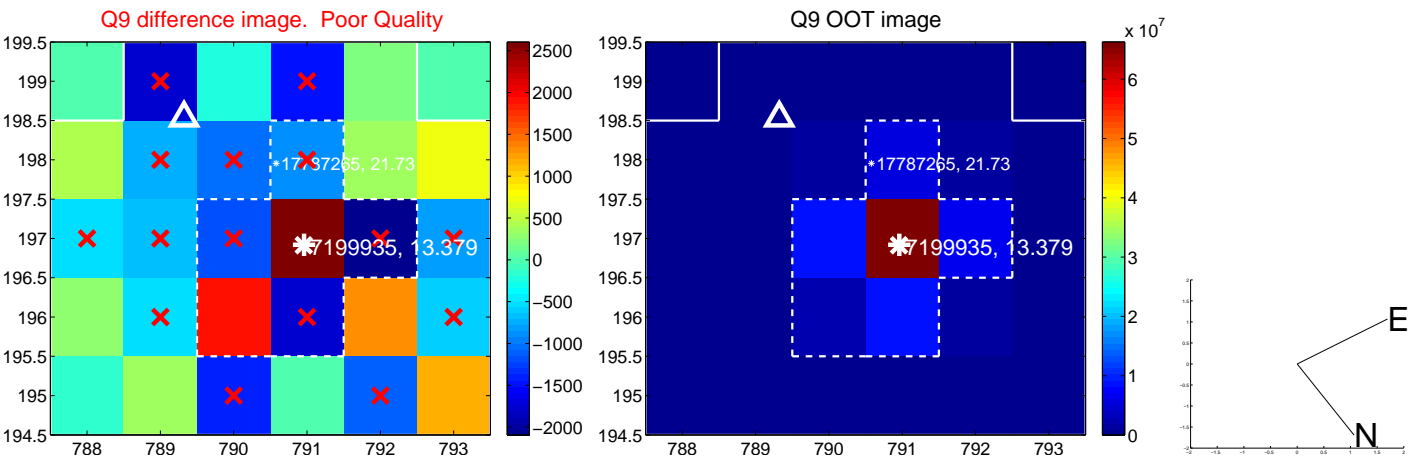




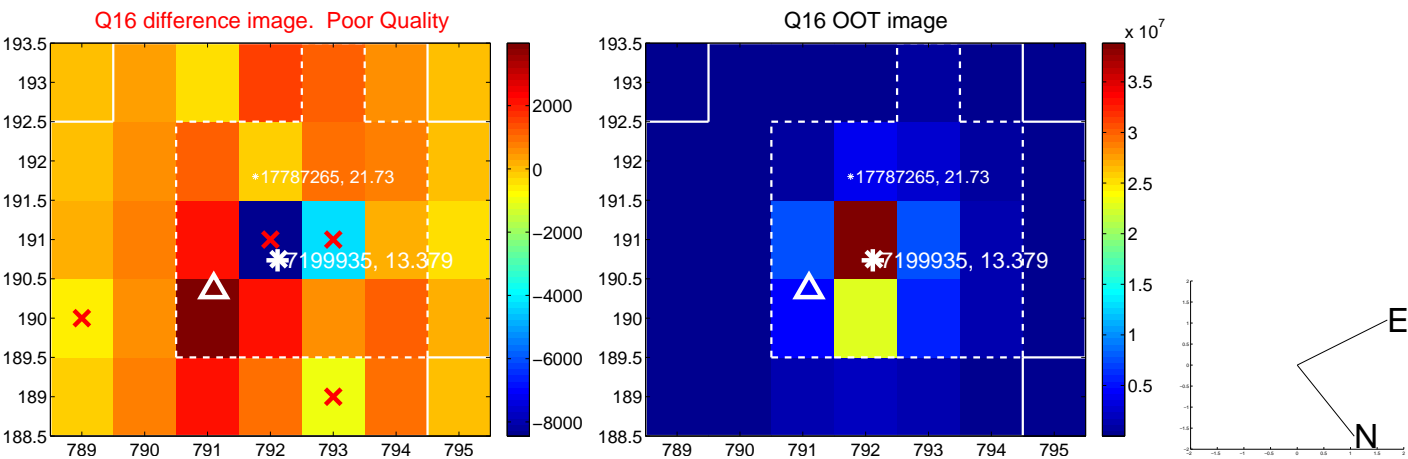
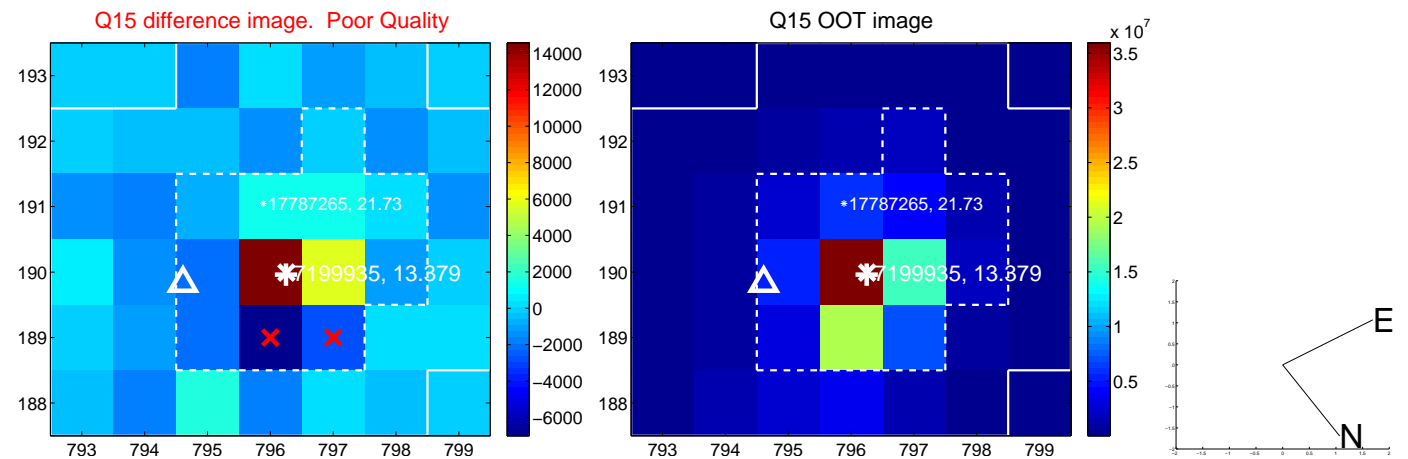
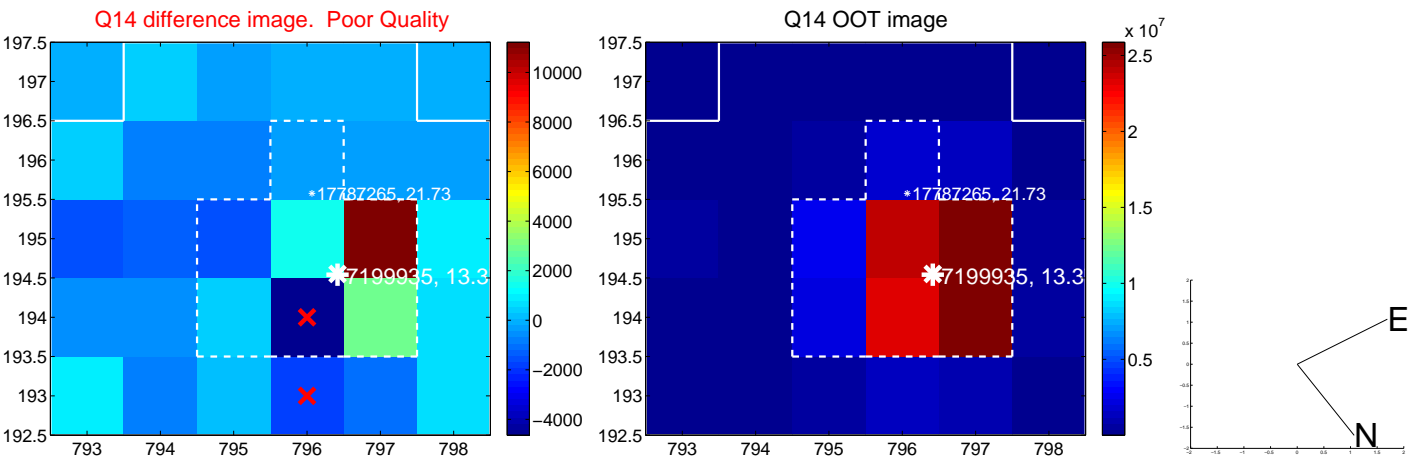
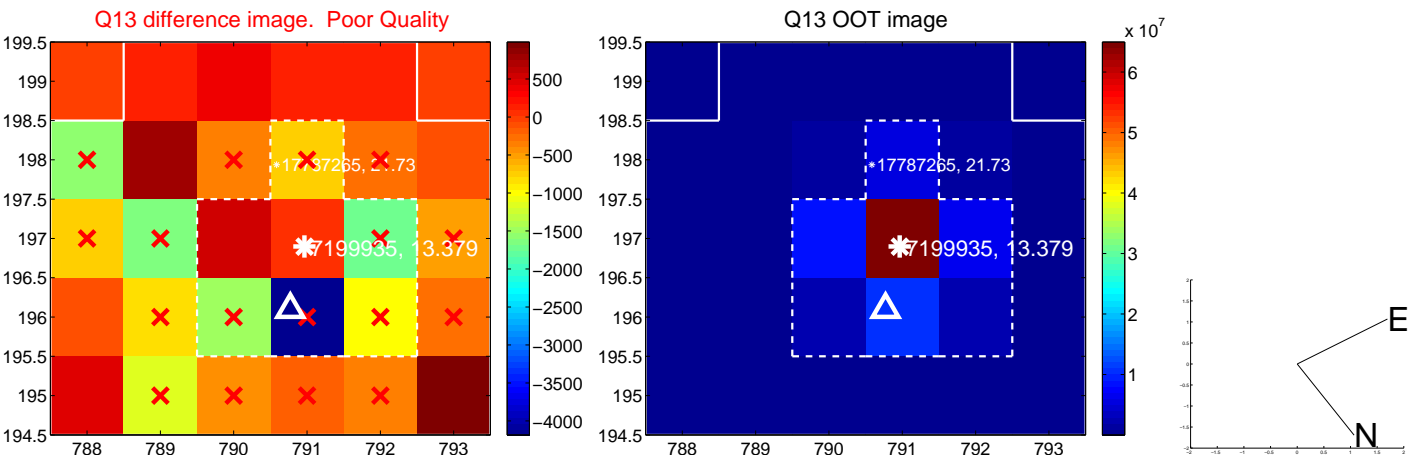
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



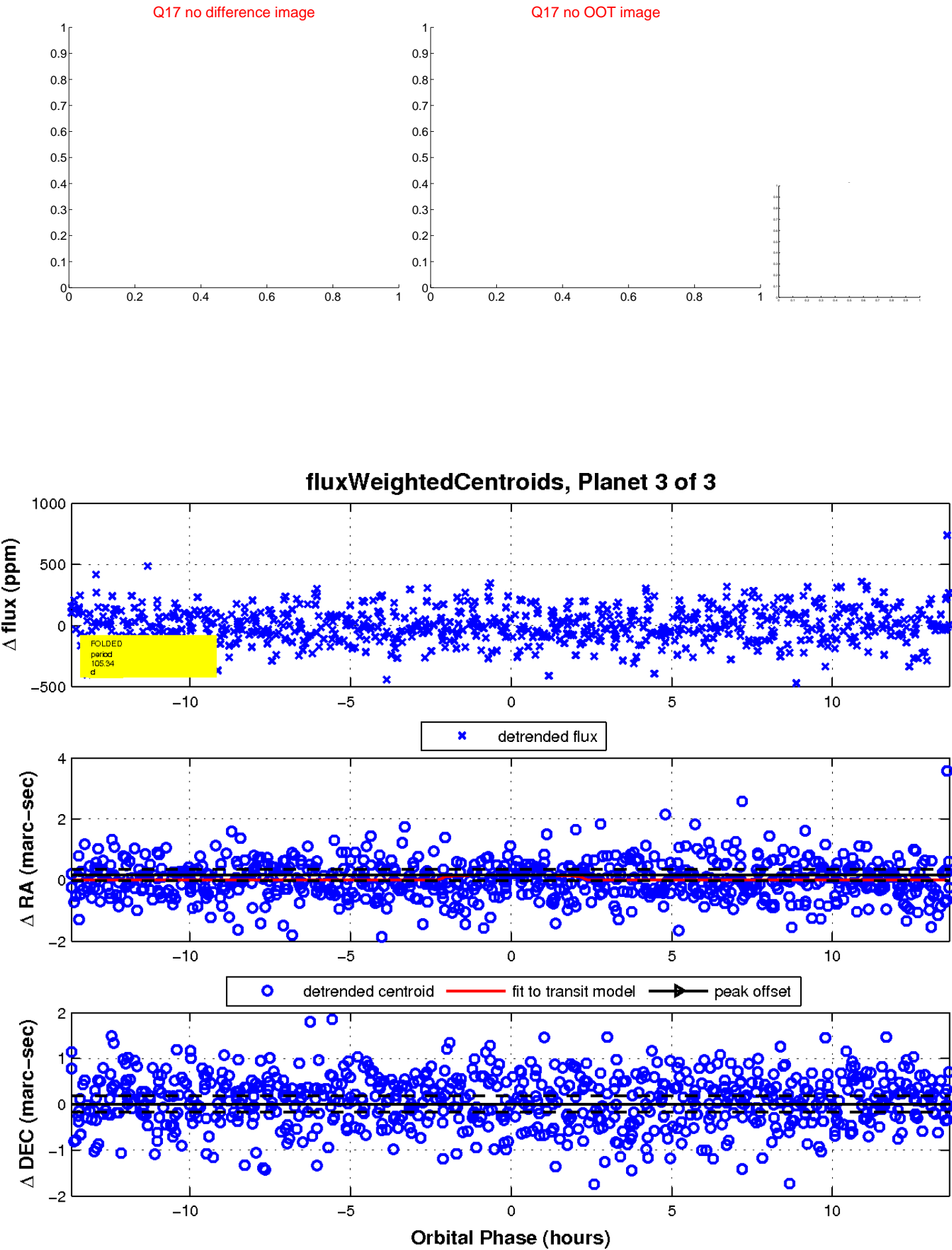
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

