

# KIC 011145831

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011145831-01	OBS	4039.01	1.387814	132.125615	116.4	2.237	14.3	16.6	1.04	6273	1.33	2392.33

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011145831-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_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.

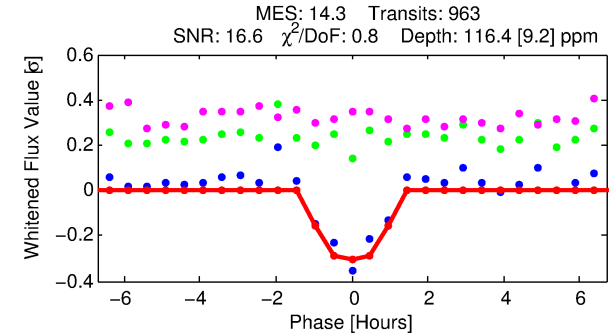
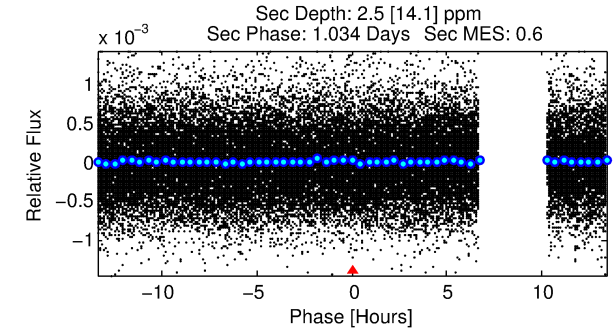
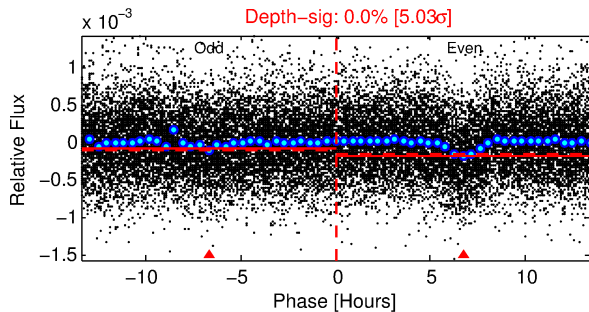
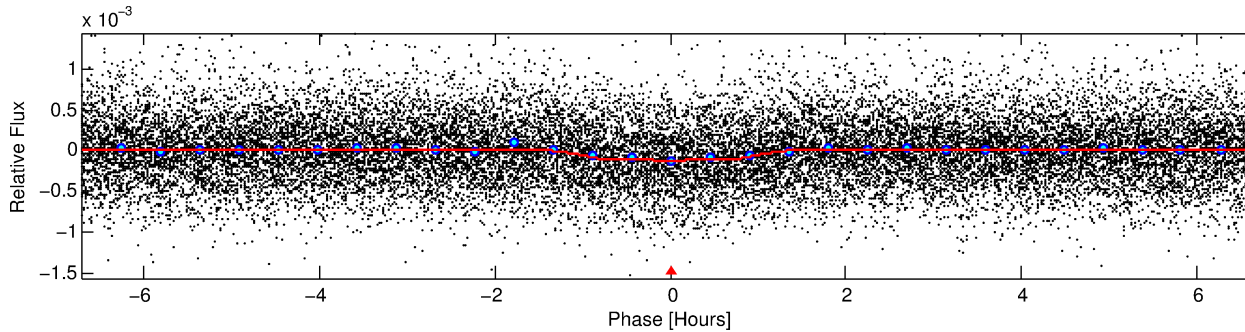
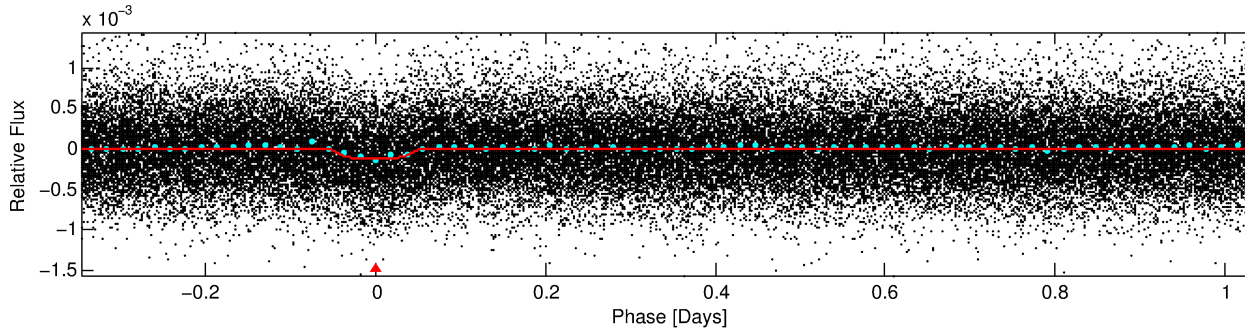
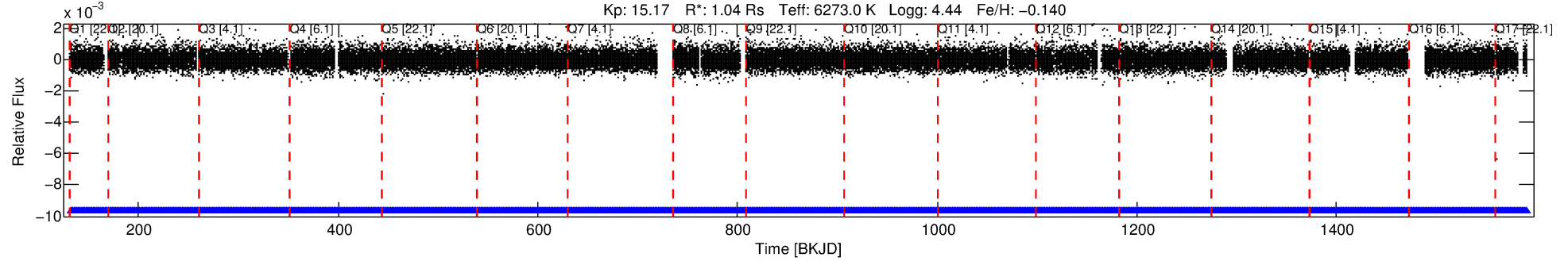
## Ephemeris Match Information For 011145831-01

No Significant Match Found

# DV One-Page Summary

KIC: 11145831 Candidate: 1 of 1 Period: 1.388 d  
KOI: K04039.01 Corr: 0.935

Kp: 15.17 R\*: 1.04 Rs Teff: 6273.0 K Logg: 4.44 Fe/H: -0.140



## DV Fit Results:

Period = 1.38781 [0.00001] d  
Epoch = 132.1256 [0.0020] BKJD  
Rp/R\* = 0.0117 [0.0045]  
a/R\* = 2.35 [4.05]  
b = 0.90 [0.43]  
Seff = 2392.33 [1001.36]  
Teq = 1783 [187] K  
Rp = 1.33 [0.66] Re  
a = 0.0251 [0.0068] AU  
Ag = 0.48 [2.81] [-0.18σ]  
Teffp = 2300 [3324] K [0.16σ]

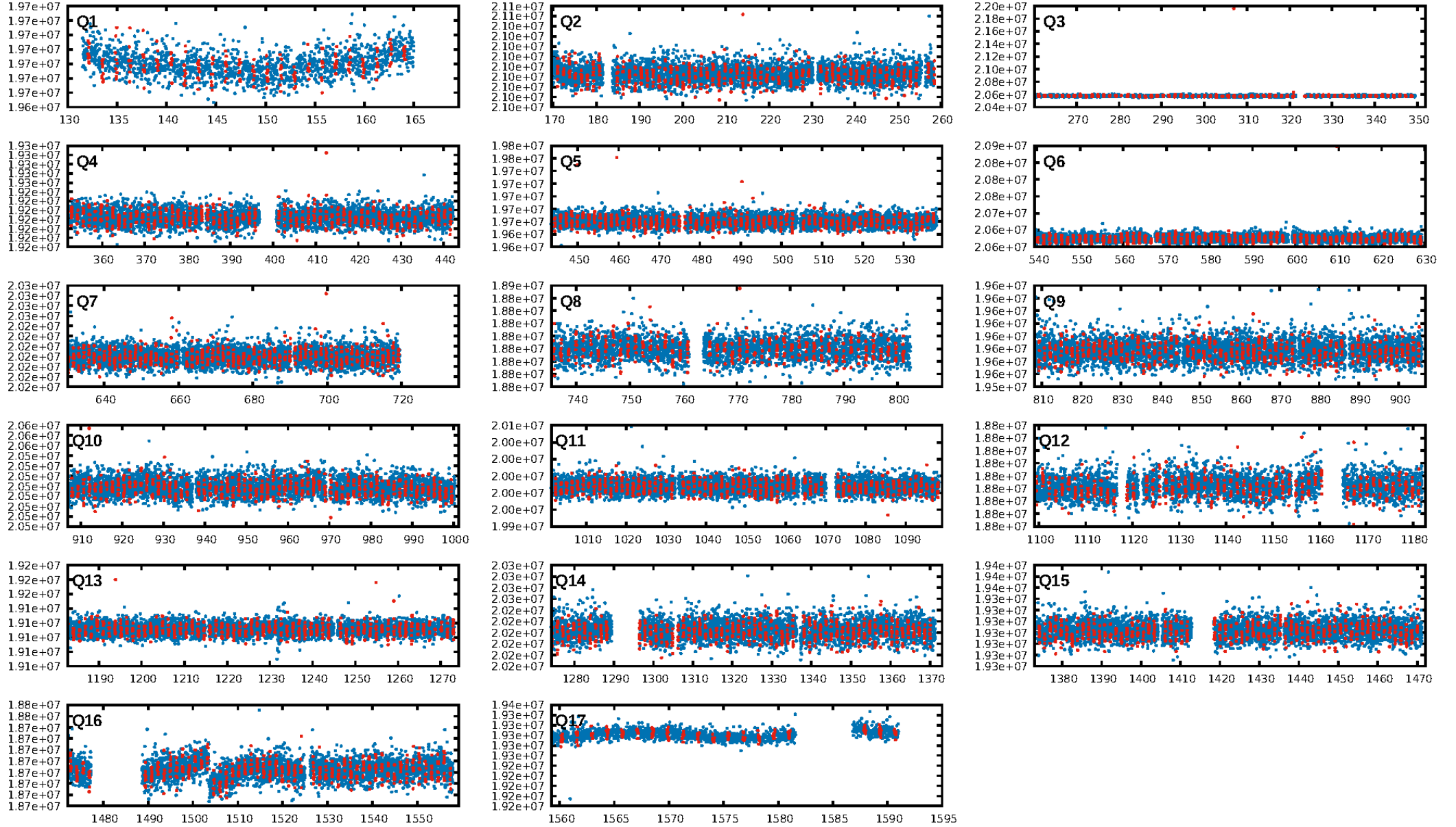
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.09e-45  
RollingBand-fgt: 1.00 [920/920]  
GhostDiagnostic-chr: -0.4391  
Centroid-sig: 0.0%  
Centroid-so: 81.546 arcsec [76.69σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0 [0]  
KicOffset-st: 0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [17/17]

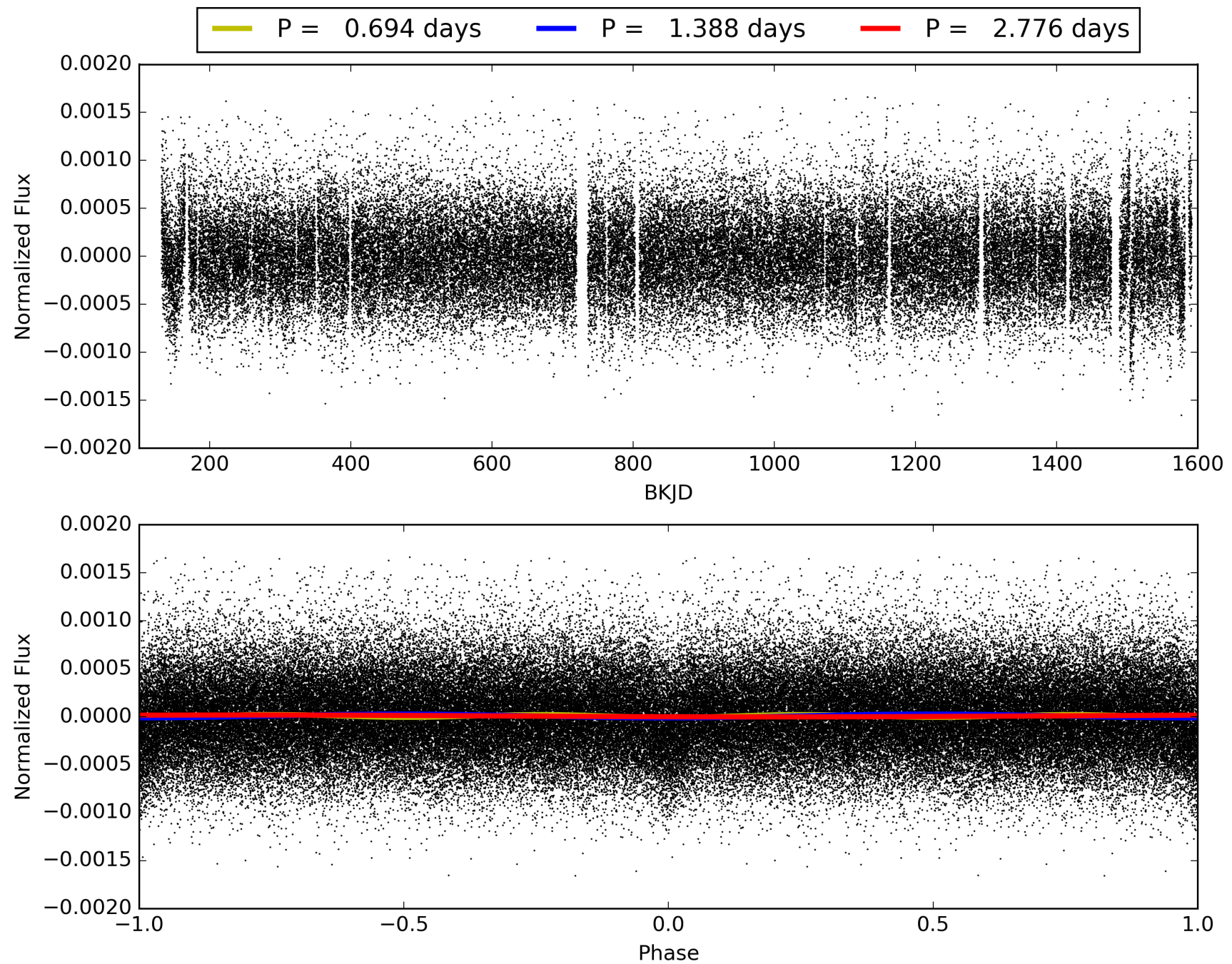
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:51:06 Z

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

# TCE 011145831-01, PDC Light Curves

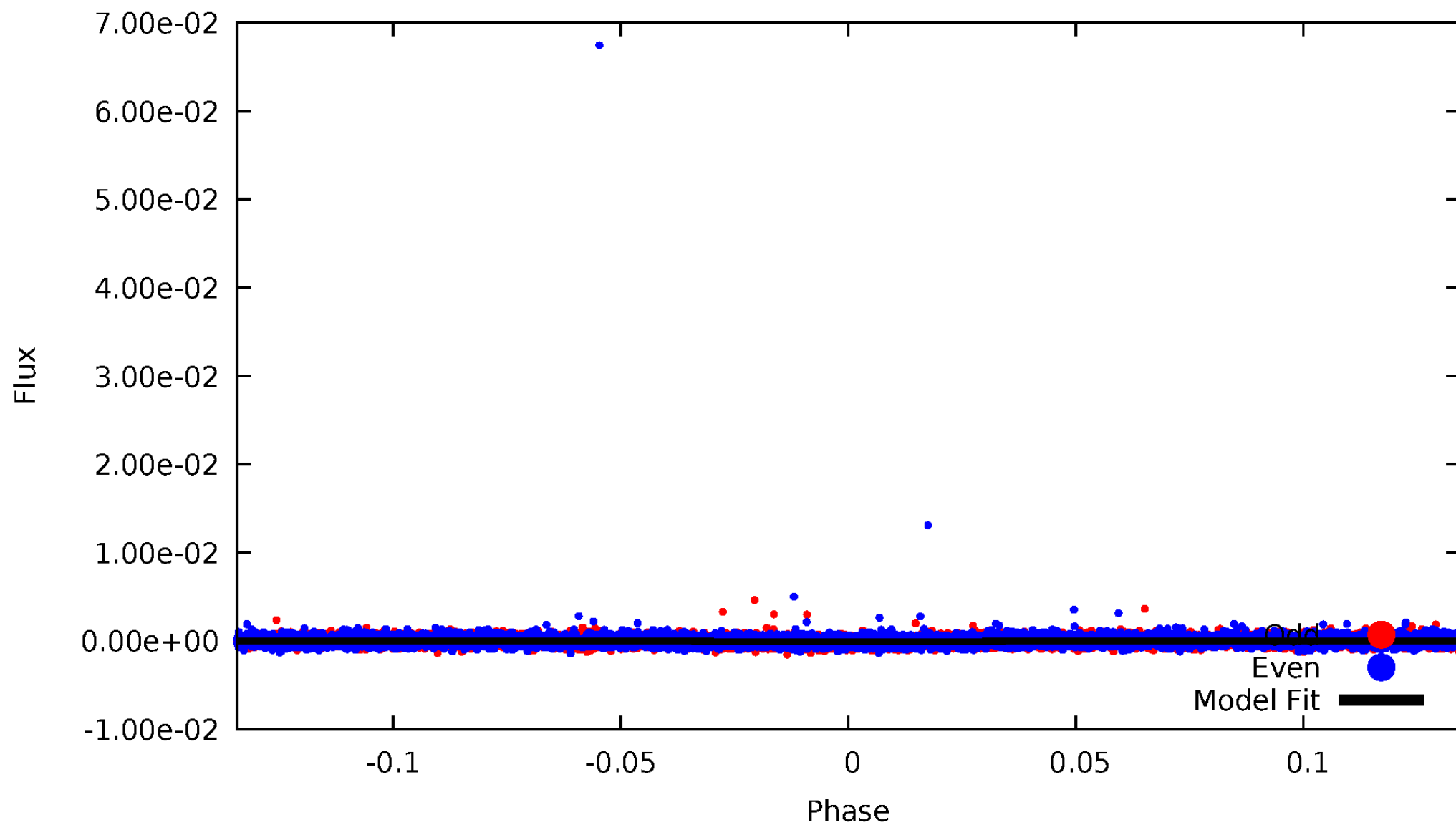


TCE 011145831-01



# DV Odd/Even

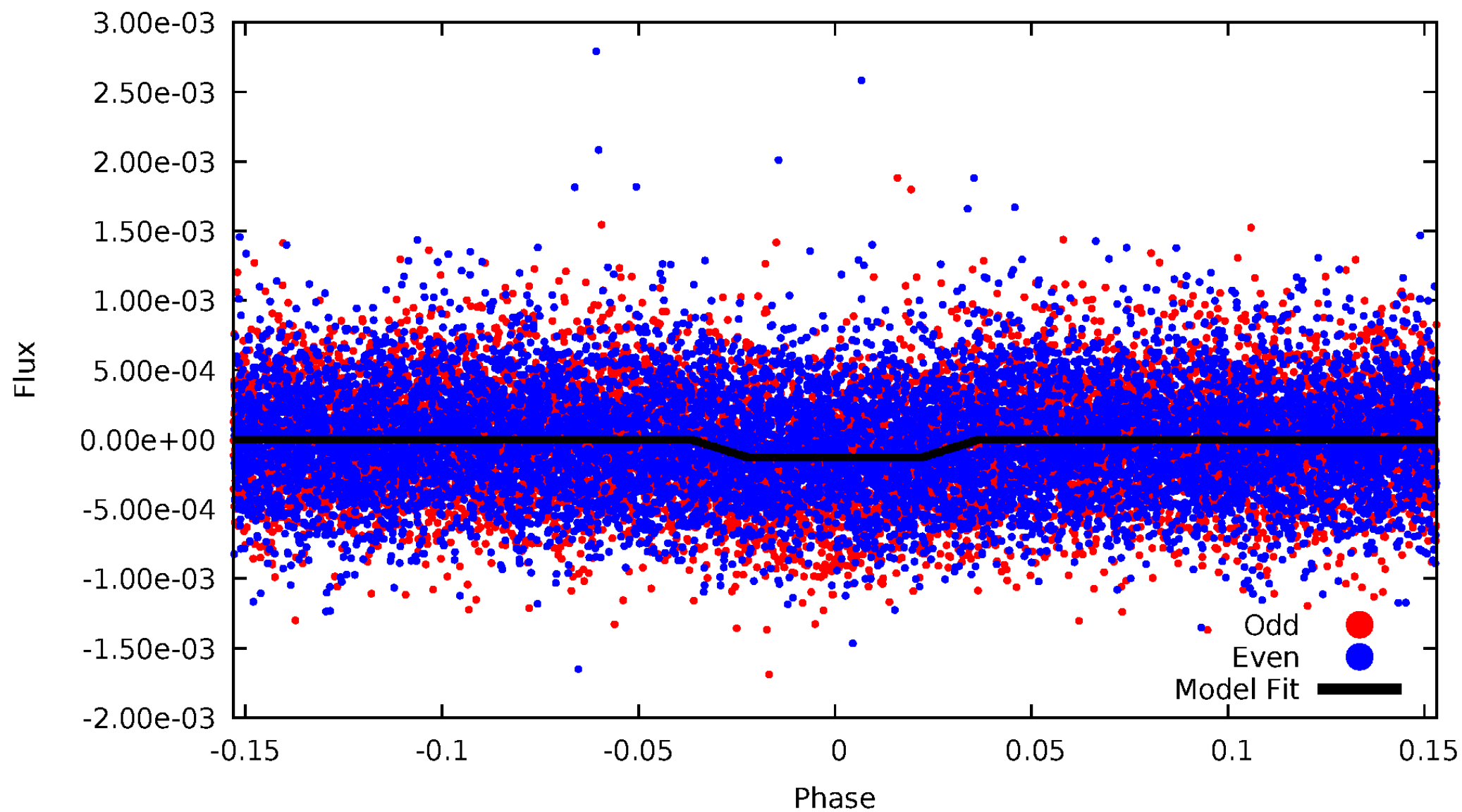
TCE 011145831-01



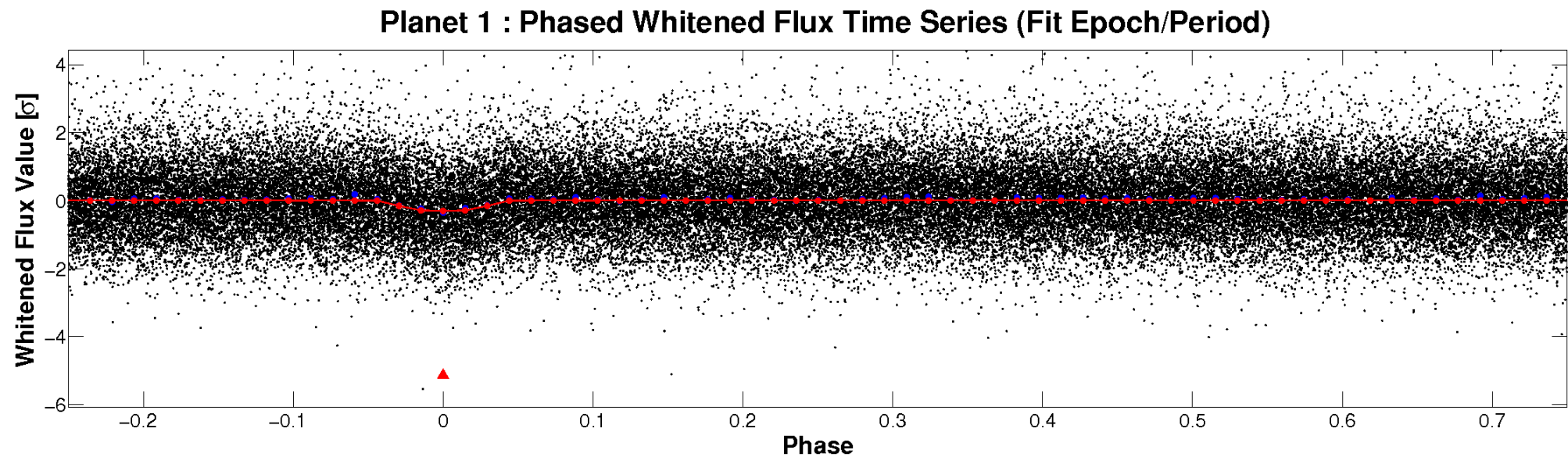
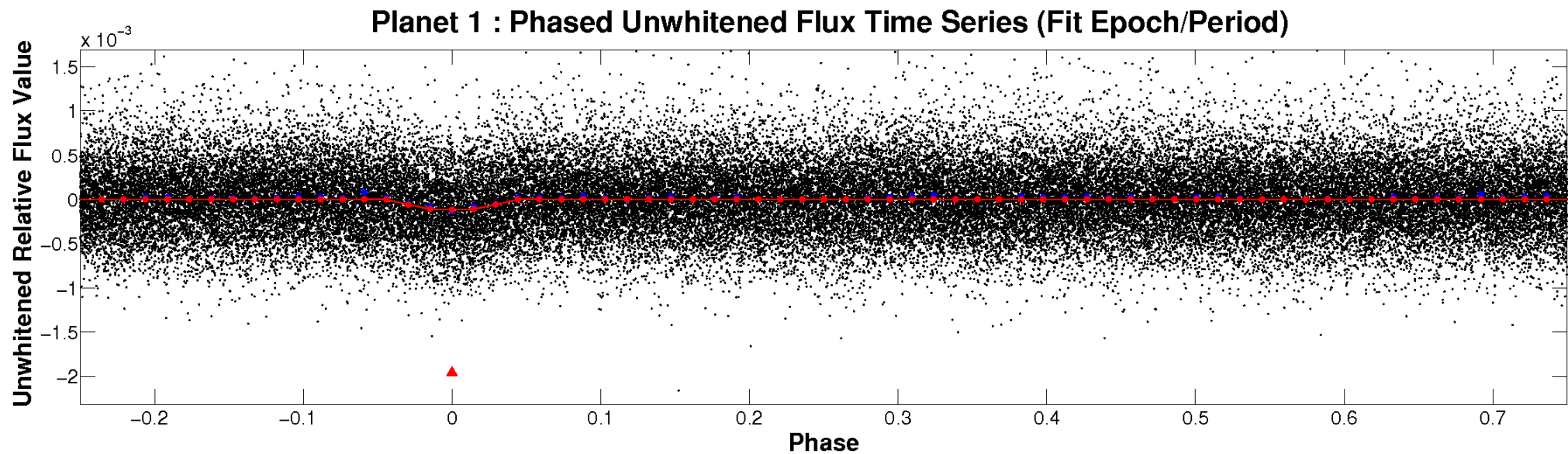


# ALT Odd/Even

TCE 011145831-01

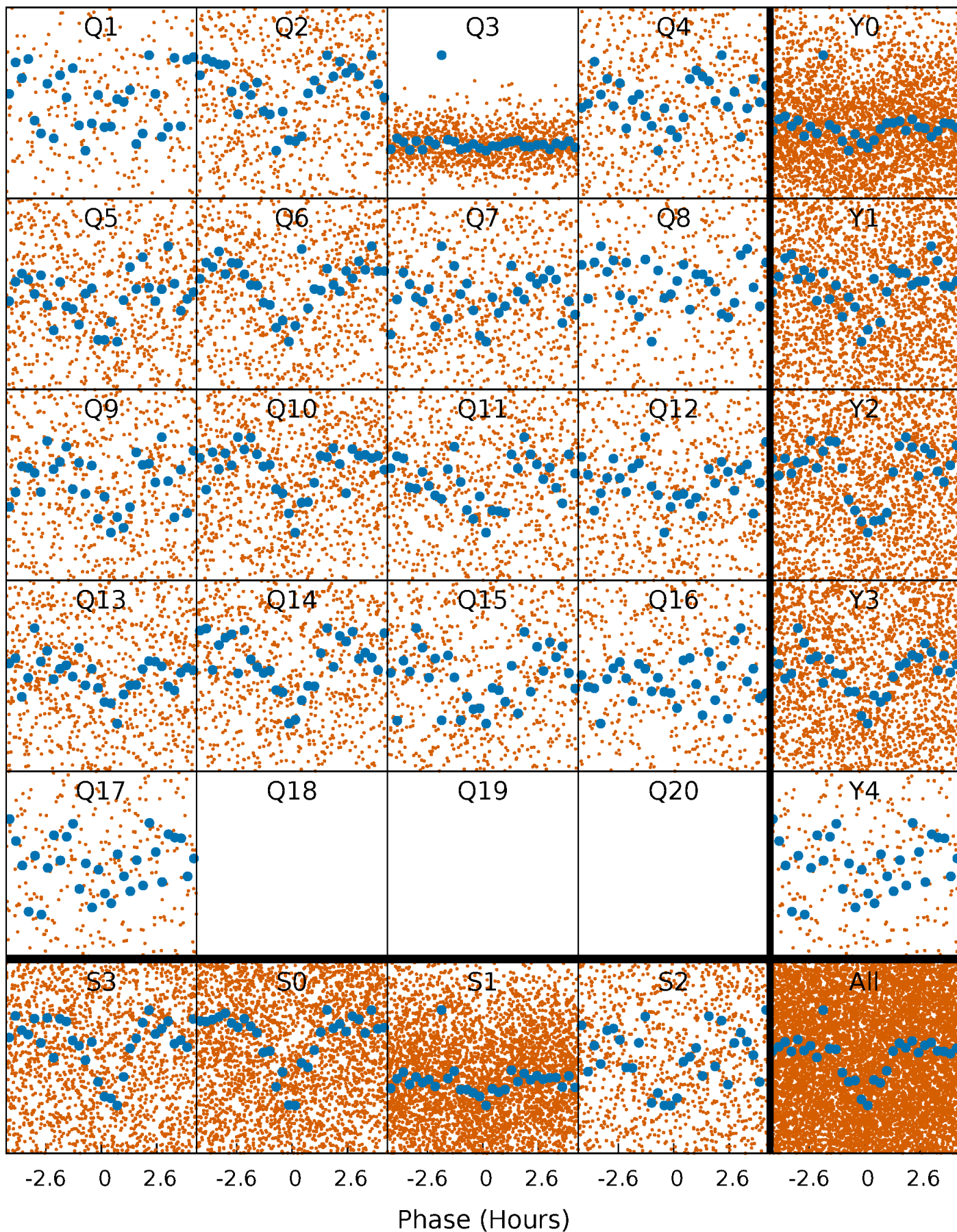


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

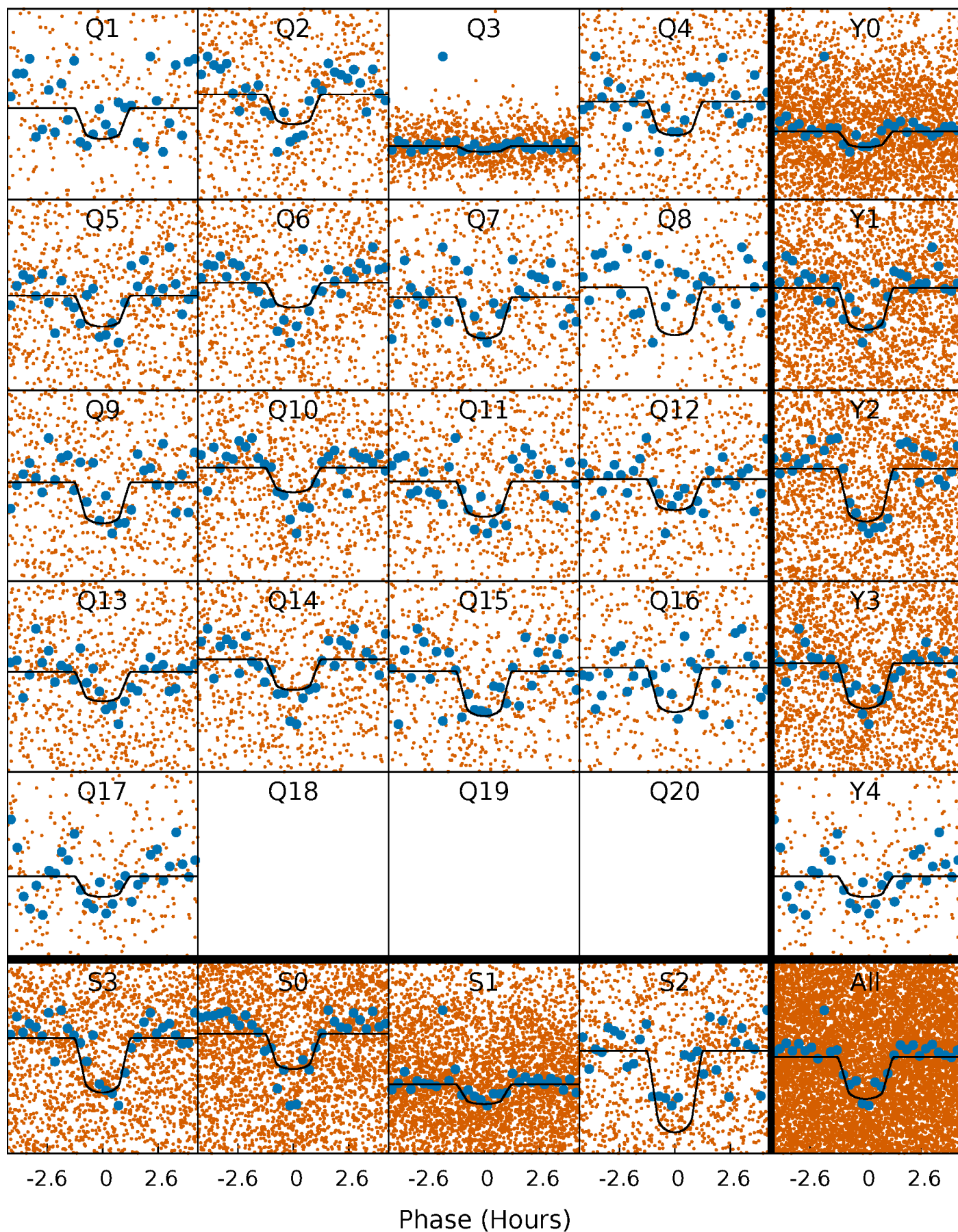
TCE 011145831-01 P= 1.387814 Days  $T_0=132.125615$  (BKJD)





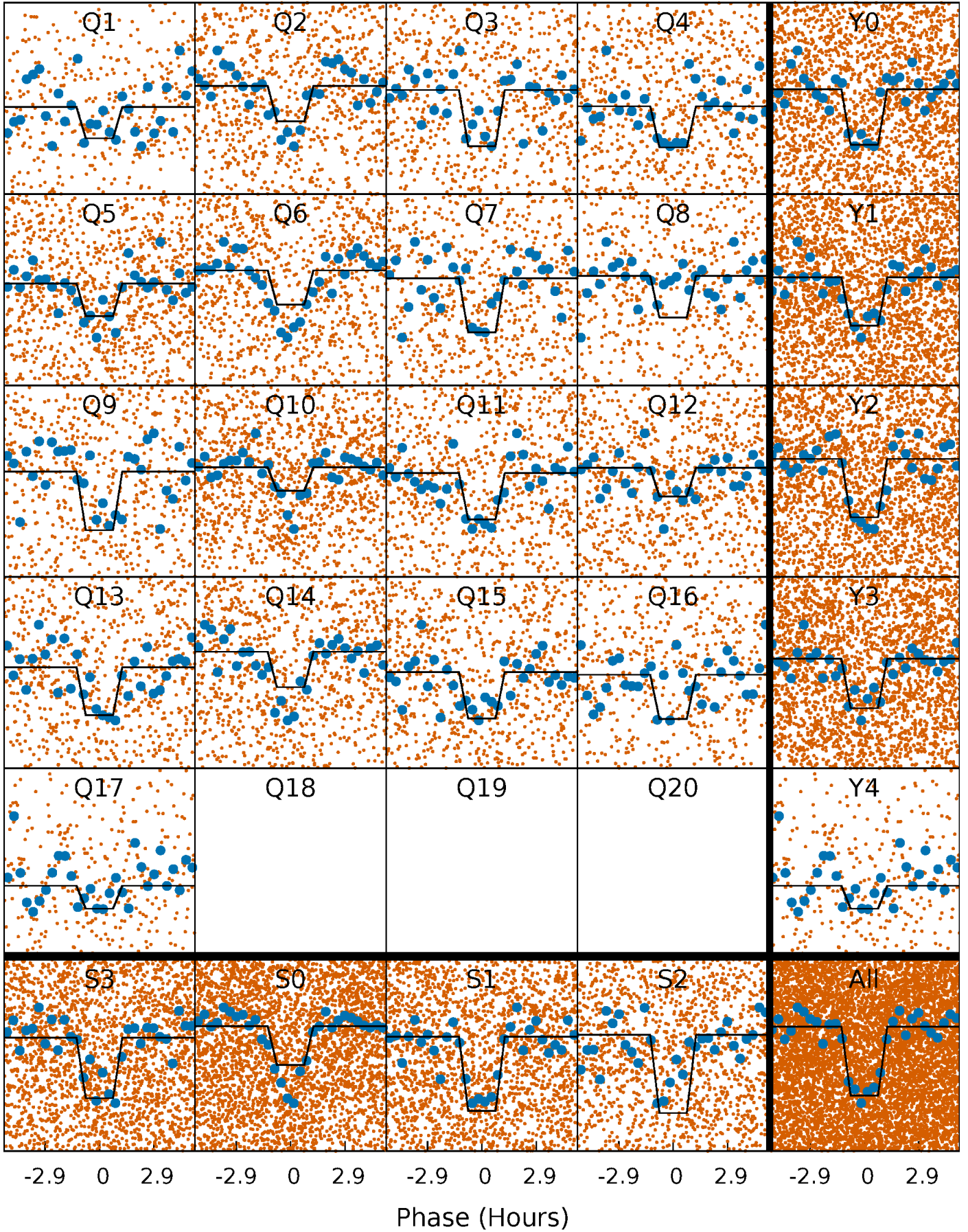
# DV Quarter-Phased Transit Curves

TCE 011145831-01 P= 1.387814 Days  $T_0=132.125615$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

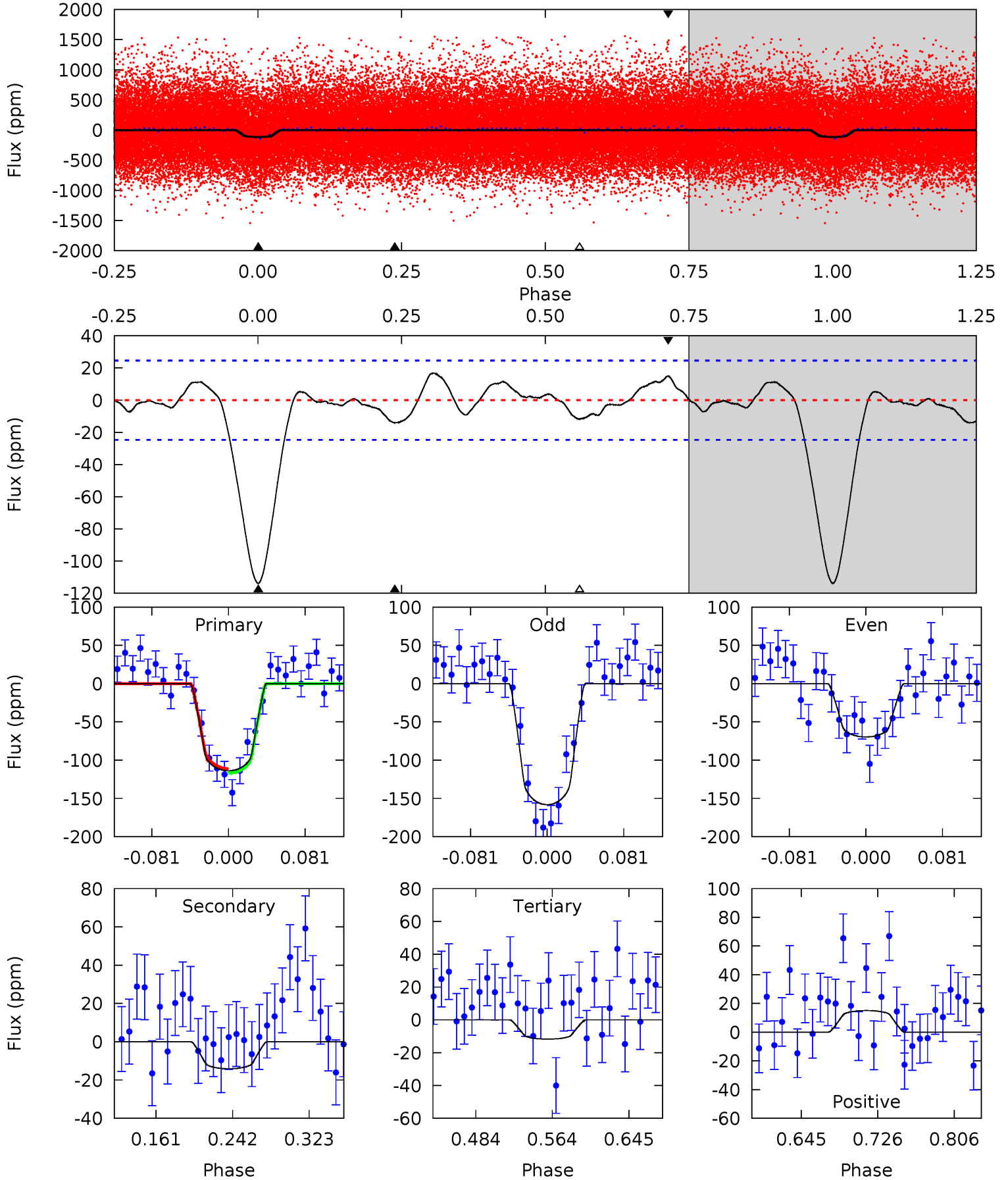
TCE 011145831-01 P= 1.387834 Days  $T_0=132.116288$  (BKJD)



# DV Model-Shift Uniqueness Test

011145831-01, P = 1.387814 Days, E = 130.737801 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
21.3	2.64	2.20	2.81	4.61	1.75	1.22	19.1	18.5	0.44	-0.17	8.32	0.88	0.13	0.53

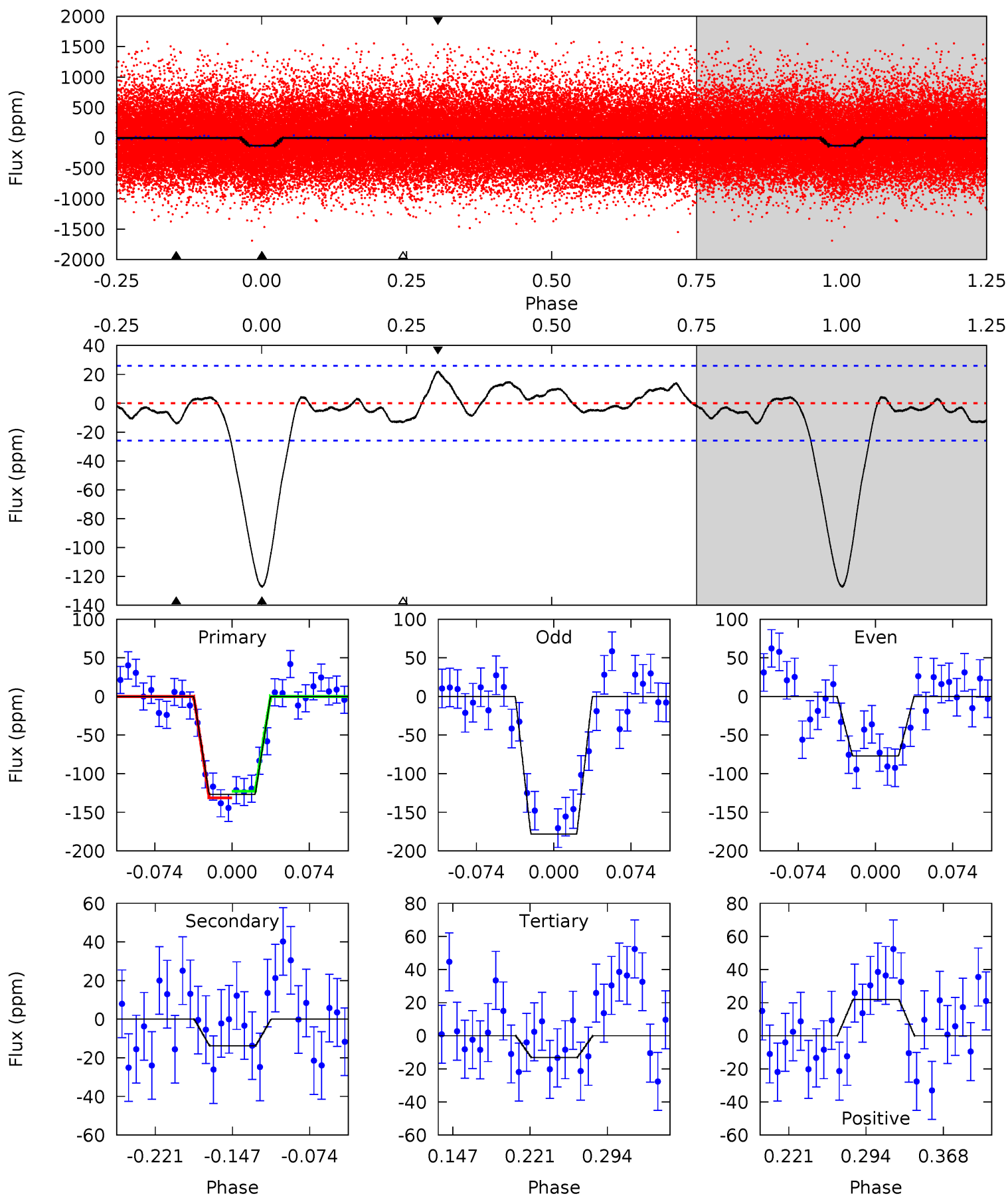




# Alt Model-Shift Uniqueness Test

011145831-01, P = 1.387834 Days, E = 130.728454 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
22.7	2.47	2.35	3.92	4.63	1.79	1.42	20.4	18.8	0.12	-1.44	9.07	0.93	0.15	0.77





### Stellar Parameters For KIC 011145831

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6273^{+175}_{-219}$	$4.442^{+0.054}_{-0.216}$	$-0.140^{+0.250}_{-0.350}$	$1.044^{+0.335}_{-0.112}$	$1.099^{+0.158}_{-0.144}$	$1.359^{+0.395}_{-0.729}$
	+3%/-3%	+1%/-5%	+179%/-250%	+32%/-11%	+14%/-13%	+29%/-54%
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 011145831-01 / KOI 4039.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-14 \pm 5$	$1.44^{+0.59}_{-0.56}$	$2542^{+193}_{-120}$	$3762^{+803}_{-554}$	$2.294^{+4.133}_{-1.297}$
Alt.	$-14 \pm 6$	$1.40^{+0.55}_{-0.55}$	$2546^{+186}_{-129}$	$3778^{+853}_{-585}$	$2.331^{+4.408}_{-1.328}$

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

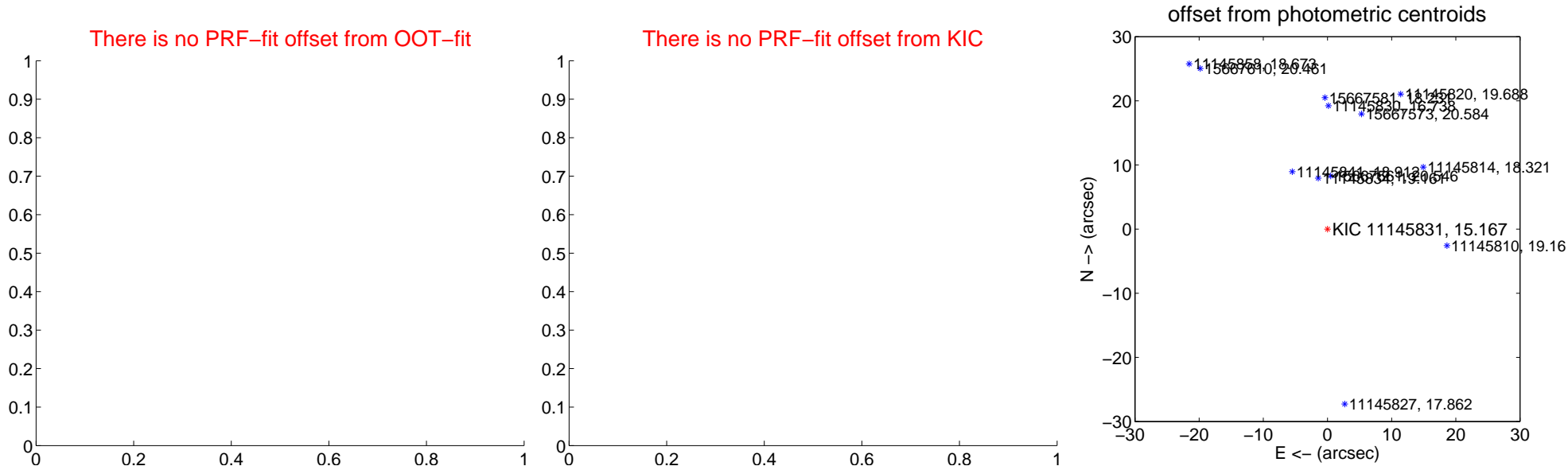
## DV Centroid Data

Supplemental centroid analysis for 011145831-01. Kepler magnitude: 15.17. Transit SNR 16.60

There are 0 quarters with good PRF difference image offsets

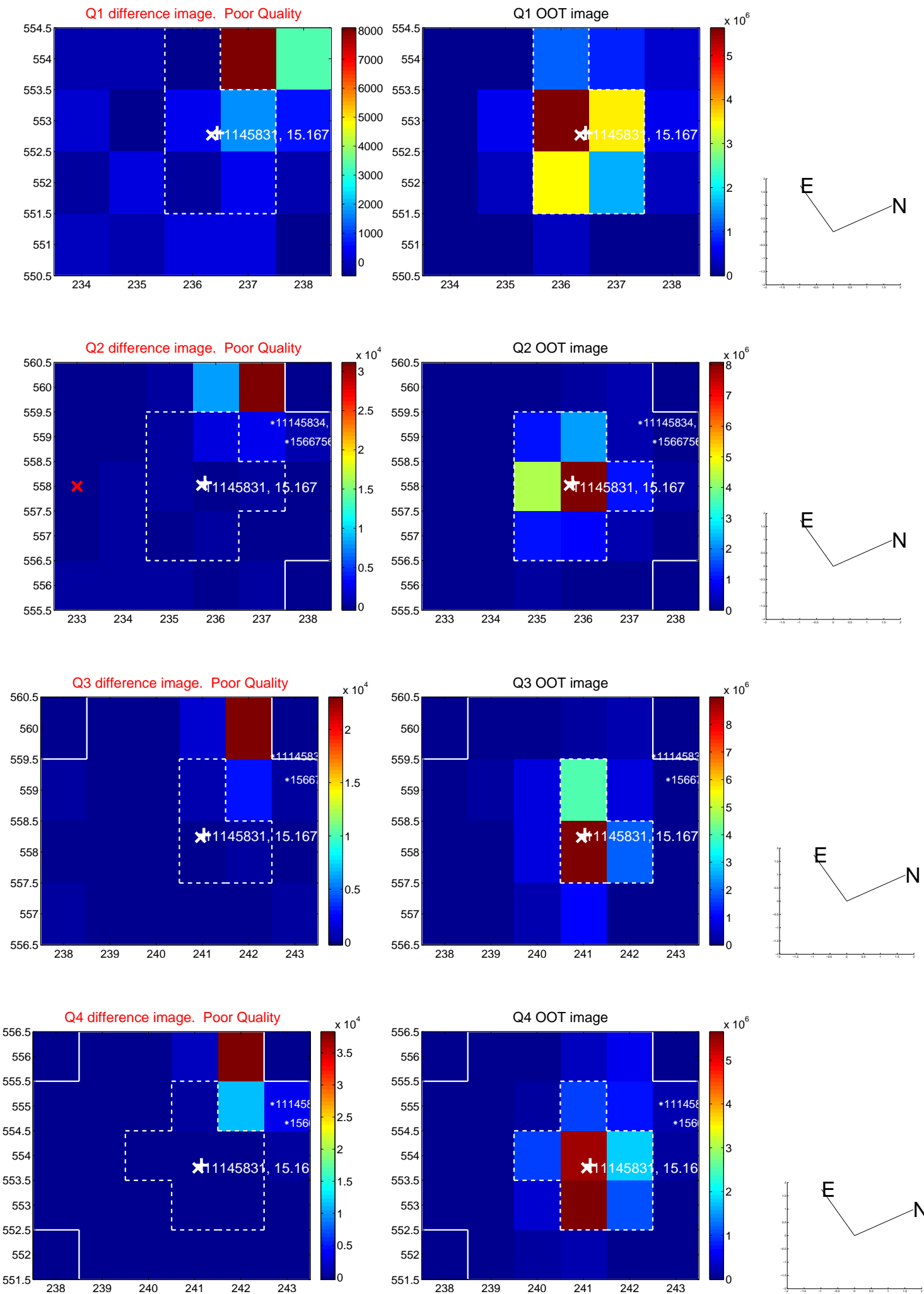
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$81.54 \pm 1.06$	$76.69$	$36.96 \pm 1.07$	$72.68 \pm 1.06$



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.

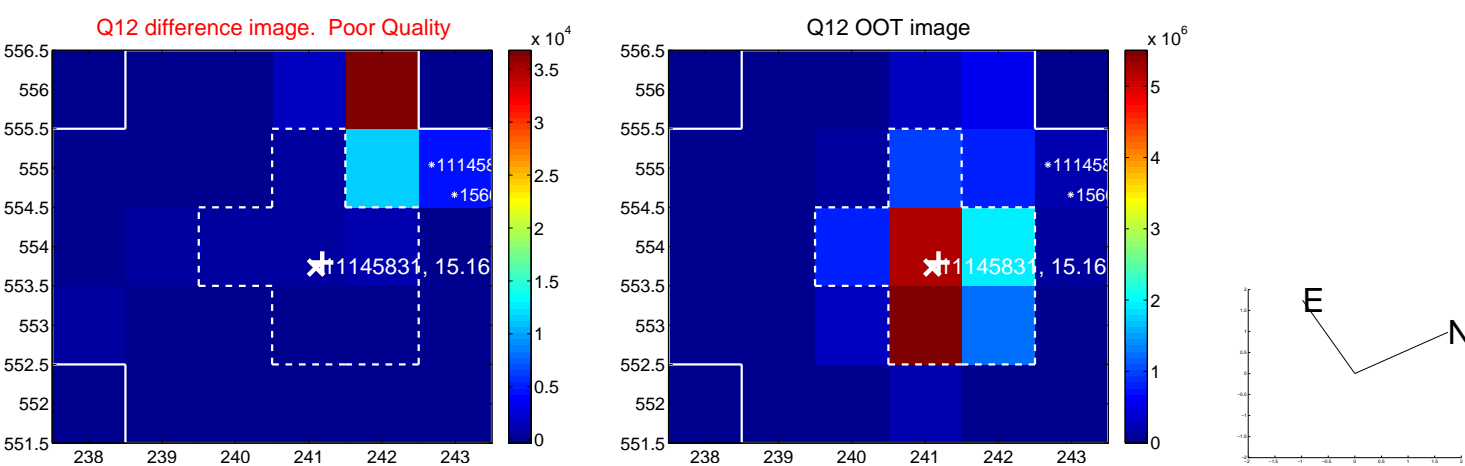
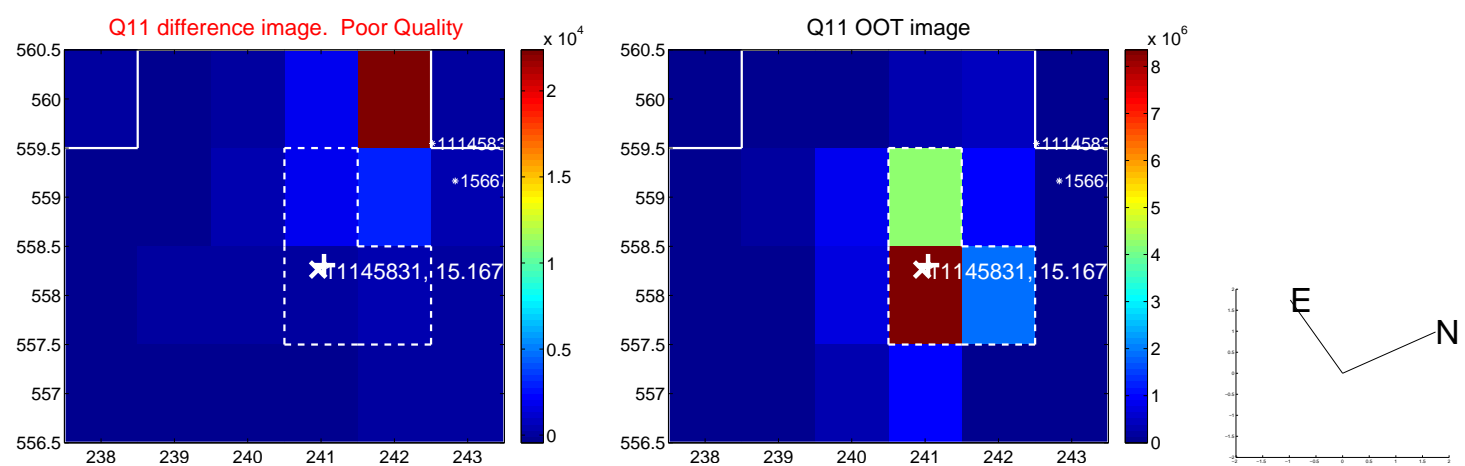
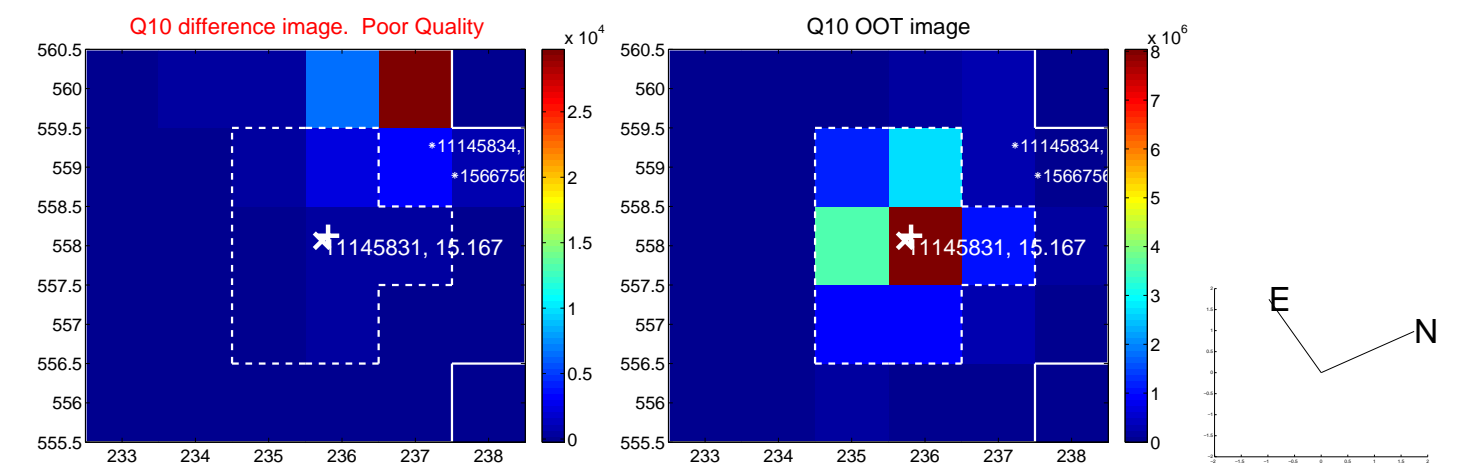
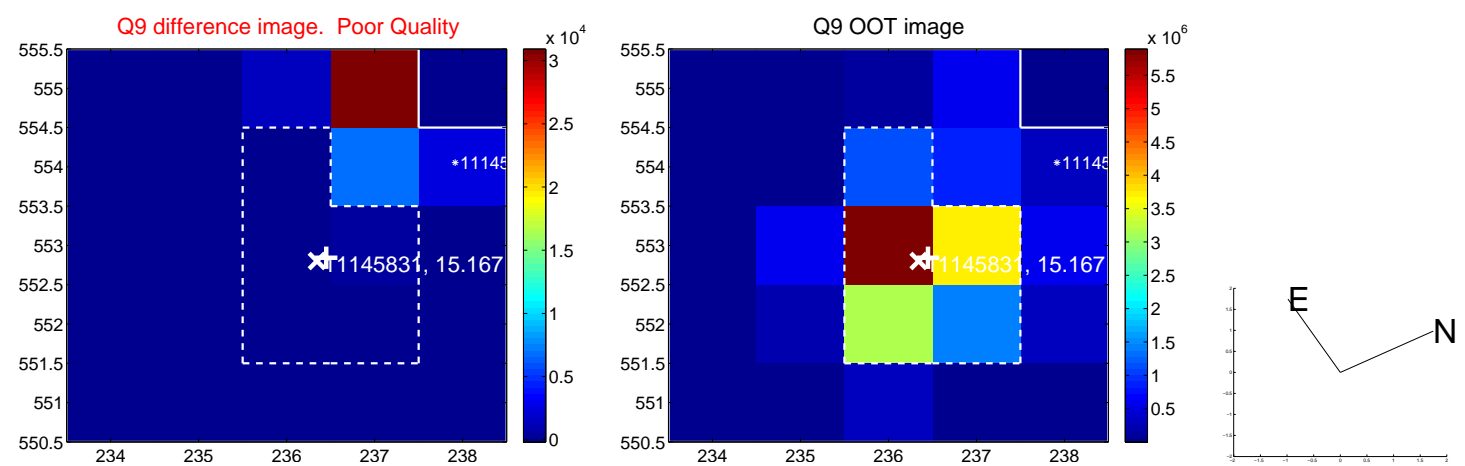
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



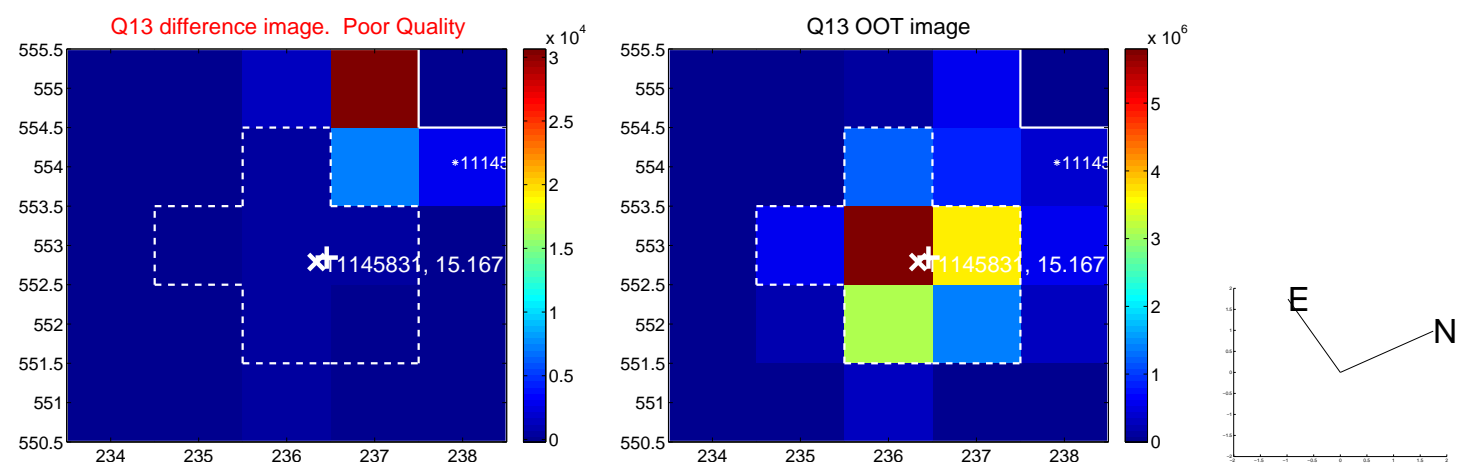




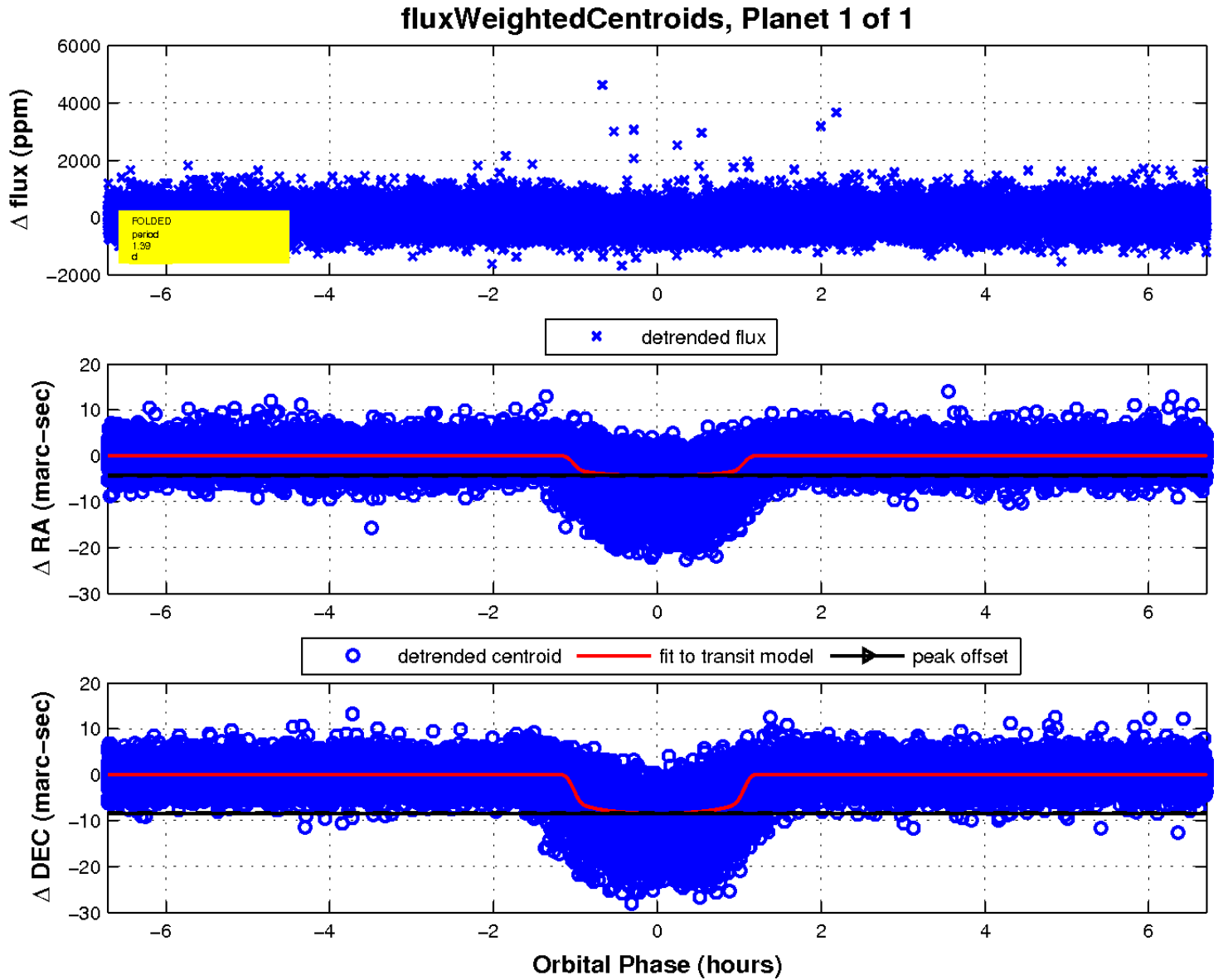
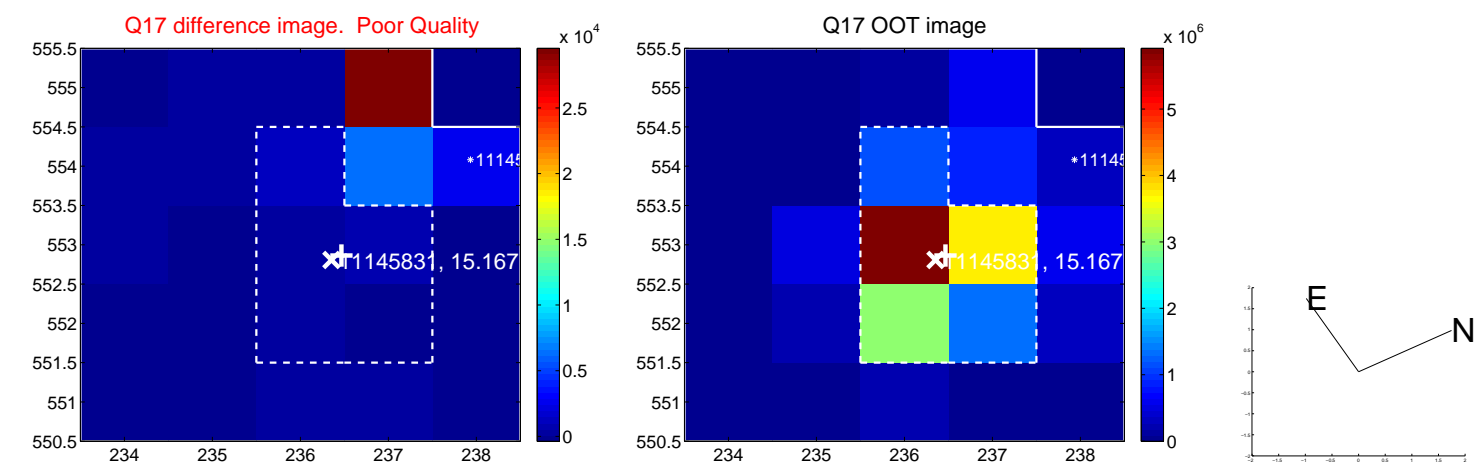
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

