

# KIC 006111011

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006111011-01	OBS	6664.01	14.763896	133.544709	191.0	2.608	7.3	7.8	0.73	5541	1.14	37.82

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006111011-01	OBS	FP	0.21	0	0	1	0	CENT_UNRESOLVED_OFFSET

**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.

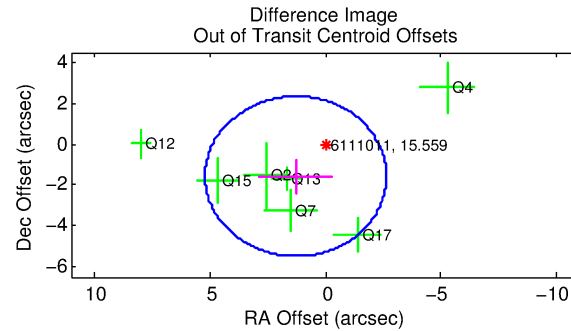
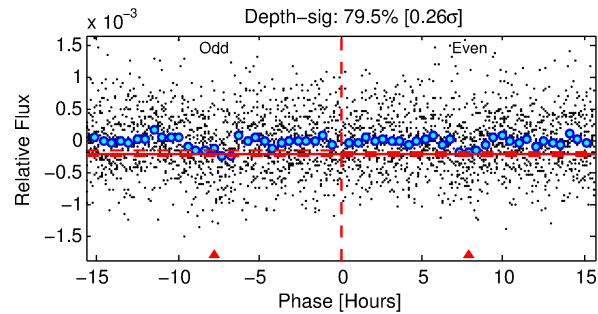
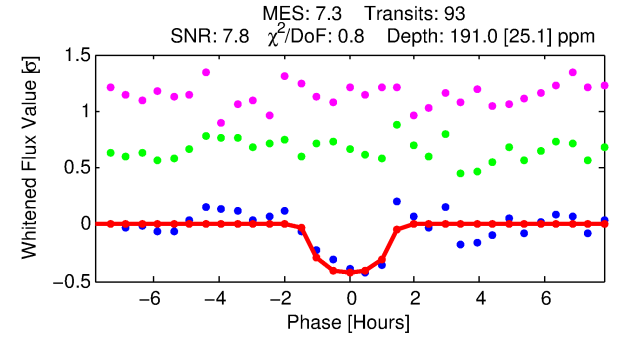
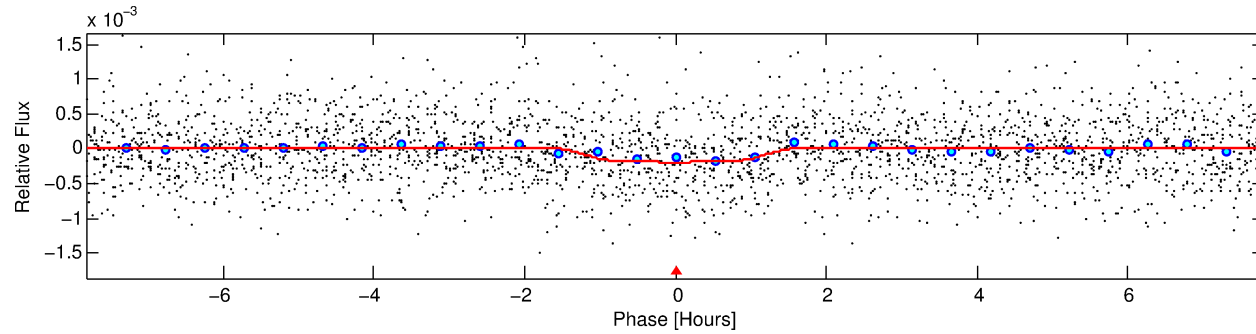
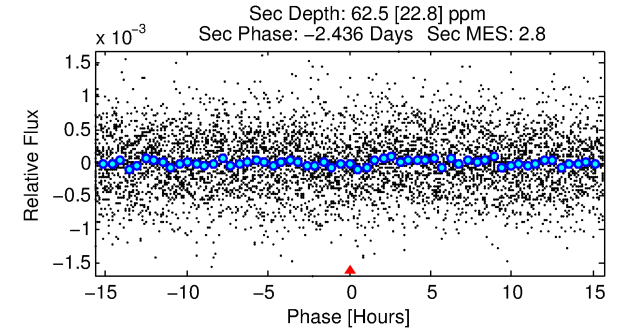
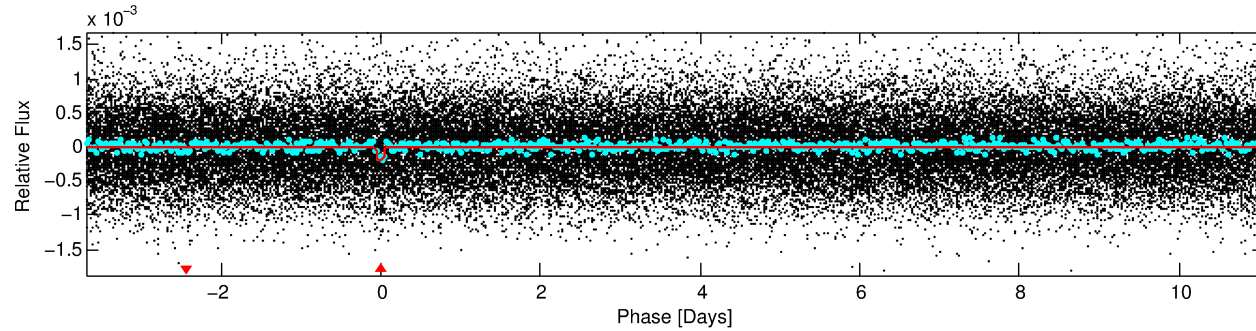
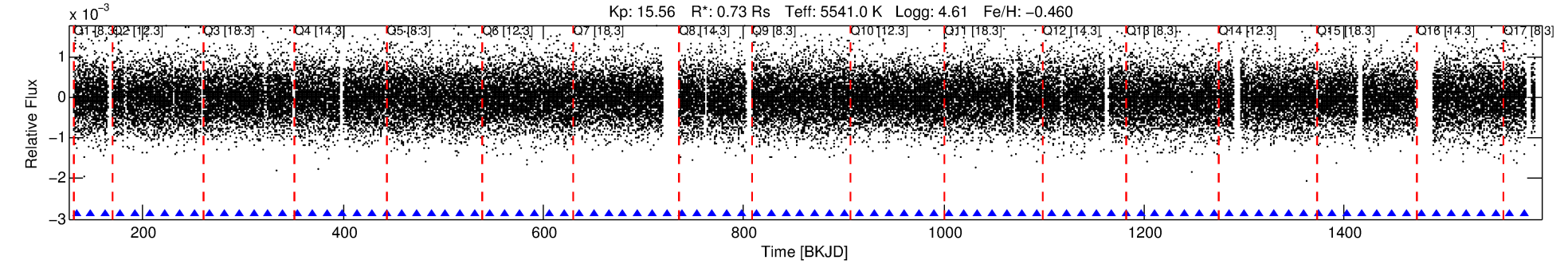
## Ephemeris Match Information For 006111011-01

No Significant Match Found

# DV One-Page Summary

KIC: 6111011 Candidate: 1 of 1 Period: 14.764 d

KOI: K06664.01 Corr: 0.907



## DV Fit Results:

Period = 14.76390 [0.00015] d  
Epoch = 133.5447 [0.0083] BKJD  
Rp/R\* = 0.0143 [0.0198]  
a/R\* = 25.51 [161.47]  
b = 0.83 [2.49]  
Seff = 37.82 [9.24]  
Teq = 632 [39] K  
Rp = 1.14 [1.60] Re  
a = 0.1095 [0.0167] AU  
Ag = 317.00 [892.59] [0.35σ]  
Teffp = 4125 [2898] K [1.21σ]

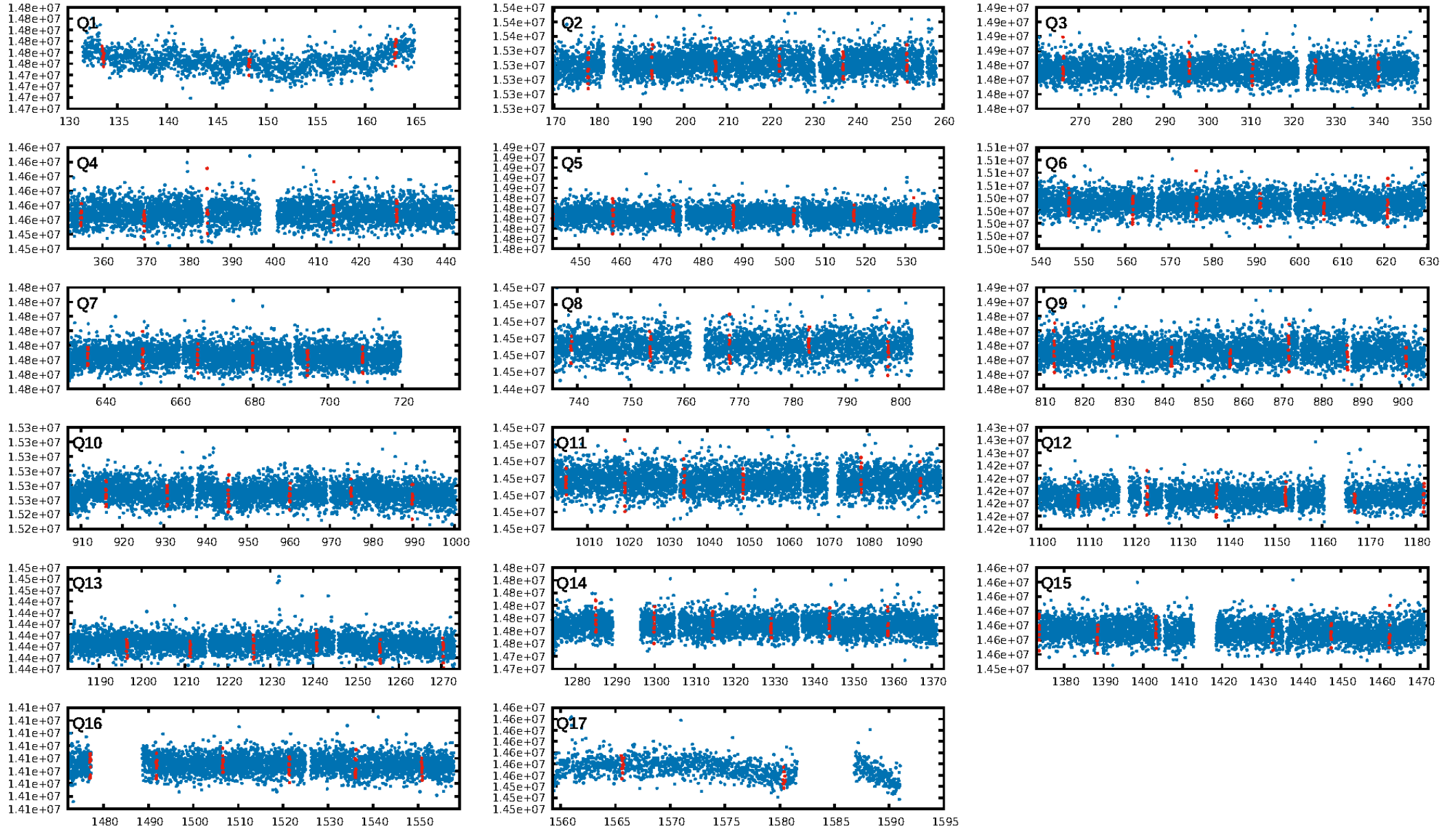
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.8%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.71e-13  
RollingBand-fgt: 1.00 [88/88]  
GhostDiagnostic-chr: 2.403  
Centroid-sig: 82.6%  
Centroid-so: 0.612 arcsec [0.33σ]  
OotOffset-rm: 2.029 arcsec [1.55σ]  
KicOffset-rm: 1.945 arcsec [1.51σ]  
OotOffset-st: 1/2/2/2 [7]  
KicOffset-st: 1/2/2/2 [7]  
DiffImageQuality-fgm: 0.14 [1/7]  
DiffImageOverlap-fno: 1.00 [17/17]

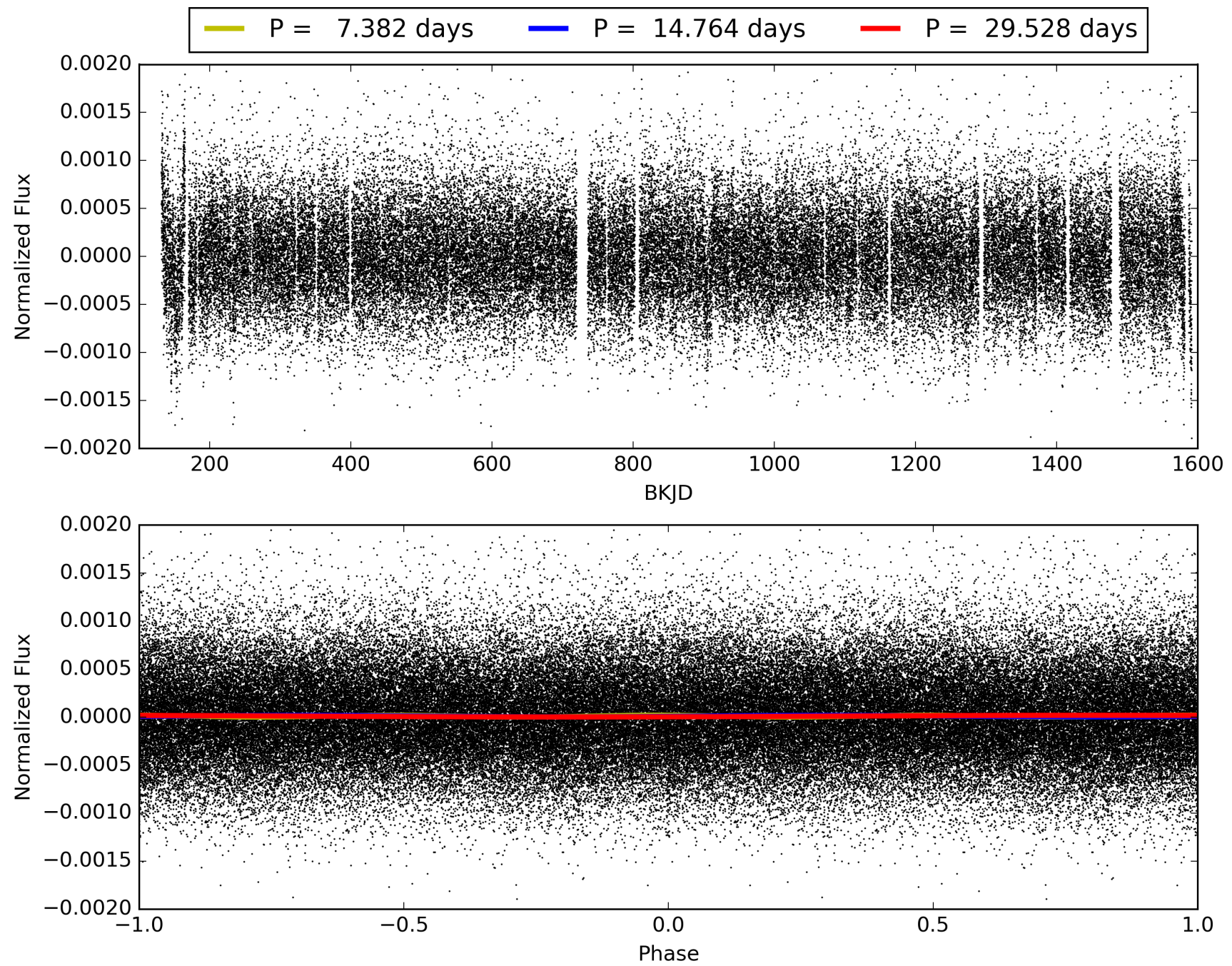
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:12:05 Z

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

# TCE 006111011-01, PDC Light Curves



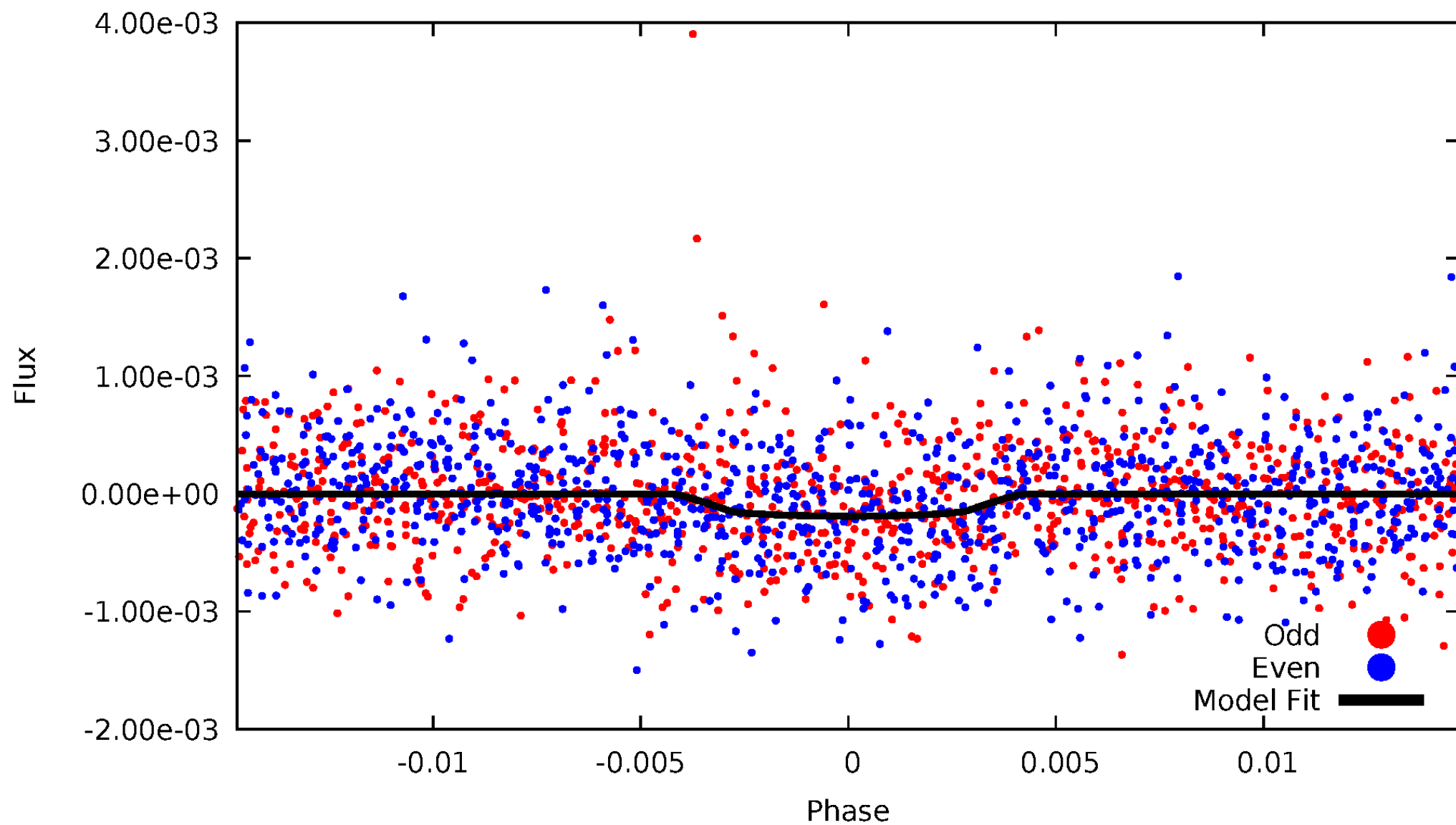
TCE 006111011-01





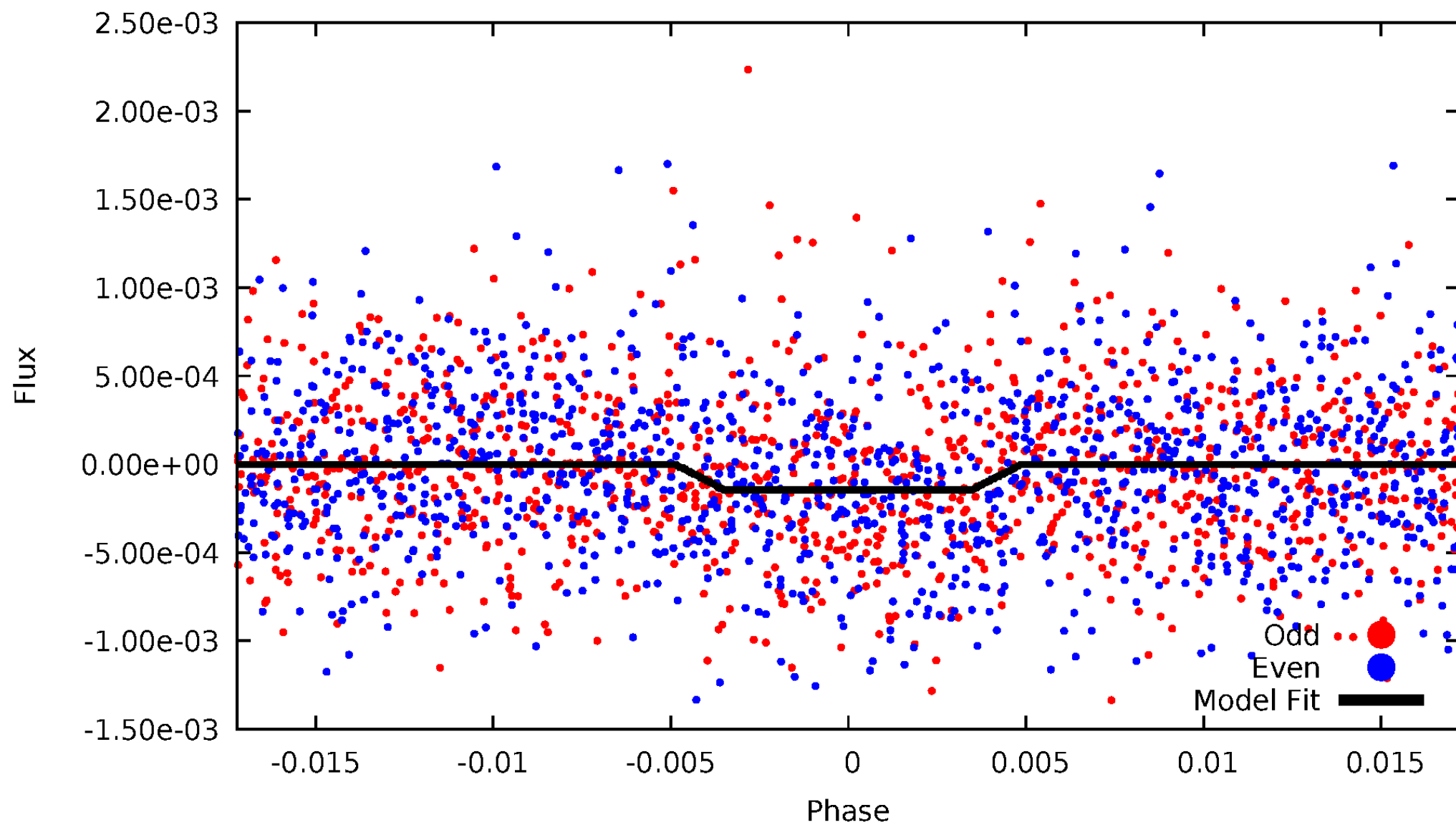
# DV Odd/Even

TCE 006111011-01



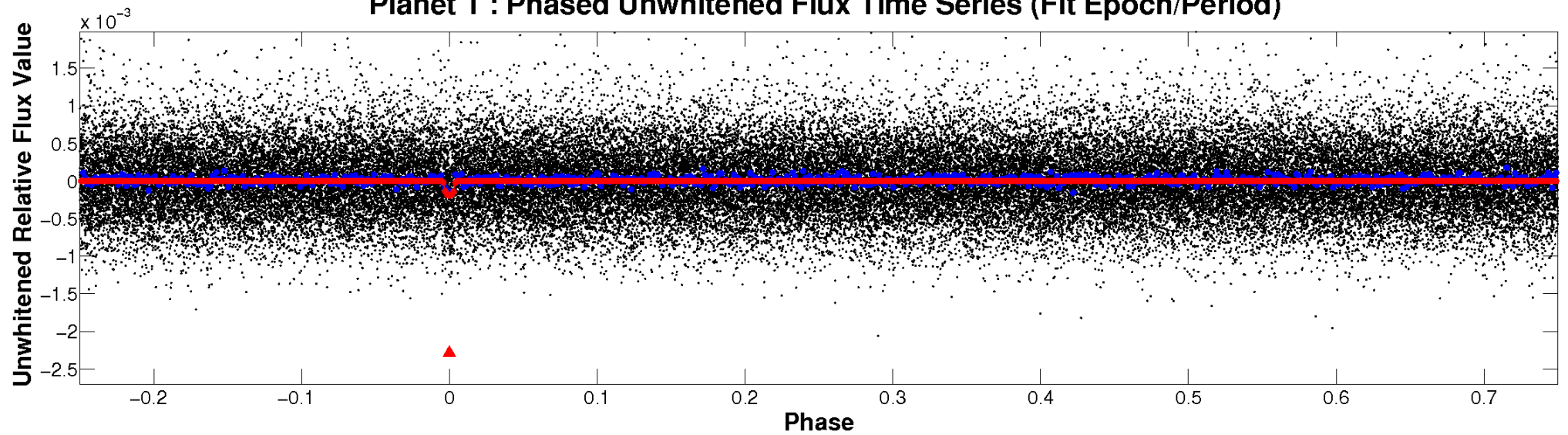
# ALT Odd/Even

TCE 006111011-01

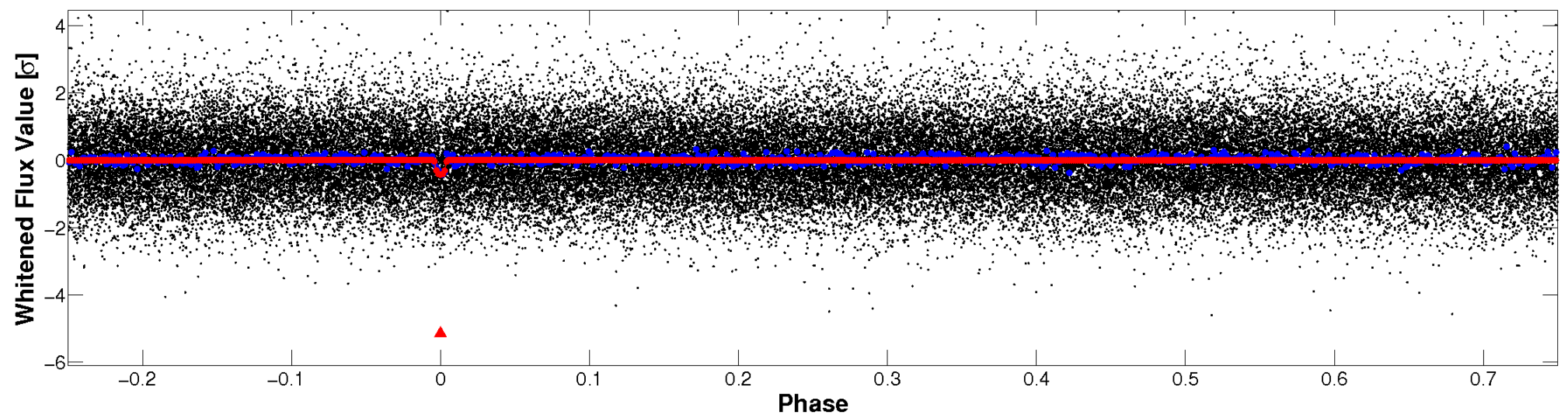


# Non-Whitened Vs. Whitened Light Curve

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

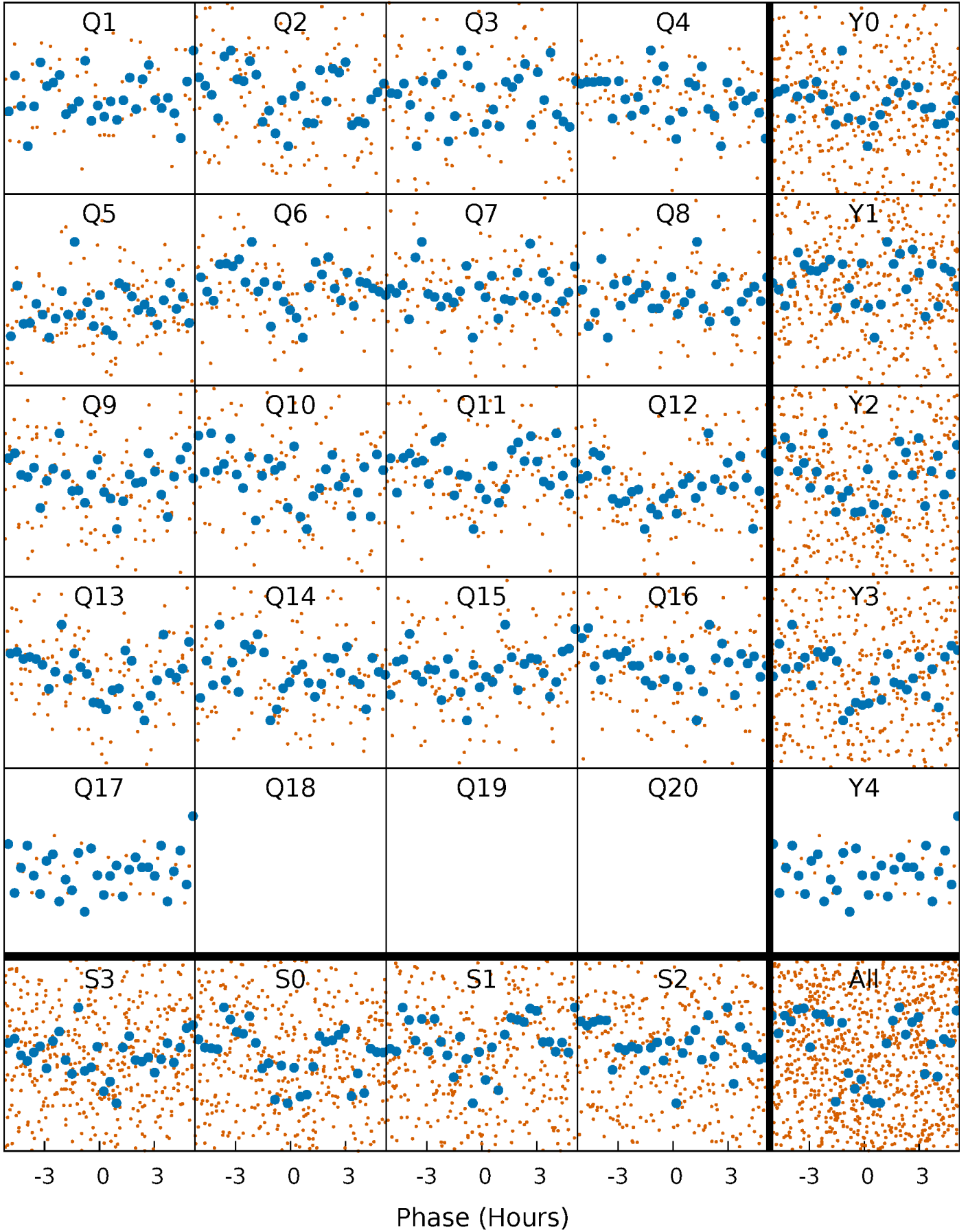


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

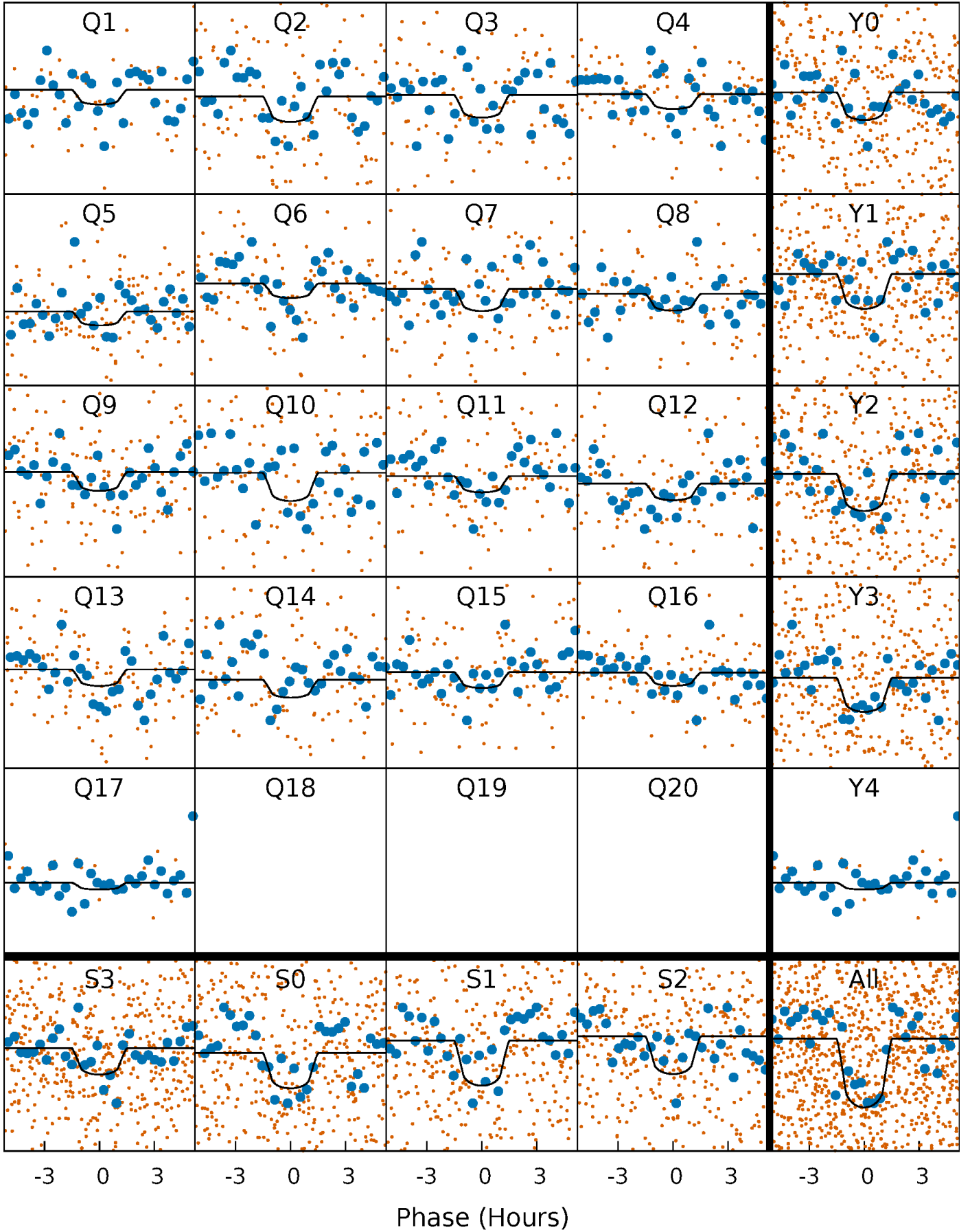
TCE 006111011-01 P= 14.763896 Days  $T_0=133.544709$  (BKJD)





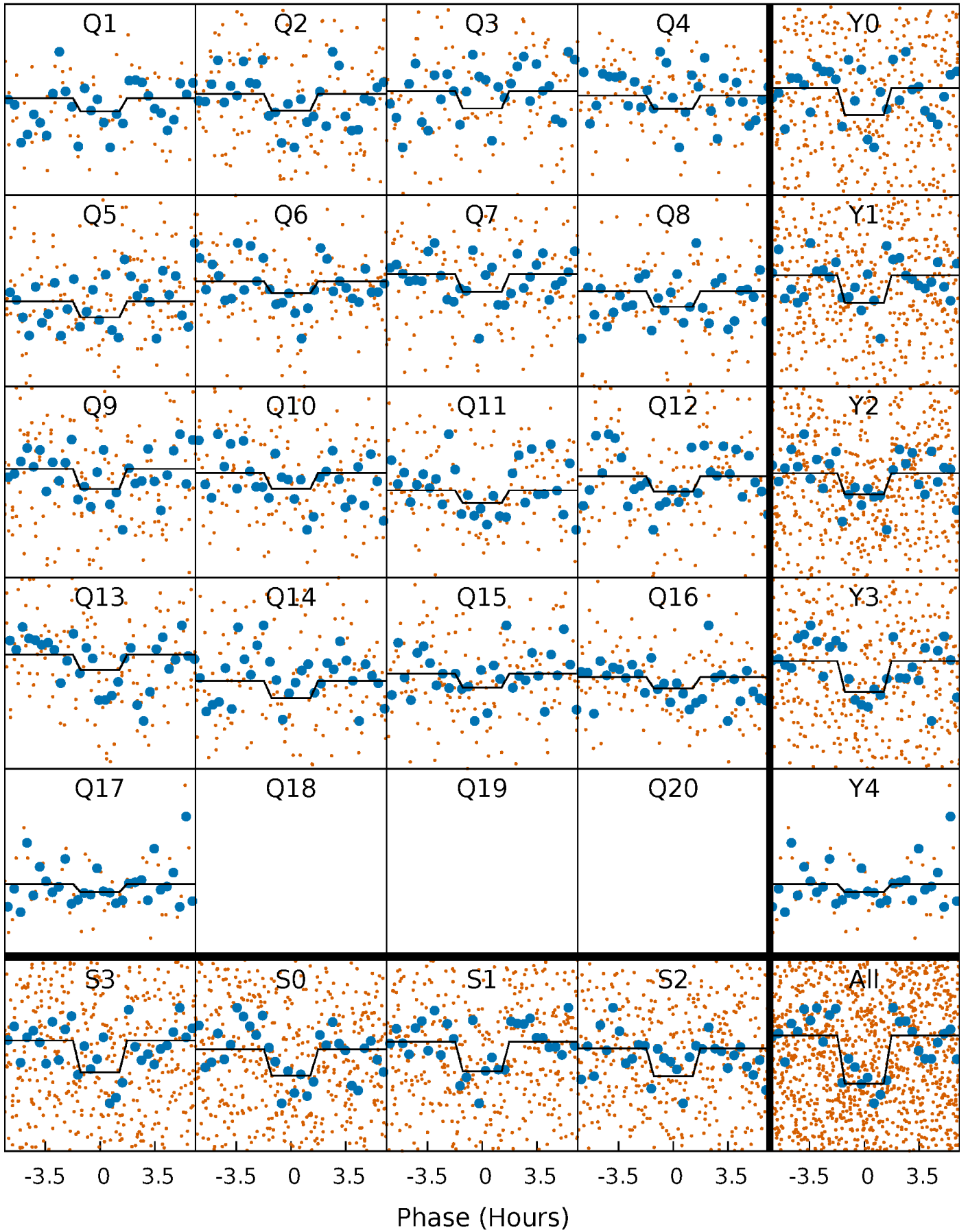
# DV Quarter-Phased Transit Curves

TCE 006111011-01 P= 14.763896 Days  $T_0=133.544709$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

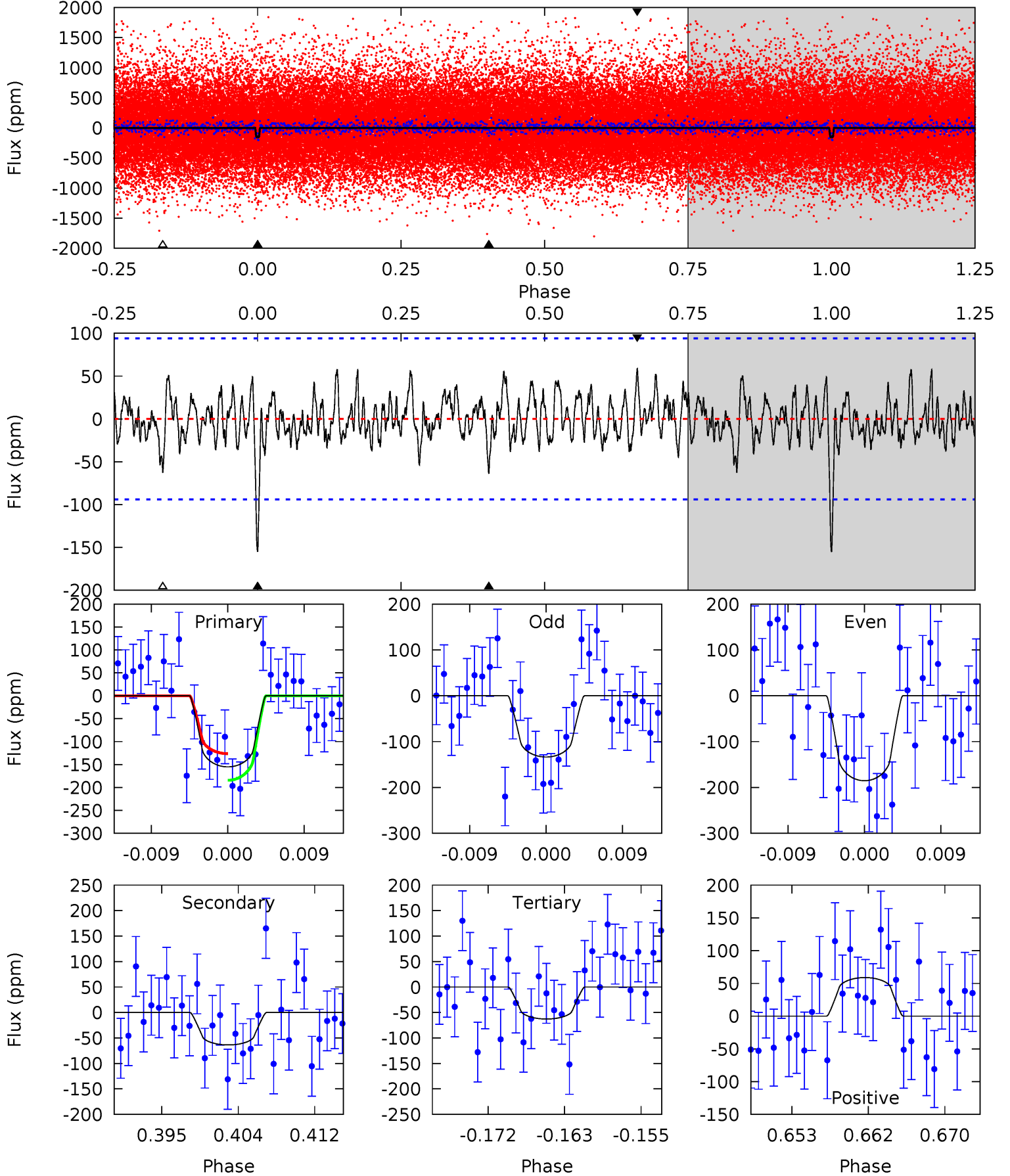
TCE 006111011-01 P= 14.763897 Days  $T_0=133.532563$  (BKJD)



# DV Model-Shift Uniqueness Test

006111011-01,  $P = 14.763896$  Days,  $E = 118.780813$  Days

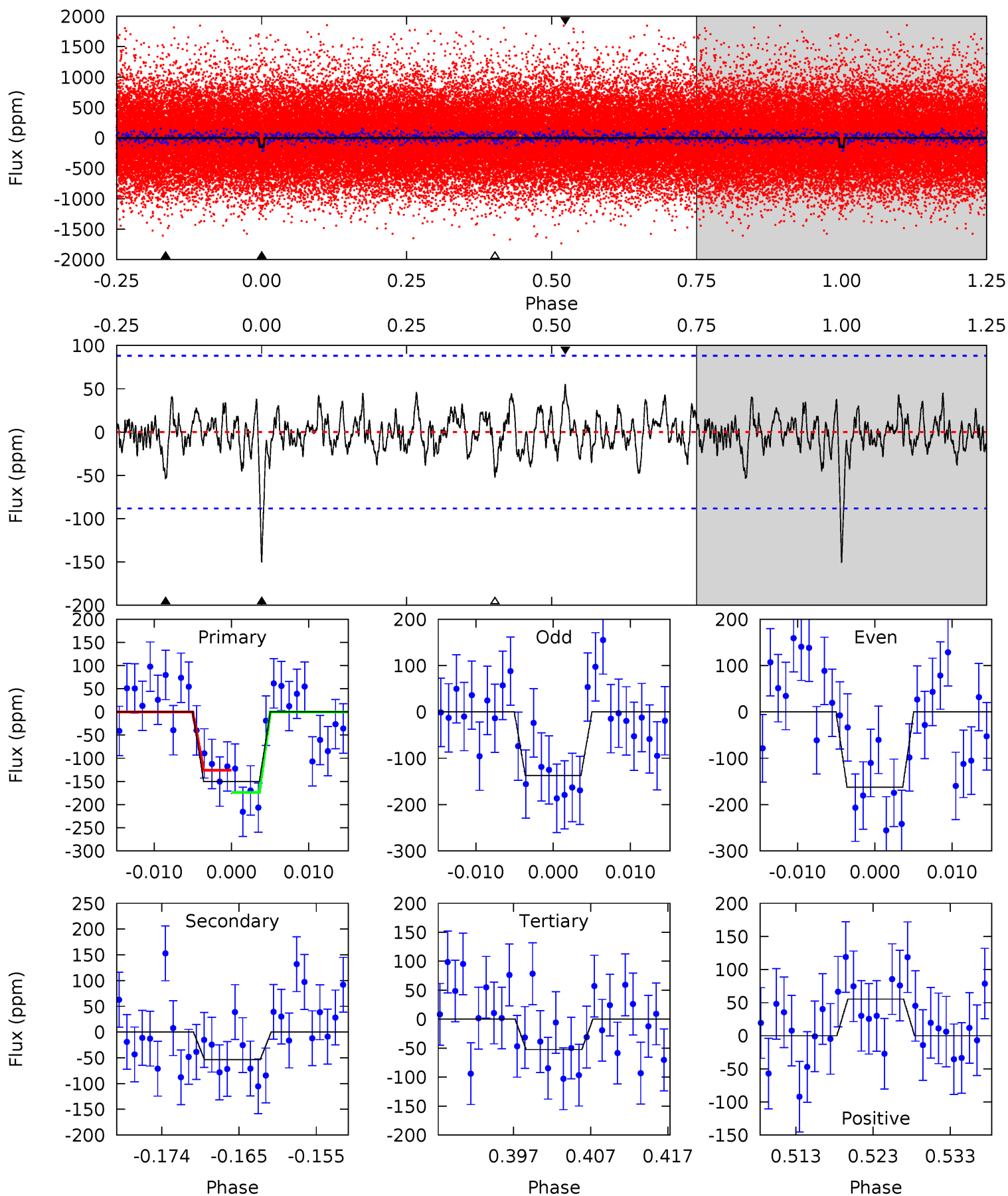
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.34	3.42	3.38	3.16	5.06	2.63	1.15	4.96	5.17	0.04	0.26	1.39	0.87	0.28	1.56



# Alt Model-Shift Uniqueness Test

006111011-01,  $P = 14.763897$  Days,  $E = 118.768666$  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
8.56	3.05	2.99	3.16	5.03	2.59	1.01	5.57	5.40	0.06	-0.10	0.71	0.89	0.27	1.37



### Stellar Parameters For KIC 006111011

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5541^{+166}_{-149}$	$4.613^{+0.040}_{-0.112}$	$-0.460^{+0.300}_{-0.300}$	$0.733^{+0.138}_{-0.059}$	$0.820^{+0.079}_{-0.095}$	$2.933^{+0.473}_{-1.060}$
	+3%/-3%	+1%/-2%	+65%/-65%	+19%/-8%	+10%/-12%	+16%/-36%
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 006111011-01 / KOI 6664.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-64 \pm 19$	$1.59^{+1.46}_{-1.00}$	$898^{+43}_{-35}$	$3895^{+2044}_{-759}$	$162^{+1042}_{-119}$
Alt.	$-54 \pm 18$	$1.65^{+1.61}_{-1.11}$	$894^{+43}_{-32}$	$3714^{+2015}_{-699}$	$127^{+983}_{-95}$

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



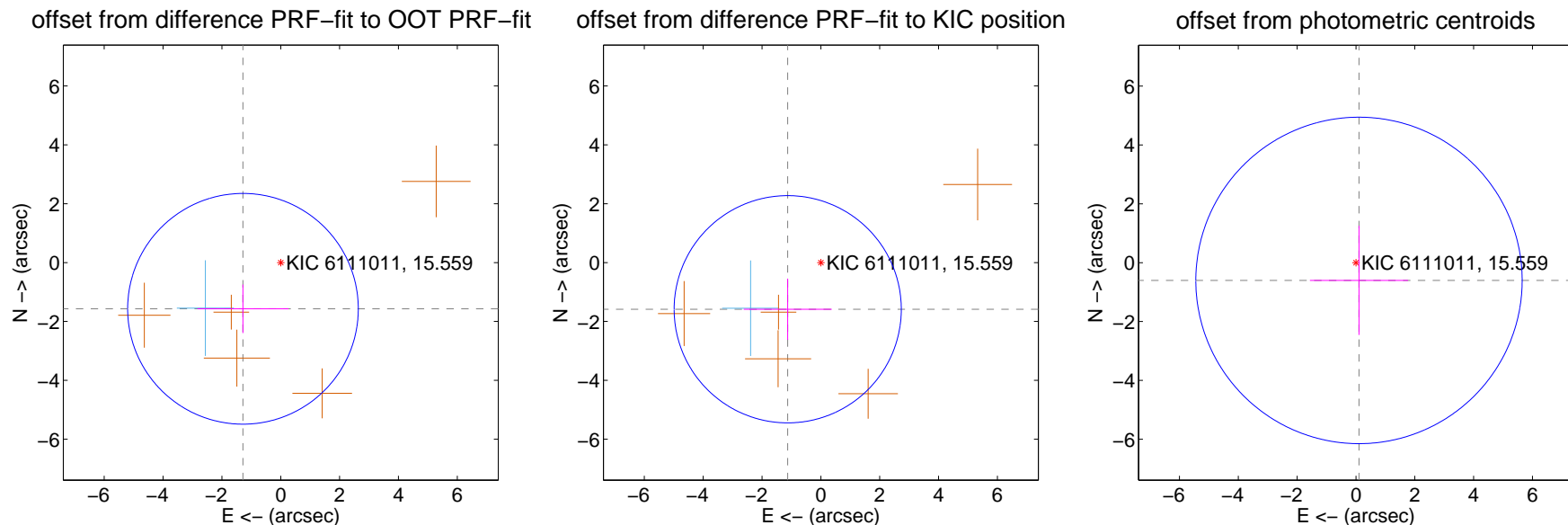
## DV Centroid Data

Supplemental centroid analysis for 006111011-01. Kepler magnitude: 15.56. Transit SNR 7.78

There are 1 quarters with good PRF difference image offsets

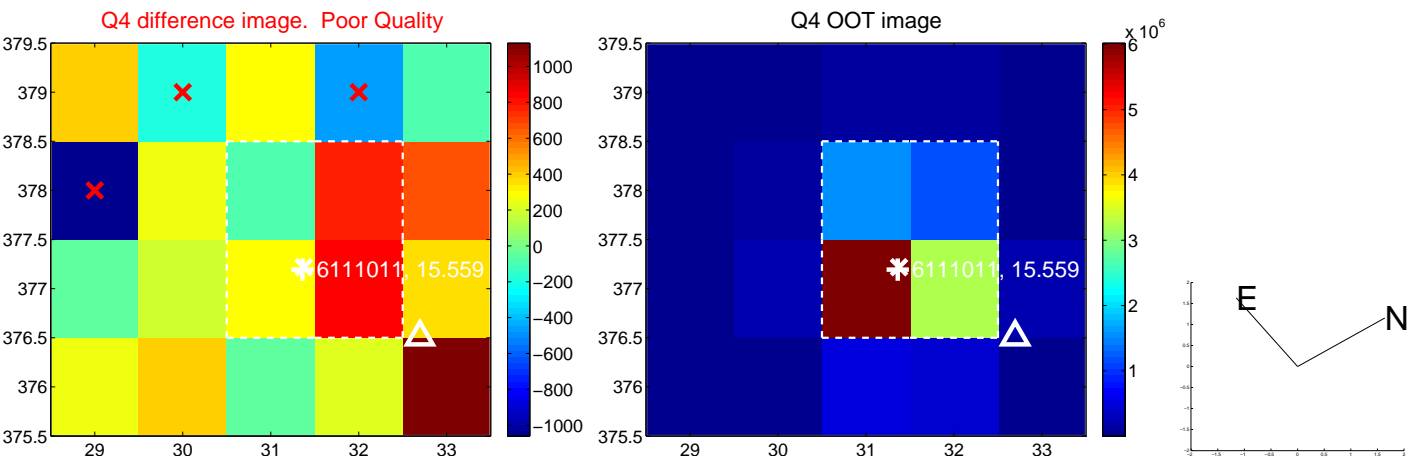
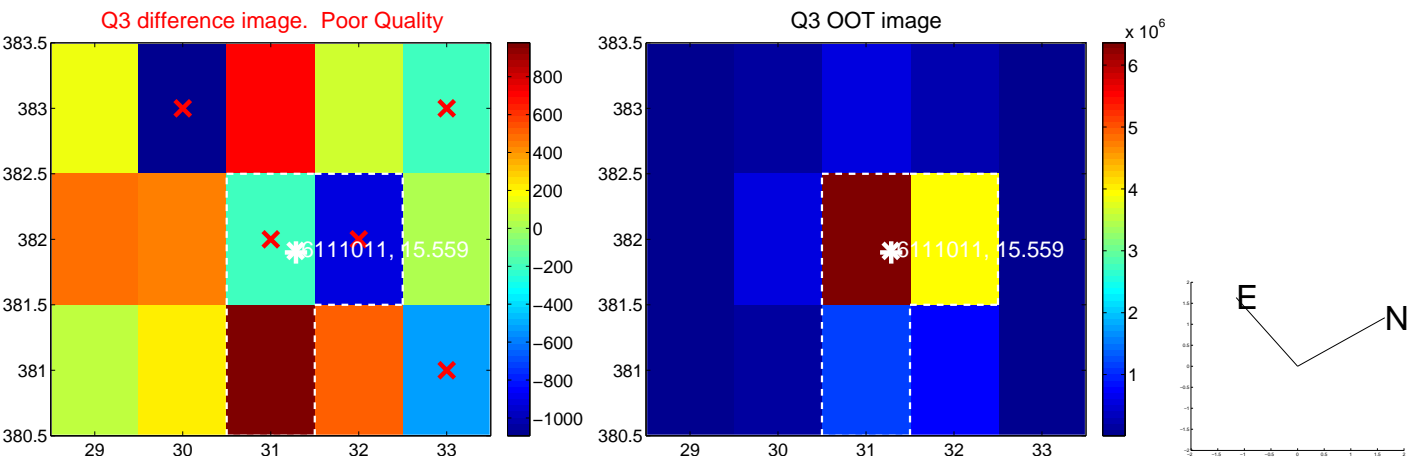
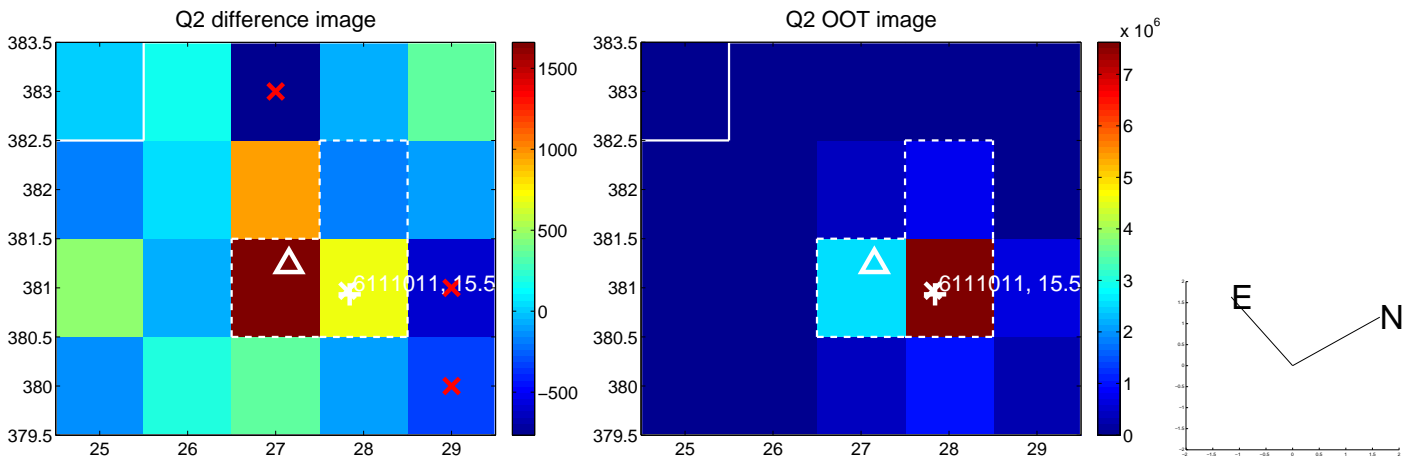
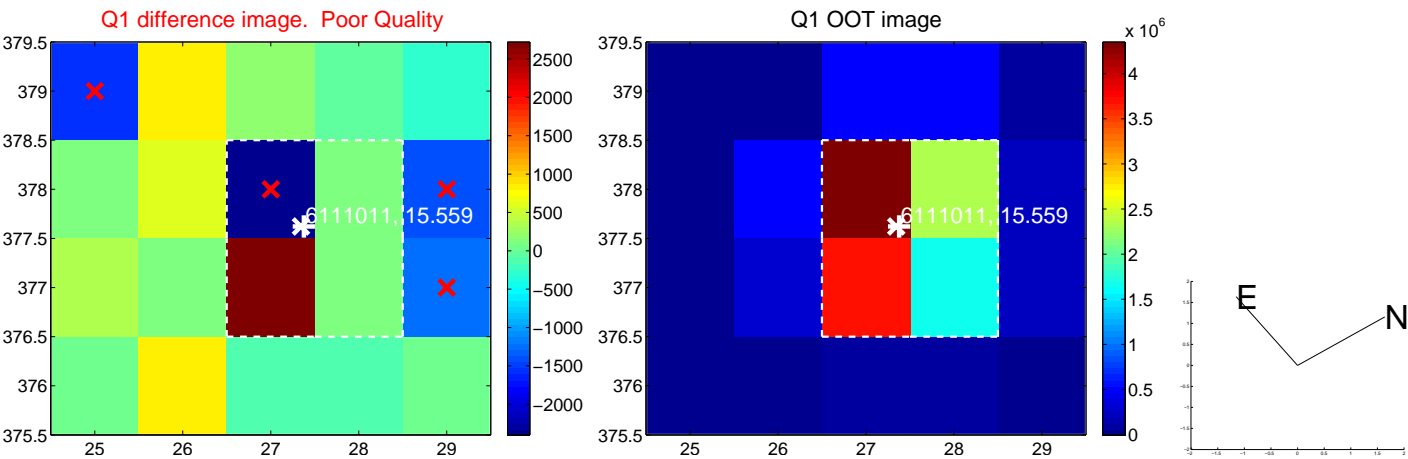
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.029 \pm 1.307$	1.55	$1.284 \pm 1.549$	$-1.571 \pm 0.823$
PRF-fit source offset from KIC position	$1.945 \pm 1.287$	1.51	$1.127 \pm 1.496$	$-1.585 \pm 1.040$
photometric centroid source offset	$0.61 \pm 1.85$	0.33	$-0.10 \pm 1.67$	$-0.60 \pm 1.85$

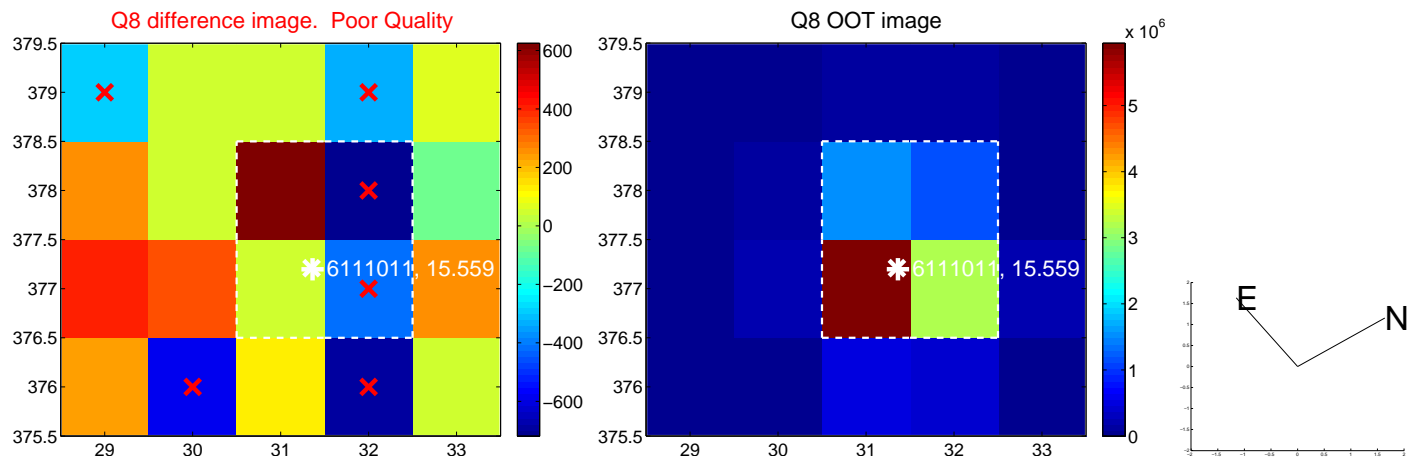
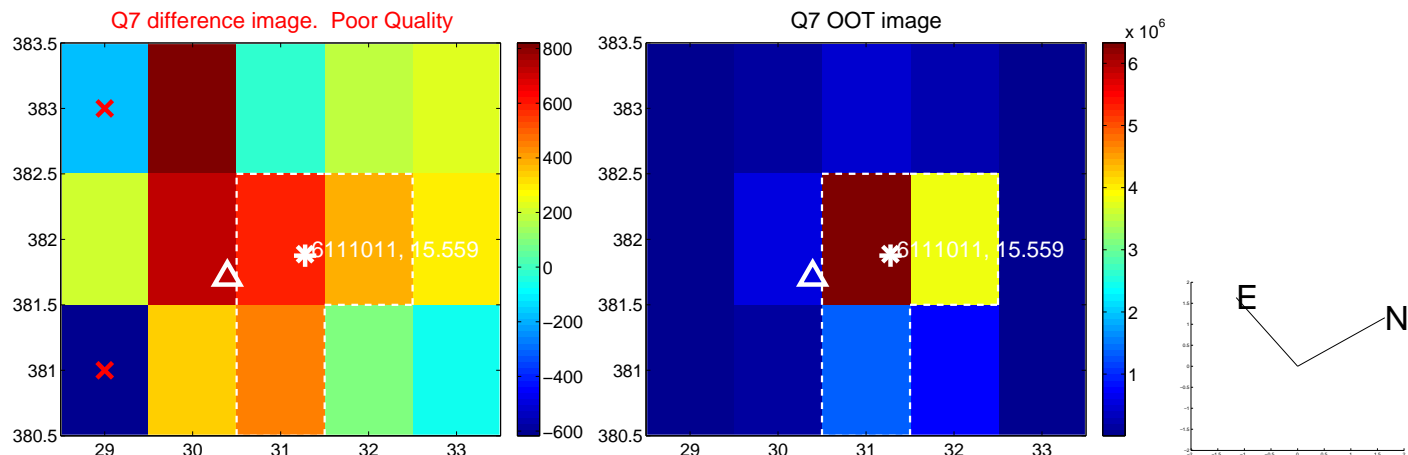
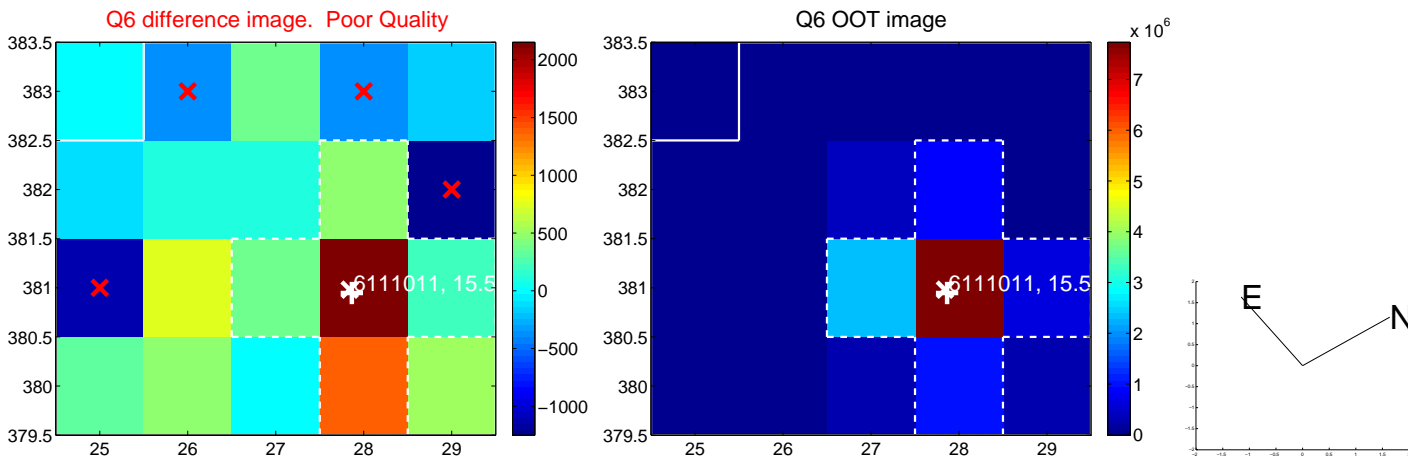
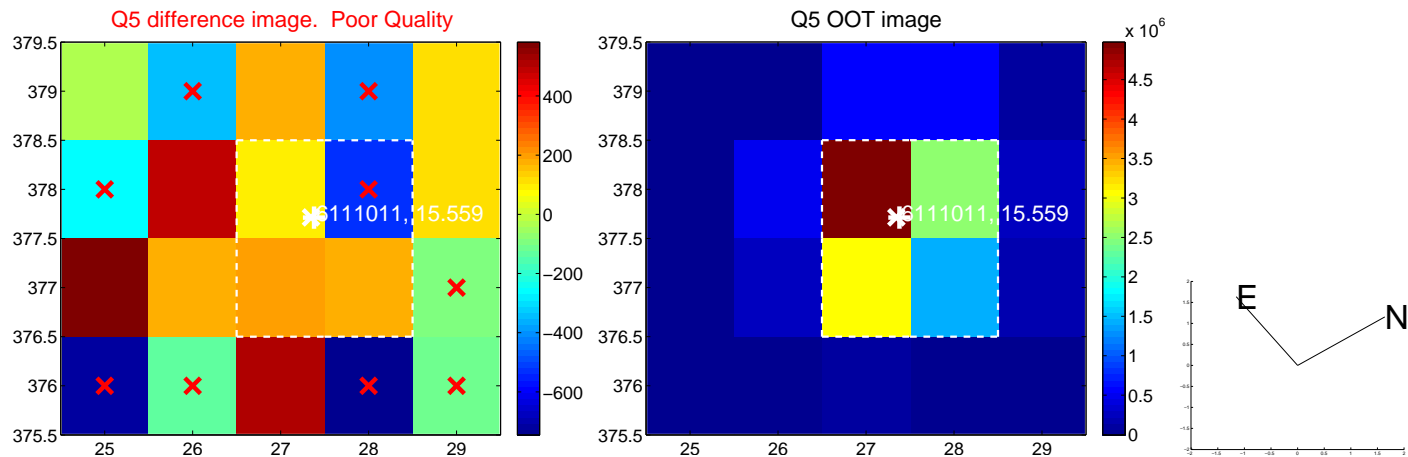


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

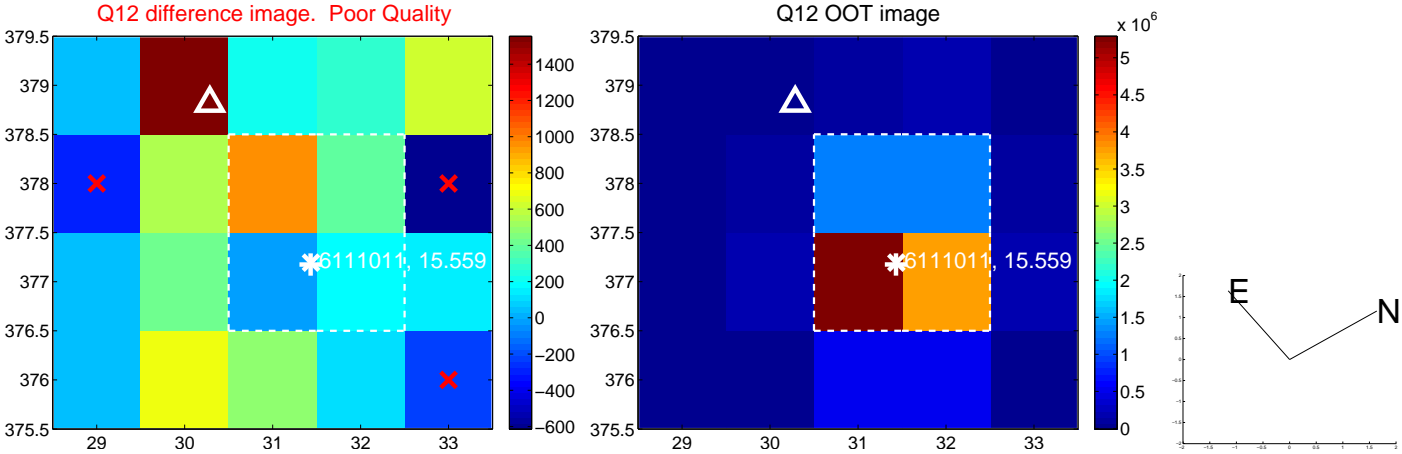
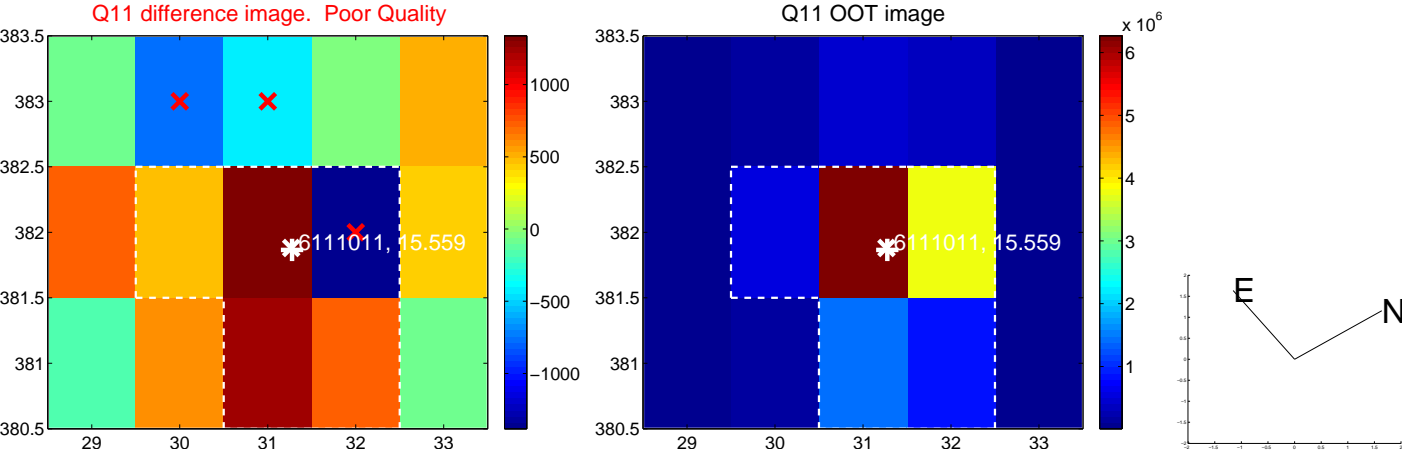
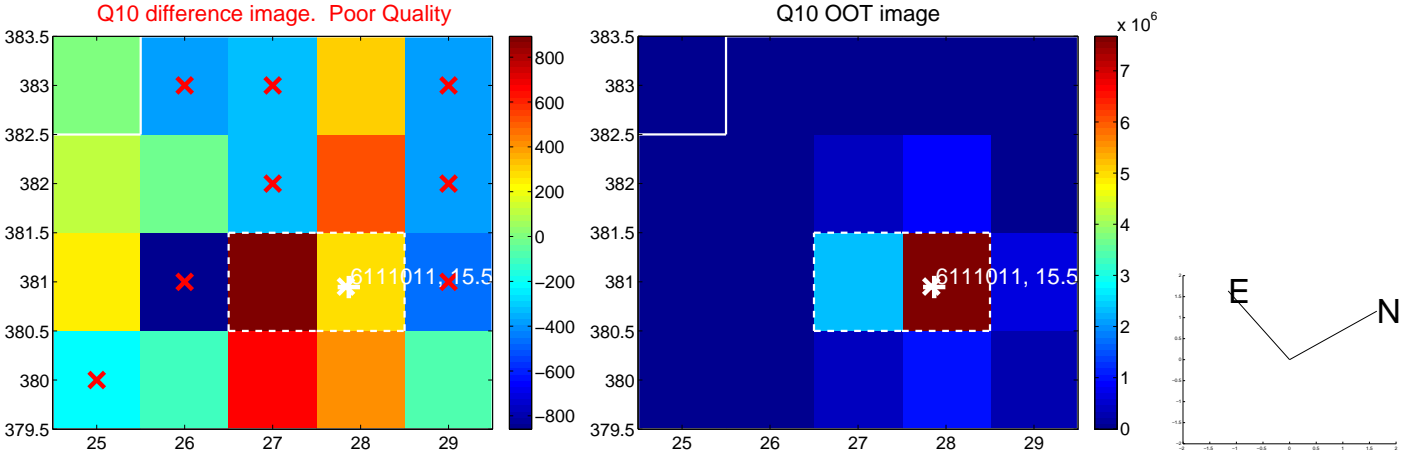
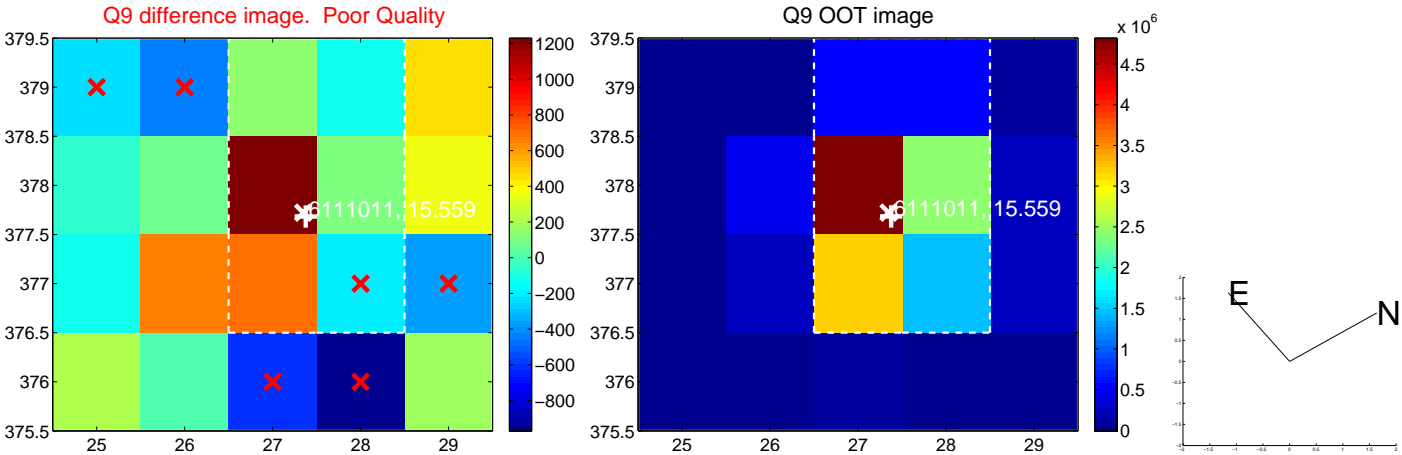
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



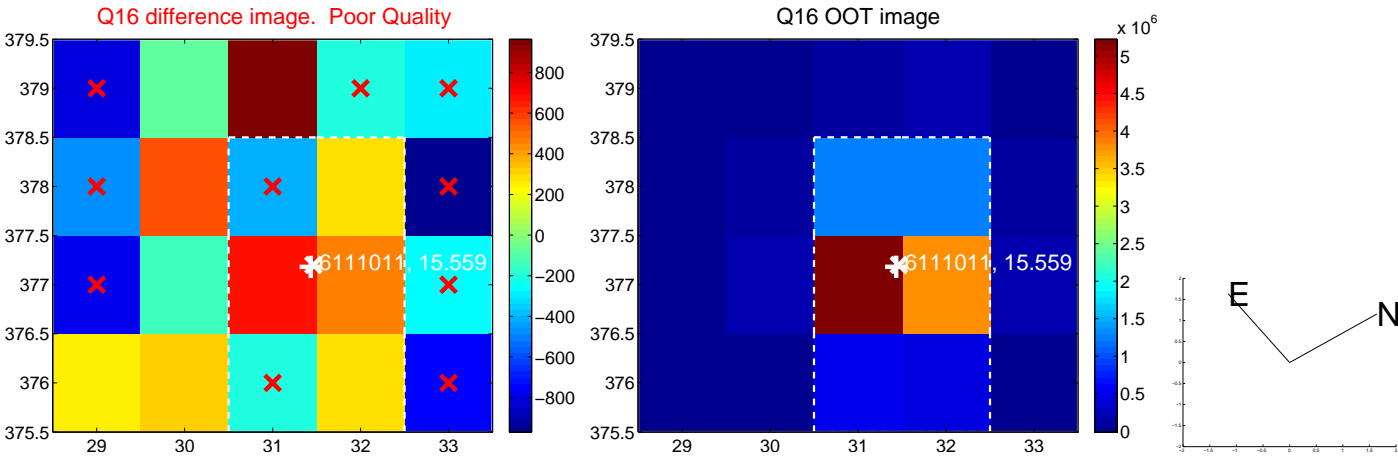
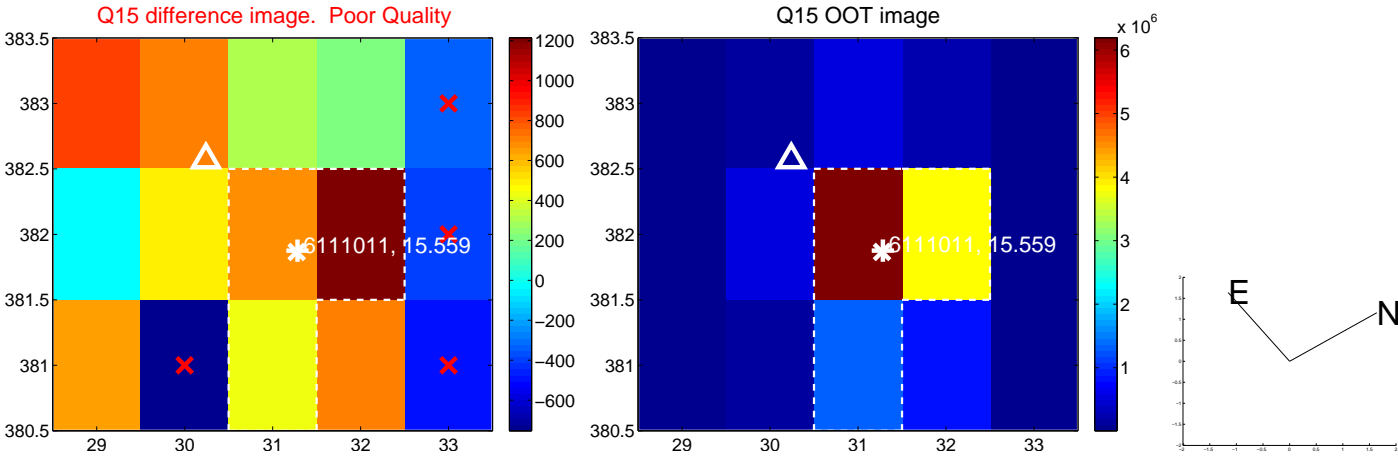
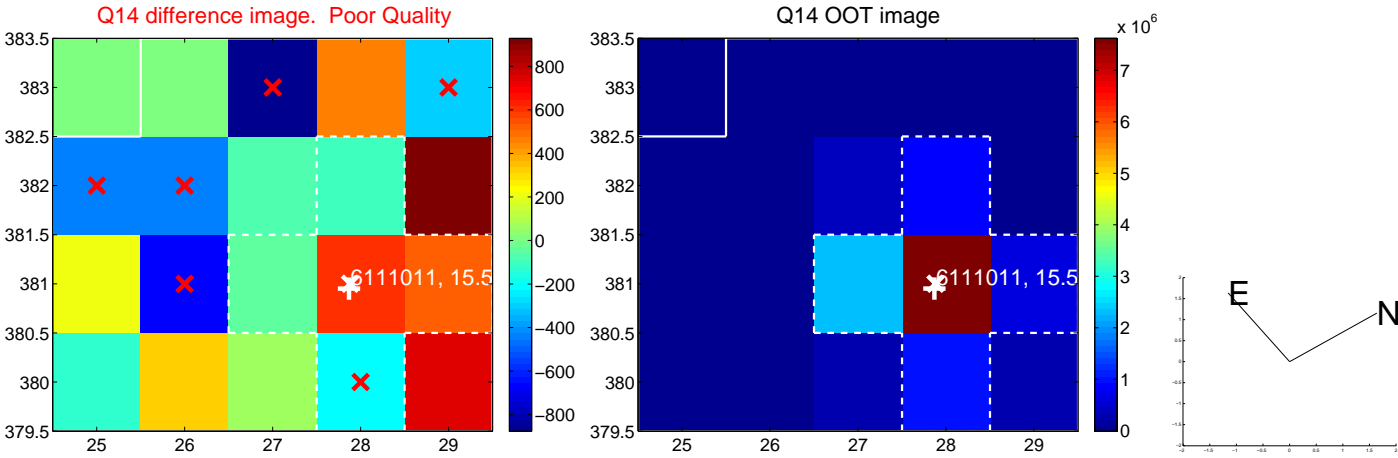
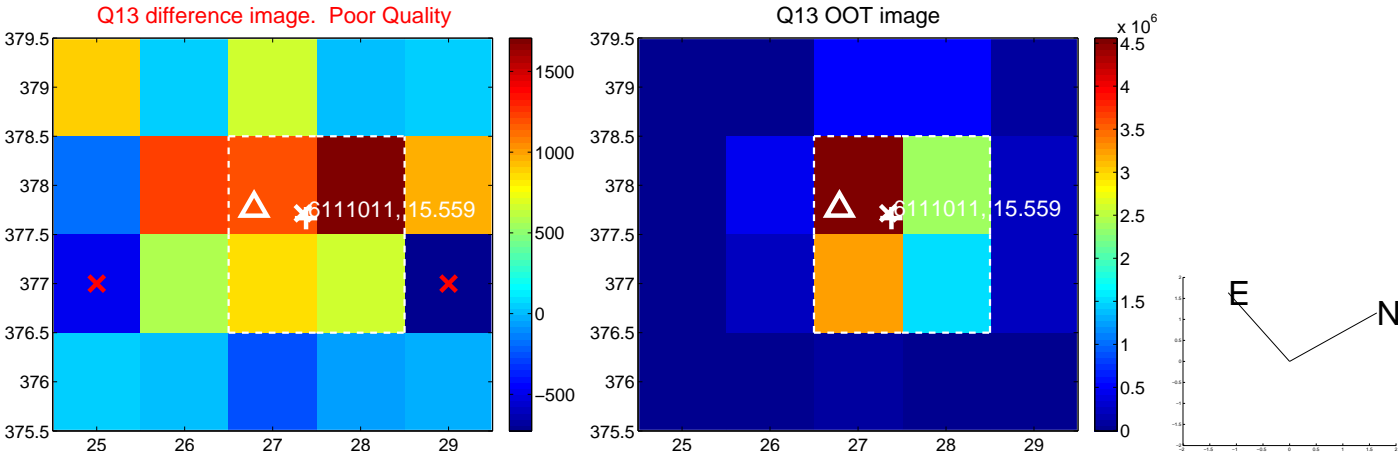
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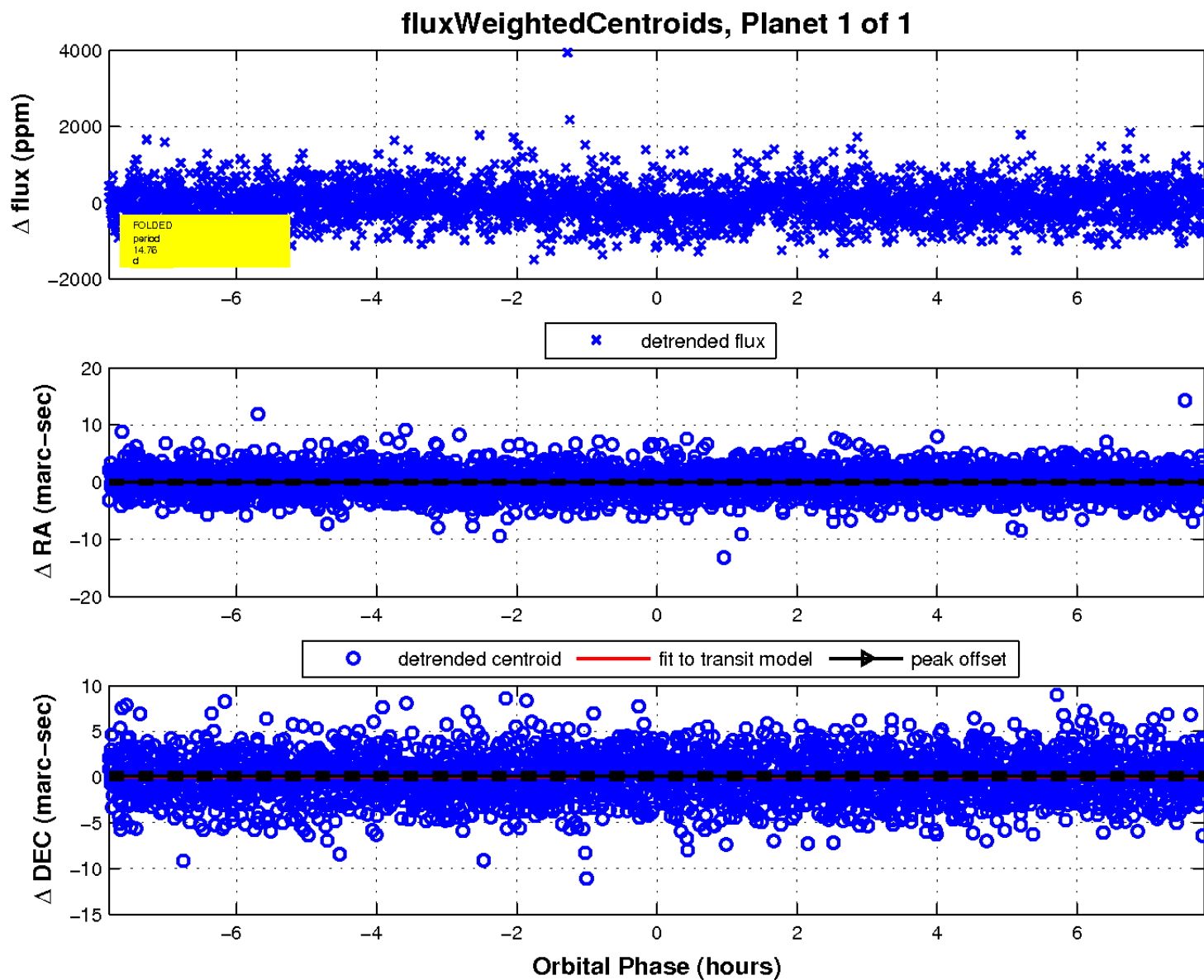
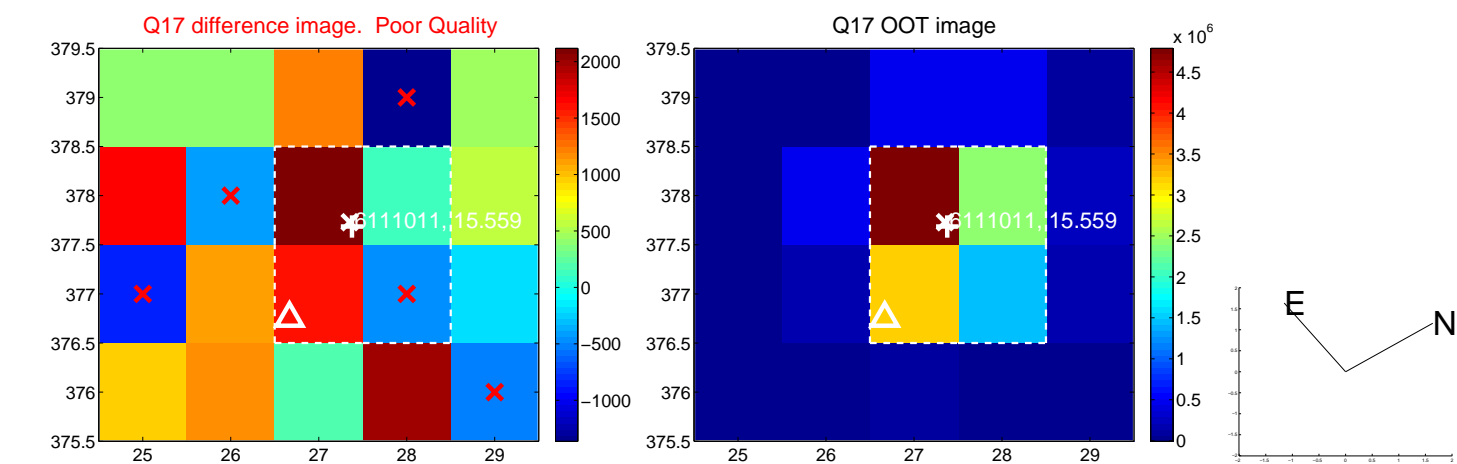


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

