

# KIC 005111801

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005111801-01	OBS	6521.01	0.561969	132.034951	5.2	4.849	9.1	6.7	1.46	6609	0.37	18637.88

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005111801-01	OBS	FP	0.00	1	0	0	0	<del>SWEET_NTL</del> — <del>LPP_DV</del> — <del>CENT_SATURATED</del>

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

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

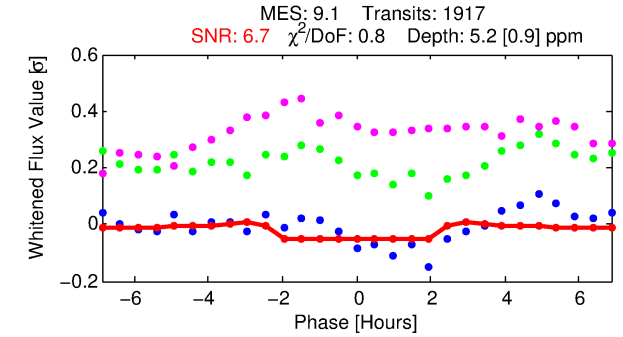
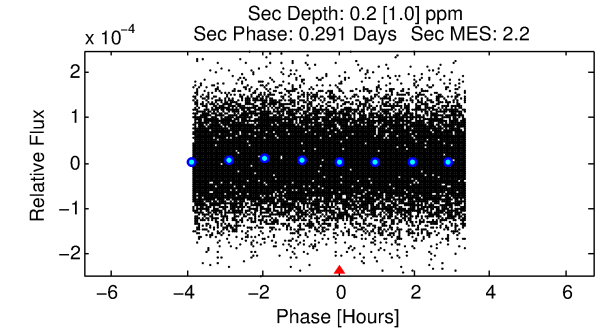
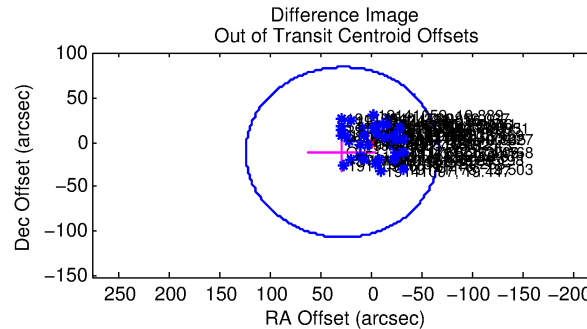
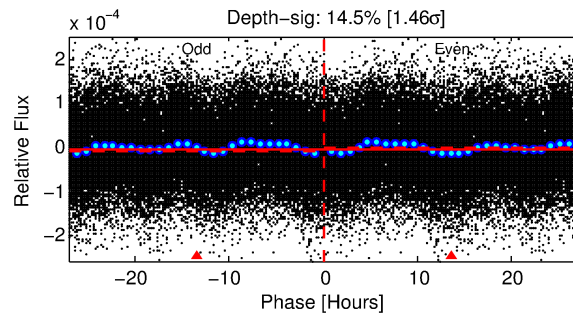
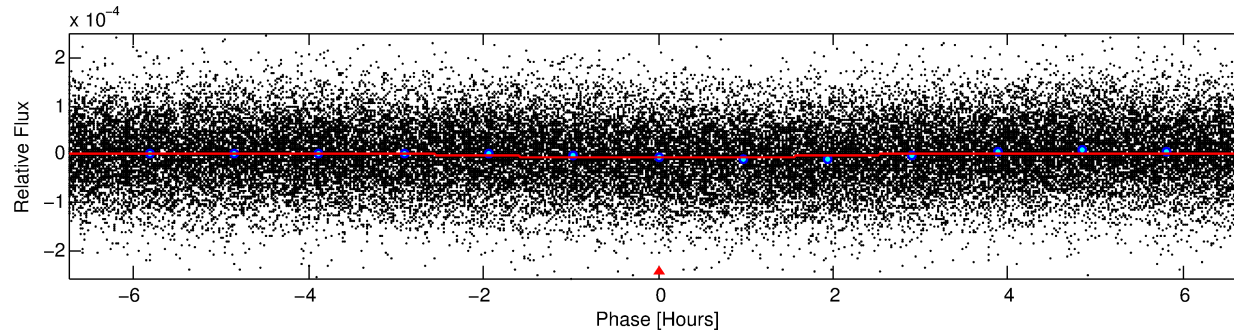
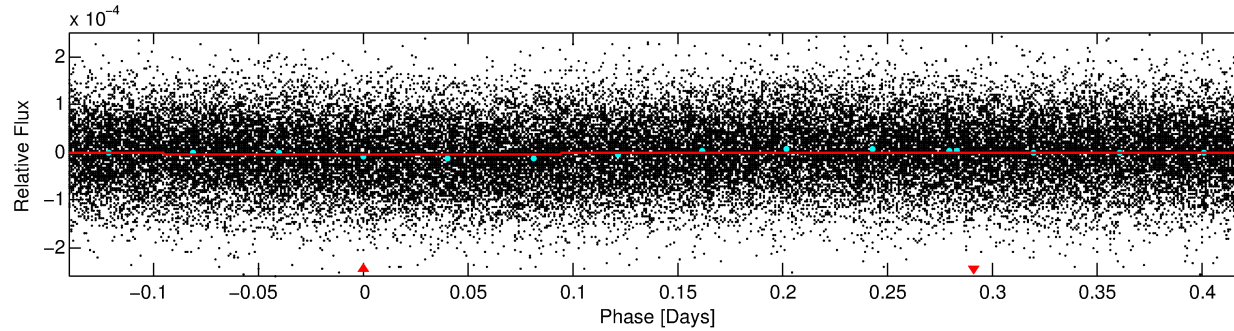
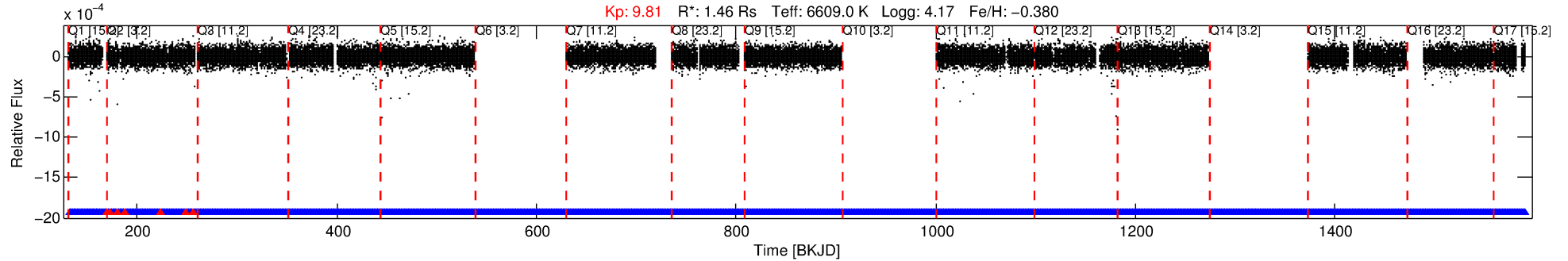
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005111801-01

No Significant Match Found

# DV One-Page Summary

KIC: 5111801 Candidate: 1 of 1 Period: 0.562 d  
KOI: K06521.01 Corr: 0.767



## DV Fit Results:

Period = 0.56197 [0.00002] d  
Epoch = 132.0350 [0.0053] BKJD  
 $R_p/R^* = 0.0023$  [0.0020]  
 $a/R^* = 1.04$  [0.41]  
 $b = 0.81$  [2.25]  
 $T_{\text{eff}} = 18637.88$  [7371.14]  
 $T_{\text{eq}} = 2979$  [295] K  
 $R_p = 0.37$  [0.34]  $R_{\text{e}}$   
 $a = 0.0139$  [0.0034] AU  
 $A_g = 0.19$  [0.85] [-0.96 $\sigma$ ]  
 $T_{\text{eff}} = 3022$  [3445] K [0.01 $\sigma$ ]

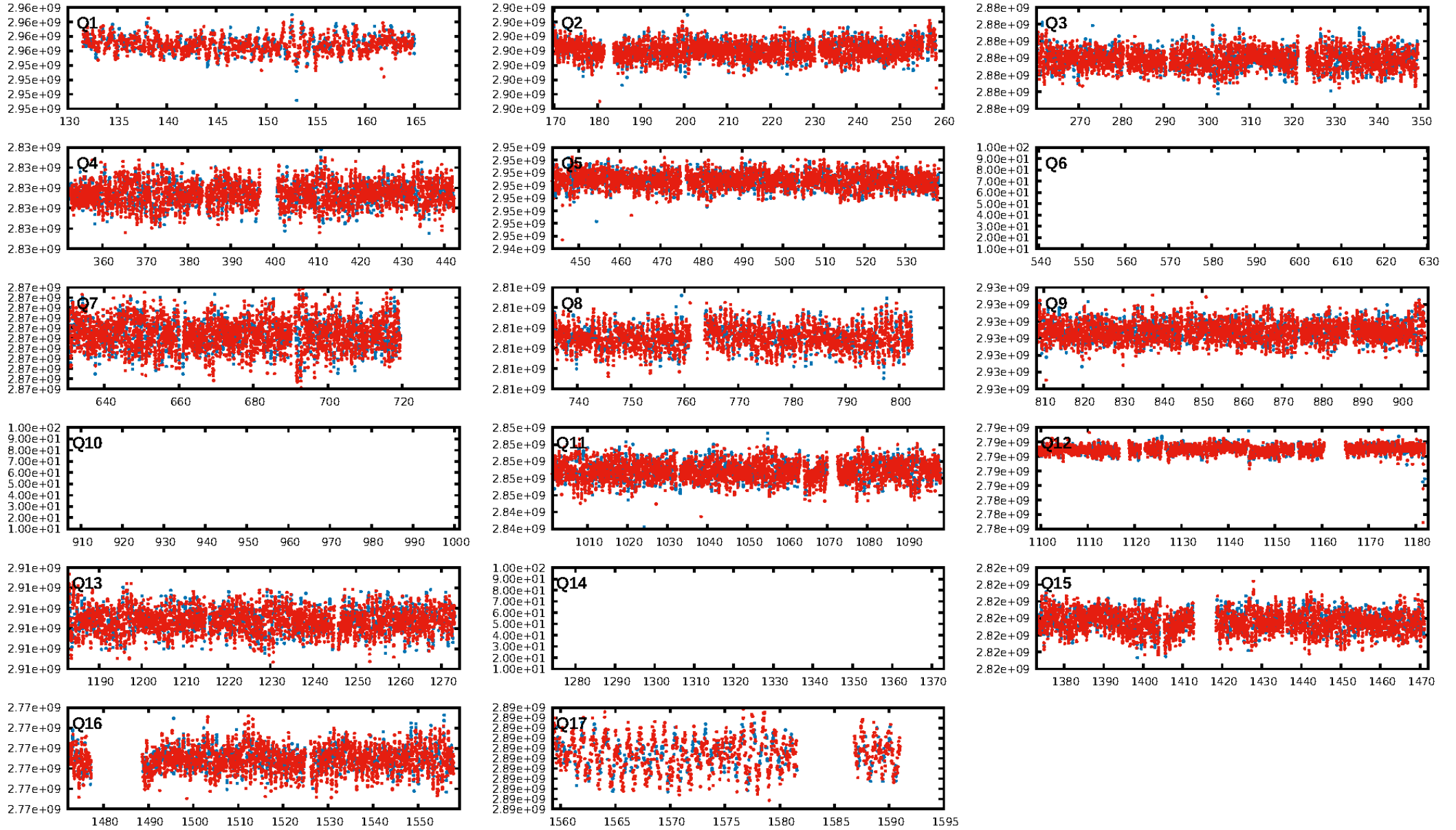
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1802/1809]  
GhostDiagnostic-chr: N/A  
Centroid-sig: 0.0%  
Centroid-so: 5.692 arcsec [3.31 $\sigma$ ]  
OotOffset-rm: 31.237 arcsec [0.99 $\sigma$ ]  
KicOffset-rm: 31.912 arcsec [1.00 $\sigma$ ]  
OotOffset-st: 0/1/0/0 [1]  
KicOffset-st: 0/1/0/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [14/14]

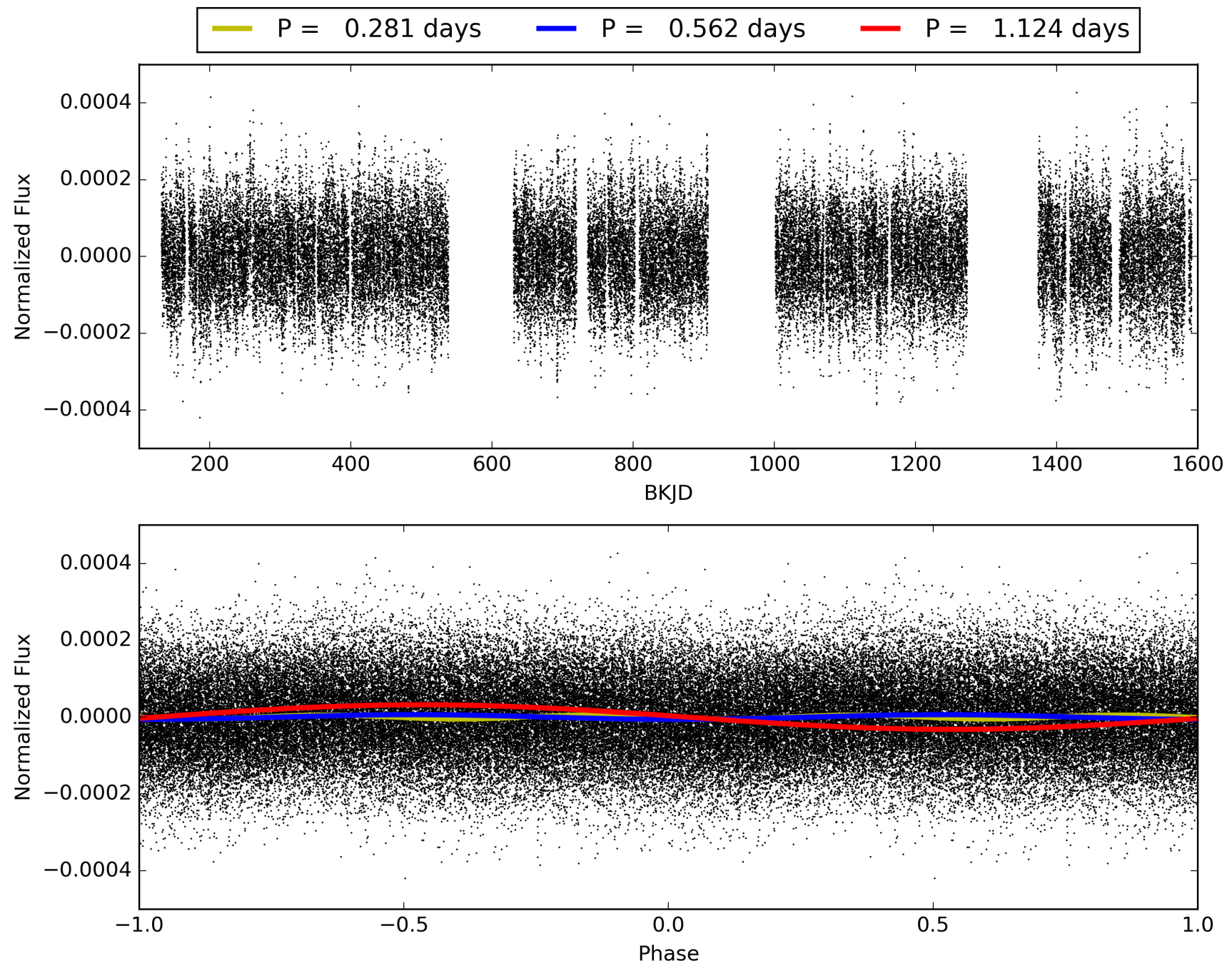
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:36:14 Z

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

# TCE 005111801-01, PDC Light Curves

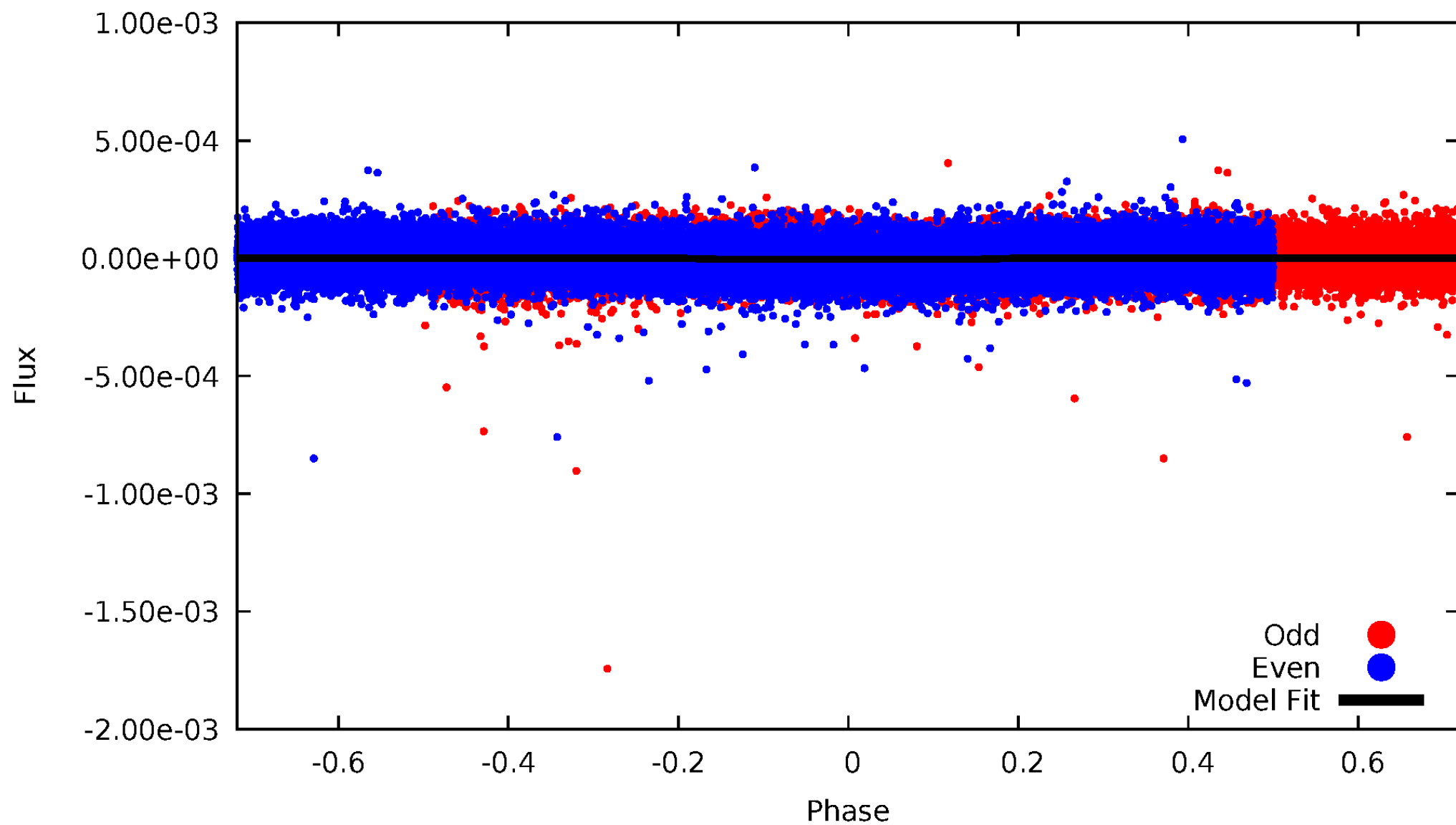


TCE 005111801-01



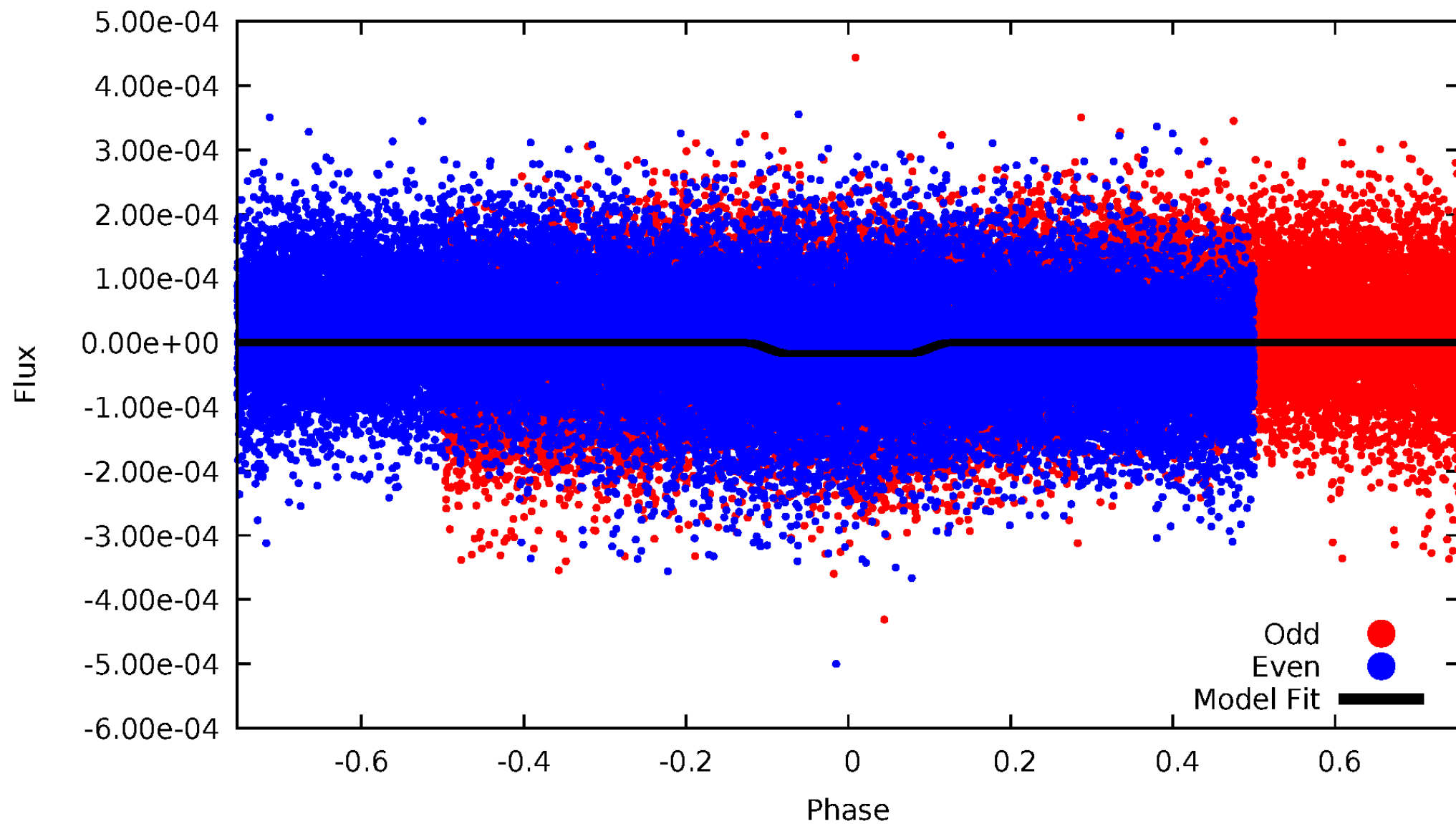
# DV Odd/Even

TCE 005111801-01



# ALT Odd/Even

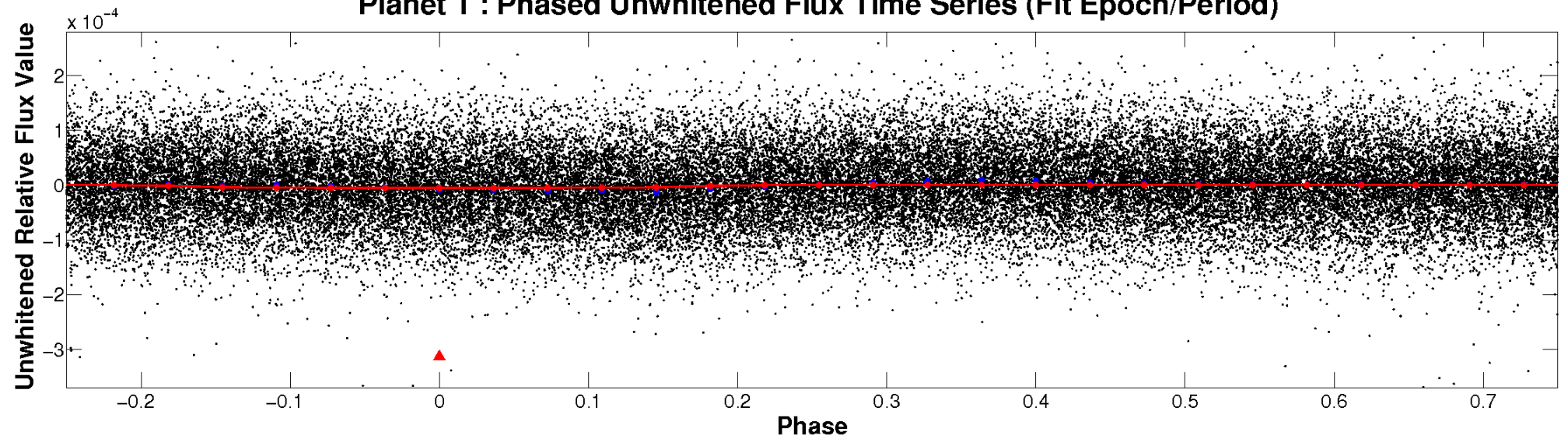
TCE 005111801-01



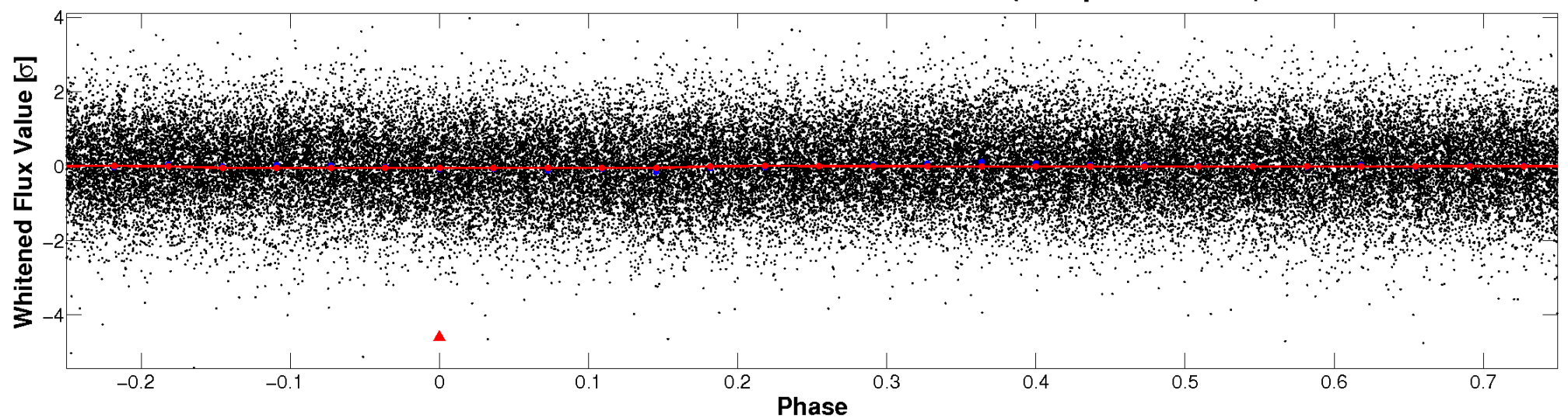


# Non-Whitened Vs. Whitened Light Curve

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

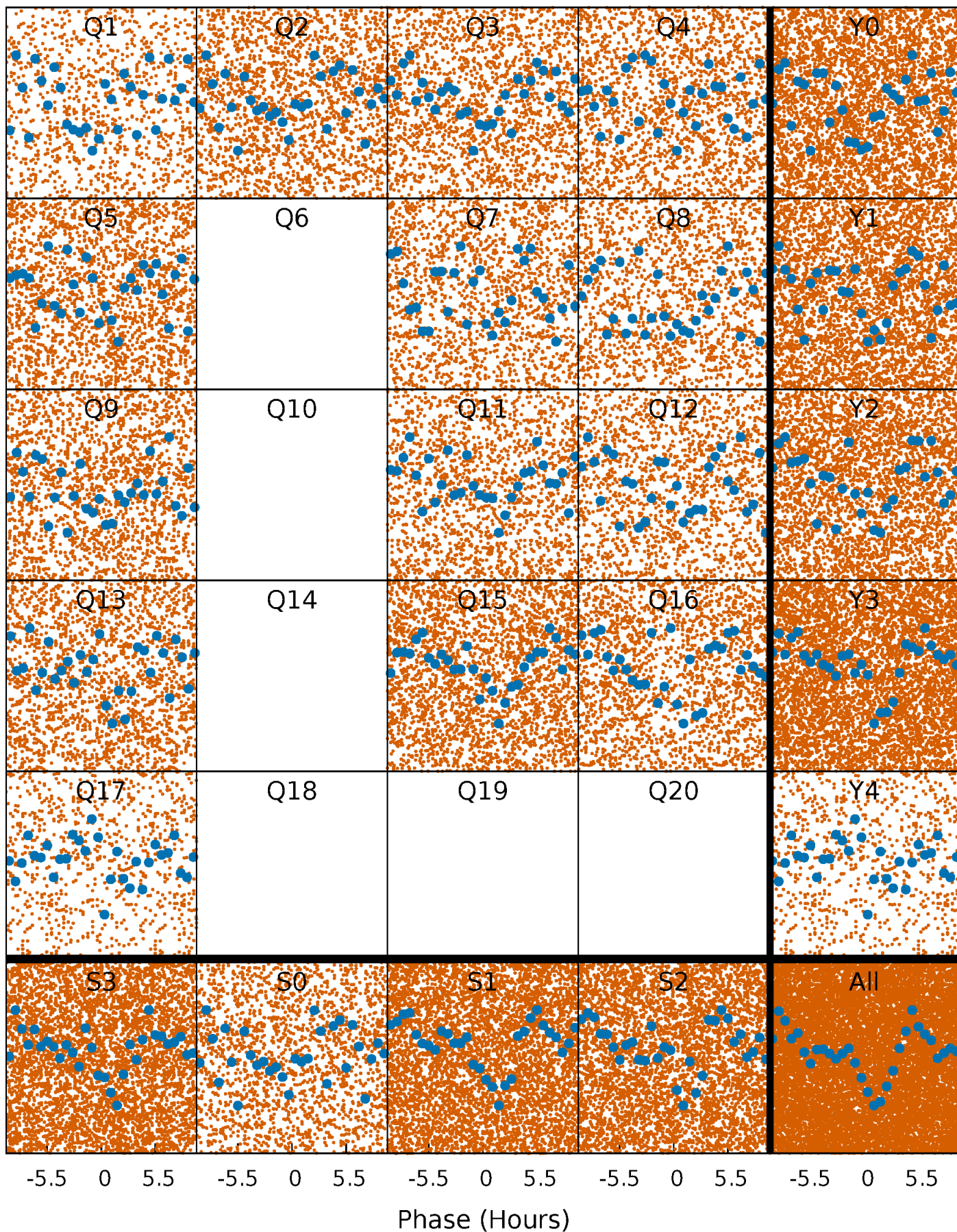


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

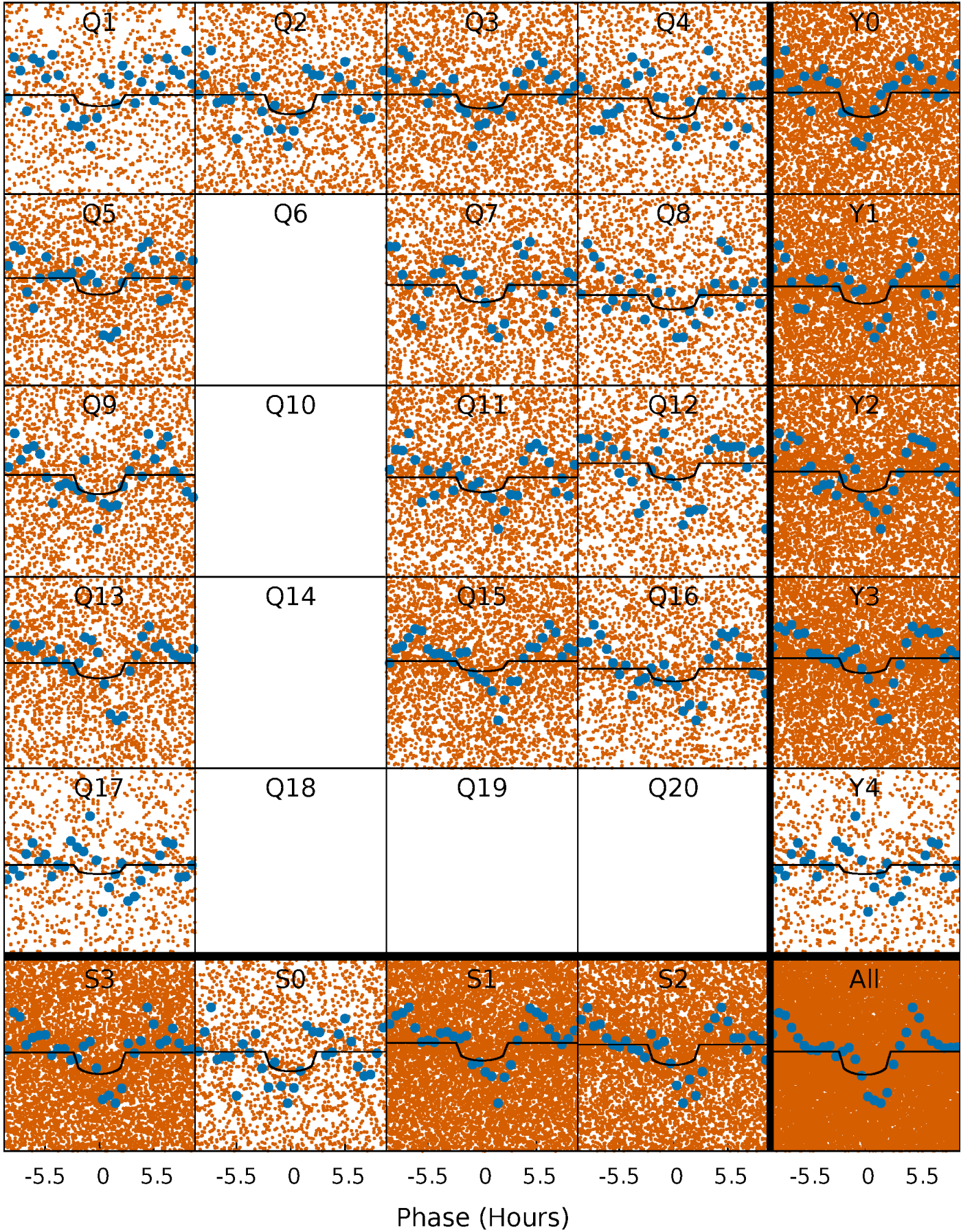
TCE 005111801-01   P= 0.561969 Days    $T_0=132.034951$  (BKJD)





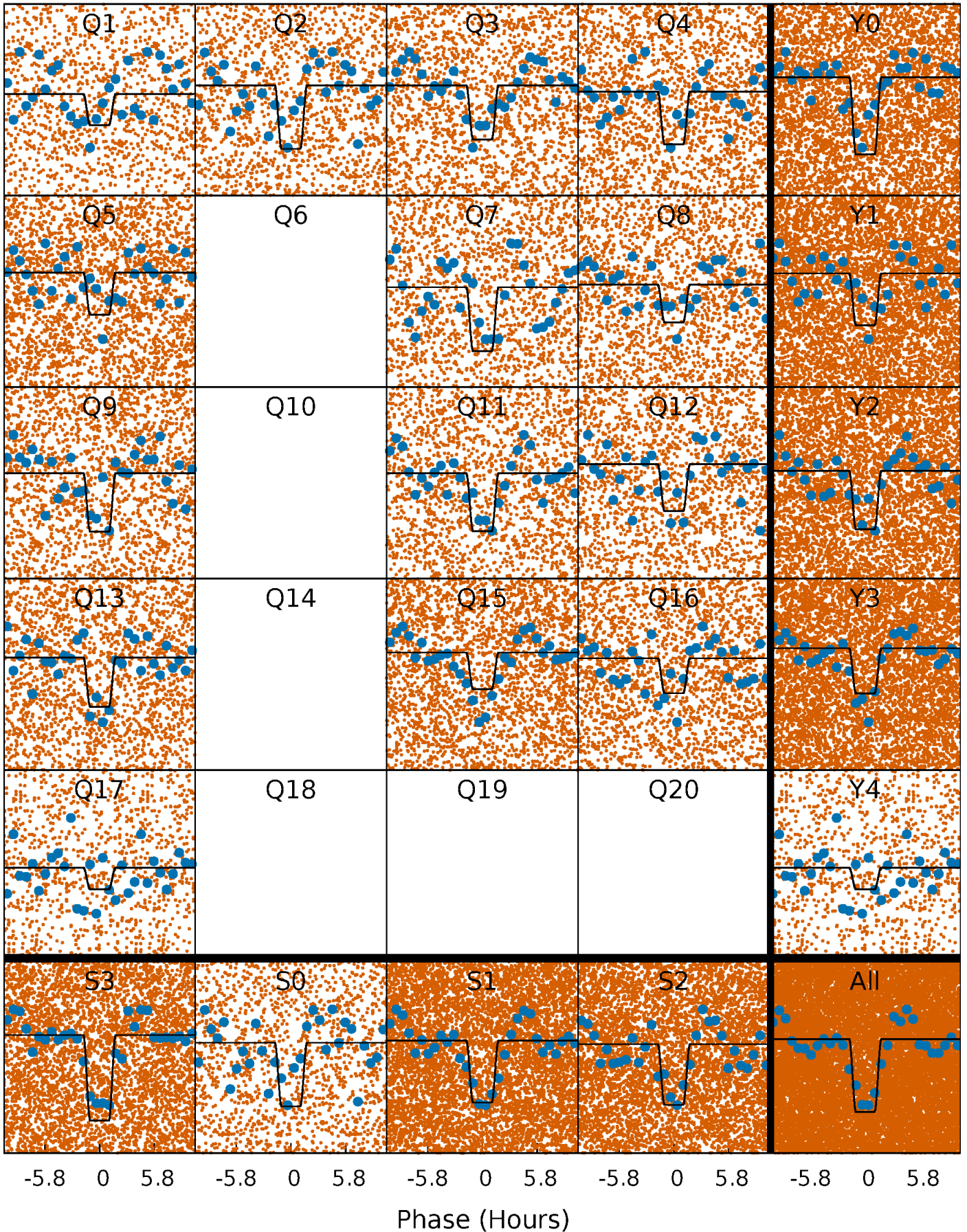
# DV Quarter-Phased Transit Curves

TCE 005111801-01   P= 0.561969 Days    $T_0=132.034951$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005111801-01   P= 0.562007 Days    $T_0=132.024880$  (BKJD)

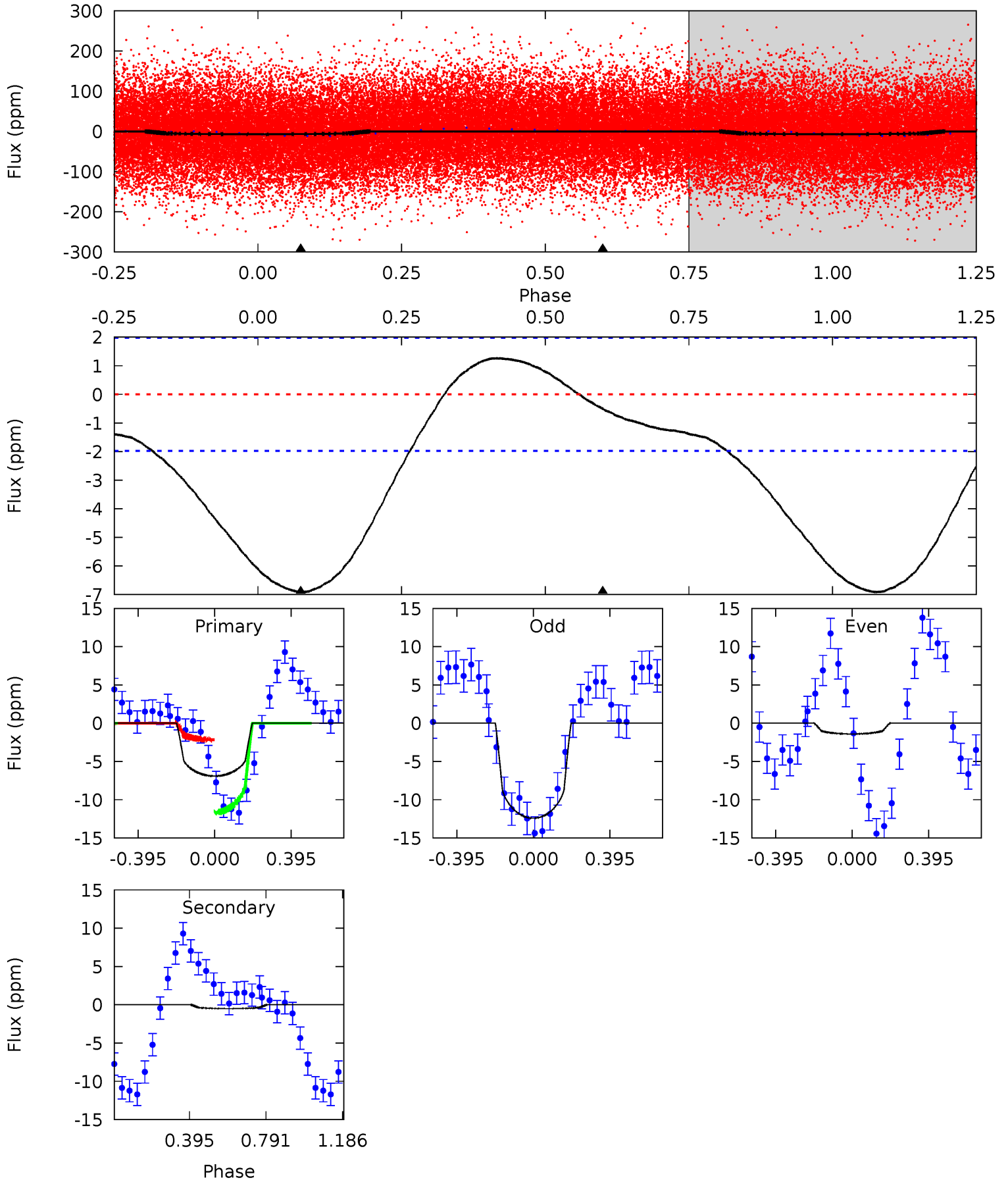




# DV Model-Shift Uniqueness Test

005111801-01, P = 0.561969 Days, E = 131.472982 Days

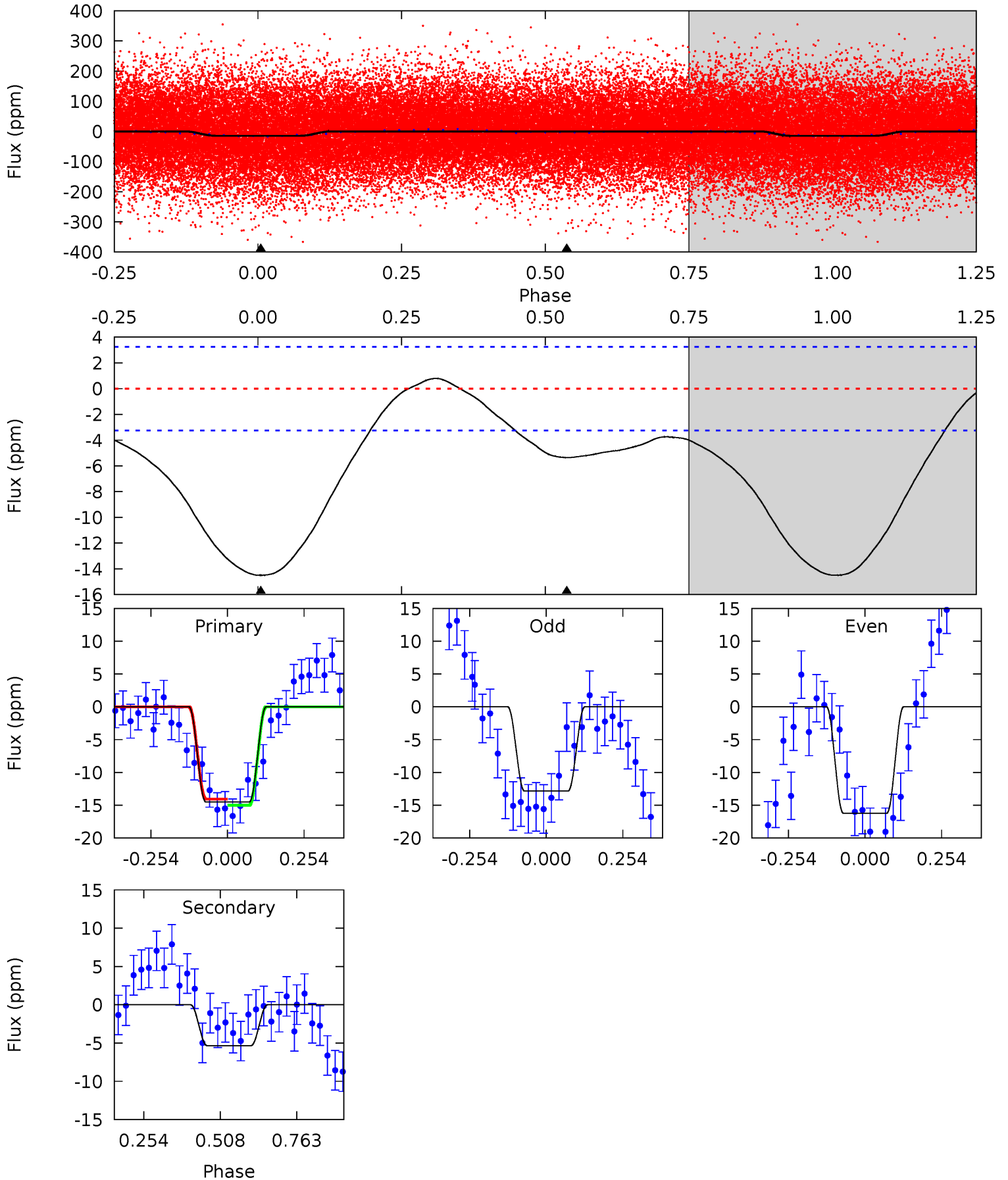
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	1.09	0	0	4.27	0.85	2.63	14.9	14.9	1.09	1.09	12.0	1.00	0.15	10.2



# Alt Model-Shift Uniqueness Test

005111801-01, P = 0.562007 Days, E = 131.462873 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
19.5	7.20	0	0	4.37	1.14	2.45	19.5	19.5	7.20	7.20	2.07	0.96	0.05	0.58





### Stellar Parameters For KIC 005111801

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6609^{+188}_{-235}$	$4.170^{+0.209}_{-0.171}$	$-0.380^{+0.250}_{-0.300}$	$1.455^{+0.398}_{-0.358}$	$1.144^{+0.177}_{-0.159}$	$0.523^{+0.603}_{-0.242}$
	+3%/-4%	+5%/-4%	+66%/-79%	+27%/-25%	+15%/-14%	+115%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 005111801-01 / KOI 6521.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-1 \pm 0$	$0.39^{+0.30}_{-0.23}$	$4158^{+320}_{-321}$	$2217^{+3162}_{-6009}$	$0.306^{+1.941}_{-0.281}$
Alt.	$-5 \pm 1$	$0.66^{+0.36}_{-0.30}$	$4140^{+315}_{-317}$	$4687^{+1808}_{-988}$	$1.333^{+3.047}_{-0.773}$

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

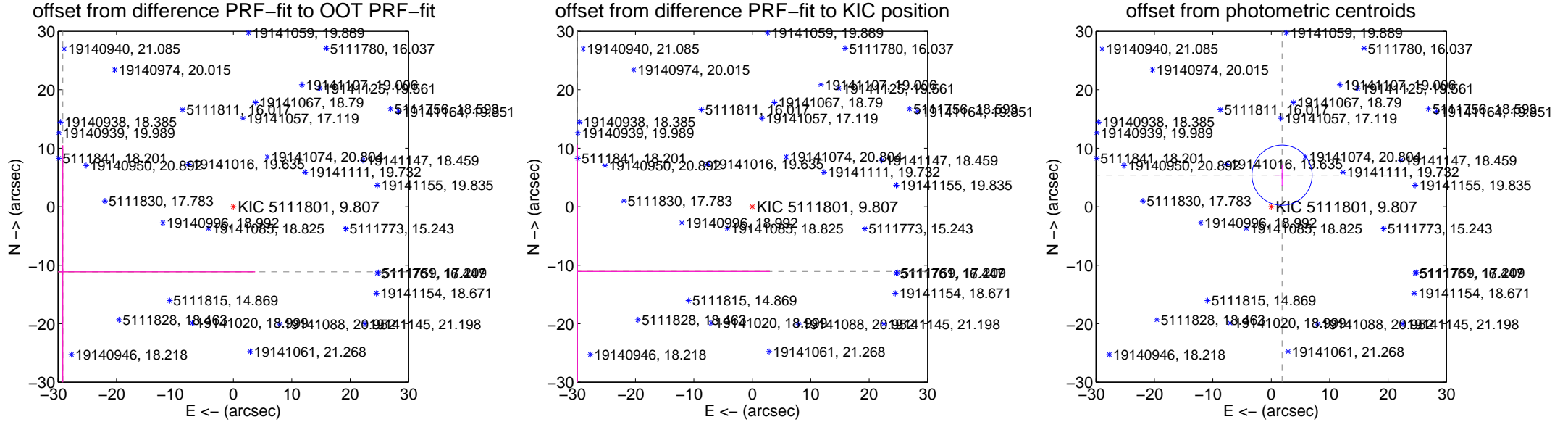
## DV Centroid Data

Supplemental centroid analysis for 005111801-01. **Kepler magnitude: 9.81.** Transit SNR 6.66

**There are 0 quarters with good PRF difference image offsets**

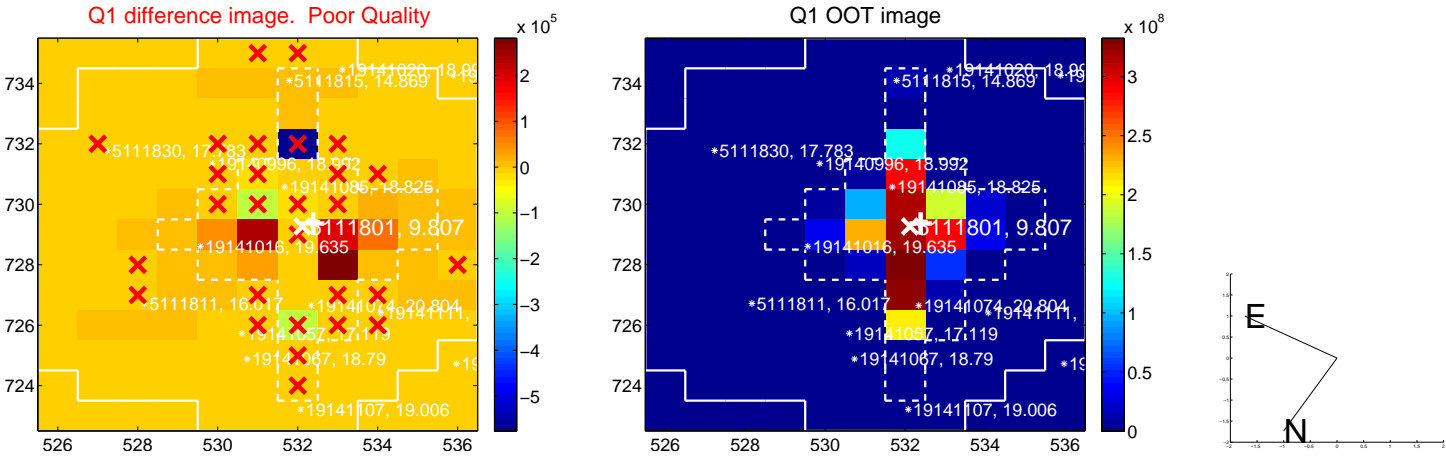
The direct PRF centroid is offset from the target star catalog position by about 0.75 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$31.237 \pm 31.711$	0.99	$29.190 \pm 32.920$	$-11.122 \pm 21.621$
PRF-fit source offset from KIC position	$31.912 \pm 31.777$	1.00	$29.936 \pm 32.920$	$-11.055 \pm 21.621$
photometric centroid source offset	<b><math>5.69 \pm 1.72</math></b>	<b>3.31</b>	$-1.85 \pm 1.26$	$5.38 \pm 1.76$

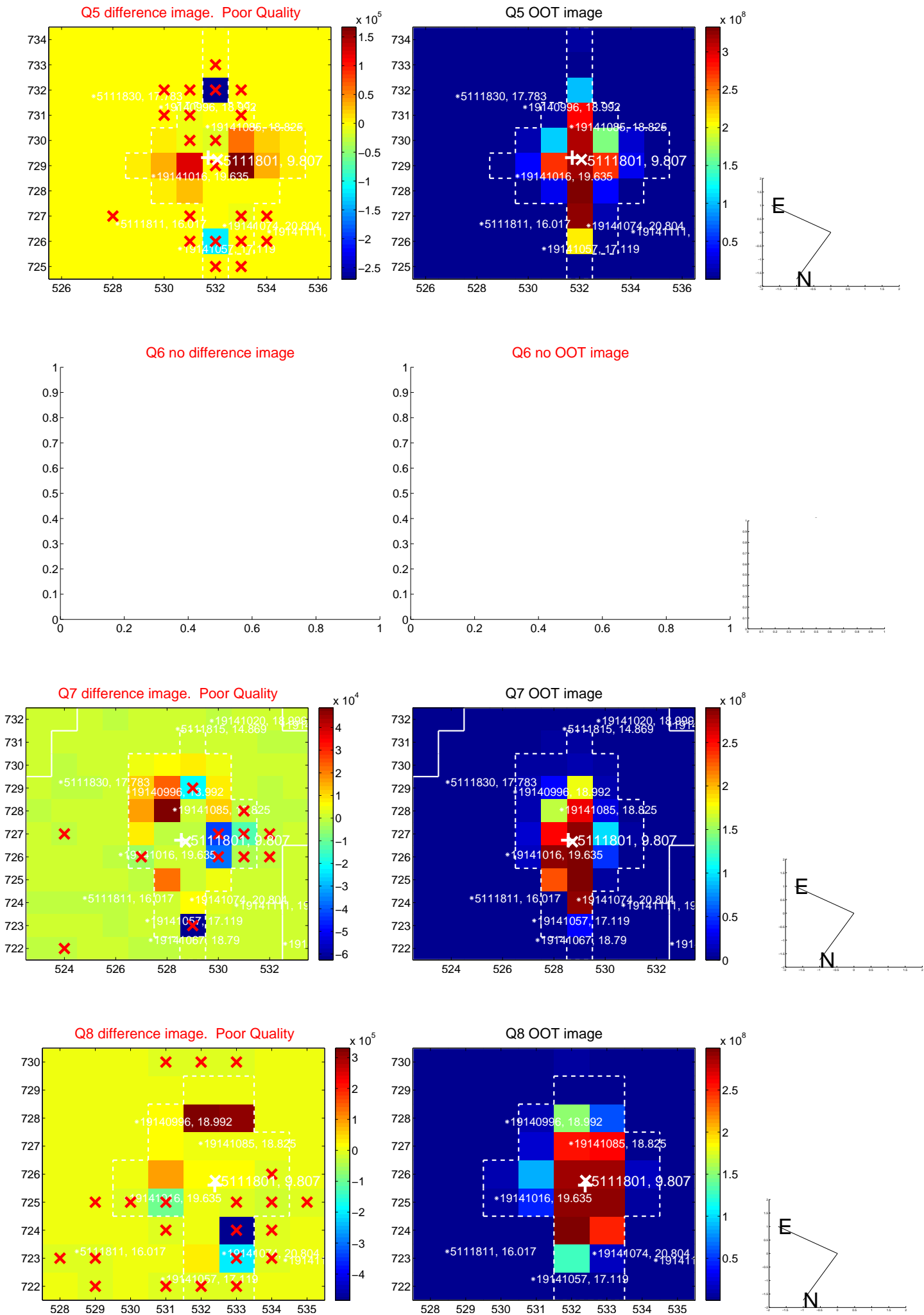


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

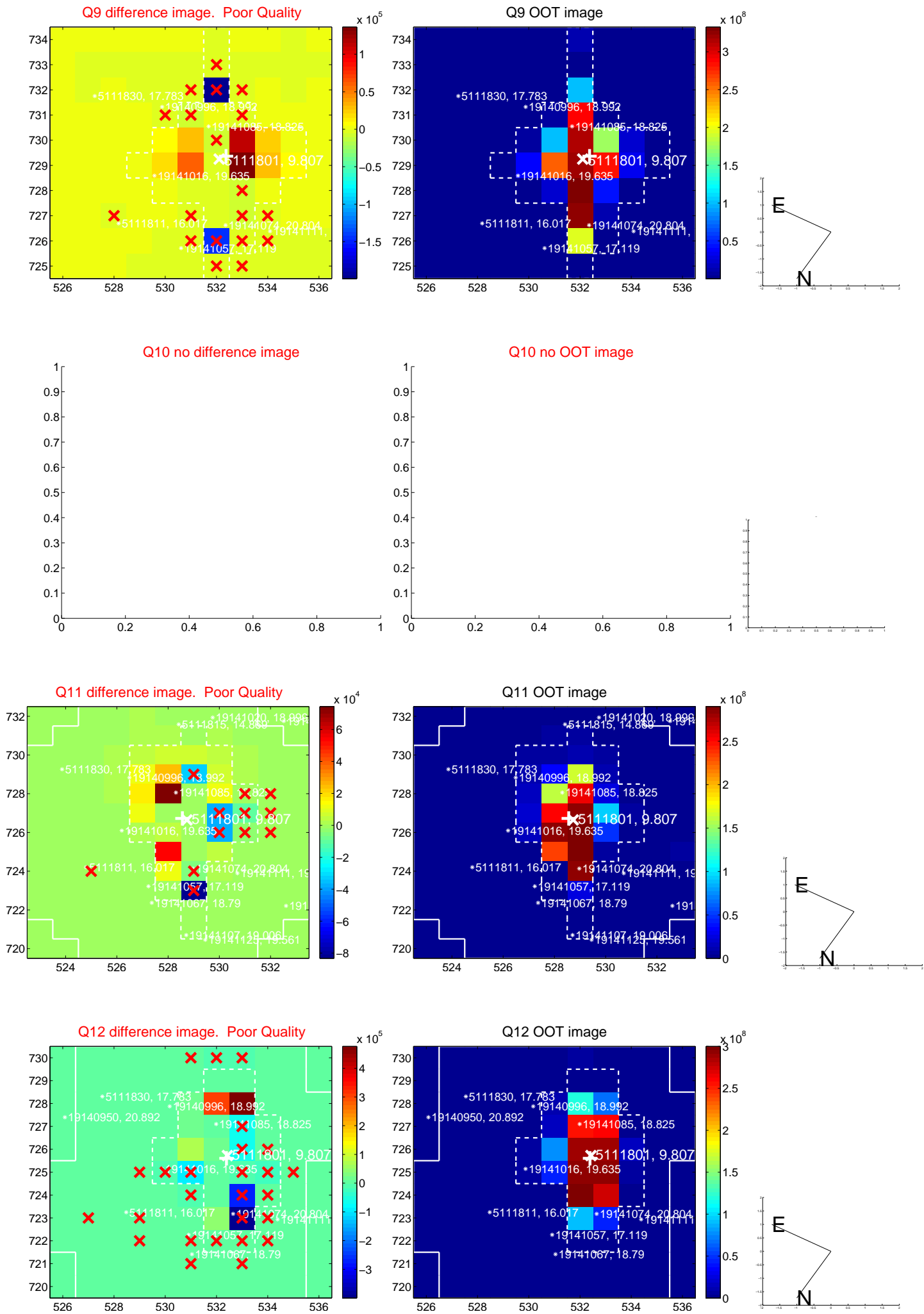


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

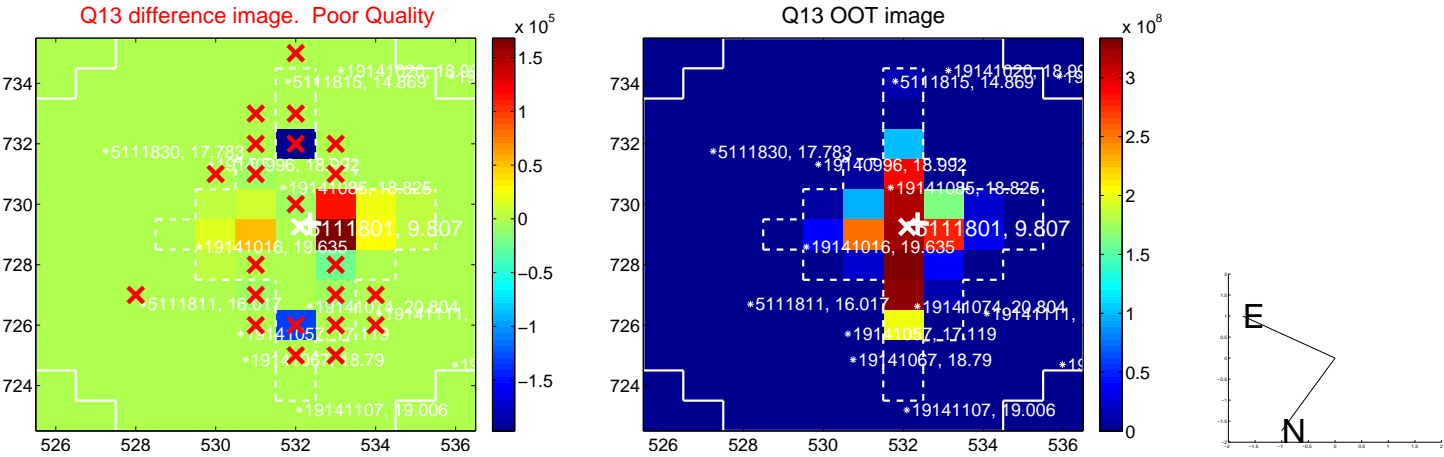




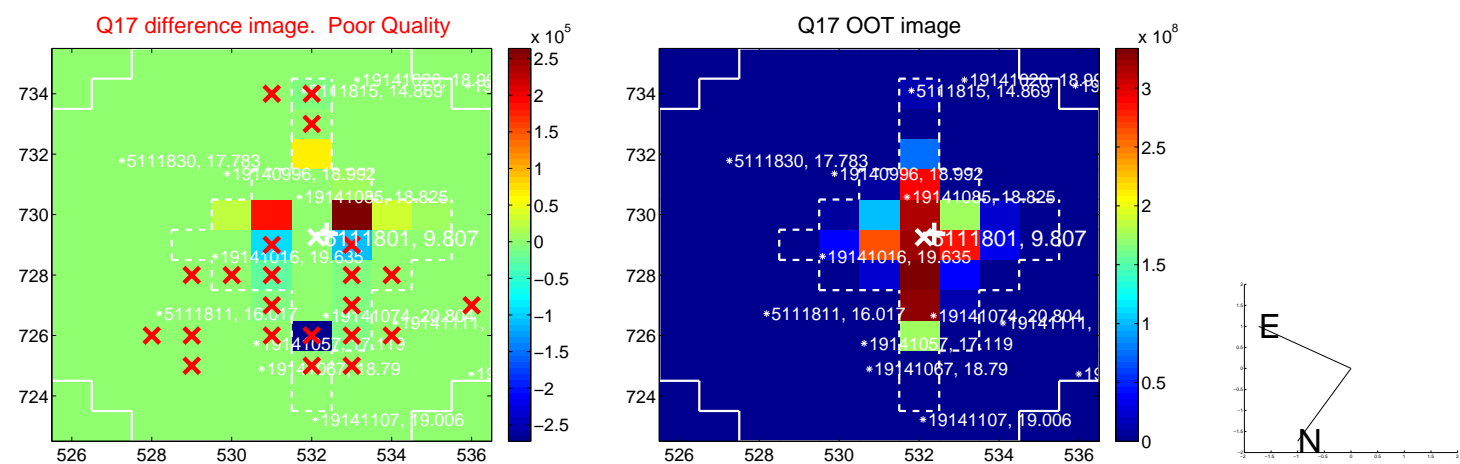
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



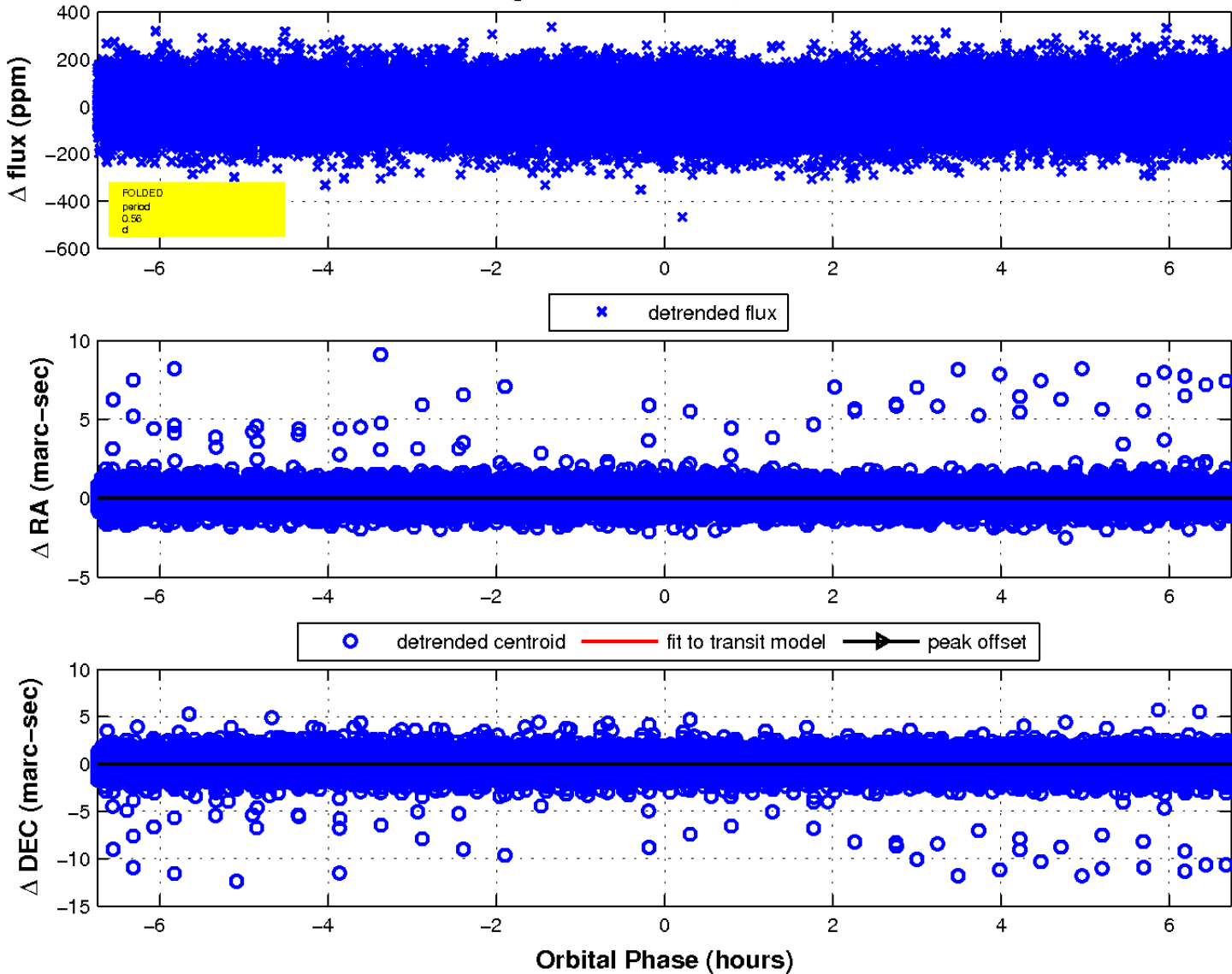
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

