

# KIC 008394756

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008394756-01	OBS	No	2.015322	133.170461	6.9	0.522	7.9	0.9	4.65	6283	1.48	20695.94
008394756-02	OBS	No	2.015568	133.055939	34.0	3.050	8.4	2.8	4.65	6283	3.17	20692.56
008394756-03	OBS	No	2.015433	133.214193	171.9	3.567	8.7	3.1	4.65	6283	12.20	20694.42

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008394756-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008394756-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
008394756-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD

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

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

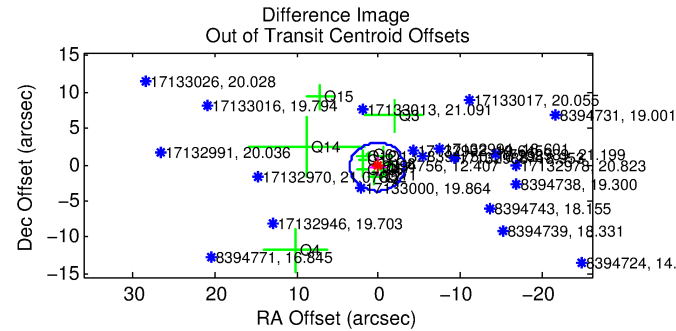
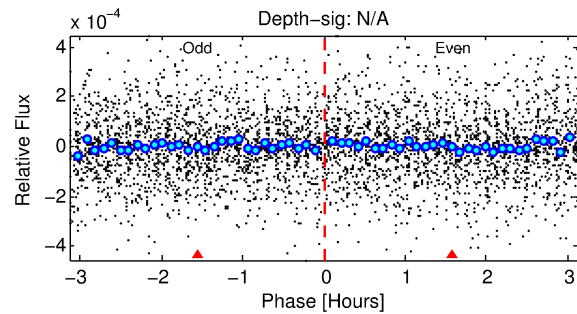
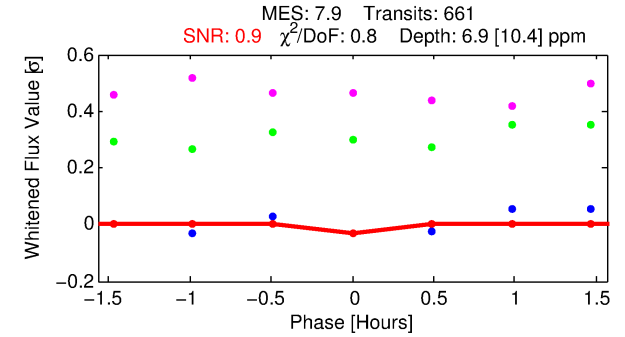
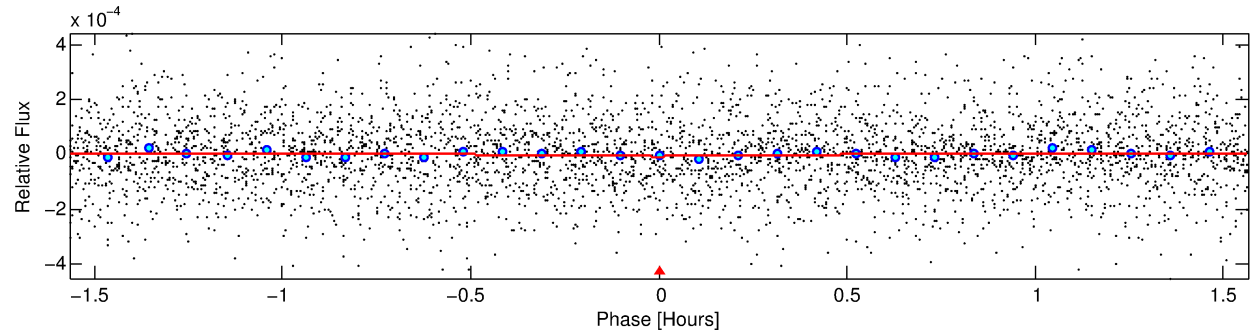
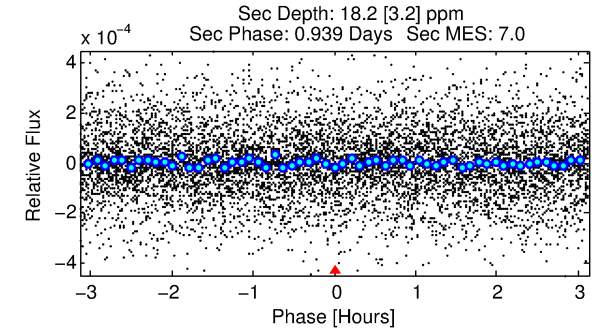
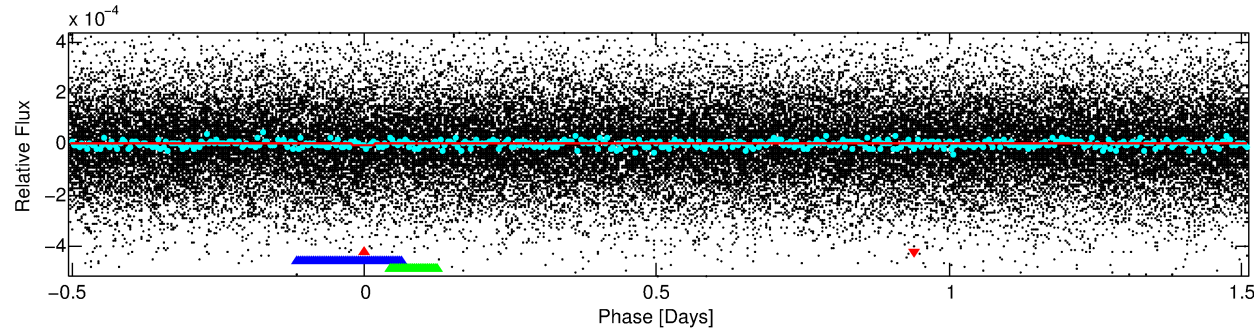
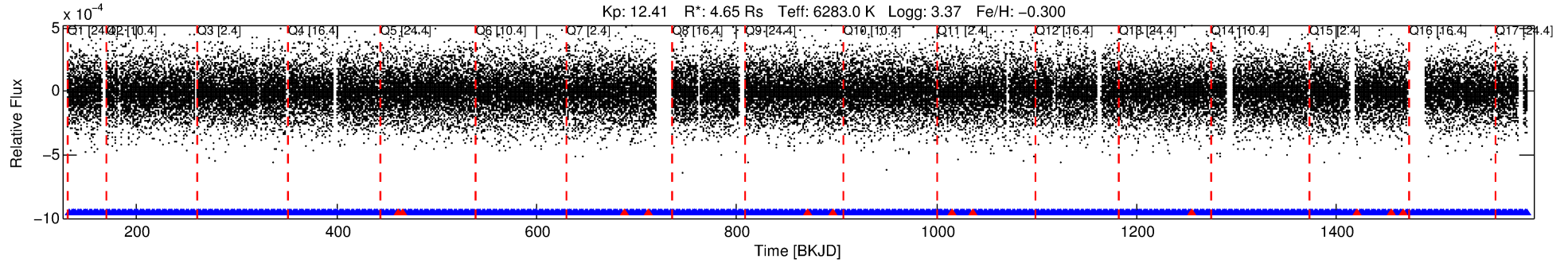
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 008394756-01

No Significant Match Found

# DV One-Page Summary

KIC: 8394756 Candidate: 1 of 3 Period: 2.015 d



## DV Fit Results:

Period = 2.01532 [0.00011] d  
Epoch = 133.1705 [0.0116] BKJD  
Rp/R\* = 0.0029 [0.0036]  
a/R\* = 13.09 [75.44]  
b = 0.90 [1.23]  
Seff = 20695.94 [14679.19]  
Teq = 3058 [542] K  
Rp = 1.48 [1.97] Re  
a = 0.0382 [0.0168] AU  
Ag = 6.63 [17.23] [0.33σ]  
Teffp = 7588 [4753] K [0.95σ]

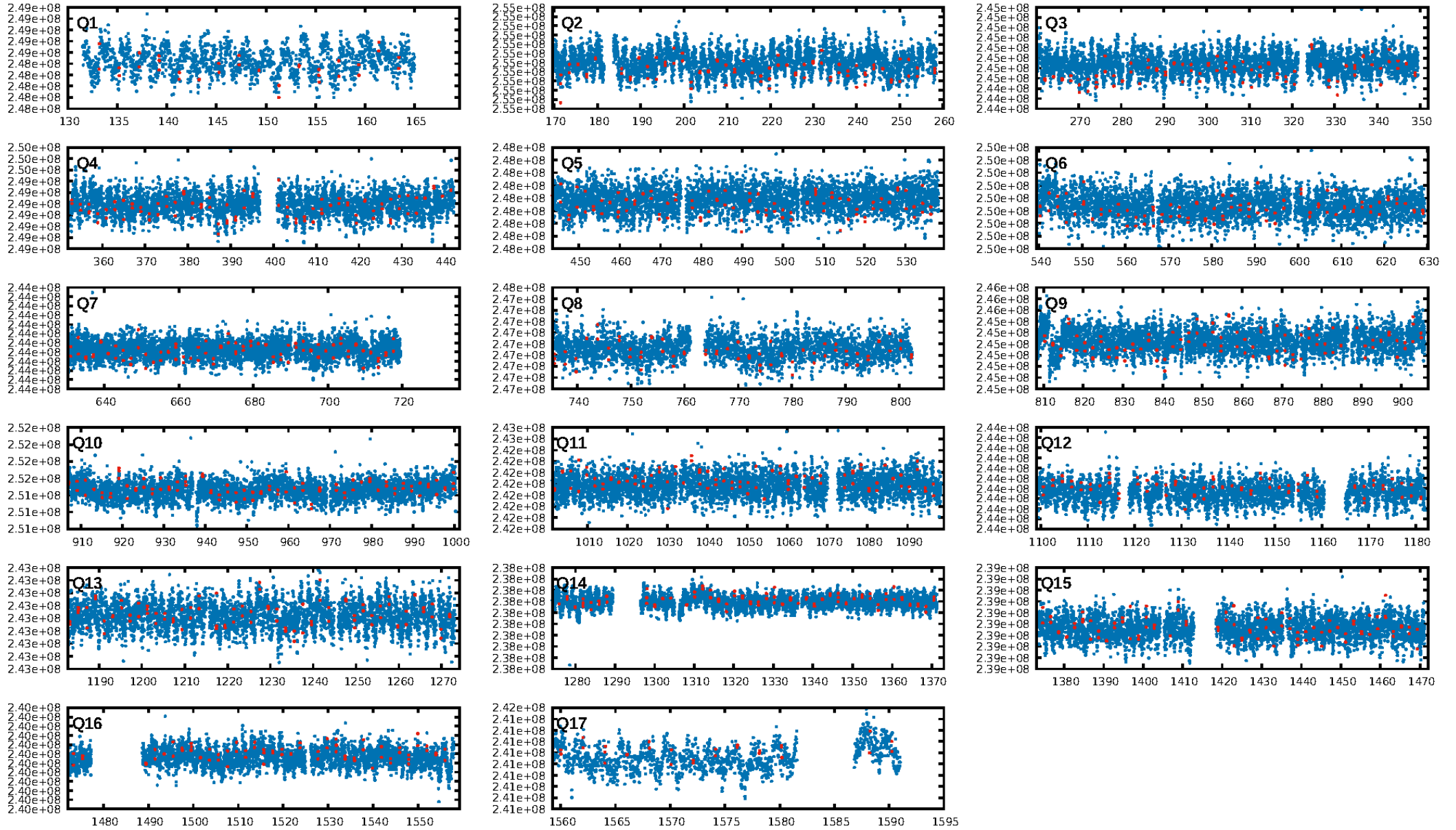
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 0.1% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 5.40e-13  
RollingBand-fgt: 0.98 [620/632]  
GhostDiagnostic-chr: 0.6979  
Centroid-sig: 20.6%  
Centroid-so: 10.356 arcsec [1.01σ]  
OotOffset-rm: 0.362 arcsec [0.33σ]  
KicOffset-rm: 0.296 arcsec [0.23σ]  
OotOffset-st: 4/4/3/4 [15]  
KicOffset-st: 4/4/3/4 [15]  
DiffImageQuality-fgm: 0.47 [7/15]  
DiffImageOverlap-fno: 0.00 [0/17]

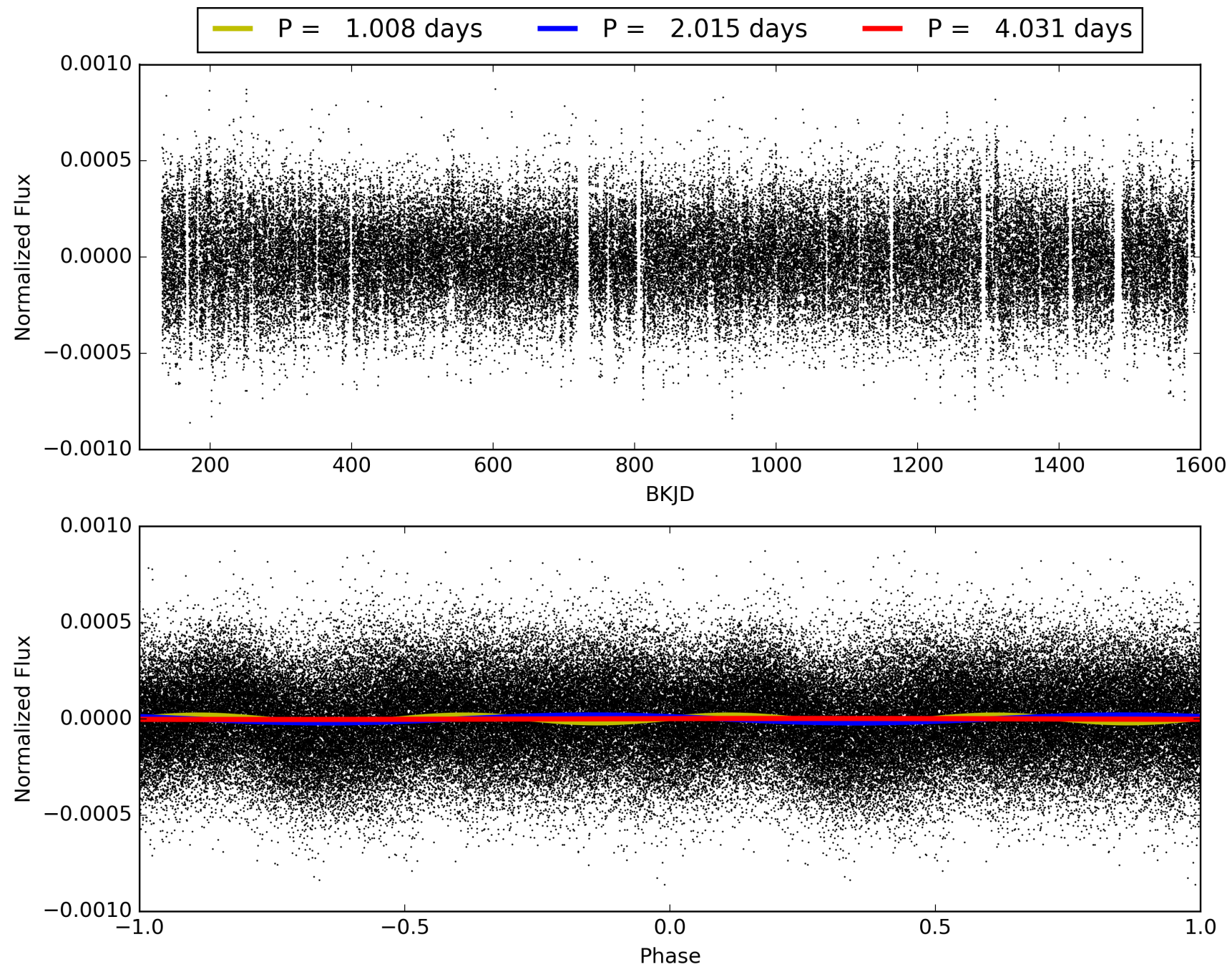
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:06:32 Z

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

# TCE 008394756-01, PDC Light Curves



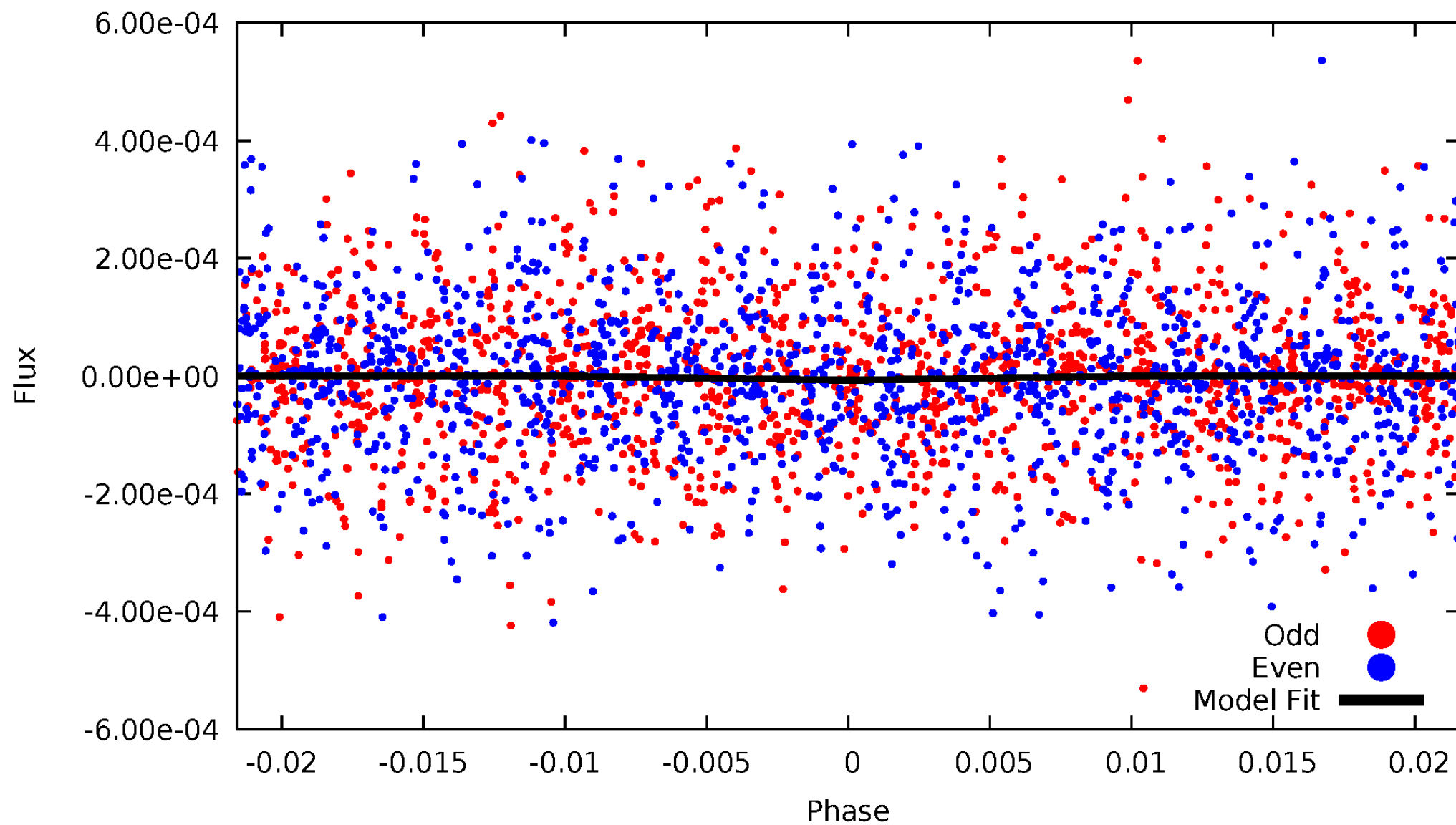
TCE 008394756-01





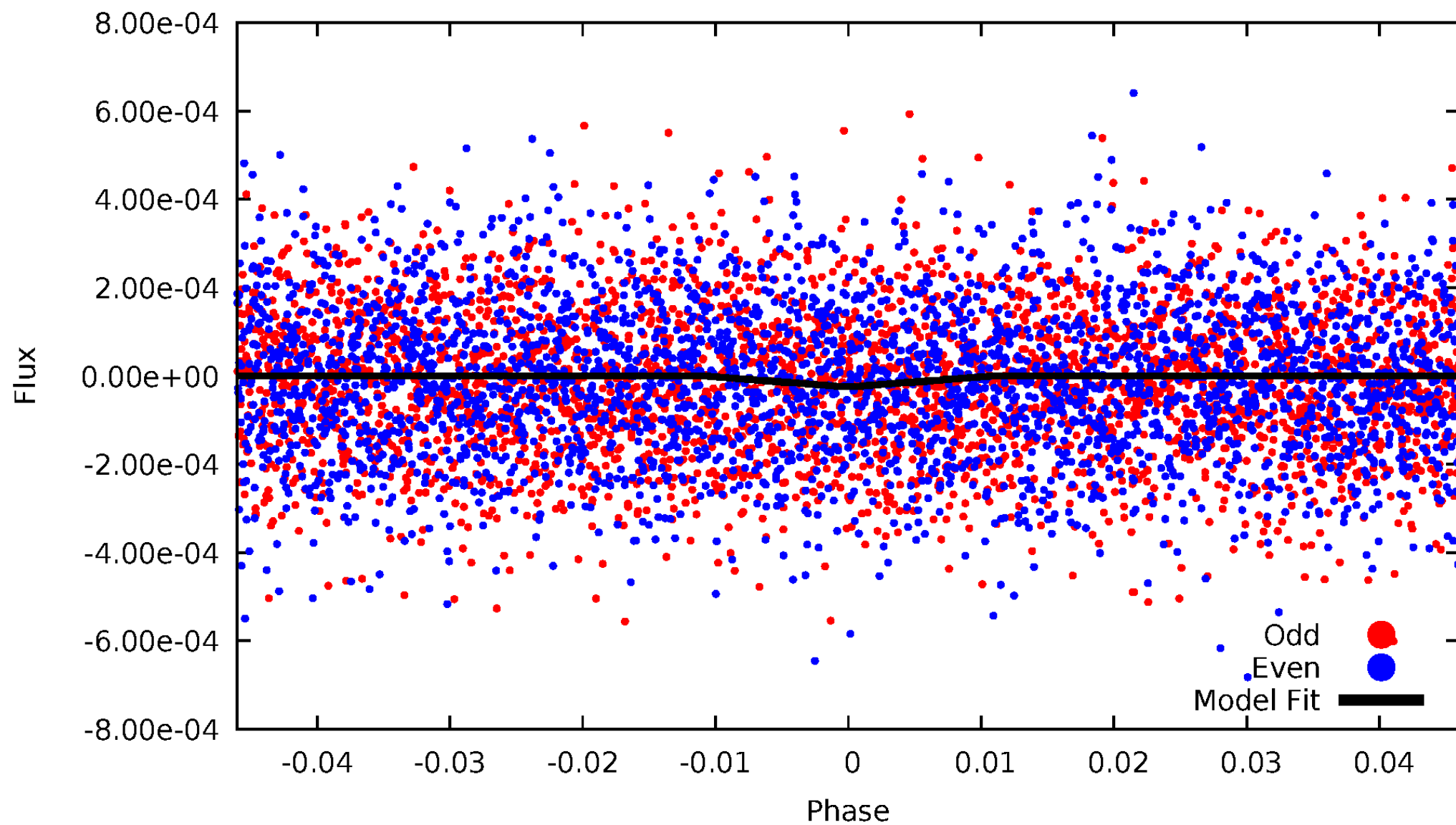
# DV Odd/Even

TCE 008394756-01

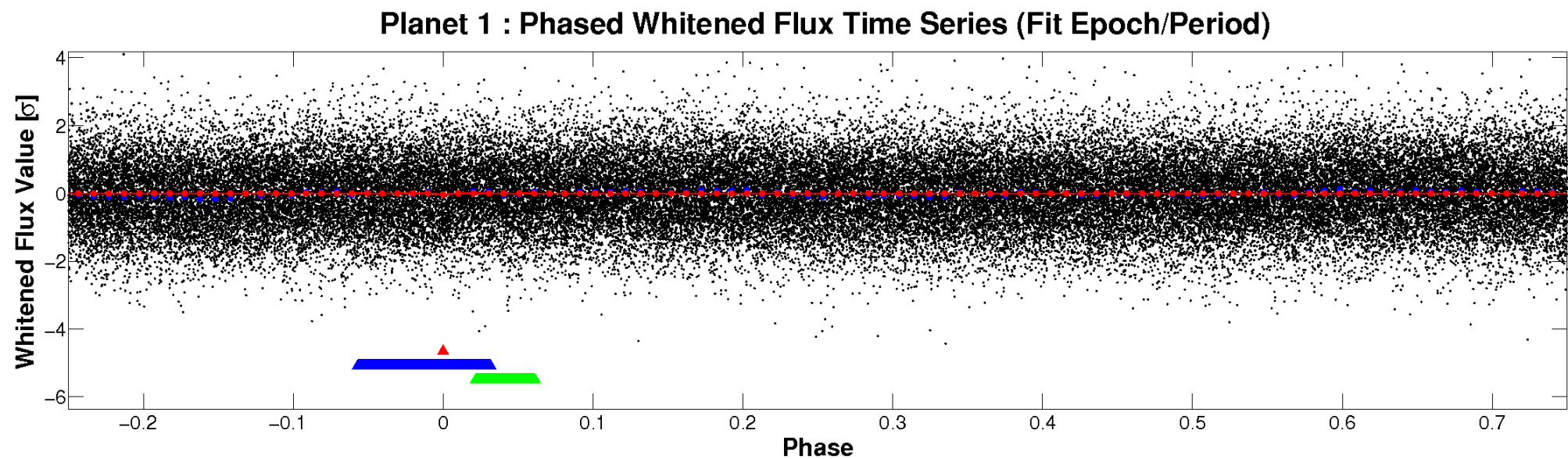
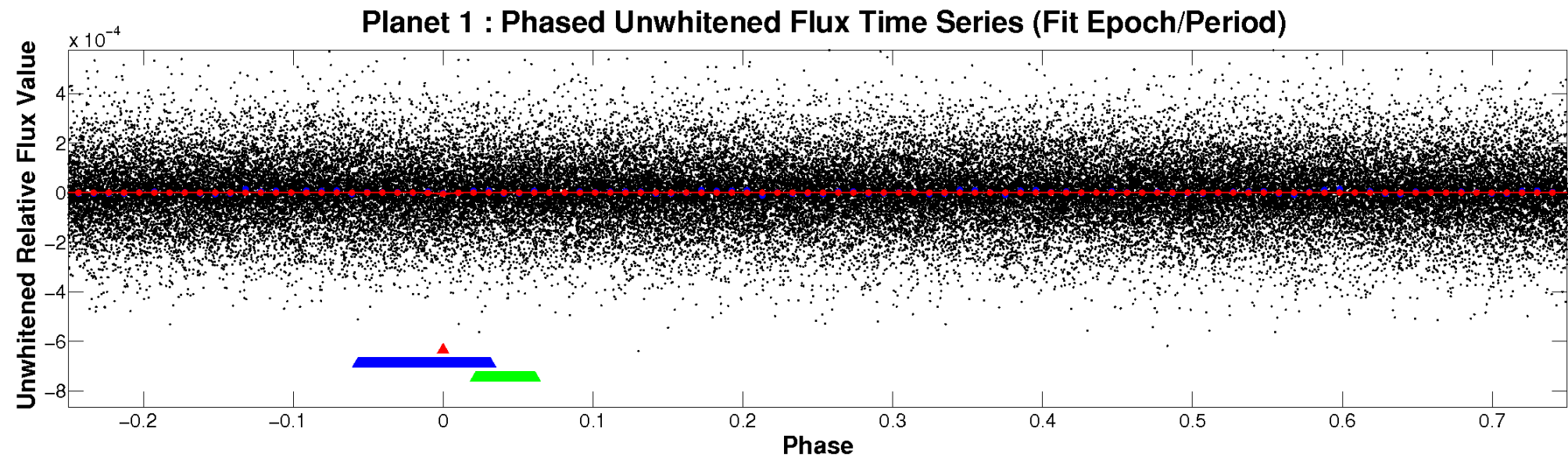


# ALT Odd/Even

TCE 008394756-01

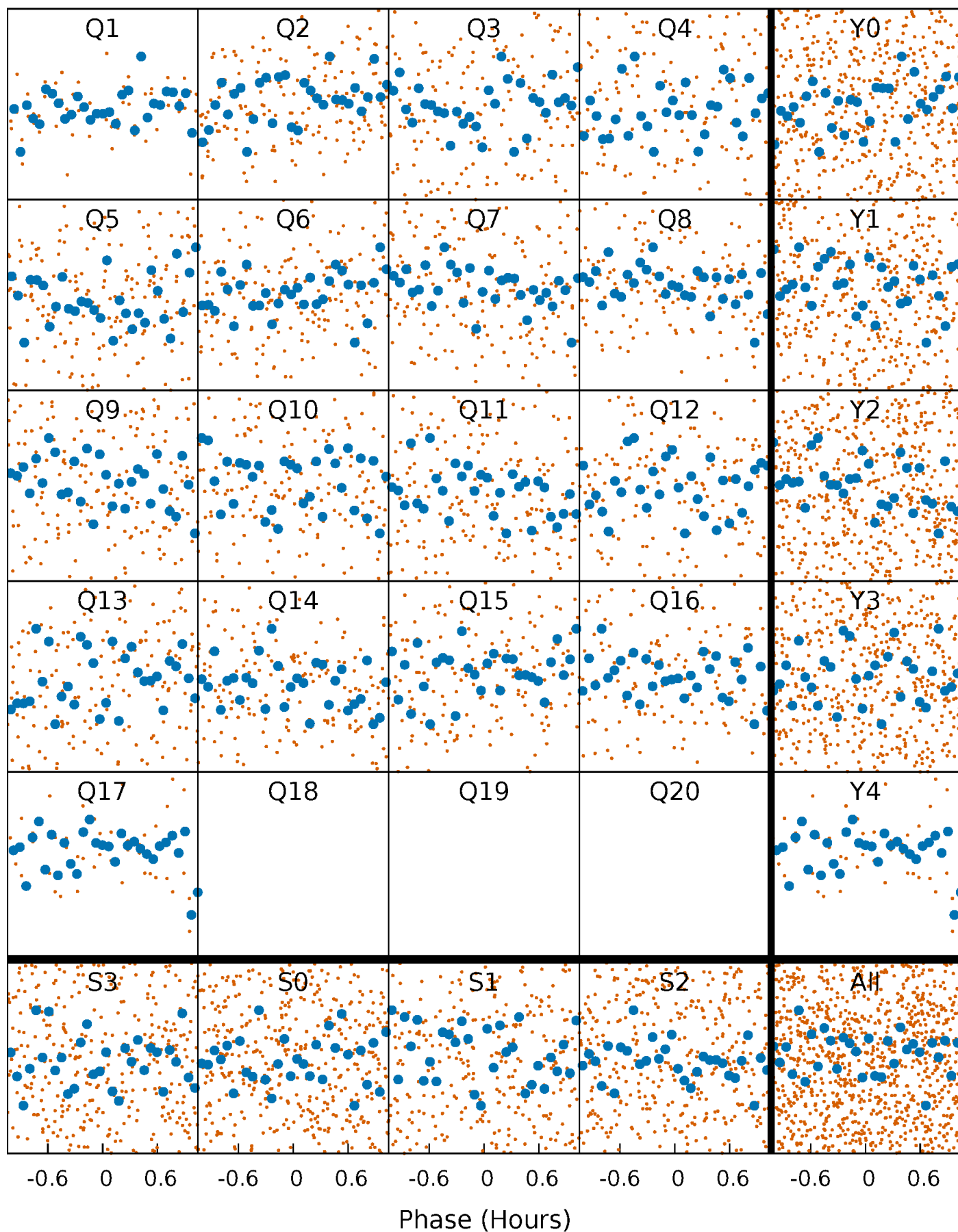


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

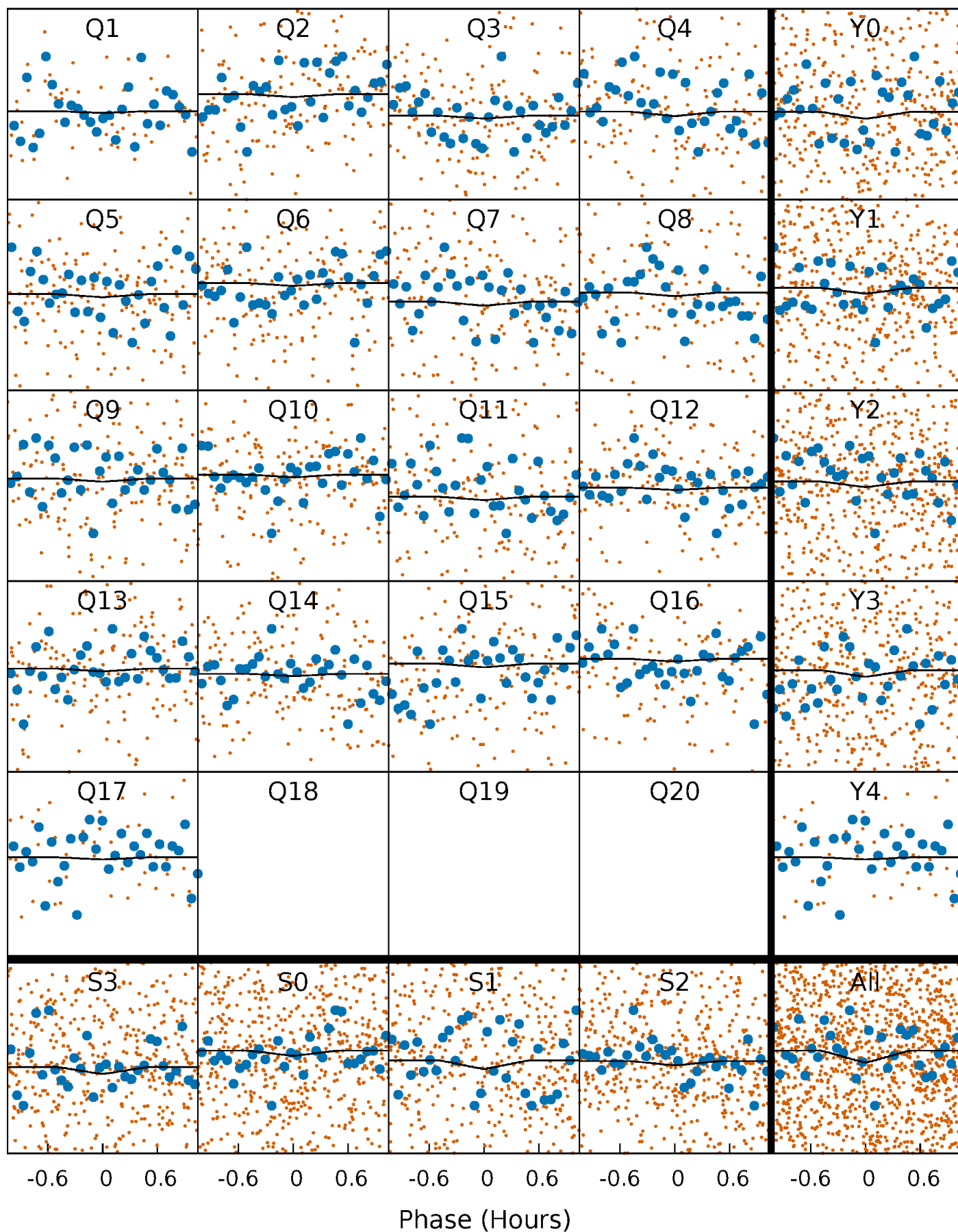
TCE 008394756-01 P= 2.015322 Days  $T_0=133.170461$  (BKJD)





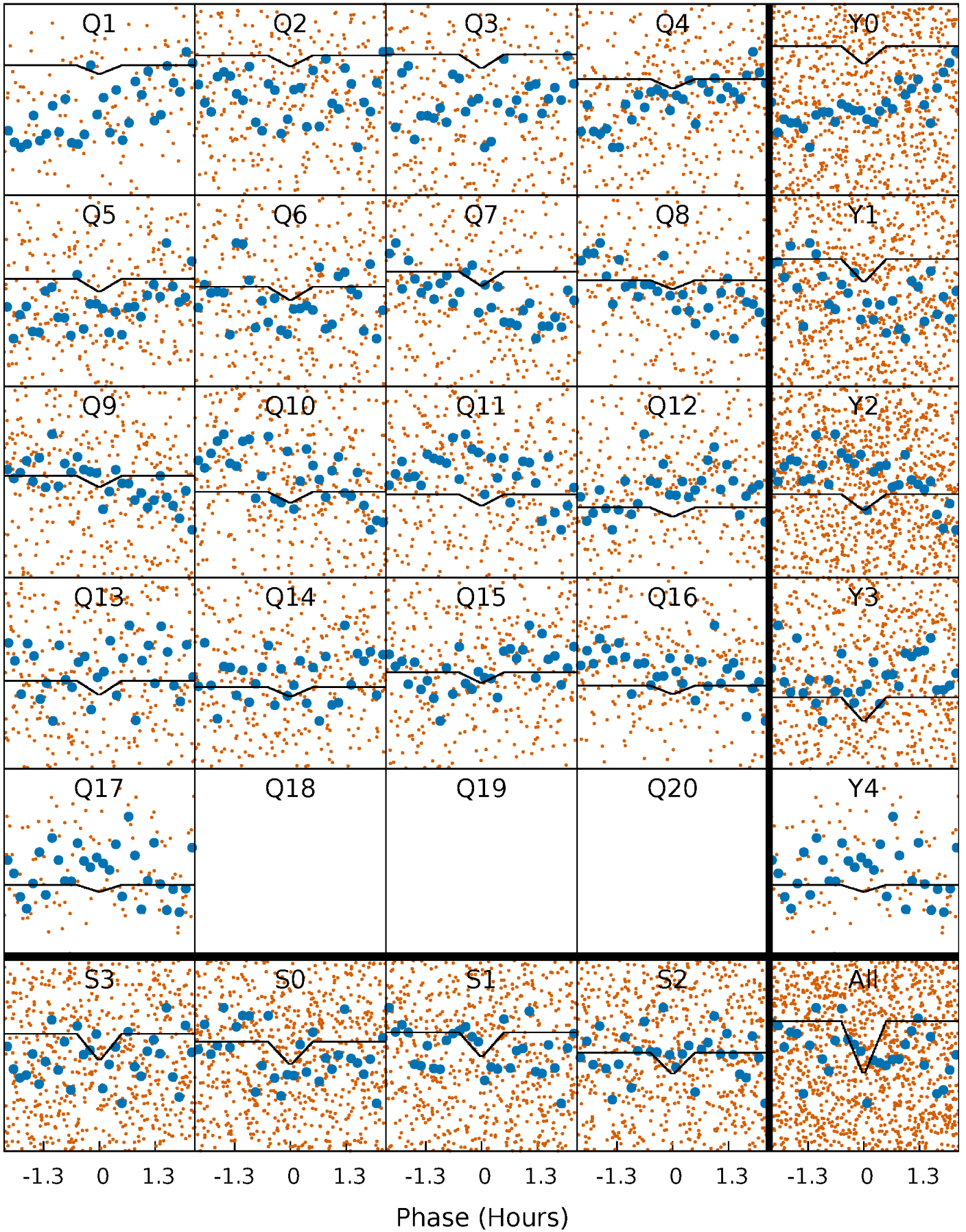
# DV Quarter-Phased Transit Curves

TCE 008394756-01   P= 2.015322 Days    $T_0=133.170461$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

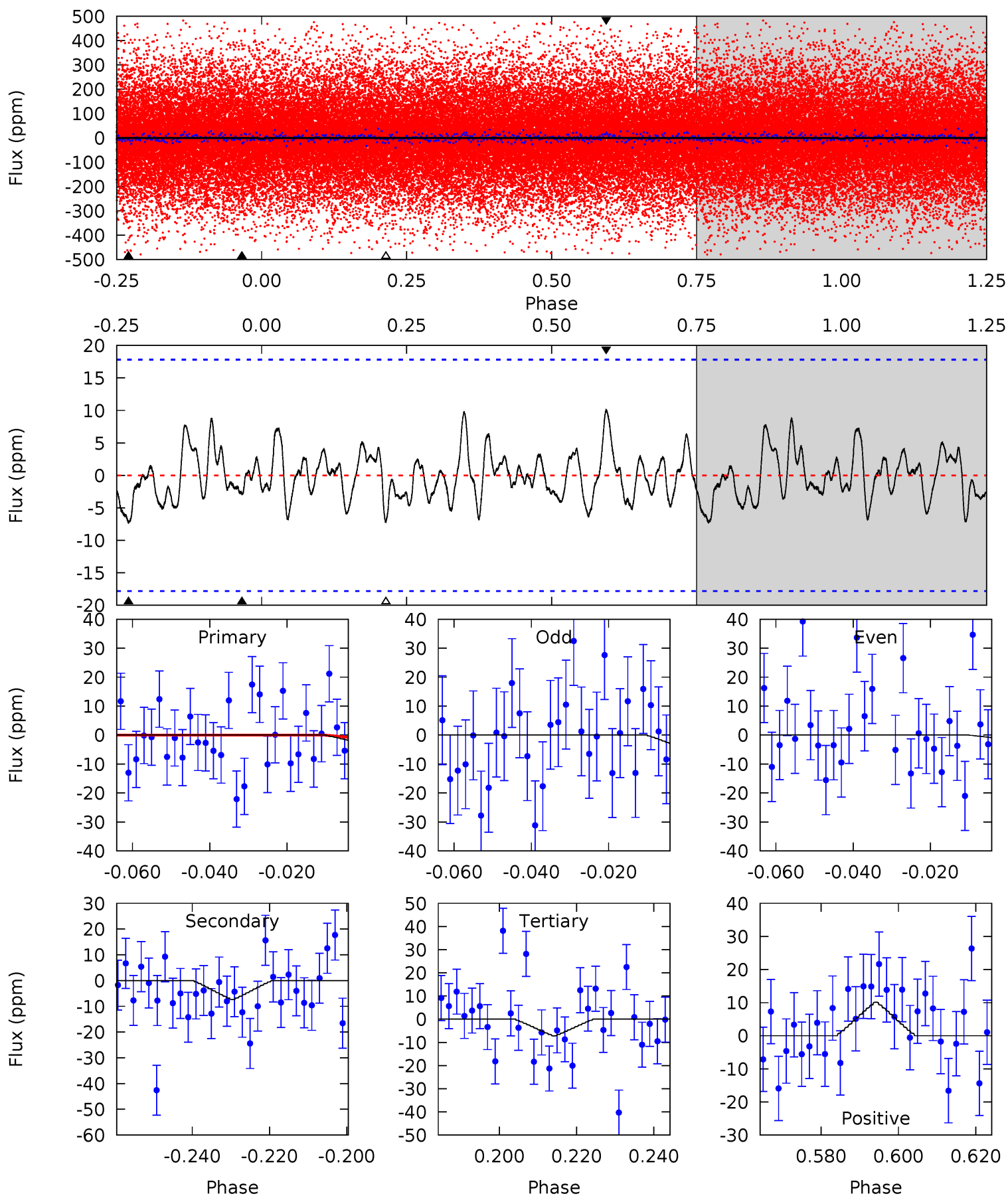
TCE 008394756-01 P= 2.015369 Days  $T_0=133.153633$  (BKJD)



# DV Model-Shift Uniqueness Test

008394756-01, P = 2.015322 Days, E = 131.155139 Days

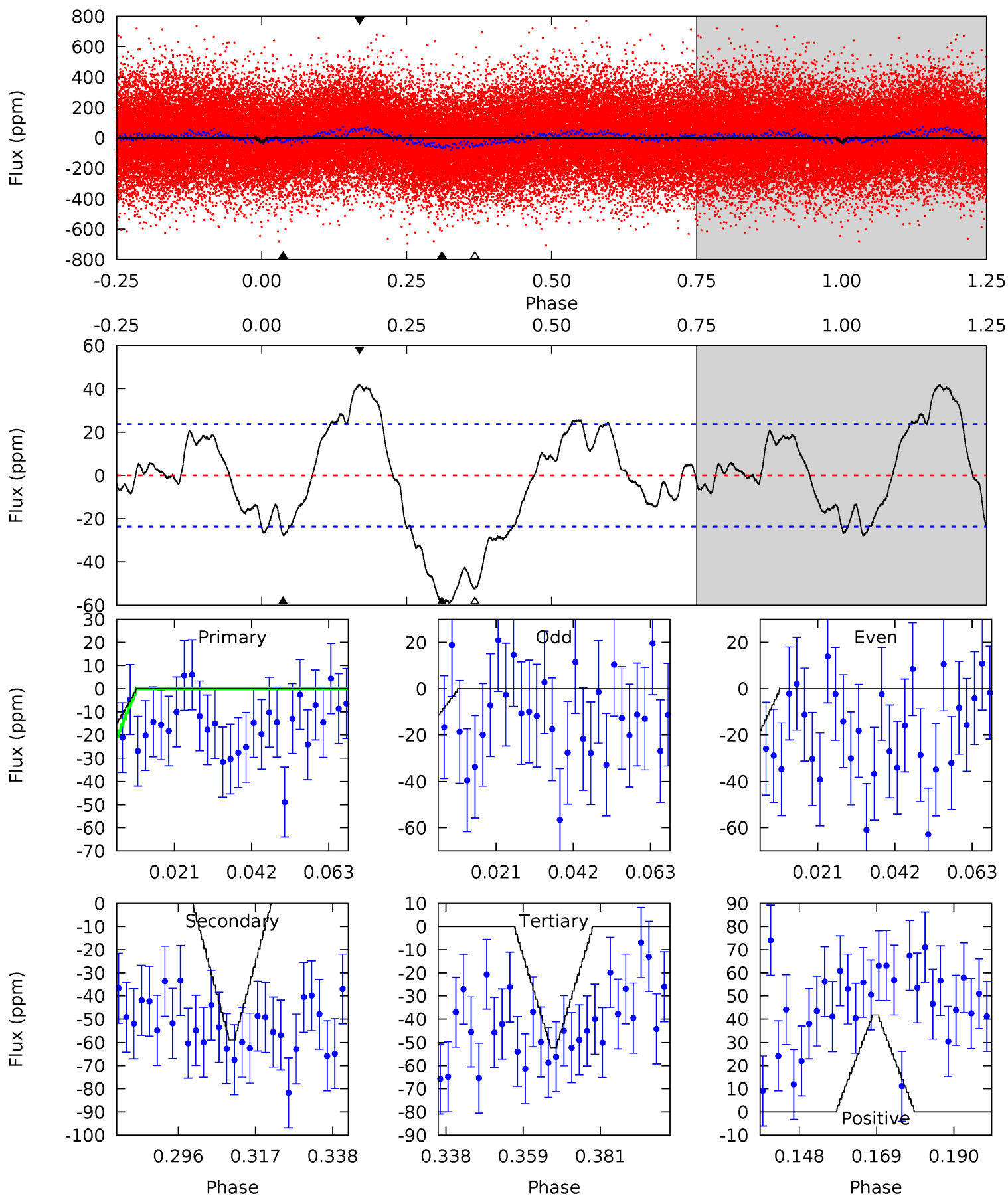
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.82	2.02	1.98	2.78	4.89	2.33	0.93	-1.15	-1.96	0.05	-0.76	0.45	0.34	0.58	0.48



# Alt Model-Shift Uniqueness Test

008394756-01, P = 2.015369 Days, E = 131.138264 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
5.70	12.1	10.8	8.60	4.88	2.31	4.43	-5.07	-2.91	1.37	3.53	1.32	1.36	0.41	2.36





### Stellar Parameters For KIC 008394756

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6283^{+168}_{-187}$	$3.365^{+0.408}_{-0.076}$	$-0.300^{+0.400}_{-0.300}$	$4.647^{+0.578}_{-2.167}$	$1.825^{+0.131}_{-0.523}$	$0.026^{+0.096}_{-0.007}$
	+3%/-3%	+12%/-2%	+133%/-100%	+12%/-47%	+7%/-29%	+375%/-26%
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 008394756-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-7 \pm 4$	$1.76^{+1.61}_{-1.17}$	$4176^{+234}_{-459}$	$4850^{+4227}_{-1688}$	$1.634^{+11.884}_{-1.236}$
Alt.	$-59 \pm 5$	$2.16^{+1.86}_{-1.29}$	$4162^{+256}_{-508}$	$7808^{+8493}_{-2109}$	$9.779^{+47.000}_{-6.890}$

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

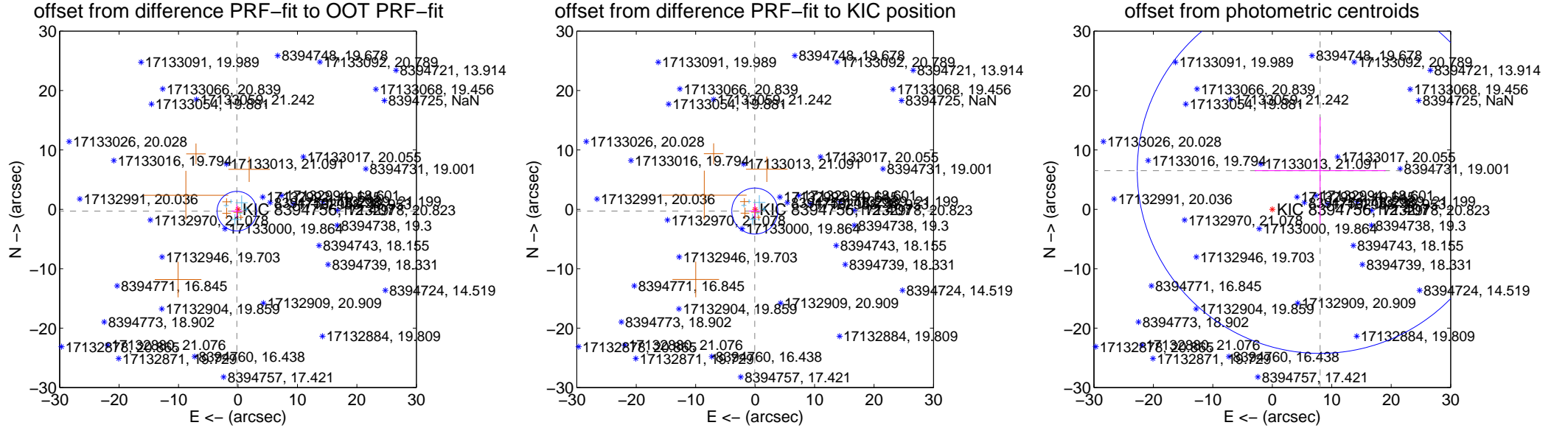
## DV Centroid Data

Supplemental centroid analysis for 008394756-01. Kepler magnitude: 12.41. Transit SNR 0.90

There are 7 quarters with good PRF difference image offsets

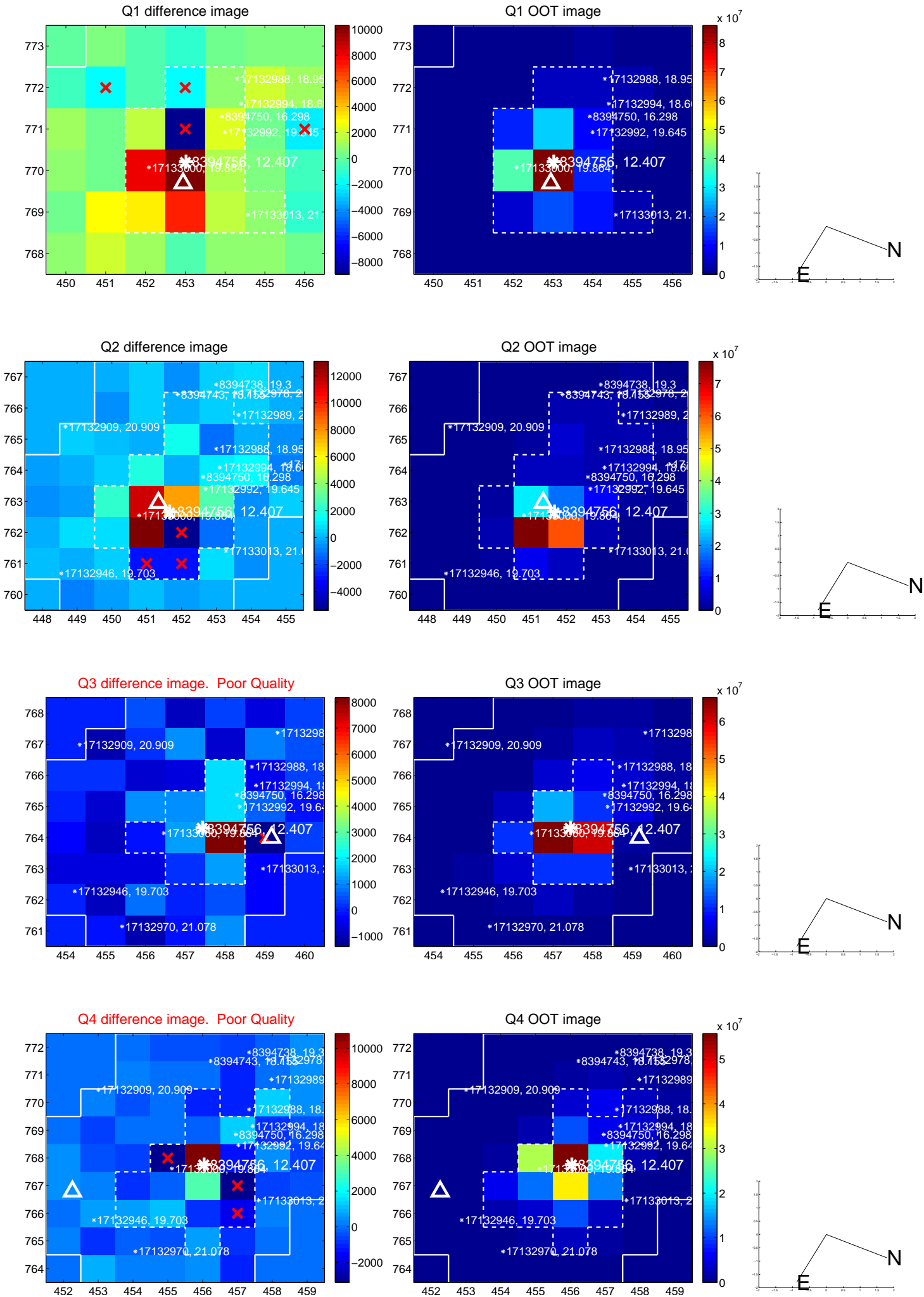
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.362 \pm 1.110$	0.33	$0.193 \pm 0.907$	$-0.306 \pm 1.105$
PRF-fit source offset from KIC position	$0.296 \pm 1.291$	0.23	$0.059 \pm 0.962$	$-0.290 \pm 1.254$
photometric centroid source offset	$10.36 \pm 10.25$	1.01	$-8.05 \pm 11.01$	$6.52 \pm 8.98$

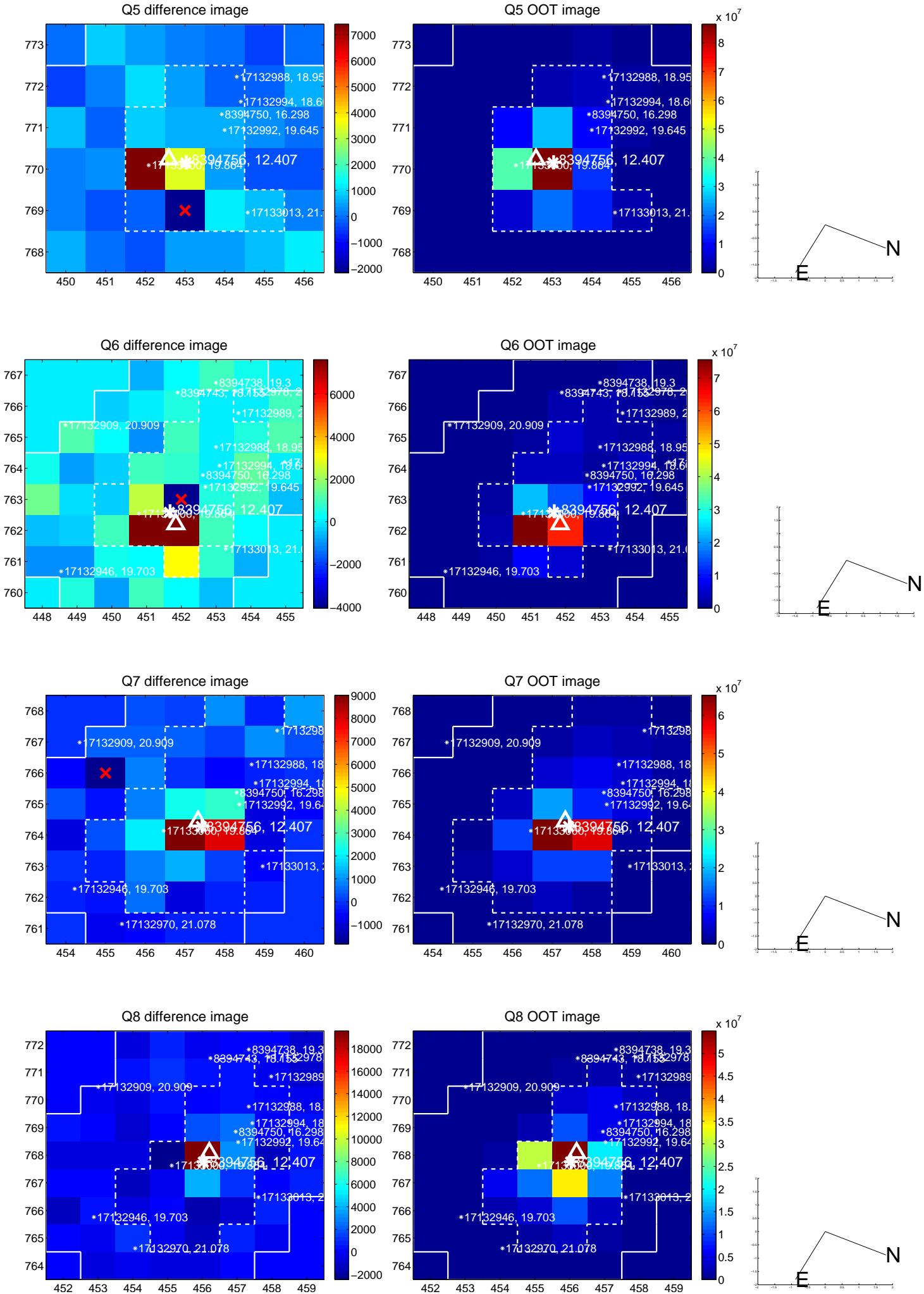


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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





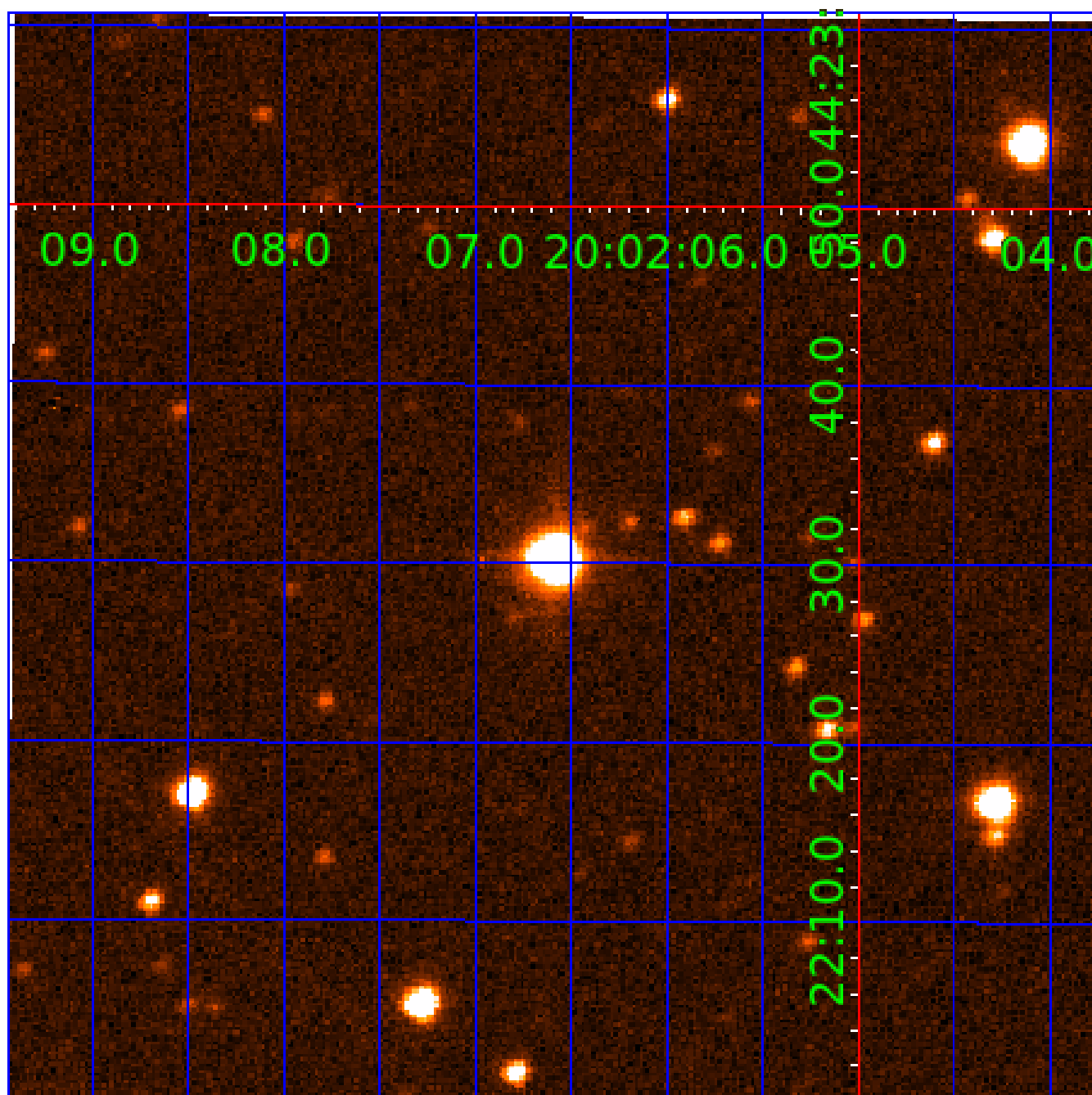






UKIRT Image

Declination





# KIC 008394756

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008394756-01	OBS	No	2.015322	133.170461	6.9	0.522	7.9	0.9	4.65	6283	1.48	20695.94
008394756-02	OBS	No	2.015568	133.055939	34.0	3.050	8.4	2.8	4.65	6283	3.17	20692.56
008394756-03	OBS	No	2.015433	133.214193	171.9	3.567	8.7	3.1	4.65	6283	12.20	20694.42

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008394756-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008394756-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
008394756-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD

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

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

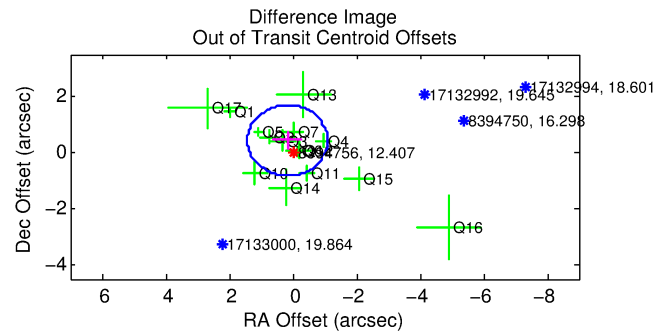
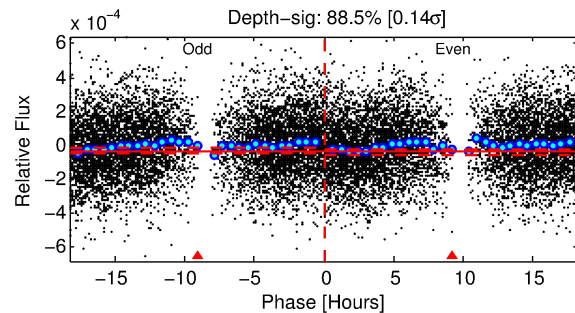
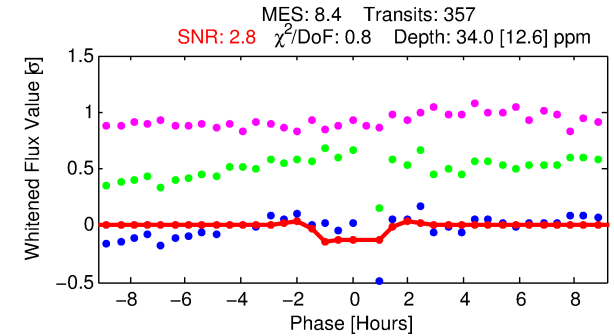
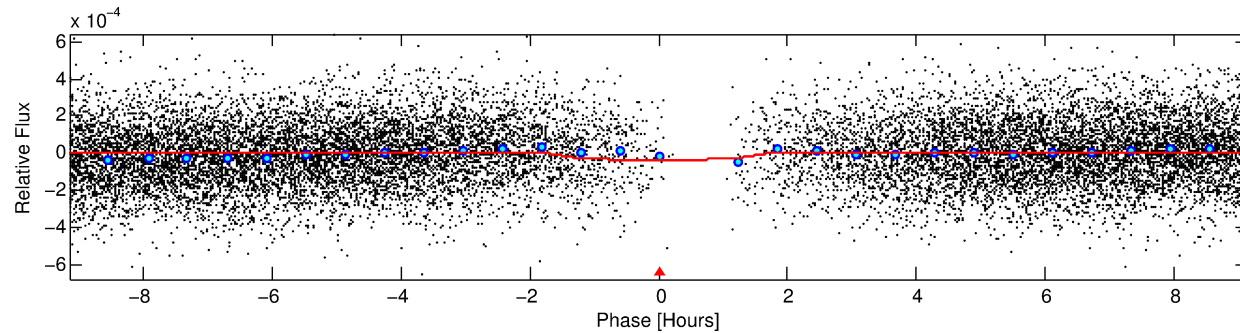
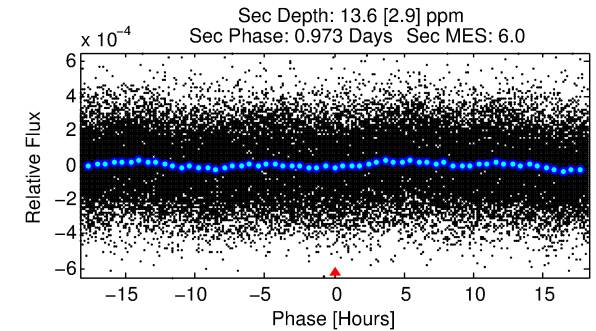
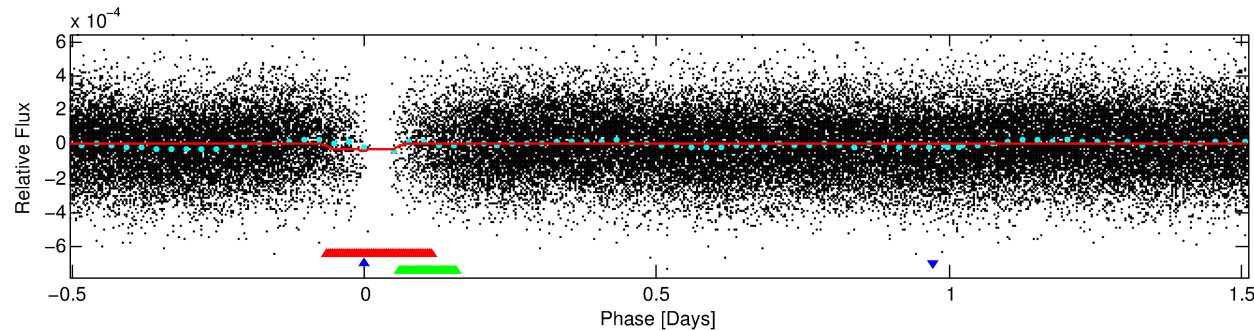
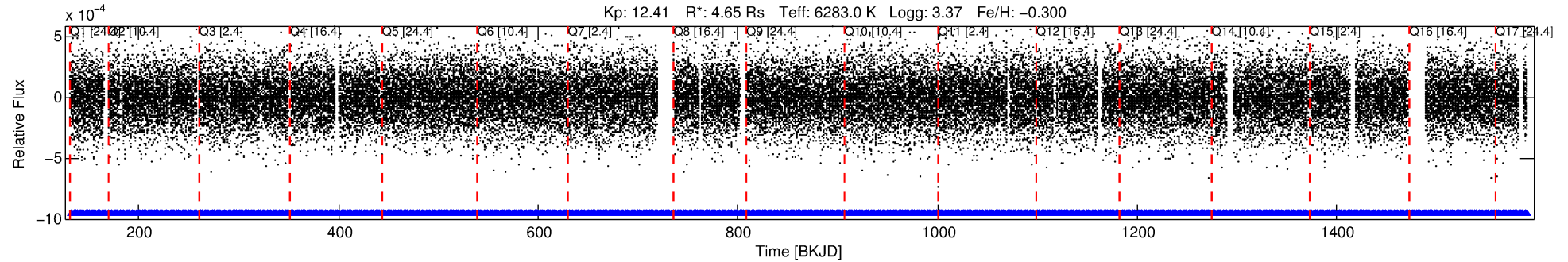
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008394756-02

No Significant Match Found

# DV One-Page Summary

KIC: 8394756 Candidate: 2 of 3 Period: 2.016 d



## DV Fit Results:

Period = 2.01557 [0.00003] d  
Epoch = 133.0559 [0.0082] BKJD  
Rp/R\* = 0.0063 [0.0051]  
a/R\* = 2.46 [9.23]  
b = 0.90 [0.96]  
Seff = 20692.57 [14676.79]  
Teq = 3058 [542] K  
Rp = 3.17 [2.96] Re  
a = 0.0382 [0.0168] AU  
Ag = 1.09 [1.92] [0.04σ]  
Teffp = 4826 [1972] K [0.86σ]

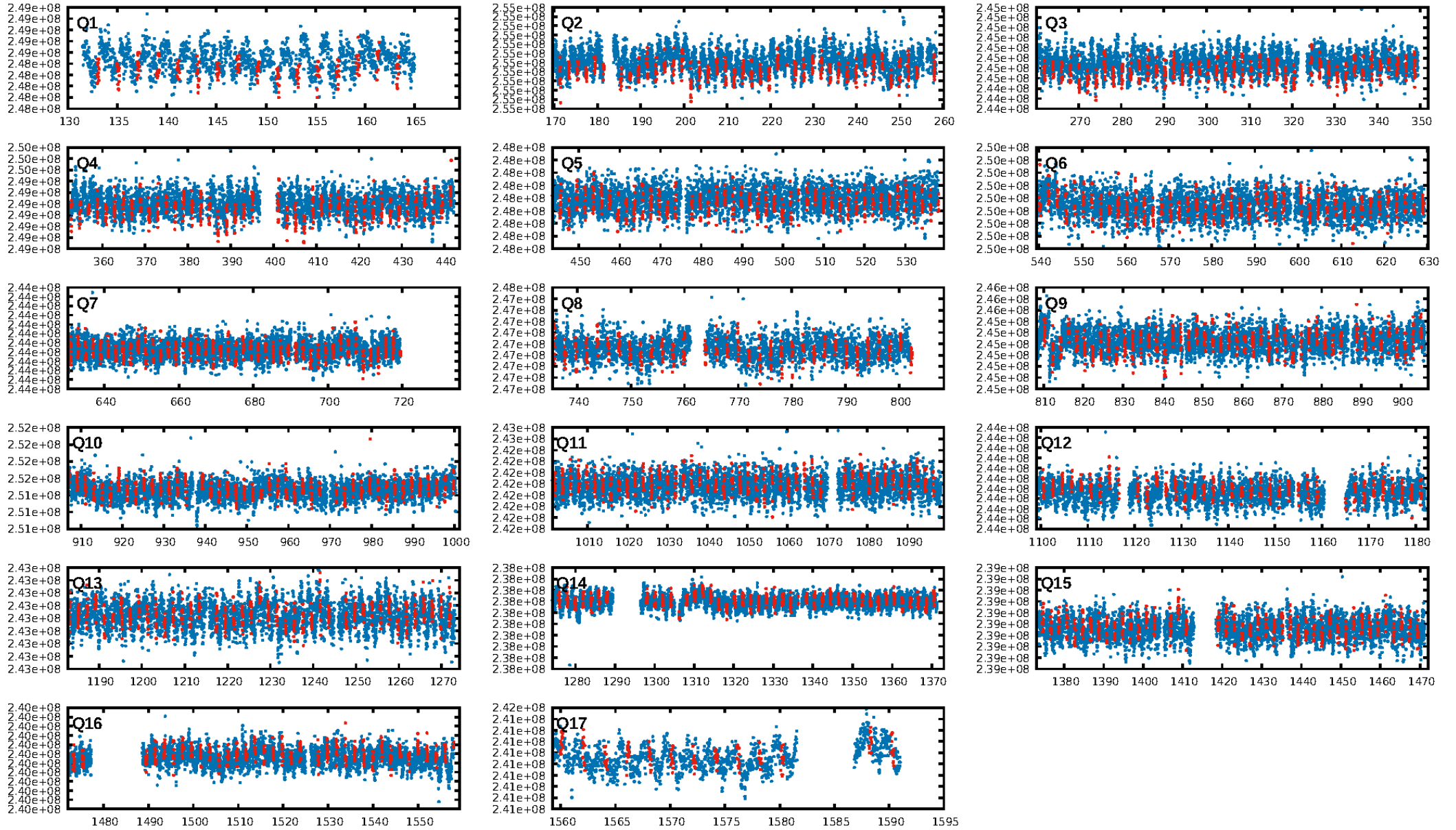
## DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.54e-14  
RollingBand-fgt: 1.00 [328/328]  
GhostDiagnostic-chr: 10.5  
Centroid-sig: 3.2%  
Centroid-so: 1.694 arcsec [1.88σ]  
OotOffset-rm: 0.466 arcsec [1.11σ]  
KicOffset-rm: 0.470 arcsec [1.20σ]  
OotOffset-st: 4/4/3/4 [15]  
KicOffset-st: 4/4/3/4 [15]  
DiffImageQuality-fgm: 0.67 [10/15]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:06:39 Z

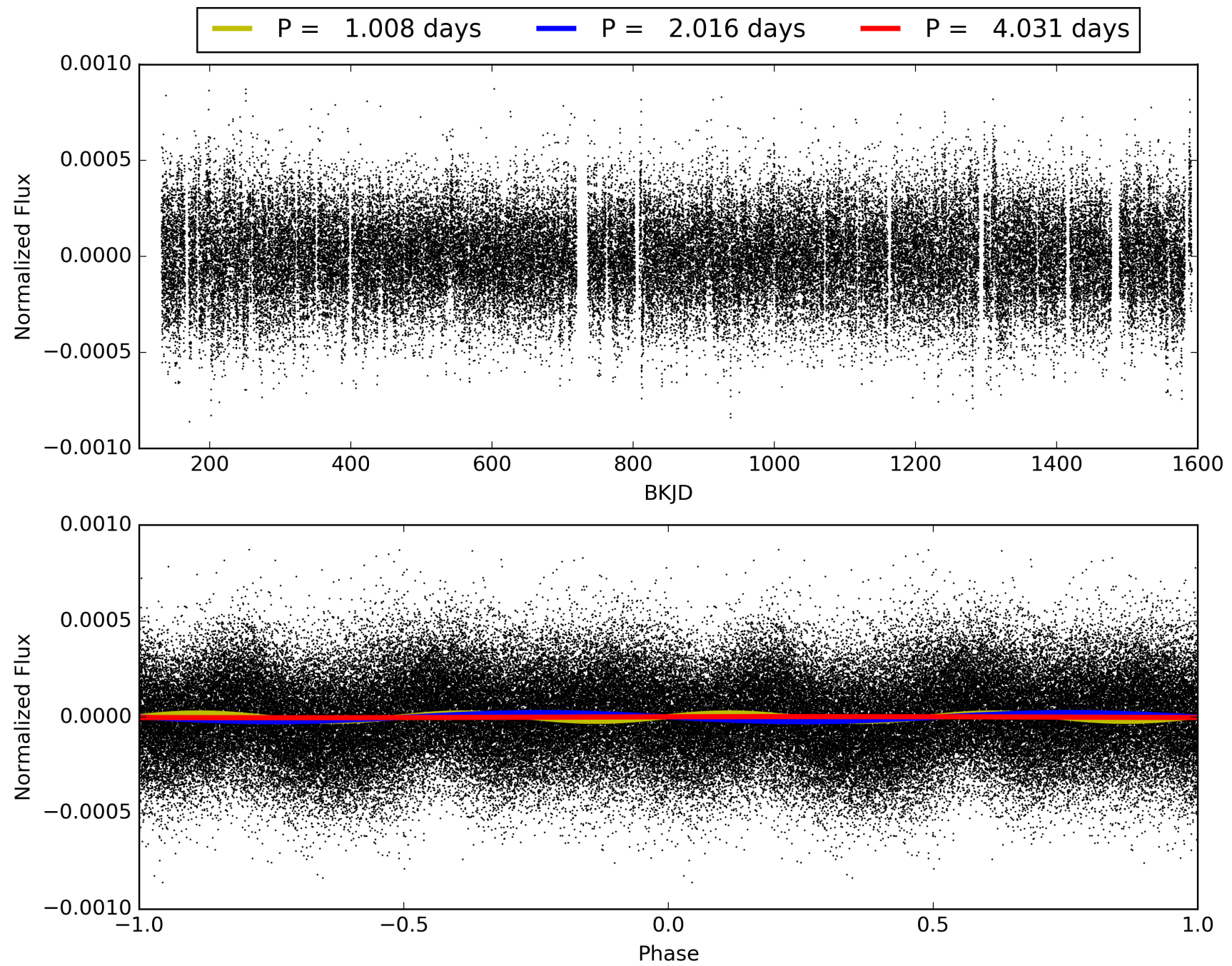
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 008394756-02, PDC Light Curves



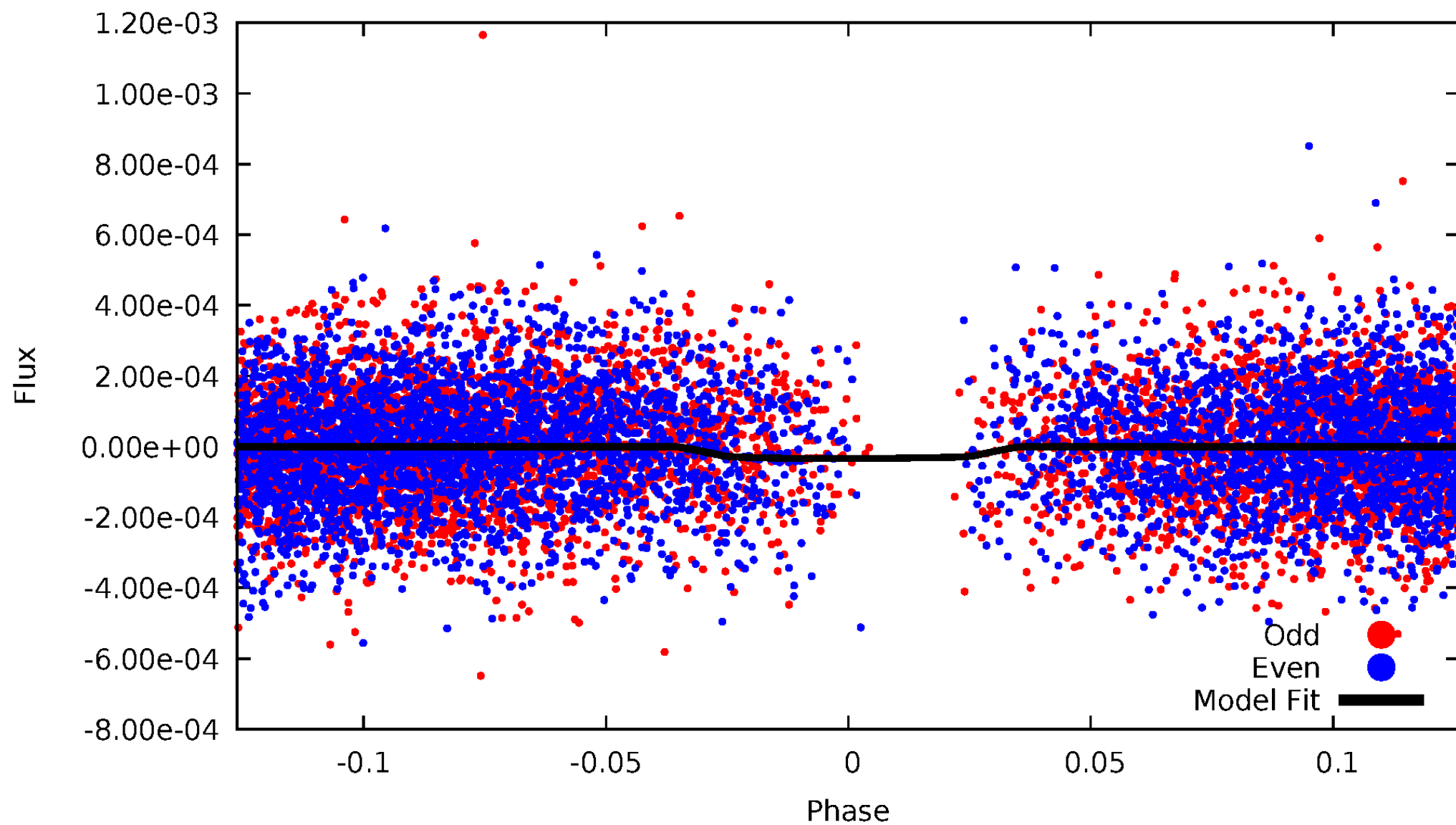


TCE 008394756-02



# DV Odd/Even

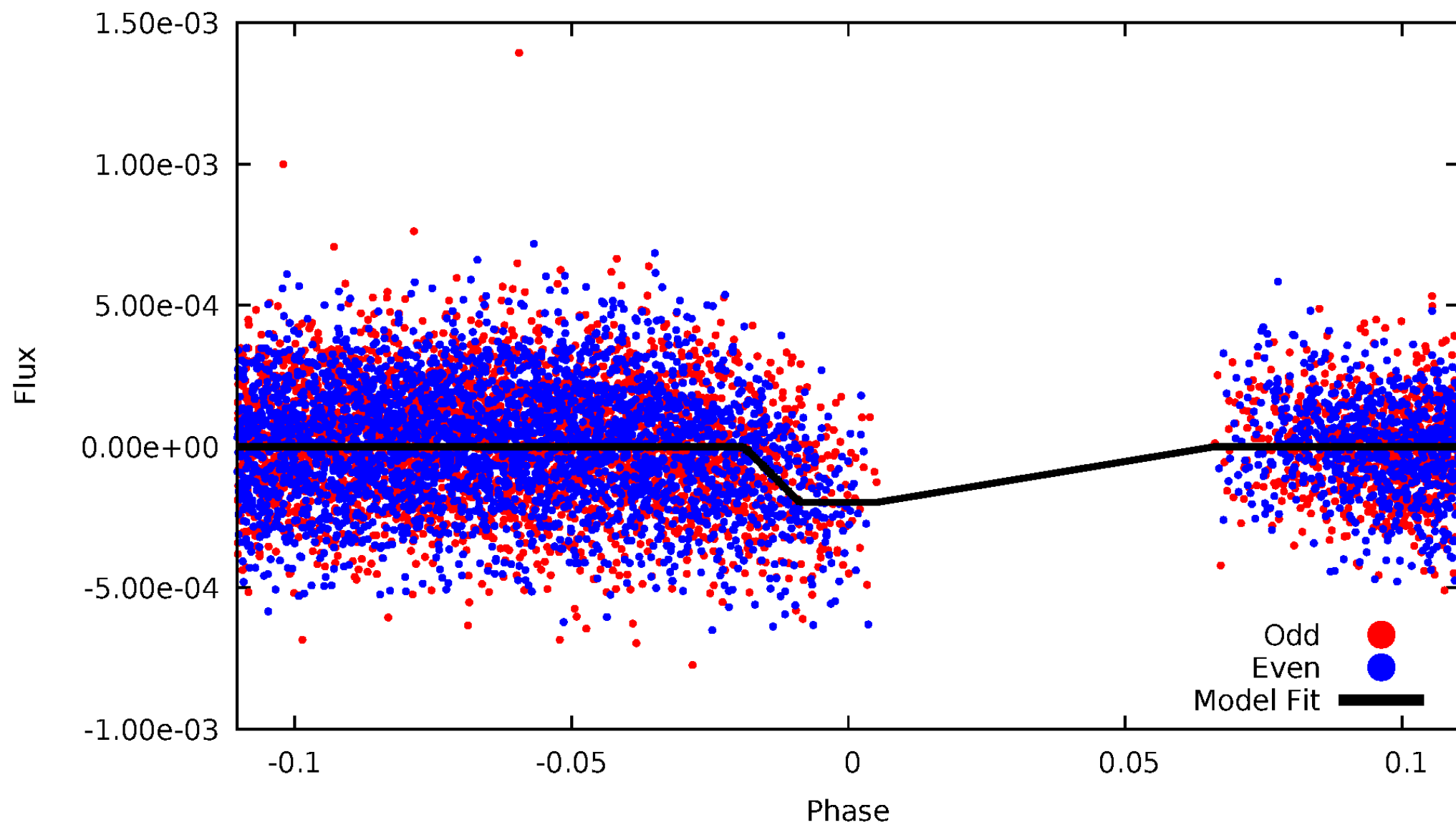
TCE 008394756-02





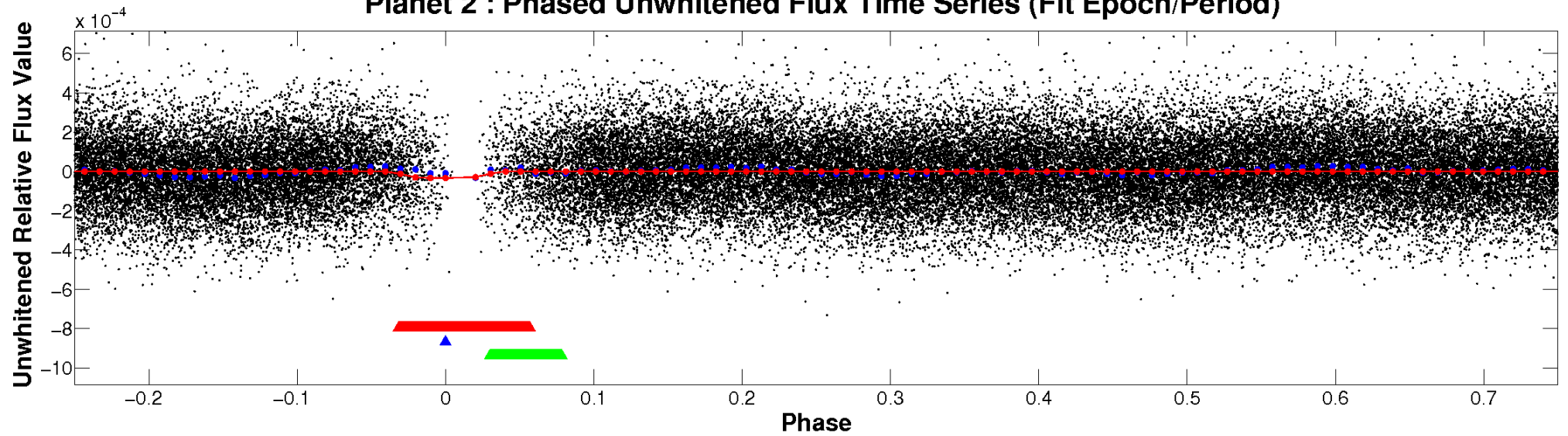
# ALT Odd/Even

TCE 008394756-02

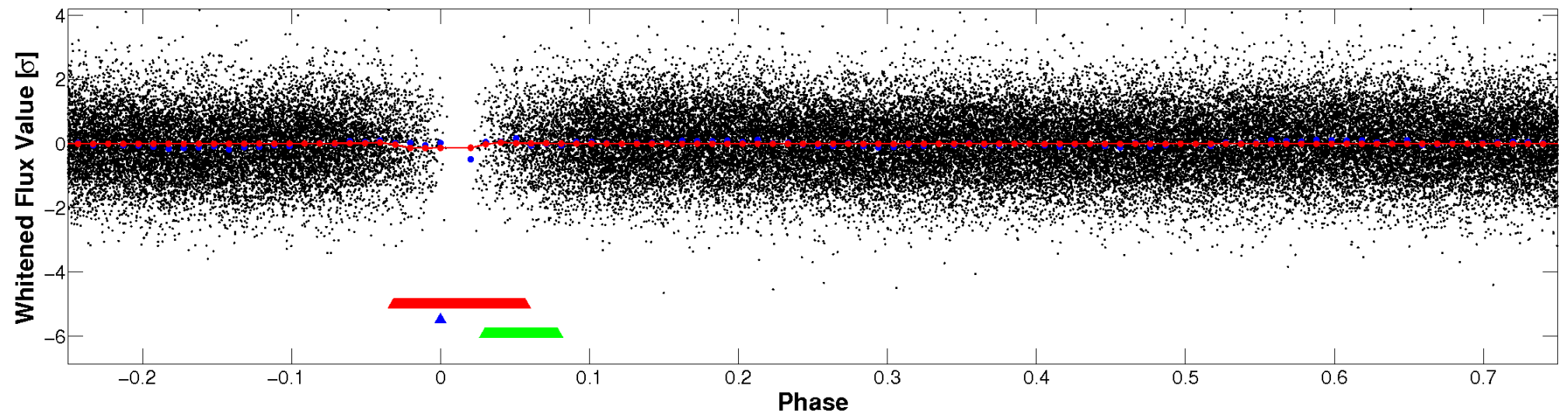


# Non-Whitened Vs. Whitened Light Curve

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

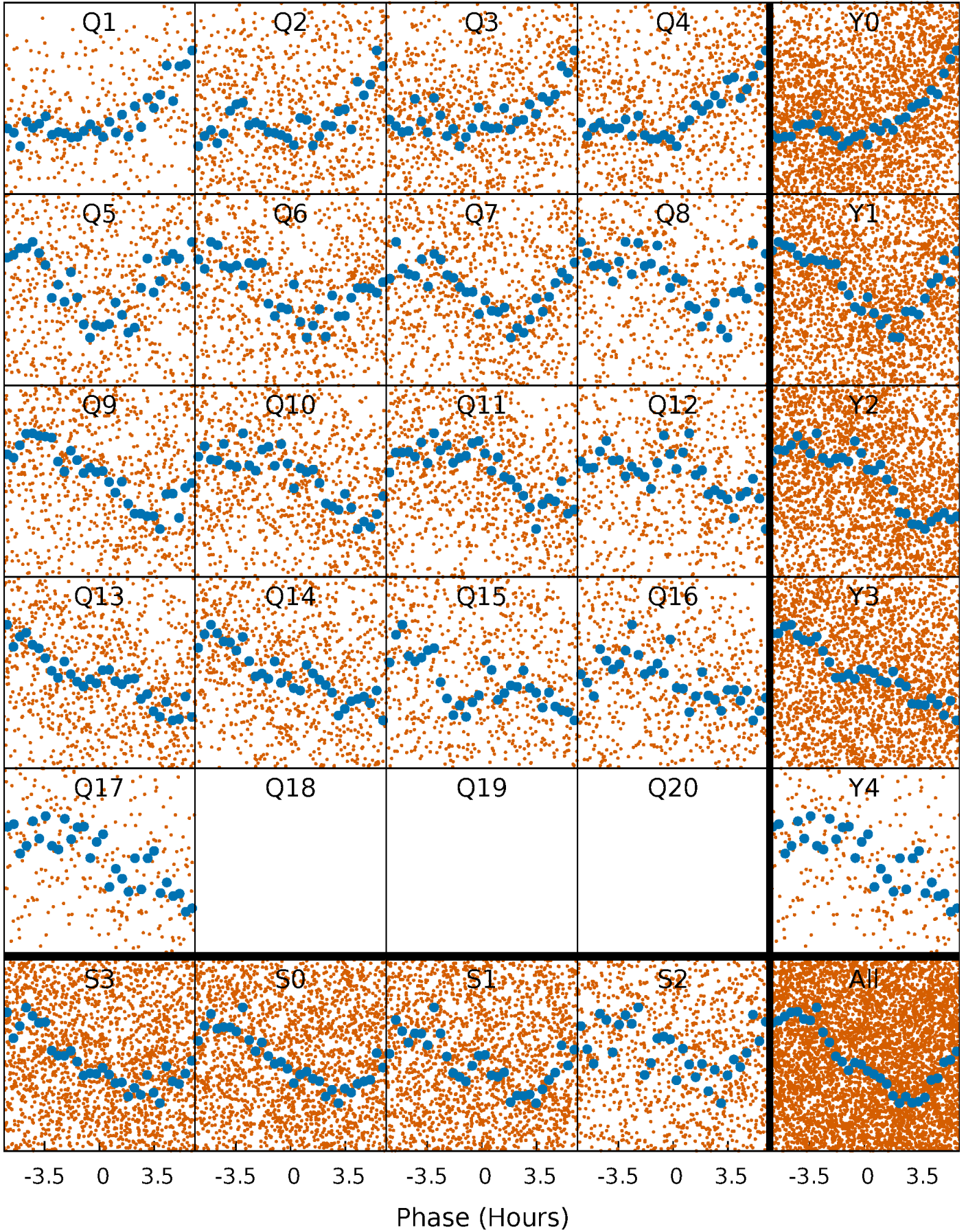


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

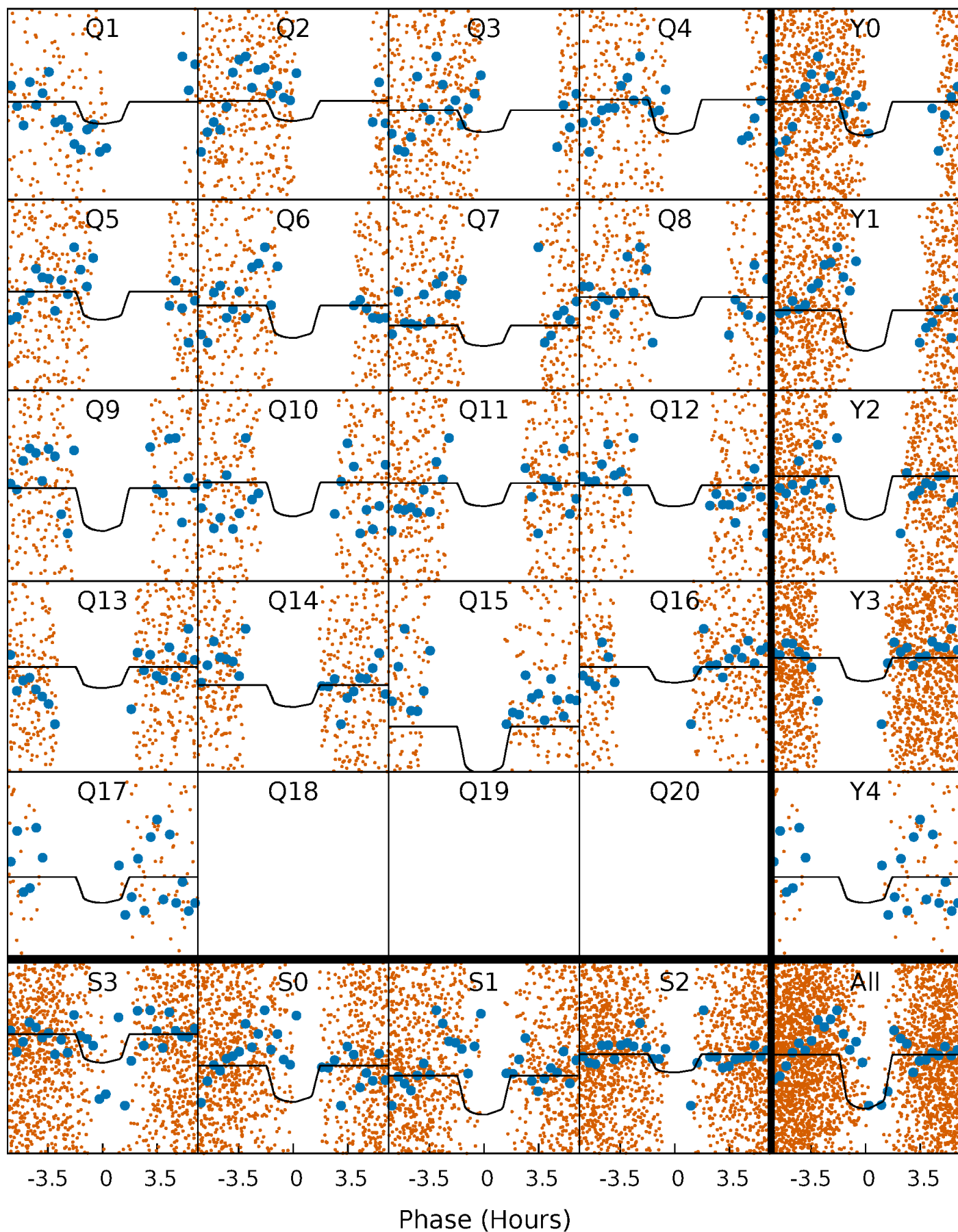
TCE 008394756-02   P= 2.015568 Days    $T_0=133.055939$  (BKJD)





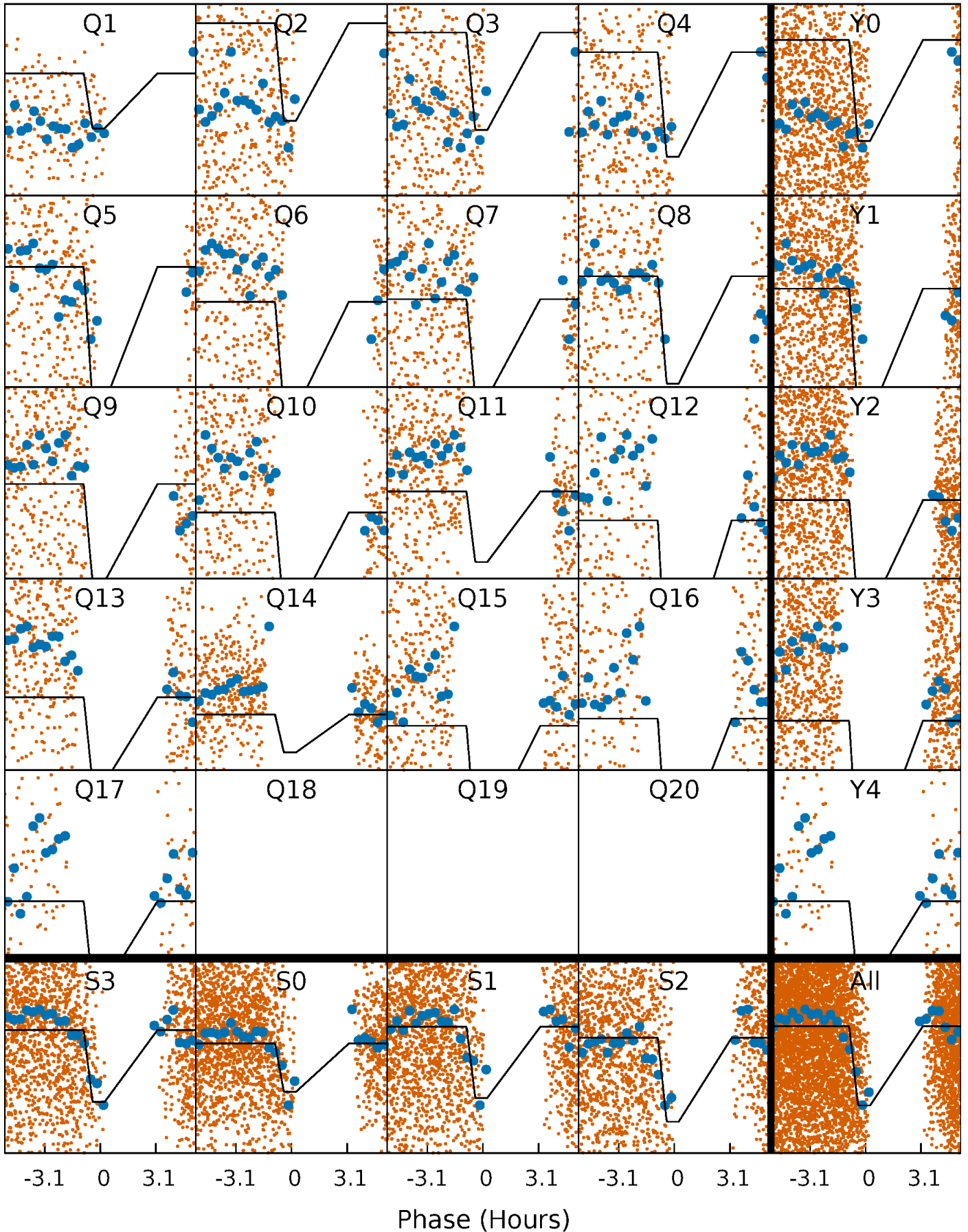
# DV Quarter-Phased Transit Curves

TCE 008394756-02 P= 2.015568 Days  $T_0=133.055939$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

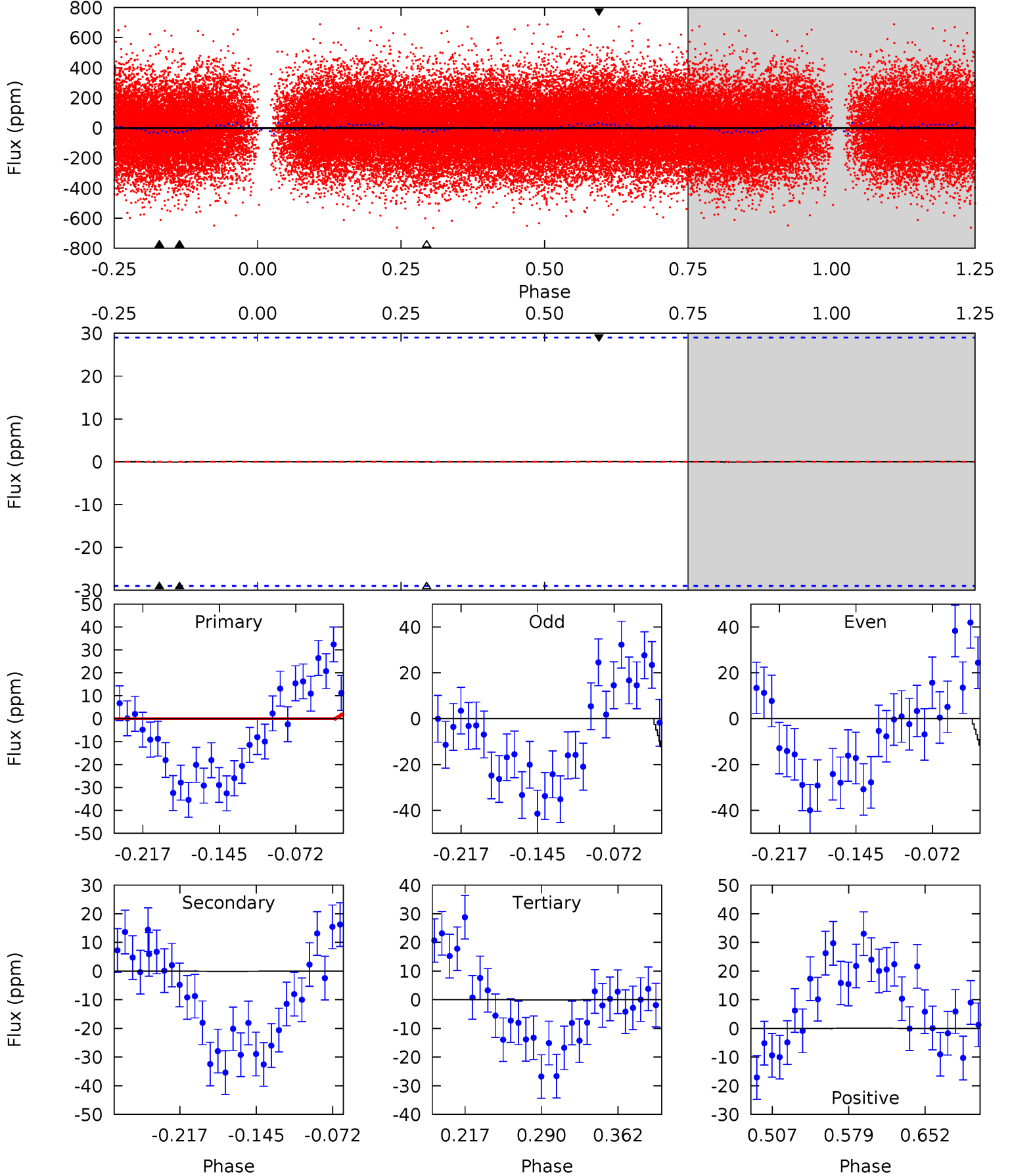
TCE 008394756-02 P= 2.015446 Days  $T_0=133.054445$  (BKJD)



# DV Model-Shift Uniqueness Test

008394756-02, P = 2.015568 Days, E = 131.040371 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
0.01	0.01	0.01	0.01	4.63	1.80	0.00	0.00	0.00	0.00	0.00	0.11	0.10	0.46	2.30

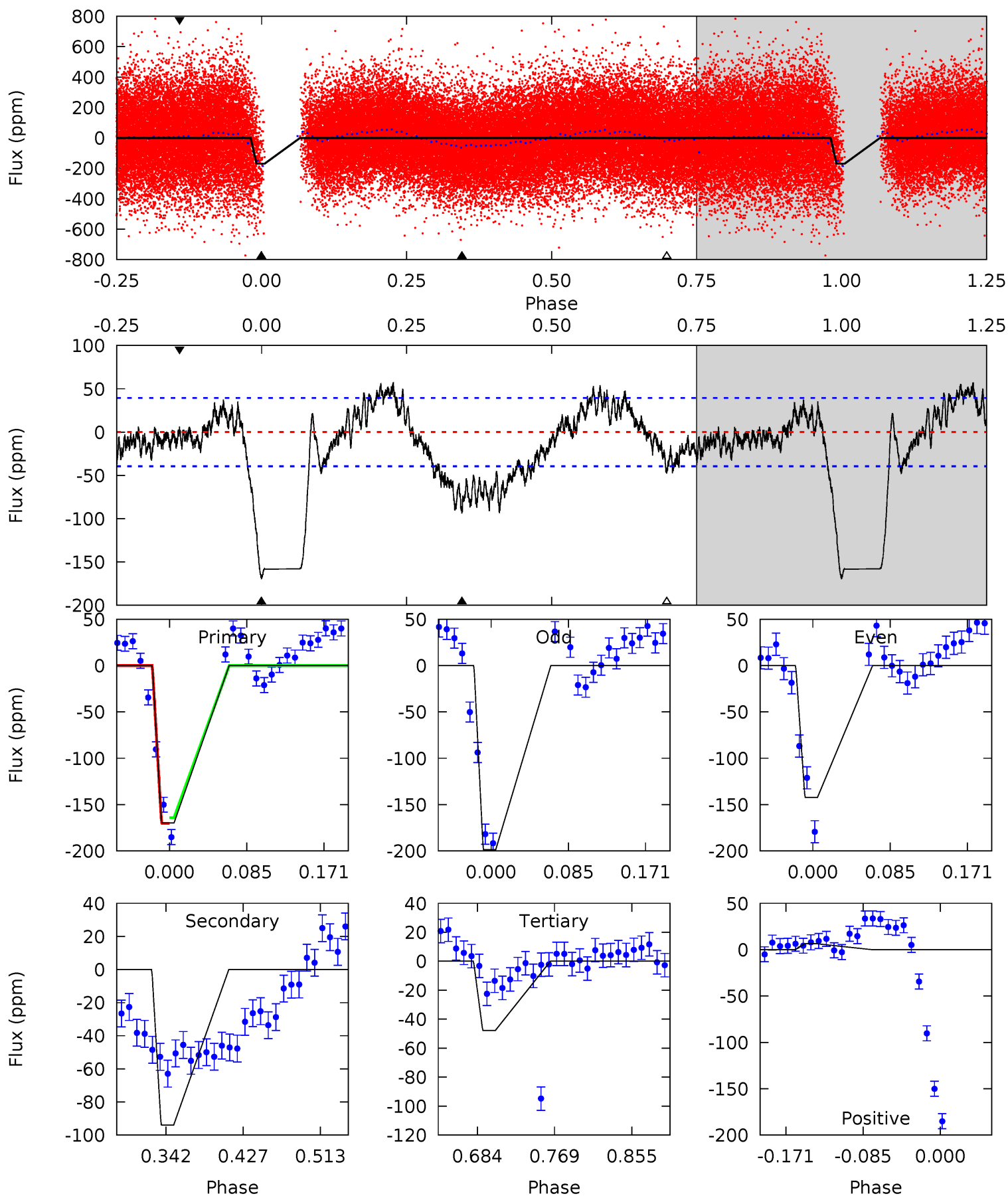




# Alt Model-Shift Uniqueness Test

008394756-02, P = 2.015446 Days, E = 131.038999 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
19.8	10.9	5.57	0.74	4.60	1.72	2.71	14.2	19.0	5.38	10.2	3.28	0.92	0.25	0.18



### Stellar Parameters For KIC 008394756

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6283^{+168}_{-187}$	$3.365^{+0.408}_{-0.076}$	$-0.300^{+0.400}_{-0.300}$	$4.647^{+0.578}_{-2.167}$	$1.825^{+0.131}_{-0.523}$	$0.026^{+0.096}_{-0.007}$
	+3%/-3%	+12%/-2%	+133%/-100%	+12%/-47%	+7%/-29%	+375%/-26%
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 008394756-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-0\pm6$	$3.13^{+2.20}_{-1.91}$	$4157^{+232}_{-466}$	$-3722^{+7813}_{-929}$	$0.012^{+0.812}_{-0.746}$
Alt.	$-94\pm9$	$6.45^{+2.68}_{-2.53}$	$4178^{+232}_{-513}$	$5019^{+1298}_{-746}$	$1.753^{+2.957}_{-0.861}$

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

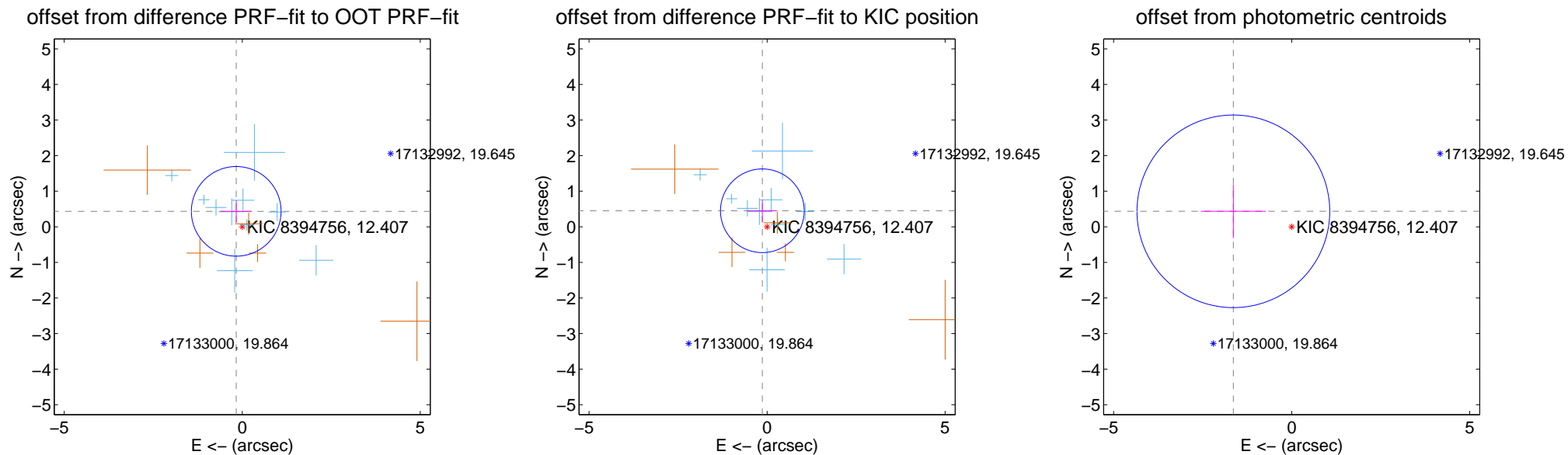
## DV Centroid Data

Supplemental centroid analysis for 008394756-02. Kepler magnitude: 12.41. Transit SNR 2.85

There are 10 quarters with good PRF difference image offsets

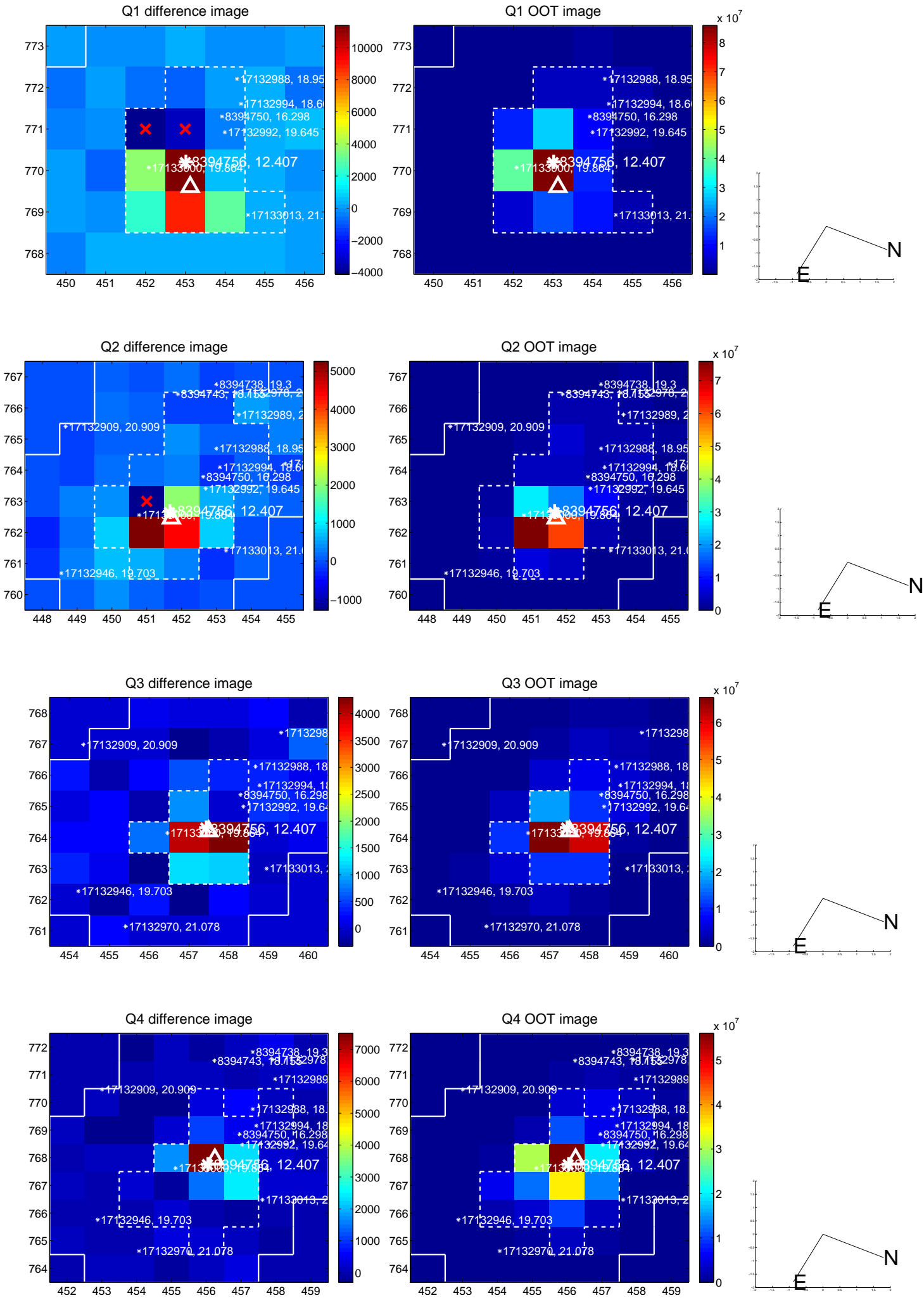
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.466 \pm 0.420$	1.11	$0.169 \pm 0.441$	$0.434 \pm 0.315$
PRF-fit source offset from KIC position	$0.470 \pm 0.392$	1.20	$0.133 \pm 0.416$	$0.451 \pm 0.314$
photometric centroid source offset	$1.69 \pm 0.90$	1.88	$1.64 \pm 0.91$	$0.44 \pm 0.75$

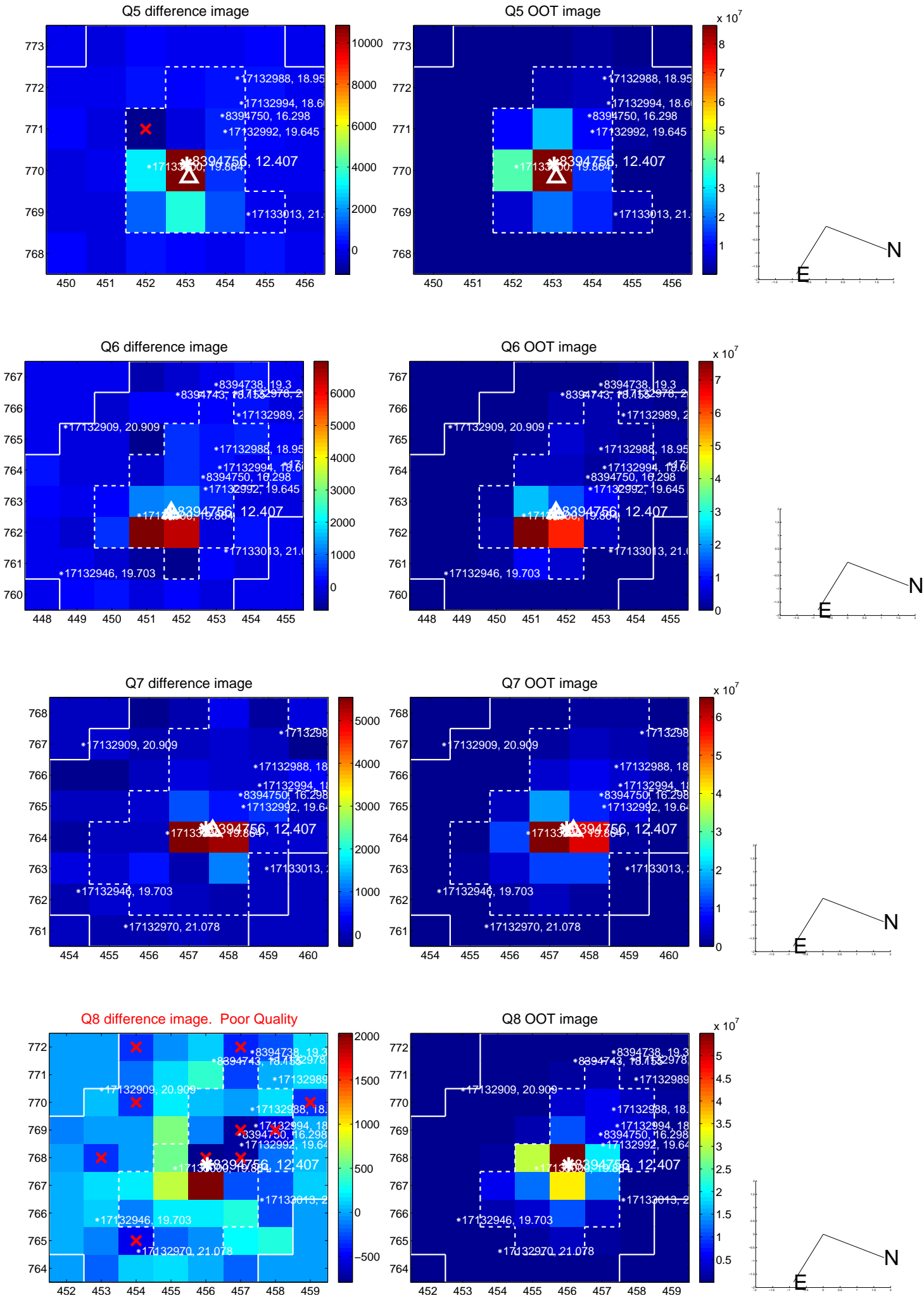


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

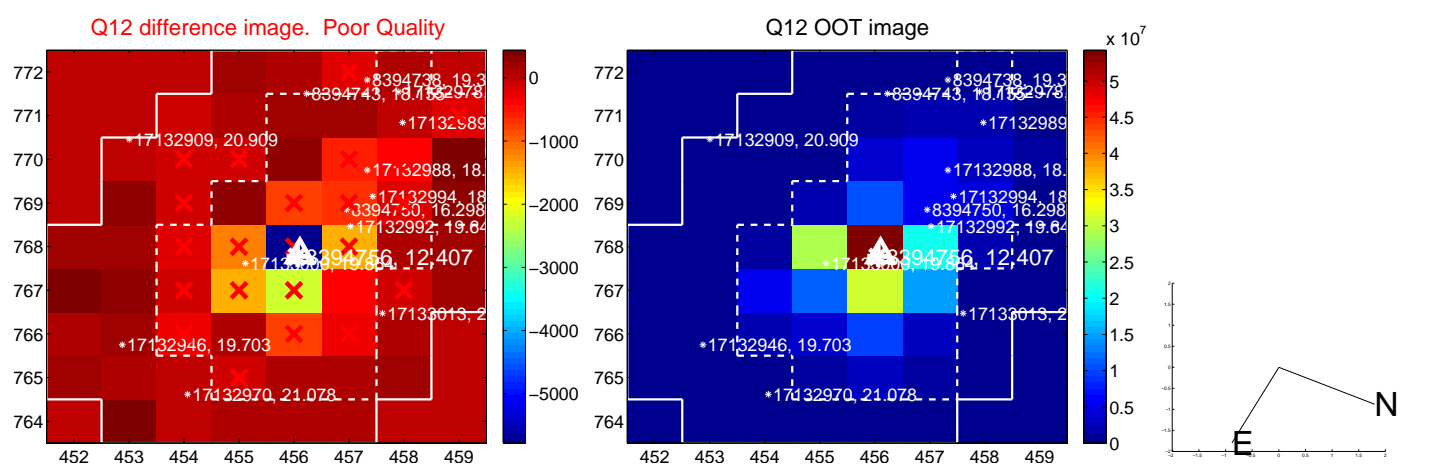
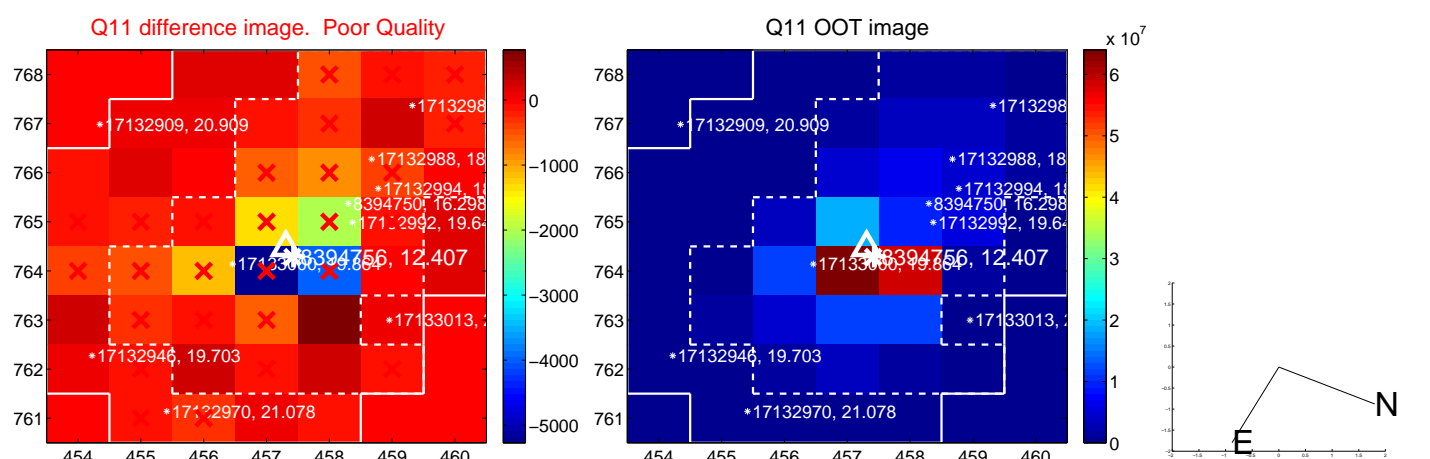
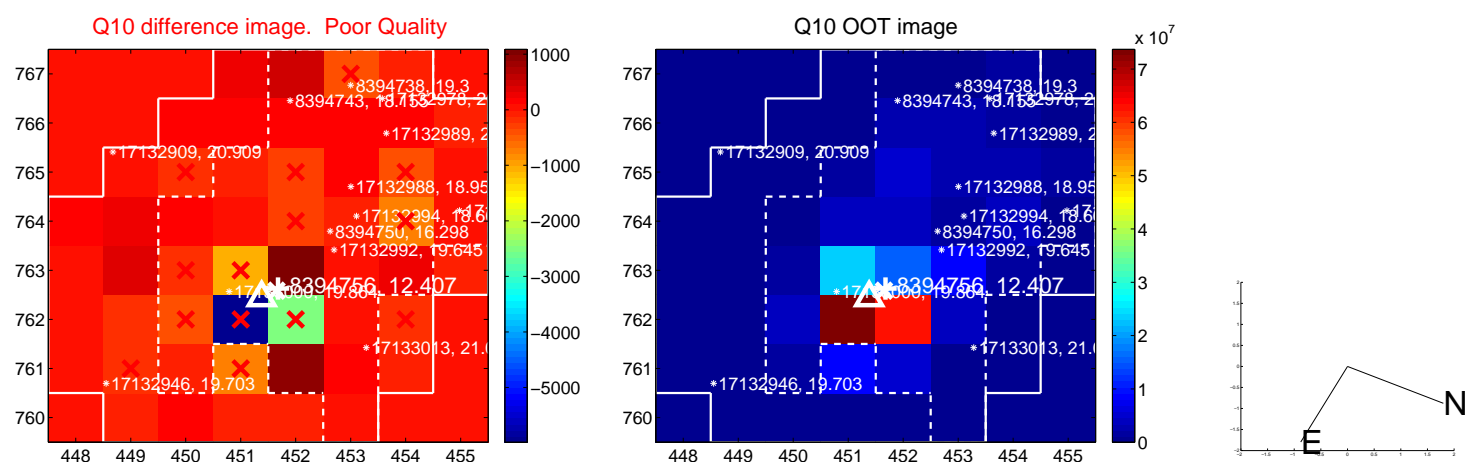
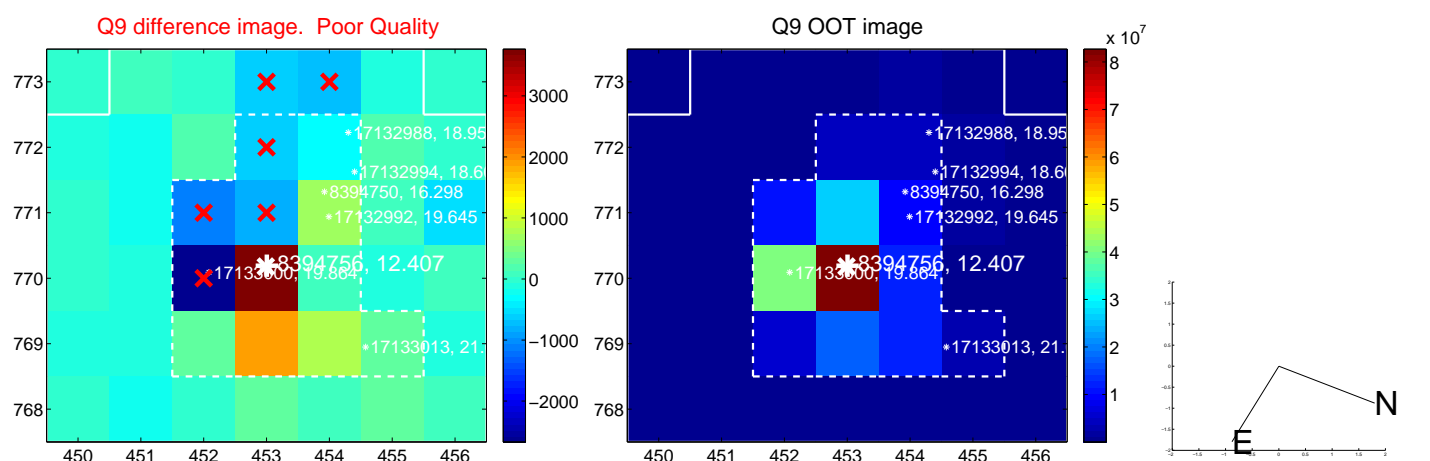
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

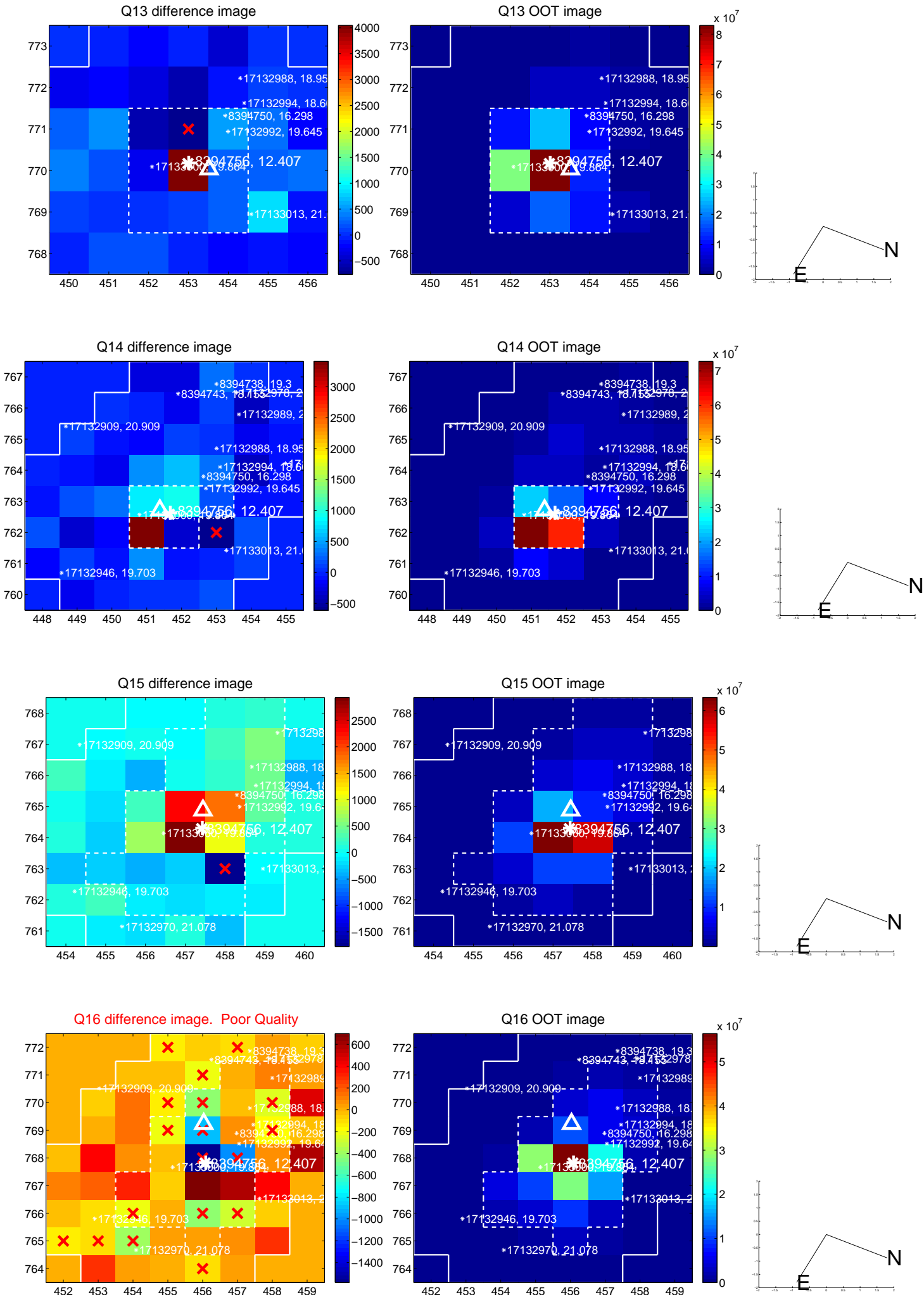


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

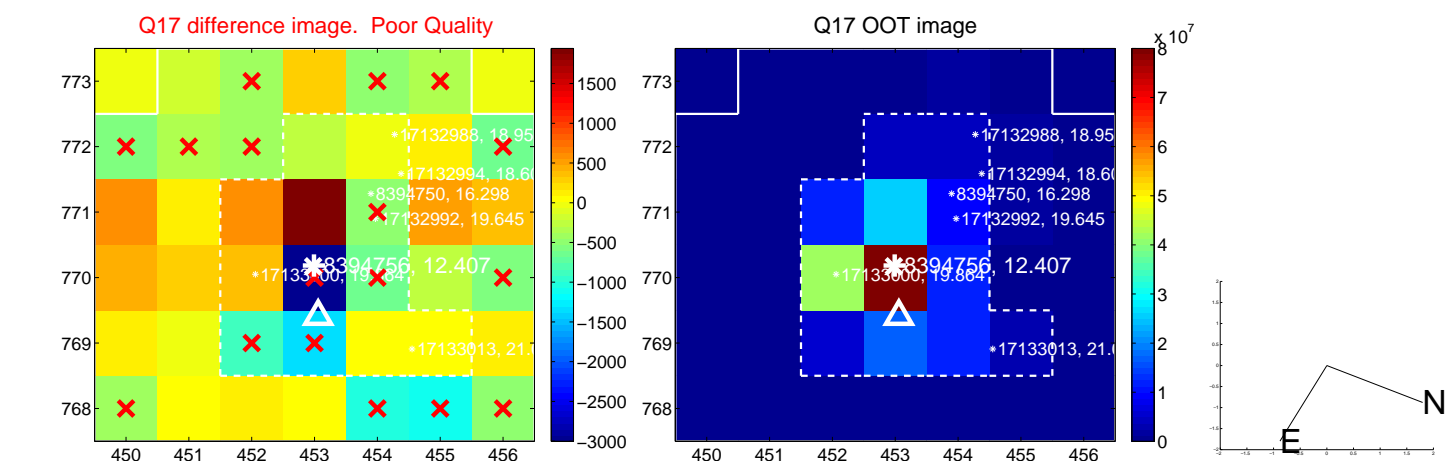




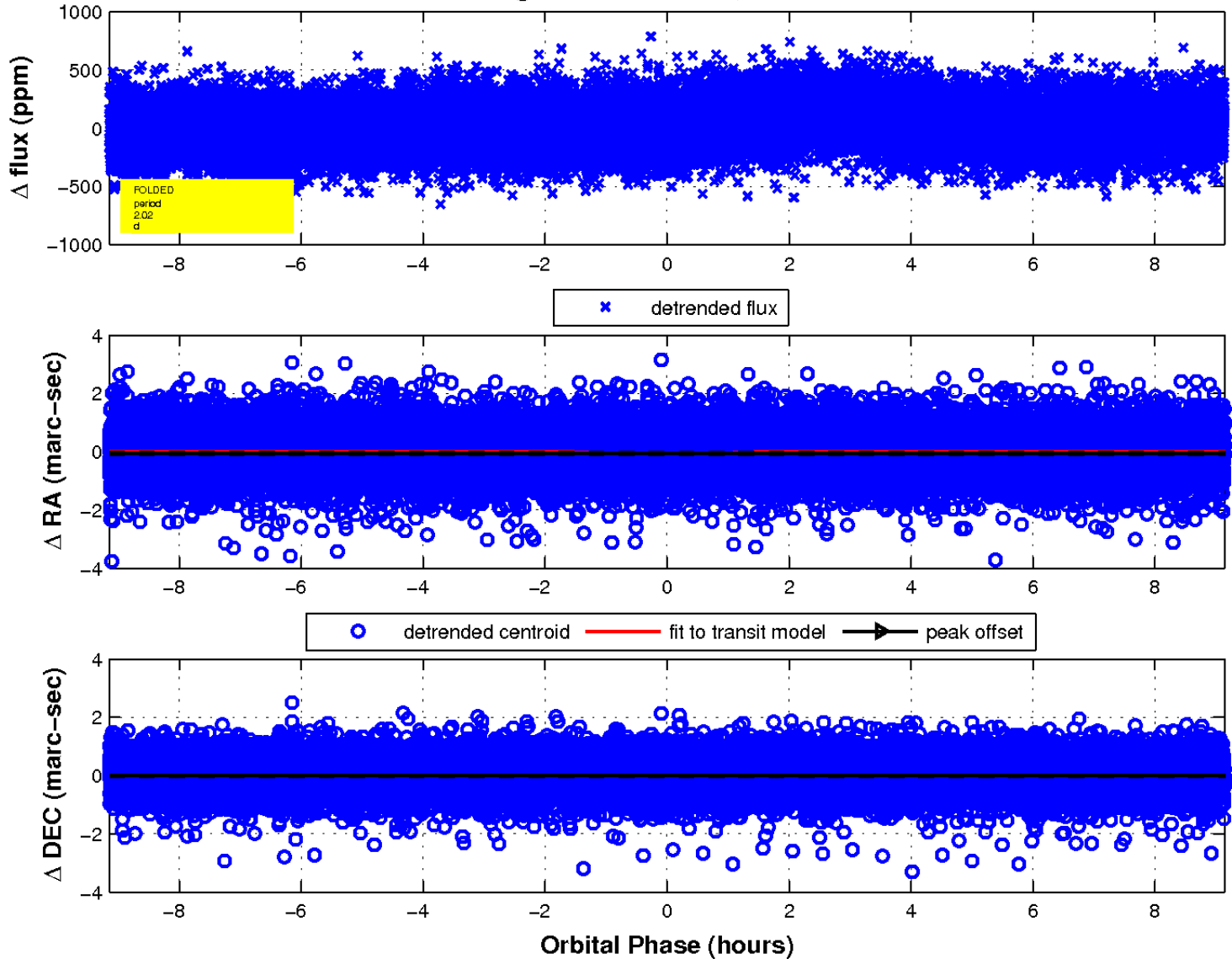
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

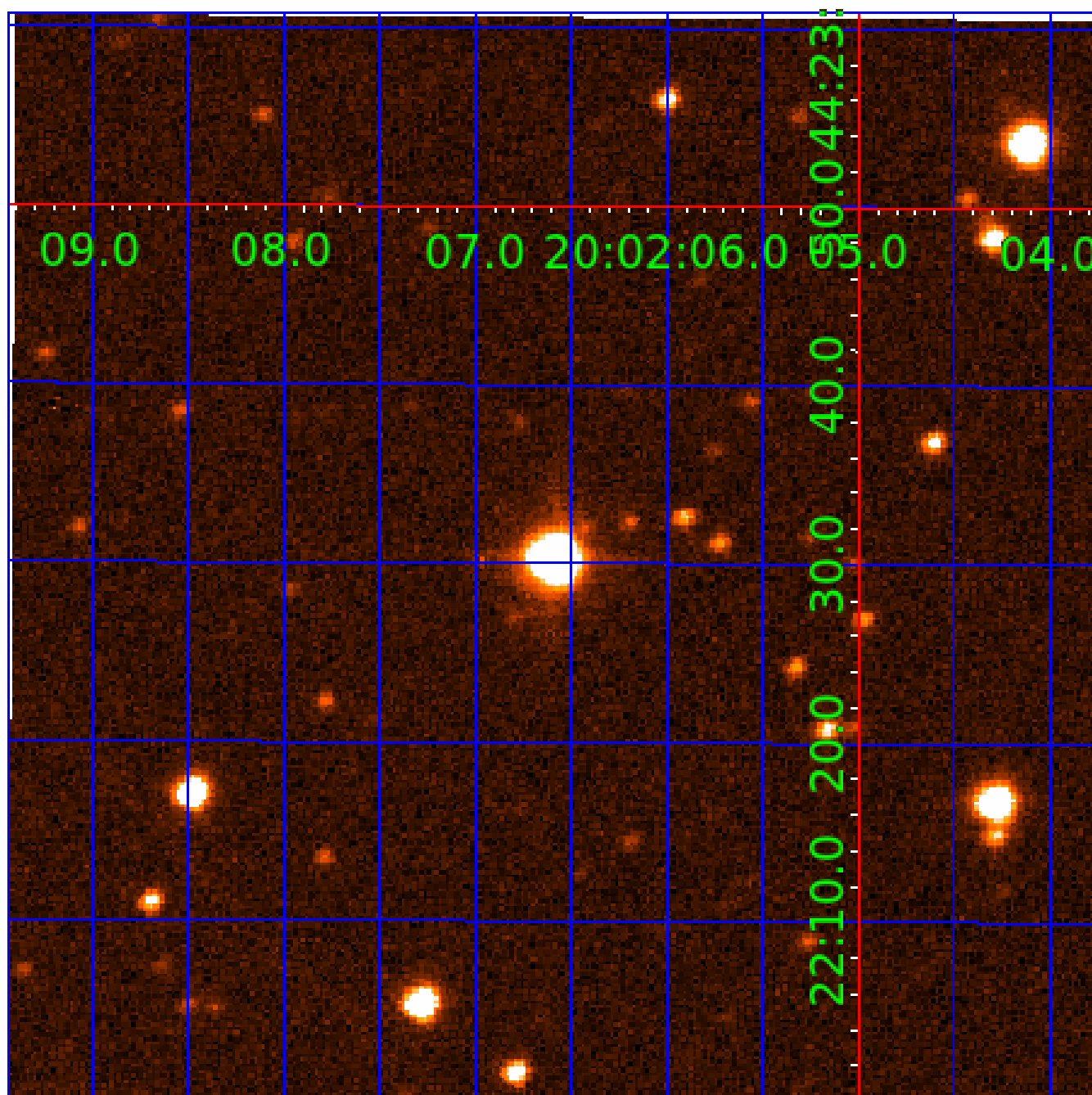


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



# KIC 008394756

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008394756-01	OBS	No	2.015322	133.170461	6.9	0.522	7.9	0.9	4.65	6283	1.48	20695.94
008394756-02	OBS	No	2.015568	133.055939	34.0	3.050	8.4	2.8	4.65	6283	3.17	20692.56
008394756-03	OBS	No	2.015433	133.214193	171.9	3.567	8.7	3.1	4.65	6283	12.20	20694.42

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008394756-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008394756-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
008394756-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD

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

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

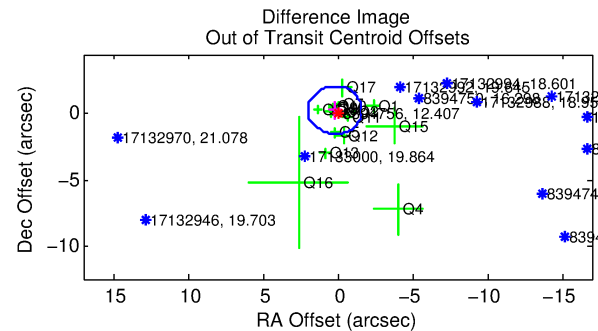
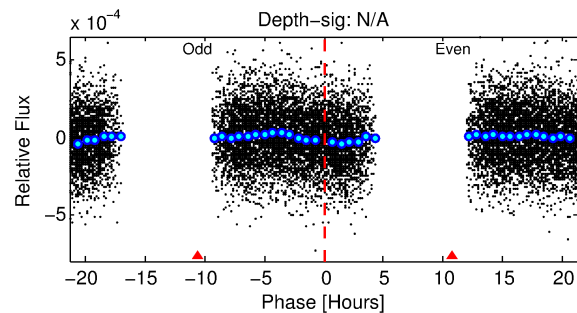
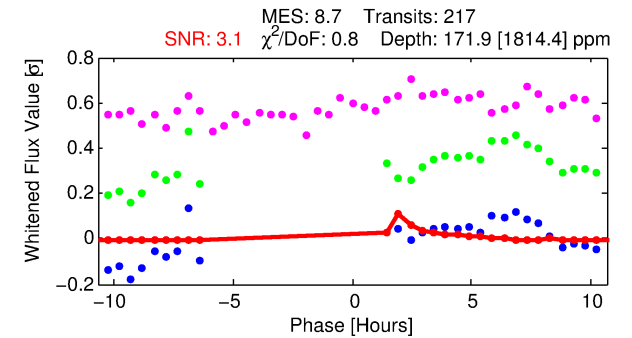
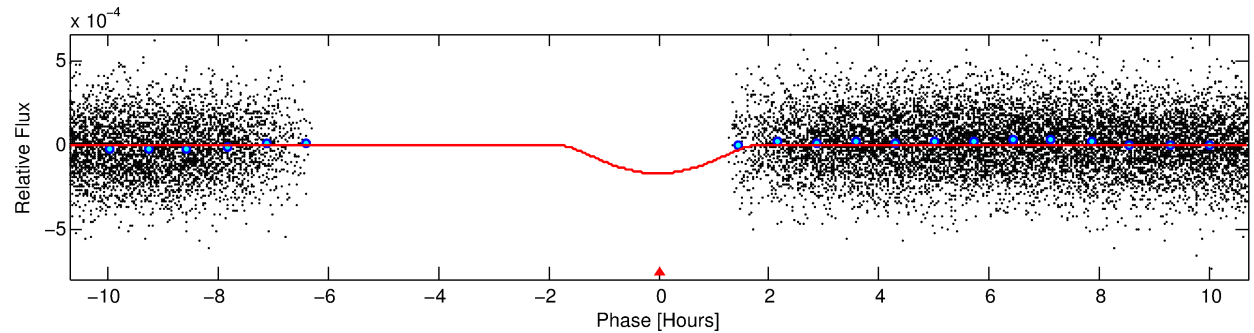
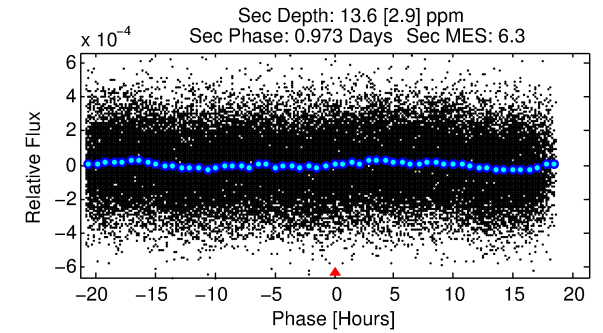
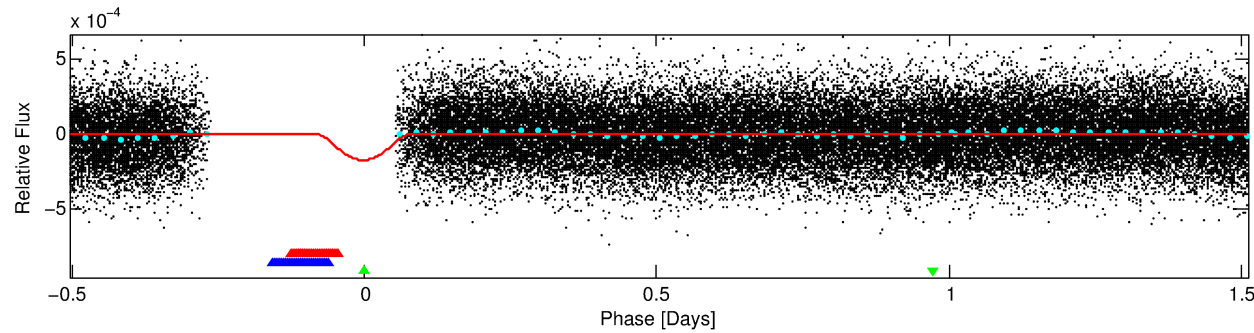
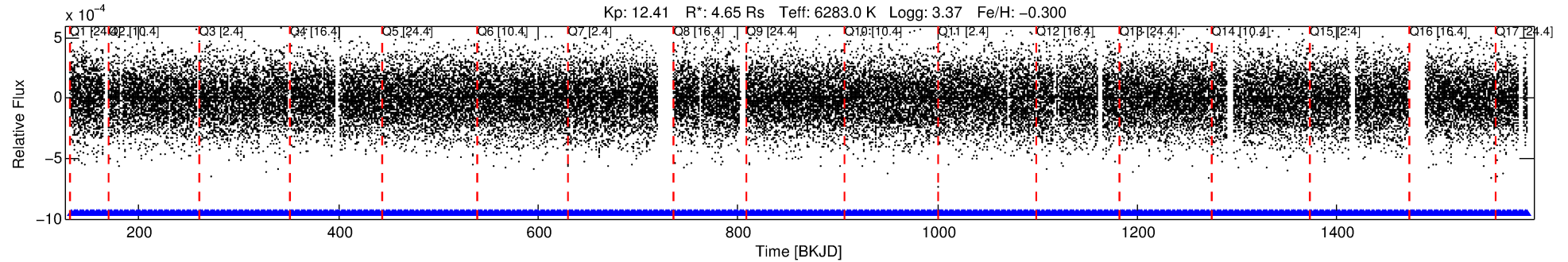
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008394756-03

No Significant Match Found

# DV One-Page Summary

KIC: 8394756 Candidate: 3 of 3 Period: 2.015 d



## DV Fit Results:

Period = 2.01543 [0.00003] d  
Epoch = 133.2142 [0.0322] BKJD  
Rp/R\* = 0.0241 [0.2397]  
a/R\* = 1.39 [1.33]  
b = 1.00 [0.18]  
Seff = 20694.42 [14678.11]  
Teq = 3058 [542] K  
Rp = 12.20 [121.69] Re  
a = 0.0382 [0.0168] AU  
Ag = 0.07 [1.46] [-0.63σ]  
Teffp = 2462 [12266] K [-0.05σ]

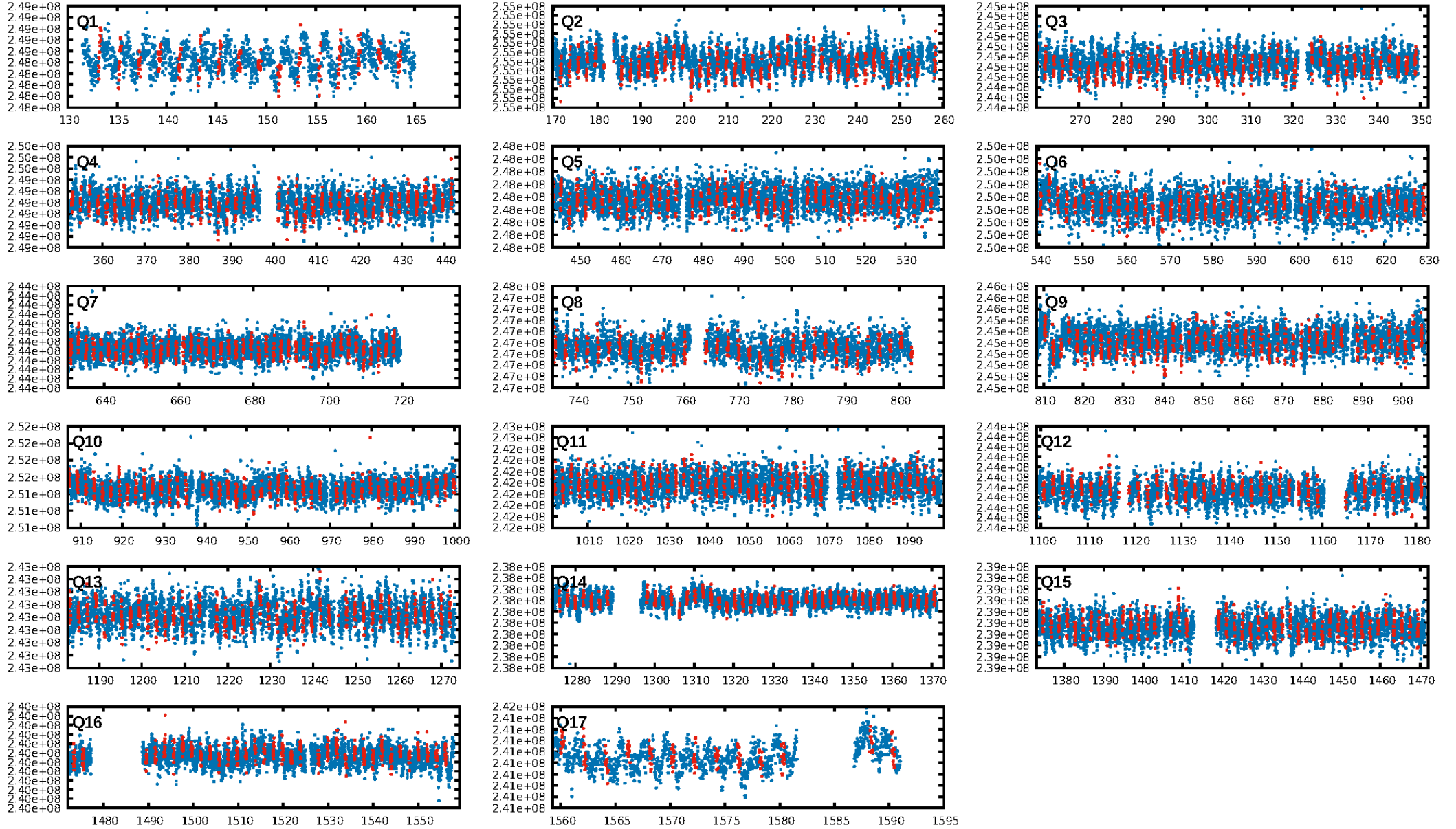
## DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]  
LongPeriod-sig: 0.1% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.78e-15  
RollingBand-fgt: 1.00 [201/201]  
GhostDiagnostic-chr: -1.326  
Centroid-sig: 25.6%  
Centroid-so: 0.239 arcsec [1.33σ]  
OotOffset-rm: 0.339 arcsec [0.56σ]  
KicOffset-rm: 0.303 arcsec [0.48σ]  
OotOffset-st: 3/4/4/5 [16]  
KicOffset-st: 3/4/4/5 [16]  
DiffImageQuality-fgm: 0.69 [11/16]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:06:48 Z

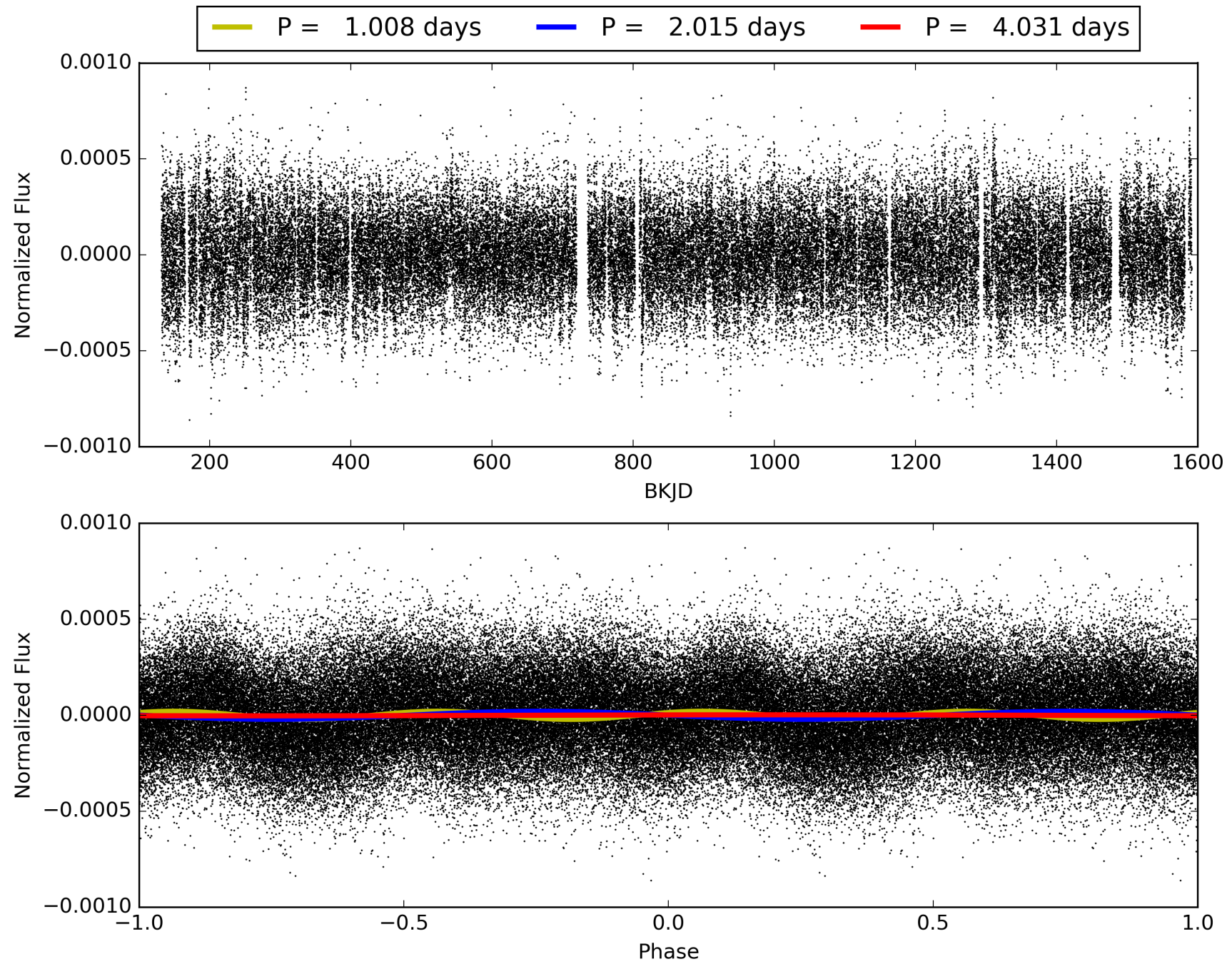
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 008394756-03, PDC Light Curves



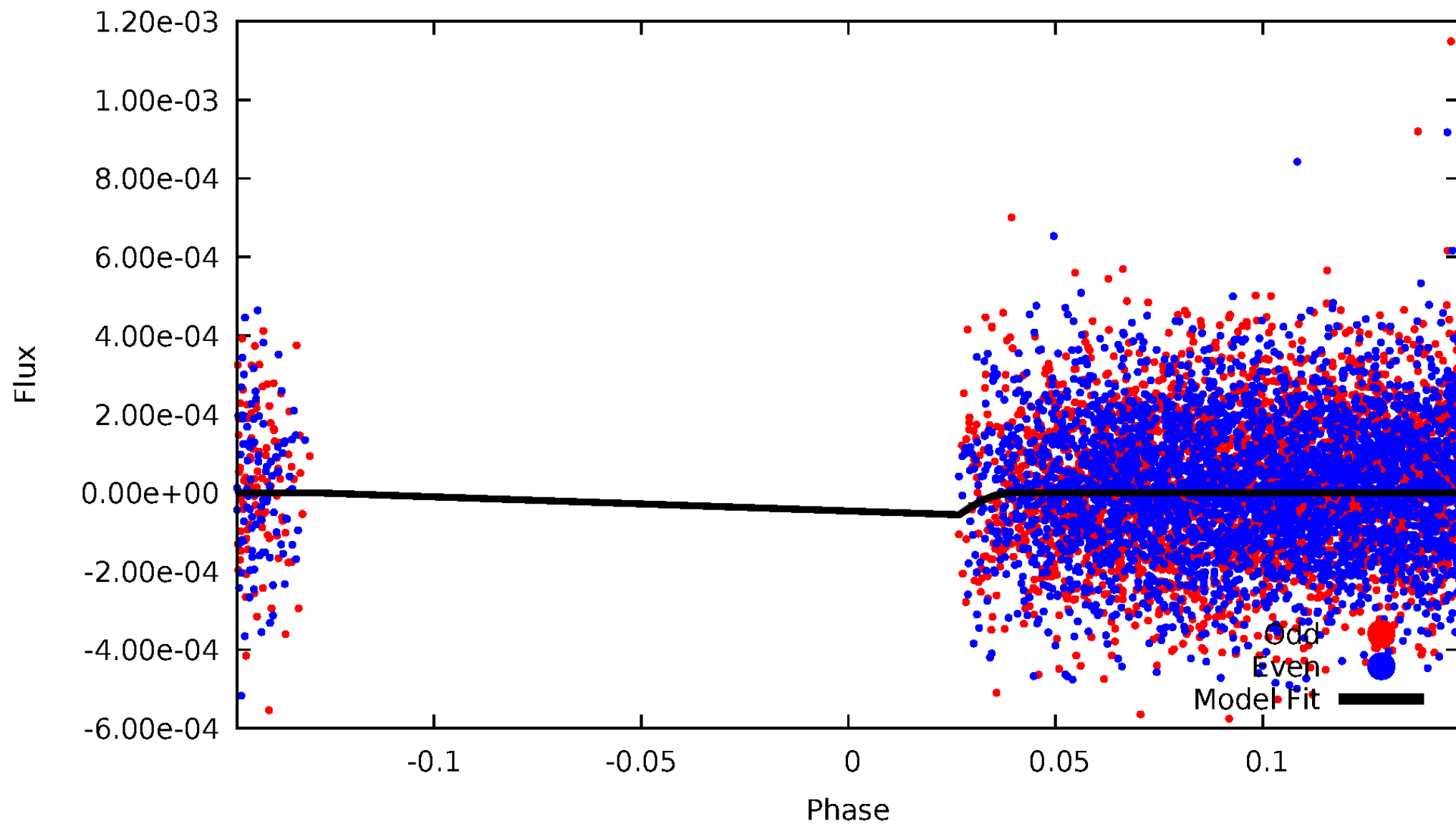


TCE 008394756-03



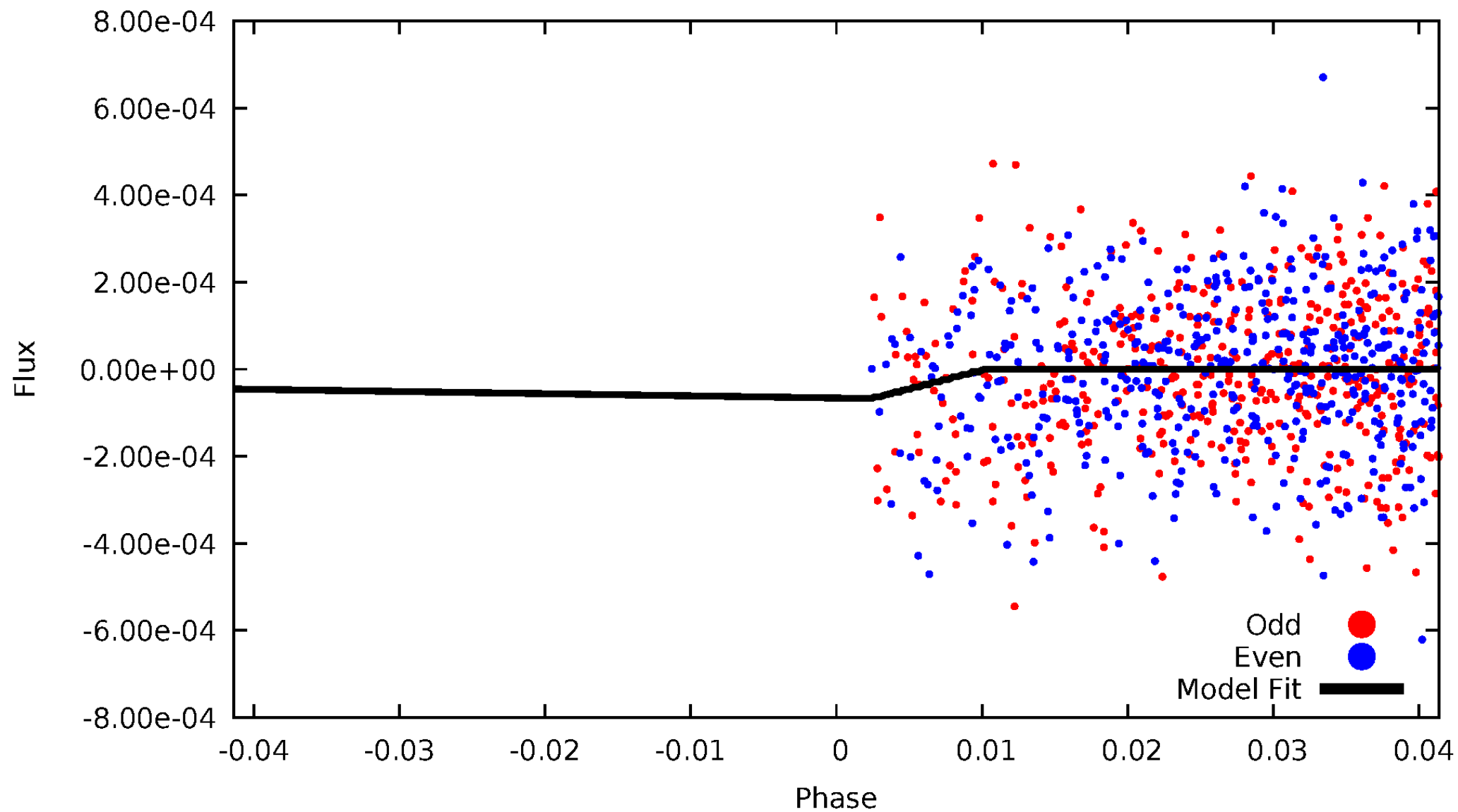
# DV Odd/Even

TCE 008394756-03

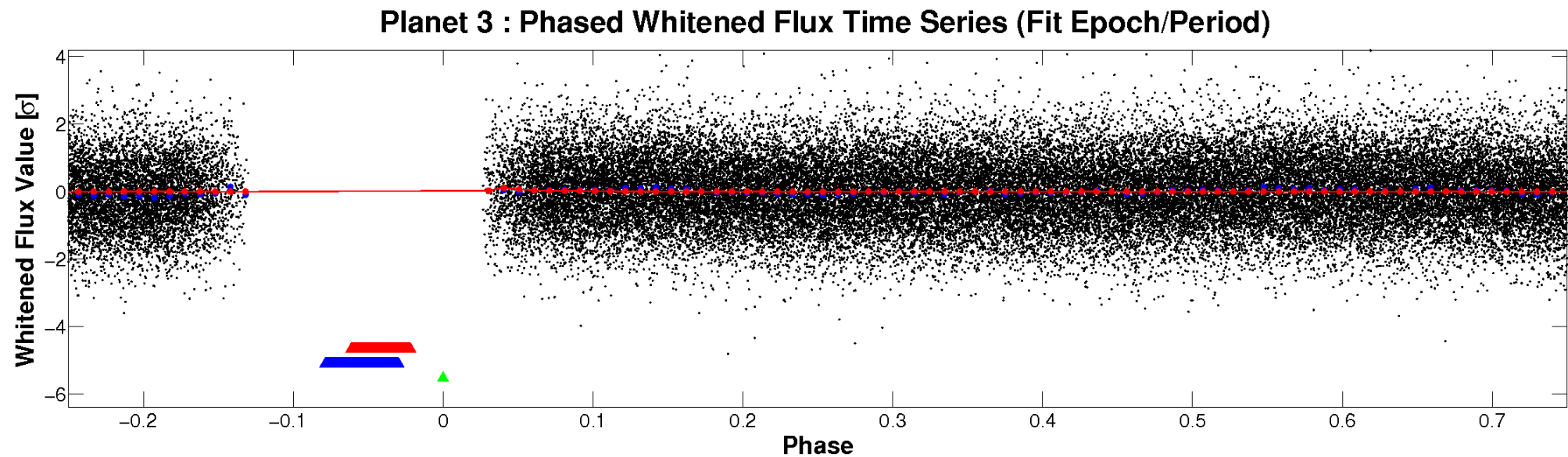
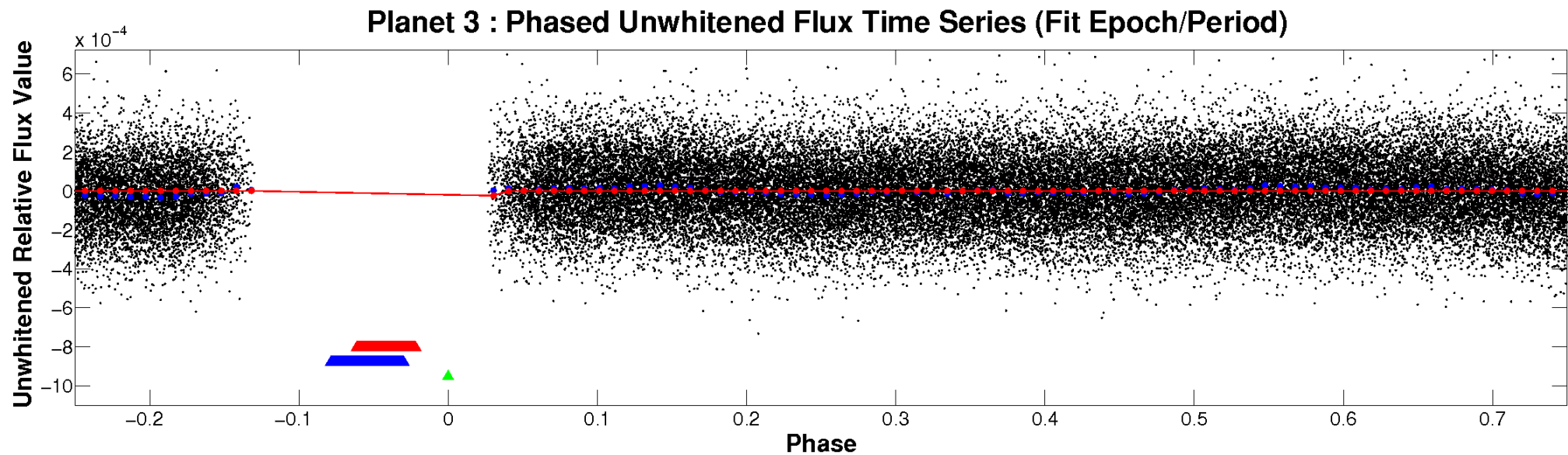


# ALT Odd/Even

TCE 008394756-03



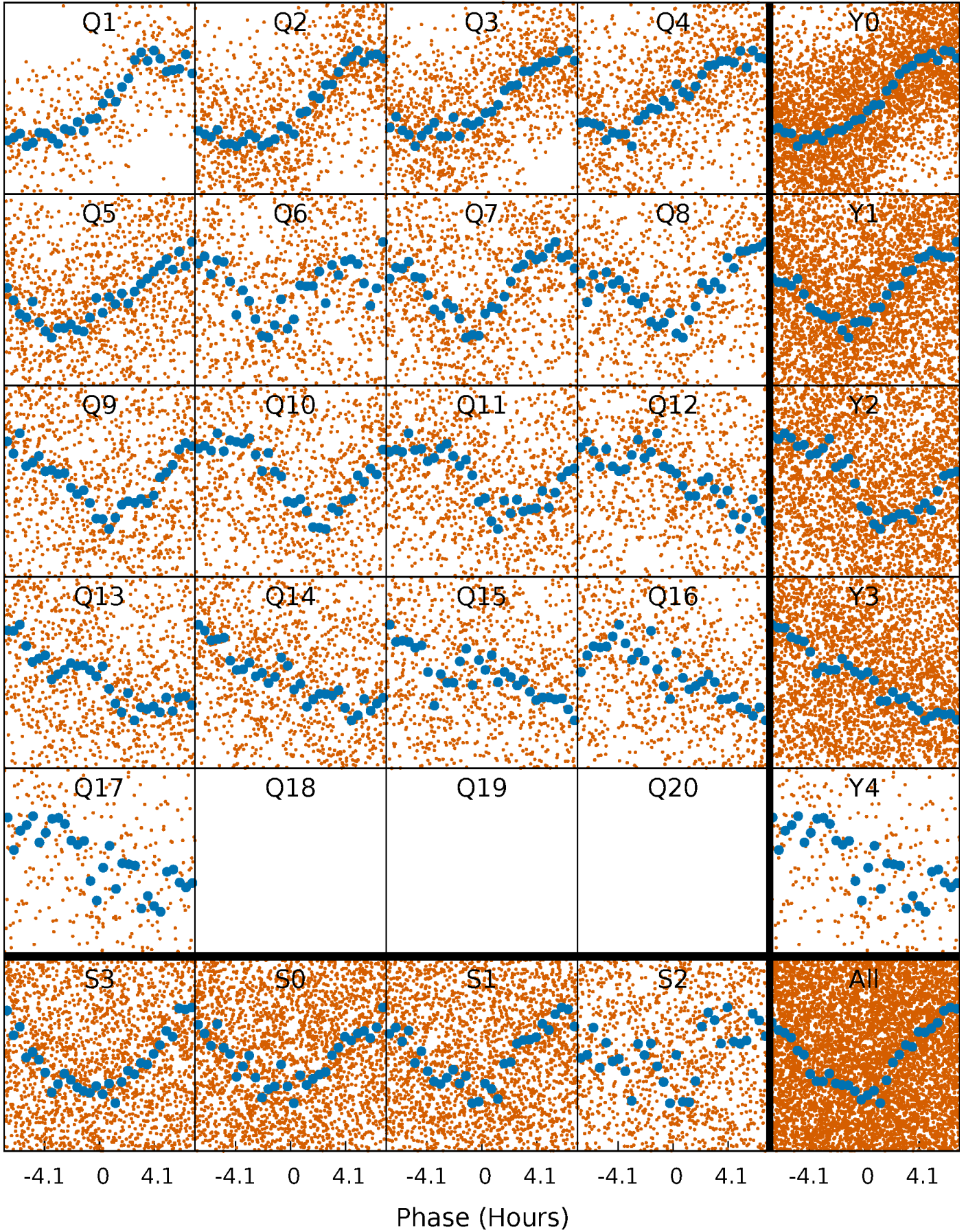
# Non-Whitened Vs. Whitened Light Curve





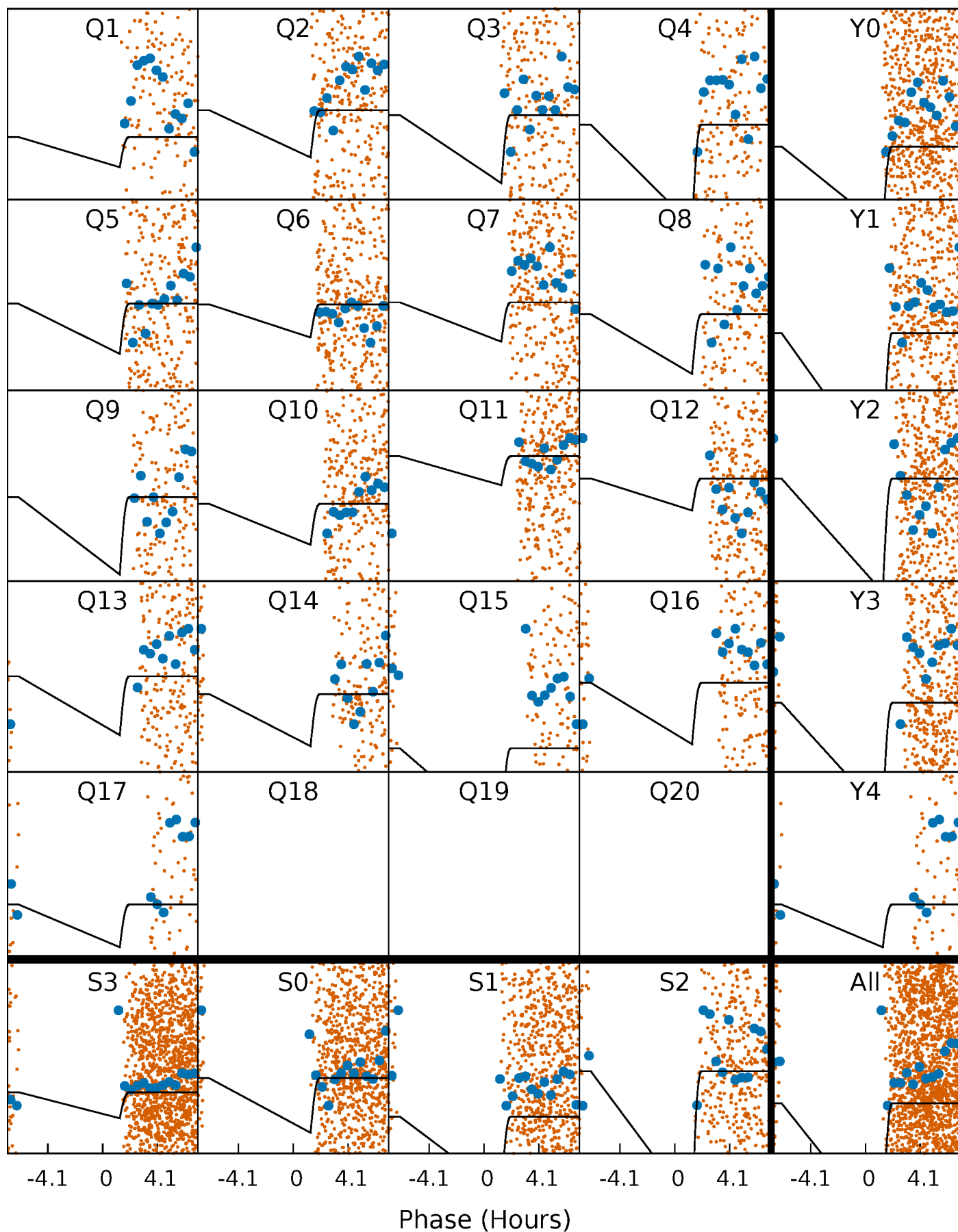
# PDC Quarter-Phased Transit Curves

TCE 008394756-03 P= 2.015433 Days  $T_0=133.214193$  (BKJD)



# DV Quarter-Phased Transit Curves

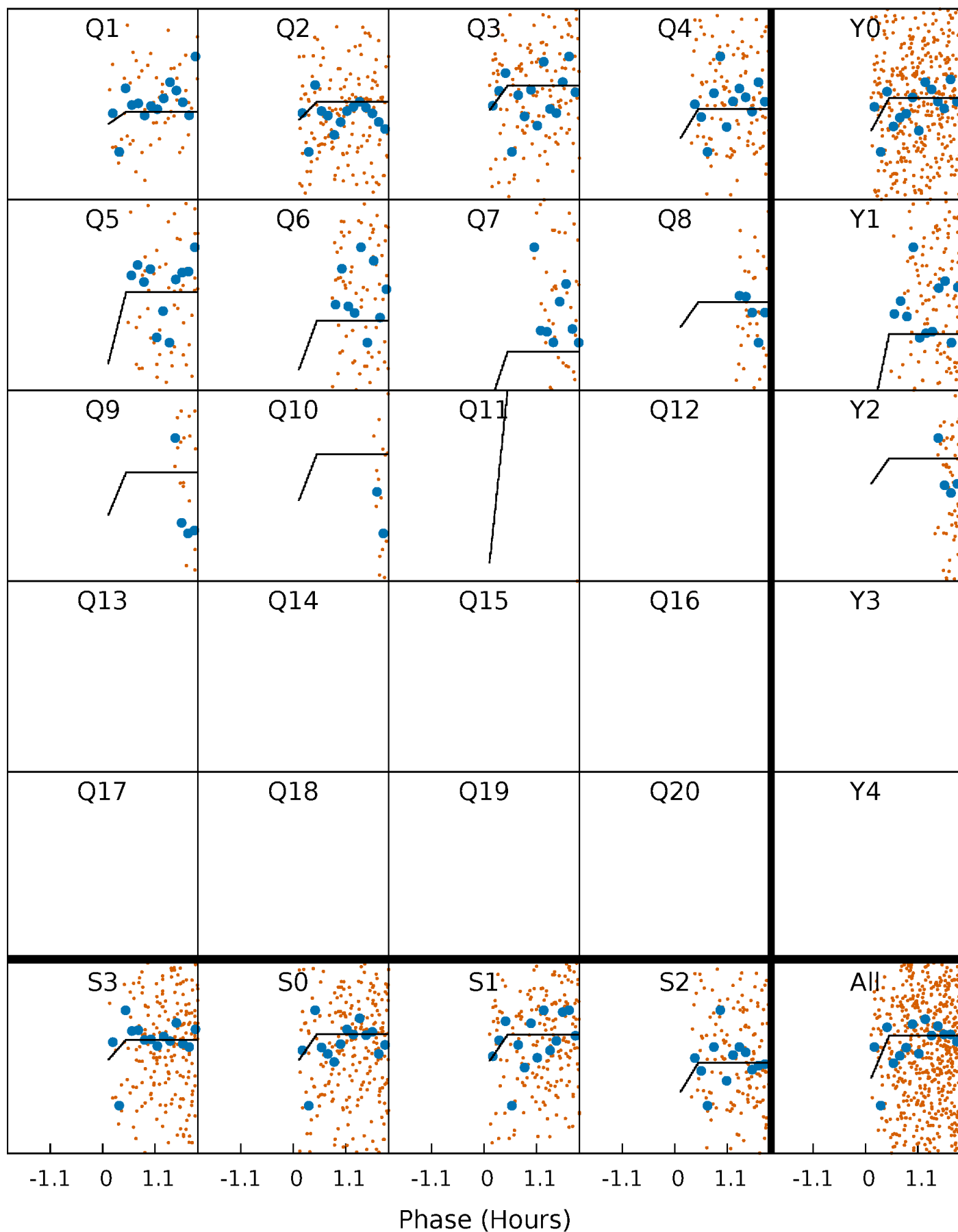
TCE 008394756-03 P= 2.015433 Days  $T_0=133.214193$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

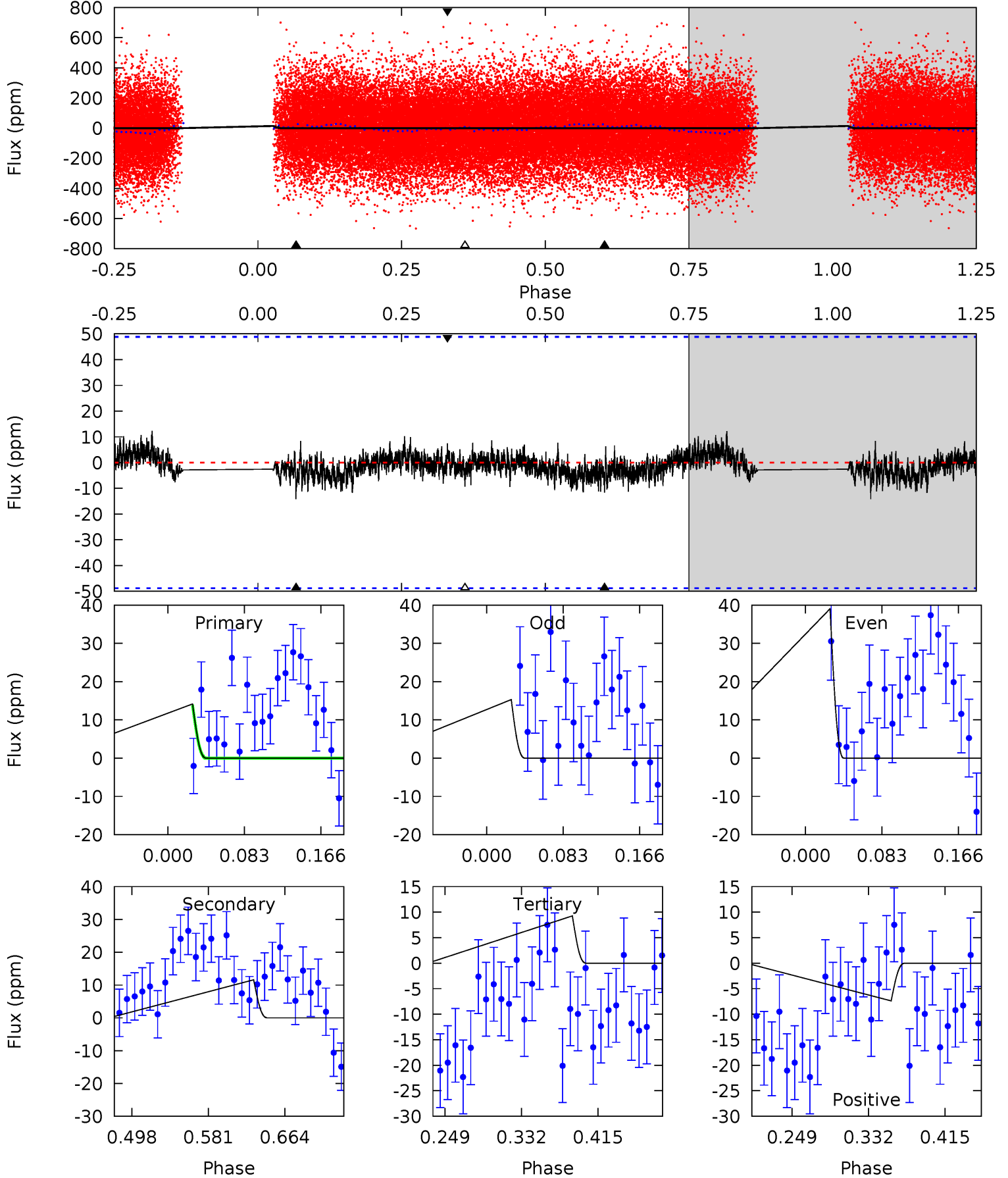
TCE 008394756-03   P= 2.015360 Days    $T_0=133.267818$  (BKJD)



# DV Model-Shift Uniqueness Test

008394756-03, P = 2.015433 Days, E = 131.198760 Days

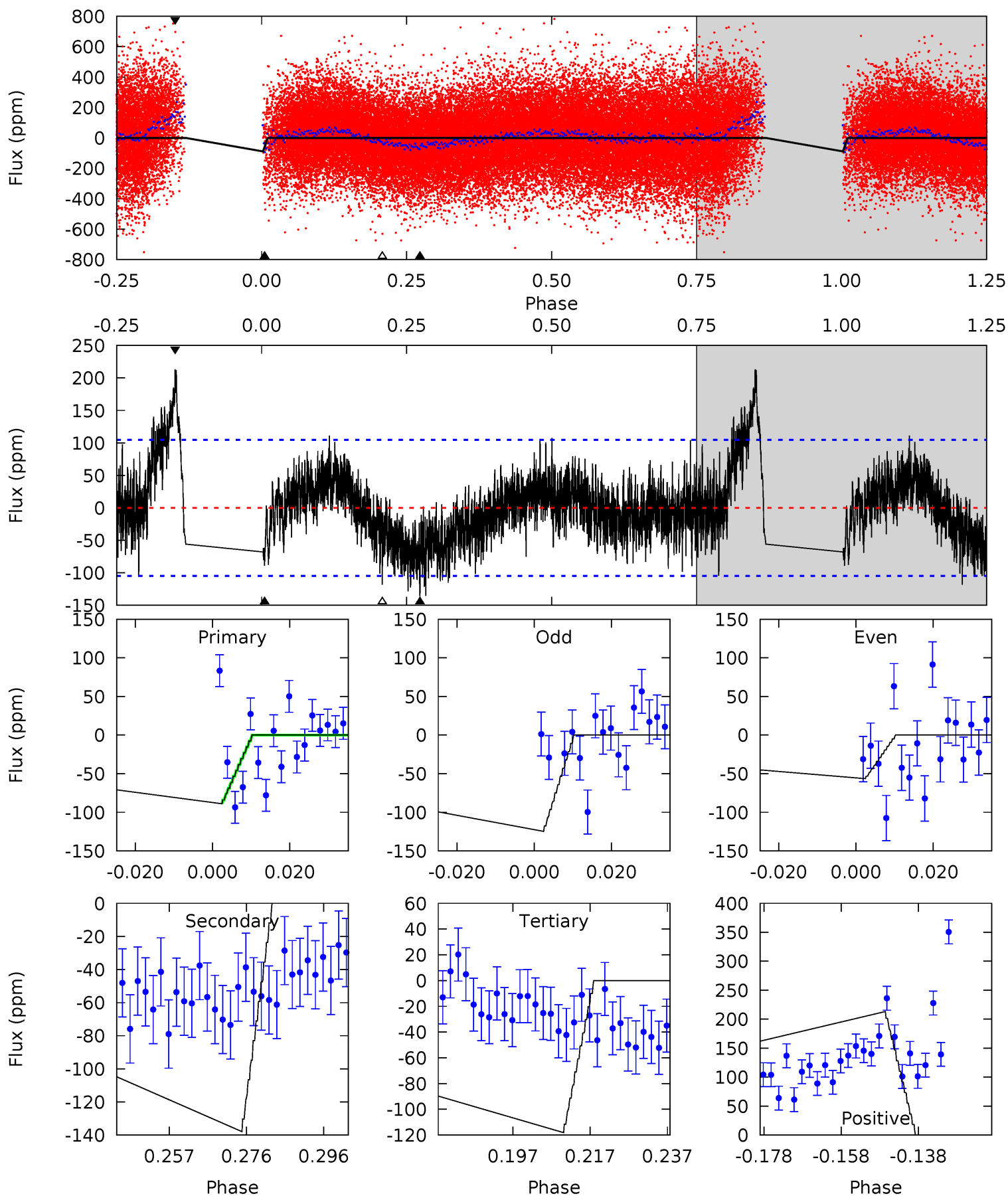
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.34	1.10	0.87	0.70	4.60	1.73	0.29	0.46	0.64	0.22	0.40	1.12	0.32	0.46	0



# Alt Model-Shift Uniqueness Test

008394756-03, P = 2.015360 Days, E = 131.252458 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
4.15	6.45	5.52	9.97	4.89	2.33	1.91	-1.36	-5.81	0.93	-3.52	1.59	0	0.61	0



### Stellar Parameters For KIC 008394756

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6283^{+168}_{-187}$	$3.365^{+0.408}_{-0.076}$	$-0.300^{+0.400}_{-0.300}$	$4.647^{+0.578}_{-2.167}$	$1.825^{+0.131}_{-0.523}$	$0.026^{+0.096}_{-0.007}$
	+3%/-3%	+12%/-2%	+133%/-100%	+12%/-47%	+7%/-29%	+375%/-26%
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 008394756-03 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-12 \pm 11$	$73.58^{+85.41}_{-52.72}$	$4170^{+234}_{-456}$	$-3770^{+327}_{-167}$	$0.001^{+0.013}_{-0.001}$
Alt.	$-138 \pm 21$	$77.54^{+77.84}_{-54.88}$	$4148^{+259}_{-505}$	$-3657^{+683}_{-246}$	$0.018^{+0.199}_{-0.013}$

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

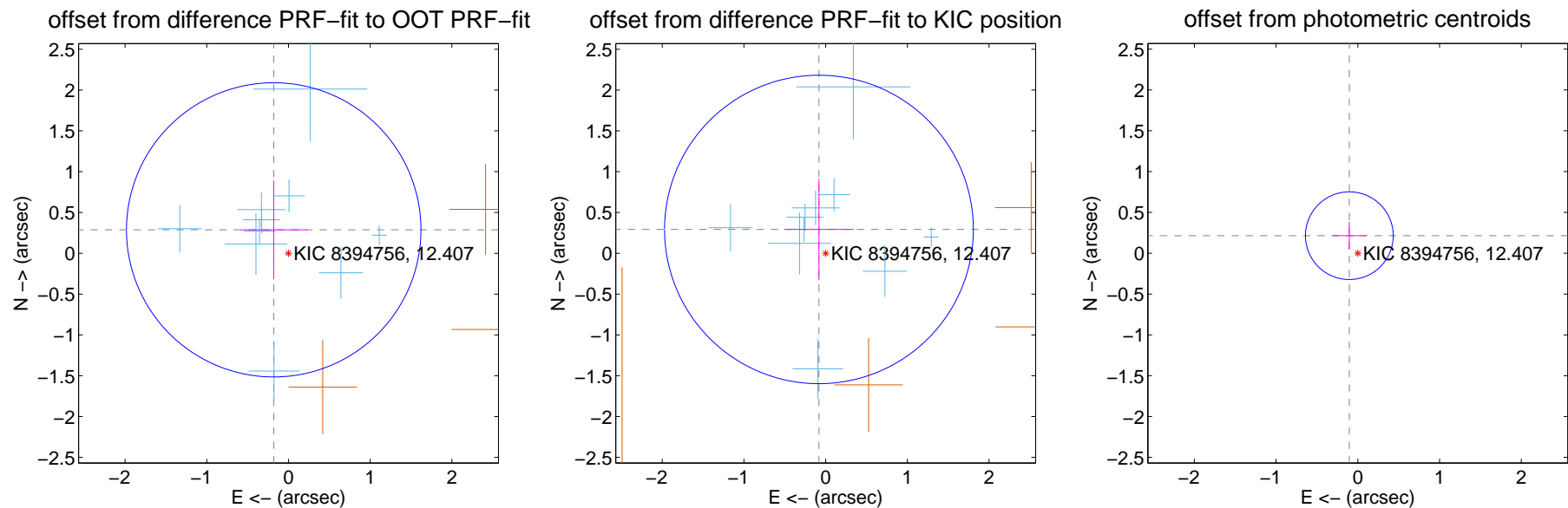
## DV Centroid Data

Supplemental centroid analysis for 008394756-03. Kepler magnitude: 12.41. Transit SNR 3.07

There are 11 quarters with good PRF difference image offsets

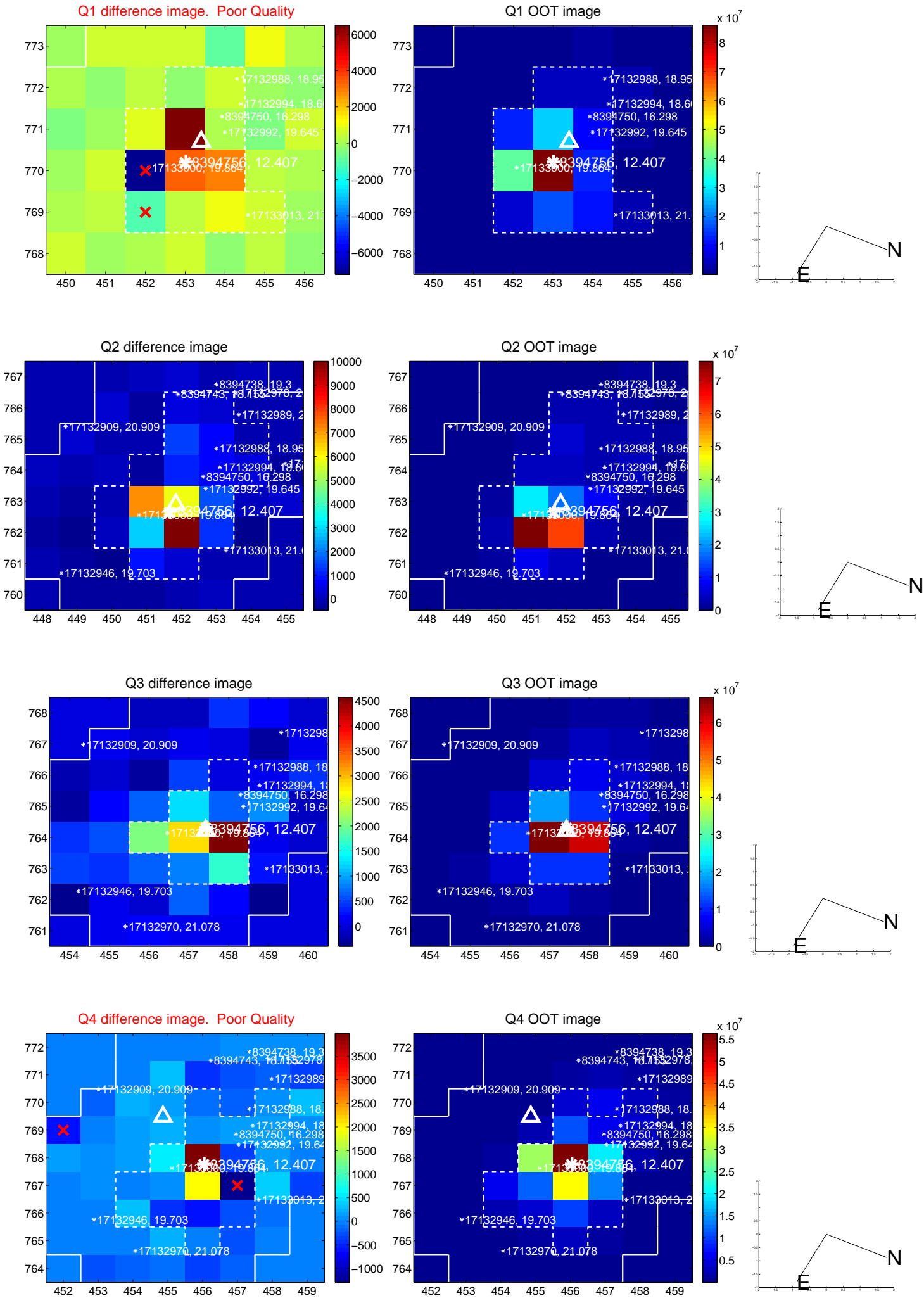
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.339 \pm 0.601$	0.56	$0.181 \pm 0.408$	$0.287 \pm 0.605$
PRF-fit source offset from KIC position	$0.303 \pm 0.630$	0.48	$0.082 \pm 0.425$	$0.292 \pm 0.622$
photometric centroid source offset	$0.24 \pm 0.18$	1.33	$0.10 \pm 0.21$	$0.22 \pm 0.17$



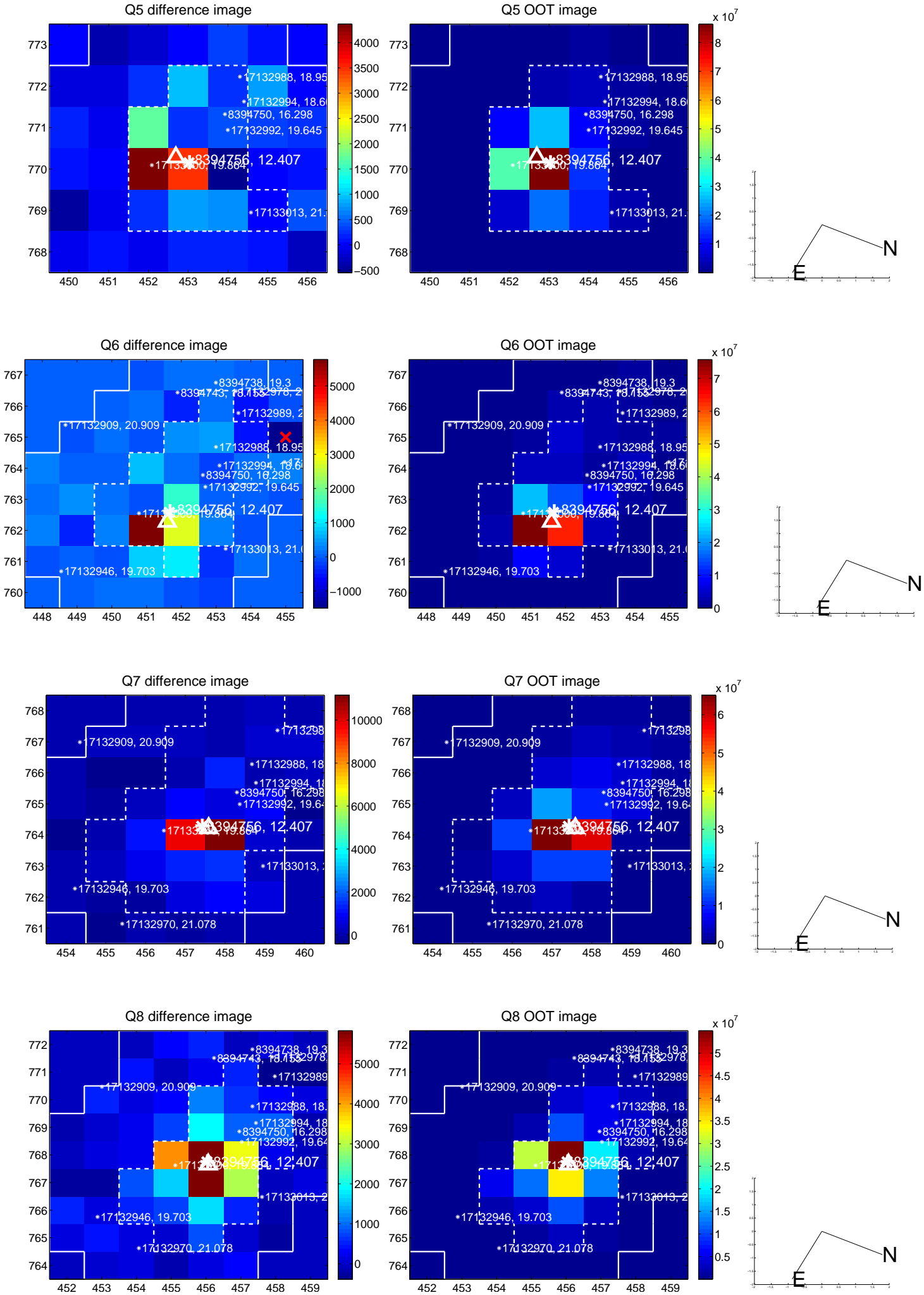
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

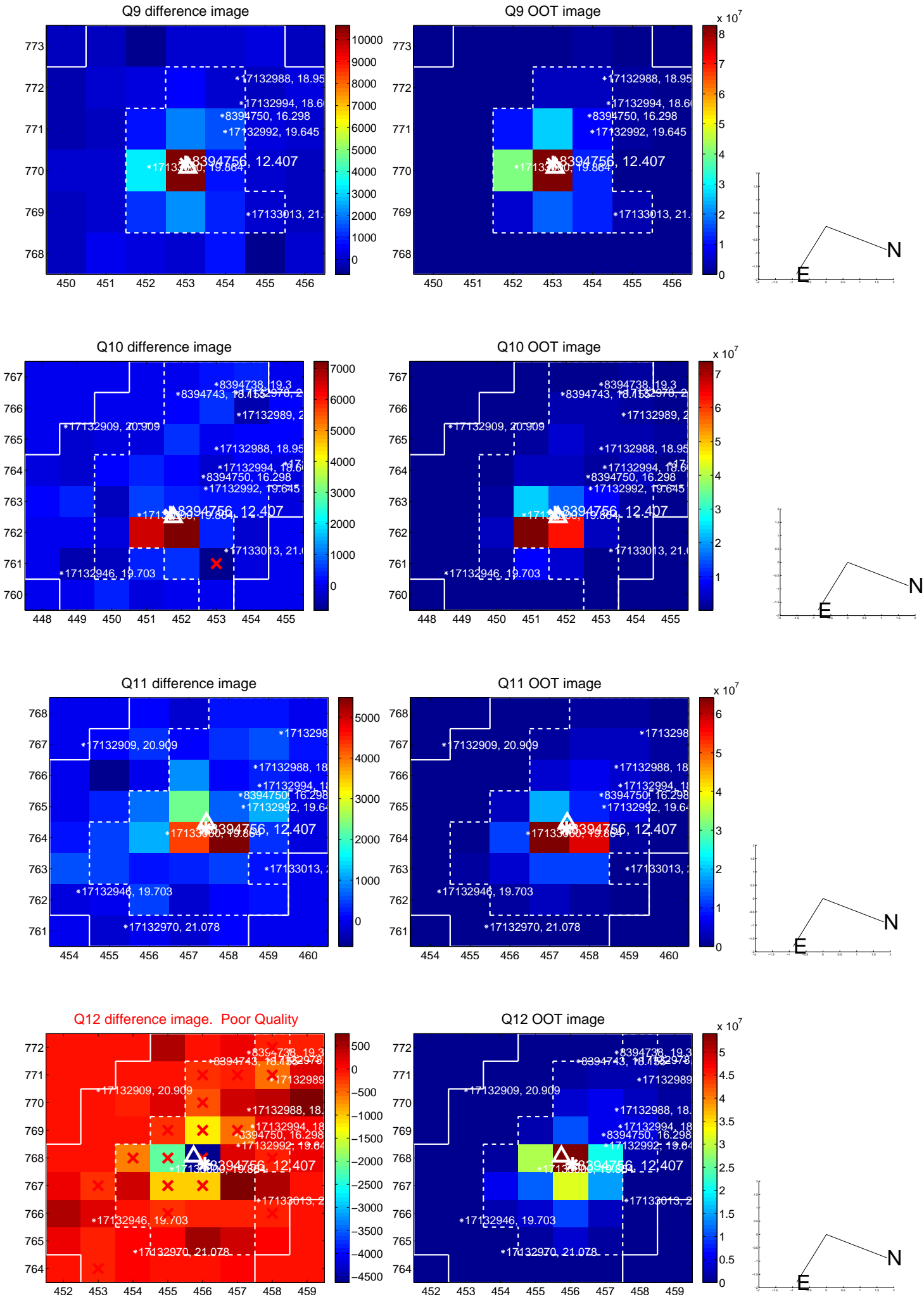




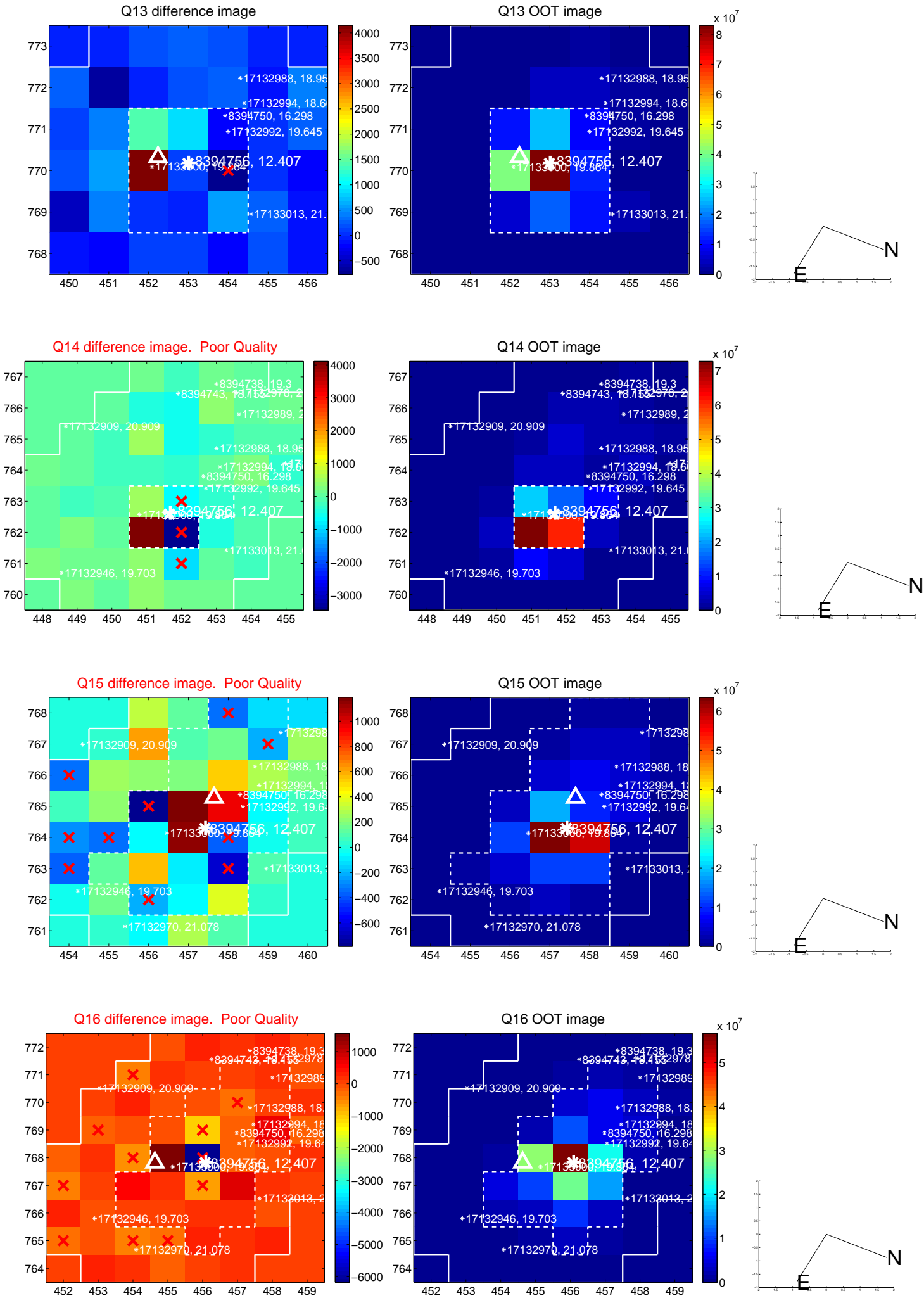
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



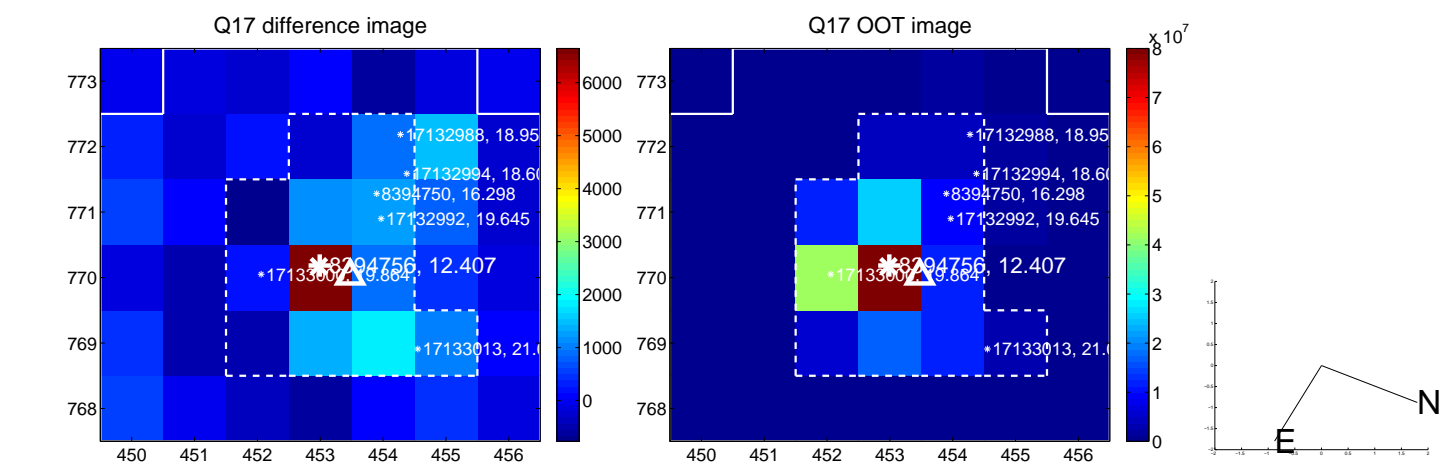
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



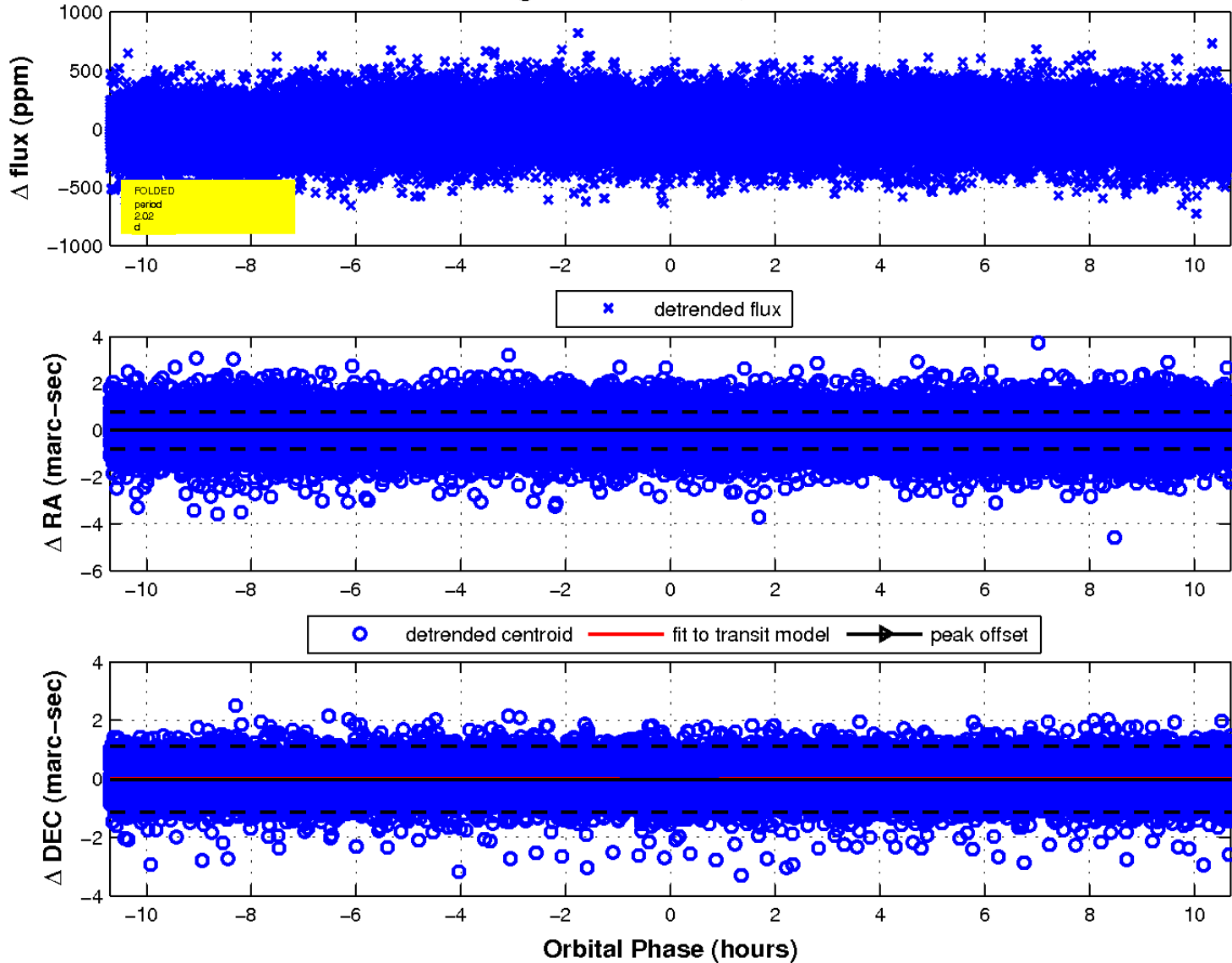
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

