

# KIC 007902003

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007902003-01	OBS	3236.01	7.130530	135.591184	30.1	2.721	9.0	9.2	2.07	6312	1.34	910.48

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007902003-01	OBS	PC	0.88	0	0	0	0	NO_COMMENT

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

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

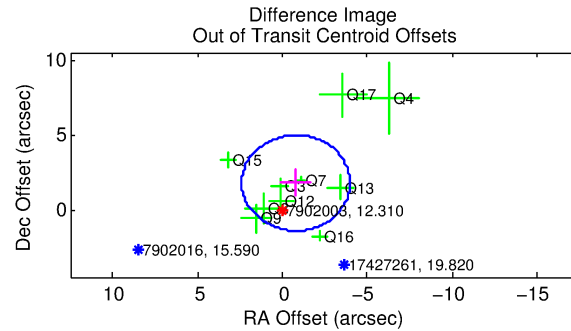
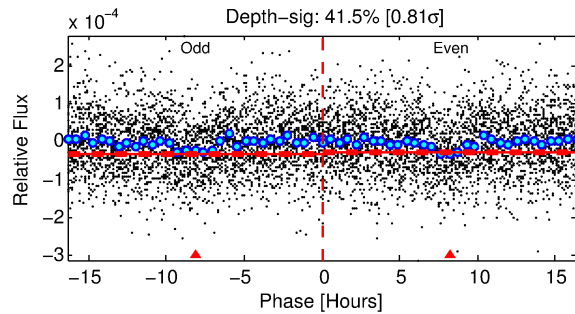
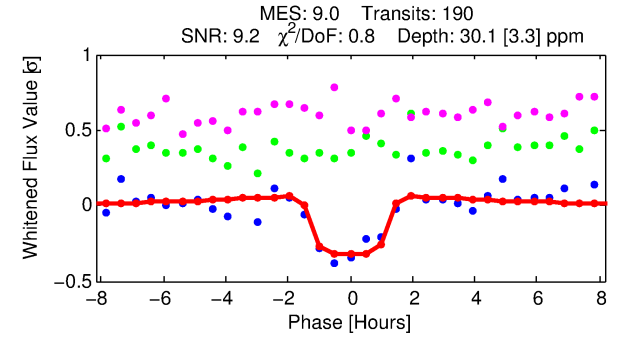
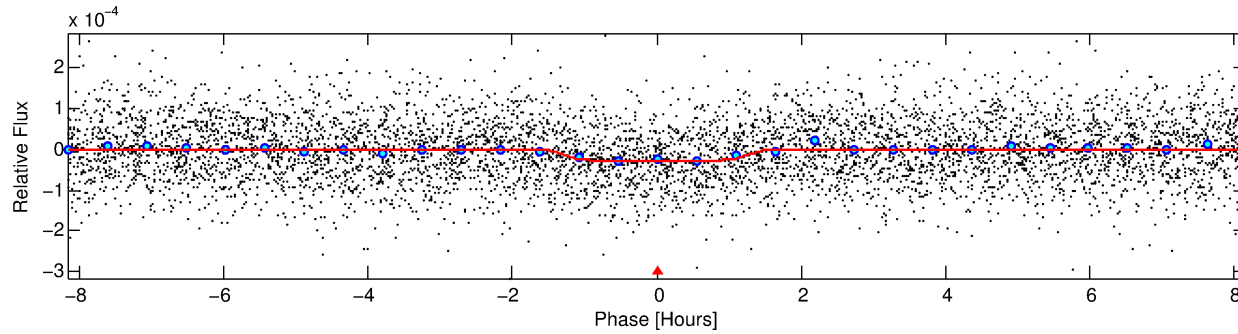
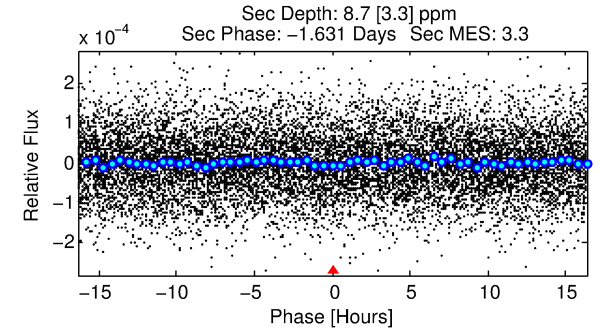
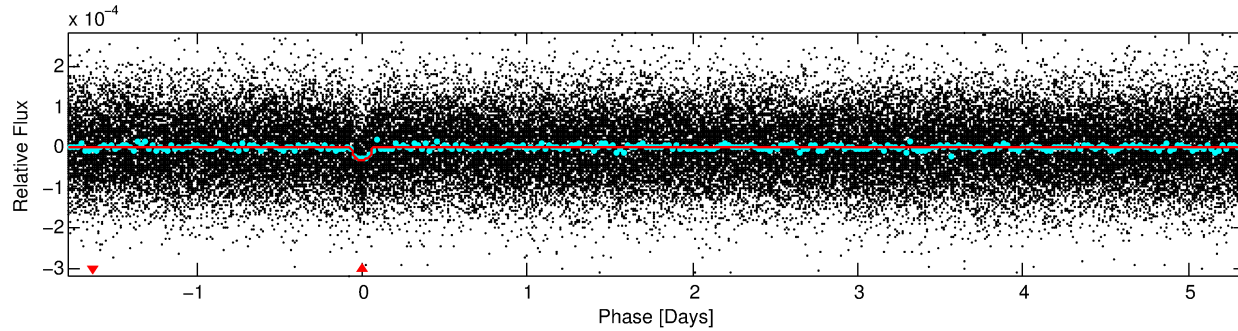
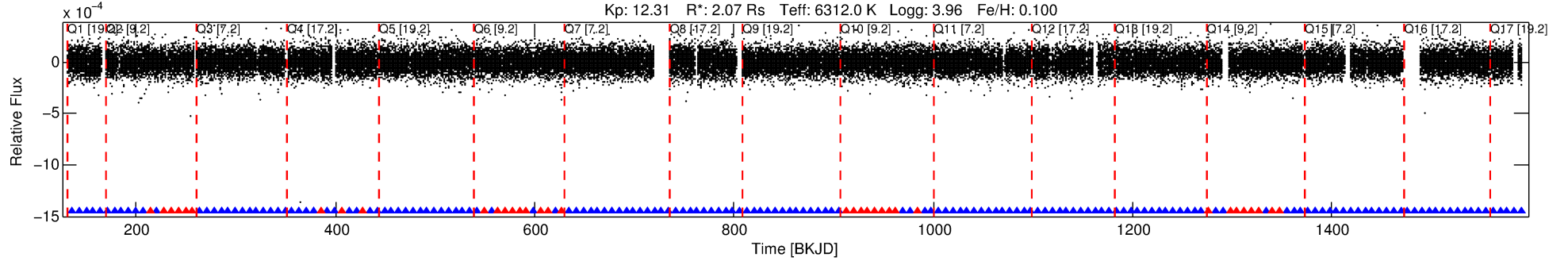
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007902003-01

No Significant Match Found

# DV One-Page Summary

KIC: 7902003 Candidate: 1 of 1 Period: 7.131 d  
KOI: K03236.01 Corr: 0.929



## DV Fit Results:

Period = 7.13053 [0.00005] d  
Epoch = 135.5912 [0.0051] BKJD  
Rp/R\* = 0.0059 [0.0019]  
a/R\* = 8.95 [15.39]  
b = 0.90 [0.36]  
Seff = 910.48 [317.10]  
Teq = 1401 [122] K  
Rp = 1.34 [0.53] Re  
a = 0.0820 [0.0179] AU  
Ag = 18.01 [14.67] [1.16σ]  
Teffp = 4461 [831] K [3.64σ]

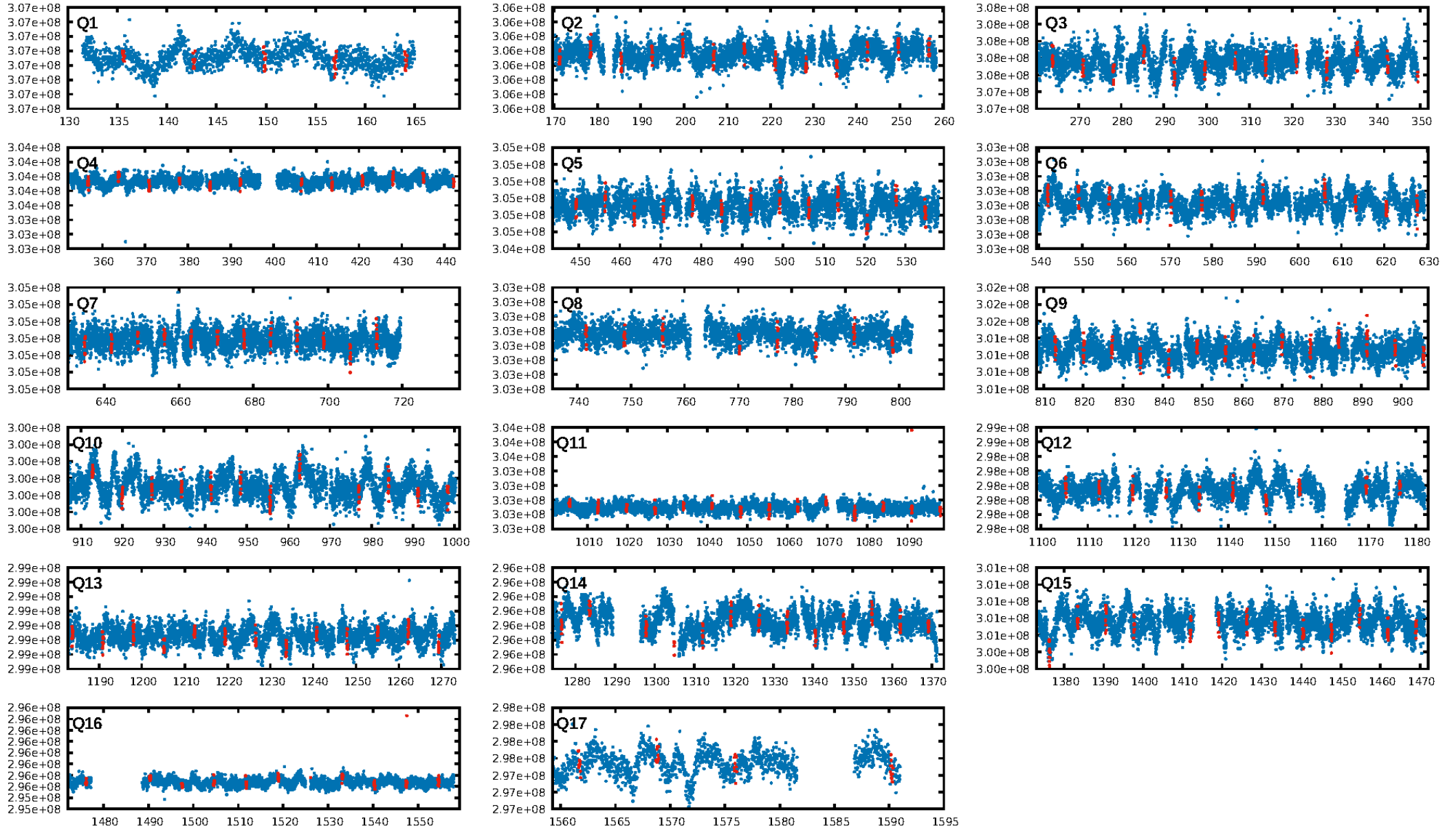
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.32e-19  
RollingBand-fgt: 0.81 [146/181]  
GhostDiagnostic-chr: -9.571  
Centroid-sig: 44.4%  
Centroid-so: 0.950 arcsec [0.84σ]  
OotOffset-rm: 1.943 arcsec [1.83σ]  
KicOffset-rm: 1.890 arcsec [1.70σ]  
OotOffset-st: 0/3/4/3 [10]  
KicOffset-st: 0/3/4/3 [10]  
DiffImageQuality-fgm: 0.60 [6/10]  
DiffImageOverlap-fno: 1.00 [17/17]

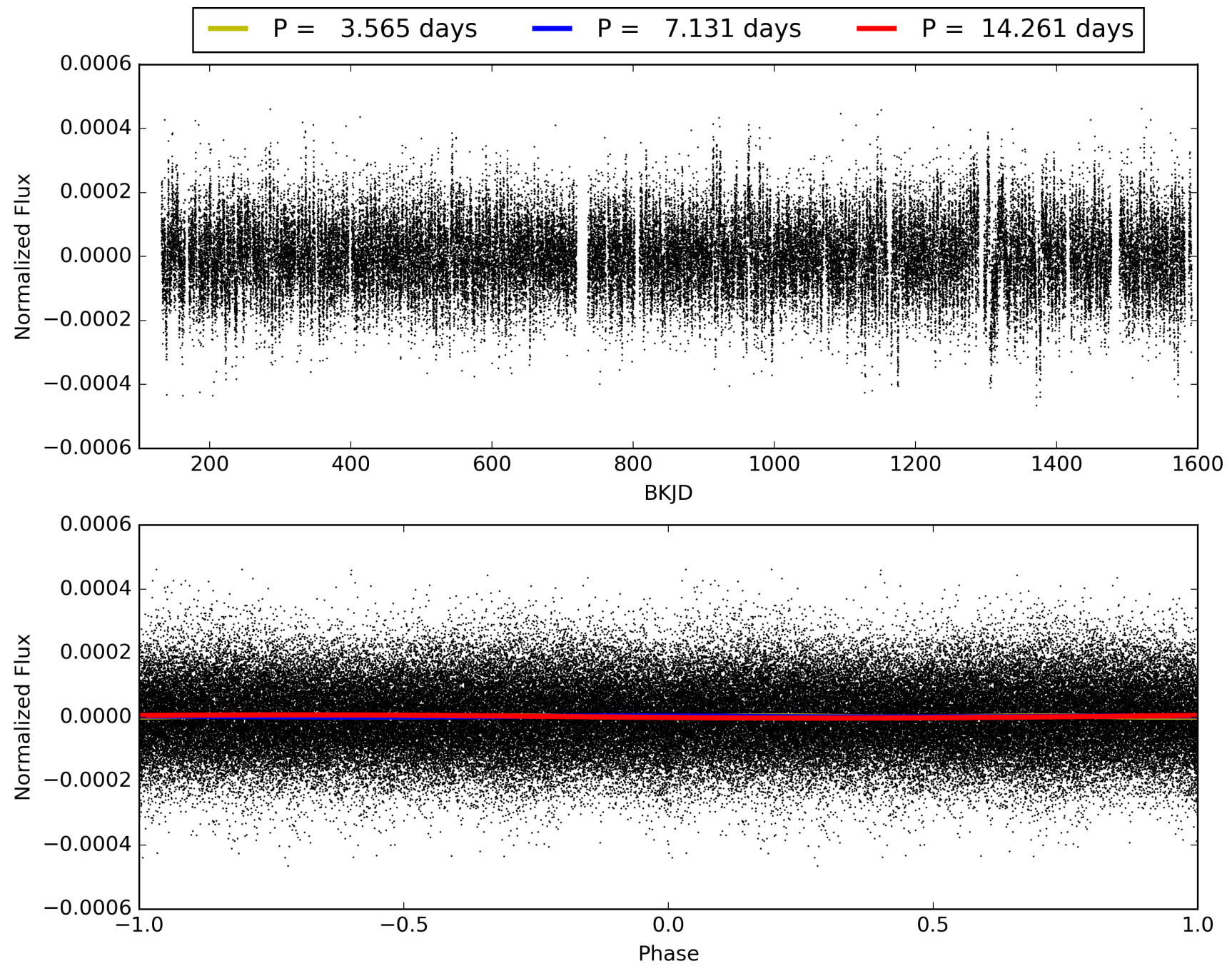
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:01:08 Z

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

# TCE 007902003-01, PDC Light Curves

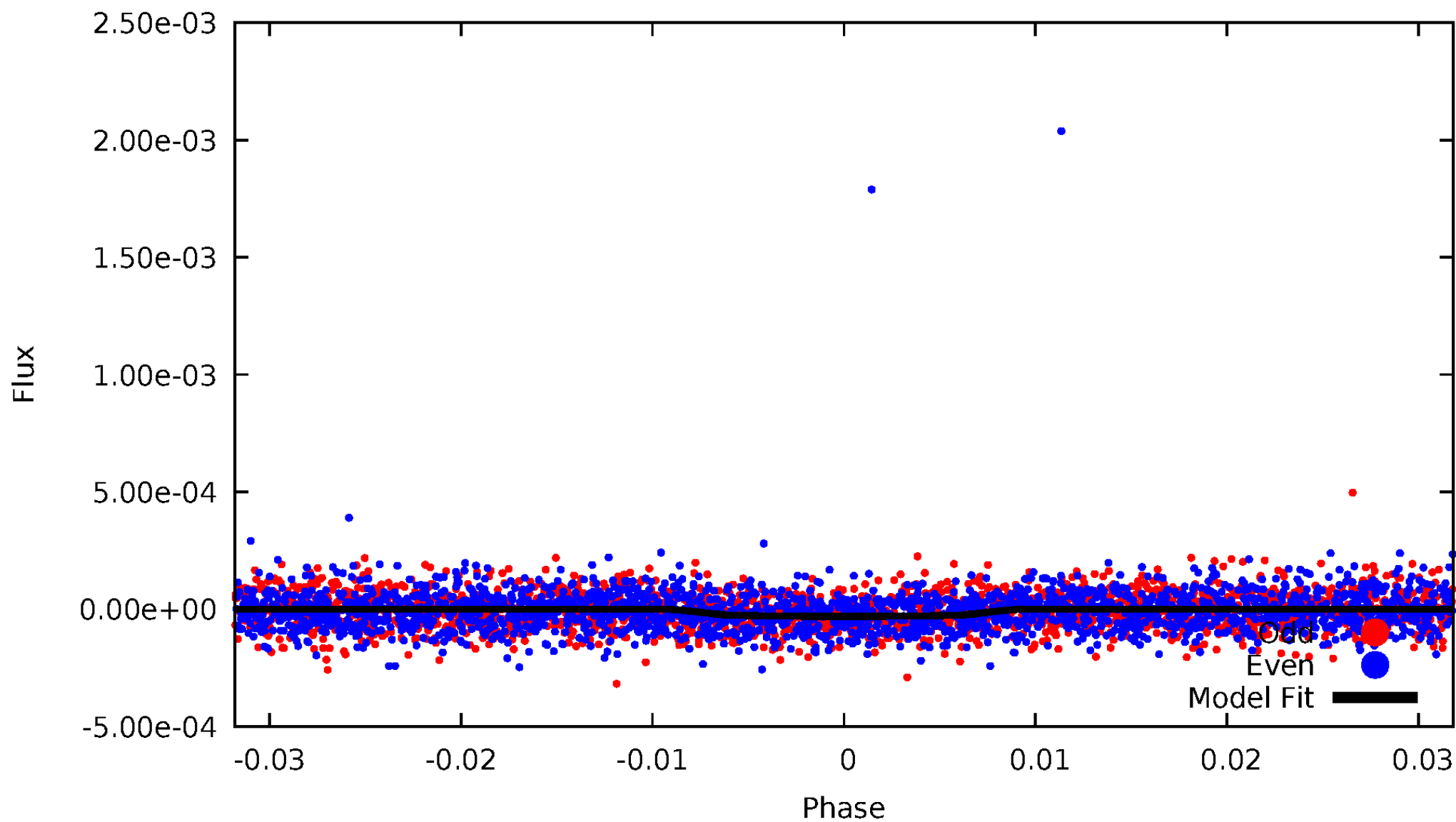


TCE 007902003-01



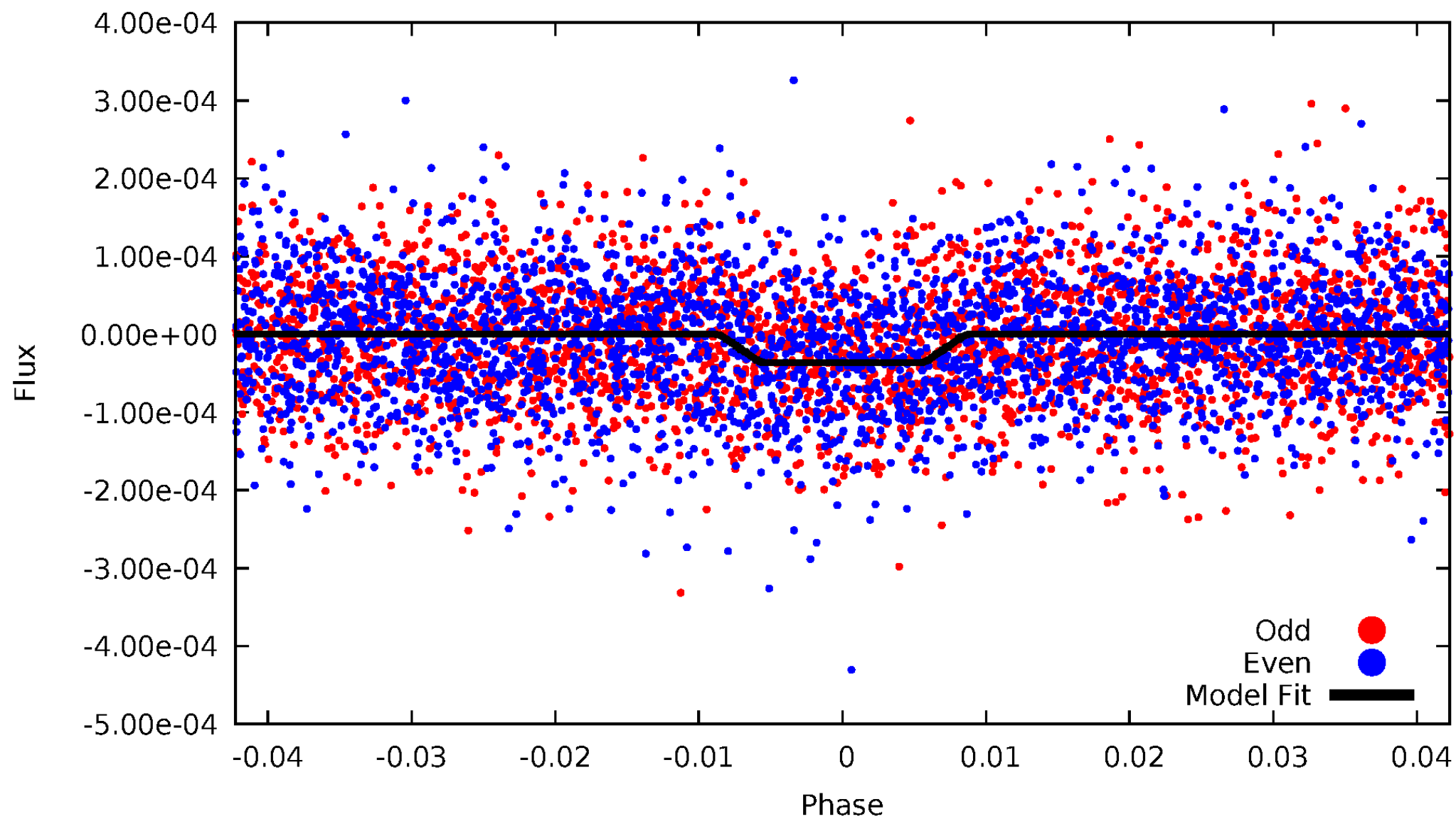
# DV Odd/Even

TCE 007902003-01



# ALT Odd/Even

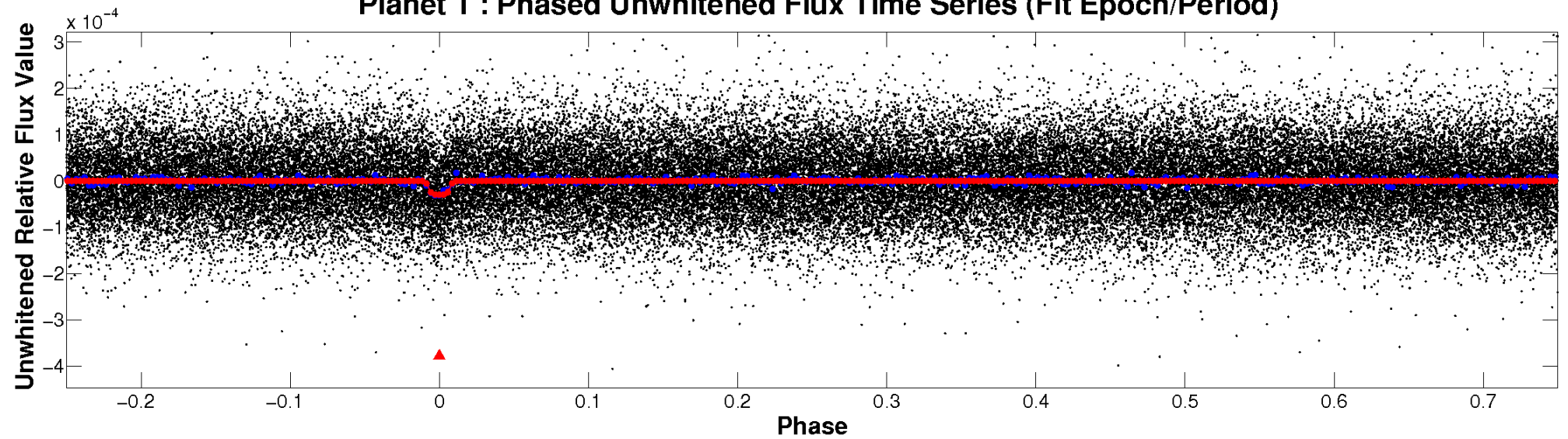
TCE 007902003-01



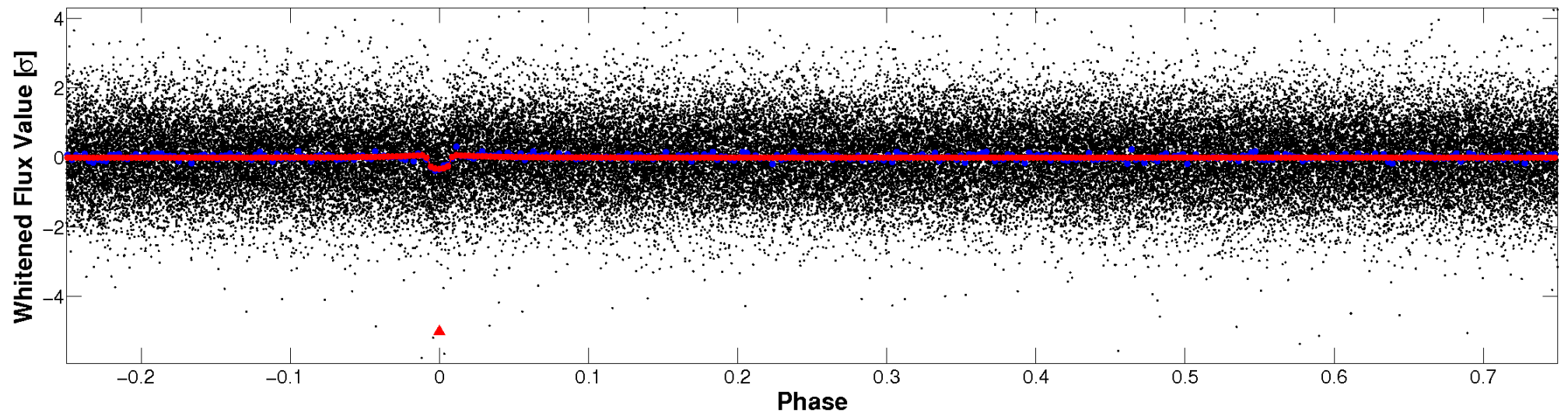


# Non-Whitened Vs. Whitened Light Curve

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

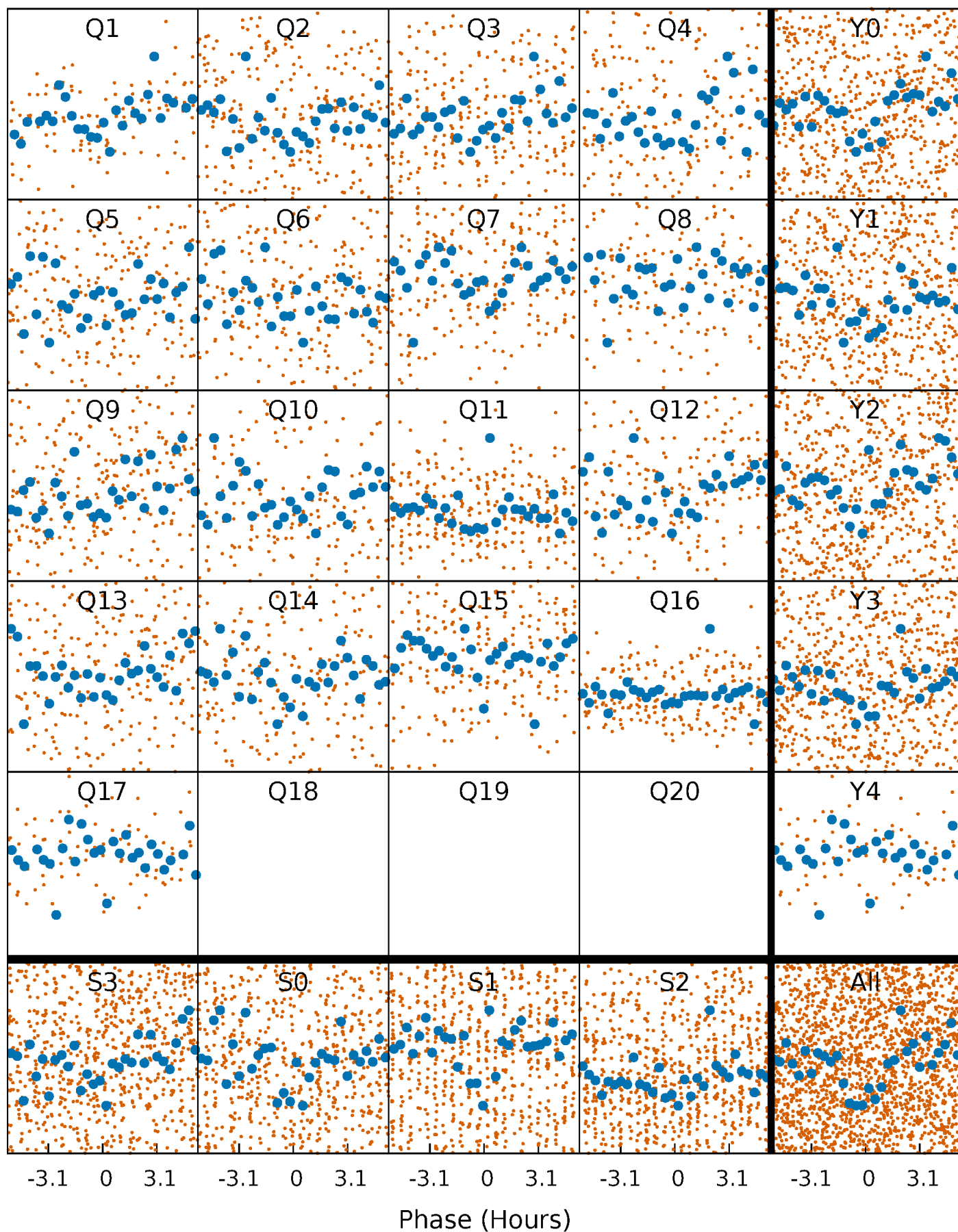


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

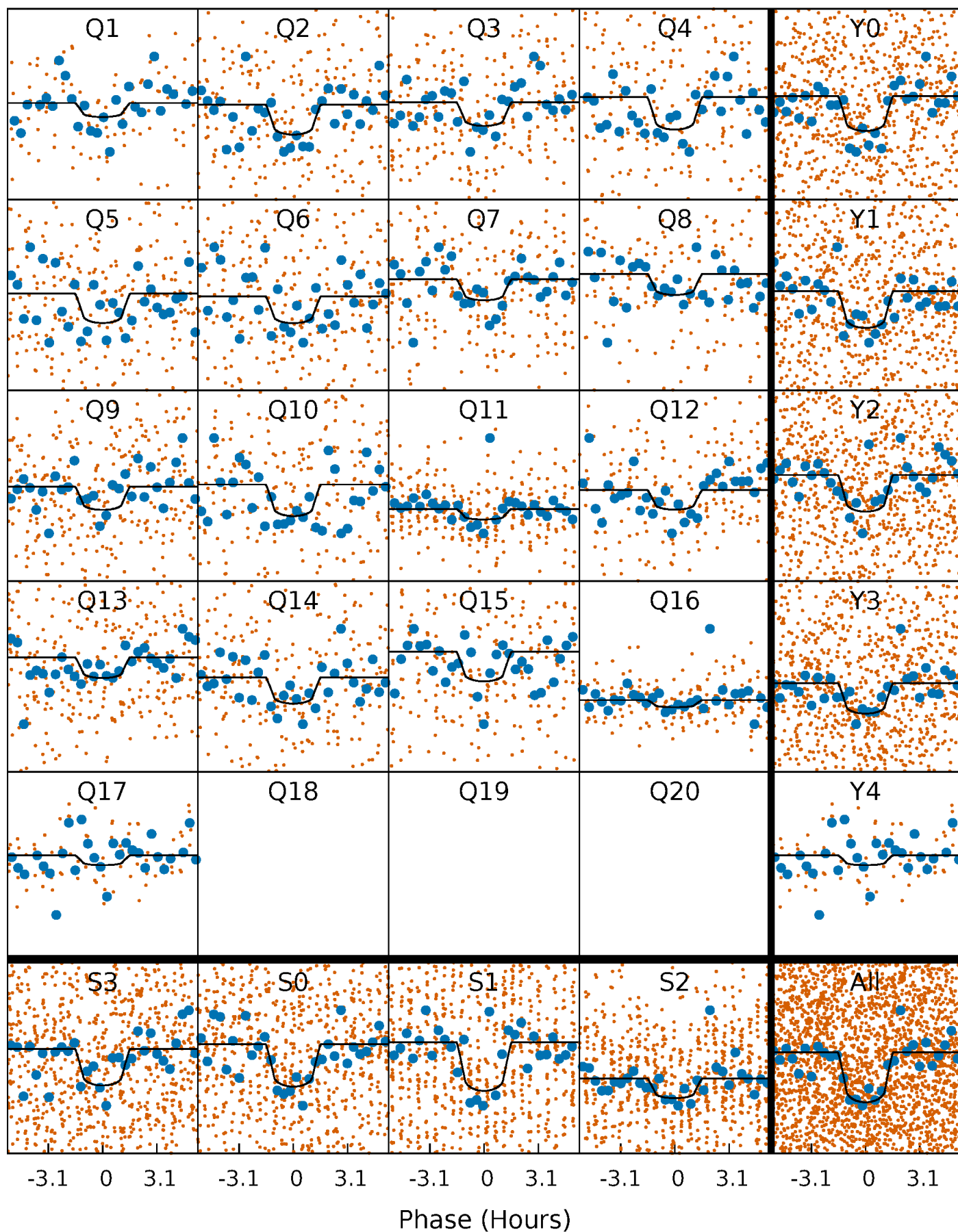
TCE 007902003-01   P= 7.130530 Days    $T_0=135.591184$  (BKJD)





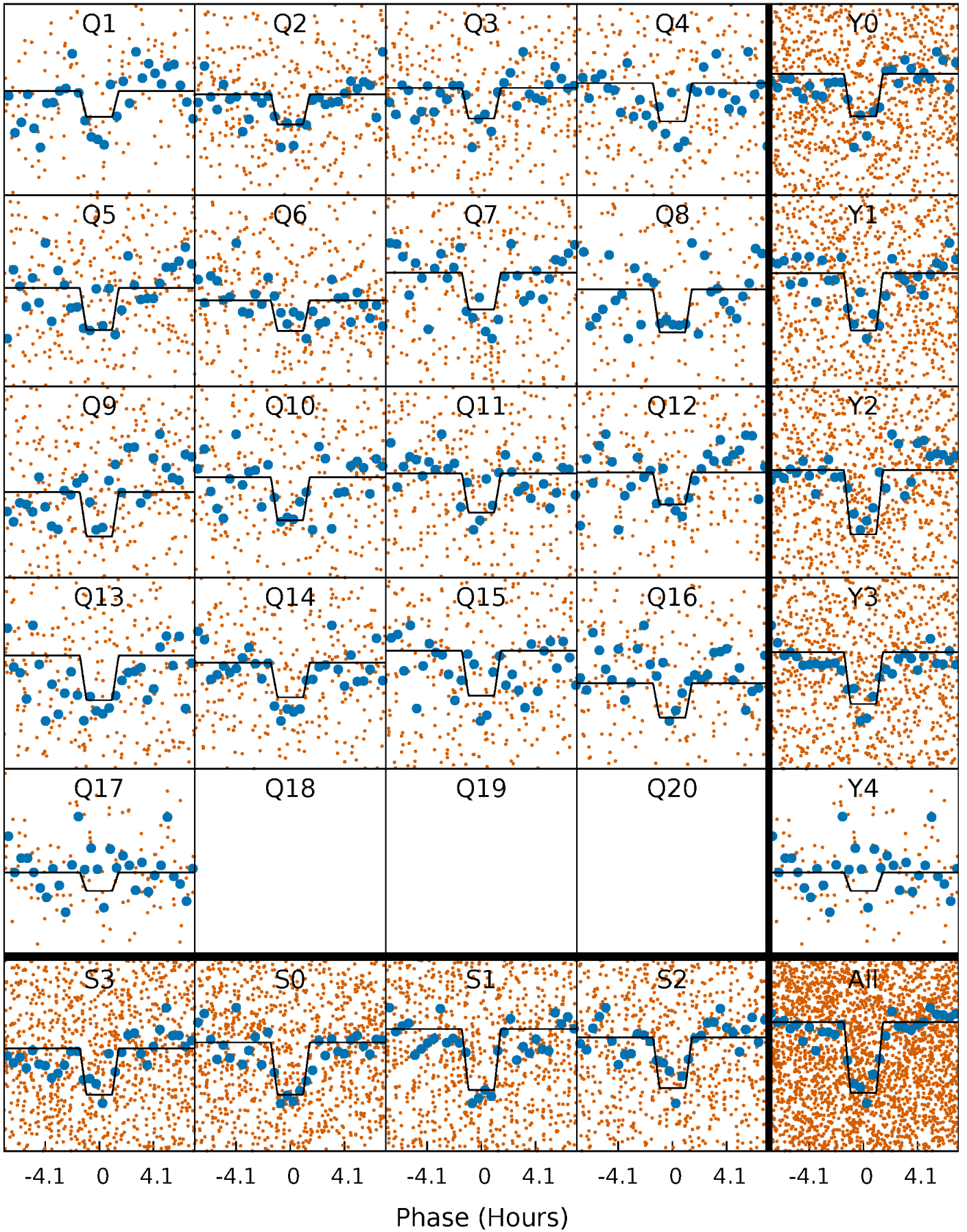
# DV Quarter-Phased Transit Curves

TCE 007902003-01 P= 7.130530 Days  $T_0=135.591184$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

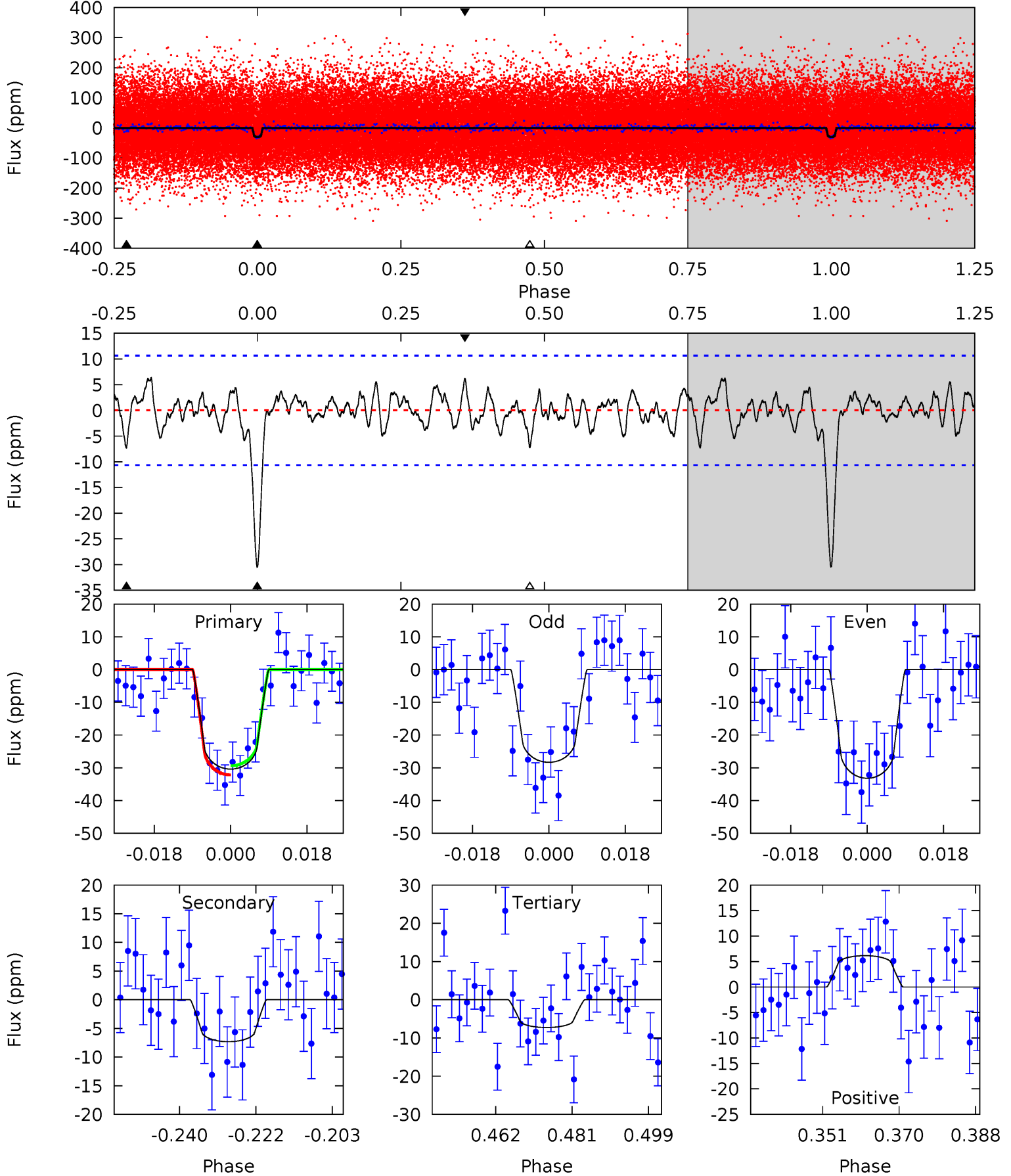
TCE 007902003-01 P= 7.130501 Days  $T_0=135.588601$  (BKJD)



# DV Model-Shift Uniqueness Test

007902003-01, P = 7.130530 Days, E = 128.460654 Days

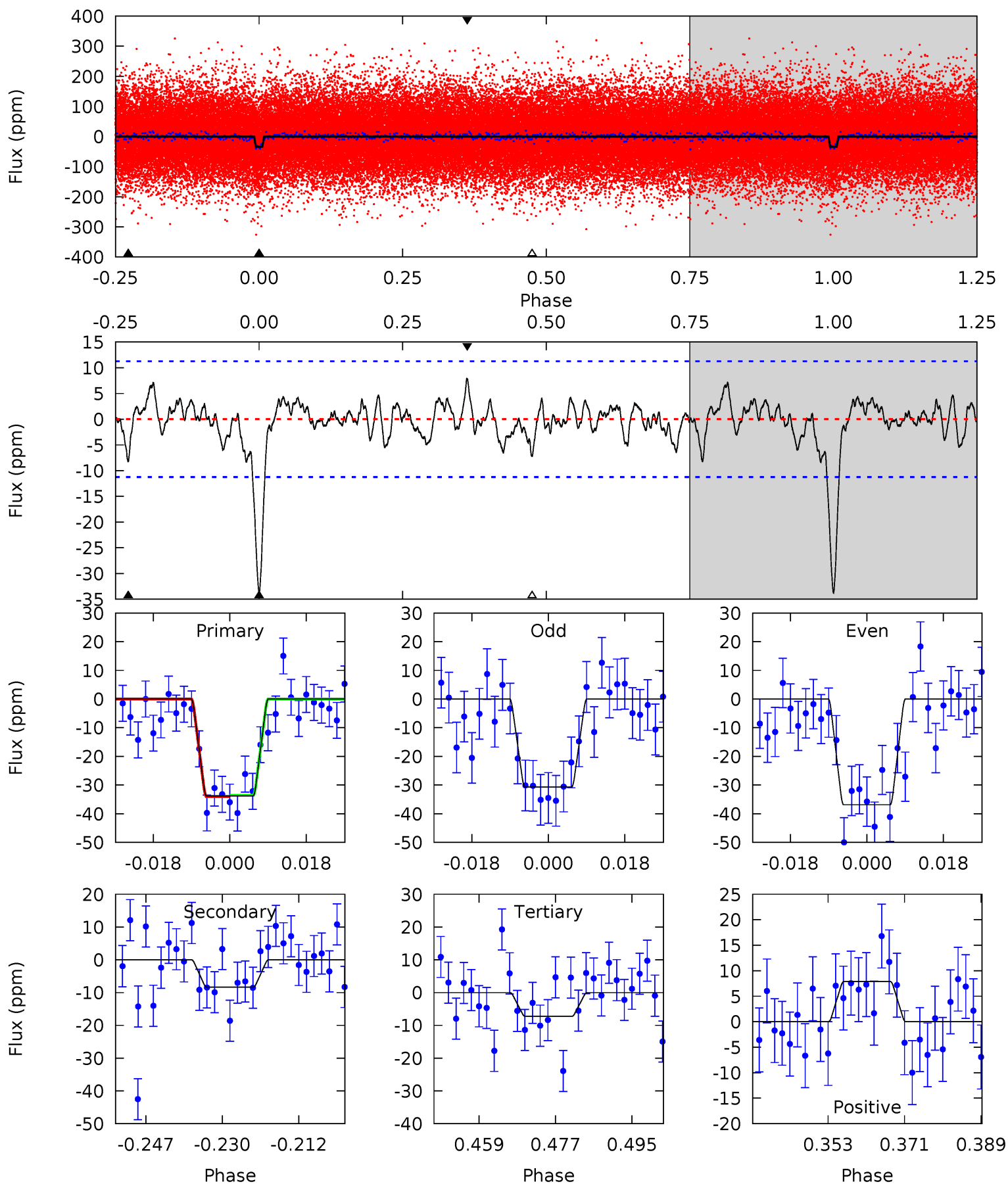
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	3.37	3.35	2.84	4.91	2.36	1.13	10.7	11.2	0.02	0.54	1.12	0.93	0.17	0.64



# Alt Model-Shift Uniqueness Test

007902003-01, P = 7.130501 Days, E = 128.458100 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
14.8	3.63	3.17	3.44	4.92	2.37	1.18	11.6	11.3	0.46	0.19	1.34	1.08	0.19	0.10



### Stellar Parameters For KIC 007902003

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6312^{+114}_{-127}$	$3.964^{+0.195}_{-0.105}$	$0.100^{+0.150}_{-0.150}$	$2.074^{+0.404}_{-0.494}$	$1.443^{+0.134}_{-0.217}$	$0.228^{+0.226}_{-0.085}$
	+2%/-2%	+5%/-3%	+150%/-150%	+19%/-24%	+9%/-15%	+99%/-37%
Source	SPE59	SPE59	SPE59	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 007902003-01 / KOI 3236.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-7 \pm 2$	$1.25^{+0.46}_{-0.43}$	$1936^{+99}_{-137}$	$4465^{+862}_{-529}$	$17^{+22}_{-9}$
Alt.	$-8 \pm 2$	$1.30^{+0.44}_{-0.39}$	$1936^{+104}_{-124}$	$4532^{+772}_{-502}$	$18^{+20}_{-9}$

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



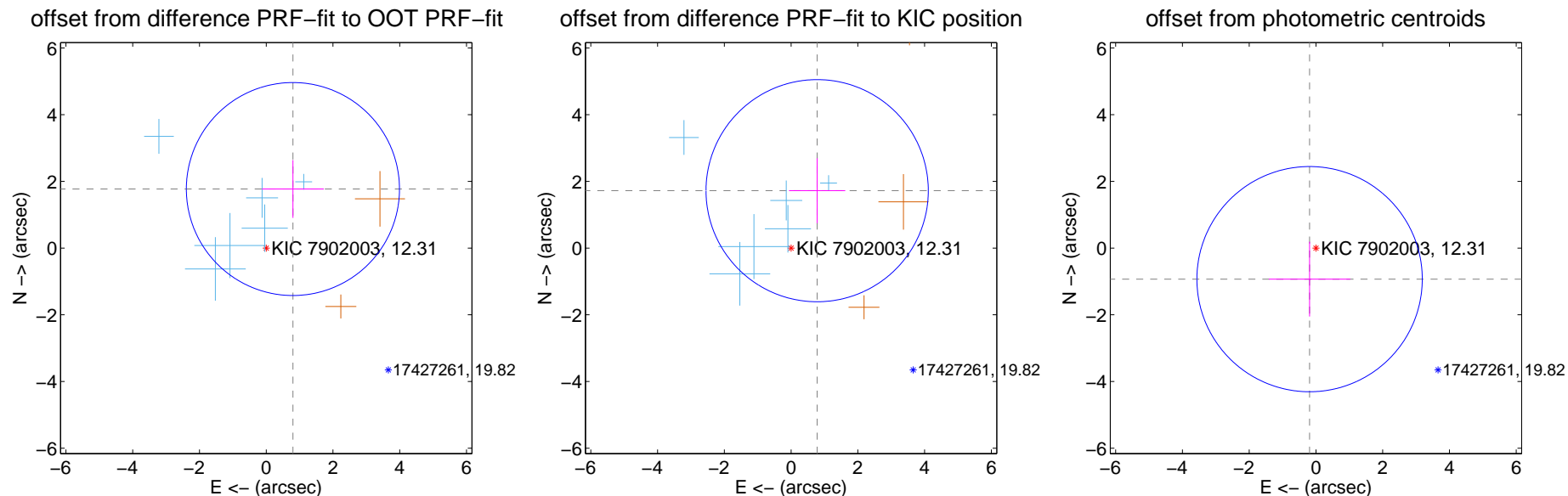
## DV Centroid Data

Supplemental centroid analysis for 007902003-01. Kepler magnitude: 12.31. Transit SNR 9.23

There are 6 quarters with good PRF difference image offsets

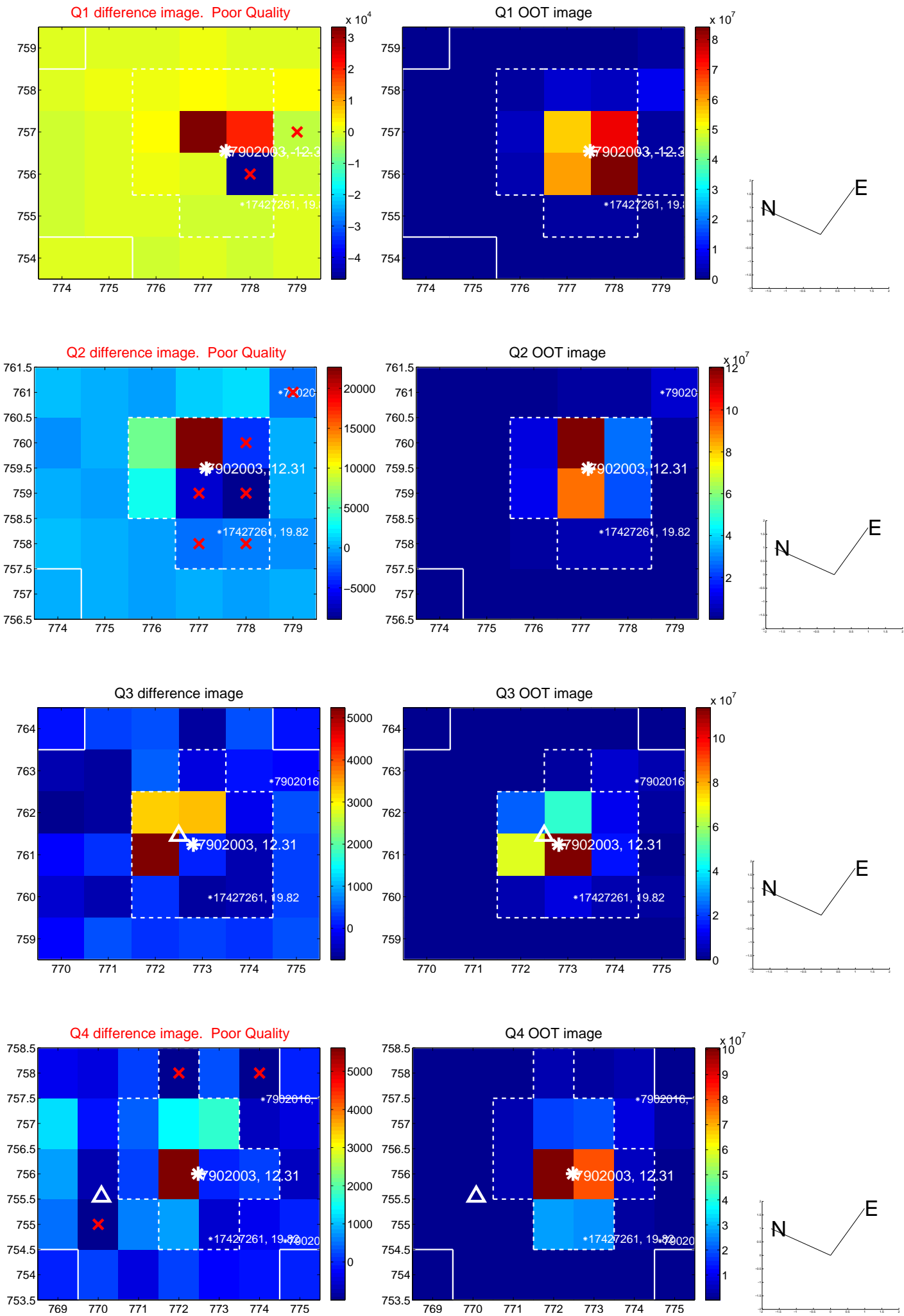
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.943 \pm 1.064$	1.83	$-0.800 \pm 0.926$	$1.770 \pm 0.866$
PRF-fit source offset from KIC position	$1.890 \pm 1.110$	1.70	$-0.781 \pm 0.843$	$1.721 \pm 0.973$
photometric centroid source offset	$0.95 \pm 1.13$	0.84	$0.19 \pm 1.22$	$-0.93 \pm 1.12$

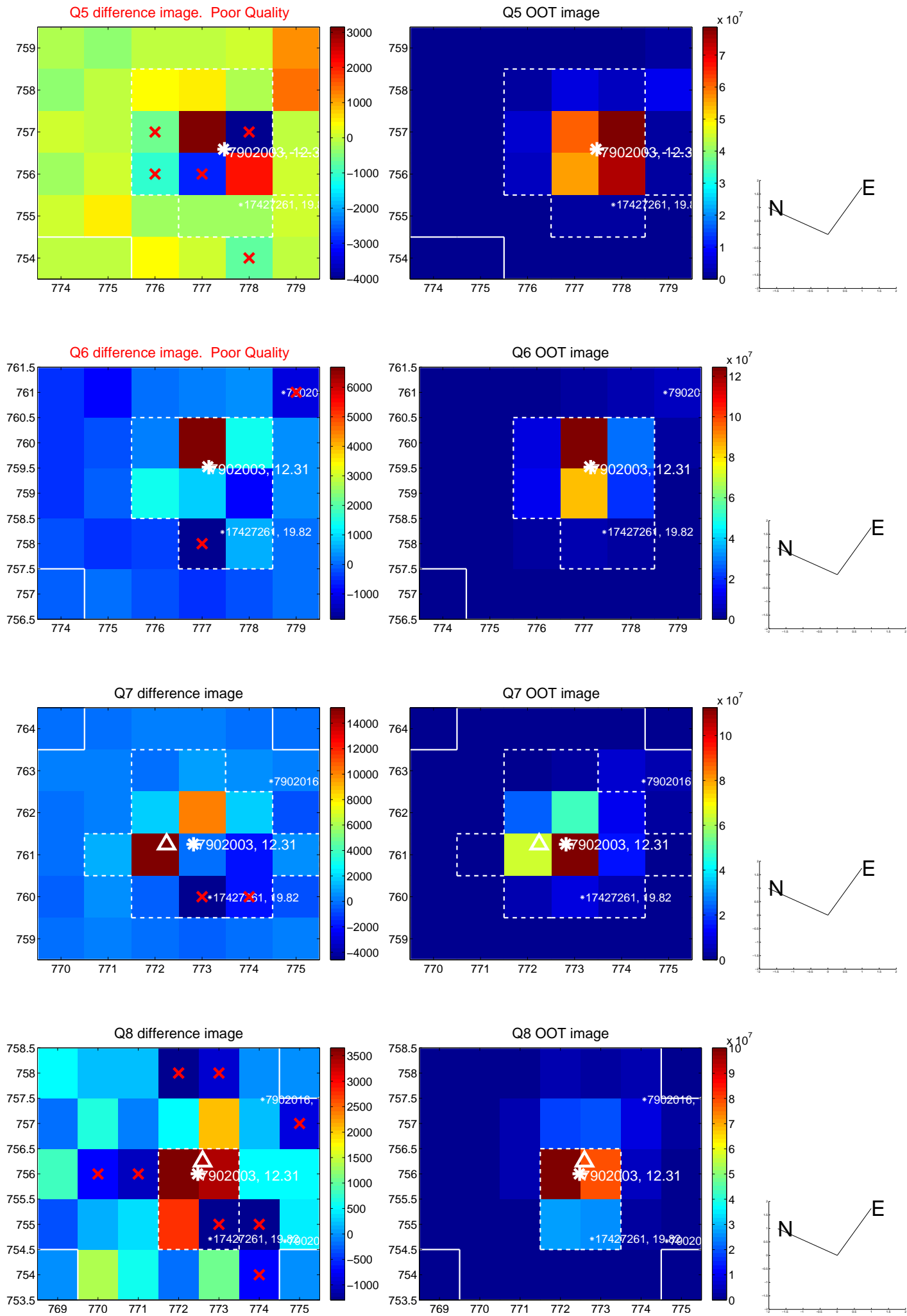


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

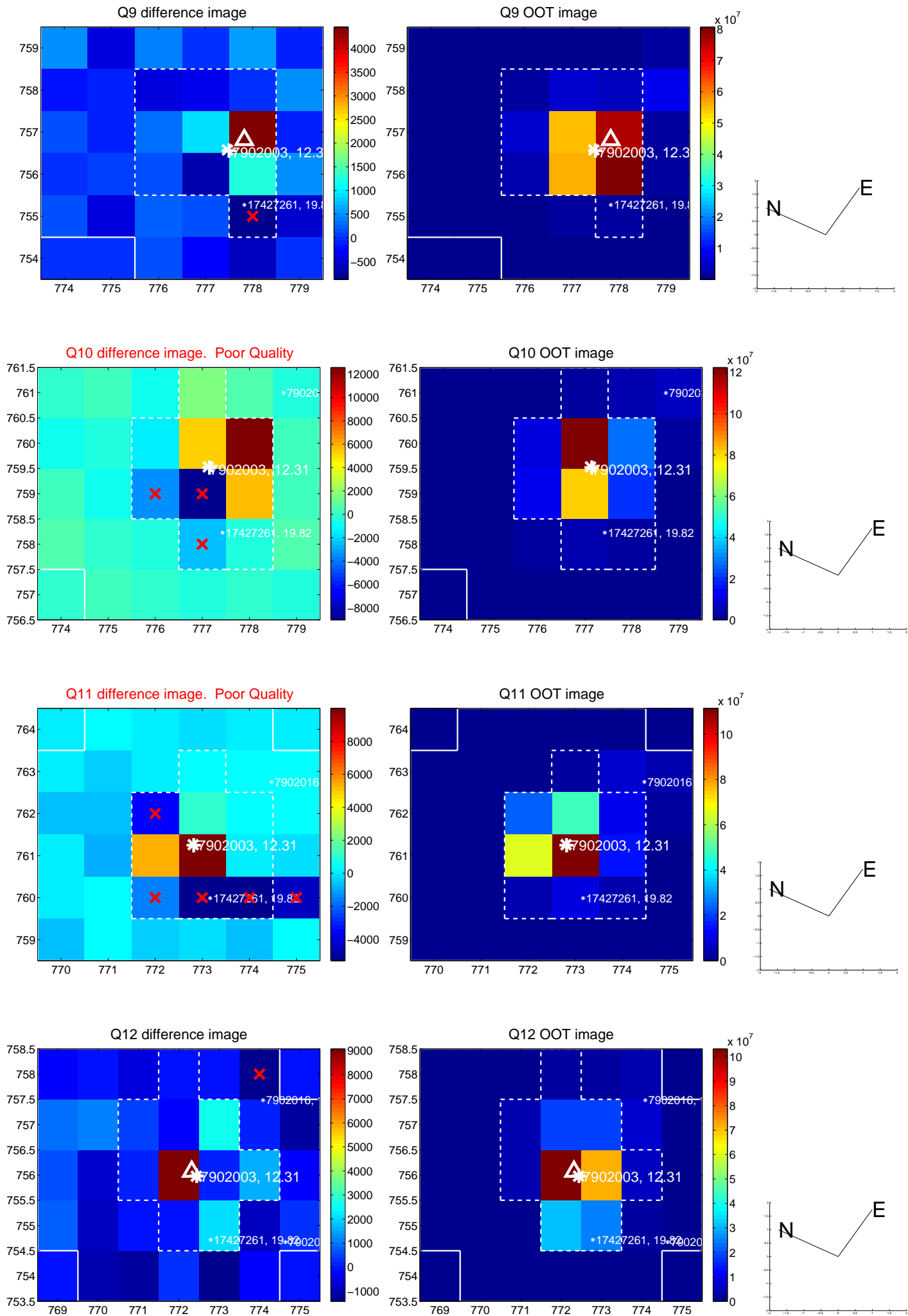
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



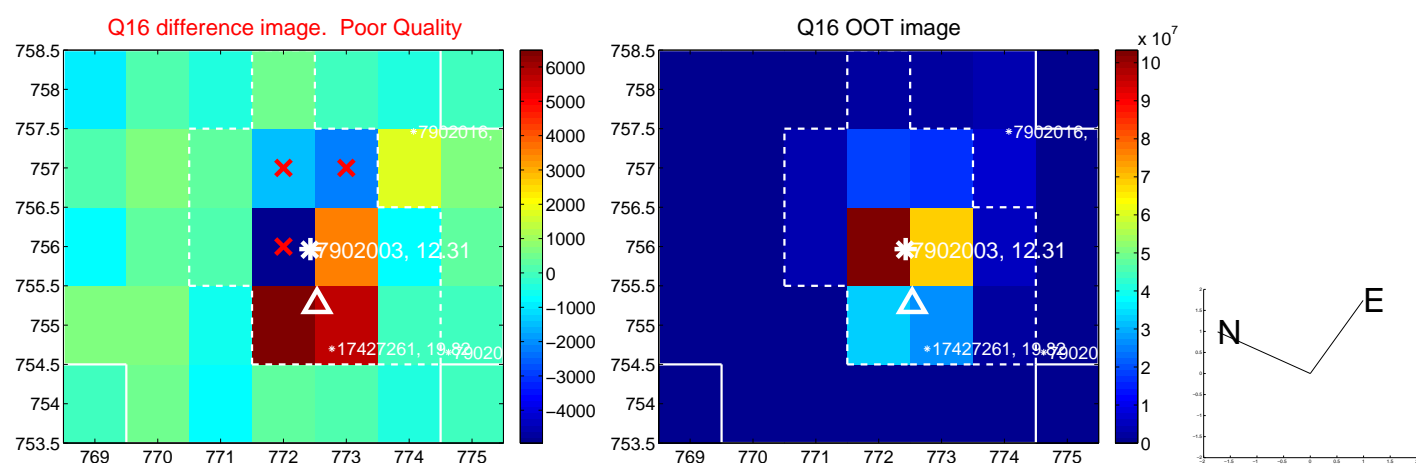
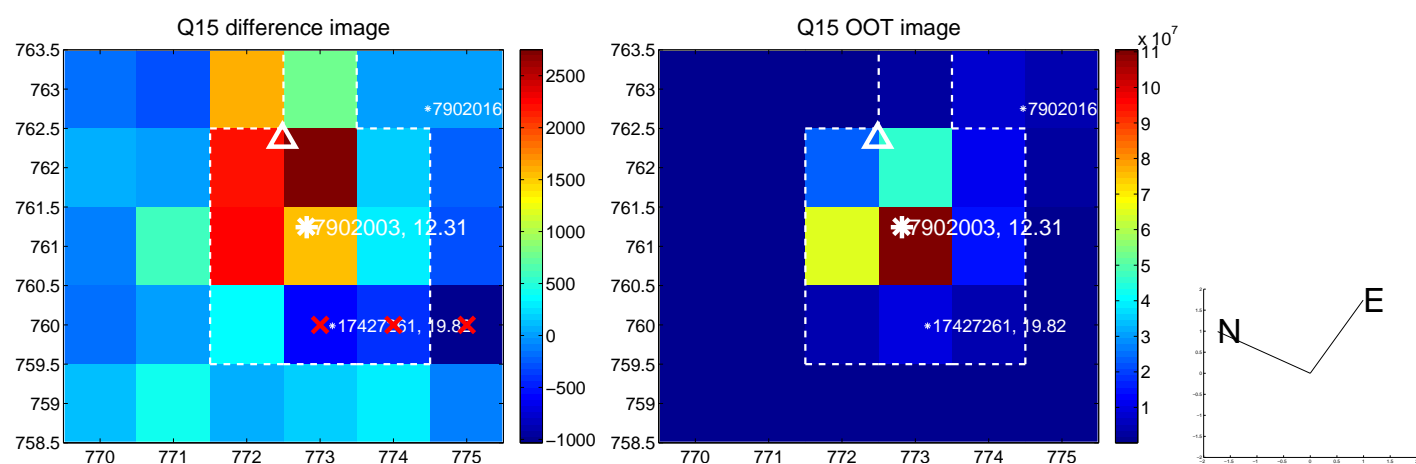
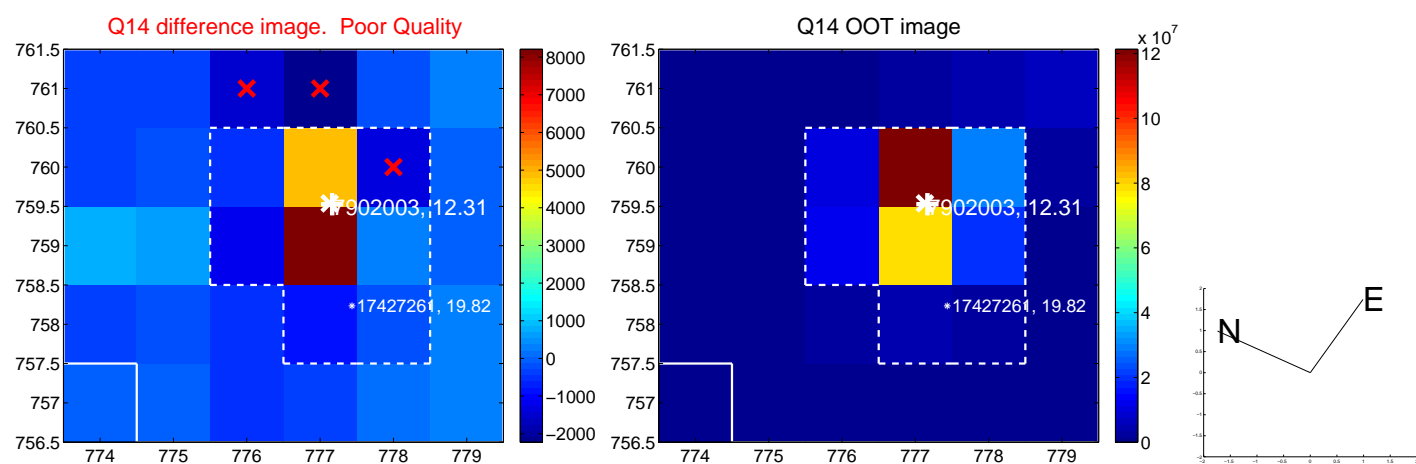
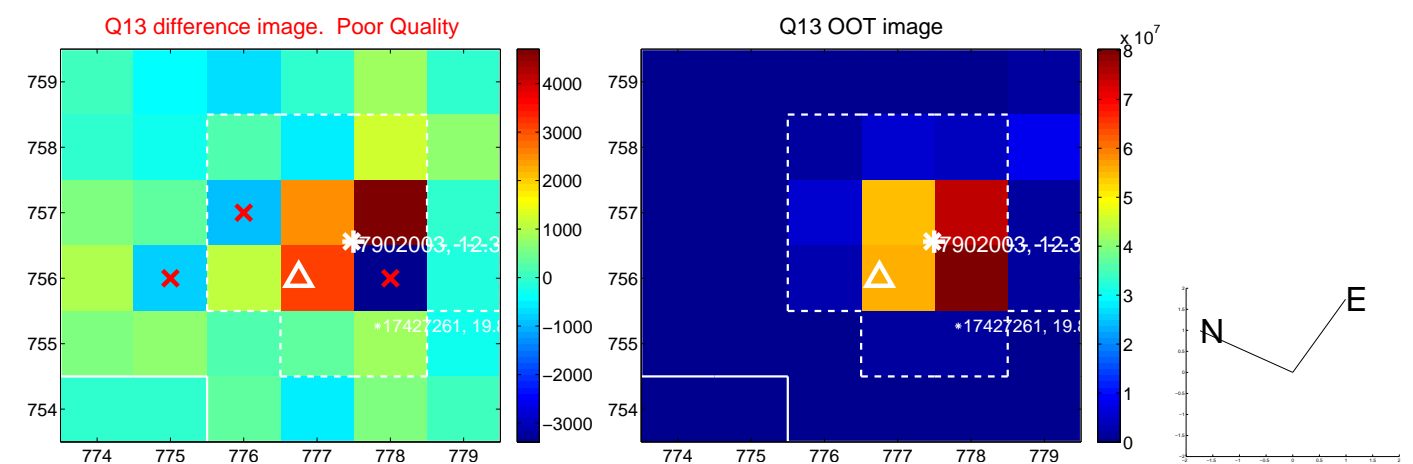
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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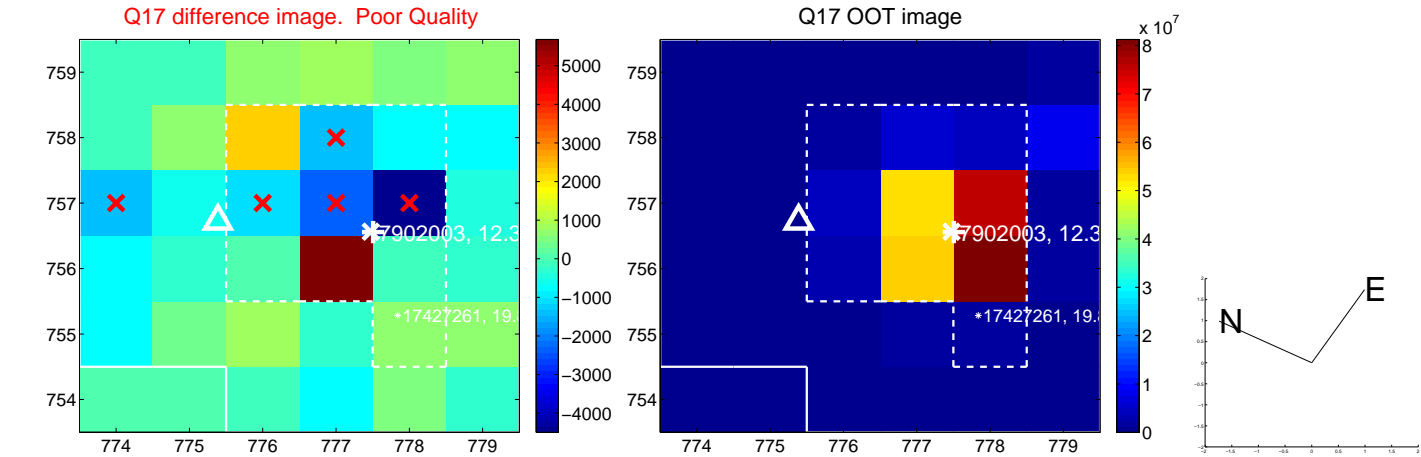


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

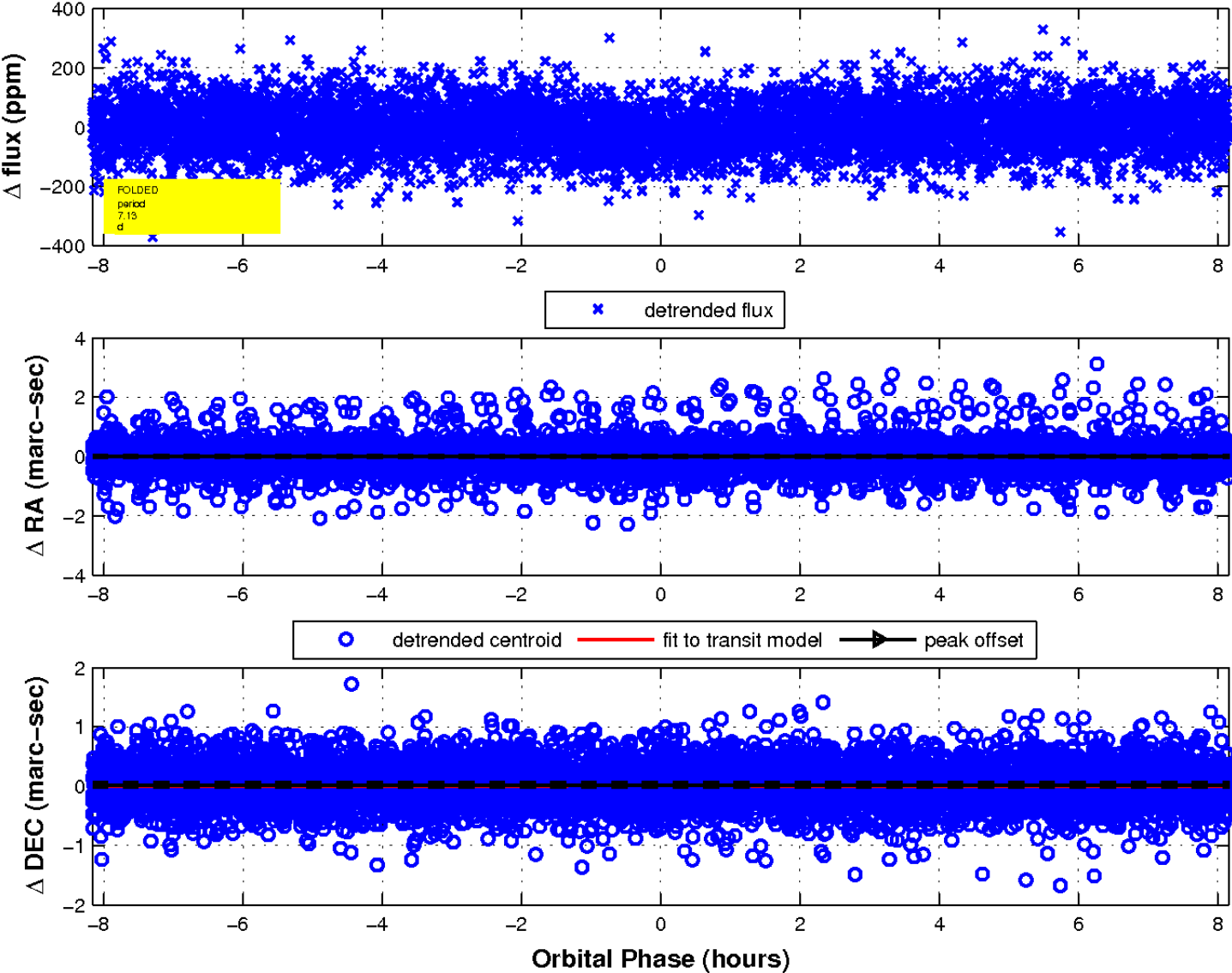




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

